FCC Part15.407 Test Report

Product Name ： 802.11a/b/g/n WLAN Module

Model No. ： 95.0209T02

FCC ID ： TC2N1101

Applicant ： RoKu

Address ： 12980 Saratoga Avenue, Suite D, Saratoga, CA 95070 USA

Date of Receipt ： 2009/09/17

Issued Date ： 2009/10/22

Report No. ： 099S059R-RF-US-P03V01

Report Version ： V1.0

Test Report Certification

Issued Date : 2009/10/22
Report No. : 099S059R-RF-US-P03V01

QuieTek

Product Name	:	802.11a/b/g/n WLAN Module
Applicant	:	Roku
Address	:	12980 Saratoga Avenue, Suite D, Saratoga, CA 95070 USA
Manufacturer	:	Foxconn
Address	:	No 1925 , Nanle road, Songjiang Export Processing Zone , Shanghai , China 201613
Model No.	:	95.0209T02
FCC ID	:	TC2N1101
EUT Voltage	:	5Vdc, 2.5A
Trade Name	:	Roku
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart E: 2008 ANSI C63.4: 2003
Test Result	:	Complied
Performed Location	:	SuZhou EMC laboratory No.99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., SuZhou, China TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098 FCC Registration Number: 800392

Documented By : Alice Ni
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Reviewed By : Marlin Chen
(Engineering Supervisor: Marlin Chen)

Approved By : Dream Cao
(Engineering Manager: Dream Cao)

The test results relate only to the samples tested.
The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.
This report must not be used to claim product endorsement by CNLA, NVLAP or any agency of the Government.

Laboratory Information

We , **QuieTek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited by the following accreditation Bodies in compliance with ISO 17025, EN 45001 and Guide 25:

Taiwan R.O.C.	**:**	**BSMI, DGT, CNLA**
Germany	**:**	**TUV Rheinland**
Norway	**:**	**Nemko, DNV**
USA	**:**	**FCC, NVLAP**
Japan	**:**	**VCCI**

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site : http://tw.quietek.com/modules/myalbum/
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : http://www.quietek.com/
If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

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TEL:+886-3-592-8858 / FAX:+886-3-592-8859 E-Mail : service@quietek.com

NVLAP Lab Code : 200347-0
1313

LinKou Testing Laboratory :
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TEL : +886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : service@quietek.com

NVLAP Lab Code: 200533-0
0914

Suzhou Testing Laboratory :
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TEL : +86-512-6251-5088 / FAX : 86-512-6251-5098 E-Mail : service@quietek.com

NVLAP Lab Code : 200743-0
1596

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1. General Information

1.1. EUT Description

Product Name	802.11a/b/g/n WLAN Module
Trade Name	Roku
Model No.	95.0209T02
FCC ID	TC2N1101
WLAN	802.11abgn
Working Voltage	5Vdc, 2.5A
Frequency Range	**For 2.4GHz Band** 802.11b/g/n(20MHz): 2412 - 2462 MHz 802.11n(40MHz): 2422 - 2452 MHz **For 5.0GHz Band** 802.11a/n(20MHz): 5180 - 5320 MHz, 5500 - 5700 MHz, 5745 - 5825MHz 802.11n(40MHz): 5190 - 5310 MHz, 5510 - 5670 MHz, 5755 - 5795 MHz
Channel Number	**For 2.4GHz Band** 802.11b/g/n(20MHz): 11 802.11n(40MHz): 7 **For 5.0GHz Band** 802.11a/n(20MHz): 24 802.11n(40MHz): 11
Type of Modulation	802.11b: DSSS
	802.11a/g/n: OFDM
Data Rate	802.11a/g: 6/9/12/18/24/36/48/54 Mbps
	802.11b: 1/2/5.5/11 Mbps
	802.11n: up to 270 Mbps
Channel Control	Auto
Antenna Type	PIFA
Antenna Delivery	2*Tx + 2*Rx
Antenna Peak Gain	5.2dBi
AC Adapter	Manufacturer: Roku M/N: DSA-15P-05 US 050125 Input: 100-240V~, 0.5A, 50/60Hz Output: 5V, 2.5A MAX

For 2.4GHz Band

802.11b/g/n(20MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz	04	2427 MHz
05	2432 MHz	06	2437 MHz	07	2442 MHz	08	2447 MHz
09	2452 MHz	10	2457 MHz	11	2462 MHz	N/A	N/A
802.11n(40MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
03	2422 MHz	04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz	N/A	N/A

For 5.0GHz Band

802.11a/n(20MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz	48	5240 MHz
52	5260 MHz	56	5280 MHz	60	5300 MHz	64	5320 MHz
100	5500 MHz	104	5520 MHz	108	5540 MHz	112	5560 MHz
116	5580 MHz	120	5600 MHz	124	5620 MHz	128	5640 MHz
132	5660 MHz	136	5680 MHz	140	5700 MHz	149	5745 MHz
153	5765 MHz	157	5785 MHz	161	5805 MHz	165	5825 MHz

802.11n(40MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	54	5270 MHz	62	5310 MHz
102	5510 MHz	110	5550 MHz	118	5590 MHz	126	5630 MHz
134	5670 MHz	151	5755 MHz	159	5795 MHz	N/A	N/A

1.2. Mode of Operation

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Transmit by 802.11a
Mode 2: Transmit by 802.11n (20MHz Bandwidth)
Mode 3: Transmit by 802.11n (40MHz Bandwidth)

Note:

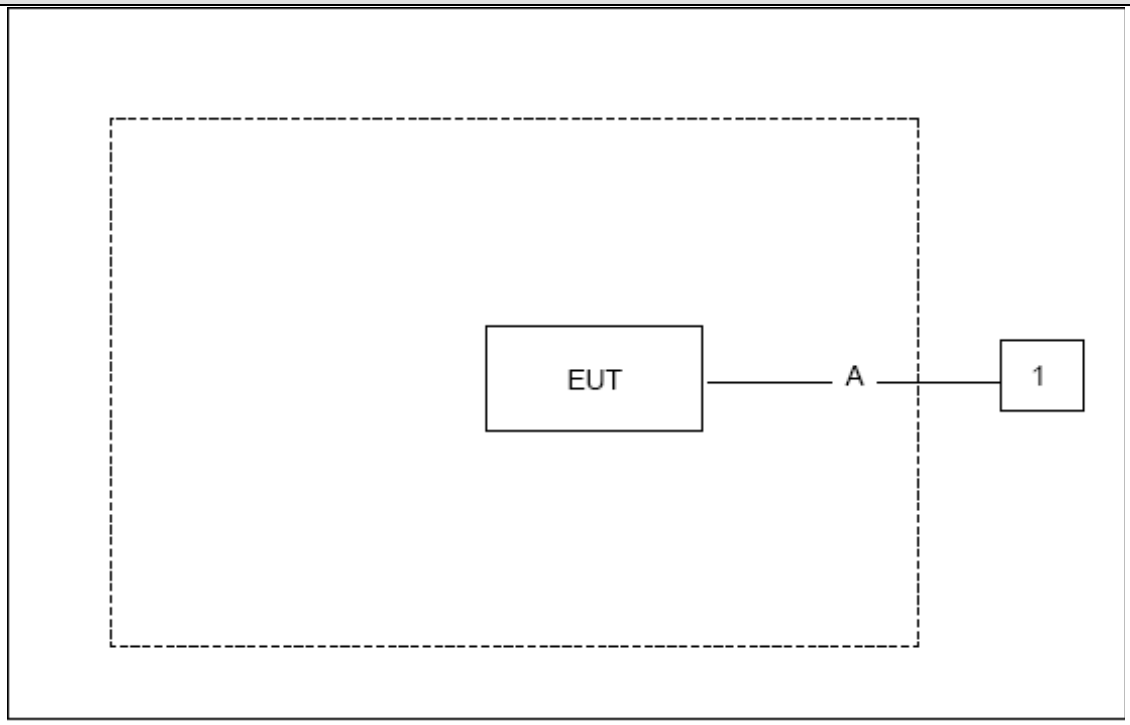
1. Regards to the frequency band operation: the lowest、middle and highest frequency of channel were selected to perform the test, then shown on this report.
2. This device is a composite device in accordance with Part 15 Subpart B regulations. The function for the receiver was measured and made a test report that the report number is 099S059R-RF-US-P06V01.

1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	DELL	PP19L	JH097 A01	Power by adapter

1.4. Configuration of Tested System

Connection Diagram


Signal Cable Type		Signal cable Description
A	LAN Cable	Non-shielded, >10m

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Input some commands in DOS system, make the EUT transmit at each test mode, then start test.

2. Technical Test

2.1. Summary of Test Result

☒ No deviations from the test standards

☐ Deviations from the test standards as below description:

Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.207	Yes	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.209	Yes	No
Operation Frequency Range of 20dB Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2008 15.215(c)	Yes	No
26dB Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.407(a)	Yes	No
Power Output	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.407(a)	Yes	No
Peak Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.407(a)	Yes	No
Peak Excursion	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.407(a)(6)	Yes	No
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.205, 15.407(b)	Yes	No
Frequency Stability	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.407(g)	Yes	No

2.2. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

3. Conducted Emission

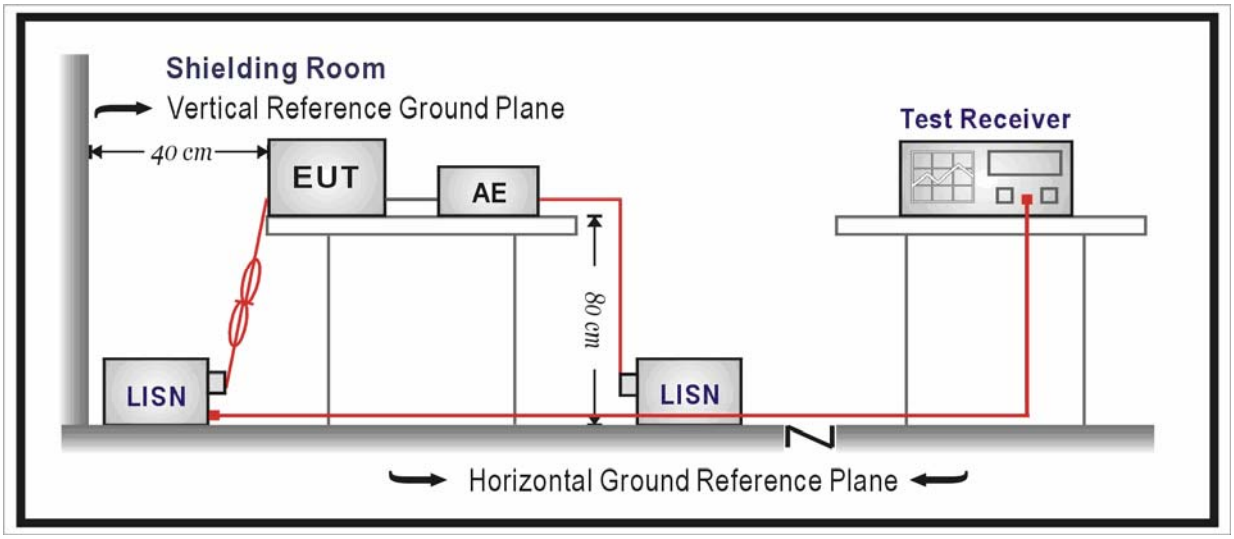
3.1. Test Equipment

Conducted Emission / SR-1

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
EMI Test Receiver	R&S	ESCI	100726	2009/06/28
Two-Line V-Network	R&S	ENV216	100013	2009/06/28
Two-Line V-Network	R&S	ENV216	100014	2009/06/28
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2008/11/25
50ohm Termination	SHX	TF2	07081401	2009/10/19
Coaxial Cable	Luthi	RG214	519358	2008/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH004	2009/03/31

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

3.2. Test Setup



3.3. Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

3.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003.

The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)

Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

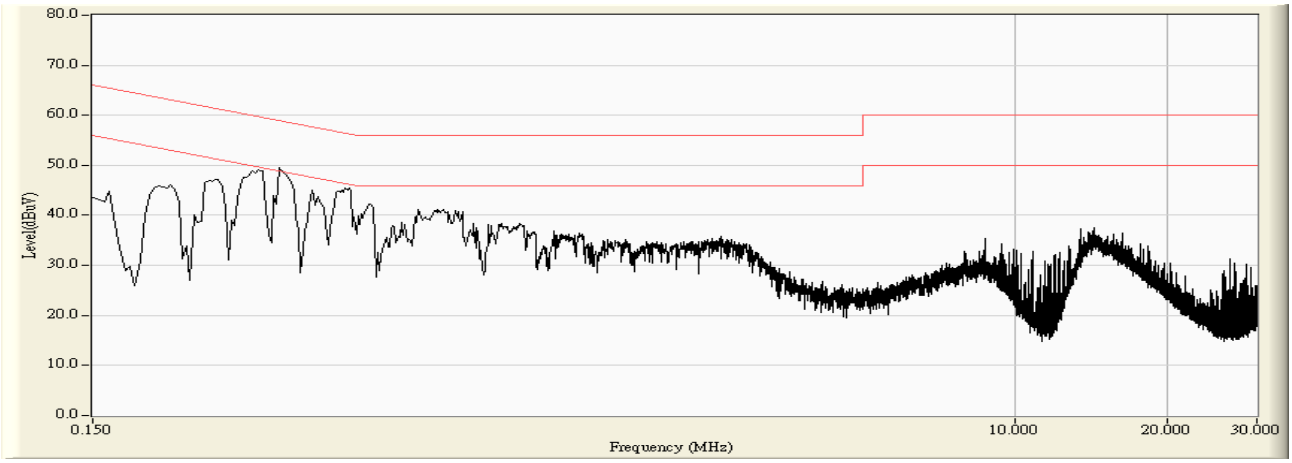
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Uncertainty

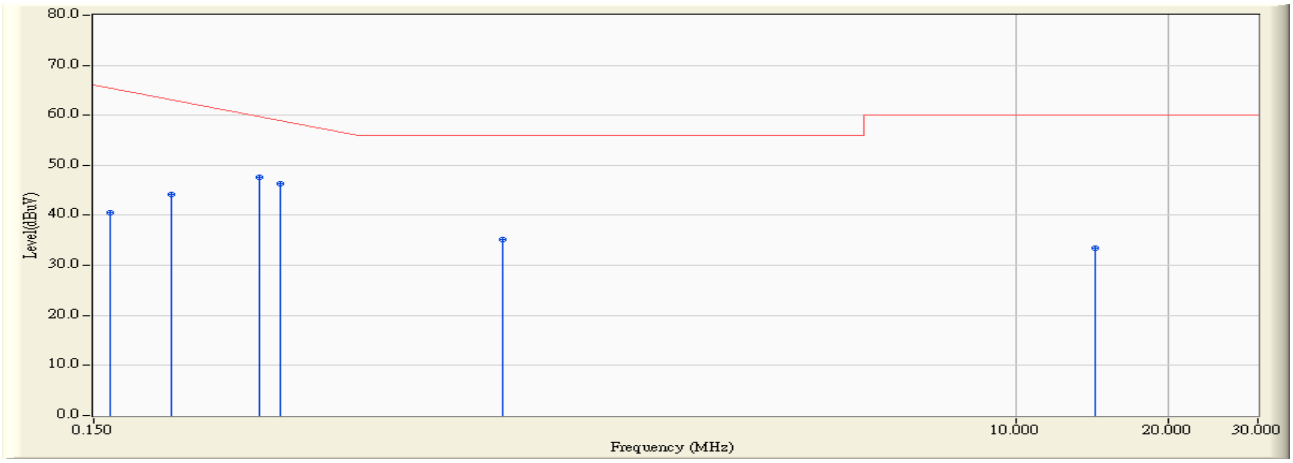
The measurement uncertainty is defined as ± 2.02 dB

3.6. Test Result

Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	**Time : 2009/09/27 - 13:14**
Limit : FCC_Part15.207_00M_QP	**Margin : 10**
Probe : ENV216_100014(0.009-30MHz) - Line1	**Power : AC 120V/60Hz**
EUT : 802.11a/b/g/n WLAN Module	**Note : Mode 1**

