FCC PART 15.247

TEST REPORT

For

Coby Communications Ltd.

Unit C-E, 8/F, PO Shau Centre,115 How Ming Street , Kwun Tong Kowloon ,Hong Kong

FCC ID: S7IMID4331

Report Type:	**Product Type:**
Original Report	Mobile Internet Device

Test Engineer:	Ares Liu
Report Number:	R2DG130109001-00
Report Date:	2013-02-04
Reviewed By:	Ivan Cao RF Leader
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

TABLE OF CONTENTS

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Coby Communications Ltd.*'s product, model number: MID4331 *(FCC ID: S7IMID4331) or* ("EUT") in this report is a *Mobile Internet Device*, which was measured approximately: 14.0 cm (L) x8.0cm (W) x1.0cm (H), rated input voltage: DC 3.7V from lithium battery or DC 5V from adapter.

Adapter Information: DVE
MODEL: DSA-5PFK-05 FUS 050100a
INPUT: 100-240Vac, 50/60Hz, 0.2A
OUTPUT: 5.0VDC, 1A

Note: the series product, model MID4331, MID4330 are electrically identical, the difference between them is just the model name, we selected MID4331 for fully testing, the details was explained in the attached declaration letter.

** All measurement and test data in this report was gathered from production sample serial number: 130109001 (Assigned by BACL, Dongguan). The EUT was received on 2013-01-09.*

Objective

This report is prepared on behalf of *Coby Communications 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 the compliance of the EUT with FCC Part 15-Subpart C, section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Related Submittal(s)/Grant(s)

No related submittals/grants.

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. (Dongguan). 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 ±0.96 dB, the uncertainty of any radiation on emissions measurement is:
30M~200MHz: 5.0 dB
200M~1GHz: 6.2 dB
1G~6GHz: 4.45 dB
6G~18GHz: 5.23 dB
and the uncertainty will not be taken into consideration for all the test data recorded in the report.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China

Test site at Bay Area Compliance Laboratories Corp. (Dongguan) 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 February 02, 2012. 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.: 273710. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

For 802.11b, 802.11g, and 802.11n20 mode, 11 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 was tested with Channel 1, 6 and 11.

For 802.11n40 mode, 9 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2422	5	2442
2	2427	6	2447
3	2432	7	2452
4	2437	/	/

EUT was tested with Channel 1, 4 and 7.

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

EUT Exercise Software

The test was performed under "*MP_TESTTOOL*", which was provided by the manufacturer.

Equipment Modifications

No equipment modifications used.

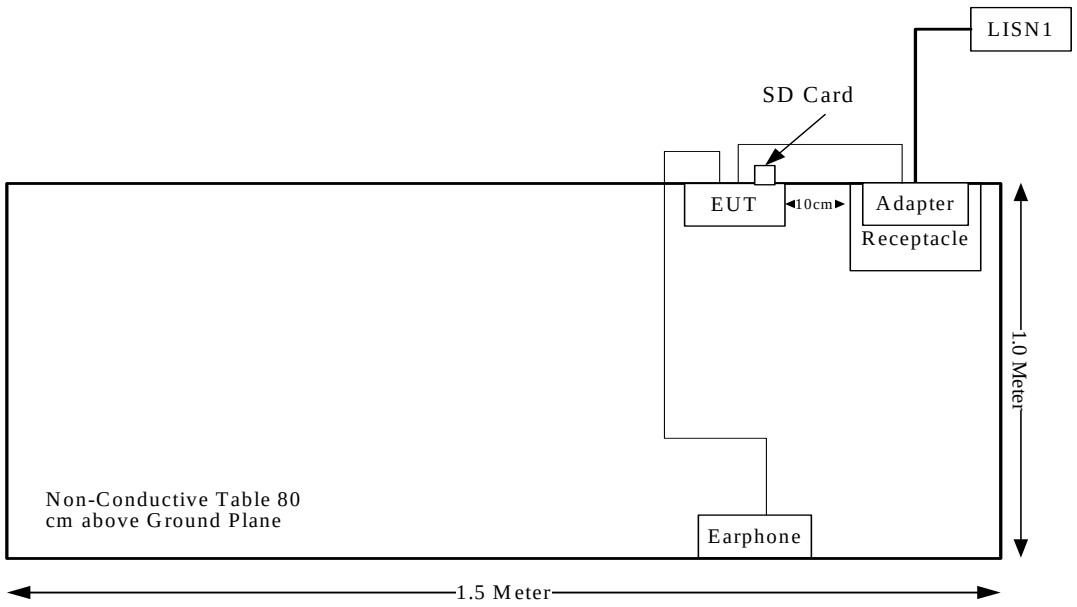
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Kinston	SD Card	4G	/

External Cable

Cable Description	Length (m)	From Port	To
Shielded Detachable USB Cable	0.8	adapter	EUT

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1307, §2.1093	RF Exposure	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 §1.1307 (b) (1) & §2.1093- RF EXPOSURE

Applicable Standard

According to§15.247(e)(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to KDB 447498 D01 Mobile Portable RF Exposure V05 Appendix A, SAR can be exempted if the output power is less than the SAR exclusion threshold:

For f=2450MHz, the output power is less 10mW at distance of 5mm.

Measurement Result

Peak conducted output power= 9.37 dBm
Antenna gain =1 dBi
SAR exclusion threshold 10 mW (10dBm) > 9.37 dBm

So the SAR evaluation is not necessary.

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

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.

Antenna Connector Construction

The EUT has an Internal Antenna soldered on the print circuit board, which complied with 15.203, the maximum gain is 1.0 dBi, please refer to the internal photos.

Result: Compliance.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

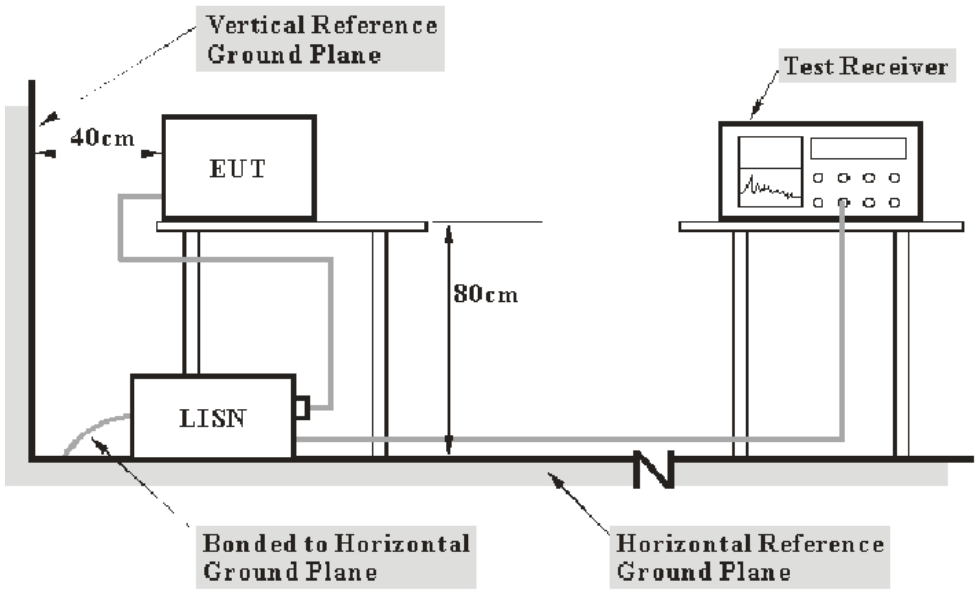
FCC§15.207

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 CISPR 16-4-2, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at Bay Area Compliance Laboratory Corp. (Dongguan) is 3.46 dB (k=2, 95% level of confidence), and the uncertainty will not be taken into consideration for all the test data recorded in the report.

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 spacing between the peripherals was 10 cm.

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:

Frequency Range	***IF B/W***
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
R&S	EMI Test Receiver	ESCS 30	830245/006	2012-11-29	2013-11-28
R&S	LISN1	ESH3-Z5	843331/015	2012-09-17	2013-09-16
R&S	LISN2	ESH3-Z5	100113	2012-11-29	2013-11-28

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:

11.52 dB at **0.200 MHz** in the **Neutral** conducted mode.

Test Data

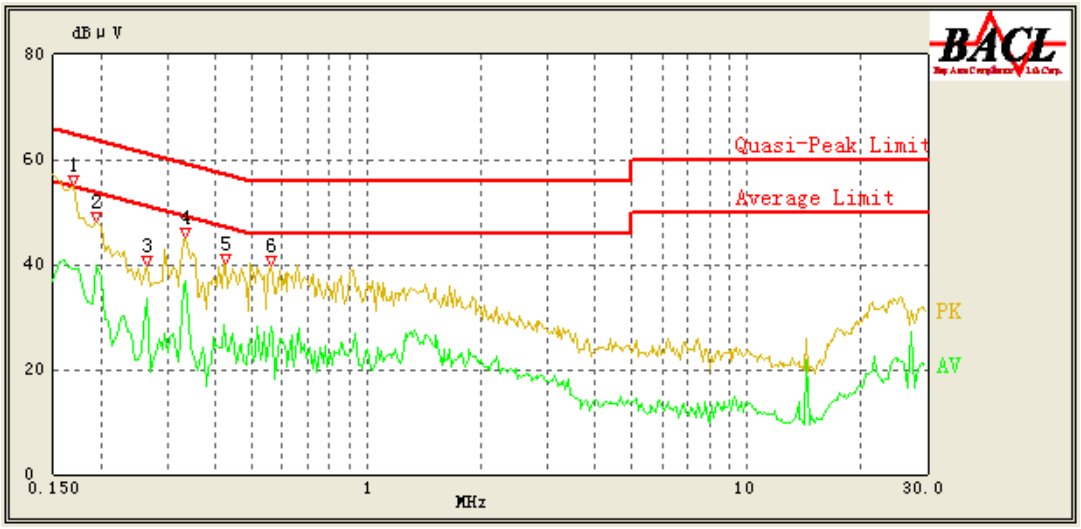
Environmental Conditions

Temperature:	19.8 ° C
Relative Humidity:	42 %
ATM Pressure:	101.6 kPa

The testing was performed by Ares Liu on 2013-01-15.

Test Mode: Transmitting

AC 120V/60 Hz, Line



Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/ QP/Ave.)
0.170	50.29	1.03	65.43	15.14	QP
0.170	39.04	1.03	55.43	16.39	AV
0.195	43.59	0.98	64.71	21.12	QP
0.195	39.80	0.98	54.71	14.91	AV
0.265	36.35	0.87	62.71	26.36	QP
0.265	33.62	0.87	52.71	19.09	AV
0.335	40.63	0.76	60.71	20.08	QP
0.335	36.69	0.76	50.71	14.02	AV
0.425	34.31	0.63	58.14	23.83	QP
0.425	25.37	0.63	48.14	22.77	AV
0.560	32.56	0.50	56.00	23.44	QP
0.560	28.09	0.50	46.00	17.91	AV

AC 120V/60 Hz, Neutral

Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/ QP/Ave.)
0.200	45.89	1.58	64.57	18.68	QP
0.200	43.05	1.58	54.57	11.52	AV
0.330	42.42	0.99	60.86	18.44	QP
0.330	34.41	0.99	50.86	16.45	AV
0.465	37.17	0.64	57.00	19.83	QP
0.465	29.33	0.64	47.00	17.67	AV
0.670	36.83	0.44	56.00	19.17	QP
0.665	32.15	0.44	46.00	13.85	AV
0.930	34.52	0.27	56.00	21.48	QP
0.930	28.86	0.27	46.00	17.14	AV
1.285	33.43	0.24	56.00	22.57	QP
1.285	27.91	0.24	46.00	18.09	AV

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

Applicable Standard

FCC §15.247 (d); §15.209; §15.205;

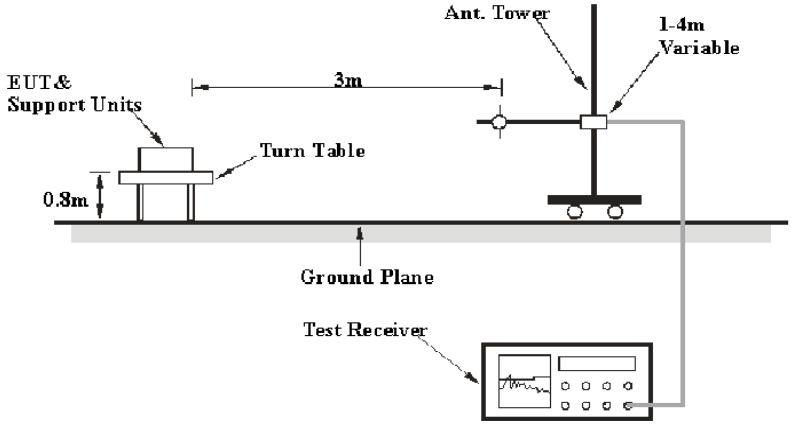
Measurement Uncertainty

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.

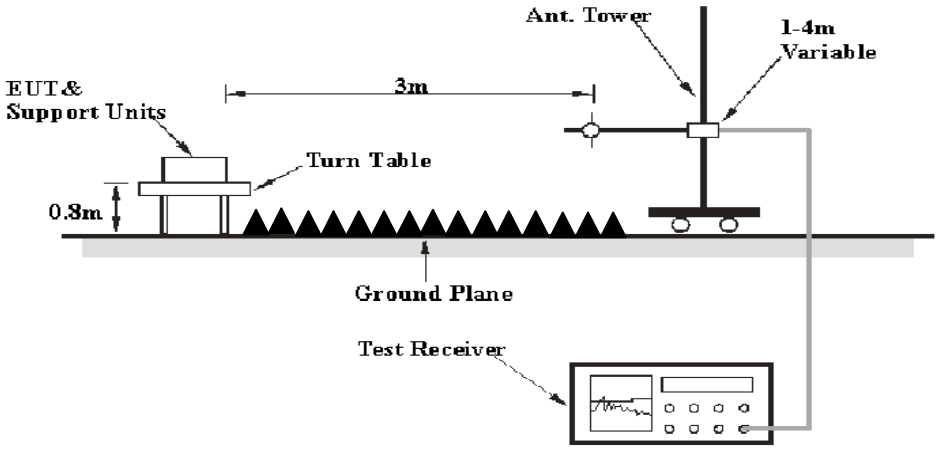
Based on CISPR 16-4-2, measurement uncertainty of radiated emission at a distance of 3m at Bay Area Compliance Laboratories Corp. (Dongguan) is:
30M~200MHz: 5.0 dB
200M~1GHz: 6.2 dB
1G~6GHz: 4.45 dB
6G~18GHz: 5.23 dB
and the uncertainty will not be taken into consideration for all the test data recorded in the report.

EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2009. 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 spacing between the peripherals was 10 cm.

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:

Frequency Range	***RBW***	***Video B/W***	***Detector***
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 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-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:

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. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2012-05-14	2013-05-13
Sunol Sciences	Hybrid Antennas	JB3	A060611-1	2011-09-06	2013-09-05
HP	Pre-amplifier	8447E	2434A02181	2012-10-08	2013-10-07
R&S	Spectrum Analyzer	FSEM 30	DE31388	2012-03-15	2013-03-14
ETS-LINDGREN	Horn Antenna	3115	000 527 35	2012-09-06	2014-09-05
Mini-Circuit	Amplifier	ZVA-213-S+	054201245	2012-12-30	2013-12-29

Test Results Summary

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

2.42 dB at **4924 MHz** in the **Horizontal** polarization of 802.11b mode

Test Data

Environmental Conditions

Temperature:	22.1 ° C
Relative Humidity:	61 %
ATM Pressure:	101.5 kPa

The testing was performed by Ares Liu on 2013-01-22.

