



FCC TEST REPORT

According to

FCC Rules and Regulations Part 15 Subpart C

Applicant	: CastleNet Technology Inc.
Address	: No.64, Chung-Shan Rd. Tu-Cheng District, New Taipei City, Taiwan
Equipment	: Cable Modem
Model No.	: CBV383Z2, CBW383G2 , CBV383Z1, CBW383G1
Trade Name	: CTI
FCC ID	: RK9-CBV383Z2

- The test result refers exclusively to the test presented test model / sample.,
- Without written approval of **CerpPASS Technology Corp.**, the test report shall not be reproduced except in full.

Laboratory Accreditation





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CERTIFICATE OF COMPLIANCE

According to

FCC Rules and Regulations Part 15 Subpart C

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Equipment	: Cable Modem
Model No.	: CBV383Z2, CBW383G2 , CBV383Z1, CBW383G1
FCC ID	: RK9-CBV383Z2

I HEREBY CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 2009, KDB558074 & KDB662911**. The equipment was **passed** the test performed according to **FCC Rules and Regulations Part 15 Subpart C (2010)**.

The sample was received on Jan. 05, 2015 and the testing was carried out on Jan. 08, 2015 at **CerpPASS Technology Corp.**

Approved by:

Hill Chen
EMC/RF B.U. Assistant Manager

Tested by:

Aiden Lu
Engineer



1. Report of Measurements and Examinations

1.1 List of Measurements and Examinations

FCC Rule	Description of Test	Result
15.203	. Antenna Requirement	Pass
15.207	. AC Power Line Conducted Emission	Pass
15.209 15.205	. Radiated Spurious Emission	Pass
15.247(d)	. Conducted Spurious Emission	Pass
15.247(a)(2)	. 6dB Bandwidth	Pass
15.247(b)	. Maximum Peak Output Power	Pass
15.247(e)	. Power Spectral Density	Pass



2. Test Configuration of Equipment under Test

2.1 Feature of Equipment under Test

Frequency range	2.412-2.462GHz
Channel spacing	5MHz
Channel List	1-11 channels
Modulation type	DSSS, OFDM
Data Rate	802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n HT20: up to 130Mbps 802.11n HT40: up to 270Mbps
Antenna type & gain	Dipole antenna/ 2.56dBi

2.2 Difference of model numbers

The differences between all model numbers are in the following table:

Model number	LAN Port	VoIP
CBV383Z2	2 ports	Yes
CBW383G2	2 ports	No
CBV383Z1	1 ports	Yes
CBW383G1	1 ports	No

The circuit design and layout between of all model numbers are the same.

2.3 Carrier Frequency of Channels

802.11b, 802.11g, 802.11n HT 20

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*01	2412	07	2442
02	2417	08	2447
03	2422	09	2452
04	2427	10	2457
05	2432	*11	2462
*06	2437	---	---

802.11n HT40

Channel	Frequency(MHz)	Channel	Frequency(MHz)
---	---	07	2442
---	---	08	2447
*03	2422	*09	2452
04	2427	---	---
05	2432	---	---
*06	2437	---	---

Note: Channels remarked * are selected to perform test.



2.4 Test Mode and Test Software

- a. During testing, the interface cables and equipment positions were varied according to ANSI C63.4.
- b. The complete test system included Notebook and EUT for RF test.
- c. An executiveMTool_2.0.1.0" under XP was executed to keep transmitting and receiving data via Wireless.
- d. Pre-Scanned RF Power:

<Avg. Power>

802.11b			802.11g		
Data Rate (Mbps)	Ant. 0 Power Output (dBm)	Ant. 1 Power Output (dBm)	Data Rate (Mbps)	Ant. 0 Power Output (dBm)	Ant. 1 Power Output (dBm)
11M	17.51	17.56	54M	15.66	17.23
5.5M	17.68	17.62	48M	15.70	17.37
2M	17.80	17.67	36M	15.73	17.40
1M	18.12	17.72	24M	15.77	17.42
---	---	---	18M	15.79	17.45
---	---	---	12M	15.81	17.49
---	---	---	9M	15.84	17.52
---	---	---	6M	16.12	17.55

802.11n HT20			802.11n HT40		
Data Rate (Mbps)	Ant. 0 Power Output (dBm)	Ant. 1 Power Output (dBm)	Data Rate (Mbps)	Ant. 0 Power Output (dBm)	Ant. 1 Power Output (dBm)
130/15	14.79	14.32	270/15	14.43	13.88
117/14	14.83	14.34	243/14	14.44	14.20
104/13	14.88	14.37	216/13	14.51	14.22
78/12	14.94	14.39	162/12	14.55	14.25
52/11	14.98	14.42	108/11	14.58	14.28
39/10	15.04	14.46	81/10	14.61	14.32
26/9	15.08	14.49	54/9	14.64	14.35
13/8	15.11	14.51	27/8	14.67	14.38



<Peak Power>

802.11b			802.11g		
Data Rate (Mbps)	Ant. 0 Power Output (dBm)	Ant. 1 Power Output (dBm)	Data Rate (Mbps)	Ant. 0 Power Output (dBm)	Ant. 1 Power Output (dBm)
11M	21.63	21.68	54M	25.13	25.34
5.5M	21.73	21.73	48M	25.15	25.36
2M	21.88	21.79	36M	25.18	25.38
1M	22.02	21.84	24M	25.22	25.41
---	---	---	18M	25.25	25.44
---	---	---	12M	25.28	25.47
---	---	---	9M	25.32	25.49
---	---	---	6M	25.37	25.51

802.11n HT20			802.11n HT40		
Data Rate (Mbps)	Ant. 0 Power Output (dBm)	Ant. 1 Power Output (dBm)	Data Rate (Mbps)	Ant. 0 Power Output (dBm)	Ant. 1 Power Output (dBm)
130/15	24.58	24.28	270/15	23.87	21.88
117/14	24.63	24.34	243/14	23.93	23.91
104/13	24.68	24.39	216/13	23.99	23.95
78/12	24.73	24.45	162/12	24.09	23.99
52/11	24.78	24.55	108/11	24.17	24.05
39/10	24.83	24.62	81/10	24.24	24.09
26/9	24.87	24.68	54/9	24.31	24.14
13/8	24.91	24.75	27/8	24.38	24.18

*The highest powers were chosen for the full test.

e. Test modes:

Mode 1: 802.11b(1Mbps)

Mode 2: 802.11g(6Mbps)

Mode 3: 802.11n HT20(6.5Mbps)

Mode 4: 802.11n HT40(13.5Mbps)

Only the worst case is shown in the test report (Mode 2: 802.11g ch6)



2.5 Description of Test System

Device	Manufacturer	Model No.	Description
Notebook	HP	ProBook 5310m	Power Cable, Unshielding 1.8m

Used cable

Cable	Quantity	Description
Network	1	Unshielding, 1.2m
RS232	1	Unshielding, 1.2m

2.6 General Information of Test

Test Site :	CerpPASS Technology Corporation Test Laboratory No.10, Lane 2, Lianfu Street, Luzhu Township, Taoyuan County 33848, Taiwan(R.O.C.)
Test Site Location :	No.68-1, Shihbachongsi, Shihding Township, New Taipei City 223, Taiwan, R.O.C.
FCC Registration Number :	<input type="checkbox"/> TW1079, <input checked="" type="checkbox"/> TW1061, <input type="checkbox"/> 390316, <input checked="" type="checkbox"/> 228391, <input type="checkbox"/> 641184
IC Registration Number :	<input type="checkbox"/> 4934B-1, <input checked="" type="checkbox"/> 4934E-1, <input type="checkbox"/> 4934E-2
VCCI Registration Number :	<input checked="" type="checkbox"/> T-2205 for Telecommunication Test <input checked="" type="checkbox"/> C-4463 for Conducted emission test <input checked="" type="checkbox"/> R-3428 for Radiated emission test <input checked="" type="checkbox"/> G-812 for radiated disturbance above 1GHz <input type="checkbox"/> G-813 for radiated disturbance above 1GHz
Frequency Range Investigated :	Conducted Emission Test: from 150 kHz to 30 MHz Radiated Emission Test: from 30 MHz to 26,500 MHz
Test Distance :	The test distance of radiated emission from antenna to EUT is 3 M.



3. Test Equipment and Ancillaries Used for Tests

Instrument	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
EMI Receiver	R&S	ESCI	101423	2014/06/05	2015/06/04
LISN	Schwarzbeck	NSLK 8127	8127-740	2014/08/14	2015/08/13
LISN	Schwarzbeck	NSLK 8127	8127-516	2014/03/10	2015/03/09
Pulse Limiter	R&S	ESH3-Z2	101933	2014/08/12	2015/08/11
EMI Receiver	R&S	ESCI	100443	2014/04/09	2015/04/08
Bilog Antenna	Schwarzbeck	VULB 9168	275	2014/09/18	2015/09/17
Amplifier	QuieTek	AP/0100A	CHM09060 75	2014/09/17	2015/09/16
SPECTRUM ANALYZER	R&S	FSP40	100219	2014/09/03	2015/09/02
HORN ANTENNA	EMCO	3115	31601	2014/07/09	2015/07/08
PREAMPLIFIER	AGILENT	8449B	3008A0195 4	2014/03/28	2015/03/27
Software	Farad	Ez-EMC	ver.ct3a1	N/A	N/A
Spectrum Analyzer	R&S	FSP40	100047	2014/03/27	2015/03/26
SERIES POWER METER	ANRITSU	ML2495A	1224005	2014/03/27	2015/03/26
POWER SENSOR	ANRITSU	MA2411B	1207295	2014/03/27	2015/03/26



4. Antenna Requirements

4.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.2 Antenna Construction and Directional Gain

No.	Antenna Type	Antenna Gain
0	Dipole	2.56
1	Dipole	2.56

Directional gain = $G_{ANT} + 10 \log(N)$ dBi = $2.56 + 10\log(2) = 5.56$ (dBi)



5. Test of AC Power Line Conducted Emission

5.1 Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz on the 120 VAC power and return leads of the EUT according to the methods defined in ANSI C63.4-2009 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in section 2.2. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

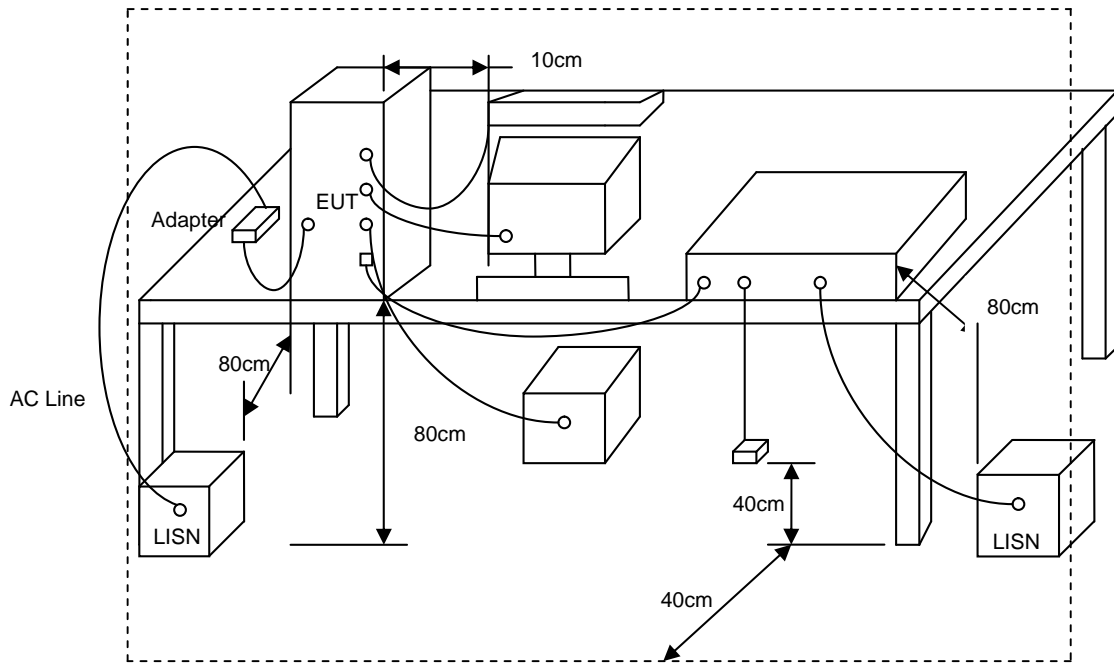
*Decreases with the logarithm of the frequency.

5.2 Test Procedures

- a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- c. All the support units are connecting to the other LISN.
- d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- e. The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
- f. Both sides of AC line were checked for maximum conducted interference.
- g. The frequency range from 150 kHz to 30 MHz was searched.
- h. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.



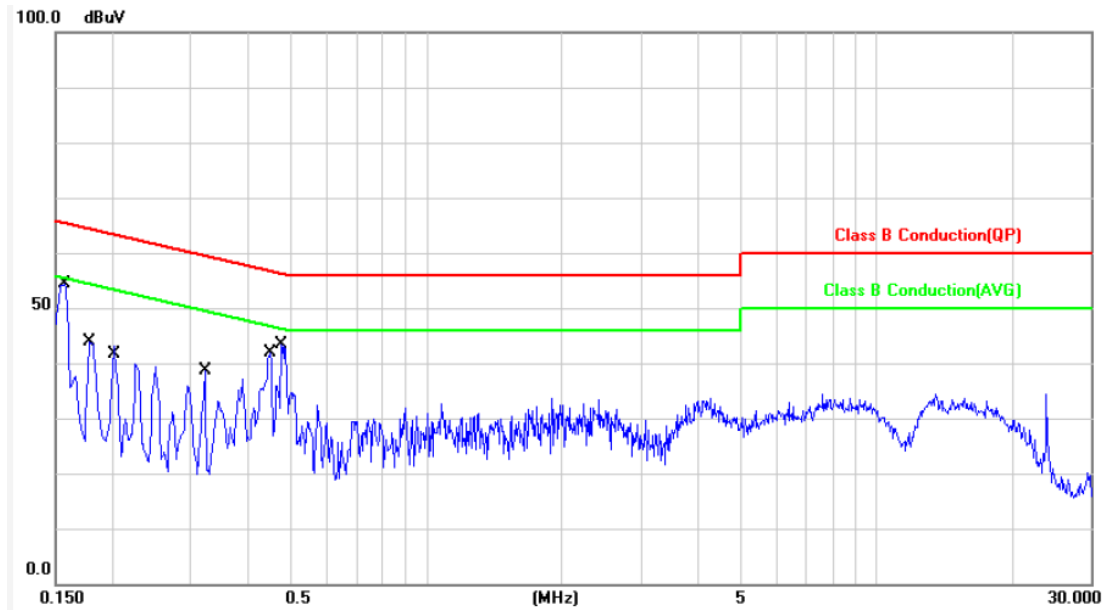
5.3 Typical Test Setup





5.4 Test Result and Data

Power	: AC 120V	Pol/Phase	: LINE
Test Mode 2	: 802.11g, CH6 Adapter: ADS0248T-W 120150	Temperature	: 26 °C
		Humidity	: 48 %
Test Date	: Jan. 08, 2015	Atmospheric Pressure	: 1008 hpa

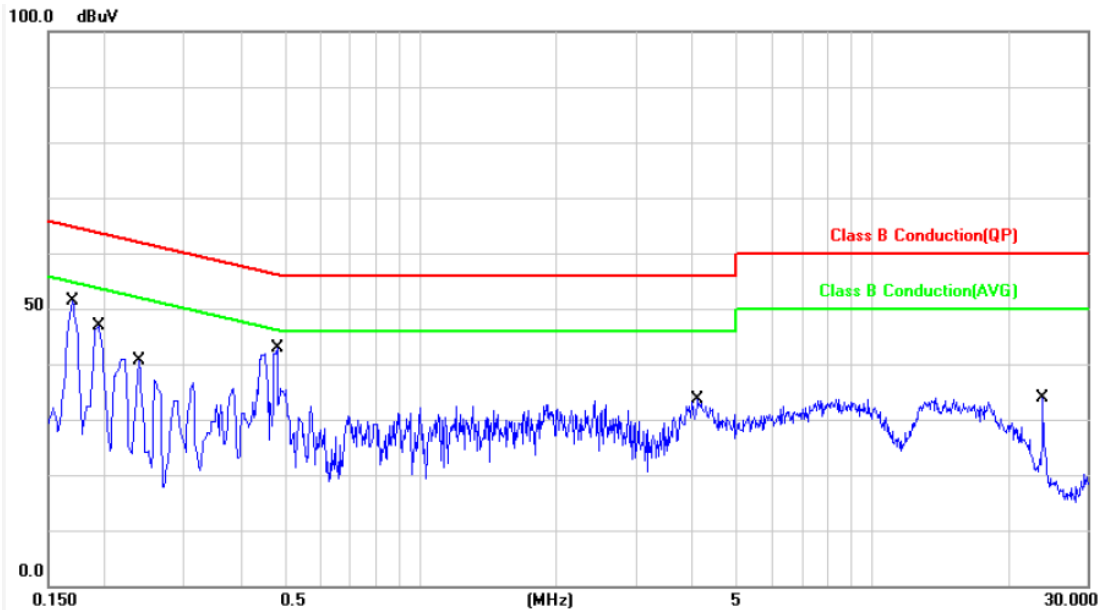


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1580	9.92	42.55	52.47	65.56	-13.09	QP	P
2	0.1580	9.92	27.74	37.66	55.56	-17.90	AVG	P
3	0.1780	9.92	31.26	41.18	64.57	-23.39	QP	P
4	0.1780	9.92	16.12	26.04	54.57	-28.53	AVG	P
5	0.2040	9.92	29.07	38.99	63.44	-24.45	QP	P
6	0.2040	9.92	13.41	23.33	53.44	-30.11	AVG	P
7	0.3220	9.91	23.83	33.74	59.65	-25.91	QP	P
8	0.3220	9.91	14.19	24.10	49.65	-25.55	AVG	P
9	0.4500	9.92	31.57	41.49	56.87	-15.38	QP	P
10	0.4500	9.92	26.87	36.79	46.87	-10.08	AVG	P
11	0.4780	9.92	32.52	42.44	56.37	-13.93	QP	P
12	0.4780	9.92	28.74	38.66	46.37	-7.71	AVG	P

Note: Level = Reading + Factor
Margin = Level – Limit
Factor= (LISN or ISN or PLC or Current Probe) Factor + Cable Loss + Attenuator



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode 2	: 802.11g, CH6 Adapter: ADS0248T-W 120150	Temperature	: 26 °C
		Humidity	: 48 %
Test Date	: Jan. 08, 2015	Atmospheric Pressure	: 1008 hpa

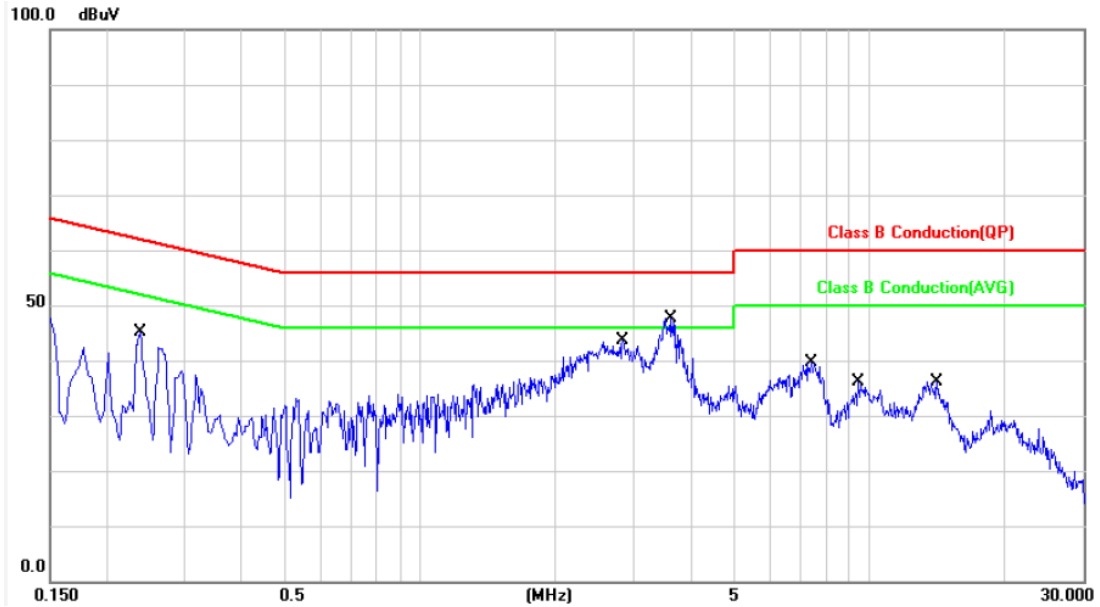


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1700	9.92	36.72	46.64	64.96	-18.32	QP	P
2	0.1700	9.92	19.11	29.03	54.96	-25.93	AVG	P
3	0.1940	9.91	34.75	44.66	63.86	-19.20	QP	P
4	0.1940	9.91	19.53	29.44	53.86	-24.42	AVG	P
5	0.2380	9.91	24.48	34.39	62.16	-27.77	QP	P
6	0.2380	9.91	10.79	20.70	52.16	-31.46	AVG	P
7	0.4820	9.92	32.08	42.00	56.30	-14.30	QP	P
8	0.4820	9.92	28.05	37.97	46.30	-8.33	AVG	P
9	4.1260	10.09	19.41	29.50	56.00	-26.50	QP	P
10	4.1260	10.09	13.72	23.81	46.00	-22.19	AVG	P
11	24.0020	10.50	22.93	33.43	60.00	-26.57	QP	P
12	24.0020	10.50	20.02	30.52	50.00	-19.48	AVG	P

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= (LISN or ISN or PLC or Current Probe) Factor + Cable Loss + Attenuator



Power	: AC 120V	Pol/Phase	: LINE
Test Mode 2	: 802.11g, CH6 Adapter: WB-18D12FU	Temperature	: 26 °C
		Humidity	: 48 %
Test Date	: Jan. 08, 2015	Atmospheric Pressure	: 1008 hpa



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.2380	9.99	34.27	44.26	62.16	-17.90	QP	P
2	0.2380	9.99	33.70	43.69	52.16	-8.47	AVG	P
3	2.8380	10.13	30.59	40.72	56.00	-15.28	QP	P
4	2.8380	10.13	24.02	34.15	46.00	-11.85	AVG	P
5	3.6100	10.15	32.43	42.58	56.00	-13.42	QP	P
6	3.6100	10.15	20.94	31.09	46.00	-14.91	AVG	P
7	7.4140	10.28	25.26	35.54	60.00	-24.46	QP	P
8	7.4140	10.28	17.97	28.25	50.00	-21.75	AVG	P
9	9.4700	10.35	19.26	29.61	60.00	-30.39	QP	P
10	9.4700	10.35	12.66	23.01	50.00	-26.99	AVG	P
11	14.1620	10.50	17.22	27.72	60.00	-32.28	QP	P
12	14.1620	10.50	10.24	20.74	50.00	-29.26	AVG	P

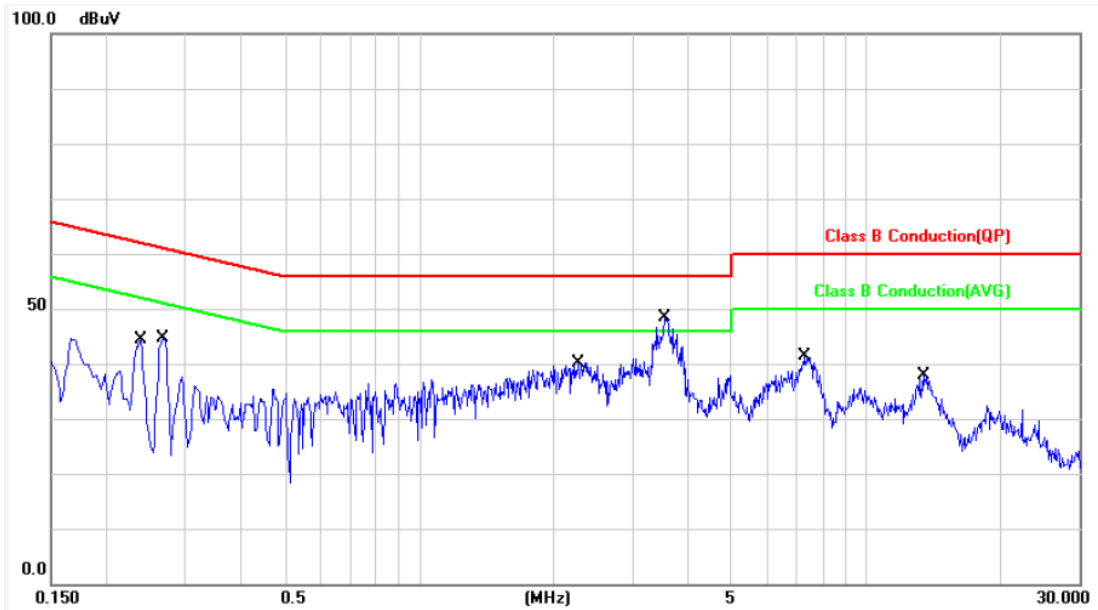
Note: Level = Reading + Factor

Margin = Level – Limit

Factor= (LISN or ISN or PLC or Current Probe) Factor + Cable Loss + Attenuator



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode 2	: 802.11g, CH6 Adapter: WB-18D12FU	Temperature	: 26 °C
		Humidity	: 48 %
Test Date	: Jan. 08, 2015	Atmospheric Pressure	: 1008 hpa



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.2380	10.03	33.44	43.47	62.16	-18.69	QP	P
2	0.2380	10.03	30.65	40.68	52.16	-11.48	AVG	P
3	0.2660	10.03	33.81	43.84	61.24	-17.40	QP	P
4	0.2660	10.03	31.54	41.57	51.24	-9.67	AVG	P
5	2.2740	10.15	26.72	36.87	56.00	-19.13	QP	P
6	2.2740	10.15	19.34	29.49	46.00	-16.51	AVG	P
7	3.5420	10.19	31.50	41.69	56.00	-14.31	QP	P
8	3.5420	10.19	19.78	29.97	46.00	-16.03	AVG	P
9	7.3060	10.32	27.10	37.42	60.00	-22.58	QP	P
10	7.3060	10.32	18.93	29.25	50.00	-20.75	AVG	P
11	13.4460	10.53	20.63	31.16	60.00	-28.84	QP	P
12	13.4460	10.53	12.56	23.09	50.00	-26.91	AVG	P

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor= (LISN or ISN or PLC or Current Probe) Factor + Cable Loss + Attenuator



6. Test of Radiated Spurious Emission

6.1 Test Limit

In any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter measurement is based on the maximum conducted output power, the attenuation required under this paragraph shall be 30dB instead of 20dB. In addition, radiated emissions which fall in section 15.205(a) the restricted bands must also comply with the radiated emission limit specified in section 15.209(a).

Frequency (MHz)	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

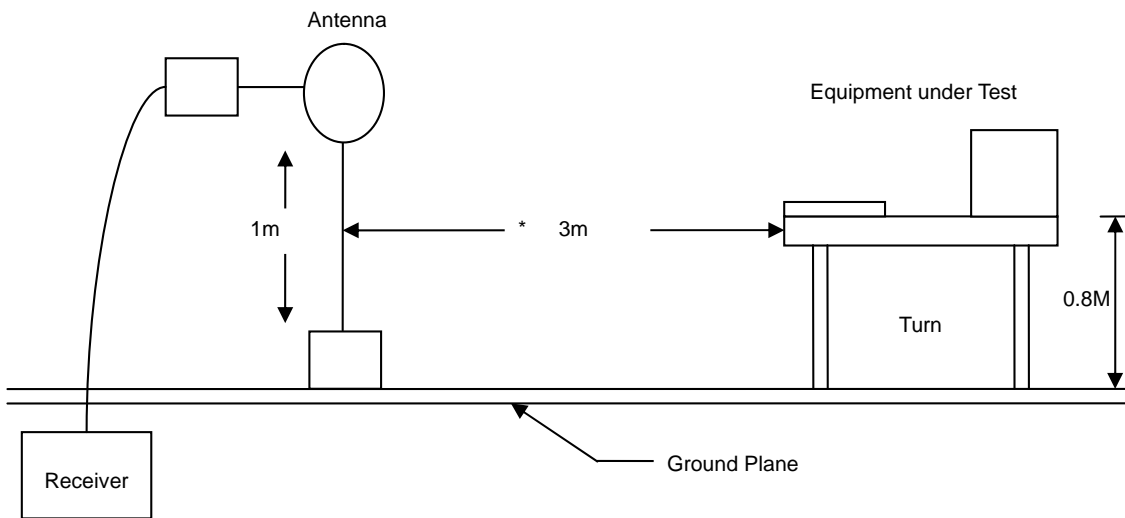
6.2 Test Procedures

- The EUT was placed on a rotatable table top 0.8 meter above ground.
- The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- The table was rotated 360 degrees to determine the position of the highest radiation.
- The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
- For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
- Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
- For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- "Cone of radiation" has been considered to be 3dB bandwidth of the measurement antenna.

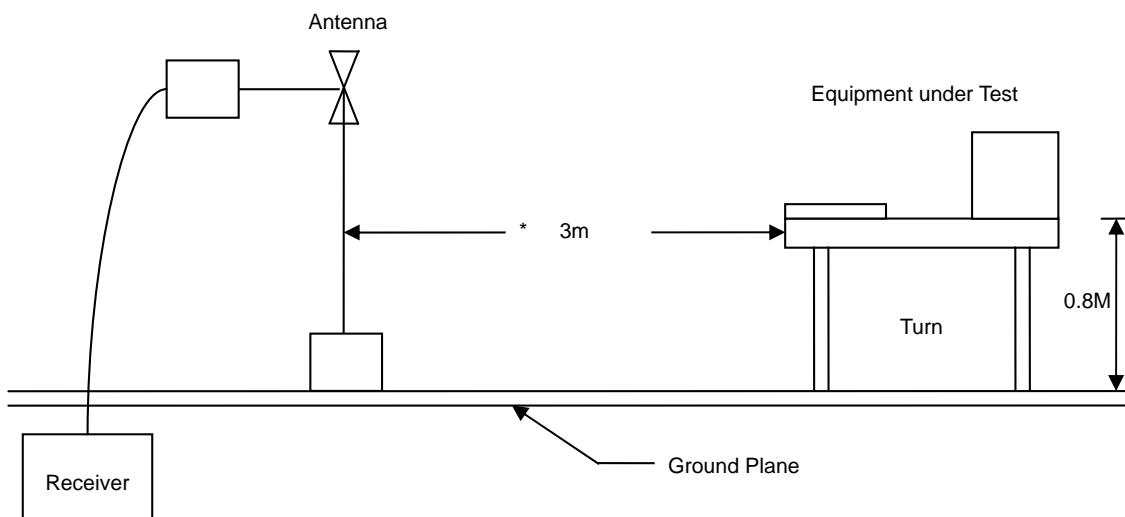


6.3 Typical Test Setup

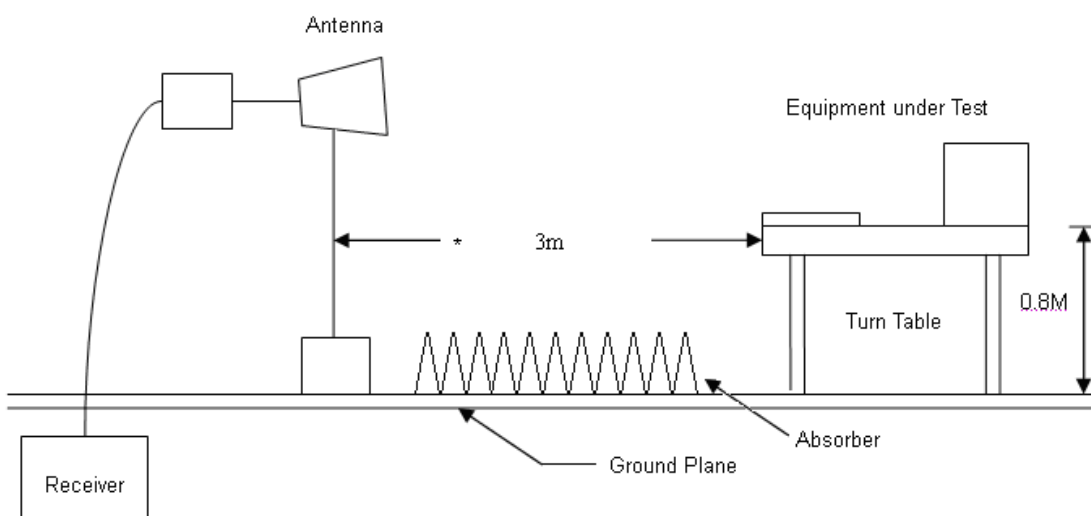
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup



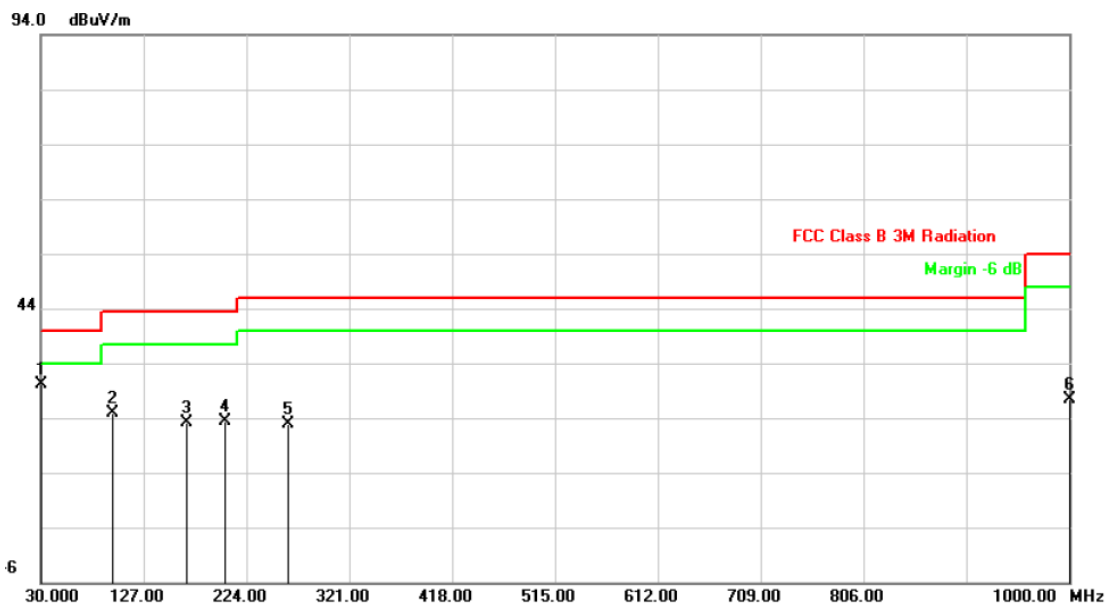


6.4 Test Result and Data (9kHz ~ 30MHz)

The 9kHz - 30MHz spurious emission is under limit 20dB more.

