Testing Laboratory
1332

FCC TEST REPORT

According to

FCC Rules and Regulations Part 15 Subpart C

Applicant	:	Amped Wireless
Address	:	13089 Peyton Dr. #C307 Chino Hills CA 91709
Equipment	:	High Power Wireless-N 600mW Smart Repeater
Model No.	:	SR10000
Trade Name	:	Amped Wireless
FCC ID	:	ZTT-SR10000

- The test result refers exclusively to the test presented test model / sample.,
- Without written approval of **Cerpass Technology Corp.,** the test report shall not be reproduced except in full.
- The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

Contents

History of this test report

■ ORIGINAL.

☐ Additional attachment as following record:

Attachment No.	Issue Date	Description
TEFI1111067-A	Jan. 12, 2012	Original.

CERTIFICATE OF COMPLIANCE

According to

FCC Rules and Regulations

Part 15 Subpart C

Applicant	:	Amped Wireless
Address	:	13089 Peyton Dr. #C307 Chino Hills CA 91709
Equipment	:	High Power Wireless-N 600mW Smart Repeater
Model No.	:	SR10000
FCC ID	:	ZTT-SR10000

I **HEREBY** CERTIFY THAT :

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

The test was carried out on Jan. 06, 2012 at Cerpass Technology Corp.

Signature

Hill Chen
EMC/RF B.U. Assistant Manager

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	. Conducted Emission	Pass
15.209 15.247(d)	. Radiated Emission	Pass
15.247(a)(2)	. 6dB Bandwidth	Pass
15.247(b)	. Maximum Peak Output Power	Pass
15.247(d)	. 100kHz Bandwidth of Frequency Band Edges	Pass
15.247(e)	. Power Spectral Density	Pass
1.1307 1.1310 2.1091 2.1093	. RF Exposure Compliance	Pass

2. Test Configuration of Equipment under Test

2.1 Feature of Equipment under Test

RF Spec.

WLAN Standard	IEEE 802.11b/g/n
Data Rate	802.11b: 11, 5.5, 2 and 1 Mbps with auto-rate fall back 802.11g: 54, 48, 36, 24, 18, 12, 9 & 6Mbps 802.11n(20MHz): up to 144Mbps 802.11n(40MHz): up to 300Mbps
Modulation	802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n: OFDM(DBPSK, DQPSK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM)
Operating Frequencies	2412~2462 MHz for North America 2412~2472 MHz for Europe
Frequency Band	2.400GHz ~ 2.484GHz
Channel Numbers	11 for North America 13 for Europe
Antenna	External Antenna(Dipole) Two detachable 5dBi antennas
Output Power	802.11b: up to 28 ± 1 dBm 802.11g: up to 22 ± 1 dBm 802.11n: up to 19 ± 1 dBm
Receive Sensitivity	-94dBm @ 802.11b -90dBm @ 802.11g -87dBm @ 802.11n

2.2 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)
---	---	08	2447
---	---	09	2452
03	2422	---	---
04	2427	---	---
05	2432	---	---
06	2437	---	---
07	2442	---	---

2.3 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 remote workstation, Notebook and EUT for RF test. The remote workstation includes Notebook.
c. The EUT was executed to keep transmitting and receiving data via Wireless.
d. The following test modes were performed for test:
   - 802.11b/g/n HT20: CH01: 2412MHz, CH06: 2437MHz, CH11: 2462MHz
   - 802.11n HT40: CH03: 2422MHz, CH06: 2437MHz, CH09: 2452MHz

2.4 Description of Test System

Device	Manufacturer	Model No.	Description
Notebook	DELL	PP10L	Power Cable, Unshielding 1.8m
Remote workstation			
Notebook	DELL	PP10L	Power Cable, Unshielding 1.8m

2.5 General Information of Test

Test Site :	Cerpass Technology Corp. 2F-11, No. 3, Yuan Qu St., (Nankang Software Park), Taipei, Taiwan 115, R.O.C.
Test Site Location (OATS2-SD) :	No.68-1, Shihbachongsi, Shihding Township, Taipei City 223, Taiwan, R.O.C.
FCC Registration Number :	TW1049, TW1061, 390316, 488071
IC Registration Number :	4934B-1, 4934D-1
VCCI Registration Number :	T-1173 for Telecommunication Test C-4139 for Conducted emission test R-3428 for Radiated emission test G-97 for Radiated emission test above 1GHz
Test in Compliance with:	ANSI C63.4-2009 FCC Part 15 Subpart C
Frequency Range Investigated:	Conducted: from 150kHz to 30MHz Radiation: from 30MHz to 25,000MHz
Test Distance:	The test distance of radiated emission from antenna to EUT is 3 M.

2.6 Measurement Uncertainty

Measurement Item	**Uncertainty**
Radiated emission	±4.11dB
Peak Output Power(conducted)	±1.38dB
Peak Output Power(Radiated)	±1.70dB
Power Spectral Density	±1.39dB
Radiated emission(3m)	±4.11dB
Radiated emission(10m)	±3.89dB

3. Antenna Requirements

3.1 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.

3.2 Antenna Construction and Directional Gain

ANT R
Antenna Type: Dipole Antenna
Antenna Gain: 5 dBi
Connector: MHF (Reverse Polarity meets FCC part 15. 203 Requirement)

ANT L
Antenna Type: Dipole Antenna
Antenna Gain: 5 dBi
Connector: MHF (Reverse Polarity meets FCC part 15. 203 Requirement)

Note: If transmit signals are correlated, then Directional gain = 10 log[(10$^{5/20}$ + 10$^{5/20}$)^2 /2] = 8.01(dBi)
[Note the “20”s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.]
So, directional antenna gain for N mode = 10 log[(10$^{7/20}$ + 10$^{7/20}$)^2 /2] = 10.01 (dBi)

4. Test of Conducted Emission

4.1 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.

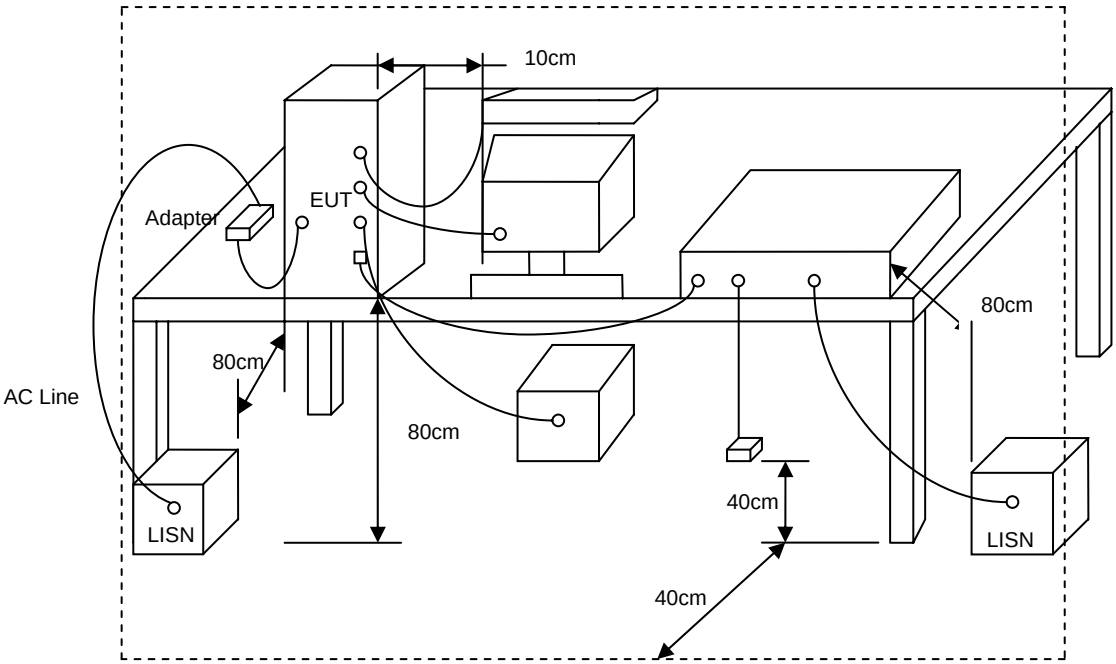
Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

4.2 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.

4.3 Typical Test Setup

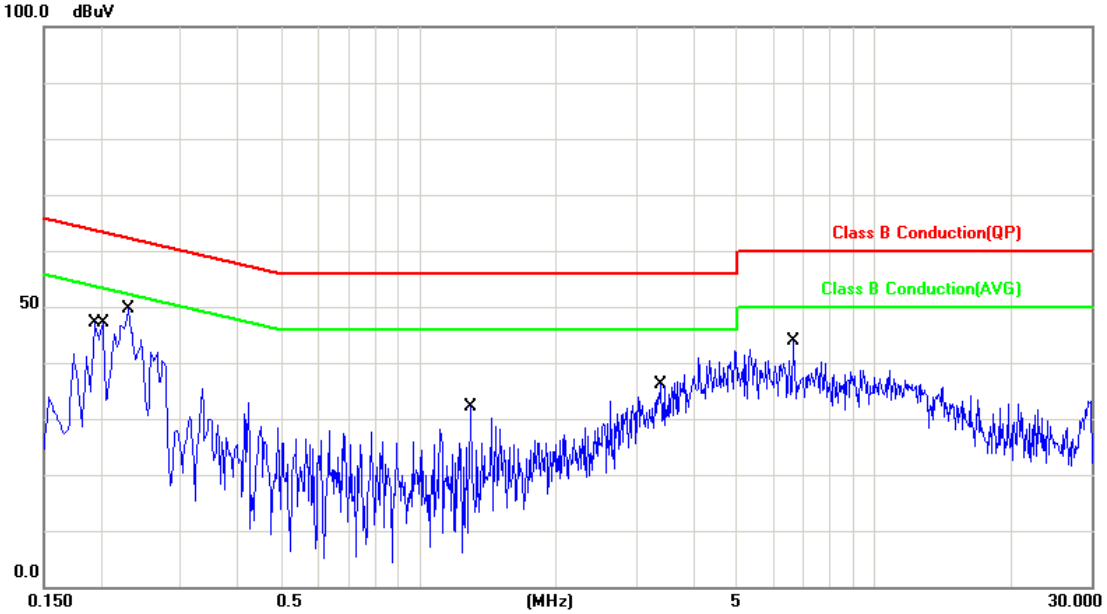


4.4 Measurement Equipment

Instrument/ Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
EMI Receiver	R&S	ESCI	100443	2011/02/08	2012/02/07
LISN	Schwarzbeck	NSLK 8127	8127-516	2011/05/05	2012/05/04
LISN	Schwarzbeck	NSLK 8127	8127-568	2011/08/24	2012/08/23

4.5 Test Result and Data

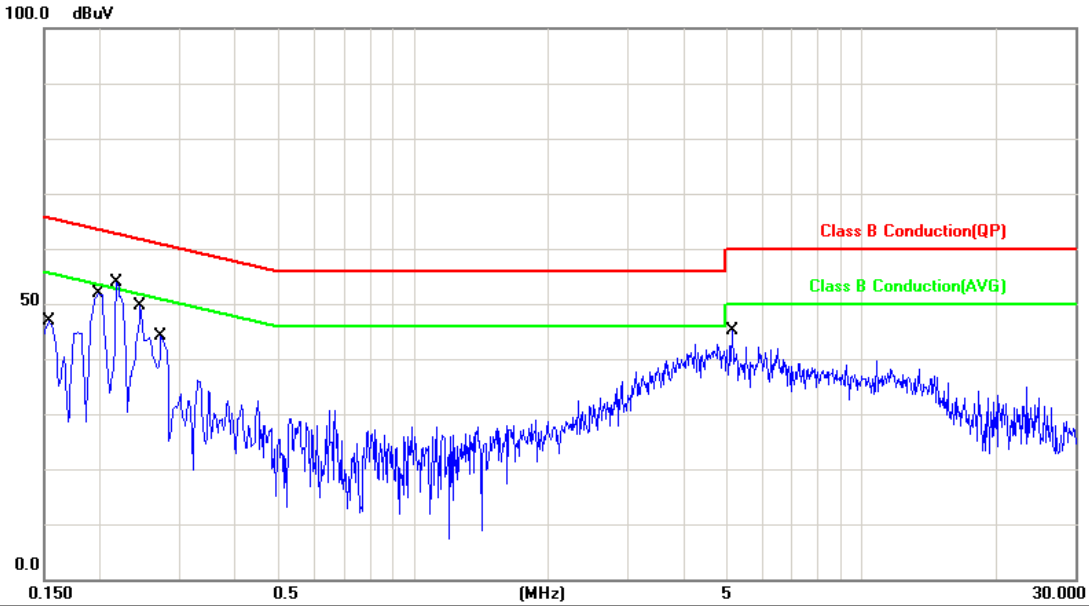
Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode 1	:	802.11g, CH1	Temperature	:	24 °C
Test Date	:	2011-12-09	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1940	0.19	45.53	45.72	63.86	-18.14	QP	P
2	0.1940	0.19	32.88	33.07	53.86	-20.79	AVG	P
3	0.2020	0.19	47.46	47.65	63.52	-15.87	QP	P
4	0.2020	0.19	34.74	34.93	53.52	-18.59	AVG	P
5	0.2300	0.19	46.23	46.42	62.45	-16.03	QP	P
6	0.2300	0.19	33.79	33.98	52.45	-18.47	AVG	P
7	1.2980	0.25	20.14	20.39	56.00	-35.61	QP	P
8	1.2980	0.25	9.22	9.47	46.00	-36.53	AVG	P
9	3.4100	0.35	28.33	28.68	56.00	-27.32	QP	P
10	3.4100	0.35	18.19	18.54	46.00	-27.46	AVG	P
11	6.6420	0.44	31.77	32.21	60.00	-27.79	QP	P
12	6.6420	0.44	21.43	21.87	50.00	-28.13	AVG	P

Remarks: 1. Result = Read Value + Factor
2. Factor = LISN (ISN) Factor + Cable Loss

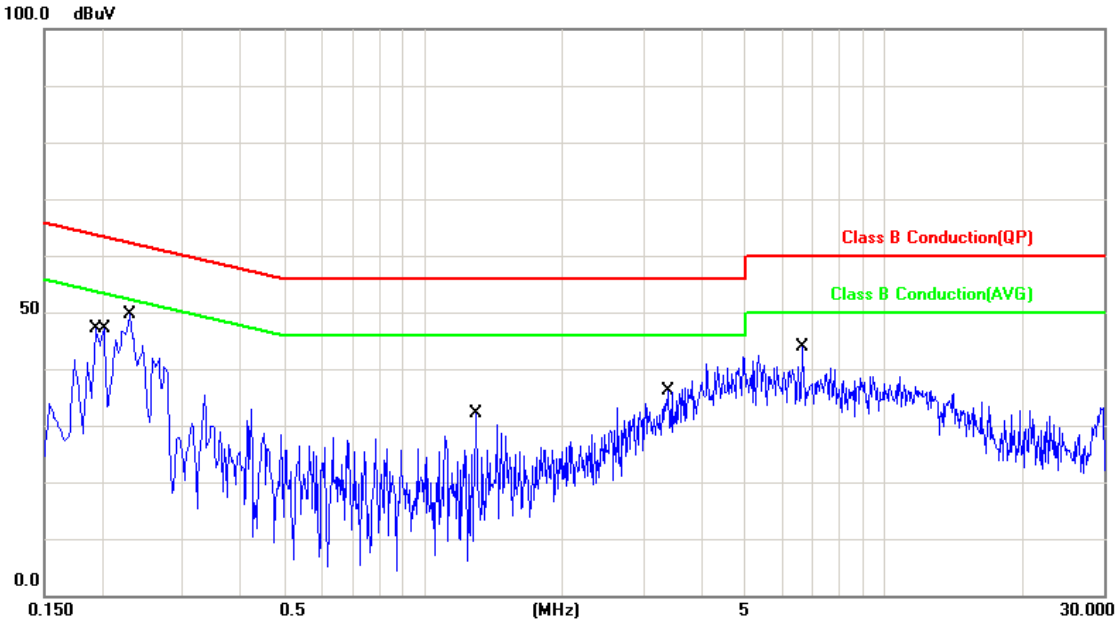
Power	:	AC 120V	Pol/Phase	:	NEUTRAL
Test Mode 1	:	802.11g, CH1	Temperature	:	24 °C
Test Date	:	2011-12-09	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1539	0.11	45.59	45.70	65.78	-20.08	QP	P
2	0.1539	0.11	33.75	33.86	55.78	-21.92	AVG	P
3	0.1980	0.10	49.65	49.75	63.69	-13.94	QP	P
4	0.1980	0.10	40.47	40.57	53.69	-13.12	AVG	P
5	0.2180	0.10	48.87	48.97	62.89	-13.92	QP	P
6	0.2180	0.10	39.67	39.77	52.89	-13.12	AVG	P
7	0.2460	0.10	50.15	50.25	61.89	-11.64	QP	P
8	0.2460	0.10	42.69	42.79	51.89	-9.10	AVG	P
9	0.2740	0.10	42.54	42.64	60.99	-18.35	QP	P
10	0.2740	0.10	34.21	34.31	50.99	-16.68	AVG	P
11	5.1500	0.33	36.78	37.11	60.00	-22.89	QP	P
12	5.1500	0.33	27.39	27.72	50.00	-22.28	AVG	P

Remarks: 1. Result = Read Value + Factor
2. Factor = LISN (ISN) Factor + Cable Loss

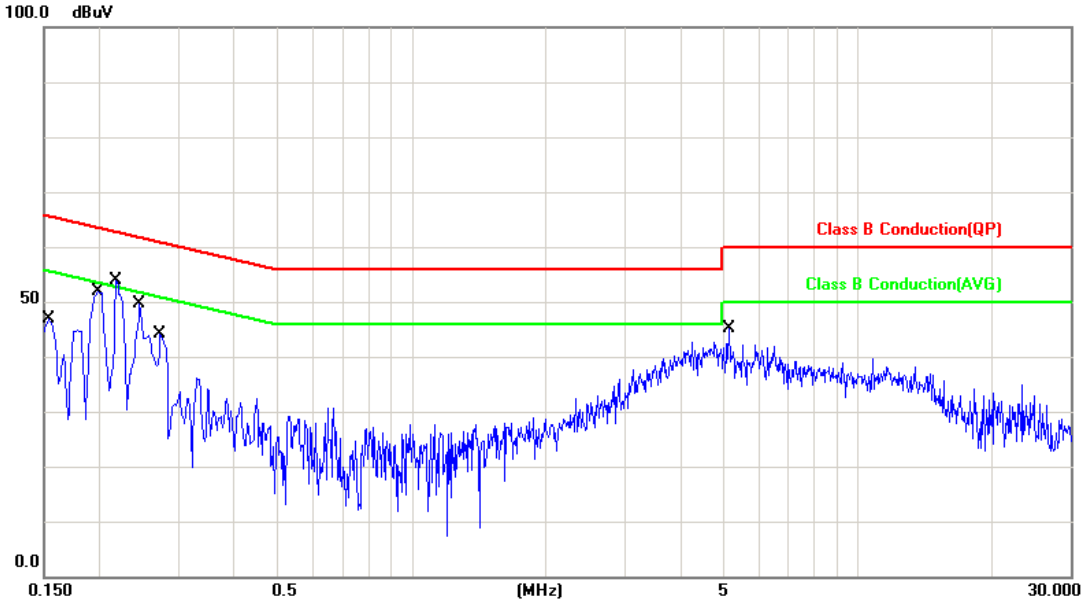
Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode 2	:	802.11n HT20, CH1	Temperature	:	24 °C
Test Date	:	2011-12-09	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1940	0.19	45.64	45.83	63.86	-18.03	QP	P
2	0.1940	0.19	32.95	33.14	53.86	-20.72	AVG	P
3	0.2020	0.19	47.35	47.54	63.52	-15.98	QP	P
4	0.2020	0.19	34.85	35.04	53.52	-18.48	AVG	P
5	0.2300	0.19	46.49	46.68	62.45	-15.77	QP	P
6	0.2300	0.19	33.62	33.81	52.45	-18.64	AVG	P
7	1.2980	0.25	20.33	20.58	56.00	-35.42	QP	P
8	1.2980	0.25	9.51	9.76	46.00	-36.24	AVG	P
9	3.4100	0.35	28.16	28.51	56.00	-27.49	QP	P
10	3.4100	0.35	18.24	18.59	46.00	-27.41	AVG	P
11	6.6420	0.44	31.66	32.10	60.00	-27.90	QP	P
12	6.6420	0.44	21.51	21.95	50.00	-28.05	AVG	P

Remarks: 1. Result = Read Value + Factor
2. Factor = LISN (ISN) Factor + Cable Loss

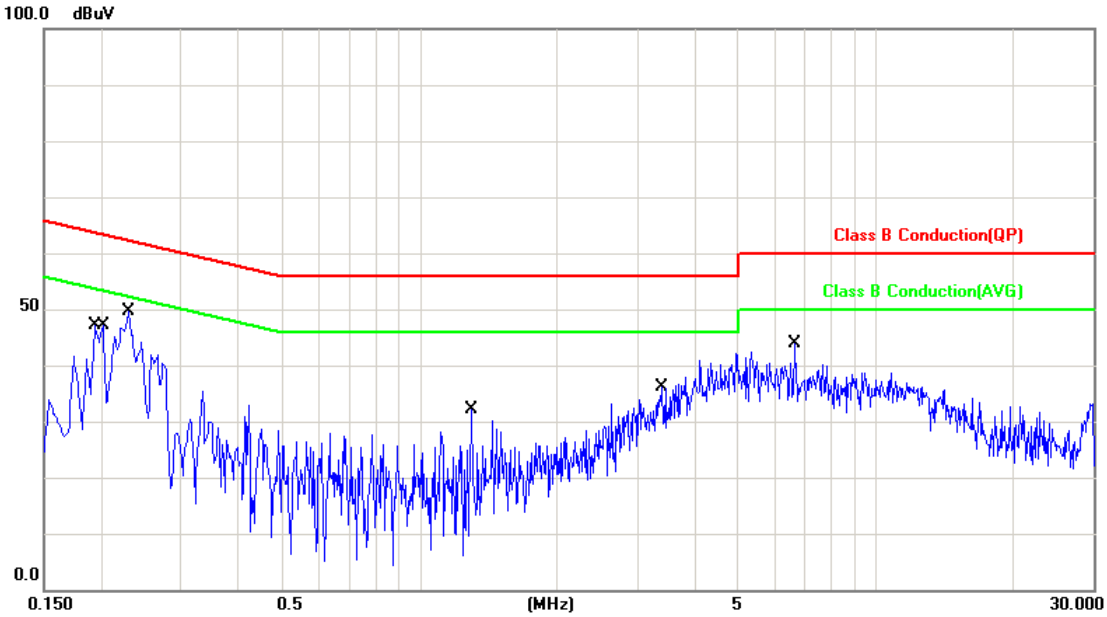
Power	:	AC 120V	Pol/Phase	:	NEUTRAL
Test Mode 2	:	802.11n HT20, CH1	Temperature	:	24 °C
Test Date	:	2011-12-09	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1539	0.11	45.34	45.45	65.78	-20.33	QP	P
2	0.1539	0.11	33.63	33.74	55.78	-22.04	AVG	P
3	0.1980	0.10	49.73	49.83	63.69	-13.86	QP	P
4	0.1980	0.10	40.55	40.65	53.69	-13.04	AVG	P
5	0.2180	0.10	48.69	48.79	62.89	-14.10	QP	P
6	0.2180	0.10	39.61	39.71	52.89	-13.18	AVG	P
7	0.2460	0.10	50.29	50.39	61.89	-11.50	QP	P
8	0.2460	0.10	42.72	42.82	51.89	-9.07	AVG	P
9	0.2740	0.10	42.61	42.71	60.99	-18.28	QP	P
10	0.2740	0.10	34.30	34.40	50.99	-16.59	AVG	P
11	5.1500	0.33	36.53	36.86	60.00	-23.14	QP	P
12	5.1500	0.33	27.44	27.77	50.00	-22.23	AVG	P

Remarks: 1. Result = Read Value + Factor
2. Factor = LISN (ISN) Factor + Cable Loss

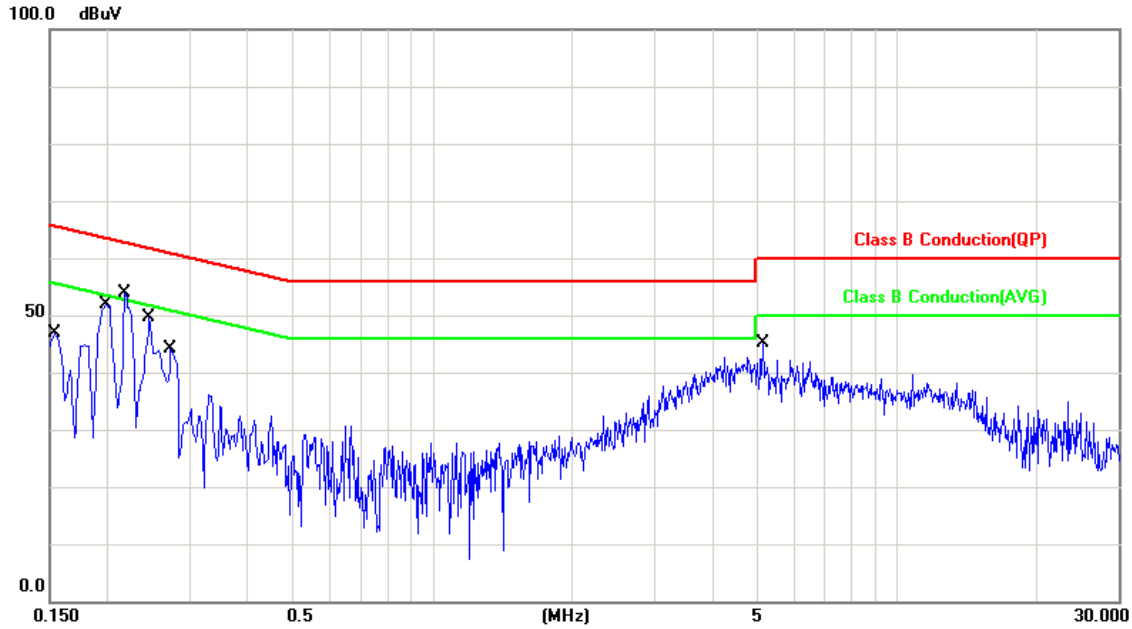
Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode 3	:	802.11n HT40, CH3	Temperature	:	24 °C
Test Date	:	2011-12-09	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1940	0.19	45.62	45.81	63.86	-18.05	QP	P
2	0.1940	0.19	32.77	32.96	53.86	-20.90	AVG	P
3	0.2020	0.19	47.59	47.78	63.52	-15.74	QP	P
4	0.2020	0.19	34.67	34.86	53.52	-18.66	AVG	P
5	0.2300	0.19	46.33	46.52	62.45	-15.93	QP	P
6	0.2300	0.19	33.88	34.07	52.45	-18.38	AVG	P
7	1.2980	0.25	20.33	20.58	56.00	-35.42	QP	P
8	1.2980	0.25	9.41	9.66	46.00	-36.34	AVG	P
9	3.4100	0.35	28.51	28.86	56.00	-27.14	QP	P
10	3.4100	0.35	18.21	18.56	46.00	-27.44	AVG	P
11	6.6420	0.44	31.64	32.08	60.00	-27.92	QP	P
12	6.6420	0.44	21.52	21.96	50.00	-28.04	AVG	P

Remarks: 1. Result = Read Value + Factor
2. Factor = LISN (ISN) Factor + Cable Loss

Power	:	AC 120V	Pol/Phase	:	NEUTRAL
Test Mode 3	:	802.11n HT40, CH3	Temperature	:	24 °C
Test Date	:	2011-12-09	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1539	0.11	45.69	45.80	65.78	-19.98	QP	P
2	0.1539	0.11	33.64	33.75	55.78	-22.03	AVG	P
3	0.1980	0.10	49.54	49.64	63.69	-14.05	QP	P
4	0.1980	0.10	40.50	40.60	53.69	-13.09	AVG	P
5	0.2180	0.10	48.75	48.85	62.89	-14.04	QP	P
6	0.2180	0.10	39.74	39.84	52.89	-13.05	AVG	P
7	0.2460	0.10	50.23	50.33	61.89	-11.56	QP	P
8	0.2460	0.10	42.79	42.89	51.89	-9.00	AVG	P
9	0.2740	0.10	42.65	42.75	60.99	-18.24	QP	P
10	0.2740	0.10	34.32	34.42	50.99	-16.57	AVG	P
11	5.1500	0.33	36.68	37.01	60.00	-22.99	QP	P
12	5.1500	0.33	27.40	27.73	50.00	-22.27	AVG	P

Remarks: 1. Result = Read Value + Factor
2. Factor = LISN (ISN) Factor + Cable Loss

Test engineer: Ben

5. Test of Radiated Emission

5.1 Test Limit

Radiated emissions from 30 MHz to 25 GHz were measured according to the methods defines in ANSI C63.4-2009. The EUT was placed, 0.8 meter above the ground plane, as shown in section 5.6.3. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions for unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance Meters	Radiated (μ V / M)	Radiated (dB μ V/ M)
30-88	3	100	40.0
88-216	3	150	43.5
216-960	3	200	46.0
Above 960	3	500	54.0

For unintentional device, according to CISPR PUB.22, for Class B digital devices, the general requirement of field strength of radiated emissions from intentional radiators at a distance of 10 meters shall not exceed the below table.

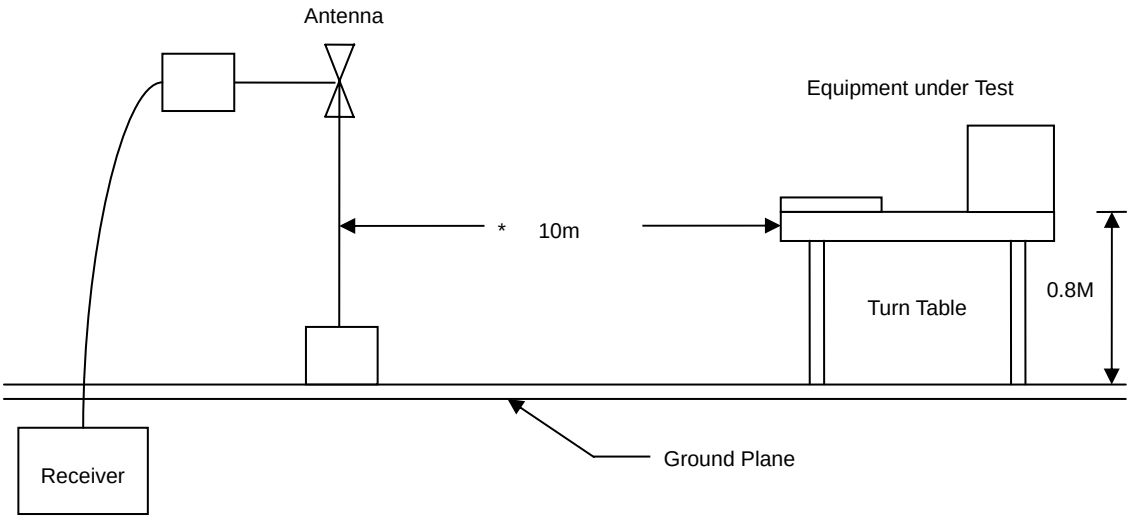
Frequency (MHz)	Distance Meters	Radiated (dB μ V/ M)
30-230	**10**	**30**
230-1000	**10**	**37**

5.2 Test Procedures

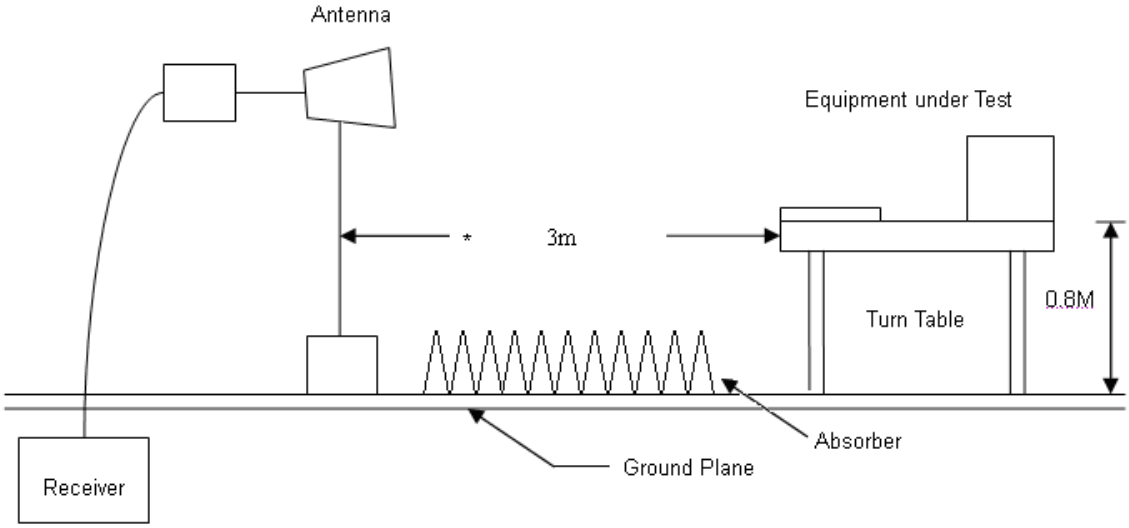
a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna 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.
e. 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.
f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
g. 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.
h. 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.
i. “Cone of radiation” has been considered to be 3dB bandwidth of the measurement antenna.

5.3 Typical Test Setup

Below 1GHz Test Setup



Above 1GHz Test Setup

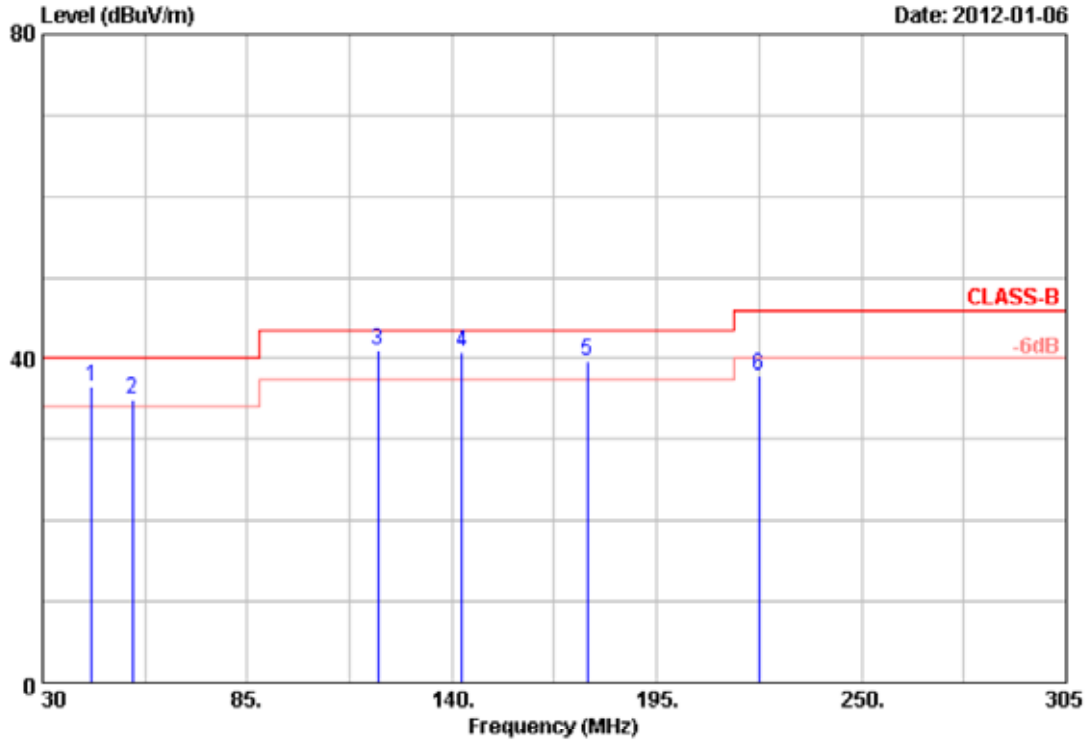


5.4 Measurement Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Amplifier	Agilent	8447D	2944A10531	2011/01/21	2012/01/20
Bilog Antenna	Schaffner	CBL6112D	22242	2011/02/09	2012/02/08
EMI Receiver	R&S	ESCI	101200	2011/07/26	2012/07/25
SPECTRUM ANALYZER	R&S	FSP40	100219	2011/11/24	2012/11/23
HORN ANTENNA	EMCO	3115	31589	2011/05/02	2012/05/01
Preamplifier	Agilent	8449B	3008A01954	2011/03/02	2012/03/01

5.5 Test Result and Data

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 1	:	802.11g, CH1	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

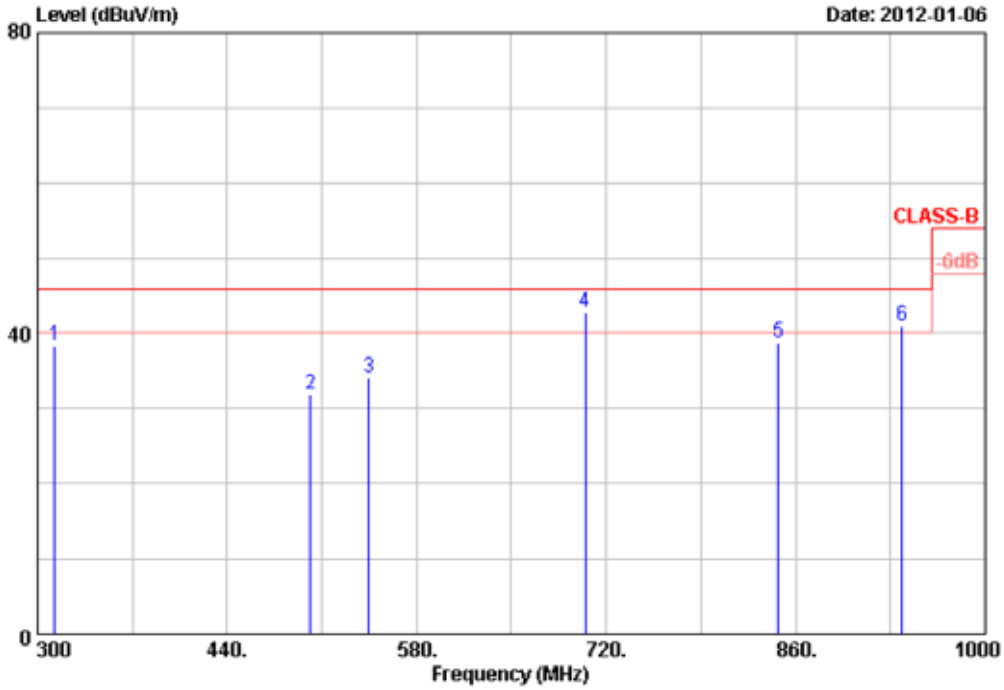


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	43.20	34.53	2.04	36.57	40.00	-3.43	QP	100	360
2	54.20	38.75	-3.68	35.07	40.00	-4.93	Peak	100	360
3	120.20	33.14	7.80	40.94	43.50	-2.56	QP	100	360
4	142.75	38.72	2.05	40.77	43.50	-2.73	Peak	100	360
5	176.30	41.77	-2.07	39.70	43.50	-3.80	Peak	100	360
6	222.50	39.19	-1.41	37.78	46.00	-8.22	Peak	100	360

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. All emission below 1GHz at 802.11b/g/n mode are all the same,so the 802.11g/n mode chosen as representative in final test.
5. According to technical experiences,all spurious emission of 802.11g/n mode at channel 1,6,11 or 3,6,9(for HT40) are almost the same below 1GHz,so that the channel 1 or 3(for HT40)was chosen as representative in final test.
6. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 1	:	802.11g, CH1	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

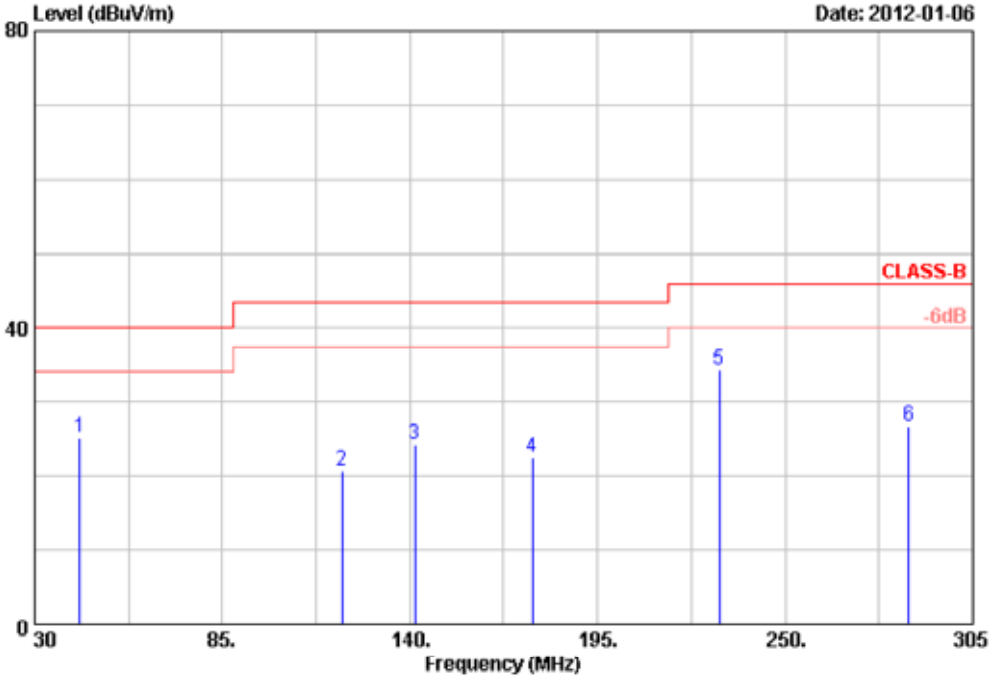


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	312.60	43.23	-4.83	38.40	46.00	-7.60	Peak	100	0
2	501.60	32.86	-0.90	31.96	46.00	-14.04	Peak	100	0
3	545.00	24.07	10.03	34.10	46.00	-11.90	Peak	100	0
4	704.60	35.75	7.02	42.77	46.00	-3.23	QP	100	0
5	847.40	24.38	14.47	38.85	46.00	-7.15	Peak	100	0
6	938.40	25.87	15.11	40.98	46.00	-5.02	Peak	100	0

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. All emission below 1GHz at 802.11b/g/n mode are all the same,so the 802.11g/n mode chosen as representative in final test.
5. According to technical experiences,all spurious emission of 802.11g/n mode at channel 1,6,11 or 3,6,9(for HT40) are almost the same below 1GHz,so that the channel 1 or 3(for HT40)was chosen as representative in final test.
6. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 1	:	802.11g, CH1	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

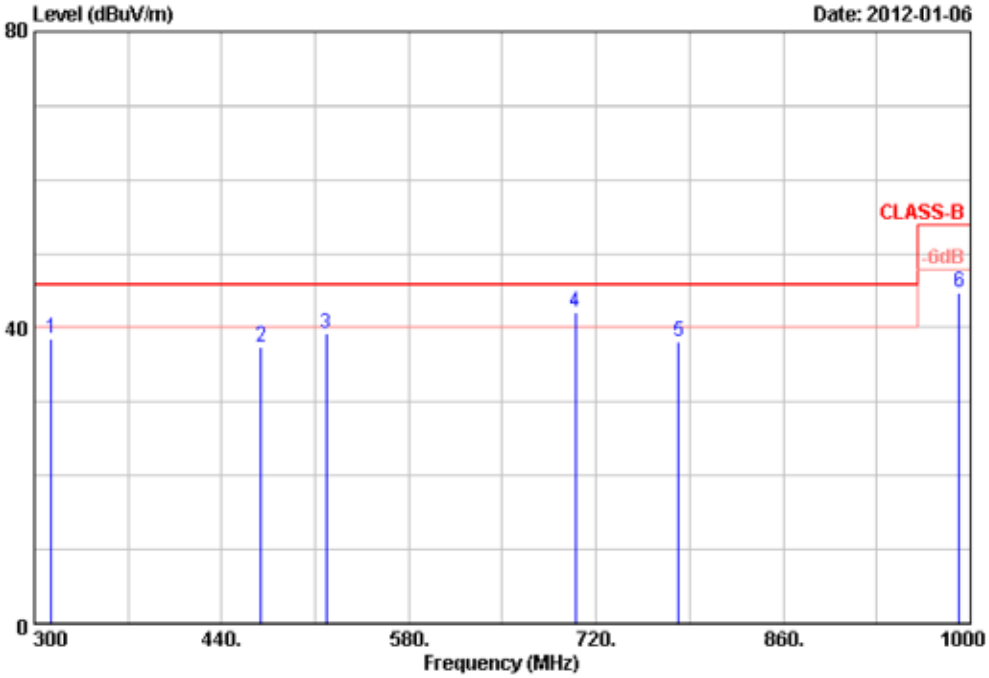


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	43.20	31.30	-6.19	25.11	40.00	-14.89	Peak	100	360
2	120.20	31.10	-10.27	20.83	43.50	-22.67	Peak	100	360
3	141.38	32.50	-8.28	24.22	43.50	-19.28	Peak	100	360
4	175.75	34.78	-12.18	22.60	43.50	-20.90	Peak	100	360
5	230.75	40.65	-6.23	34.42	46.00	-11.58	Peak	100	360
6	286.30	33.15	-6.52	26.63	46.00	-19.37	Peak	100	360

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. All emission below 1GHz at 802.11b/g/n mode are all the same,so the 802.11g/n mode chosen as representative in final test.
5. According to technical experiences,all spurious emission of 802.11g/n mode at channel 1,6,11 or 3,6,9(for HT40) are almost the same below 1GHz,so that the channel 1 or 3(for HT40)was chosen as representative in final test.
6. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 1	:	802.11g, CH1	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

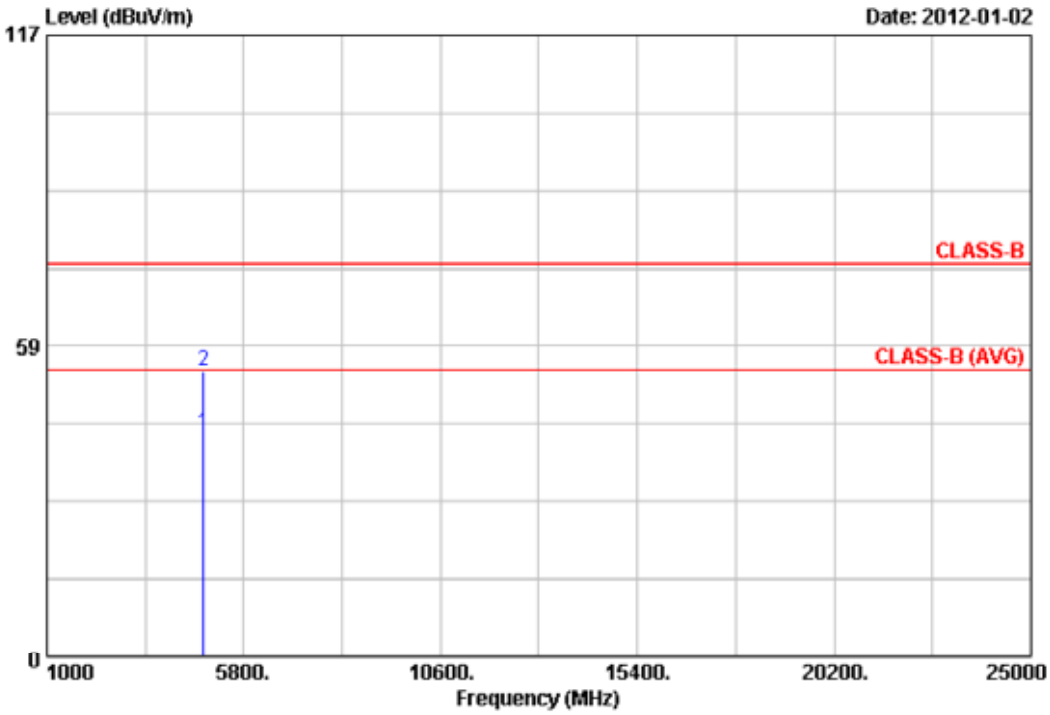


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	312.60	46.29	-7.68	38.61	46.00	-7.39	Peak	100	0
2	469.40	36.73	0.60	37.33	46.00	-8.67	Peak	100	0
3	518.40	35.84	3.30	39.14	46.00	-6.86	Peak	100	0
4	704.60	35.65	6.54	42.19	46.00	-3.81	QP	100	0
5	781.60	29.62	8.44	38.06	46.00	-7.94	Peak	100	0
6	991.60	33.30	11.51	44.81	54.00	-9.19	Peak	100	0

