



Test Report

**Industry Canada RSS-Gen Issue 3/RSS-210 Issue 8
FCC Part15 Subpart E**

Product Name : WIRELESS-ABGN 2X2 NETWORK MINI
PCIE ADAPTER
Model No. : WLE250NX
FCC ID : TK4WLE250NX

Applicant : Compex Systems Pte Ltd
Address : 135 Joo Seng Road, #08-01 PM Industrial Building
Singapore 368363

Date of Receipt : 04/02/2013
Test Date : 05/02/2013~30/04/2013
Issued Date : 21/05/2013
Report No. : 132S009R-RF-US-P09V01
Report Version : V1.1

This report was based on Quietek report No: 132S008R

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.

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Test Report Certification

Issued Date : 21/05/2013

Report No. : 132S009R-RF-US-P09V01



Product Name : WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
 Applicant : Compex Systems Pte Ltd
 Address : 135 Joo Seng Road, #08-01 PM Industrial Building
 Singapore 368363
 Manufacturer : Compex Systems Pte Ltd
 Address : 135 Joo Seng Road, #08-01 PM Industrial Building
 Singapore 368363
 Model No. : WLE250NX
 EUT Voltage : DC: 3.3V
 Brand Name : COMPEX
 Applicable Standard : FCC CFR Title 47 Part 15 Subpart E: 2012
 ANSI C63.4: 2009; KDB 789033
 Test Result : Complied
 Performed Location : Suzhou EMC Laboratory
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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/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

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Germany	:	TUV Rheinland
Norway	:	Nemko, DNV
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Japan	:	VCCI
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1. General Information

1.1. EUT Description

Product Name	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Brand Name	COMPEX
Model No.	WLE250NX
EUT Voltage	DC 3.3V
Frequency Range	For 2.4GHz Band 802.11b/g/n(20MHz): 2412~2462MHz 802.11n(40MHz): 2422~2452MHz For 5.0GHz Band 802.11a/n(20MHz): 5180~5320MHz, 5500~5580, 5680~5700MHz, 5745~5825MHz 802.11n(40MHz): 5190~5310MHz, 5510~5550MHz, 5755~5795MHz
Channel Number	For 2.4GHz Band 802.11b/g/n(20MHz): 11 802.11n(40MHz): 7 For 5.0GHz Band 802.11a/n(20MHz): 20 802.11n(40MHz): 8
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 450 Mbps
Channel Control	Auto
Antenna Delivery	2*Tx + 2*Rx
Antenna Type	Reference to antenna List
Peak Antenna Gain	Reference to antenna List

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

Note: This Wireless Module can not operate in 5600~5650 MHz band in Canada/US.

802.11a/b/g/n Antenna List

Antenna	Manufacturer	Peak Gain
Dipole Antenna 1#	SmartAnt Telecom Co., Ltd.	4.5dBi for 2.4GHz, 7dBi for 5GHz
Dipole Antenna 2#	Kunshan Wavelink Electronic Co., Ltd.	2dBi for 2.4GHz and 5GHz

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)
Mode 3: Transmit by 802.11n (40MHz)

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 132S009R-RF-US-P01V02.

Power Parameter Value of the test software

Test Mode	Test Channel	Chain0	Chain1	Chain0+1
802.11a	5180	10.0	5.5	×
	5200	10.0	5.5	×
	5240	9.5	5.5	×
	5260	11.5	12.5	×
	5300	12.0	12.5	×
	5320	12.0	12.5	×
	5500	12.5	13.5	×
	5580	12.5	13.5	×
	5700	12.5	15.0	×
802.11n(20MHz)	5180	10.0	5.0	3.0
	5200	9.5	5.5	3.0
	5240	10.0	5.5	3.5
	5260	11.5	12.5	11.0
	5300	12.5	13.0	12.0
	5320	12.5	13.5	10.0
	5500	13.5	14.5	11.0
	5580	13.5	14.5	11.0
	5700	13.5	18.0	11.0
802.11n(40MHz)	5190	10.0	5.5	4.0
	5230	10.0	5.5	4.0
	5270	13.0	12.5	11.0
	5310	12.5	13.5	11.0
	5510	13.0	14.0	12.0
	5550	13.0	14.0	12.0

The test mode of the test software can support.

Test Mode	Chain0	Chain1	Chain0+1
802.11a	√	√	×
802.11n(20MHz)	√	√	√
802.11n(40MHz)	√	√	√

Duty Cycle

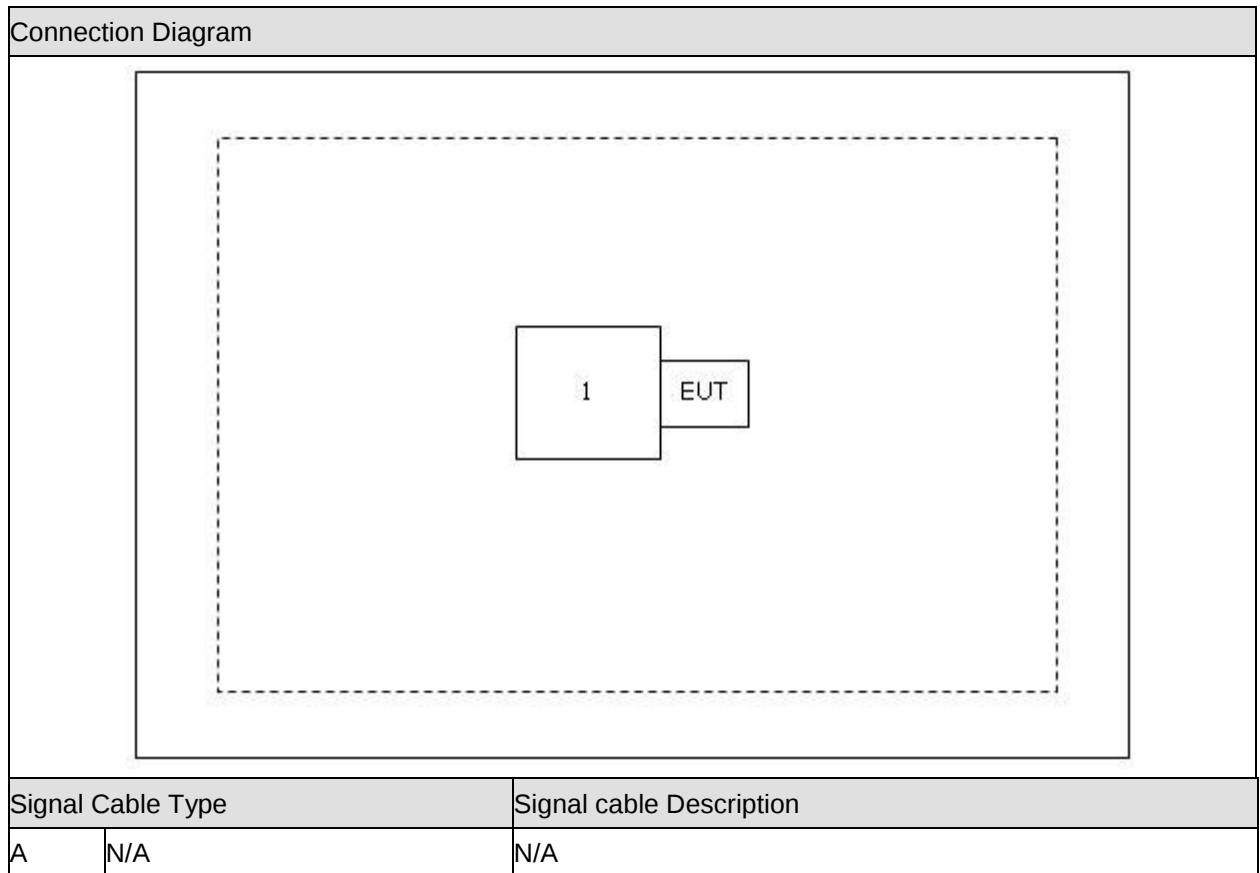
Test Mode	Duty Cycle
802.11a	99%
802.11n(20MHz)	99%
802.11n(40MHz)	99%

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	E520	N/A	Non-Shielded, 1.8m

1.4. Configuration of Tested System



1.5.EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Run the RF test software “Art2”, and set the test mode and channel, then press OK to start continue Transmit or receive.

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: 2012 Section 15.207	Yes	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart C: 2012 Section 15.209	Yes	No
Operation Frequency Range of 20dB Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2012 15.215(c)	Yes	No
26dB Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2012 Section 15.407(a)	Yes	No
Power Output	FCC CFR Title 47 Part 15 Subpart C: 2012 Section 15.407(a)	Yes	No
Peak Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2012 Section 15.407(a)	Yes	No
Peak Excursion	FCC CFR Title 47 Part 15 Subpart C: 2012 Section 15.407(a)(6)	Yes	No
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2012 Section 15.205, 15.407(b)	Yes	No
Frequency Stability	FCC CFR Title 47 Part 15 Subpart C: 2007 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

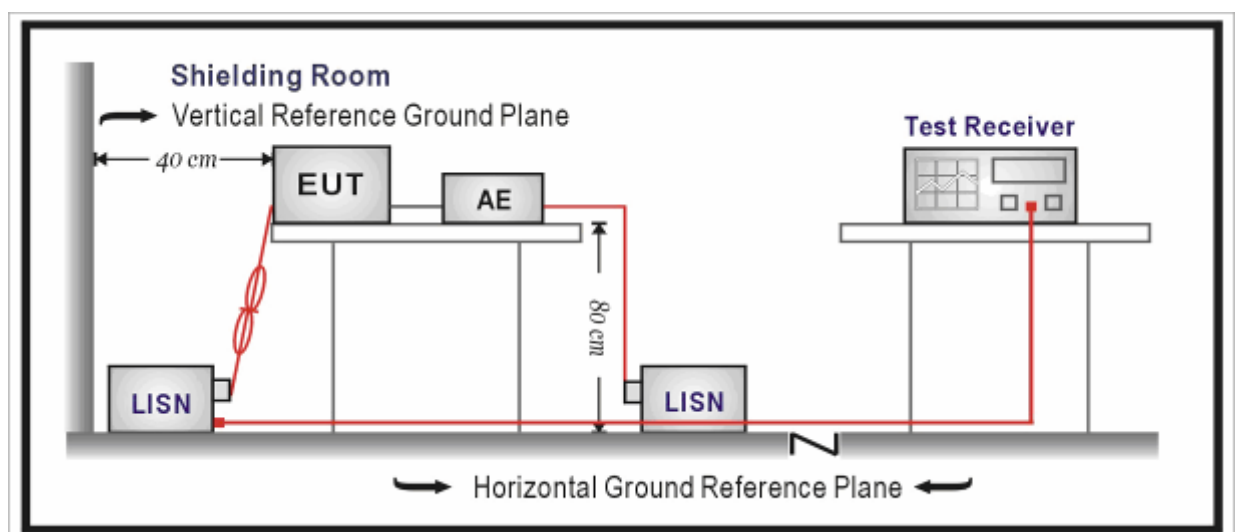
3.1. Test Equipment

Conducted Emission / TR-1

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
EMI Test Receiver	R&S	ESCI	100726	2014.03.30
Two-Line V-Network	R&S	ENV216	100043	2014.03.30
Two-Line V-Network	R&S	ENV216	100044	2013.09.17
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2014.03.01
50ohm Termination	SHX	TF2	07081401	2013.09.17
Temperature/Humidity Meter	zhicheng	ZC1-2	TR1-TH	2014.01.10

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, 2009 & KDB 789033.

The EUT was setup according to ANSI C63.4, 2009 & KDB 789033.

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.

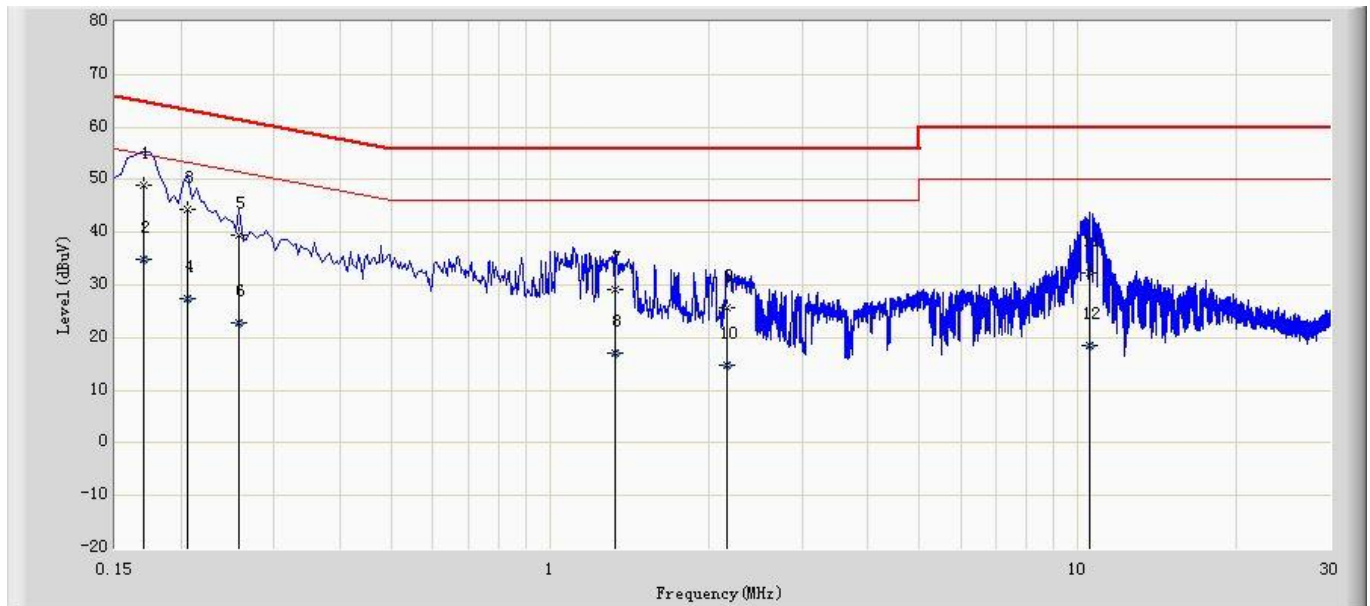
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Uncertainty

The measurement uncertainty is defined as ± 2.02 dB

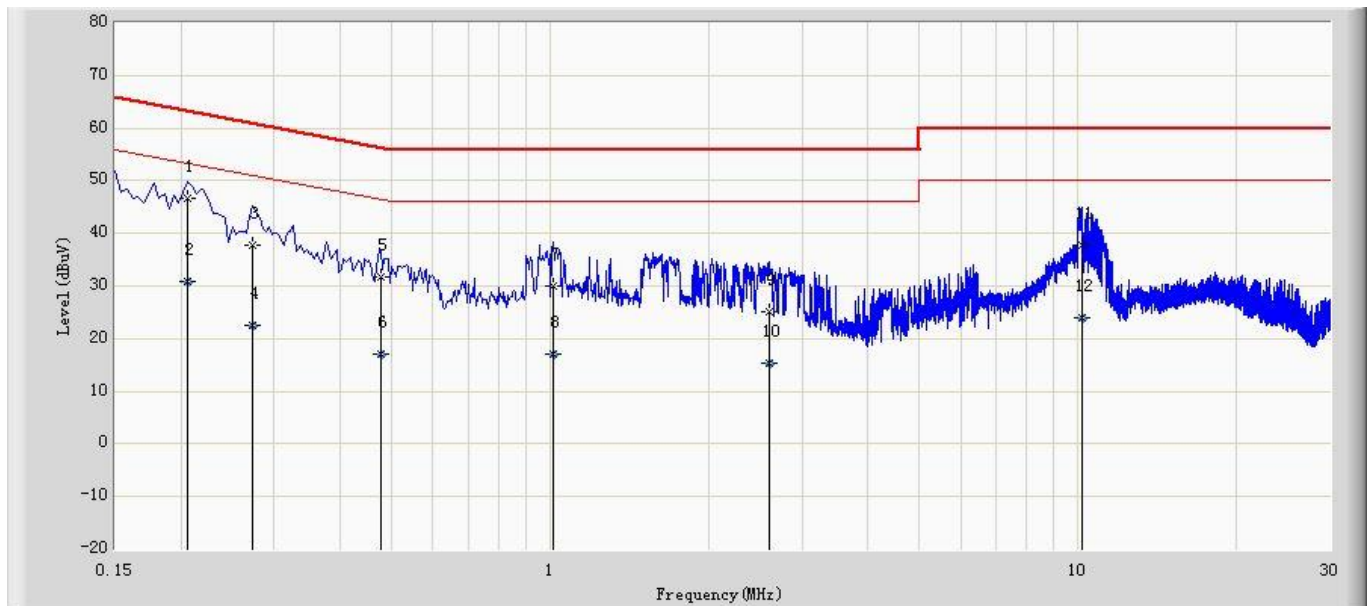
3.6. Test Result

Site: TR1	Time: 2013/04/22 - 19:56
Limit: FCC_Part15.207_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Line
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Model1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.170	48.908	39.057	-16.052	64.960	9.851	QP
2		0.170	34.793	24.942	-20.168	54.960	9.851	AV
3		0.206	44.485	34.624	-18.880	63.365	9.861	QP
4		0.206	27.307	17.446	-26.058	53.365	9.861	AV
5		0.258	39.513	29.645	-21.983	61.496	9.868	QP
6		0.258	22.788	12.920	-28.707	51.496	9.868	AV
7		1.330	29.245	19.448	-26.755	56.000	9.797	QP
8		1.330	17.182	7.385	-28.818	46.000	9.797	AV
9		2.158	25.803	16.012	-30.197	56.000	9.791	QP
10		2.158	14.717	4.926	-31.283	46.000	9.791	AV
11		10.534	32.287	22.272	-27.713	60.000	10.015	QP
12		10.534	18.507	8.492	-31.493	50.000	10.015	AV

Site: TR1	Time: 2013/04/22 - 20:01
Limit: FCC_Part15.207_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Neutral
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.206	46.688	36.771	-16.677	63.365	9.917	QP
2		0.206	30.816	20.900	-22.549	53.365	9.917	AV
3		0.274	37.702	27.766	-23.293	60.996	9.937	QP
4		0.274	22.516	12.579	-28.480	50.996	9.937	AV
5		0.478	31.638	21.589	-24.736	56.374	10.049	QP
6		0.478	16.934	6.885	-29.440	46.374	10.049	AV
7		1.014	30.041	20.004	-25.959	56.000	10.038	QP
8		1.014	17.184	7.146	-28.816	46.000	10.038	AV
9		2.594	25.154	15.175	-30.846	56.000	9.978	QP
10		2.594	15.481	5.503	-30.519	46.000	9.978	AV
11		10.170	37.698	27.319	-22.302	60.000	10.379	QP
12		10.170	23.943	13.564	-26.057	50.000	10.379	AV

4. Radiated Emission

4.1. Test Equipment

Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
EMI Test Receiver	R&S	ESCI	100573	2014.03.30
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2013.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2014.03.01
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC2-TH	2014.05.07

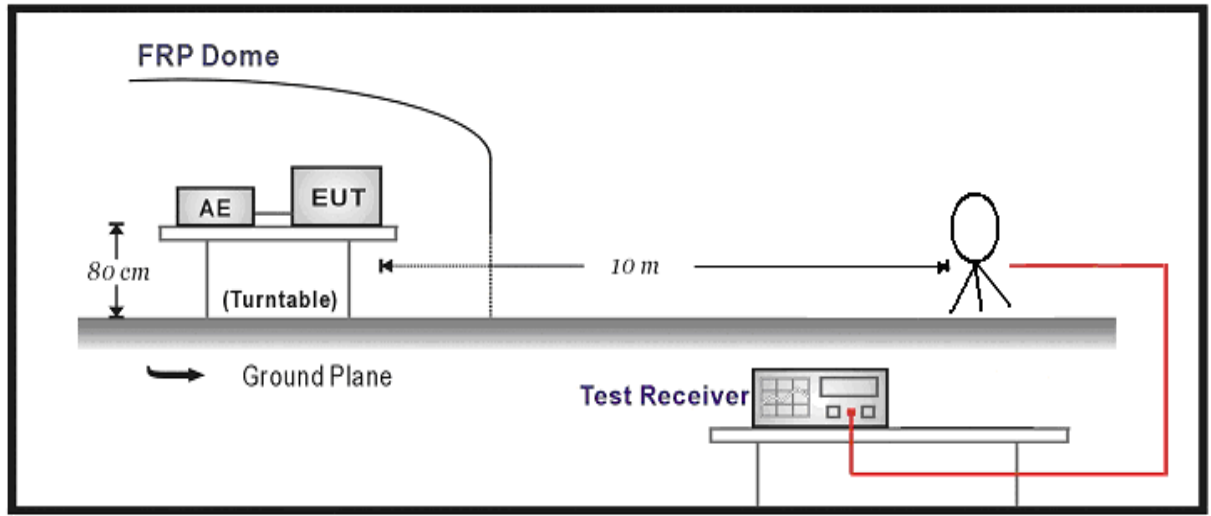
Radiated Emission / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9020A	MY49100159	2014.03.30
Preamplifier	Miteq	NSP1800-25	1364185	2014.05.04
Preamplifier	QuieTek	AP-040G	CHM-0906001	2014.05.04
Bilog Antenna	Teseq GmbH	CBL6112D	27612	2013.10.15
DRG Horn	ETS-Lindgren	3117	00123988	2014.01.21
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2014.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2014.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2014.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2013.06.11
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2014.01.11

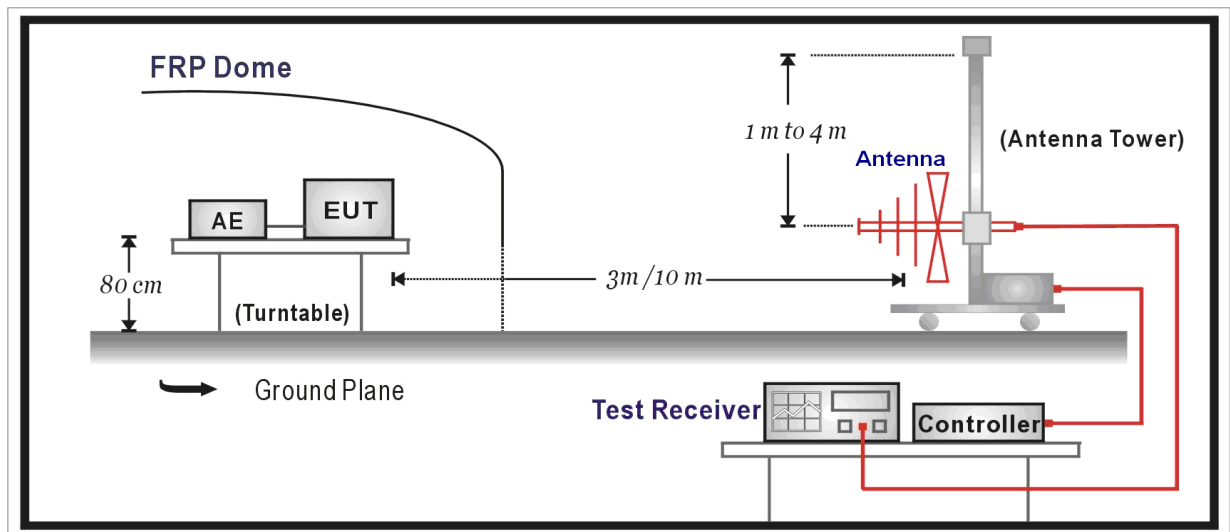
Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

4.2. Test Setup

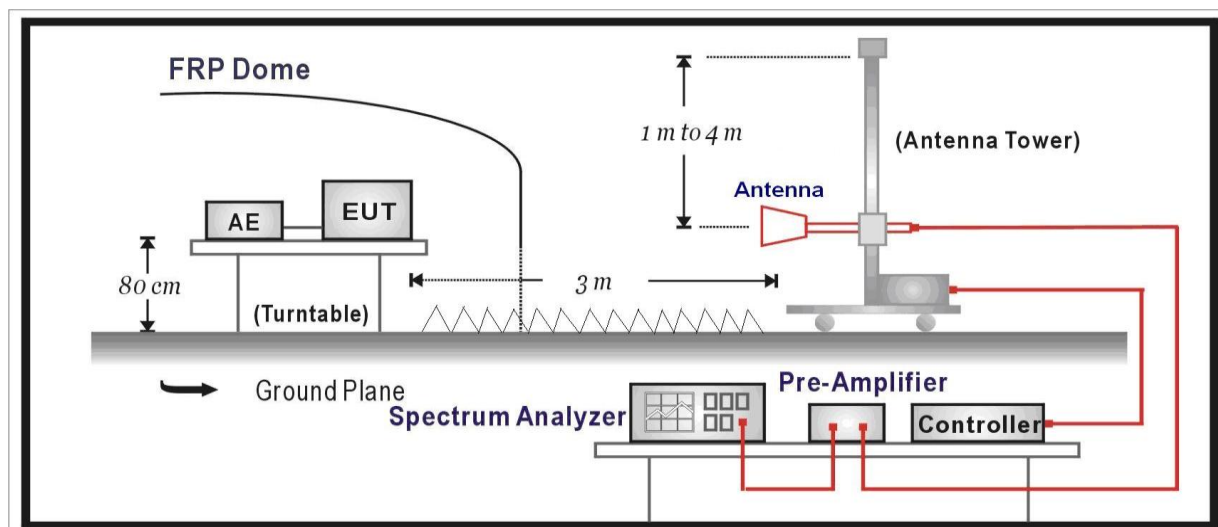
Below 30MHz Test Setup:



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, 2009 & KDB 789033 & KDB 789033.

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 C63.4:2009 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 60~10 degrees for H-plane and 90~10 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.

Mode1: Transmit by 802.11a

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Chain0	36	H	10360.0	37.6	4.0	41.6	54(Note3)	-12.4	PK
		V	10350.0	40.6	4.0	44.6	54(Note3)	-9.4	PK
		H	15540.0	36.4	6.9	43.3	54(Note3)	-10.7	PK
		V	15540.0	37.2	6.7	43.9	54(Note3)	-10.1	PK
	40	H	10400.0	37.0	4.0	40.9	54(Note3)	-13.1	PK
		V	10400.0	38.8	4.0	42.8	54(Note3)	-11.2	PK
		H	15600.0	36.9	7.1	44.0	54(Note3)	-10.0	PK
		V	15600.0	37.4	6.9	44.2	54(Note3)	-9.8	PK
	48	H	10480.0	35.9	4.0	40.0	54(Note3)	-14.0	PK
		V	10480.0	36.4	4.0	40.4	54(Note3)	-13.6	PK
		H	15720.0	36.1	7.1	43.2	54(Note3)	-10.8	PK
		V	15720.0	36.5	7.1	43.6	54(Note3)	-10.4	PK
	52	H	10520.0	36.6	4.1	40.7	54(Note3)	-13.3	PK
		V	10520.0	36.3	4.1	40.4	54(Note3)	-13.6	PK
		H	15780.0	36.8	7.3	44.1	54(Note3)	-9.9	PK
		V	15780.0	36.3	7.4	43.7	54(Note3)	-10.3	PK
	60	H	10600.0	37.0	4.3	41.4	54(Note3)	-12.6	PK
		V	10600.0	36.0	4.3	40.3	54(Note3)	-13.7	PK
		H	15900.0	37.6	7.6	45.1	54(Note3)	-8.9	PK
		V	15900.0	36.1	7.7	43.9	54(Note3)	-10.1	PK
	64	H	10640.0	36.9	4.4	41.3	54(Note3)	-12.7	PK
		V	10640.0	36.0	4.4	40.4	54(Note3)	-13.6	PK
		H	15960.0	35.7	7.8	43.5	54(Note3)	-10.5	PK
		V	15960.0	35.0	8.1	43.1	54(Note3)	-10.9	PK
	100	H	11000.0	34.7	4.9	39.6	54(Note3)	-14.4	PK
		V	11000.0	35.0	4.9	40.0	54(Note3)	-14.0	PK
		H	16500.0	35.5	9.0	44.5	54(Note3)	-9.5	PK

Chain1	116	V	16500.0	35.7	9.1	44.8	54(Note3)	-9.2	PK
		H	11160.0	35.4	5.3	40.7	54(Note3)	-13.3	PK
		V	11160.0	36.9	5.3	42.2	54(Note3)	-11.8	PK
		H	16740.0	35.0	10.7	45.7	54(Note3)	-8.3	PK
		V	16740.0	36.0	10.8	46.8	54(Note3)	-7.2	PK
	140	H	11400.0	36.5	5.9	42.3	54(Note3)	-11.7	PK
		V	11400.0	36.1	5.8	41.9	54(Note3)	-12.1	PK
		H	17100.0	34.4	10.5	44.9	54(Note3)	-9.1	PK
		V	17100.0	34.8	10.3	45.1	54(Note3)	-8.9	PK
	36	H	10360.0	36.6	4.0	40.6	54(Note3)	-13.4	PK
		V	10360.0	36.2	4.0	40.2	54(Note3)	-13.8	PK
		H	15540.0	36.3	6.9	43.2	54(Note3)	-10.8	PK
		V	15540.0	36.2	6.7	42.9	54(Note3)	-11.1	PK
	40	H	10400.0	37.9	4.0	41.8	54(Note3)	-12.2	PK
		V	10400.0	37.3	4.0	41.3	54(Note3)	-12.7	PK
		H	15600.0	35.8	7.1	42.8	54(Note3)	-11.2	PK
		V	15600.0	36.1	6.9	43.0	54(Note3)	-11.0	PK
	48	H	10480.0	36.3	4.0	40.3	54(Note3)	-13.7	PK
		V	10480.0	36.2	4.0	40.2	54(Note3)	-13.8	PK
		H	15720.0	35.9	7.1	43.0	54(Note3)	-11.0	PK
		V	15720.0	36.2	7.1	43.2	54(Note3)	-10.8	PK
	52	H	10520.0	36.8	4.1	40.9	54(Note3)	-13.1	PK
		V	10520.0	36.8	4.1	40.9	54(Note3)	-13.1	PK
		H	15780.0	36.4	7.3	43.7	54(Note3)	-10.3	PK
		V	15780.0	35.5	7.4	42.9	54(Note3)	-11.1	PK
	60	H	10600.0	37.2	4.3	41.6	54(Note3)	-12.4	PK
		V	10520.0	37.0	4.1	41.2	54(Note3)	-12.8	PK
		H	15900.0	35.8	7.6	43.4	54(Note3)	-10.6	PK
		V	15780.0	35.8	7.4	43.2	54(Note3)	-10.8	PK
	64	H	10600.0	37.2	4.3	41.5	54(Note3)	-12.5	PK
		V	10600.0	37.0	4.3	41.3	54(Note3)	-12.7	PK
		H	15900.0	36.0	7.6	43.6	54(Note3)	-10.4	PK
		V	15900.0	35.4	7.7	43.2	54(Note3)	-10.8	PK
	100	H	11000.0	35.5	4.9	40.4	54(Note3)	-13.6	PK
		V	11000.0	35.7	4.9	40.6	54(Note3)	-13.4	PK
		H	16500.0	35.3	9.0	44.4	54(Note3)	-9.6	PK
		V	16500.0	36.0	9.1	45.1	54(Note3)	-8.9	PK

	116	H	11160.0	36.0	5.3	41.4	54(Note3)	-12.6	PK
		V	11160.0	36.3	5.3	41.6	54(Note3)	-12.4	PK
		H	16740.0	35.2	10.7	45.9	54(Note3)	-8.1	PK
		V	16740.0	35.2	10.8	46.0	54(Note3)	-8.0	PK
	140	H	11400.0	35.7	5.9	41.6	54(Note3)	-12.4	PK
		V	11400.0	36.3	5.8	42.0	54(Note3)	-12.0	PK
		H	17100.0	34.8	10.5	45.2	54(Note3)	-8.8	PK
		V	17100.0	33.9	10.3	44.2	54(Note3)	-9.8	PK

Note: 1. Measure Level = Reading Level + Factor.

2. The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode2: Transmit by 802.11n(20MHz)

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Chain0	36	H	10360.0	37.4	4.0	41.4	54(Note3)	-12.6	PK
		V	10360.0	37.7	4.0	41.7	54(Note3)	-12.3	PK
		H	15540.0	36.3	6.9	43.3	54(Note3)	-10.7	PK
		V	15540.0	36.4	6.7	43.1	54(Note3)	-10.9	PK
	40	H	10400.0	36.5	4.0	40.4	54(Note3)	-13.6	PK
		V	10400.0	36.5	4.0	40.5	54(Note3)	-13.5	PK
		H	15600.0	34.9	7.1	41.9	54(Note3)	-12.1	PK
		V	15600.0	34.5	6.9	41.3	54(Note3)	-12.7	PK
	48	H	10480.0	35.7	4.0	39.7	54(Note3)	-14.3	PK
		V	10480.0	37.0	4.0	41.0	54(Note3)	-13.0	PK
		H	15720.0	36.1	7.1	43.2	54(Note3)	-10.8	PK
		V	15720.0	36.6	7.1	43.6	54(Note3)	-10.4	PK
	52	H	10520.0	35.8	4.1	39.9	54(Note3)	-14.1	PK
		V	10520.0	37.3	4.1	41.4	54(Note3)	-12.6	PK
		H	15780.0	35.7	7.3	43.0	54(Note3)	-11.0	PK
		V	15780.0	36.3	7.4	43.6	54(Note3)	-10.4	PK
	60	H	10600.0	36.6	4.3	40.9	54(Note3)	-13.1	PK
		V	10600.0	36.3	4.3	40.6	54(Note3)	-13.4	PK
		H	15900.0	36.3	7.6	43.9	54(Note3)	-10.1	PK

		V	15900.0	36.0	7.7	43.7	54(Note3)	-10.3	PK
		H	10640.0	37.6	4.4	42.0	54(Note3)	-12.0	PK
		V	10640.0	36.6	4.4	41.0	54(Note3)	-13.0	PK
		H	15960.0	35.0	7.8	42.8	54(Note3)	-11.2	PK
		V	15960.0	36.4	8.1	44.5	54(Note3)	-9.5	PK
		H	11000.0	35.1	4.9	40.0	54(Note3)	-14.0	PK
		V	11000.0	35.1	4.9	40.1	54(Note3)	-13.9	PK
		H	16500.0	35.7	9.0	44.7	54(Note3)	-9.3	PK
		V	16500.0	35.6	9.1	44.7	54(Note3)	-9.3	PK
		H	11160.0	36.4	5.3	41.7	54(Note3)	-12.3	PK
		V	11160.0	37.7	5.3	43.0	54(Note3)	-11.0	PK
		H	16740.0	34.7	10.7	45.4	54(Note3)	-8.6	PK
		V	16740.0	35.8	10.8	46.6	54(Note3)	-7.4	PK
		H	11400.0	35.8	5.9	41.7	54(Note3)	-12.3	PK
		V	11400.0	36.0	5.8	41.8	54(Note3)	-12.2	PK
		H	17100.0	33.6	10.5	44.1	54(Note3)	-9.9	PK
		V	17100.0	33.9	10.3	44.2	54(Note3)	-9.8	PK
Chain1	36	H	10360.0	36.9	4.0	40.9	54(Note3)	-13.1	PK
		V	10360.0	38.0	4.0	42.0	54(Note3)	-12.0	PK
		H	15540.0	36.9	6.9	43.8	54(Note3)	-10.2	PK
		V	15540.0	37.0	6.7	43.6	54(Note3)	-10.4	PK
	40	H	10400.0	37.2	4.0	41.1	54(Note3)	-12.9	PK
		V	10400.0	37.7	4.0	41.6	54(Note3)	-12.4	PK
		H	15600.0	36.0	7.1	43.0	54(Note3)	-11.0	PK
		V	15600.0	35.5	6.9	42.4	54(Note3)	-11.6	PK
	48	H	10480.0	36.9	4.0	40.9	54(Note3)	-13.1	PK
		V	10400.0	37.2	4.0	41.2	54(Note3)	-12.8	PK
		H	15600.0	35.9	7.1	42.9	54(Note3)	-11.1	PK
		V	15600.0	35.8	6.9	42.6	54(Note3)	-11.4	PK
	52	H	10520.0	36.7	4.1	40.8	54(Note3)	-13.2	PK
		V	10520.0	36.5	4.1	40.6	54(Note3)	-13.4	PK
		H	15780.0	36.2	7.3	43.6	54(Note3)	-10.4	PK
		V	15780.0	35.4	7.4	42.8	54(Note3)	-11.2	PK
	60	H	10600.0	36.7	4.3	41.1	54(Note3)	-12.9	PK
		V	10600.0	36.9	4.3	41.2	54(Note3)	-12.8	PK
		H	15900.0	36.1	7.6	43.6	54(Note3)	-10.4	PK
		V	15900.0	36.0	7.7	43.7	54(Note3)	-10.3	PK

	64	H	10640.0	36.4	4.4	40.9	54(Note3)	-13.2	PK
		V	10640.0	36.9	4.4	41.4	54(Note3)	-12.7	PK
		H	15960.0	35.6	7.8	43.5	54(Note3)	-10.5	PK
		V	15960.0	35.4	8.1	43.5	54(Note3)	-10.5	PK
	100	H	11000.0	35.3	4.9	40.2	54(Note3)	-13.8	PK
		V	11000.0	35.3	4.9	40.2	54(Note3)	-13.8	PK
		H	16500.0	35.5	9.0	44.5	54(Note3)	-9.5	PK
		V	16500.0	35.0	9.1	44.1	54(Note3)	-9.9	PK
	116	H	11160.0	35.9	5.3	41.2	54(Note3)	-12.8	PK
		V	11160.0	36.5	5.3	41.7	54(Note3)	-12.3	PK
		H	16740.0	35.0	10.7	45.8	54(Note3)	-8.2	PK
		V	16740.0	34.9	10.8	45.8	54(Note3)	-8.2	PK
	140	H	11400.0	35.6	5.9	41.5	54(Note3)	-12.5	PK
		V	11400.0	35.3	5.8	41.1	54(Note3)	-12.9	PK
		H	17100.0	33.9	10.5	44.4	54(Note3)	-9.6	PK
		V	17100.0	33.8	10.3	44.1	54(Note3)	-9.9	PK
Chain 0+1	36	H	10360.0	36.8	4.0	40.8	54(Note3)	-13.2	PK
		V	10360.0	37.8	4.0	41.8	54(Note3)	-12.2	PK
		H	15540.0	35.9	6.9	42.8	54(Note3)	-11.2	PK
		V	15540.0	37.0	6.7	43.7	54(Note3)	-10.3	PK
	40	H	10400.0	37.0	4.0	40.9	54(Note3)	-13.1	PK
		V	10400.0	37.5	4.0	41.5	54(Note3)	-12.5	PK
		H	15600.0	36.4	7.1	43.5	54(Note3)	-10.5	PK
		V	15600.0	35.6	6.9	42.4	54(Note3)	-11.6	PK
	48	H	10480.0	36.1	4.0	40.2	54(Note3)	-13.8	PK
		V	10480.0	36.0	4.0	40.1	54(Note3)	-13.9	PK
		H	15720.0	35.6	7.1	42.7	54(Note3)	-11.3	PK
		V	15720.0	36.1	7.1	43.1	54(Note3)	-10.9	PK
	52	H	10520.0	37.6	4.1	41.7	54(Note3)	-12.3	PK
		V	10520.0	36.2	4.1	40.4	54(Note3)	-13.6	PK
		H	15780.0	37.5	7.3	44.8	54(Note3)	-9.2	PK
		V	15780.0	35.4	7.4	42.8	54(Note3)	-11.2	PK
	60	H	10600.0	36.5	4.3	40.9	54(Note3)	-13.1	PK
		V	10600.0	36.4	4.3	40.8	54(Note3)	-13.2	PK
		H	15900.0	36.4	7.6	43.9	54(Note3)	-10.1	PK
		V	15900.0	36.4	7.7	44.1	54(Note3)	-9.9	PK
		H	10640.0	36.7	4.4	41.2	54(Note3)	-12.8	PK

	64	V	10640.0	36.3	4.4	40.7	54(Note3)	-13.3	PK
		H	15960.0	35.1	7.8	42.9	54(Note3)	-11.1	PK
		V	15960.0	35.1	8.1	43.2	54(Note3)	-10.8	PK
	100	H	11000.0	34.5	4.9	39.4	54(Note3)	-14.6	PK
		V	11000.0	34.6	4.9	39.5	54(Note3)	-14.5	PK
		H	16500.0	34.8	9.0	43.8	54(Note3)	-10.2	PK
		V	16500.0	35.1	9.1	44.2	54(Note3)	-9.8	PK
	116	H	11160.0	36.1	5.3	41.4	54(Note3)	-12.6	PK
		V	11160.0	36.0	5.3	41.2	54(Note3)	-12.8	PK
		H	16740.0	35.1	10.7	45.8	54(Note3)	-8.2	PK
		V	16740.0	34.7	10.8	45.5	54(Note3)	-8.5	PK
	140	H	11400.0	35.9	5.9	41.8	54(Note3)	-12.2	PK
		V	11400.0	36.2	5.8	42.0	54(Note3)	-12.0	PK
		H	17100.0	34.4	10.5	44.8	54(Note3)	-9.2	PK
		V	17100.0	34.7	10.3	45.0	54(Note3)	-9.0	PK

Note: 1. Measure Level = Reading Level + Factor.

2. The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode3: Transmit by 802.11n(40MHz)

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Chain0	38	H	10380.0	37.2	4.0	41.1	54(Note3)	-12.9	PK
		V	10380.0	36.8	4.0	40.8	54(Note3)	-13.2	PK
		H	15570.0	36.9	7.1	44.0	54(Note3)	-10.0	PK
		V	15570.0	36.8	6.9	43.6	54(Note3)	-10.4	PK
	46	H	10460.0	36.3	4.0	40.2	54(Note3)	-13.8	PK
		V	10460.0	37.0	4.0	40.9	54(Note3)	-13.1	PK
		H	15690.0	36.6	7.0	43.6	54(Note3)	-10.4	PK
		V	15690.0	36.8	6.9	43.8	54(Note3)	-10.2	PK
	54	H	10540.0	36.3	4.2	40.4	54(Note3)	-13.6	PK
		V	10540.0	36.5	4.2	40.7	54(Note3)	-13.3	PK
		H	15810.0	35.7	7.4	43.0	54(Note3)	-11.0	PK
		V	15810.0	36.2	7.5	43.7	54(Note3)	-10.3	PK

Chain1	62	H	10620.0	37.3	4.4	41.7	54(Note3)	-12.3	PK
		V	10620.0	36.8	4.4	41.2	54(Note3)	-12.8	PK
		H	15930.0	36.7	7.7	44.4	54(Note3)	-9.6	PK
		V	15930.0	36.0	7.9	43.9	54(Note3)	-10.1	PK
	102	H	11020.0	35.1	5.0	40.1	54(Note3)	-13.9	PK
		V	11020.0	35.0	5.0	40.0	54(Note3)	-14.0	PK
		H	16530.0	36.3	9.3	45.6	54(Note3)	-8.4	PK
		V	16530.0	36.7	9.4	46.0	54(Note3)	-8.0	PK
	110	H	11100.0	36.4	5.1	41.5	54(Note3)	-12.5	PK
		V	11100.0	36.2	5.1	41.2	54(Note3)	-12.8	PK
		H	16650.0	35.6	10.3	45.9	54(Note3)	-8.1	PK
		V	16650.0	35.3	10.4	45.7	54(Note3)	-8.3	PK
	38	H	10380.0	37.5	4.0	41.5	54(Note3)	-12.5	PK
		V	10380.0	37.3	4.0	41.3	54(Note3)	-12.7	PK
		H	15570.0	36.3	7.1	43.4	54(Note3)	-10.6	PK
		V	15570.0	36.9	6.9	43.8	54(Note3)	-10.2	PK
	46	H	10460.0	35.2	4.0	39.1	54(Note3)	-14.9	PK
		V	10460.0	35.7	4.0	39.7	54(Note3)	-14.3	PK
		H	15690.0	36.1	7.0	43.1	54(Note3)	-10.9	PK
		V	15690.0	36.3	6.9	43.3	54(Note3)	-10.7	PK
	54	H	10540.0	36.9	4.2	41.1	54(Note3)	-12.9	PK
		V	10540.0	36.9	4.2	41.1	54(Note3)	-12.9	PK
		H	15810.0	36.0	7.4	43.4	54(Note3)	-10.6	PK
		V	15690.0	36.1	6.9	43.1	54(Note3)	-10.9	PK
Chain1	62	H	10620.0	37.3	4.4	41.7	54(Note3)	-12.3	PK
		V	10620.0	36.8	4.4	41.2	54(Note3)	-12.8	PK
		H	15930.0	36.3	7.7	43.9	54(Note3)	-10.1	PK
		V	15930.0	36.2	7.9	44.1	54(Note3)	-9.9	PK
	102	H	11020.0	35.0	5.0	39.9	54(Note3)	-14.1	PK
		V	11020.0	35.0	5.0	40.0	54(Note3)	-14.0	PK
		H	16530.0	36.3	9.3	45.6	54(Note3)	-8.4	PK
		V	16530.0	36.0	9.4	45.4	54(Note3)	-8.6	PK
	110	H	11100.0	35.4	5.1	40.5	54(Note3)	-13.5	PK
		V	11100.0	36.1	5.1	41.2	54(Note3)	-12.8	PK
		H	16650.0	34.6	10.3	44.9	54(Note3)	-9.1	PK
		V	16650.0	35.8	10.4	46.2	54(Note3)	-7.8	PK
	38	H	10380.0	37.3	4.0	41.2	54(Note3)	-12.8	PK

Chain 0+1		V	10380.0	37.2	4.0	41.1	54(Note3)	-12.9	PK
		H	15570.0	36.9	7.1	44.0	54(Note3)	-10.0	PK
		V	15570.0	36.0	6.9	42.9	54(Note3)	-11.1	PK
	46	H	10460.0	35.7	4.0	39.7	54(Note3)	-14.3	PK
		V	10460.0	36.3	4.0	40.3	54(Note3)	-13.7	PK
		H	15690.0	35.6	7.0	42.6	54(Note3)	-11.4	PK
		V	15690.0	35.7	6.9	42.7	54(Note3)	-11.3	PK
	54	H	10540.0	37.4	4.2	41.6	54(Note3)	-12.4	PK
		V	10540.0	36.4	4.2	40.6	54(Note3)	-13.4	PK
		H	15810.0	36.5	7.4	43.9	54(Note3)	-10.1	PK
		V	15810.0	35.8	7.5	43.2	54(Note3)	-10.8	PK
	62	H	10620.0	36.7	4.4	41.1	54(Note3)	-12.9	PK
		V	10620.0	36.4	4.4	40.8	54(Note3)	-13.2	PK
		H	15930.0	36.3	7.7	44.0	54(Note3)	-10.0	PK
		V	15930.0	36.3	7.9	44.1	54(Note3)	-9.9	PK
	102	H	11020.0	35.0	5.0	40.0	54(Note3)	-14.0	PK
		V	11020.0	34.8	5.0	39.7	54(Note3)	-14.3	PK
		H	16530.0	36.2	9.3	45.5	54(Note3)	-8.5	PK
		V	16530.0	35.8	9.4	45.2	54(Note3)	-8.8	PK
	110	H	11100.0	35.7	5.1	40.8	54(Note3)	-13.3	PK
		V	11100.0	35.5	5.1	40.6	54(Note3)	-13.4	PK
		H	16650.0	35.2	10.3	45.5	54(Note3)	-8.5	PK
		V	16650.0	34.8	10.4	45.3	54(Note3)	-8.7	PK

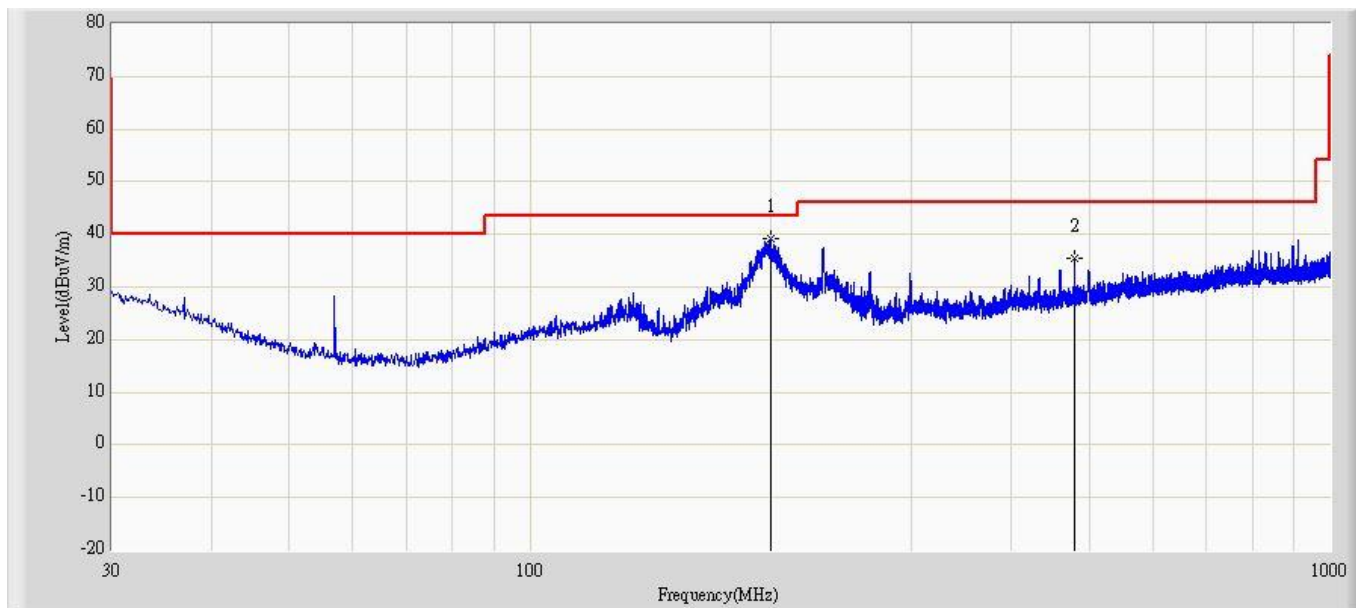
Note: 1. Measure Level = Reading Level + Factor.

2. The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

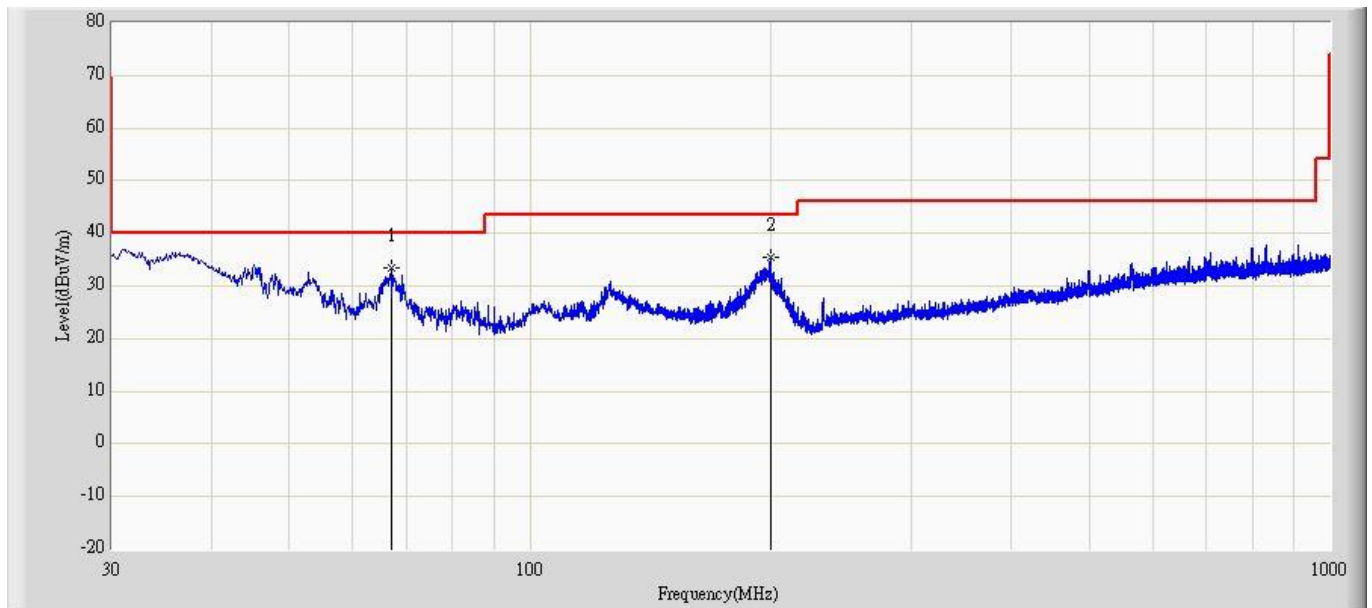
The worst case of Radiated Emission below 1GHz:

Site: AC2	Time: 2013/04/20 - 10:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: CBL6112D_27611(30-1000MHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit by 802.11a	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	199.750	39.162	23.051	-4.338	43.500	16.111	QP
2		480.080	35.551	10.355	-10.449	46.000	25.196	QP

Site: AC2	Time: 2013/04/20 - 10:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: CBL6112D_27611(30-1000MHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit by 802.11a	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	66.981	33.380	21.664	-6.620	40.000	11.716	QP
2		199.871	35.358	19.250	-8.142	43.500	16.109	QP

5. Operation Frequency Range of 20dB Bandwidth

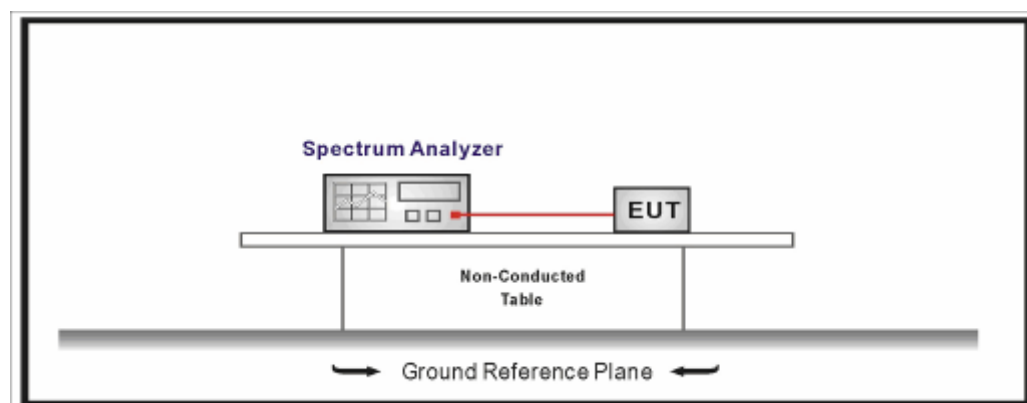
5.1. Test Equipment

Operation Frequency Range of 20dB Bandwidth /TR8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2014.03.30
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2014.05.07

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 KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

Set RBW = 100 kHz, Span greater than RBW.

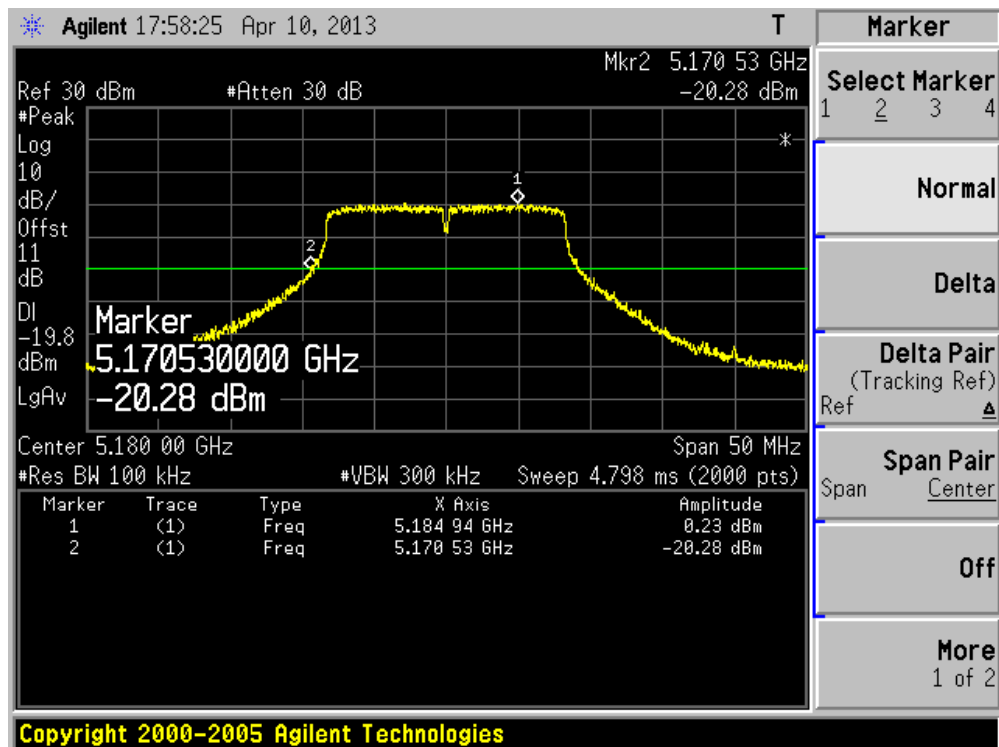
5.5. Uncertainty

The measurement uncertainty is defined as ± 1 kHz

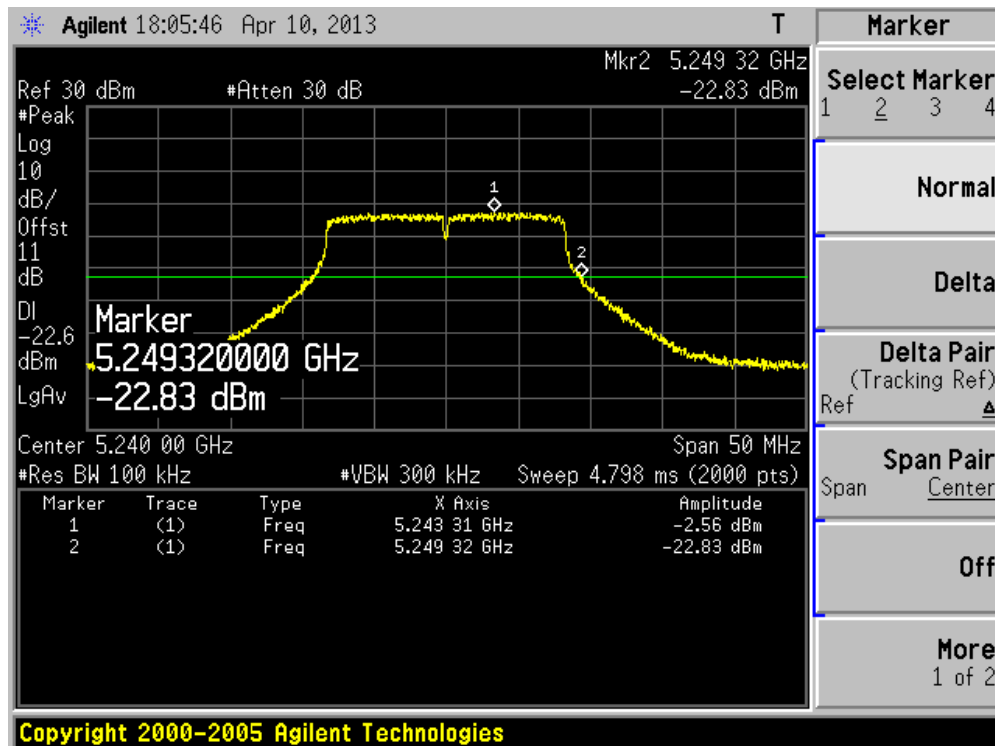
5.6. Test Result

Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 0)

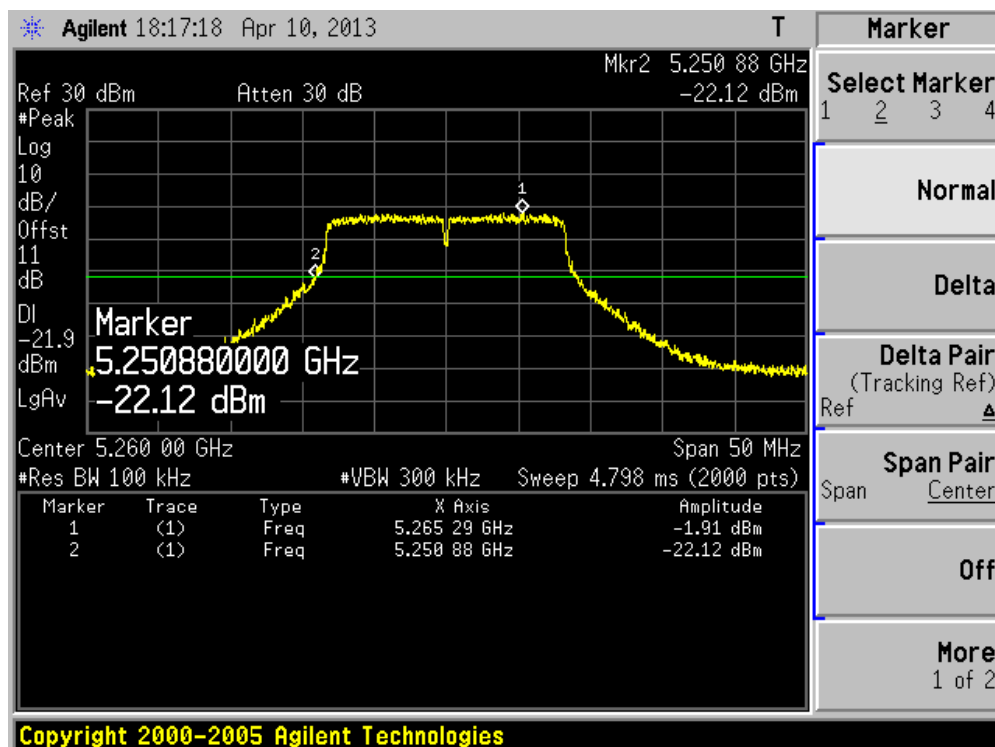
Channel 36 (51800MHz)



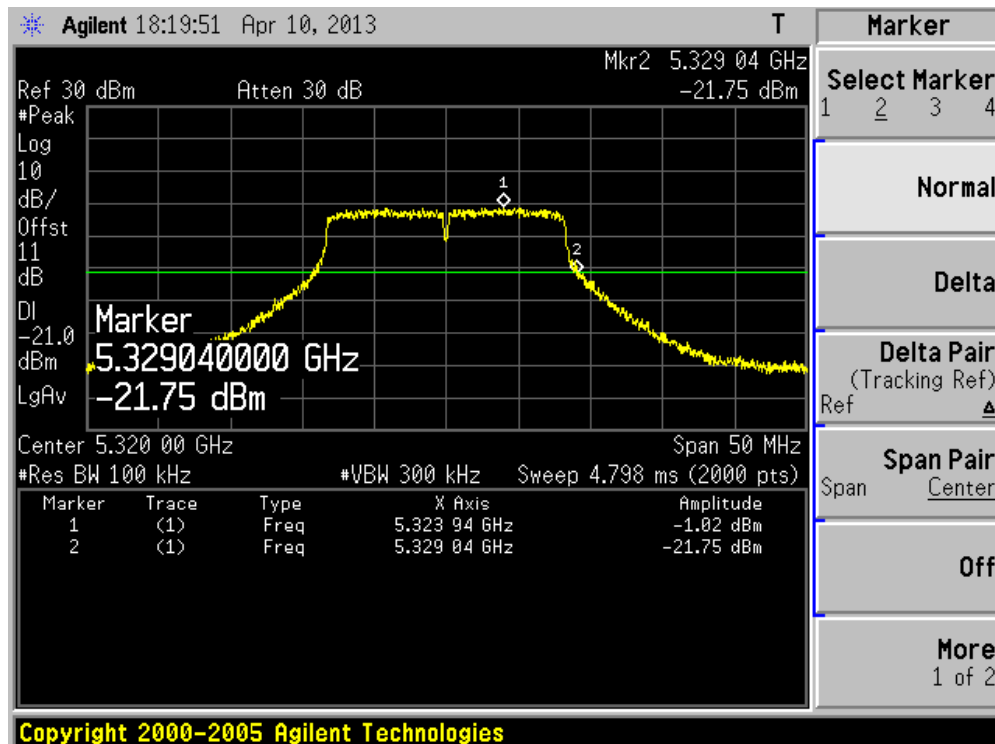
Channel 48 (5240MHz)



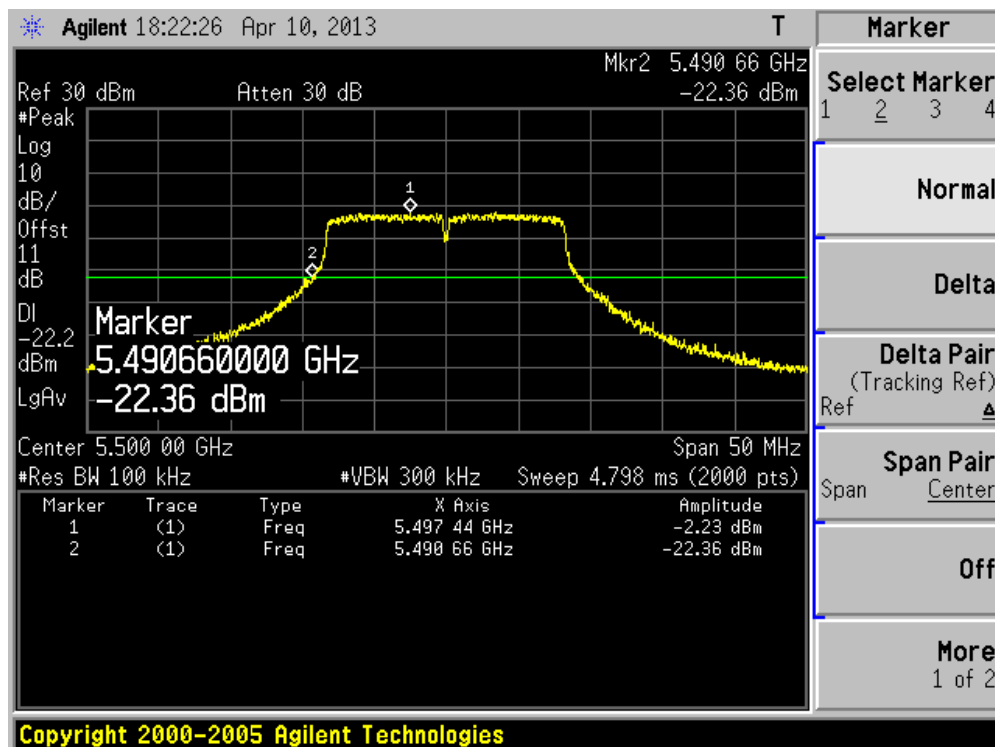
Channel 52 (5260MHz)



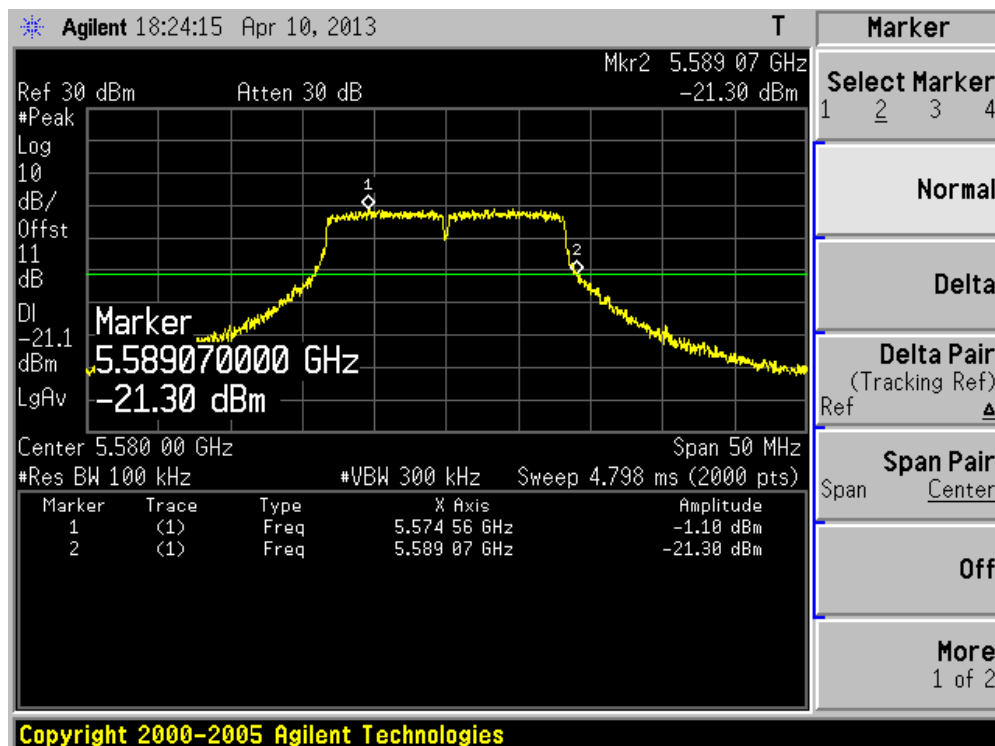
Channel 64 (5320MHz)



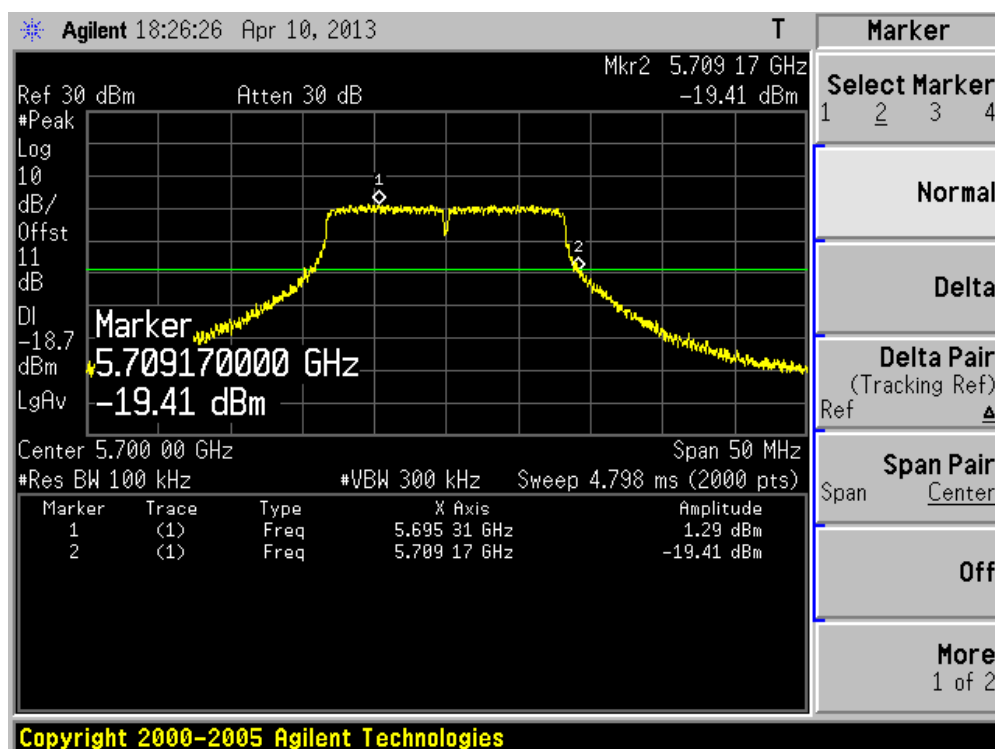
Channel 100 (5500MHz)



Channel 116 (5580MHz)

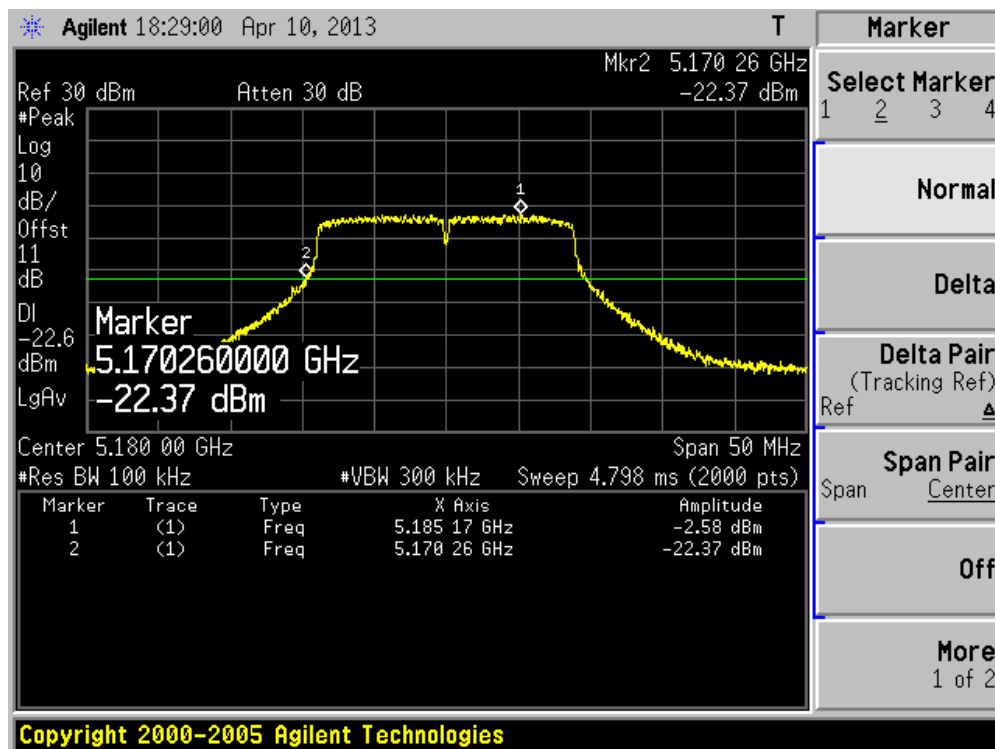


Channel 140 (57000MHz)

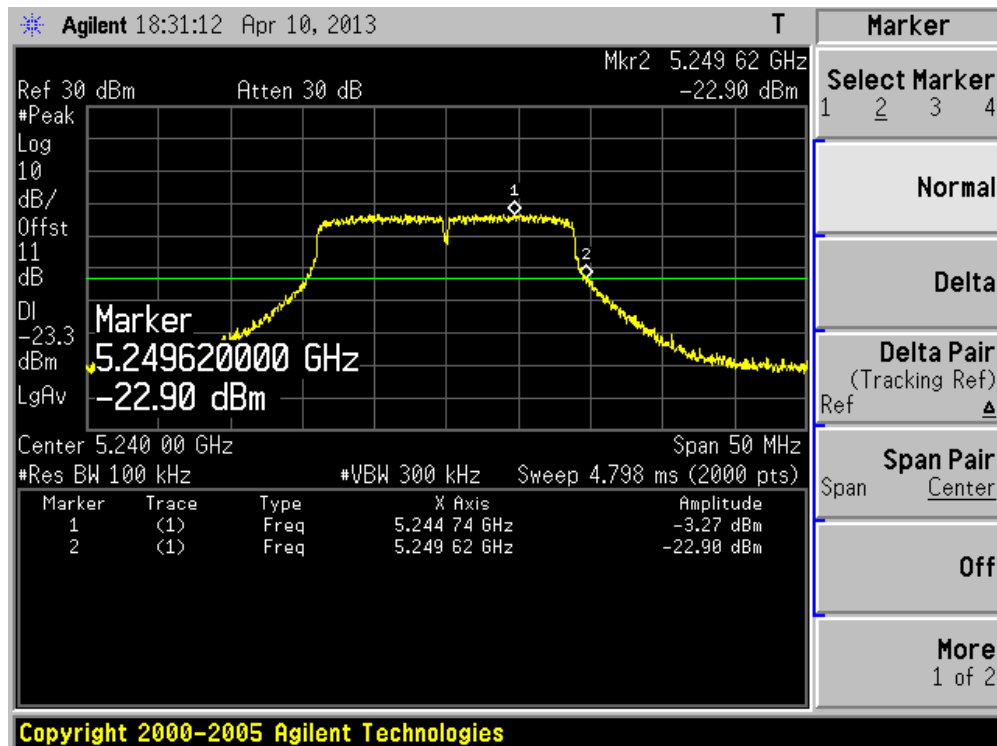


Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz) (Chain 0)

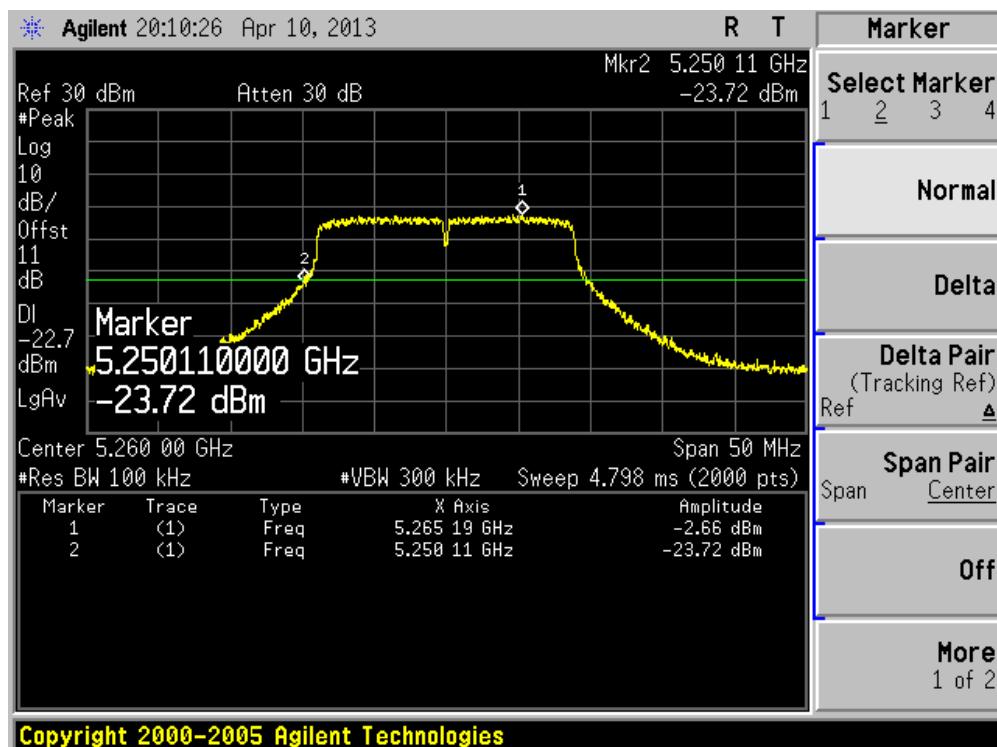
Channel 36 (5180MHz)



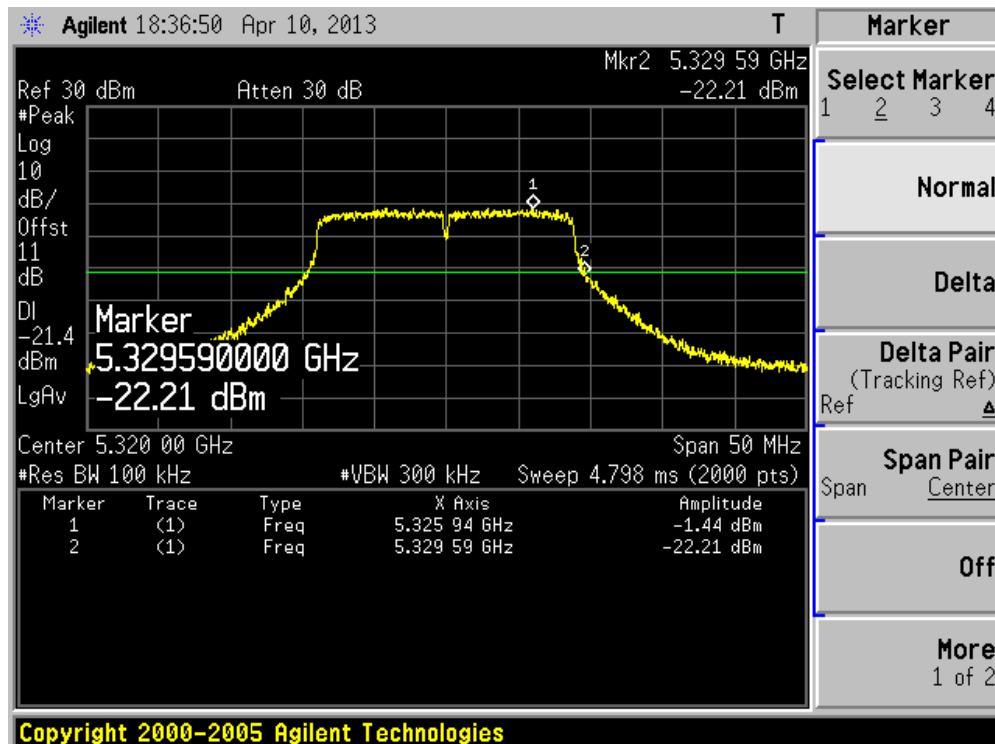
Channel 48 (5240MHz)



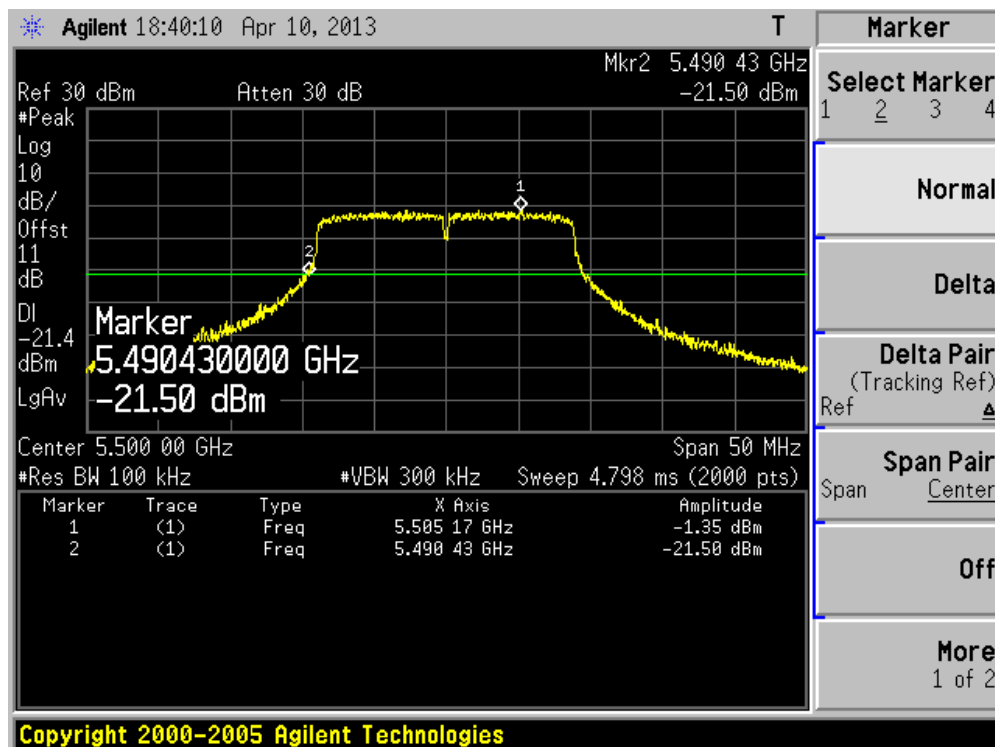
Channel 52 (5260MHz)



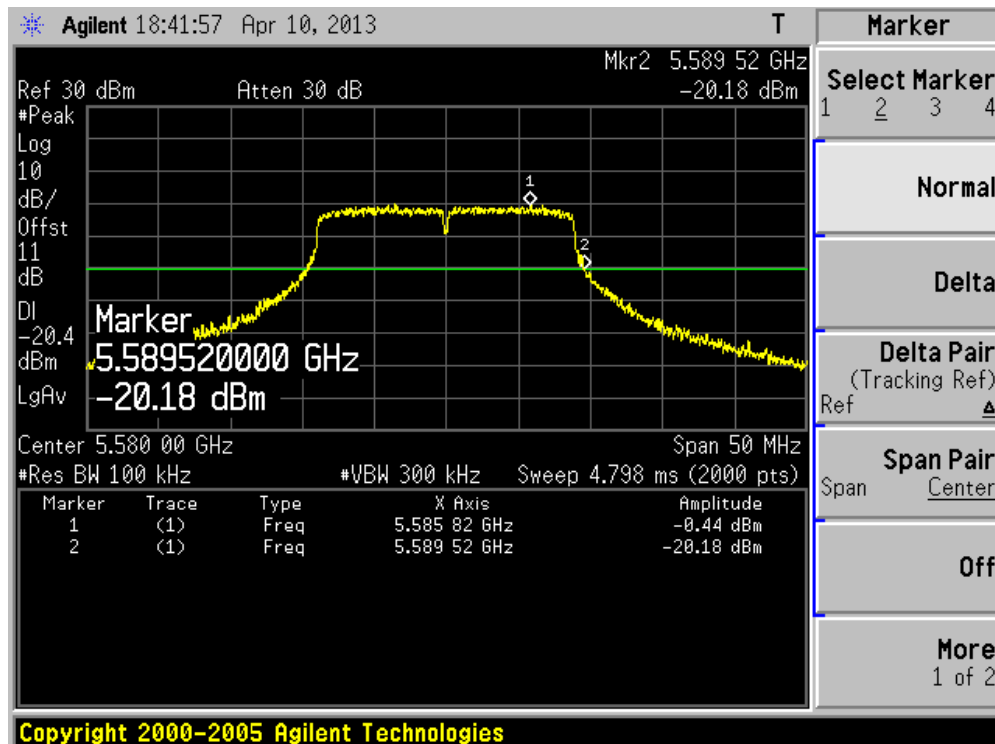
Channel 64 (5320MHz)



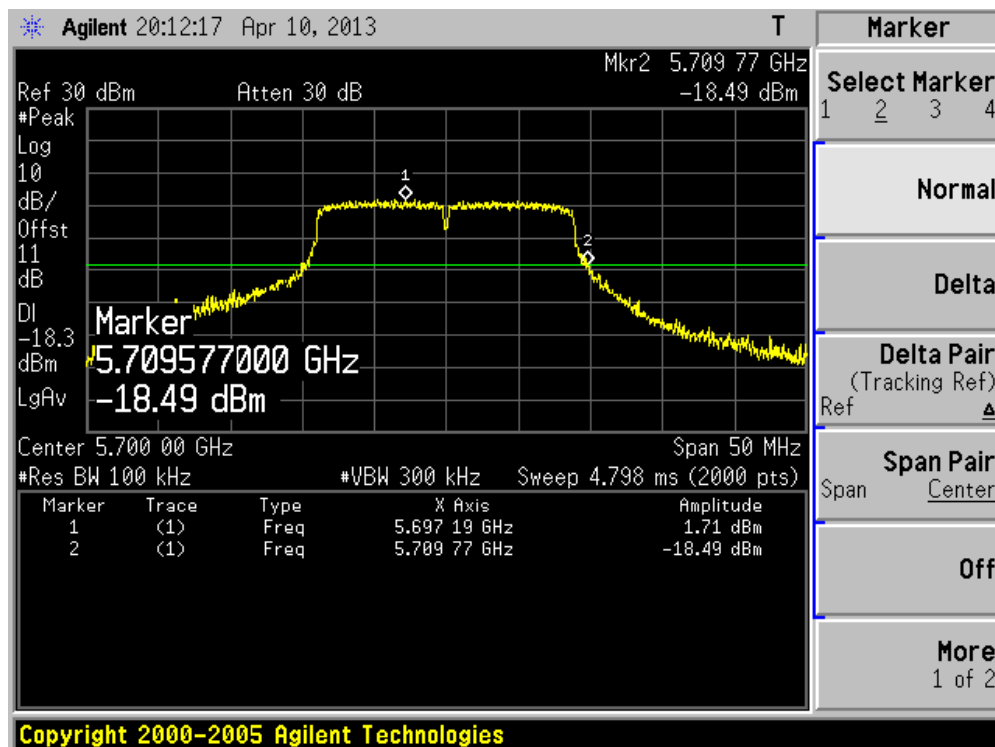
Channel 100 (5500MHz)



Channel 116 (5580MHz)

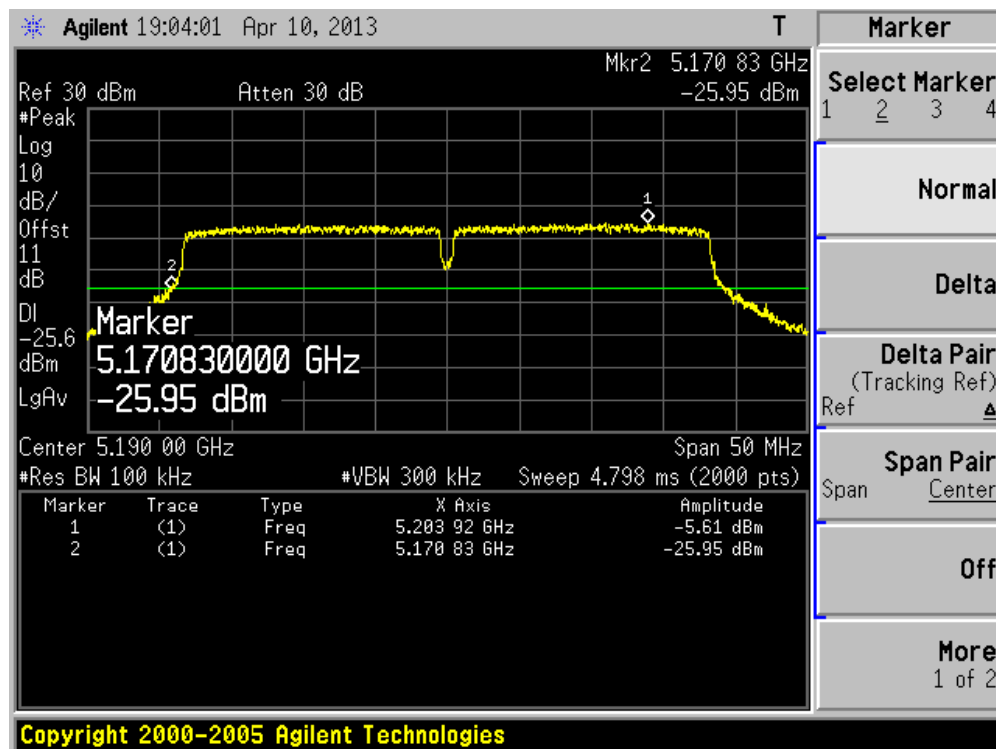


Channel 140 (5700MHz)

