



FCC TEST REPORT

According to

FCC Rules and Regulations

Part 15 Subpart C

Applicant	: Netgear, Inc.
Address	: 350 East Plumeria Drive San Jose, CA 95134 USA
Equipment	: RangeMax Dual Band Wireless-N USB Adapter
Model No.	: WNDA3100v2
FCC ID	: PY308300091
Trade Name	: NETGEAR

Laboratory Accreditation



- 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.



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CERTIFICATE OF COMPLIANCE

According to

FCC Rules and Regulations

Part 15 Subpart C

Applicant	: Netgear, Inc.
Address	: 350 East Plumeria Drive San Jose, CA 95134 USA
Equipment	: RangeMax Dual Band Wireless-N USB Adapter
Model No.	: WNDA3100v2
FCC ID	: PY308300091

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 (2005)**.

The test was carried out on Mar. 31, 2009 at Cerpass Technology Corp.

Signature

Anson Chou
EMC/RF B.U. Vice General 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

Antenna	2 integrated internal wireless antennas
Standards	802.11a, 802.11n draft 2.0, 802.11g or 802.11b
Radio Data Rate	1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54, 08, 140, 246 and 300Mbps (Auto Rate Sensing)
Frequency	2.4GHz to 2.5GHz CCK and OFDM Modulation ; 5GHz
Power	5V Bus powered
Bus interface	USB 2.0
Provided drivers	Microsoft Vista, Windows XP
Operating Environment	Operating temperature: 0 to 40°C
Encryption	40-bit (also called 64-bit) and 128-bit WEP data encryption and WPA-PSK
Warranty	Limited 1-year warranty
Smart Wizard	Enabled
Wireless	
Wireless Communication	Enabled
Wireless Network Name (SSID)	Any (will connect to first wireless network that responds)
Security	Disabled
Network Type	Infrastructure
Transmission Speed	Auto



2.2 Carrier Frequency of Channels

802.11b, 802.11g, 802.11n HT 20 (2412 ~ 2462MHz)

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 (2422 ~ 2462MHz)

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

802.11a, 802.11an HT20 (5725 ~ 5850MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
149	5745	161	5805
153	5765	165	5825
157	5785	---	---

802.11an HT 40 (5725 ~ 5850MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
151	5755	159	5795
155	5775	---	---



2.3 Test Mode and Test Software

- During testing, the interface cables and equipment positions were varied according to ANSI C63.4.
- The complete test system included remote workstation, PC, Monitor, Mouse, Keyboard, Modem, Printer and EUT for EMI test. The remote workstation included Notebook.
- An executive program, "Ping.exe" under WIN XP, which transmits and receives data to the remote workstation through Wireless.
- The following test modes were performed for test:

Test Mode 1: EUT with PC

- 802.11b/g/n HT20: CH01: 2412MHz, CH06: 2437MHz, CH11: 2462MHz
- 802.11n HT40: CH03: 2422MHz, CH06: 2437MHz, CH09: 2452MHz
- 802.11a/an HT20: CH 149: 5745MHz, CH 157: 5785MHz, CH 165: 5825MHz
- 802.11an HT40: CH 159: 5795MHz

Test Mode 2: EUT with USB cable

- 802.11b/g/n HT20: CH01: 2412MHz, CH06: 2437MHz, CH11: 2462MHz
- 802.11n HT40: CH03: 2422MHz, CH06: 2437MHz, CH09: 2452MHz
- 802.11a/an HT20: CH 149: 5745MHz, CH 157: 5785MHz, CH 165: 5825MHz
- 802.11an HT40: CH 159: 5795MHz

2.4 Description of Test System

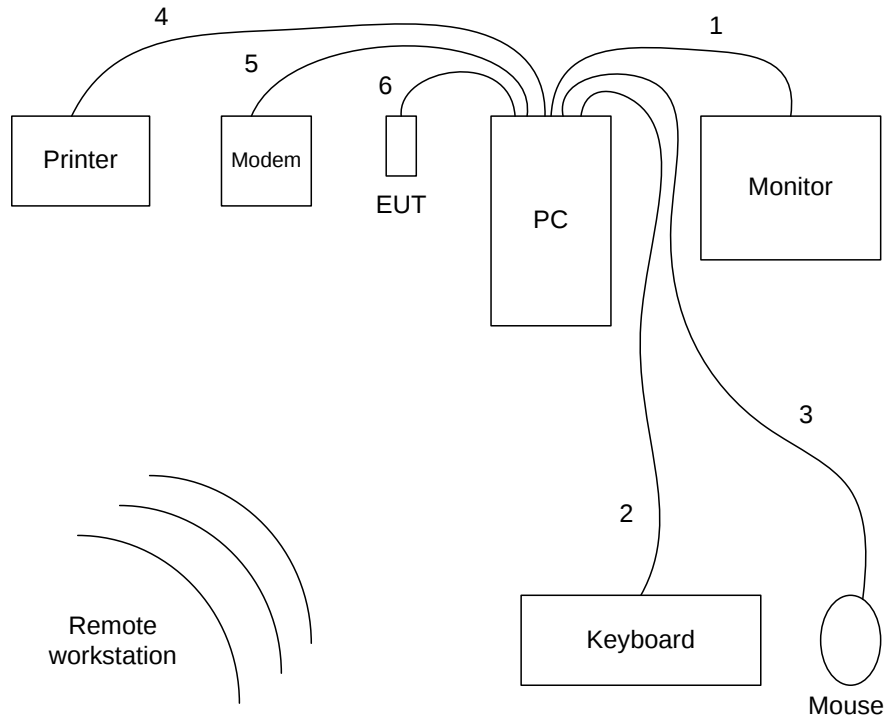
Device	Manufacturer	Model No.	Description
PC	IBM	IGV	Power Cable, Unshielding 1.8 m
Monitor	SlimAGE	510A	Data Cable, VGA Shielding 1.35 m Power Cable, Adapter Unshielding 1.8 m
Keyboard	IBM	KB-0225	Data Cable, PS2 Shielding 1.35 m
Mouse	IBM	MO28VO	Data Cable, USB Shielding 1.85 m
Modem	ACEXX	DM-1414	Data Cable, RS232 Unshielding 1.35 m Power Cable, Adapter Unshielding 1.8 m
Printer	HP	Desk Jet 400	Data Cable, PRINT Unshielding 1.6 m Power Cable, Adapter Unshielding 1.8 m
Notebook (Remote Workstation)	DELL	PP10L	Power Cable, Adapter Unshielding 1.8 m

Use Cable:

Cable	Quantity	Description
USB	1	Shielding, 1.0m



2.5 Connection Diagram of Test System



1. The VGA cable is connected from PC to the Monitor.
 2. The PS/2 cable is connected from PC to the Keyboard.
 3. The USB cable is connected from PC to the Mouse.
 4. The Print cable is connected from PC to the Printer.
 5. The RS232 cable is connected from PC to the Modem.
 6. The USB cable is connected from PC to the EUT.
- * The EUT keeps to transmit and receive data via Notebook by Wireless.



2.6 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 (OATS1-SD):	No. 7-2, Moshihkeng, Fongtian Village, Shihding Township, Taipei County, Taiwan, R.O.C.
FCC Registration Number :	982971
IC Registration Number :	4934C-1
VCCI Registration Number :	T-338 for Telecommunication Test C-2188 for Conducted emission test R-1902 for Radiated emission test
Test Voltage:	AC 120V
Test in Compliance with:	ANSI C63.4-2003 FCC Part 15 Subpart C
Frequency Range Investigated:	Conducted: from 150kHz to 30MHz Radiation: from 30MHz to 40,000MHz
Test Distance:	The test distance of radiated emission from antenna to EUT is 3 M.

2.7 Measurement Uncertainty

Measurement Item	Measurement Frequency	Polarization	Uncertainty
Conducted Emission	9 kHz ~ 30 MHz	LINE/NEUTRAL	2.71 dB
Radiated Emission	30 MHz ~ 40GHz	Vertical	4.11 dB
		Horizontal	4.10 dB
6 dB Bandwidth	---	---	7500 Hz
Maximum Peak Output Power	---	---	1.4 dB
100kHz Bandwidth of Frequency Band Edges	---	---	2.2 dB
Power Spectral Density	---	---	2.2 dB



☐ Additional attachment as following record:

[illegible]



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 R: PCB Antenna, 0 dBi (2.4GHz Band)

1.9 dBi (5GHz Band)

Antenna L: PCB Antenna, 0.2 dBi (2.4GHz Band)

2.5 dBi (5GHz Band)



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 C63.4-2003 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.

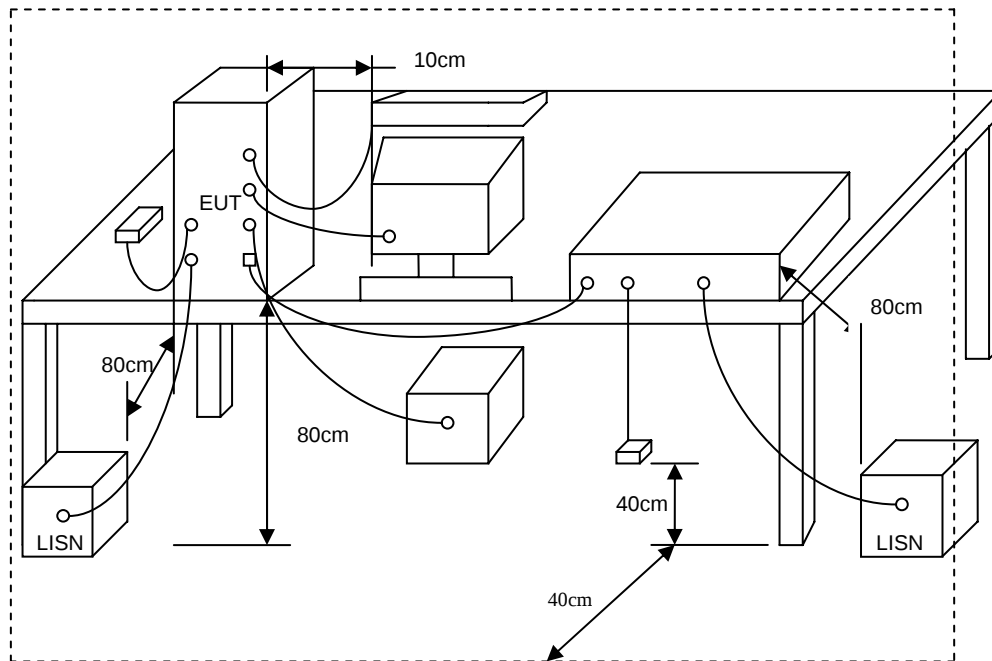
Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

4.2 Test Procedures

- 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.
- Connect EUT to the power mains through a line impedance stabilization network (LISN).
- All the support units are connecting to the other LISN.
- The LISN provides 50 ohm coupling impedance for the measuring instrument.
- The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
- Both sides of AC line were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

4.3 Typical Test Setup



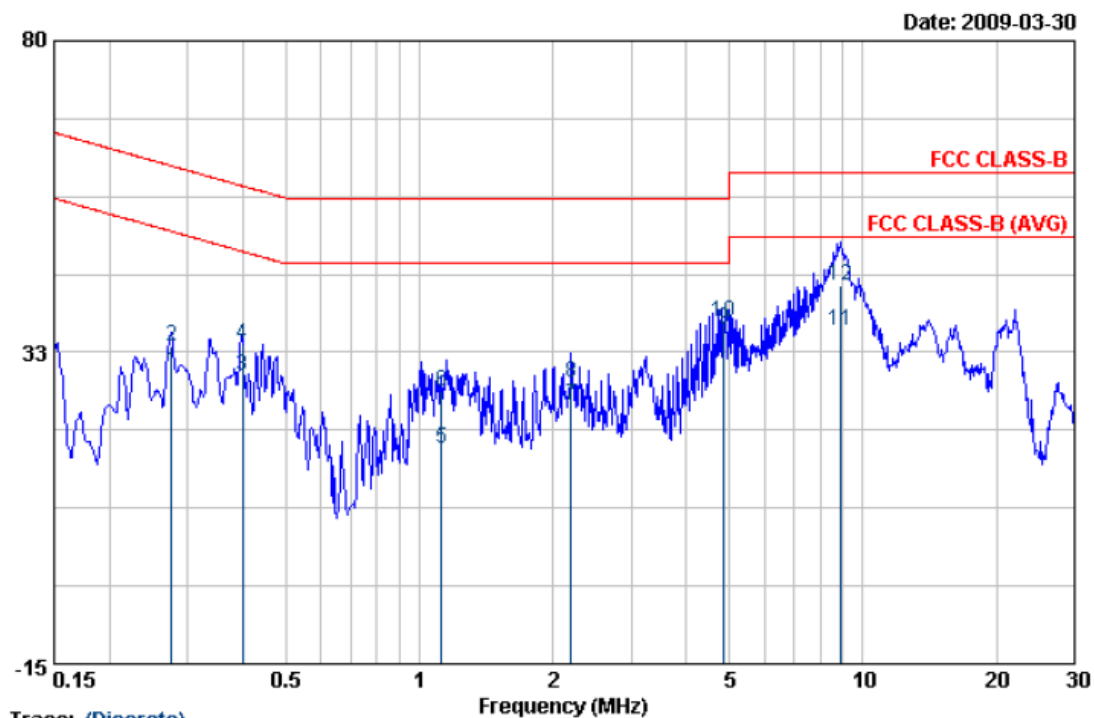
4.4 Measurement Equipment

Instrument/ Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date.
EMI Receiver	R&S	ESCI	100443	2008/09/27	2009/09/26
LISN	MESS TEC	NNB-2/16Z	02/10191	2008/05/14	2009/05/13
LISN	ROLF HEINE	NNB-2/16Z	03/10058	2008/04/19	2009/04/18



4.5 Test Result and Data

Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: 802.11g, CH1	Temperature	: 23 °C
Memo	: EUT with PC	Humidity	: 52 %



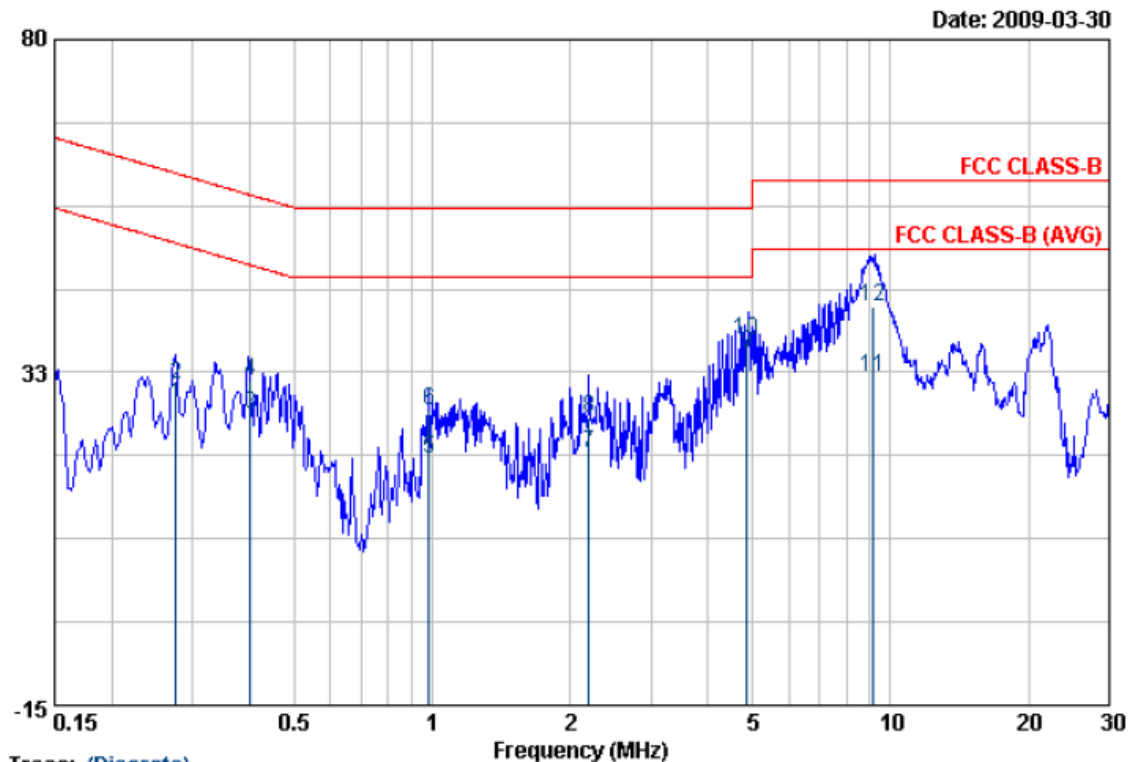
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27587	29.25	0.09	29.34	50.94	-21.60	Average
2	0.27587	33.35	0.09	33.44	60.94	-27.50	QP
3	0.39950	28.82	0.08	28.90	47.86	-18.96	AVERAGE
4	0.39950	33.70	0.08	33.78	57.86	-24.08	QP
5	1.121	17.82	0.12	17.94	46.00	-28.06	AVERAGE
6	1.121	26.53	0.12	26.65	56.00	-29.35	QP
7	2.201	24.24	0.16	24.40	46.00	-21.60	Average
8	2.201	27.59	0.16	27.75	56.00	-28.25	QP
9	4.869	35.85	0.21	36.06	46.00	-9.94	AVERAGE
10	4.869	36.93	0.21	37.14	56.00	-18.86	QP
11	8.880	35.58	0.20	35.78	50.00	-14.22	AVERAGE
12	8.880	42.45	0.20	42.65	60.00	-17.35	QP

