



FCC TEST REPORT

According to

FCC Rules and Regulations

Part 15 Subpart E

Applicant : Motorola, Inc.
Address : 46653 Frenont Blvd, Fremont, CA 94538
Equipment : Motorola 802.11n USB Adapter
Model No. : TER-NUSB1
FCC ID : GZ5TERNUSB1
Trade Name : Motorola

Laboratory accreditation



- The test result refers exclusively to the test presented test model / sample.,
- The test result does not include DFS test for 5250 ~ 5350 MHz.
- Without written approval of **CerpPASS 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

- 1. Report of Measurements and Examinations.....5
 - 1.1. List of Measurements and Examinations5
- 2. Test Configuration of Equipment under Test.....6
 - 2.1. Feature of Equipment under Test.....6
 - 2.2. Carrier Frequency of Channels6
 - 2.3. Test Mode and Test Software7
 - 2.4. Description of Test System.....7
 - 2.5. Connection Diagram of Test System.....8
 - 2.6. General Information of Test.....9
 - 2.7. History of this test report10
- 3. Antenna Requirements11
 - 3.1. Standard Applicable11
 - 3.2. Antenna Construction and Directional Gain.....11
- 4. Test of Conducted Emission12
 - 4.1. Test Procedures12
 - 4.2. Typical Test Setup Layout of Conducted Emission12
 - 4.3. Conducted Emission Requirement13
 - 4.4. Measurement Equipment.....13
 - 4.5. Test Result and Data14
 - 4.6. Test Photographs20
- 5. Test of Radiated Emission21
 - 5.1. Test Procedures21
 - 5.2. Typical Test Setup Layout of Radiated Emission22
 - 5.3. Measurement Equipment.....22
 - 5.4. Test Result of Radiated Emission23
 - 5.5. Photographs of Radiated Emission Test51
- 6. Peak Transmit Power.....52
 - 6.1. Test Procedure52
 - 6.2. Test Setup Layout52
 - 6.3. Measurement Equipment.....52
 - 6.4. Test Result and Data53
- 7. Peak Power Excursion62
 - 7.1. Test Procedure62
 - 7.2. Test Setup Layout62
 - 7.3. Measurement Equipment.....62
 - 7.4. Test Result and Data62
- 8. Peak Power Spectral Density.....67
 - 8.1. Test Procedure67
 - 8.2. Test Setup Layout67
 - 8.3. Measurement Equipment.....67
 - 8.4. Test Result and Data67
- 9. Frequency Stability.....72
 - 9.1. Test Procedure72
 - 9.2. Test Setup Layout72
 - 9.3. Measurement Equipment.....72



9.4. Test Result and Data	73
10. Band Edges Measurement	74
10.1. Test Procedure	74
10.2. Measurement Equipment.....	74
10.3. Test Result and Data	74
10.4. Restrict Band Emission Measurement Data	77
11. Restricted Bands of Operation.....	79
11.1. Labeling Requirement.....	79
Appendix A. Photographs of EUT.....	A1 ~ A3



CERTIFICATE OF COMPLIANCE

According to

FCC Rules and Regulations

Part 15 Subpart E

Applicant : Motorola, Inc.
Address : 46653 Frenont Blvd, Fremont, CA 94538
Equipment : Motorola 802.11n USB Adapter
Model No. : TER-NUSB1
FCC ID : GZ5TERNUSB1

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 E (2003)**.

The test was carried out on Jun. 30, 2009 at CerpPASS 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

For Frequency 5.15GHz ~ 5.25GHZ

Applied Standard : FCC Part 15, Subpart E (Section 15.407)		
FCC Rule	Description of Test	Result
15.407(b)(5)	. Conducted Emission	Pass
15.407(b/1/2/3)(b)(5)	. Radiated Emission	Pass
15.407(a/1/2/3)	. Peak Transmit Power	Pass
15.407(a)(6)	. Peak Power Excursion	Pass
15.407(a/1/2/3)	. Peak Power Spectral Density	Pass
15.407(g)	. Frequency Stability	Pass



2. Test Configuration of Equipment under Test

2.1. Feature of Equipment under Test

Standards:	IEEE802.11a, IEEE 802.11b, IEEE 802.11g, Draft 802.11n compliant
Computer Slot Type:	USB
Chipset:	Ralink RT2770(MAC/BB), RT2750(RF)
Tx:	1
Rx:	2
Operating Frequency:	2.4 ~ 2.4835 GHz 5.150~5.250GHz, 5.725~5.825GHz
Modulation Technique:	
Draft 802.11n:	BPSK, QPSK, 16-QAM, 64-QAM
802.11a/g:	OFDM
802.11b:	CCK,QPSK,BPSK
Media Access Protocol:	CSMA/CA
Operating Voltage:	5V +/- 5%
Transmit Power:	802.11n: 13.5 +/- 1 dBm 802.11a/g: 13.5 +/- 1 dBm 802.11b: 17 +/- 1 dBm
Security:	WPA/WPA2; 128-bit TKIP/AES encryption, 40/64-, 128-bit WEP shared-key encryption 802.1x, and EAP-TLS, and PEAP authentication
OS Requirements:	Windows Vista/XP
Antenna Type / Gain:	PCB Antenna / 3.89dBi PCB Antenna/ 1.73dBi

2.2. Carrier Frequency of Channels

802.11a, 802.11an HT20 (5150 ~ 5250MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
36	5180	48	5240
40	5200	---	---
44	5220	---	---

802.11 an HT40 (5150 ~ 5250MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
38	5190	46	5230
42	5210	---	---



2.3. Test Mode and Test Software

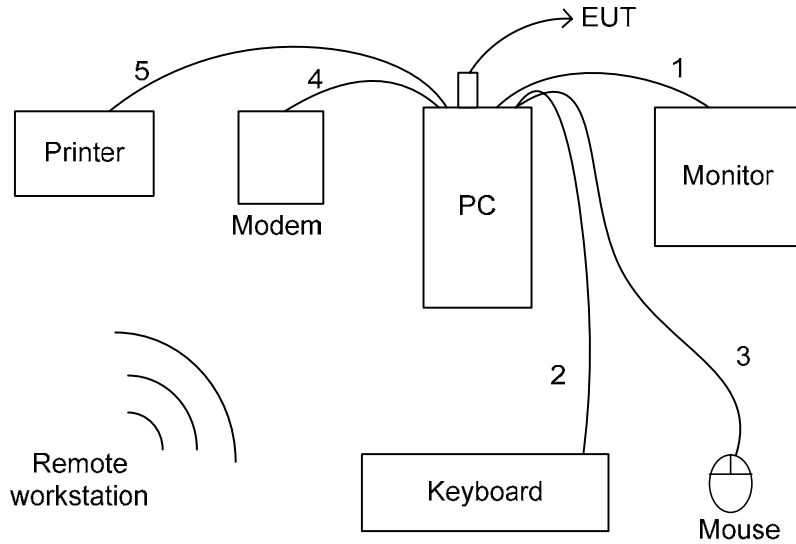
- a. During testing, the interface cables and equipment positions were varied according to ANSI C63.4.
- b. The complete test system included remote workstation, PC, Monitor, Keyboard, Mouse, Modem, Printer and EUT for EMI test. The remote workstation includes Notebook.
- c. An executive program, "Ping.exe" under WIN XP, which transmits and receives data to the remote workstation through Wireless.
- d. The following test modes were performed for test:
 - 802.11a/an, HT20: CH 36: 5180MHz, CH 44: 5220MHz, CH 48: 5240MHz
 - 802.11an, HT40: CH 38: 5190MHz, CH 46: 5230MHz

2.4. Description of Test System

Device	Manufacturer	Model No.	Description
PC	IBM	IGV	Power Cable, Unshielding 1.8 m
Monitor	ViewSonic	G90fB	Power Cable, Adapter Unshielding 1.8 m Data Cable, VGA Shielding 1.35 m
Keyboard	IBM	KB-0225	Data Cable, PS2 Shielding 1.85 m
Mouse	IBM	MU29J	Data Cable, PS2 Shielding 1.85 m
Modem	ACEXX	DM-1414	Power Cable, Adapter Unshielding 1.8 m Data Cable, RS232 Shielding 1.35 m
Printer	HP	Desk Jet 400	Power Cable, Adapter Unshielding 1.8 m Data Cable, Print Shielding 1.6 m
Remote Workstation			
Notebook	Toshiba	PSA50T-05M 00C	Power Cable, Adapter Unshielding 1.8m



2.5. Connection Diagram of Test System



1. The VGA cable is connected from PC to the Monitor.
 2. The PS2 cable is connected from PC to the PS2 Keyboard.
 3. The PS2 cable is connected from PC to the PS2 Mouse.
 4. The RS232 cable is connected from PC to the Modem.
 5. The Print cable is connected from PC to the Printer.
- * The EUT keeps to transmit and receive data to remote workstation by Wireless.

**2.6. General Information of Test**

Test Site:	CerpPASS 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 :	TW1049, 488071, 982971
IC Registration Number :	4934C-1, 4934D-1
VCCI Registration Number :	T-543 for Telecommunication Test C-3328 for Conducted emission test R-3013 for Radiated emission test
Test Voltage:	AC 120V/ 60Hz
Test in Compliance with:	ANSI C63.4-2003 FCC Part 15 Subpart E
Frequency Range Investigated:	AC Power Conducted Emission : from 150kHz to 30 MHz Radiated and conducted Emission: from 30 MHz to 40 GHz
Test Distance:	The test distance of radiated emission from antenna to EUT is 3 M.



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 15.407 (a), 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 1: PCB Antenna, 3.89 dBi (2.4GHz Band)

Antenna L: PCB Antenna, 1.73 dBi (5GHz Band)

Note:

1. For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or $4 \text{ dBm} + 10\log B$, where B is the 26-dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

2. For the band 5.725-5.825 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1 W or $17 \text{ dBm} + 10\log B$, where B is the 26-dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 17 dBm in any 1-MHz band.

If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain up to 23 dBi without any corresponding reduction in the transmitter peak output power or peak power spectral density.

For fixed, point-to-point U-NII transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in peak transmitter power and peak power spectral density for each 1 dB of antenna gain in excess of 23 dBi would be required.

Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.



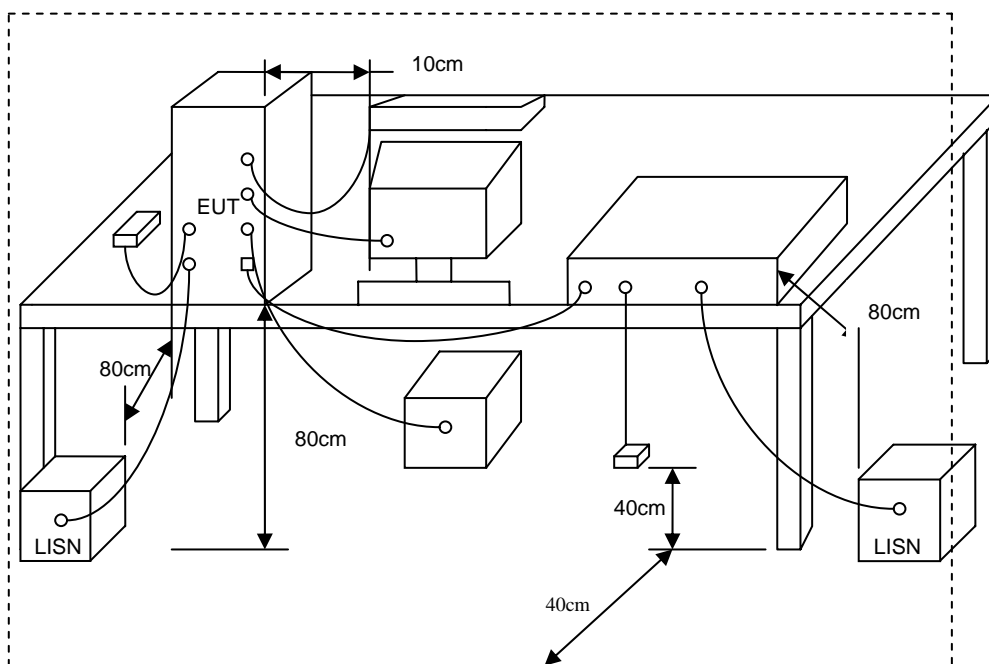
4. Test of Conducted Emission

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 1.3.1. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

4.1. 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.

4.2. Typical Test Setup Layout of Conducted Emission





4.3. Conducted Emission Requirement

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.

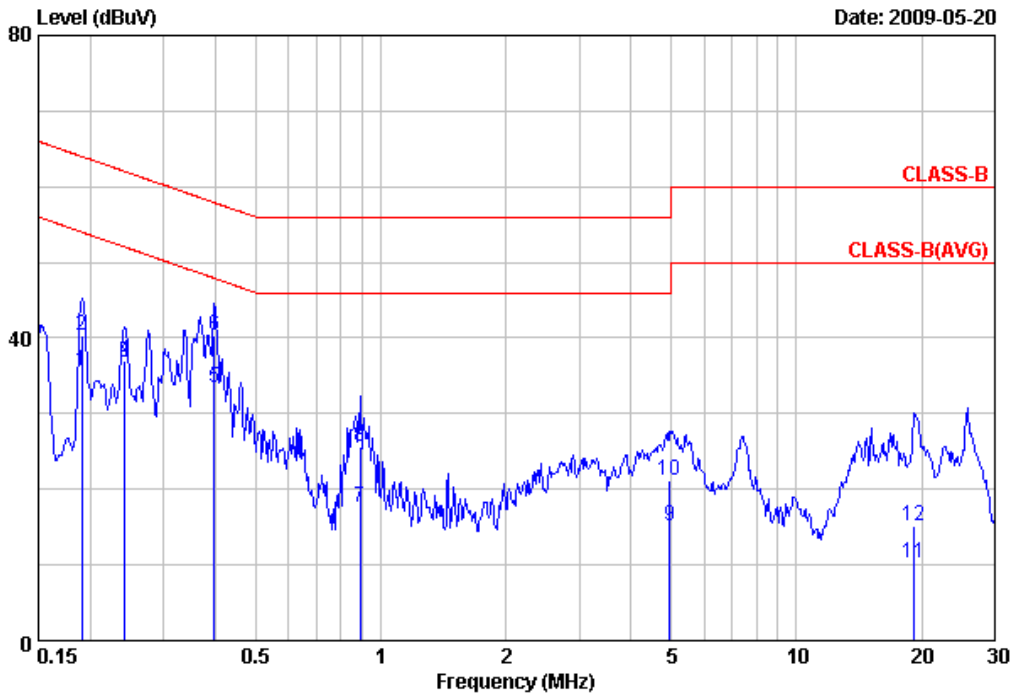
4.4. Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date.
EMI Receiver	R&S	ESCI	100443	2008/09/27	2009/09/26
LISN	NSLK 8127	Schwarzbeck	8127-516	2009/05/15	2010/05/14
LISN	Rolf Heine	NNB-2/16Z	03/10058	2009/04/18	2010/04/17



4.5. Test Result and Data

Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: 802.11a, CH36	Temperature	: 25 °C
Memo	:	Humidity	: 56 %



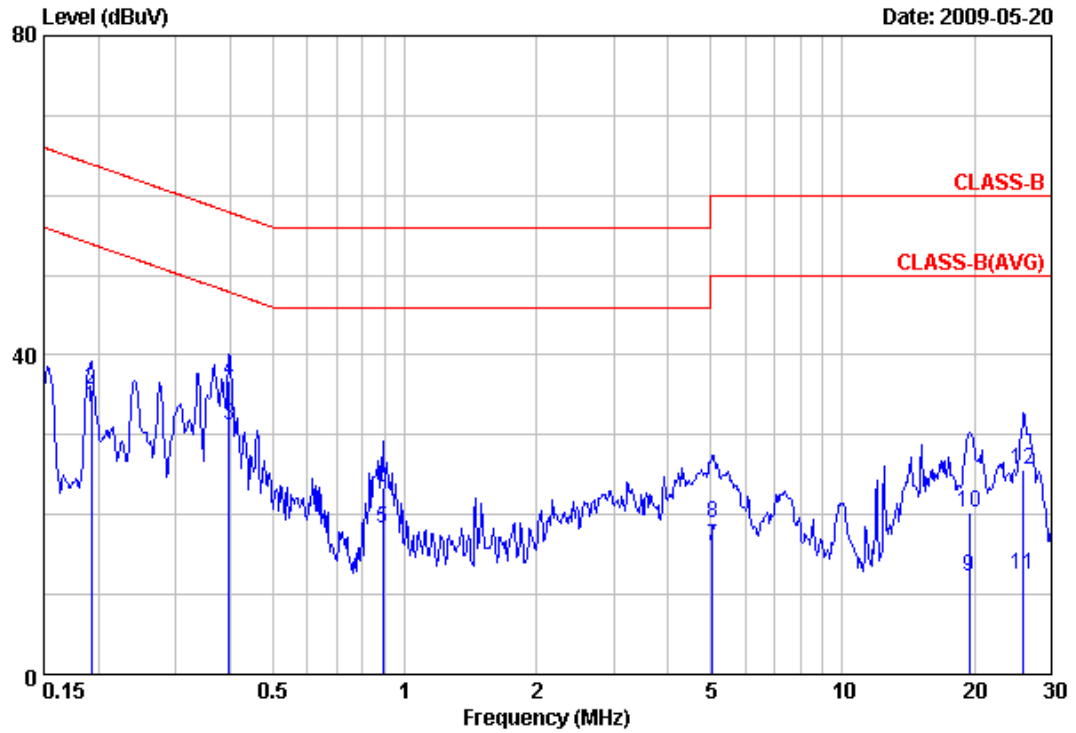
Item	Freq MHz	Read		Result dBuV/m	Limit dBuV/m	Margin dB	Remark
		Value dBuV/m	Factor dB				
1	0.19	35.56	0.09	35.65	54.02	-18.37	Average
2	0.19	40.16	0.09	40.25	64.02	-23.77	QP
3	0.24	36.77	0.09	36.86	52.04	-15.18	Average
4	0.24	36.82	0.09	36.91	62.04	-25.13	QP
5	0.40	33.24	0.08	33.32	47.90	-14.58	Average
6	0.40	40.15	0.08	40.23	57.90	-17.67	QP
7	0.89	17.53	0.11	17.64	46.00	-28.36	Average
8	0.89	25.54	0.11	25.65	56.00	-30.35	QP
9	4.95	14.92	0.21	15.13	46.00	-30.87	Average
10	4.95	21.02	0.21	21.23	56.00	-34.77	QP
11	19.22	10.00	0.23	10.23	50.00	-39.77	Average
12	19.22	15.00	0.23	15.23	60.00	-44.77	QP

Notes:

1. Result = Read Value + Factor
2. Factor = LISN(ISN) Factor + Cable Loss
3. 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.
4. The data is worse case.



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: 802.11a, CH36	Temperature	: 25 °C
Memo	:	Humidity	: 56 %



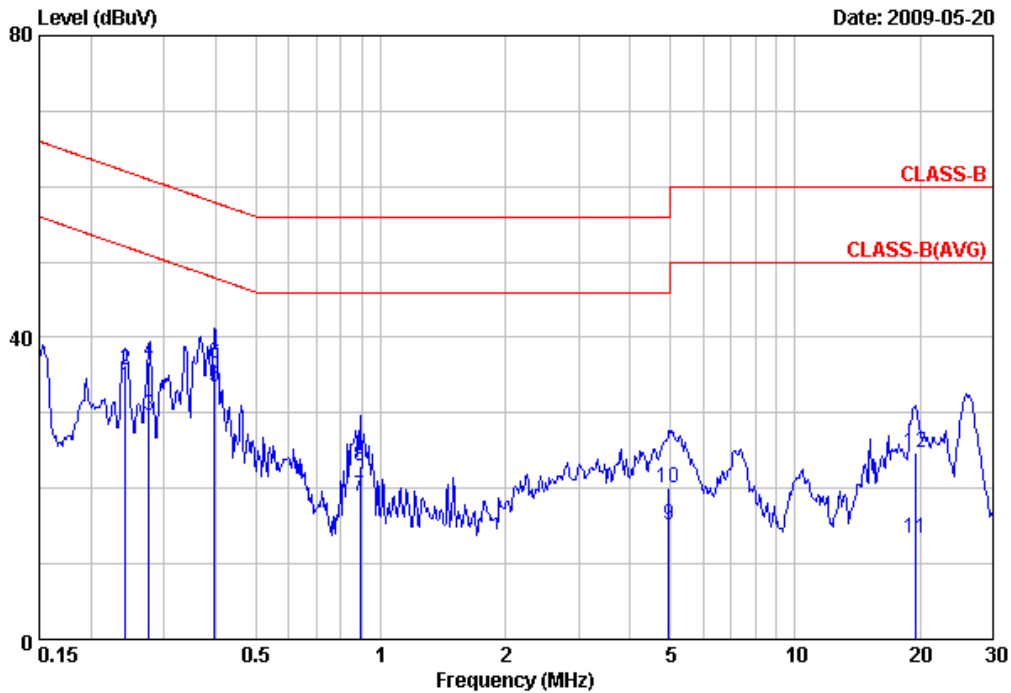
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.19	33.33	0.12	33.45	53.93	-20.48	Average
2	0.19	35.50	0.12	35.62	63.93	-28.31	QP
3	0.40	31.04	0.11	31.15	47.90	-16.75	Average
4	0.40	36.55	0.11	36.66	57.90	-21.24	QP
5	0.89	18.19	0.13	18.32	46.00	-27.68	Average
6	0.89	23.19	0.13	23.32	56.00	-32.68	QP
7	5.06	15.89	0.20	16.09	50.00	-33.91	Average
8	5.06	18.71	0.20	18.91	60.00	-41.09	QP
9	19.43	11.84	0.39	12.23	50.00	-37.77	Average
10	19.43	19.93	0.39	20.32	60.00	-39.68	QP
11	25.86	12.09	0.36	12.45	50.00	-37.55	Average
12	25.86	25.30	0.36	25.66	60.00	-34.34	QP

Notes:

1. Result = Read Value + Factor
2. Factor = LISN(ISN) Factor + Cable Loss
3. 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.
4. The data is worse case.



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: 802.11an HT20, CH36	Temperature	: 25 °C
Memo	:	Humidity	: 56 %



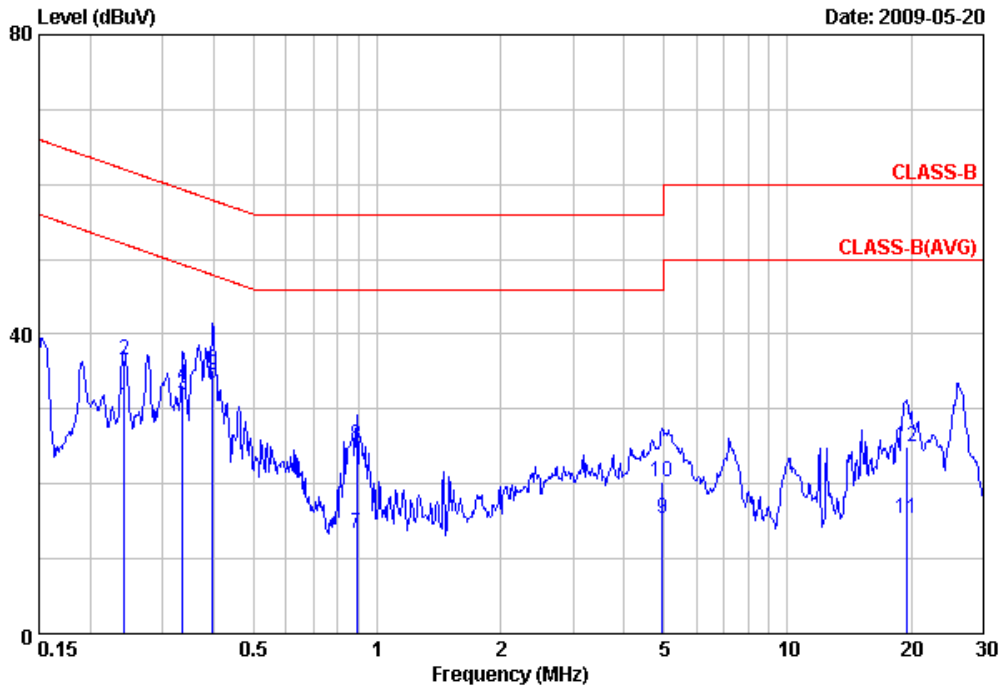
Item	Freq MHz	Read		Result dBuV/m	Limit dBuV/m	Margin dB	Remark
		Value dBuV/m	Factor dB				
1	0.24	33.23	0.09	33.32	52.04	-18.72	Average
2	0.24	35.57	0.09	35.66	62.04	-26.38	QP
3	0.28	29.46	0.09	29.55	50.94	-21.39	Average
4	0.28	36.59	0.09	36.68	60.94	-24.26	QP
5	0.40	33.25	0.08	33.33	47.90	-14.57	Average
6	0.40	36.55	0.08	36.63	57.90	-21.27	QP
7	0.89	18.76	0.11	18.87	46.00	-27.13	Average
8	0.89	22.75	0.11	22.86	56.00	-33.14	QP
9	4.95	15.02	0.21	15.23	46.00	-30.77	Average
10	4.95	19.82	0.21	20.03	56.00	-35.97	QP
11	19.43	13.10	0.23	13.33	50.00	-36.67	Average
12	19.43	24.48	0.23	24.71	60.00	-35.29	QP

Notes:

1. Result = Read Value + Factor
2. Factor = LISN(ISN) Factor + Cable Loss
3. According to technical experiences, all spurious emission of 802.11an HT20 mode at channel 36,44,48 are almost the same below 1GHz, so that the channel 36 was chosen as representative in final test.
4. The data is worse case.



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: 802.11an HT20, CH36	Temperature	: 25 °C
Memo	:	Humidity	: 56 %



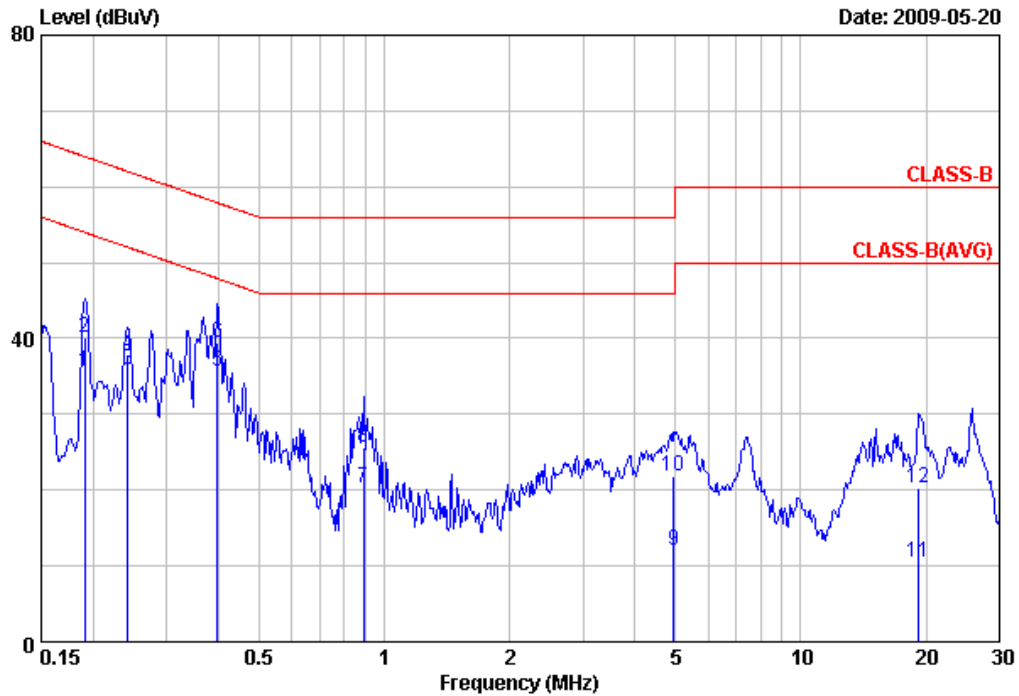
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.24	30.21	0.11	30.32	52.04	-21.72	Average
2	0.24	36.51	0.11	36.62	62.04	-25.42	QP
3	0.34	31.80	0.11	31.91	49.31	-17.40	Average
4	0.34	33.10	0.11	33.21	59.31	-26.10	QP
5	0.40	33.21	0.11	33.32	47.90	-14.58	Average
6	0.40	35.12	0.11	35.23	57.90	-22.67	QP
7	0.89	13.19	0.13	13.32	46.00	-32.68	Average
8	0.89	25.09	0.13	25.22	56.00	-30.78	QP
9	4.95	15.15	0.20	15.35	46.00	-30.65	Average
10	4.95	20.04	0.20	20.24	56.00	-35.76	QP
11	19.43	14.94	0.39	15.33	50.00	-34.67	Average
12	19.43	24.52	0.39	24.91	60.00	-35.09	QP

Notes:

1. Result = Read Value + Factor
2. Factor = LISN(ISN) Factor + Cable Loss
3. According to technical experiences, all spurious emission of 802.11an HT20 mode at channel 36,44,48 are almost the same below 1GHz, so that the channel 36 was chosen as representative in final test.
4. The data is worse case.