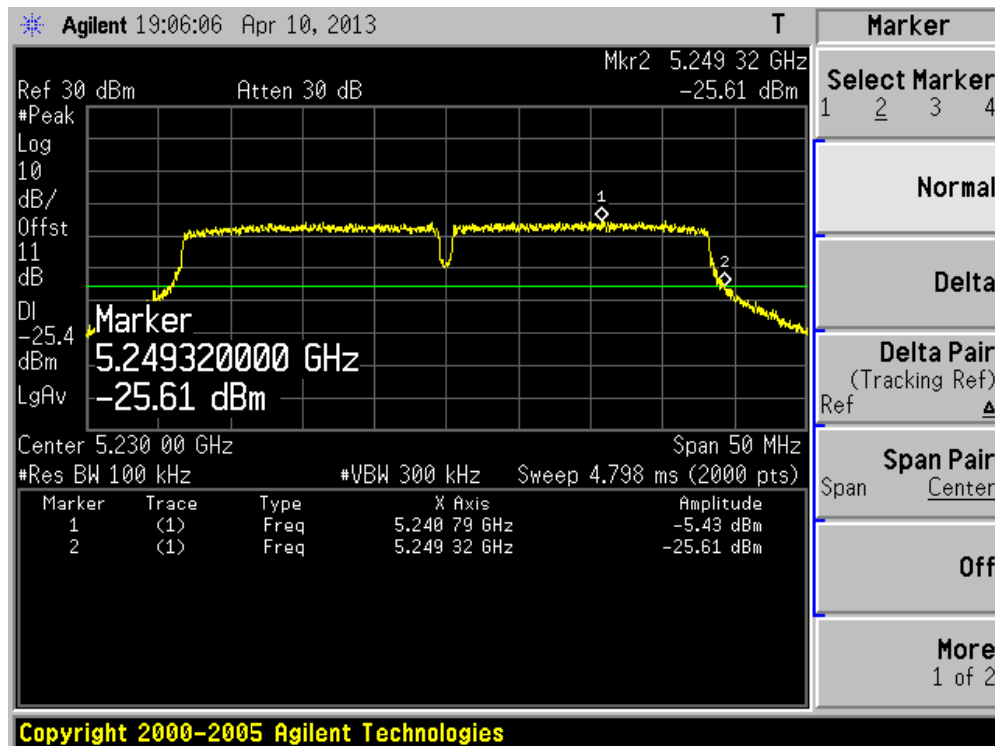


Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz) (Chain 0)

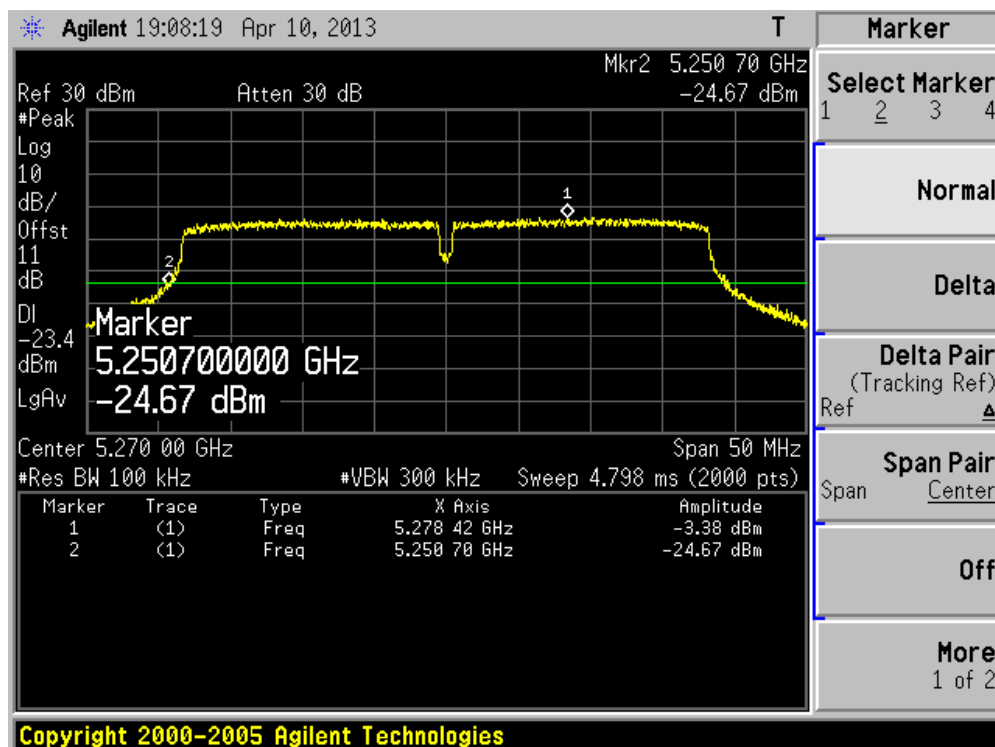
Channel 38 (5190MHz)



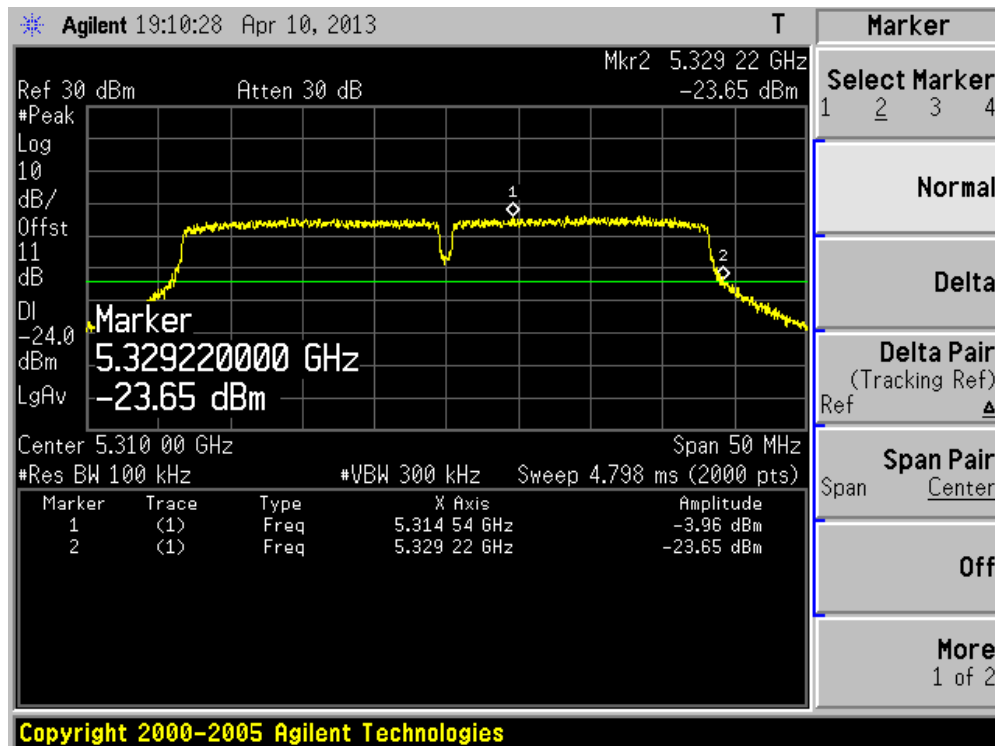
Channel 46 (5230MHz)



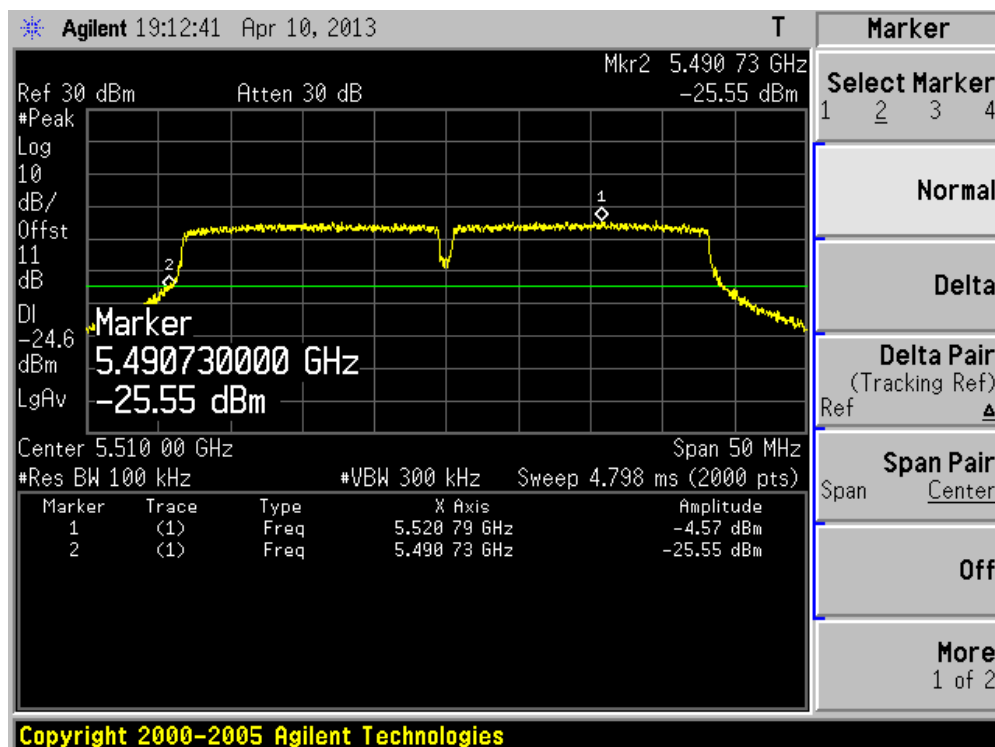
Channel 54 (5270MHz)



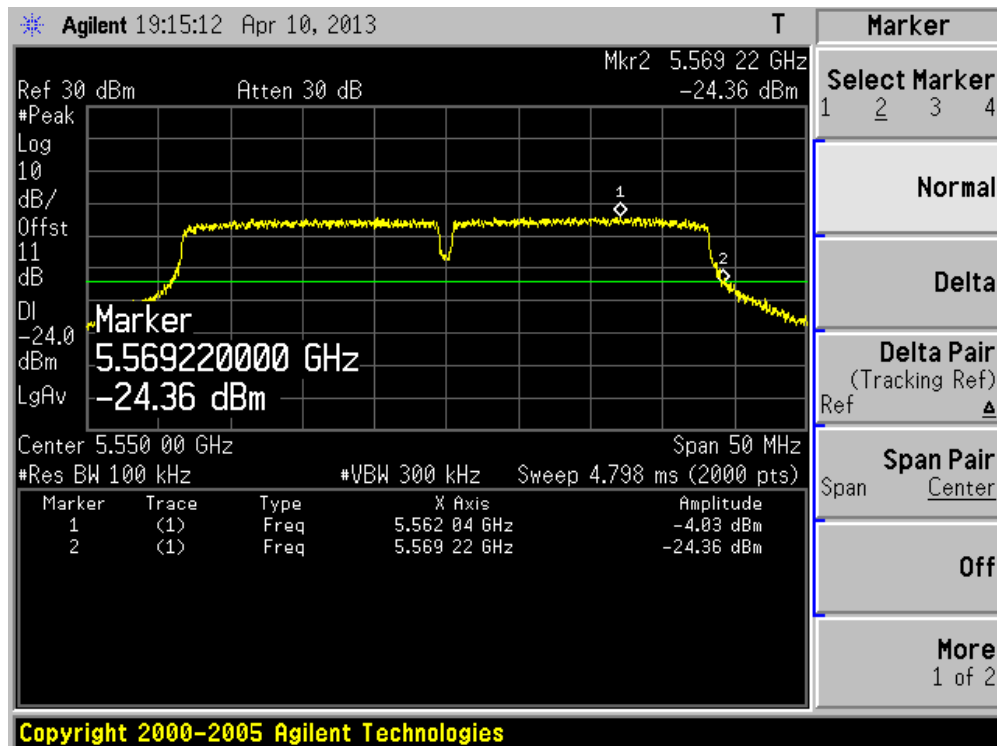
Channel 62 (5310MHz)



Channel 102 (5510MHz)

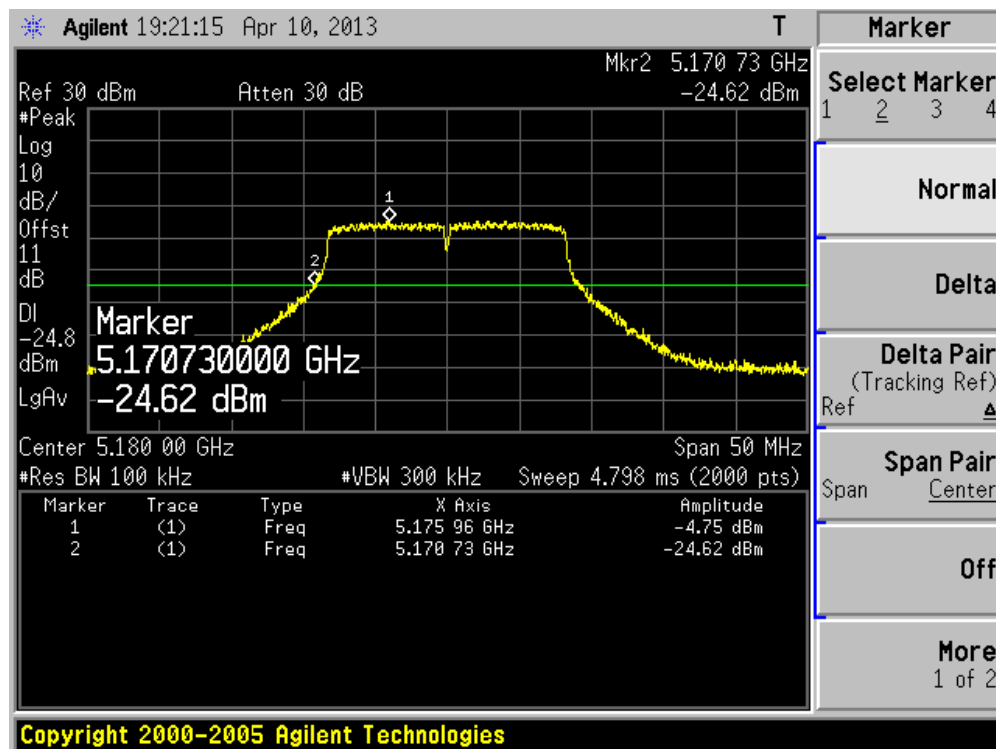


Channel 110 (5550MHz)

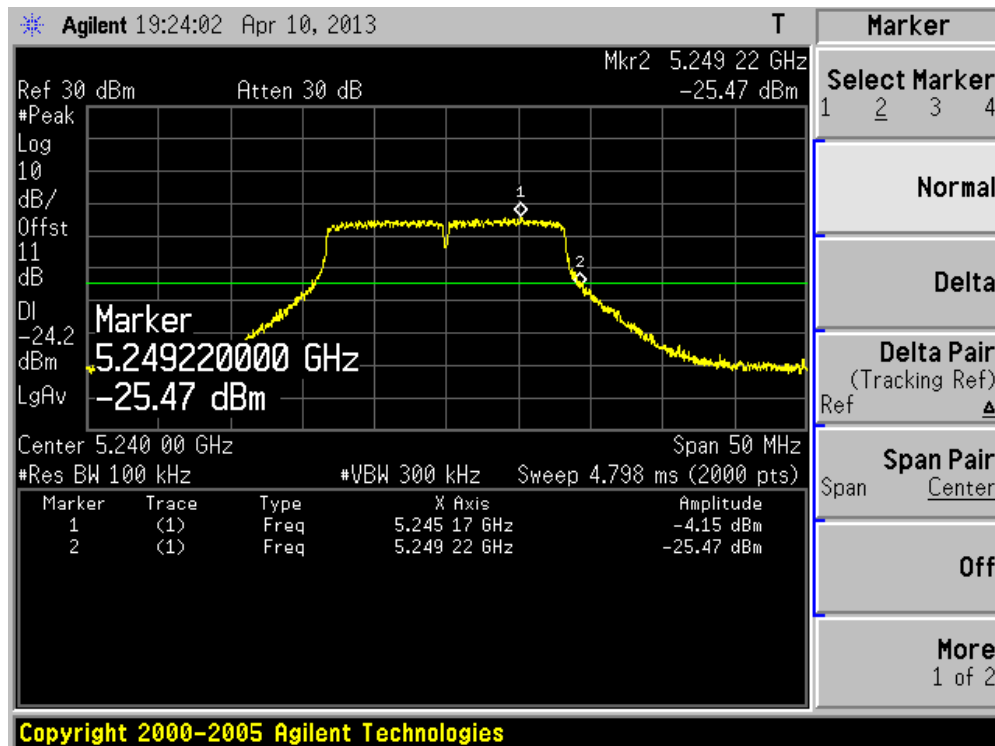


Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1)

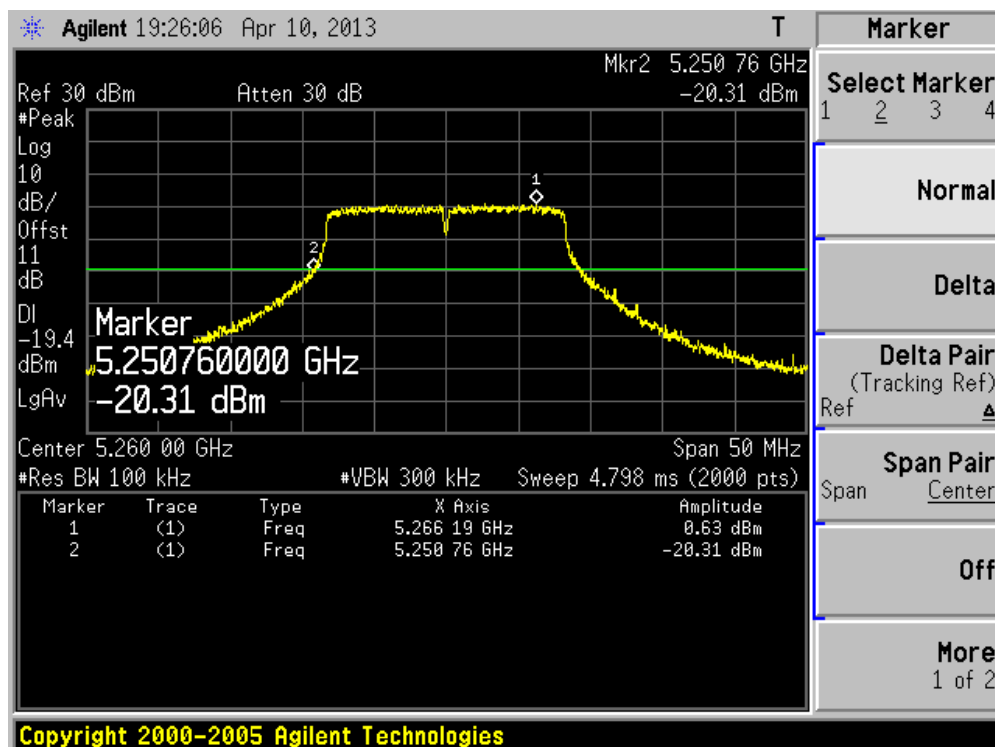
Channel 36 (5180MHz)



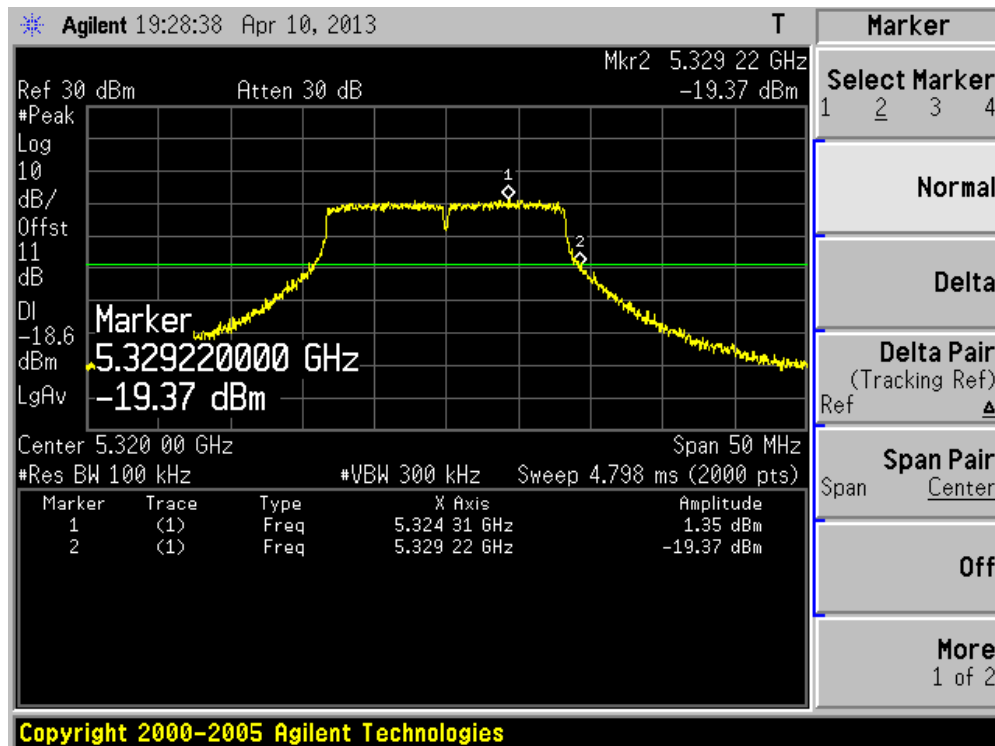
Channel 48 (5240MHz)



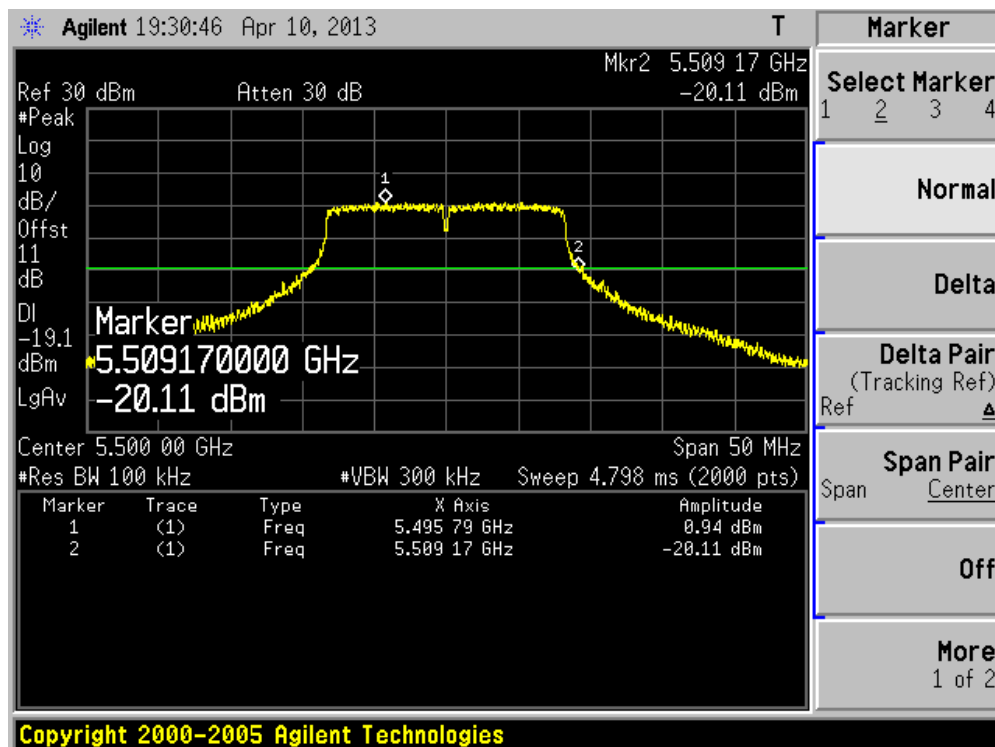
Channel 52 (5260MHz)



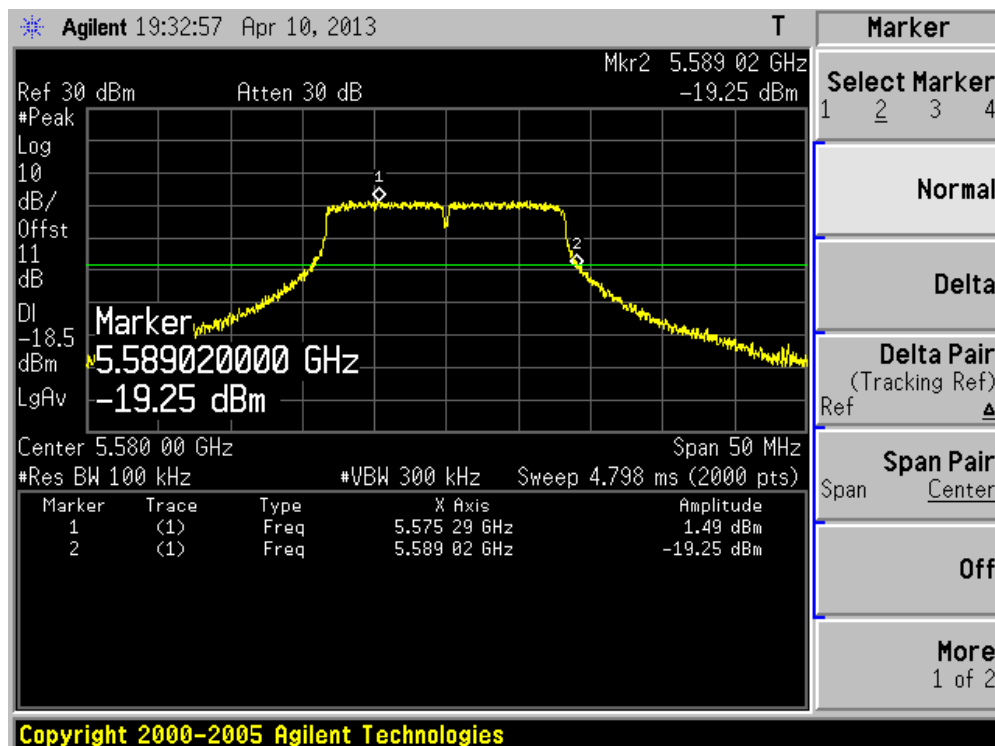
Channel 64 (5320MHz)



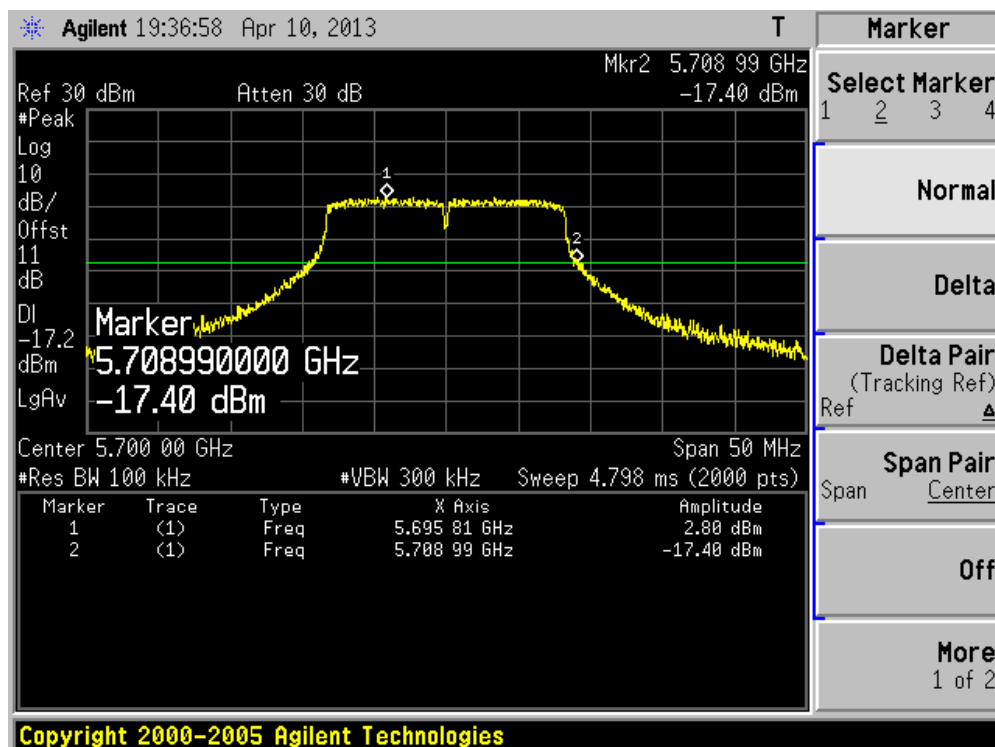
Channel 100 (5500MHz)



Channel 116 (5580MHz)

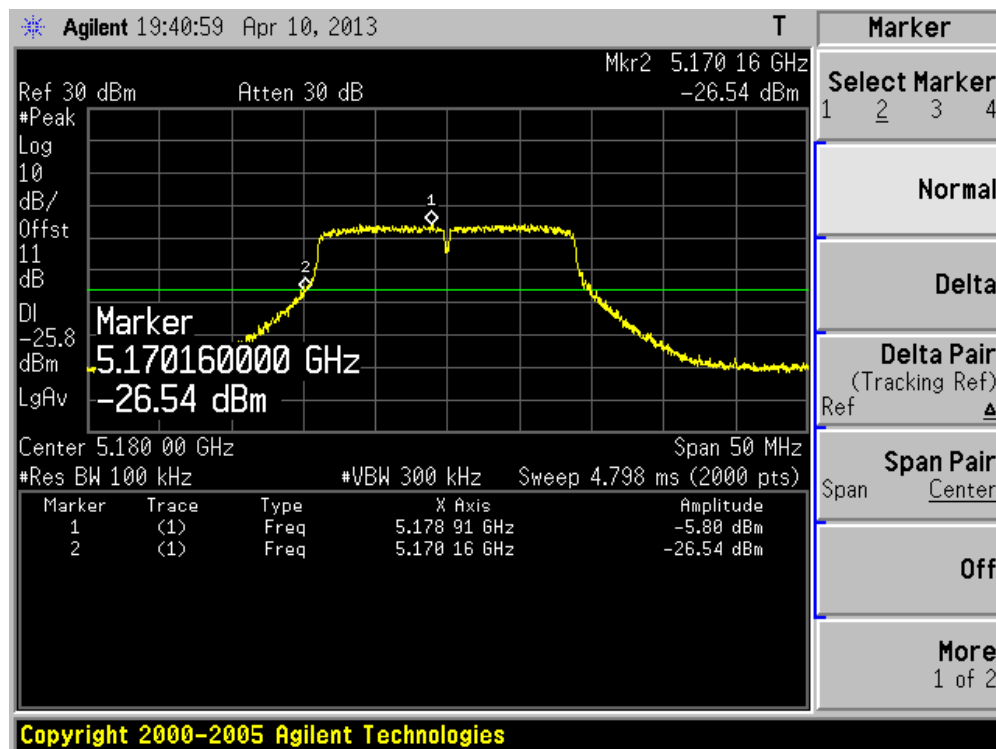


Channel 140 (57000MHz)

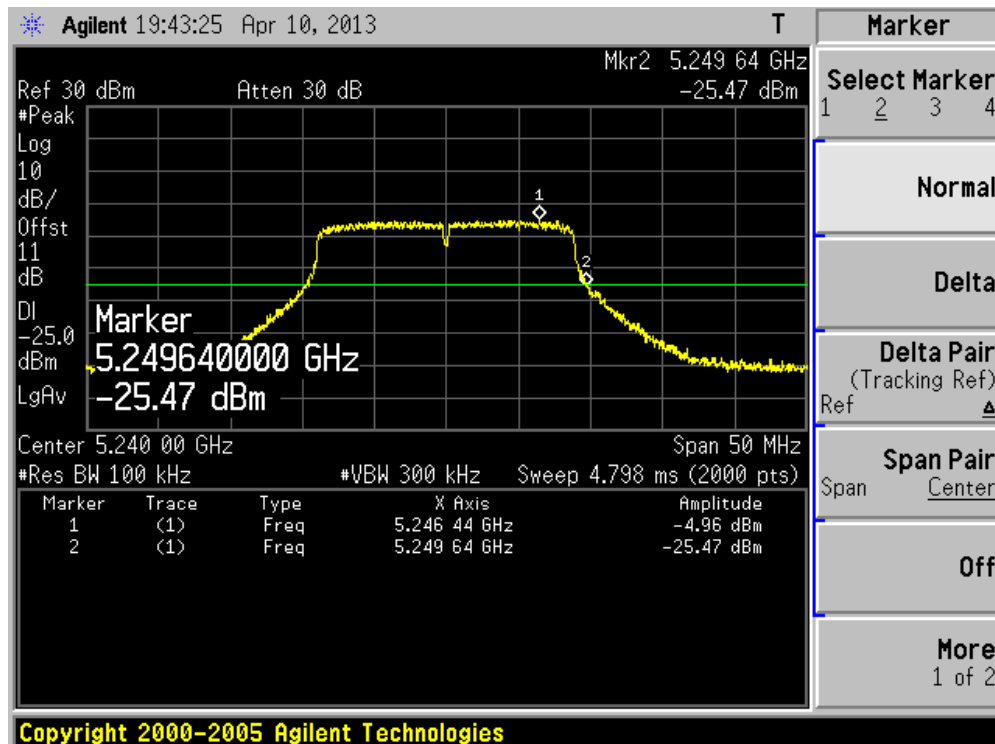


Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz) (Chain 1)

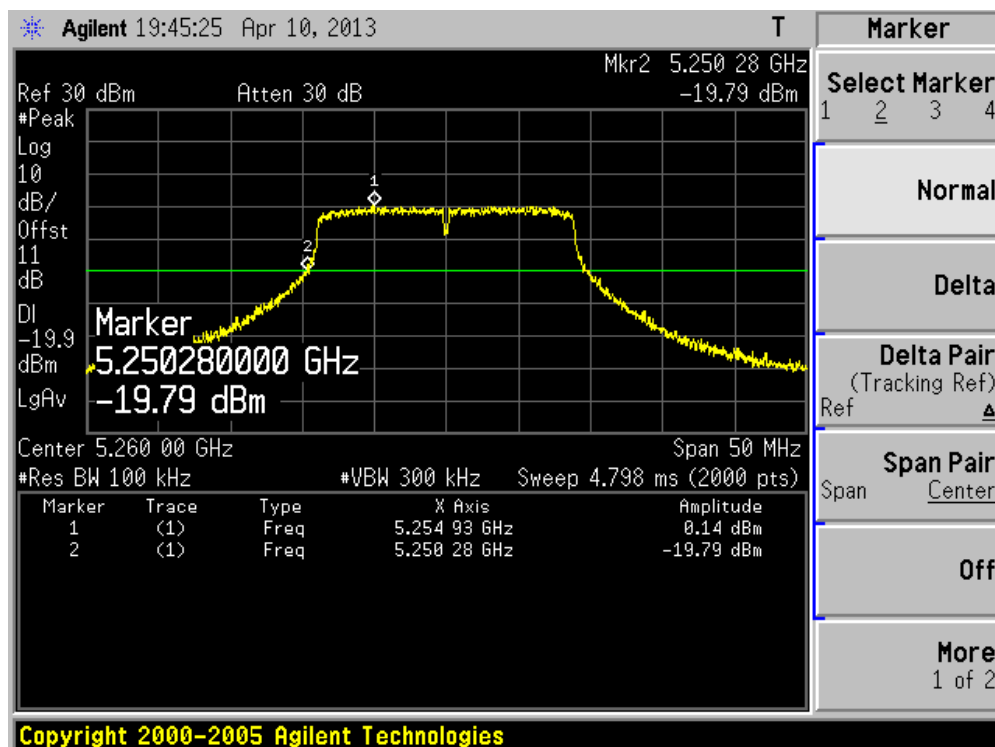
Channel 36 (5180MHz)



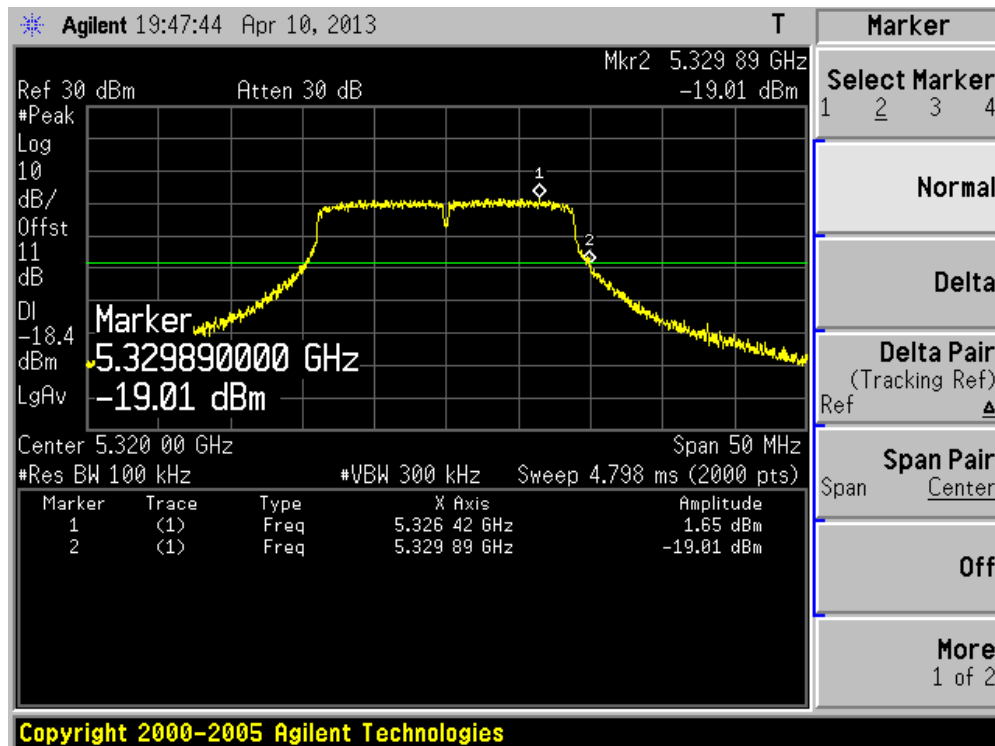
Channel 48 (5240MHz)



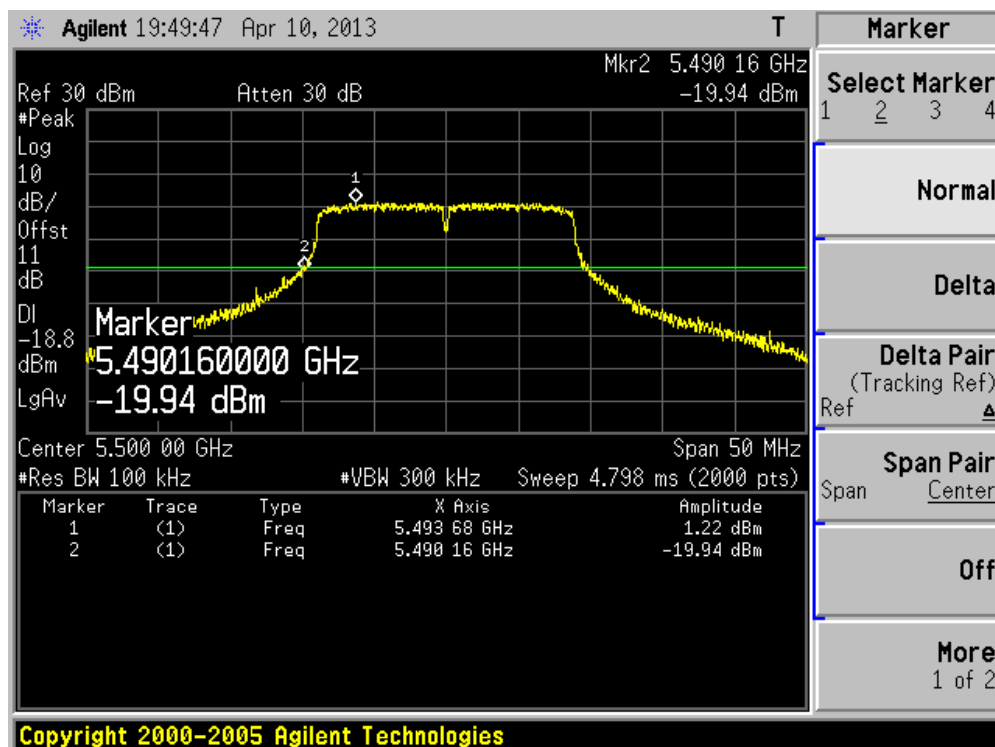
Channel 52 (5260MHz)



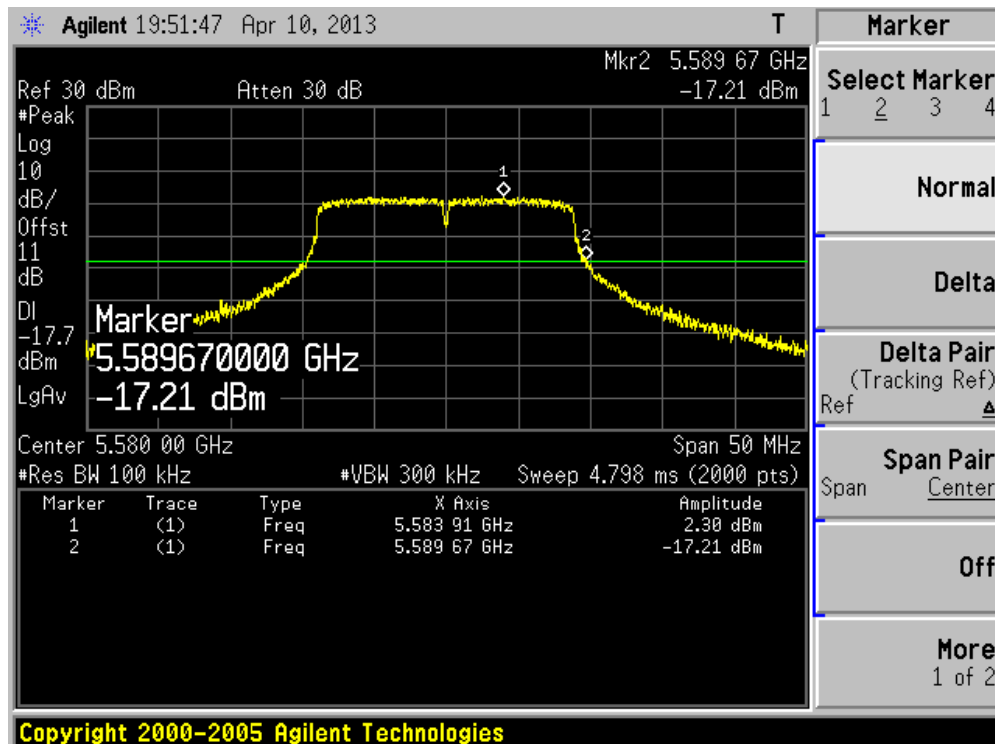
Channel 64 (5320MHz)



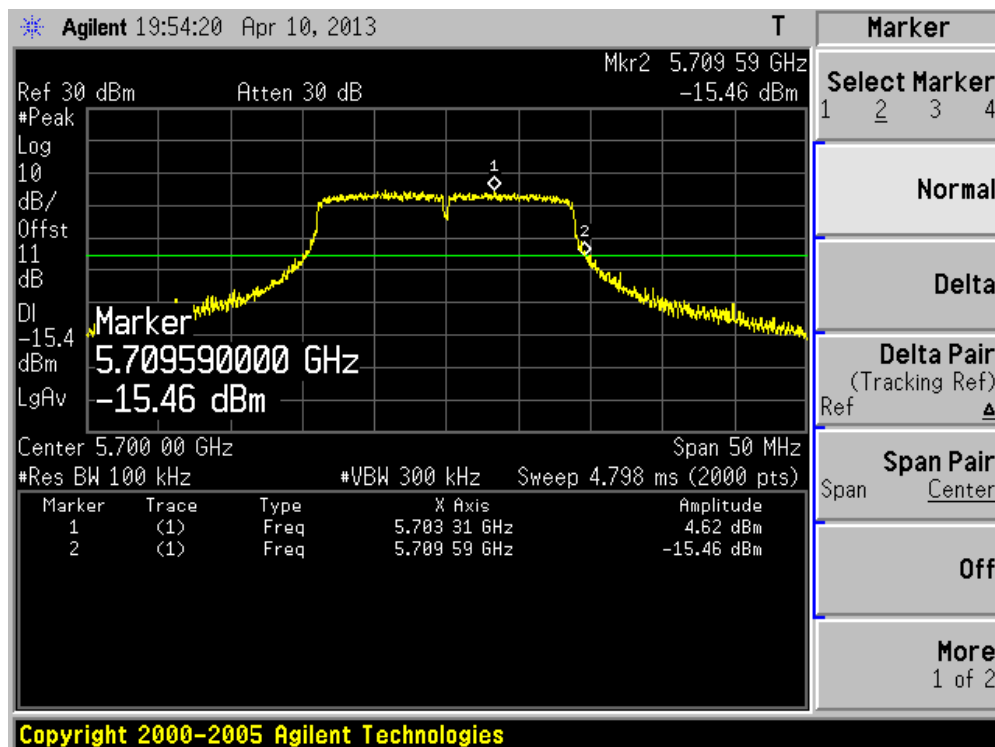
Channel 100 (5500MHz)



Channel 116 (5580MHz)

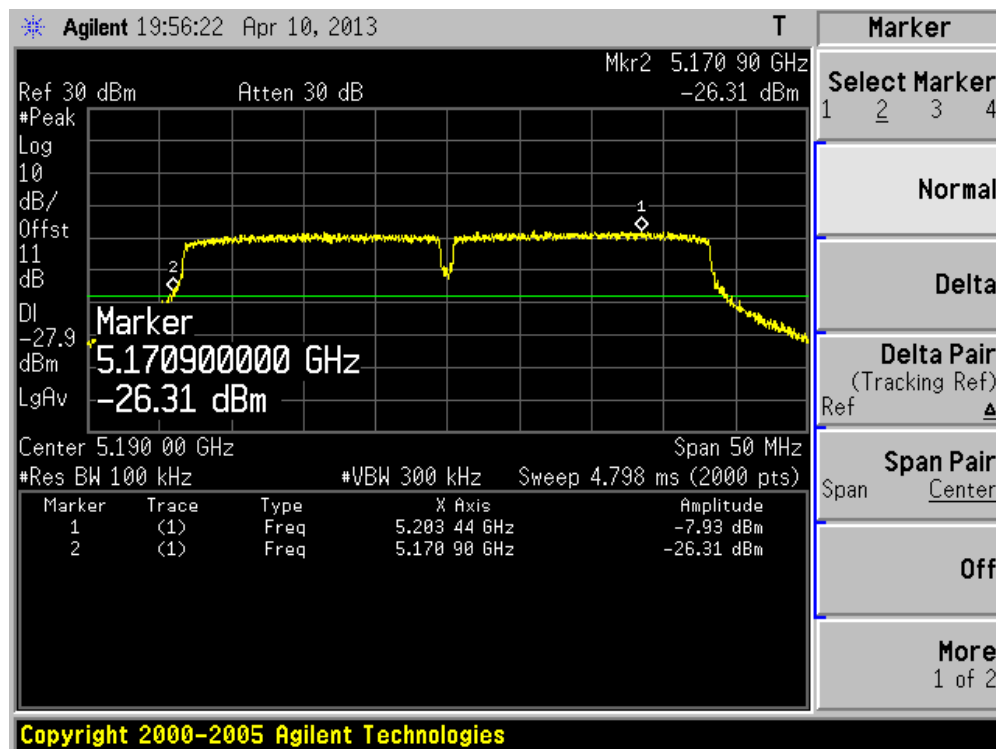


Channel 140 (5700MHz)

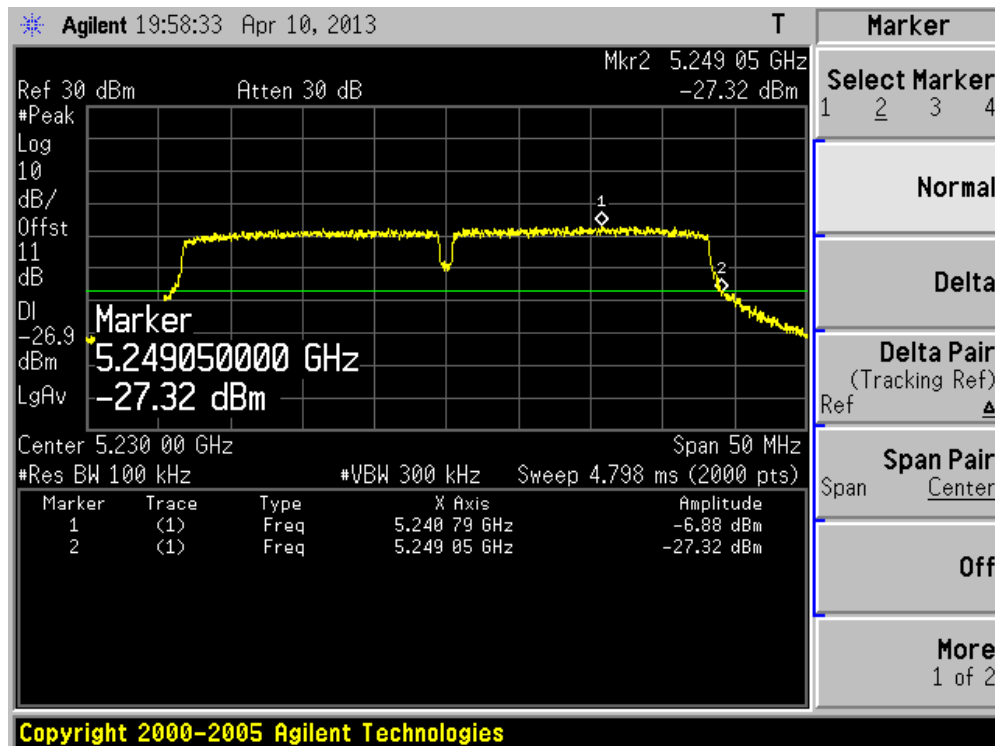


Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz) (Chain 1)

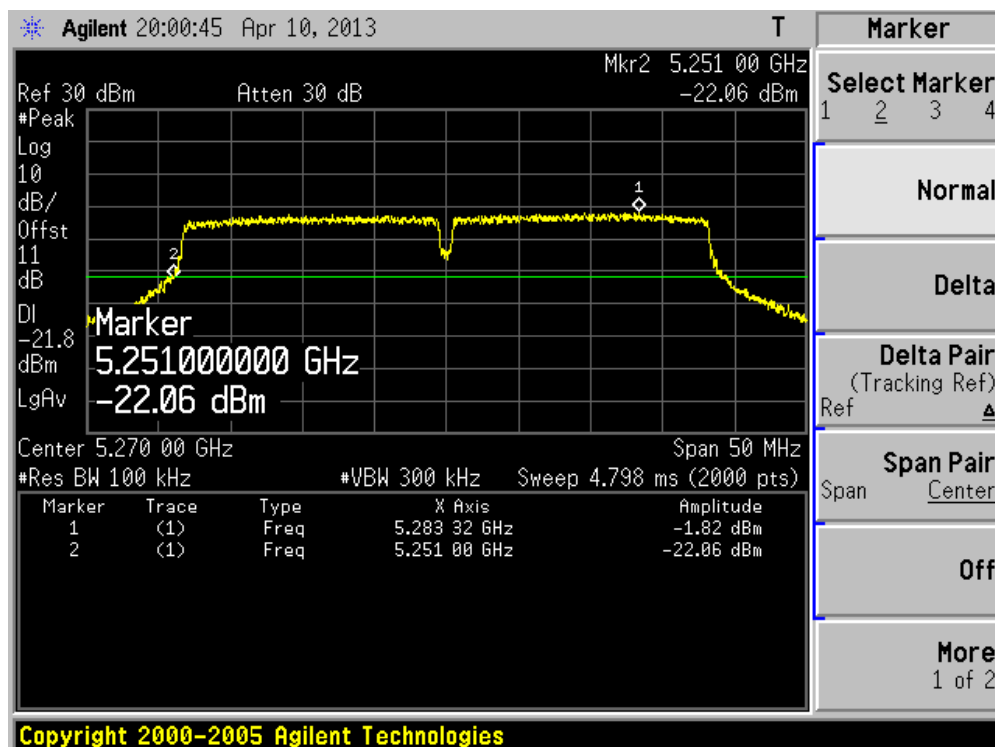
Channel 38 (5190MHz)



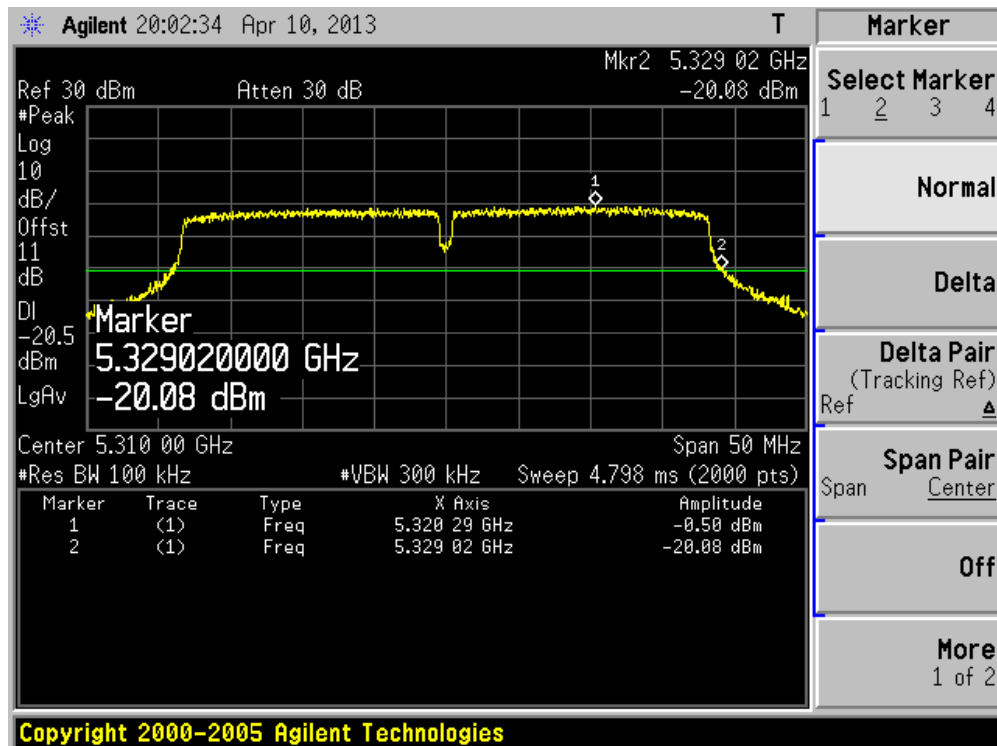
Channel 46 (5230MHz)



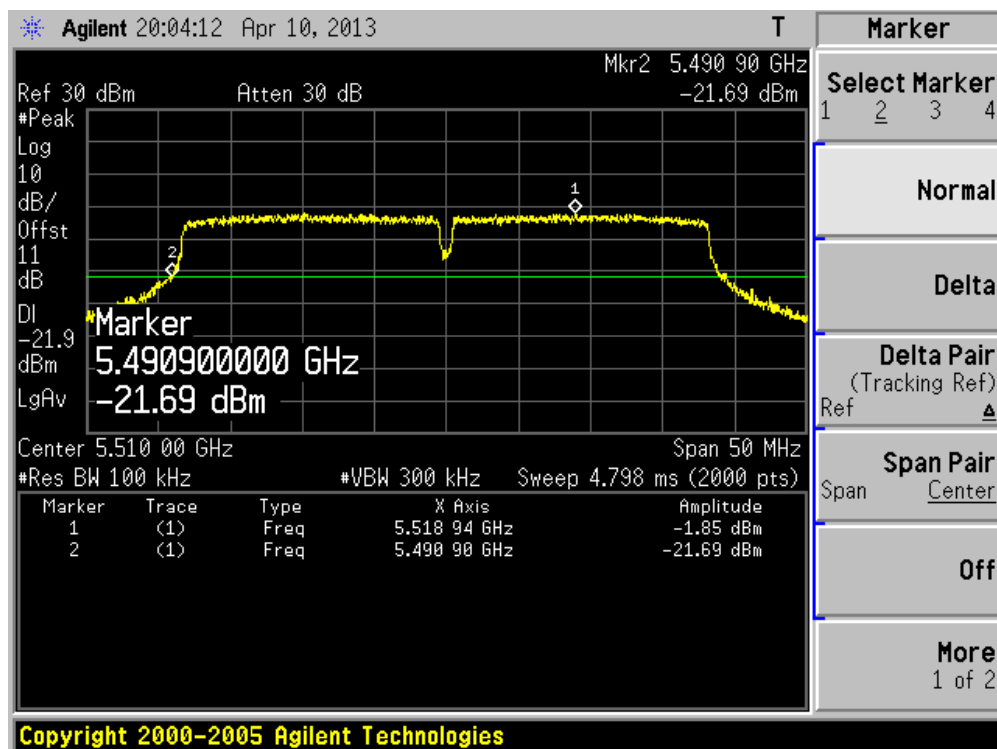
Channel 54 (5270MHz)



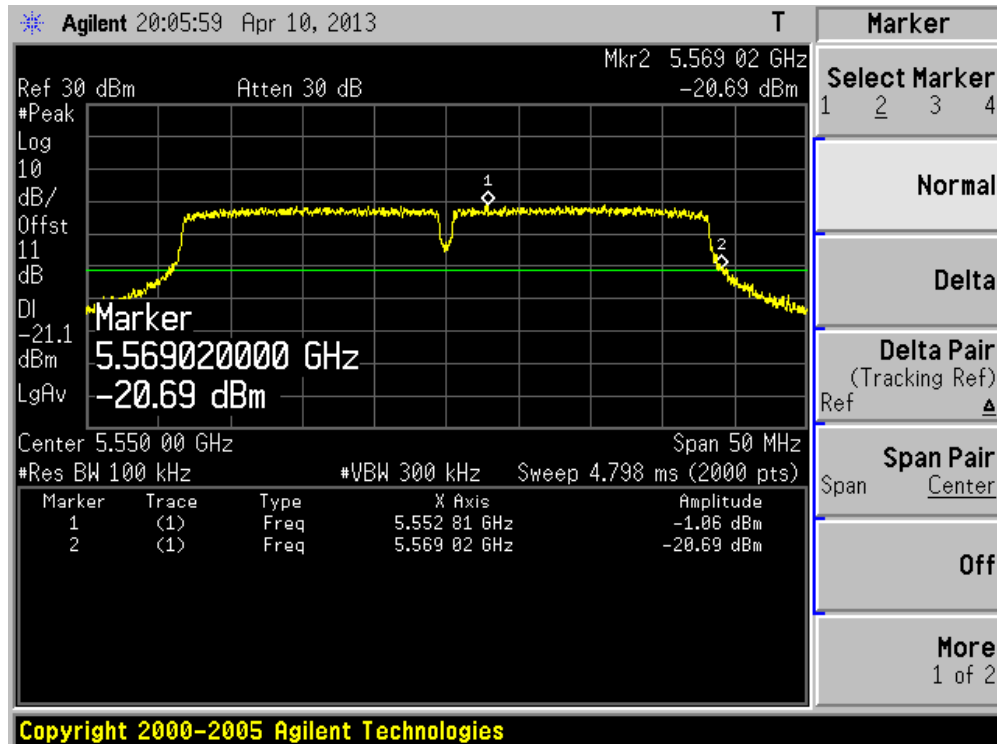
Channel 62 (5310MHz)



Channel 102 (5510MHz)



Channel 110 (5550MHz)



6. Occupied Bandwidth

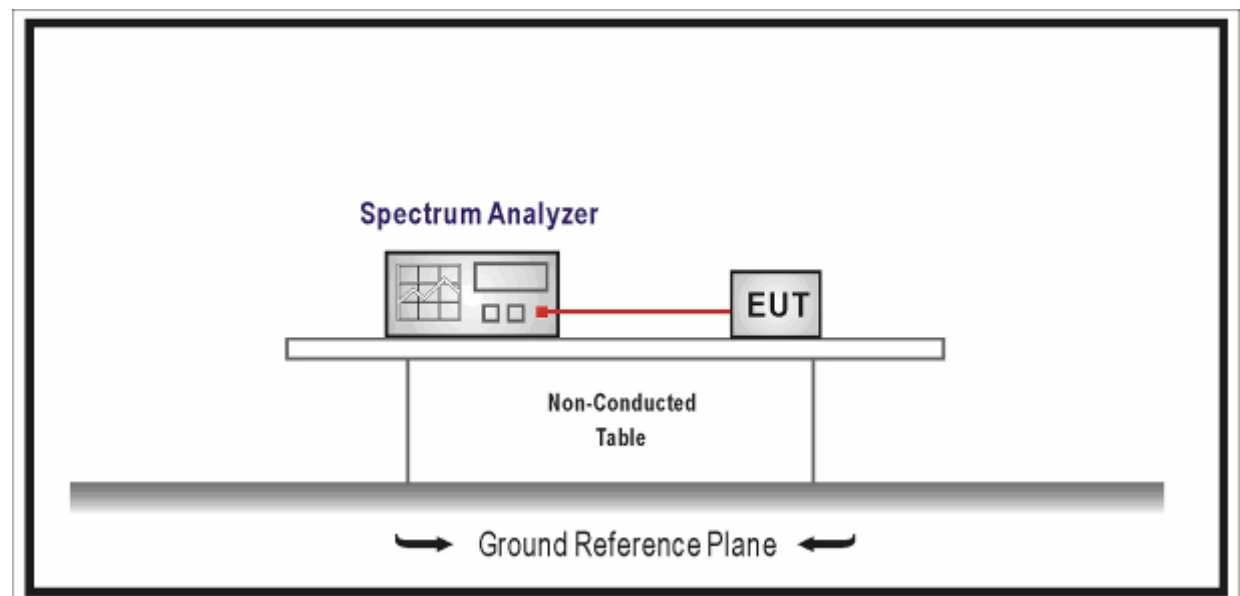
6.1. Test Equipment

Occupied Bandwidth / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2014.03.30
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2014.05.07

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 KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

Emission Bandwidth

- Use a RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW
- Detector = Peak.
- Trace mode = max hold.
- 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%.

99% Occupied Bandwidth

- Set center frequency to the nominal EUT channel center frequency.
- Set span = 1.5 times to 5.0 times the OBW.
- Set RBW = 1 % to 5 % of the OBW.
- Set VBW $\geq 3 \cdot$ RBW.
- Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- Use the 99 % power bandwidth function of the instrument (if available).
- If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

6.5. Uncertainty

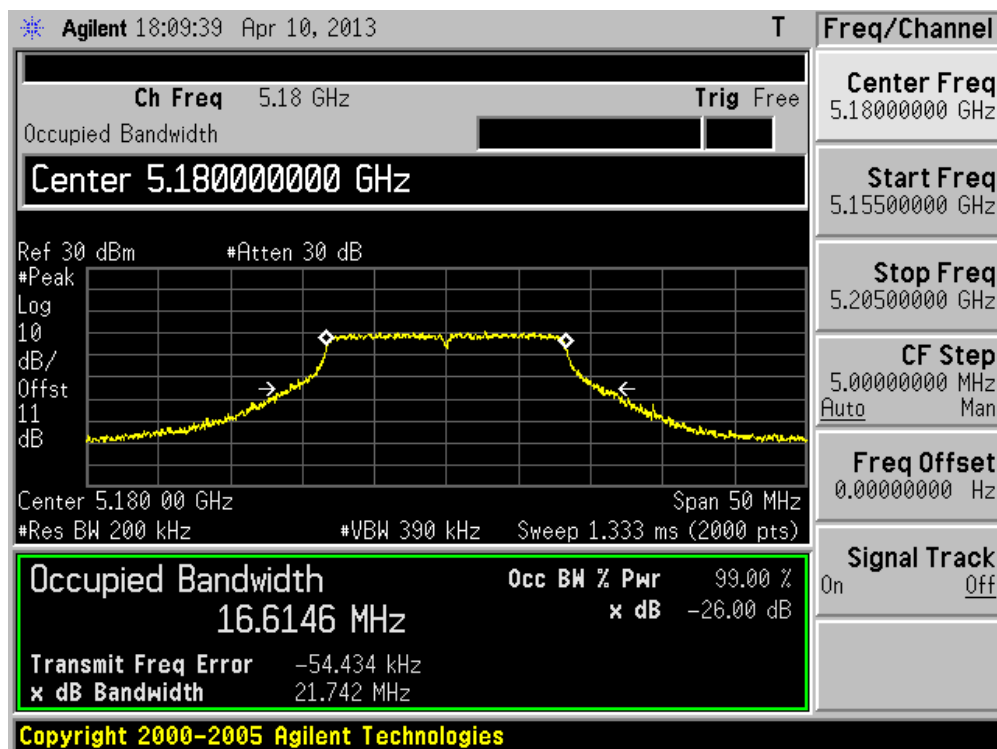
The measurement uncertainty is defined as ± 1 kHz

6.6. Test Result

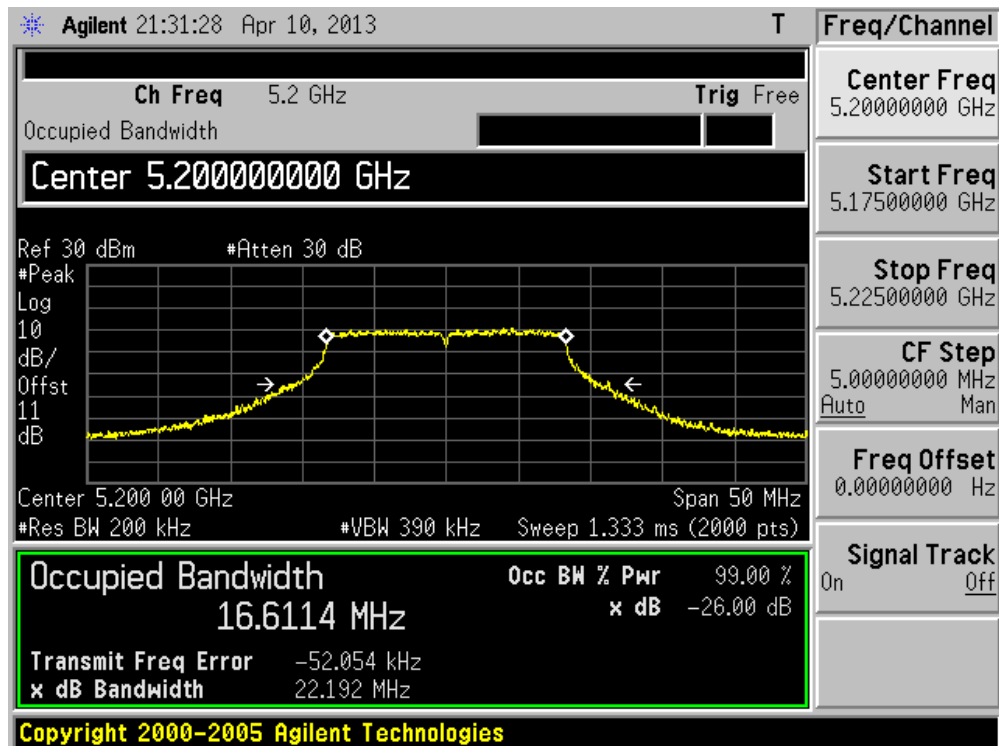
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 0)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180	21.74	16.61
40	5200	22.19	16.61
48	5240	21.87	16.61
52	5260	21.68	16.63
60	5300	22.10	16.63
64	5320	22.15	16.58
100	5500	22.06	16.62
116	5580	21.91	16.63
140	5700	21.78	16.62

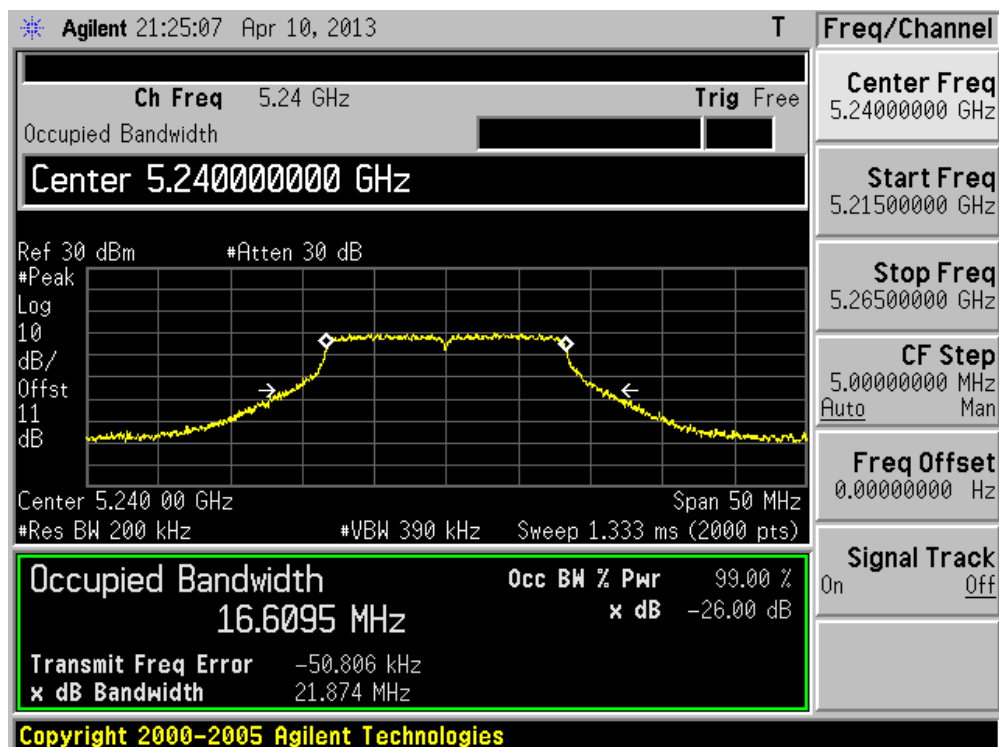
Channel 36 (5180MHz)



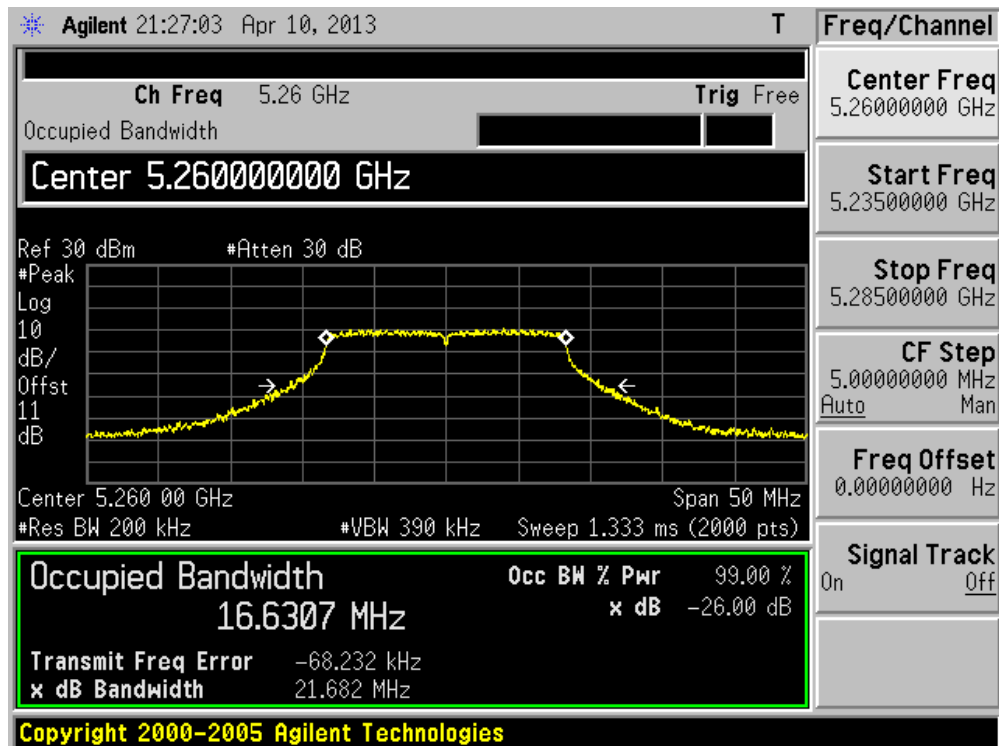
Channel 40 (5200MHz)



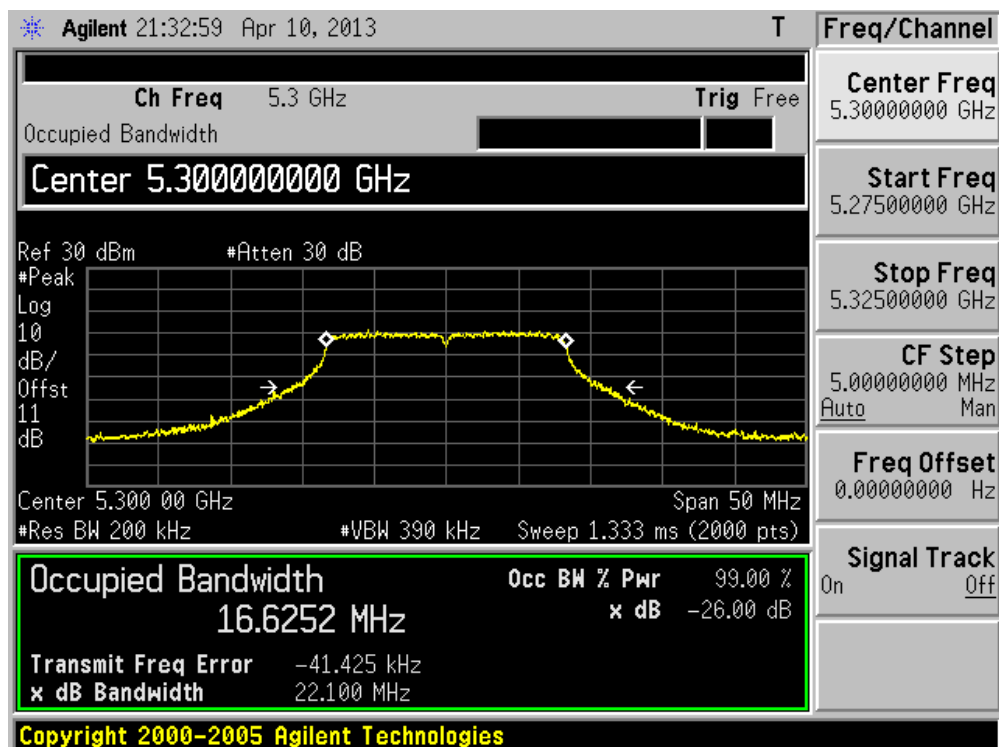
Channel 48 (5240MHz)



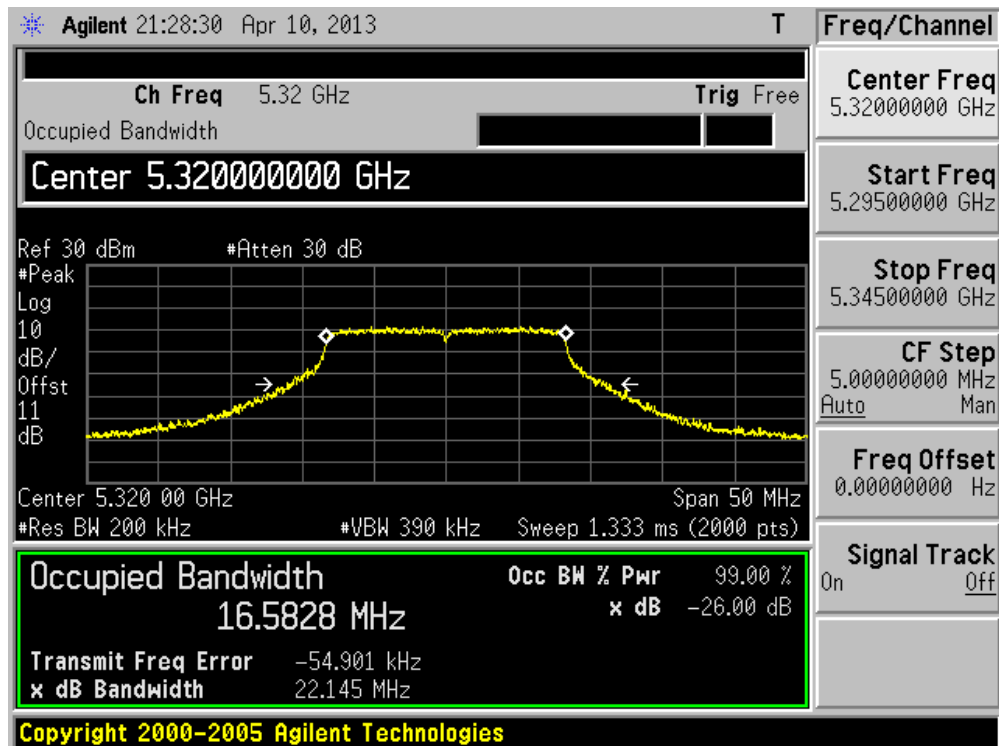
Channel 48 (5260MHz)



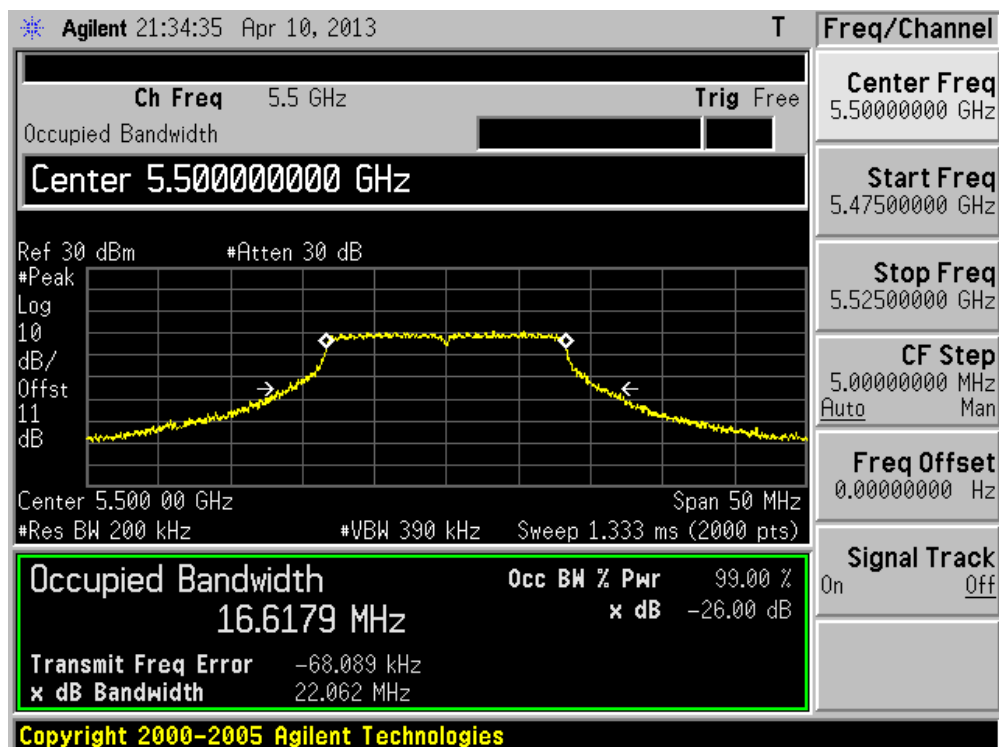
Channel 60 (5300MHz)



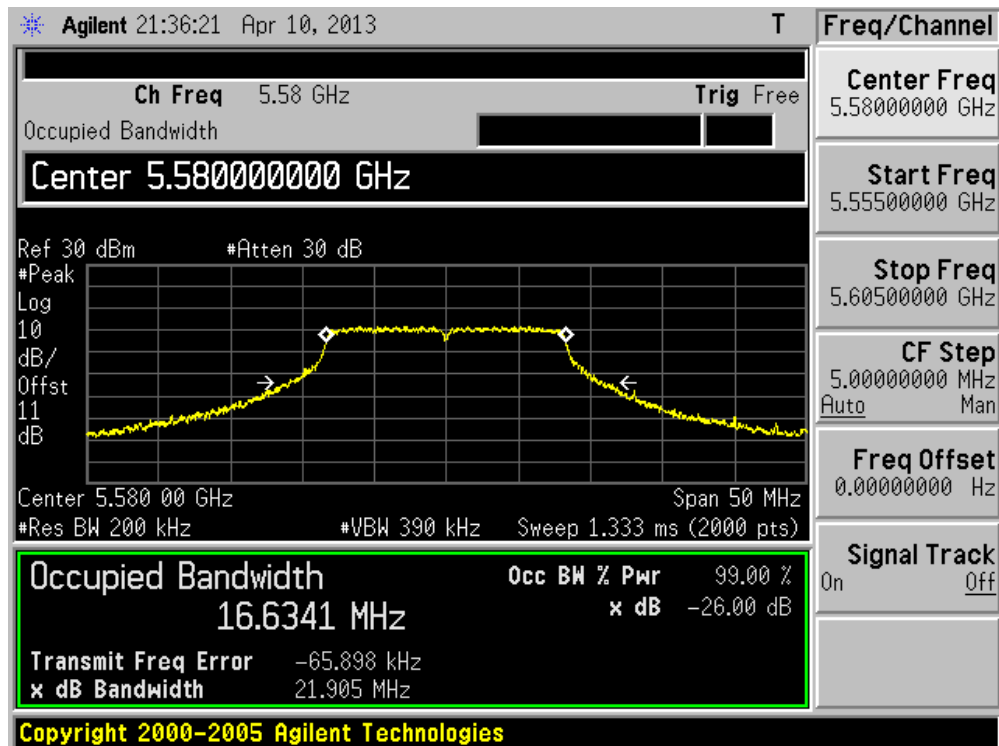
Channel 64 (5320MHz)



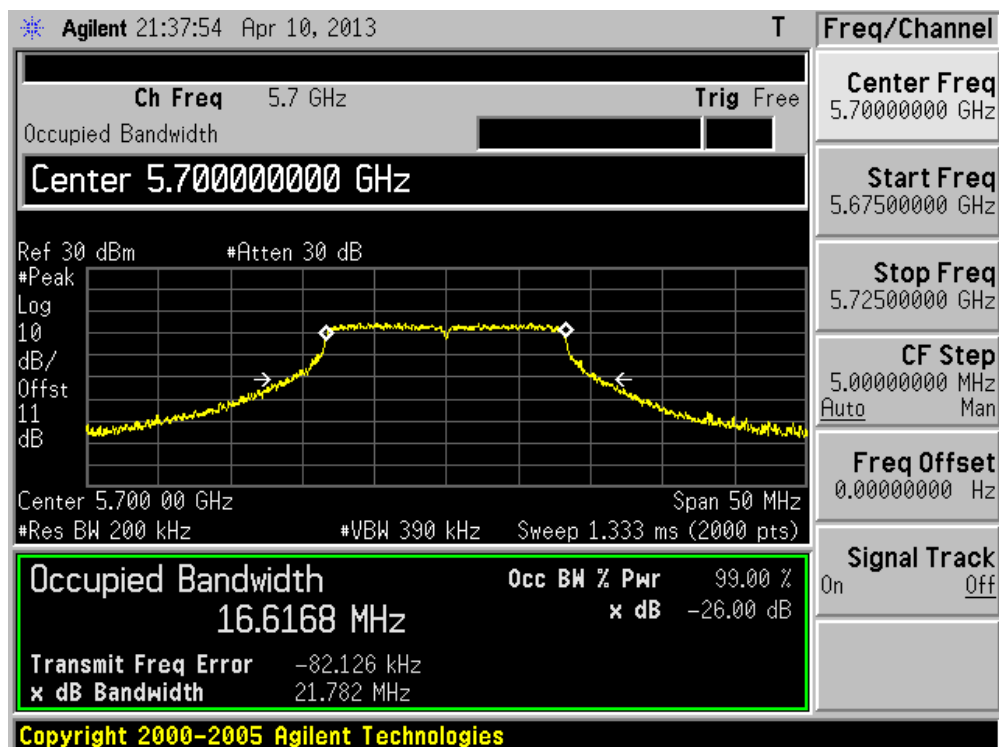
Channel 100 (5500MHz)



Channel 116 (5580MHz)



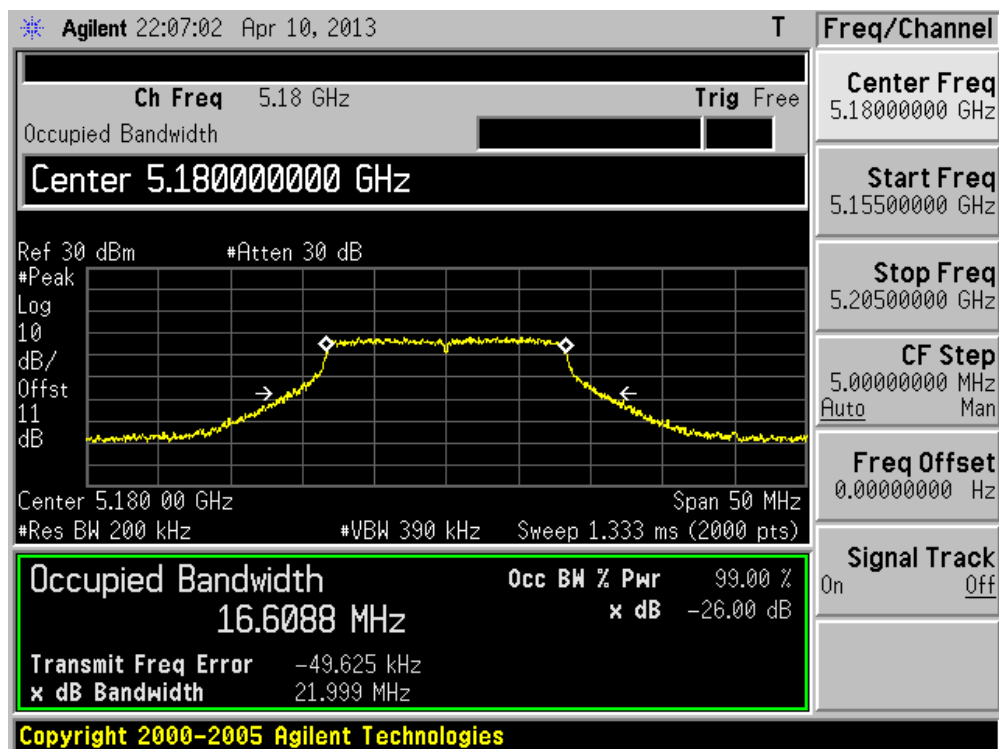
Channel 140 (5700MHz)



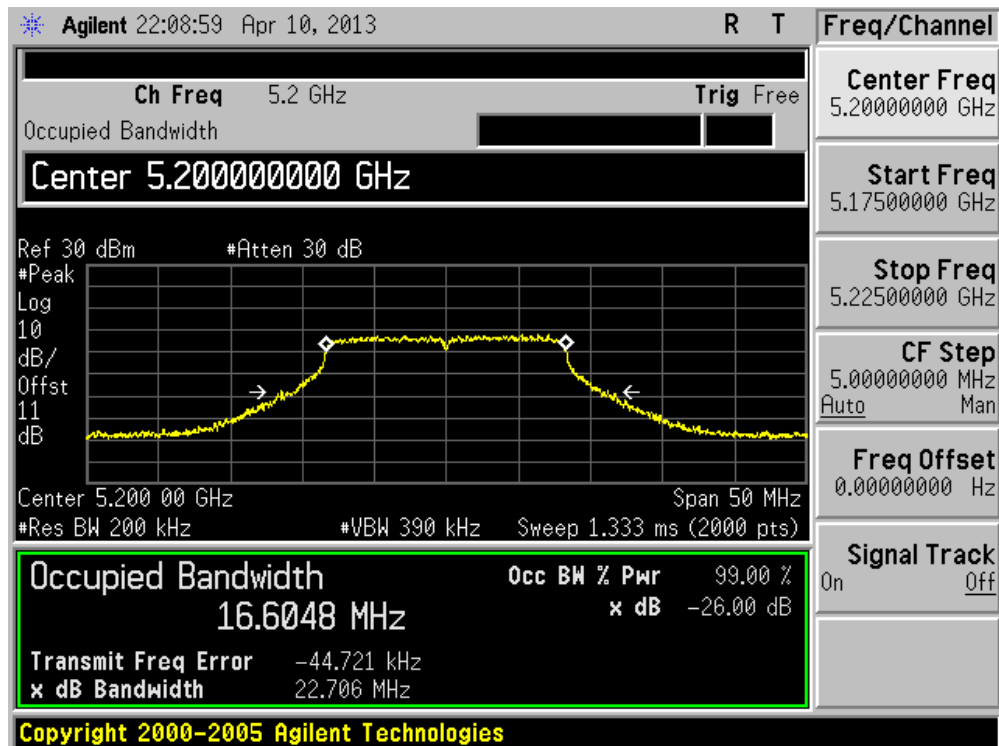
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180	22.00	16.61
40	5200	22.71	16.60
48	5240	21.32	16.60
52	5260	22.15	16.61
60	5300	22.01	16.58
64	5320	22.22	16.60
100	5500	22.58	16.64
116	5580	21.94	16.60
140	5700	21.79	16.64

