

FCC PART 15.247

TEST REPORT

For

**ZTE Corporation**

ZTE Plaza, Hi-Tech, Industrial Park, Nanshan District,  
Shenzhen, Guangdong, China

**FCC ID: Q78-ZXHNH168M**

<b>Report Type:</b> Original Report	<b>Product Type:</b> Home Gateway
<b>Test Engineer:</b> <u>Allan An</u>	<i>Allan An</i>
<b>Report Number:</b> <u>RSZ110527001-00a</u>	
<b>Report Date:</b> <u>2011-09-30</u>	
<b>Reviewed By:</b> <u>EMC Engineer</u>	<i>Merry Zhao</i>
<b>Test Laboratory:</b>	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 <a href="http://www.baclcorp.com.cn">www.baclcorp.com.cn</a>

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\* This report contains data that are not covered by the NVLAP accreditation and are marked with an asterisk "★" (Rev.2)

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## GENERAL INFORMATION

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### Product Description for Equipment under Test (EUT)

The ZTE Corporation's product, model number: ZXHN H168M (FCC ID: Q78-ZXHNH168M) (the "EUT") in this report is a Home Gateway, which was measured approximately: 21.5 cm (L) x 18.5 cm (W) x 7.5 cm (H), rated input voltage: DC 12.0V adapter.

#### Adapter information:

Model: RD1201500-C55-1MG

Input: AC 100-240V, 50/60 Hz, Max 0.6A

Output: DC 12V, 1.5A

*\* All measurement and test data in this report was gathered from production sample serial number: 1105148 (Assigned by BAACL, Shenzhen). The EUT was received on 2011-05-27.*

### Objective

This report is prepared on behalf of ZTE Corporation 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)

FCC Part 15B JBP submission with FCC ID: Q78-ZXHNH168M.

### Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2009, 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.

The uncertainty of any RF tests which use conducted method measurement is  $\pm 0.96$  dB, the uncertainty of any radiation on emissions measurement is  $\pm 4.0$  dB

### Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on 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 December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

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 an ISO/IEC 17025 accredited laboratory, and is accredited by National Voluntary Laboratory Accredited Program (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

For 802.11b 802.11g and 802.11n-HT20 mode, 11 channels are provided to testing, for 802.11n-HT40 mode, 7 channels are provided to testing.

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	7	2442
2	2417	8	2447
3	2422	9	2452
4	2427	10	2457
5	2432	11	2462
6	2437	/	/

EUT for 802.11b 802.11g & 802.11n-HT20 mode were tested with Channel 1, 6 and 11. 802.11n-HT40 mode was tested with channel 3, 6 and 9.

The test was performed under:

802.11b: Data rate: 1 Mbps, 802.11g: Data rate: 6 Mbps.

802.11n-HT20: Data rate: 6.5 Mbps, 802.11n-HT40: Data rate: 13.5 Mbps

The worst-case data rates are determined to be as follows for each mode based upon investigations by measuring the average power and PSD across all data rates bandwidths, and modulations.

### EUT Exercise Software

N/A

### Equipment Modifications

No modification was made to the unit tested.

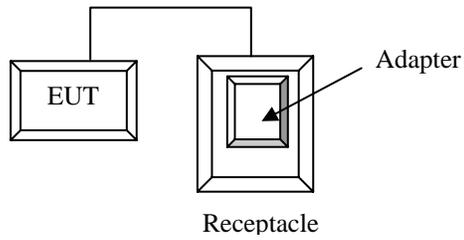
### Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
DELL	Laptop	D600	00045-438-852-864

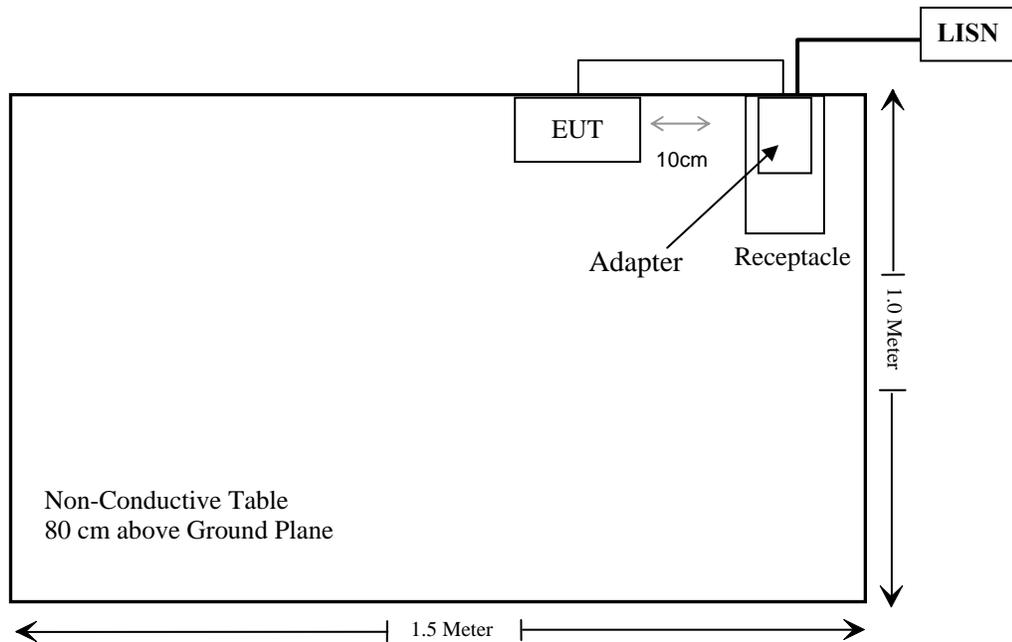
### External I/O Cable

Cable Description	Length (m)	From Port	To
Unshielded Undetachable Power Cable	1.5	EUT	AC Power

### Configuration of Test Setup



### Block Diagram of Test Setup



**SUMMARY OF TEST RESULTS**

<b>FCC Rules</b>	<b>Description of Test</b>	<b>Result</b>
§15.247 (i), §2.1091	Maximum Permissible exposure (MPE)	Compliance
§15.203	Antenna Requirement	Compliance
§15.207 (a)	AC Line Conducted Emissions	Compliance
§15.247(d)	Spurious Emissions at Antenna Port	Compliance
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliance
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliance
§15.247(b)(3)	Maximum Peak Output Power	Compliance
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliance
§15.247(e)	Power Spectral Density	Compliance

**FCC §15.247 (i) & §2.1091 - MAXIMUM PERMISSIBLE EXPOSURE (MPE)**

**Applicable Standard**

According to FCC §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 that the public is not exposed to radio frequency energy level in excess of the Commission’s guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
<b>Frequency Range (MHz)</b>	<b>Electric Field Strength (V/m)</b>	<b>Magnetic Field Strength (A/m)</b>	<b>Power Density (mW/cm<sup>2</sup>)</b>	<b>Averaging Time (minutes)</b>
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f <sup>2</sup> )	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;

**MPE Calculation**

Predication of MPE limit at a given distance

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

Where: S = power density (in appropriate units, e.g. mW/cm<sup>2</sup>);  
 P = power input to the antenna (in appropriate units, e.g., mW);  
 G = power gain of the antenna in the direction of interest relative to an isotropic radiator  
 R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

Mode	Frequency (MHz)	Antenna Gain		Conducted Power		Evaluation Distance (cm)	Power Density (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )
		(dBi)	(numeric)	(dBm)	(mW)			
802.11b	2437	3.0	2.0	17.31	53.83	20	0.0214	1.0
802.11g	2412	3.0	2.0	17.38	54.70	20	0.0218	1.0

Mode	Frequency (MHz)	Antenna Port	Antenna gain		Conducted Power		Evaluation Distance (cm)	Power Density (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )
			(dBi)	(numeric)	(dBm)	(mW)			
802.11n-HT20	2462	1	3.0	2.0	15.62	36.48	20	0.0263	1.0
		2	2.0	1.58	15.73	37.41			
802.11n-HT40	2452	1	3.0	2.0	15.22	33.27	20	0.0235	1.0
		2	2.0	1.58	15.15	32.74			

**Result:** The device meets FCC MPE limit at 20 cm distance.

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## **FCC §15.203 - ANTENNA REQUIREMENT**

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### **Applicable Standard**

According to FCC §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**

The EUT used two fixed antennas, which in accordance to section 15.203, one maximum gain is 3.0 dBi, the other is 2.0 dBi, please refer to the internal photos.

**Result:** Compliance.

## FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

### Applicable Standard

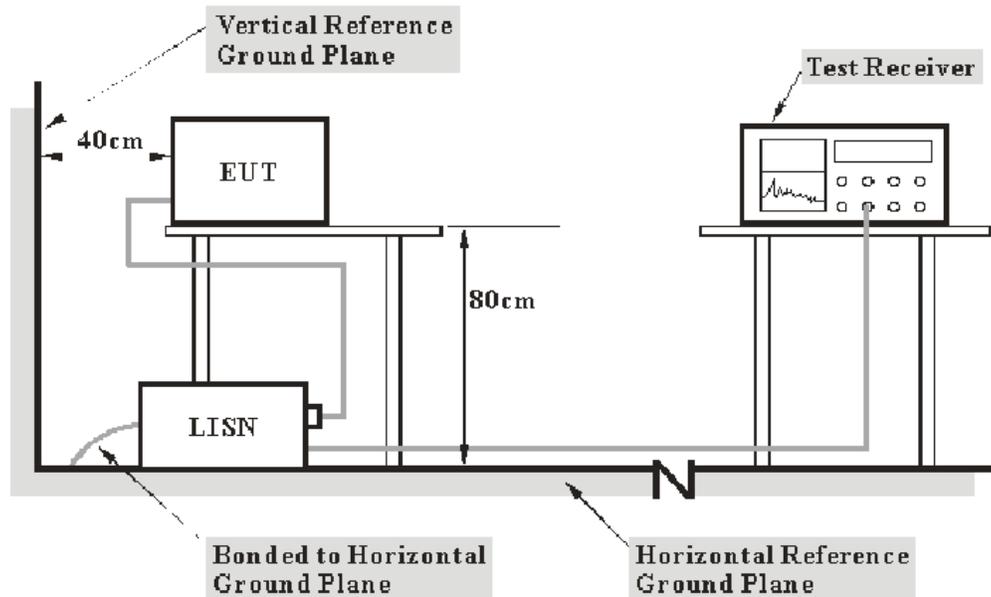
FCC §15.207

### 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 Laboratory Corp. (Shenzhen) is  $\pm 2.4$  dB (k=2, 95% level of confidence).

### 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 C63.4-2009 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The adapter 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:

<i>Frequency Range</i>	<i>IF B/W</i>
150 kHz – 30 MHz	9 kHz

## Test Procedure

During the conducted emission test, the adapter was connected to 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 Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	830245	2011-03-03	2012-03-02
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2011-03-09	2012-03-08

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

## 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:

**13.85 dB at 4.790 MHz** in the **Line** conducted mode

## Test Data

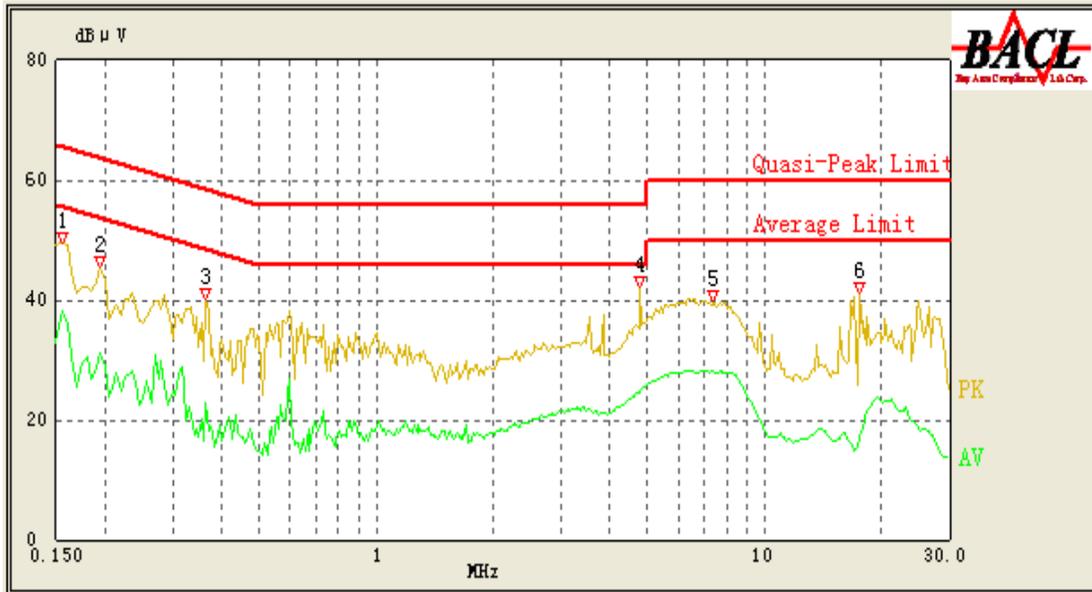
### Environmental Conditions

<b>Temperature:</b>	25 ° C
<b>Relative Humidity:</b>	56 %
<b>ATM Pressure:</b>	100.0 kPa

*The testing was performed by Allan An on 2011-08-16.*

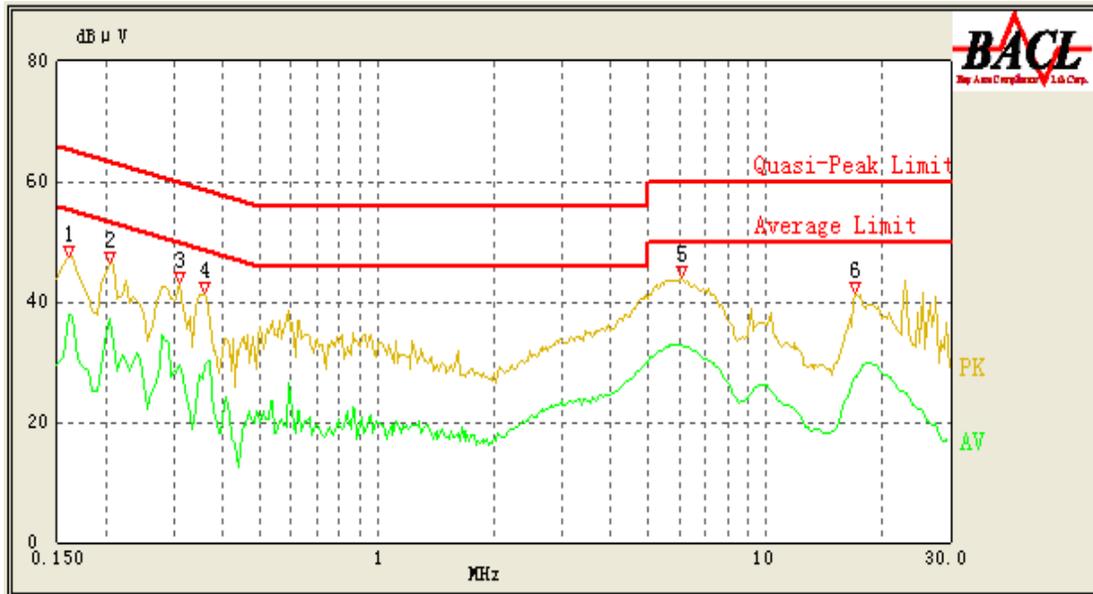
*Test Mode: Transmitting (802.11n-HT20 worse case)*

**120 V, 60 Hz, Line:**



Conducted Emissions			FCC Part 15.207		
Frequency (MHz)	Corrected Result (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Detector (PK/QP/Ave.)
4.790	42.15	10.10	56.00	13.85	QP
0.155	49.39	10.10	65.86	16.47	QP
0.155	38.26	10.10	55.86	17.60	Ave.
17.615	41.19	10.10	60.00	18.81	QP
0.195	45.50	10.10	64.71	19.21	QP
0.365	40.09	10.10	59.86	19.77	QP
7.385	39.84	10.10	60.00	20.16	QP
4.790	24.91	10.10	46.00	21.09	Ave.
7.420	27.91	10.10	50.00	22.09	Ave.
0.195	31.14	10.10	54.71	23.57	Ave.
0.365	22.89	10.10	49.86	26.97	Ave.
17.660	17.20	10.10	50.00	32.80	Ave.

120V, 60 Hz, Neutral:



Conducted Emissions			FCC Part 15.207		
Frequency (MHz)	Corrected Result (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Detector (PK /QP/Ave.)
6.095	44.07	10.10	60.00	15.93	QP
6.070	32.84	10.10	50.00	17.16	Ave.
0.205	37.16	10.10	54.43	17.27	Ave.
0.205	46.64	10.10	64.43	17.79	QP
0.160	37.69	10.10	55.71	18.02	Ave.
0.160	47.59	10.10	65.71	18.12	QP
0.310	43.22	10.10	61.43	18.21	QP
0.360	41.66	10.10	60.00	18.34	QP
17.045	41.42	10.10	60.00	18.58	QP
0.360	29.14	10.10	50.00	20.86	Ave.
0.310	29.35	10.10	51.43	22.08	Ave.
17.190	27.52	10.10	50.00	22.48	Ave.

## FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

### Applicable Standard

FCC §15.247 (d); §15.209; §15.205;

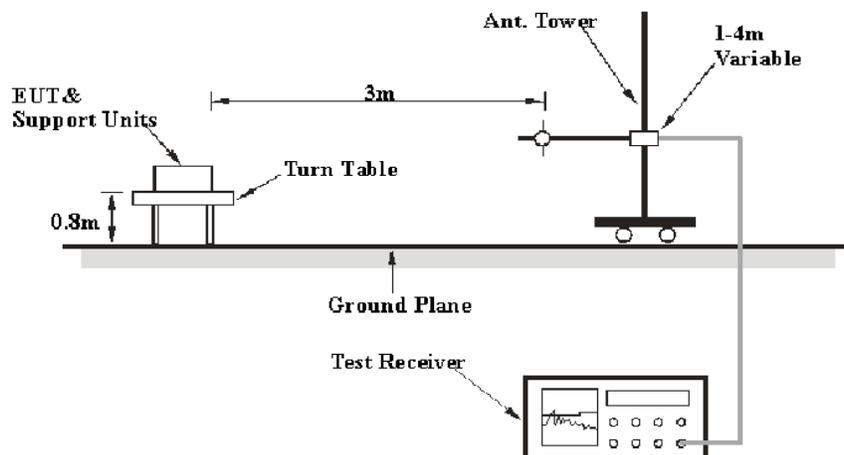
### Measurement Uncertainty

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.

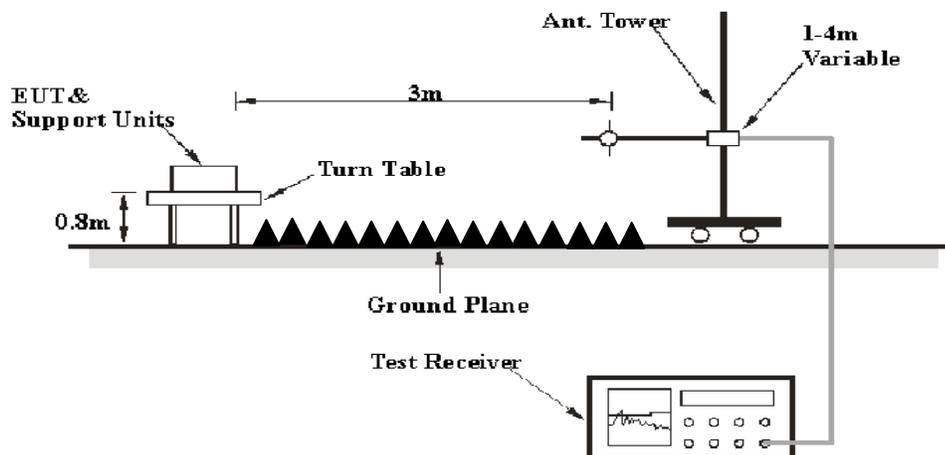
Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is  $\pm 4.0$  dB(k=2, 95% level of confidence) .

### EUT Setup

#### Below 1 GHz:



#### Above 1 GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the 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 adapter 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:

<i>Frequency Range</i>	<i>RBW</i>	<i>Video B/W</i>	<i>Detector</i>
30 MHz – 1000 MHz	100 kHz	300 kHz	QP
1000 MHz – 25 GHz	1 MHz	3 MHz	PK
1000 MHz – 25 GHz	1 MHz	10 Hz	Ave.

### Test Procedure

During the radiated emission test, the adapter was connected to the outlet of the floor.

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-1 GHz, peak and Average detection modes for frequencies above 1 GHz.

### 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:

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

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. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

## Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	HP8447D	2944A09795	2010-08-02	2011-08-01
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2010-11-11	2011-11-10
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2011-03-11	2012-03-10
Mini-circuits	Pre-Amplifier	ZVA-213+	T-E27H	2011-03-08	2012-03-07
Sunol Sciences	Horn Antenna	DRH-118	A052604	2011-05-05	2012-05-04
Rohde & Schwarz	Signal Analyzer	FSIQ 26	609358	2011-07-08	2012-07-07

\* **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 Results Summary

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

### Below 1 GHz:

**4.4 dB at 500.007500 MHz in the Horizontal polarization**

### Above 1 GHz:

**0.12 dB at 2390 MHz in the Horizontal polarization for 802.11n-HT40 mode**

## Test Data

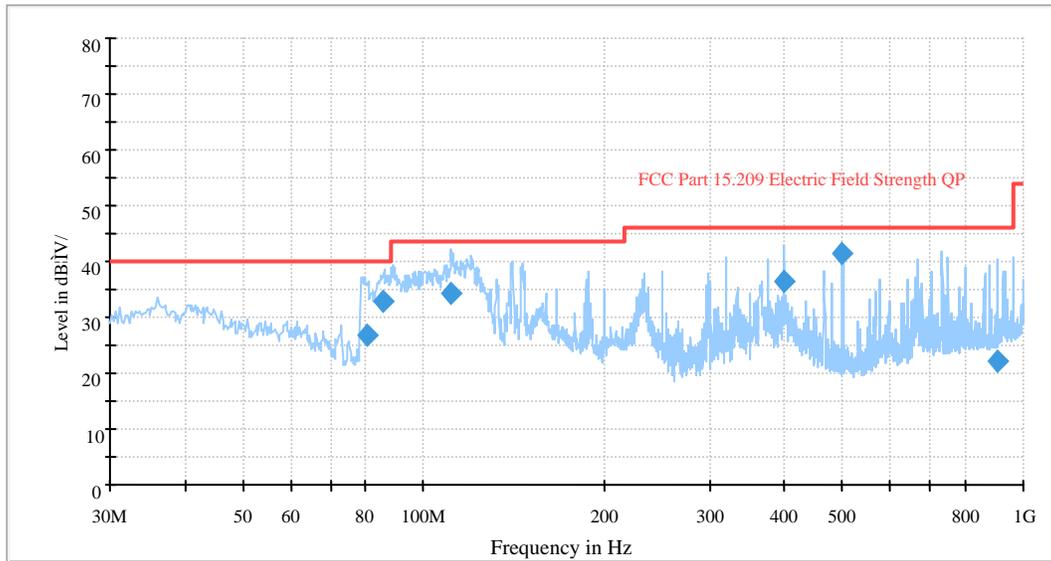
### Environmental Conditions

<b>Temperature:</b>	25 ° C
<b>Relative Humidity:</b>	56 %
<b>ATM Pressure:</b>	100.0 kPa

*The testing was performed by Allan An on 2011-07-28.*

**1) Below 1 GHz:**

*Test Mode: Transmitting (802.11n-HT20 worst case)*



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Ant. Height (cm)	Ant. Polarity (H/V)	Turntable Position (degree)	Corrected Factor (dB)	Limit (dBµV/m)	Margin (dB)
500.007500	41.6	200.0	H	1.0	-8.4	46.0	4.4
85.789000	32.9	118.0	V	301.0	-17.8	40.0	7.1
111.380500	34.2	100.0	V	44.0	-13.3	43.5	9.3
398.771500	36.5	100.0	H	226.0	-10.0	46.0	9.5
80.392250	26.9	151.0	V	331.0	-18.1	40.0	13.1
907.249750	22.1	100.0	H	343.0	-0.6	46.0	23.9

**2) Above 1 GHz**

802.11b Mode:

Indicated		Detector (PK/Ave.)	Table Angle Degree	Test Antenna		Correction Factor			FCC Part 15.247/15.209			
Frequency (MHz)	S.A. Reading (dBµV)			Height (m)	Polar (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre- Amp. (dB)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Comment
Low Channel (2412 MHz)												
4824	33.80	Ave.	160	1.0	V	33.60	4.3	26.75	44.95	54	9.05	harmonic
4824	31.04	Ave.	240	1.1	H	36.30	4.3	26.75	44.89	54	9.11	harmonic
2390	36.52	Ave.	100	1.0	H	30.60	2.98	26.83	43.27	54	10.73	spurious
4824	43.85	PK	240	1.1	H	36.30	4.3	26.75	57.7	74	16.3	harmonic
4824	46.35	PK	160	1.0	V	33.60	4.3	26.75	57.5	74	16.5	harmonic
2390	30.37	Ave.	216	1.0	V	30.60	2.98	26.83	37.12	54	16.88	spurious
2390	47.75	PK	100	1.0	H	30.60	2.98	26.83	54.5	74	19.5	spurious
2390	42.32	PK	130	1.4	V	30.60	2.98	26.83	49.07	74	24.93	spurious
Middle Channel (2437 MHz)												
4874	32.32	Ave.	40	1.1	H	36.30	4.32	26.75	46.19	54	7.9	harmonic
4874	44.83	PK	40	1.1	H	36.30	4.32	26.75	58.7	74	15.3	harmonic
4874	25.48	Ave.	360	1.2	V	33.60	4.32	26.75	36.45	54	17.35	harmonic
4874	38.17	PK	360	1.2	V	33.60	4.32	26.75	49.34	74	24.66	harmonic
High Channel (2462 MHz)												
4924	37.02	Ave.	243	1.4	H	36.30	4.4	26.75	50.97	54	3.03*	harmonic
4924	31.17	Ave.	57	1.3	V	33.60	4.4	26.75	42.42	54	11.58	harmonic
2483.6	28.76	Ave.	260	1.6	H	30.60	3.11	26.88	35.59	54	18.41	spurious
4924	40.46	PK	243	1.4	H	36.30	4.4	26.75	54.41	74	19.59	harmonic
4924	42.65	PK	57	1.3	V	33.60	4.4	26.75	53.9	74	20.1	harmonic
2483.6	26.73	Ave.	40	1.5	V	30.60	3.11	26.88	33.56	54	20.44	spurious
2483.6	40.43	PK	260	1.6	H	30.60	3.11	26.88	47.26	74	26.74	spurious
2483.6	38.40	PK	40	1.5	V	30.60	3.11	26.88	45.23	74	28.77	spurious

\*Within measurement uncertainty!

