FCC Part 15.407 Test Report

Product Name	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Model No.	:	WLM200N5-23ESD
FCC ID	:	TK4WLM200N5-23ESD

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

Date of Receipt	:	Jun. 07, 2010
Test Date	:	Jun. 07, 2010 ~ Jul. 25, 2010
Issued Date	:	Jul. 26, 2010
Report No.	:	106S012R-RF-US-P05V01
Report Version	:	V1.2

Test Report Certification

Issued Date : Jul. 26, 2010
Report No. : 106S012R-RF-US-P05V01

QuieTek

Product Name	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
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.	:	WLM200N5-23ESD
FCC ID	:	TK4WLM200N5-23ESD
EUT Voltage	:	DC 3.3V
Trade Name	:	COMPEX
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart E: 2008 ANSI C63.4: 2009 ANSI C63.10: 2009
Test Result	:	Complied
Performed Location	:	SuZhou EMC laboratory No.99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., SuZhou, China TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098 FCC Registration Number: 800392, IC Lab Code: 4075B

Documented By : Alice Ni
(Engineering ADM: Alice Ni)

Reviewed By : Marlin Chen
(Engineering Supervisor: Marlin Chen)

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

Laboratory Information

We, **QuieTek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

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

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

HsinChu Testing Laboratory :
No.75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan, R.O.C.
TEL:+886-3-592-8858 / FAX:+886-3-592-8859 E-Mail : service@quietek.com

NVLAP Lab Code : 200347-0

Testing Laboratory 1313

LinKou Testing Laboratory :
No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen, Lin-Kou Shiang, Taipei, Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : service@quietek.com

NVLAP Lab Code: 200533-0

Testing Laboratory 0914

Suzhou (China) Testing Laboratory :
No. 99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., Suzhou,China.
TEL : +86-512-6251-5088 / FAX : +86-512-6251-5098 E-Mail : service@quietek.com

NVLAP Lab Code : 200743-0

Testing Laboratory 1596

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1. General Information

1.1. EUT Description

Product Name	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Trade Name	COMPEX
Model No.	WLM200N5-23ESD
EUT Voltage	DC 3.3V
Frequency Range	For 5.0GHz Band 802.11a/n(20MHz): 5500 - 5700 MHz, 5745 - 5825 MHz 802.11n(40MHz): 5510 - 5670 MHz, 5755 - 5795 MHz
Channel Number	For 5.0GHz Band 802.11a/n(20MHz): 16 802.11n(40MHz): 7
Tech. of Modulation	802.11a/n: OFDM
Data Rate	802.11a: 6/9/12/18/24/36/48/54 Mbps
	802.11n: up to 300 Mbps
Channel Control	Auto
Antenna Delivery	2*Tx + 2*Rx
Antenna Type	Dipole Antenna for 5.7G
Peak Antenna Gain	2dBi
AC Adapter	Manufacturer: DVE M/N: DSA-0421S-501 Input: 100-240V~, 1.2A, 50-60Hz Output: 48V, 0.625A MAX

Note: This device applies to the following host (Wireless Access Point System): MMC543HVN5-23ESD, MMC543AHVN5-23ESD, MMS2543HVN5-23ESD, MMS2543AHVN5-23ESD, and MMJ2543LVN5-23ESD;

For 5.0GHz Band

802.11a/n(20MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
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
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

802.11a/n Antenna List

Dipole Antenna	EXCELTEK	C0053-ANG0003	5GHz: 2dBi

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:

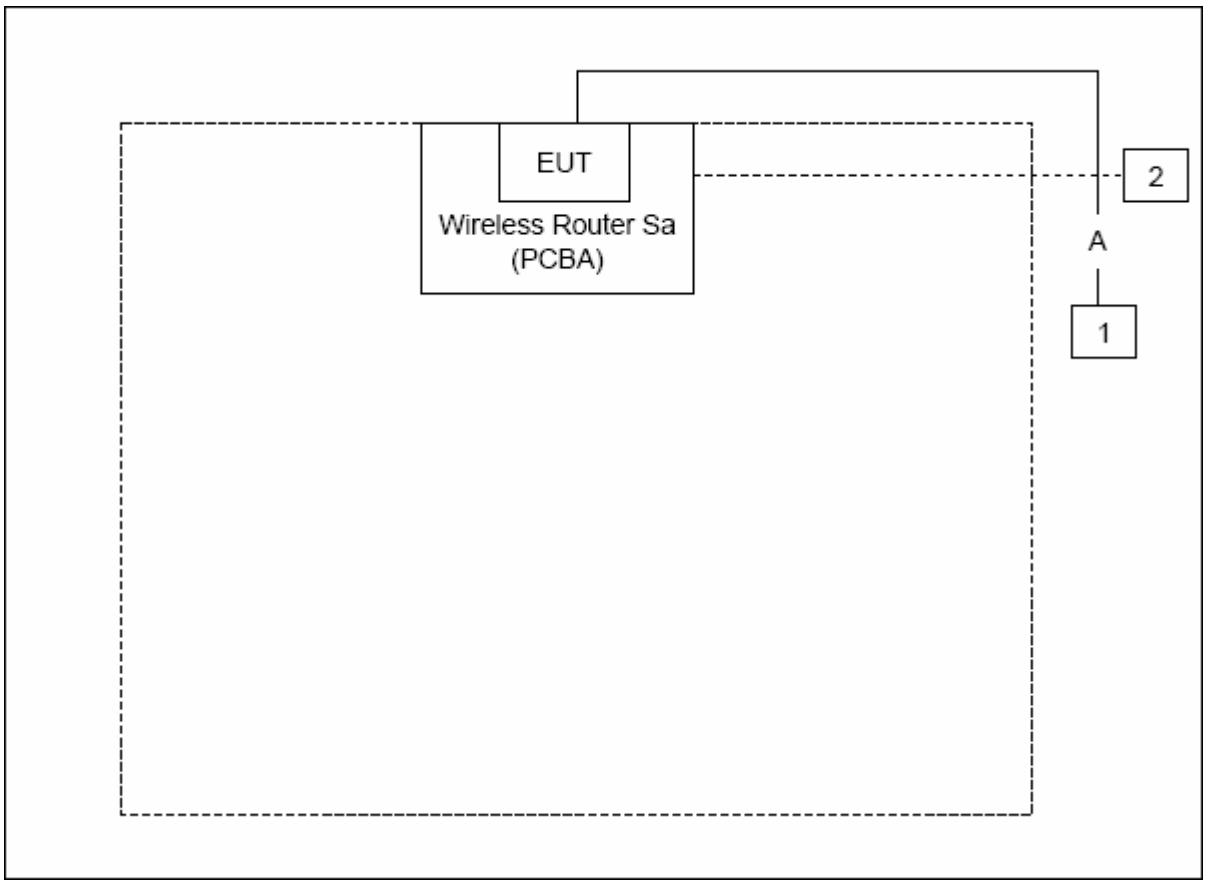
1. Regards to the frequency band operation: the lowest、middle and highest frequency of channel were selected to perform the test, then shown on this report.
2. This device is a composite device in accordance with Part 15 Subpart B regulations. The function for the receiver was measured and made a test report that the report number is 106S012R-RF-US-P02V01.

1.3. Tested System Details

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

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	DELL	PP19L	JH097 A01	N/A
2	MacBook	Apple	MB061CH	W8732B4TZ5V	R33057

1.4. Configuration of Tested System

Connection Diagram


Signal Cable Type		Signal cable Description
A	LAN Cable	Shielded, >10m

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Run the RF test software “BRICKS”, 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: 2008 Section 15.207	Yes	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.209	Yes	No
Operation Frequency Range of 20dB Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2008 15.215(c)	Yes	No
26dB Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.407(a)	Yes	No
Power Output	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.407(a)	Yes	No
Peak Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.407(a)	Yes	No
Peak Excursion	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.407(a)(6)	Yes	No
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.205, 15.407(b)	Yes	No
Frequency Stability	FCC CFR Title 47 Part 15 Subpart C: 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

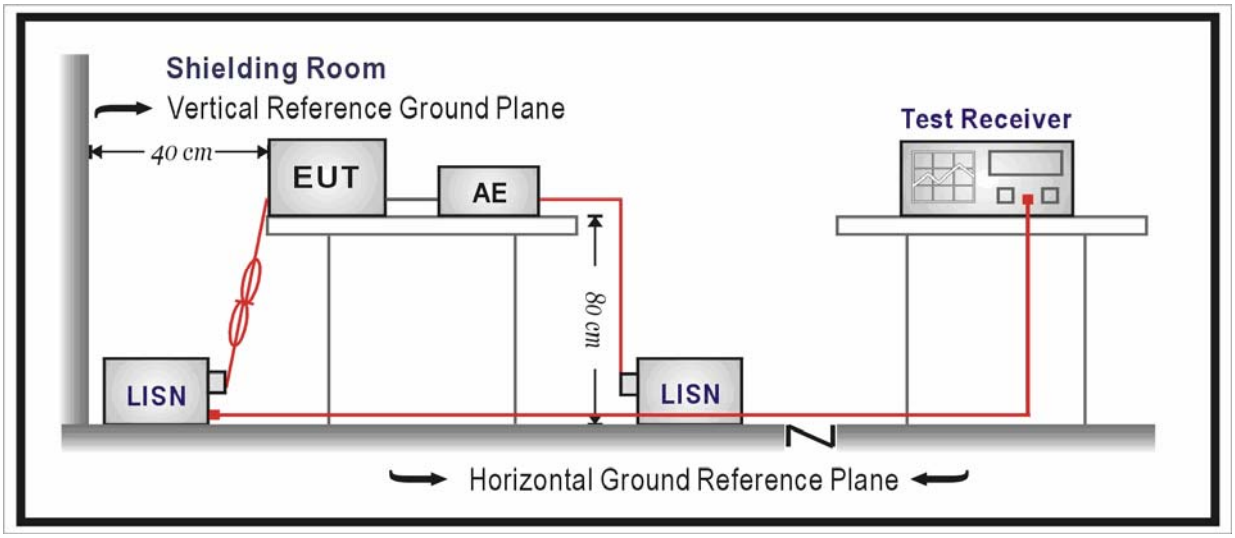
3.1. Test Equipment

Conducted Emission / TR-1

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
EMI Test Receiver	R&S	ESCI	100726	2010.04.23
Two-Line V-Network	R&S	ENV216	100043	2010.06.18
Two-Line V-Network	R&S	ENV216	100044	2009.09.07
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2010.05.05
50ohm Termination	SHX	TF2	07081401	2009.09.29
Temperature/Humidity Meter	zhicheng	ZC1-2	TR1-TH	2010.01.14

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 & ANSI C63.10: 2009.

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.

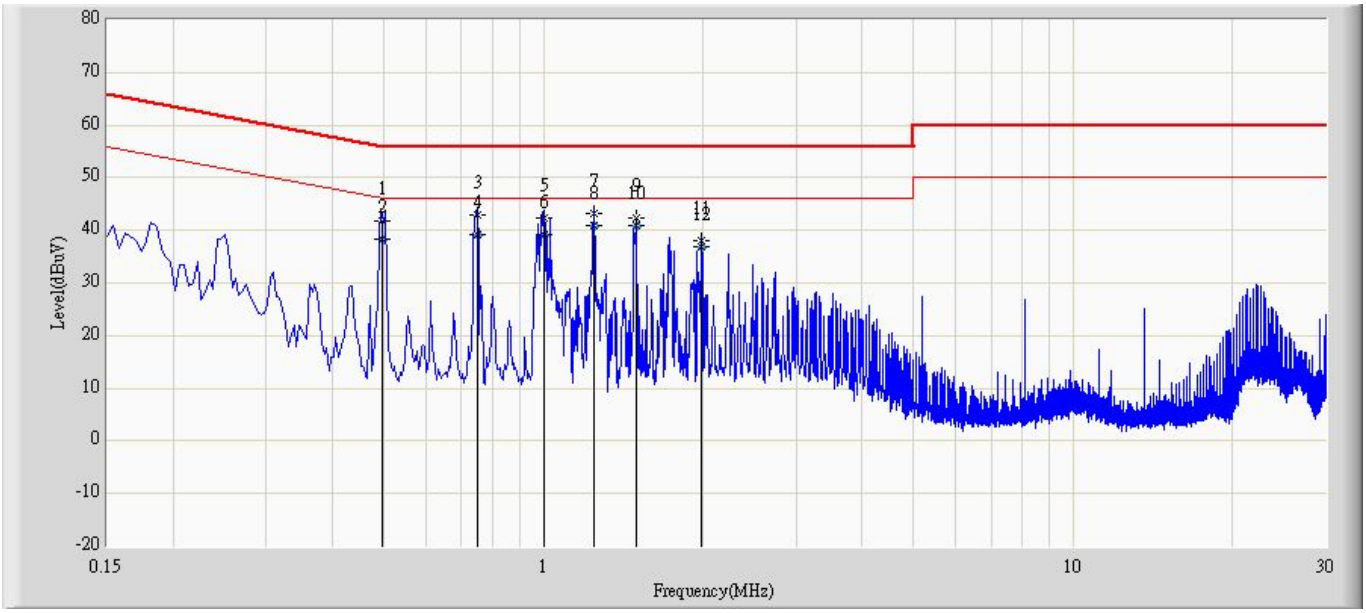
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Uncertainty

The measurement uncertainty is defined as ± 2.02 dB

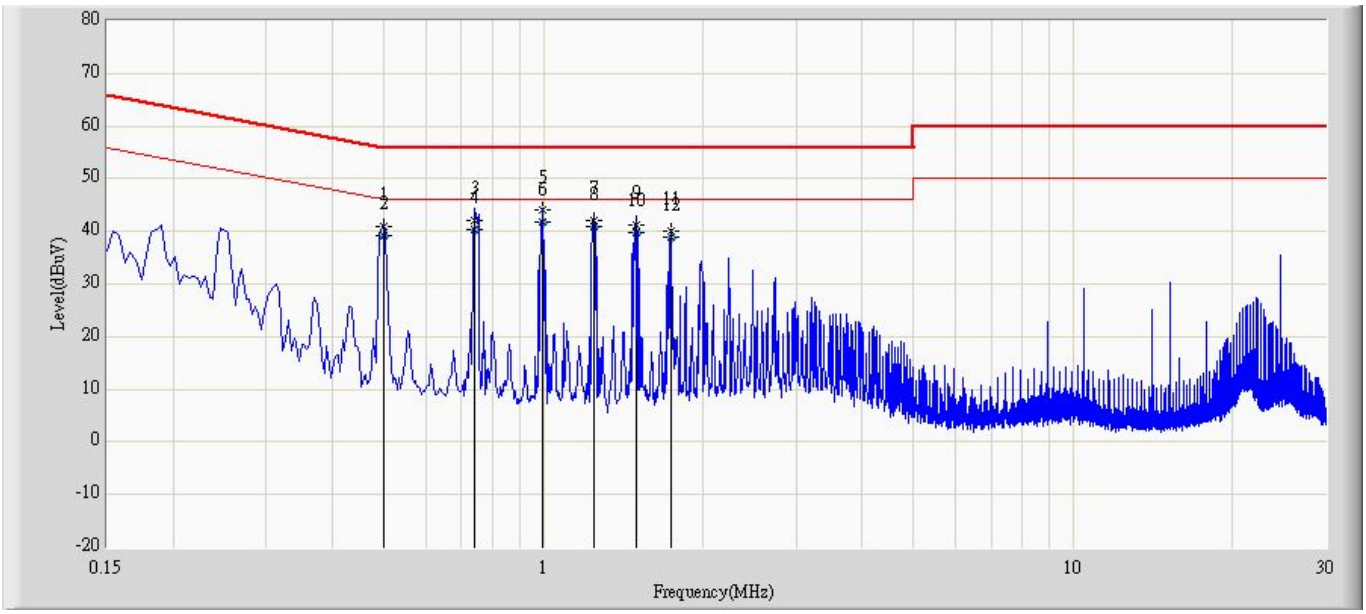
3.6. Test Result

Profile: 106S012R	Page No.: 4
Engineer: Jame	
Site: TR1	Time: 2010/07/28 - 20:21
Limit: FCC_Part15.207_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101043(0.009-30MHz)	Polarity: Line
EUT: WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.495	41.848	32.158	-14.235	56.083	9.690	QP
2		0.495	38.257	28.567	-7.826	46.083	9.690	AV
3		0.750	42.812	33.125	-13.188	56.000	9.687	QP
4		0.750	39.227	29.540	-6.773	46.000	9.687	AV
5		1.002	42.332	32.652	-13.668	56.000	9.680	QP
6		1.002	39.330	29.650	-6.670	46.000	9.680	AV
7		1.246	43.319	33.632	-12.681	56.000	9.687	QP
8		1.246	40.943	31.256	-5.057	46.000	9.687	AV
9		1.494	42.274	32.569	-13.726	56.000	9.705	QP
10	*	1.494	40.961	31.256	-5.039	46.000	9.705	AV
11		1.990	38.055	28.325	-17.945	56.000	9.730	QP
12		1.990	36.925	27.195	-9.075	46.000	9.730	AV

Profile: 106S012R	Page No.: 5
Engineer: Jame	
Site: TR1	Time: 2010/07/28 - 20:25
Limit: FCC_Part15.207_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101043(0.009-30MHz)	Polarity: Neutral
EUT: WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.498	40.926	31.256	-15.107	56.033	9.670	QP
2		0.498	39.055	29.385	-6.978	46.033	9.670	AV
3		0.742	41.943	32.250	-14.057	56.000	9.693	QP
4		0.742	40.375	30.682	-5.625	46.000	9.693	AV
5		0.998	43.976	34.256	-12.024	56.000	9.720	QP
6	*	0.998	41.876	32.156	-4.124	46.000	9.720	AV
7		1.246	42.168	32.450	-13.832	56.000	9.718	QP
8		1.246	40.974	31.256	-5.026	46.000	9.718	AV
9		1.498	41.221	31.496	-14.779	56.000	9.725	QP
10		1.498	39.877	30.152	-6.123	46.000	9.725	AV
11		1.742	39.991	30.268	-16.009	56.000	9.723	QP
12		1.742	38.979	29.256	-7.021	46.000	9.723	AV