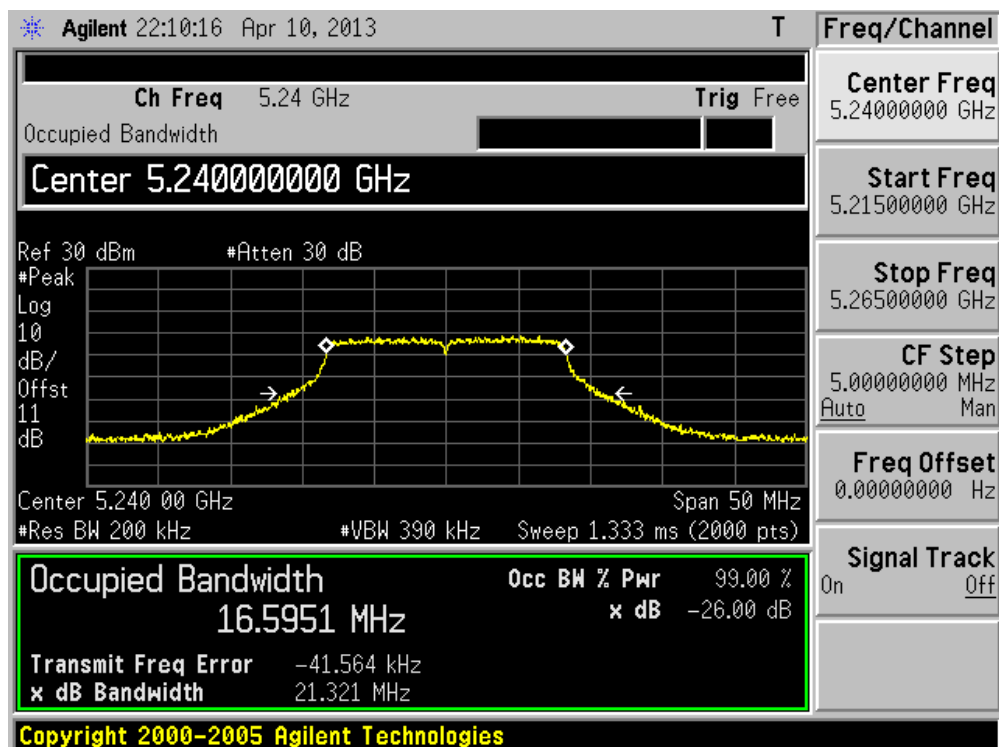
Channel 36 (5180MHz)



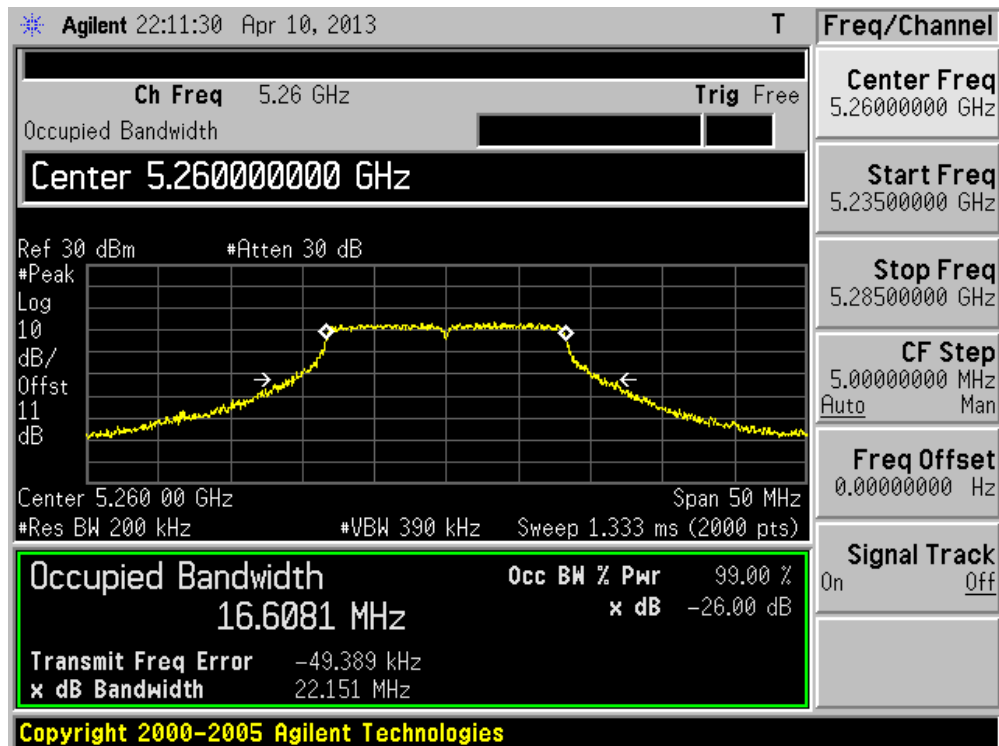
Channel 40 (5200MHz)



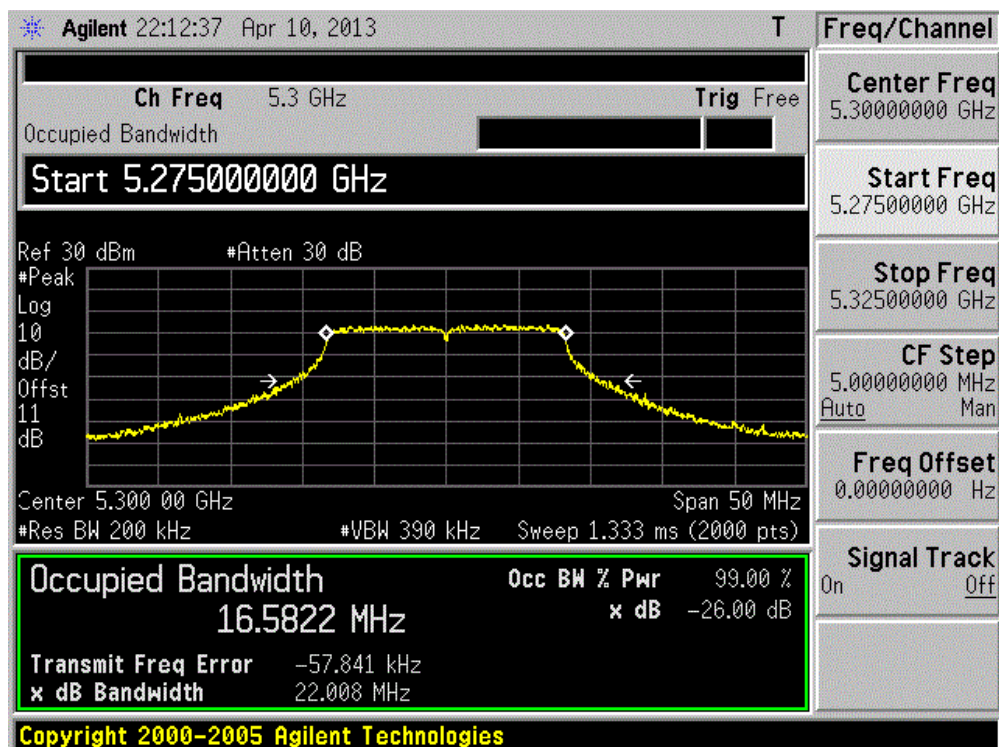
Channel 48 (5240MHz)



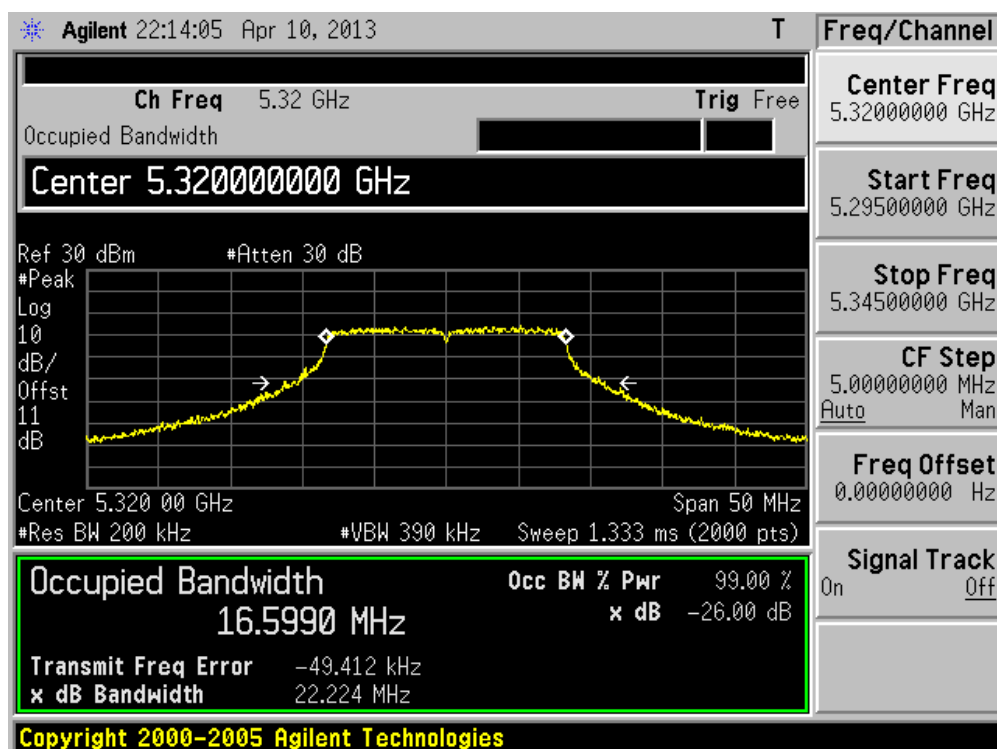
Channel 48 (5260MHz)



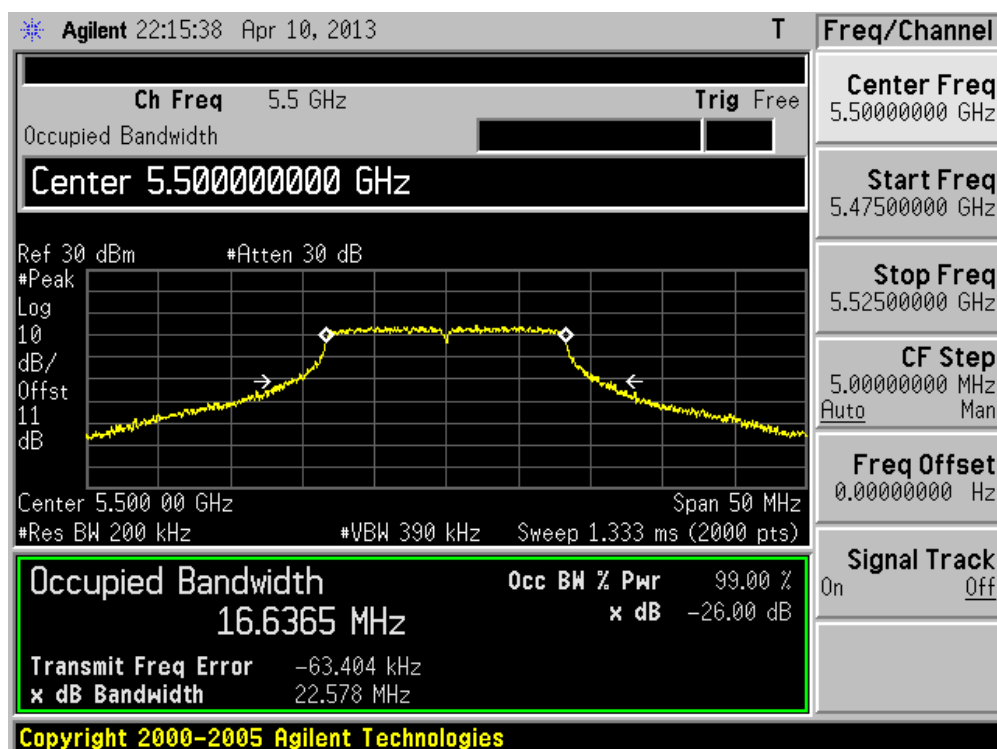
Channel 60 (5300MHz)



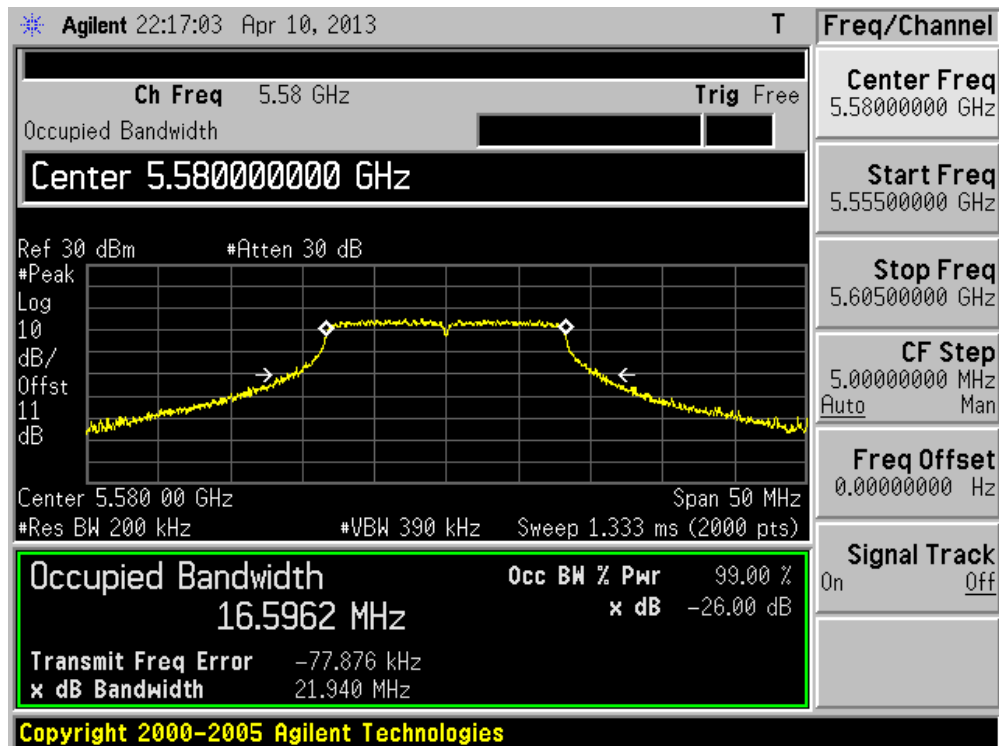
Channel 64 (5320MHz)



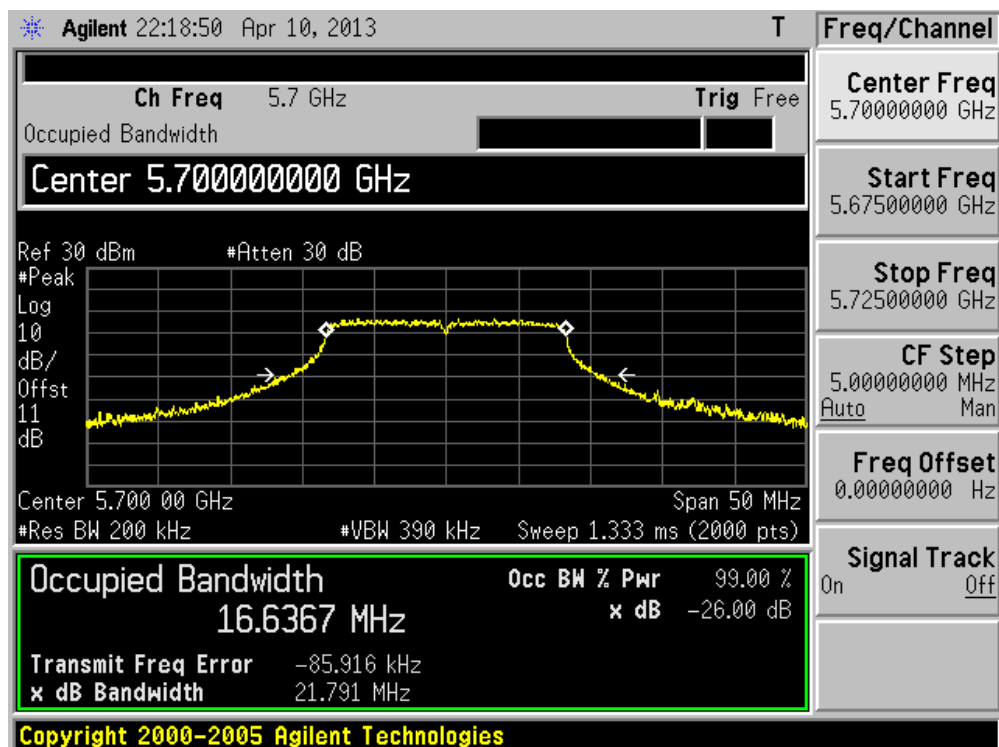
Channel 100 (5500MHz)



Channel 116 (5580MHz)



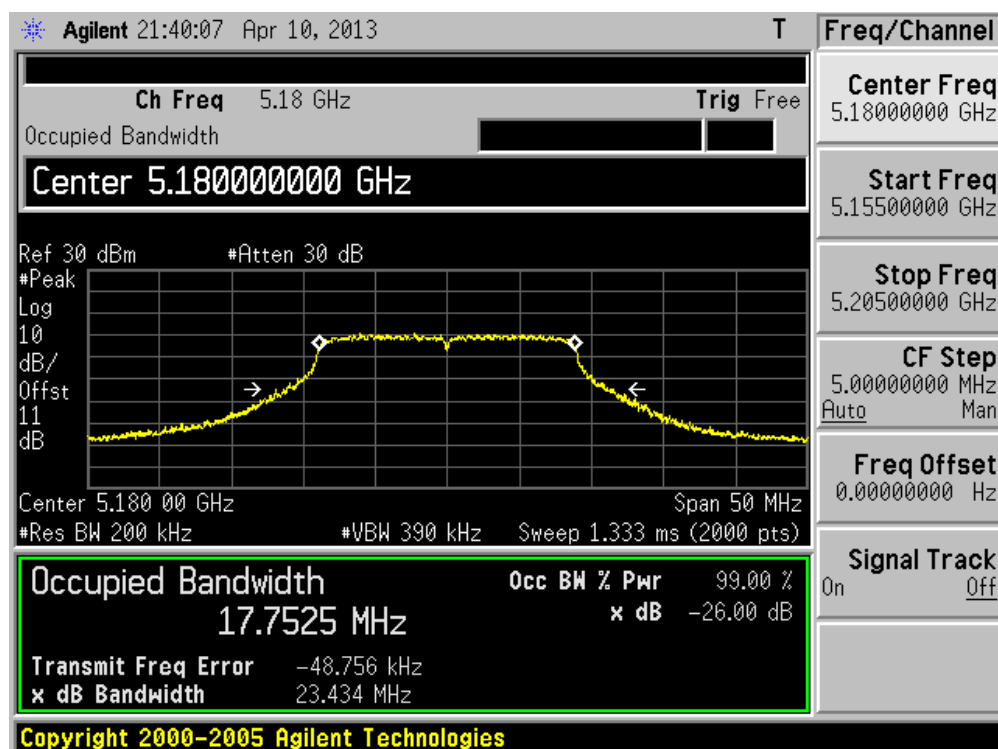
Channel 140 (5700MHz)



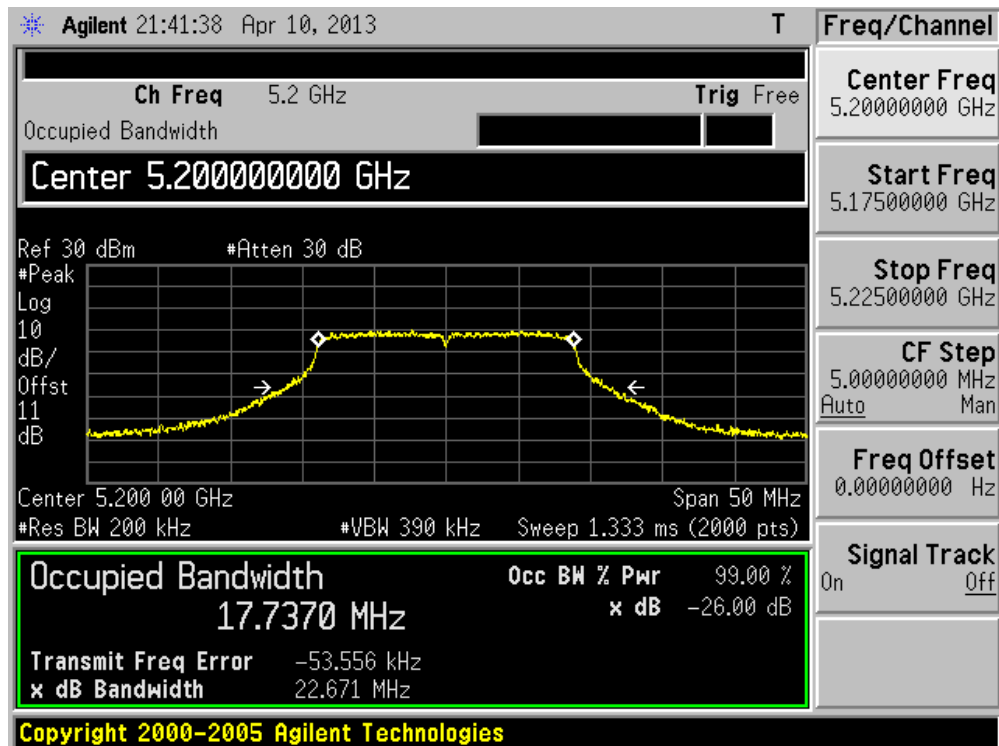
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 0)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180	23.43	17.75
40	5200	22.67	17.74
48	5240	22.74	17.74
52	5260	23.10	17.77
60	5300	22.64	17.76
64	5320	23.10	17.72
100	5500	23.09	17.74
116	5580	22.88	17.71
140	5700	23.43	17.77

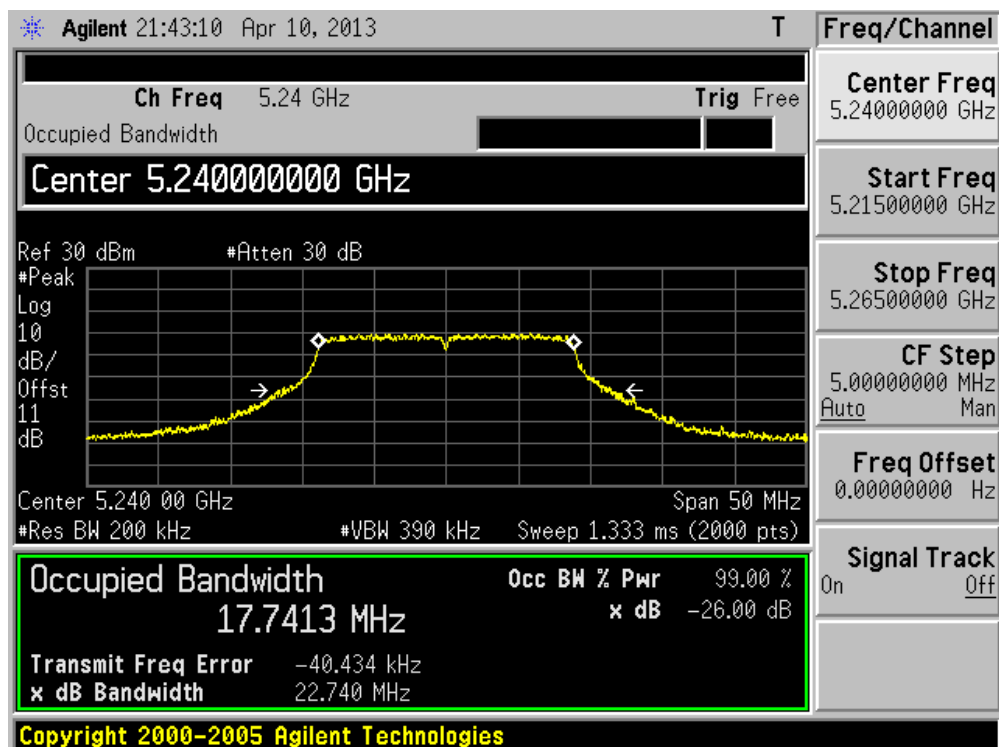
Channel 36 (5180MHz)



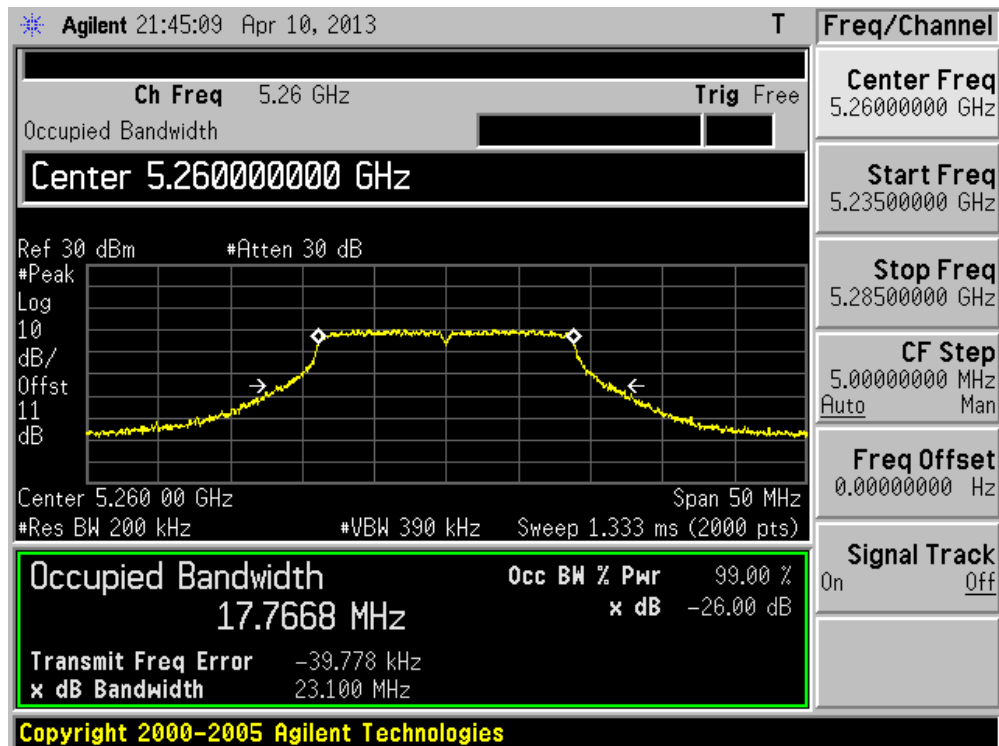
Channel 40 (5200MHz)



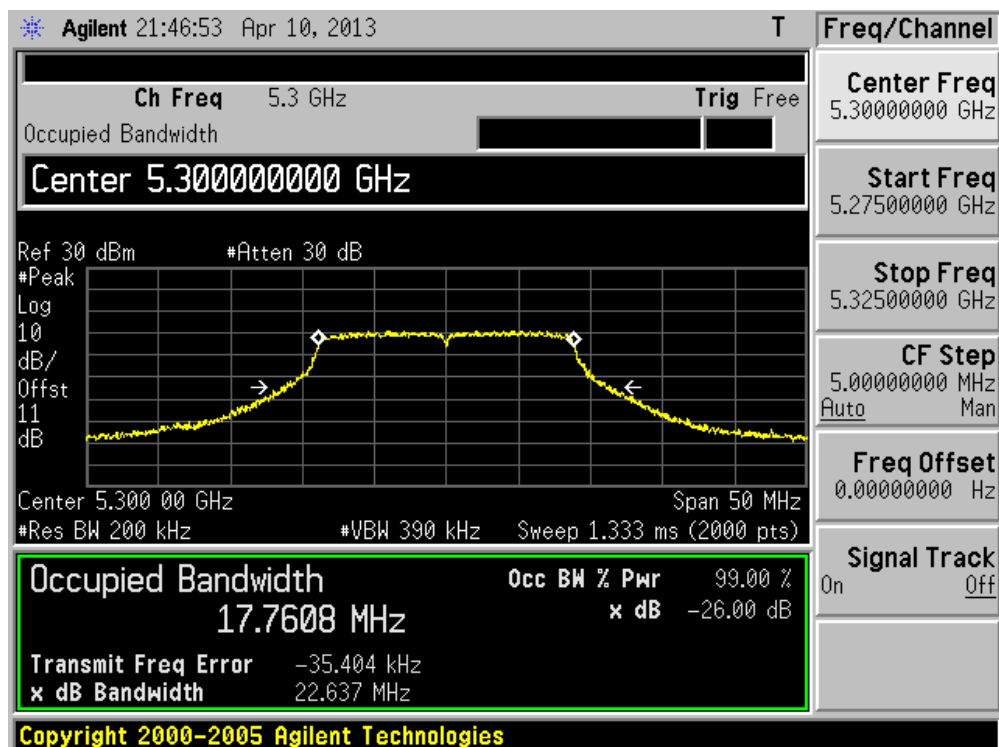
Channel 48 (5240MHz)



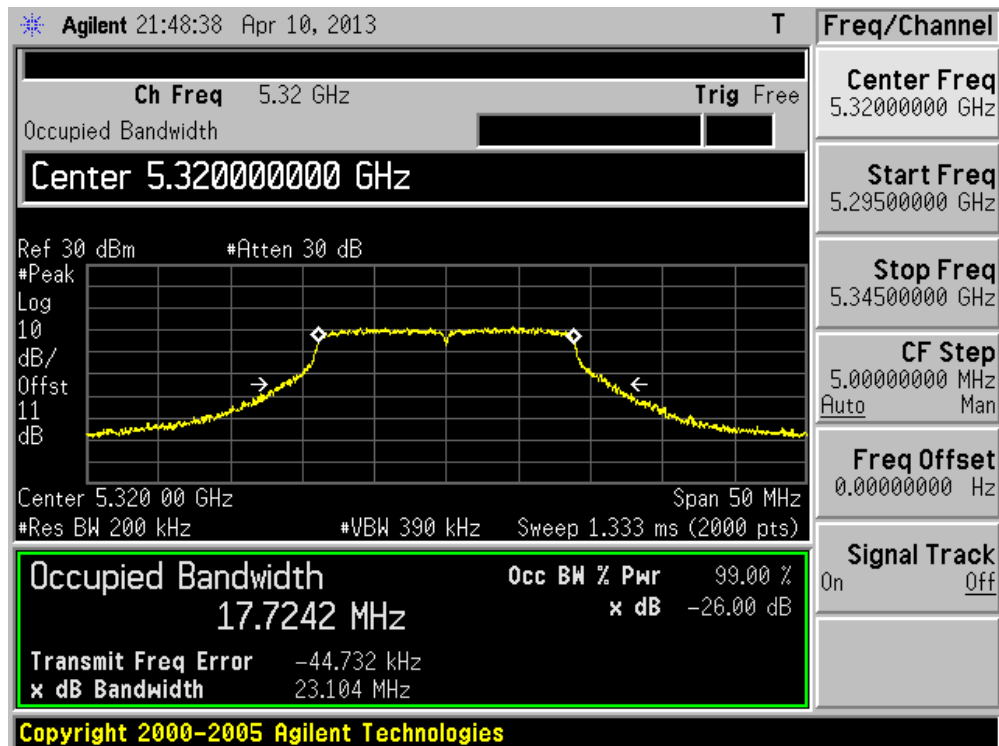
Channel 48 (5260MHz)



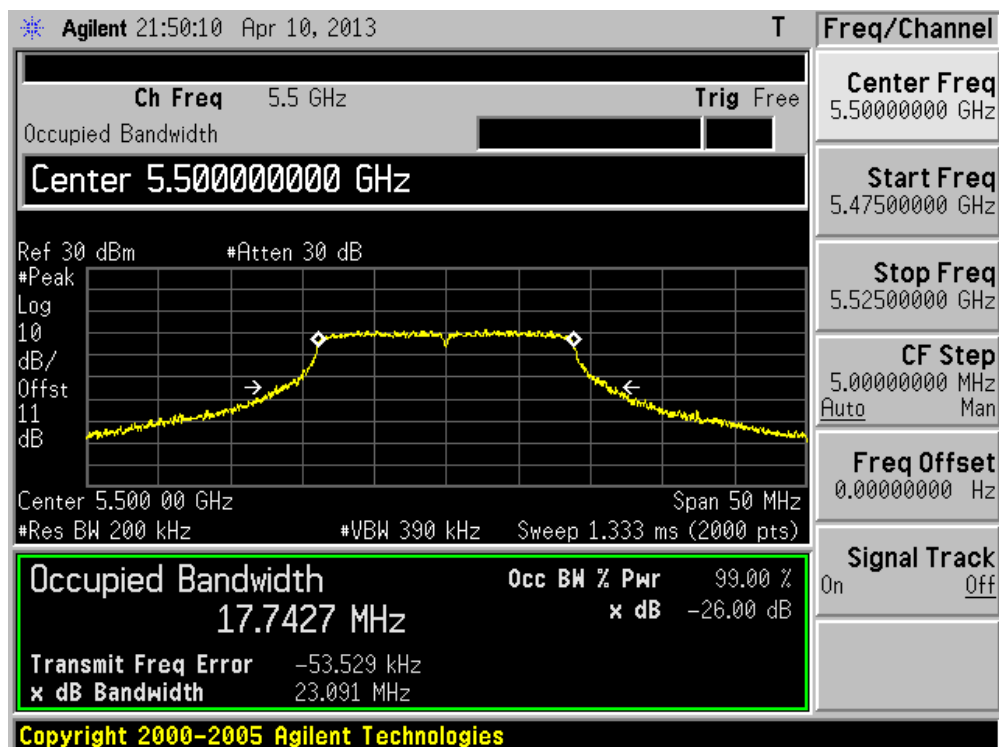
Channel 60 (5300MHz)



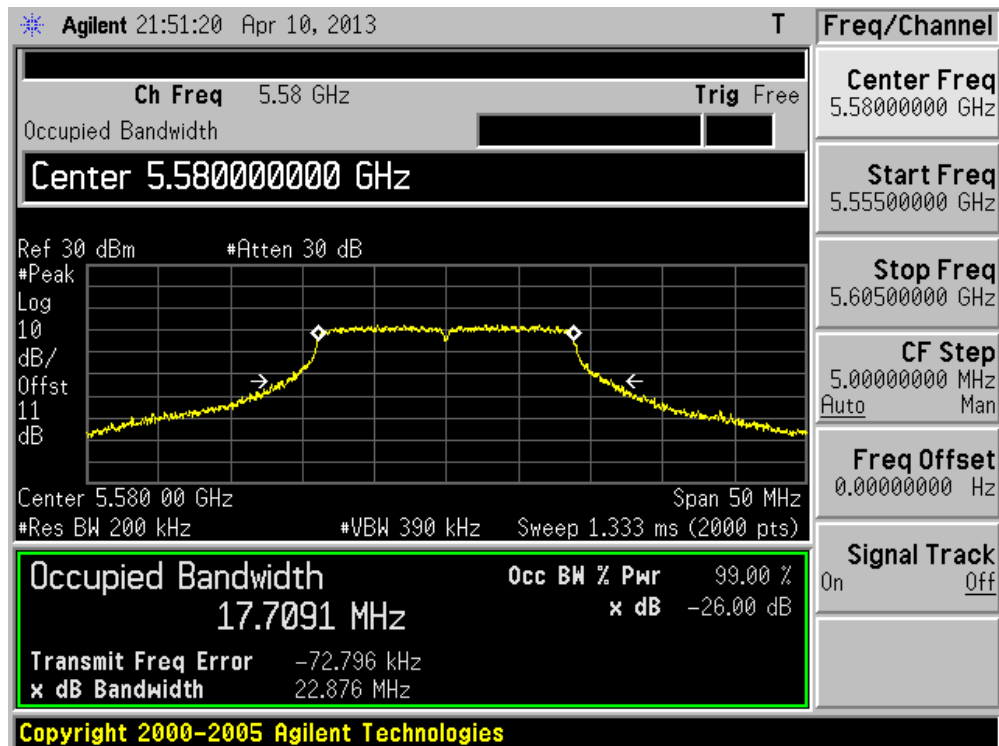
Channel 64 (5320MHz)



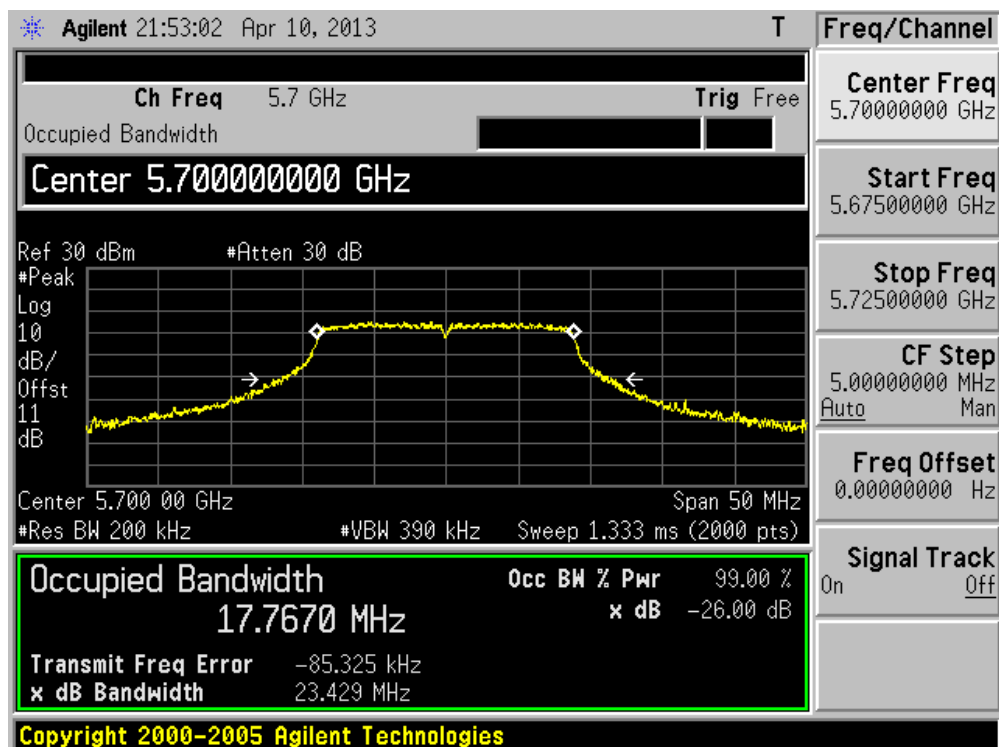
Channel 100 (5500MHz)



Channel 116 (5580MHz)



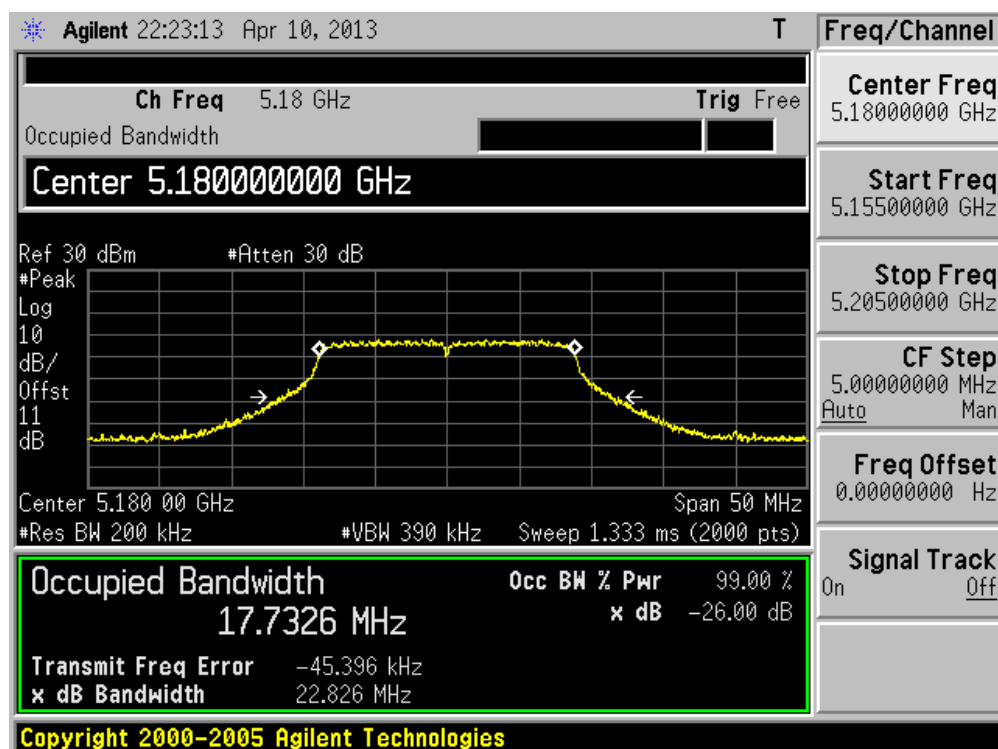
Channel 140 (5700MHz)



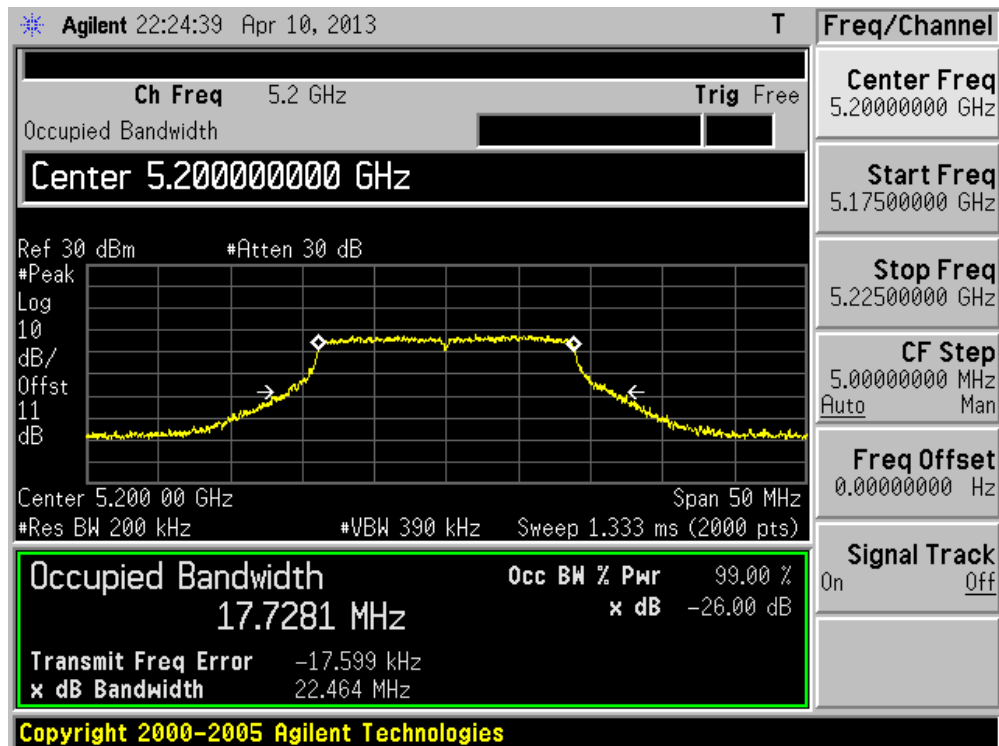
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 1)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180	22.83	17.73
40	5200	22.46	17.73
48	5240	22.51	17.72
52	5260	22.66	17.71
60	5300	23.01	17.73
64	5320	22.63	17.74
100	5500	23.12	17.75
116	5580	22.75	17.75
140	5700	22.92	17.77

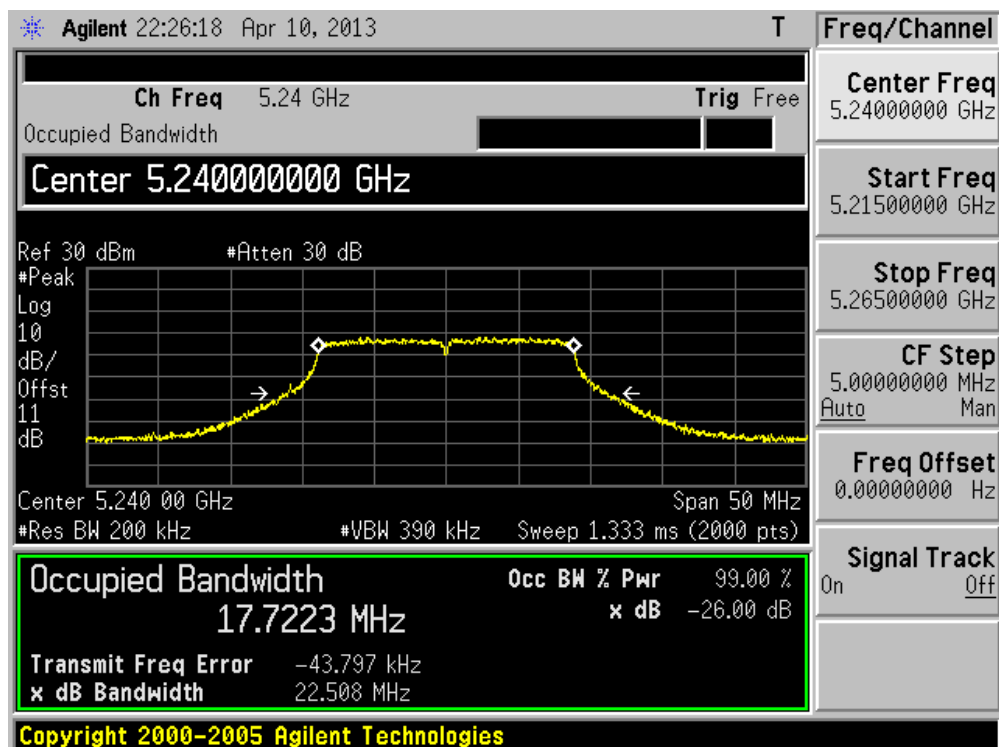
Channel 36 (5180MHz)



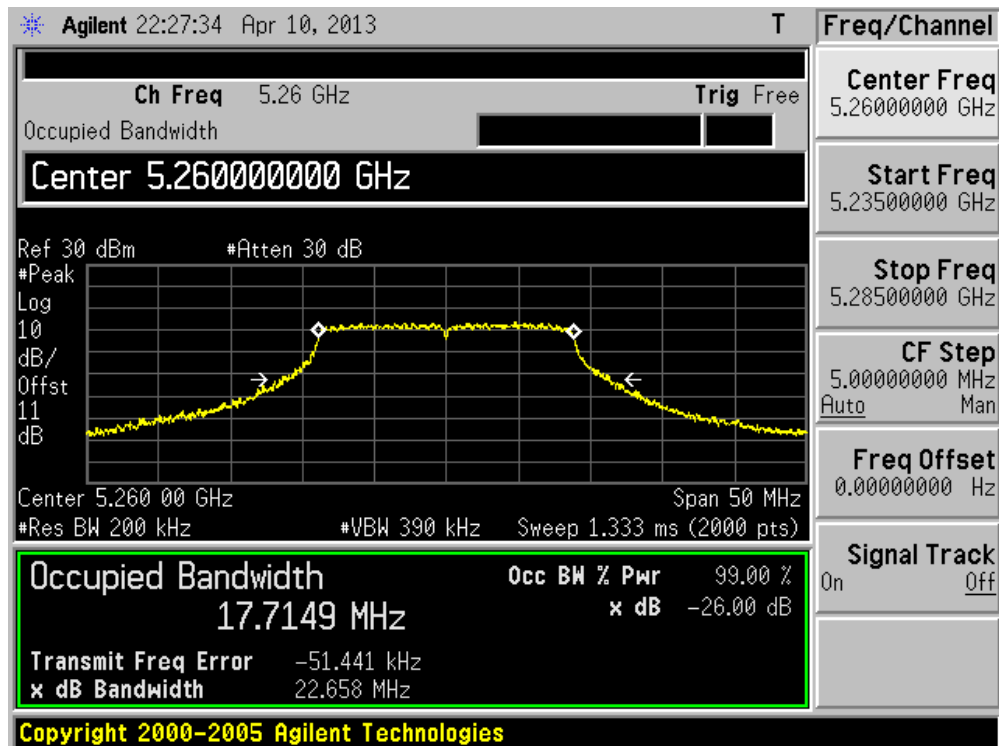
Channel 40 (5200MHz)



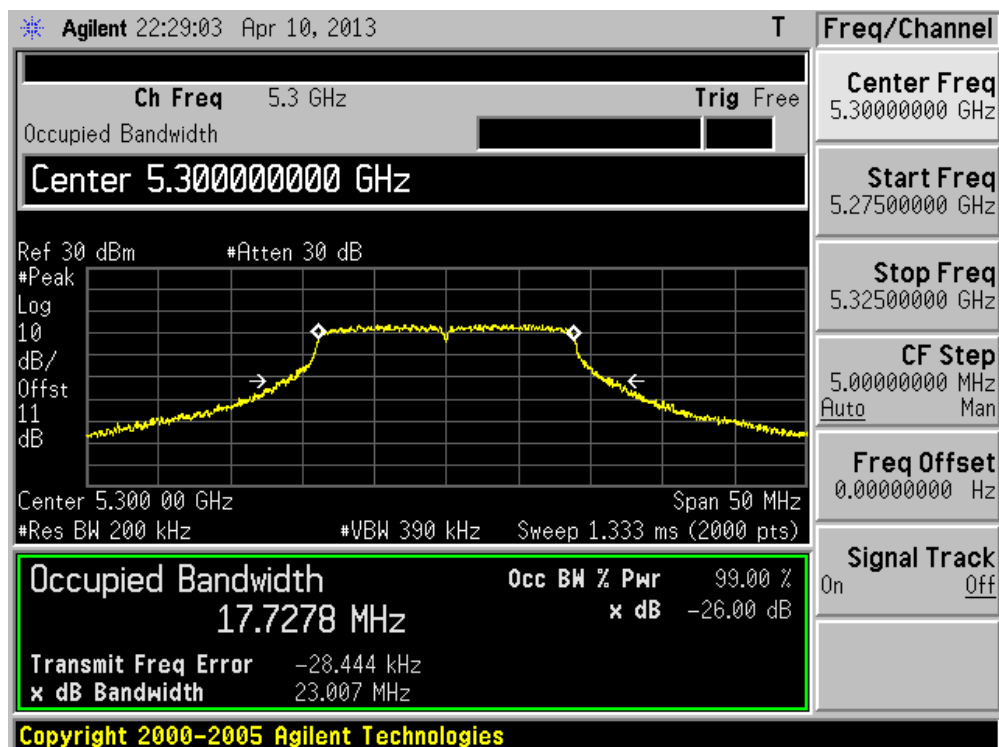
Channel 48 (5240MHz)



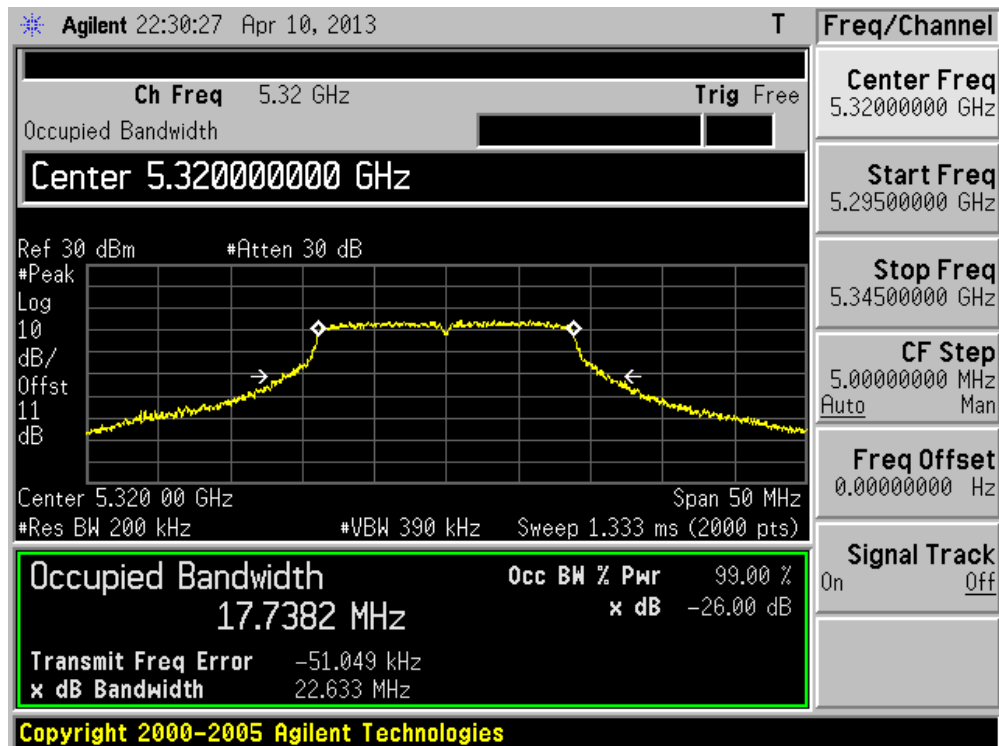
Channel 48 (5260MHz)



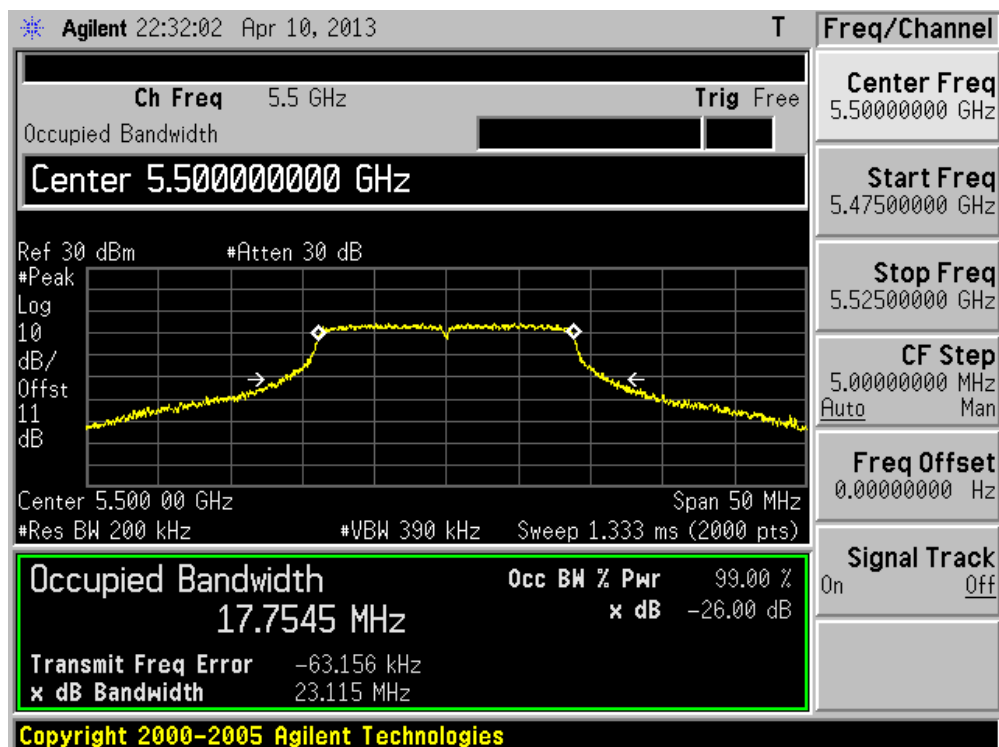
Channel 60 (5300MHz)



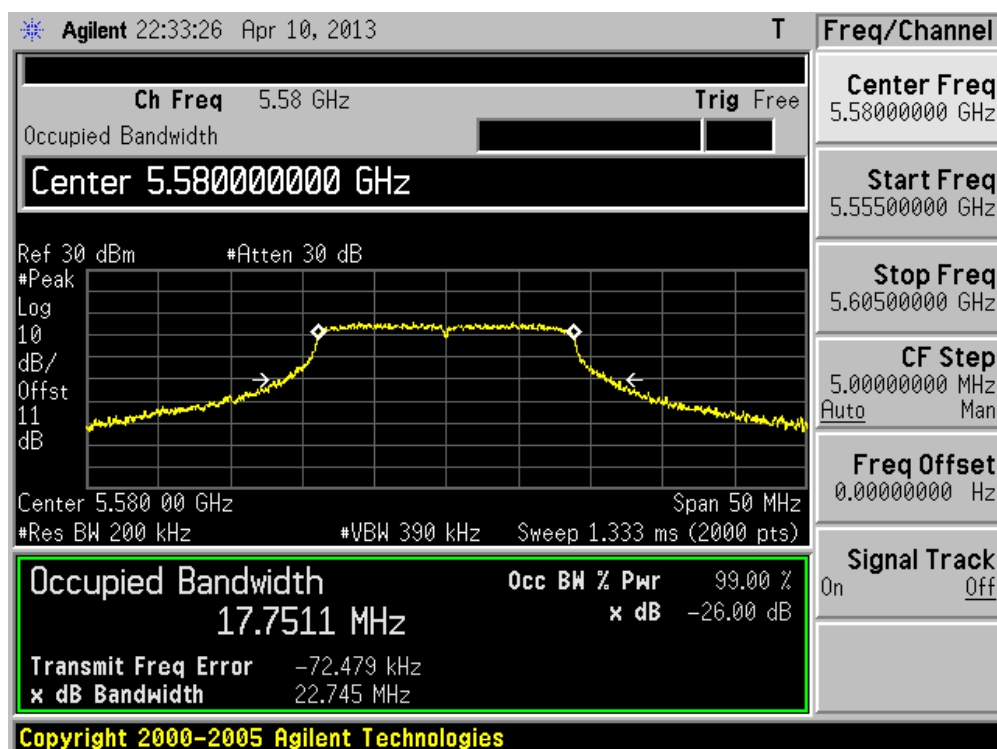
Channel 64 (5320MHz)



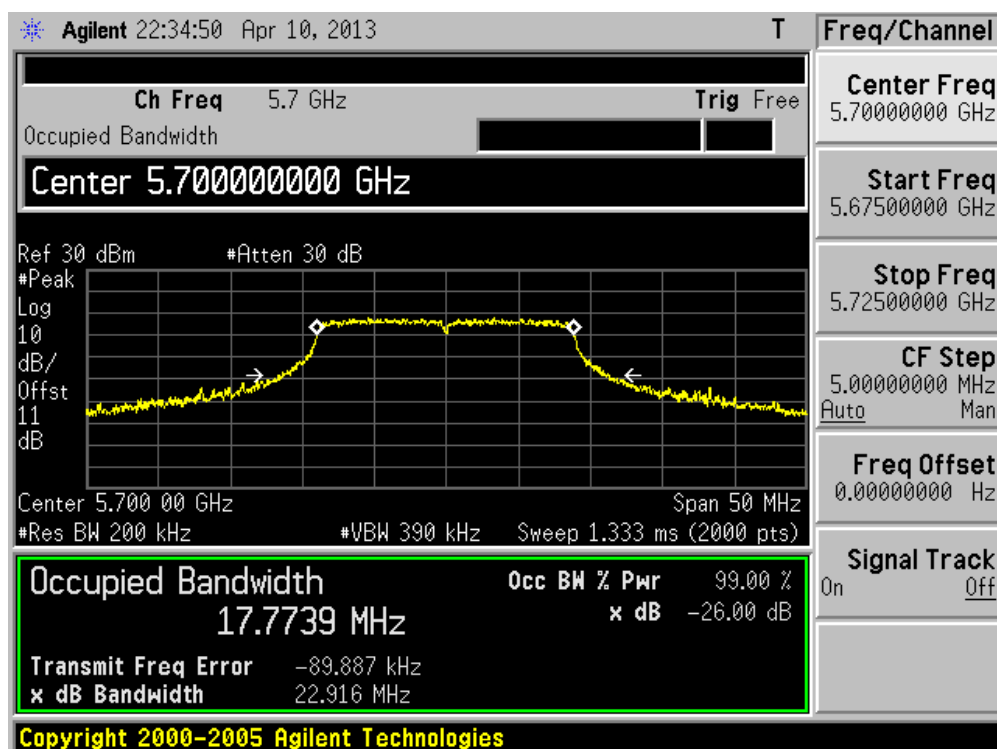
Channel 100 (5500MHz)



Channel 116 (5580MHz)



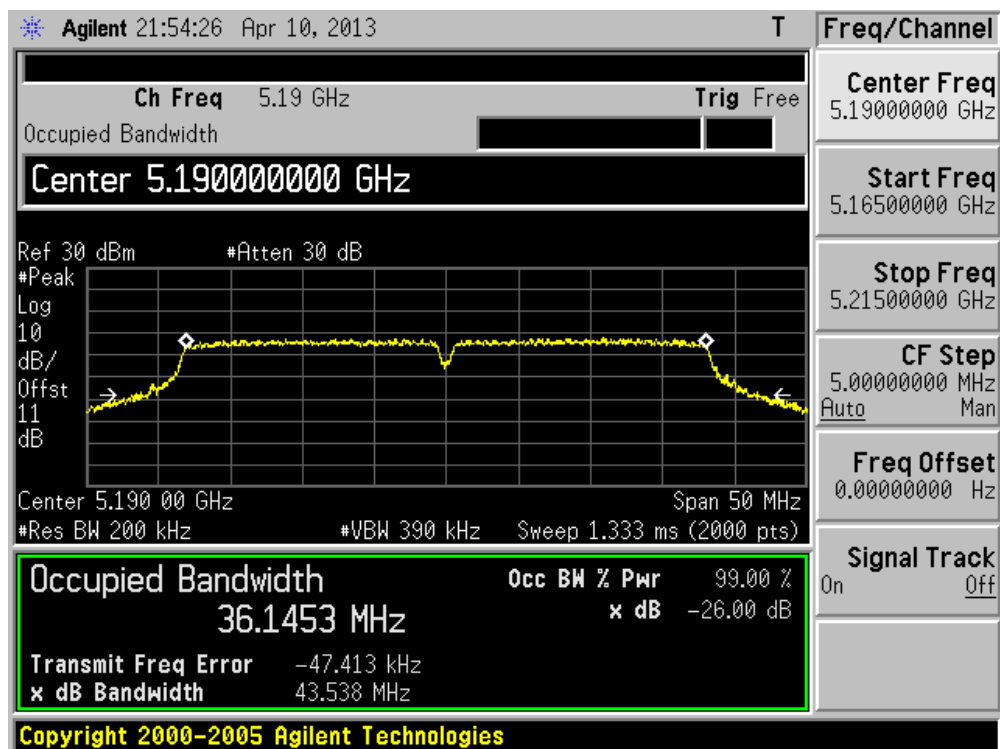
Channel 140 (5700MHz)



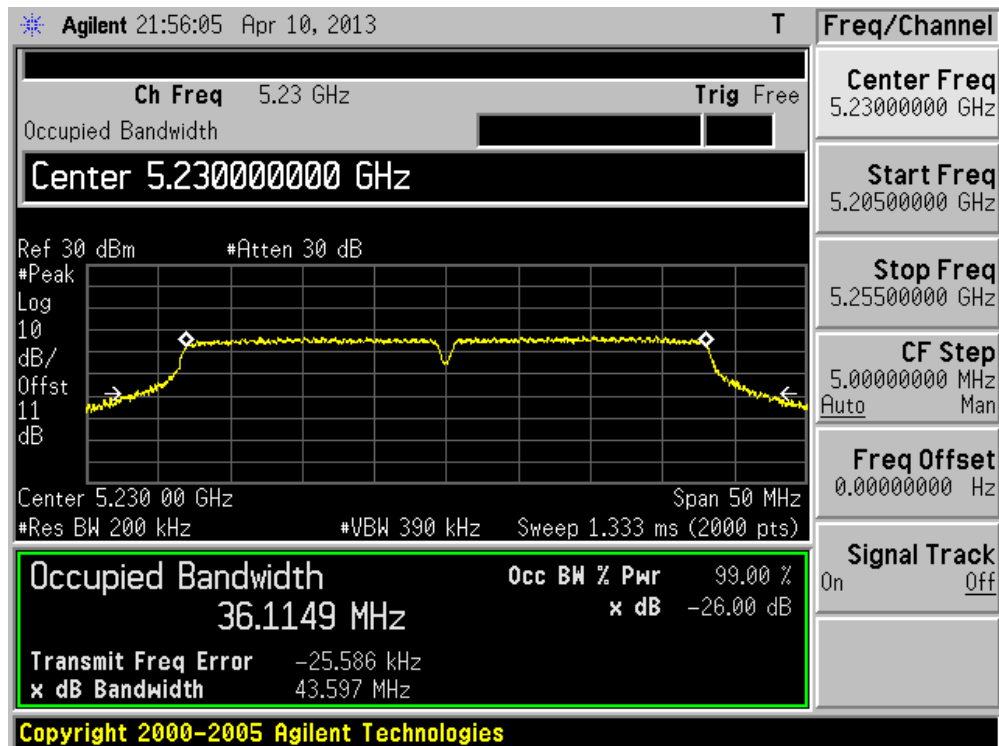
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz) (Chain 0)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
38	5190	43.54	36.15
46	5230	43.60	36.11
54	5270	43.50	36.15
62	5310	43.41	36.13
102	5510	43.49	36.16
110	5550	43.79	36.11

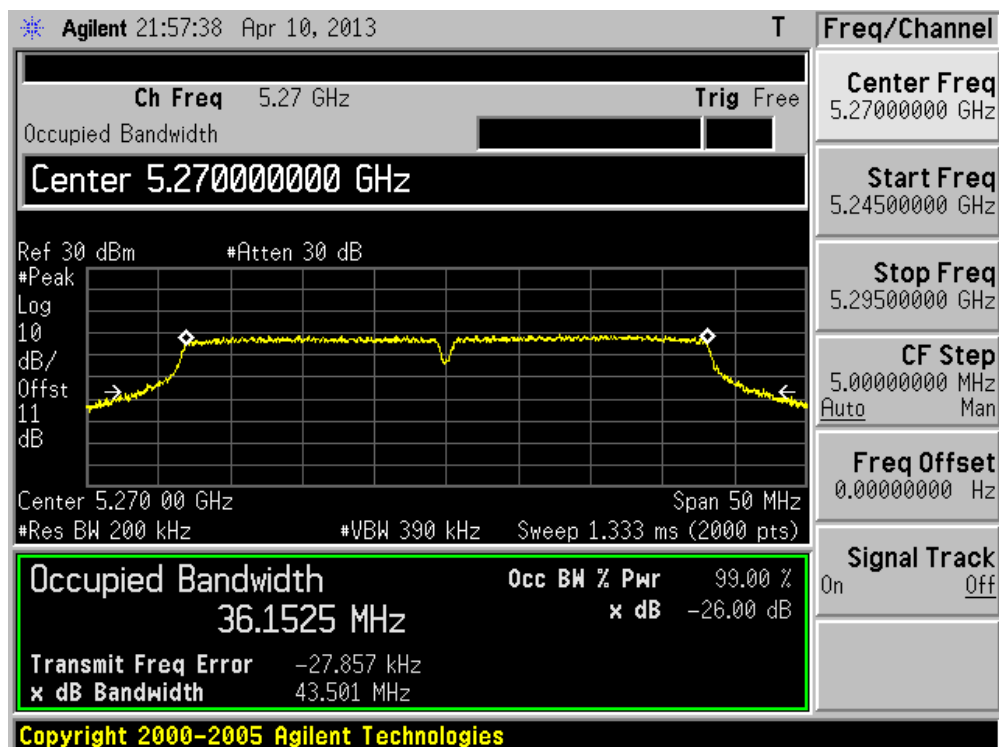
Channel 38 (5190MHz)



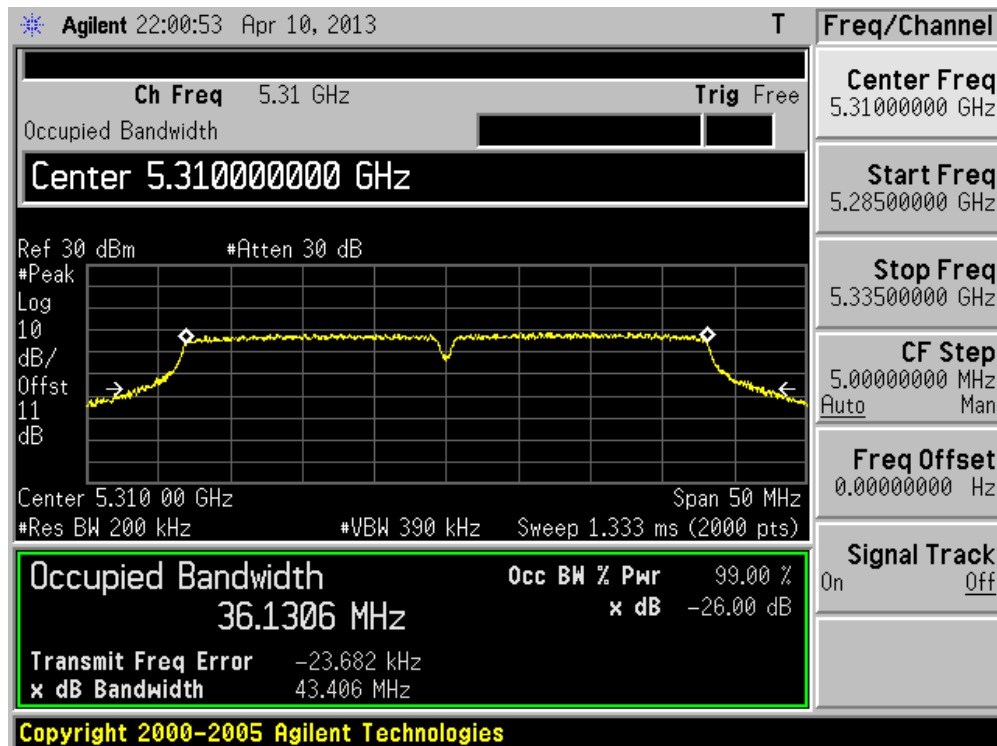
Channel 46 (5230MHz)



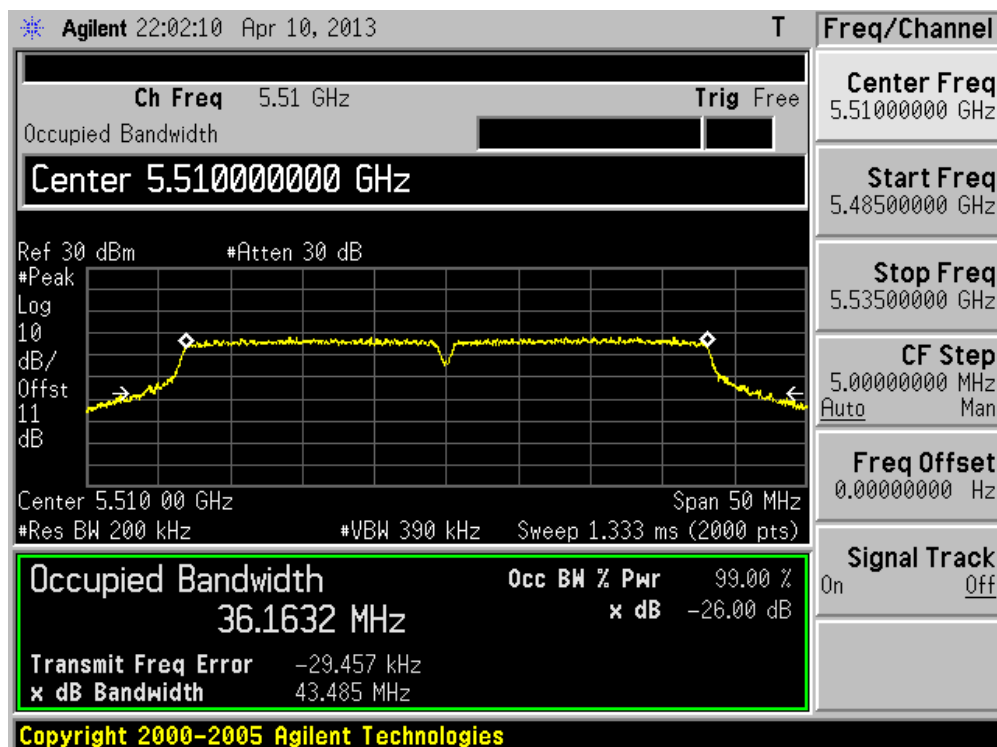
Channel 54 (5270MHz)



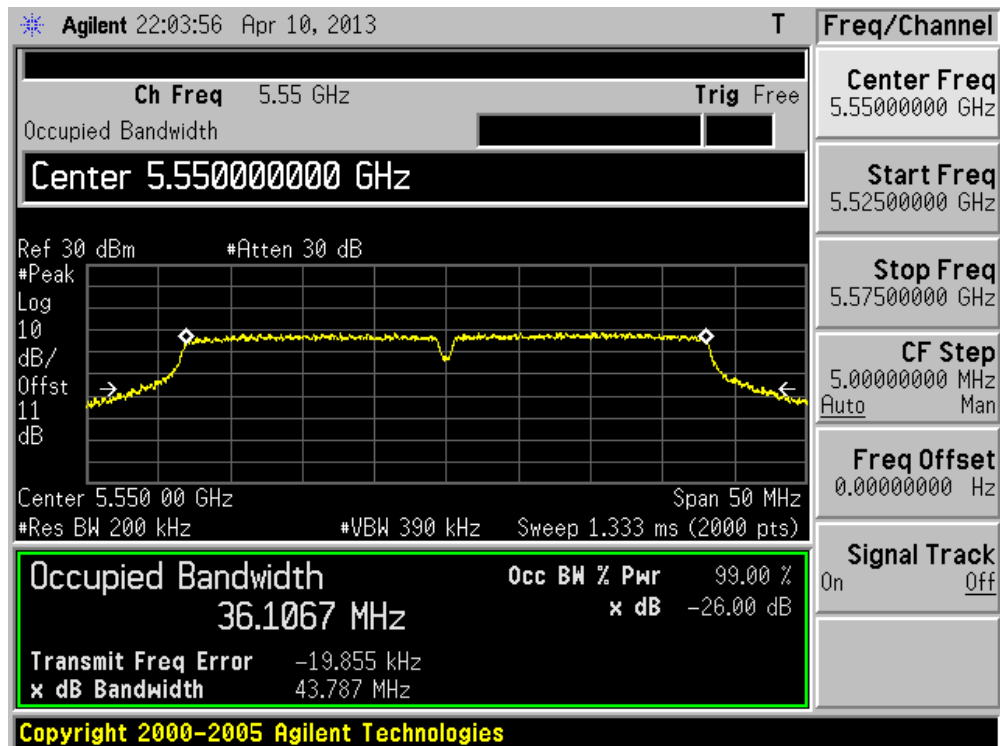
Channel 62 (5310MHz)



Channel 102 (5510MHz)



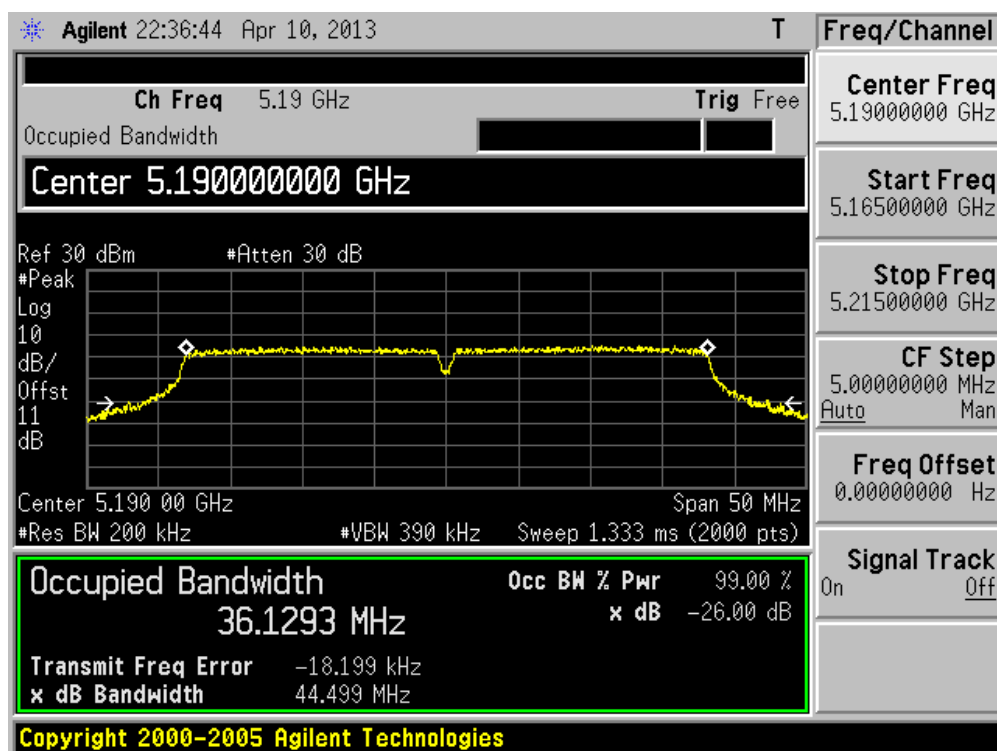
Channel 110 (5550MHz)



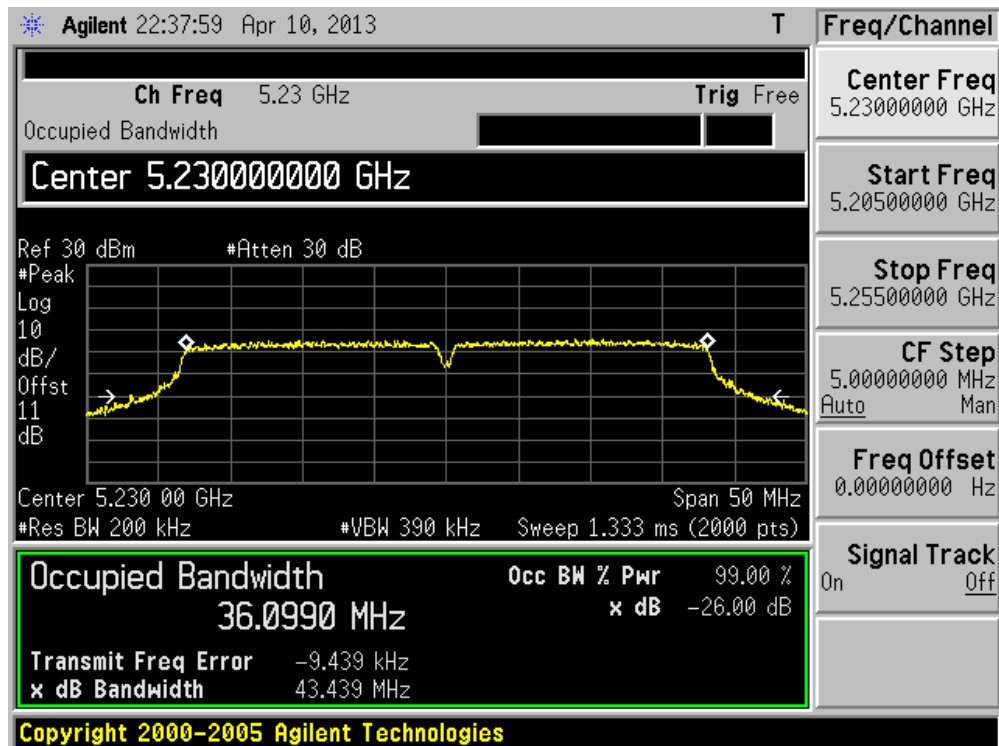
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz) (Chain 1)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
38	5190	44.50	36.13
46	5230	43.44	36.10
54	5270	44.23	36.14
62	5310	42.86	36.12
102	5510	44.13	36.14
110	5550	44.19	36.12

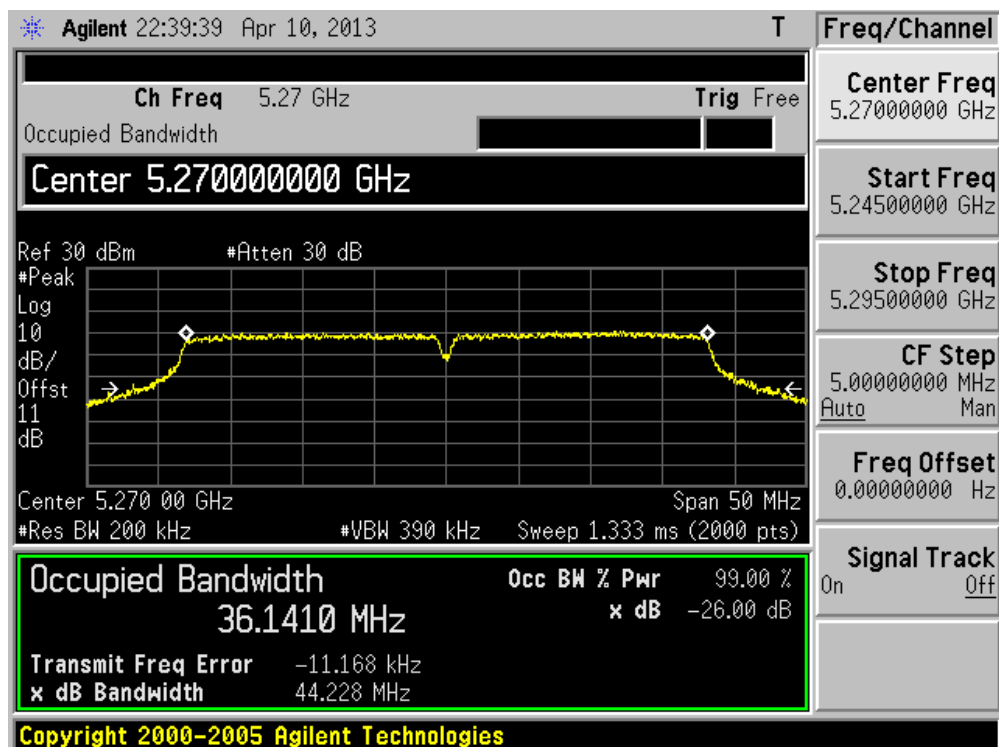
Channel 38 (5190MHz)



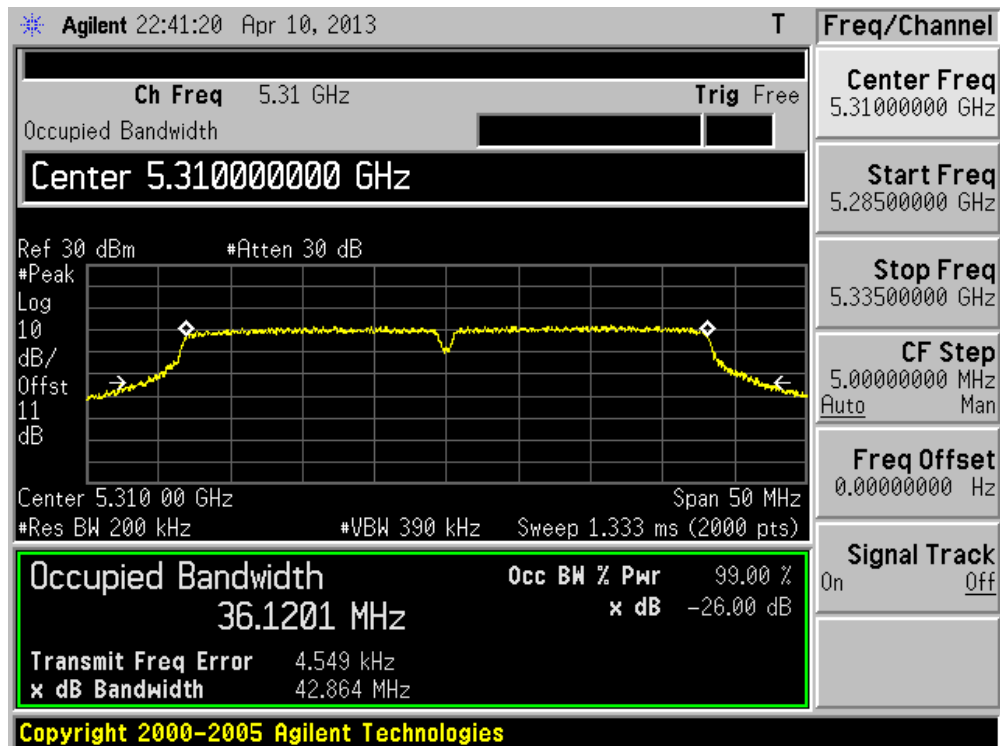
Channel 46 (5230MHz)



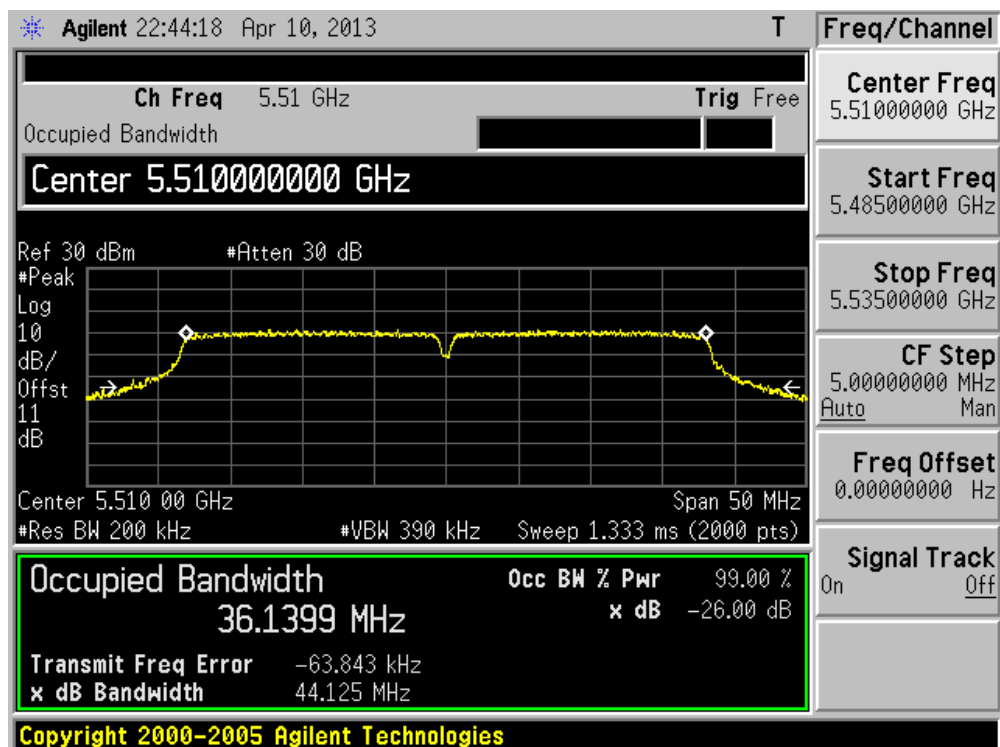
Channel 54 (5270MHz)



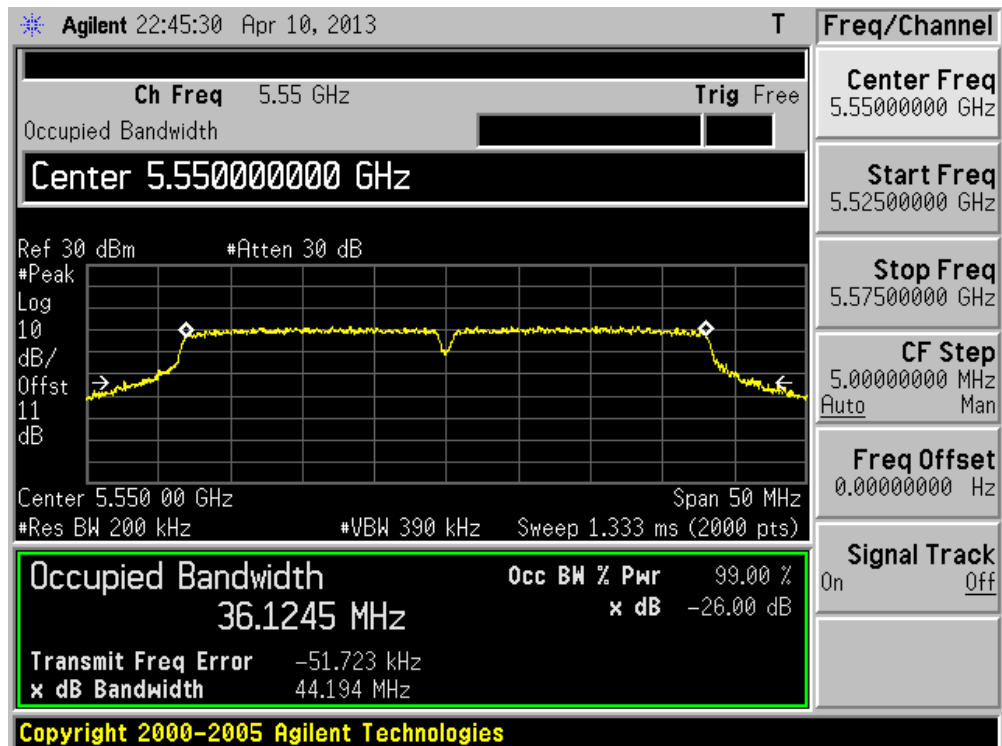
Channel 62 (5310MHz)



Channel 102 (5510MHz)



Channel 110 (5550MHz)



7. Power Output

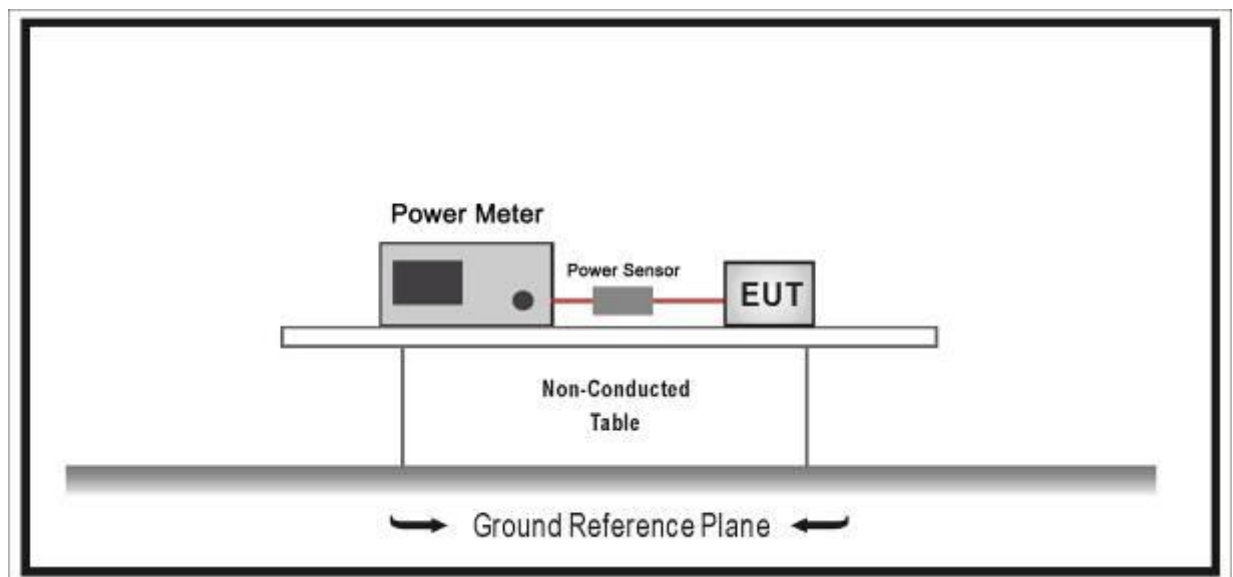
7.1. Test Equipment

Power Output / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2014.03.30
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2014.05.07

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

7.2. Test Setup



7.3. Limit

- 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. If transmitting antenna of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
- For the band 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10\log B$, where B is the 26 dB emission bandwidth in megahertz. If transmitting antenna of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6

dBi.

