FCC PART 15.247

TEST REPORT

For

Deliberant LLC

138 Mountain Brook Dr Canton, GA 30115 United States

FCC ID: UB8-APCPROP2

Report Type:	Product Type:
Original Report	Broadband Digital Transmission System

Test Engineer:	Tiger Ye
Report Number:	RSZ130322004-00
Report Date:	2013-04-22
Reviewed By:	Alvin Huang RF Leader
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn

TABLE OF CONTENTS

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Deliberant LLC*'s product, model number: *APC Propeller 2 (FCC ID: UB8-APCPROP2)* or the "EUT" in this report was a *Broadband Digital Transmission System,* which was measured approximately: 17.6 cm (L) x 7.2 cm (W) x 9.0 cm (H), rated input voltage: DC 24V PoE power adapter.

Adapter Information:
Model: GRT-240070
Input: 100-240 V, 50/60Hz, 0.5A
Output: DC 24V, 0.7A

** All measurement and test data in this report was gathered from production sample serial number: 0101101500000021 (Assigned by the applicant). The EUT supplied by the applicant was received on 2013-03-22.*

Objective

This report is prepared on behalf of *Deliberant LLC* 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)

N/A

Test Methodology

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

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

The uncertainty of any RF tests which use conducted method measurement is ±0.96 dB, the uncertainty of any radiation on emissions measurement is ±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 C63.4-2003.

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

SYSTEM TEST CONFIGURATION

Description of Test Configuration

For 802.11b, 802.11g, 802.11n-HT20 and 802.11n-HT40 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	/	/

For 802.11b, 802.11g, 802.11n-HT20 mode, EUT was tested with Channel 1, 6 and 11.

For 802.11n-HT40 mode, 7 channels are provided to testing:

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

EUT was tested with Channel 1, 4 and 7.

EUT Exercise Software

Test software: Better Terminal Emulator Pro for Android
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.

802.11b: The commend is “iwpriv ra0 set TxPower=25”
802.11b: The commend is “iwpriv ra0 set TxPower=21”
802.11n-HT20: The commend is “iwpriv ra0 set TxPower=21”
802.11n-HT40: The commend is “iwpriv ra0 set TxPower=18”

Equipment Modifications

No modification was made to the EUT tested.

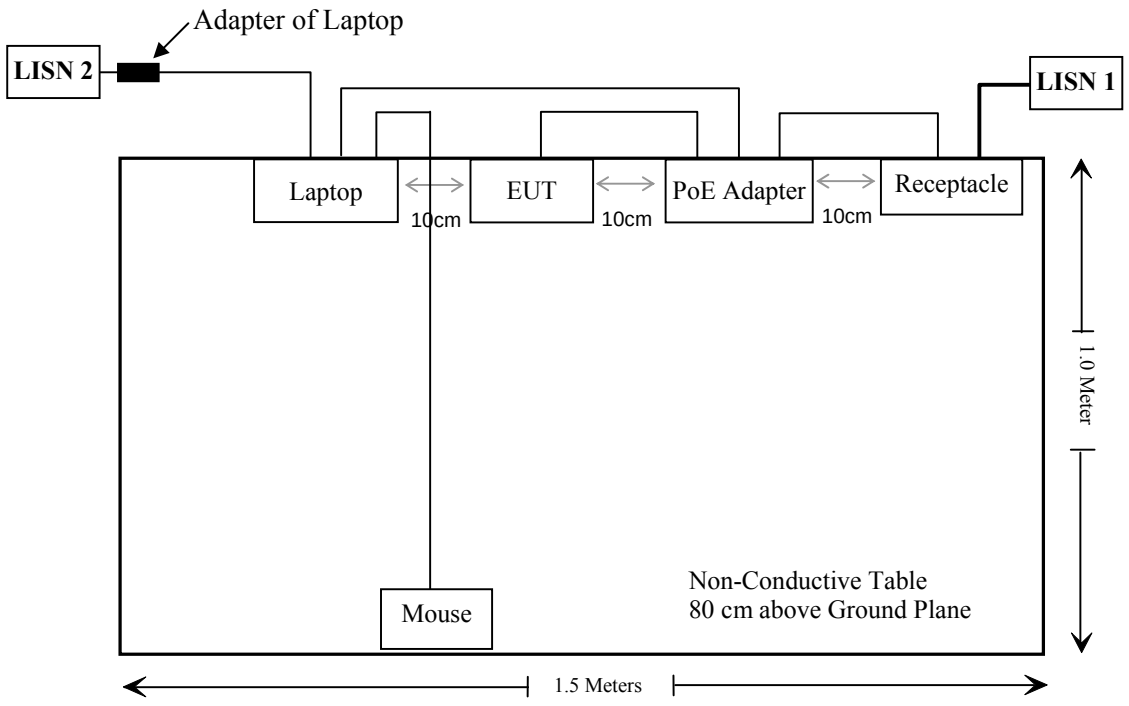
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
DELL	Laptop	N/A	N/A
DELL	Mouse	MUC5UO	N/A

External I/O Cable

Cable Description	Length (m)	From Port	To
Unshielded Detachable Power Cable	1.0	PoE Adapter	Receptacle
Shielded Detachable RJ45 Cable	1.5	PoE Adapter	EUT

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.247 (i), §1.1307 (b)(1), §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) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f²)	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

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. mW/cm2)
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, the power gain factor, is normally numeric gain.
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

Calculated Data, worst case as below:

Mode	Frequency (MHz)	Antenna Gain		Conducted Power		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
		(dBi)	(numeric)	(dBm)	(mW)			
Limits for General Population/Uncontrolled Exposure								
802.11b	2412	11	12.59	23.71	234.96	20	0.59	1.0
802.11g	2412	11	12.59	23.64	231.21	20	0.58	1.0
802.11n-HT20	2412	11	12.59	24.03	252.93	20	0.63	1.0
802.11n-HT40	2422	11	12.59	24.13	258.82	20	0.65	1.0

FCC Radiation Exposure Statement:

To comply with FCC RF exposure requirements, a minimum separation distance of 20 cm is required between the antenna and all public persons.

Result: Compliance

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.

And according to FCC 47 CFR section 15.247 (b)(1)(i), Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT has an integrated directional dual-polarized panel antenna arrangement for Wi-Fi, which was permanently attached, the antenna gain is 11 dBi (maximum), fulfill the requirement of this section. Please refer to the internal photos.

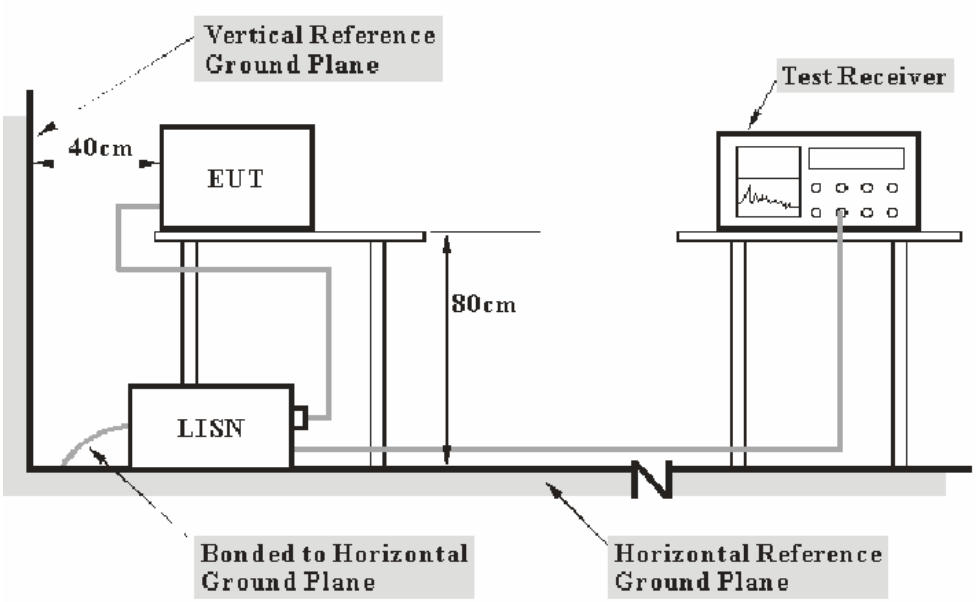
Result: Compliance.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207

EUT Setup



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

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

The spacing between the relevant 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
Rohde & Schwarz	EMI Test Receiver	ESCS30	100176	2012-11-24	2013-11-23
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2012-08-22	2013-08-21
Rohde & Schwarz	Pulse limiter	ESH3Z2	DE25985	2012-08-09	2013-08-08
BACL	CE Test software	BACL-CE	V1.0	-	-

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

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:

5.08 dB at **16.230 MHz** in the **Neutral** conducted mode

Test Data

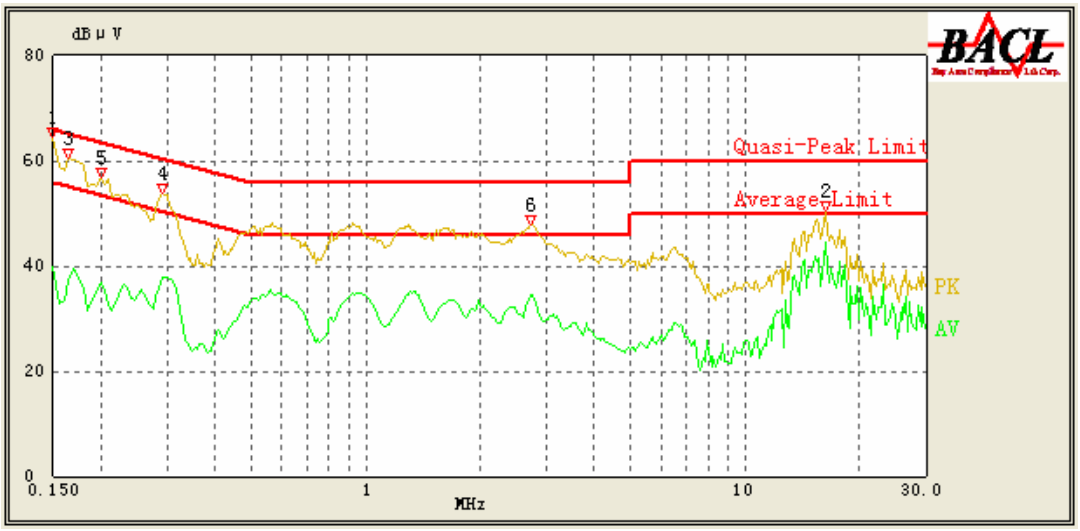
Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

The testing was performed by Tiger Ye on 2013-04-20.

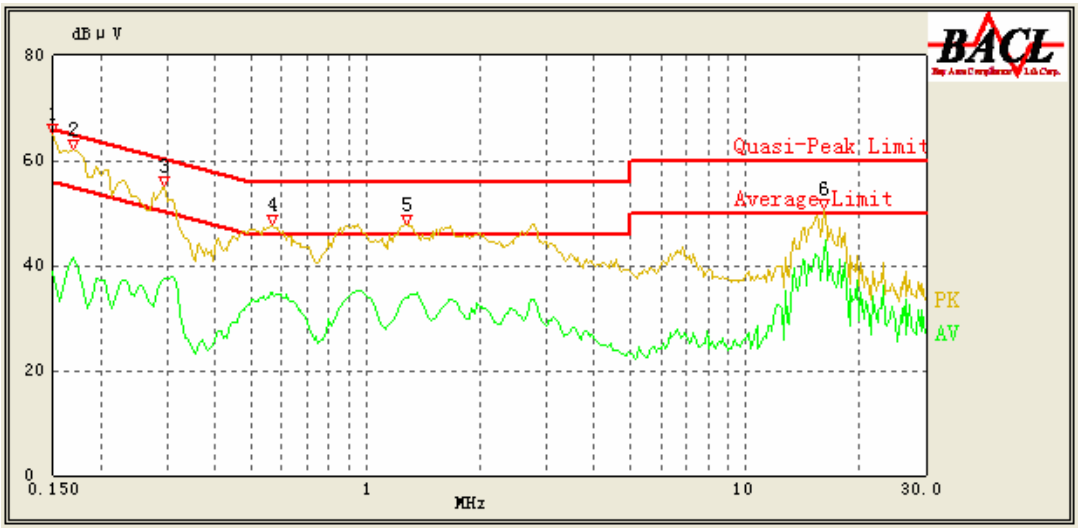
Test mode: Transmitting

AC 120V/60Hz, Line:



Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/Ave./QP)
16.230	44.65	10.62	50.00	5.35	Ave.
0.150	58.34	10.10	66.00	7.66	QP
0.165	54.63	10.10	65.57	10.94	QP
2.755	34.43	10.20	46.00	11.57	Ave.
16.230	47.86	10.62	60.00	12.14	QP
2.730	43.22	10.20	56.00	12.78	QP
0.200	51.48	10.10	64.57	13.09	QP
0.290	48.55	10.18	62.00	13.45	QP
0.290	37.83	10.18	52.00	14.17	Ave.
0.150	39.78	10.10	56.00	16.22	Ave.
0.200	36.80	10.10	54.57	17.77	Ave.
0.165	37.08	10.10	55.57	18.49	Ave.

AC 120V/60Hz, Neutral:



Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/Ave./QP)
16.230	44.92	10.60	50.00	5.08	Ave.
0.150	59.48	10.10	66.00	6.52	QP
0.170	57.34	10.10	65.43	8.09	QP
0.565	34.69	10.20	46.00	11.31	Ave.
0.570	43.87	10.20	56.00	12.13	QP
1.275	33.72	10.20	46.00	12.28	Ave.
16.225	47.61	10.60	60.00	12.39	QP
0.295	49.13	10.10	61.86	12.73	QP
1.280	43.05	10.20	56.00	12.95	QP
0.170	41.44	10.10	55.43	13.99	Ave.
0.295	37.50	10.10	51.86	14.36	Ave.
0.150	38.82	10.10	56.00	17.18	Ave.

Note:
1) Correction Factor =LISN/ISN VDF (Voltage Division Factor) + Cable Loss + Pulse Limiter Attenuation
The corrected factor has been input into the transducer of the test software.
2) Corrected Amplitude = Reading + Correction Factor
3) Margin = Limit – Corrected Amplitude

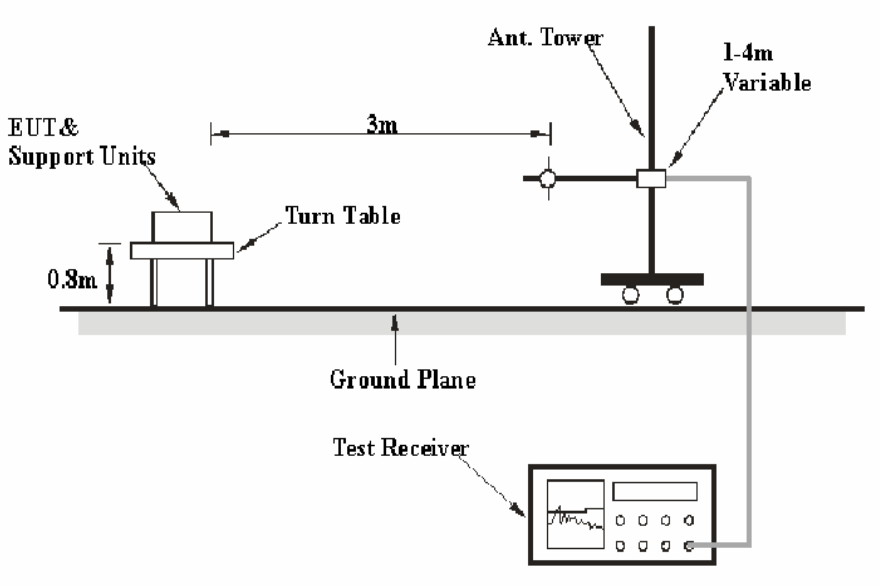
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

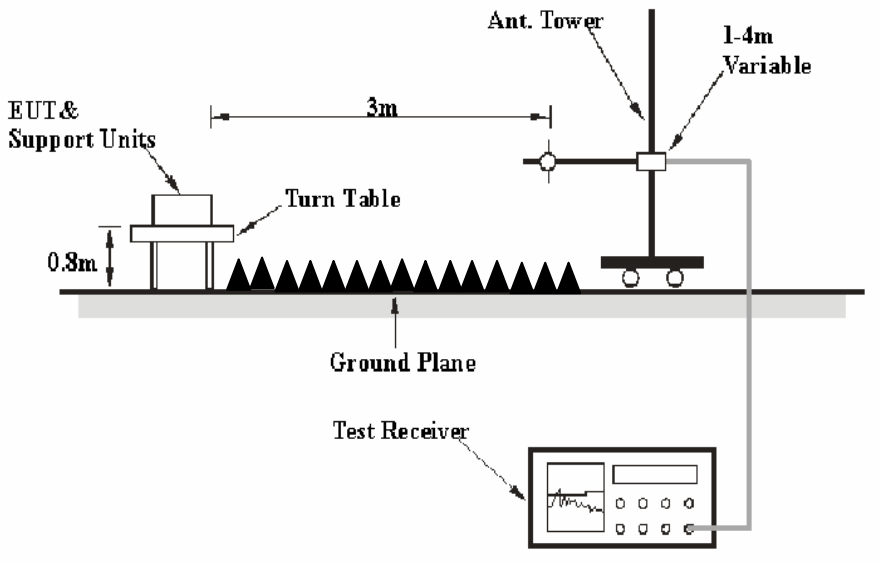
FCC §15.247 (d); §15.209; §15.205;

EUT Setup

Below 1 GHz:



Above 1 GHz:



The radiated emission tests were performed in the 3 meters 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.

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	IF B/W	Detector
30MHz – 1000 MHz	100 kHz	300 kHz	120kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz	/	Ave.

Test Procedure

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
HP	Amplifier	8447E	1937A01046	2012-11-24	2013-11-23
Rohde & Schwarz	EMI Test Receiver	ESCI	101122	2012-08-08	2013-08-07
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2011-11-28	2014-11-27
SUPER ULTRA	Amplifier	ZVA-213+	N/A	2012-11-24	2013-11-23
Sunol Sciences	Horn Antenna	DRH-118	A052304	2011-12-01	2014-11-30
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2012-11-24	2013-11-23
Agilent	Spectrum Analyzer	8564E	3943A01781	2012-05-17	2013-05-16
the electro-Mechanics Co.	Horn Antenna	3116	9510-2270	2010-10-14	2013-10-13

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

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:

2.36 dB at **4824.0 MHz** in the **Horizontal** polarization

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

The testing was performed by Tiger Ye on 2013-04-20.

Test Mode: Transmitting

Note: For 802.11b/g, test with two antenna port transmit separately and worst case as below.
For 802.11n-HT20, 802.11n-HT40, test with two antenna ports transmit simultaneously

30 MHz-25 GHz:

802.11b Mode:

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBuV/m)	FCC Part 15.247/205/209	
	Reading (dBµV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBµV/m)	Margin (dB)
Low Channel (2412 MHz)									
2412.0	113.01	PK	202	1.7	H	6.13	119.14	/	/
2412.0	97.00	Ave.	202	1.7	H	6.13	103.13	/	/
2412.0	108.66	PK	359	1.9	V	6.13	114.79	/	/
2412.0	92.37	Ave.	359	1.9	V	6.13	98.50	/	/
4824.0	37.45	Ave.	228	1.8	H	12.40	49.85	54	4.15
3232.6	38.15	Ave.	212	1.4	V	7.39	45.54	54	8.46
9648.0	23.92	Ave.	282	1.8	V	19.29	43.21	54	10.79
830.1	40.16	QP	52	1.5	H	-5.00	35.16	46	10.84
7236.0	25.64	Ave.	248	1.9	H	16.62	42.26	54	11.74
210.6	49.89	QP	160	1.6	V	-15.80	34.09	46	11.91
4824.0	49.56	PK	228	1.8	H	12.40	61.96	74	12.04
3232.6	51.27	PK	212	1.4	V	7.39	58.66	74	15.34
9648.0	37.54	PK	282	1.8	V	19.29	56.83	74	17.17
7236.0	39.05	PK	248	1.9	H	16.62	55.67	74	18.33
2384.0	35.43	PK	267	1.7	H	7.21	42.64	74	31.36
2332.9	34.33	PK	210	1.2	V	5.48	39.81	74	34.19
Middle Channel (2437 MHz)									
2437.0	113.42	PK	165	1.6	H	7.21	120.63	/	/
2437.0	98.29	Ave.	165	1.6	H	7.21	105.50	/	/
2437.0	108.19	PK	261	1.9	V	7.21	115.40	/	/
2437.0	92.97	Ave.	261	1.9	V	7.21	100.18	/	/
4874.0	37.38	Ave.	291	1.5	H	12.46	49.84	54	4.16
3232.6	37.04	Ave.	221	1.3	V	7.39	44.43	54	9.57
830.1	41.05	QP	348	1.4	H	-5.00	36.05	46	9.95
4874.0	50.00	PK	291	1.5	H	12.46	62.46	74	11.54
210.6	50.23	QP	299	1.0	V	-15.80	34.43	46	11.57
9748.0	22.18	Ave.	104	1.5	V	19.40	41.58	54	12.42
7311.0	24.23	Ave.	16	1.1	H	16.49	40.72	54	13.28
3232.6	50.45	PK	221	1.3	V	7.39	57.84	74	16.16
9748.0	37.19	PK	104	1.5	V	19.40	56.59	74	17.41
7311.0	39.22	PK	16	1.1	H	16.49	55.71	74	18.29
2382.7	34.86	PK	357	1.5	H	7.21	42.07	74	31.93
2331.9	35.78	PK	343	1.0	V	5.48	41.26	74	32.74

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBuV/m)	FCC Part 15.247/205/209	
	Reading (dBµV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBµV/m)	Margin (dB)
High Channel (2462 MHz)									
2462.0	112.62	PK	349	1.2	H	7.21	119.83	/	/
2462.0	97.09	Ave.	349	1.2	H	7.21	104.30	/	/
2462.0	106.64	PK	130	1.1	V	7.21	113.85	/	/
2462.0	90.88	Ave.	130	1.1	V	7.21	98.09	/	/
4824.0	39.24	Ave.	170	1.6	H	12.40	51.64	54	2.36*
3232.6	39.64	Ave.	294	1.9	V	7.39	47.03	54	6.97
830.1	41.20	QP	333	1.4	H	-5.00	36.20	46	9.80
4824.0	50.81	PK	170	1.6	H	12.40	63.21	74	10.79
210.6	50.48	QP	180	1.8	V	-15.80	34.68	46	11.32
9648.0	22.85	Ave.	87	1.1	V	19.40	42.25	54	11.75
7236.0	24.73	Ave.	322	1.8	H	16.62	41.35	54	12.65
3232.6	51.95	PK	294	1.9	V	7.39	59.34	74	14.66
7236.0	39.09	PK	322	1.8	H	16.62	55.71	74	18.29
9648.0	36.30	PK	87	1.1	V	19.40	55.70	74	18.30
2381.5	35.49	PK	359	1.7	H	7.21	42.70	74	31.30
2331.1	35.00	PK	170	1.2	V	5.48	40.48	74	33.52

802.11g Mode:

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBuV/m)	FCC Part 15.247/205/209	
	Reading (dBµV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBµV/m)	Margin (dB)
Low Channel (2412 MHz)									
2412.0	111.73	PK	96	1.1	H	6.13	117.86	/	/
2412.0	96.10	Ave.	96	1.1	H	6.13	102.23	/	/
2412.0	105.12	PK	211	1.5	V	6.13	111.25	/	/
2412.0	88.58	Ave.	211	1.5	V	6.13	94.71	/	/
4824.0	38.41	Ave.	335	1.7	H	12.40	50.81	54	3.19*
830.1	42.27	QP	80	1.9	H	-5.00	37.27	46	8.73
3232.6	37.49	Ave.	343	1.9	V	7.39	44.88	54	9.12
210.6	49.85	QP	221	1.6	V	-15.80	34.05	46	11.95
4824.0	49.42	PK	335	1.7	H	12.40	61.82	74	12.18
7236.0	24.42	Ave.	292	1.5	H	16.62	41.04	54	12.96
9648.0	21.10	Ave.	229	2.0	V	19.28	40.38	54	13.62
3232.6	50.71	PK	343	1.9	V	7.39	58.10	74	15.90
9648.0	36.49	PK	229	2.0	V	19.28	55.77	74	18.23
7236.0	38.49	PK	292	1.5	H	16.62	55.11	74	18.89
2384.5	34.61	PK	48	1.5	H	7.21	41.82	74	32.18
2333.7	34.40	PK	318	1.3	V	5.48	39.88	74	34.12
Middle Channel (2437 MHz)									
2437.0	111.14	PK	159	1.2	H	7.21	118.35	/	/
2437.0	94.89	Ave.	159	1.2	H	7.21	102.10	/	/
2437.0	106.67	PK	84	1.7	V	7.21	113.88	/	/
2437.0	89.98	Ave.	84	1.7	V	7.21	97.19	/	/
4874.0	37.10	Ave.	285	1.4	H	12.46	49.56	54	4.44
830.1	41.29	QP	76	1.9	H	-5.00	36.29	46	9.71
210.6	51.58	QP	326	1.2	V	-15.80	35.78	46	10.22
3232.6	36.22	Ave.	239	1.7	V	7.39	43.61	54	10.39
7311.0	26.34	Ave.	16	1.6	H	16.49	42.83	54	11.17
4874.0	49.92	PK	285	1.4	H	12.46	62.38	74	11.62
9748.0	21.60	Ave.	340	1.2	V	19.40	41.00	54	13.00
3232.6	49.76	PK	239	1.7	V	7.39	57.15	74	16.85
7311.0	39.84	PK	16	1.6	H	16.49	56.33	74	17.67
9748.0	36.36	PK	340	1.2	V	19.40	55.76	74	18.24
2382.0	35.21	PK	146	1.7	H	7.21	42.42	74	31.58
2333.6	35.68	PK	279	1.4	V	5.48	41.16	74	32.84

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBuV/m)	FCC Part 15.247/205/209	
	Reading (dBµV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBµV/m)	Margin (dB)
High Channel (2462 MHz)									
2462.0	111.07	PK	269	1.3	H	7.21	118.28	/	/
2462.0	93.35	Ave.	269	1.3	H	7.21	100.56	/	/
2462.0	104.73	PK	257	1.8	V	7.21	111.94	/	/
2462.0	88.83	Ave.	257	1.8	V	7.21	96.04	/	/
4924.0	37.29	Ave.	235	1.7	H	12.50	49.79	54	4.21
830.1	41.11	QP	186	1.2	H	-5.00	36.11	46	9.89
3232.6	36.19	Ave.	185	1.2	V	7.39	43.58	54	10.42
4924.0	50.12	PK	235	1.7	H	12.50	62.62	74	11.38
210.6	49.53	QP	299	1.9	V	-15.80	33.73	46	12.27
9748.0	21.89	Ave.	356	1.7	V	19.40	41.29	54	12.71
7386.0	24.94	Ave.	136	1.2	H	15.91	40.85	54	13.15
3232.6	49.97	PK	185	1.2	V	7.39	57.36	74	16.64
9748.0	37.70	PK	356	1.7	V	19.40	57.10	74	16.90
7386.0	38.79	PK	136	1.2	H	15.91	54.70	74	19.30
2381.4	34.66	PK	261	1.9	H	7.21	41.87	74	32.13
2333.3	34.60	PK	210	1.4	V	5.48	40.08	74	33.92

802.11n-HT20 Mode:

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBuV/m)	FCC Part 15.247/205/209	
	Reading (dBµV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBµV/m)	Margin (dB)
Low Channel (2412 MHz)									
2412.0	110.92	PK	17	1.9	H	6.13	117.05	/	/
2412.0	95.03	Ave.	17	1.9	H	6.13	101.16	/	/
2412.0	106.11	PK	347	1.1	V	6.13	112.24	/	/
2412.0	89.33	Ave.	347	1.1	V	6.13	95.46	/	/
4824.0	37.31	Ave.	179	1.8	H	12.40	49.71	54	4.29
3232.6	36.70	Ave.	330	1.4	V	7.39	44.09	54	9.91
210.6	51.87	QP	43	1.6	V	-15.80	36.07	46	9.93
830.1	41.01	QP	137	1.2	H	-5.00	36.01	46	9.99
4824.0	49.88	PK	179	1.8	H	12.40	62.28	74	11.72
9648.0	22.34	Ave.	19	1.8	V	19.29	41.63	54	12.37
7236.0	24.46	Ave.	250	1.2	H	16.62	41.08	54	12.92
3232.6	49.65	PK	330	1.4	V	7.39	57.04	74	16.96
9648.0	37.36	PK	19	1.8	V	19.29	56.65	74	17.35
7236.0	38.92	PK	250	1.2	H	16.62	55.54	74	18.46
2384.5	34.61	PK	252	1.7	H	6.81	41.42	74	32.58
2332.0	34.06	PK	31	1.9	V	5.48	39.54	74	34.46
Middle Channel (2437 MHz)									
2437.0	111.63	PK	226	1.5	H	7.21	118.84	/	/
2437.0	95.16	Ave.	226	1.5	H	7.21	102.37	/	/
2437.0	104.08	PK	38	1.4	V	7.21	111.29	/	/
2437.0	87.78	Ave.	38	1.4	V	7.21	94.99	/	/
4874.0	38.56	Ave.	99	2.0	H	12.46	51.02	54	2.98*
830.1	42.79	QP	38	1.3	H	-5.00	37.79	46	8.21
3232.6	37.73	Ave.	260	1.3	V	7.39	45.12	54	8.88
4874.0	50.06	PK	99	2.0	H	12.46	62.52	74	11.48
210.6	49.52	QP	2	1.3	V	-15.80	33.72	46	12.28
7311.0	24.03	Ave.	328	1.3	H	16.49	40.52	54	13.48
9748.0	20.65	Ave.	235	1.3	V	19.40	40.05	54	13.95
3232.6	50.60	PK	260	1.3	V	7.39	57.99	74	16.01
9748.0	36.41	PK	235	1.3	V	19.40	55.81	74	18.19
7311.0	38.28	PK	328	1.3	H	16.49	54.77	74	19.23
2381.5	34.51	PK	205	1.7	H	6.81	41.32	74	32.68
2333.6	35.48	PK	229	1.7	V	5.48	40.96	74	33.04

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBuV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
High Channel (2462 MHz)									
2462.0	110.53	PK	167	1.7	H	7.21	117.74	/	/
2462.0	93.72	Ave.	167	1.7	H	7.21	100.93	/	/
2462.0	106.76	PK	282	1.5	V	7.21	113.97	/	/
2462.0	89.89	Ave.	282	1.5	V	7.21	97.10	/	/
4924.0	37.35	Ave.	141	1.1	H	12.50	49.85	54	4.15
830.1	42.57	QP	153	1.5	H	-5.00	37.57	46	8.43
210.6	51.54	QP	51	1.8	V	-15.80	35.74	46	10.26
3232.6	36.22	Ave.	127	1.3	V	7.39	43.61	54	10.39
7386.0	26.34	Ave.	76	1.6	H	15.91	42.25	54	11.75
4924.0	49.49	PK	141	1.1	H	12.50	61.99	74	12.01
9848.0	21.77	Ave.	127	1.9	V	19.39	41.16	54	12.84
3232.6	49.81	PK	127	1.3	V	7.39	57.20	74	16.80
7386.0	39.72	PK	76	1.6	H	15.91	55.63	74	18.37
9848.0	36.18	PK	127	1.9	V	19.39	55.57	74	18.43
2384.4	35.63	PK	57	1.5	H	6.81	42.44	74	31.56
2333.6	35.71	PK	215	1.1	V	5.48	41.19	74	32.81

802.11n-HT40 Mode:

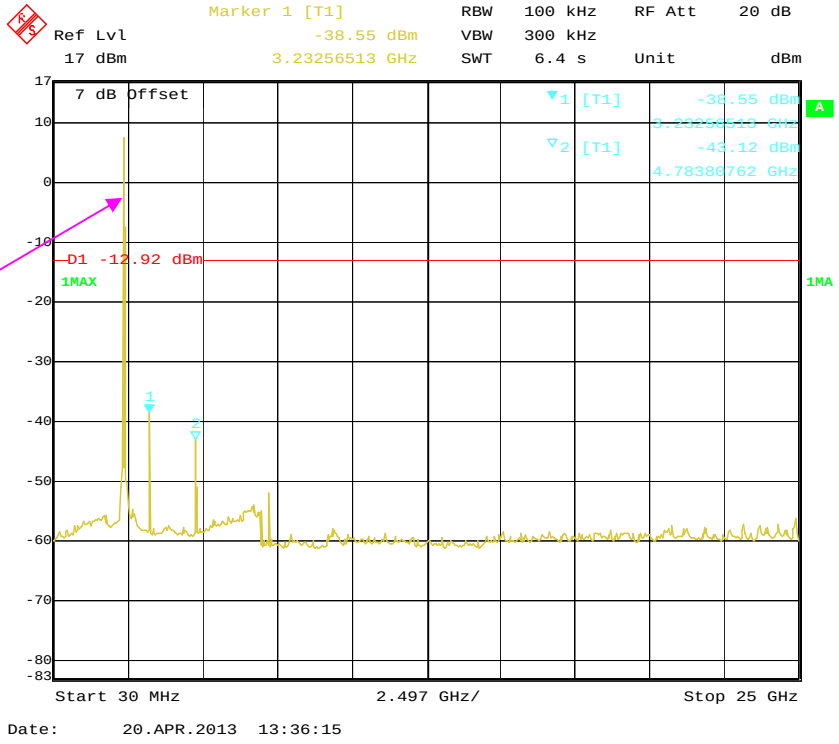
Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBuV/m)	FCC Part 15.247/205/209	
	Reading (dBµV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBµV/m)	Margin (dB)
Low Channel (2422 MHz)									
2422.0	108.15	PK	38	1.4	H	6.13	114.28	/	/
2422.0	91.96	Ave.	38	1.4	H	6.13	98.09	/	/
2422.0	103.85	PK	82	1.2	V	6.13	109.98	/	/
2422.0	85.25	Ave.	82	1.2	V	6.13	91.38	/	/
4844.0	37.88	Ave.	230	1.1	H	12.40	50.28	54	3.72*
830.1	42.88	QP	182	1.6	V	-5.00	37.88	46	8.12
3232.6	37.23	Ave.	102	1.1	V	7.39	44.62	54	9.38
4844.0	50.78	PK	230	1.1	H	12.40	63.18	74	10.82
210.6	49.68	QP	147	1.0	H	-15.80	33.88	46	12.12
9688.0	21.96	Ave.	29	1.2	V	19.29	41.25	54	12.75
7266.0	23.33	Ave.	226	1.8	H	16.62	39.95	54	14.05
3232.6	50.41	PK	102	1.1	V	7.39	57.80	74	16.20
9688.0	36.26	PK	29	1.2	V	19.29	55.55	74	18.45
7266.0	38.11	PK	226	1.8	H	16.62	54.73	74	19.27
2384.0	35.05	PK	306	1.0	H	6.81	41.86	74	32.14
2333.7	34.26	PK	47	1.4	V	5.48	39.74	74	34.26
Middle Channel (2437 MHz)									
2437.0	108.98	PK	251	1.3	H	7.21	116.19	/	/
2437.0	93.55	Ave.	251	1.3	H	7.21	100.76	/	/
2437.0	104.67	PK	241	1.9	V	7.21	111.88	/	/
2437.0	88.12	Ave.	241	1.9	V	7.21	95.33	/	/
4874.0	36.49	Ave.	226	1.4	H	12.46	48.95	54	5.05
830.1	42.00	QP	200	1.9	H	-5.00	37.00	46	9.00
3232.6	37.17	Ave.	354	1.5	V	7.39	44.56	54	9.44
9748.0	24.18	Ave.	66	1.0	V	19.40	43.58	54	10.42
210.6	51.21	QP	312	1.6	V	-15.80	35.41	46	10.59
4874.0	49.17	PK	226	1.4	H	12.46	61.63	74	12.37
7311.0	23.60	Ave.	169	1.2	H	16.49	40.09	54	13.91
3232.6	49.99	PK	354	1.5	V	7.39	57.38	74	16.62
9748.0	37.45	PK	66	1.0	V	19.40	56.85	74	17.15
7311.0	38.53	PK	169	1.2	H	16.49	55.02	74	18.98
2334.8	35.94	PK	72	1.7	V	5.48	41.42	74	32.58
2383.9	34.43	PK	200	1.8	H	6.81	41.24	74	32.76

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBuV/m)	FCC Part 15.247/205/209	
	Reading (dBµV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBµV/m)	Margin (dB)
High Channel (2452 MHz)									
2452.0	109.36	PK	216	1.7	H	7.21	116.57	/	/
2452.0	92.86	Ave.	216	1.7	H	7.21	100.07	/	/
2452.0	104.82	PK	227	1.8	V	7.21	112.03	/	/
2452.0	84.51	Ave.	227	1.8	V	7.21	91.72	/	/
4904.0	37.33	Ave.	248	1.3	H	12.50	49.83	54	4.17
830.1	42.29	QP	79	1.5	H	-5.00	37.29	46	8.71
3232.6	37.11	Ave.	61	1.3	V	7.39	44.50	54	9.50
9808.0	23.49	Ave.	171	1.8	V	19.39	42.88	54	11.12
4904.0	50.29	PK	248	1.3	H	12.50	62.79	74	11.21
210.6	49.68	QP	112	1.7	V	-15.80	33.88	46	12.12
7356.0	24.29	Ave.	216	1.2	H	15.91	40.20	54	13.80
9808.0	37.20	PK	171	1.8	V	19.39	56.59	74	17.41
3232.6	49.13	PK	61	1.3	V	7.39	56.52	74	17.48
7356.0	39.63	PK	216	1.2	H	15.91	55.54	74	18.46
2380.7	34.62	PK	302	1.6	H	6.81	41.43	74	32.57
2335.4	35.89	PK	100	2.0	V	5.48	41.37	74	32.63

Note: 1) For spurious emission, the average measurement was not performed, if peak level went lower than the average limit.
2) *Within measurement uncertainty

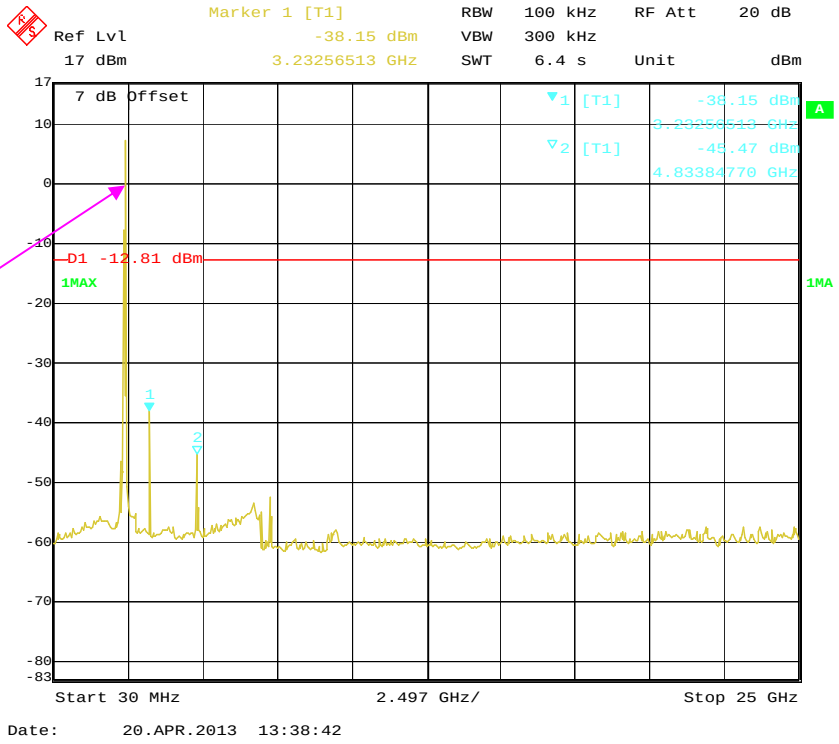
Conducted Spurious Emissions at Antenna Port:

