NVLAP LAB CODE 200707-0

Bay Area Compliance Lab Corp.

FCC PART 15.247

MEASUREMENT AND TEST REPORT

For

RFNET Technologies Pte Ltd

801, Lorong 7 Toa Payoh, #05-02 Wearnes Technology Building,
Singapore 319319.

FCC ID: PXPAP2001G

This Report Concerns:	Equipment Type:
☒ Original Report	Wireless LAN 802.11b/g AP & Ethernet Bridge

Test Engineer:	Alvin Huang
Report No.:	RSZ08040705
Test Date:	2008-05-06 to 2008-05-12
Report Date:	2008-05-27
Reviewed By:	EMC Manager: Green Xu
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008

TABLE OF CONTENTS

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *RFNET Technologies Pte Ltd* 's product, model number: *AP-2001G o*r the "EUT" as referred to in this report is a *Wireless LAN 802.11b/g AP & Ethernet Bridge*, which measures approximately: 13.0 cm L x 7.7 cm W x 1.8 cm H, rated input voltage: DC 9V adapter.

Note:
There are two antennae used in these products: 2 dBi Dipole antenna and Patch antenna.
Functionality of these antennae: Patch & Dipole: Tx and Rx, so, we add radiated spurious emissions test item.

Adapter Information:
Model: JPW11SKA0902M02;
Input: 100-250V ~ 50-60Hz 0.4A;
Output: 9V 1.5A

** All measurement and test data in this report was gathered from production sample serial number: 0804014 (Assigned by BACL, Shenzhen). The EUT was received on 2008-04-07.*

Objective

This Type approval report is prepared on behalf of *RFNET Technologies Pte Ltd* in accordance with Part 2, Subpart J, Part 15, Subparts A, B and C of the Federal Communication Commissions rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 04, 2004. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0).

NVLAP LAB CODE 200707-0

The current scope of accreditations can be found at
http://ts.nist.gov/Standards/scopes/2007070.htm

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in a typical fashion (as normally used by a typical user).

Equipment Modifications

No modifications were made to the unit tested.

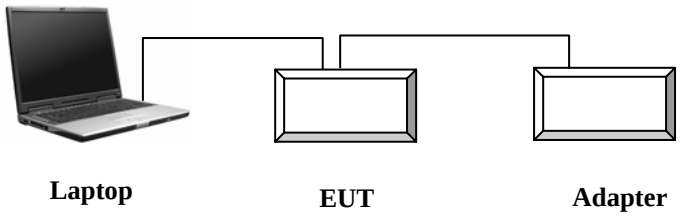
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number	FCC ID
COMPAQ	Laptop	PP2040	N/A	DoC

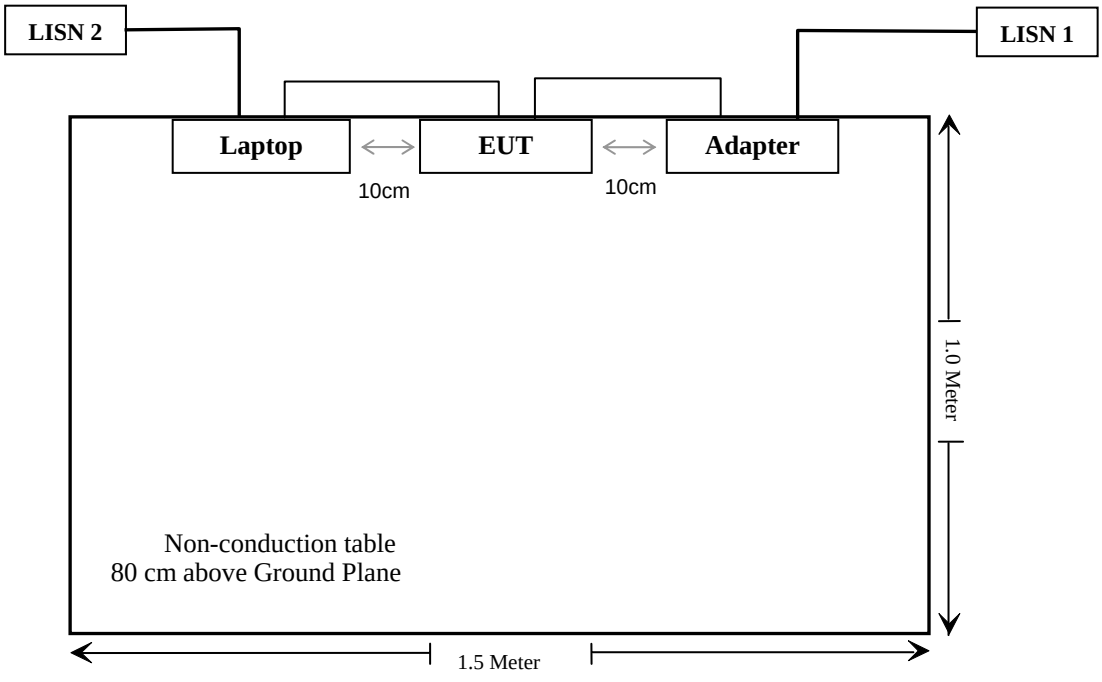
External I/O Cable

Cable Description	Length (M)	From Port	To
Unshielded Undetachable DC Cable	1.8	EUT	Adapter

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.247 (i), §1.1307 (b)(1)	Maximum Permissible exposure (MPE)	Compliant
§15.203	Antenna Requirement	Compliant
§15.207 (a)	Conducted Emissions	Compliant
§15.247(d)	Spurious Emissions at Antenna Port	Compliant
§15.205	Restricted Bands	Compliant
§15.209, §15.205, 1§15.247(d)	Spurious Emissions	Compliant
§15.247 (a)(2)	6 dB Bandwidth	Compliant
§15.247(b)(3)	Maximum Peak Output Power	Compliant
§15.247(d)	100kHz Bandwidth of Frequency Band Edge	Compliant
§15.247(e)	Power Spectral Density	Compliant

§15.247 (i) and §1.1307 (b) (1) - MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Standard Applicable

According to subpart 15.247 (i) and subpart 1.1307 (b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3–3.0	614	1.63	*(100)	30
3.0–30	824/f	2.19/f	*($180/f^2$)	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

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

Test Data

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$S = PG/4\pi R^2$

S: Power density, in mW/cm^2
P: Power input to the antenna, in mW
G: numeric gain of the antenna
R: distance to the center of the antenna, in cm

802.11b Mode

Maximum peak output power at antenna input terminal (dBm):	19.78
Maximum peak output power at antenna input terminal (mW):	95.06
Prediction distance (cm):	20
Prediction frequency (MHz):	2412
Antenna Gain, typical (dBi):	2.0
Maximum Antenna Gain (numeric):	1.584
The worst case is power density at predication frequency at 20 cm:	0.0300
MPE limit for general population exposure at prediction frequency (mW/cm^2):	1.0

802.11g Mode

Maximum peak output power at antenna input terminal (dBm):	19.32
Maximum peak output power at antenna input terminal (mW):	85.51
Prediction distance (cm):	20
Prediction frequency (MHz):	2412
Antenna Gain, typical (dBi):	2.0
Maximum Antenna Gain (numeric):	1.584
The worst case is power density at predication frequency at 20 cm:	0.02696
MPE limit for general population exposure at prediction frequency (mW/cm^2):	1.0

Test Result

The EUT complies with 20 cm distance.

§15.203 - ANTENNA REQUIREMENT

Standard Applicable

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.
And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

There are two antennae used in these products: 2 dBi Dipole antenna and Patch antenna.
The maximum gain is 2.0dBi, Please refer the EUT photo.

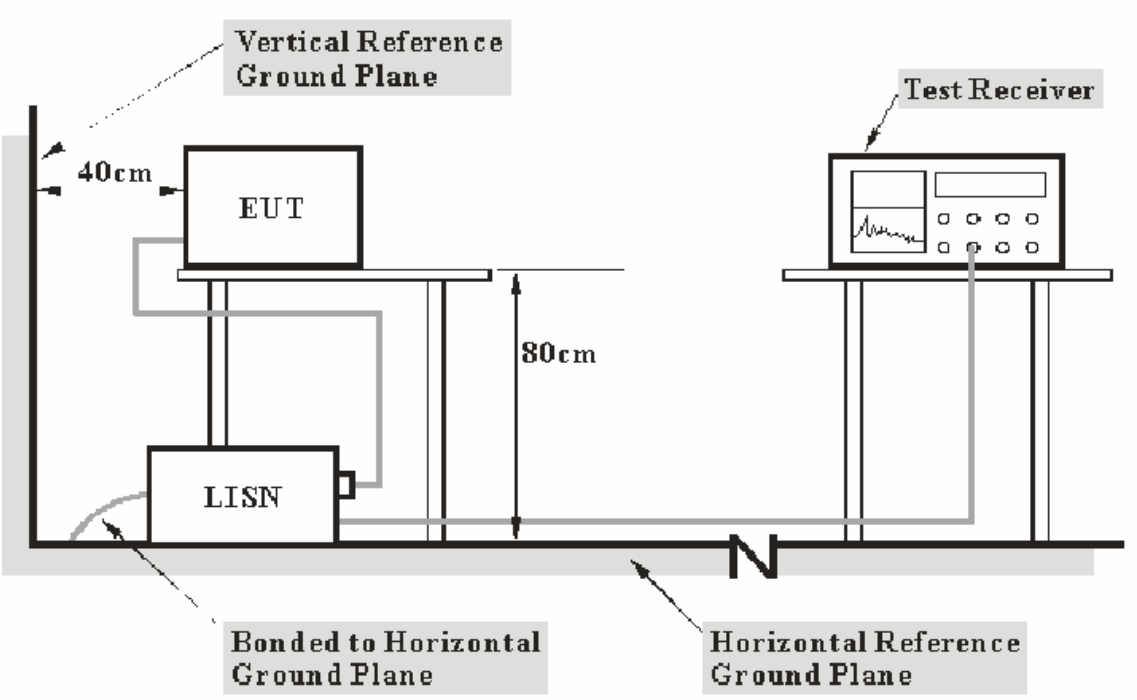
§15.207 - CONDUCTED EMISSIONS

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is ±2.4 dB.

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The adaptor of EUT was connected to a 120 VAC/60 Hz power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	***IF B/W***
150 kHz – 30 MHz	9 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	DE25330	2008-03-25	2009-03-25
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2008-03-25	2009-03-25

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

During the conducted emission test, the EUT was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207, with the worst margin reading of:

Transmitting Mode (802.11b): 13.64 dB at **0.4800 MHz** in the **Hot** conductor mode

Transmitting Mode (802.11g): 13.64 dB at **0.4800 MHz** in the **Hot** conductor mode

Test Data

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56%
ATM Pressure:	100.0kPa

The testing was performed by Alvin Huang on 2008-05-06.

Test Mode: Transmitting (802.11b)

Line Conducted Emissions				FCC PART 15.207	
Frequency (MHz)	**Amplitude (dBμV)**	**Detector (QP/AV)**	**Conductor (Hot/Neutral)**	**Limit (dBμV)**	**Margin (dB)**
0.4800	42.70	QP	Hot	56.34	13.64
0.4800	31.60	AV	Hot	46.34	14.74
0.3450	33.70	AV	Hot	49.08	15.38
16.2300	34.60	AV	Hot	50.00	15.40
0.2750	35.40	AV	Hot	50.97	15.57
16.2300	33.80	AV	Neutral	50.00	16.20
0.2100	36.90	AV	Hot	53.21	16.31
0.2100	46.40	QP	Hot	63.21	16.81
0.4850	29.00	AV	Neutral	46.25	17.25
0.3450	41.60	QP	Hot	59.08	17.48
16.2300	42.20	QP	Hot	60.00	17.80
0.4850	38.20	QP	Neutral	56.25	18.05
0.2750	42.80	QP	Hot	60.97	18.17
16.2300	40.80	QP	Neutral	60.00	19.20
0.2100	42.10	QP	Neutral	63.21	21.11
0.2100	31.60	AV	Neutral	53.21	21.61
0.3450	27.40	AV	Neutral	49.08	21.68
0.2750	28.90	AV	Neutral	50.97	22.07
0.3450	36.30	QP	Neutral	59.08	22.78
0.1550	42.10	QP	Hot	65.73	23.63
0.1500	42.30	QP	Neutral	66.00	23.70
0.2750	37.10	QP	Neutral	60.97	23.87
0.1500	20.10	AV	Neutral	56.00	35.90
0.1550	18.20	AV	Hot	55.73	37.53

Test Mode: Transmitting (802.11g)

Line Conducted Emissions				FCC PART 15.207	
Frequency (MHz)	**Amplitude (dBμV)**	**Detector (QP/AV)**	**Conductor (Hot/Neutral)**	**Limit (dBμV)**	**Margin (dB)**
0.4800	42.70	QP	Hot	56.34	13.64
0.4800	31.60	AV	Hot	46.34	14.74
0.3450	33.70	AV	Hot	49.08	15.38
16.2300	34.60	AV	Hot	50.00	15.40
0.2750	35.40	AV	Hot	50.97	15.57
16.2300	33.80	AV	Neutral	50.00	16.20
0.2100	36.90	AV	Hot	53.21	16.31
0.2100	46.40	QP	Hot	63.21	16.81
0.4850	29.00	AV	Neutral	46.25	17.25
0.3450	41.60	QP	Hot	59.08	17.48
16.2300	42.20	QP	Hot	60.00	17.80
0.4850	38.20	QP	Neutral	56.25	18.05
0.2750	42.80	QP	Hot	60.97	18.17
16.2300	40.80	QP	Neutral	60.00	19.20
0.2100	42.10	QP	Neutral	63.21	21.11
0.2100	31.60	AV	Neutral	53.21	21.61
0.3450	27.40	AV	Neutral	49.08	21.68
0.2750	28.90	AV	Neutral	50.97	22.07
0.3450	36.30	QP	Neutral	59.08	22.78
0.1550	42.10	QP	Hot	65.73	23.63
0.1500	42.30	QP	Neutral	66.00	23.70
0.2750	37.10	QP	Neutral	60.97	23.87
0.1500	20.10	AV	Neutral	56.00	35.90
0.1550	18.20	AV	Hot	55.73	37.53

Plot(s) of Test Data

Plot(s) of Test Data is presented hereinafter as reference.

Conduction Emission Test
FCC 15.247

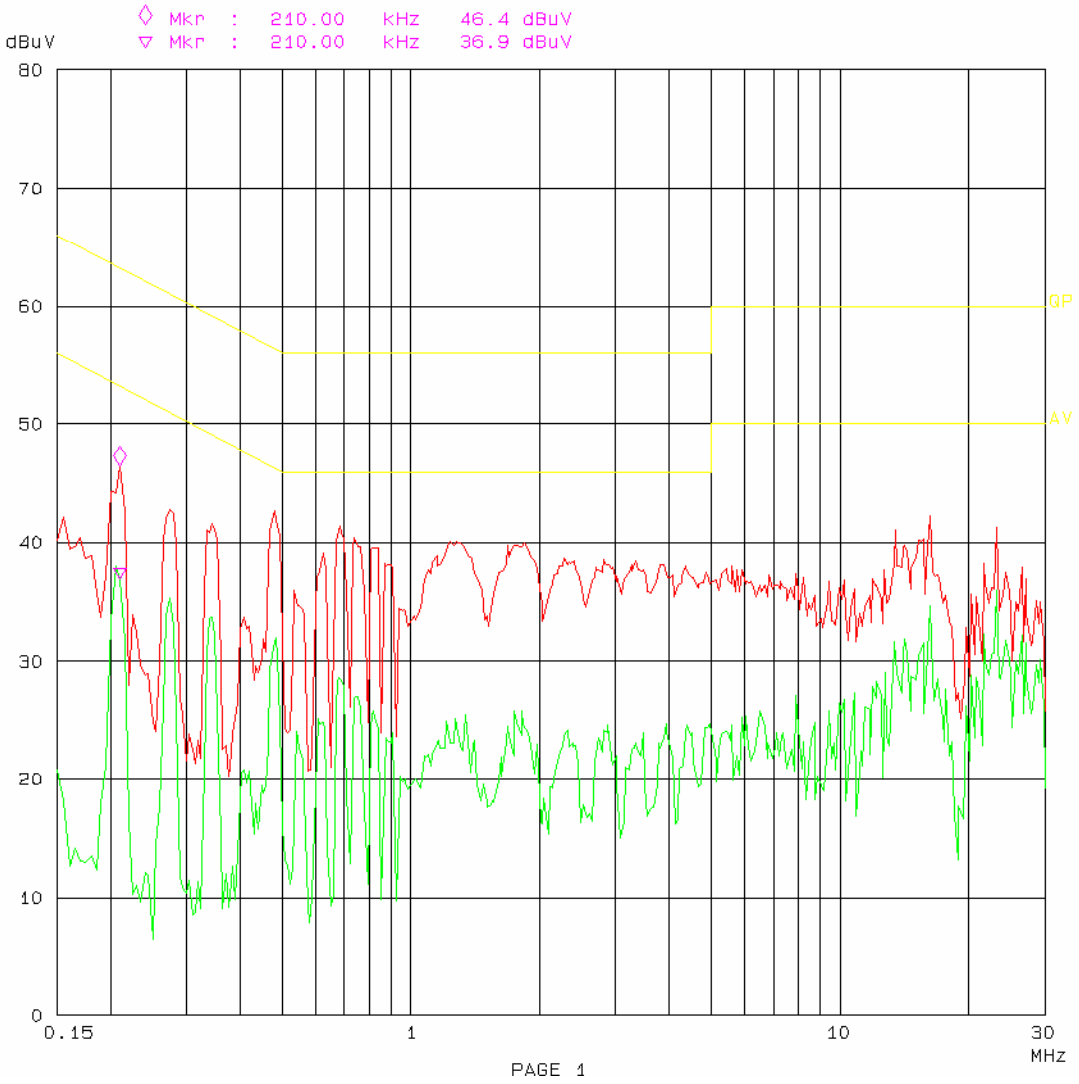
EUT: AP-2001g M/N: T002-TAK
Manuf: RFNet
Op Cond: Transmitting 802.11b
Operator: Alvin
Test Spec: AC 120V/60Hz hot
Comment: Temp: 25 Humi: 56%

Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	5k	9k	PK+AV	20ms	AUTO	LN OFF

Final Measurement: × QP / + AV
Meas Time: 1 s
Subranges: 8
Acc Margin: 6dB

Transducer No.	Start	Stop	Name
3	150k	30M	F_33_2



PAGE 1

Conduction Emission Test
FCC 15.247

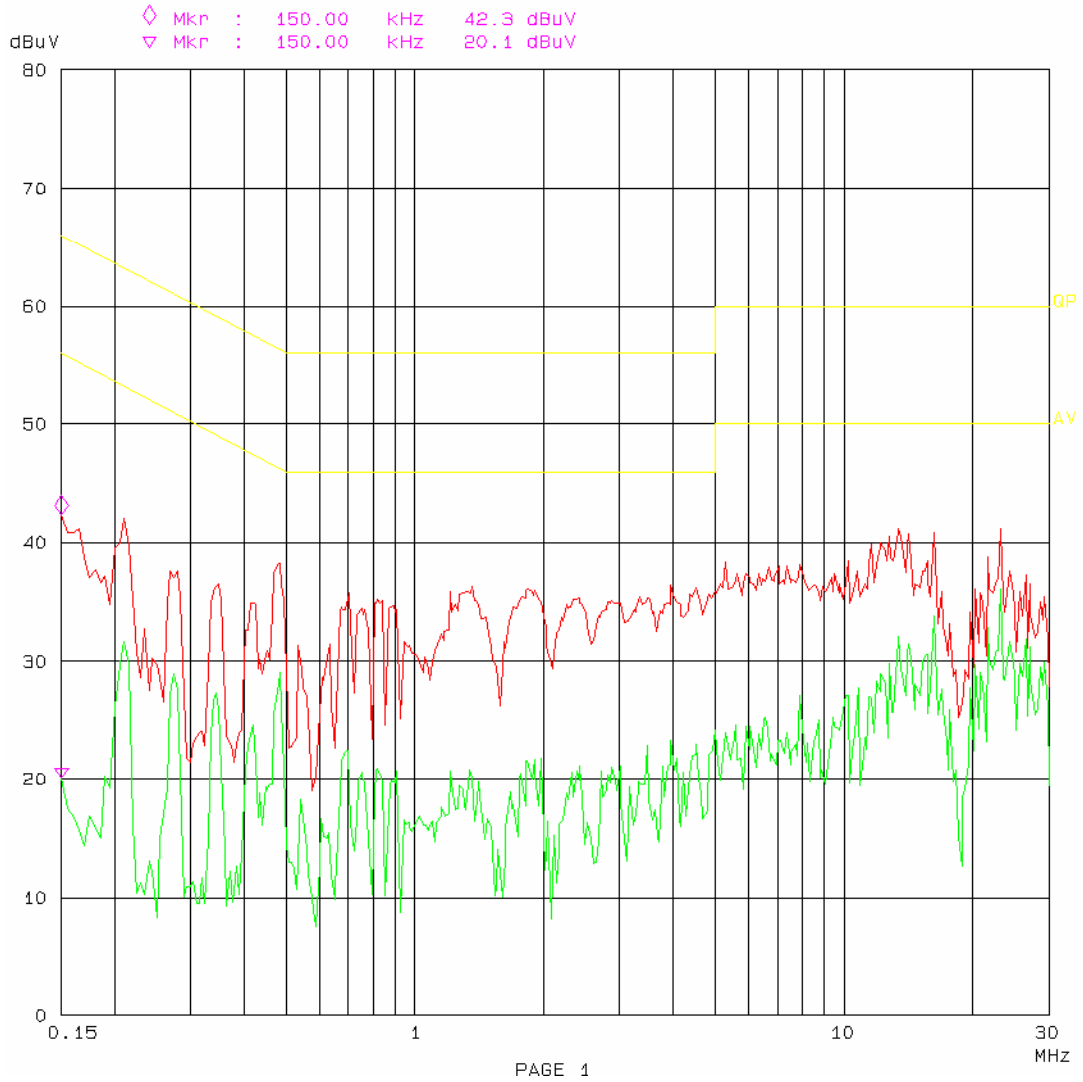
EUT: AP-2001g M/N: T002-TRK
Manuf: RFNet
Op Cond: Transmitting 802.11b
Operator: Alvin
Test Spec: AC 120V/60Hz neutral
Comment: Temp: 25 Humi: 56%

Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	5k	9k	PK+AV	20ms	AUTO	LN OFF