6.5 Test Result and Data (30MHz ~ 1GHz)

Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode 2	: 802.11g, CH6, ANT 0 Adapter: ADS0248T-W 120150	Temperature	: 22 °C
		Humidity	: 52 %
Test Date	: Jan. 06, 2015	Atmospheric Pressure	: 1010 hpa

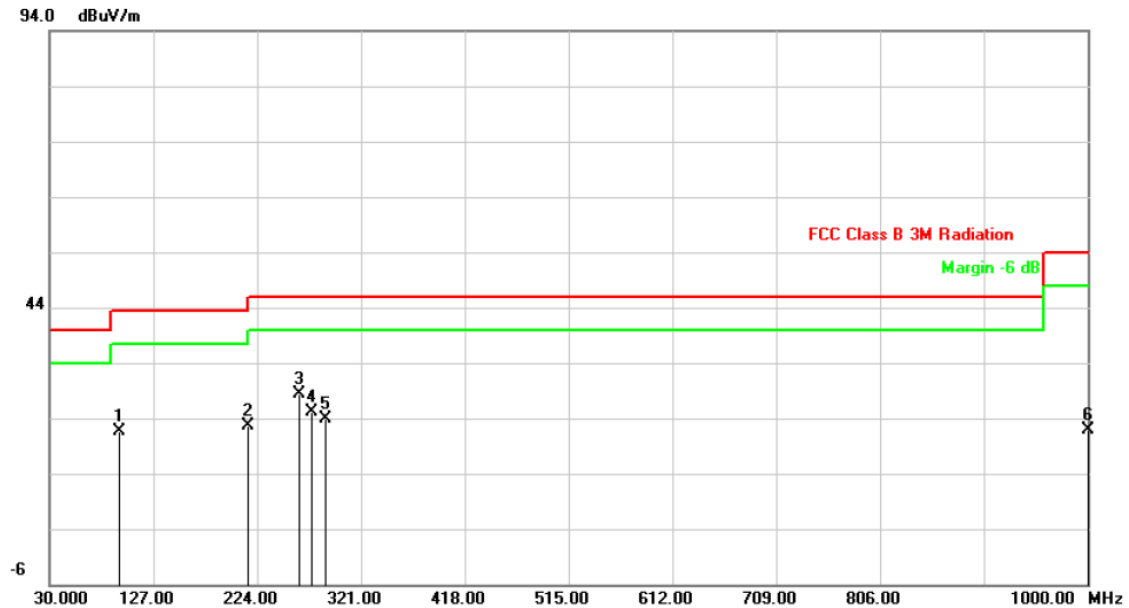


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	30.9700	-31.99	62.24	30.25	40.00	-9.75	peak	100	175
2	97.9000	-32.62	57.44	24.82	43.50	-18.68	peak	100	175
3	167.7400	-32.33	55.41	23.08	43.50	-20.42	peak	100	175
4	203.6300	-32.20	55.57	23.37	43.50	-20.13	peak	100	175
5	263.7700	-31.87	54.84	22.97	46.00	-23.03	peak	100	175
6	1000.0000	-3.87	31.17	27.30	54.00	-26.70	peak	100	175

Note: Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode 2	: 802.11g, CH6, ANT 0 Adapter: ADS0248T-W 120150	Temperature	: 22 °C
		Humidity	: 52 %
Test Date	: Jan. 06, 2015	Atmospheric Pressure	: 1010 hpa

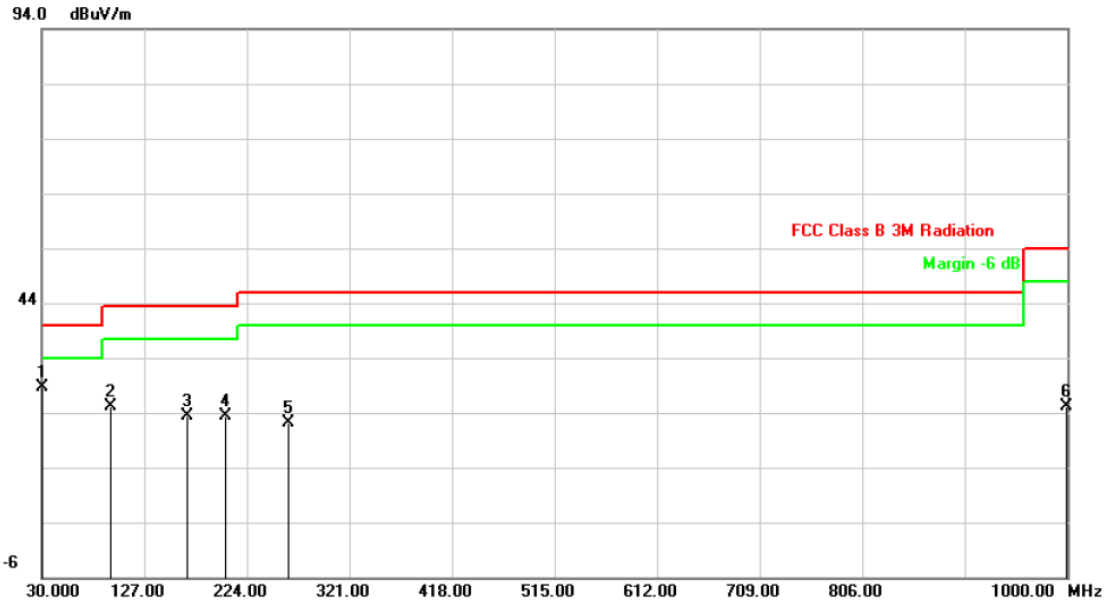


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	94.9900	-32.63	54.27	21.64	43.50	-21.86	peak	100	175
2	215.2700	-32.14	54.83	22.69	43.50	-20.81	peak	100	175
3	263.7700	-31.87	60.20	28.33	46.00	-17.67	peak	100	175
4	275.4100	-31.81	56.83	25.02	46.00	-20.98	peak	100	175
5	288.0200	-31.73	55.49	23.76	46.00	-22.24	peak	100	175
6	1000.0000	-3.87	25.83	21.96	54.00	-32.04	peak	100	175

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor = Antenna Factor + Cable Loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode 2	: 802.11g, CH6, ANT 1 Adapter: ADS0248T-W 120150	Temperature	: 22 °C
		Humidity	: 52 %
Test Date	: Jan. 06, 2015	Atmospheric Pressure	: 1010 hpa

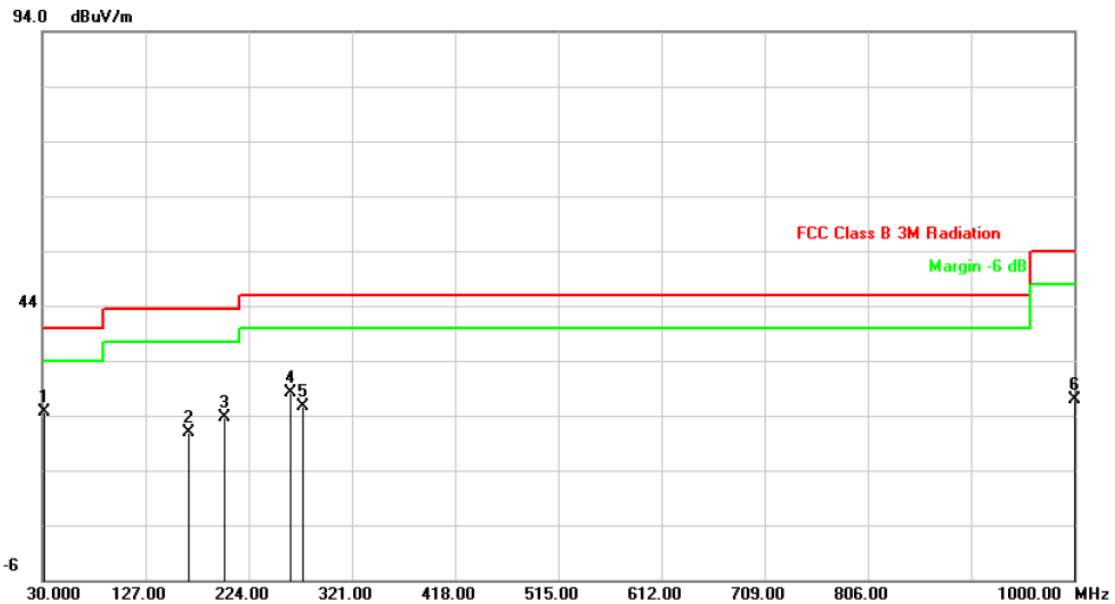


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	30.9700	-31.99	60.52	28.53	40.00	-11.47	peak	103	182
2	94.9900	-32.63	57.68	25.05	43.50	-18.45	peak	103	182
3	167.7400	-32.33	55.71	23.38	43.50	-20.12	peak	103	182
4	203.6300	-32.20	55.59	23.39	43.50	-20.11	peak	103	182
5	263.7700	-31.87	54.00	22.13	46.00	-23.87	peak	103	182
6	999.0300	-27.68	52.73	25.05	54.00	-28.95	peak	103	182

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor = Antenna Factor + Cable Loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode 2	: 802.11g, CH6, ANT 1 Adapter: ADS0248T-W 120150	Temperature	: 22 °C
		Humidity	: 52 %
Test Date	: Jan. 06, 2015	Atmospheric Pressure	: 1010 hpa

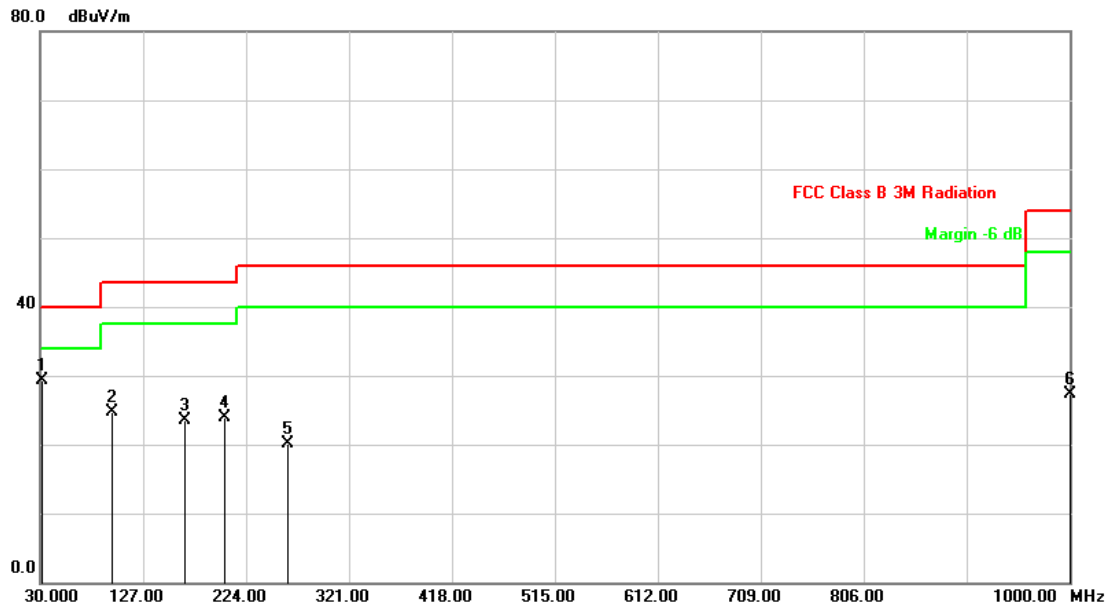


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	31.9400	-32.03	56.71	24.68	40.00	-15.32	peak	103	182
2	167.7400	-32.33	53.33	21.00	43.50	-22.50	peak	103	182
3	201.6900	-32.21	55.90	23.69	43.50	-19.81	peak	103	182
4	263.7700	-31.87	60.12	28.25	46.00	-17.75	peak	103	182
5	275.4100	-31.81	57.40	25.59	46.00	-20.41	peak	103	182
6	1000.0000	-3.87	30.84	26.97	54.00	-27.03	peak	103	182

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor = Antenna Factor + Cable Loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode 2	: 802.11g, CH6, ANT 0, Adapter: WB-18D12FU	Temperature	: 22 °C
		Humidity	: 52 %
Test Date	: Jan. 06, 2015	Atmospheric Pressure	: 1010 hpa

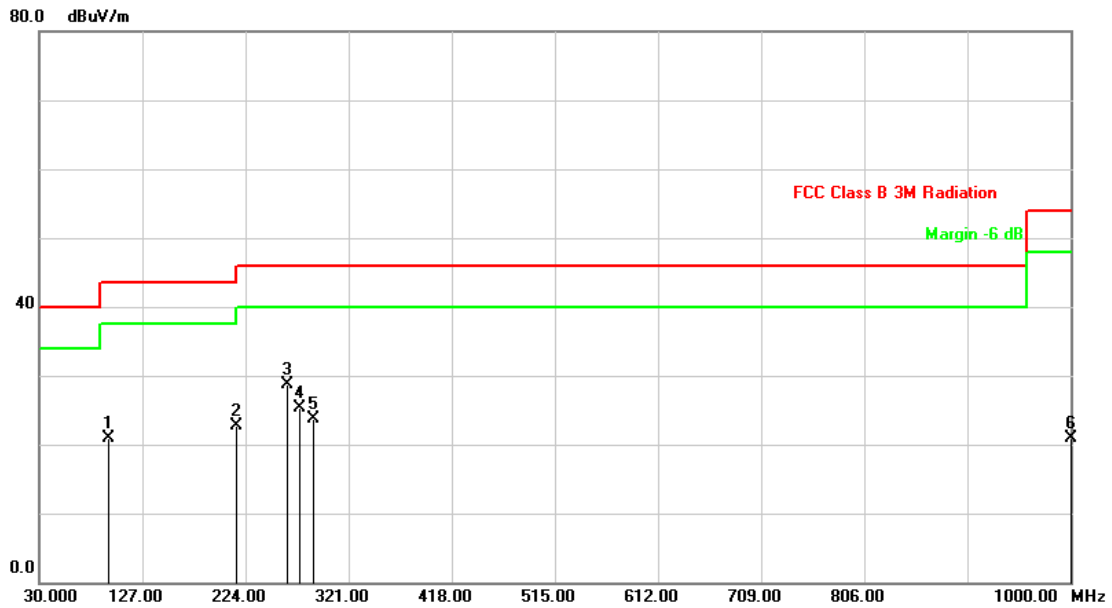


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	31.9400	-18.41	47.81	29.40	40.00	-10.60	peak	100	172
2	97.9000	-23.79	48.47	24.68	43.50	-18.82	peak	100	172
3	166.7700	-18.90	42.40	23.50	43.50	-20.00	peak	100	172
4	203.6299	-21.43	45.25	23.82	43.50	-19.68	peak	100	172
5	263.7699	-19.16	39.30	20.14	46.00	-25.86	peak	100	172
6	1000.0000	-3.47	30.87	27.40	54.00	-26.60	peak	100	172

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor = Antenna Factor + Cable Loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode 2	: 802.11g, CH6, ANT 0, Adapter: WB-18D12FU	Temperature	: 22 °C
		Humidity	: 52 %
Test Date	: Jan. 06, 2015	Atmospheric Pressure	: 1010 hpa

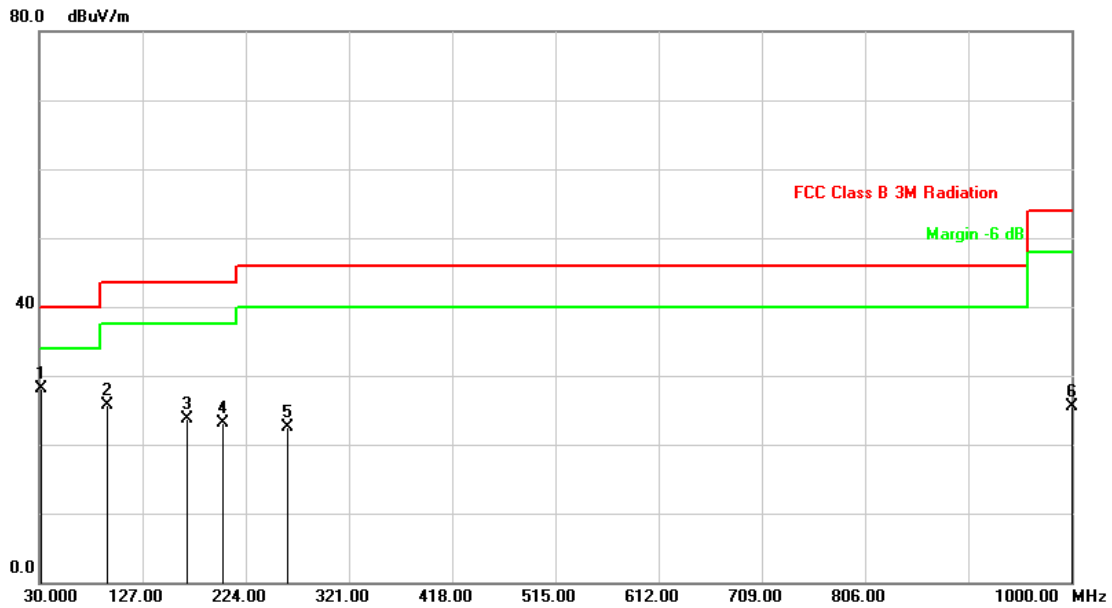


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	94.9899	-24.18	45.08	20.90	43.50	-22.60	peak	100	172
2	215.2700	-21.29	44.02	22.73	43.50	-20.77	peak	100	172
3	263.7699	-19.16	47.78	28.62	46.00	-17.38	peak	100	172
4	275.4100	-18.64	43.90	25.26	46.00	-20.74	peak	100	172
5	288.0199	-18.17	41.86	23.69	46.00	-22.31	peak	100	172
6	1000.0000	-3.47	24.47	21.00	54.00	-33.00	peak	100	172

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor = Antenna Factor + Cable Loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode 2	: 802.11g, CH6, ANT 0, Adapter: WB-18D12FU	Temperature	: 22 °C
		Humidity	: 52 %
Test Date	: Jan. 06, 2015	Atmospheric Pressure	: 1010 hpa

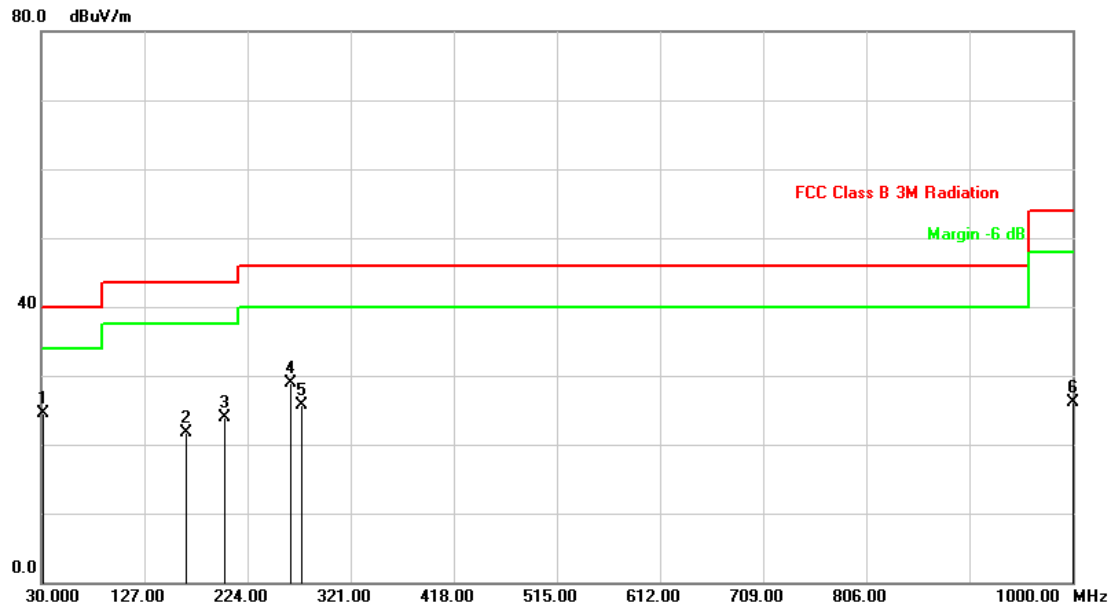


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	31.9400	-18.41	46.52	28.11	40.00	-11.89	peak	100	180
2	94.0199	-24.30	50.02	25.72	43.50	-17.78	peak	100	180
3	168.7100	-18.98	42.70	23.72	43.50	-19.78	peak	100	180
4	202.6598	-21.45	44.51	23.06	43.50	-20.44	peak	100	180
5	263.7699	-19.16	41.63	22.47	46.00	-23.53	peak	100	180
6	1000.0000	-3.47	28.90	25.43	54.00	-28.57	peak	100	180

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor = Antenna Factor + Cable Loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode 2	: 802.11g, CH6, ANT 1, Adapter: WB-18D12FU	Temperature	: 22 °C
		Humidity	: 52 %
Test Date	: Jan. 06, 2015	Atmospheric Pressure	: 1010 hpa



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	31.9400	-18.41	42.96	24.55	40.00	-15.45	peak	100	180
2	166.7700	-18.90	40.61	21.71	43.50	-21.79	peak	100	180
3	202.6599	-21.45	45.28	23.83	43.50	-19.67	peak	100	180
4	264.7400	-19.13	48.11	28.98	46.00	-17.02	peak	100	180
5	275.4100	-18.64	44.44	25.80	46.00	-20.20	peak	100	180
6	1000.0000	-3.47	29.53	26.06	54.00	-27.94	peak	100	180

Note: Level = Reading + Factor
Margin = Level – Limit
Factor = Antenna Factor + Cable Loss - Amplifier Factor

6.6 Test Result and Data (Above 1GHz)

The above 1GHz spurious emission is under limit 20dB more.



6.7 Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below:

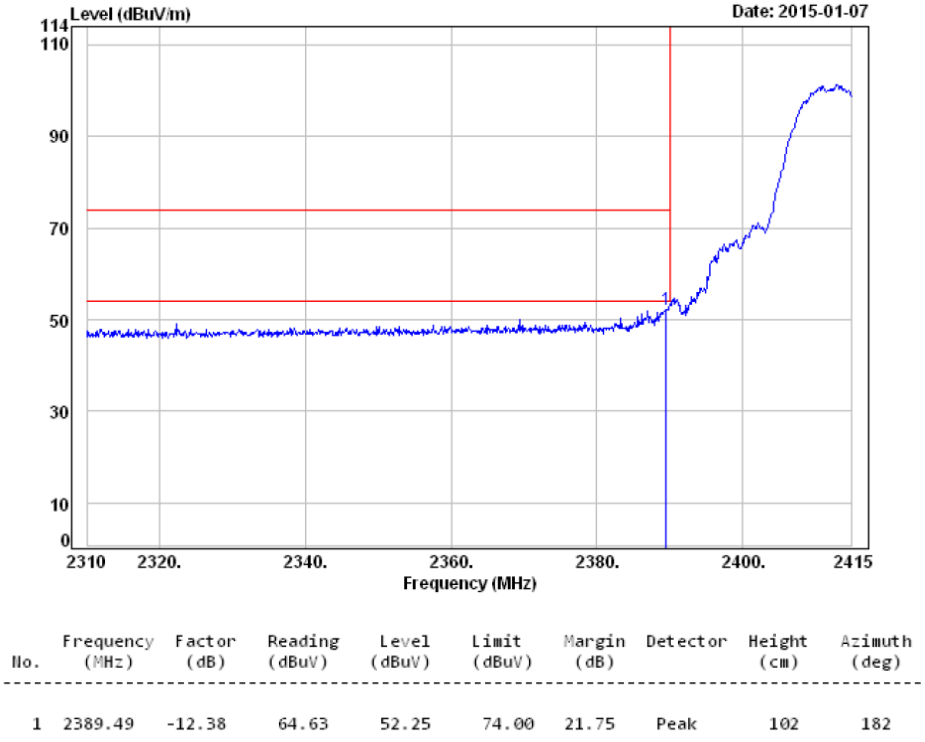
MHz	MHz	MHz	GHz
0.09000 – 0.11000	16.42000 – 16.42300	399.9 – 410.0	4.500 – 5.250
0.49500 – 0.505**	16.69475 – 16.69525	608.0 – 614.0	5.350 – 5.460
2.17350 – 2.19050	16.80425 – 16.80475	960.0 – 1240.0	7.250 – 7.750
4.12500 – 4.12800	25.50000 – 25.67000	1300.0 – 1427.0	8.025 – 8.500
4.17725 – 4.17775	37.50000 – 38.25000	1435.0 – 1626.5	9.000 – 9.200
4.20725 – 4.20775	73.00000 – 74.60000	1645.5 – 1646.5	9.300 – 9.500
6.21500 – 6.21800	74.80000 – 75.20000	1660.0 – 1710.0	10.600 – 12.700
6.26775 – 6.26825	108.00000 – 121.94000	1718.8 – 1722.2	13.250 – 13.400
6.31175 – 6.31225	123.00000 – 138.00000	2200.0 – 2300.0	14.470 – 14.500
8.29100 – 8.29400	149.90000 – 150.05000	2310.0 – 2390.0	15.350 – 16.200
8.36200 – 8.36600	156.52475 – 156.52525	2483.5 – 2500.0	17.700 – 21.400
8.37625 – 8.38675	156.70000 – 156.90000	2655.0 – 2900.0	22.010 – 23.120
8.41425 – 8.41475	162.01250 – 167.17000	3260.0 – 3267.0	23.600 – 24.000
12.29000 – 12.29300	167.72000 – 173.20000	3332.0 – 3339.0	31.200 – 31.800
12.51975 – 12.52025	240.00000 – 285.00000	3345.8 – 3358.0	36.430 – 36.500
12.57675 – 12.57725	322.00000 – 335.40000	3600.0 – 4400.0	Above 38.6
13.36000 – 13.41000			

** : Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

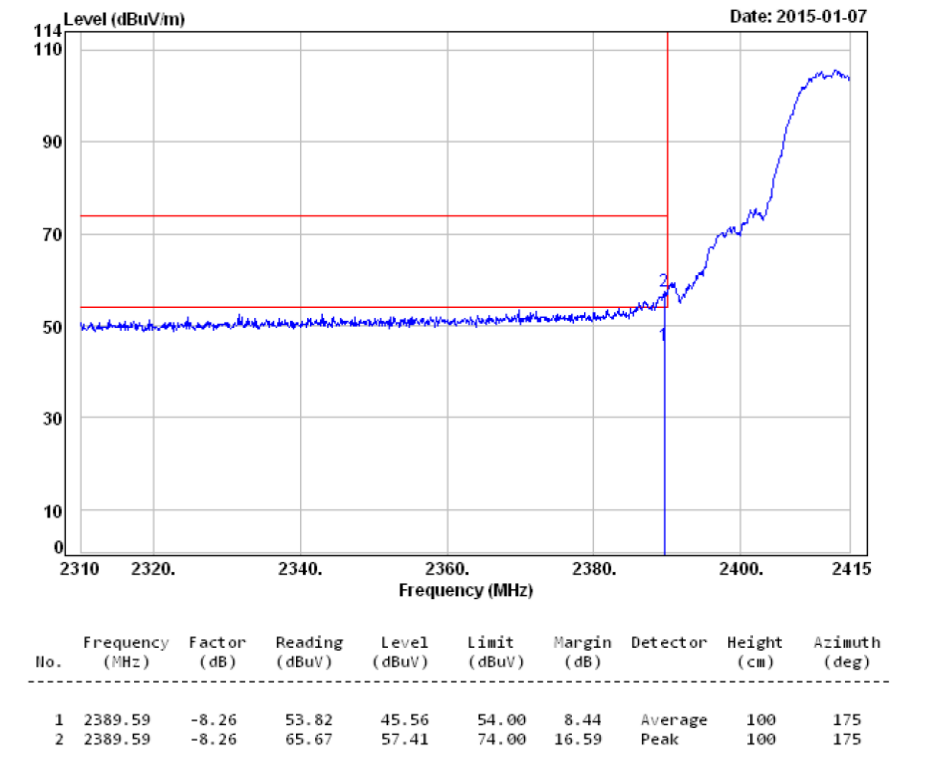


6.8 Restrict Band Emission Measurement Data

Modulation Standard: 802.11b, ANT 0, Channel: 01,
Vertical

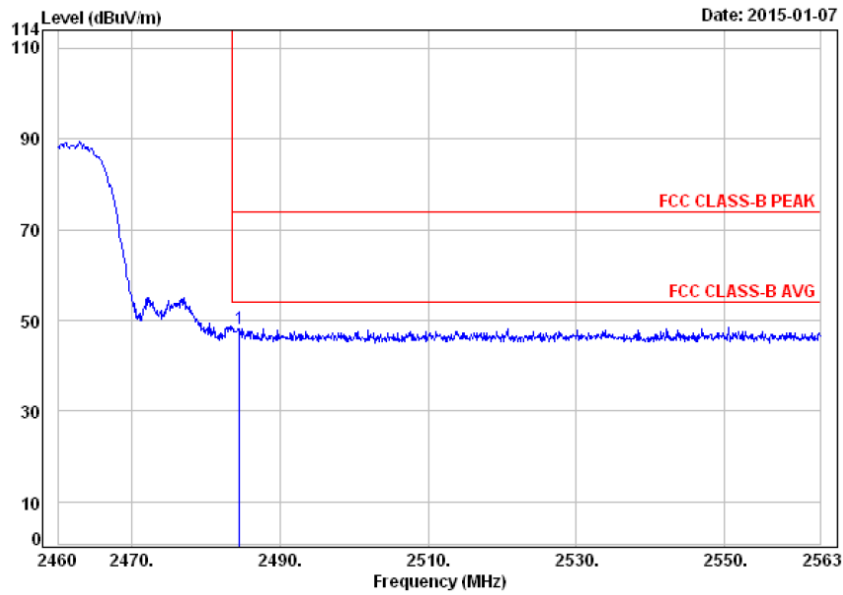


Horizontal



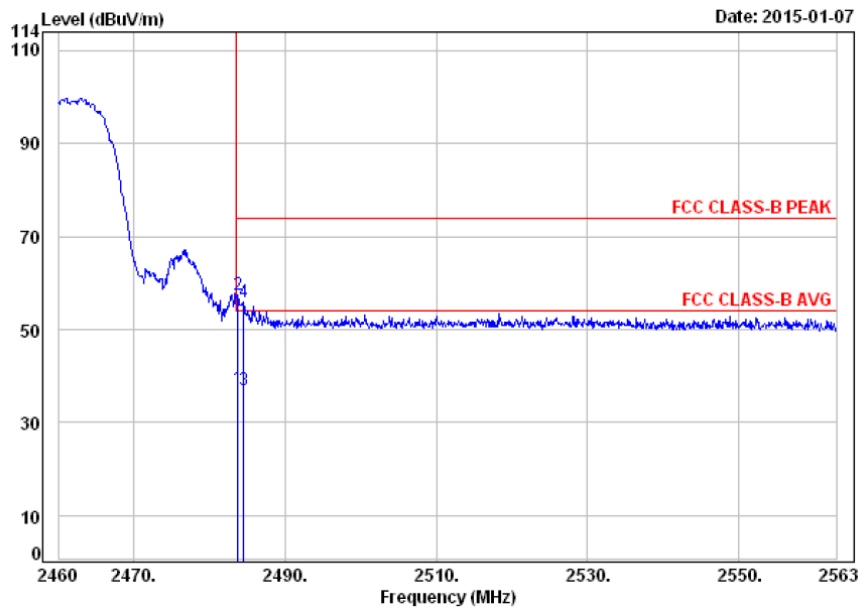


Modulation Standard: 802.11b, ANT 0, Channel: 11, Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2484.51	-11.88	60.06	48.18	74.00	25.82	Peak	103	165

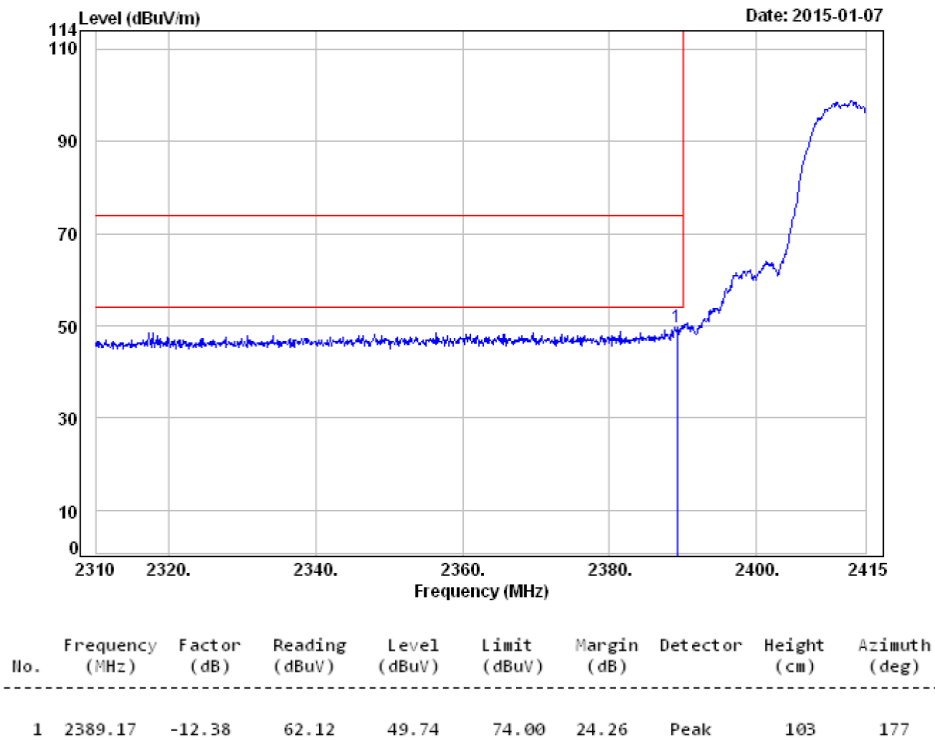
Horizontal



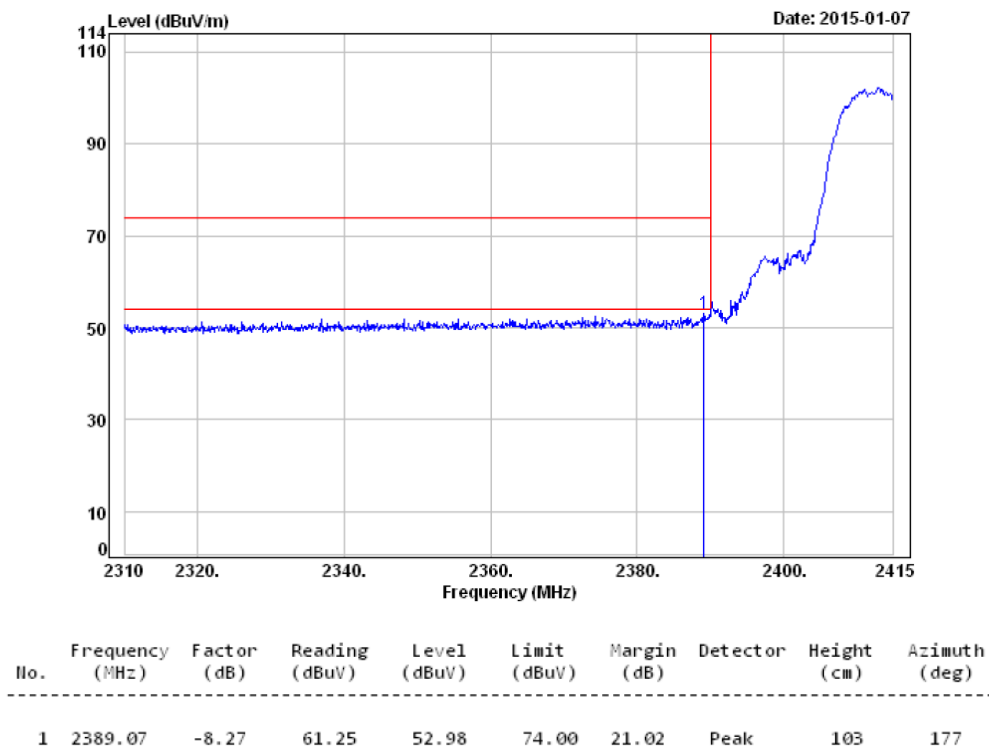
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2483.79	-7.02	44.28	37.26	54.00	16.74	Average	103	165
2	2483.79	-7.02	64.45	57.43	74.00	16.57	Peak	103	165
3	2484.51	-7.00	43.99	36.99	54.00	17.01	Average	103	165
4	2484.51	-7.00	62.86	55.86	74.00	18.14	Peak	103	165