802.11b Low Channel, Antenna 0



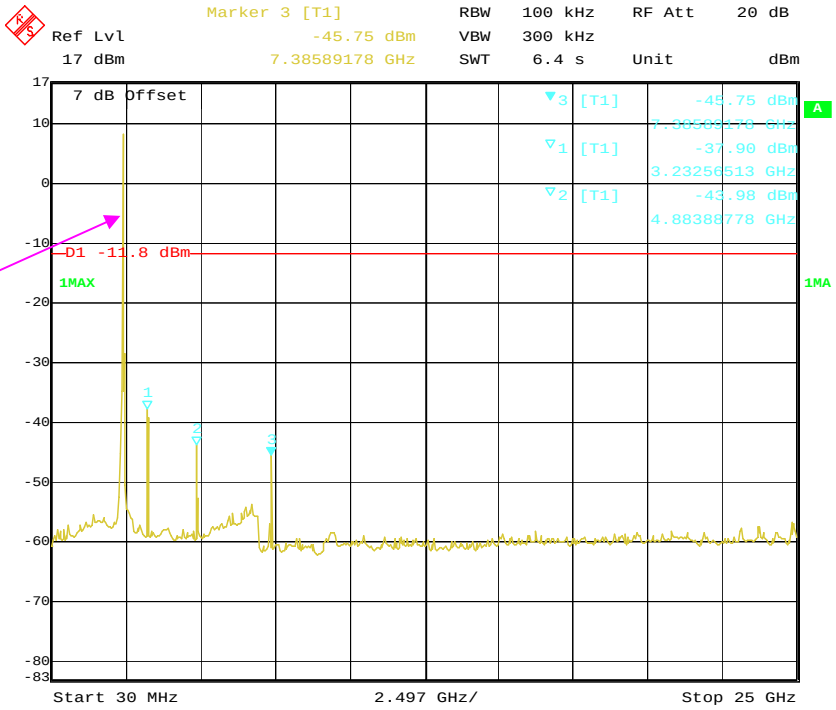
Fundamental

802.11b Middle Channel, Antenna 0



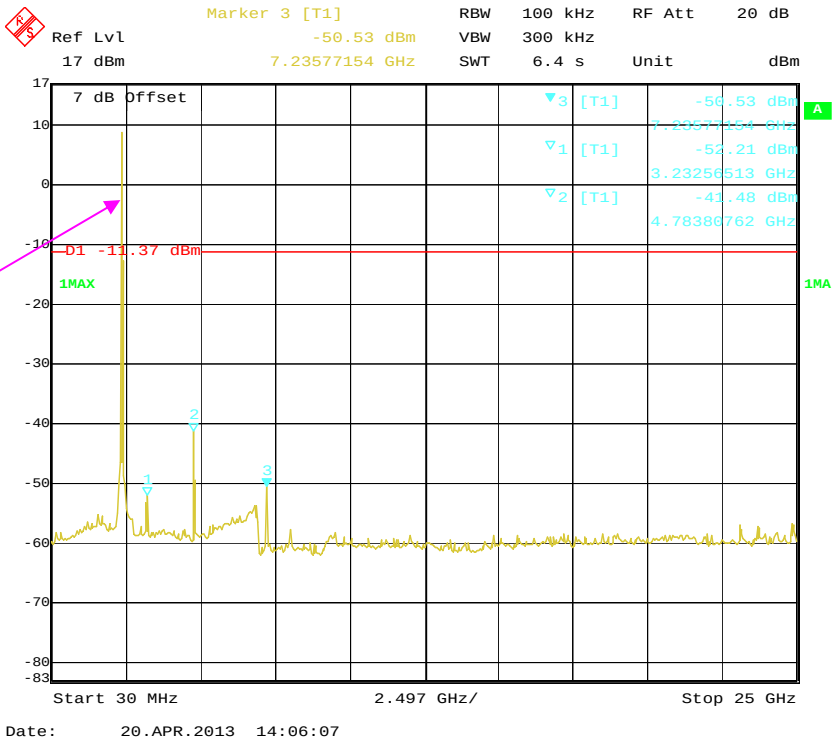
Fundamental

802.11b High Channel, Antenna 0



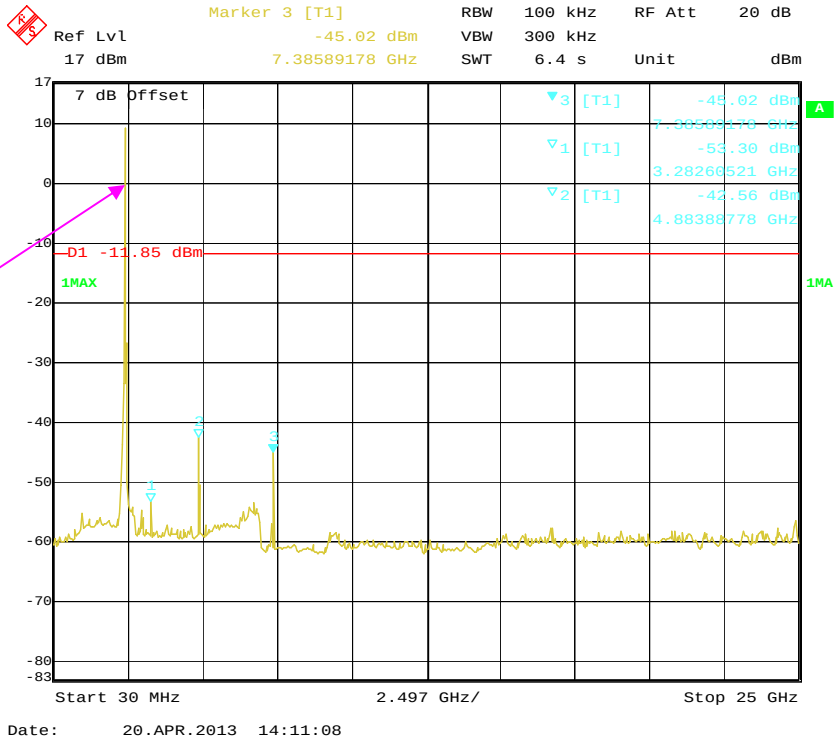
Fundamental

802.11b Low Channel, Antenna 1



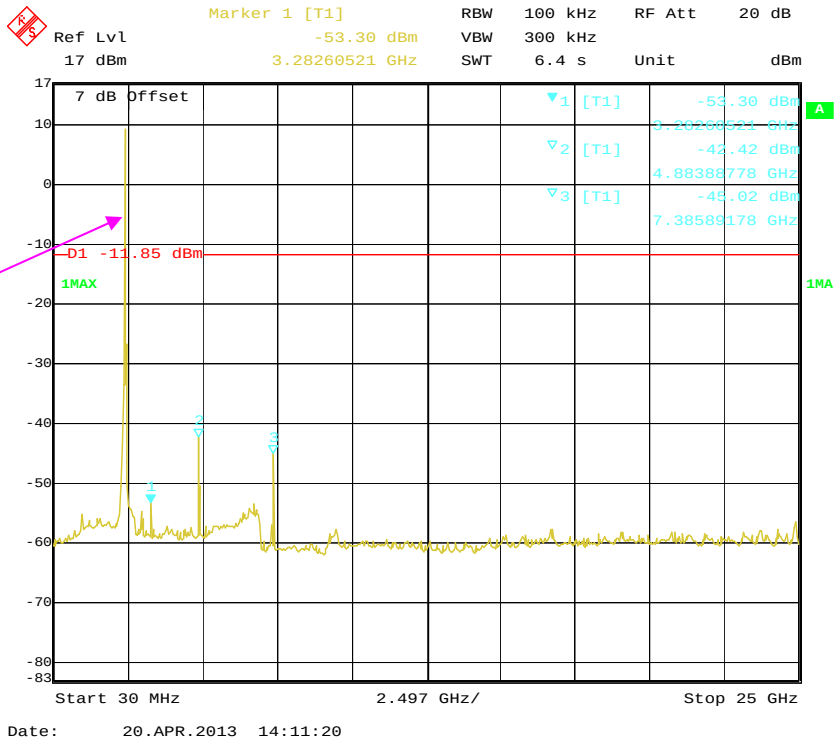
Fundamental

802.11b Middle Channel, Antenna 1



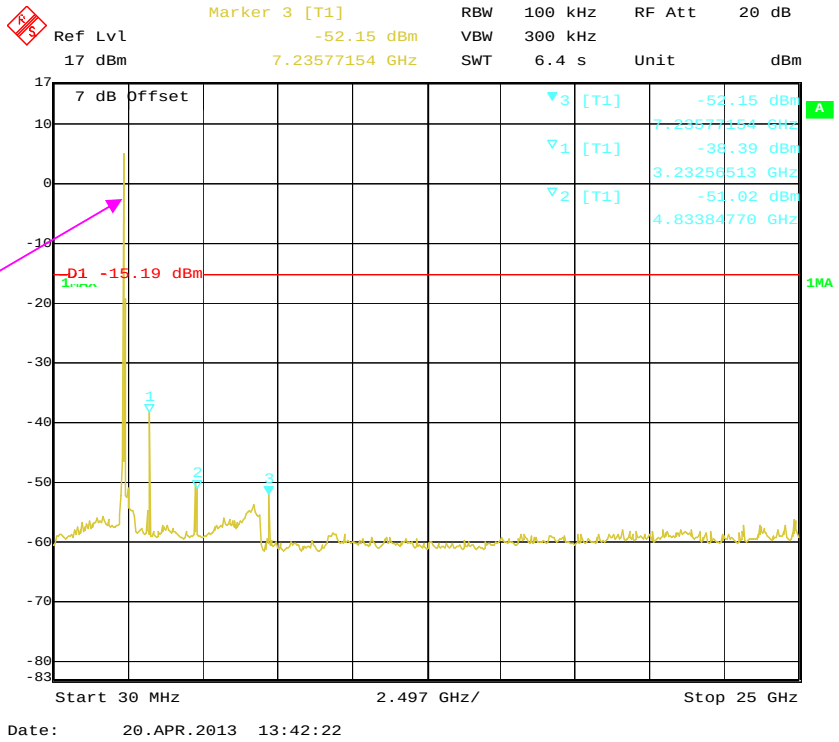
Fundamental

802.11b High Channel, Antenna 1



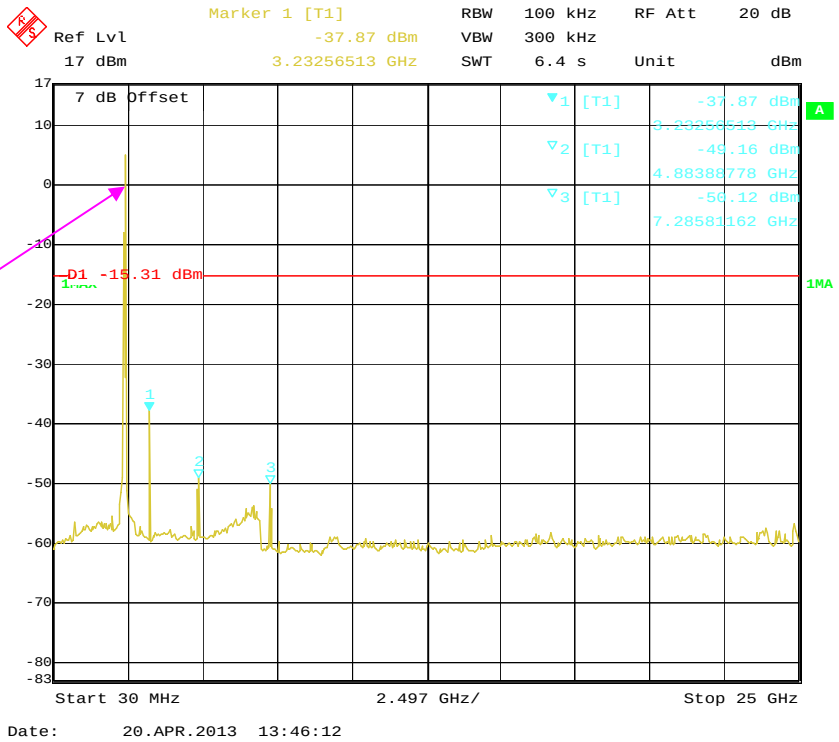
Fundamental

802.11g Low Channel, Antenna 0



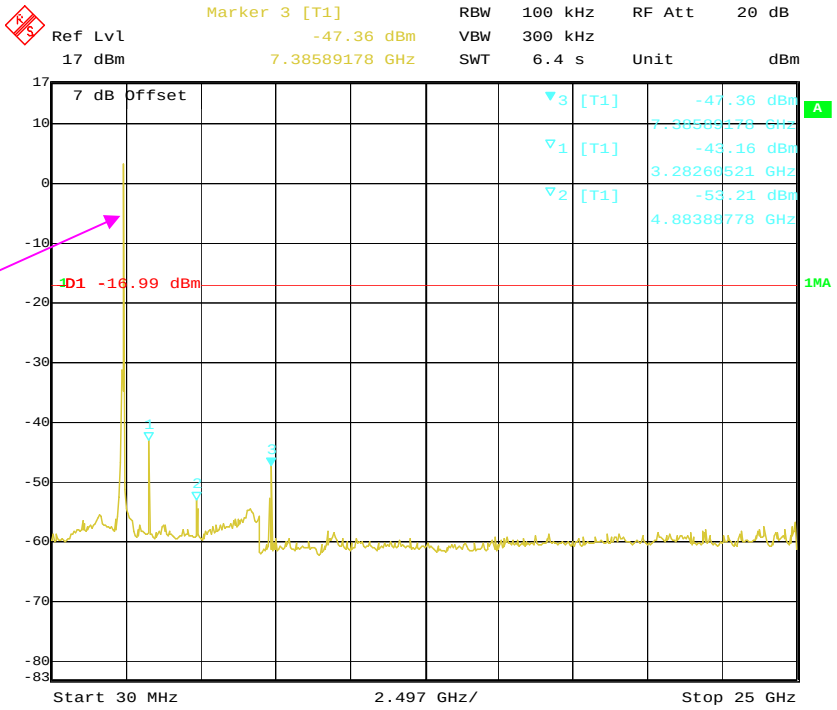
Fundamental

802.11g Middle Channel, Antenna 0



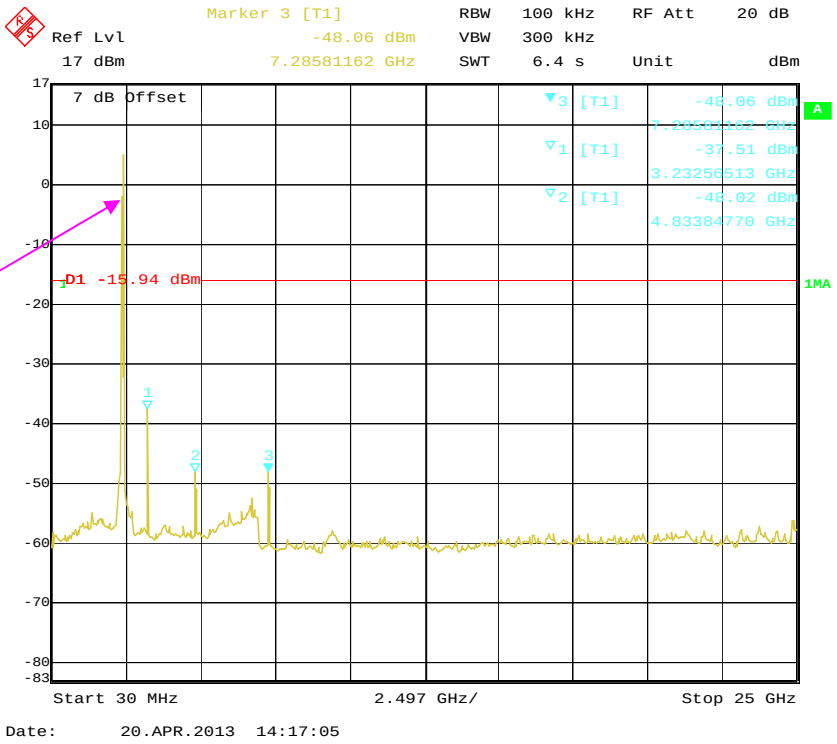
Fundamental

802.11g High Channel, Antenna 0



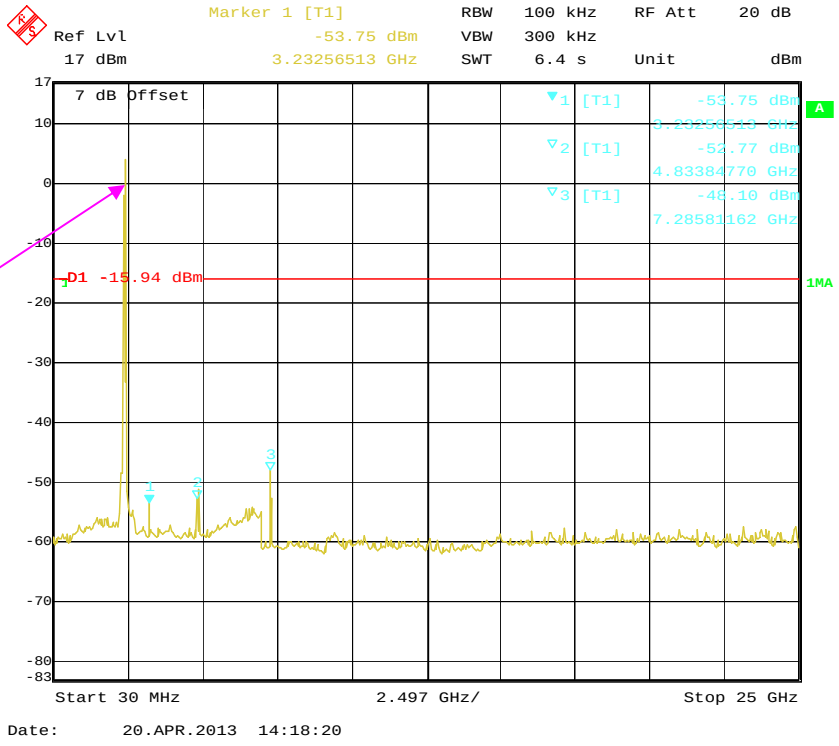
Fundamental

802.11g Low Channel, Antenna 1



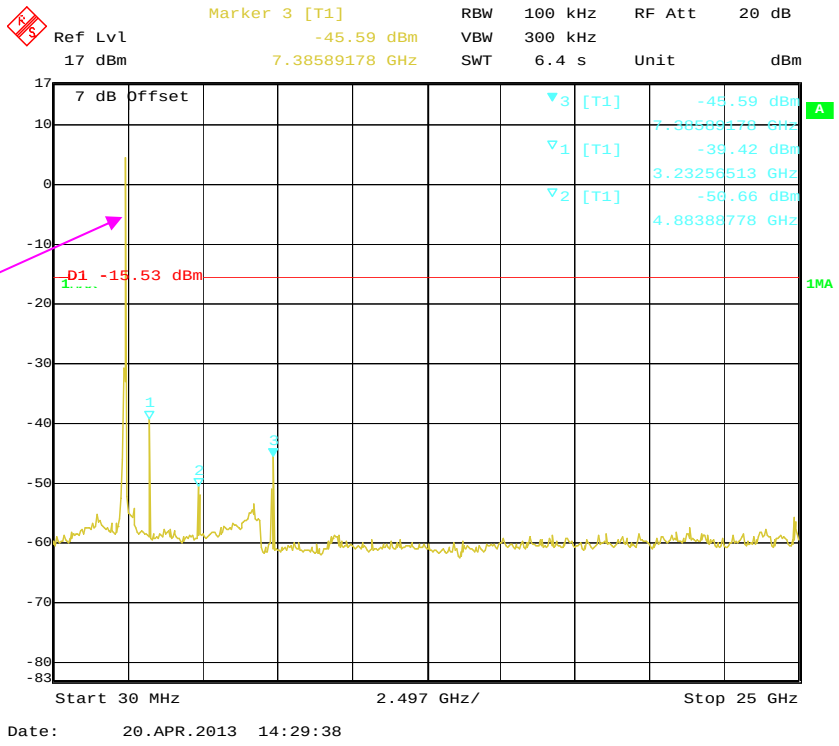
Fundamental

802.11g Middle Channel, Antenna 1



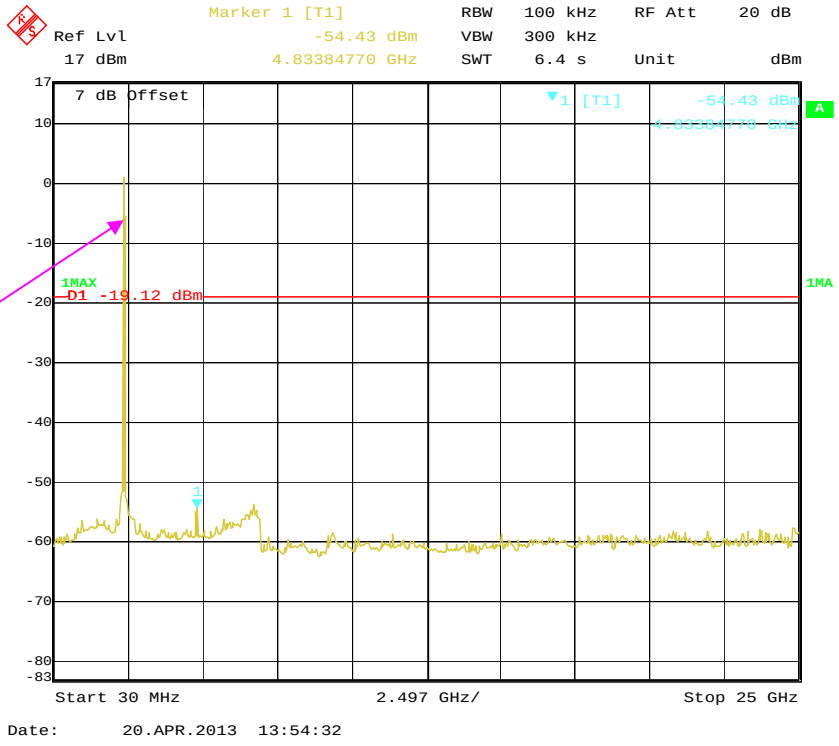
Fundamental

802.11g High Channel, Antenna 1



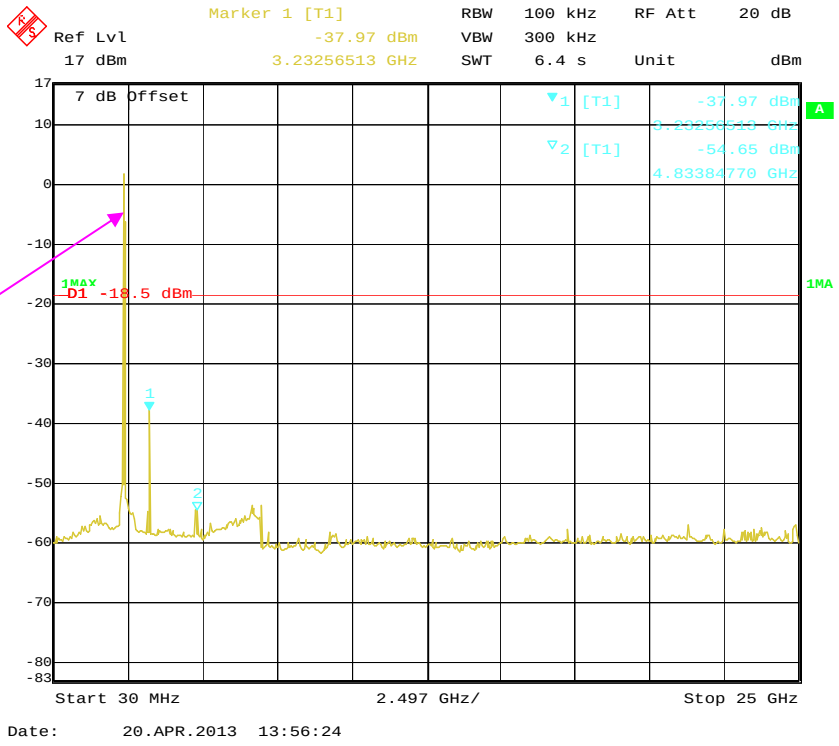
Fundamental

802.11n-HT20 Low Channel, Antenna 0



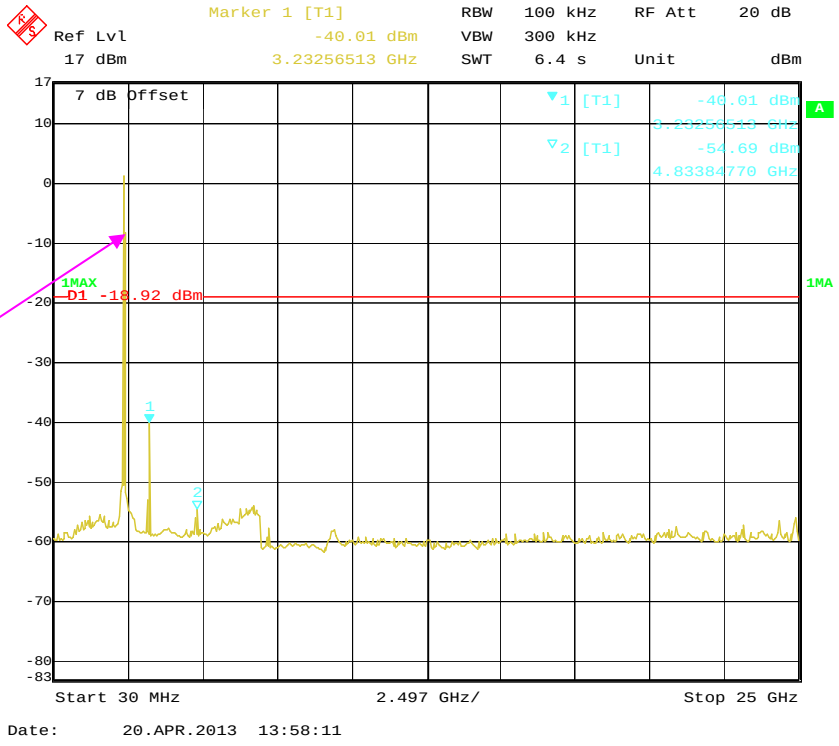
Fundamental

802.11n-HT20 Middle Channel, Antenna 0



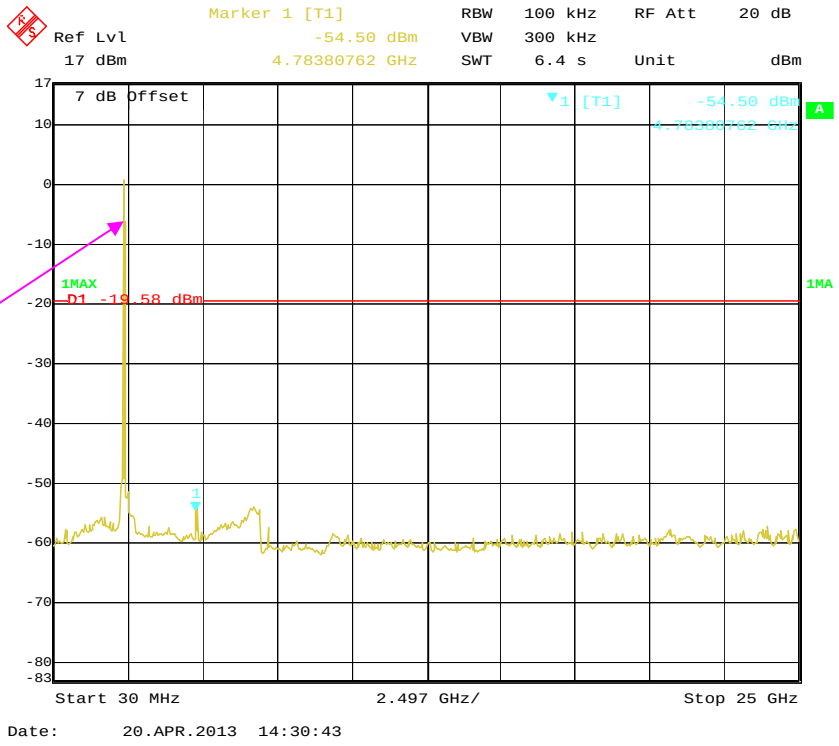
Fundamental

802.11n-HT20 High Channel, Antenna 0



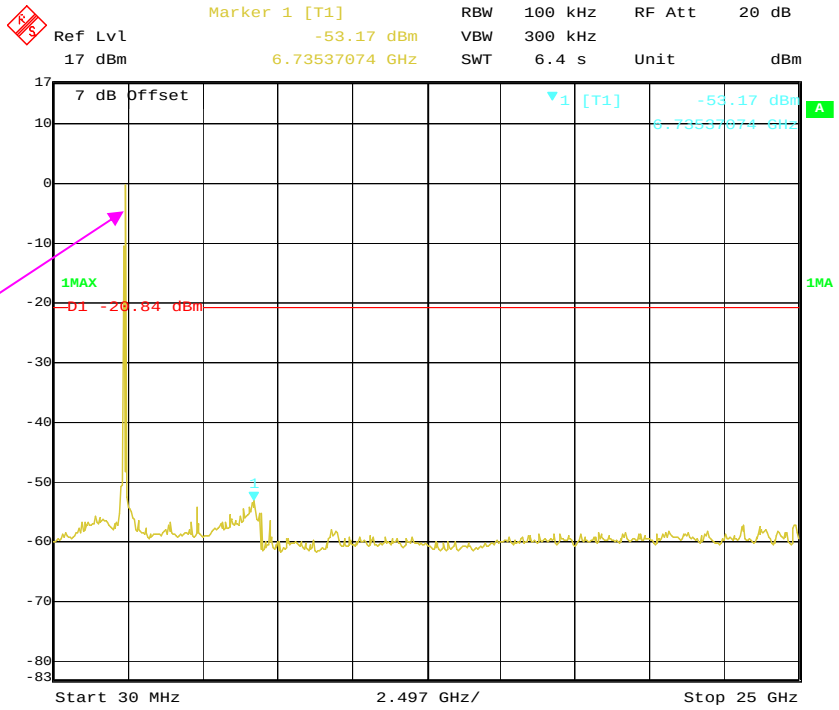
Fundamental

802.11n-HT20 Low Channel, Antenna 1



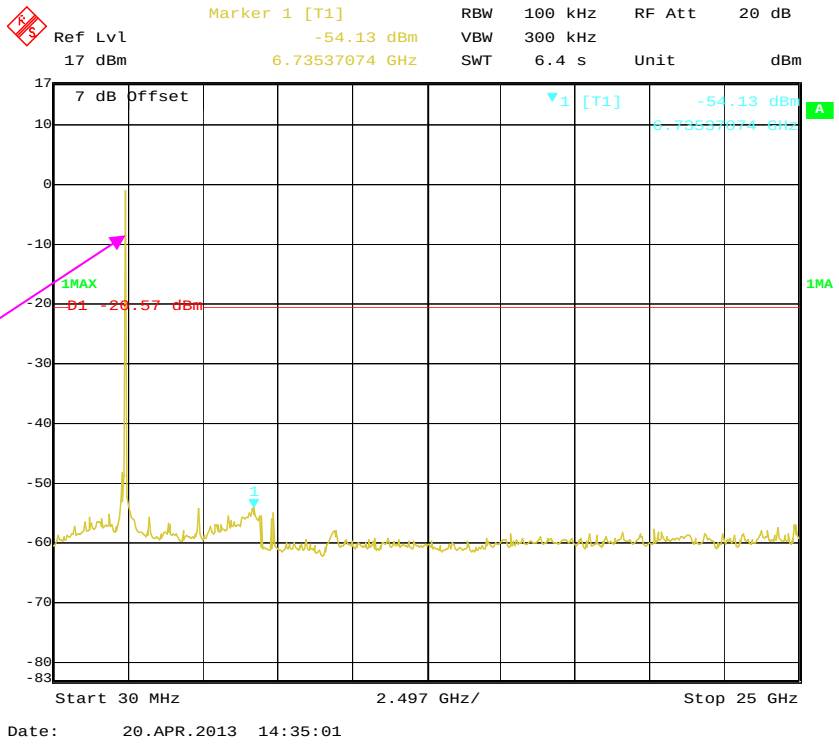
Fundamental

802.11n-HT20 Middle Channel, Antenna 1



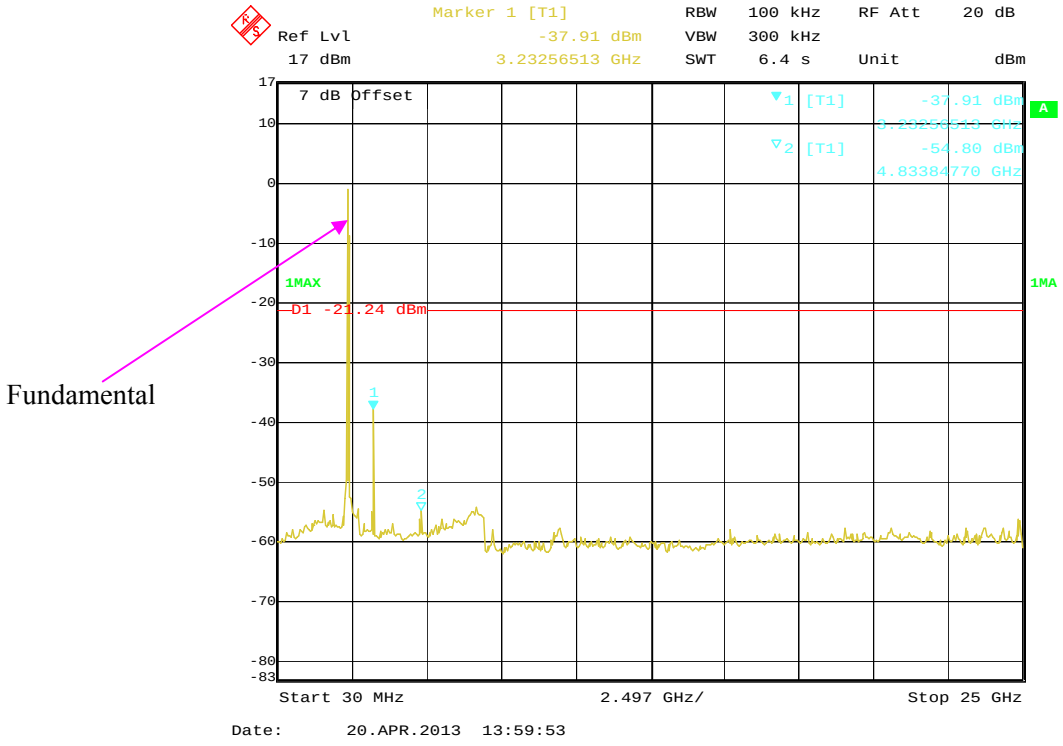
Fundamental

802.11n-HT20 High Channel, Antenna 1



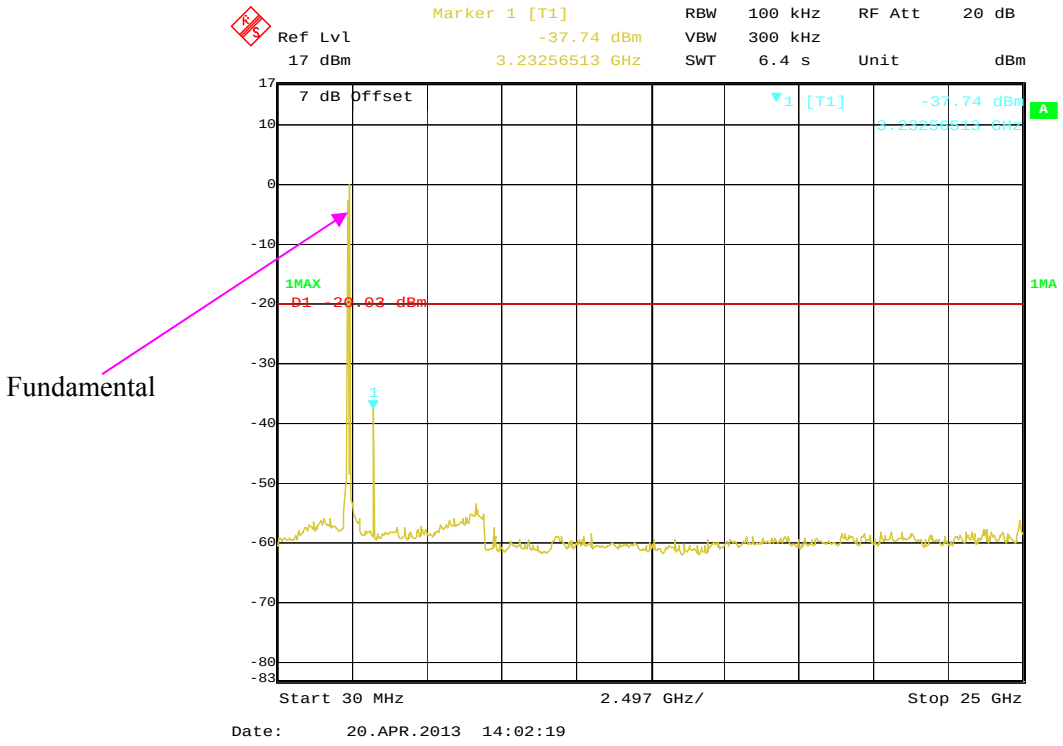
Fundamental

802.11n-HT40 Low Channel, Antenna 0



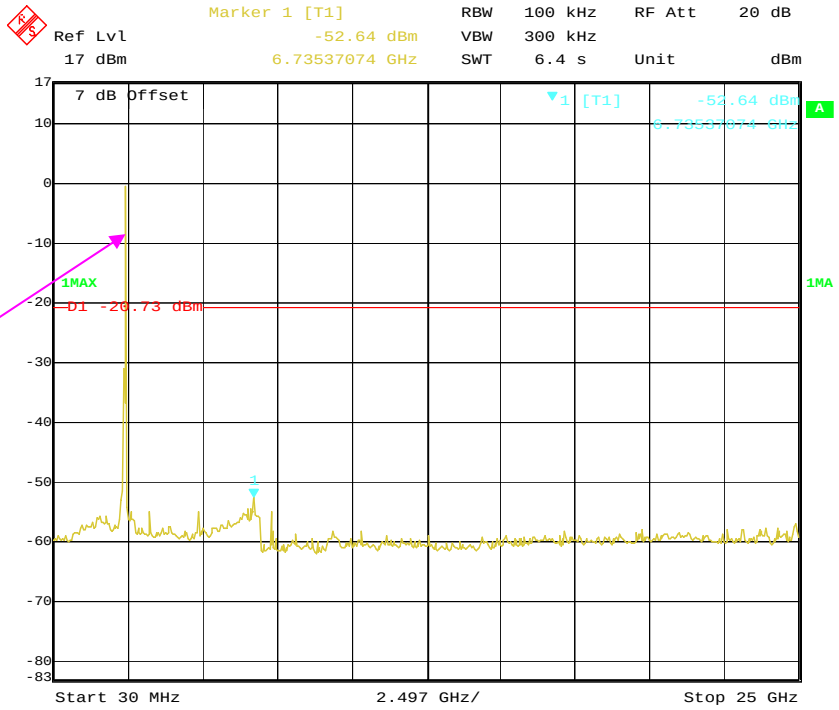
Fundamental

802.11n-HT40 Middle Channel, Antenna 0



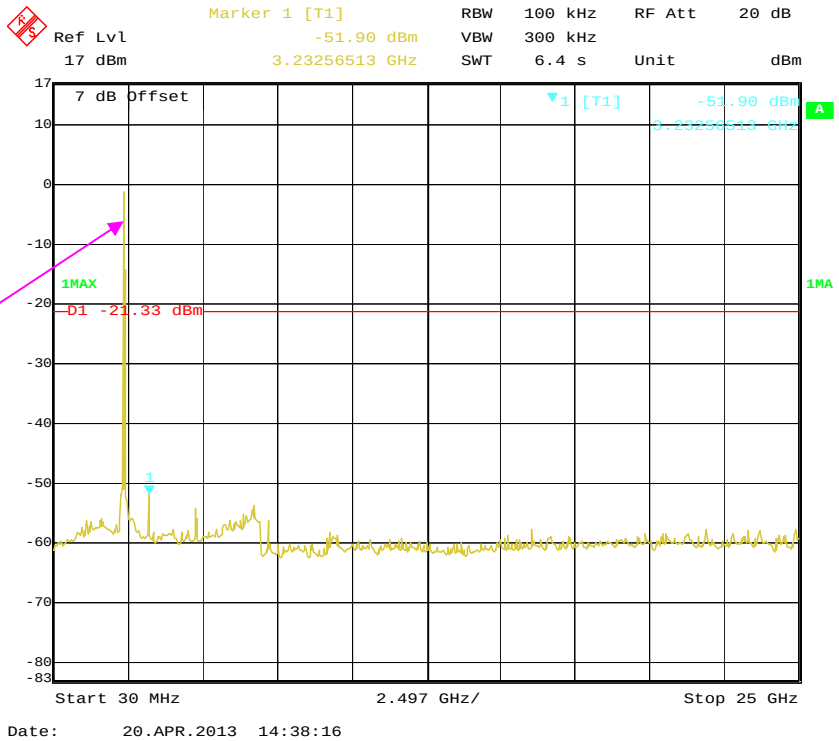
Fundamental

802.11n-HT40 High Channel, Antenna 0



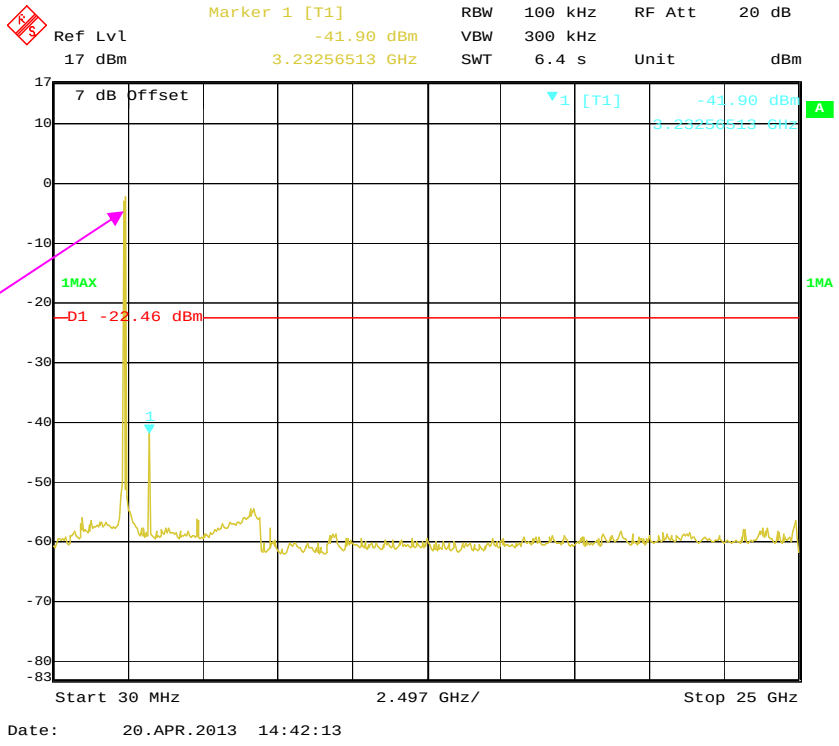
Fundamental

802.11n-HT40 Low Channel, Antenna 1



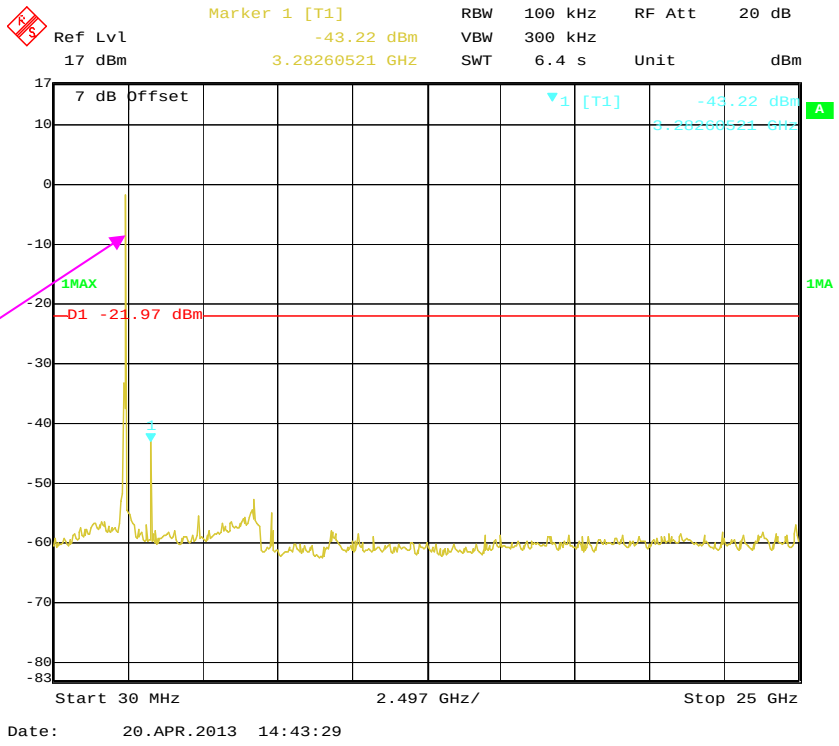
Fundamental

802.11n-HT40 Middle Channel, Antenna 1



Fundamental

802.11n-HT40 High Channel, Antenna 1



Fundamental

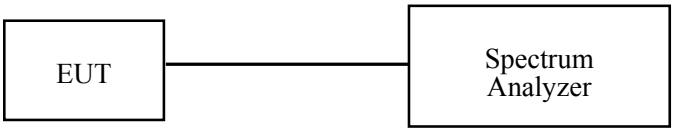
FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH

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 emission 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	Signal Analyzer	FSIQ26	8386001028	2012-11-24	2013-11-23

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	23 ℃
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

The testing was performed by Tiger Ye on 2013-04-19.

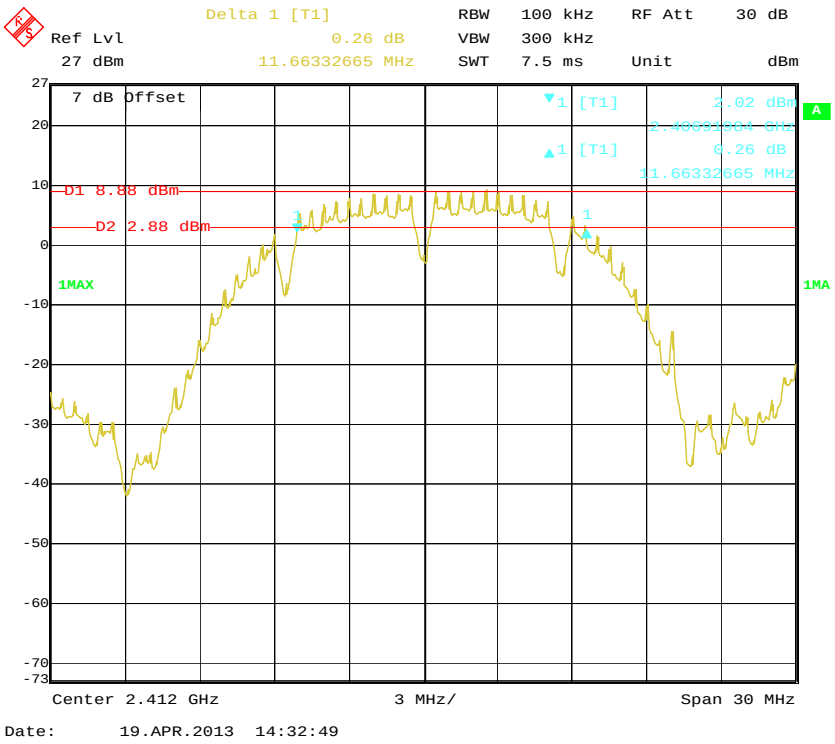
Test Mode: Transmitting

Test Result: Pass.

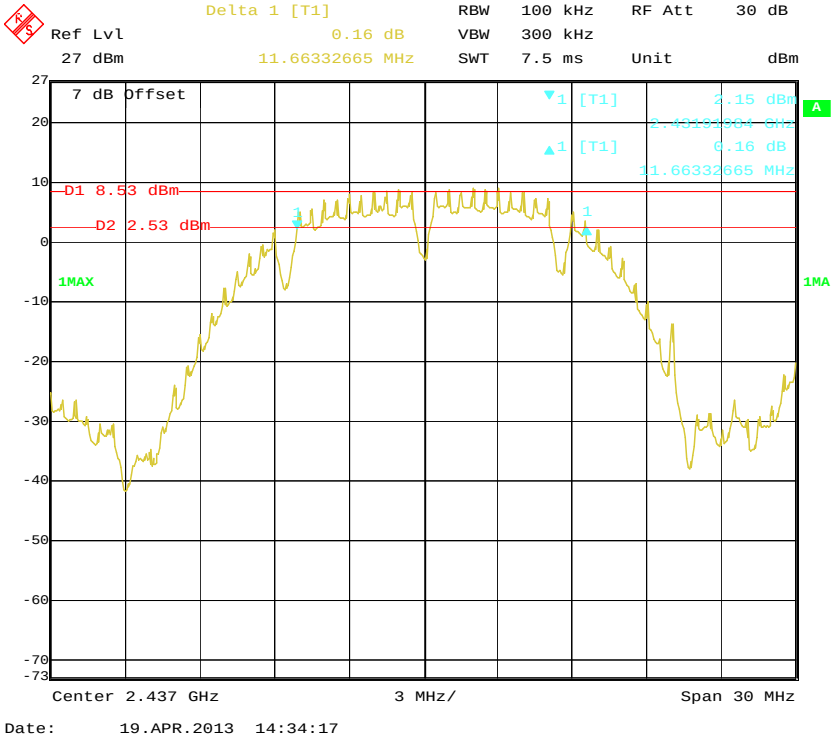
Please refer to the following tables and plots.

Channel	Frequency (MHz)	6dB Emission Bandwidth (MHz)		Limit (kHz)	Result
		Antenna 0	Antenna 1		
802.11b mode					
Low	2412	11.66	11.66	≥500	Pass
Middle	2437	11.66	11.66	≥500	Pass
High	2462	11.66	11.66	≥500	Pass
802.11g mode					
Low	2412	15.81	15.81	≥500	Pass
Middle	2437	15.81	15.81	≥500	Pass
High	2462	15.81	15.81	≥500	Pass
802.11n-HT20 mode					
Low	2412	16.17	16.17	≥500	Pass
Middle	2437	16.17	16.17	≥500	Pass
High	2462	16.17	16.17	≥500	Pass
802.11n-HT40 mode					
Low	2422	35.26	35.26	≥500	Pass
Middle	2437	35.26	35.26	≥500	Pass
High	2452	35.26	35.26	≥500	Pass