Final Measurement: x QP / + AV
Meas Time: 1 s
Subranges: 8
Acc Margin: 6dB

Transducer No.	Start	Stop	Name
3	150k	30M	F_33_2



PAGE 1

Conduction Emission Test
FCC 15.247

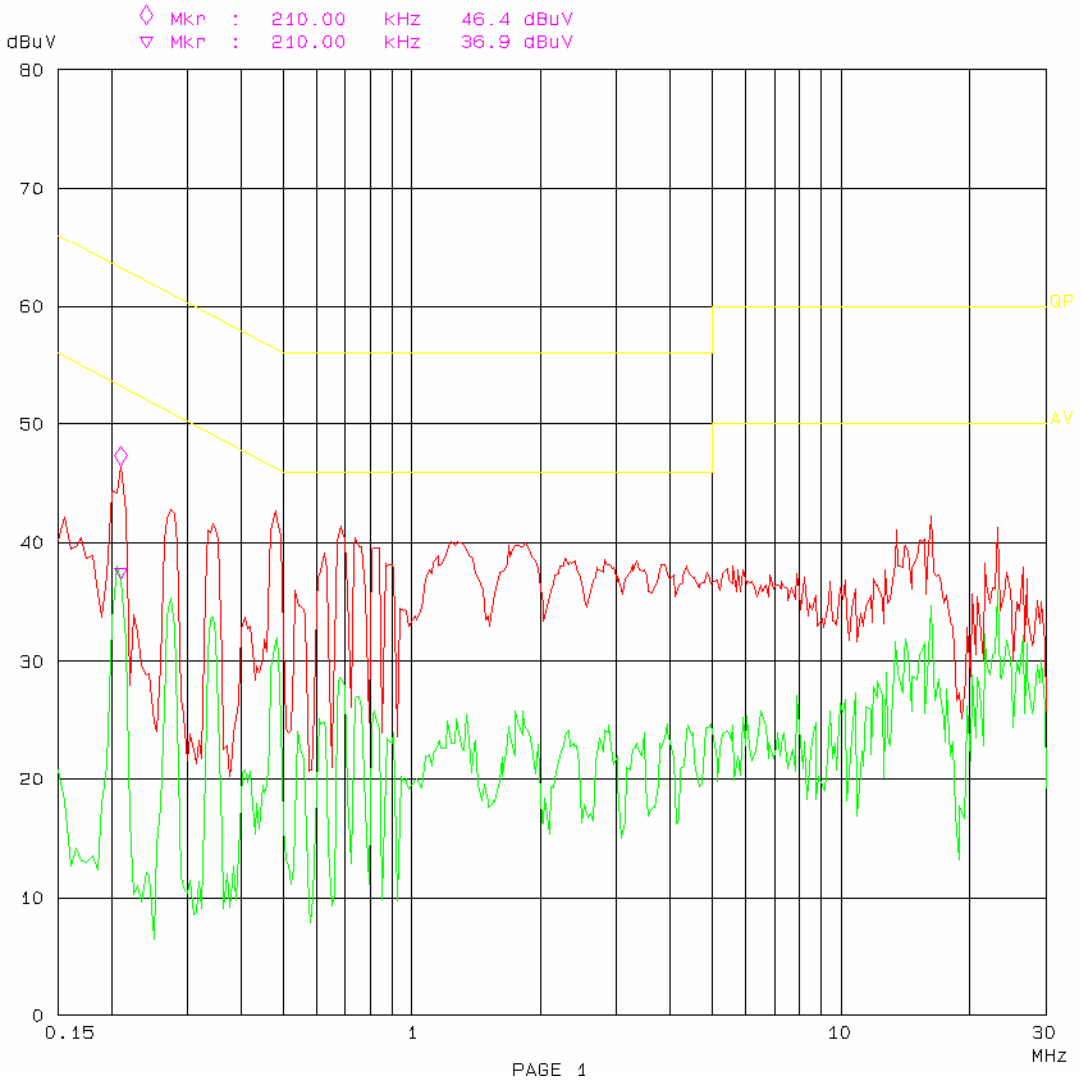
EUT: AP-2001g M/N: T002-TAK
Manuf: RFNet
Op Cond: Transmitting 802.11g
Operator: Alvin
Test Spec: AC 120V/60Hz hot
Comment: Temp: 25 Humi: 56%

Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	5k	9k	PK+AV	20ms	AUTO	LN OFF

Final Measurement: × QP / + AV
Meas Time: 1 s
Subranges: 8
Acc Margin: 6dB

Transducer No.	Start	Stop	Name
3	150k	30M	F_33_2



PAGE 1

Conduction Emission Test
FCC 15.247

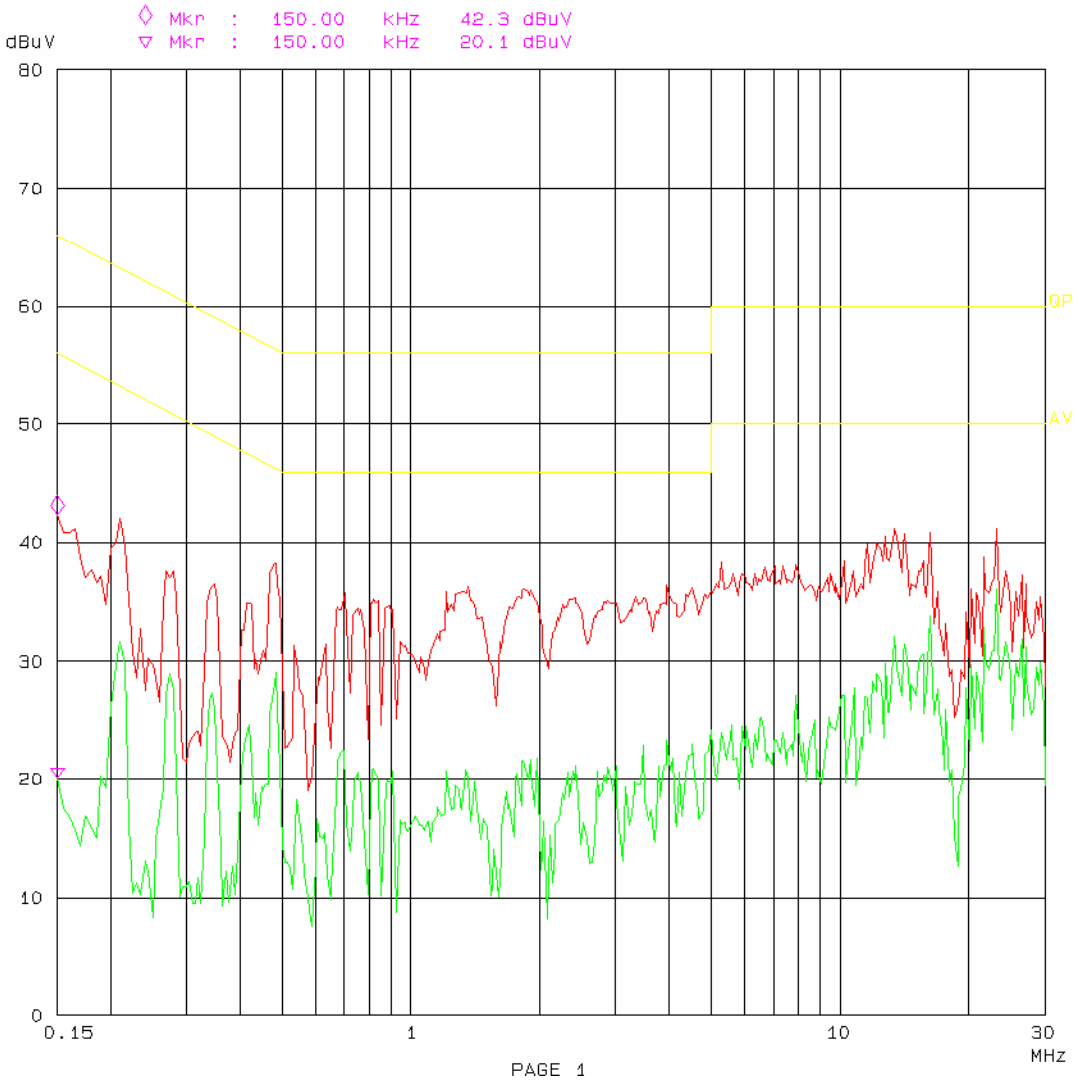
EUT: AP-2001g M/N: T002-TRK
Manuf: RFNet
Op Cond: Transmitting 802.11g
Operator: Alvin
Test Spec: AC 120V/60Hz neutral
Comment: Temp: 25 Humi: 56%

Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	5k	9k	PK+AV	20ms	AUTO	LN OFF

Final Measurement: × QP / + AV
Meas Time: 1 s
Subranges: 8
Acc Margin: 6dB

Transducer No.	Start	Stop	Name
3	150k	30M	F_33_2



PAGE 1

§15.209, §15.205, §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

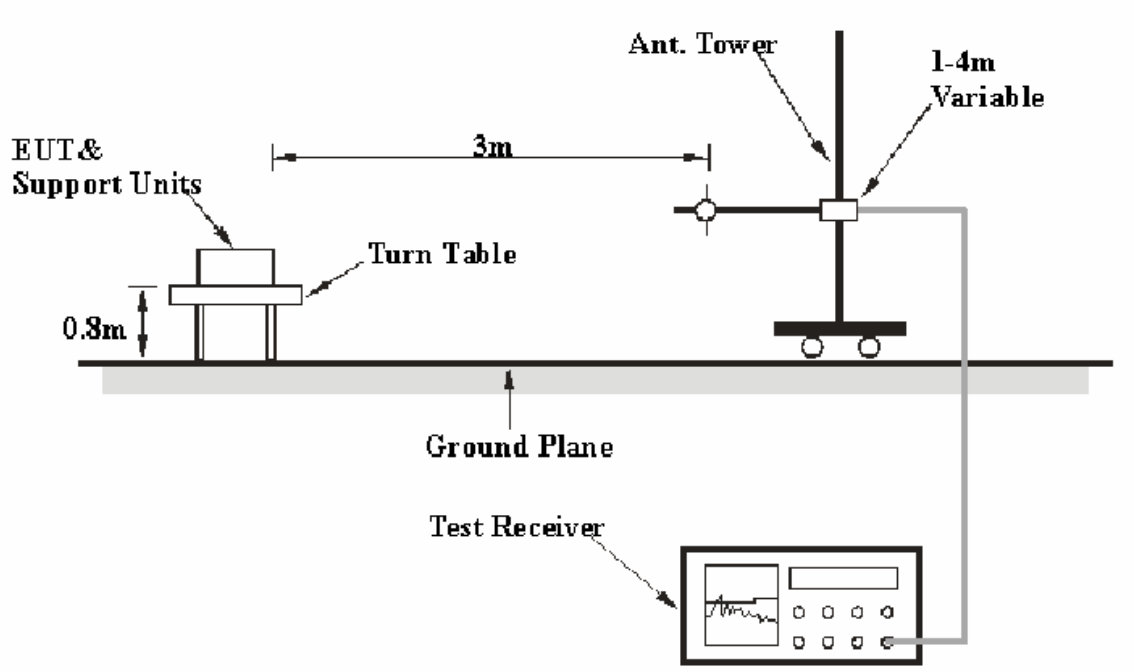
FCC §15.247 (d); §15.209; §15.205.

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is ±4.0 dB.

EUT Setup



The radiated emission tests were performed in the 3 meters chamber B test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC 15.109, FCC 15.209 and FCC 15.247 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The EUT was connected to a 120 VAC/60 Hz power source.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 25 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Frequency Range	***RBW***	***Video B/W***
30MHz – 1000 MHz	100 kHz	300 kHz
1000 MHz – 25 GHz	1 MHz	3 MHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	8447E	1937A01046	2007-11-15	2008-11-15
Rohde & Schwarz	EMI Test Receiver	ESCI	100224	2007-10-16	2008-10-16
Sunol Sciences	Bilog Antenna	JB1	A040904-2	2007-08-14	2008-08-14
HP	Amplifier	8449B	3008A00277	2007-09-29	2008-09-29
Sunol Sciences	Horn Antenna	DRH-118	A052604	2007-09-25	2008-09-25
Rohde&Schwarz	Spectrum Analyzer	FSEM30	849720/019	2007-05-09	2008-05-09

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

For the radiated emissions test, the EUT was connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1GHz and peak and Average detection modes for frequencies above 1GHz.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit for Class B. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.209, 15.205, and 15.247, with the worst margin reading of:

Antenna 1

30 -1000MHz:

Transmitting Mode (802.11b): 5.0 dB at **81.814675 MHz** in the **Vertical** polarization
Transmitting Mode (802.11g): 4.5 dB at **85.438225 MHz** in the **Vertical** polarization
Receiving Mode: 2.4 dB at **85.532975 MHz** in the **Horizontal** polarization

Above 1GHz:

4.49 dB at **4824 MHz** in the **Horizontal** polarization**, 802.11b Low Channel**
4.36 dB at **4874 MHz** in the **Vertical** polarization**, 802.11b Middle Channel**
4.25 dB at **4924 MHz** in the **Horizontal** polarization**, 802.11b High Channel**

6.26 dB at **4824 MHz** in the **Horizontal** polarization**, 802.11g Low Channel**
4.46 dB at **4874 MHz** in the **Vertical** polarization**, 802.11g Middle Channel**
7.55 dB at **4924 MHz** in the **Horizontal** polarization**, 802.11g High Channel**

Antenna 2

Below 1GHz:

Transmitting Mode (802.11b): 4.5 dB at **87.283975 MHz** in the **Vertical** polarization
Transmitting Mode (802.11g): 4.2 dB at **85.438225 MHz** in the **Vertical** polarization
Receiving Mode: 2.2 dB at **85.512025 MHz** in the **Horizontal** polarization

Above 1GHz:

5.26 dB at **4824 MHz** in the **Vertical** polarization**, 802.11b Low Channel**
4.96 dB at **4874 MHz** in the **Horizontal** polarization**, 802.11b Middle Channel**
5.45 dB at **4924 MHz** in the **Horizontal** polarization**, 802.11b High Channel**

7.11 dB at **4824 MHz** in the **Vertical** polarization**, 802.11g Low Channel**
7.26 dB at **4874 MHz** in the **Vertical** polarization**, 802.11g Middle Channel**
8.13 dB at **4924 MHz** in the **Vertical** polarization**, 802.11g High Channel**

Test Data

Environmental Conditions

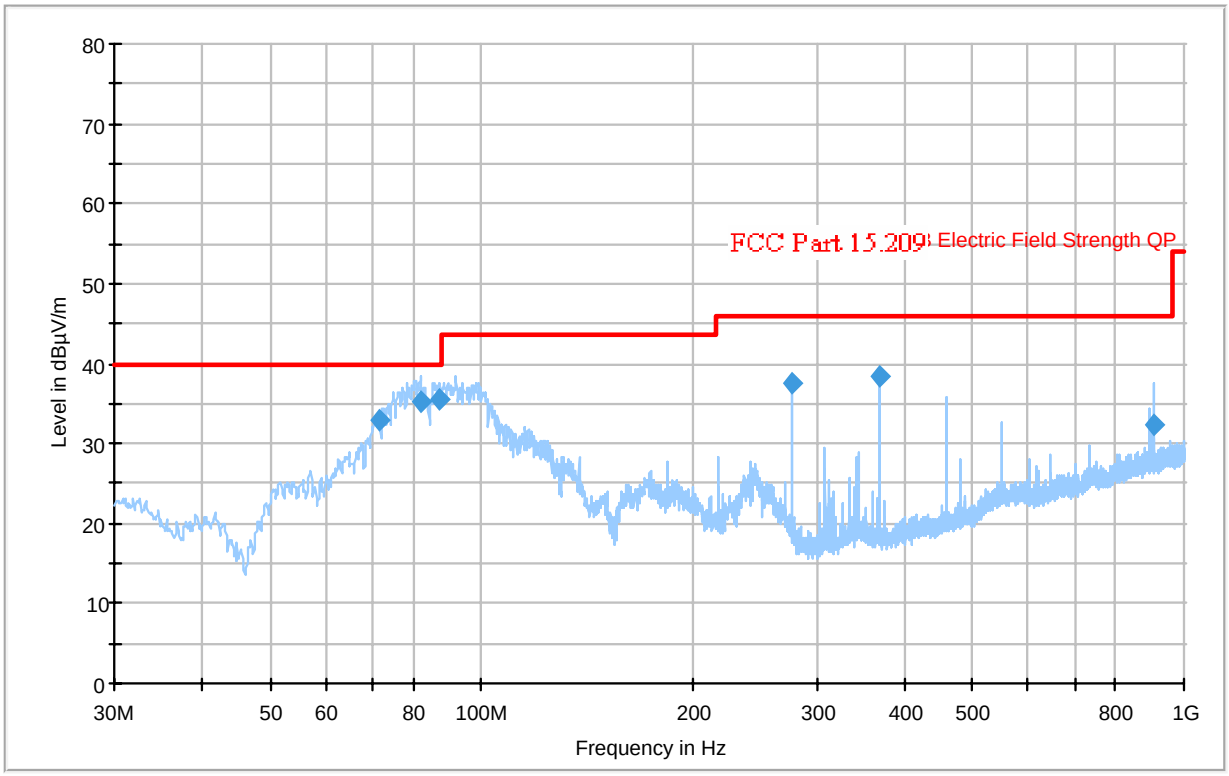
Temperature:	25 ° C
Relative Humidity:	56%
ATM Pressure:	100.0kPa

The testing was performed by Alvin Huang on 2008-05-06.

Antenna 1

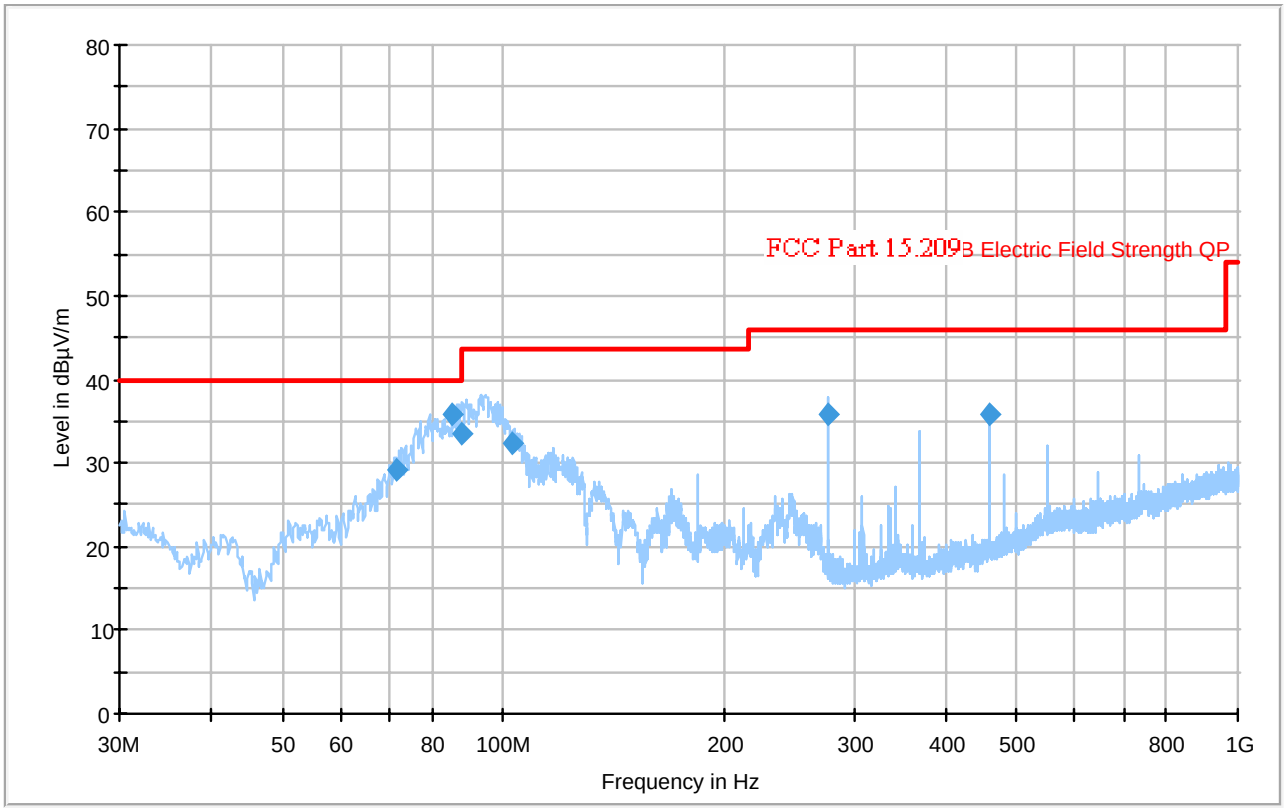
30-1000MHz:

Test Mode: Transmitting (802.11b)



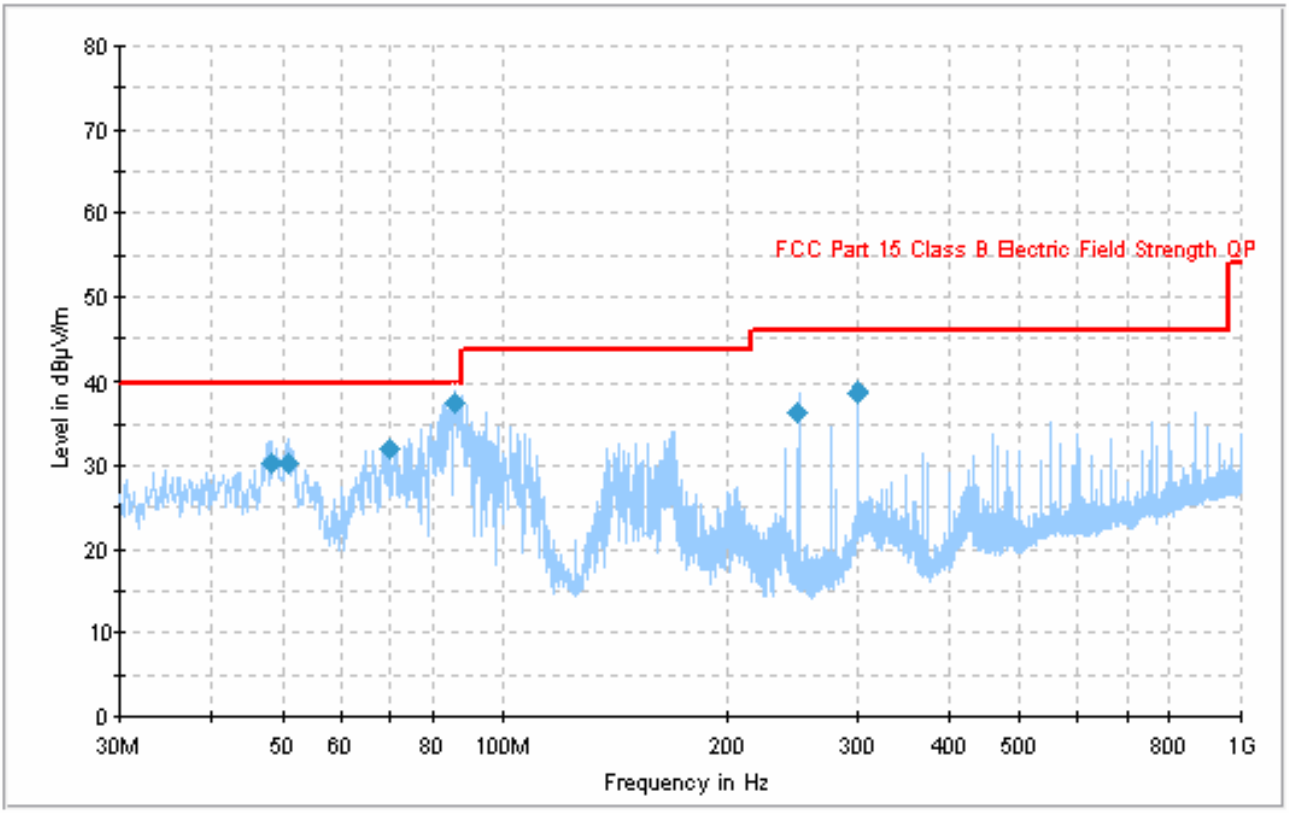
Frequency (MHz)	Corrected Amplitude (dBµV/m)	Ant. Height (cm)	Ant. Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
81.814675	35.0	138.0	V	0.0	-17.1	40.0	5.0
87.283975	34.6	130.0	V	0.0	-17.5	40.0	5.4
71.633725	32.3	102.0	V	22.0	-16.8	40.0	7.7
367.928550	38.0	116.0	H	0.0	-8.4	46.0	8.0
276.028550	37.5	123.0	H	0.0	-9.7	46.0	8.5
905.678750	32.2	201.0	V	84.0	1.2	46.0	13.8