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. All emission below 1GHz at 802.11b/g/n mode are all the same,so the 802.11g/n mode chosen as representative in final test.
5. According to technical experiences,all spurious emission of 802.11g/n mode at channel 1,6,11 or 3,6,9(for HT40) are almost the same below 1GHz,so that the channel 1 or 3(for HT40)was chosen as representative in final test.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 1	:	802.11b, CH1	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

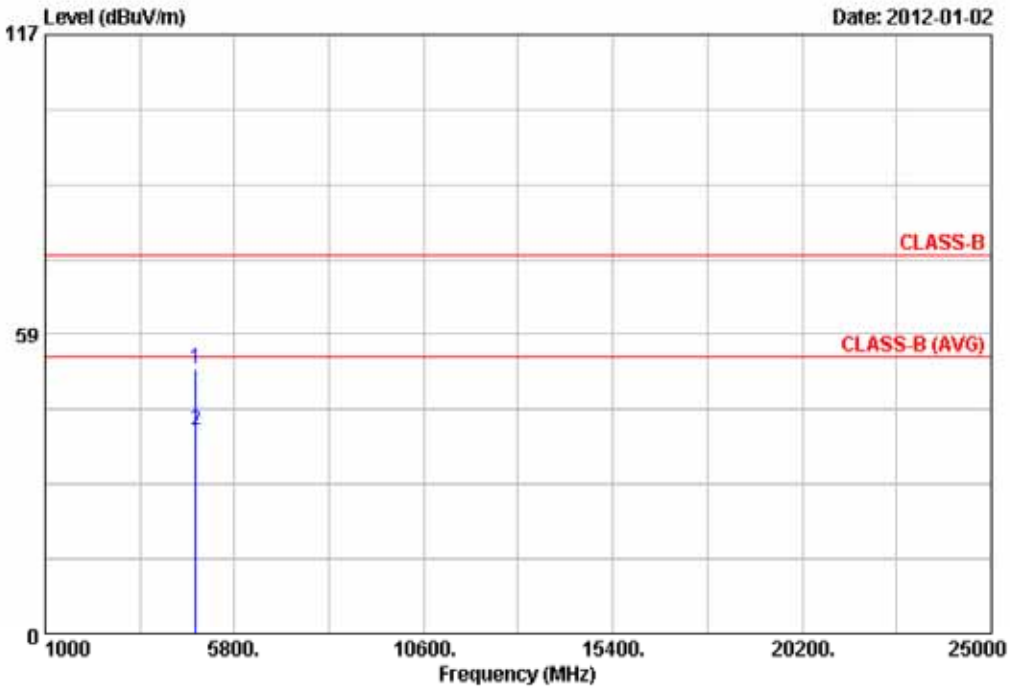


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4824.08	36.31	5.61	41.92	54.00	-12.08	Average	100	195
2	4825.38	48.07	5.64	53.71	74.00	-20.29	Peak	100	195

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 1	:	802.11b, CH1	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

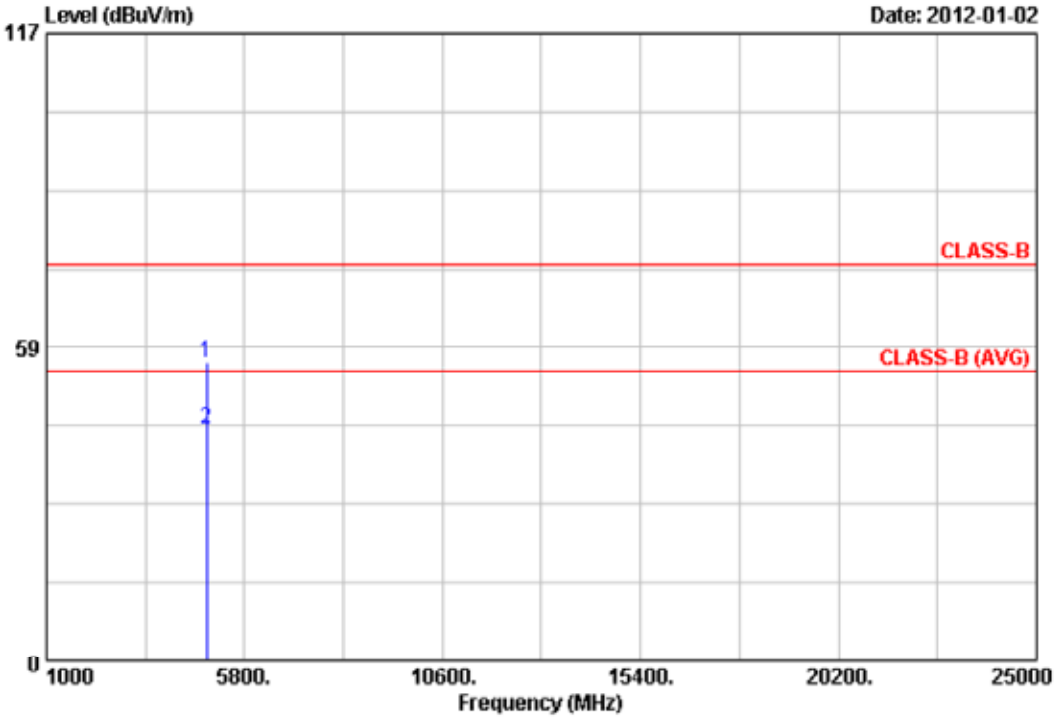


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4819.75	48.00	3.87	51.87	74.00	-22.13	Peak	100	195
2	4824.38	35.92	3.95	39.87	54.00	-14.13	Average	100	195

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 1	:	802.11b, CH6	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

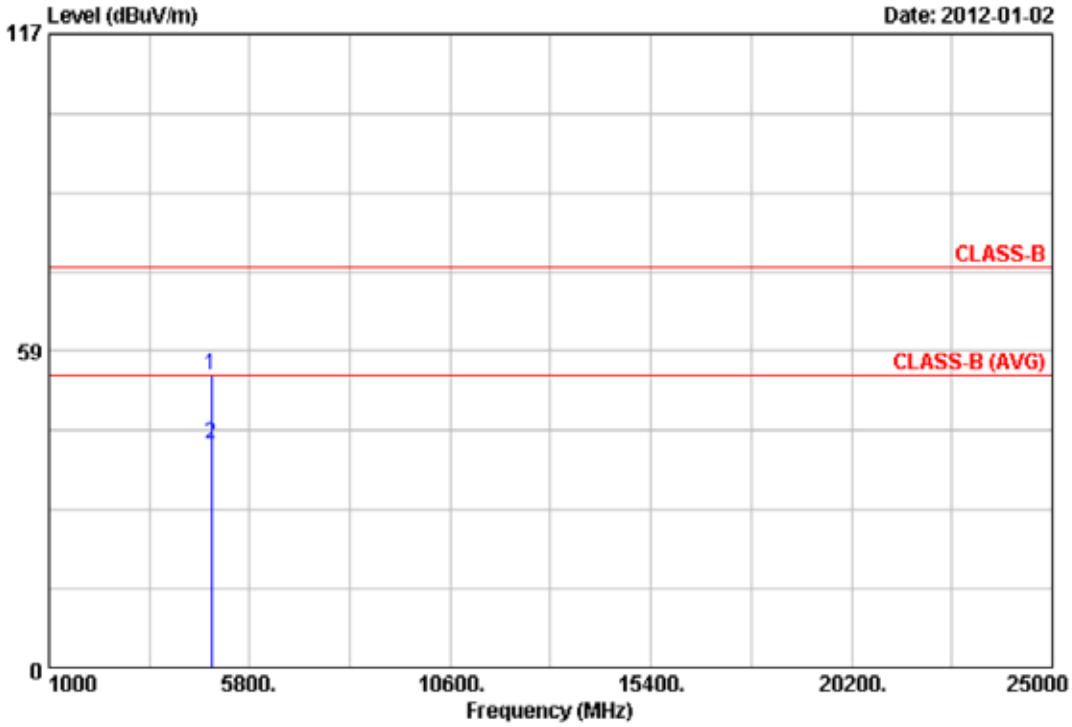


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4873.95	49.15	6.59	55.74	74.00	-18.26	Peak	100	196
2	4874.03	36.66	6.59	43.25	54.00	-10.75	Average	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 1	:	802.11b, CH6	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

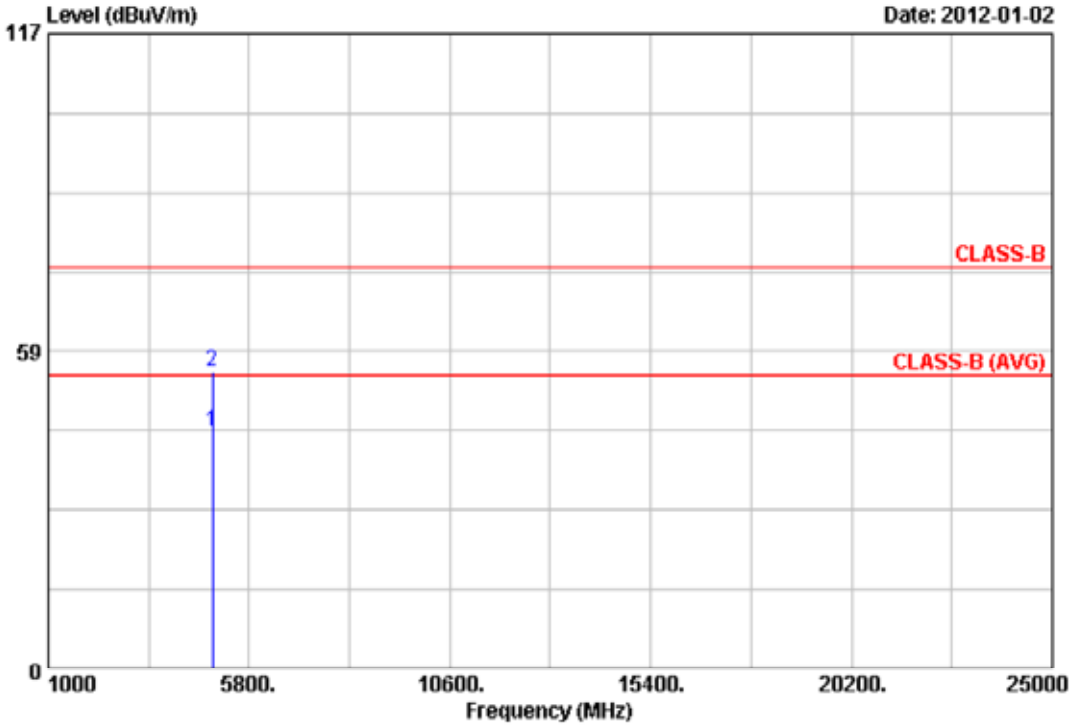


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4873.95	49.29	4.73	54.02	74.00	-19.98	Peak	100	196
2	4873.98	36.78	4.73	41.51	54.00	-12.49	Average	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 1	:	802.11b, CH11	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

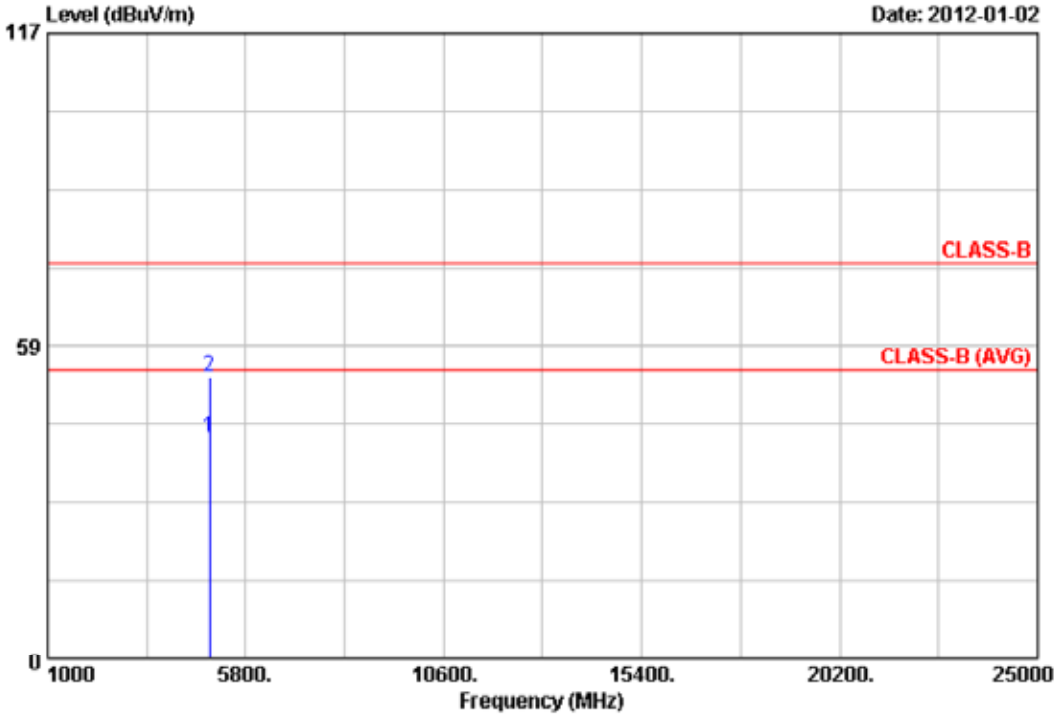


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4924.03	36.44	7.16	43.60	54.00	-10.40	Average	100	196
2	4924.10	47.68	7.16	54.84	74.00	-19.16	Peak	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 1	:	802.11b, CH11	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

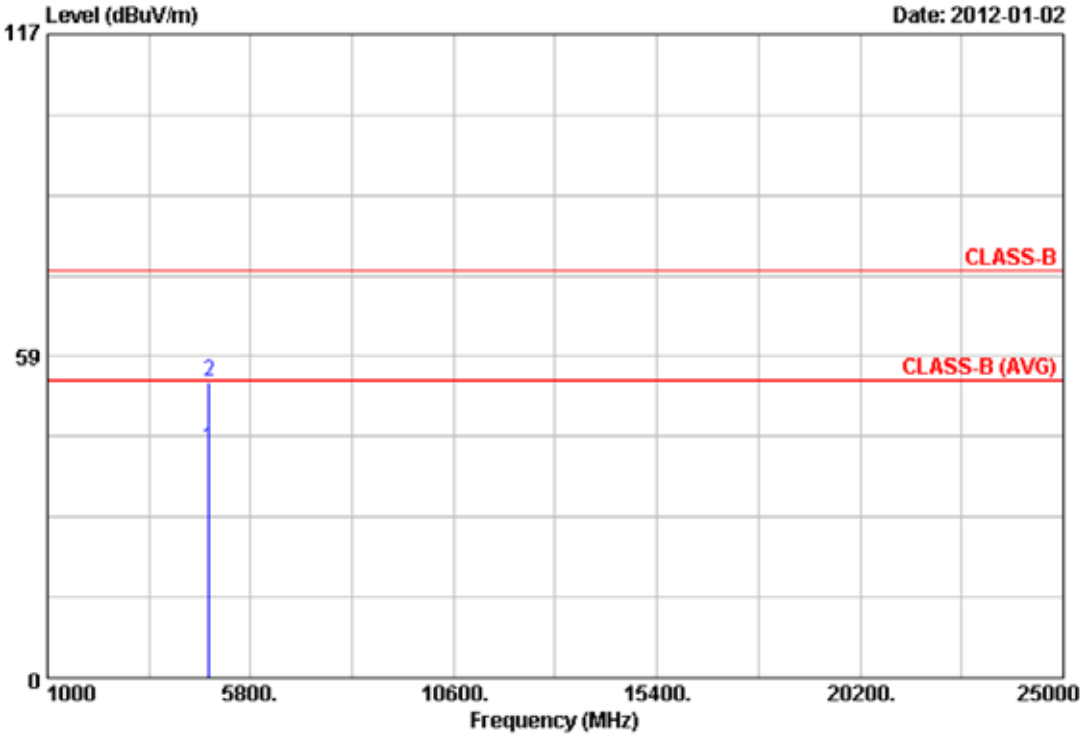


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4924.00	36.20	5.15	41.35	54.00	-12.65	Average	100	196
2	4927.18	47.79	5.15	52.94	74.00	-21.06	Peak	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 1	:	802.11g, CH1	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

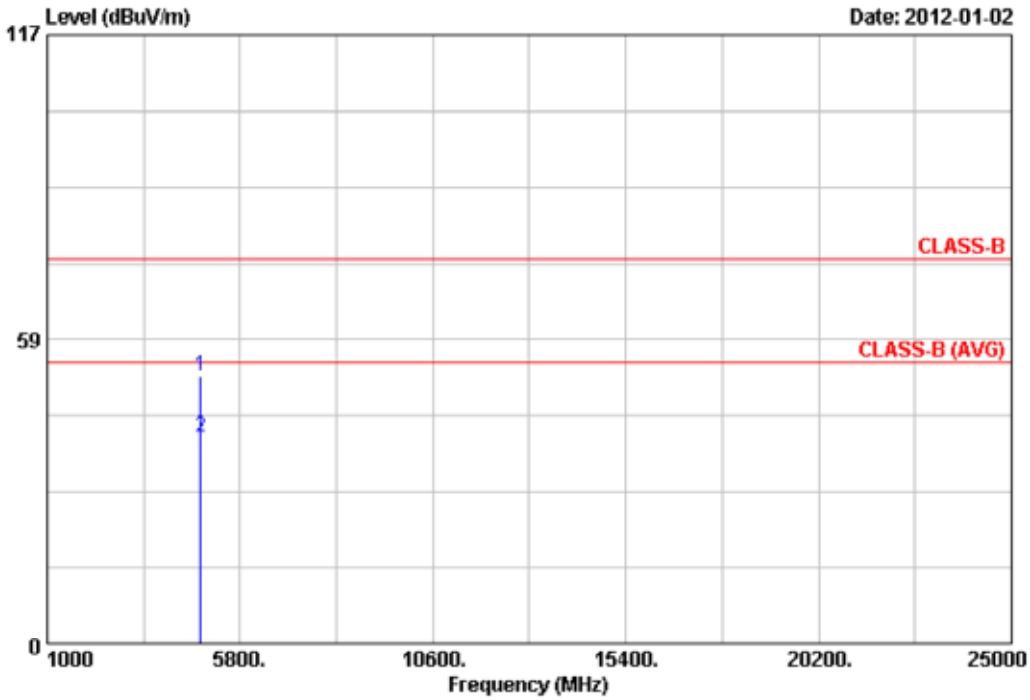


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4824.08	36.10	5.61	41.71	54.00	-12.29	Average	100	196
2	4828.40	48.19	5.70	53.89	74.00	-20.11	Peak	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 1	:	802.11g, CH1	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

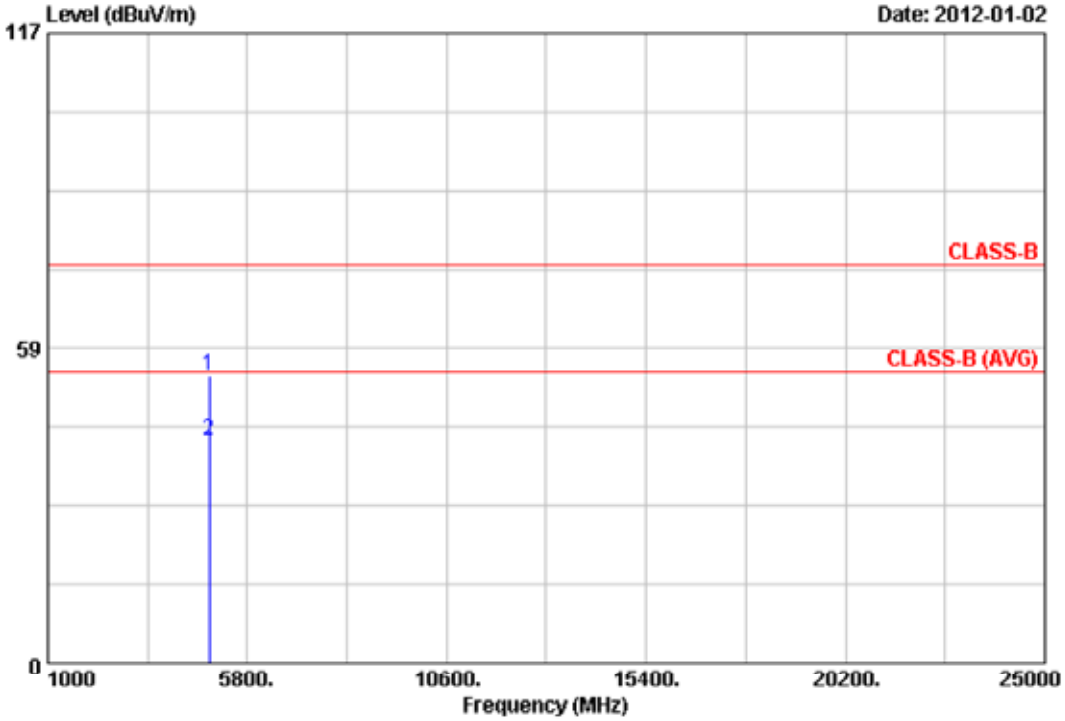


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4823.05	47.54	3.93	51.47	74.00	-22.53	Peak	100	196
2	4823.80	35.88	3.94	39.82	54.00	-14.18	Average	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 1	:	802.11g, CH6	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

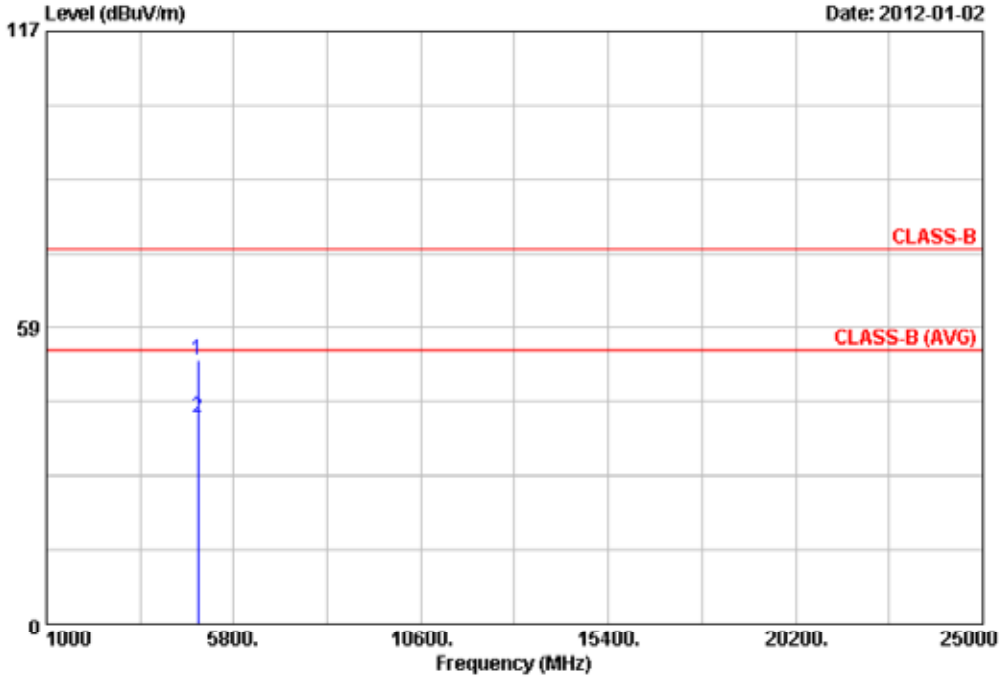


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4873.40	47.03	6.58	53.61	74.00	-20.39	Peak	100	196
2	4873.68	34.94	6.58	41.52	54.00	-12.48	Average	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 1	:	802.11g, CH6	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

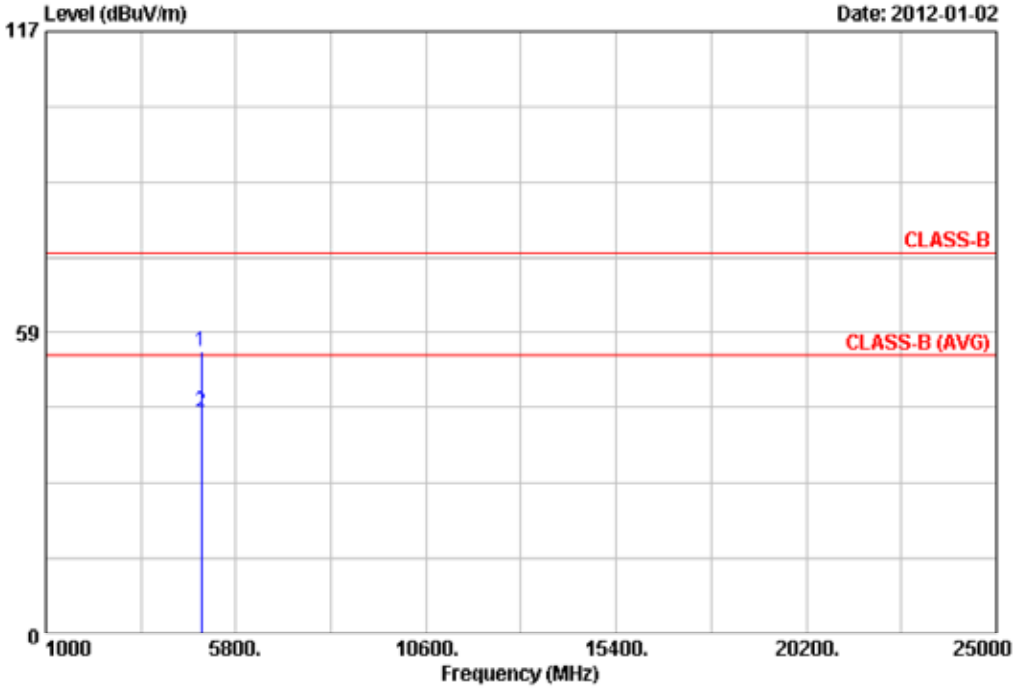


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4873.28	47.27	4.72	51.99	74.00	-22.01	Peak	100	196
2	4873.65	35.89	4.73	40.62	54.00	-13.38	Average	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 1	:	802.11g, CH11	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

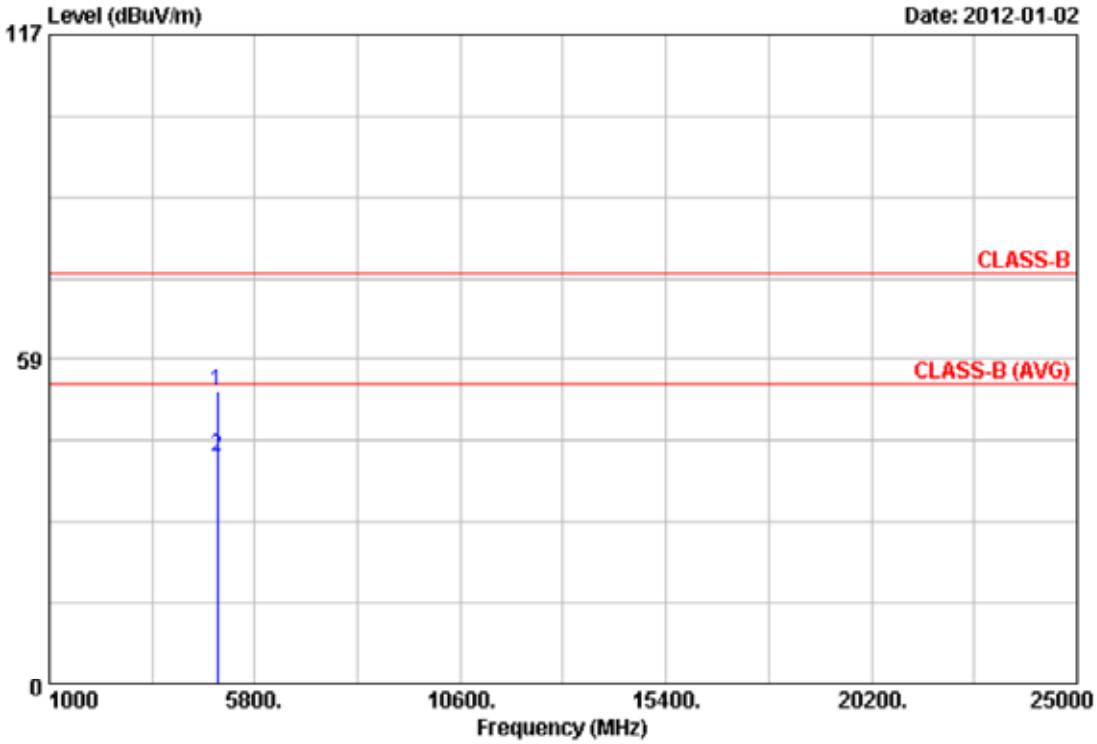


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4922.10	47.69	7.15	54.84	74.00	-19.16	Peak	100	196
2	4924.00	35.92	7.16	43.08	54.00	-10.92	Average	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 1	:	802.11g, CH11	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

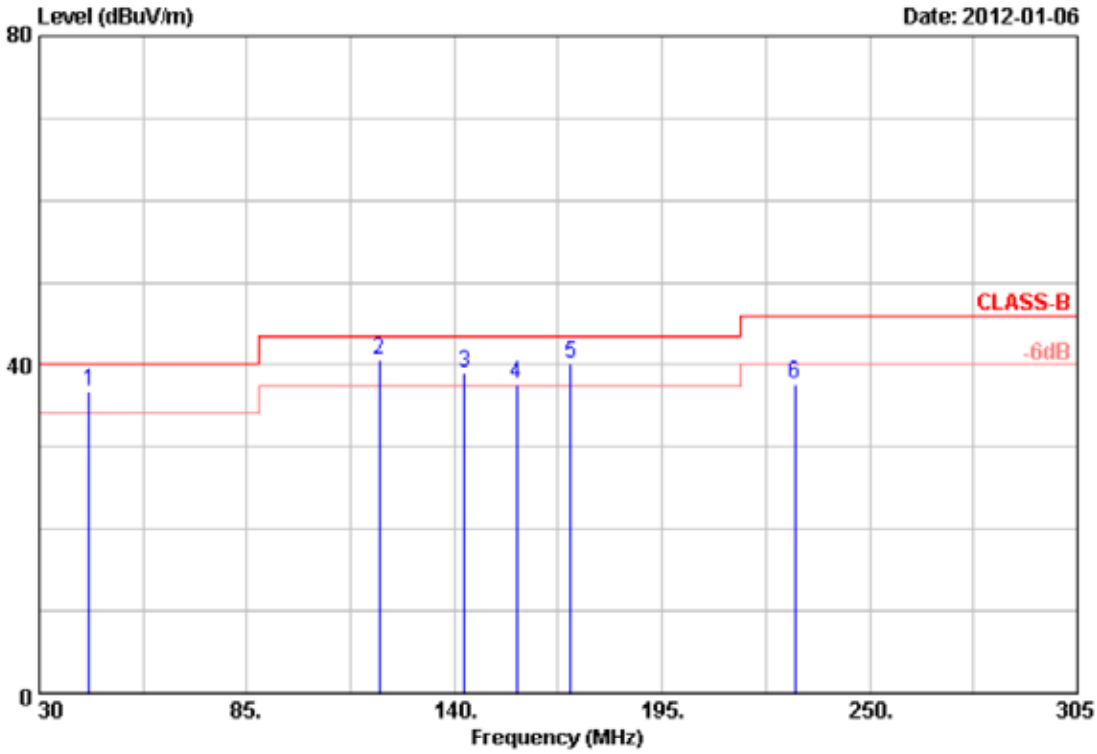


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4920.75	47.58	5.14	52.72	74.00	-21.28	Peak	100	196
2	4923.85	35.79	5.15	40.94	54.00	-13.06	Average	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 2	:	802.11n HT20, CH1	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

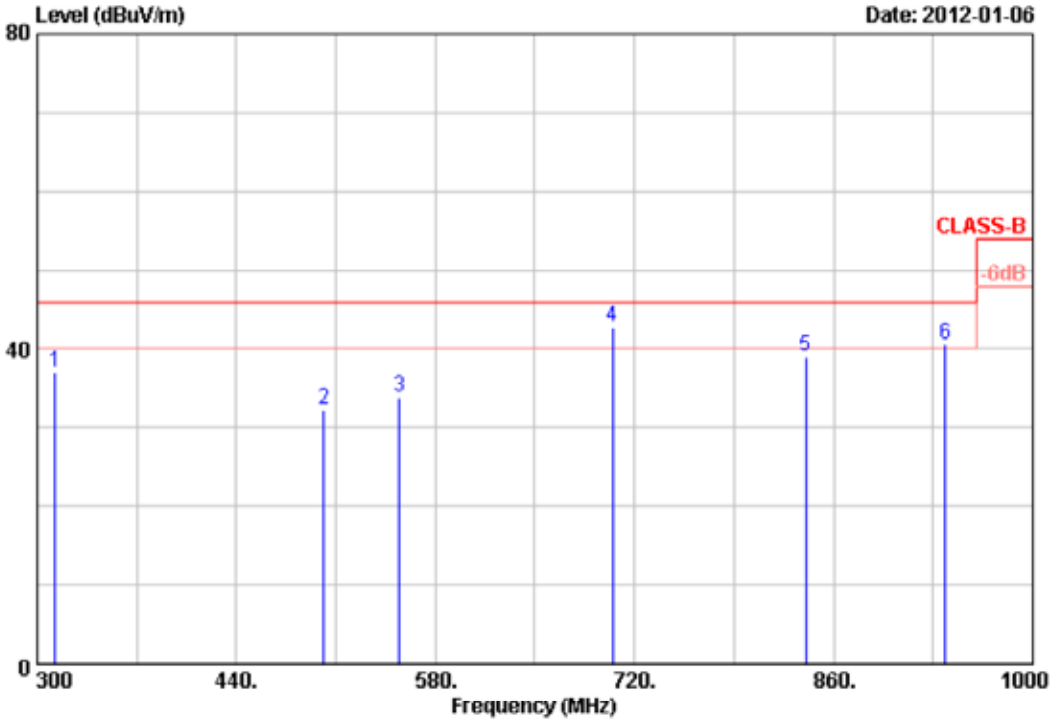


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	43.20	34.71	2.04	36.75	40.00	-3.25	QP	100	360
2	120.20	32.81	7.80	40.61	43.50	-2.89	QP	100	360
3	142.75	37.06	2.05	39.11	43.50	-4.39	Peak	100	360
4	156.50	39.56	-1.93	37.63	43.50	-5.87	Peak	100	360
5	170.80	40.65	-0.56	40.09	43.50	-3.41	Peak	100	360
6	230.20	39.84	-2.11	37.73	46.00	-8.27	Peak	100	360

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. All emission below 1GHz at 802.11b/g/n mode are all the same,so the 802.11g/n mode chosen as representative in final test.
5. According to technical experiences,all spurious emission of 802.11g/n mode at channel 1,6,11 or 3,6,9(for HT40) are almost the same below 1GHz,so that the channel 1 or 3(for HT40)was chosen as representative in final test.
6. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 2	:	802.11n HT20, CH1	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

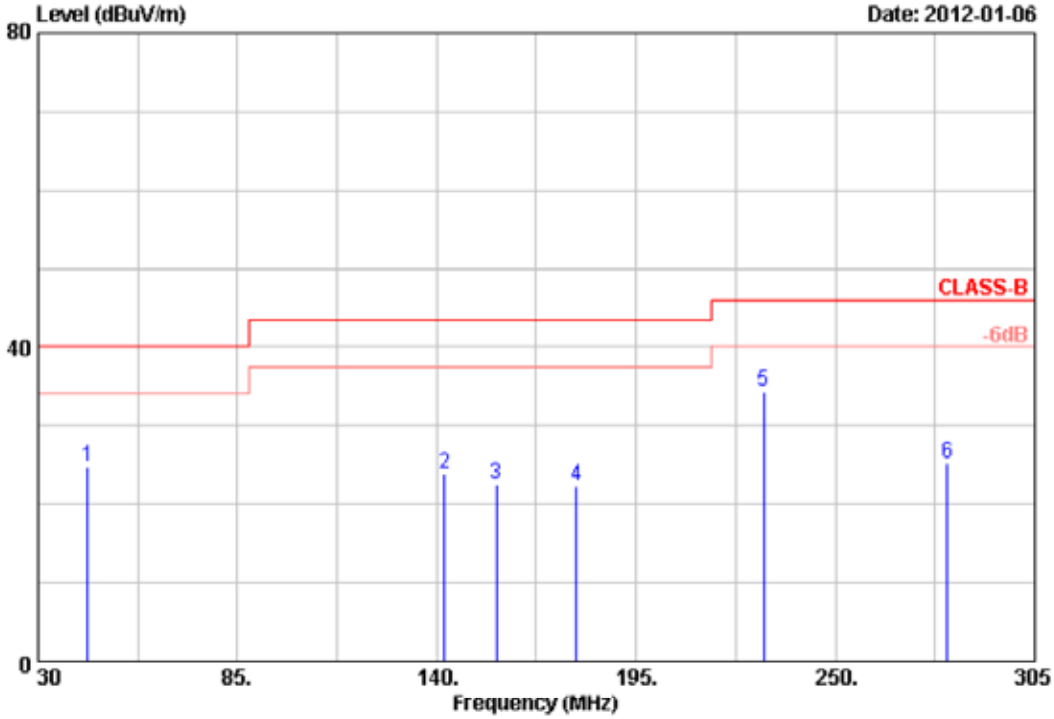


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	312.60	41.72	-4.83	36.89	46.00	-9.11	Peak	100	0
2	501.60	33.22	-0.90	32.32	46.00	-13.68	Peak	100	0
3	554.80	23.65	10.28	33.93	46.00	-12.07	Peak	100	0
4	704.60	35.72	7.02	42.74	46.00	-3.26	QP	100	0
5	840.40	23.46	15.58	39.04	46.00	-6.96	Peak	100	0
6	938.40	25.38	15.11	40.49	46.00	-5.51	Peak	100	0

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. All emission below 1GHz at 802.11b/g/n mode are all the same,so the 802.11g/n mode chosen as representative in final test.
5. According to technical experiences,all spurious emission of 802.11g/n mode at channel 1,6,11 or 3,6,9(for HT40) are almost the same below 1GHz,so that the channel 1 or 3(for HT40)was chosen as representative in final test.
6. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 2	:	802.11n HT20, CH1	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

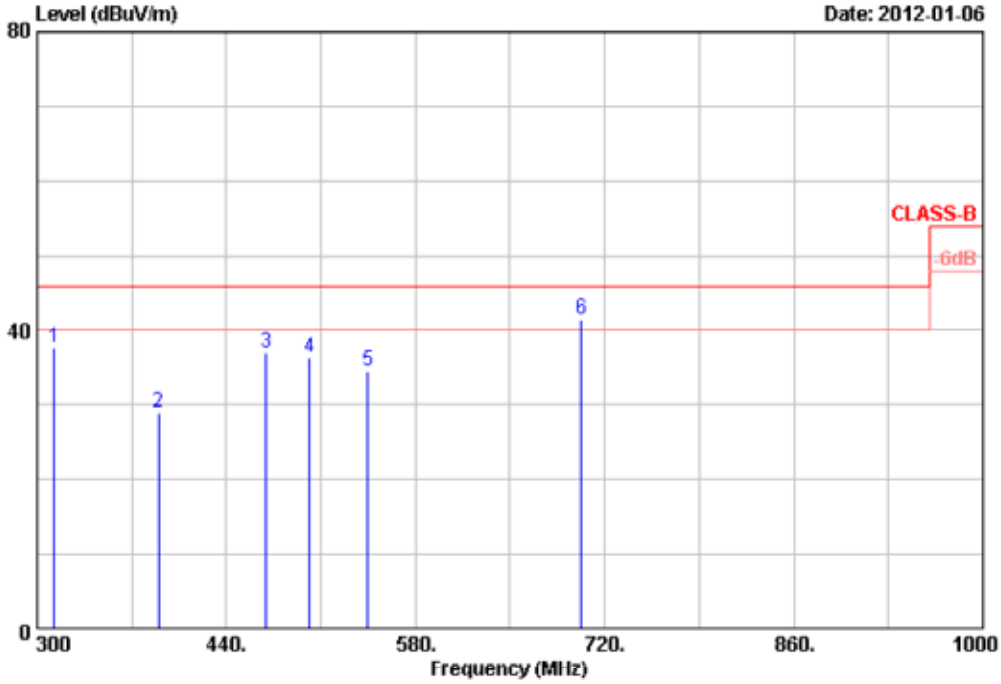


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	43.75	30.49	-5.74	24.75	40.00	-15.25	Peak	100	360
2	142.20	32.01	-8.19	23.82	43.50	-19.68	Peak	100	360
3	156.50	31.98	-9.58	22.40	43.50	-21.10	Peak	100	360
4	178.50	34.42	-12.12	22.30	43.50	-21.20	Peak	100	360
5	230.20	40.56	-6.26	34.30	46.00	-11.70	Peak	100	360
6	280.80	32.46	-7.21	25.25	46.00	-20.75	Peak	100	360

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. All emission below 1GHz at 802.11b/g/n mode are all the same,so the 802.11g/n mode chosen as representative in final test.
5. According to technical experiences,all spurious emission of 802.11g/n mode at channel 1,6,11 or 3,6,9(for HT40) are almost the same below 1GHz,so that the channel 1 or 3(for HT40)was chosen as representative in final test.
6. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 2	:	802.11n HT20, CH1	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

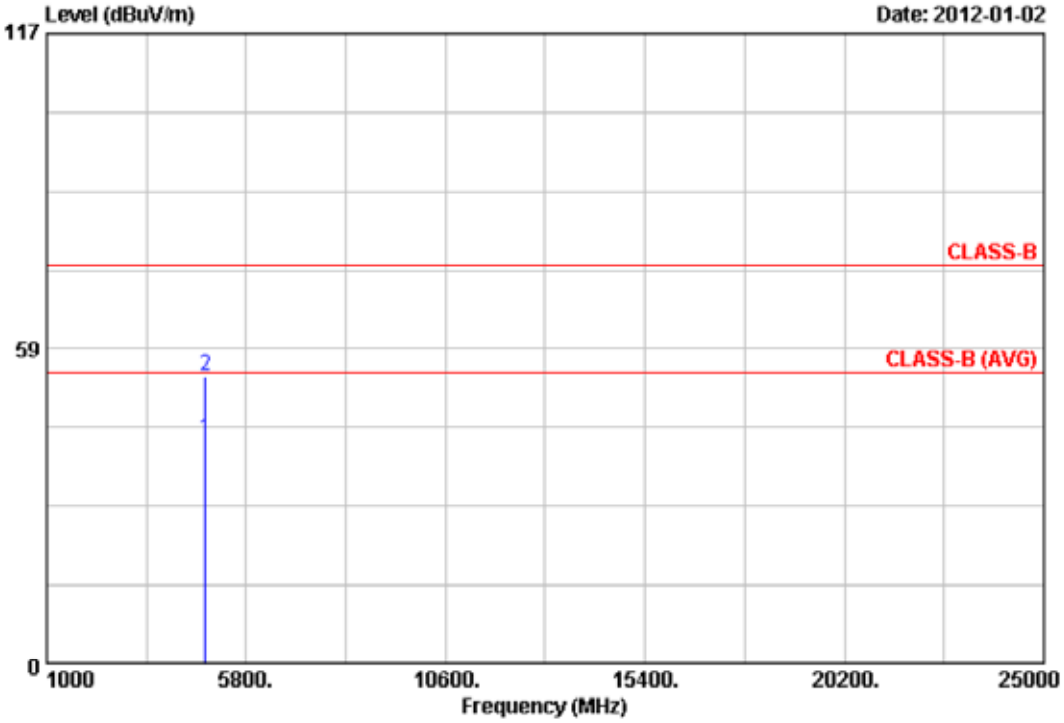


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	312.60	45.45	-7.68	37.77	46.00	-8.23	Peak	100	0
2	389.60	33.15	-4.09	29.06	46.00	-16.94	Peak	100	0
3	469.40	36.33	0.60	36.93	46.00	-9.07	Peak	100	0
4	501.60	33.80	2.59	36.39	46.00	-9.61	Peak	100	0
5	545.00	27.20	7.25	34.45	46.00	-11.55	Peak	100	0
6	702.50	34.94	6.43	41.37	46.00	-4.63	Peak	100	0

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. All emission below 1GHz at 802.11b/g/n mode are all the same,so the 802.11g/n mode chosen as representative in final test.
5. According to technical experiences,all spurious emission of 802.11g/n mode at channel 1,6,11 or 3,6,9(for HT40) are almost the same below 1GHz,so that the channel 1 or 3(for HT40)was chosen as representative in final test.
6. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 2	:	802.11n HT20, CH1	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

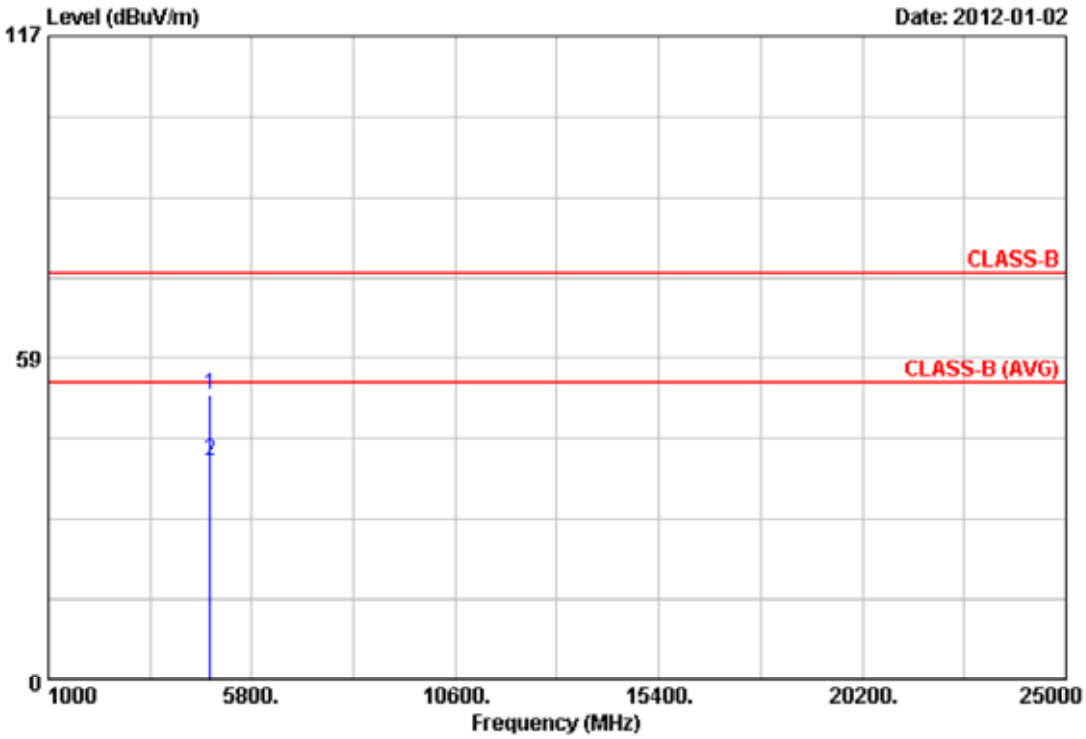


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4824.08	36.16	5.61	41.77	54.00	-12.23	Average	100	196
2	4824.10	47.79	5.61	53.40	74.00	-20.60	Peak	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 2	:	802.11n HT20, CH1	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