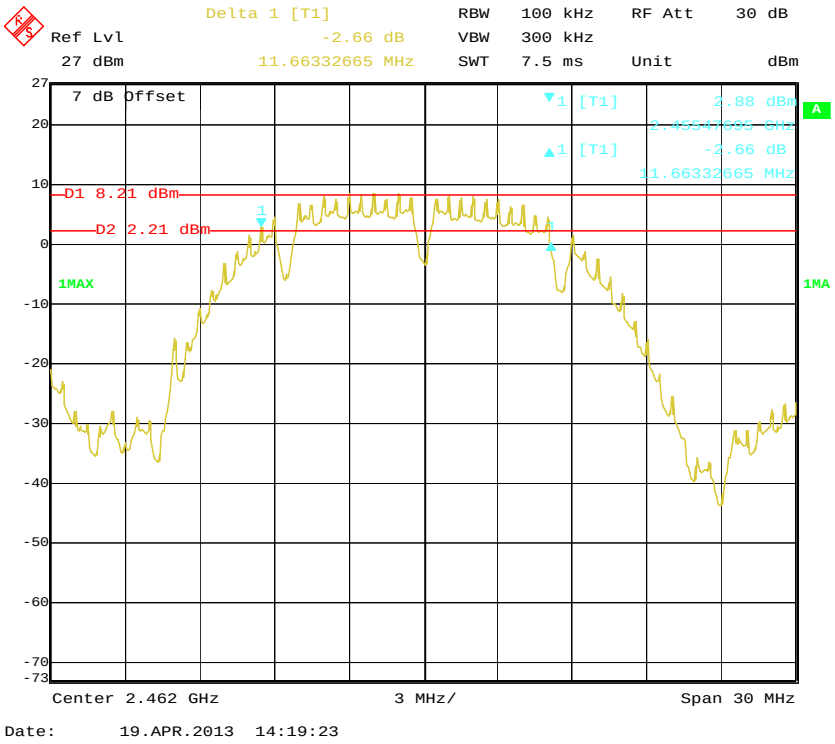
802.11b Low Channel, Antenna 0



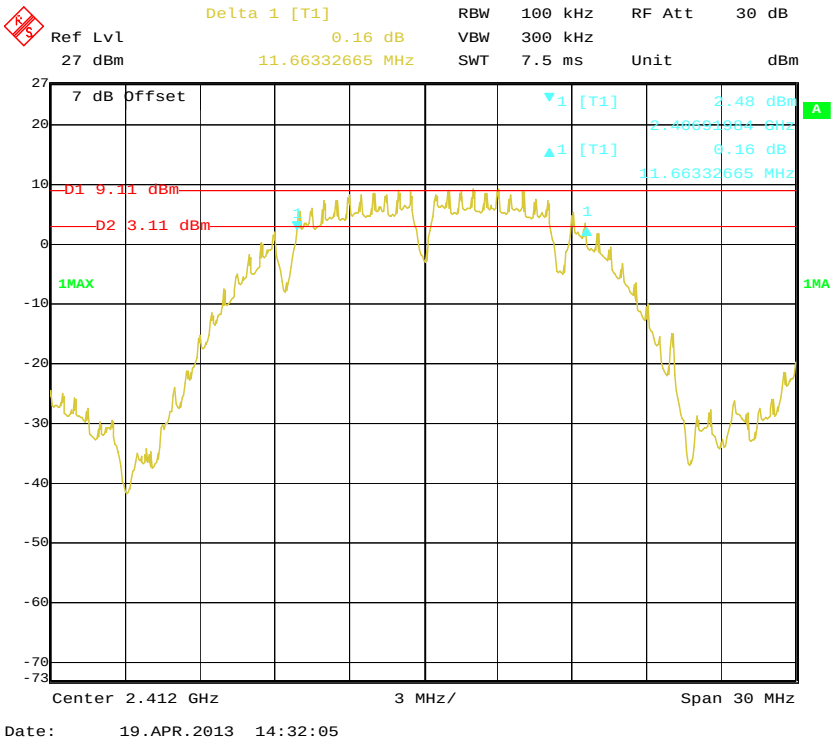
802.11b Middle Channel, Antenna 0



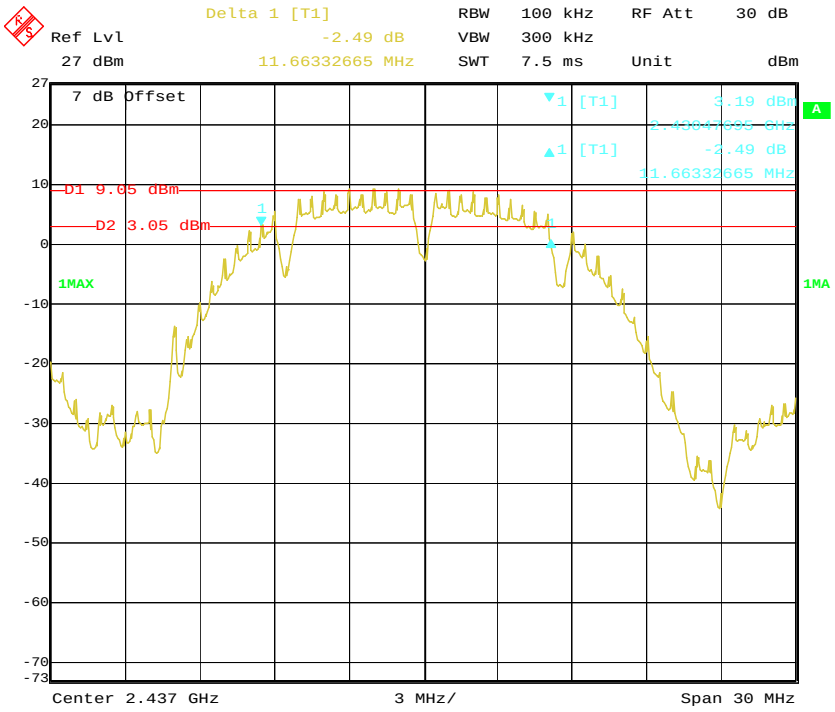
802.11b High Channel, Antenna 0



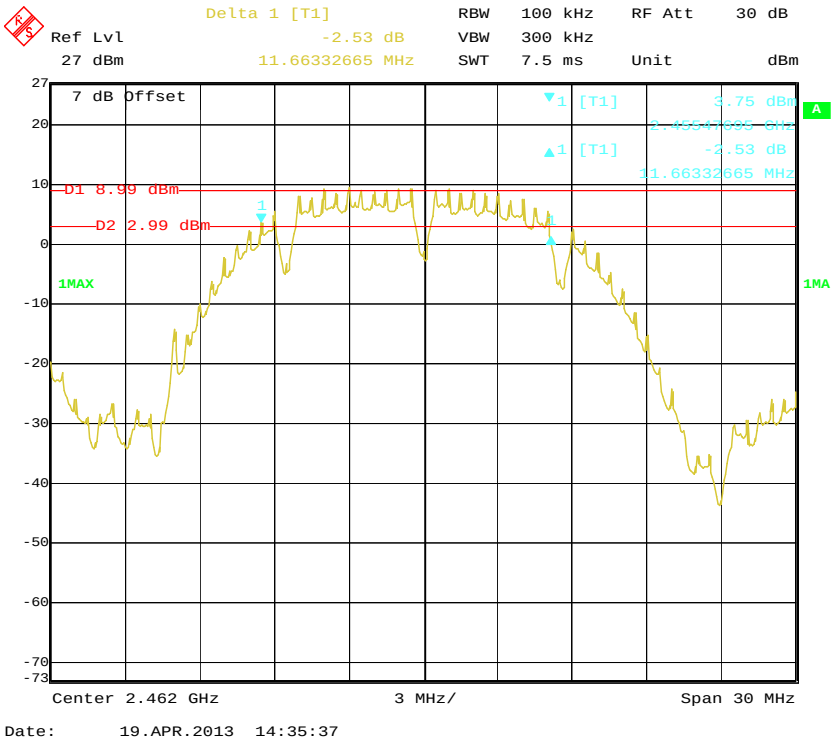
802.11b Low Channel, Antenna 1



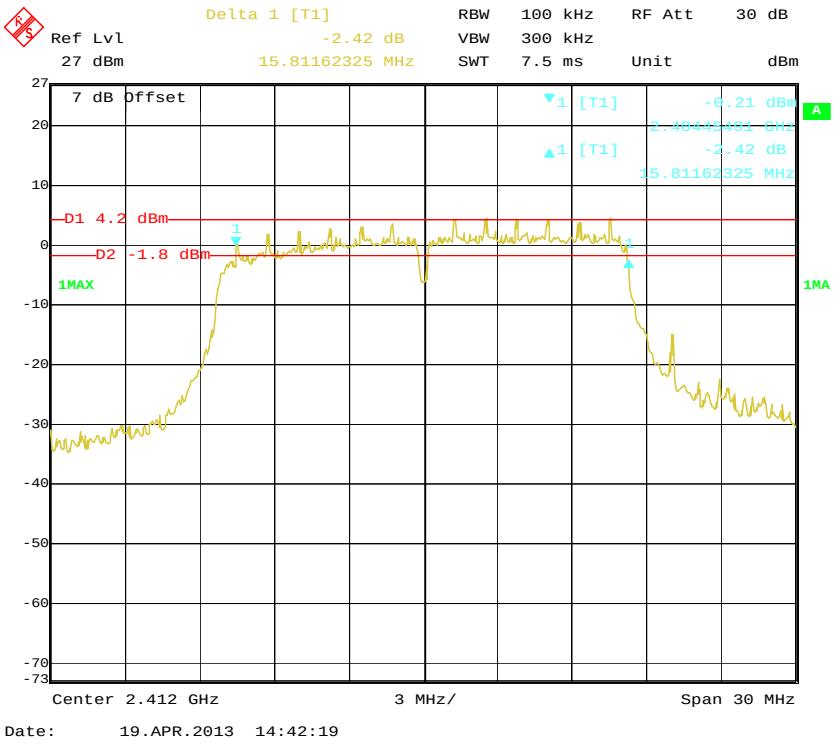
802.11b Middle Channel, Antenna 1



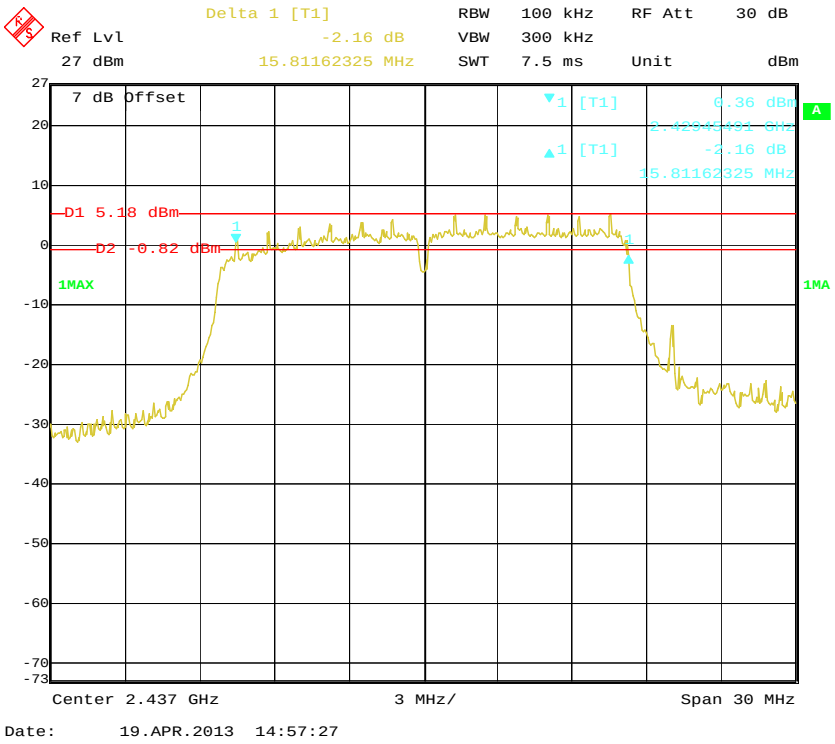
802.11b High Channel, Antenna 1



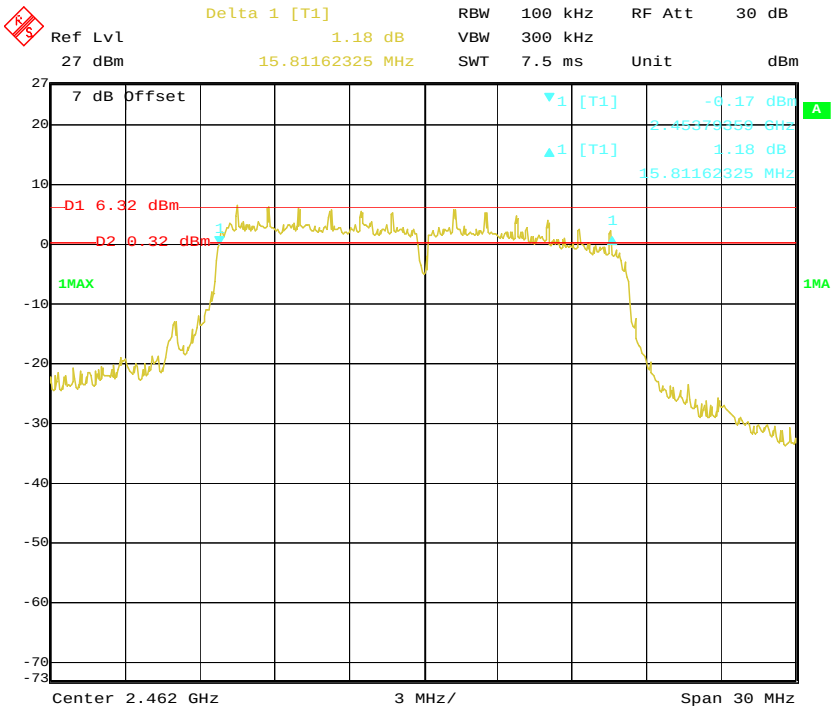
802.11g Low Channel, Antenna 0



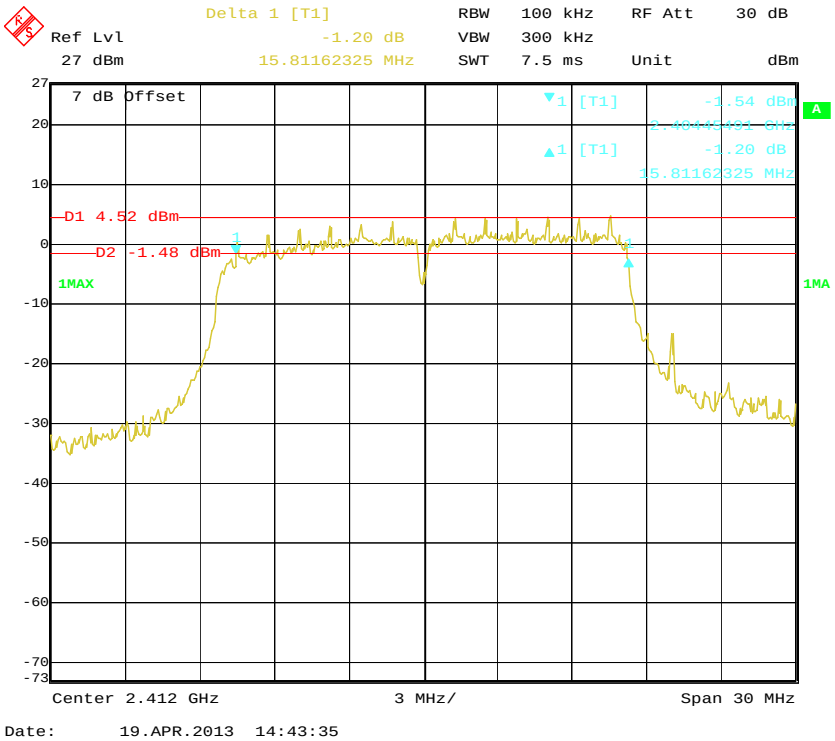
802.11g Middle Channel, Antenna 0



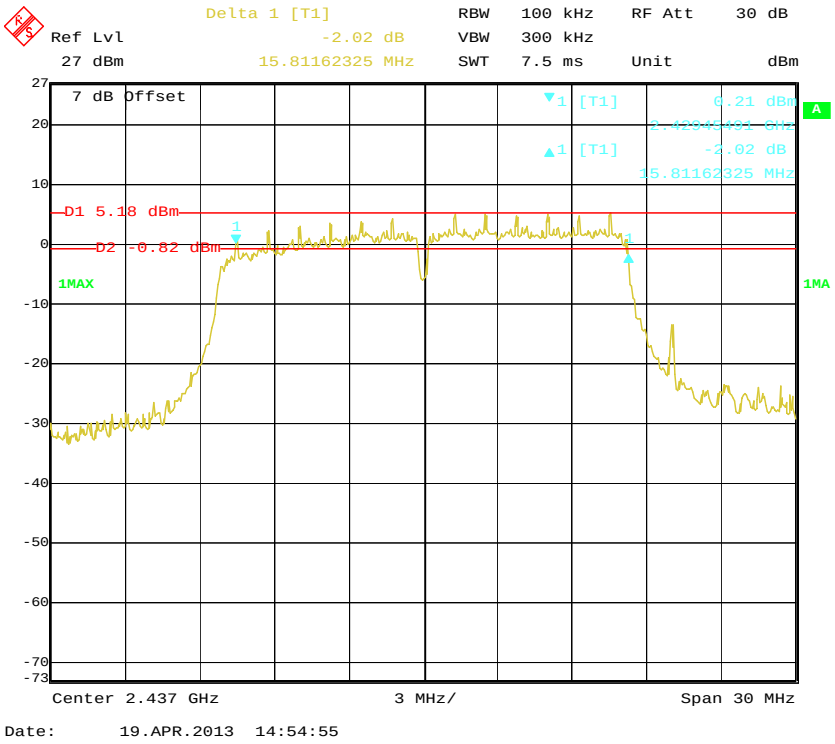
802.11g High Channel, Antenna 0



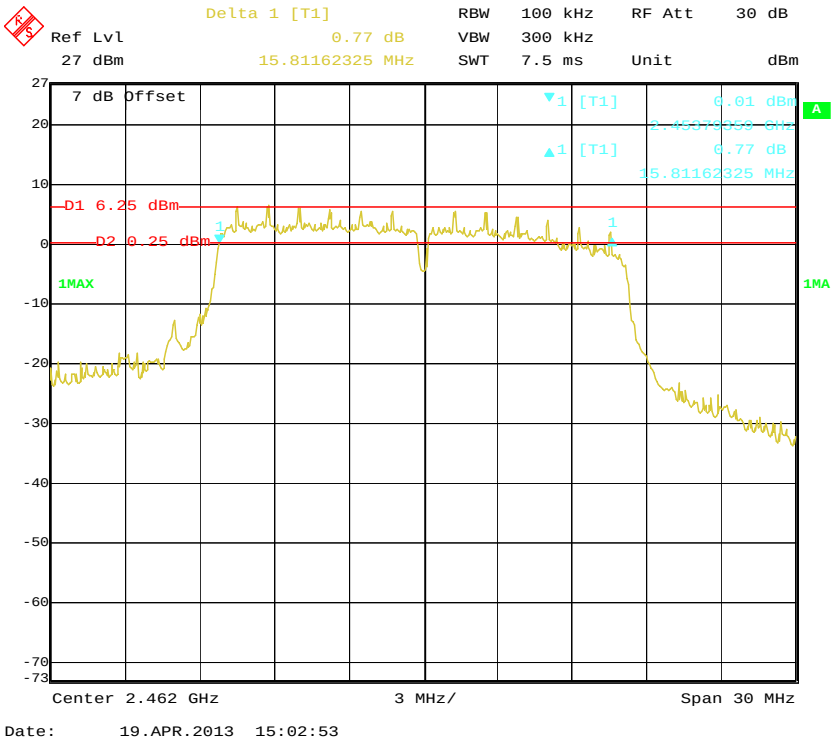
802.11g Low Channel, Antenna 1



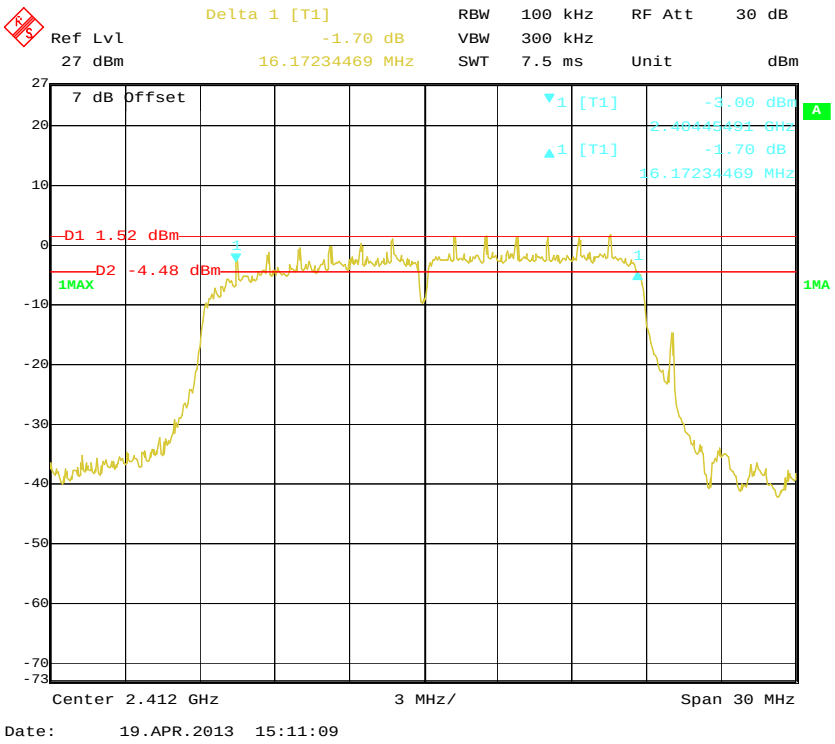
802.11g Middle Channel, Antenna 1



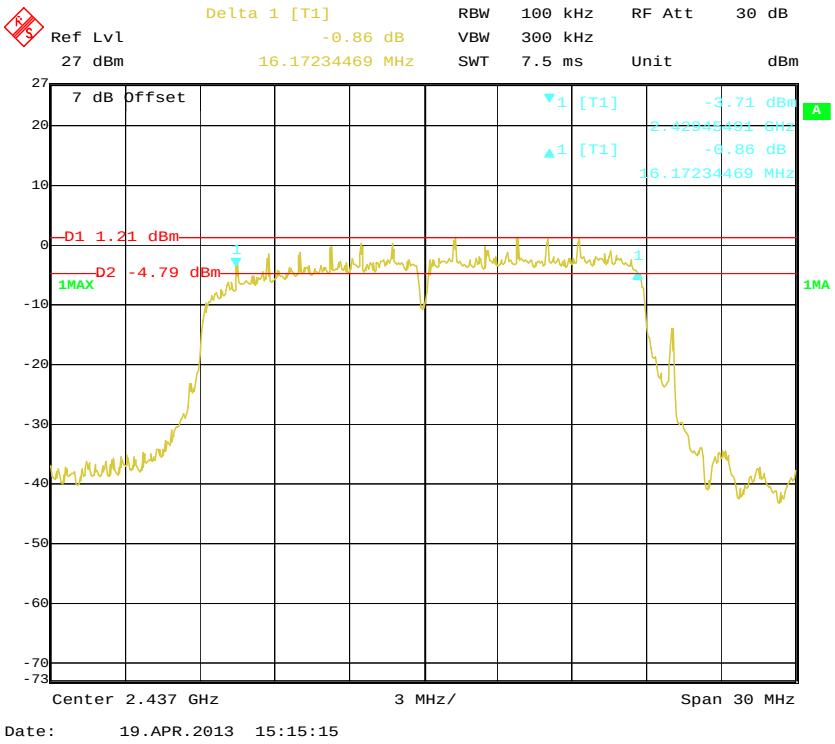
802.11g High Channel, Antenna 1



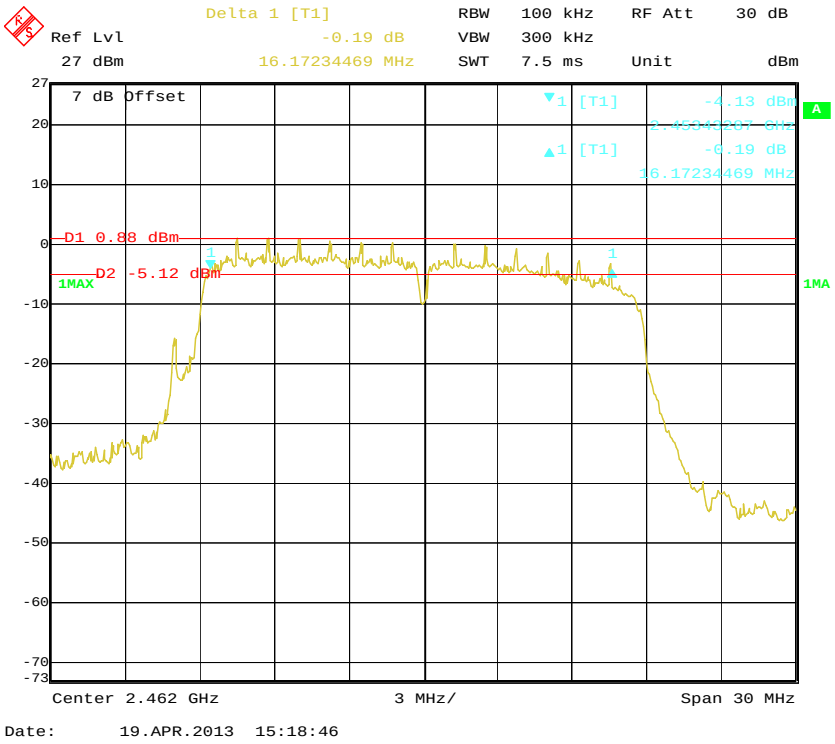
802.11n-HT20 Low Channel, Antenna 0



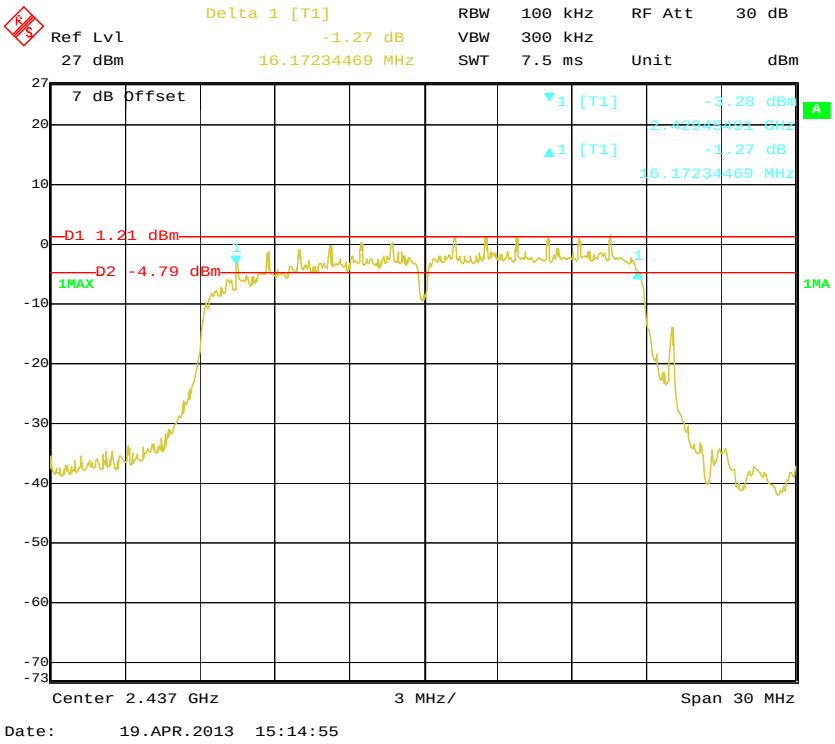
802.11n-HT20 Middle Channel, Antenna 0



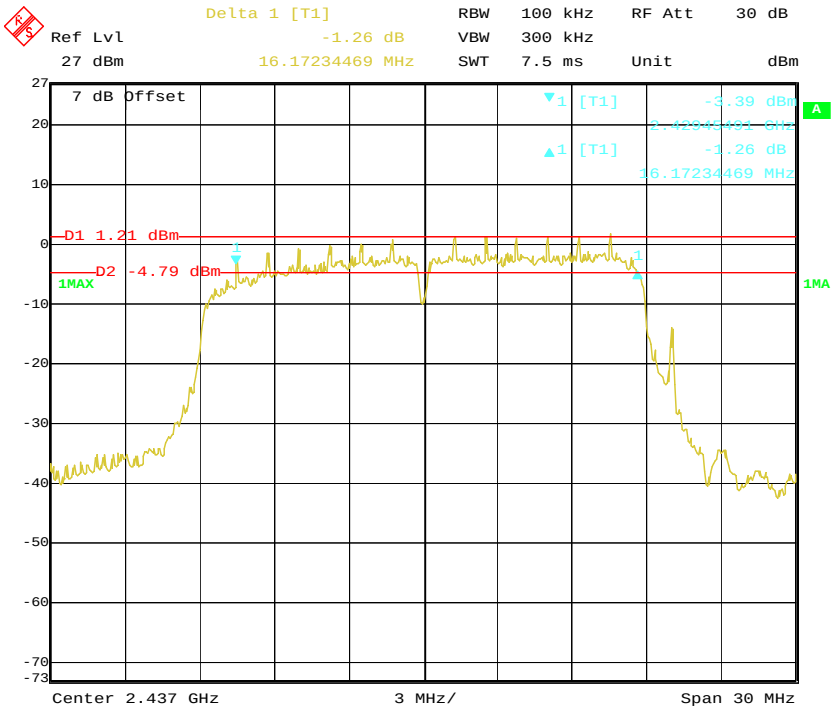
802.11n-HT20 High Channel, Antenna 0



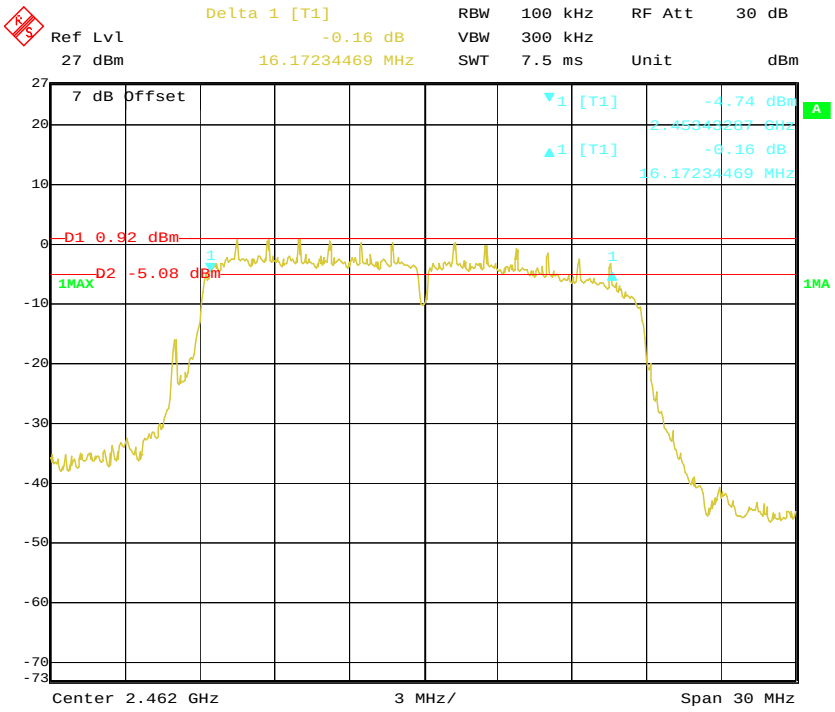
802.11n-HT20 Low Channel, Antenna 1



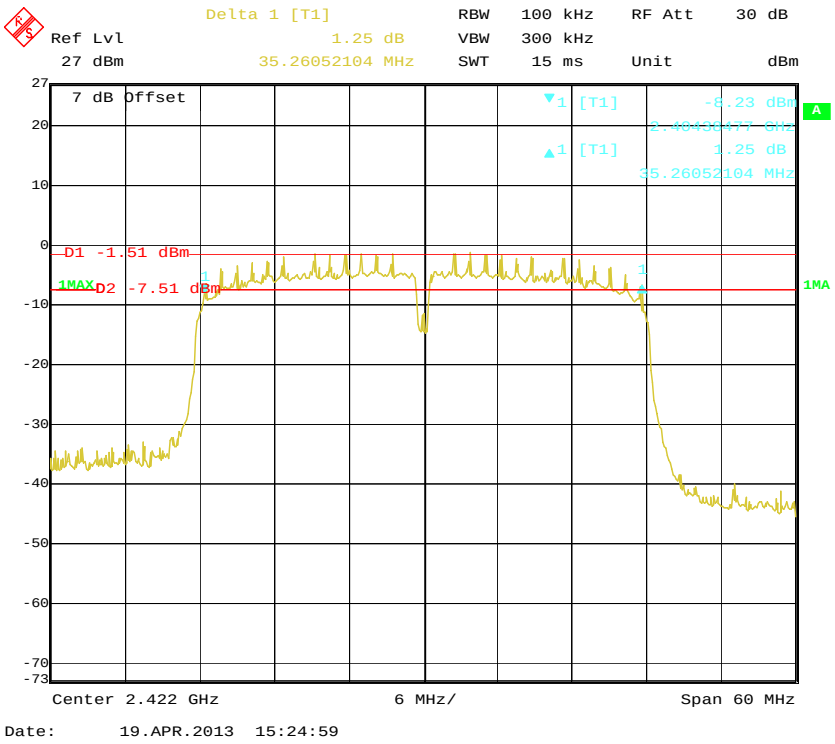
802.11n-HT20 Middle Channel, Antenna 1



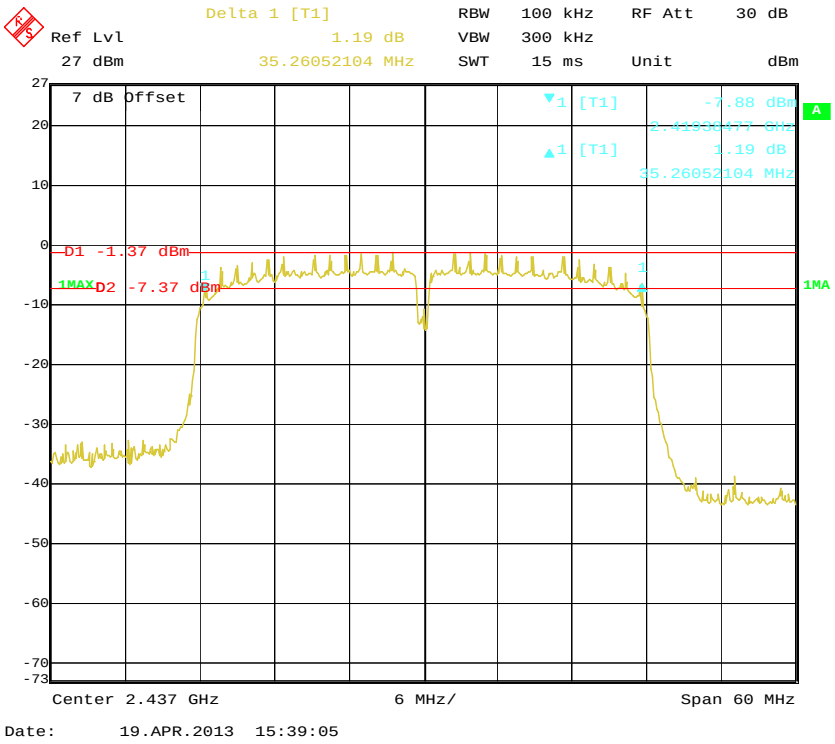
802.11n-HT20 High Channel, Antenna 1



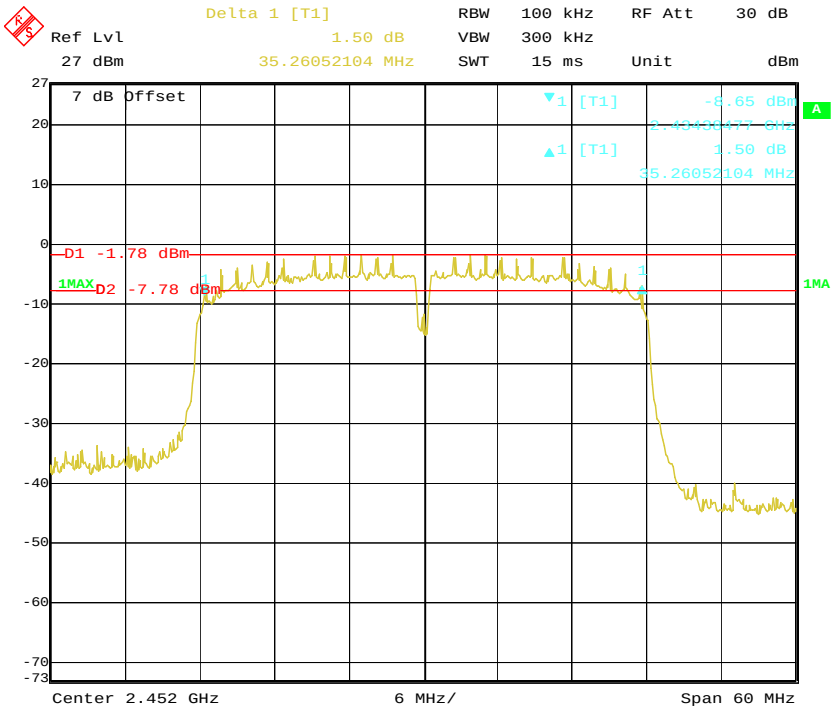
802.11n-HT40 Low Channel, Antenna 0



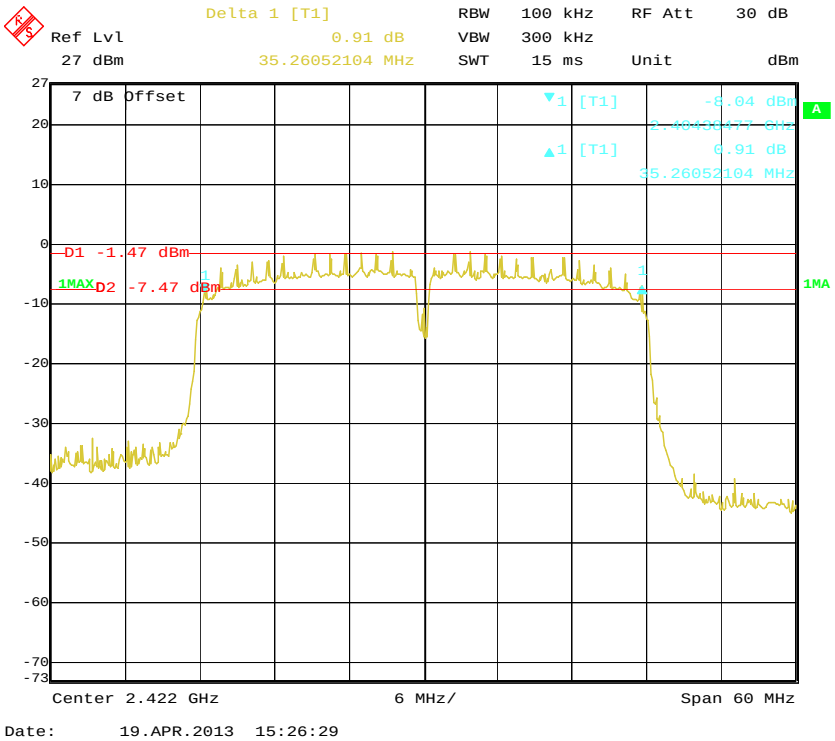
802.11n-HT40 Middle Channel, Antenna 0



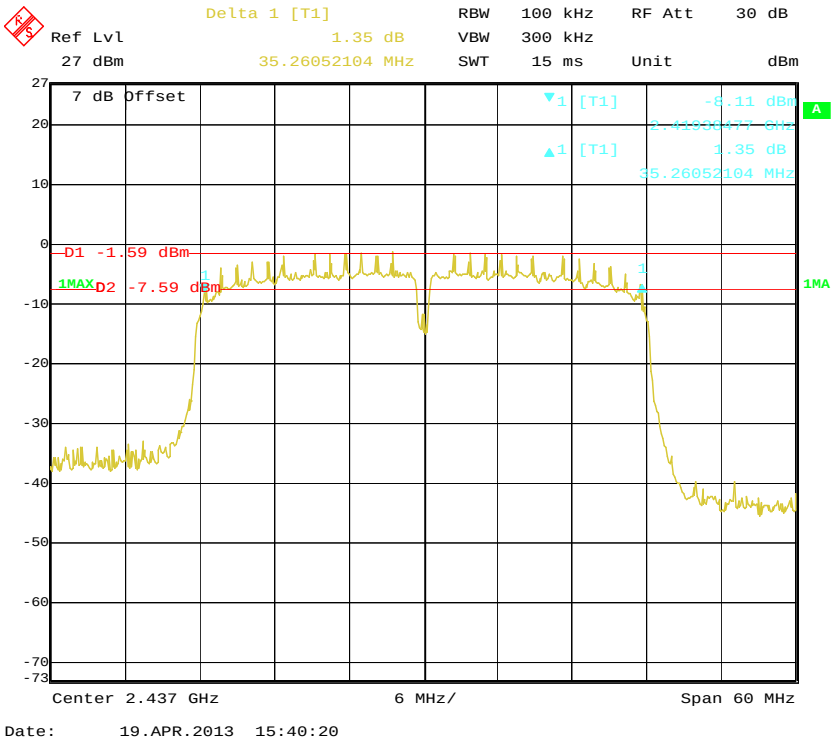
802.11n-HT40 High Channel, Antenna 0



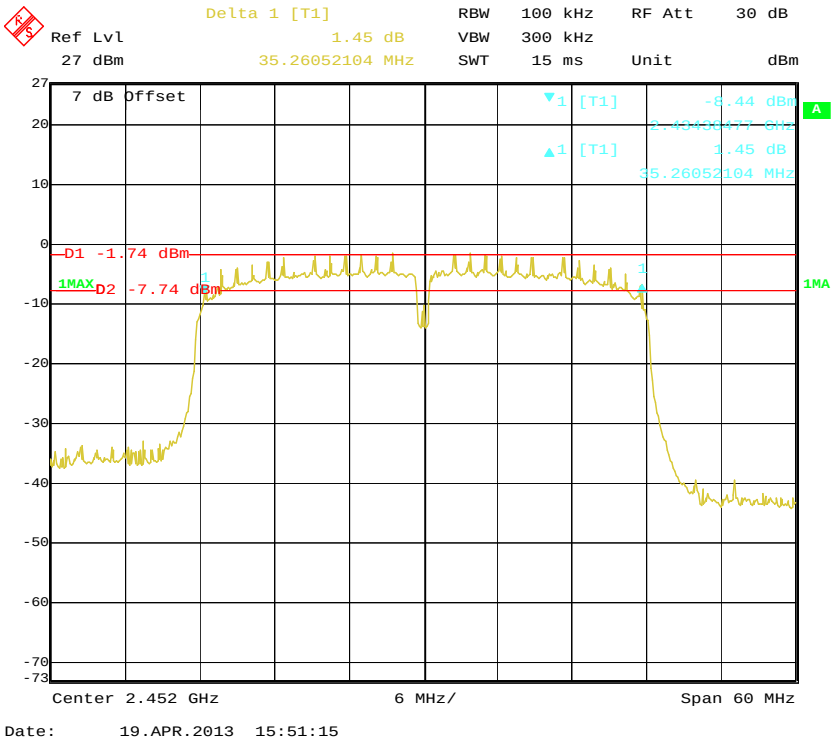
802.11n-HT40 Low Channel, Antenna 1



802.11n-HT40 Middle Channel, Antenna 1



802.11n-HT40 High Channel, Antenna 1



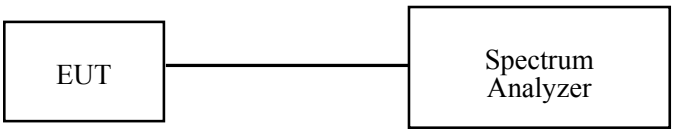
FCC §15.247(b) (3) - MAXIMUM PEAK OUTPUT POWER

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 spectrum analyzer.
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	Signal Analyzer	FSIQ26	8386001028	2012-11-24	2013-11-23

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	23~25 ℃
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

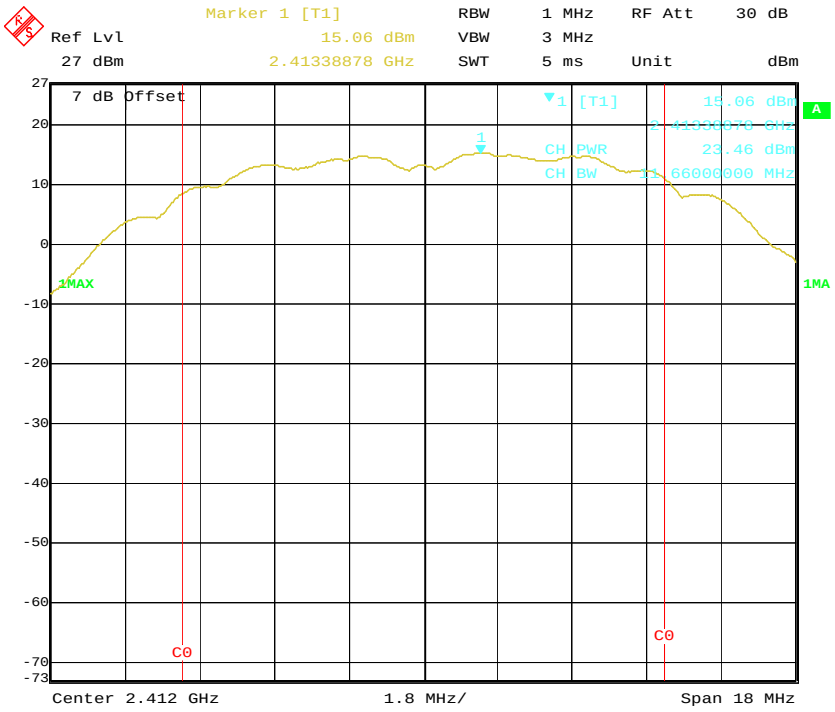
The testing was performed by Tiger Ye on 2013-04-19 and 2013-04-20.