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: 802.11an HT40, CH38	Temperature	: 25 °C
Memo	:	Humidity	: 56 %



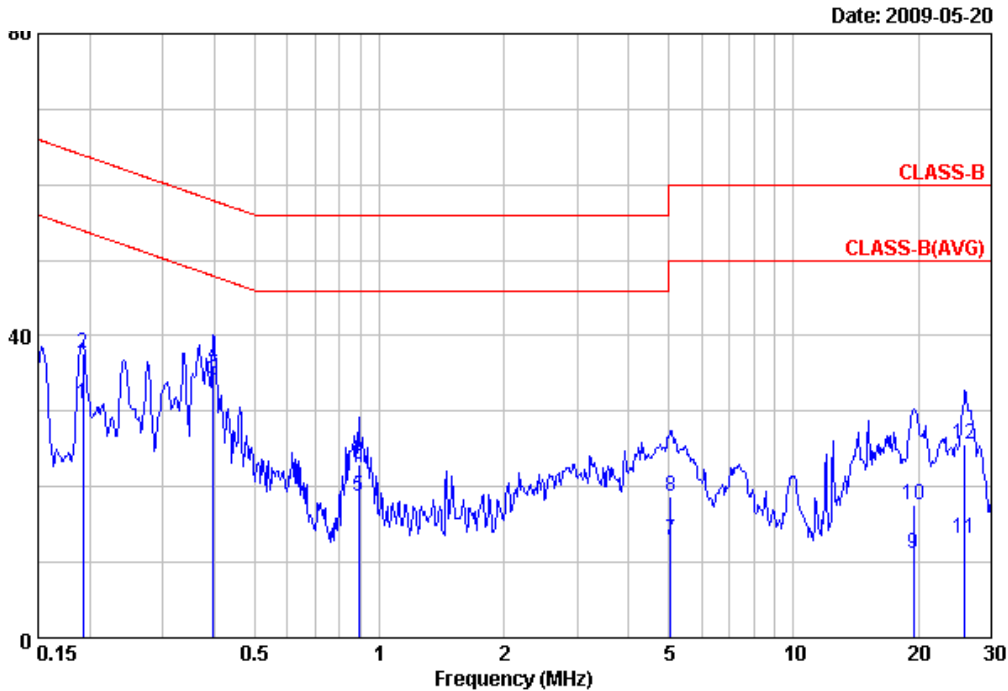
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.19	35.52	0.09	35.61	54.02	-18.41	Average
2	0.19	40.04	0.09	40.13	64.02	-23.89	QP
3	0.24	35.77	0.09	35.86	52.04	-16.18	Average
4	0.24	37.82	0.09	37.91	62.04	-24.13	QP
5	0.40	35.57	0.08	35.65	47.90	-12.25	Average
6	0.40	39.29	0.08	39.37	57.90	-18.53	QP
7	0.89	20.12	0.11	20.23	46.00	-25.77	Average
8	0.89	25.51	0.11	25.62	56.00	-30.38	QP
9	4.95	11.92	0.21	12.13	46.00	-33.87	Average
10	4.95	21.70	0.21	21.91	56.00	-34.09	QP
11	19.22	10.29	0.23	10.52	50.00	-39.48	Average
12	19.22	19.99	0.23	20.22	60.00	-39.78	QP

Notes:

1. Result = Read Value + Factor
2. Factor = LISN(ISN) Factor + Cable Loss
3. According to technical experiences, all spurious emission of 802.11an HT40 mode at channel 38,42,46 are almost the same below 1GHz, so that the channel 38 was chosen as representative in final test.
4. The data is worse case.



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: 802.11an HT40, CH38	Temperature	: 25 °C
Memo	:	Humidity	: 56 %



Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	
1	0.19	30.91	0.12	31.03	53.93	-22.90	Average
2	0.19	37.53	0.12	37.65	63.93	-26.28	QP
3	0.40	34.04	0.11	34.15	47.90	-13.75	Average
4	0.40	35.96	0.11	36.07	57.90	-21.83	QP
5	0.89	18.50	0.13	18.63	46.00	-27.37	Average
6	0.89	22.90	0.13	23.03	56.00	-32.97	QP
7	5.06	12.83	0.20	13.03	50.00	-36.97	Average
8	5.06	18.45	0.20	18.65	60.00	-41.35	QP
9	19.43	10.71	0.39	11.10	50.00	-38.90	Average
10	19.43	17.32	0.39	17.71	60.00	-42.29	QP
11	25.86	12.70	0.36	13.06	50.00	-36.94	Average
12	25.86	25.29	0.36	25.65	60.00	-34.35	QP

Notes:

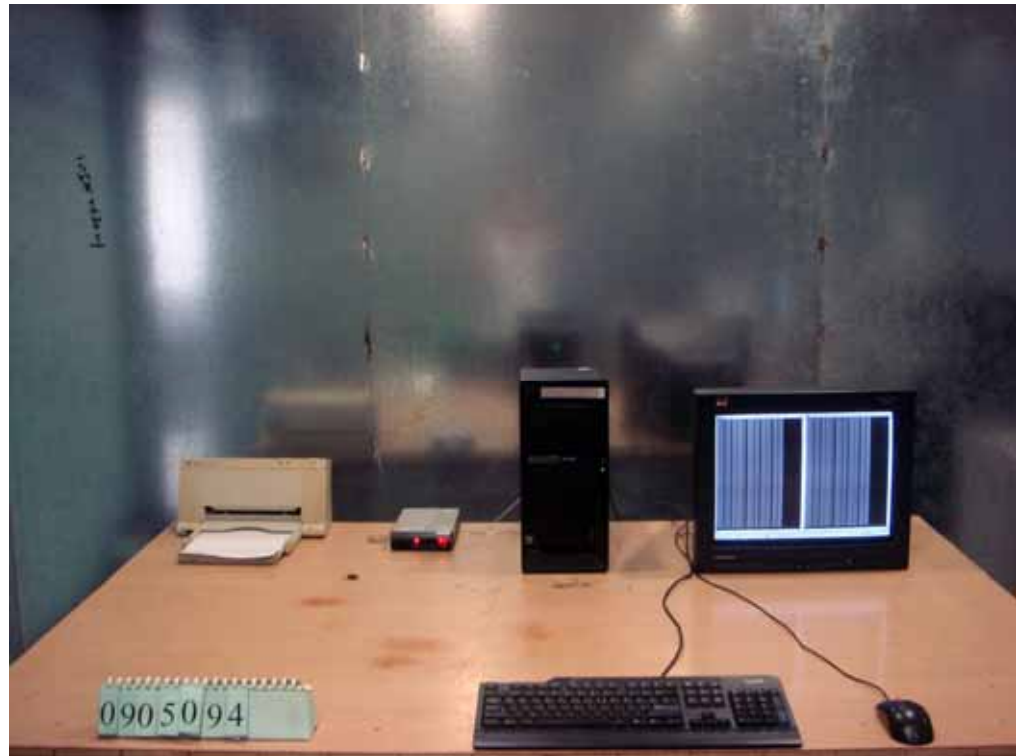
1. Result = Read Value + Factor
2. Factor = LISN(ISN) Factor + Cable Loss
3. According to technical experiences, all spurious emission of 802.11an HT40 mode at channel 38,42,46 are almost the same below 1GHz, so that the channel 38 was chosen as representative in final test.
4. The data is worse case.

Test engineer: Ben



4.6. Test Photographs

Front View



Rear View





5. Test of Radiated Emission

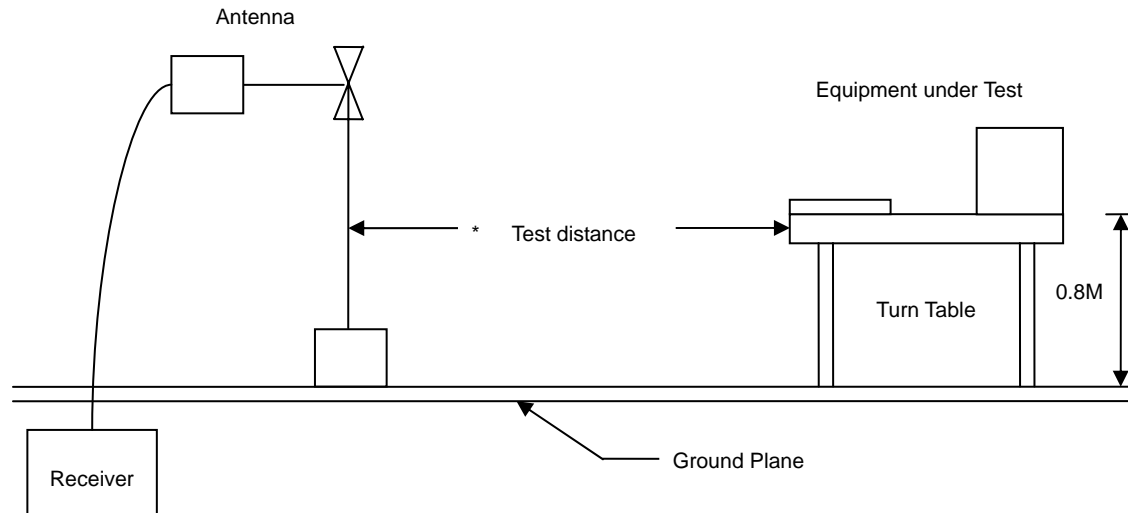
Radiated emissions from 30 MHz to 40 GHz were measured according to the methods defines in ANSI C63.4-2003. The EUT was placed, 0.8 meter above the ground plane, as shown in section 1.4.2. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions

5.1. 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.



5.2. Typical Test Setup Layout of Radiated Emission



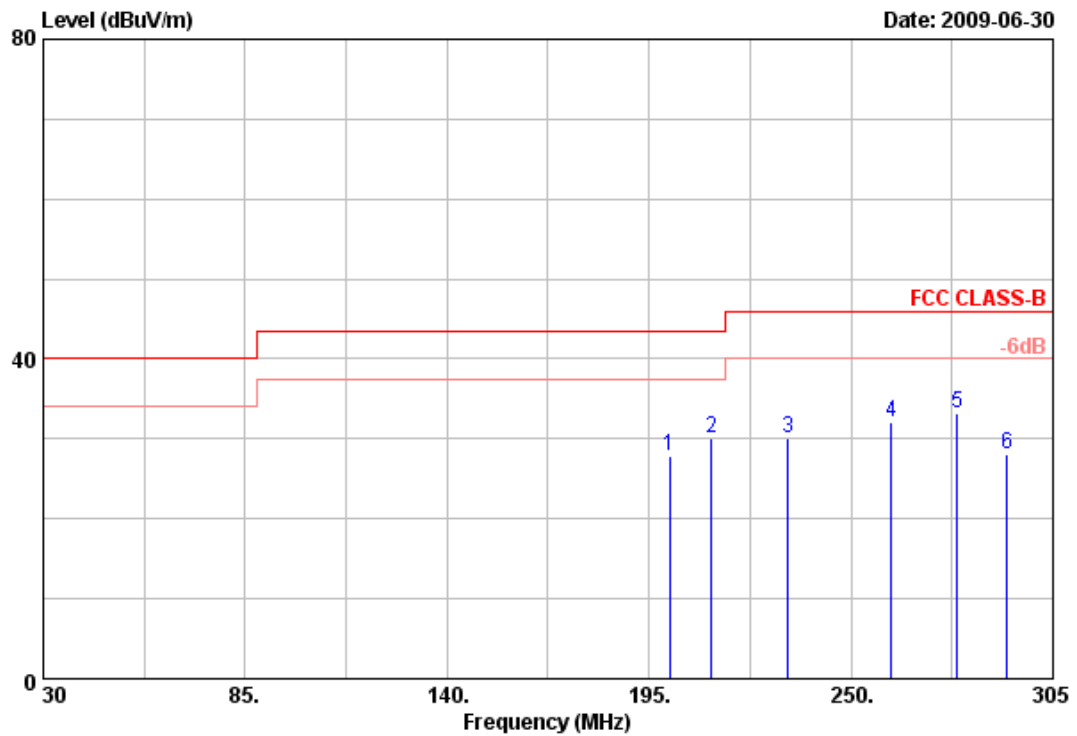
5.3. Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Bilog Antenna	CBL6112B	Schaffner	2840	2009/05/14	2010/05/13
Signal Generator	8648B	HP	3629U00612	2008/10/08	2009/10/07
Amplifier	8447D	Agilent	2944A10593	2009/05/21	2010/05/20
EMI Receiver	8546A	HP	3807A00454	2008/08/07	2009/08/06
Spectrum	FSP40	R&S	100047	2009/03/26	2010/03/25
Horn Antenna	3115	EMCO	31589	2009/05/04	2010/05/03
Preamplifier	8449B	Agilent	3008A01954	2009/01/23	2010/01/22



5.4. Test Result of Radiated Emission

Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: 802.11a, CH36	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



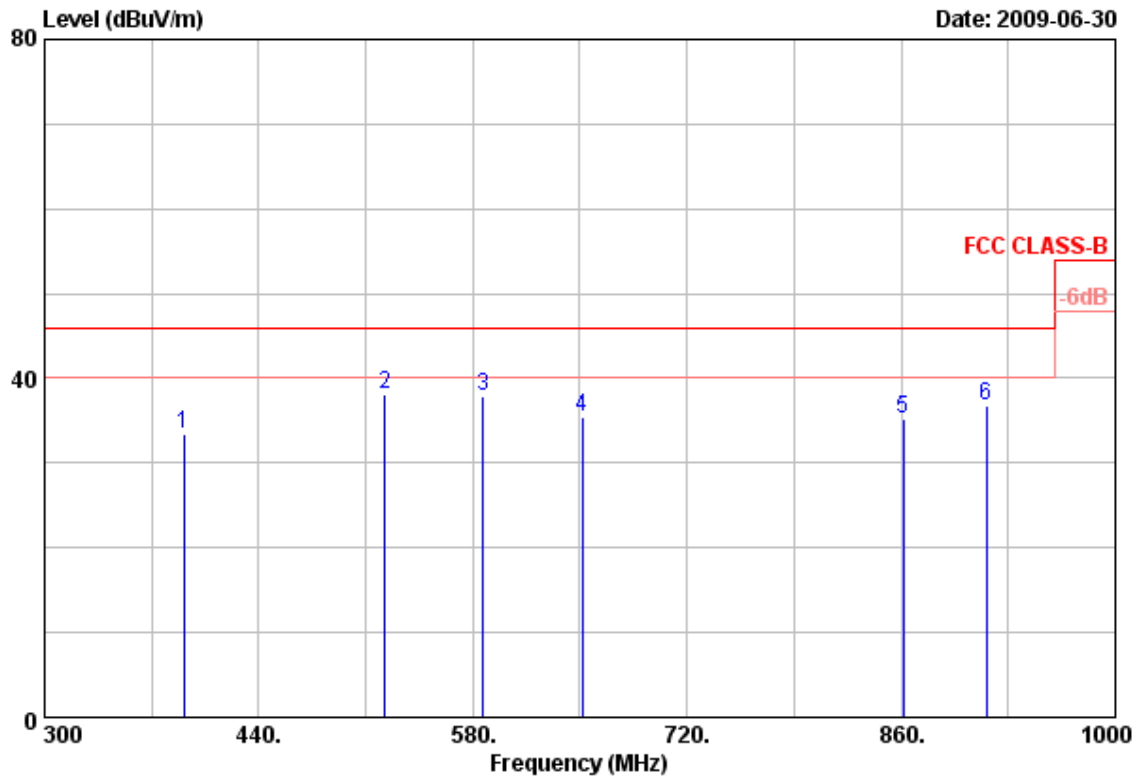
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	200.50	37.35	-9.47	27.88	43.50	-15.62	Peak	104	0
2	212.05	40.83	-10.73	30.10	43.50	-13.40	Peak	104	0
3	232.95	41.78	-11.65	30.13	46.00	-15.87	Peak	104	0
4	261.00	44.07	-12.03	32.04	46.00	-13.96	Peak	104	0
5	278.88	45.97	-12.85	33.12	46.00	-12.88	Peak	104	0
6	292.63	40.43	-12.41	28.02	46.00	-17.98	Peak	104	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. 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	: VERTICAL
Test Mode	: 802.11a, CH36	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



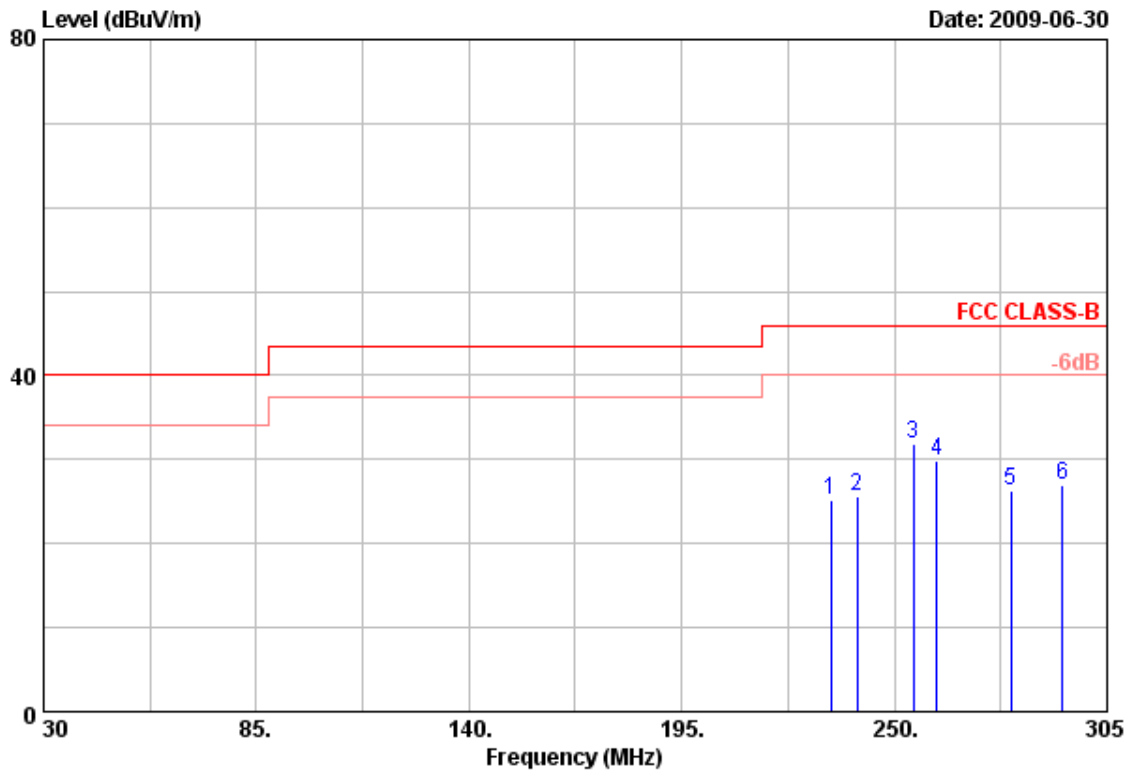
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	391.00	42.17	-8.68	33.49	46.00	-12.51	Peak	104	0
2	522.60	46.38	-8.33	38.05	46.00	-7.95	Peak	104	0
3	587.00	42.72	-4.86	37.86	46.00	-8.14	Peak	104	0
4	651.40	40.78	-5.31	35.47	46.00	-10.53	Peak	104	0
5	861.40	33.98	1.22	35.20	46.00	-10.80	Peak	104	0
6	916.00	32.82	3.99	36.81	46.00	-9.19	Peak	104	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. 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	: HORIZONTAL
Test Mode	: 802.11a, CH36	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



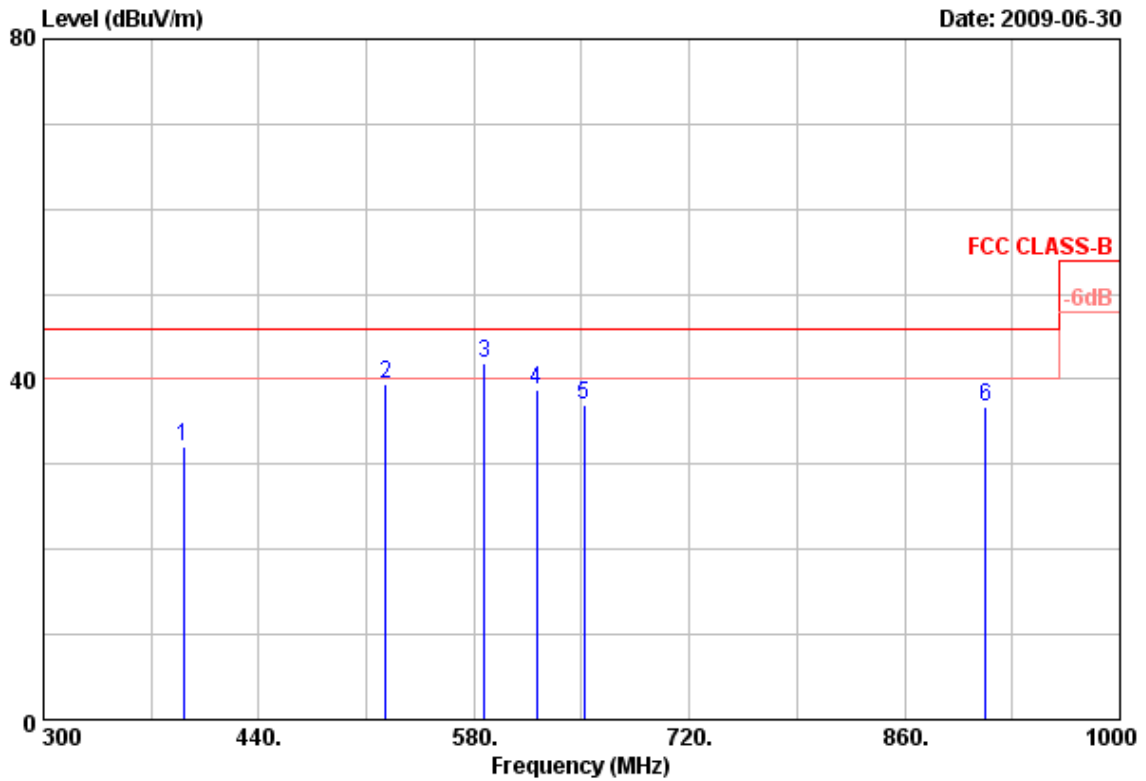
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	233.50	41.39	-16.10	25.29	46.00	-20.71	Peak	104	360
2	240.38	41.35	-15.81	25.54	46.00	-20.46	Peak	104	360
3	254.95	46.20	-14.26	31.94	46.00	-14.06	Peak	104	360
4	261.00	43.76	-13.86	29.90	46.00	-16.10	Peak	104	360
5	280.25	39.46	-13.23	26.23	46.00	-19.77	Peak	104	360
6	293.45	40.68	-13.62	27.06	46.00	-18.94	Peak	104	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. 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	: HORIZONTAL
Test Mode	: 802.11a, CH36	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



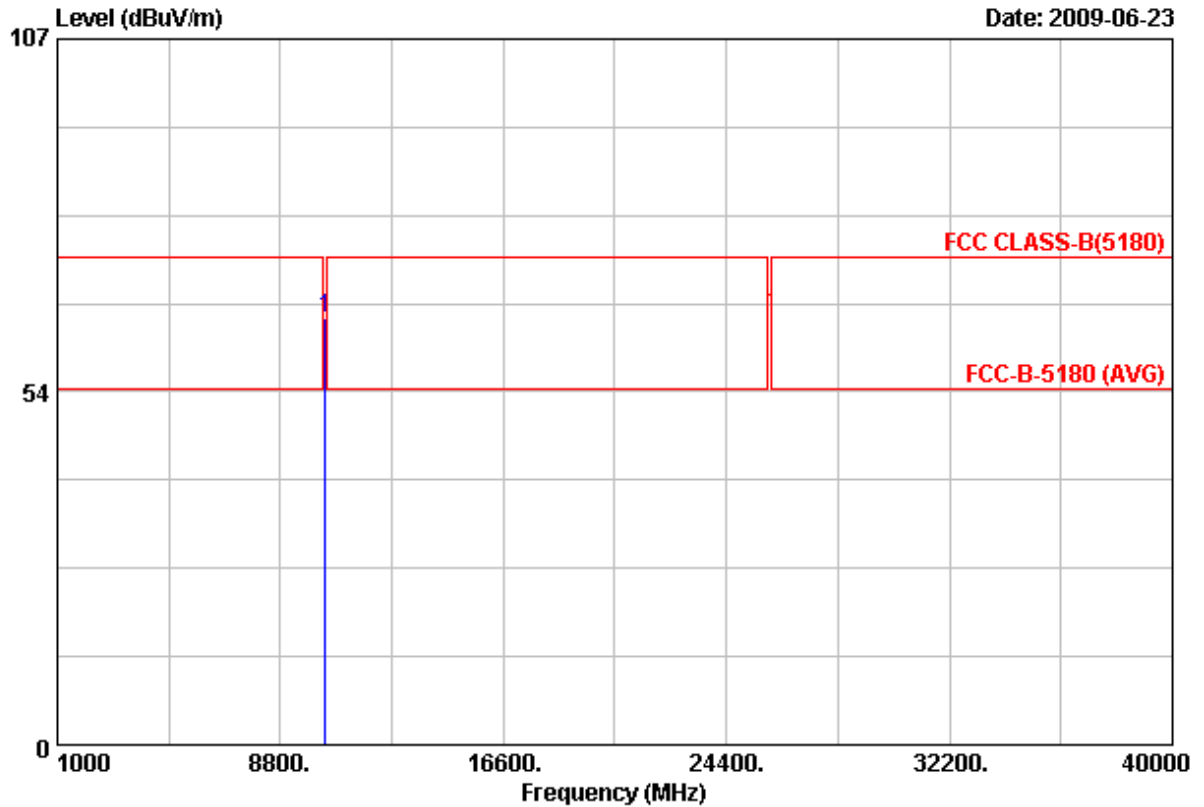
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	391.00	43.02	-10.87	32.15	46.00	-13.85	Peak	104	360
2	522.60	45.47	-6.07	39.40	46.00	-6.60	Peak	104	360
3	587.00	43.89	-2.05	41.84	46.00	-4.16	QP	104	360
4	620.60	40.22	-1.42	38.80	46.00	-7.20	Peak	104	360
5	651.40	39.26	-2.36	36.90	46.00	-9.10	Peak	104	360
6	912.50	34.42	2.35	36.77	46.00	-9.23	Peak	104	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. 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	: VERTICAL
Test Mode	: 802.11a, CH36	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