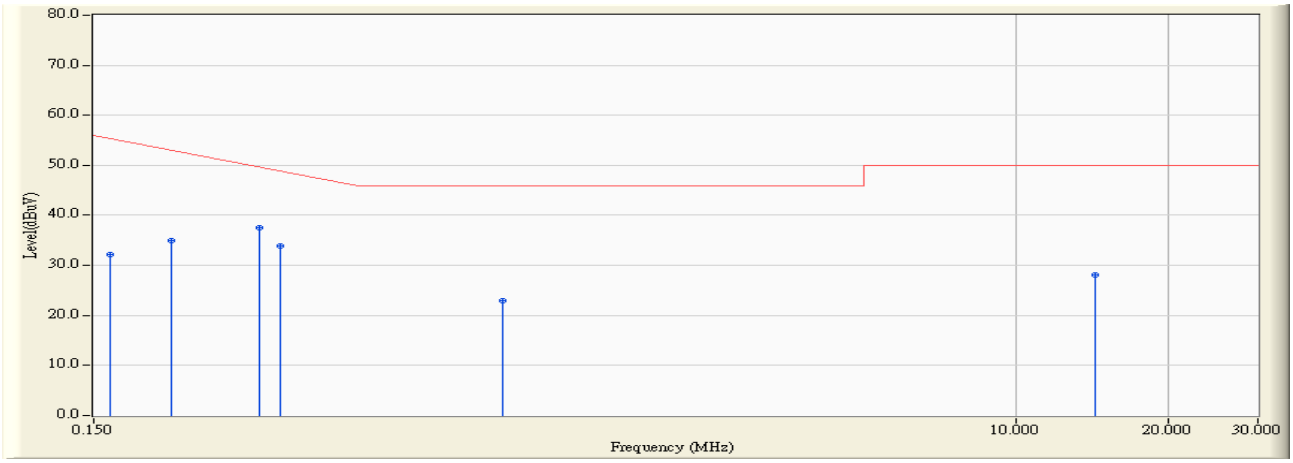


Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	**Time : 2009/09/27 - 13:16**
Limit : FCC_Part15.207_00M_QP	**Margin : 0**
Probe : ENV216_100014(0.009-30MHz) - Line1	**Power : AC 120V/60Hz**
EUT : 802.11a/b/g/n WLAN Module	**Note : Mode 1**



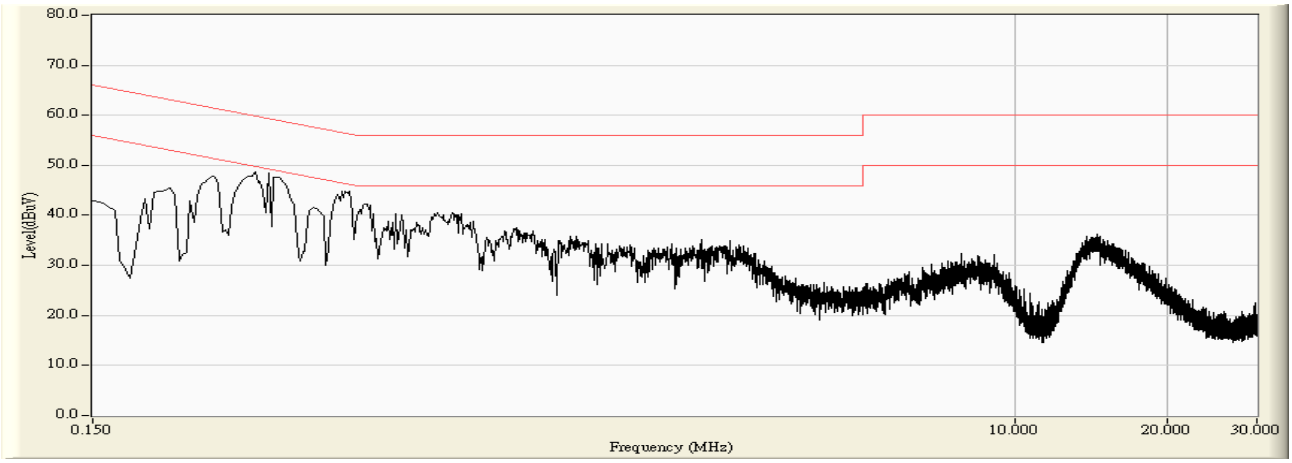
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.162	10.161	30.400	40.561	-24.800	65.361	QUASIPEAK
2		0.214	9.473	34.700	44.173	-18.876	63.049	QUASIPEAK
3	*	0.318	9.516	38.000	47.516	-12.243	59.759	QUASIPEAK
4		0.350	9.537	36.800	46.337	-12.625	58.962	QUASIPEAK
5		0.962	9.728	25.400	35.128	-20.872	56.000	QUASIPEAK
6		14.274	10.040	23.500	33.540	-26.460	60.000	QUASIPEAK

Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	**Time : 2009/09/27 - 13:16**
Limit : FCC_Part15.207_00M_AV	**Margin : 0**
Probe : ENV216_100014(0.009-30MHz) - Line1	**Power : AC 120V/60Hz**
EUT : 802.11a/b/g/n WLAN Module	**Note : Mode 1**

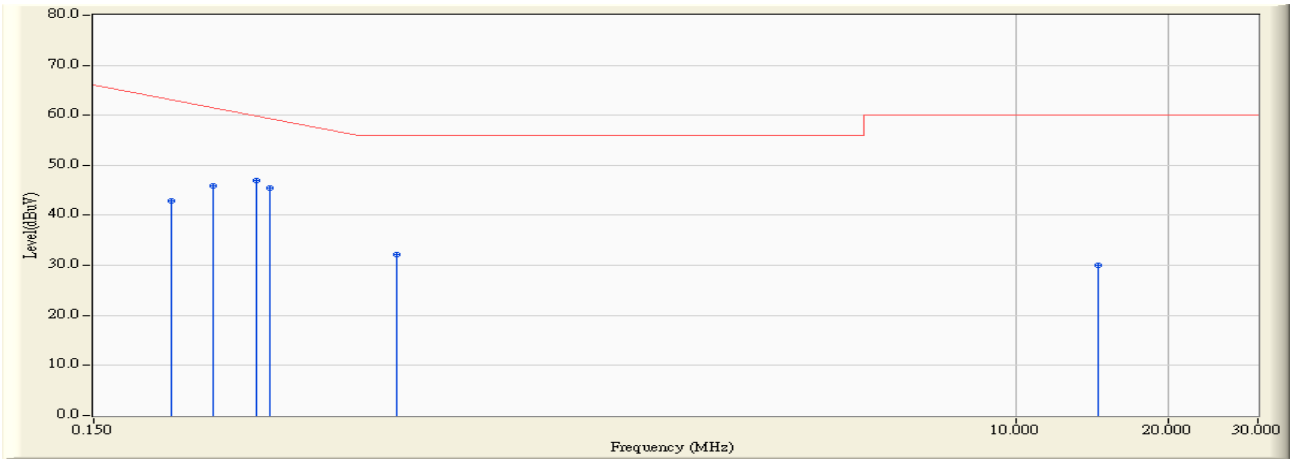


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.162	10.161	22.000	32.161	-23.200	55.361	AVERAGE
2		0.214	9.473	25.500	34.973	-18.076	53.049	AVERAGE
3	*	0.318	9.516	28.100	37.616	-12.143	49.759	AVERAGE
4		0.350	9.537	24.300	33.837	-15.125	48.962	AVERAGE
5		0.962	9.728	13.300	23.028	-22.972	46.000	AVERAGE
6		14.274	10.040	18.100	28.140	-21.860	50.000	AVERAGE

Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	**Time : 2009/09/27 - 13:25**
Limit : FCC_Part15.207_00M_QP	**Margin : 0**
Probe : ENV216_100014(0.009-30MHz) - Line2	**Power : AC 120V/60Hz**
EUT : 802.11a/b/g/n WLAN Module	**Note : Mode 1**

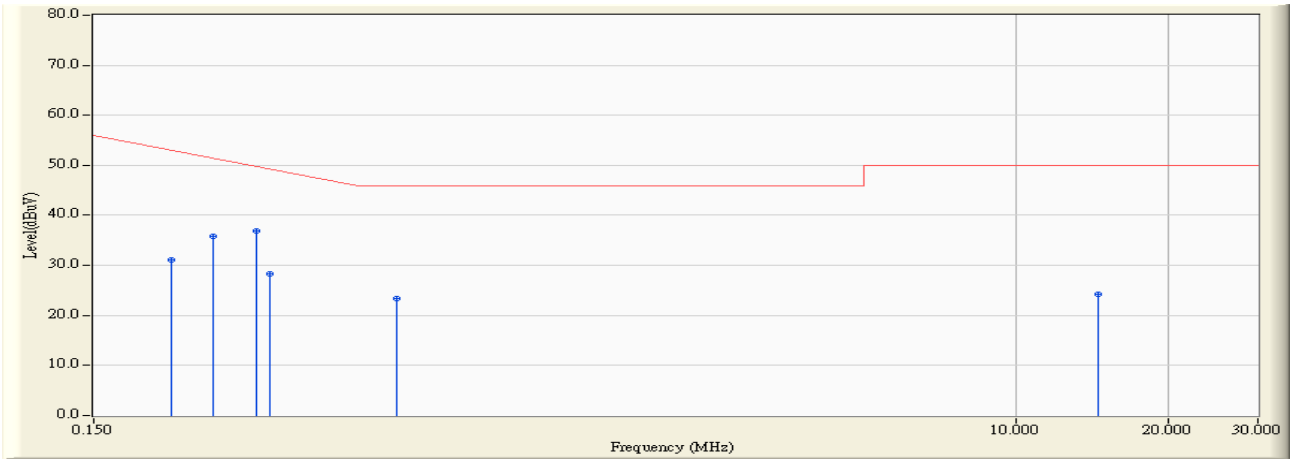


Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	**Time : 2009/09/27 - 13:28**
Limit : FCC_Part15.207_00M_QP	**Margin : 0**
Probe : ENV216_100014(0.009-30MHz) - Line2	**Power : AC 120V/60Hz**
EUT : 802.11a/b/g/n WLAN Module	**Note : Mode 1**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.214	9.600	33.400	43.000	-20.049	63.049	QUASIPEAK
2		0.258	9.583	36.300	45.883	-15.613	61.496	QUASIPEAK
3	*	0.314	9.600	37.400	47.000	-12.864	59.864	QUASIPEAK
4		0.334	9.600	35.800	45.400	-13.951	59.351	QUASIPEAK
5		0.594	9.699	22.400	32.099	-23.901	56.000	QUASIPEAK
6		14.522	10.090	20.000	30.090	-29.910	60.000	QUASIPEAK

Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	**Time : 2009/09/27 - 13:28**
Limit : FCC_Part15.207_00M_AV	**Margin : 0**
Probe : ENV216_100014(0.009-30MHz) - Line2	**Power : AC 120V/60Hz**
EUT : 802.11a/b/g/n WLAN Module	**Note : Mode 1**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.214	9.600	21.500	31.100	-21.949	53.049	AVERAGE
2		0.258	9.583	26.300	35.883	-15.613	51.496	AVERAGE
3	*	0.314	9.600	27.200	36.800	-13.064	49.864	AVERAGE
4		0.334	9.600	18.800	28.400	-20.951	49.351	AVERAGE
5		0.594	9.699	13.600	23.299	-22.701	46.000	AVERAGE
6		14.522	10.090	14.200	24.290	-25.710	50.000	AVERAGE

4. Radiated Emission

4.1. Test Equipment

☒Radiated Emission / AC-2

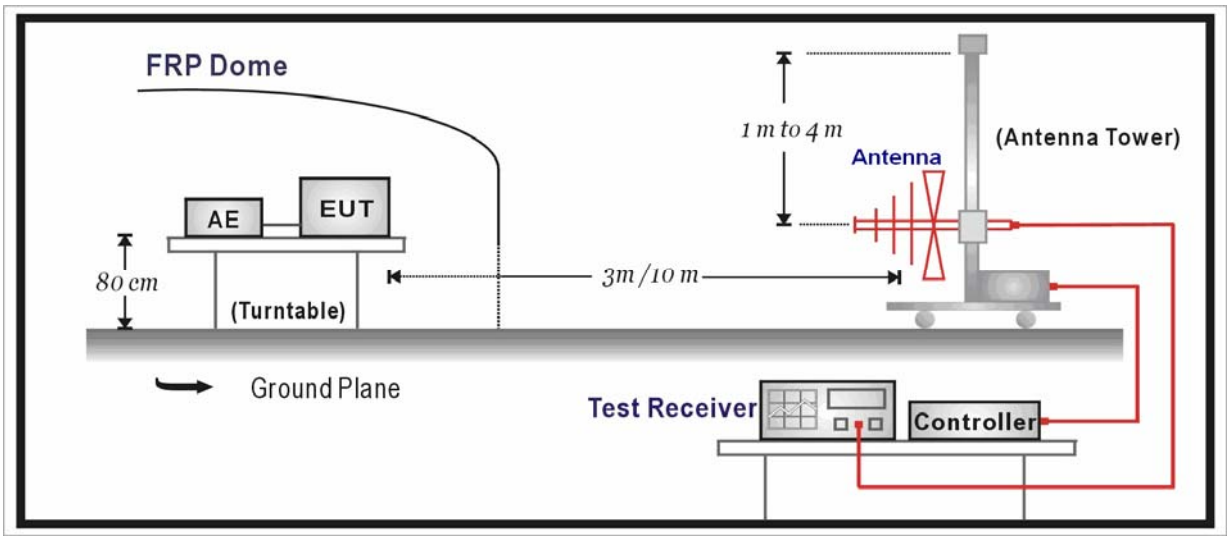
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
EMI Test Receiver	R&S	ESCI	100573	2009/05/10
Preamplifier	Quietek	AP-025C	QT-AP003	2008/11/25
Preamplifier	Quietek	AP-180C	CHM-0602012	2008/11/25
Bilog Type Antenna	Schaffner	CBL6112B	2932	2008/11/22
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/11/25
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2008/11/25
High-Pass Filter	Wainwright	WHKX7.0/18G-8SS	SN16	2009/03/03
Low-Pass Filter	Wainwright	WLKS4500-9SS	SN2	2009/03/03
50ohm Coaxial Switch	Anritsu	MP59B	6200447304	2008/11/25
Coaxial Cable	Huber+Suhner	AC2-C	04	2008/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH002	2009/03/31

Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

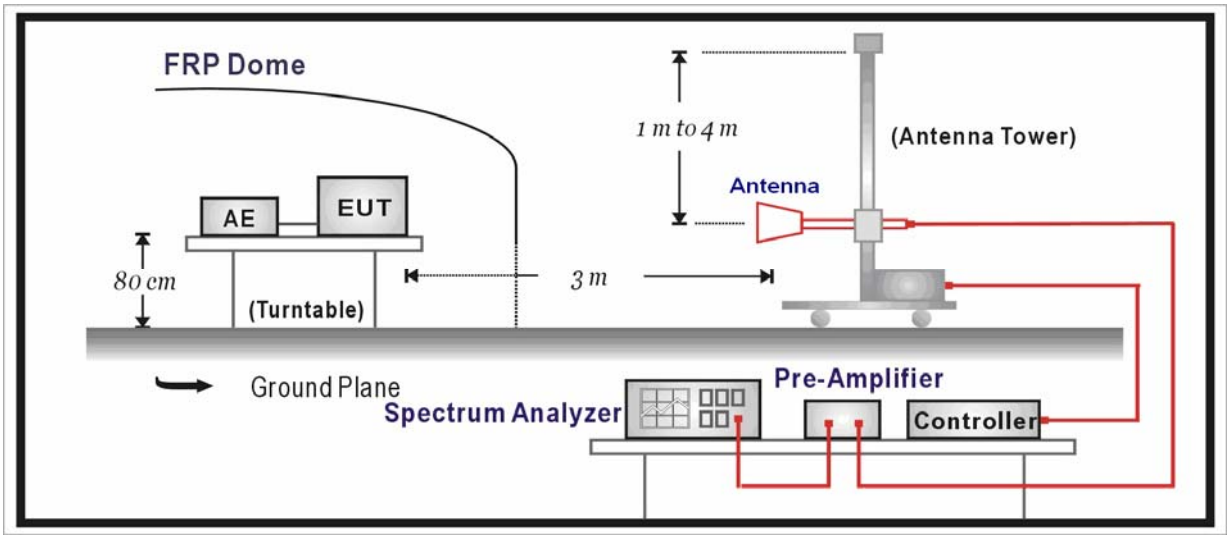
Note 2: The test instruments marked with “X” are used to measure the final test results.

4.2. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

FCC Part 15 Subpart C Paragraph 15.209		
Frequency (MHz)	Distance (m)	Level (dBuV/m)
30 - 88	3	40
88 - 216	3	43.5
216 - 960	3	46
Above 960	3	54

Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Note 3: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

The frequency range from 30MHz to 10th harmonic is checked.

Note: When doing emission measurement above 1GHz, the horn antenna will be bended down a little (as horn antenna has the narrow beamwidth) in order to keeping the antenna in the “cone of radiation” of EUT. The 3dB beamwidth is 10~60 degrees for H-plane and 10~90 degrees for E-plane.