4. Radiated Emission

4.1. Test Equipment

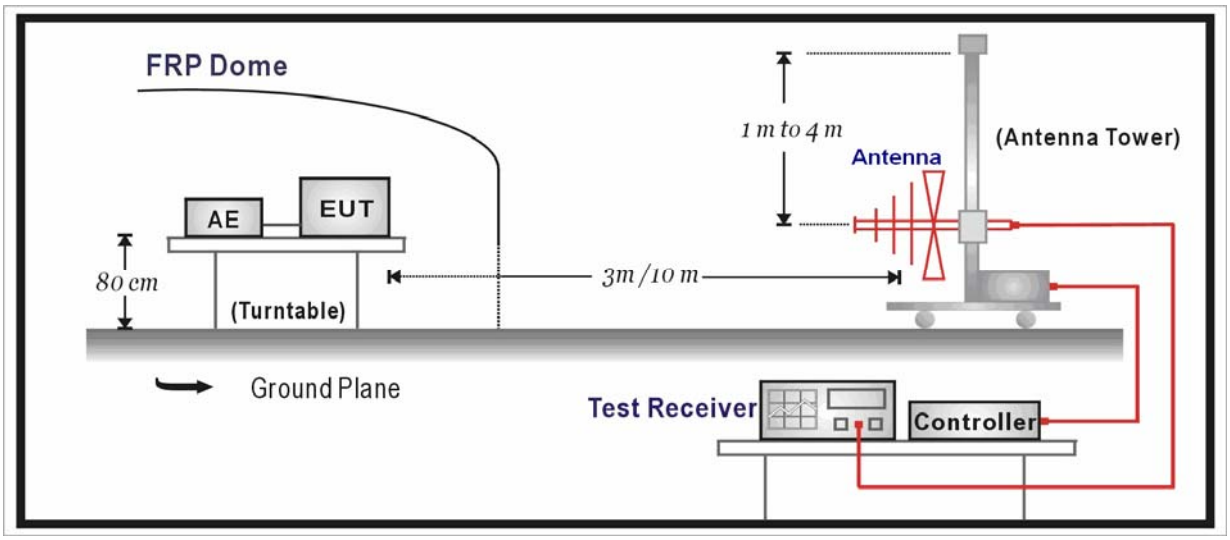
☒Radiated Emission / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2010.04.23
EMI Test Receiver	R&S	ESCI	100906	2010.01.15
Preamplifier	Quietek	AP-180C	CHM-0602013	2010.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2010.05.05
Bilog Antenna	Teseq GmbH	CBL6112D	27612	2009.11.12
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2010.06.11
High-Pass Filter	Wainwright	WHKX2.8/18G-12SS	SN1	2010.03.03
High-Pass Filter	Wainwright	WHKX7.0/18G-8SS	SN16	2010.03.03
Lowpass Filter	Wainwright	WLKS4500-9SS	SN2	2010.03.03
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC5-TH	2010.01.14

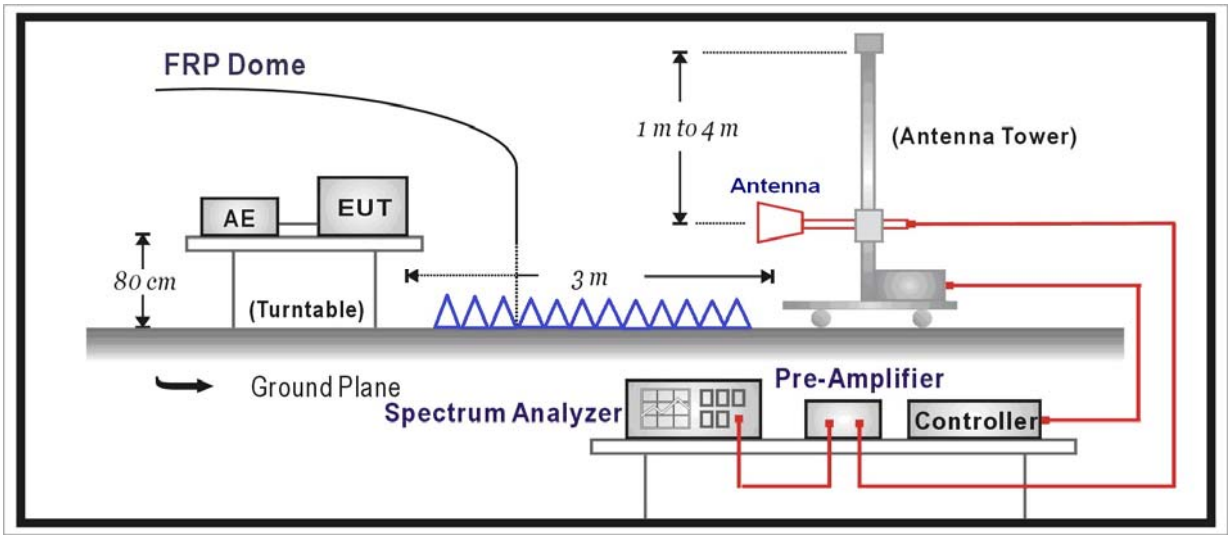
Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

4.2. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

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

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

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

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

4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2009 & ANSI C63.10: 2009.

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.

802.11a

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
100	100	V	5503.8	74.9	36.1	111.0	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10418	54.2	1.9	56.1	74	-17.9	PK
		V	10418	40.5	1.9	42.4	54	-11.6	AV
		H	7502.5	54.8	-5.4	49.4	54	-4.6	PK
		V	11021.5	60.7	2.7	63.4	74	-10.6	PK
		V	11021.5	45.2	2.7	47.9	54	-6.1	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
	120	V	5602.3	74.3	36.2	110.5	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10426.5	55.0	1.9	56.9	74	-17.1	PK
		V	10426.5	39.4	1.9	41.3	54	-12.7	AV
		H	7519.5	54.2	-5.3	48.9	54	-5.1	PK
		H	11217.0	58.6	2.8	61.4	74	-12.6	PK
		H	11217.0	43.3	2.8	46.1	54	-7.9	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
	140	V	5704.0	74.1	36.3	110.4	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10418.0	50.7	1.9	52.6	54	-1.4	PK
		H	7519.5	55.0	-5.3	49.7	54	-4.3	PK
		V	11421.0	54.4	2.7	57.1	74	-16.9	PK
		V	11421.0	40.2	2.7	42.9	54	-11.1	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
010	100	V	5503.9	72.8	36.1	108.9	Fundamental	/	PK

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		H	10316.0	50.0	2.0	52.0	54	-2.0	PK
		H	7511.0	55.0	-5.3	49.7	54	-4.3	PK
		V	10996.0	61.3	2.4	63.7	74	-10.3	PK
		V	10996.0	46.8	2.4	49.2	54	-4.8	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
	120	V	5602.4	73.1	36.2	109.3	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10384.0	50.6	1.9	52.5	54	-1.5	PK
		H	7519.5	55.2	-5.3	49.9	54	-4.1	PK
		V	11191.5	61.0	2.8	63.8	74	-10.2	PK
		V	11191.5	46.5	2.8	49.3	54	-4.7	PK
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
	140	V	5695.3	72.9	36.3	109.2	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10350.0	49.5	1.9	51.4	54	-2.6	PK
		H	7511.0	55.5	-5.3	50.2	54	-3.8	PK
		V	11404.0	58.3	2.4	60.7	74	-13.3	PK
		V	11404.0	44.1	2.4	46.5	54	-7.5	PK
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK

802.11n(20MHz)

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
100	100	V	5502.3	66.5	36.1	102.6	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10426.5	55.0	1.9	56.9	74	-17.1	PK
		V	10426.5	44.6	1.9	46.5	54	-7.5	AV
		H	7519.5	55.0	-5.3	49.7	54	-4.3	PK

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
		V	10996.0	52.4	2.4	54.8	74	-19.2	PK
		V	10996.0	37.7	2.4	40.1	54	-13.9	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
	120	V	5603.0	66.1	36.2	102.3	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10426.5	53.0	1.9	54.9	74	-19.1	PK
		V	10426.5	38.3	1.9	40.2	54	-13.8	AV
		H	7519.5	54.3	-5.3	49.0	54	-5.0	PK
		V	11200.0	51.4	2.8	54.2	74	-19.8	PK
		V	11200.0	36.7	2.8	39.5	54	-14.5	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
	140	V	5697.6	66.9	36.3	103.2	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10418.0	57.0	1.9	58.9	74	-15.1	PK
		V	10418.0	43.2	1.9	45.1	54	-8.9	AV
		H	7485.5	54.8	-5.4	49.4	54	-4.6	PK
		H	11217.0	58.2	2.8	61.0	74	-13.0	PK
		H	11217.0	42.7	2.8	45.5	54	-8.5	AV
		H	24000	59.1	-8.9	50.2	54	-3.8	PK
010	100	V	5496.6	65.7	36.1	101.8	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10358.5	48.8	1.9	50.7	54	-3.3	PK
		H	7502.5	54.4	-5.4	49.0	54	-5.0	PK
		V	11004.5	51.8	2.5	54.3	74	-19.7	PK
		V	11004.5	37.4	2.5	39.9	54	-14.1	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
	120	V	5603.3	65.4	36.2	101.6	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10333.0	49.6	2.0	51.6	54	-2.4	PK
		H	7477.0	55.1	-5.3	49.8	54	-4.2	PK

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
		V	11191.5	53.3	2.8	56.1	74	-17.9	PK
		V	11191.5	38.5	2.8	41.3	54	-12.7	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
	140	V	5695.2	65.3	36.3	101.6	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10333.0	50.2	2.0	52.2	54	-1.8	PK
		H	7502.5	53.9	-5.4	48.5	54	-5.5	PK
		V	11395.5	55.4	2.4	57.8	74	-16.2	PK
		V	11395.5	41.7	2.4	44.1	54	-9.9	PK
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
110	100	V	5500.9	70.8	36.1	106.9	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		H	10409.5	49.1	2.0	51.1	54	-2.9	PK
		H	7502.5	54.7	-5.4	49.3	54	-4.7	PK
		V	10996.0	56.8	2.4	59.2	74	-14.8	PK
		V	10996.0	44.3	2.4	46.7	54	-7.3	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
	120	V	5602.7	70.1	36.2	106.3	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10418.0	54.7	1.9	56.6	74	-17.4	PK
		V	10418.0	40.4	1.9	42.3	54	-11.7	AV
		H	7511.0	54.9	-5.3	49.6	54	-4.4	PK
		V	11200.0	51.6	2.8	54.4	74	-19.6	PK
		V	11200.0	35.4	2.8	38.2	54	-15.8	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
	140	V	5698.3	70.2	36.3	106.5	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10418.0	58.1	1.9	60.0	74	-14.0	PK
		V	10418.0	44.4	1.9	46.3	54	-7.7	AV
		H	7502.5	56.0	-5.4	50.6	54	-3.4	PK

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
		V	11395.5	57.3	2.4	59.7	74	-14.3	PK
		V	11395.5	44.5	2.4	46.9	54	-7.1	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK

802.11n(40MHz)

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
100	102	V	5499.6	62.7	36.1	98.8	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10426.5	52.0	1.9	53.9	54	-0.1	PK
		H	7485.5	56.0	-5.4	50.6	54	-3.4	PK
		V	11020.0	56.2	2.4	58.6	74	-15.4	PK
		V	11020.0	43.7	2.4	46.1	54	-7.9	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
	118	V	5589.2	62.5	36.2	98.7	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10426.5	53.9	1.9	55.8	74	-18.2	PK
		V	10426.5	39.4	1.9	41.3	54	-12.7	AV
		V	7519.5	56.2	-5.3	50.9	54	-3.1	PK
		H	11180.0	55.3	2.4	57.7	74	-16.3	PK
		H	11180.0	41.7	2.4	44.1	54	-9.9	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
	134	V	5662.0	62.2	36.3	98.5	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10426.5	53.9	1.9	55.8	74	-18.2	PK
		V	10426.5	40.2	1.9	42.1	54	-11.9	AV
		H	7502.5	54.6	-5.4	49.2	54	-4.8	PK
		V	11345.0	57.2	2.4	59.6	74	-14.4	PK
		V	11345.0	43.4	2.4	45.8	54	-8.2	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
010	102	V	5499.6	61.8	36.1	97.9	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		H	10316.0	50.0	2.0	52.0	54	-2.0	PK
		H	7511.0	55.0	-5.3	49.7	54	-4.3	PK
		V	11020.0	54.5	2.4	56.9	74	-17.1	PK
		V	11020.0	41.3	2.4	43.7	54	-10.3	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
	118	V	5589.3	61.1	36.2	97.3	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10384.0	50.6	1.9	52.5	54	-1.5	PK
		H	7519.5	55.2	-5.3	49.9	54	-4.1	PK
		H	11180.0	56.6	2.4	59.0	74	-15.0	PK
		H	11180.0	42.1	2.4	44.5	54	-9.5	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
	134	V	5671.6	61.2	36.3	97.5	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10350.0	49.5	1.9	51.4	54	-2.6	PK
		H	7511.0	55.5	-5.3	50.2	54	-3.8	PK
		V	11345.0	56.6	2.4	59.0	74	-15.0	PK
		V	11345.0	43.1	2.4	45.5	54	-8.5	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
110	102	V	5501.0	67.1	36.1	103.2	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10418	58.5	1.9	60.4	74	-13.6	PK
		V	10418	44.2	1.9	46.1	54	-7.9	AV
		H	7519.5	55.3	-5.3	50.0	54	-4.0	PK
		V	11021.5	53.9	2.7	56.6	74	-17.4	PK
		V	11021.5	39.3	2.7	42.0	54	-12.0	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
	118	V	5591.2	67.1	36.2	103.3	Fundamental	/	PK

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10426.5	55.2	1.9	57.1	74	-16.9	PK
		V	10426.5	41.6	1.9	43.5	54	-10.5	AV
		H	7494.0	55.6	-5.4	50.2	54	-3.8	PK
		V	11183.0	53.9	2.7	56.6	74	-17.4	PK
		V	11183.0	39.3	2.7	42.0	54	-12.0	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK
	134	V	5673.8	67.4	36.3	103.7	Fundamental	/	PK
		H	599.8	34.5	-1.5	33.0	46	-13.0	QP
		H	699.7	34.9	-0.7	34.2	46	-11.8	QP
		V	10426.5	55.7	1.9	57.6	74	-16.4	PK
		V	10426.5	41.3	1.9	43.2	54	-10.8	AV
		H	7485.5	55.2	-5.4	49.8	54	-4.2	PK
		V	11341.0	55.5	2.4	57.9	74	-16.1	PK
		V	11341.0	41.8	2.4	44.2	54	-9.8	AV
		H	24000.0	59.1	-8.9	50.2	54	-3.8	PK

Note: this limit (54dBuV/m) applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn’t be performed.

5. Operation Frequency Range of 20dB Bandwidth

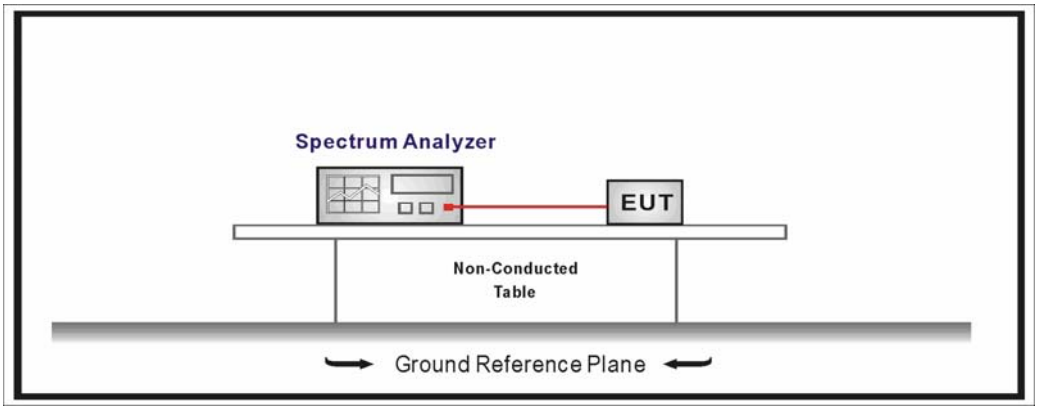
5.1. Test Equipment

Operation Frequency Range of 20dB Bandwidth /TR8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2010.04.30
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2010.01.14

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 ANSI C63.10: 2009 for compliance to FCC 47CFR 15.407 requirements.
Set RBW = 100 kHz, Span greater than RBW.