802.11g Mode:

Indicated		Detector (PK/Ave)	Table Angle Degree	Test Antenna		Correction Factor			FCC Part 15.247/15.209			
Frequency (MHz)	S.A. Reading (dBµV)			Height (m)	Polar (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre- Amp. (dB)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Comment
Low Channel (2412 MHz)												
2390	65.64	PK	277	1.0	H	30.6	2.98	26.83	72.39	74	1.61*	spurious
2390	64.53	PK	180	1.8	V	30.6	2.98	26.83	71.28	74	2.72*	spurious
2390	44.35	Ave.	277	1.0	H	30.6	2.98	26.83	51.1	54	2.9*	spurious
2390	41.35	Ave.	54	1.8	V	30.6	2.98	26.83	48.1	54	5.9	spurious
4824	26.97	Ave.	130	1.5	H	36.6	4.3	26.75	41.12	54	12.88	harmonic
4824	25.85	Ave.	60	1.8	V	35.4	4.3	26.75	38.8	54	15.2	harmonic
4824	38.75	PK	130	1.5	H	36.6	4.3	26.75	52.9	74	21.1	harmonic
4824	38.42	PK	60	1.8	V	35.4	4.3	26.75	51.37	74	22.63	harmonic
Middle Channel (2437 MHz)												
4874	29.49	Ave.	60	1.8	V	35.4	4.36	26.75	42.5	54	11.5	harmonic
4874	26.82	Ave.	130	1.5	H	36.6	4.36	26.75	41.03	54	12.97	harmonic
4874	38.65	PK	130	1.5	H	36.6	4.36	26.75	52.86	74	21.14	harmonic
4874	38.37	PK	60	1.8	V	35.4	4.36	26.75	51.38	74	22.62	harmonic
High Channel (2462 MHz)												
4924	27.28	Ave.	250	1.8	H	36.6	4.40	26.75	41.53	54	12.47	harmonic
2483.6	33.75	Ave.	220	1.5	H	30.6	3.11	26.88	40.58	54	13.42	spurious
4924	25.92	Ave.	60	1.8	V	35.4	4.40	26.75	38.97	54	15.03	harmonic
2483.6	52.05	PK	220	1.5	H	30.6	3.11	26.88	58.88	74	15.12	spurious
2483.6	47.60	PK	90	1.5	V	30.6	3.11	26.88	54.43	74	19.57	spurious
4924	39.08	PK	250	1.8	H	36.6	4.40	26.75	53.33	74	20.67	harmonic
4924	38.65	PK	60	1.8	V	35.4	4.40	26.75	51.7	74	22.3	harmonic
2483.6	24.53	Ave.	90	1.5	V	30.6	3.11	26.88	31.36	54	22.64	spurious

\*Within measurement uncertainty!

802.11n-HT20 Mode:

Indicated		Detector (PK/Ave)	Table Angle Degree	Test Antenna		Correction Factor			FCC Part 15.247/15.209			
Frequency (MHz)	S.A. Reading (dB $\mu$ V)			Height (m)	Polar (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre- Amp. (dB)	Cord. Amp. (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Comment
Low Channel (2412 MHz)												
2390	66.22	PK	95	1.0	H	30.6	2.98	26.83	72.97	74	1.03*	spurious
2390	45.15	Ave.	95	1.0	H	30.6	2.98	26.83	51.9	54	2.1*	spurious
2390	37.99	Ave.	154	1.0	V	30.6	2.98	26.83	44.74	54	9.26	spurious
2390	57.52	PK	154	1.0	V	30.6	2.98	26.83	64.27	74	9.73	spurious
4824	25.82	Ave.	130	1.5	H	36.6	4.3	26.75	39.97	54	14.03	harmonic
4824	25.75	Ave.	60	1.8	V	35.4	4.3	26.75	38.7	54	15.3	harmonic
4824	37.53	PK	130	1.5	H	36.6	4.3	26.75	51.68	74	22.32	harmonic
4824	37.63	PK	60	1.8	V	35.4	4.3	26.75	50.58	74	23.42	harmonic
Middle Channel (2437 MHz)												
4874	26.94	Ave.	130	1.5	H	36.6	4.36	26.75	41.15	54	12.85	harmonic
4874	25.67	Ave.	60	1.8	V	35.4	4.36	26.75	38.68	54	15.32	harmonic
4874	38.15	PK	130	1.5	H	36.6	4.36	26.75	52.36	74	21.64	harmonic
4874	37.82	PK	60	1.8	V	35.4	4.36	26.75	50.83	74	23.17	harmonic
High Channel (2462 MHz)												
2483.6	60.15	PK	90	1.1	H	30.6	3.11	26.88	66.98	74	7.02	spurious
2483.6	35.67	Ave.	90	1.1	H	30.6	3.11	26.88	42.5	54	11.5	spurious
4924	26.73	Ave.	250	1.8	H	36.6	4.40	26.75	40.98	54	13.02	harmonic
4924	25.92	Ave.	60	1.8	V	35.4	4.40	26.75	38.97	54	15.03	harmonic
2483.6	31.33	Ave.	135	1.3	V	30.6	3.11	26.88	38.16	54	15.84	spurious
2483.6	51.06	PK	135	1.2	V	30.6	3.11	26.88	57.89	74	16.11	spurious
4924	38.39	PK	250	1.8	H	36.6	4.40	26.75	52.64	74	21.36	harmonic
4924	38.12	PK	60	1.8	V	35.4	4.40	26.75	51.17	74	22.83	harmonic

\*Within measurement uncertainty!

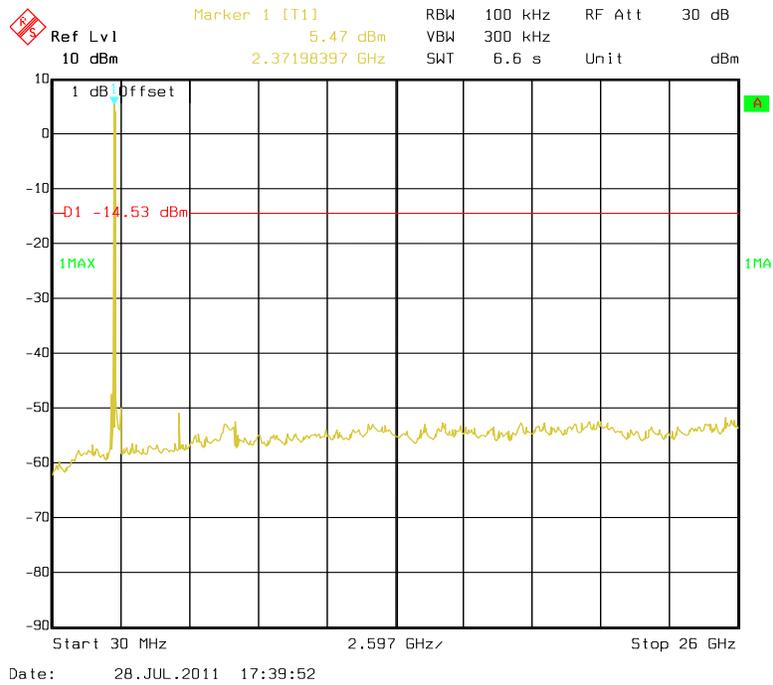
802.11n-HT40 Mode:

Indicated		Detector (PK/Ave.)	Table Angle Degree	Test Antenna		Correction Factor			FCC Part 15.247/15.209			
Frequency (MHz)	S.A. Reading (dBµV)			Height (m)	Polar (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre- Amp. (dB)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Comment
Low Channel (2422 MHz)												
2390	47.13	Ave.	95	1.0	H	30.6	2.98	26.83	53.88	54	0.12*	spurious
2390	66.51	PK	95	1.0	H	30.6	2.98	26.83	73.26	74	0.74*	spurious
2390	41.48	Ave.	90	1.3	V	30.6	2.98	26.83	48.23	54	5.77	spurious
2390	60.53	PK	90	1.3	V	30.6	2.98	26.83	67.28	74	6.72	spurious
4844	25.67	Ave.	130	1.5	H	36.6	4.3	26.75	39.82	54	14.18	harmonic
4844	24.82	Ave.	60	1.8	V	35.4	4.3	26.75	37.77	54	16.23	harmonic
4844	37.82	PK	130	1.5	H	36.6	4.3	26.75	51.97	74	22.03	harmonic
4844	36.76	PK	60	1.8	V	35.4	4.3	26.75	49.71	74	24.29	harmonic
Middle Channel (2437 MHz)												
4874	25.12	Ave.	130	1.5	H	36.6	4.36	26.75	39.33	54	14.67	harmonic
4874	25.15	Ave.	60	1.8	V	35.4	4.36	26.75	38.16	54	15.84	harmonic
4874	36.76	PK	130	1.5	H	36.6	4.36	26.75	50.97	74	23.03	harmonic
4874	36.82	PK	60	1.8	V	35.4	4.36	26.75	49.83	74	24.17	harmonic
High Channel (2452 MHz)												
2483.6	61.30	PK	90	1.0	H	30.6	3.11	26.88	68.13	74	5.87	spurious
2483.6	38.31	Ave.	90	1.0	H	30.6	3.11	26.88	45.14	54	8.86	spurious
2483.6	53.70	PK	90	1.1	V	30.6	3.11	26.88	60.53	74	13.47	spurious
4904	24.96	Ave.	250	1.8	H	36.6	4.40	26.75	39.21	54	14.79	harmonic
2483.6	31.90	Ave.	90	1.1	V	30.6	3.11	26.88	38.73	54	15.27	spurious
4904	24.85	Ave.	60	1.8	V	35.4	4.40	26.75	37.9	54	16.1	harmonic
4904	37.33	PK	250	1.8	H	36.6	4.40	26.75	51.58	74	22.42	harmonic
4904	37.18	PK	60	1.8	V	35.4	4.40	26.75	50.23	74	23.77	harmonic

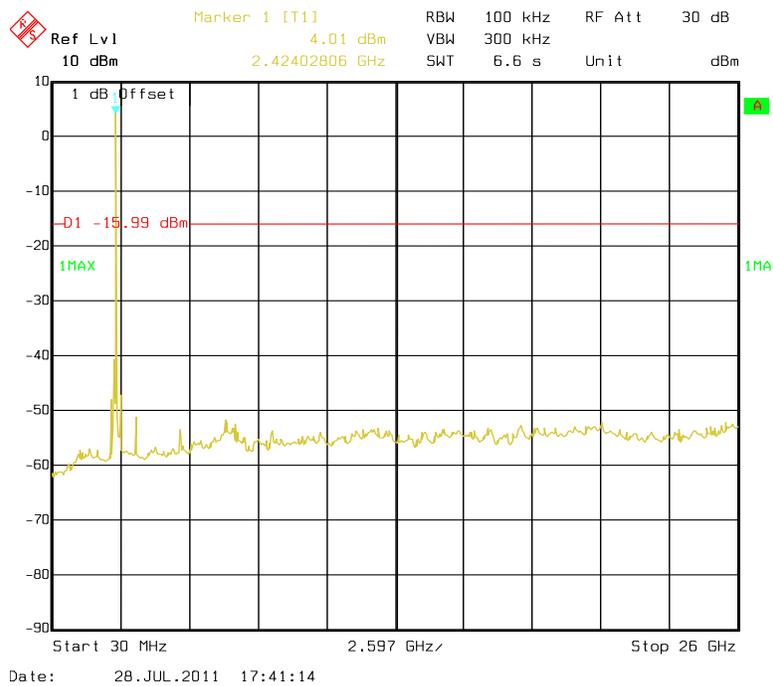
\*Within measurement uncertainty!

Antenna Port Conducted Spurious Emissions:

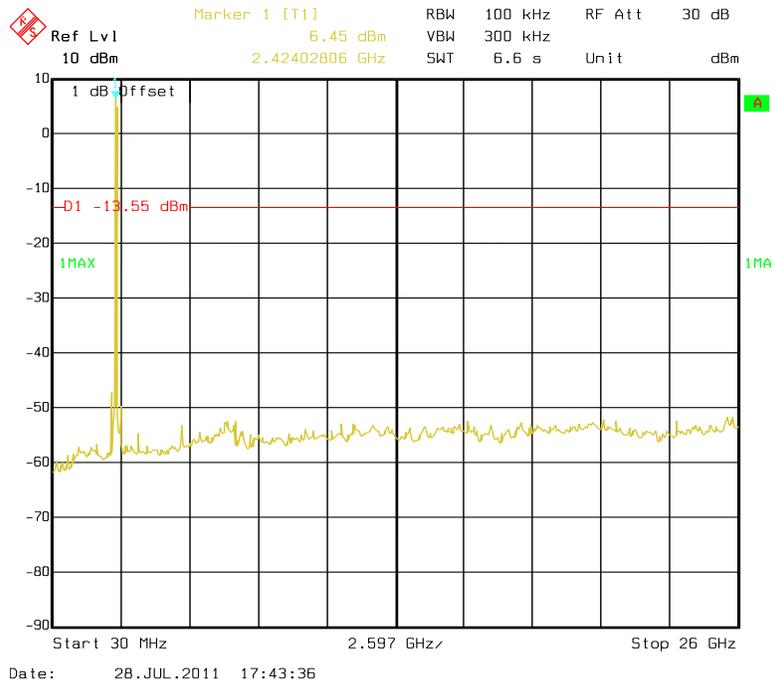
802.11b Low Channel



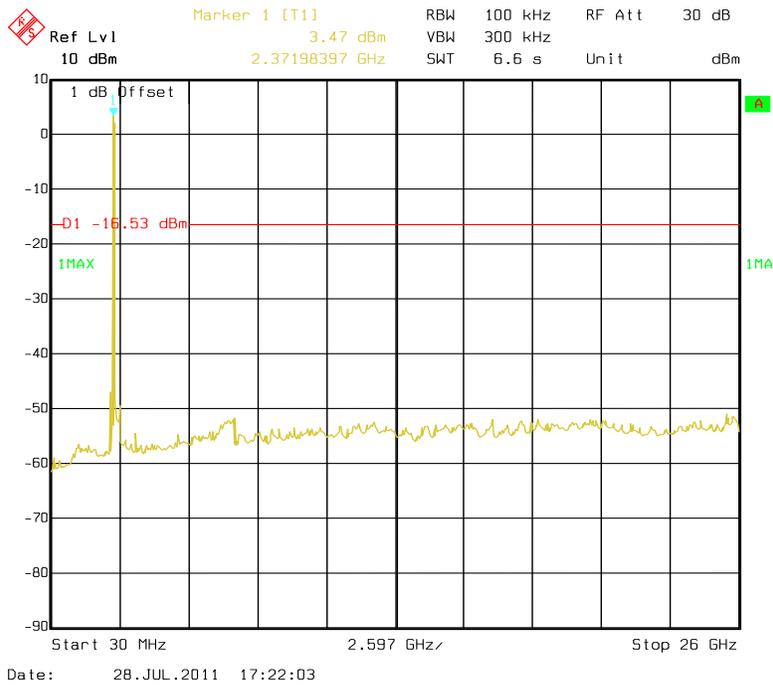
802.11b Middle Channel



### 802.11b High Channel

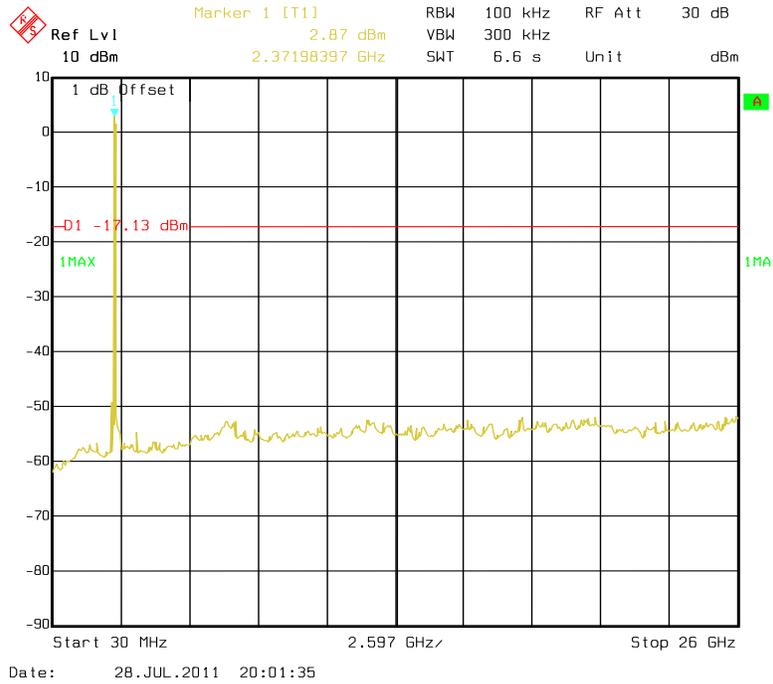


### 802.11g Low Channel

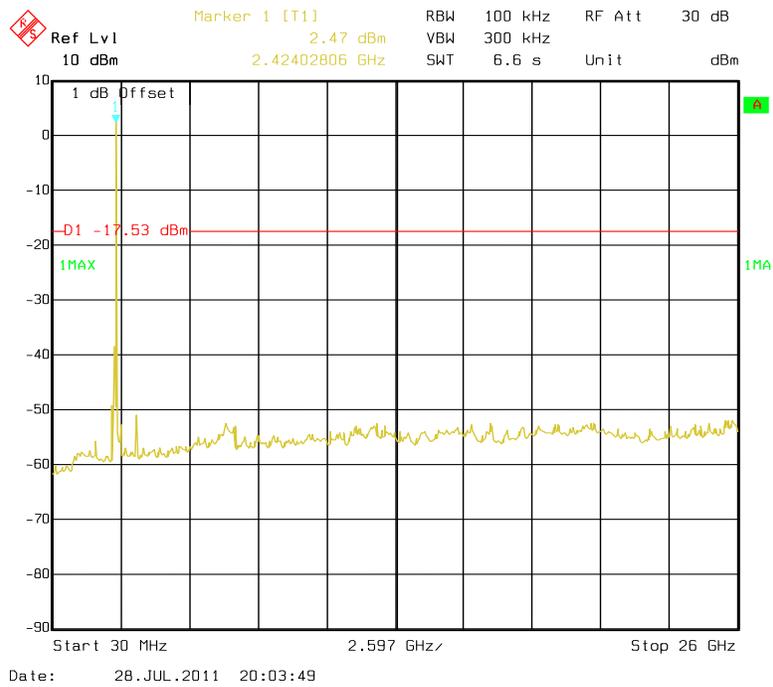




### 802.11n-HT20 Low Channel, Chain 0

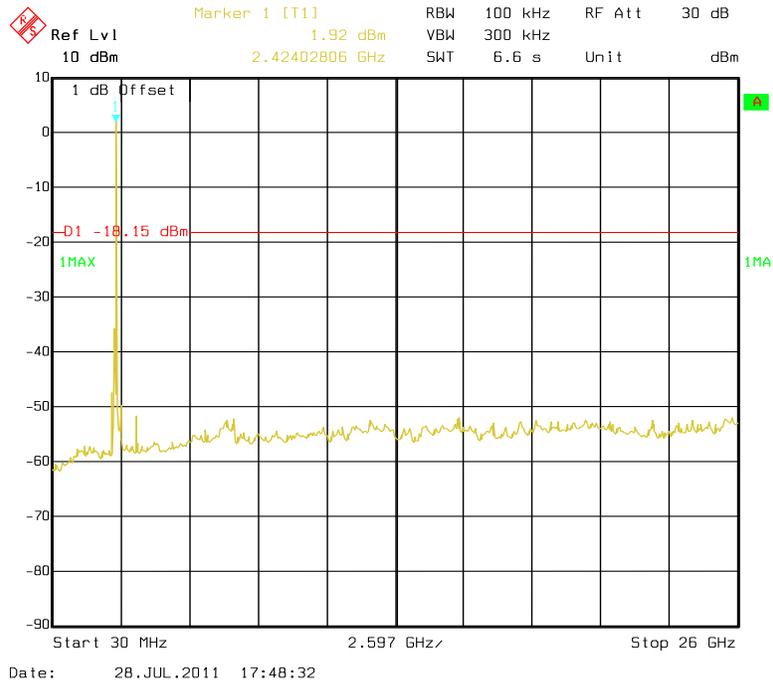


### 802.11n-HT20 Middle Channel, Chain 0

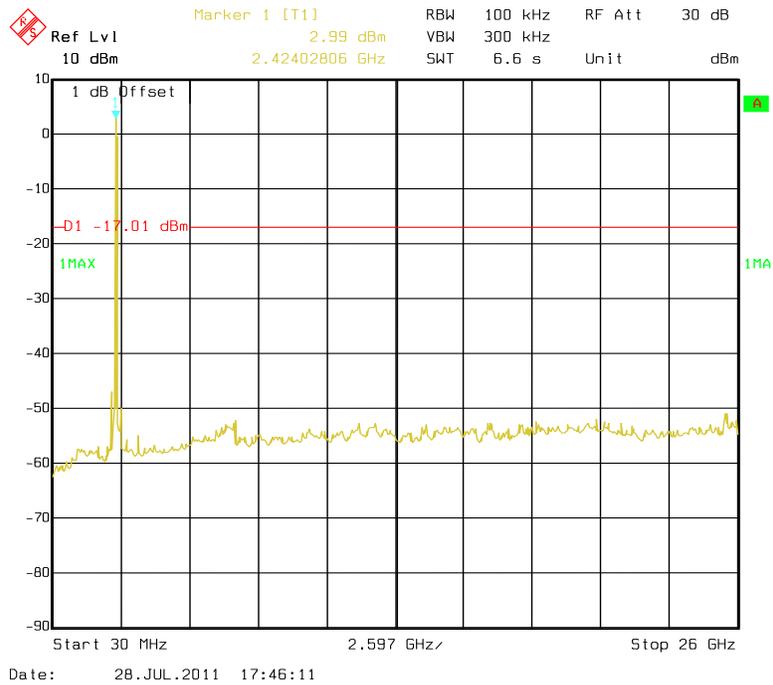




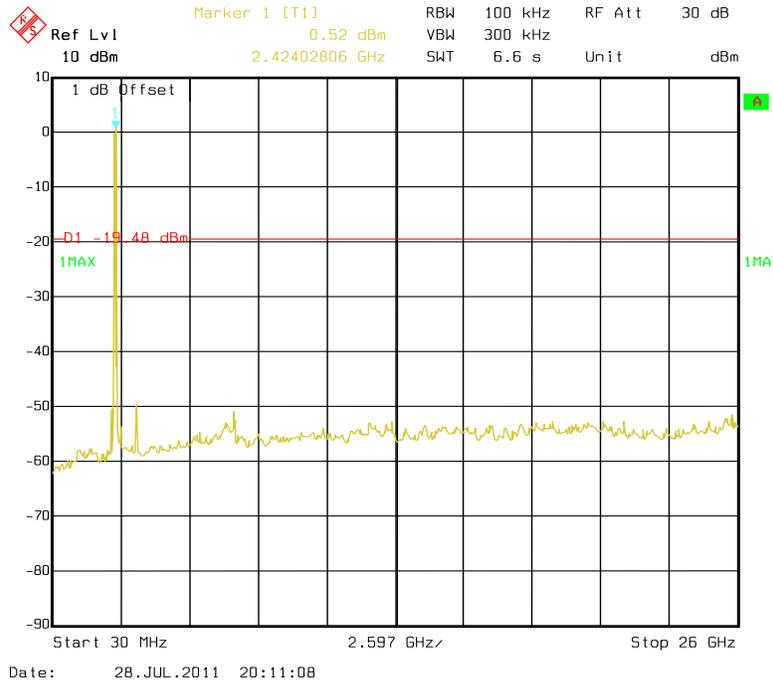
### 802.11n-HT20 Middle Channel, Chain 1