4.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB

below 1G is defined as ± 3.8 dB

4.6. Test Result

All of the test result shown indicates the worst case, and spectrum analyzer parameters setting as shown below:
Peak detector: RBW = 1MHz, VBW = 3MHz, sweep time = 200ms;
Average detector: RBW = 1MHz, VBW = 10Hz, sweep time = auto.
Measure level = Reading level + Cableloss + Antenna factor - Preamplifier gain

802.11a

Chain	CH	Antenna	Frequency (MHz)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
0	36	V	5176.880	104.83	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	40	V	5204.725	104.76	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	48	V	5239.520	104.84	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	52	V	5261.154	103.34	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK

		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	60	V	5305.732	107.85	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	64	V	5319.040	109.15	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	100	V	5494.880	107.63	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	120	V	5602.705	107.15	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	140	V	5704.820	104.20	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK

1	36	V	5174.960	105.91	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	40	V	5204.115	106.27	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	48	V	5243.950	105.73	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	52	V	5265.392	105.52	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	60	V	5302.473	104.94	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	64	V	5324.880	110.13	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP

		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	100	V	5494.320	107.46	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	120	V	5606.320	107.87	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	140	V	5704.280	106.00	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK

802.11n(20MHz)

Chain	CH	Antenna	Frequency (MHz)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
0	36	V	5184.400	105.45	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK

		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	40	V	5206.351	104.84	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	48	V	5246.842	104.29	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	52	V	5267.943	106.05	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	60	V	5308.941	110.39	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	64	V	5324.960	108.94	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK

	100	V	5493.840	107.63	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	120	V	5704.100	105.97	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	140	V	5704.100	105.97	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
1	36	V	5174.480	106.69	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	40	V	5206.384	101.84	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	48	V	5247.569	102.66	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP

		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	52	V	5265.853	108.37	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	60	V	5306.462	107.84	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	64	V	5325.120	108.86	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	100	V	5504.560	98.71	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	120	V	5607.346	110.84	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK

		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	140	V	5704.700	106.33	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
0+1	36	V	5176.560	107.57	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	40	V	5207.533	102.94	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	48	V	5244.634	102.82	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	52	V	5268.492	108.34	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK

		V	14498.000	46.32	54	-7.68	PK
	60	V	5305.482	108.24	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	64	V	5323.280	111.69	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	100	V	5496.400	109.68	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	120	V	5606.382	108.43	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	140	V	5694.360	108.94	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK

802.11n(40MHz)

Chain	CH	Antenna	Frequency (MHz)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
0	38	V	5194.900	105.99	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	46	V	5237.452	97.73	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	54	V	5277.582	103.46	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	62	V	5315.800	107.87	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	102	V	5517.400	98.45	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK

		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	118	V	5583.523	104.74	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	134	V	5684.585	105.41	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
1	38	V	5203.600	106.23	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	46	V	5223.573	98.46	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	54	V	5275.356	103.54	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK

		V	14498.000	46.32	54	-7.68	PK
	62	V	5323.600	108.03	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	102	V	5515.800	105.53	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	118	V	5596.783	104.25	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	134	V	5676.080	104.93	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
0+1	38	V	5204.100	104.25	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	46	V	5236.291	107.48	Fundamental	/	PK

		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	54	V	5277.382	107.84	Fundamental	/	PK
		H	414.767	32.66	46.02	-13.36	QP
		H	749.865	37.40	46.02	-8.62	QP
		V	5998.000	48.34	87.84	-39.50	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	62	V	5325.400	109.04	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	102	V	5521.200	109.02	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	118	V	5584.294	105.75	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP
		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK
	134	V	5676.600	106.88	Fundamental	/	PK
		H	414.767	32.66	46	-13.34	QP
		H	749.865	37.40	46	-8.60	QP

		V	5998.000	48.34	54	-5.66	PK
		V	5352.000	43.63	54	-10.37	PK
		V	7409.000	50.52	54	-3.48	PK
		V	14498.000	46.32	54	-7.68	PK

5. Operation Frequency Range of 20dB Bandwidth

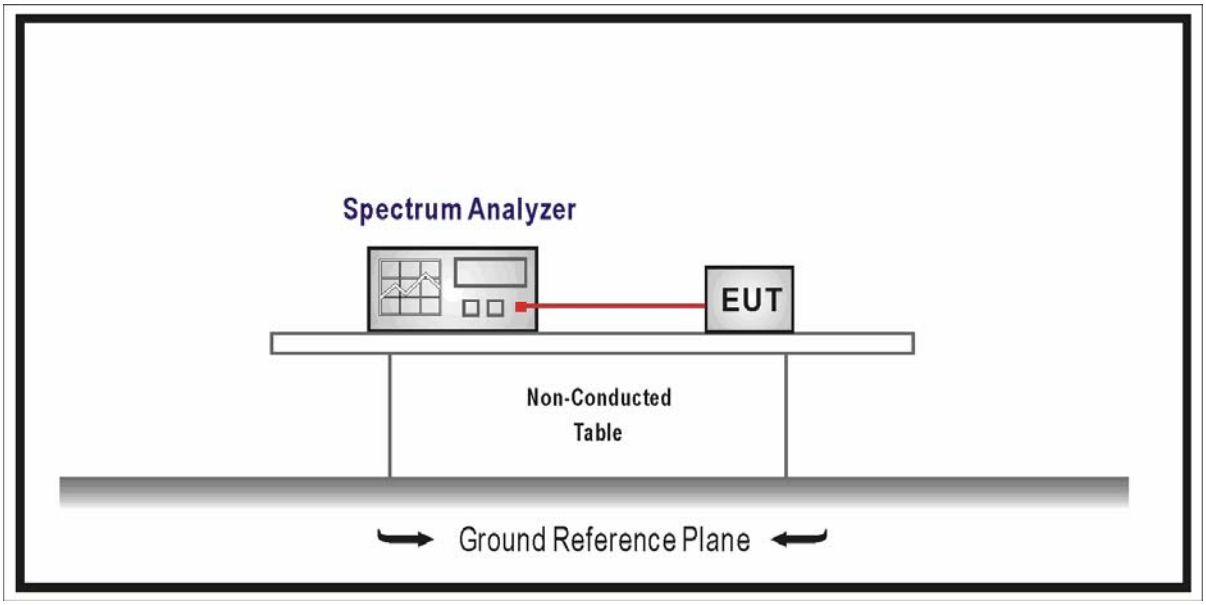
5.1. Test Equipment

Operation Frequency Range of 20dB Bandwidth / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9020A	MY49100159	2009/05/06
Coaxial Cable	Huber+Suhner	AC6-RF	09	2008/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/30

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

5.2. Test Setup



5.3. Limit

20 dB bandwidth of the emission is contained within the operation frequency band. FCC Part15.215(c).

5.4. Test Procedure

The EUT was tested according to UNII test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.407 requirements.
Set RBW = 100 kHz, Span greater than RBW.

5.5. Uncertainty

The measurement uncertainty is defined as ± 1 kHz

5.6. Test Result

Product	:	802.11a/b/g/n WLAN Module
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 0)

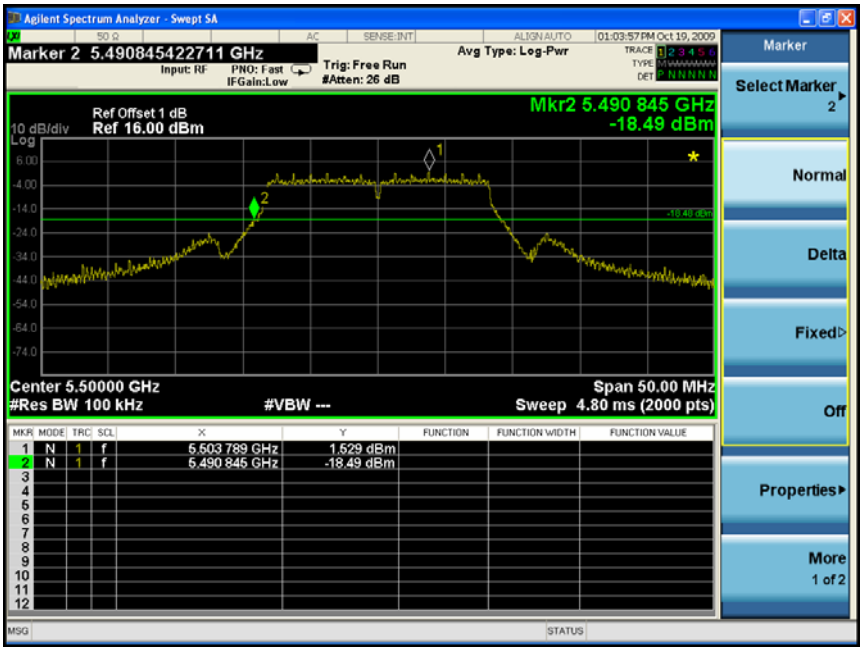
Channel 36 (5180MHz)

Channel 48 (5240MHz)

Channel 52 (5260MHz)

Channel 64 (5320MHz)

Channel 100 (5500MHz)

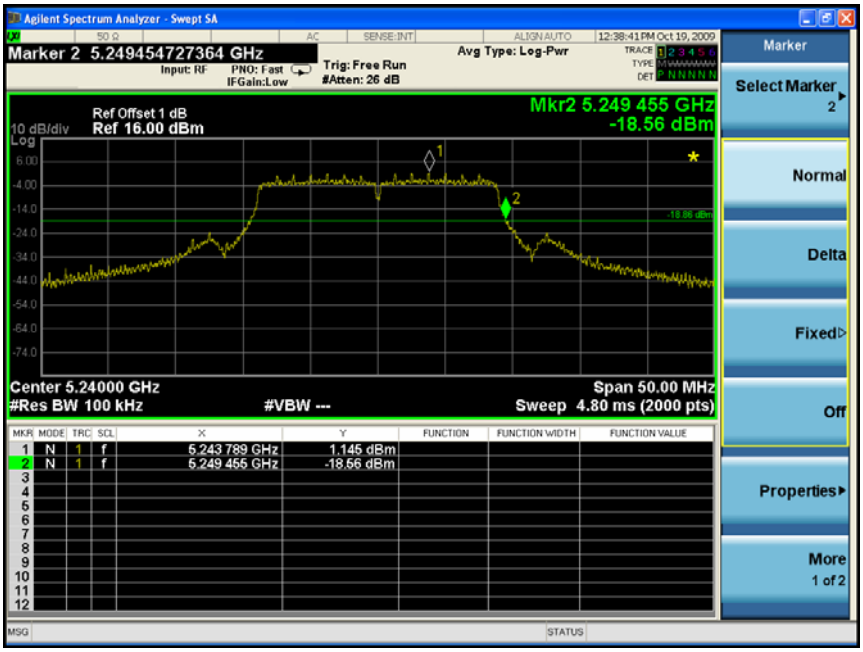


Channel 140 (5700MHz)

Product	:	802.11a/b/g/n WLAN Module
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 4: Transmit by 802.11n (20MHz) (Chain 0)

Channel 36 (5180MHz)

Channel 48 (5240MHz)

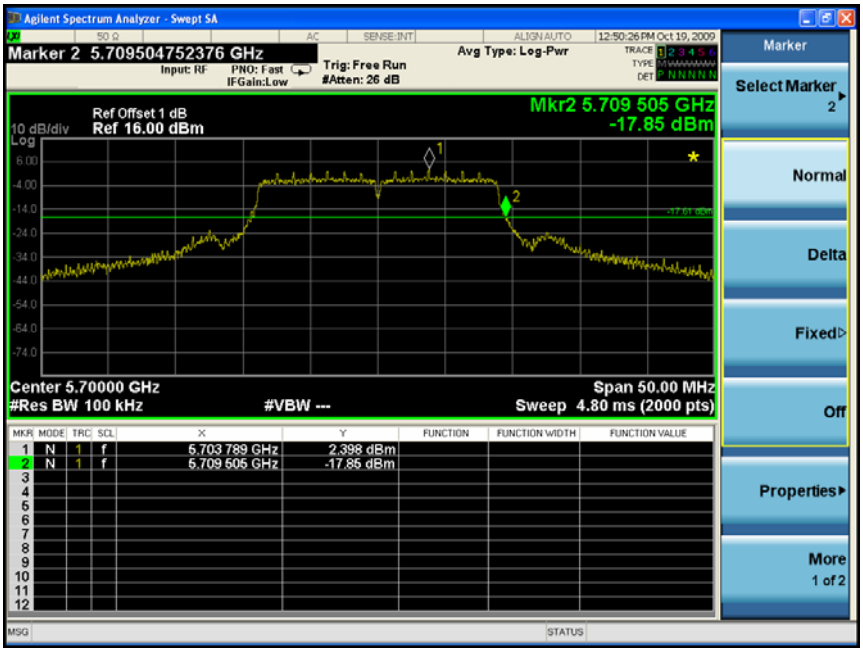


Channel 52 (5260MHz)

Channel 64 (5320MHz)

Channel 100 (5500MHz)

Channel 140 (5700MHz)



Product	:	802.11a/b/g/n WLAN Module
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 5: Transmit by 802.11n (40MHz) (Chain 0)

Channel 38 (5190MHz)

Channel 46 (5230MHz)

Channel 54 (5270MHz)

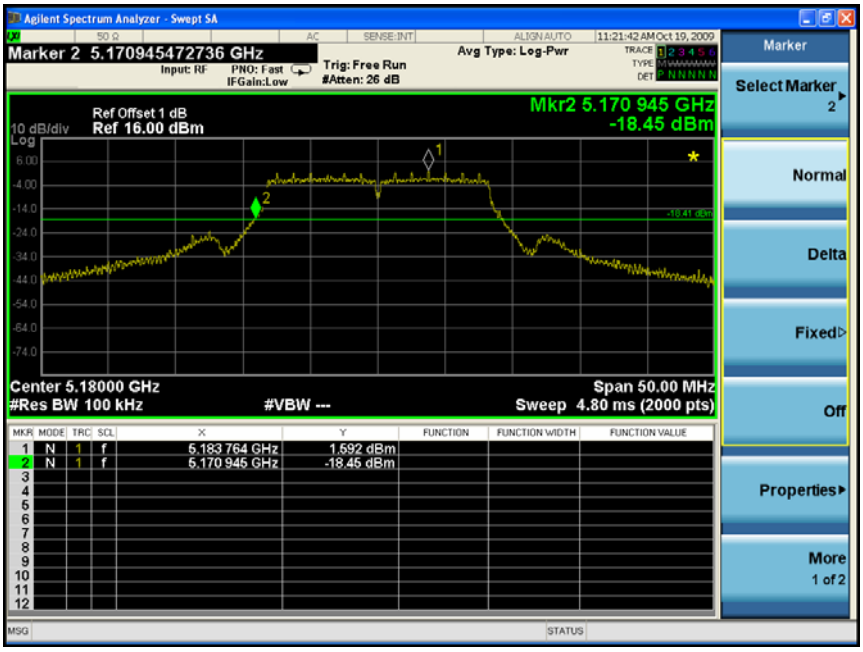
Channel 62 (5310MHz)

Channel 102 (5510MHz)

Channel 134 (5670MHz)

Product	:	802.11a/b/g/n WLAN Module
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1)

Channel 36 (5180MHz)



Channel 48 (5240MHz)

Channel 52 (5260MHz)

Channel 64 (5320MHz)

Channel 100 (5500MHz)

Channel 140 (5700MHz)

Product	:	802.11a/b/g/n WLAN Module
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 4: Transmit by 802.11n (20MHz) (Chain 1)

Channel 36 (5180MHz)

Channel 48 (5240MHz)

Channel 52 (5260MHz)

Channel 64 (5320MHz)

Channel 100 (5500MHz)

Channel 140 (5700MHz)

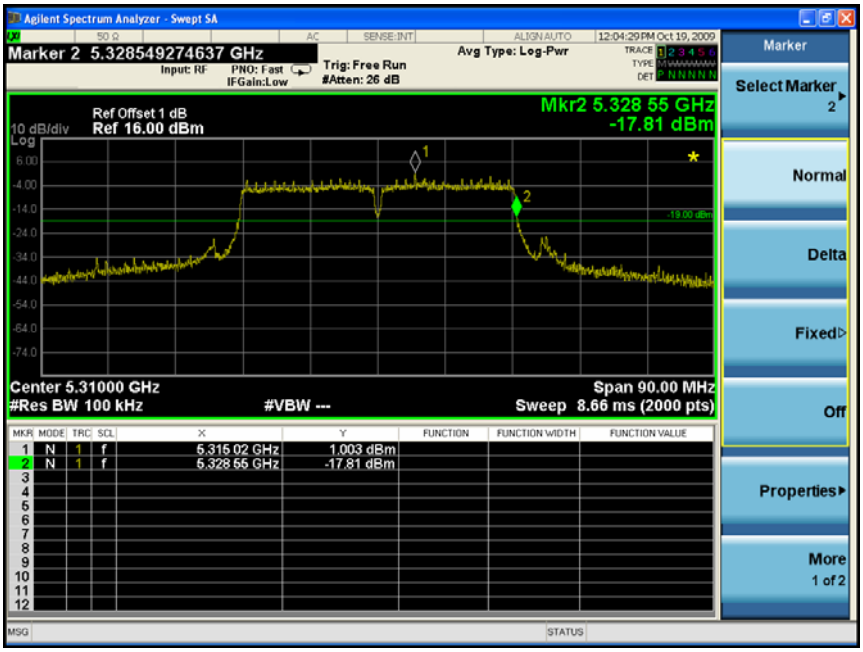
Product	:	802.11a/b/g/n WLAN Module
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 5: Transmit by 802.11n (40MHz) (Chain 1)