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. According to technical experiences, all spurious emission of 802.11a mode at channel 36, 44, 48 are almost the same below 1GHz, so that the channel 36 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: 802.11g, CH1	Temperature	: 23 °C
Memo	: EUT with PC	Humidity	: 52 %



Trace: (Discrete)

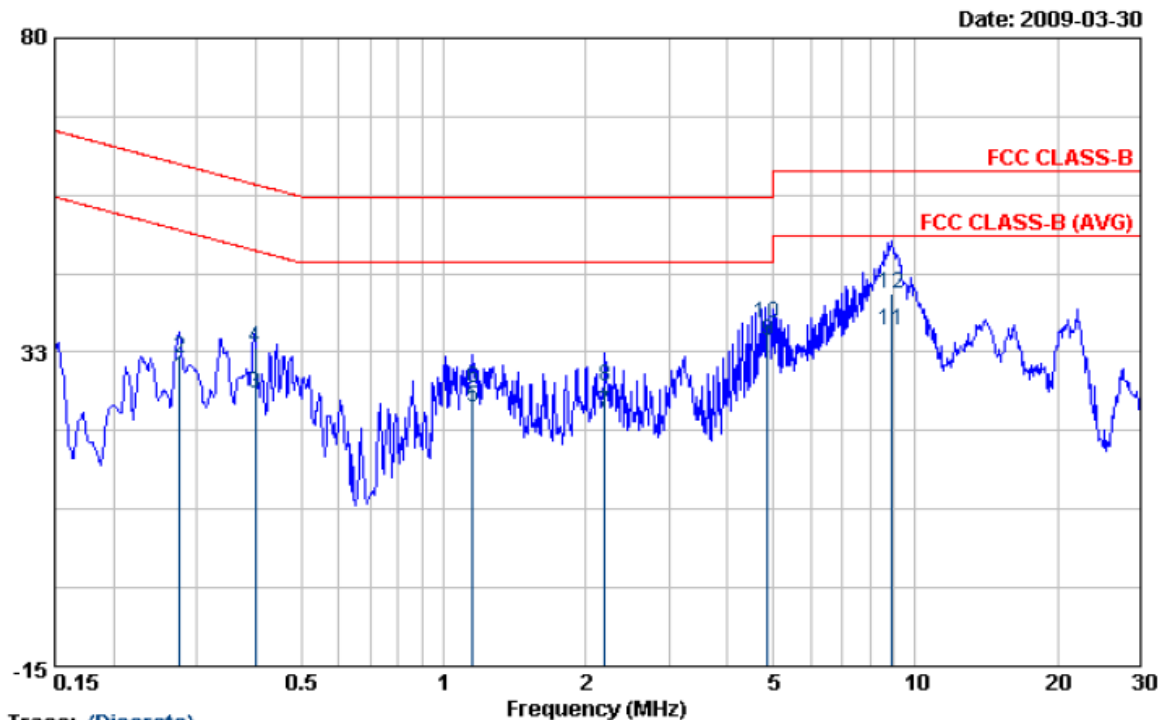
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27610	27.75	0.13	27.88	50.93	-23.05	AVERAGE
2	0.27610	30.72	0.13	30.85	60.93	-30.08	QP
3	0.40050	26.27	0.14	26.41	47.84	-21.43	AVERAGE
4	0.40050	31.16	0.14	31.30	57.84	-26.54	QP
5	0.98391	20.00	0.18	20.18	46.00	-25.82	Average
6	0.98391	27.00	0.18	27.18	56.00	-28.82	QP
7	2.201	20.83	0.24	21.07	46.00	-24.93	Average
8	2.201	25.83	0.24	26.07	56.00	-29.93	QP
9	4.869	34.91	0.33	35.24	46.00	-10.76	AVERAGE
10	4.869	36.89	0.33	37.22	56.00	-18.78	QP
11	9.186	31.32	0.41	31.73	50.00	-18.27	AVERAGE
12	9.186	41.55	0.41	41.96	60.00	-18.04	QP

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. According to technical experiences, all spurious emission of 802.11a mode at channel 36,44,48 are almost the same below 1GHz, so that the channel 36 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: 802.11n HT20, CH1	Temperature	: 23 °C
Memo	: EUT with PC	Humidity	: 52 %



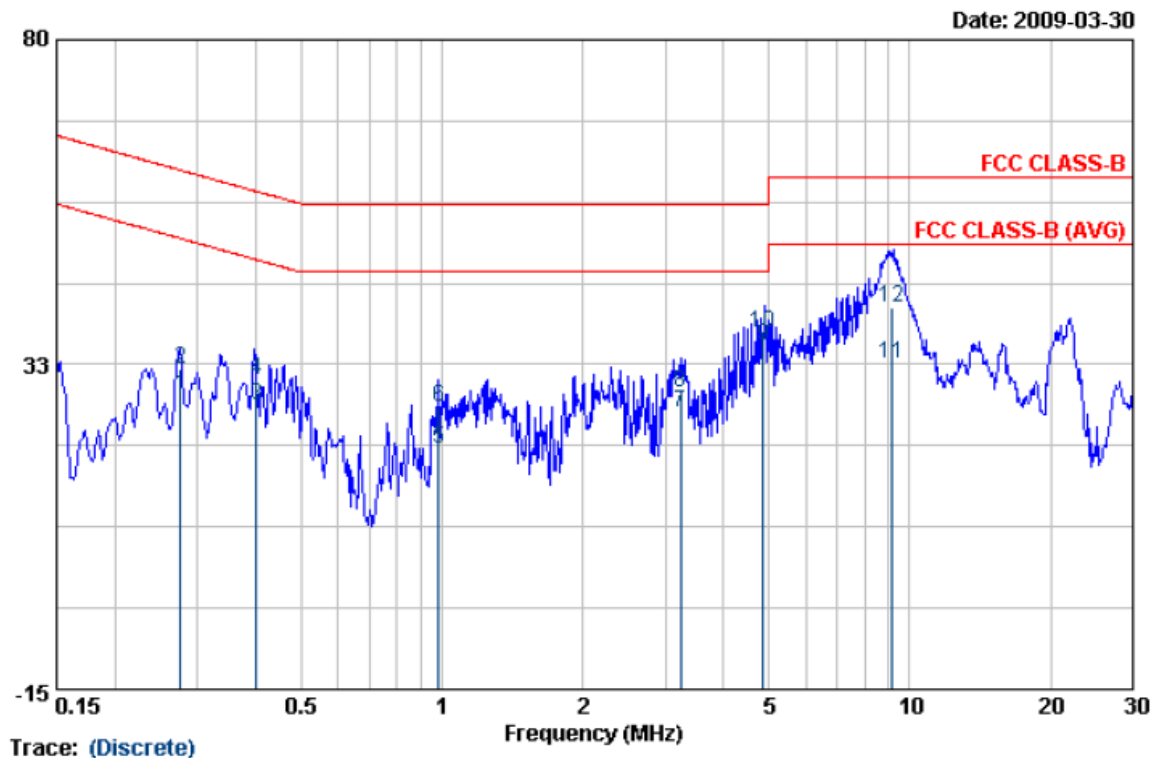
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27587	28.56	0.11	28.67	50.94	-22.27	Average
2	0.27587	31.56	0.11	31.67	60.94	-29.27	QP
3	0.39950	26.18	0.11	26.29	47.86	-21.57	AVERAGE
4	0.39950	32.97	0.11	33.08	57.86	-24.78	QP
5	1.153	24.01	0.17	24.18	46.00	-21.82	Average
6	1.153	27.01	0.17	27.18	56.00	-28.82	QP
7	2.201	23.23	0.24	23.47	46.00	-22.53	Average
8	2.201	27.23	0.24	27.47	56.00	-28.53	QP
9	4.869	33.94	0.34	34.28	46.00	-11.72	AVERAGE
10	4.869	36.44	0.34	36.78	56.00	-19.22	QP
11	8.880	35.37	0.37	35.74	50.00	-14.26	AVERAGE
12	8.880	41.13	0.37	41.50	60.00	-18.50	QP

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. According to technical experiences, all spurious emission of 802.11a mode at channel 36, 44, 48 are almost the same below 1GHz, so that the channel 36 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: 802.11n HT20, CH1	Temperature	: 23 °C
Memo	: EUT with PC	Humidity	: 52 %



Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27610	27.75	0.13	27.88	50.93	-23.05	AVERAGE
2	0.27610	31.72	0.13	31.85	60.93	-29.08	QP
3	0.40050	26.27	0.14	26.41	47.84	-21.43	AVERAGE
4	0.40050	30.16	0.14	30.30	57.84	-27.54	QP
5	0.98391	20.00	0.18	20.18	46.00	-25.82	Average
6	0.98391	26.00	0.18	26.18	56.00	-29.82	QP
7	3.241	25.24	0.28	25.52	46.00	-20.48	Average
8	3.241	28.24	0.28	28.52	56.00	-27.48	QP
9	4.869	34.91	0.33	35.24	46.00	-10.76	AVERAGE
10	4.869	36.89	0.33	37.22	56.00	-18.78	QP
11	9.186	32.32	0.41	32.73	50.00	-17.27	AVERAGE
12	9.186	40.55	0.41	40.96	60.00	-19.04	QP

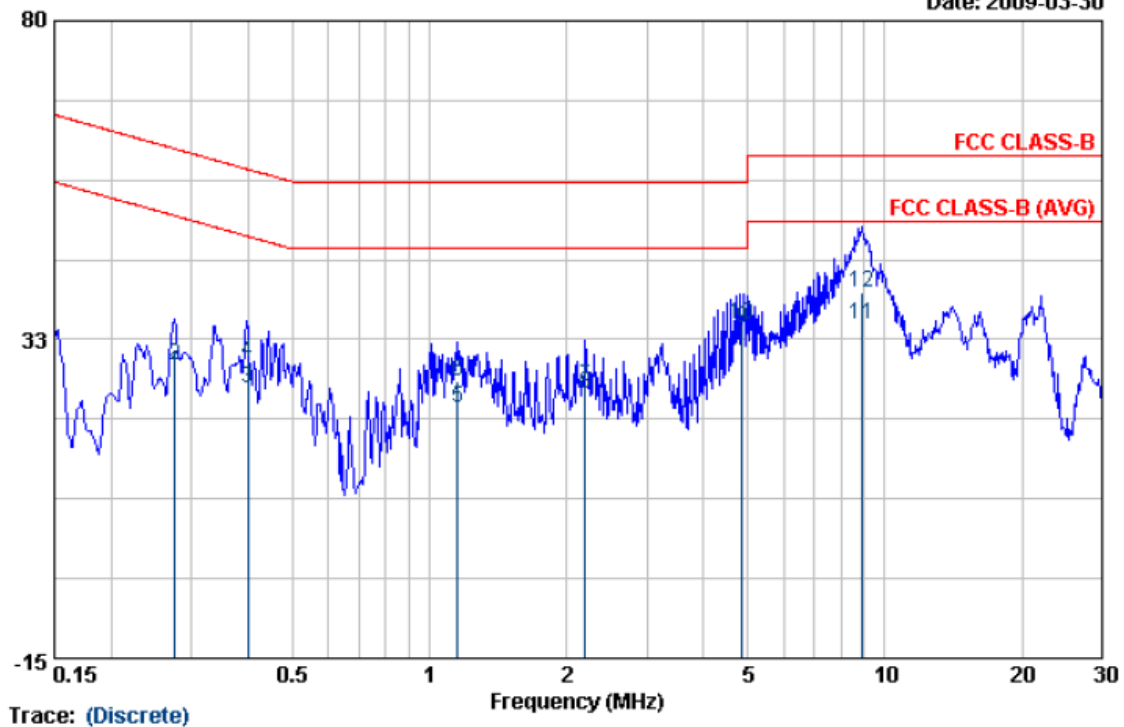
Notes:

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. According to technical experiences, all spurious emission of 802.11a mode at channel 36, 44, 48 are almost the same below 1GHz, so that the channel 36 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: 802.11n HT40, CH3	Temperature	: 23 °C
Memo	: EUT with PC	Humidity	: 52 %

Date: 2009-03-30



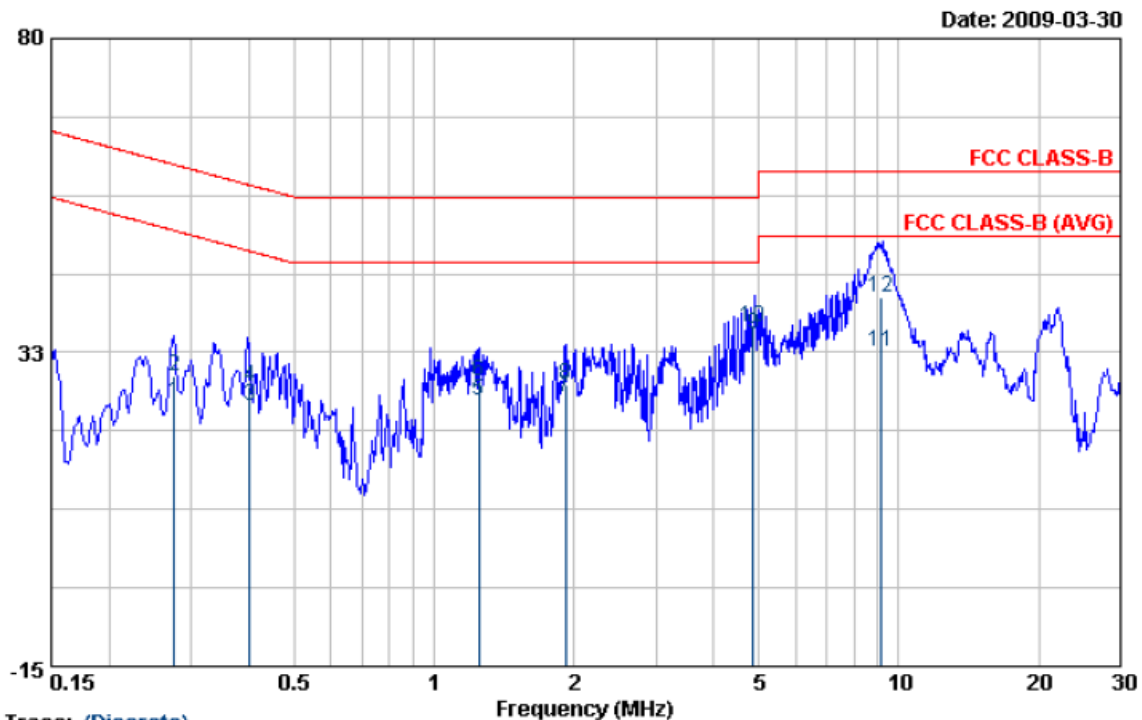
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27587	27.56	0.11	27.67	50.94	-23.27	Average
2	0.27587	28.56	0.11	28.67	60.94	-32.27	QP
3	0.39950	25.18	0.11	25.29	47.86	-22.57	AVERAGE
4	0.39950	28.97	0.11	29.08	57.86	-28.78	QP
5	1.153	22.01	0.17	22.18	46.00	-23.82	Average
6	1.153	26.01	0.17	26.18	56.00	-29.82	QP
7	2.201	25.23	0.24	25.47	46.00	-20.53	Average
8	2.201	24.23	0.24	24.47	56.00	-31.53	QP
9	4.869	33.94	0.34	34.28	46.00	-11.72	AVERAGE
10	4.869	34.44	0.34	34.78	56.00	-21.22	QP
11	8.880	34.37	0.37	34.74	50.00	-15.26	AVERAGE
12	8.880	39.13	0.37	39.50	60.00	-20.50	QP

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. According to technical experiences, all spurious emission of 802.11a mode at channel 36, 44, 48 are almost the same below 1GHz, so that the channel 36 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: 802.11n HT40, CH3	Temperature	: 23 °C
Memo	: EUT with PC	Humidity	: 52 %



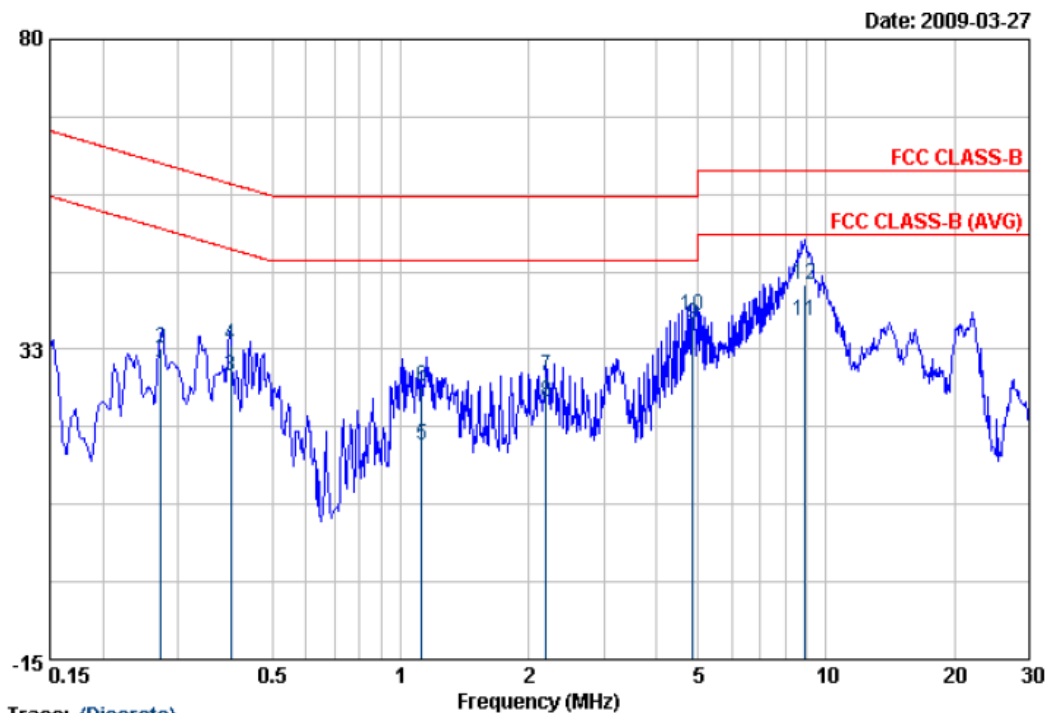
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27610	24.75	0.13	24.88	50.93	-26.05	AVERAGE
2	0.27610	28.72	0.13	28.85	60.93	-32.08	QP
3	0.40050	24.27	0.14	24.41	47.84	-23.43	AVERAGE
4	0.40050	27.16	0.14	27.30	57.84	-30.54	QP
5	1.249	25.00	0.20	25.20	46.00	-20.80	Average
6	1.249	28.00	0.20	28.20	56.00	-27.80	QP
7	1.918	25.51	0.22	25.73	46.00	-20.27	Average
8	1.918	27.51	0.22	27.73	56.00	-28.27	QP
9	4.869	34.91	0.33	35.24	46.00	-10.76	AVERAGE
10	4.869	35.89	0.33	36.22	56.00	-19.78	QP
11	9.186	32.32	0.41	32.73	50.00	-17.27	AVERAGE
12	9.186	40.55	0.41	40.96	60.00	-19.04	QP