Test Mode: Transmitting (802.11g)



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Ant. Height (cm)	Ant. Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
85.438225	35.5	116.0	V	0.0	-17.4	40.0	4.5
87.821750	33.4	137.0	V	0.0	-17.5	40.0	6.6
460.021425	35.5	194.0	V	221.0	-7.0	46.0	10.5
276.010950	35.5	163.0	H	349.0	-9.7	46.0	10.5
71.629225	29.0	102.0	V	3.0	-16.8	40.0	11.0
102.970175	32.5	102.0	V	332.0	-14.9	43.5	11.0

Test Mode: Receiving



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Polarity	Turntable Position (deg)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
85.532975	37.6	401.0	H	9.0	-17.4	40.0	2.4
300.029525	38.6	301.0	H	12.0	-9.6	46.0	7.4
69.684225	32.1	401.0	H	179.0	-16.8	40.0	7.9
51.081600	30.4	102.0	V	132.0	-17.2	40.0	9.6
249.060475	36.4	218.0	H	0.0	-17.4	46.0	9.6
48.463225	30.2	102.0	V	316.0	-16.4	40.0	9.8

Above 1GHz:

802.11b mode

Indicated		Detector (PK/AV)	Table Angle Degree	Antenna		Correction Factor			FCC Part 15.247/15.209		
Frequency (MHz)	Receiver Reading (dBμV/m)			Height (m)	Polar (H/V)	Ant. Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low Channel (2412 MHz)											
4824	46.97	AV	180	1.1	H	31.3	4.64	33.4	49.51	54	4.49
1744	54.25	AV	125	1.3	H	26.5	2.77	35.5	48.02	54	5.98
1804	52.32	AV	180	1.4	H	27.1	2.82	35.5	46.74	54	7.26
1980.5	50.02	AV	90	1.4	V	27.2	3.00	35.0	45.22	54	8.78
4824	42.44	AV	0	1.5	H	31.3	4.64	33.4	44.98	54	9.02
2201.2	48.82	AV	180	1.3	V	27.3	3.62	35.0	44.74	54	9.26
4824	54.38	PK	160.0	1.1	V	31.3	4.64	33.4	56.92	74	17.08
4824	54.00	PK	180.0	1.4	H	31.3	4.64	33.4	56.54	74	17.46
2201.2	57.01	PK	90	1.1	V	27.3	3.62	35.0	52.93	74	21.07
1804	56.66	PK	270.0	1.5	H	27.1	2.82	35.5	51.08	74	22.92
1744	56.55	PK	180	1.1	H	26.5	2.77	35.5	50.32	74	23.68
1980.5	54.88	PK	45	1.4	V	27.2	3.00	35.0	50.08	74	23.92

Indicated		Detector (PK/AV)	Table Angle Degree	Antenna		Correction Factor			FCC Part 15.247/15.209		
Frequency (MHz)	Receiver Reading (dBμV/m)			Height (m)	Polar (H/V)	Ant. Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Middle Channel (2437 MHz)											
4874	47.1	AV	175	1.2	V	31.3	4.64	33.4	49.64	54	4.36
4874	45.44	AV	180	1.3	H	31.3	4.64	33.4	47.98	54	6.02
2098.3	51.2	AV	90	1.4	H	27.4	3.09	35	46.69	54	7.31
2231	50	AV	90	1.1	V	27.3	3.62	35	45.92	54	8.08
1631	51.1	AV	120	1.2	H	26.5	2.77	35.5	44.87	54	9.13
1662	48	AV	0	1.5	V	26.5	2.77	35.5	41.77	54	12.23
4874	57	PK	180	1.2	V	31.3	4.64	33.4	59.54	74	14.46
4874	51.51	PK	10	1.4	H	31.3	4.64	33.4	54.05	74	19.95
2231	58	PK	180	1.3	V	27.3	3.62	35	53.92	74	20.08
2098.3	58	PK	90	1.2	H	27.4	3.09	35	53.49	74	20.51
1662	58.	PK	180	1.2	V	26.5	2.77	35.5	51.77	74	22.23
1631	55.2	PK	120	1.2	H	26.5	2.77	35.5	48.97	74	25.03

Indicated		Detector (PK/AV)	Table Angle Degree	Antenna		Correction Factor			FCC Part15.247/15.209		
Frequency (MHz)	Receiver Reading (dBμV/m)			Height (m)	Polar (H/V)	Ant. Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
HighChannel (2462 MHz)											
4924	47	AV	140	1.2	H	31.6	4.55	33.4	49.75	54	4.25
4924	45.2	AV	90	1.3	V	31.6	4.55	33.4	47.95	54	6.05
2110	50	AV	60	1.45	V	27.4	3.09	34.8	45.69	54	8.31
1801	51	AV	120	1.4	H	27.1	2.82	35.5	45.42	54	8.58
2325	48.2	AV	90	1.5	V	27.4	3.62	34.5	44.72	54	9.28
1231	52	AV	190	1.2	H	24.8	2.5	36	43.3	54	10.70
4924	57	PK	180	1.2	H	31.6	4.55	33.4	59.75	74	14.25
4924	53.2	PK	180	1.2	V	31.6	4.55	33.4	55.95	74	18.05
2325	57.48	PK	45	1.2	V	27.4	3.62	34.5	54	74	20.00
2110	55	PK	45	1.5	V	27.4	3.09	34.8	50.69	74	23.31
1801	55	PK	90	1.2	H	27.1	2.82	35.5	49.42	74	24.58
1231	57	PK	120	1.2	H	24.8	2.5	36	48.3	74	25.70

802.11g mode

Indicated		Detector (PK/AV)	Table Angle Degree	Antenna		Correction Factor			FCC Part15.247/15.209		
Frequency (MHz)	Receiver Reading (dBμV/m)			Height (m)	Polar (H/V)	Ant. Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low Channel (2412 MHz)											
4824	45.2	AV	160	1.2	H	31.3	4.64	33.4	47.74	54	6.26
4824	45	AV	170	1.3	V	31.3	4.64	33.4	47.54	54	6.46
1721	51	AV	120	1.2	H	26.5	2.77	35.5	44.77	54	9.23
1801	49.9	AV	145	1.2	H	27.1	2.82	35.5	44.32	54	9.68
1589	50.3	AV	90	1.1	V	25.7	2.8	35	43.8	54	10.2
1044	48.7	AV	60	1.3	V	24.5	1.19	35	39.39	54	14.61
4824	56.4	PK	180	1.5	V	31.3	4.64	33.4	58.94	74	15.06
4824	55	PK	90	1.2	H	31.3	4.64	33.4	57.54	74	16.46
1589	57.1	PK	90	1.2	V	25.7	2.8	35	50.6	74	23.4
1721	56.8	PK	60	1.1	H	26.5	2.77	35.5	50.57	74	23.43
1801	55.1	PK	120	1.3	H	27.1	2.82	35.5	49.52	74	24.48
1044	54.5	PK	45	1.5	V	24.5	1.19	35	45.19	74	28.81

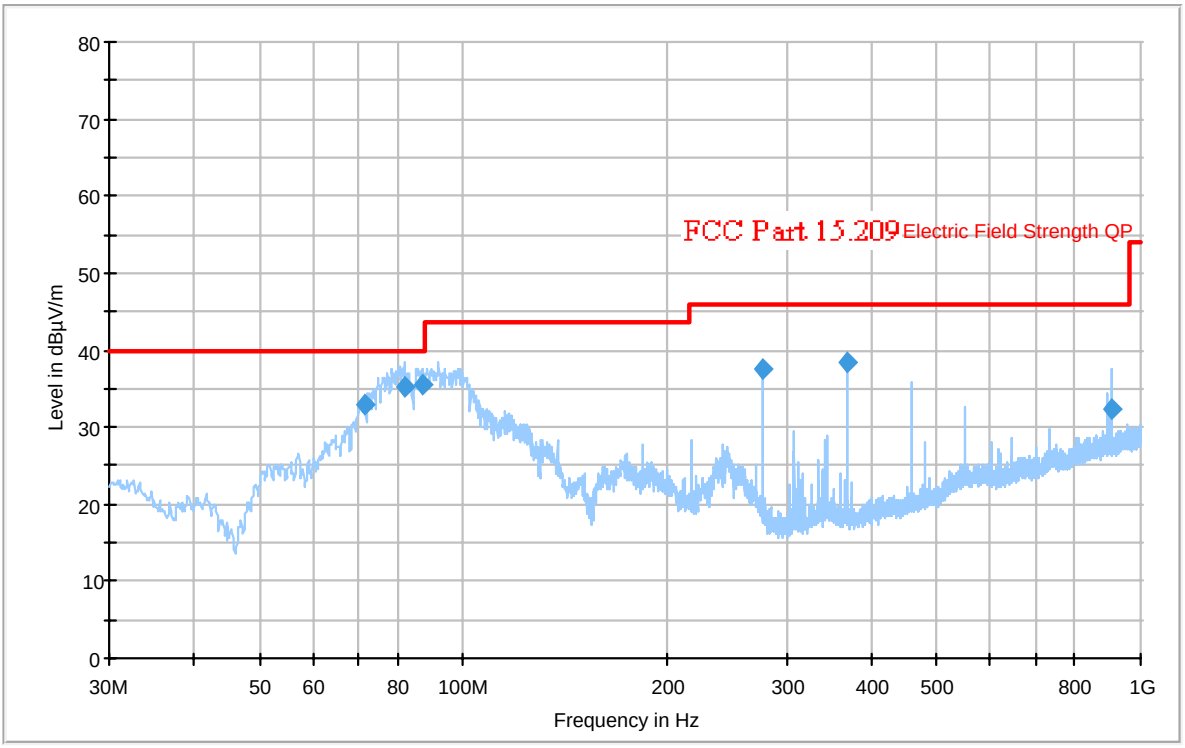
Indicated		Detector (PK/AV)	Table Angle Degree	Antenna		Correction Factor			FCC Part15.247/15.209		
Frequency (MHz)	Receiver Reading (dBμV/m)			Height (m)	Polar (H/V)	Ant. Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Middle Channel (2437 MHz)											
4874	47	AV	180	1.2	V	31.3	4.64	33.4	49.54	54	4.46
1901	49	AV	80	1.2	V	27.2	2.85	35.3	43.75	54	10.25
1856	49.3	AV	120	1.2	H	27.1	2.82	35.5	43.72	54	10.28
1655	49.8	AV	0	1.3	H	26.5	2.77	35.5	43.57	54	10.43
4874	40	AV	110	1.5	H	31.3	4.64	33.4	42.54	54	11.46
1789	47	AV	90	1.5	V	26.5	2.82	35.2	41.12	54	12.88
4874	58.1	PK	180	1.2	V	31.3	4.64	33.4	60.64	74	13.36
4874	57.2	PK	180	1.2	H	31.3	4.64	33.4	59.74	74	14.26
1901	59.2	PK	170	1.3	V	27.2	2.85	35.3	53.95	74	20.05
1789	57.4	PK	45	1.2	V	26.5	2.82	35.2	51.52	74	22.48
1655	57.4	PK	90	1.2	H	26.5	2.77	35.5	51.17	74	22.83
1856	54.1	PK	120	1.4	H	27.1	2.82	35.5	48.52	74	25.48

Indicated		Detector (PK/AV)	Table Angle Degree	Antenna		Correction Factor			FCC Part15.247/15.209		
Frequency (MHz)	Receiver Reading (dBμV/m)			Height (m)	Polar (H/V)	Ant. Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
HighChannel (2462 MHz)											
4924	44	AV	140	1.1	H	31.3	4.55	33.4	46.45	54	7.55
4924	44	AV	180	1.3	V	31.3	4.55	33.4	46.45	54	7.55
2332	48.4	AV	90	1.3	V	27.3	3.62	34.5	44.82	54	9.18
2101	48.2	AV	90	1.1	V	27.4	3.65	34.6	44.65	54	9.35
1521	50.6	AV	180	1.2	H	25.4	2.79	35.5	43.29	54	10.71
1684	49	AV	120	1.1	H	26.5	2.77	35.4	42.87	54	11.13
4924	58.1	PK	180	1.1	V	31.3	4.55	33.4	60.55	74	13.45
4924	56.3	PK	0	1.2	H	31.3	4.55	33.4	58.75	74	15.25
2101	56.6	PK	45	1.2	V	27.4	3.65	34.6	53.05	74	20.95
2332	55.5	PK	20	1.2	V	27.3	3.62	34.5	51.92	74	22.08
1684	57.4	PK	90	1.2	H	26.5	2.77	35.4	51.27	74	22.73
1521	50.1	PK	120	1.3	H	25.4	2.79	35.5	42.79	74	31.21

Antenna 2

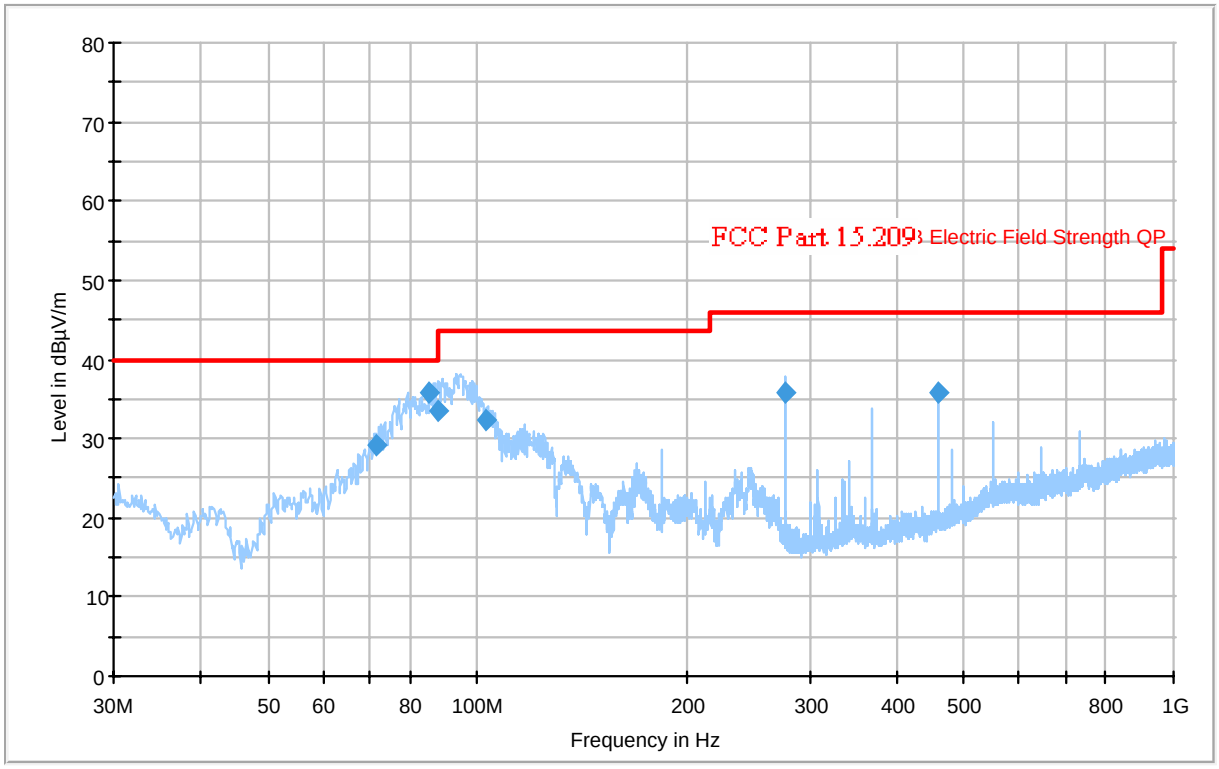
30-1000MHz:

Test Mode: Transmitting (802.11b)



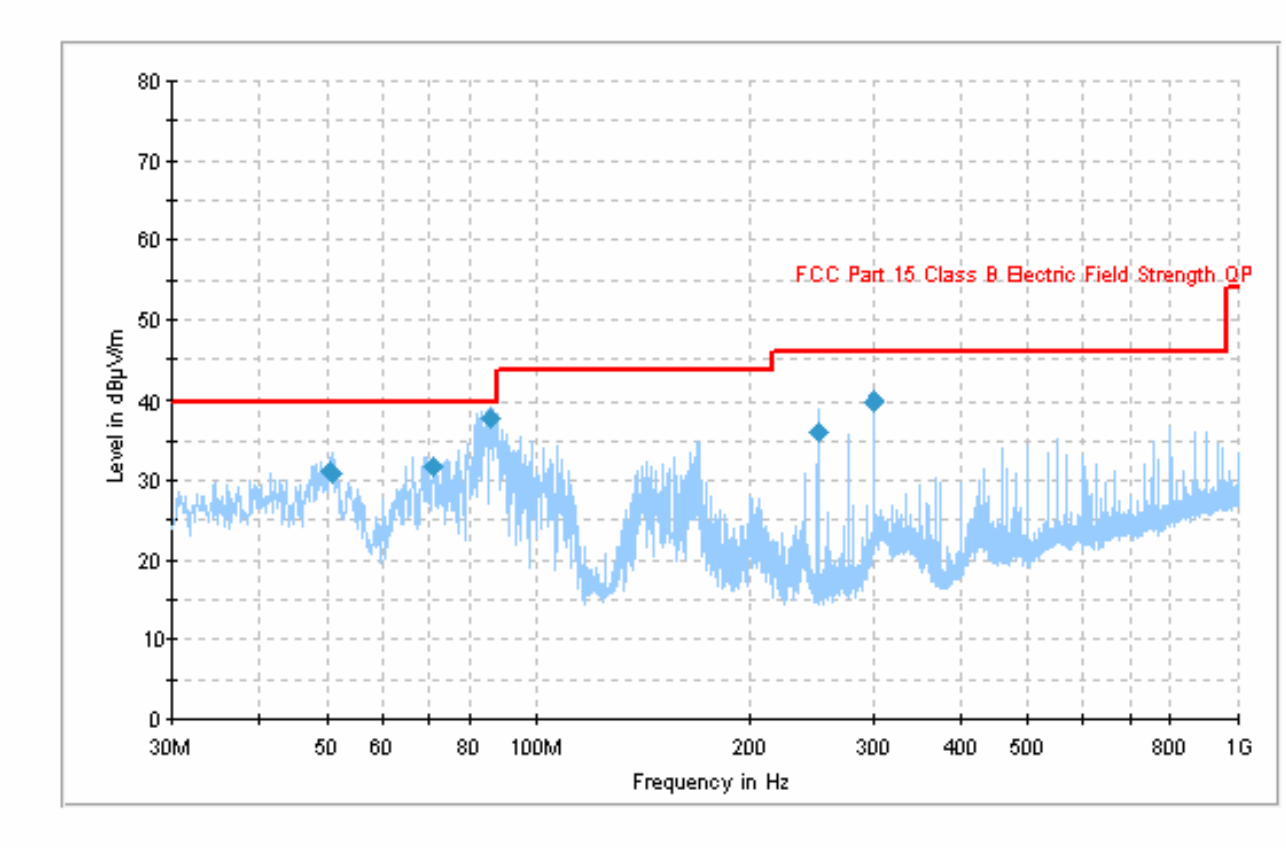
Frequency (MHz)	Corrected Amplitude (dBµV/m)	Ant. Height (cm)	Ant. Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
87.283975	35.5	130.0	V	0.0	-17.5	40.0	4.5
81.814675	35.2	138.0	V	0.0	-17.1	40.0	4.8
71.633725	32.9	102.0	V	22.0	-16.8	40.0	7.1
367.928550	38.4	116.0	H	0.0	-8.4	46.0	7.6
276.028550	37.7	123.0	H	0.0	-9.7	46.0	8.3
905.678750	32.4	201.0	V	84.0	1.2	46.0	13.6

Test Mode: Transmitting (802.11g)



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Ant. Height (cm)	Ant. Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
85.438225	35.8	116.0	V	0.0	-17.4	40.0	4.2
87.821750	33.5	137.0	V	0.0	-17.5	40.0	6.5
460.021425	35.9	194.0	V	221.0	-7.0	46.0	10.1
276.010950	35.8	163.0	H	349.0	-9.7	46.0	10.2
71.629225	29.3	102.0	V	3.0	-16.8	40.0	10.7
102.970175	32.4	102.0	V	332.0	-14.9	43.5	11.1

Test Mode: Receiving



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Ant. Height (cm)	Ant. Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
85.512025	37.8	223.0	H	13.0	-17.4	40.0	2.2*
300.020900	39.8	102.0	H	0.0	-9.6	46.0	6.2
70.842375	31.9	401.0	H	180.0	-16.8	40.0	8.1
50.426925	31.2	116.0	V	214.0	-17.1	40.0	8.8
51.047325	30.8	102.0	V	258.0	-17.2	40.0	9.2
250.048025	36.2	401.0	H	0.0	-17.4	46.0	9.8

* Within measurement uncertainty.