Channel 38 (5190MHz)

Channel 46 (5230MHz)

Channel 54 (5270MHz)

Channel 62 (5310MHz)



Channel 102 (5510MHz)

Channel 134 (5670MHz)

6. 26dB Occupied Bandwidth

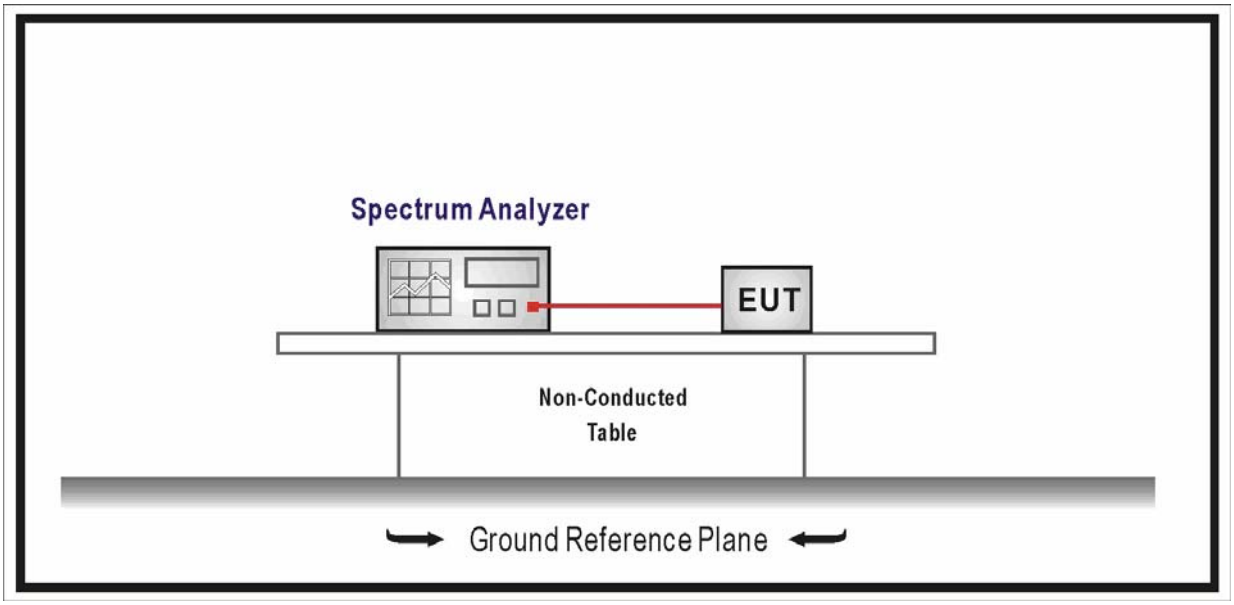
6.1. Test Equipment

26dB Occupied Bandwidth / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9020A	MY49100159	2009/05/06
Coaxial Cable	Huber+Suhner	AC6-RF	09	2008/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/30

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

6.2. Test Setup



6.3. Limit

N/A

6.4. Test Procedure

The EUT was tested according to FCC Public Notice DA 02-2138, August 30, 2002 for compliance to FCC 47CFR 15.407 requirements.

Emission bandwidth “B” MHz.

- Use a RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW
- Use a peak detector.
- Do not use the Max Hold function. Rather, use the view button to capture the emission.
- Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

6.5. Uncertainty

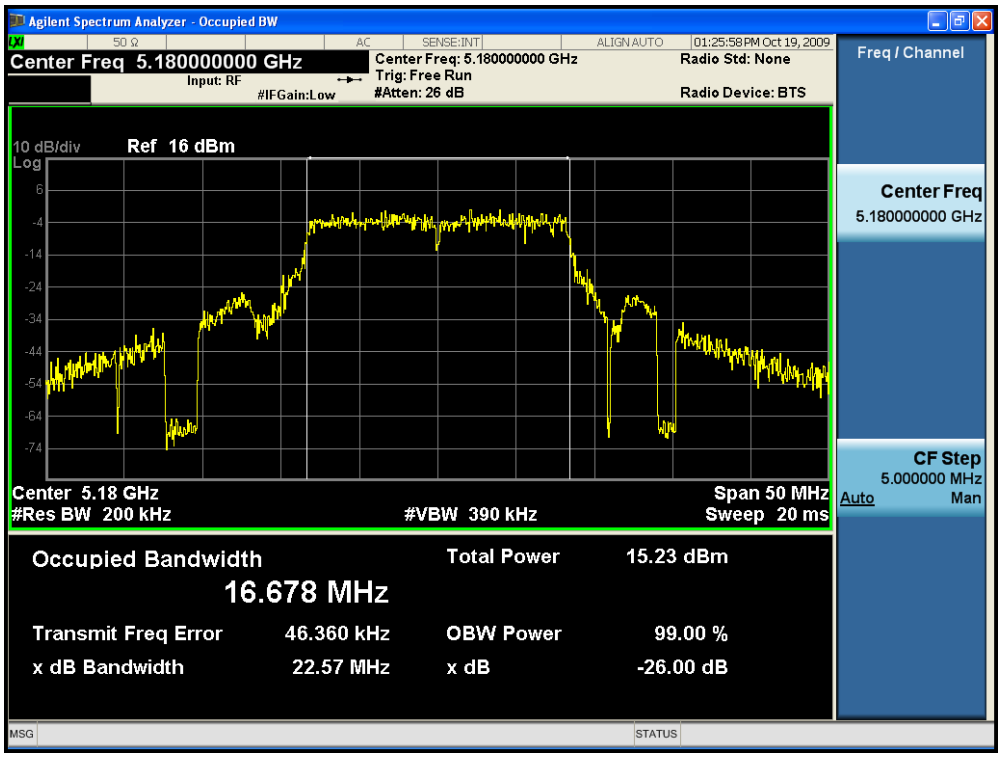
The measurement uncertainty is defined as ± 1 kHz

6.6. Test Result

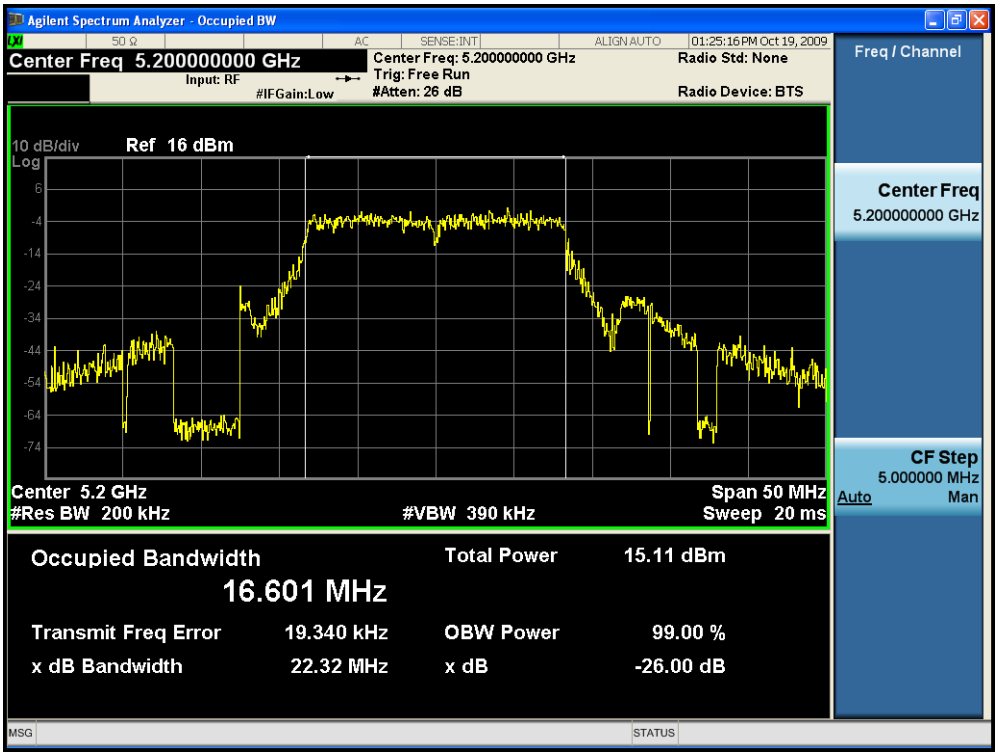
Product	:	802.11a/b/g/n WLAN Module
Test Item	:	26dB Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 0)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	Limit (MHz)
36	5180	22.57	N/A
40	5200	22.32	N/A
48	5240	22.31	N/A
52	5260	20.27	N/A
60	5300	22.20	N/A
64	5320	22.71	N/A
100	5500	22.31	N/A
120	5600	22.34	N/A
140	5700	22.28	N/A

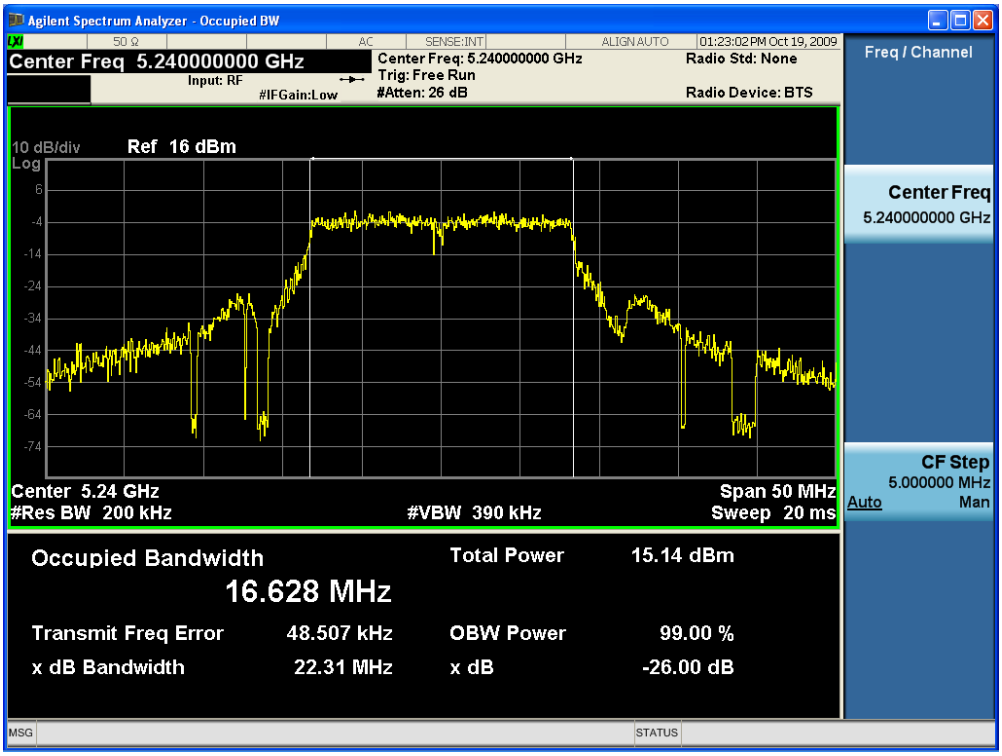
Channel 36 (5180MHz)



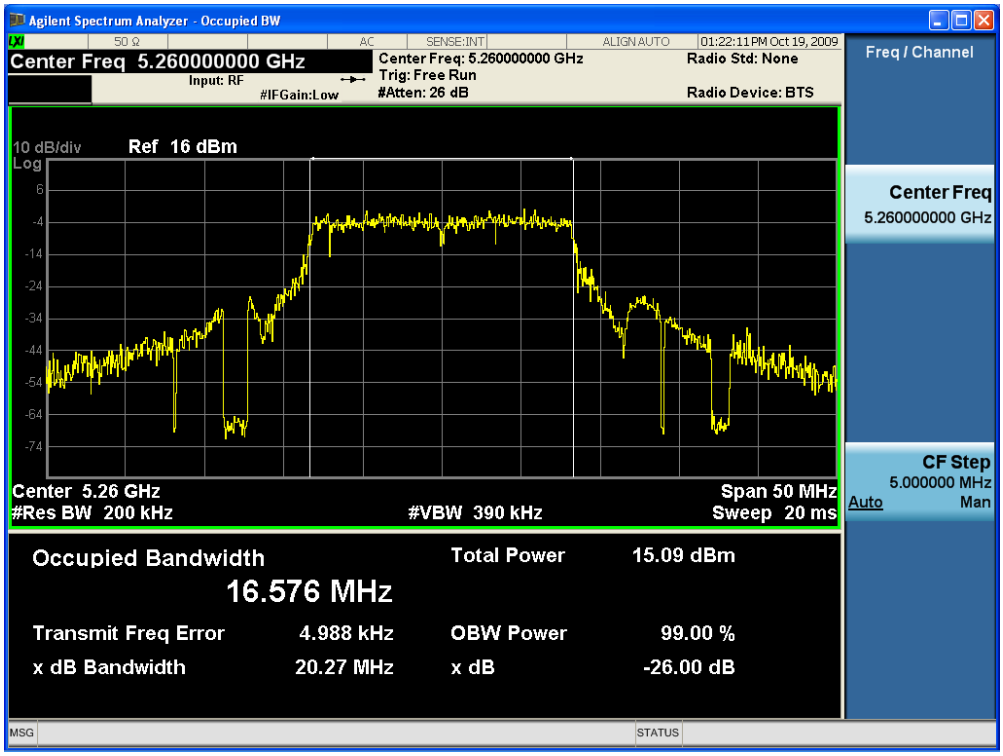
Channel 40 (5200MHz)



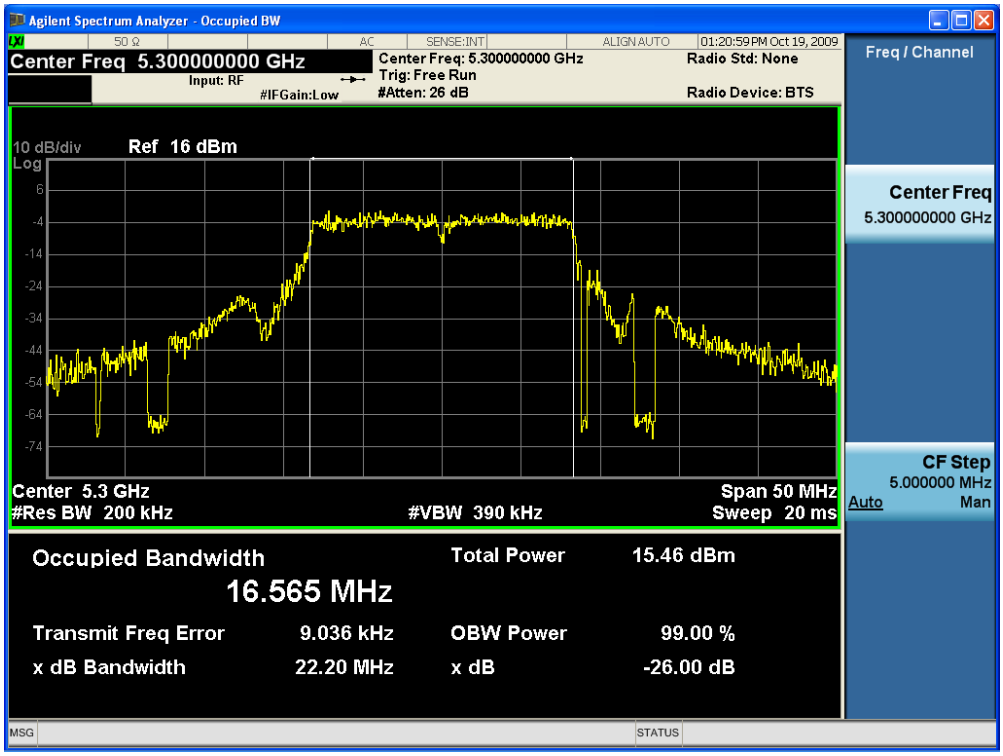
Channel 48 (5240MHz)