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. According to technical experiences, all spurious emission of 802.11a mode at channel 36,44,48 are almost the same below 1GHz, so that the channel 36 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: 802.11a, CH149	Temperature	: 23 °C
Memo	: EUT with PC	Humidity	: 52 %



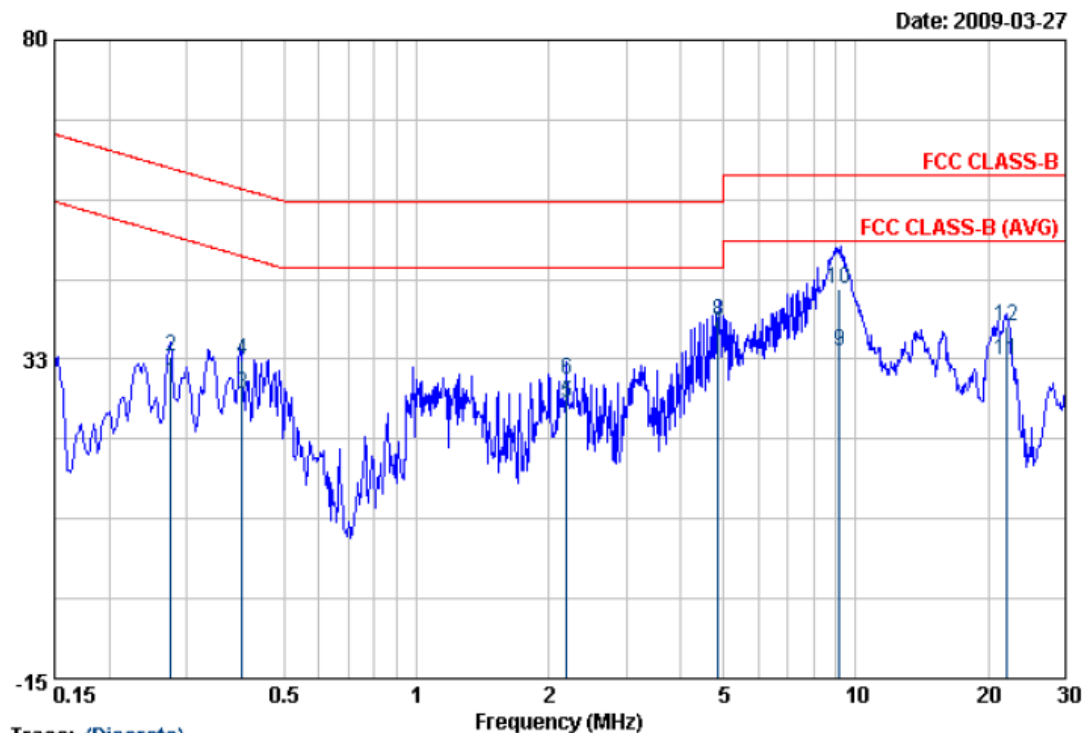
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27390	28.79	0.11	28.90	51.00	-22.10	AVERAGE
2	0.27390	32.45	0.11	32.56	61.00	-28.44	QP
3	0.39950	28.18	0.11	28.29	47.86	-19.57	AVERAGE
4	0.39950	32.97	0.11	33.08	57.86	-24.78	QP
5	1.121	17.66	0.17	17.83	46.00	-28.17	AVERAGE
6	1.121	26.56	0.17	26.73	56.00	-29.27	QP
7	2.201	28.23	0.24	28.47	46.00	-17.53	Average
8	2.201	24.23	0.24	24.47	56.00	-31.53	QP
9	4.869	35.94	0.34	36.28	46.00	-9.72	AVERAGE
10	4.869	37.44	0.34	37.78	56.00	-18.22	QP
11	8.880	36.37	0.37	36.74	50.00	-13.26	AVERAGE
12	8.880	42.13	0.37	42.50	60.00	-17.50	QP

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. According to technical experiences, all spurious emission of 802.11an HT20 mode at channel 149, 157, 165 are almost the same below 1GHz, so that the channel 149 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: 802.11a, CH149	Temperature	: 23 °C
Memo	: EUT with PC	Humidity	: 52 %



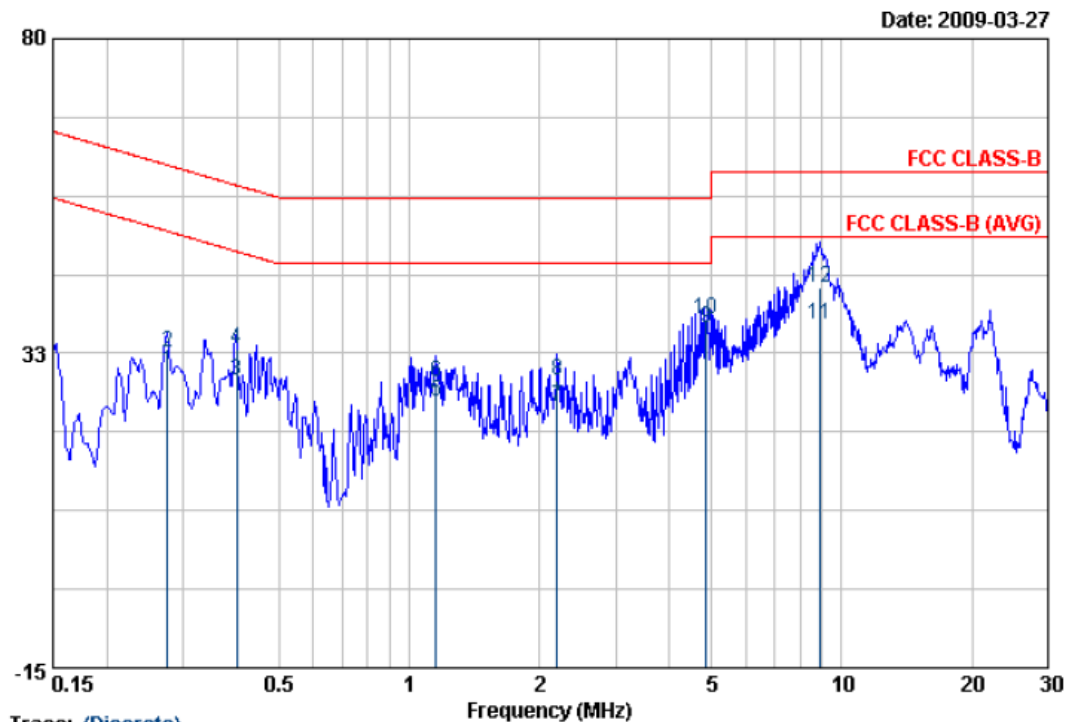
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27610	28.75	0.13	28.88	50.93	-22.05	AVERAGE
2	0.27610	32.72	0.13	32.85	60.93	-28.08	QP
3	0.40050	27.27	0.14	27.41	47.84	-20.43	AVERAGE
4	0.40050	32.16	0.14	32.30	57.84	-25.54	QP
5	2.195	25.89	0.24	26.13	46.00	-19.87	AVERAGE
6	2.195	29.35	0.24	29.59	56.00	-26.41	QP
7	4.869	35.91	0.33	36.24	46.00	-9.76	AVERAGE
8	4.869	37.89	0.33	38.22	56.00	-17.78	QP
9	9.186	33.32	0.41	33.73	50.00	-16.27	AVERAGE
10	9.186	42.55	0.41	42.96	60.00	-17.04	QP
11	21.946	31.71	0.63	32.34	50.00	-17.66	Average
12	21.946	36.71	0.63	37.34	60.00	-22.66	QP

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. According to technical experiences, all spurious emission of 802.11a HT20 mode at channel 149, 157, 165 are almost the same below 1GHz, so that the channel 149 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: 802.11an HT20, CH149	Temperature	: 23 °C
Memo	: EUT with PC	Humidity	: 52 %



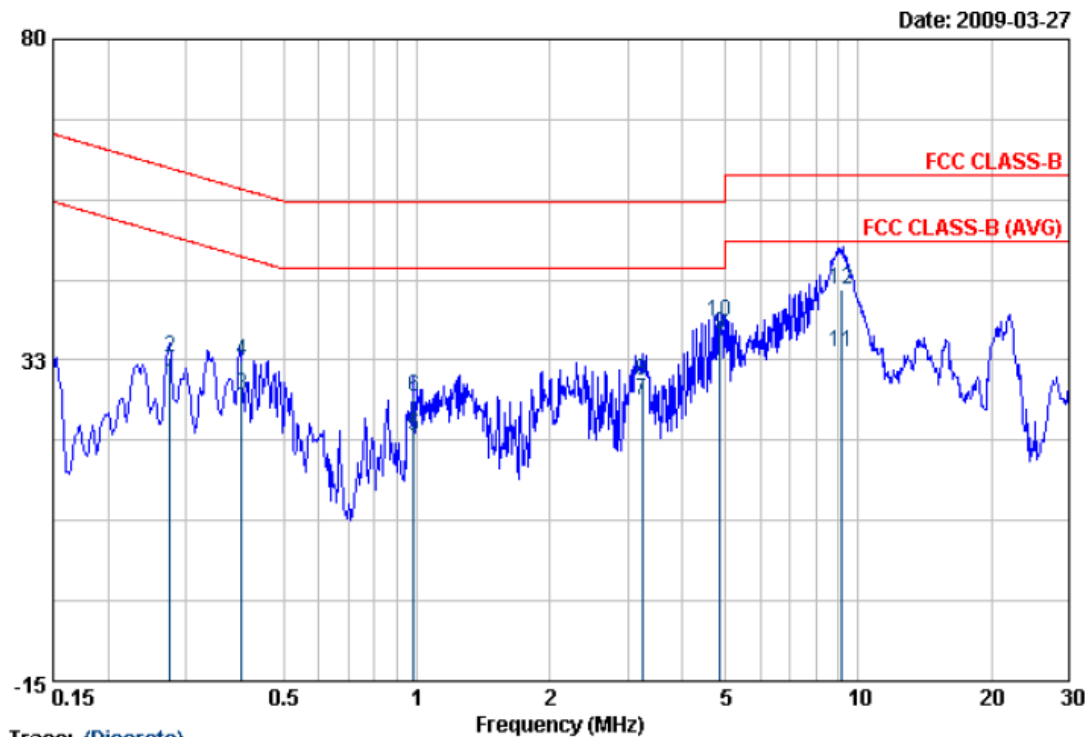
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27587	29.56	0.11	29.67	50.94	-21.27	Average
2	0.27587	32.56	0.11	32.67	60.94	-28.27	QP
3	0.39950	28.18	0.11	28.29	47.86	-19.57	AVERAGE
4	0.39950	32.97	0.11	33.08	57.86	-24.78	QP
5	1.153	25.01	0.17	25.18	46.00	-20.82	Average
6	1.153	28.01	0.17	28.18	56.00	-27.82	QP
7	2.201	24.23	0.24	24.47	46.00	-21.53	Average
8	2.201	28.23	0.24	28.47	56.00	-27.53	QP
9	4.869	35.94	0.34	36.28	46.00	-9.72	AVERAGE
10	4.869	37.44	0.34	37.78	56.00	-18.22	QP
11	8.880	36.37	0.37	36.74	50.00	-13.26	AVERAGE
12	8.880	42.13	0.37	42.50	60.00	-17.50	QP

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. According to technical experiences, all spurious emission of 802.11an HT20 mode at channel 149, 157, 165 are almost the same below 1GHz, so that the channel 149 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: 802.11an HT20, CH149	Temperature	: 23 °C
Memo	: EUT with PC	Humidity	: 52 %



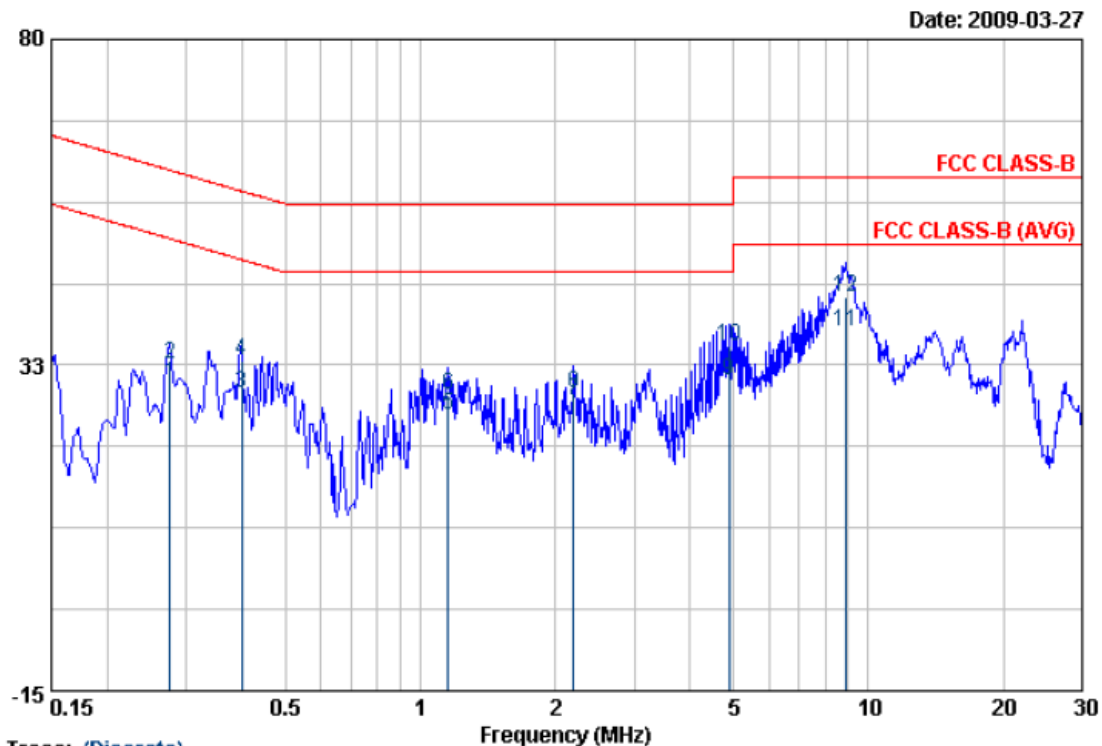
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27610	28.75	0.13	28.88	50.93	-22.05	AVERAGE
2	0.27610	32.72	0.13	32.85	60.93	-28.08	QP
3	0.40050	27.27	0.14	27.41	47.84	-20.43	AVERAGE
4	0.40050	32.16	0.14	32.30	57.84	-25.54	QP
5	0.98391	21.00	0.18	21.18	46.00	-24.82	Average
6	0.98391	27.00	0.18	27.18	56.00	-28.82	QP
7	3.241	26.24	0.28	26.52	46.00	-19.48	Average
8	3.241	29.24	0.28	29.52	56.00	-26.48	QP
9	4.869	35.91	0.33	36.24	46.00	-9.76	AVERAGE
10	4.869	37.89	0.33	38.22	56.00	-17.78	QP
11	9.186	33.32	0.41	33.73	50.00	-16.27	AVERAGE
12	9.186	42.55	0.41	42.96	60.00	-17.04	QP

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. According to technical experiences, all spurious emission of 802.11an HT20 mode at channel 149, 157, 165 are almost the same below 1GHz, so that the channel 149 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: 802.11an HT40, CH159	Temperature	: 23 °C
Memo	: EUT with PC	Humidity	: 52 %



