FCC TEST REPORT

According to

FCC Rules and Regulations Part 15 Subpart C

Applicant	:	Partner Tech Corp.
Address	:	10FL, 233-2, Baoqiao Road, Xindian, New Taipei City, Taiwan
Equipment	:	Handheld Terminal
Model No.	:	MF-2351
FCC ID	:	NDPMF2351
Trade Name	:	Partner

- 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

CERTIFICATE OF COMPLIANCE

According to

FCC Rules and Regulations Part 15 Subpart C

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Model No.	:	MF-2351
FCC ID	:	NDPMF2351

I **HEREBY** CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 2009, KDB558074 & KDB662911.**
The equipment was ***passed*** the test performed according to **FCC Rules and Regulations Part 15 Subpart C (2010).**
The test was carried out on Feb. 27, 2013 at Cerpass Technology Corp.

Approved by:

Hill Chen
EMC/RF B.U. Assistant Manager

Tested by:

Tom Tai
Engineer

1. Report of Measurements and Examinations

1.1 List of Measurements and Examinations

FCC Rule	. Description of Test	Result
15.203	. Antenna Requirement	Pass
15.207	. 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

Basic configuration	
Processor	TI Cortex A8 AM3715, 1GHz
Operating	WinCe6.0
Memory	DDR2, 2GB(256M), NAND Flash, 4GB(512M)
Flash	3.5inch 240 x 320 Pixels / 262000 Color
Display	Support touch and stylus input
Key	Alpha & numeric Keys (Total 20 Hardware keys)
Magnetic Card	Triple Track (track 1, 2 & 3)
IC Card Reader	EMV/PBOC2.0 L1&L2; ISO 7816
SAM Card	2
Expansion Card	Mini SD Card Slot
USB	1 USB (OTG)
RS232	1 RS232
Printer	High Speed, High resolution, thermal printer (Dimension 30mm, Width 58mm)
Audio	speaker (mono) x 1, microphone x 1
Vibration	Support
Battery	Rechargeable Battery: DC7.4V/2000mAh
Power	Power Adapter: Output Voltage DC 9V/3A, Input Voltage 100~240V, 50/60Hz 1. ADAPTER \ ATS030-A090 2.ULLPOWER \ CGSW-0903000
Communication interface(built-in)	1 SIM Slot
Secure	Processor MAXQ1850
Performance	Operating System VOS
Physical Specification	Dimension (mm): 208(L) x 85.5(W) x 53(D) mm Weight: 500g
Optional Configuration	
Communication	WCDMA, Bluetooth V2.1+EDR, WIFI 802.11b/g, GPS, GPRS
Camera	3.1M Pixel
Contactless reader	ISO 14443 A/B/NFC, Contactless EMV
Bar Code	1D or 2D
Scanner Fingerprint	

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	---	---

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 EUT for RF test.
c. An executive program, “TICON” under WIN CE was executed to transmit and receive data through WLAN.
d. The following test modes were performed for RF test:
Test Mode 1. Adapter: ADAPTER \ ATS030-A090
- 802.11b/g/n HT20: CH01: 2412MHz, CH06: 2437MHz, CH11: 2462MHz

Test Mode 2. Adapter: ULLPOWER \ CGSW-0903000
- 802.11b/g/n HT20: CH01: 2412MHz, CH06: 2437MHz, CH11: 2462MHz

caused “Test Mode 2” generated the worst case, it was reported as final report.

* Power output of data rate:

802.11b		802.11g		802.11n HT20	
Data Rate (Mbps)	Power output (dBm)	Data Rate (Mbps)	Power output (dBm)	Data Rate (Mbps)	Power output (dBm)
11	18.16	54	17.06	130/15	---
5.5	18.17	48	17.10	117/14	---
2	18.18	36	17.13	104/13	---
1	18.22	24	17.16	78/12	---
---	---	18	17.16	52/11	---
---	---	12	17.15	39/10	---
---	---	9	17.15	26/9	---
---	---	6	17.18	13/8	---
---	---	---	---	65/7	17.01
---	---	---	---	58.5/6	17.07
---	---	---	---	52/5	17.11
---	---	---	---	39/4	17.12
---	---	---	---	26/3	17.13
---	---	---	---	19.5/2	17.12
---	---	---	---	13/1	17.12
---	---	---	---	6.5/0	17.15

2.4 Description of Test System

The EUT was tested alone. No support devices is needed for testing.

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
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.
Laboratory Accreditation	TAF Testing Laboratory 1439

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

Antenna Type: PCB Antenna
Antenna Gain: 2 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.

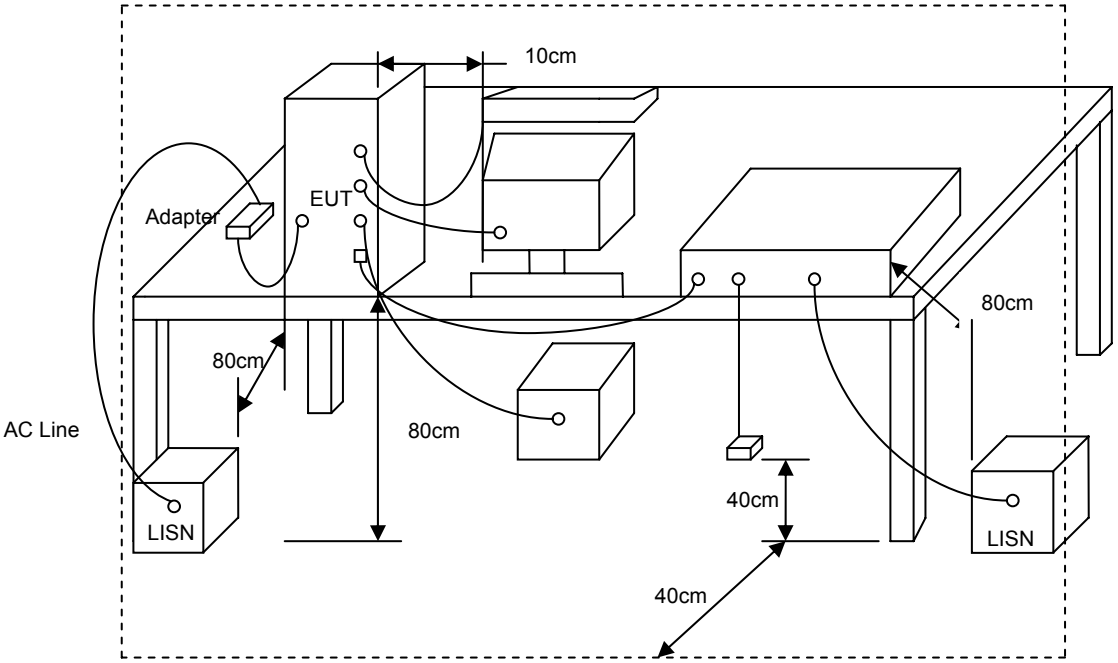
Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*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

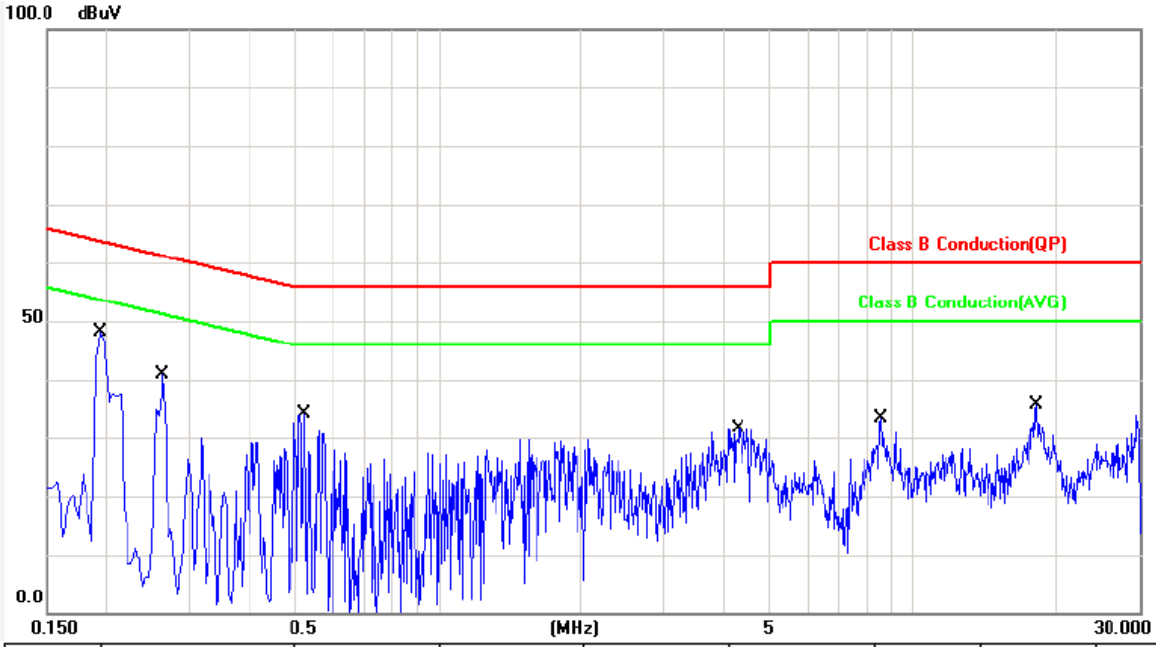


4.4 Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
EMI Receiver	R&S	ESCI	100821	2012/12/24	2013/12/23
LISN	Schwarzbeck	NSLK 8127	8127-516	2012/03/08	2013/03/07
LISN	Schwarzbeck	NSLK 8127	8127-568	2012/08/22	2013/08/21

4.5 Test Result and Data

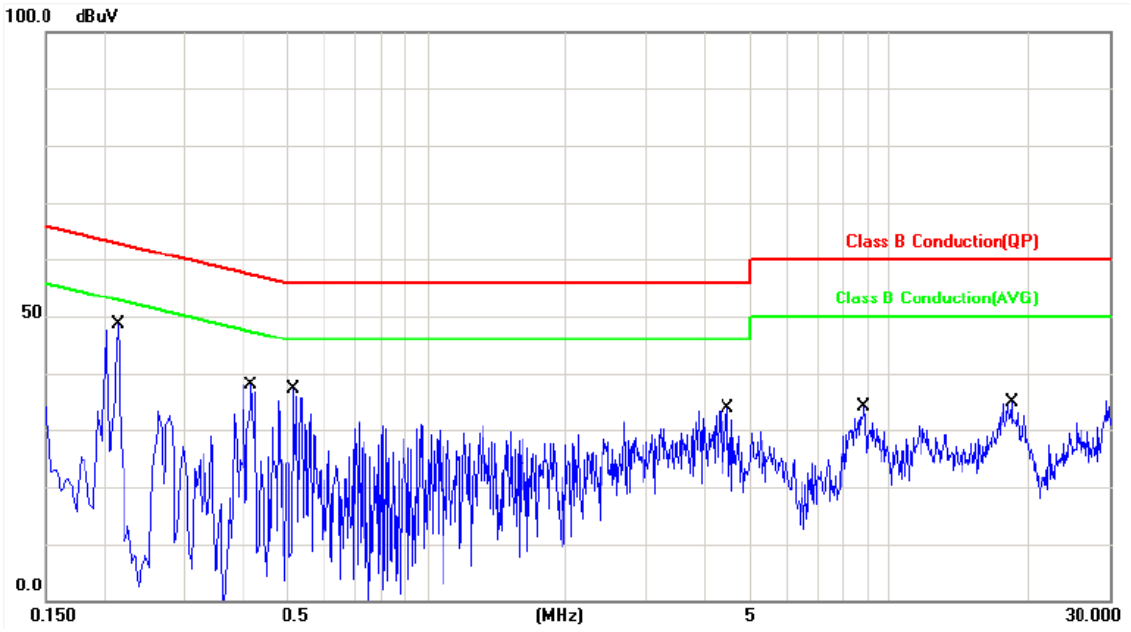
Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode	:	802.11g, CH1	Temperature	:	25 °C
Test Date	:	Feb. 27, 2013	Humidity	:	65 %



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1940	0.12	47.62	47.74	63.86	-16.12	QP	P
2	0.1940	0.12	31.58	31.70	53.86	-22.16	AVG	P
3	0.2620	0.12	37.66	37.78	61.36	-23.58	QP	P
4	0.2620	0.12	21.54	21.66	51.36	-29.70	AVG	P
5	0.5220	0.14	32.59	32.73	56.00	-23.27	QP	P
6	0.5220	0.14	18.55	18.69	46.00	-27.31	AVG	P
7	4.3140	0.45	29.32	29.77	56.00	-26.23	QP	P
8	4.3140	0.45	18.87	19.32	46.00	-26.68	AVG	P
9	8.5860	0.62	29.43	30.05	60.00	-29.95	QP	P
10	8.5860	0.62	23.56	24.18	50.00	-25.82	AVG	P
11	18.2979	1.00	29.34	30.34	60.00	-29.66	QP	P
12	18.2979	1.00	24.89	25.89	50.00	-24.11	AVG	P

Note: Level = Reading + Factor
Margin = Level – Limit

Power	:	AC 120V	Pol/Phase	:	NEUTRAL
Test Mode	:	802.11g, CH1	Temperature	:	25 °C
Test Date	:	Feb. 27, 2013	Humidity	:	65 %

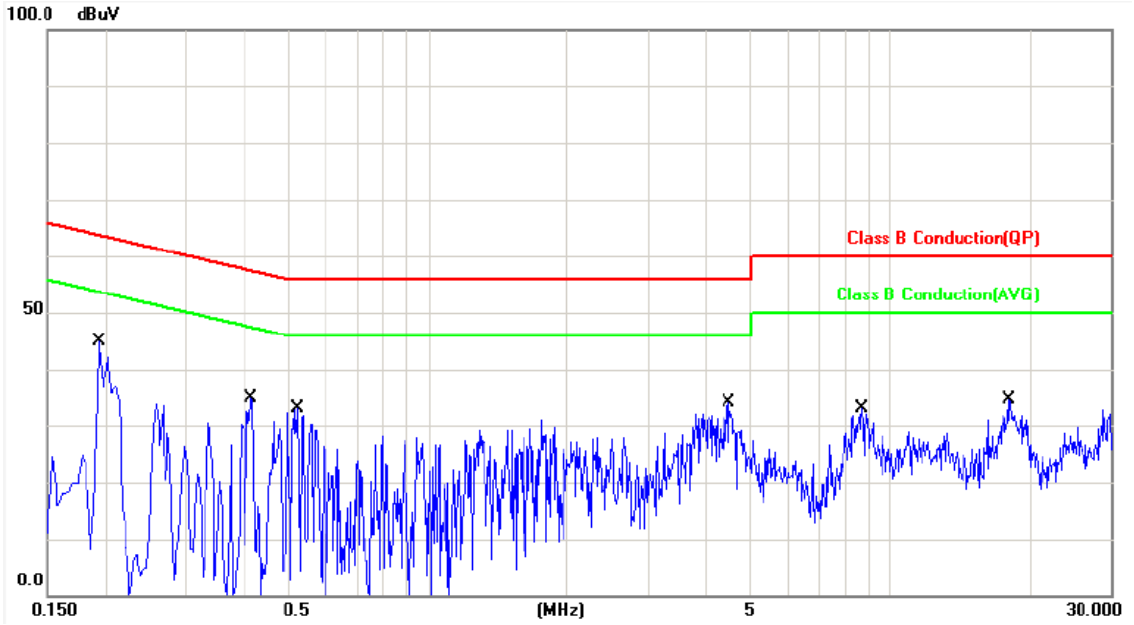


No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.2140	0.12	43.13	43.25	63.04	-19.79	QP	P
2	0.2140	0.12	23.85	23.97	53.04	-29.07	AVG	P
3	0.4180	0.14	36.47	36.61	57.49	-20.88	QP	P
4	0.4180	0.14	22.86	23.00	47.49	-24.49	AVG	P
5	0.5140	0.14	35.77	35.91	56.00	-20.09	QP	P
6	0.5140	0.14	21.56	21.70	46.00	-24.30	AVG	P
7	4.4780	0.40	30.56	30.96	56.00	-25.04	QP	P
8	4.4780	0.40	17.84	18.24	46.00	-27.76	AVG	P
9	8.8460	0.58	28.86	29.44	60.00	-30.56	QP	P
10	8.8460	0.58	20.66	21.24	50.00	-28.76	AVG	P
11	18.5020	0.96	28.25	29.21	60.00	-30.79	QP	P
12	18.5020	0.96	23.27	24.23	50.00	-25.77	AVG	P

Note: Level = Reading + Factor

Margin = Level – Limit

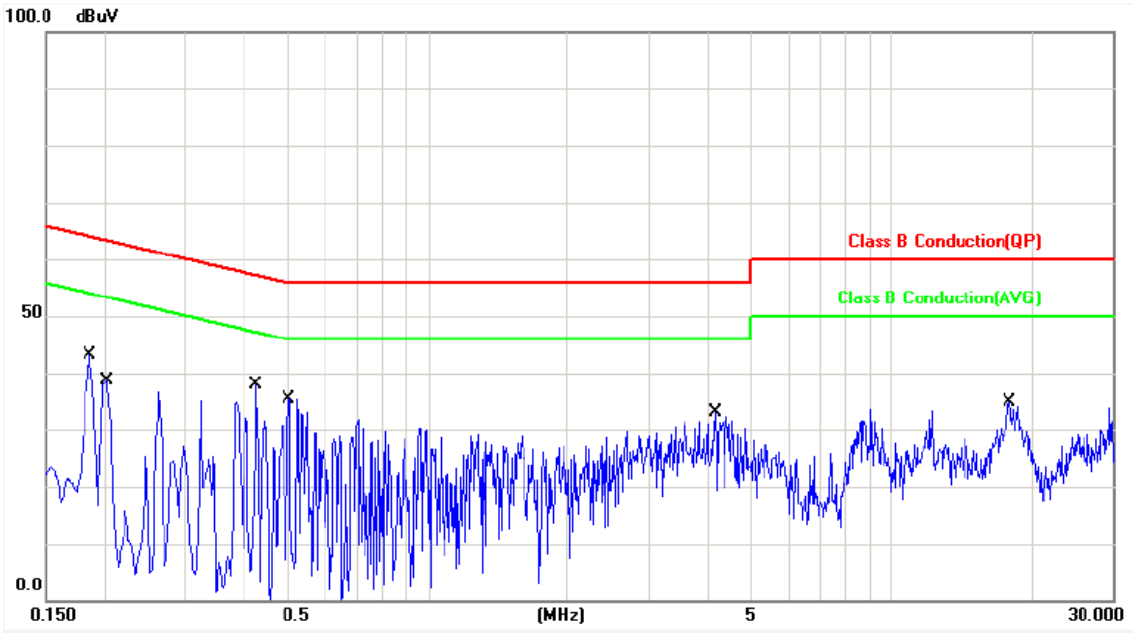
Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode	:	802.11n HT20, CH1	Temperature	:	25 °C
Test Date	:	Feb. 27, 2013	Humidity	:	65 %



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1940	0.12	47.36	47.48	63.86	-16.38	QP	P
2	0.1940	0.12	31.49	31.61	53.86	-22.25	AVG	P
3	0.4140	0.13	34.23	34.36	57.57	-23.21	QP	P
4	0.4140	0.13	20.87	21.00	47.57	-26.57	AVG	P
5	0.5220	0.14	32.43	32.57	56.00	-23.43	QP	P
6	0.5220	0.14	18.49	18.63	46.00	-27.37	AVG	P
7	4.4780	0.45	31.18	31.63	56.00	-24.37	QP	P
8	4.4780	0.45	20.16	20.61	46.00	-25.39	AVG	P
9	8.7060	0.62	28.49	29.11	60.00	-30.89	QP	P
10	8.7060	0.62	21.59	22.21	50.00	-27.79	AVG	P
11	18.0740	0.98	33.14	34.12	60.00	-25.88	QP	P
12	18.0740	0.98	28.21	29.19	50.00	-20.81	AVG	P

Note: Level = Reading + Factor
Margin = Level – Limit

Power	:	AC 120V	Pol/Phase	:	NEUTRAL
Test Mode	:	802.11n HT20, CH1	Temperature	:	25 °C
Test Date	:	Feb. 27, 2013	Humidity	:	65 %



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1860	0.12	42.75	42.87	64.21	-21.34	QP	P
2	0.1860	0.12	23.15	23.27	54.21	-30.94	AVG	P
3	0.2020	0.12	46.36	46.48	63.52	-17.04	QP	P
4	0.2020	0.12	31.88	32.00	53.52	-21.52	AVG	P
5	0.4260	0.14	35.64	35.78	57.33	-21.55	QP	P
6	0.4260	0.14	17.58	17.72	47.33	-29.61	AVG	P
7	0.5020	0.14	34.61	34.75	56.00	-21.25	QP	P
8	0.5020	0.14	17.58	17.72	46.00	-28.28	AVG	P
9	4.1779	0.39	27.25	27.64	56.00	-28.36	QP	P
10	4.1779	0.39	15.84	16.23	46.00	-29.77	AVG	P
11	18.0020	0.94	28.49	29.43	60.00	-30.57	QP	P
12	18.0020	0.94	23.67	24.61	50.00	-25.39	AVG	P

Note: Level = Reading + Factor
Margin = Level – Limit

5. Test of Radiated Emission

5.1 Test Limit

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

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

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.

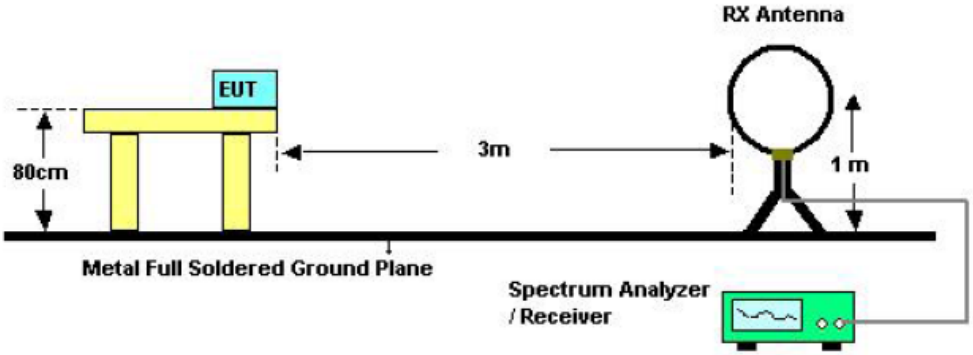
g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.