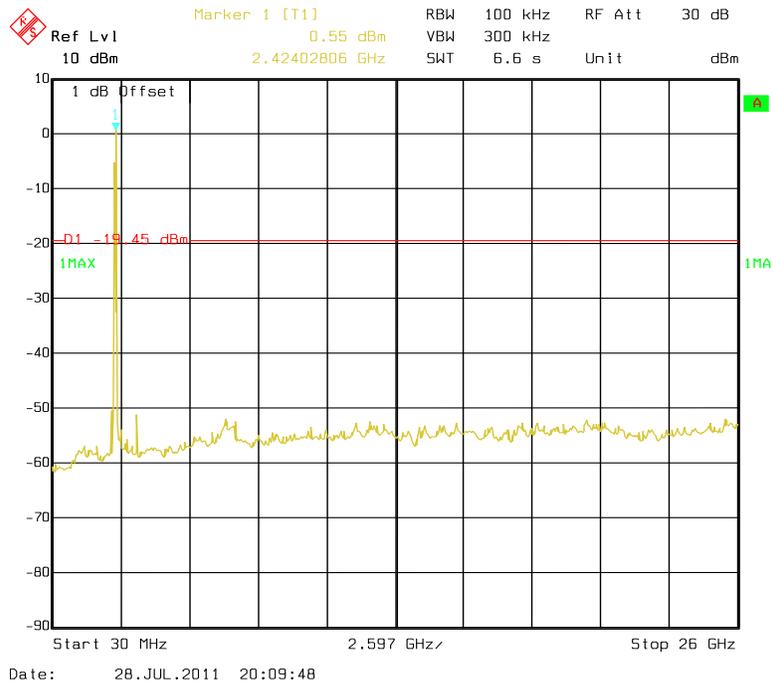
### 802.11n-HT20 High Channel, Chain 1



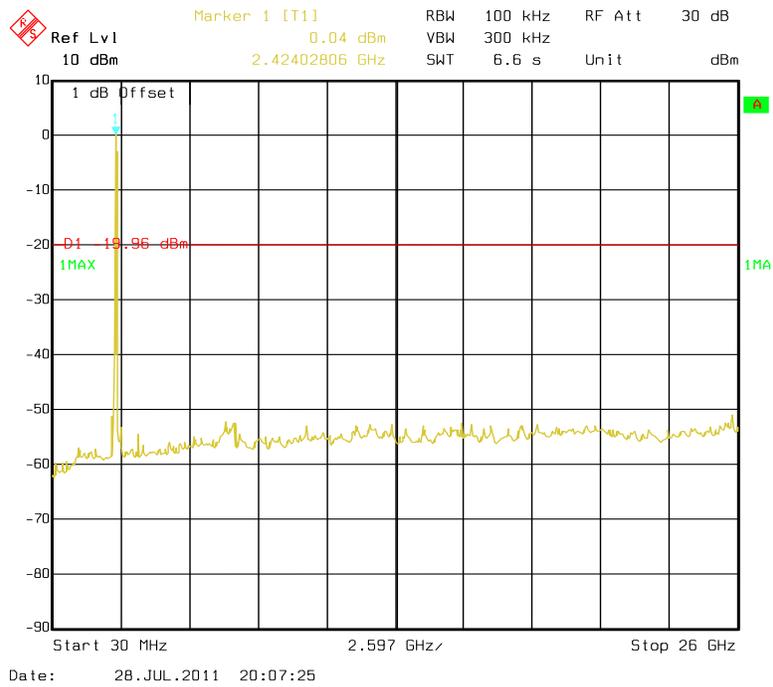
### 802.11n-HT40 Low Channel, Chain 0



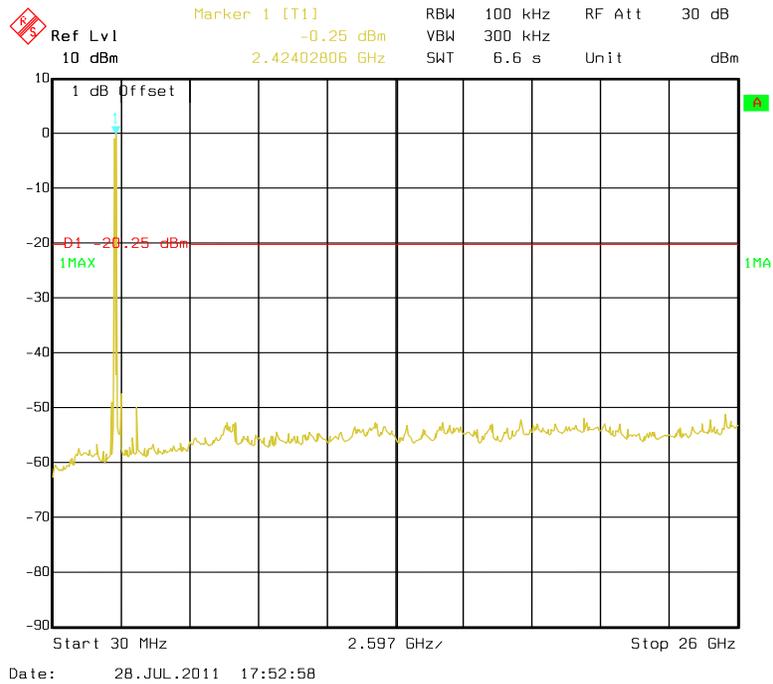
### 802.11n-HT40 Middle Channel, Chain 0



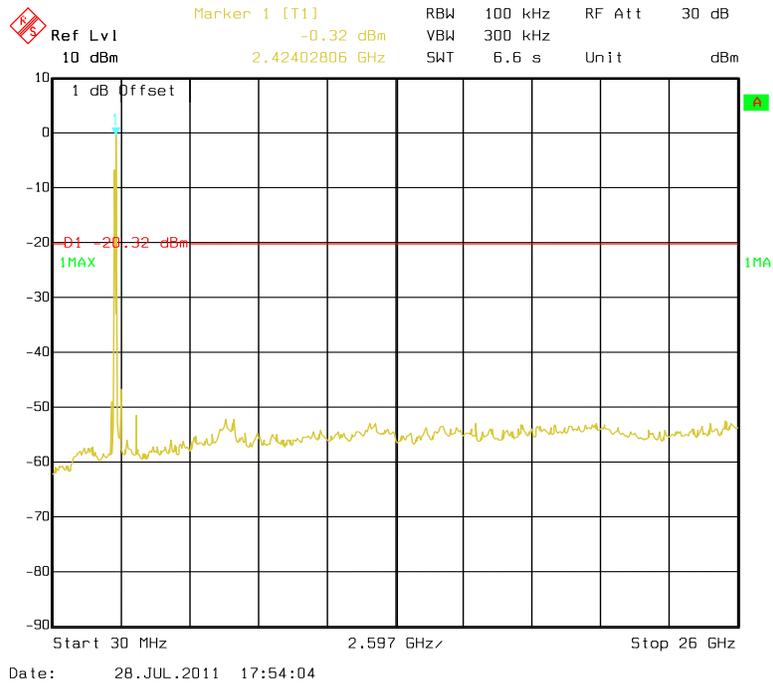
### 802.11n-HT40 High Channel, Chain 0



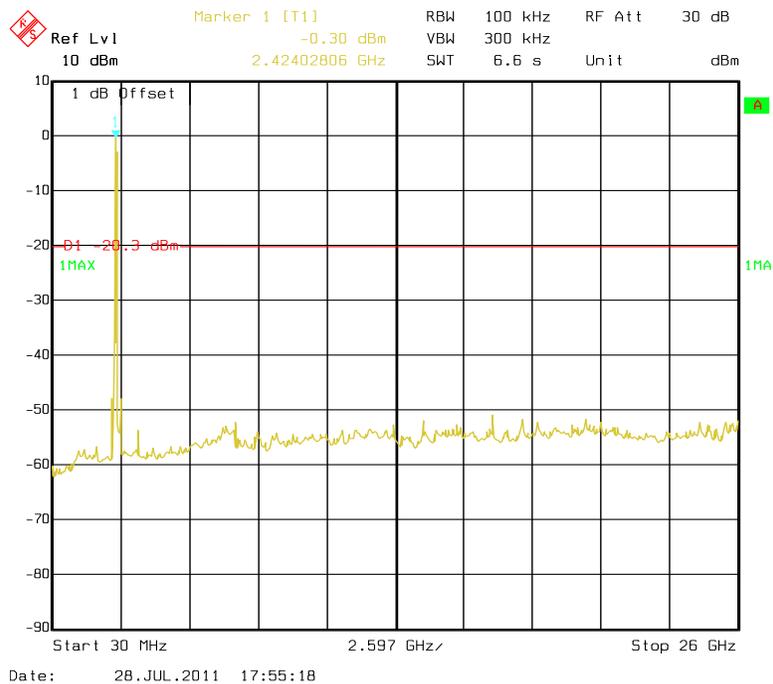
### 802.11n-HT40 Low Channel, Chain 1



### 802.11n-HT40 Middle Channel, Chain 1



### 802.11n-HT40 High Channel, Chain 1



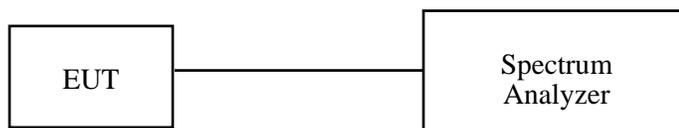
## FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH

### 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 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 Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2010-11-11	2011-11-10

\* **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 Data

#### Environmental Conditions

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

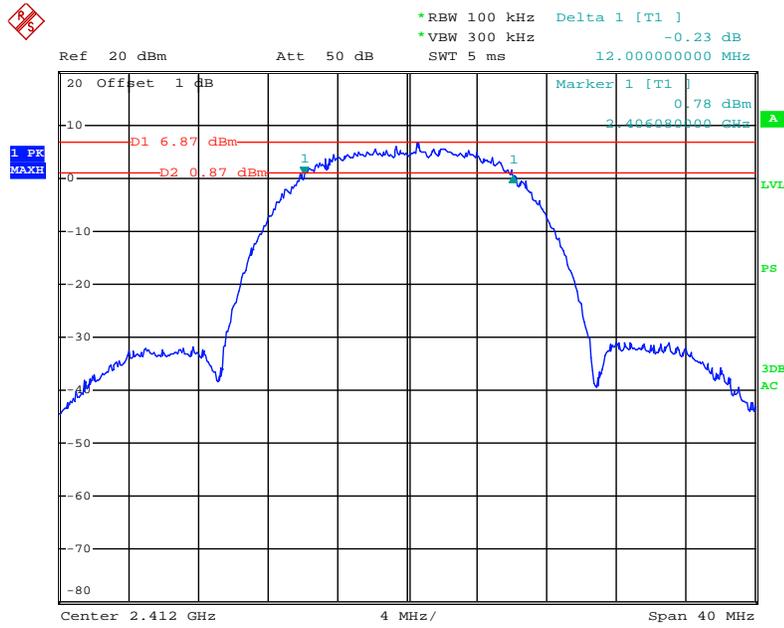
*The testing was performed by Allan An on 2011-07-28 to 2011-08-01.*

**Test Result:** Pass.

Please refer to the following tables and plots.

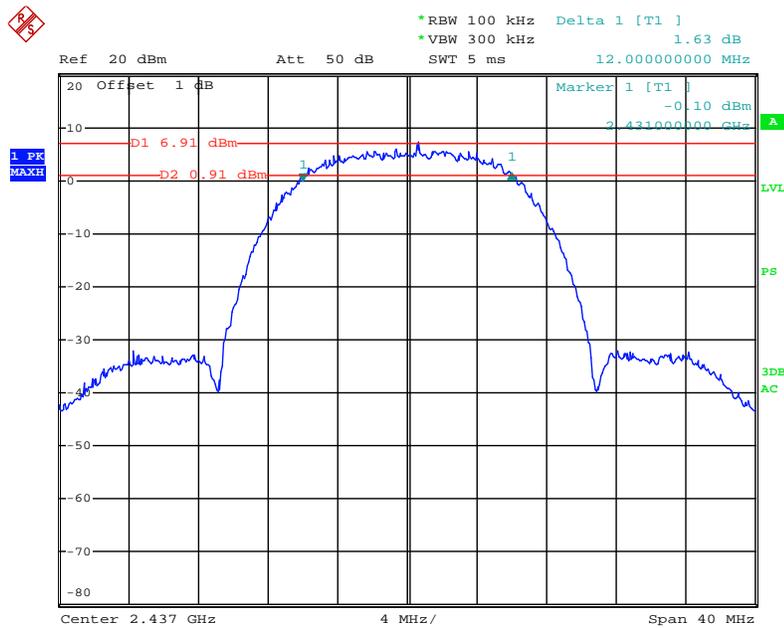
Channel	Frequency (MHz)	Antenna Port	6 dB Bandwidth (MHz)	FCC Part 15.247 Limit (kHz)
802.11b mode				
Low	2412	/	12.00	> 500
Middle	2437	/	12.00	> 500
High	2462	/	12.00	> 500
802.11g mode				
Low	2412	/	16.64	> 500
Middle	2437	/	16.64	> 500
High	2462	/	16.64	> 500
802.11n-HT20 mode				
Low	2412	Chain 0	17.92	> 500
Low	2412	Chain 1	17.84	> 500
Middle	2437	Chain 0	17.84	> 500
Middle	2437	Chain 1	17.92	> 500
High	2462	Chain 0	17.92	> 500
High	2462	Chain 1	17.92	> 500
802.11n-HT40 mode				
Low	2422	Chain 0	36.80	> 500
Low	2422	Chain 1	36.64	> 500
Middle	2437	Chain 0	36.64	> 500
Middle	2437	Chain 1	36.64	> 500
High	2452	Chain 0	36.64	> 500
High	2452	Chain 1	36.80	> 500