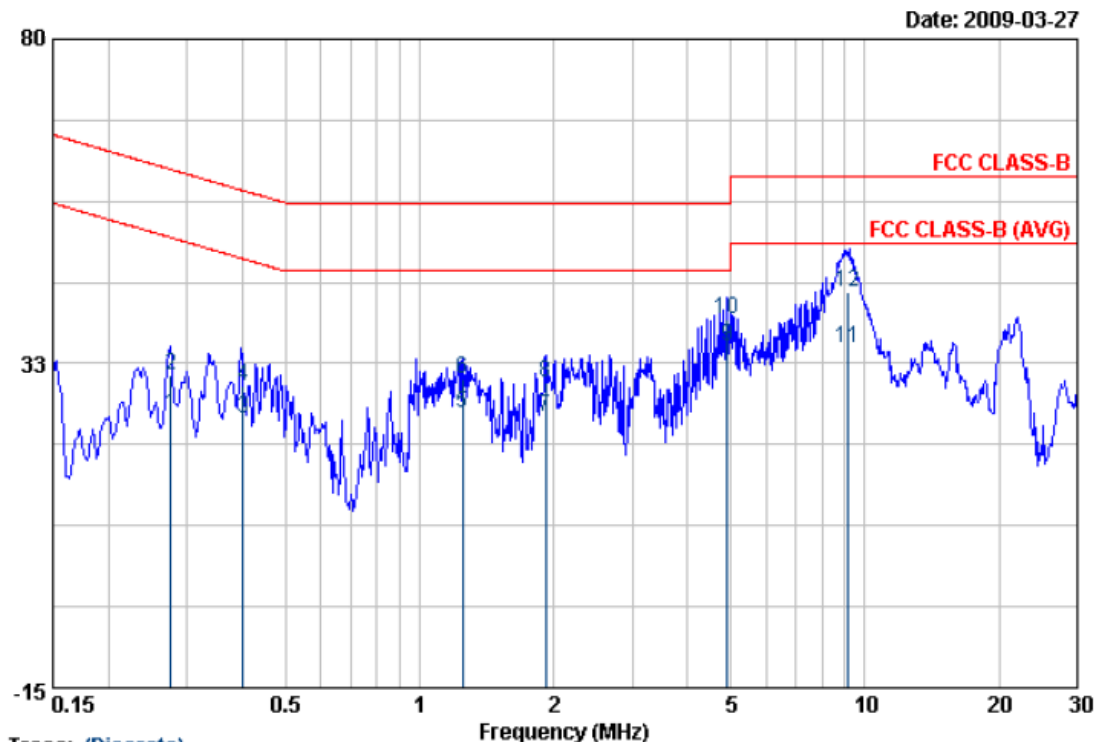
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27587	29.56	0.11	29.67	50.94	-21.27	Average
2	0.27587	32.56	0.11	32.67	60.94	-28.27	QP
3	0.39950	28.18	0.11	28.29	47.86	-19.57	AVERAGE
4	0.39950	32.97	0.11	33.08	57.86	-24.78	QP
5	1.153	25.01	0.17	25.18	46.00	-20.82	Average
6	1.153	28.01	0.17	28.18	56.00	-27.82	QP
7	2.201	27.23	0.24	27.47	46.00	-18.53	Average
8	2.201	28.23	0.24	28.47	56.00	-27.53	QP
9	4.874	29.99	0.34	30.33	46.00	-15.67	Average
10	4.874	34.99	0.34	35.33	56.00	-20.67	QP
11	8.869	37.01	0.37	37.38	50.00	-12.62	Average
12	8.869	42.01	0.37	42.38	60.00	-17.62	QP

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. According to technical experiences, all spurious emission of 802.11an HT20 mode at channel 149, 157, 165 are almost the same below 1GHz, so that the channel 149 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: 802.11an HT40, CH159	Temperature	: 23 °C
Memo	: EUT with PC	Humidity	: 52 %



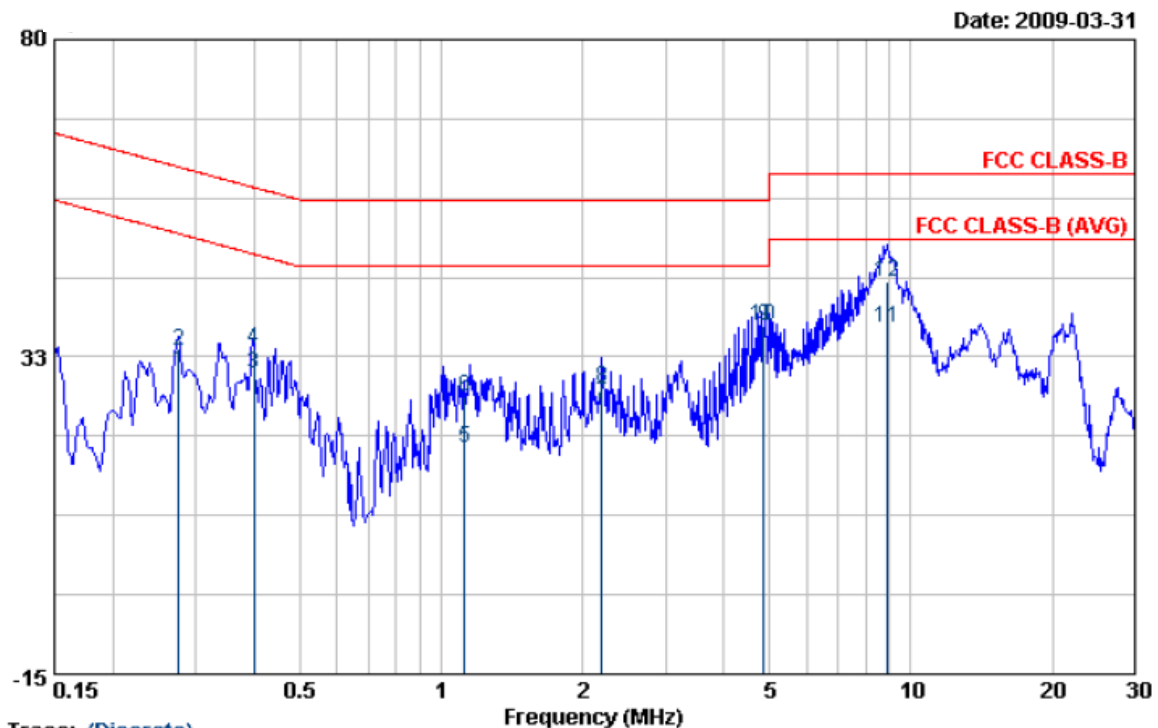
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27610	24.75	0.13	24.88	50.93	-26.05	AVERAGE
2	0.27610	30.72	0.13	30.85	60.93	-30.08	QP
3	0.40050	24.27	0.14	24.41	47.84	-23.43	AVERAGE
4	0.40050	29.16	0.14	29.30	57.84	-28.54	QP
5	1.249	25.00	0.20	25.20	46.00	-20.80	Average
6	1.249	30.00	0.20	30.20	56.00	-25.80	QP
7	1.918	24.51	0.22	24.73	46.00	-21.27	Average
8	1.918	29.51	0.22	29.73	56.00	-26.27	QP
9	4.900	34.74	0.33	35.07	46.00	-10.93	Average
10	4.900	38.74	0.33	39.07	56.00	-16.93	QP
11	9.186	34.32	0.41	34.73	50.00	-15.27	AVERAGE
12	9.186	42.55	0.41	42.96	60.00	-17.04	QP

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. According to technical experiences, all spurious emission of 802.11an HT20 mode at channel 149, 157, 165 are almost the same below 1GHz, so that the channel 149 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: 802.11g, CH1	Temperature	: 23 °C
Memo	: EUT with USB cable	Humidity	: 52 %



Trace: (Discrete)

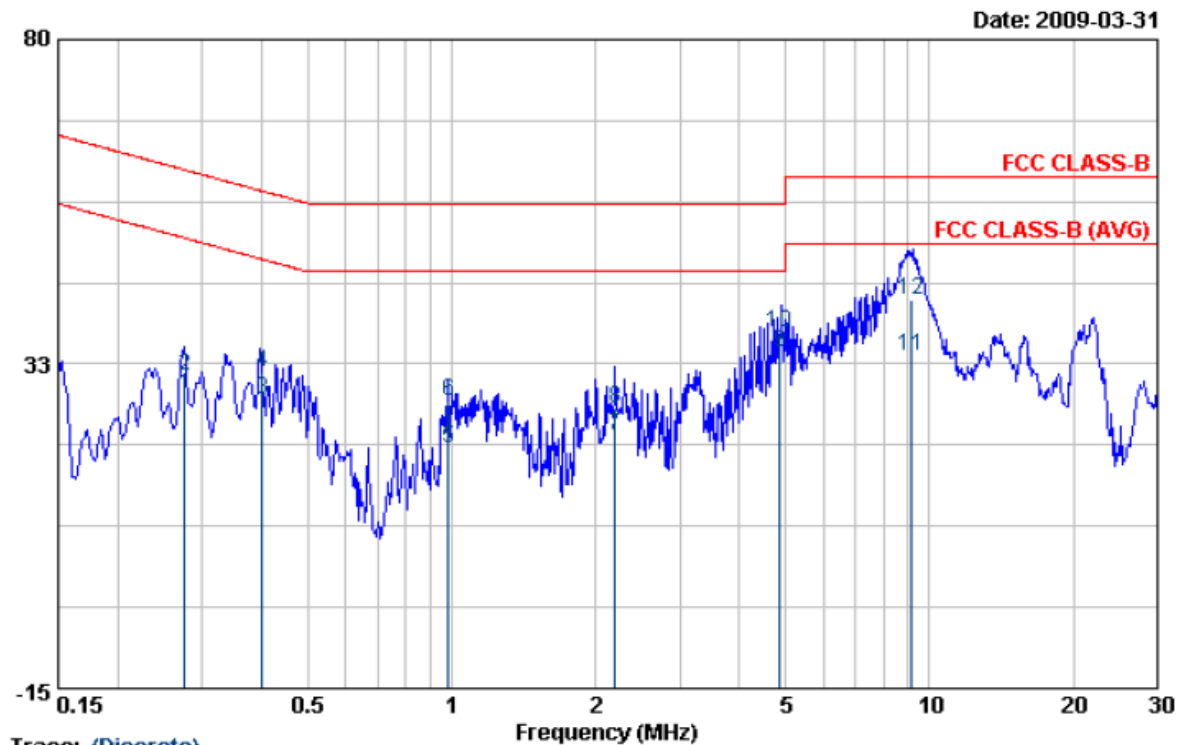
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27587	30.25	0.09	30.34	50.94	-20.60	Average
2	0.27587	33.35	0.09	33.44	60.94	-27.50	QP
3	0.39950	29.82	0.08	29.90	47.86	-17.96	AVERAGE
4	0.39950	33.70	0.08	33.78	57.86	-24.08	QP
5	1.121	18.82	0.12	18.94	46.00	-27.06	AVERAGE
6	1.121	26.53	0.12	26.65	56.00	-29.35	QP
7	2.201	25.24	0.16	25.40	46.00	-20.60	Average
8	2.201	27.59	0.16	27.75	56.00	-28.25	QP
9	4.869	36.85	0.21	37.06	46.00	-8.94	AVERAGE
10	4.869	36.93	0.21	37.14	56.00	-18.86	QP
11	8.880	36.58	0.20	36.78	50.00	-13.22	AVERAGE
12	8.880	43.45	0.20	43.65	60.00	-16.35	QP

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. According to technical experiences, all spurious emission of 802.11a mode at channel 36, 44, 48 are almost the same below 1GHz, so that the channel 36 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: 802.11g, CH1	Temperature	: 23 °C
Memo	: EUT with USB cable	Humidity	: 52 %



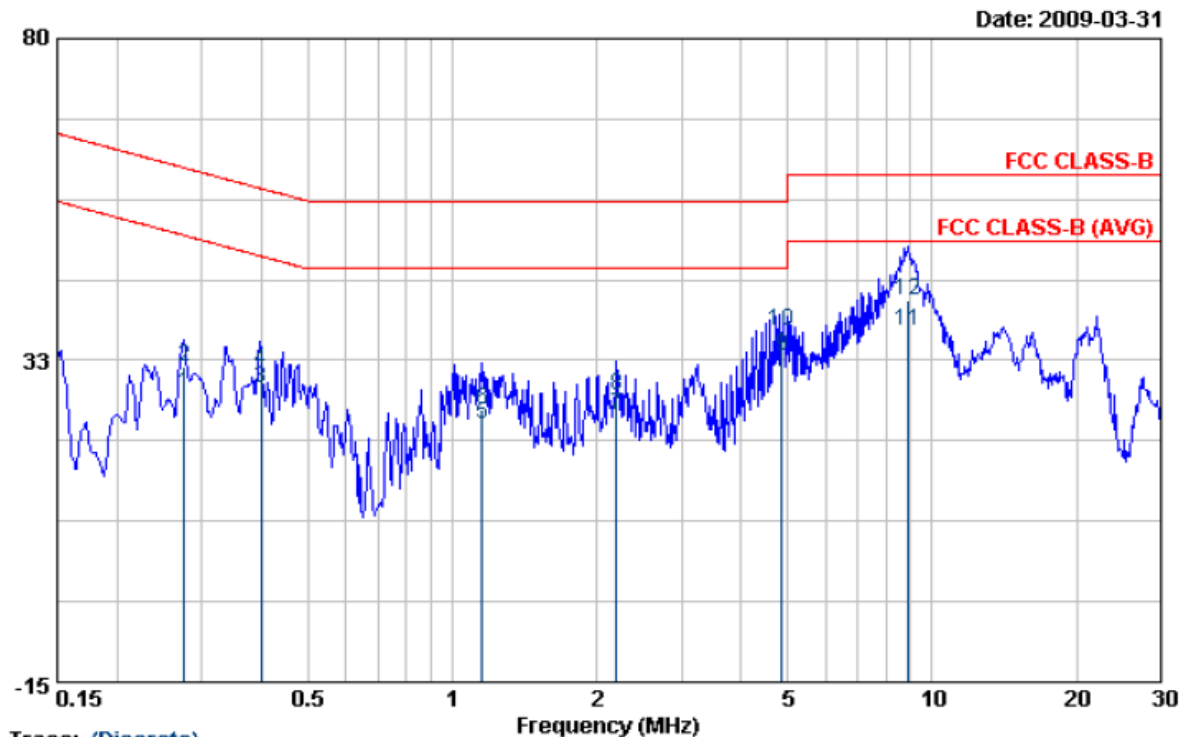
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27610	27.75	0.13	27.88	50.93	-23.05	AVERAGE
2	0.27610	30.72	0.13	30.85	60.93	-30.08	QP
3	0.40050	27.27	0.14	27.41	47.84	-20.43	AVERAGE
4	0.40050	31.16	0.14	31.30	57.84	-26.54	QP
5	0.98391	20.00	0.18	20.18	46.00	-25.82	Average
6	0.98391	27.00	0.18	27.18	56.00	-28.82	QP
7	2.201	21.83	0.24	22.07	46.00	-23.93	Average
8	2.201	25.83	0.24	26.07	56.00	-29.93	QP
9	4.869	33.91	0.33	34.24	46.00	-11.76	AVERAGE
10	4.869	36.89	0.33	37.22	56.00	-18.78	QP
11	9.186	33.32	0.41	33.73	50.00	-16.27	AVERAGE
12	9.186	41.55	0.41	41.96	60.00	-18.04	QP

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. According to technical experiences, all spurious emission of 802.11a mode at channel 36, 44, 48 are almost the same below 1GHz, so that the channel 36 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: 802.11n HT20, CH1	Temperature	: 23 °C
Memo	: EUT with USB cable	Humidity	: 52 %



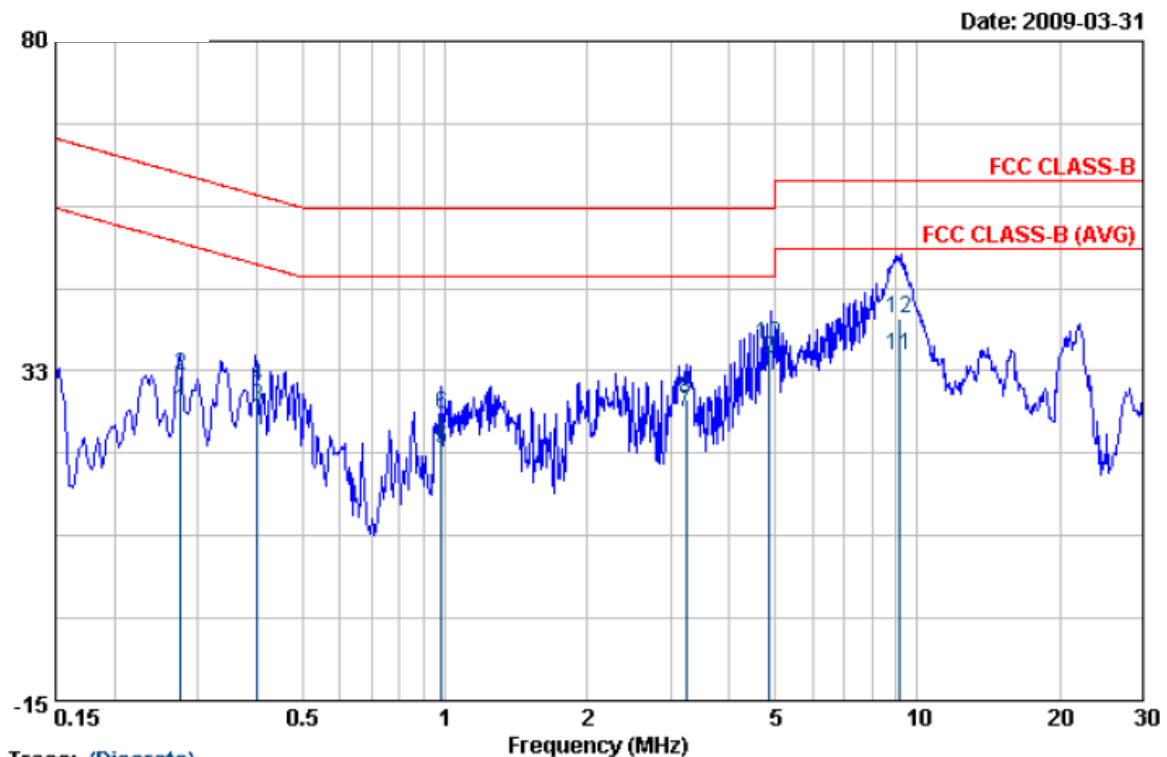
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27587	27.56	0.11	27.67	50.94	-23.27	Average
2	0.27587	31.56	0.11	31.67	60.94	-29.27	QP
3	0.39950	28.18	0.11	28.29	47.86	-19.57	AVERAGE
4	0.39950	30.97	0.11	31.08	57.86	-26.78	QP
5	1.153	23.01	0.17	23.18	46.00	-22.82	Average
6	1.153	25.01	0.17	25.18	56.00	-30.82	QP
7	2.201	24.23	0.24	24.47	46.00	-21.53	Average
8	2.201	27.23	0.24	27.47	56.00	-28.53	QP
9	4.869	32.94	0.34	33.28	46.00	-12.72	AVERAGE
10	4.869	36.44	0.34	36.78	56.00	-19.22	QP
11	8.880	36.37	0.37	36.74	50.00	-13.26	AVERAGE
12	8.880	41.13	0.37	41.50	60.00	-18.50	QP