- 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. If transmitting antenna of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antenna with directional gain up to 23 dBi without any corresponding reduction in the transmitter peak output power. 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 for each 1 dB of antenna gain in excess of 23 dBi would be required.

1.1. Test Procedure

The EUT was tested according to KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

Use the wideband power meter to test RMS power and record the result.

7.4. Uncertainty

The measurement uncertainty is defined as $\pm 1.27 \text{ dB}$

7.5. Test Result

Power output test was verified over all data rates of each mode shown as below, and then choose the maximum power output (blue marker) for final test of each channel.

MCS Index for 802.11n	Spatial Streams	Data Rate (Mbps)				
		802.11a	20MHz Bandwidth		40MHz Bandwidth	
			800ns GI	400ns GI	800ns GI	400ns GI
0	1	6	6.5	7.2	13.5	15.0
1	1	9	13.0	14.4	27.0	30.0
2	1	12	19.5	21.7	40.5	45.0
3	1	18	26.0	28.9	54.0	60.0
4	1	24	39.0	43.3	81.0	90.0
5	1	36	52.0	57.8	108.0	120.0
6	1	48	58.5	65.0	121.5	135.0
7	1	54	65.0	72.2	135.0	150.0
8	2	---	13.0	14.4	27.0	30.0
9	2	---	26.0	28.9	54.0	60.0
10	2	---	39.0	43.3	81.0	90.0
11	2	---	52.0	57.8	108.0	120.0
12	2	---	78.0	86.7	162.0	180.0
13	2	---	104.0	115.6	216.0	240.0
14	2	---	117.0	130.0	243.0	270.0
15	2	---	130.0	144.0	270.0	300.0

Power output at various data rates:

Test Mode	Bandwidth	Frequency (MHz)	Channel	Data Rate	Peak Power (dBm)
802.11a(Chain 0)	20	5500	100	6	21.99
				24	20.87
				54	20.64
802.11n(Chain 0)	20	5500	100	HT0	21.97
				HT4	21.81
				HT7	20.63
802.11n(Chain 0)	40	5510	102	HT0	22.09
				HT4	21.24
				HT7	21.31

Product	:	WIRELESS-ABGN 3X3 NETWORK MINI PCIE ADAPTER
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 0)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1	Chain 2			
36	5180	15.38	N/A	N/A	15.38	16	Pass
40	5200	15.27	N/A	N/A	15.27	16	Pass
48	5240	15.81	N/A	N/A	15.81	16	Pass
52	5260	21.78	N/A	N/A	21.78	23	Pass
60	5300	21.89	N/A	N/A	21.89	23	Pass
64	5320	21.91	N/A	N/A	21.91	23	Pass
100	5500	21.99	N/A	N/A	21.99	23	Pass
116	5580	21.65	N/A	N/A	21.65	23	Pass
140	5700	22.06	N/A	N/A	22.06	23	Pass

Product	:	WIRELESS-ABGN 3X3 NETWORK MINI PCIE ADAPTER
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1	Chain 2			
36	5180	N/A	15.23	N/A	15.23	16	Pass
40	5200	N/A	15.14	N/A	15.14	16	Pass
48	5240	N/A	15.13	N/A	15.13	16	Pass
52	5260	N/A	21.67	N/A	21.67	23	Pass
60	5300	N/A	21.97	N/A	21.97	23	Pass
64	5320	N/A	21.49	N/A	21.49	23	Pass
100	5500	N/A	21.77	N/A	21.77	23	Pass
116	5580	N/A	21.74	N/A	21.74	23	Pass
140	5700	N/A	21.84	N/A	21.84	23	Pass

Product	:	WIRELESS-ABGN 3X3 NETWORK MINI PCIE ADAPTER
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 2)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1	Chain 2			
36	5180	N/A	N/A	15.13	15.13	16	Pass
40	5200	N/A	N/A	15.17	15.17	16	Pass
48	5240	N/A	N/A	15.24	15.24	16	Pass
52	5260	N/A	N/A	21.89	21.89	23	Pass
60	5300	N/A	N/A	21.94	21.94	23	Pass
64	5320	N/A	N/A	21.76	21.76	23	Pass
100	5500	N/A	N/A	21.99	21.99	23	Pass
116	5580	N/A	N/A	21.84	21.84	23	Pass
140	5700	N/A	N/A	21.87	21.87	23	Pass

Product	:	WIRELESS-ABGN 3X3 NETWORK MINI PCIE ADAPTER
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 0)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1	Chain 2			
36	5180	15.45	N/A	N/A	15.45	16	Pass
40	5200	15.24	N/A	N/A	15.24	16	Pass
48	5240	15.32	N/A	N/A	15.32	16	Pass
52	5260	22.12	N/A	N/A	22.12	23	Pass
60	5300	22.13	N/A	N/A	22.13	23	Pass
64	5320	22.07	N/A	N/A	22.07	23	Pass
100	5500	21.97	N/A	N/A	21.97	23	Pass
116	5580	22.03	N/A	N/A	22.03	23	Pass
140	5700	22.28	N/A	N/A	22.28	23	Pass

Product	:	WIRELESS-ABGN 3X3 NETWORK MINI PCIE ADAPTER
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1	Chain 2			
36	5180	N/A	15.18	N/A	15.18	16	Pass
40	5200	N/A	15.11	N/A	15.11	16	Pass
48	5240	N/A	15.07	N/A	15.07	16	Pass
52	5260	N/A	21.98	N/A	21.98	23	Pass
60	5300	N/A	21.93	N/A	21.93	23	Pass
64	5320	N/A	21.97	N/A	21.97	23	Pass
100	5500	N/A	21.75	N/A	21.75	23	Pass
116	5580	N/A	21.96	N/A	21.96	23	Pass
140	5700	N/A	21.89	N/A	21.89	23	Pass

Product	:	WIRELESS-ABGN 3X3 NETWORK MINI PCIE ADAPTER
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 2)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1	Chain 2			
36	5180	N/A	N/A	15.17	15.17	16	Pass
40	5200	N/A	N/A	15.24	15.24	16	Pass
48	5240	N/A	N/A	15.12	15.12	16	Pass
52	5260	N/A	N/A	21.21	21.21	23	Pass
60	5300	N/A	N/A	21.76	21.76	23	Pass
64	5320	N/A	N/A	21.54	21.54	23	Pass
100	5500	N/A	N/A	22.11	22.11	23	Pass
116	5580	N/A	N/A	21.93	21.93	23	Pass
140	5700	N/A	N/A	21.96	21.96	23	Pass

Product	:	WIRELESS-ABGN 3X3 NETWORK MINI PCIE ADAPTER
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 0+1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1	Chain 2			
36	5180	12.27	12.26	N/A	15.28	16	Pass
40	5200	12.12	12.14	N/A	15.14	16	Pass
48	5240	12.11	12.37	N/A	15.25	16	Pass
52	5260	19.34	19.13	N/A	22.25	23	Pass
60	5300	19.28	19.17	N/A	22.24	23	Pass
64	5320	19.12	19.18	N/A	22.16	23	Pass
100	5500	19.11	19.24	N/A	22.19	23	Pass
116	5580	19.14	19.16	N/A	22.16	23	Pass
140	5700	19.22	19.21	N/A	22.23	23	Pass

Product	:	WIRELESS-ABGN 3X3 NETWORK MINI PCIE ADAPTER
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 0)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1	Chain 2			
38	5190	15.21	N/A	N/A	15.21	16	Pass
46	5230	15.11	N/A	N/A	15.11	16	Pass
54	5270	22.14	N/A	N/A	22.14	23	Pass
62	5310	22.17	N/A	N/A	22.17	23	Pass
102	5510	22.09	N/A	N/A	22.09	23	Pass
110	5550	22.05	N/A	N/A	22.05	23	Pass

Product	:	WIRELESS-ABGN 3X3 NETWORK MINI PCIE ADAPTER
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1	Chain 2			
38	5190	N/A	15.97	N/A	15.97	16	Pass
46	5230	N/A	15.31	N/A	15.31	16	Pass
54	5270	N/A	21.88	N/A	21.88	23	Pass
62	5310	N/A	21.87	N/A	21.87	23	Pass
102	5510	N/A	21.98	N/A	21.98	23	Pass
110	5550	N/A	21.87	N/A	21.87	23	Pass

Product	:	WIRELESS-ABGN 3X3 NETWORK MINI PCIE ADAPTER
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 2)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1	Chain 2			
38	5190	N/A	N/A	15.05	15.05	16	Pass
46	5230	N/A	N/A	15.02	15.02	16	Pass
54	5270	N/A	N/A	21.97	21.97	23	Pass
62	5310	N/A	N/A	21.73	21.73	23	Pass
102	5510	N/A	N/A	21.93	21.93	23	Pass
110	5550	N/A	N/A	21.96	21.96	23	Pass

Product	:	WIRELESS-ABGN 3X3 NETWORK MINI PCIE ADAPTER
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 0+1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)			Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1	Chain 2			
38	5190	12.27	12.33	N/A	15.31	16	Pass
46	5230	12.29	12.12	N/A	15.22	16	Pass
54	5270	19.11	19.16	N/A	22.15	23	Pass
62	5310	19.24	19.17	N/A	22.22	23	Pass
102	5510	19.31	19.21	N/A	22.27	23	Pass
110	5550	19.21	19.14	N/A	22.19	23	Pass

8. Peak Power Spectral Density

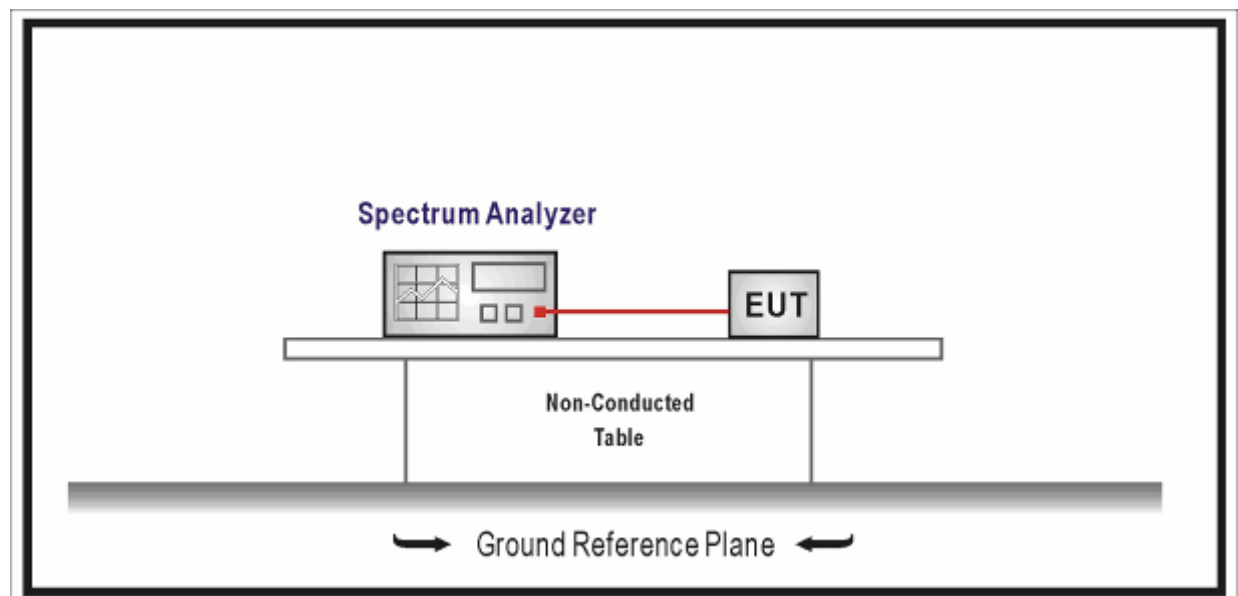
8.1. Test Equipment

Peak Power Spectral Density / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2014.03.30
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2014.05.07

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

8.2. Test Setup



8.3. Limit

- For the band 5.15-5.25 GHz, the peak power spectral density shall not exceed 4dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- For the band 5.25-5.35 GHz and 5.47-5.725 GHz bands, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6dBi are used, the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- For the band 5.725-5.825 GHz, 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, 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 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 power spectral density for each 1 dB of antenna gain in excess of 23 dBi would be required.

1.2. Test Procedure

The EUT was tested according to KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz.
- Set VBW $\geq$ 3 MHz.
- Number of points in sweep $\geq$ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
- The trigger shall be set to “free run”.
- Trace average at least 100 traces in power averaging (i.e., RMS) mode.

8.4. Uncertainty

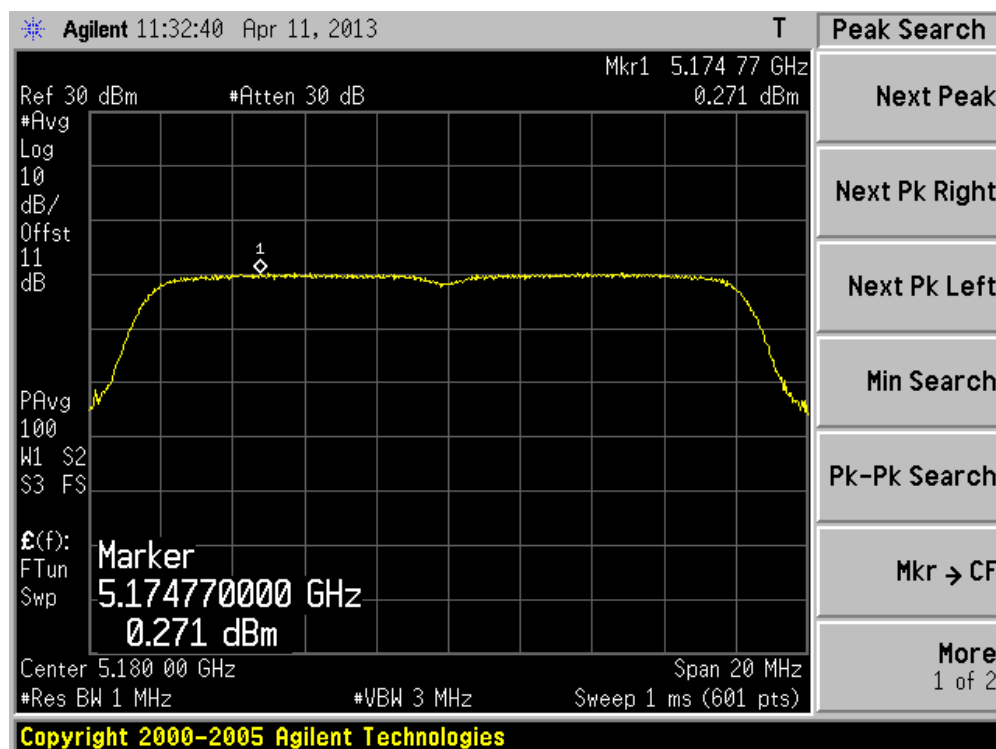
The measurement uncertainty is defined as ± 1.27 dB

8.5. Test Result

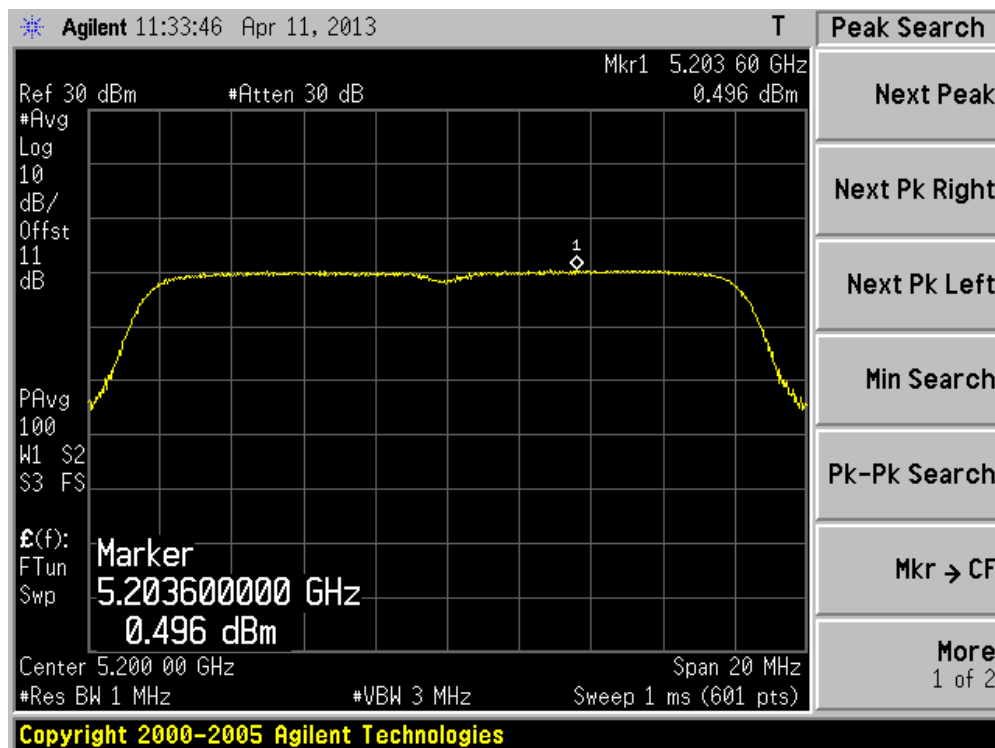
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 0)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 0	Chain 1			
36	5180	0.27	N/A	0.27	3	Pass
40	5200	0.50	N/A	0.50	3	Pass
48	5240	-0.19	N/A	-0.19	3	Pass
52	5260	0.81	N/A	0.81	10	Pass
60	5300	1.33	N/A	1.33	10	Pass
64	5320	1.55	N/A	1.55	10	Pass
100	5500	1.24	N/A	1.24	10	Pass
116	5580	2.24	N/A	2.24	10	Pass
140	5700	4.23	N/A	4.23	10	Pass

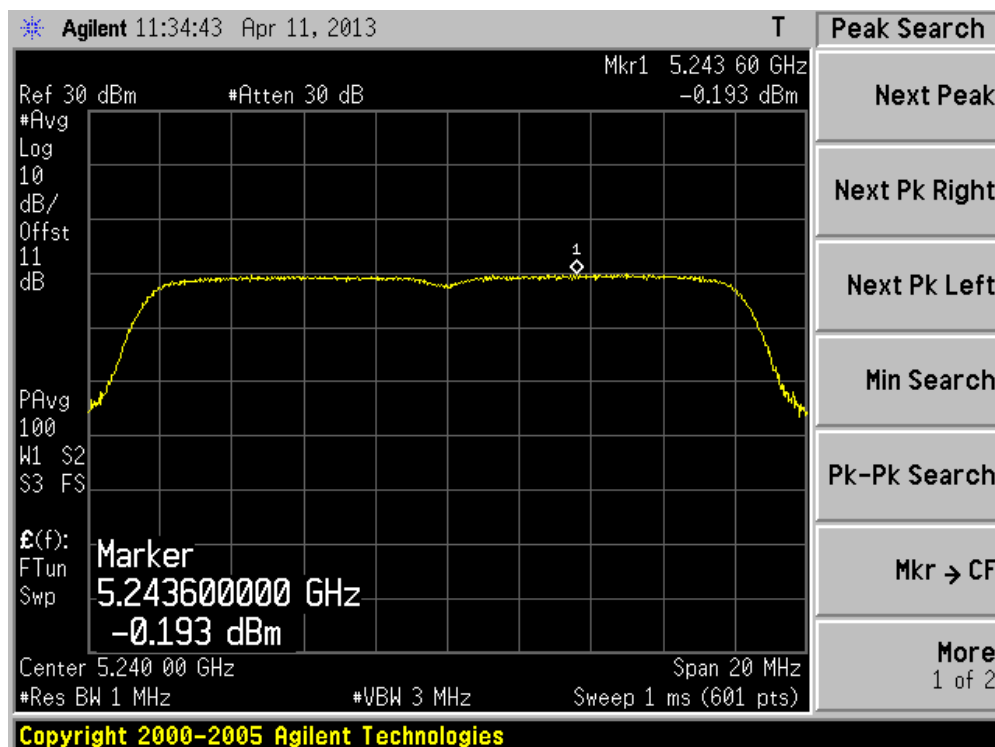
Channel 36 (5180MHz)



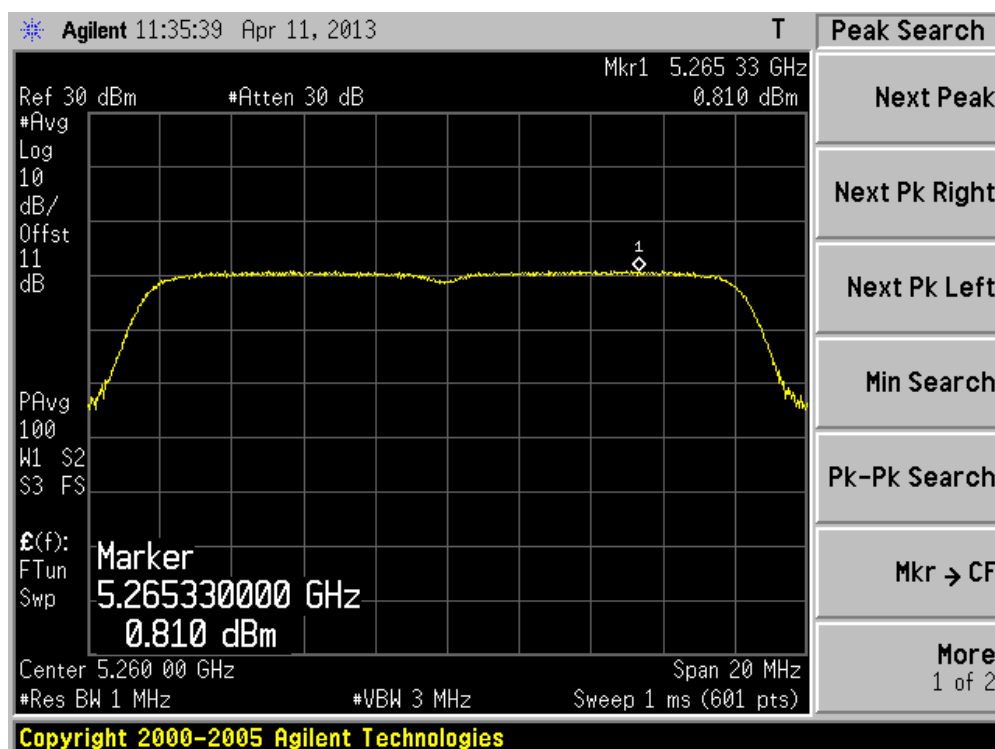
Channel 40 (5200MHz)



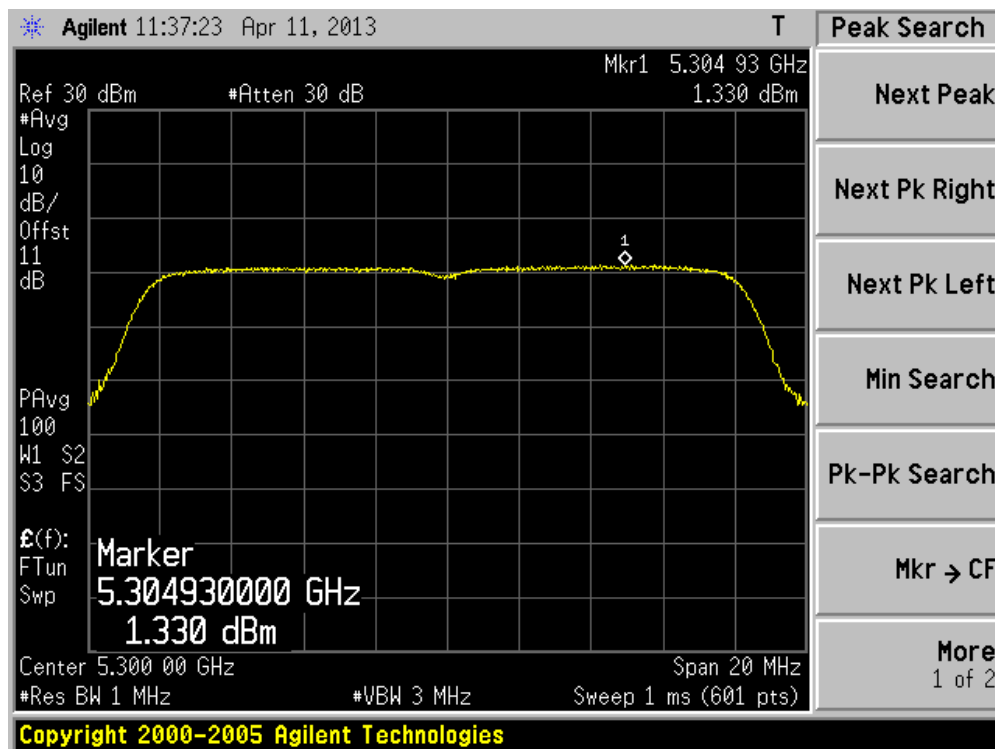
Channel 48 (5240MHz)



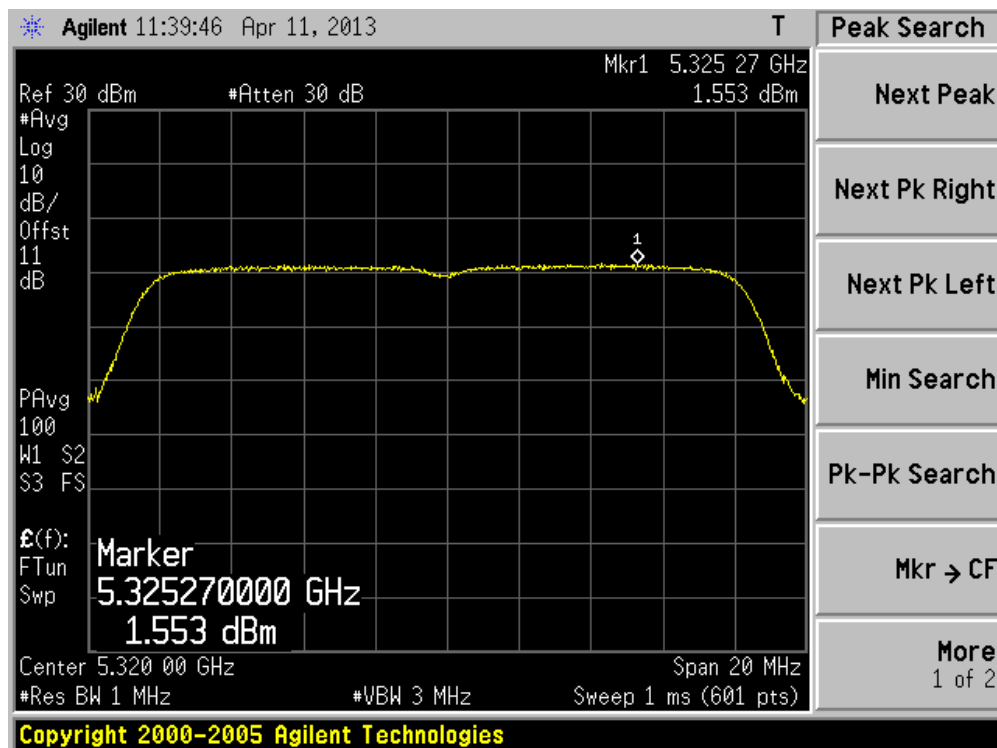
Channel 52 (5260MHz)



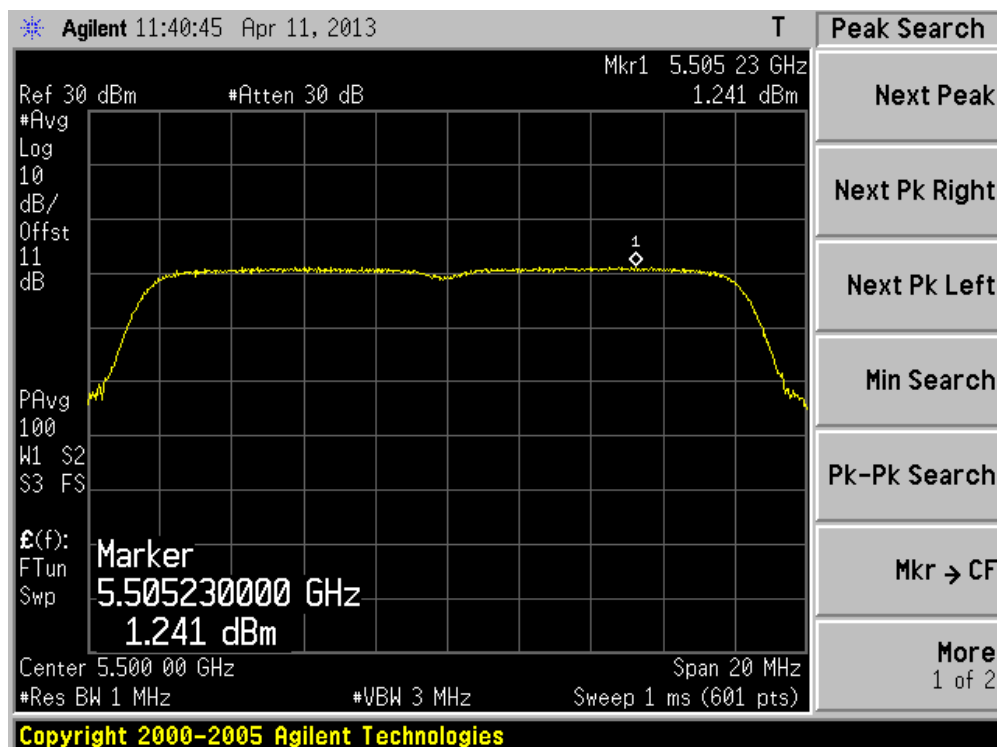
Channel 60 (5300MHz)



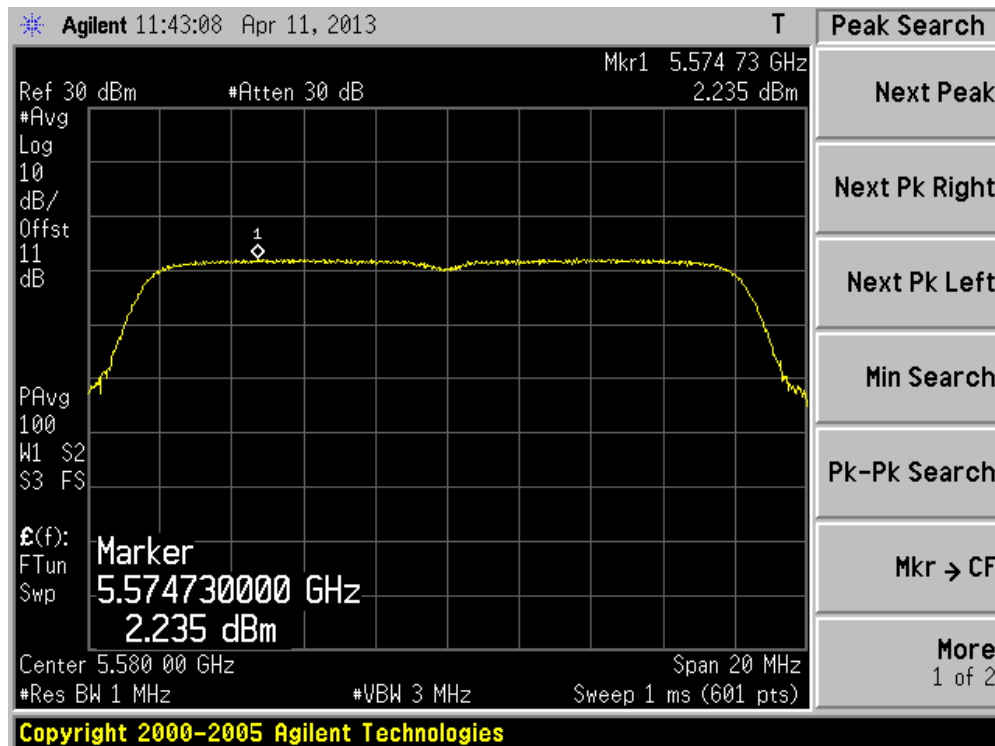
Channel 64 (5320MHz)



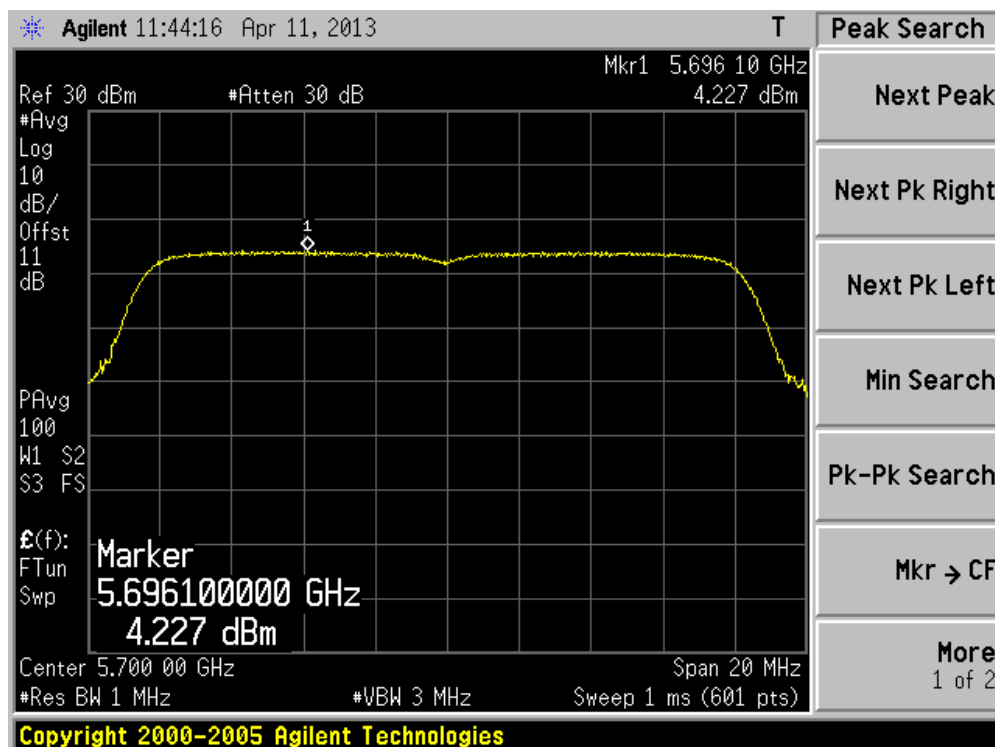
Channel 100 (5500MHz)



Channel 116 (5580MHz)



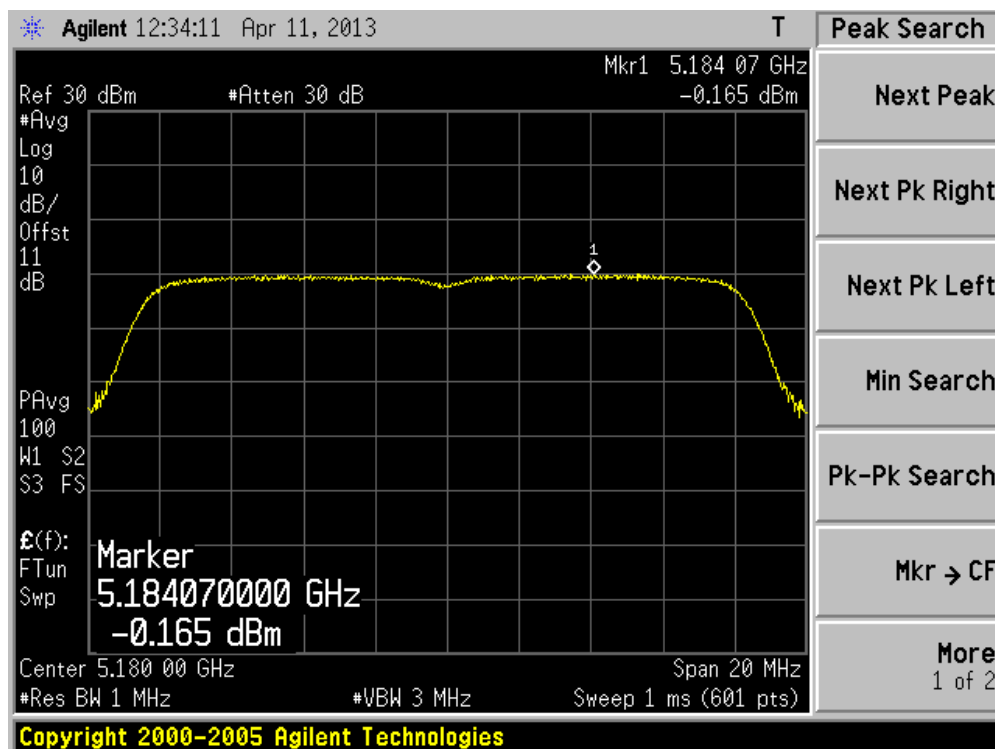
Channel 140 (5700MHz)



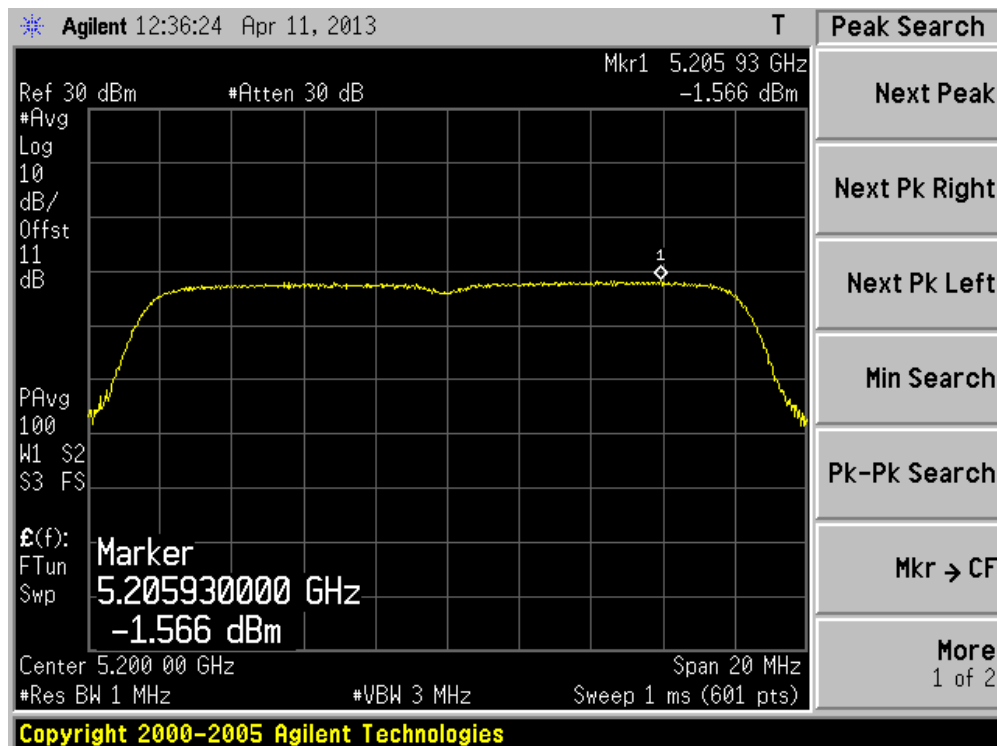
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 0	Chain 1			
36	5180	N/A	-0.17	-0.17	3	Pass
40	5200	N/A	-1.57	-1.57	3	Pass
48	5240	N/A	-1.45	-1.45	3	Pass
52	5260	N/A	3.80	3.80	10	Pass
60	5300	N/A	3.44	3.44	10	Pass
64	5320	N/A	3.34	3.34	10	Pass
100	5500	N/A	2.72	2.72	10	Pass
116	5580	N/A	3.47	3.47	10	Pass
140	5700	N/A	6.25	6.25	10	Pass

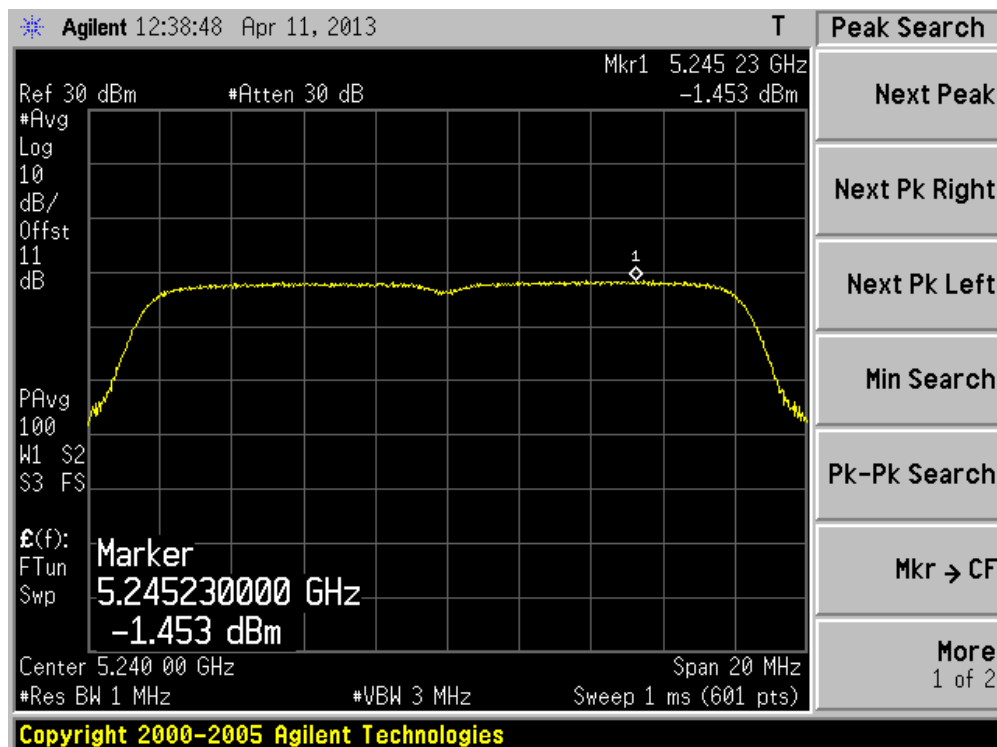
Channel 36 (5180MHz)



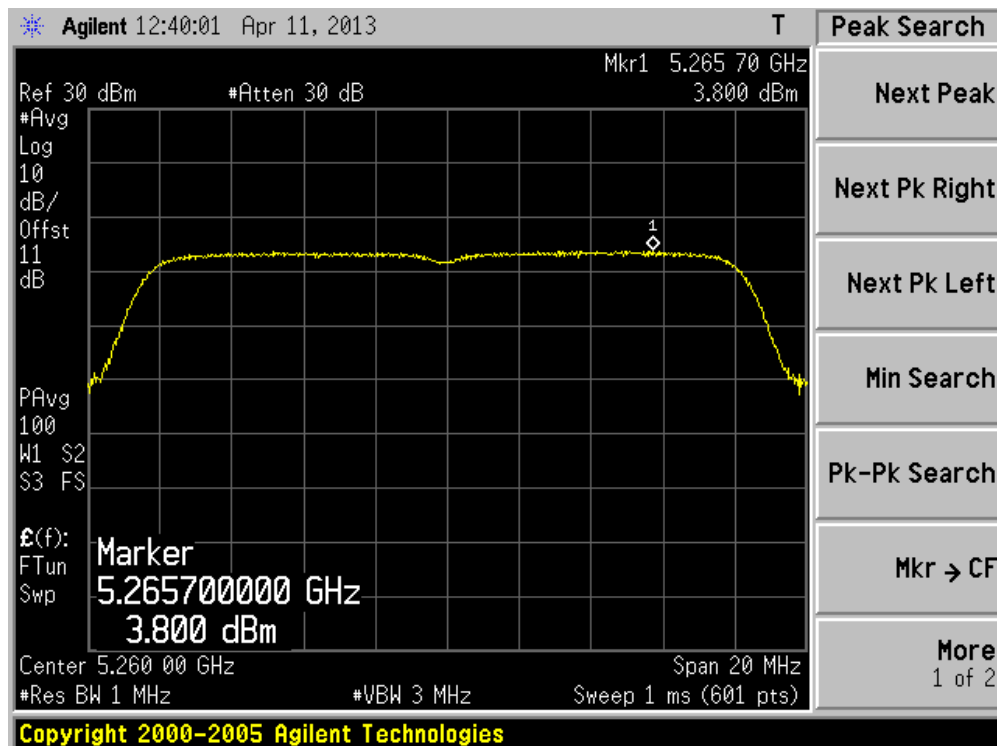
Channel 40 (5200MHz)



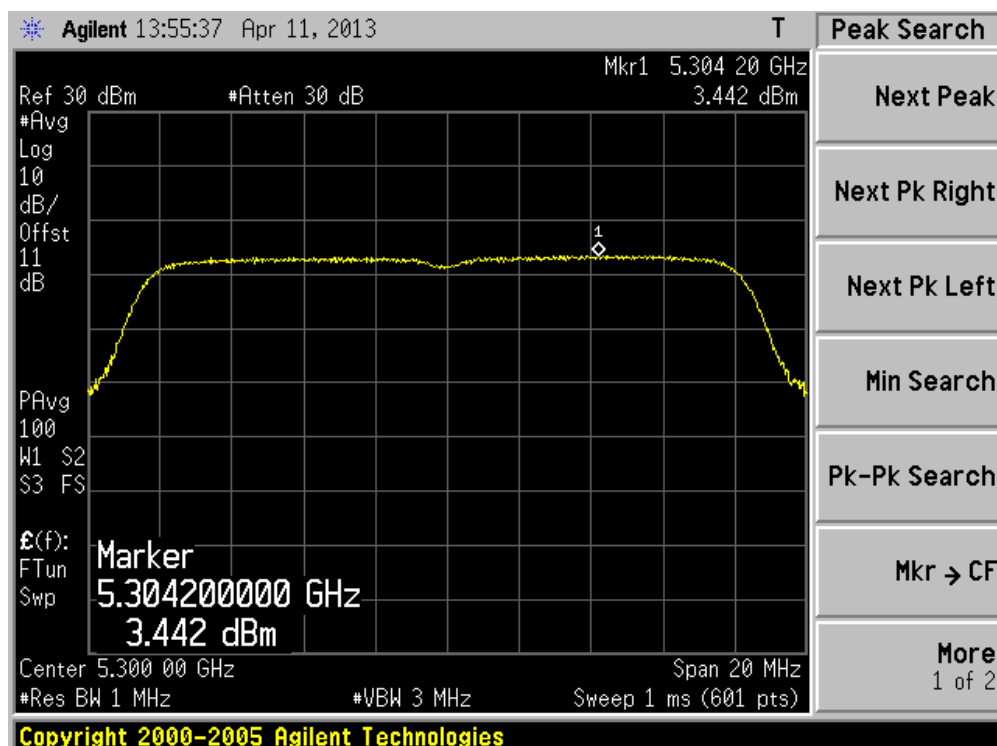
Channel 48 (5240MHz)



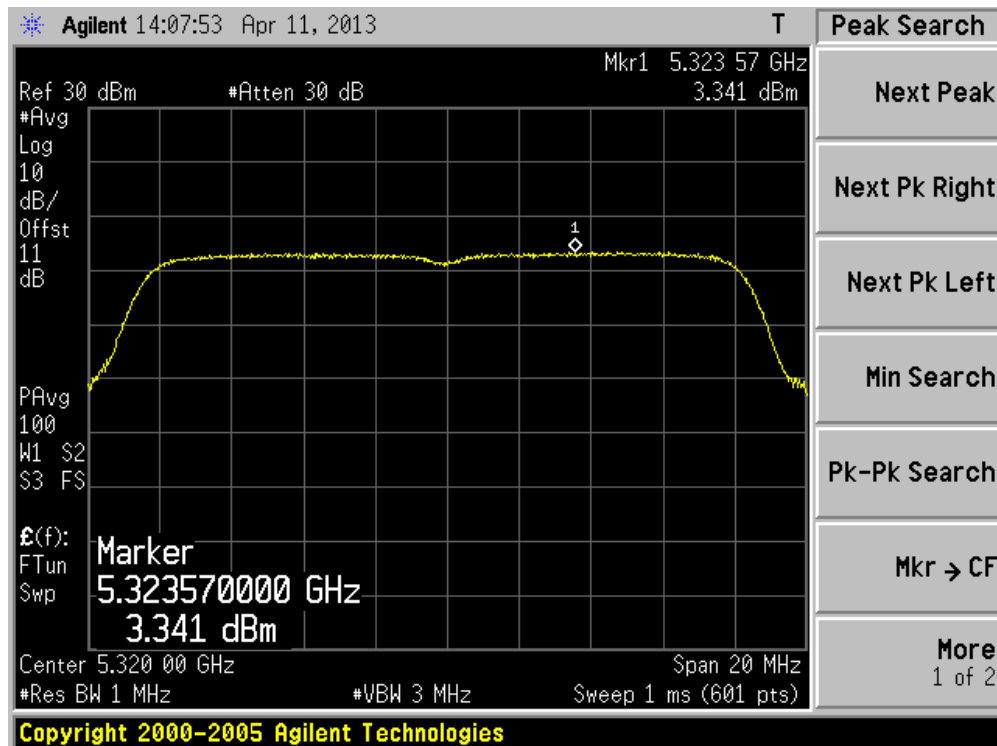
Channel 52 (5260MHz)



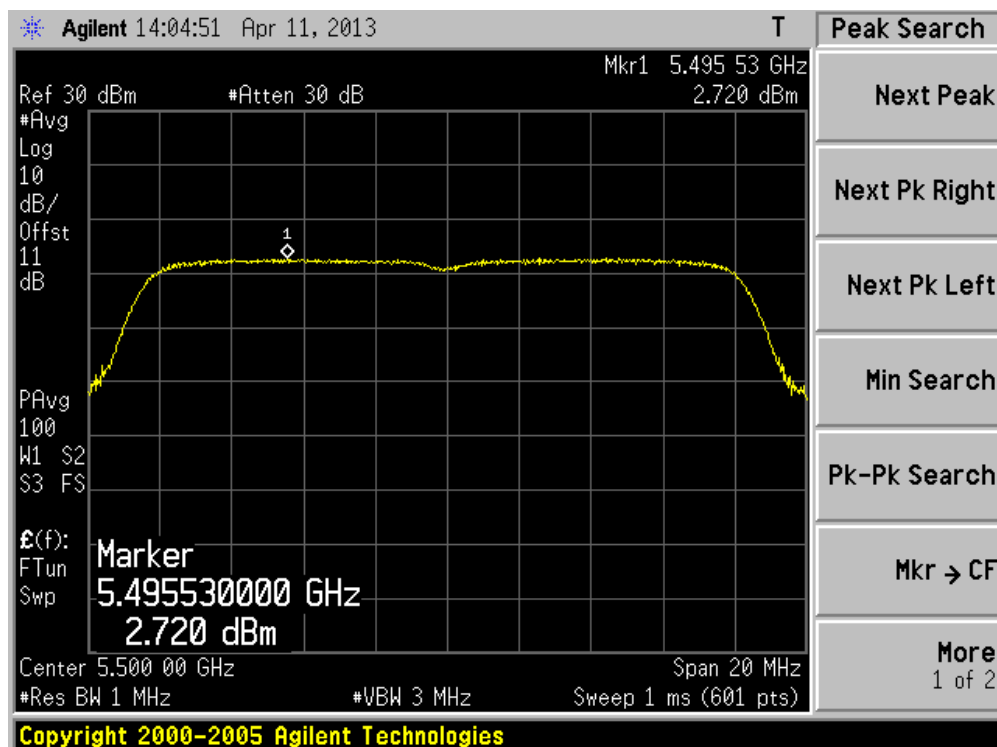
Channel 60 (5300MHz)



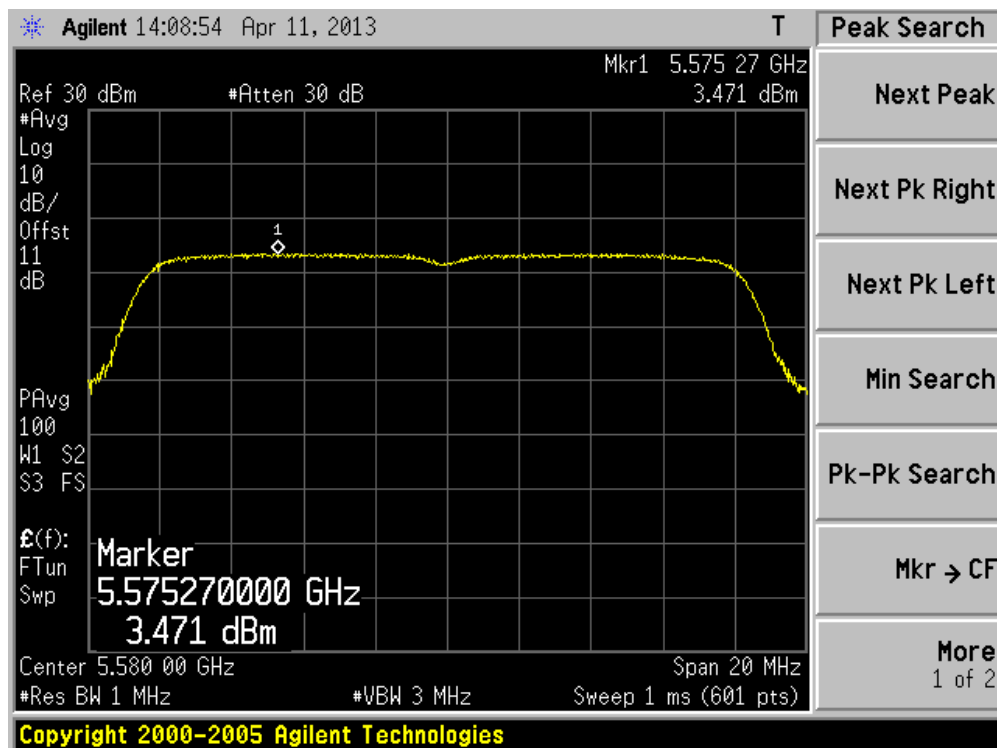
Channel 64 (5320MHz)



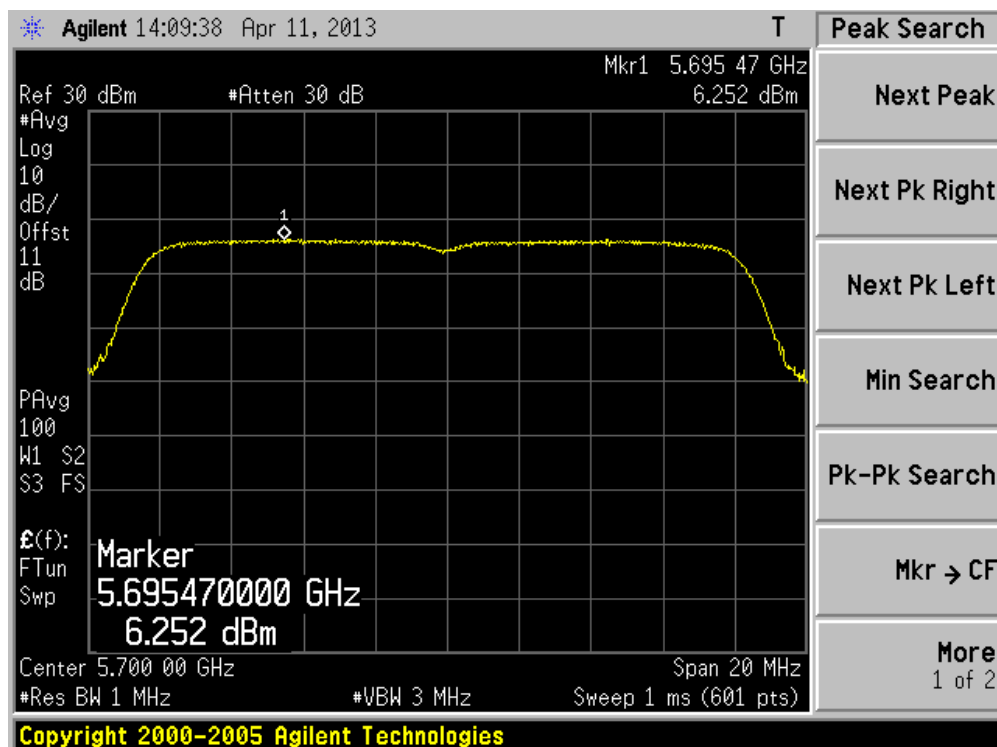
Channel 100 (5500MHz)



Channel 116 (5580MHz)



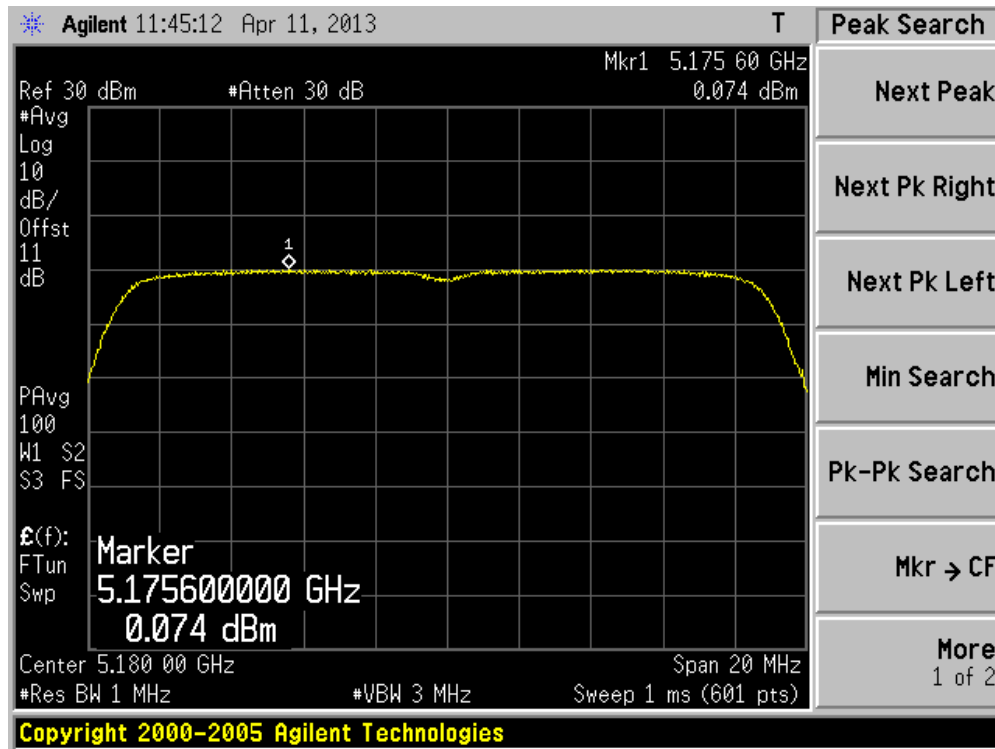
Channel 140 (5700MHz)



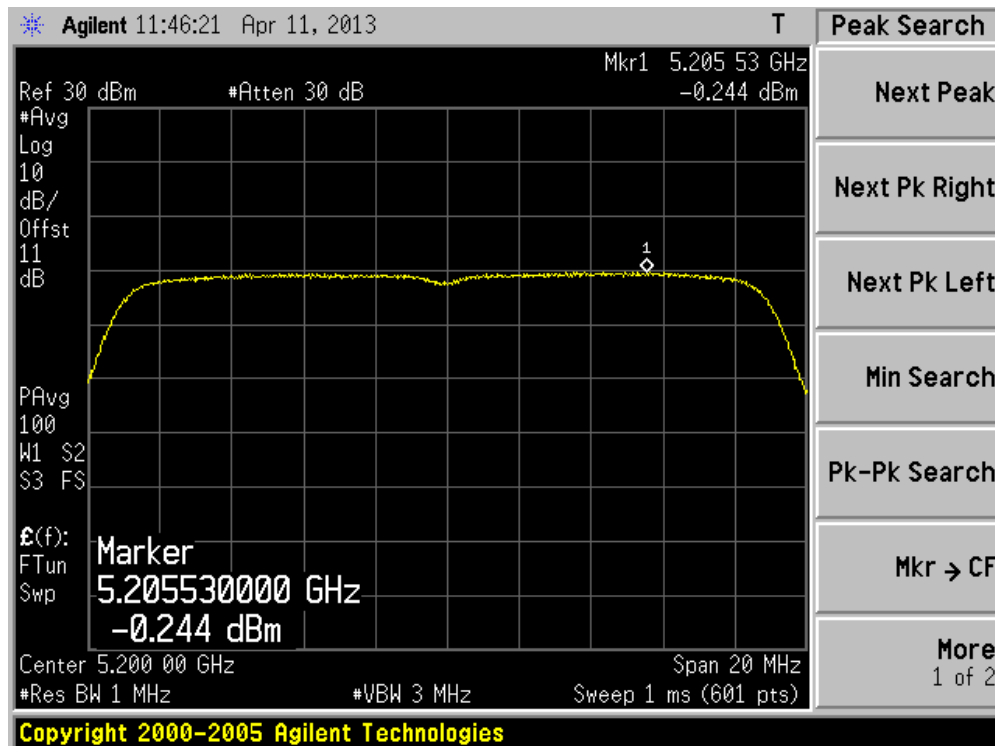
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz) (Chain 0)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 0	Chain 1			
36	5180	0.07	N/A	0.07	3	Pass
40	5200	-0.24	N/A	-0.24	3	Pass
48	5240	-0.19	N/A	-0.19	3	Pass
52	5260	-0.34	N/A	-0.34	10	Pass
60	5300	1.43	N/A	1.43	10	Pass
64	5320	1.30	N/A	1.30	10	Pass
100	5500	1.57	N/A	1.57	10	Pass
116	5580	2.60	N/A	2.60	10	Pass
140	5700	4.94	N/A	4.94	10	Pass

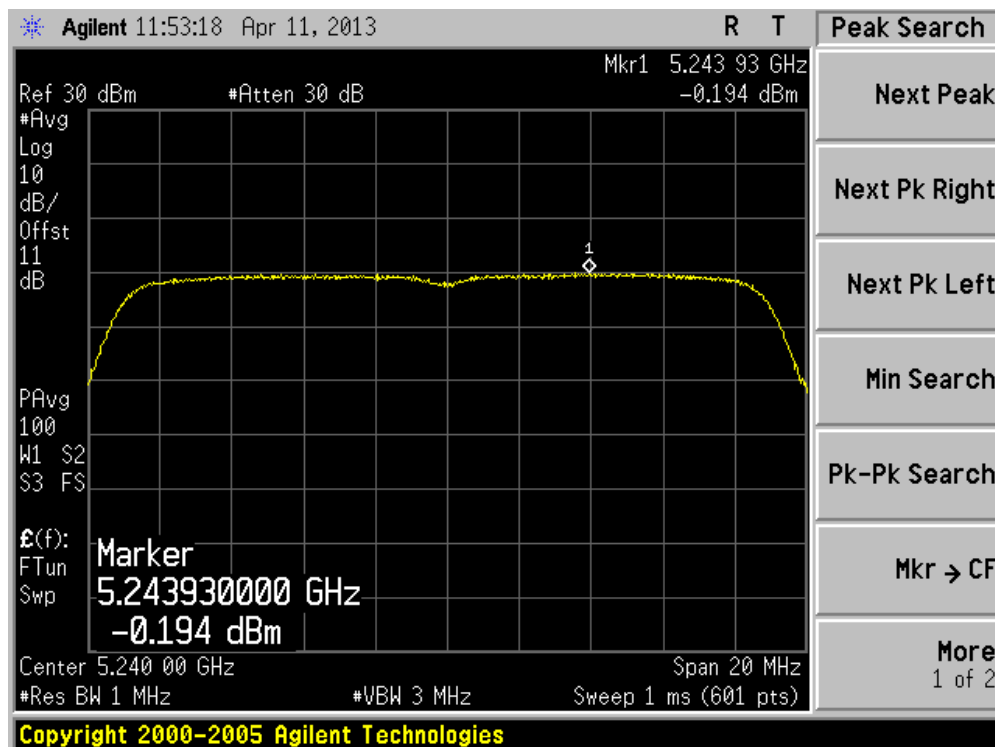
Channel 36 (5180MHz)



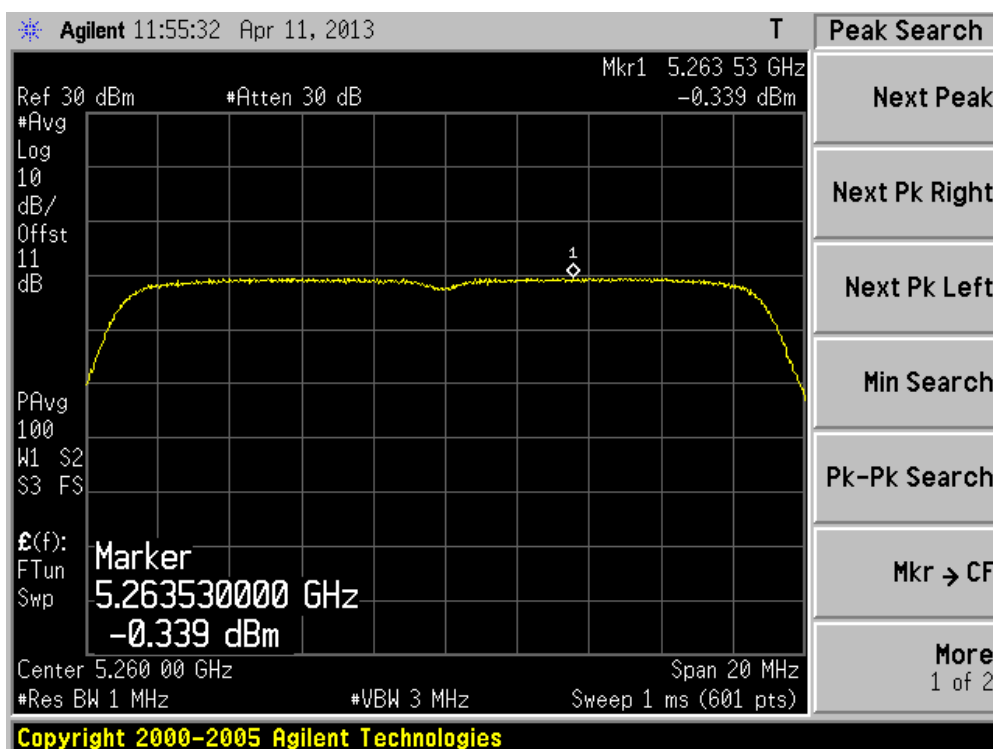
Channel 40 (5200MHz)



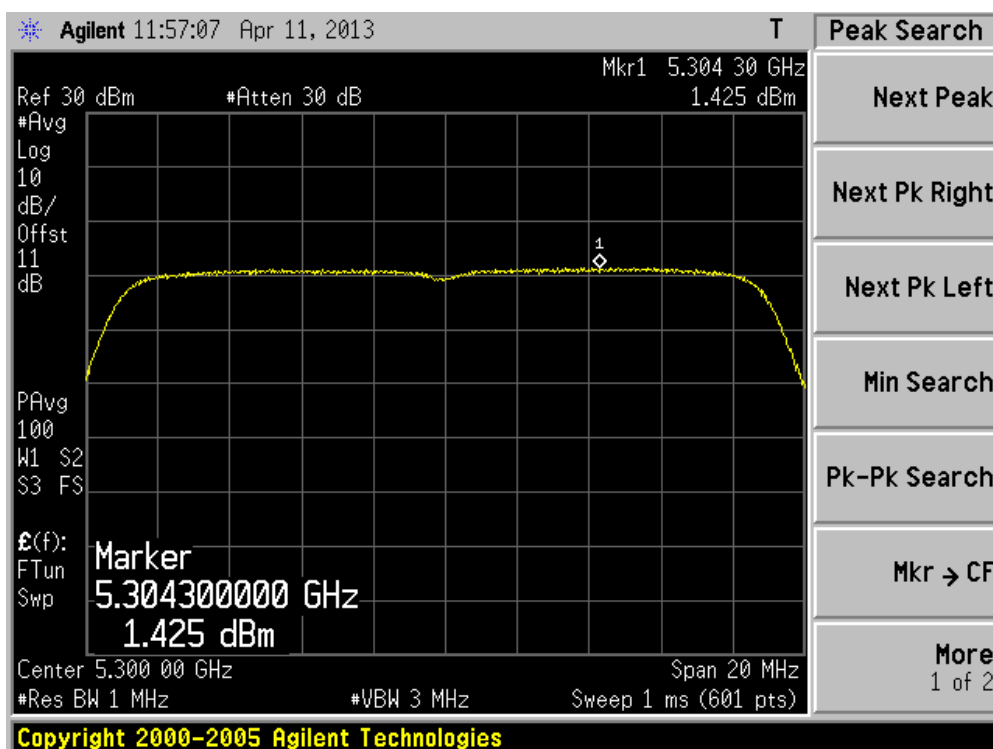
Channel 48 (5240MHz)



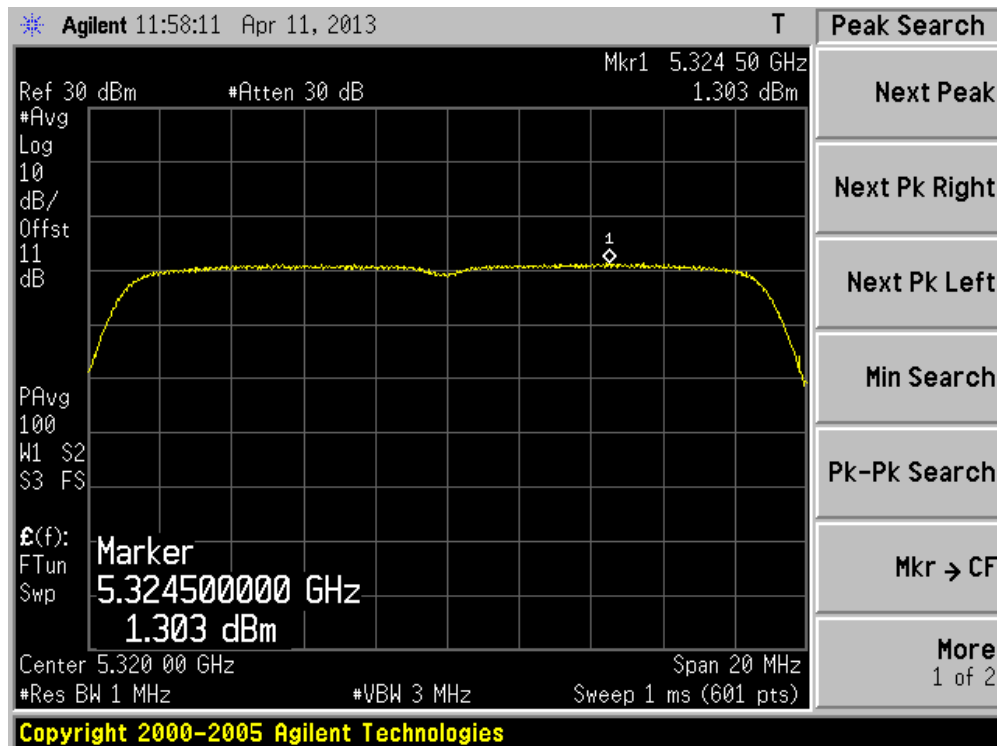
Channel 52 (5260MHz)



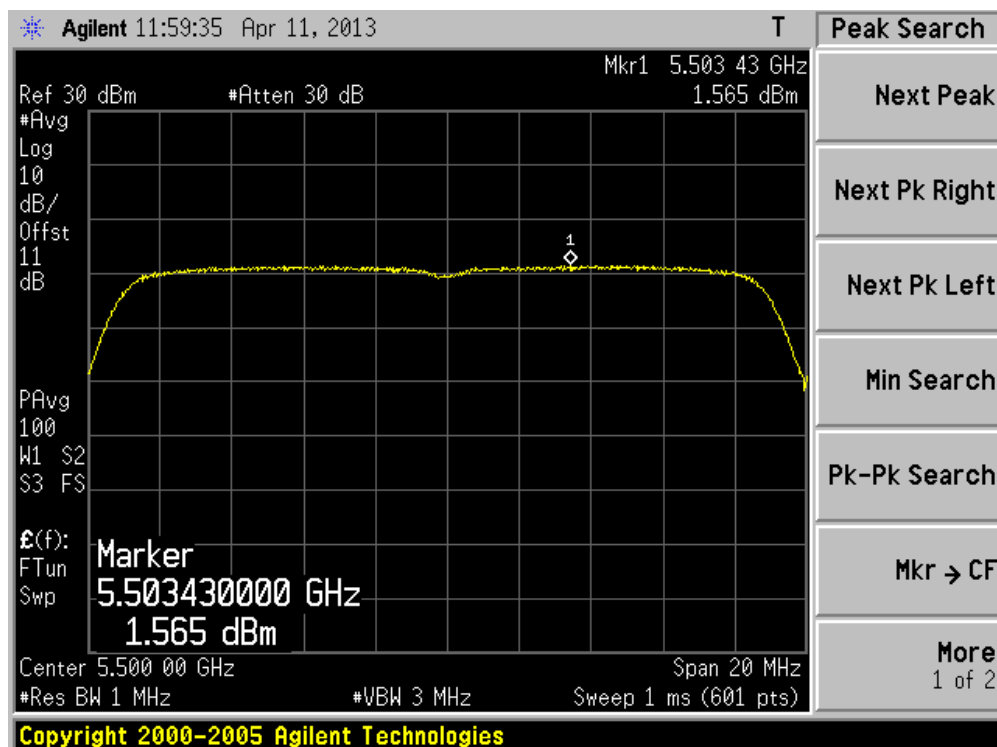
Channel 60 (5300MHz)



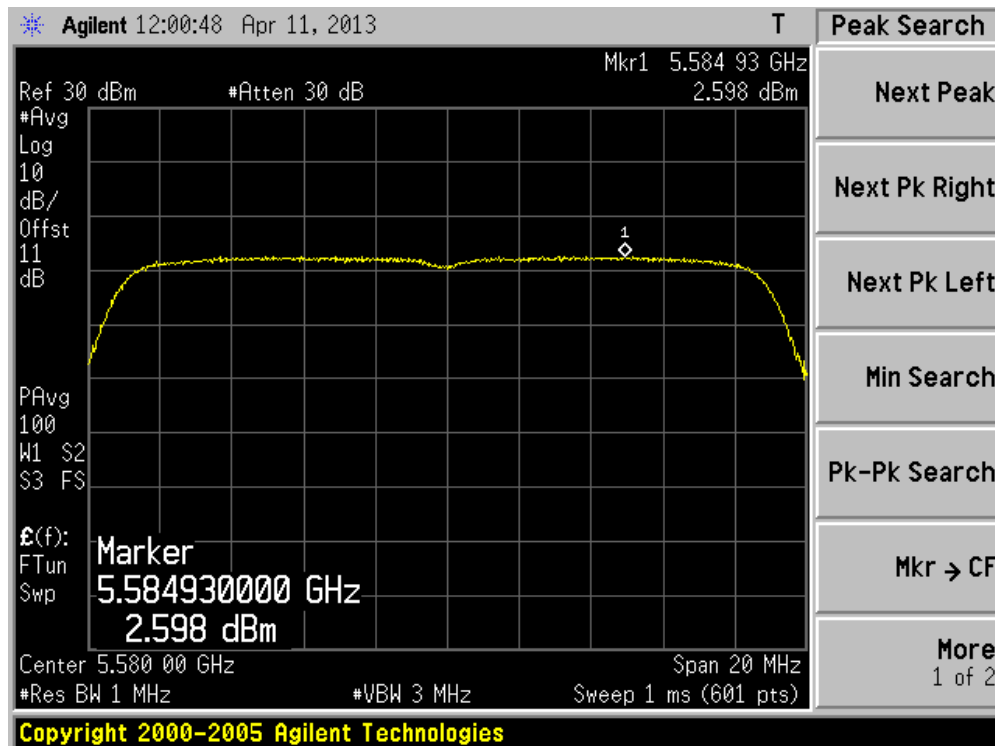
Channel 64 (5320MHz)



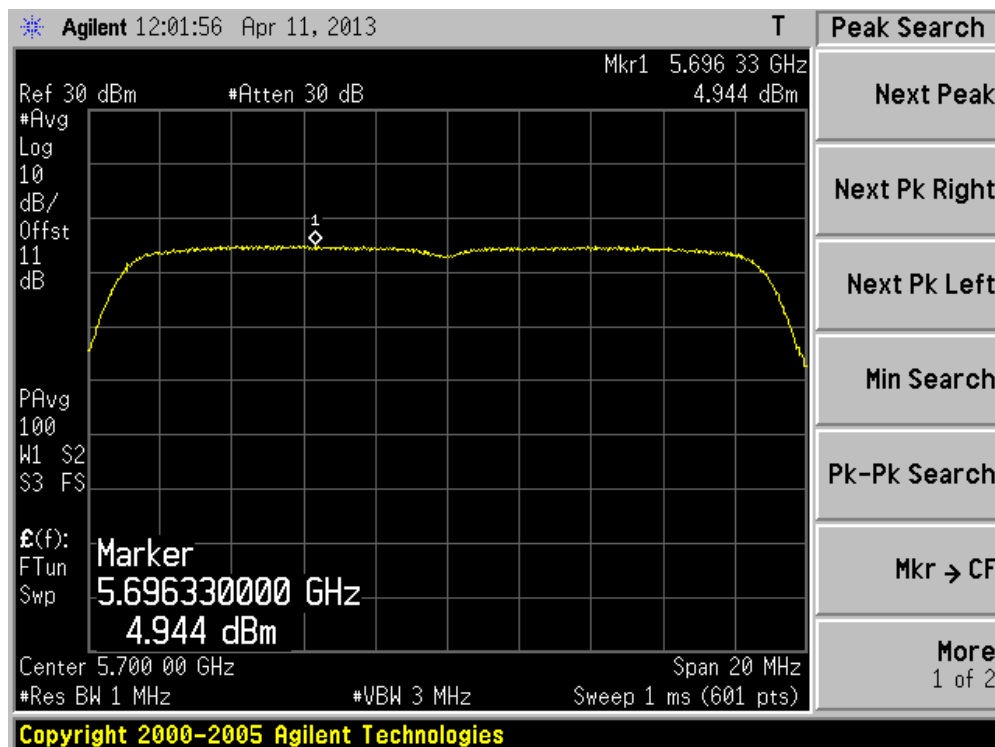
Channel 100 (5500MHz)



Channel 116 (5580MHz)



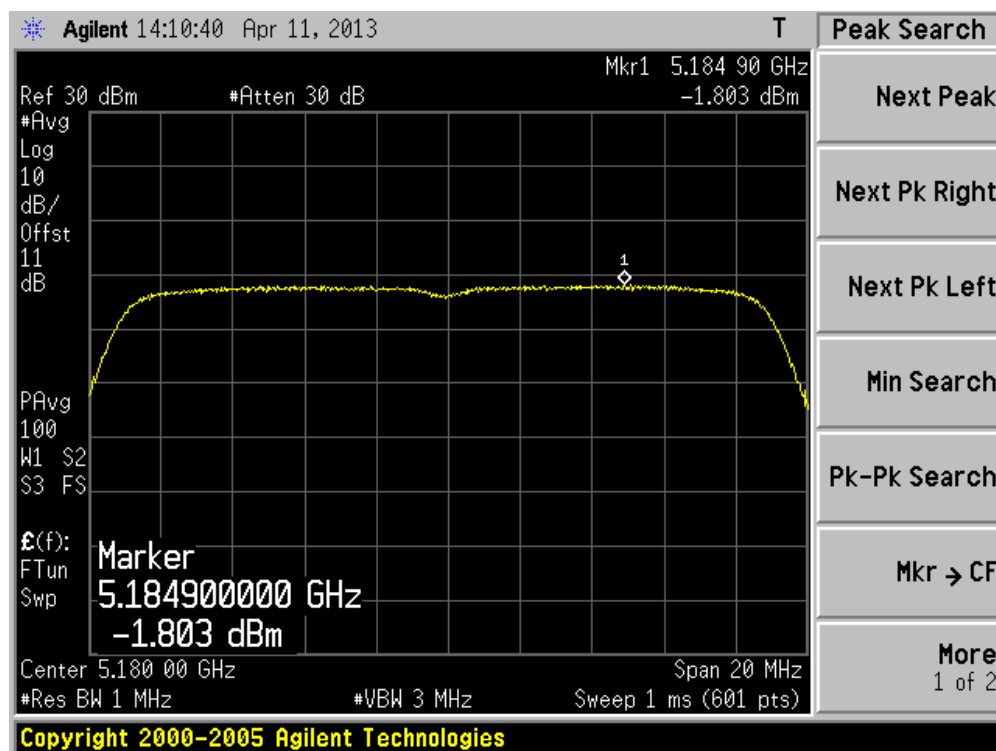
Channel 140 (5700MHz)



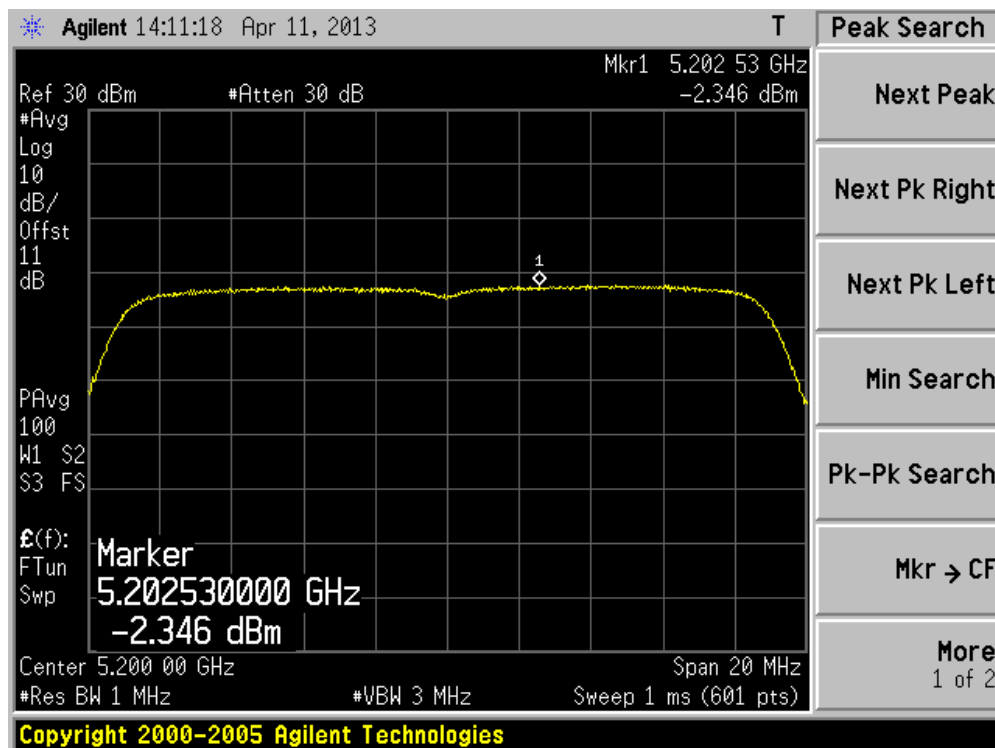
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz) (Chain 1)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 0	Chain 1			
36	5180	N/A	-1.80	-1.80	3	Pass
40	5200	N/A	-2.35	-2.35	3	Pass
48	5240	N/A	-1.85	-1.85	3	Pass
52	5260	N/A	3.31	3.31	10	Pass
60	5300	N/A	3.52	3.52	10	Pass
64	5320	N/A	3.44	3.44	10	Pass
100	5500	N/A	4.83	4.83	10	Pass
116	5580	N/A	5.37	5.37	10	Pass
140	5700	N/A	7.82	7.82	10	Pass

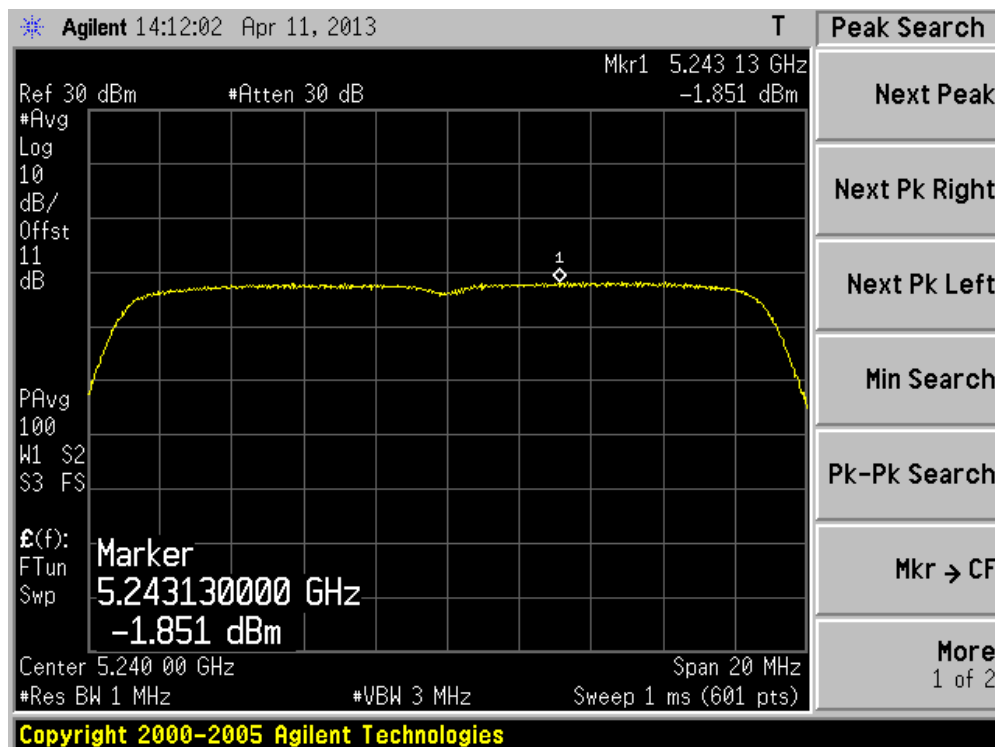
Channel 36 (5180MHz)



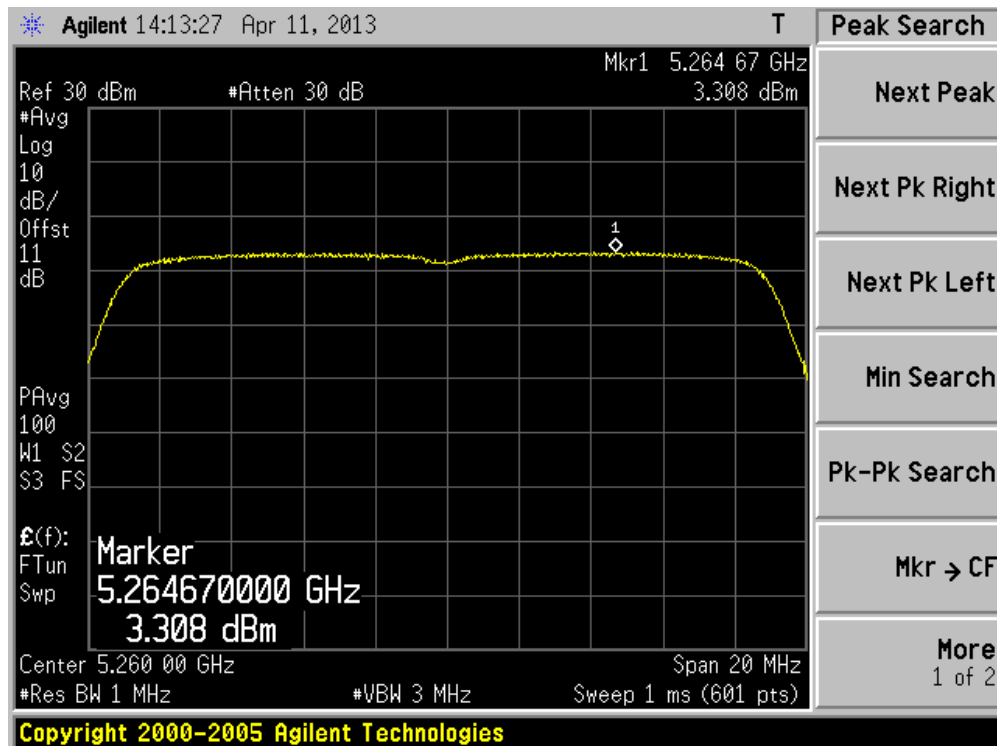
Channel 40 (5200MHz)