Mode: Transmitting

802.11b Mode:

Frequency	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	FCC 15.247	
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB(1/m))				Limit (dBμV/m)	Margin (dB)
Low Channel:2412MHz									
2412	66.53	AV	H	25.67	3.93	0.00	96.13	N/A	N/A
2412	71.23	PK	H	25.67	3.93	0.00	100.83	N/A	N/A
2412	63.18	AV	V	25.67	3.93	0.00	92.78	N/A	N/A
2412	67.96	PK	V	25.67	3.93	0.00	97.56	N/A	N/A
4824	15.75	AV	H	30.64	4.73	0.00	51.12	54.00	2.88
179.38	47.6	QP	H	11.37	1.60	21.45	39.12	43.50	4.38
4824	28.58	PK	H	30.64	4.73	0.00	63.95	74.00	10.05
2390	14.39	AV	H	25.61	3.84	0.00	43.84	54.00	10.16
9648	18.52	AV	V	36.06	8.70	26.06	37.22	54.00	16.78
2390	27.65	PK	H	25.61	3.84	0.00	57.10	74.00	16.90
7236	18.32	AV	H	34.17	6.56	26.36	32.69	54.00	21.31
9648	32.43	PK	V	36.06	8.70	26.06	51.13	74.00	22.87
7236	32.55	PK	H	34.17	6.56	26.36	46.92	74.00	27.08
3272.5	18.16	AV	H	28.07	4.97	27.42	23.78	54.00	30.22
3272.5	32.03	PK	H	28.07	4.97	27.42	37.65	74.00	36.35
Middle Channel:2437MHz									
2437	66.79	AV	H	25.74	3.98	0.00	96.51	N/A	N/A
2437	71.81	PK	H	25.74	3.98	0.00	101.53	N/A	N/A
2437	63.87	AV	V	25.74	3.98	0.00	93.59	N/A	N/A
2437	68.35	PK	V	25.74	3.98	0.00	98.07	N/A	N/A
4874	16.02	AV	H	30.77	4.76	0.00	51.55	54.00	2.45
179.39	47.6	QP	H	11.37	1.60	21.45	39.12	43.50	4.38
4874	28.9	PK	H	30.77	4.76	0.00	64.43	74.00	9.57
9748	18.11	AV	V	36.30	8.60	25.68	37.33	54.00	16.67
7311	18.26	AV	H	34.35	6.70	26.51	32.80	54.00	21.20
9748	32.46	PK	V	36.30	8.60	25.68	51.68	74.00	22.32
6628.3	19.34	AV	V	32.63	5.57	27.03	30.51	54.00	23.49
7311	32.13	PK	H	34.35	6.70	26.51	46.67	74.00	27.33
6628.3	34.28	PK	V	32.63	5.57	27.03	45.45	74.00	28.55
3272.6	18.27	AV	H	28.07	4.96	27.42	23.88	54.00	30.12
3272.6	32.09	PK	H	28.07	4.96	27.42	37.70	74.00	36.30
High Channel:2462MHz									
2462	66.81	AV	H	25.80	3.93	0.00	96.54	N/A	N/A
2462	71.55	PK	H	25.80	3.93	0.00	101.28	N/A	N/A
2462	61.93	AV	V	25.80	3.93	0.00	91.66	N/A	N/A
2462	66.67	PK	V	25.80	3.93	0.00	96.40	N/A	N/A
4924	15.98	AV	H	30.90	4.70	0.00	51.58	54.00	2.42
179.41	47.5	QP	H	11.37	1.60	21.45	39.02	43.50	4.48
4924	30.71	PK	H	30.90	4.70	0.00	66.31	74.00	7.69
2483.5	14.27	AV	H	25.86	3.80	0.00	43.93	54.00	10.07
9848	18.41	AV	V	36.54	8.49	25.49	37.95	54.00	16.05
2483.5	27.65	PK	H	25.86	3.80	0.00	57.31	74.00	16.69
7386	18.34	AV	H	34.53	6.84	26.66	33.05	54.00	20.95
9848	32.75	PK	V	36.54	8.49	25.49	52.29	74.00	21.71
7386	32.67	PK	H	34.53	6.84	26.66	47.38	74.00	26.62
3272.4	18.51	AV	H	28.07	4.97	27.42	24.13	54.00	29.87
3272.4	32.39	PK	H	28.07	4.97	27.42	38.01	74.00	35.99

802.11g Mode:

Frequency	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	FCC 15.247	
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB(1/m))				Limit (dBμV/m)	Margin (dB)
Low Channel:2412MHz									
2412	56.78	AV	H	25.67	3.93	0.00	86.38	N/A	N/A
2412	68.54	PK	H	25.67	3.93	0.00	98.14	N/A	N/A
2412	53.08	AV	V	25.67	3.93	0.00	82.68	N/A	N/A
2412	64.00	PK	V	25.67	3.93	0.00	93.60	N/A	N/A
179.35	47.6	QP	H	11.37	1.60	21.45	39.12	43.50	4.38
4824	13.86	AV	H	30.64	4.73	0.00	49.23	54.00	4.77
2390	17.11	AV	H	25.61	3.84	0.00	46.56	54.00	7.44
2390	35.44	PK	H	25.61	3.84	0.00	64.89	74.00	9.11
4824	28.16	PK	H	30.64	4.73	0.00	63.53	74.00	10.47
9648	18.13	AV	V	36.06	8.70	26.06	36.83	54.00	17.17
7236	18.34	AV	H	34.17	6.56	26.36	32.71	54.00	21.29
9648	32.26	PK	V	36.06	8.70	26.06	50.96	74.00	23.04
7236	32.28	PK	H	34.17	6.56	26.36	46.65	74.00	27.35
3272.6	18.54	AV	H	28.07	4.96	27.42	24.15	54.00	29.85
3272.6	33.05	PK	H	28.07	4.96	27.42	38.66	74.00	35.34
Middle Channel:2437MHz									
2437	57.93	AV	H	25.74	3.98	0.00	87.65	N/A	N/A
2437	68.55	PK	H	25.74	3.98	0.00	98.27	N/A	N/A
2437	53.15	AV	V	25.74	3.98	0.00	82.87	N/A	N/A
2437	63.79	PK	V	25.74	3.98	0.00	93.51	N/A	N/A
180.11	47.5	QP	H	11.36	1.60	21.45	39.01	43.50	4.49
4874	13.89	AV	H	30.77	4.76	0.00	49.42	54.00	4.58
4874	28.95	PK	H	30.77	4.76	0.00	64.48	74.00	9.52
9748	18.34	AV	V	36.30	8.60	25.68	37.56	54.00	16.44
7311	18.42	AV	H	34.35	6.70	26.51	32.96	54.00	21.04
9748	32.64	PK	V	36.30	8.60	25.68	51.86	74.00	22.14
6675.4	19.69	AV	H	32.76	5.64	27.15	30.94	54.00	23.06
7311	32.25	PK	H	34.35	6.70	26.51	46.79	74.00	27.21
6675.4	34.28	PK	H	32.76	5.64	27.15	45.53	74.00	28.47
3272.5	18.75	AV	H	28.07	4.97	27.42	24.37	54.00	29.63
3272.5	32.96	PK	H	28.07	4.97	27.42	38.58	74.00	35.42
High Channel:2462MHz									
2462	57.64	AV	H	25.80	3.93	0.00	87.37	N/A	N/A
2462	68.32	PK	H	25.80	3.93	0.00	98.05	N/A	N/A
2462	53.1	AV	V	25.80	3.93	0.00	82.83	N/A	N/A
2462	63.87	PK	V	25.80	3.93	0.00	93.60	N/A	N/A
4924	13.91	AV	H	30.90	4.70	0.00	49.51	54.00	4.49
179.36	47.3	QP	H	11.37	1.60	21.45	38.82	43.50	4.68
2483.5	15.72	AV	H	25.86	3.80	0.00	45.38	54.00	8.62
4924	28.87	PK	H	30.90	4.70	0.00	64.47	74.00	9.53
2483.5	33.25	PK	H	25.86	3.80	0.00	62.91	74.00	11.09
9848	18.24	AV	H	36.54	8.49	25.49	37.78	54.00	16.22
7386	18.22	AV	H	34.53	6.84	26.66	32.93	54.00	21.07
9848	32.05	PK	H	36.54	8.49	25.49	51.59	74.00	22.41
7386	32.67	PK	H	34.53	6.84	26.66	47.38	74.00	26.62
3273.5	18.34	AV	H	28.08	4.95	27.42	23.95	54.00	30.05
3273.5	32.51	PK	H	28.08	4.95	27.42	38.12	74.00	35.88

802.11n20 Mode:

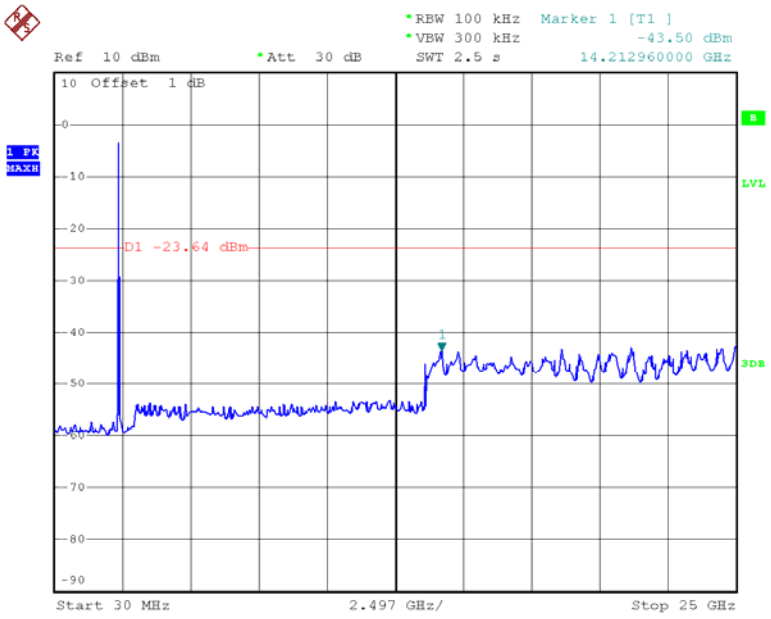
Frequency	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	FCC 15.247	
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB(1/m))				Limit (dBμV/m)	Margin (dB)
Low Channel:2412MHz									
2412	56.78	AV	H	25.67	3.93	0.00	86.38	N/A	N/A
2412	68.54	PK	H	25.67	3.93	0.00	98.14	N/A	N/A
2412	53.08	AV	V	25.67	3.93	0.00	82.68	N/A	N/A
2412	64	PK	V	25.67	3.93	0.00	93.60	N/A	N/A
4824	13.86	AV	H	30.64	4.73	0.00	49.23	54.00	4.77
179.14	46.9	QP	H	11.37	1.60	21.45	38.42	43.50	5.08
2390	17.11	AV	H	25.61	3.84	0.00	46.56	54.00	7.44
2390	35.44	PK	H	25.61	3.84	0.00	64.89	74.00	9.11
4824	28.16	PK	H	30.64	4.73	0.00	63.53	74.00	10.47
9648	18.13	AV	V	36.06	8.70	26.06	36.83	54.00	17.17
7236	18.34	AV	H	34.17	6.56	26.36	32.71	54.00	21.29
9648	32.26	PK	V	36.06	8.70	26.06	50.96	74.00	23.04
7236	32.28	PK	H	34.17	6.56	26.36	46.65	74.00	27.35
3272.6	18.54	AV	H	28.07	4.96	27.42	24.15	54.00	29.85
3272.6	33.05	PK	H	28.07	4.96	27.42	38.66	74.00	35.34
Middle Channel:2437MHz									
2437	57.93	AV	H	25.74	3.98	0.00	87.65	N/A	N/A
2437	68.55	PK	H	25.74	3.98	0.00	98.27	N/A	N/A
2437	53.15	AV	V	25.74	3.98	0.00	82.87	N/A	N/A
2437	63.79	PK	V	25.74	3.98	0.00	93.51	N/A	N/A
179.23	47.5	QP	H	11.37	1.60	21.45	39.02	43.50	4.48
4874	13.89	AV	H	30.77	4.76	0.00	49.42	54.00	4.58
4874	28.95	PK	H	30.77	4.76	0.00	64.48	74.00	9.52
9748	18.34	AV	V	36.30	8.60	25.68	37.56	54.00	16.44
7311	18.42	AV	H	34.35	6.70	26.51	32.96	54.00	21.04
9748	32.64	PK	V	36.30	8.60	25.68	51.86	74.00	22.14
6675.4	19.69	AV	H	32.76	5.64	27.15	30.94	54.00	23.06
7311	32.25	PK	H	34.35	6.70	26.51	46.79	74.00	27.21
6675.4	34.28	PK	H	32.76	5.64	27.15	45.53	74.00	28.47
3272.5	18.75	AV	H	28.07	4.97	27.42	24.37	54.00	29.63
3272.5	32.96	PK	H	28.07	4.97	27.42	38.58	74.00	35.42
High Channel:2462MHz									
2462	57.64	AV	H	25.80	3.93	0.00	87.37	N/A	N/A
2462	68.32	PK	H	25.80	3.93	0.00	98.05	N/A	N/A
2462	53.1	AV	V	25.80	3.93	0.00	82.83	N/A	N/A
2462	63.87	PK	V	25.80	3.93	0.00	93.60	N/A	N/A
4924	13.91	AV	H	30.90	4.70	0.00	49.51	54.00	4.49
179.16	47.4	QP	H	11.37	1.60	21.45	38.92	43.50	4.58
2483.5	15.72	AV	H	25.86	3.80	0.00	45.38	54.00	8.62
4924	28.87	PK	H	30.90	4.70	0.00	64.47	74.00	9.53
2483.5	33.25	PK	H	25.86	3.80	0.00	62.91	74.00	11.09
9848	18.24	AV	V	36.54	8.49	25.49	37.78	54.00	16.22
7386	18.22	AV	H	34.53	6.84	26.66	32.93	54.00	21.07
9848	32.05	PK	V	36.54	8.49	25.49	51.59	74.00	22.41
7386	32.67	PK	H	34.53	6.84	26.66	47.38	74.00	26.62
3273.3	18.34	AV	H	28.07	4.95	27.42	23.94	54.00	30.06
3273.3	32.51	PK	H	28.07	4.95	27.42	38.11	74.00	35.89

802.11n40 Mode:

Frequency	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	FCC 15.247	
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB(1/m))				Limit (dBμV/m)	Margin (dB)
Low Channel:2422MHz									
2422	56.17	AV	H	25.70	3.95	0.00	85.82	N/A	N/A
2422	67.52	PK	H	25.70	3.95	0.00	97.17	N/A	N/A
2422	52.48	AV	V	25.70	3.95	0.00	82.13	N/A	N/A
2422	63.27	PK	V	25.70	3.95	0.00	92.92	N/A	N/A
4844	14.86	AV	H	30.69	4.78	0.00	50.33	54.00	3.67
179.12	47.5	QP	H	11.37	1.60	21.45	39.02	43.50	4.48
2390	15.94	AV	H	25.61	3.84	0.00	45.39	54.00	8.61
4844	28.16	PK	H	30.69	4.78	0.00	63.63	74.00	10.37
2390	30.16	PK	H	25.61	3.84	0.00	59.61	74.00	14.39
9688	18.16	AV	V	36.15	8.66	25.91	37.06	54.00	16.94
7266	18.34	AV	H	34.24	6.62	26.42	32.78	54.00	21.22
9688	32.23	PK	V	36.15	8.66	25.91	51.13	74.00	22.87
7266	32.28	PK	H	34.24	6.62	26.42	46.72	74.00	27.28
3272.6	18.45	AV	H	28.07	4.96	27.42	24.06	54.00	29.94
3272.6	33.16	PK	H	28.07	4.96	27.42	38.77	74.00	35.23
Middle Channel:2437MHz									
2437	57.37	AV	H	25.74	3.98	0.00	87.09	N/A	N/A
2437	68.17	PK	H	25.74	3.98	0.00	97.89	N/A	N/A
2437	53.02	AV	V	25.74	3.98	0.00	82.74	N/A	N/A
2437	63.27	PK	V	25.74	3.98	0.00	92.99	N/A	N/A
4874	14.69	AV	H	30.77	4.76	0.00	50.22	54.00	3.78
179.16	47.6	QP	H	11.37	1.60	21.45	39.12	43.50	4.38
4874	29.13	PK	H	30.77	4.76	0.00	64.66	74.00	9.34
9748	18.43	AV	V	36.30	8.60	25.68	37.65	54.00	16.35
7311	18.64	AV	H	34.35	6.70	26.51	33.18	54.00	20.82
9748	32.53	PK	V	36.30	8.60	25.68	51.75	74.00	22.25
6675.4	19.69	AV	H	32.76	5.64	27.15	30.94	54.00	23.06
7311	32.61	PK	H	34.35	6.70	26.51	47.15	74.00	26.85
6675.4	34.28	PK	H	32.76	5.64	27.15	45.53	74.00	28.47
3272.5	18.71	AV	H	28.07	4.97	27.42	24.33	54.00	29.67
3272.5	32.91	PK	H	28.07	4.97	27.42	38.53	74.00	35.47
High Channel:2452MHz									
2452	57.49	AV	H	25.78	4.00	0.00	87.26	N/A	N/A
2452	68.13	PK	H	25.78	4.00	0.00	97.90	N/A	N/A
2452	52.91	AV	V	25.78	4.00	0.00	82.68	N/A	N/A
2452	62.93	PK	V	25.78	4.00	0.00	92.70	N/A	N/A
4904	14.82	AV	H	30.85	4.72	0.00	50.39	54.00	3.61
180.15	47.5	QP	H	11.36	1.60	21.45	39.01	43.50	4.49
2483.5	15.83	AV	H	25.86	3.80	0.00	45.49	54.00	8.51
4904	29.17	PK	H	30.85	4.72	0.00	64.74	74.00	9.26
2483.5	32.16	PK	H	25.86	3.80	0.00	61.82	74.00	12.18
9808	18.26	AV	V	36.44	8.53	25.48	37.75	54.00	16.25
7356	18.34	AV	H	34.45	6.79	26.60	32.98	54.00	21.02
9808	32.51	PK	V	36.44	8.53	25.48	52.00	74.00	22.00
7356	32.46	PK	H	34.45	6.79	26.60	47.10	74.00	26.90
3273.2	18.38	AV	H	28.07	4.96	27.42	23.99	54.00	30.01
3273.2	32.65	PK	H	28.07	4.96	27.42	38.26	74.00	35.74

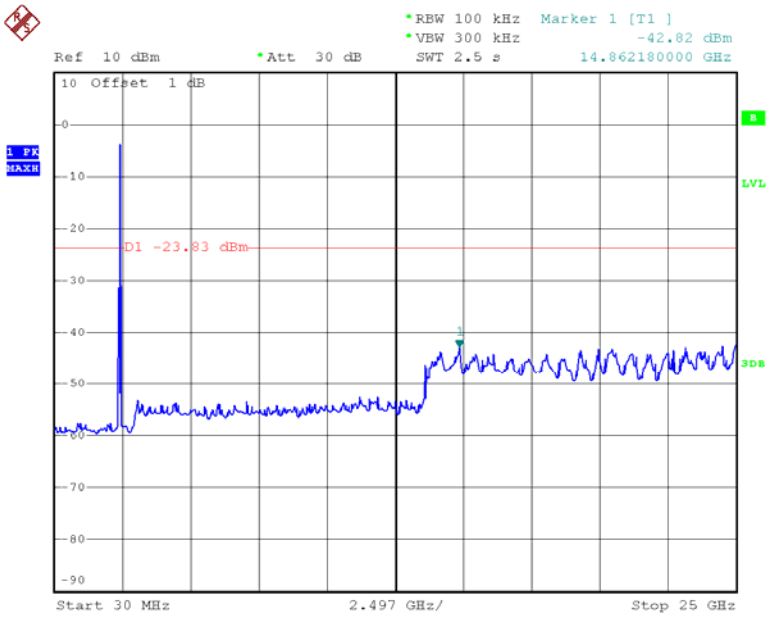
Conducted Spurious Emissions at Antenna Port

802.11b Low Channel



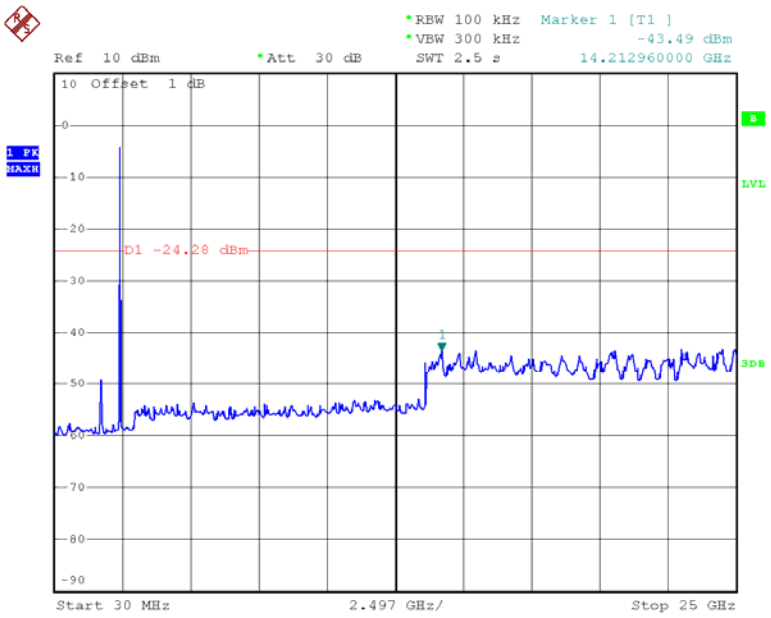
Date: 22.JAN.2013 13:55:59

802.11b Middle Channel



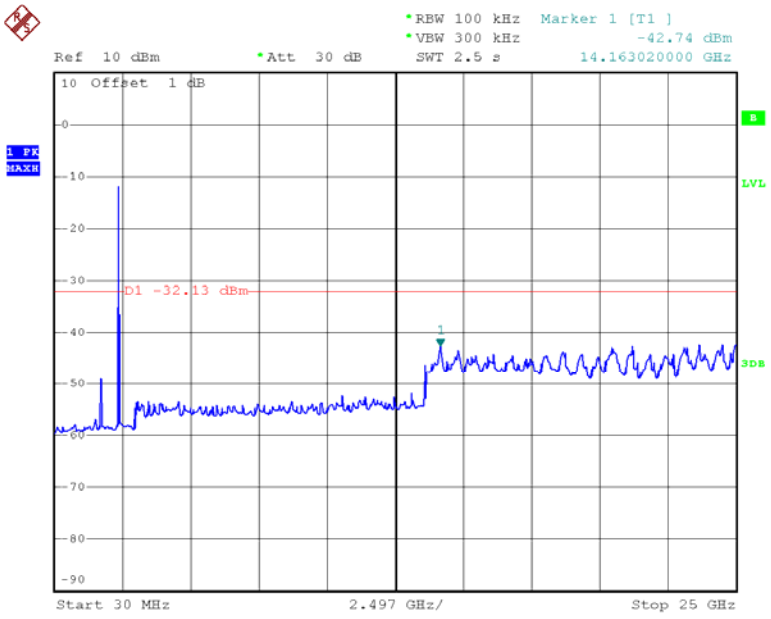
Date: 22.JAN.2013 14:04:43

802.11b High Channel



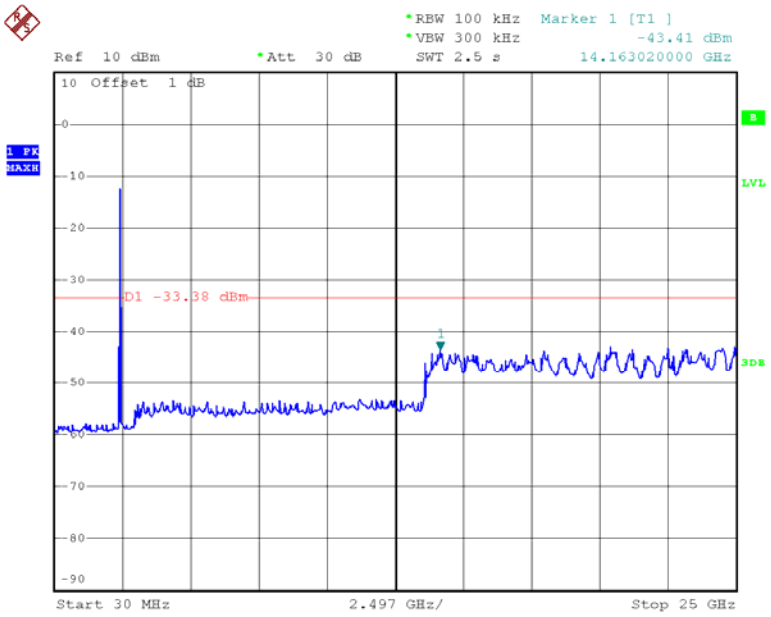
Date: 22.JAN.2013 14:16:59

802.11g Low Channel



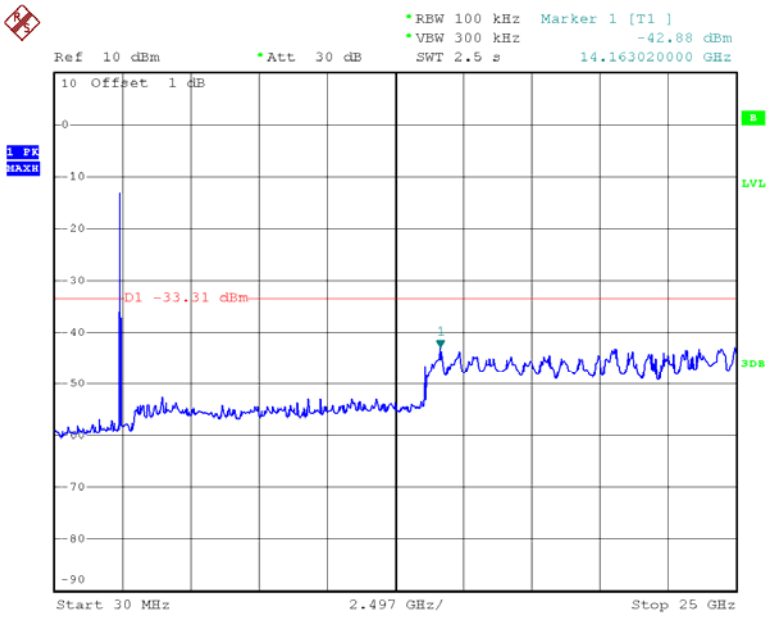
Date: 22.JAN.2013 14:27:23

802.11g Middle Channel



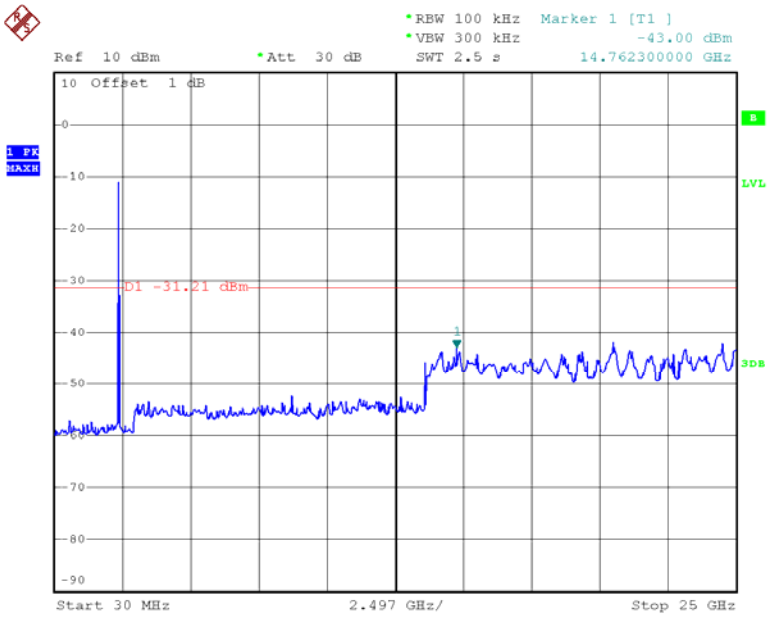
Date: 22.JAN.2013 15:41:53

802.11g High Channel



Date: 22.JAN.2013 15:46:45

802.11n20 Low Channel



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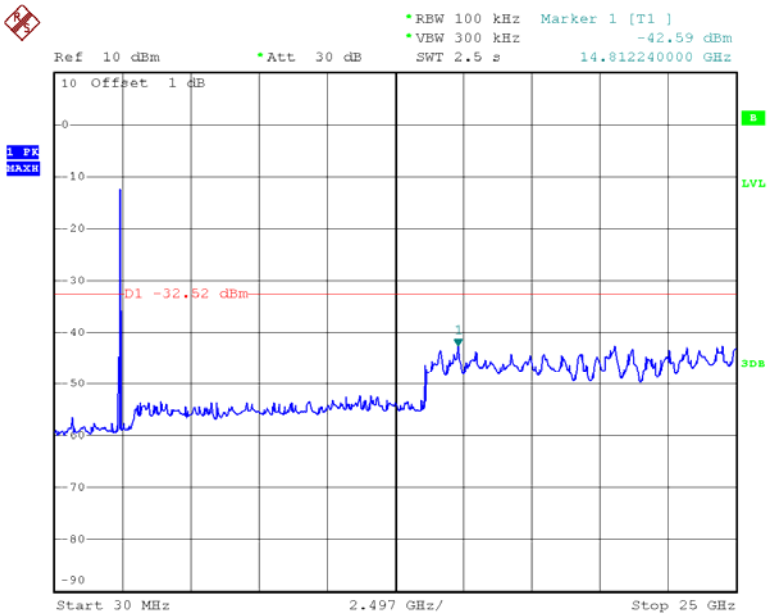
802.11n20 Middle Channel



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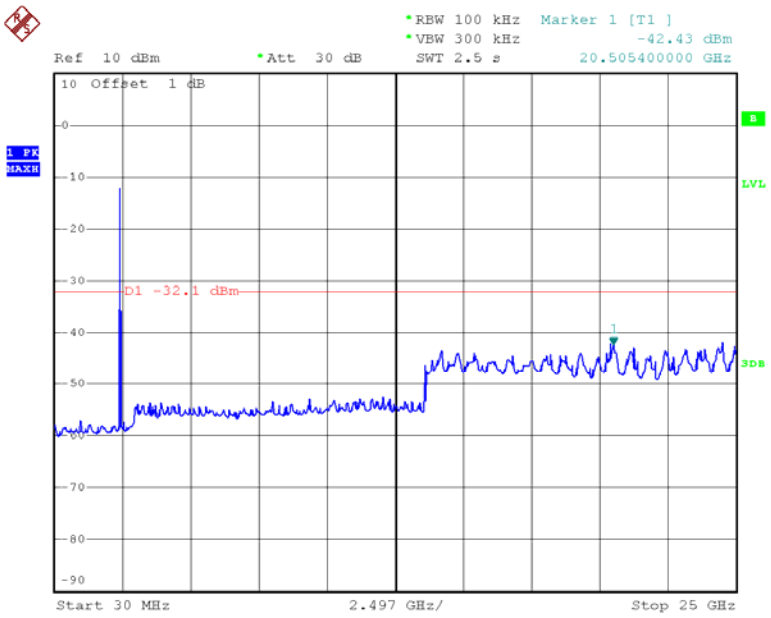
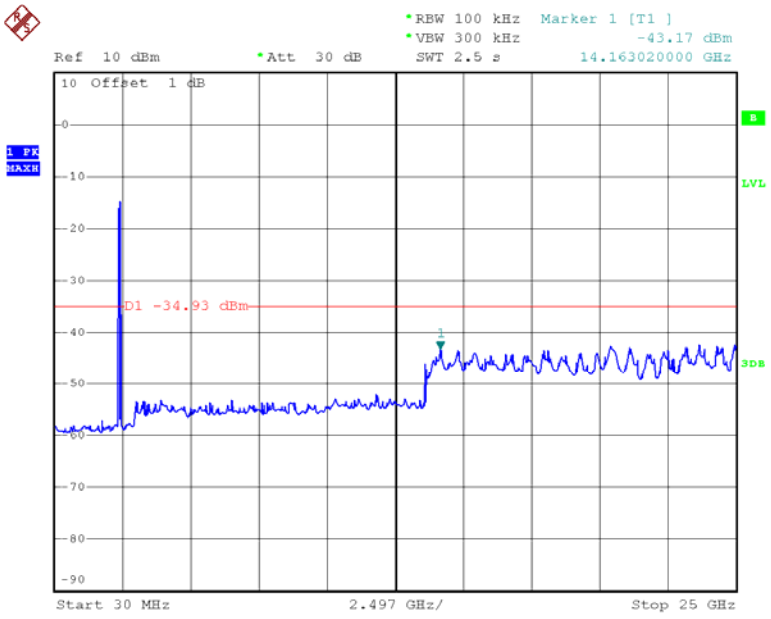
802.11n20 High Channel