Test mode: Transmitting

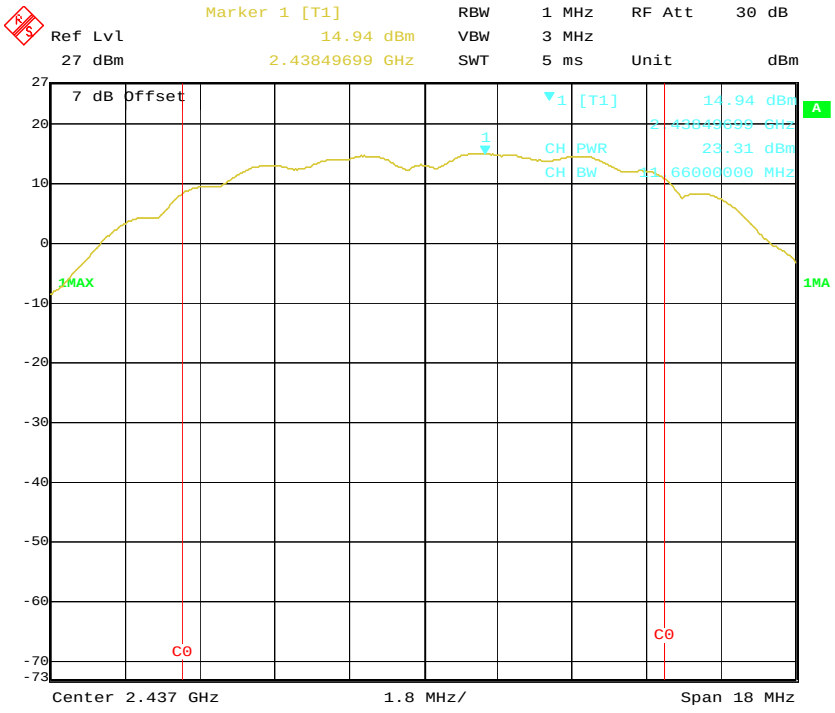
Channel	Frequency (MHz)	Conducted Output Power(dBm)			Limit (dBm)
		Antenna 0	Antenna 1	Antenna 0 +Antenna 1	
802.11b mode					
Low	2412	23.46	23.71	\	28
Middle	2437	23.31	23.55	\	28
High	2462	23.03	23.28	\	28
802.11g mode					
Low	2412	23.37	23.64	\	28
Middle	2437	23.20	23.07	\	28
High	2462	23.32	23.30	\	28
802.11n-HT20 mode					
Low	2412	21.07	20.97	24.03	28
Middle	2437	20.82	20.99	23.92	28
High	2462	20.97	20.95	23.97	28
802.11n-HT40 mode					
Low	2422	21.12	21.12	24.13	28
Middle	2437	20.94	20.97	23.97	28
High	2452	21.01	21.03	24.03	28

Note: According to FCC 47 CFR section 15.247 (b)(1)(i), the point-to-point antenna gain is 11dBi, the maximum conducted output power limit is 28dBm.

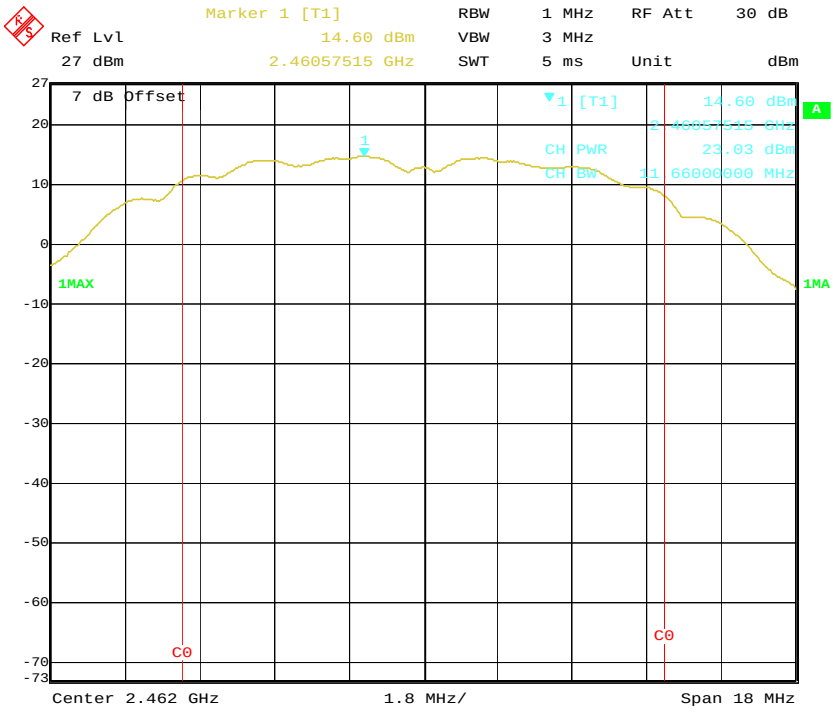
802.11b RF Output Power, Low Channel, Antenna 0



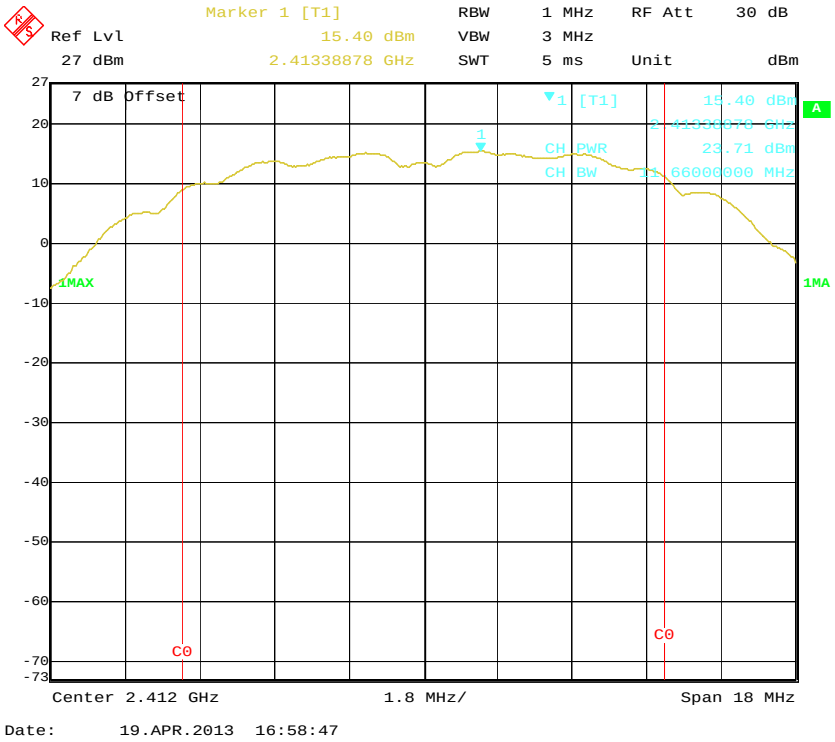
802.11b RF Output Power, Middle Channel, Antenna 0



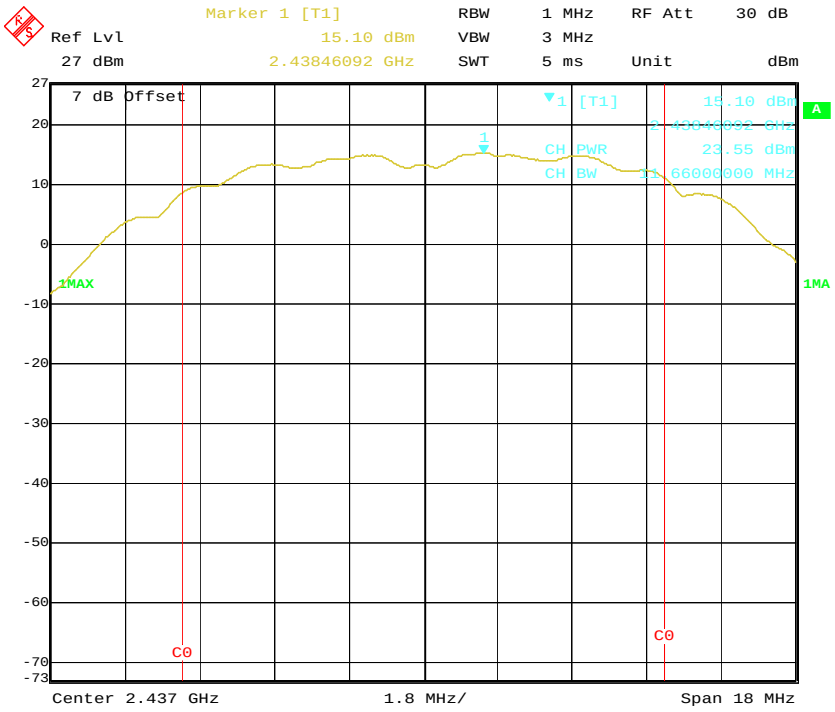
802.11b RF Output Power, High Channel, Antenna 0



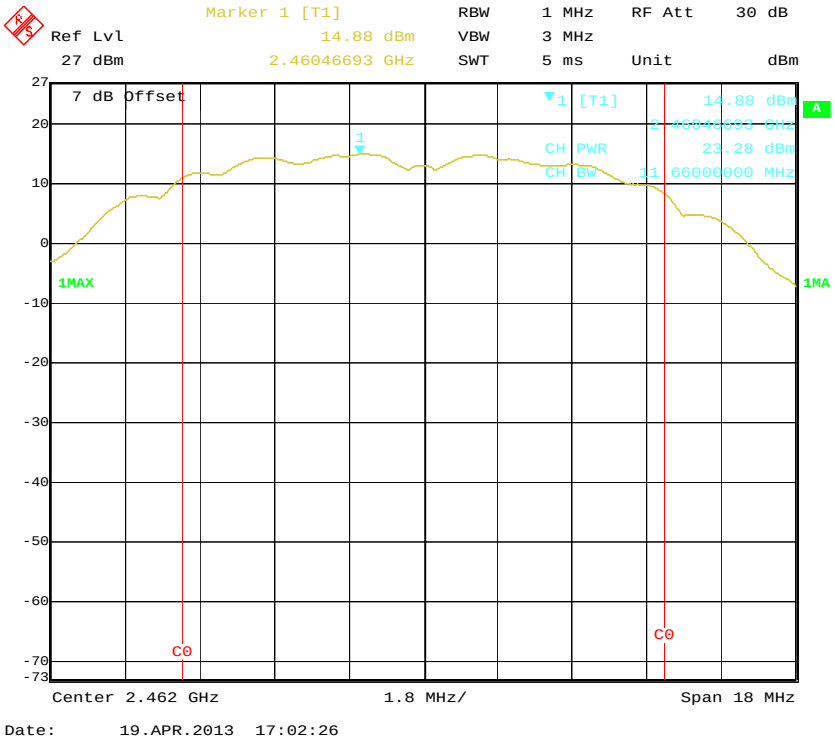
802.11b RF Output Power, Low Channel, Antenna 1



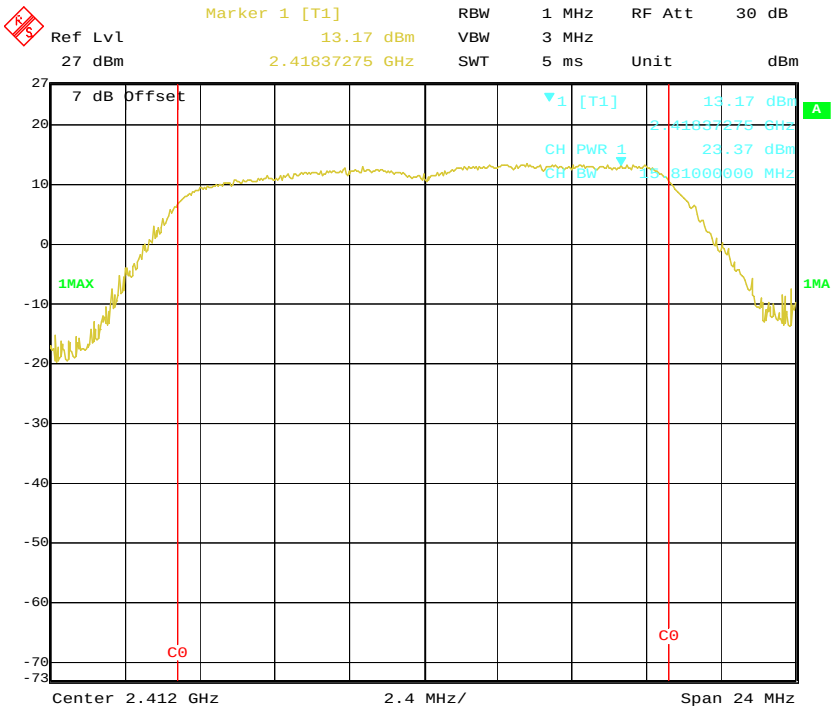
802.11b RF Output Power, Middle Channel, Antenna 1



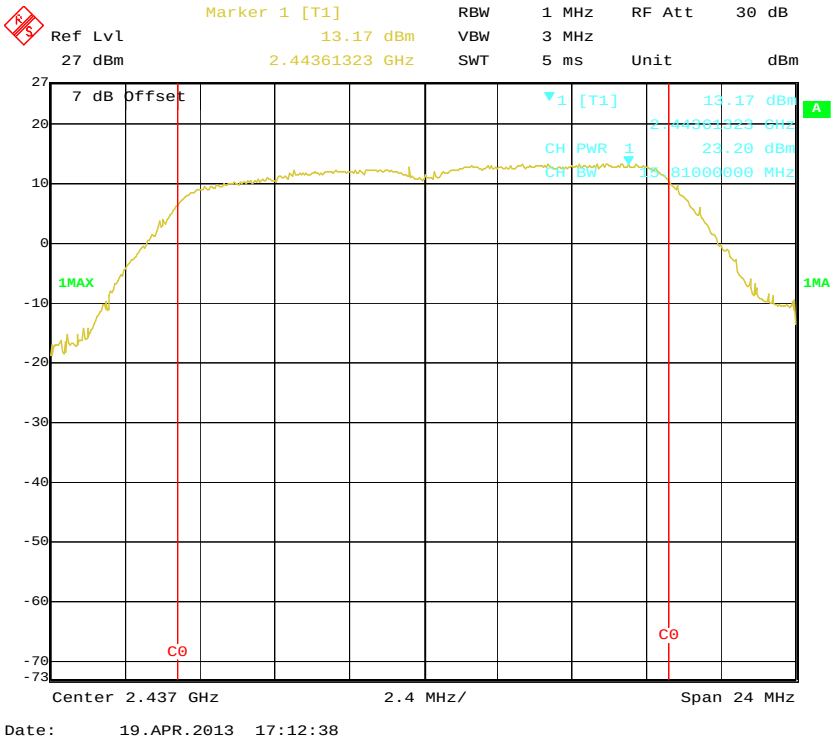
802.11b RF Output Power, High Channel, Antenna 1



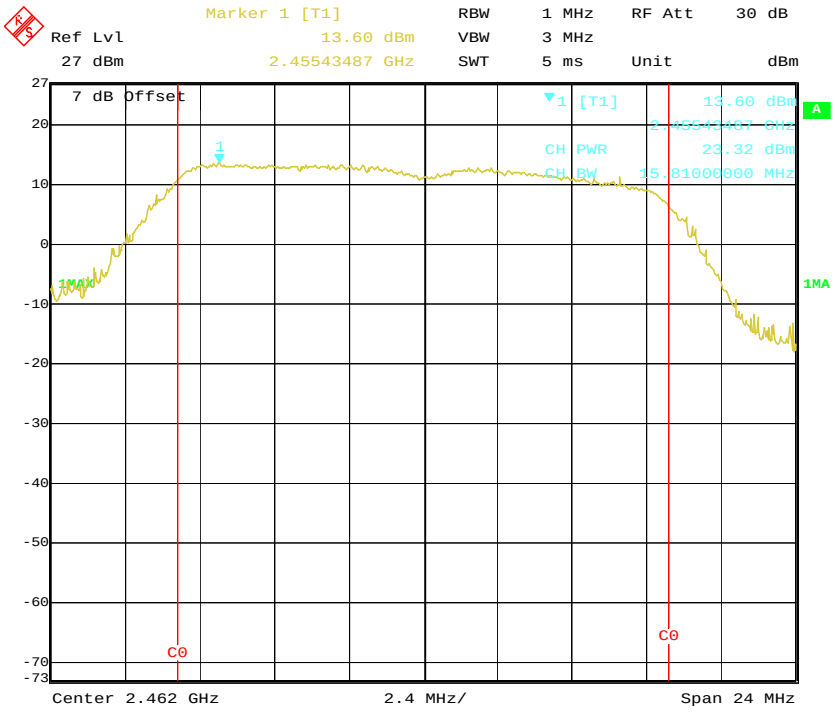
802.11g RF Output Power, Low Channel, Antenna 0



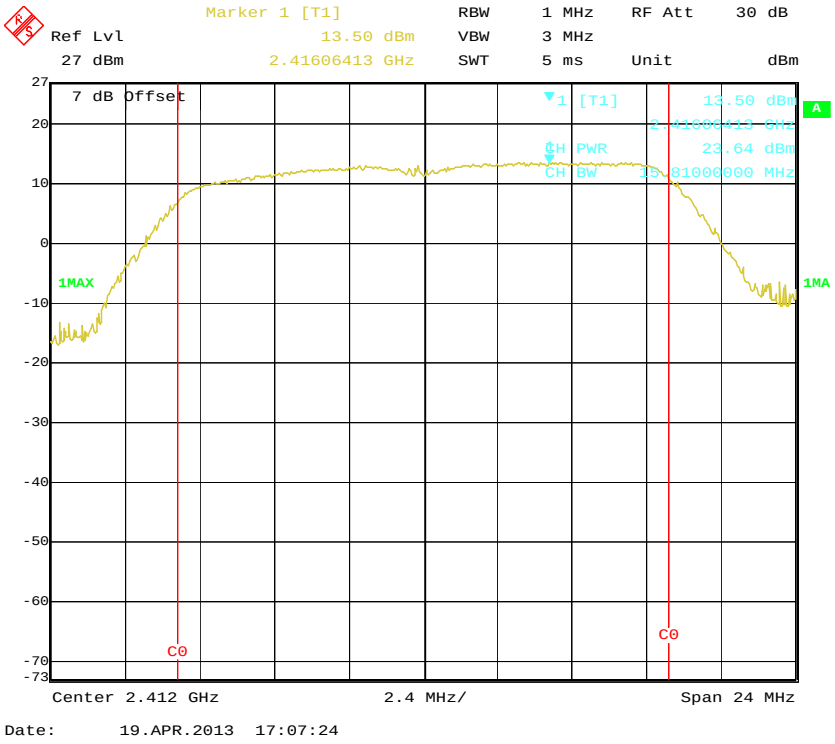
802.11g RF Output Power, Middle Channel, Antenna 0



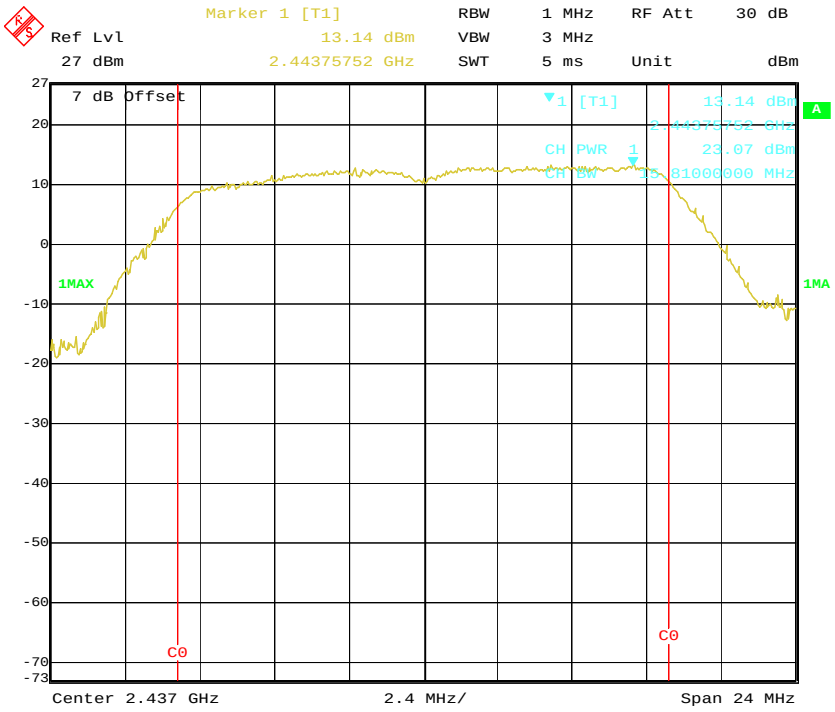
802.11g RF Output Power, High Channel, Antenna 0



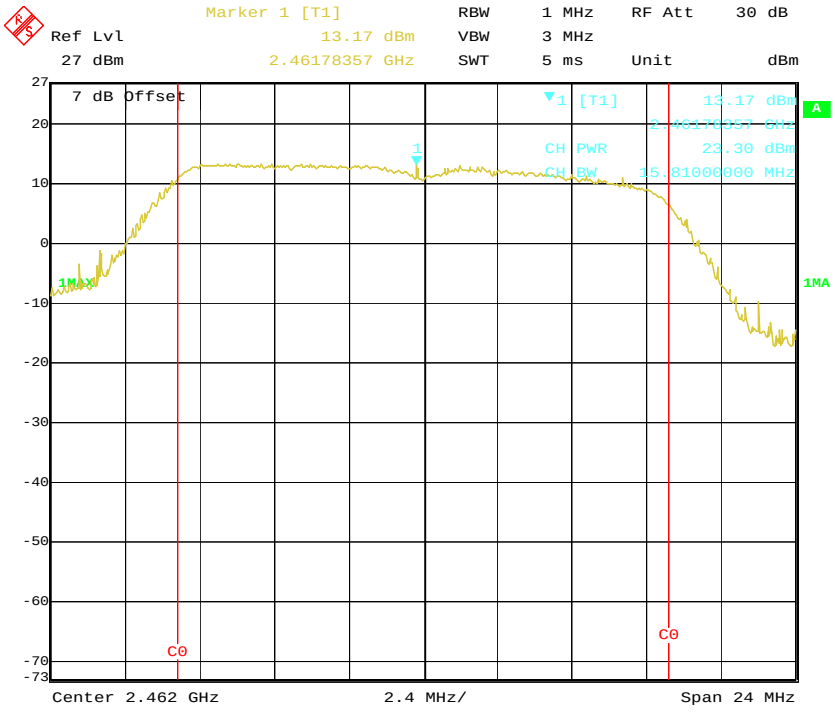
802.11g RF Output Power, Low Channel, Antenna 1



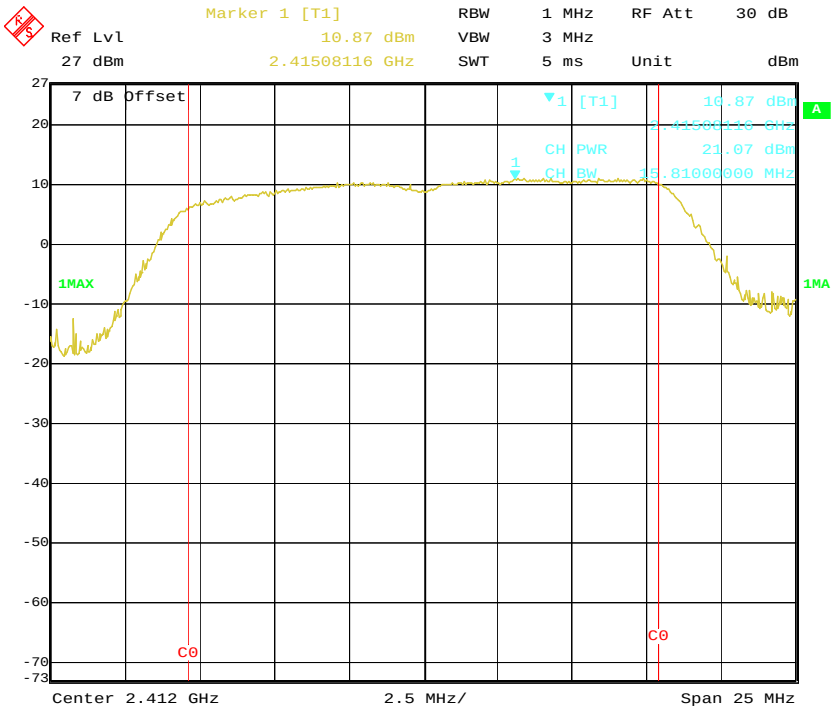
802.11g RF Output Power, Middle Channel, Antenna 1



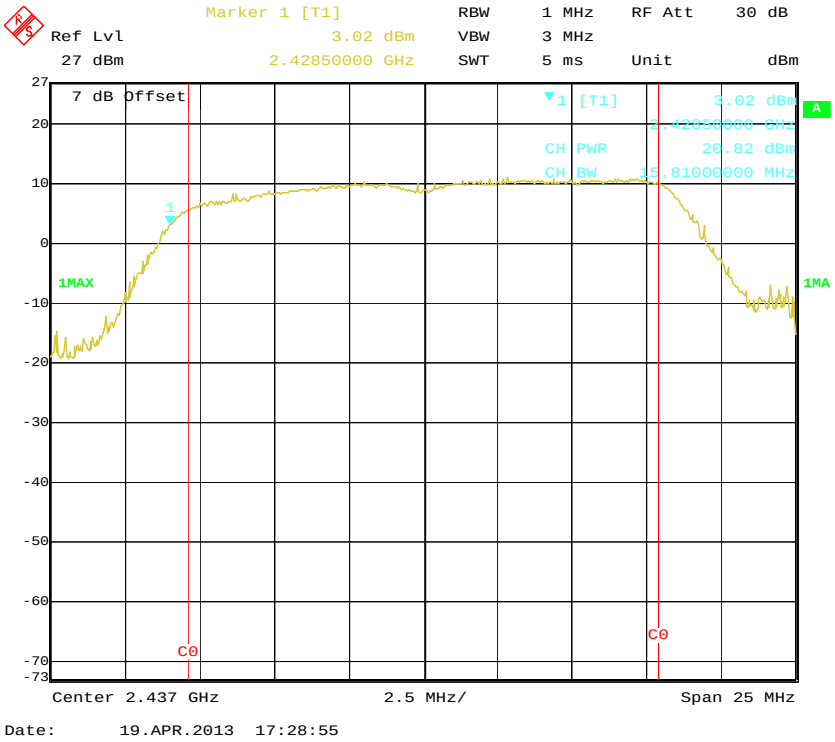
802.11g RF Output Power, High Channel, Antenna 1



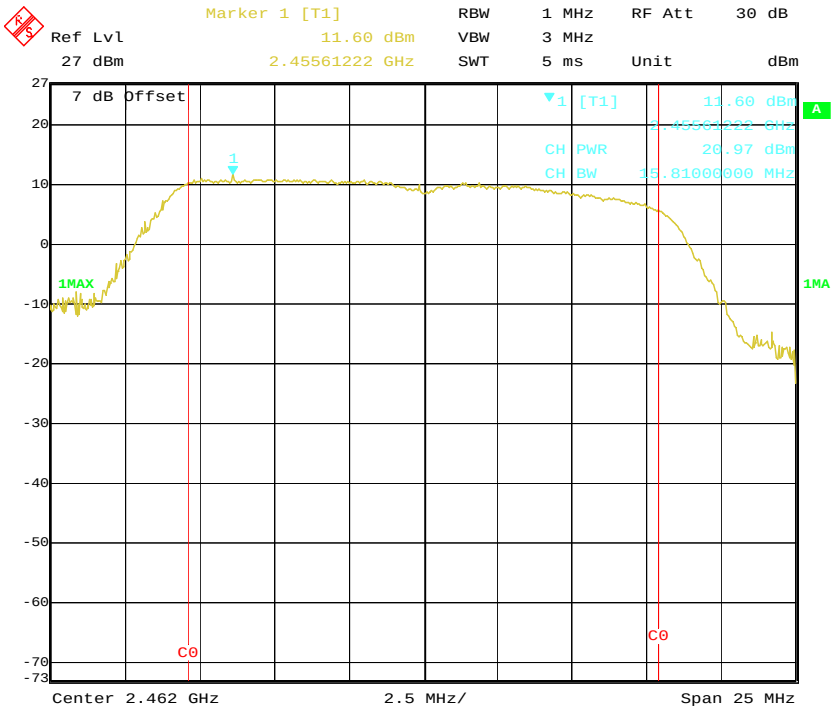
802.11n-HT20 RF Output Power, Low Channel, Antenna 0