Modulation Standard: 802.11b, ANT 1, Channel: 01,
Vertical

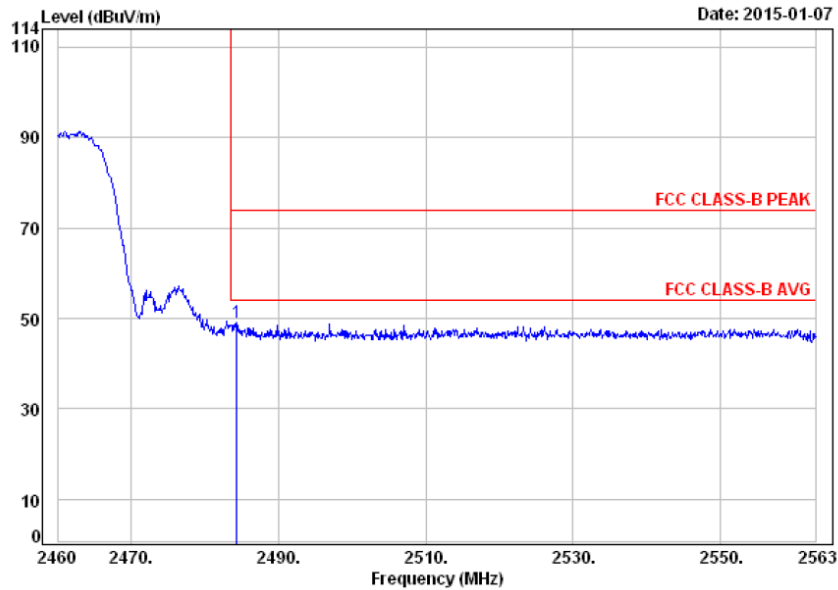


Horizontal



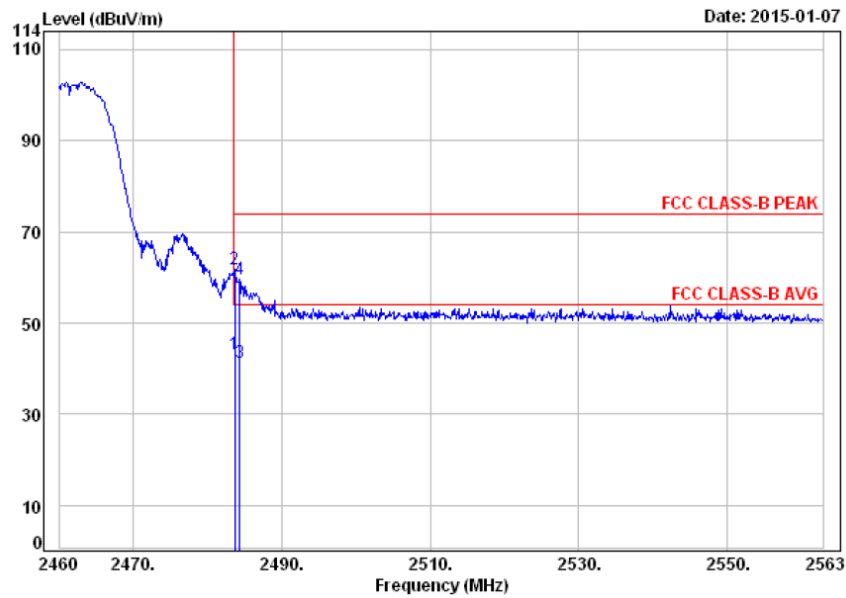


Modulation Standard: 802.11b, ANT 1, Channel: 11, Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2484.31	-11.88	61.04	49.16	74.00	24.84	Peak	102	186

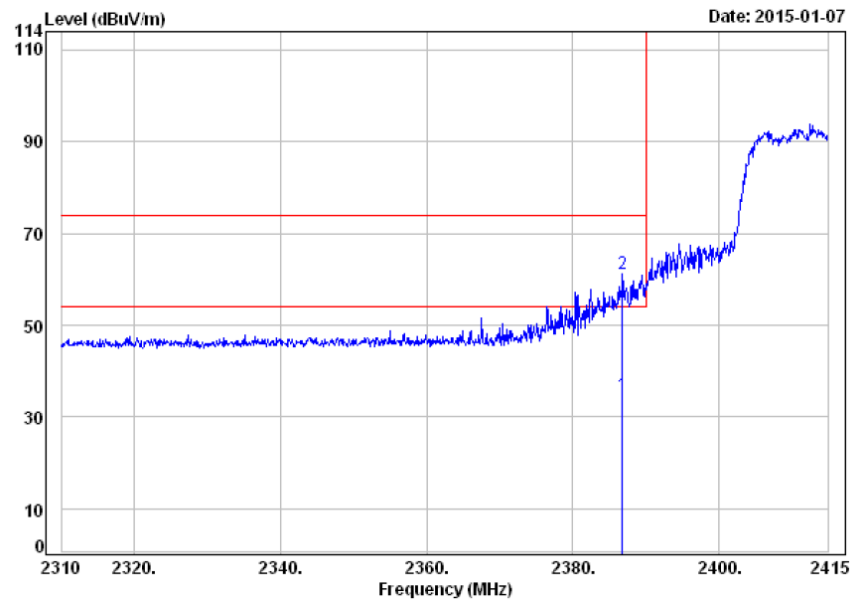
Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2483.69	-7.02	50.23	43.21	54.00	10.79	Average	102	186
2	2483.69	-7.02	68.97	61.95	74.00	12.05	Peak	102	86
3	2484.31	-7.01	48.46	41.45	54.00	12.55	Average	102	186
4	2484.31	-7.01	66.52	59.51	74.00	14.49	Peak	102	186

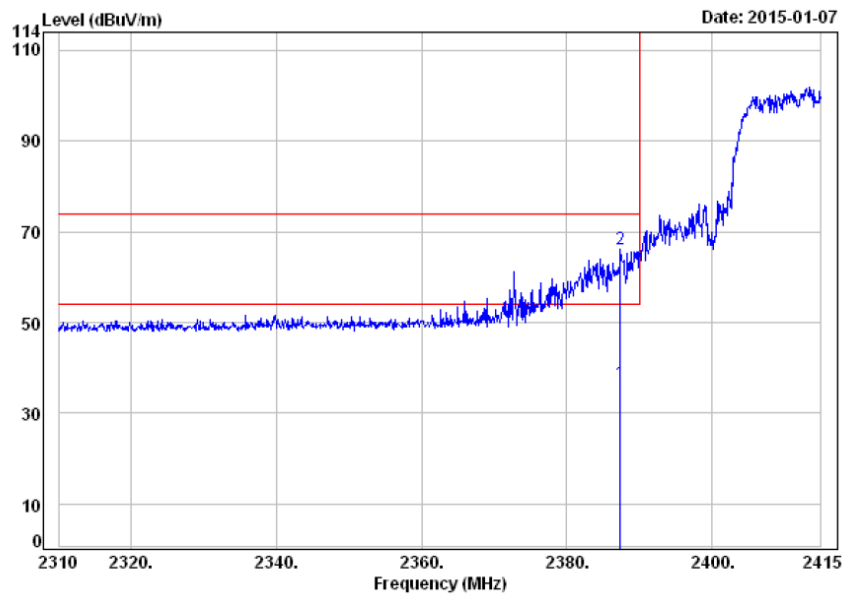


Modulation Standard: 802.11g, ANT 0, Channel: 01, Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2386.76	-12.40	47.06	34.66	54.00	19.34	Average	101	177
2	2386.76	-12.40	73.51	61.11	74.00	12.89	Peak	101	177

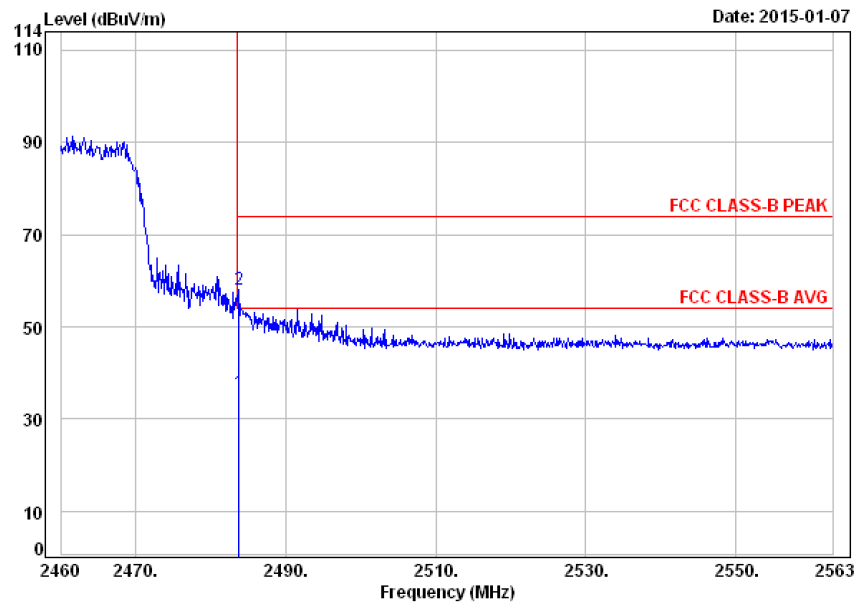
Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2387.39	-8.30	44.93	36.63	54.00	17.37	Average	101	177
2	2387.39	-3.93	70.15	66.22	74.00	7.78	Peak	101	177

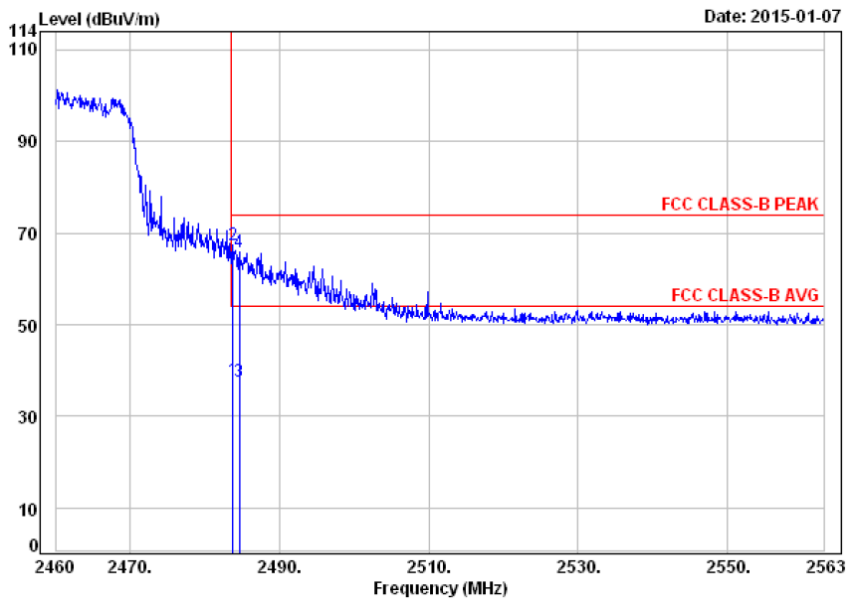


Modulation Standard: 802.11g, ANT 0, Channel: 11, Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2483.79	-11.89	47.66	35.77	54.00	18.23	Average	104	171
2	2483.79	-11.89	69.88	57.99	74.00	16.01	Peak	104	171

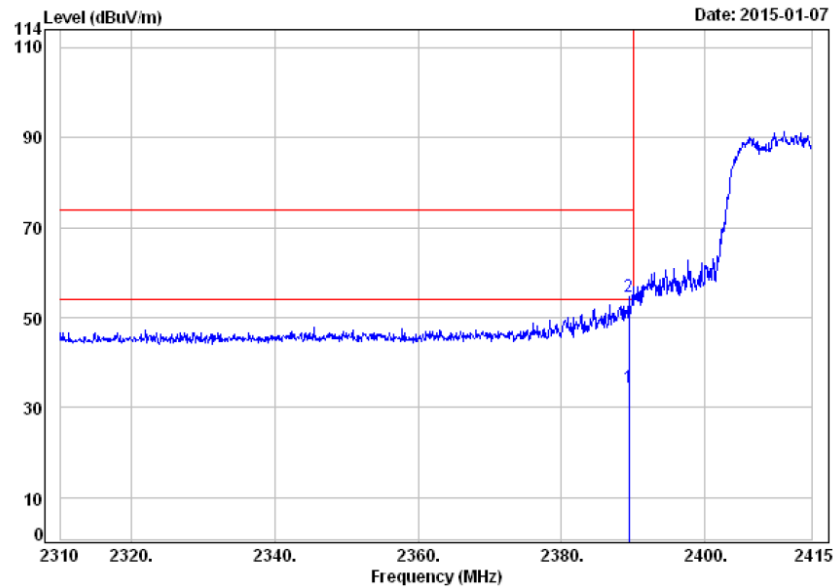
Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2483.79	-7.02	44.88	37.86	54.00	16.14	Average	104	171
2	2483.79	-7.02	74.55	67.53	74.00	6.47	Peak	104	171
3	2484.62	-7.00	44.57	37.57	54.00	16.43	Average	104	171
4	2484.62	-7.00	72.82	65.82	74.00	8.18	Peak	104	171

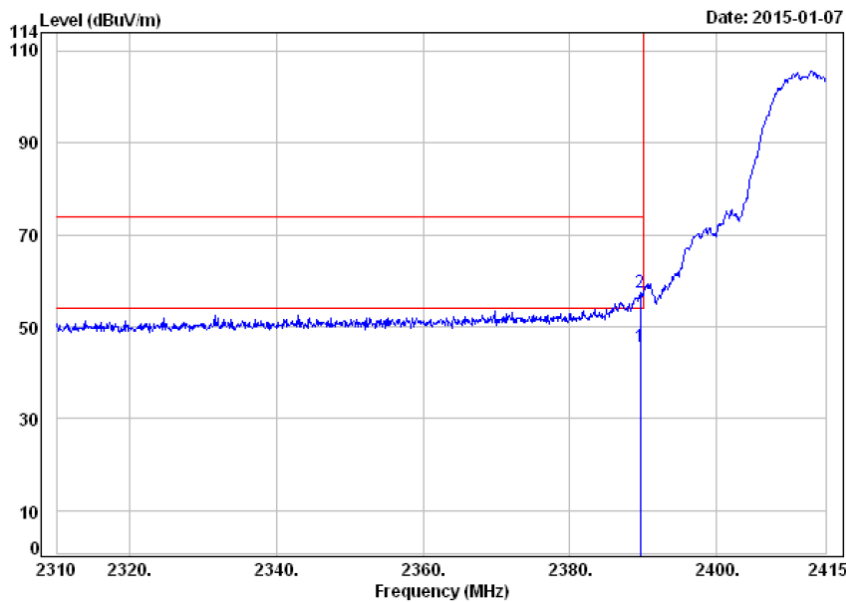


Modulation Standard: 802.11g, ANT 1, Channel: 01,
Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2389.38	-12.38	46.81	34.43	54.00	19.57	Average	102	173
2	2389.39	-12.38	67.11	54.73	74.00	19.27	Peak	102	173

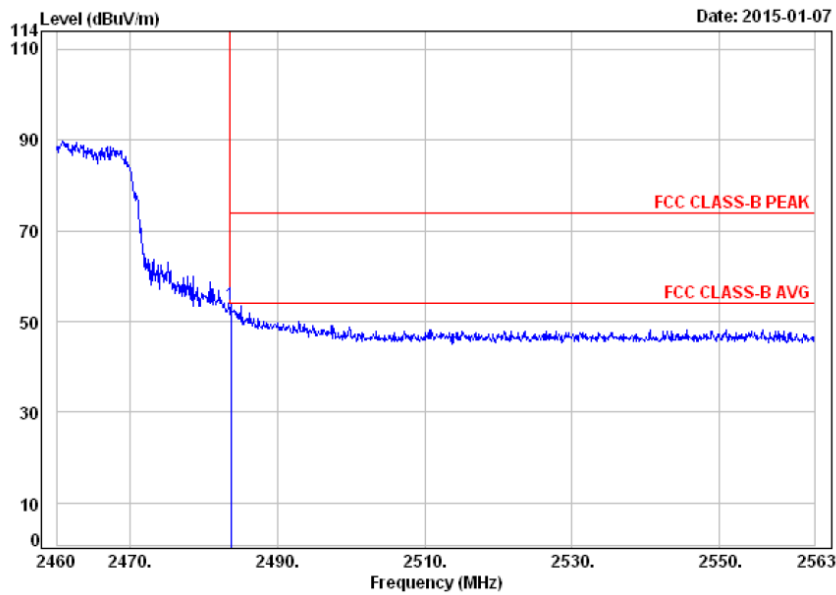
Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2385.39	-8.33	46.45	38.12	54.00	15.88	Average	102	173
2	2385.39	-8.33	70.80	62.47	74.00	11.53	Peak	102	173

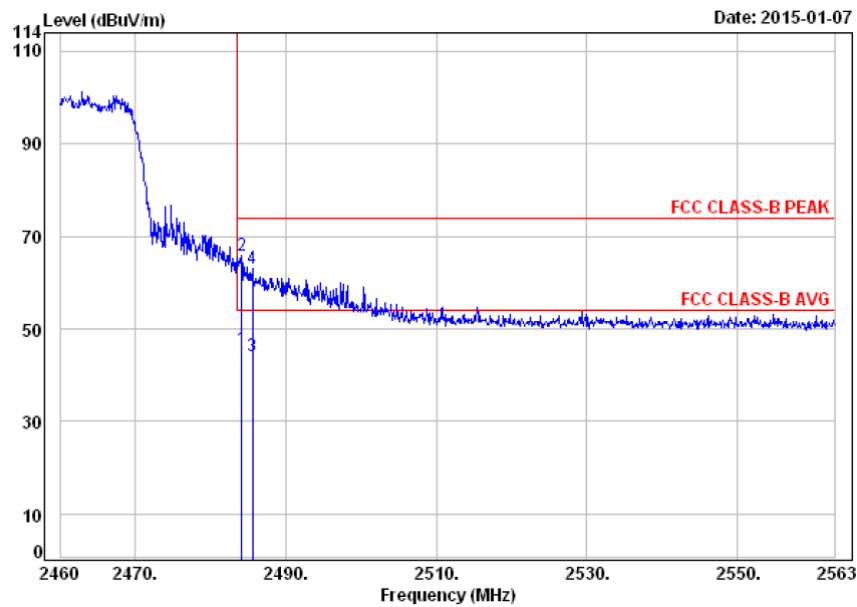


Modulation Standard: 802.11g, ANT 1, Channel: 11, Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2483.69	-11.89	65.73	53.84	74.00	20.16	Peak	102	187

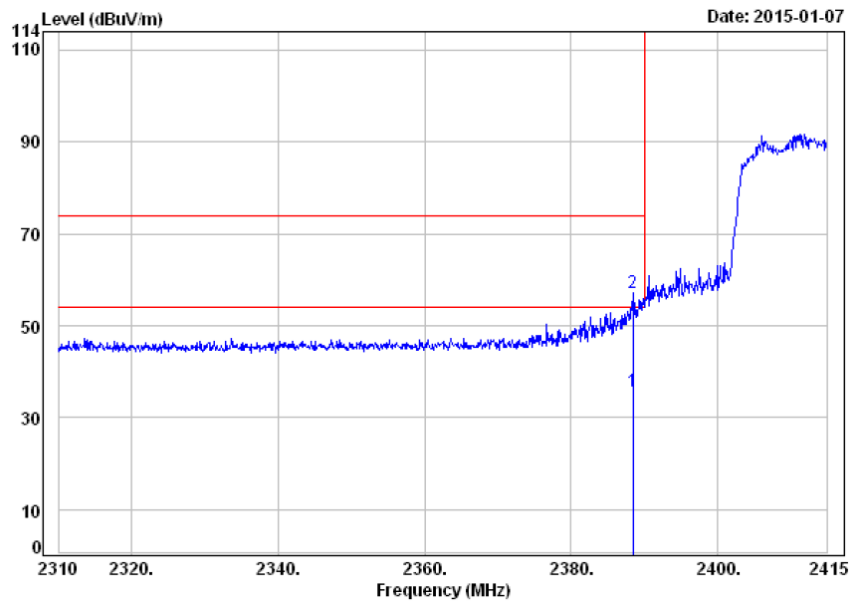
Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2484.10	-7.01	52.70	45.69	54.00	8.31	Average	102	187
2	2484.10	-7.01	72.72	65.71	74.00	8.29	Peak	102	187
3	2485.54	-6.99	51.18	44.19	54.00	9.81	Average	102	187
4	2485.54	-6.99	70.09	63.10	74.00	10.90	Peak	102	187

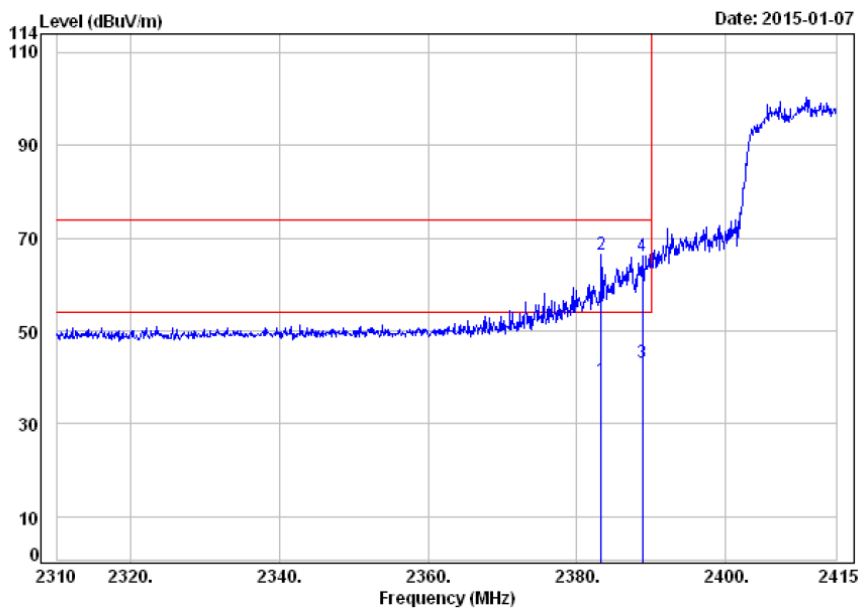


Modulation Standard: 802.11n HT20, ANT 0+ANT 1, Channel: 01
Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2388.44	-12.39	47.97	35.58	54.00	18.42	Average	101	185
2	2388.44	-12.39	69.56	57.17	74.00	16.83	Peak	101	185

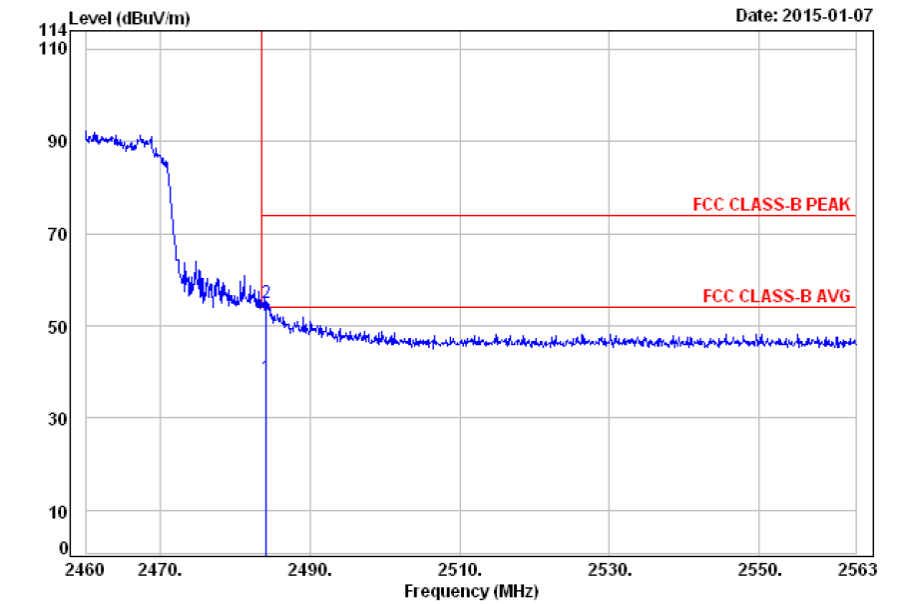
Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2383.29	-8.36	47.74	39.38	54.00	14.62	Average	101	185
2	2383.29	-8.36	74.99	66.63	74.00	7.37	Peak	101	185
3	2388.86	-8.27	51.45	43.18	54.00	10.82	Average	101	185
4	2388.86	-8.27	74.58	66.31	74.00	7.69	Peak	101	185

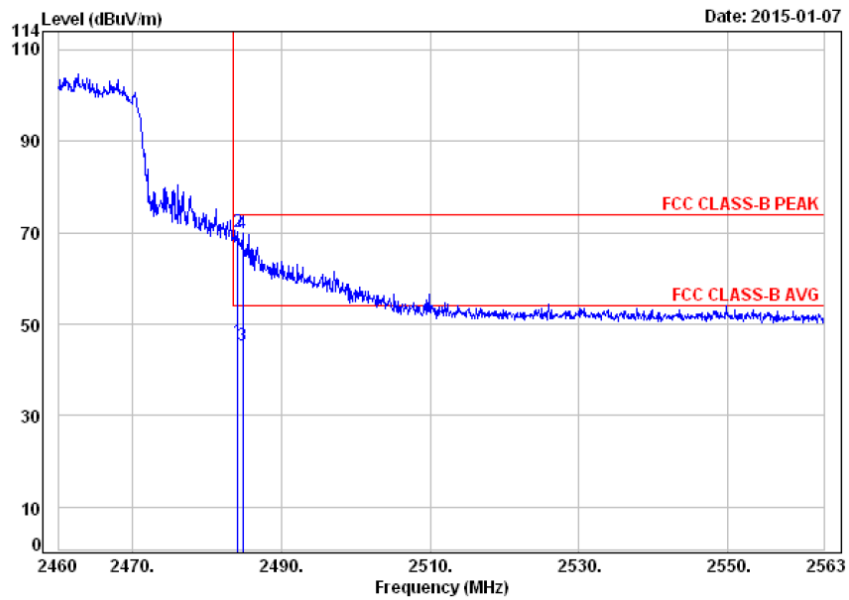


Modulation Standard: 802.11n HT20, ANT 0+ANT 1, Channel: 11
Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2484.10	-11.88	50.68	38.80	54.00	15.20	Average	100	167
2	2484.10	-11.88	66.96	55.08	74.00	18.92	Peak	100	167

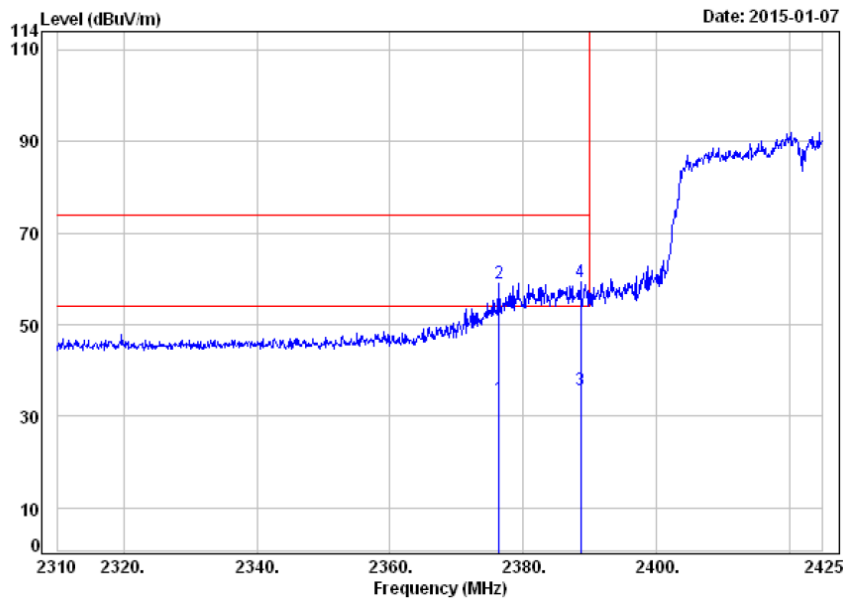
Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2484.10	-7.01	53.33	46.32	54.00	7.68	Average	100	167
2	2484.10	-7.01	77.18	70.17	74.00	3.83	Peak	100	167
3	2484.82	-7.00	52.47	45.47	54.00	8.53	Average	100	167
4	2484.82	-7.00	77.04	70.04	74.00	3.96	Peak	100	167

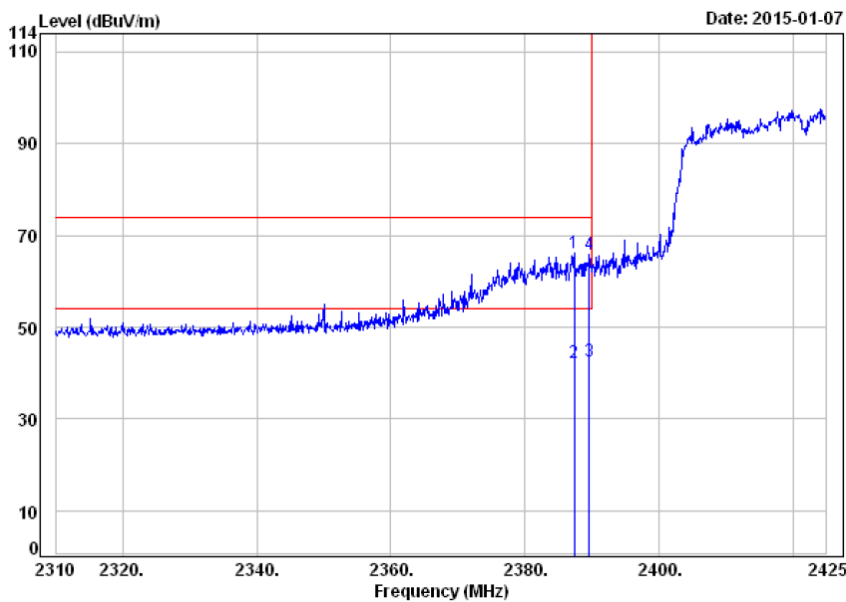


Modulation Standard: 802.11n HT40, ANT 0+ANT 1, Channel: 03
Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2376.36	-12.46	46.47	34.01	54.00	19.99	Average	104	176
2	2376.36	-12.46	71.46	59.00	74.00	15.00	Peak	104	176
3	2388.66	-12.39	48.22	35.83	54.00	18.17	Average	104	176
4	2388.66	-12.39	71.76	59.37	74.00	14.63	Peak	104	176

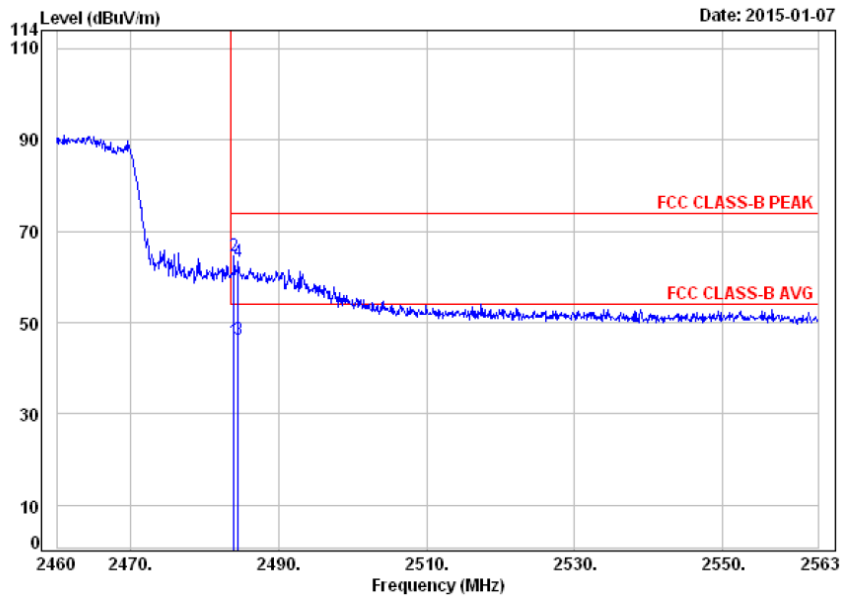
Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2387.40	-8.30	74.43	66.13	74.00	7.87	Peak	104	176
2	2387.40	-8.30	50.45	42.15	54.00	11.85	Average	104	176
3	2389.58	-8.26	50.68	42.42	54.00	11.58	Average	104	176
4	2389.58	-8.26	74.01	65.75	74.00	8.25	Peak	104	176

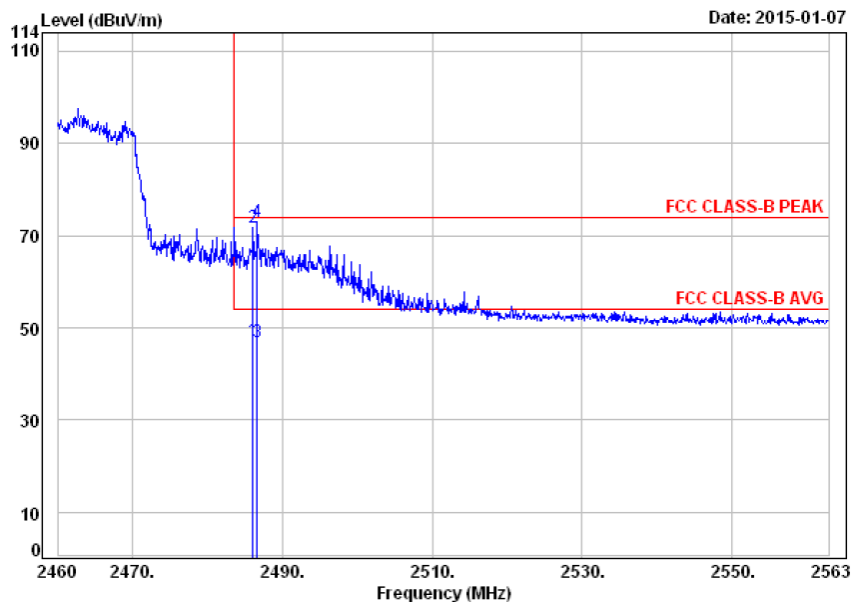


Modulation Standard: 802.11n HT40, ANT 0+ANT 1, Channel: 09
Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2484.00	-7.01	53.04	46.03	54.00	7.97	Average	101	179
2	2484.00	-7.01	71.47	64.46	74.00	9.54	Peak	101	179
3	2484.51	-7.00	53.23	46.23	54.00	7.77	Average	101	179
4	2484.51	-7.00	70.24	63.24	74.00	10.76	Peak	101	179

Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)
1	2486.06	-6.98	54.10	47.12	54.00	6.88	Average	101	179
2	2486.06	-6.98	78.68	71.70	74.00	2.30	Peak	101	179
3	2486.68	-6.97	53.92	46.95	54.00	7.05	Average	101	179
4	2486.68	-6.97	80.07	73.10	74.00	0.90	Peak	101	179



7. Test of Conducted Spurious Emission

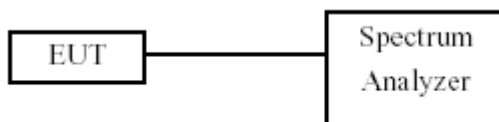
7.1 Test Limit

Below -20dB of the highest emission level of operating band (In 100 kHz Resolution Bandwidth)

7.2 Test Procedure

- a. The transmitter output was connected to the spectrum analyzer via a low lose cable.
- b. Set RBW of spectrum analyzer to 100 KHz and VBW of spectrum analyzer to 300 KHz with convenient frequency span including 100 KHz bandwidth from band edge.
- c. Peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20dB relative to the maximum measured in-band peak PSD level.
- d. The band edges was measured and recorded.