### 802.11b Low Channel



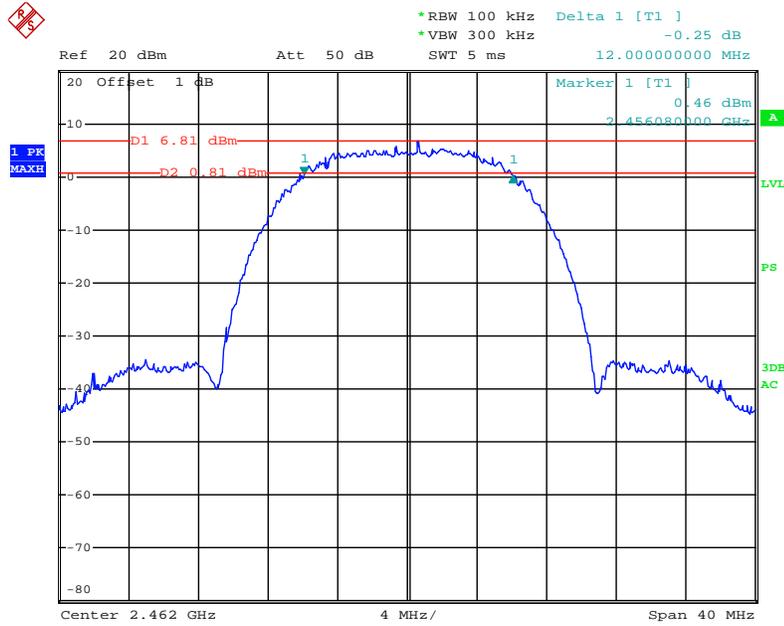
Date: 28.JUL.2011 20:32:45

### 802.11b Middle Channel



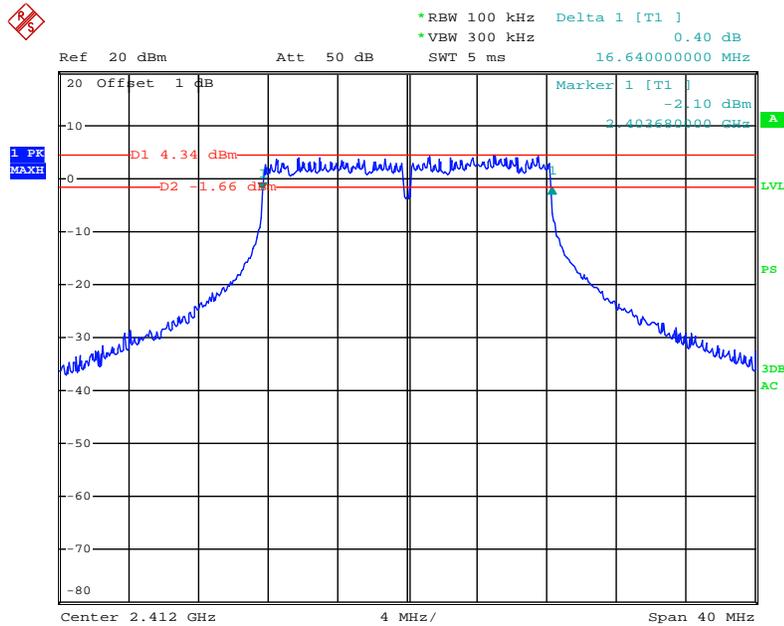
Date: 28.JUL.2011 20:30:52

### 802.11b High Channel



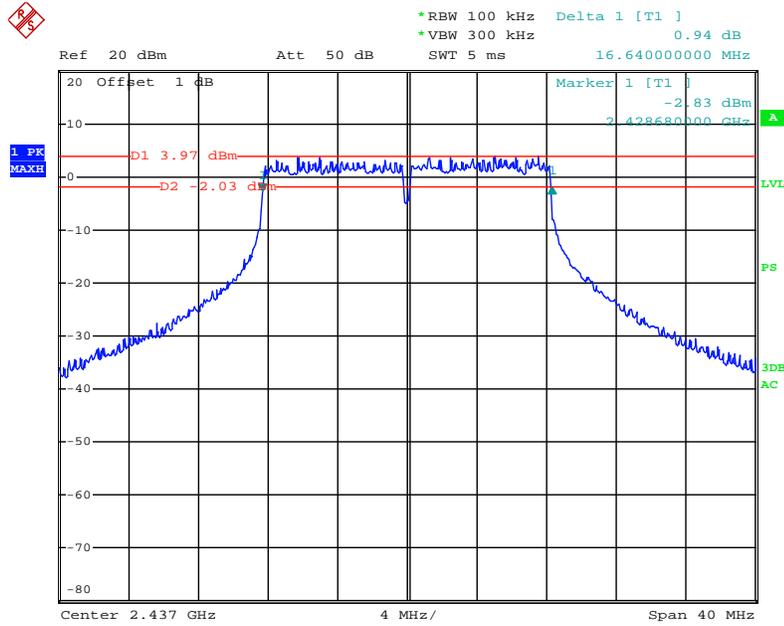
Date: 28.JUL.2011 20:27:48

### 802.11g Low Channel



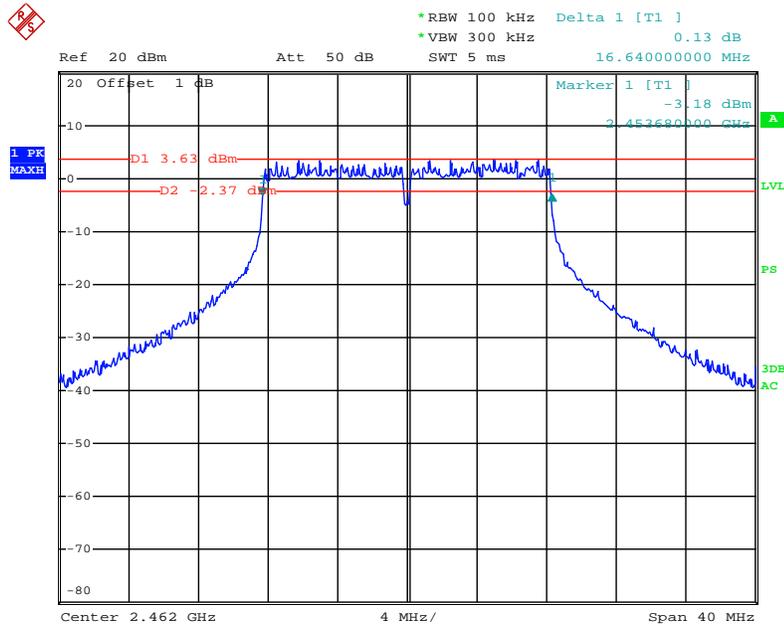
Date: 28.JUL.2011 20:15:26

### 802.11g Middle Channel



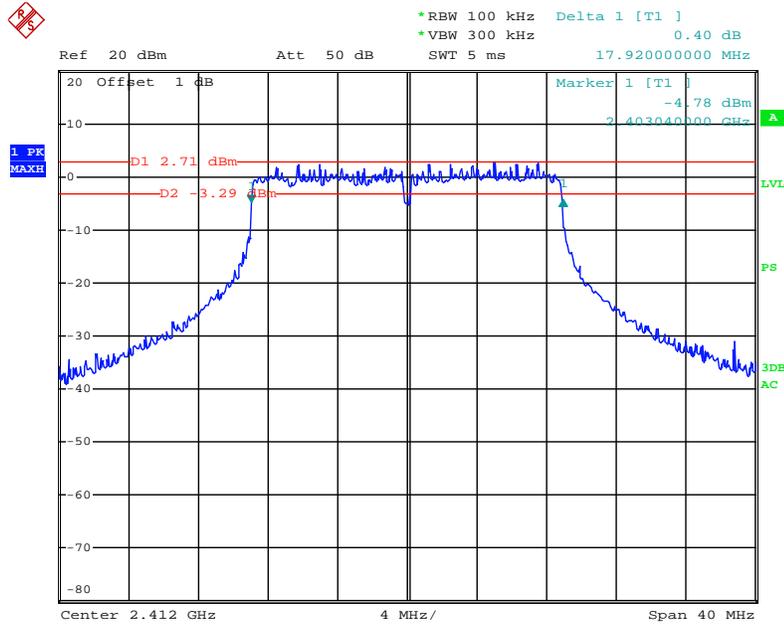
Date: 28.JUL.2011 20:20:42

### 802.11g High Channel



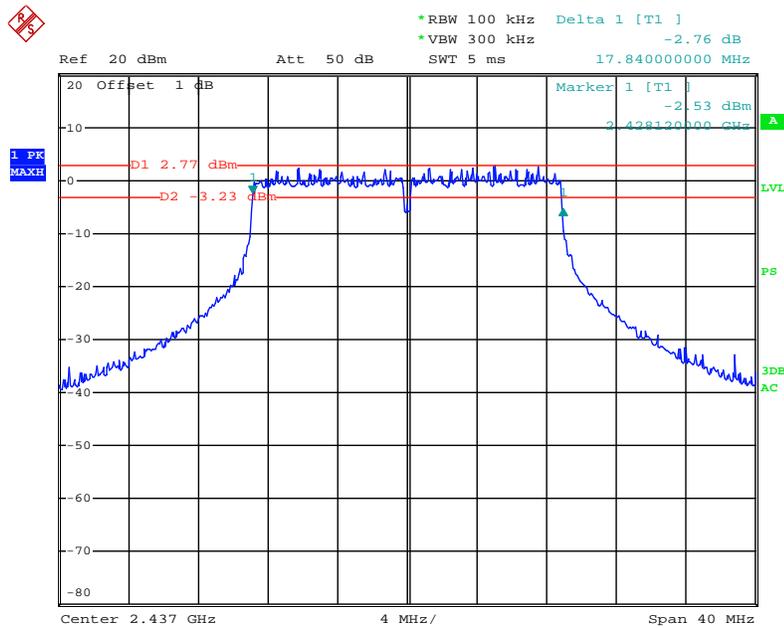
Date: 28.JUL.2011 20:22:59

### 802.11n-HT20 Low Channel, Chain 0



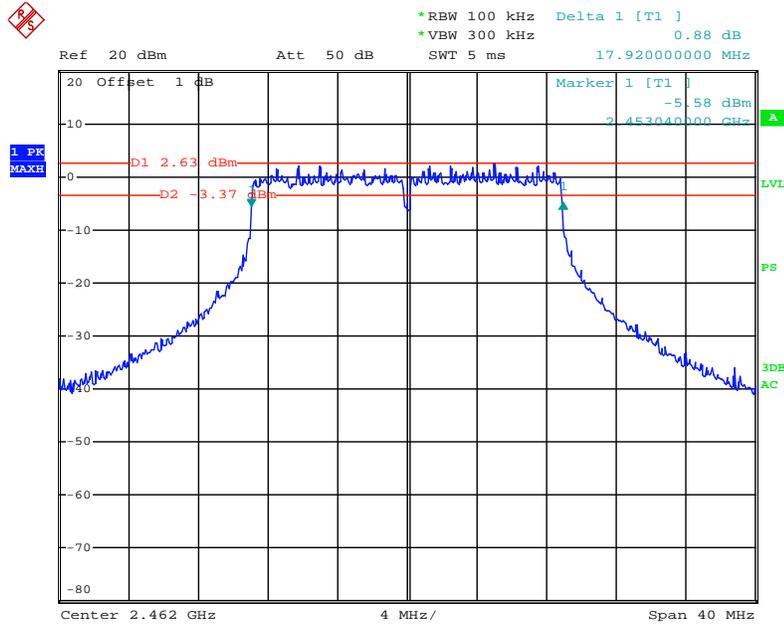
Date: 28.JUL.2011 21:00:01

### 802.11n-HT20 Middle Channel, Chain 0



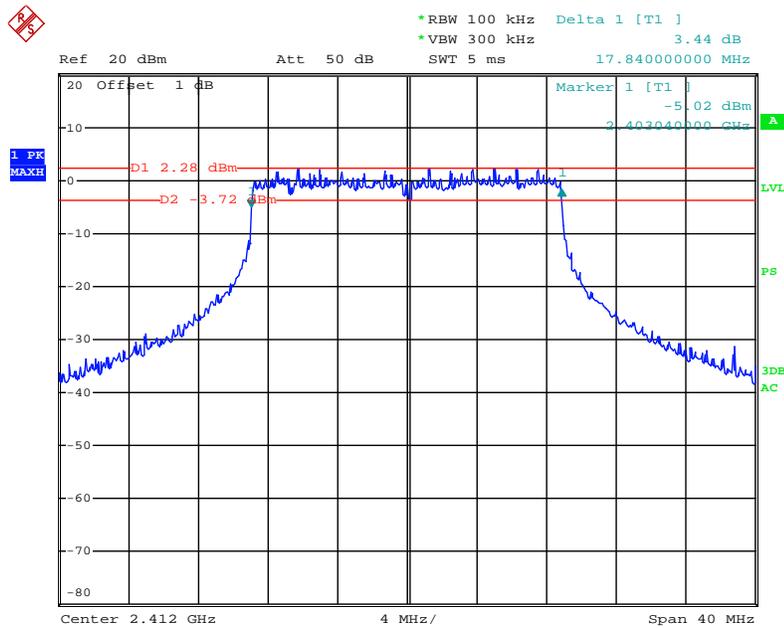
Date: 28.JUL.2011 20:58:15

### 802.11n-HT20 High Channel, Chain 0



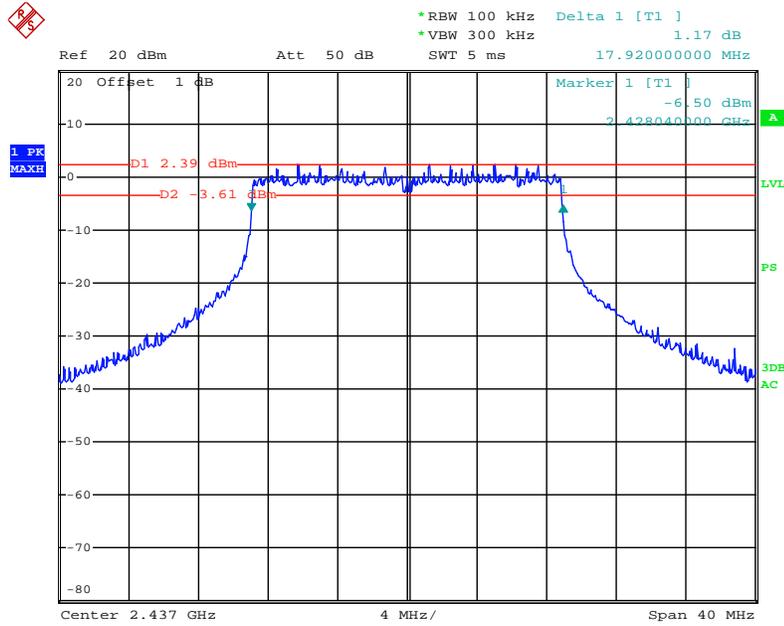
Date: 28.JUL.2011 20:56:02

### 802.11n-HT20 Low Channel, Chain 1



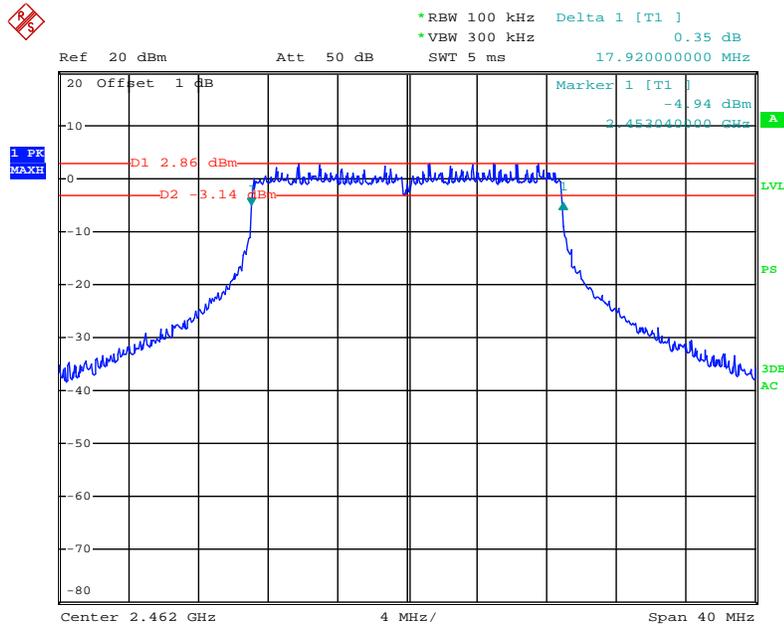
Date: 1.AUG.2011 10:09:48

### 802.11n-HT20 Middle Channel, Chain 1



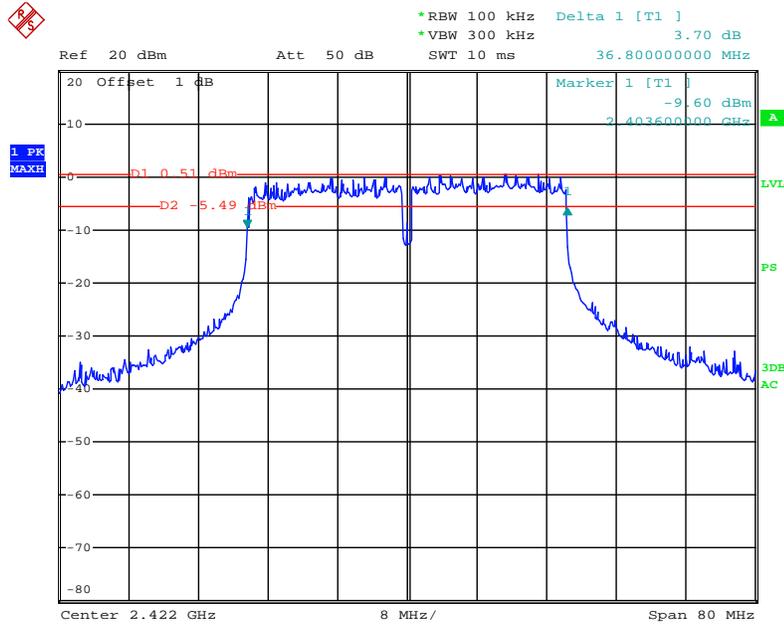
Date: 1.AUG.2011 10:12:49

### 802.11n-HT20 High Channel, Chain 1



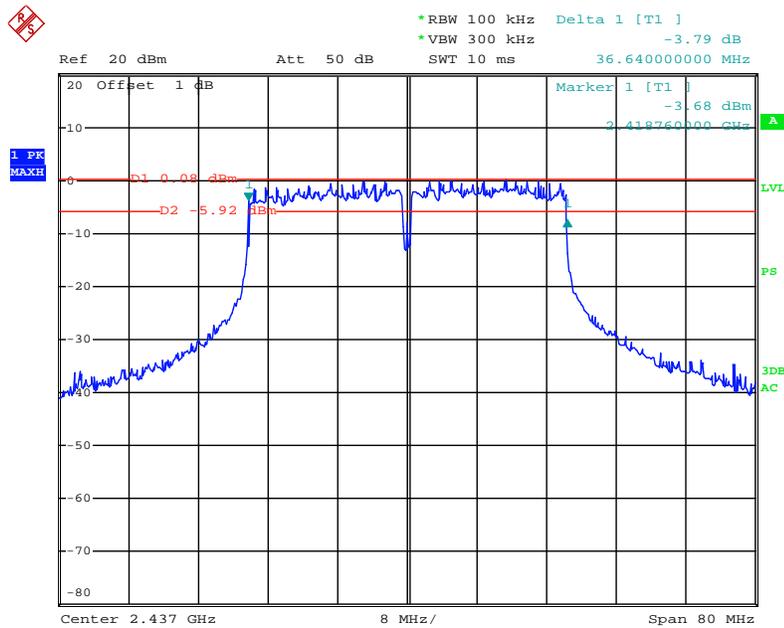
Date: 1.AUG.2011 10:24:12

### 802.11n-HT40 Low Channel, Chain 0



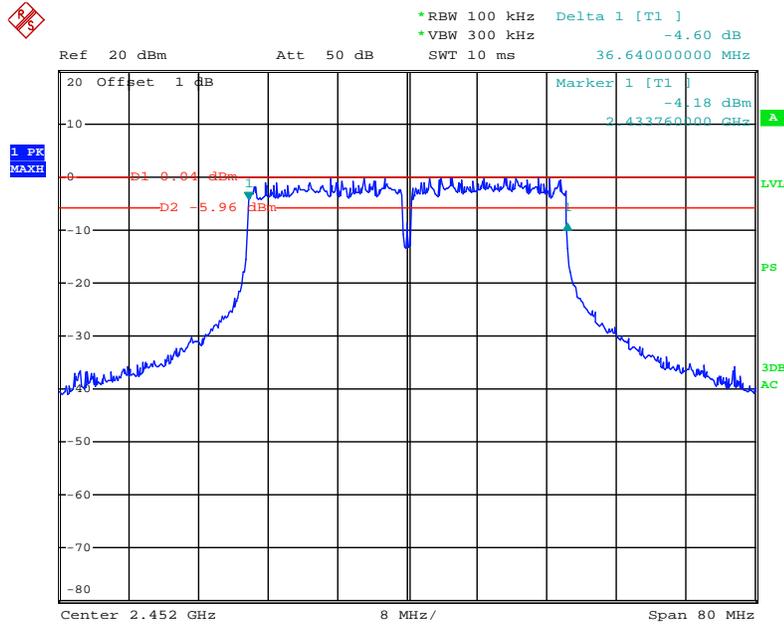
Date: 28.JUL.2011 21:02:29

### 802.11n-HT40 Middle Channel, Chain 0



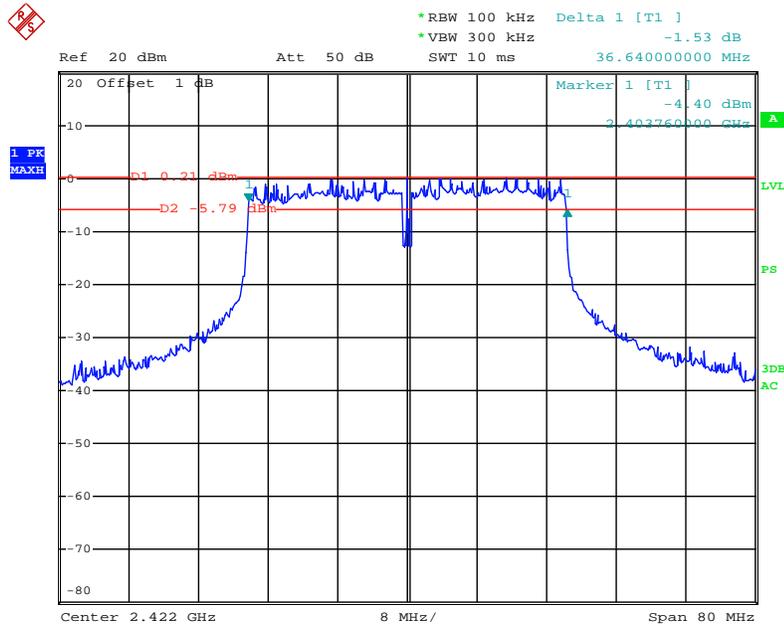
Date: 28.JUL.2011 21:03:57

### 802.11n-HT40 High Channel, Chain 0



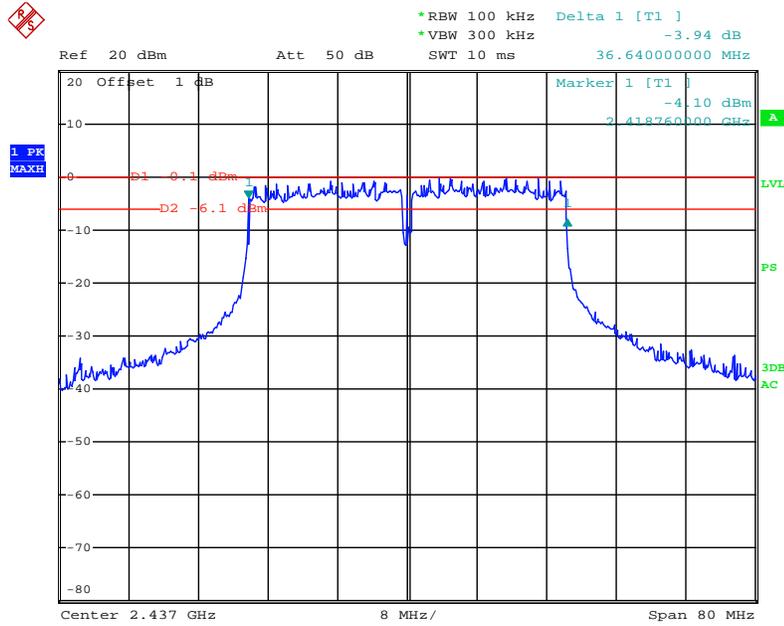
Date: 28.JUL.2011 21:05:48

### 802.11n-HT40 Low Channel, Chain 1



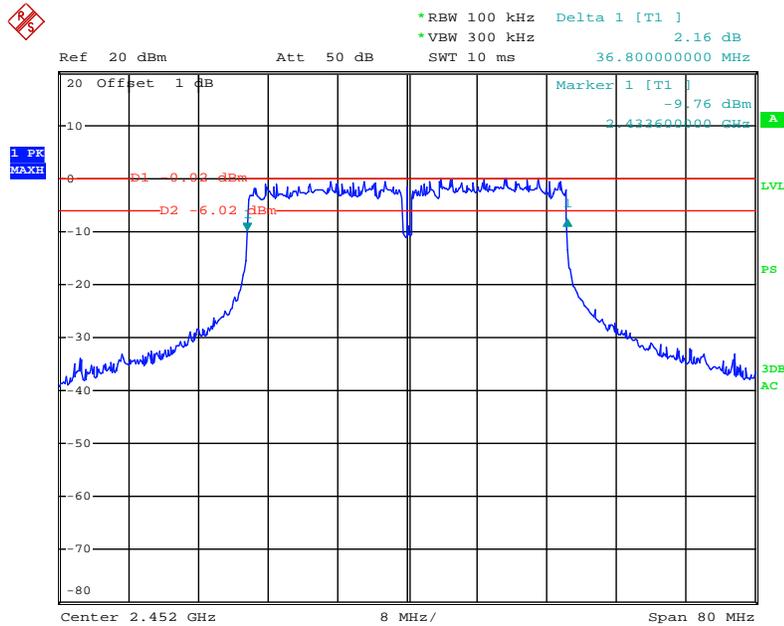
Date: 1.AUG.2011 10:37:24

### 802.11n-HT40 Middle Channel, Chain 1



Date: 1.AUG.2011 10:40:42

### 802.11n-HT40 High Channel, Chain 1



Date: 1.AUG.2011 10:51:24

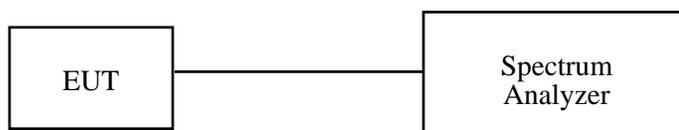
## FCC §15.247(b) (3) - MAXIMUM PEAK OUTPUT POWER

### Applicable Standard

According to FCC §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 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 Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2010-11-11	2011-11-10

\* **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 Data

#### Environmental Conditions

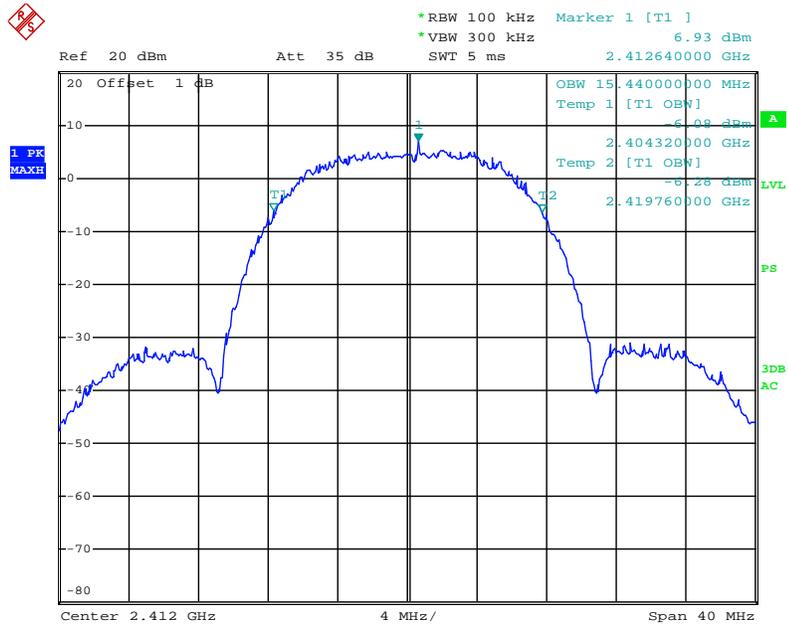
Temperature:	25 ° C
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

*The testing was performed by Allan An on 2011-07-27 and 2011-07-28.*

*Test Mode: Transmitting*

Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	Calculated Total Power (dBm)	Limit (dBm)	Result
802.11b mode						
Low	2412	/	17.09	17.09	30	Pass
Middle	2437	/	17.31	17.31	30	Pass
High	2462	/	16.91	16.91	30	Pass
802.11g mode						
Low	2412	/	17.38	17.38	30	Pass
Middle	2437	/	16.86	16.86	30	Pass
High	2462	/	16.61	16.61	30	Pass
802.11n-HT20 mode						
Low	2412	Chain 0	15.79	18.52	30	Pass
Low	2412	Chain 1	15.21			
Middle	2437	Chain 0	15.73	18.48	30	Pass
Middle	2437	Chain 1	15.20			
High	2462	Chain 0	15.62	18.69	30	Pass
High	2462	Chain 1	15.73			
802.11n-HT40 mode						
Low	2422	Chain 0	15.26	18.02	30	Pass
Low	2422	Chain 1	14.74			
Middle	2437	Chain 0	15.20	17.99	30	Pass
Middle	2437	Chain 1	14.75			
High	2452	Chain 0	15.22	18.20	30	Pass
High	2452	Chain 1	15.15			