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.

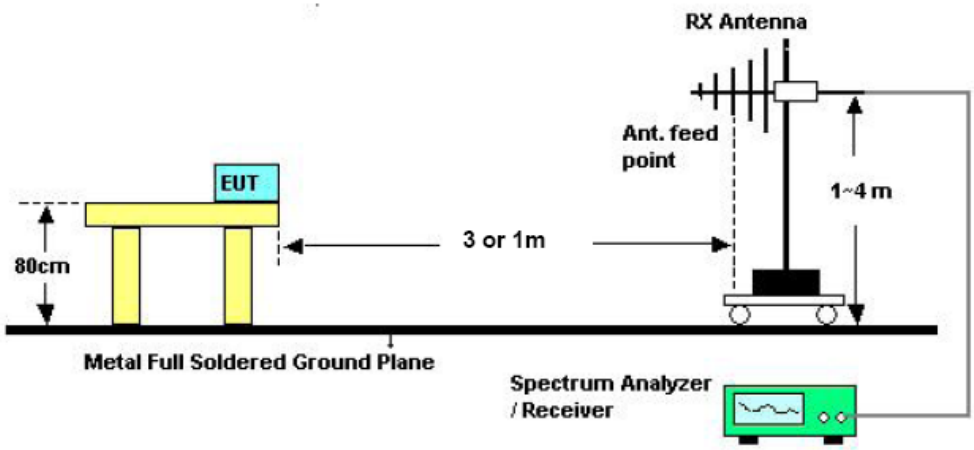
i. “Cone of radiation” has been considered to be 3dB bandwidth of the measurement antenna.

5.3 Typical Test Setup

For radiated emissions below 30MHz



For radiated emissions above 30MHz



Above 10 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1m.
Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1m]) (dB);
Limit line = specific limits (dBuV) + distance extrapolation factor [9.54 dB].

5.4 Measurement Equipment

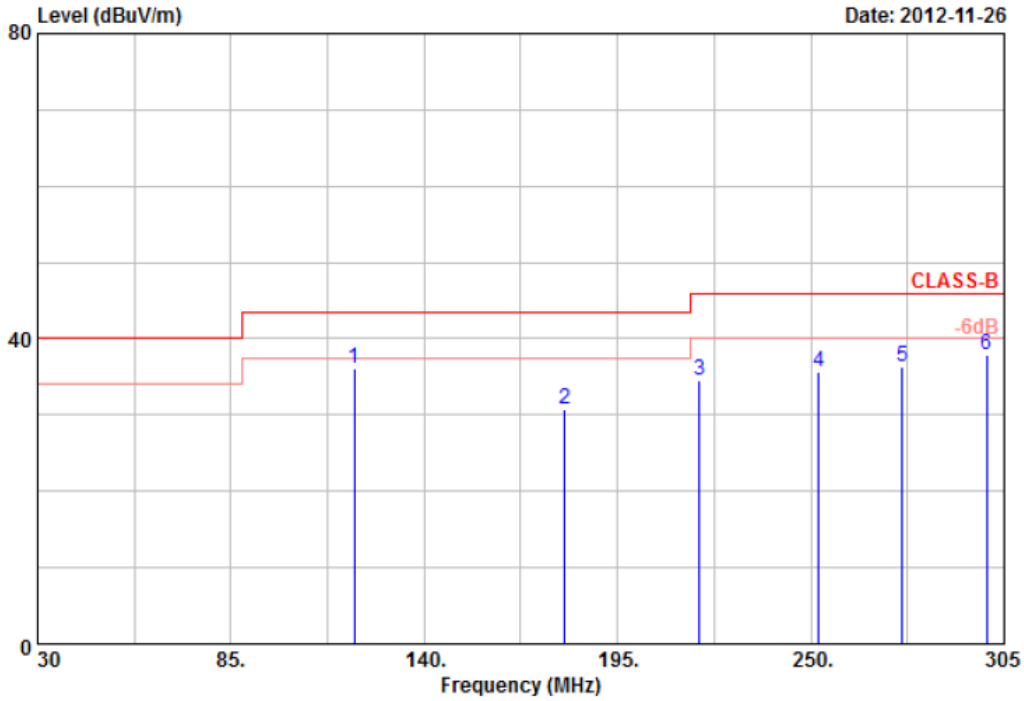
Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Amplifier	Agilent	8447D	2944A10531	2012/10/17	2013/10/16
Bilog Antenna	Schaffner	CBL6112B	2840	2012/03/23	2013/03/22
EMI Receiver	R&S	ESCI	101200	2012/07/31	2013/07/30
SPECTRUM ANALYZER	R&S	FSP40	100219	2012/09/13	2013/09/12
HORN ANTENNA	EMCO	3115	31601	2012/09/13	2013/09/12
PREAMPLIFIER	EMC	EMC012635	980029	2012/09/12	2013/09/11
Preamplifier	Agilent	8449B	3008A01954	2012/02/29	2013/02/28
Loop Antenna	EMCO	6507	40855	N/A	N/A

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

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

5.6 Test Result and Data

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	802.11g, CH1	Temperature	:	23 °C
Test Date	:	Nov. 26, 2012	Humidity	:	61 %

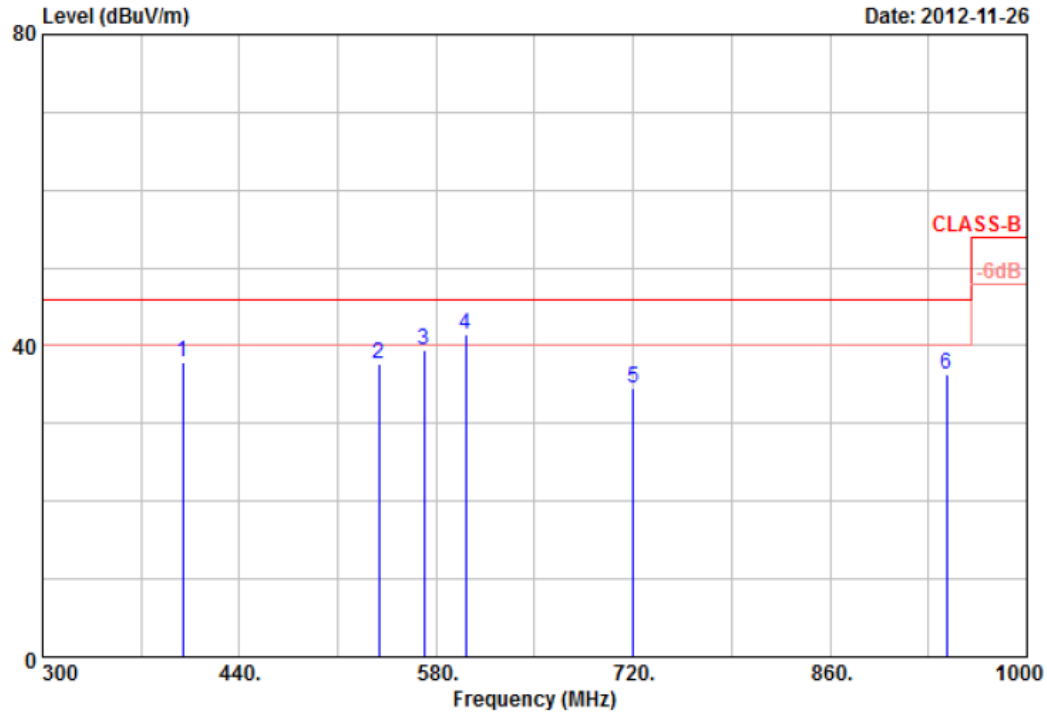


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	120.20	40.81	-4.66	36.15	43.50	-7.35	QP	100	360
2	179.88	35.79	-5.06	30.73	43.50	-12.77	QP	100	360
3	218.38	40.80	-6.27	34.53	46.00	-11.47	QP	100	360
4	252.20	45.82	-10.09	35.73	46.00	-10.27	Peak	100	360
5	276.13	45.69	-9.29	36.40	46.00	-9.60	Peak	100	360
6	300.05	46.38	-8.47	37.91	46.00	-8.09	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	:	802.11g, CH1	Temperature	:	23 °C
Test Date	:	Nov. 26, 2012	Humidity	:	61 %

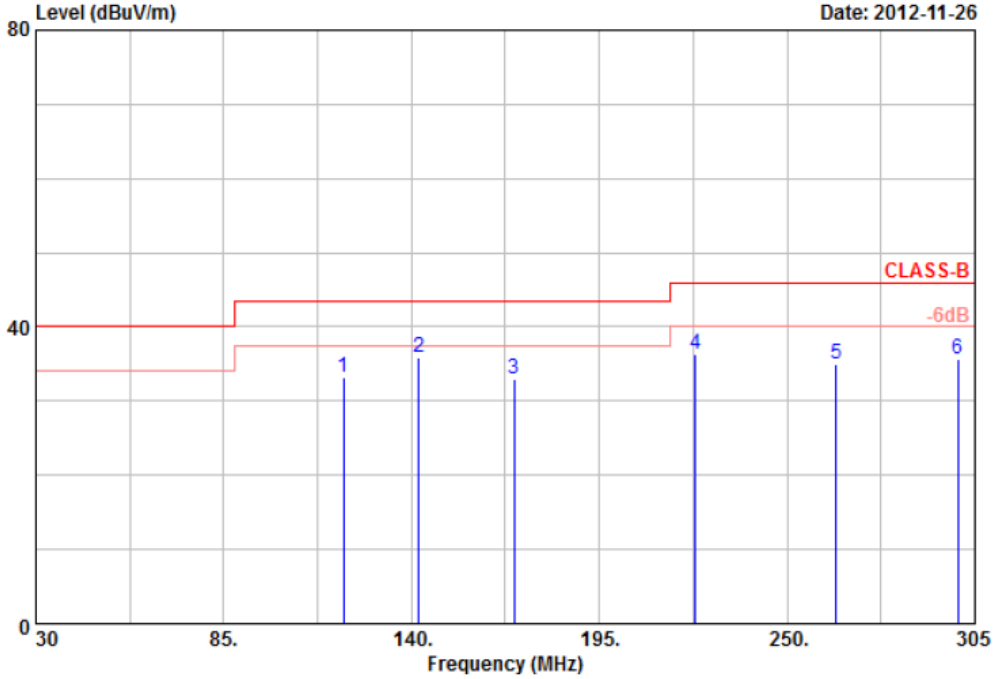


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	399.40	43.43	-5.59	37.84	46.00	-8.16	Peak	100	0
2	539.40	36.40	1.31	37.71	46.00	-8.29	Peak	100	0
3	571.60	32.75	6.71	39.46	46.00	-6.54	QP	100	0
4	601.00	38.83	2.60	41.43	46.00	-4.57	QP	100	0
5	720.00	28.20	6.41	34.61	46.00	-11.39	Peak	100	0
6	942.60	24.99	11.30	36.29	46.00	-9.71	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	:	802.11g, CH1	Temperature	:	23 °C
Test Date	:	Nov. 26, 2012	Humidity	:	61 %

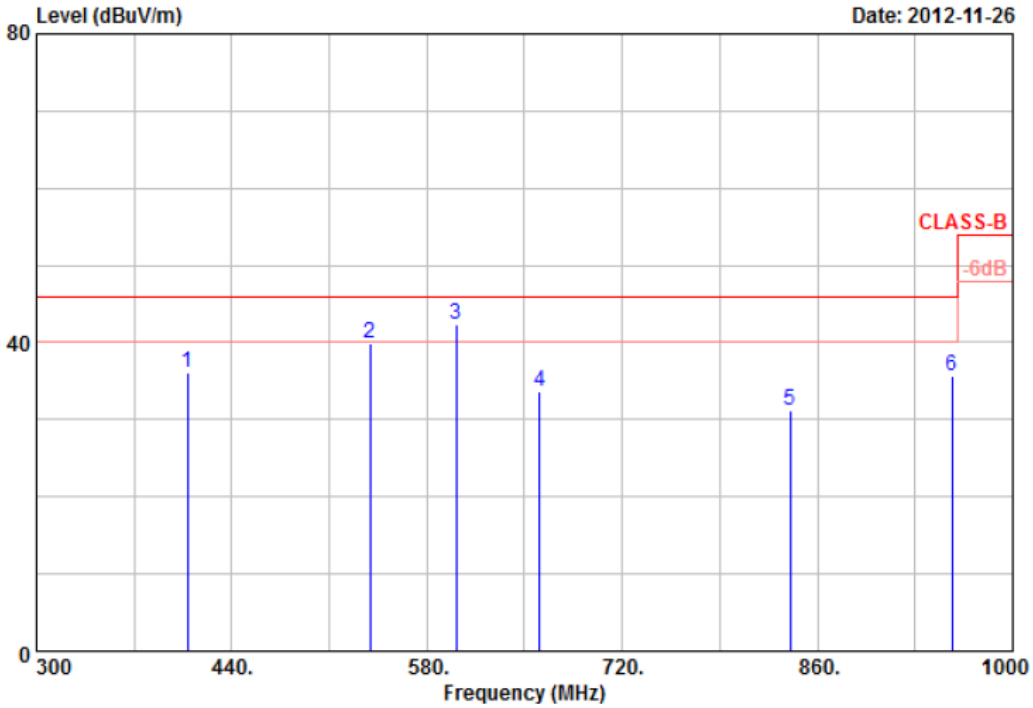


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	120.20	51.42	-18.22	33.20	43.50	-10.30	QP	100	360
2	142.20	50.57	-14.65	35.92	43.50	-7.58	QP	100	360
3	169.98	43.92	-10.97	32.95	43.50	-10.55	QP	100	360
4	223.05	51.68	-15.27	36.41	46.00	-9.59	QP	100	360
5	264.30	48.82	-13.77	35.05	46.00	-10.95	Peak	100	360
6	300.05	47.79	-12.08	35.71	46.00	-10.29	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	:	802.11g, CH1	Temperature	:	23 °C
Test Date	:	Nov. 26, 2012	Humidity	:	61 %

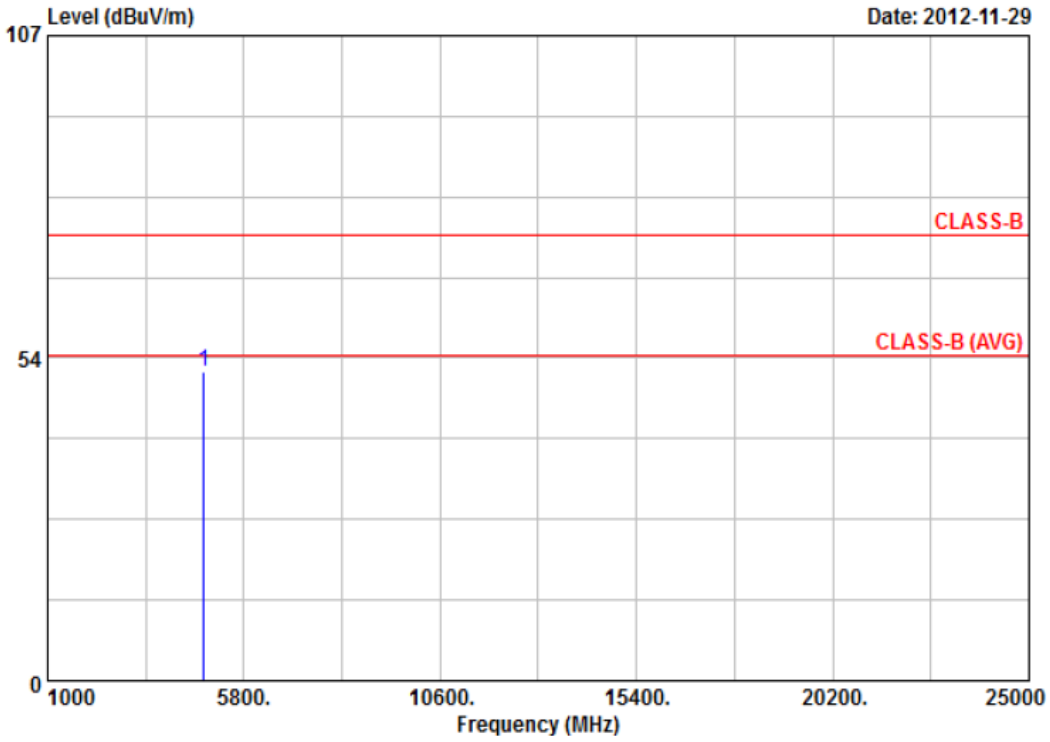


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	408.50	45.02	-8.85	36.17	46.00	-9.83	Peak	100	0
2	539.40	38.42	1.38	39.80	46.00	-6.20	QP	100	0
3	601.00	40.18	2.12	42.30	46.00	-3.70	QP	100	0
4	660.50	33.98	-0.34	33.64	46.00	-12.36	Peak	100	0
5	840.40	22.57	8.52	31.09	46.00	-14.91	Peak	100	0
6	956.60	27.90	7.70	35.60	46.00	-10.40	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	:	802.11b, CH1	Temperature	:	24 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

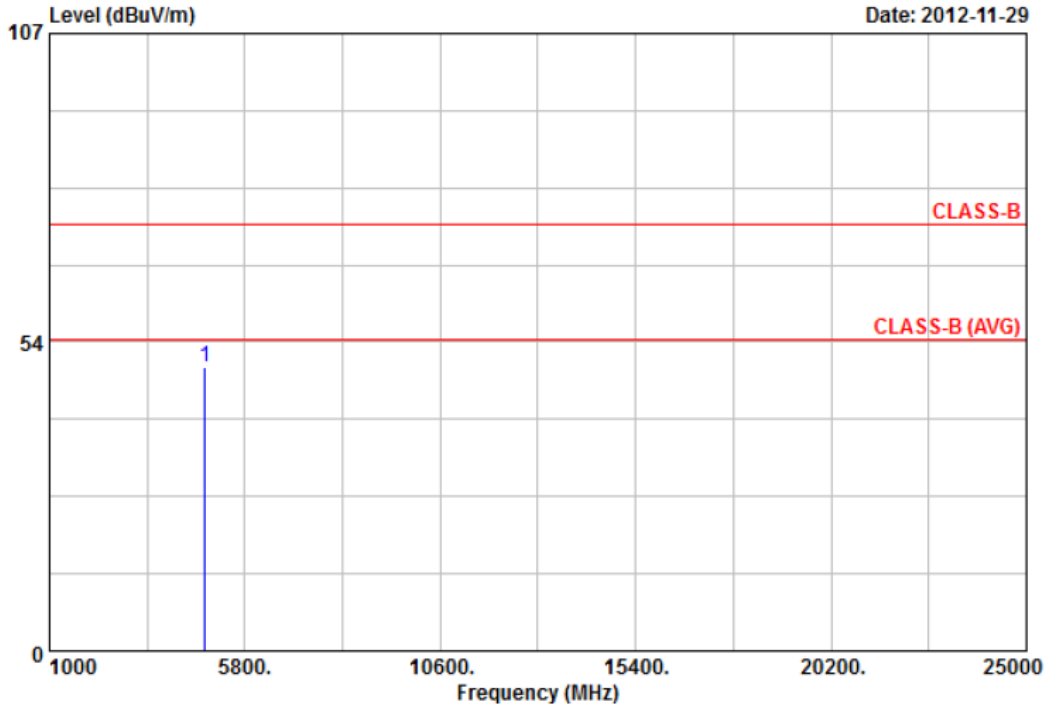


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4824.00	45.54	5.61	51.15	74.00	-22.85	Peak	100	360

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	802.11b, CH1	Temperature	:	24 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

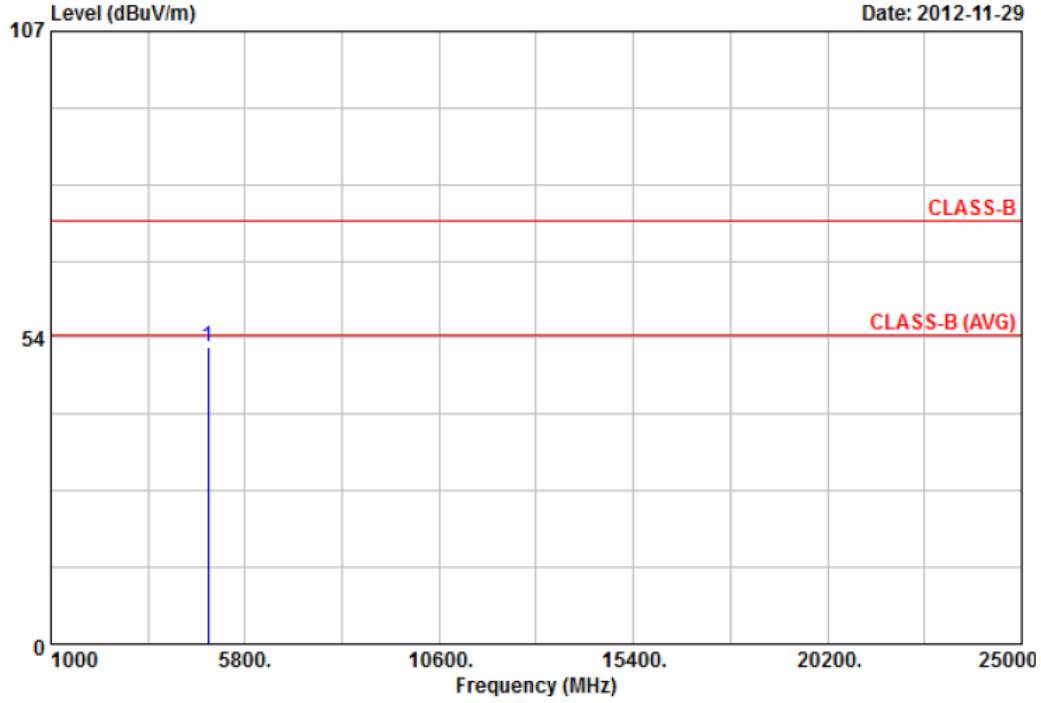


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4824.00	45.35	3.95	49.30	74.00	-24.70	Peak	100	0