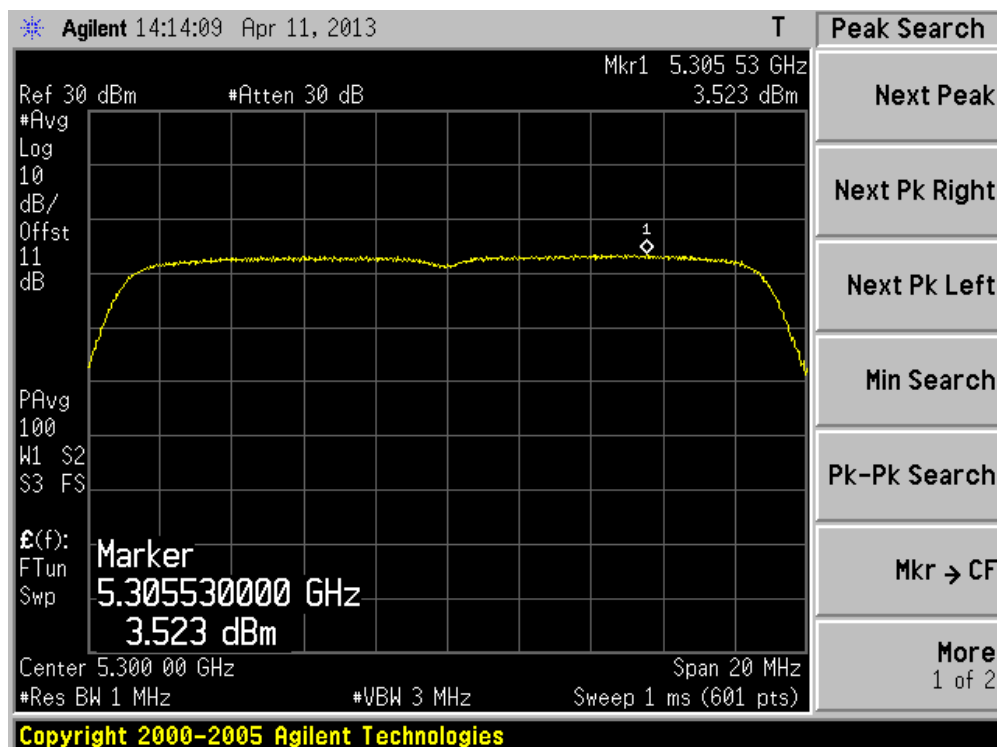
Channel 48 (5240MHz)



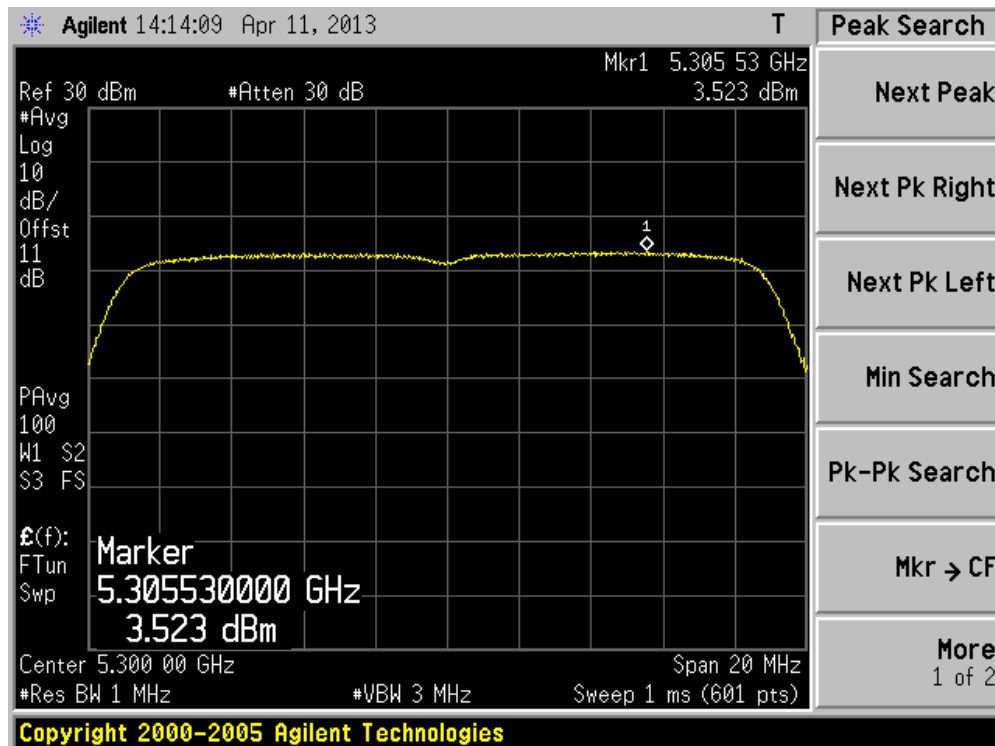
Channel 52 (5260MHz)



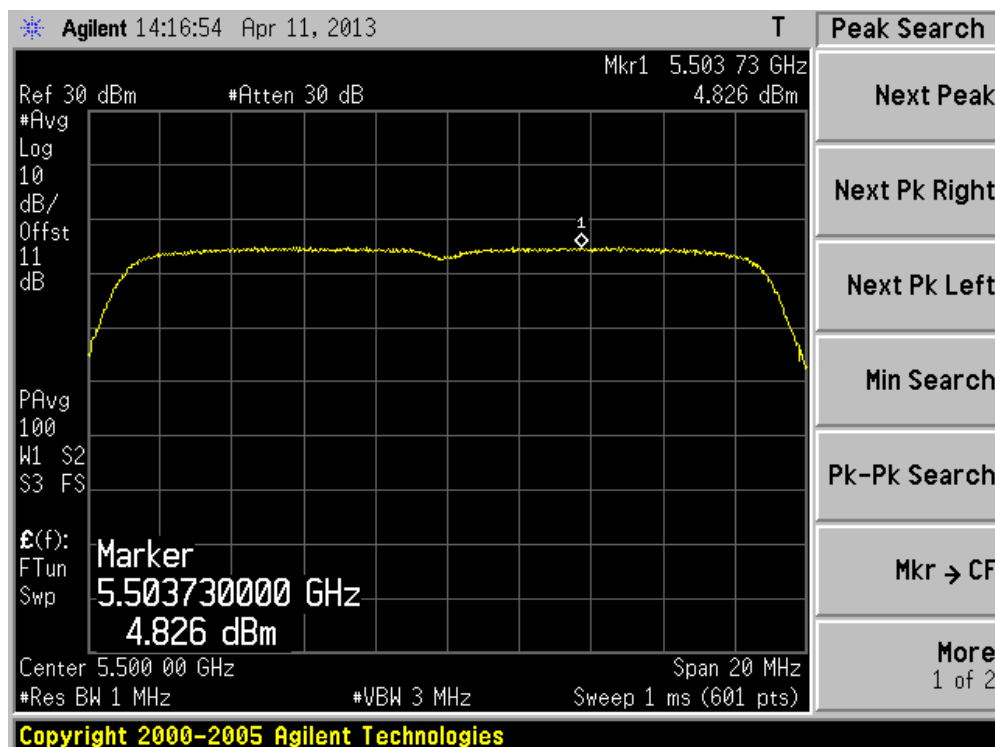
Channel 60 (5300MHz)



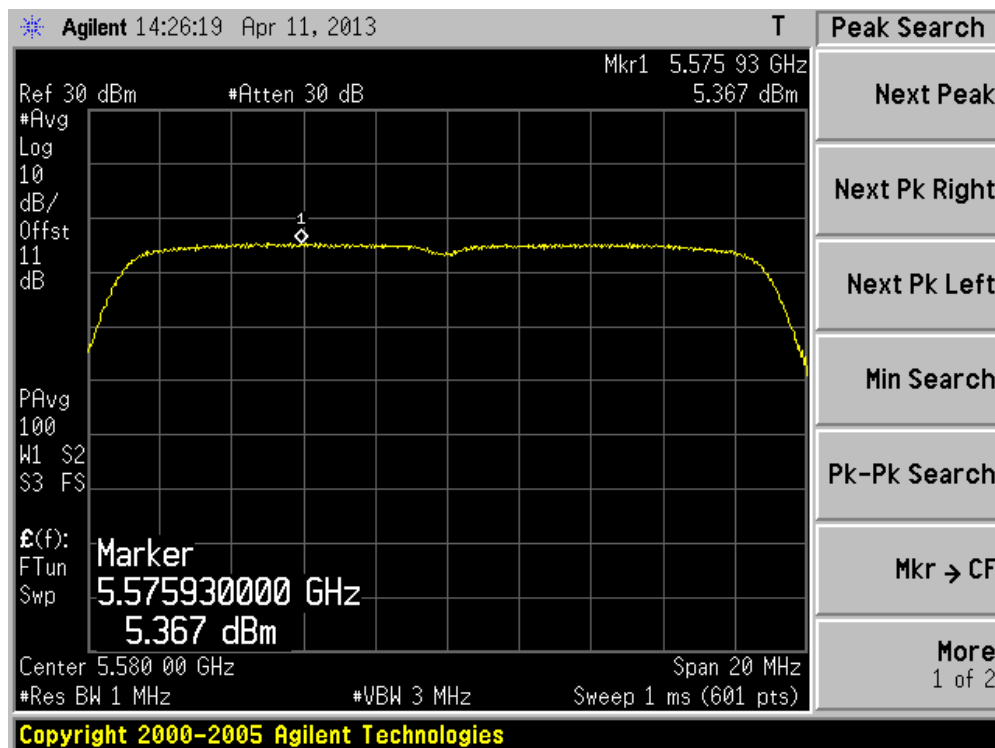
Channel 64 (5320MHz)



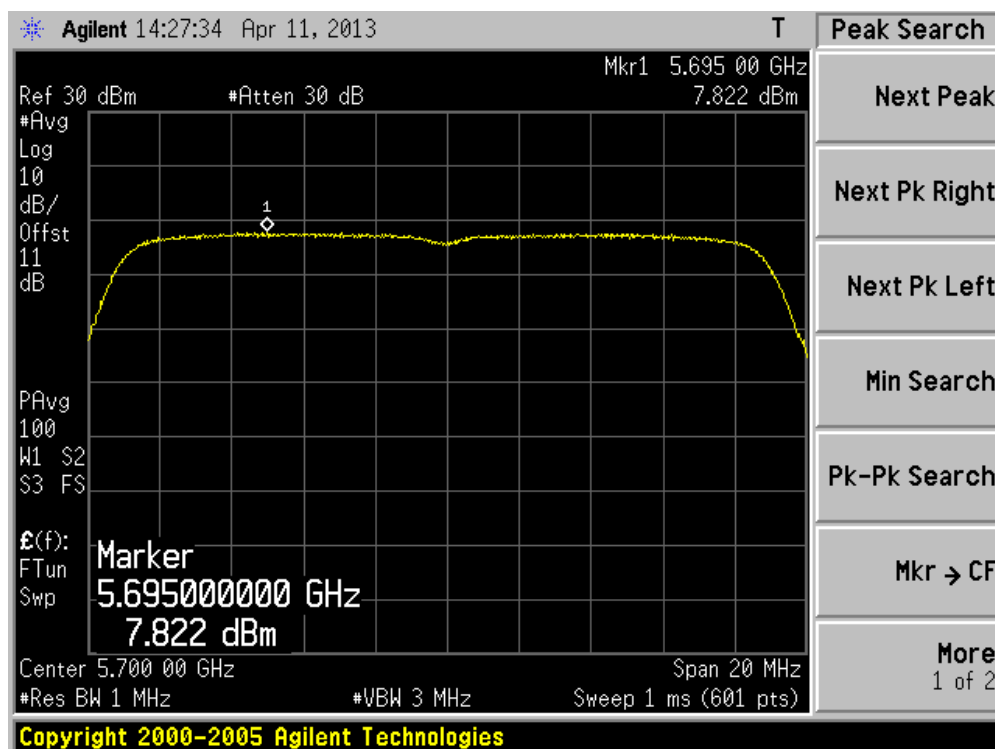
Channel 100 (5500MHz)



Channel 116 (5580MHz)



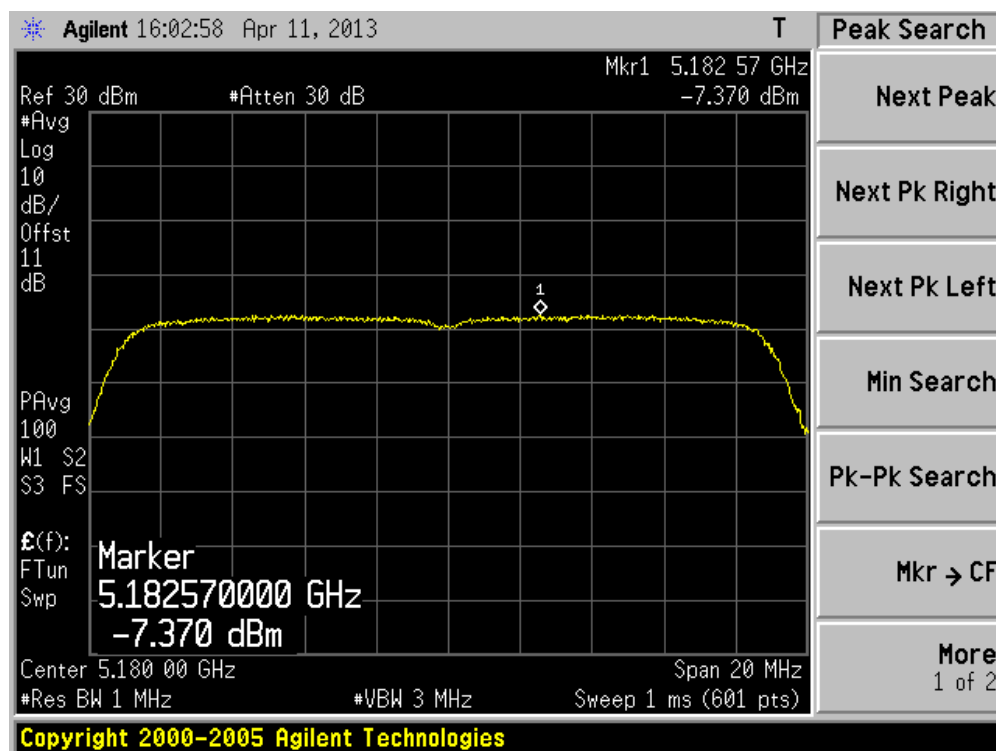
Channel 140 (5700MHz)



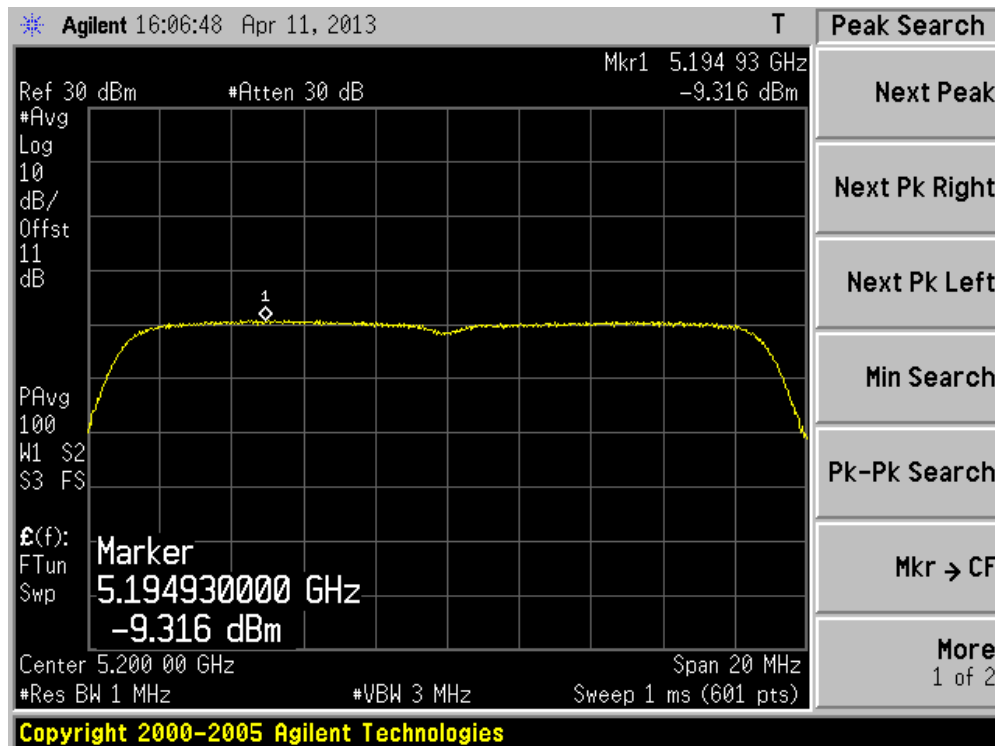
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz) (Chain 0+1)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 0	Chain 1			
36	5180	-7.37	-8.00	-4.66	3	Pass
40	5200	-9.32	-7.57	-5.35	3	Pass
48	5240	-9.57	-7.72	-5.54	3	Pass
52	5260	-2.98	1.43	2.77	10	Pass
60	5300	-.219	-0.23	2.79	10	Pass
64	5320	-3.78	-1.48	0.53	10	Pass
100	5500	-3.50	-1.84	0.42	10	Pass
116	5580	-3.34	-0.98	1.01	10	Pass
140	5700	-0.65	-0.84	2.27	10	Pass

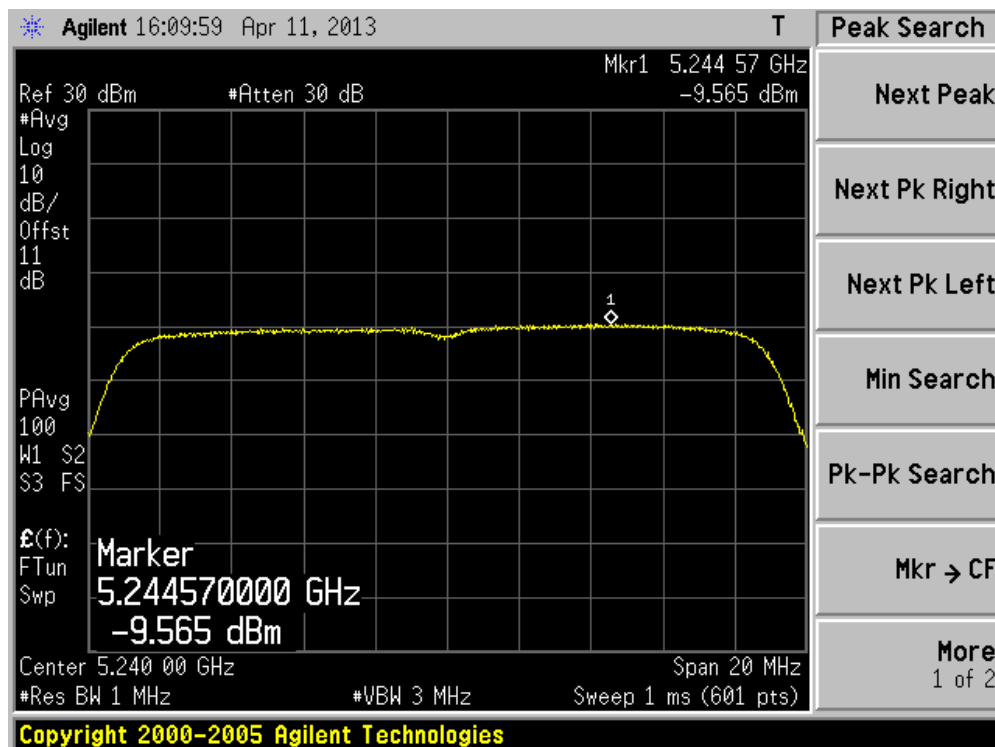
Channel 36 (5180MHz) - Chain 0



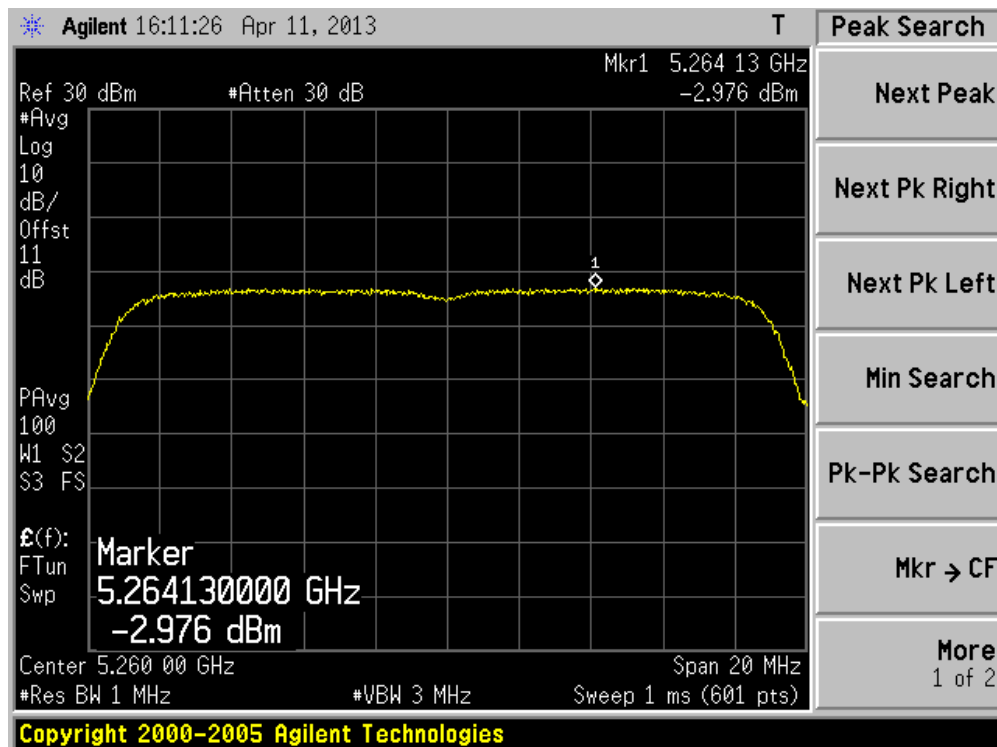
Channel 40 (5200MHz) - Chain 0



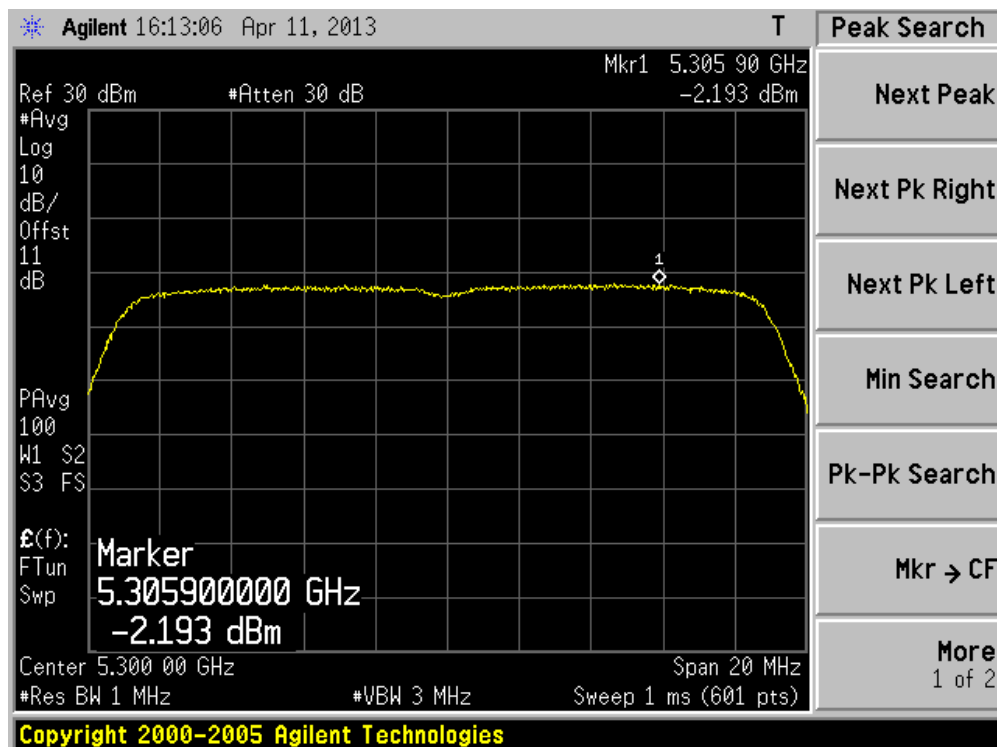
Channel 48 (5240MHz) - Chain 0



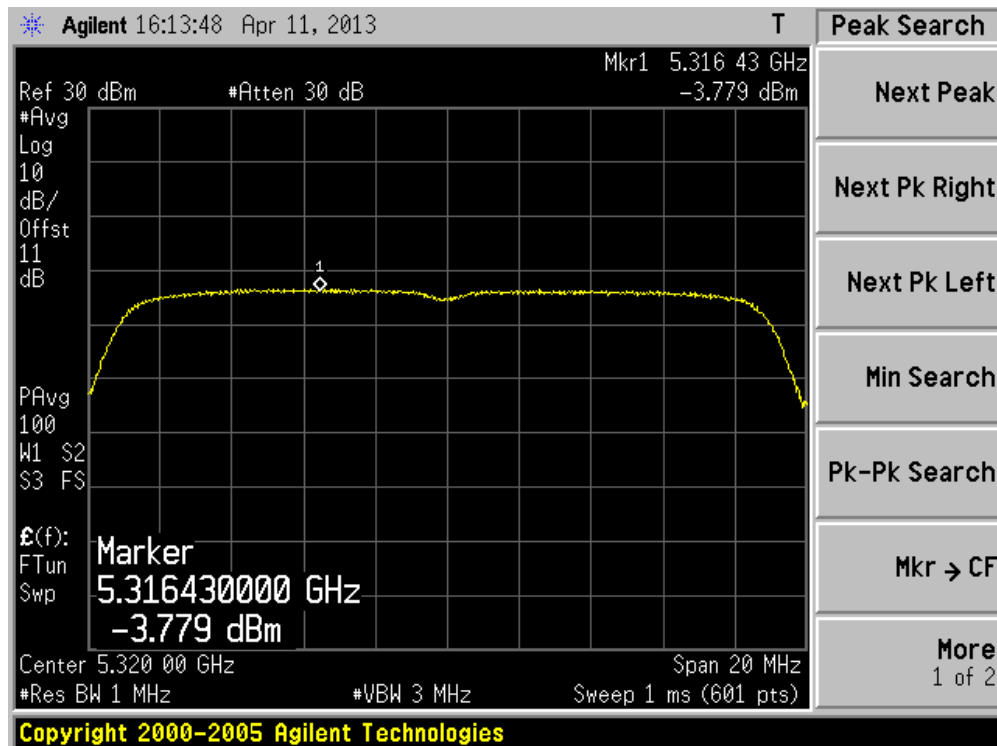
Channel 52 (5260MHz) - Chain 0



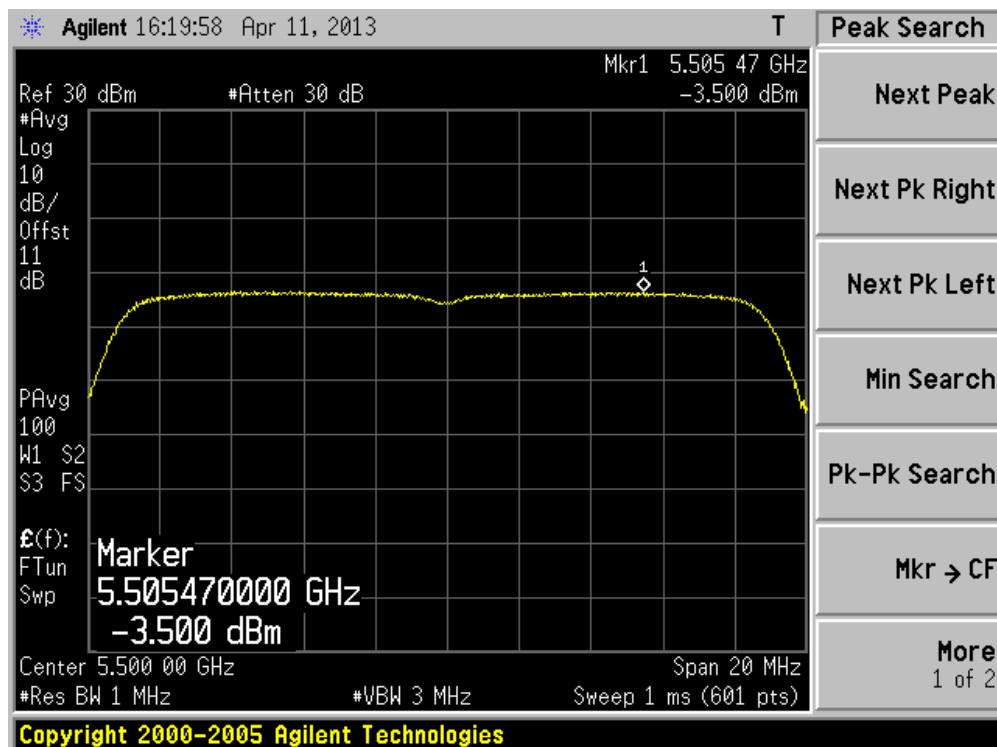
Channel 60 (5300MHz) - Chain 0



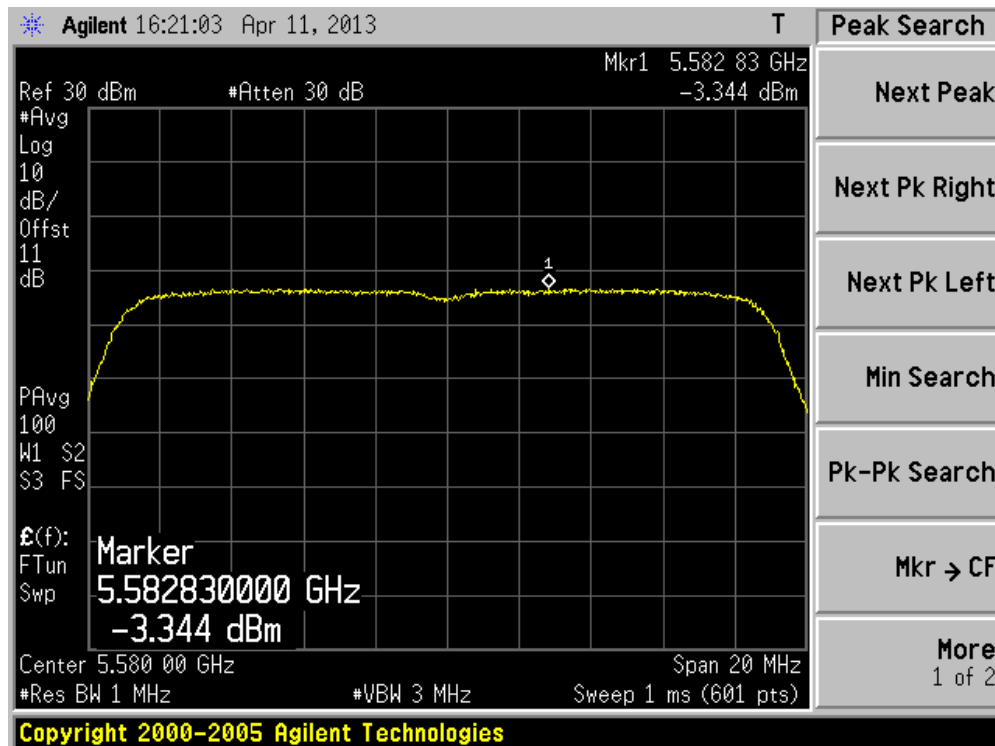
Channel 64 (5320MHz) - Chain 0



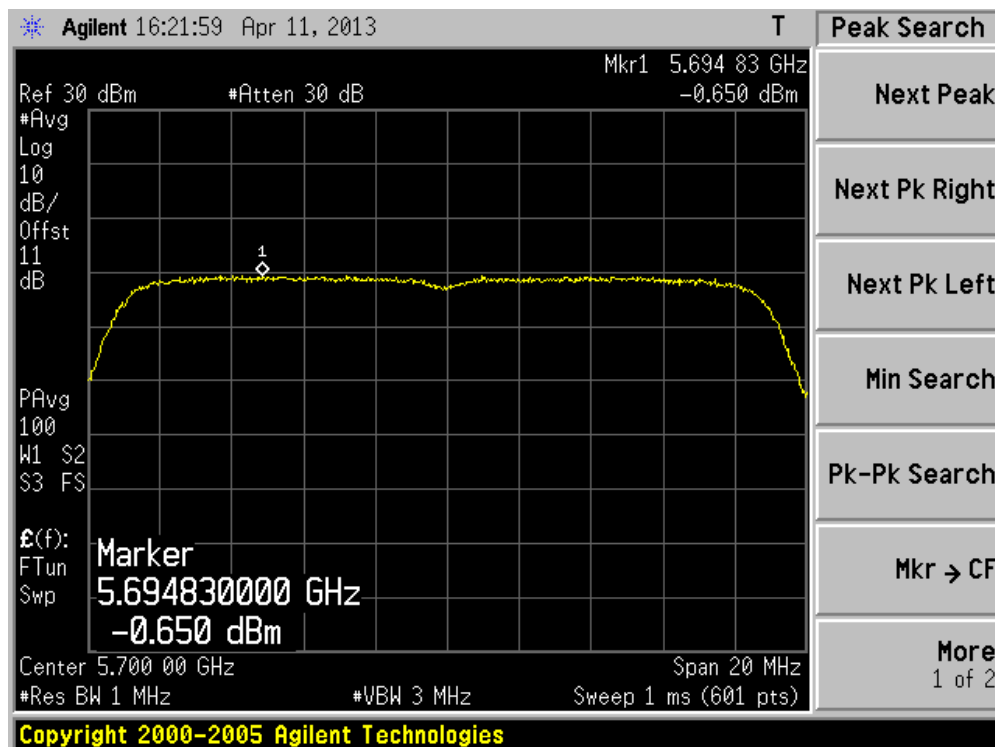
Channel 100 (5500MHz) - Chain 0



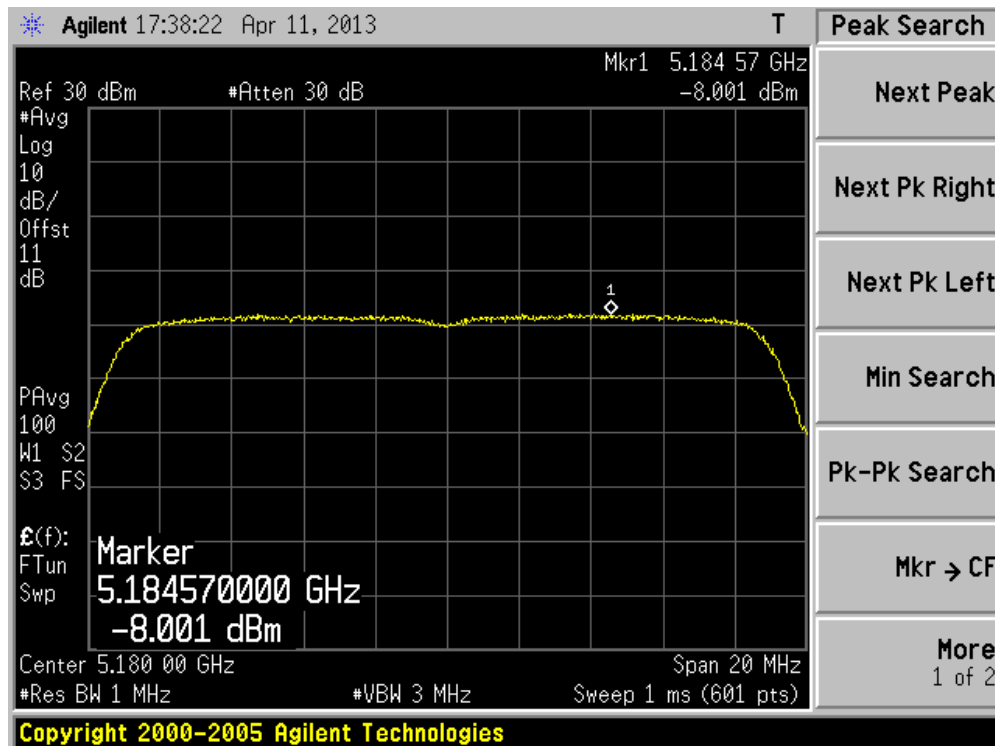
Channel 116 (5580MHz) - Chain 0



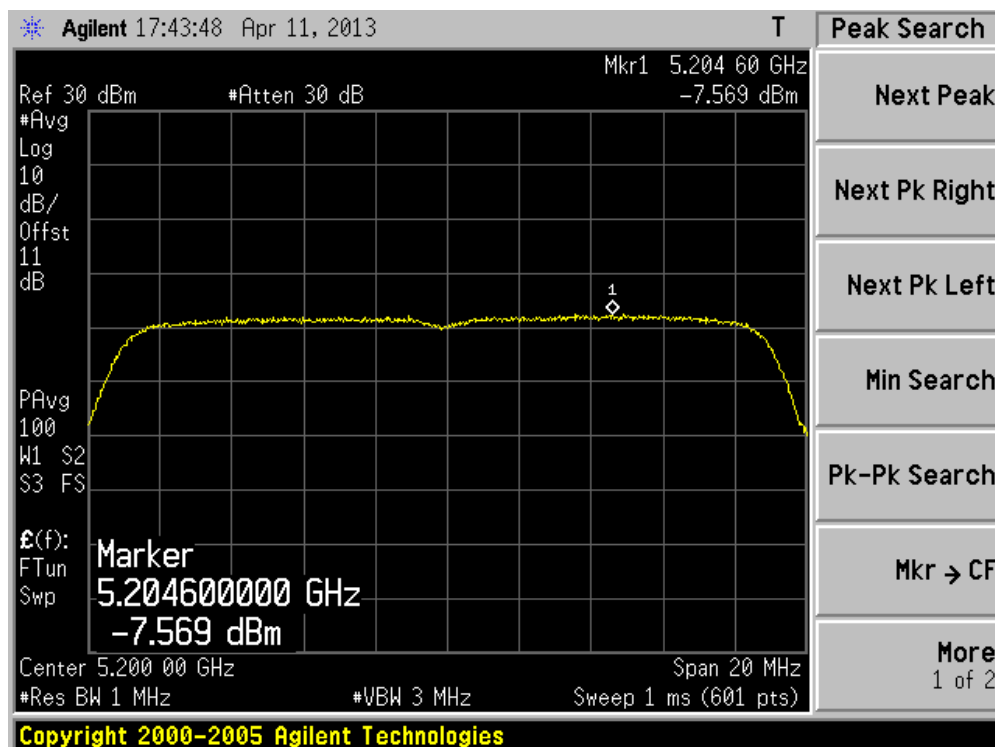
Channel 140 (5700MHz) - Chain 0



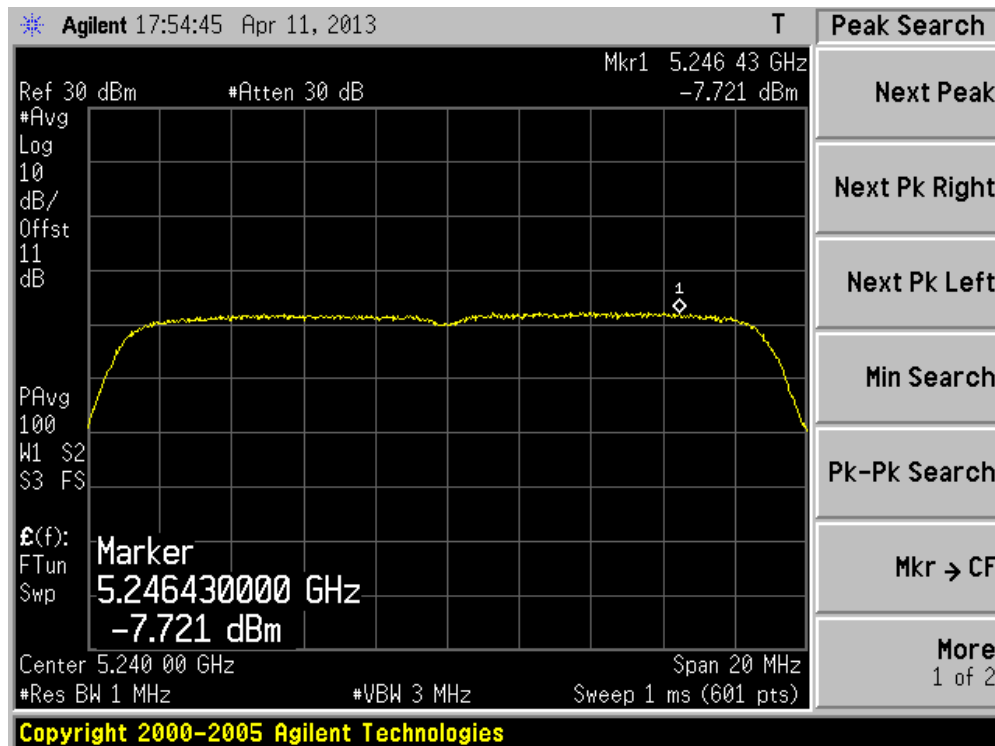
Channel 36 (5180MHz) - Chain 1



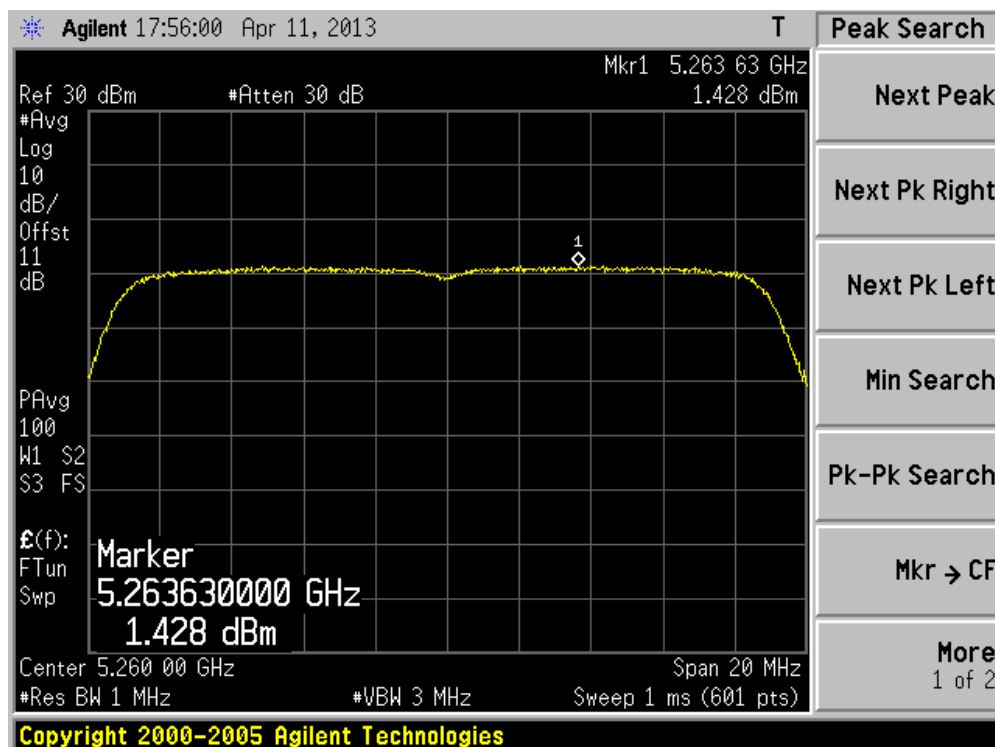
Channel 40 (5200MHz) - Chain 1



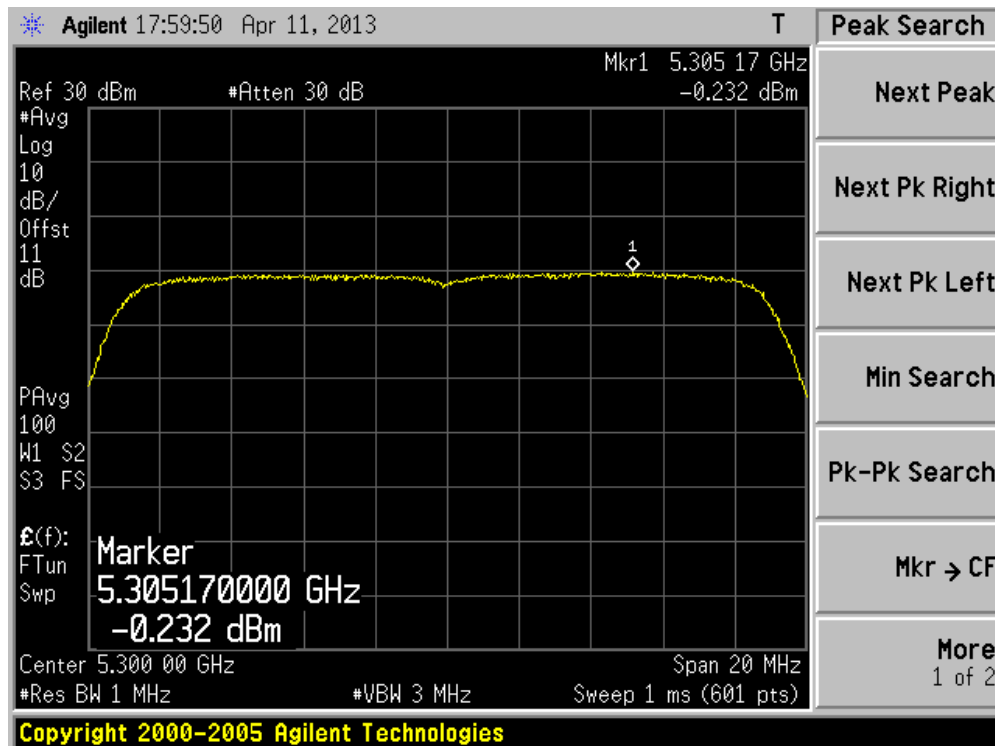
Channel 48 (5240MHz) - Chain1



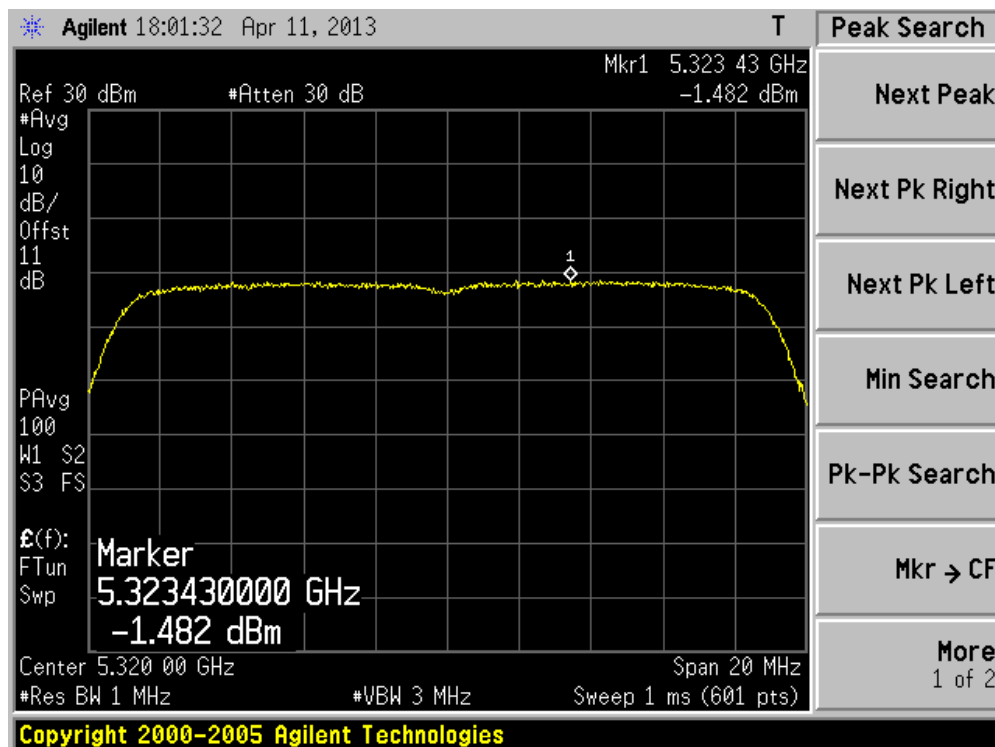
Channel 52 (5260MHz) - Chain 1



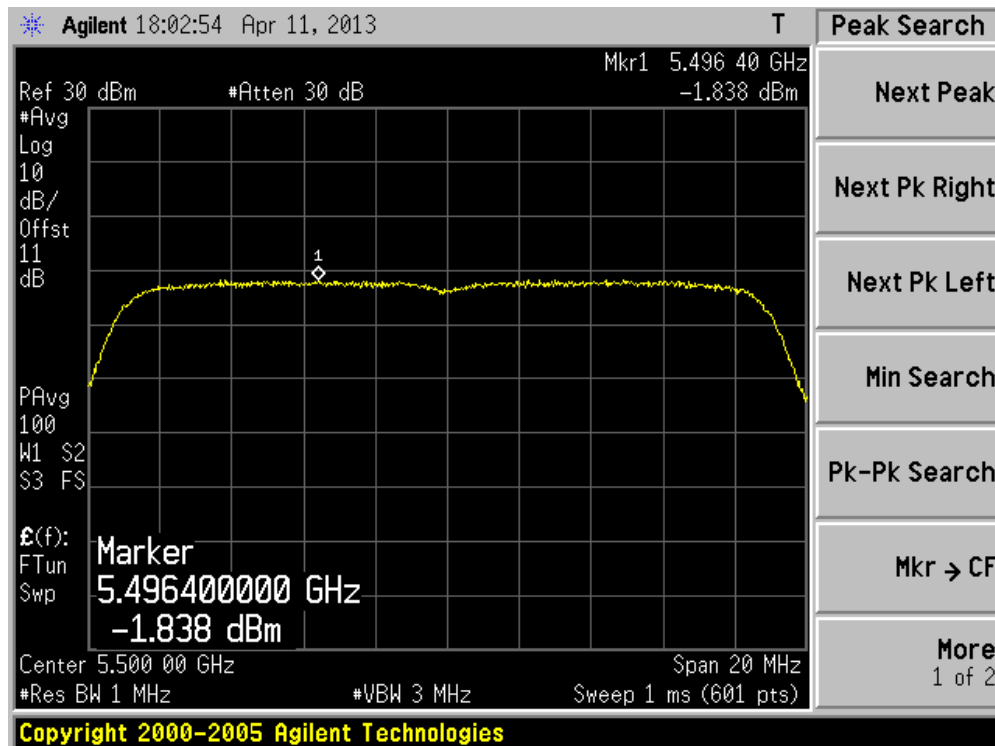
Channel 60 (5300MHz) - Chain 1



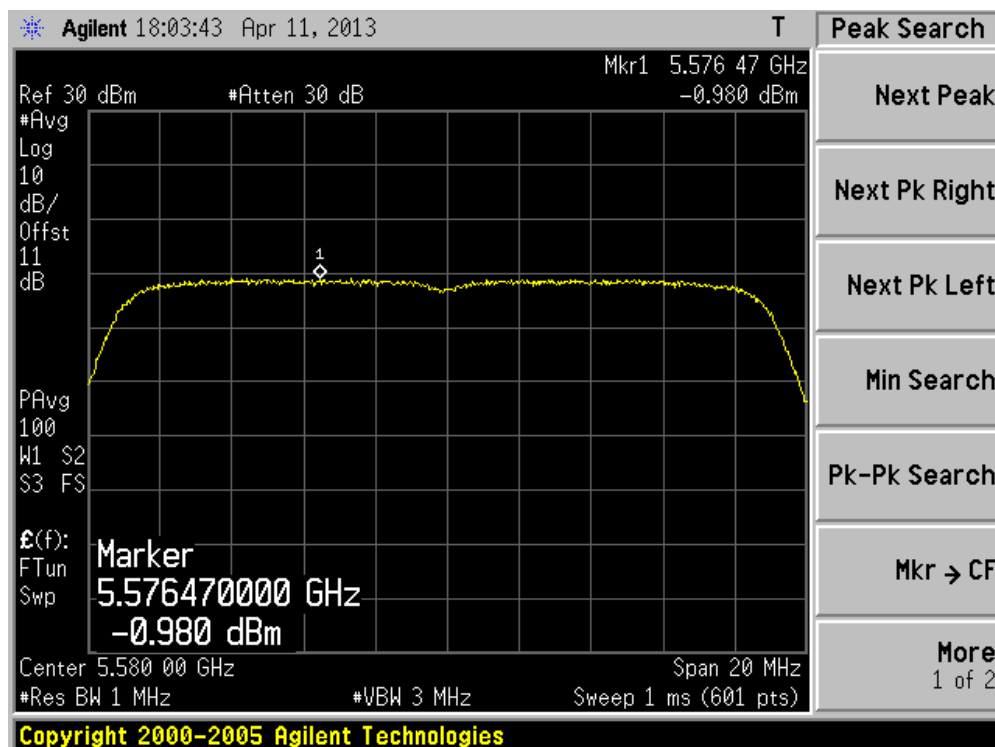
Channel 64 (5320MHz) - Chain 1



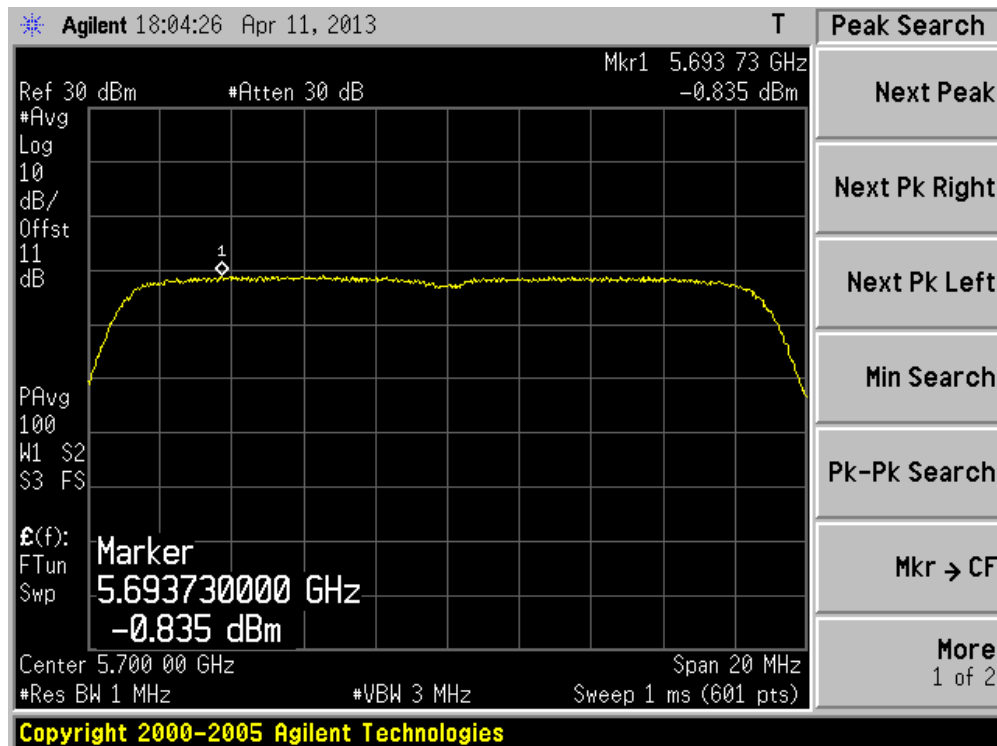
Channel 100 (5500MHz) - Chain 1



Channel 116 (5580MHz) - Chain 1



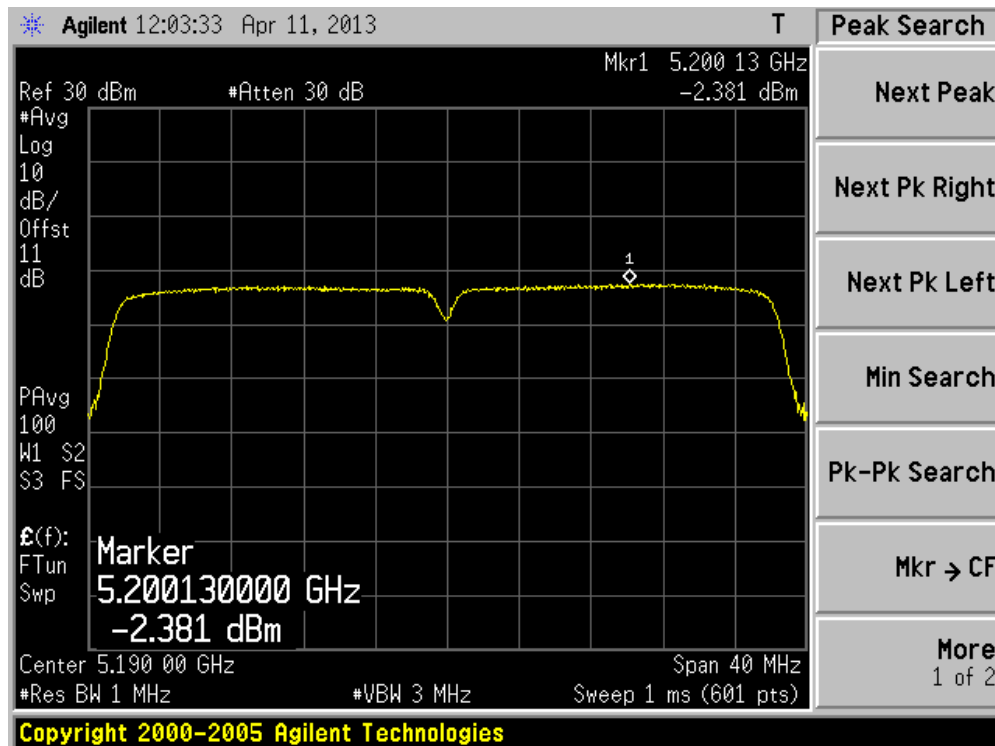
Channel 140 (5700MHz) - Chain 1



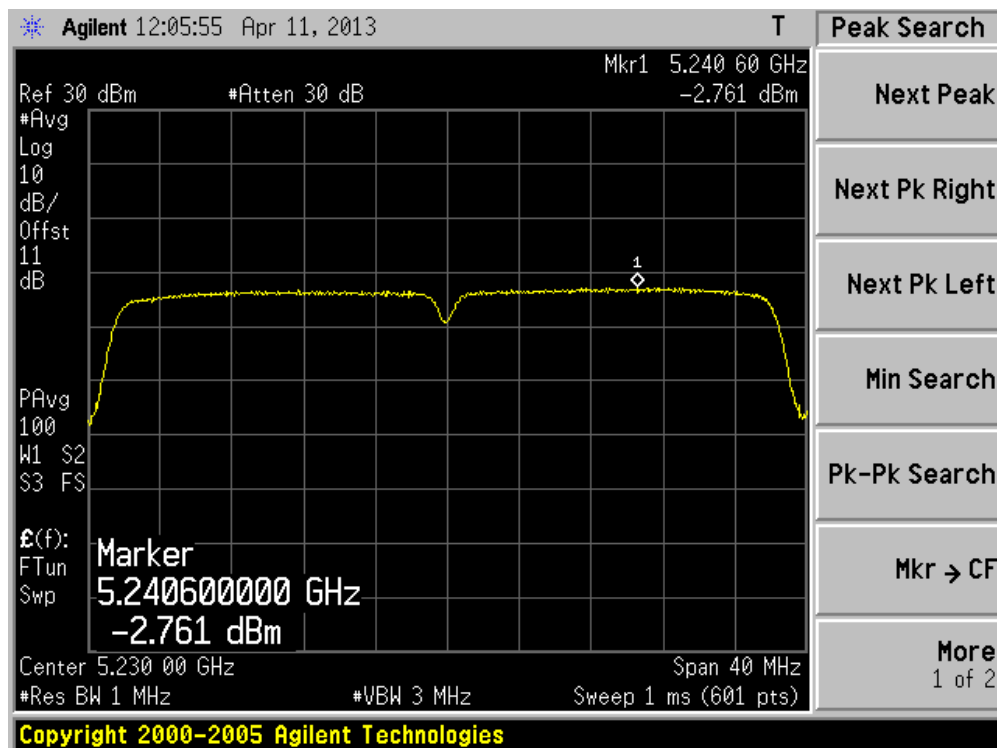
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz) (Chain 0)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 0	Chain 1			
38	5190	-2.38	N/A	-2.38	3	Pass
46	5230	-2.76	N/A	-2.76	3	Pass
54	5270	-1.03	N/A	-1.03	3	Pass
62	5310	-1.53	N/A	-1.53	10	Pass
102	5510	-1.75	N/A	-1.75	10	Pass
110	5550	-1.02	N/A	-1.02	10	Pass

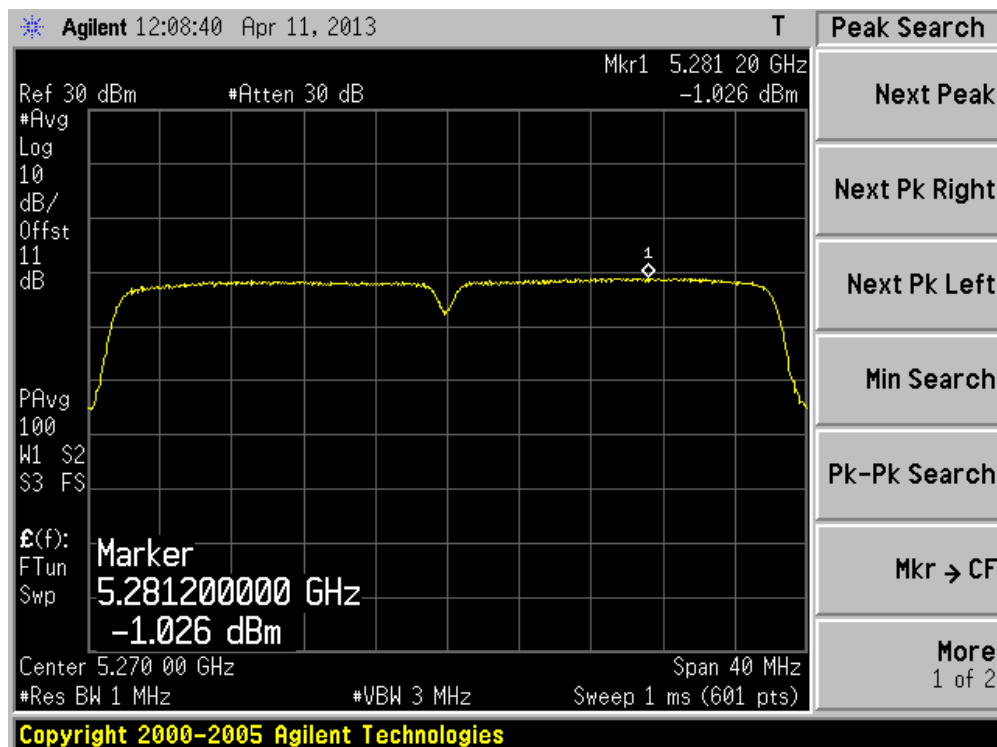
Channel 38 (5190MHz)



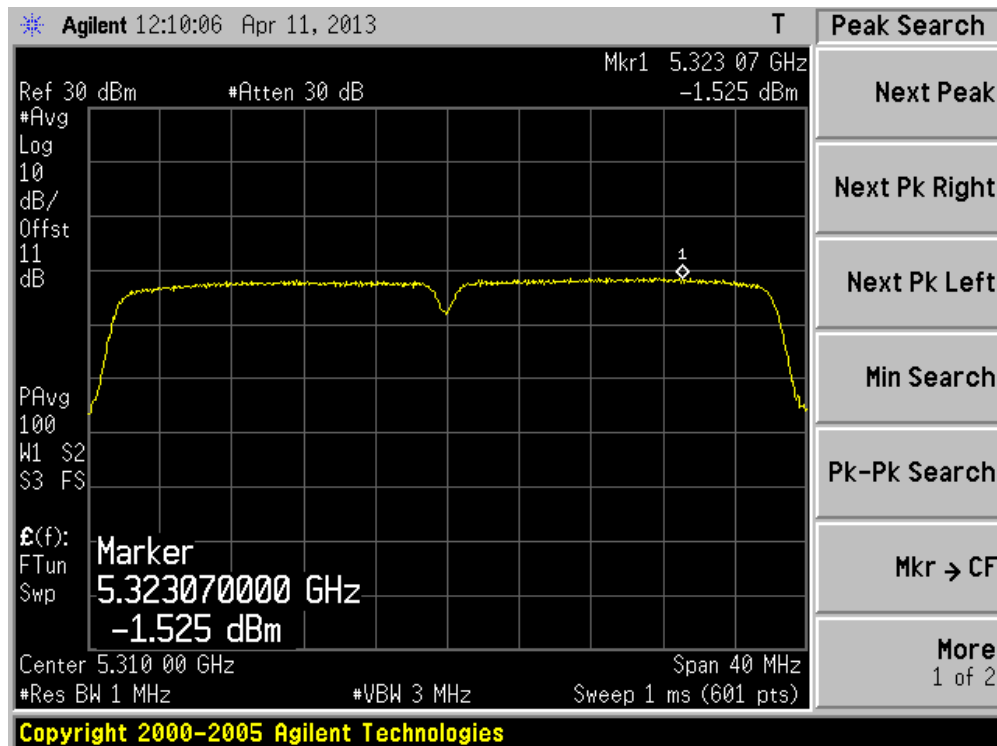
Channel 46 (5230MHz)



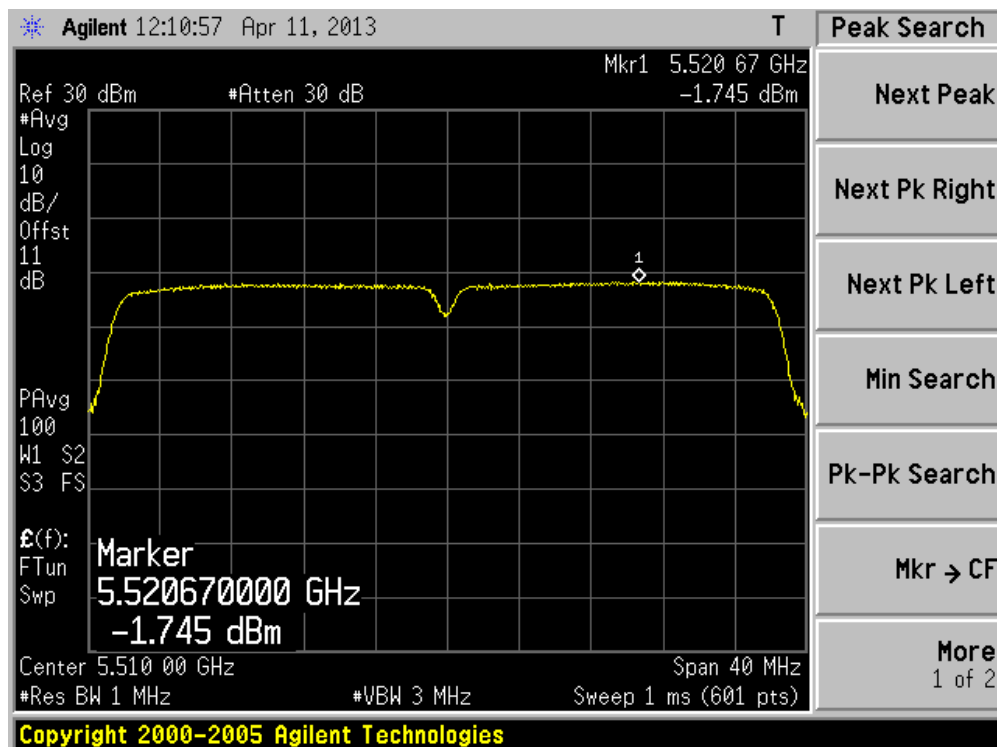
Channel 54 (5270MHz)



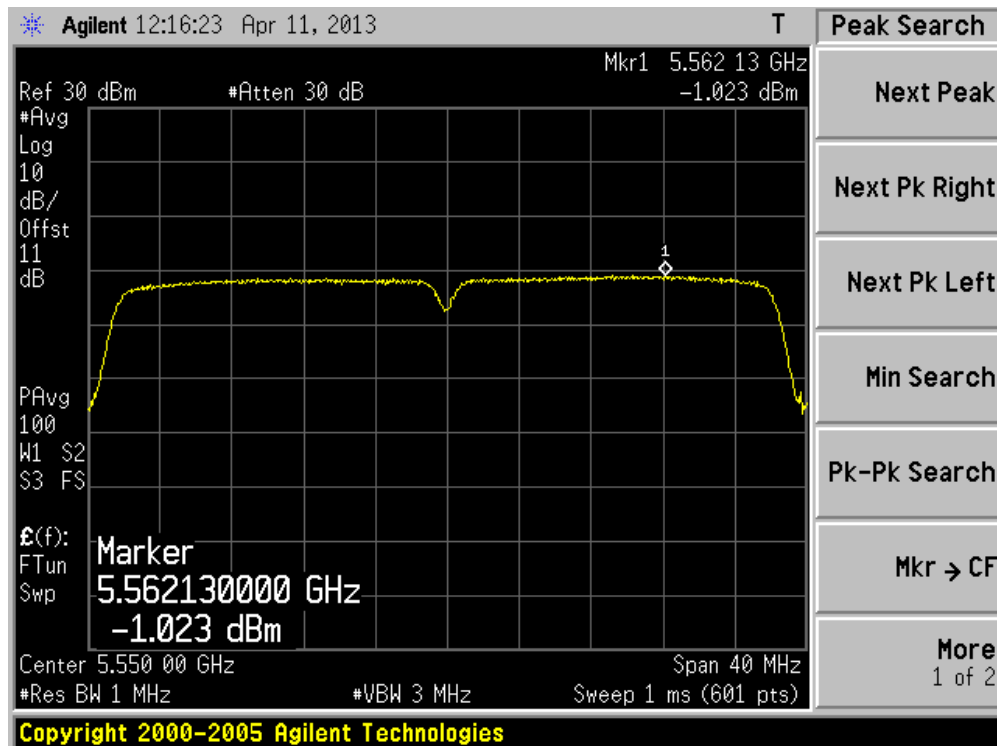
Channel 62 (5310MHz)



Channel 102 (5510MHz)



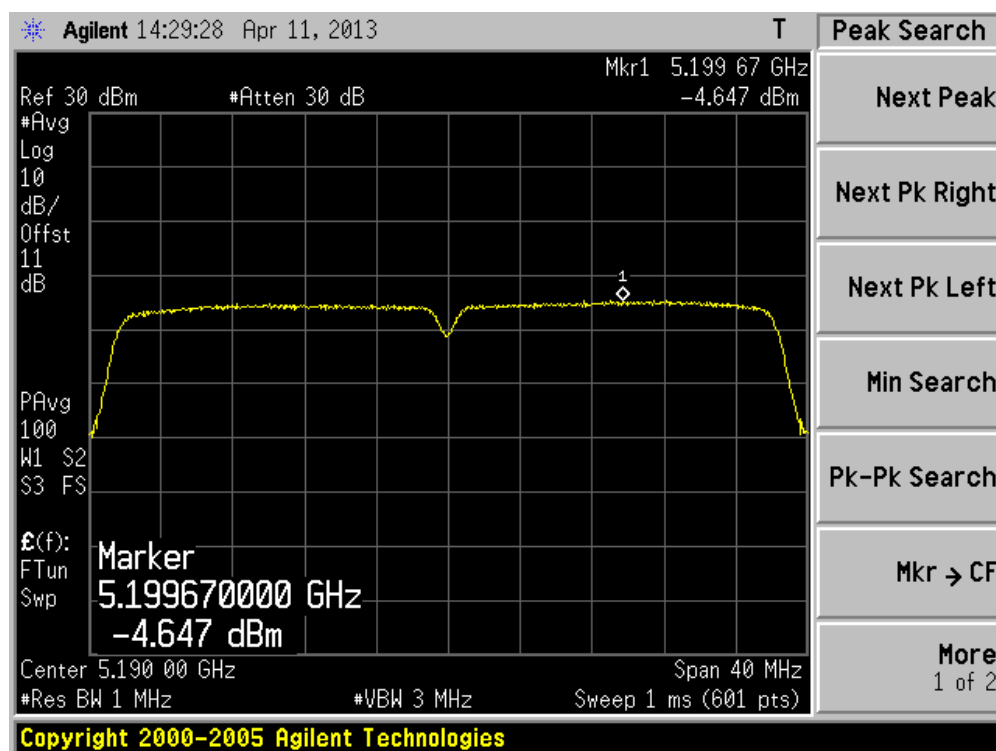
Channel 110 (5550MHz)



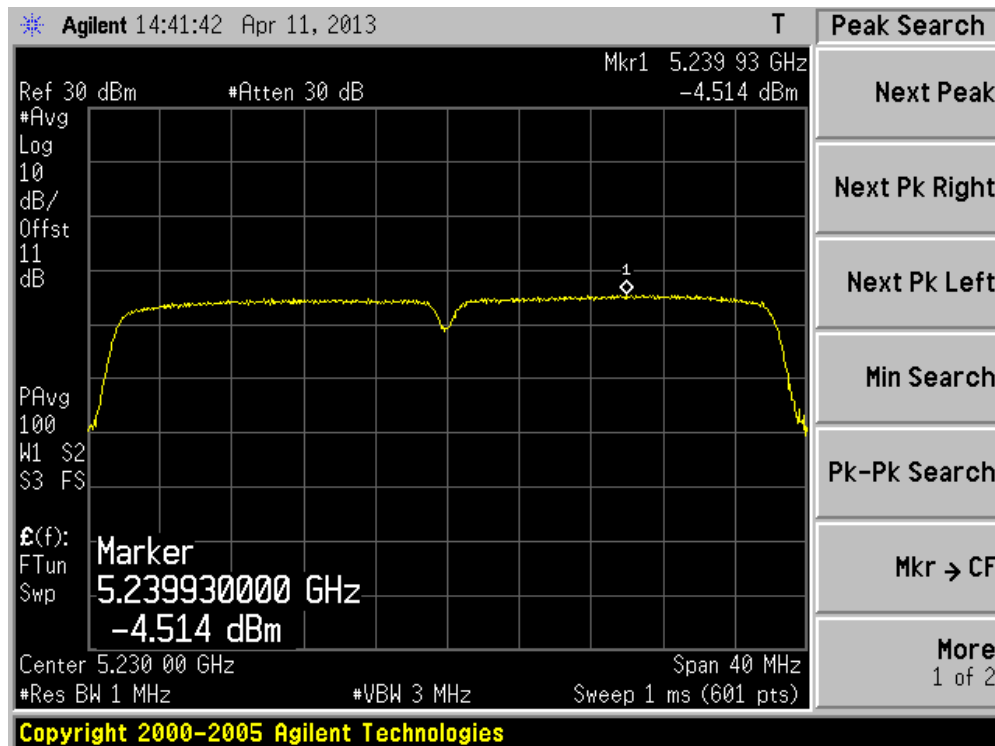
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz) (Chain 1)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 0	Chain 1			
38	5190	N/A	-4.65	-4.65	3	Pass
46	5230	N/A	-4.51	-4.51	3	Pass
54	5270	N/A	0.49	0.49	3	Pass
62	5310	N/A	1.83	1.83	10	Pass
102	5510	N/A	0.80	0.80	10	Pass
110	5550	N/A	1.20	1.20	10	Pass

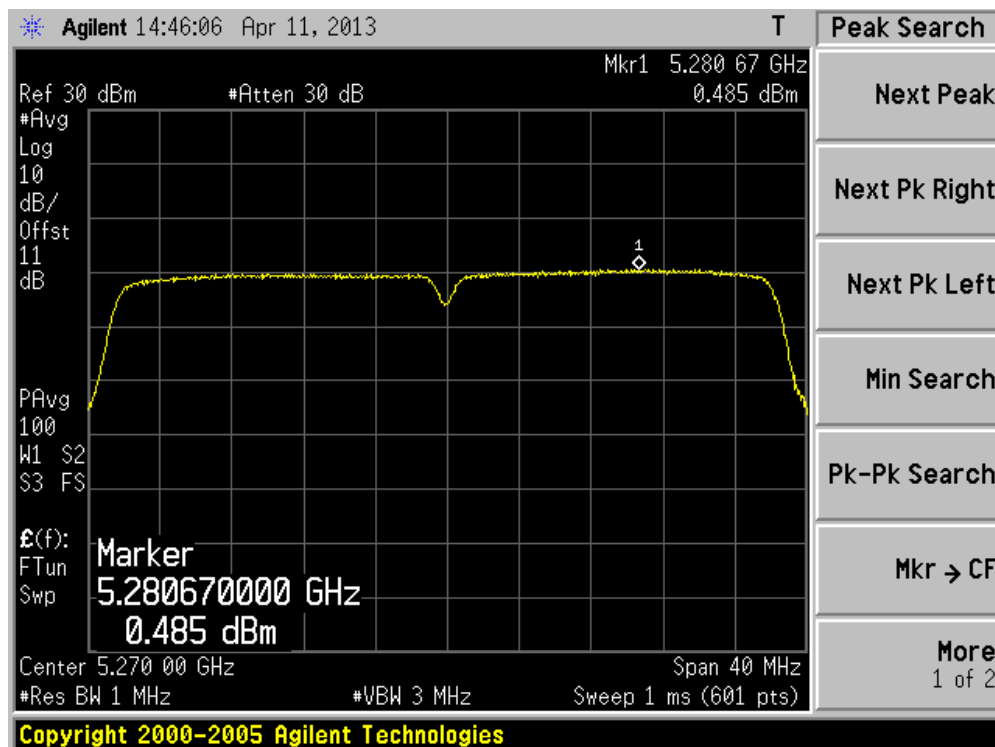
Channel 38 (5190MHz)



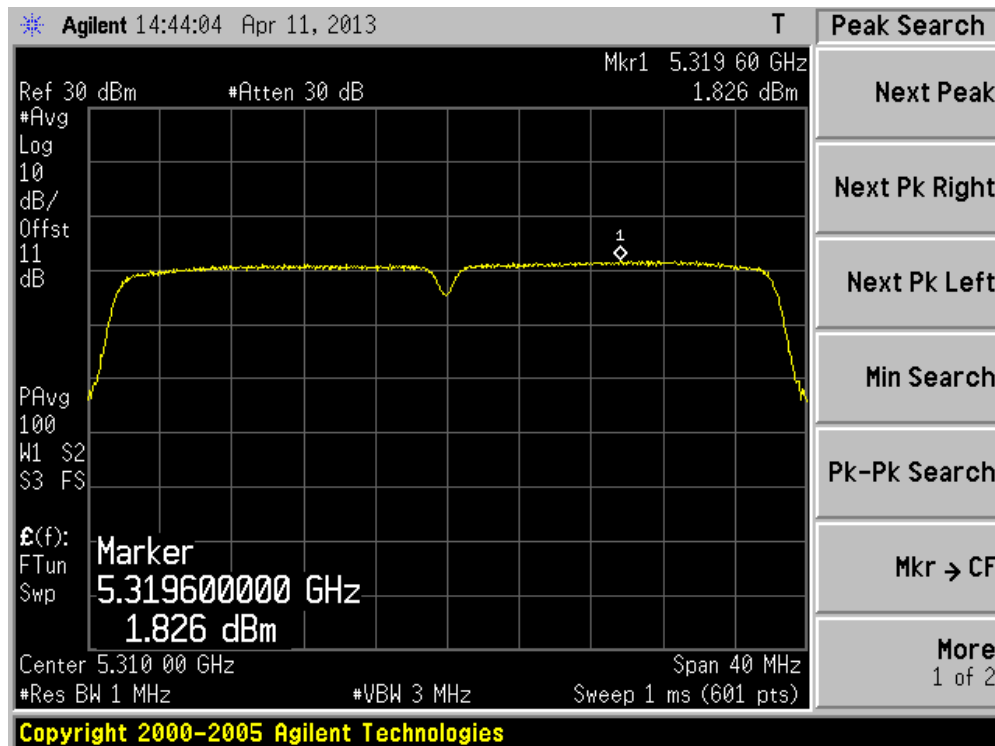
Channel 46 (5230MHz)



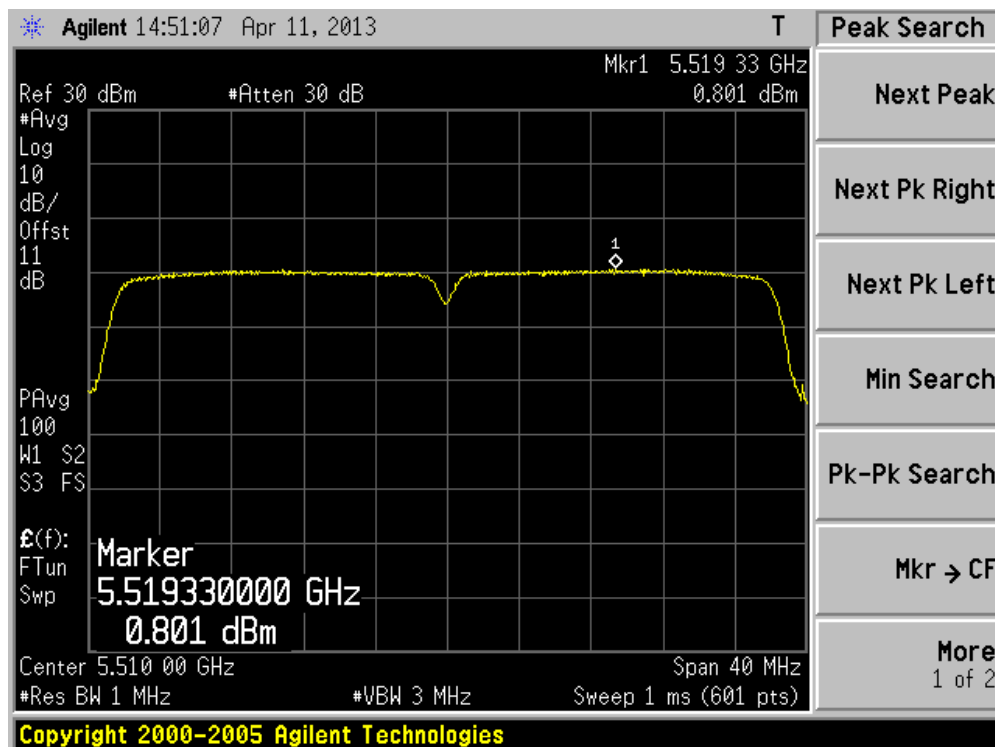
Channel 54 (5270MHz)



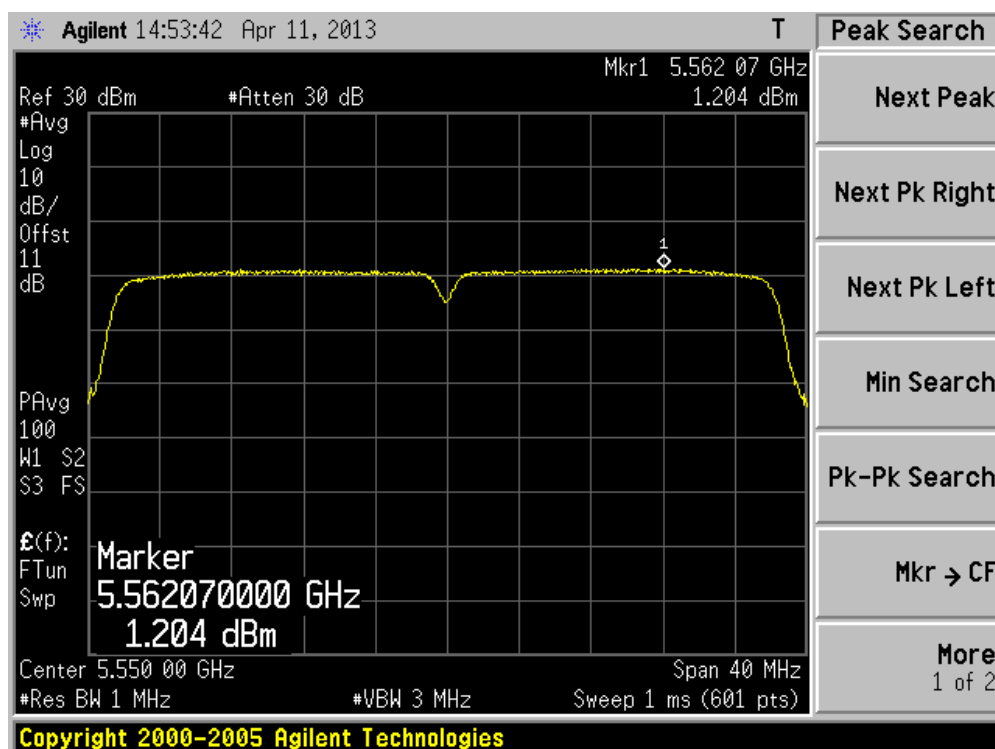
Channel 62 (5310MHz)



Channel 102 (5510MHz)



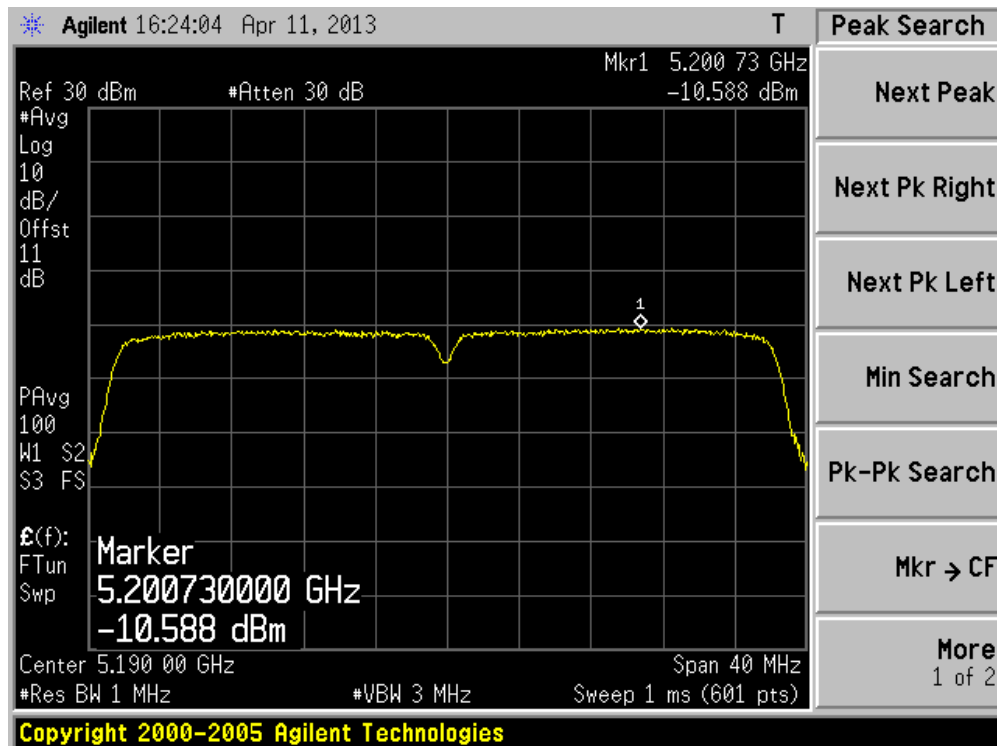
Channel 110 (5550MHz)



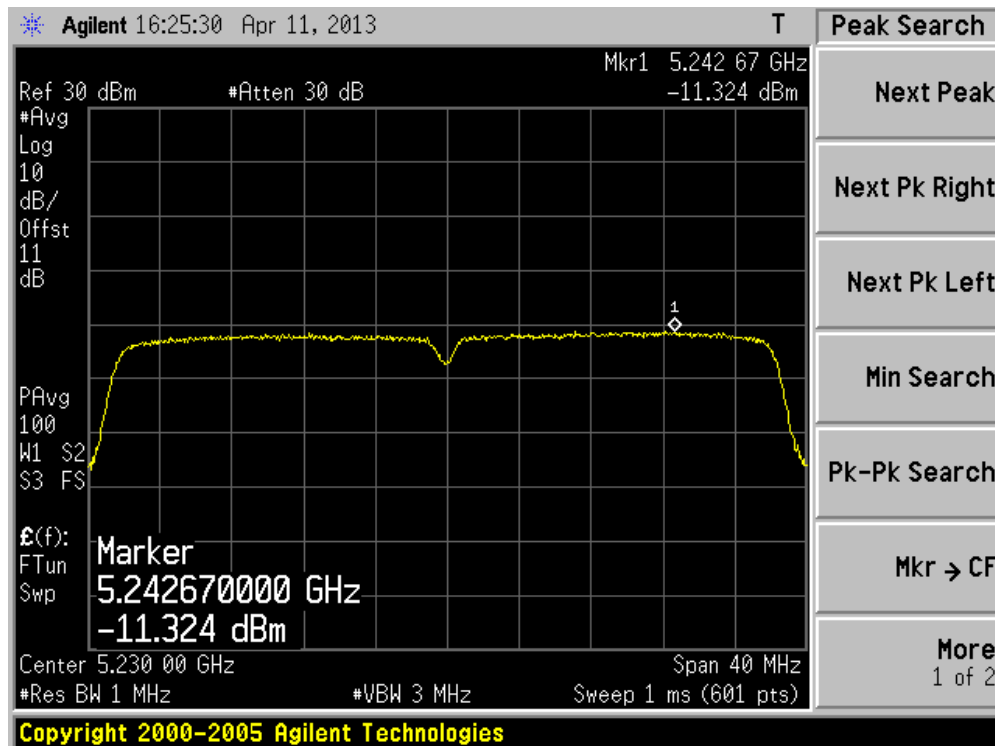
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz) (Chain 0+1)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 0	Chain 1			
38	5190	-10.59	-9.51	-7.01	3	Pass
46	5230	-11.32	-9.21	-7.13	3	Pass
54	5270	-4.86	-3.55	-1.15	3	Pass
62	5310	-4.68	-3.11	-0.81	10	Pass
102	5510	-5.09	-4.21	-1.62	10	Pass
110	5550	-0.07	-3.22	1.64	10	Pass