Date: 22.JAN.2013 16:07:19

802.11n40 Low Channel



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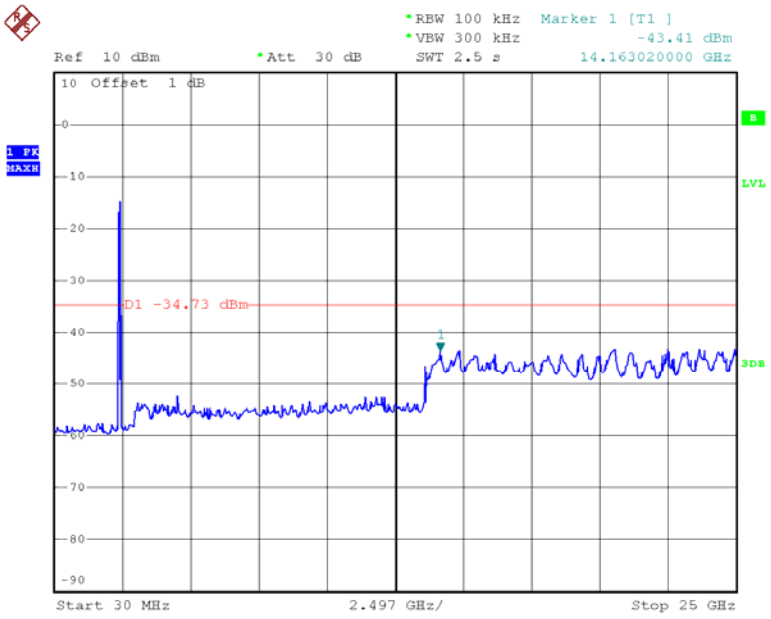
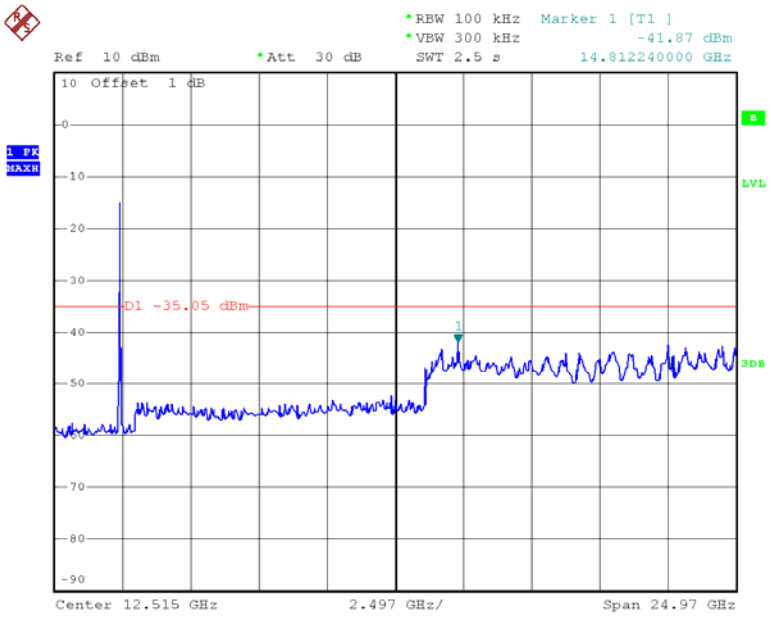
802.11n40 Middle Channel



Date: 22.JAN.2013 16:20:14

802.11n40 High Channel



Date: 22.JAN.2013 16:22:37

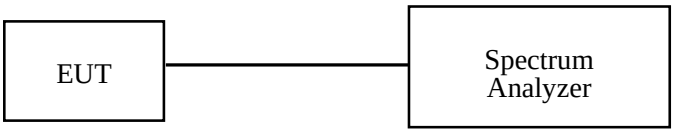
FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH

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	Spectrum Analyzer	FSP38	100478	2012-5-14	2013-5-13

Test Data

Environmental Conditions

Temperature:	24.1 ° C
Relative Humidity:	59 %
ATM Pressure:	101.5 kPa

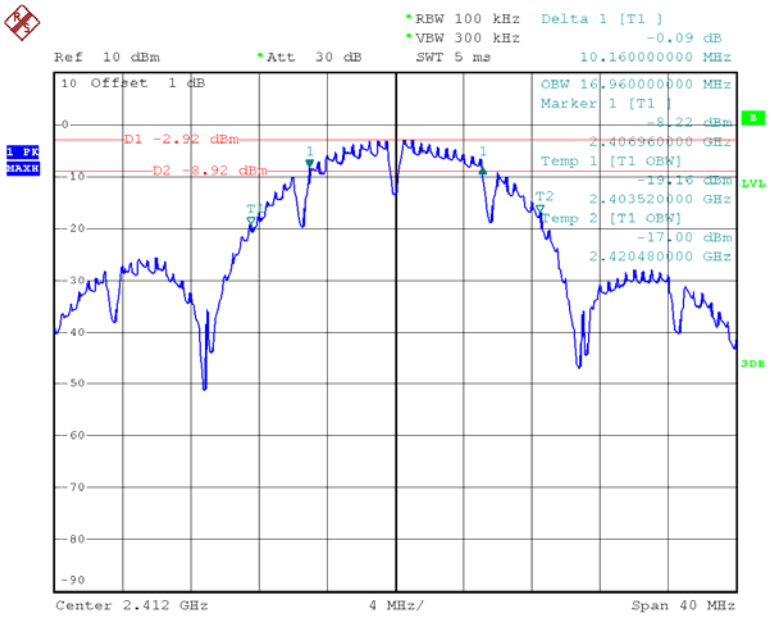
The testing was performed by Ares Liu on 2013-01-22.

Test Result: Pass.

Please refer to the following tables and plots.

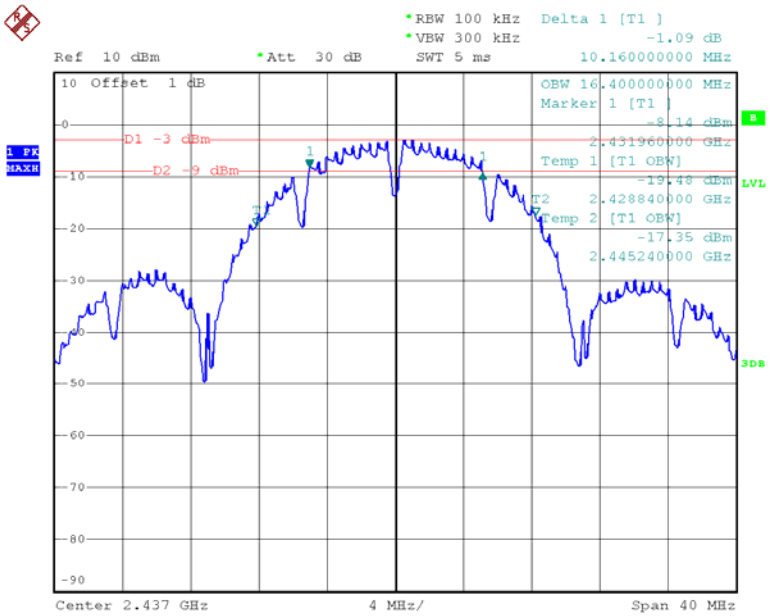
Channel	Frequency	6 dB Bandwidth	Limit
	(MHz)	(MHz)	(kHz)
802.11b mode			
Low	2412	10.16	>500
Middle	2437	10.16	>500
High	2462	10.16	>500
802.11g mode			
Low	2412	16.64	>500
Middle	2437	16.64	>500
High	2462	16.64	>500
802.11n20 mode			
Low	2412	18.00	>500
Middle	2437	18.00	>500
High	2462	18.00	>500
802.11n40 mode			
Low	2422	36.48	>500
Middle	2437	36.48	>500
High	2452	36.48	>500

802.11b Low Channel



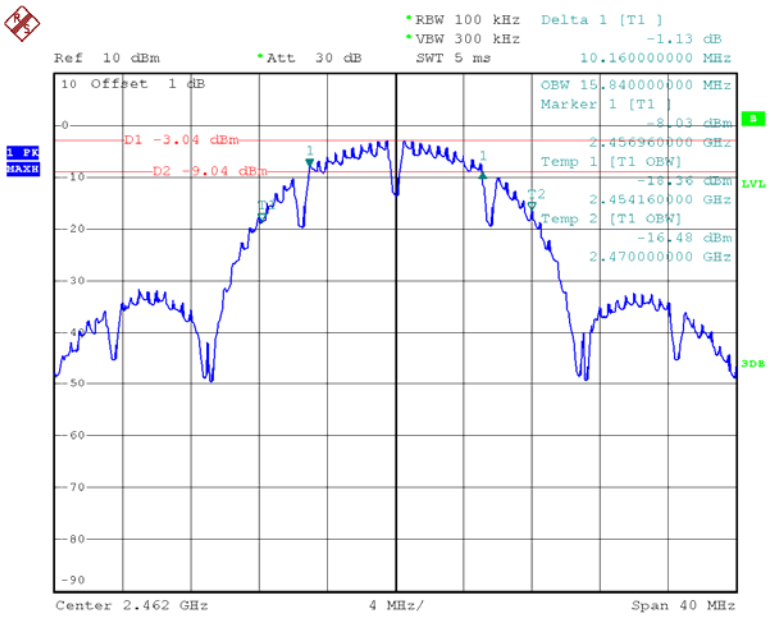
Date: 22.JAN.2013 13:54:10

802.11b Middle Channel



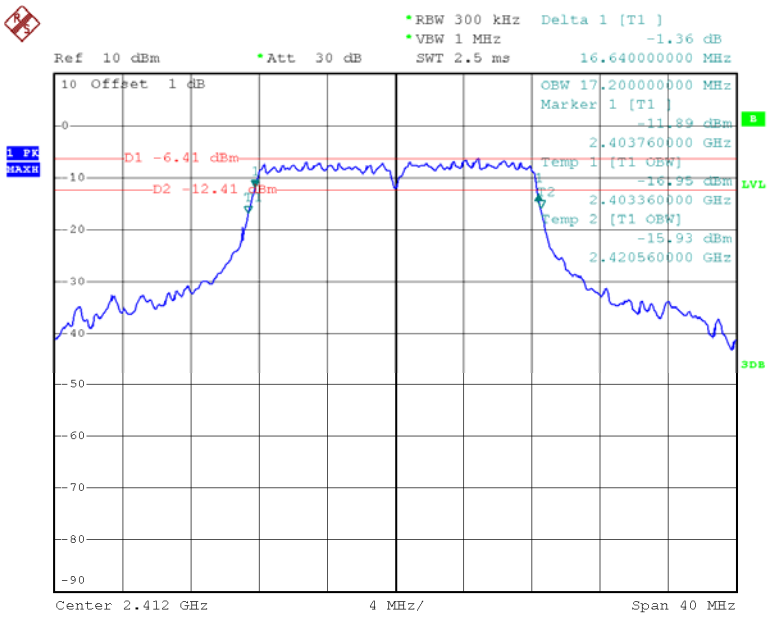
Date: 22.JAN.2013 14:03:23

802.11b High Channel



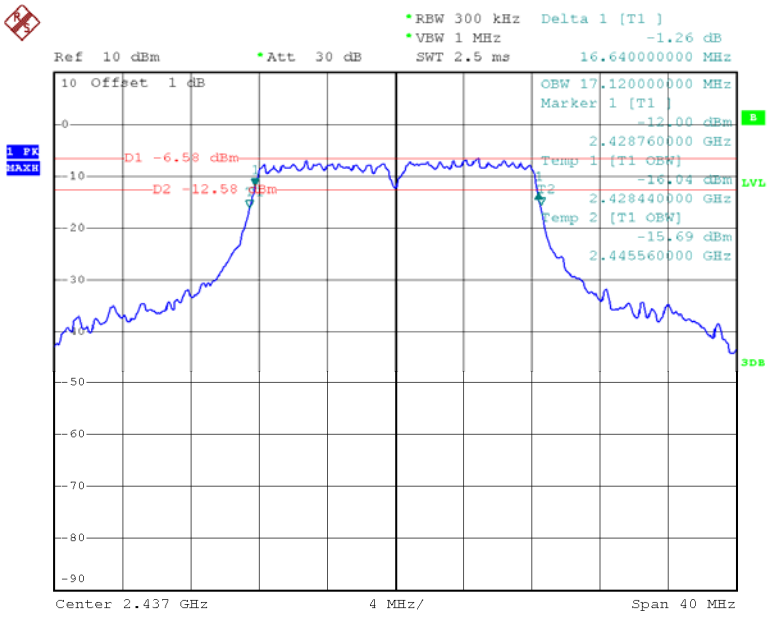
Date: 22.JAN.2013 14:07:22

802.11g Low Channel



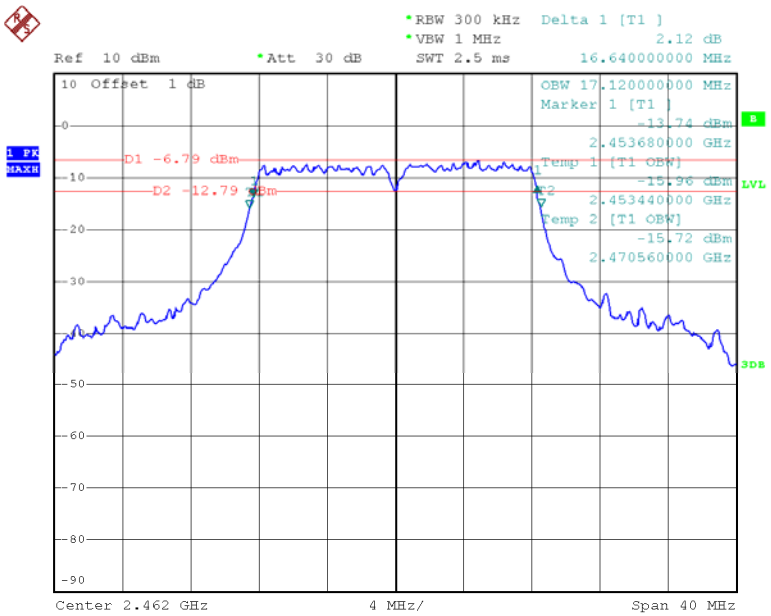
Date: 22.JAN.2013 14:25:32

802.11g Middle Channel



Date: 22.JAN.2013 15:40:28

802.11g High Channel



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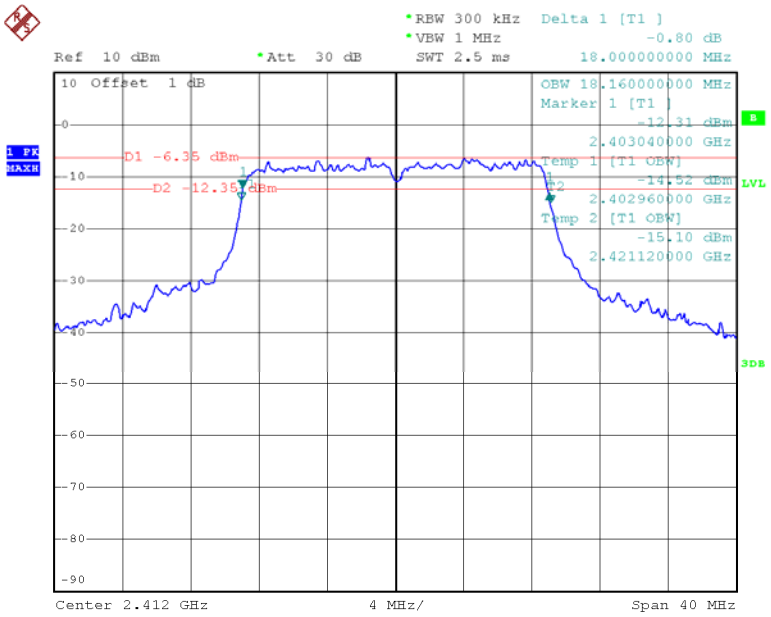
802.11n20 Low Channel