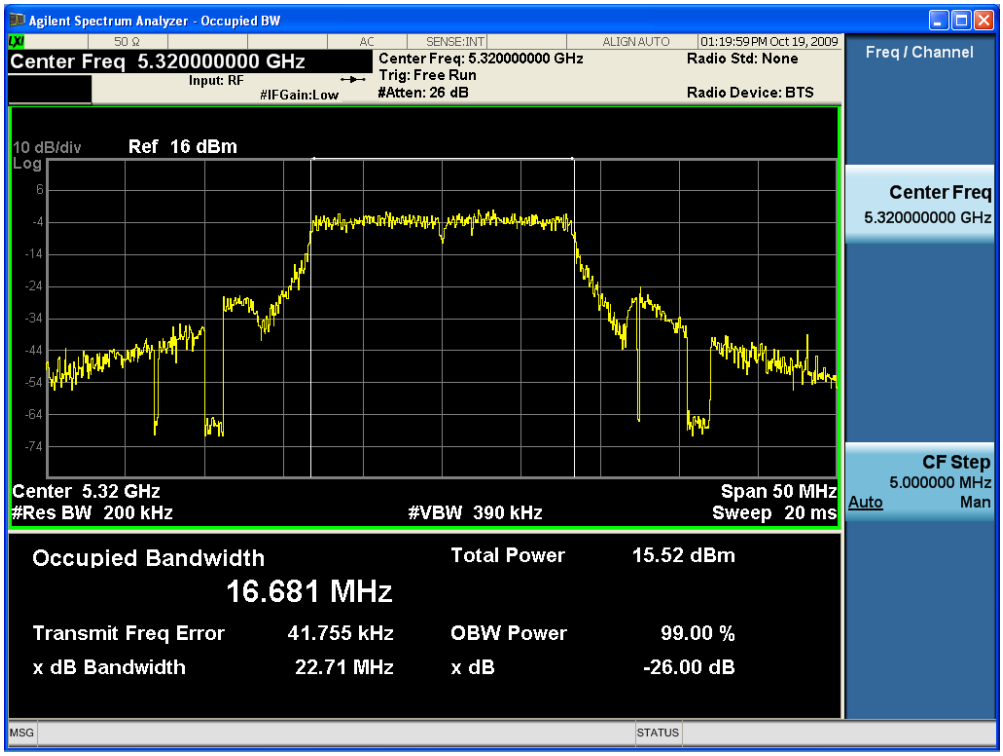
Channel 48 (5260MHz)



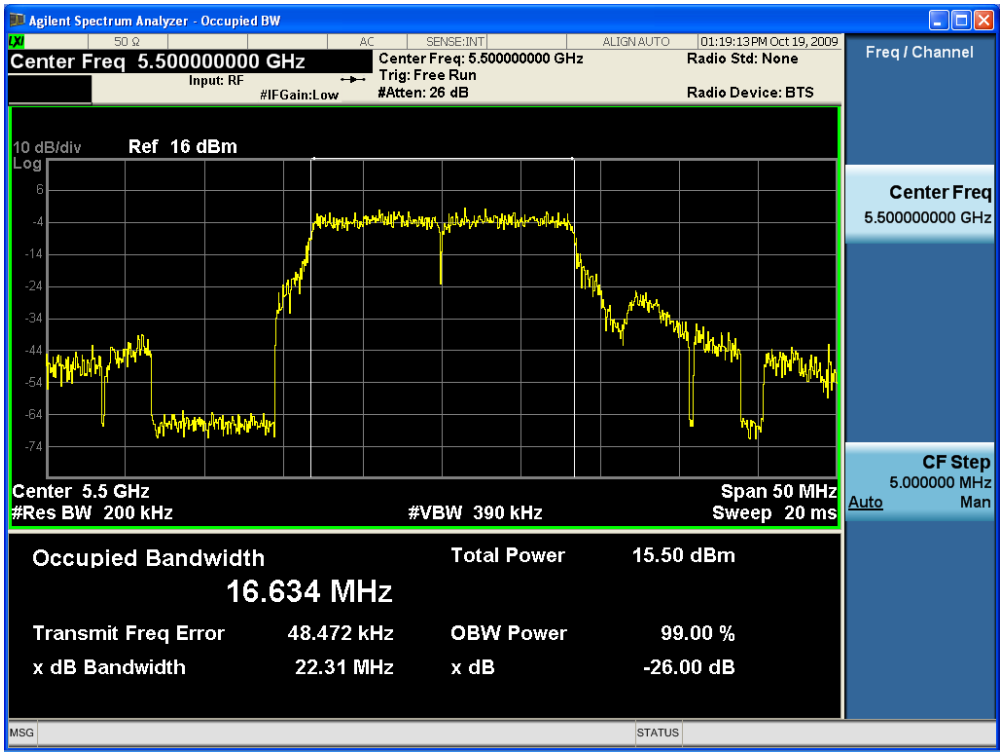
Channel 60 (5300MHz)



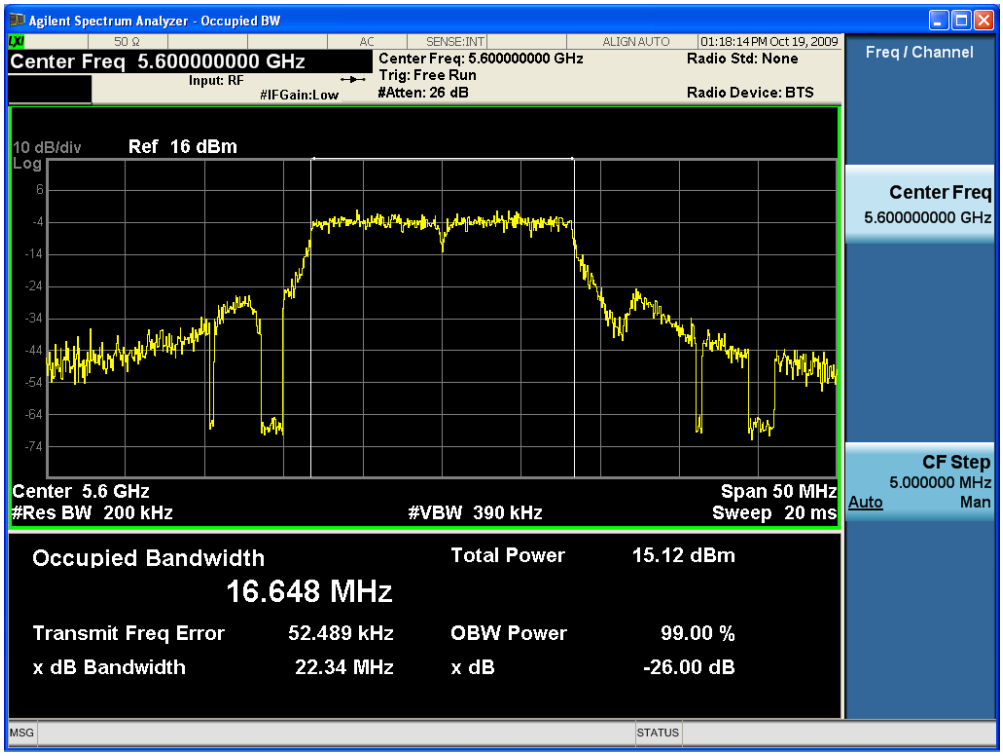
Channel 64 (5320MHz)



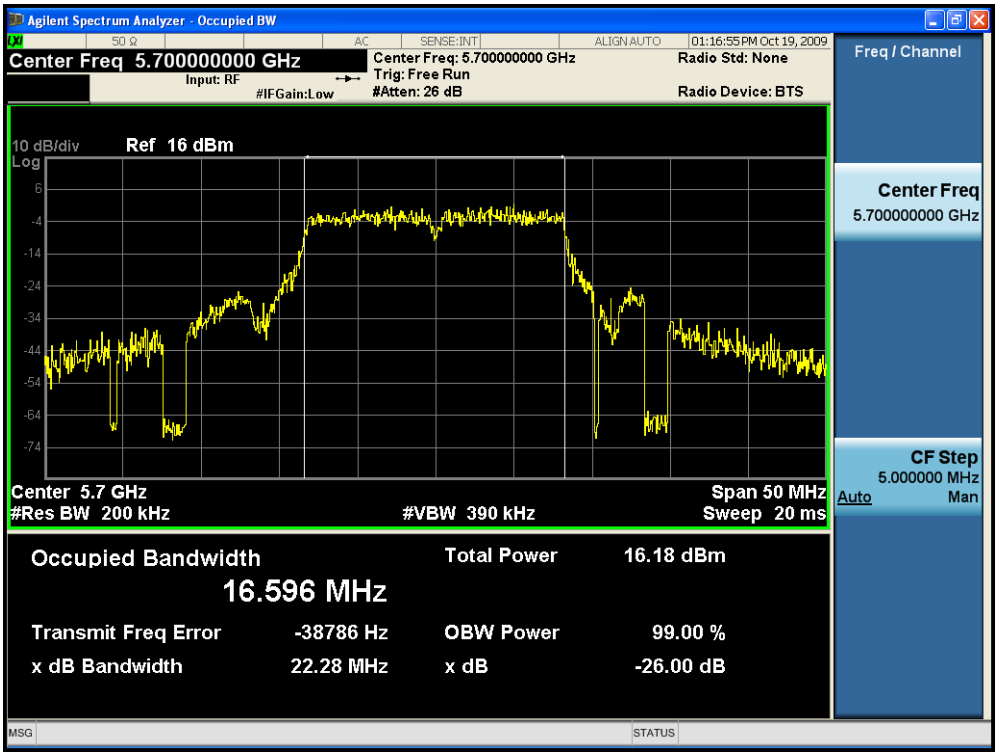
Channel 100 (5500MHz)



Channel 120 (5600MHz)



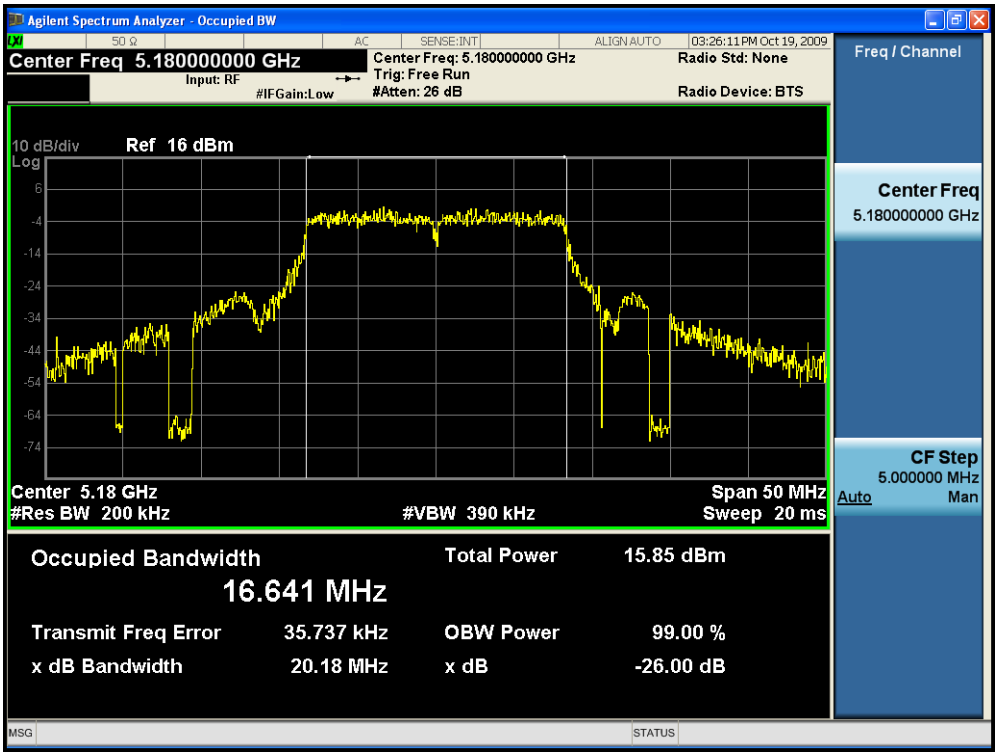
Channel 140 (5700MHz)



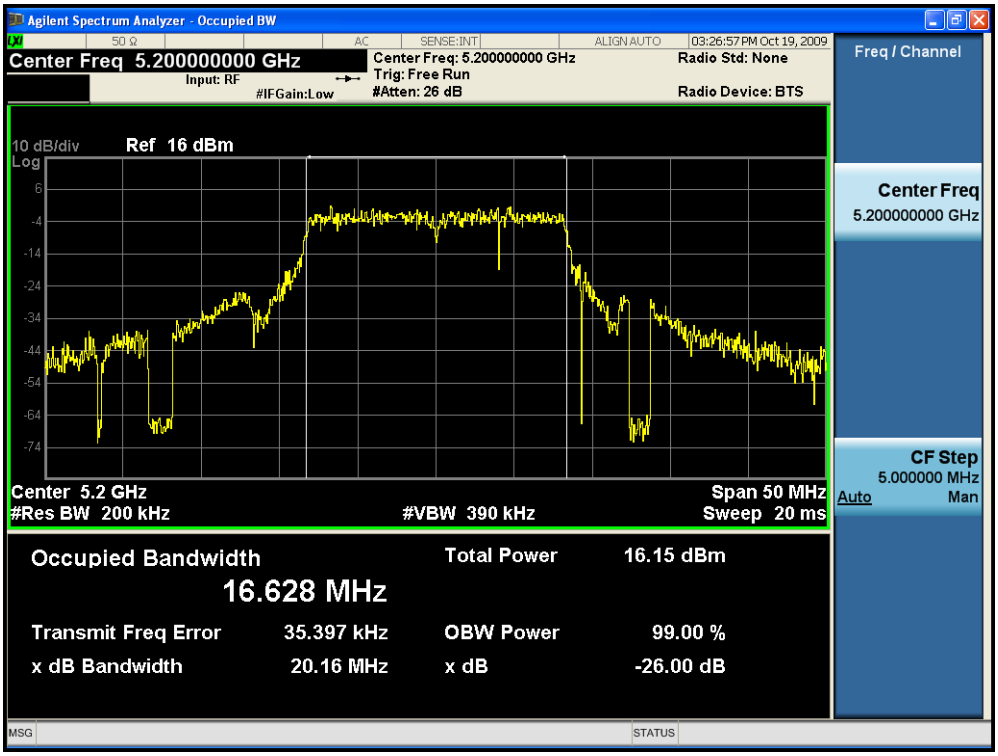
Product	:	802.11a/b/g/n WLAN Module
Test Item	:	26dB Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	Limit (MHz)
36	5180	20.18	N/A
40	5200	20.16	N/A
48	5240	20.01	N/A
52	5260	22.70	N/A
60	5300	20.04	N/A
64	5320	20.28	N/A
100	5500	22.58	N/A
120	5600	20.10	N/A
140	5700	22.59	N/A

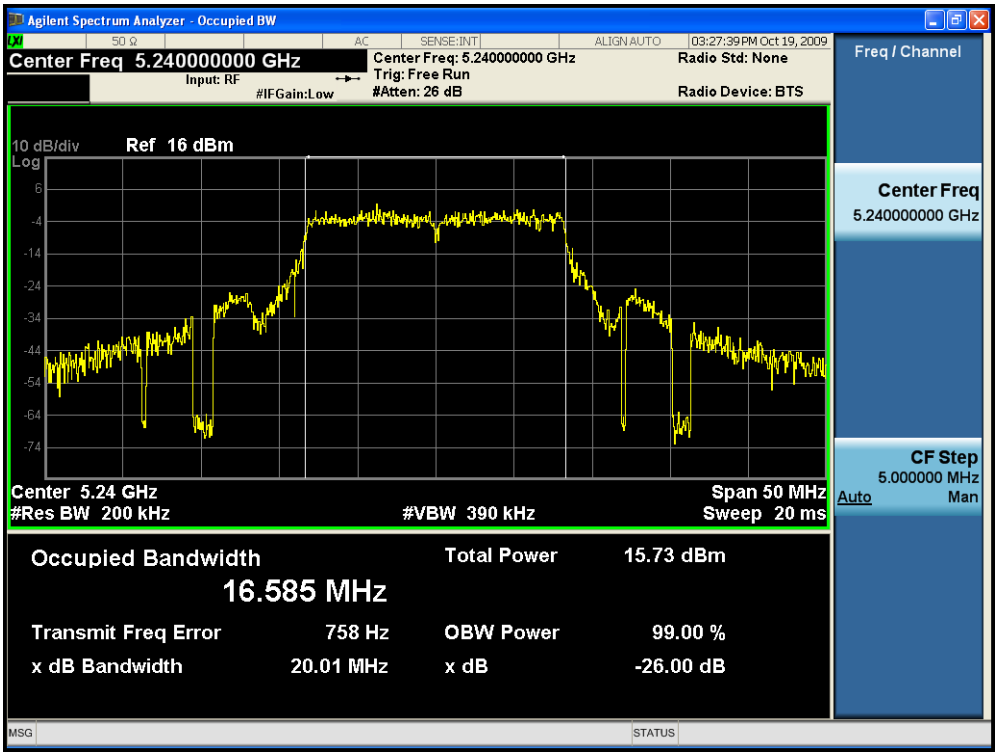
Channel 36 (5180MHz)