### 802.11b 99% Occupied Bandwidth, Low Channel



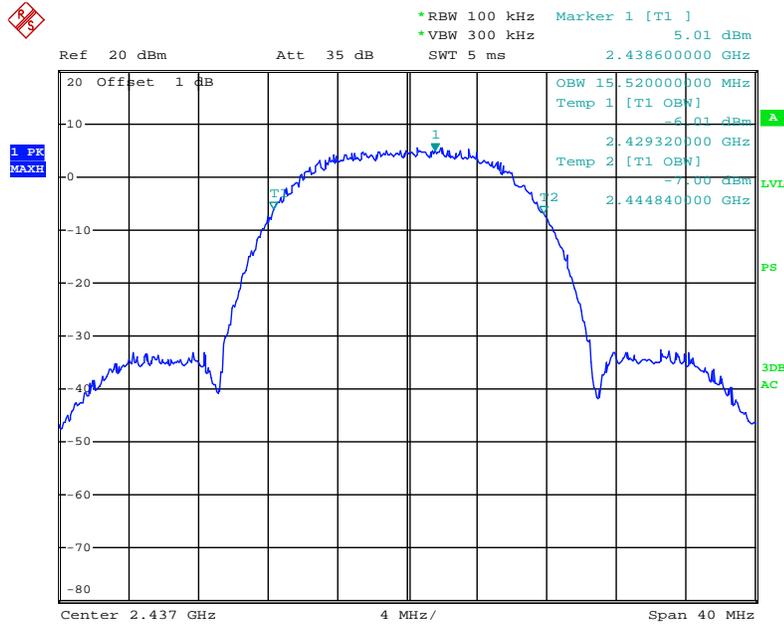
Date: 28.JUL.2011 20:49:14

### 802.11b RF Output Power, Low Channel



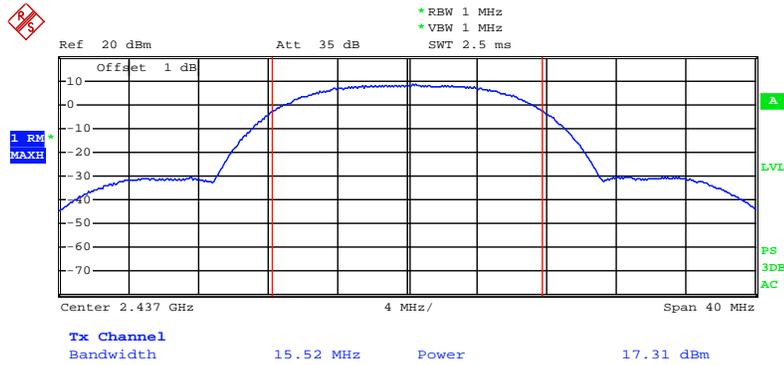
Date: 28.JUL.2011 20:50:39

### 802.11b 99% Occupied Bandwidth, Middle Channel



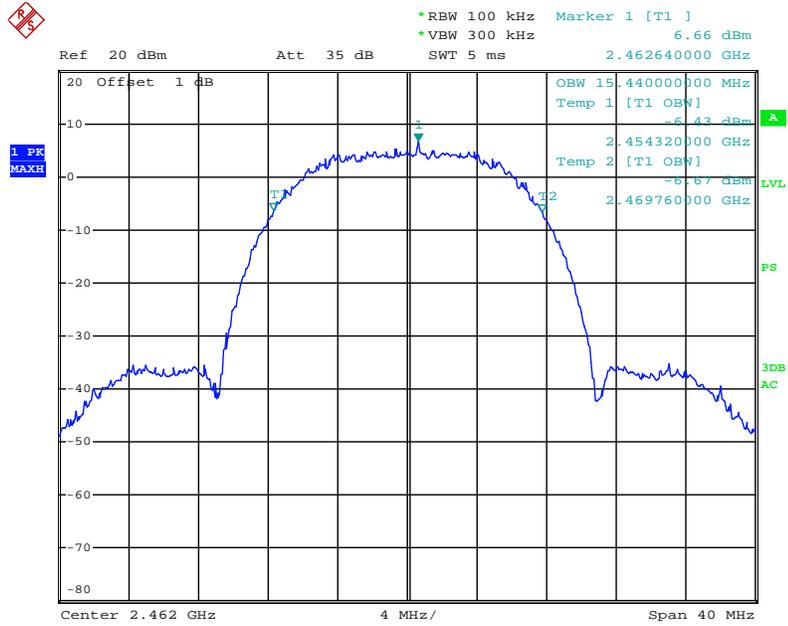
Date: 28.JUL.2011 20:47:56

### 802.11b RF Output Power, Middle Channel



Date: 28.JUL.2011 20:52:16

### 802.11b 99% Occupied Bandwidth, High Channel



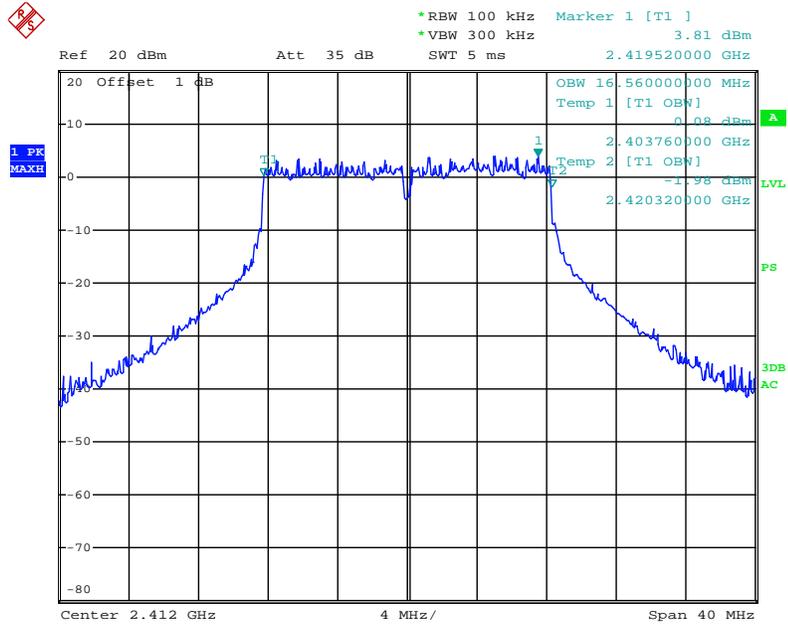
Date: 28.JUL.2011 20:46:13

### 802.11b RF Output Power, High Channel



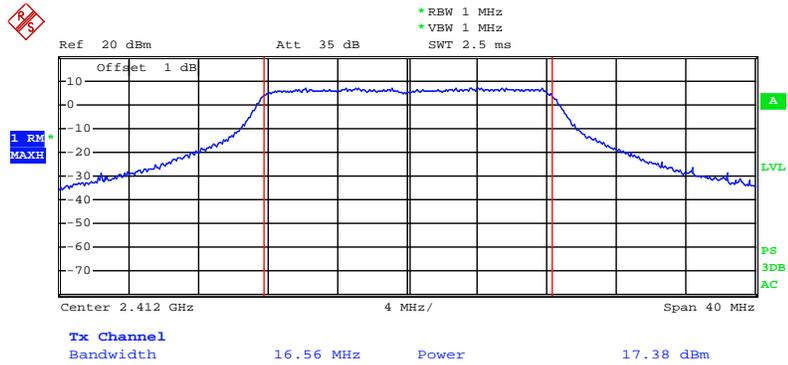
Date: 28.JUL.2011 20:53:34

### 802.11g 99% Occupied Bandwidth, Low Channel



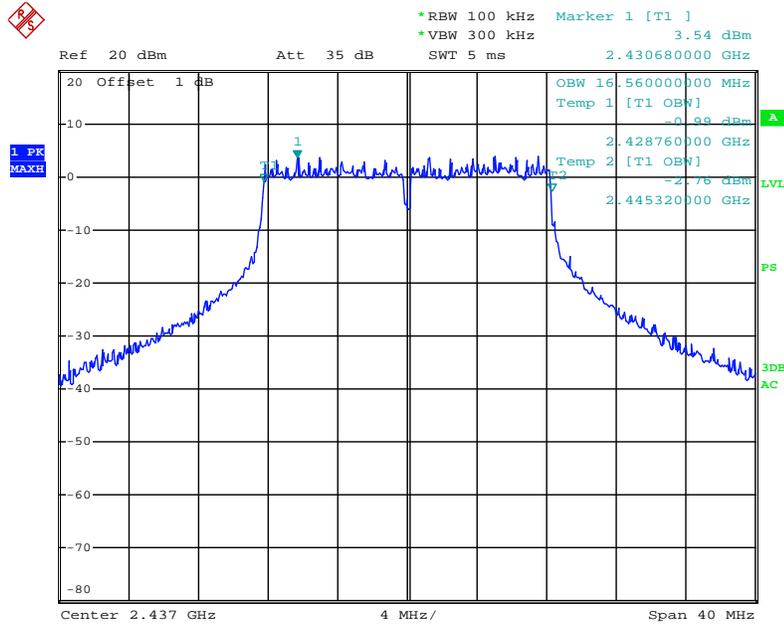
Date: 27.JUL.2011 18:55:47

### 802.11g RF Output Power, Low Channel



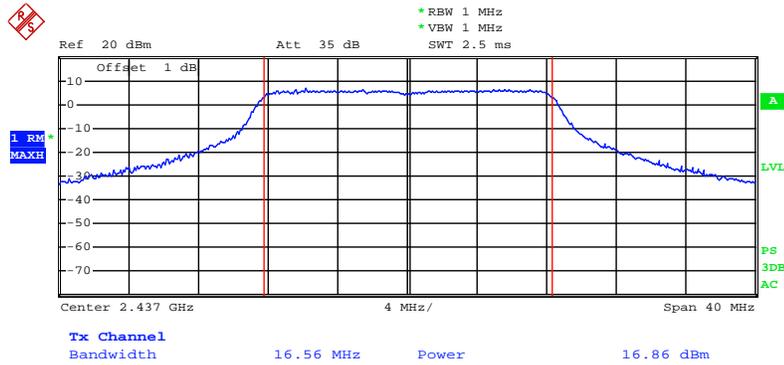
Date: 27.JUL.2011 18:54:48

### 802.11g 99% Occupied Bandwidth, Middle Channel



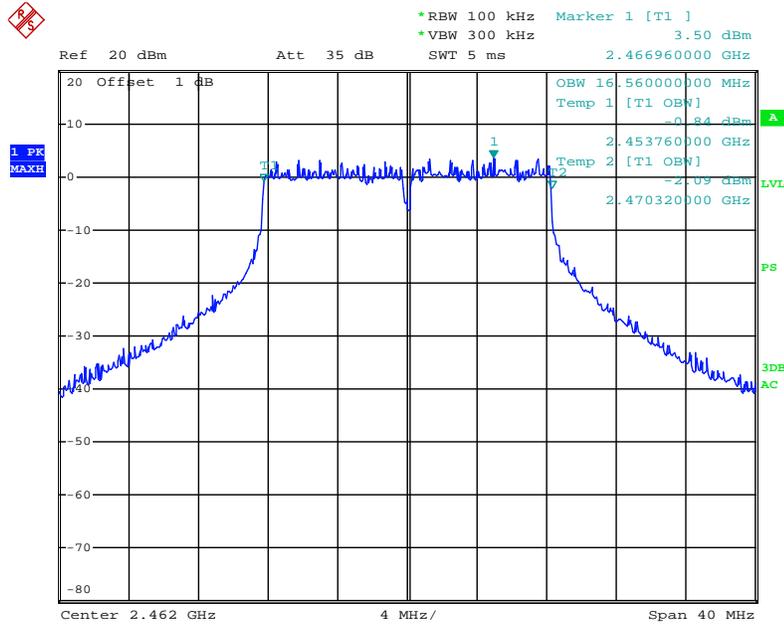
Date: 27.JUL.2011 19:25:39

### 802.11g RF Output Power, Middle Channel



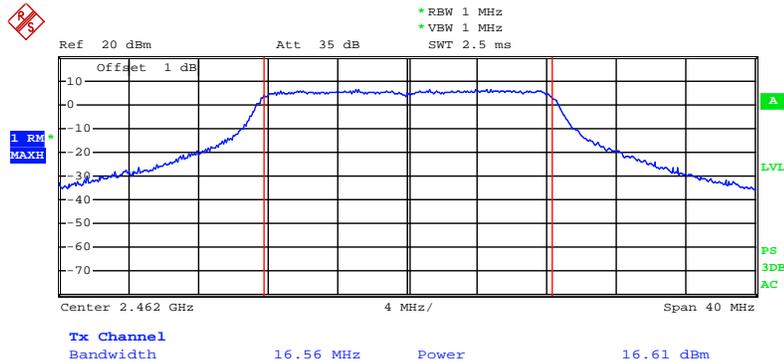
Date: 27.JUL.2011 19:26:21

### 802.11g 99% Occupied Bandwidth, High Channel



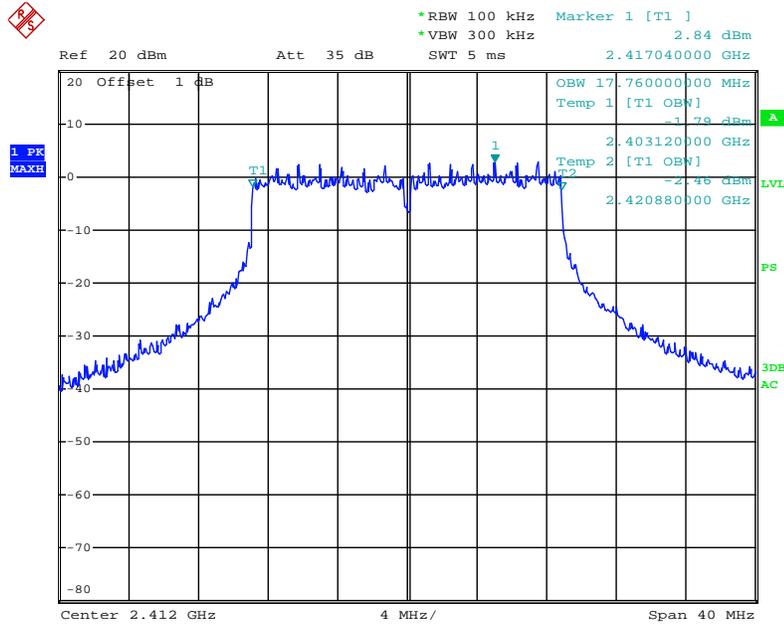
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### 802.11g RF Output Power, High Channel