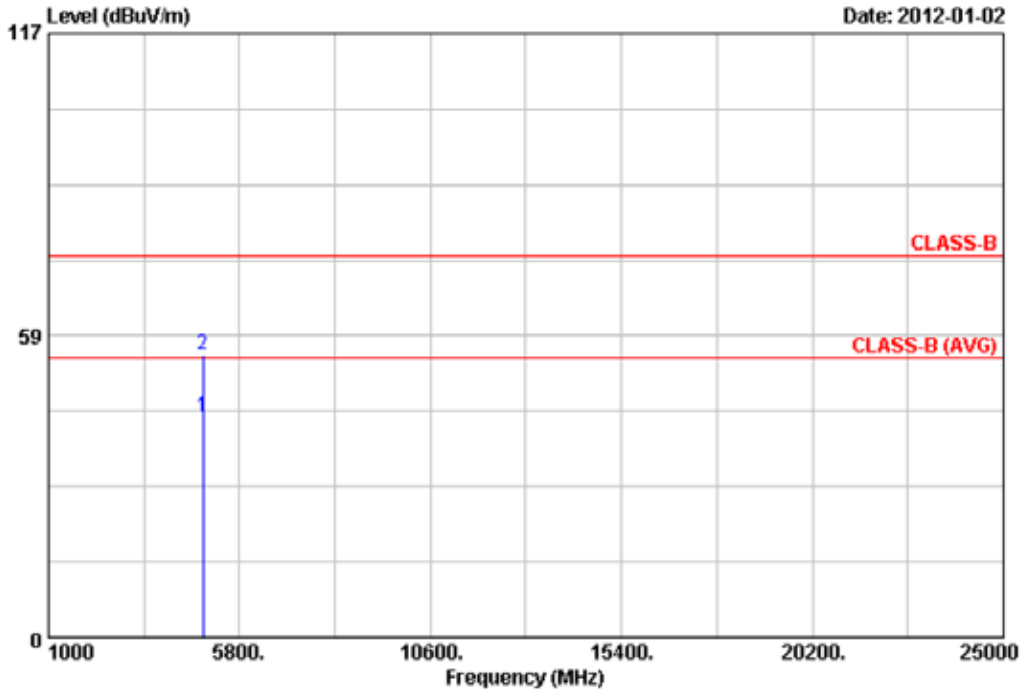


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4822.80	47.79	3.93	51.72	74.00	-22.28	Peak	100	196
2	4823.63	35.87	3.94	39.81	54.00	-14.19	Average	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 2	:	802.11n HT20, CH6	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

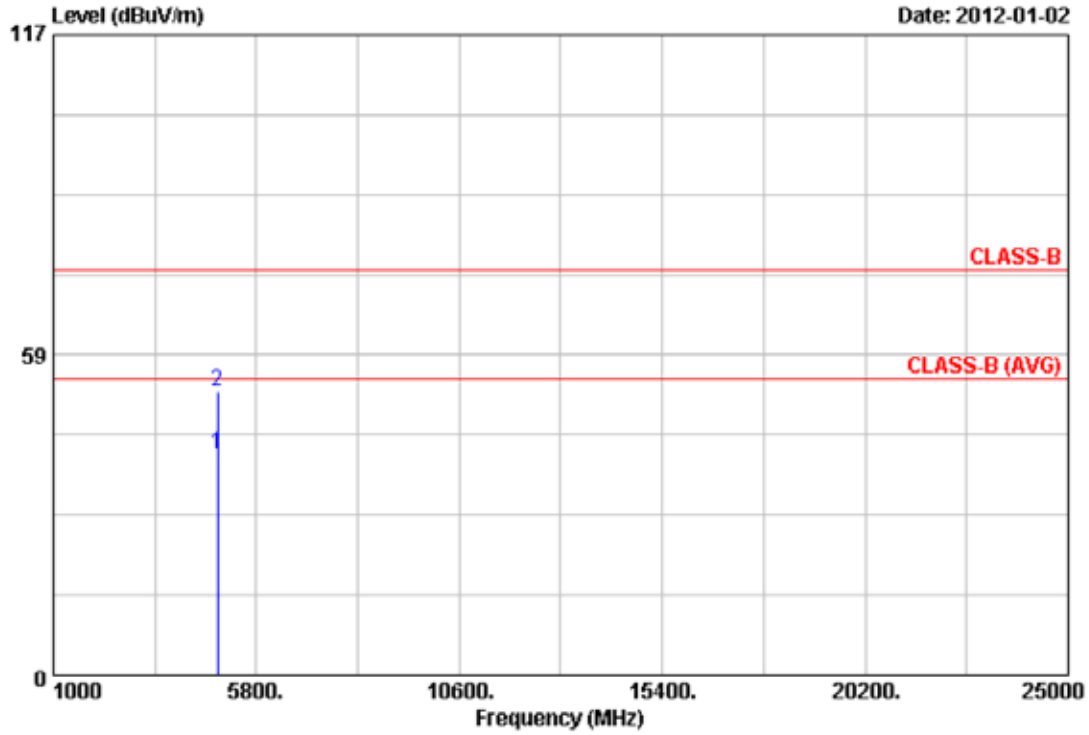


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4873.90	35.94	6.59	42.53	54.00	-11.47	Average	100	196
2	4874.70	48.17	6.60	54.77	74.00	-19.23	Peak	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 2	:	802.11n HT20, CH6	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

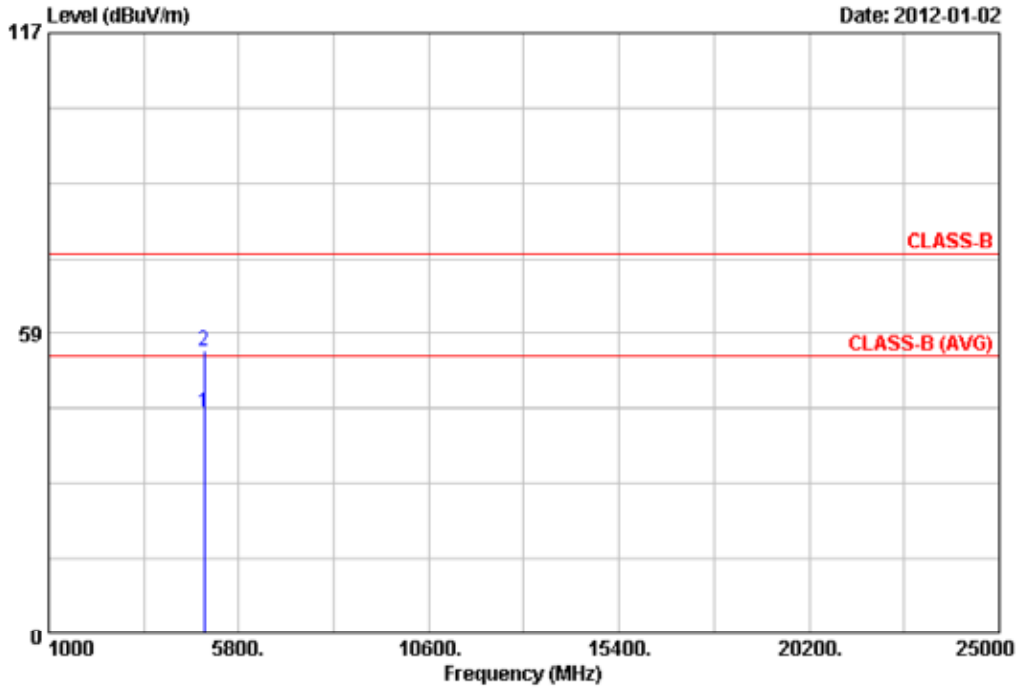


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4873.93	35.83	4.73	40.56	54.00	-13.44	Average	100	196
2	4875.45	47.11	4.76	51.87	74.00	-22.13	Peak	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 2	:	802.11n HT20, CH11	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

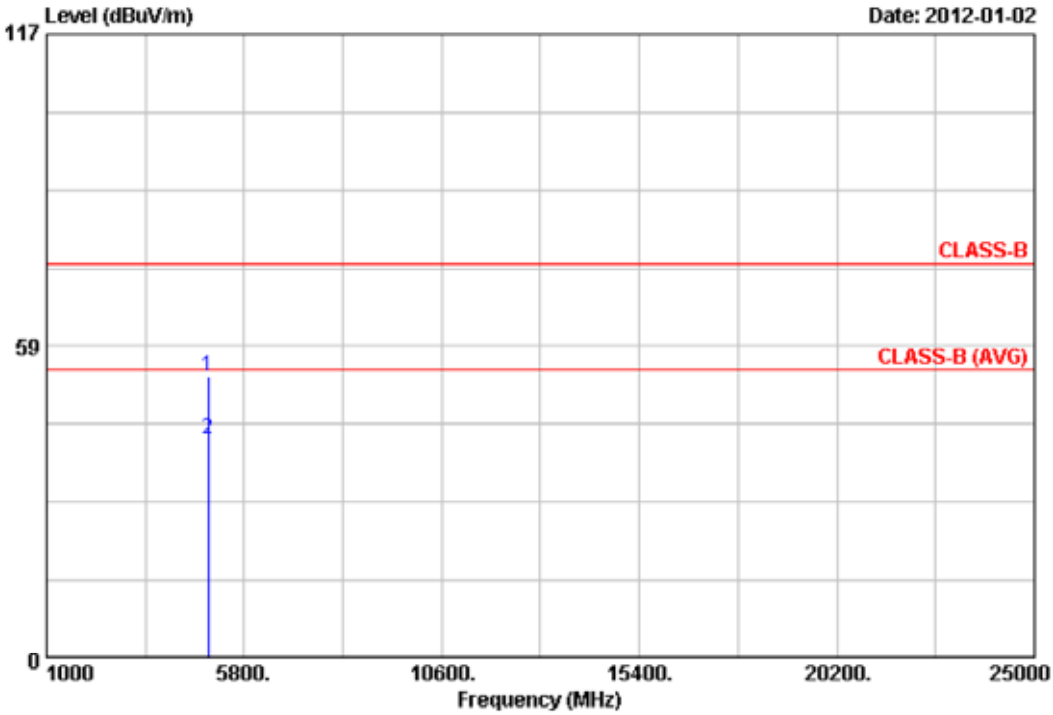


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4924.08	35.91	7.16	43.07	54.00	-10.93	Average	100	196
2	4924.80	48.03	7.16	55.19	74.00	-18.81	Peak	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 2	:	802.11n HT20, CH11	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

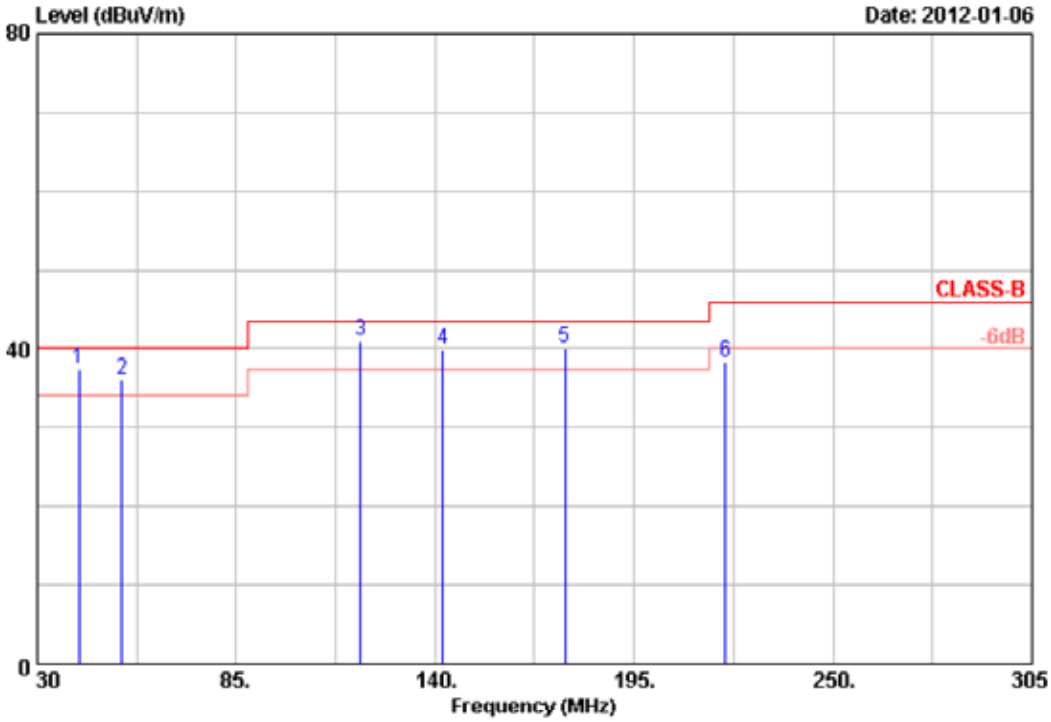


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4923.38	47.49	5.15	52.64	74.00	-21.36	Peak	100	196
2	4924.23	35.81	5.15	40.96	54.00	-13.04	Average	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 3	:	802.11n HT40, CH3	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

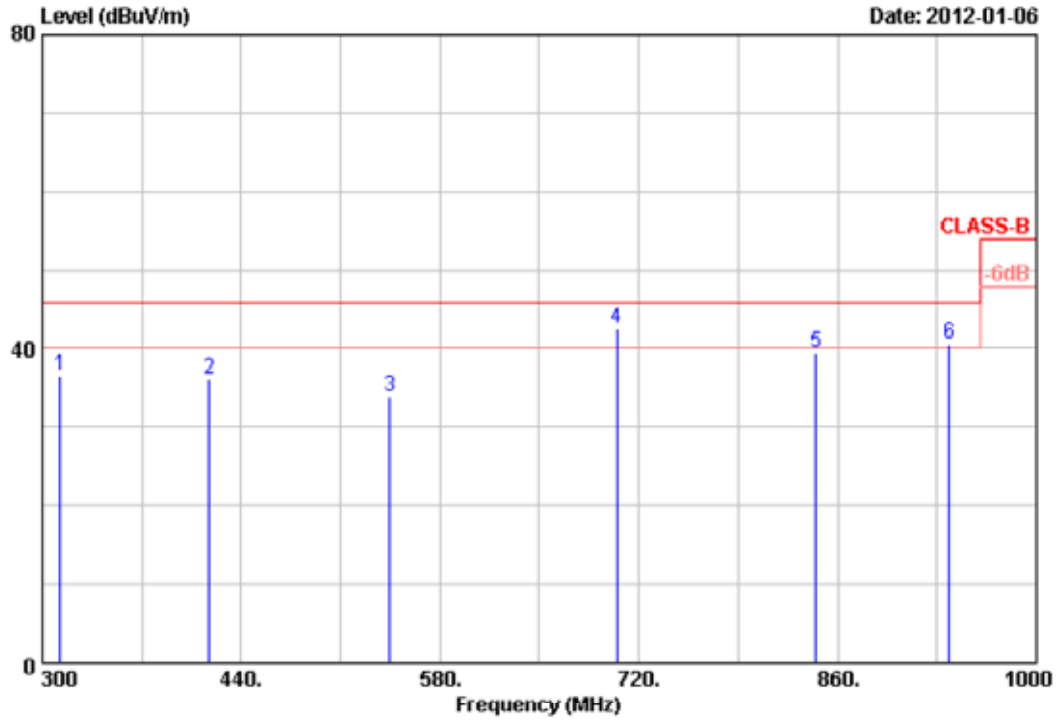


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	41.55	36.92	0.42	37.34	40.00	-2.66	QP	100	360
2	53.38	40.30	-4.21	36.09	40.00	-3.91	Peak	100	360
3	119.38	33.74	7.22	40.96	43.50	-2.54	QP	100	360
4	142.20	37.90	1.98	39.88	43.50	-3.62	QP	100	360
5	175.75	42.17	-2.08	40.09	43.50	-3.41	Peak	100	360
6	220.30	39.46	-1.10	38.36	46.00	-7.64	Peak	100	360

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. All emission below 1GHz at 802.11b/g/n mode are all the same,so the 802.11g/n mode chosen as representative in final test.
5. According to technical experiences,all spurious emission of 802.11g/n mode at channel 1,6,11 or 3,6,9(for HT40) are almost the same below 1GHz,so that the channel 1 or 3(for HT40)was chosen as representative in final test.
6. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 3	:	802.11n HT40, CH3	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

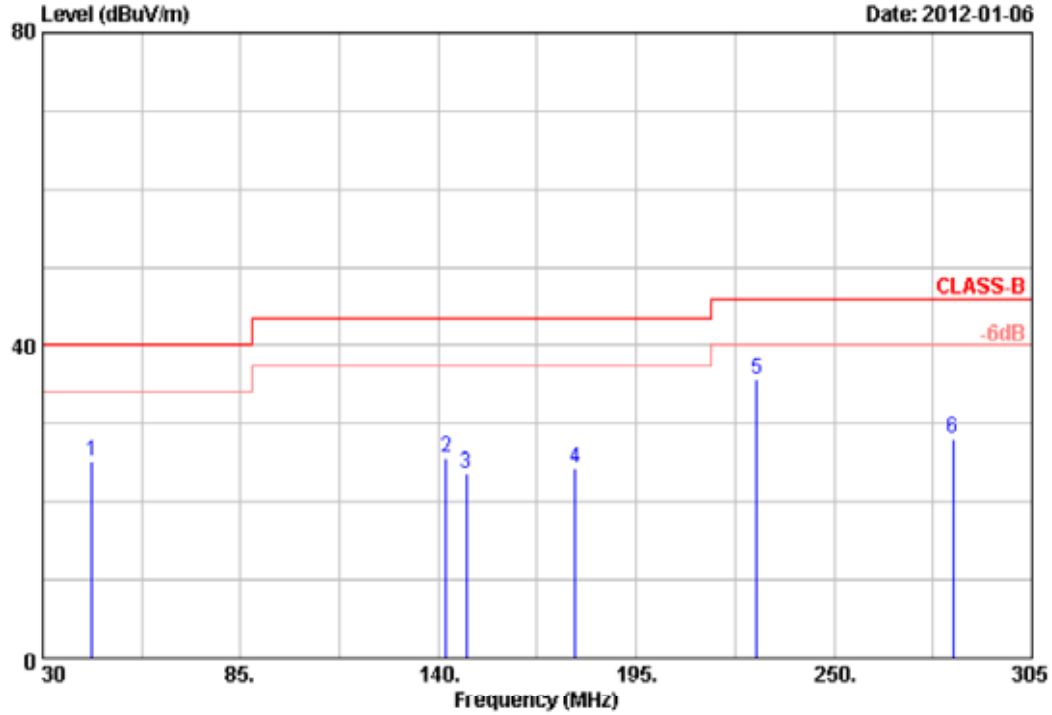


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	312.60	41.34	-4.83	36.51	46.00	-9.49	Peak	100	0
2	417.60	37.32	-1.26	36.06	46.00	-9.94	Peak	100	0
3	545.00	23.91	10.03	33.94	46.00	-12.06	Peak	100	0
4	704.60	35.50	7.02	42.52	46.00	-3.48	QP	100	0
5	844.60	24.17	15.26	39.43	46.00	-6.57	Peak	100	0
6	938.40	25.35	15.11	40.46	46.00	-5.54	Peak	100	0

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. All emission below 1GHz at 802.11b/g/n mode are all the same,so the 802.11g/n mode chosen as representative in final test.
5. According to technical experiences,all spurious emission of 802.11g/n mode at channel 1,6,11 or 3,6,9(for HT40) are almost the same below 1GHz,so that the channel 1 or 3(for HT40)was chosen as representative in final test.
6. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 3	:	802.11n HT40, CH3	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

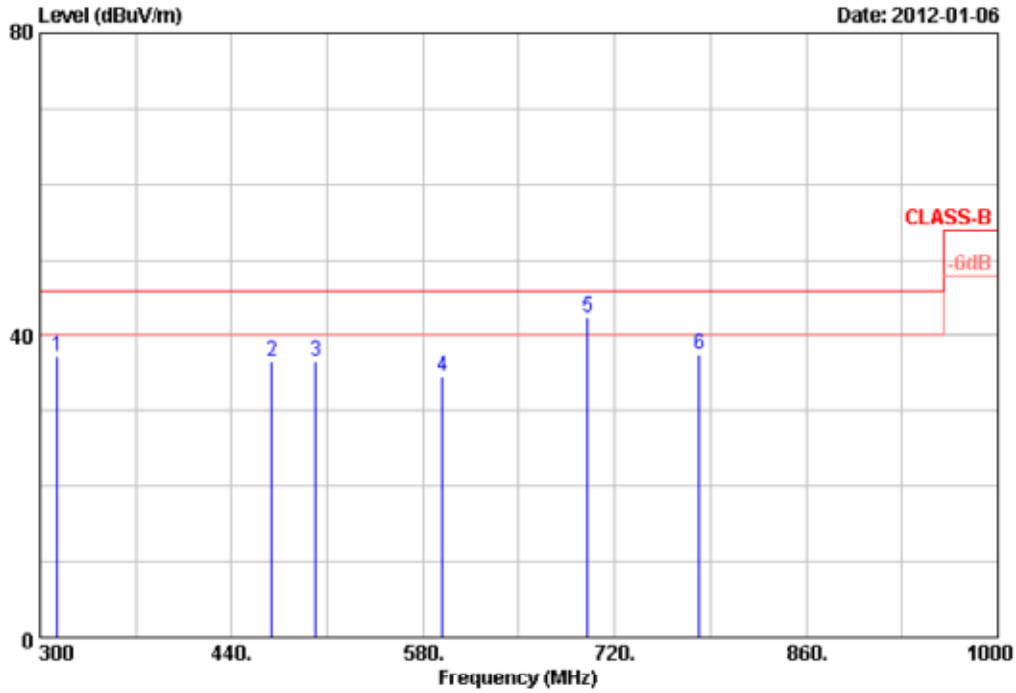


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	43.75	30.91	-5.74	25.17	40.00	-14.83	Peak	100	360
2	142.20	33.77	-8.19	25.58	43.50	-17.92	Peak	100	360
3	147.70	31.53	-7.92	23.61	43.50	-19.89	Peak	100	360
4	177.95	36.50	-12.14	24.36	43.50	-19.14	Peak	100	360
5	228.55	42.06	-6.47	35.59	46.00	-10.41	Peak	100	360
6	283.00	34.95	-6.87	28.08	46.00	-17.92	Peak	100	360

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. All emission below 1GHz at 802.11b/g/n mode are all the same,so the 802.11g/n mode chosen as representative in final test.
5. According to technical experiences,all spurious emission of 802.11g/n mode at channel 1,6,11 or 3,6,9(for HT40) are almost the same below 1GHz,so that the channel 1 or 3(for HT40)was chosen as representative in final test.
6. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 3	:	802.11n HT40, CH3	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

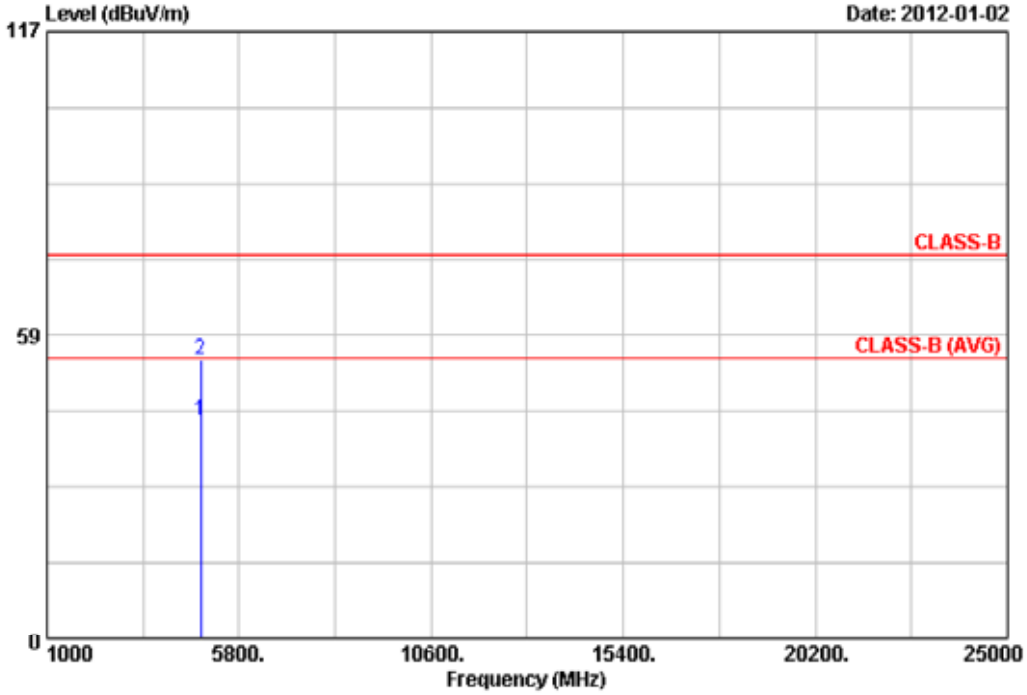


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	312.60	44.79	-7.68	37.11	46.00	-8.89	Peak	100	0
2	469.40	35.90	0.60	36.50	46.00	-9.50	Peak	100	0
3	501.60	34.02	2.59	36.61	46.00	-9.39	Peak	100	0
4	594.00	25.64	8.91	34.55	46.00	-11.45	Peak	100	0
5	700.40	36.05	6.31	42.36	46.00	-3.64	QP	100	0
6	781.60	29.06	8.44	37.50	46.00	-8.50	Peak	100	0

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. All emission below 1GHz at 802.11b/g/n mode are all the same,so the 802.11g/n mode chosen as representative in final test.
5. According to technical experiences,all spurious emission of 802.11g/n mode at channel 1,6,11 or 3,6,9(for HT40) are almost the same below 1GHz,so that the channel 1 or 3(for HT40)was chosen as representative in final test.
6. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 3	:	802.11n HT40, CH3	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

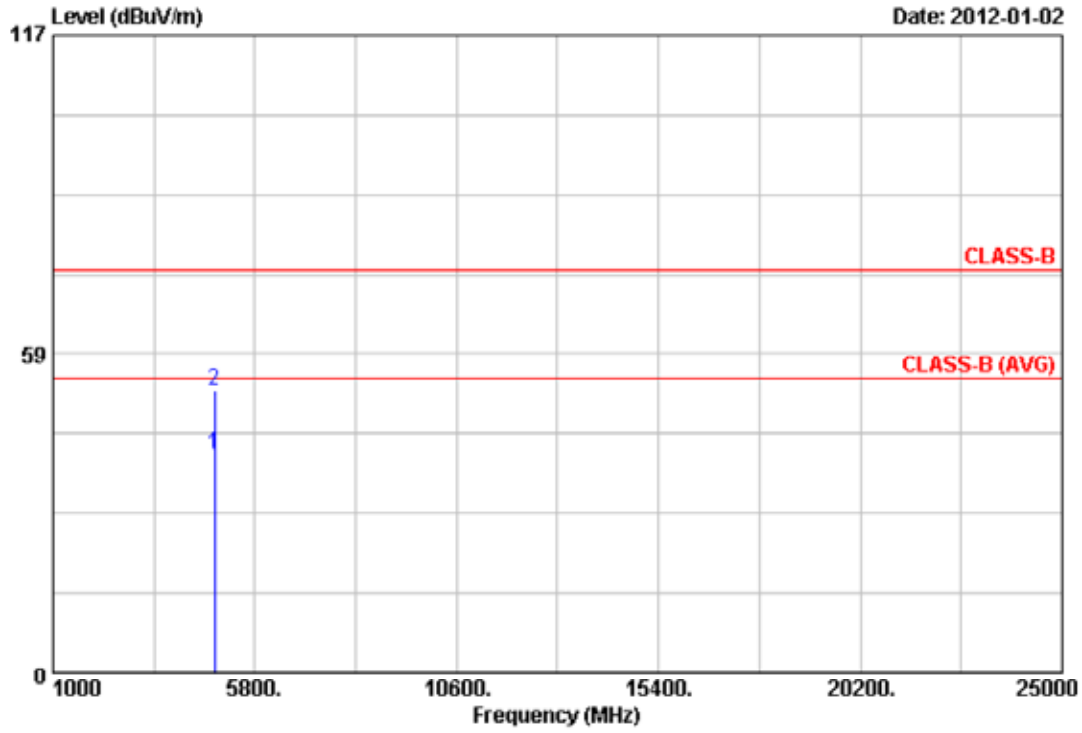


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4844.05	36.06	6.00	42.06	54.00	-11.94	Average	100	196
2	4844.25	47.91	6.01	53.92	74.00	-20.08	Peak	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 3	:	802.11n HT40, CH3	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

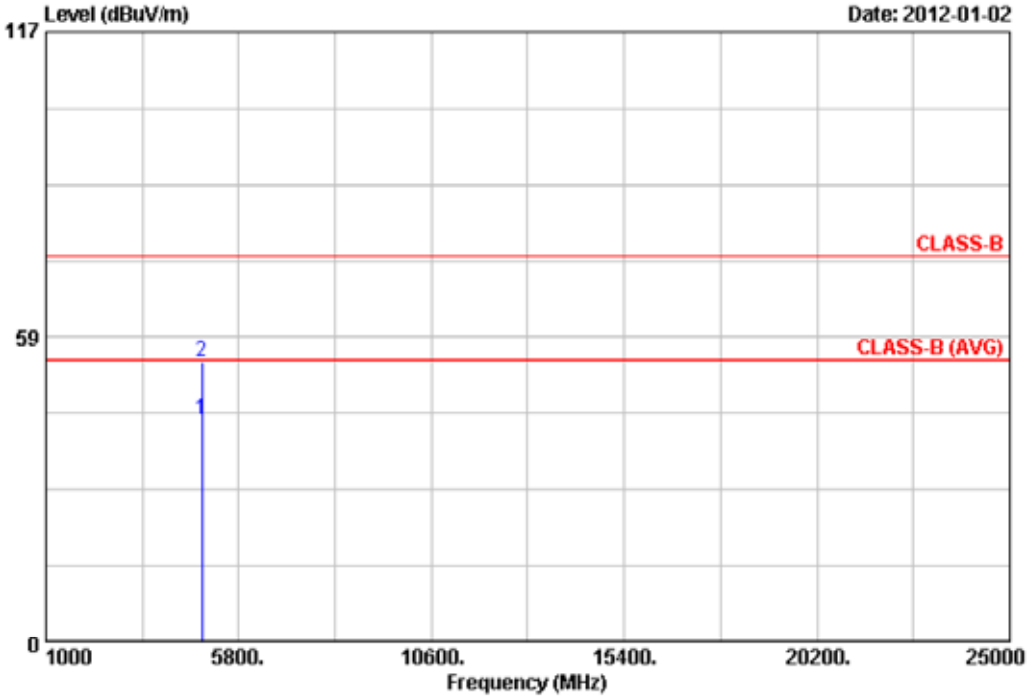


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4844.10	35.87	4.26	40.13	54.00	-13.87	Average	100	196
2	4848.83	47.56	4.34	51.90	74.00	-22.10	Peak	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 3	:	802.11n HT40, CH6	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

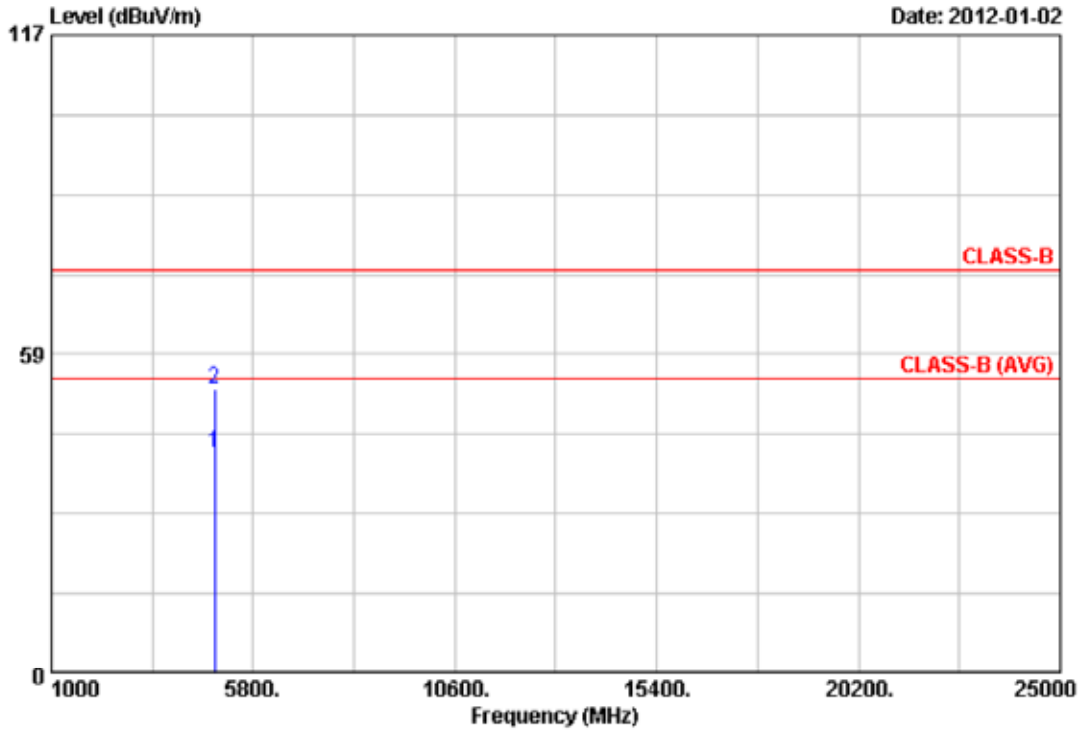


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4873.98	35.96	6.59	42.55	54.00	-11.45	Average	100	196
2	4874.03	47.26	6.59	53.85	74.00	-20.15	Peak	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 3	:	802.11n HT40, CH6	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

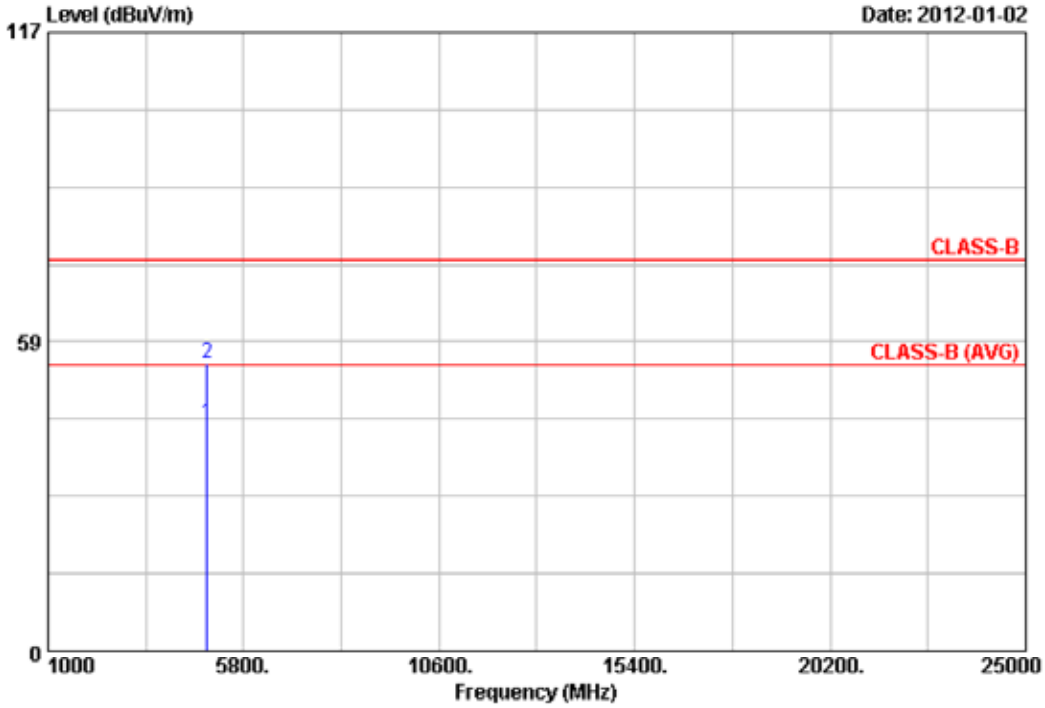


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4874.00	35.84	4.73	40.57	54.00	-13.43	Average	100	196
2	4874.10	47.56	4.73	52.29	74.00	-21.71	Peak	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode 3	:	802.11n HT40, CH9	Temperature	:	25 °C
Memo	:		Humidity	:	51 %

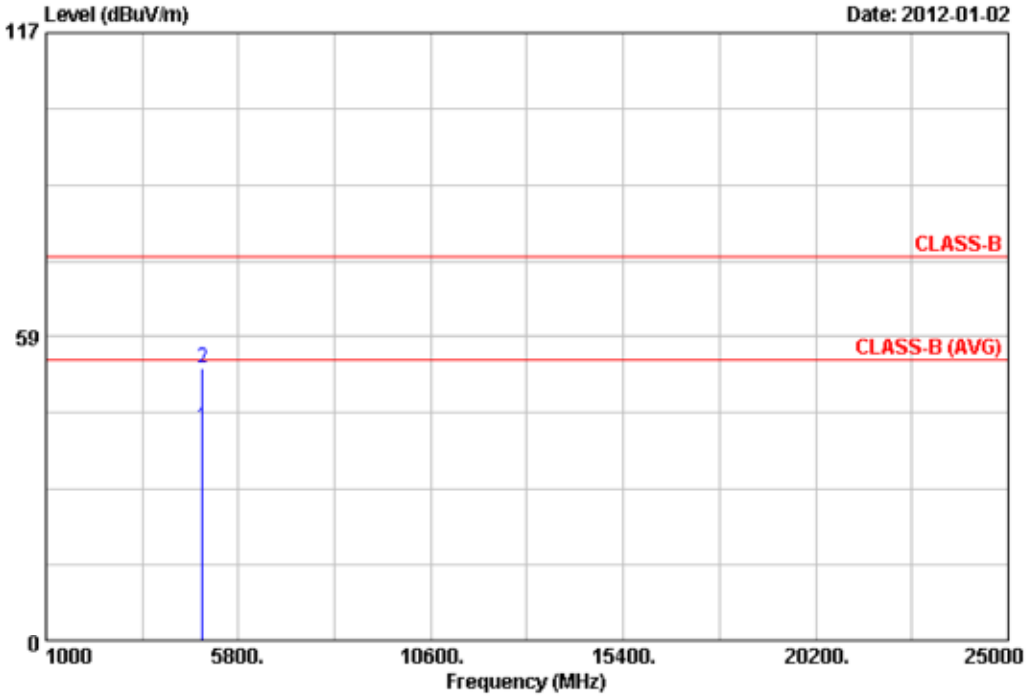


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4903.95	35.90	7.11	43.01	54.00	-10.99	Average	100	196
2	4904.80	47.43	7.12	54.55	74.00	-19.45	Peak	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode 3	:	802.11n HT40, CH9	Temperature	:	25 °C
Memo	:		Humidity	:	51 %



Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4903.98	35.89	5.14	41.03	54.00	-12.97	Average	100	196
2	4905.18	47.41	5.14	52.55	74.00	-21.45	Peak	100	196

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Test engineer: Ben

6. 6dB Bandwidth Measurement Data

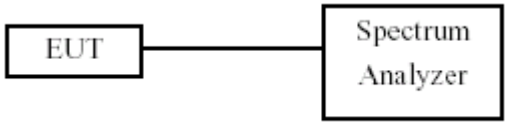
6.1 Test Limit

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

6.2 Test Procedures

a. The transmitter output was connected to the spectrum analyzer.
b. Set RBW of spectrum analyzer to 100 KHz and VBW to 100 KHz.
c. The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.

6.3 Test Setup Layout



6.4 Measurement Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	R&S	FSP40	100219	2011/11/24	2012/11/23

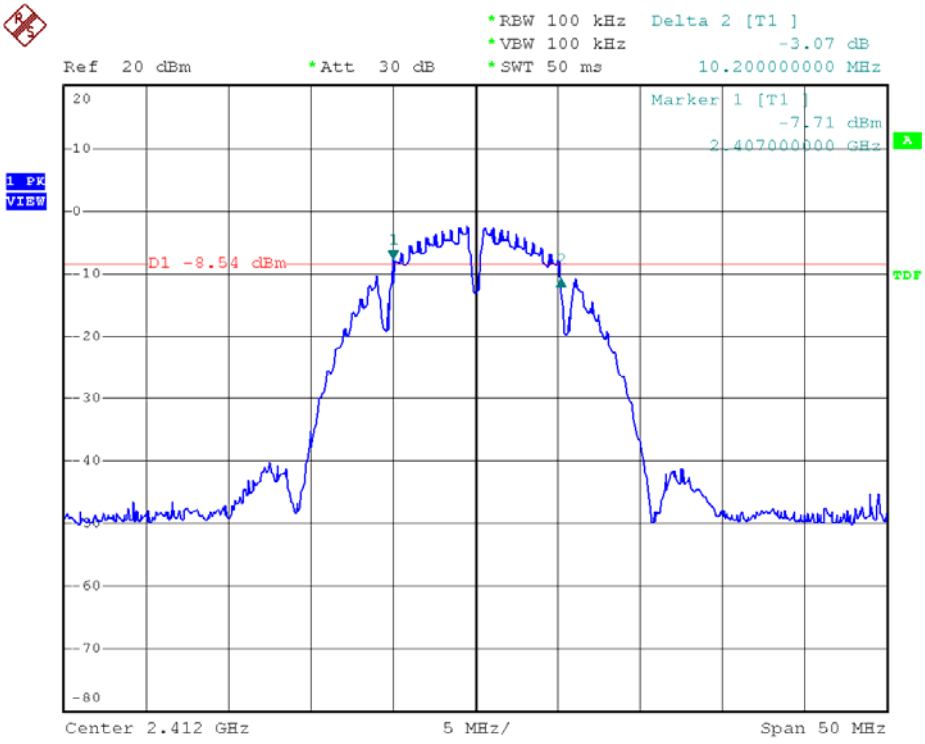
6.5 Test Result and Data

Test Date: Jan. 04, 2012 Temperature: 25℃

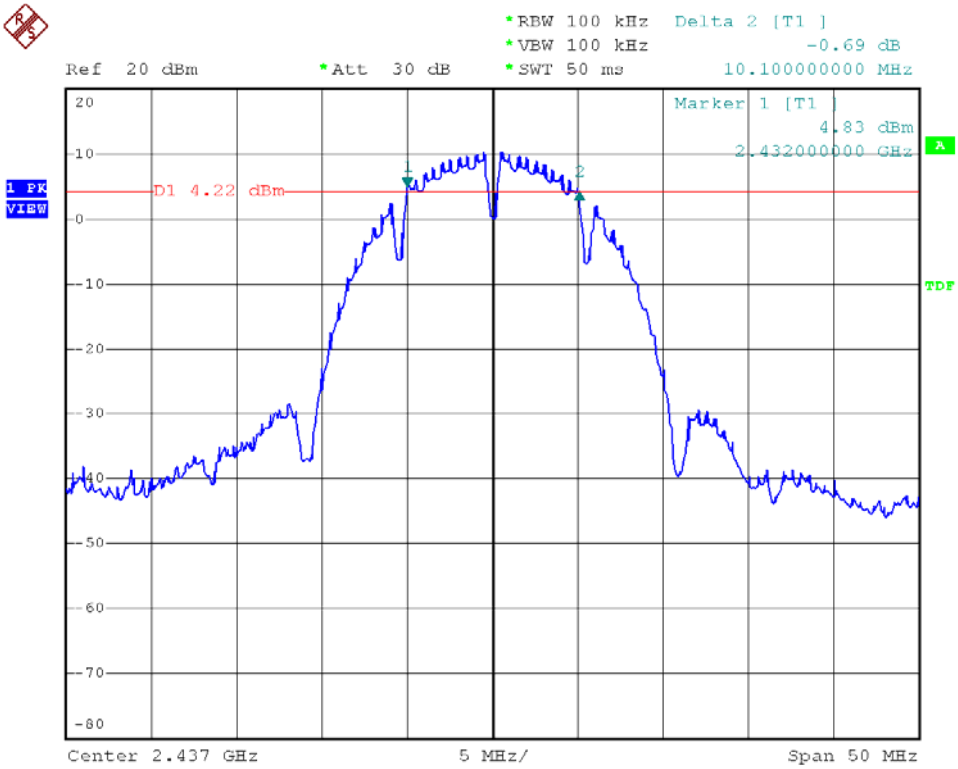
Atmospheric pressure: 1020 hPa Humidity: 65%

Modulation Standard	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	
			ANT R	ANT L
802.11b (11Mbps)	01	2412	10.2	10.2
	06	2437	10.1	10.1
	11	2462	10.2	10.1
802.11g (54Mbps)	01	2412	16.6	16.6
	06	2437	16.6	16.6
	11	2462	16.6	16.6
802.11n HT20 (130Mbps)	01	2412	17.9	17.9
	06	2437	17.8	17.8
	11	2462	17.8	17.8
802.11n HT40 (270Mbps)	03	2422	36.6	36.6
	06	2437	36.8	36.8
	09	2452	36.6	36.8

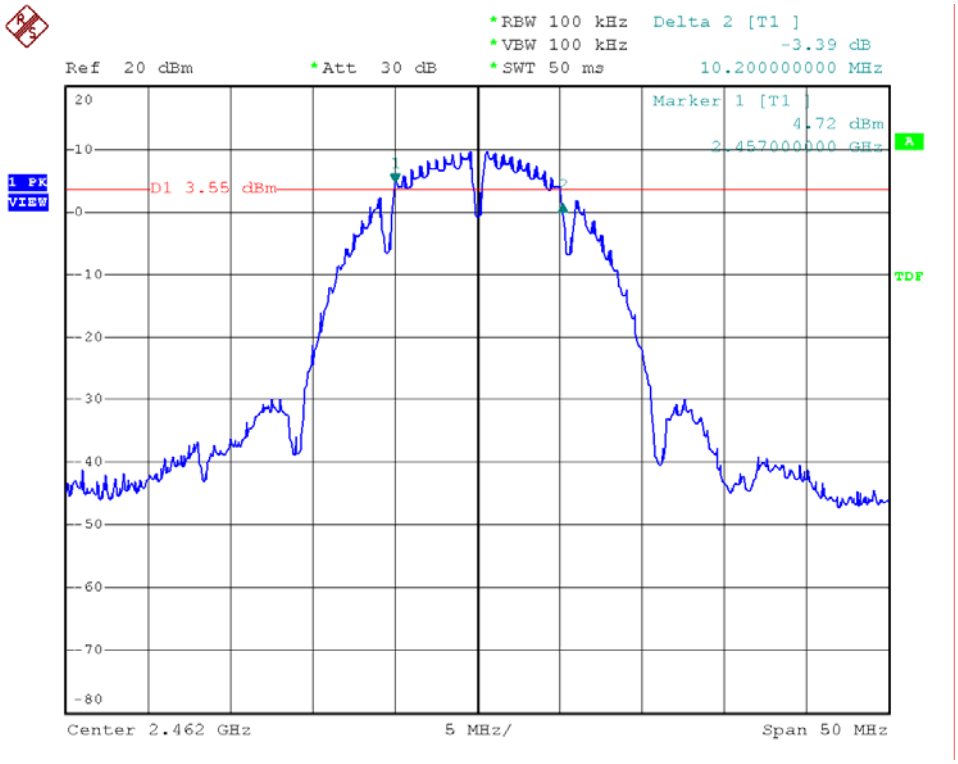
Modulation Standard: 802.11b (11Mbps), ANT R
Channel: 01