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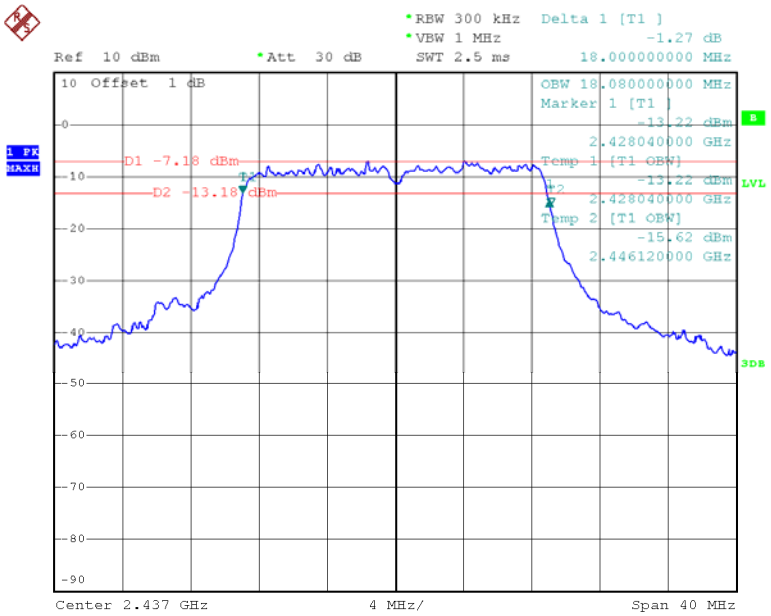
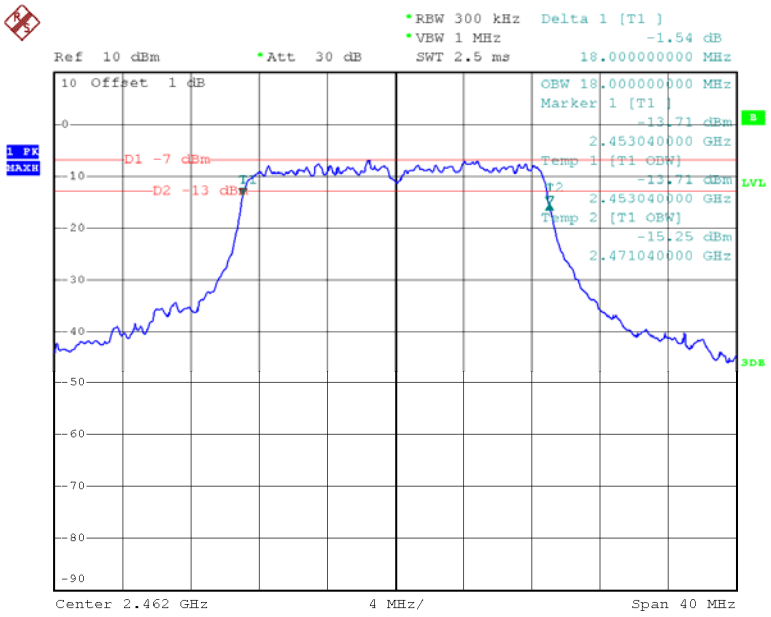
802.11n20 Middle Channel



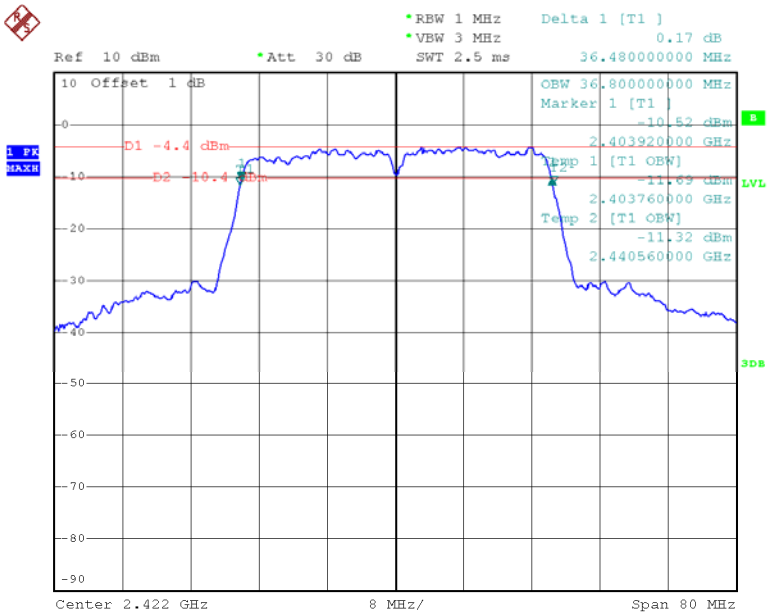
Date: 22.JAN.2013 16:01:24

802.11n20 High Channel



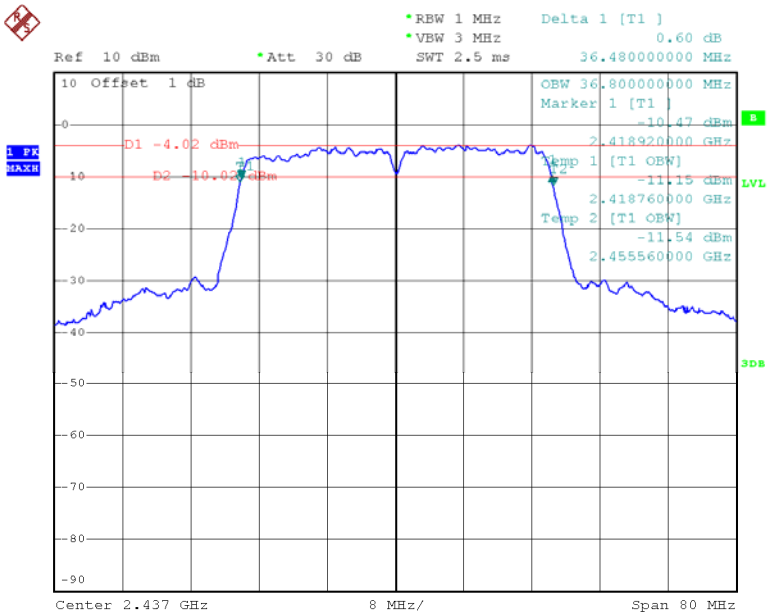
Date: 22.JAN.2013 16:05:10

802.11n40 Low Channel



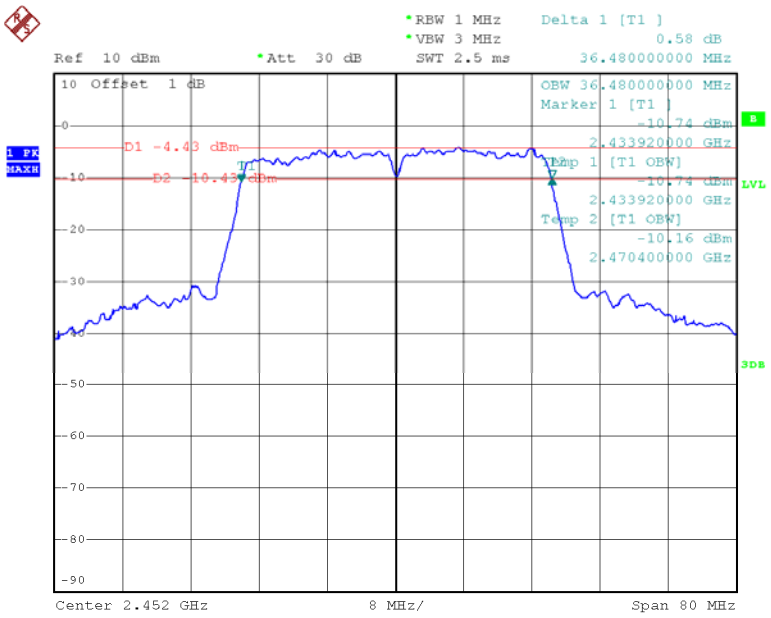
Date: 22.JAN.2013 16:12:20

802.11n40 Middle Channel



Date: 22.JAN.2013 16:19:07

802.11n40 High Channel



Date: 22.JAN.2013 16:25:16

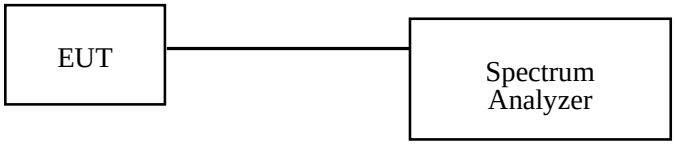
FCC §15.247(b) (3) - MAXIMUM PEAK OUTPUT POWER

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	Spectrum Analyzer	FSP38	100478	2012-5-14	2013-5-13

Test Data

Environmental Conditions

Temperature:	24.1 ° C
Relative Humidity:	59 %
ATM Pressure:	101.5 kPa

The testing was performed by Ares Liu on 2013-01-22.

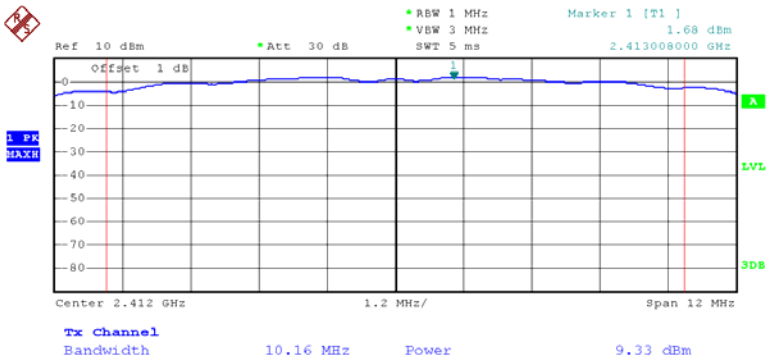
Test Mode: Transmitting

Channel	Frequency	Conducted Output Power	Limit	Result
	(MHz)	(dBm)	(dBm)	
802.11b mode				
Low	2412 MHz	9.33	30	PASS
Middle	2437 MHz	9.37	30	PASS
High	2462 MHz	9.27	30	PASS
802.11g mode				
Low	2412 MHz	9.16	30	PASS
Middle	2437 MHz	9.00	30	PASS
High	2462 MHz	8.98	30	PASS
802.11n20 mode				
Low	2412 MHz	9.24	30	PASS
Middle	2437 MHz	8.95	30	PASS
High	2462 MHz	9.17	30	PASS
802.11n40 mode				
Low	2422 MHz	9.02	30	PASS
Middle	2437 MHz	9.21	30	PASS
High	2452 MHz	9.08	30	PASS

The antenna gain is 1.0 dBi.