Above 1GHz:

802.11b mode

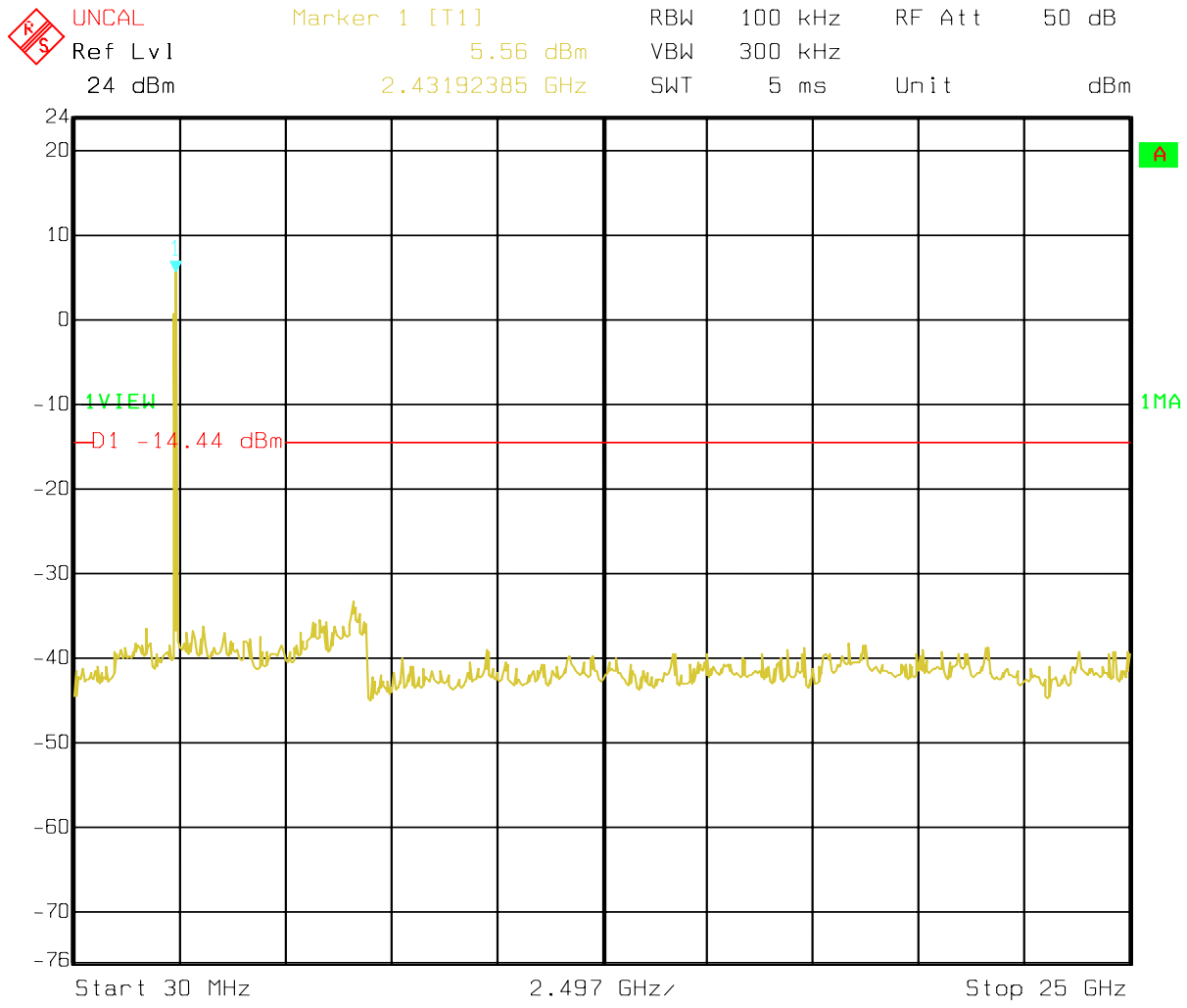
Indicated		Detector (PK/AV)	Table Angle Degree	Antenna		Correction Factor			FCC Part 15.247/15.209		
Frequency (MHz)	Receiver Reading (dBμV/m)			Height (m)	Polar (H/V)	Ant. Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low Channel (2412 MHz)											
4824	46.2	AV	170	1.4	V	31.3	4.64	33.4	48.74	54	5.26
1855	54.2	AV	165	1.2	H	27.1	2.82	35.5	48.62	54	5.38
4824	45.12	AV	0	1.5	H	31.3	4.64	33.4	47.66	54	6.34
2007	49.1	AV	60	1.4	V	27.4	3.09	35.0	44.59	54	9.41
2125	48.8	AV	180	1.6	V	27.4	3.09	35.0	44.29	54	9.71
1725	50.2	AV	180	1.5	H	26.5	2.77	35.5	43.97	54	10.03
4824	55.25	PK	180.0	1.5	H	31.3	4.64	33.4	57.79	74	16.21
4824	55.1	PK	175	1.4	V	31.3	4.64	33.4	57.64	74	16.36
2007	57.3	PK	75	1.6	V	27.4	3.09	35.0	52.79	74	21.21
1725	57.41	PK	90	1.3	H	26.5	2.77	35.5	51.18	74	22.82
1855	56.3	PK	80	1.6	H	27.1	2.82	35.5	50.72	74	23.28
2125	55.2	PK	90	1.5	V	27.4	3.09	35.0	50.69	74	23.31
Middle Channel (2437 MHz)											
4874	46.5	AV	180	1.5	H	31.3	4.64	33.4	49.04	54	4.96
4874	45.8	AV	175	1.2	V	31.3	4.64	33.4	48.34	54	5.66
2213	49.5	AV	80	1.2	V	27.3	3.62	35	45.42	54	8.58
2110	49.5	AV	90	1.3	H	27.4	3.09	35	44.99	54	9.01
1741	48.9	AV	120	1.2	H	26.5	2.77	35.5	42.67	54	11.33
1965	48.1	AV	90	1.2	V	27.1	2.77	35.5	42.47	54	11.53
4874	56.7	PK	175	1.2	V	31.3	4.64	33.4	59.24	74	14.76
4874	54.0	PK	180	1.2	H	31.3	4.64	33.4	56.54	74	17.46
1965	59.7	PK	45	1.3	V	27.1	2.77	35.5	54.07	74	19.93
2213	58.1	PK	175	1.3	V	27.3	3.62	35	54.02	74	19.98
2110	56.5	PK	90	1.1	H	27.4	3.09	35	51.99	74	22.01
1741	57.4	PK	120	1.4	H	26.5	2.77	35.5	51.17	74	22.83
HighChannel (2462 MHz)											
4924	46.1	AV	150	1.5	H	31.3	4.55	33.4	48.55	54	5.45
4924	46.1	AV	180	1.4	V	31.3	4.55	33.4	48.55	54	5.45
2220	48.2	AV	90	1.4	V	27.3	3.62	34.5	44.62	54	9.38
1987	49.2	AV	60	1.3	V	27.1	3.09	34..8	44.59	54	9.41
1531.2	49.0	AV	120	1.4	H	25.4	2.77	35.5	41.67	54	12.33
1243	47.8	AV	180	1.2	H	24.8	2.50	36	39.1	54	14.9
4924	55.8	PK	180	1.2	H	31.3	4.55	33.4	58.25	74	15.75
4924	55.2	PK	175	1.5	V	31.3	4.55	33.4	57.65	74	16.35
2220	57.0	PK	60	1.2	V	27.3	3.62	34.5	53.42	74	20.58
1987	54.1	PK	60	1.5	V	27.1	3.09	34.8	49.49	74	24.51
1531.2	56.3	PK	175	1.2	H	25.4	2.77	35.5	48.97	74	25.03
1243	56.3	PK	120	1.2	H	24.8	2.50	36	47.6	74	26.4

802.11g mode

Indicated		Detector (PK/AV)	Table Angle Degree	Antenna		Correction Factor			FCC Part 15.247/15.209		
Frequency (MHz)	Receiver Reading (dBμV/m)			Height (m)	Polar (H/V)	Ant. Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low Channel (2412MHz)											
4824	44.35	AV	170	1.3	V	31.3	4.64	33.4	46.89	54	7.11
4824	43.65	AV	150	1.5	H	31.3	4.64	33.4	46.19	54	7.81
1664.3	49.7	AV	120	1.4	H	26.5	2.77	35.5	43.47	54	10.53
1685.1	48.65	AV	90	1.45	V	26.5	2.82	35	42.97	54	11.03
1716	48.65	AV	145	1.2	H	26.5	2.82	35.5	42.47	54	11.53
1026	47.92	AV	60	1.45	V	24.5	1.19	35	38.61	54	15.39
4824	55.01	PK	175	1.2	V	31.3	4.64	33.4	57.55	74	16.45
4824	54.3	PK	180	1.2	H	31.3	4.64	33.4	56.84	74	17.16
1664.3	57.57	PK	60	1	H	26.5	2.77	35.5	51.34	74	22.66
1716	57.48	PK	120	1.2	H	26.5	2.82	35.5	51.3	74	22.7
1685.1	56.84	PK	45	1.2	V	26.5	2.82	35	51.16	74	22.84
1026	56.7	PK	45	1.5	V	24.5	1.19	35	47.39	74	26.61
Middle Channel (2437MHz)											
4874	44.2	AV	175	1.2	V	31.3	4.64	33.4	46.74	54	7.26
1742.48	49.78	AV	120	1.2	H	26.5	2.82	35.5	43.6	54	10.4
1646.09	49.03	AV	60	1	H	26.5	2.77	35.5	42.8	54	11.2
1747.69	48.8	AV	80	1	V	26.5	2.77	35.3	42.77	54	11.23
1857.1	47.95	AV	90	1.45	V	27.1	2.82	35.2	42.67	54	11.33
4874	37.43	AV	150	1.5	H	31.3	4.64	33.4	39.97	54	14.03
4874	54.84	PK	145	1.2	V	31.3	4.64	33.4	57.38	74	16.62
4874	54.81	PK	180	1.2	H	31.3	4.64	33.4	57.35	74	16.65
1742.48	58.21	PK	120	1.4	H	26.5	2.82	35.5	52.03	74	21.97
1646.09	58.08	PK	90	1	H	26.5	2.77	35.5	51.85	74	22.15
1747.69	57.49	PK	170	1.3	V	26.5	2.77	35.3	51.46	74	22.54
1857.1	56.28	PK	45	1.2	V	27.1	2.82	35.2	51	74	23
HighChannel (2462MHz)											
4924	43.42	AV	170	1.3	V	31.3	4.55	33.4	45.87	54	8.13
2237.47	48.35	AV	90	1.45	V	27.3	3.62	34.5	44.77	54	9.23
4924	42.21	AV	150	1.5	H	31.3	4.55	33.4	44.66	54	9.34
2107.2	47.86	AV	60	1.45	V	27.4	3.09	34.6	43.75	54	10.25
1677.35	49.05	AV	120	1.4	H	26.5	2.77	35.4	42.92	54	11.08
1570.5	49.15	AV	145	1.2	H	25.4	2.78	35.5	41.83	54	12.17
4924	55.08	PK	175	1.2	V	31.3	4.55	33.4	57.53	74	16.47
4924	54.64	PK	180	1.2	H	31.3	4.55	33.4	57.09	74	16.91
2237.47	56.76	PK	45	1.2	V	27.3	3.62	34.5	53.18	74	20.82
2107.2	56.63	PK	45	1.5	V	27.4	3.09	34.6	52.52	74	21.48
1677.35	58.06	PK	60	1	H	26.5	2.77	35.4	51.93	74	22.07
1570.5	57.6	PK	120	1.2	H	25.4	2.78	35.5	50.28	74	23.72

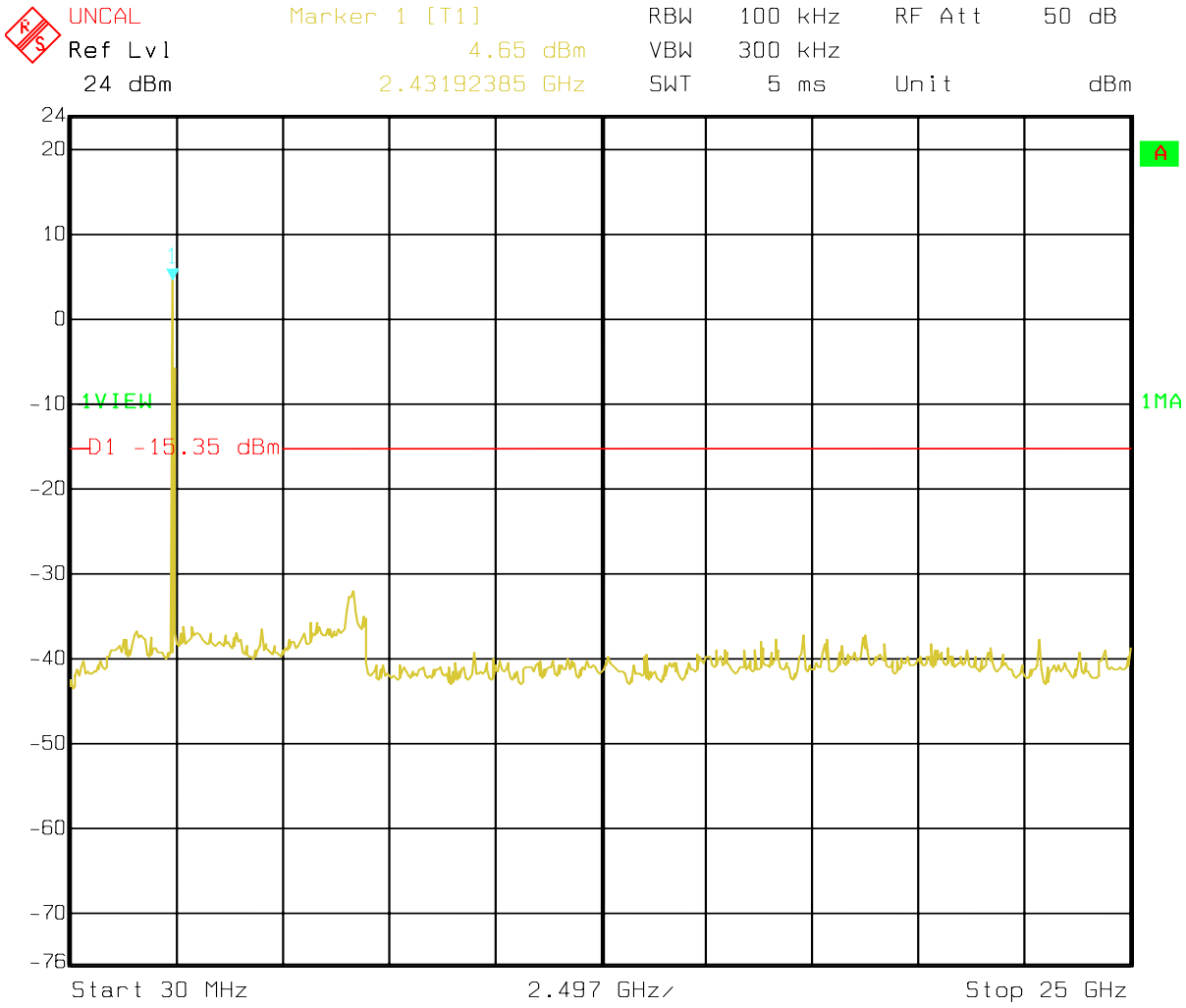
Antenna Port Conducted Spurious Emissions