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. According to technical experiences, all spurious emission of 802.11a mode at channel 36, 44, 48 are almost the same below 1GHz, so that the channel 36 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: 802.11n HT20, CH1	Temperature	: 23 °C
Memo	: EUT with USB cable	Humidity	: 52 %



Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27610	26.75	0.13	26.88	50.93	-24.05	AVERAGE
2	0.27610	31.72	0.13	31.85	60.93	-29.08	QP
3	0.40050	27.27	0.14	27.41	47.84	-20.43	AVERAGE
4	0.40050	30.16	0.14	30.30	57.84	-27.54	QP
5	0.98391	21.00	0.18	21.18	46.00	-24.82	Average
6	0.98391	26.00	0.18	26.18	56.00	-29.82	QP
7	3.241	26.24	0.28	26.52	46.00	-19.48	Average
8	3.241	28.24	0.28	28.52	56.00	-27.48	QP
9	4.869	33.91	0.33	34.24	46.00	-11.76	AVERAGE
10	4.869	35.89	0.33	36.22	56.00	-19.78	QP
11	9.186	34.32	0.41	34.73	50.00	-15.27	AVERAGE
12	9.186	39.55	0.41	39.96	60.00	-20.04	QP

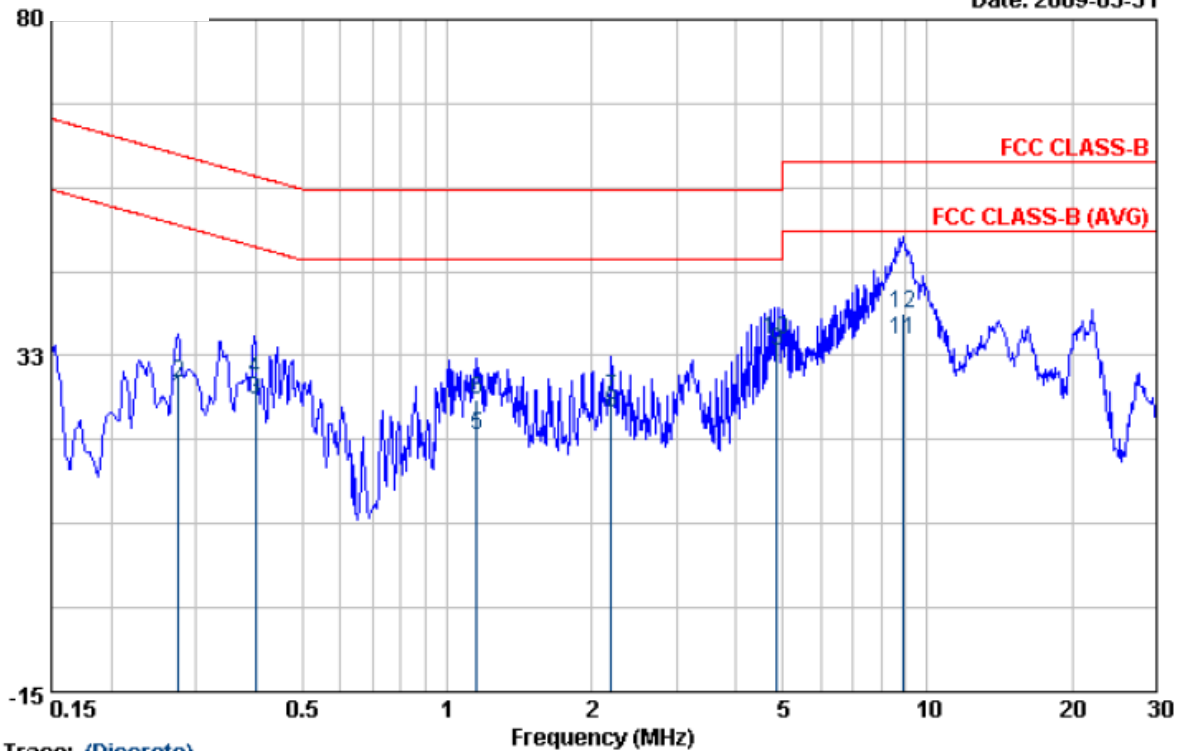
Notes:

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. According to technical experiences, all spurious emission of 802.11a mode at channel 36,44,48 are almost the same below 1GHz, so that the channel 36 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: 802.11n HT40, CH3	Temperature	: 23 °C
Memo	: EUT with USB cable	Humidity	: 52 %

Date: 2009-03-31



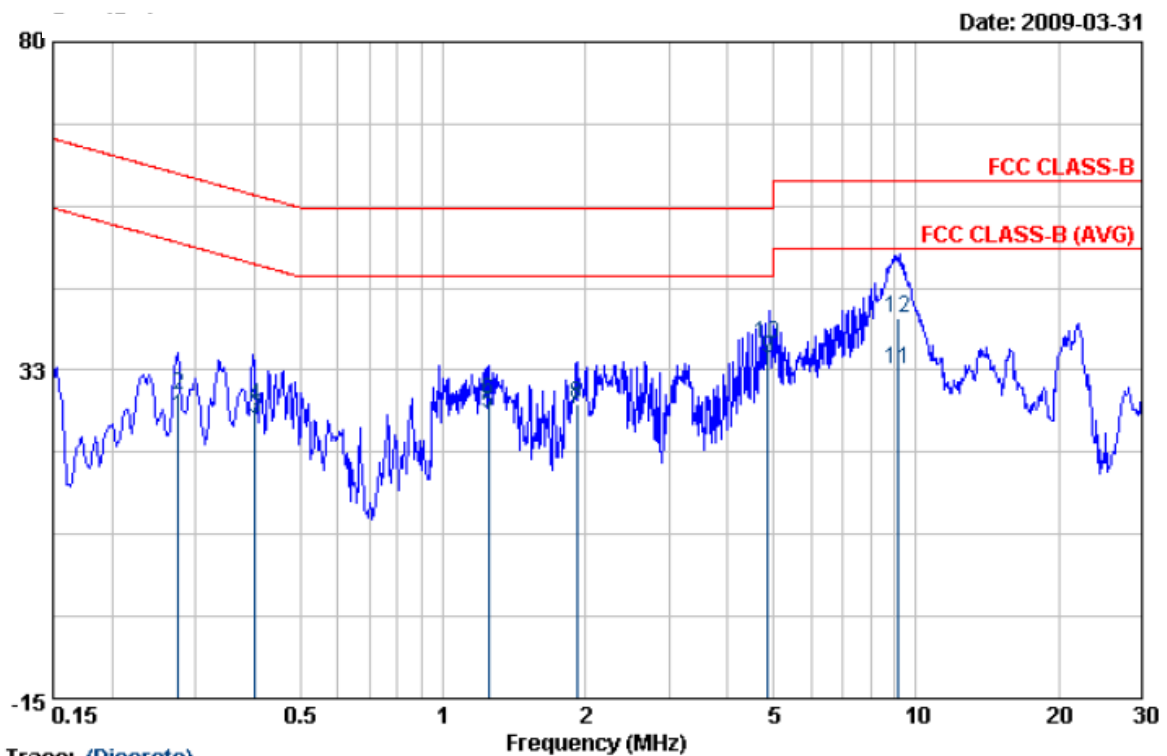
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27587	26.56	0.11	26.67	50.94	-24.27	Average
2	0.27587	28.56	0.11	28.67	60.94	-32.27	QP
3	0.39950	26.18	0.11	26.29	47.86	-21.57	AVERAGE
4	0.39950	28.97	0.11	29.08	57.86	-28.78	QP
5	1.153	21.01	0.17	21.18	46.00	-24.82	Average
6	1.153	26.01	0.17	26.18	56.00	-29.82	QP
7	2.201	26.23	0.24	26.47	46.00	-19.53	Average
8	2.201	24.23	0.24	24.47	56.00	-31.53	QP
9	4.869	32.94	0.34	33.28	46.00	-12.72	AVERAGE
10	4.869	34.44	0.34	34.78	56.00	-21.22	QP
11	8.880	34.37	0.37	34.74	50.00	-15.26	AVERAGE
12	8.880	38.13	0.37	38.50	60.00	-21.50	QP

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. According to technical experiences, all spurious emission of 802.11a mode at channel 36, 44, 48 are almost the same below 1GHz, so that the channel 36 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: 802.11n HT40, CH3	Temperature	: 23 °C
Memo	: EUT with USB cable	Humidity	: 52 %



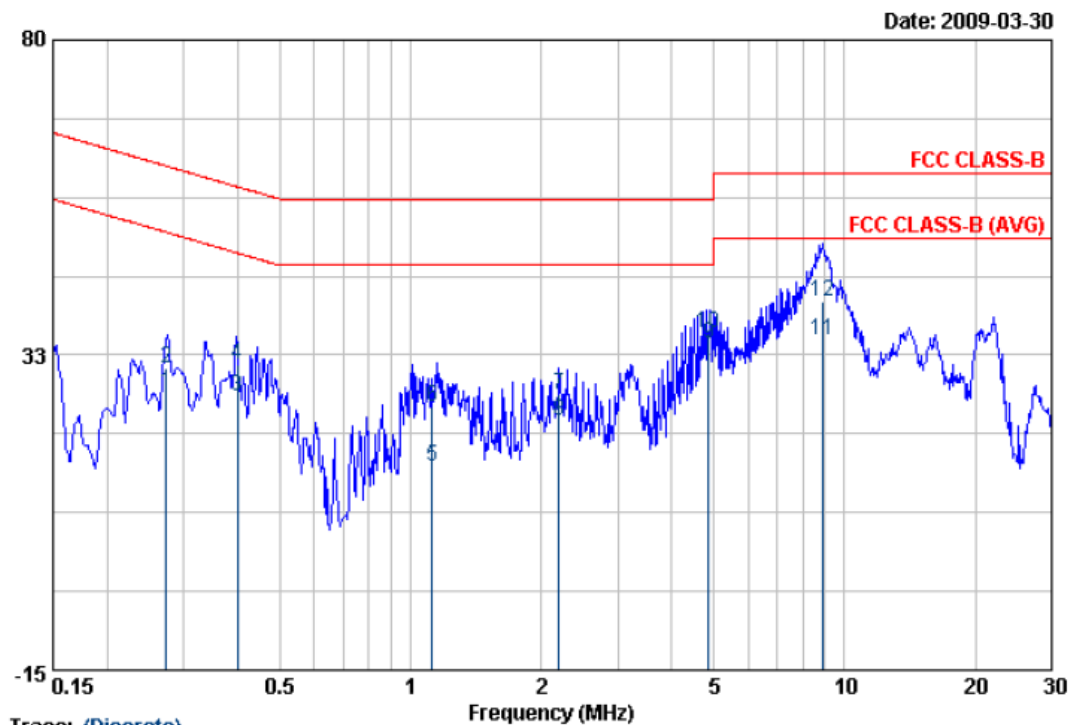
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27610	25.75	0.13	25.88	50.93	-25.05	AVERAGE
2	0.27610	28.72	0.13	28.85	60.93	-32.08	QP
3	0.40050	25.27	0.14	25.41	47.84	-22.43	AVERAGE
4	0.40050	27.16	0.14	27.30	57.84	-30.54	QP
5	1.249	26.00	0.20	26.20	46.00	-19.80	Average
6	1.249	28.00	0.20	28.20	56.00	-27.80	QP
7	1.918	26.51	0.22	26.73	46.00	-19.27	Average
8	1.918	27.51	0.22	27.73	56.00	-28.27	QP
9	4.869	33.91	0.33	34.24	46.00	-11.76	AVERAGE
10	4.869	35.89	0.33	36.22	56.00	-19.78	QP
11	9.186	32.32	0.41	32.73	50.00	-17.27	AVERAGE
12	9.186	39.55	0.41	39.96	60.00	-20.04	QP

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. According to technical experiences, all spurious emission of 802.11a mode at channel 36,44,48 are almost the same below 1GHz, so that the channel 36 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: 802.11a, CH149	Temperature	: 23 °C
Memo	: EUT with USB cable	Humidity	: 52 %



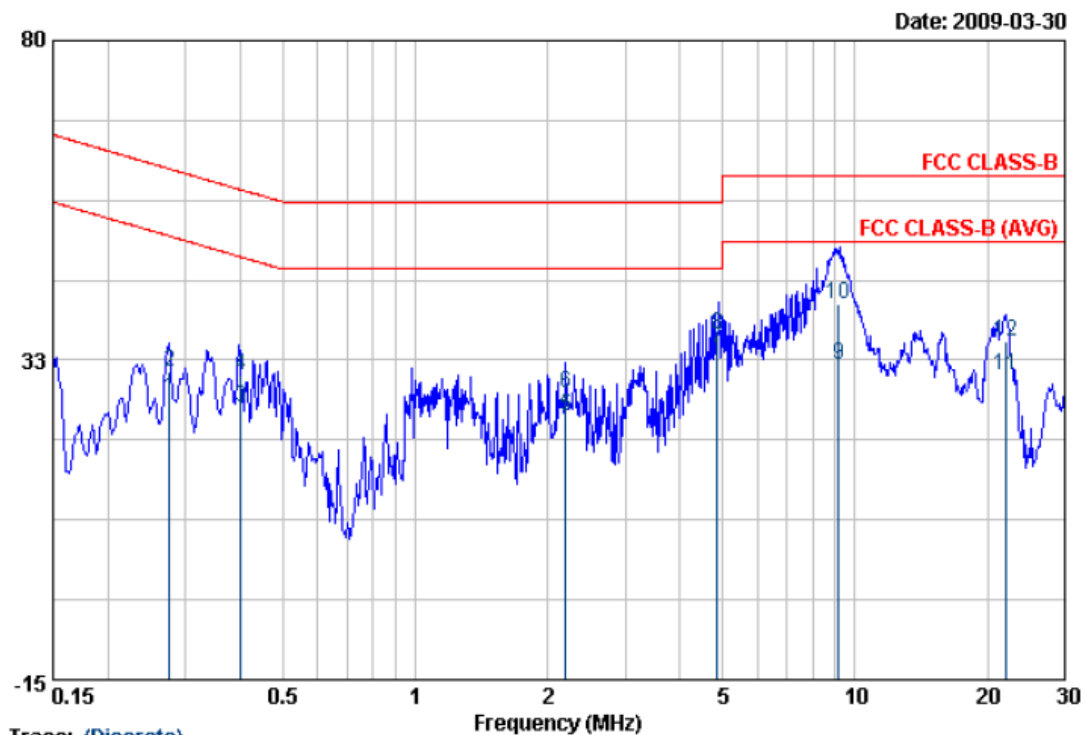
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27390	26.79	0.11	26.90	51.00	-24.10	AVERAGE
2	0.27390	30.45	0.11	30.56	61.00	-30.44	QP
3	0.39950	26.18	0.11	26.29	47.86	-21.57	AVERAGE
4	0.39950	30.97	0.11	31.08	57.86	-26.78	QP
5	1.121	15.66	0.17	15.83	46.00	-30.17	AVERAGE
6	1.121	24.56	0.17	24.73	56.00	-31.27	QP
7	2.201	26.23	0.24	26.47	46.00	-19.53	Average
8	2.201	22.23	0.24	22.47	56.00	-33.53	QP
9	4.869	33.94	0.34	34.28	46.00	-11.72	AVERAGE
10	4.869	35.44	0.34	35.78	56.00	-20.22	QP
11	8.880	34.37	0.37	34.74	50.00	-15.26	AVERAGE
12	8.880	40.13	0.37	40.50	60.00	-19.50	QP

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. According to technical experiences, all spurious emission of 802.11an HT20 mode at channel 149, 157, 165 are almost the same below 1GHz, so that the channel 149 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: 802.11a, CH149	Temperature	: 23 °C
Memo	: EUT with USB cable	Humidity	: 52 %