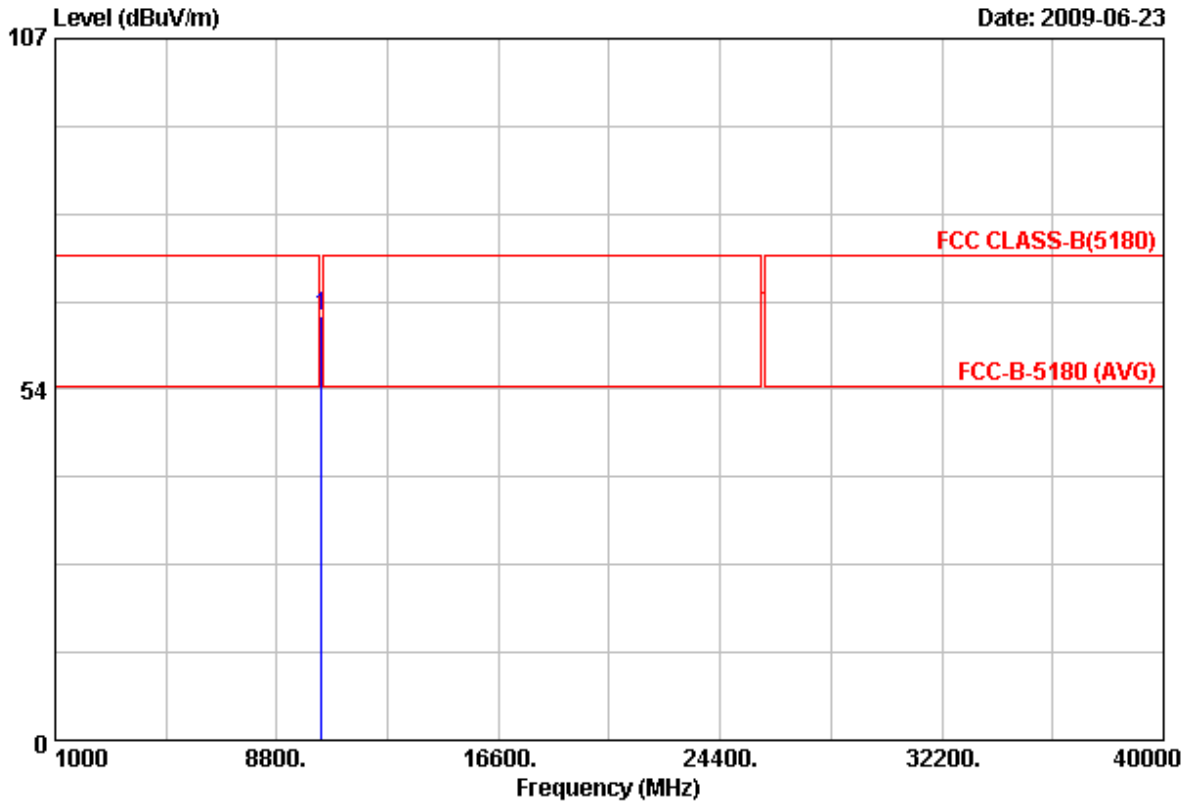
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	10358.90	46.90	17.66	64.56	68.30	-3.74	Peak	103	360

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 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	: 802.11a, CH36	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



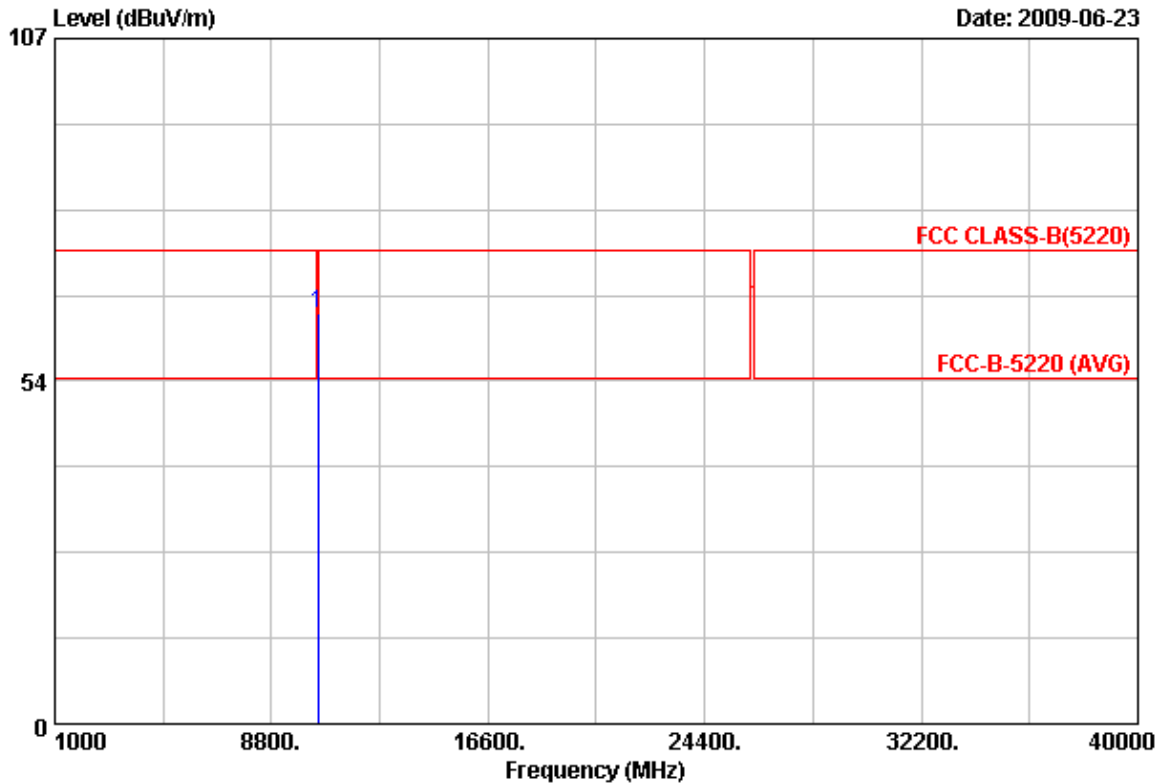
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	10362.10	46.98	17.66	64.64	68.30	-3.66	Peak	103	360

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 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	: 802.11a, CH44	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



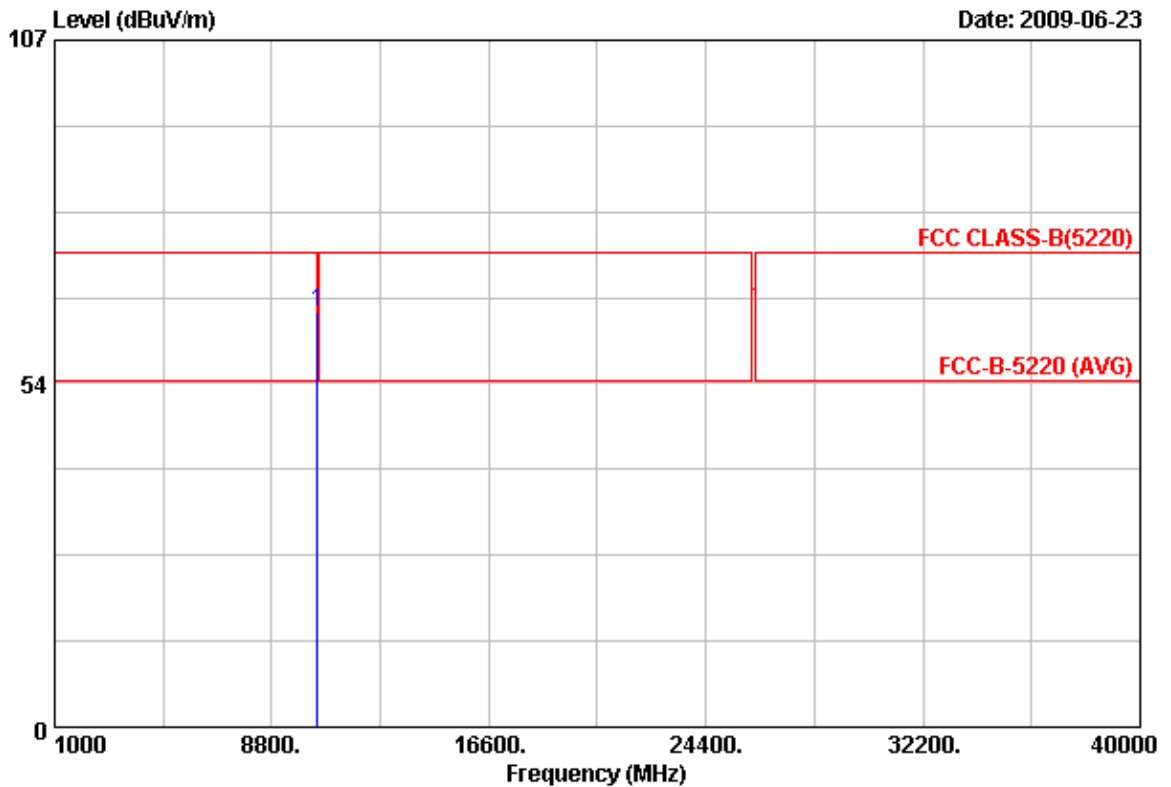
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	10465.00	46.40	17.77	64.17	68.30	-4.13	Peak	103	360

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 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	: 802.11a, CH44	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



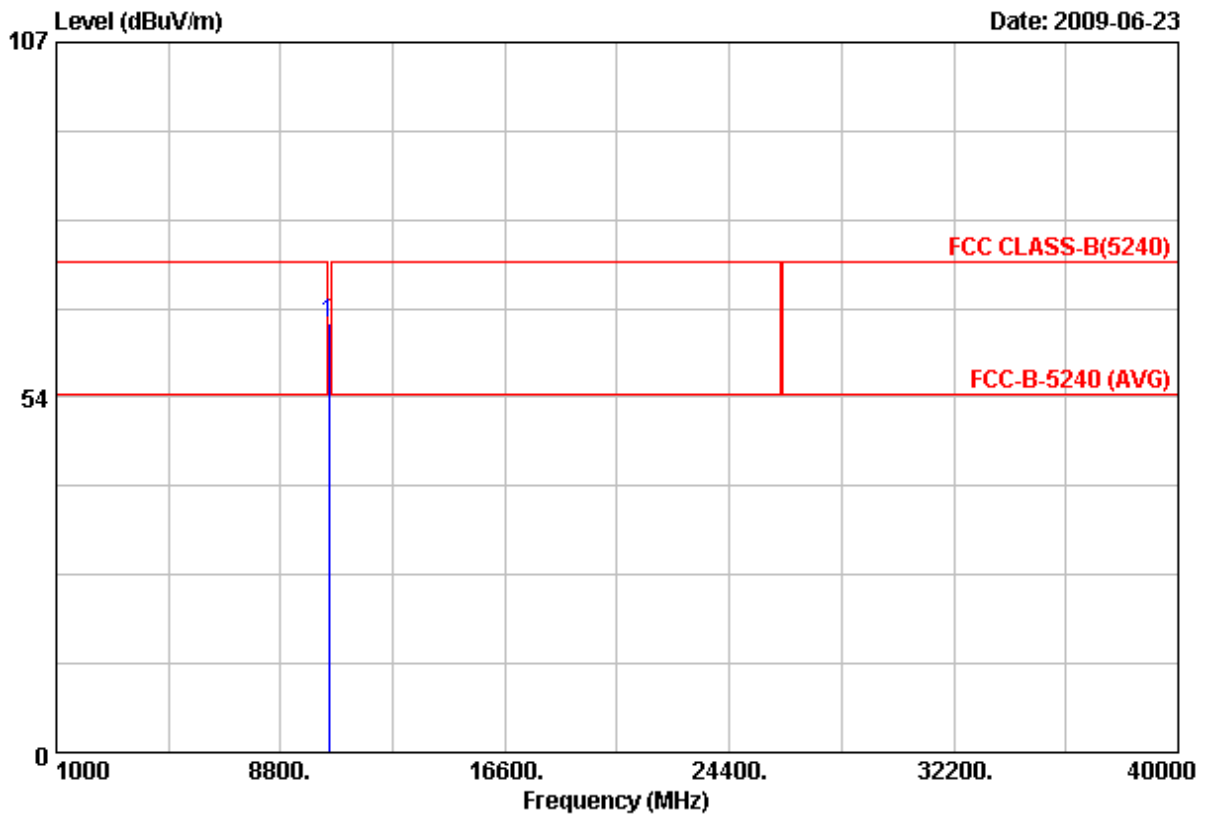
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	10440.40	46.86	17.74	64.60	68.30	-3.70	Peak	103	360

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 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	: 802.11a, CH48	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



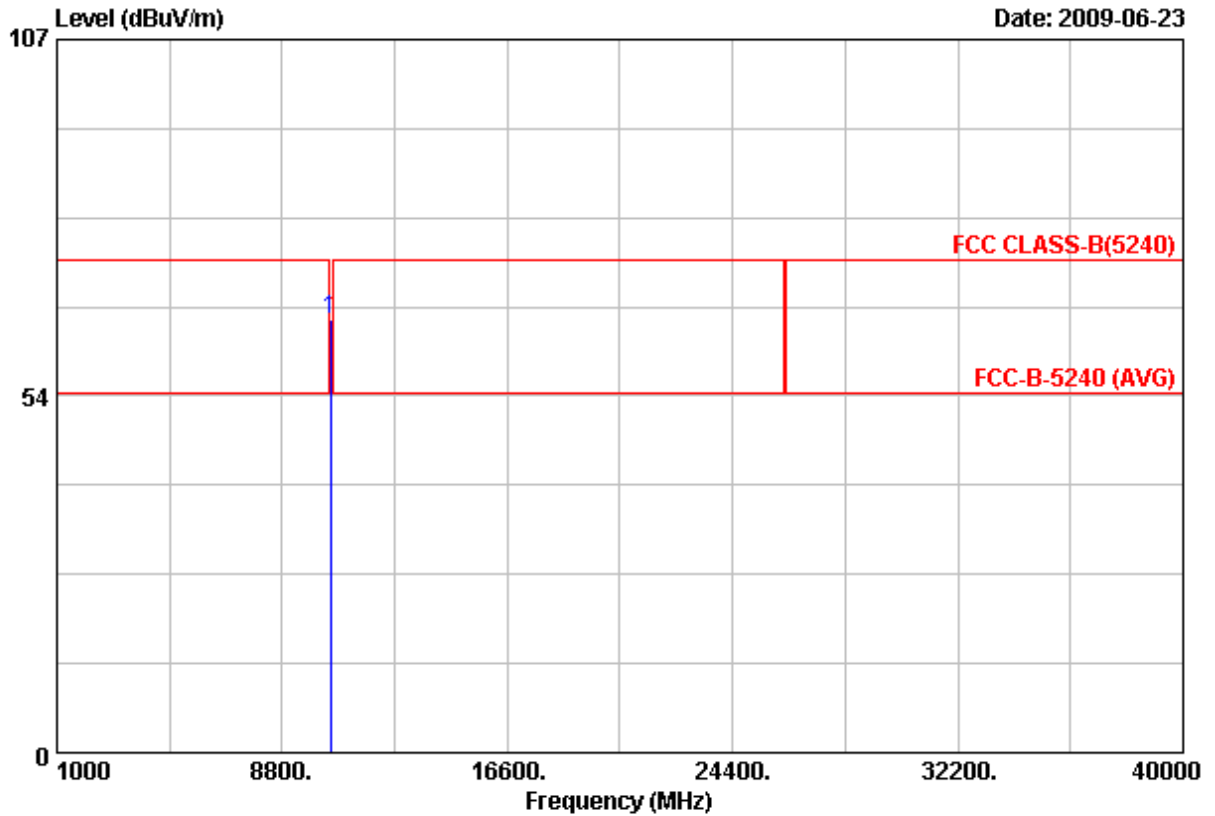
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBUV/m	dB	dBUV/m	dBUV/m	dB		cm	Deg
1	10478.45	46.76	17.78	64.54	68.30	-3.76	Peak	103	360

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 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	: 802.11a, CH48	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



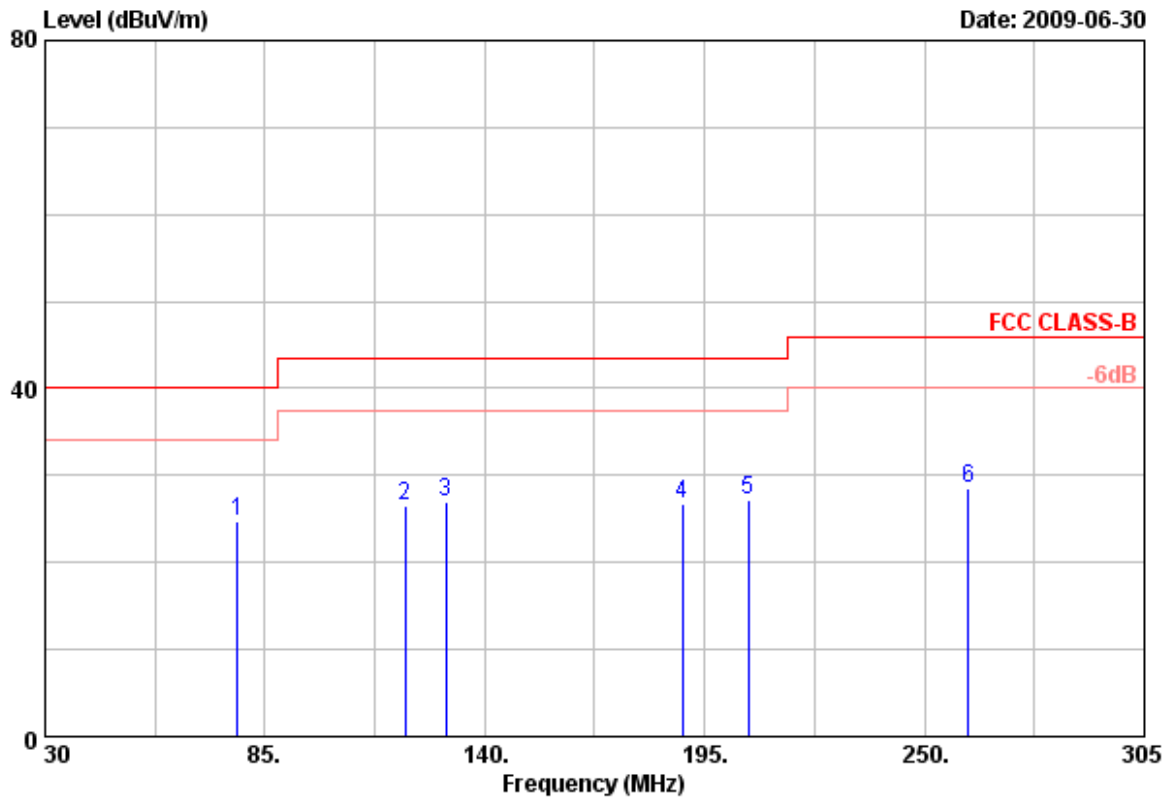
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	10475.75	47.17	17.78	64.95	68.30	-3.35	Peak	103	360

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 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	: 802.11an HT20, CH36	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



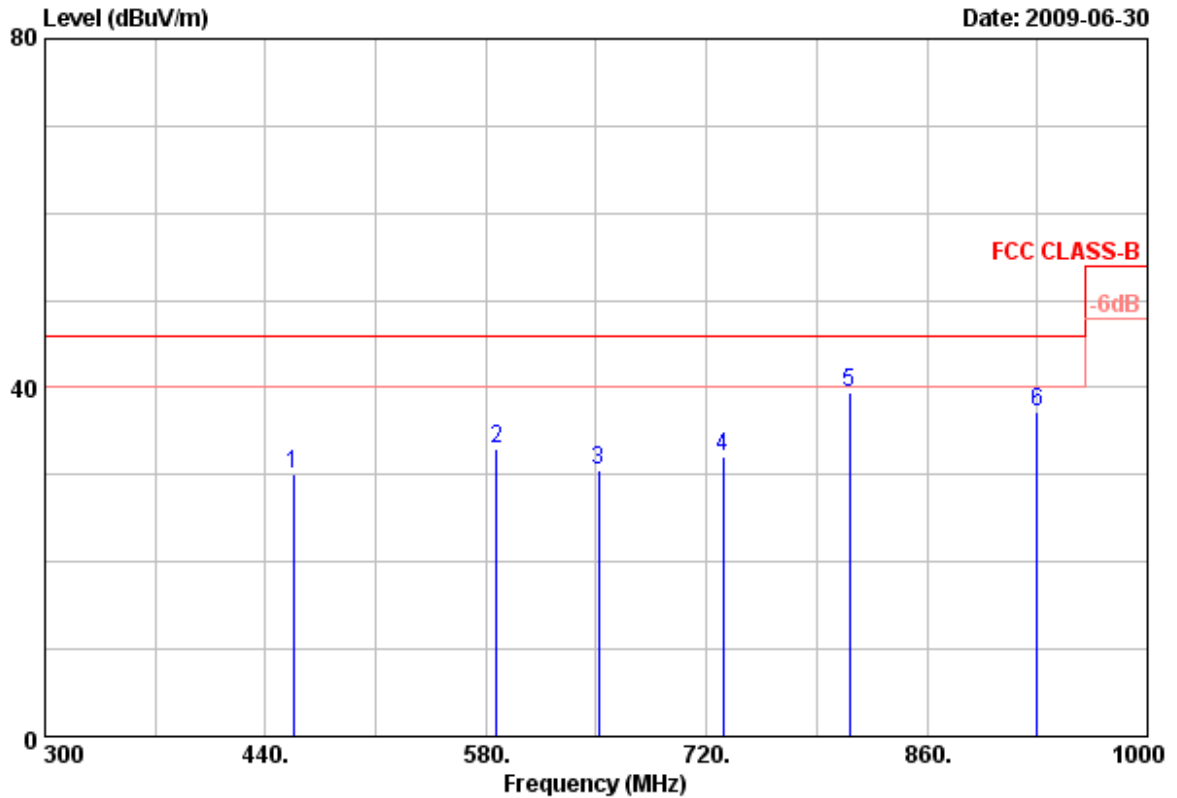
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	78.13	39.29	-14.63	24.66	40.00	-15.34	Peak	104	0
2	120.20	36.82	-10.19	26.63	43.50	-16.87	Peak	104	0
3	130.38	35.91	-8.84	27.07	43.50	-16.43	Peak	104	0
4	189.50	37.15	-10.50	26.65	43.50	-16.85	Peak	104	0
5	206.00	36.49	-9.35	27.14	43.50	-16.36	Peak	104	0
6	261.00	40.65	-12.03	28.62	46.00	-17.38	Peak	104	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. According to technical experiences, all spurious emission of 802.11an HT20 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	: VERTICAL
Test Mode	: 802.11an HT20, CH36	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



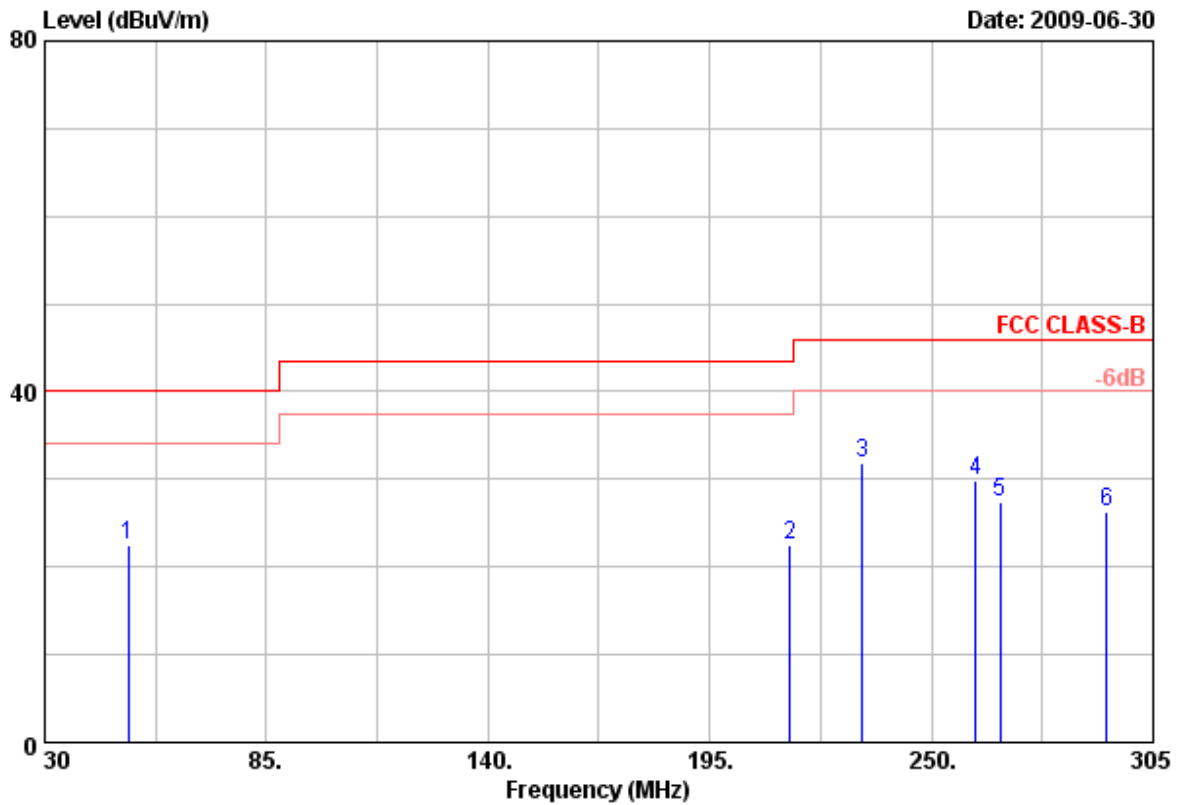
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBUV/m	dB	dBUV/m	dBUV/m	dB		cm	Deg
1	457.50	38.24	-8.05	30.19	46.00	-15.81	Peak	104	0
2	587.00	37.88	-4.86	33.02	46.00	-12.98	Peak	104	0
3	651.40	35.88	-5.31	30.57	46.00	-15.43	Peak	104	0
4	730.50	32.71	-0.56	32.15	46.00	-13.85	Peak	104	0
5	811.00	40.40	-1.00	39.40	46.00	-6.60	Peak	104	0
6	930.00	32.21	4.99	37.20	46.00	-8.80	Peak	104	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. According to technical experiences, all spurious emission of 802.11an HT20 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	: HORIZONTAL
Test Mode	: 802.11an HT20, CH36	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