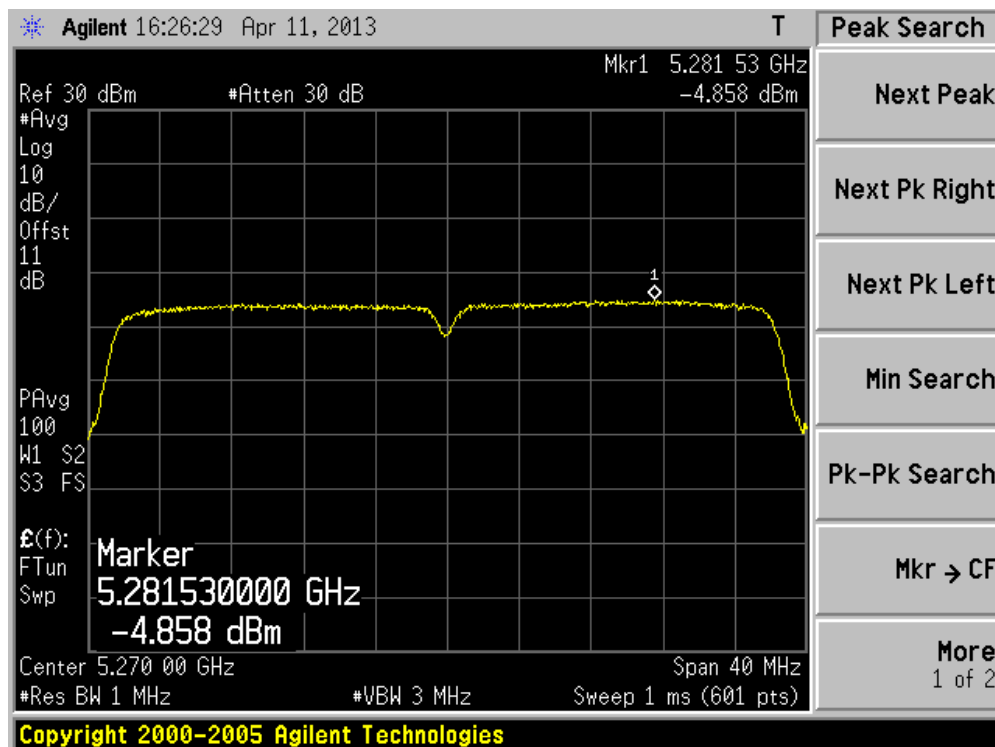
Channel 38 (5190MHz) - Chain 0



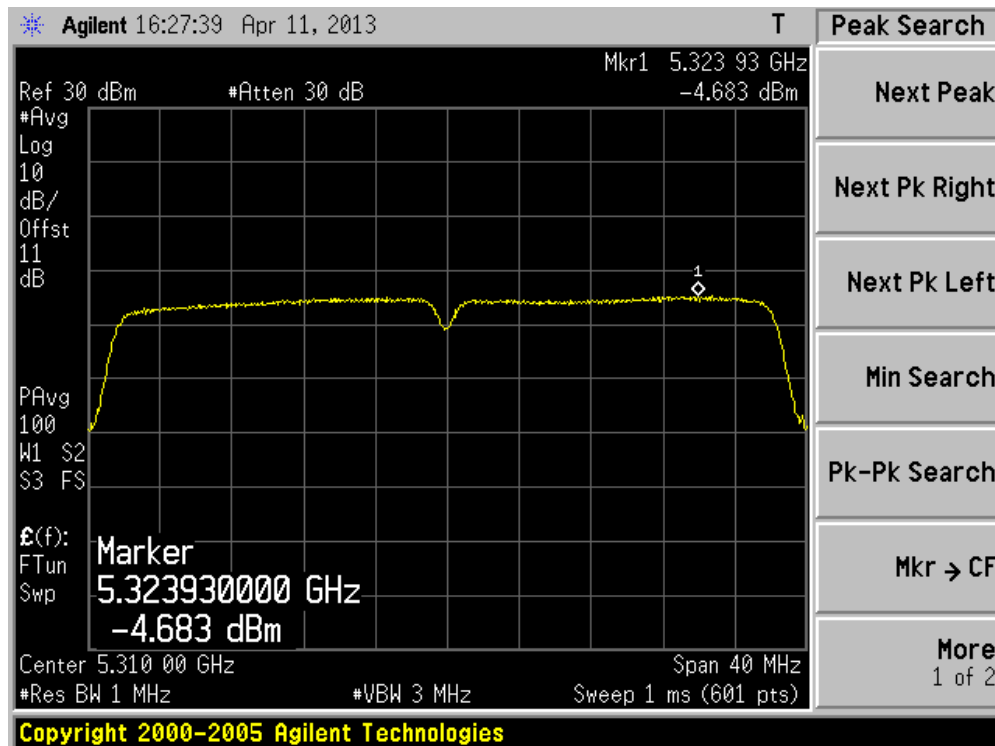
Channel 46 (5230MHz) - Chain 0



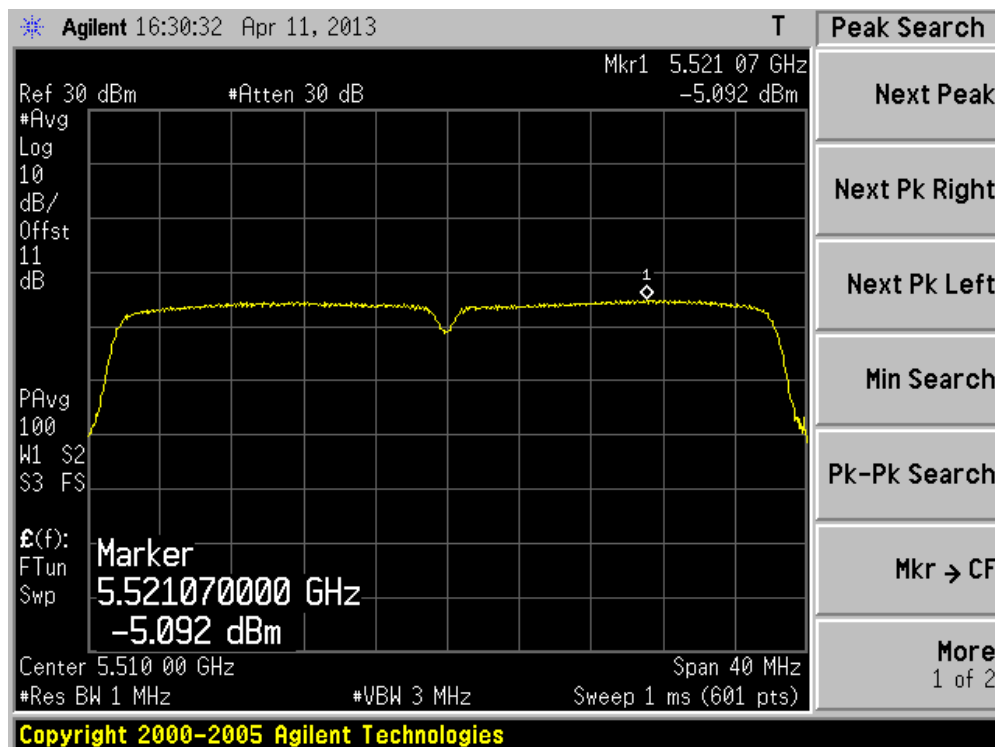
Channel 54 (5270MHz) - Chain 0



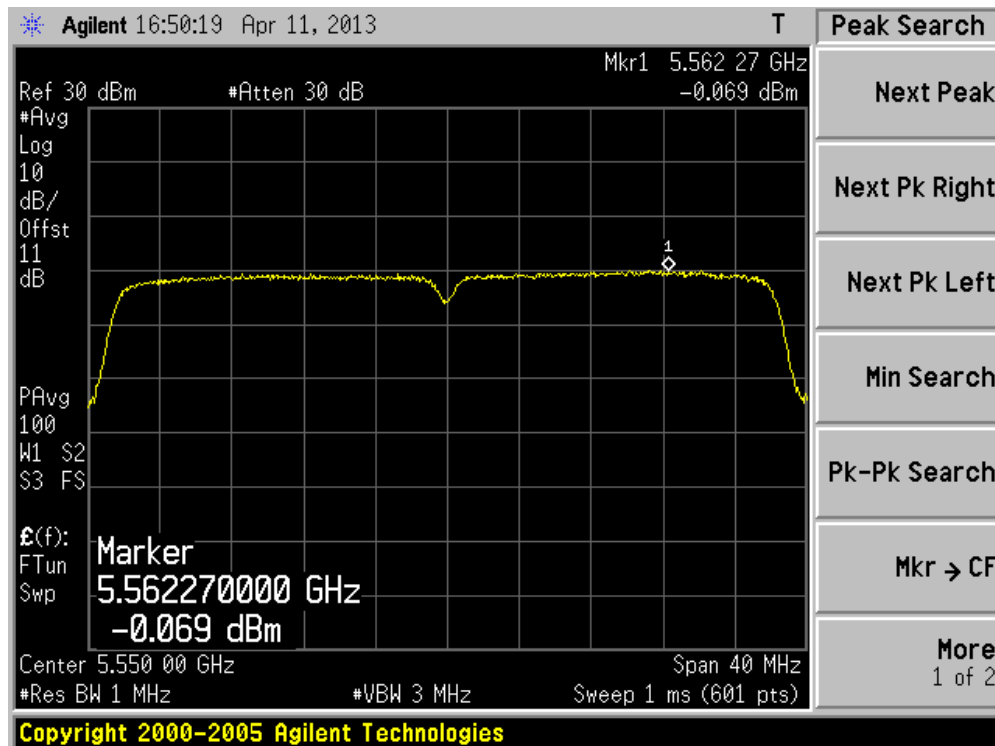
Channel 62 (5310MHz) - Chain 0



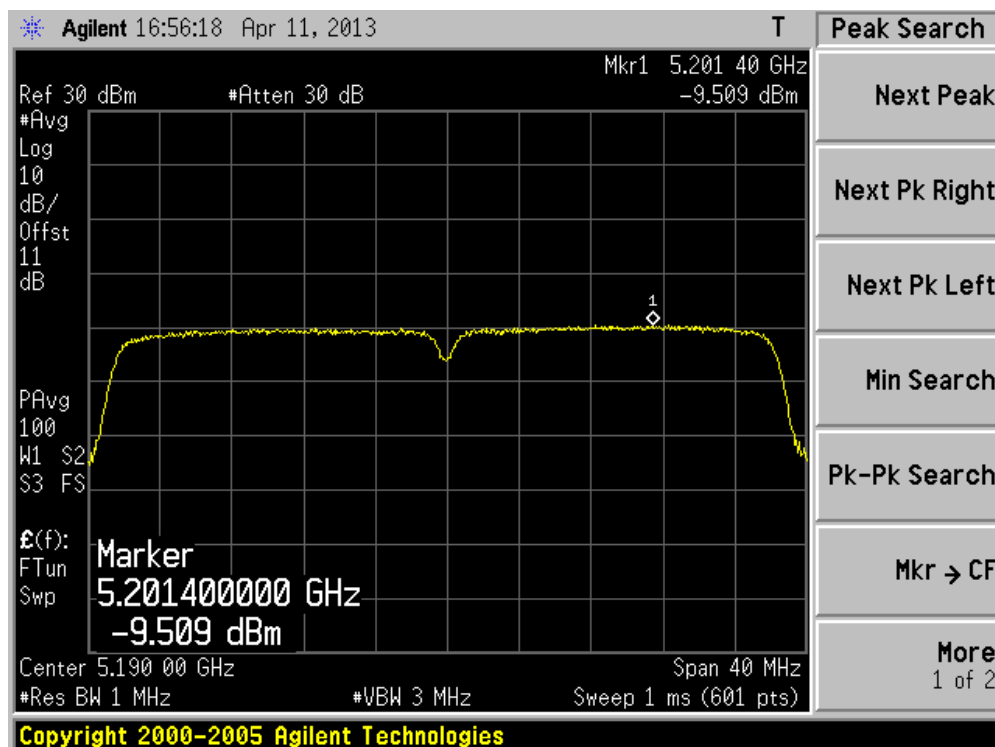
Channel 102 (5510MHz) - Chain 0



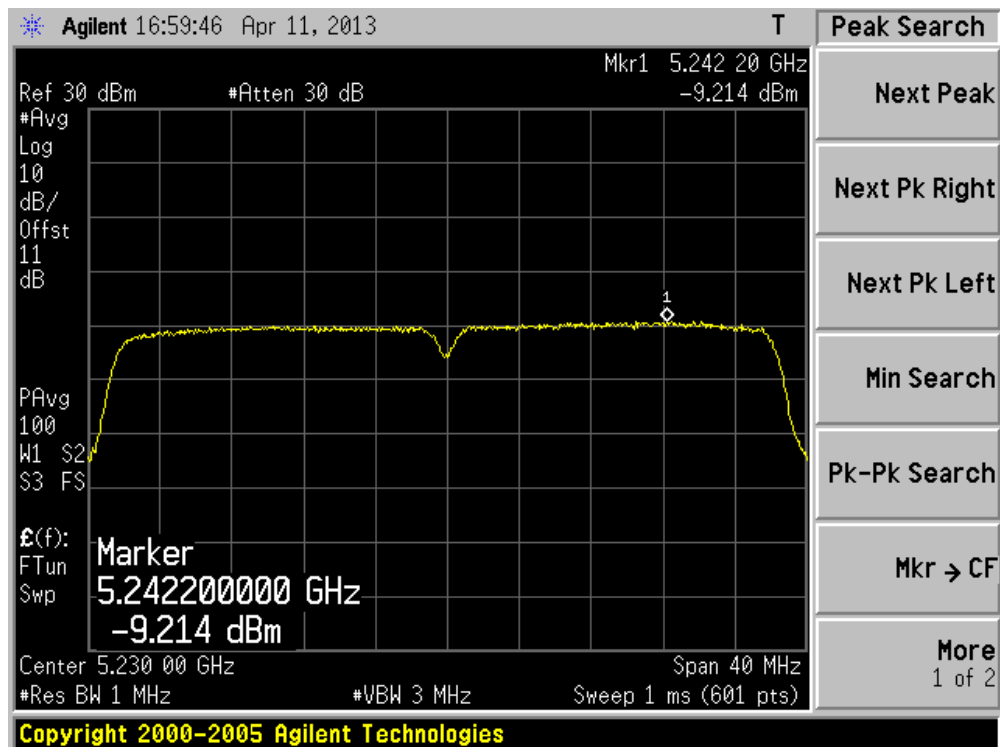
Channel 110 (5550MHz) - Chain 0



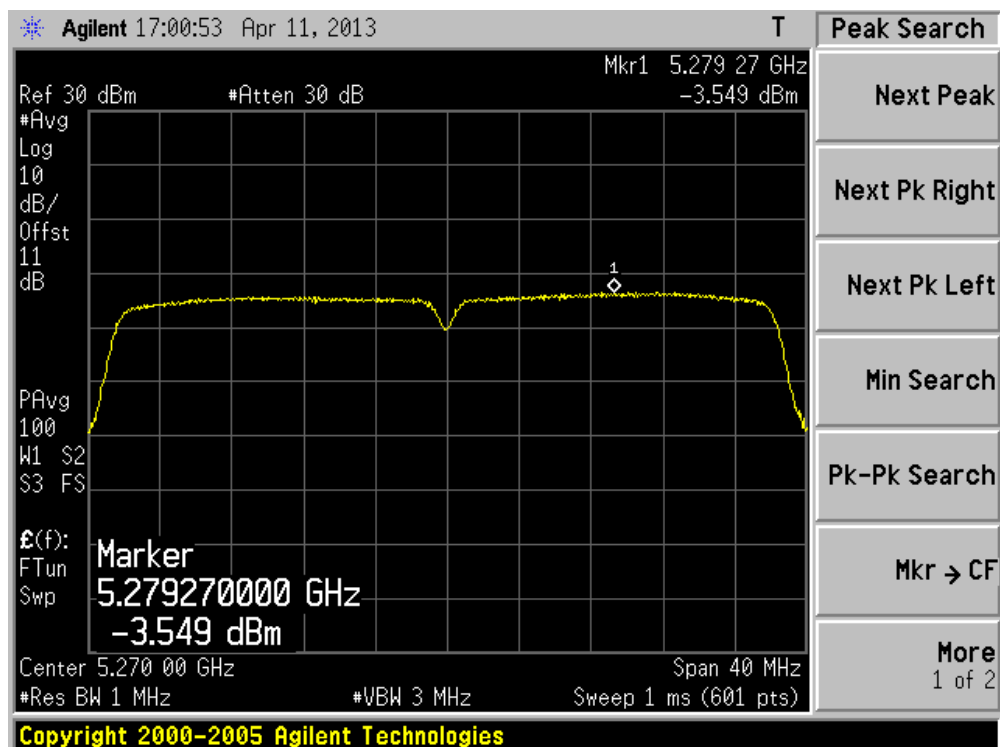
Channel 38 (5190MHz) - Chain 1



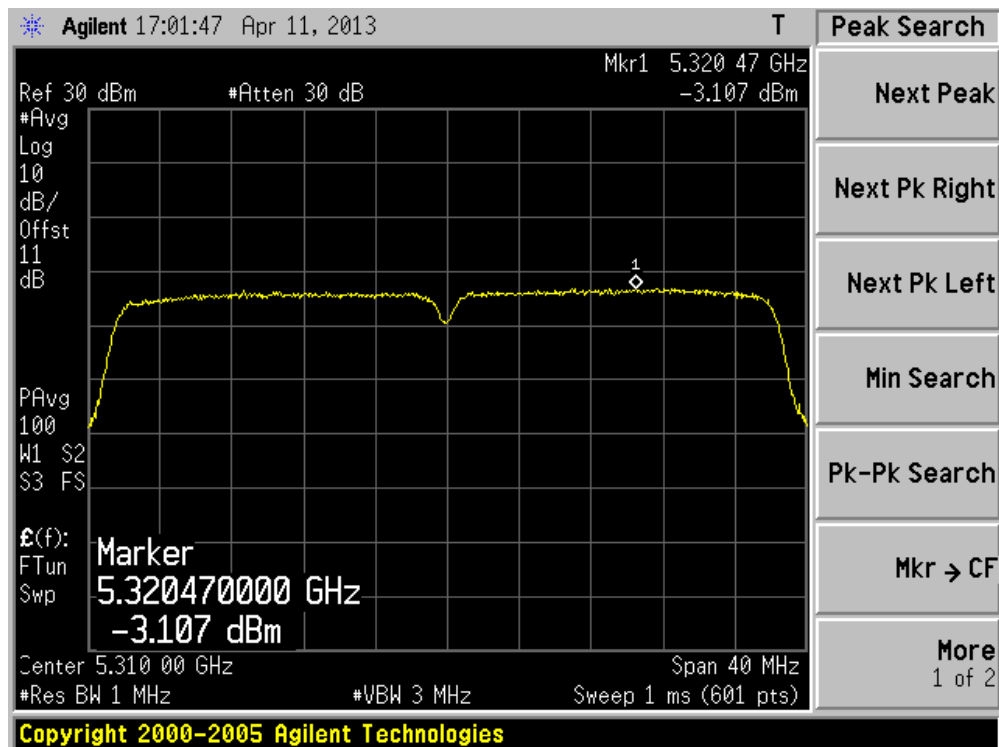
Channel 46 (5230MHz) - Chain 1



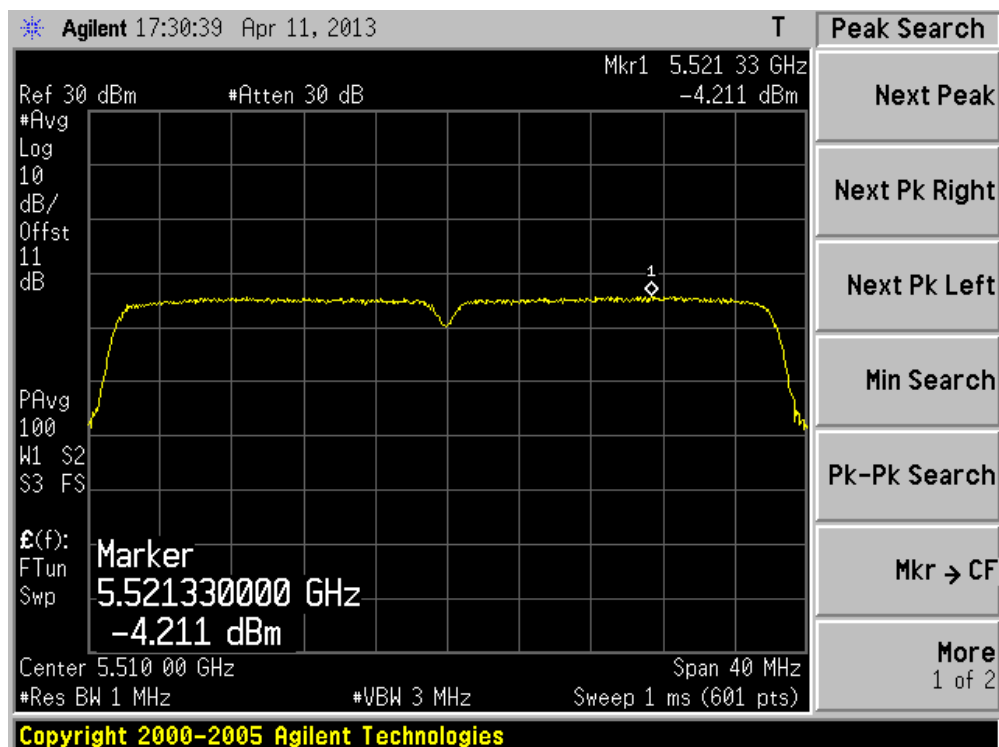
Channel 54 (5270MHz) - Chain 1



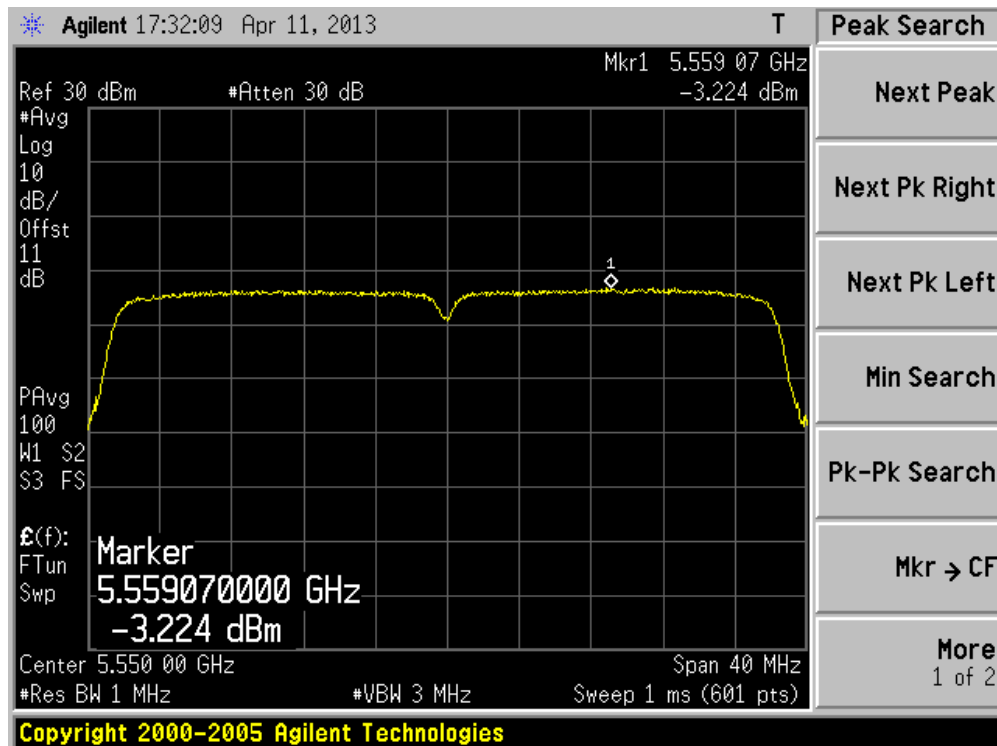
Channel 62 (5310MHz) - Chain 1



Channel 102 (5510MHz) - Chain 1



Channel 110 (5550MHz) - Chain 1



9. Peak Excursion

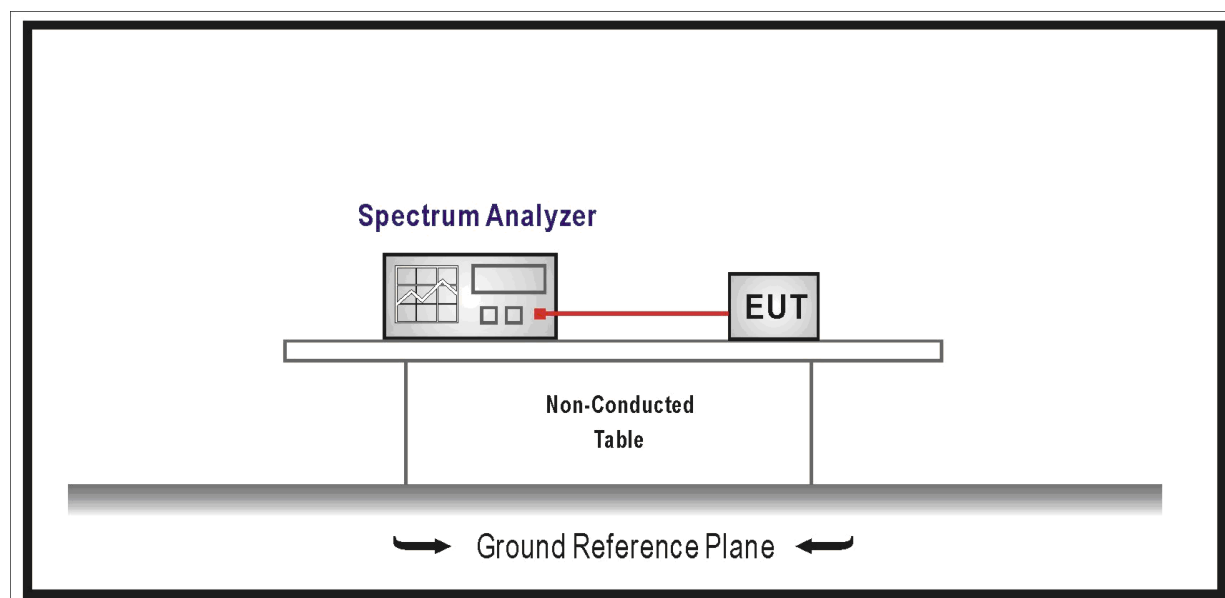
1.1. Test Equipment

Peak Excursion / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2014.01.21
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2014.05.07

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

1.2. Test Setup



1.3. Limit

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

1.4. Test Procedure

The EUT was tested according to KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

Set the spectrum analyzer span to view the entire emission bandwidth. The largest difference between the following two traces must be ≤ 13 dB for all frequencies across the emission bandwidth.

- 1st Trace: Set RBW = 1 MHz, VBW ≥ 3 MHz with peak detector and max-hold settings.
- 2nd Trace: The result is the peak value of the PPSD.

1.5. Uncertainty

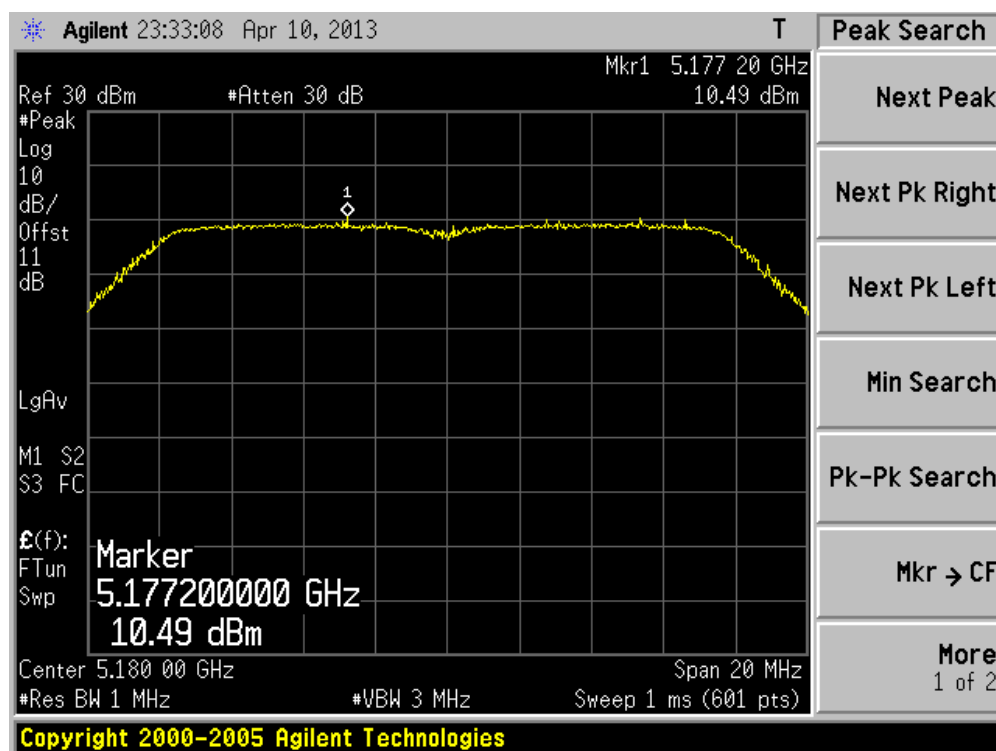
The measurement uncertainty is defined as ± 1.27 dB

1.6. Test Result

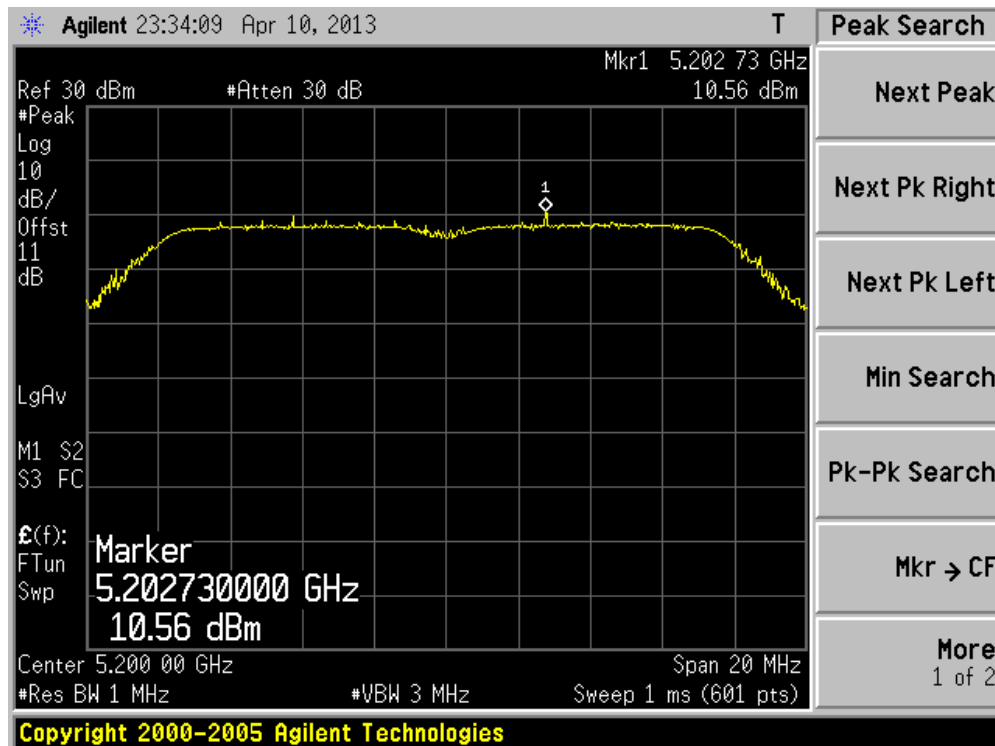
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 0)

Channel No.	Frequency (MHz)	Peak Level (dB)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Result
36	5180	10.49	0.27	0.04	10.18	13	Pass
40	5200	10.56	0.50	0.04	10.02	13	Pass
48	5240	8.00	-0.19	0.04	8.15	13	Pass
52	5260	8.82	0.81	0.04	7.97	13	Pass
60	5300	9.44	1.33	0.04	8.07	13	Pass
64	5320	9.88	1.55	0.04	8.29	13	Pass
100	5500	9.19	1.24	0.04	7.91	13	Pass
116	5580	10.64	2.24	0.04	8.36	13	Pass
140	5700	12.46	4.23	0.04	8.19	13	Pass

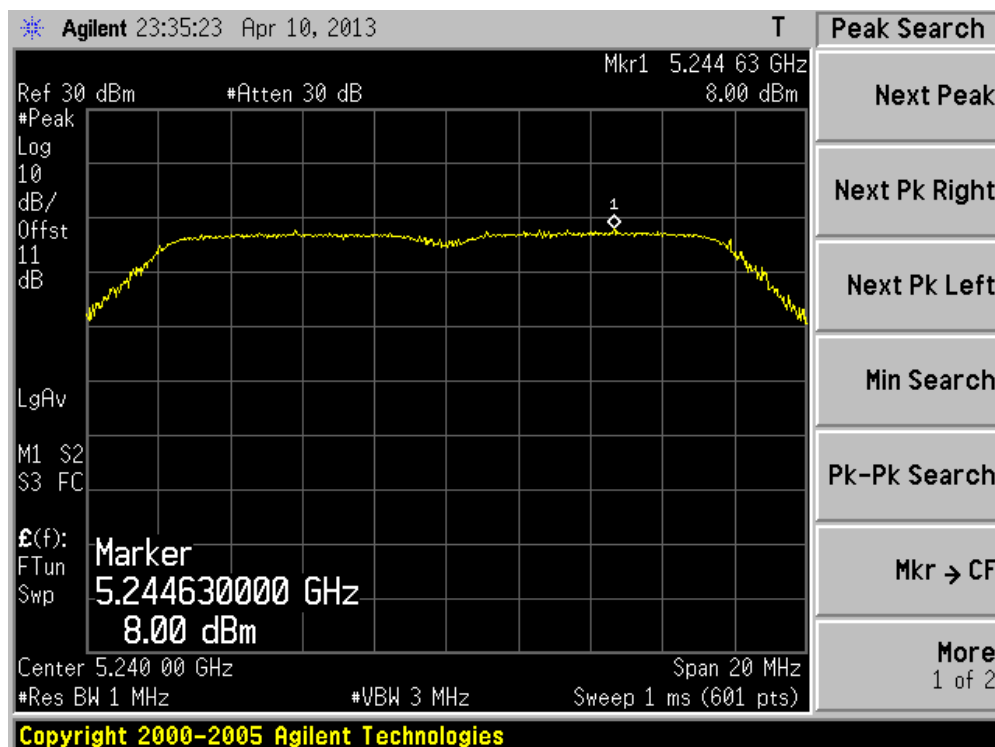
Channel 36 (5180MHz)



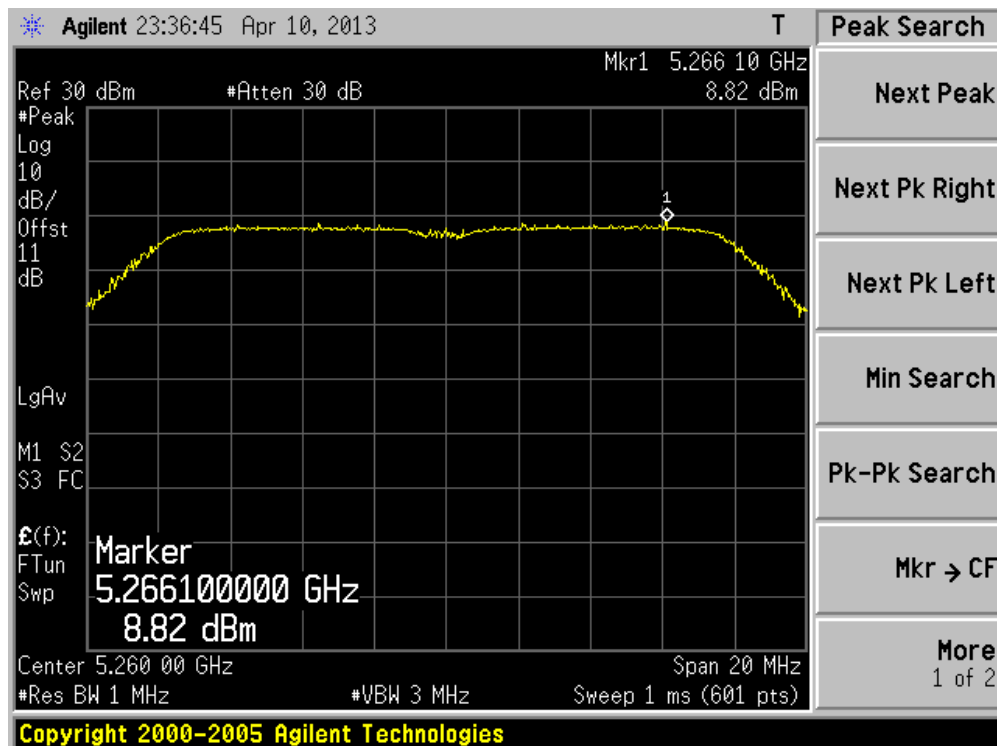
Channel 40 (5200MHz)



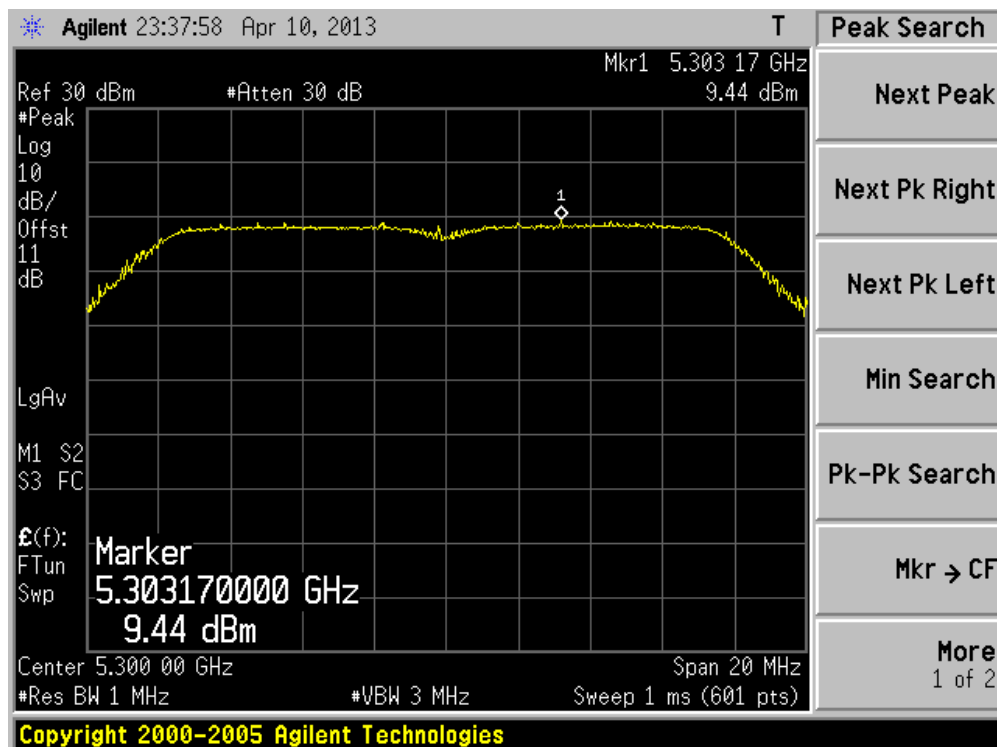
Channel 48 (5240MHz)



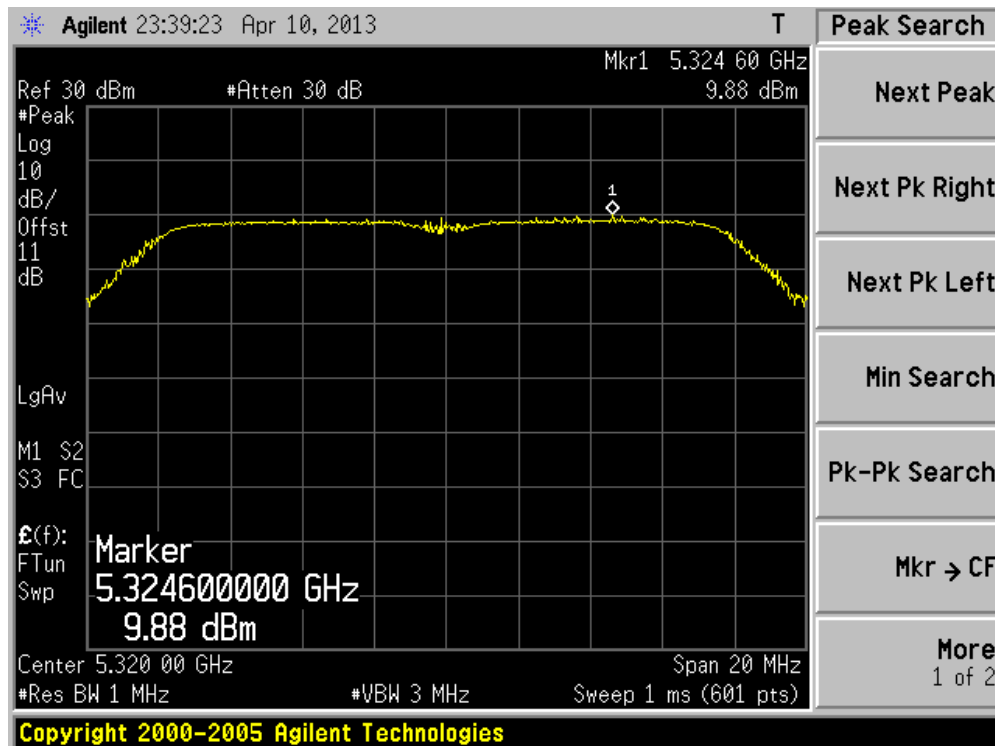
Channel 52 (5260MHz)



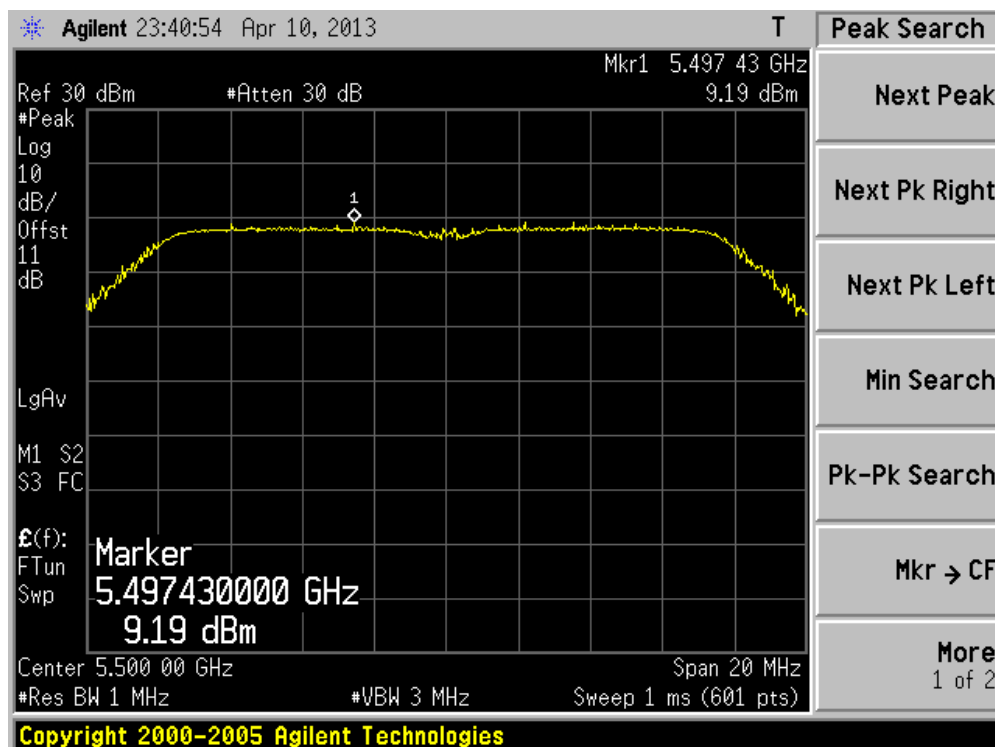
Channel 60 (5300MHz)



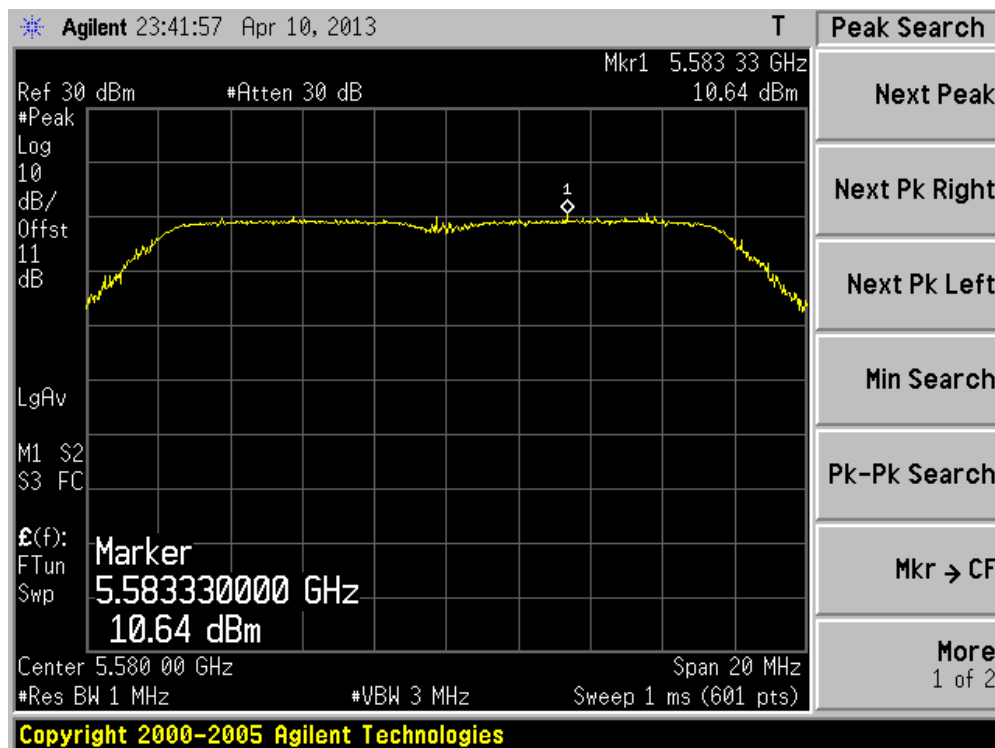
Channel 64 (5320MHz)



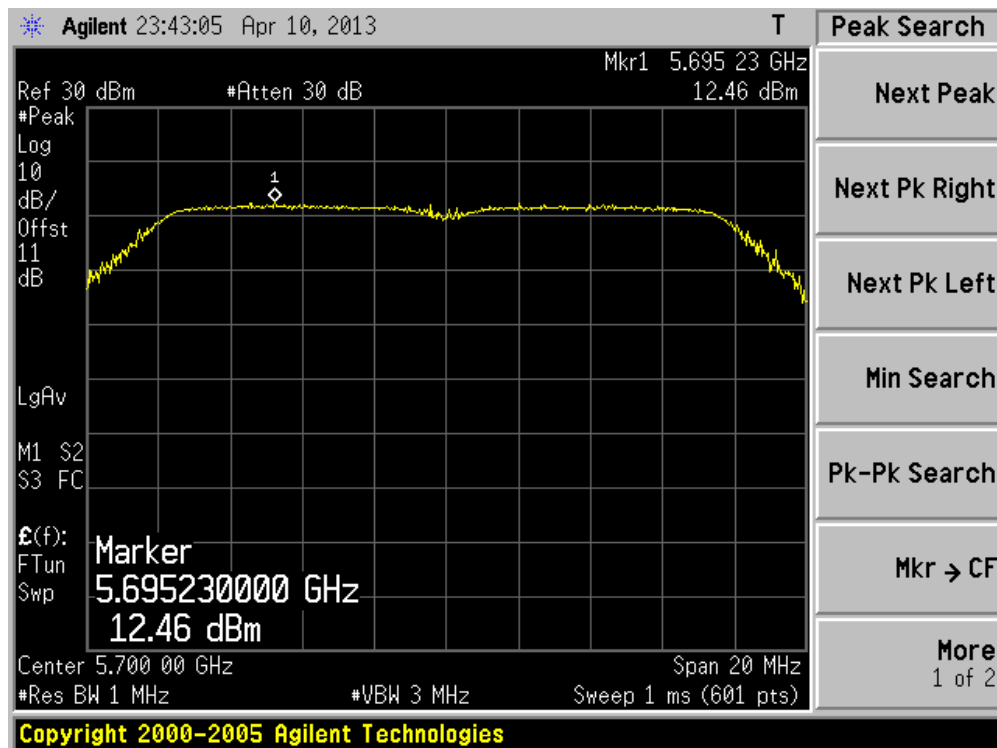
Channel 100 (5500MHz)



Channel 116 (5580MHz)



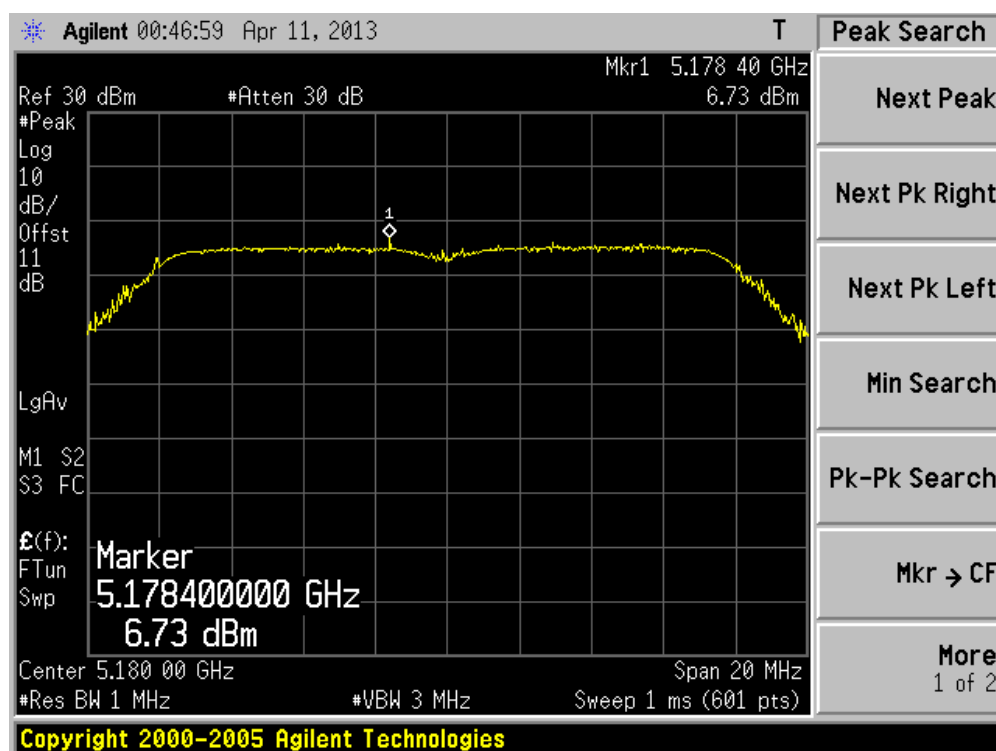
Channel 140 (5700MHz)



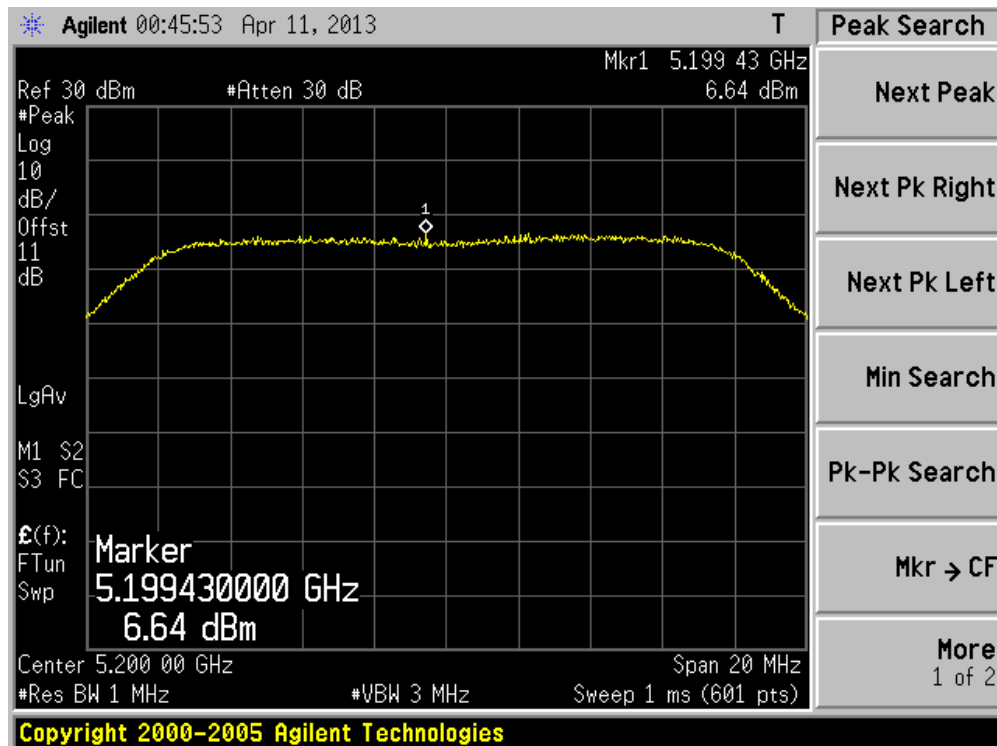
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1)

Channel No.	Frequency (MHz)	Peak Level (dB)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Result
36	5180	6.73	-0.17	0.04	6.86	13	Pass
40	5200	6.64	-1.57	0.04	8.17	13	Pass
48	5240	6.49	-1.45	0.04	7.90	13	Pass
52	5260	11.86	3.80	0.04	8.02	13	Pass
60	5300	12.31	3.44	0.04	8.83	13	Pass
64	5320	12.71	3.34	0.04	9.33	13	Pass
100	5500	12.31	2.72	0.04	9.55	13	Pass
116	5580	13.71	3.47	0.04	10.20	13	Pass
140	5700	14.78	6.25	0.04	8.49	13	Pass

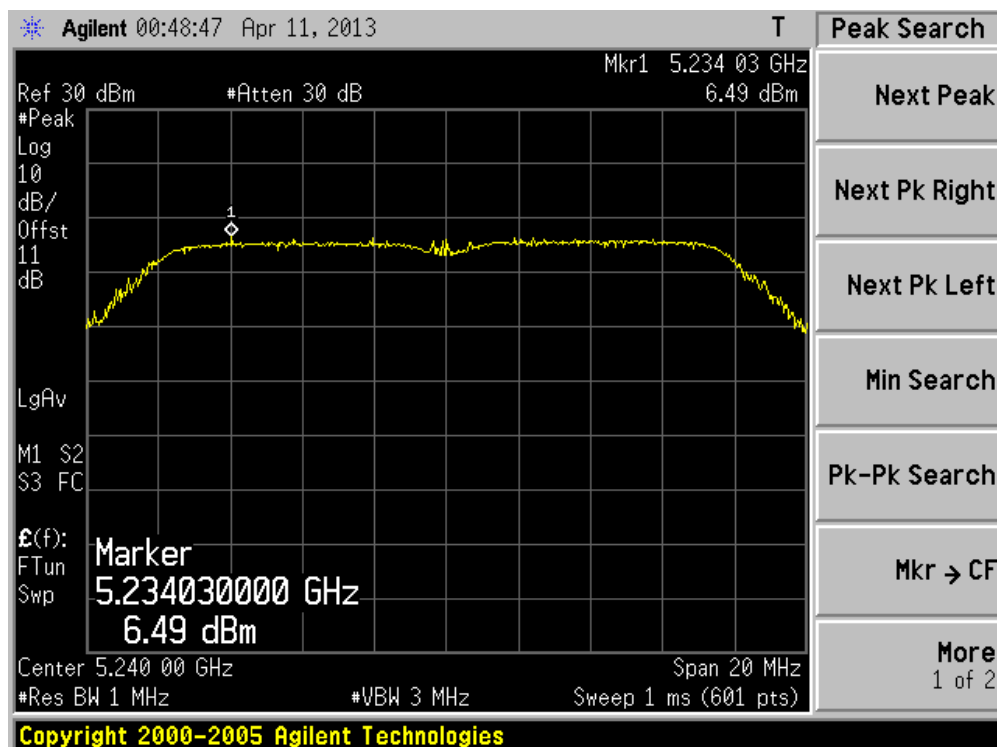
Channel 36 (5180MHz)



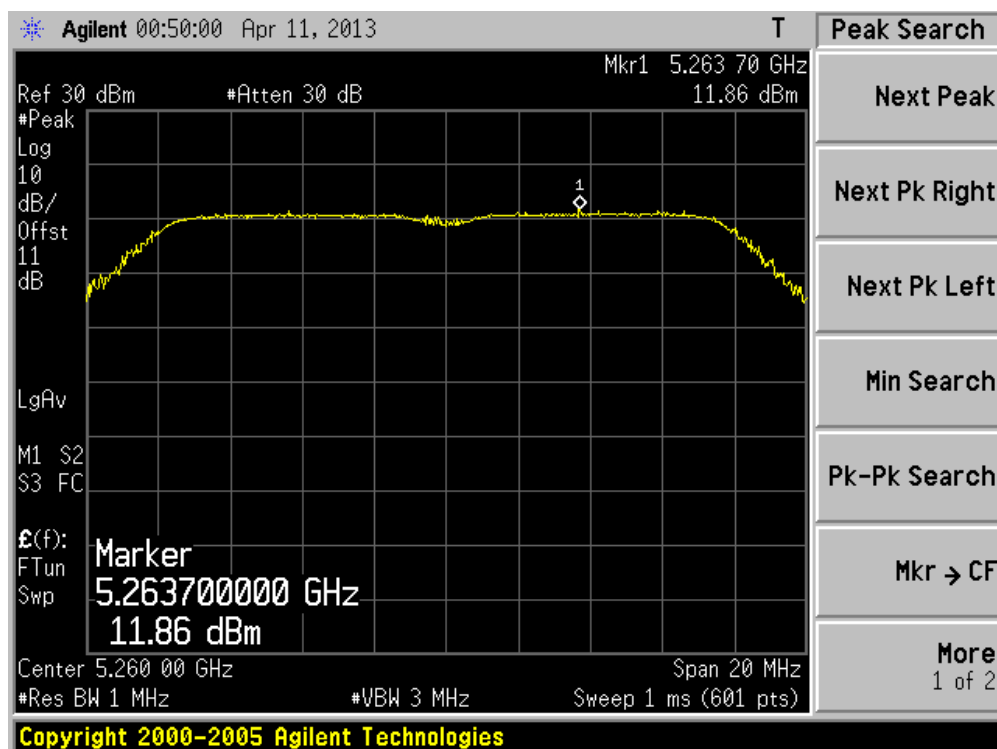
Channel 40 (5200MHz)



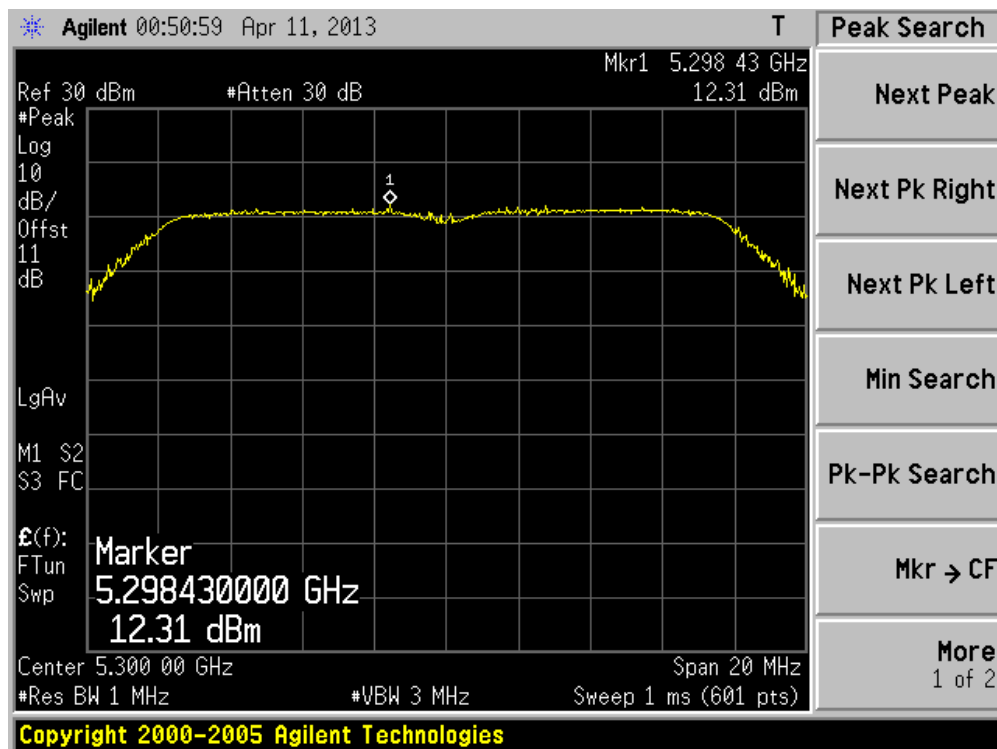
Channel 48 (5240MHz)



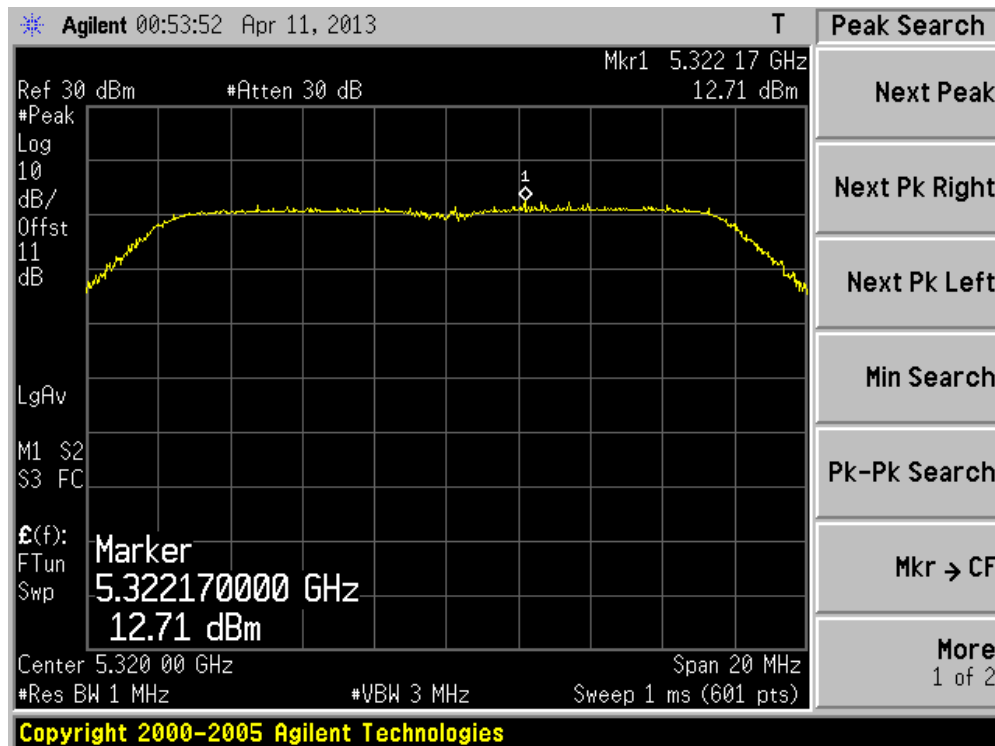
Channel 52 (5260MHz)



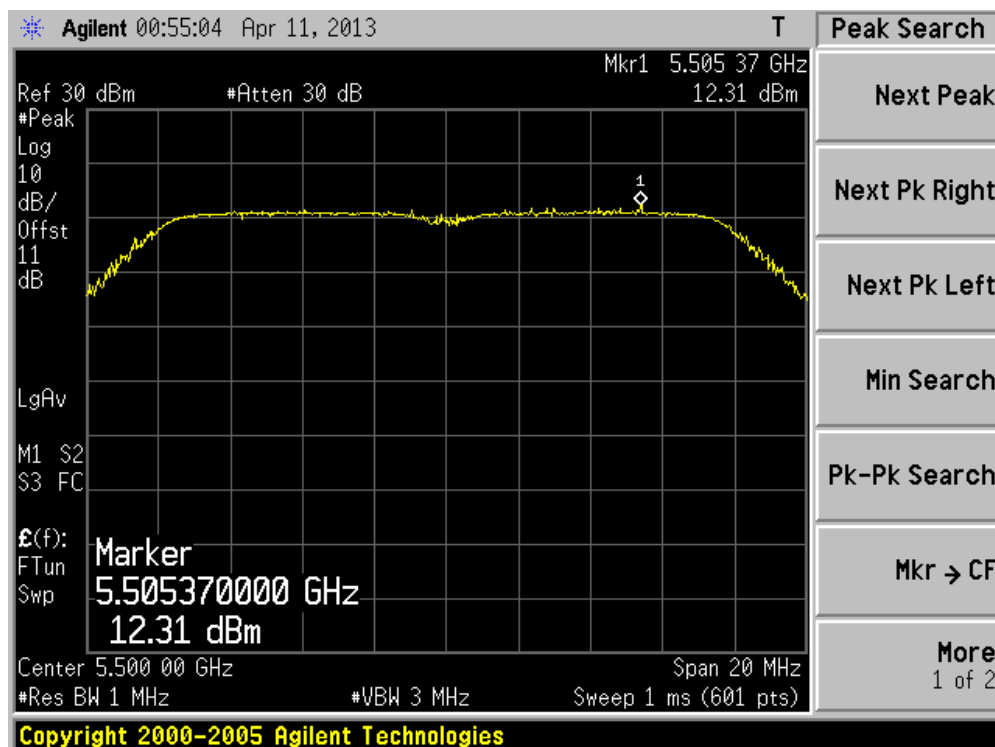
Channel 60 (5300MHz)



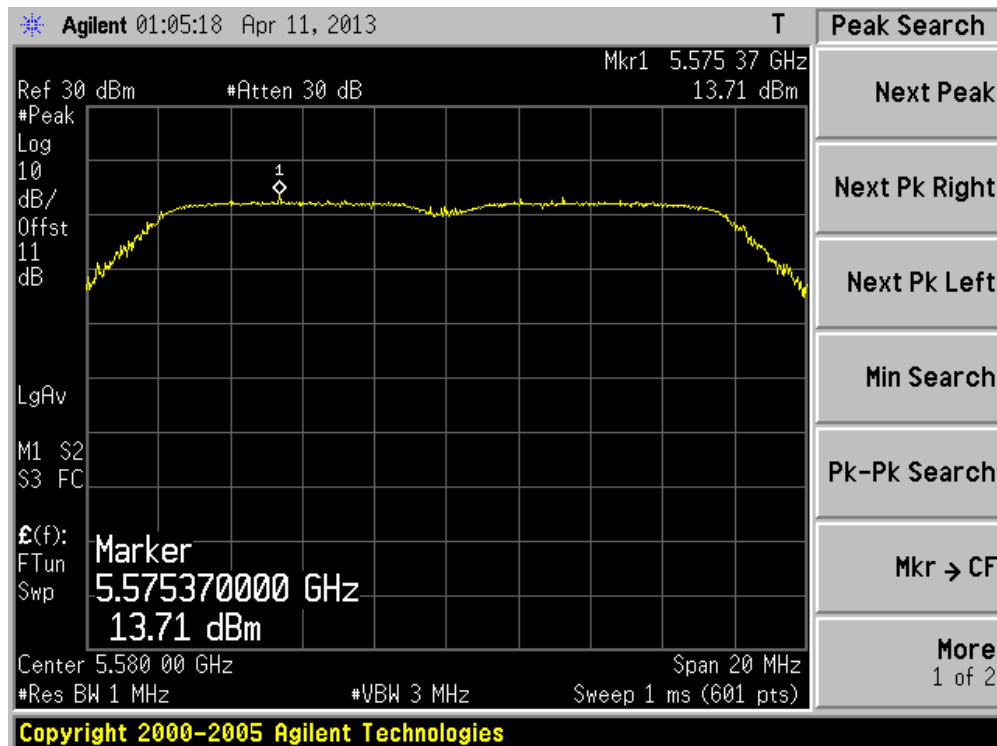
Channel 64 (5320MHz)



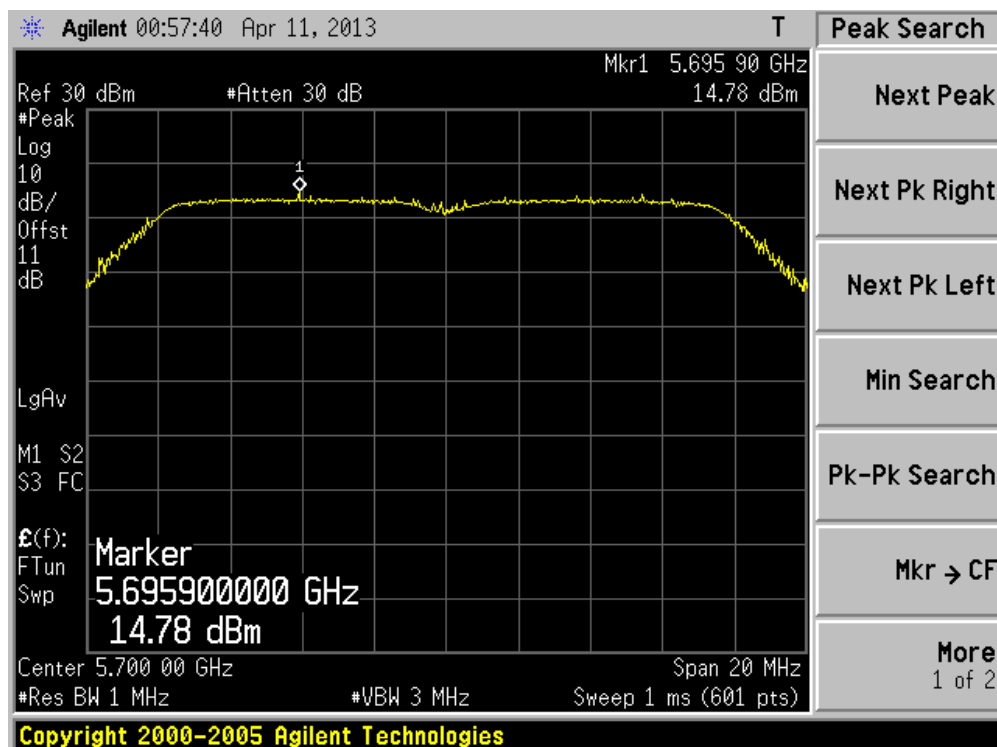
Channel 100 (5500MHz)



Channel 116 (5580MHz)



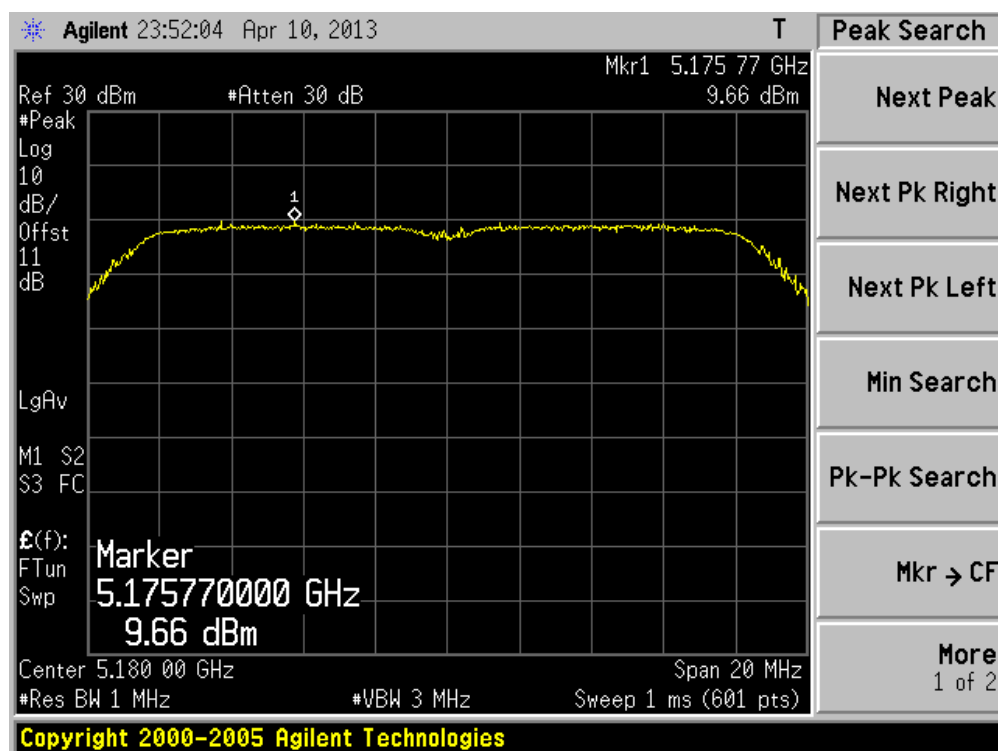
Channel 140 (5700MHz)



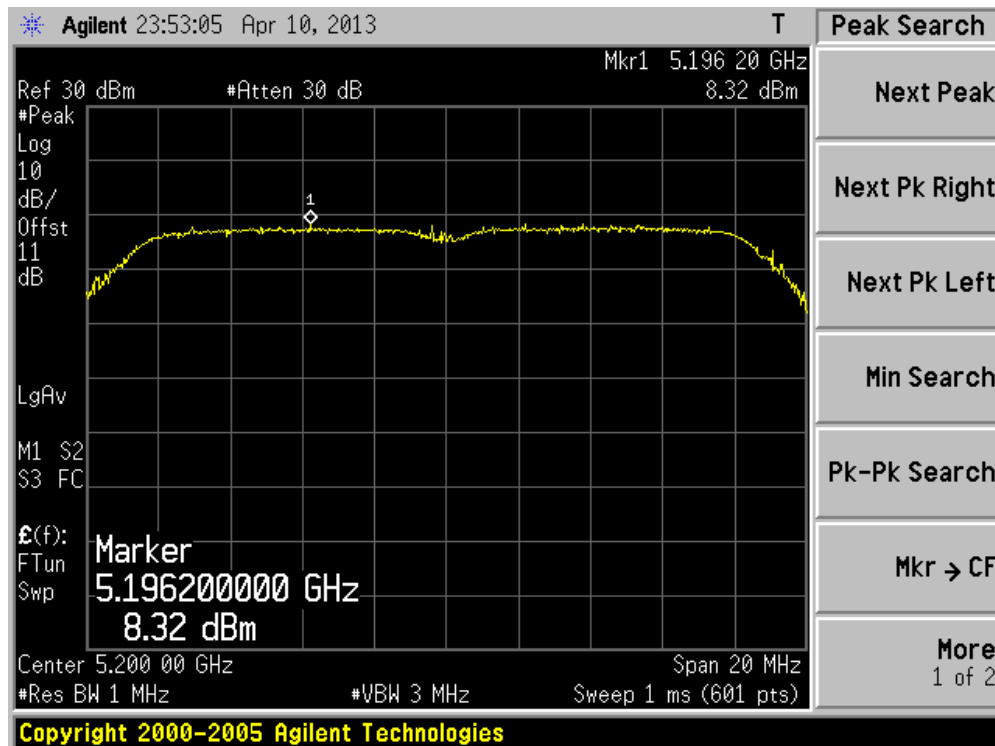
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz) (Chain 0)

Channel No.	Frequency (MHz)	Peak Level (dB)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Result
36	5180	9.66	0.07	0.04	9.55	13	Pass
40	5200	8.32	-0.24	0.04	8.52	13	Pass
48	5240	8.88	-0.19	0.04	9.03	13	Pass
52	5260	8.65	-0.34	0.04	8.95	13	Pass
60	5300	10.22	1.43	0.04	8.75	13	Pass
64	5320	9.85	1.30	0.04	8.51	13	Pass
100	5500	9.48	1.57	0.04	7.87	13	Pass
116	5580	10.84	2.60	0.04	8.20	13	Pass
140	5700	13.30	4.94	0.04	8.32	13	Pass

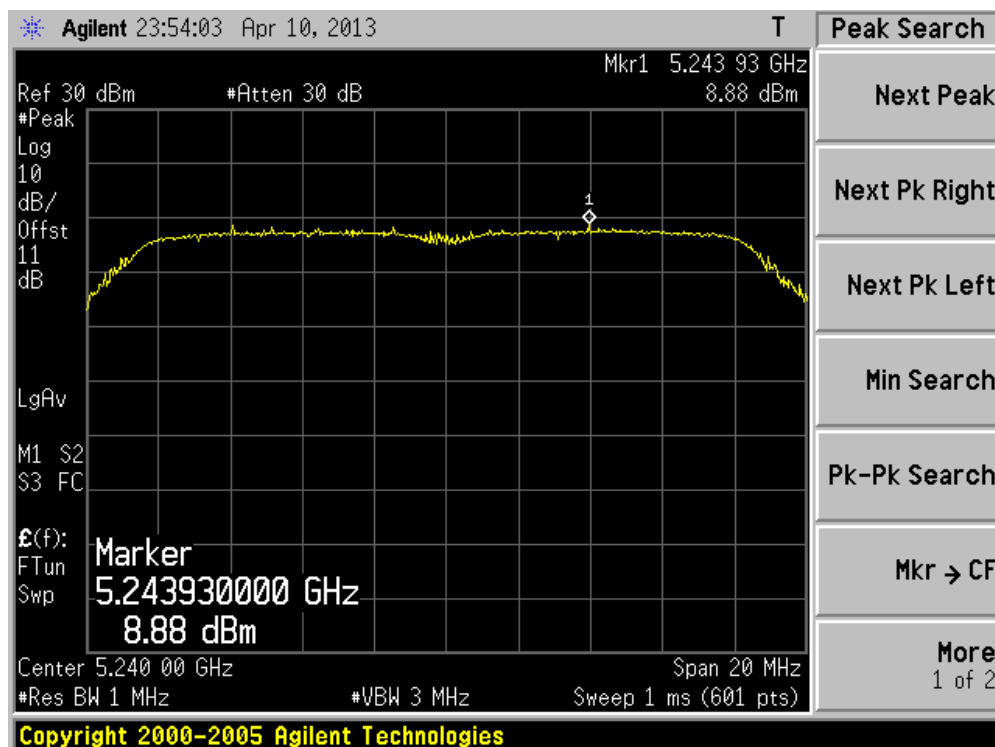
Channel 36 (5180MHz)



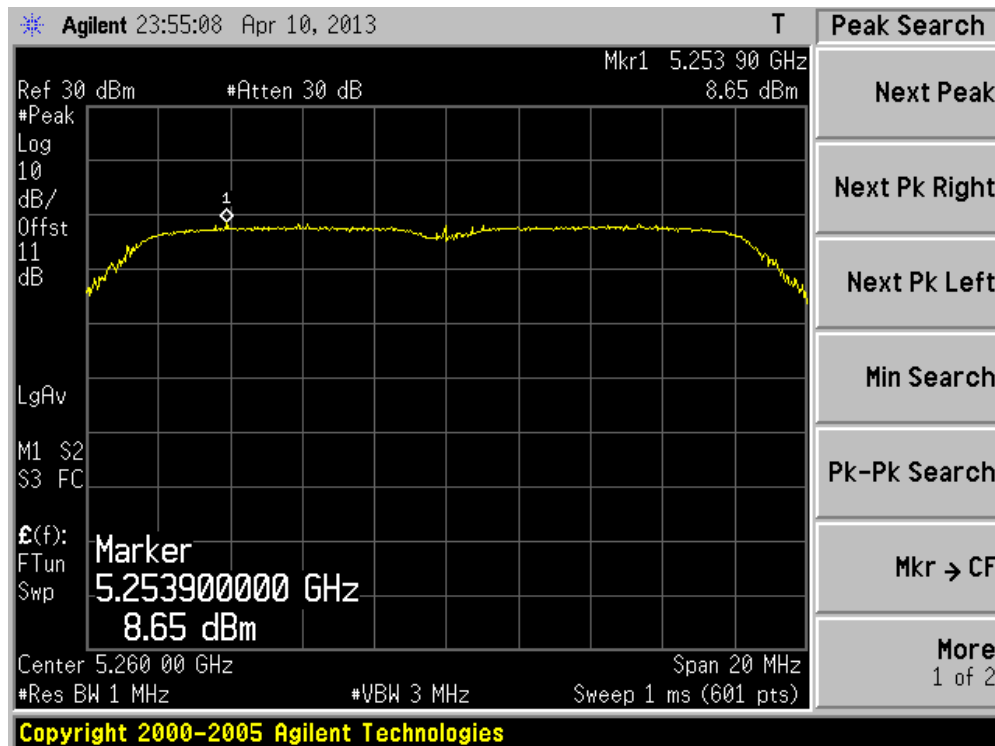
Channel 40 (5200MHz)



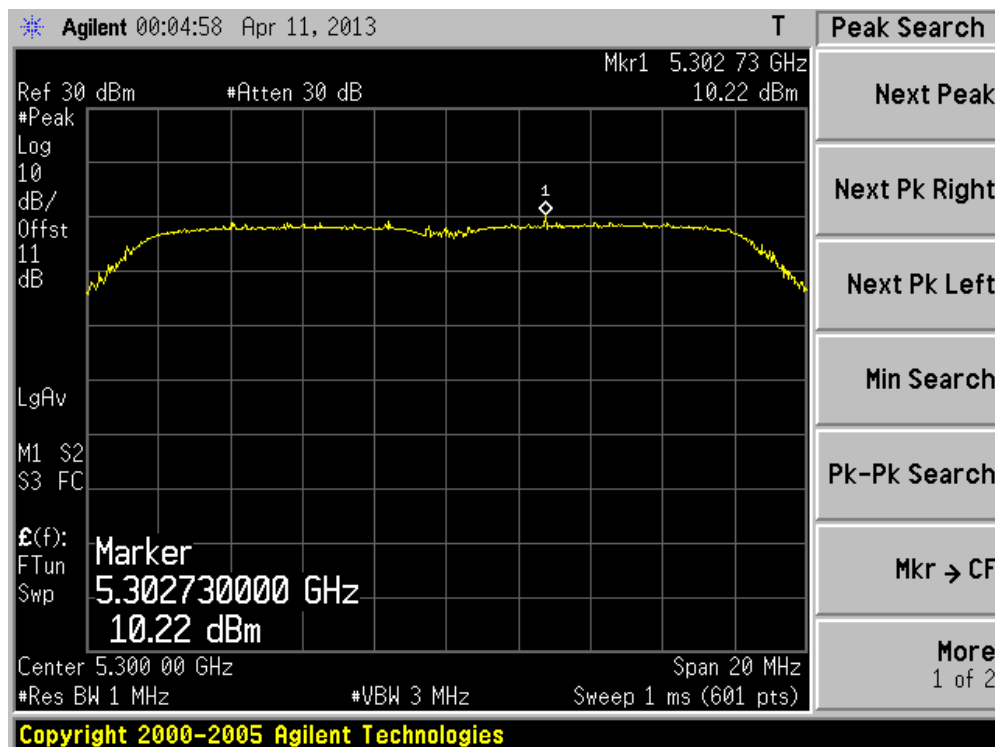
Channel 48 (5240MHz)



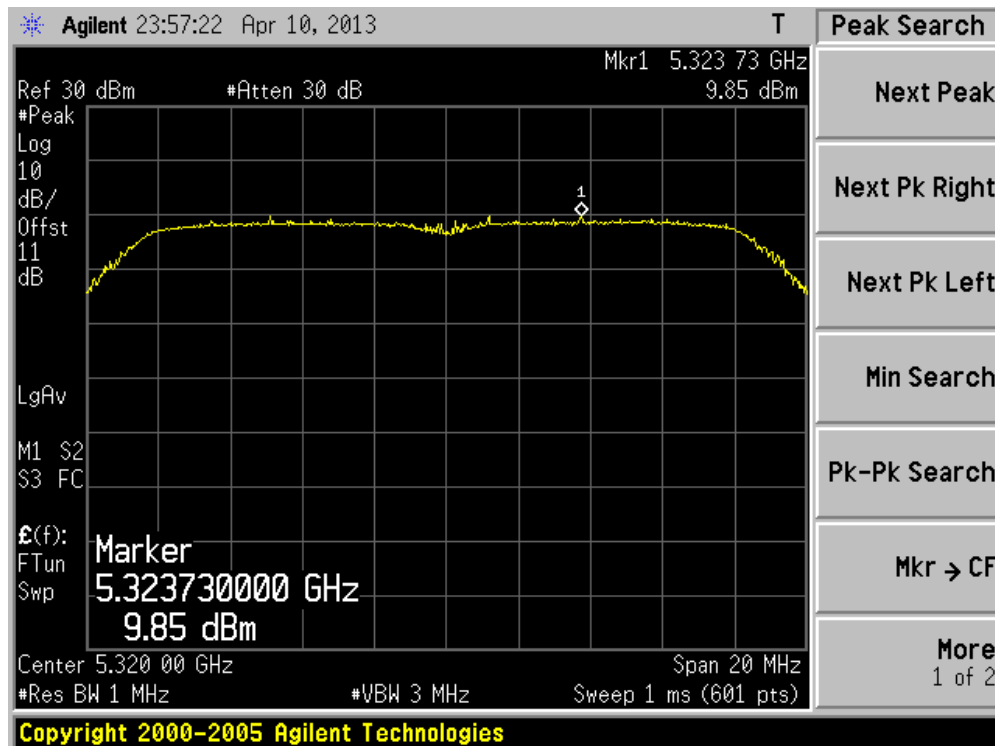
Channel 52 (5260MHz)



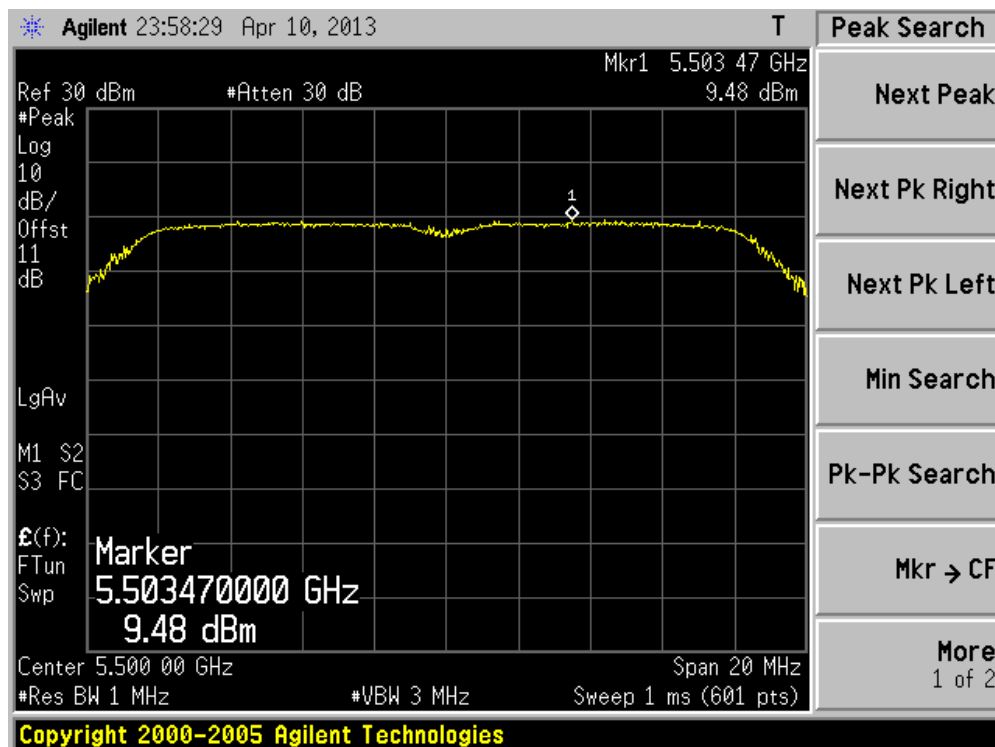
Channel 60 (5300MHz)