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	802.11b, CH6	Temperature	:	24 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

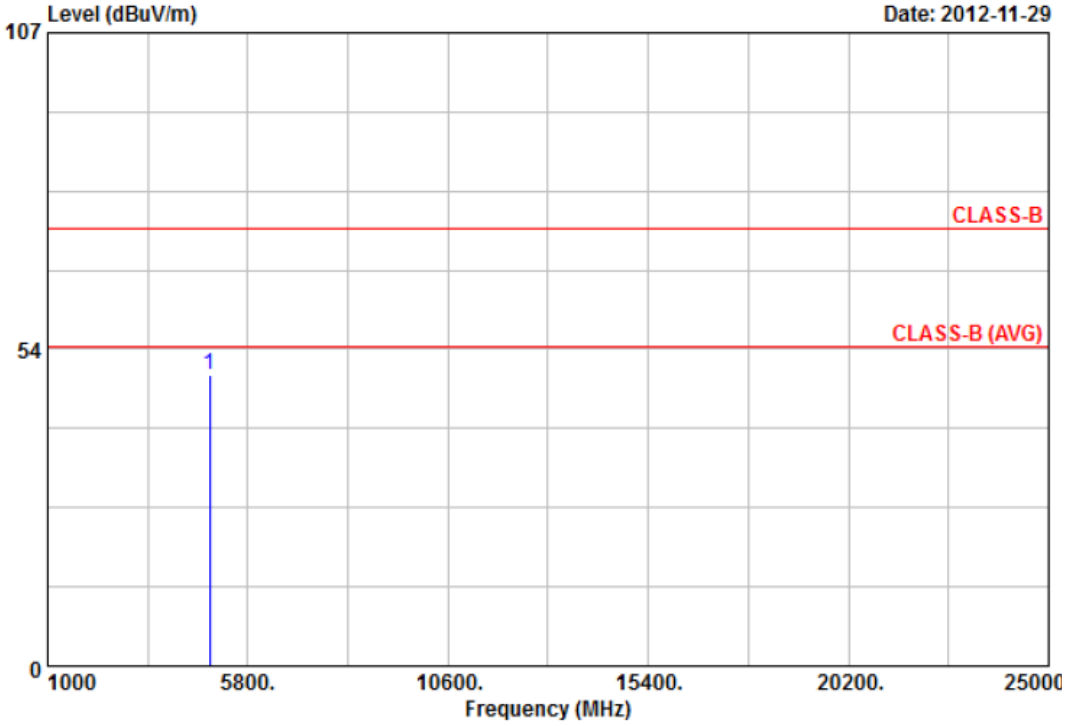


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4874.00	45.29	6.59	51.88	74.00	-22.12	Peak	100	360

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	802.11b, CH6	Temperature	:	24 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

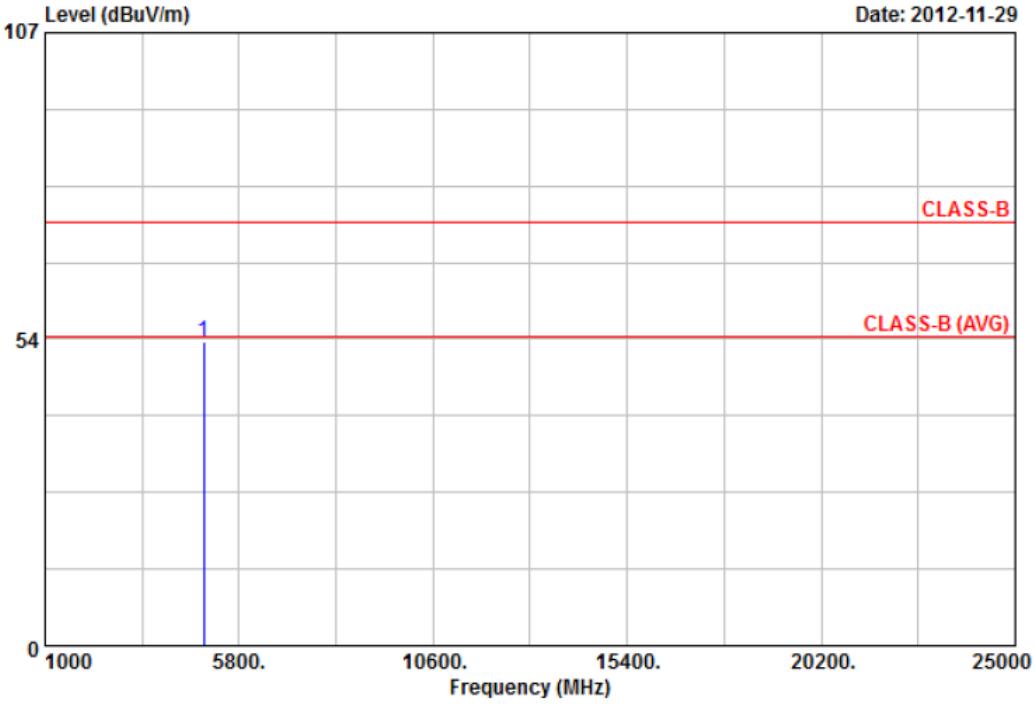


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4874.00	44.41	4.73	49.14	74.00	-24.86	Peak	100	0

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	802.11b, CH11	Temperature	:	24 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

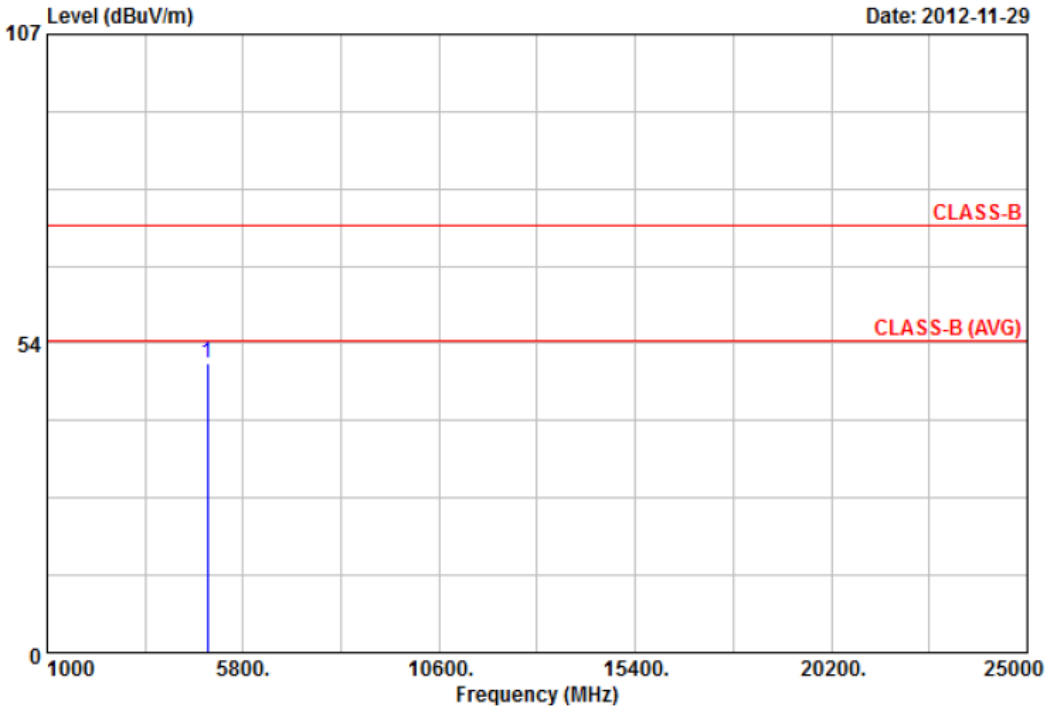


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4924.00	45.82	7.16	52.98	74.00	-21.02	Peak	100	360

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	802.11b, CH11	Temperature	:	24 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

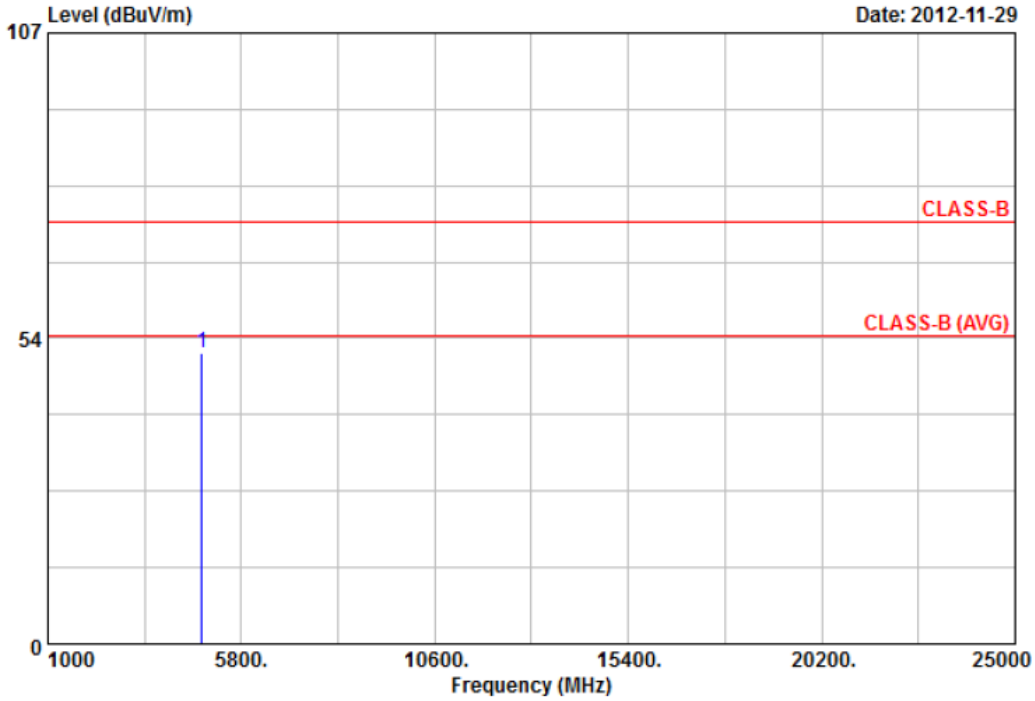


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4924.00	44.97	5.15	50.12	74.00	-23.88	Peak	100	0

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	802.11g, CH1	Temperature	:	24 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

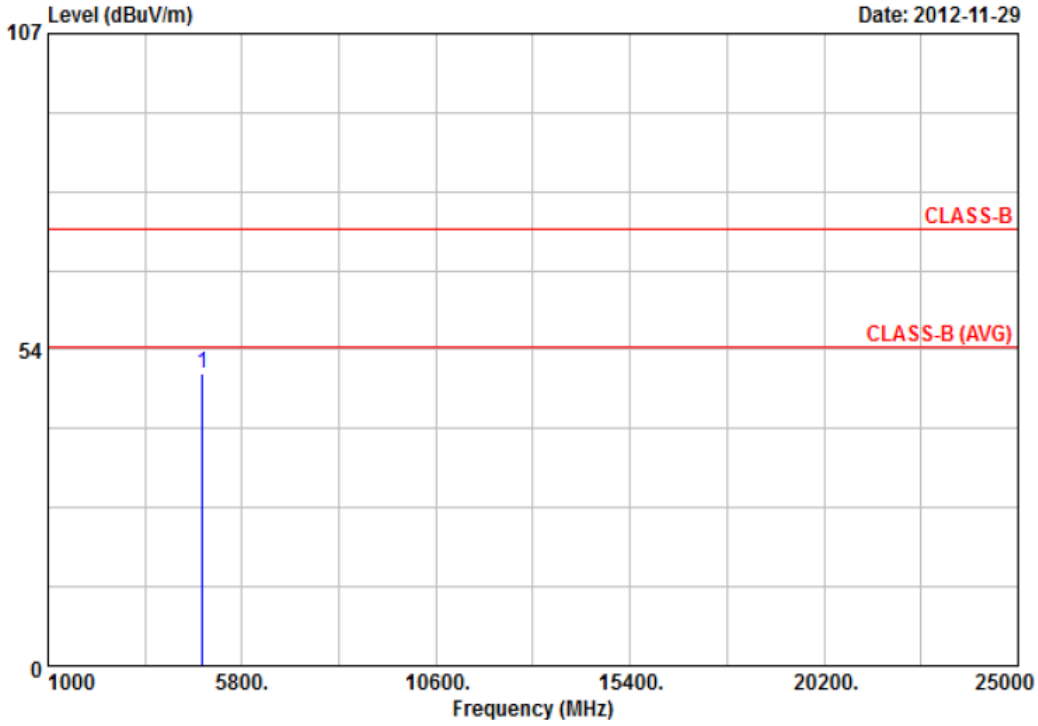


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4824.00	45.45	5.61	51.06	74.00	-22.94	Peak	100	360

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	802.11g, CH1	Temperature	:	24 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

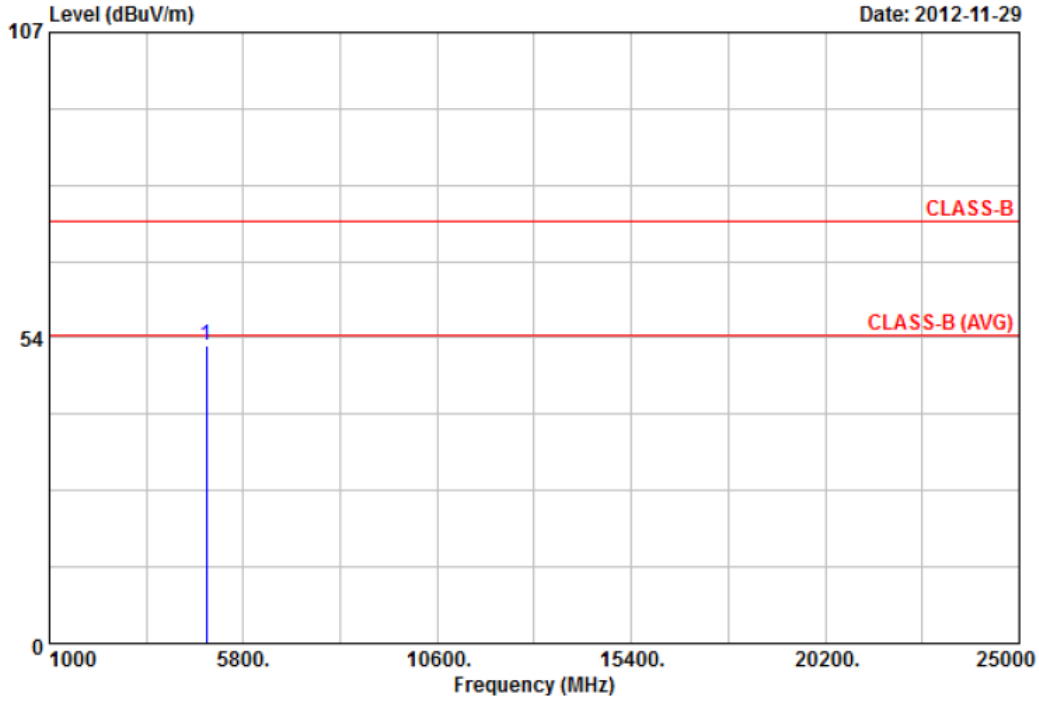


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4824.00	45.57	3.95	49.52	74.00	-24.48	Peak	100	0

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	802.11g, CH6	Temperature	:	24 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

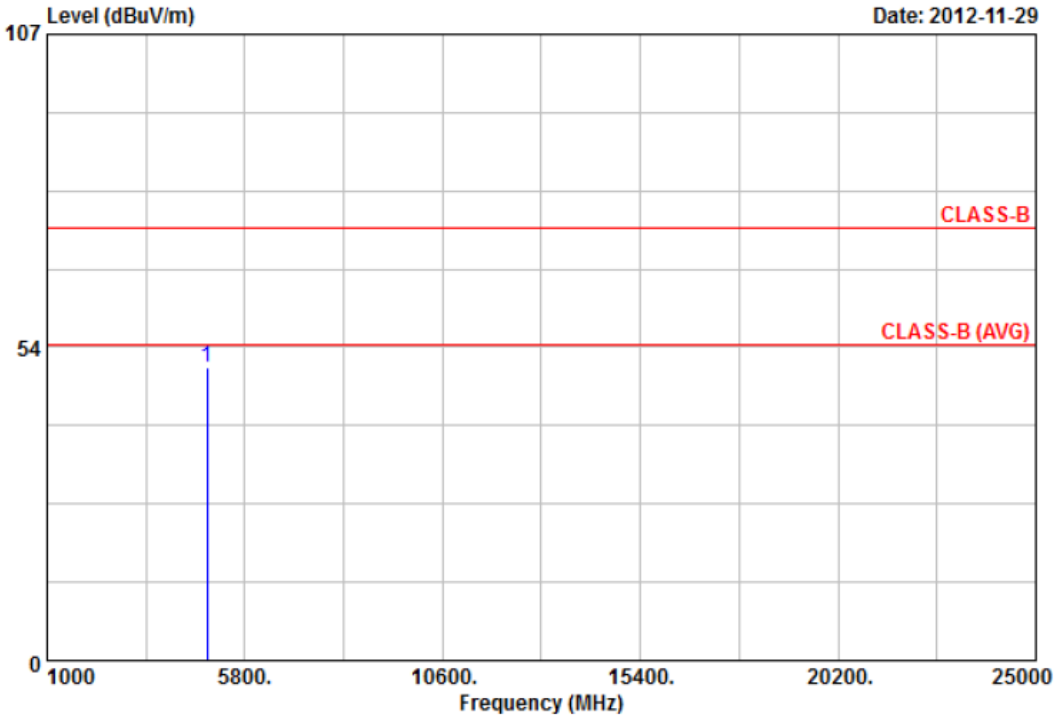


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4874.00	45.51	6.59	52.10	74.00	-21.90	Peak	100	360

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	802.11g, CH6	Temperature	:	24 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

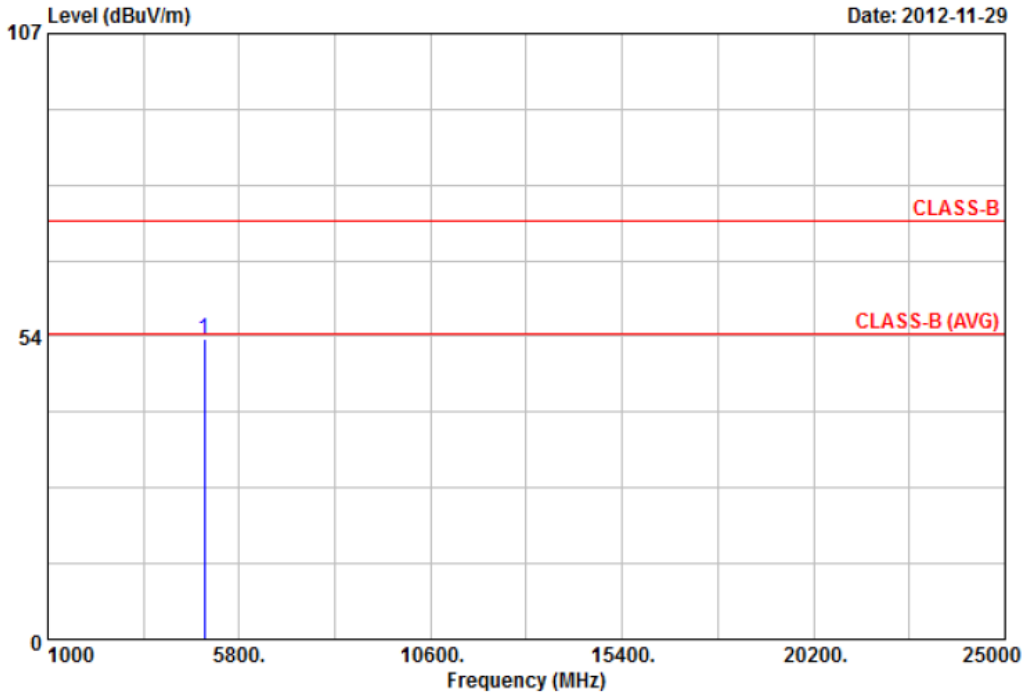


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4874.00	45.33	4.73	50.06	74.00	-23.94	Peak	100	0

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	802.11g, CH11	Temperature	:	25 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

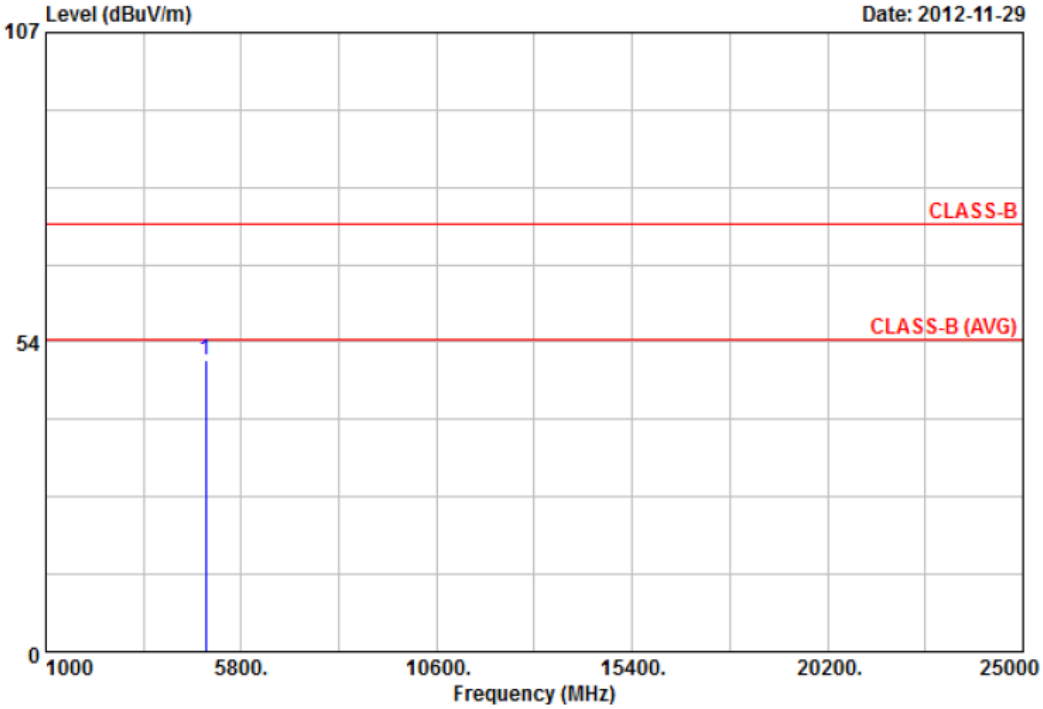


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4924.00	45.77	7.16	52.93	74.00	-21.07	Peak	100	360