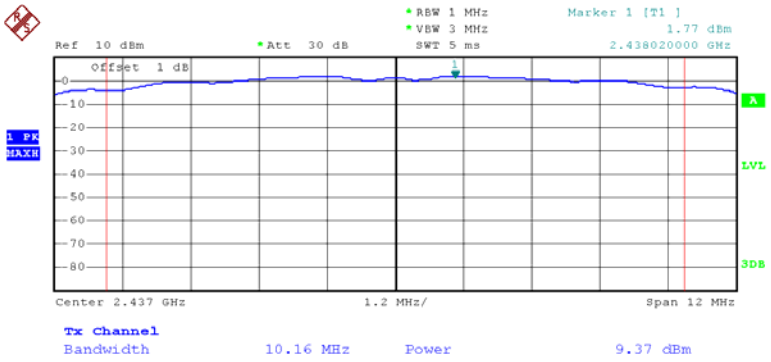
Please refer to the following plots

802.11b RF Output Power, Low Channel



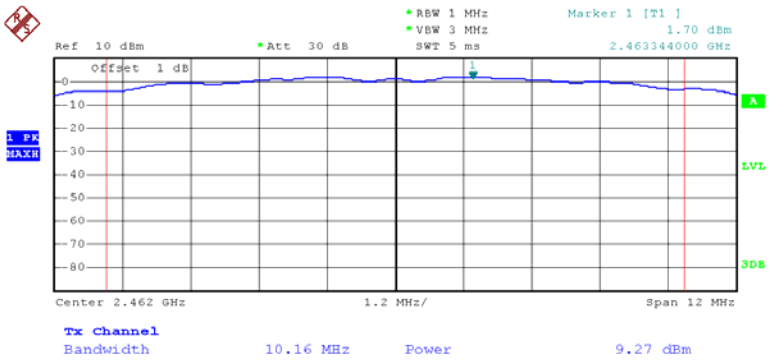
Date: 22.JAN.2013 13:55:09

802.11b RF Output Power, Middle Channel



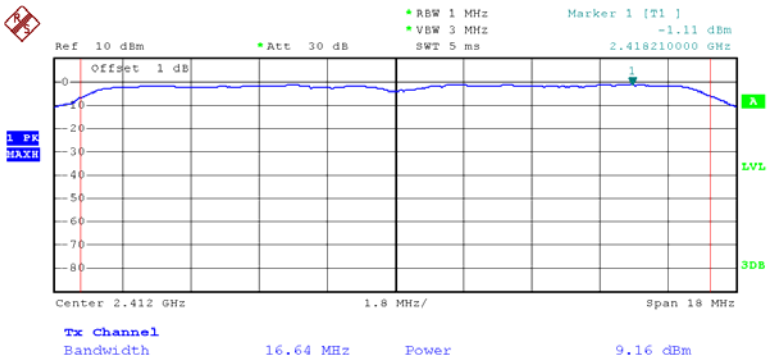
Date: 22.JAN.2013 14:02:49

802.11b RF Output Power, High Channel



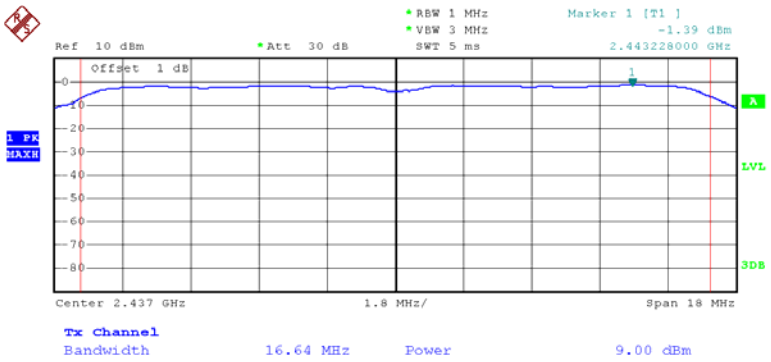
Date: 22.JAN.2013 14:07:31

802.11g RF Output Power, Low Channel



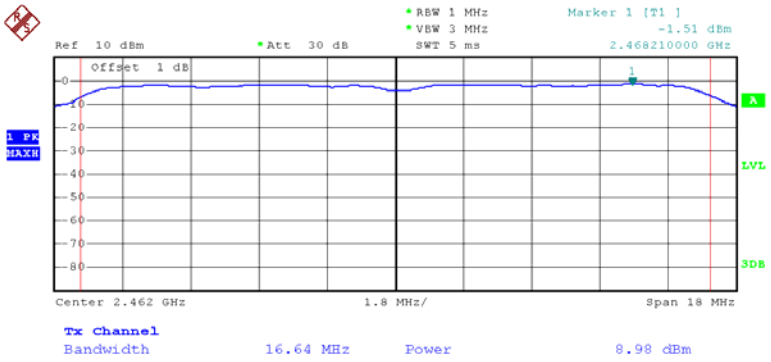
Date: 22.JAN.2013 14:26:01

802.11g RF Output Power, Middle Channel



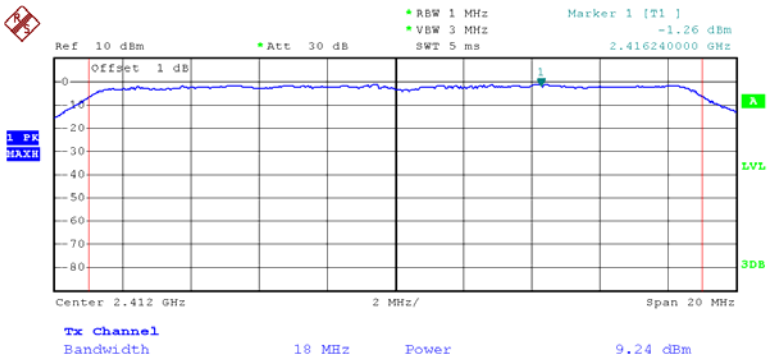
Date: 22.JAN.2013 15:41:02

802.11g RF Output Power, High Channel



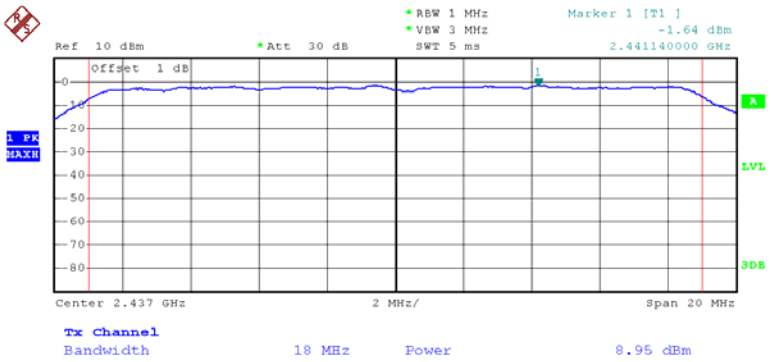
Date: 22.JAN.2013 15:45:28

802.11n20 RF Output Power, Low Channel



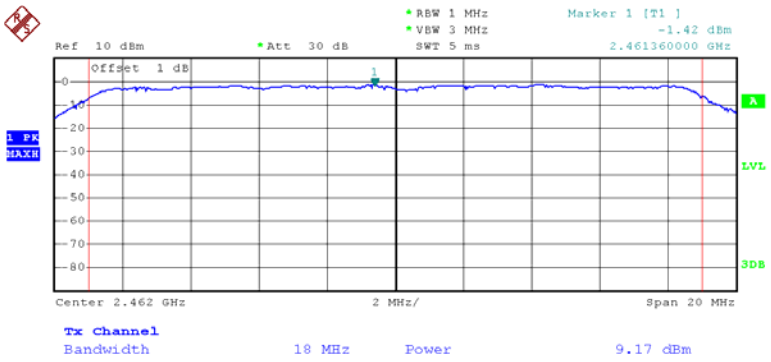
Date: 22.JAN.2013 15:54:11

802.11n20 RF Output Power, Middle Channel



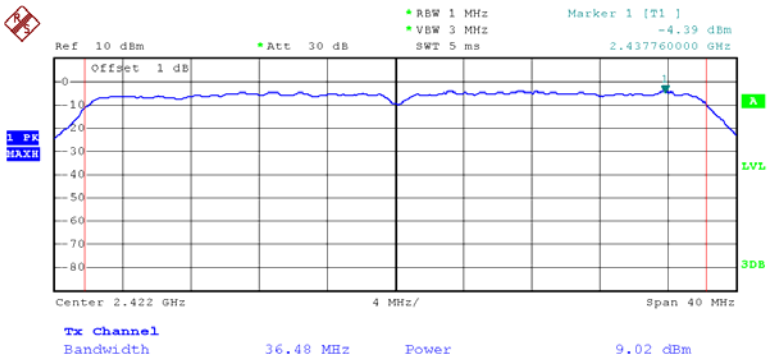
Date: 22.JAN.2013 16:00:38

802.11n20 RF Output Power, High Channel



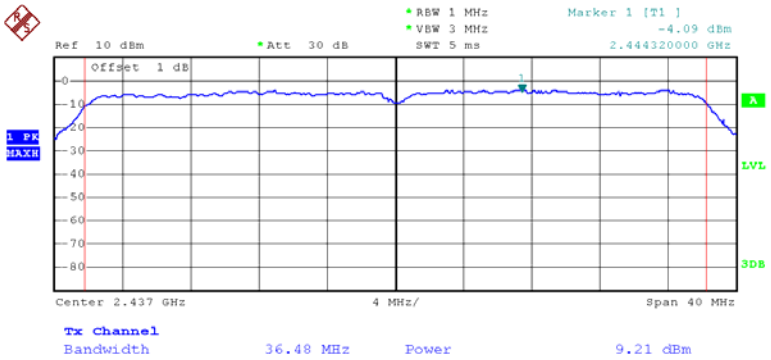
Date: 22.JAN.2013 16:06:08

802.11n40 RF Output Power, Low Channel



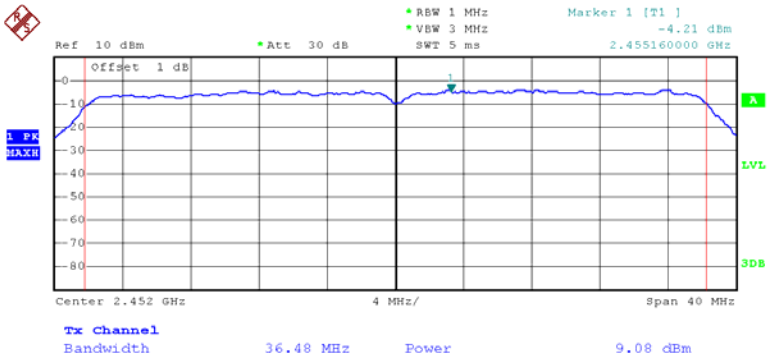
Date: 22.JAN.2013 16:13:12

802.11n40 RF Output Power, Middle Channel



Date: 22.JAN.2013 16:19:18

802.11n40 RF Output Power, High Channel



Date: 22.JAN.2013 16:22:12

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 100 kHz and VBW of spectrum analyzer to 300 kHz 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	Spectrum Analyzer	FSP38	100478	2012-5-14	2013-5-13

Test Data

Environmental Conditions

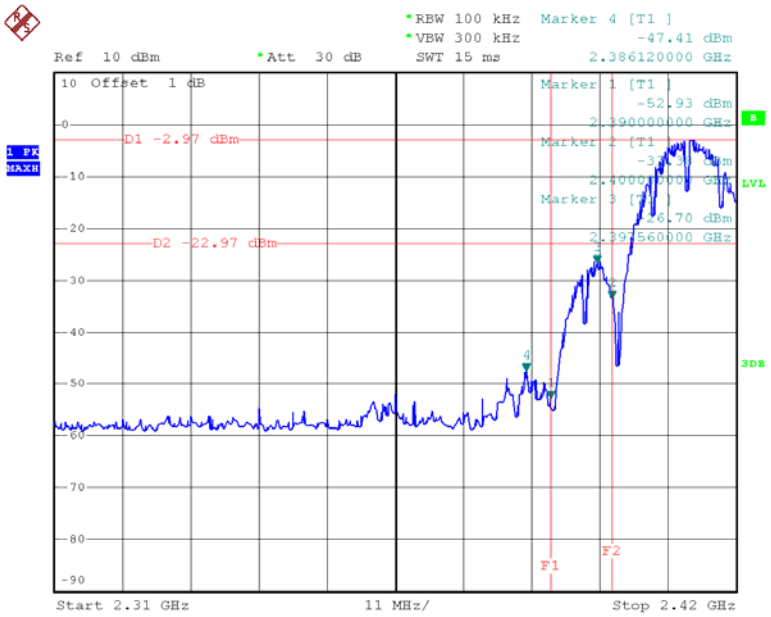
Temperature:	24.1 ° C
Relative Humidity:	59 %
ATM Pressure:	101.5 kPa

The testing was performed by Ares Liu on 2013-01-22.

Test Result: *Compliance*

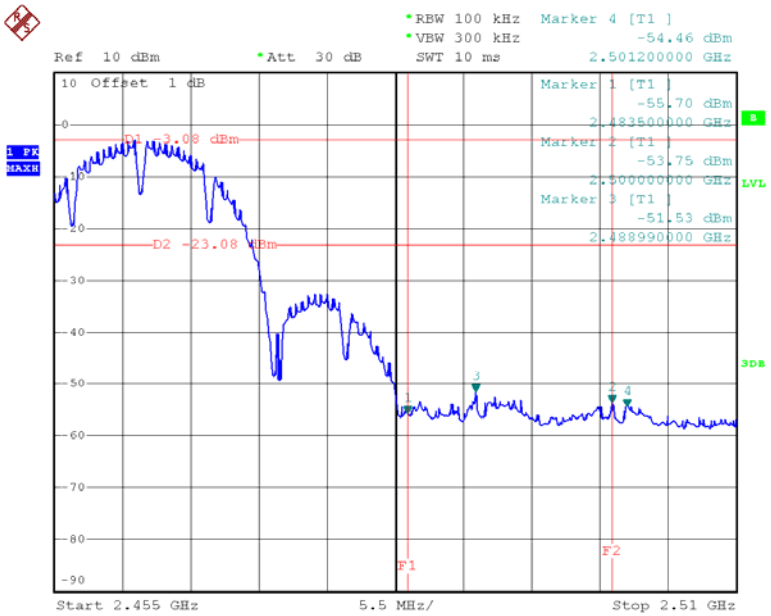
Please refer to following plots.