802.11b Low Channel



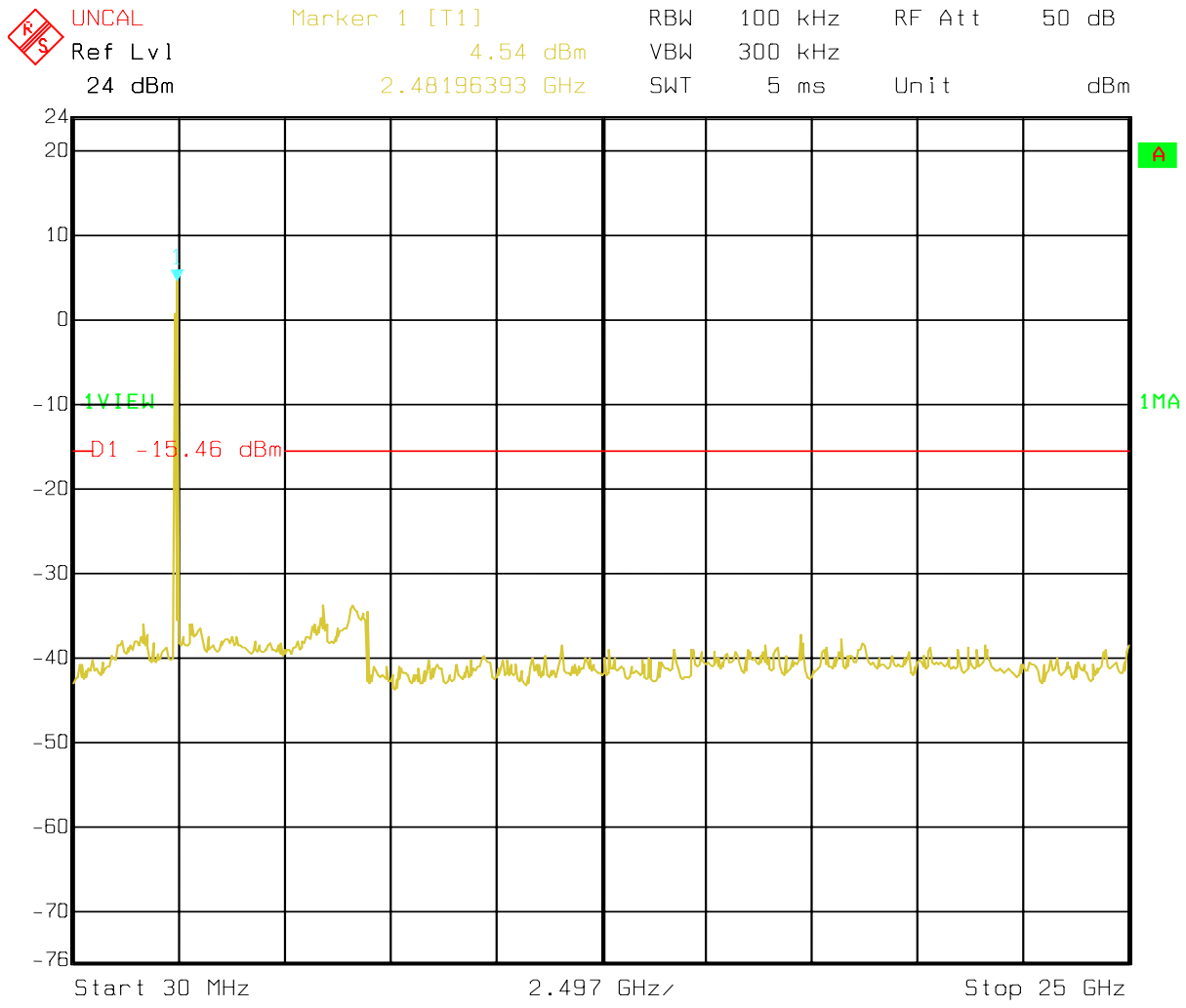
PLOT 1

802.11b Middle Channel



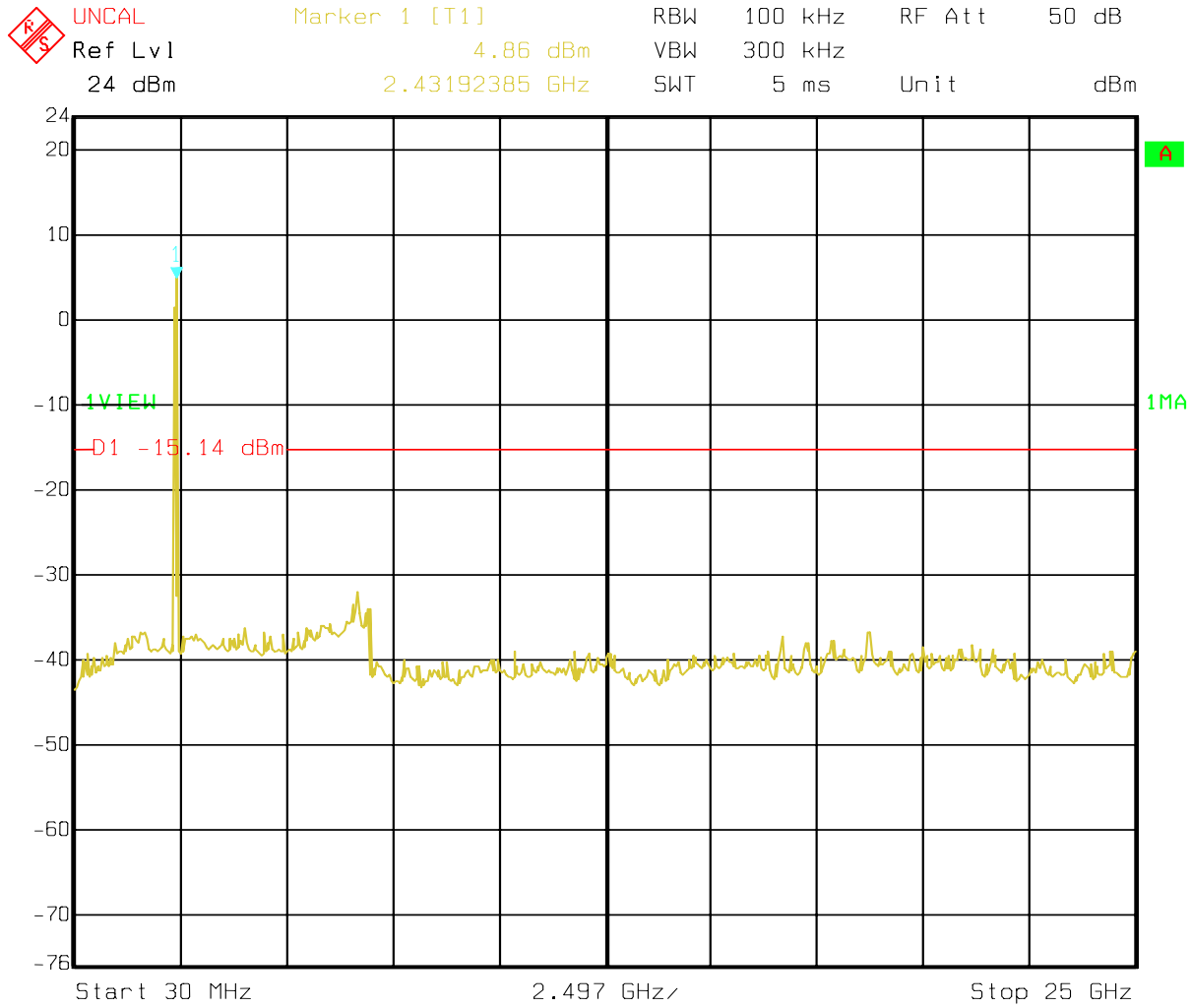
PLOT 2

802.11b High Channel



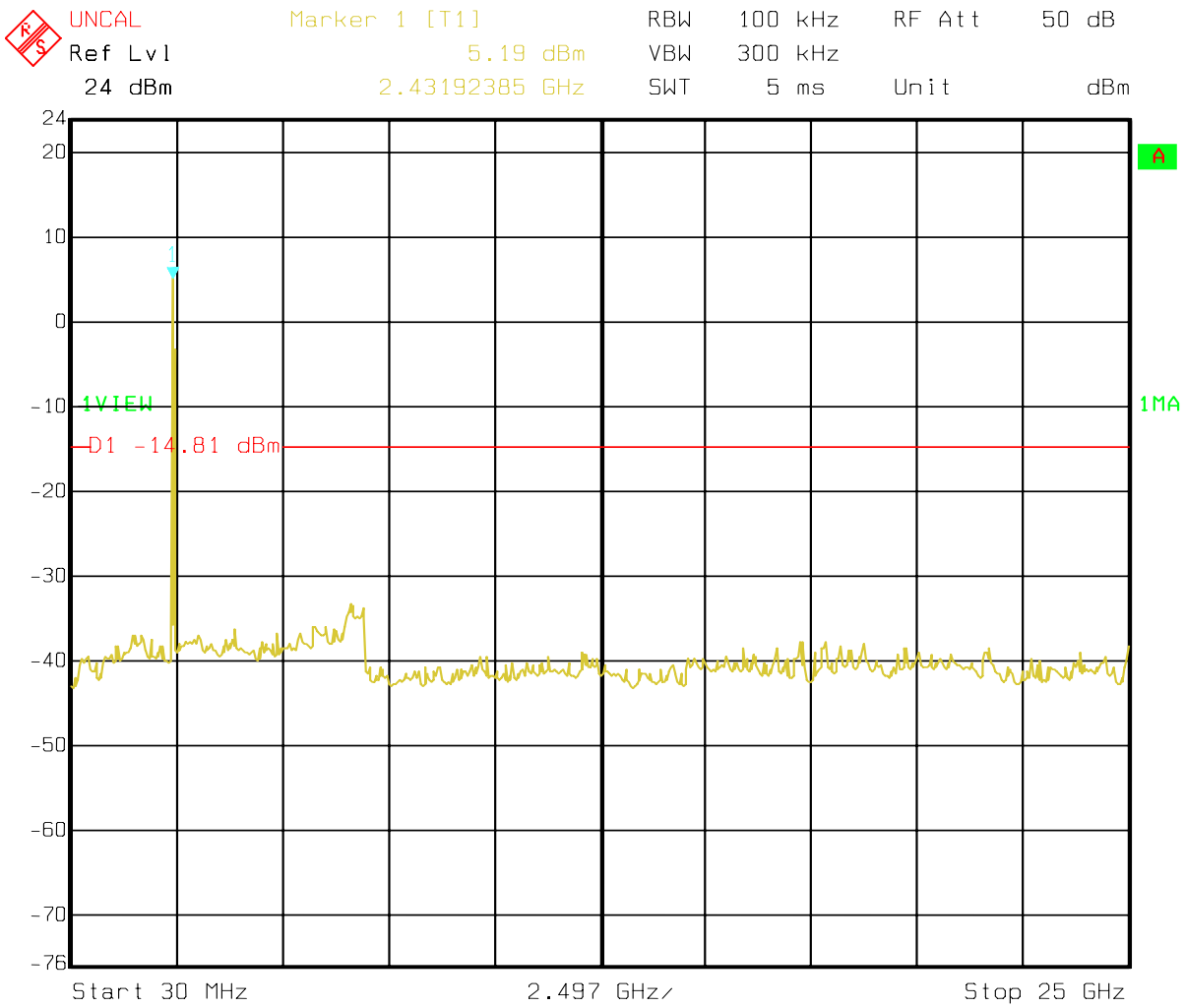
PLOT 3

802.11g Low Channel



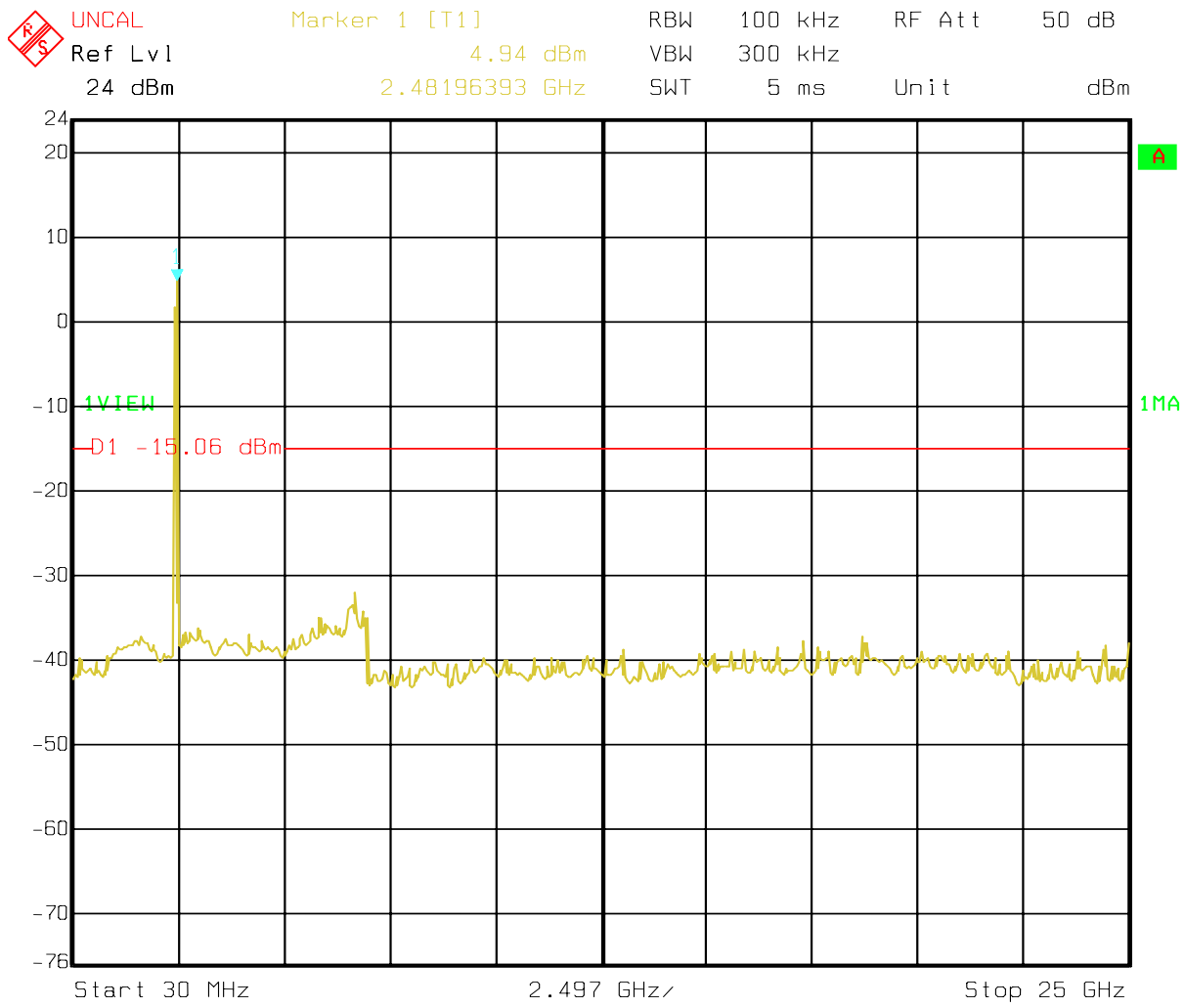
PLOT 4

802.11g Middle Channel



PLOT 5

802.11g High Channel



PLOT 6

§15.247(a) (2) – 6dB BANDWIDTH TESTING

Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2007-10-16	2008-10-16

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.

Test Data

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56%
ATM Pressure:	100.0kPa

The testing was performed by Alvin Huang on 2008-05-06.

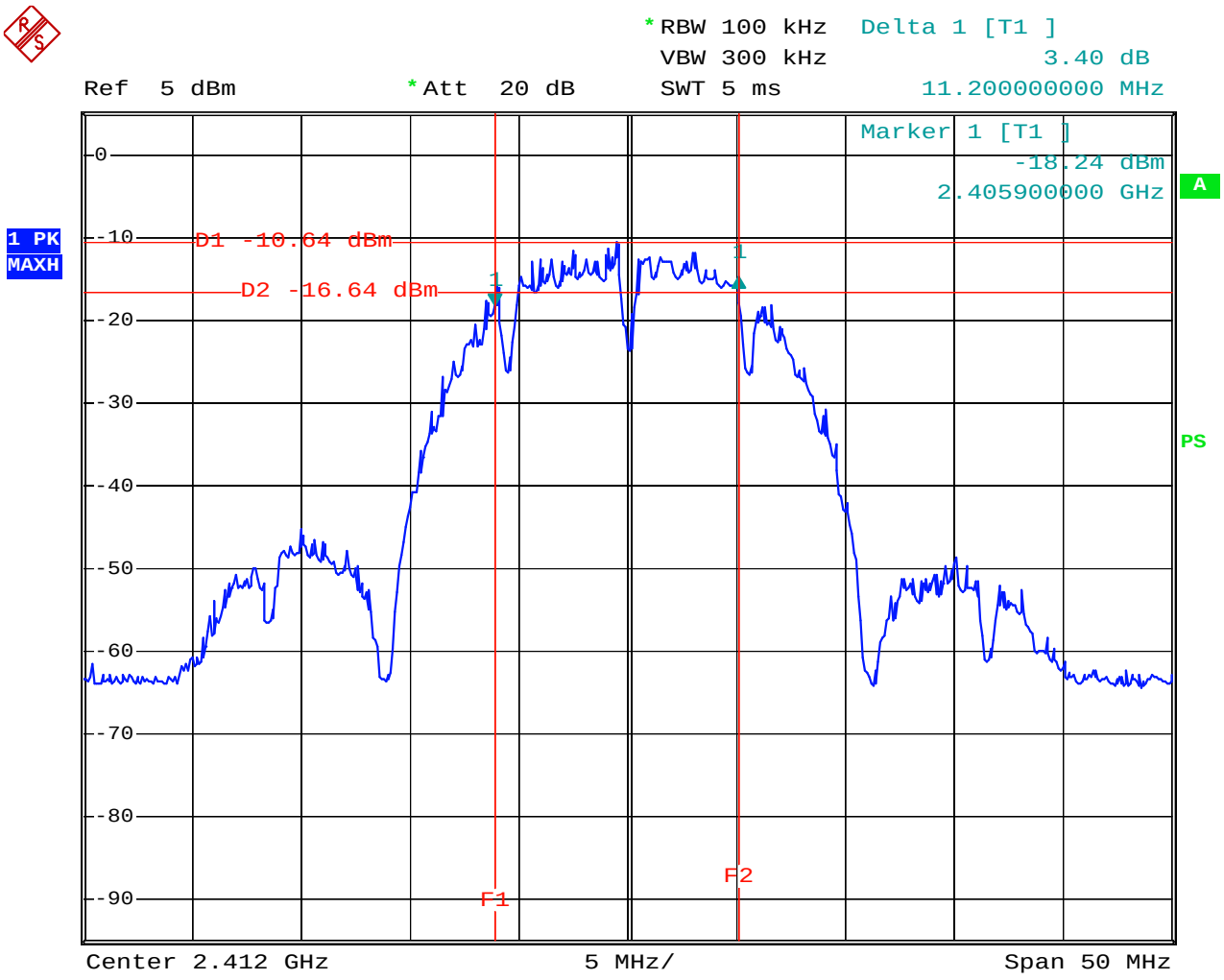
Test Result: Pass. Please refer to the following tables and plots.

Channel	Channel Frequency (MHz)	Data Rate (Mbps)	6dB Bandwidth (kHz)	Limit (kHz)
802.11b Mode				
Low	2412	1	11200	＞500
Mid	2437	1	12000	＞500
High	2462	1	11900	＞500
802.11g Mode				
Low	2412	6	16400	＞500
Mid	2437	6	16500	＞500
High	2462	6	16400	＞500

Please refer to the following plots:

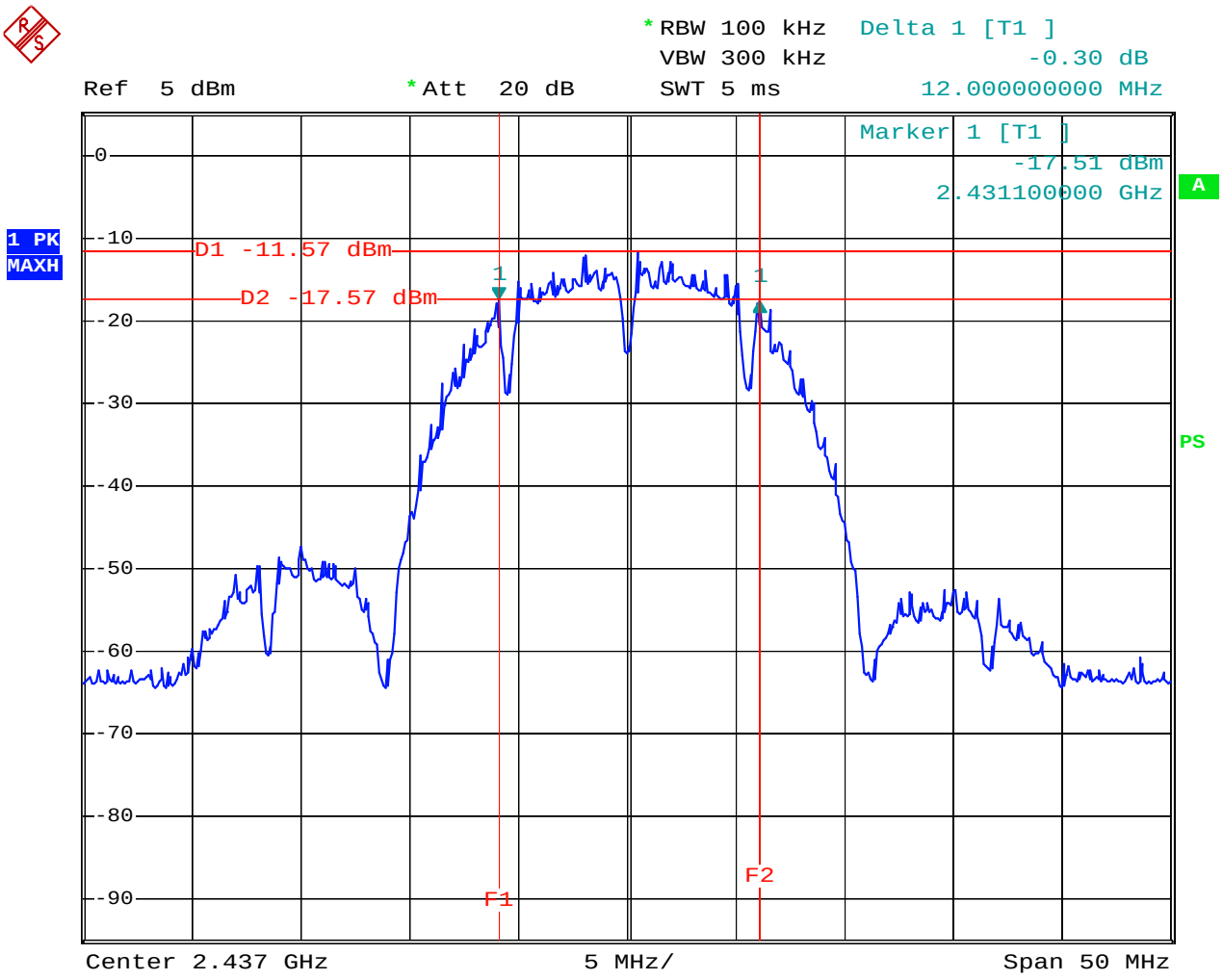
802.11b Mode:

Low Channel



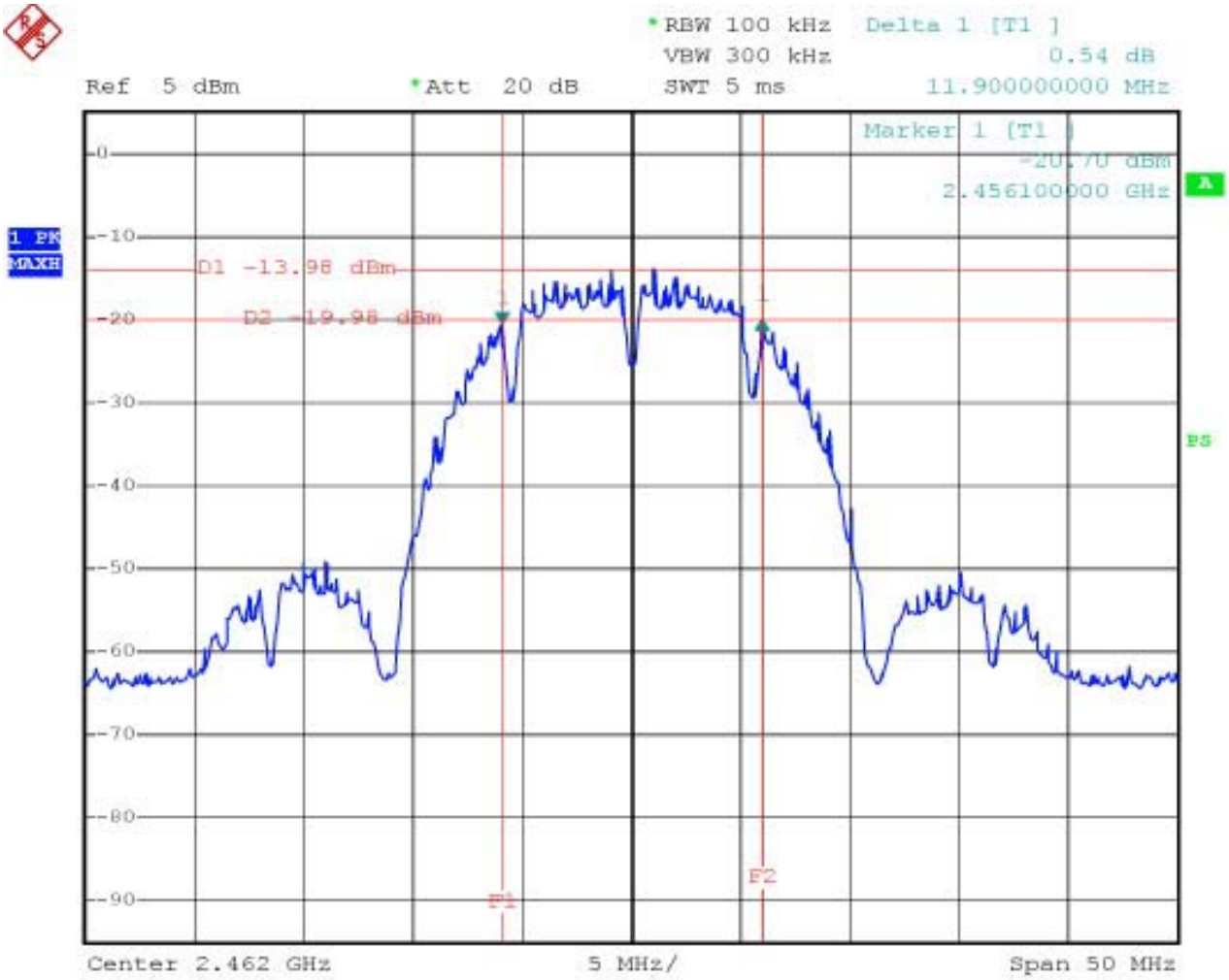
802.11B 6dB BANDWIDTH(LOW CHANNEL)

Middle Channel



802.11B 6dB BANDWIDTH(MIDDLE CHANNEL)

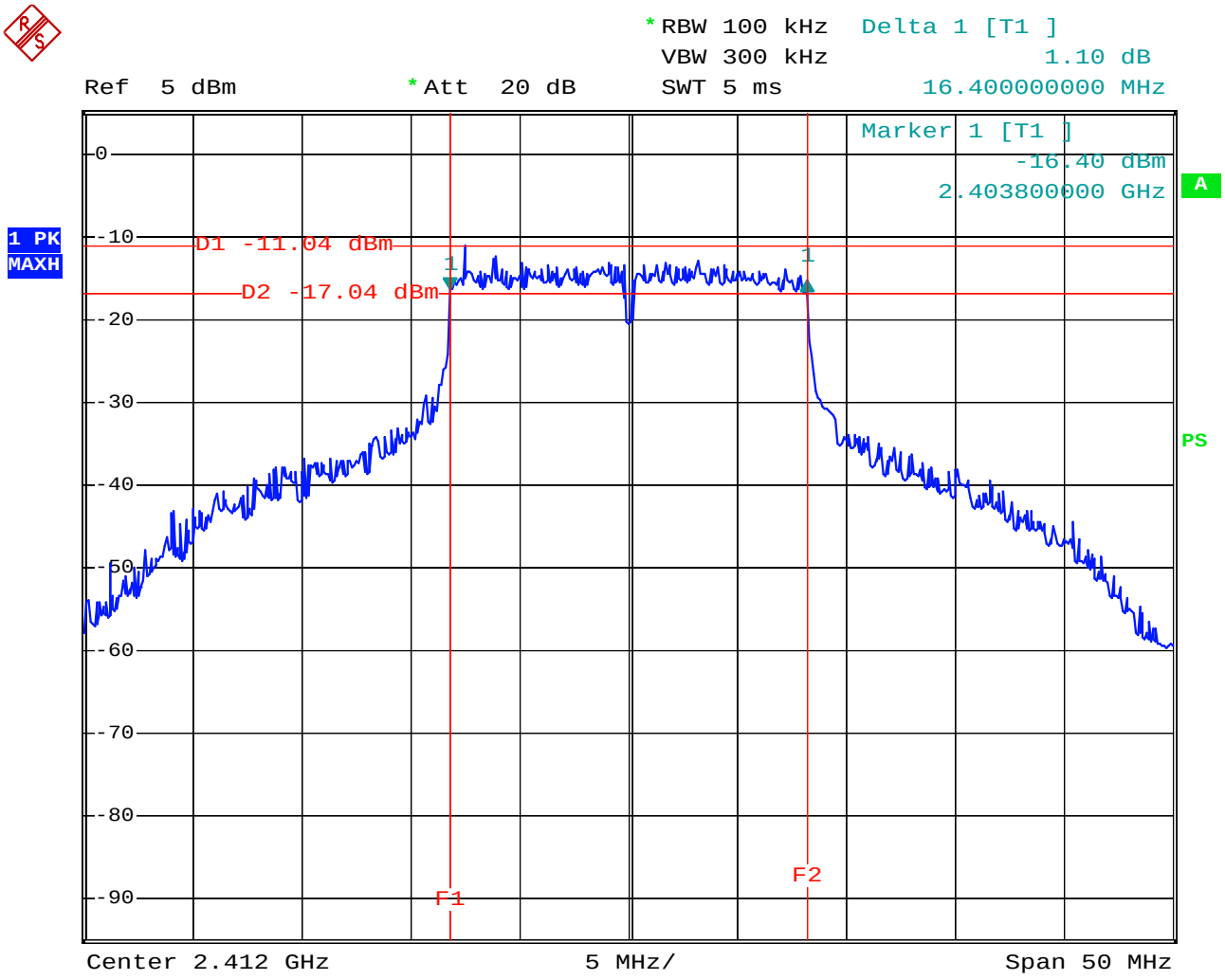
High Channel



802.11B 6dB BANDWIDTH(HIGHCHANNEL)