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	802.11g, CH11	Temperature	:	25 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

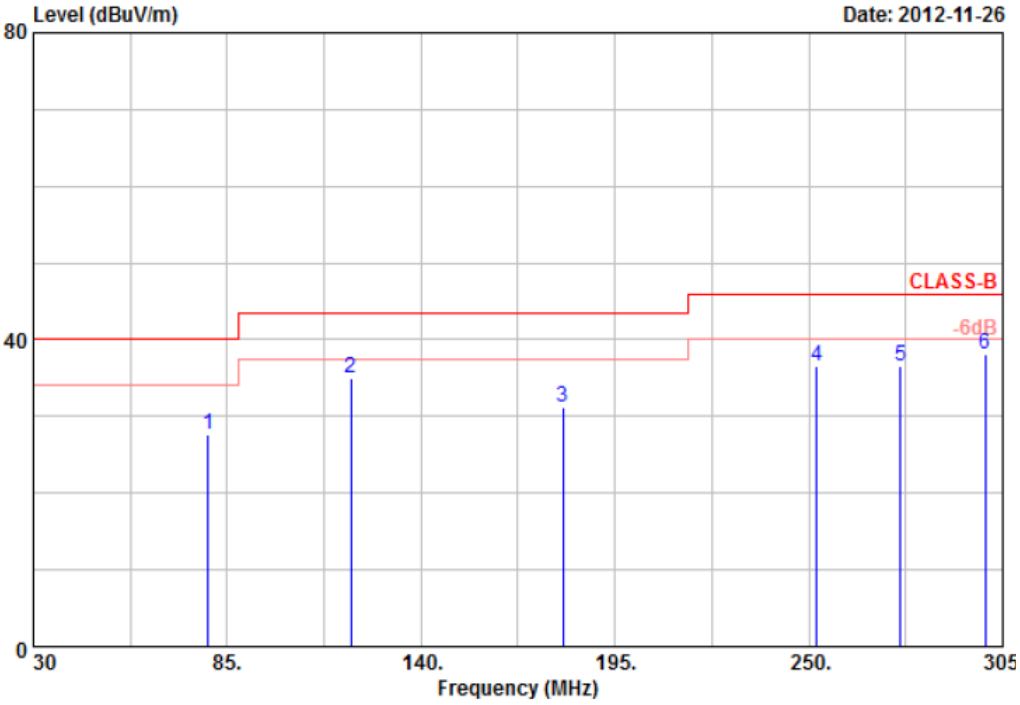


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4924.00	45.34	5.15	50.49	74.00	-23.51	Peak	100	0

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	802.11n HT20, CH1	Temperature	:	23 °C
Test Date	:	Nov. 26, 2012	Humidity	:	61 %

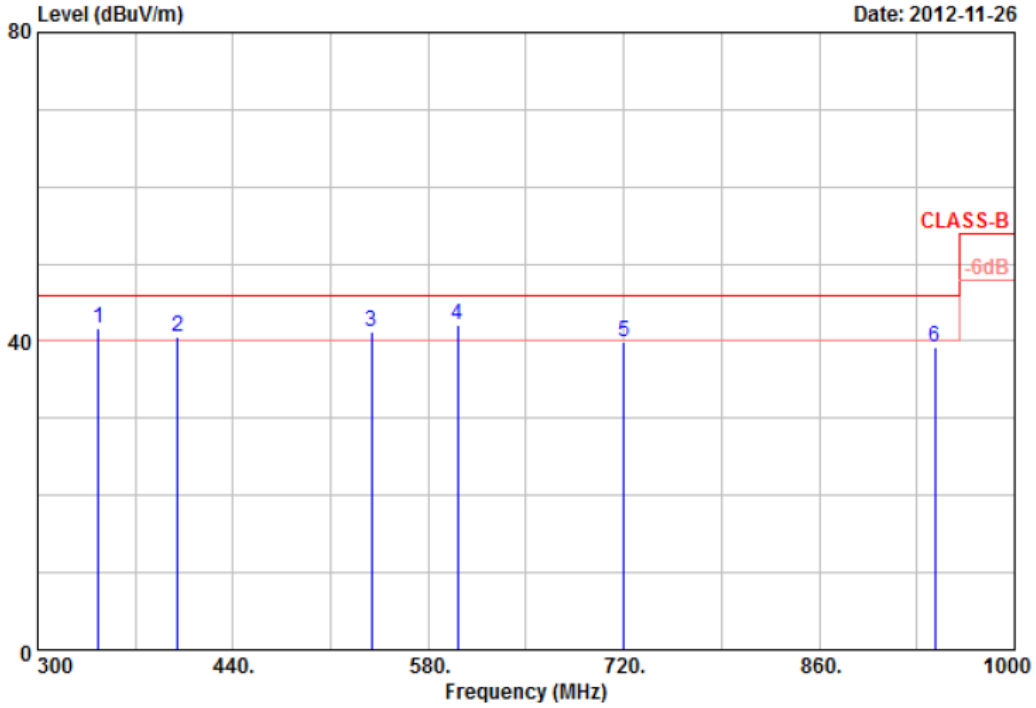


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	79.50	35.39	-7.70	27.69	40.00	-12.31	Peak	100	360
2	120.20	39.68	-4.66	35.02	43.50	-8.48	QP	100	360
3	180.15	36.33	-5.15	31.18	43.50	-12.32	QP	100	360
4	252.20	46.56	-10.09	36.47	46.00	-9.53	Peak	100	360
5	276.13	45.74	-9.29	36.45	46.00	-9.55	Peak	100	360
6	300.05	46.64	-8.47	38.17	46.00	-7.83	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	:	802.11n HT20, CH1	Temperature	:	23 °C
Test Date	:	Nov. 26, 2012	Humidity	:	61 %

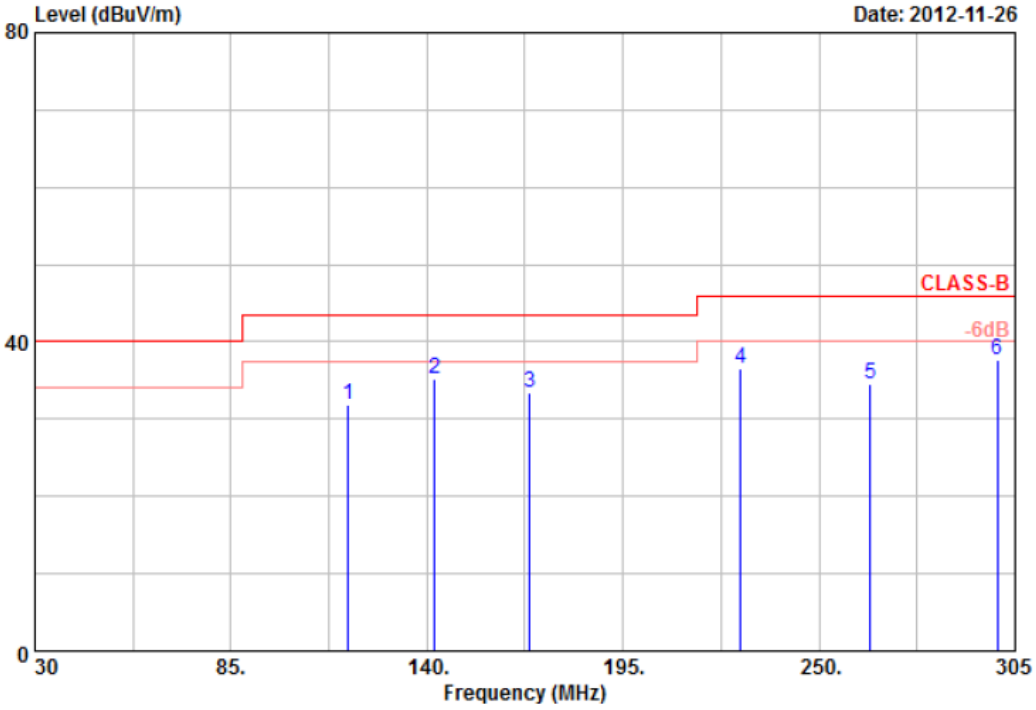


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	343.40	49.07	-7.36	41.71	46.00	-4.29	QP	100	0
2	400.10	45.97	-5.39	40.58	46.00	-5.42	QP	100	0
3	539.40	39.81	1.31	41.12	46.00	-4.88	QP	100	0
4	601.00	39.42	2.60	42.02	46.00	-3.98	QP	100	0
5	720.00	33.51	6.41	39.92	46.00	-6.08	Peak	100	0
6	942.60	27.99	11.30	39.29	46.00	-6.71	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	:	802.11n HT20, CH1	Temperature	:	23 °C
Test Date	:	Nov. 26, 2012	Humidity	:	61 %

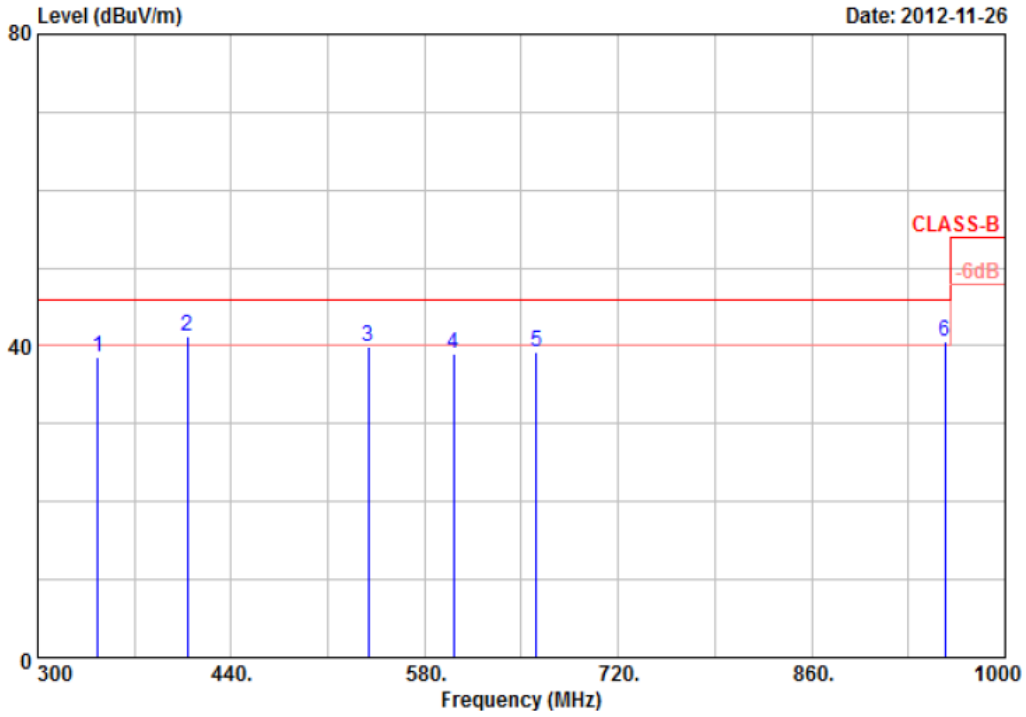


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	118.00	50.49	-18.56	31.93	43.50	-11.57	QP	100	360
2	142.20	49.96	-14.65	35.31	43.50	-8.19	QP	100	360
3	168.88	45.53	-12.17	33.36	43.50	-10.14	QP	100	360
4	228.00	51.43	-14.93	36.50	46.00	-9.50	QP	100	360
5	264.30	48.34	-13.77	34.57	46.00	-11.43	Peak	100	360
6	300.05	49.70	-12.08	37.62	46.00	-8.38	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	:	802.11n HT20, CH1	Temperature	:	23 °C
Test Date	:	Nov. 26, 2012	Humidity	:	61 %

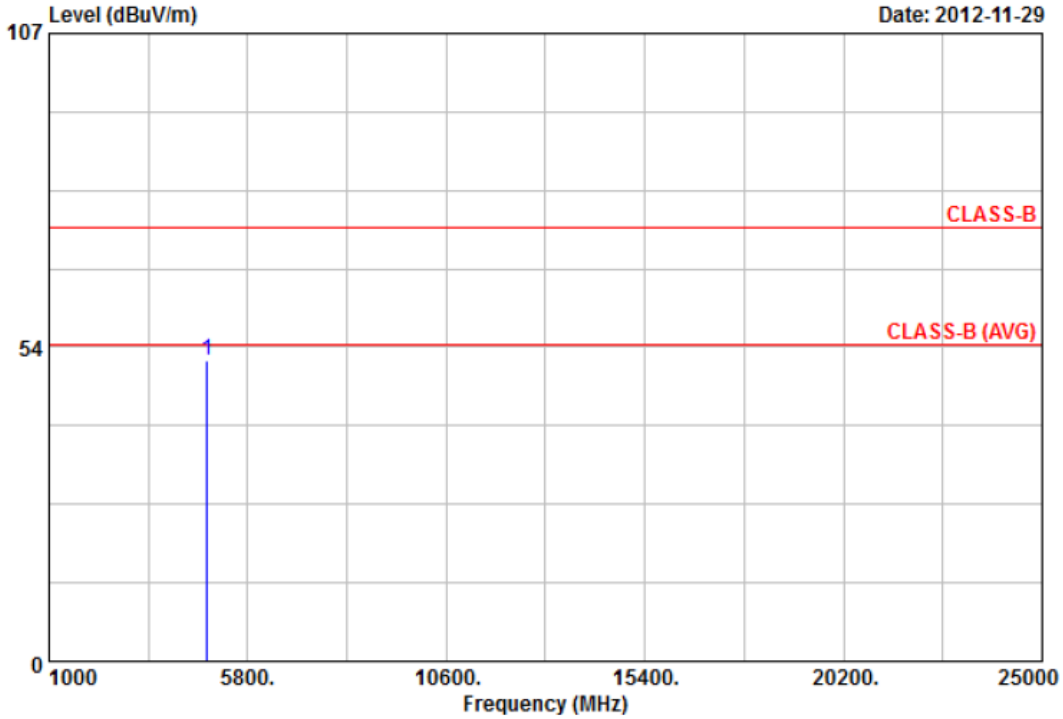


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	343.40	47.22	-8.74	38.48	46.00	-7.52	Peak	100	0
2	408.50	50.17	-8.85	41.32	46.00	-4.68	Peak	100	0
3	539.40	38.59	1.38	39.97	46.00	-6.03	QP	100	0
4	601.00	36.92	2.12	39.04	46.00	-6.96	QP	100	0
5	660.50	39.64	-0.34	39.30	46.00	-6.70	Peak	100	0
6	956.60	32.84	7.70	40.54	46.00	-5.46	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	:	802.11n HT20, CH1	Temperature	:	24 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

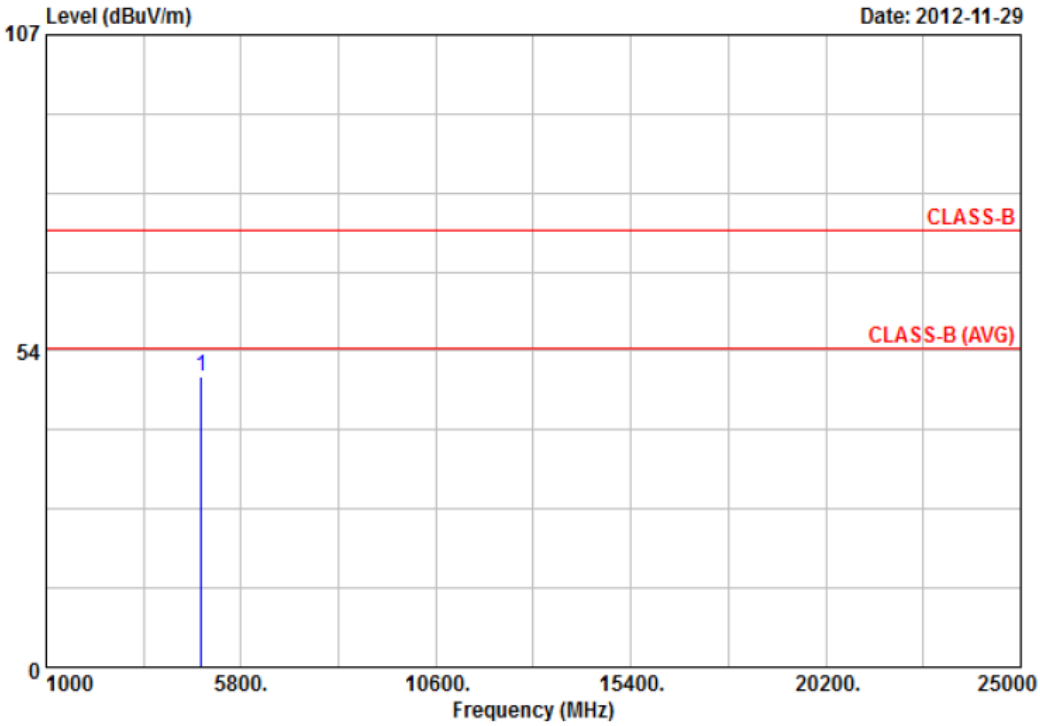


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4824.00	45.69	5.61	51.30	74.00	-22.70	Peak	100	360

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	802.11n HT20, CH1	Temperature	:	24 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

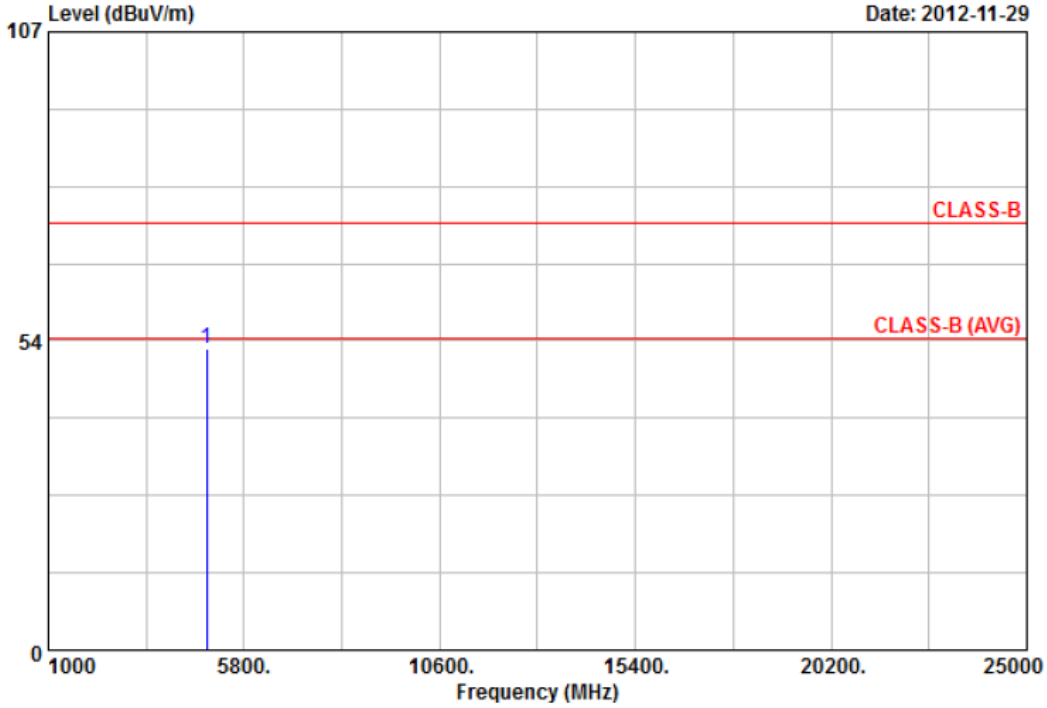


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4824.00	45.33	3.95	49.28	74.00	-24.72	Peak	100	0

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	802.11n HT20, CH6	Temperature	:	24 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

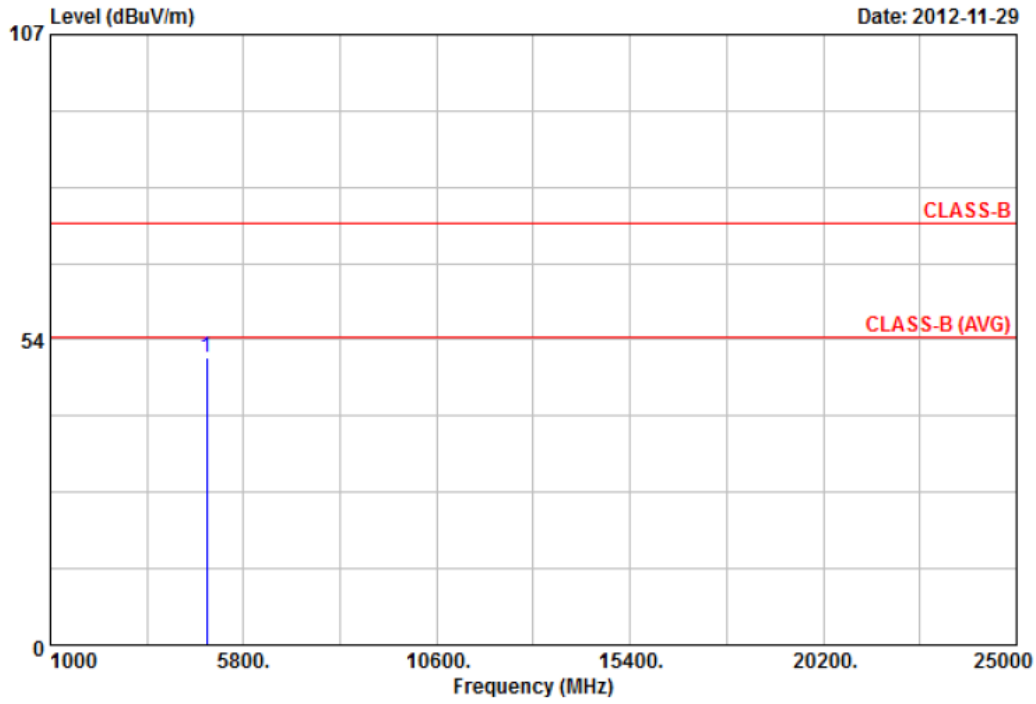


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4874.00	45.42	6.59	52.01	74.00	-21.99	Peak	100	360