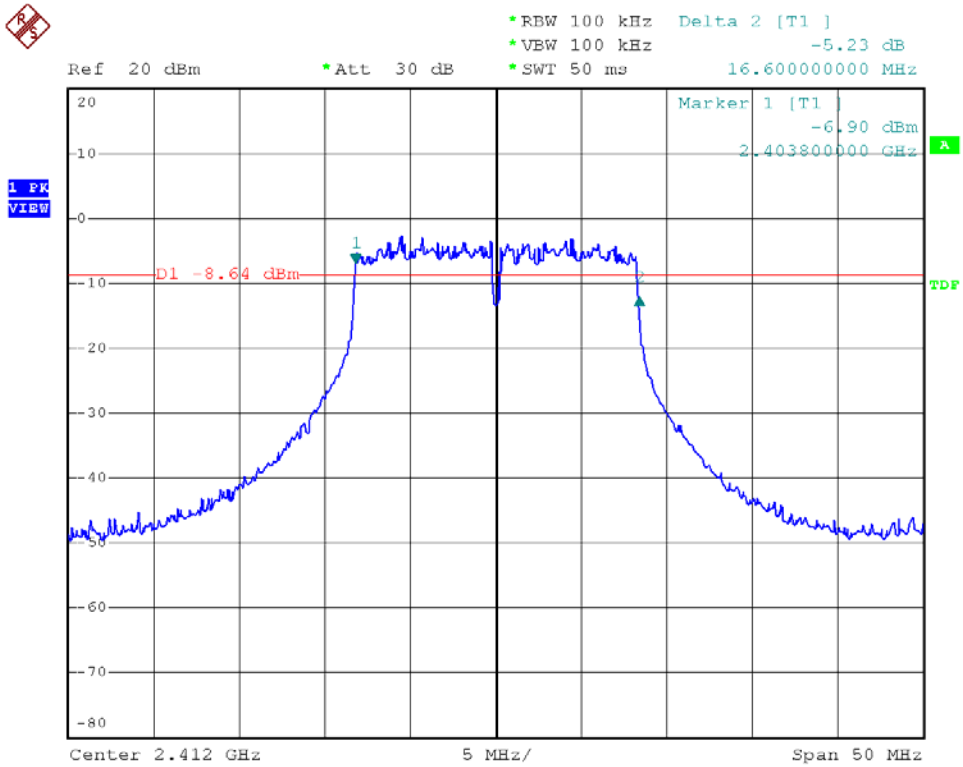
Modulation Standard: 802.11b (11Mbps), ANT R
Channel: 06



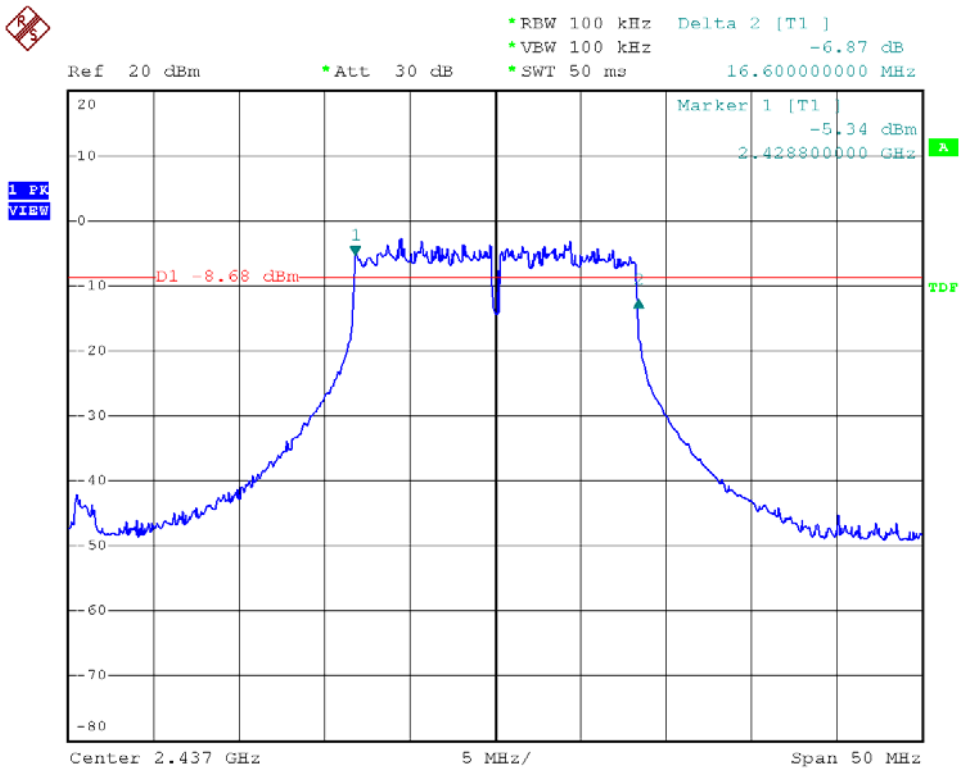
Modulation Standard: 802.11b (11Mbps), ANT R
Channel: 11



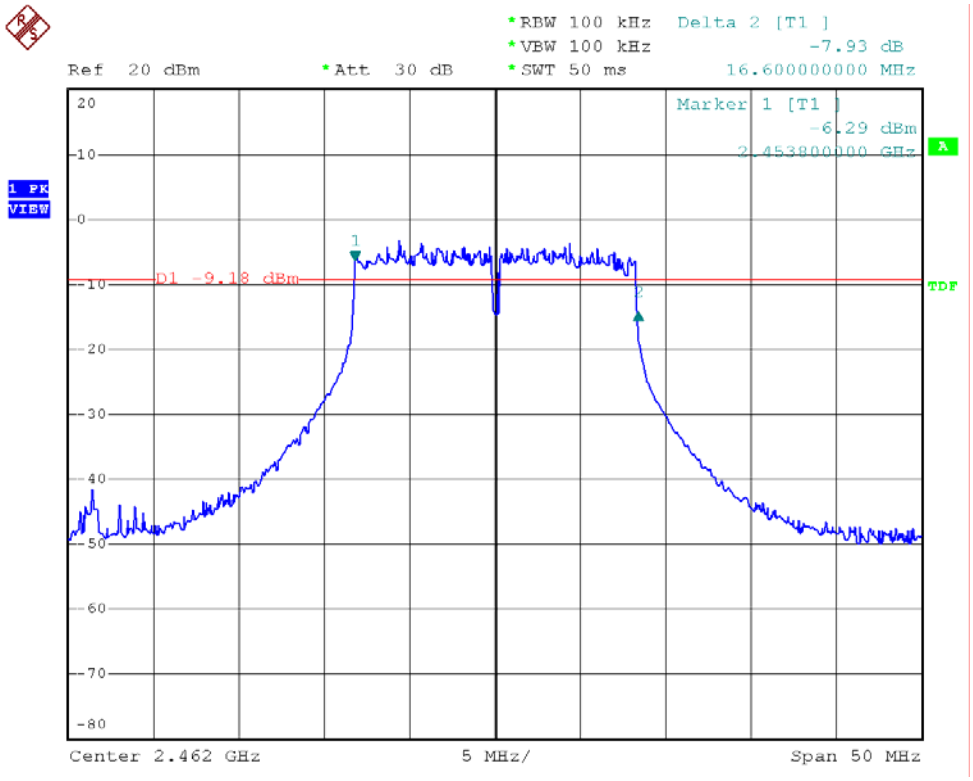
Modulation Standard: 802.11g (54Mbps), ANT R
Channel: 01



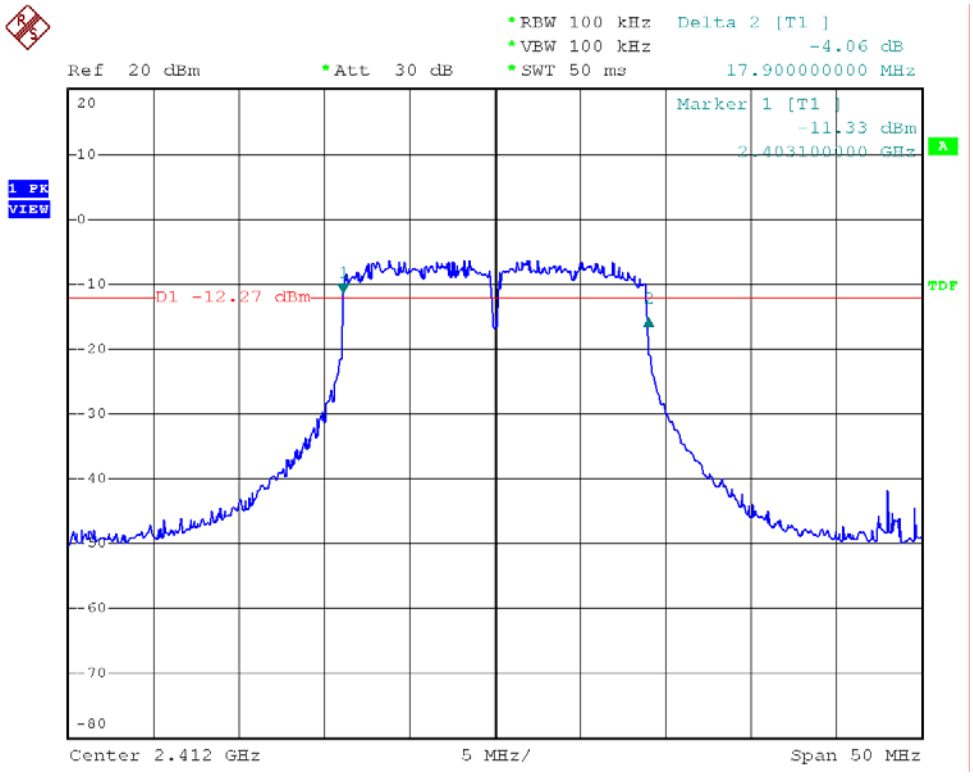
Modulation Standard: 802.11g (54Mbps), ANT R
Channel: 06



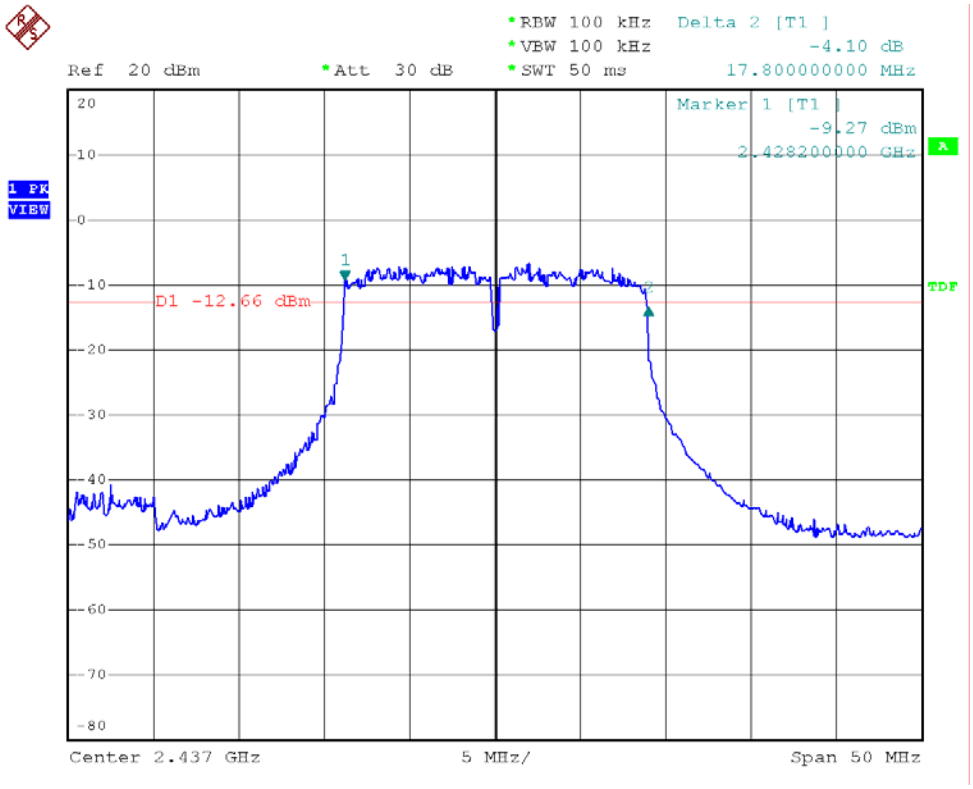
Modulation Standard: 802.11g (54Mbps), ANT R
Channel: 11



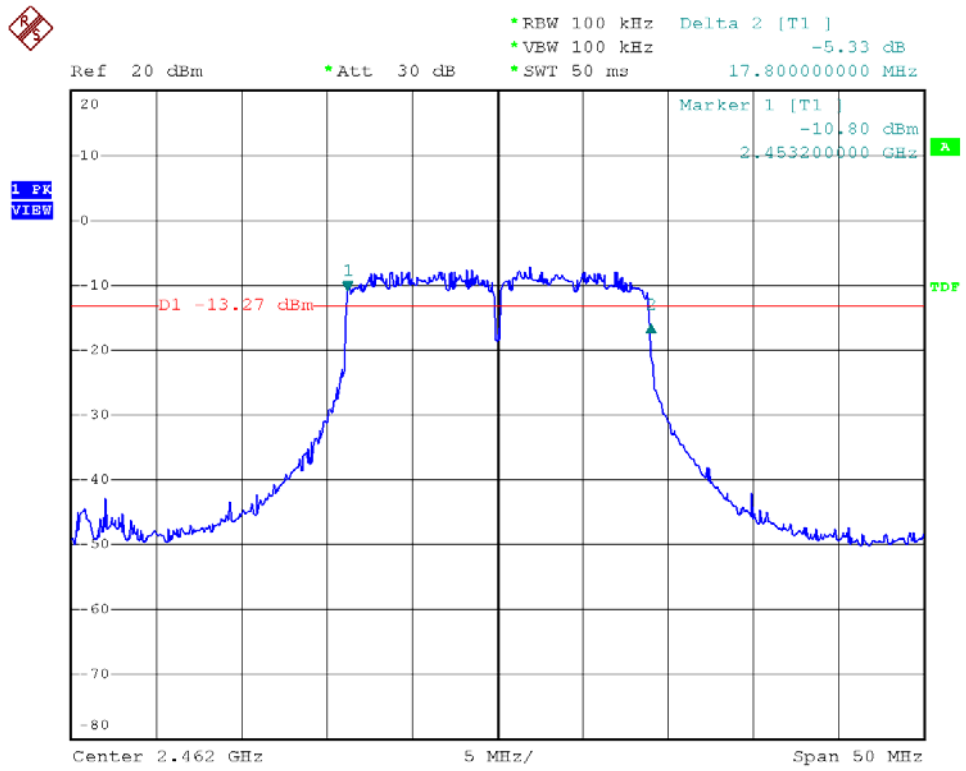
Modulation Standard: 802.11n HT20 (130Mbps), ANT R
Channel: 01



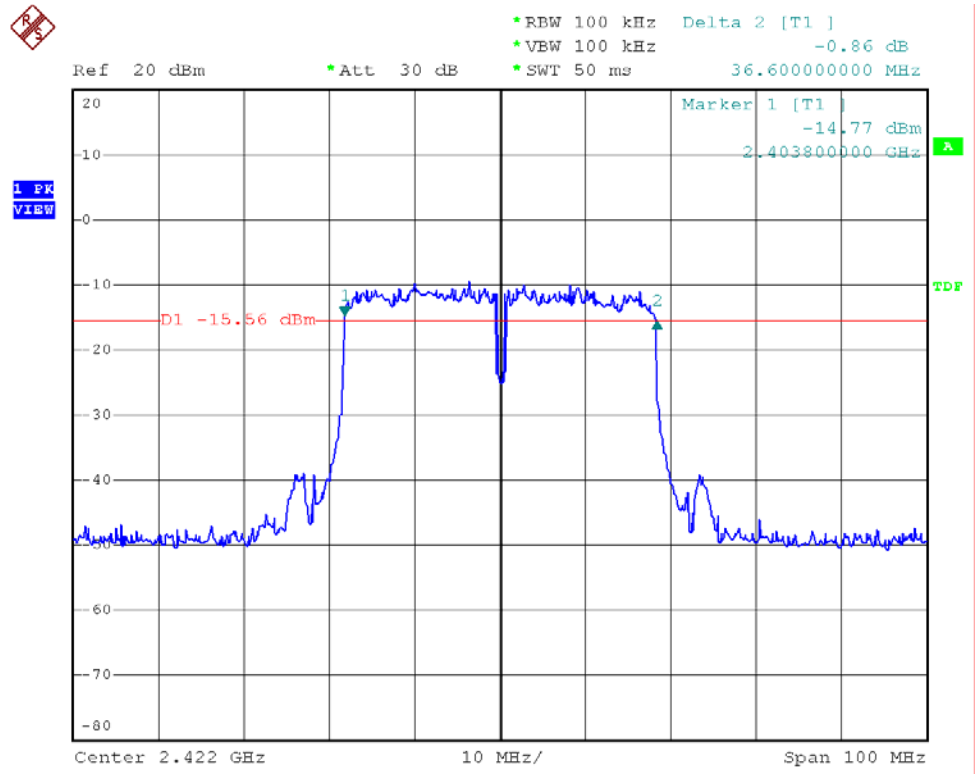
Modulation Standard: 802.11n HT20 (130Mbps), ANT R
Channel: 06



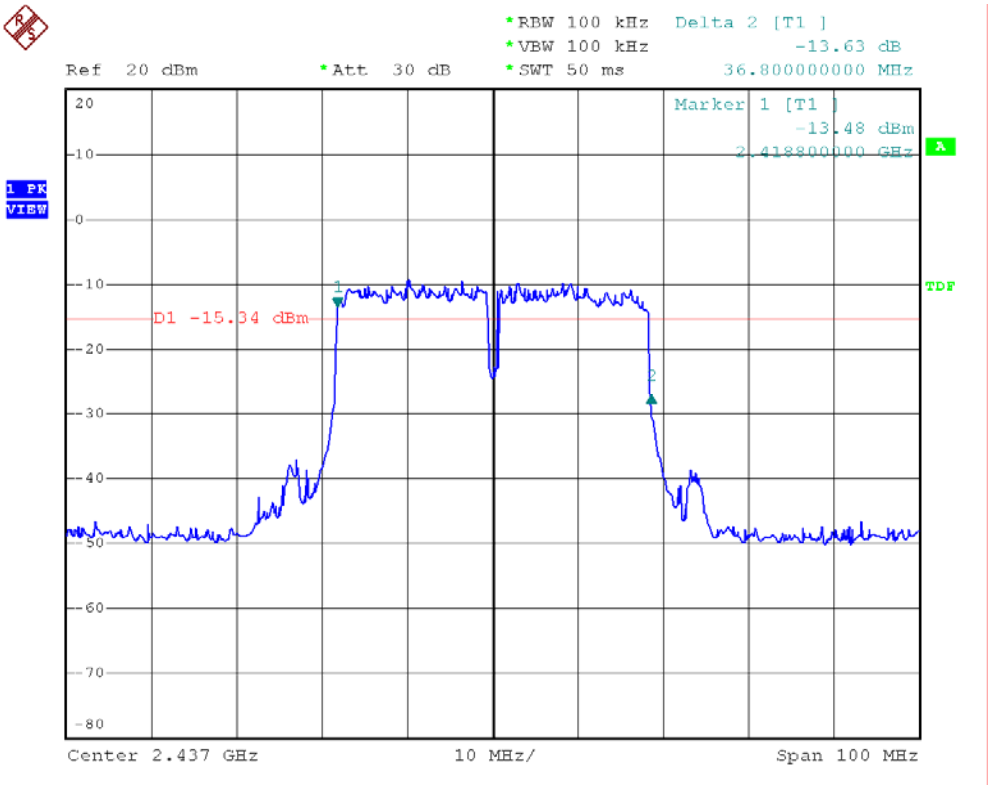
Modulation Standard: 802.11n HT20 (130Mbps), ANT R
Channel: 11



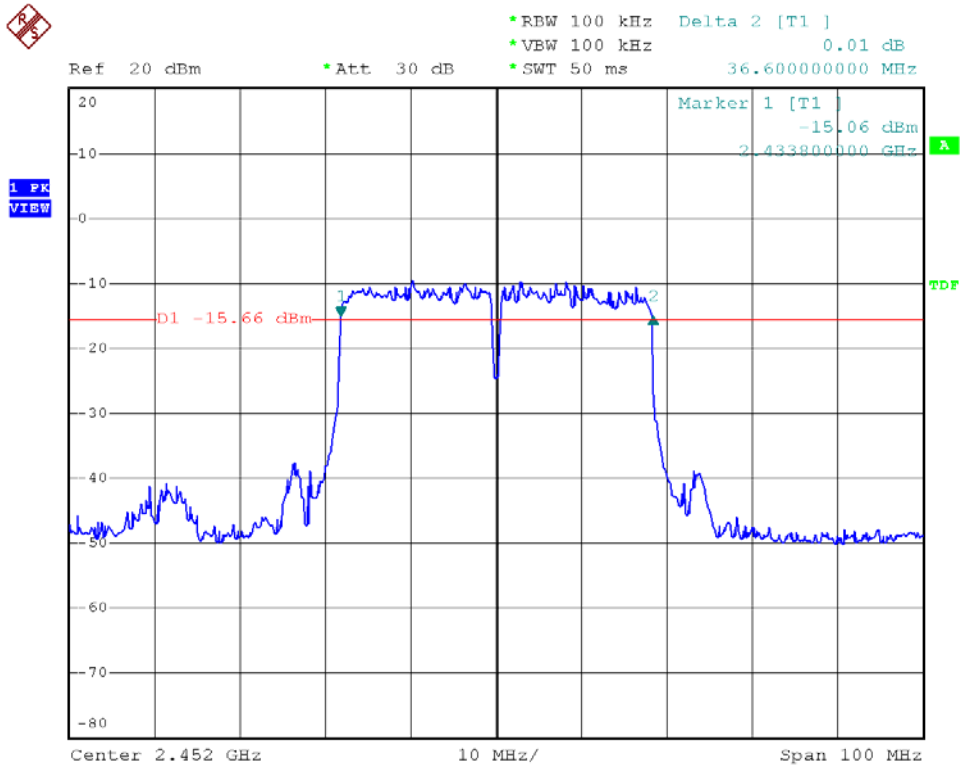
Modulation Standard: 802.11n HT40 (270Mbps), ANT R
Channel: 03



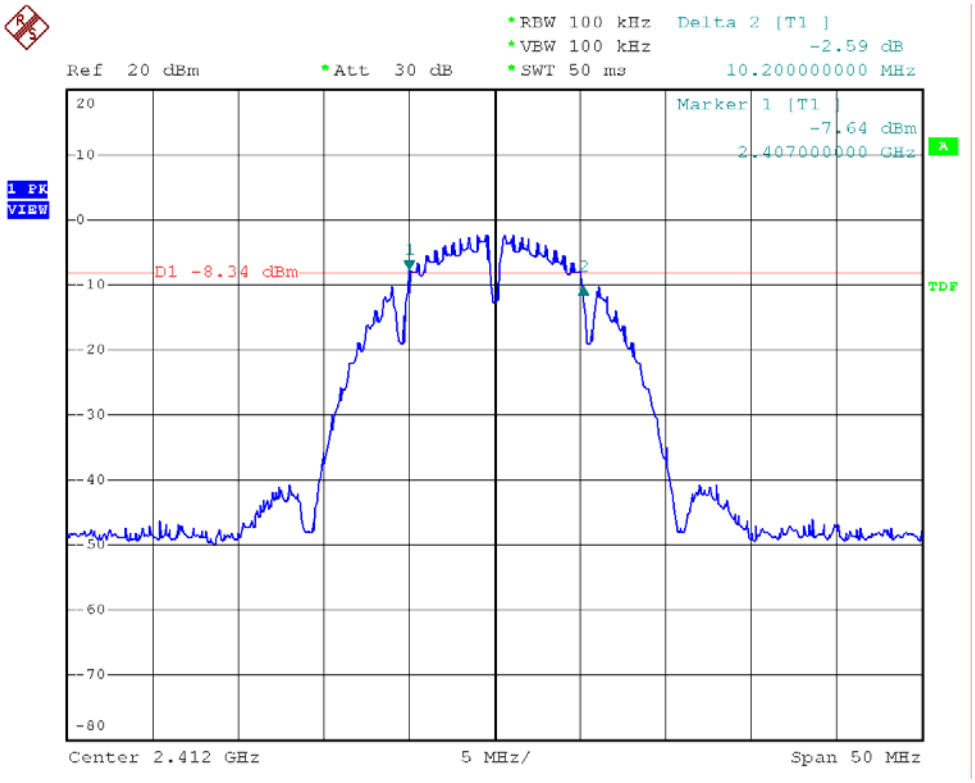
Modulation Standard: 802.11n HT40 (270Mbps), ANT R
Channel: 06



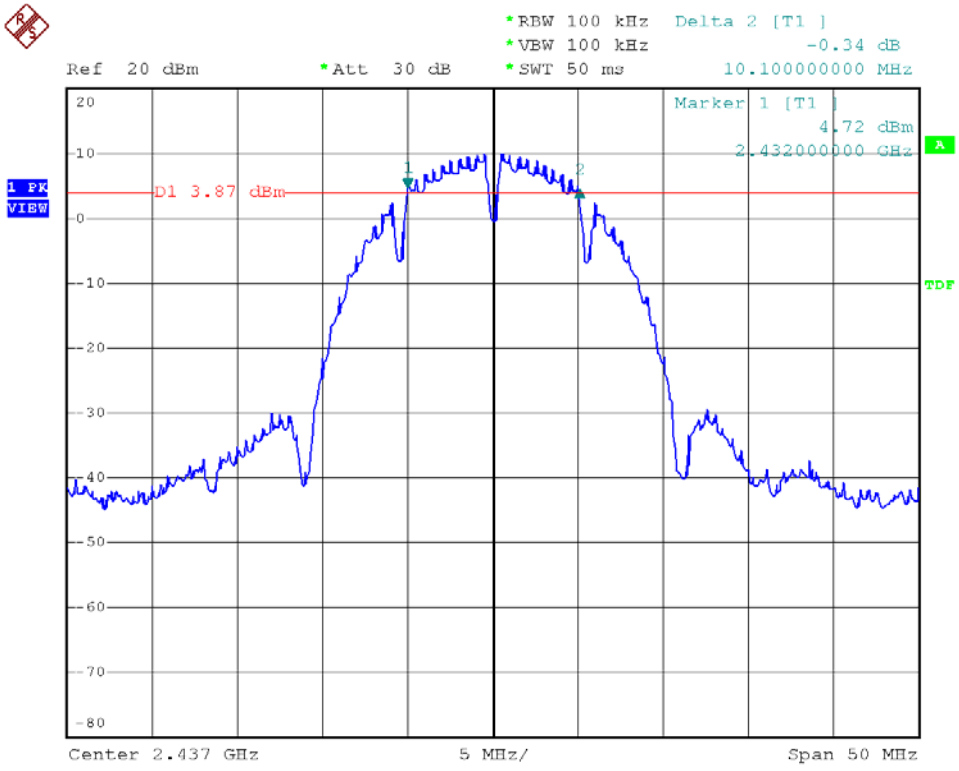
Modulation Standard: 802.11n HT40 (270Mbps), ANT R
Channel: 09



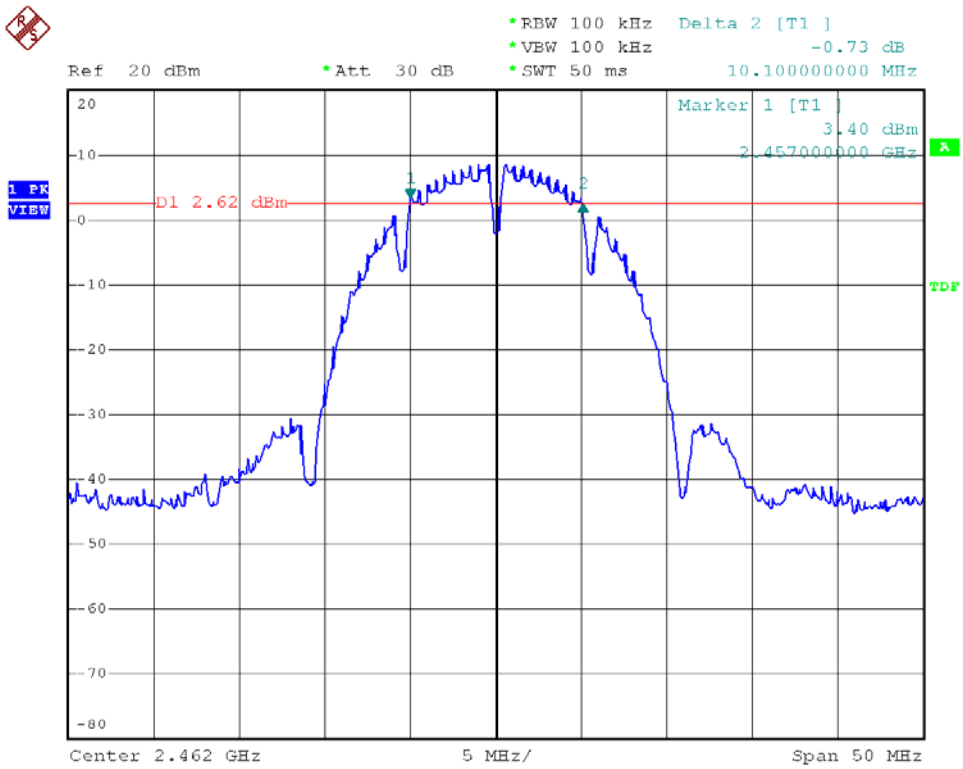
Modulation Standard: 802.11b (11Mbps), ANT L
Channel: 01



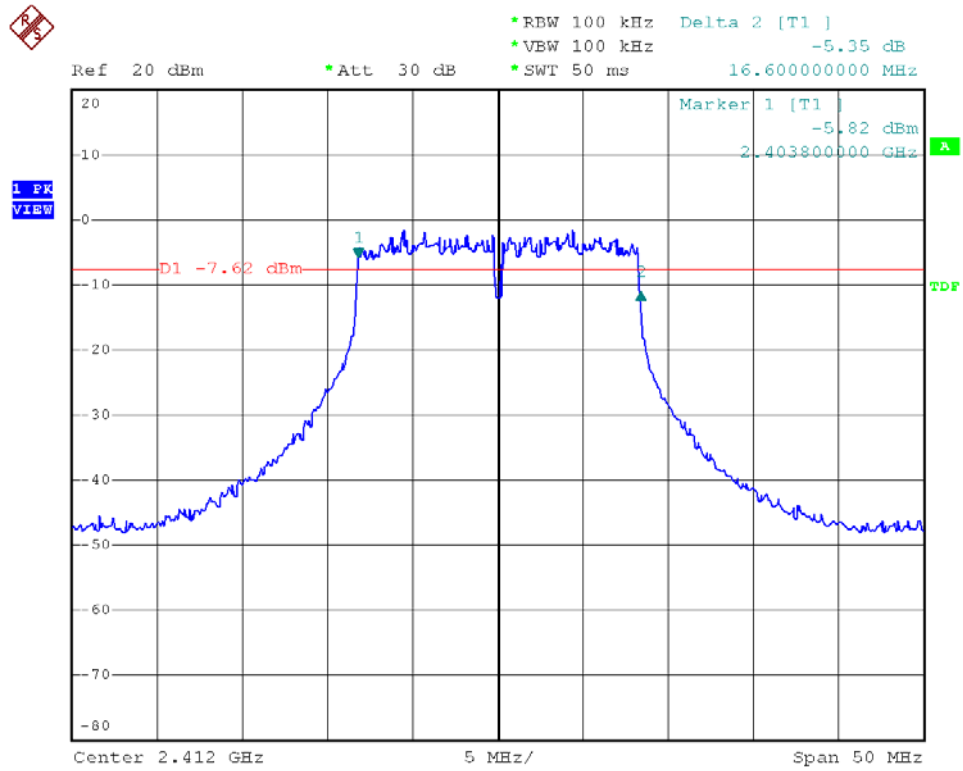
Modulation Standard: 802.11b (11Mbps), ANT L
Channel: 06



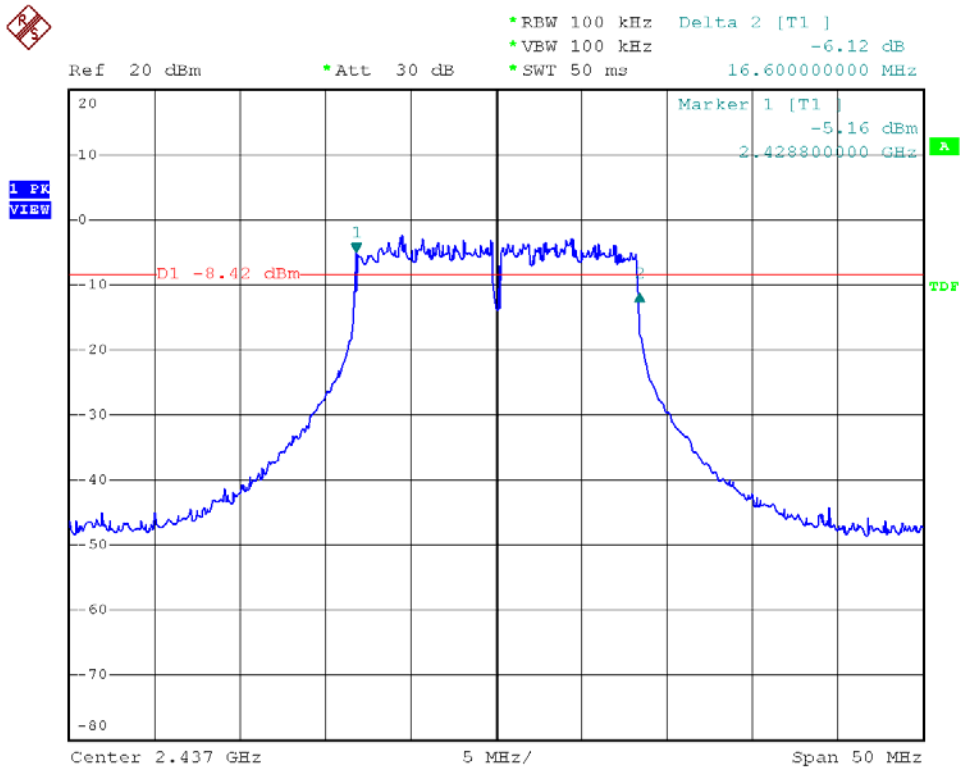
Modulation Standard: 802.11b (11Mbps), ANT L
Channel: 11



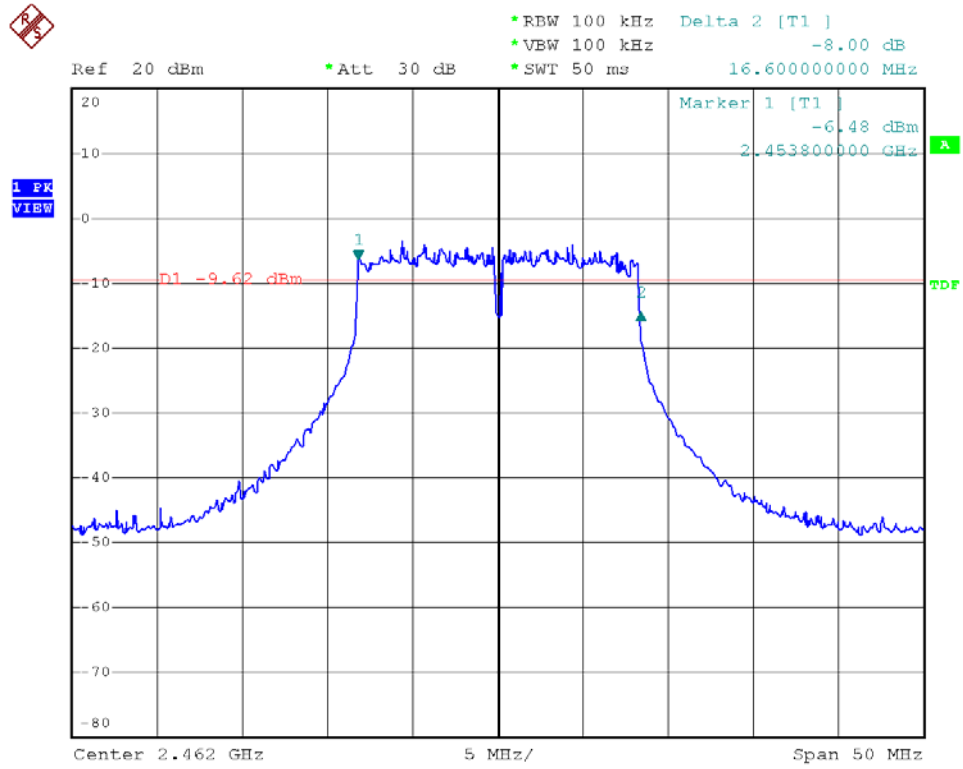
Modulation Standard: 802.11g (54Mbps), ANT L
Channel: 01



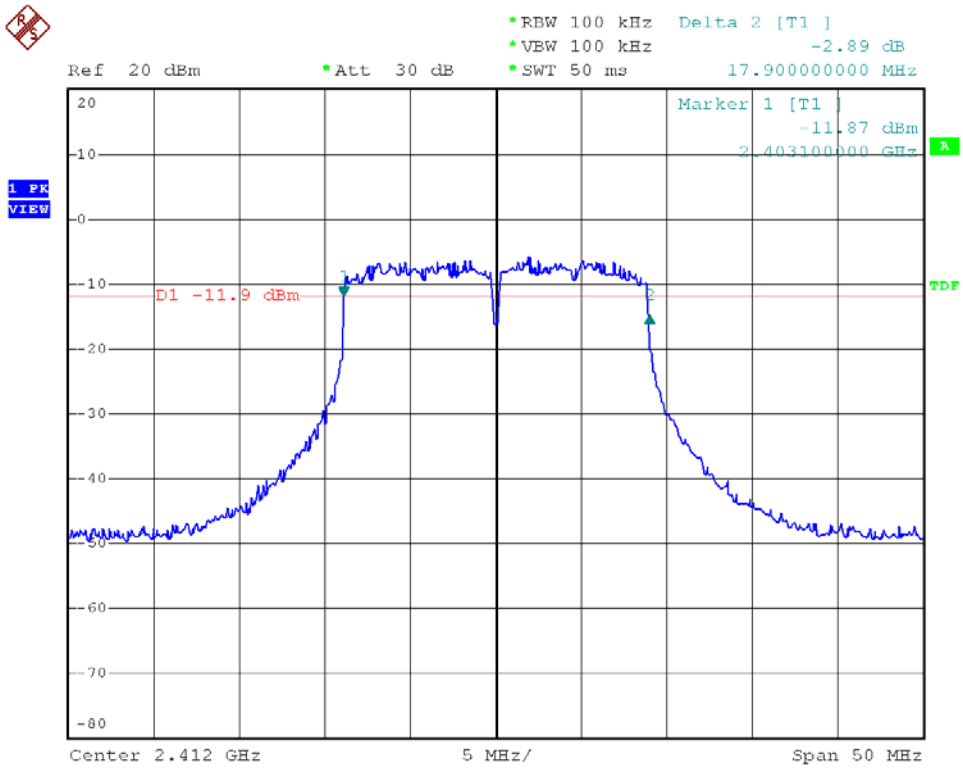
Modulation Standard: 802.11g (54Mbps), ANT L
Channel: 06



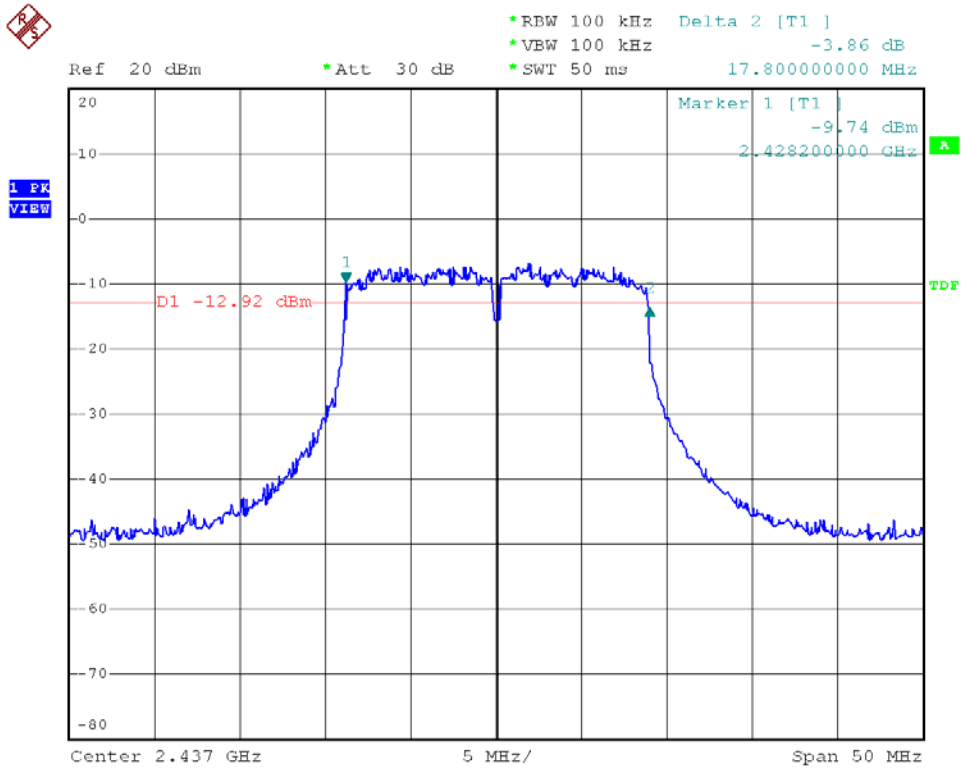
Modulation Standard: 802.11g (54Mbps), ANT L
Channel: 11



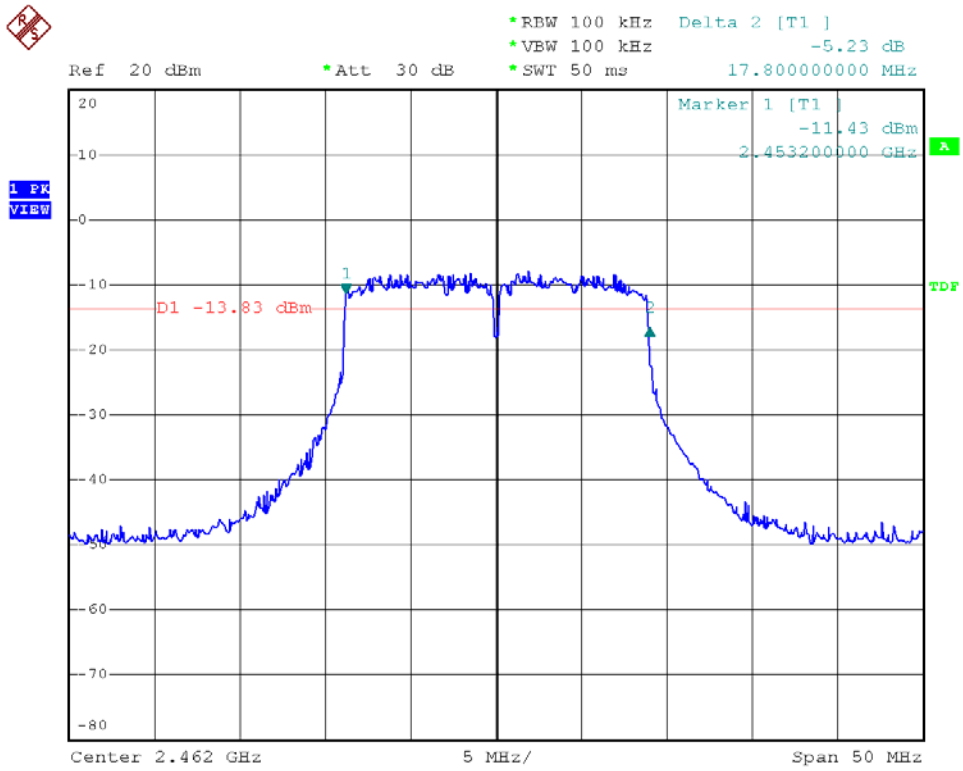
Modulation Standard: 802.11n HT20 (130Mbps), ANT L
Channel: 01



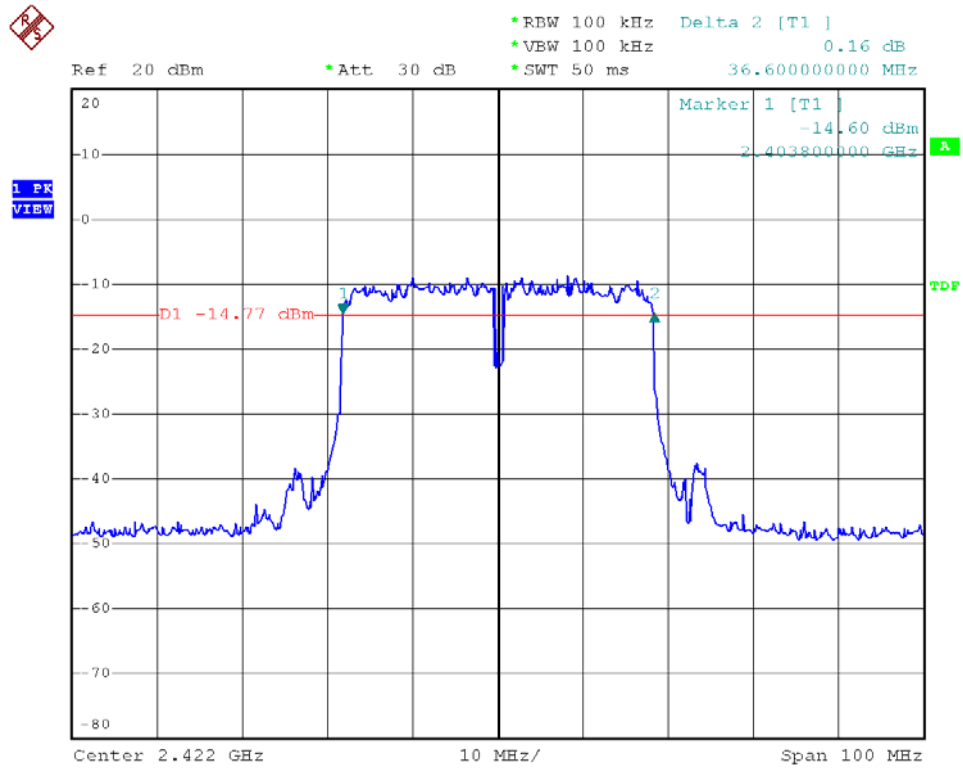
Modulation Standard: 802.11n HT20 (130Mbps), ANT L
Channel: 06



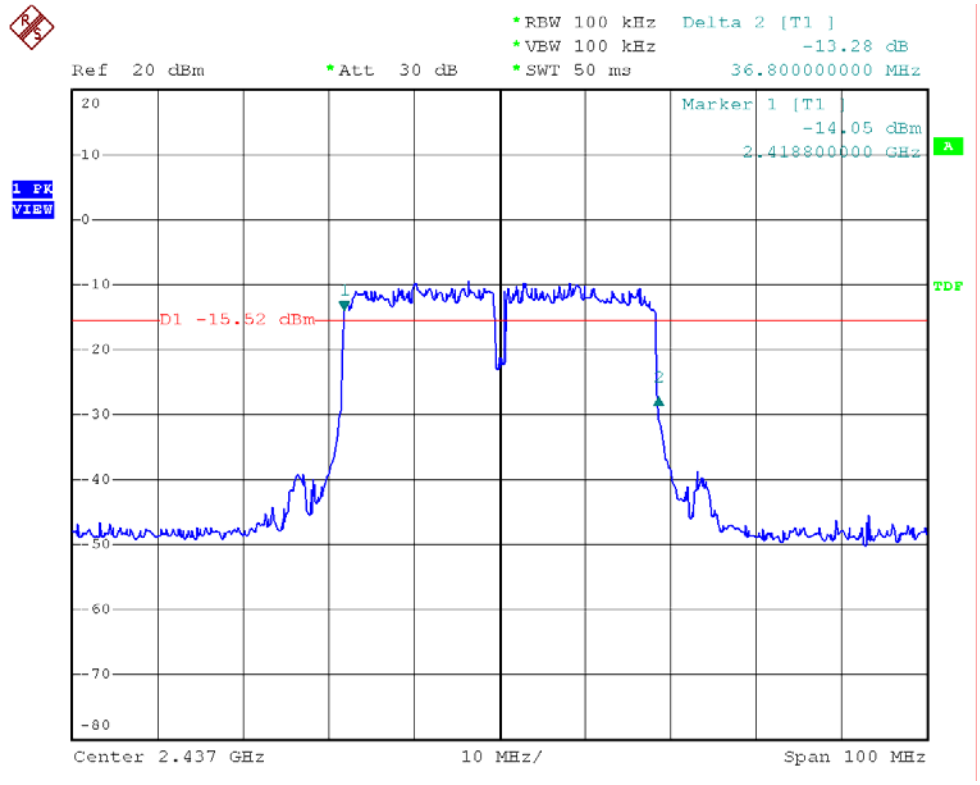
Modulation Standard: 802.11n HT20 (130Mbps), ANT L
Channel: 11



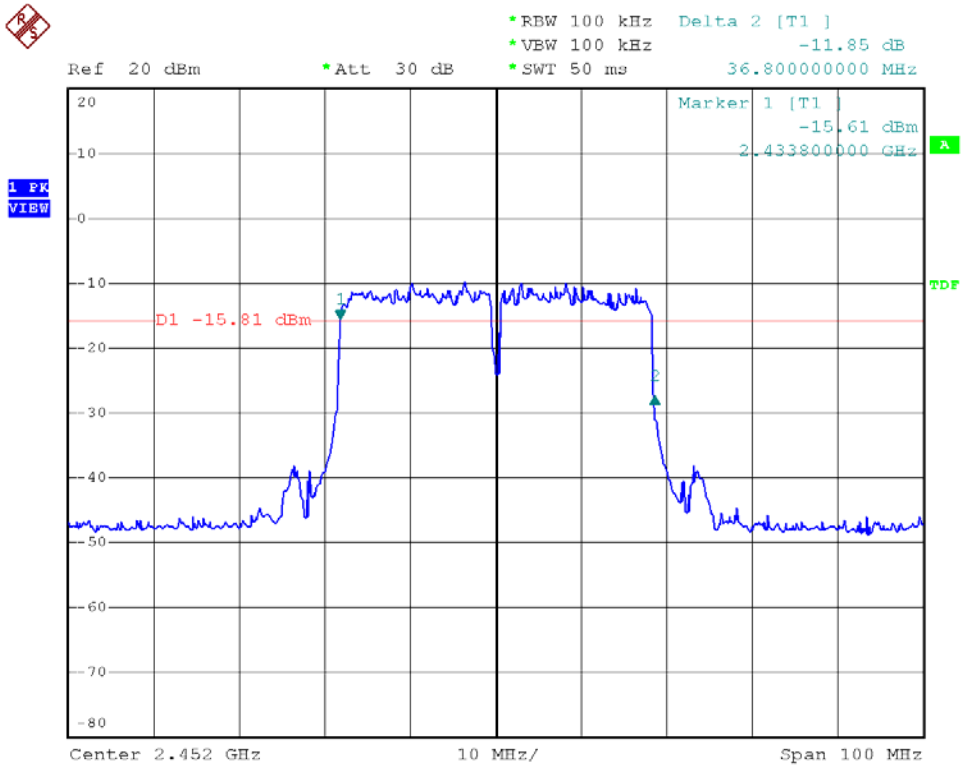
Modulation Standard: 802.11n HT40 (270Mbps), ANT L
Channel: 03



Modulation Standard: 802.11n HT40 (270Mbps), ANT L
Channel: 06



Modulation Standard: 802.11n HT40 (270Mbps), ANT L
Channel: 09



7. Maximum Peak Output Power

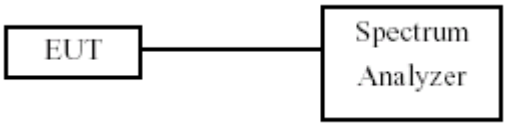
7.1 Test Limit

The Maximum Peak Output Power Measurement is 30dBm.