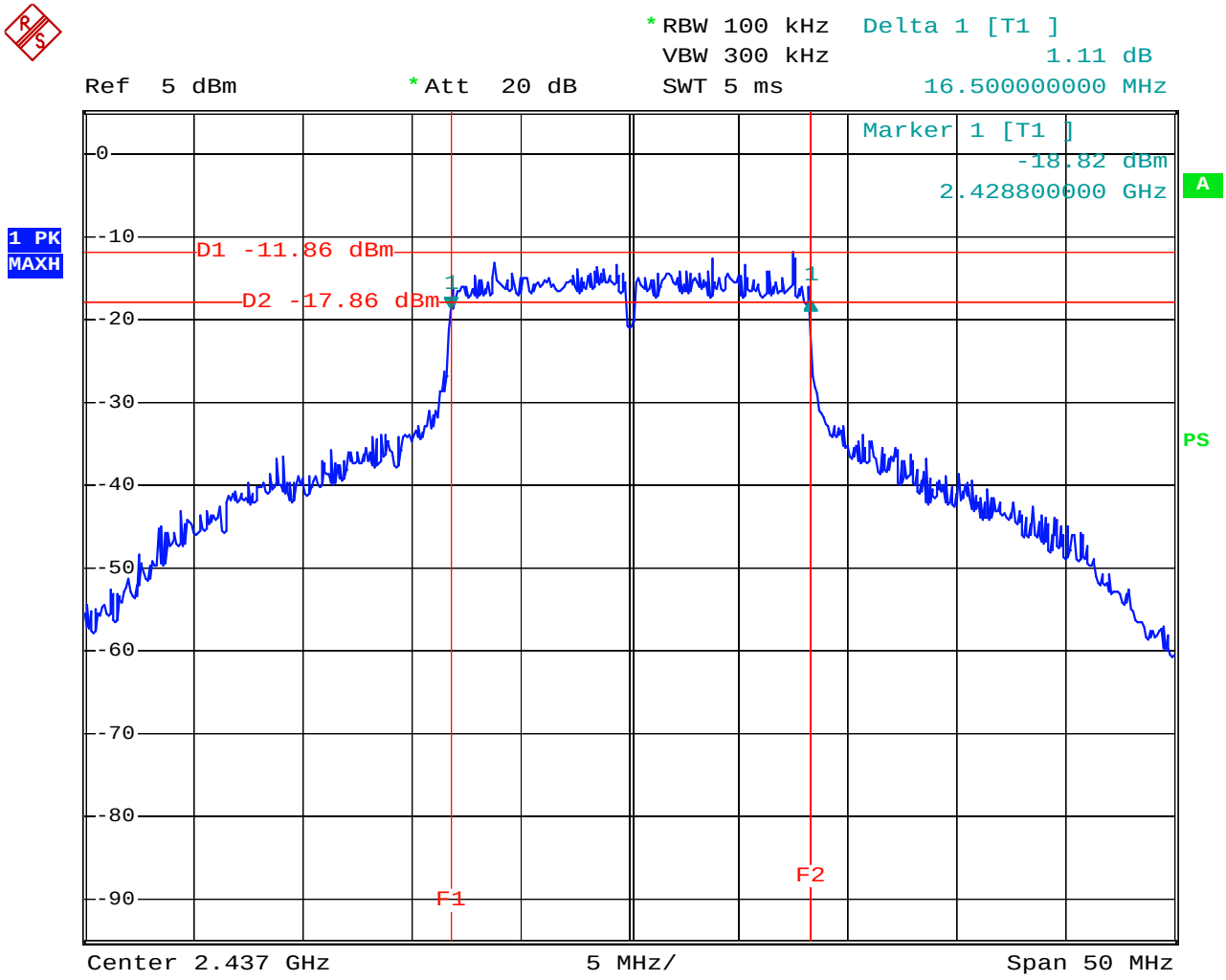
802.11g Mode:

Low Channel



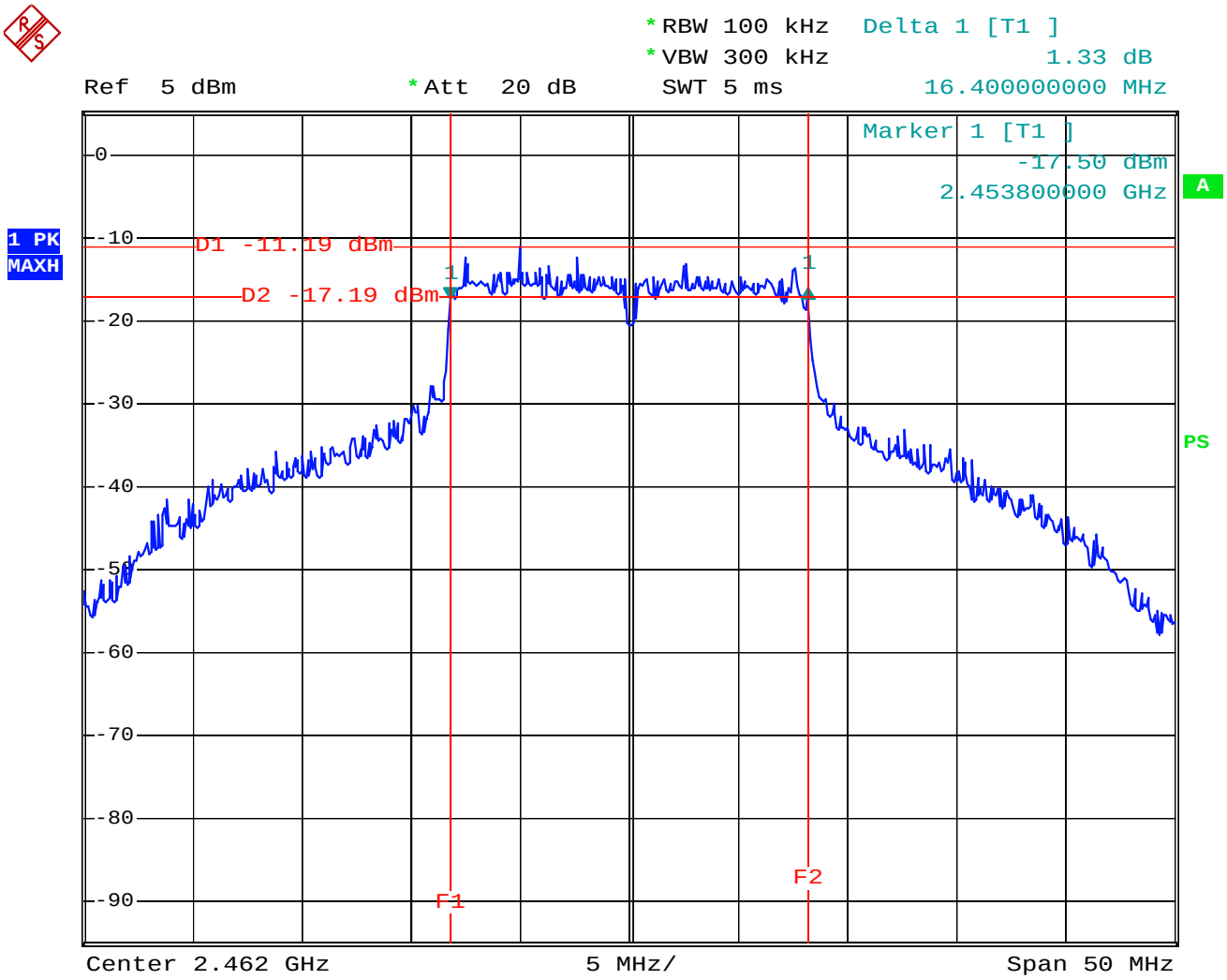
802.11G 6dB BANDWIDTH(LOW CHANNEL)

Middle Channel



802.11G 6dB BANDWIDTH(MIDDLE CHANNEL)

High Channel



802.11G 6dB BANDWIDTH(HIGH CHANNEL)

§15.247(b) (3) - MAXIMUM PEAK OUTPUT POWER

Applicable Standard

According to §15.247(b) (3), for systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

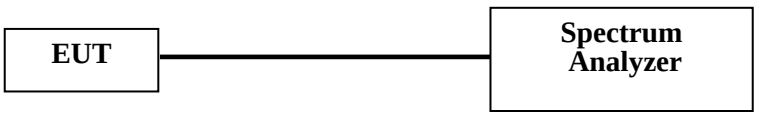
Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2007-10-16	2008-10-16

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to an EMI Test Receiver.
3. Add a correction factor to the display.



Test Data

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56%
ATM Pressure:	100.0kPa

The testing was performed by Alvin Huang on 2008-05-06.

Test Mode: Transmitting

Test Result: Pass

802.11b Mode:

Channel	Channel Frequency (MHz)	Data Rate (Mbps)	Power Output (dBm)	Limit (dBm)
Low	2412	1	19.78	30
Mid	2437	1	19.74	30
High	2462	1	19.51	30

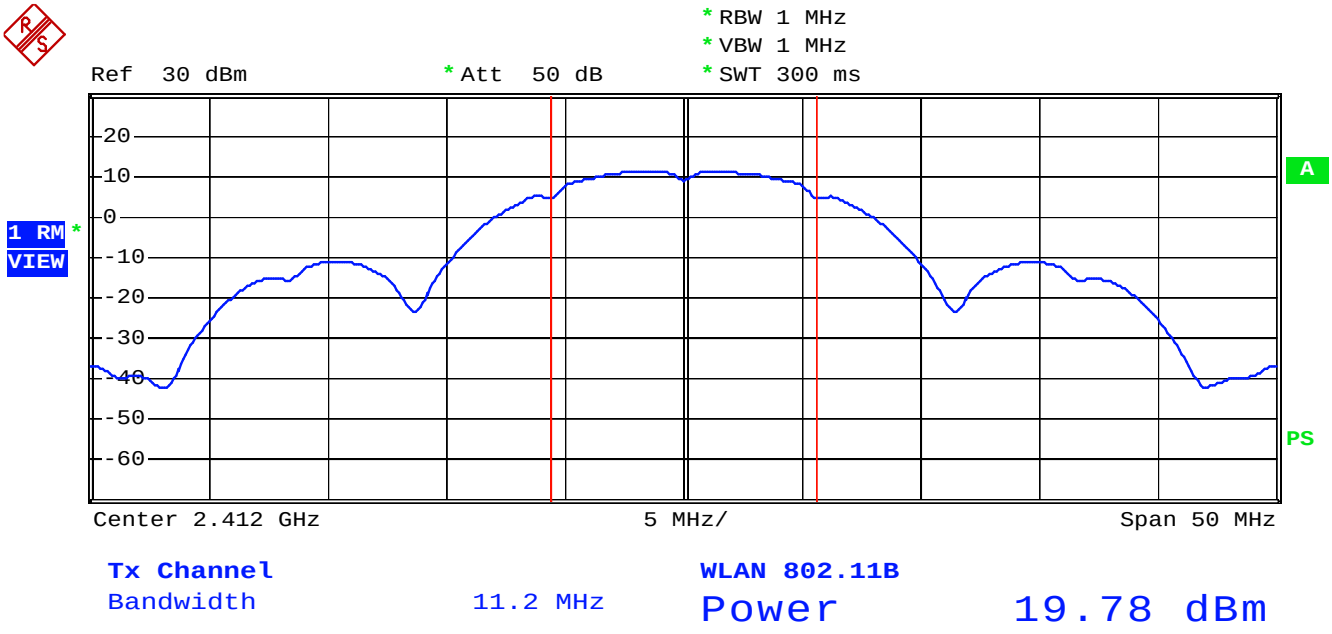
802.11g Mode:

Channel	Channel Frequency (MHz)	Data Rate (Mbps)	Power Output (dBm)	Limit (dBm)
Low	2412	6	19.05	30
Mid	2437	6	19.32	30
High	2462	6	19.19	30

Please refer to the following plots:

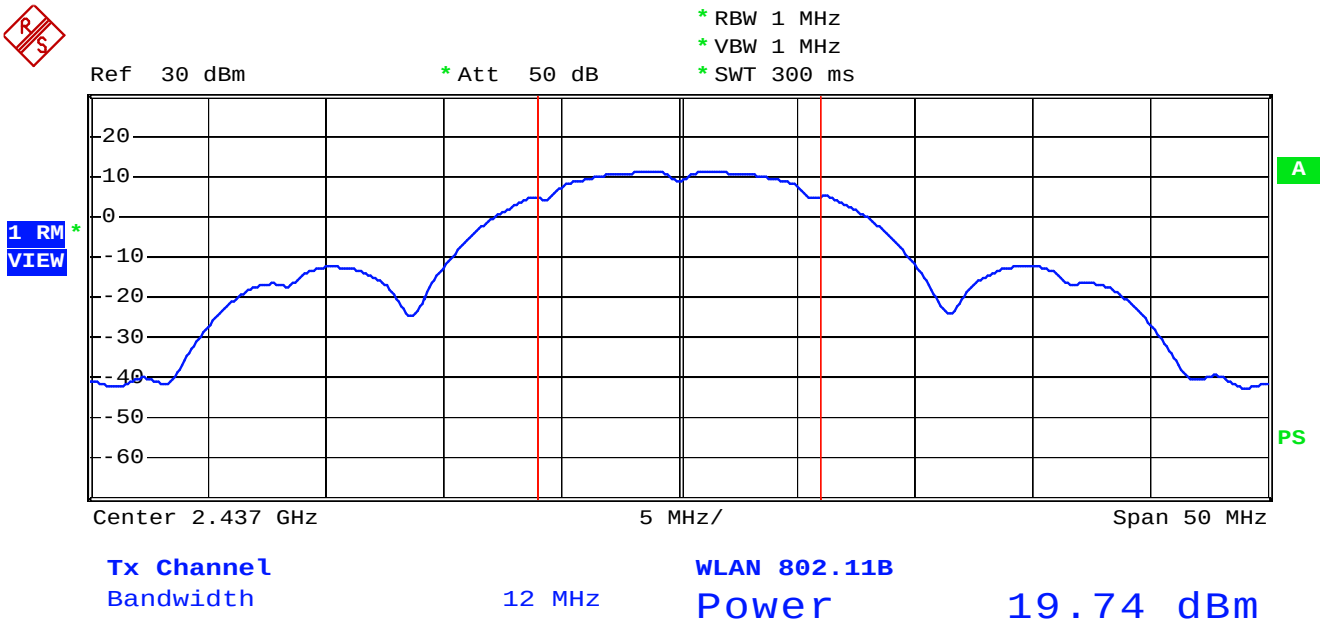
802.11b Mode:

Low Channel



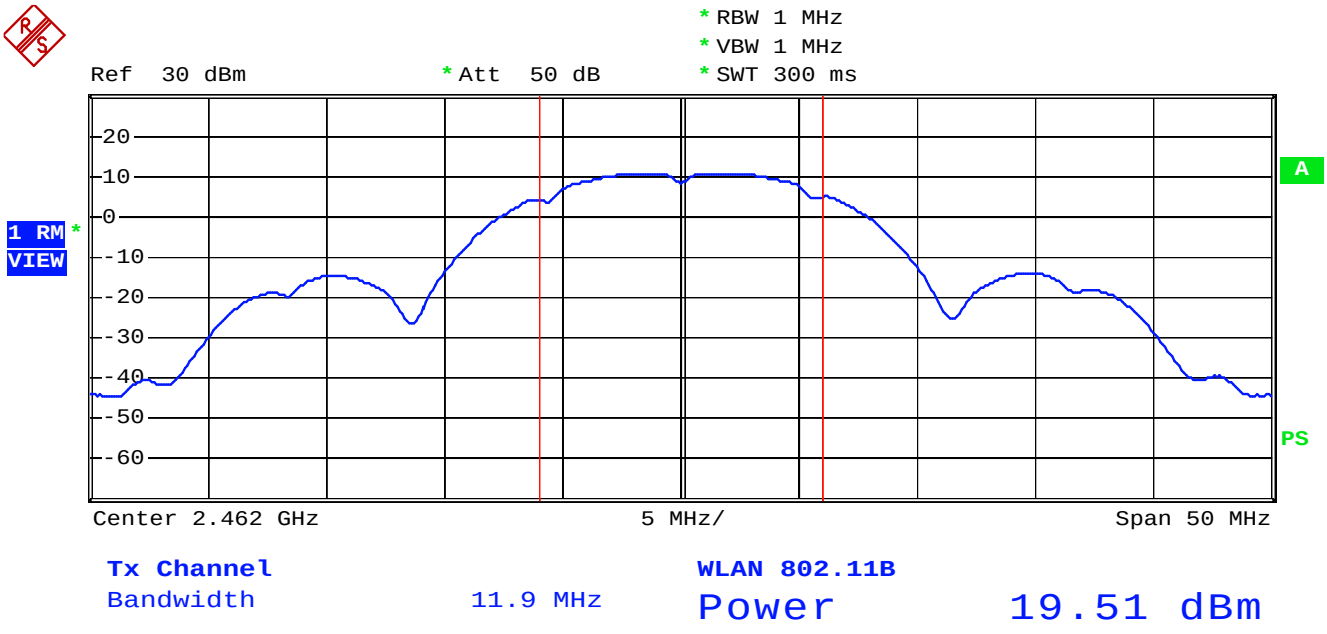
802.11B(LOW CHANNEL PEAK OUTPUT POWER)

Middle Channel



802.11B(MIDDLE CHANNEL PEAK OUTPUT POWER)

High Channel

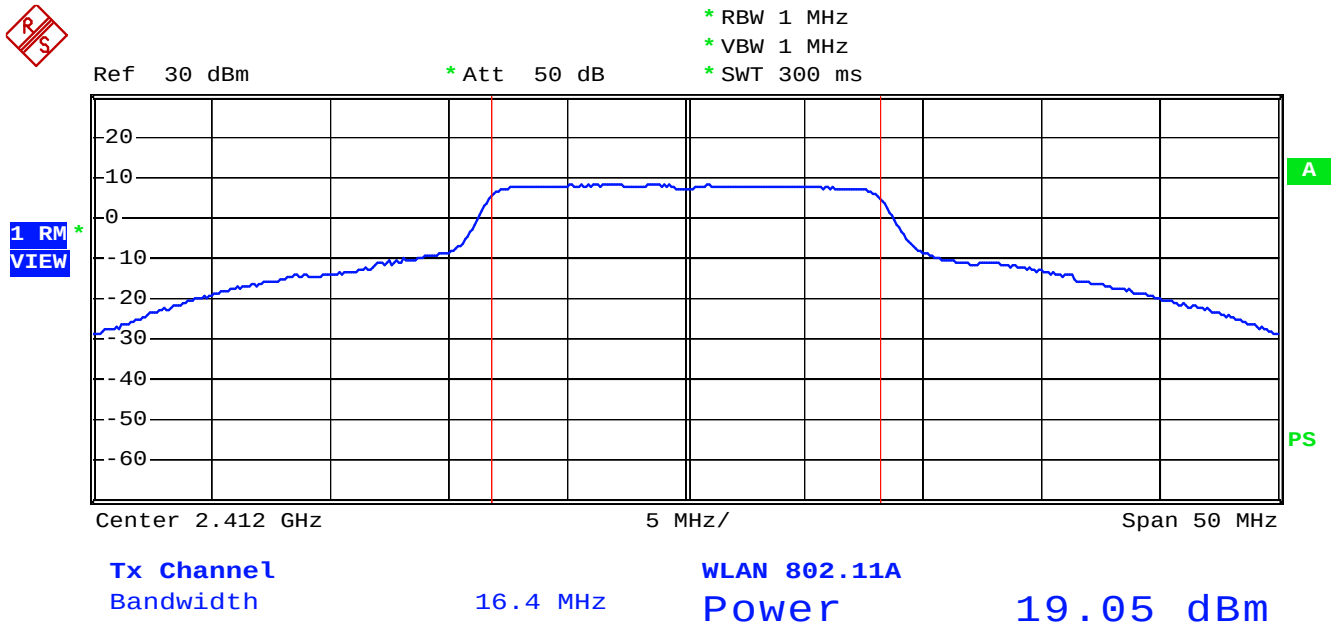


802.11B(HIGH CHANNEL PEAK OUTPUT POWER)

Date: 30.JAN.2008 09:59:59

802.11g Mode:

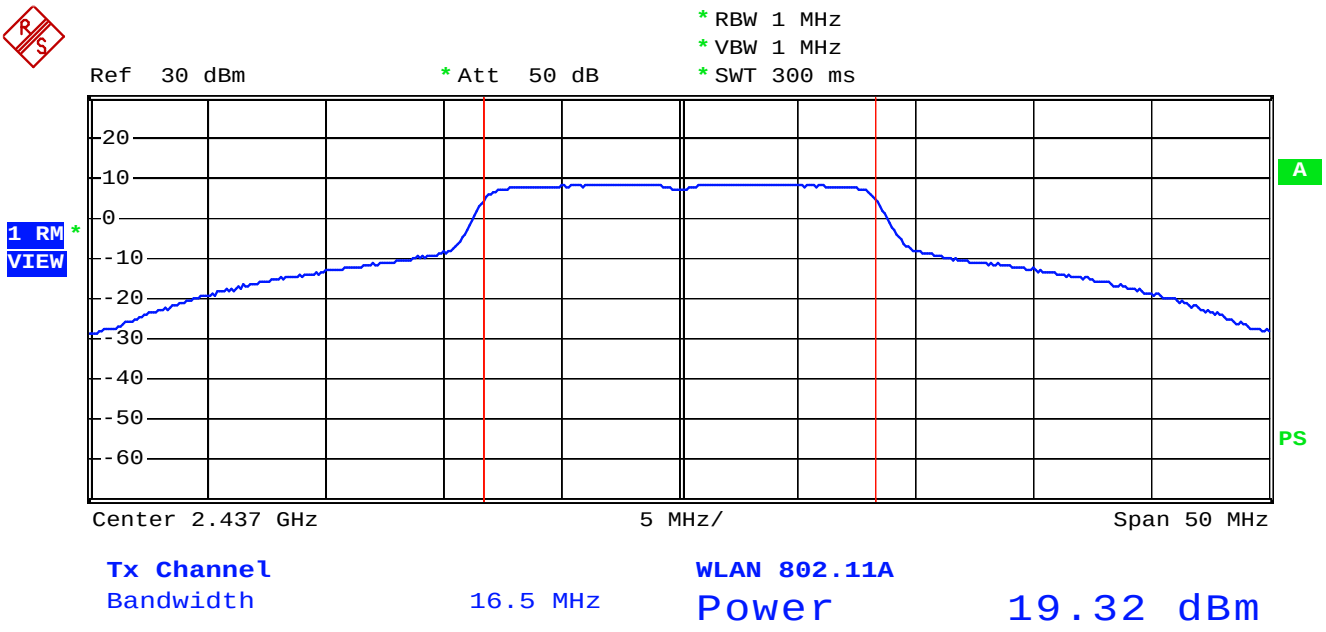
Low Channel



802.11G(LOW CHANNEL PEAK OUTPUT POWER)