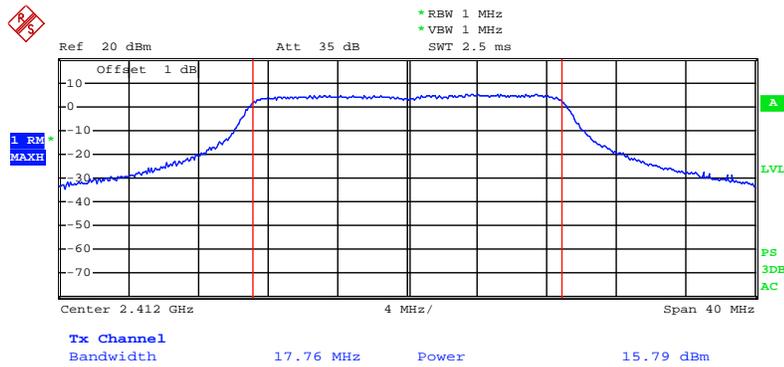
Date: 27.JUL.2011 18:51:43

### 802.11n-HT20 99% Occupied Bandwidth, Low Channel, Chain 0



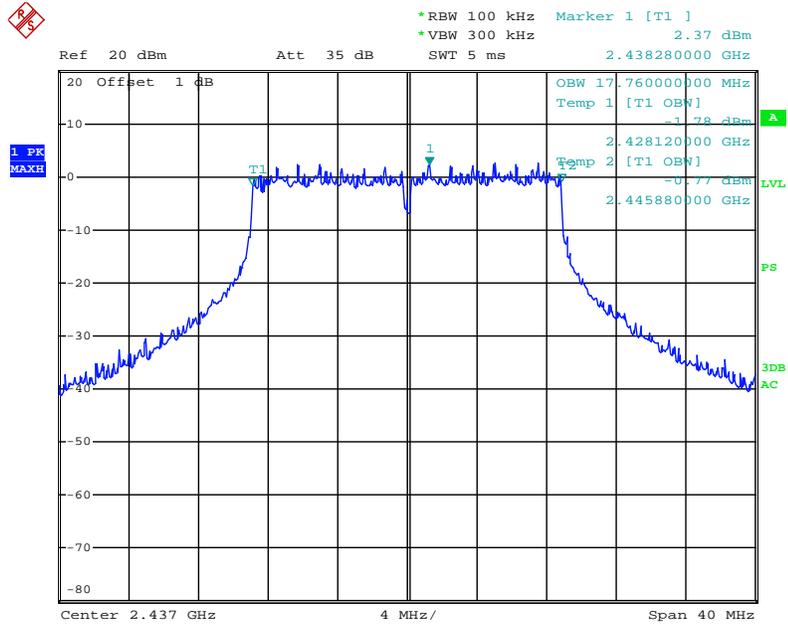
Date: 27.JUL.2011 19:10:53

### 802.11n-HT20 RF Output Power, Low Channel, Chain 0



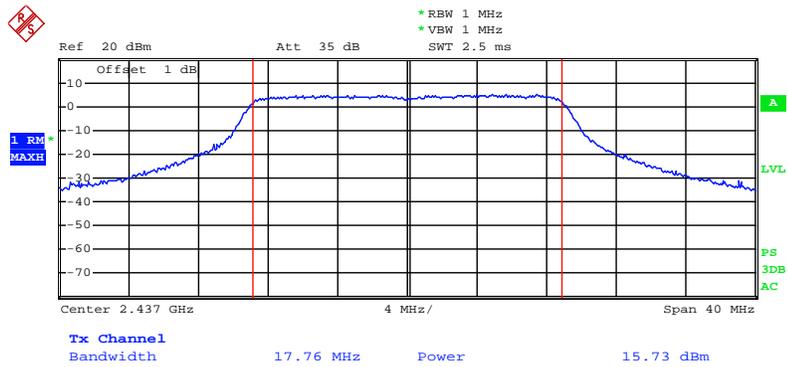
Date: 27.JUL.2011 19:09:48

### 802.11n-HT20 99% Occupied Bandwidth, Middle Channel, Chain 0



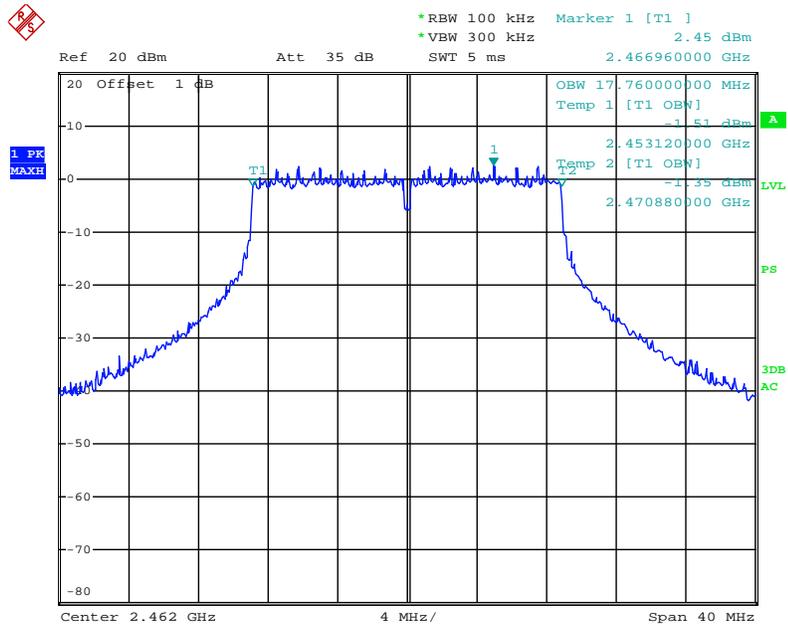
Date: 27.JUL.2011 19:29:57

### 802.11n-HT20 RF Output Power, Middle Channel, Chain 0



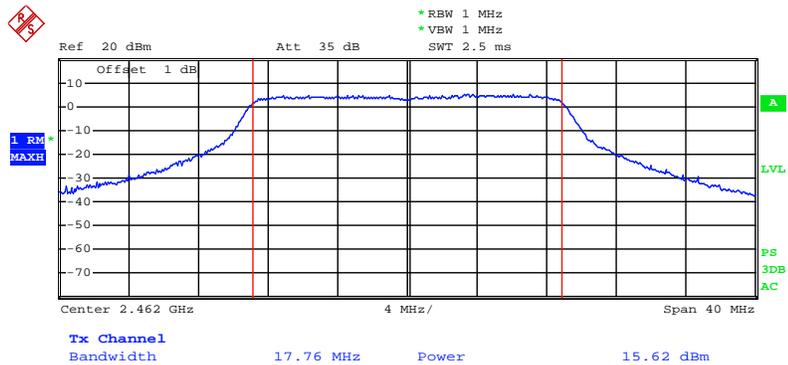
Date: 27.JUL.2011 19:30:48

### 802.11n-HT20 99% Occupied Bandwidth, High Channel, Chain 0



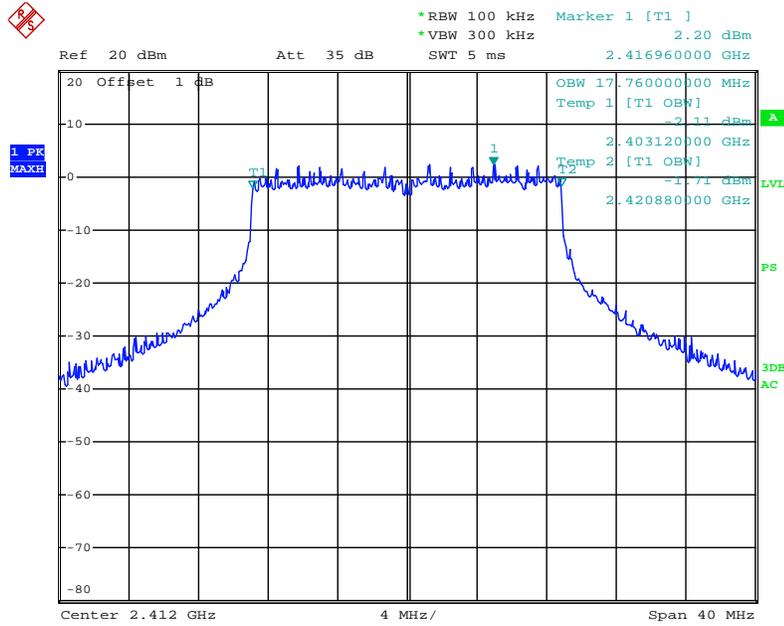
Date: 27.JUL.2011 19:06:09

### 802.11n-HT20 RF Output Power, High Channel, Chain 0



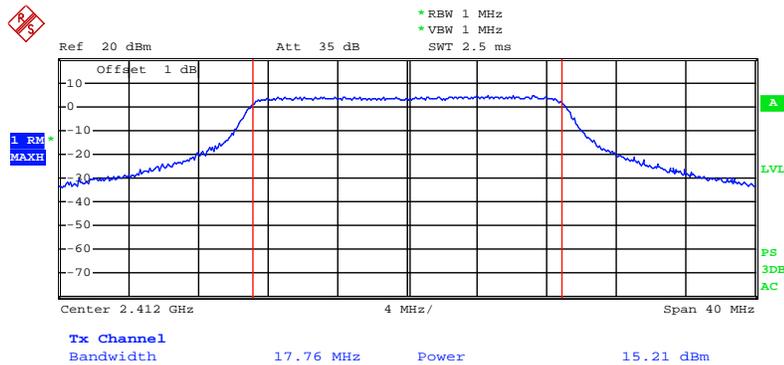
Date: 27.JUL.2011 19:06:53

### 802.11n-HT20 99% Occupied Bandwidth, Low Channel, Chain 1



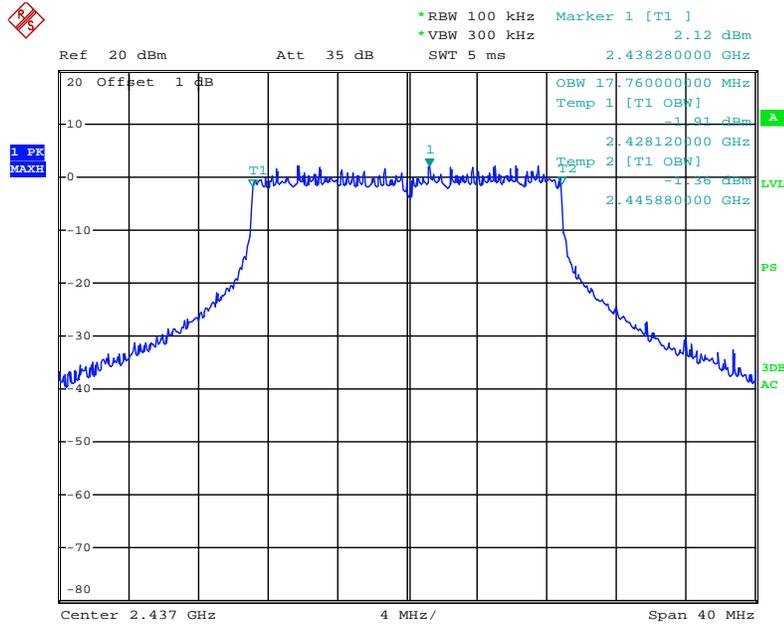
Date: 27.JUL.2011 19:39:23

### 802.11n-HT20 RF Output Power, Low Channel, Chain 1



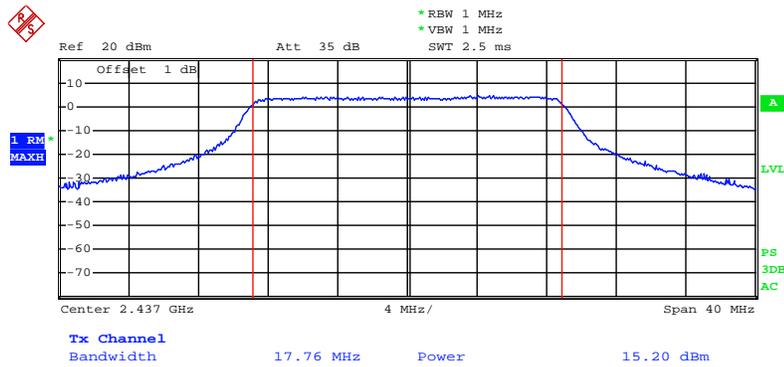
Date: 27.JUL.2011 19:34:58

### 802.11n-HT20 99% Occupied Bandwidth, Middle Channel, Chain 1



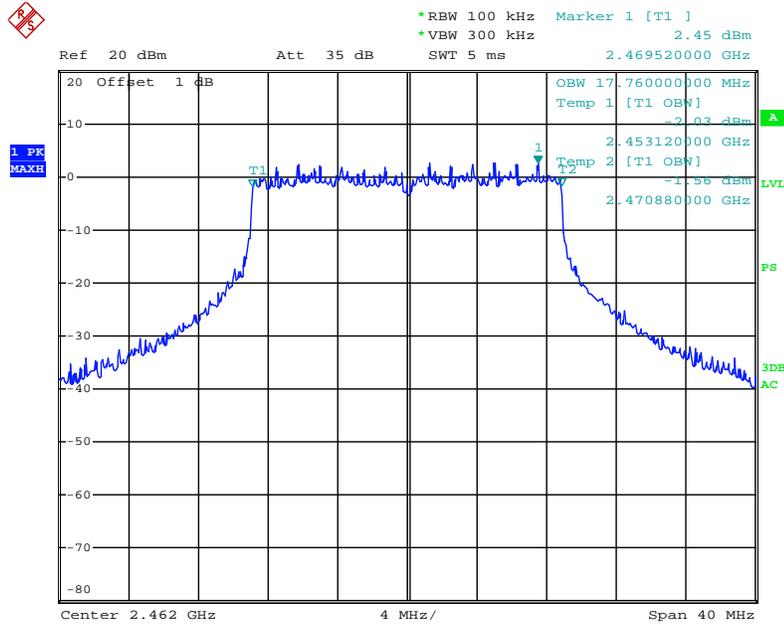
Date: 27.JUL.2011 19:38:43

### 802.11n-HT20 RF Output Power, Middle Channel, Chain 1



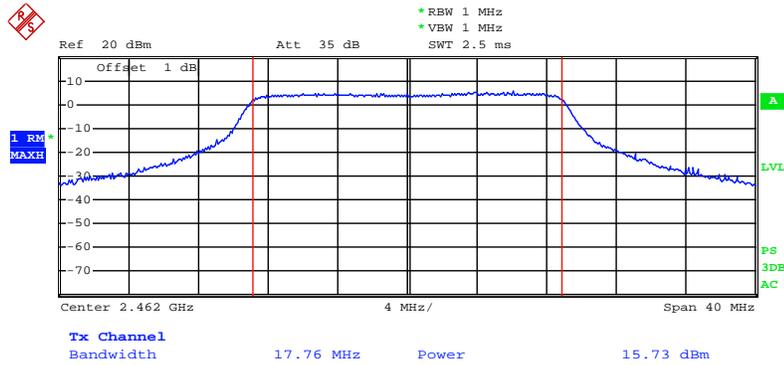
Date: 27.JUL.2011 19:34:10

### 802.11n-HT20 99% Occupied Bandwidth, High Channel, Chain 1



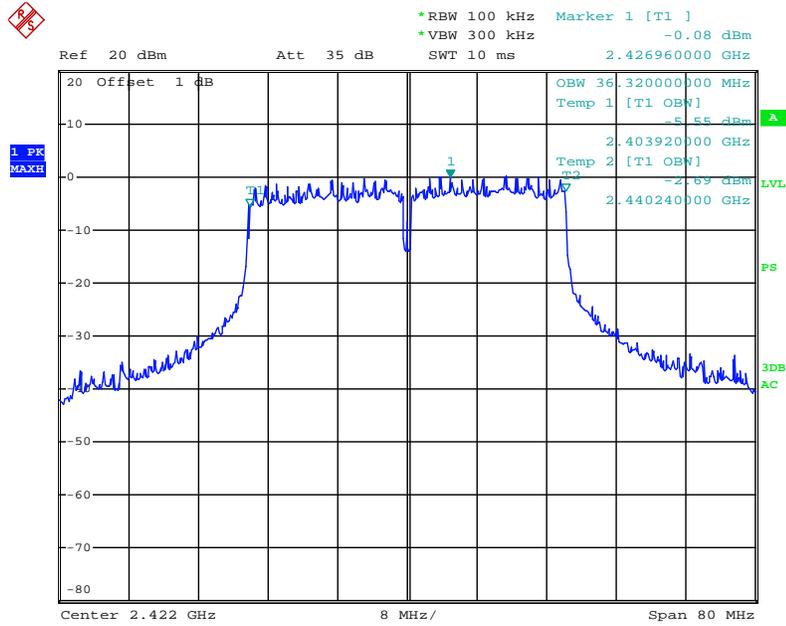
Date: 27.JUL.2011 19:36:40

### 802.11n-HT20 RF Output Power, High Channel, Chain 1



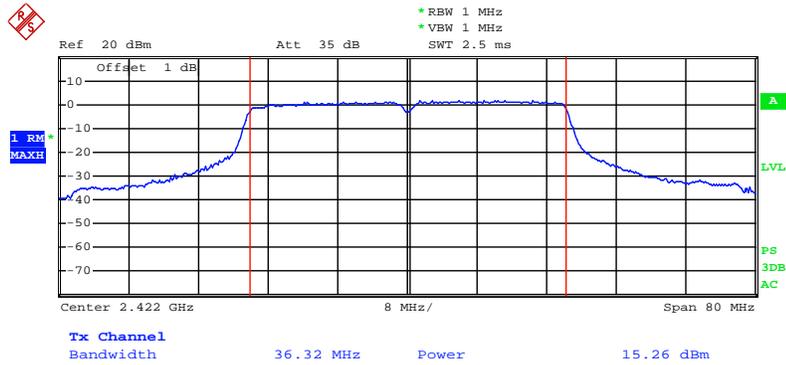
Date: 27.JUL.2011 19:36:09

### 802.11n-HT40 99% Occupied Bandwidth, Low Channel, Chain 0



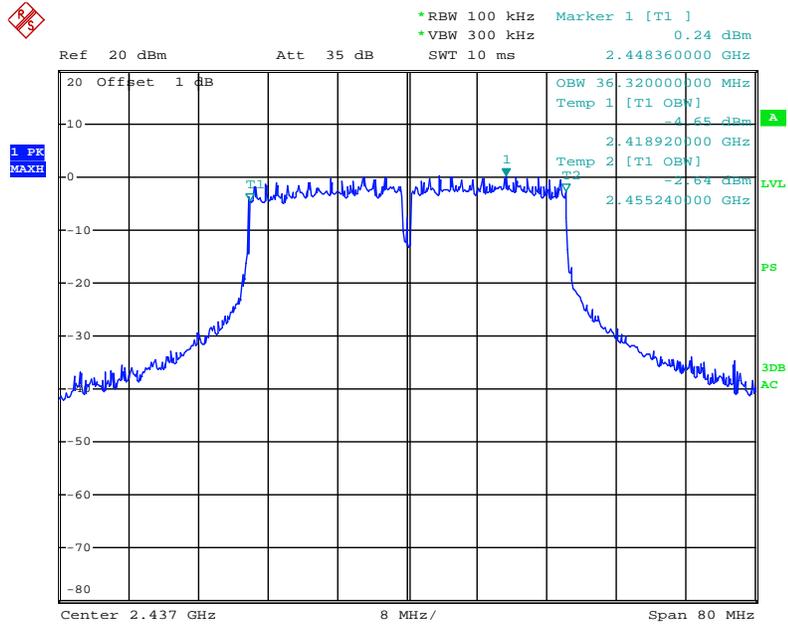
Date: 27.JUL.2011 19:52:43

### 802.11n-HT40 RF Output Power, Low Channel, Chain 0



Date: 27.JUL.2011 19:52:22

### 802.11n-HT40 99% Occupied Bandwidth, Middle Channel, Chain 0



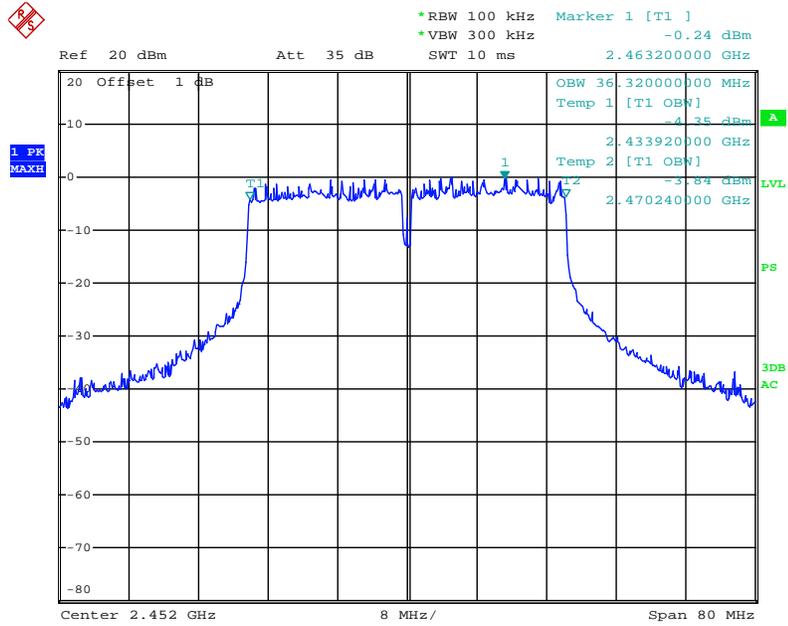
Date: 27.JUL.2011 19:20:13

### 802.11n-HT40 RF Output Power, Middle Channel, Chain 0



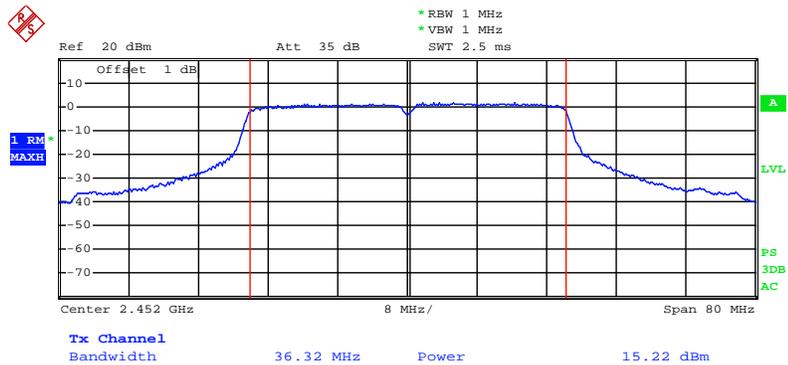
Date: 27.JUL.2011 19:22:12

### 802.11n-HT40 99% Occupied Bandwidth, High Channel, Chain 0



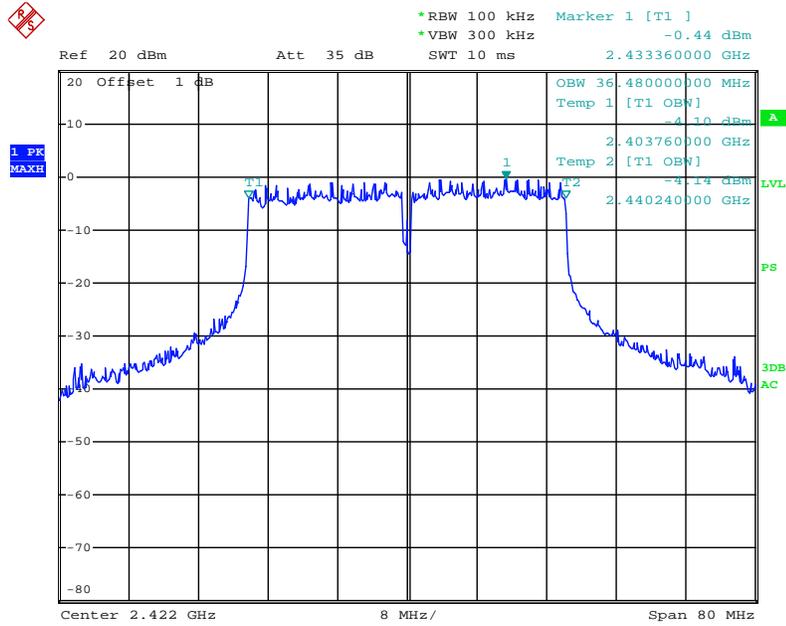
Date: 27.JUL.2011 19:53:20

### 802.11n-HT40 RF Output Power, High Channel, Chain 0



Date: 27.JUL.2011 19:51:49

### 802.11n-HT40 99% Occupied Bandwidth, Low Channel, Chain 1



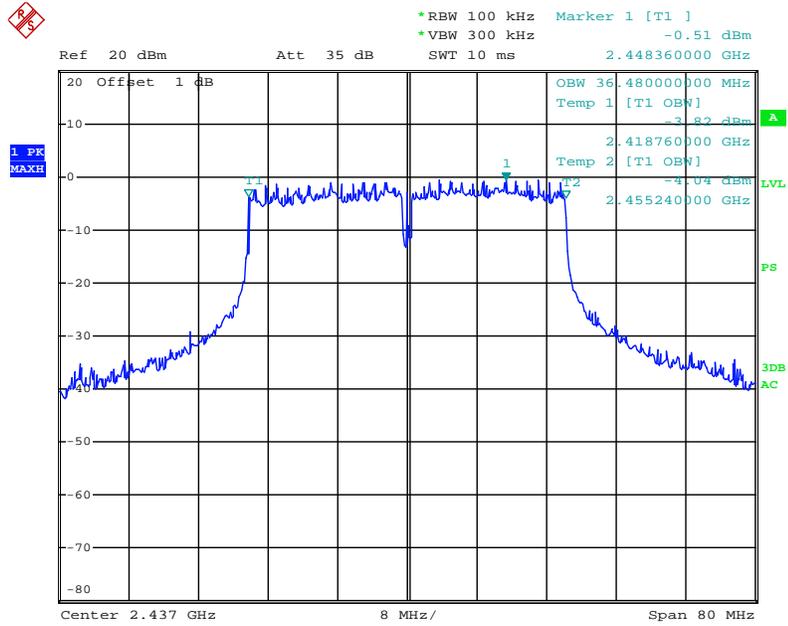
Date: 27.JUL.2011 19:45:29

### 802.11n-HT40 RF Output Power, Low Channel, Chain 1



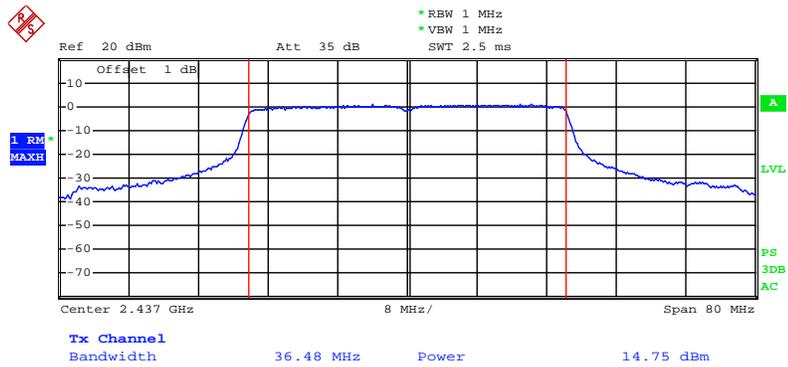
Date: 27.JUL.2011 19:46:22

### 802.11n-HT40 99% Occupied Bandwidth, Middle Channel, Chain 1



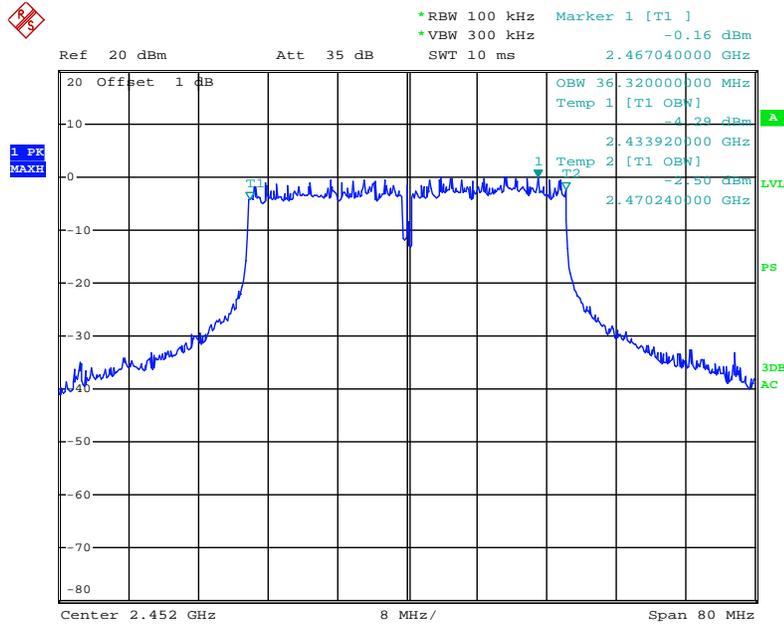
Date: 27.JUL.2011 19:42:52

### 802.11n-HT40 RF Output Power, Middle Channel, Chain 1



Date: 27.JUL.2011 19:47:30

### 802.11n-HT40 99% Occupied Bandwidth, High Channel, Chain 1



Date: 27.JUL.2011 19:44:16

### 802.11n-HT40 RF Output Power, High Channel, Chain 1



Date: 27.JUL.2011 19:48:39

## FCC §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 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 1 MHz and VBW of spectrum analyzer to 1 MHz with a convenient frequency span including 100 kHz bandwidth from band edge.
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 Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2010-11-11	2011-11-10

\* **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 Data

#### Environmental Conditions

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

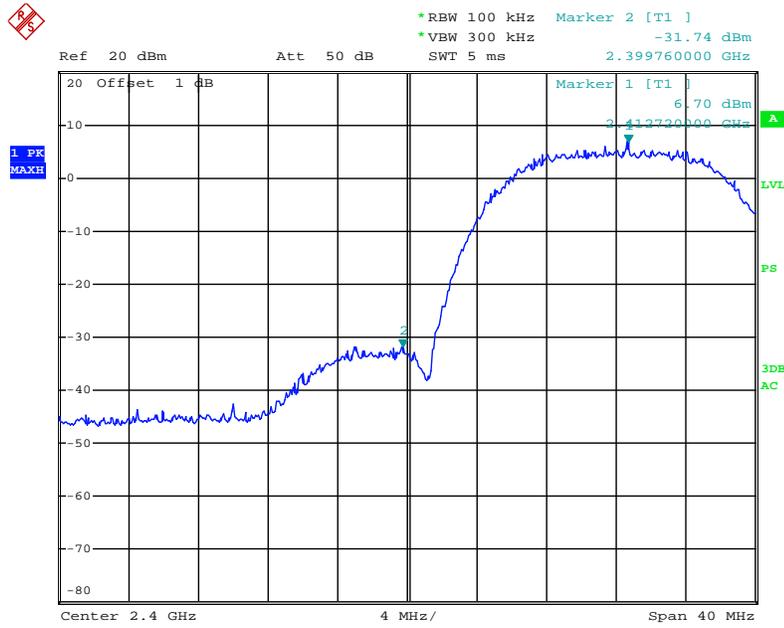
*The testing was performed by Allan An on 2011-07-28 and 2011-08-01.*

**Test Result:** *Compliance*

Frequency (MHz)	Antenna Port	Delta Peak to Band Emission (dBc)	Limit (dBc)	Result
802.11b mode				
2399.76	/	38.44	20	Pass
2483.98	/	50.28	20	Pass
802.11g mode				
2399.84	/	30.56	20	Pass
2483.58	/	43.66	20	Pass
802.11n-HT20 mode				
2399.84	Chain 0	28.59	20	Pass
2413.28	Chain 1	27.65	20	Pass
2483.58	Chain 0	43.39	20	Pass
2483.86	Chain 1	39.71	20	Pass
802.11n-HT40 mode				
2433.44	Chain 0	29.27	20	Pass
2399.84	Chain 1	26.12	20	Pass
2484.46	Chain 0	35.24	20	Pass
2484.62	Chain 1	32.12	20	Pass

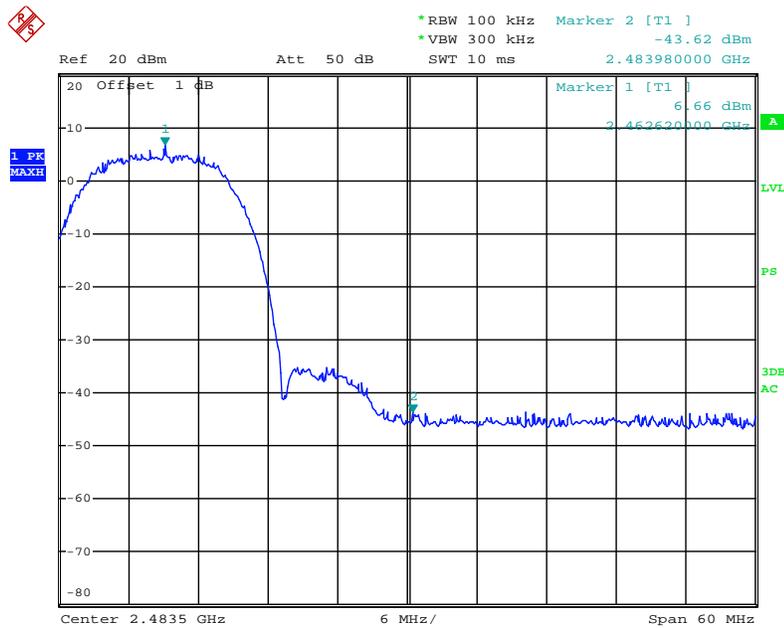
Please refer to following plots.