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	802.11n HT20, CH6	Temperature	:	24 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

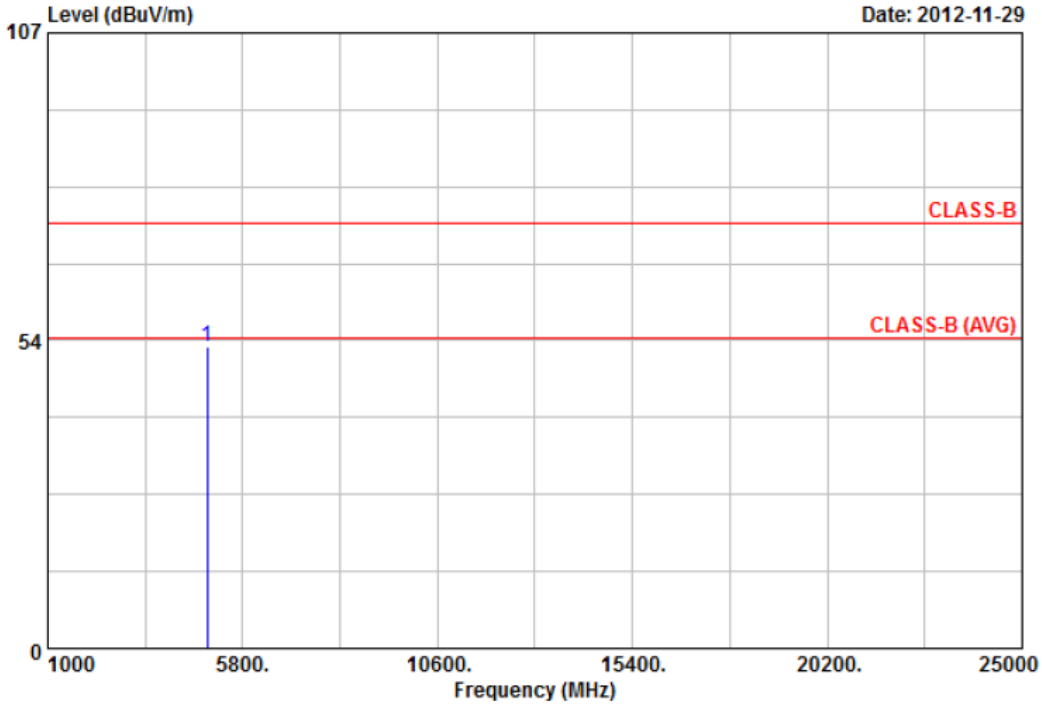


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4874.00	45.61	4.73	50.34	74.00	-23.66	Peak	100	0

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	802.11n HT20, CH11	Temperature	:	24 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %

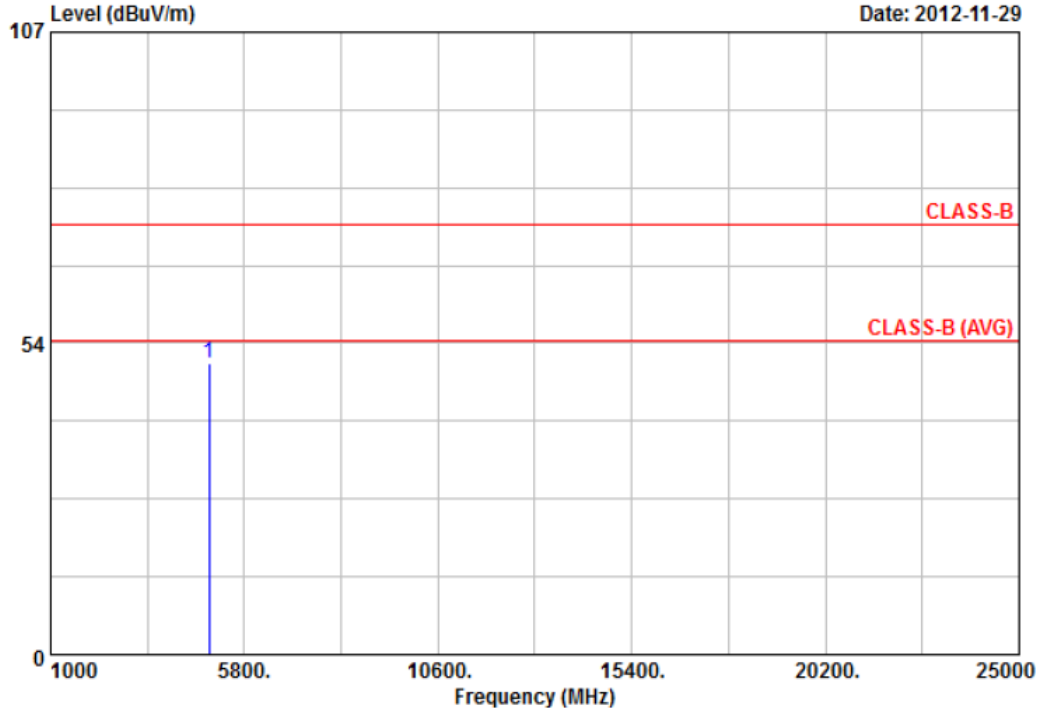


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4924.00	45.30	7.16	52.46	74.00	-21.54	Peak	100	360

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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	802.11n HT20, CH11	Temperature	:	24 °C
Test Date	:	Nov. 29, 2012	Humidity	:	62 %



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	44.89	5.15	50.04	74.00	-23.96	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. 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 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.(The worst case noise floor measurements value is 47.93 dBuV at 16.10GHz)
7. The data is worse case.

6. 6dB Bandwidth Measurement Data

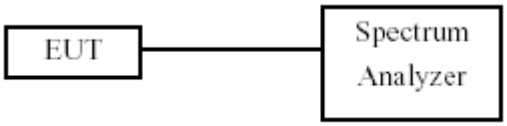
6.1 Test Limit

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 1~5% or DTS BW and VBW ≥ 3x RBW.
c. The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.
d. The 6dB Bandwidth was measured and recorded.

6.3 Test Setup Layout



6.4 Measurement Equipment

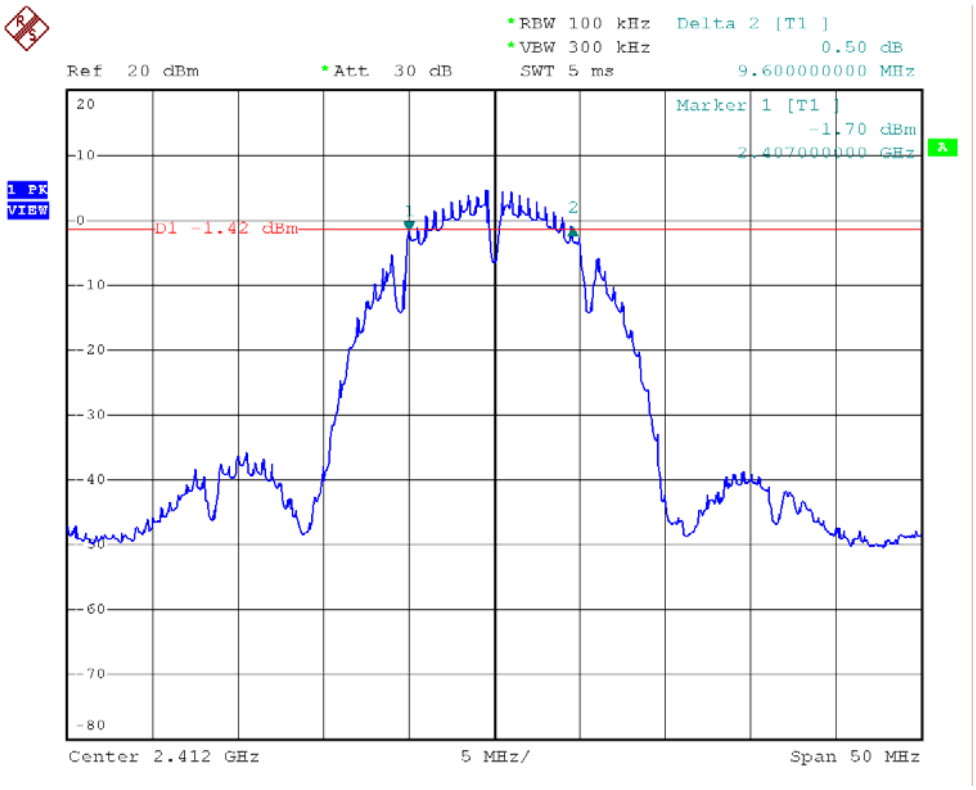
Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	R&S	FSP40	100047	2012/03/01	2013/02/28

6.5 Test Result and Data

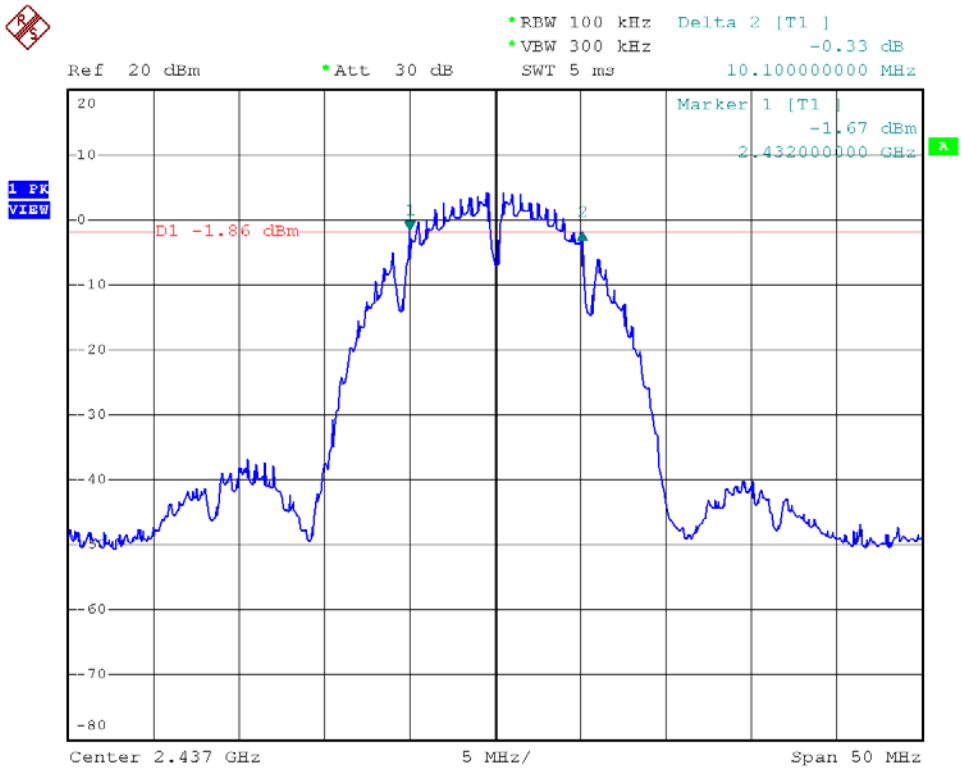
Test Date: Nov. 19, 2012 Temperature: 22°C
Atmospheric pressure: 1020 hPa Humidity: 65%

Modulation Standard	Channel	Frequency (MHz)	6dB Bandwidth (MHz)
802.11b (1Mbps)	01	2412	9.6
	06	2437	10.1
	11	2462	9.1
802.11g (6Mbps)	01	2412	15.4
	06	2437	15.7
	11	2462	15.7
802.11n HT20 (6.5Mbps)	01	2412	16.0
	06	2437	16.3
	11	2462	16.4

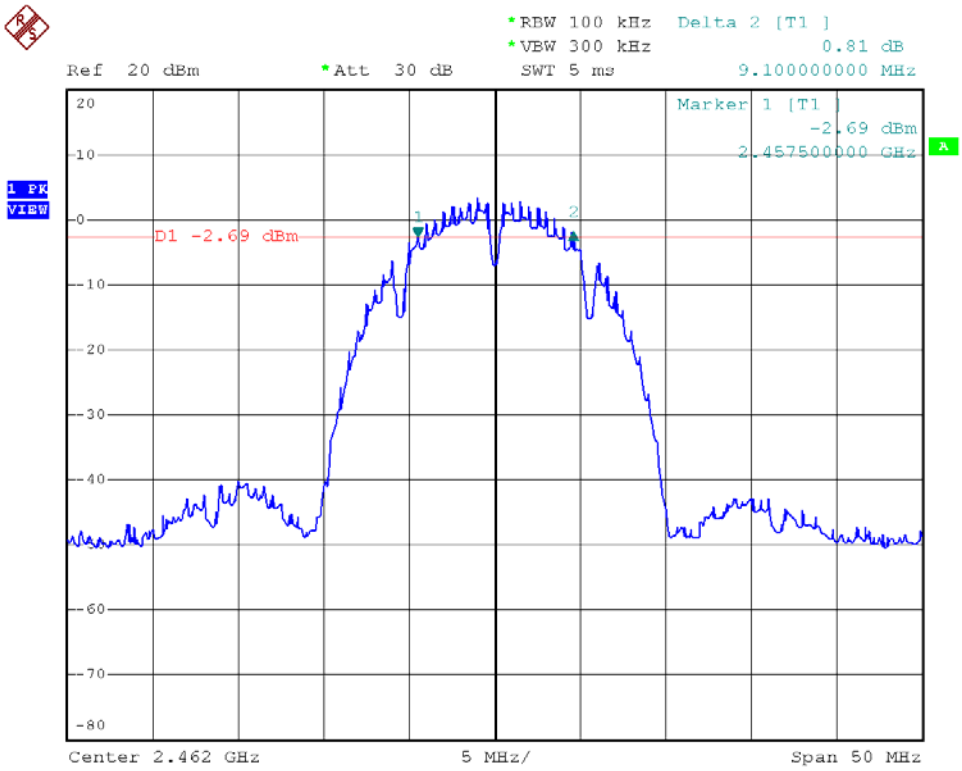
Modulation Standard: 802.11b (1Mbps)
Channel: 01



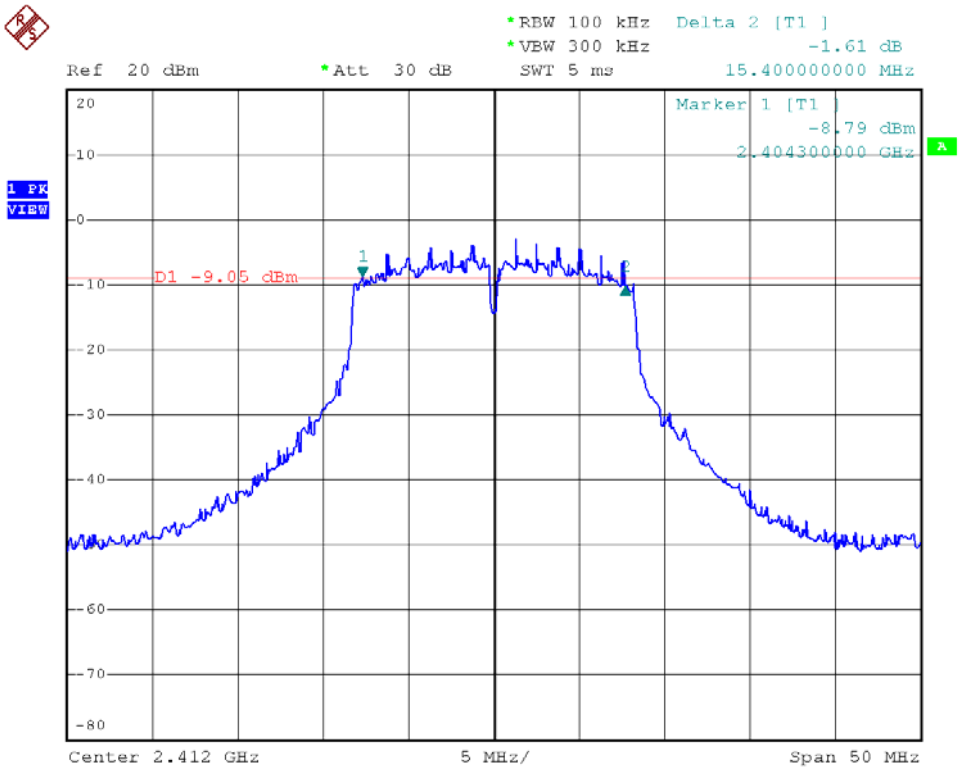
Modulation Standard: 802.11b (1Mbps)
Channel: 06



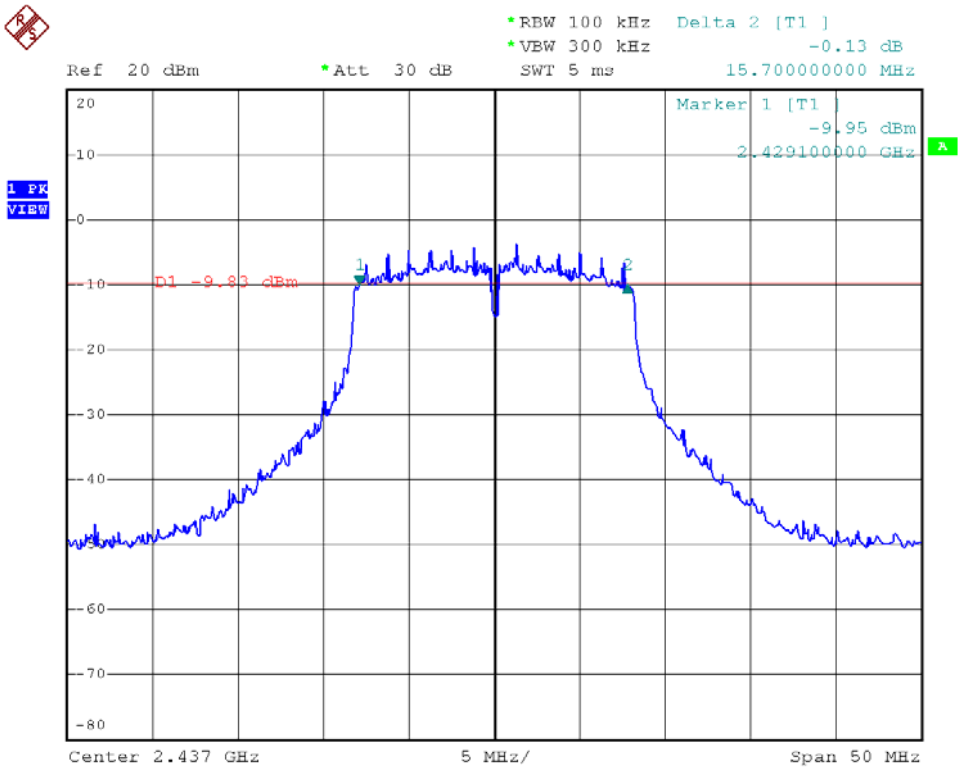
Modulation Standard: 802.11b (1Mbps)
Channel: 11



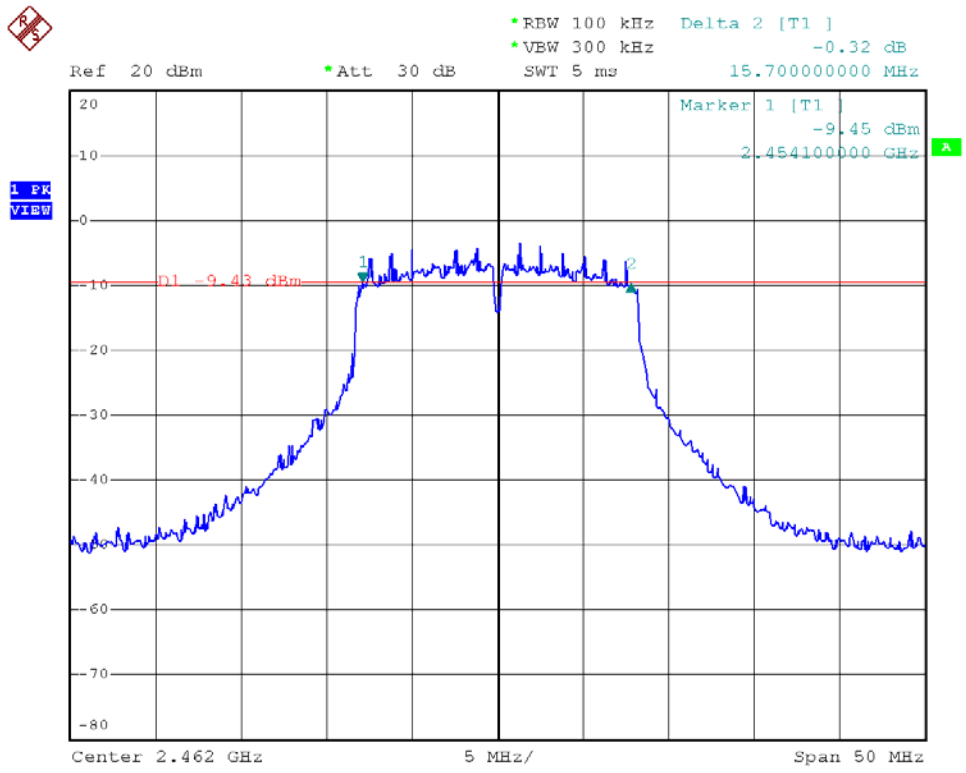
Modulation Standard: 802.11g (6Mbps)
Channel: 01