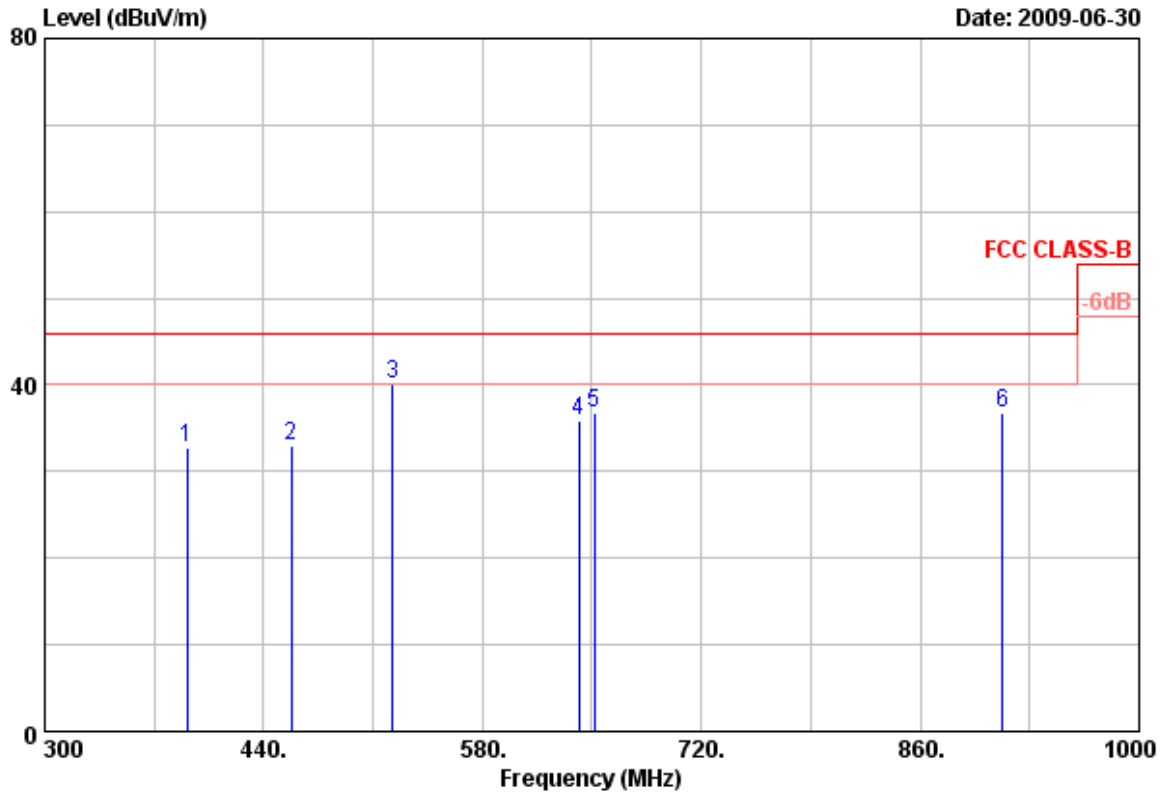
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	50.63	37.24	-14.64	22.60	40.00	-17.40	Peak	104	360
2	214.80	39.09	-16.59	22.50	43.50	-21.00	Peak	104	360
3	232.95	47.99	-16.11	31.88	46.00	-14.12	Peak	104	360
4	261.00	43.81	-13.86	29.95	46.00	-16.05	Peak	104	360
5	267.05	40.83	-13.53	27.30	46.00	-18.70	Peak	104	360
6	293.45	39.87	-13.62	26.25	46.00	-19.75	Peak	104	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. According to technical experiences, all spurious emission of 802.11an HT20 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	: HORIZONTAL
Test Mode	: 802.11an HT20, CH36	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



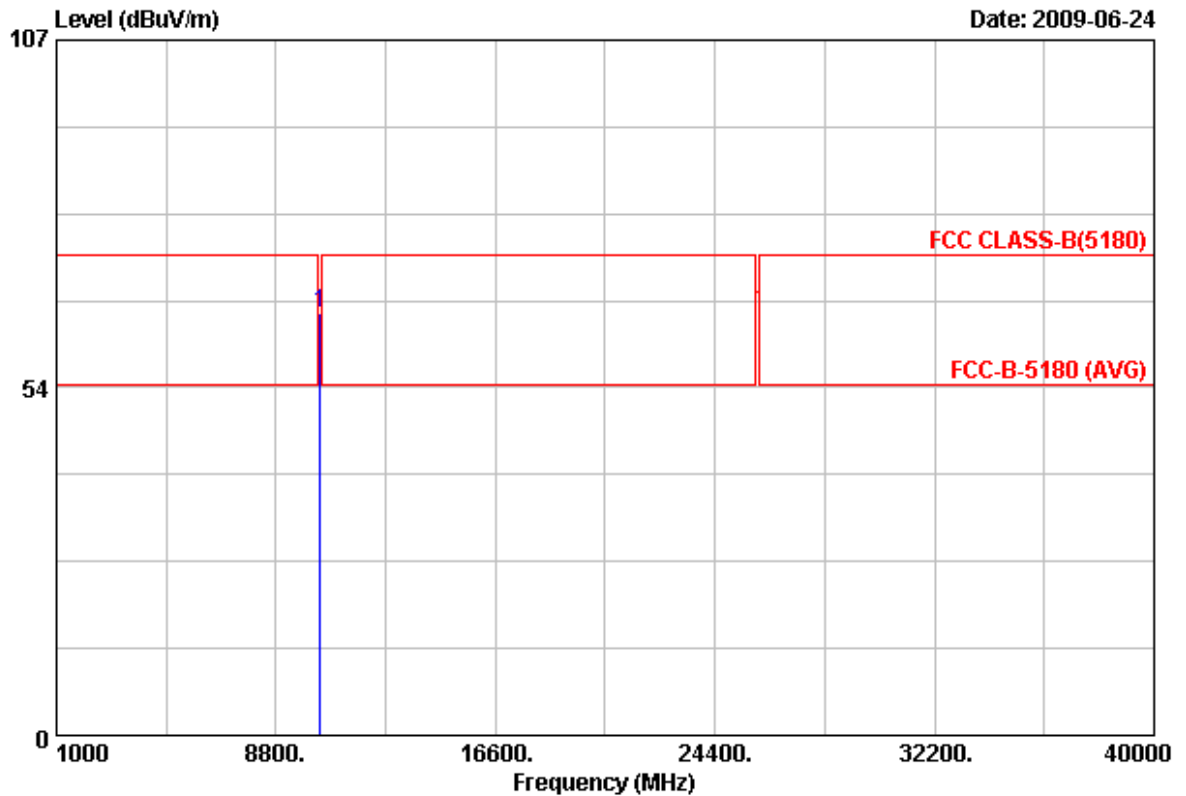
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	391.00	43.63	-10.87	32.76	46.00	-13.24	Peak	104	360
2	457.50	38.17	-5.27	32.90	46.00	-13.10	Peak	104	360
3	522.60	46.11	-6.07	40.04	46.00	-5.96	QP	104	360
4	641.60	36.95	-1.16	35.79	46.00	-10.21	Peak	104	360
5	651.40	39.15	-2.36	36.79	46.00	-9.21	Peak	104	360
6	912.50	34.44	2.35	36.79	46.00	-9.21	Peak	104	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. According to technical experiences, all spurious emission of 802.11an HT20 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	: VERTICAL
Test Mode	: 802.11an HT20, CH36	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



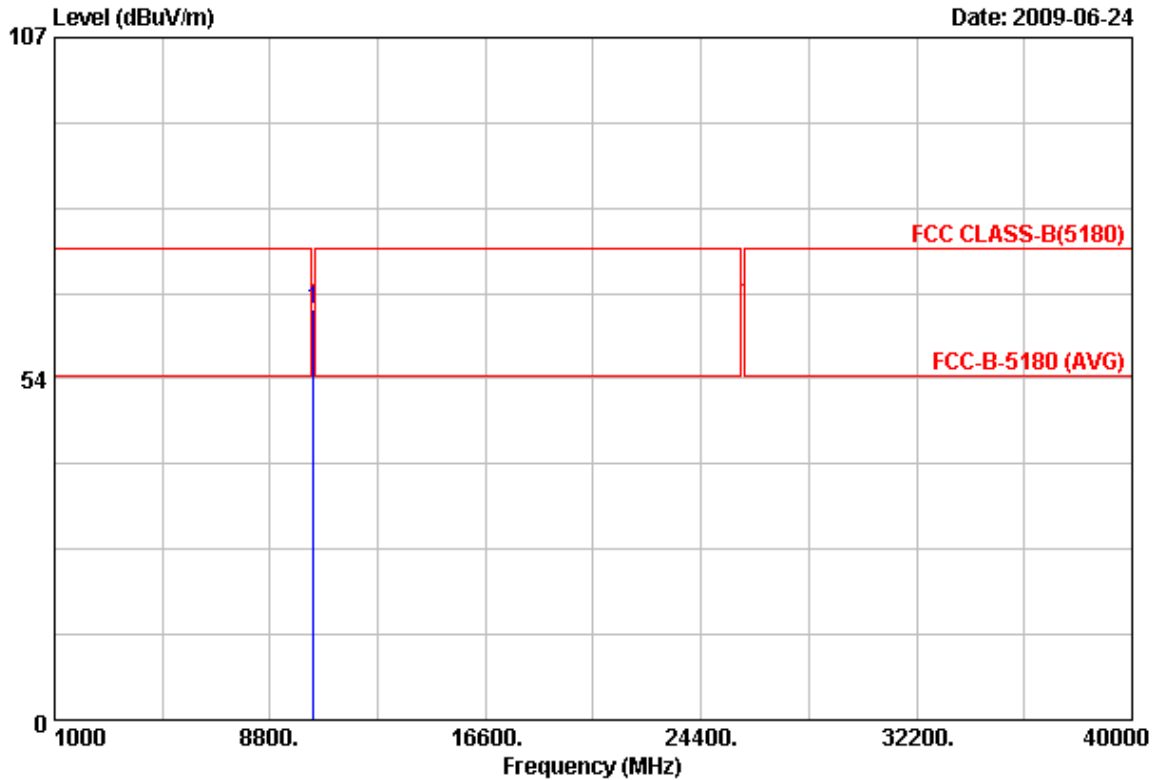
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	10359.15	47.23	17.66	64.89	68.30	-3.41	Peak	103	0

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 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	: 802.11an HT20, CH36	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



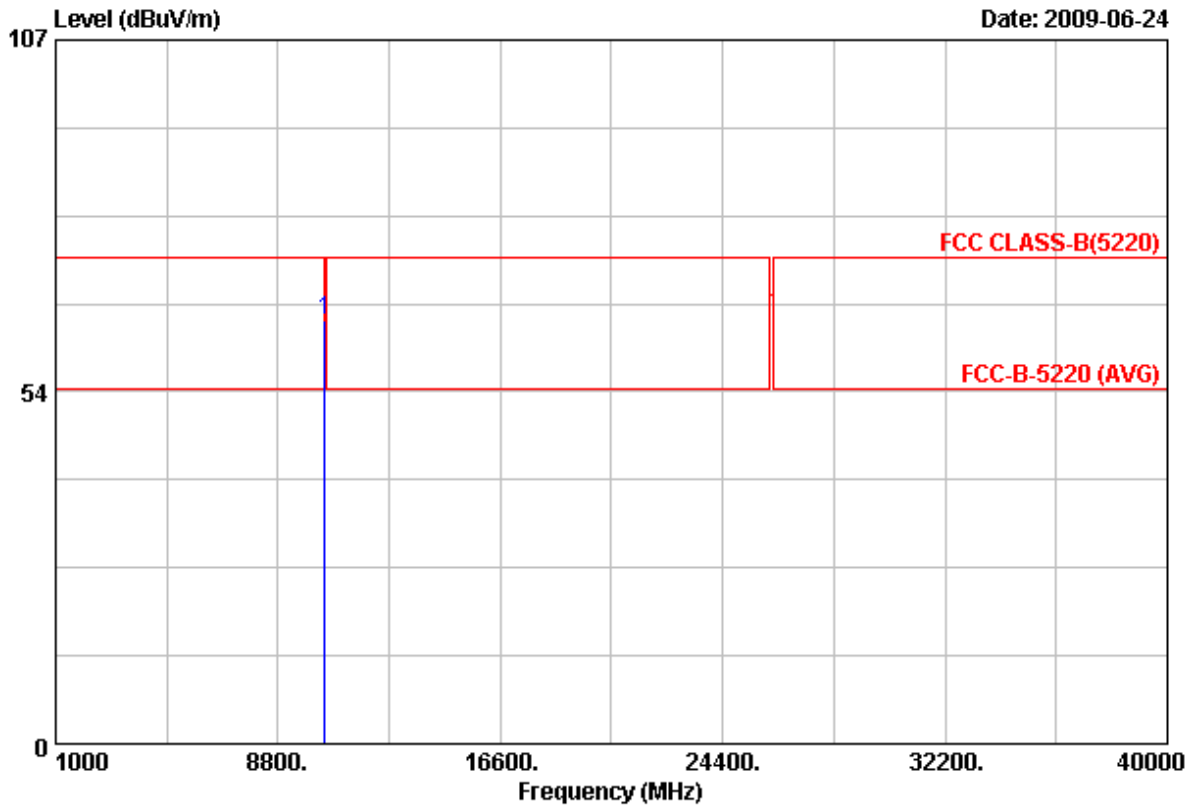
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	10360.45	46.58	17.66	64.24	68.30	-4.06	Peak	103	0

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 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	: 802.11an HT20, CH44	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



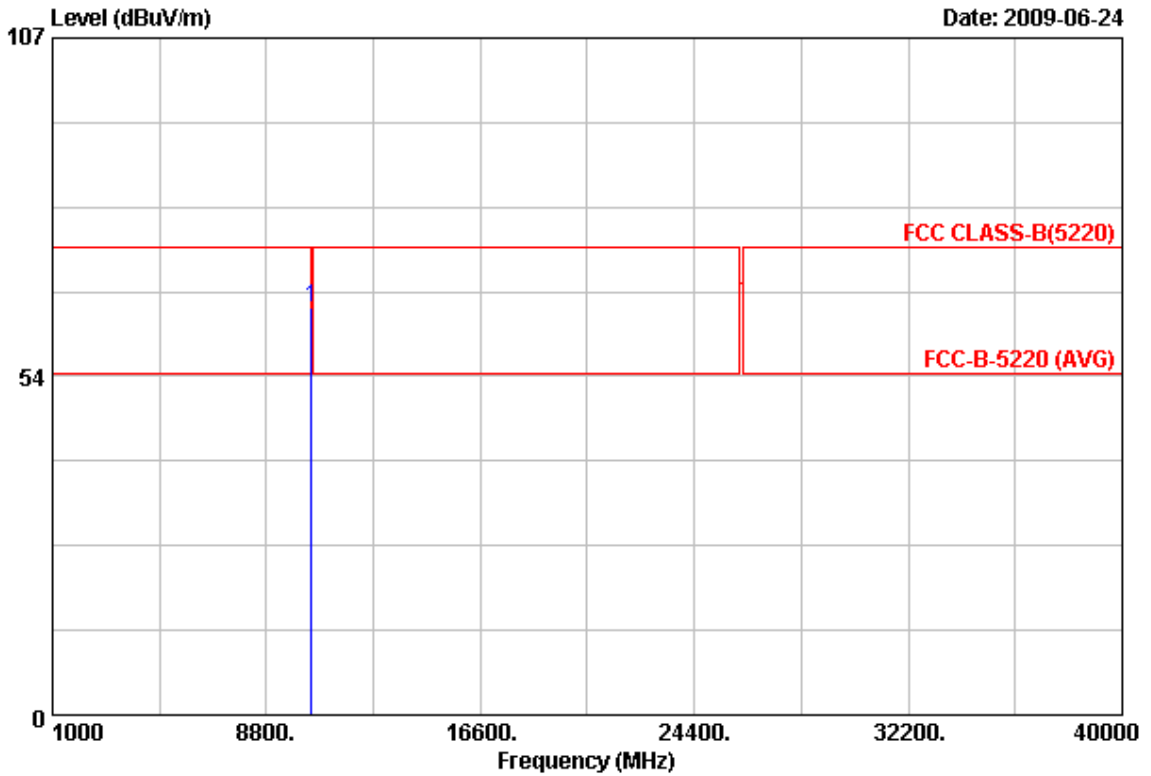
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	10439.10	46.76	17.74	64.50	68.30	-3.80	Peak	103	0

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 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	: 802.11an HT20, CH44	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



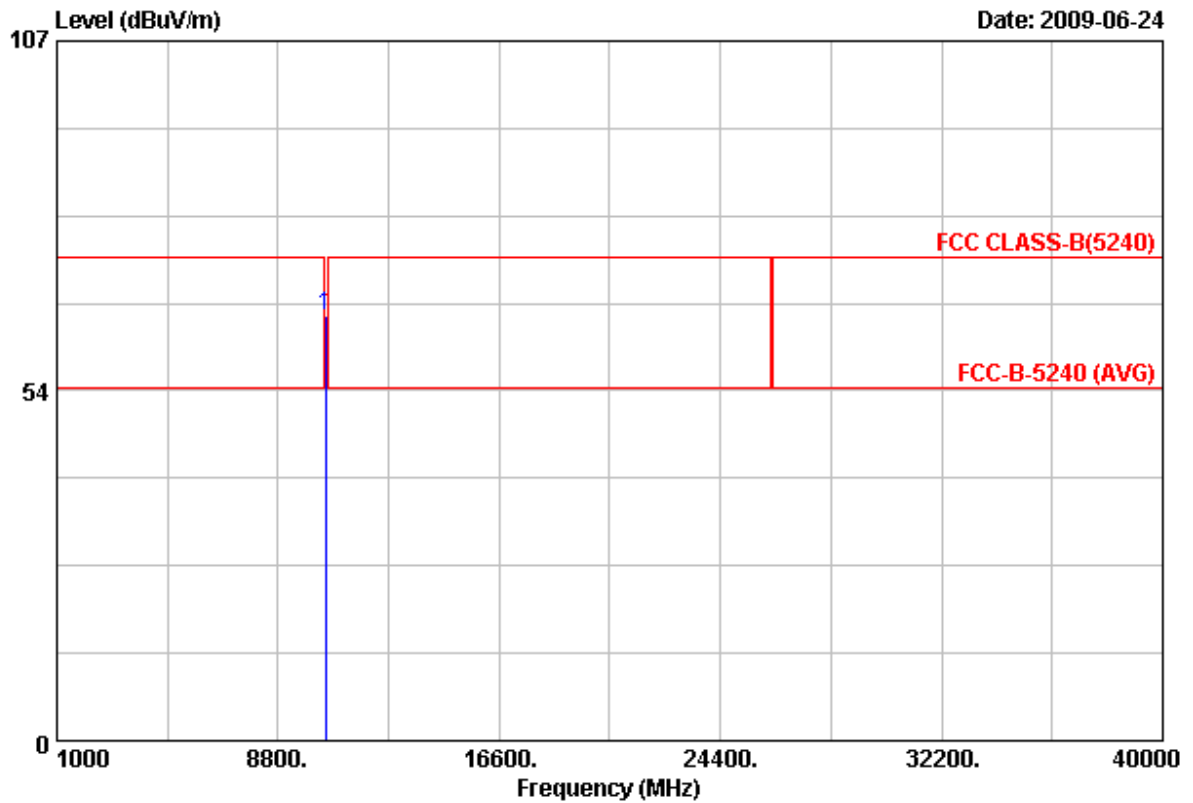
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	10442.20	46.70	17.74	64.44	68.30	-3.86	Peak	103	0

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 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	: 802.11an HT20, CH48	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



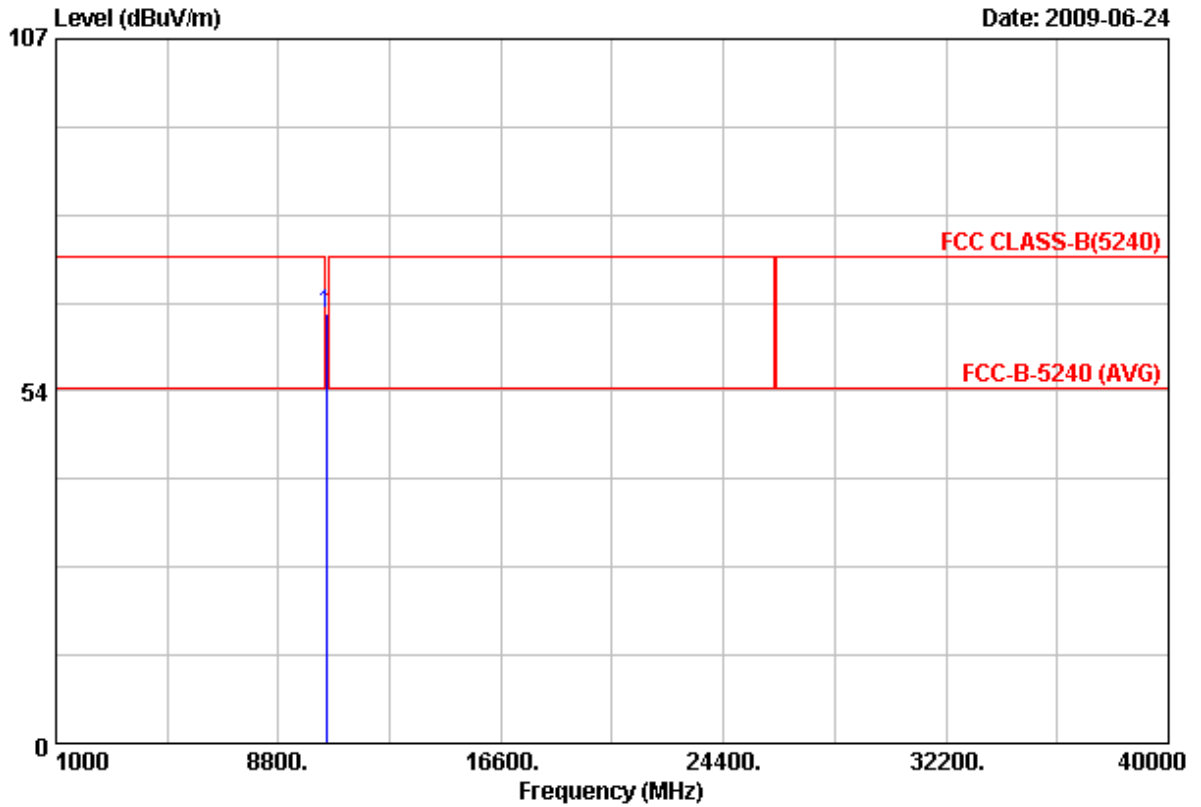
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	10477.30	47.15	17.78	64.93	68.30	-3.37	Peak	103	0

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 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	: 802.11an HT20, CH48	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



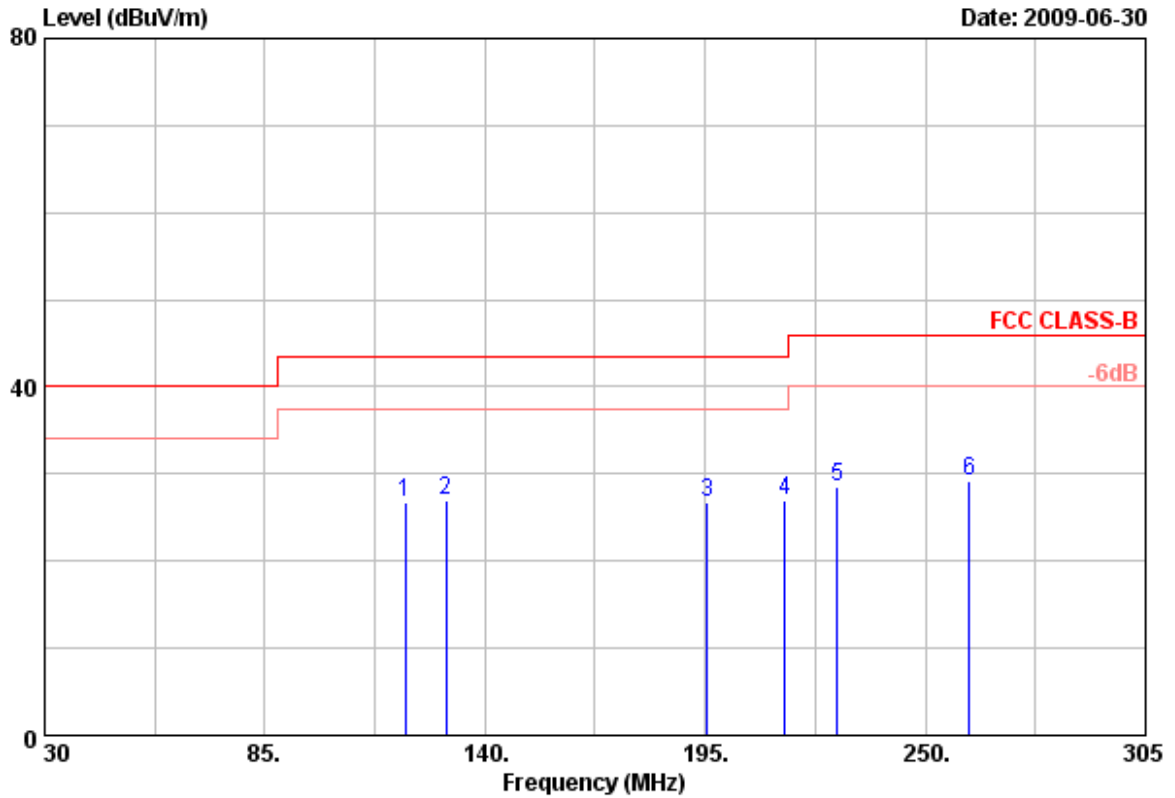
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBUV/m	dB	dBUV/m	dBUV/m	dB		cm	Deg
1	10481.05	47.36	17.78	65.14	68.30	-3.16	Peak	103	0

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 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	: 802.11an HT40, CH38	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



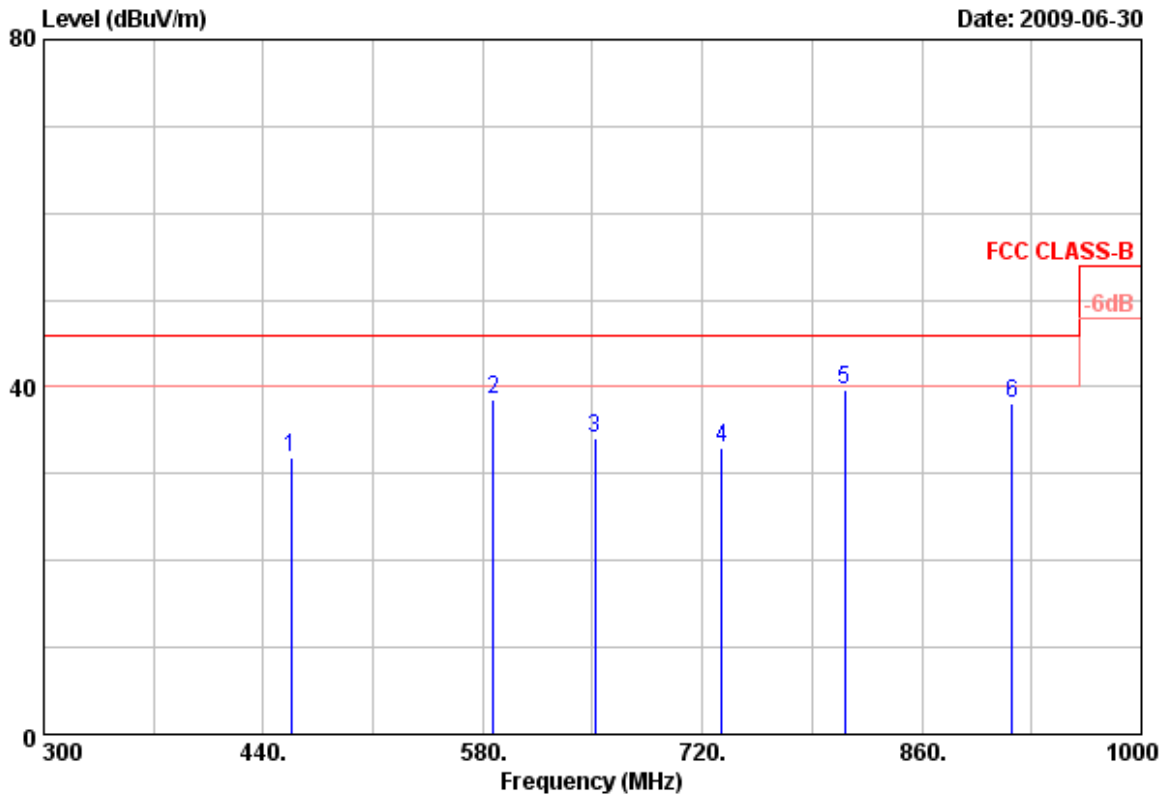
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	120.20	36.87	-10.19	26.68	43.50	-16.82	Peak	104	0
2	130.38	35.81	-8.84	26.97	43.50	-16.53	Peak	104	0
3	195.55	36.95	-10.26	26.69	43.50	-16.81	Peak	104	0
4	214.80	38.40	-11.38	27.02	43.50	-16.48	Peak	104	0
5	228.00	39.63	-11.02	28.61	46.00	-17.39	Peak	104	0
6	261.00	41.22	-12.03	29.19	46.00	-16.81	Peak	104	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. According to technical experiences, all spurious emission of 802.11an HT40 mode at channel 38,42,46 are almost the same below 1GHz, so that the channel 38 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: 802.11an HT40, CH38	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