7.2 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.

7.3 Test Setup Layout



7.4 Measurement Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	R&S	FSP40	100219	2011/11/24	2012/11/23

7.5 Test Result and Data

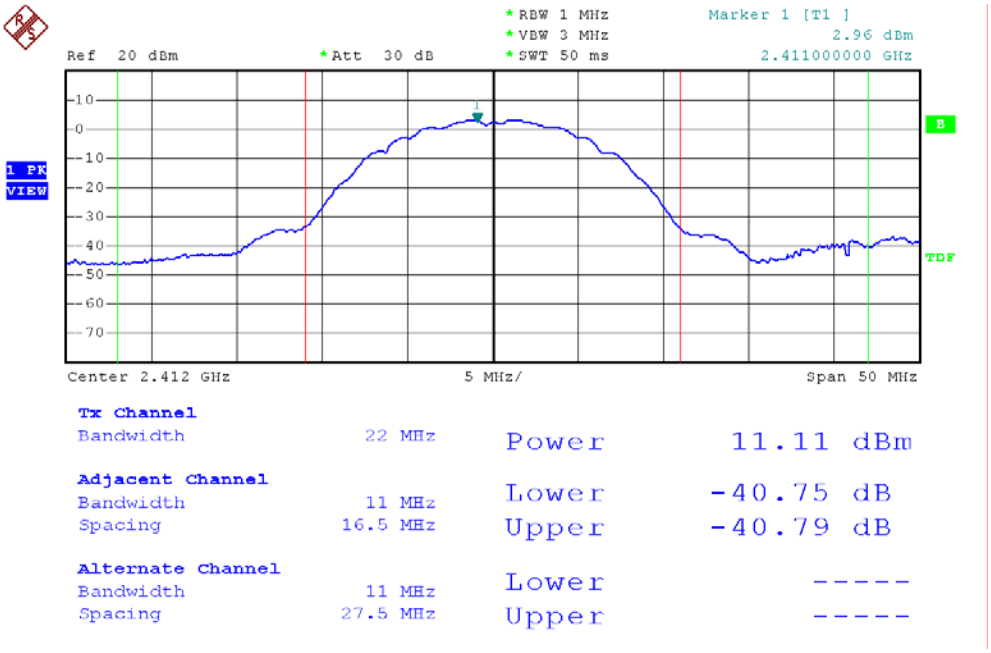
Test Date: Jan. 03, 2012 Temperature: 25℃

Atmospheric pressure: 1020 hPa Humidity: 65%

Modulation Standard	Channel	Frequency (MHz)	Peak Power Output (dBm)			Peak Power Output (mW)
			ANT R	ANT L	R+L	R+L
802.11b (11Mbps)	01	2412	11.11	11.26	14.20	26.28
	06	2437	24.60	24.26	27.44	555.09
	11	2462	24.41	23.52	27.00	500.96
802.11g (54Mbps)	01	2412	19.27	18.35	21.84	152.92
	06	2437	19.05	18.46	21.78	150.50
	11	2462	18.30	17.29	20.83	121.19

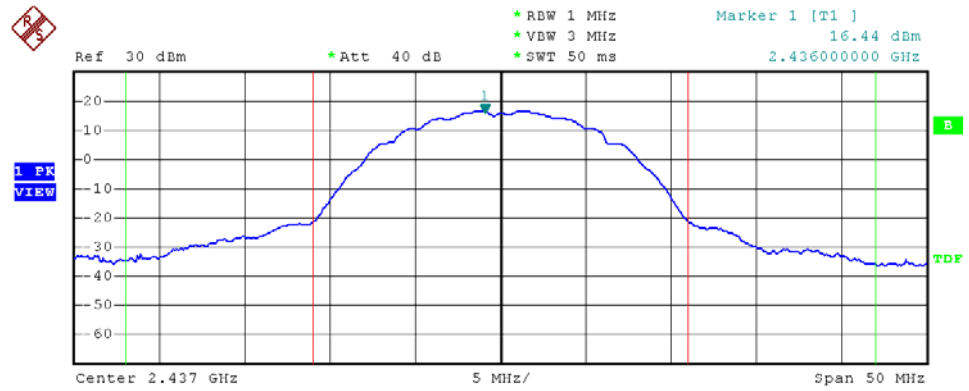
Modulation Standard	Channel	Frequency (MHz)	Peak Power Output (dBm)			Peak Power Output (mW)
			ANT R	ANT L	R+L	R+L
802.11n HT20 (130Mbps)	01	2412	15.93	16.04	19.00	79.35
	06	2437	15.53	15.31	18.43	69.69
	11	2462	14.92	14.42	17.69	58.72
802.11n HT40 (270Mbps)	03	2422	15.23	16.49	18.92	77.91
	06	2437	15.50	15.72	18.62	72.81
	09	2452	15.12	15.34	18.24	66.71

Modulation Standard: 802.11b (11Mbps), ANT R
Channel: 01



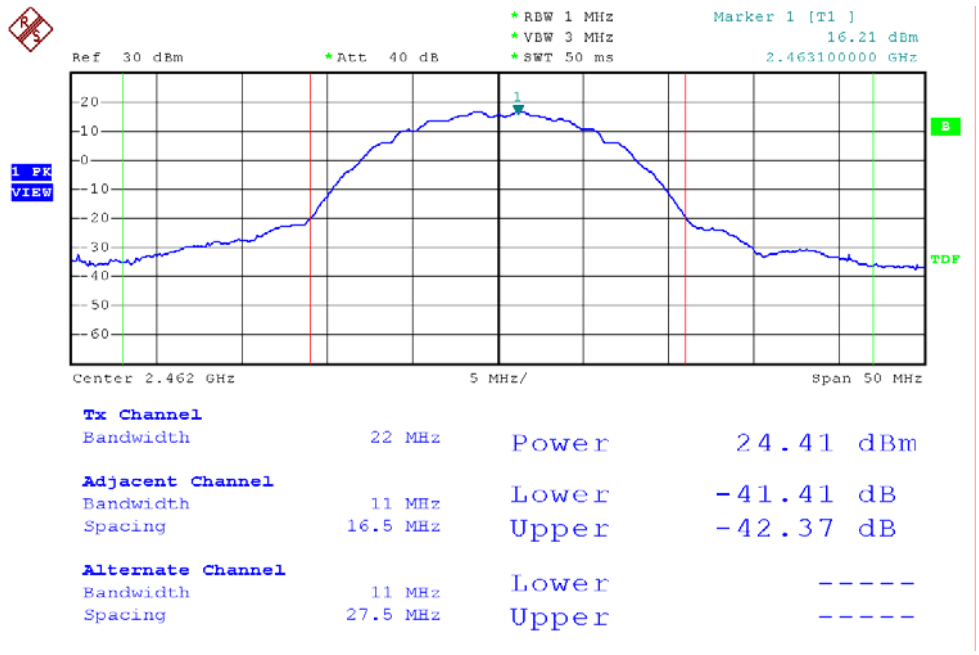
Tx Channel			
Bandwidth	22 MHz	Power	11.11 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-40.75 dB
Spacing	16.5 MHz	Upper	-40.79 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

Modulation Standard: 802.11b (11Mbps), ANT R
Channel: 06

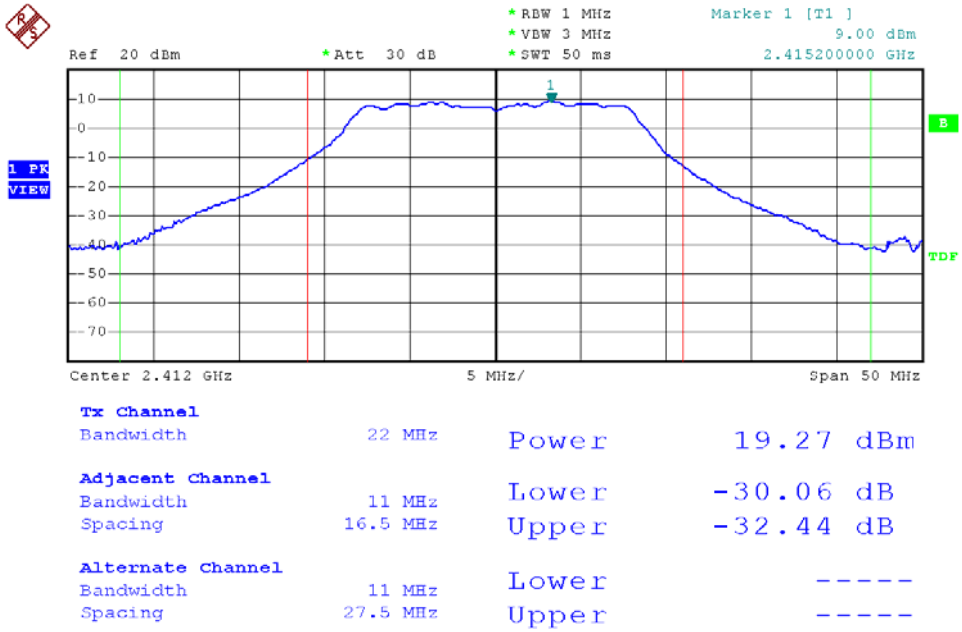


Tx Channel			
Bandwidth	22 MHz	Power	24.60 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-41.40 dB
Spacing	16.5 MHz	Upper	-42.64 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

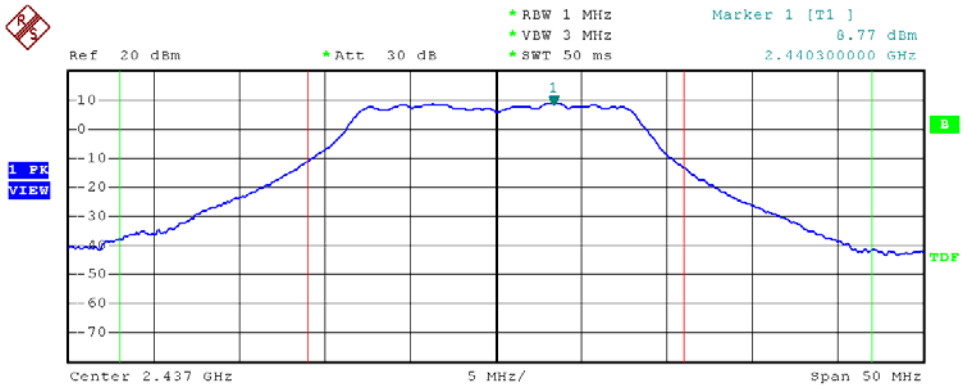
Modulation Standard: 802.11b (11Mbps), ANT R
Channel: 11



Modulation Standard: 802.11g (54Mbps), ANT R
Channel: 01

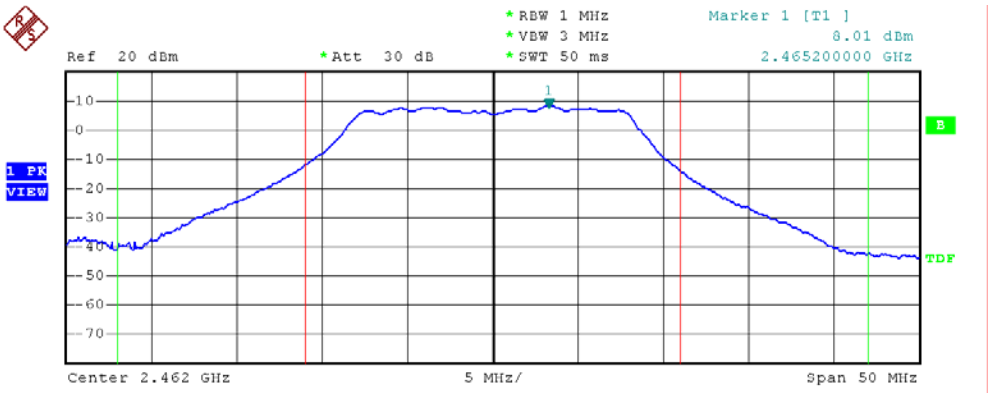


Modulation Standard: 802.11g (54Mbps), ANT R
Channel: 06



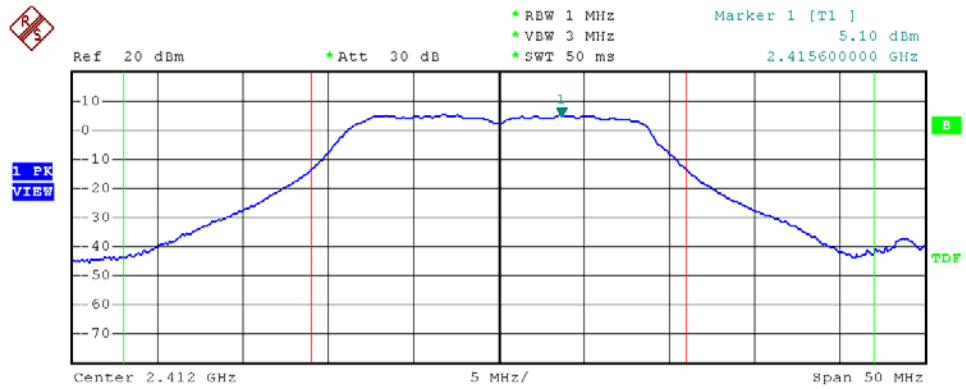
Tx Channel			
Bandwidth	22 MHz	Power	19.05 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-29.95 dB
Spacing	16.5 MHz	Upper	-32.50 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

Modulation Standard: 802.11g (6Mbps), ANT R
Channel: 11



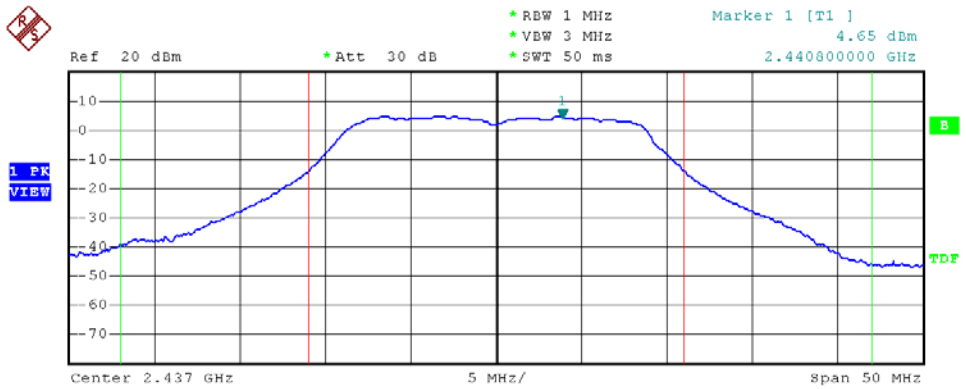
Tx Channel			
Bandwidth	22 MHz	Power	18.30 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-30.11 dB
Spacing	16.5 MHz	Upper	-32.45 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

Modulation Standard: 802.11n HT20 (130Mbps), ANT R
Channel: 01



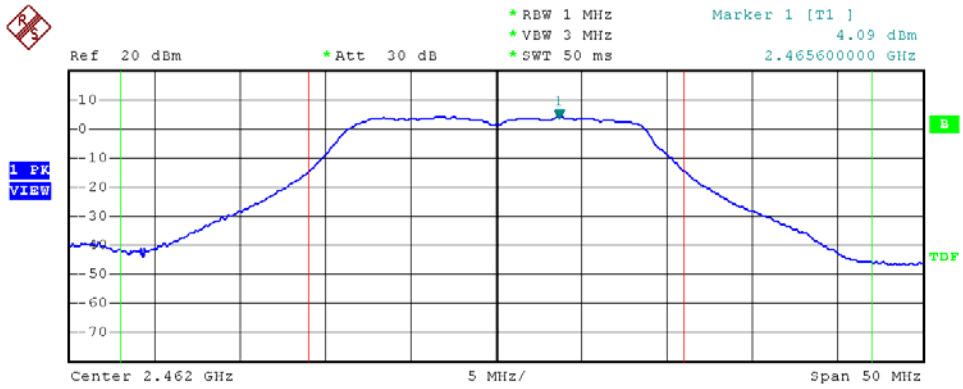
Tx Channel			
Bandwidth	22 MHz	Power	15.93 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-29.90 dB
Spacing	16.5 MHz	Upper	-30.22 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

Modulation Standard: 802.11n HT20 (130Mbps), ANT R
Channel: 06



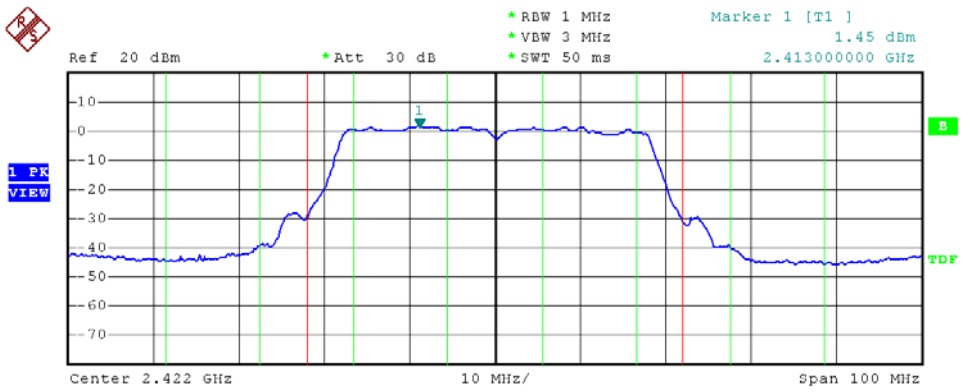
Tx Channel			
Bandwidth	22 MHz	Power	15.53 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-29.79 dB
Spacing	16.5 MHz	Upper	-30.09 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

Modulation Standard: 802.11n HT20 (130Mbps), ANT R
Channel: 11



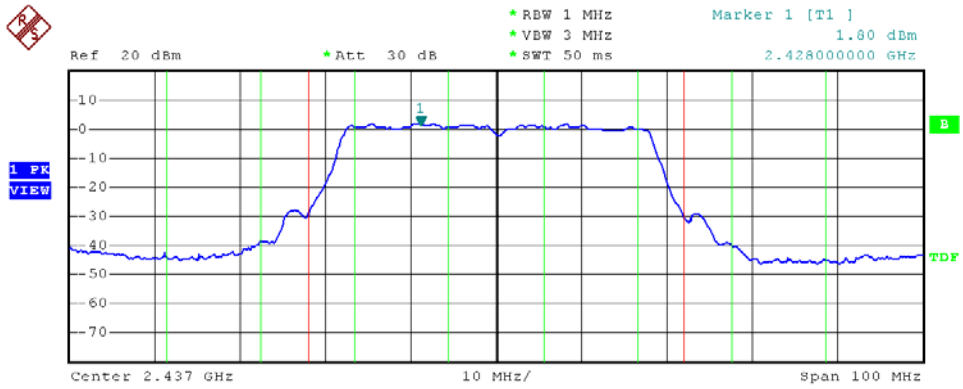
Tx Channel			
Bandwidth	22 MHz	Power	14.92 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-29.93 dB
Spacing	16.5 MHz	Upper	-29.95 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

Modulation Standard: 802.11n HT40 (270Mbps), ANT R
Channel: 03



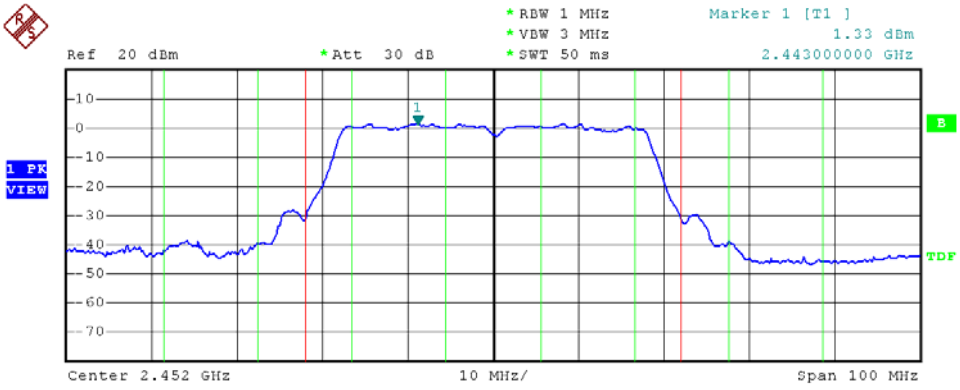
Tx Channel			
Bandwidth	44 MHz	Power	15.23 dBm
Adjacent Channel			
Bandwidth	22 MHz	Lower	-4.31 dB
Spacing	16.5 MHz	Upper	-4.90 dB
Alternate Channel			
Bandwidth	22 MHz	Lower	-13.75 dB
Spacing	27.5 MHz	Upper	-13.90 dB

Modulation Standard: 802.11n HT40 (270Mbps), ANT R
Channel: 06



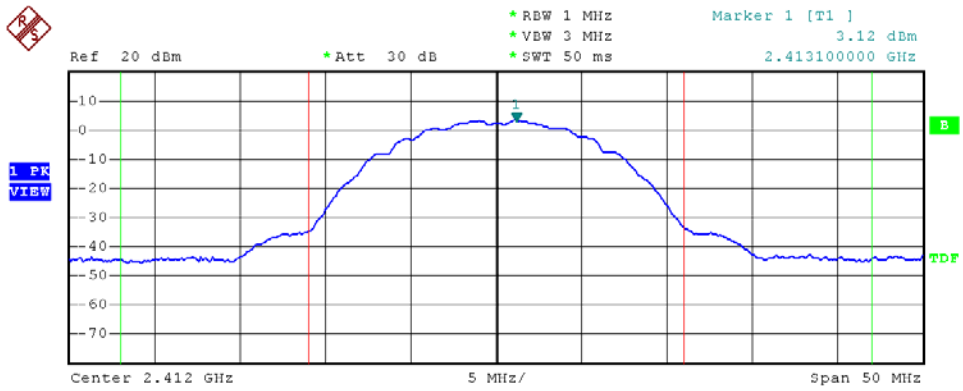
Tx Channel			
Bandwidth	44 MHz	Power	15.50 dBm
Adjacent Channel			
Bandwidth	22 MHz	Lower	-4.32 dB
Spacing	16.5 MHz	Upper	-4.87 dB
Alternate Channel			
Bandwidth	22 MHz	Lower	-13.74 dB
Spacing	27.5 MHz	Upper	-13.84 dB

Modulation Standard: 802.11n HT40 (270Mbps), ANT R
Channel: 09



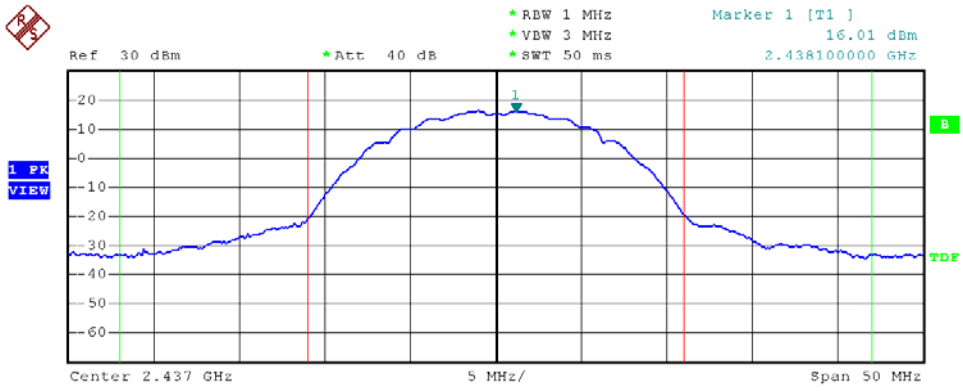
Tx Channel			
Bandwidth	44 MHz	Power	15.12 dBm
Adjacent Channel			
Bandwidth	22 MHz	Lower	-4.41 dB
Spacing	16.5 MHz	Upper	-4.77 dB
Alternate Channel			
Bandwidth	22 MHz	Lower	-13.83 dB
Spacing	27.5 MHz	Upper	-13.72 dB

Modulation Standard: 802.11b (11Mbps), ANT L
Channel: 01



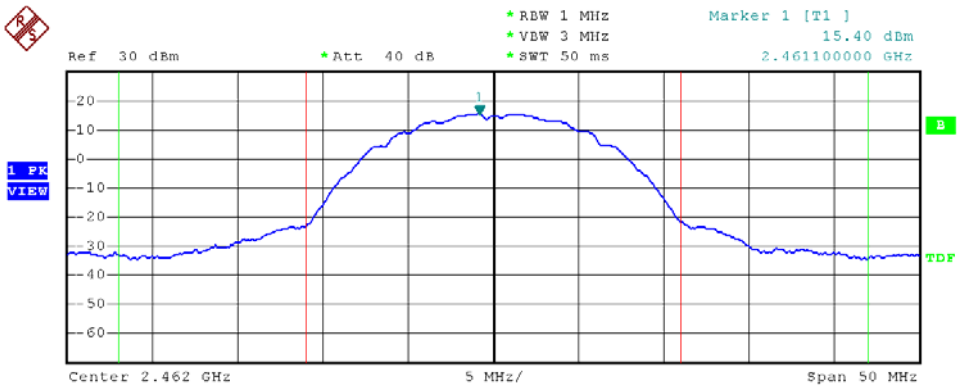
Tx Channel			
Bandwidth	22 MHz	Power	11.26 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-41.89 dB
Spacing	16.5 MHz	Upper	-41.28 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

Modulation Standard: 802.11b (11Mbps), ANT L
Channel: 06



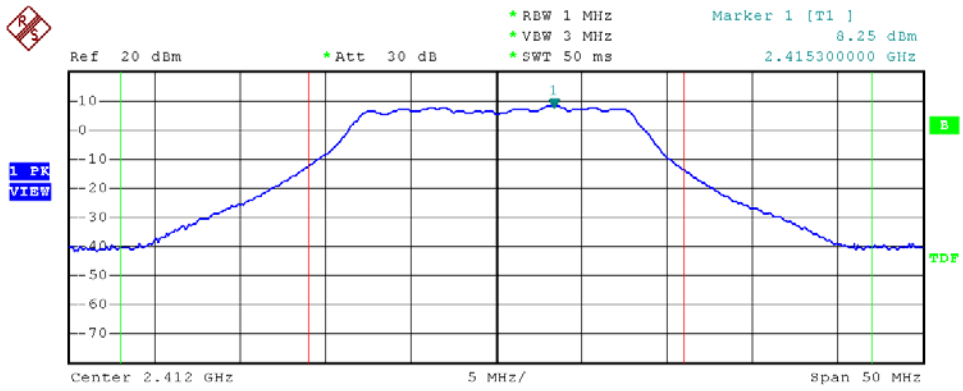
Tx Channel			
Bandwidth	22 MHz	Power	24.26 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-41.75 dB
Spacing	16.5 MHz	Upper	-41.32 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

Modulation Standard: 802.11b (11Mbps), ANT L
Channel: 11



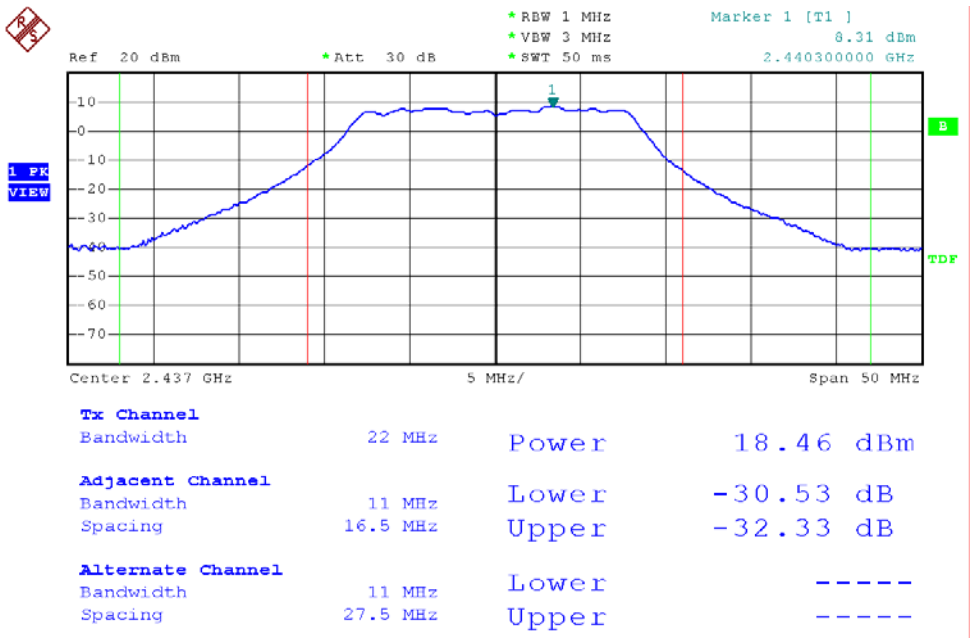
Tx Channel			
Bandwidth	22 MHz	Power	23.52 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-42.03 dB
Spacing	16.5 MHz	Upper	-41.69 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

Modulation Standard: 802.11g (54Mbps), ANT L
Channel: 01

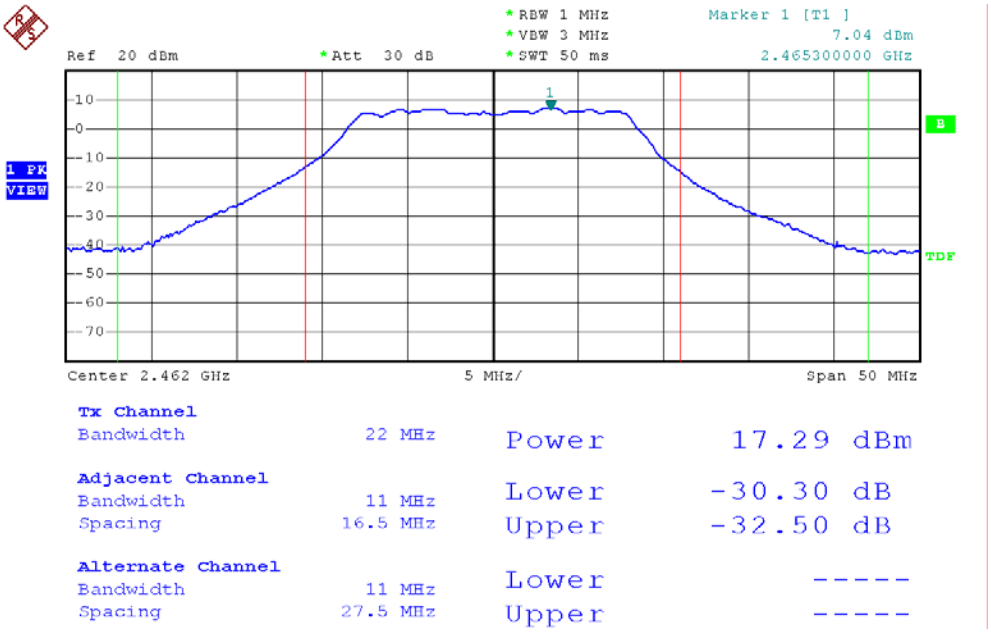


Tx Channel			
Bandwidth	22 MHz	Power	18.35 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-30.70 dB
Spacing	16.5 MHz	Upper	-32.21 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

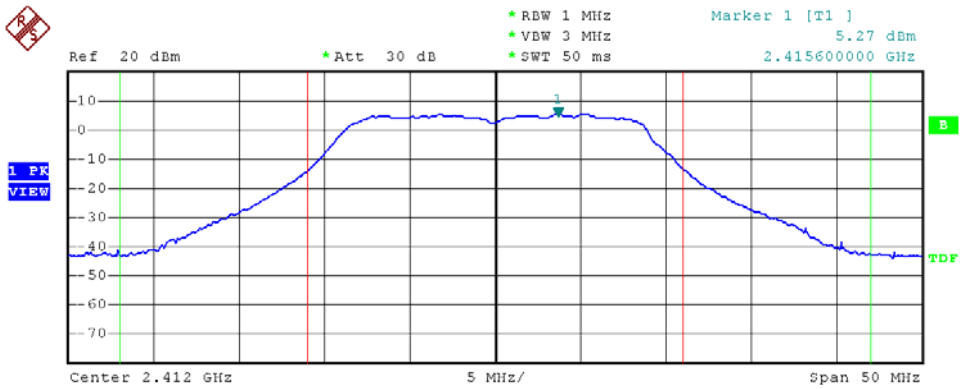
Modulation Standard: 802.11g (54Mbps), ANT L
Channel: 06



Modulation Standard: 802.11g (54Mbps), ANT L
Channel: 11

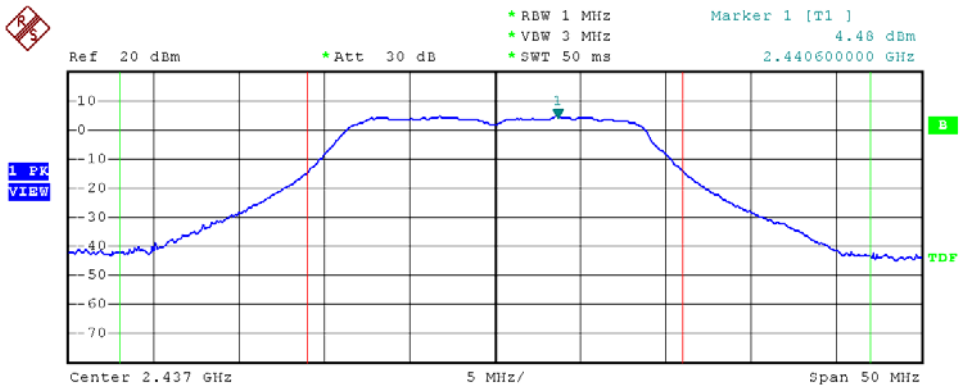


Modulation Standard: 802.11n HT20 (130Mbps), ANT L
Channel: 01



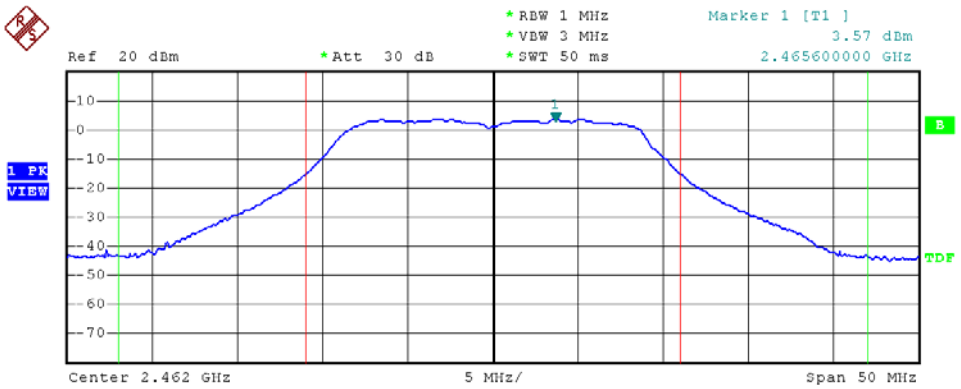
Tx Channel			
Bandwidth	22 MHz	Power	16.04 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-30.44 dB
Spacing	16.5 MHz	Upper	-30.06 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

Modulation Standard: 802.11n HT20 (130Mbps), ANT L
Channel: 06



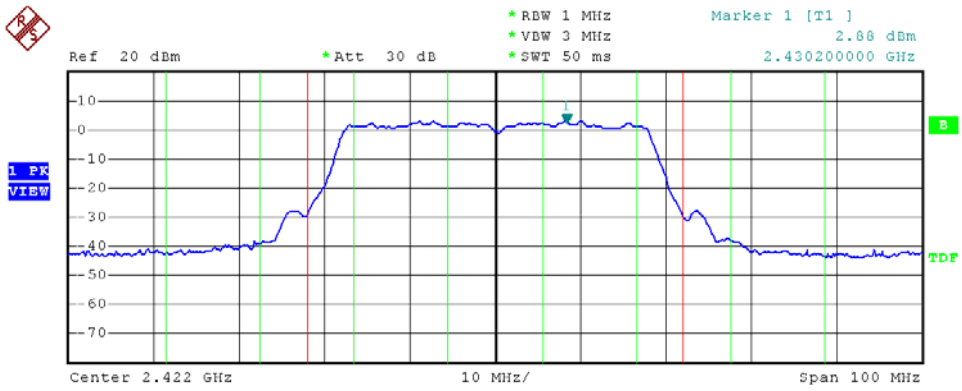
Tx Channel			
Bandwidth	22 MHz	Power	15.31 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-30.31 dB
Spacing	16.5 MHz	Upper	-30.17 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

Modulation Standard: 802.11n HT20 (130Mbps), ANT L
Channel: 11



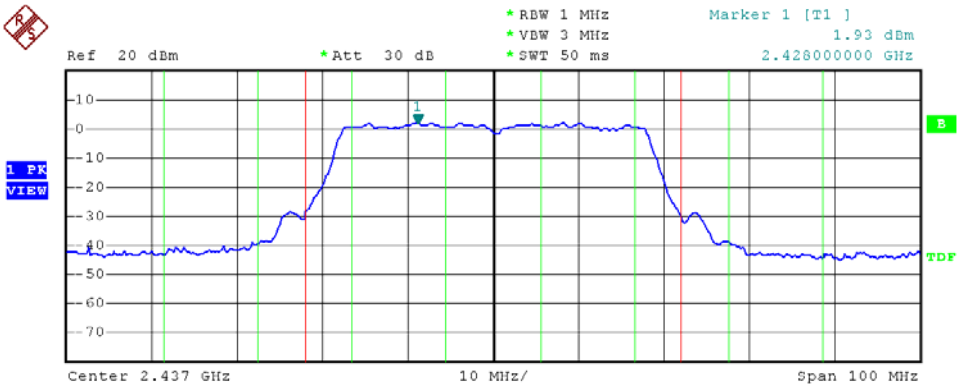
Tx Channel			
Bandwidth	22 MHz	Power	14.42 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-30.11 dB
Spacing	16.5 MHz	Upper	-30.11 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

Modulation Standard: 802.11n HT40 (270Mbps), ANT L
Channel: 03



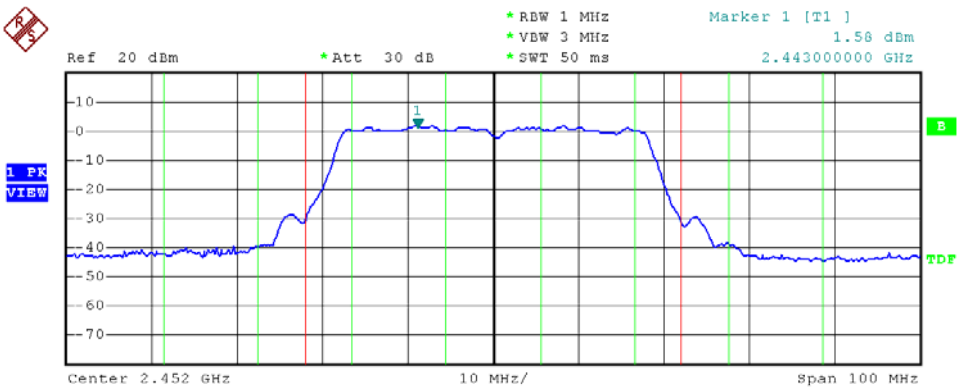
Tx Channel			
Bandwidth	44 MHz	Power	16.49 dBm
Adjacent Channel			
Bandwidth	22 MHz	Lower	-4.64 dB
Spacing	16.5 MHz	Upper	-4.56 dB
Alternate Channel			
Bandwidth	22 MHz	Lower	-14.30 dB
Spacing	27.5 MHz	Upper	-13.59 dB

Modulation Standard: 802.11n HT40 (270Mbps), ANT L
Channel: 06



Tx Channel			
Bandwidth	44 MHz	Power	15.72 dBm
Adjacent Channel			
Bandwidth	22 MHz	Lower	-4.51 dB
Spacing	16.5 MHz	Upper	-4.68 dB
Alternate Channel			
Bandwidth	22 MHz	Lower	-14.13 dB
Spacing	27.5 MHz	Upper	-13.68 dB

Modulation Standard: 802.11n HT40 (270Mbps), ANT L
Channel: 09



Tx Channel			
Bandwidth	44 MHz	Power	15.34 dBm
Adjacent Channel			
Bandwidth	22 MHz	Lower	-4.49 dB
Spacing	16.5 MHz	Upper	-4.68 dB
Alternate Channel			
Bandwidth	22 MHz	Lower	-14.05 dB
Spacing	27.5 MHz	Upper	-13.65 dB

8. Power Spectral Density

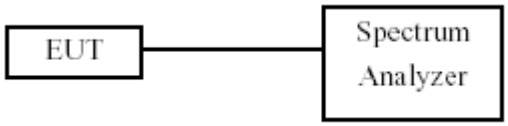
8.1 Test Limit

The Maximum of Power Spectral Density Measurement is 8dBm.

8.2 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=span/3KHz.
c. The power spectral density was measured and recorded.
d. The Sweep time is allowed to be longer than span/3KHz for a full response of the mixer in the spectrum analyzer.