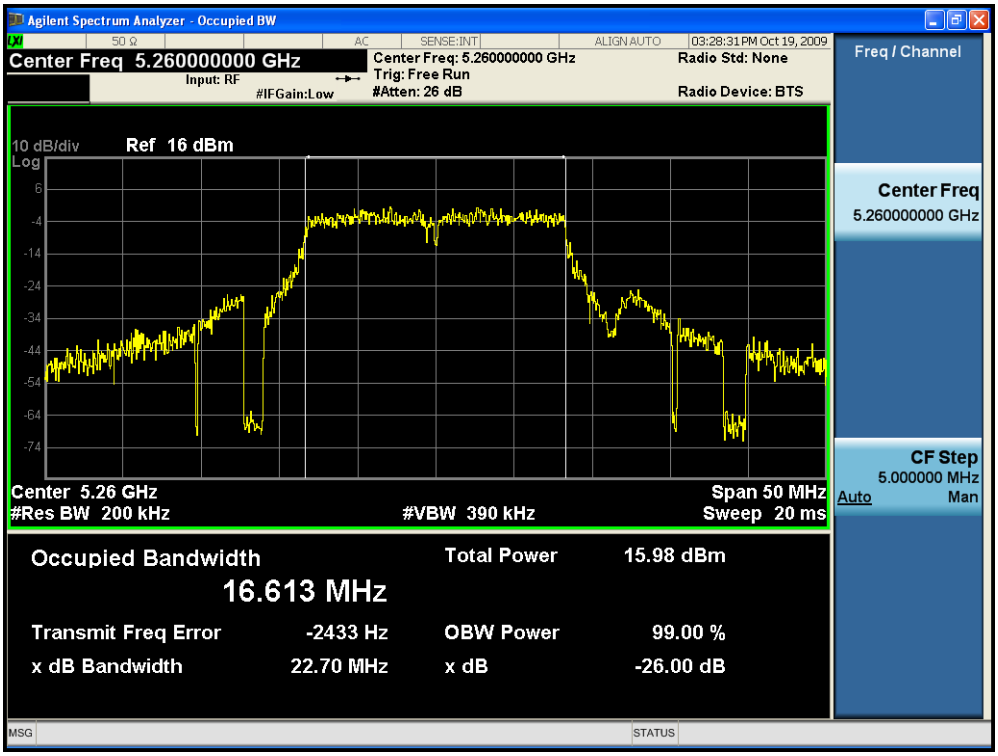
Channel 40 (5200MHz)



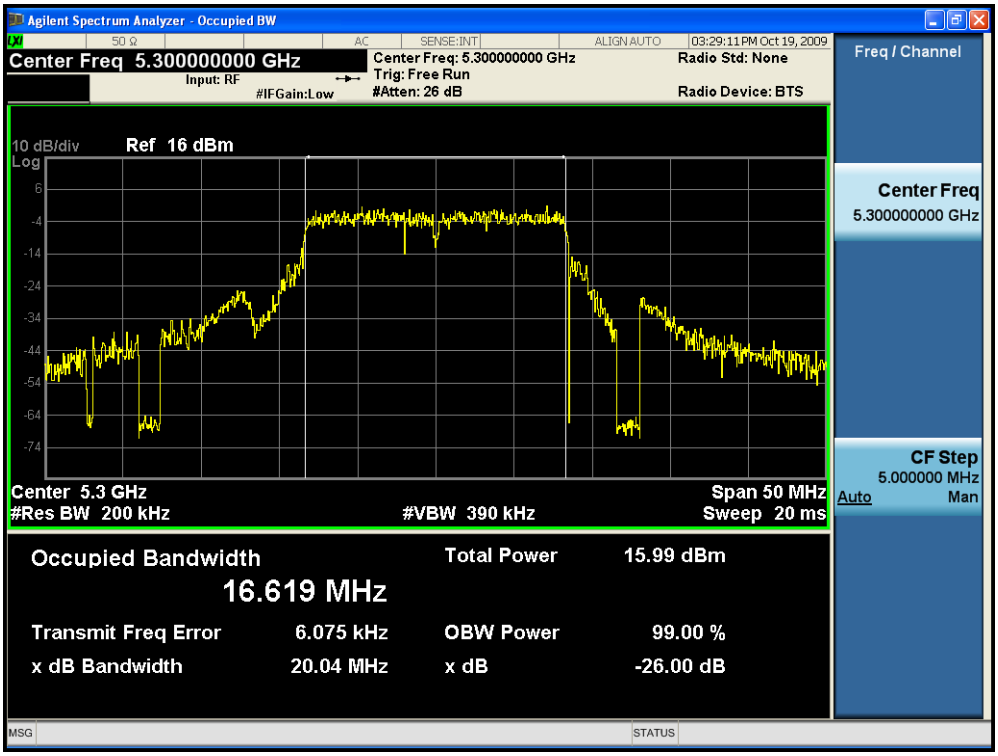
Channel 48 (5240MHz)



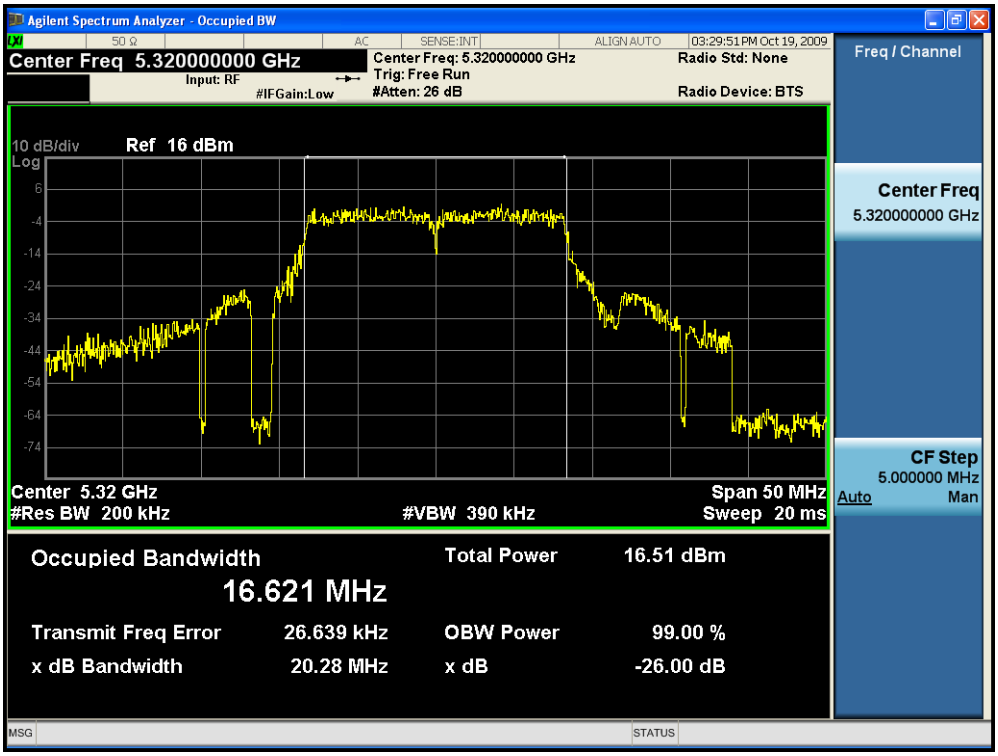
Channel 48 (5260MHz)



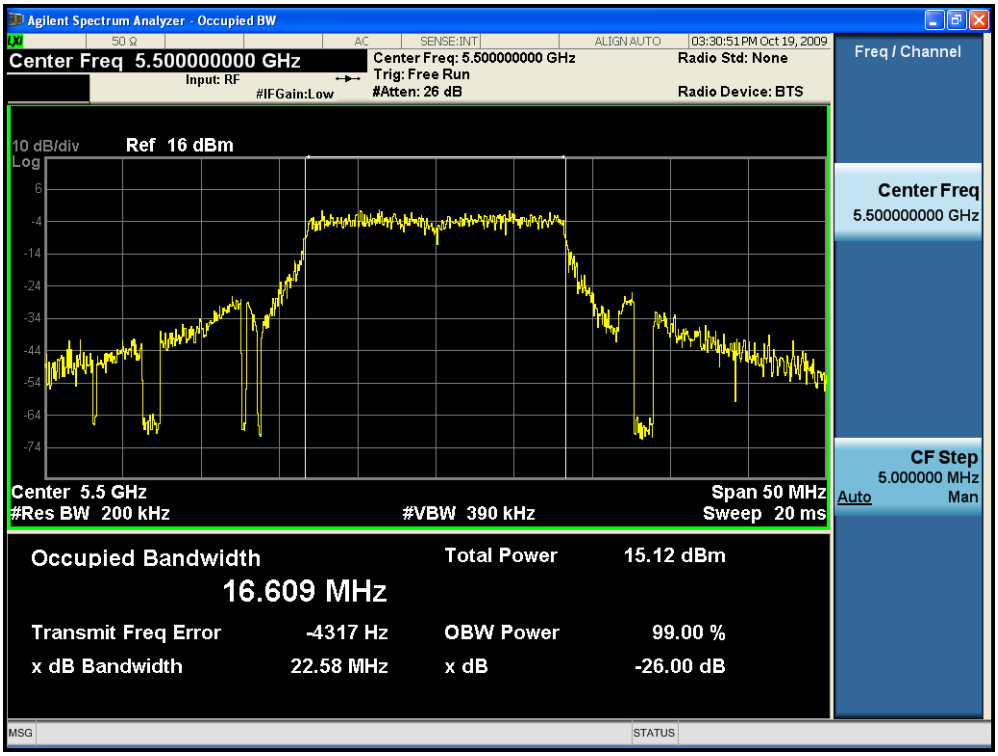
Channel 60 (5300MHz)



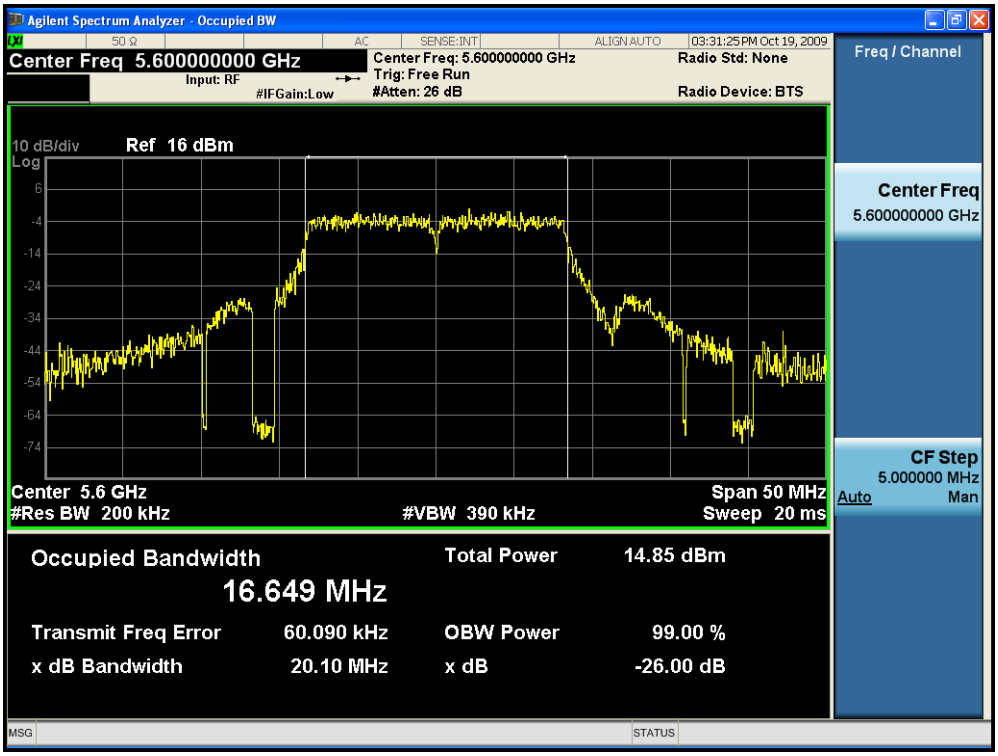
Channel 64 (5320MHz)



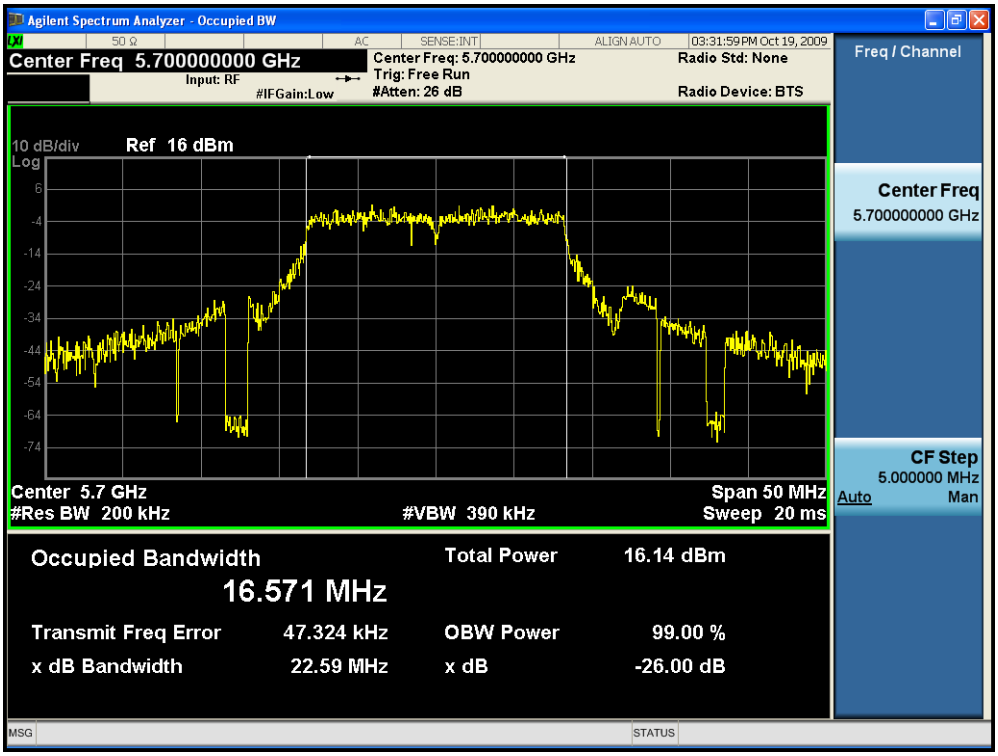
Channel 100 (5500MHz)



Channel 120 (5600MHz)



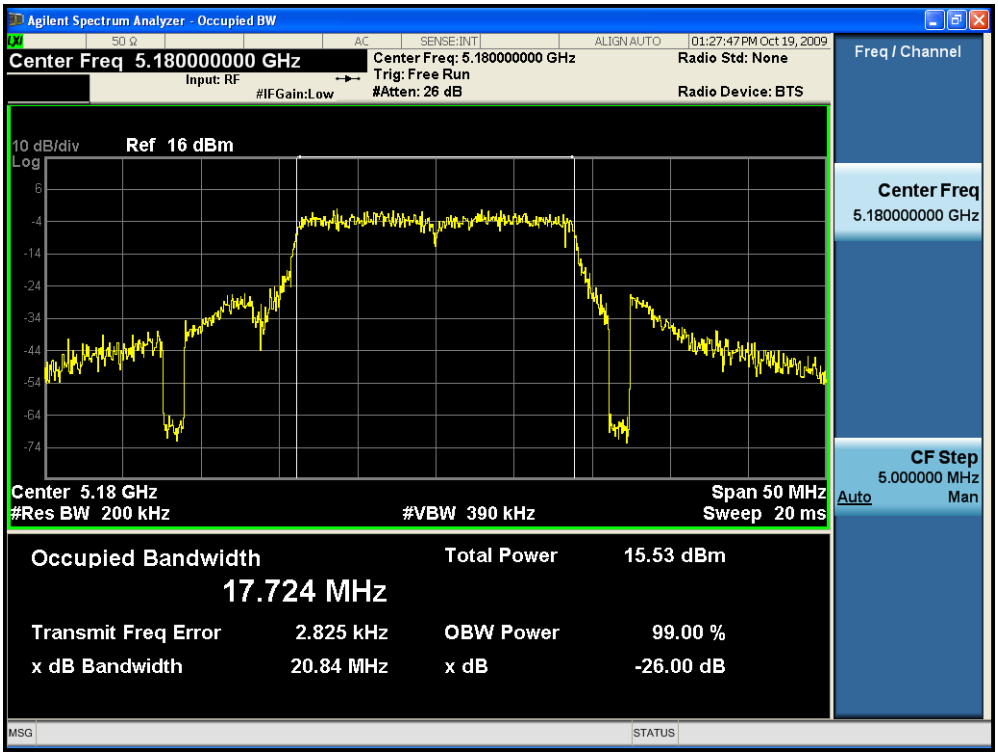
Channel 140 (5700MHz)