7.3 Test Setup Layout



7.4 Test Result and Data

Test Date: Jan. 07, 2015

Temperature: 24°C

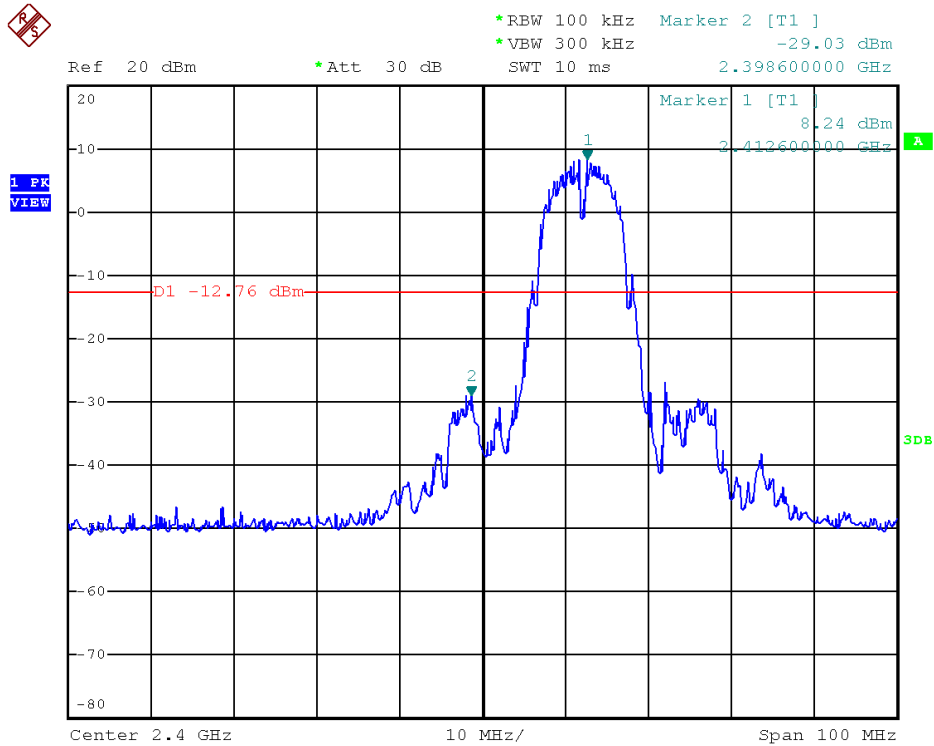
Atmospheric pressure: 1027 hPa

Humidity: 52%

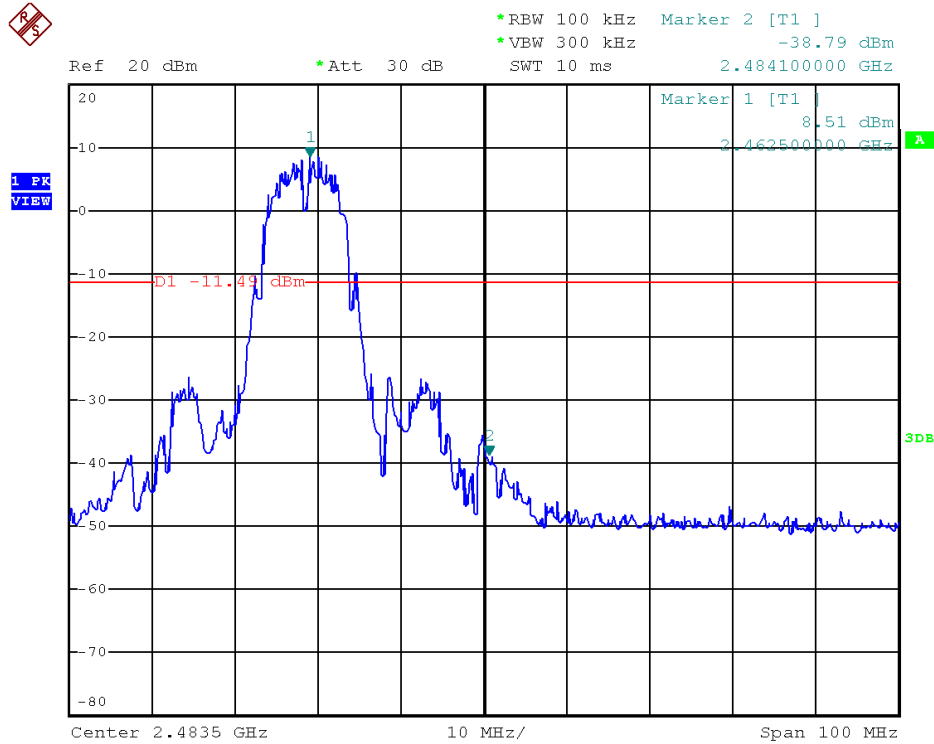
Test Result: Pass



Modulation Standard: 802.11b, Antenna 0
Channel: 01

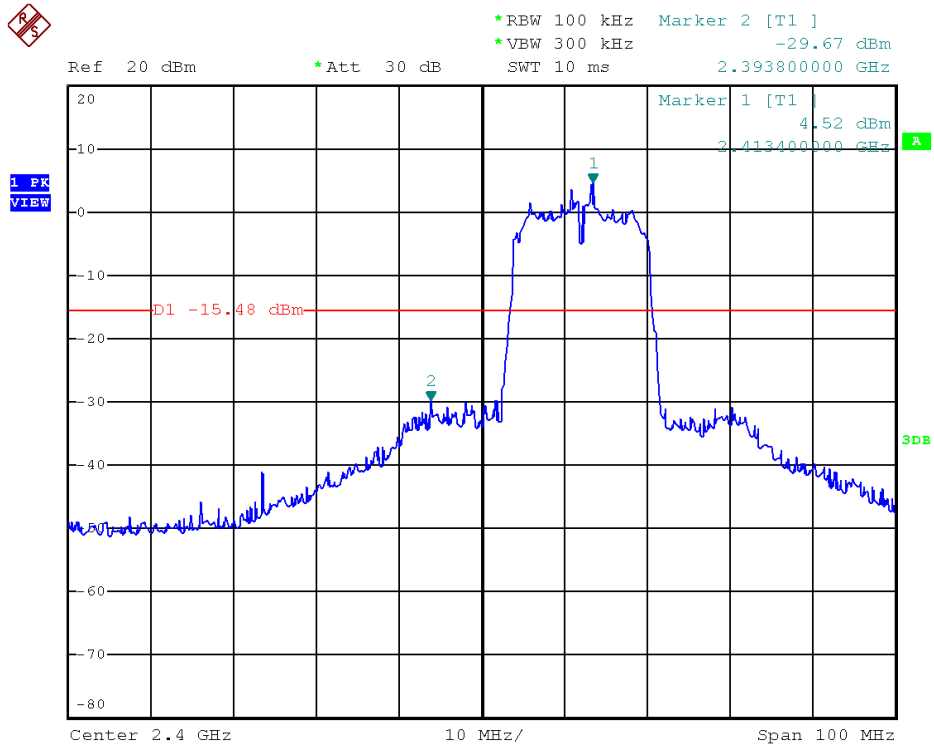


Channel: 11

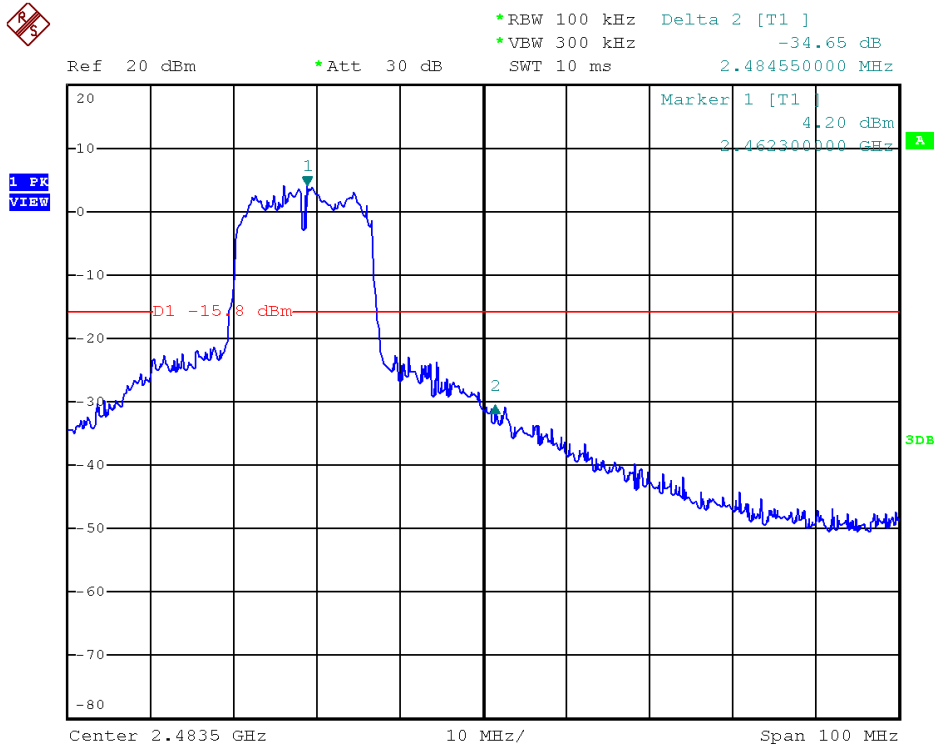




Modulation Standard: 802.11g, Antenna 0
Channel: 01

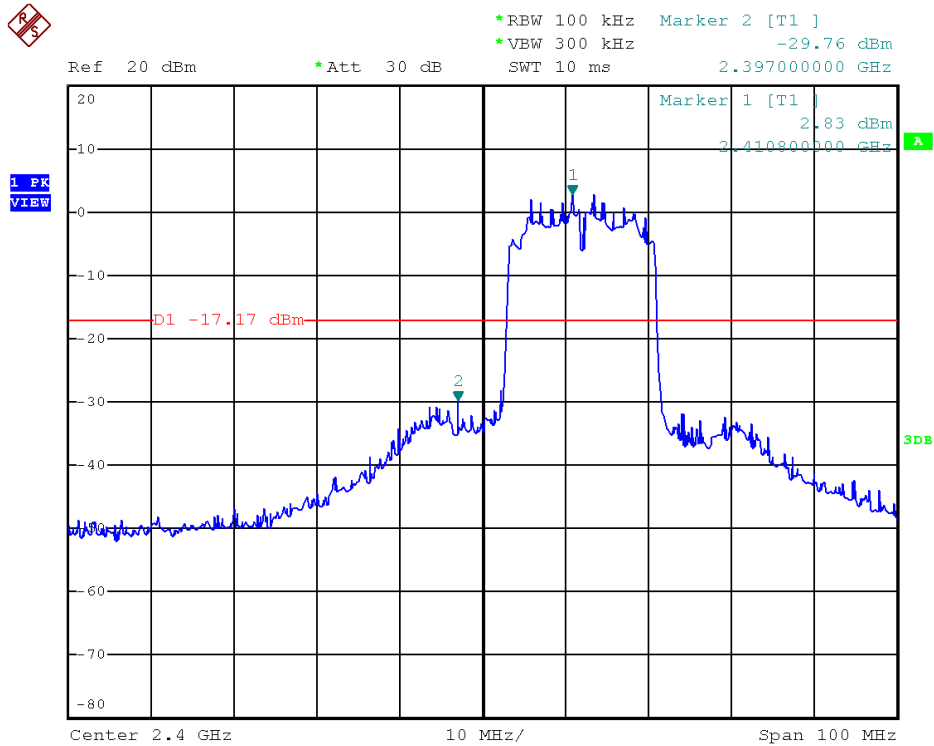


Channel: 11

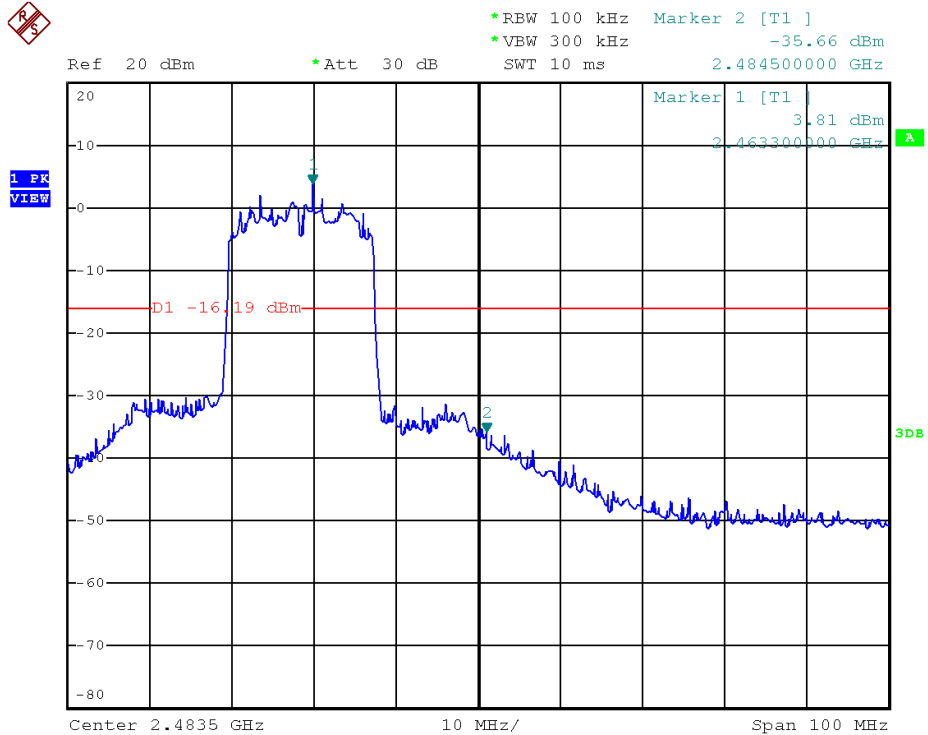




Modulation Standard: 802.11n HT20, Antenna 0
Channel: 01

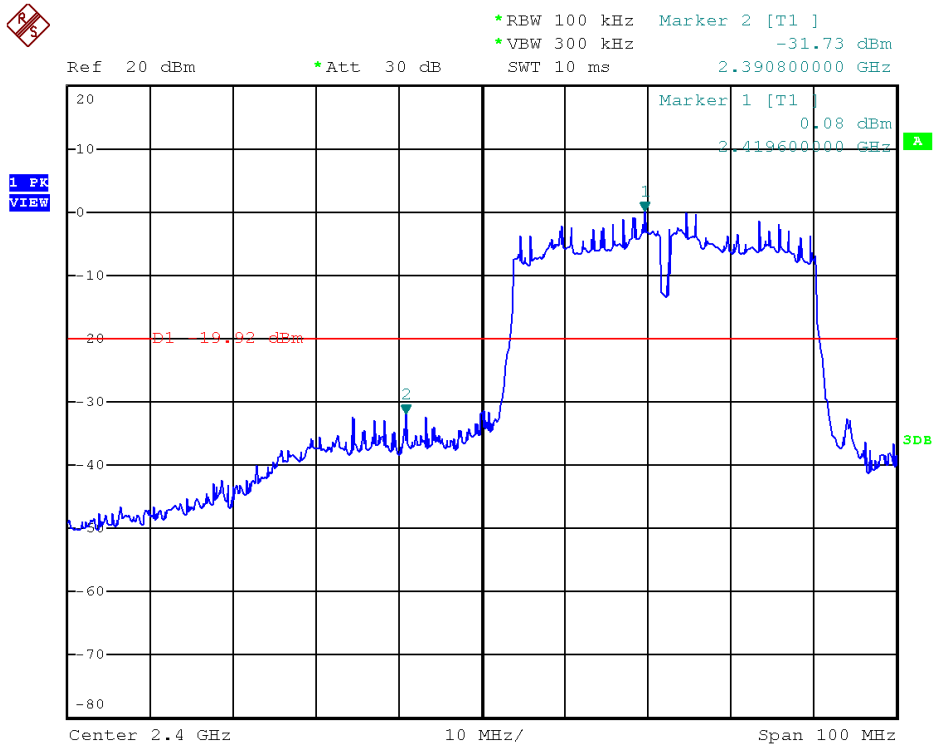


Channel: 11

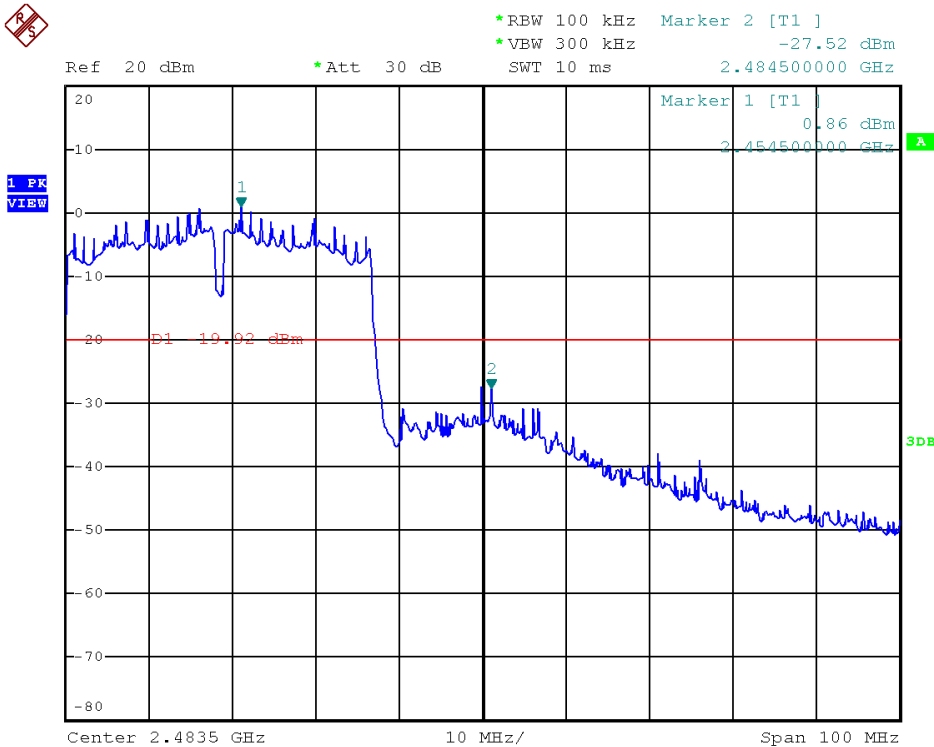




Modulation Standard: 802.11n HT40, Antenna 0
Channel: 03

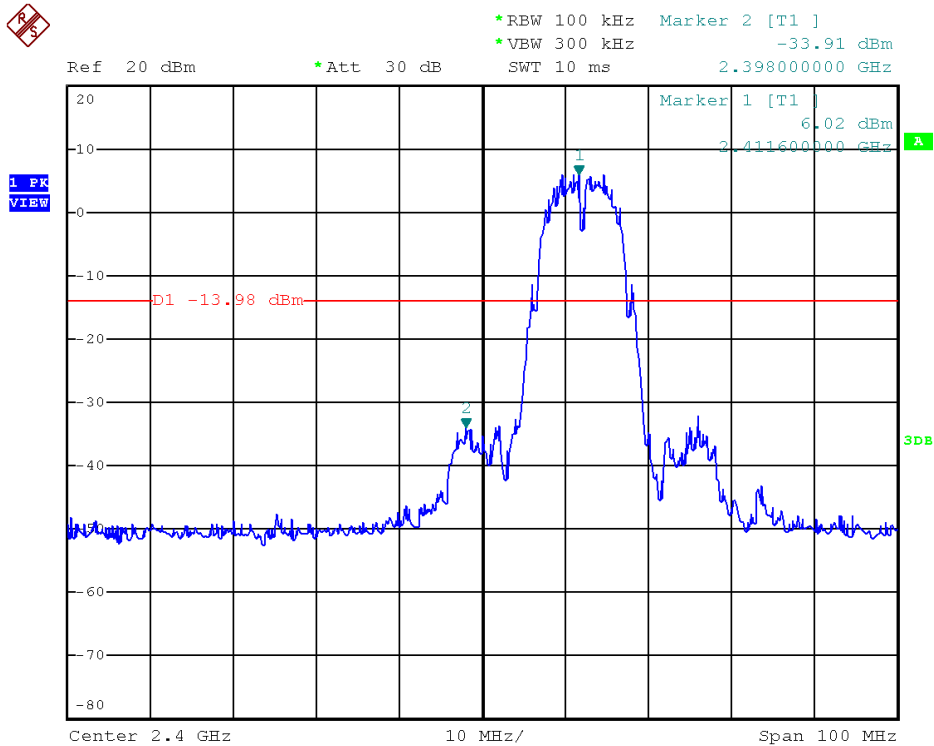


Channel: 09

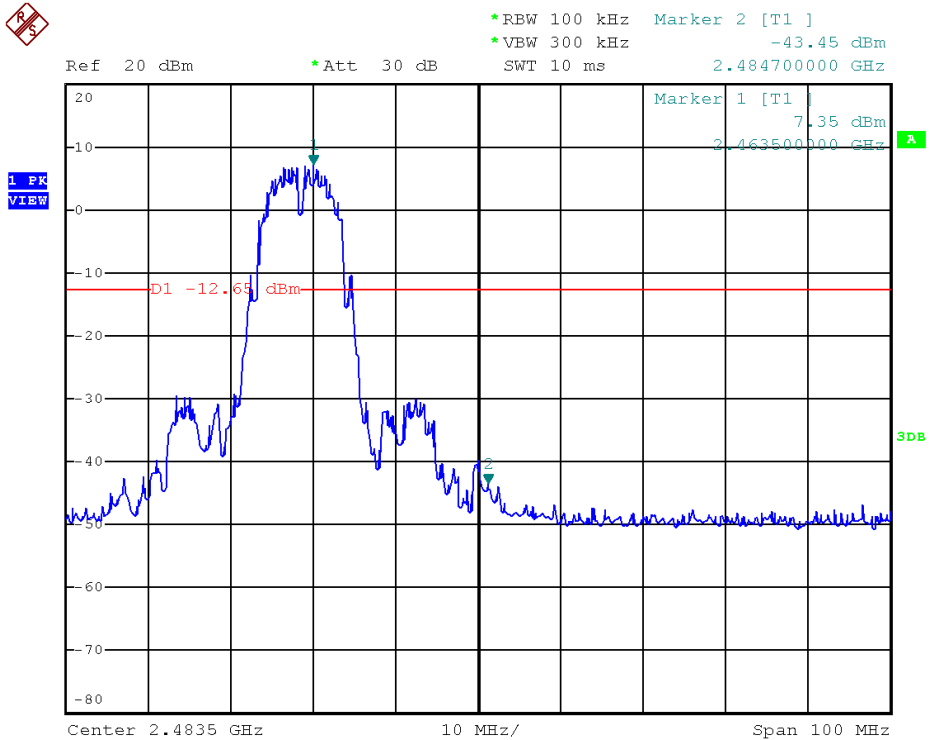




Modulation Standard: 802.11b, Antenna 1
Channel: 01

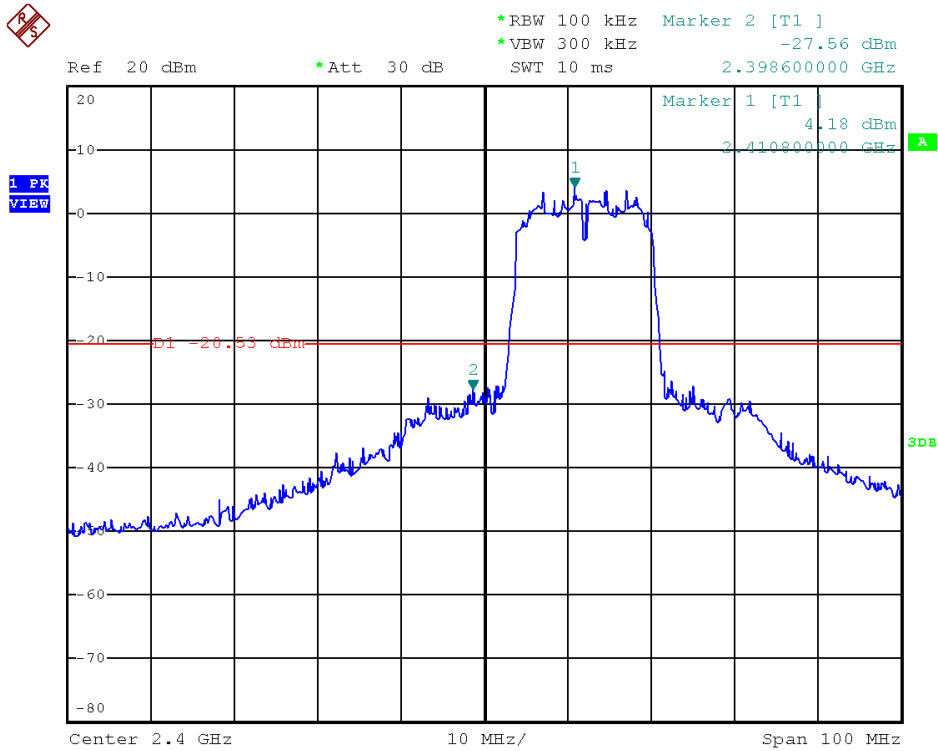


Channel: 11

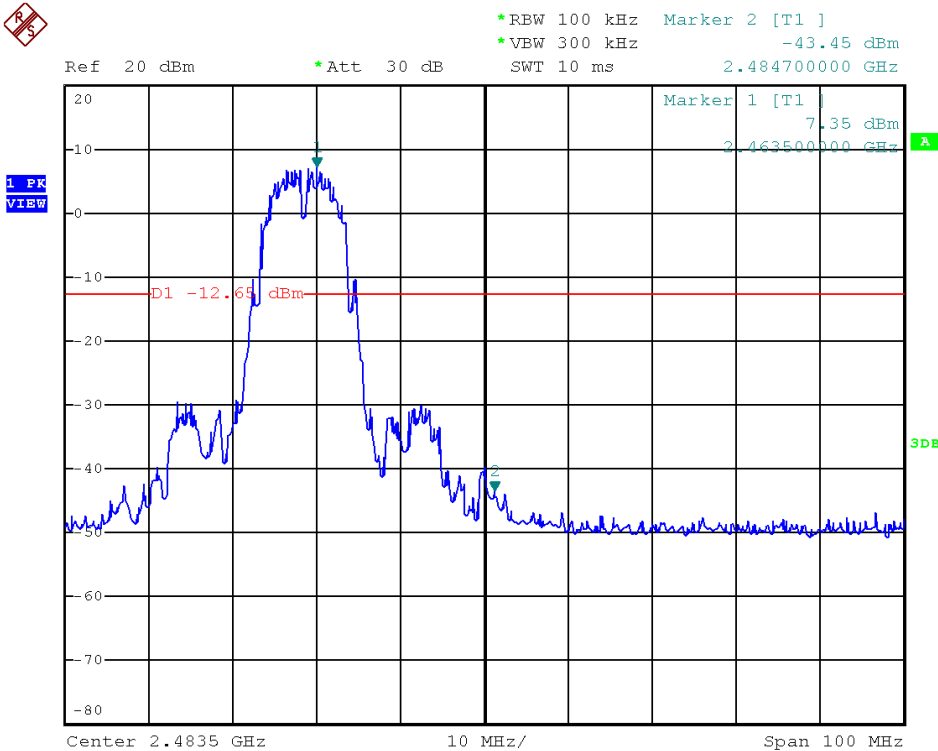




Modulation Standard: 802.11g, Antenna 1
Channel: 01

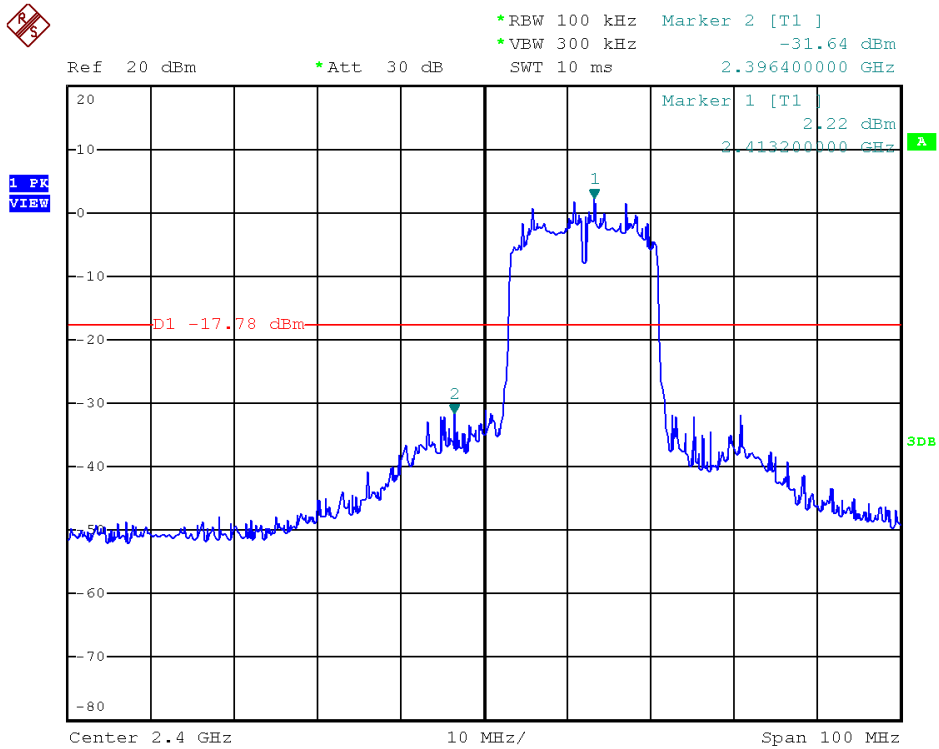


Channel: 11

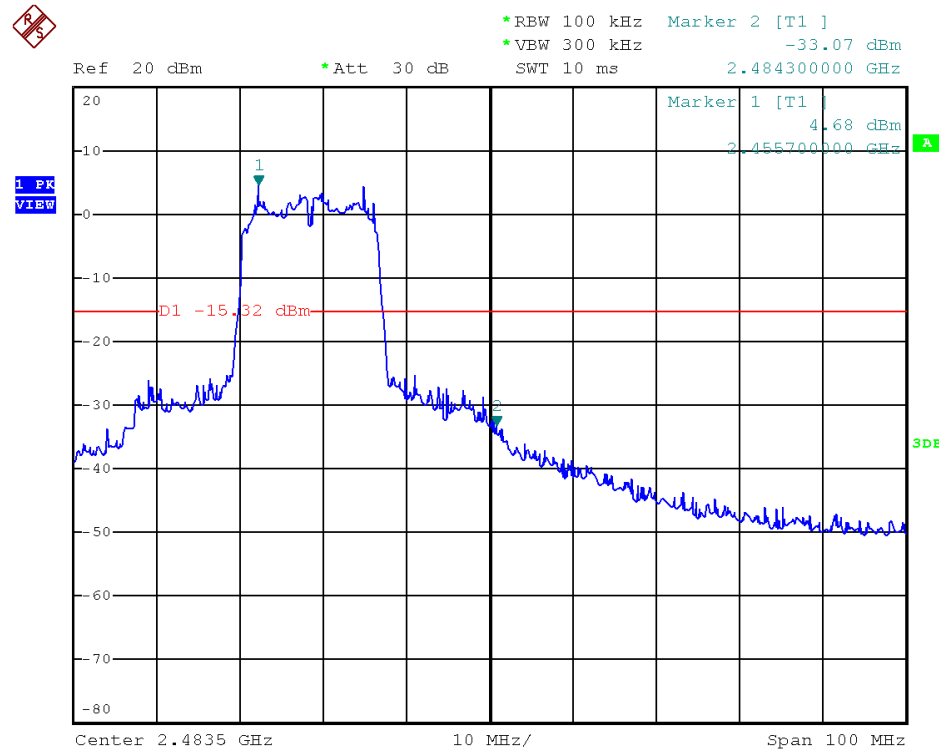




Modulation Standard: 802.11n HT20, Antenna 1
Channel: 01

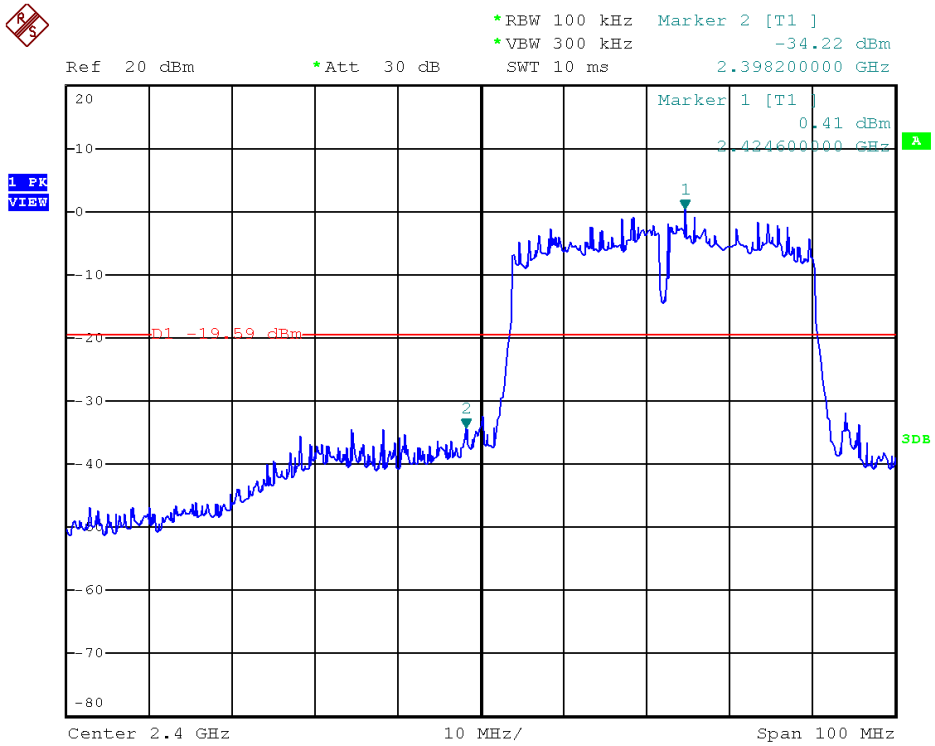


Channel: 11

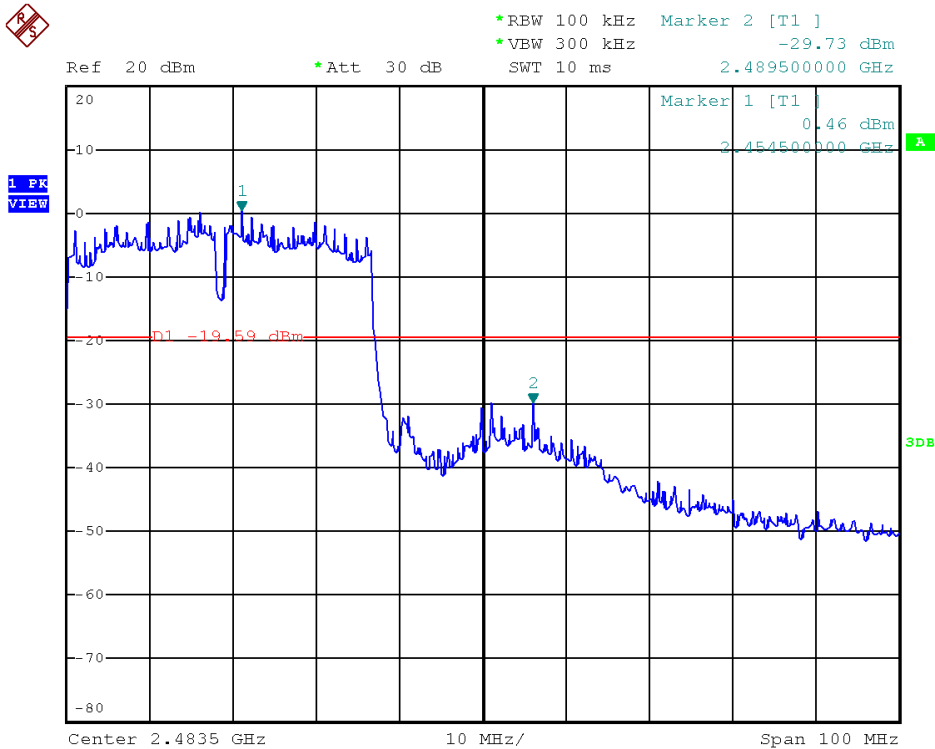




Modulation Standard: 802.11n HT40, Antenna 1
Channel: 03

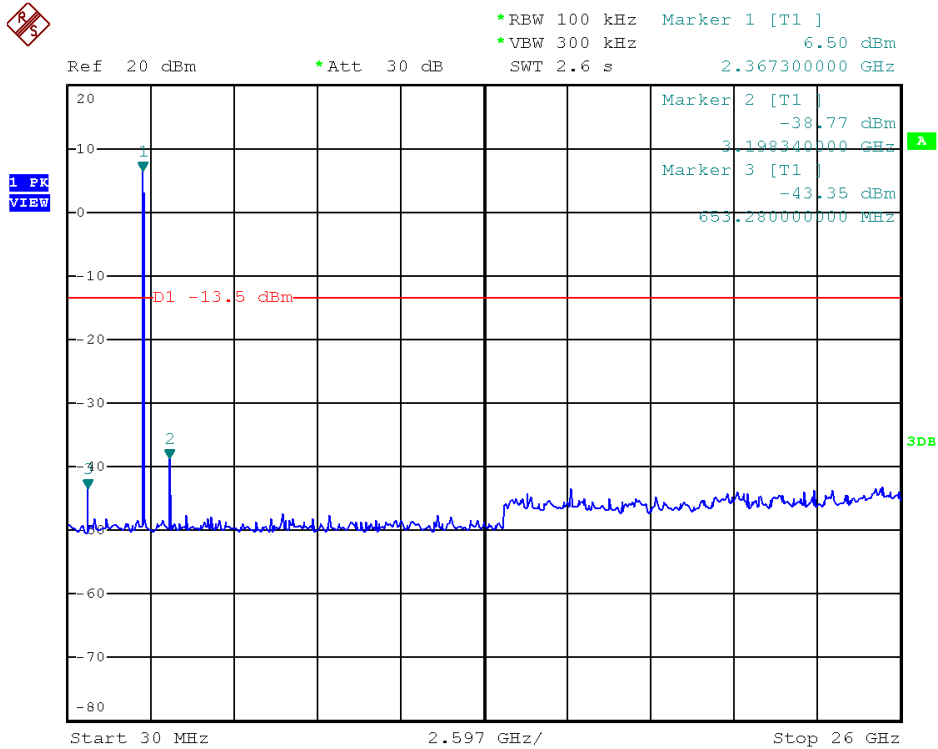


Channel: 09

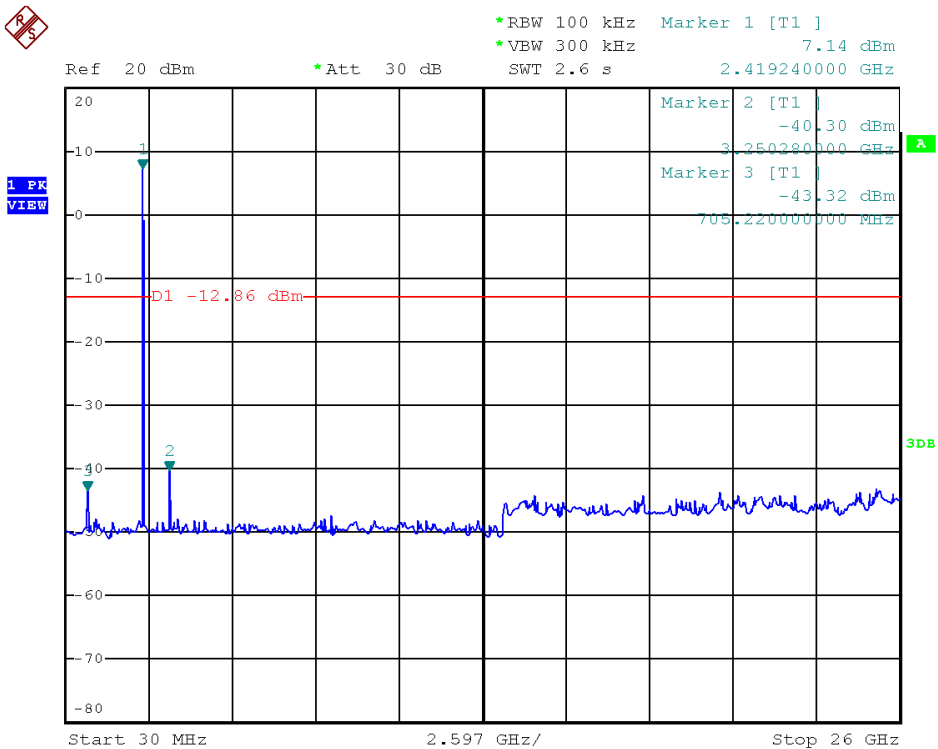




<Out of band>
Modulation Standard: 802.11b, Antenna 0
Channel: 01