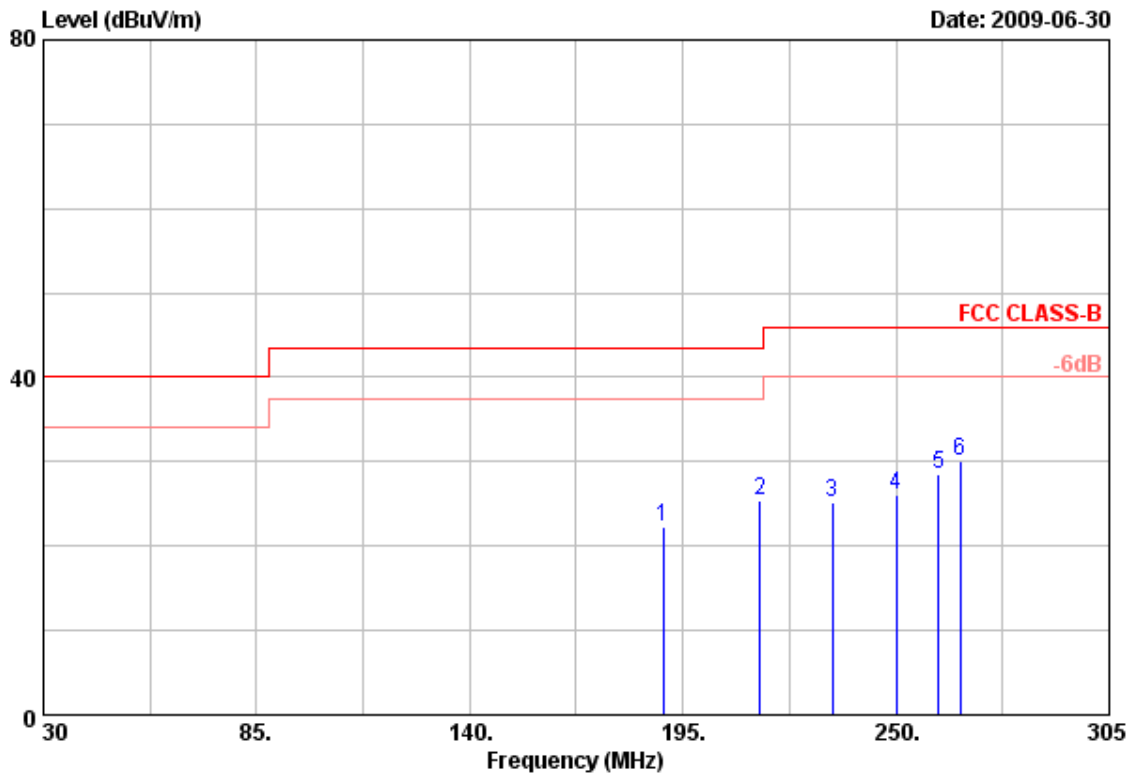
Item	Freq MHz	Read Value dBuV/m	Factor dB	Result dBuV/m	Limit dBuV/m	Margin dB	Remark	Ant Pos cm	Tab Pos Deg
1	457.50	39.84	-8.05	31.79	46.00	-14.21	Peak	104	0
2	587.00	43.48	-4.86	38.62	46.00	-7.38	Peak	104	0
3	651.40	39.36	-5.31	34.05	46.00	-11.95	Peak	104	0
4	732.60	33.74	-0.72	33.02	46.00	-12.98	Peak	104	0
5	811.00	40.68	-1.00	39.68	46.00	-6.32	Peak	104	0
6	917.40	33.89	4.12	38.01	46.00	-7.99	Peak	104	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. According to technical experiences, all spurious emission of 802.11an HT40 mode at channel 38,42,46 are almost the same below 1GHz, so that the channel 38 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: 802.11an HT40, CH38	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



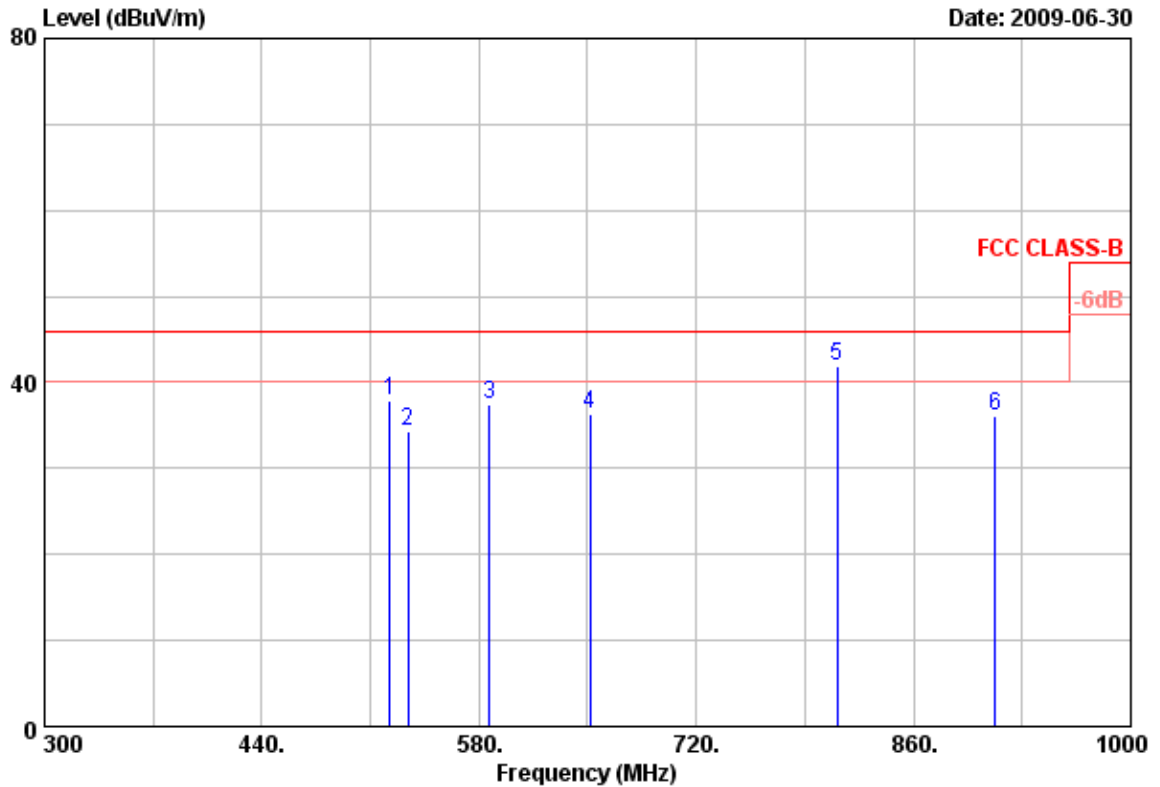
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	190.05	40.20	-17.88	22.32	43.50	-21.18	Peak	104	360
2	214.80	42.05	-16.59	25.46	43.50	-18.04	Peak	104	360
3	233.50	41.33	-16.10	25.23	46.00	-20.77	Peak	104	360
4	250.00	41.39	-15.28	26.11	46.00	-19.89	Peak	104	360
5	261.00	42.29	-13.86	28.43	46.00	-17.57	Peak	104	360
6	266.50	43.63	-13.58	30.05	46.00	-15.95	Peak	104	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. According to technical experiences, all spurious emission of 802.11an HT40 mode at channel 38,42,46 are almost the same below 1GHz, so that the channel 38 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: 802.11an HT40, CH38	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



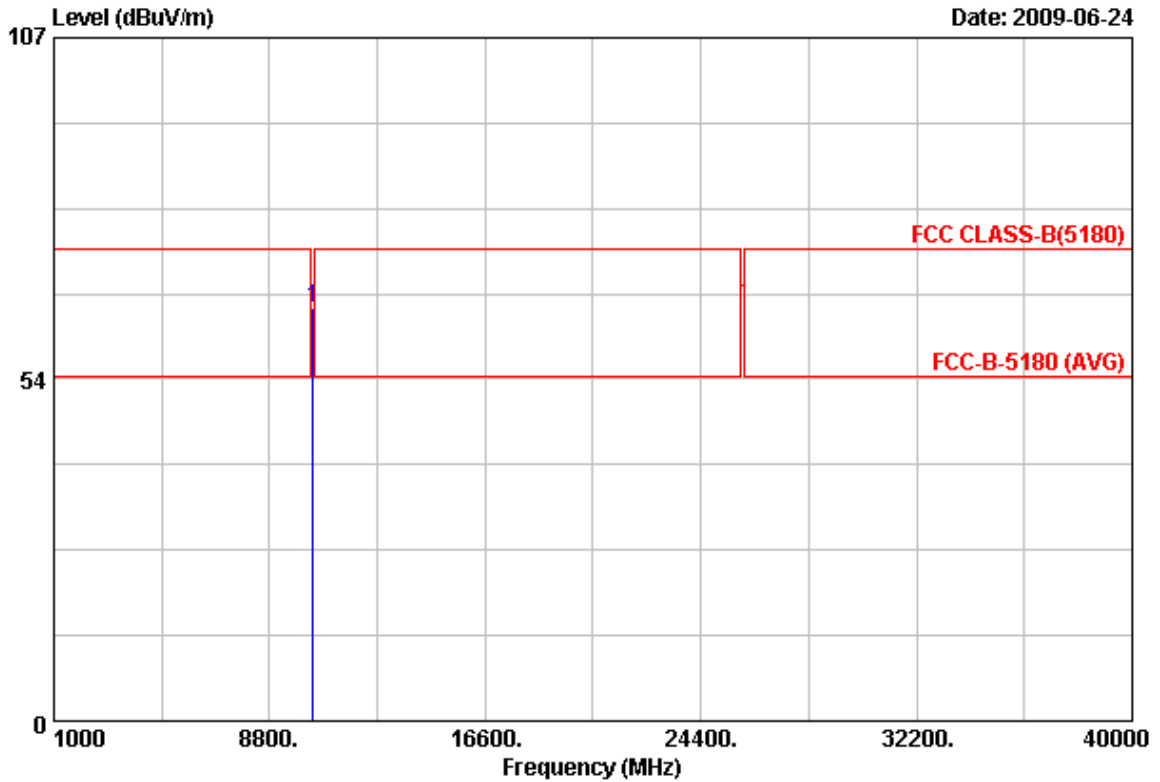
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	522.60	43.90	-6.07	37.83	46.00	-8.17	Peak	104	360
2	534.50	39.69	-5.43	34.26	46.00	-11.74	Peak	104	360
3	587.00	39.56	-2.05	37.51	46.00	-8.49	Peak	104	360
4	651.40	38.58	-2.36	36.22	46.00	-9.78	Peak	104	360
5	811.00	42.31	-0.31	42.00	46.00	-4.00	QP	104	360
6	912.50	33.81	2.35	36.16	46.00	-9.84	Peak	104	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. According to technical experiences, all spurious emission of 802.11an HT40 mode at channel 38, 42, 46 are almost the same below 1GHz, so that the channel 38 was chosen as representative in final test.
5. The data is worse case.



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: 802.11an HT40, CH38	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



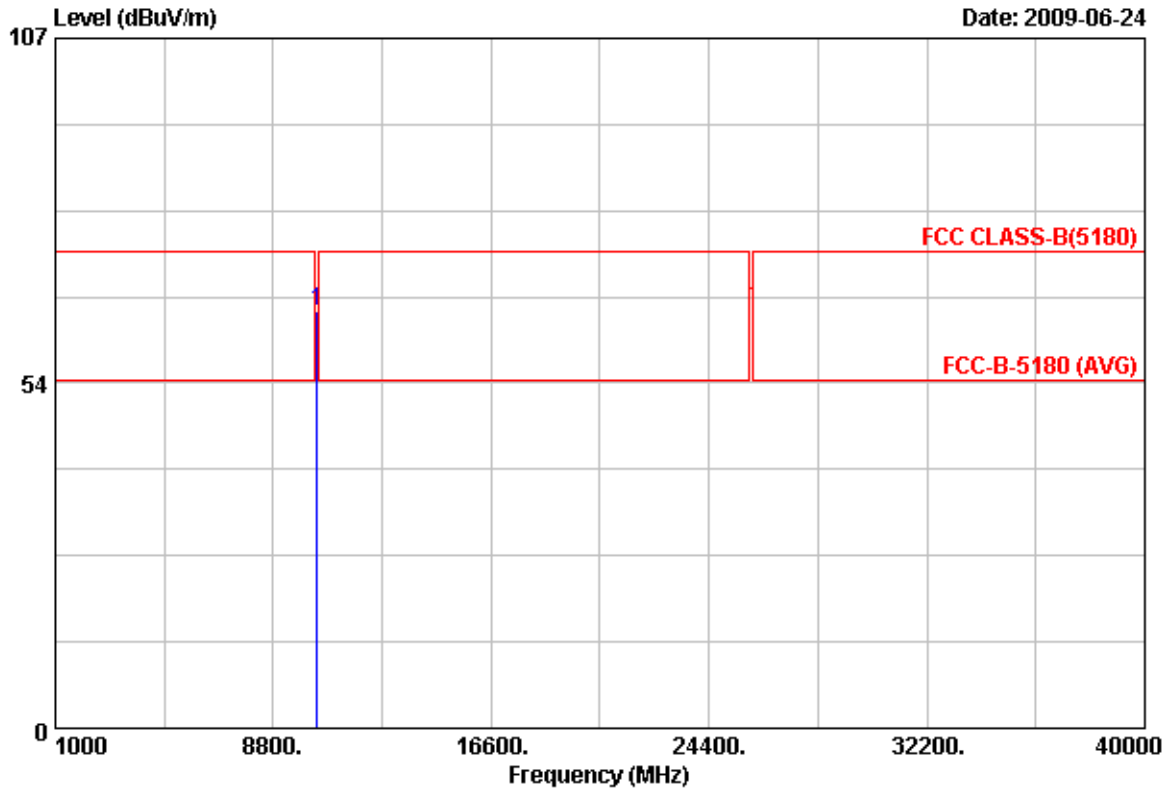
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	10384.35	46.92	17.68	64.60	68.30	-3.70	Peak	103	360

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 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	: 802.11an HT40, CH38	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



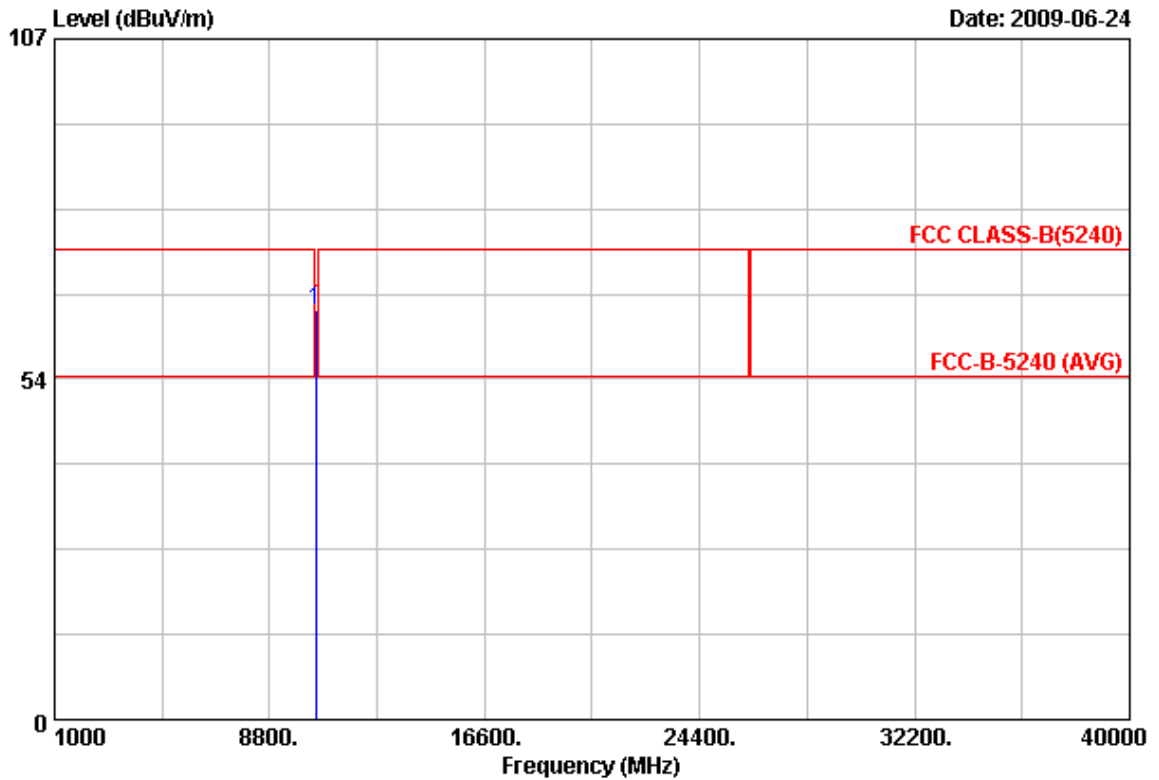
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	10384.75	47.01	17.68	64.69	68.30	-3.61	Peak	103	360

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 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	: 802.11an HT40, CH46	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



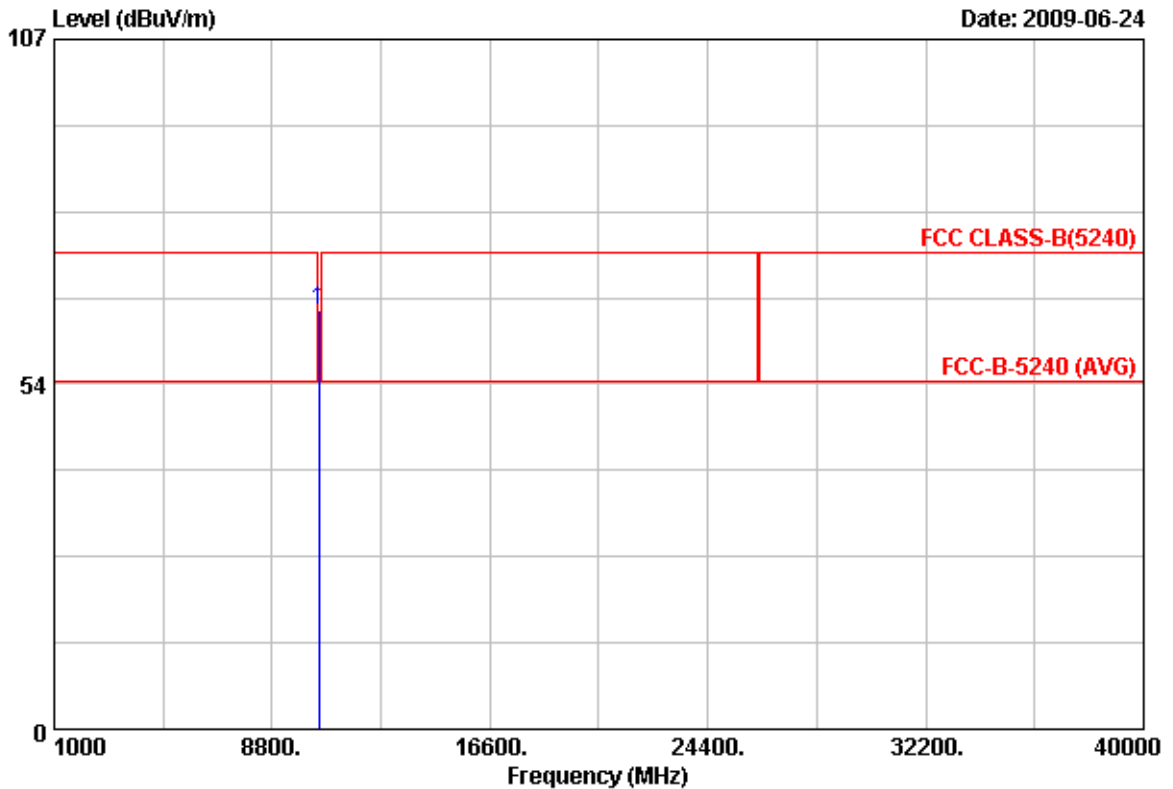
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		cm	Deg
1	10461.65	46.76	17.76	64.52	68.30	-3.78	Peak	103	360

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 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	: 802.11an HT40, CH46	Temperature	: 26 °C
Memo	:	Humidity	: 58 %



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	10458.85	47.21	17.76	64.97	68.30	-3.33	Peak	103	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 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.

Test engineer: Ben



5.5. Photographs of Radiated Emission Test

Front View



Rear View



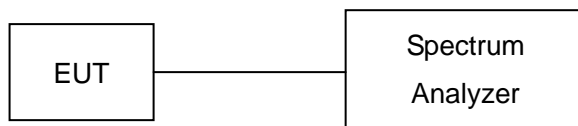


6. Peak Transmit Power

6.1. Test Procedure

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

6.2. Test Setup Layout



6.3. Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date.
Spectrum Analyzer	FSP40	R&S	10047	2009/02/21	2010/02/20



6.4. Test Result and Data

Test Date: Jun. 12, 2009

Temperature: 25

Atmospheric pressure: 1019 hPa

Humidity: 61%

Modulation Standard: IEEE 802.11a (54Mbps)

Channel	Frequency (MHz)	Peak Power Output (dBm)	Peak Power Output (mW)	26dB Occupied Bandwidth (MHz)
36	5180	13.97	24.9	19.8
44	5220	13.50	22.4	21.2
48	5240	14.28	26.8	21.3

Modulation Standard: IEEE 802.11an, HT20 (65Mbps)

Channel	Frequency (MHz)	Peak Power Output (dBm)	Peak Power Output (mW)	26dB Occupied Bandwidth (MHz)
36	5180	14.01	25.2	21.8
44	5220	13.86	24.3	20.3
48	5240	13.57	22.8	21.8

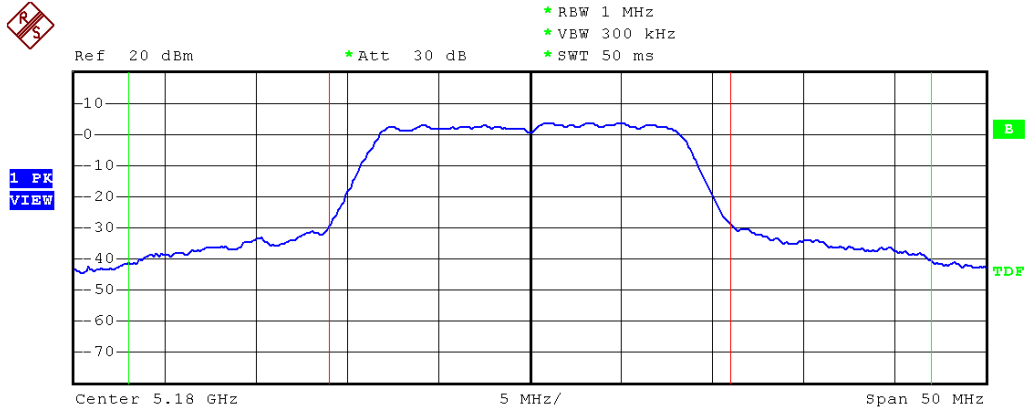
Modulation Standard: IEEE 802.11an, HT40 (130Mbps)

Channel	Frequency (MHz)	Peak Power Output (dBm)	Peak Power Output (mW)	26dB Occupied Bandwidth (MHz)
38	5190	13.85	24.30	39.60
42	5210	---	---	---
46	5230	13.89	24.50	39.80



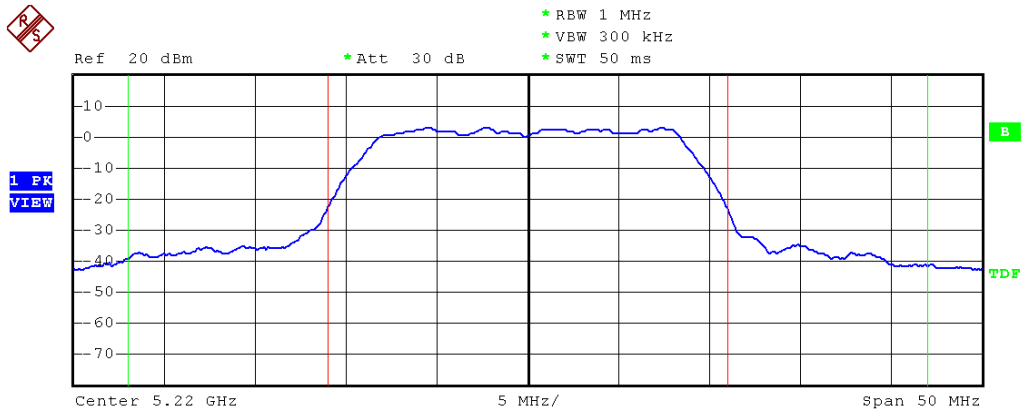
Peak Transmit Power

Modulation Standard: 802.11a (54Mbps)
Channel: 36



Tx Channel			
Bandwidth	22 MHz	Power	13.97 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-39.39 dB
Spacing	16.5 MHz	Upper	-38.75 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

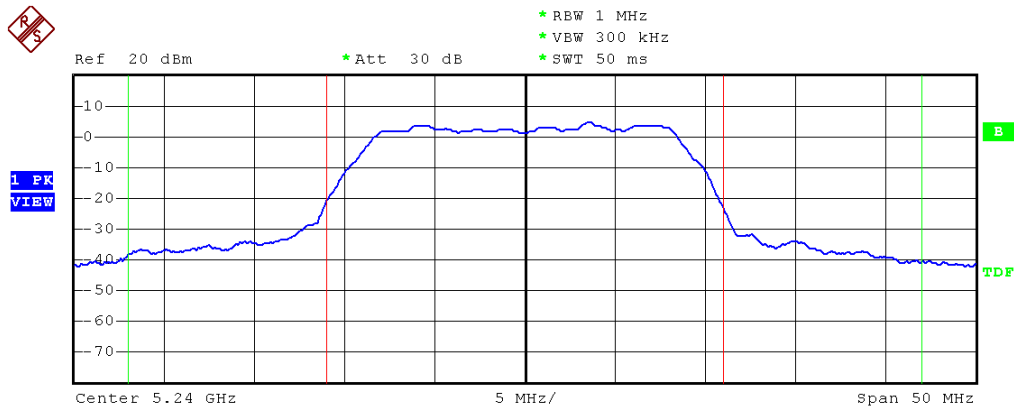
Modulation Standard: 802.11a (54Mbps)
Channel: 44



Tx Channel			
Bandwidth	22 MHz	Power	13.50 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-37.67 dB
Spacing	16.5 MHz	Upper	-38.77 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

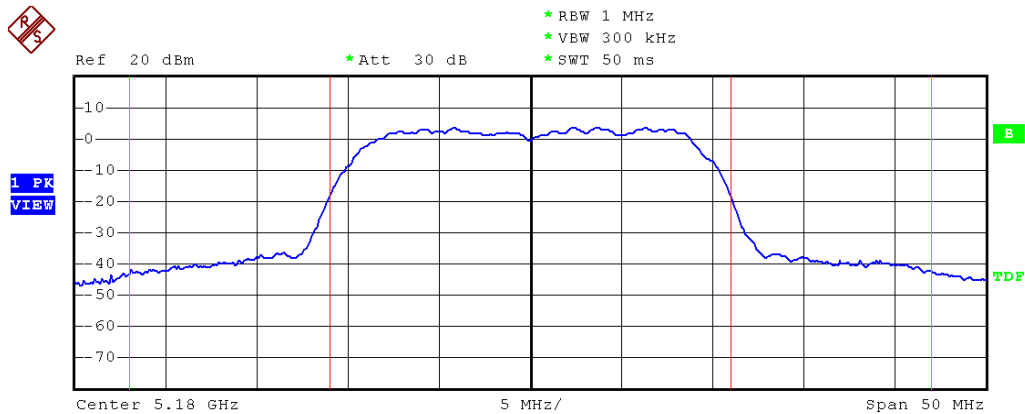


Modulation Standard: 802.11a (54Mbps)
Channel: 48



Tx Channel			
Bandwidth	22 MHz	Power	14.28 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-37.39 dB
Spacing	16.5 MHz	Upper	-38.90 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