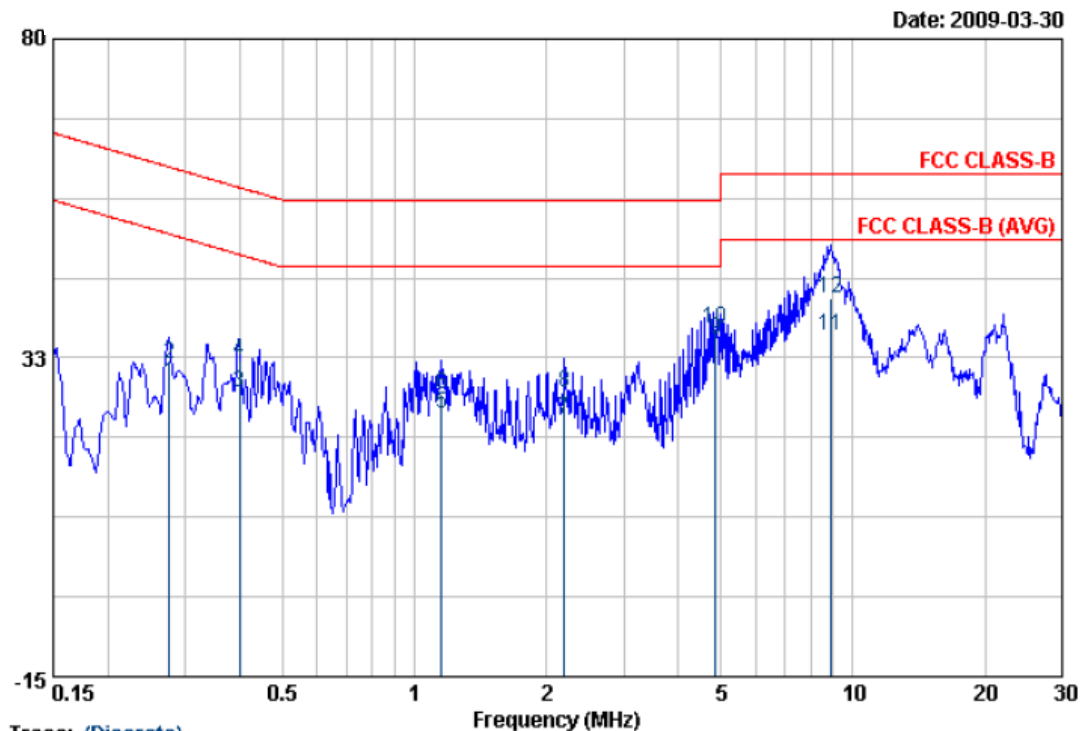
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27610	26.75	0.13	26.88	50.93	-24.05	AVERAGE
2	0.27610	30.72	0.13	30.85	60.93	-30.08	QP
3	0.40050	25.27	0.14	25.41	47.84	-22.43	AVERAGE
4	0.40050	30.16	0.14	30.30	57.84	-27.54	QP
5	2.195	23.89	0.24	24.13	46.00	-21.87	AVERAGE
6	2.195	27.35	0.24	27.59	56.00	-28.41	QP
7	4.869	33.91	0.33	34.24	46.00	-11.76	AVERAGE
8	4.869	35.89	0.33	36.22	56.00	-19.78	QP
9	9.186	31.32	0.41	31.73	50.00	-18.27	AVERAGE
10	9.186	40.55	0.41	40.96	60.00	-19.04	QP
11	21.946	29.71	0.63	30.34	50.00	-19.66	Average
12	21.946	34.71	0.63	35.34	60.00	-24.66	QP

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. According to technical experiences, all spurious emission of 802.11an HT20 mode at channel 149, 157, 165 are almost the same below 1GHz, so that the channel 149 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: 802.11an HT20, CH149	Temperature	: 23 °C
Memo	: EUT with USB cable	Humidity	: 52 %



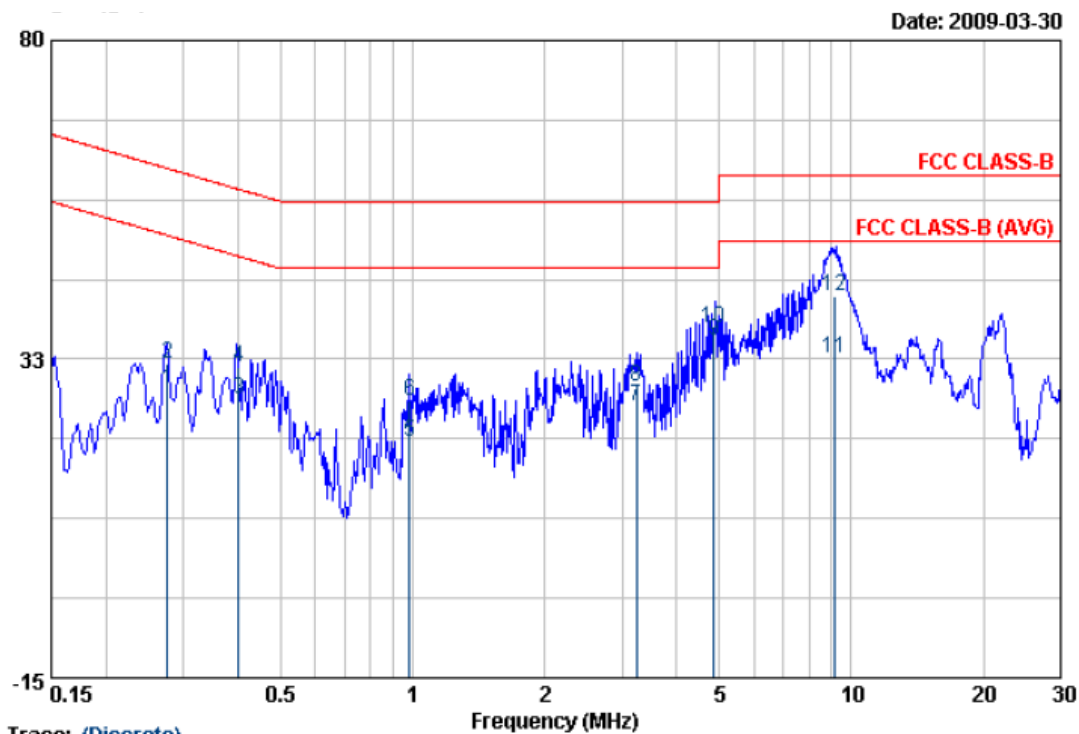
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27587	28.56	0.11	28.67	50.94	-22.27	Average
2	0.27587	31.56	0.11	31.67	60.94	-29.27	QP
3	0.39950	27.18	0.11	27.29	47.86	-20.57	AVERAGE
4	0.39950	31.97	0.11	32.08	57.86	-25.78	QP
5	1.153	24.01	0.17	24.18	46.00	-21.82	Average
6	1.153	27.01	0.17	27.18	56.00	-28.82	QP
7	2.201	23.23	0.24	23.47	46.00	-22.53	Average
8	2.201	27.23	0.24	27.47	56.00	-28.53	QP
9	4.869	34.94	0.34	35.28	46.00	-10.72	AVERAGE
10	4.869	36.44	0.34	36.78	56.00	-19.22	QP
11	8.880	35.37	0.37	35.74	50.00	-14.26	AVERAGE
12	8.880	41.13	0.37	41.50	60.00	-18.50	QP

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. According to technical experiences, all spurious emission of 802.11an HT20 mode at channel 149, 157, 165 are almost the same below 1GHz, so that the channel 149 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: 802.11an HT20, CH149	Temperature	: 23 °C
Memo	: EUT with USB cable	Humidity	: 52 %



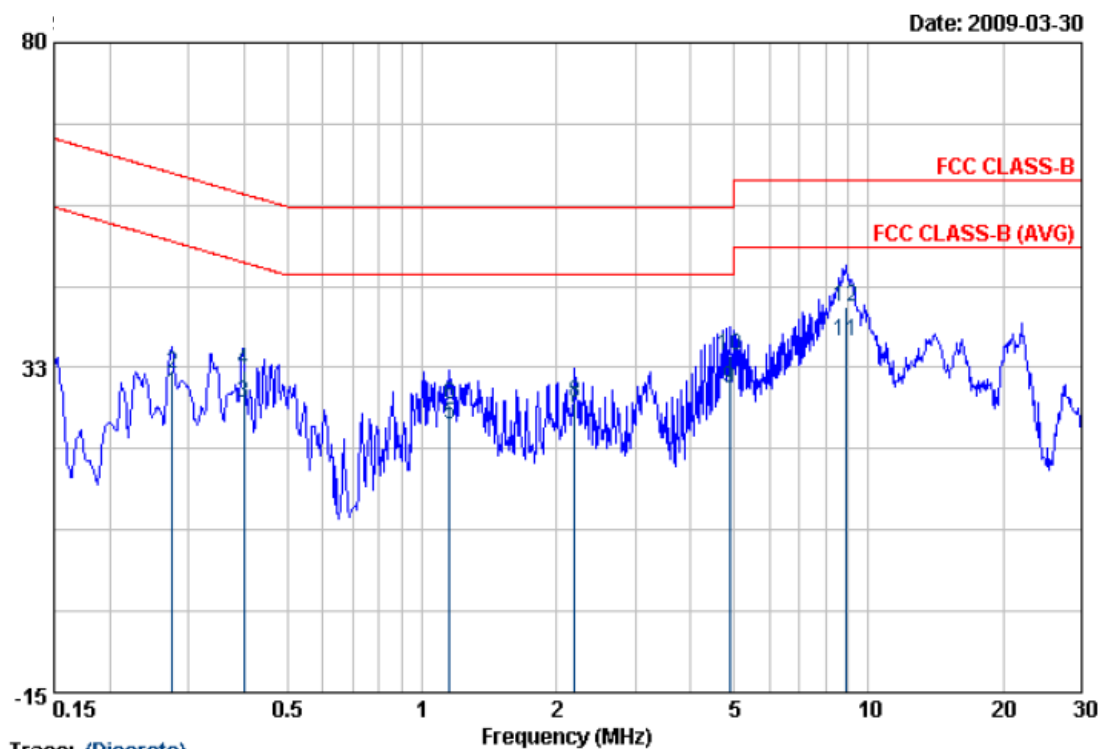
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27610	27.75	0.13	27.88	50.93	-23.05	AVERAGE
2	0.27610	31.72	0.13	31.85	60.93	-29.08	QP
3	0.40050	26.27	0.14	26.41	47.84	-21.43	AVERAGE
4	0.40050	31.16	0.14	31.30	57.84	-26.54	QP
5	0.98391	20.00	0.18	20.18	46.00	-25.82	Average
6	0.98391	26.00	0.18	26.18	56.00	-29.82	QP
7	3.241	25.24	0.28	25.52	46.00	-20.48	Average
8	3.241	28.24	0.28	28.52	56.00	-27.48	QP
9	4.869	34.91	0.33	35.24	46.00	-10.76	AVERAGE
10	4.869	36.89	0.33	37.22	56.00	-18.78	QP
11	9.186	32.32	0.41	32.73	50.00	-17.27	AVERAGE
12	9.186	41.55	0.41	41.96	60.00	-18.04	QP

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. According to technical experiences, all spurious emission of 802.11an HT20 mode at channel 149, 157, 165 are almost the same below 1GHz, so that the channel 149 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: 802.11an HT40, CH159	Temperature	: 23 °C
Memo	: EUT with USB cable	Humidity	: 52 %



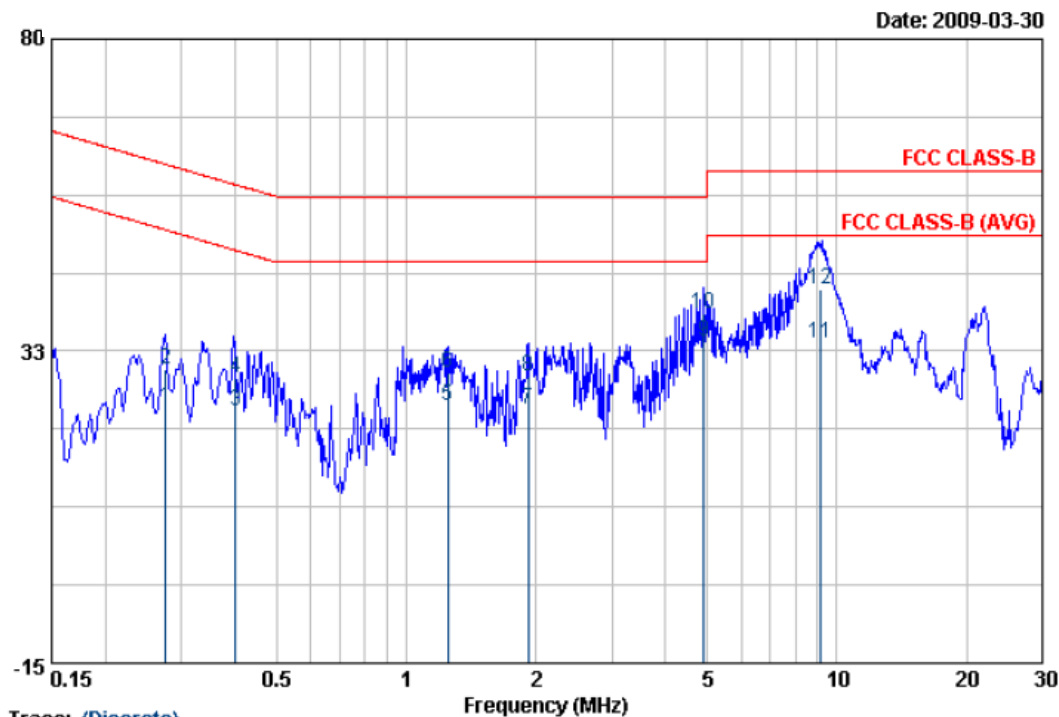
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27587	28.56	0.11	28.67	50.94	-22.27	Average
2	0.27587	31.56	0.11	31.67	60.94	-29.27	QP
3	0.39950	27.18	0.11	27.29	47.86	-20.57	AVERAGE
4	0.39950	31.97	0.11	32.08	57.86	-25.78	QP
5	1.153	24.01	0.17	24.18	46.00	-21.82	Average
6	1.153	27.01	0.17	27.18	56.00	-28.82	QP
7	2.201	26.23	0.24	26.47	46.00	-19.53	Average
8	2.201	27.23	0.24	27.47	56.00	-28.53	QP
9	4.874	28.99	0.34	29.33	46.00	-16.67	Average
10	4.874	33.99	0.34	34.33	56.00	-21.67	QP
11	8.869	36.01	0.37	36.38	50.00	-13.62	Average
12	8.869	41.01	0.37	41.38	60.00	-18.62	QP

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. According to technical experiences, all spurious emission of 802.11an HT20 mode at channel 149,157,165 are almost the same below 1GHz, so that the channel 149 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: 802.11an HT40, CH159	Temperature	: 23 °C
Memo	: EUT with USB cable	Humidity	: 52 %



Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.27610	23.75	0.13	23.88	50.93	-27.05	AVERAGE
2	0.27610	29.72	0.13	29.85	60.93	-31.08	QP
3	0.40050	23.27	0.14	23.41	47.84	-24.43	AVERAGE
4	0.40050	28.16	0.14	28.30	57.84	-29.54	QP
5	1.249	24.00	0.20	24.20	46.00	-21.80	Average
6	1.249	29.00	0.20	29.20	56.00	-26.80	QP
7	1.918	23.51	0.22	23.73	46.00	-22.27	Average
8	1.918	28.51	0.22	28.73	56.00	-27.27	QP
9	4.900	33.74	0.33	34.07	46.00	-11.93	Average
10	4.900	37.74	0.33	38.07	56.00	-17.93	QP
11	9.186	33.32	0.41	33.73	50.00	-16.27	AVERAGE
12	9.186	41.55	0.41	41.96	60.00	-18.04	QP

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. According to technical experiences, all spurious emission of 802.11an HT20 mode at channel 149, 157, 165 are almost the same below 1GHz, so that the channel 149 was chosen as representative in final test.
5. The data is worse case.

Test engineer:



5. Test of Radiated Emission

5.1 Test Limit

Radiated emissions from 30 MHz to 40 GHz were measured according to the methods defines in ANSI C63.4-2003. 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.