Date: 30.JAN.2008 09:26:18

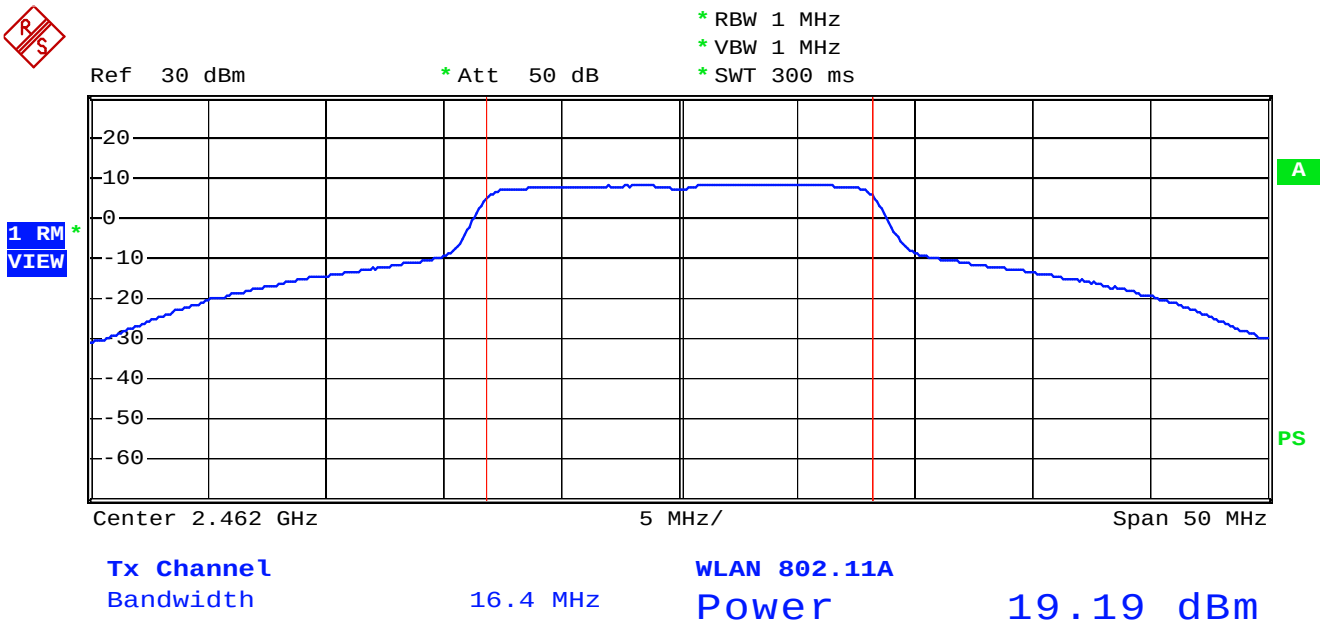
Middle Channel



802.11G(MIDDLE CHANNEL PEAK OUTPUT POWER)

Date: 30.JAN.2008 09:32:03

High Channel



802.11G(HIGH CHANNEL PEAK OUTPUT POWER)

Date: 30.JAN.2008 09:35:18

§15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE

Applicable Standard

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, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2007-10-16	2008-10-16

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
   Note: For Rdstricted Band
   RBW=1MHz
   VBW=1 MHz
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

Test Data

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56%
ATM Pressure:	100.0kPa

The testing was performed by Alvin Huang on 2008-05-06.

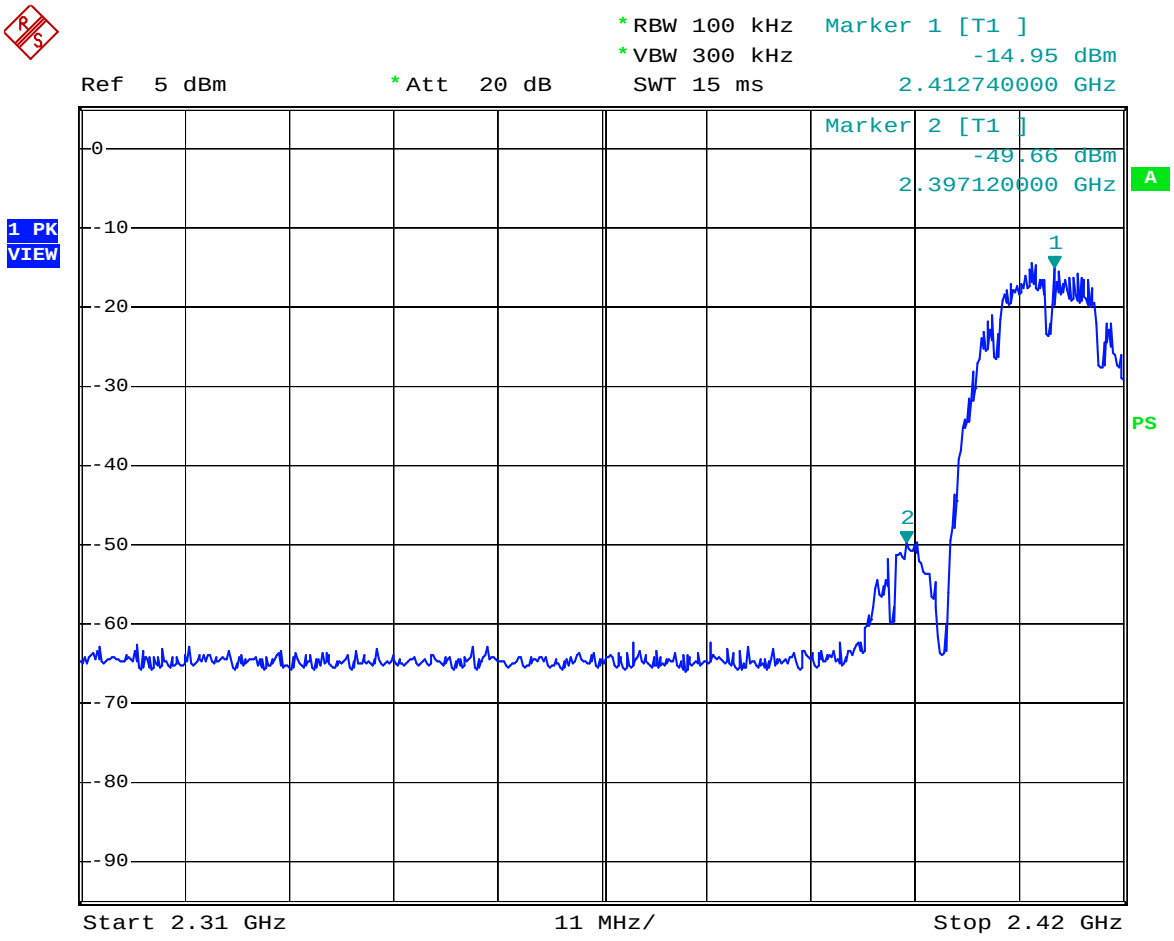
Test Result: *Compliant.*

Channel Frequency (MHz)	Delta Value (dBc)	Limit (dBc)	Result
802.11b Mode			
2397.12	34.71	20	PASS
2488.10	49.7	20	PASS
802.11g Mode			
2399.68	24.73	20	PASS
2484.00	35.7	20	PASS

Please refer to following plots.

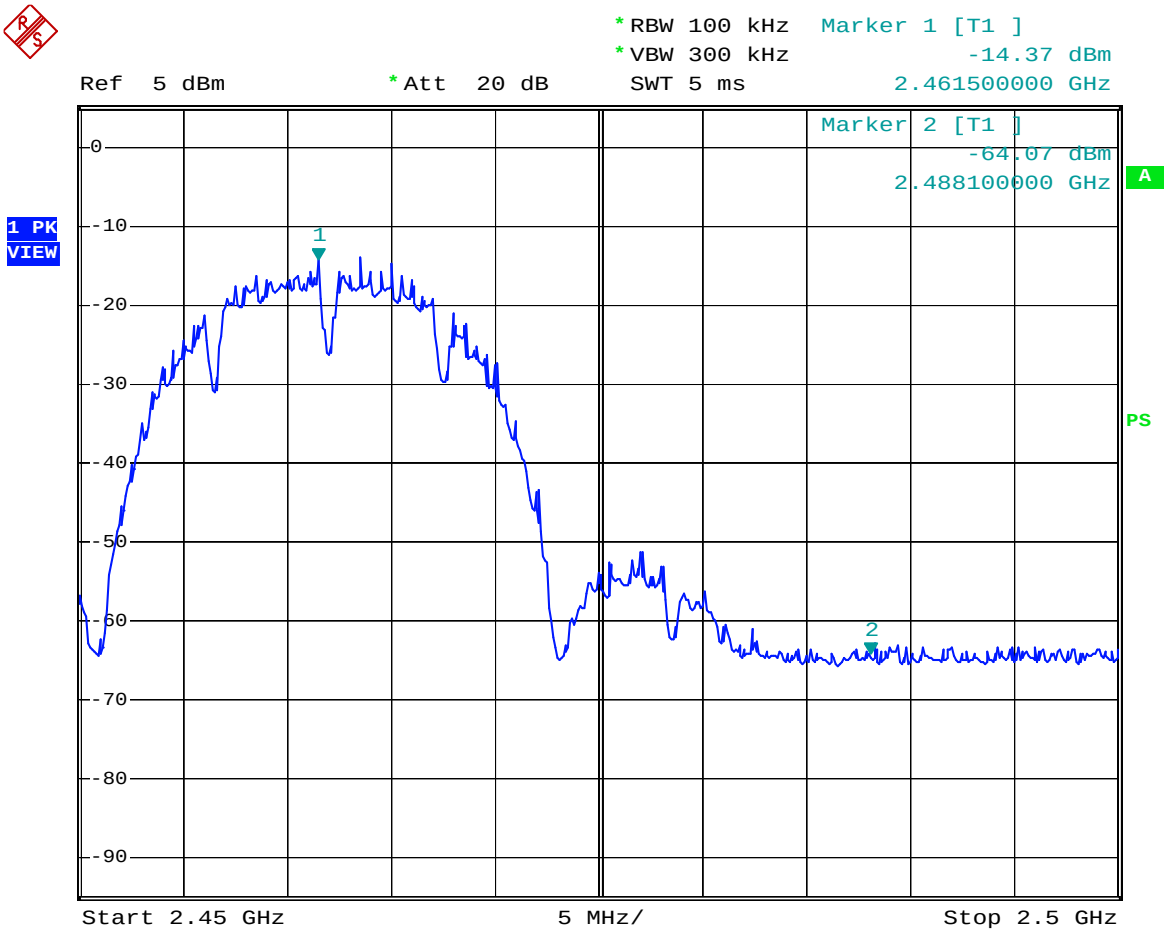
802.11b Mode:

Lowest channel



802.11B OUT OF BANDEDGE(LEFT)

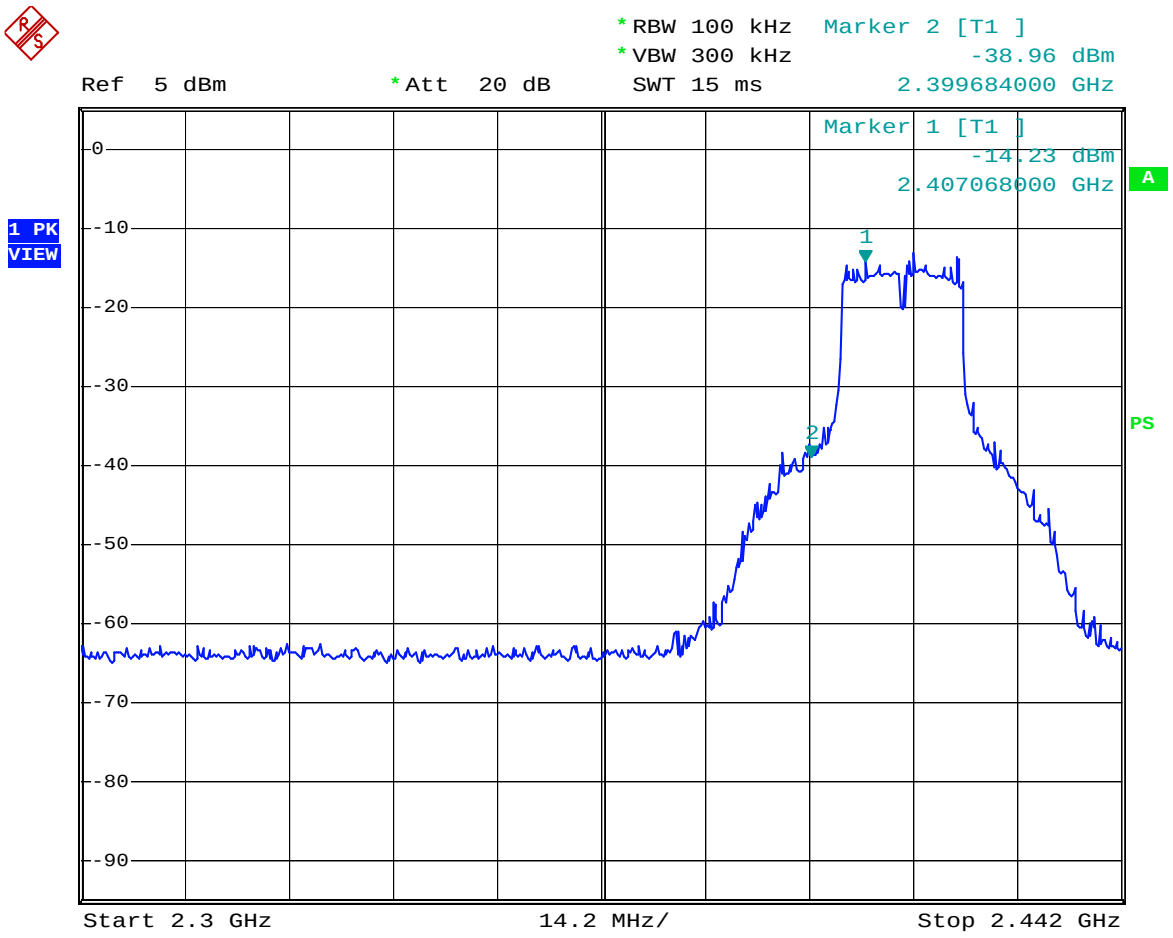
Highest Channel



802.11B OUT OF BANDEDGE(RIGHT)

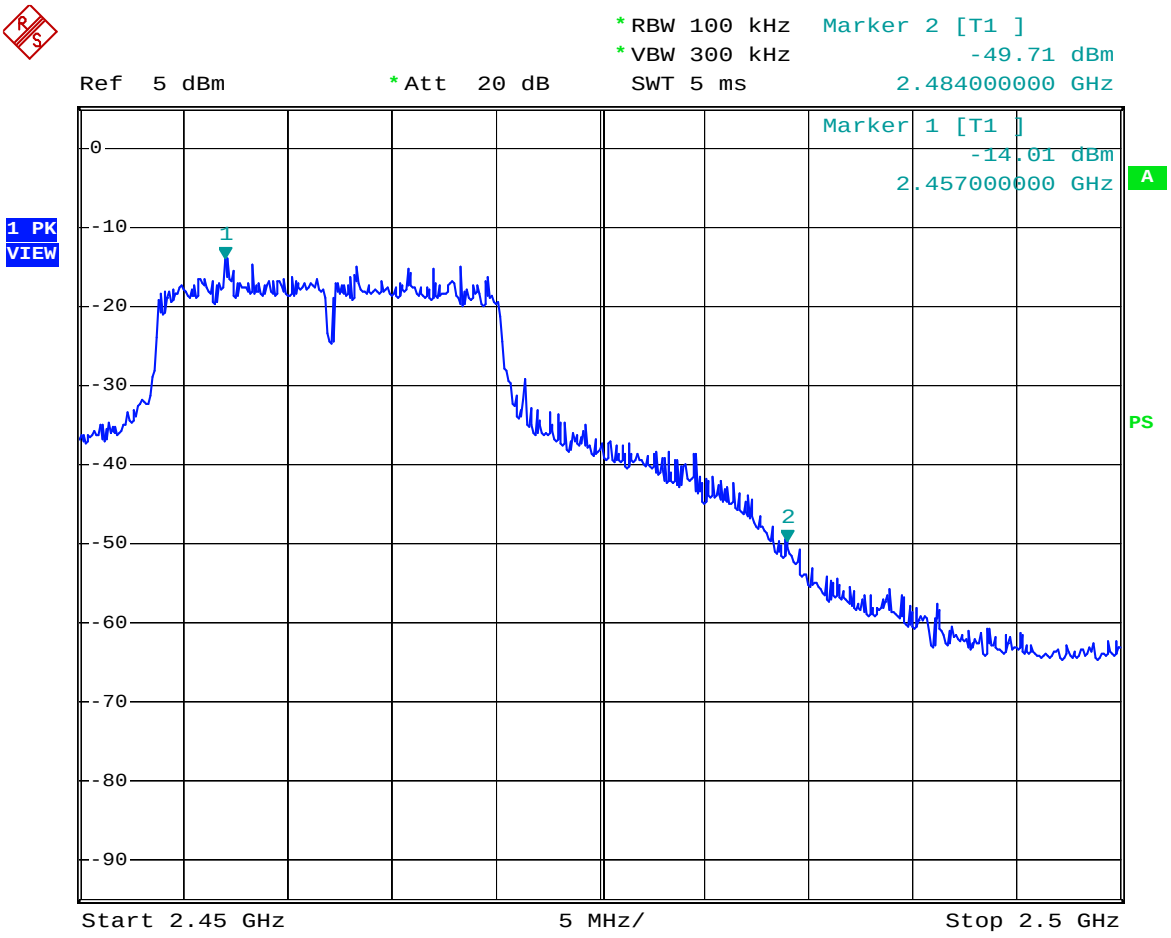
802.11g Mode:

Lowest Channel



802.11G OUT OF BANDEDGE(LEFT)

Highest Channel



802.11G OUT OF BANDEDGE(RIGHT)

Date: 8.JAN.2008 08:41:51

Restricted Bands

Indicated		Detector (PK/AV)	Table Angle Degree	Antenna		Correction Factor			FCC Part 15.247/15.209		
Frequency (MHz)	Receiver Reading (dBμV/m)			Height (m)	Polar (H/V)	Ant. Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
802.11b (2310MHz-2390MHz)											
2388.2	50.70	PK	45	1.2	V	30.6	3.61	35	49.91	54	4.09
2358.2	50.40	PK	180	1.2	H	30.6	3.61	35	49.61	54	4.39
2352.2	49.52	PK	90	1	V	30.6	3.61	35	48.73	54	5.27
2389.03	47.80	PK	180	1.2	V	30.6	3.61	35	47.01	54	6.99
2346.7	47.42	PK	60	1.5	H	30.6	3.61	35	46.63	54	7.37
802.11b (2483.5MHz-2500MHz)											
2492.69	51.64	PK	243	1.4	H	30.6	3.61	35	50.85	54	3.15
2491.08	50.12	PK	234	1.6	V	30.6	3.61	35	49.33	54	4.67
2489.08	48.90	PK	153	1.5	H	30.6	3.61	35	48.11	54	5.89
2490.2	47.52	PK	156	1.4	V	30.6	3.61	35	46.73	54	7.27
802.11g (2310MHz-2390MHz)											
2358.9	50.40	PK	234	1.6	V	30.6	3.61	35	49.61	54	4.39
2358.5	49.6	PK	153	1.5	H	30.6	3.61	35	48.81	54	5.19
2580.5	48.9	PK	156	1.4	V	30.6	3.61	35	48.11	54	5.89
23.56.2	48.7	PK	243	1.4	H	30.6	3.61	35	47.91	54	6.09
802.11g (2483.5MHz-2500MHz)											
2496.66	50.35	PK	156	1.4	V	30.6	3.61	35	49.56	54	4.44
2492.55	50.1	PK	243	1.4	H	30.6	3.61	35	49.31	54	4.69
2488.5	49.8	PK	234	1.6	V	30.6	3.61	35	49.01	54	4.99
2487.6	48.7	PK	153	1.5	H	30.6	3.61	35	47.91	54	6.09

Note: Above all spurious emission strength in PK detector is below the spurious emission limit (54dBuV/m) in AV detector, so measurement in AV detector needn't.

§15.247(e) - POWER SPECTRAL DENSITY

Applicable Standard

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. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2007-10-16	2008-10-16

*** Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT was set without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Adjust the center frequency of SA on any frequency be measured and set SA to 1.5MHz span mode. And then, set RBW and VBW of spectrum analyzer to proper value. (DTS)
4. Repeat above procedures until all frequencies measured were complete.

Test Data

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56%
ATM Pressure:	100.0kPa

The testing was performed by Alvin Huang on 2008-05-12.