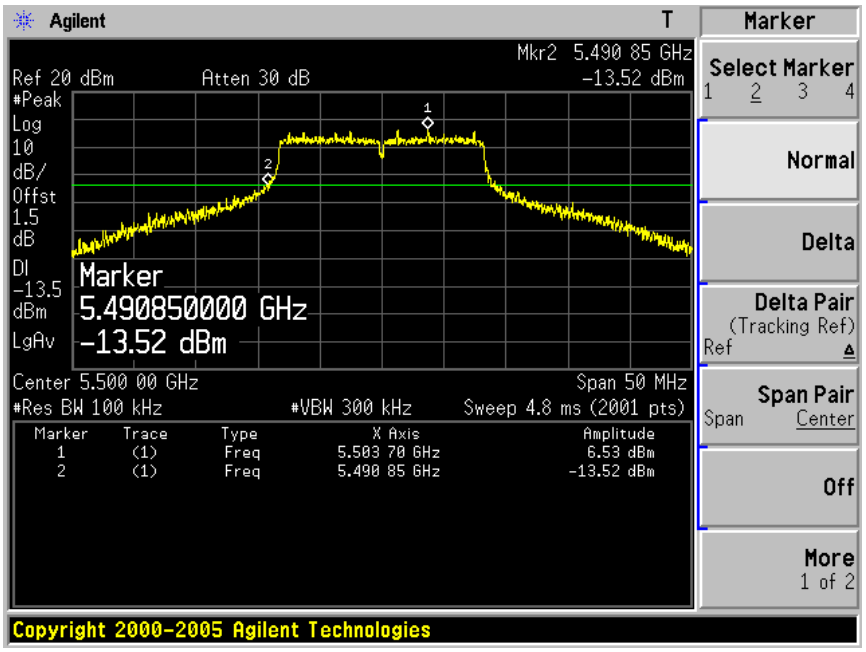
5.5. Uncertainty

The measurement uncertainty is defined as ± 1 kHz

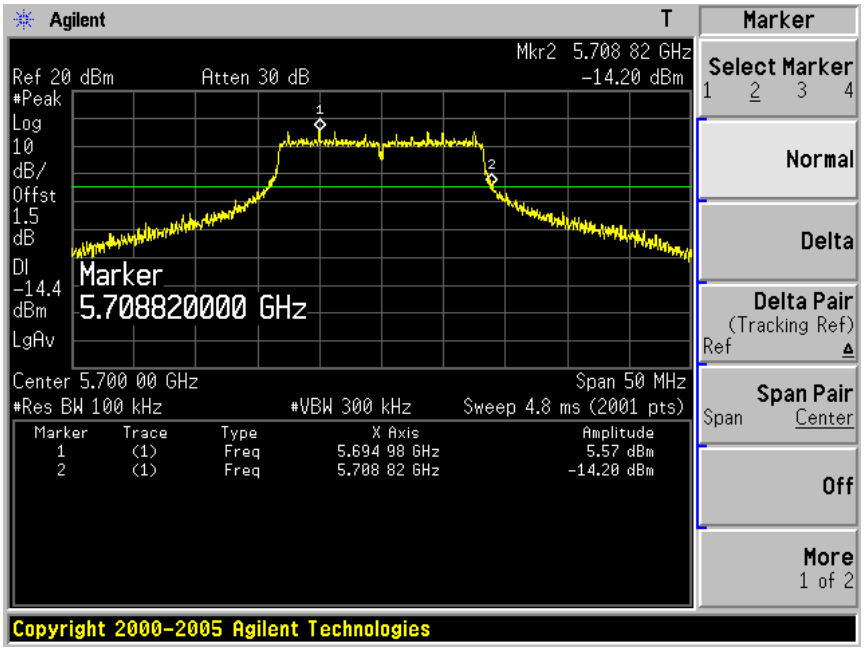
5.6. Test Result

Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 010)

Channel 100 (5500MHz)

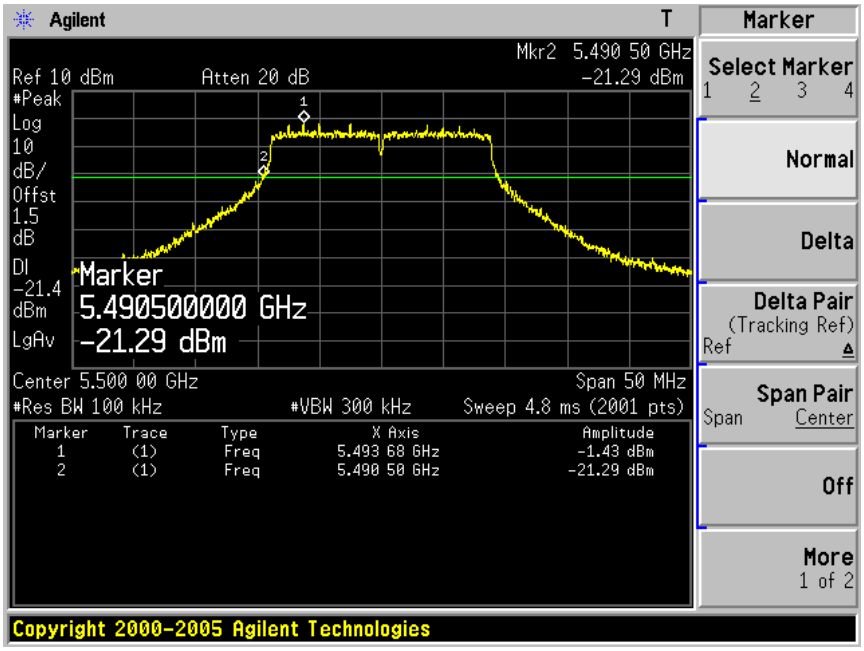


Channel 140 (5700MHz)

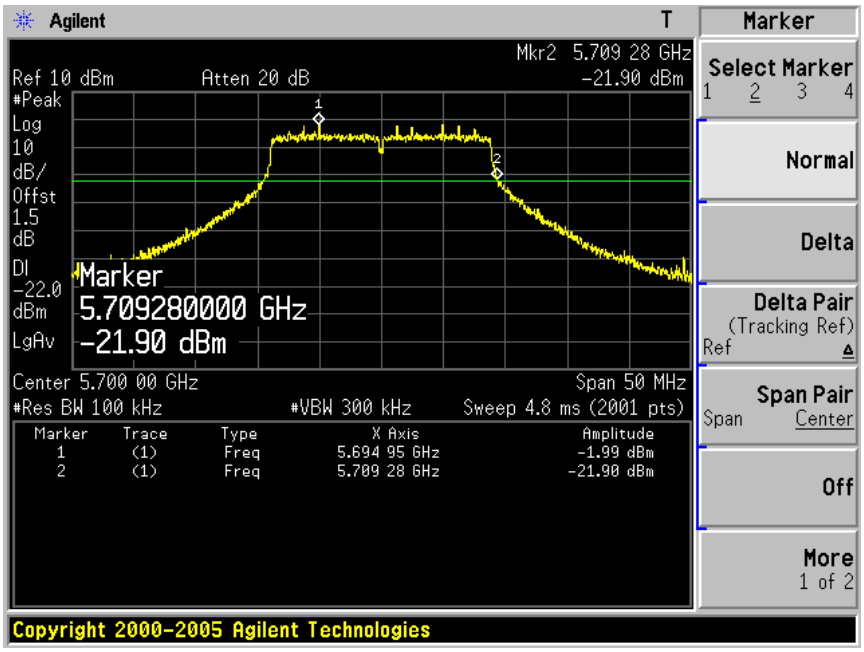


Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 4: Transmit by 802.11n (20MHz) (Chain 010)

Channel 100 (5500MHz)

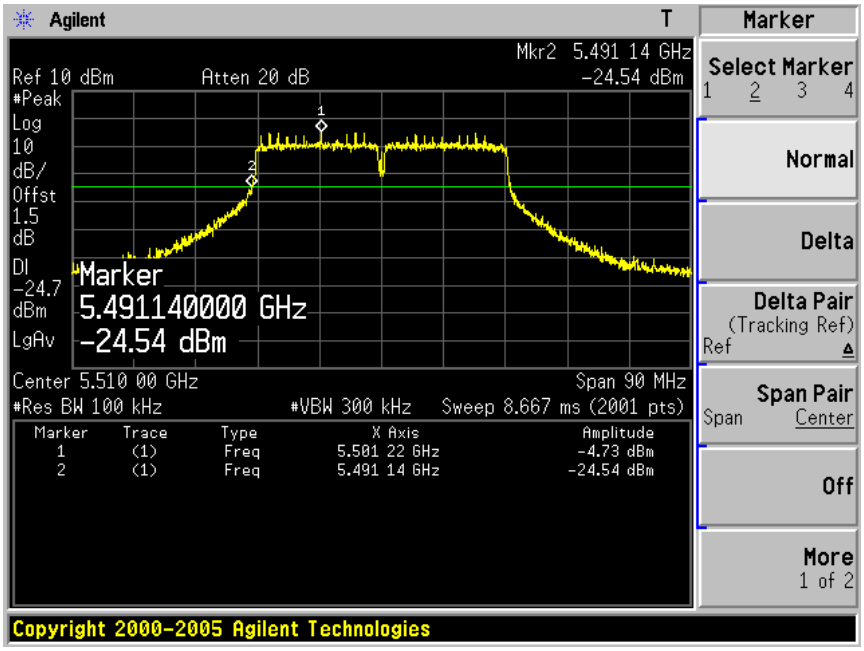


Channel 140 (5700MHz)

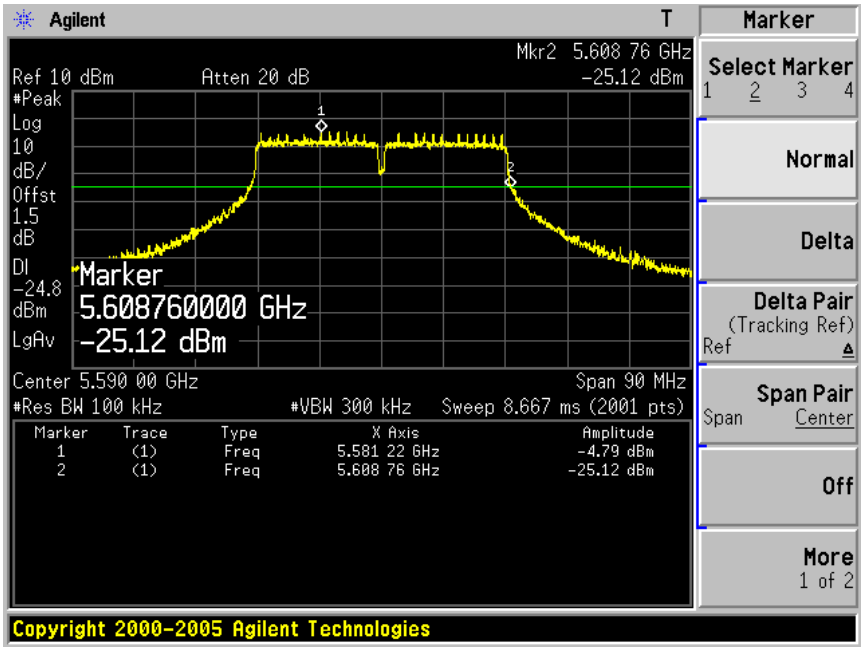


Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 5: Transmit by 802.11n (40MHz) (Chain 010)

Channel 102 (5510MHz)

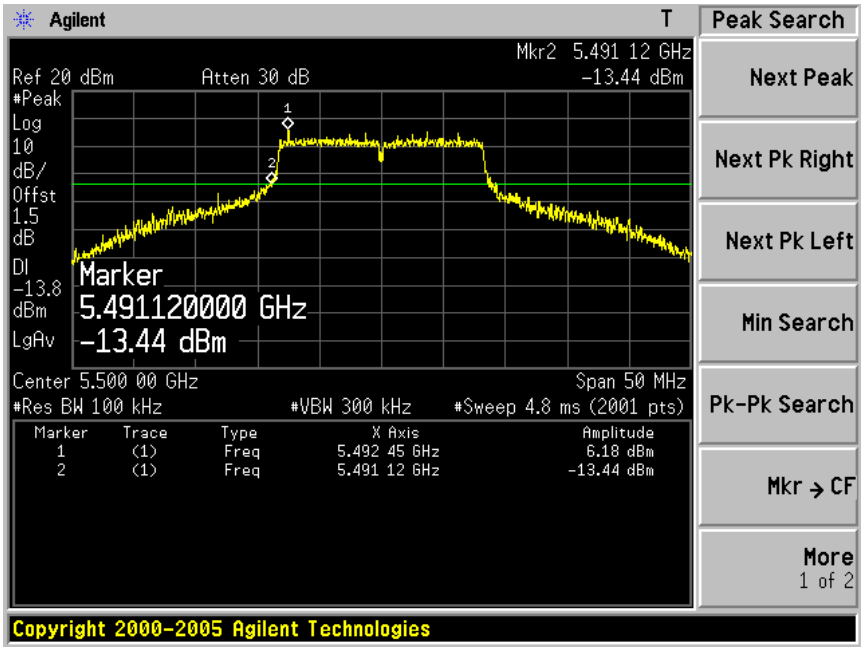


Channel 118 (5590MHz)

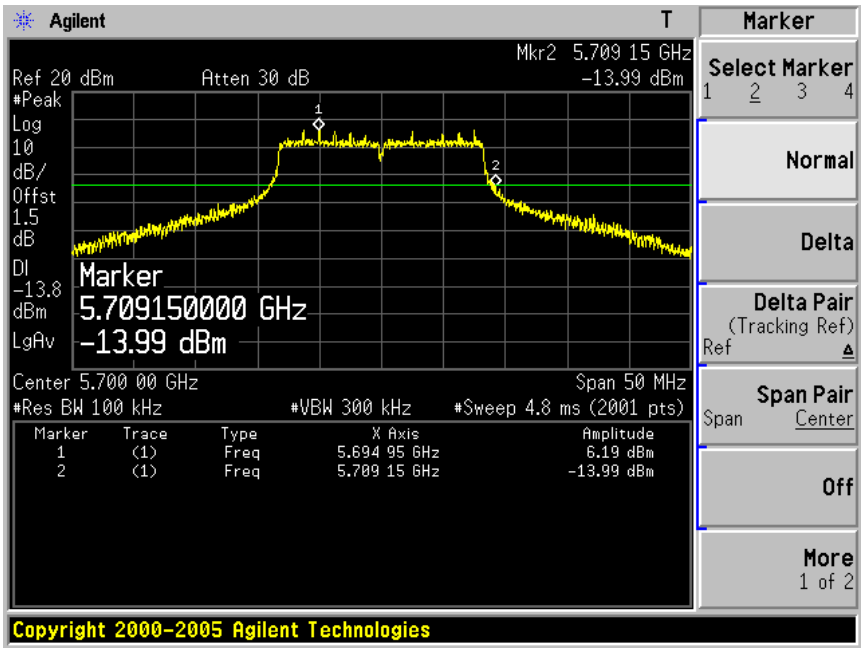


Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 100)

Channel 100 (5500MHz)

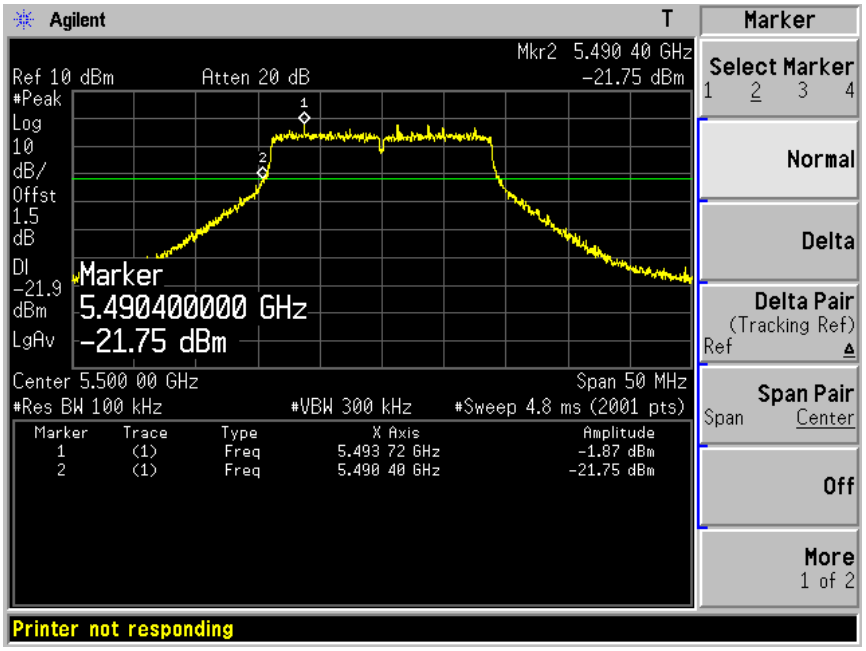


Channel 140 (5700MHz)

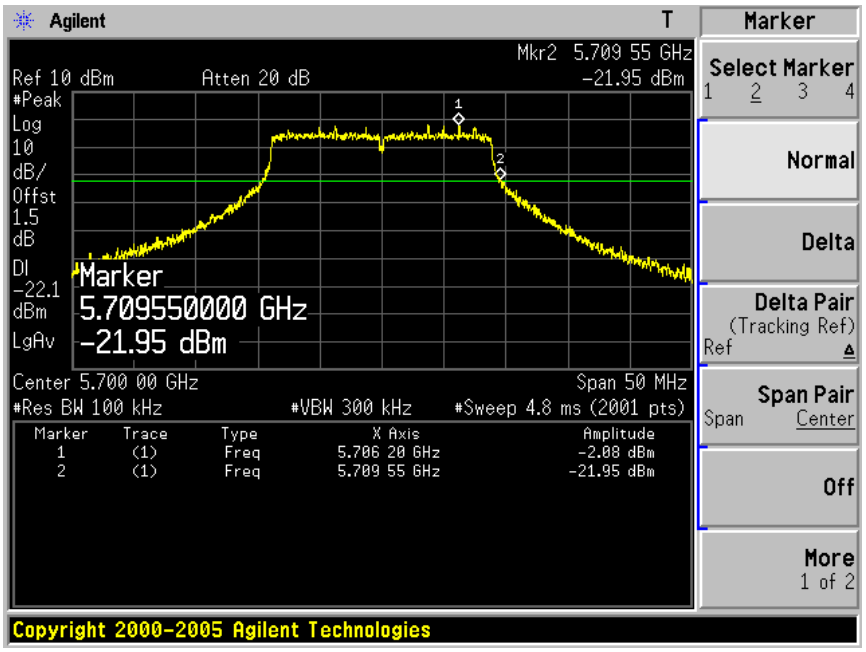


Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 4: Transmit by 802.11n (20MHz) (Chain B)

Channel 100 (5500MHz)

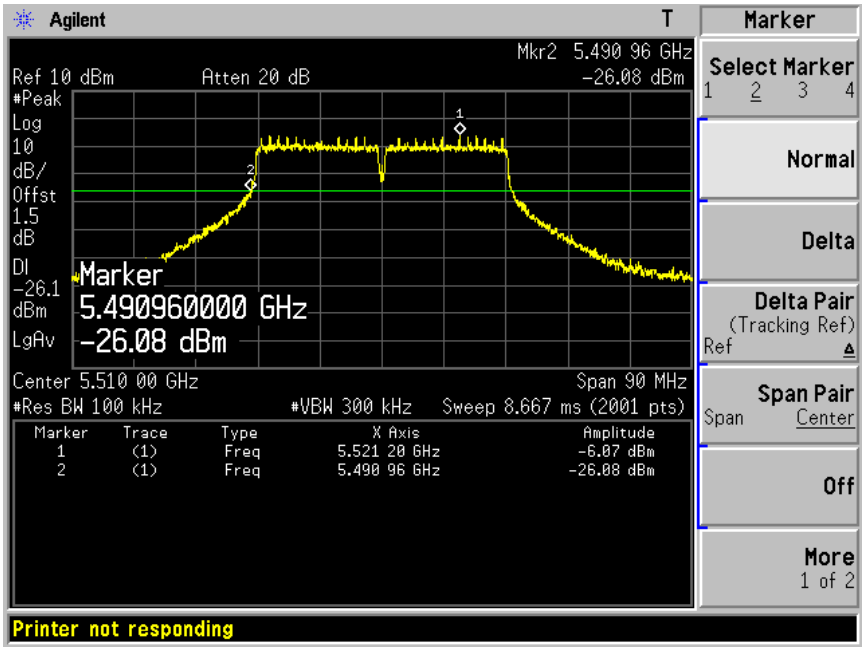


Channel 140 (5700MHz)