### 802.11b: Band Edge, Left Side



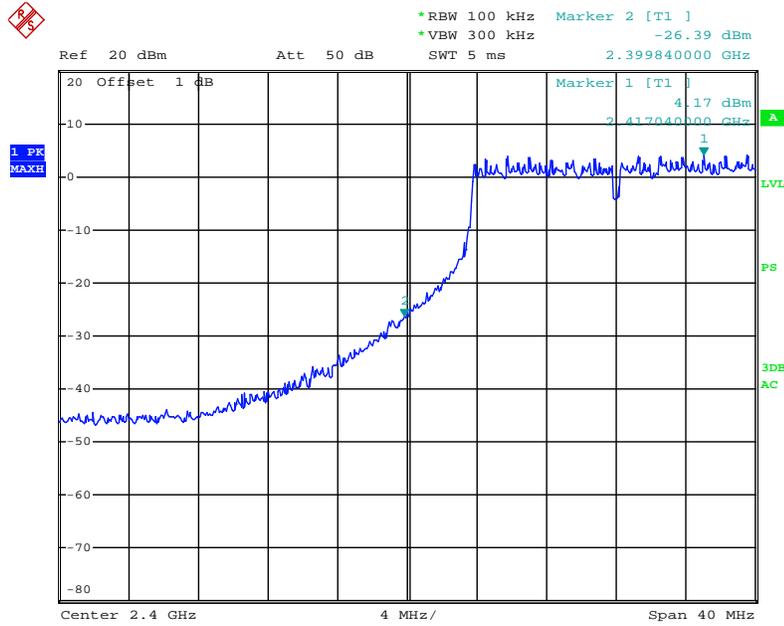
Date: 28.JUL.2011 21:19:15

### 802.11b: Band Edge, Right Side



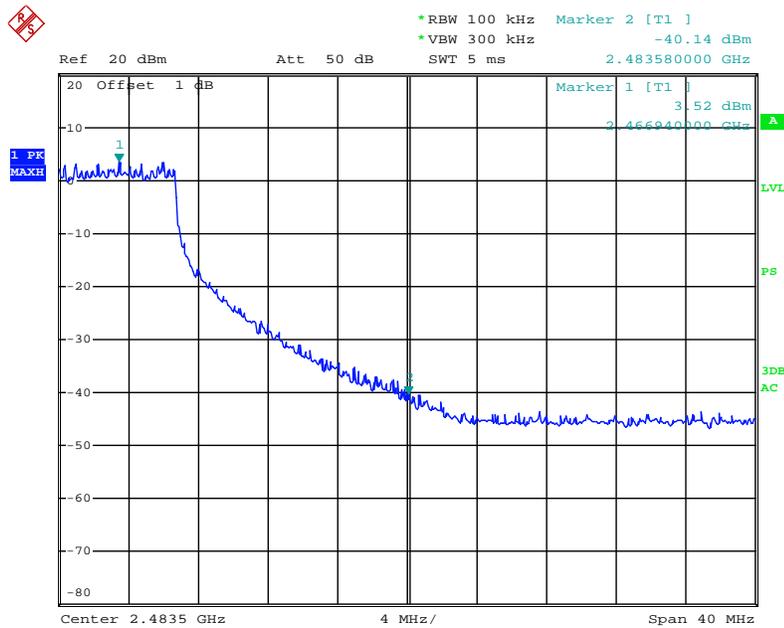
Date: 28.JUL.2011 21:21:22

### 802.11g: Band Edge, Left Side



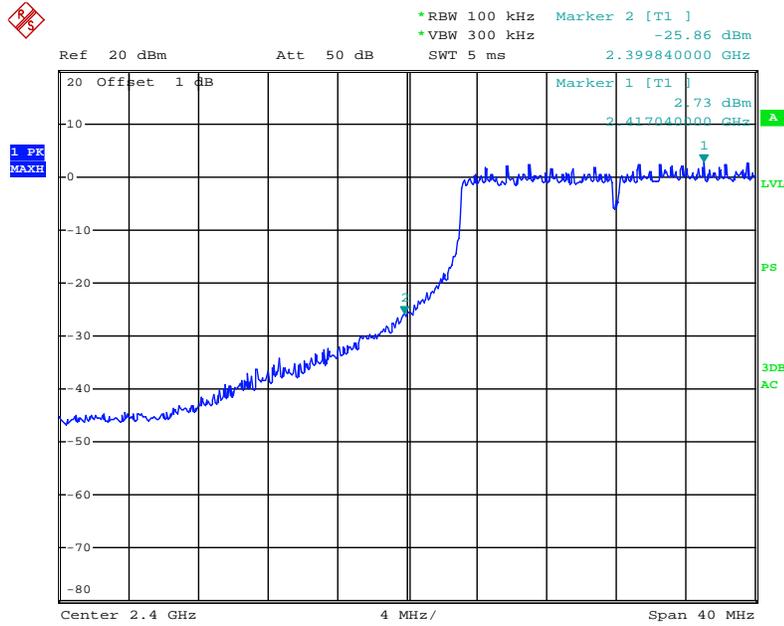
Date: 28.JUL.2011 21:16:54

### 802.11g: Band Edge, Right Side



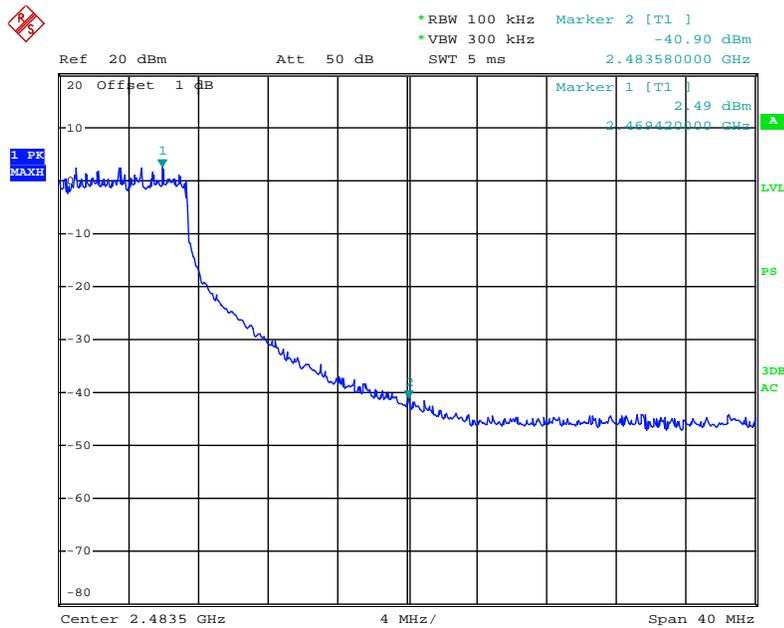
Date: 28.JUL.2011 21:15:41

### 802.11n-HT20: Band Edge, Left Side, Chain 0



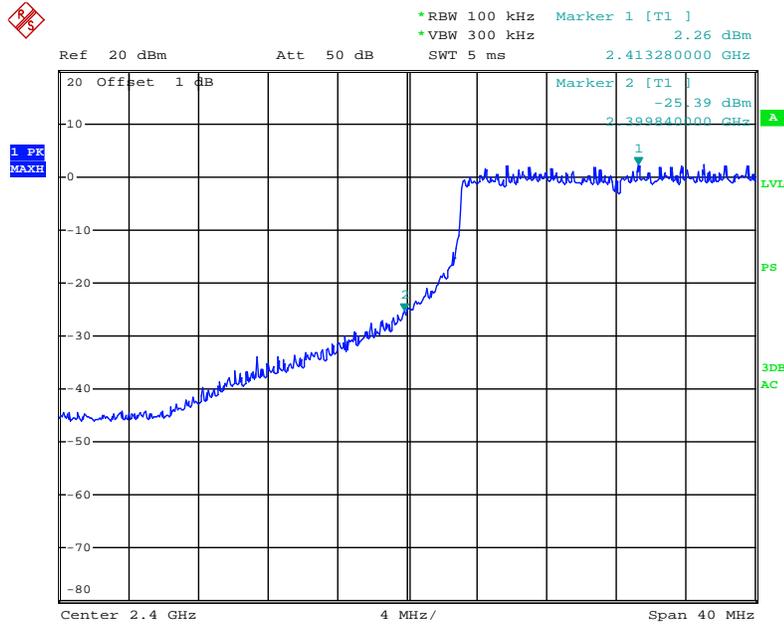
Date: 28.JUL.2011 21:12:59

### 802.11n-HT20: Band Edge, Right Side, Chain 0



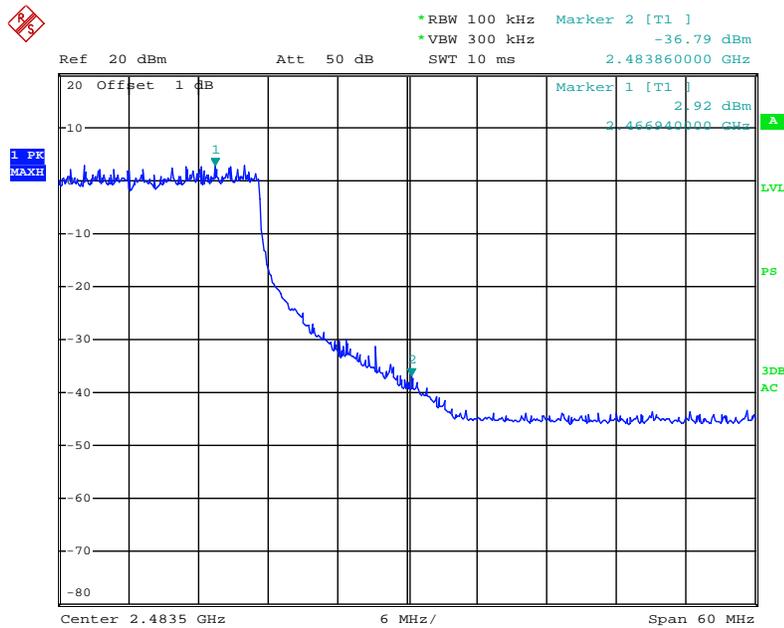
Date: 28.JUL.2011 21:14:11

### 802.11n-HT20: Band Edge, Left Side, Chain 1



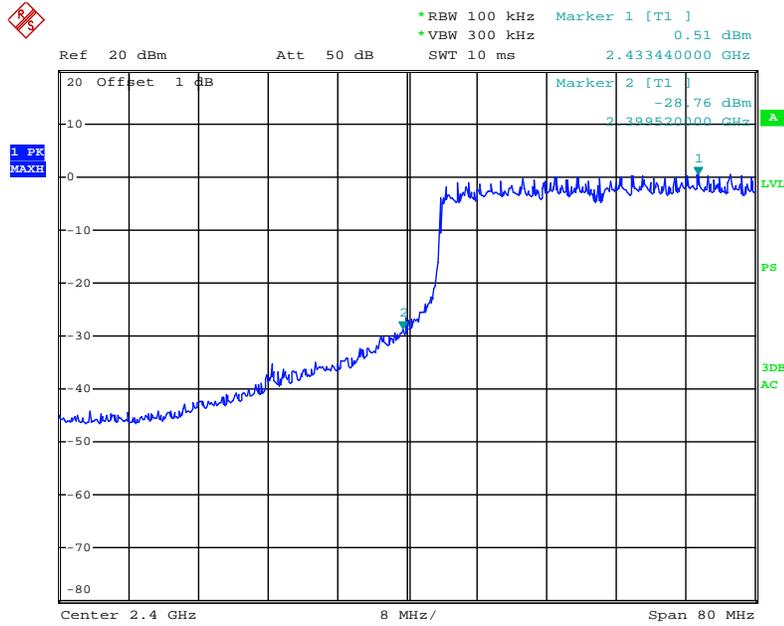
Date: 1.AUG.2011 10:28:33

### 802.11n-HT20: Band Edge, Right Side, Chain 1



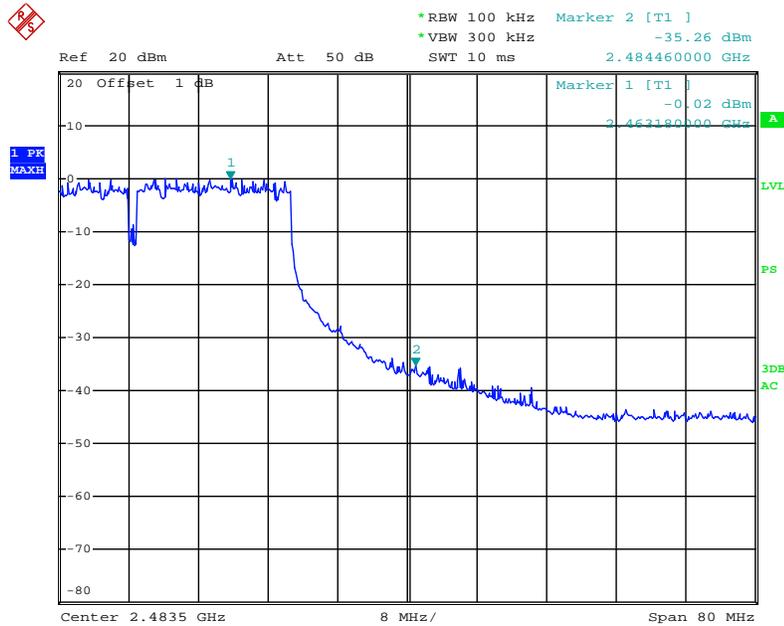
Date: 1.AUG.2011 10:21:03

### 802.11n-HT40: Band Edge, Left Side, Chain 0



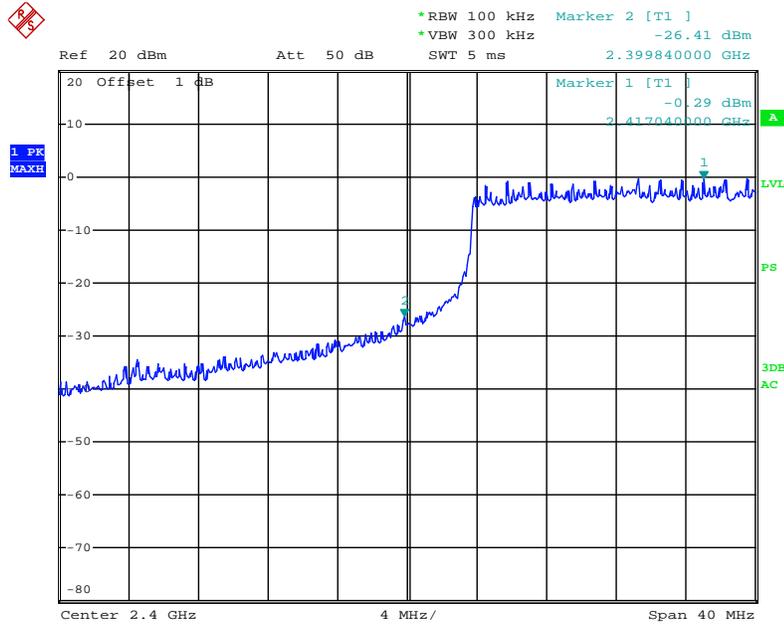
Date: 28.JUL.2011 21:10:54

### 802.11n-HT40: Band Edge, Right Side, Chain 0



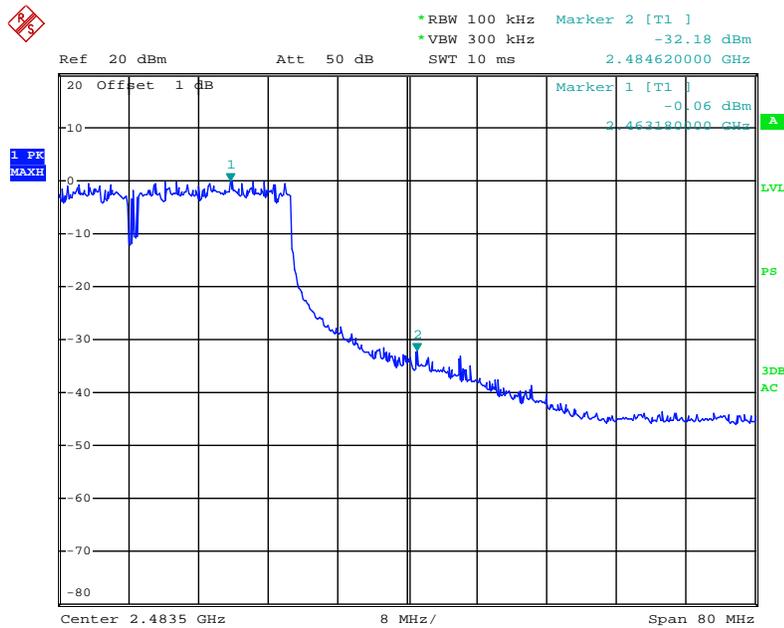
Date: 28.JUL.2011 21:09:32

### 802.11n-HT40: Band Edge, Left Side, Chain 1



Date: 1.AUG.2011 10:32:50

### 802.11n-HT40: Band Edge, Right Side, Chain 1



Date: 1.AUG.2011 10:54:27

## FCC §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 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 Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2010-11-11	2011-11-10

\* **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 Data

#### Environmental Conditions

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

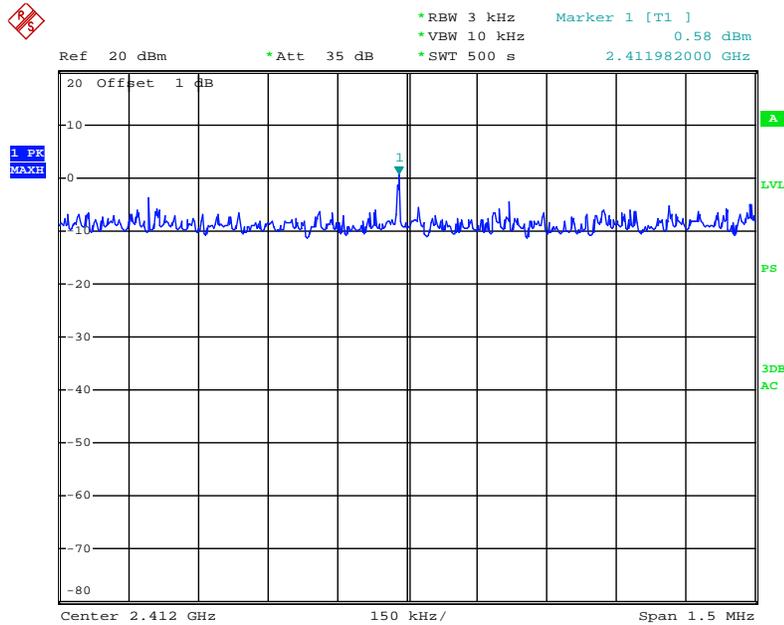
*The testing was performed by Allan An on 2011-07-27 to 2011-09-30.*

*Test Mode: Transmitting*

**Test Result: Pass**

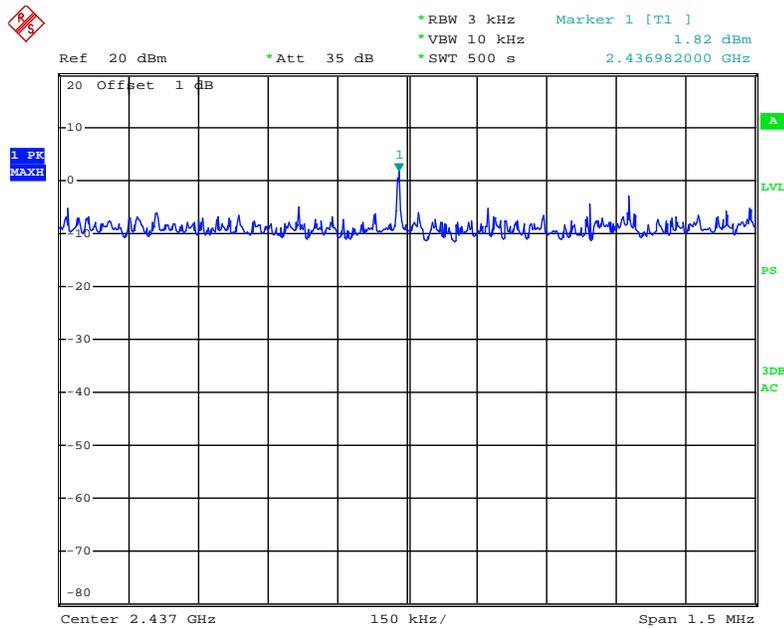
Channel	Frequency (MHz)	Antenna Port	Power Spectral Density (dBm)	Total Power Spectral Density (dBm)	Limit (dBm)	Result
802.11b mode						
Low	2412	Chain 0	0.58	0.58	8	Pass
Middle	2437	Chain 0	1.82	1.82	8	Pass
High	2462	Chain 0	0.48	0.48	8	Pass
802.11g mode						
Low	2412	Chain 0	-4.45	-4.45	8	Pass
Middle	2437	Chain 0	-4.63	-4.63	8	Pass
High	2462	Chain 0	-3.55	-3.55	8	Pass
802.11n-HT20 mode						
Low	2412	Chain 0	-5.43	-1.81	8	Pass
Low	2412	Chain 1	-4.28			
Middle	2437	Chain 0	-4.94	-1.91	8	Pass
Middle	2437	Chain 1	-4.91			
High	2462	Chain 0	-5.34	-1.67	8	Pass
High	2462	Chain 1	-4.11			
802.11n-HT40 mode						
Low	2422	Chain 0	-5.41	-1.87	8	Pass
Low	2422	Chain 1	-4.40			
Middle	2437	Chain 0	-4.57	-1.39	8	Pass
Middle	2437	Chain 1	-4.23			
High	2452	Chain 0	-4.26	-1.13	8	Pass
High	2452	Chain 1	-4.03			