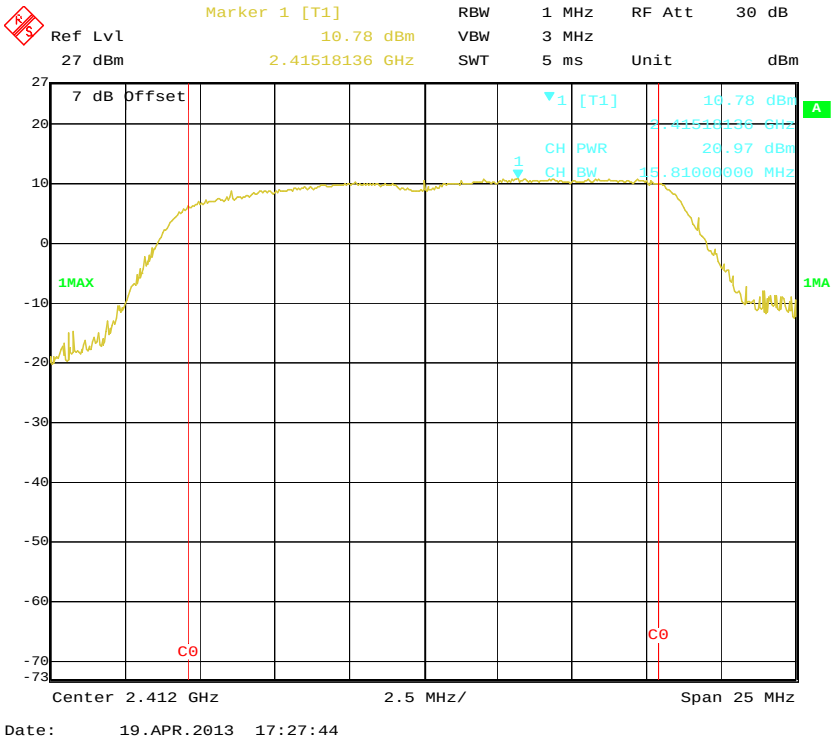
802.11n-HT20 RF Output Power, Middle Channel, Antenna 0



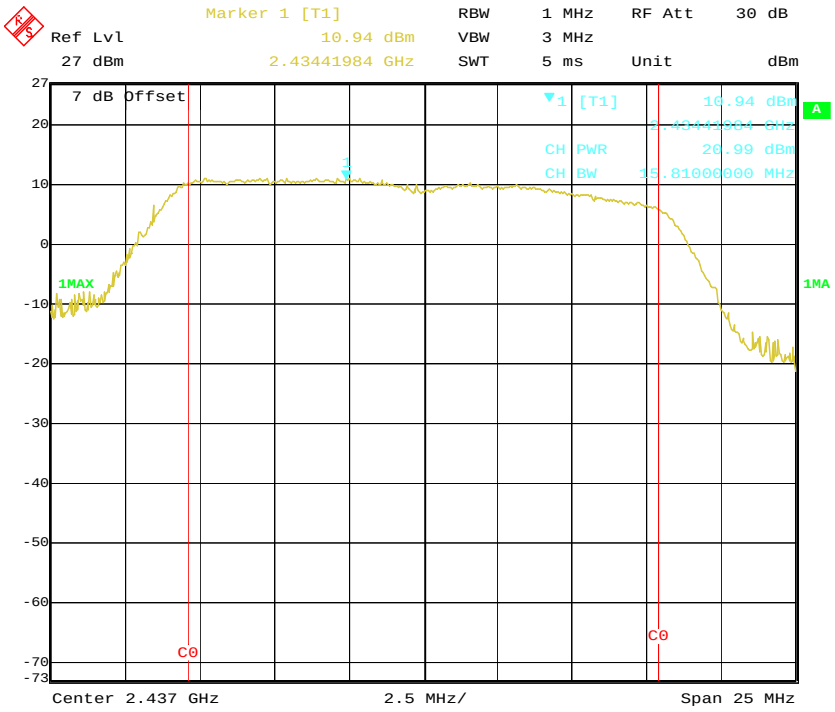
802.11n-HT20 RF Output Power, High Channel, Antenna 0



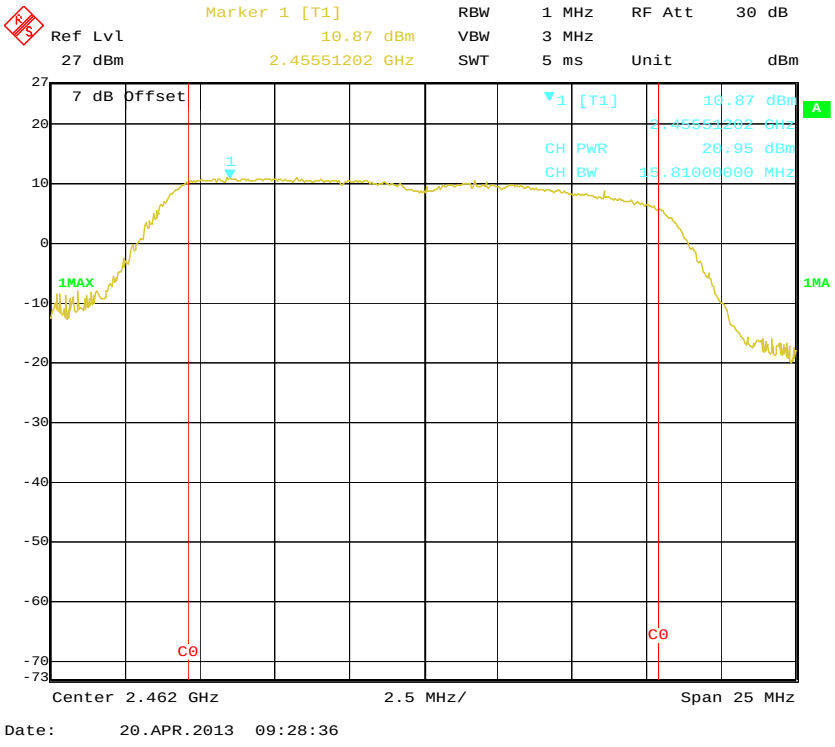
802.11n-HT20 RF Output Power, Low Channel, Antenna 1



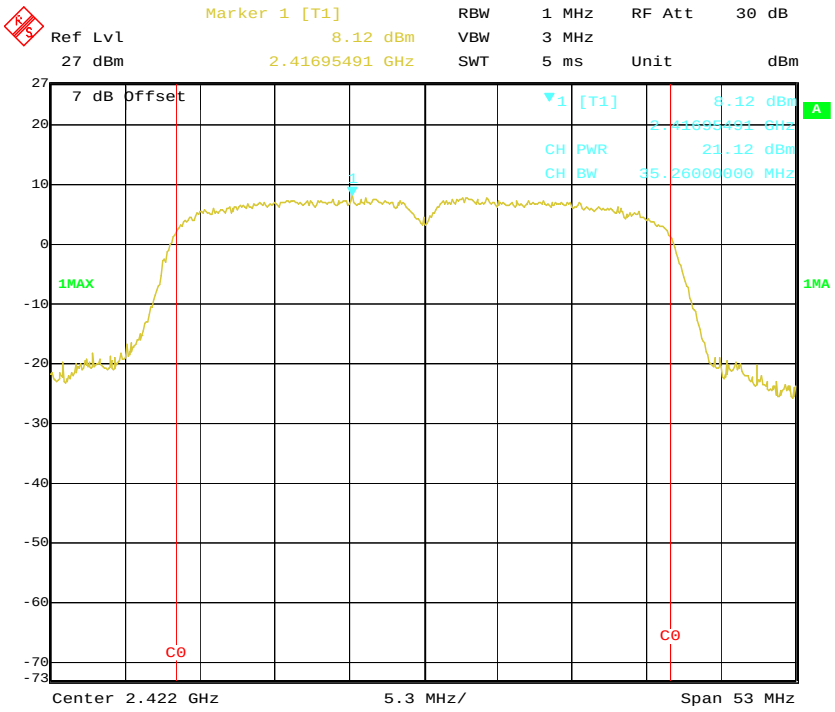
802.11n-HT20 RF Output Power, Middle Channel, Antenna 1



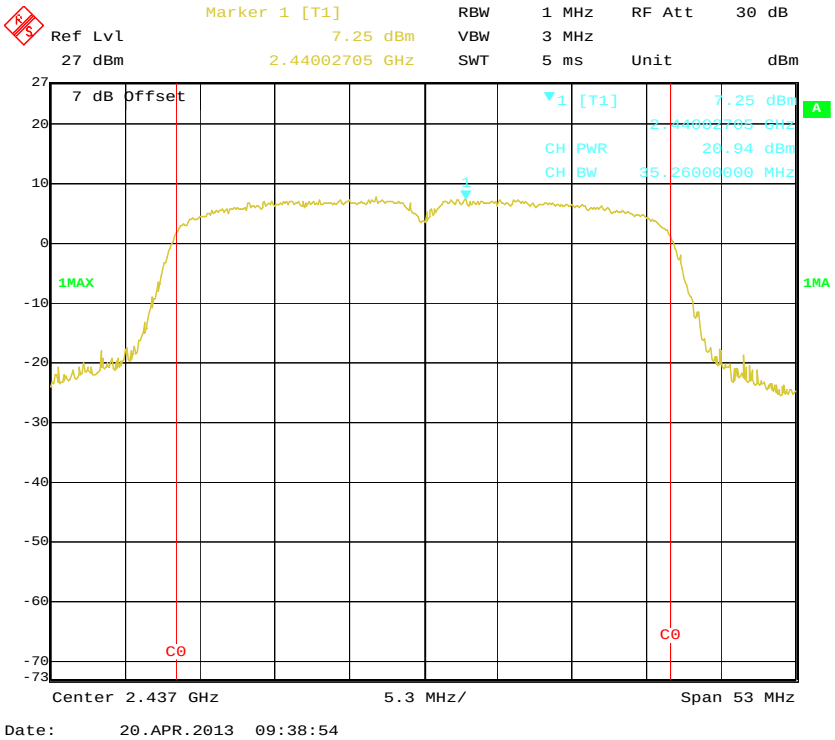
802.11n-HT20 RF Output Power, High Channel, Antenna 1



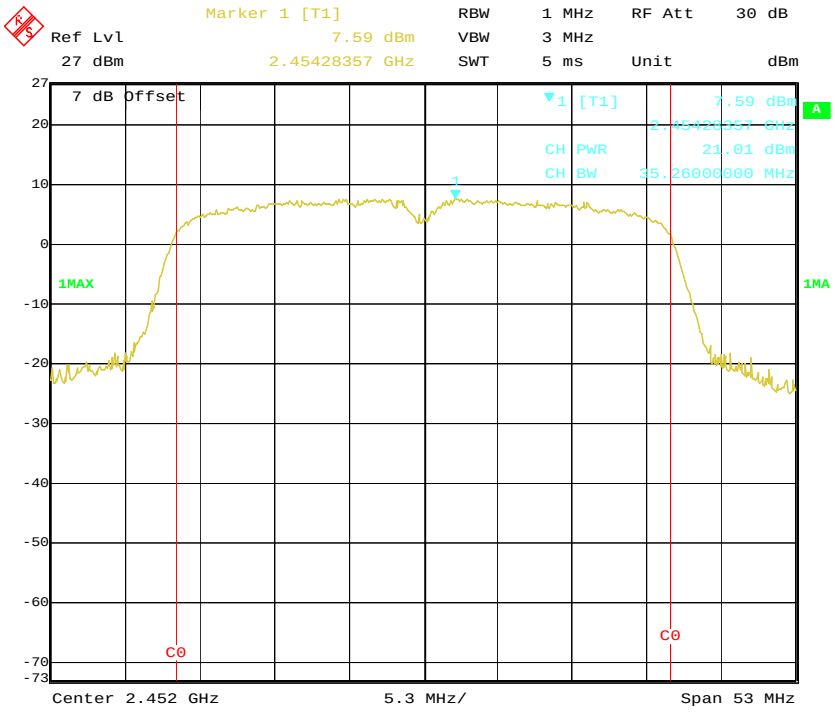
802.11n-HT40 RF Output Power, Low Channel, Antenna 0



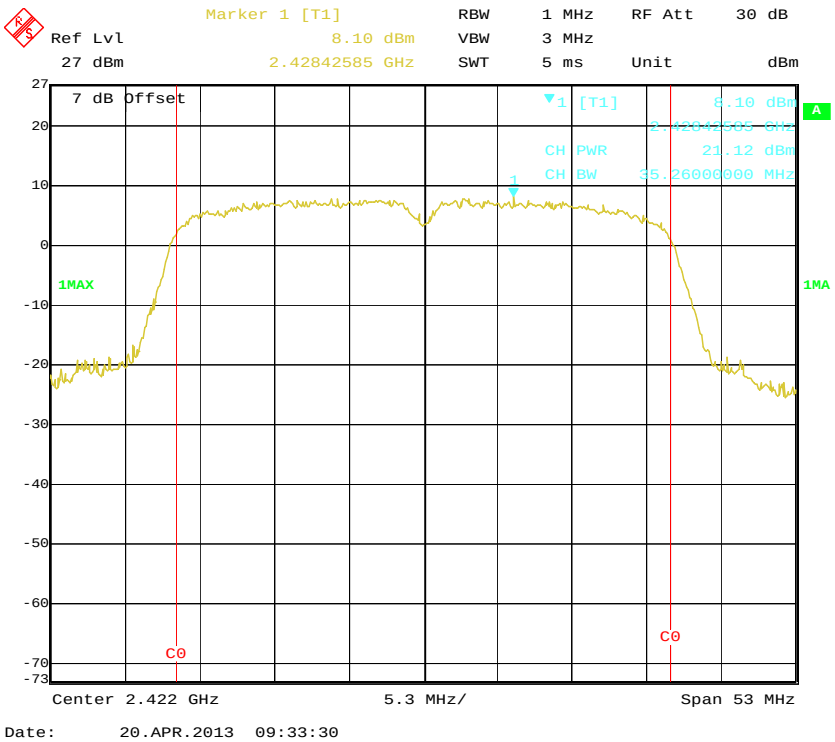
802.11n-HT40 RF Output Power, Middle Channel, Antenna 0



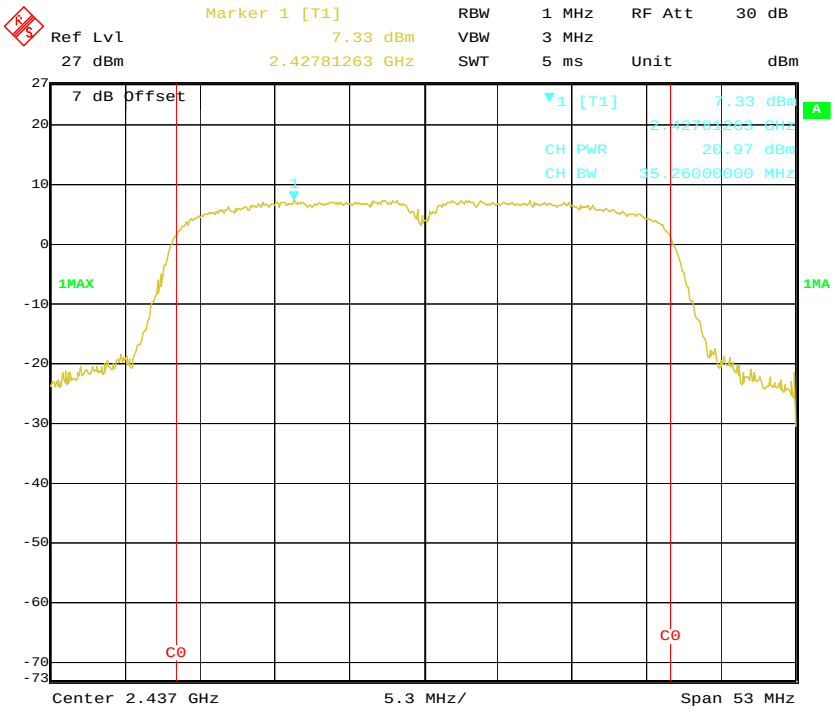
802.11n-HT40 RF Output Power, High Channel, Antenna 0



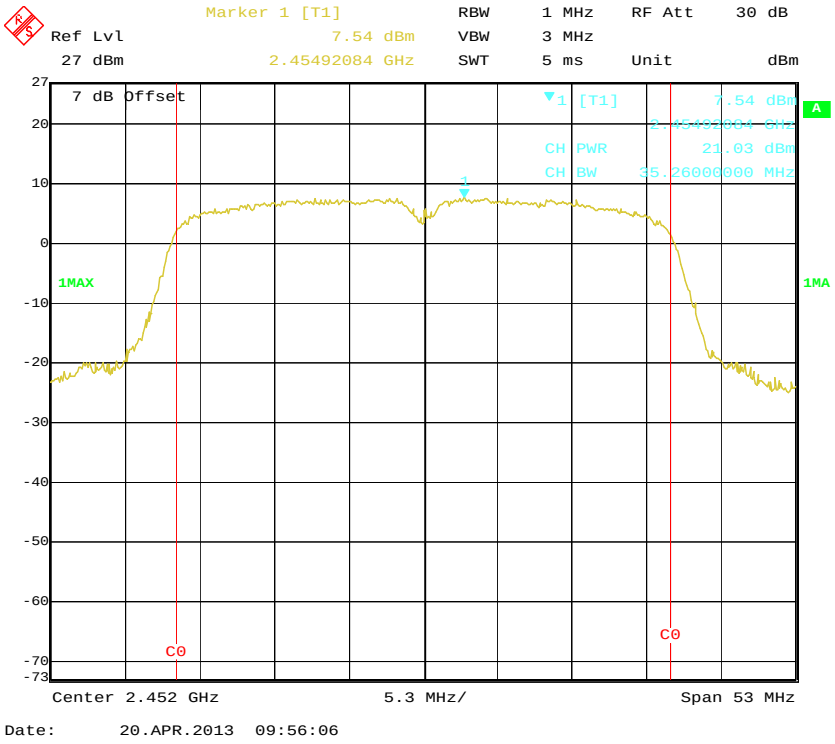
802.11n-HT40 RF Output Power, Low Channel, Antenna 1



802.11n-HT40 RF Output Power, Middle Channel, Antenna 1



802.11n-HT40 RF Output Power, High Channel, Antenna 1



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	Signal Analyzer	FSIQ26	8386001028	2012-11-24	2013-11-23

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	25℃
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

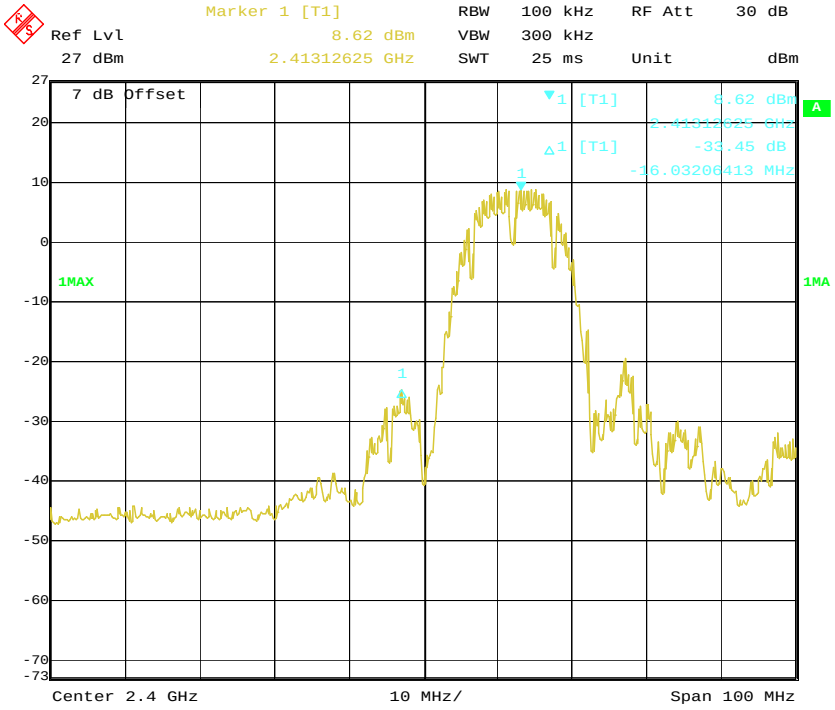
The testing was performed by Tiger Ye on 2013-04-20.

Test Result: *Compliance*

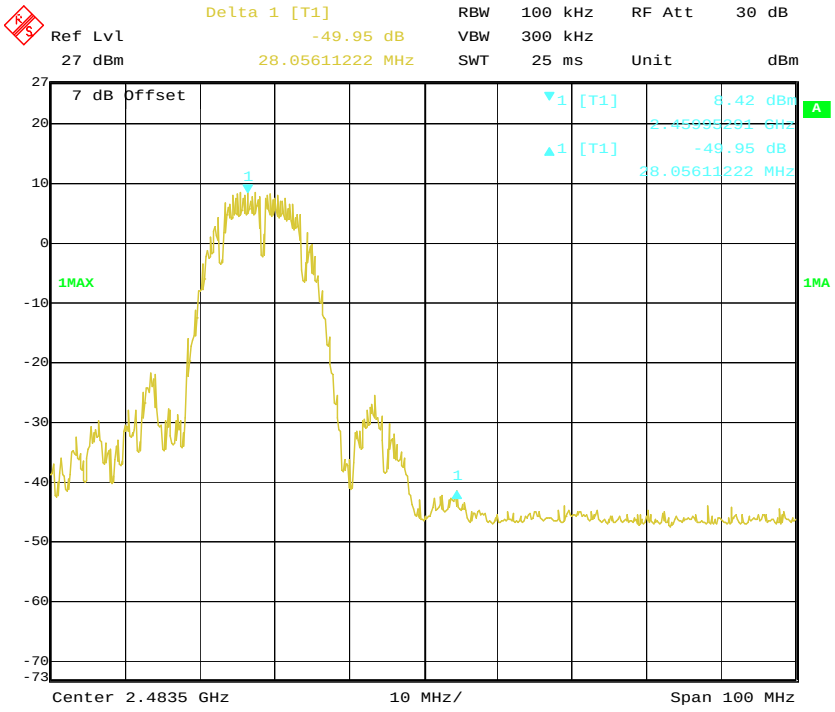
Band edge	Delta Peak to band emission(dBc)		Limit (dBc)	Result
	Antenna 0	Antenna 1		
802.11b mode				
Left-band	33.45	34.37	≥20	Pass
Right-band	49.95	49.84	≥20	Pass
802.11g mode				
Left-band	28.98	29.12	≥20	Pass
Right-band	44.84	46.94	≥20	Pass
802.11n-HT20 mode				
Left-band	36.16	37.07	≥20	Pass
Right-band	46.48	46.75	≥20	Pass
802.11n-HT40 mode				
Left-band	31.36	31.66	≥20	Pass
Right-band	41.72	41.22	≥20	Pass

Please refer to following plots.

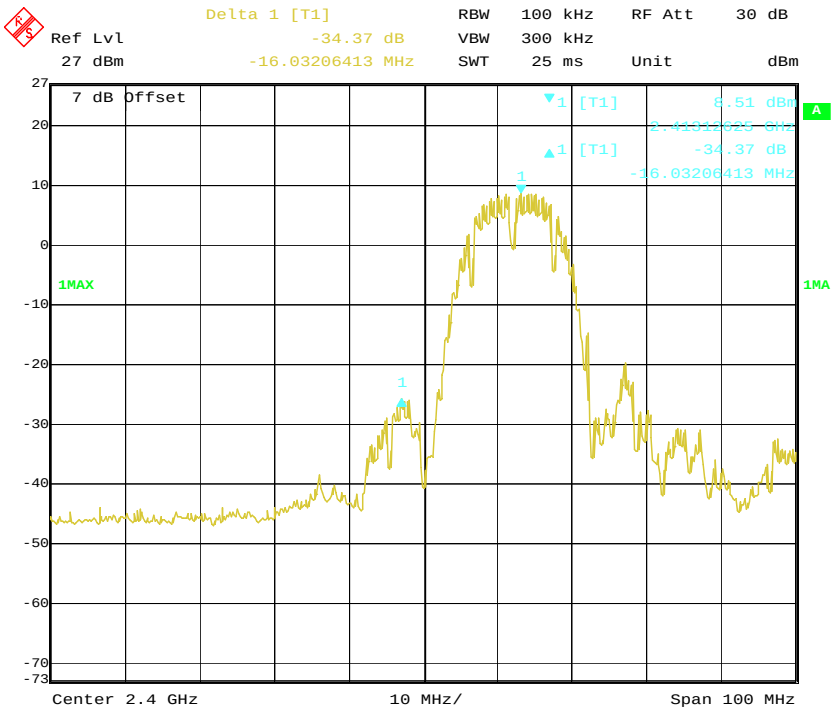
802.11b: Band Edge, Left Side, Antenna 0



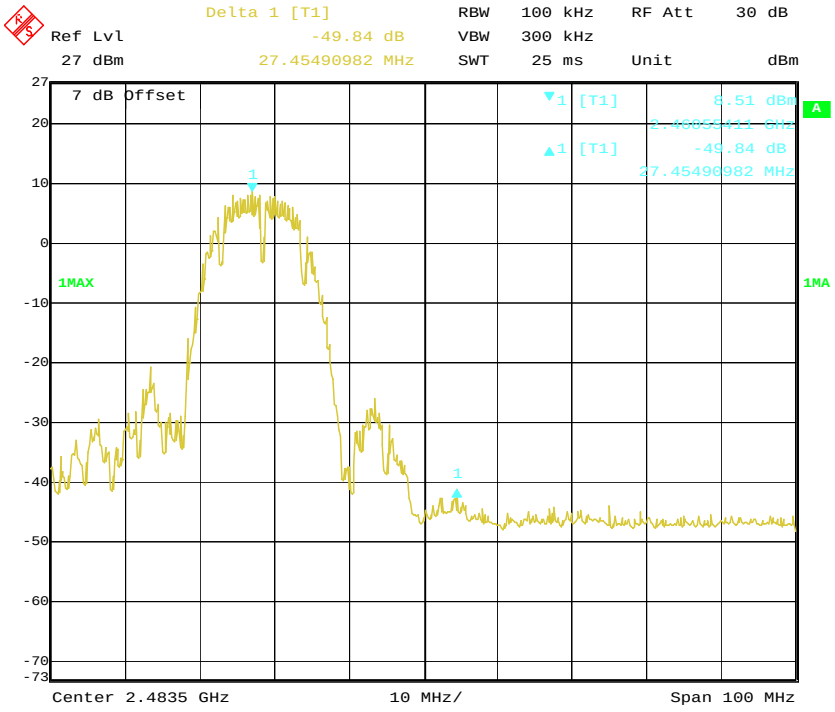
802.11b: Band Edge, Right Side, Antenna 0



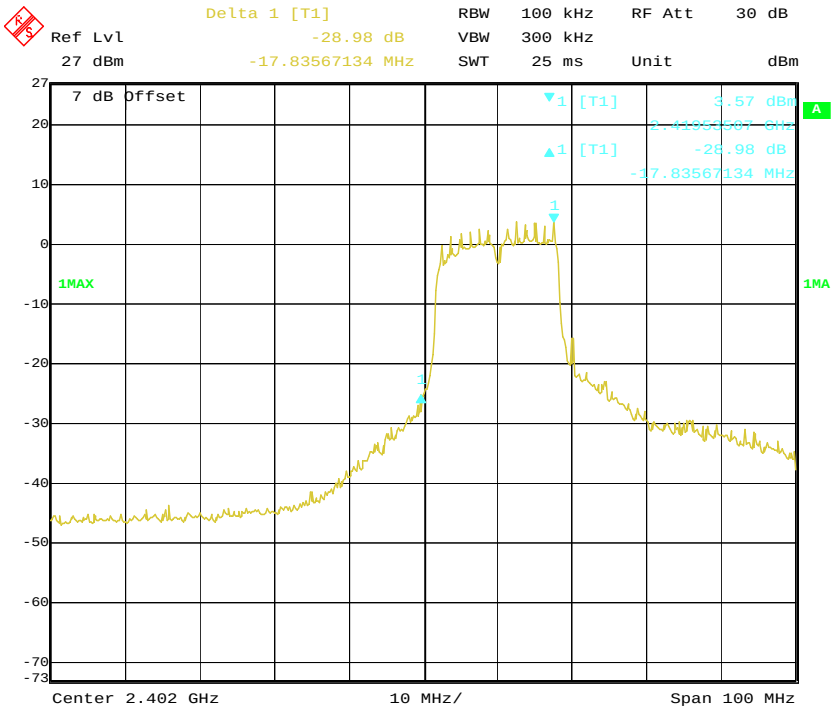
802.11b: Band Edge, Left Side, Antenna 1



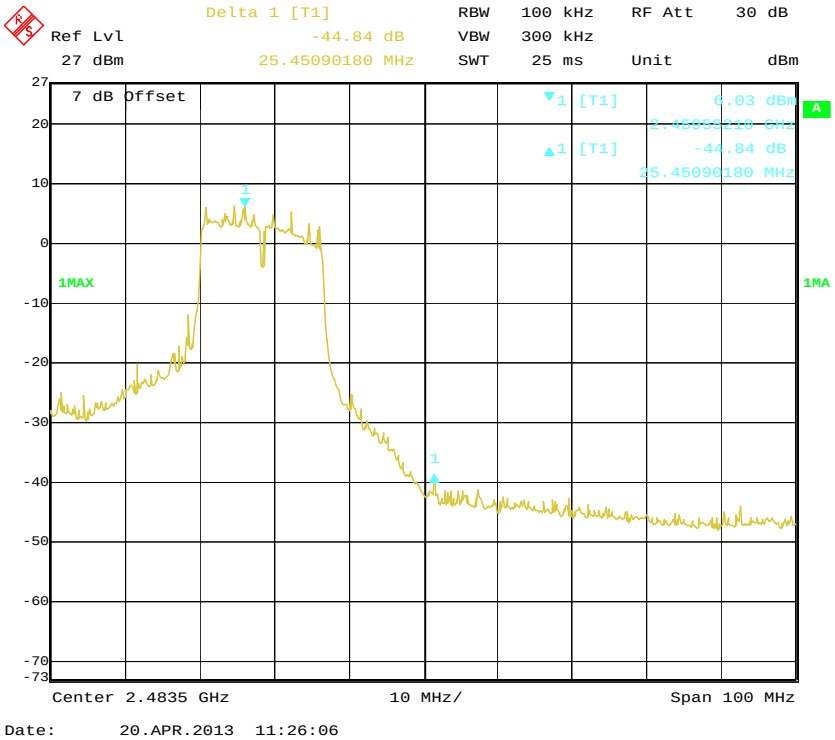
802.11b: Band Edge, Right Side, Antenna 1



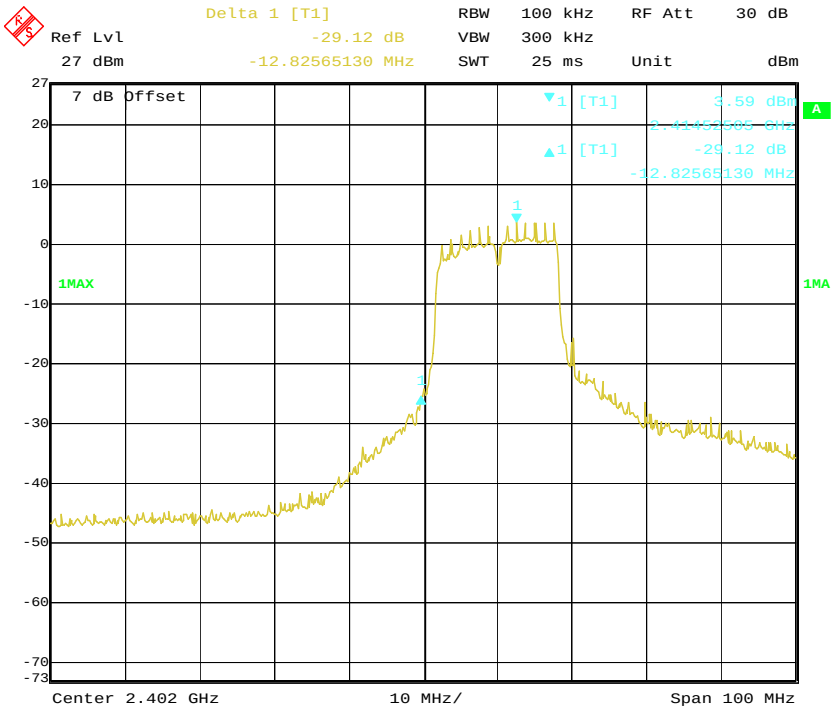
802.11g: Band Edge, Left Side, Antenna 0