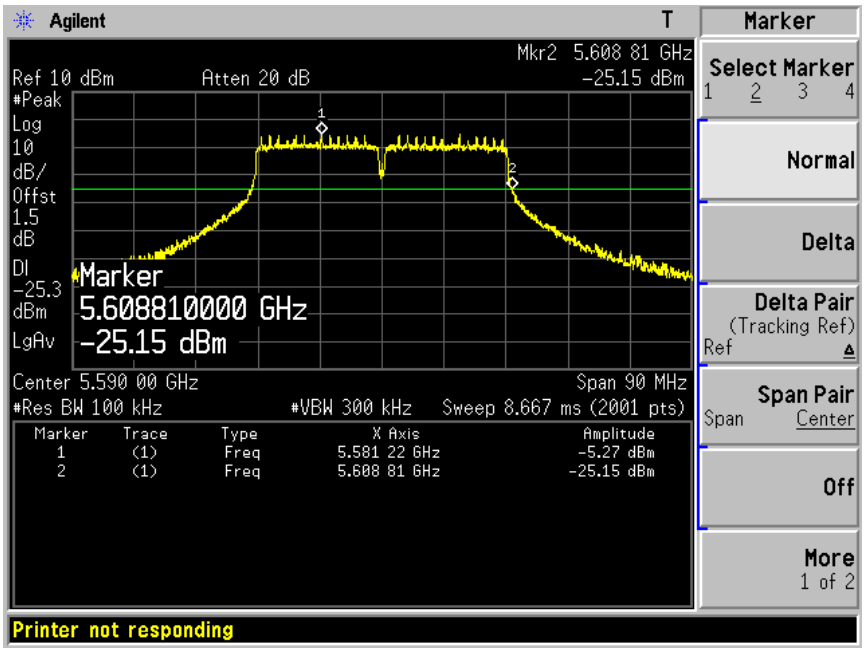


Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 5: Transmit by 802.11n (40MHz) (Chain 100)

Channel 102 (5510MHz)



Channel 118 (5590MHz)



6. Occupied Bandwidth

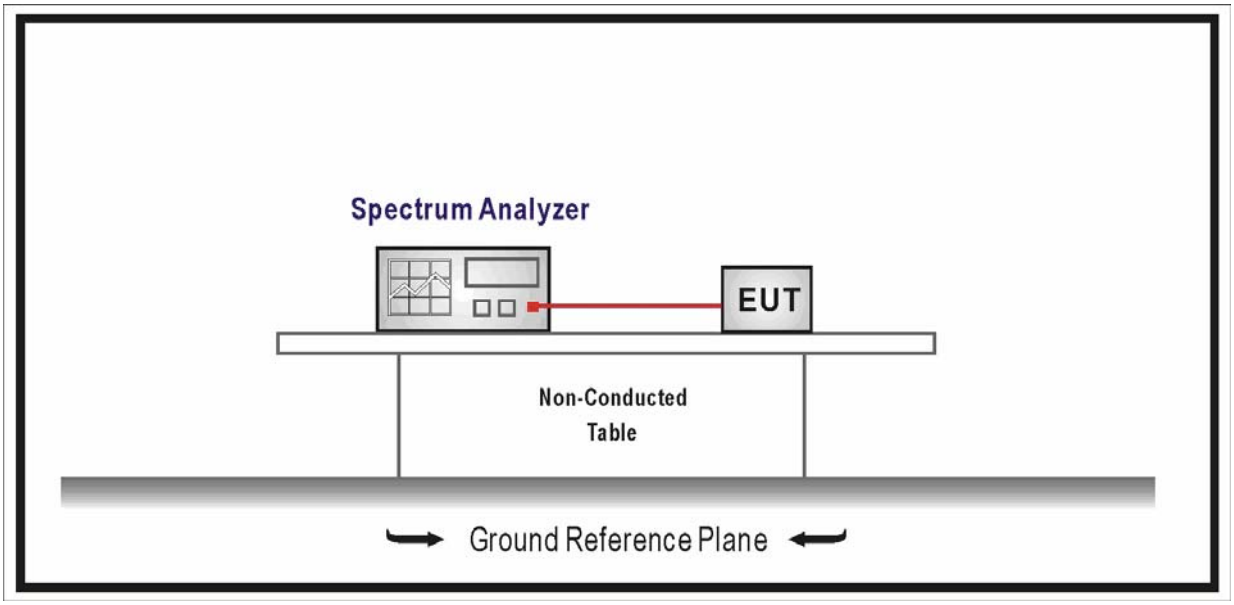
6.1. Test Equipment

Occupied Bandwidth / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2010.04.30
Temperature/Humidity Meter	zhicheng	ZC1-2	AC6-TH	2010.01.14

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 ANSI C63.10: 2009 for compliance to FCC 47CFR 15.407 requirements.

Emission bandwidth “B” MHz.

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

6.5. Uncertainty

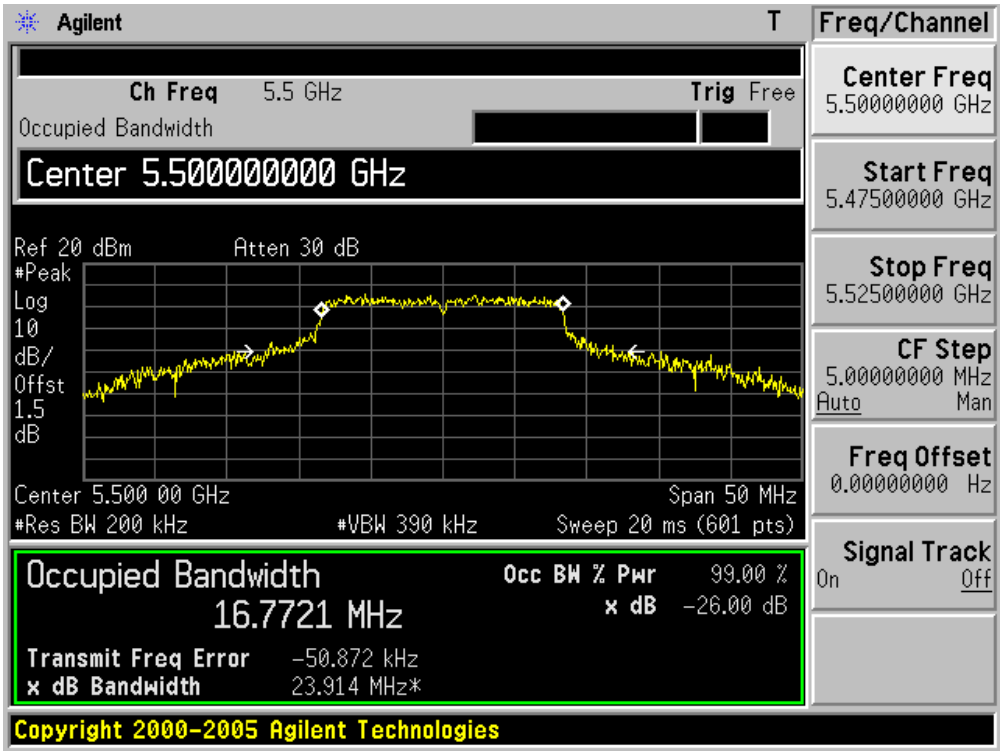
The measurement uncertainty is defined as ± 1 kHz

6.6. Test Result

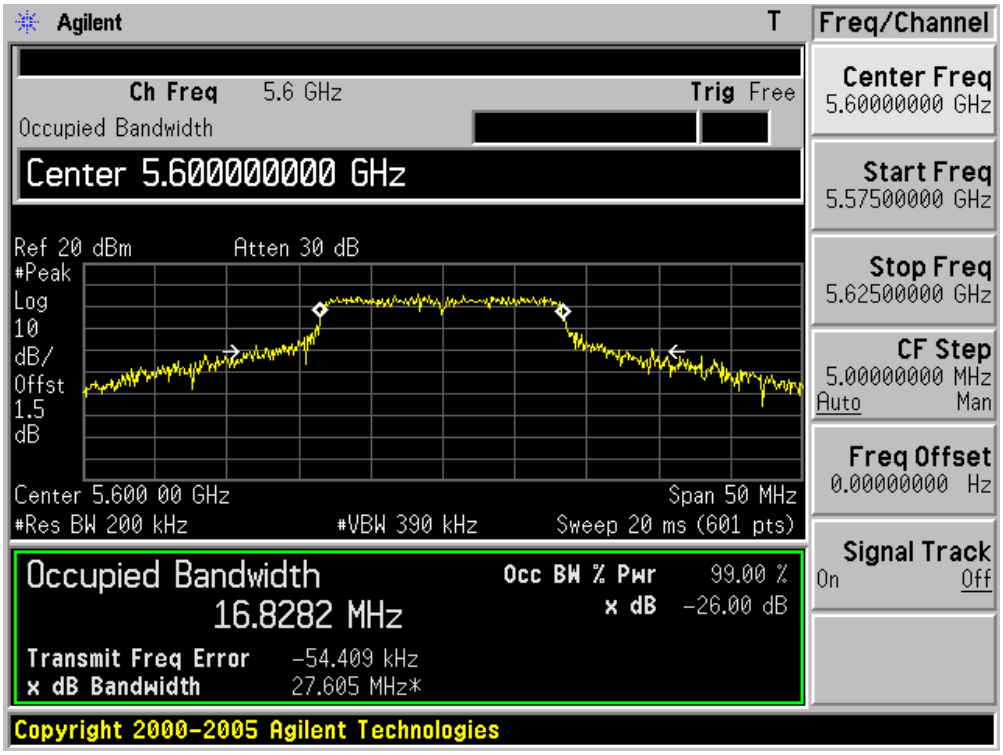
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 100)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
100	5500	23.914	16.7721
120	5600	27.605	16.8282
140	5700	23.288	16.6903

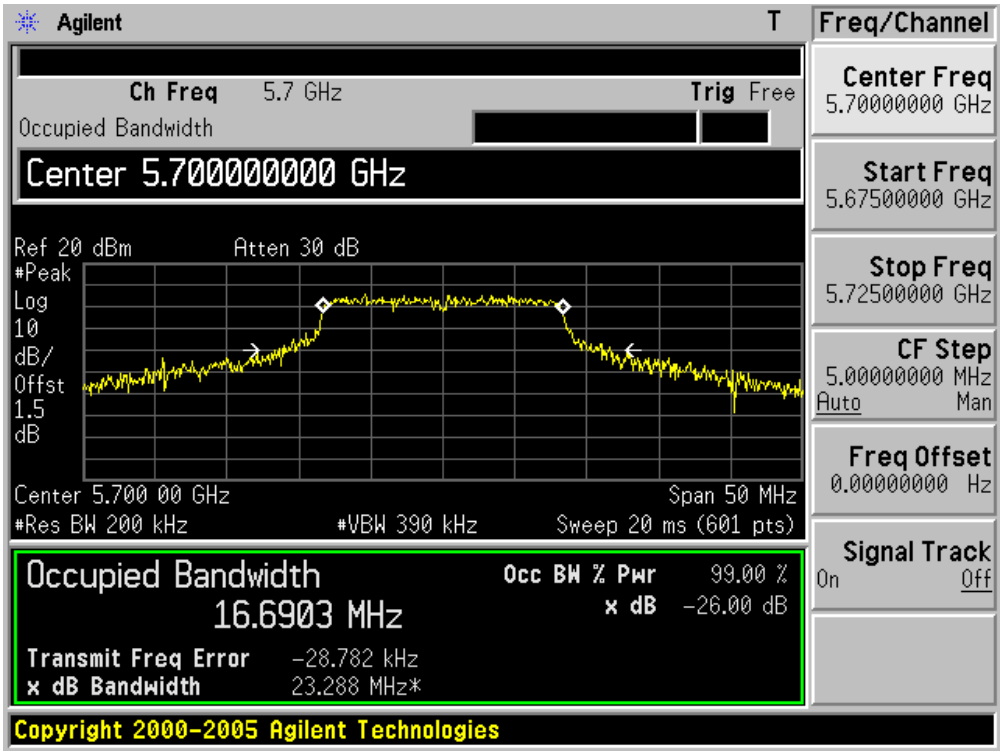
Channel 100 (5500MHz)



Channel 120 (5600MHz)



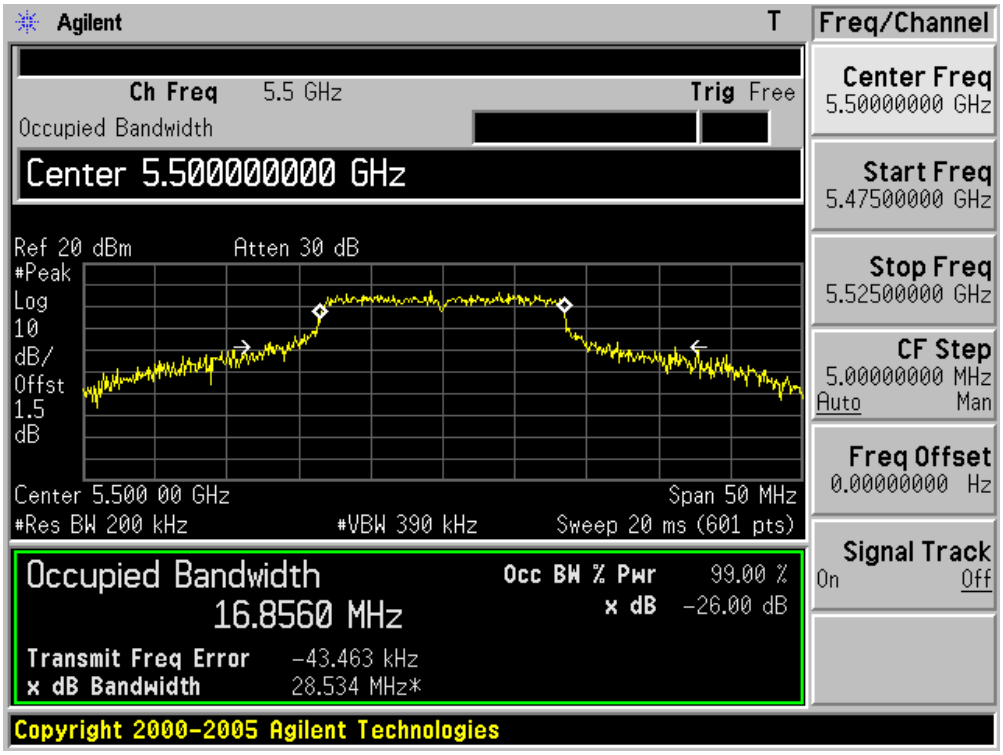
Channel 140 (5700MHz)



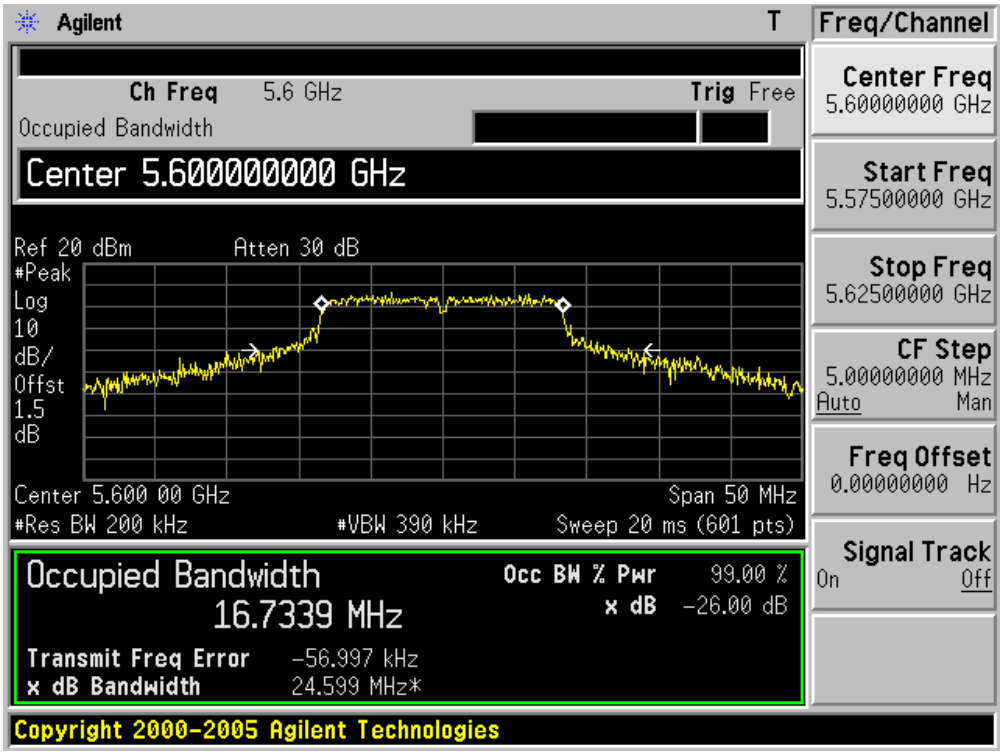
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 010)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
100	5500	28.534	16.8560
120	5600	24.599	16.7339
140	5700	22.212	16.7169