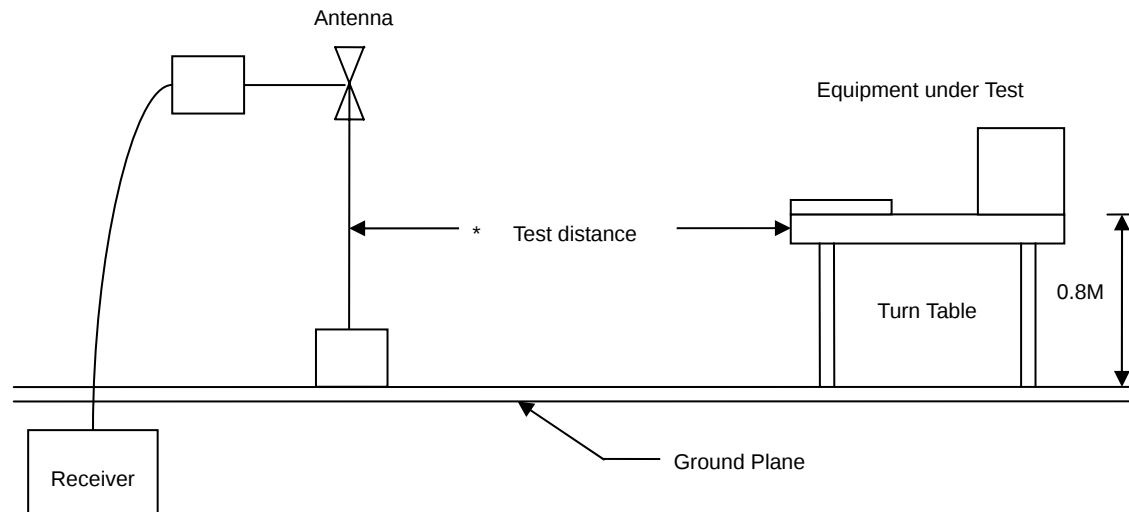
Frequency (MHz)	Distance Meters	Radiated (dB μ V/ M)
30-230	10	30
230-1000	10	37

5.2 Test Procedures

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



5.3 Typical Test Setup



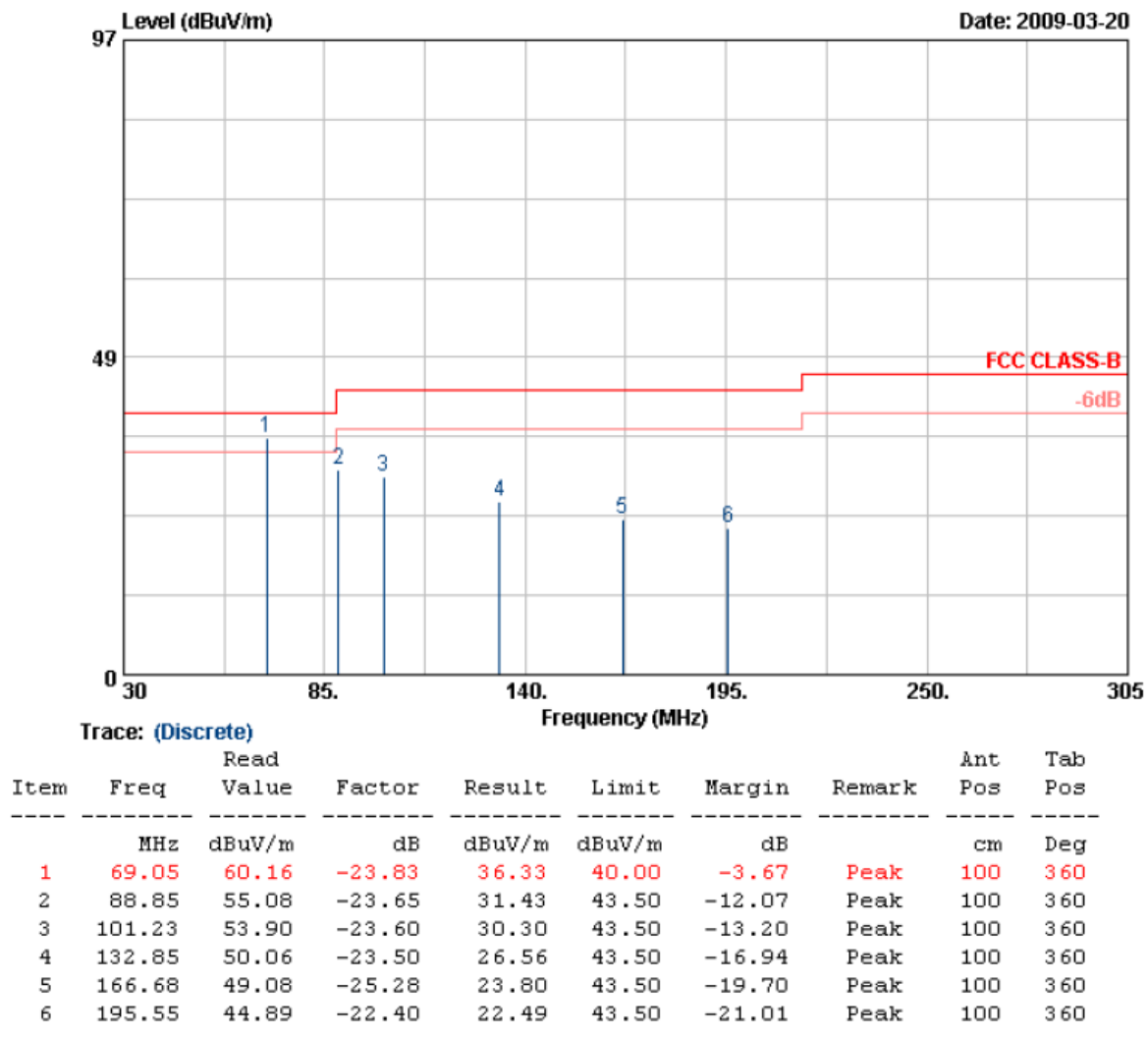
5.4 Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Bilog Antenna	CBL6112B	Schaffner	2840	2008/05/15	2009/05/14
Signal Generator	8648B	HP	3629U00612	2008/10/08	2009/10/07
Amplifier	8447D	Agilent	2944A10593	2008/05/26	2009/05/25
EMI Receiver	8546A	HP	3807A00454	2008/08/07	2009/08/06
Spectrum	FSP40	R&S	100047	2009/02/21	2010/02/20
Horn Antenna	3115	EMCO	31589	2008/04/01	2009/03/30
Amplifier	8449B	Agilent	3008A01954	2009/01/23	2010/01/22



5.5 Test Result and Data

Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: 802.11g, CH1	Temperature	: 25 °C
Memo	: EUT with PC	Humidity	: 65 %

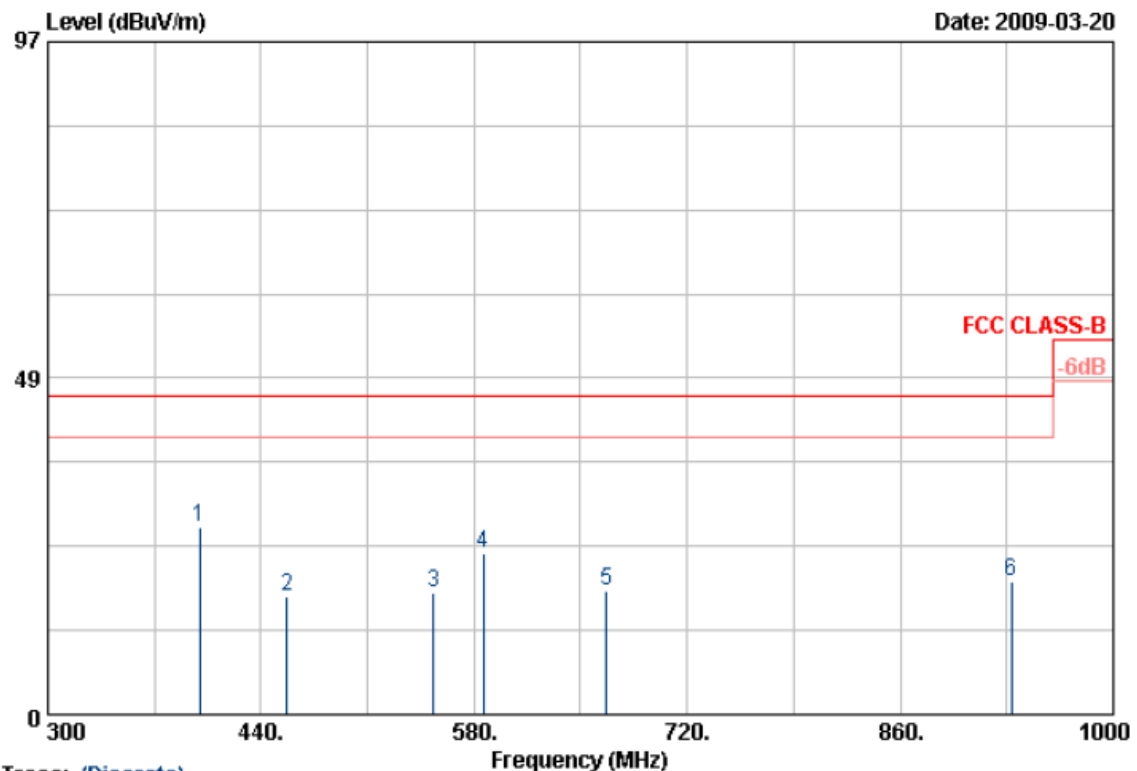


Notes:

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 mode are all the same, so the 802.11g mode chosen as representative in final test.
5. According to technical experiences, all spurious emission of 802.11g mode at channel 1, 6, 11 are almost the same below 1GHz, so that the channel 1 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	: 25 °C
Memo	: EUT with PC	Humidity	: 65 %



Trace: (Discrete)

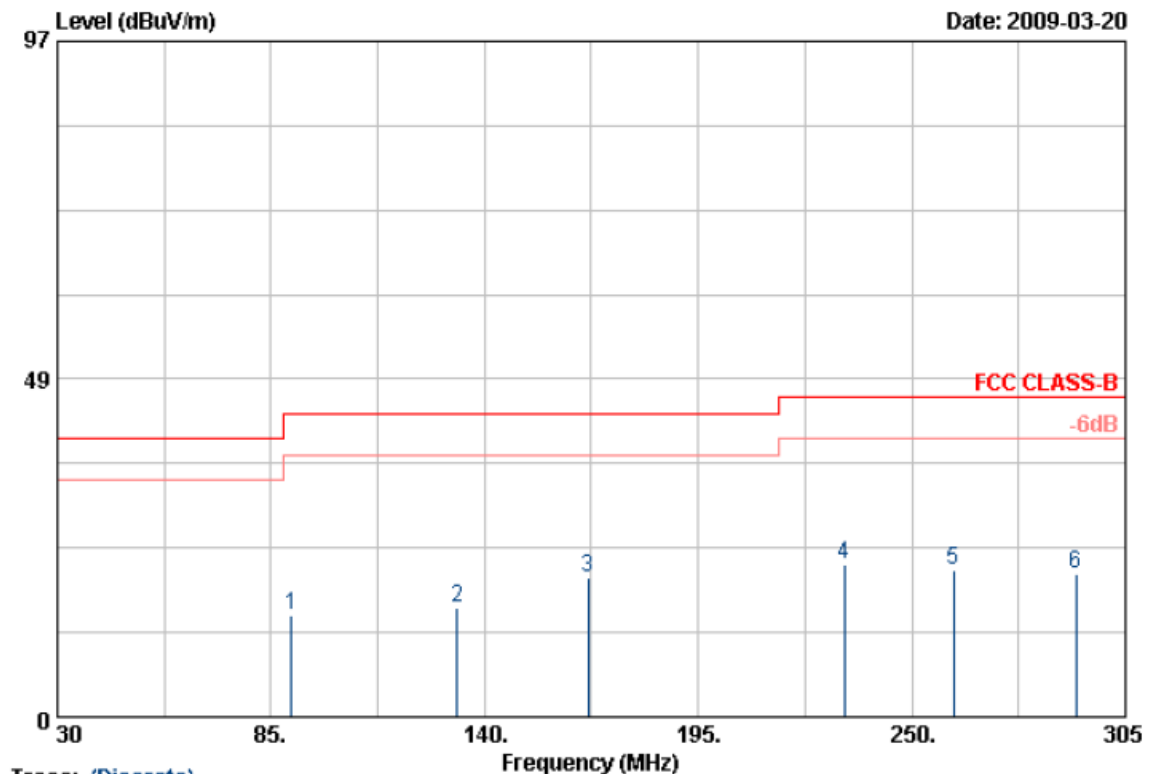
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	399.40	52.34	-25.42	26.92	46.00	-19.08	Peak	150	360
2	456.80	44.09	-27.10	16.99	46.00	-29.01	Peak	150	360
3	553.40	42.38	-24.70	17.68	46.00	-28.32	Peak	150	360
4	586.30	49.71	-26.42	23.29	46.00	-22.71	Peak	150	360
5	666.80	44.80	-26.91	17.89	46.00	-28.11	Peak	150	360
6	932.80	41.70	-22.41	19.29	46.00	-26.71	Peak	150	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 mode are all the same, so the 802.11g mode chosen as representative in final test.
5. According to technical experiences, all spurious emission of 802.11g mode at channel 1, 6, 11 are almost the same below 1GHz, so that the channel 1 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	: 25 °C
Memo	: EUT with PC	Humidity	: 65 %



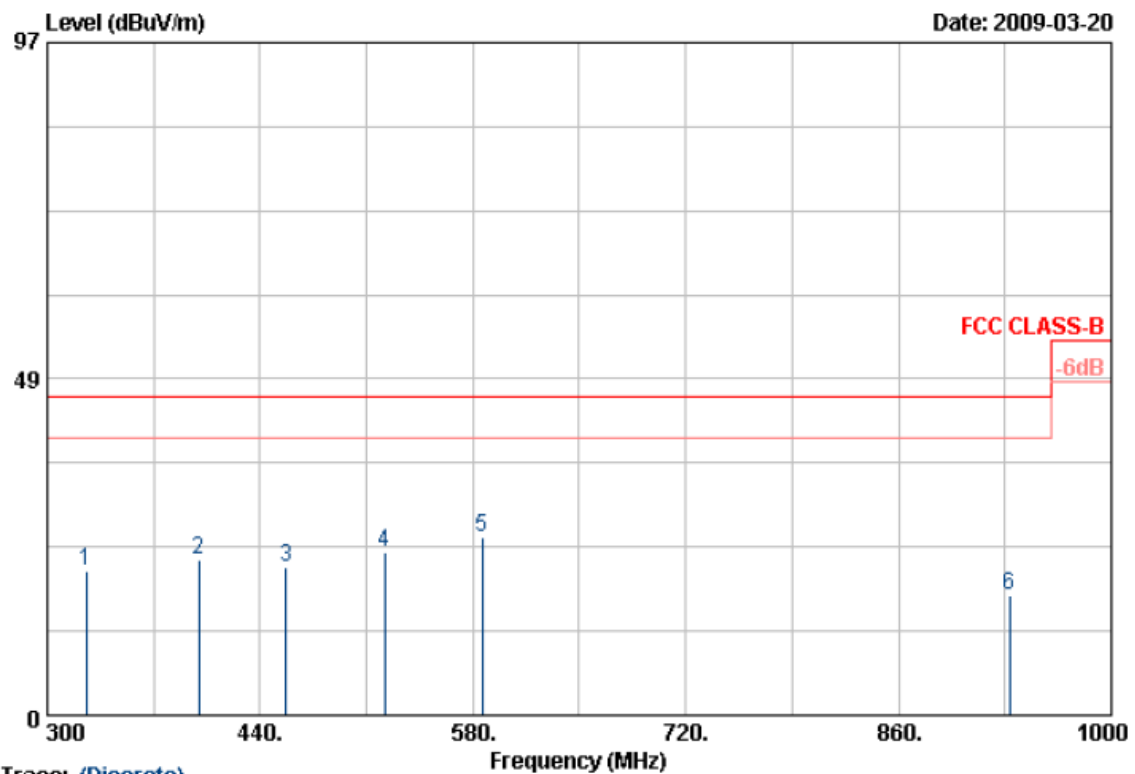
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	90.23	45.40	-30.86	14.54	43.50	-28.96	Peak	100	360
2	132.85	46.37	-30.79	15.58	43.50	-27.92	Peak	100	360
3	166.68	50.37	-30.40	19.97	43.50	-23.53	Peak	100	360
4	232.68	51.91	-30.09	21.82	46.00	-24.18	Peak	100	360
5	260.73	49.60	-28.65	20.95	46.00	-25.05	Peak	100	360
6	292.35	48.86	-28.26	20.60	46.00	-25.40	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 mode are all the same, so the 802.11g mode chosen as representative in final test.
5. According to technical experiences, all spurious emission of 802.11g mode at channel 1, 6, 11 are almost the same below 1GHz, so that the channel 1 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	: 25 °C
Memo	: EUT with PC	Humidity	: 65 %



Trace: (Discrete)

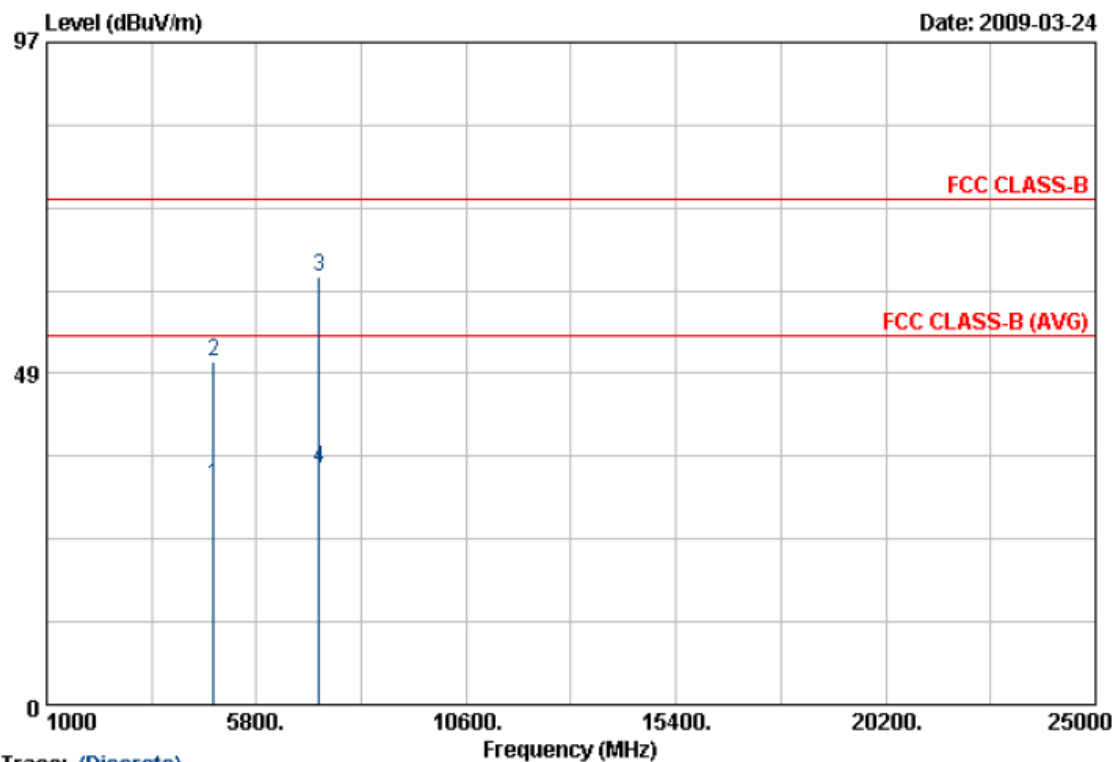
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	325.90	48.88	-28.00	20.88	46.00	-25.12	Peak	150	360
2	399.40	51.32	-28.96	22.36	46.00	-23.64	Peak	150	360
3	456.80	45.75	-24.49	21.26	46.00	-24.74	Peak	150	360
4	521.90	49.60	-26.12	23.48	46.00	-22.52	Peak	150	360
5	586.30	49.33	-23.60	25.73	46.00	-20.27	Peak	150	360
6	932.80	41.32	-24.03	17.29	46.00	-28.71	Peak	150	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 mode are all the same, so the 802.11g mode chosen as representative in final test.
5. According to technical experiences, all spurious emission of 802.11g mode at channel 1, 6, 11 are almost the same below 1GHz, so that the channel 1 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	: 25 °C
Memo	: EUT with PC	Humidity	: 60 %