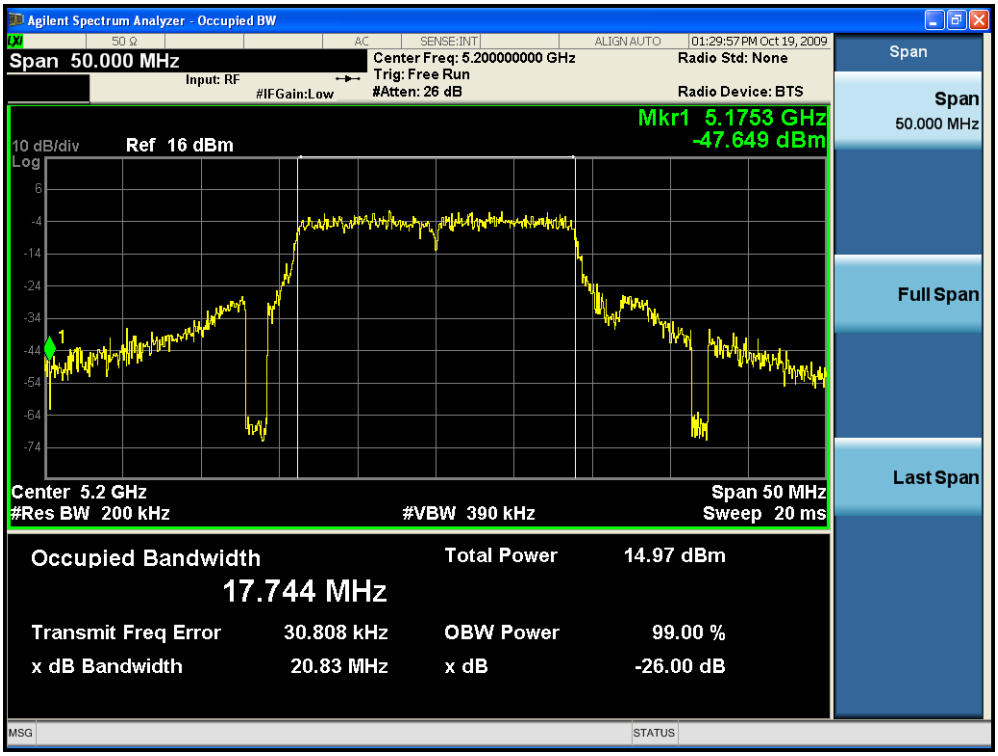
Product	:	802.11a/b/g/n WLAN Module
Test Item	:	26dB Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz Bandwidth) (Chain 0)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	Limit (MHz)
36	5180	20.84	N/A
40	5200	20.83	N/A
48	5240	20.03	N/A
52	5260	20.28	N/A
60	5300	20.41	N/A
64	5320	20.74	N/A
100	5500	20.78	N/A
120	5600	21.85	N/A
140	5700	20.37	N/A

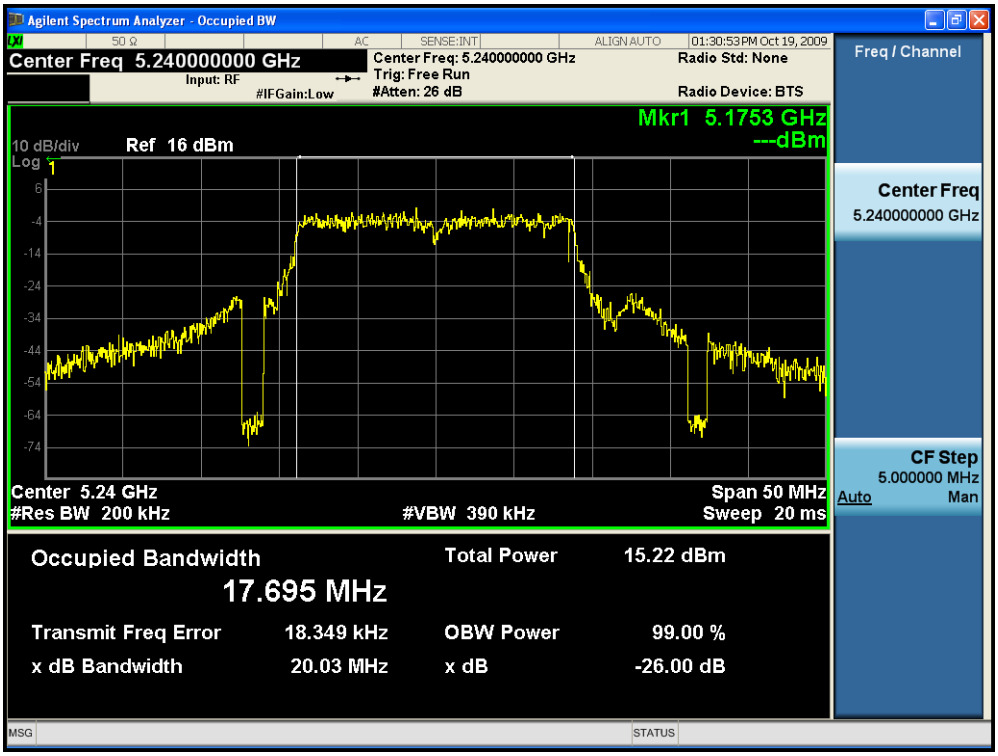
Channel 36 (5180MHz)



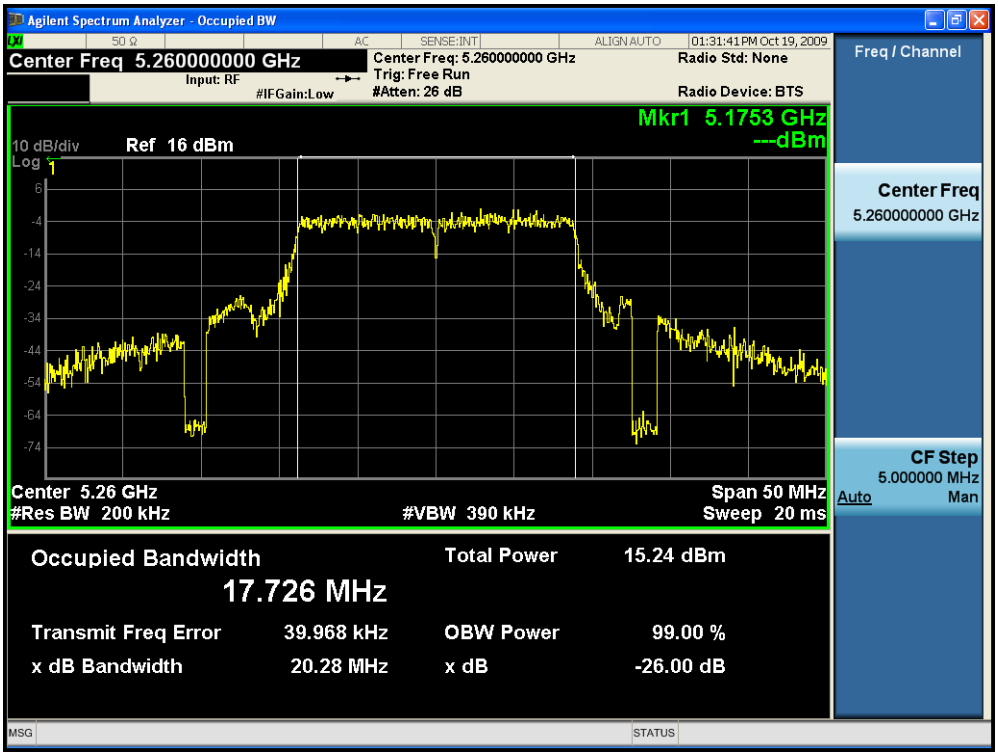
Channel 40 (5200MHz)



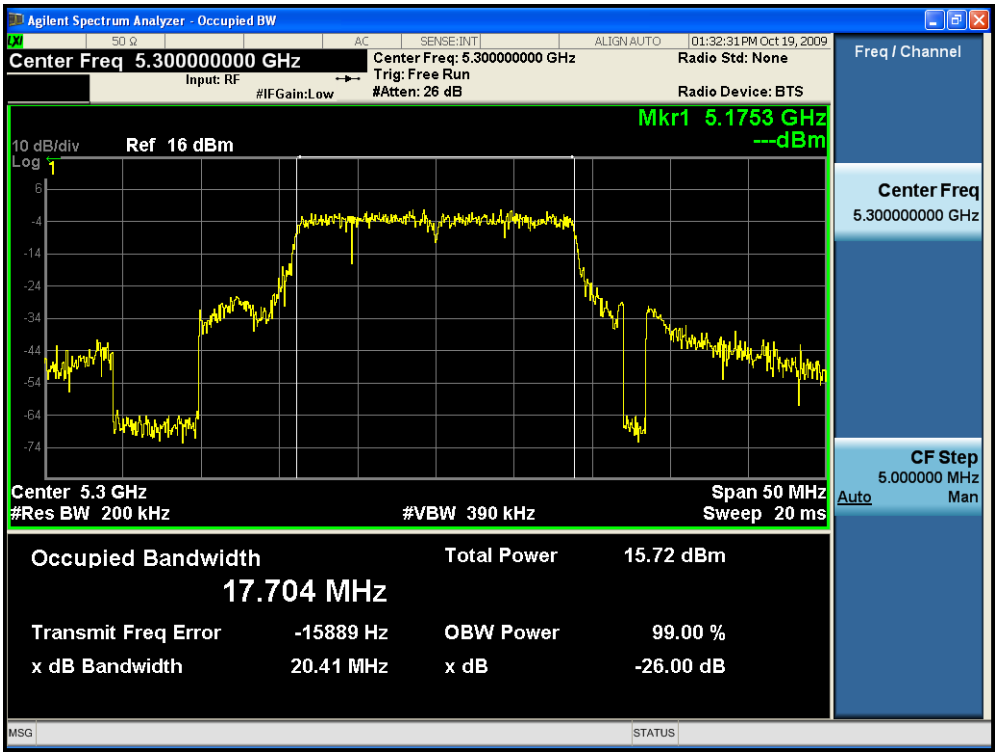
Channel 48 (5240MHz)



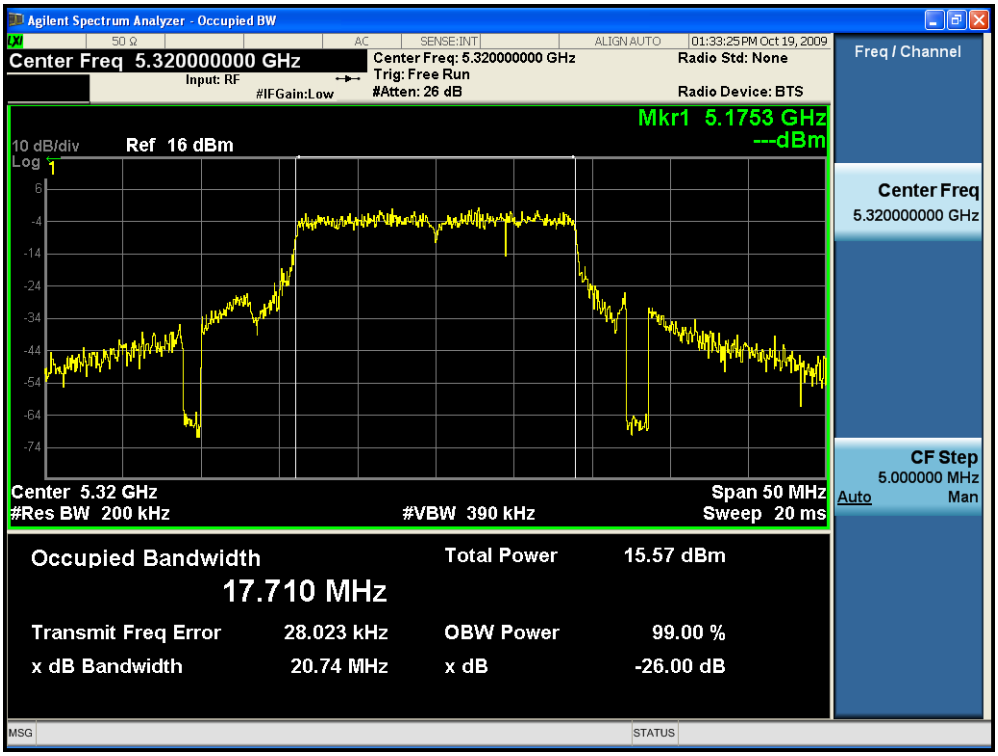
Channel 48 (5260MHz)



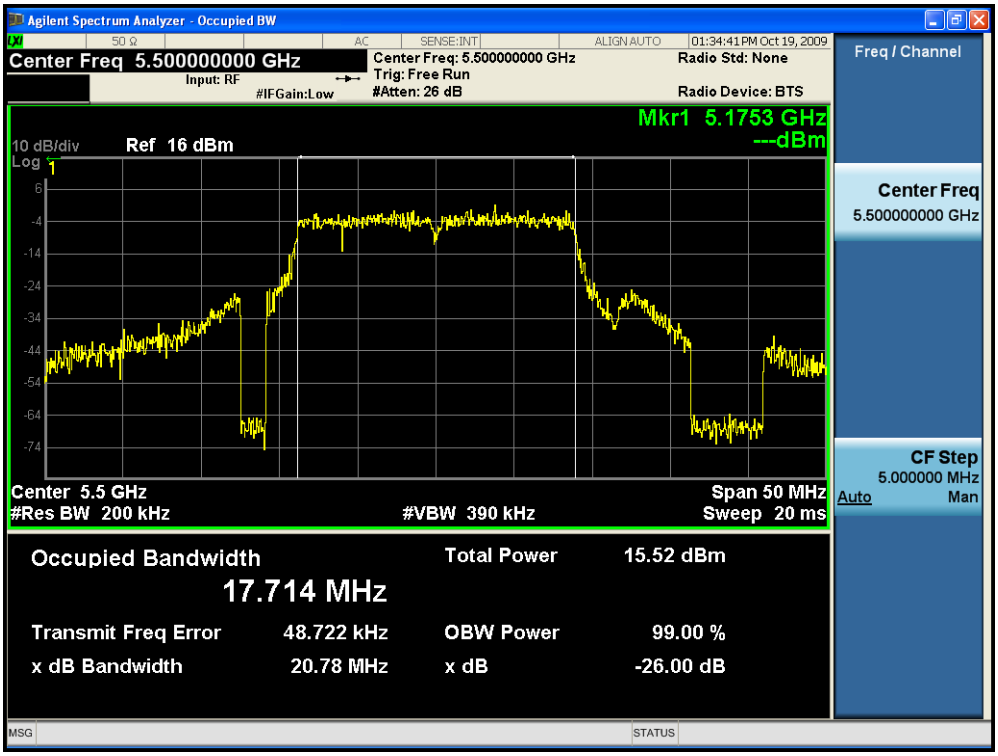
Channel 60 (5300MHz)



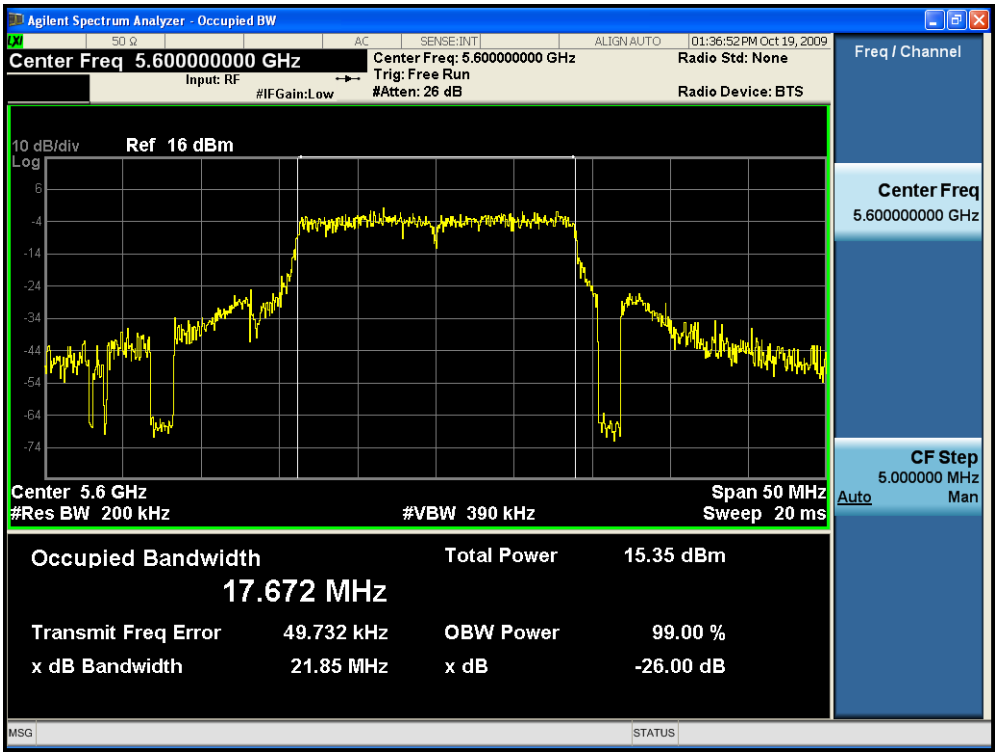
Channel 64 (5320MHz)