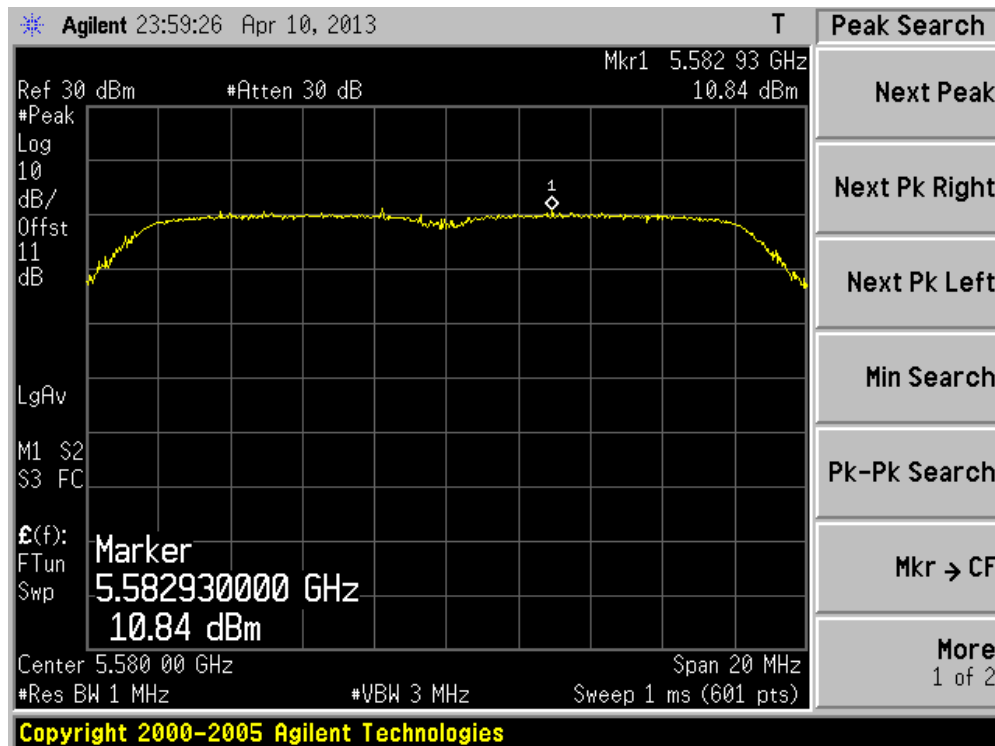
Channel 64 (5320MHz)



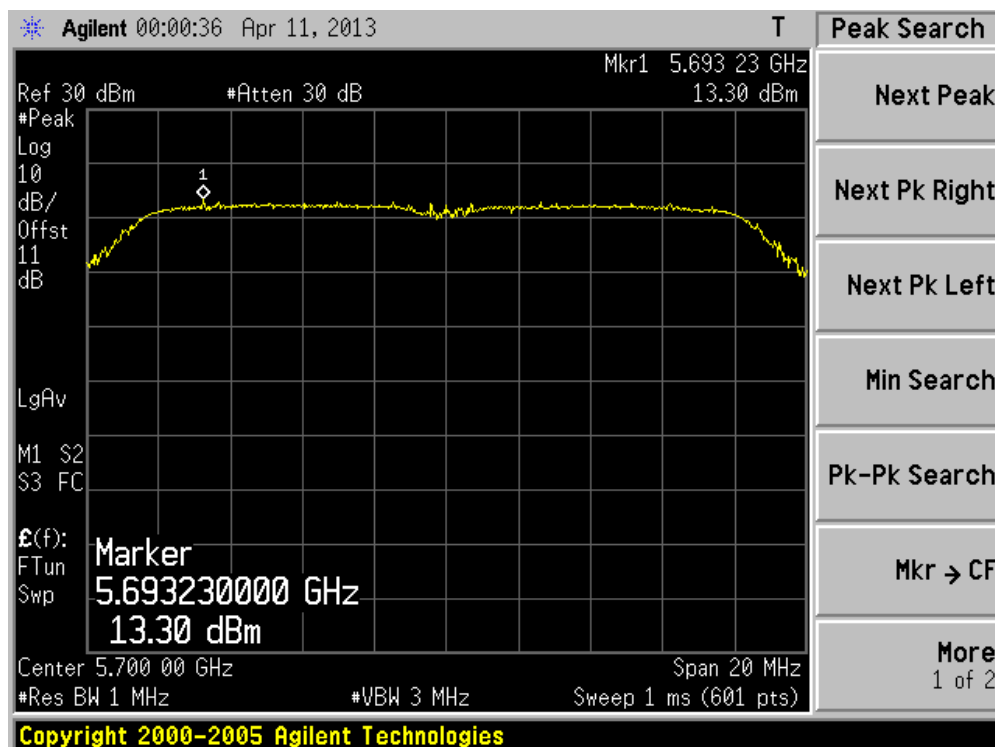
Channel 100 (5500MHz)



Channel 116 (5580MHz)



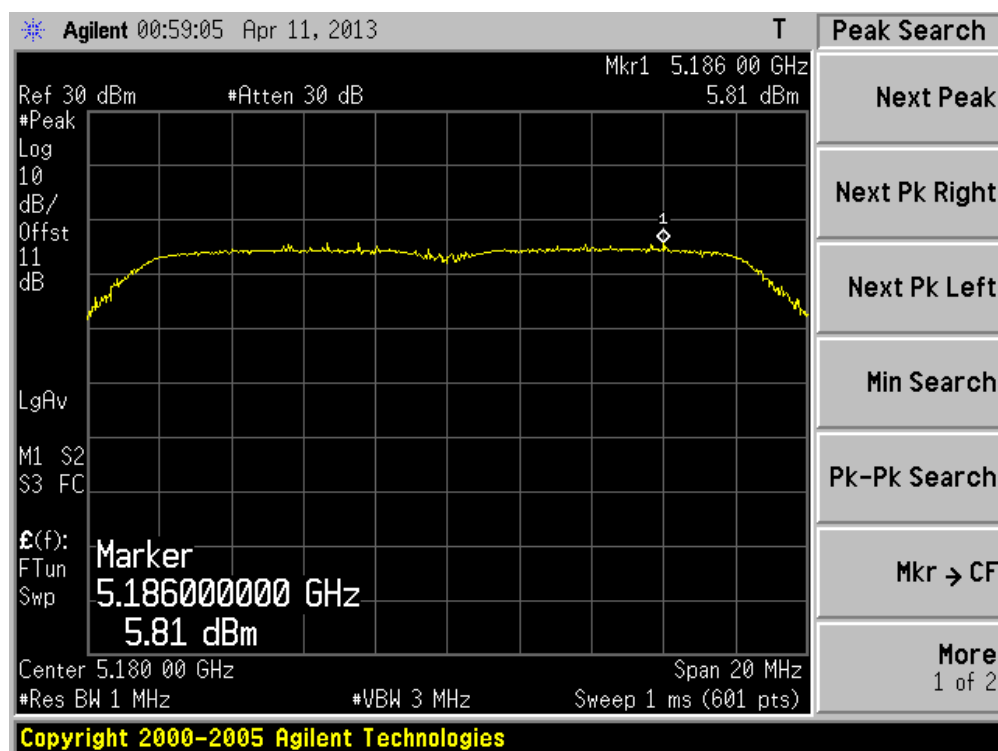
Channel 140 (5700MHz)



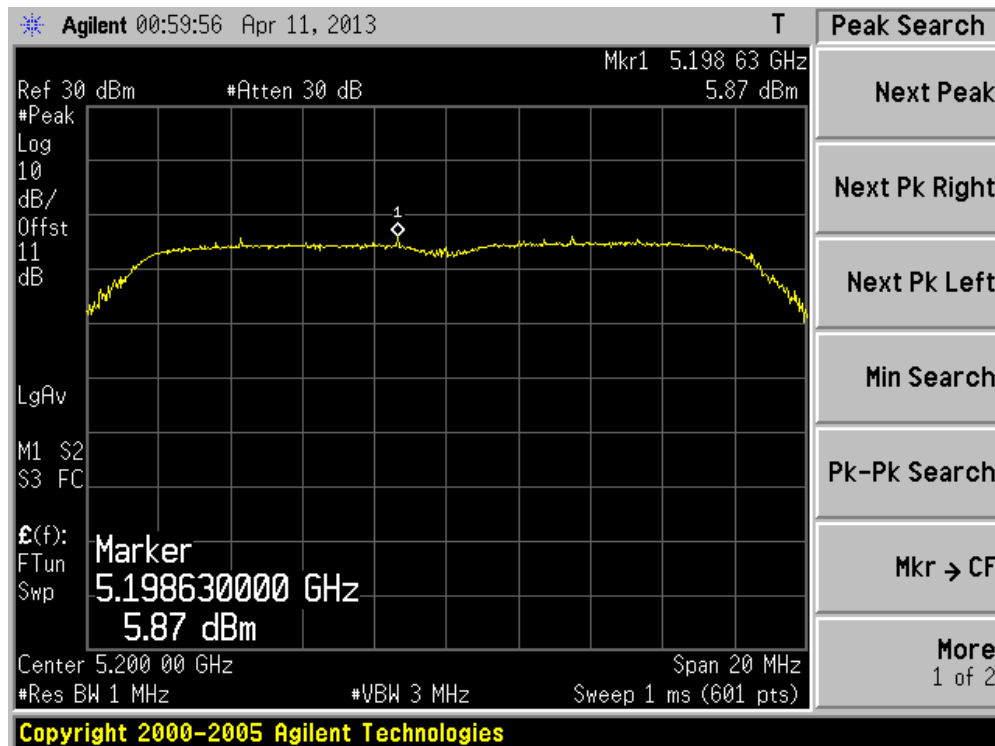
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz) (Chain 1)

Channel No.	Frequency (MHz)	Peak Level (dB)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Result
36	5180	5.81	-1.80	0.04	7.57	13	Pass
40	5200	5.87	-2.35	0.04	8.18	13	Pass
48	5240	6.20	-1.85	0.04	8.01	13	Pass
52	5260	11.98	3.31	0.04	8.63	13	Pass
60	5300	13.11	3.52	0.04	9.55	13	Pass
64	5320	12.13	3.44	0.04	8.65	13	Pass
100	5500	12.87	4.83	0.04	8.00	13	Pass
116	5580	13.61	5.37	0.04	8.20	13	Pass
140	5700	16.07	7.82	0.04	8.21	13	Pass

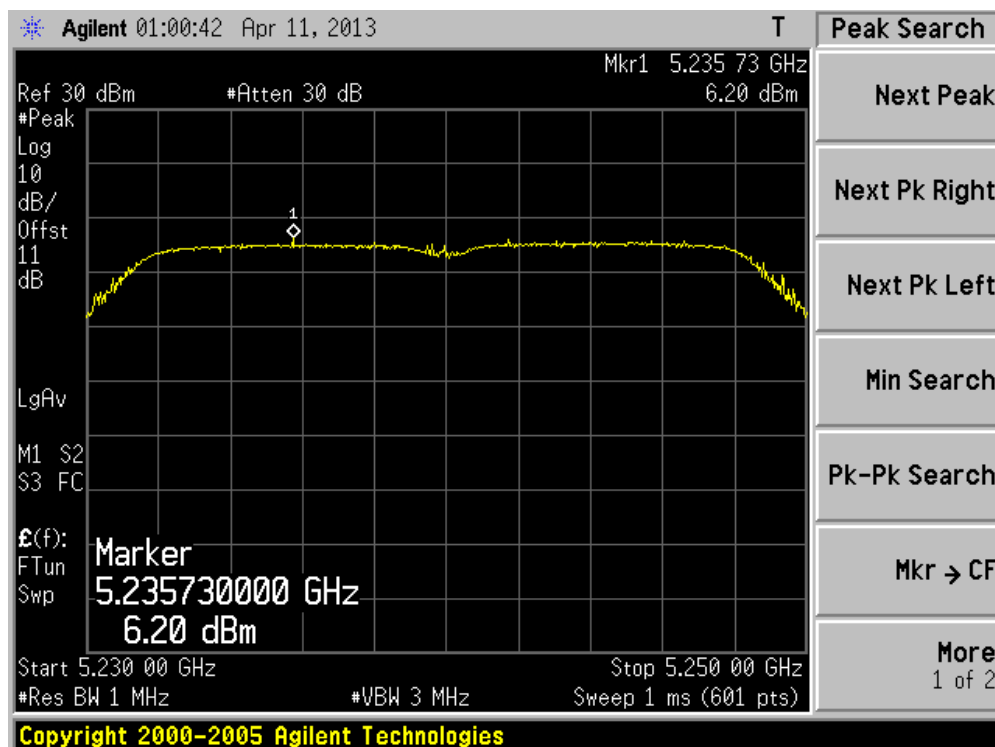
Channel 36 (5180MHz)



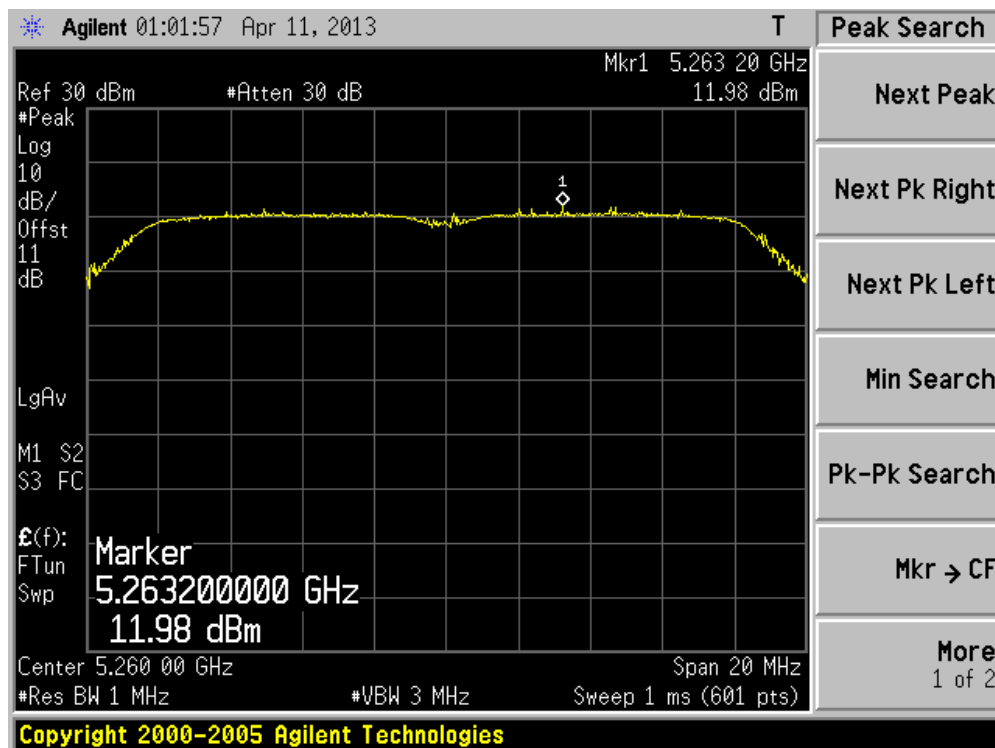
Channel 40 (5200MHz)



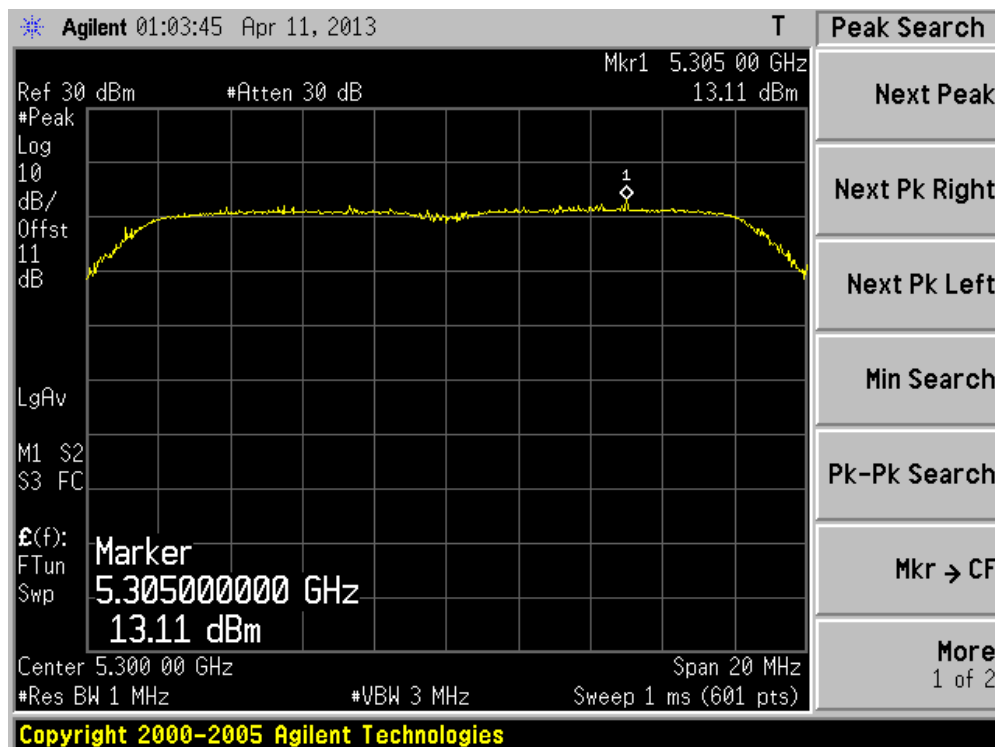
Channel 48 (5240MHz)



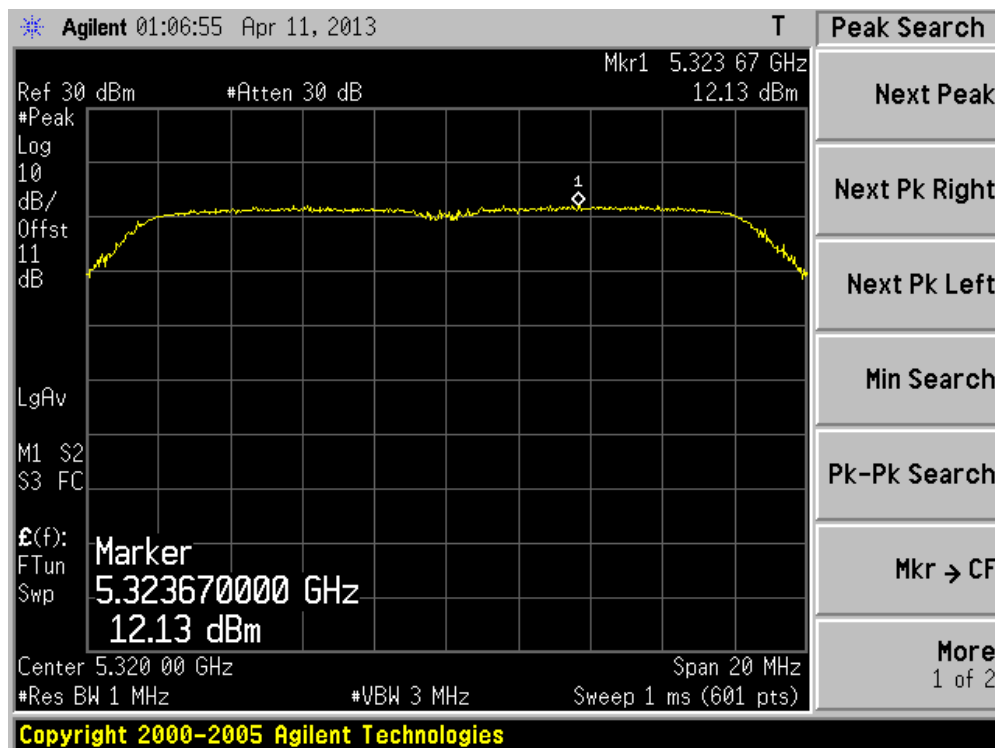
Channel 52 (5260MHz)



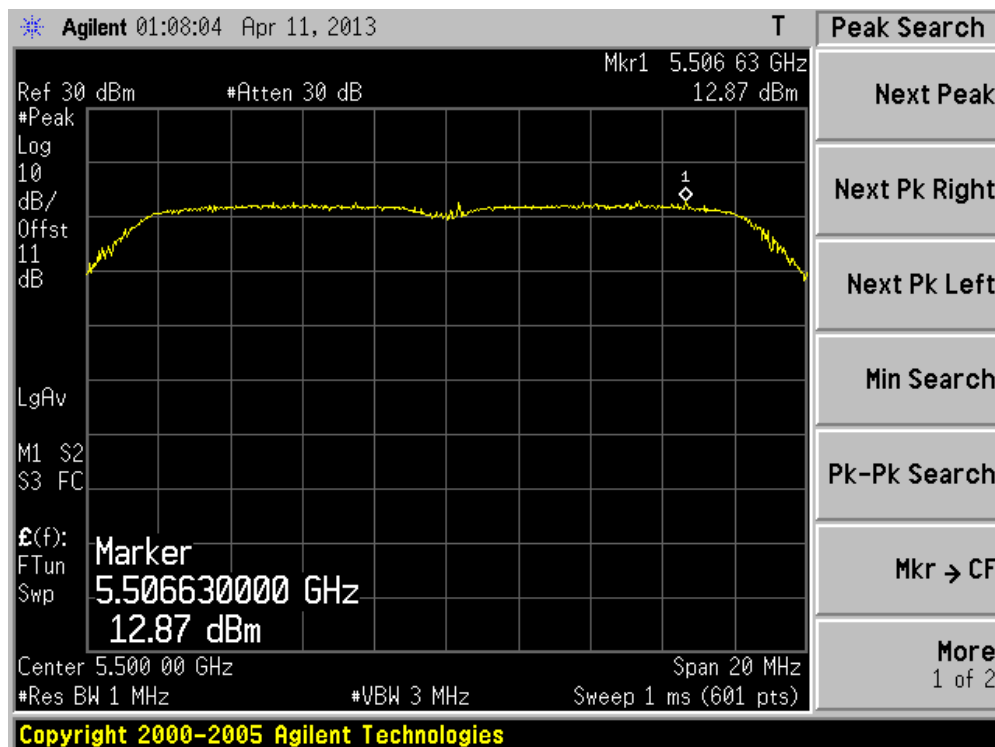
Channel 60 (5300MHz)



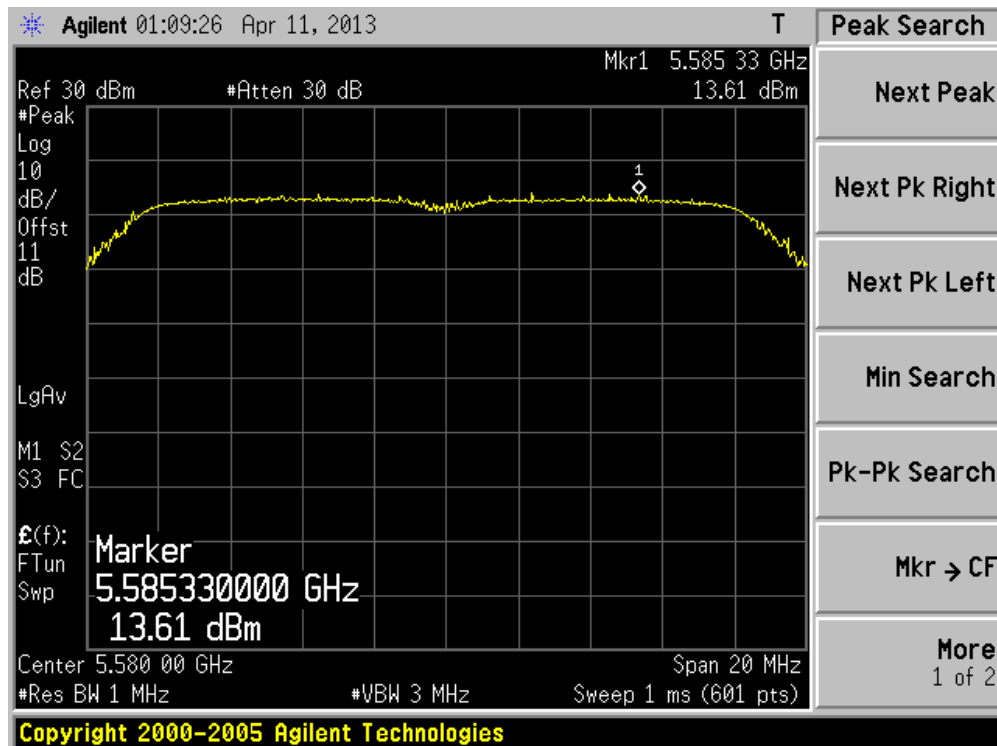
Channel 64 (5320MHz)



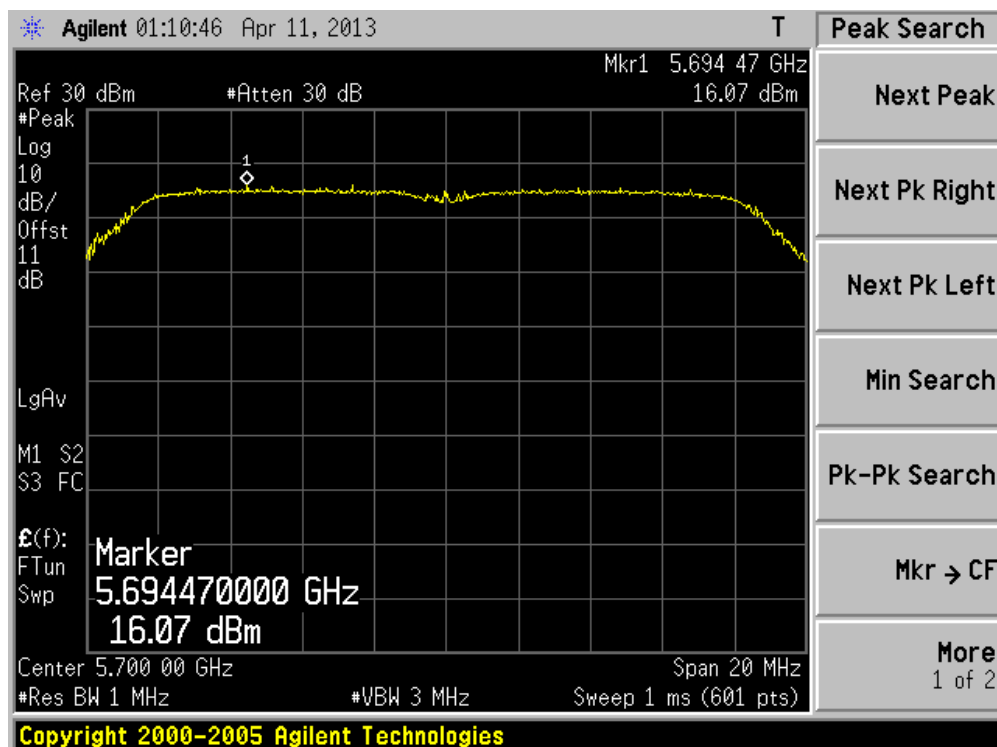
Channel 100 (5500MHz)



Channel 116 (5580MHz)



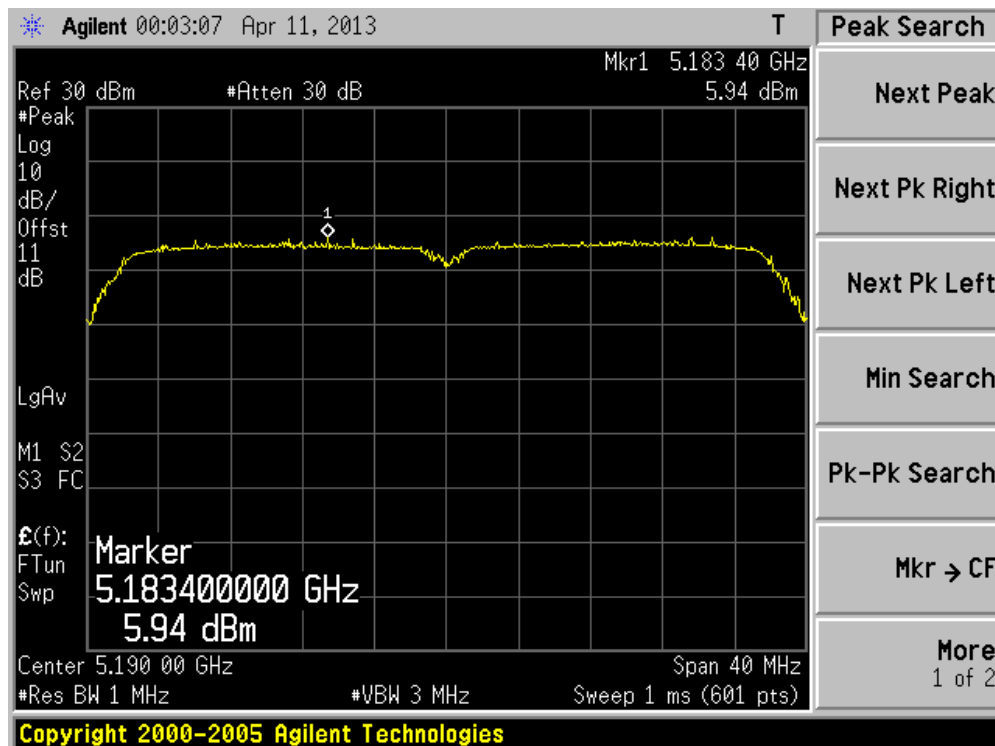
Channel 140 (5700MHz)



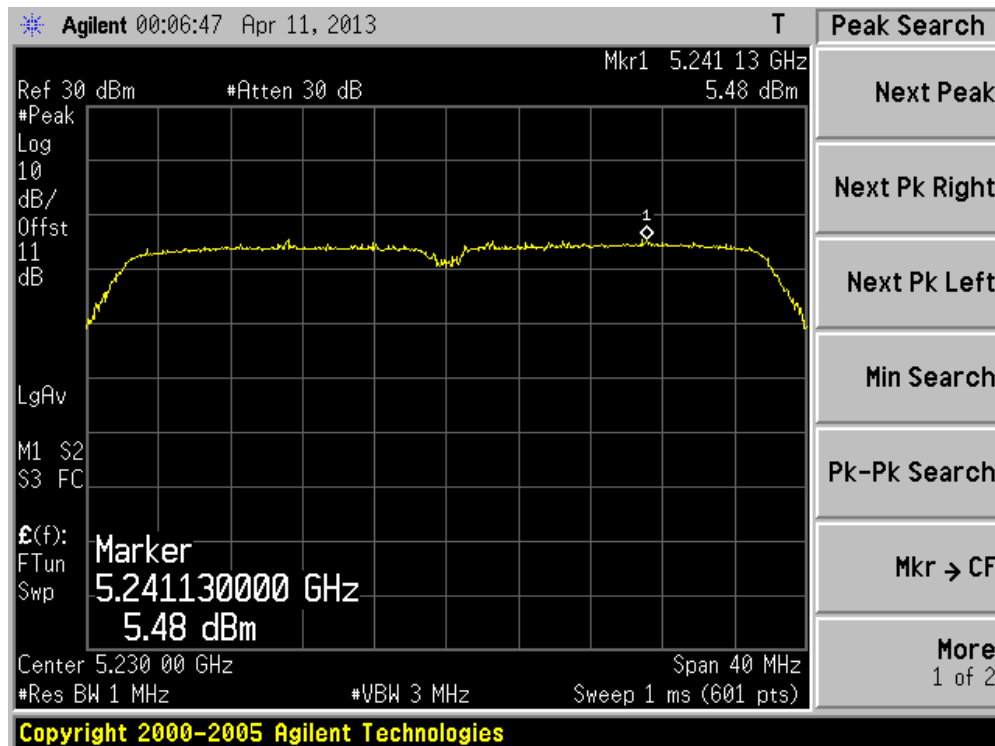
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz) (Chain 0)

Channel No.	Frequency (MHz)	Peak Level (dB)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Result
38	5190	5.94	-2.38	0.04	8.28	13	Pass
46	5230	5.48	-2.76	0.04	8.20	13	Pass
54	5270	7.51	-1.03	0.04	8.50	13	Pass
62	5310	6.65	-1.53	0.04	8.14	13	Pass
102	5510	6.40	-1.75	0.04	8.11	13	Pass
110	5550	7.15	-1.02	0.04	8.13	13	Pass

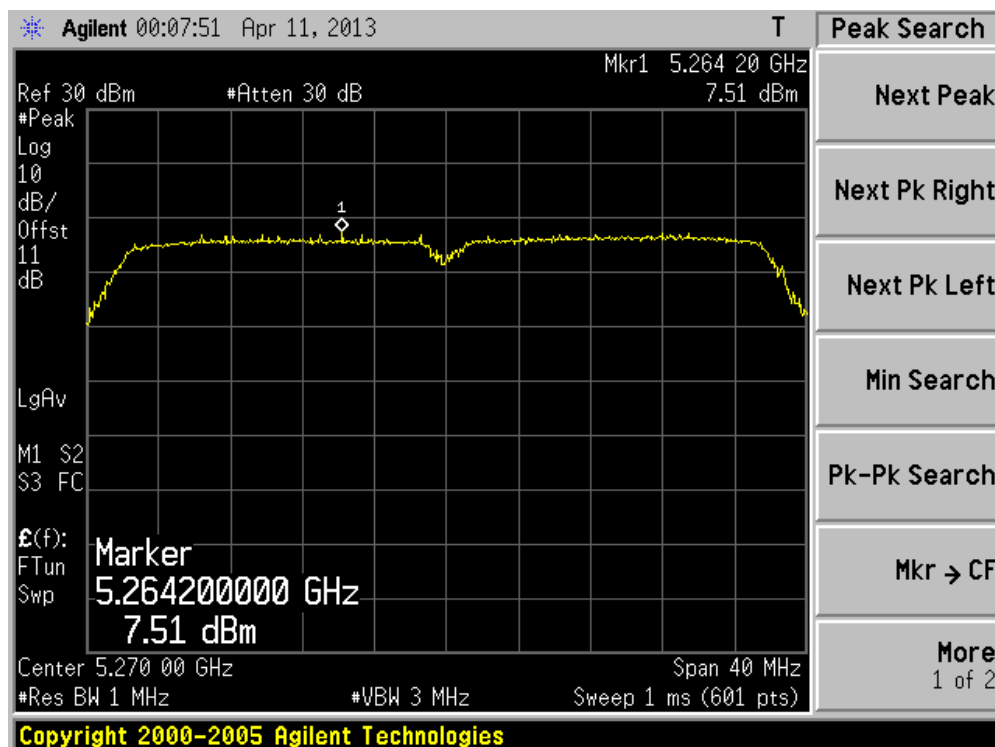
Channel 38 (5190MHz)



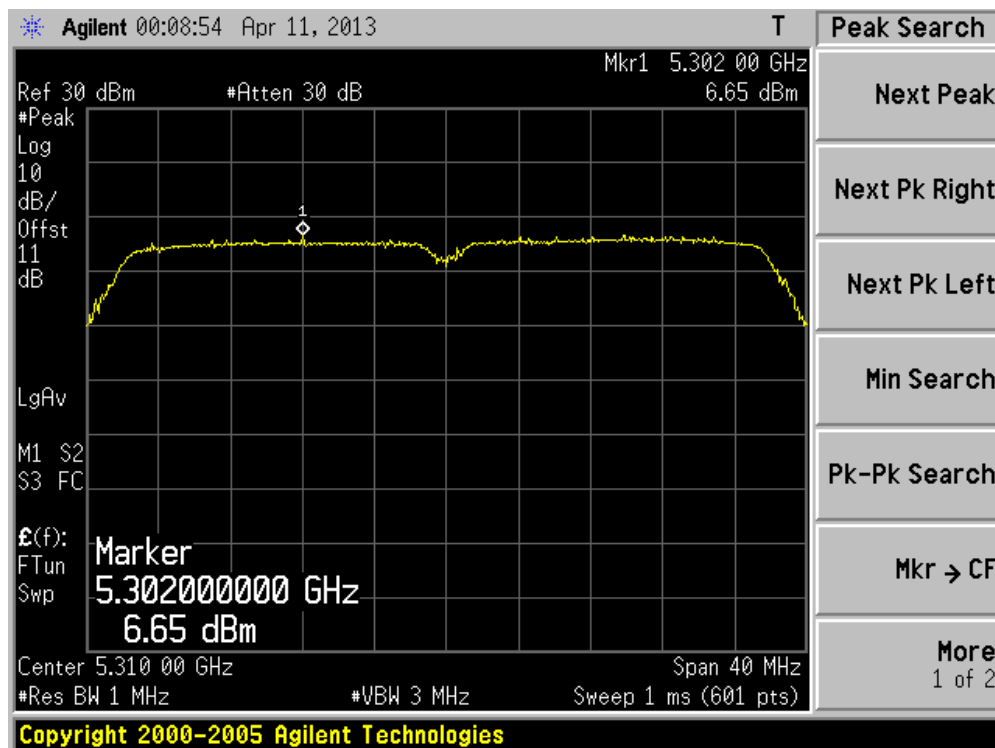
Channel 46 (5230MHz)



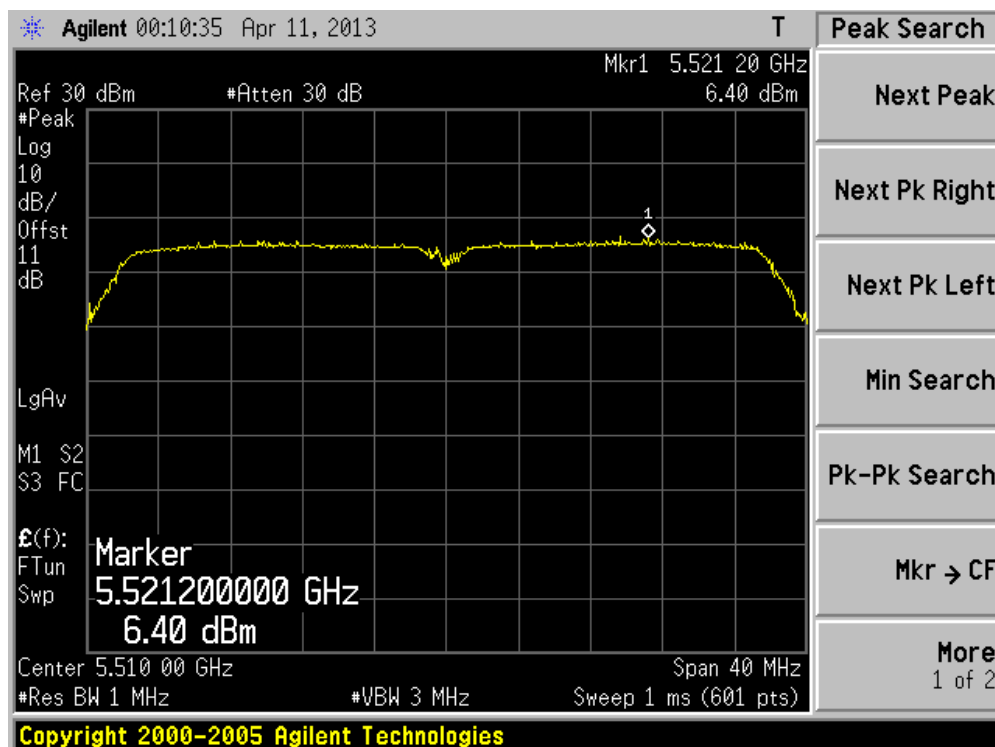
Channel 54 (5270MHz)



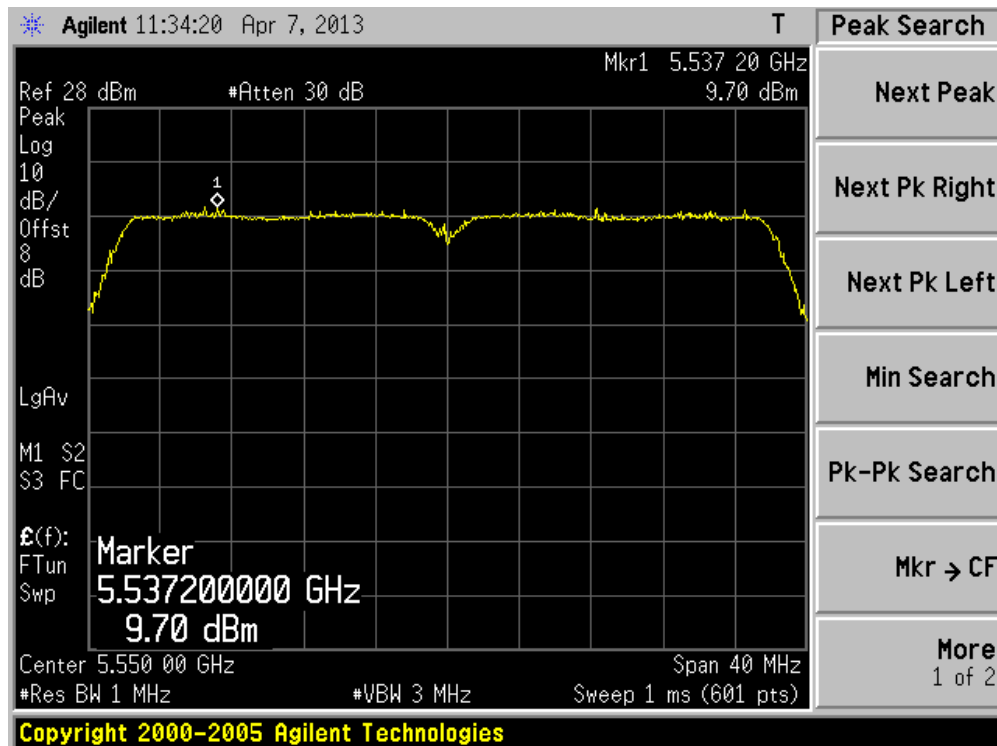
Channel 62 (5310MHz)



Channel 102 (5510MHz)



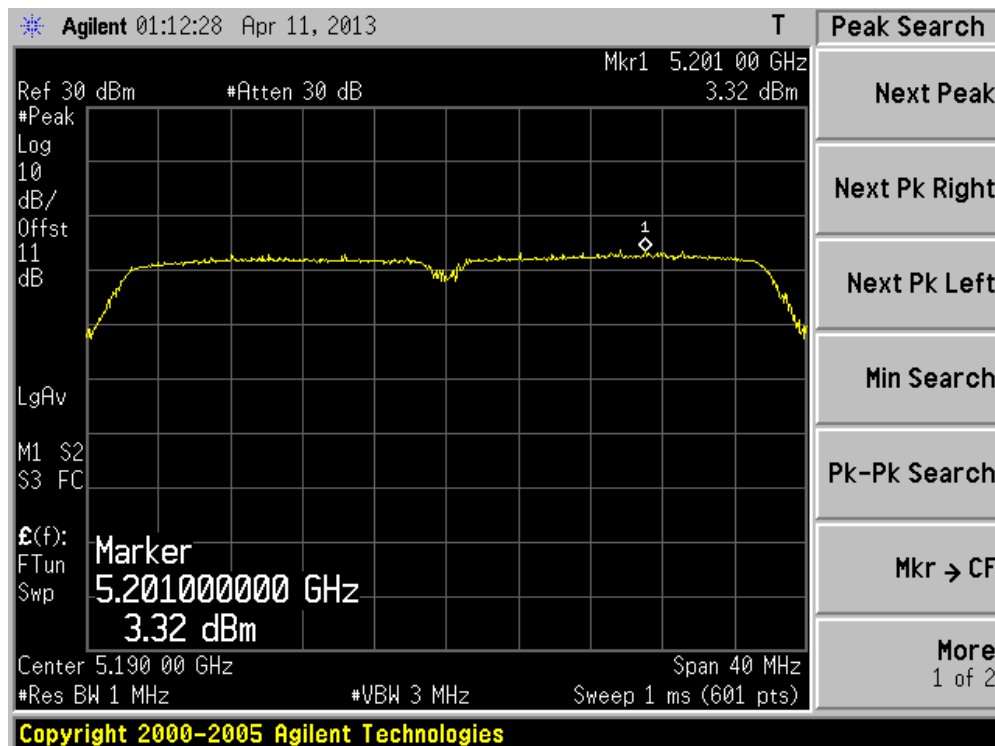
Channel 110 (5550MHz)



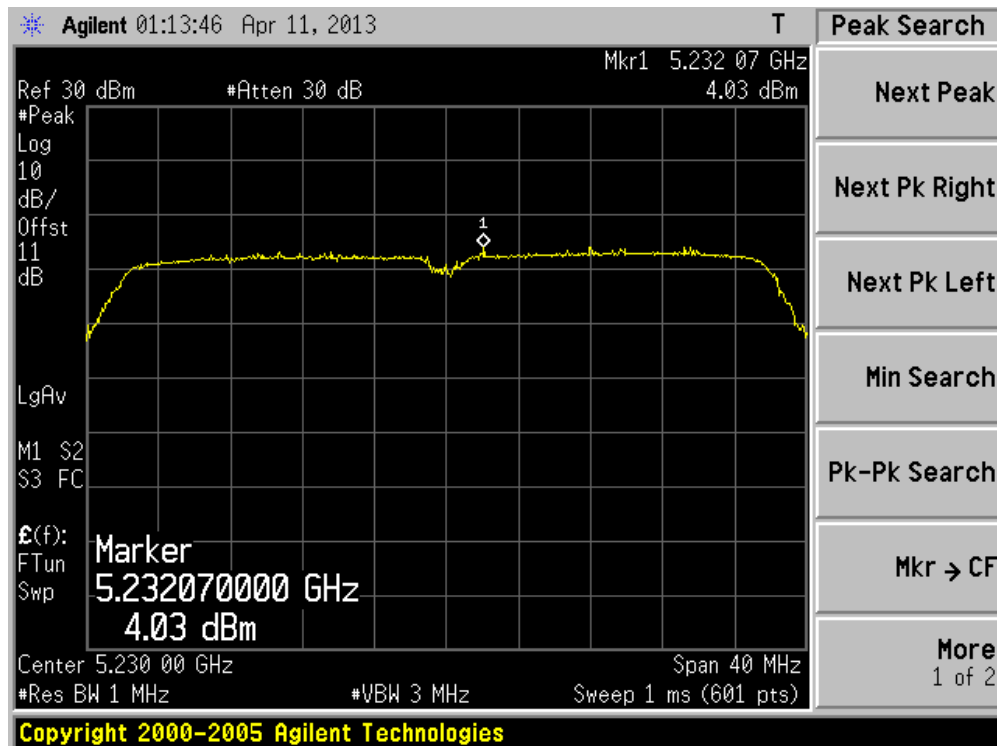
Product	:	WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz) (Chain 1)

Channel No.	Frequency (MHz)	Peak Level (dB)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Result
38	5190	3.32	-4.65	0.04	7.93	13	Pass
46	5230	4.03	-4.51	0.04	8.50	13	Pass
54	5270	9.24	0.49	0.04	8.71	13	Pass
62	5310	10.29	1.83	0.04	8.42	13	Pass
102	5510	9.51	0.80	0.04	8.67	13	Pass
110	5550	10.28	1.20	0.04	9.04	13	Pass

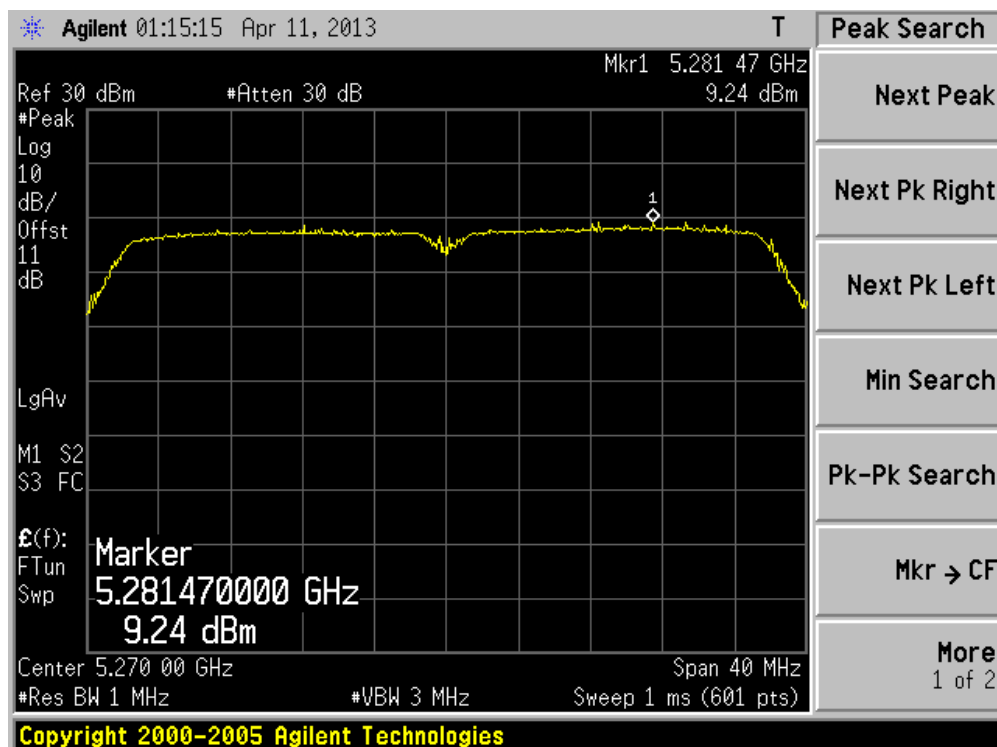
Channel 38 (5190MHz)



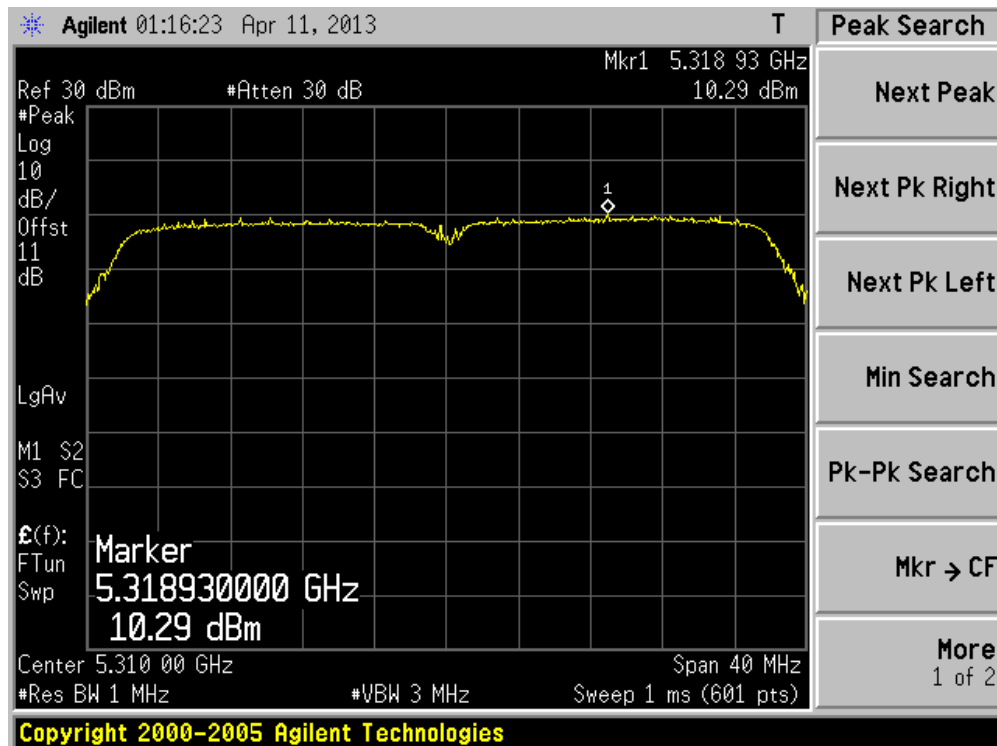
Channel 46 (5230MHz)



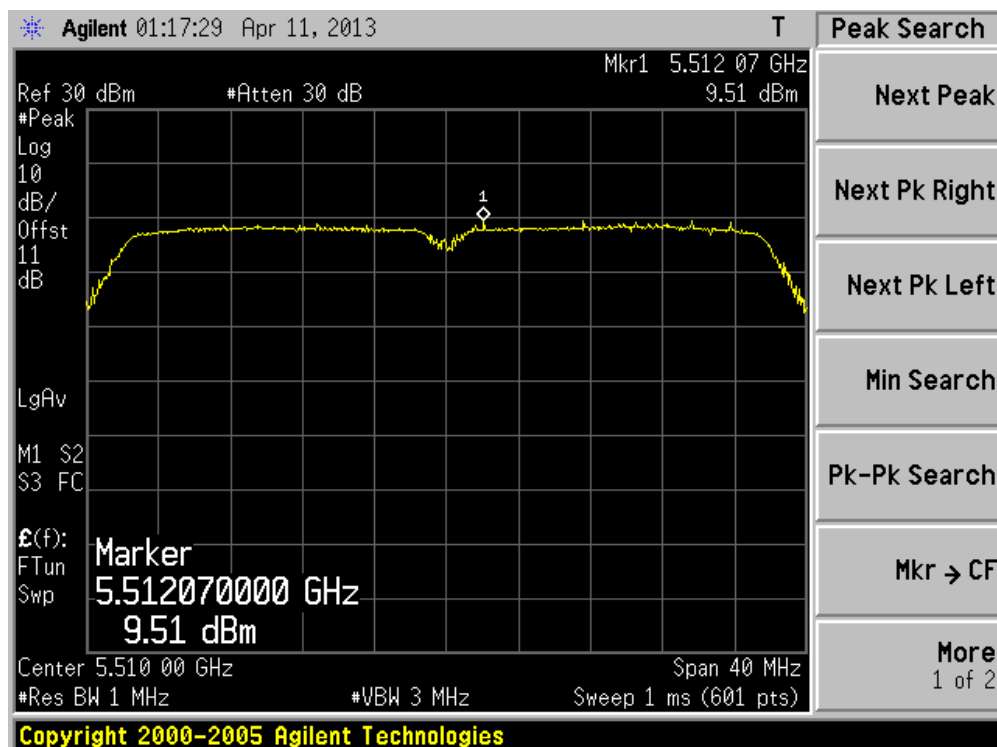
Channel 54 (5270MHz)



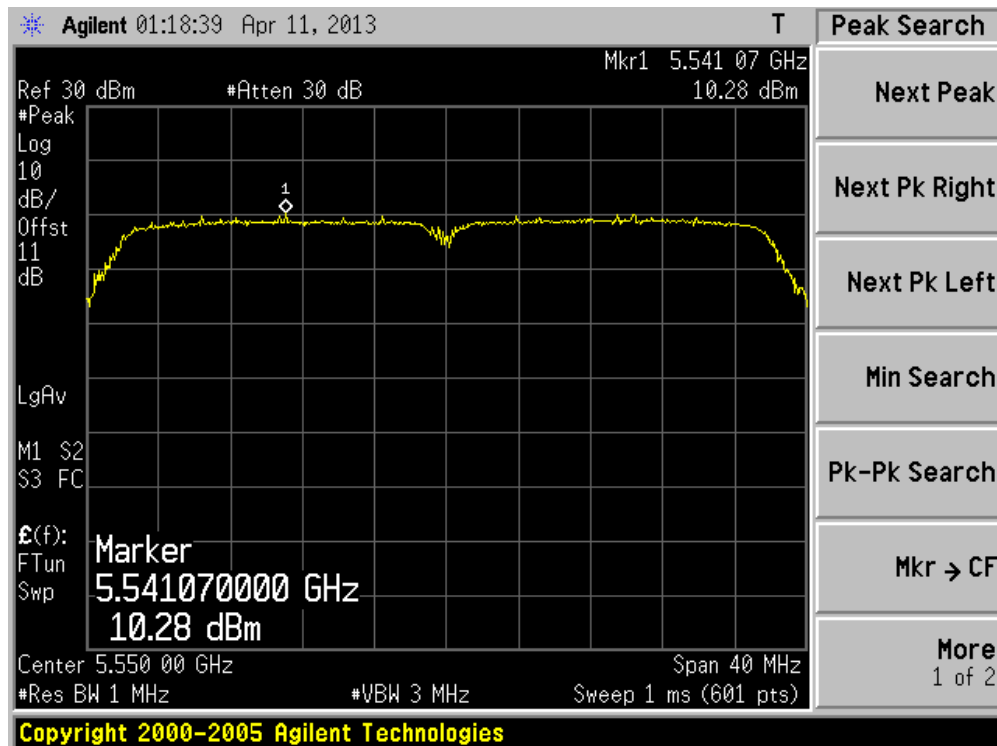
Channel 62 (5310MHz)



Channel 102 (5510MHz)



Channel 110 (5550MHz)



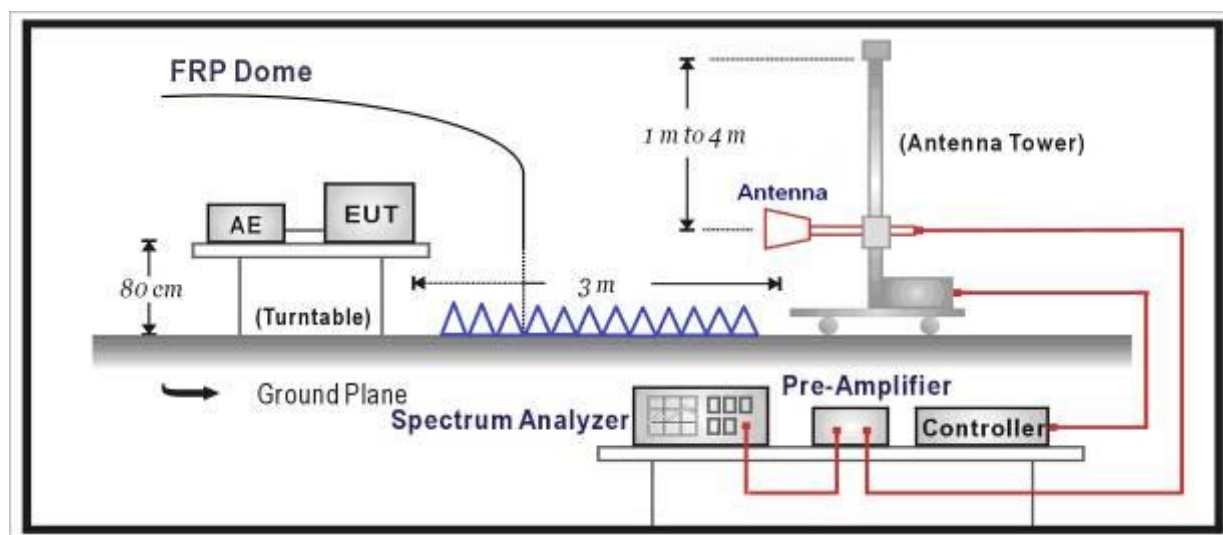
10. Radiated Emission Band Edge

10.1. Test Equipment

☒ Radiated Emission Band Edge / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MY49100159	2014.03.30
Preamplifier	Miteq	NSP1800-25	1364185	2014.05.04
Preamplifier	QuieTek	AP-040G	CHM-0906001	2014.05.04
Bilog Antenna	Teseq GmbH	CBL6112D	27612	2013.10.15
DRG Horn	ETS-Lindgren	3117	00123988	2014.01.21
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2014.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2014.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2014.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2013.06.11
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2014.01.11

10.2. Test Setup



10.3. Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)

For 15.407(b) requirement:

- For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.
- For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27dBm/MHz in the 5.15-5.25 GHz band.
- For transmitters operating in the 5.47-5.725 GHz band: all emission outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.
- For transmitters operating in the 5.725-5.825 GHz band: all emission within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz.

Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dBuV/m)
5150 - 5250	-27	68.3
5250 - 5350	-27	68.3
5470 - 5725	-27	68.3
5725 - 5825	-27 [Note(1)]	68.3
	-17 [Note(2)]	78.3
Note(1): Outside the frequency range 5715 - 5835MHz. Note(2): Within the frequency range from the band edge to 10MHz below or above the band edge, 5715 – 5725MHz and 5825 - 5835MHz.		

10.4. Test Procedure

The EUT was tested according to KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

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: 2009 on radiated measurement.

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.

10.5. Uncertainty

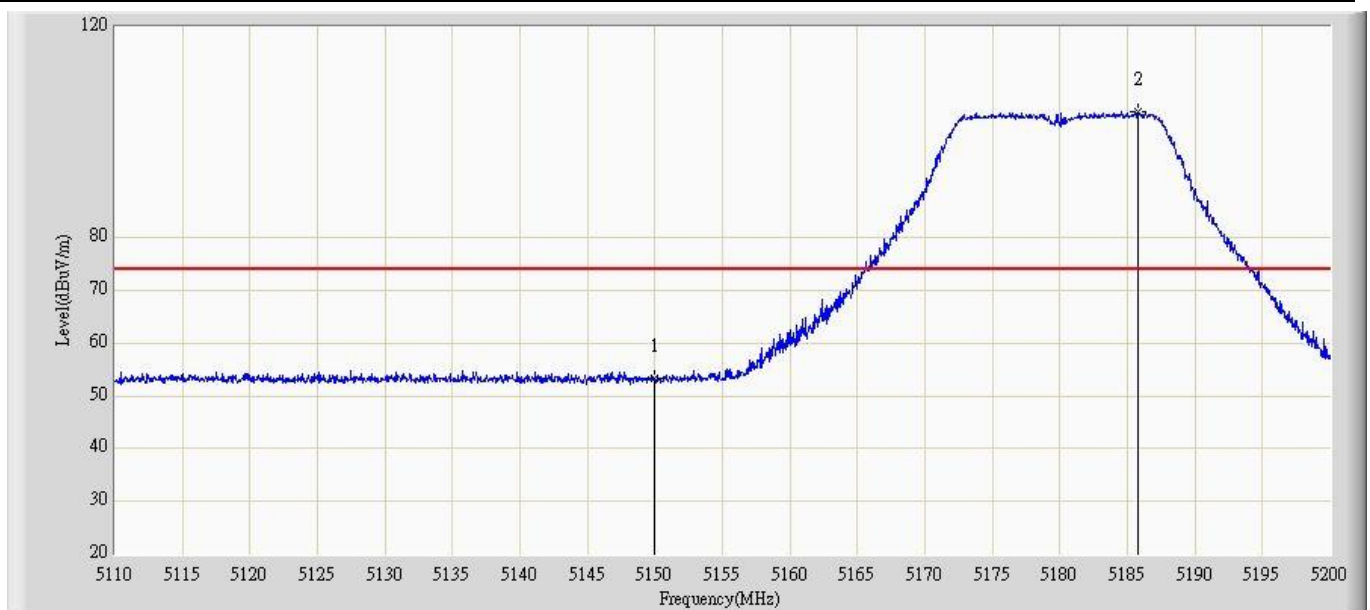
The measurement uncertainty above 1GHz is defined as ± 3.9 dB

10.6. Test Result

Peak detector: RBW = 1MHz, VBW = 3MHz, sweep time = 200ms;

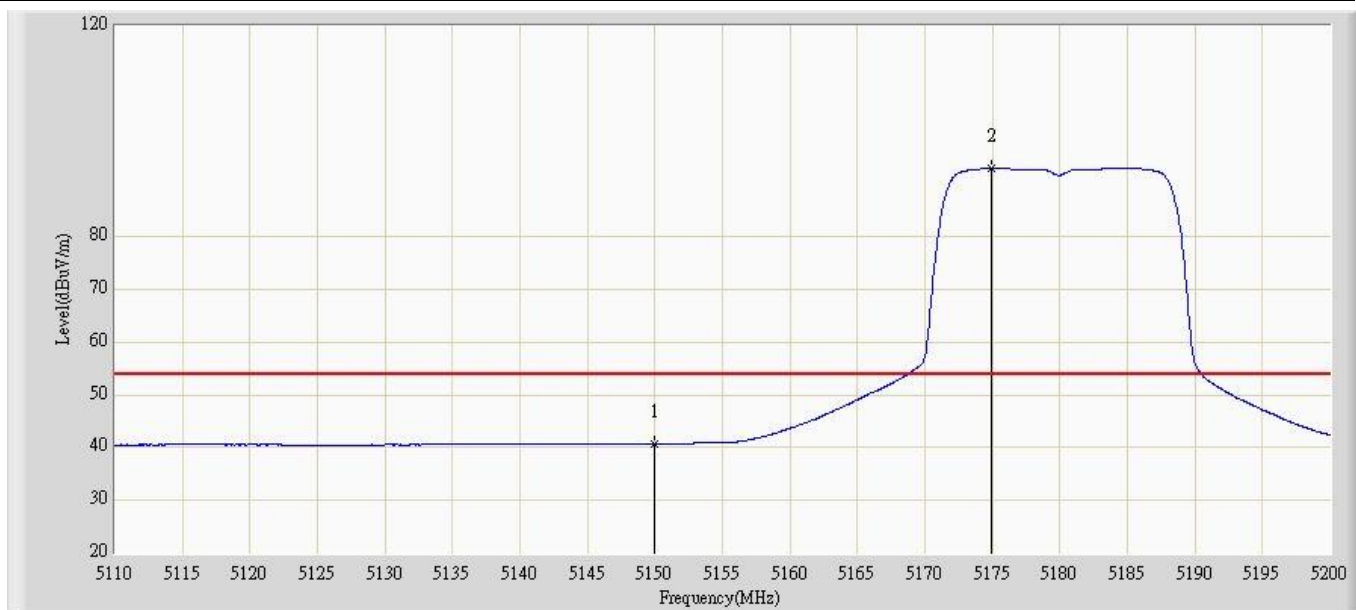
Average detector: RBW = 1MHz, VBW = 10Hz, sweep time = auto.

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 10:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 5180MHz by 802.11a Chain 0	



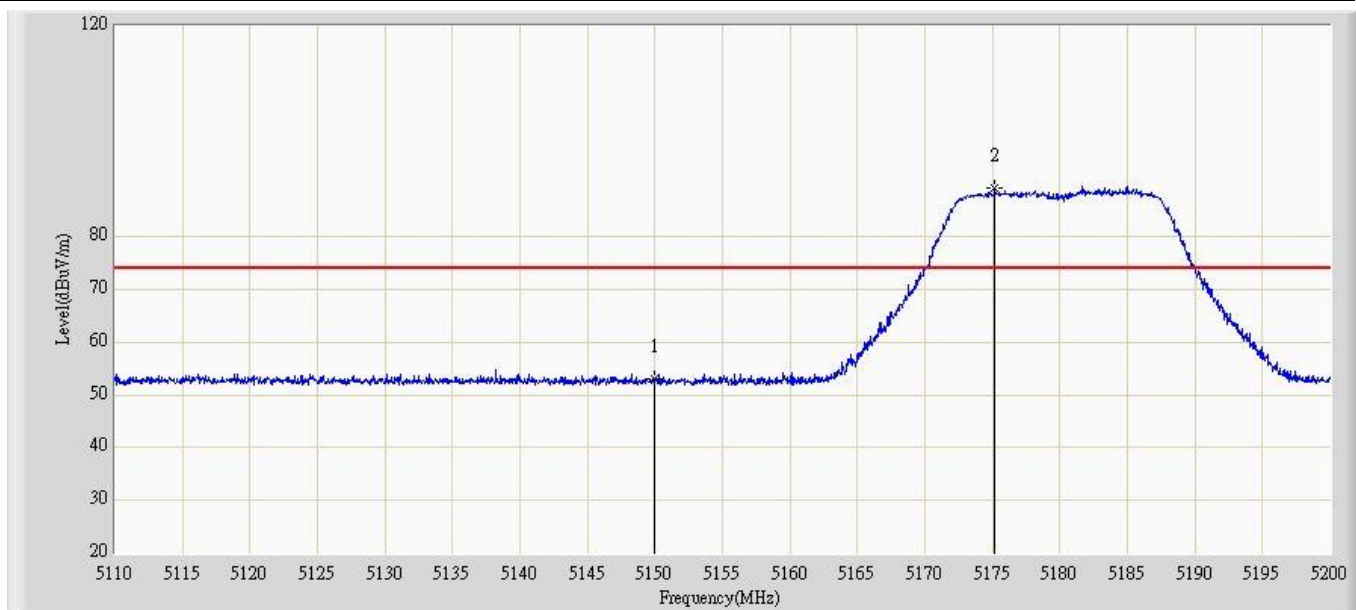
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	53.366	13.385	-20.634	74.000	39.981	PK
2		*	5185.780	103.834	63.830	N/A	N/A	40.004	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 10:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 5180MHz by 802.11a Chain 0	



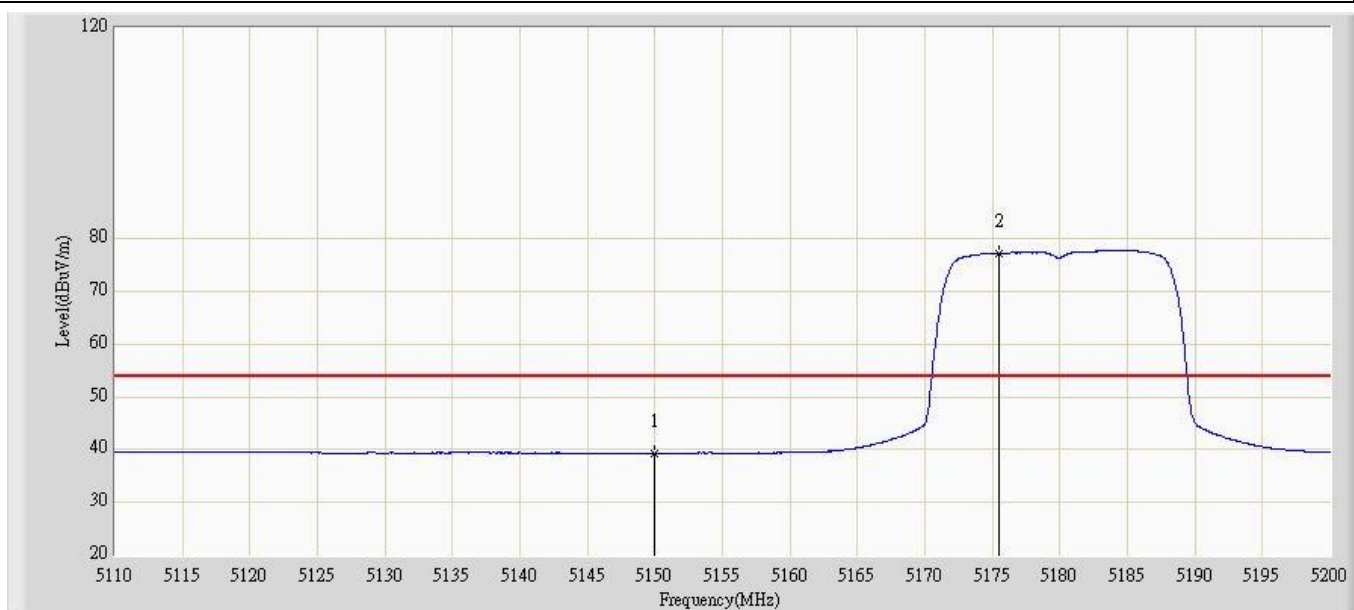
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	40.760	0.779	-13.240	54.000	39.981	AV
2		*	5174.890	92.886	52.890	N/A	N/A	39.996	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 10:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 5180MHz by 802.11a Chain 0	



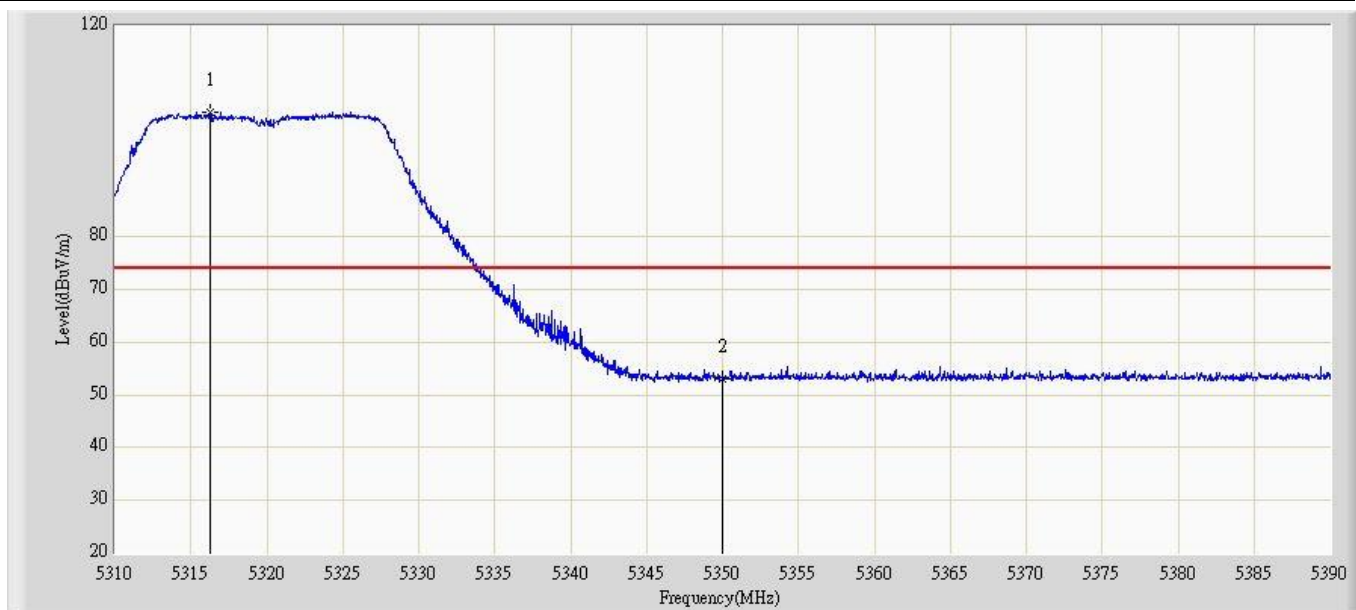
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	52.957	12.936	-21.043	74.000	40.021	PK
2		*	5175.205	89.207	49.131	N/A	N/A	40.076	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 10:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 5180MHz by 802.11a Chain 0	



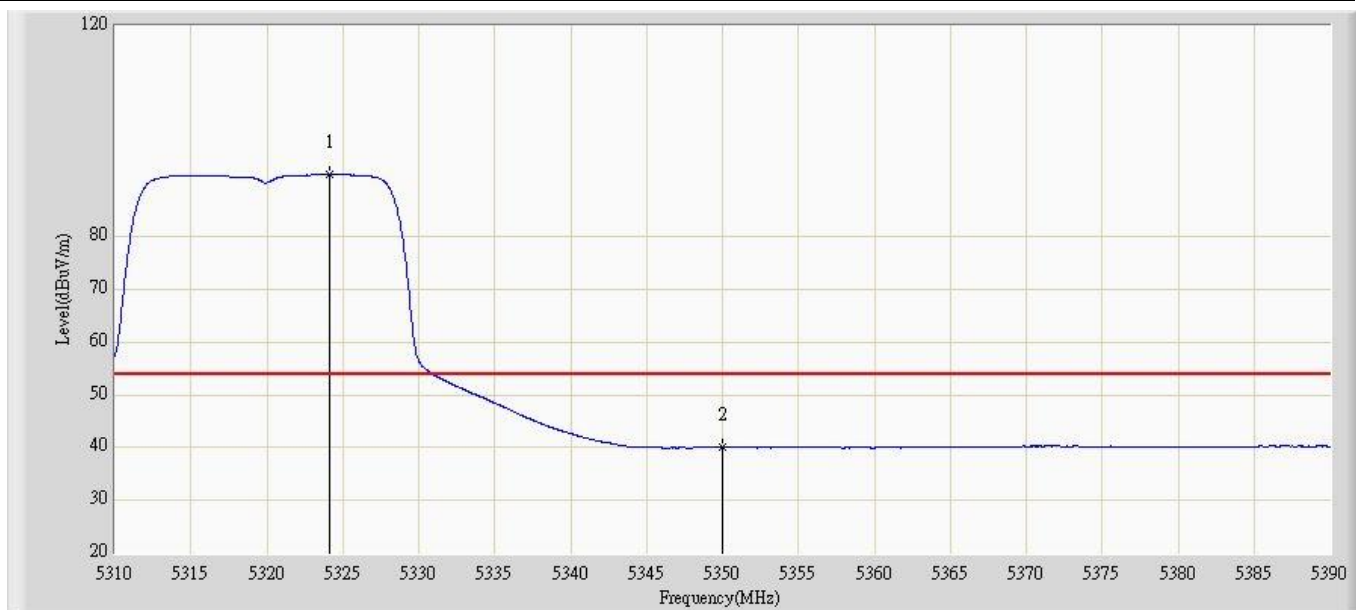
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	39.355	-0.666	-14.645	54.000	40.021	AV
2		*	5175.520	77.301	37.224	N/A	N/A	40.077	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 10:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 5320MHz by 802.11a Chain 0	



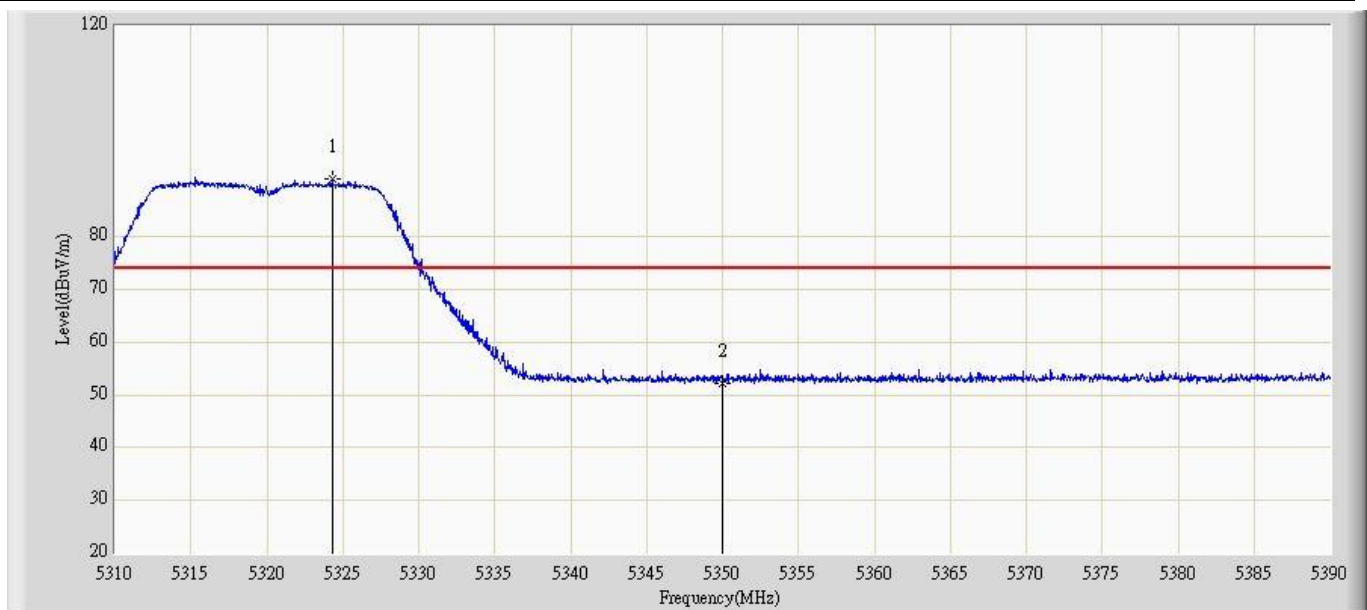
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5316.240	103.720	63.578	N/A	N/A	40.142	PK
2			5350.000	53.022	12.843	-20.978	74.000	40.179	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 10:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 5320MHz by 802.11a Chain 0	



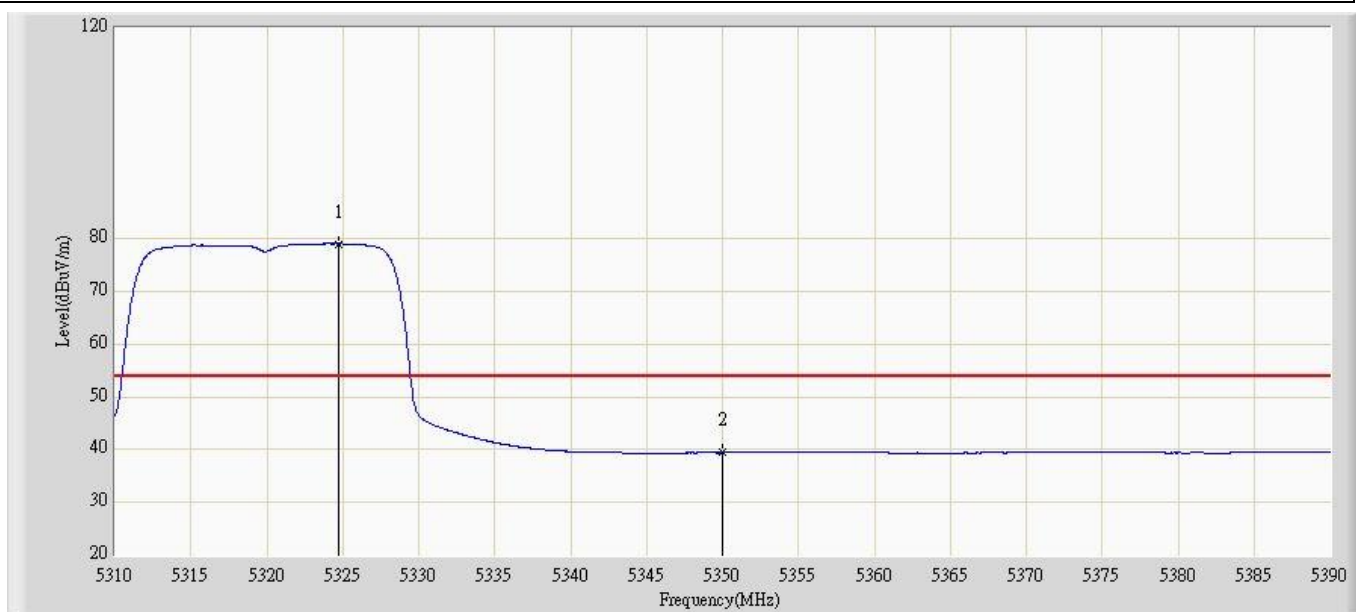
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5324.160	91.782	51.633	N/A	N/A	40.149	AV
2			5350.000	40.014	-0.165	-13.986	54.000	40.179	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 10:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 5320MHz by 802.11a Chain 0	



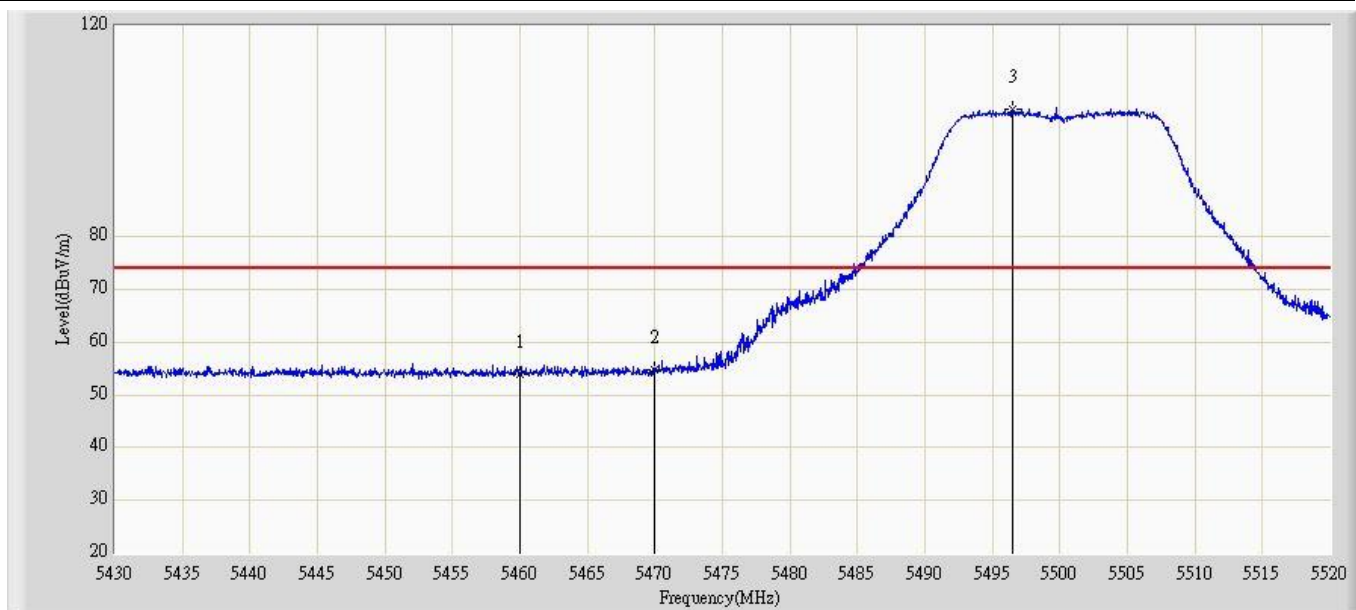
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5324.320	90.871	50.551	N/A	N/A	40.320	PK
2			5350.000	52.320	11.981	-21.680	74.000	40.339	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 10:52
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 5320MHz by 802.11a Chain 0	



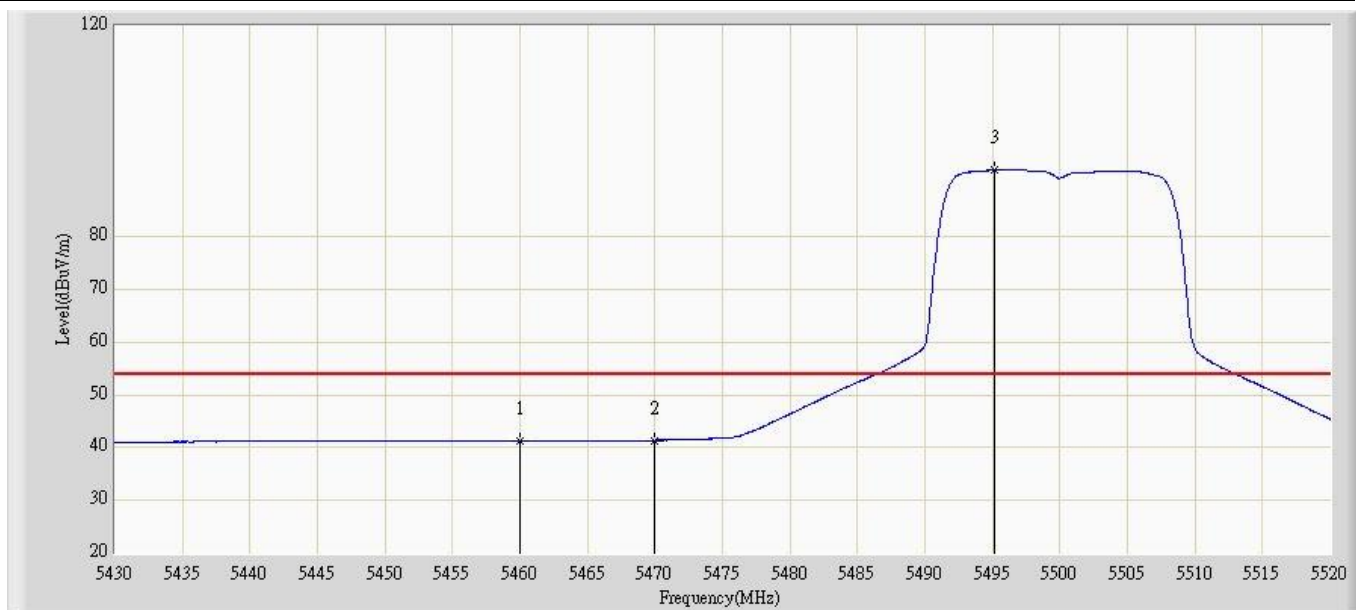
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5324.760	79.029	38.709	N/A	N/A	40.320	AV
2			5350.000	39.423	-0.916	-14.577	54.000	40.339	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 10:52
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 5500MHz by 802.11a Chain 0	



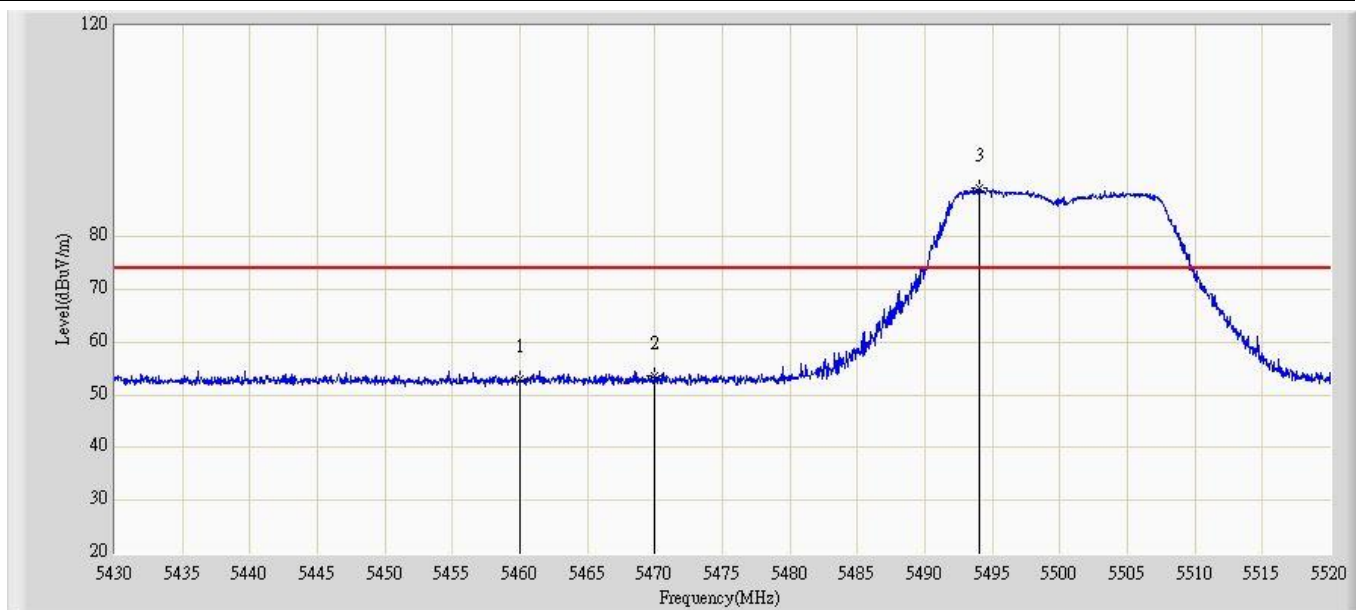
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5460.000	53.903	13.522	-20.097	74.000	40.382	PK
2			5470.000	54.692	14.296	-33.608	88.300	40.395	PK
3		*	5496.510	104.176	63.743	N/A	N/A	40.433	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 10:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 5500MHz by 802.11a Chain 0	