Trace: (Discrete)

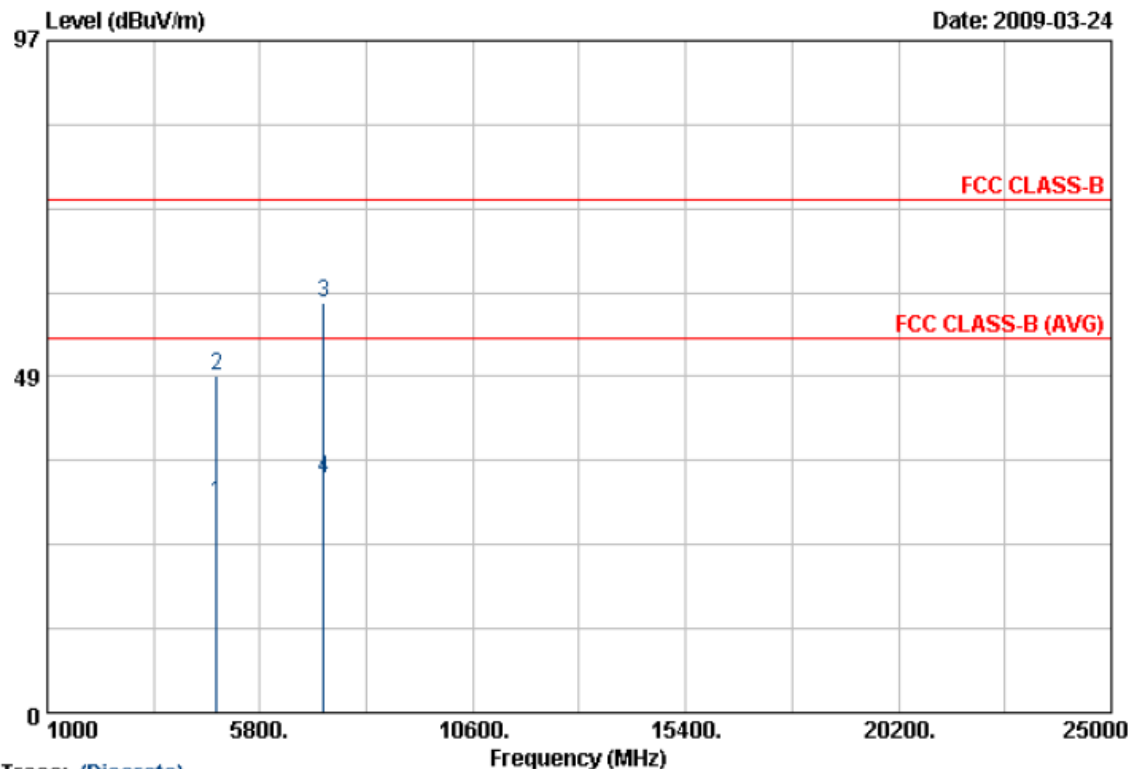
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	4823.990	25.85	6.37	32.22	54.00	-21.78	Average	150	180
2	4824.090	43.83	6.37	50.20	74.00	-23.80	Peak	150	180
3	7238.110	47.12	15.50	62.62	74.00	-11.38	Peak	150	180
4	7238.840	18.96	15.50	34.46	54.00	-19.54	Average	150	180

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.



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: 802.11b, CH1	Temperature	: 25 °C
Memo	: EUT with PC	Humidity	: 60 %



Trace: (Discrete)

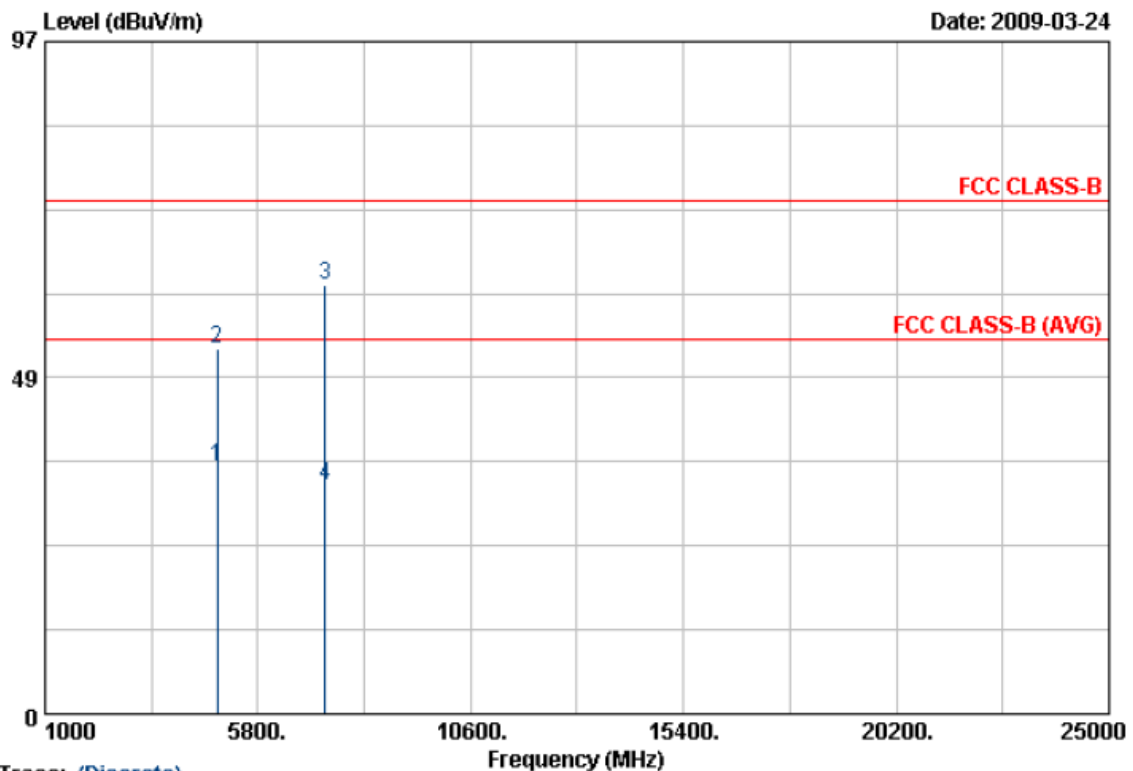
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	4824.070	25.22	5.06	30.28	54.00	-23.72	Average	150	62
2	4827.710	43.41	5.09	48.50	74.00	-25.50	Peak	150	62
3	7231.390	46.47	12.60	59.07	74.00	-14.93	Peak	150	62
4	7238.770	21.01	12.65	33.66	54.00	-20.34	Average	150	62

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.



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: 802.11b, CH6	Temperature	: 25 °C
Memo	: EUT with PC	Humidity	: 60 %



Trace: (Discrete)

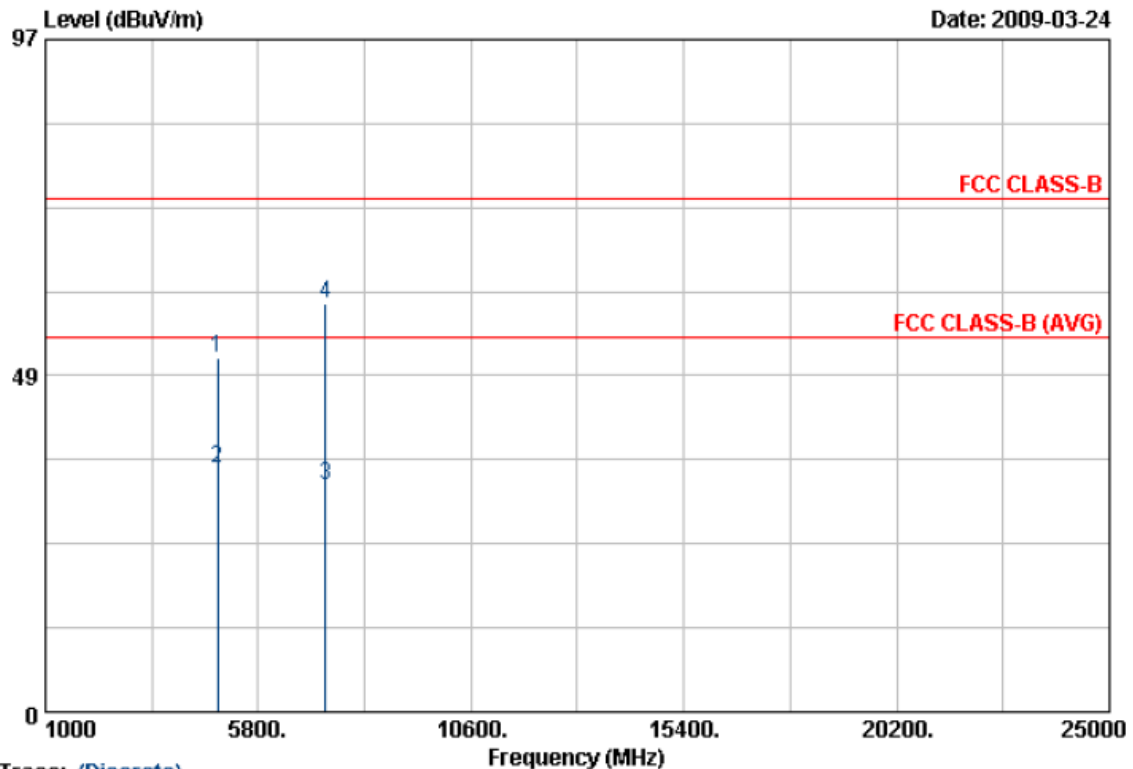
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	4873.990	28.92	6.77	35.69	54.00	-18.31	Average	150	180
2	4874.020	45.96	6.77	52.73	74.00	-21.27	Peak	150	180
3	7307.170	45.95	15.95	61.90	74.00	-12.10	Peak	150	180
4	7308.100	17.11	15.95	33.06	54.00	-20.94	Average	150	180

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.



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: 802.11b, CH6	Temperature	: 25 °C
Memo	: EUT with PC	Humidity	: 60 %



Trace: (Discrete)

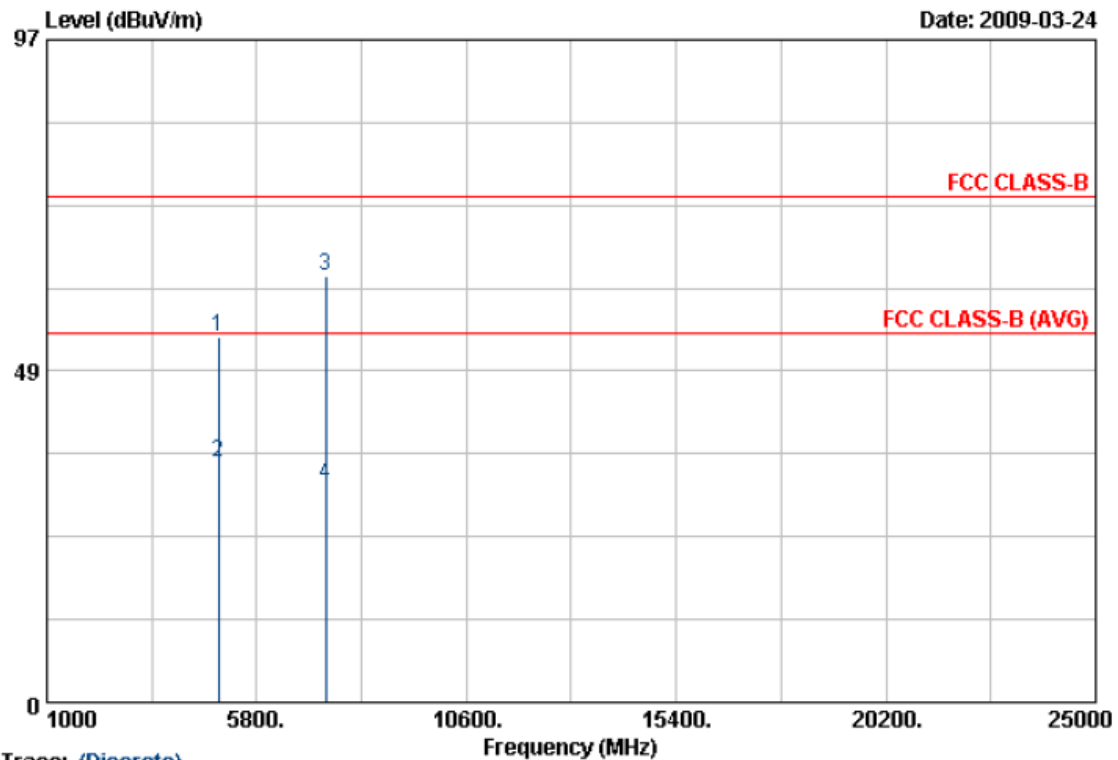
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	4873.900	45.62	5.31	50.93	74.00	-23.07	Peak	150	60
2	4874.030	29.75	5.31	35.06	54.00	-18.94	Average	150	60
3	7308.180	19.62	13.08	32.70	54.00	-21.30	Average	150	60
4	7312.520	45.80	13.12	58.92	74.00	-15.08	Peak	150	60

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.



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: 802.11b, CH11	Temperature	: 25 °C
Memo	: EUT with PC	Humidity	: 60 %



Trace: (Discrete)

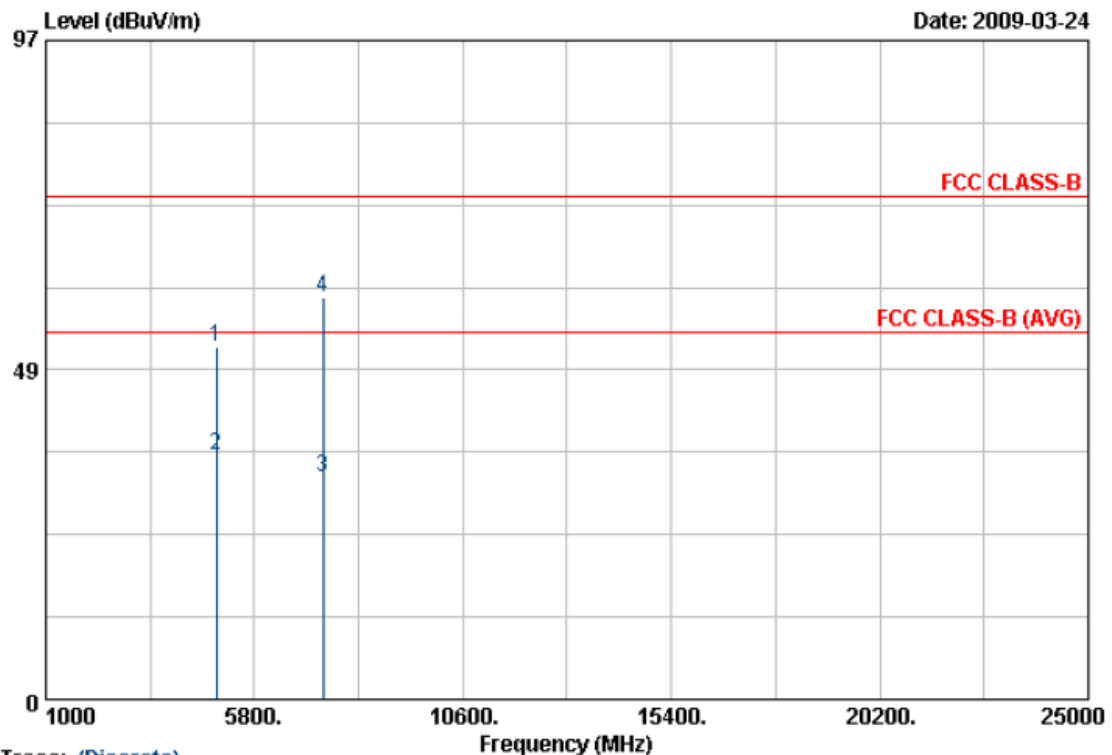
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	4923.640	46.23	7.18	53.41	74.00	-20.59	Peak	150	180
2	4924.010	27.98	7.18	35.16	54.00	-18.84	Average	150	180
3	7382.040	45.87	16.43	62.30	74.00	-11.70	Peak	150	180
4	7383.120	15.36	16.43	31.79	54.00	-22.21	Average	150	180

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.



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: 802.11b, CH11	Temperature	: 25 °C
Memo	: EUT with PC	Humidity	: 60 %



Trace: (Discrete)

Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	4924.020	46.36	5.55	51.91	74.00	-22.09	Peak	150	60
2	4924.050	30.25	5.55	35.80	54.00	-18.20	Average	150	60
3	7383.060	19.16	13.55	32.71	54.00	-21.29	Average	150	60
4	7383.200	45.50	13.55	59.05	74.00	-14.95	Peak	150	60

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.