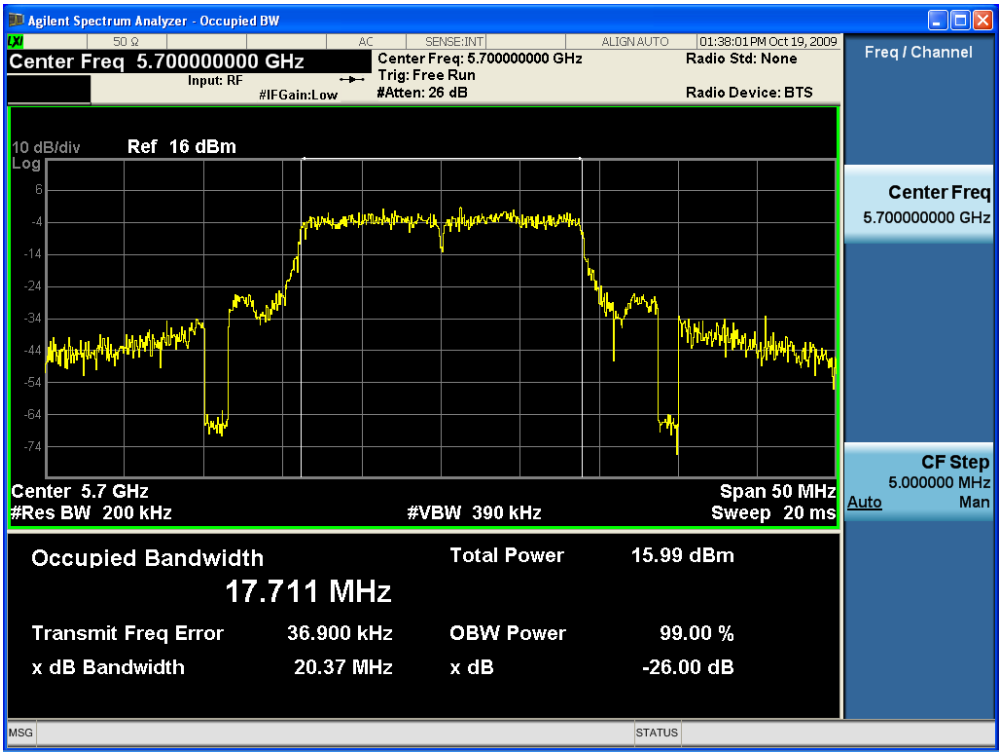
Channel 100 (5500MHz)



Channel 120 (5600MHz)



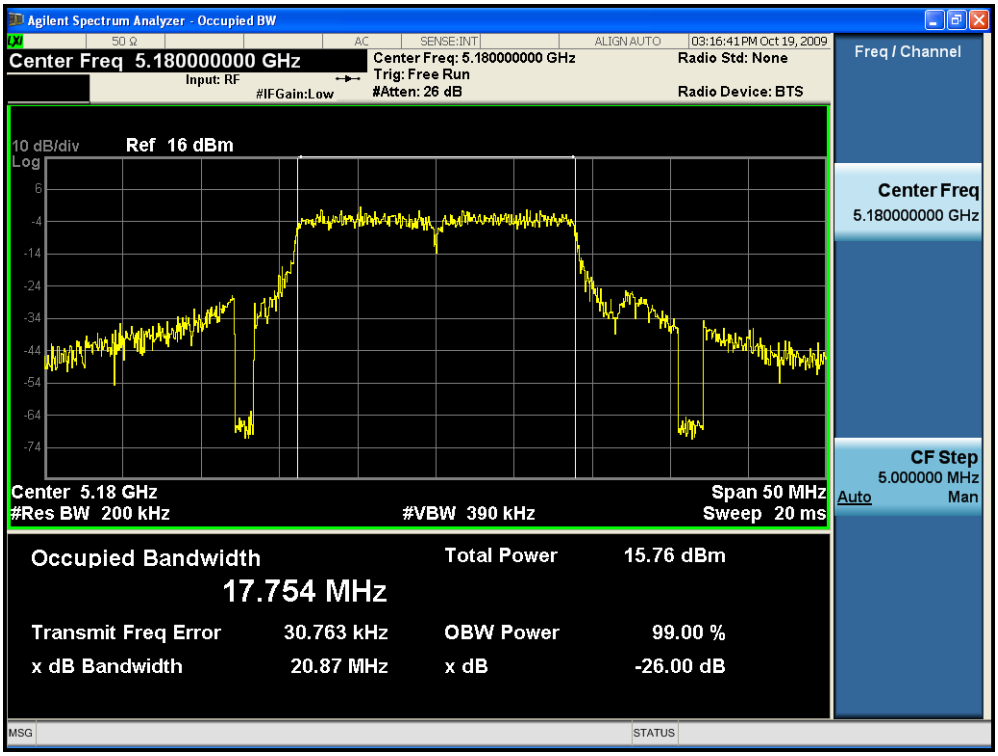
Channel 140 (5700MHz)



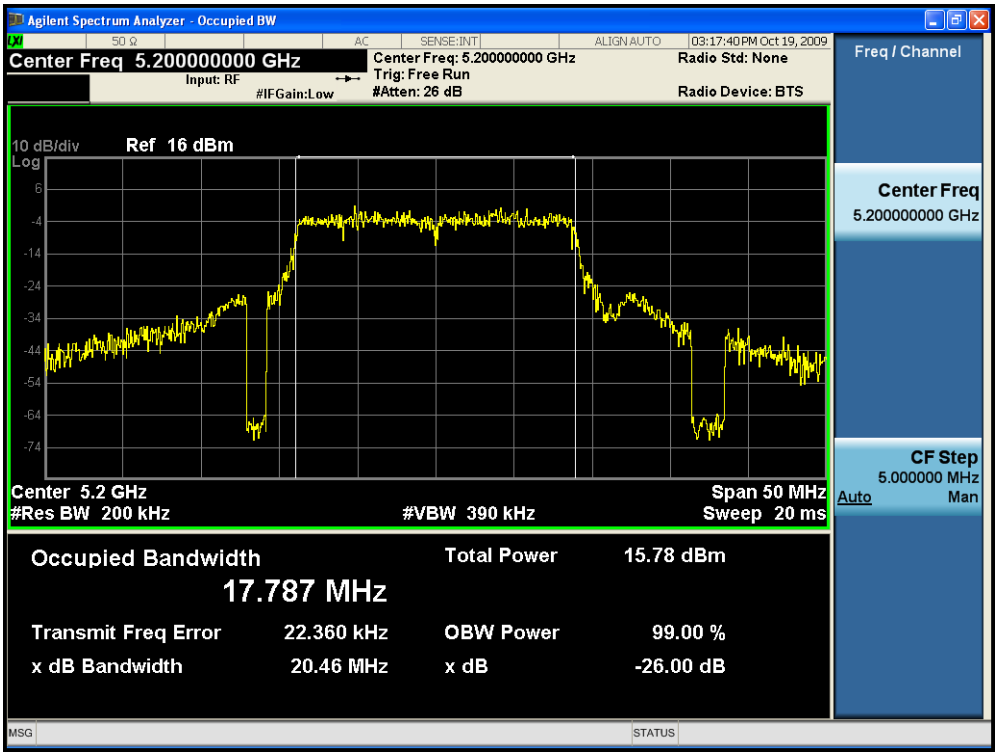
Product	:	802.11a/b/g/n WLAN Module
Test Item	:	26dB Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz Bandwidth) (Chain 1)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	Limit (MHz)
36	5180	20.87	N/A
40	5200	20.46	N/A
48	5240	20.73	N/A
52	5260	20.62	N/A
60	5300	20.49	N/A
64	5320	20.66	N/A
100	5500	20.98	N/A
120	5600	20.38	N/A
140	5700	20.41	N/A

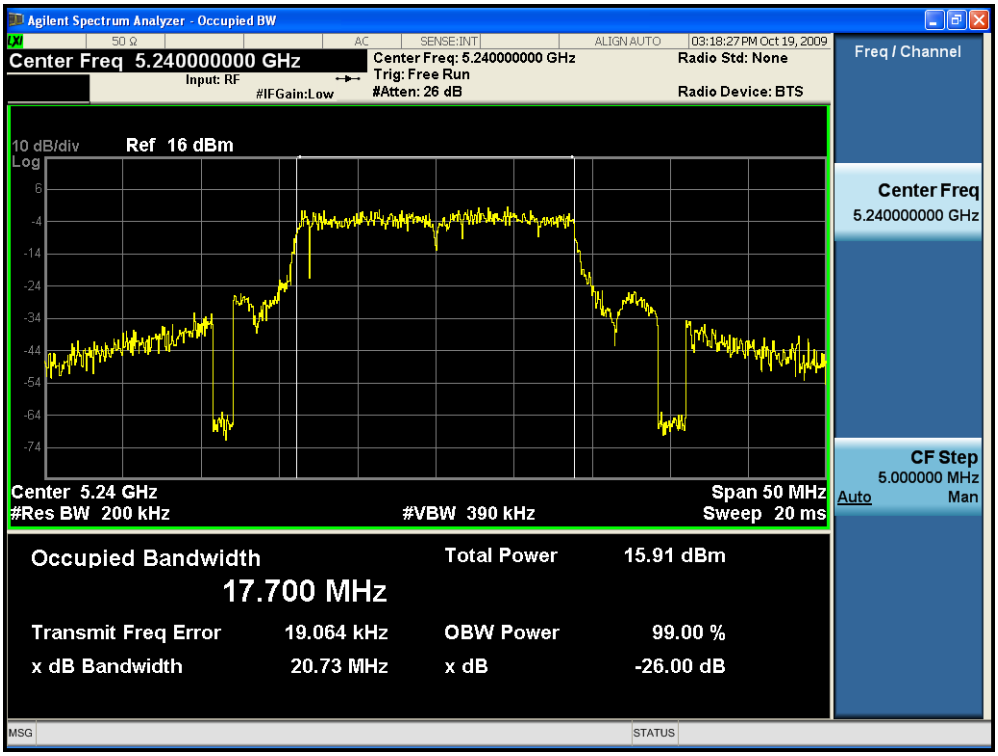
Channel 36 (5180MHz)



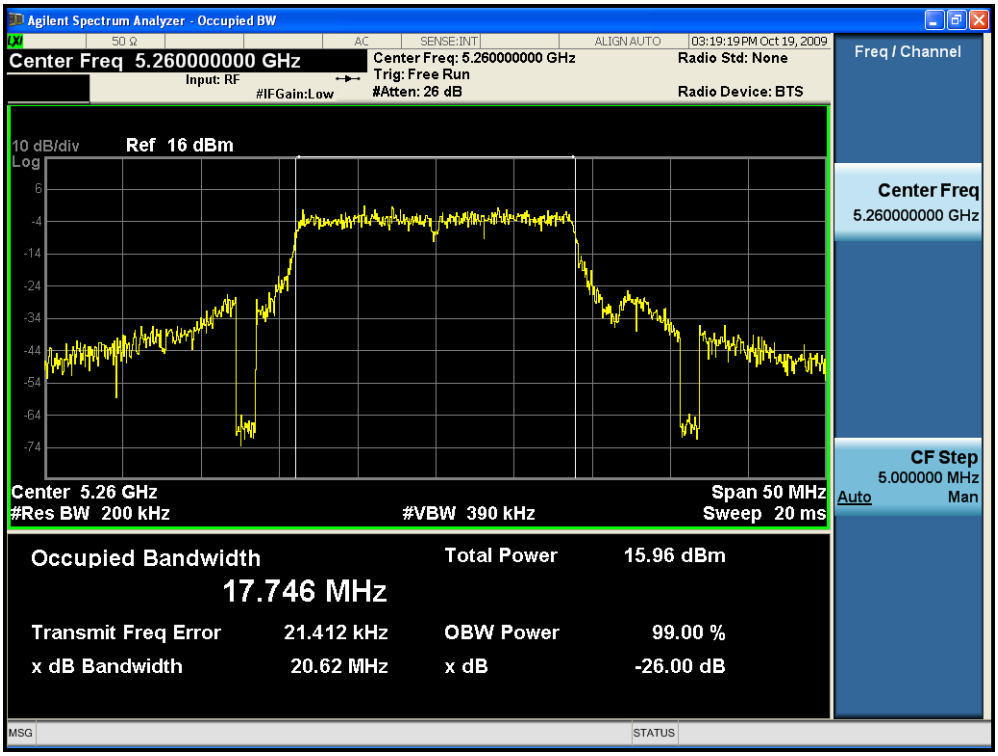
Channel 40 (5200MHz)



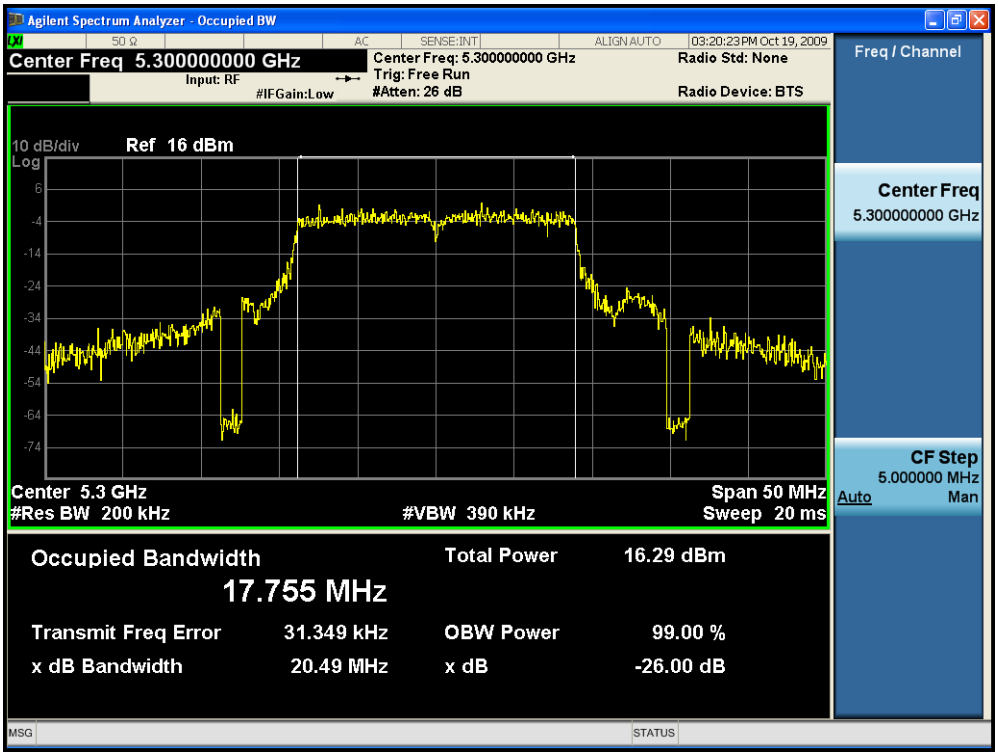
Channel 48 (5240MHz)



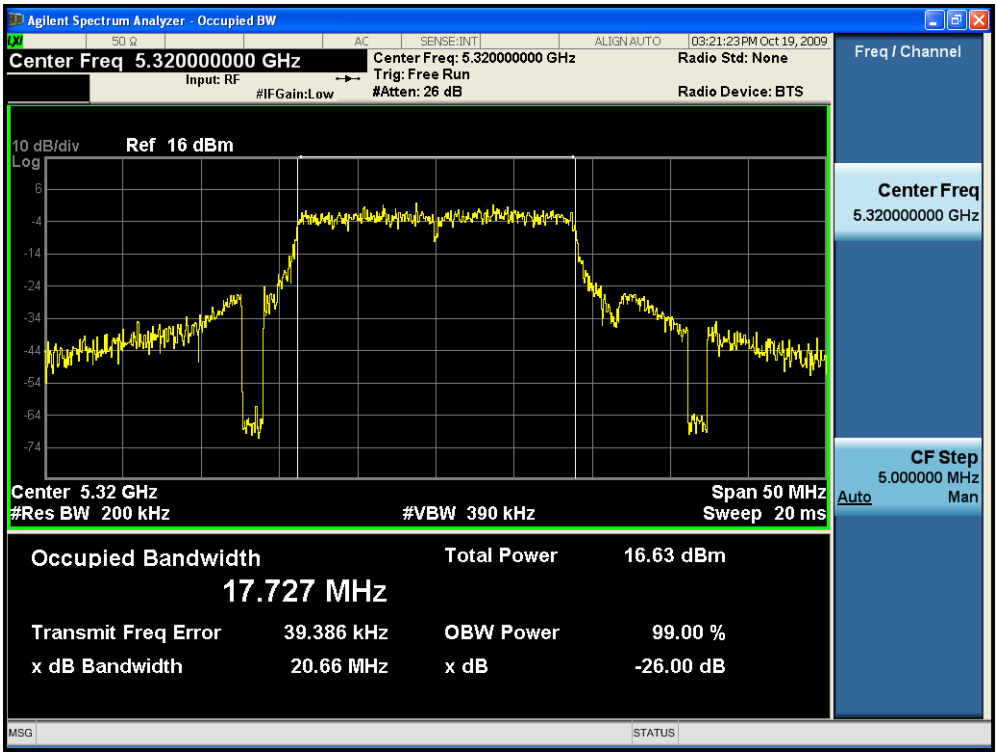
Channel 48 (5260MHz)



Channel 60 (5300MHz)



Channel 64 (5320MHz)



Channel 100 (5500MHz)