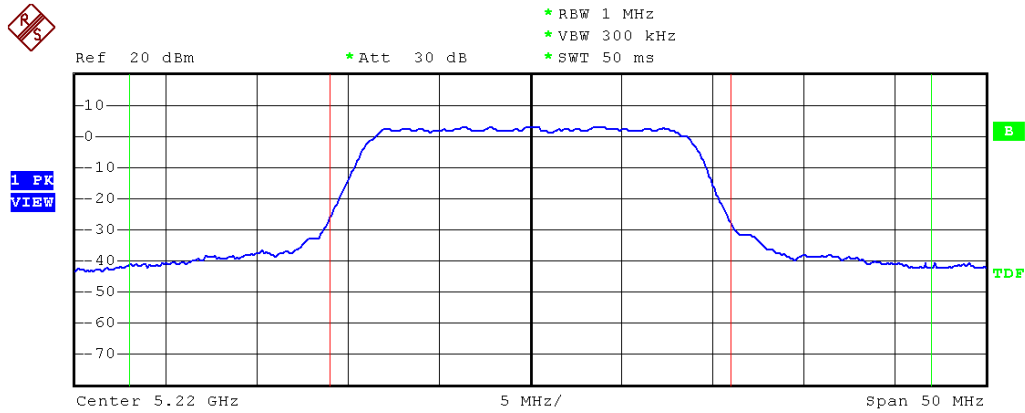
Modulation Standard: 802.11an, HT20 (65Mbps)
Channel: 36



Tx Channel			
Bandwidth	22 MHz	Power	14.01 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-37.51 dB
Spacing	16.5 MHz	Upper	-37.36 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

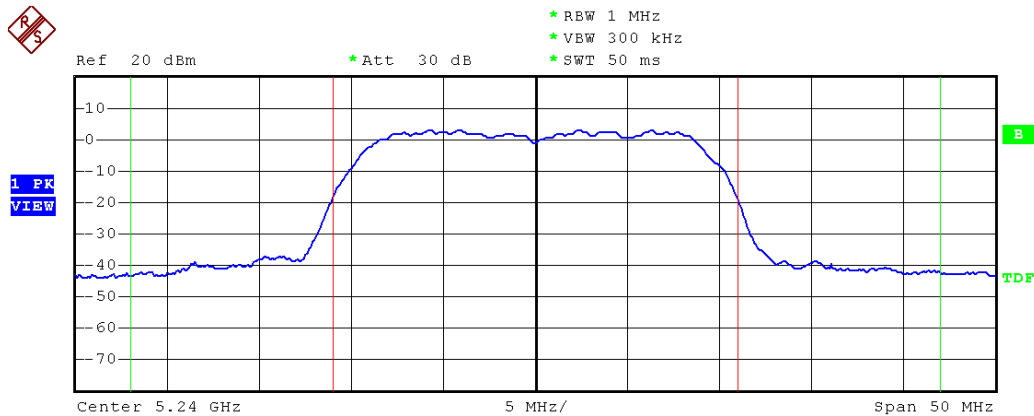


Modulation Standard: 802.11an, HT20 (65Mbps)
Channel: 44



Tx Channel			
Bandwidth	22 MHz	Power	13.86 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-40.89 dB
Spacing	16.5 MHz	Upper	-40.83 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----

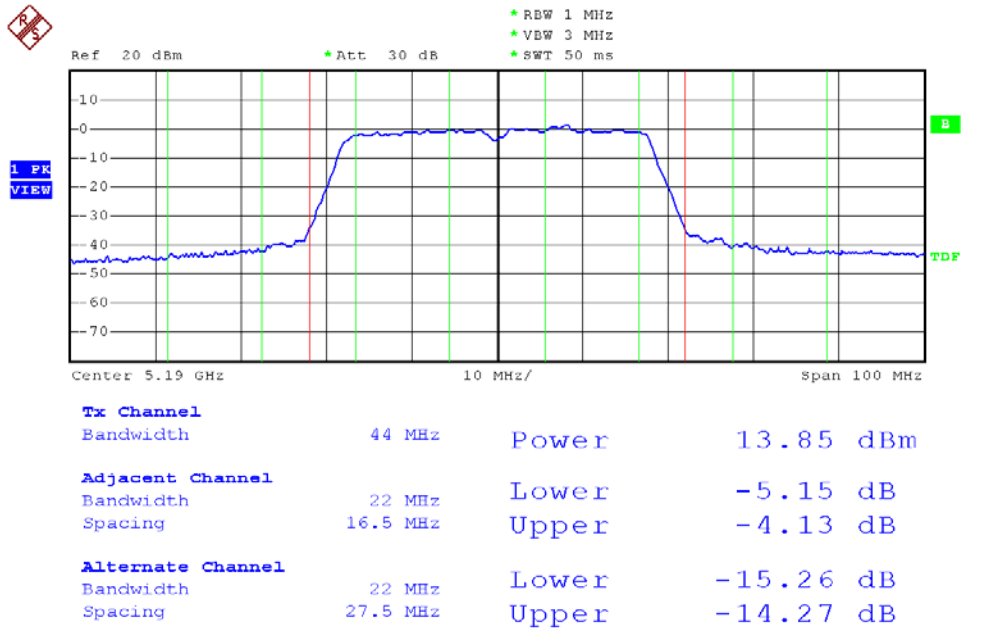
Modulation Standard: 802.11an, HT20 (65Mbps)
Channel: 48



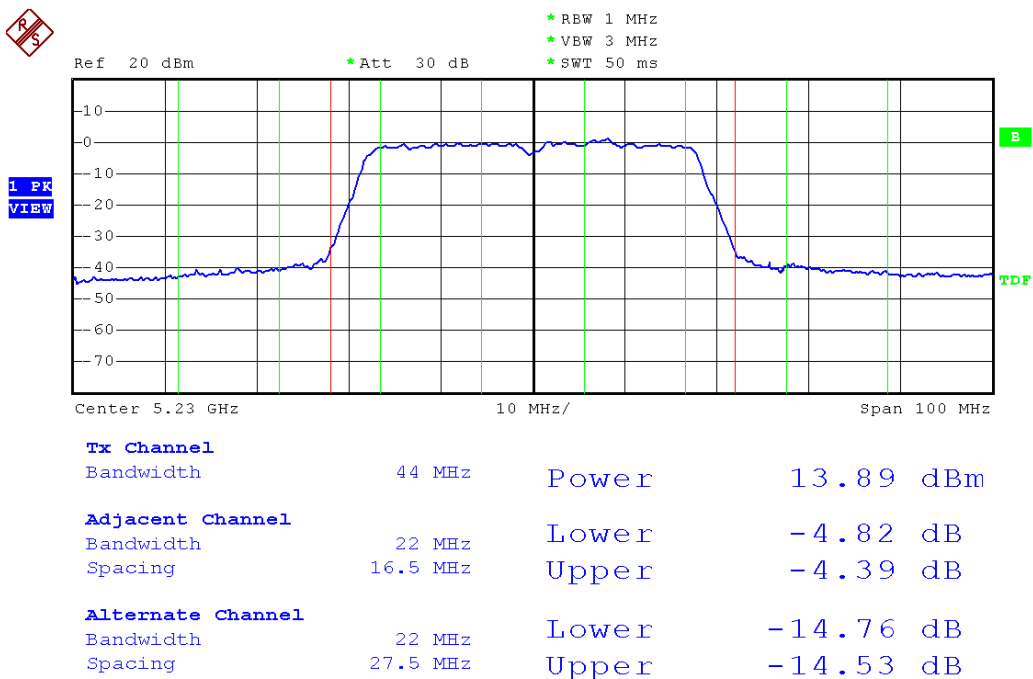
Tx Channel			
Bandwidth	22 MHz	Power	13.57 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-37.30 dB
Spacing	16.5 MHz	Upper	-37.79 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-----
Spacing	27.5 MHz	Upper	-----



Modulation Standard: 802.11an HT40 (130Mbps)
Channel: 38



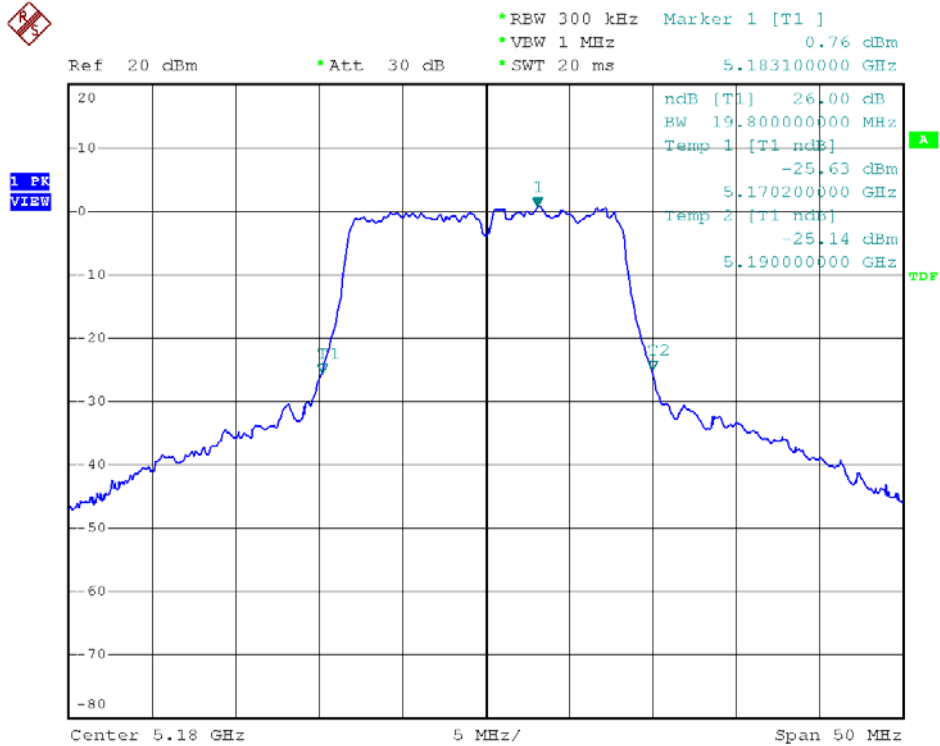
Modulation Standard: 802.11an HT40 (130Mbps)
Channel: 46



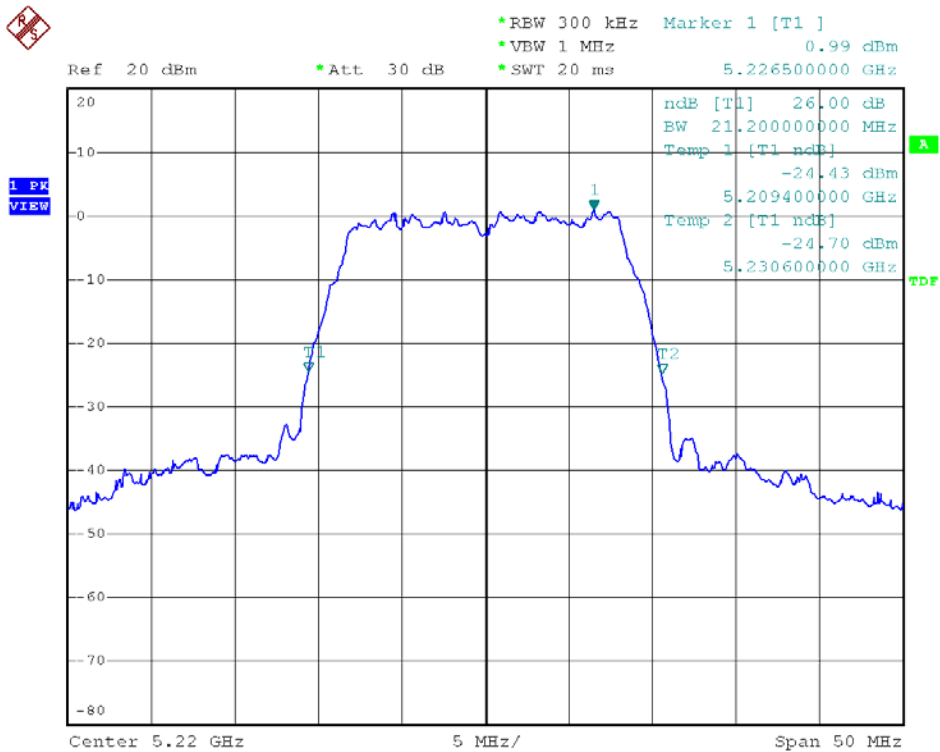


26dB Occupied Bandwidth

Modulation Standard: 802.11a (54Mbps)
Channel: 36

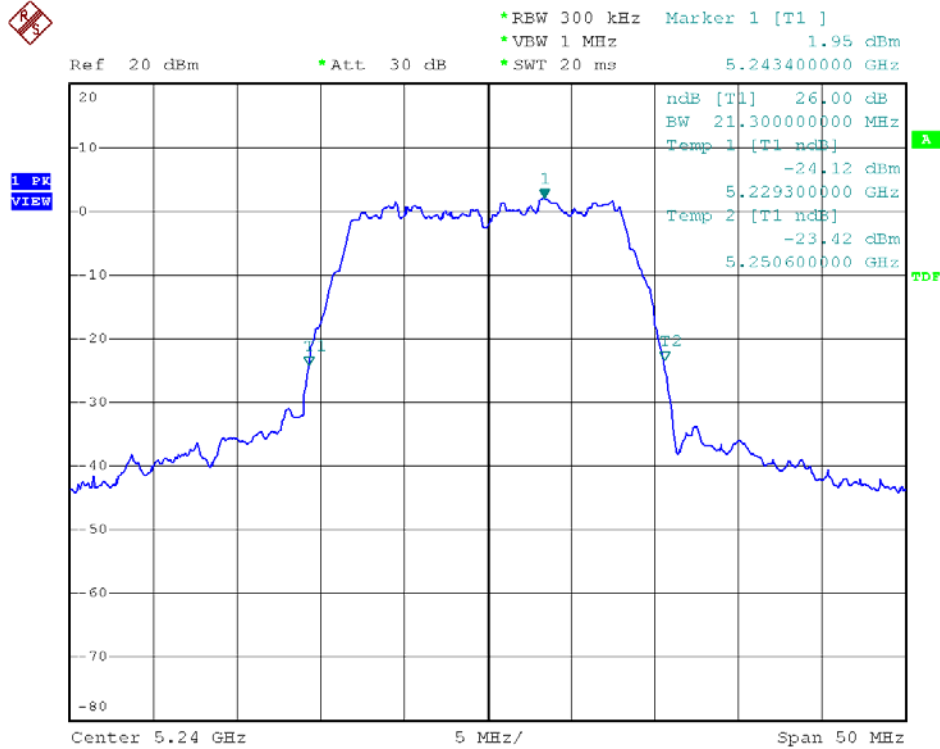


Modulation Standard: 802.11a (54Mbps)
Channel: 44

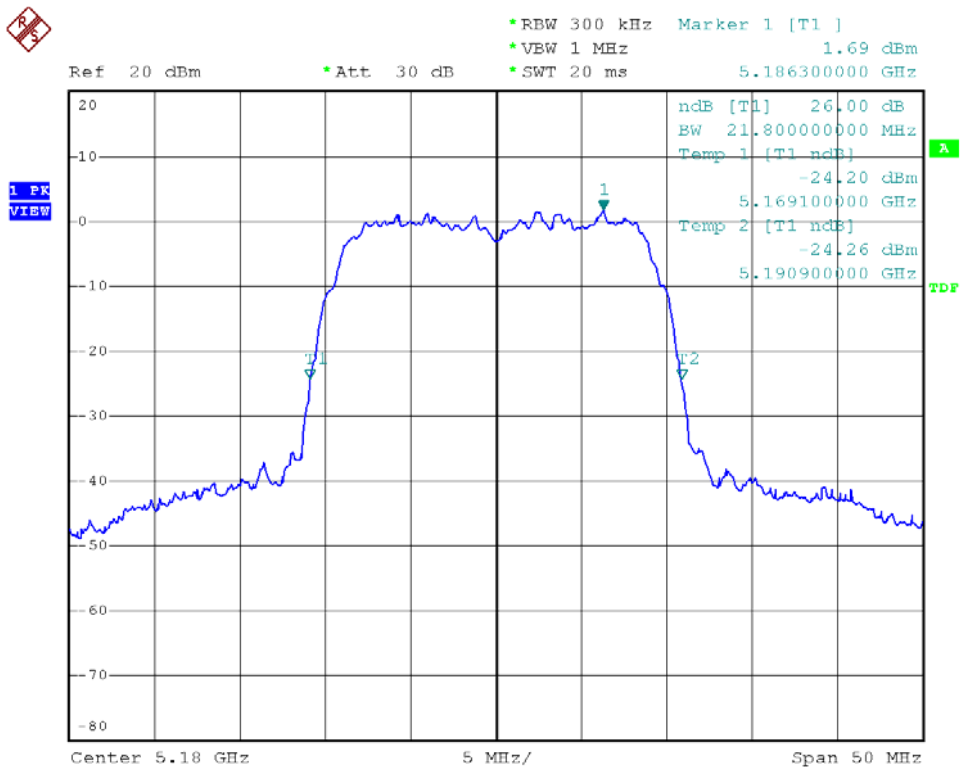




Modulation Standard: 802.11a (54Mbps)
Channel: 48

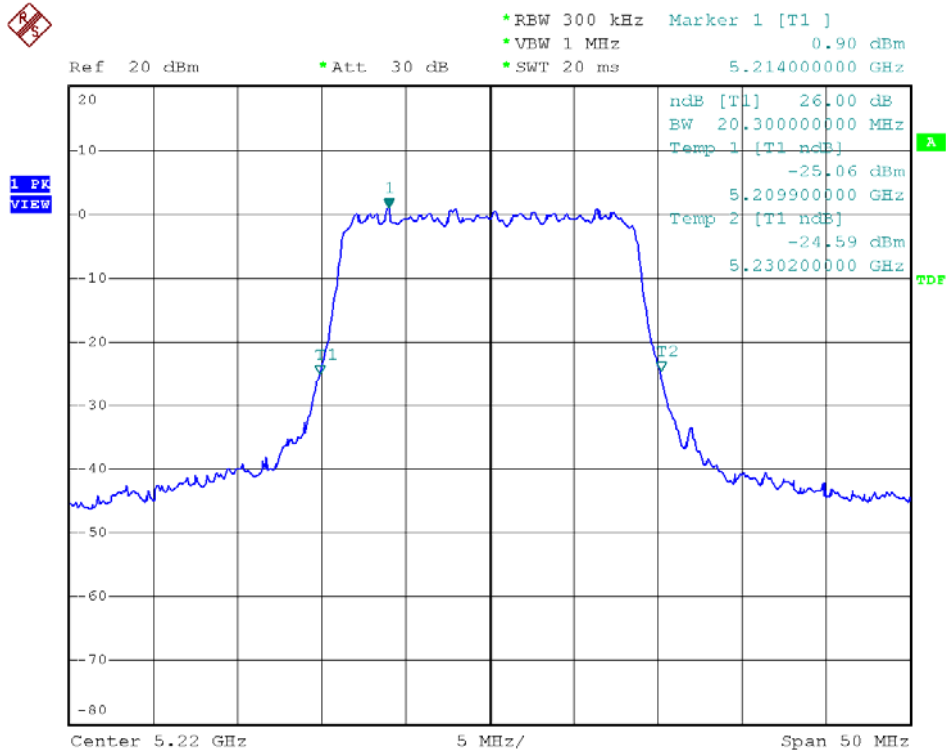


Modulation Standard: 802.11an, HT20 (65Mbps)
Channel: 36

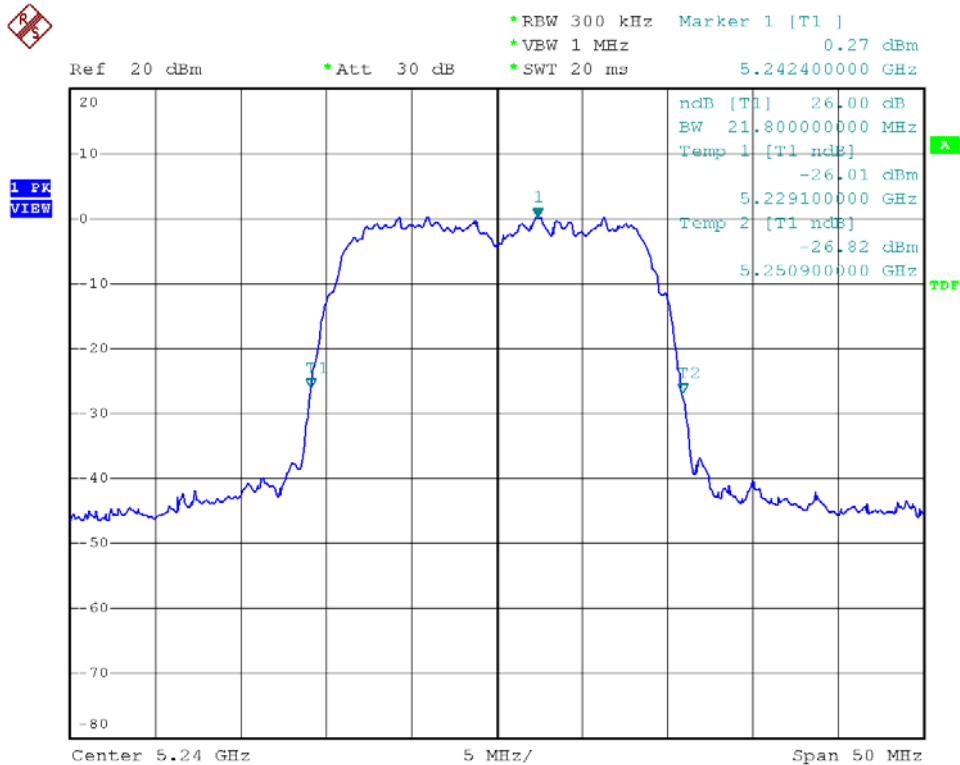




Modulation Standard: 802.11an, HT20 (65Mbps)
Channel: 44

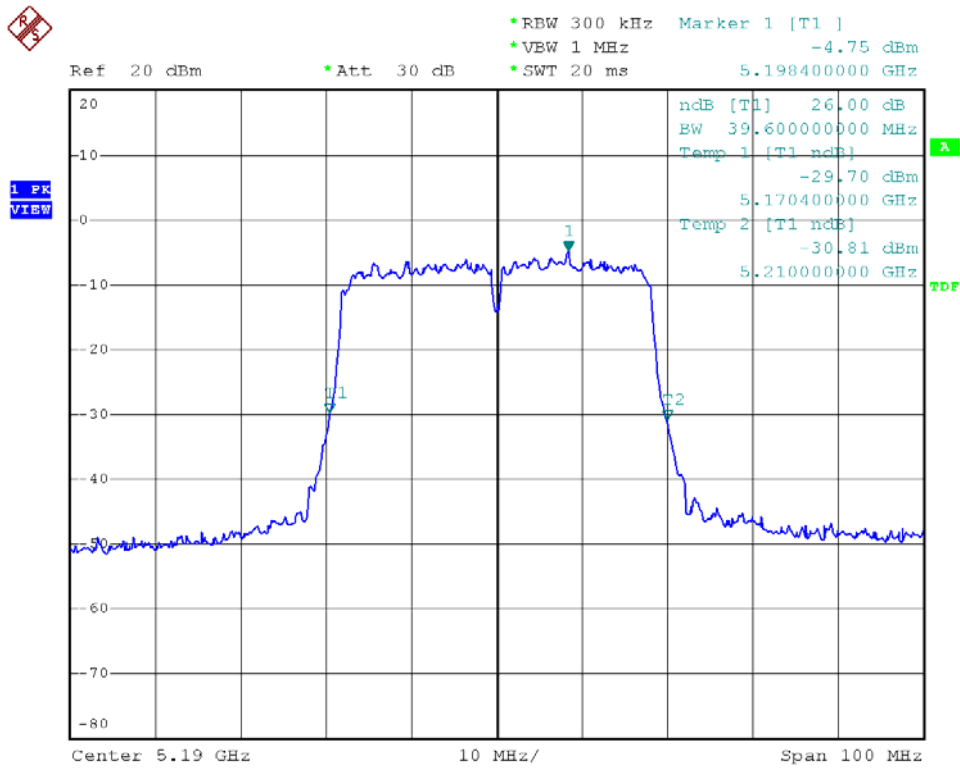


Modulation Standard: 802.11an, HT20 (65Mbps)
Channel: 48

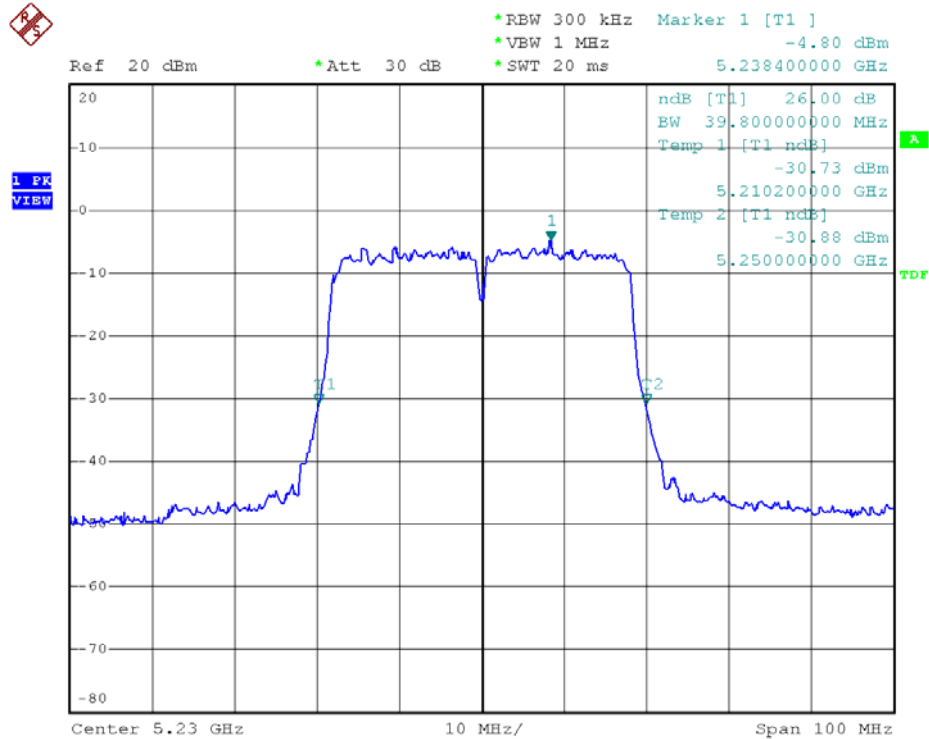




Modulation Standard: 802.11an HT40 (130Mbps)
Channel: 38



Modulation Standard: 802.11an HT40 (130Mbps)
Channel: 46



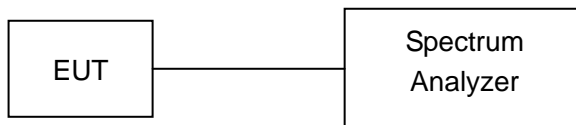


7. Peak Power Excursion

7.1. Test Procedure

1. The transmitter output was connected to the spectrum analyzer
2. Using Peak detector and max-hold function for Trace 1 MHz and VBW to 3 MHz for Trace 1. Using average detector for Trace 2.
3. Set RBW of spectrum analyzer to 1 MHz and VBW to 3 MHz for Trace 1.
4. Set RBW of spectrum analyzer to 1 MHz and VBW to 300 kHz for Trace 2.
5. The largest difference between Trace 1 and Trace 2 in any 1 MHz band on any frequency was recorded.