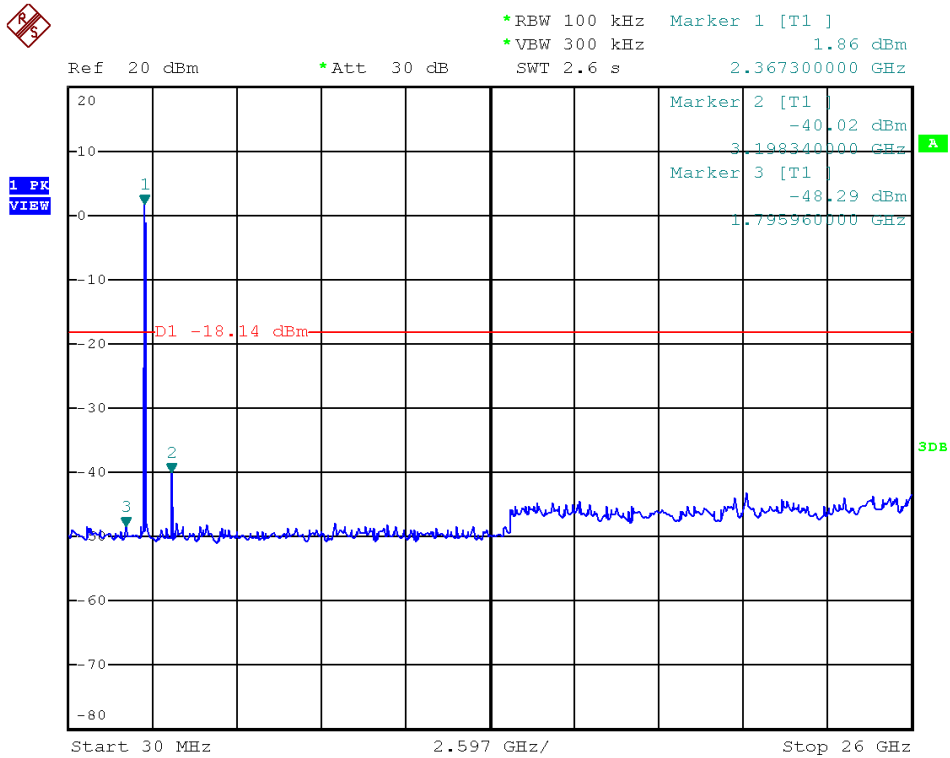


Channel: 11

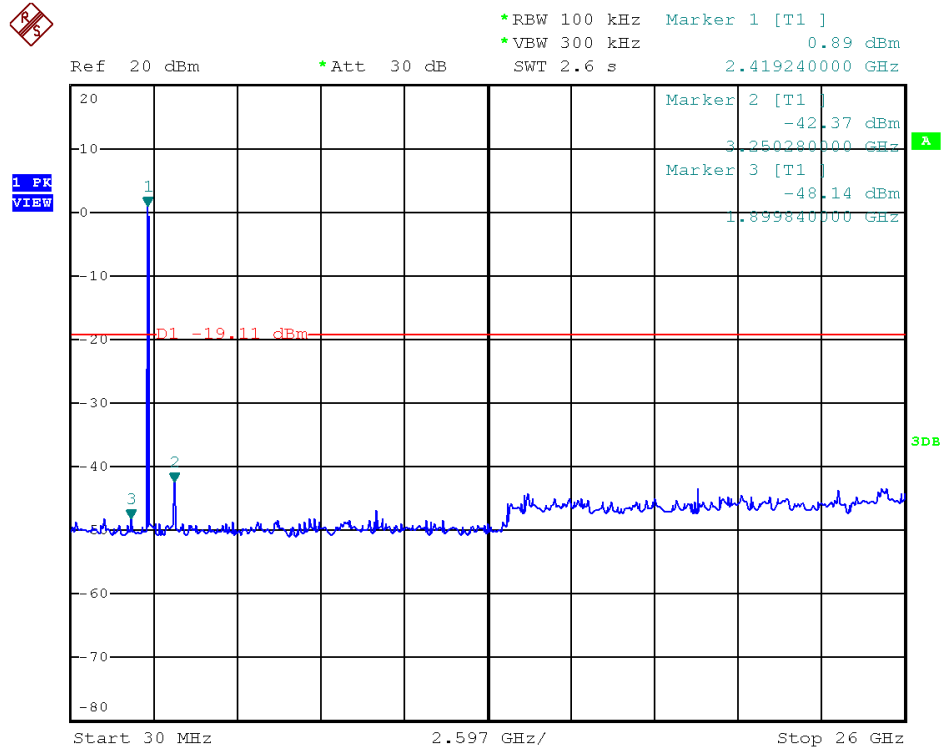




Modulation Standard: 802.11g, Antenna 0
Channel: 01

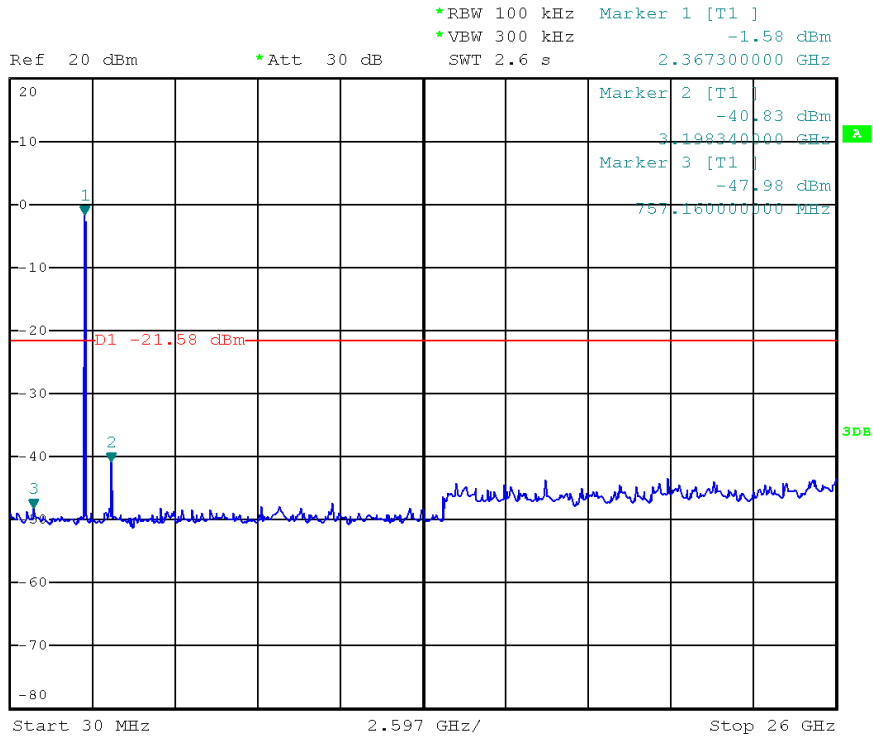


Channel: 11

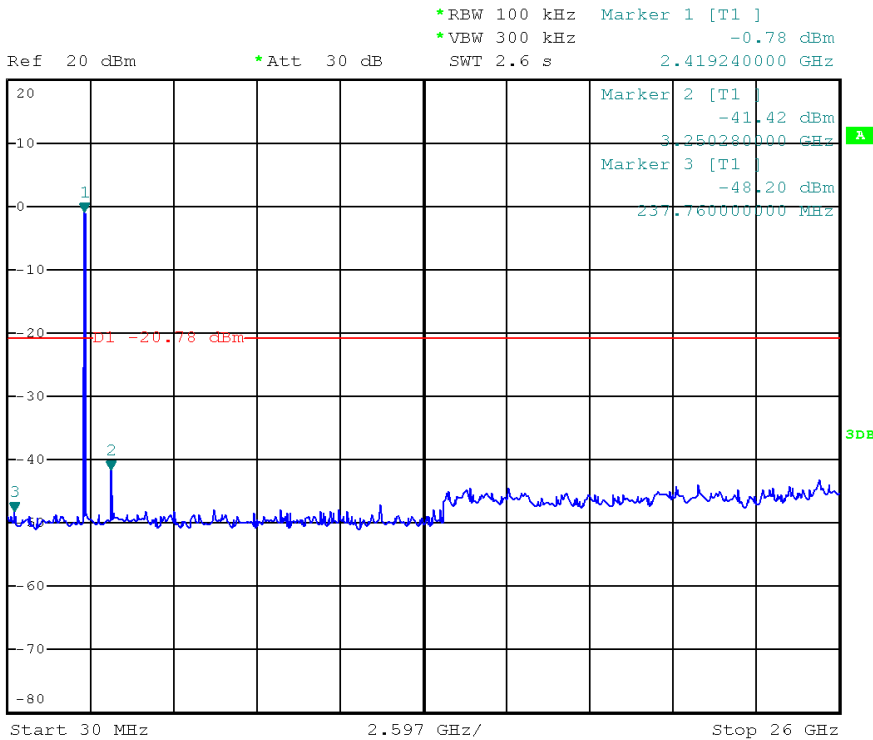




Modulation Standard: 802.11n HT20, Antenna 0
Channel: 01

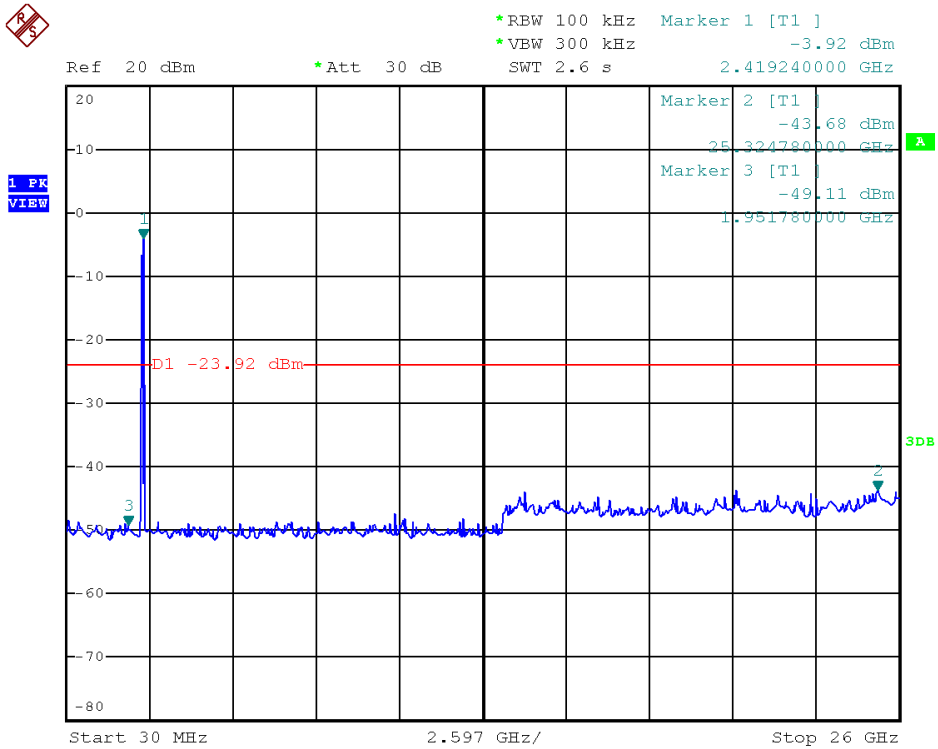


Channel: 11

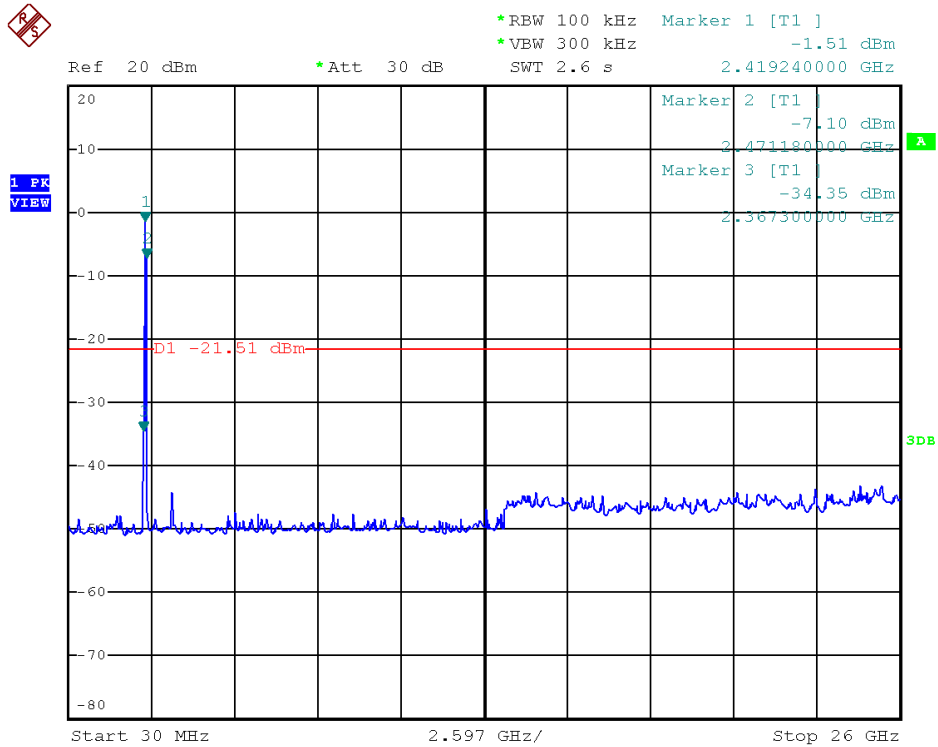




Modulation Standard: 802.11n HT40, Antenna 0
Channel: 03

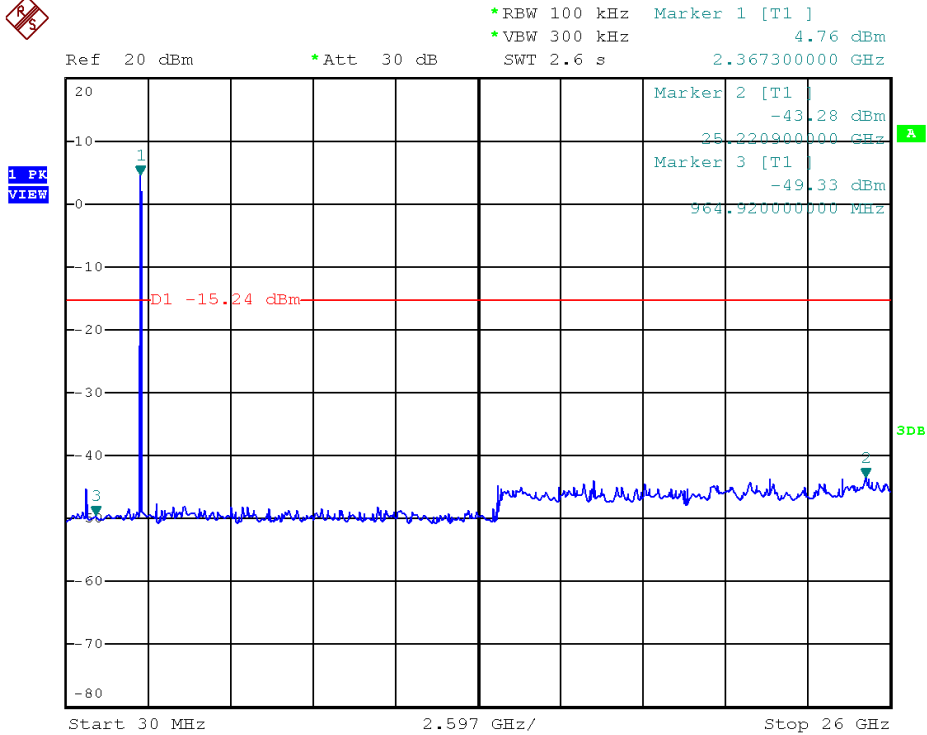


Channel: 09

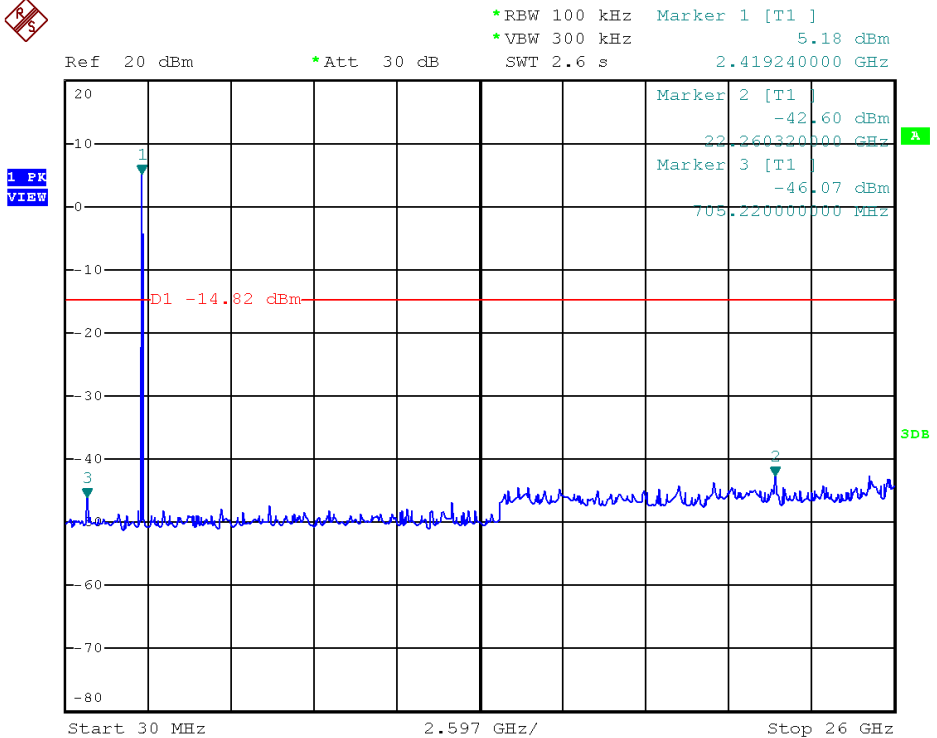




Modulation Standard: 802.11b, Antenna 1
Channel: 01

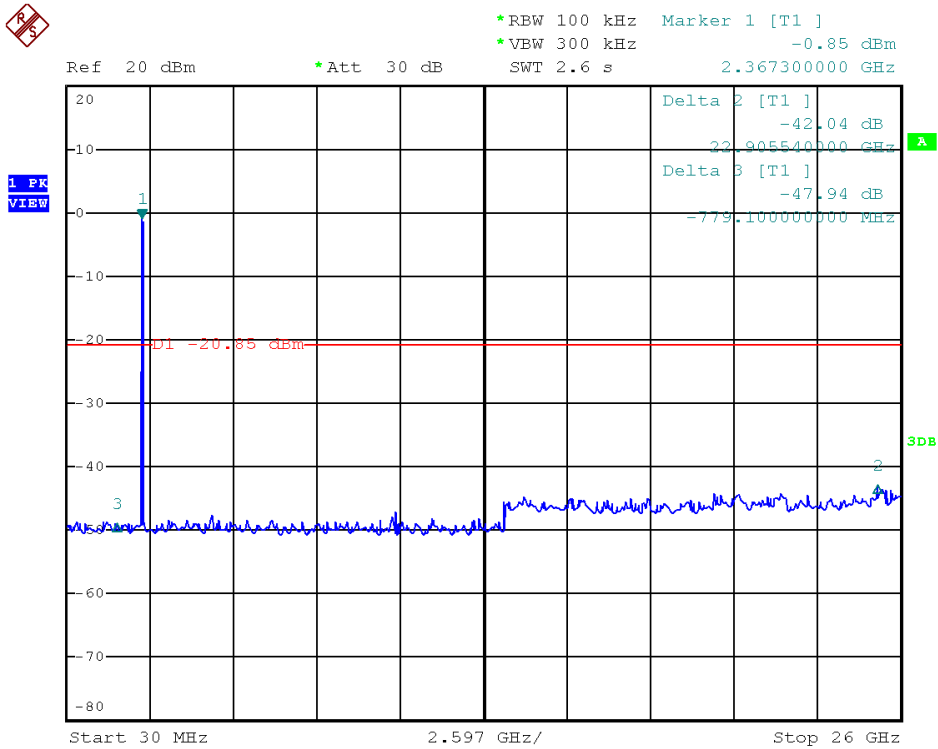


Channel: 11

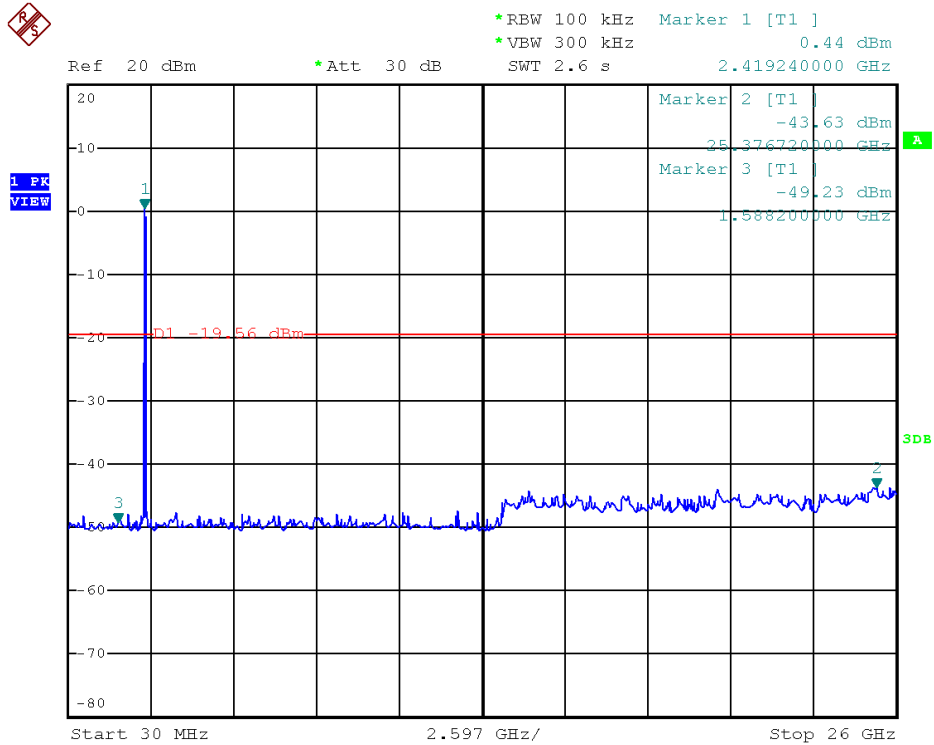




Modulation Standard: 802.11g, Antenna 1
Channel: 01

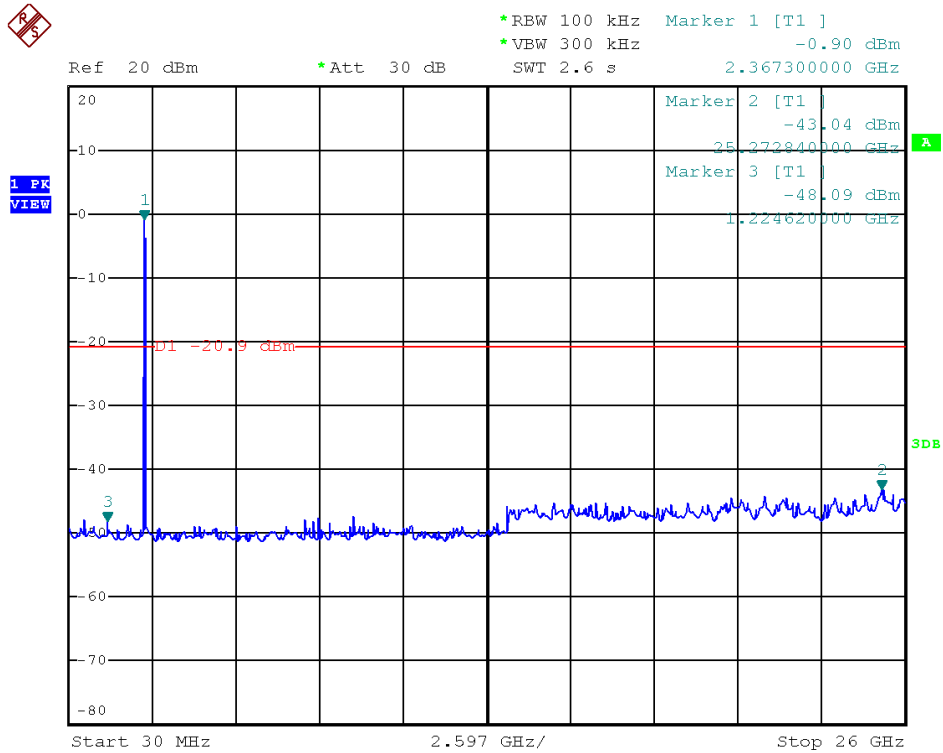


Channel: 11

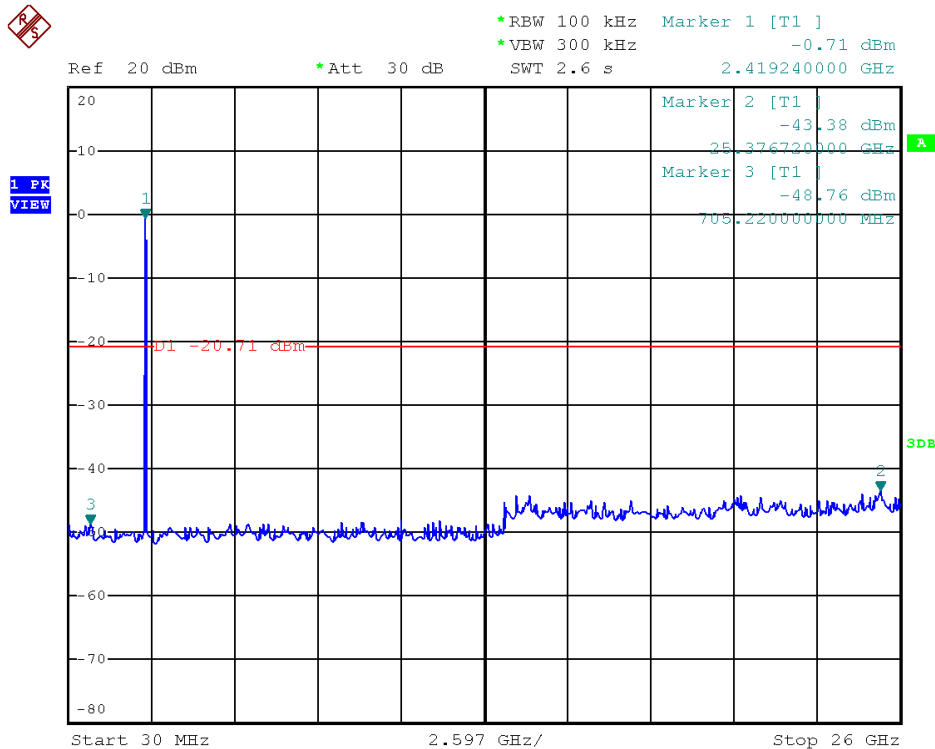




Modulation Standard: 802.11n HT20, Antenna 1
Channel: 01

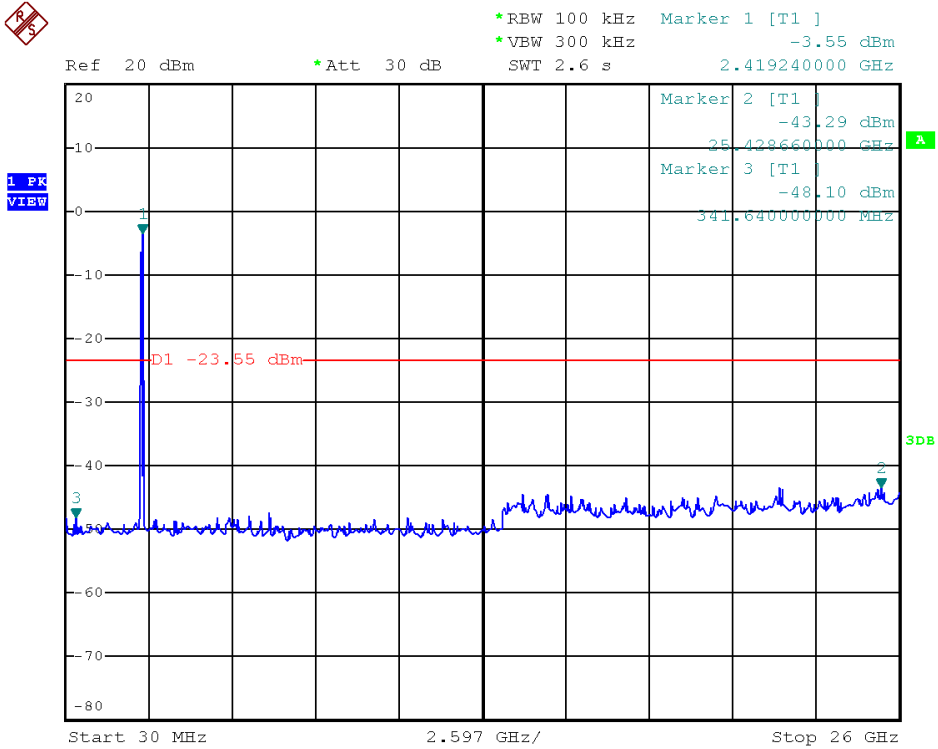


Channel: 11

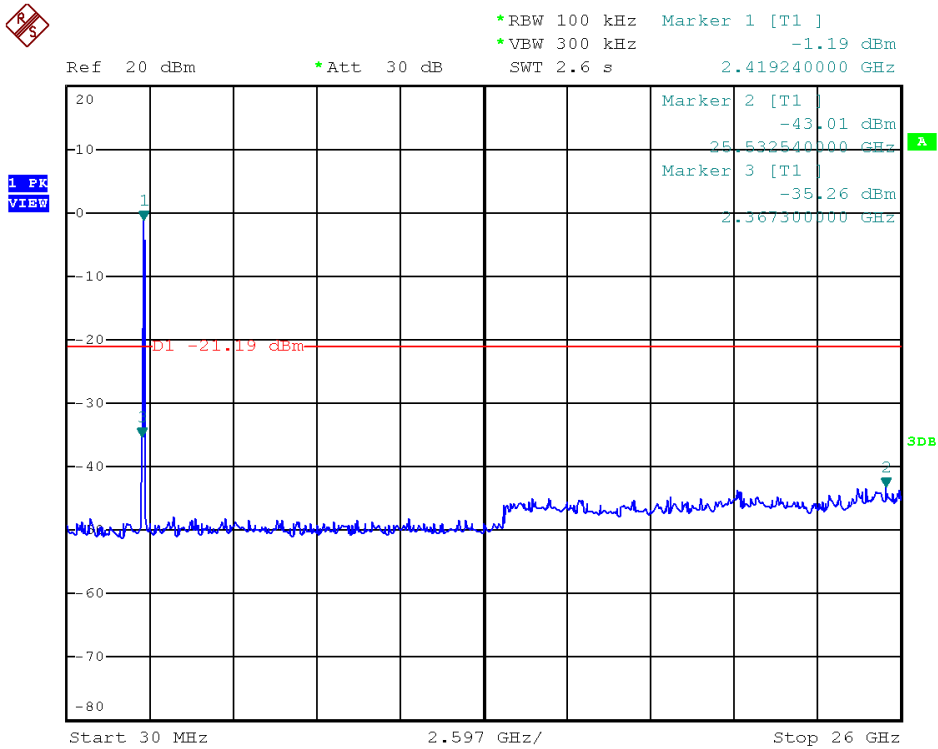




Modulation Standard: 802.11n HT40, Antenna 1
Channel: 03



Channel: 09





8. 6dB Bandwidth Measurement Data

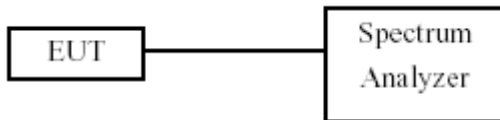
8.1 Test Limit

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

8.2 Test Procedures

- a. The transmitter output was connected to the spectrum analyzer.
- b. Set RBW of spectrum analyzer to 1~5% of the emission bandwidth and VBW ≥ 3x RBW.
- c. The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.
- d. The 6dB Bandwidth was measured and recorded.