802.11b: Band Edge, Left Side



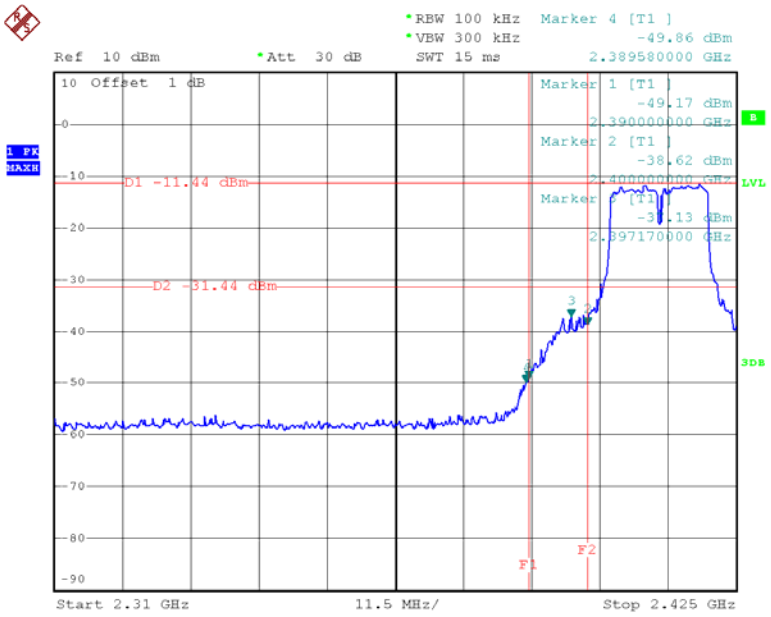
Date: 22.JAN.2013 13:58:33

802.11b: Band Edge, Right Side



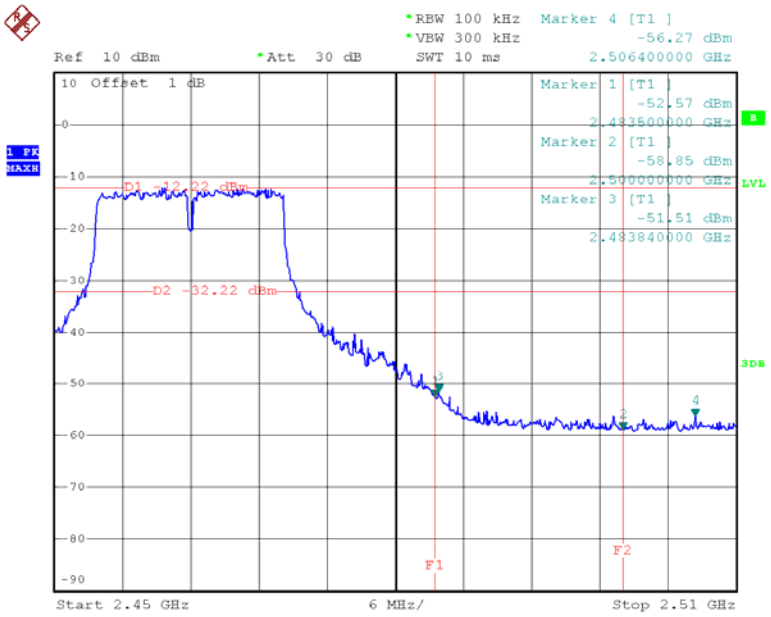
Date: 22.JAN.2013 14:19:26

802.11g: Band Edge, Left Side



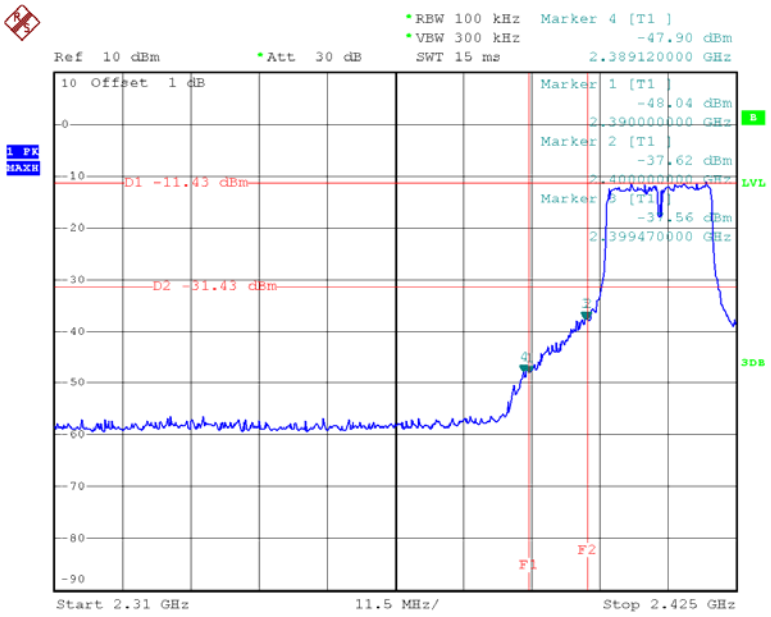
Date: 22.JAN.2013 14:31:12

802.11g: Band Edge, Right Side



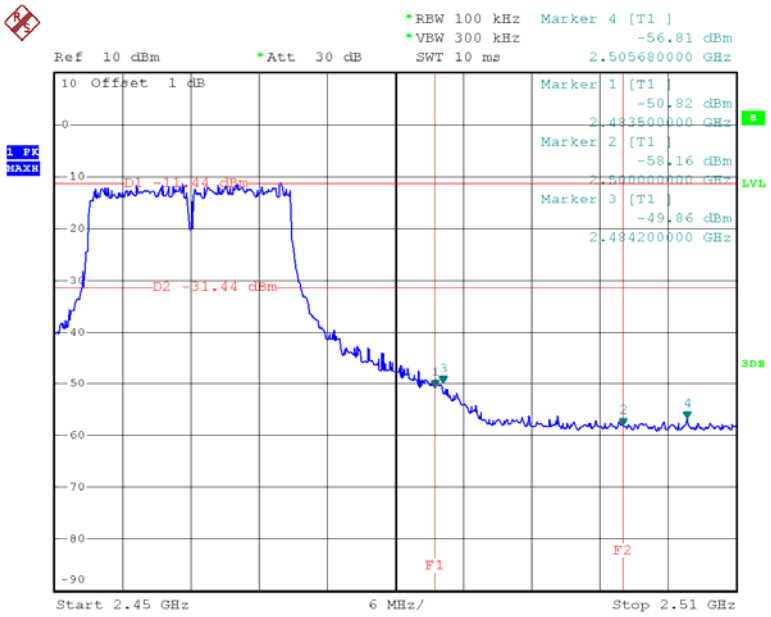
Date: 22.JAN.2013 15:48:17

802.11n20: Band Edge, Left Side



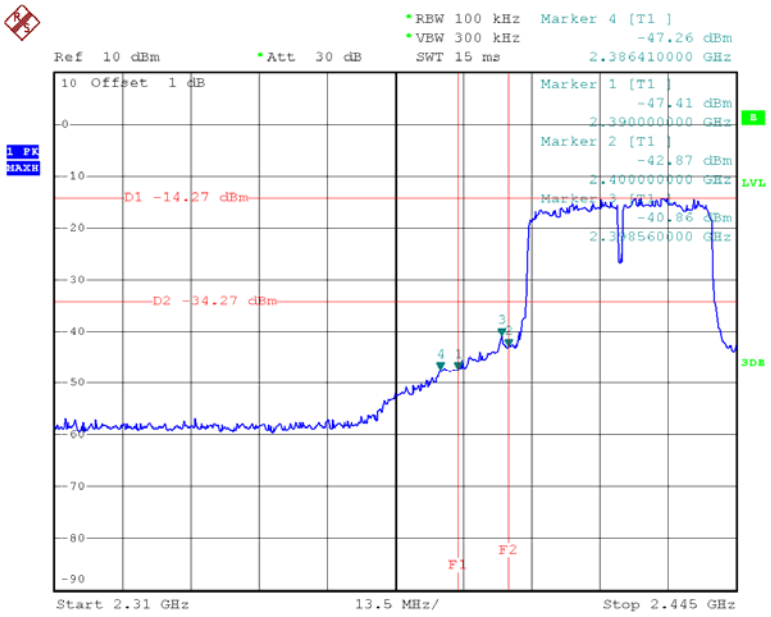
Date: 22.JAN.2013 15:56:59

802.11n20: Band Edge, Right Side



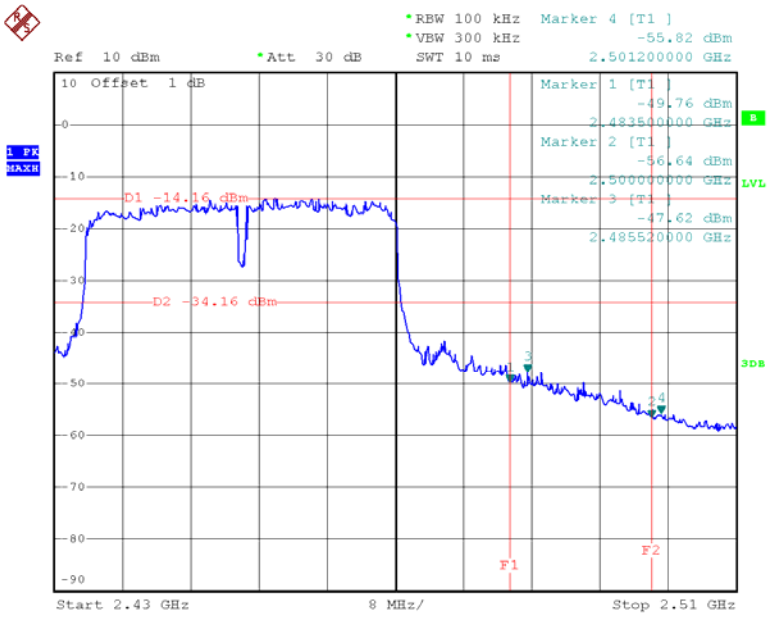
Date: 22.JAN.2013 16:08:39

802.11n40: Band Edge, Left Side



Date: 22.JAN.2013 16:17:06

802.11n40: Band Edge, Right Side



Date: 22.JAN.2013 16:24:21

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. According to KDB 558074 D01 DTS Meas Guidance v02, set the RBW = 3 kHz, VBW = 30 kHz, Set the span to 1.5 times the DTS channel bandwidth.
4. Use the peak marker function to determine the maximum power level in any 3 kHz band segment within the fundamental EBW.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Spectrum Analyzer	FSP38	100478	2012-5-14	2013-5-13

Test Data

Environmental Conditions

Temperature:	24.1 ° C
Relative Humidity:	59 %
ATM Pressure:	101.5 kPa

The testing was performed by Ares Liu on 2013-01-22.

Test Mode: Transmitting

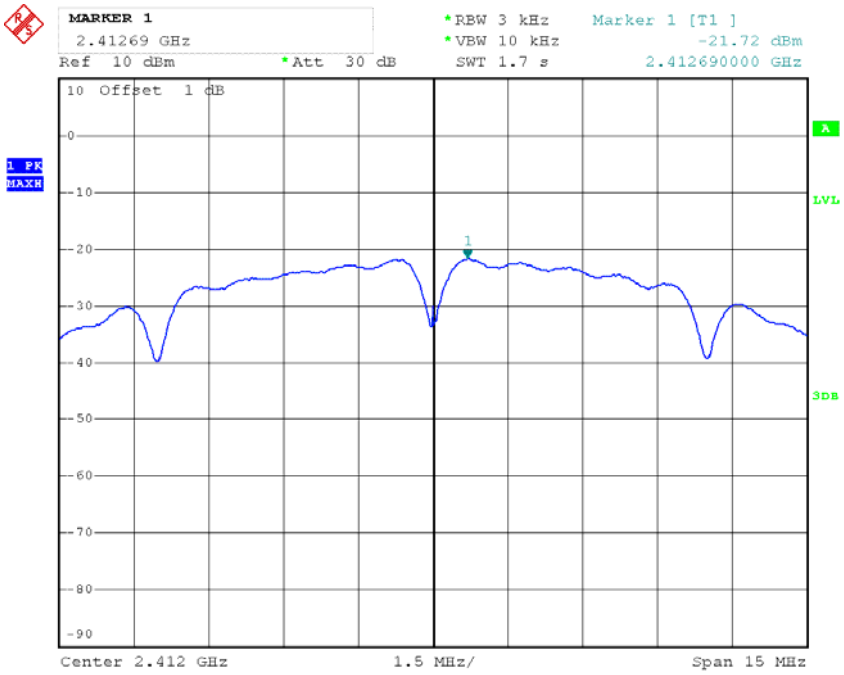
Test Result: Pass

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
802.11b mode				
Low	2412	-21.72	8	PASS
Middle	2437	-20.75	8	PASS
High	2462	-21.42	8	PASS
802.11g mode				
Low	2412	-24.68	8	PASS
Middle	2437	-25.50	8	PASS
High	2462	-25.45	8	PASS
802.11n20 mode				
Low	2412	-25.27	8	PASS
Middle	2437	-24.56	8	PASS
High	2462	-24.24	8	PASS
802.11n40 mode				
Low	2422	-26.85	8	PASS
Middle	2437	-26.26	8	PASS
High	2452	-26.02	8	PASS

Note: the antenna gain is 1.0 dBi.