7.2. Test Setup Layout



7.3. Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date.
Spectrum Analyzer	FSP40	R&S	10047	2009/02/21	2010/02/20

7.4. Test Result and Data

Test Date: Mar. 10, 2009

Temperature: 25

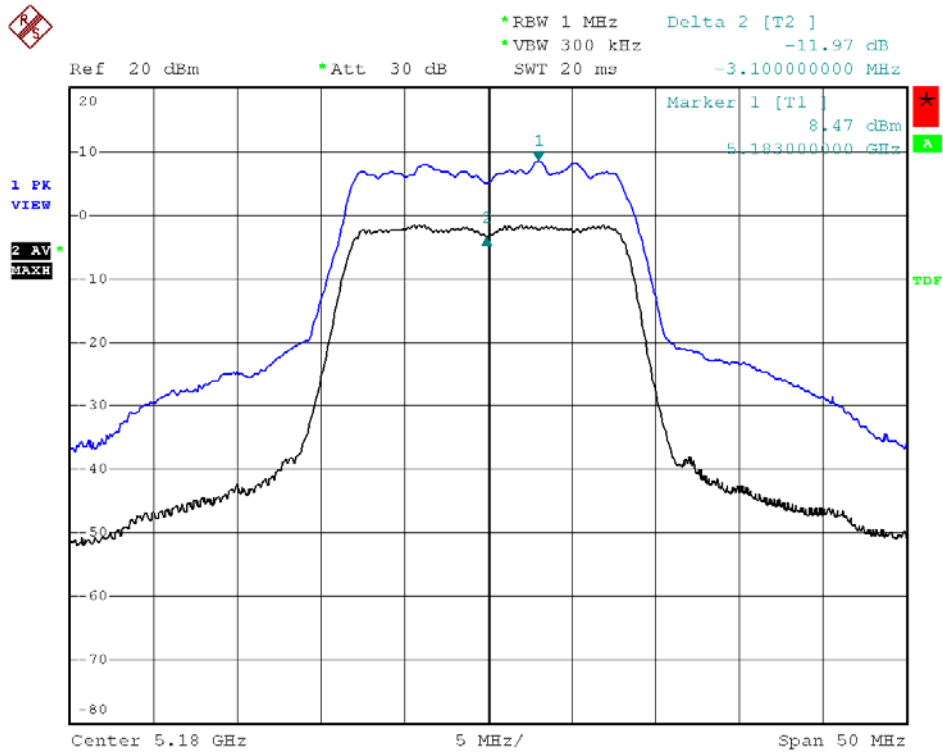
Atmospheric pressure: 1024 hPa

Humidity: 48%

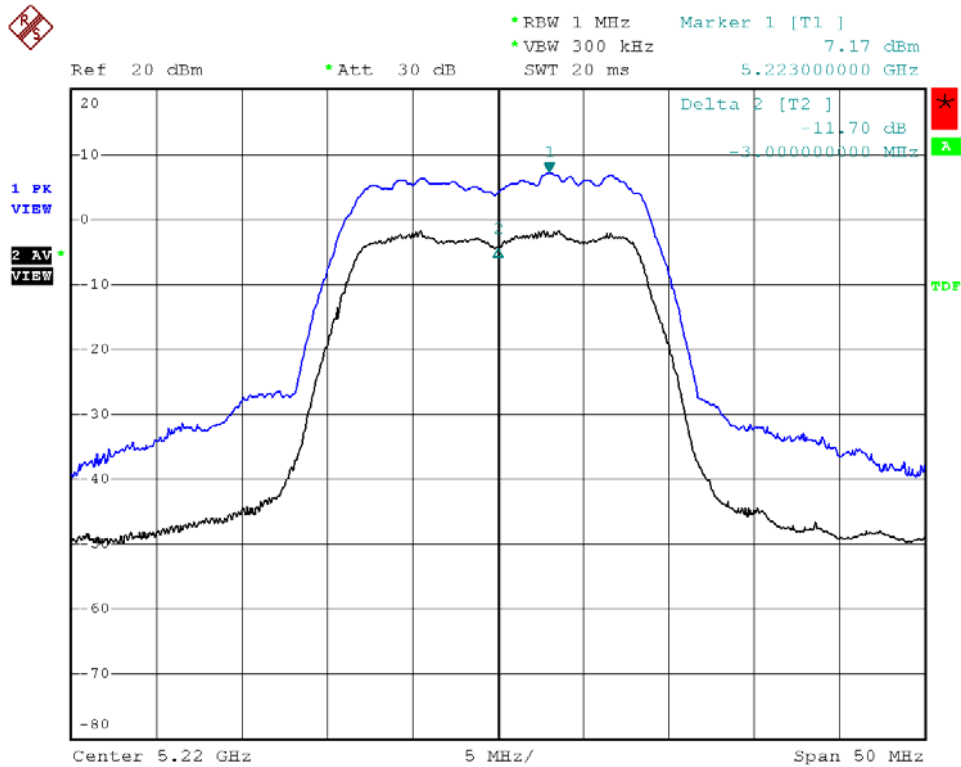
Modulation Standard	Channel	Frequency (MHz)	Peak Power Output (dBm)	Limit (dB)
802.11a (54Mbps)	36	5180	11.97	13
	44	5220	11.70	13
	48	5240	11.14	13
802.11an HT20 (65Mbps)	36	5180	12.27	13
	44	5220	12.24	13
	48	5240	11.30	13
802.11an HT40 (130Mbps)	38	5190	11.13	13
	42	5210	---	13
	46	5230	10.88	13



Modulation Standard: 802.11a (54Mbps)
Channel: 36

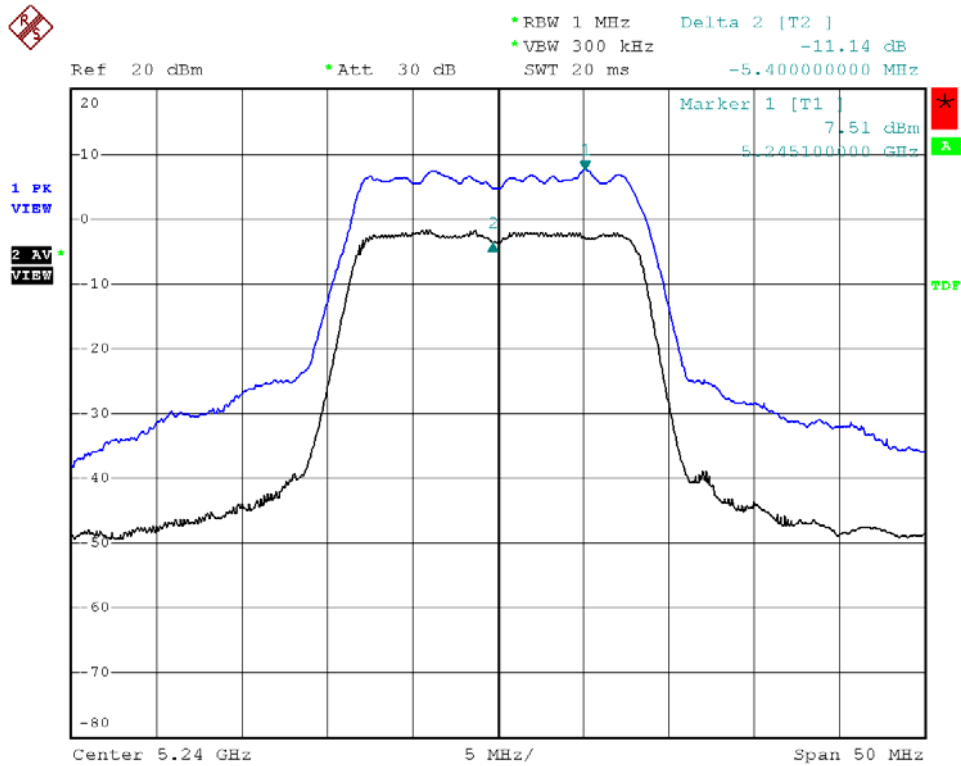


Modulation Standard: 802.11a (54Mbps)
Channel: 44

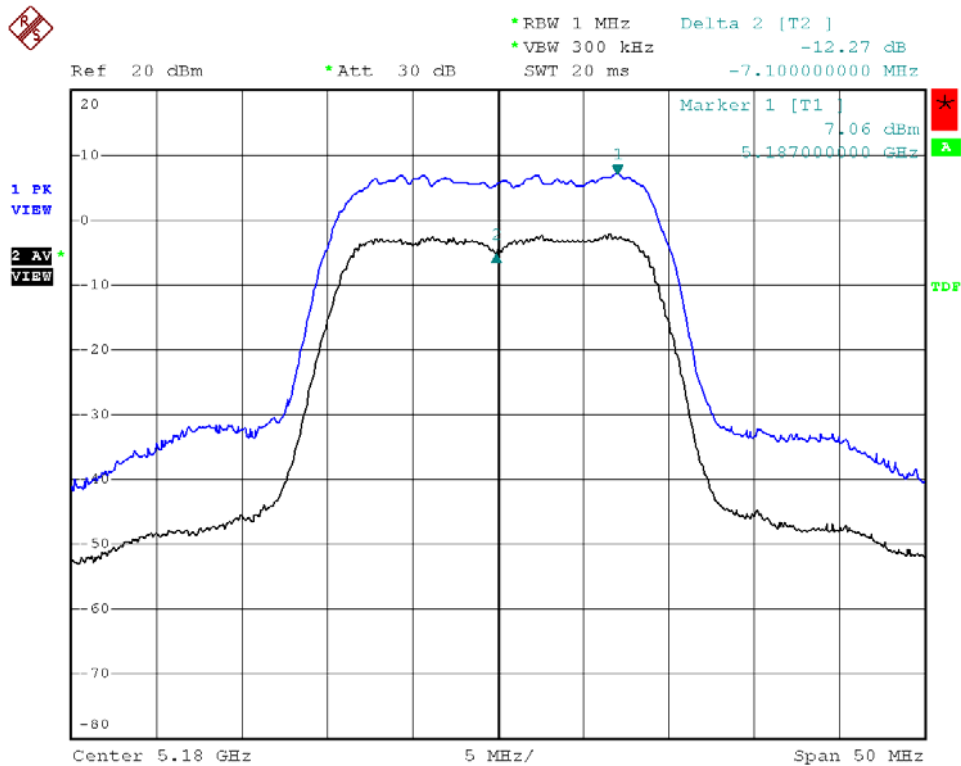




Modulation Standard: 802.11a (54Mbps)
Channel: 48

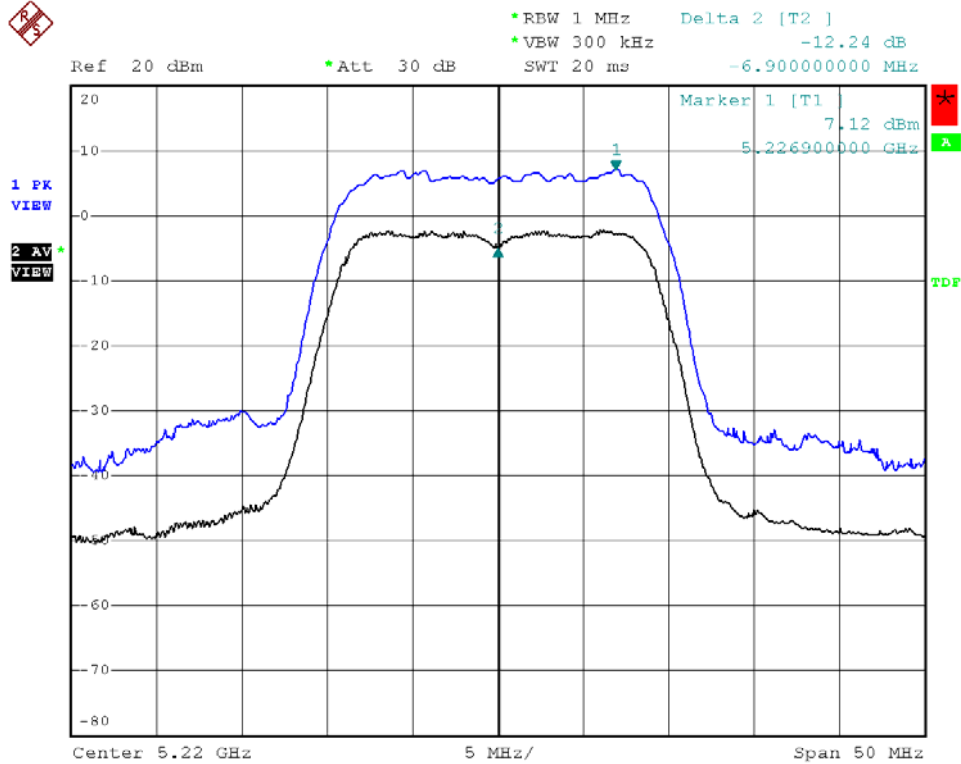


Modulation Standard: 802.11an, HT20 (65Mbps)
Channel: 36

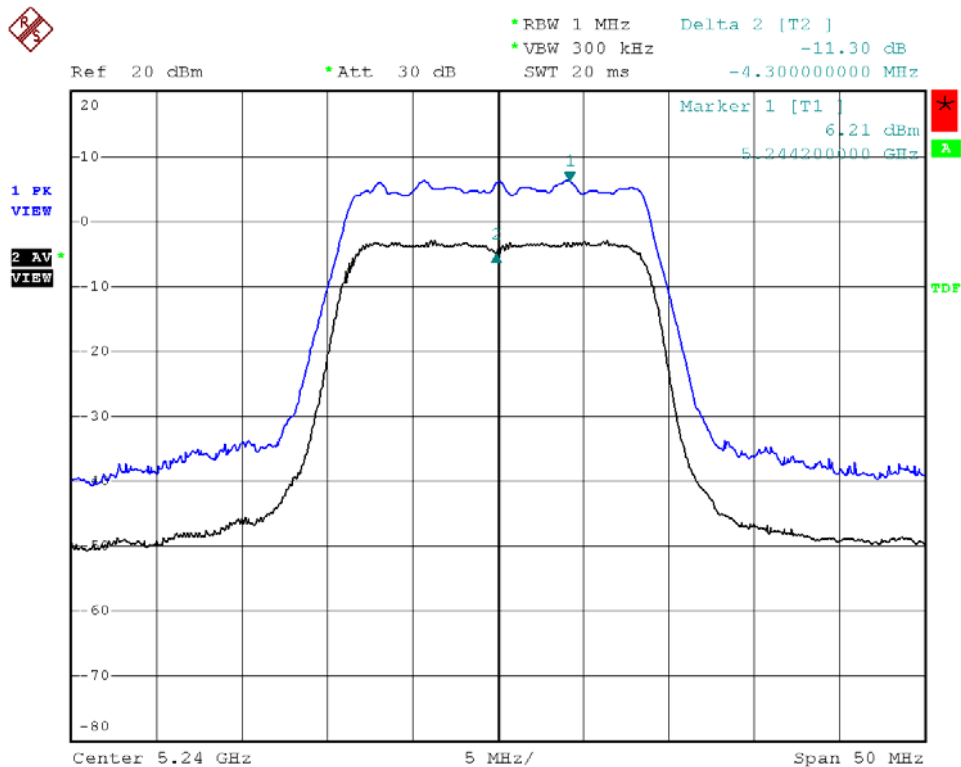




Modulation Standard: 802.11an, HT20 (65Mbps)
Channel: 44

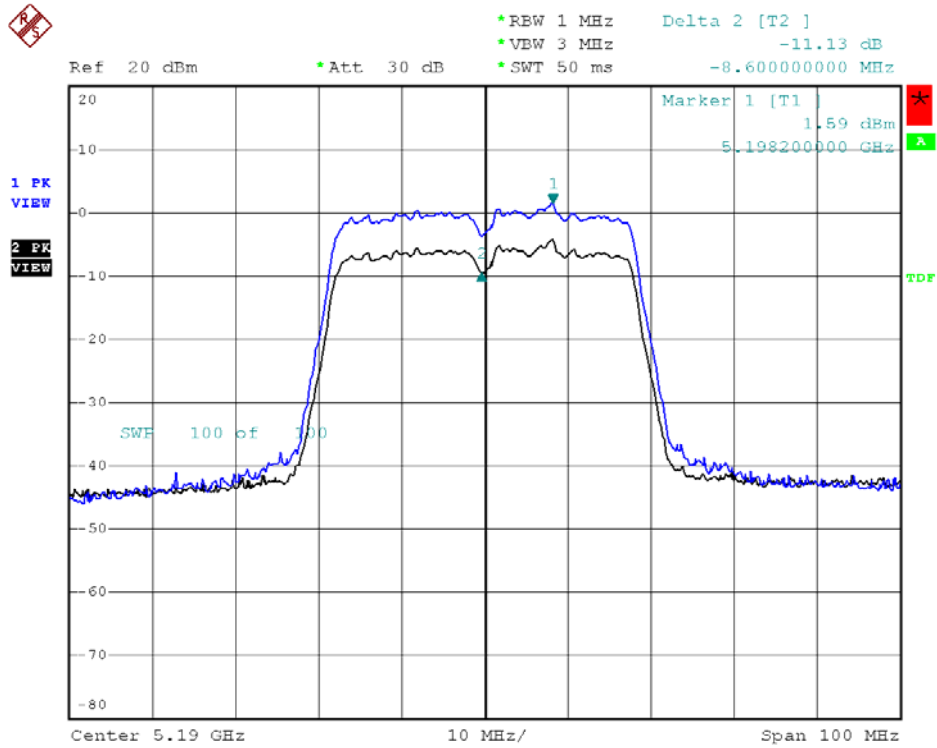


Modulation Standard: 802.11an, HT20 (65Mbps)
Channel: 48

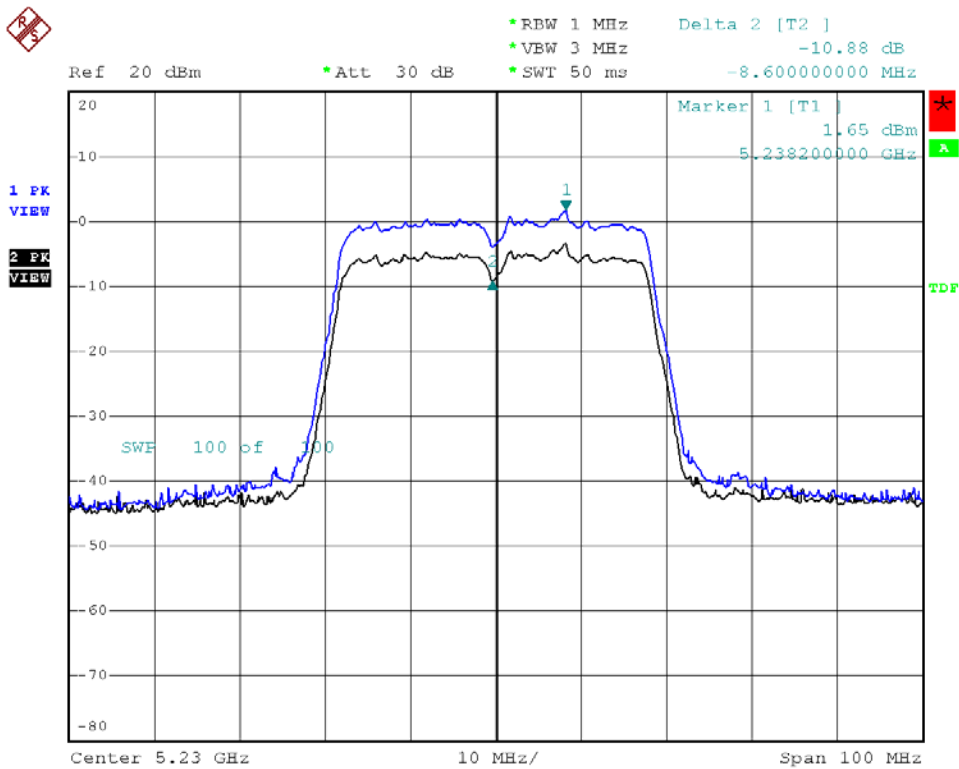




Modulation Standard: 802.11an HT40 (130Mbps)
Channel: 38



Modulation Standard: 802.11an HT40 (130Mbps)
Channel: 46



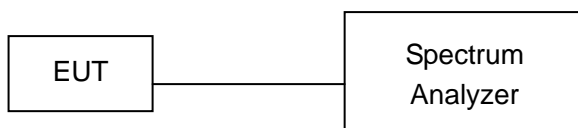


8. Peak Power Spectral Density

8.1. Test Procedure

1. The transmitter output was connected to spectrum analyzer.
2. Set RBW of spectrum analyzer to 1 MHz and VBW to 3 MHz
3. The Peak Power Spectral Density is the highest level found across the emission in any 1MHz Band

8.2. Test Setup Layout



8.3. Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date.
Spectrum Analyzer	FSP40	R&S	10047	2009/02/21	2010/02/20

8.4. Test Result and Data

Test Date: Jun. 06, 2009

Temperature: 27

Atmospheric pressure: 1015 hPa

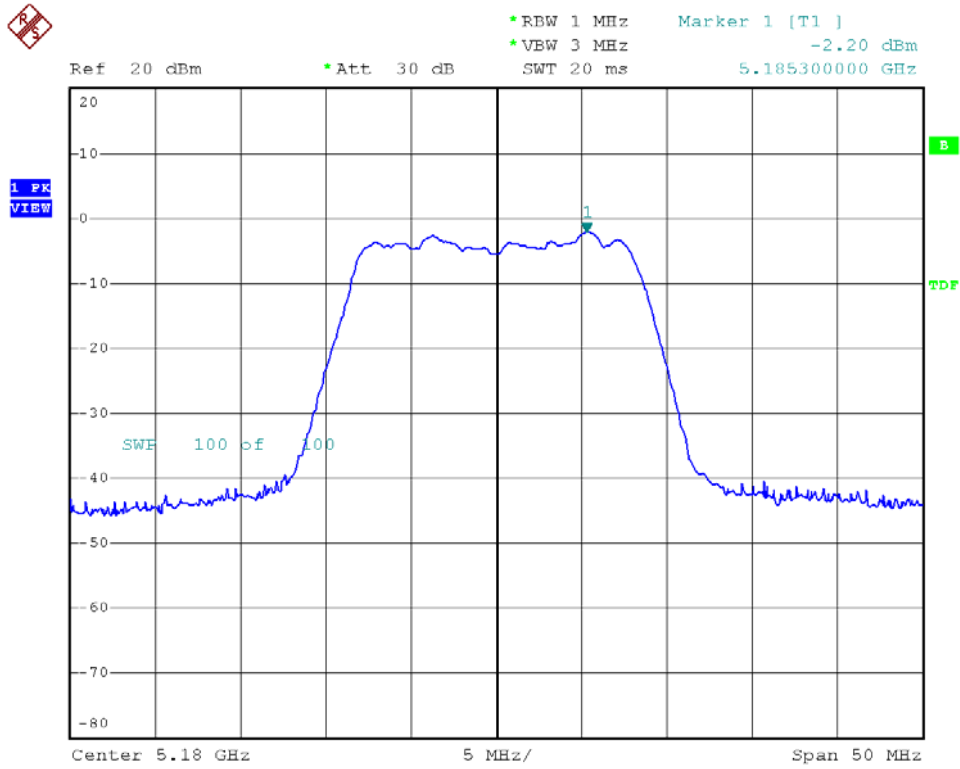
Humidity: 63%

Modulation Standard	Channel	Frequency (MHz)	RF Power Level In 1MHz BW (dBm)	Limit (dB)
802.11a (54Mbps)	36	5180	-2.20	4
	44	5220	-3.88	4
	48	5240	-3.00	4

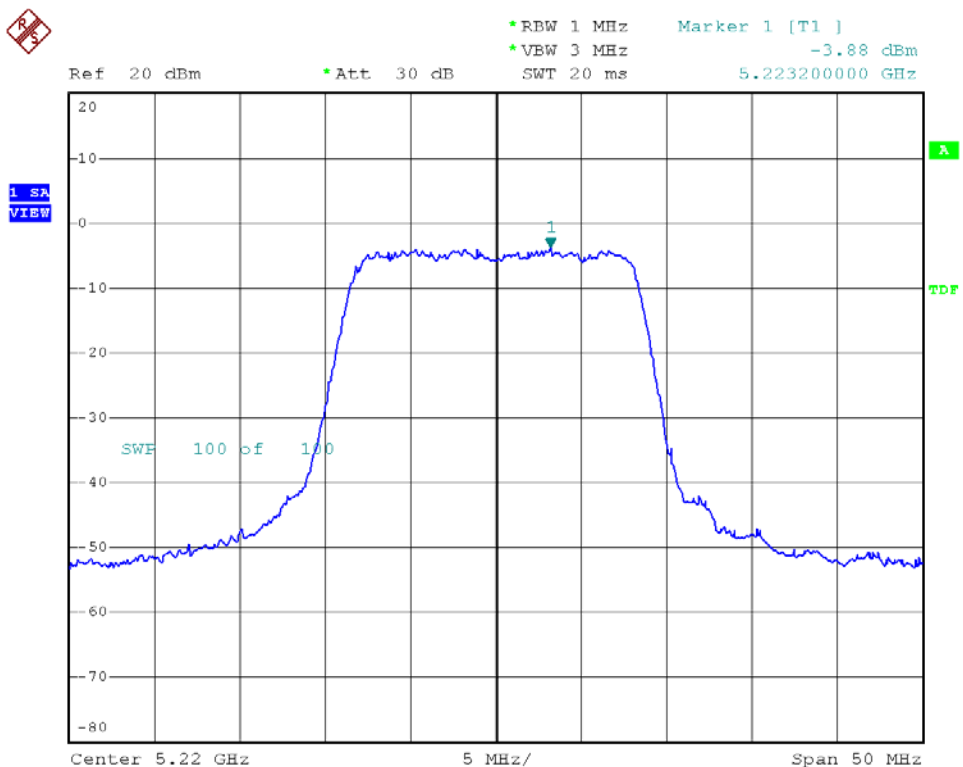
Modulation Standard	Channel	Frequency (MHz)	RF Power Level In 1MHz BW (dBm)	Limit (dB)
802.11an HT20 (65Mbps)	36	5180	-3.63	4
	44	5220	-3.39	4
	48	5240	-4.70	4
802.11an HT40 (130Mbps)	38	5190	-9.81	4
	42	5210	---	4
	46	5230	-10.91	4