### Power Spectral Density, 802.11b Low Channel



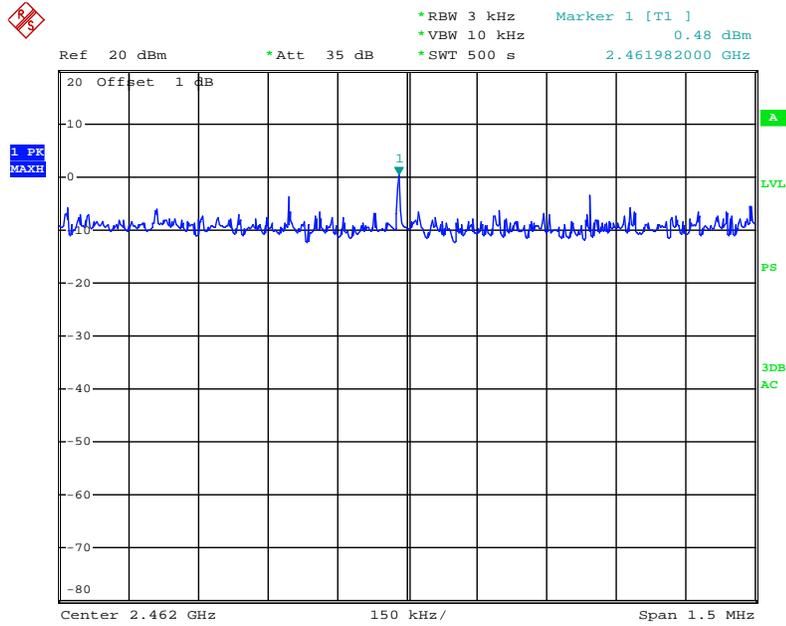
Date: 27.JUL.2011 20:46:29

### Power Spectral Density, 802.11b Middle Channel



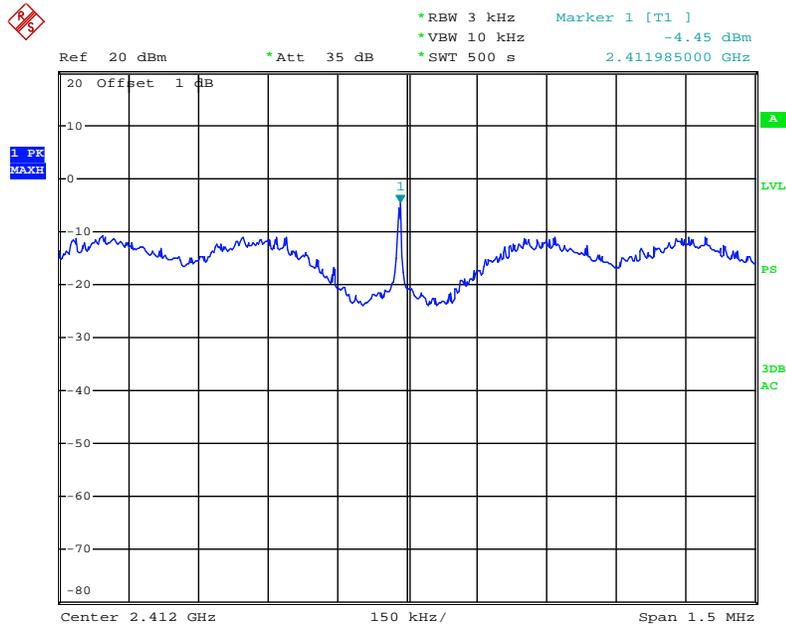
Date: 27.JUL.2011 20:36:57

### Power Spectral Density, 802.11b High Channel



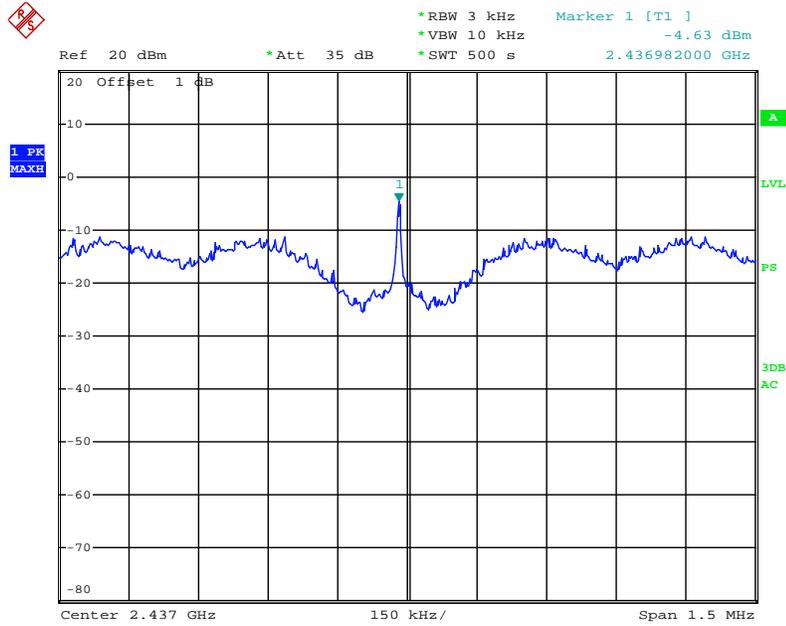
Date: 27.JUL.2011 20:27:28

### Power Spectral Density, 802.11g Low Channel



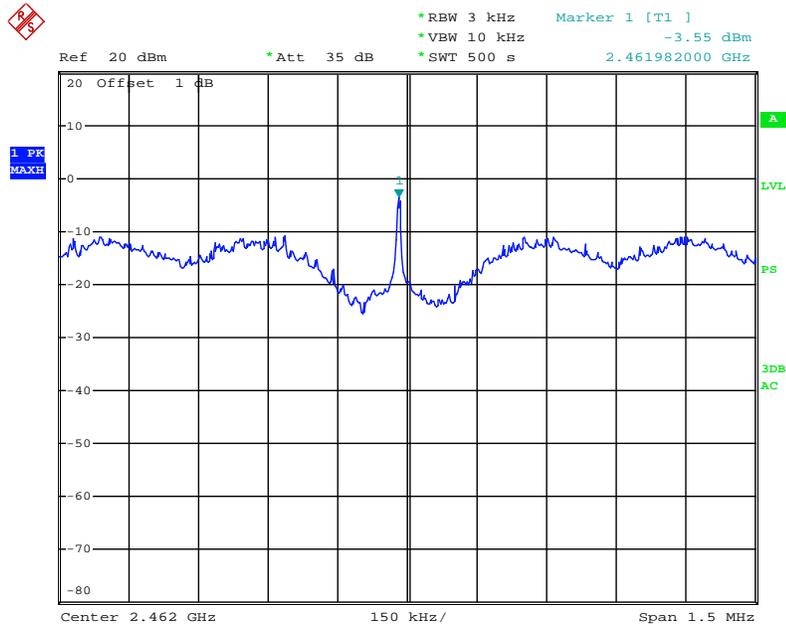
Date: 27.JUL.2011 19:58:37

### Power Spectral Density, 802.11g Middle Channel



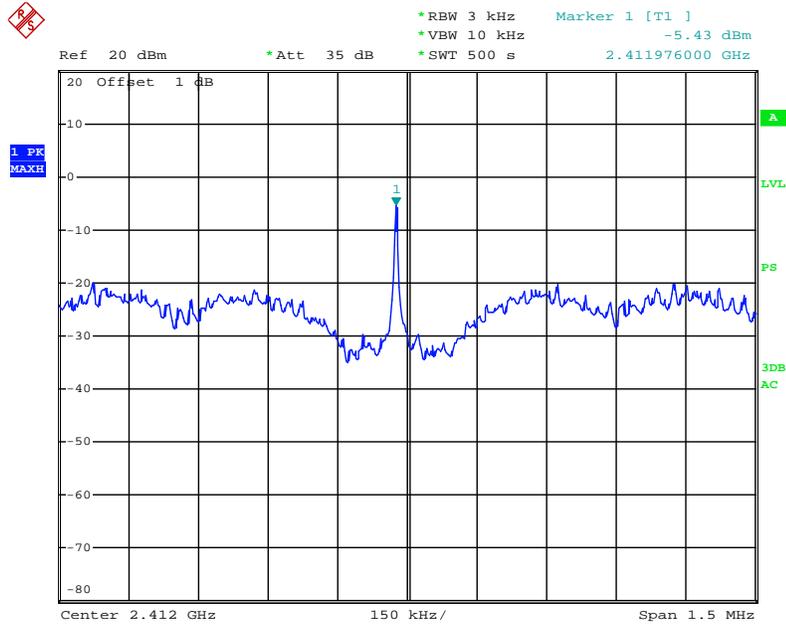
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### Power Spectral Density, 802.11g High Channel



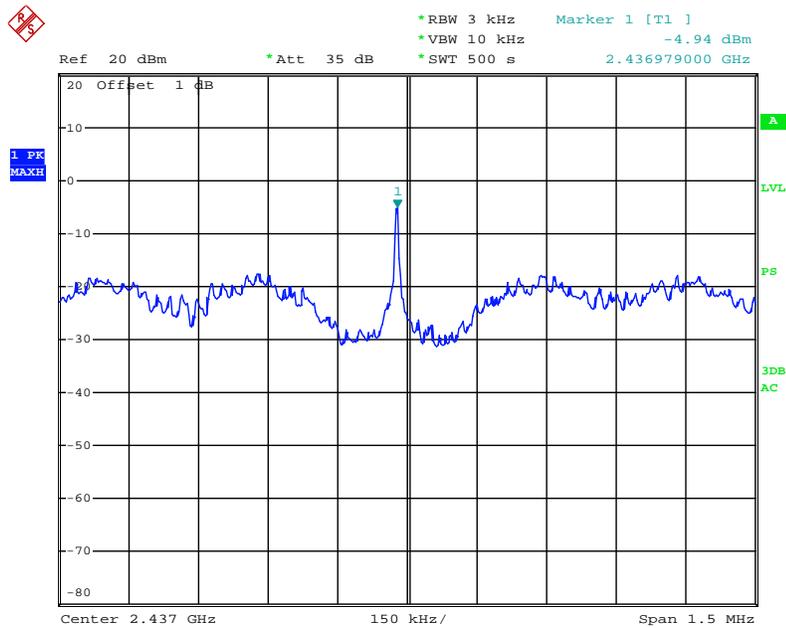
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### Power Spectral Density, 802.11n-HT20 Low Channel, Chain 0



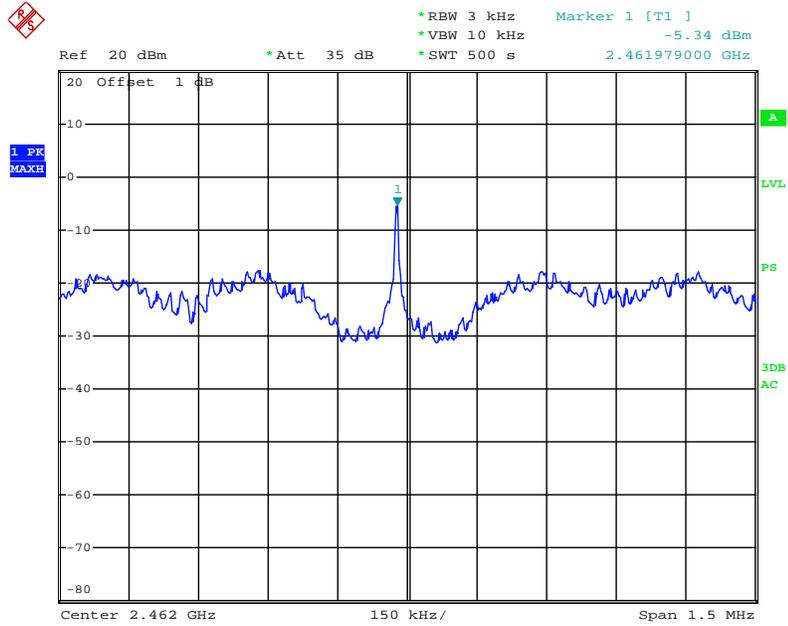
Date: 30.SEP.2011 17:48:08

### Power Spectral Density, 802.11n-HT20 Middle Channel, Chain 0



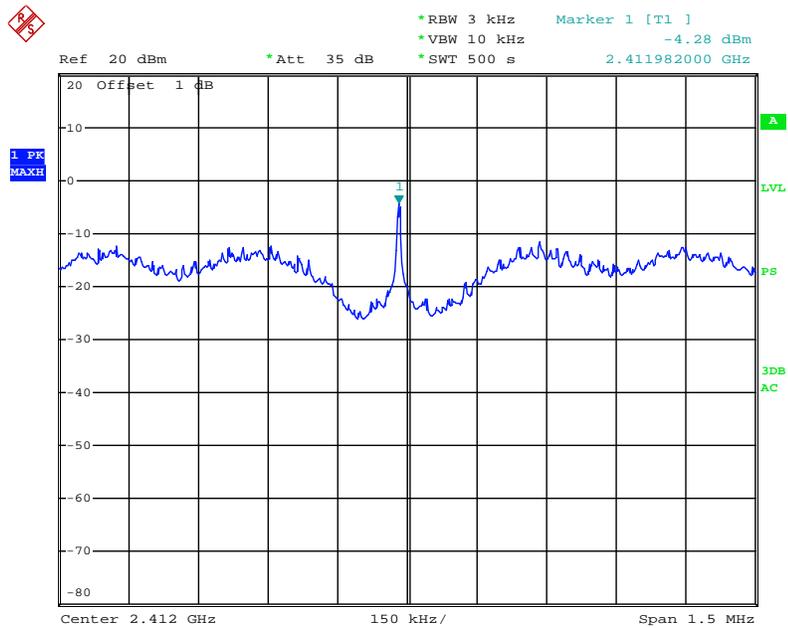
Date: 30.SEP.2011 15:06:11

### Power Spectral Density, 802.11n-HT20 High Channel, Chain 0



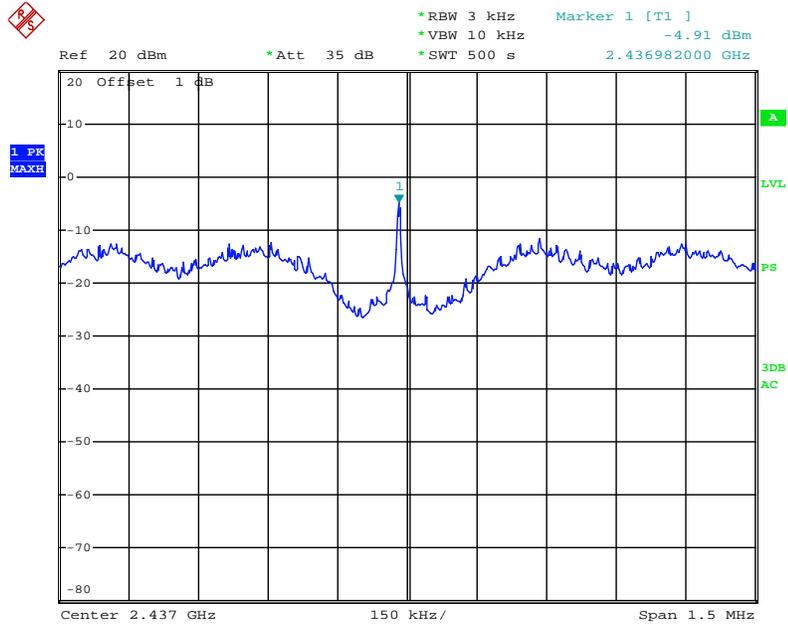
Date: 30.SEP.2011 15:22:15

### Power Spectral Density, 802.11n-HT20 Low Channel, Chain 1



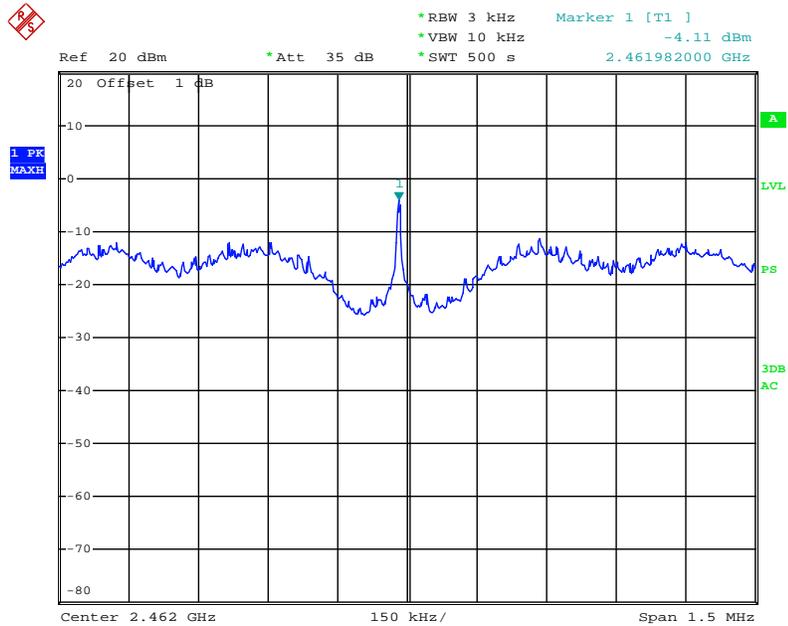
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### Power Spectral Density, 802.11n-HT20 Middle Channel, Chain 1



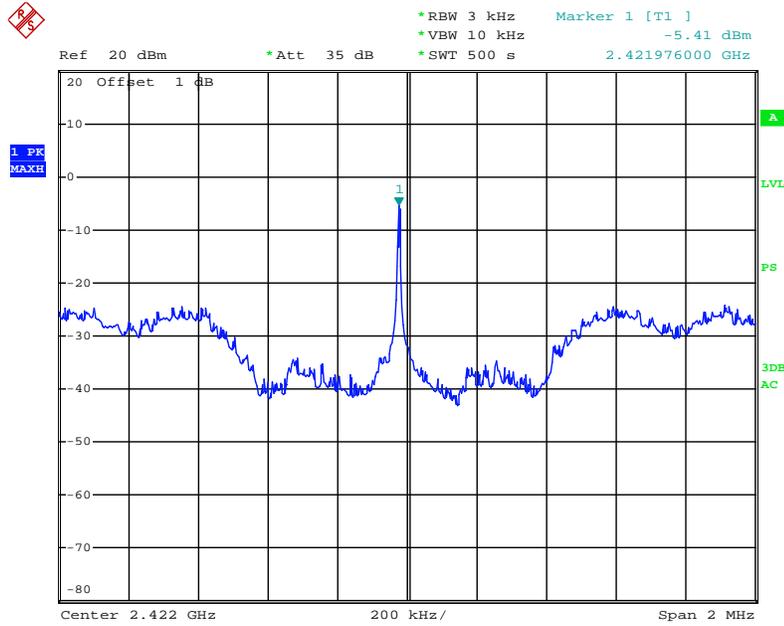
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### Power Spectral Density, 802.11n-HT20 High Channel, Chain 1



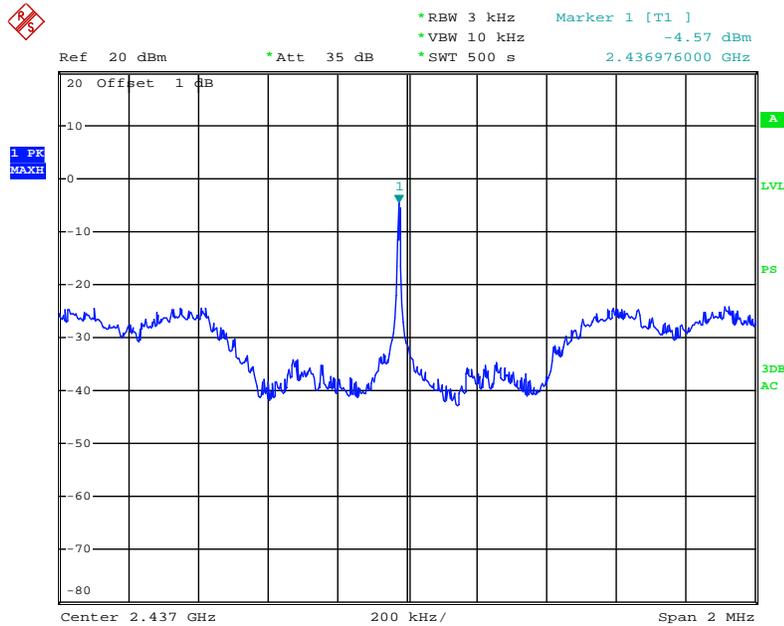
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### Power Spectral Density, 802.11n-HT40 Low Channel, Chain 0



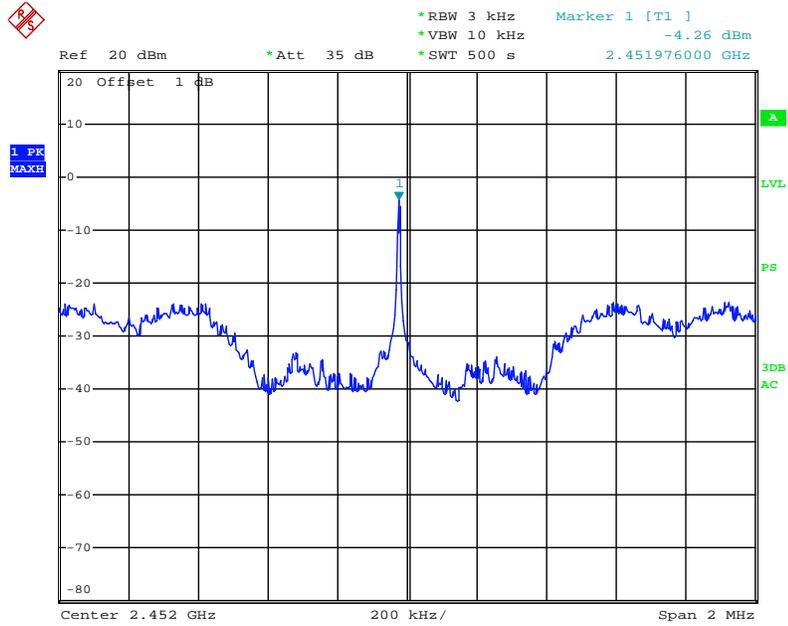
Date: 30.SEP.2011 16:13:43

### Power Spectral Density, 802.11n-HT40 Middle Channel, Chain 0



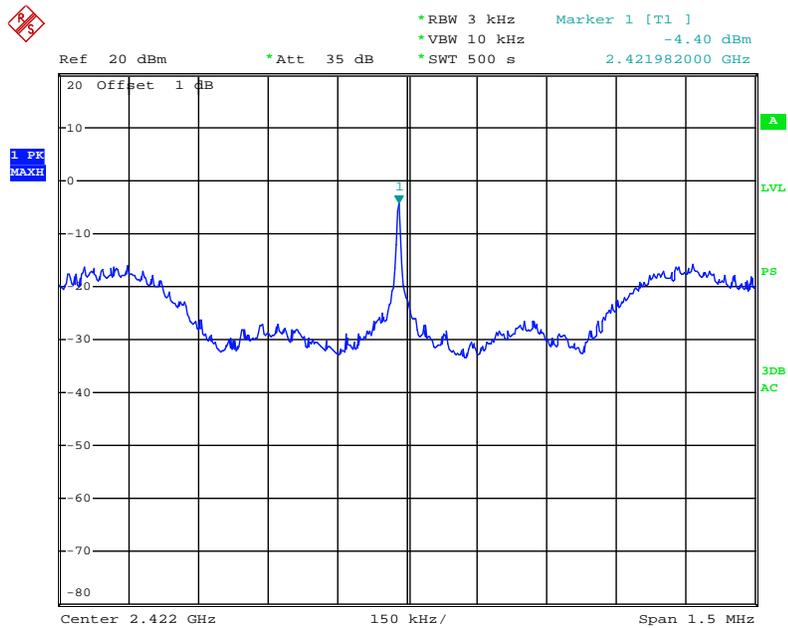
Date: 30.SEP.2011 16:33:18

### Power Spectral Density, 802.11n-HT40 High Channel, Chain 0



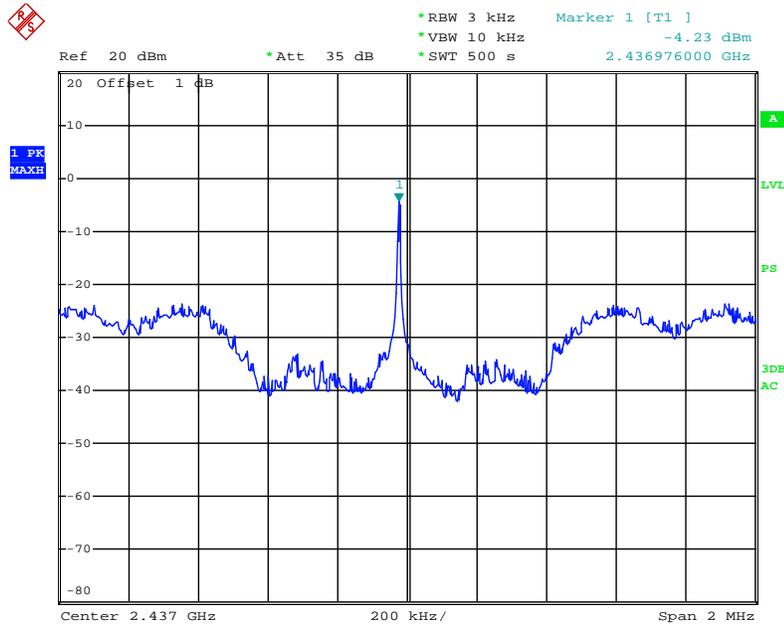
Date: 30.SEP.2011 16:42:59

### Power Spectral Density, 802.11n-HT40 Low Channel, Chain 1



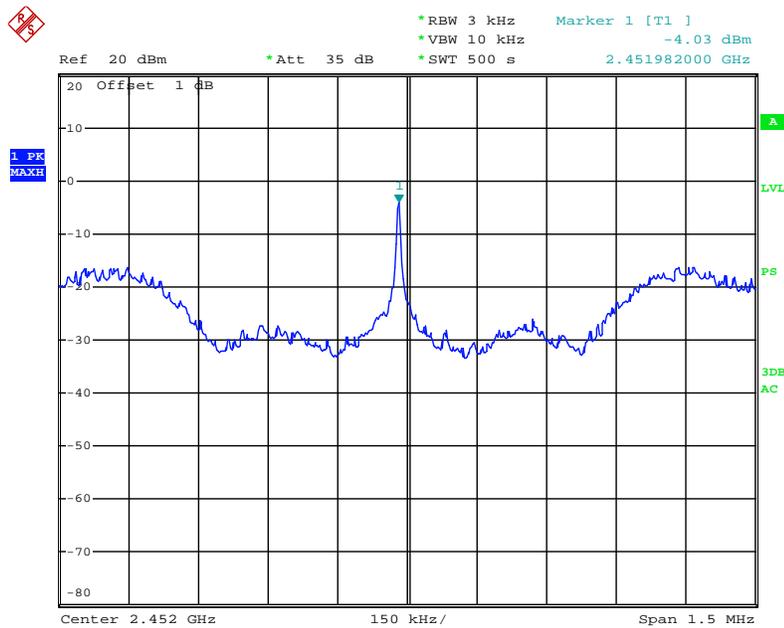
Date: 27.JUL.2011 21:50:24

### Power Spectral Density, 802.11n-HT40 Middle Channel, Chain 1



Date: 30.SEP.2011 16:24:22

### Power Spectral Density, 802.11n-HT40 High Channel, Chain 1



Date: 27.JUL.2011 21:31:51

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