8.3 Test Setup Layout



8.4 Measurement Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	R&S	FSP40	100219	2011/11/24	2012/11/23

8.5 Test Result and Data

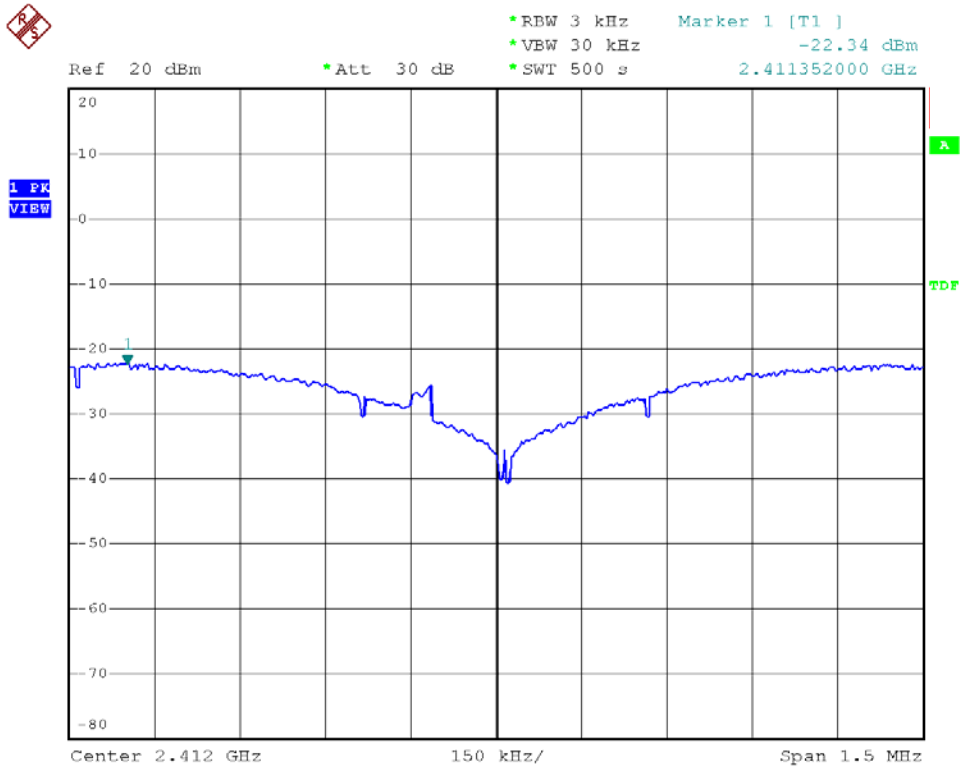
Test Date: Jan. 04, 2012 Temperature: 25℃

Atmospheric pressure: 1020 hPa Humidity: 65%

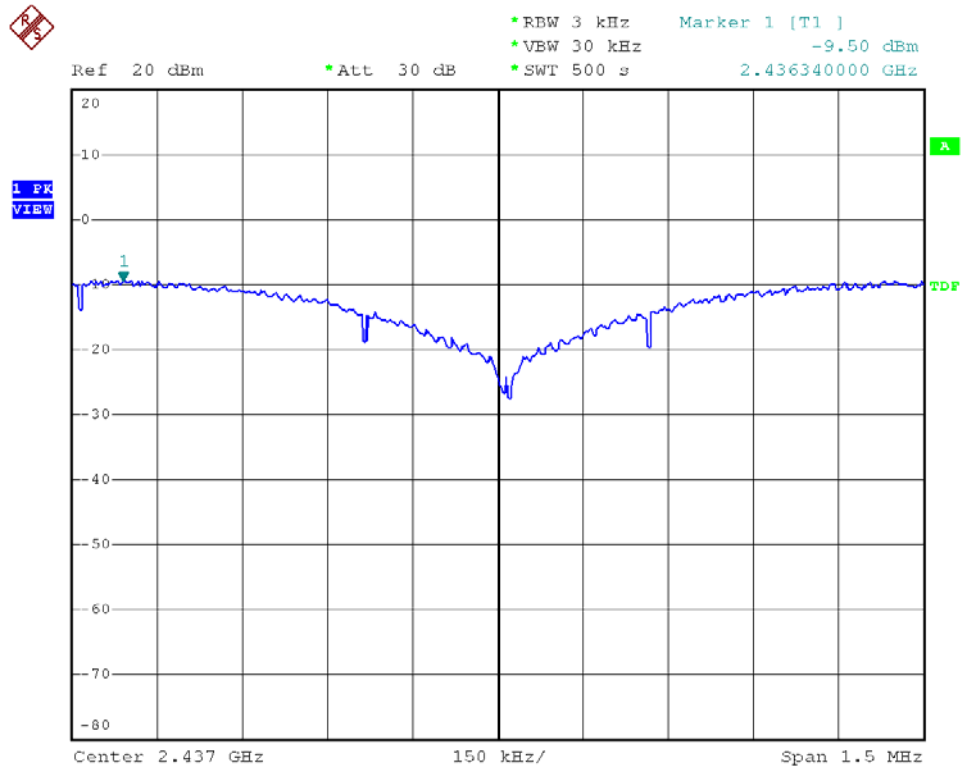
Modulation Standard	Channel	Frequency (MHz)	Maximum Power Density of 3 kHz Bandwidth (dBm)	
			ANT R	ANT L
802.11b (11Mbps)	01	2412	-22.34	-22.06
	06	2437	-9.50	-8.96
	11	2462	-9.69	-10.41
802.11g (54Mbps)	01	2412	-17.11	-17.43
	06	2437	-17.14	-17.57
	11	2462	-17.72	-18.63

Modulation Standard	Channel	Frequency (MHz)	Maximum Power Density of 3 kHz Bandwidth (dBm)		
			ANT R	ANT L	R+L
802.11n HT20 (130Mbps)	01	2412	-19.64	-21.05	-17.28
	06	2437	-20.45	-21.66	-18.00
	11	2462	-23.32	-22.51	-19.89
802.11n HT40 (270Mbps)	03	2422	-24.24	-23.80	-21.00
	06	2437	-23.88	-24.61	-21.22
	09	2452	-24.43	-24.44	-21.42

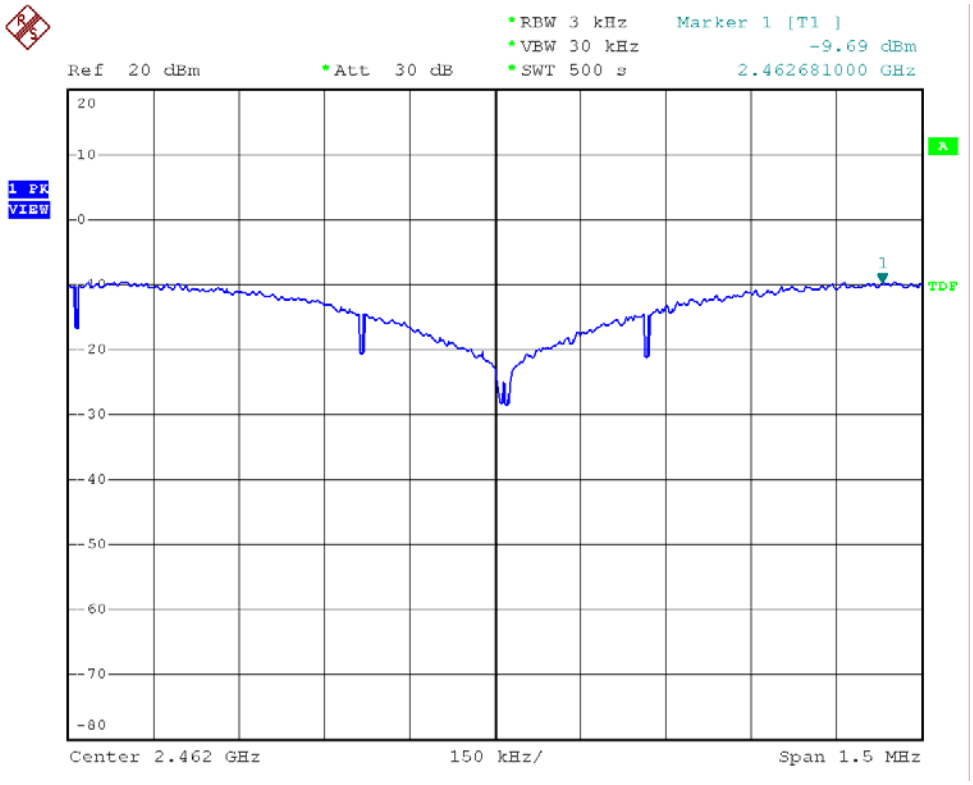
Modulation Standard: 802.11b (11Mbps), ANT R
Channel: 01



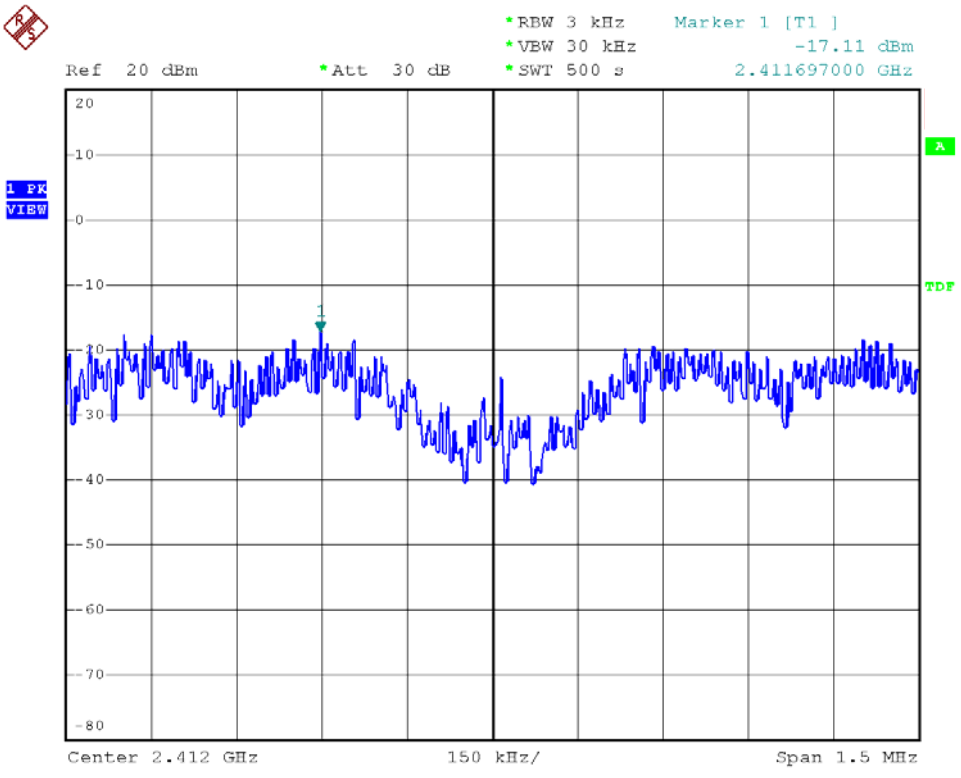
Modulation Standard: 802.11b (11Mbps), ANT R
Channel: 06



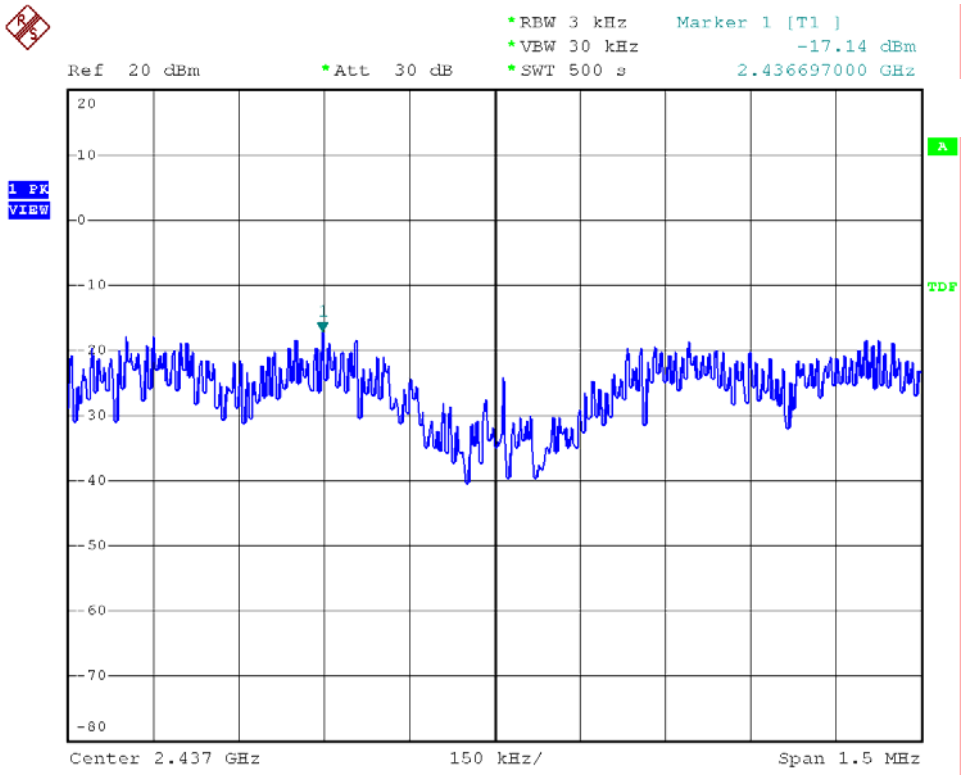
Modulation Standard: 802.11b (11Mbps), ANT R
Channel: 11



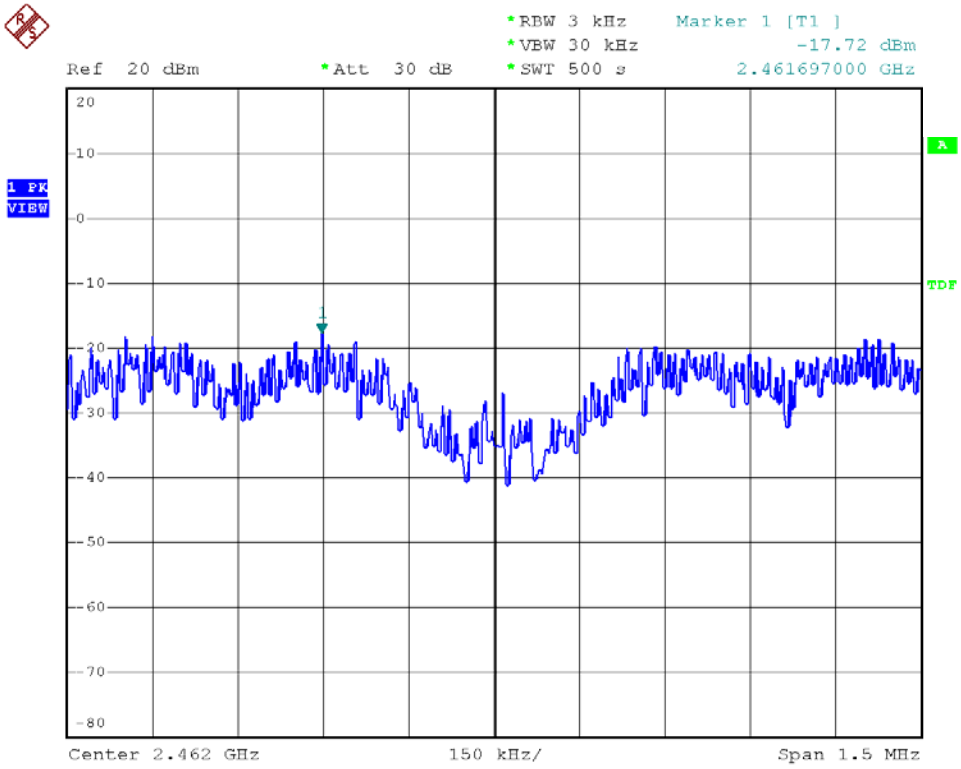
Modulation Standard: 802.11g (54Mbps), ANT R
Channel: 01



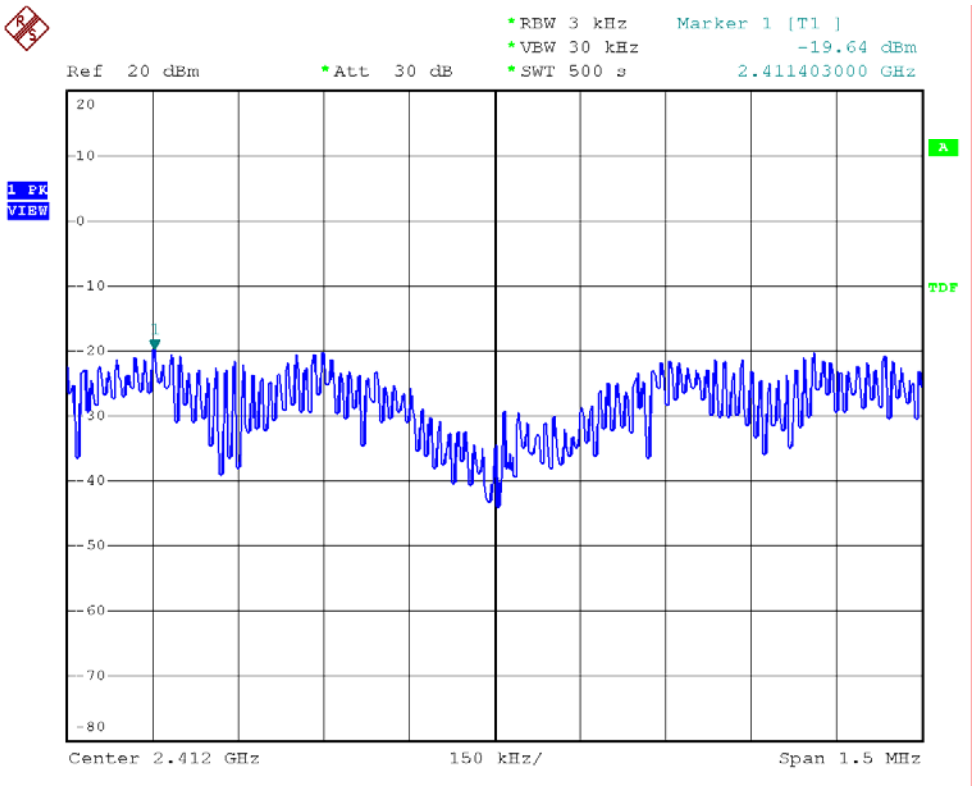
Modulation Standard: 802.11g (54Mbps), ANT R
Channel: 06



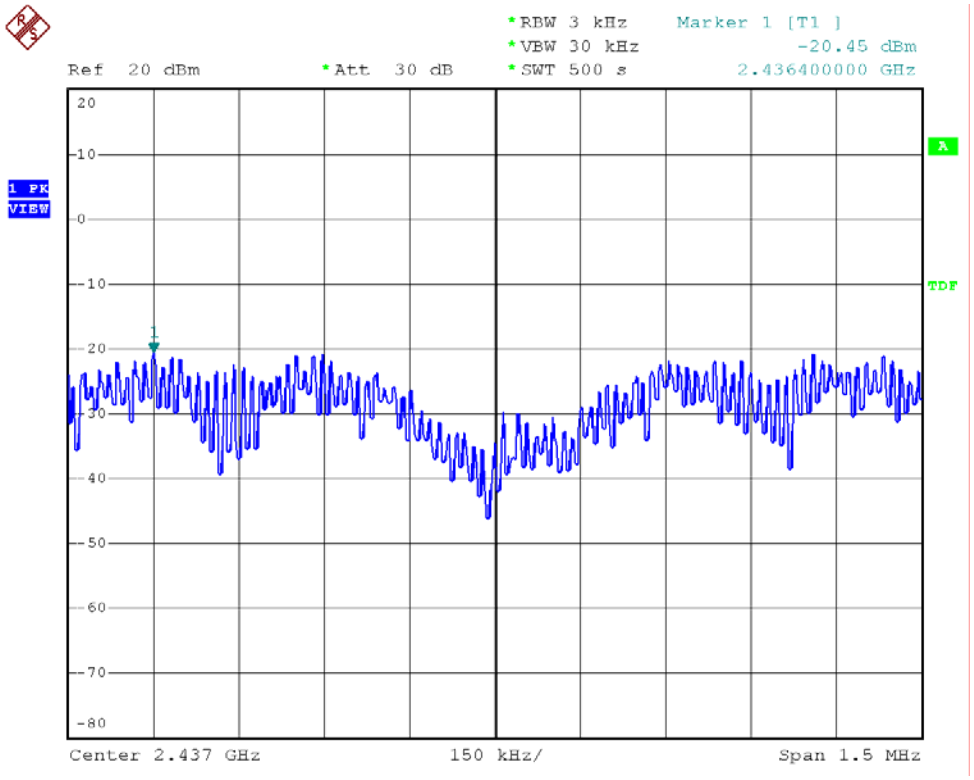
Modulation Standard: 802.11g (54Mbps), ANT R
Channel: 11



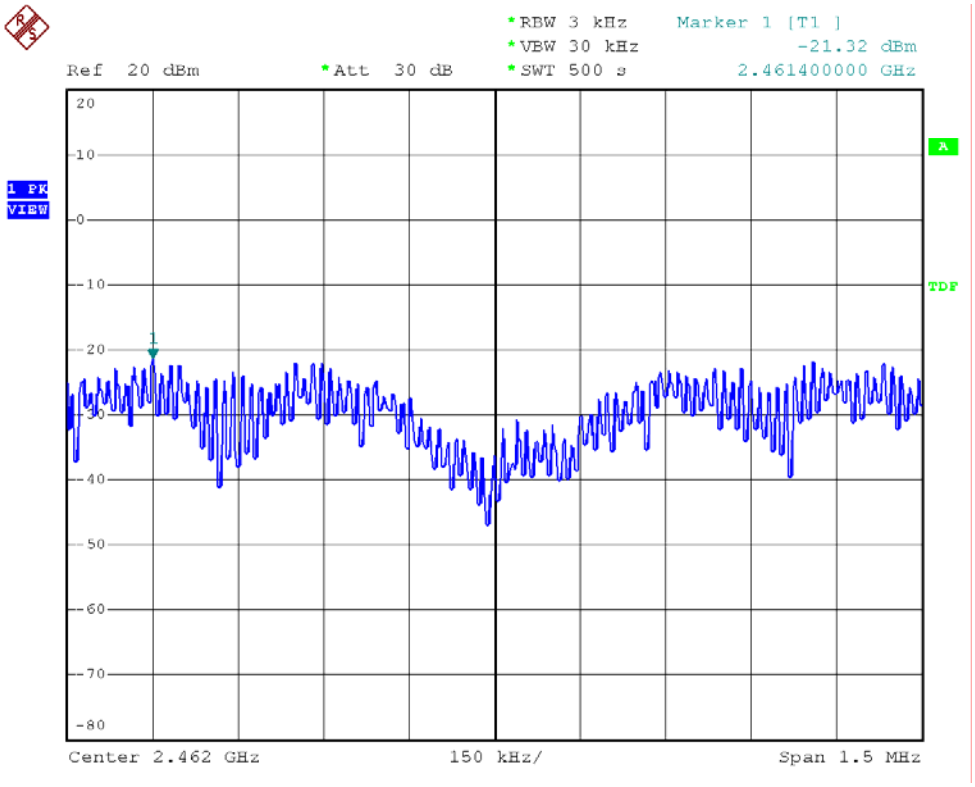
Modulation Standard: 802.11n HT20 (130Mbps), ANT R
Channel: 01



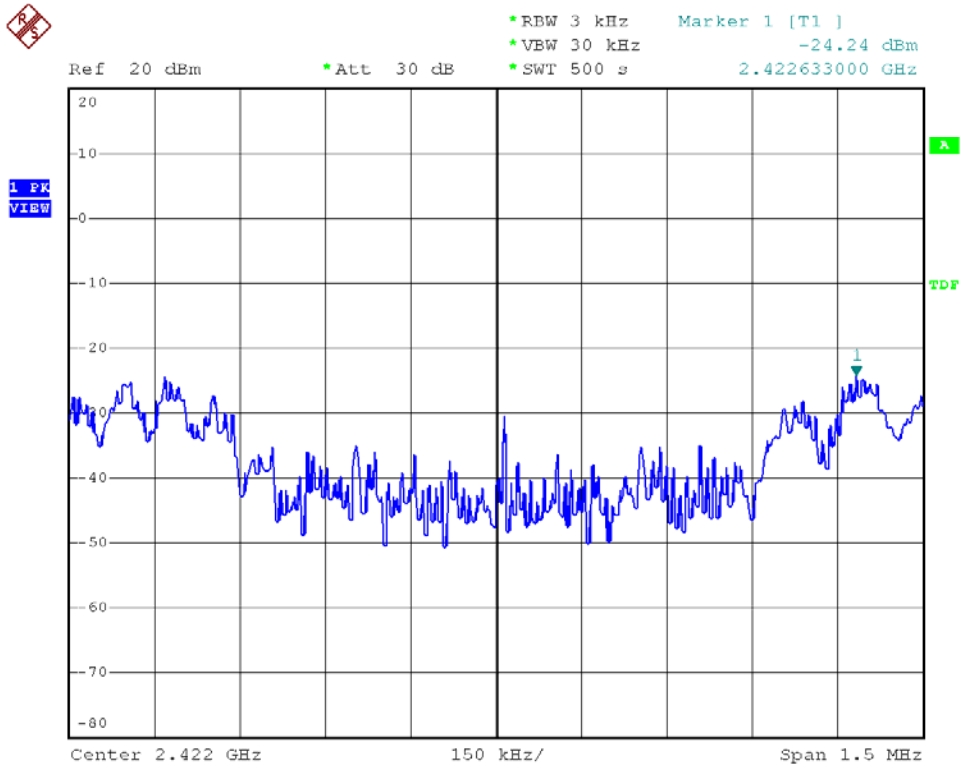
Modulation Standard: 802.11n HT20 (130Mbps), ANT R
Channel: 06



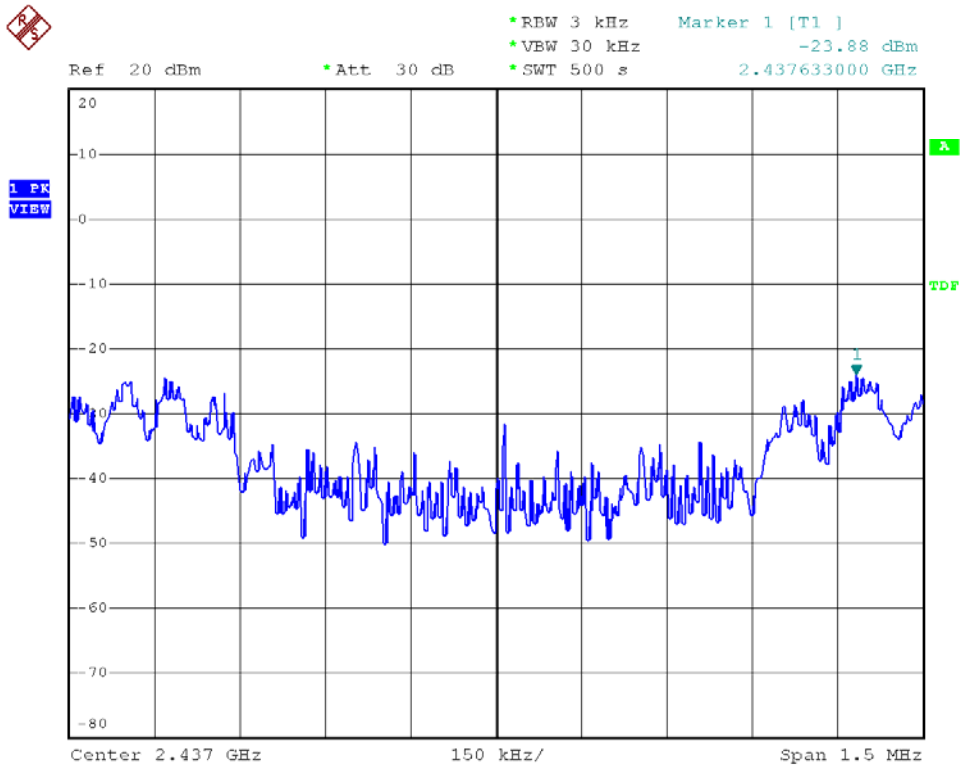
Modulation Standard: 802.11n HT20 (130Mbps), ANT R
Channel: 11



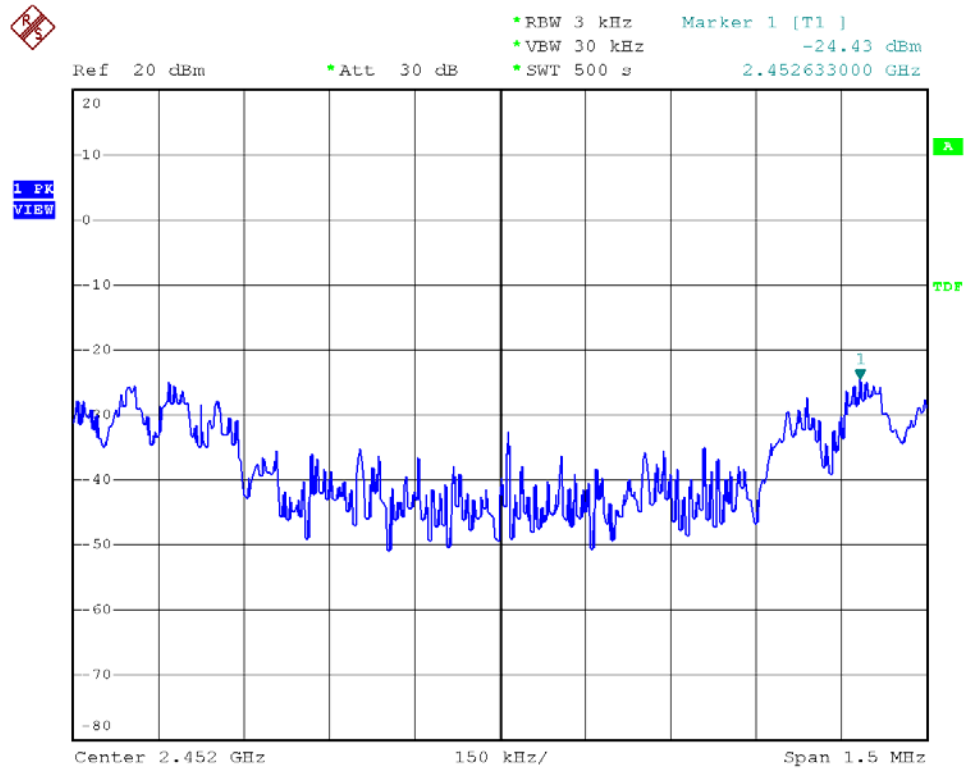
Modulation Standard: 802.11n HT40 (270Mbps), ANT R
Channel: 03



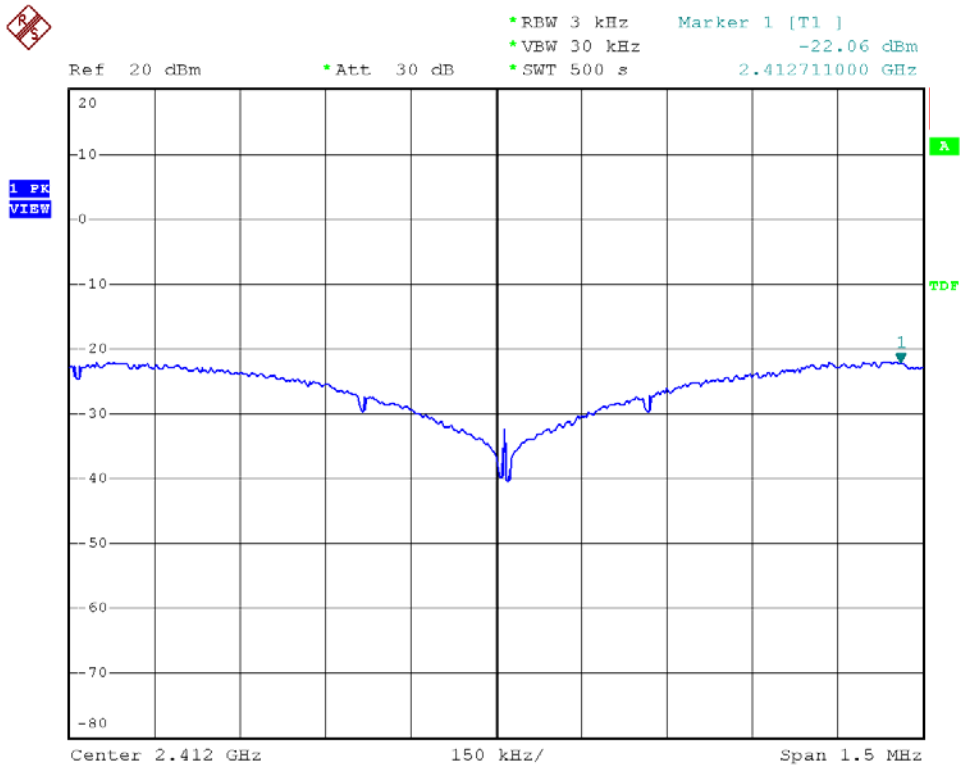
Modulation Standard: 802.11n HT40 (270Mbps), ANT R
Channel: 06



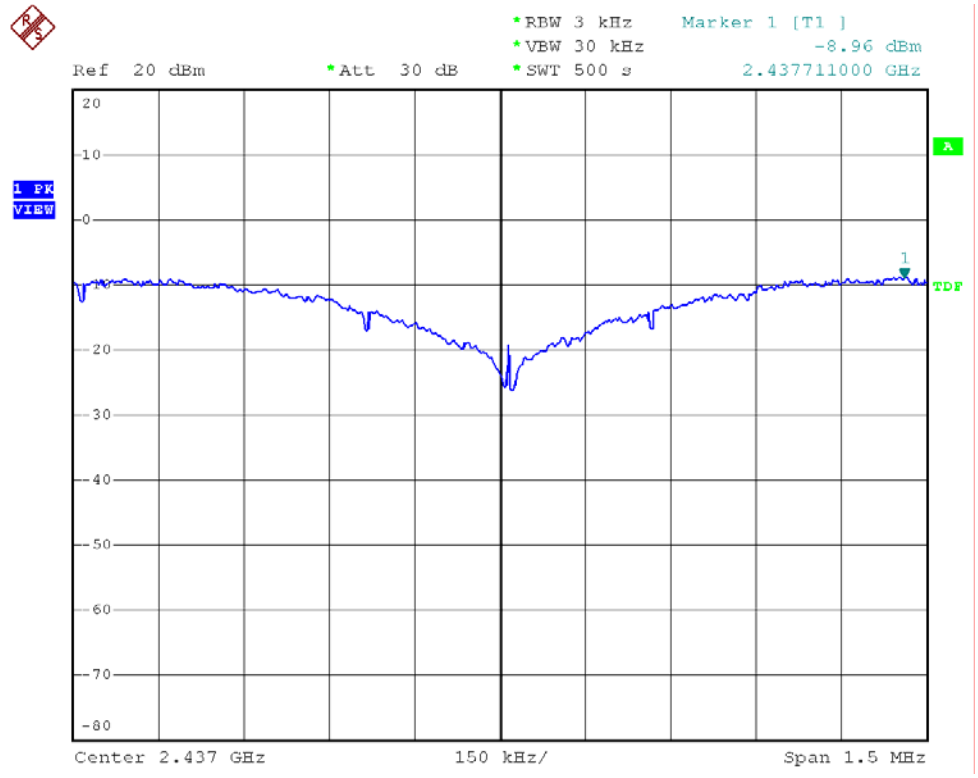
Modulation Standard: 802.11n HT40 (270Mbps), ANT R
Channel: 09



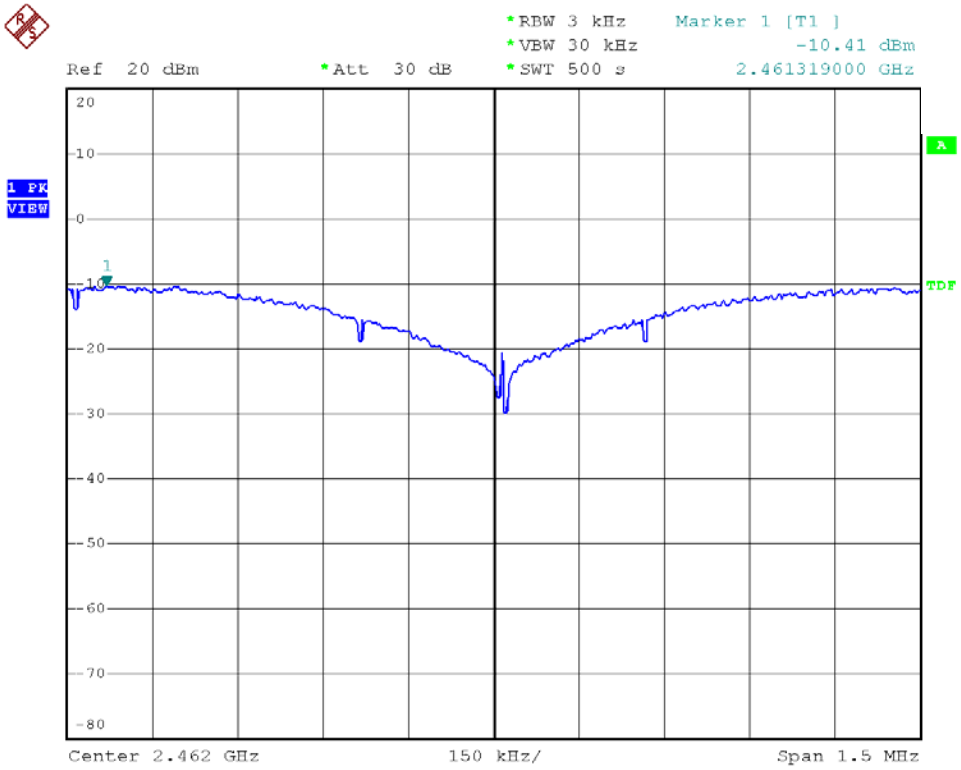
Modulation Standard: 802.11b (11Mbps), ANT L
Channel: 01



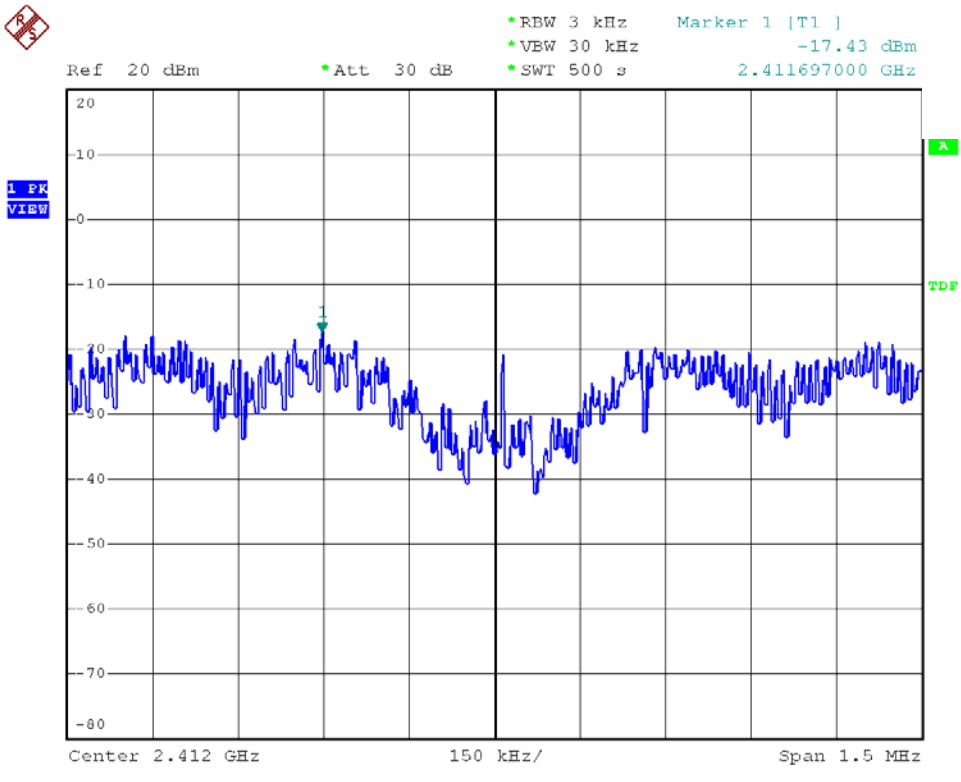
Modulation Standard: 802.11b (11Mbps), ANT L
Channel: 06



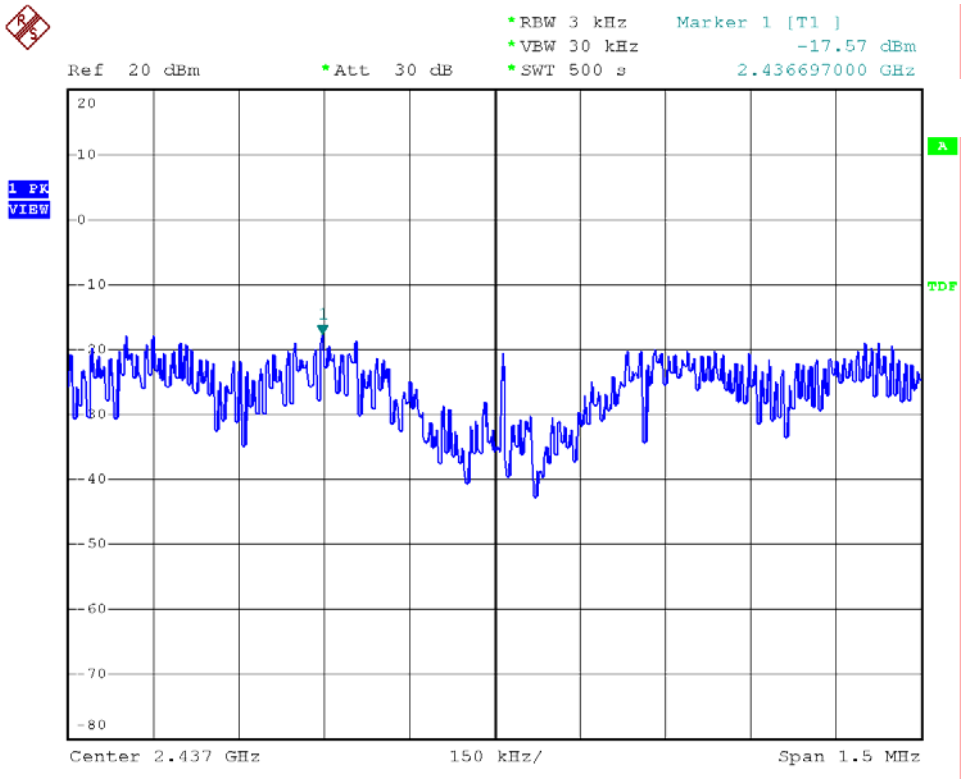
Modulation Standard: 802.11b (11Mbps), ANT L
Channel: 11



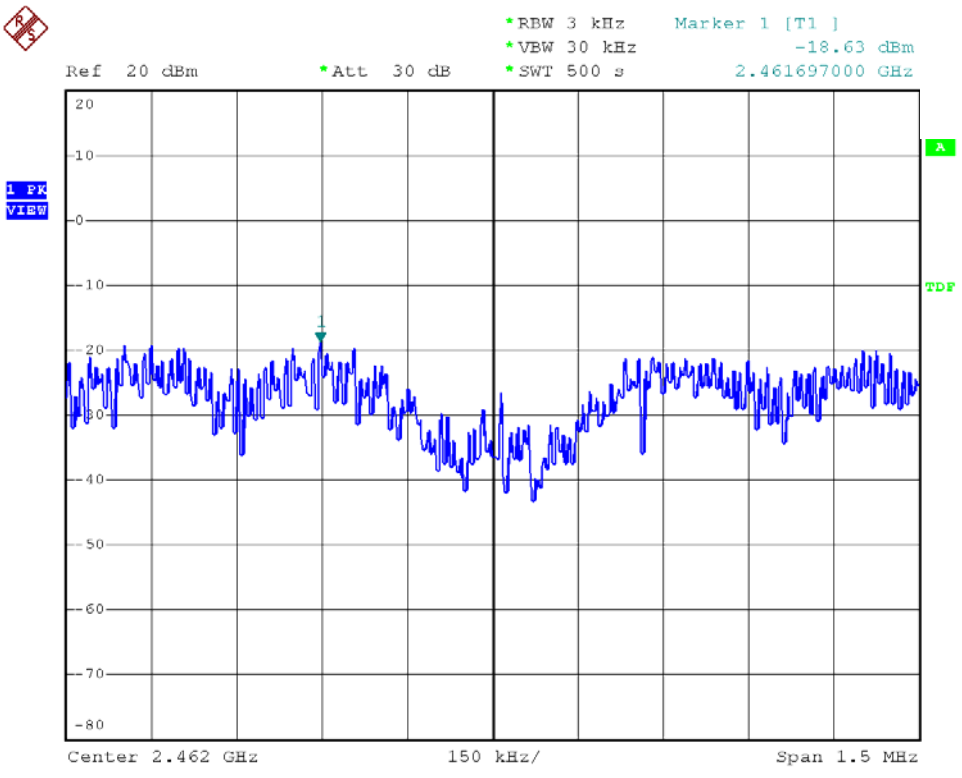
Modulation Standard: 802.11g (54Mbps), ANT L
Channel: 01



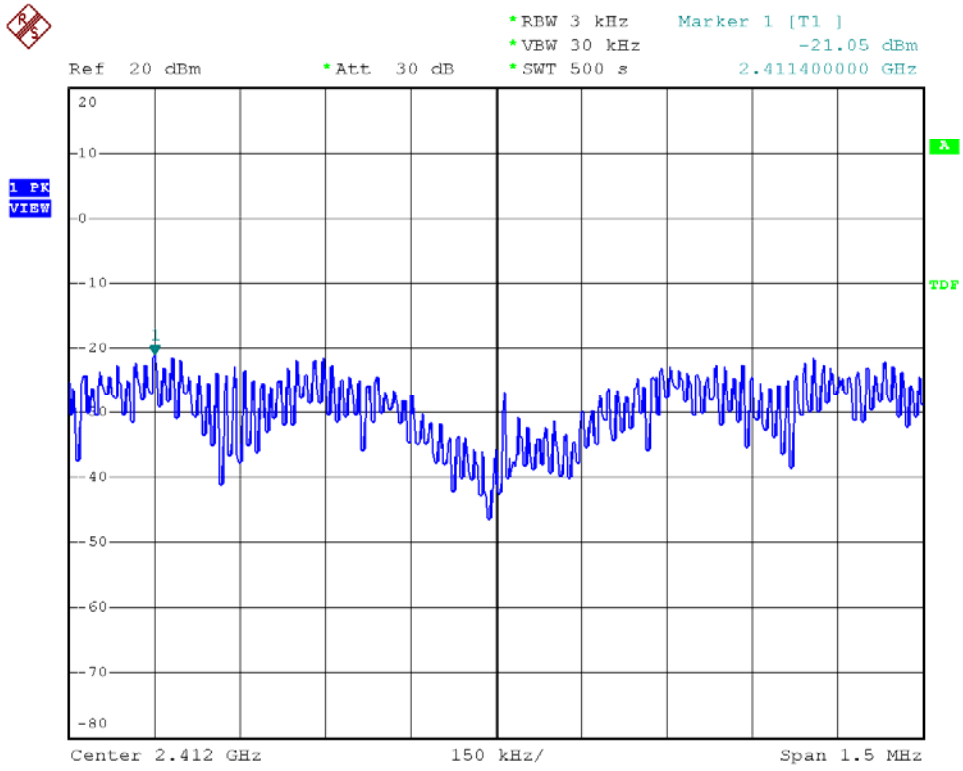
Modulation Standard: 802.11g (54Mbps), ANT L
Channel: 06



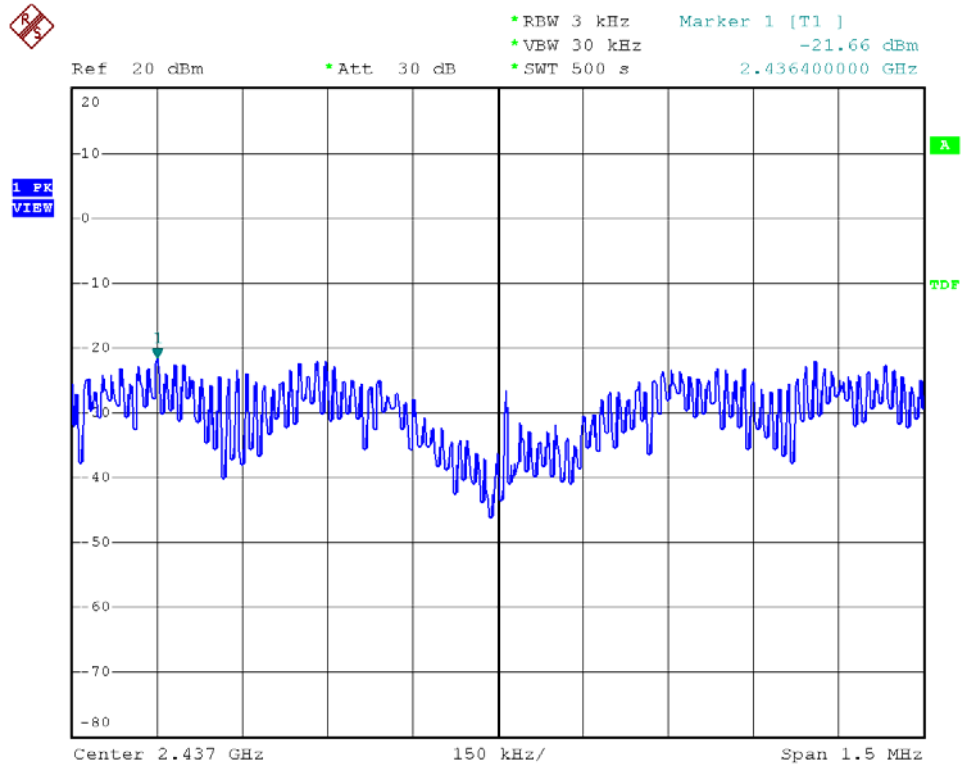
Modulation Standard: 802.11g (54Mbps), ANT L
Channel: 11