8.3 Test Setup Layout



8.4 Test Result and Data

Test Date: Jan. 05, 2015

Temperature: 24°C

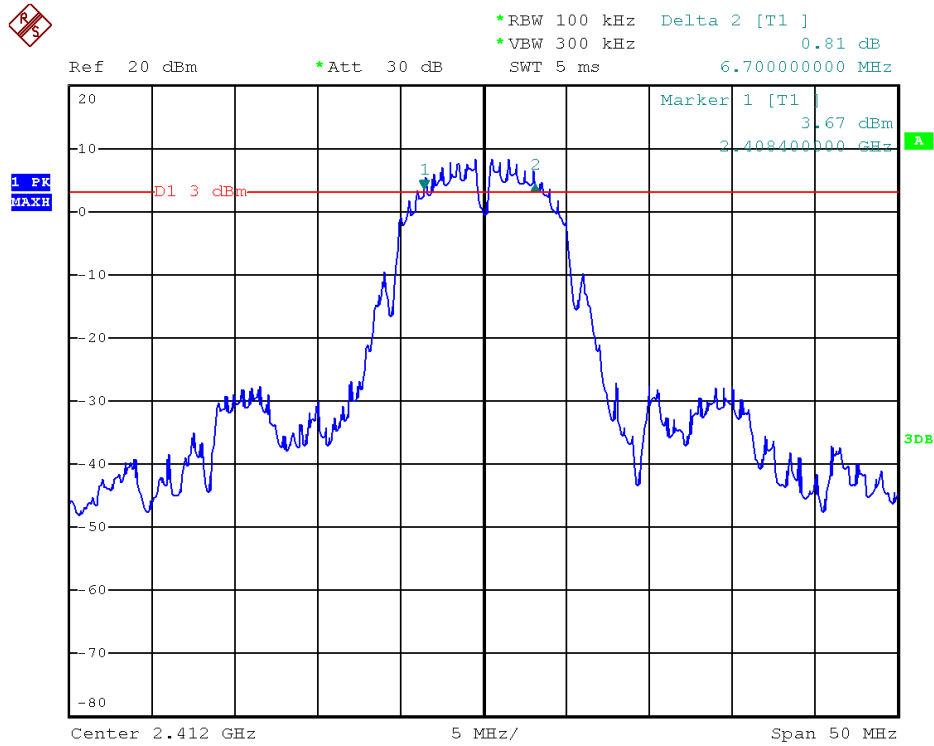
Atmospheric pressure: 1027 hPa

Humidity: 52%

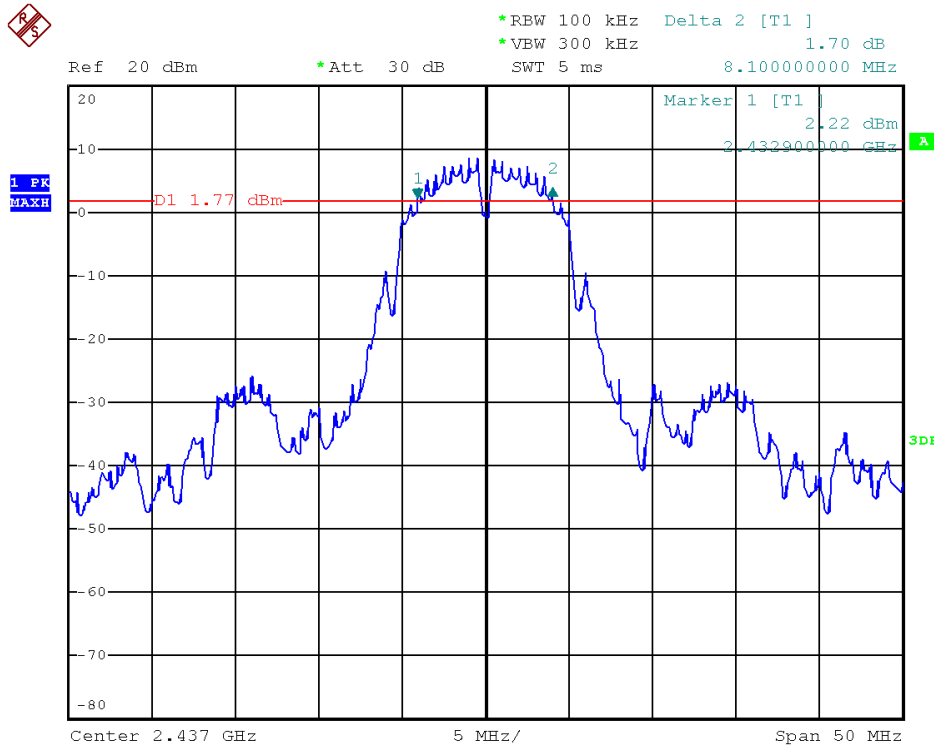
Modulation Standard	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	
			ANT 0	ANT 1
802.11b	01	2412	6.7	8.0
	06	2437	8.1	8.1
	11	2462	7.3	8.5
802.11g	01	2412	14.1	14.2
	06	2437	13.8	14.0
	11	2462	13.4	13.6
802.11n HT20	01	2412	13.8	15.2
	06	2437	13.5	16.1
	11	2462	13.5	15.0
802.11n HT40	03	2422	29.8	35.2
	06	2437	28.0	35.2
	09	2452	27.0	35.2