Modulation Standard: 802.11a (54Mbps)
Channel: 36

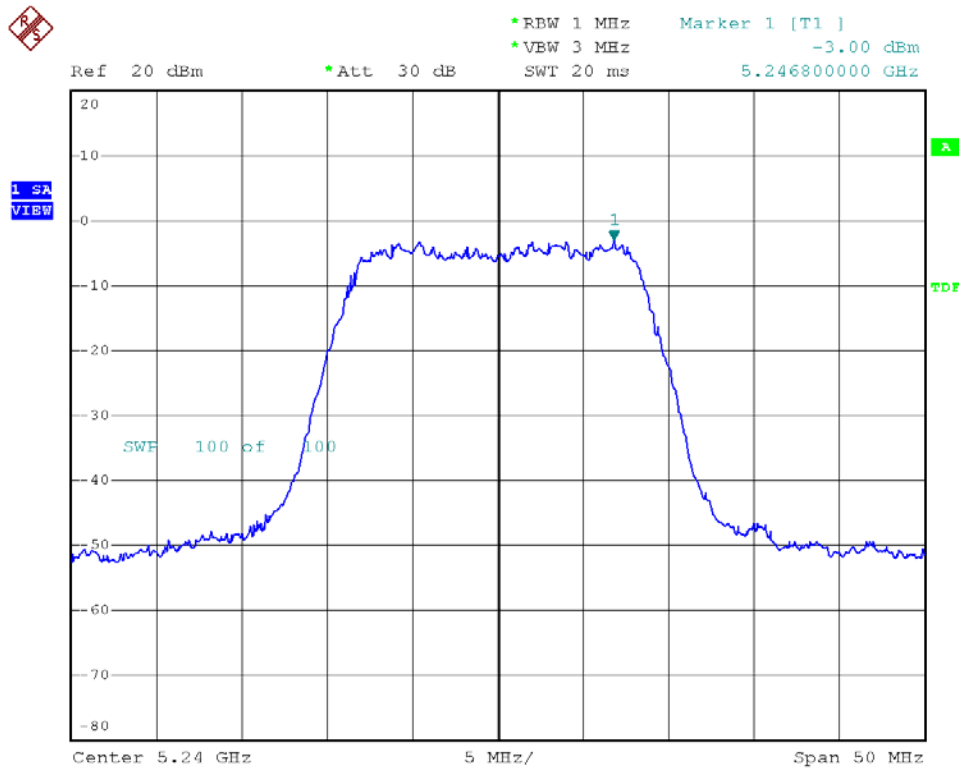


Modulation Standard: 802.11a (54Mbps)
Channel: 44

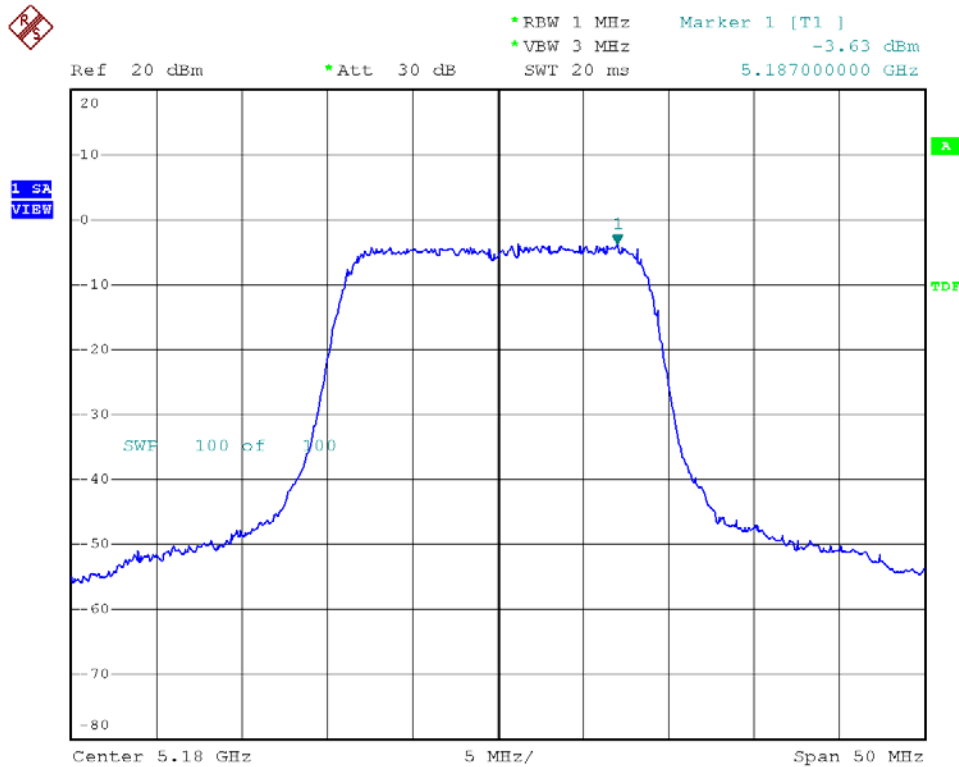




Modulation Standard: 802.11a (54Mbps)
Channel: 48

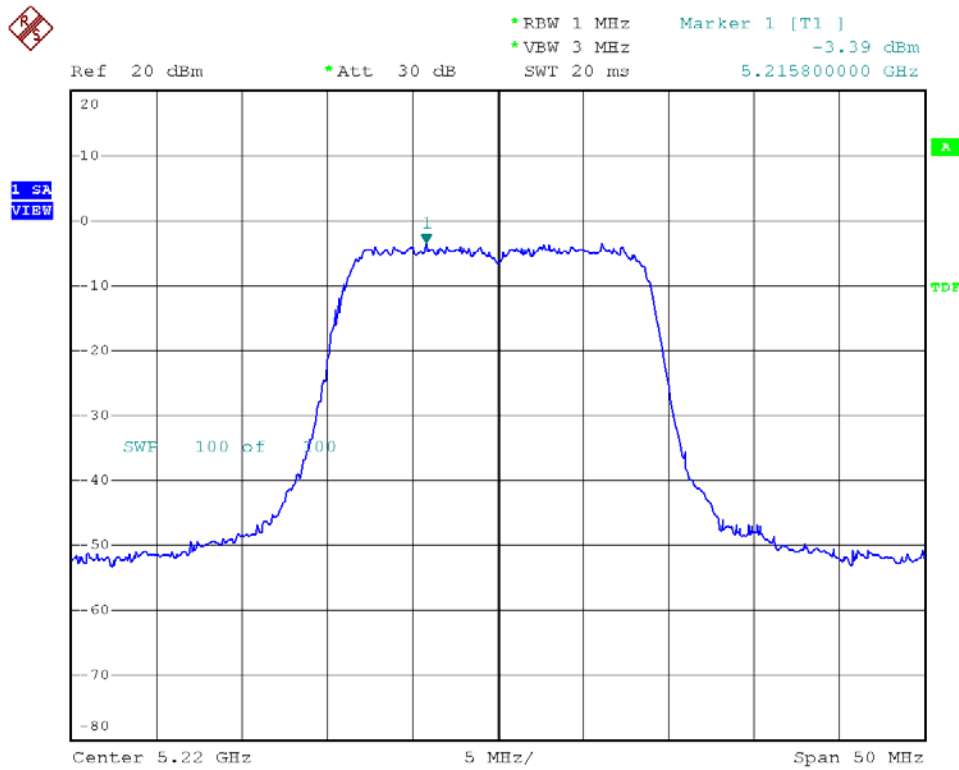


Modulation Standard: 802.11an, HT20 (65Mbps)
Channel: 36

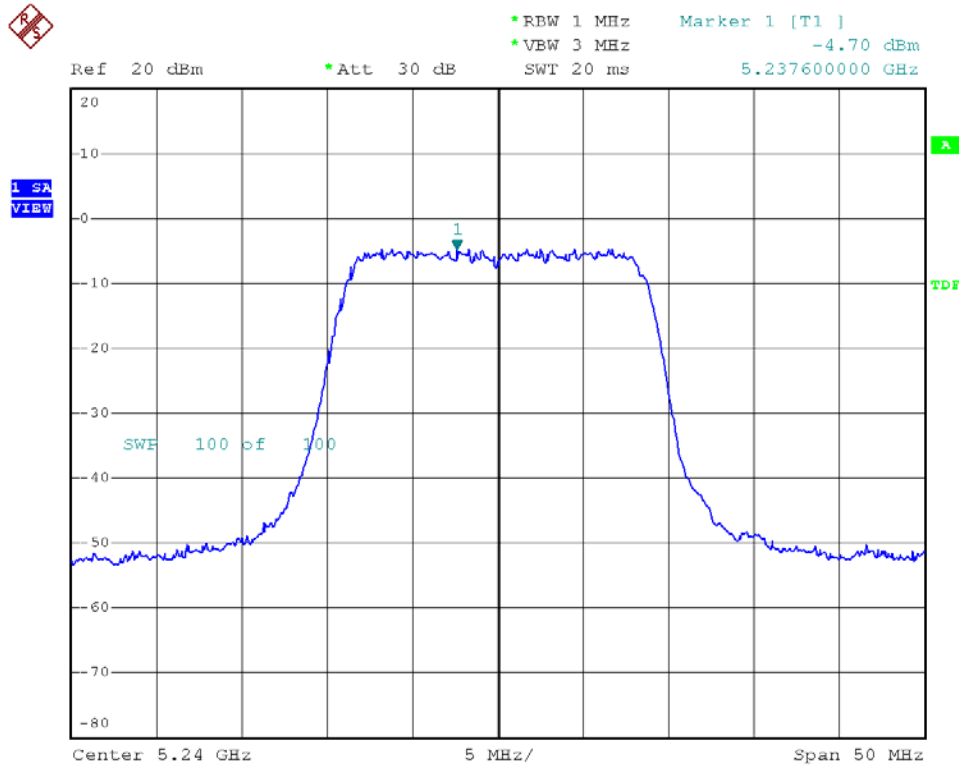




Modulation Standard: 802.11an, HT20 (65Mbps)
Channel: 44

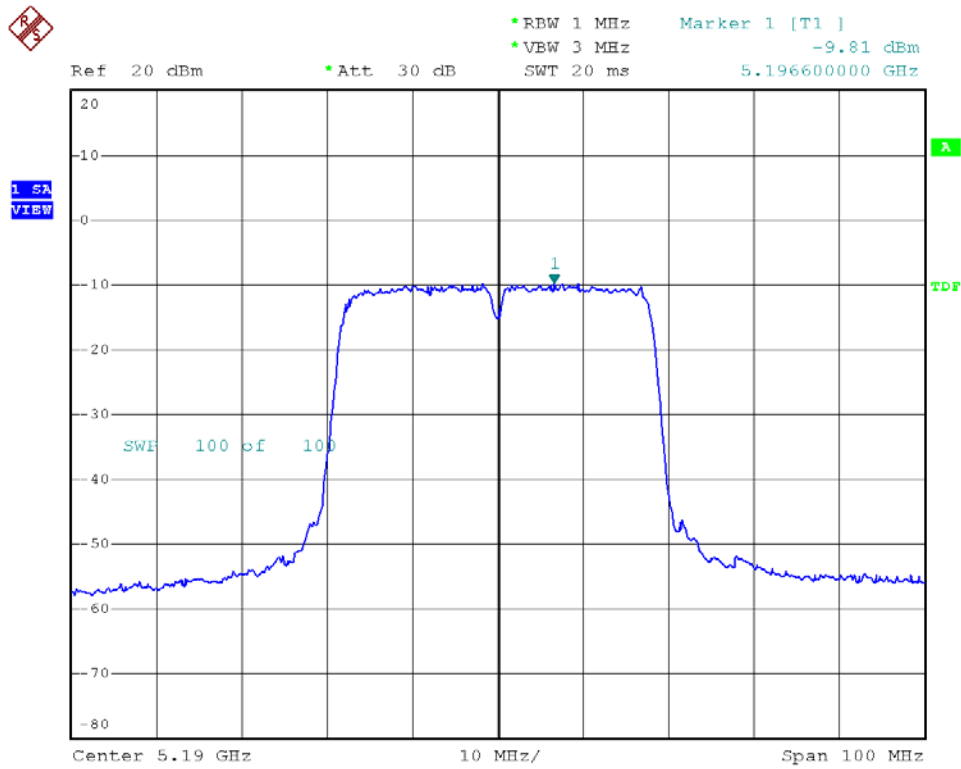


Modulation Standard: 802.11an, HT20 (65Mbps)
Channel: 48

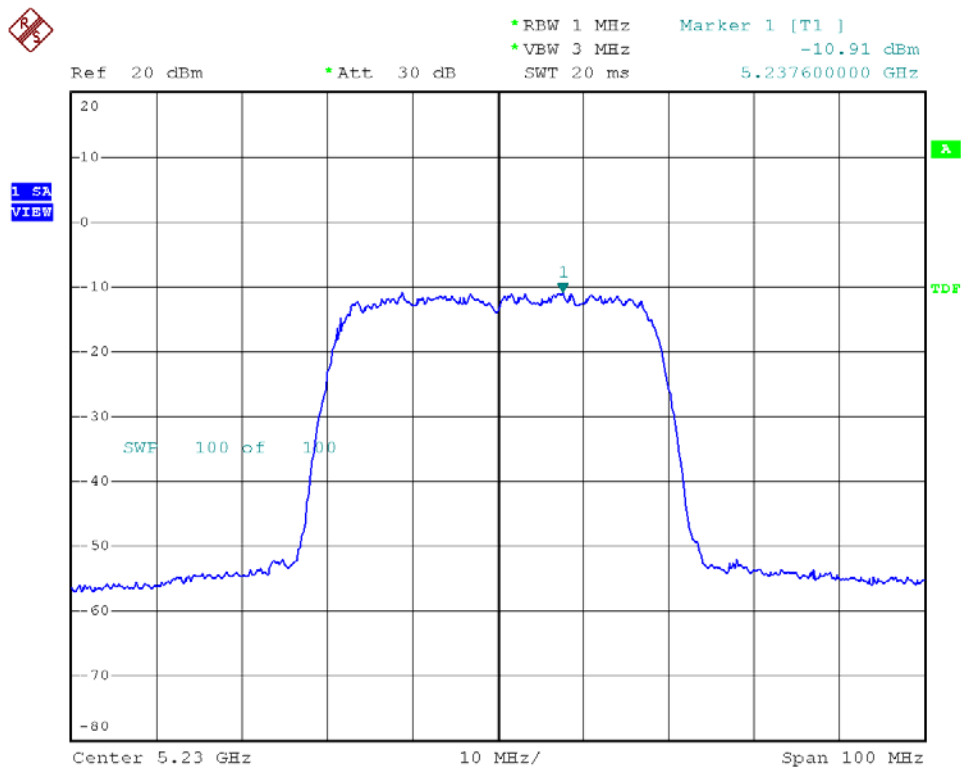




Modulation Standard: 802.11an, HT40 (130Mbps)
Channel: 38



Modulation Standard: 802.11an, HT40 (130Mbps)
Channel: 46



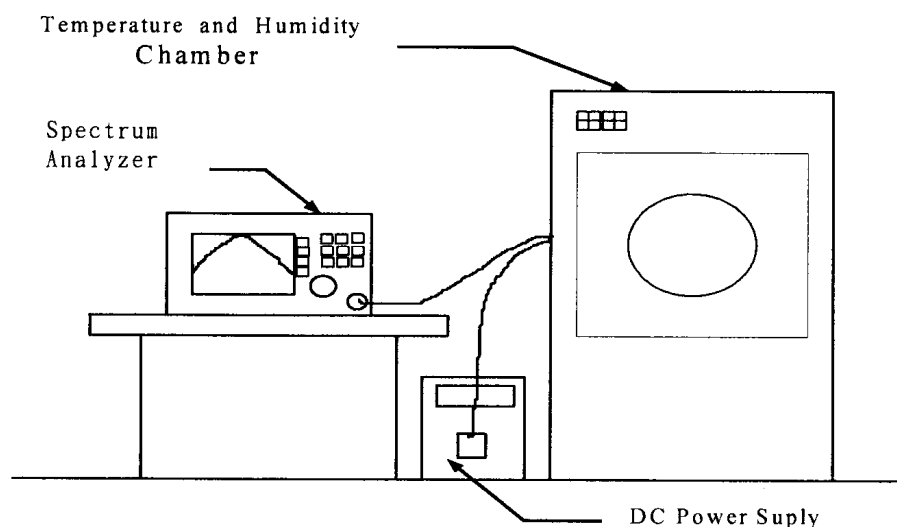


9. Frequency Stability

9.1. Test Procedure

1. The EUT was placed inside the Temperature and Humidity chamber.
2. The transmitter output was connected to spectrum analyzer.
3. Turn the EUT on and couple its output to a spectrum analyzer.
4. Turn the EUT off and set the chamber to the highest temperature specified.
5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
6. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
7. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

9.2. Test Setup Layout



9.3. Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date.
Spectrum Analyzer	FSP40	R&S	10047	2009/02/21	2010/02/20
Temperature Chamber	TMJ-9712	T MACHINE	T-12-040111	2009/01/23	2010/01/22
DC Power Supply	GPD-3030	GM	7020936	N/A	N/A
AC POWER CONVERTER	AFC-11005	APC	F103120008	N/A	N/A

**9.4. Test Result and Data**

Test Date: Jun. 12, 2009

Temperature: 26

Atmospheric pressure: 1021 hPa

Humidity: 58%

Operating frequency: 5230 MHz							
Temp (°C)	Power supply (V)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	102	5240.0097	0.000184%	5239.9751	-0.000476%	5240.0138	0.000263%
	120	5240.0076	0.000145%	5240.0005	0.000010%	5239.9971	-0.000055%
	138	5240.0020	0.000037%	5239.9728	-0.000519%	5239.9942	-0.000112%
40	102	5239.9750	-0.000477%	5239.9758	-0.000463%	5239.9747	-0.000482%
	120	5239.9849	-0.000289%	5239.9654	-0.000661%	5239.9841	-0.000304%
	138	5239.9759	-0.000460%	5239.9932	-0.000130%	5239.9764	-0.000450%
30	102	5240.0077	0.000147%	5239.9683	-0.000606%	5240.0175	0.000334%
	120	5240.0198	0.000378%	5240.0033	0.000063%	5239.9818	-0.000348%
	138	5239.9956	-0.000085%	5240.0152	0.000289%	5240.0003	0.000006%
20	102	5240.0033	0.000063%	5239.9602	-0.000760%	5239.9747	-0.000483%
	120	5240.0020	0.000039%	5240.0053	0.000101%	5239.9991	-0.000017%
	138	5240.0163	0.000311%	5240.0188	0.000359%	5239.9816	-0.000352%
10	102	5240.0044	0.000085%	5240.0020	0.000038%	5239.9752	-0.000472%
	120	5239.9830	-0.000325%	5239.9773	-0.000432%	5240.0184	0.000351%
	138	5239.9986	-0.000027%	5239.9591	-0.000780%	5239.9839	-0.000307%
0	102	5240.0112	0.000213%	5239.9846	-0.000295%	5240.0073	0.000140%
	120	5239.9847	-0.000293%	5239.9947	-0.000102%	5240.0103	0.000196%
	138	5240.0011	0.000021%	5240.0041	0.000078%	5240.0132	0.000253%
-10	102	5239.9777	-0.000426%	5240.0009	0.000017%	5240.0020	0.000038%
	120	5239.9809	-0.000364%	5240.0050	0.000096%	5239.9857	-0.000273%
	138	5239.9828	-0.000328%	5240.0049	0.000093%	5240.0083	0.000158%
-20	102	5239.9610	-0.000745%	5240.0060	0.000115%	5240.0122	0.000233%
	120	5239.9496	-0.000963%	5240.0011	0.000021%	5239.9840	-0.000304%
	138	5239.9777	-0.000426%	5240.0106	0.000203%	5240.0248	0.000474%
-30	102	5240.0286	0.000546%	5240.0042	0.000081%	5240.0119	0.000227%
	120	5240.0214	0.000408%	5239.9977	-0.000045%	5240.0158	0.000302%
	138	5239.9871	-0.000247%	5240.0062	0.000118%	5240.0034	0.000065%

Limit :

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.



10. Band Edges Measurement

10.1. Test Procedure

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

10.2. Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	FSP40	R&S	10047	2009/02/21	2010/02/20

10.3. Test Result and Data

Test Date: Jun. 11, 2009

Temperature: 24

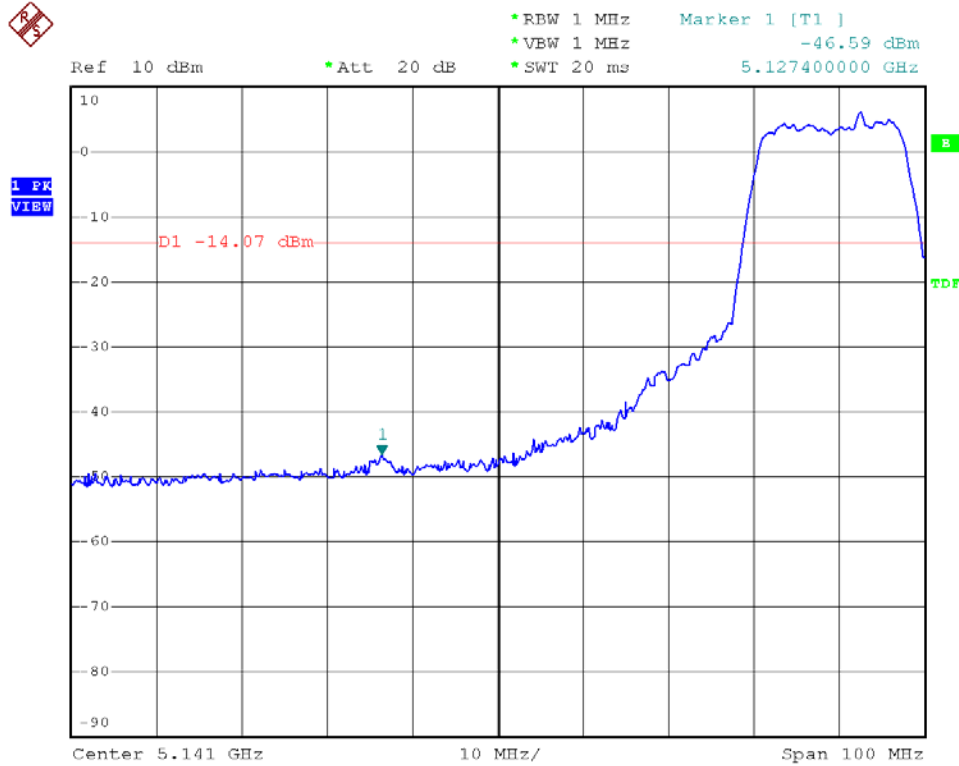
Atmospheric pressure: 1016 hPa

Humidity: 66%

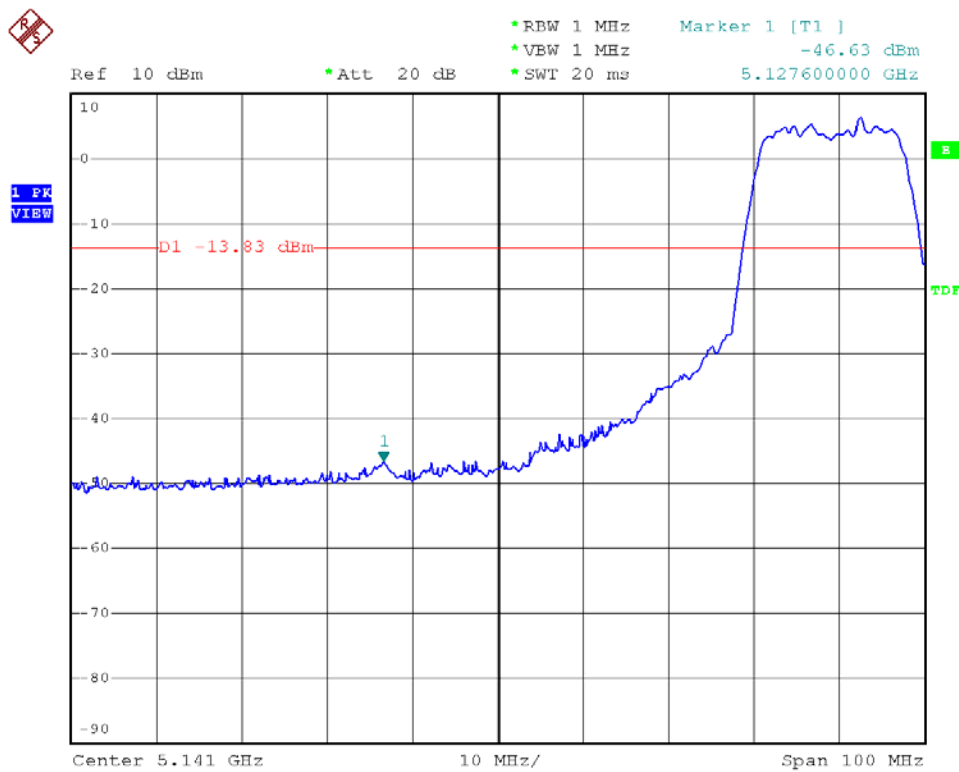
Modulation Standard	Channel	Frequency (MHz)	maximum value in frequency (MHz)	maximum value (dBm)
802.11a (54Mbps)	36	5180	5127.4	-46.59
802.11an HT20 (65Mbps)	36	5180	5127.6	-46.63
802.11an HT40 (130Mbps)	38	5190	5139.2	-45.20



Modulation Standard: 802.11a (54Mbps)
Channel: 36

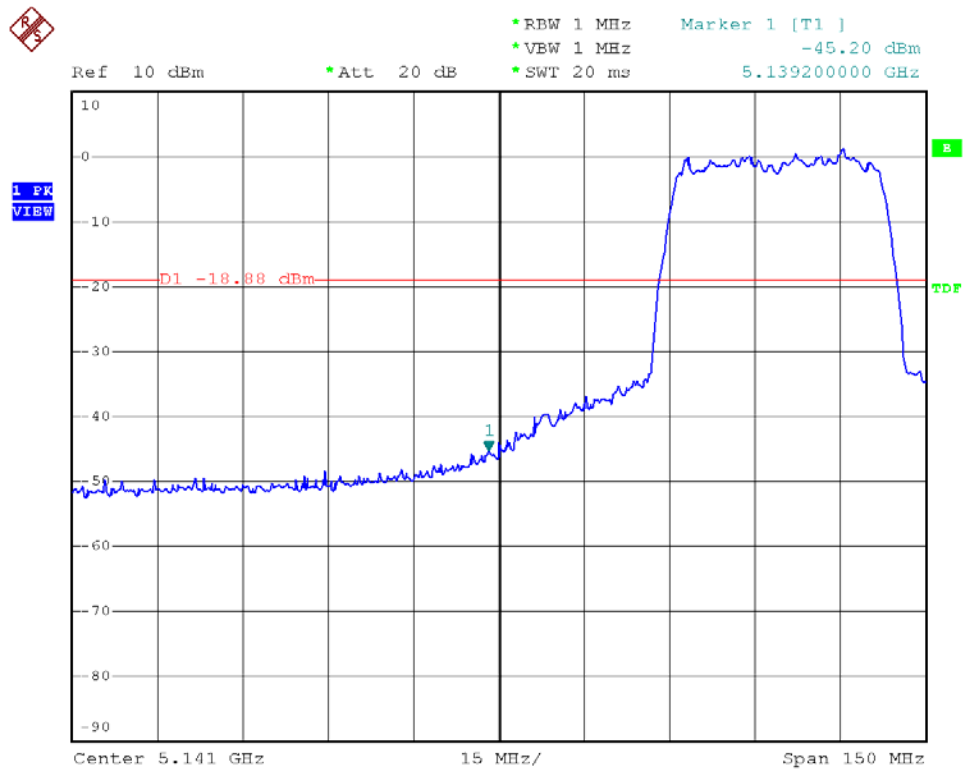


Modulation Standard: 802.11an, HT20 (65Mbps)
Channel: 36





Modulation Standard: 802.11an HT40 (130Mbps)
Channel: 38





10.4. Restrict Band Emission Measurement Data

Test Date: Jun. 17, 2009 Temperature: 26
Atmospheric pressure: 1018 hPa Humidity: 57%

Modulation Standard: IEEE 802.11a (54Mbps)

Table with 11 columns: Frequency (MHz), Ant-Pol H/V, Meter Reading (dBuV), Corrected Factor (dB), Result (dBuV/m), Remark, Limit (dBuV/m) (Peak/Ave), Margin (dB), Table Deg., Ant High (m). Includes data for Channel 36 (Fundamental Frequency: 5180 MHz) and Channel 64 (Fundamental Frequency: 5320 MHz).

Modulation Standard: IEEE 802.11an, HT20 (65Mbps)

Table with 11 columns: Frequency (MHz), Ant-Pol H/V, Meter Reading (dBuV), Corrected Factor (dB), Result (dBuV/m), Remark, Limit (dBuV/m) (Peak/Ave), Margin (dB), Table Deg., Ant High (m). Includes data for Channel 36 (Fundamental Frequency: 5180 MHz) and Channel 64 (Fundamental Frequency: 5320 MHz).



Modulation Standard: IEEE 802.11an, HT40 (130Mbps)

Channel 38						Fundamental Frequency: 5190 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			
5149.70	H	45.78	8.63	54.41	Peak	74	54	-19.59	172	1.01
5123.20	H	32.29	8.57	40.86	Ave	74	54	-13.14	172	1.01
5150.00	V	46.64	8.63	55.27	Peak	74	54	-18.73	182	1.01
5125.80	V	32.70	8.58	41.28	Ave	74	54	-12.72	182	1.01
Channel 62						Fundamental Frequency: 5310 MHz				
5351.90	H	45.96	9.07	55.03	Peak	74	54	-18.97	190	1.01
5353.00	H	32.15	9.07	41.22	Ave	74	54	-12.78	190	1.01
5393.80	V	46.23	9.17	55.40	Peak	74	54	-18.60	178	1.01
5350.20	V	32.72	9.07	41.79	Ave	74	54	-12.21	178	1.01

Notes:

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



11. 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

11.1. 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.