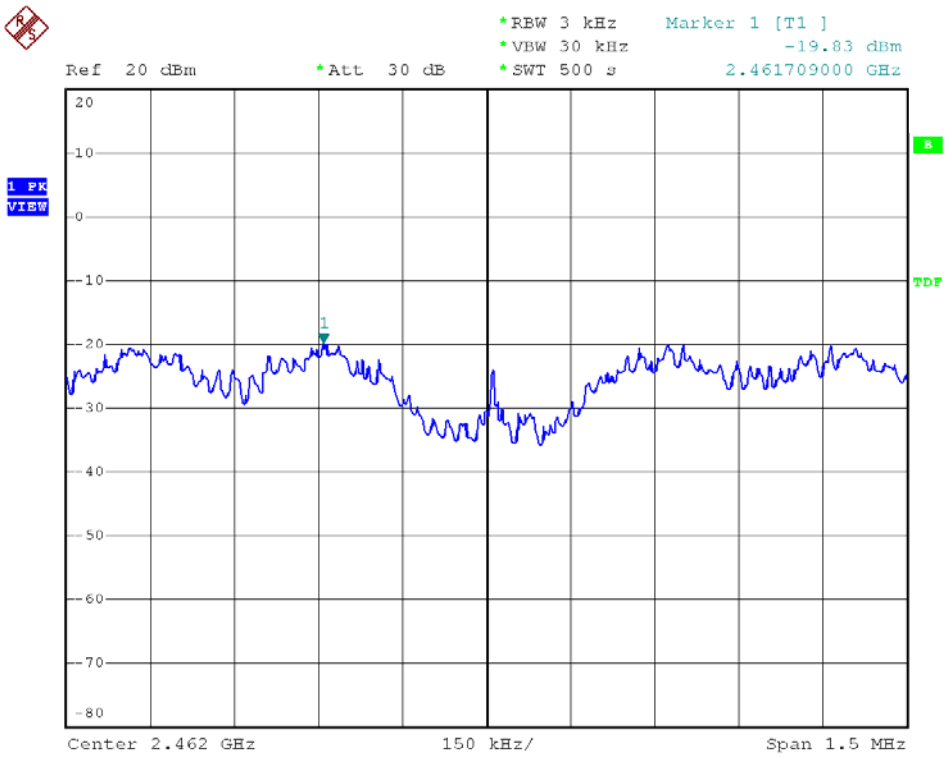
Modulation Standard: 802.11n HT20 (130Mbps), ANT L
Channel: 01



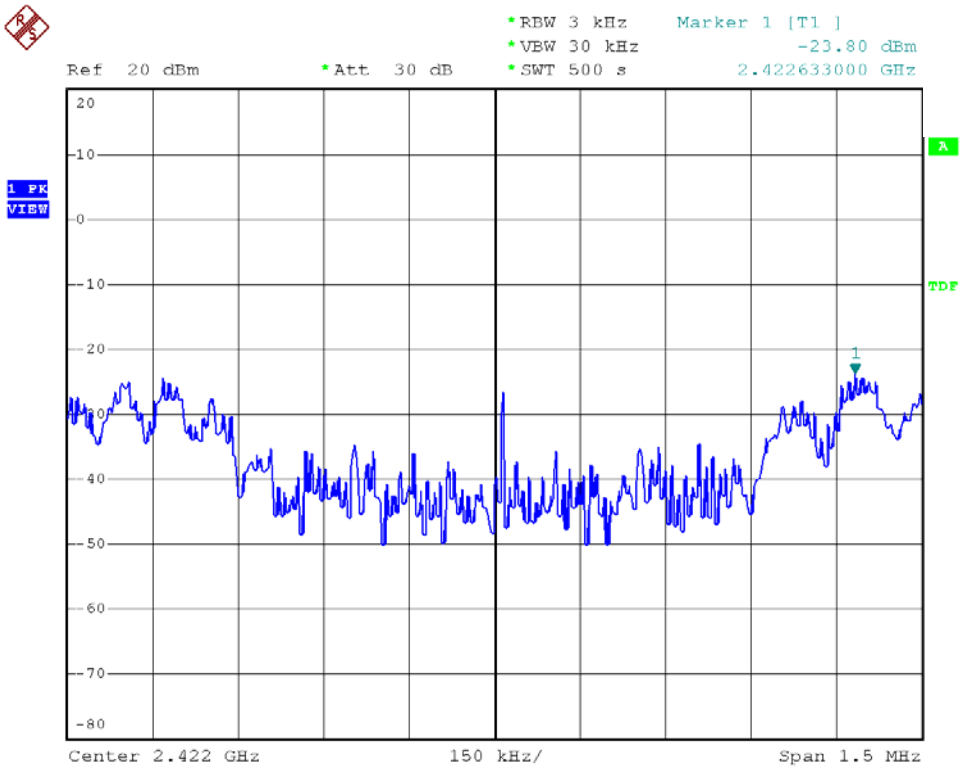
Modulation Standard: 802.11n HT20 (130Mbps), ANT L
Channel: 06



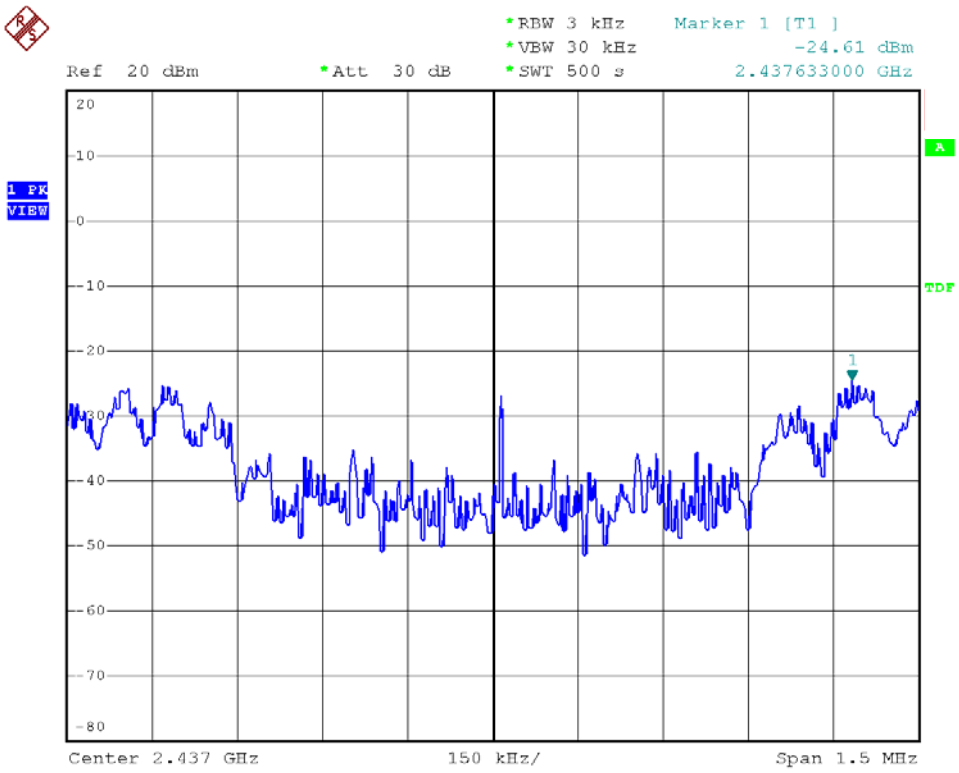
Modulation Standard: 802.11n HT20 (130Mbps), ANT L
Channel: 11



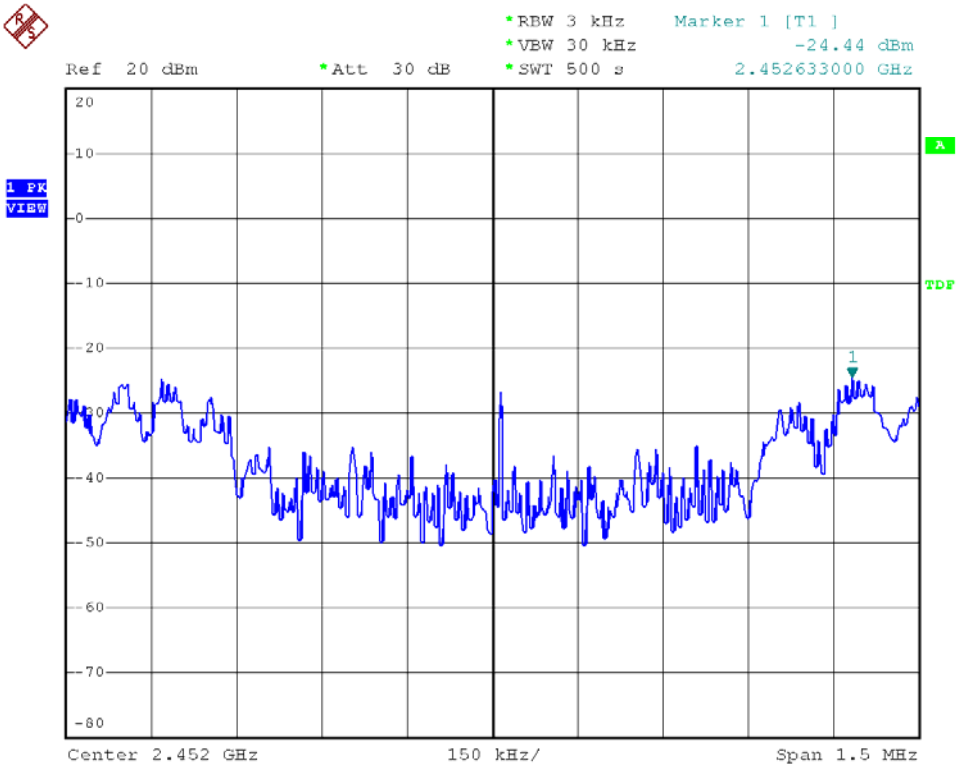
Modulation Standard: 802.11n HT40 (270Mbps), ANT L
Channel: 03



Modulation Standard: 802.11n HT40 (270Mbps), ANT L
Channel: 06



Modulation Standard: 802.11n HT40 (270Mbps), ANT L
Channel: 09



9. Band Edges Measurement

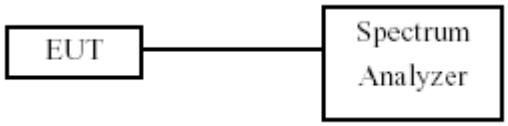
9.1 Test Limit

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

9.2 Test Procedure

a. The transmitter output was connected to the spectrum analyzer via a low lose cable.
b. Set both RBW and VBW of spectrum analyzer to 100 KHz with convenient frequency span including 100 KHz bandwidth from band edge.
c. The band edges was measured and recorded.

9.3 Test Setup Layout



9.4 Measurement Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	R&S	FSP40	100219	2011/11/24	2012/11/23

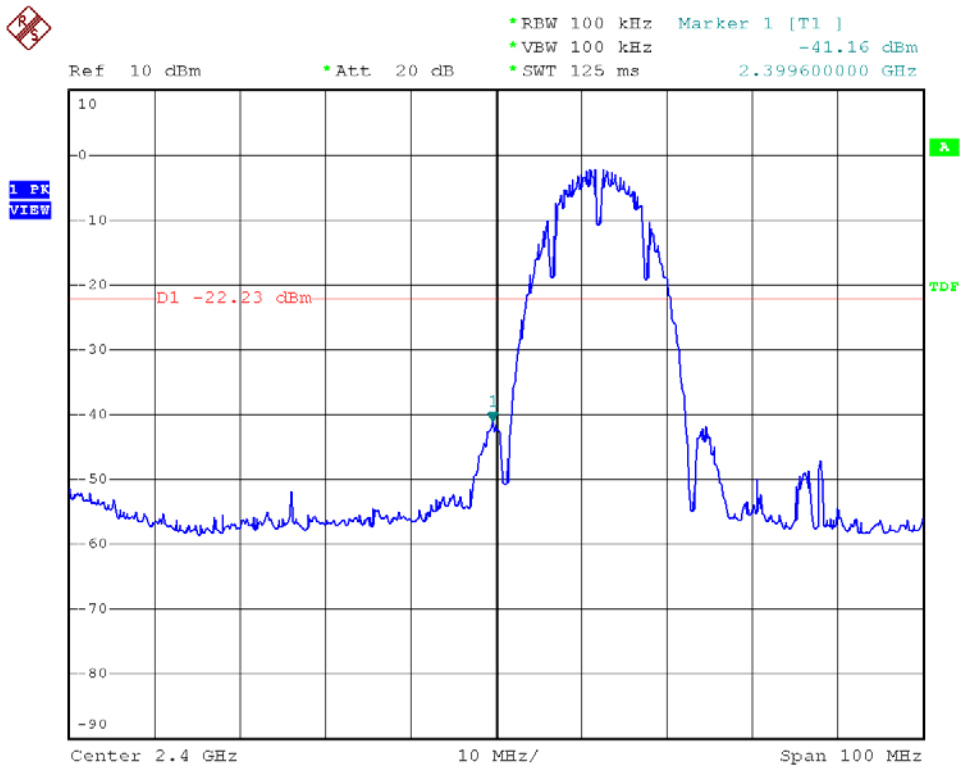
9.5 Test Result and Data

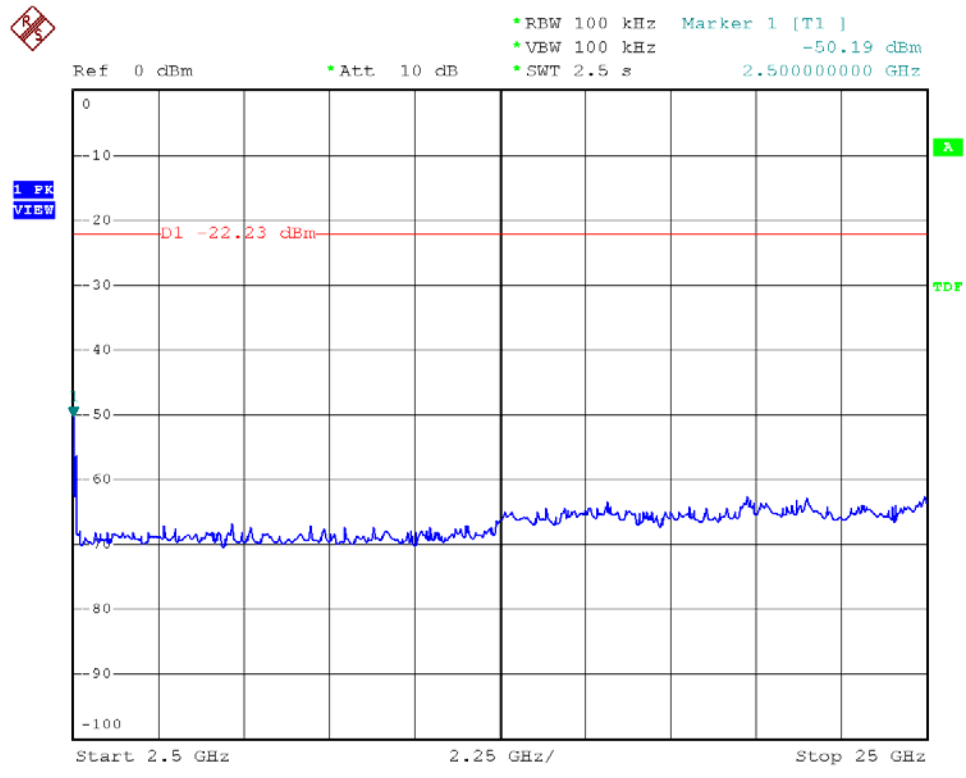
Test Date: Jan. 04, 2012 Temperature: 25℃

Atmospheric pressure: 1020 hPa Humidity: 65%

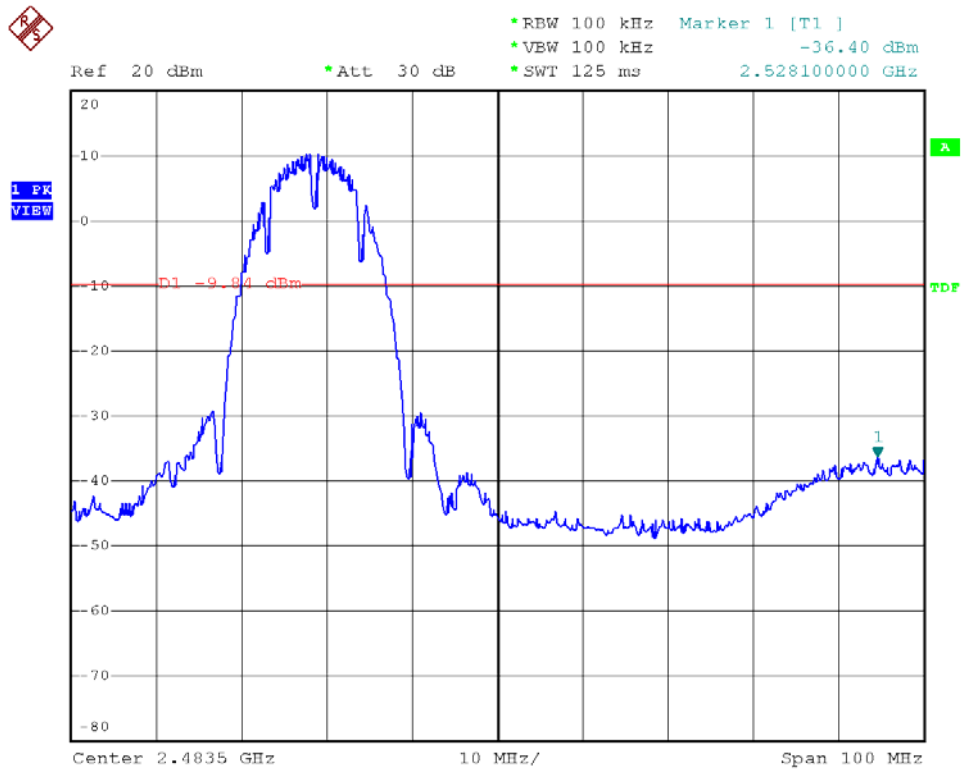
Modulation Standard	Channel	Frequency (MHz)	maximum value in frequency (MHz)		maximum value (dBm)	
			ANT R	ANT L	ANT R	ANT L
802.11b (11Mbps)	01	2412	2399.60	2399.60	-41.16	-41.56
	11	2462	2860.00	2860.00	-29.97	-37.66
802.11g (54Mbps)	01	2412	2400.00	2400.00	-34.46	-35.24
	11	2462	2532.70	2533.30	-46.23	-45.83
802.11n HT20 (130Mbps)	01	2412	2400.00	2400.00	-39.01	-39.62
	11	2462	2532.10	2533.10	-50.87	-48.54
802.11n HT40 (270Mbps)	03	2422	2398.20	2398.20	-39.34	-39.61
	09	2452	2531.50	2520.10	-48.57	-45.85

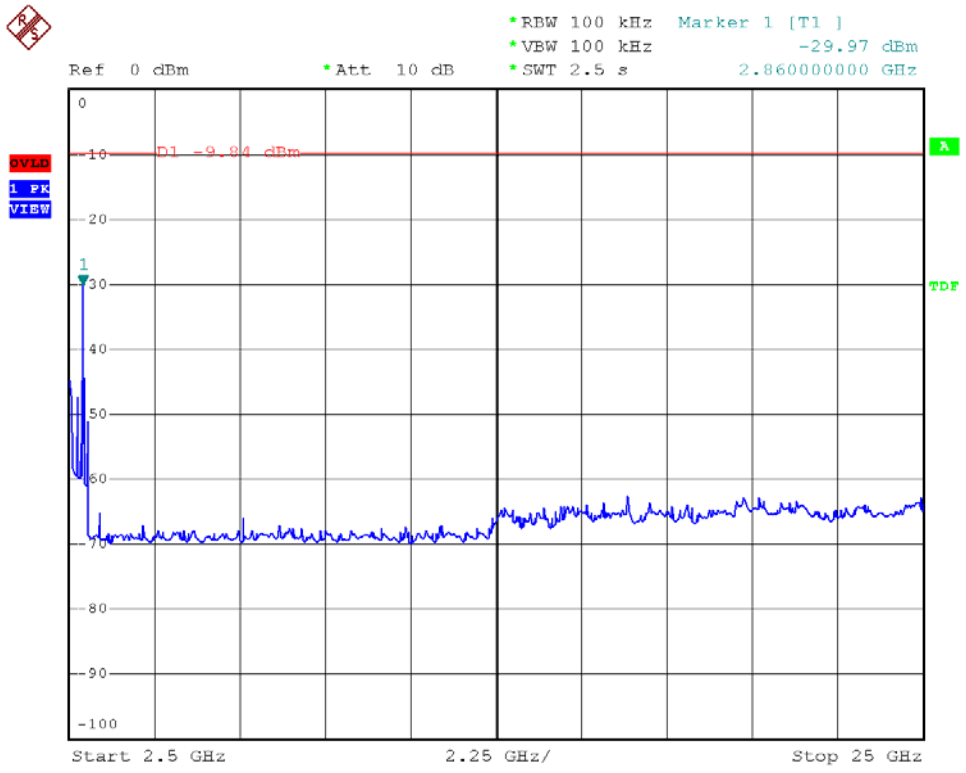
Modulation Standard: 802.11b (11Mbps), ANT R
Channel: 01



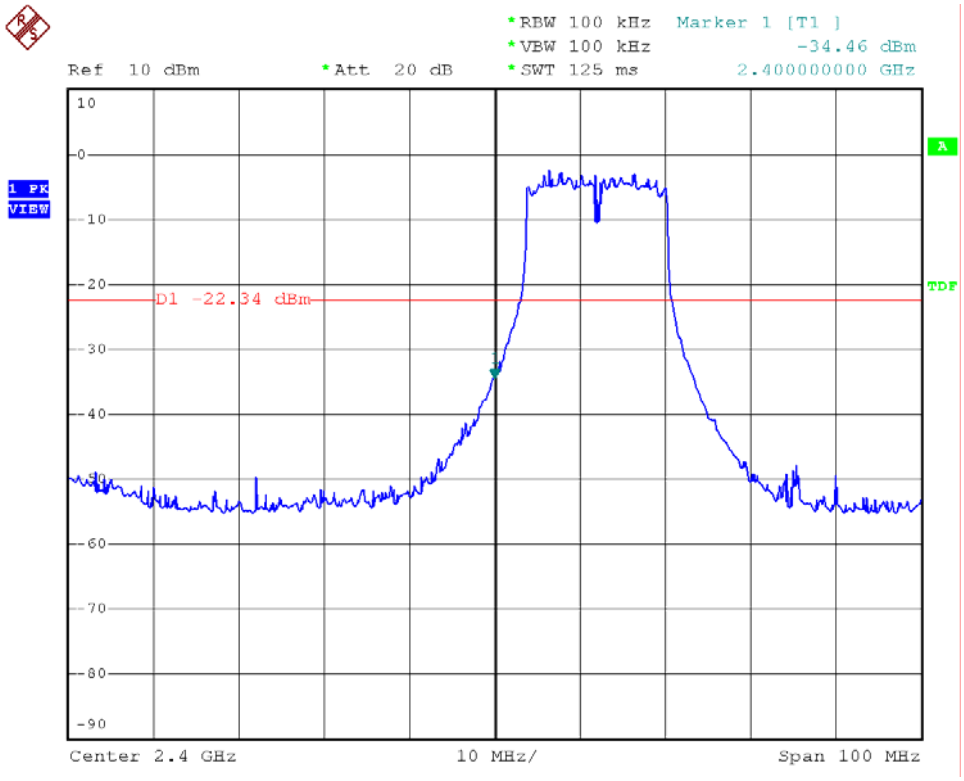


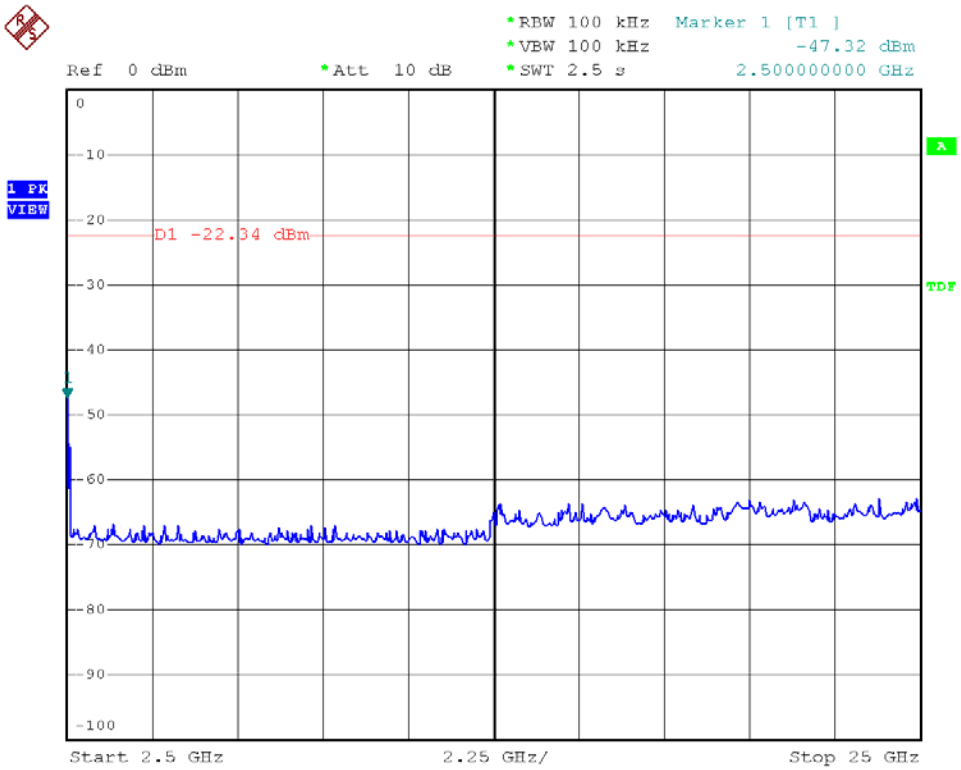
Modulation Standard: 802.11b (11Mbps), ANT R
Channel: 11



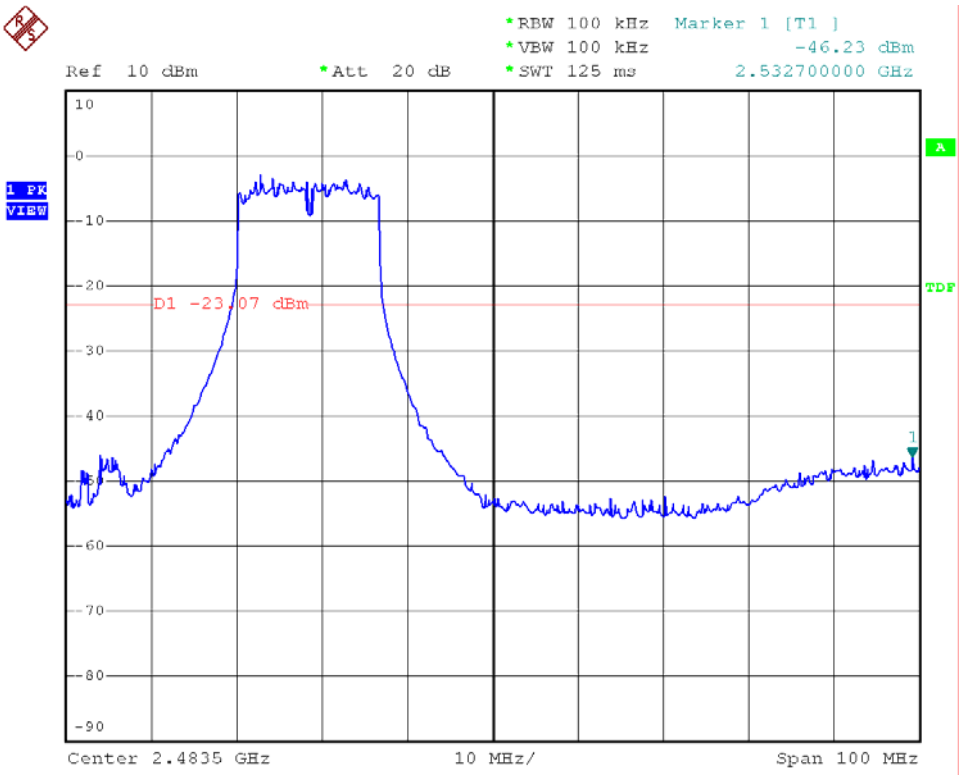


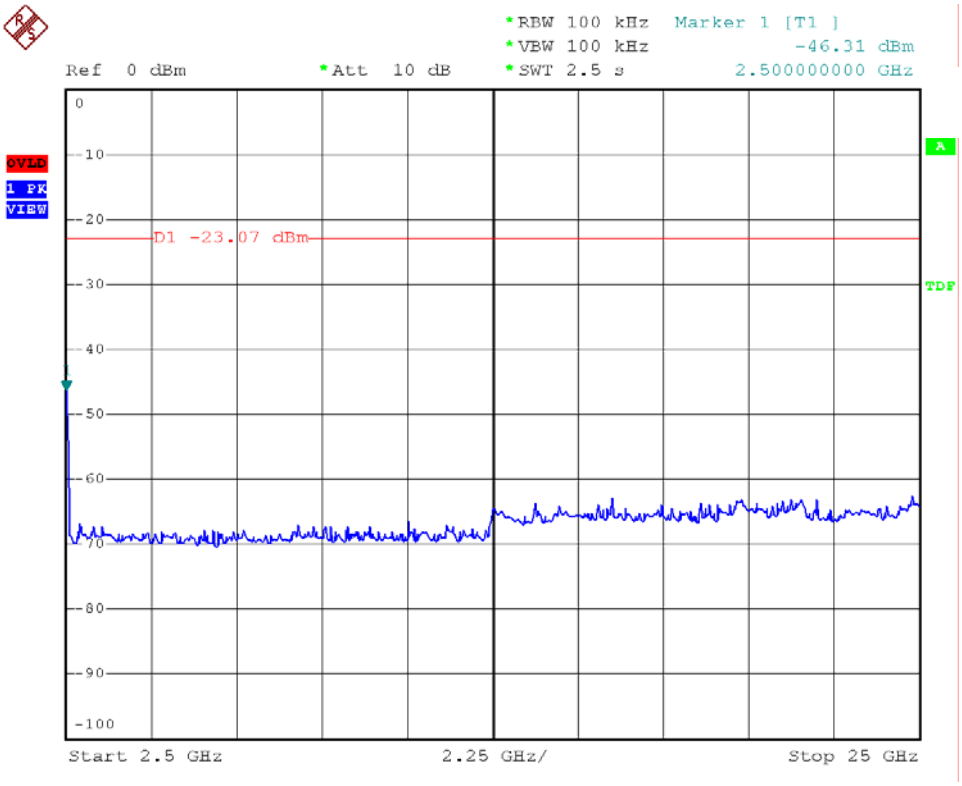
Modulation Standard: 802.11g (54Mbps), ANT R
Channel: 01



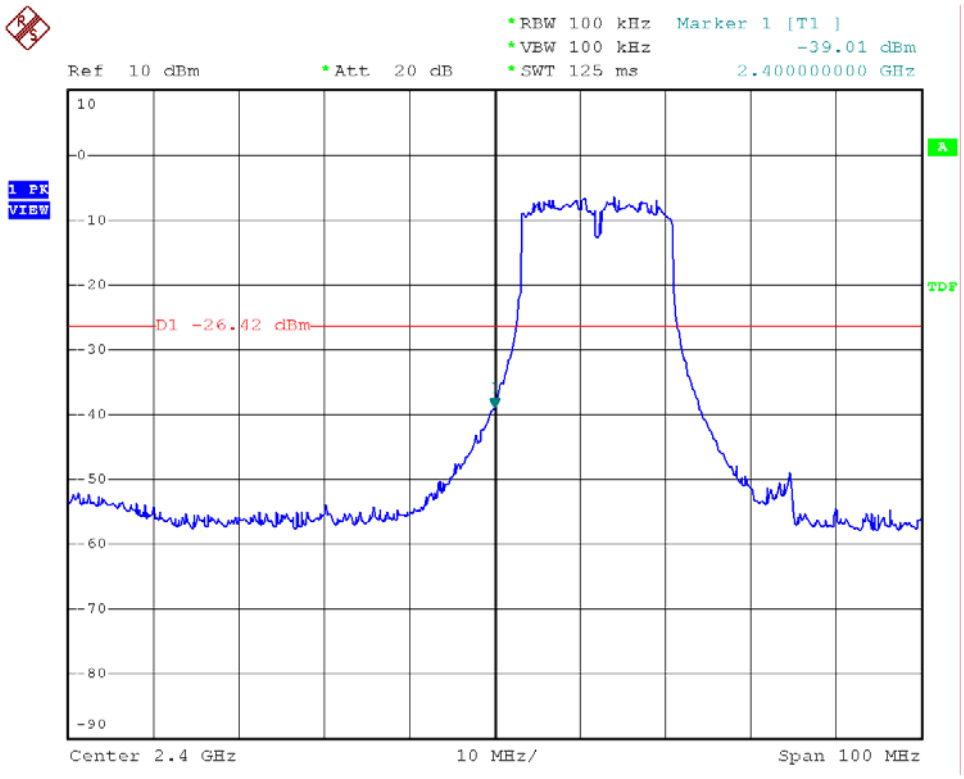


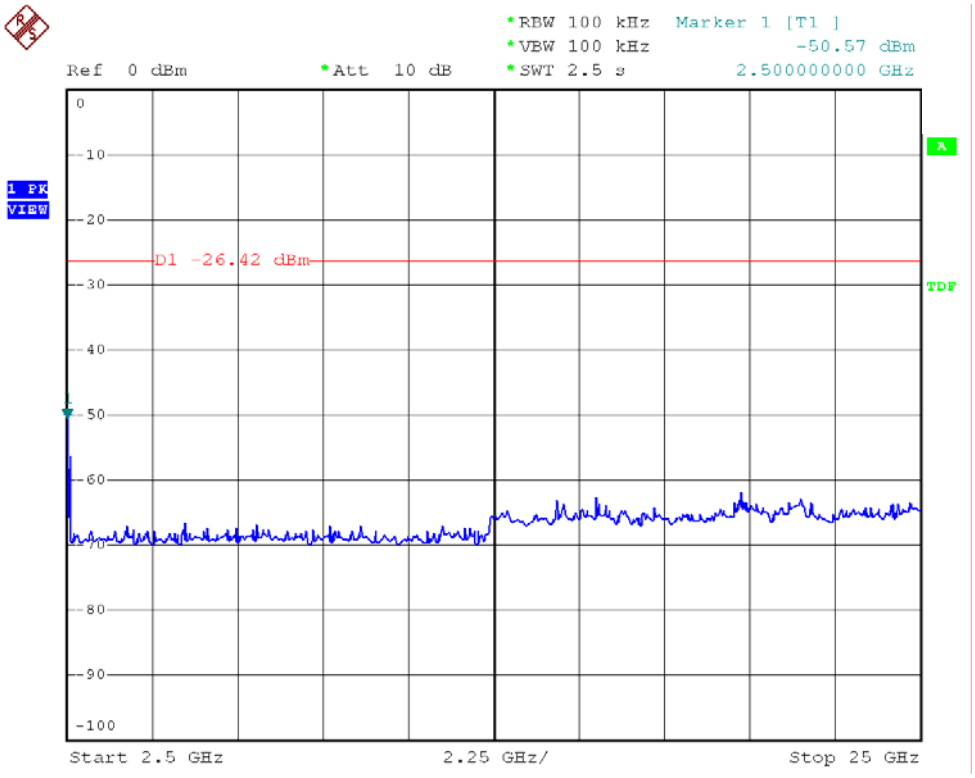
Modulation Standard: 802.11g (54Mbps), ANT R
Channel: 11



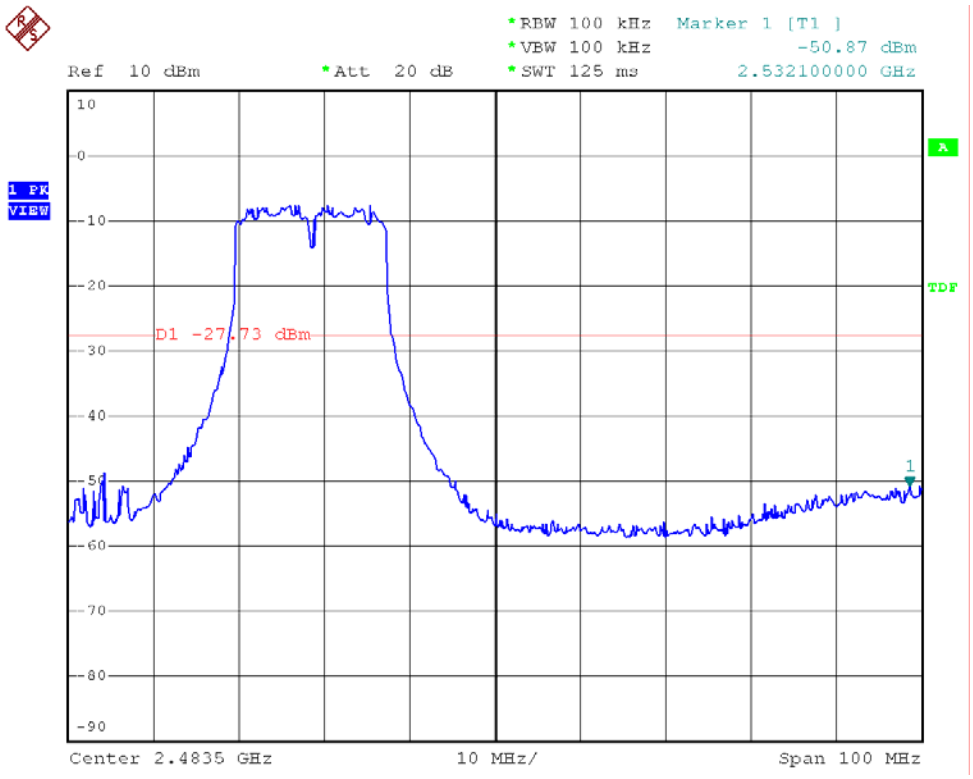


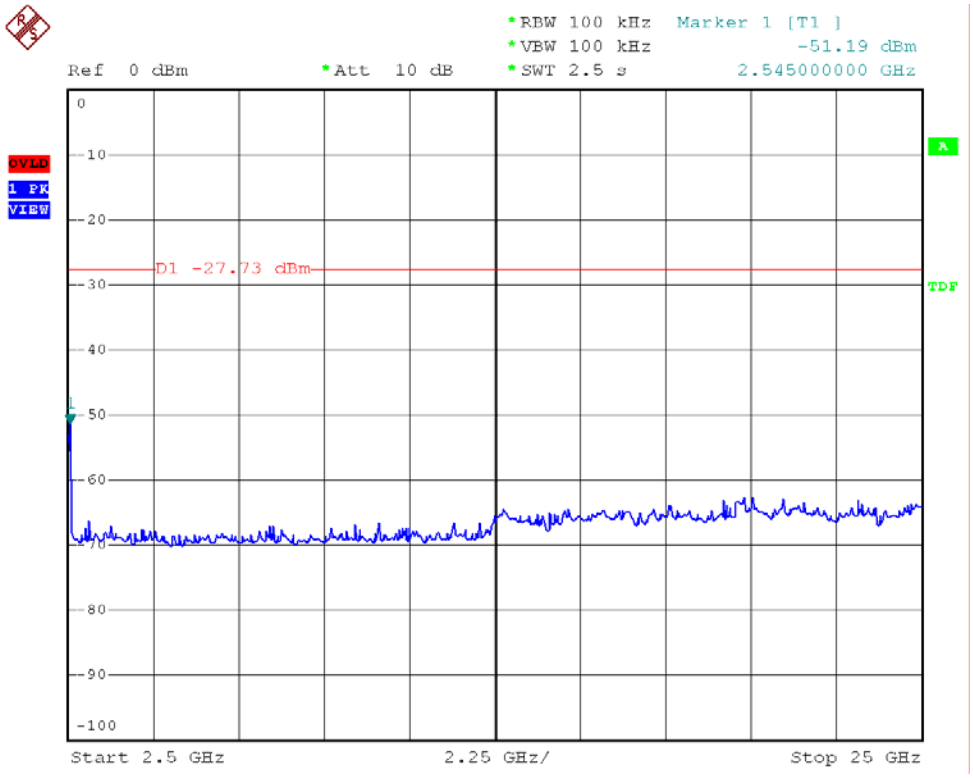
Modulation Standard: 802.11n HT20 (130Mbps), ANT R
Channel: 01



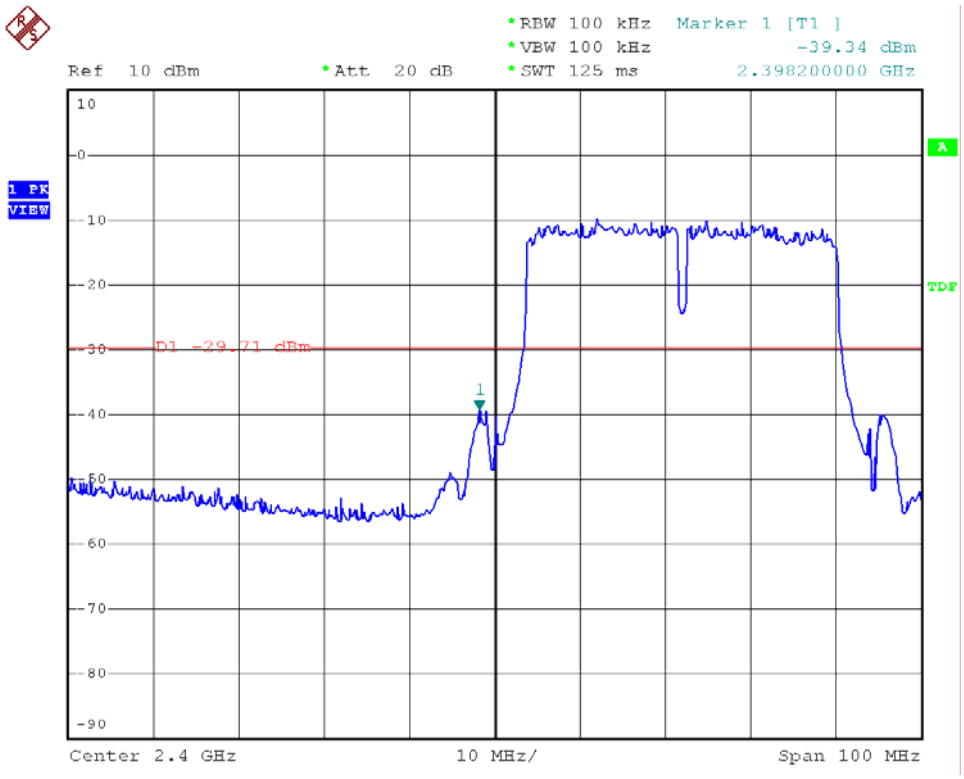


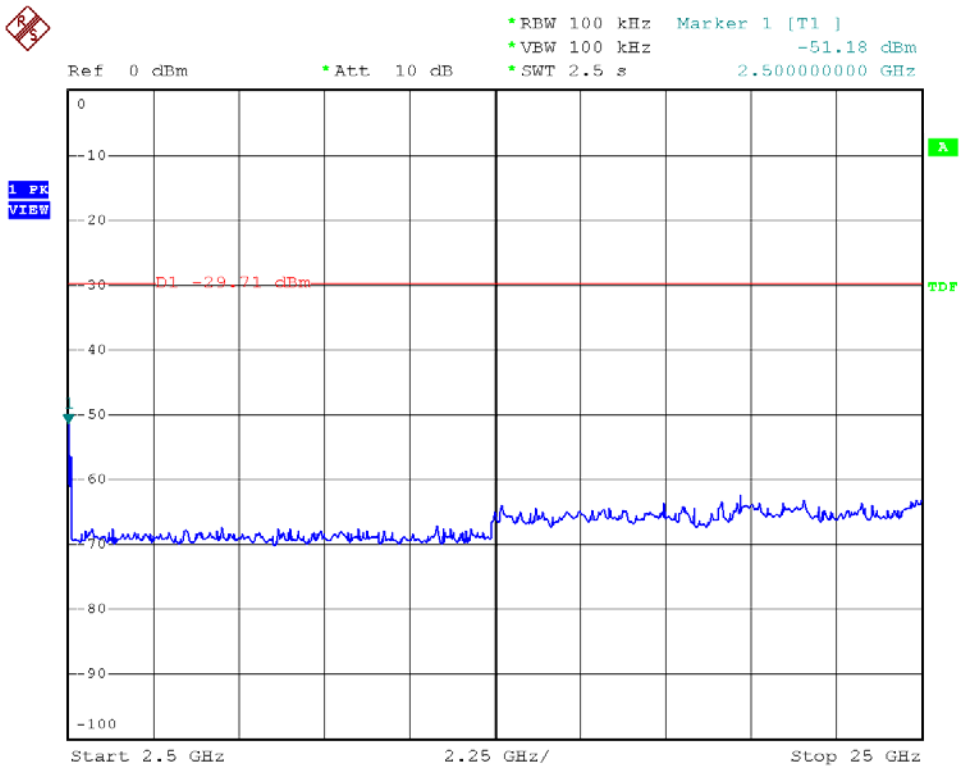
Modulation Standard: 802.11n HT20 (130Mbps), ANT R
Channel: 11