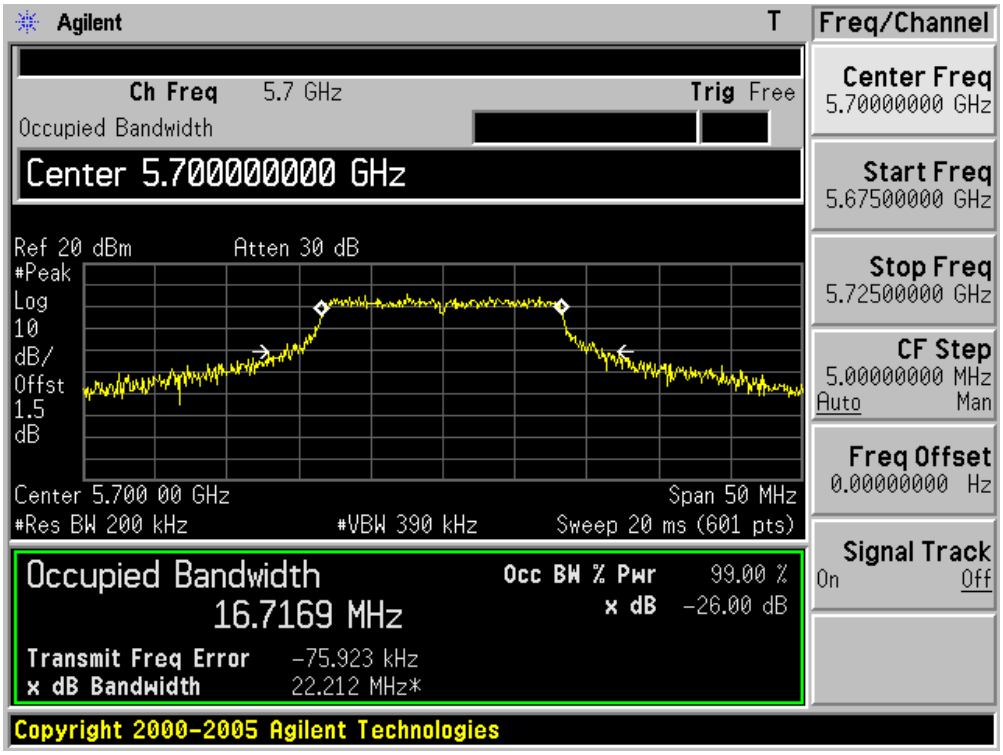
Channel 100 (5500MHz)



Channel 120 (5600MHz)



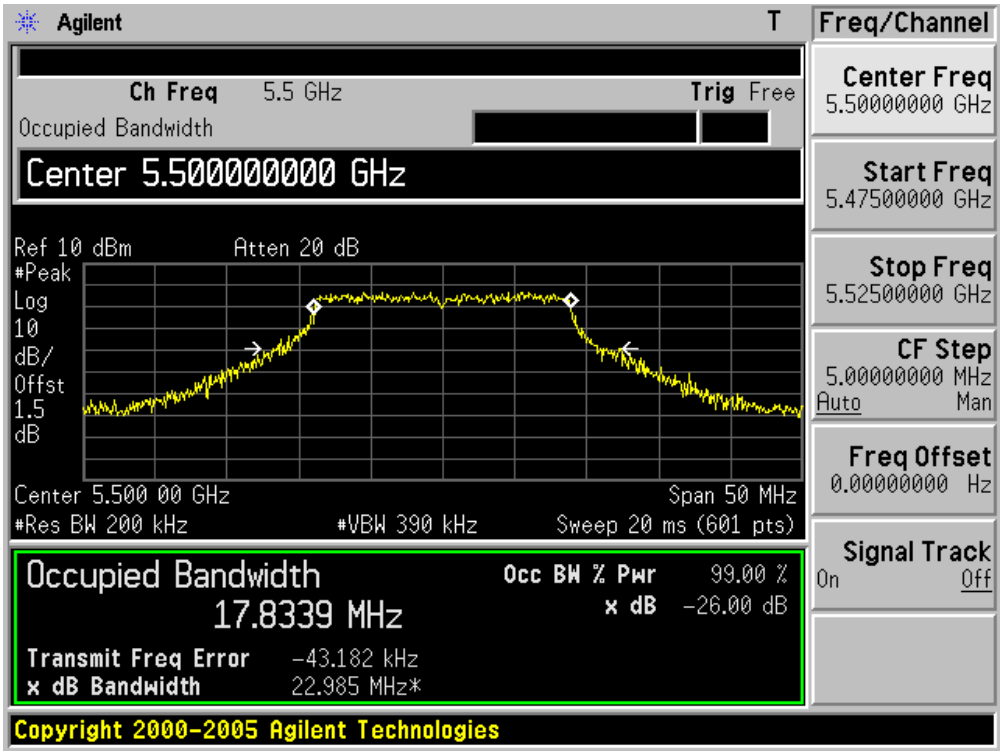
Channel 140 (5700MHz)



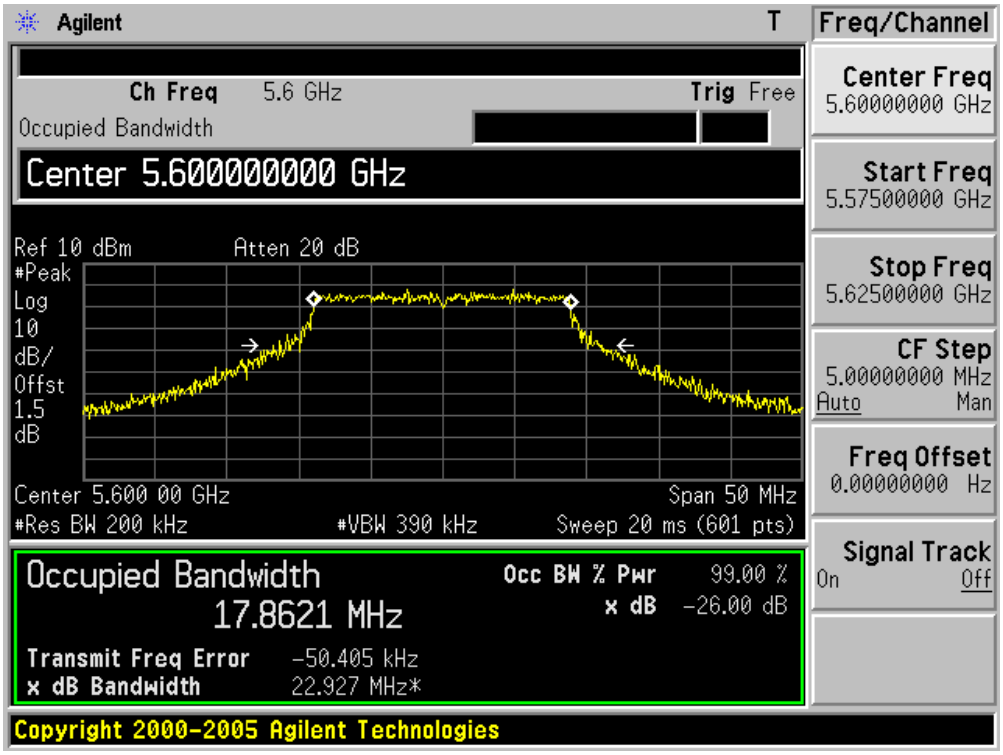
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz Bandwidth) (Chain 100)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
100	5500	22.985	17.8339
120	5600	22.927	17.8621
140	5700	22.793	17.8319

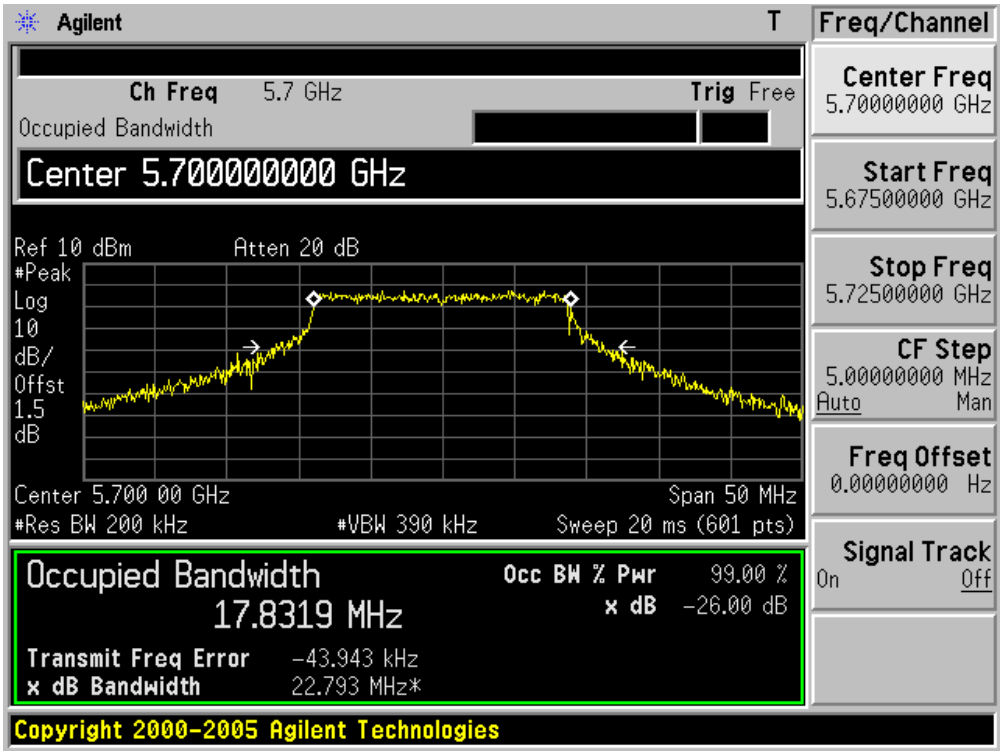
Channel 100 (5500MHz)



Channel 120 (5600MHz)



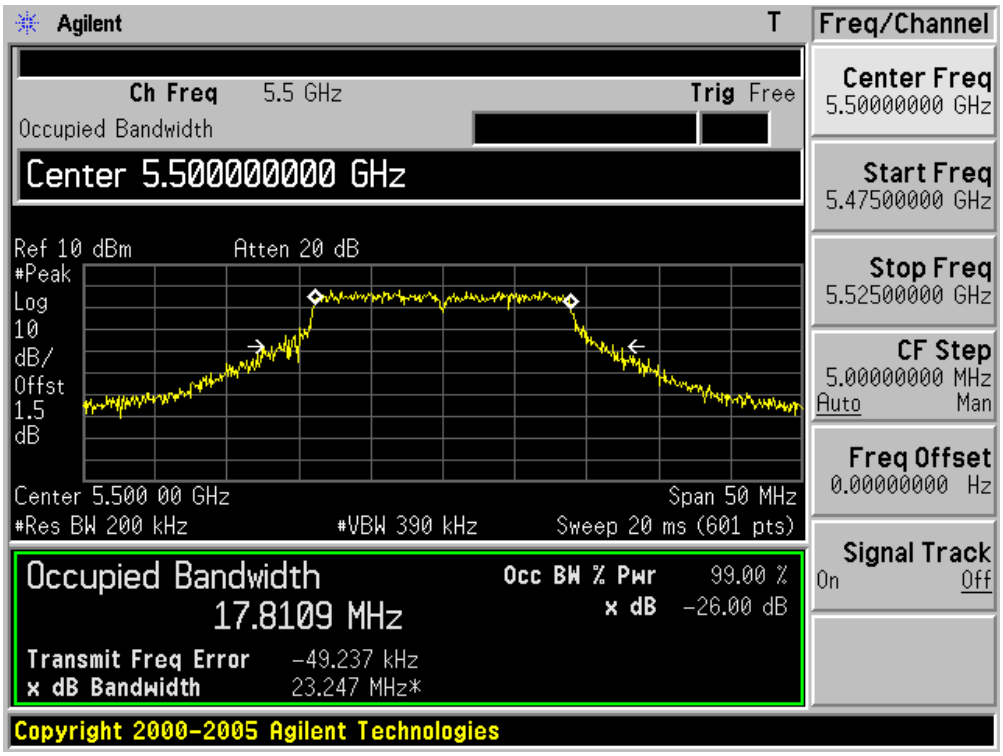
Channel 140 (5700MHz)



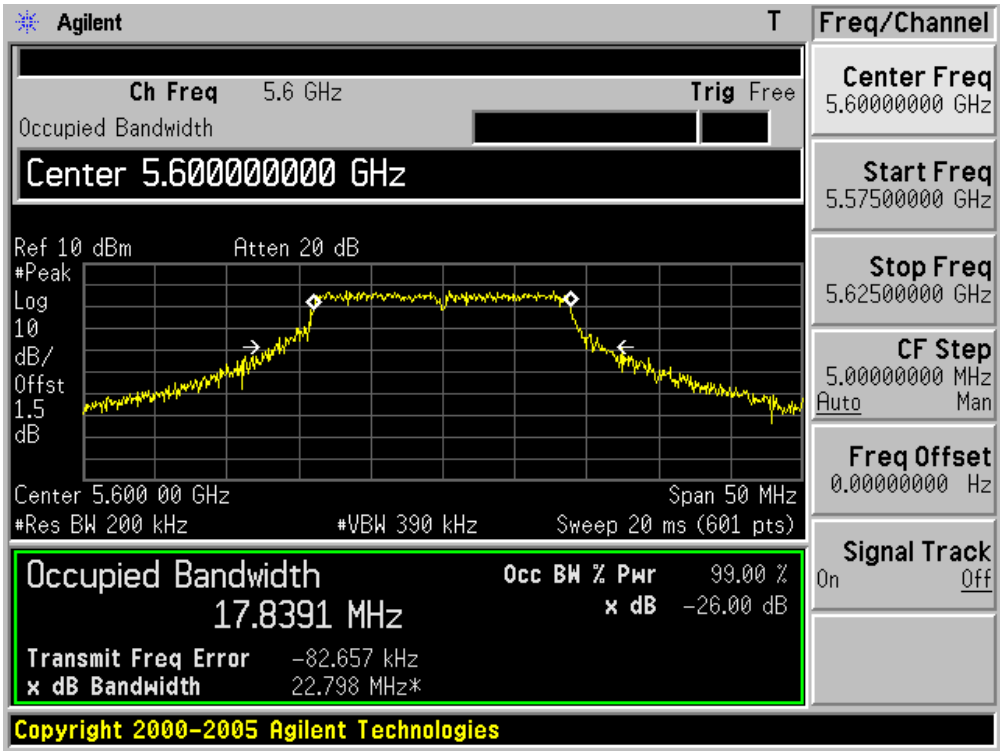
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz Bandwidth) (Chain 010)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
100	5500	23.247	17.8109
120	5600	22.798	17.8391
140	5700	22.922	17.7716

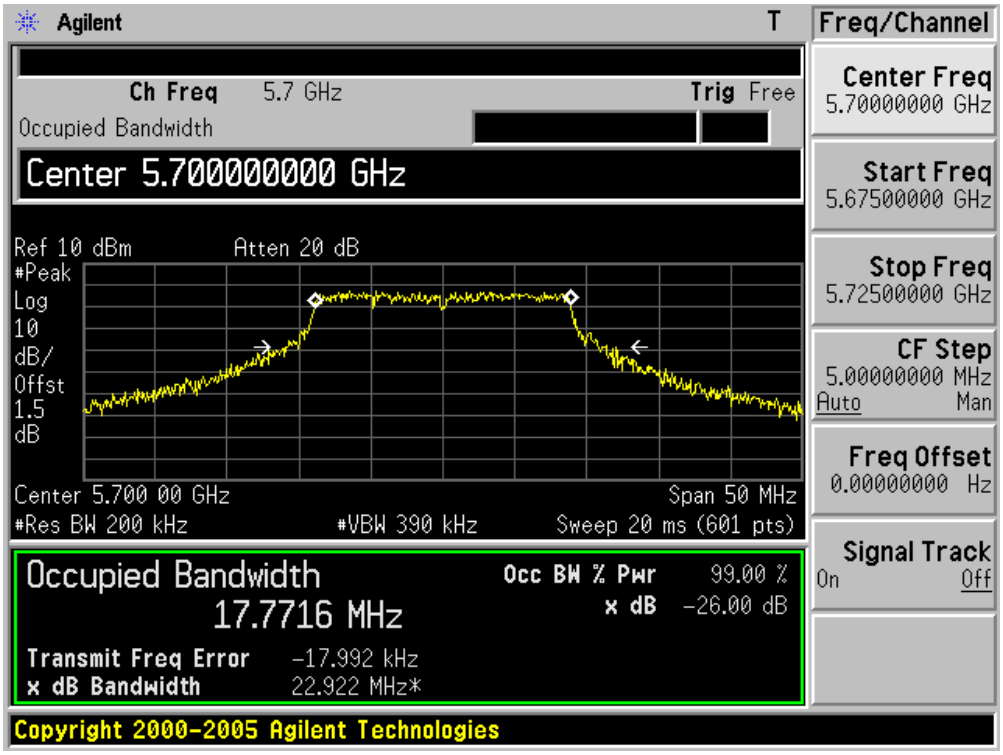
Channel 100 (5500MHz)



Channel 120 (5600MHz)



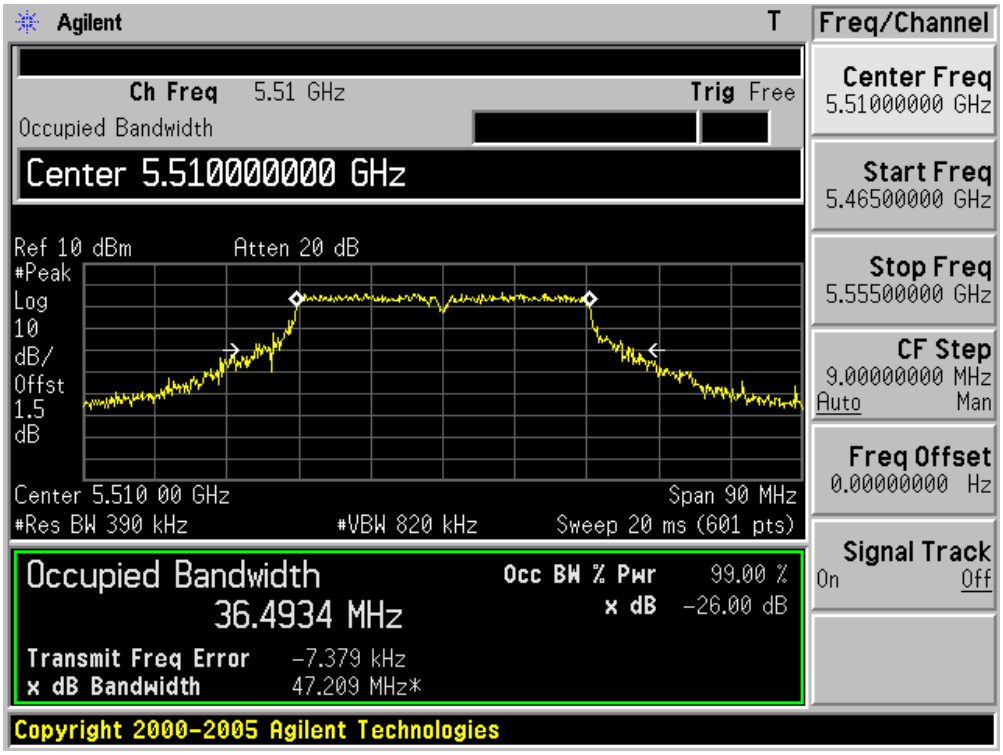
Channel 140 (5700MHz)