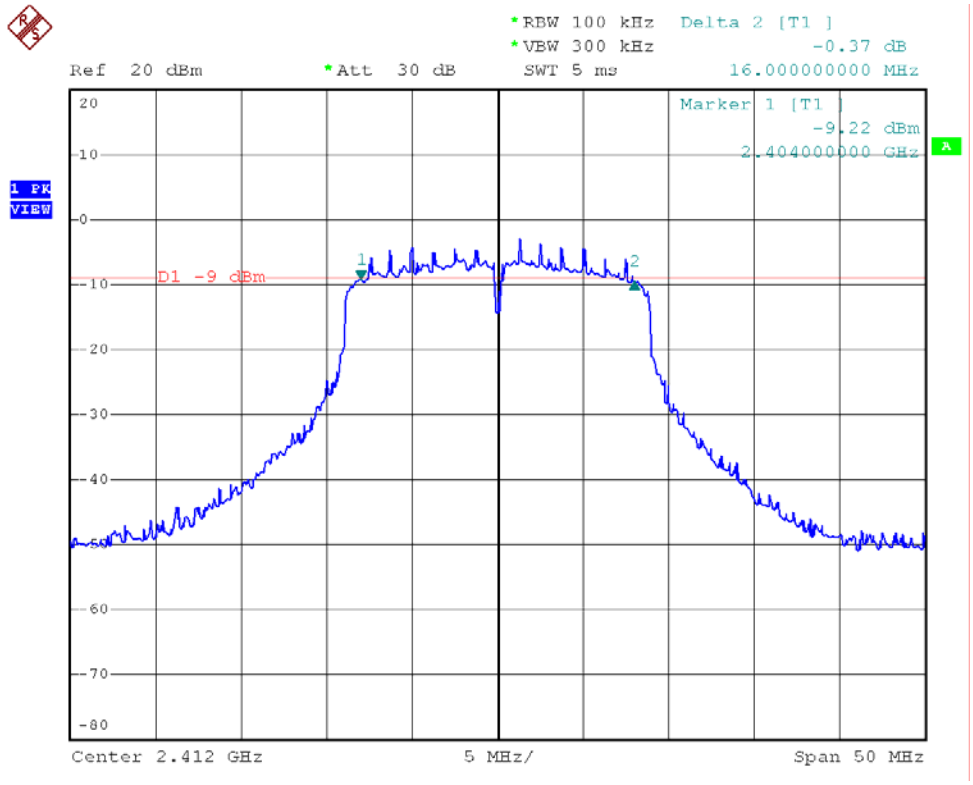
Modulation Standard: 802.11g (6Mbps)
Channel: 06



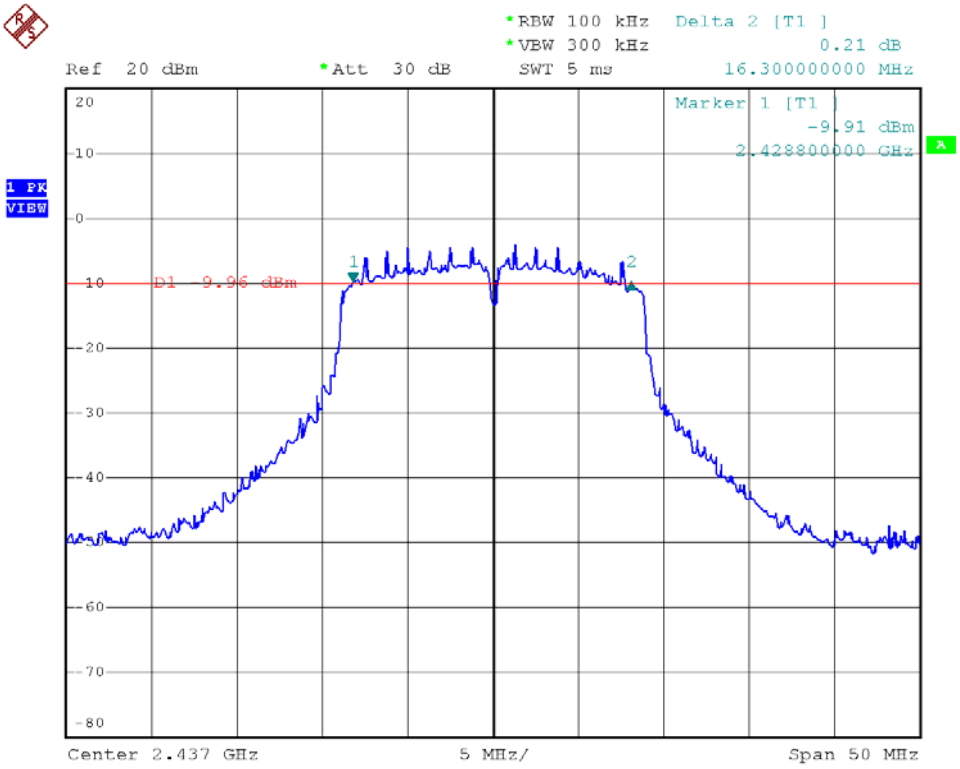
Modulation Standard: 802.11g (6Mbps)
Channel: 11



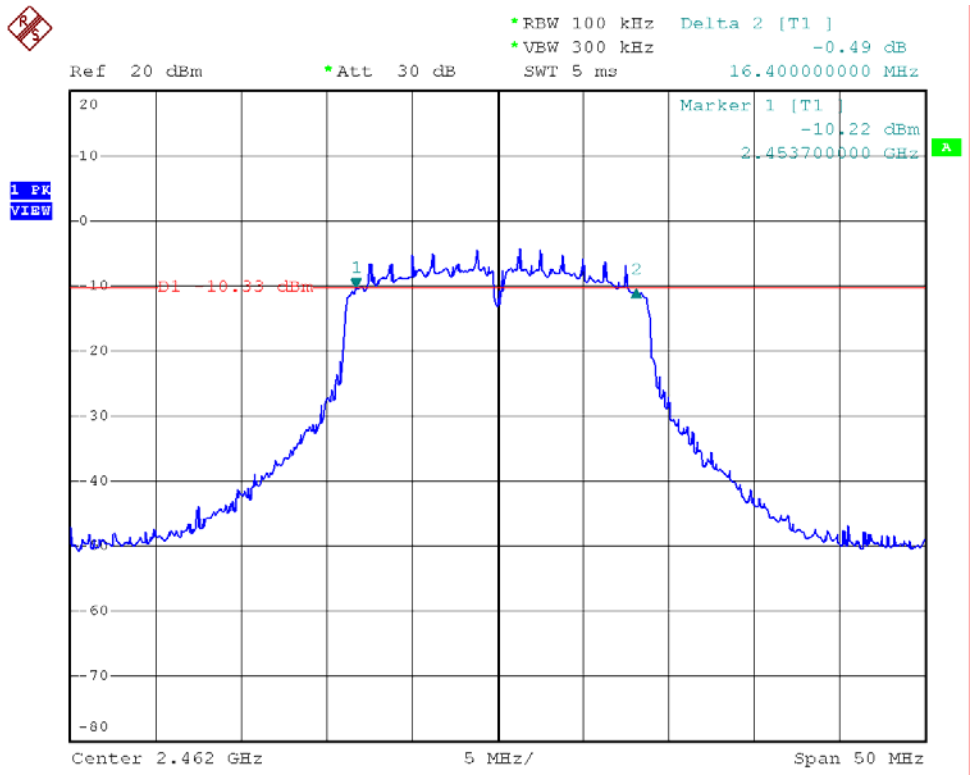
Modulation Standard: 802.11n HT20 (6.5Mbps)
Channel: 01



Modulation Standard: 802.11n HT20 (6.5Mbps)
Channel: 06



Modulation Standard: 802.11n HT20 (6.5Mbps)
Channel: 11



7. Maximum Peak and Average Output Power

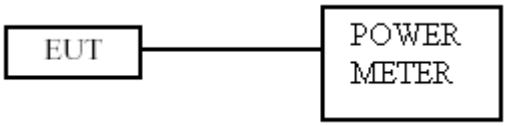
7.1 Test Limit

The Maximum Peak Output Power Measurement is 30dBm.

7.2 Test Procedures

a. The transmitter output was connected to the Power meter.
b. The maximum peak and average output power was measured and recorded.

7.3 Test Setup Layout



7.4 Measurement Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
SERIES POWER METER	ANRITSU	ML2495A	1224005	2012/06/22	2013/06/21
POWER SENSOR	ANRITSU	MA2411B	1207295	2012/07/09	2013/07/08

7.5 Test Result and Data

Test Date: Nov. 19, 2012 Temperature: 22°C

Atmospheric pressure: 1020 hPa Humidity: 65%

Modulation Standard	Channel	Frequency (MHz)	Peak Power Output (dBm)		Power Output (mW)	
			Peak	Average	Peak	Average
802.11b (1Mbps)	01	2412	18.22	15.58	66.4	36.1
	06	2437	18.17	15.55	65.6	35.9
	11	2462	18.09	15.43	64.4	34.9
802.11g (6Mbps)	01	2412	17.18	8.32	52.2	6.8
	06	2437	17.11	8.27	51.4	6.7
	11	2462	17.05	8.14	50.7	6.5

Modulation Standard	Channel	Frequency (MHz)	Peak Power Output (dBm)		Power Output (mW)	
			Peak	Average	Peak	Average
802.11n HT20 (6.5Mbps)	01	2412	17.15	8.26	51.9	6.7
	06	2437	17.12	8.22	51.5	6.6
	11	2462	17.06	8.16	50.8	6.5

8. Power Spectral Density

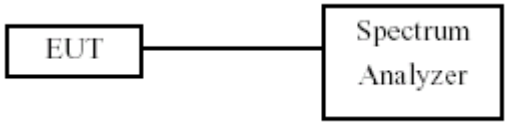
8.1 Test Limit

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 RBW ≥ 3KHz and VBW ≥ 3x RBW as that of the fundamental frequency. Set span to at least 1.5 times the DTS channel bandwidth. Set the sweep time=auto couple.
c. The power spectral density was measured and recorded.

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	100047	2012/03/01	2013/02/28

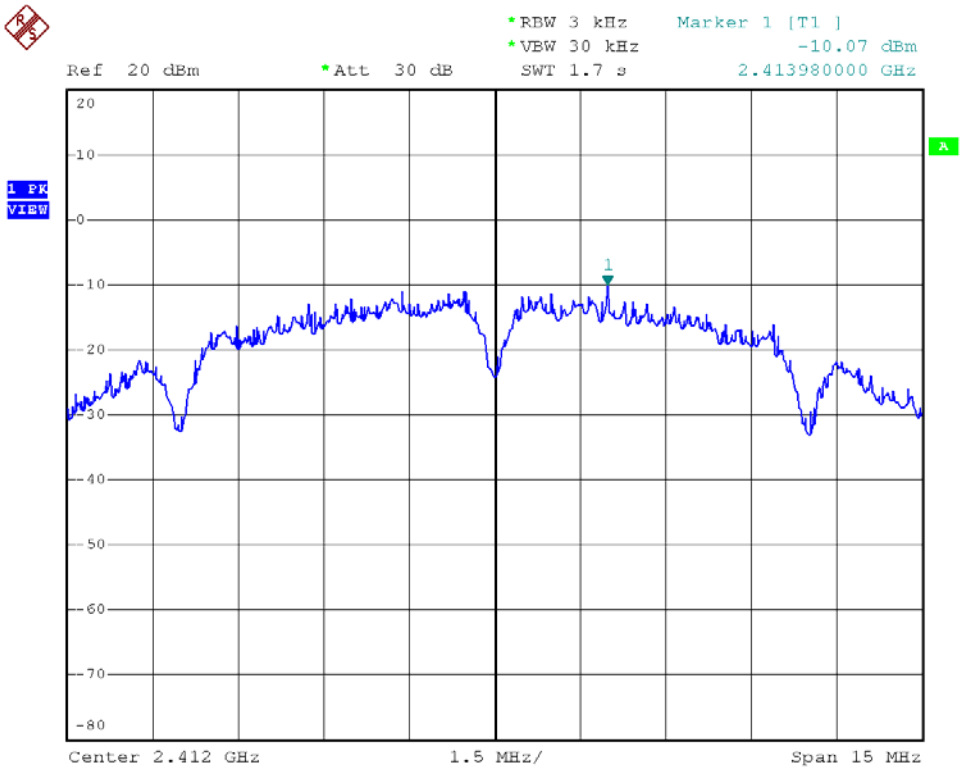
8.5 Test Result and Data

Test Date: Nov. 19, 2012 Temperature: 22°C

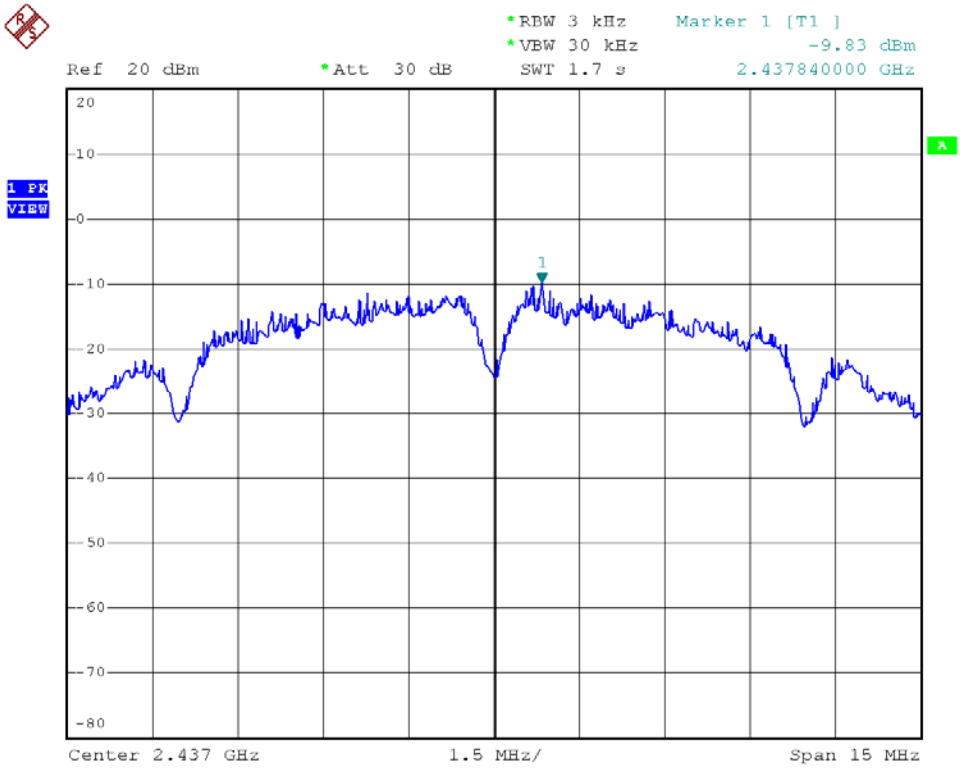
Atmospheric pressure: 1020 hPa Humidity: 65%

Modulation Standard	Channel	Frequency (MHz)	Maximum Power Density of 3 kHz Bandwidth (dBm)
802.11b (1Mbps)	01	2412	-10.07
	06	2437	-9.83
	11	2462	-10.86
802.11g (6Mbps)	01	2412	-17.67
	06	2437	-18.72
	11	2462	-18.17
802.11n HT20 (6.5Mbps)	01	2412	-17.75
	06	2437	-19.17
	11	2462	-19.53

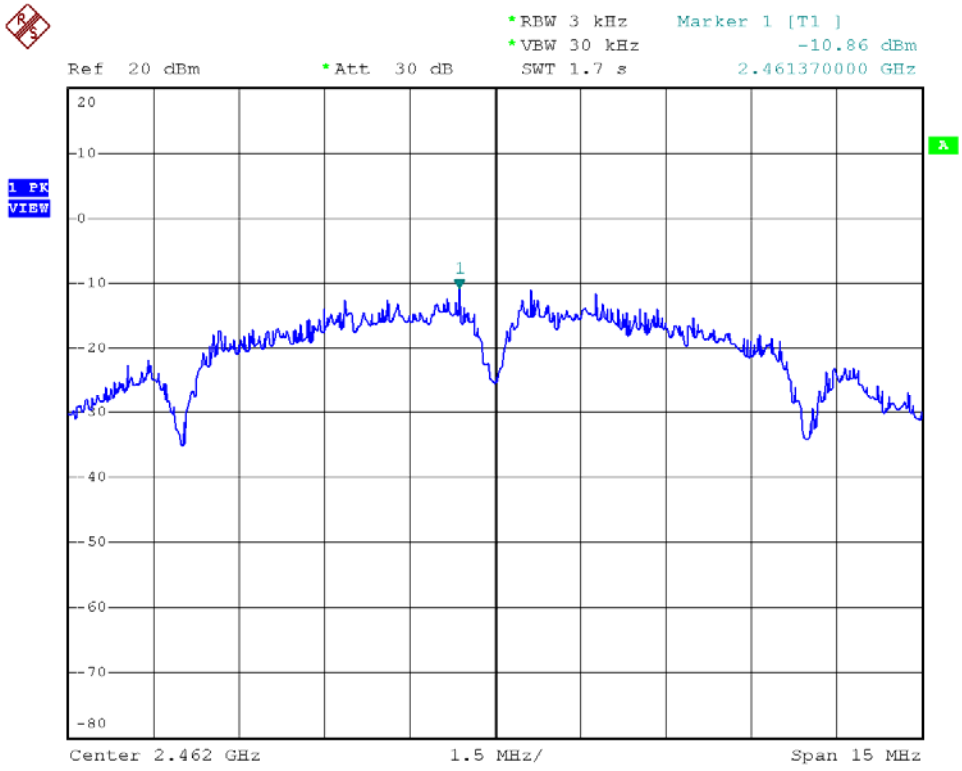
Modulation Standard: 802.11b (1Mbps)
Channel: 01



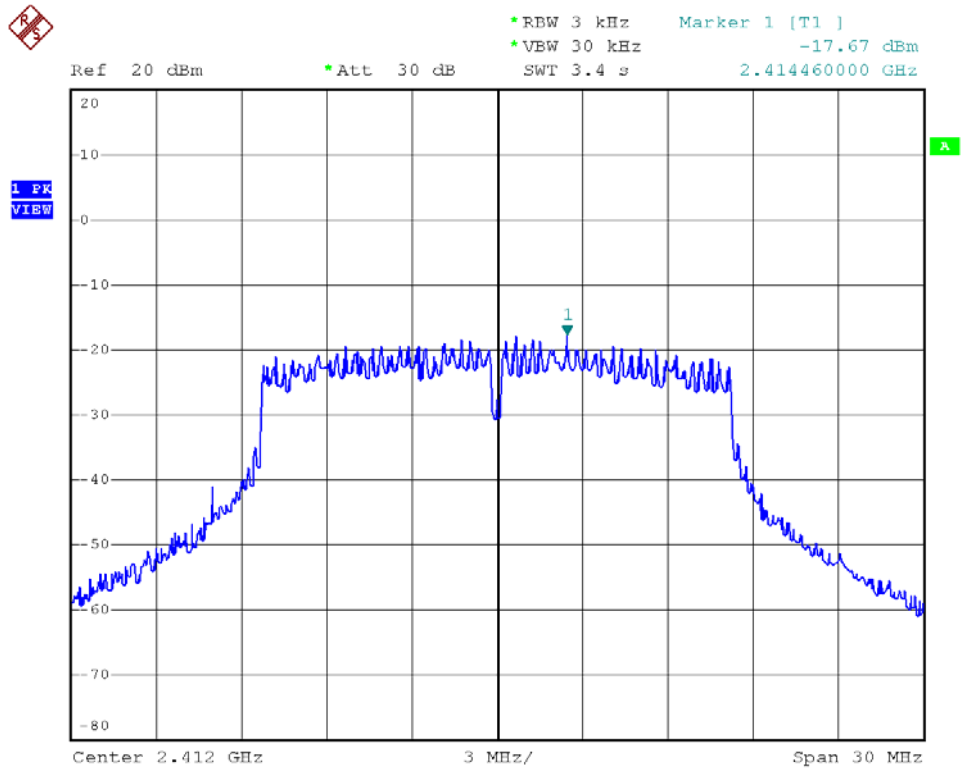
Modulation Standard: 802.11b (1Mbps)
Channel: 06



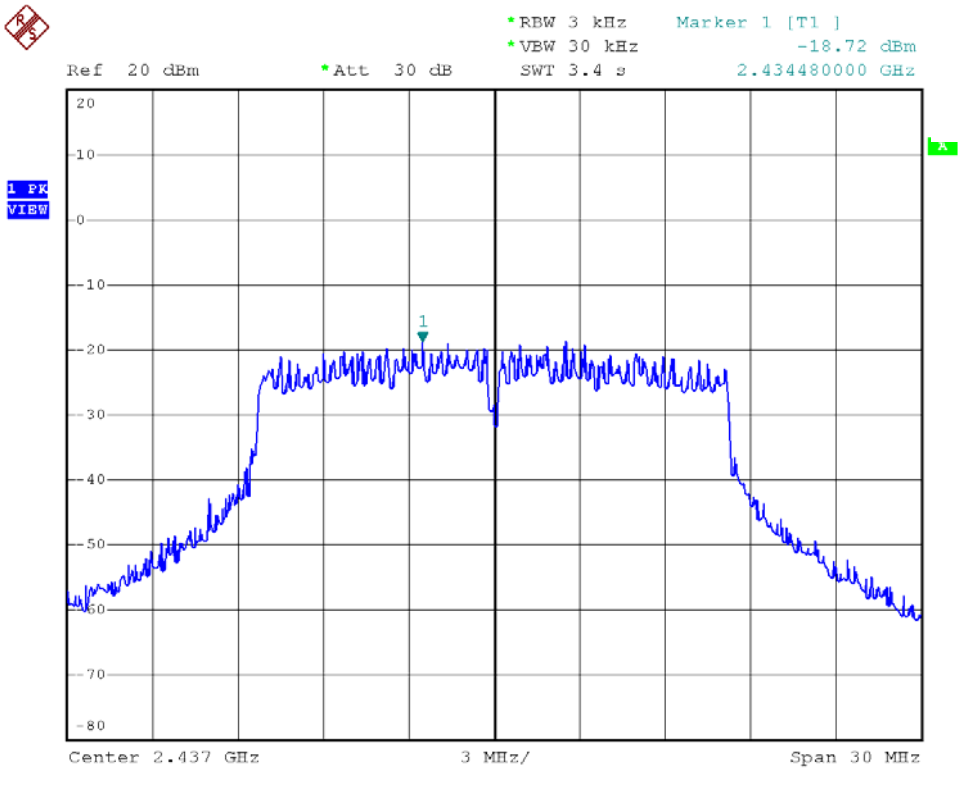
Modulation Standard: 802.11b (1Mbps)
Channel: 11