Modulation Standard: 802.11b, Antenna 0
Channel: 01

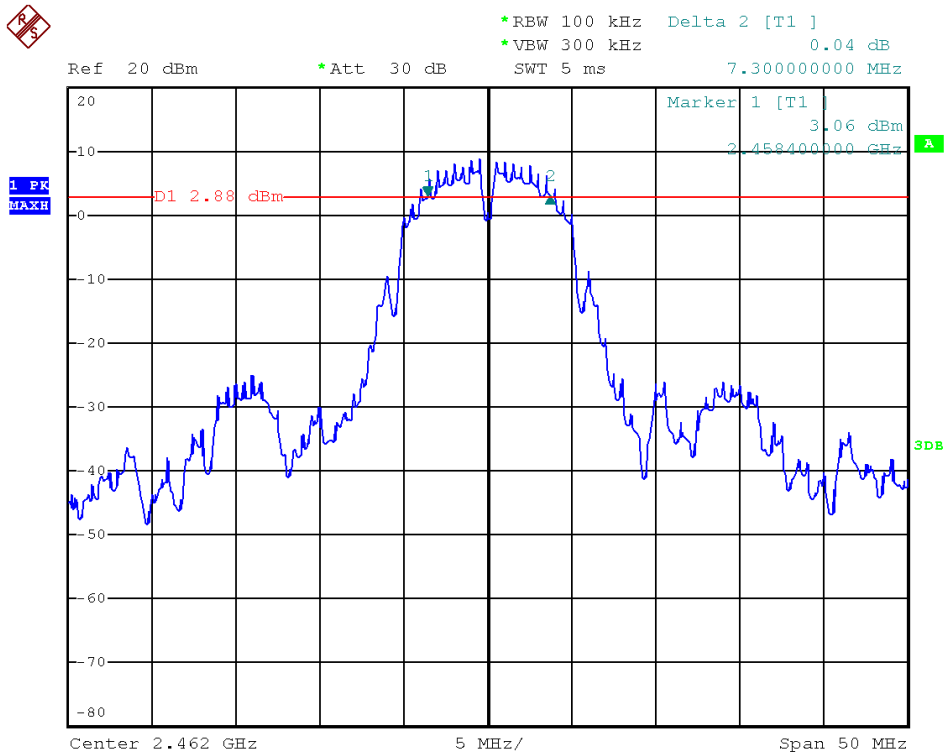


Modulation Standard: 802.11b, Antenna 0
Channel: 06

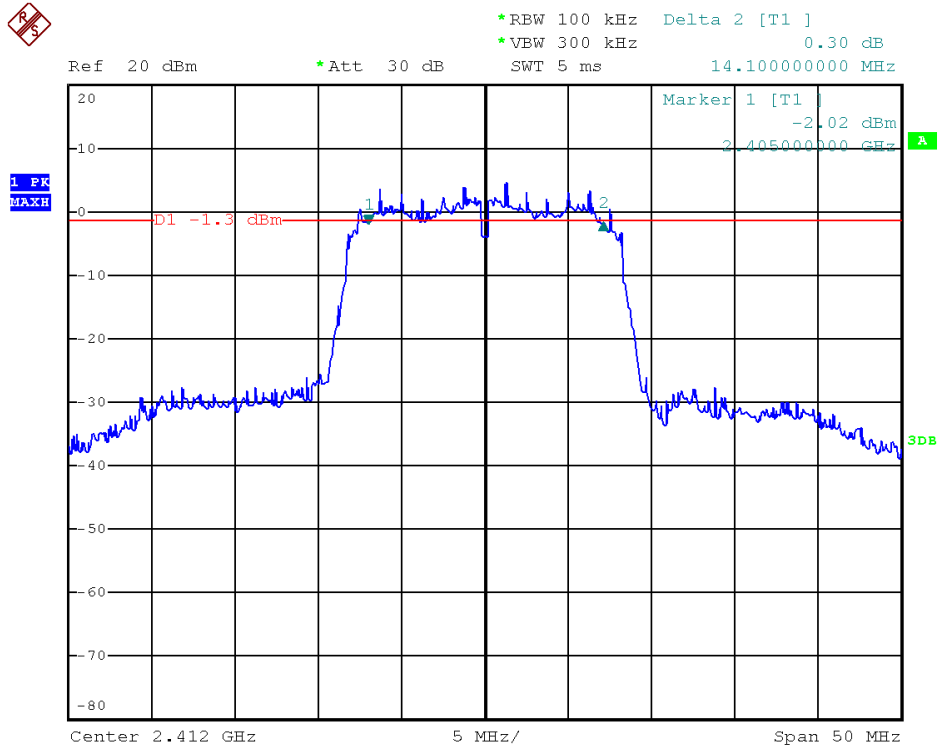




Modulation Standard: 802.11b, Antenna 0
Channel: 11

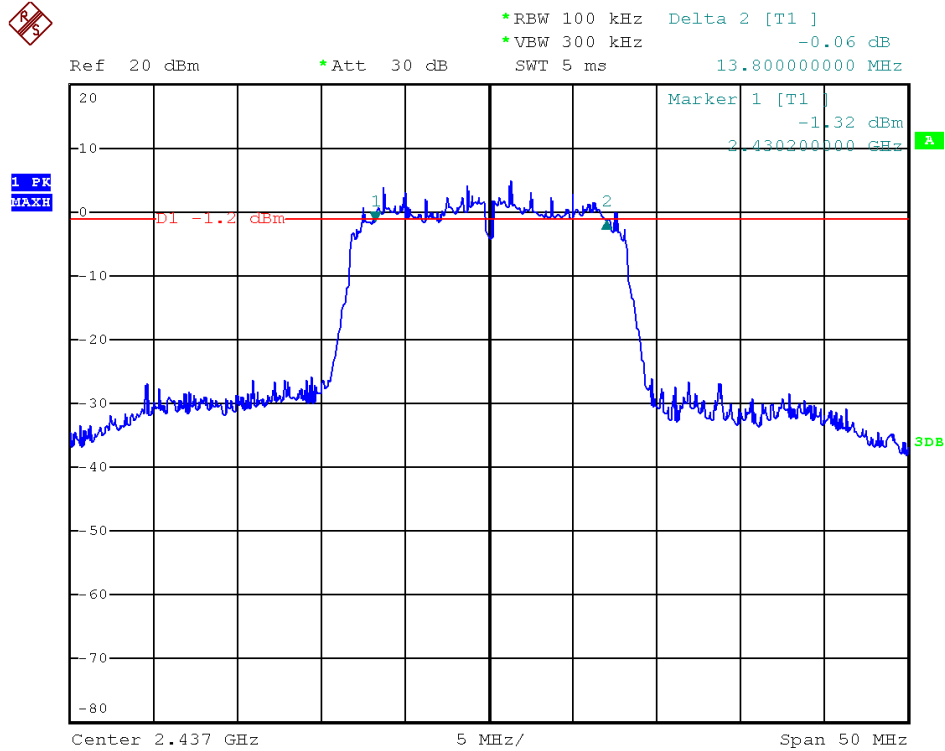


Modulation Standard: 802.11g, Antenna 0
Channel: 01

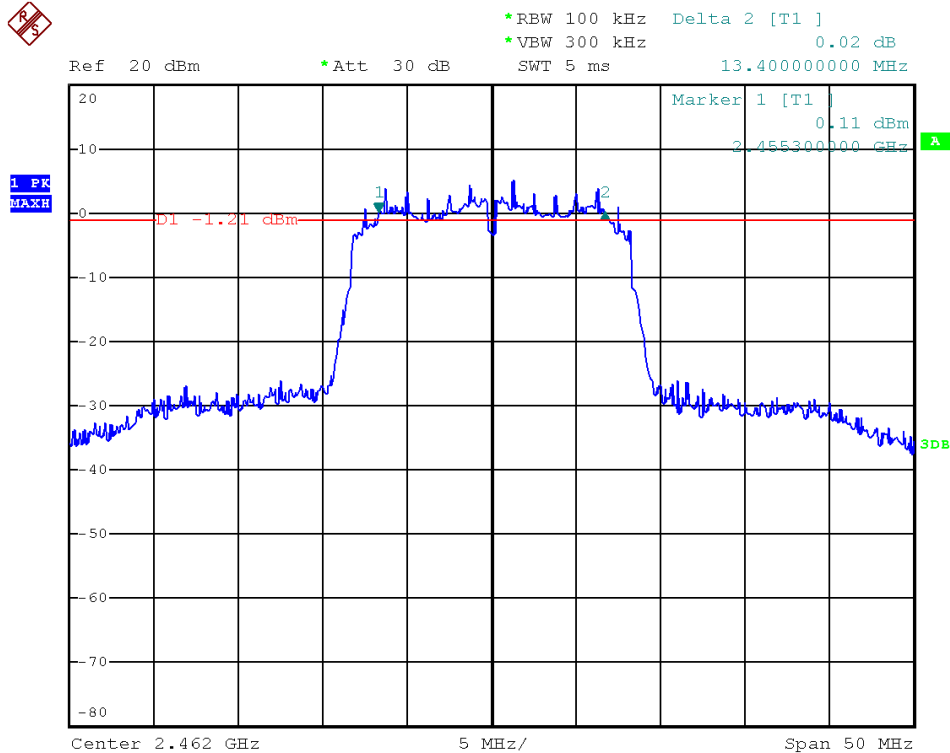




Modulation Standard: 802.11g, Antenna 0
Channel: 06

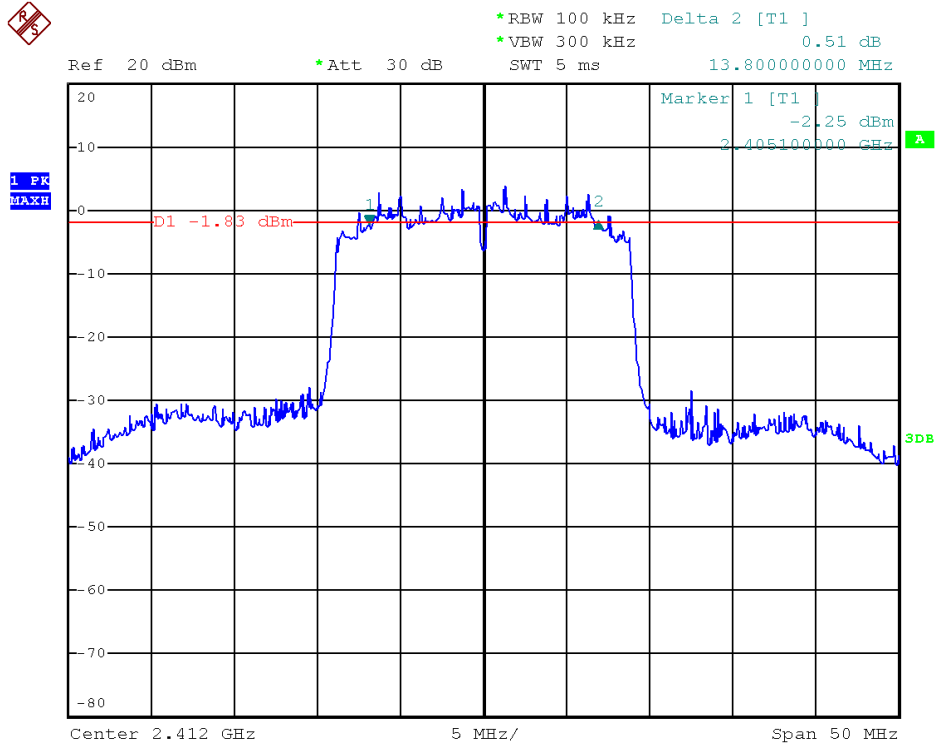


Modulation Standard: 802.11g, Antenna 0
Channel: 11

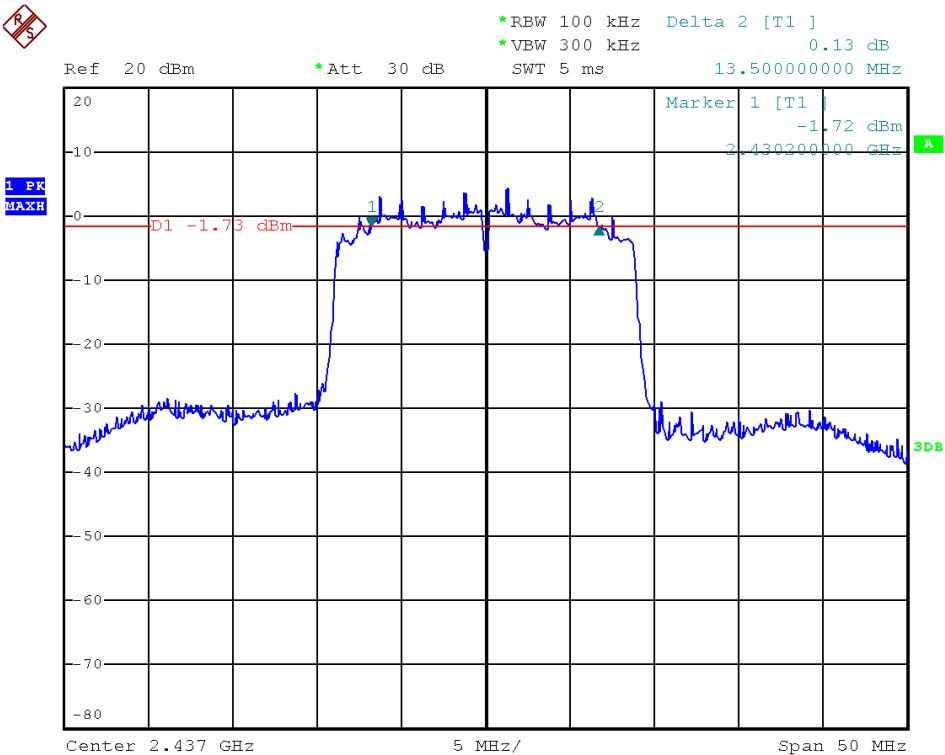




Modulation Standard: 802.11n HT20, Antenna 0
Channel: 01

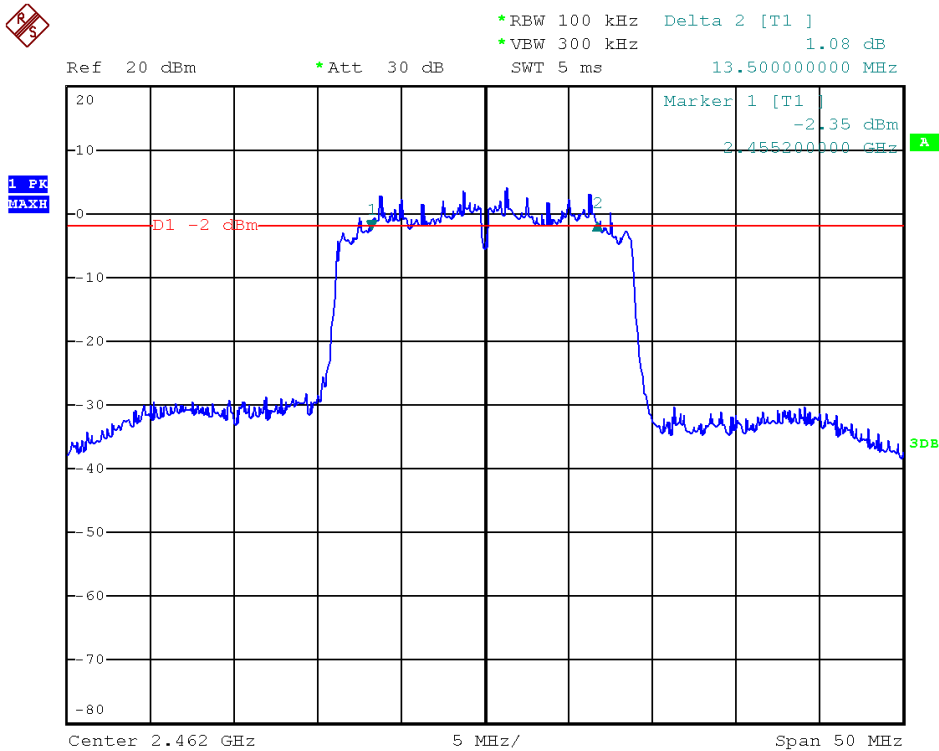


Modulation Standard: 802.11n HT20, Antenna 0
Channel: 06

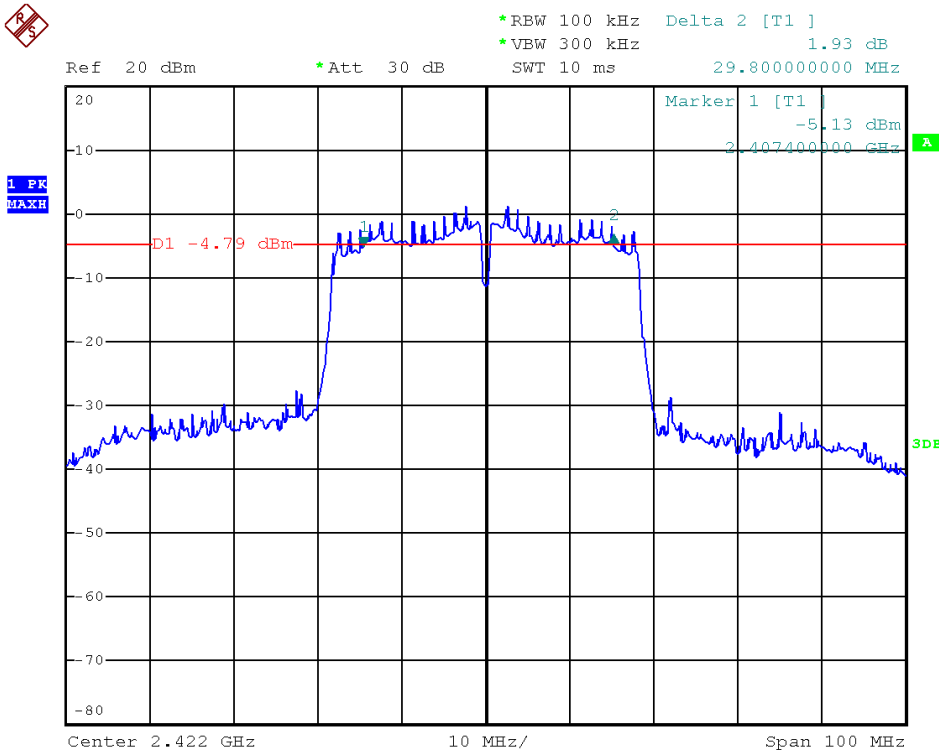




Modulation Standard: 802.11n HT20, Antenna 0
Channel: 11

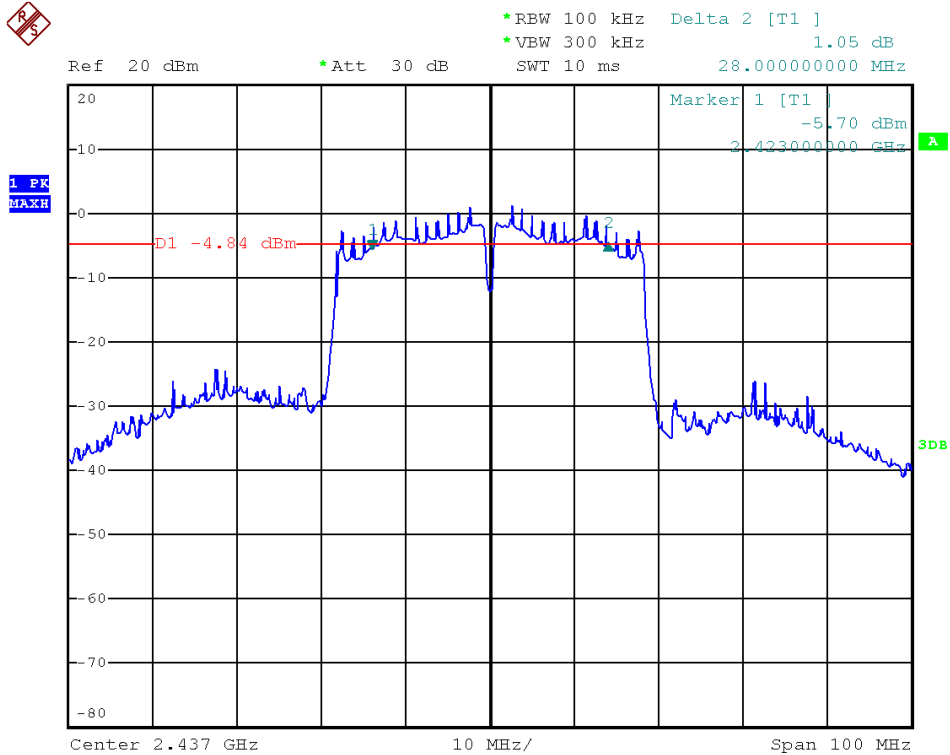


Modulation Standard: 802.11n HT40, Antenna 0
Channel: 03

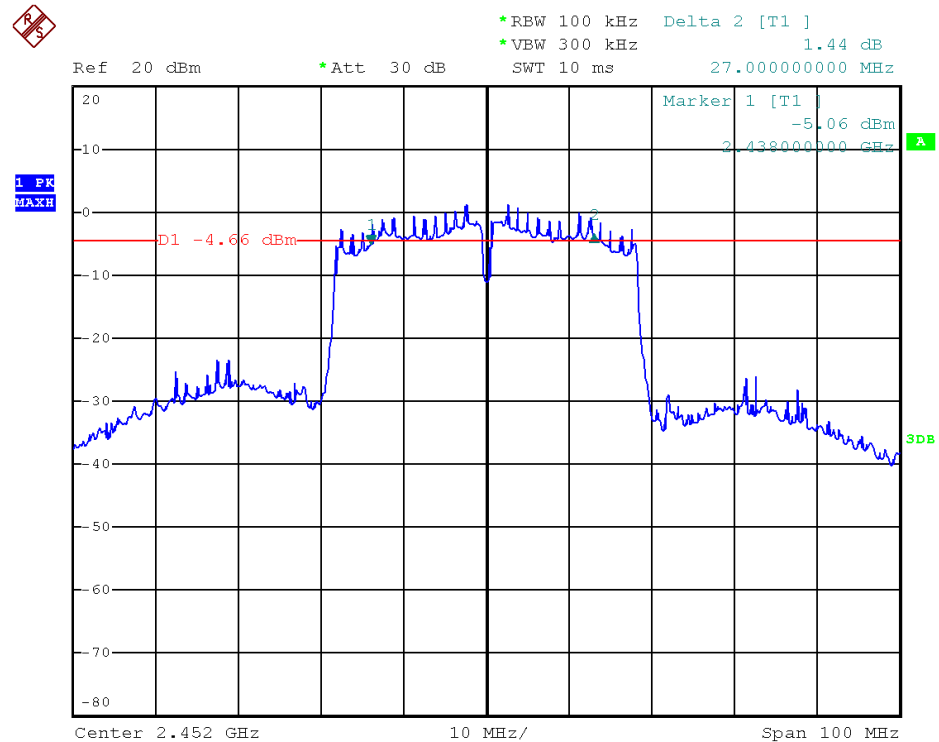




Modulation Standard: 802.11n HT40, Antenna 0
Channel: 06

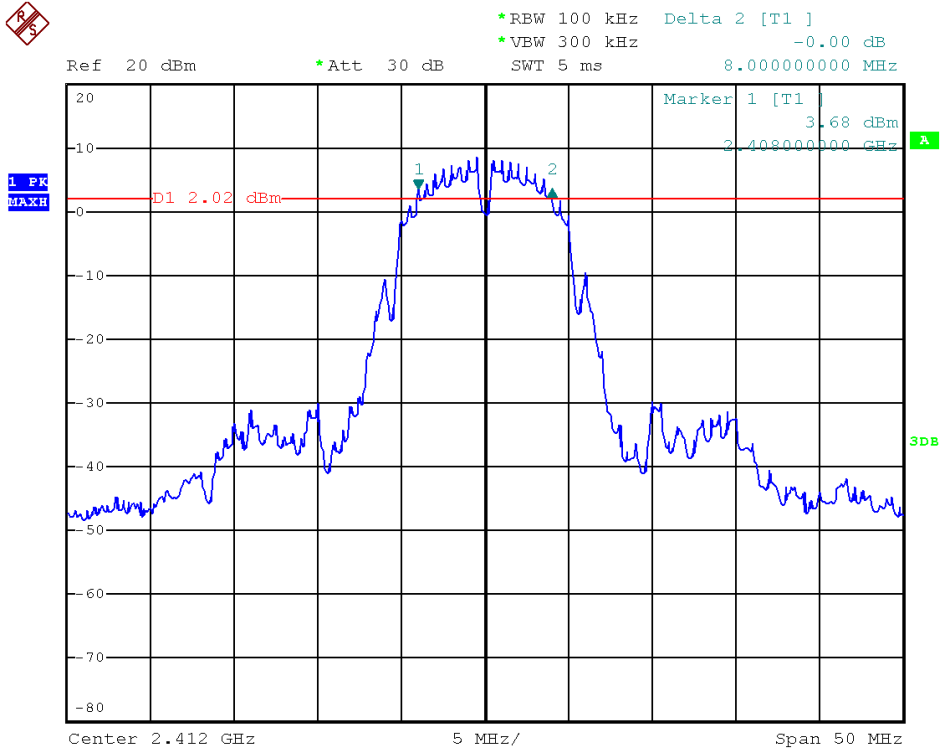


Modulation Standard: 802.11n HT40, Antenna 0
Channel: 09

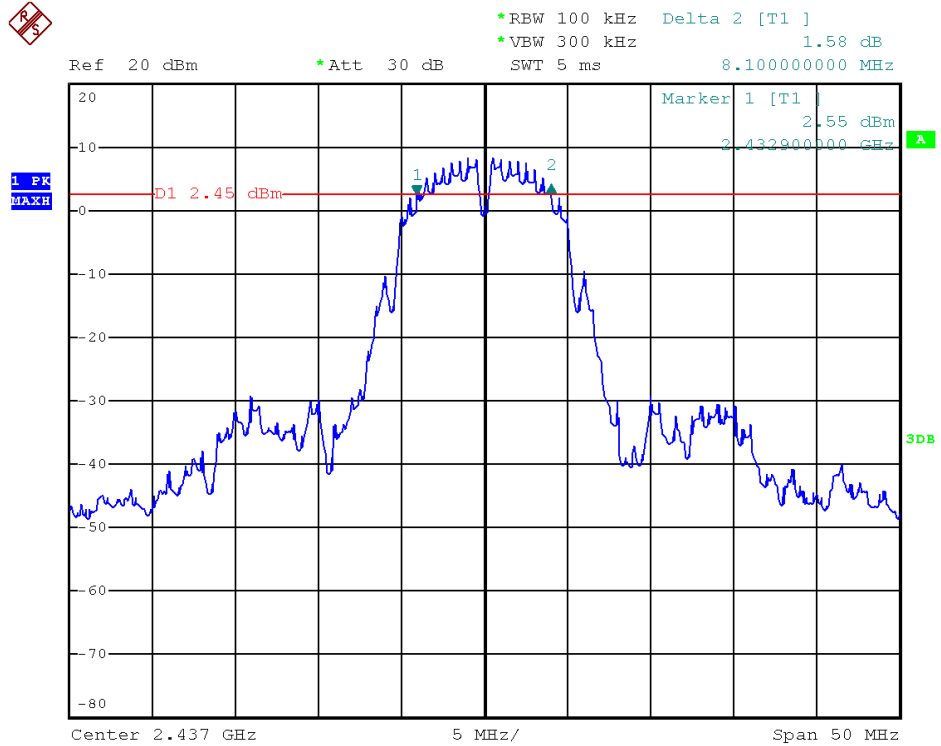




Modulation Standard: 802.11b, Antenna 1
Channel: 01

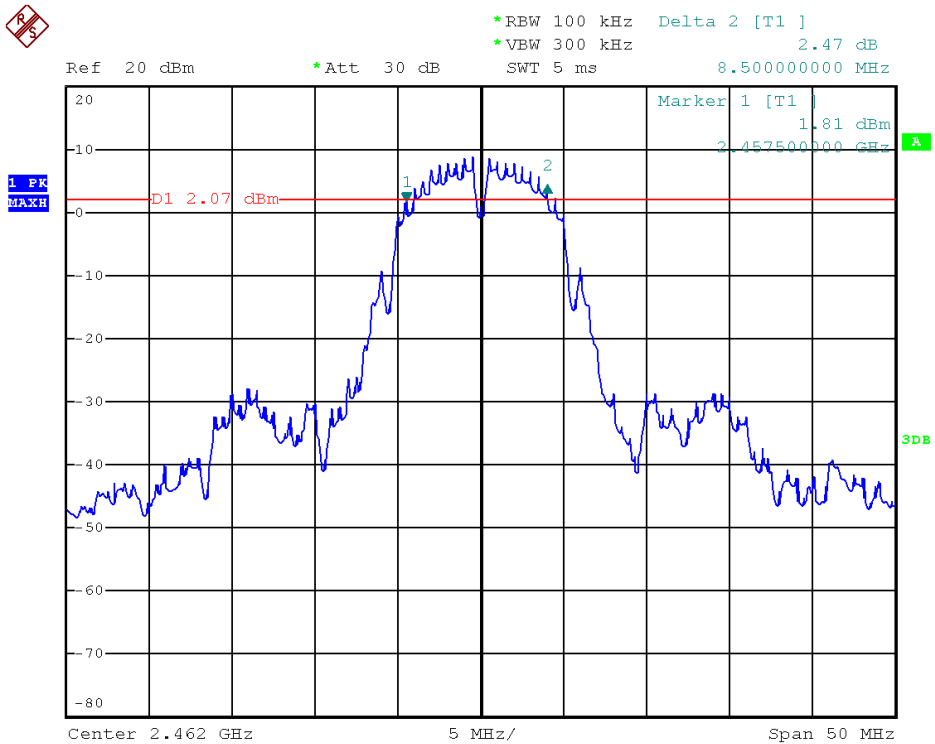


Modulation Standard: 802.11b, Antenna 1
Channel: 06

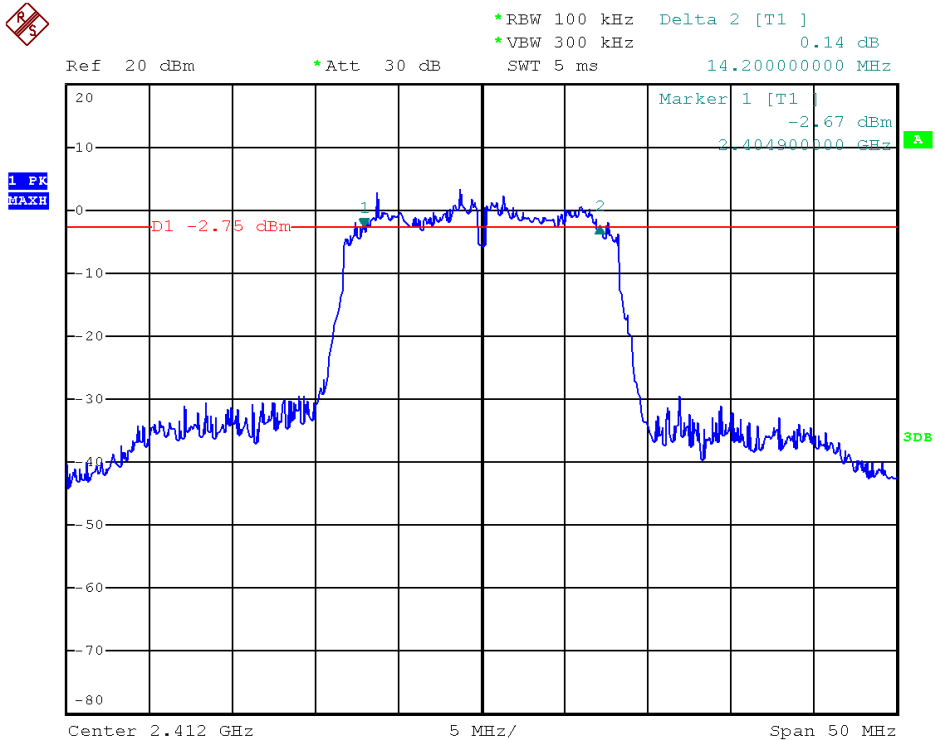




Modulation Standard: 802.11b, Antenna 1
Channel: 11

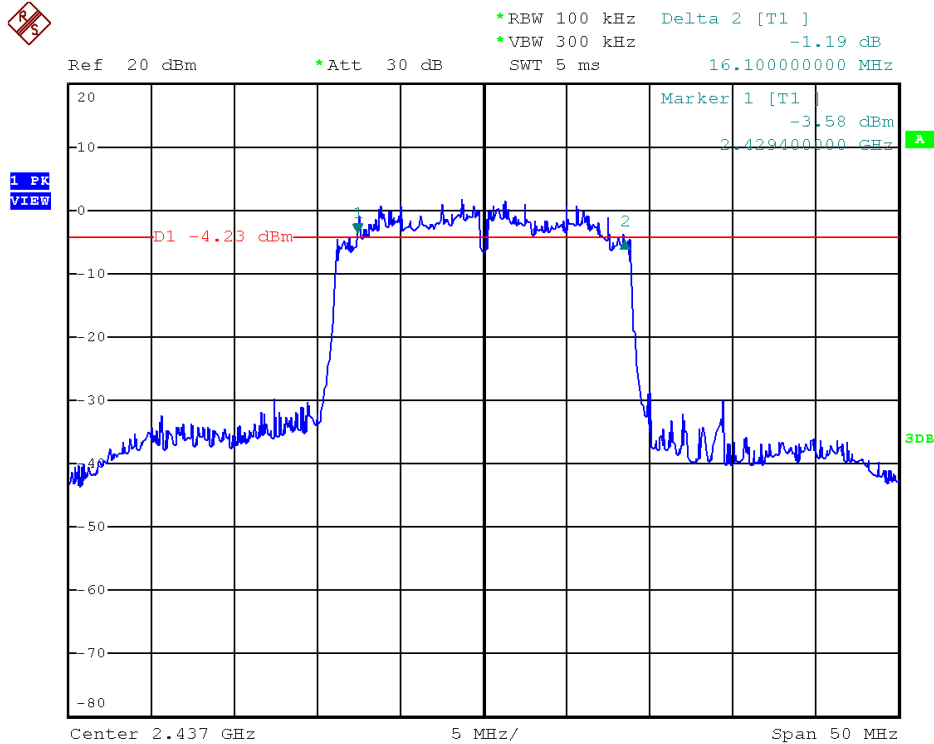


Modulation Standard: 802.11g, Antenna 1
Channel: 01

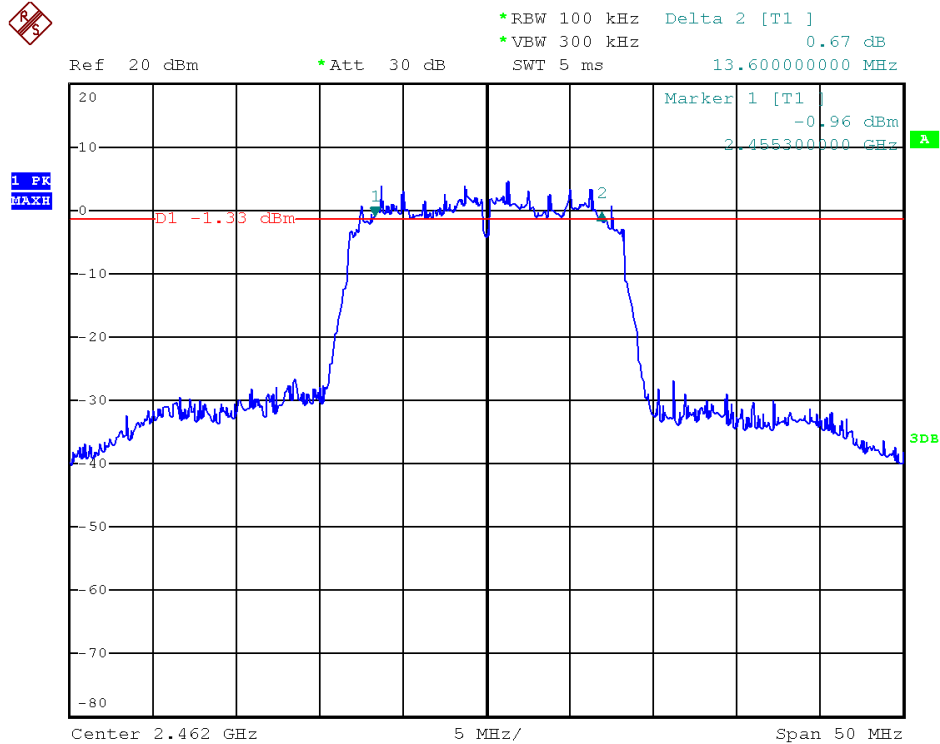




Modulation Standard: 802.11g, Antenna 1
Channel: 06

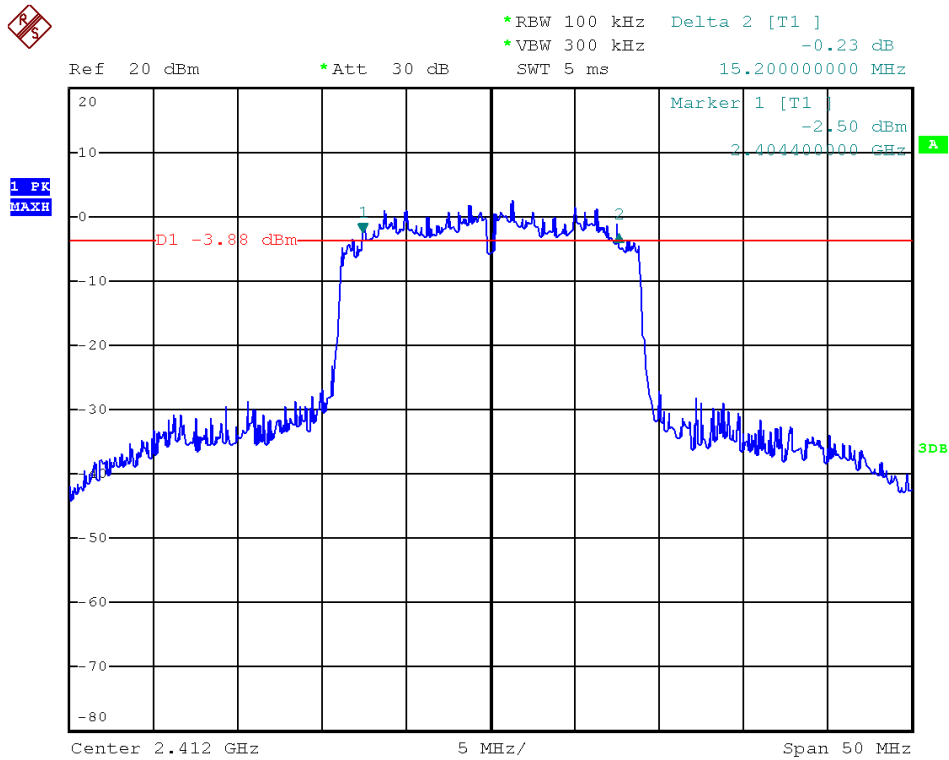


Modulation Standard: 802.11g, Antenna 1
Channel: 11

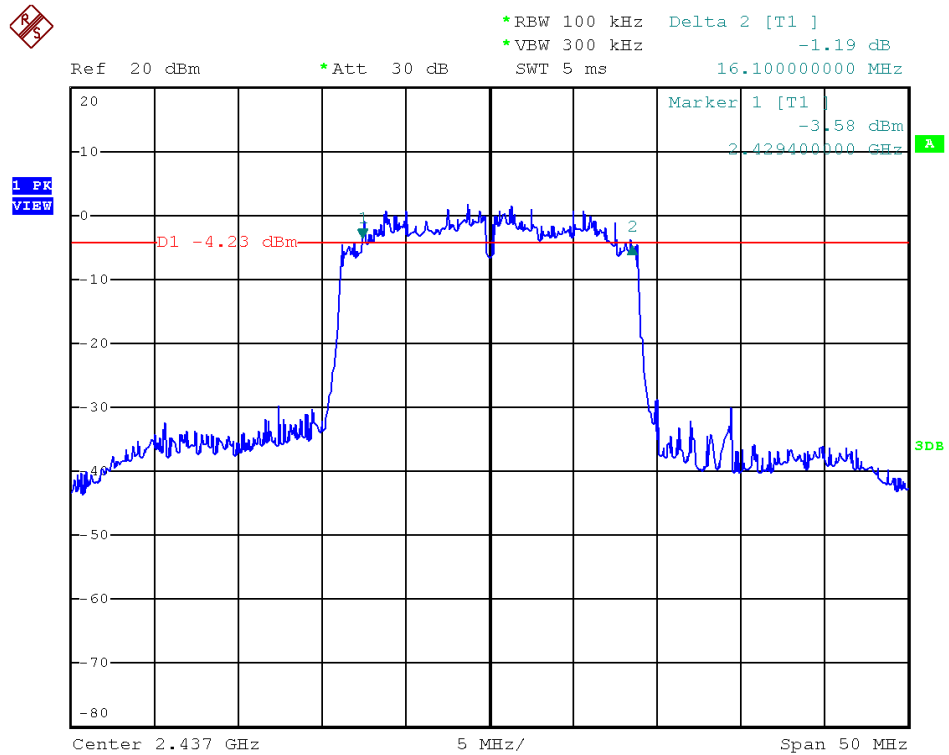




Modulation Standard: 802.11n HT20, Antenna 1
Channel: 01

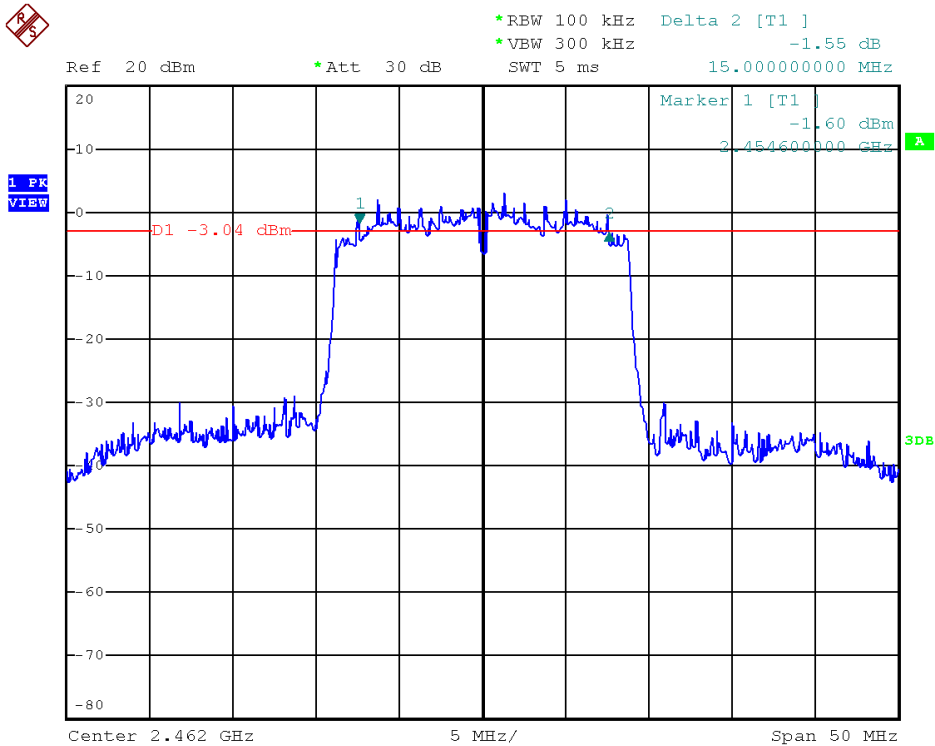


Modulation Standard: 802.11n HT20, Antenna 1
Channel: 06

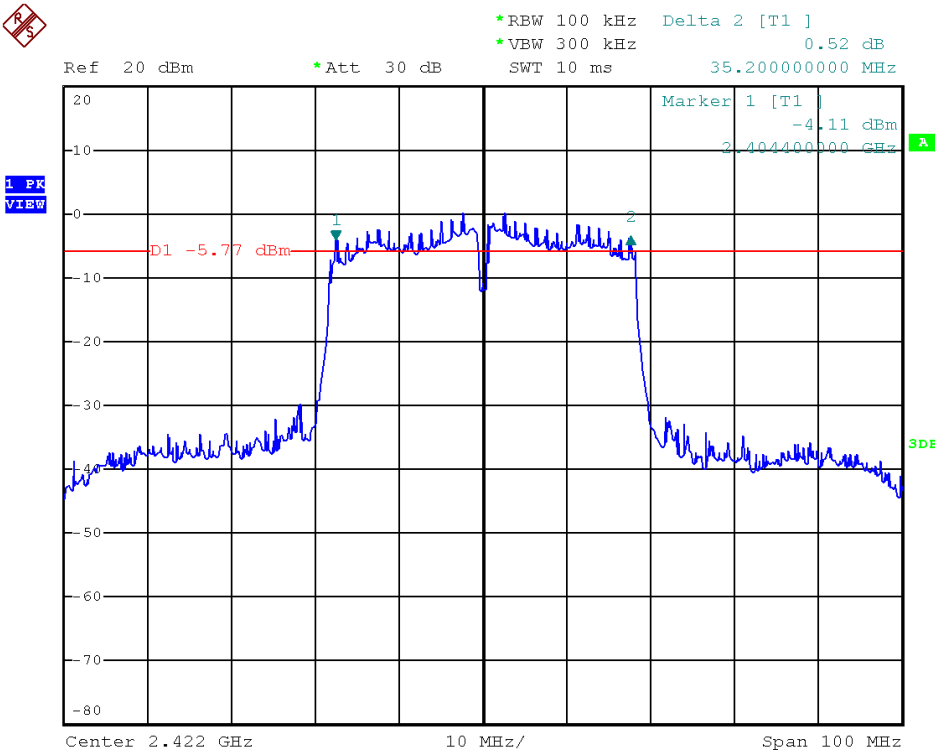




Modulation Standard: 802.11n HT20, Antenna 1
Channel: 11

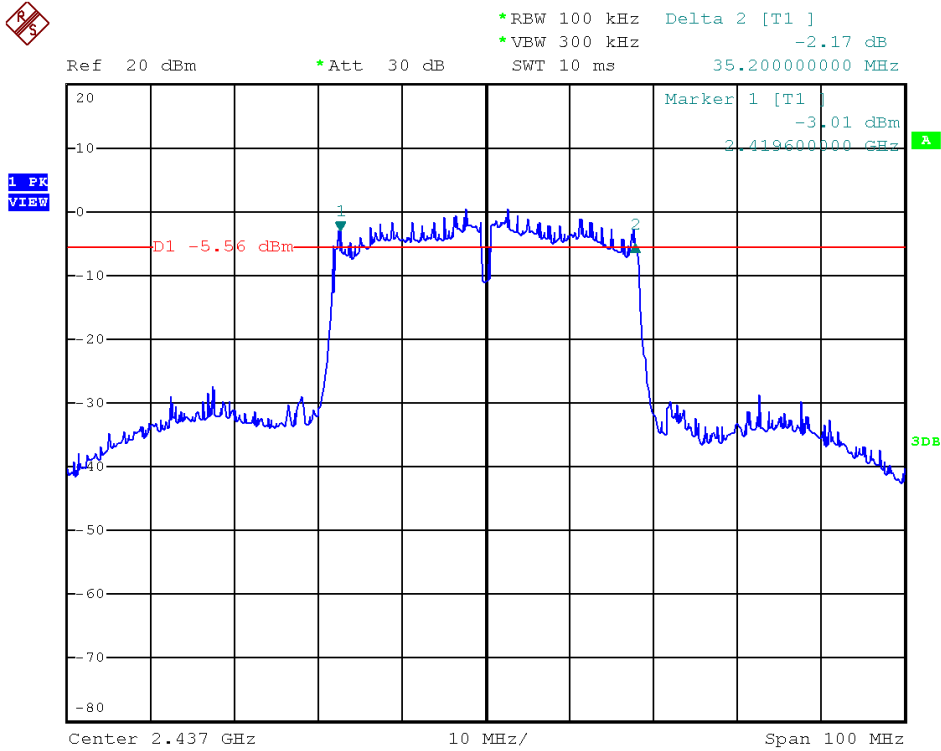


Modulation Standard: 802.11n HT40, Antenna 1
Channel: 03

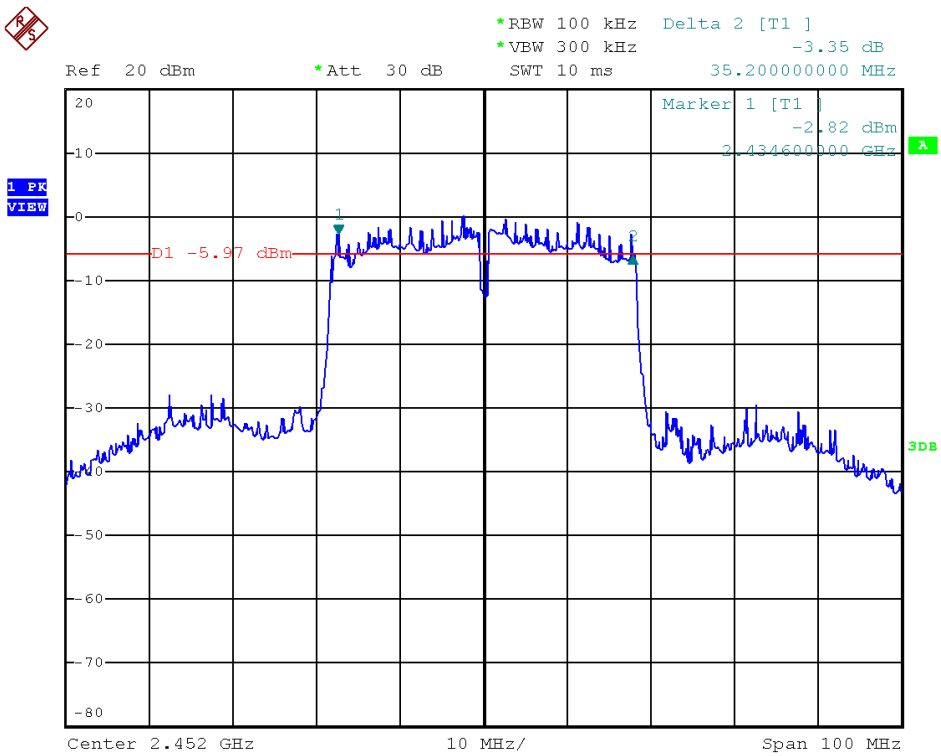




Modulation Standard: 802.11n HT40, Antenna 1
Channel: 06



Modulation Standard: 802.11n HT40, Antenna 1
Channel: 09





9. Maximum Peak Output Power

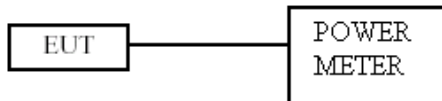
9.1 Test Limit

The Maximum Peak Output Power Measurement is 30dBm.

9.2 Test Procedures

The antenna port (RF output) of the EUT was connected to the input (RF input) of a power meter. Power was read directly from the meter and cable loss connection was added to the reading to obtain power at the EUT antenna terminal. The EUT Output Power was set to maximum to produce the worse case test result.

9.3 Test Setup Layout





9.4 Test Result and Data

Test Date: Jan. 05, 2015

Temperature: 24°C

Atmospheric pressure: 1027 hPa

Humidity: 52%

Modulation Standard	Channel	Frequency (MHz)	Peak Power Output (dBm)		
			ANT 0	ANT 1	ANT 0+1
802.11b	01	2412	21.68	21.36	24.53
	06	2437	22.01	21.55	24.80
	11	2462	22.02	21.84	24.94
802.11g	01	2412	25.27	25.43	28.36
	06	2437	25.37	25.47	28.43
	11	2462	25.30	25.51	28.42
802.11n HT20	01	2412	24.86	24.51	27.70
	06	2437	24.83	24.45	27.65
	11	2462	24.91	24.75	27.84
802.11n HT40	03	2422	24.01	23.95	26.99
	06	2437	24.38	24.06	27.23
	09	2452	24.33	24.18	27.27

Modulation Standard	Channel	Frequency (MHz)	Peak Power Output (mW)		
			ANT 0	ANT 1	ANT 0+1
802.11b	01	2412	147.23	136.77	284.00
	06	2437	158.85	142.89	301.74
	11	2462	159.22	152.76	311.98
802.11g	01	2412	336.51	349.14	685.65
	06	2437	344.35	352.37	696.72
	11	2462	338.84	355.63	694.48
802.11n HT20	01	2412	306.20	282.49	588.68
	06	2437	304.09	278.61	582.70
	11	2462	309.74	298.54	608.28
802.11n HT40	03	2422	251.77	248.31	500.08
	06	2437	274.16	254.68	528.84
	09	2452	271.02	261.82	532.84



10. Power Spectral Density

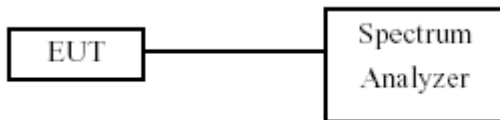
10.1 Test Limit

The Maximum of Power Spectral Density Measurement is 8dBm.

10.2 Test Procedures

- a. The transmitter output was connected to spectrum analyzer.
- b. The spectrum analyzer’s resolution bandwidth were set at 3KHz RBW and 30KHz VBW as that of the fundamental frequency. Set the sweep time=auto couple.
- c. The power spectral density was measured and recorded.

10.3 Test Setup Layout



10.4 Test Result and Data

Test Date: Jan. 05, 2015

Temperature: 24°C

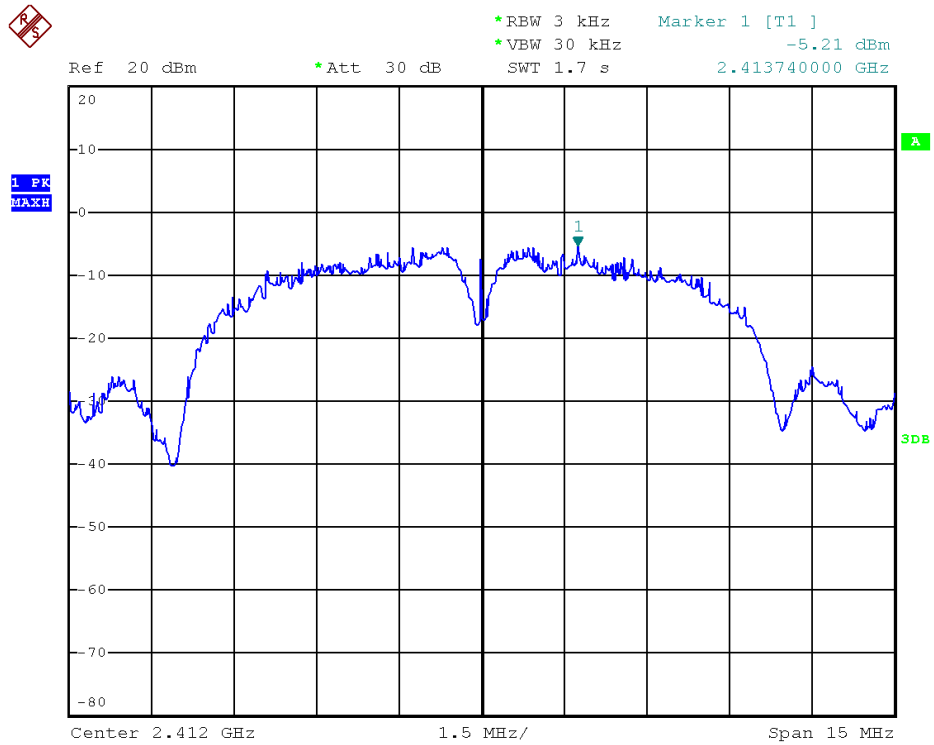
Atmospheric pressure: 1027 hPa

Humidity: 52%

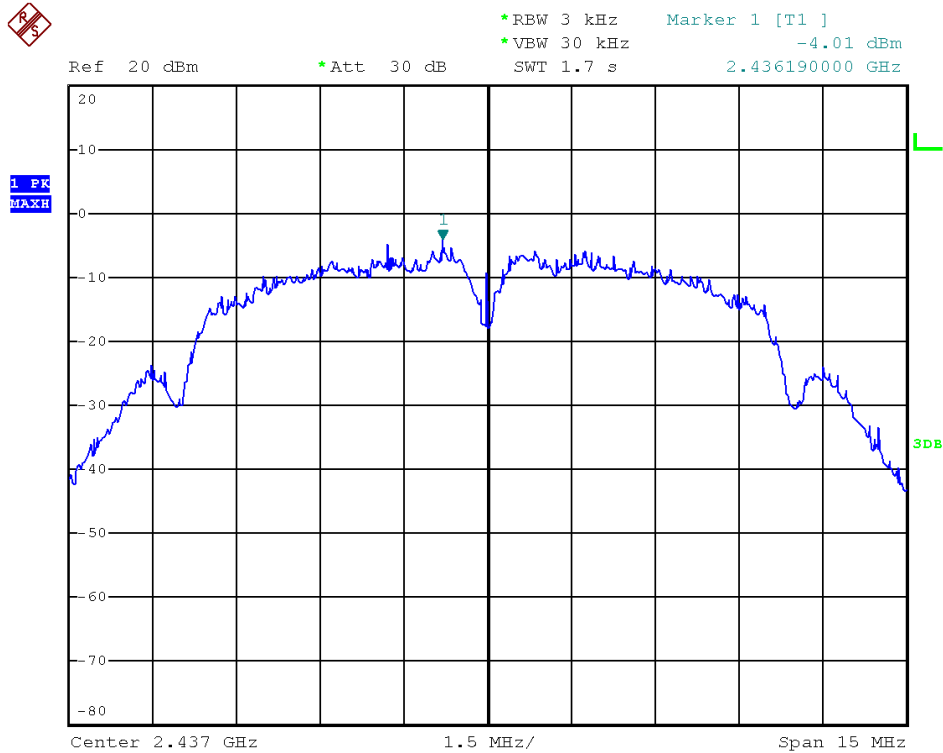
Modulation Standard	Channel	Frequency (MHz)	Maximum Power Density of 3 kHz Bandwidth (dBm)		
			ANT 0	ANT 1	ANT 0+1
802.11b	01	2412	-5.21	-3.79	1.13
	06	2437	-4.01	-5.34	0.95
	11	2462	-4.98	-5.13	0.52
802.11g	01	2412	-8.75	-8.07	-2.83
	06	2437	-9.13	-7.98	-2.95
	11	2462	-9.36	-7.10	-2.51
802.11n HT20	01	2412	-11.22	-11.81	-5.93
	06	2437	-9.83	-11.49	-5.01
	11	2462	-8.84	-10.09	-3.85
802.11n HT40	03	2422	-12.29	-15.03	-7.88
	06	2437	-13.10	-14.31	-8.09
	09	2452	-13.14	-15.79	-8.70