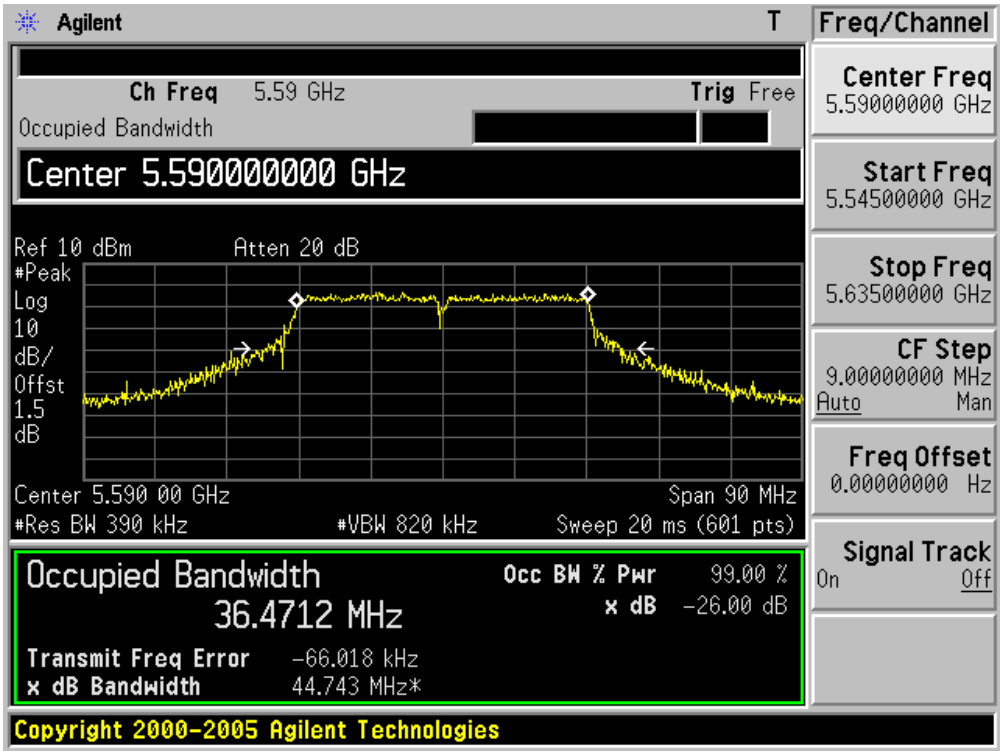
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz Bandwidth) (Chain 100)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
102	5510	47.209	36.4934
118	5590	44.743	36.4712
134	5670	45.571	36.3630

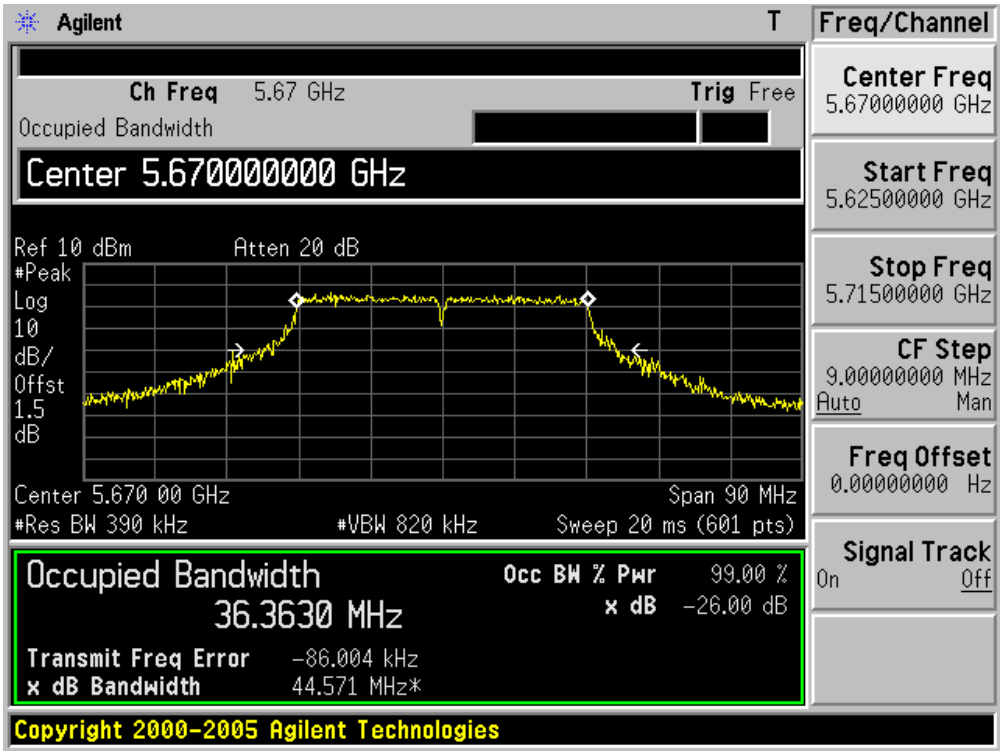
Channel 102 (5510MHz)



Channel 118 (5590MHz)



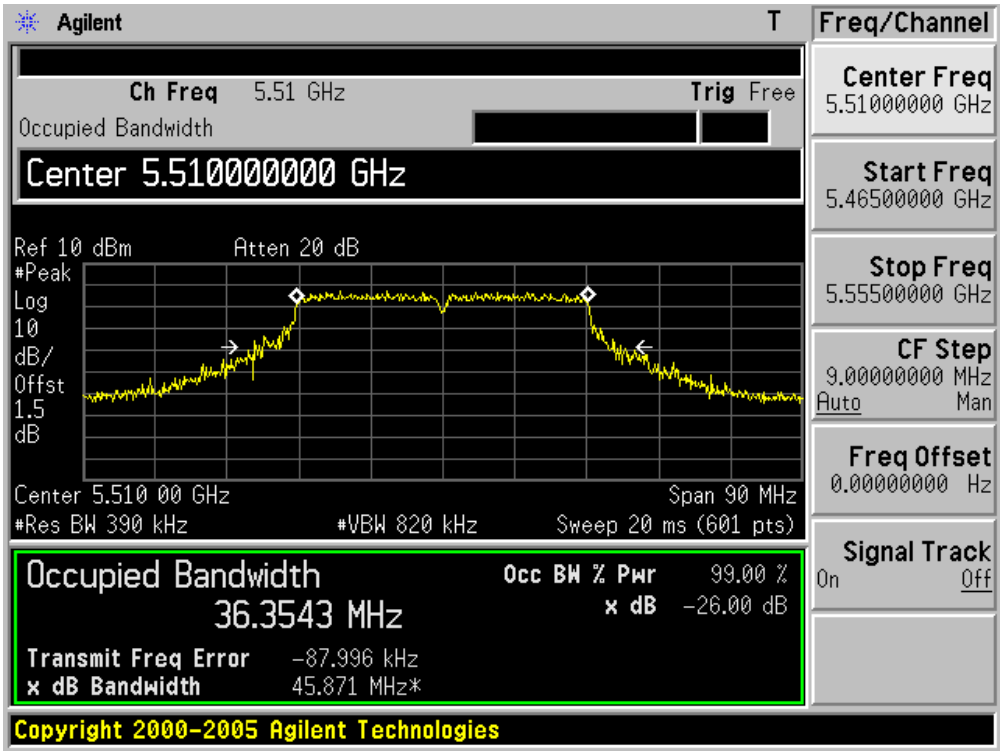
Channel 134 (5670MHz)



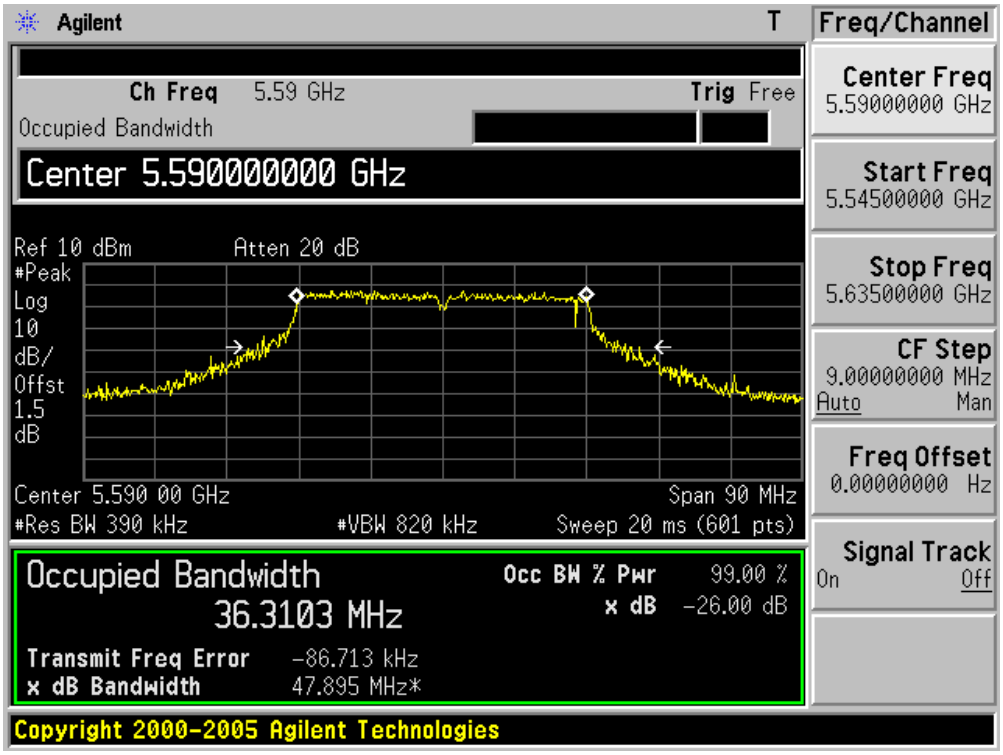
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz Bandwidth) (Chain 010)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
102	5510	45.871	36.3543
118	5590	47.895	36.3103
134	5670	50.033	36.4021

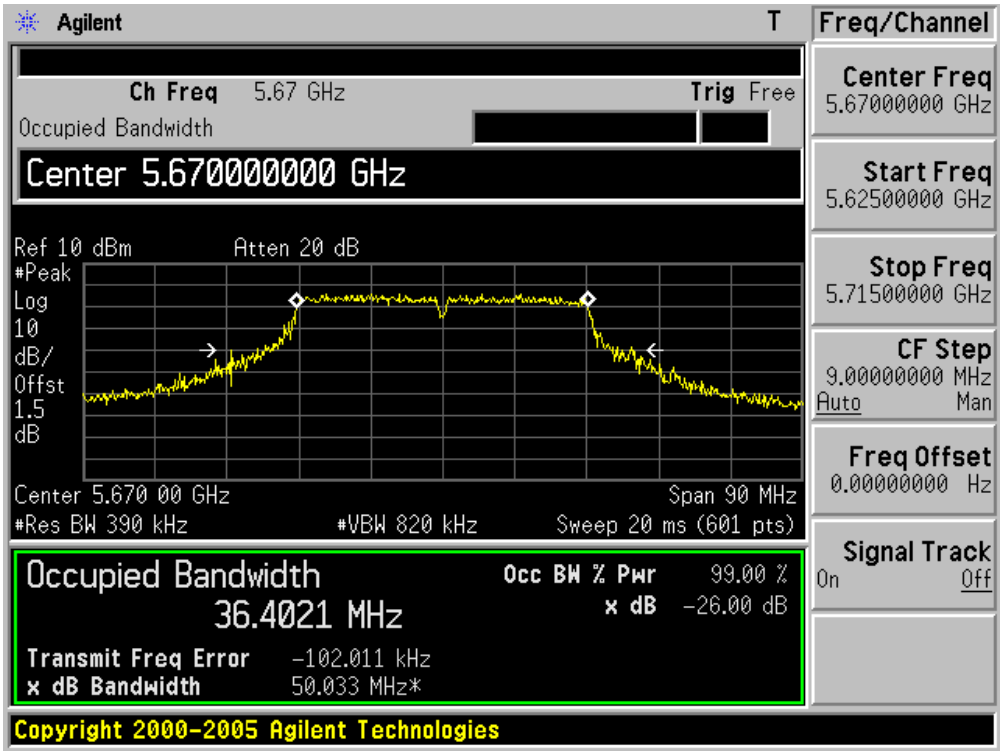
Channel 102 (5510MHz)



Channel 118 (5590MHz)



Channel 134 (5670MHz)



7. Power Output

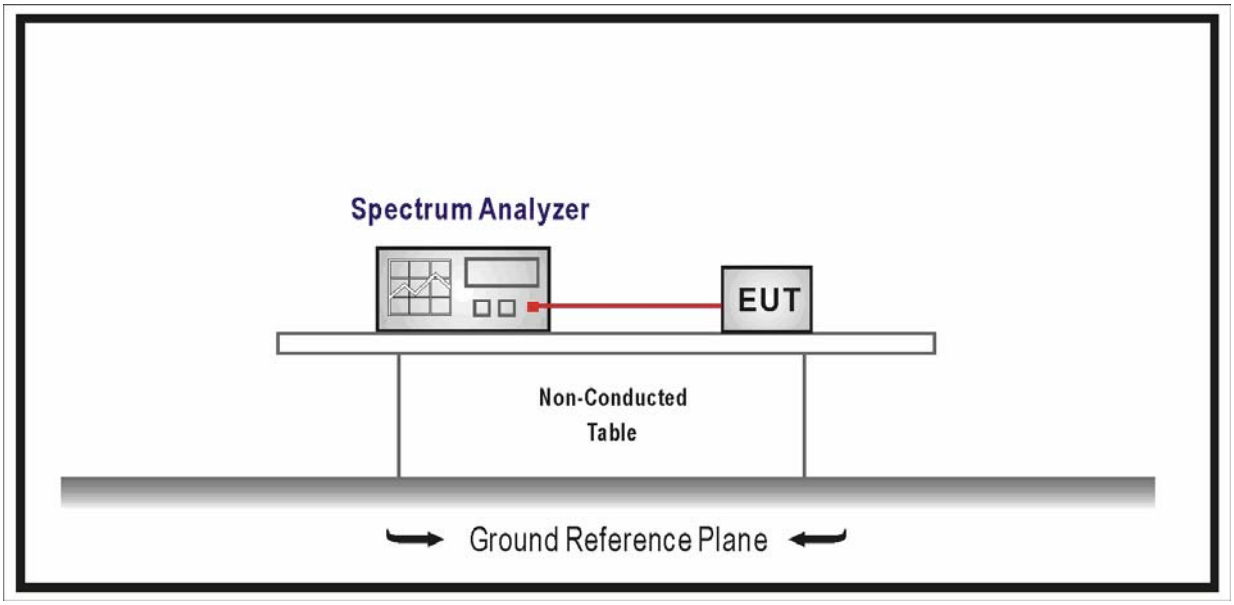
7.1. Test Equipment

Power Output / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2010.04.30
Temperature/Humidity Meter	zhicheng	ZC1-2	AC6-TH	2010.01.14

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 dBm + 10log 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 5.47-5725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10log 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 dBm + 10log 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 antennas 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.

7.4. Test Procedure

The EUT was tested according to ANSI C63.10: 2009 for compliance to FCC 47CFR 15.407 requirements.