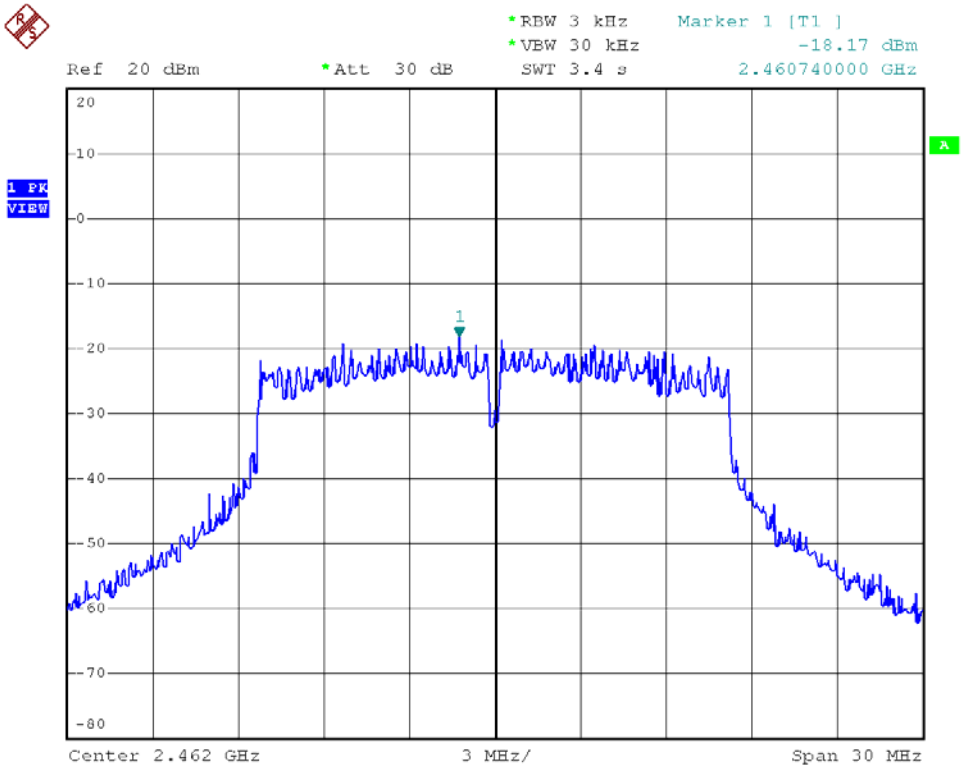
Modulation Standard: 802.11g (6Mbps)
Channel: 01



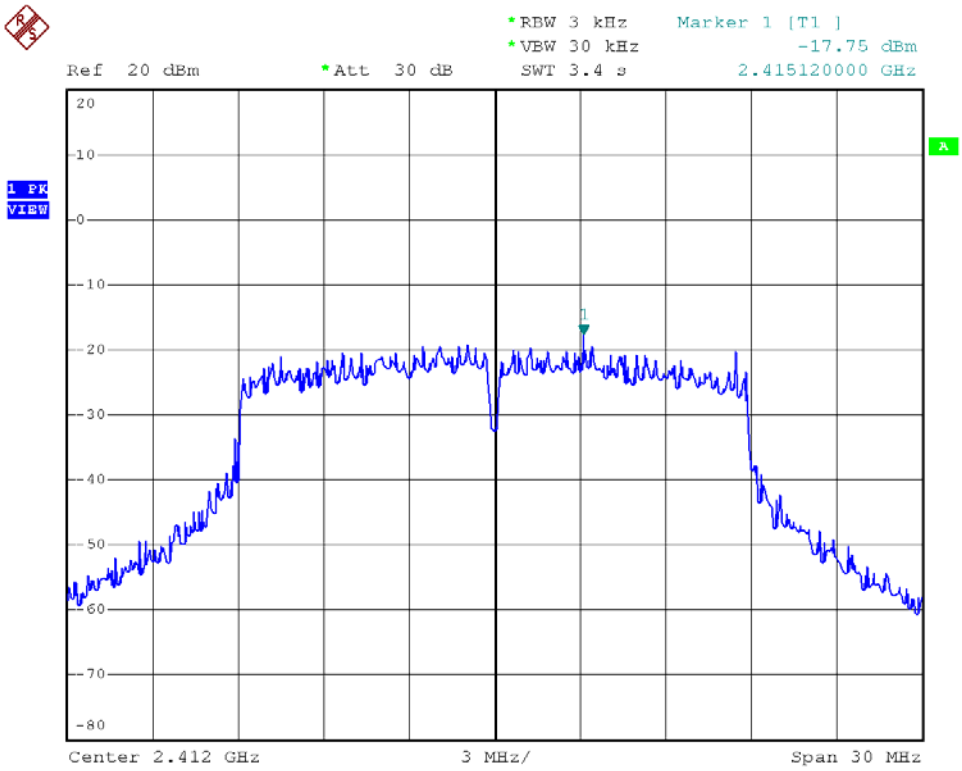
Modulation Standard: 802.11g (6Mbps)
Channel: 06



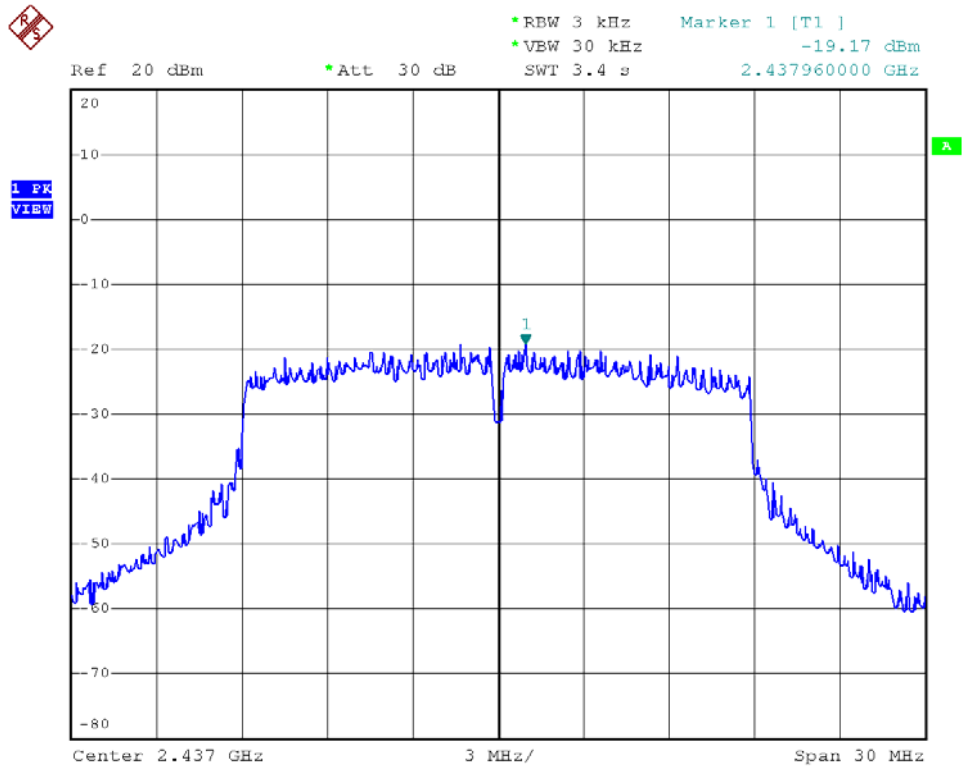
Modulation Standard: 802.11g (6Mbps)
Channel: 11



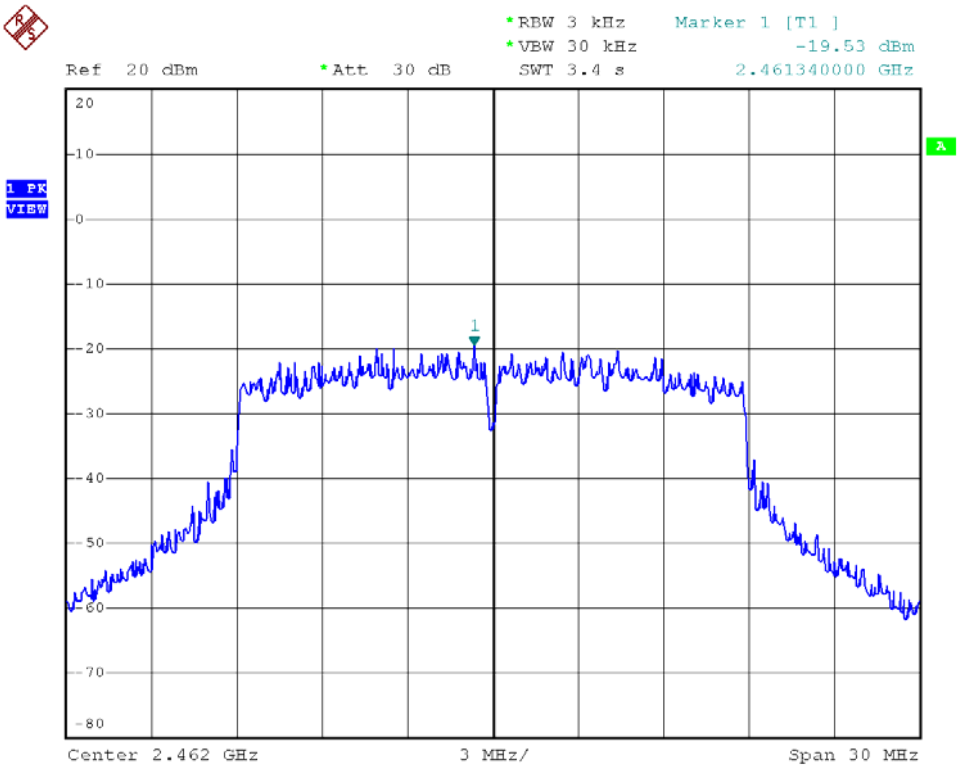
Modulation Standard: 802.11n HT20 (6.5Mbps)
Channel: 01



Modulation Standard: 802.11n HT20 (6.5Mbps)
Channel: 06



Modulation Standard: 802.11n HT20 (6.5Mbps)
Channel: 11



9. Band Edges Measurement

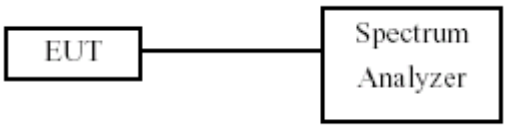
9.1 Test Limit

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

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	100047	2012/03/01	2013/02/28

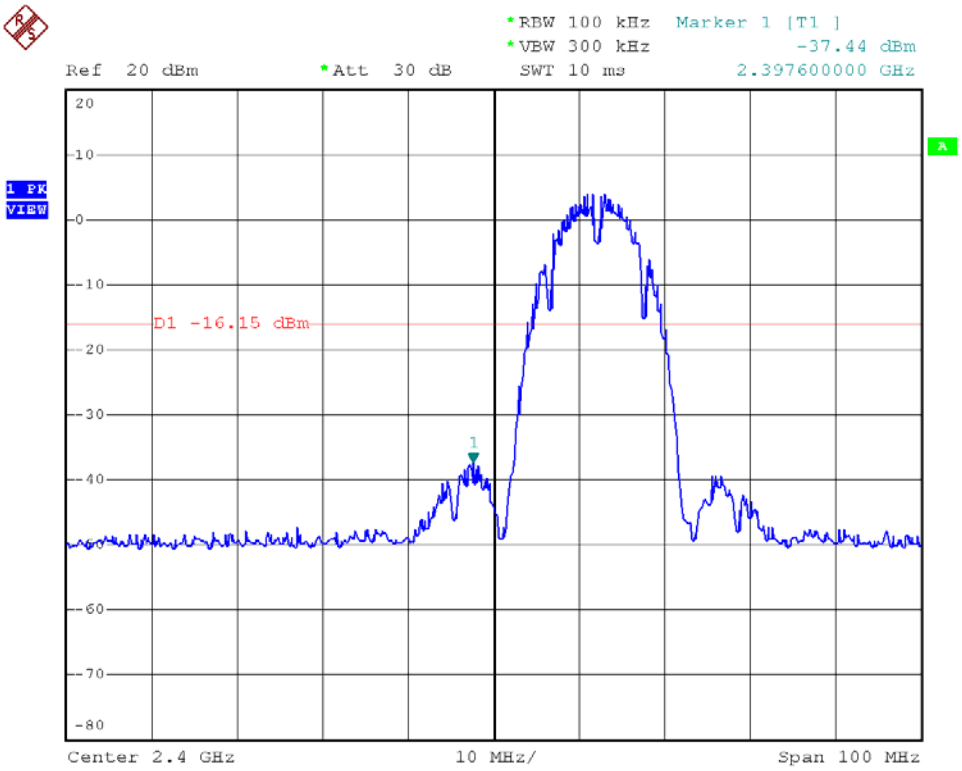
9.5 Test Result and Data

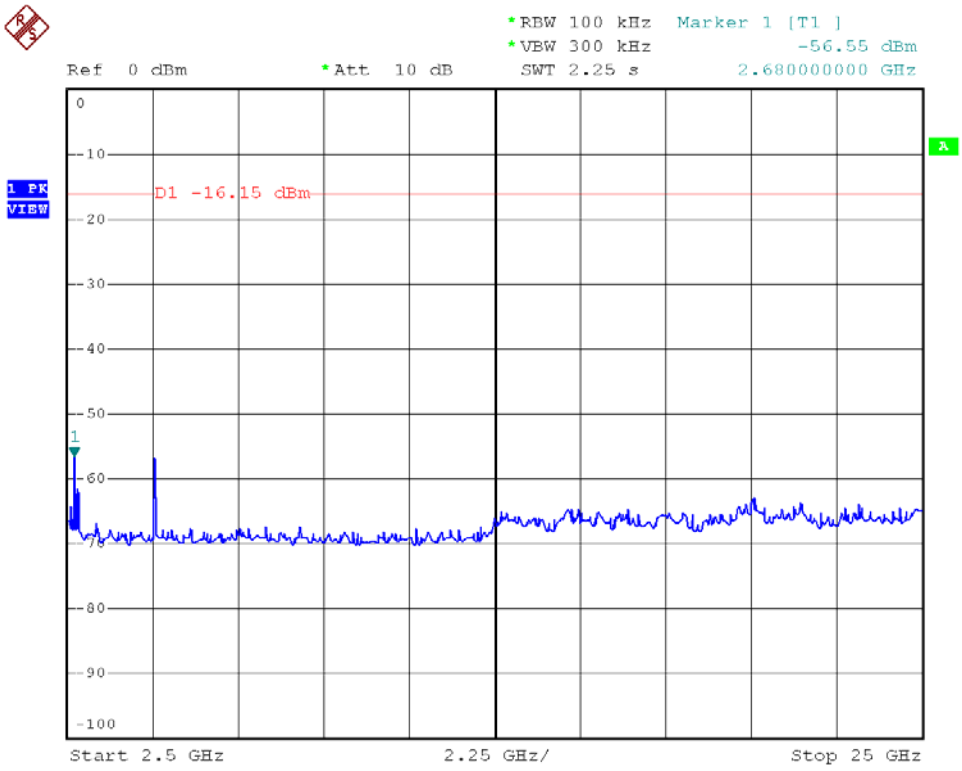
Test Date: Nov. 19, 2012 Temperature: 22°C

Atmospheric pressure: 1020 hPa Humidity: 65%

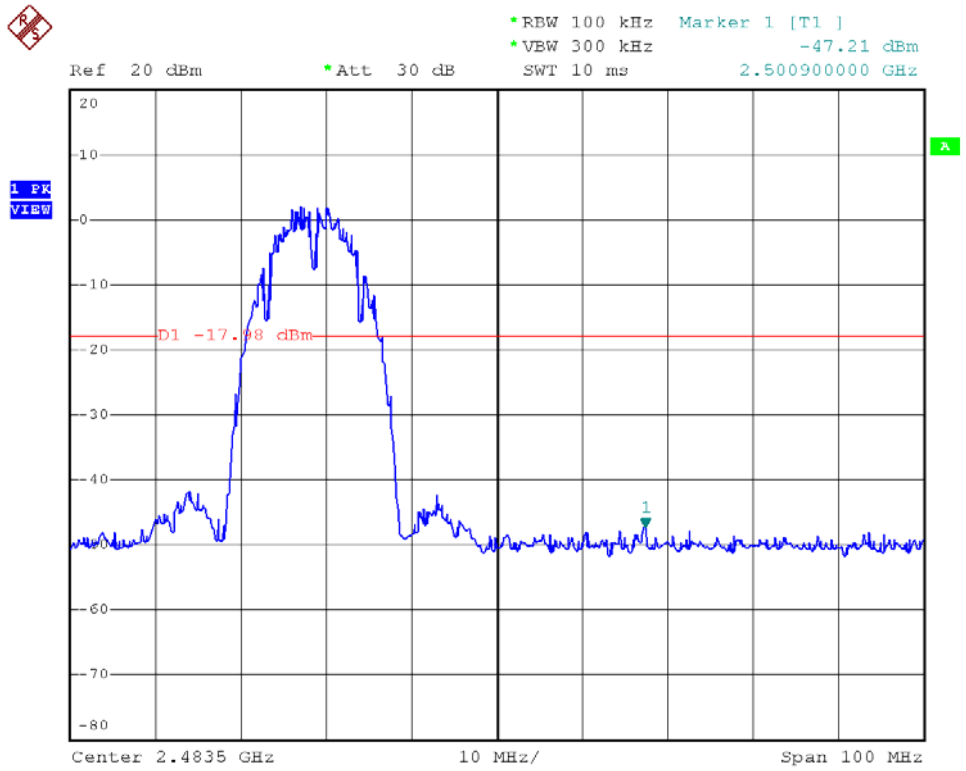
Modulation Standard	Channel	Frequency (MHz)	maximum value in frequency (MHz)	maximum value (dBm)	Limit (dBm)
802.11b (1Mbps)	01	2412	2397.60	-37.44	-16.15
	11	2462	2500.90	-47.21	-17.98
802.11g (6Mbps)	01	2412	2399.80	-35.80	-23.42
	11	2462	2484.90	-53.93	-24.39
802.11n HT20 (6.5Mbps)	01	2412	2399.60	-34.39	-23.38
	11	2462	2483.50	-55.08	-24.85

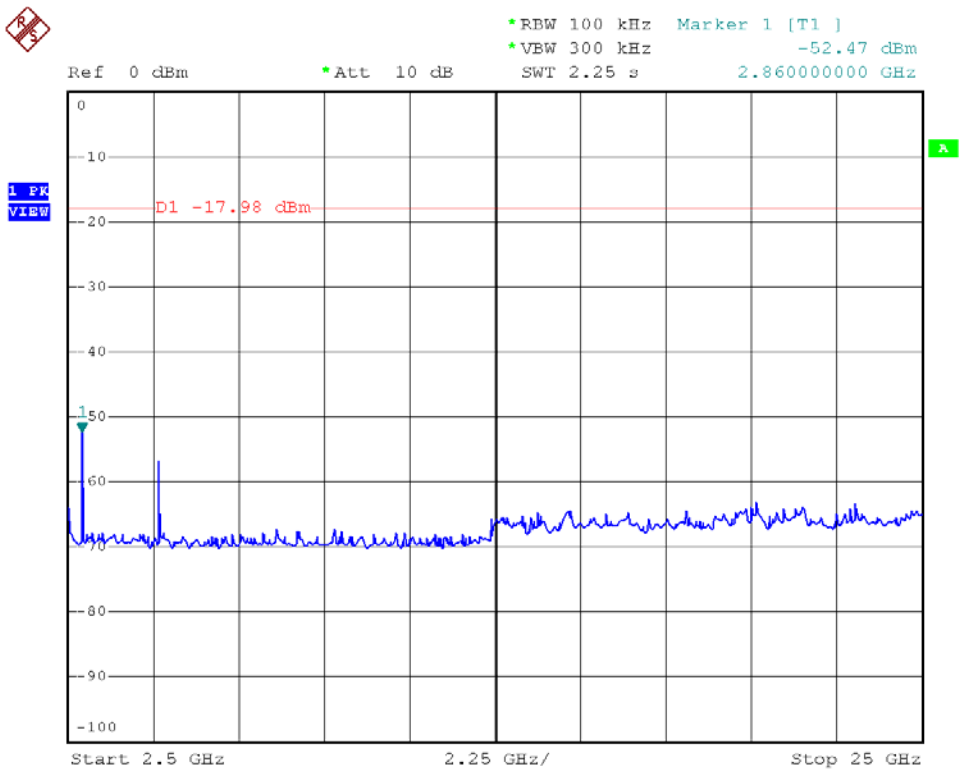
Modulation Standard: 802.11b (1Mbps)
Channel: 01