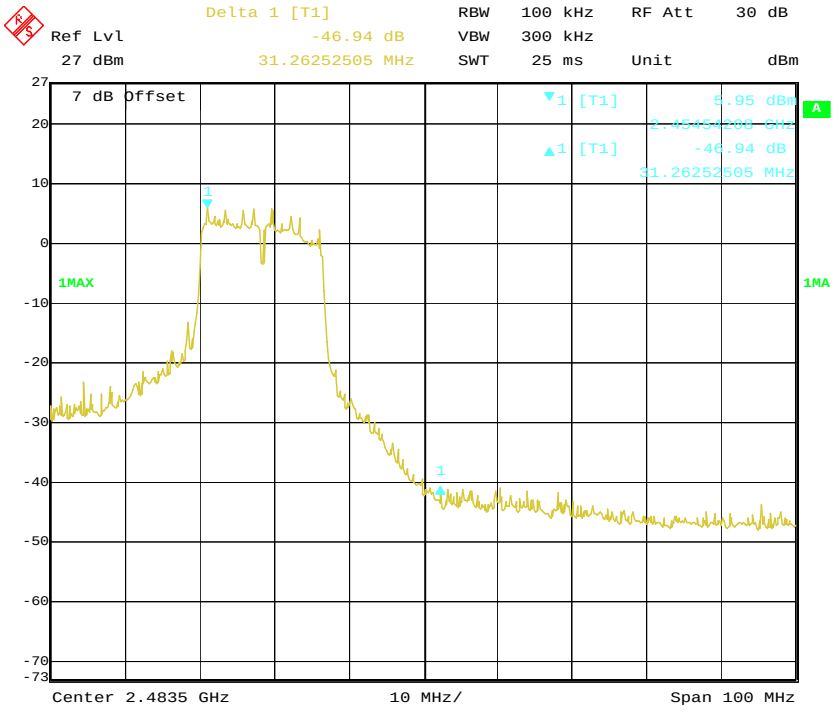
802.11g: Band Edge, Right Side, Antenna 0



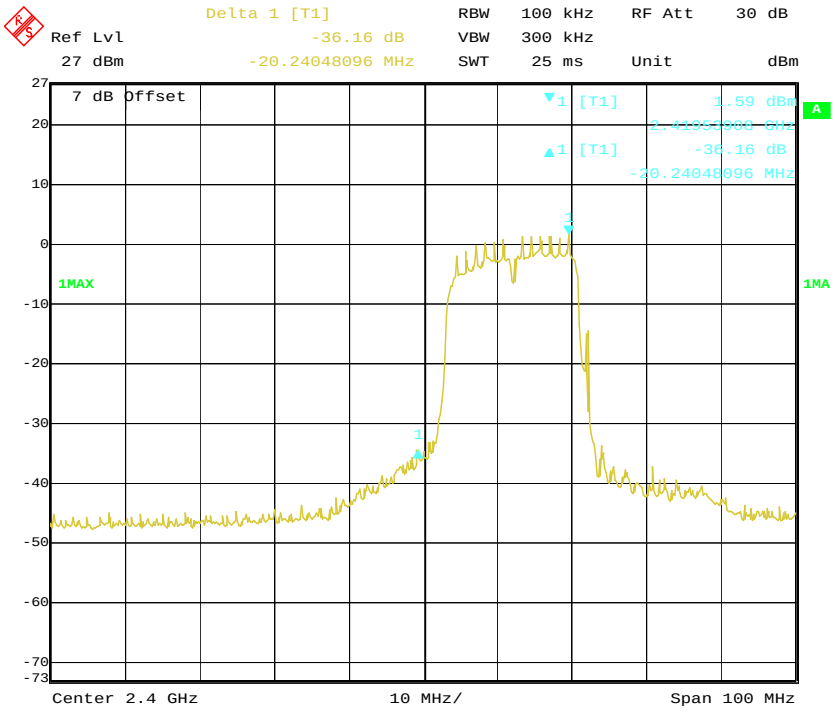
802.11g: Band Edge, Left Side, Antenna 1



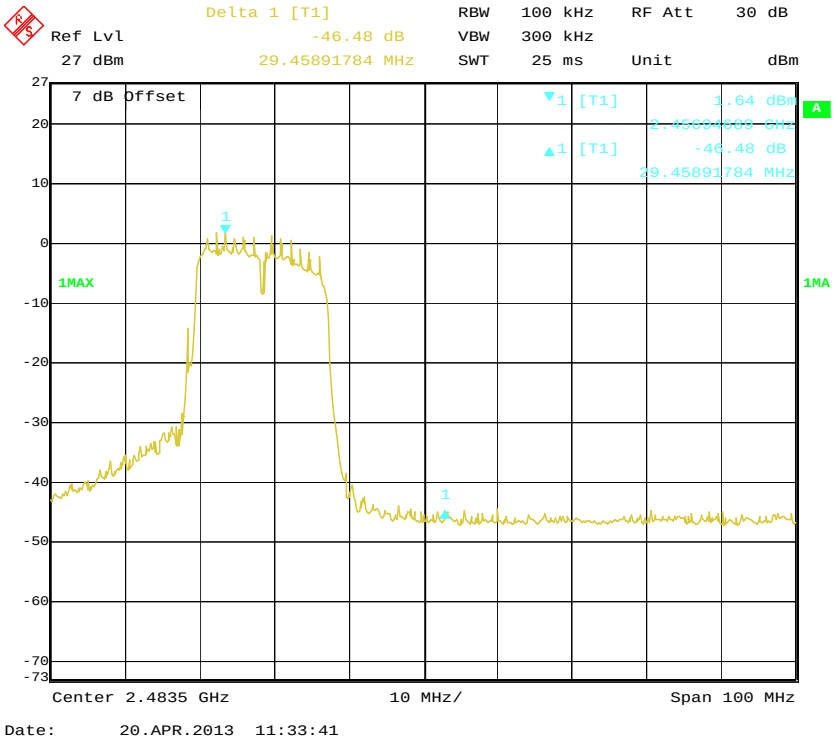
802.11g: Band Edge, Right Side, Antenna 1



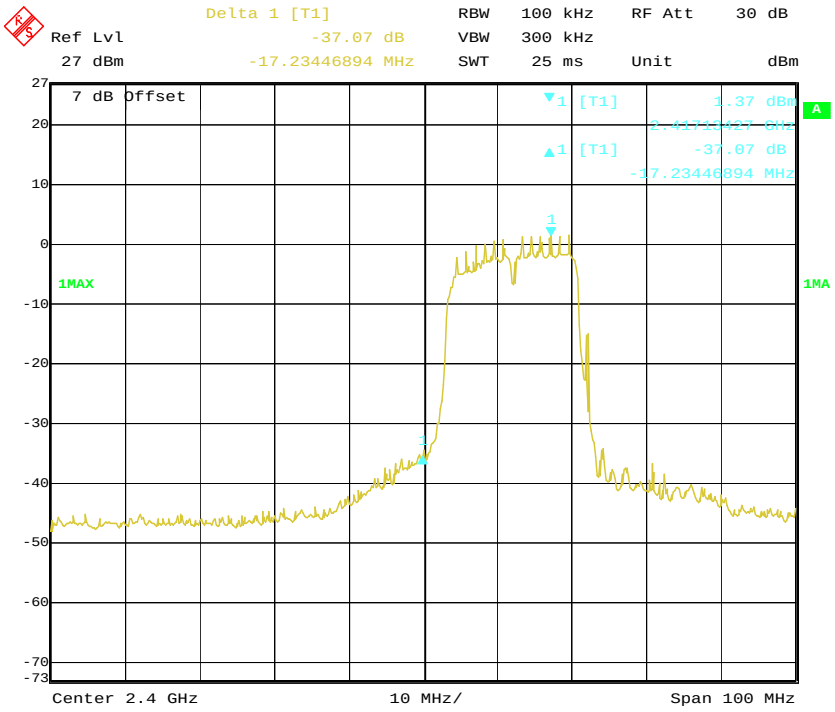
802.11n-HT20: Band Edge, Left Side, Antenna 0



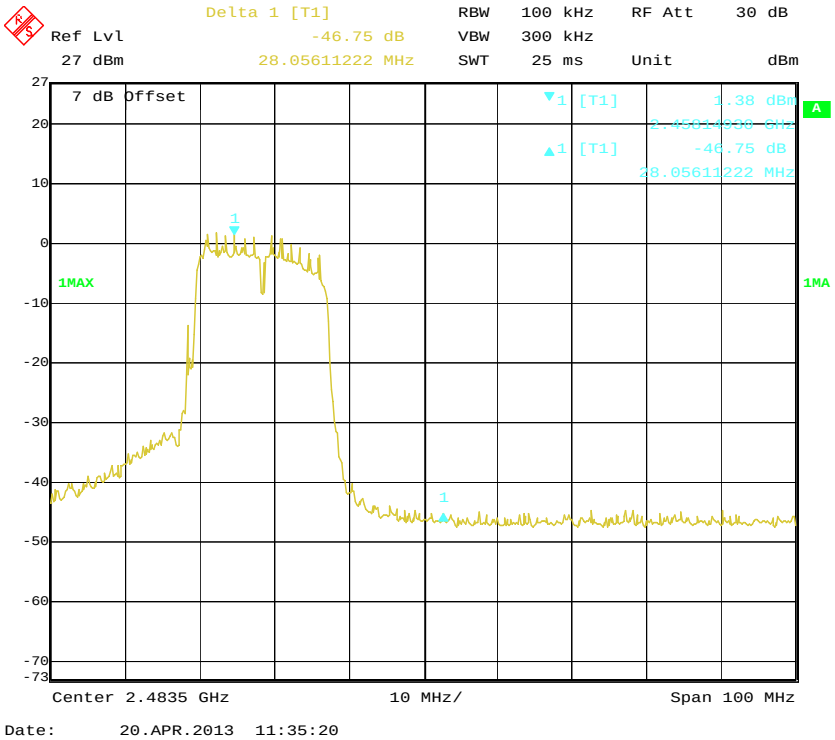
802.11n-HT20: Band Edge, Right Side, Antenna 0



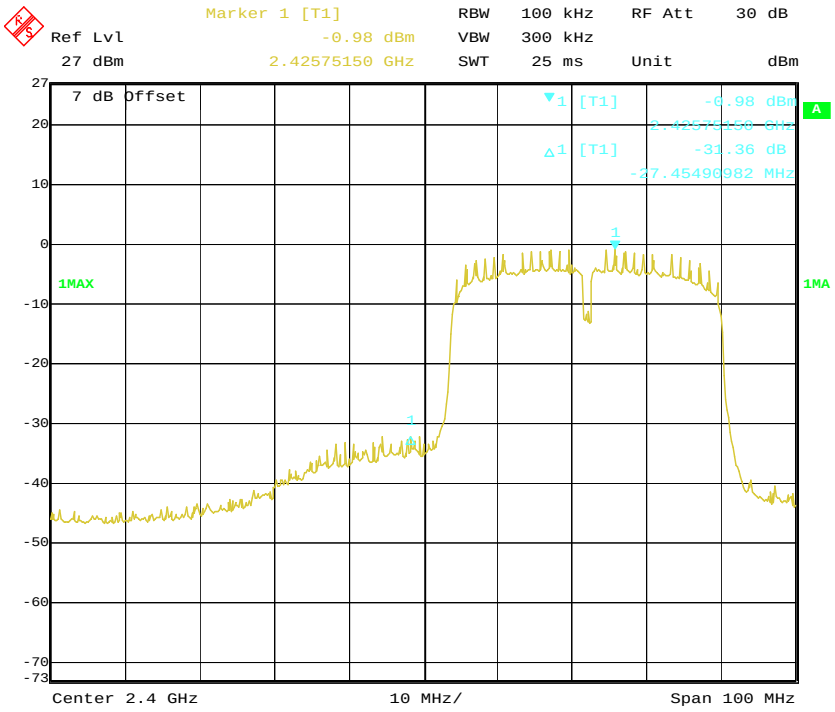
802.11n-HT20: Band Edge, Left Side, Antenna 1



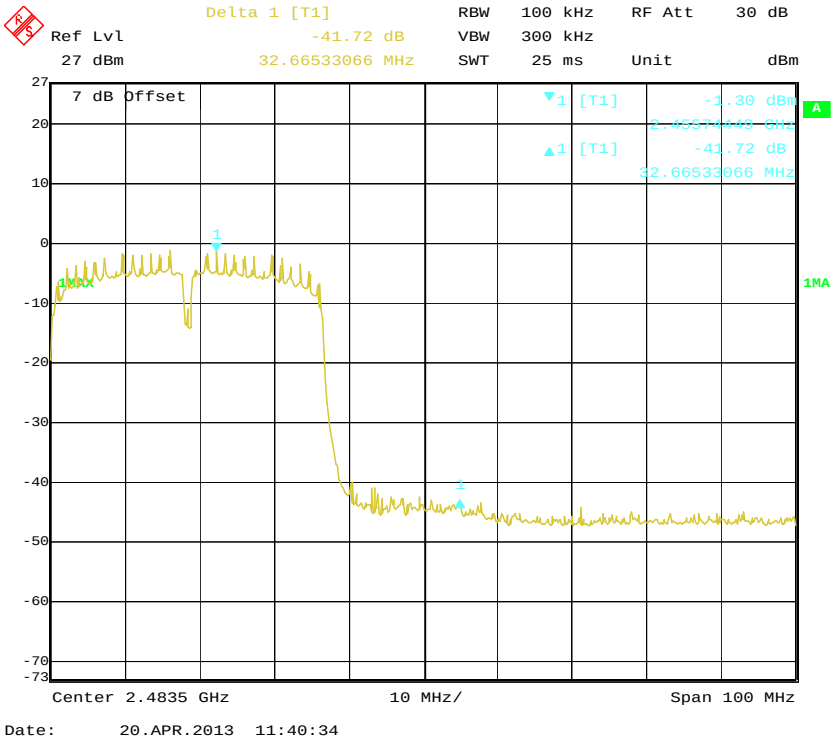
802.11n-HT20: Band Edge, Right Side, Antenna 1



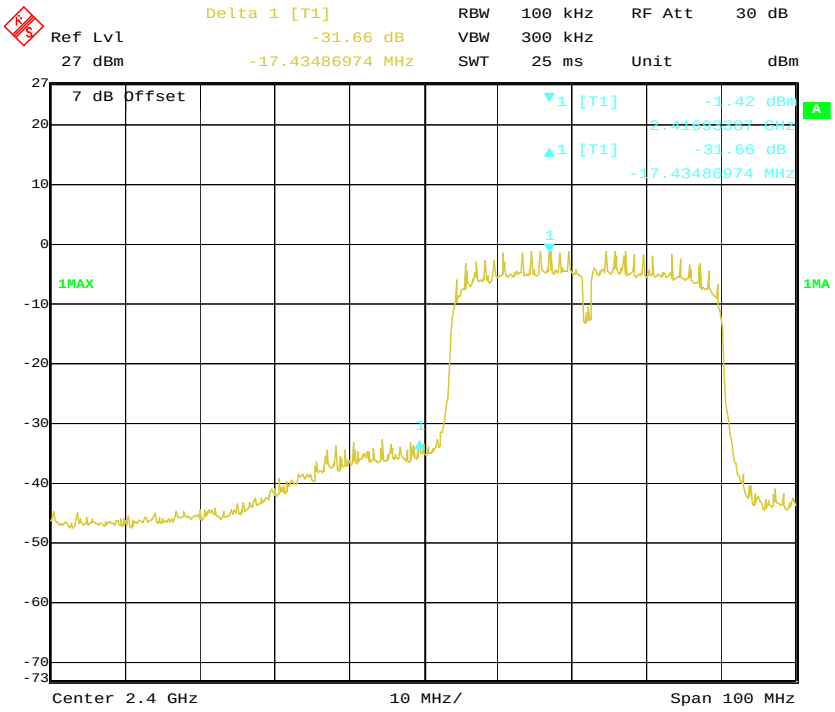
802.11n-HT40: Band Edge, Left Side, Antenna 0



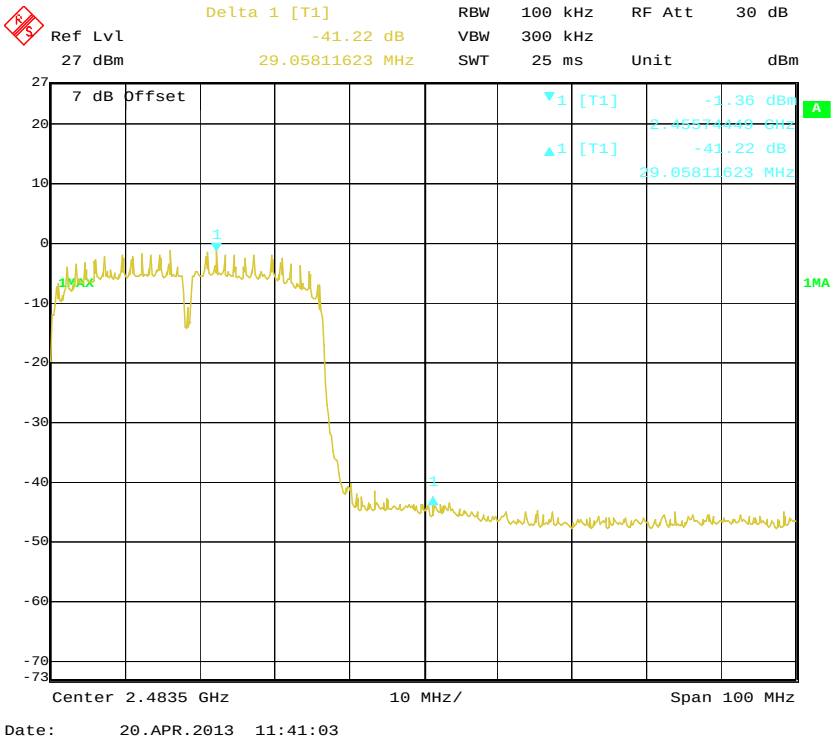
802.11n-HT40: Band Edge, Right Side, Antenna 0



802.11n-HT40: Band Edge, Left Side, Antenna 1



802.11n-HT40: Band Edge, Right Side, Antenna 1



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	Signal Analyzer	FSIQ26	8386001028	2012-11-24	2013-11-23

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

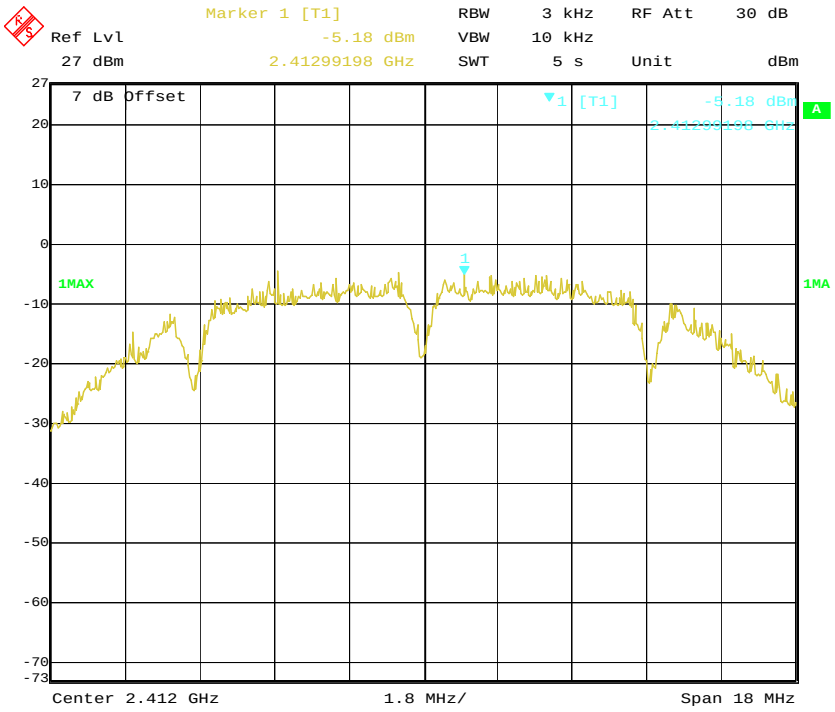
The testing was performed by Tiger Ye on 2013-04-20.

EUT operation mode: Transmitting

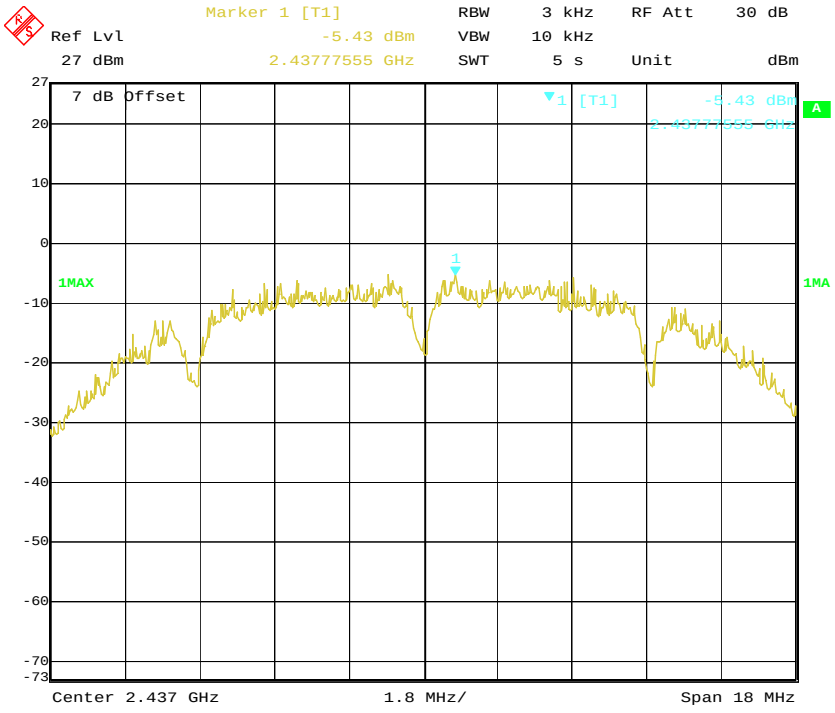
Test Result: Pass

Channel	Frequency (MHz)	PSD(dBm/3kHz)			Limit (dBm/3kHz)
		Antenna 0	Antenna 1	Antenna 0 +Antenna 1	
802.11b mode					
Low	2412	-5.18	-5.60	\	≤8
Middle	2437	-5.43	-4.90	\	≤8
High	2462	-5.03	-5.77	\	≤8
802.11g mode					
Low	2412	-11.28	-12.93	\	≤8
Middle	2437	-12.58	-11.30	\	≤8
High	2462	-12.36	-12.44	\	≤8
802.11n-HT20 mode					
Low	2412	-12.20	-12.63	-9.40	≤8
Middle	2437	-12.84	-12.73	-9.77	≤8
High	2462	-12.42	-12.60	-9.50	≤8
802.11n-HT40 mode					
Low	2422	-14.53	-15.16	-11.82	≤8
Middle	2437	-15.88	-15.97	-12.91	≤8
High	2452	-14.84	-15.87	-12.31	≤8

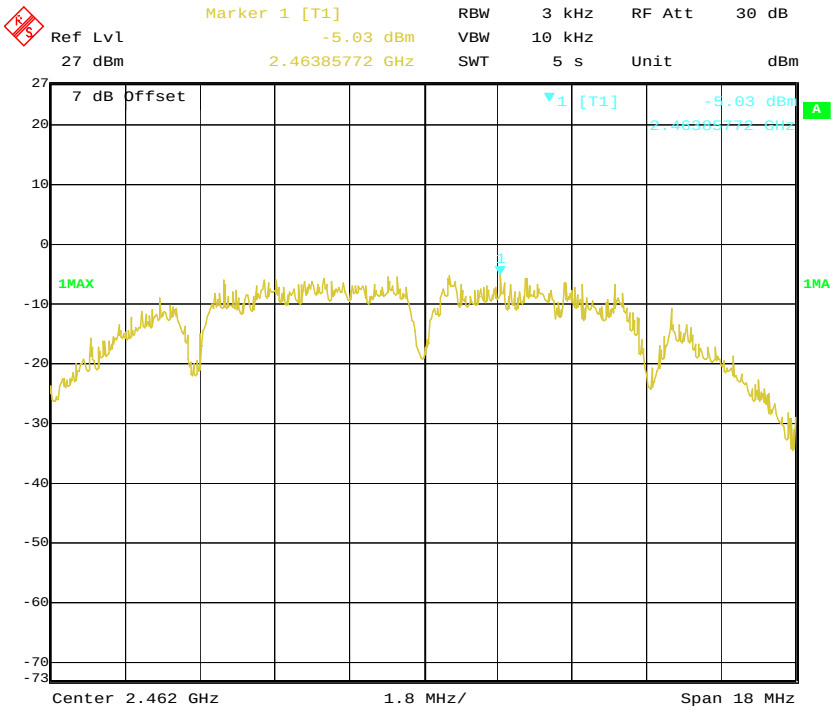
Power Spectral Density, 802.11b Low Channel, Antenna 0



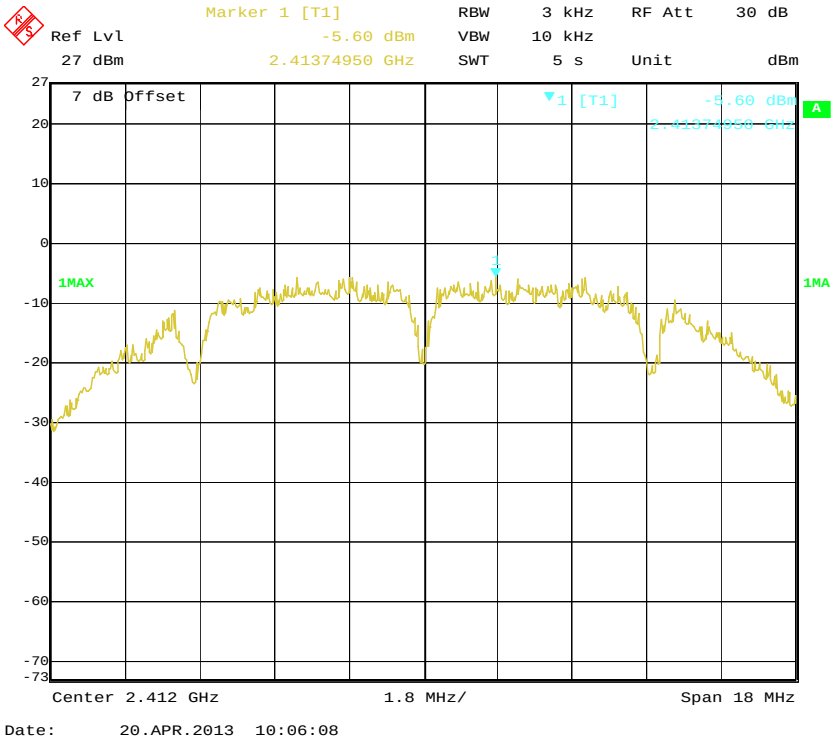
Power Spectral Density, 802.11b Middle Channel, Antenna 0



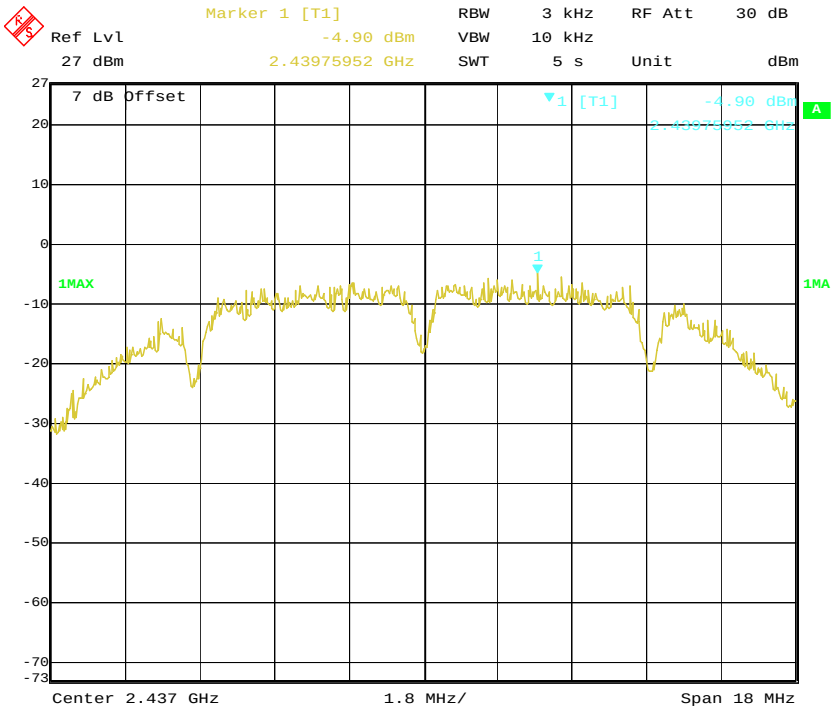
Power Spectral Density, 802.11b High Channel, Antenna 0



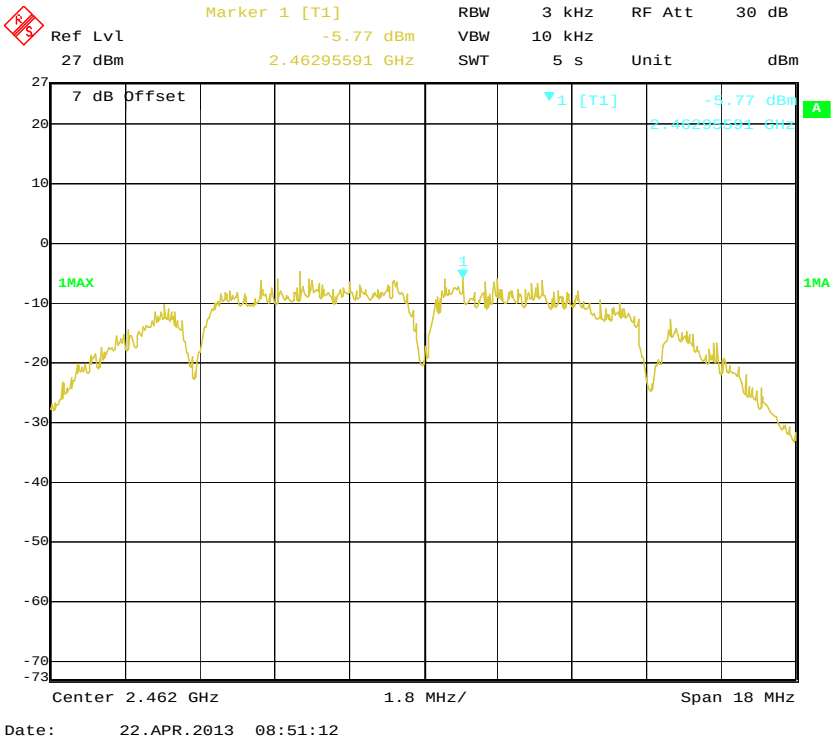
Power Spectral Density, 802.11b Low Channel, Antenna 1



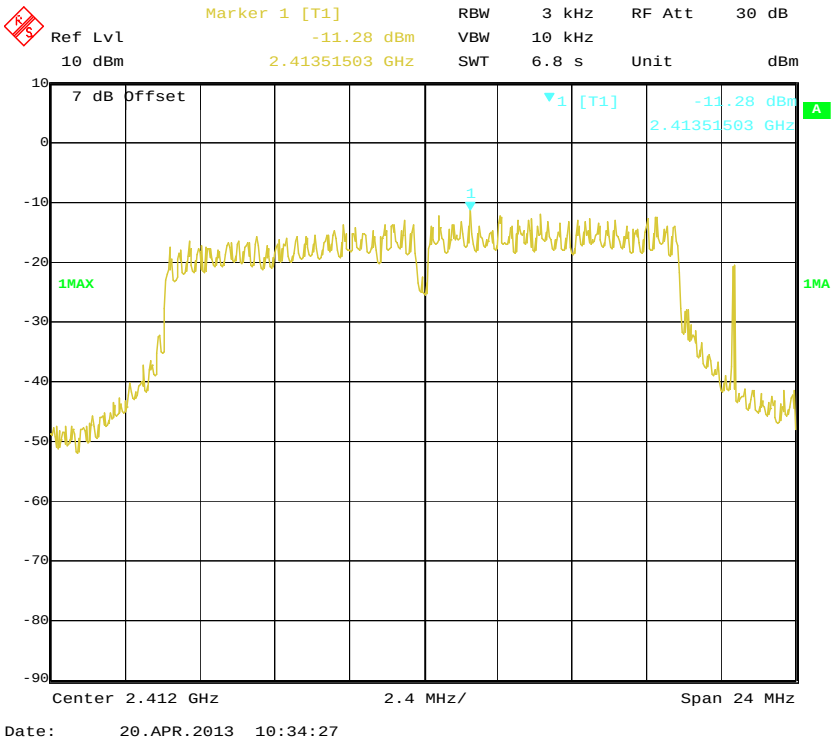
Power Spectral Density, 802.11b Middle Channel, Antenna 1