Modulation Standard: 802.11b, Antenna 0
Channel: 01

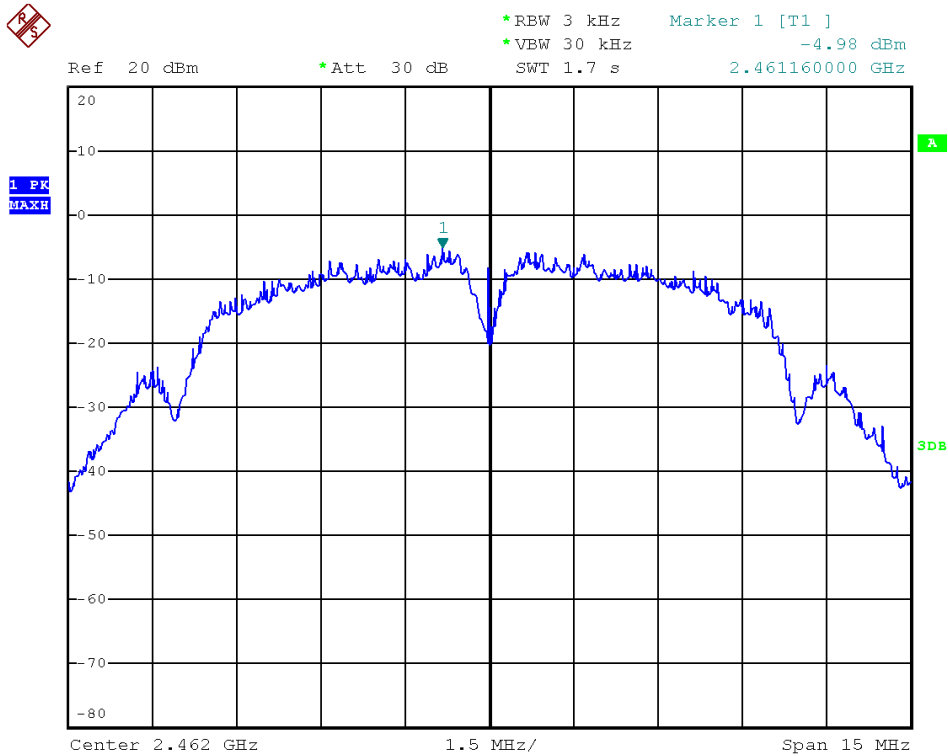


Modulation Standard: 802.11b, Antenna 0
Channel: 06

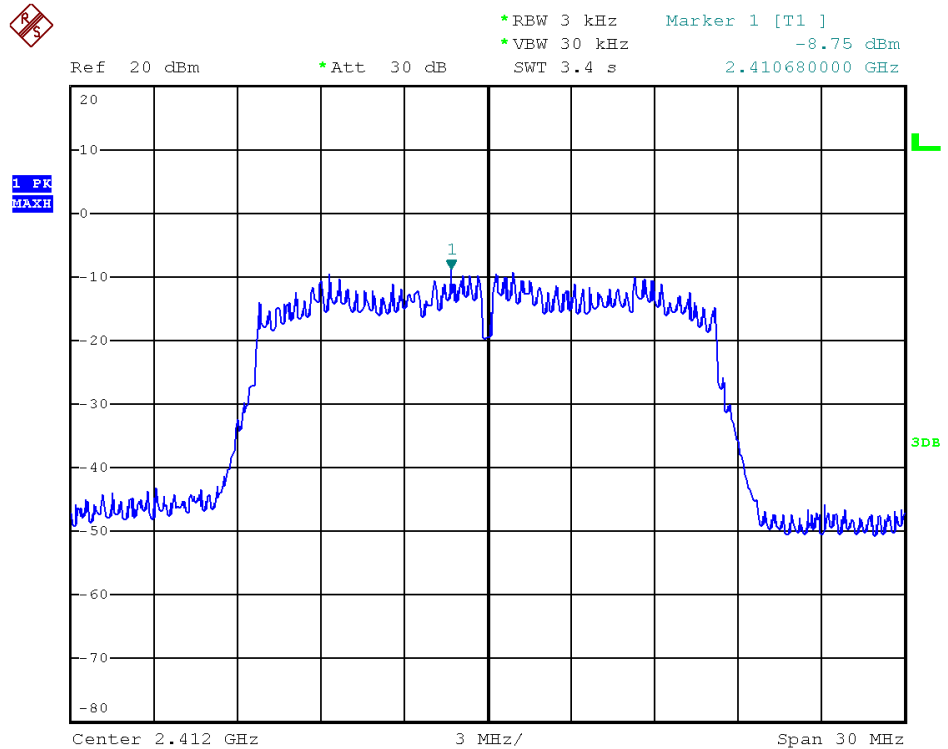




Modulation Standard: 802.11b, Antenna 0
Channel: 11

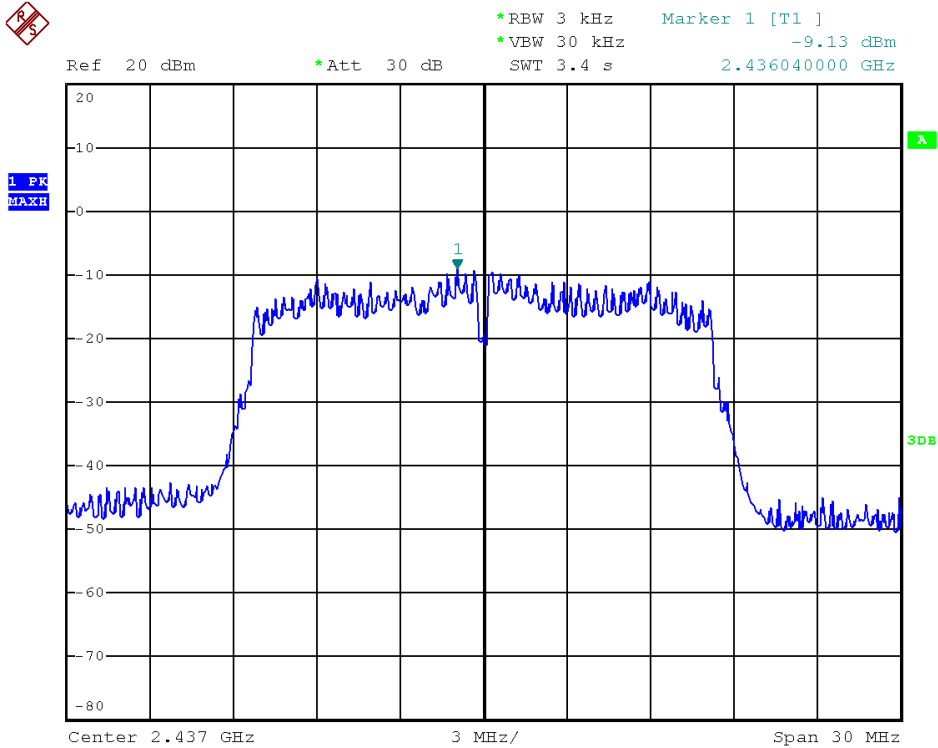


Modulation Standard: 802.11g, Antenna 0
Channel: 01

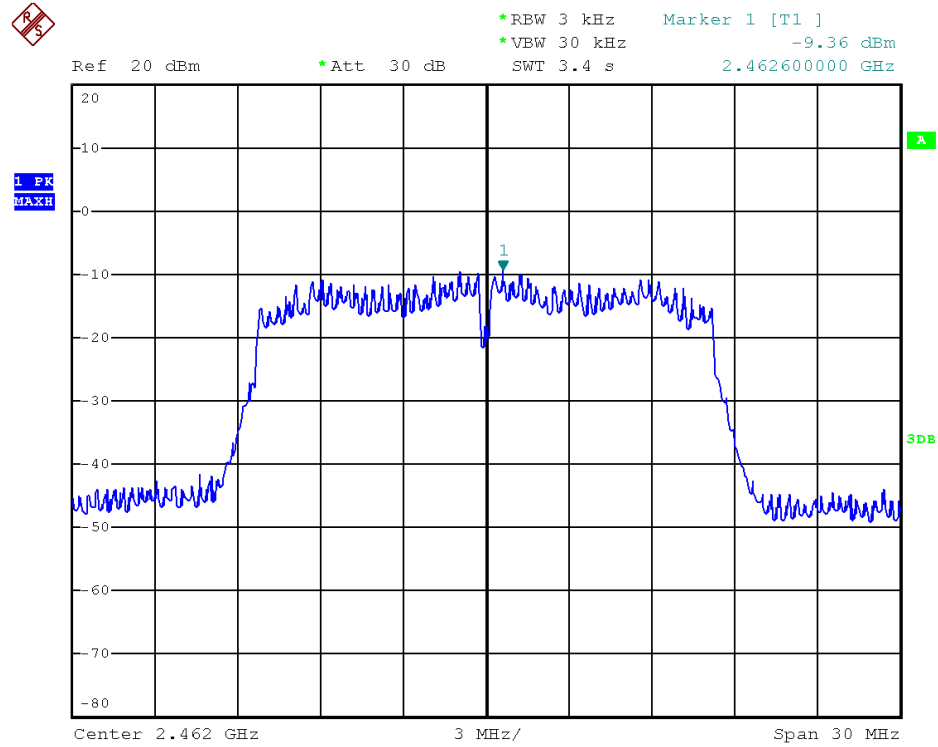




Modulation Standard: 802.11g, Antenna 0
Channel: 06

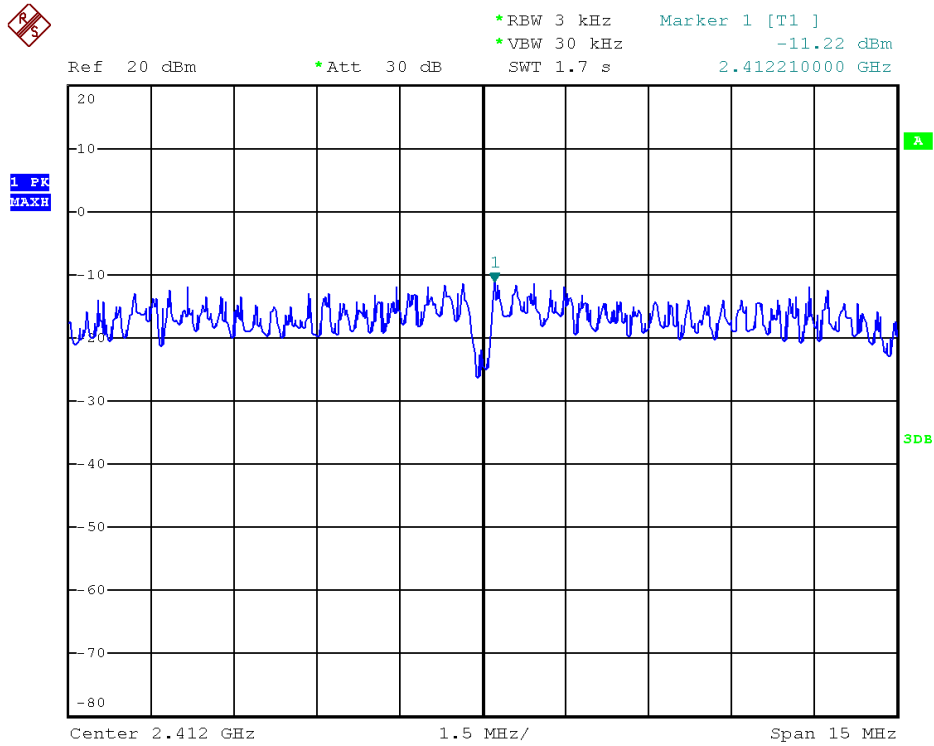


Modulation Standard: 802.11g, Antenna 0
Channel: 11

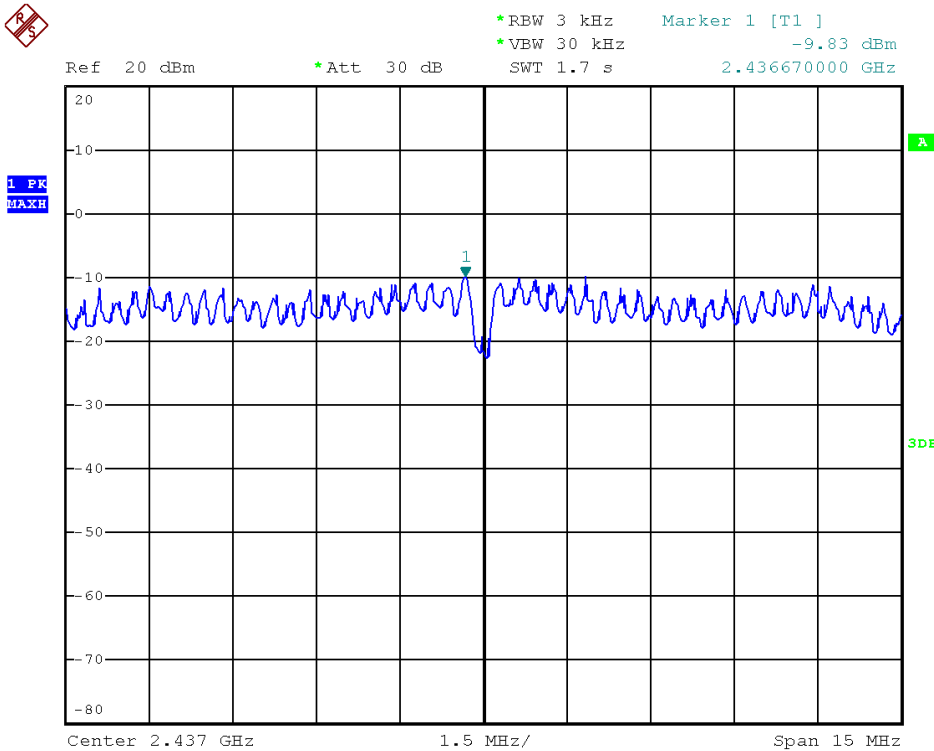




Modulation Standard: 802.11n HT20, Antenna 0
Channel: 01

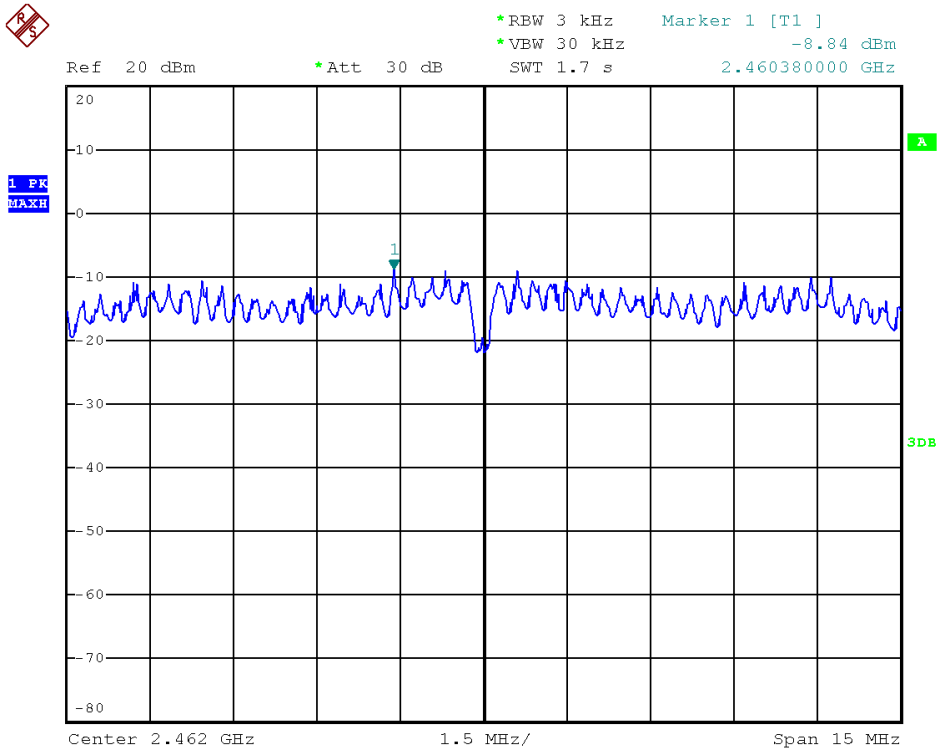


Modulation Standard: 802.11n HT20, Antenna 0
Channel: 06

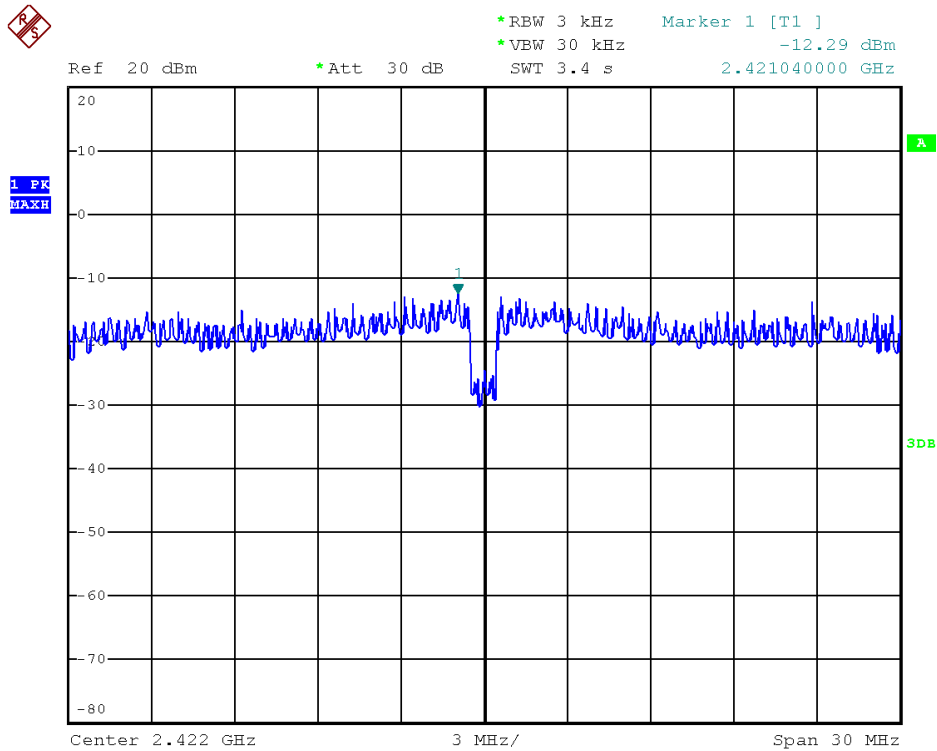




Modulation Standard: 802.11n HT20, Antenna 0
Channel: 11

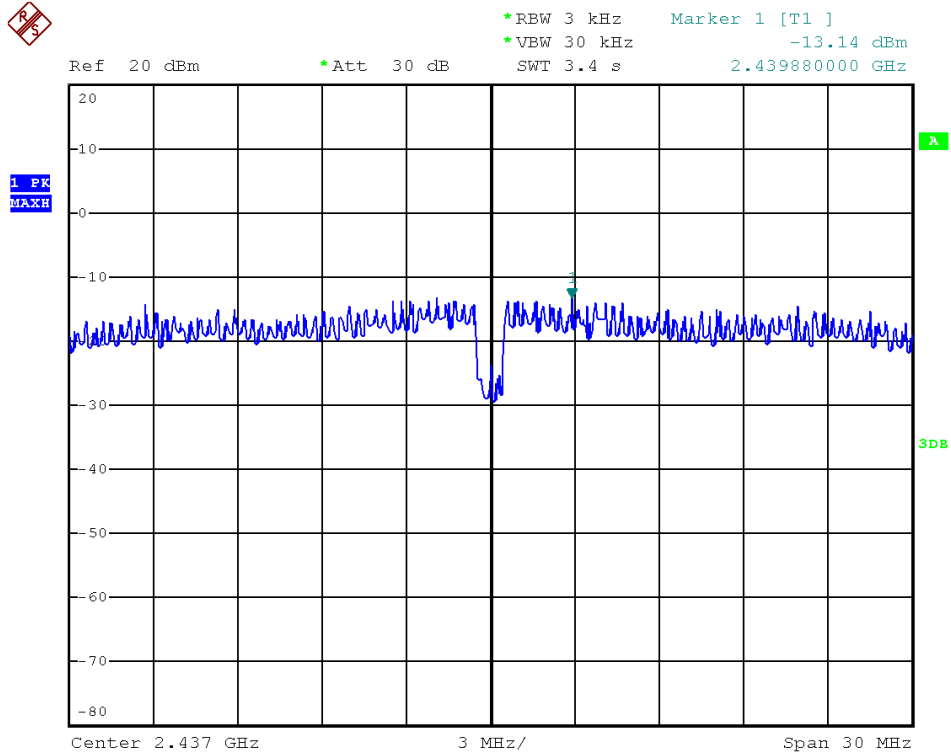


Modulation Standard: 802.11n HT40, Antenna 0
Channel: 03

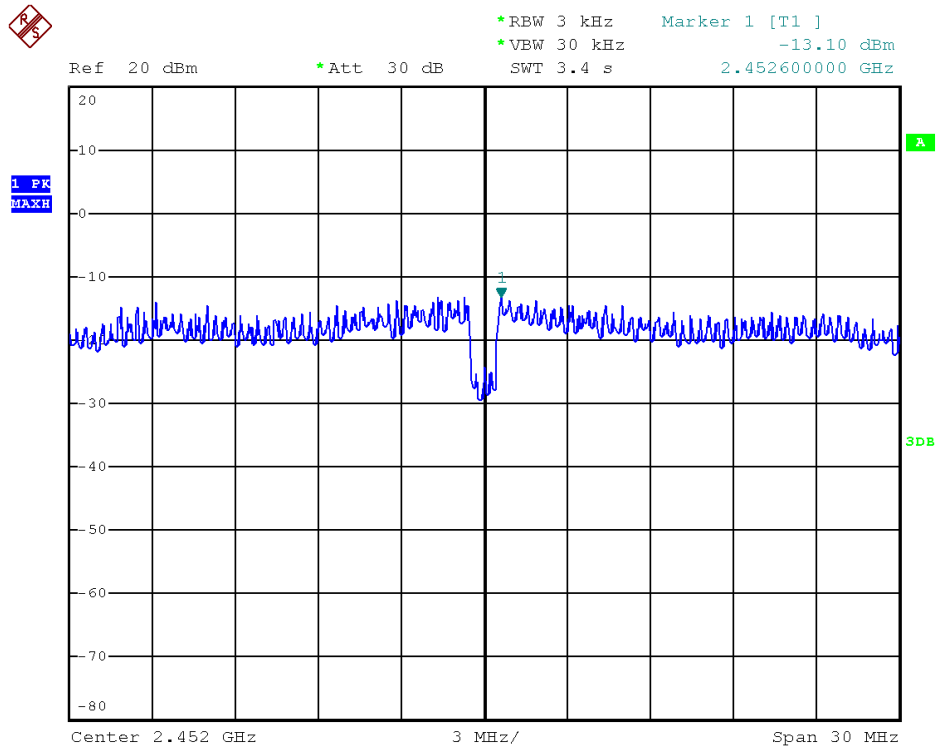




Modulation Standard: 802.11n HT40, Antenna 0
Channel: 06

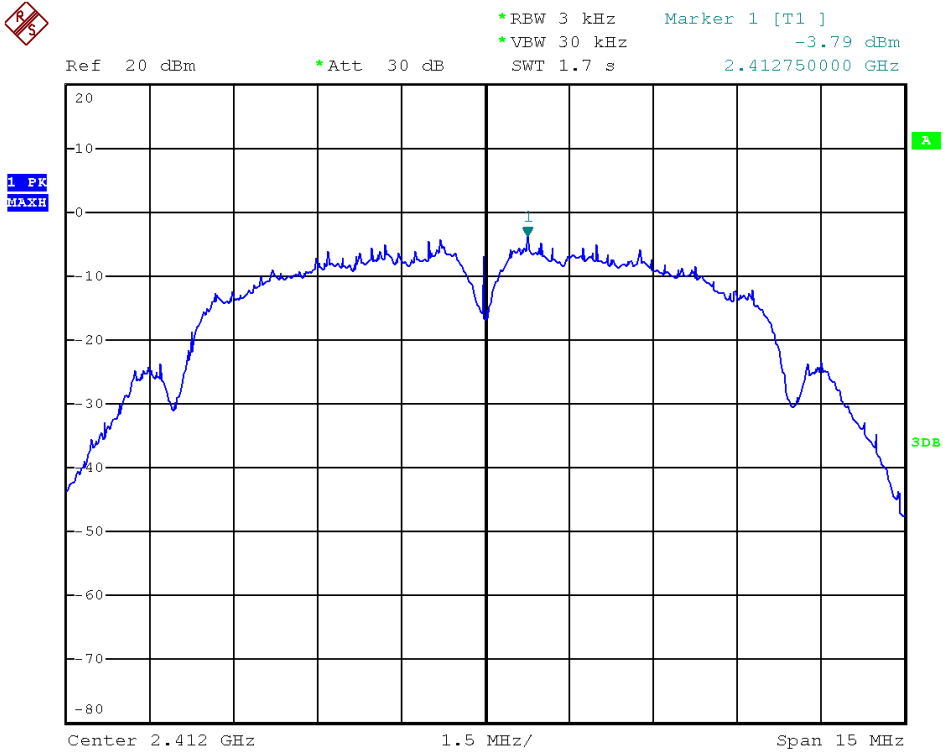


Modulation Standard: 802.11n HT40, Antenna 0
Channel: 09

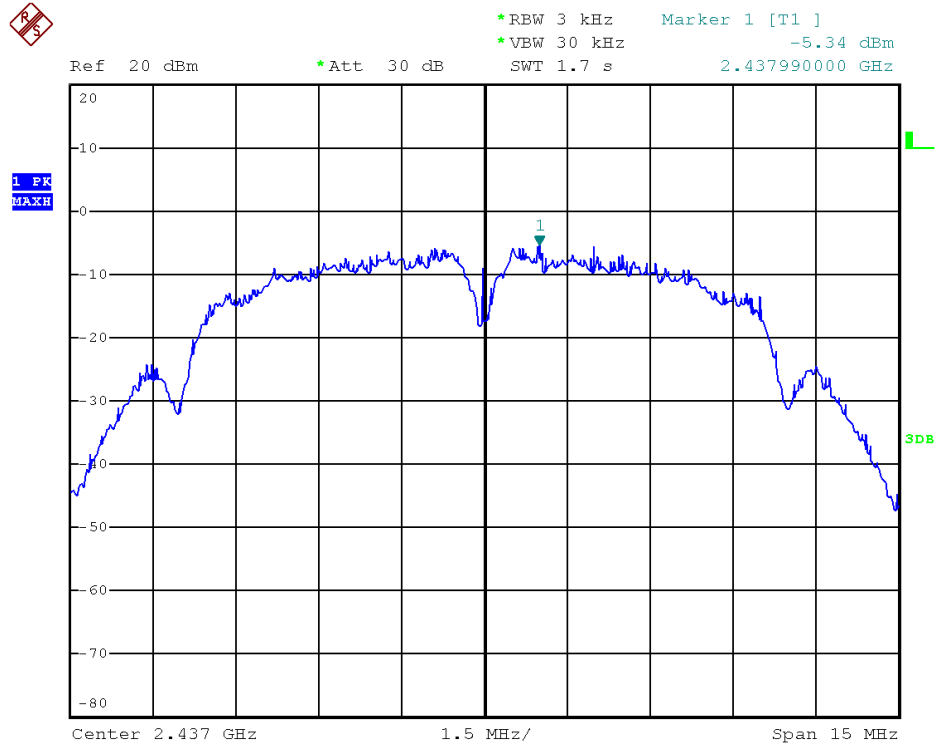




Modulation Standard: 802.11b, Antenna 1
Channel: 01

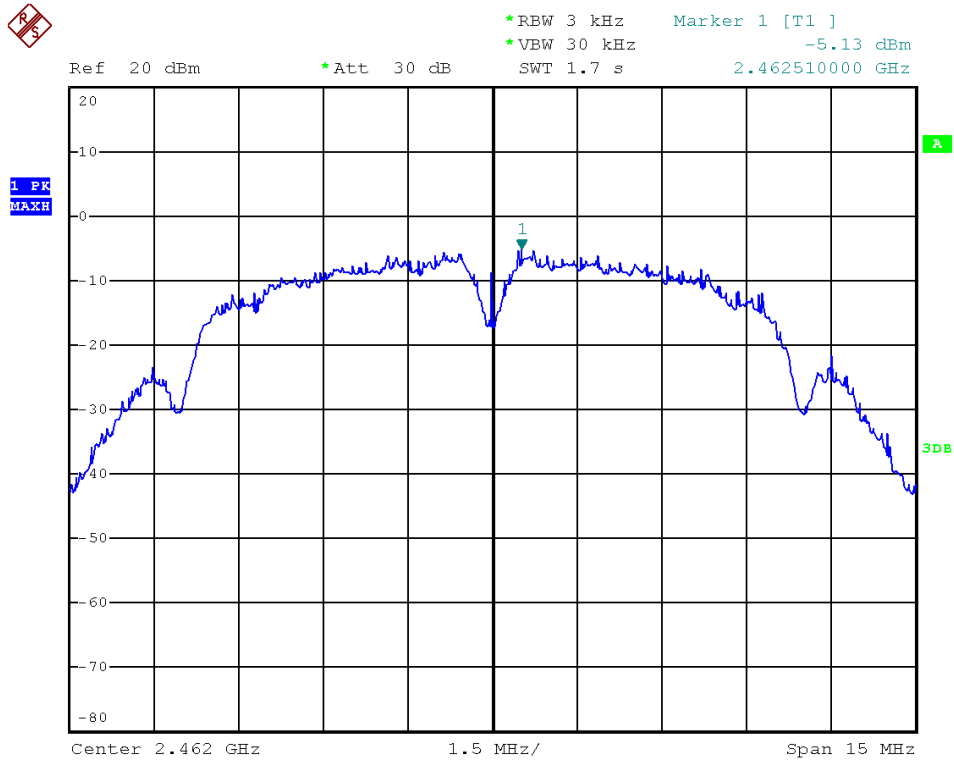


Modulation Standard: 802.11b, Antenna 1
Channel: 06

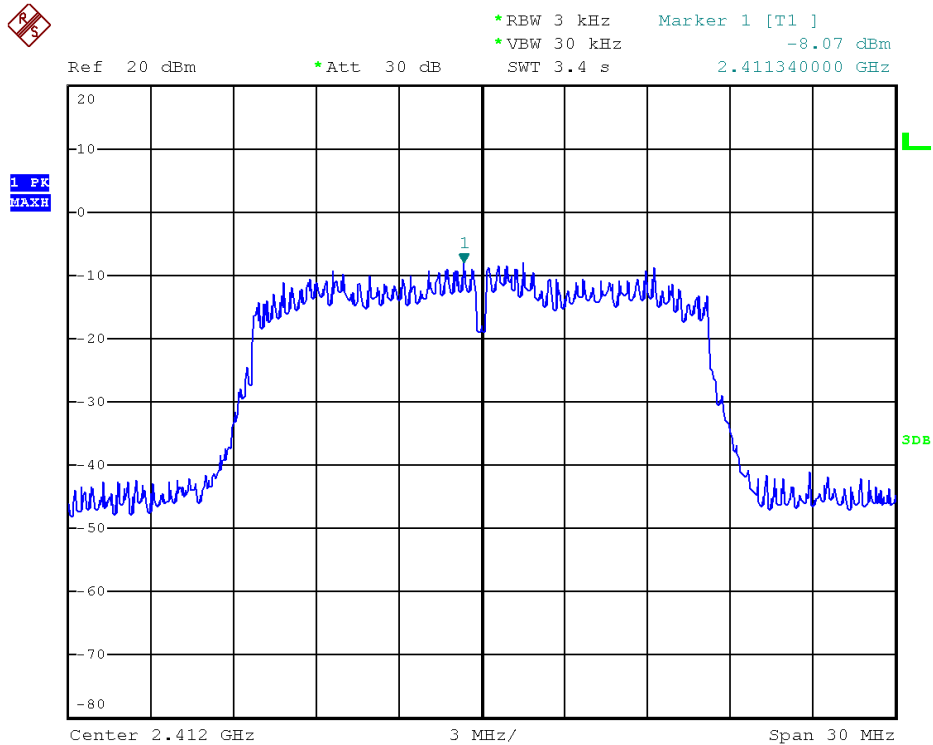




Modulation Standard: 802.11b, Antenna 1
Channel: 11

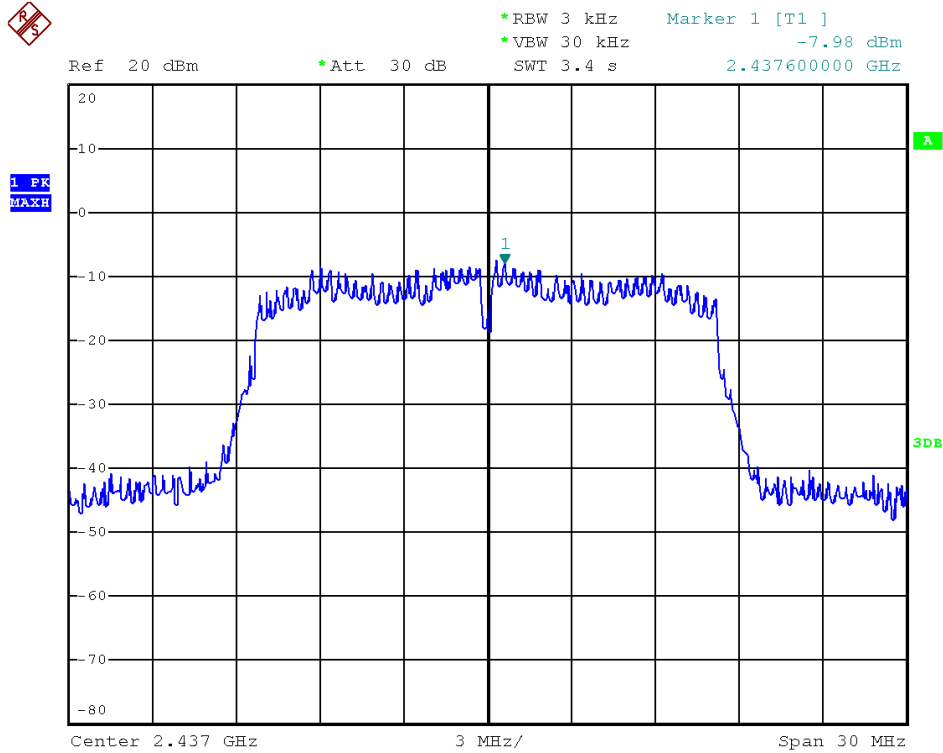


Modulation Standard: 802.11g, Antenna 1
Channel: 01

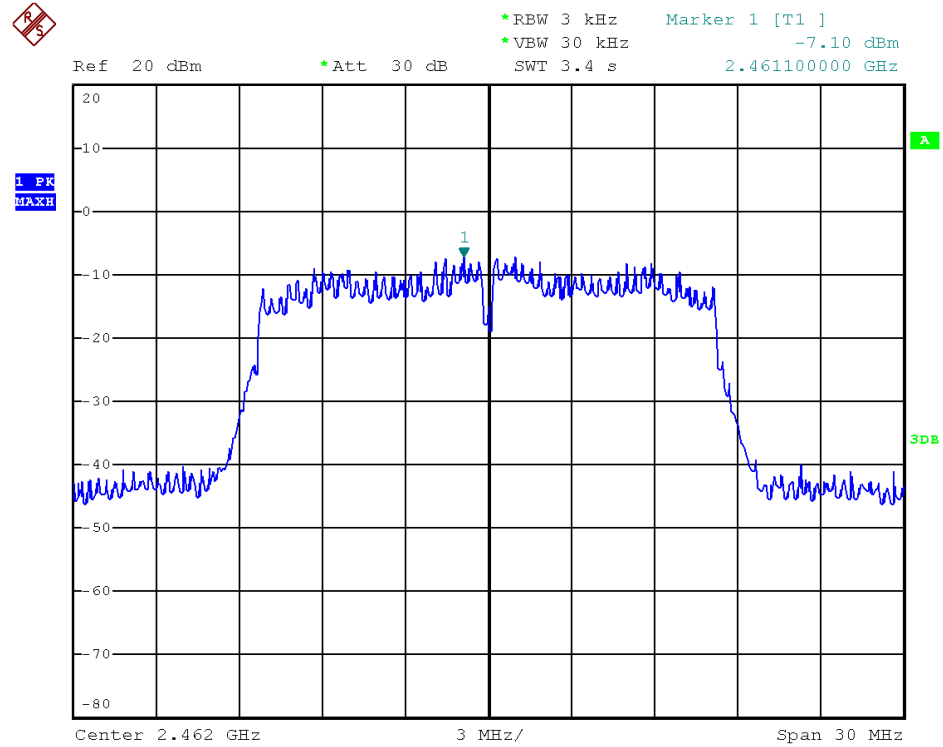




Modulation Standard: 802.11g, Antenna 1
Channel: 06

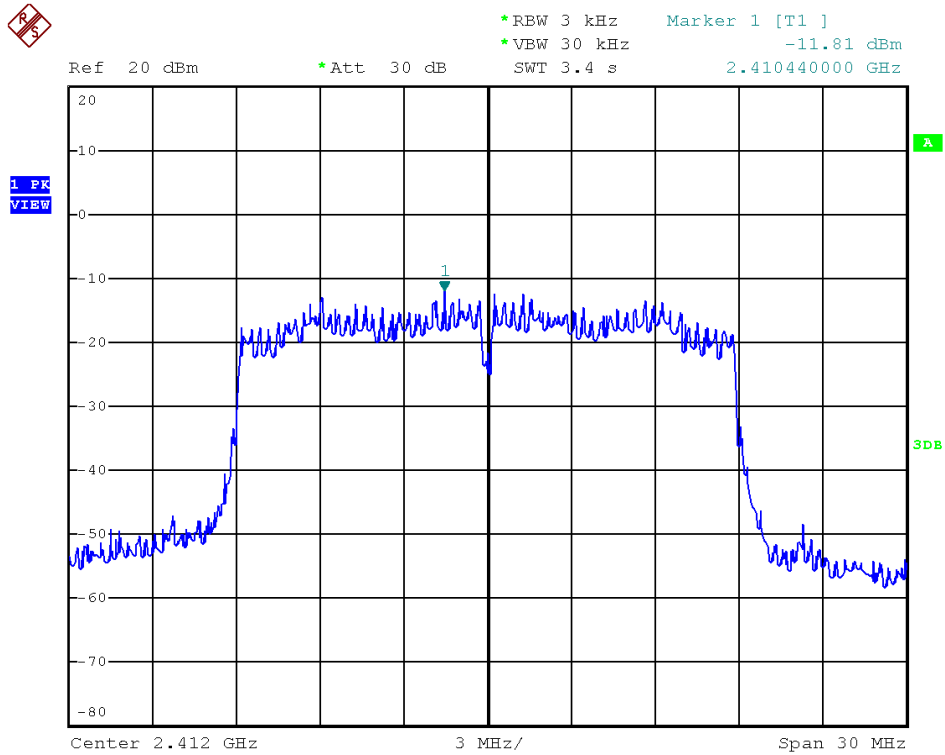


Modulation Standard: 802.11g, Antenna 1
Channel: 11

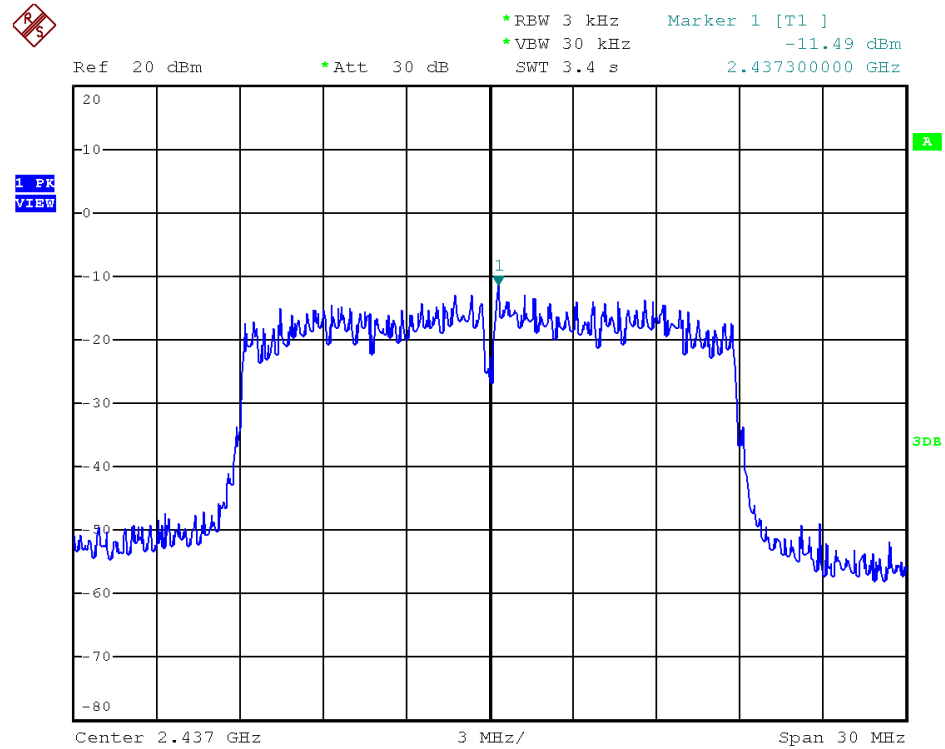




Modulation Standard: 802.11n HT20, Antenna 1
Channel: 01

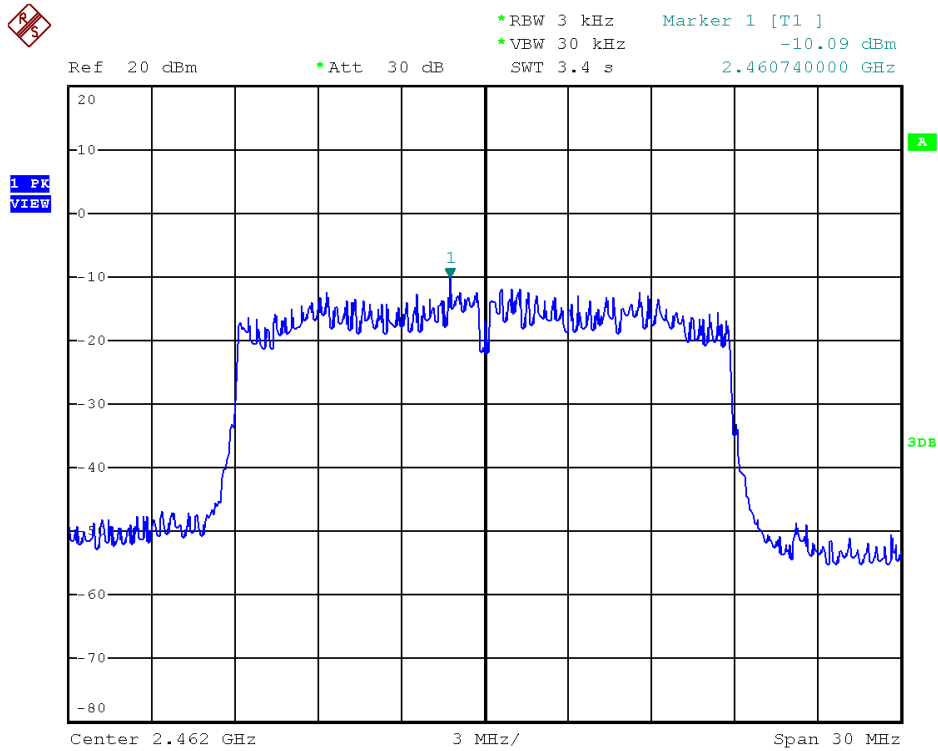


Modulation Standard: 802.11n HT20, Antenna 1
Channel: 06

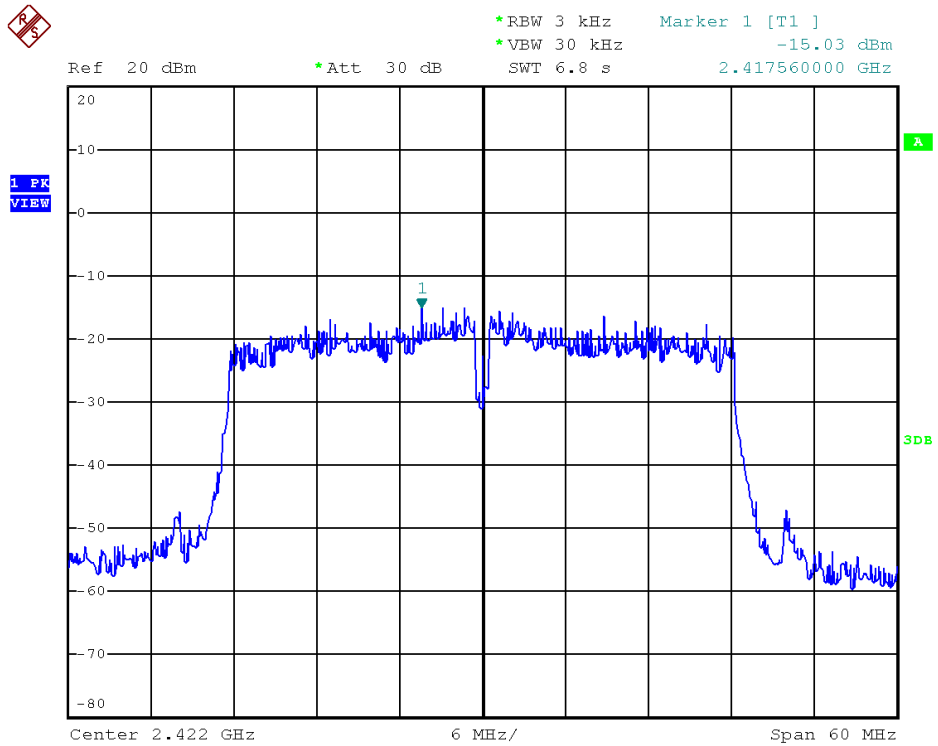




Modulation Standard: 802.11n HT20, Antenna 1
Channel: 11

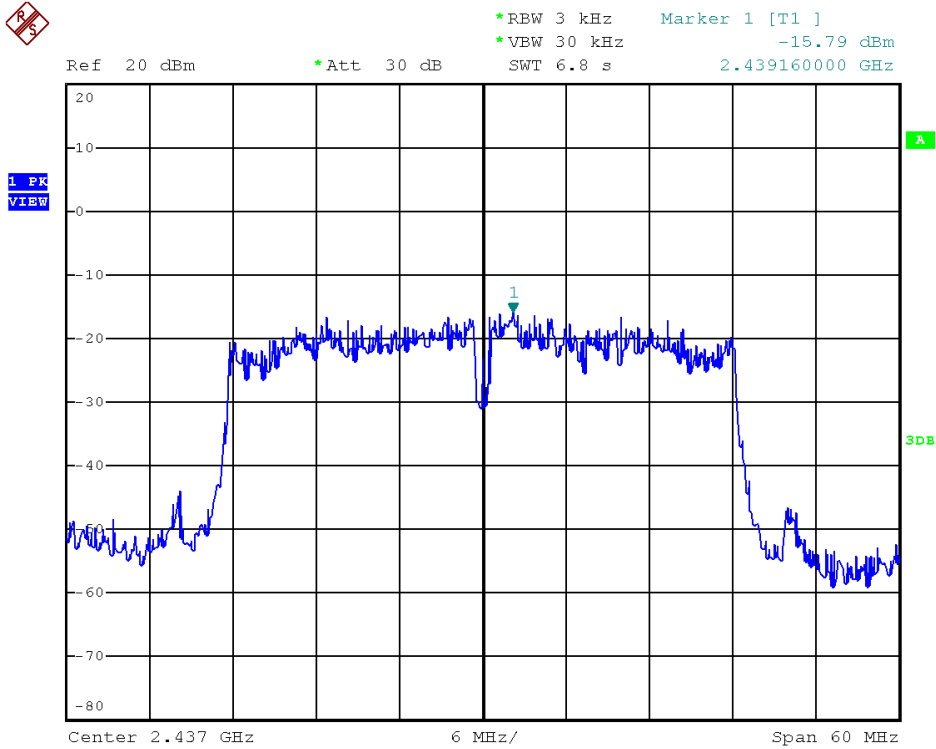


Modulation Standard: 802.11n HT40, Antenna 1
Channel: 03





Modulation Standard: 802.11n HT40, Antenna 1
Channel: 06



Modulation Standard: 802.11n HT40, Antenna 1
Channel: 09