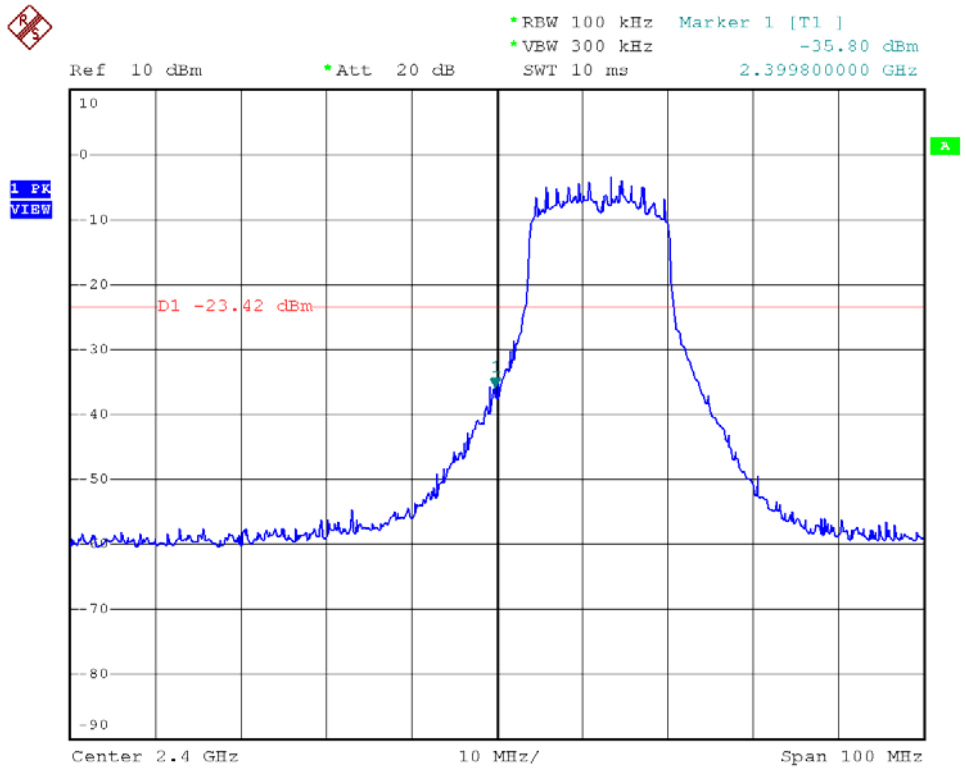


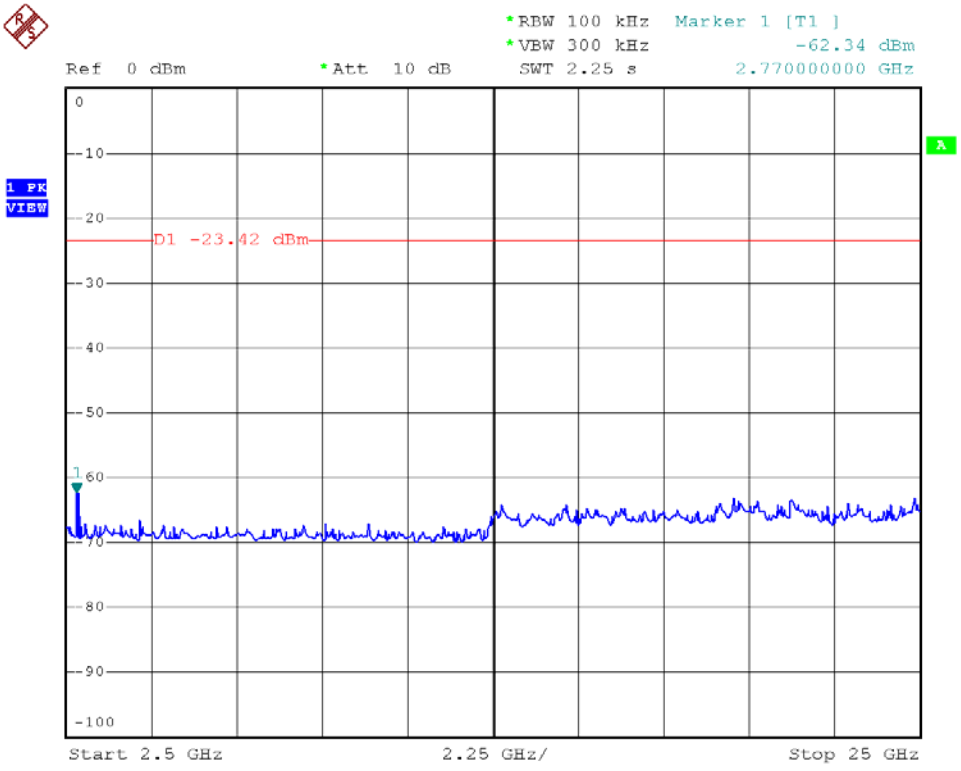
Modulation Standard: 802.11b (1Mbps)
Channel: 11



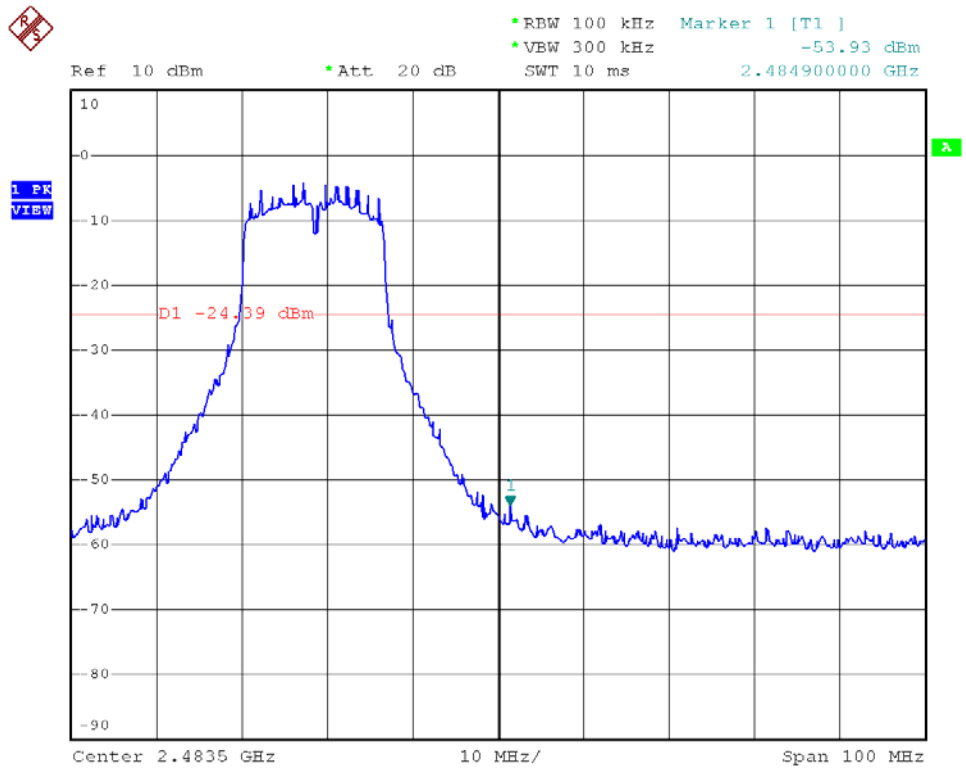


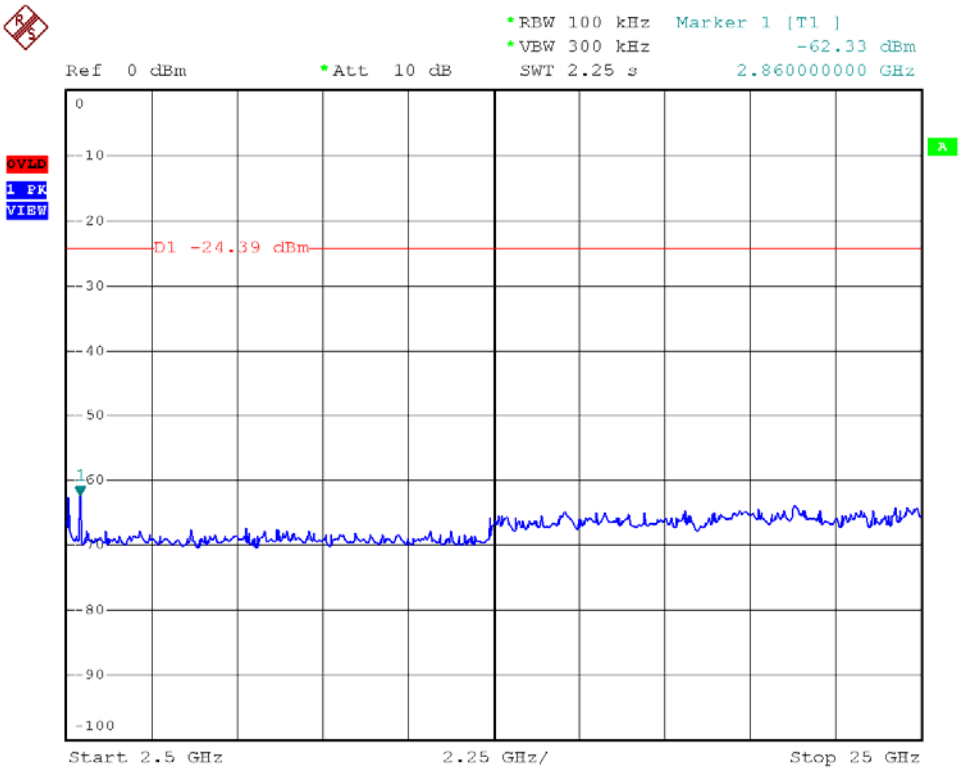
Modulation Standard: 802.11g (6Mbps)
Channel: 01



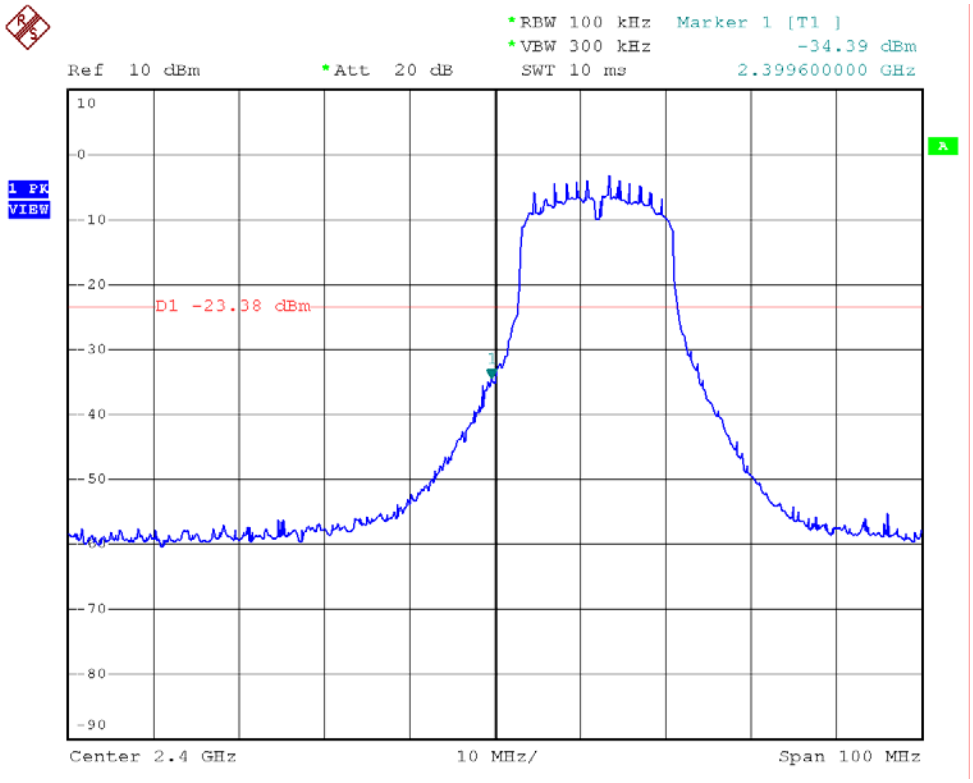


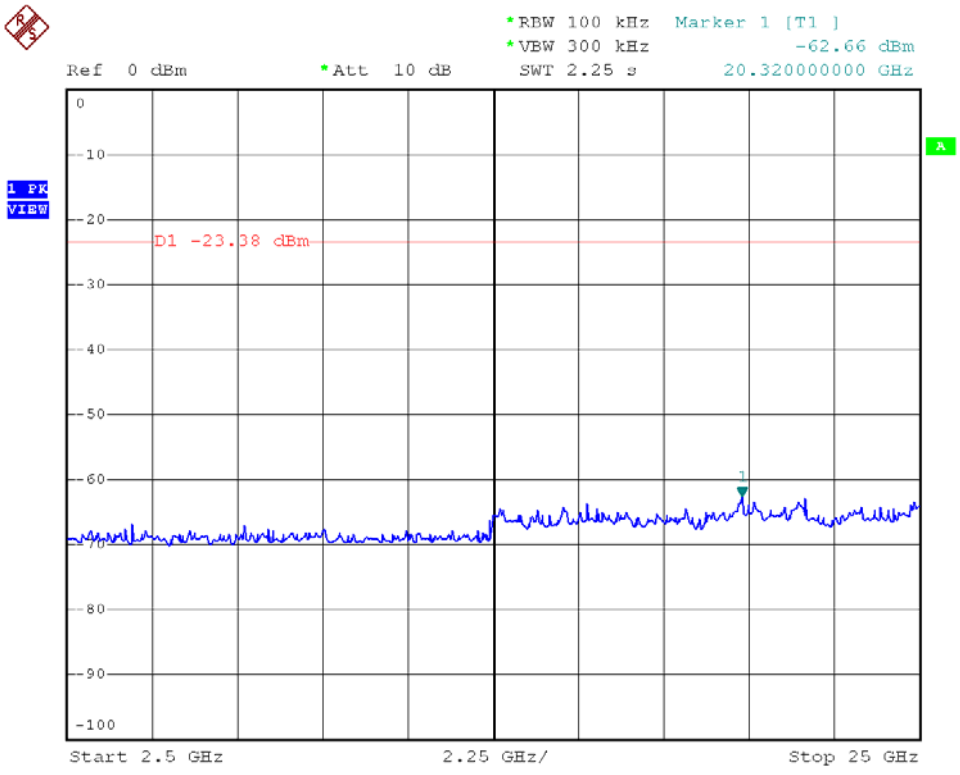
Modulation Standard: 802.11g (6Mbps)
Channel: 11



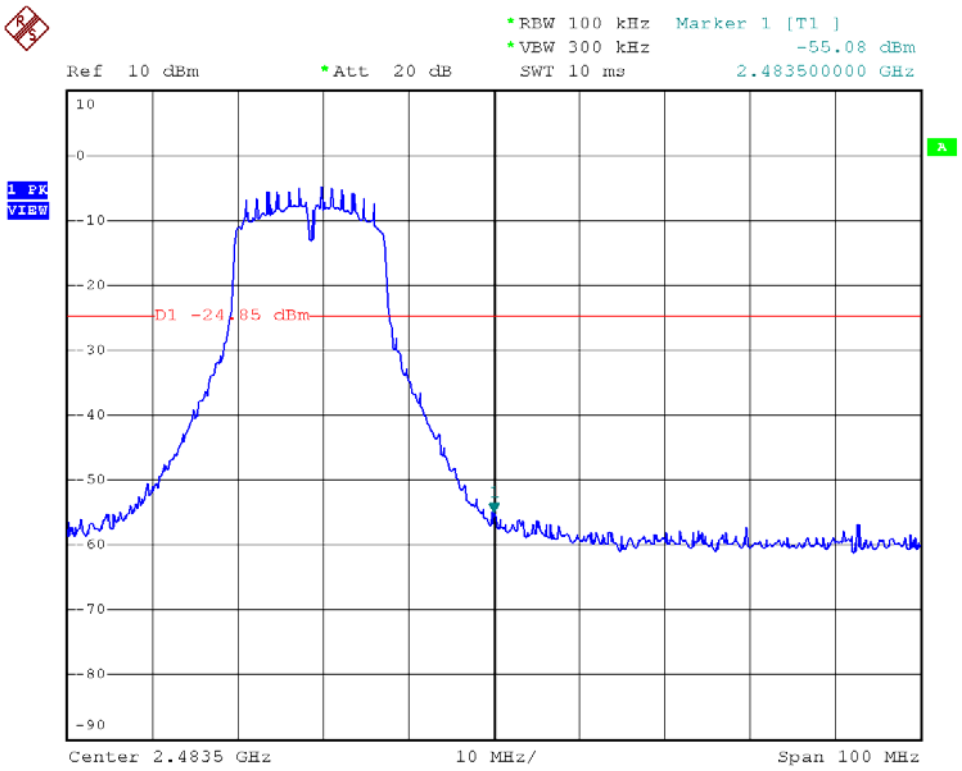


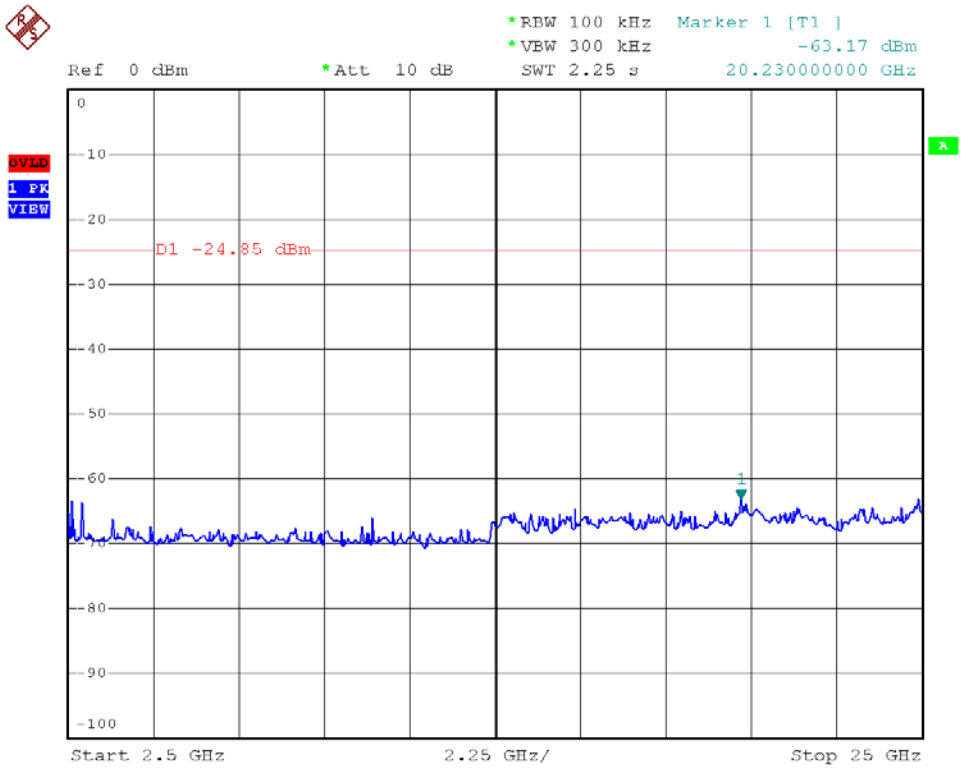
Modulation Standard: 802.11n HT20 (6.5Mbps)
Channel: 01





Modulation Standard: 802.11n HT20 (6.5Mbps)
Channel: 11





9.6 Restrict Band Emission Measurement Data

Test Date: Nov. 28, 2012 Temperature: 23°C

Atmospheric pressure: 1022 hPa Humidity: 61%

Modulation Standard: IEEE 802.11b (1Mbps)

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			
2385.48	H	49.78	1.63	51.41	Peak	74	54	-22.59	163	1.00
2387.52	H	38.11	1.62	39.73	Ave	74	54	-14.27	163	1.00
2385.99	V	52.16	2.31	54.47	Peak	74	54	-19.53	205	1.00
2387.27	V	40.92	2.28	43.20	Ave	74	54	-10.80	205	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			
2483.58	H	49.27	0.30	49.57	Peak	74	54	-24.43	153	1.00
2483.85	H	34.03	0.29	34.32	Ave	74	54	-19.68	153	1.00
2484.23	V	50.49	-2.38	48.11	Peak	74	54	-25.89	188	1.00
2486.80	V	38.82	-2.53	36.29	Ave	74	54	-17.71	188	1.00

Modulation Standard: IEEE 802.11g (6Mbps)

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			
2389.76	H	50.73	1.62	52.35	Peak	74	54	-21.65	165	1.00
2389.82	H	38.03	1.62	39.65	Ave	74	54	-14.35	165	1.00
2389.36	V	54.51	2.26	56.77	Peak	74	54	-17.23	188	1.00
2389.56	V	39.46	2.26	41.72	Ave	74	54	-12.28	188	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			
2487.54	H	50.72	0.24	50.96	Peak	74	54	-23.04	152	1.00
2483.76	H	37.86	0.29	38.15	Ave	74	54	-15.85	152	1.00
2483.96	V	52.14	-2.38	49.76	Peak	74	54	-24.24	190	1.00
2483.95	V	38.97	-2.37	36.60	Ave	74	54	-17.40	190	1.00

Modulation Standard: IEEE 802.11n HT20 (6.5Mbps)

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			
2373.75	H	49.30	1.68	50.98	Peak	74	54	-23.02	162	1.00
2389.56	H	37.79	1.62	39.41	Ave	74	54	-14.59	162	1.00
2389.56	V	54.42	2.26	56.68	Peak	74	54	-17.32	189	1.00
2389.56	V	39.99	2.26	42.25	Ave	74	54	-11.75	189	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			
2484.42	H	50.07	0.29	50.36	Peak	74	54	-23.64	150	1.00
2483.57	H	37.88	0.30	38.18	Ave	74	54	-15.82	150	1.00
2483.74	V	55.18	-2.36	52.82	Peak	74	54	-21.18	187	1.00
2483.57	V	39.40	-2.35	37.05	Ave	74	54	-16.95	187	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 (detector peak mode) for Peak detection at frequency above 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3 MHz (detector sample mode) 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.