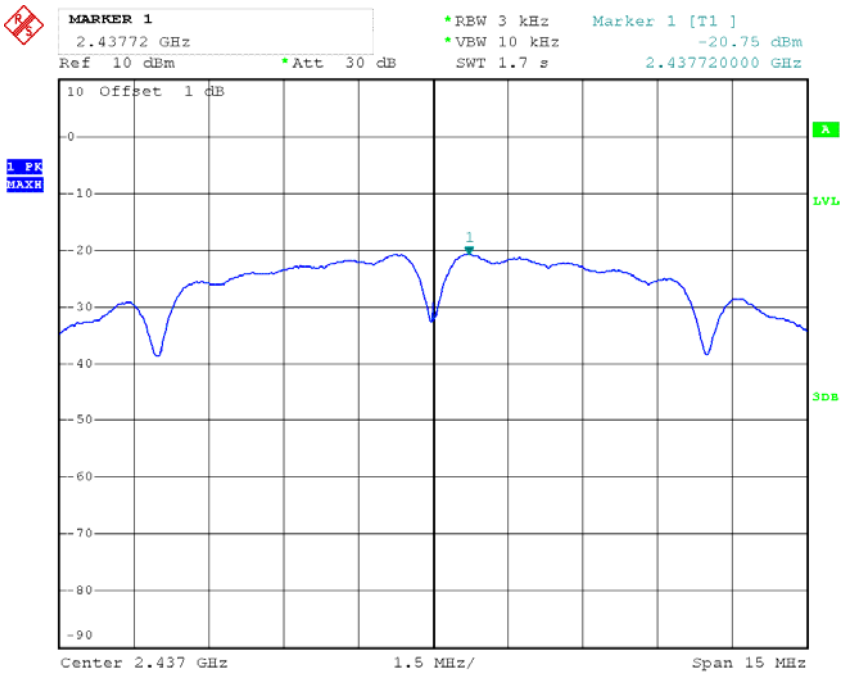
Please refer to the following plots

Power Spectral Density, 802.11b Low Channel



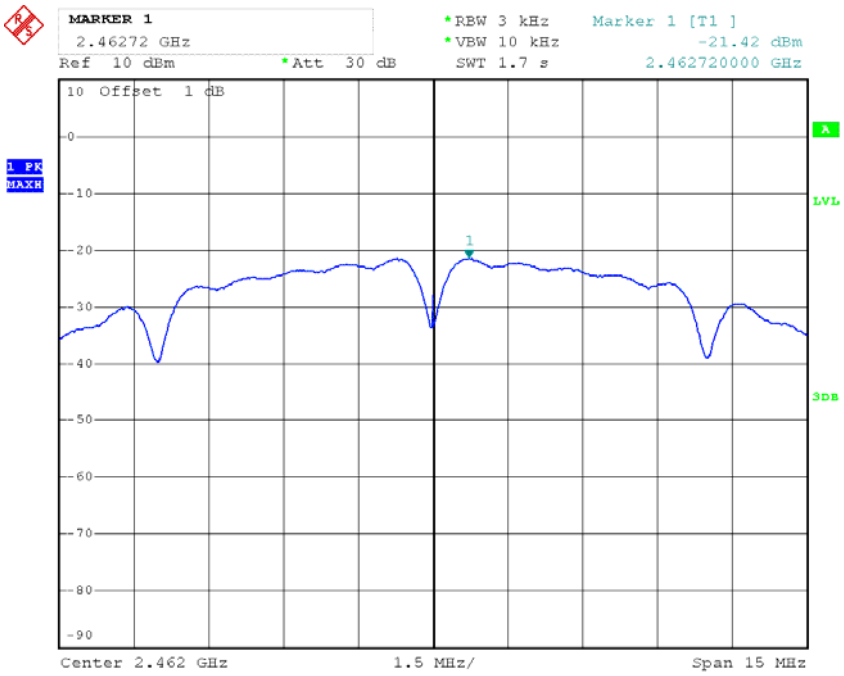
Date: 5.FEB.2013 08:21:52

Power Spectral Density, 802.11b Middle Channel



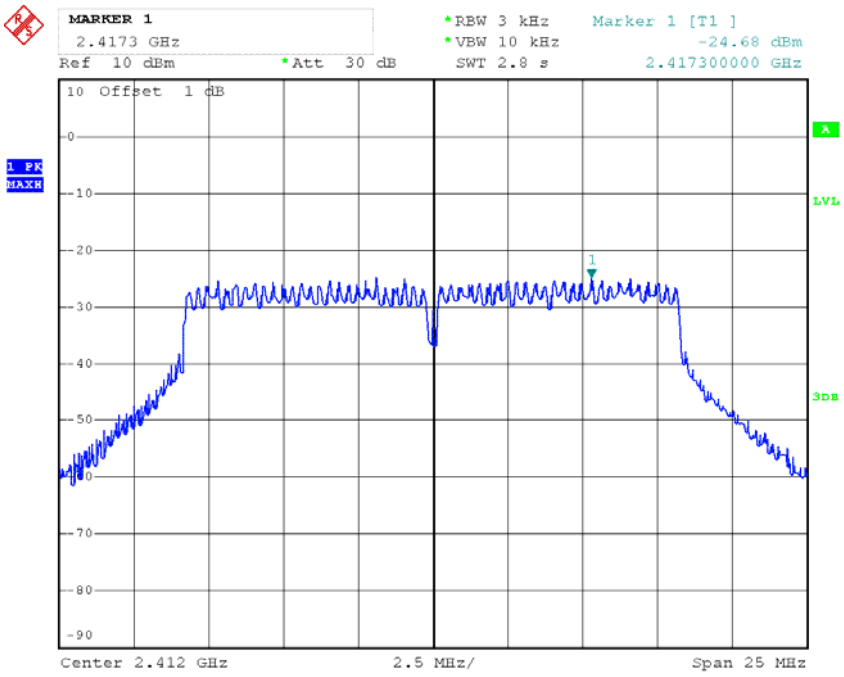
Date: 5.FEB.2013 08:22:48

Power Spectral Density, 802.11b High Channel



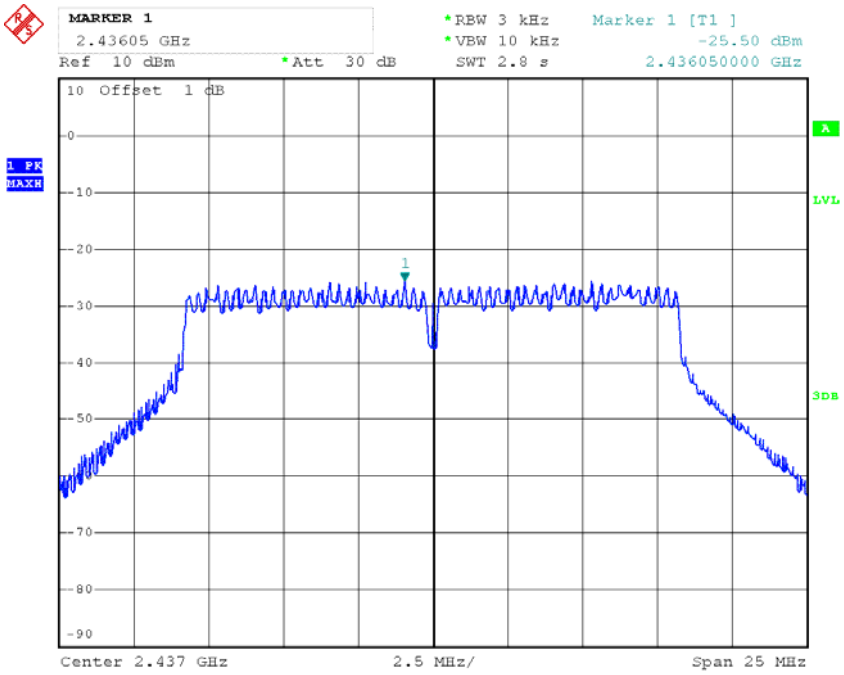
Date: 5.FEB.2013 08:24:46

Power Spectral Density, 802.11g Low Channel



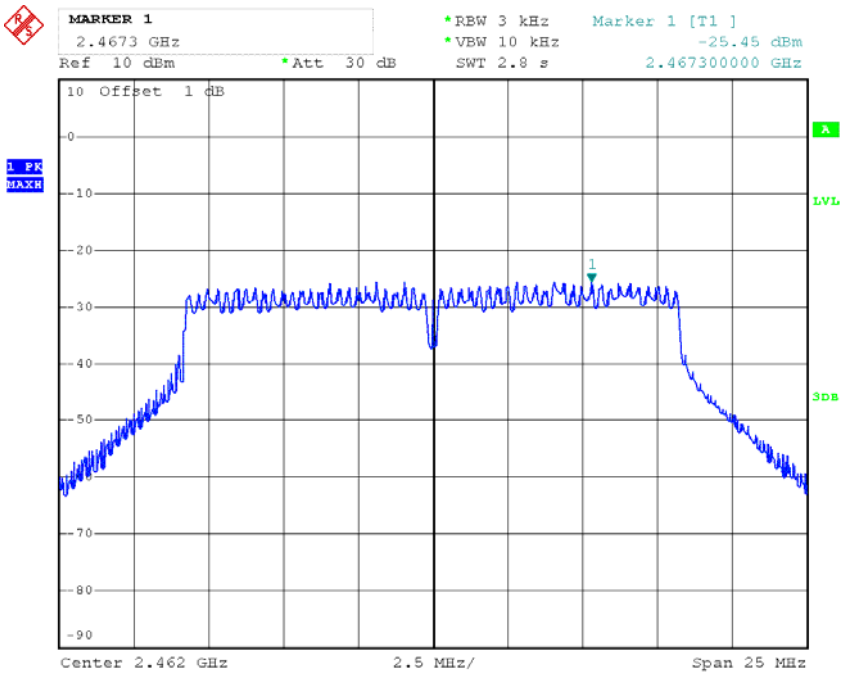
Date: 5.FEB.2013 08:31:33

Power Spectral Density, 802.11g Middle Channel



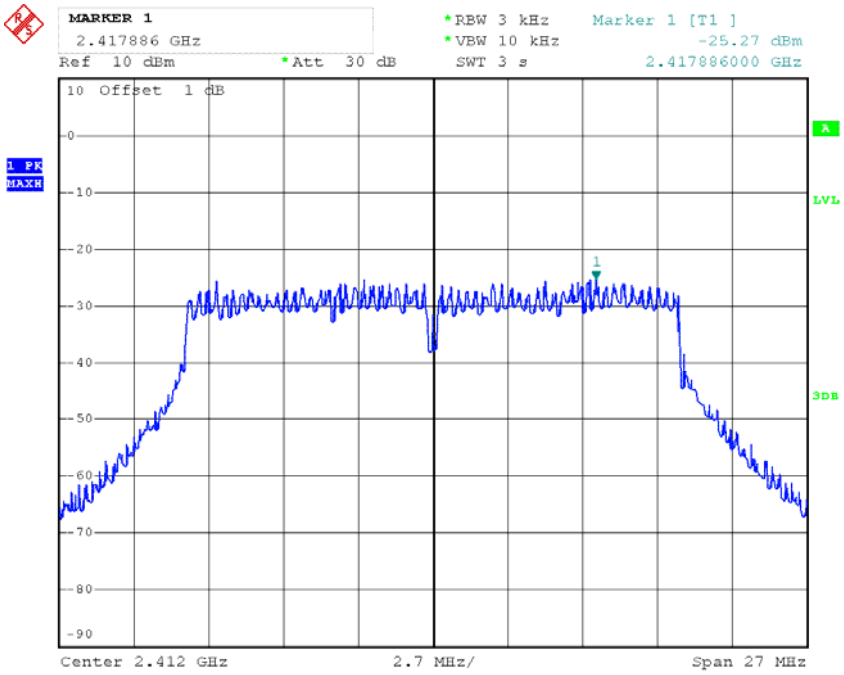
Date: 5.FEB.2013 08:30:16

Power Spectral Density, 802.11g High Channel



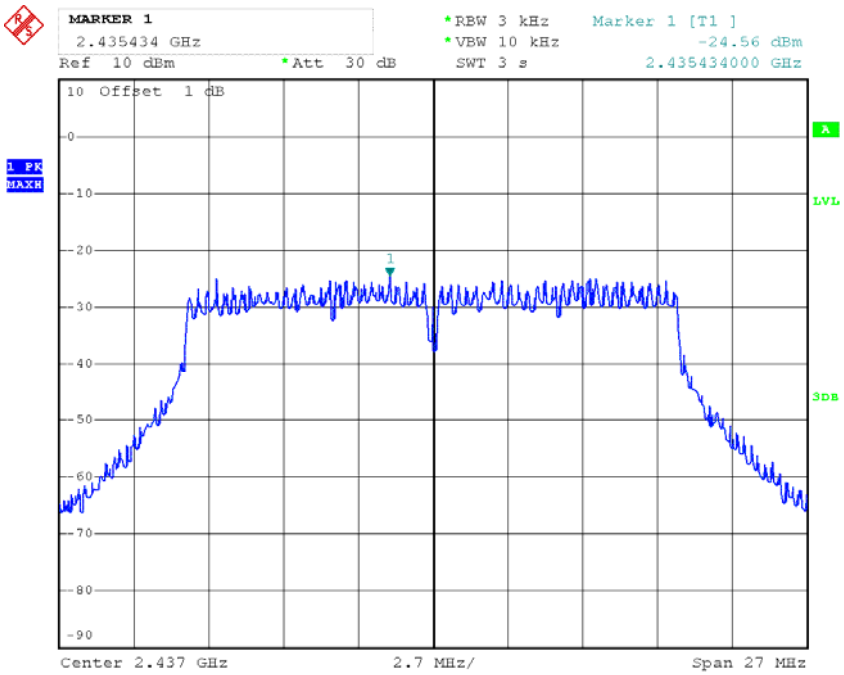
Date: 5.FEB.2013 08:29:12

Power Spectral Density, 802.11n20 Low Channel



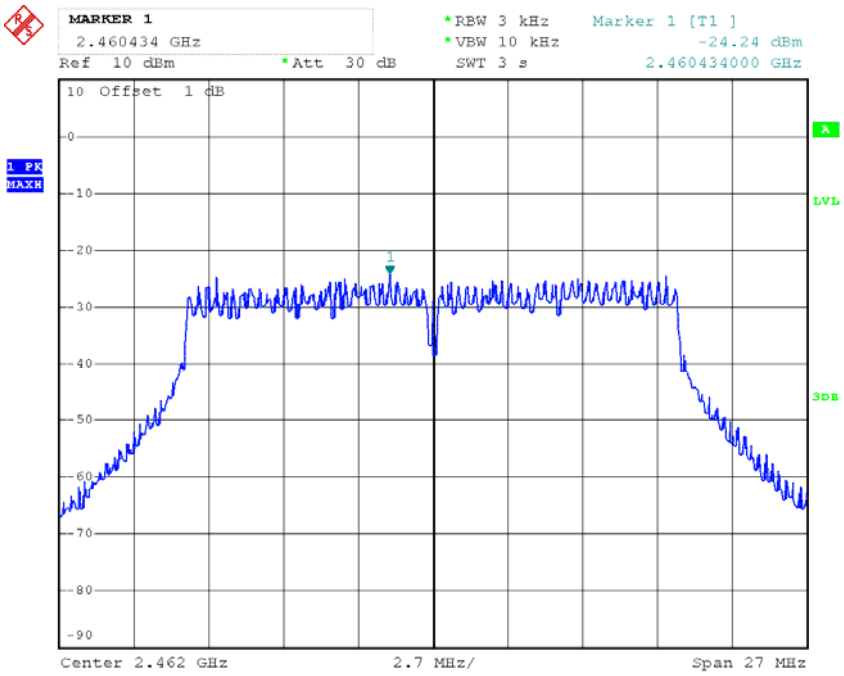
Date: 5.FEB.2013 08:35:45

Power Spectral Density, 802.11n20 Middle Channel



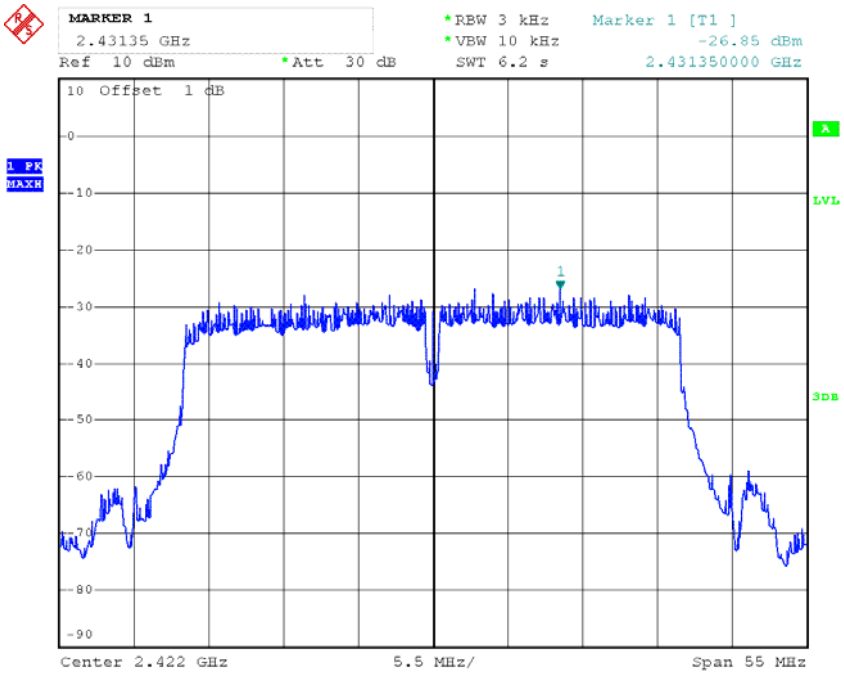
Date: 5.FEB.2013 08:36:57

Power Spectral Density, 802.11n20 High Channel



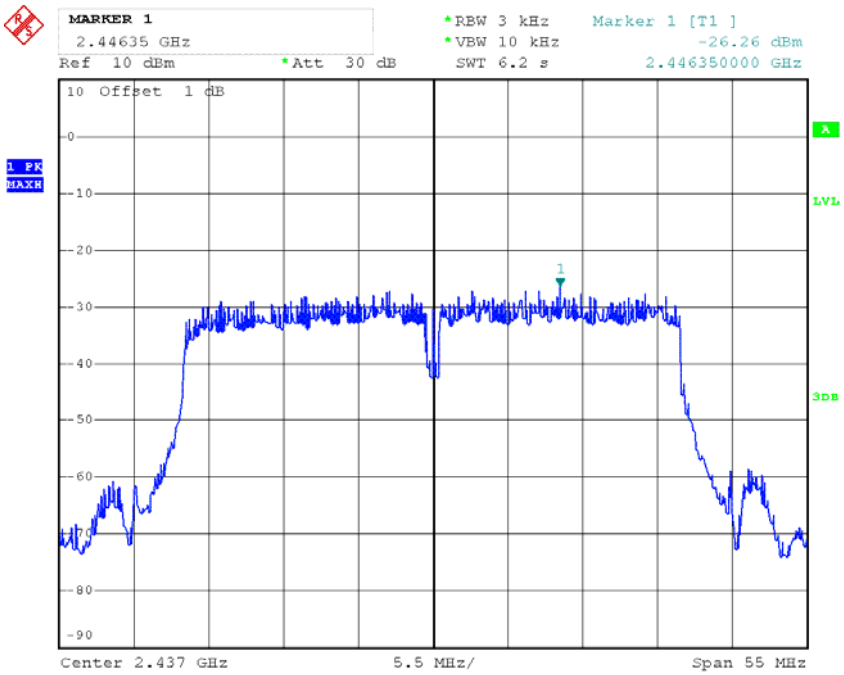
Date: 5.FEB.2013 08:38:20

Power Spectral Density, 802.11n40 Low Channel



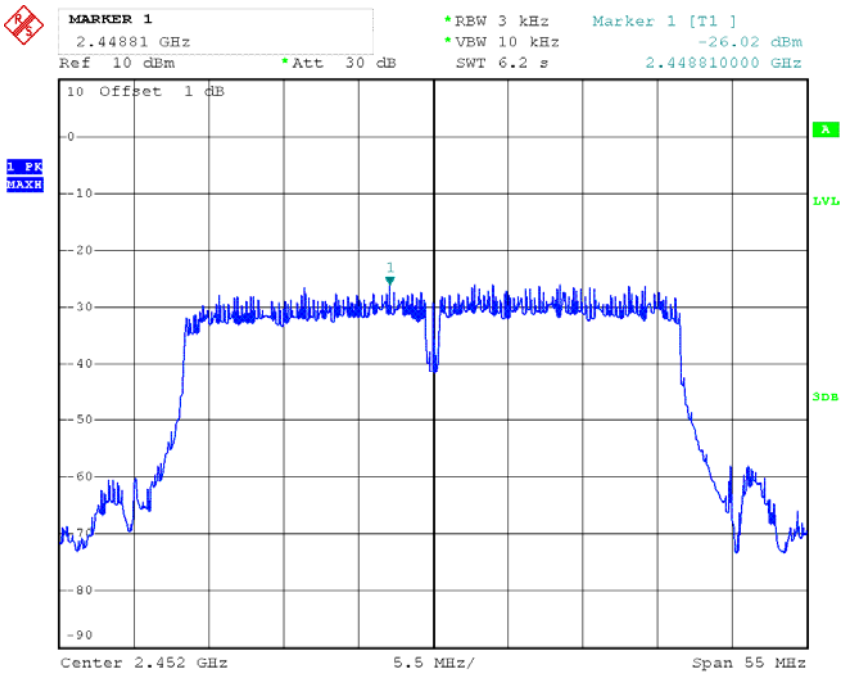
Date: 5.FEB.2013 08:44:00

Power Spectral Density, 802.11n40 Middle Channel



Date: 5.FEB.2013 08:45:06

Power Spectral Density, 802.11n40 High Channel



Date: 5.FEB.2013 08:45:57

DECLARATION LETTER

COBY®

Innovations for Every Lifestyle!™

Coby Communications Ltd.
ADD: Unit C-E, 8/F, PO Shau Centre,115 How Ming Street , Kwun Tong Kowloon ,Hong Kong
Tel: 85227595838 Fax: 85227595887

DECLARATION OF SIMILARITY

Date: 2013-2-5

To:
Bay Area Compliance Laboratories Corp.
1274 Anvilwood Ave.
Sunnyvale, CA 94089
Phone: 408-732-9162, Fax: 408-732-9164
http://www.baclcorp.com

Dear Sir or Madam:

We, Coby Communications Ltd., hereby declare that product: Mobile Internet Device, model: MID4330 is electrically identical with the model: MID4331 which was tested by BACL with the same electromagnetic emissions and electromagnetic compatibility characteristics. The results of which are featured in BACL projects: R2DG130109001, R1DG130109002.
A description of the difference between the two models and those that are declared similar are as follows:

They are the same product, and just have the different model name, the rest are the same.

Please contact me should there be need for any additional clarification or information.

Best Regards,

Andy Yan
Project Manager

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