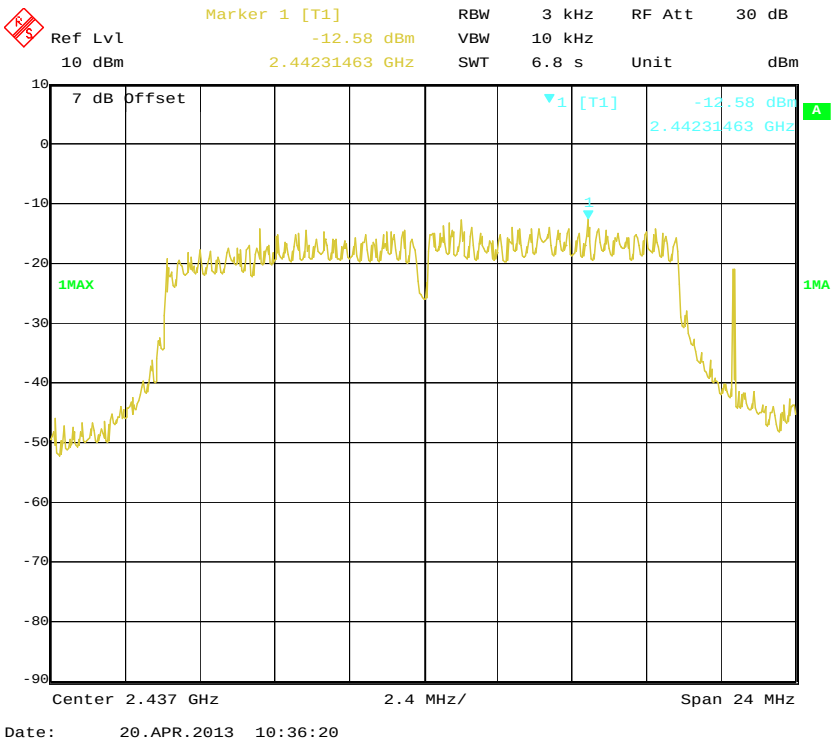
Power Spectral Density, 802.11b High Channel, Antenna 1



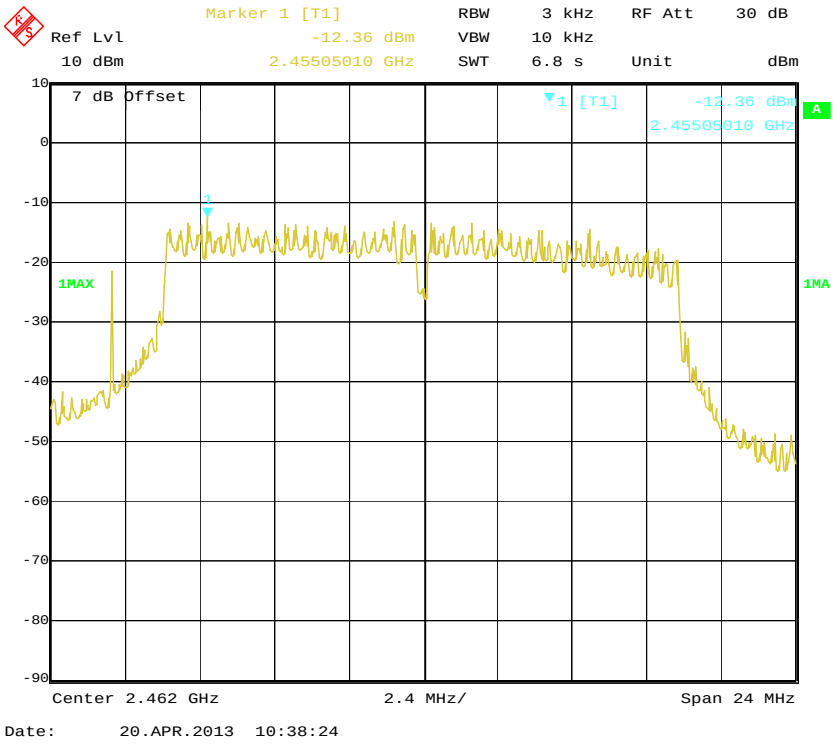
Power Spectral Density, 802.11g Low Channel, Antenna 0



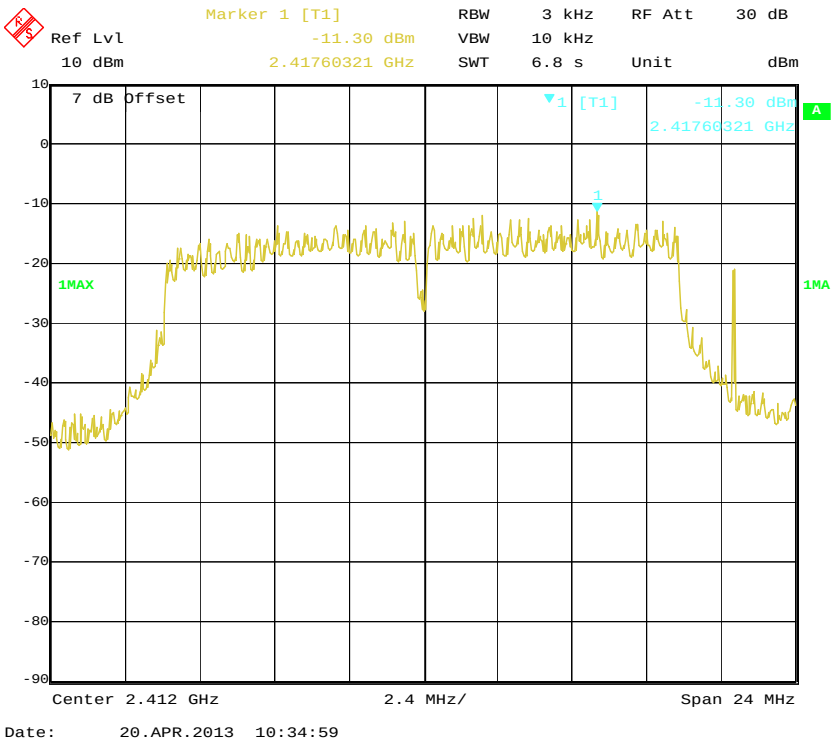
Power Spectral Density, 802.11g Middle Channel, Antenna 0



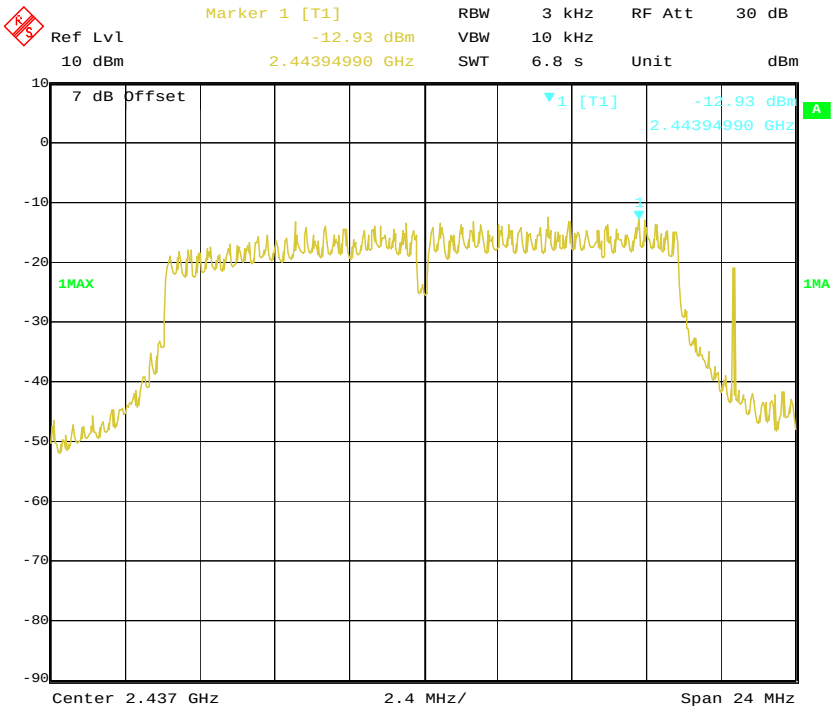
Power Spectral Density, 802.11g High Channel, Antenna 0



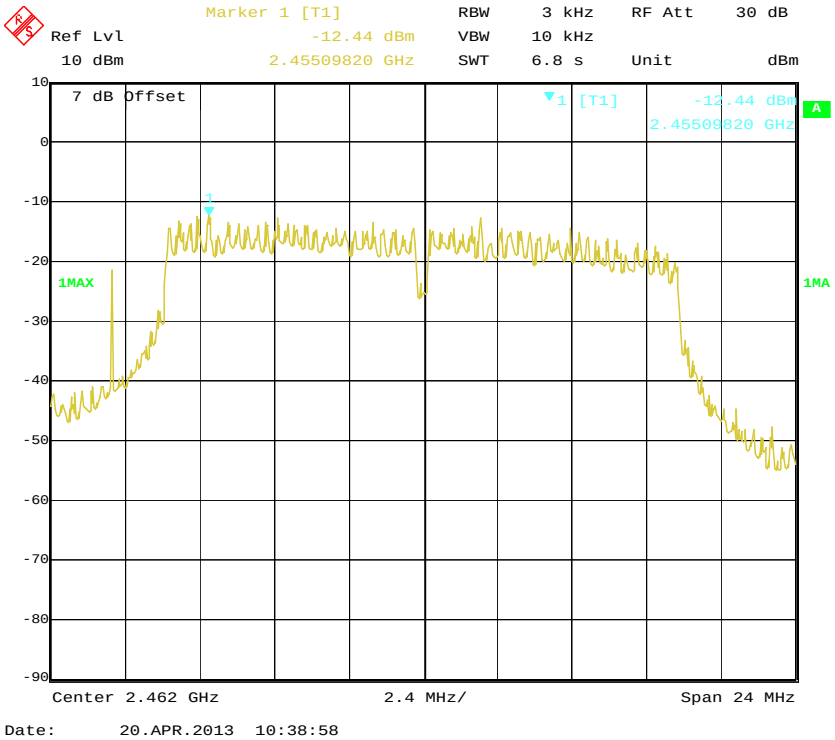
Power Spectral Density, 802.11g Low Channel, Antenna 1



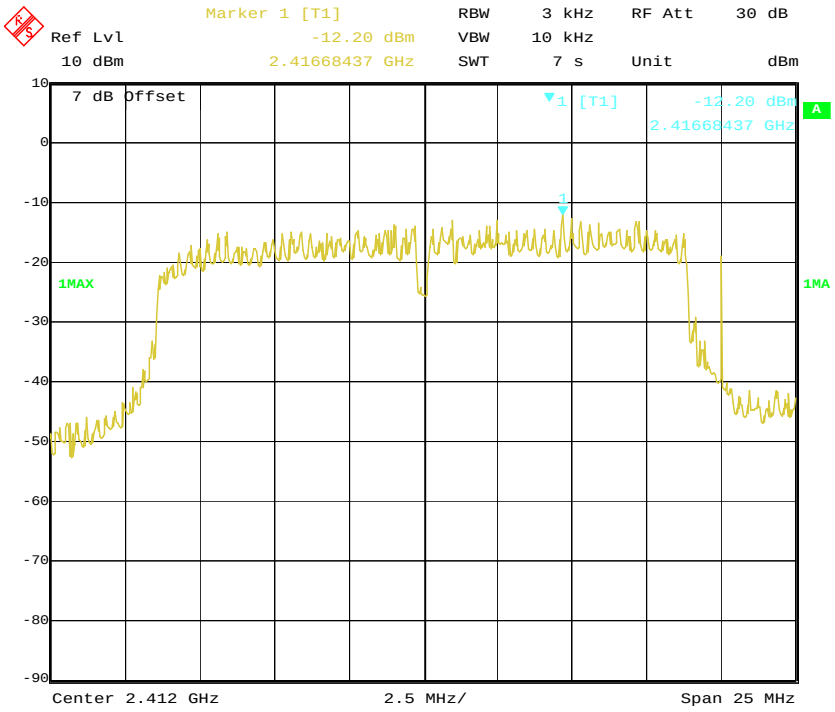
Power Spectral Density, 802.11g Middle Channel, Antenna 1



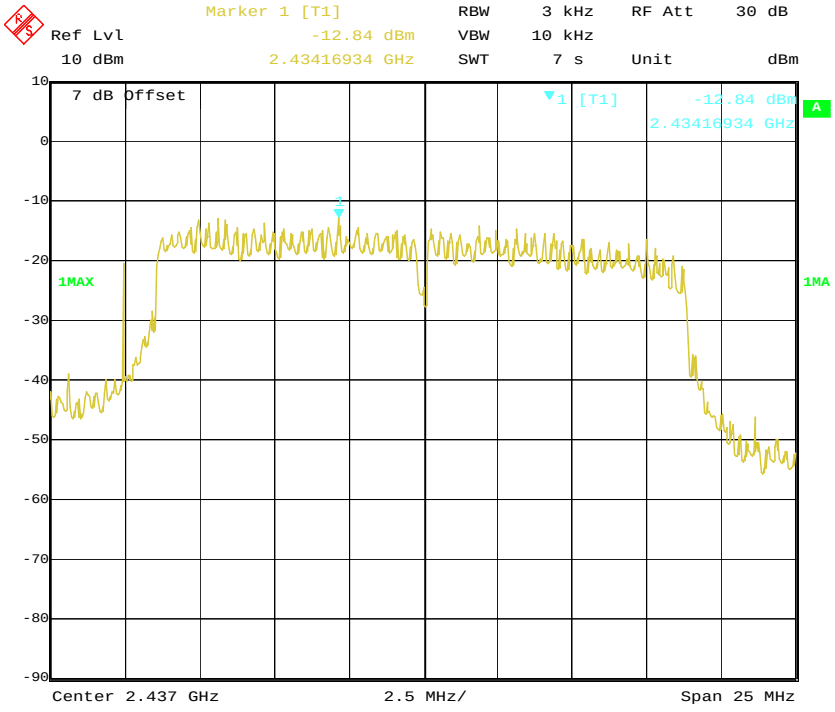
Power Spectral Density, 802.11g High Channel, Antenna 1



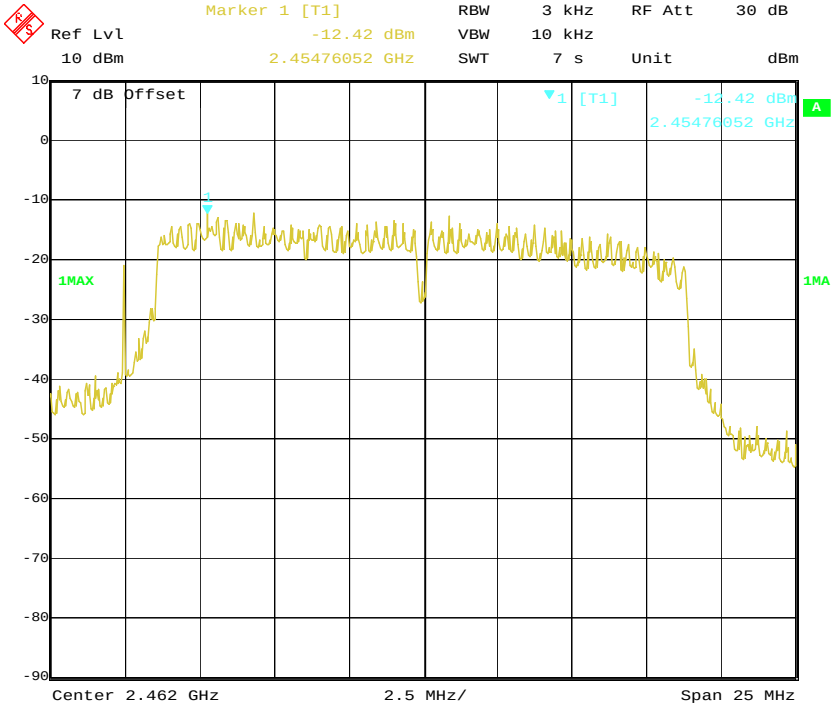
Power Spectral Density, 802.11n-HT20 Low Channel, Antenna 0



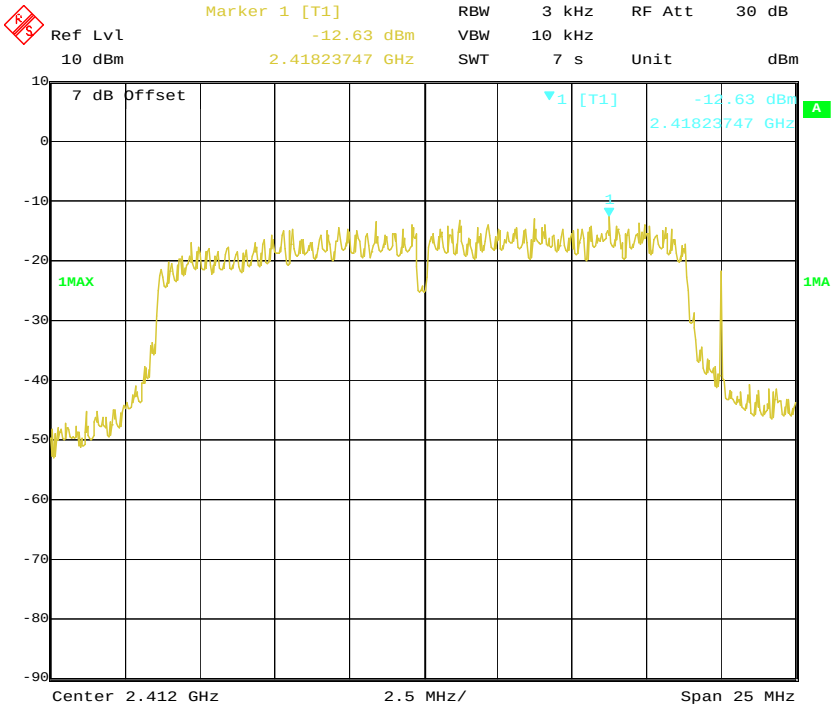
Power Spectral Density, 802.11n-HT20 Middle Channel, Antenna 0



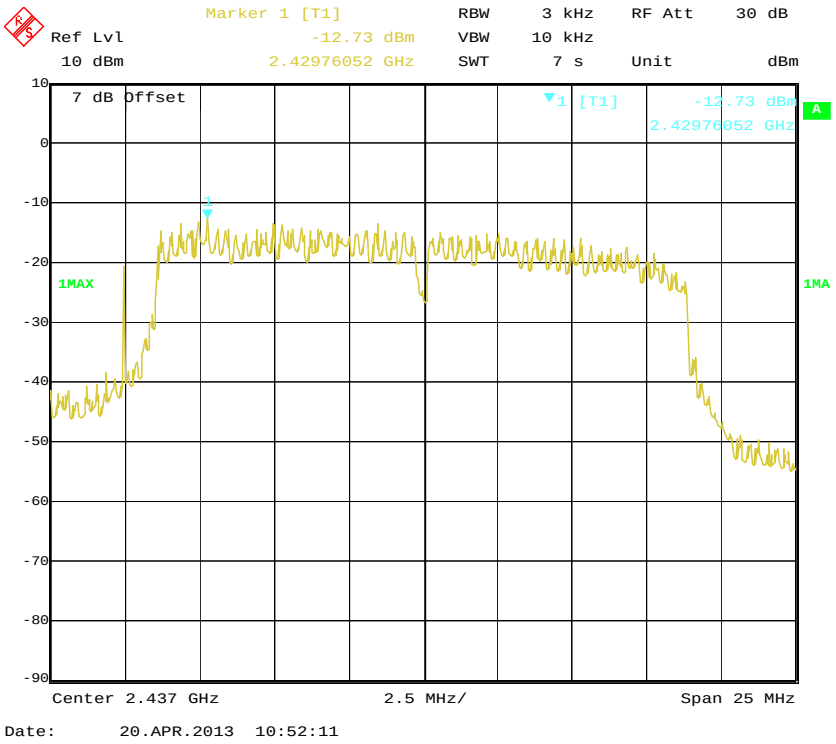
Power Spectral Density, 802.11n-HT20 High Channel, Antenna 0



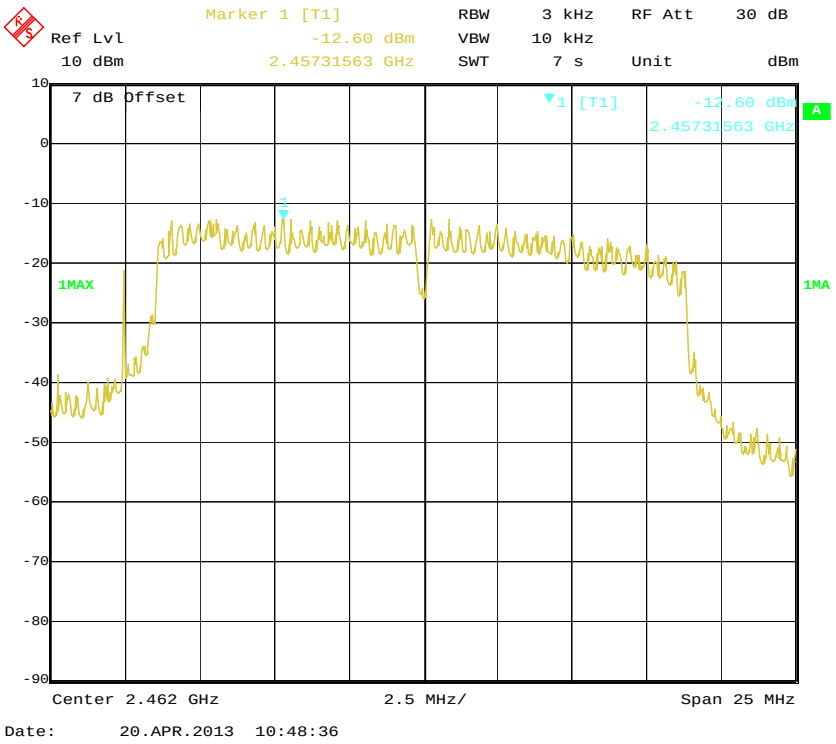
Power Spectral Density, 802.11n-HT20 Low Channel, Antenna 1



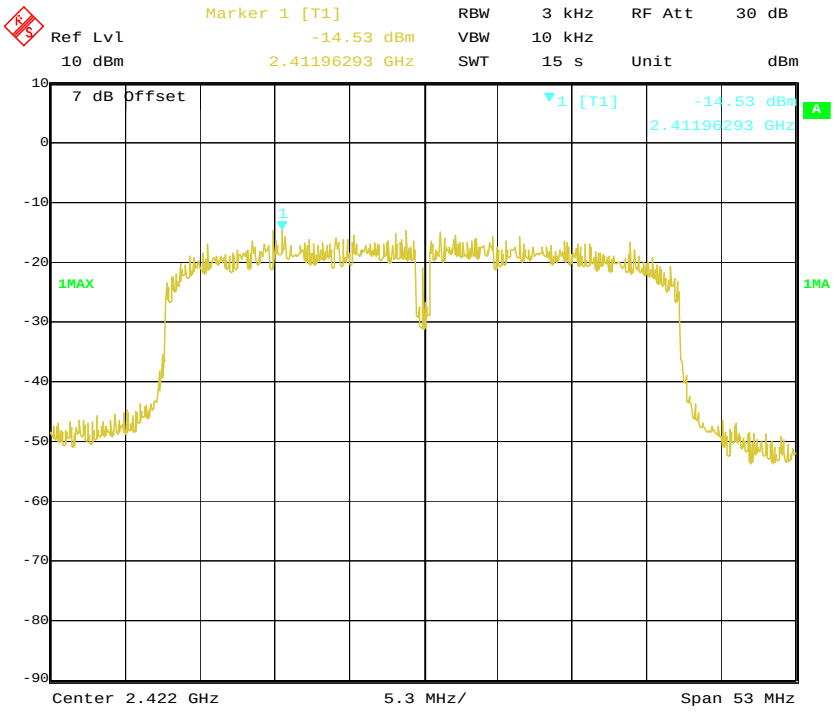
Power Spectral Density, 802.11n-HT20 Middle Channel, Antenna 1



Power Spectral Density, 802.11n-HT20 High Channel, Antenna 1

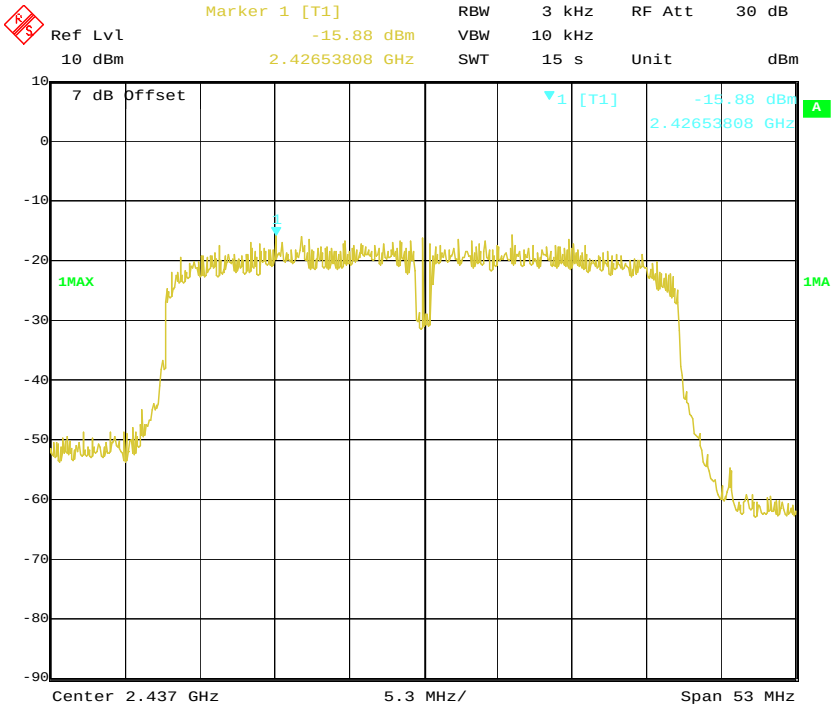


Power Spectral Density, 802.11n-HT40 Low Channel, Antenna 0



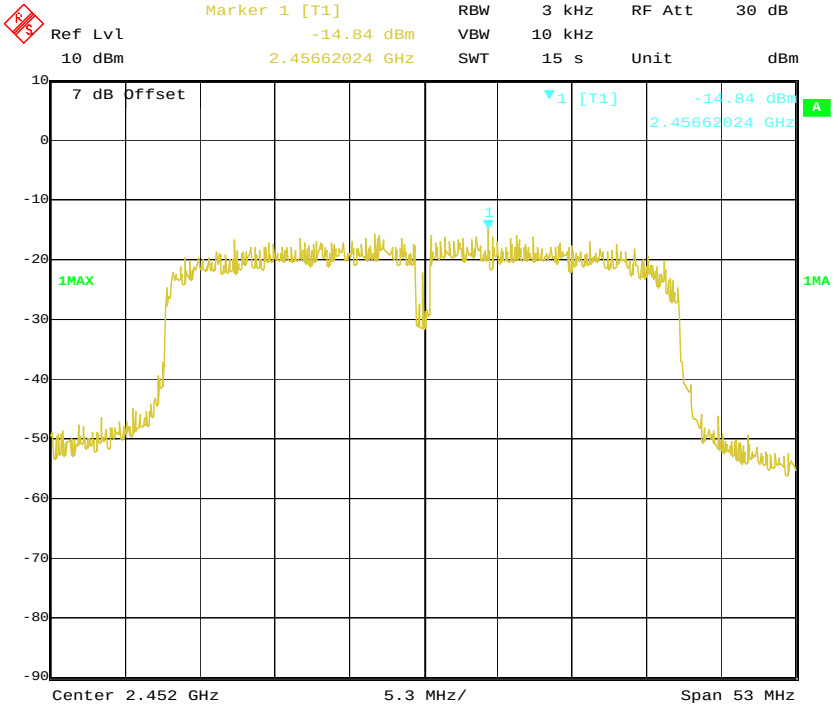
Date: 20.APR.2013 10:55:54

Power Spectral Density, 802.11n-HT40 Middle Channel, Antenna 0

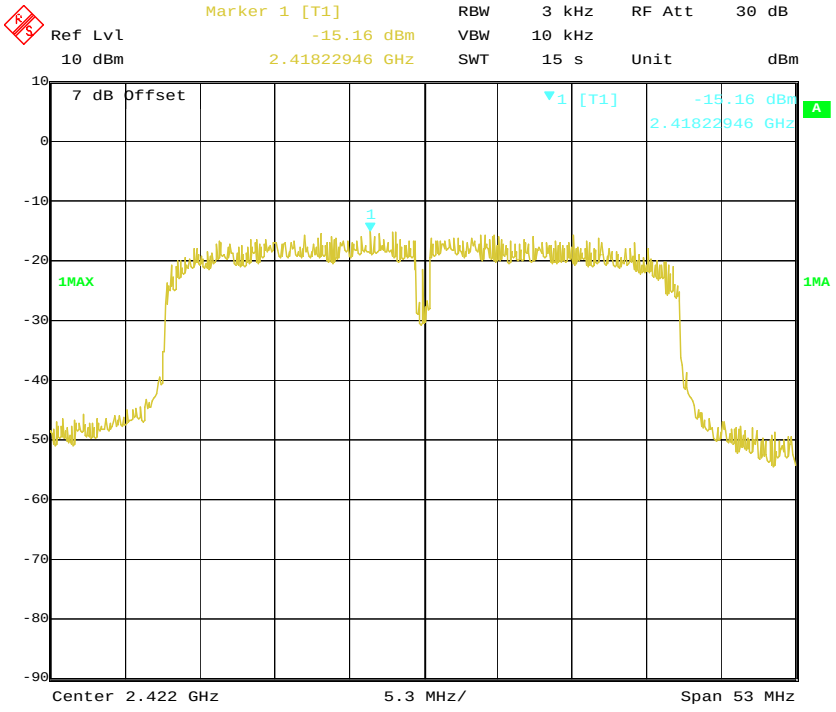


Date: 20.APR.2013 11:03:56

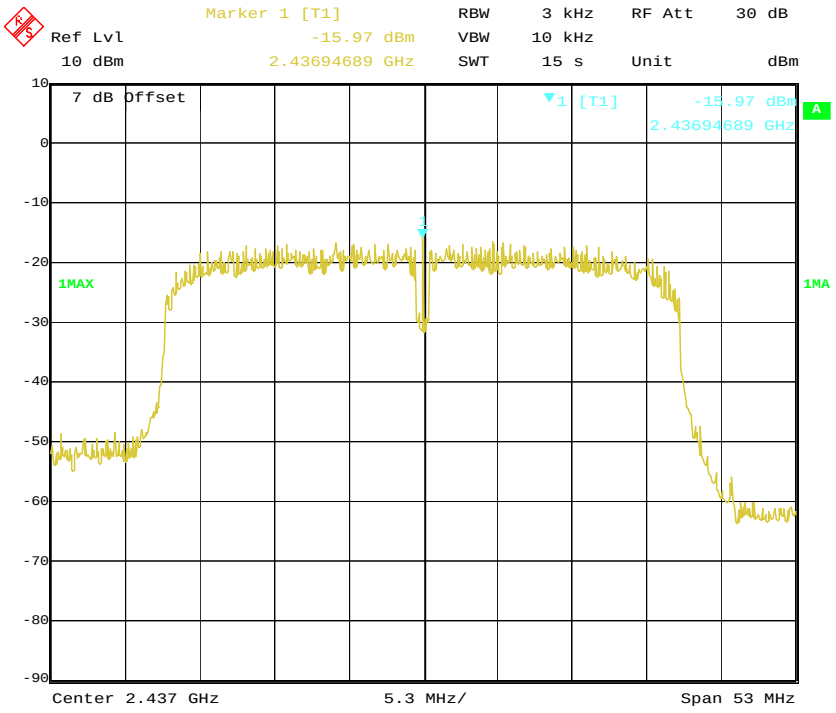
Power Spectral Density, 802.11n-HT40 High Channel, Antenna 0



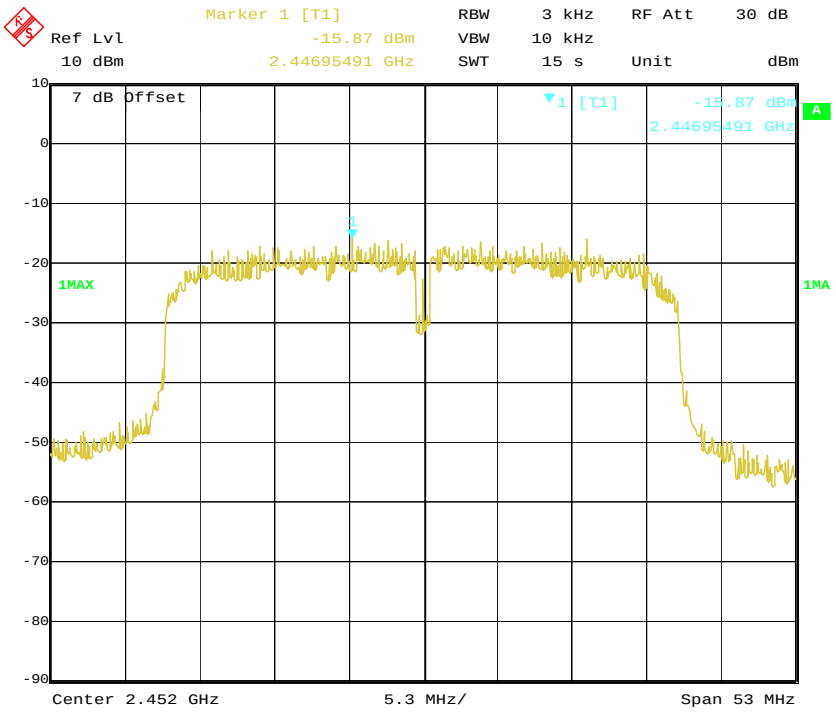
Power Spectral Density, 802.11n-HT40 Low Channel, Antenna 1



Power Spectral Density, 802.11n-HT40 Middle Channel, Antenna 1



Power Spectral Density, 802.11n-HT40 High Channel, Antenna 1



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