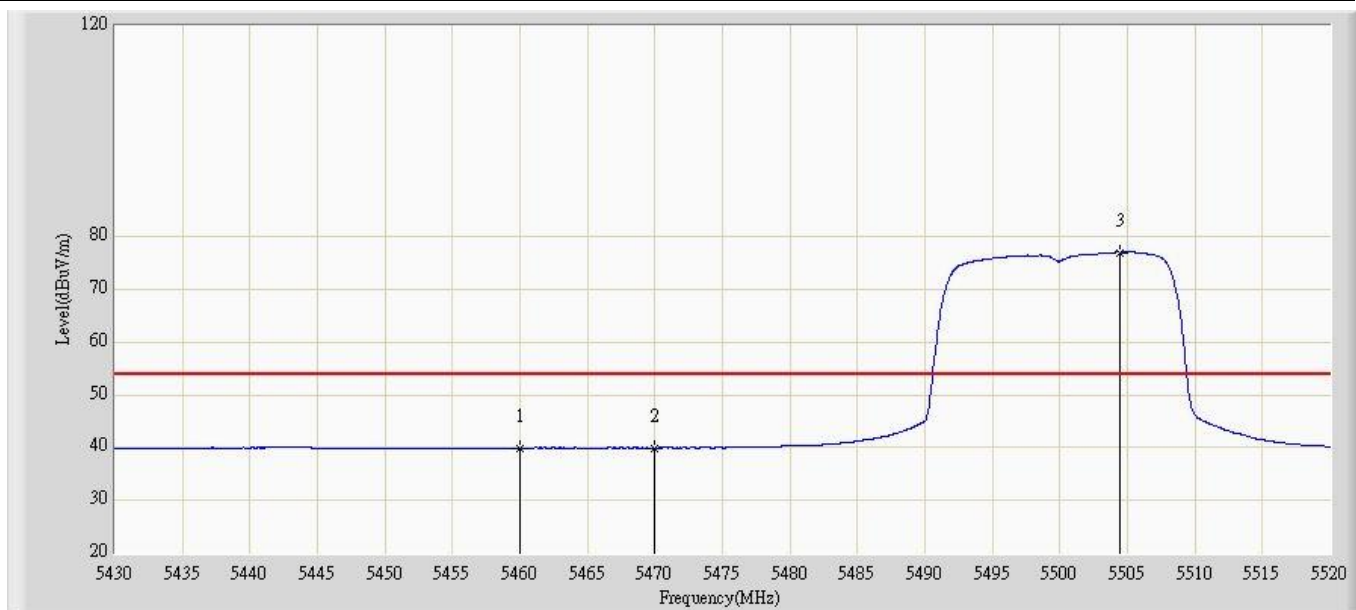
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5460.000	41.177	0.796	-12.823	54.000	40.382	AV
2			5470.000	41.373	0.977	-26.927	68.300	40.395	AV
3		*	5495.160	92.588	52.157	N/A	N/A	40.431	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 10:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 5500MHz by 802.11a Chain 0	



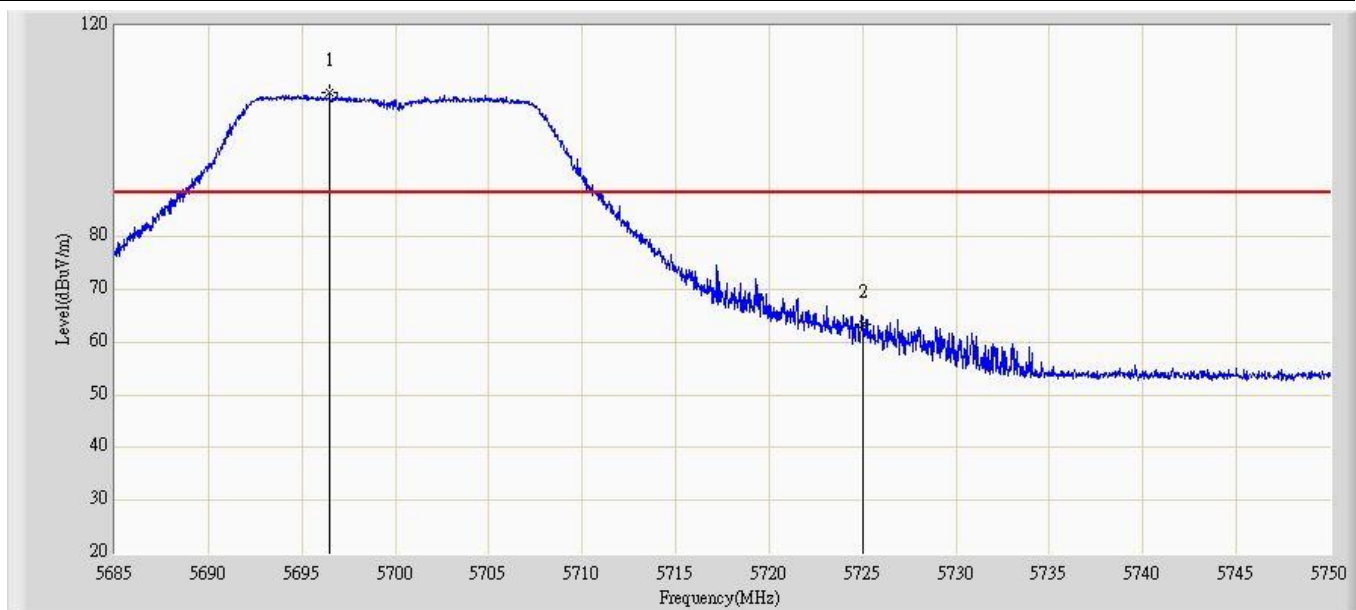
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5460.000	52.965	12.467	-21.035	74.000	40.498	PK
2			5470.000	53.505	12.998	-34.795	88.300	40.507	PK
3		*	5494.080	89.262	48.730	N/A	N/A	40.532	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 10:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 5500MHz by 802.11a Chain 0	



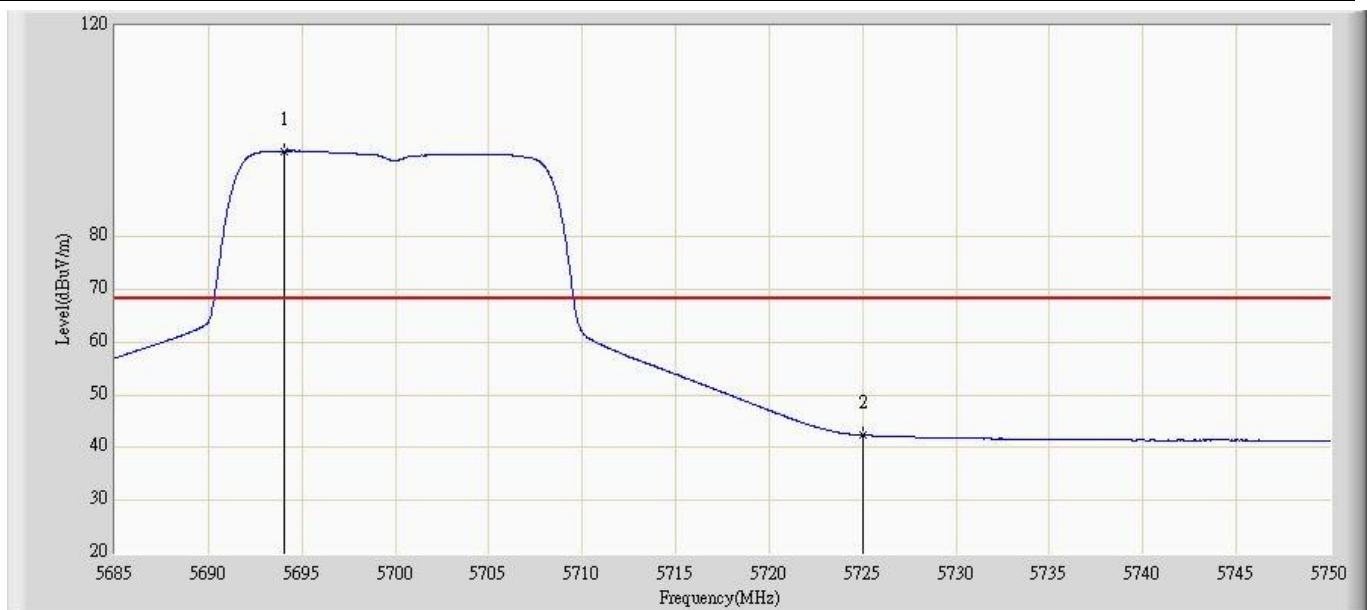
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5460.000	39.910	-0.588	-14.090	54.000	40.498	AV
2			5470.000	39.961	-0.546	-28.339	68.300	40.507	AV
3		*	5504.430	77.033	36.490	N/A	N/A	40.544	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 10:59
Limit: FCC_Part15.407_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 5700MHz by 802.11a Chain 0	



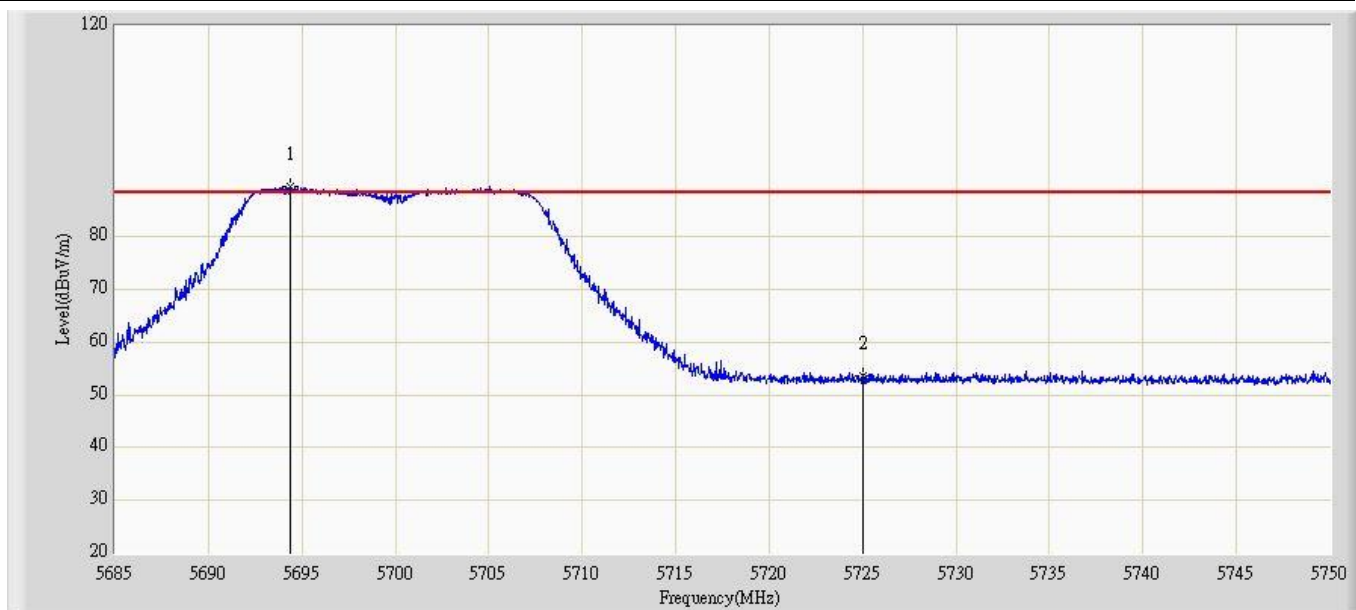
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5696.473	107.268	66.475	N/A	N/A	40.793	PK
2			5725.000	63.413	22.593	-24.887	88.300	40.820	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:01
Limit: FCC_Part15.407_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 5700MHz by 802.11a Chain 0	



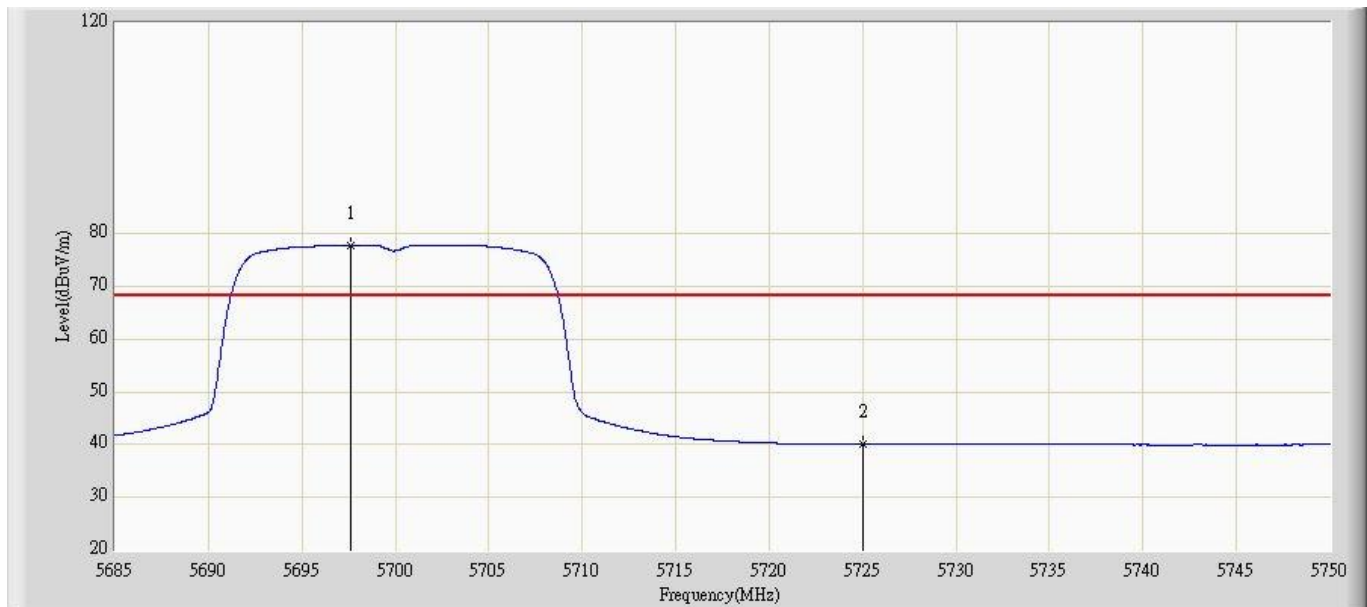
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5694.067	96.280	55.489	N/A	N/A	40.792	AV
2			5725.000	42.359	1.539	-25.941	68.300	40.820	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:02
Limit: FCC_Part15.407_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 5700MHz by 802.11a Chain 0	



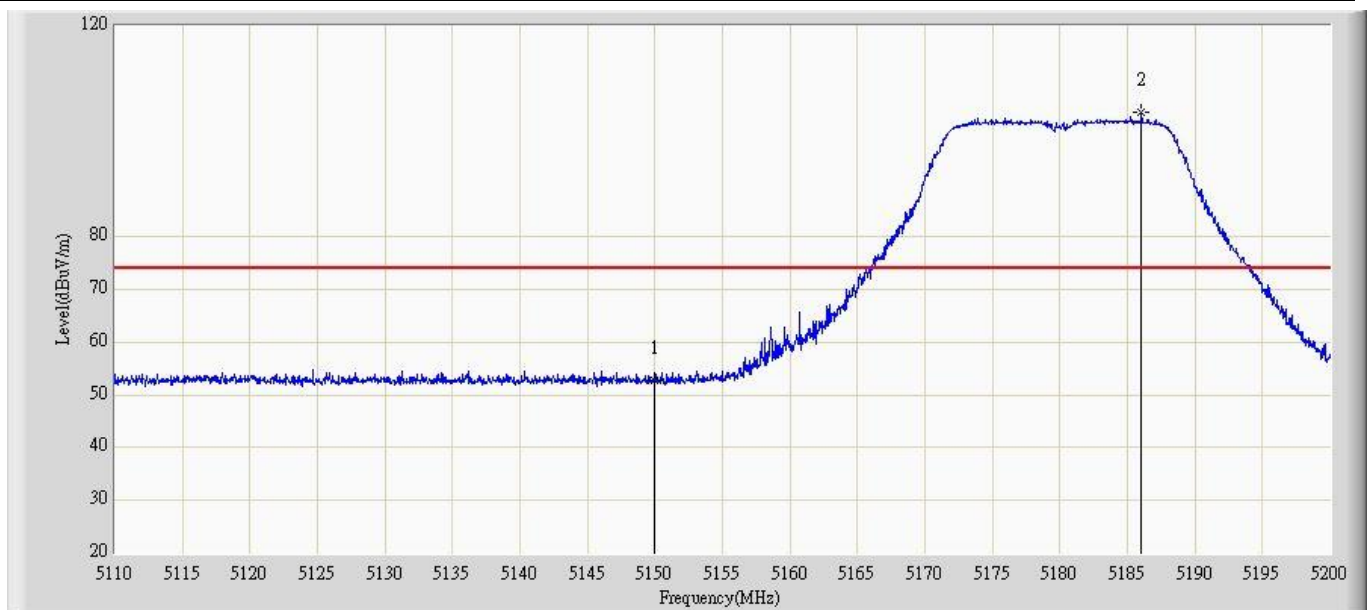
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5694.393	89.445	48.631	N/A	N/A	40.815	PK
2			5725.000	53.515	12.685	-34.785	88.300	40.830	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:04
Limit: FCC_Part15.407_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 5700MHz by 802.11a Chain 0	



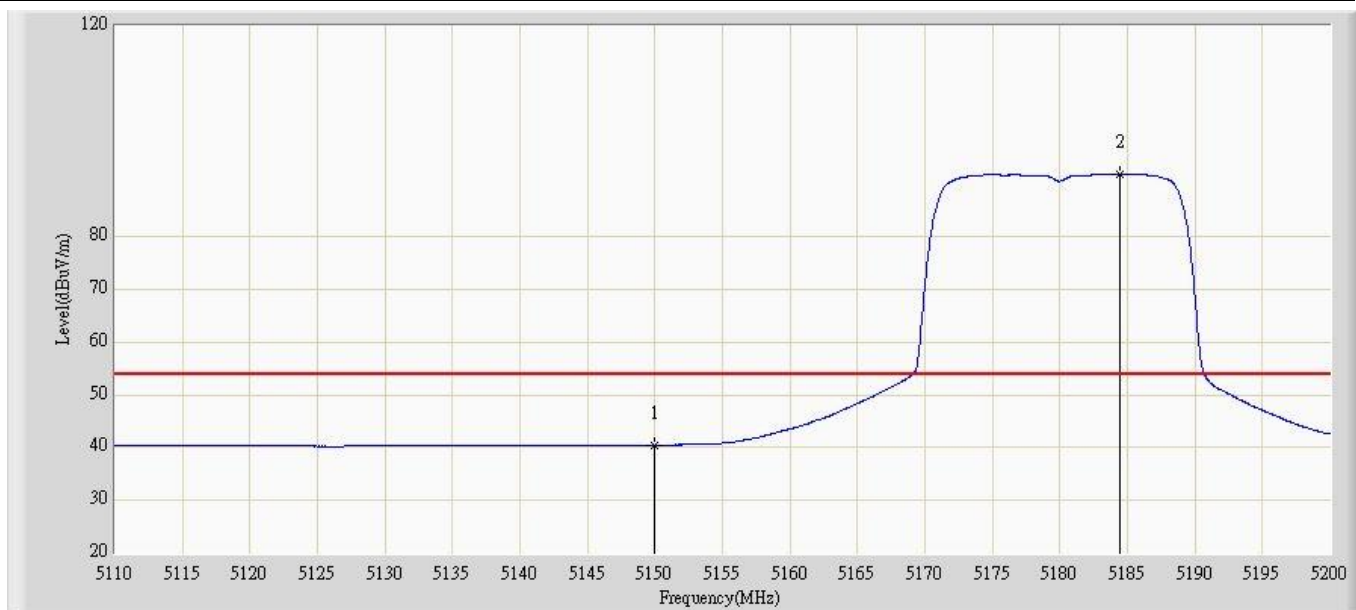
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5697.610	77.781	36.966	N/A	N/A	40.815	AV
2			5725.000	40.096	-0.734	-28.204	68.300	40.830	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode2: Transmit at channel 5180MHz by 802.11n20 Chain 0	



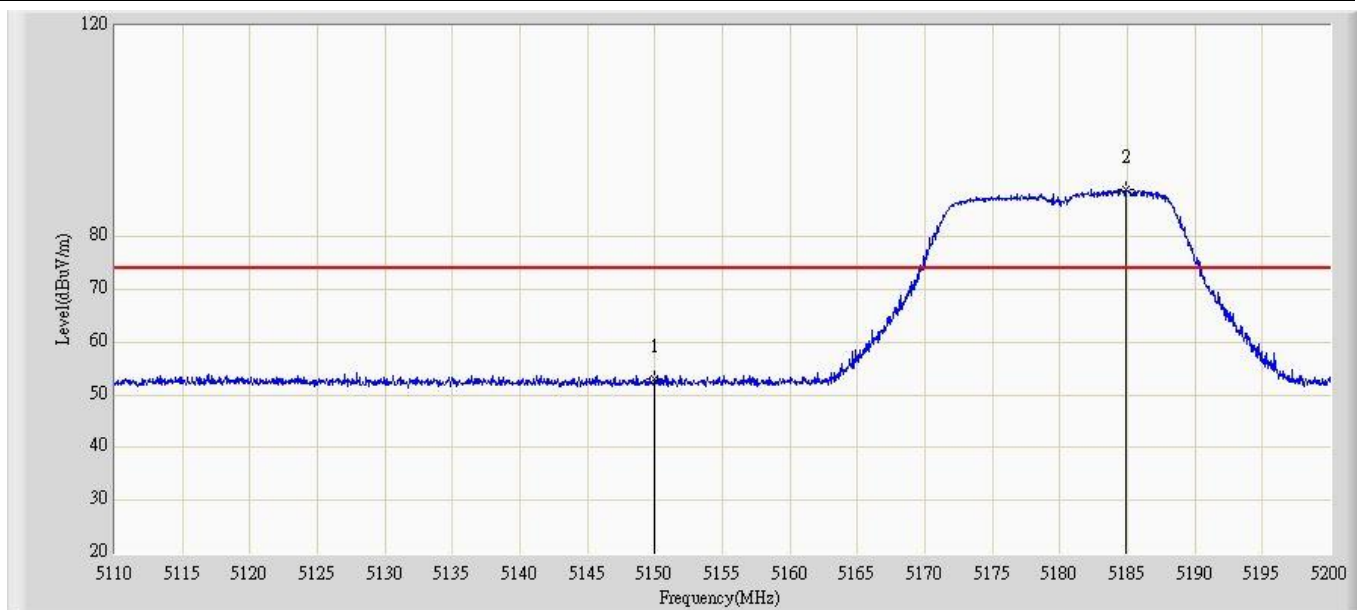
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	52.712	12.731	-21.288	74.000	39.981	PK
2		*	5186.050	103.598	63.593	N/A	N/A	40.005	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode2: Transmit at channel 5180MHz by 802.11n20 Chain 0	



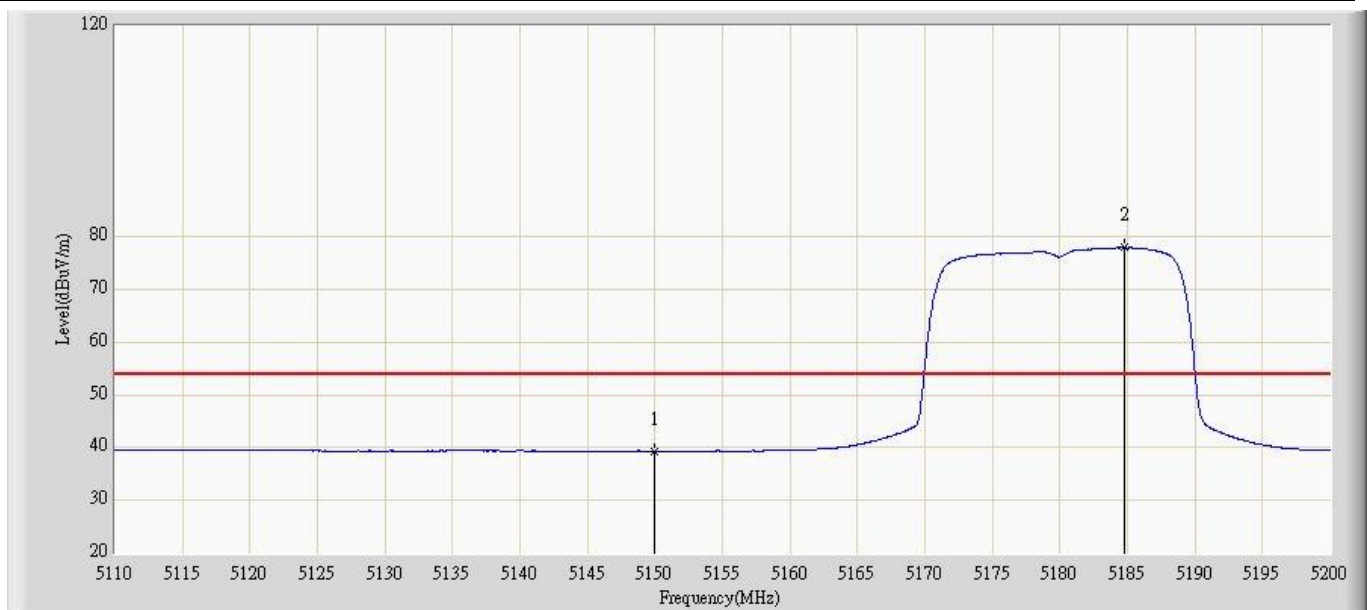
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	40.497	0.516	-13.503	54.000	39.981	AV
2		*	5184.430	91.900	51.897	N/A	N/A	40.003	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode2: Transmit at channel 5180MHz by 802.11n20 Chain 0	



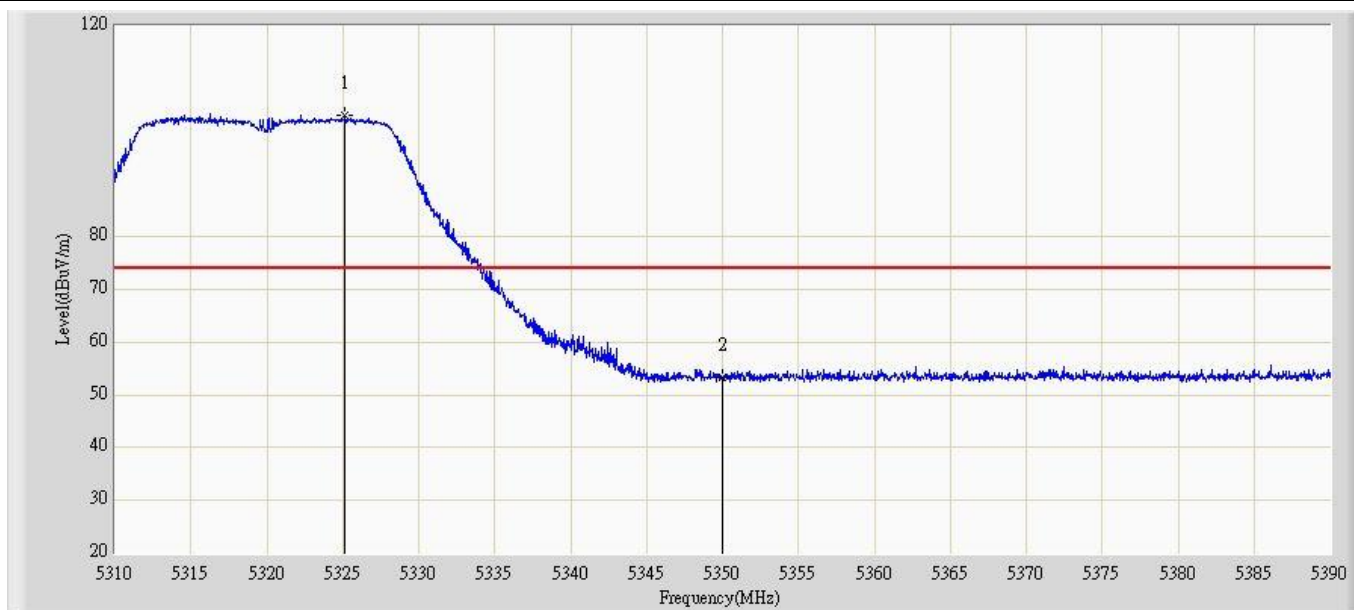
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	53.031	13.010	-20.969	74.000	40.021	PK
2		*	5184.835	88.936	48.837	N/A	N/A	40.099	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode2: Transmit at channel 5180MHz by 802.11n20 Chain 0	



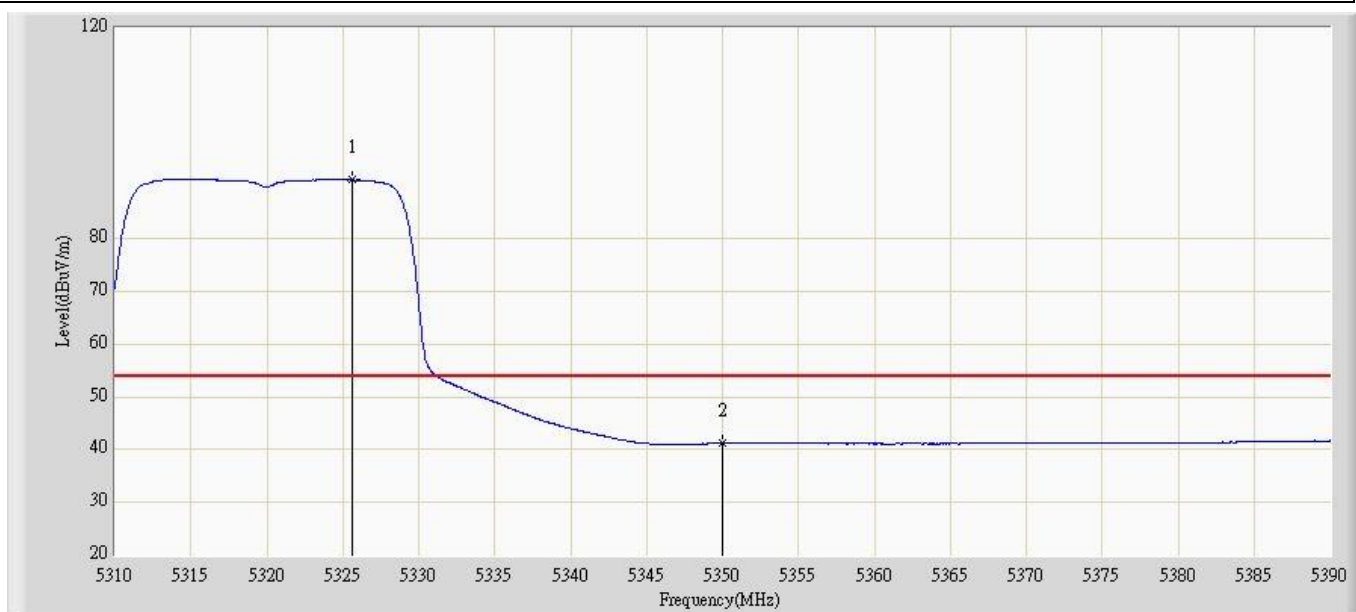
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	39.357	-0.664	-14.643	54.000	40.021	AV
2		*	5184.745	77.922	37.823	N/A	N/A	40.098	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode2: Transmit at channel 5320MHz by 802.11n20 Chain 0	



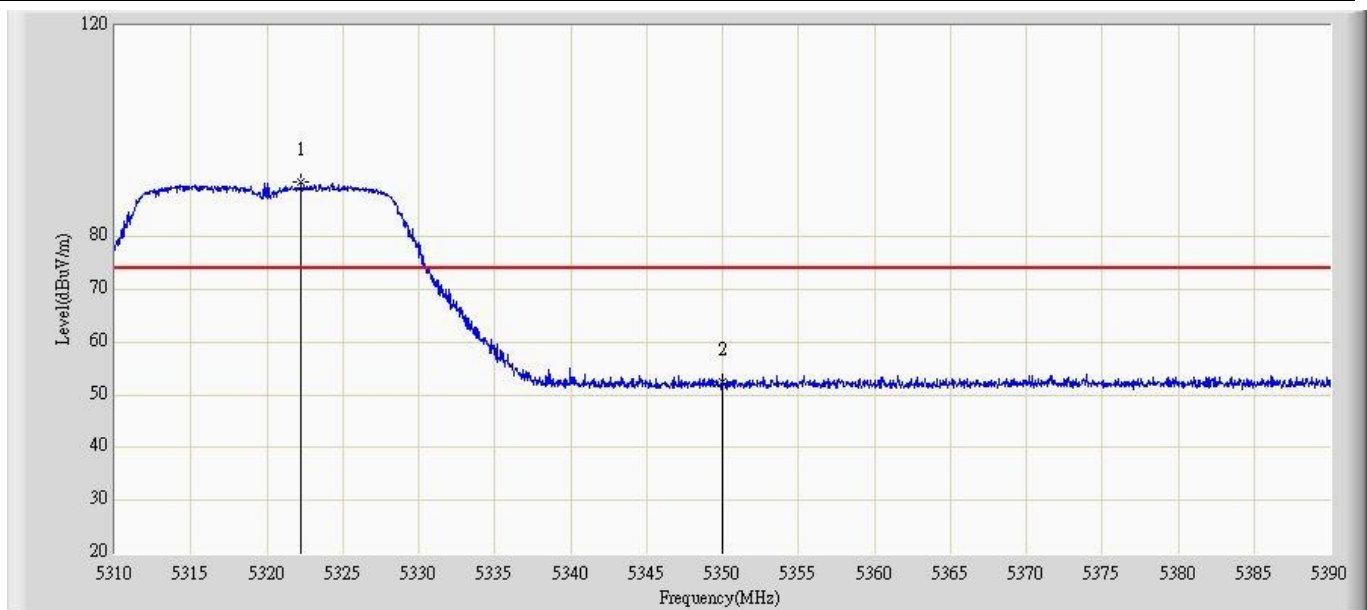
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5325.160	102.940	62.790	N/A	N/A	40.150	PK
2			5350.000	53.191	13.012	-20.809	74.000	40.179	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode2: Transmit at channel 5320MHz by 802.11n20 Chain 0	



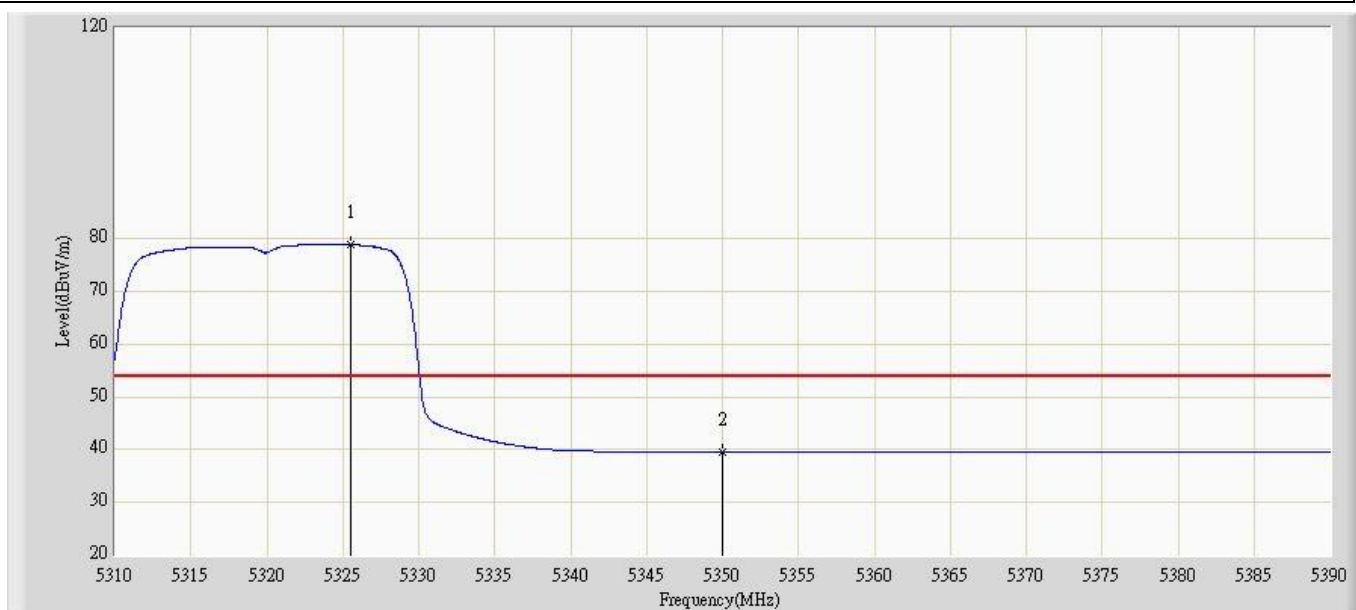
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5325.640	91.137	50.987	N/A	N/A	40.150	AV
2			5350.000	41.165	0.986	-12.835	54.000	40.179	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode2: Transmit at channel 5320MHz by 802.11n20 Chain 0	



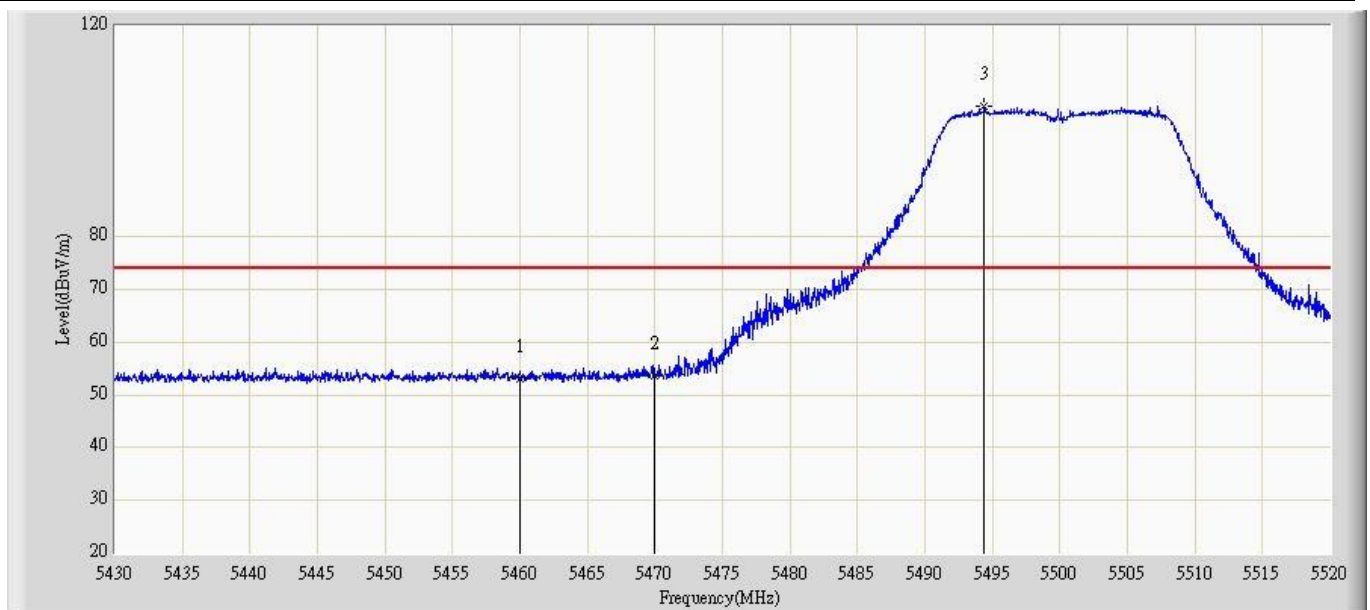
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5322.240	90.464	50.145	N/A	N/A	40.319	PK
2			5350.000	52.514	12.175	-21.486	74.000	40.339	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode2: Transmit at channel 5320MHz by 802.11n20 Chain 0	



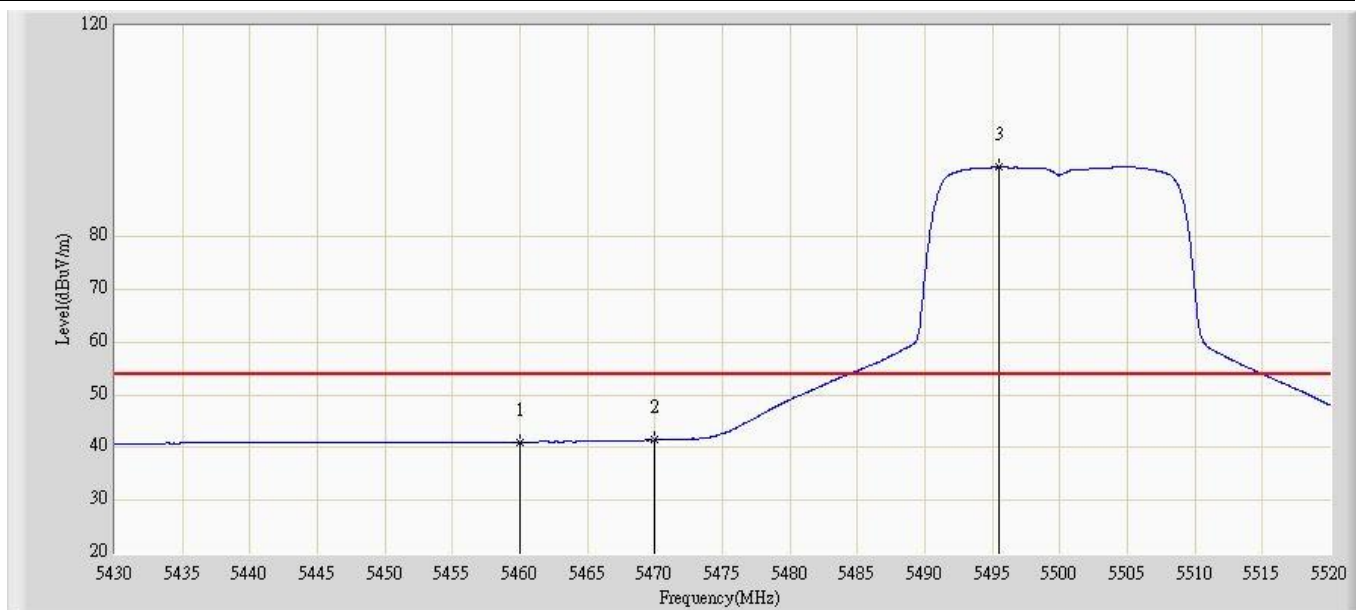
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5325.520	78.855	38.535	N/A	N/A	40.320	AV
2			5350.000	39.558	-0.781	-14.442	54.000	40.339	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode2: Transmit at channel 5500MHz by 802.11n20 Chain 0	



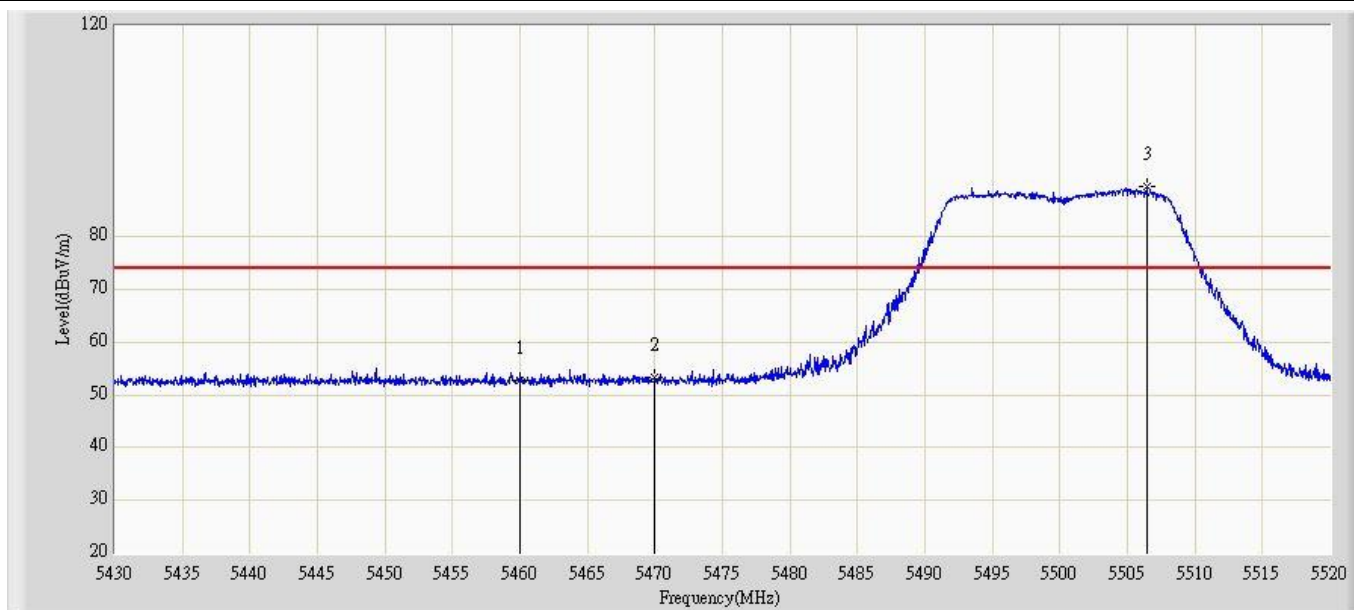
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5460.000	53.184	12.803	-20.816	74.000	40.382	PK
2			5470.000	53.746	13.350	-34.554	88.300	40.395	PK
3		*	5494.395	104.830	64.400	N/A	N/A	40.430	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode2: Transmit at channel 5500MHz by 802.11n20 Chain 0	



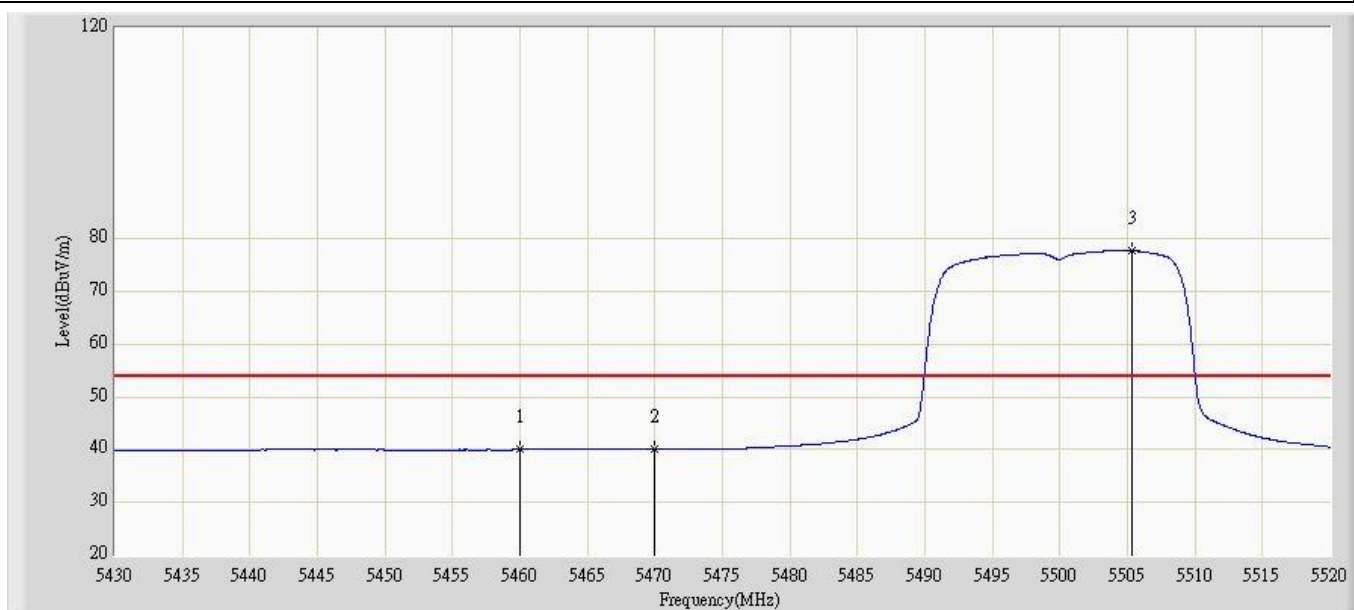
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5460.000	41.059	0.678	-12.941	54.000	40.382	AV
2			5470.000	41.410	1.014	-26.890	68.300	40.395	AV
3		*	5495.475	93.148	52.717	N/A	N/A	40.431	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode2: Transmit at channel 5500MHz by 802.11n20 Chain 0	



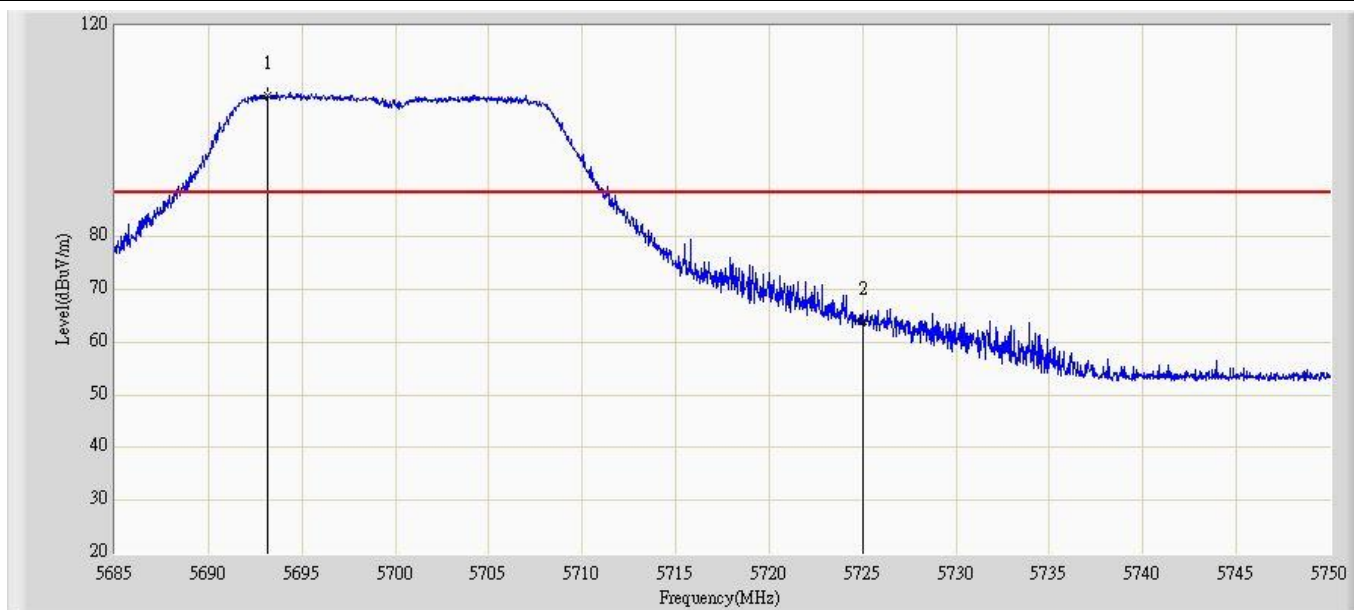
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5460.000	52.716	12.218	-21.284	74.000	40.498	PK
2			5470.000	53.316	12.809	-34.984	88.300	40.507	PK
3		*	5506.410	89.424	48.878	N/A	N/A	40.546	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode2: Transmit at channel 5500MHz by 802.11n20 Chain 0	



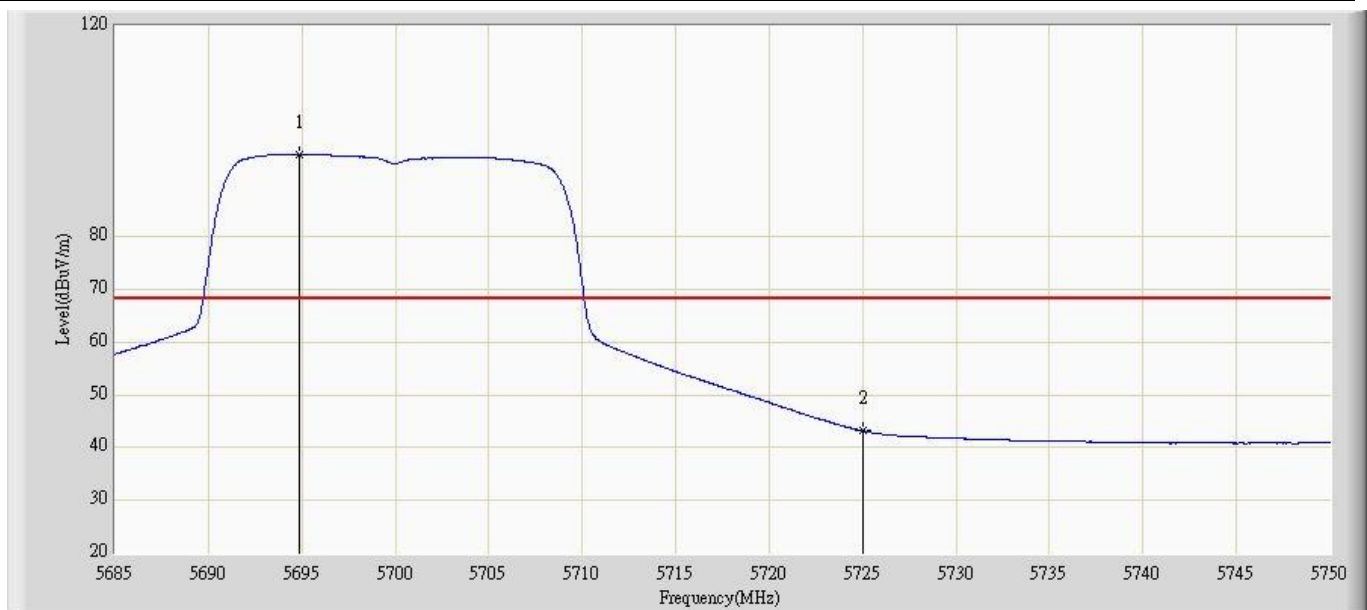
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5460.000	39.991	-0.507	-14.009	54.000	40.498	AV
2			5470.000	40.035	-0.472	-28.265	68.300	40.507	AV
3		*	5505.375	77.691	37.146	N/A	N/A	40.544	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:23
Limit: FCC_Part15.407_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode2: Transmit at channel 5700MHz by 802.11n20 Chain 0	



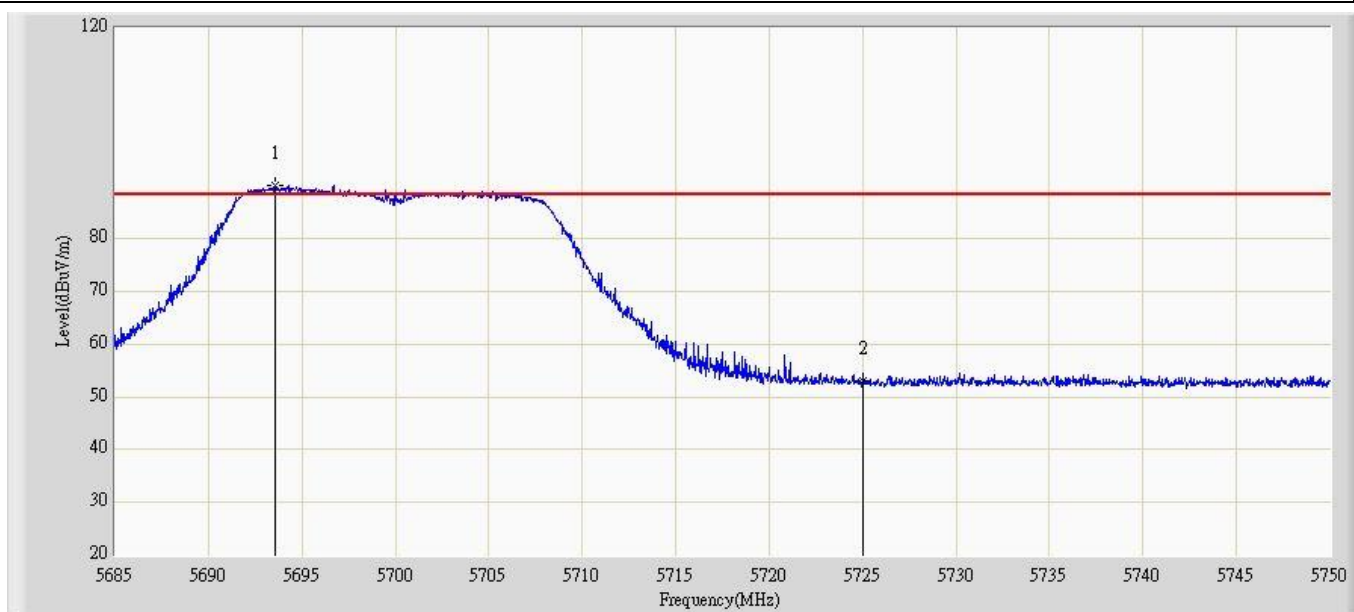
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5693.158	106.823	66.032	N/A	N/A	40.790	PK
2			5725.000	63.866	23.046	-24.434	88.300	40.820	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:26
Limit: FCC_Part15.407_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode2: Transmit at channel 5700MHz by 802.11n20 Chain 0	



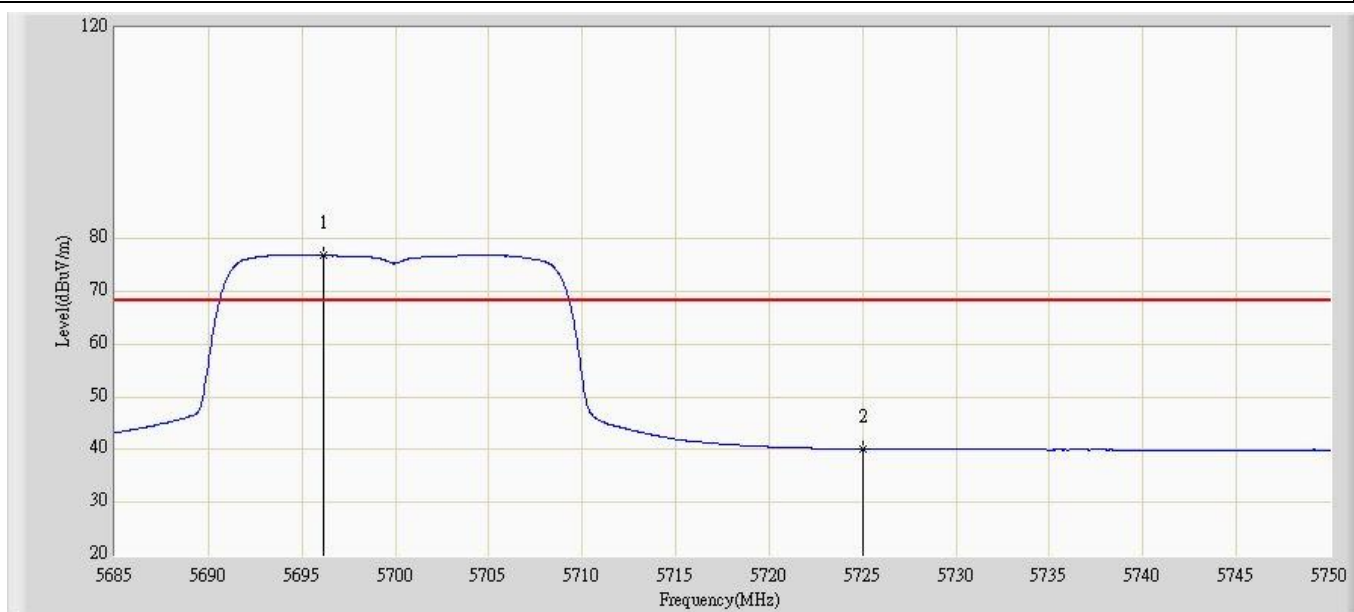
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5694.880	95.625	54.833	N/A	N/A	40.792	AV
2			5725.000	43.221	2.401	-25.079	68.300	40.820	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:26
Limit: FCC_Part15.407_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode2: Transmit at channel 5700MHz by 802.11n20 Chain 0	



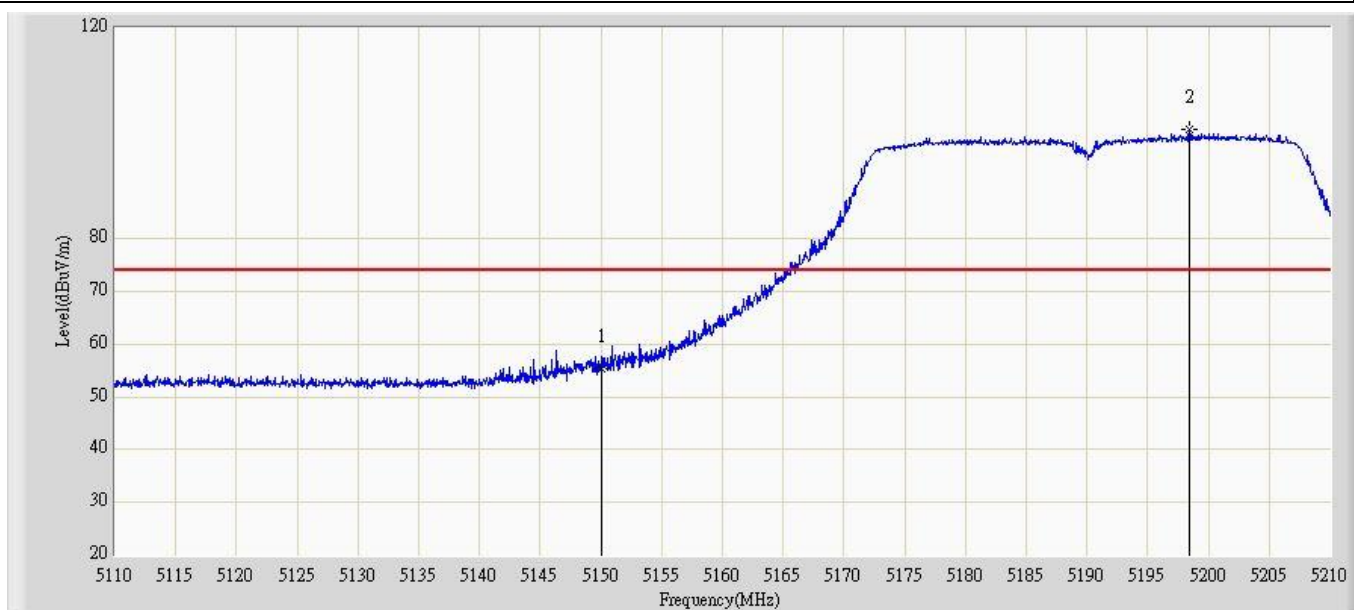
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5693.580	90.135	49.321	N/A	N/A	40.814	PK
2			5725.000	53.043	12.213	-35.257	88.300	40.830	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:27
Limit: FCC_Part15.407_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode2: Transmit at channel 5700MHz by 802.11n20 Chain 0	



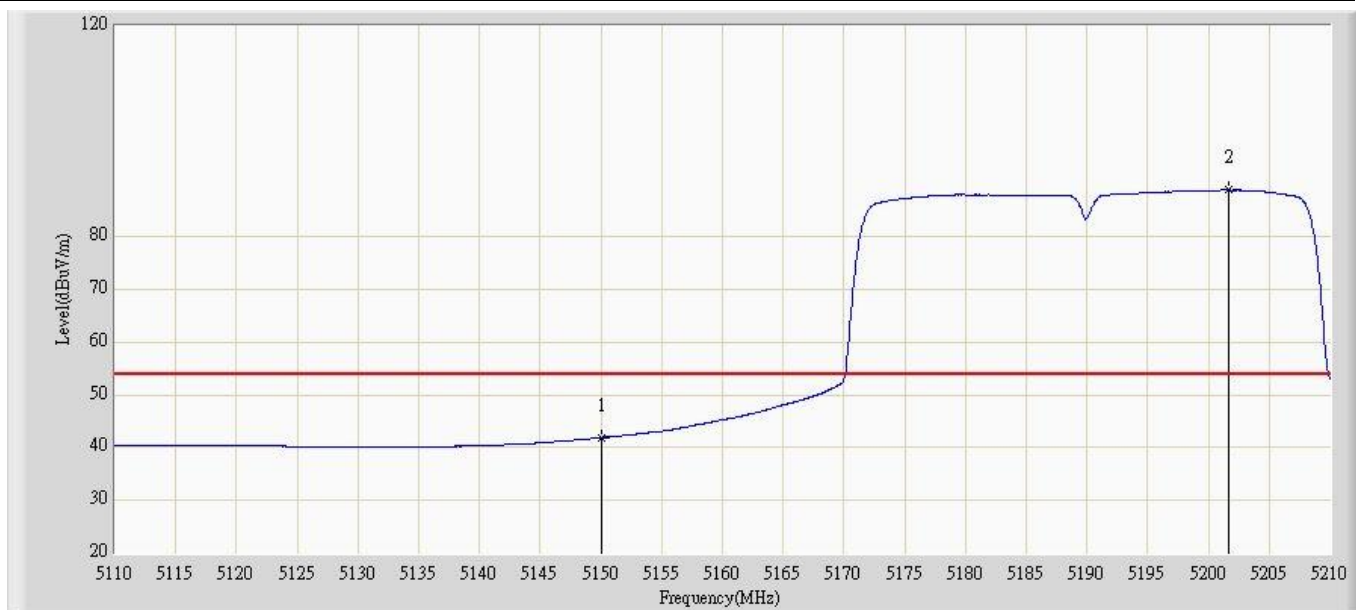
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5696.180	76.836	36.021	N/A	N/A	40.815	AV
2			5725.000	40.123	-0.707	-28.177	68.300	40.830	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode3: Transmit at channel 5190MHz by 802.11n40 Chain 0	



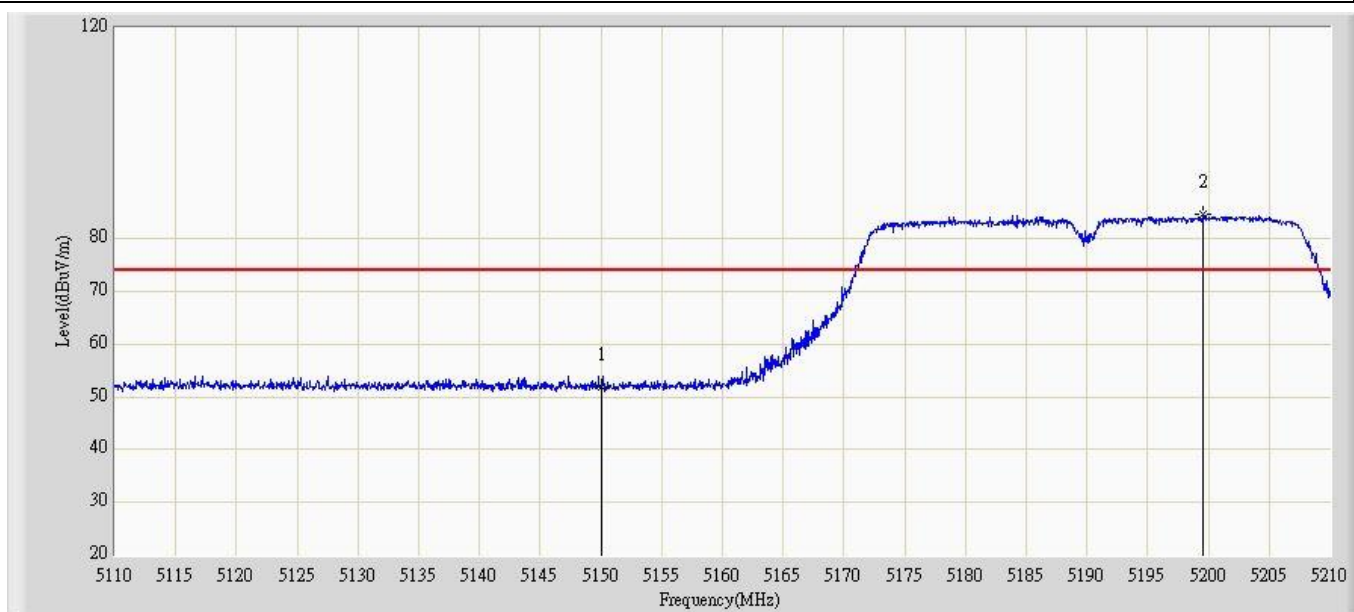
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	55.469	15.488	-18.531	74.000	39.981	PK
2		*	5198.400	100.636	60.617	N/A	N/A	40.019	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode3: Transmit at channel 5190MHz by 802.11n40 Chain 0	



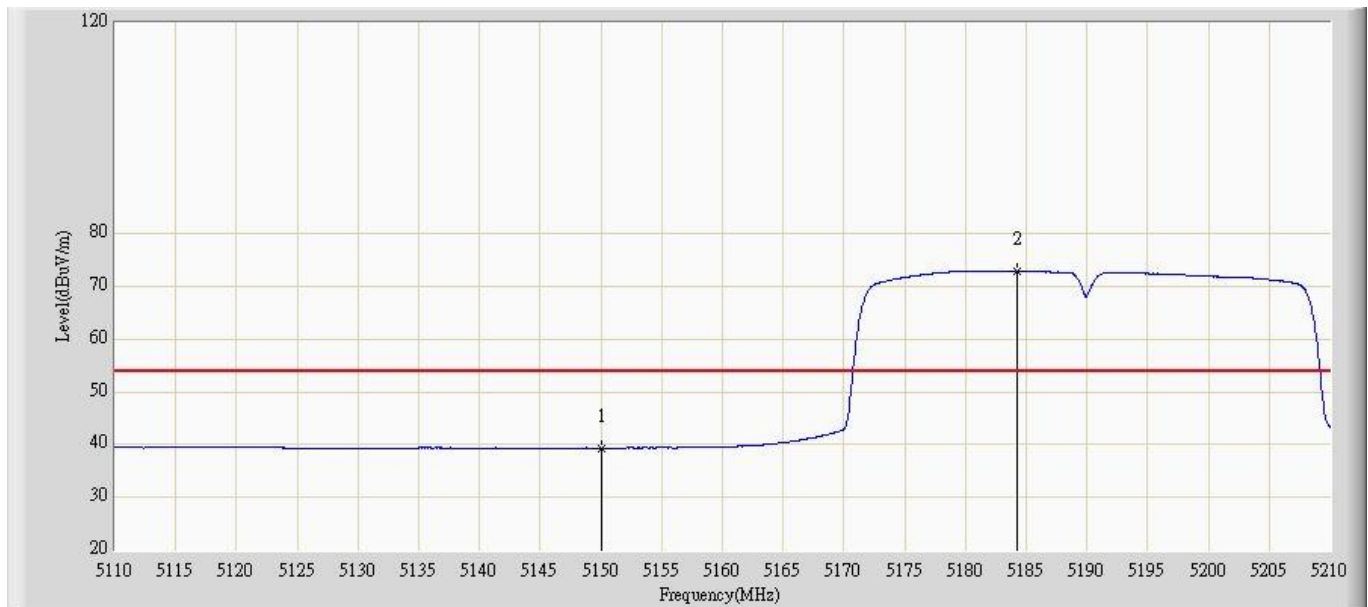
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	41.923	1.942	-12.077	54.000	39.981	AV
2		*	5201.700	88.873	48.851	N/A	N/A	40.022	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode3: Transmit at channel 5190MHz by 802.11n40 Chain 0	



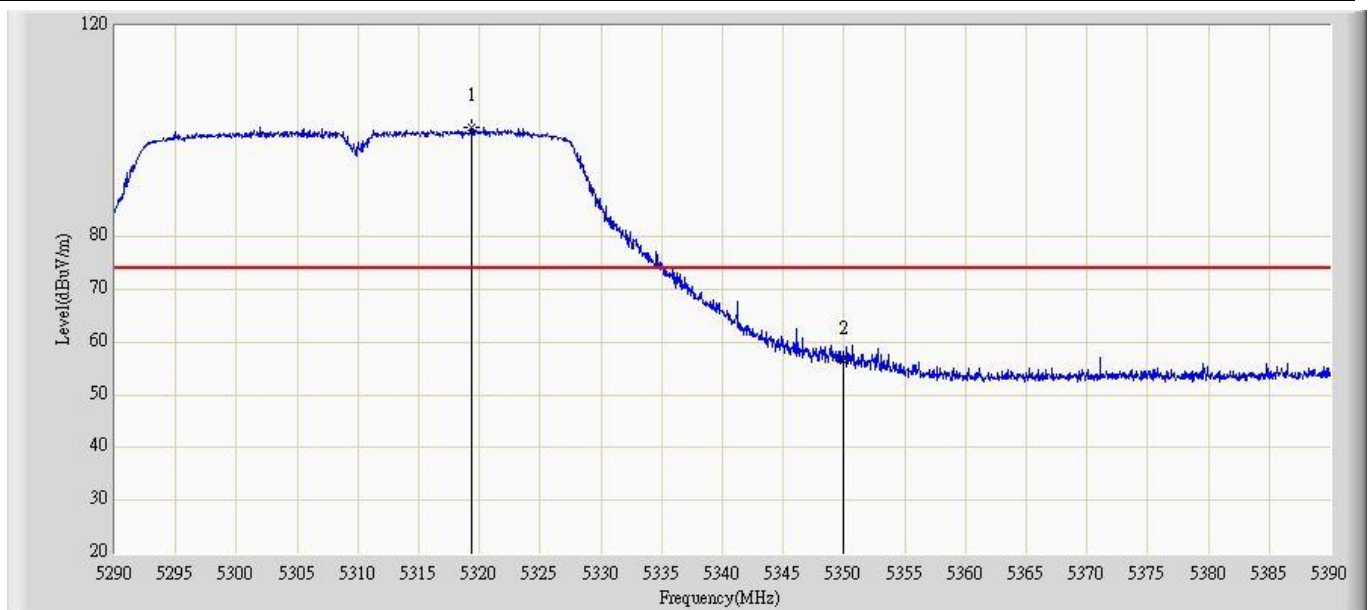
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	51.899	11.878	-22.101	74.000	40.021	PK
2		*	5199.550	84.607	44.468	N/A	N/A	40.139	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode3: Transmit at channel 5190MHz by 802.11n40 Chain 0	



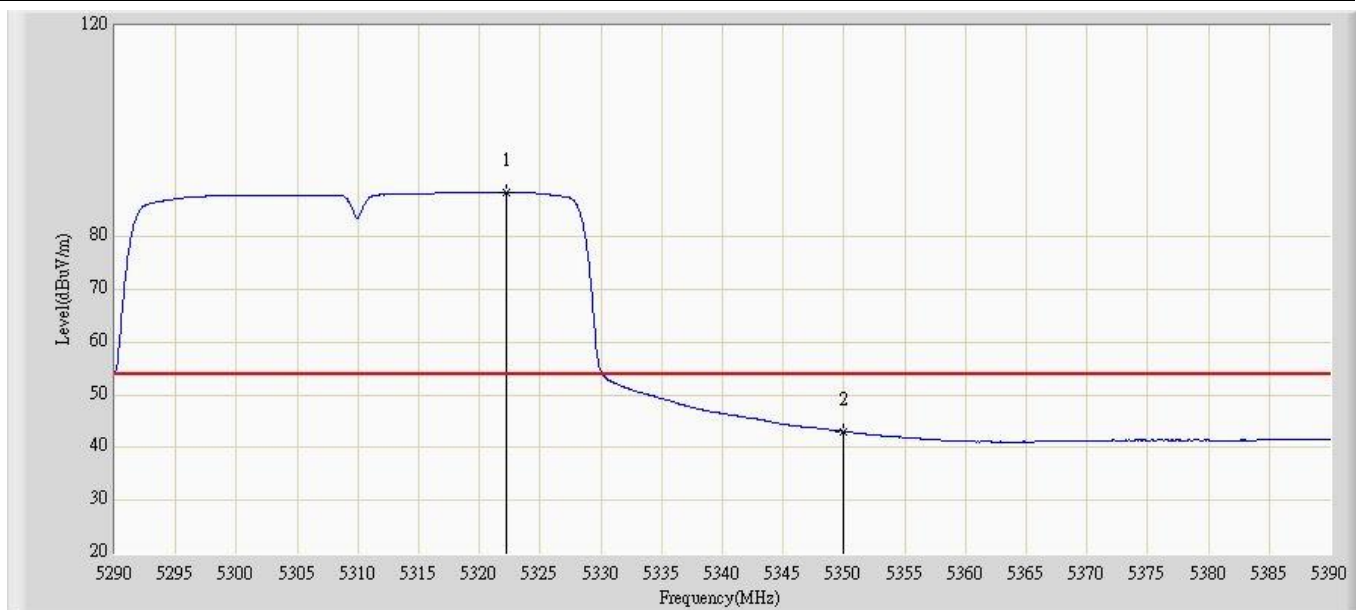
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	39.360	-0.661	-14.640	54.000	40.021	AV
2		*	5184.300	72.832	32.735	N/A	N/A	40.098	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode3: Transmit at channel 5310MHz by 802.11n40 Chain 0	



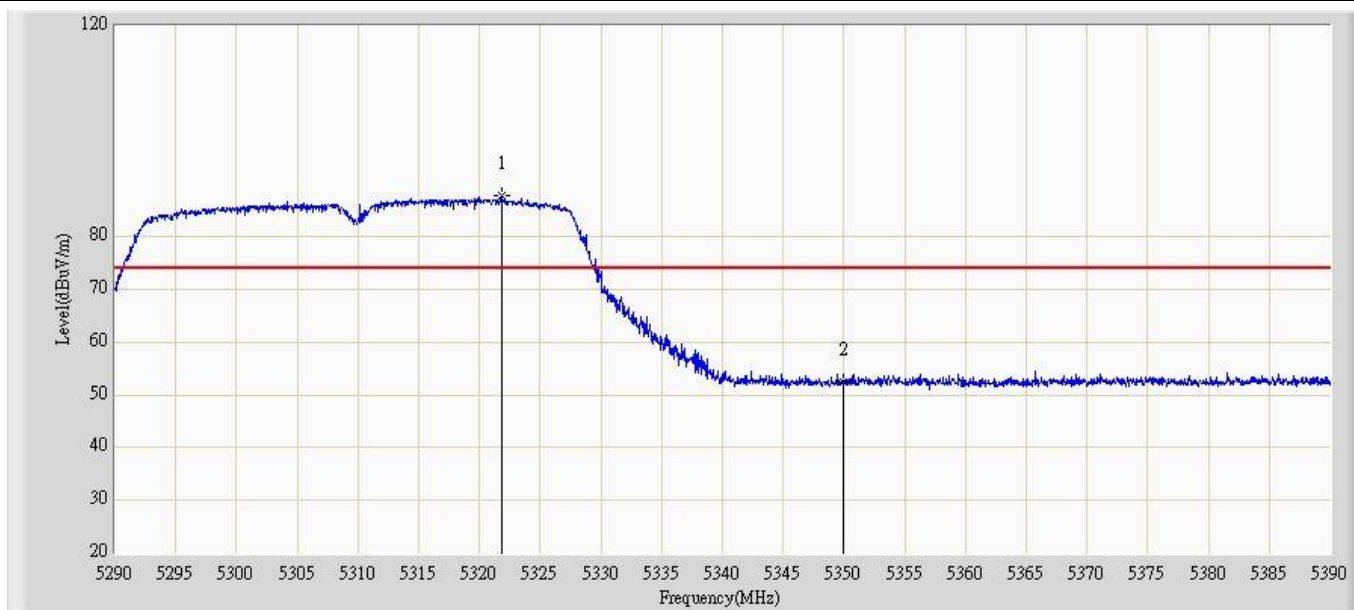
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5319.300	100.671	60.526	N/A	N/A	40.145	PK
2			5350.000	56.630	16.451	-17.370	74.000	40.179	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:40
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode3: Transmit at channel 5310MHz by 802.11n40 Chain 0	



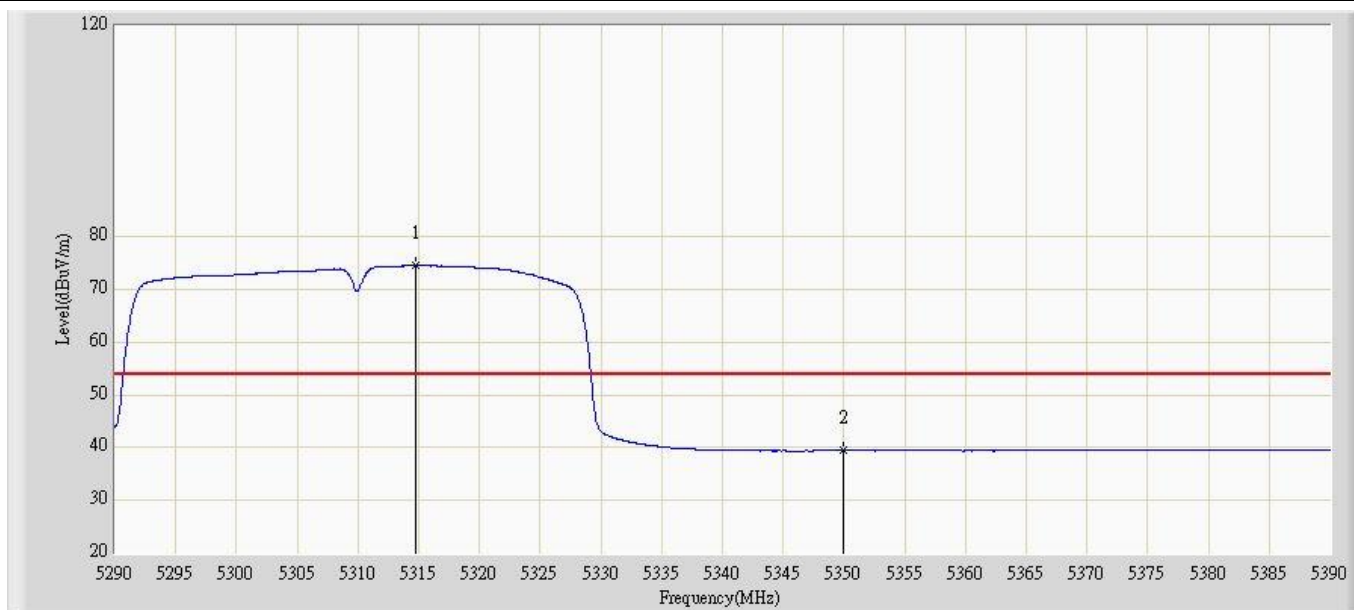
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5322.250	88.492	48.344	N/A	N/A	40.148	AV
2			5350.000	43.103	2.924	-10.897	54.000	40.179	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:40
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode3: Transmit at channel 5310MHz by 802.11n40 Chain 0	



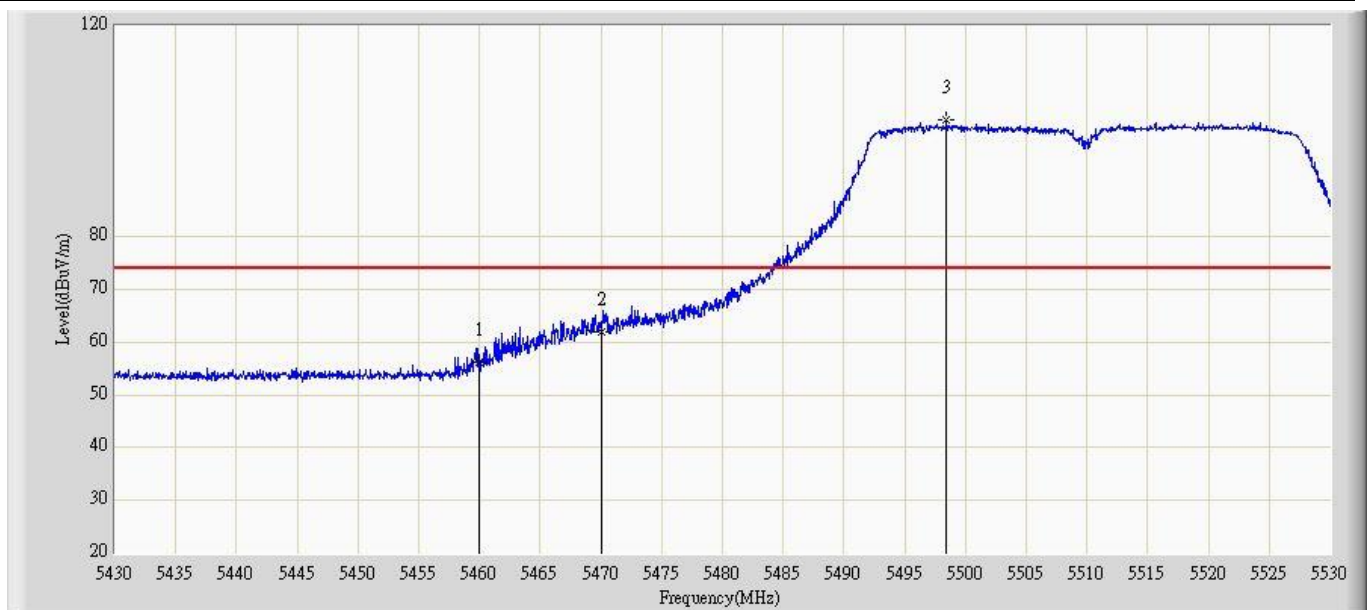
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5321.800	87.784	47.465	N/A	N/A	40.319	PK
2			5350.000	52.568	12.229	-21.432	74.000	40.339	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode3: Transmit at channel 5310MHz by 802.11n40 Chain 0	



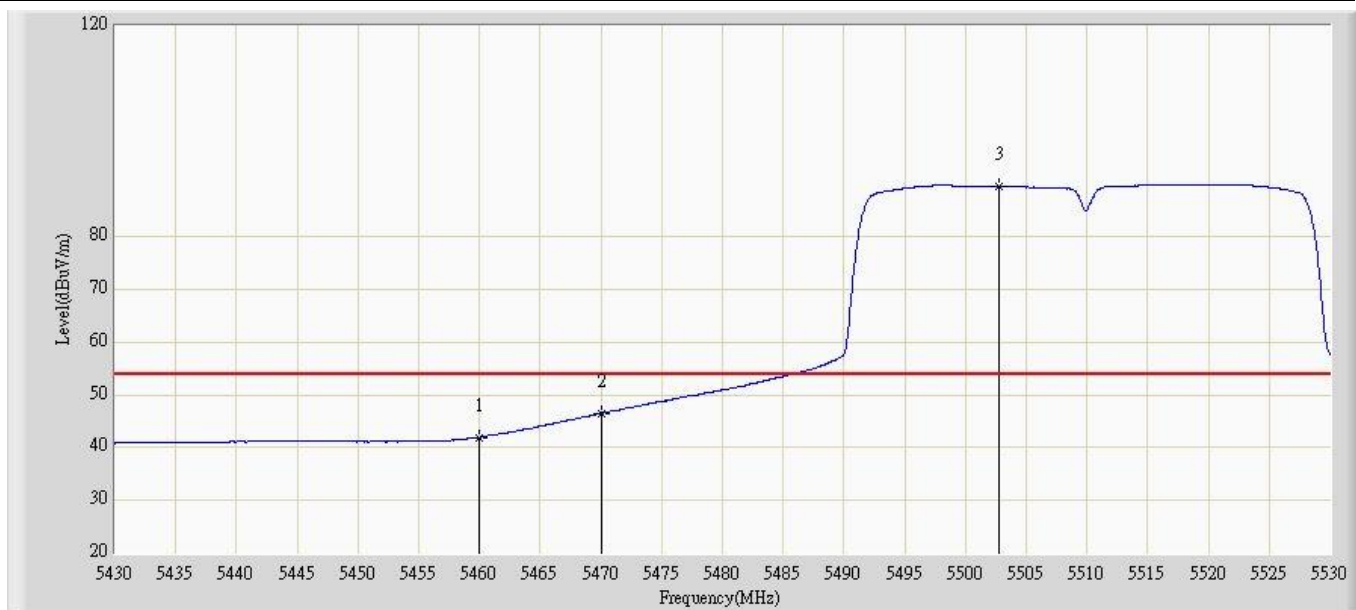
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5314.750	74.512	34.198	N/A	N/A	40.314	AV
2			5350.000	39.520	-0.819	-14.480	54.000	40.339	AV

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode3: Transmit at channel 5510MHz by 802.11n40 Chain 0	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5460.000	56.109	15.728	-17.891	74.000	40.382	PK
2			5470.000	61.839	21.443	-26.461	88.300	40.395	PK
3		*	5498.400	102.101	61.665	N/A	N/A	40.436	PK

Engineer: Toms	
Site: AC5	Time: 2013/04/07 - 11:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: WIRELESS-ABGN 2X2 NETWORK MINI PCIE ADAPTER	Power: AC 120V/60Hz
Note: Mode3: Transmit at channel 5510MHz by 802.11n40 Chain 0	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5460.000	41.942	1.561	-12.058	54.000	40.382	AV
2			5470.000	46.544	6.148	-21.756	68.300	40.395	AV
3		*	5502.750	89.463	49.020	N/A	N/A	40.443	AV