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

7.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

7.6. 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	Frequency (MHz)	Channel	Data Rate	Peak Power (dBm)
802.11a (chain 100)	5600	120	6	22.85
			9	22.64
			12	22.43
			18	22.25
			24	22.04
			36	21.76
			48	21.49
			54	21.05
802.11n (20M) (chain 100)	5600	120	6.5	19.71
			13.0	19.43
			19.5	19.26
			26.0	19.05
			39.0	18.74
			52.0	18.42
			58.5	18.17
			65.0	18.03
802.11n (40M) (chain 100)	5600	120	13.5	20.01
			27.0	19.96
			40.5	19.64
			54.0	19.19
			81.0	18.65
			108.0	18.23
			121.5	18.01
			135.0	17.58

Product	:	Wireless-A/N 23dBm Network Mini PCI Adapter With ESD
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 100)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Chain 100	Chain 010			
100	5500	23.01	N/A	23.01	24.00	Pass
120	5600	22.85	N/A	22.85	24.00	Pass
140	5700	22.68	N/A	22.68	24.00	Pass

Product	:	Wireless-A/N 23dBm Network Mini PCI Adapter With ESD
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 010)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Chain 100	Chain 010			
100	5500	N/A	22.73	22.73	24.00	Pass
120	5600	N/A	22.62	22.62	24.00	Pass
140	5700	N/A	22.30	22.30	24.00	Pass

Product	:	Wireless-A/N 23dBm Network Mini PCI Adapter With ESD
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 100)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Chain 100	Chain 010			
100	5500	19.76	N/A	19.76	24.00	Pass
120	5600	19.71	N/A	19.71	24.00	Pass
140	5700	19.70	N/A	19.70	24.00	Pass

Product	:	Wireless-A/N 23dBm Network Mini PCI Adapter With ESD
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 010)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Chain 100	Chain 010			
100	5500	N/A	19.30	19.30	24.00	Pass
120	5600	N/A	19.20	19.20	24.00	Pass
140	5700	N/A	18.68	18.68	24.00	Pass

Product	:	Wireless-A/N 23dBm Network Mini PCI Adapter With ESD
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 110)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Chain 100	Chain 010			
100	5500	19.47	19.75	22.62	24.00	Pass
120	5600	19.55	19.49	22.53	24.00	Pass
140	5700	19.24	19.05	22.16	24.00	Pass

Product	:	Wireless-A/N 23dBm Network Mini PCI Adapter With ESD
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 100)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Chain 100	Chain 010			
102	5510	20.23	N/A	20.23	24.00	Pass
118	5590	20.01	N/A	20.01	24.00	Pass
134	5670	19.84	N/A	19.84	24.00	Pass

Product	:	Wireless-A/N 23dBm Network Mini PCI Adapter With ESD
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 010)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Chain 100	Chain 010			
102	5510	N/A	19.48	19.48	24.00	Pass
118	5590	N/A	19.52	19.52	24.00	Pass
134	5670	N/A	19.02	19.02	24.00	Pass

Product	:	Wireless-A/N 23dBm Network Mini PCI Adapter With ESD
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 110)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Chain 100	Chain 010			
102	5510	19.78	19.94	22.87	24.00	Pass
118	5590	19.80	20.05	22.94	24.00	Pass
134	5670	19.18	19.48	22.34	24.00	Pass

8. Peak Power Spectral Density

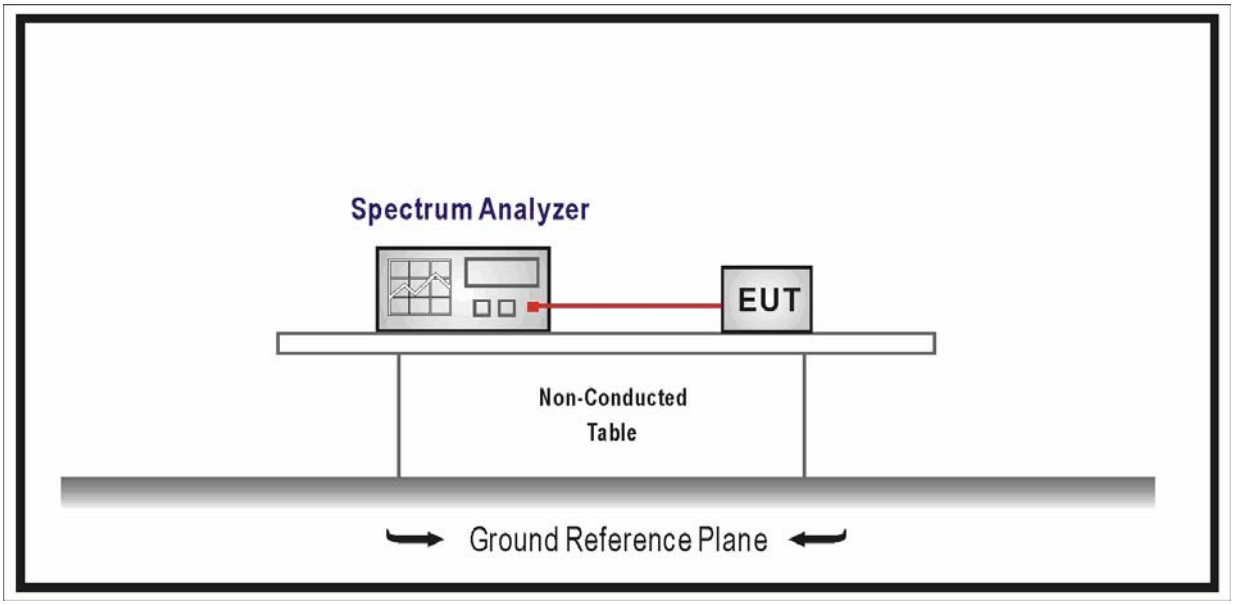
8.1. Test Equipment

Peak Power Spectral Density / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2010.04.30
Temperature/Humidity Meter	zhicheng	ZC1-2	AC6-TH	2010.01.14

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 maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or 4 dBm + 10log 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 5.47-5725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10log 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 dBm + 10log 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 antennas 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.

8.4. Test Procedure

The EUT was tested according to ANSI C63.10: 2009 for compliance to FCC 47CFR 15.407 requirements.
Use sample detector and power averaging (not video averaging) mode. Set RBW= 1 MHz*, VBW > 1 MHz. The PPSD is the highest level found across the emission in any 1-MHz band after 100 sweeps of averaging. This method is permitted only if the transmission pulse or sequence of pulses remains at maximum transmit power throughout each of the 100 sweeps of averaging and that the interval between pulses is not included in any of the sweeps (e.g., 100 sweeps should occur during one transmission, or each sweep gated to occur during a transmission).

8.5. Uncertainty

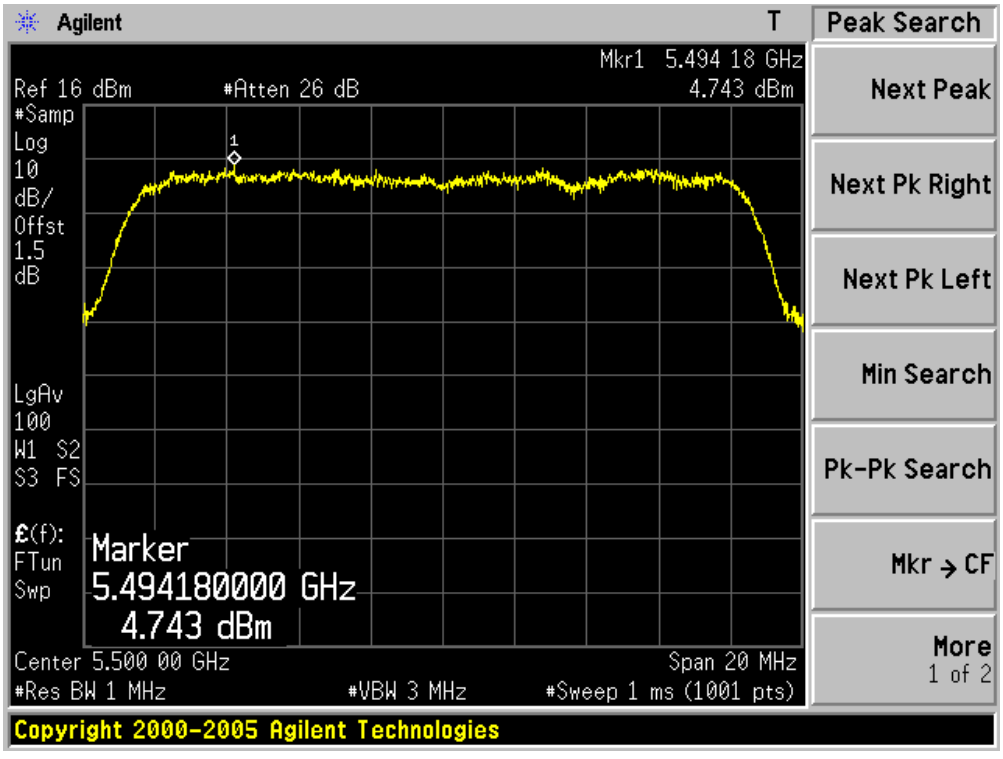
The measurement uncertainty is defined as ± 1.27 dB

8.6. Test Result

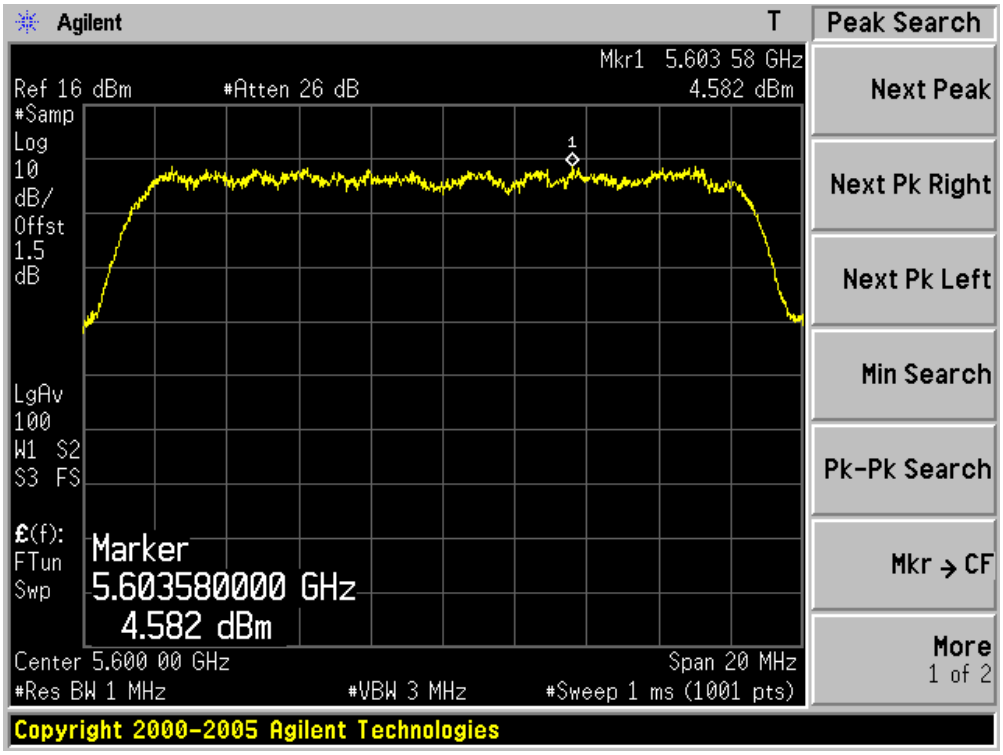
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 100)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 100	Chain 010			
100	5500	4.74	N/A	4.74	11	Pass
120	5600	4.58	N/A	4.58	11	Pass
140	5700	4.17	N/A	4.17	11	Pass

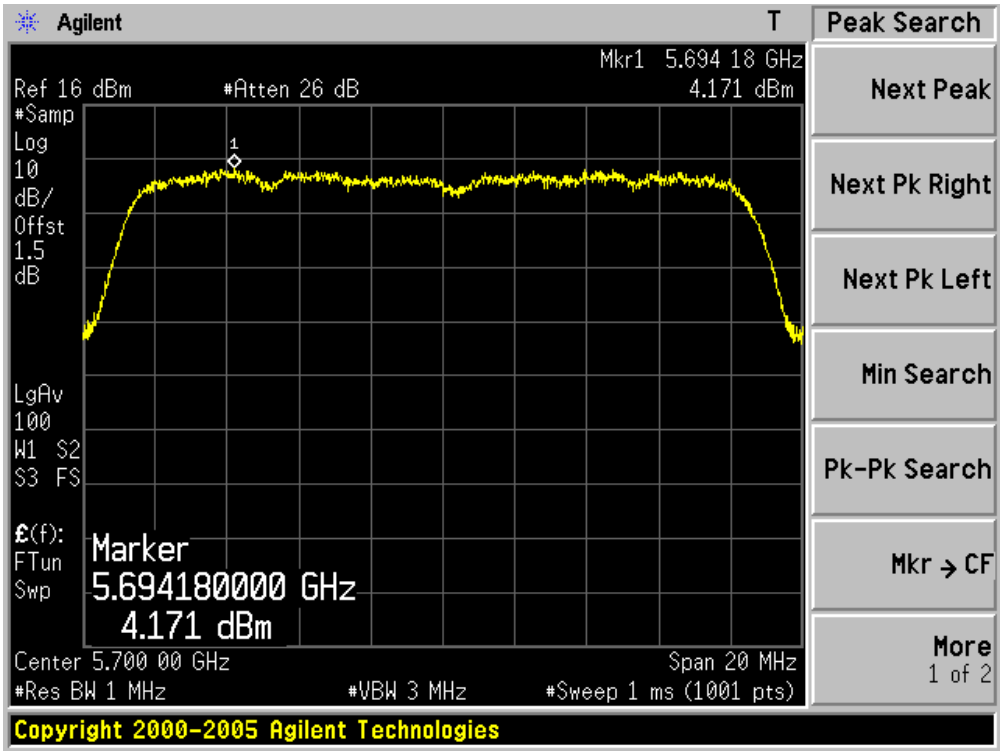
Channel 100 (5500MHz)



Channel 120 (5600MHz)



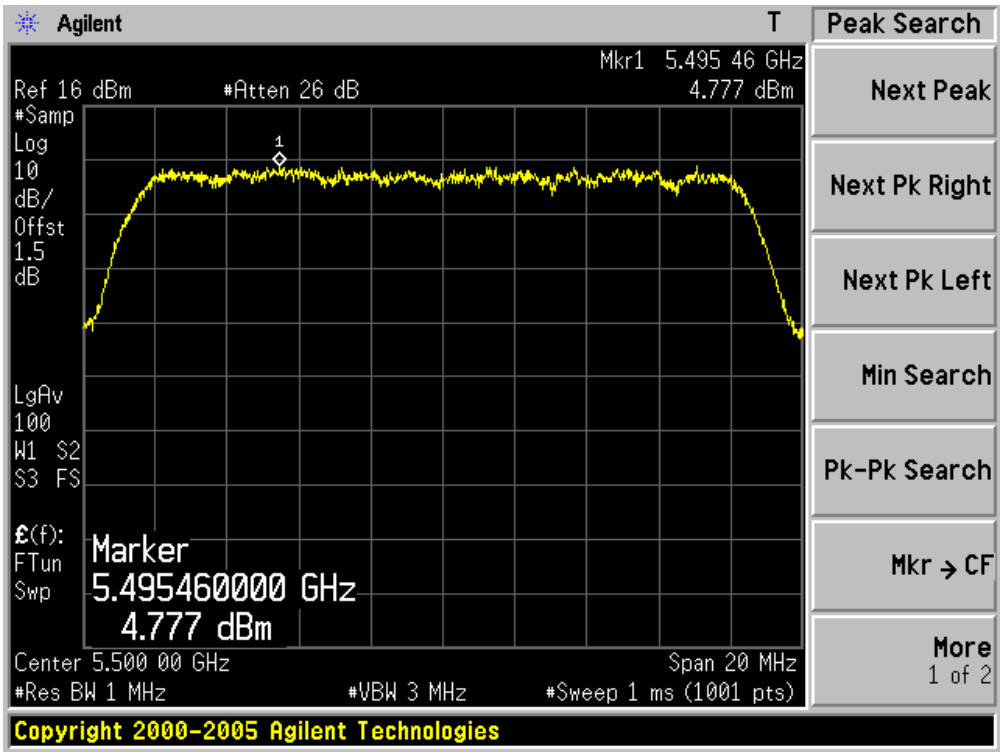
Channel 140 (5700MHz)



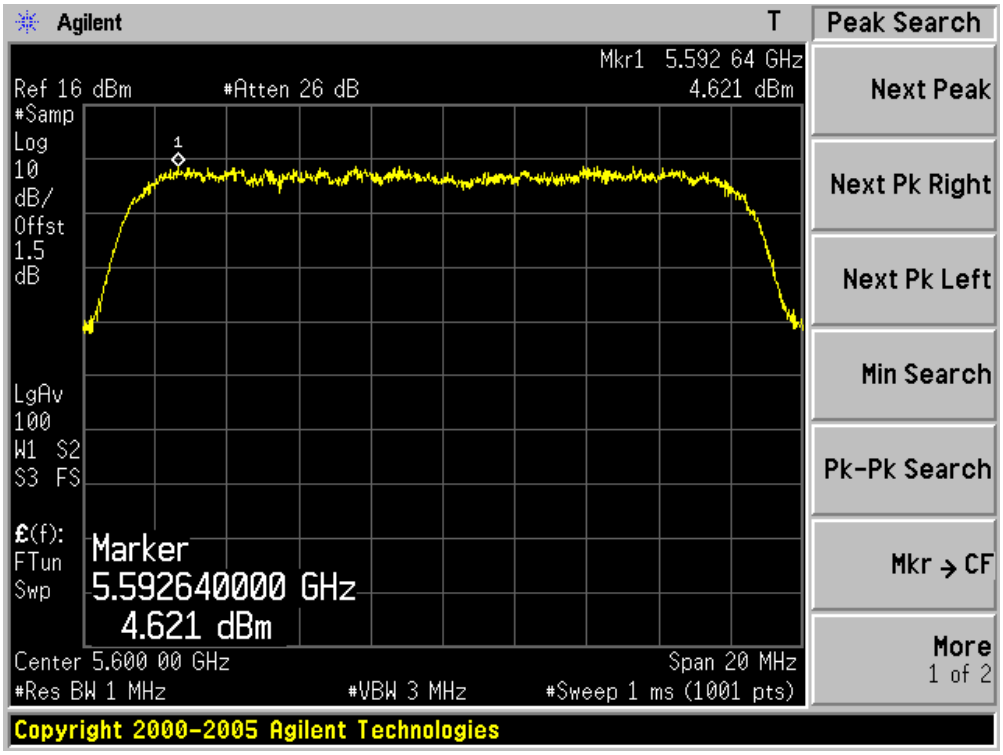
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 010)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 100	Chain 010			
100	5500	N/A	4.78	4.78	11	Pass
120	5600	N/A	4.62	4.62	11	Pass
140	5700	N/A	3.65	3.65	11	Pass

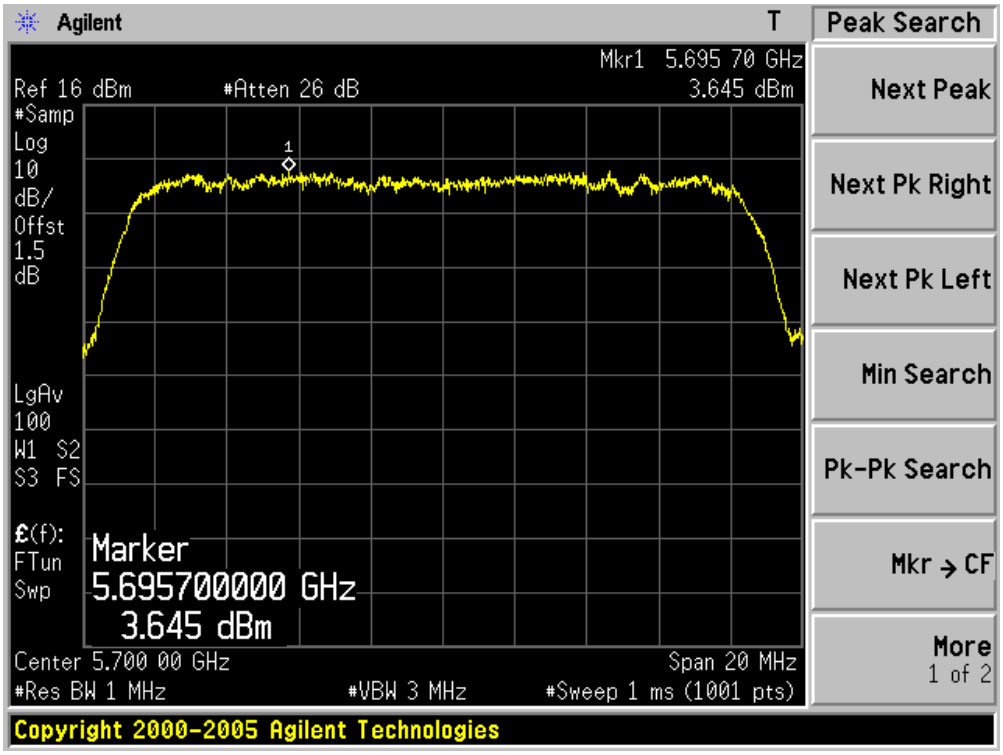
Channel 100 (5500MHz)