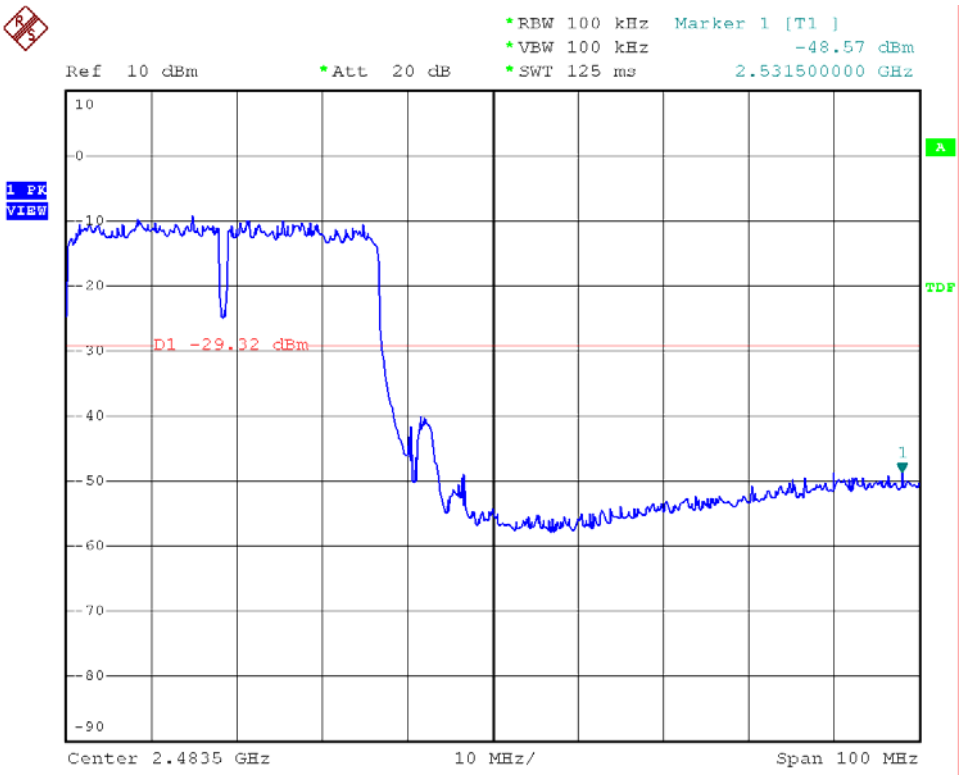


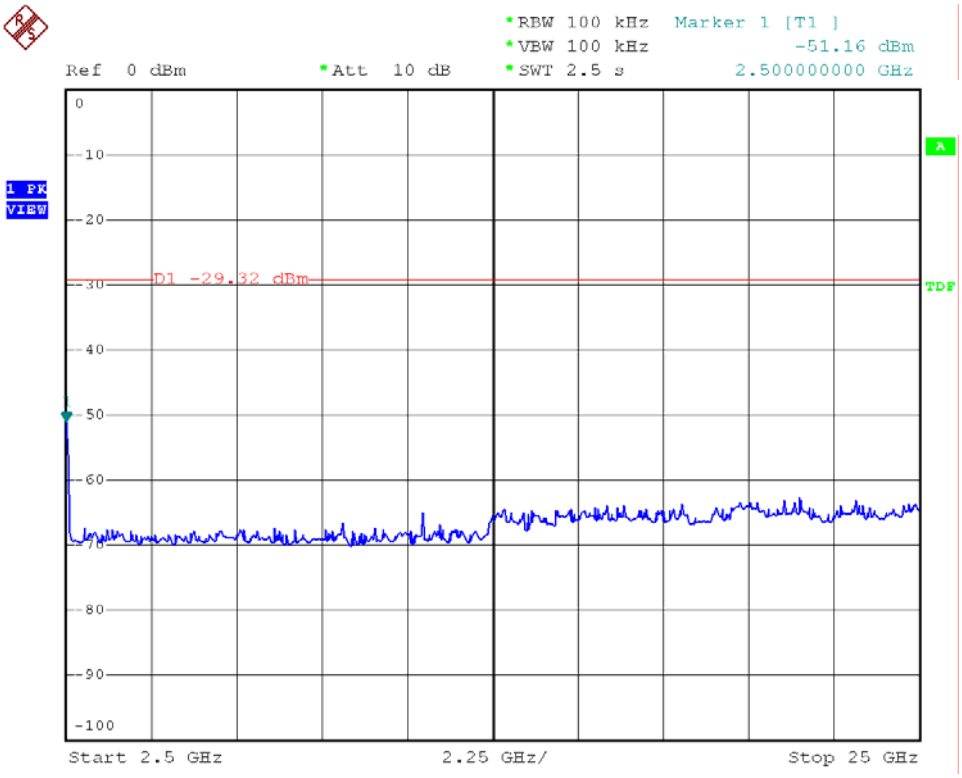
Modulation Standard: 802.11n HT40 (270Mbps), ANT R
Channel: 03



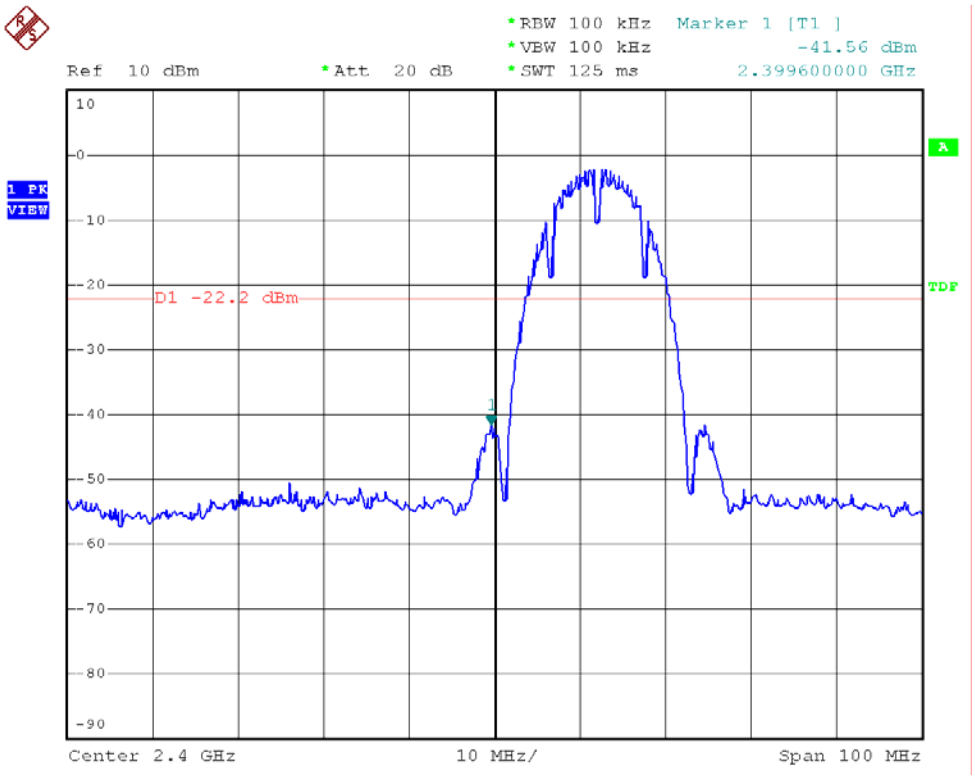


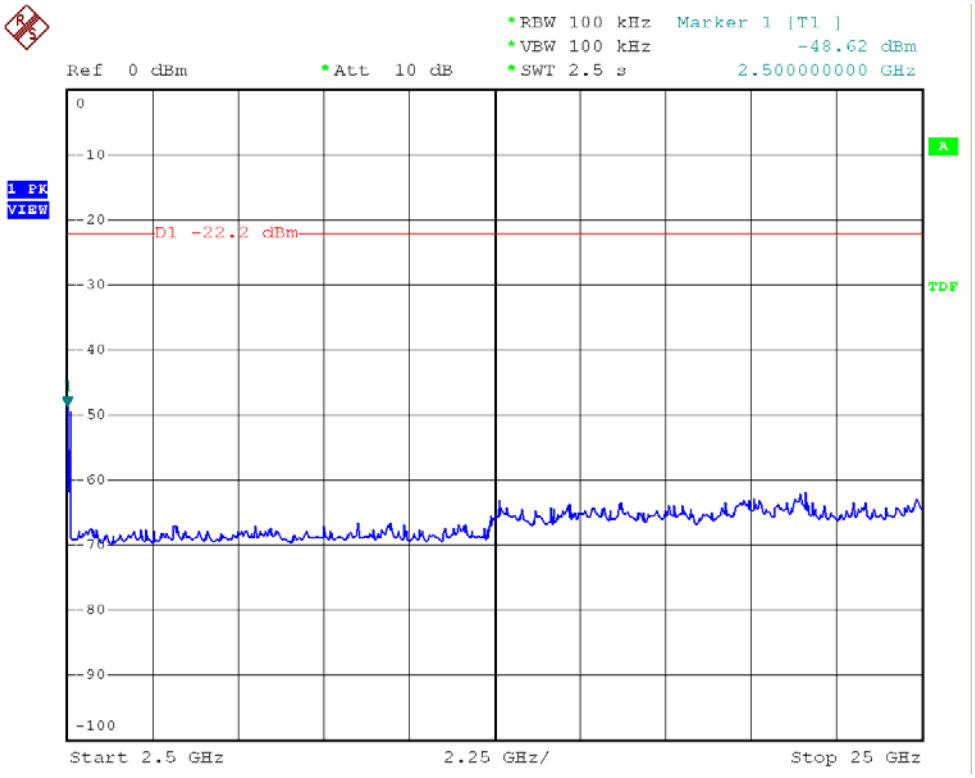
Modulation Standard: 802.11n HT40 (270Mbps), ANT R
Channel: 09



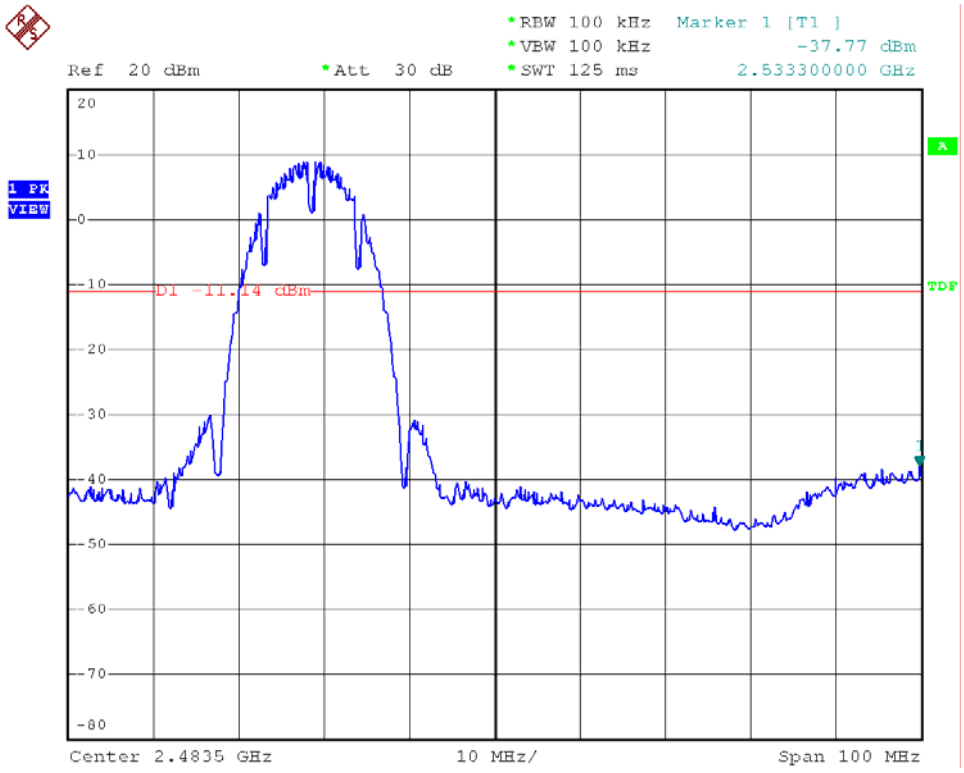


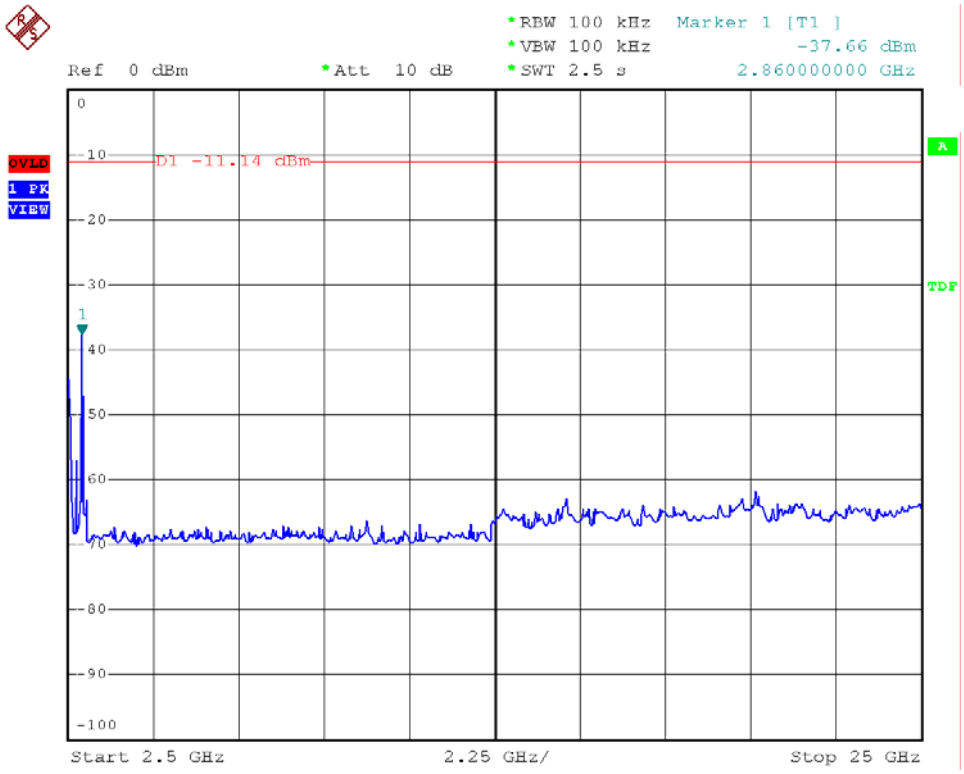
Modulation Standard: 802.11b (11Mbps), ANT L
Channel: 01



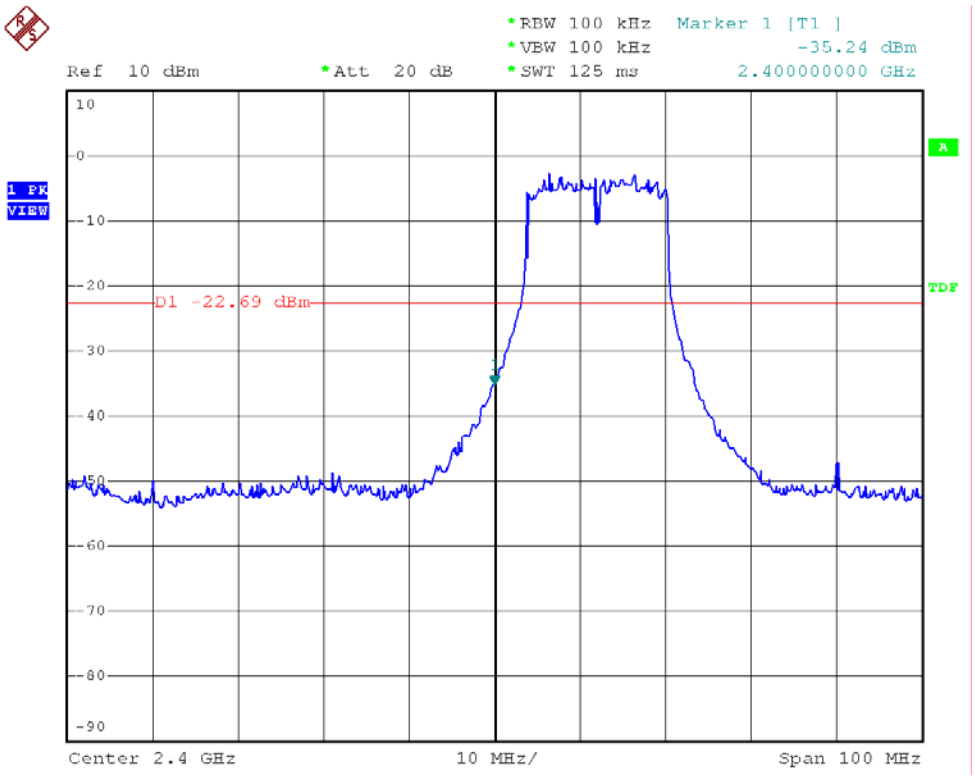


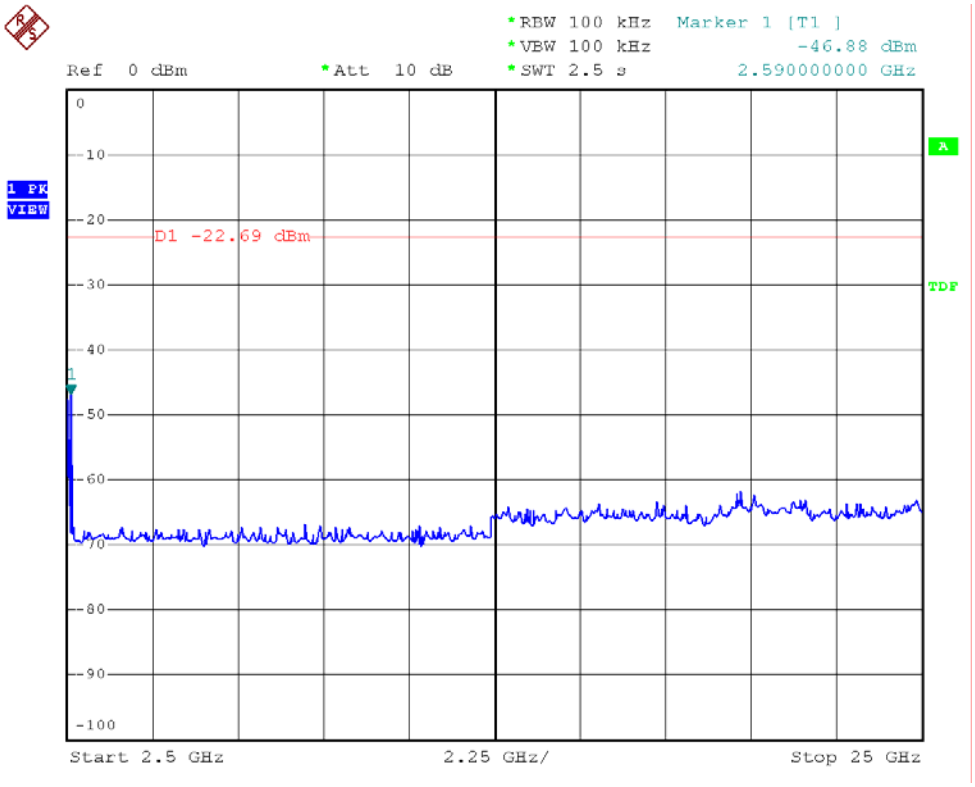
Modulation Standard: 802.11b (11Mbps), ANT L
Channel: 11



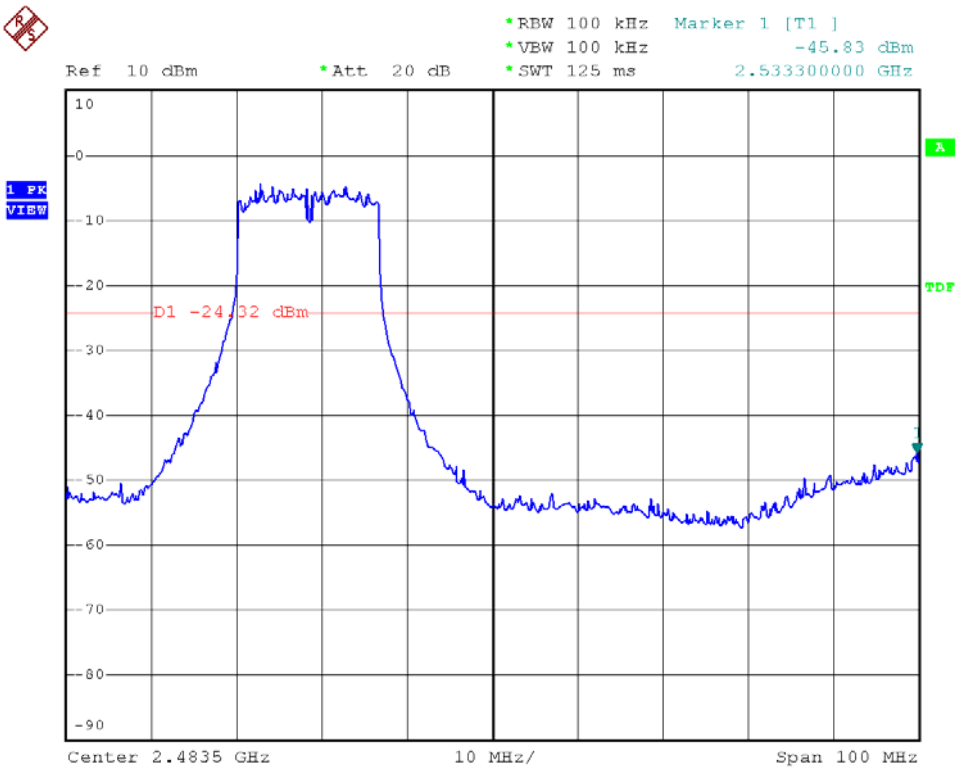


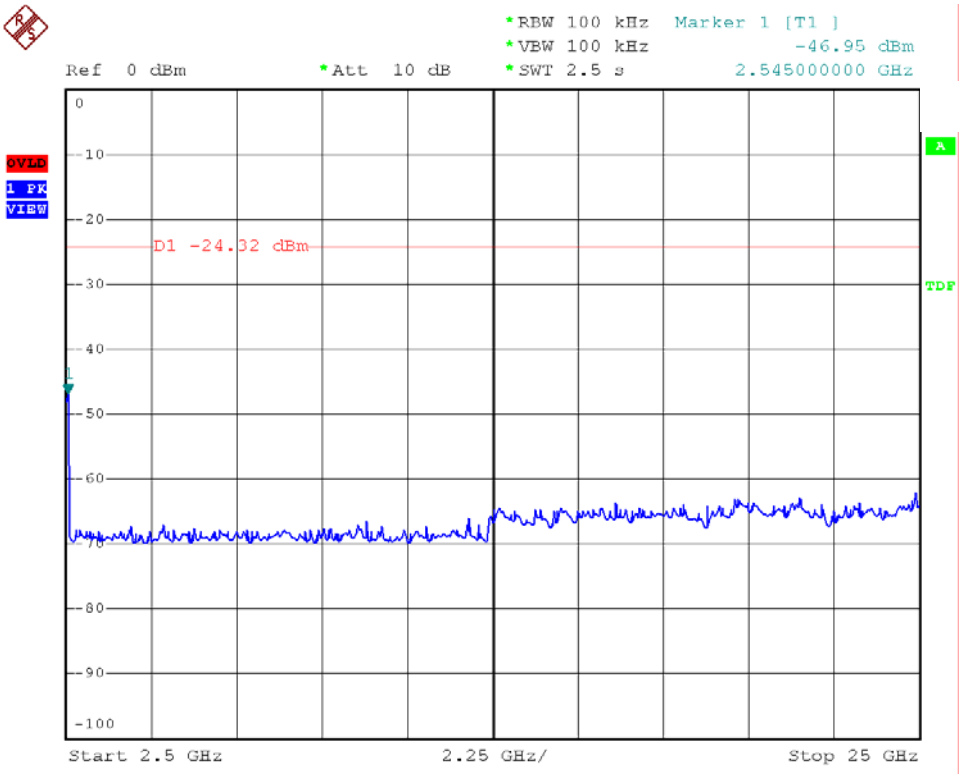
Modulation Standard: 802.11g (54Mbps), ANT L
Channel: 01



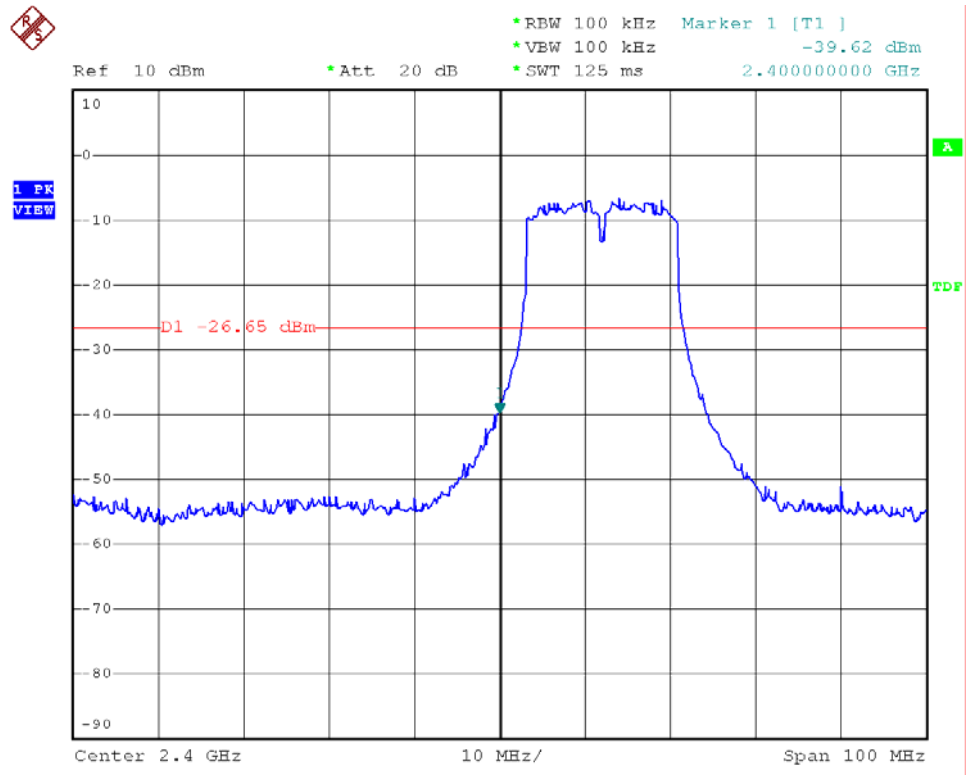


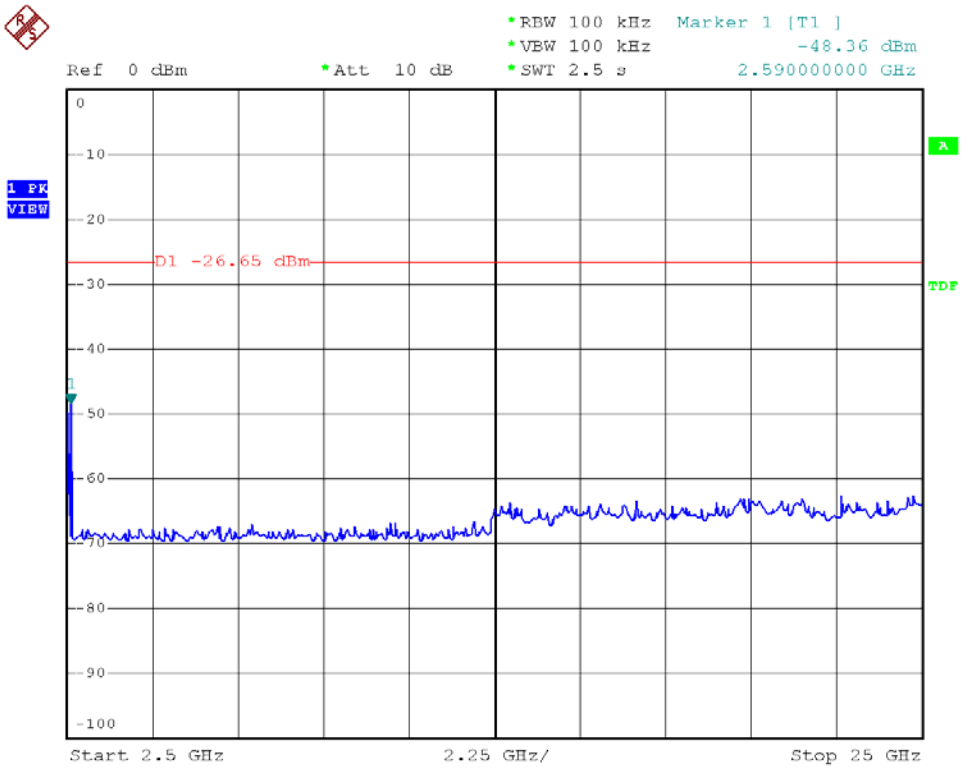
Modulation Standard: 802.11g (54Mbps), ANT L
Channel: 11



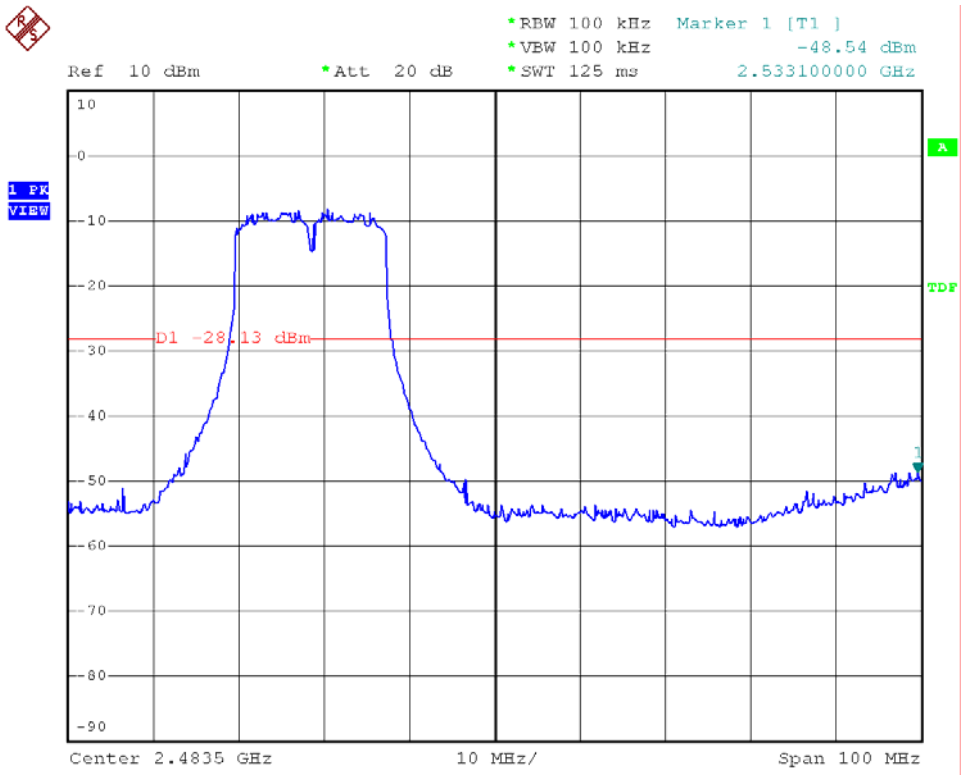


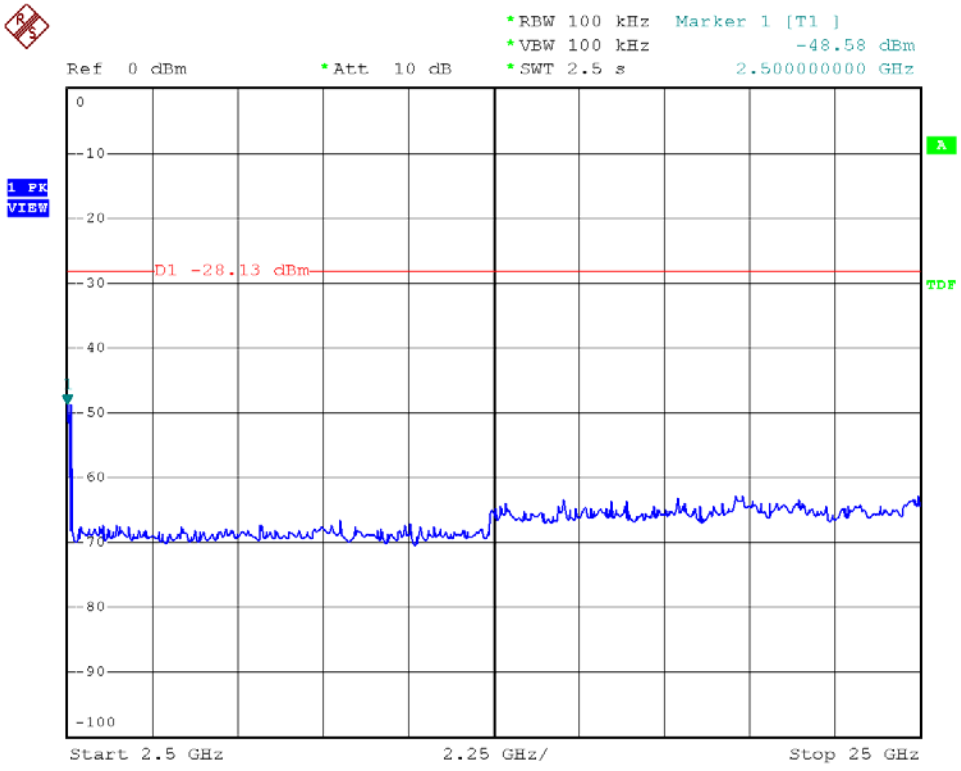
Modulation Standard: 802.11n HT20 (130Mbps), ANT L
Channel: 01



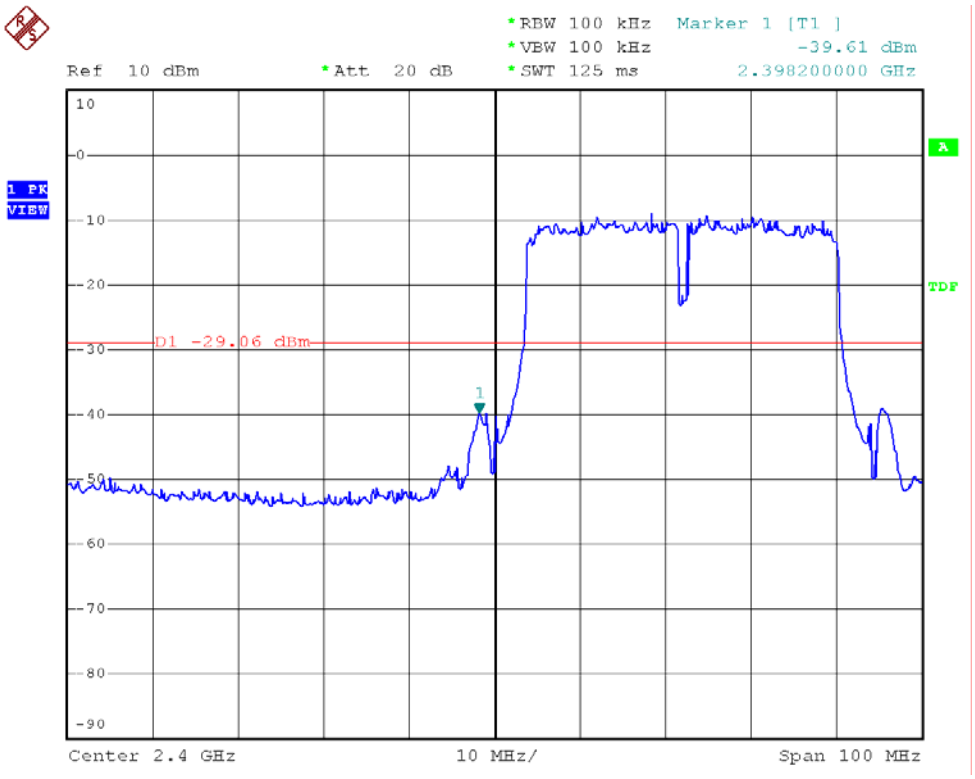


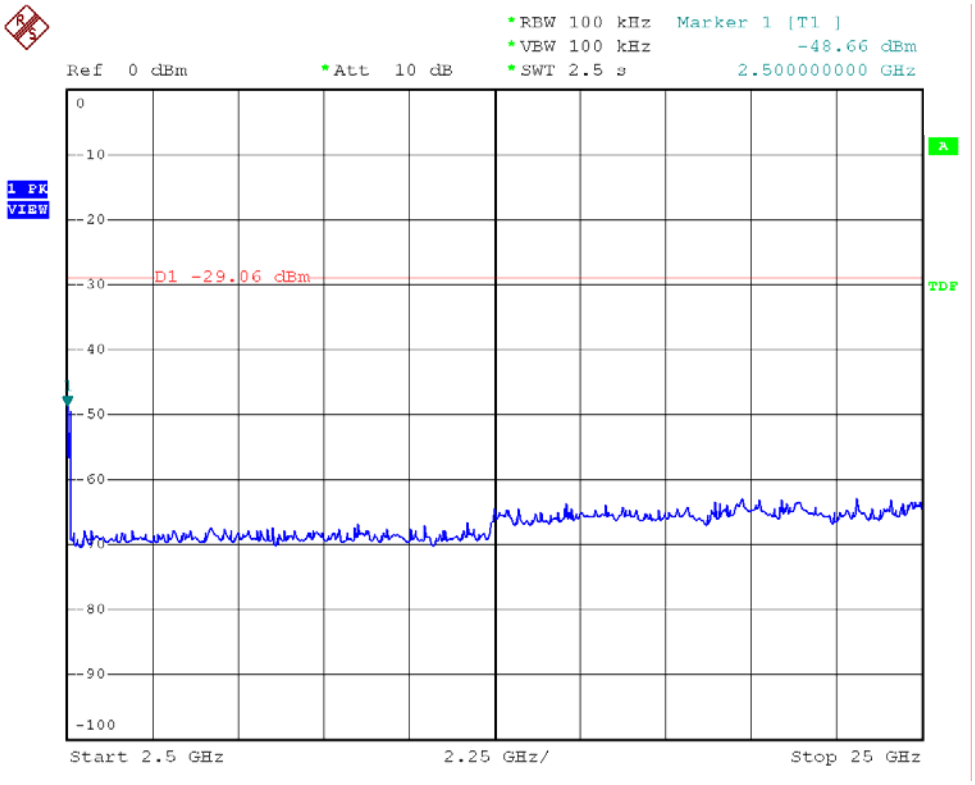
Modulation Standard: 802.11n HT20 (130Mbps), ANT L
Channel: 11



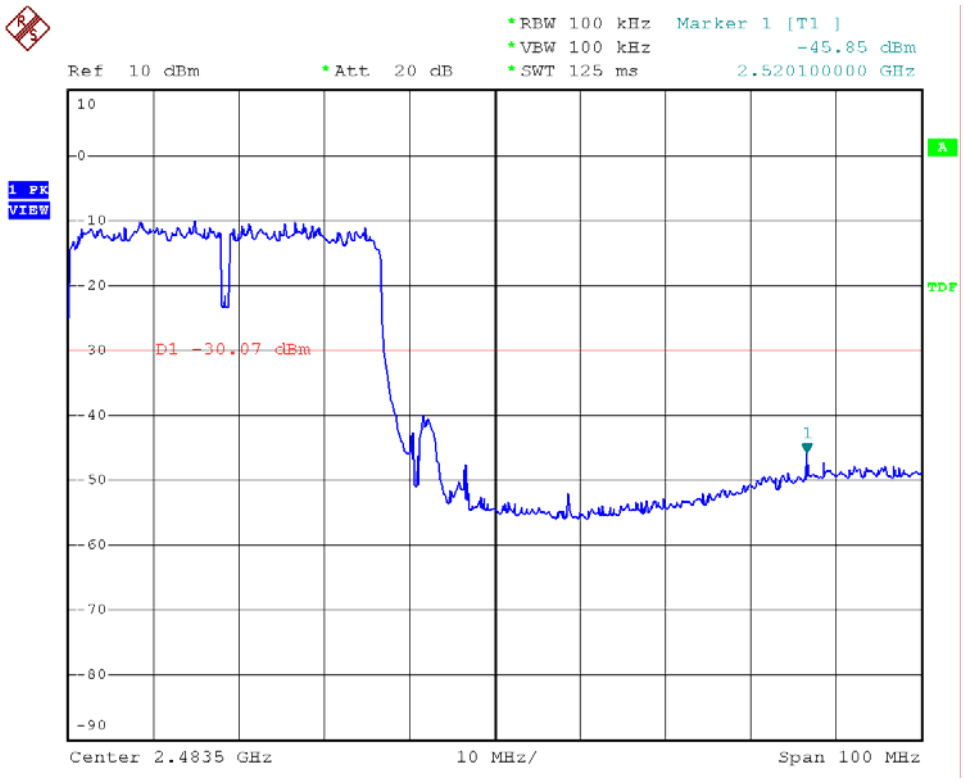


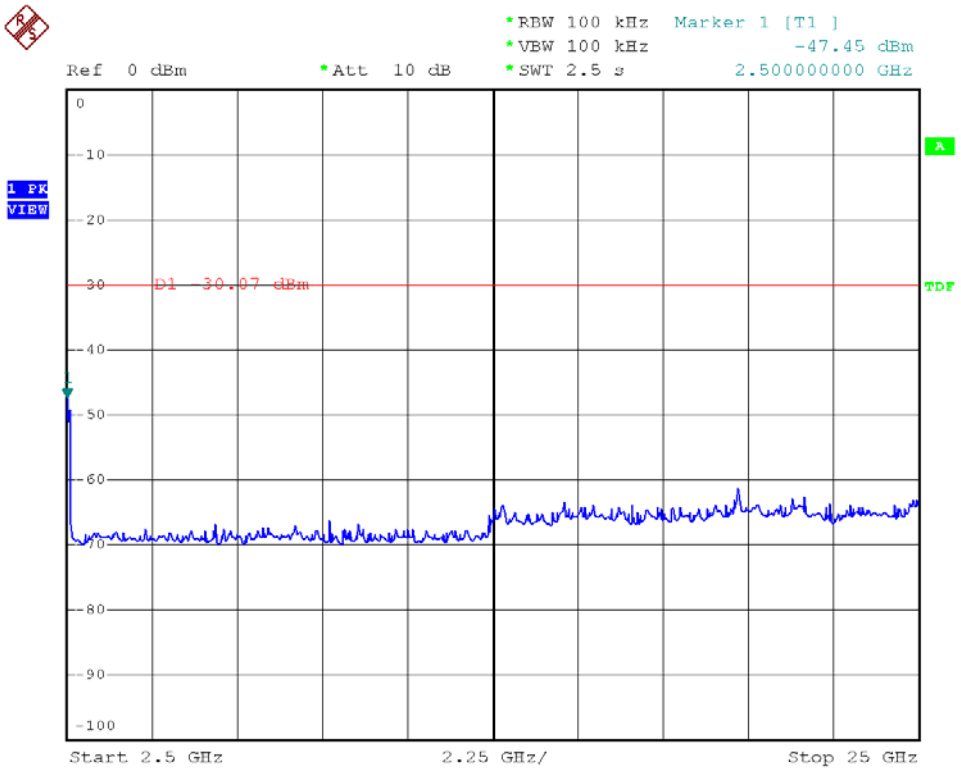
Modulation Standard: 802.11n HT40 (270Mbps), ANT L
Channel: 03





Modulation Standard: 802.11n HT40 (270Mbps), ANT L
Channel: 09





9.6 Restrict Band Emission Measurement Data

Test Date: Dec. 30, 2011 Temperature: 25 ℃

Atmospheric pressure: 1020 hPa Humidity: 51 %

Modulation Standard: IEEE 802.11b (11Mbps)

Channel 1										Fundamental Frequency: 2412 MHz
Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result (dBuV/m)	Remark	Limit (dBuV/m)		Margin (dB)	Table Deg.	Ant High (m)
						Peak	Ave			
2367.32	H	59.50	1.71	61.21	Peak	74	54	-12.79	181	1.00
2366.61	H	46.65	1.71	48.36	Ave	74	54	-5.64	181	1.00
2330.20	V	60.93	3.25	64.18	Peak	74	54	-9.82	174	1.00
2332.44	V	50.14	3.20	53.34	Ave	74	54	-0.66	174	1.00
Channel 11										Fundamental Frequency: 2462 MHz
Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result (dBuV/m)	Remark	Limit (dBuV/m)		Margin (dB)	Table Deg.	Ant High (m)
						Peak	Ave			
2487.46	H	59.29	0.23	59.52	Peak	74	54	-14.48	167	1.00
2487.46	H	47.63	0.23	47.86	Ave	74	54	-6.14	167	1.00
2486.41	V	67.77	-2.61	65.16	Peak	74	54	-8.84	220	1.00
2486.51	V	56.45	-2.51	53.94	Ave	74	54	-0.06	220	1.00

Modulation Standard: IEEE 802.11g (54Mbps)

Channel 1										Fundamental Frequency: 2412 MHz
Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result (dBuV/m)	Remark	Limit (dBuV/m)		Margin (dB)	Table Deg.	Ant High (m)
						Peak	Ave			
2329.89	H	58.50	1.87	60.37	Peak	74	54	-13.63	202	1.00
2343.15	H	46.75	1.80	48.55	Ave	74	54	-5.45	202	1.00
2335.50	V	62.09	3.15	65.24	Peak	74	54	-8.76	195	1.00
2333.21	V	49.53	3.19	52.72	Ave	74	54	-1.28	195	1.00
Channel 11										Fundamental Frequency: 2462 MHz
Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result (dBuV/m)	Remark	Limit (dBuV/m)		Margin (dB)	Table Deg.	Ant High (m)
						Peak	Ave			
2486.24	H	58.57	0.26	58.83	Peak	74	54	-15.17	222	1.00
2485.56	H	46.84	0.27	47.11	Ave	74	54	-6.89	222	1.00
2483.74	V	61.21	-2.36	58.85	Peak	74	54	-15.15	223	1.00
2484.52	V	49.45	-2.40	47.05	Ave	74	54	-6.95	223	1.00

Modulation Standard: IEEE 802.11n HT20 (130Mbps)

Channel 1										Fundamental Frequency: 2412 MHz
Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result (dBuV/m)	Remark	Limit (dBuV/m)		Margin (dB)	Table Deg.	Ant High (m)
						Peak	Ave			
2360.18	H	58.35	1.73	60.08	Peak	74	54	-13.92	177	1.00
2352.84	H	46.66	1.77	48.43	Ave	74	54	-5.57	177	1.00
2335.50	V	60.61	3.15	63.76	Peak	74	54	-10.24	177	1.00
2335.50	V	48.85	3.15	52.00	Ave	74	54	-2.00	177	.1.00
Channel 11										Fundamental Frequency: 2462 MHz
Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result (dBuV/m)	Remark	Limit (dBuV/m)		Margin (dB)	Table Deg.	Ant High (m)
						Peak	Ave			
2490.12	H	58.59	0.20	58.79	Peak	74	54	-15.21	218	1.00
2495.54	H	46.92	0.11	47.03	Ave	74	54	-6.97	218	1.00
2486.13	V	60.70	-2.49	58.21	Peak	74	54	-15.79	225	1.00
2483.66	V	48.71	-2.36	46.35	Ave	74	54	-7.65	225	1.00

Modulation Standard: IEEE 802.11n HT40 (270Mbps)

Channel 3										Fundamental Frequency: 2422 MHz
Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result (dBuV/m)	Remark	Limit (dBuV/m)		Margin (dB)	Table Deg.	Ant High (m)
						Peak	Ave			
2364.57	H	58.89	1.72	60.61	Peak	74	54	-13.39	181	1.00
2350.29	H	46.80	1.78	48.58	Ave	74	54	-5.42	181	1.00
2344.88	V	63.83	2.99	66.82	Peak	74	54	-7.18	199	1.00
2359.98	V	50.96	2.74	53.70	Ave	74	54	-0.30	199	1.00
Channel 9										Fundamental Frequency: 2452 MHz
Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result (dBuV/m)	Remark	Limit (dBuV/m)		Margin (dB)	Table Deg.	Ant High (m)
						Peak	Ave			
2493.73	H	58.57	0.15	58.72	Peak	74	54	-15.28	174	1.00
2497.63	H	46.97	0.08	47.05	Ave	74	54	-6.95	174	1.00
2484.12	V	61.20	-2.37	58.83	Peak	74	54	-15.17	214	1.00
2499.24	V	49.32	-3.18	46.14	Ave	74	54	-7.86	214	1.00

Notes:

1. Result = Meter Reading + Factor
2. Factor = Antenna Factor + Cable Loss – Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3 MHz for Peak detection at frequency above 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10 MHz for Average detection at frequency above 1GHz.

10. 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

10.1 Labeling Requirement

The device shall bear the following statement in a conspicuous location on the device:
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.