Test Mode: Transmitting

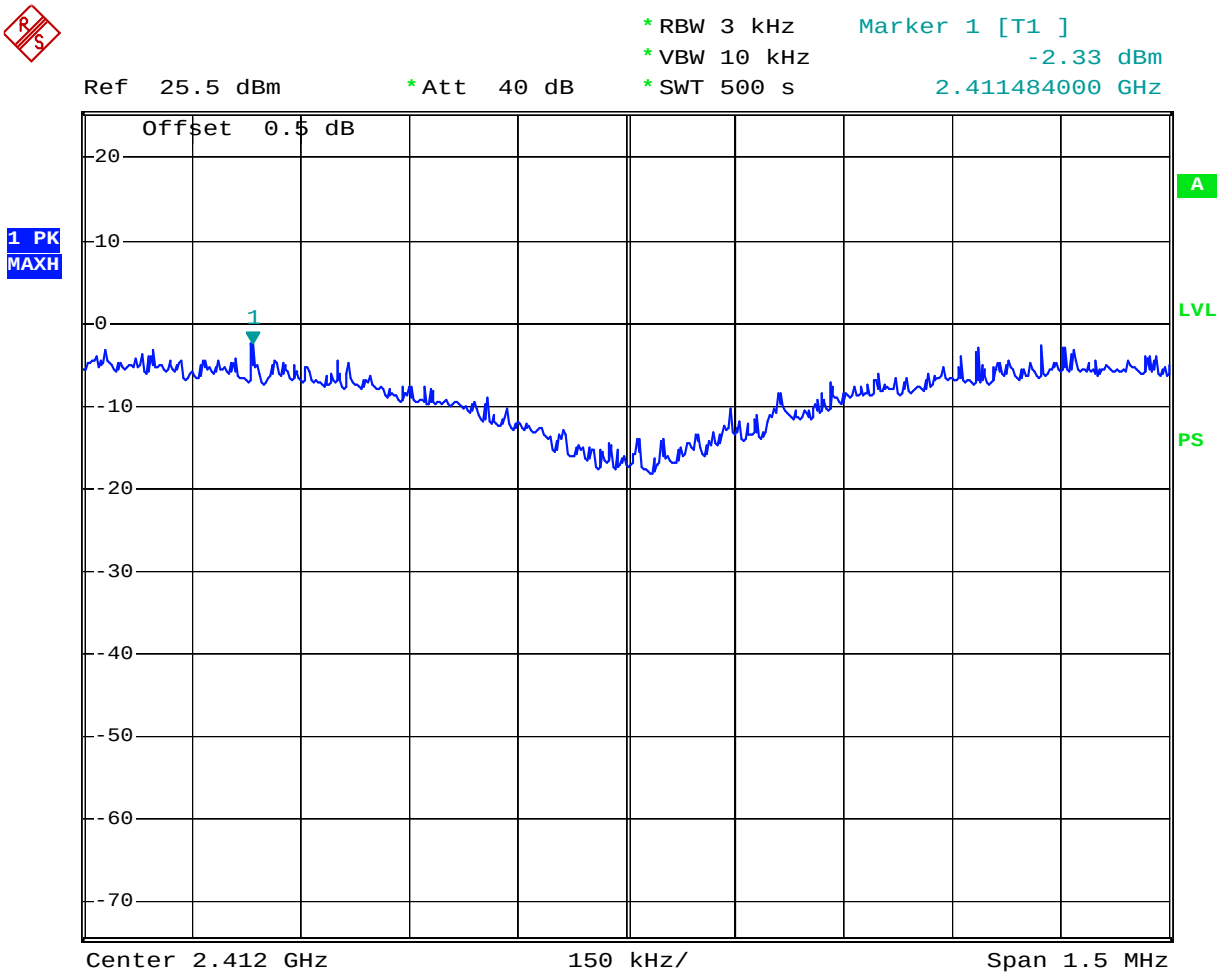
Test Result: Pass

Channel	Frequency (MHz)	Data Rate (Mbps)	PSD (dBm/3kHz)	Limit (dBm/3kHZ)	RESULT
802.11b Mode					
Low	2412	1	-2.33	8	Pass
Mid	2437	1	-2.40	8	Pass
High	2462	1	-3.40	8	Pass
802.11g Mode					
Low	2412	6	-3.95	8	Pass
Mid	2437	6	-4.07	8	Pass
High	2462	6	-3.60	8	Pass

Please refer to the following plots:

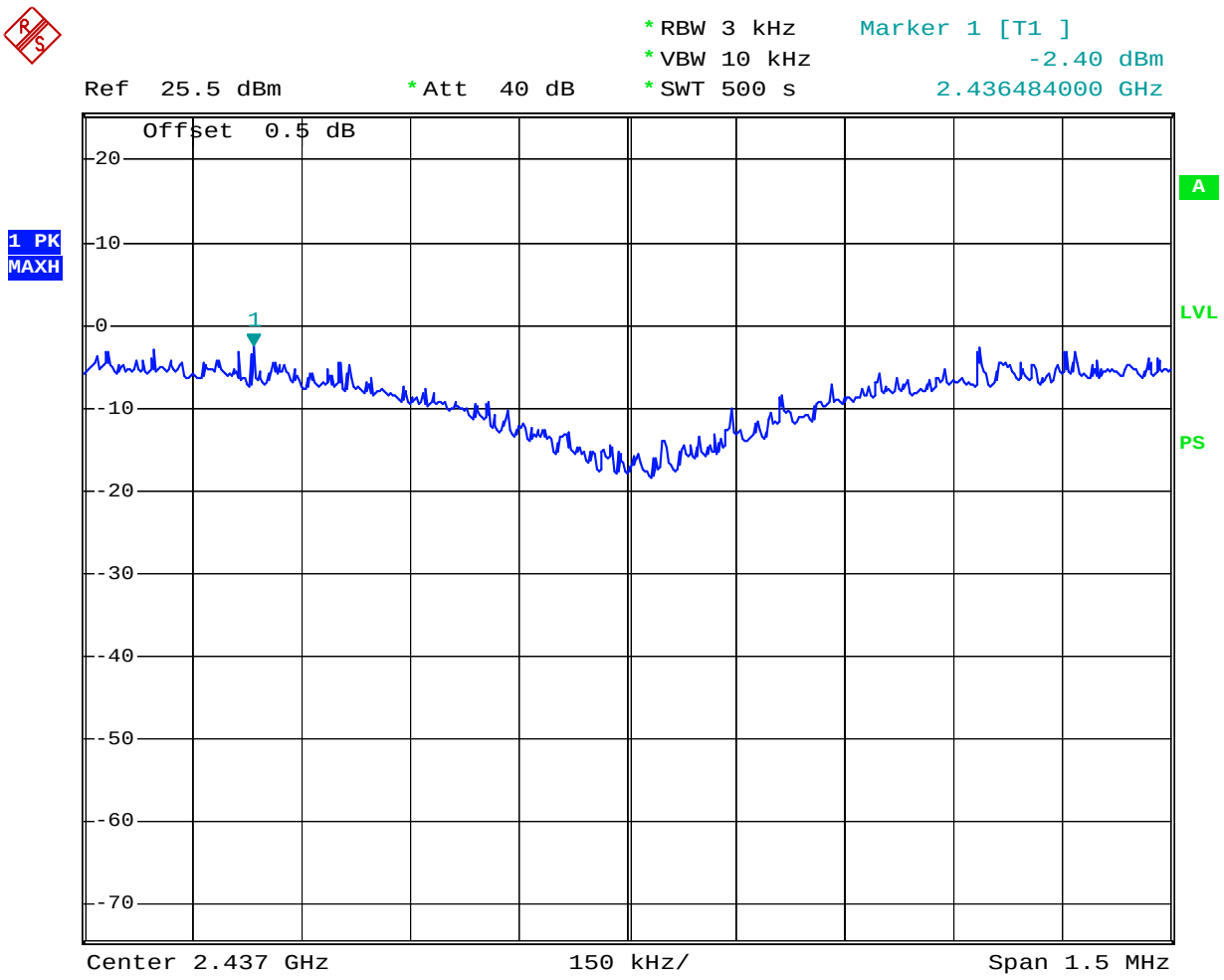
802.11b Mode:

Low Channel



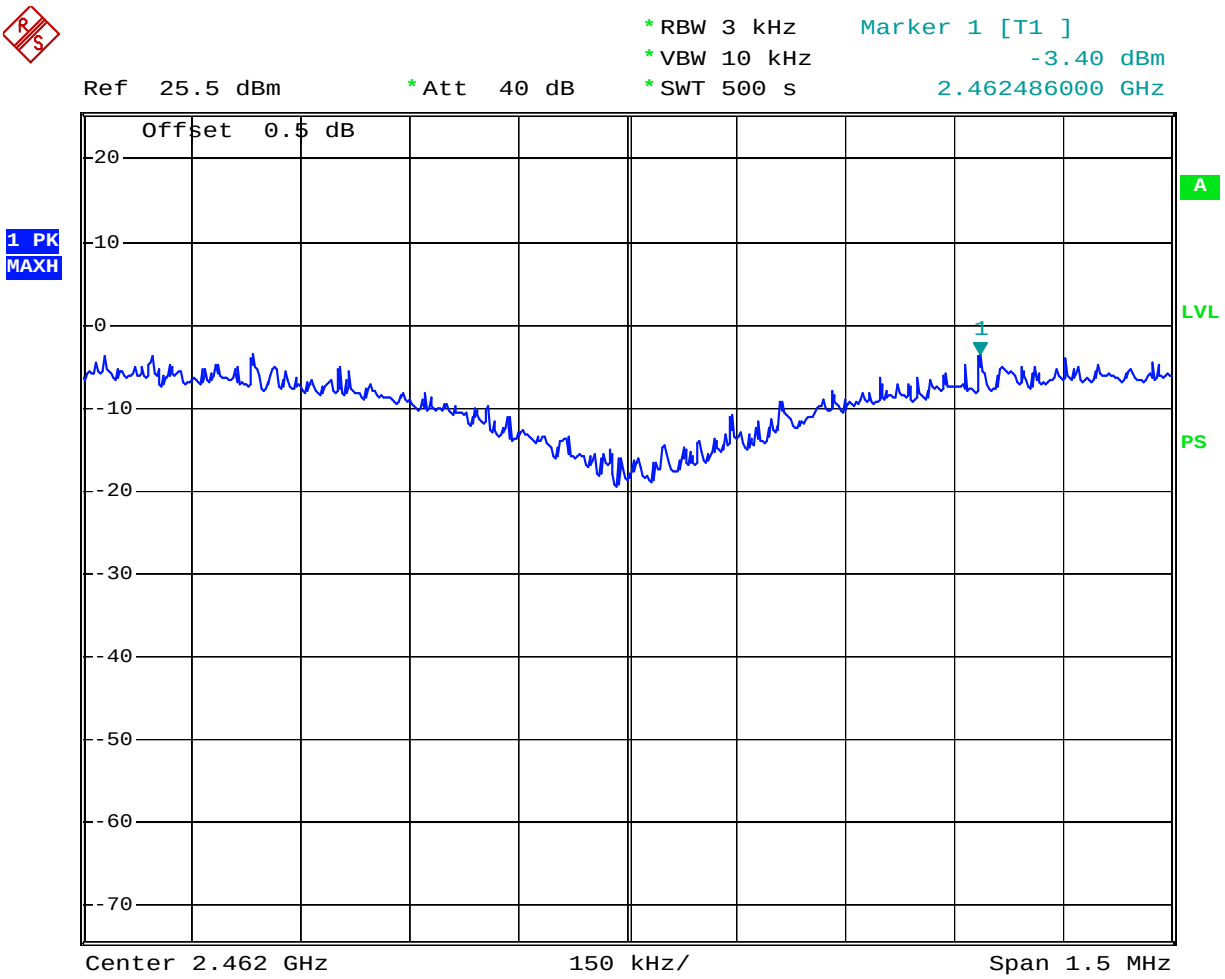
802.11B(LOW CHANNEL POWER DENSITY)

Middle Channel



802.11B(MIDDLE CHANNEL POWER DENSITY)

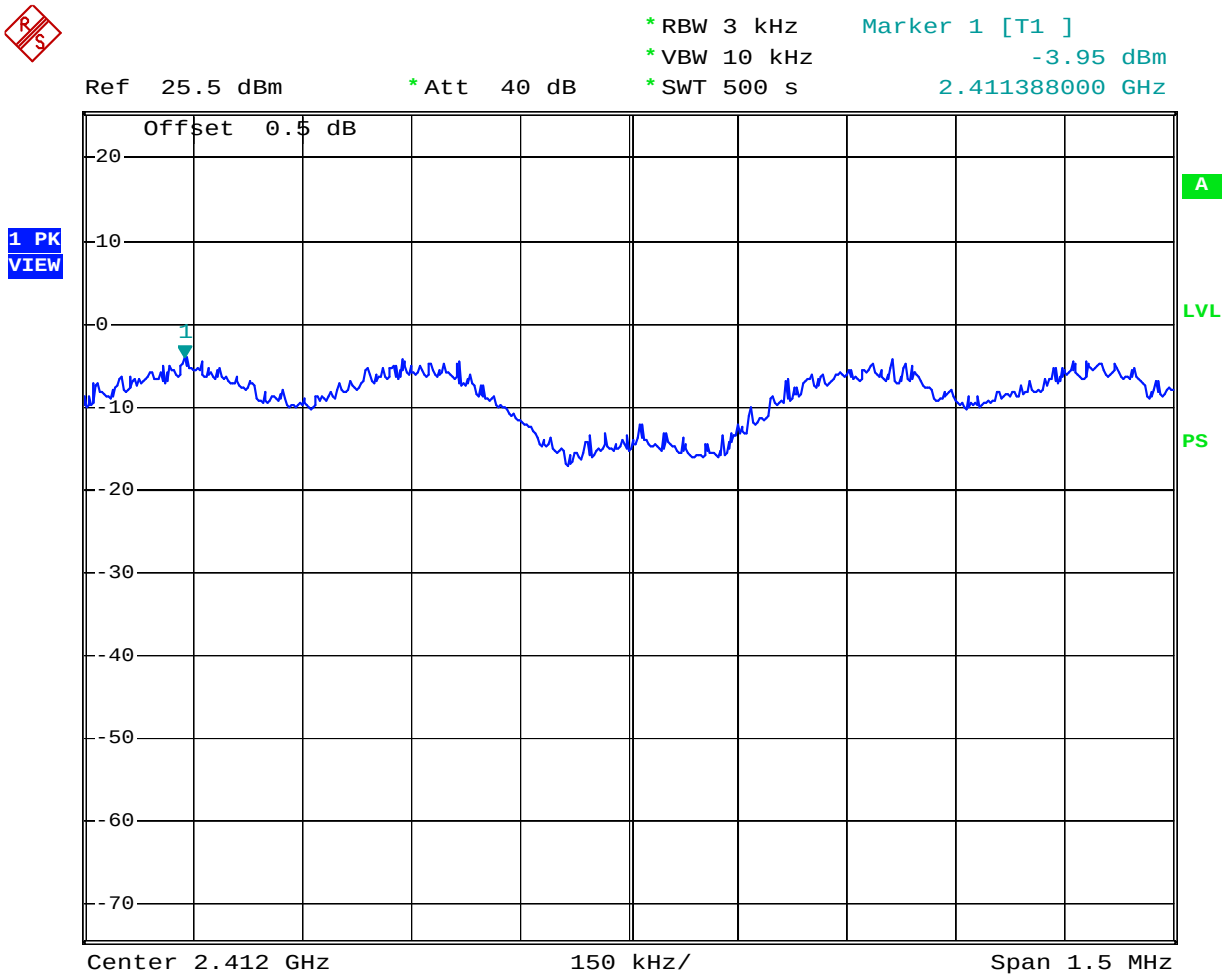
High Channel



802.11B(HIGH CHANNEL POWER DENSITY)

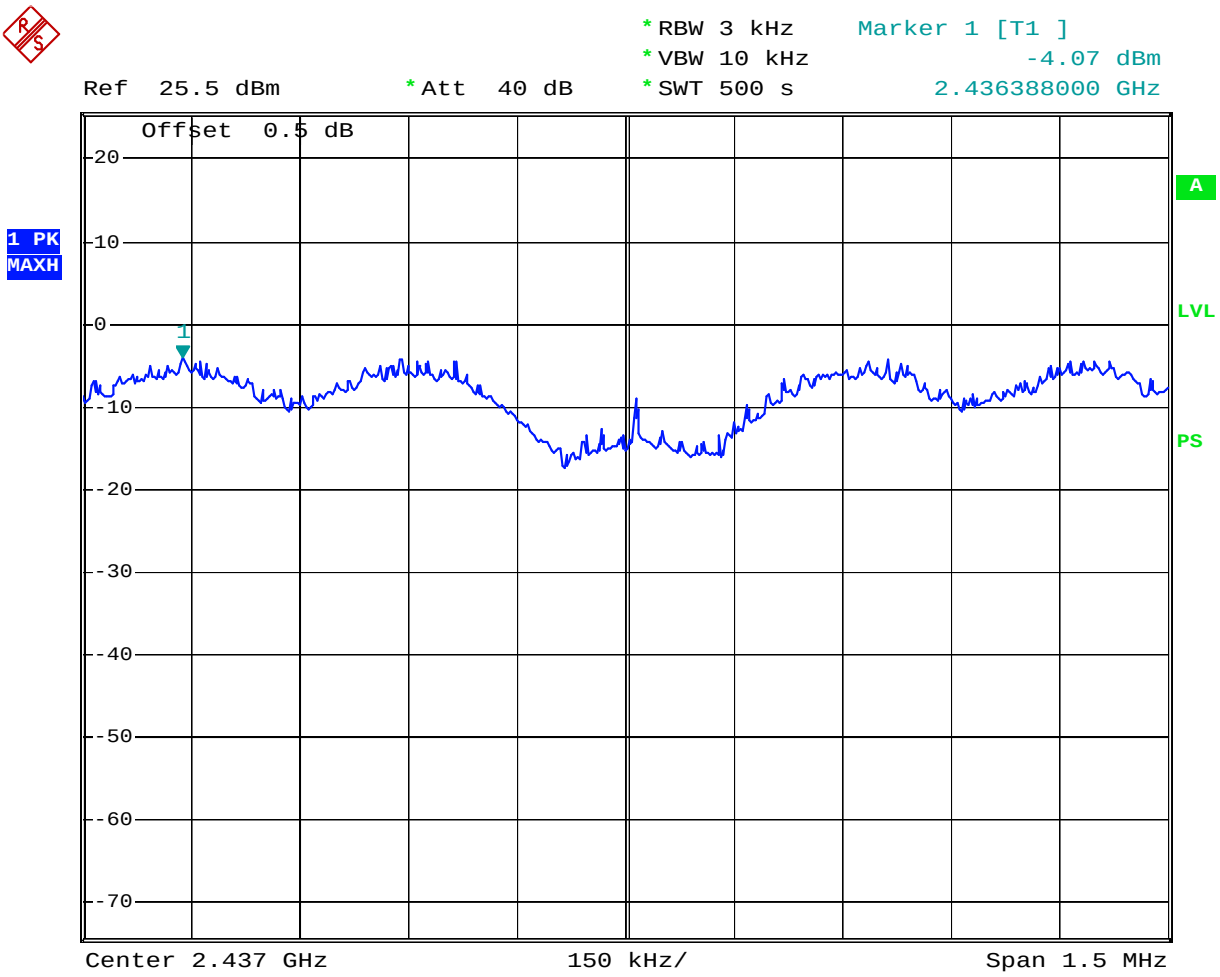
802.11g Mode:

Low Channel



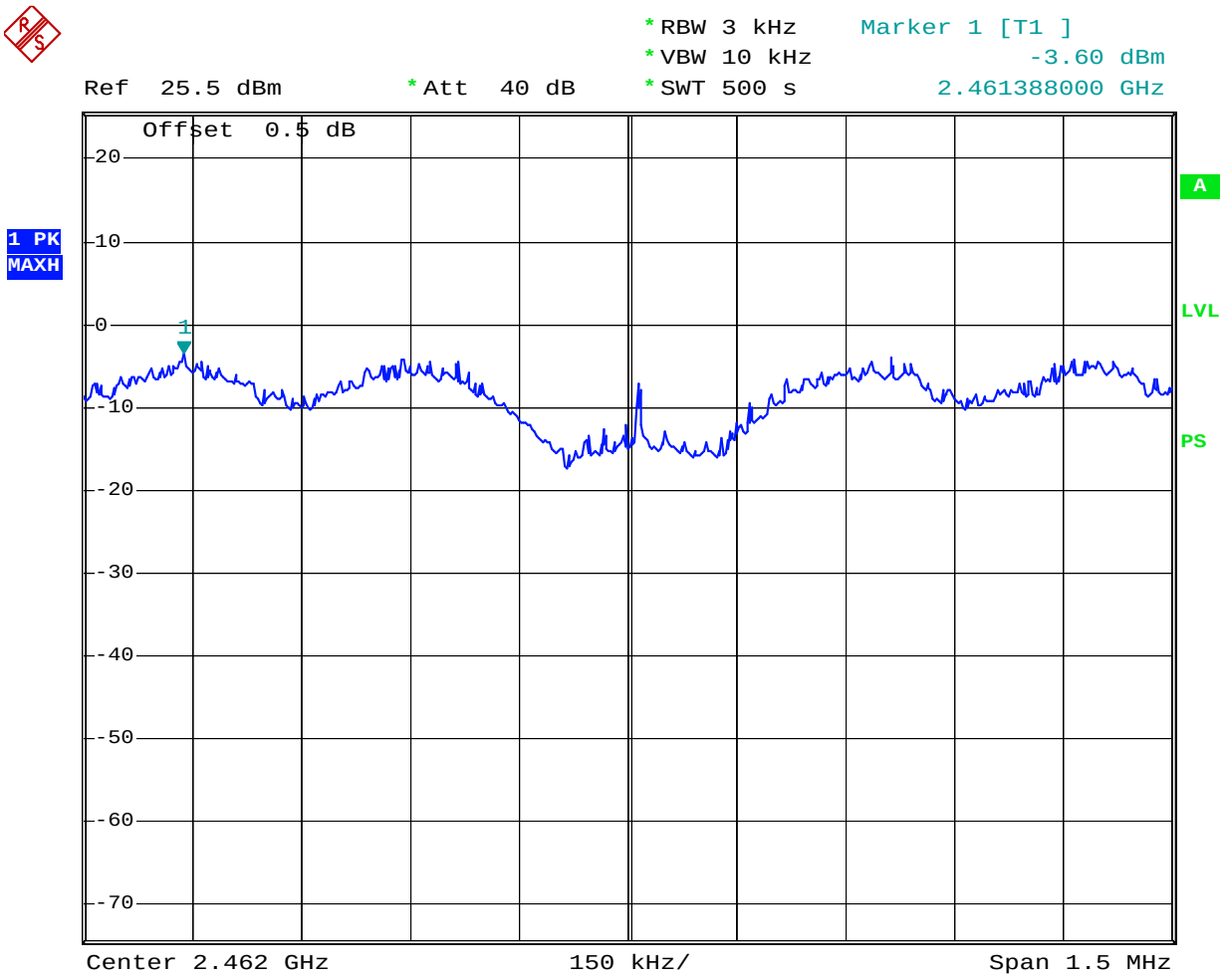
802.11G(LOW CHANNEL POWER DENSITY)

Middle Channel



802.11G(MIDDLE CHANNEL POWER DENSITY)

High Channel



802.11G(HIGH CHANNEL POWER DENSITY)

******* END OF REPORT *******