Channel 120 (5600MHz)



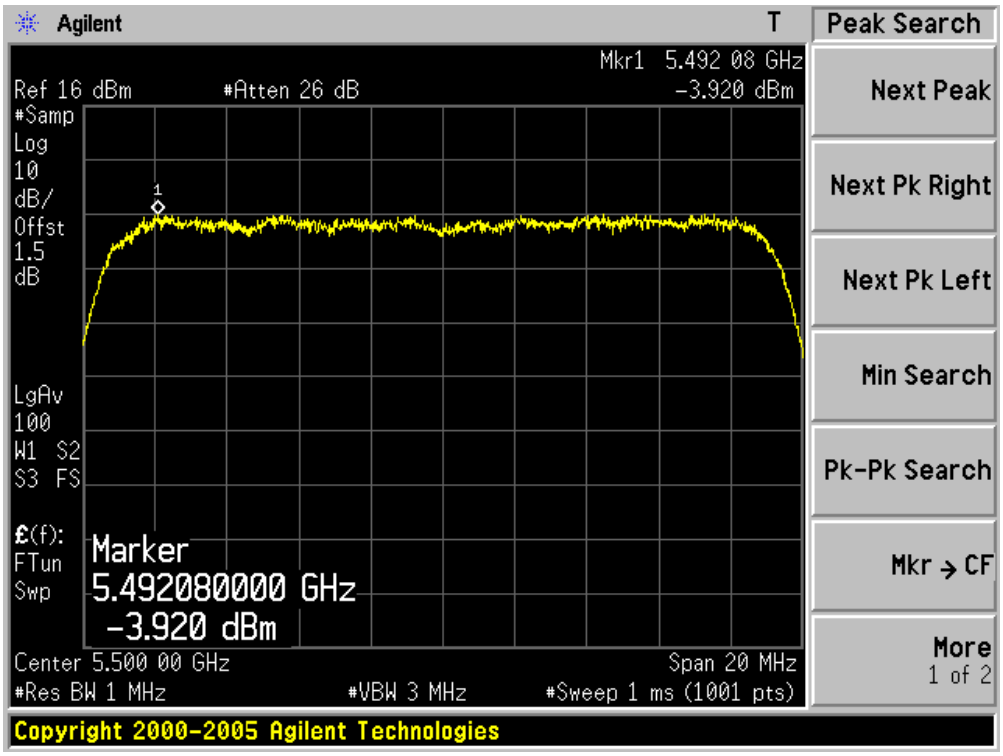
Channel 140 (5700MHz)



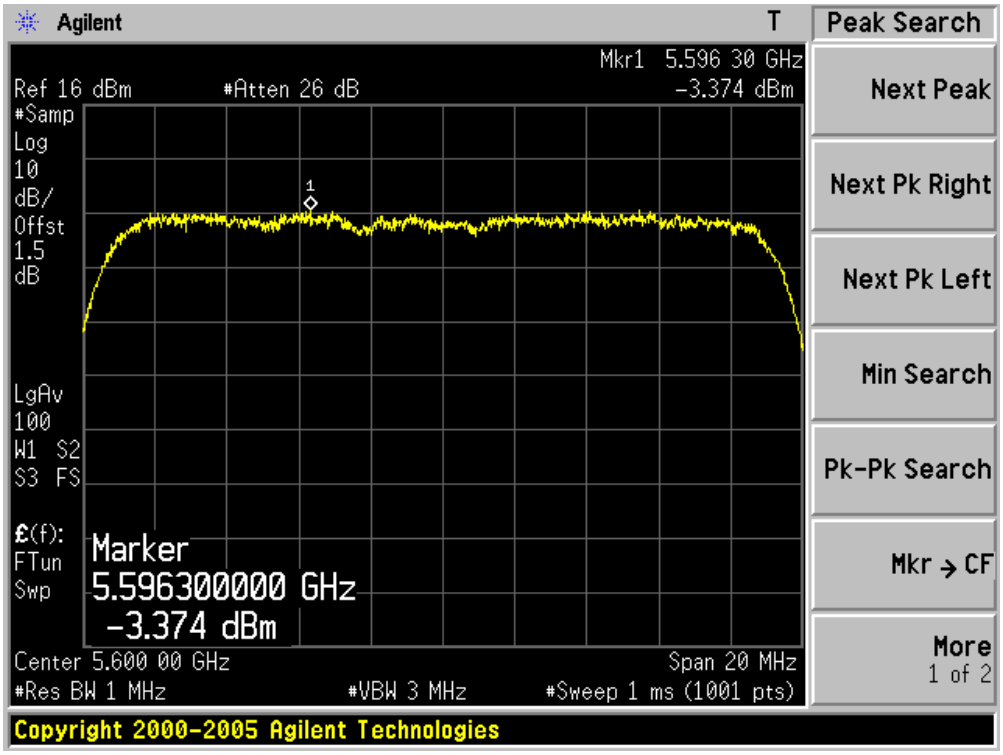
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz Bandwidth) (Chain 100)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 100	Chain 010			
100	5500	-3.92	N/A	2.23	11	Pass
120	5600	-4.37	N/A	3.25	11	Pass
140	5700	-4.84	N/A	2.45	11	Pass

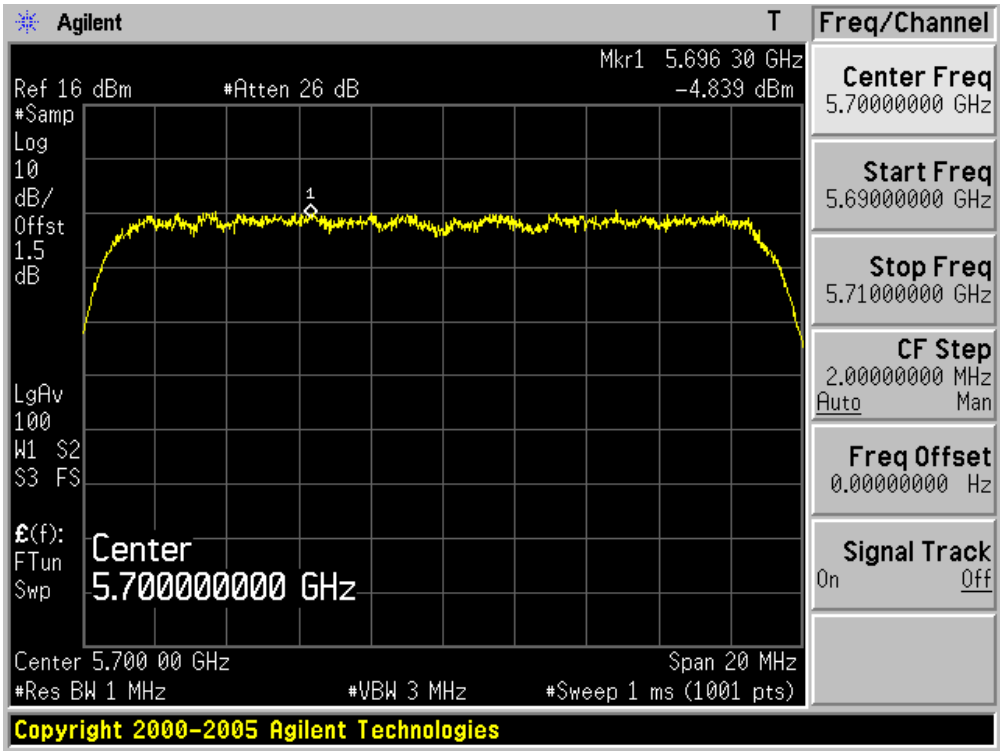
Channel 100 (5500MHz)



Channel 120 (5600MHz)



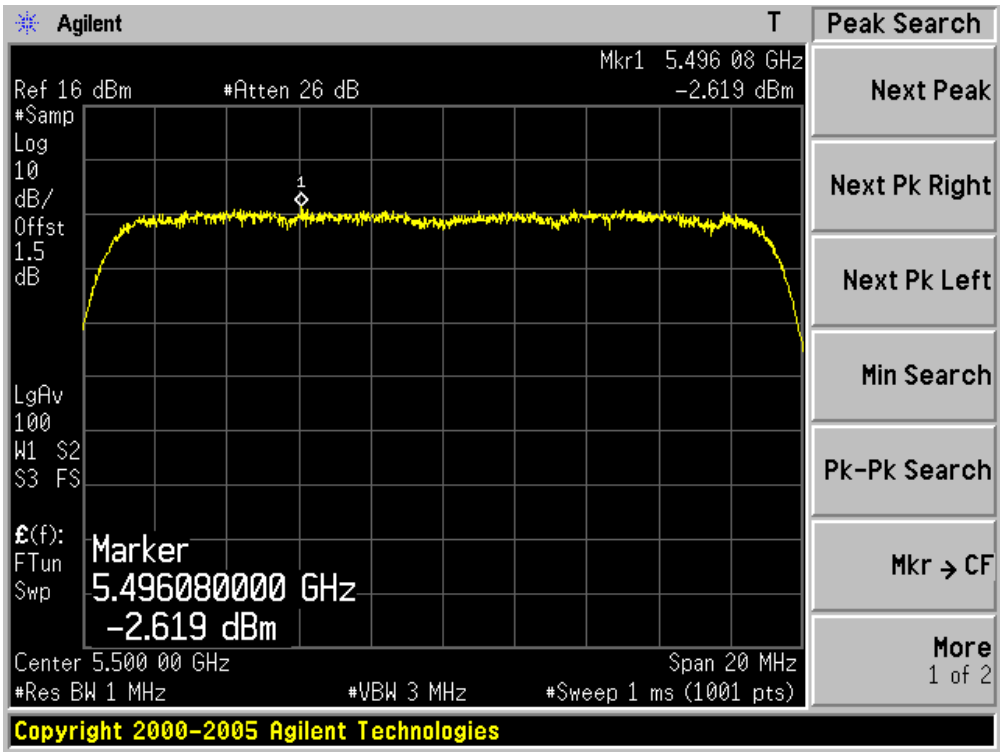
Channel 140 (5700MHz)



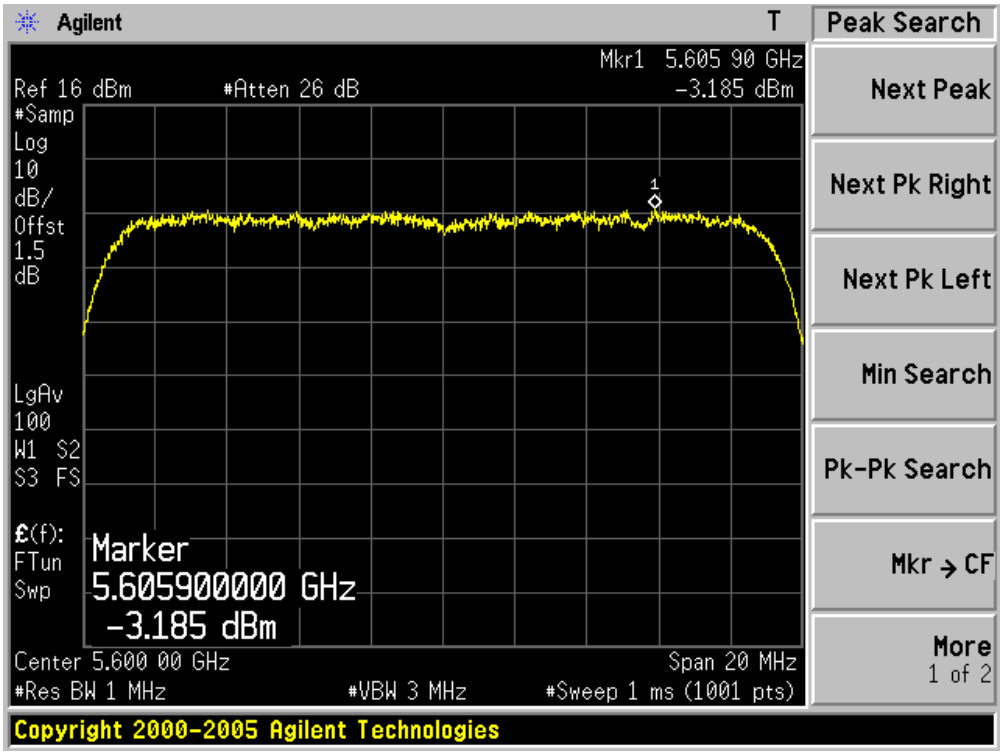
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz Bandwidth) (Chain 010)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 100	Chain 010			
100	5500	N/A	-2.62	-2.62	11	Pass
120	5600	N/A	-3.19	-3.19	11	Pass
140	5700	N/A	-3.96	-3.96	11	Pass

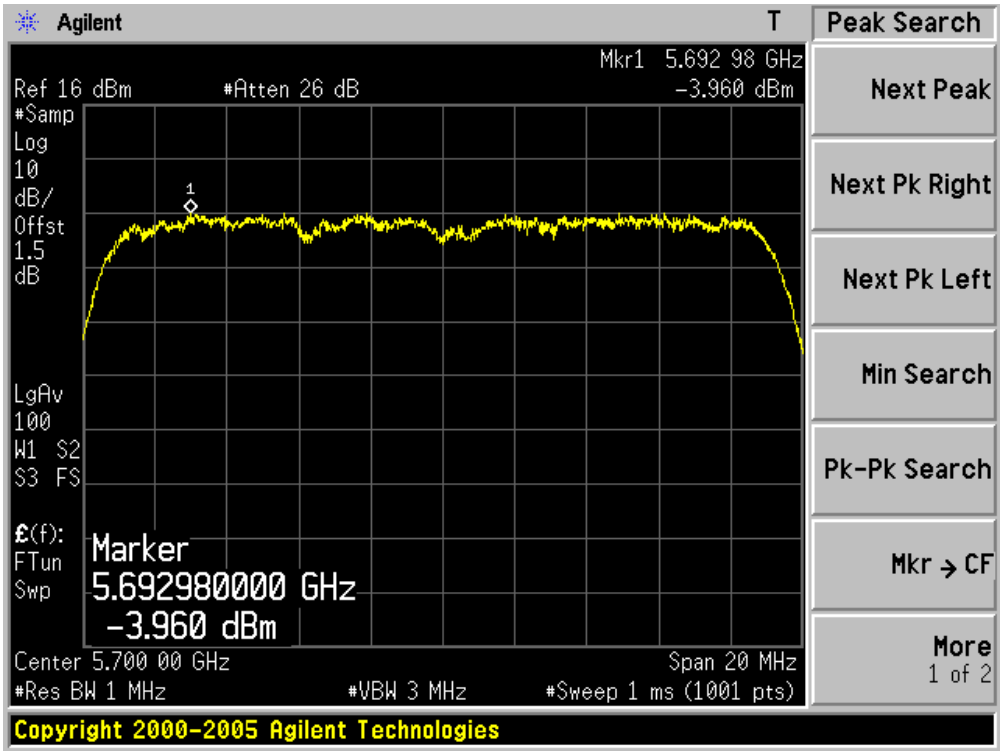
Channel 100 (5500MHz)



Channel 120 (5600MHz)



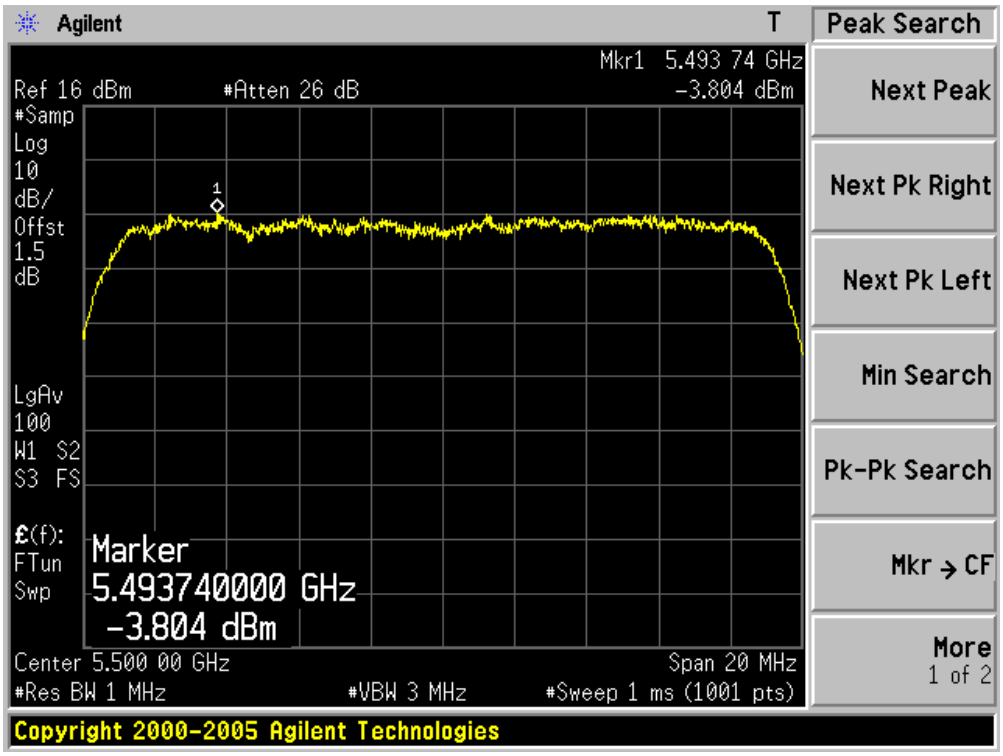
Channel 140 (5700MHz)



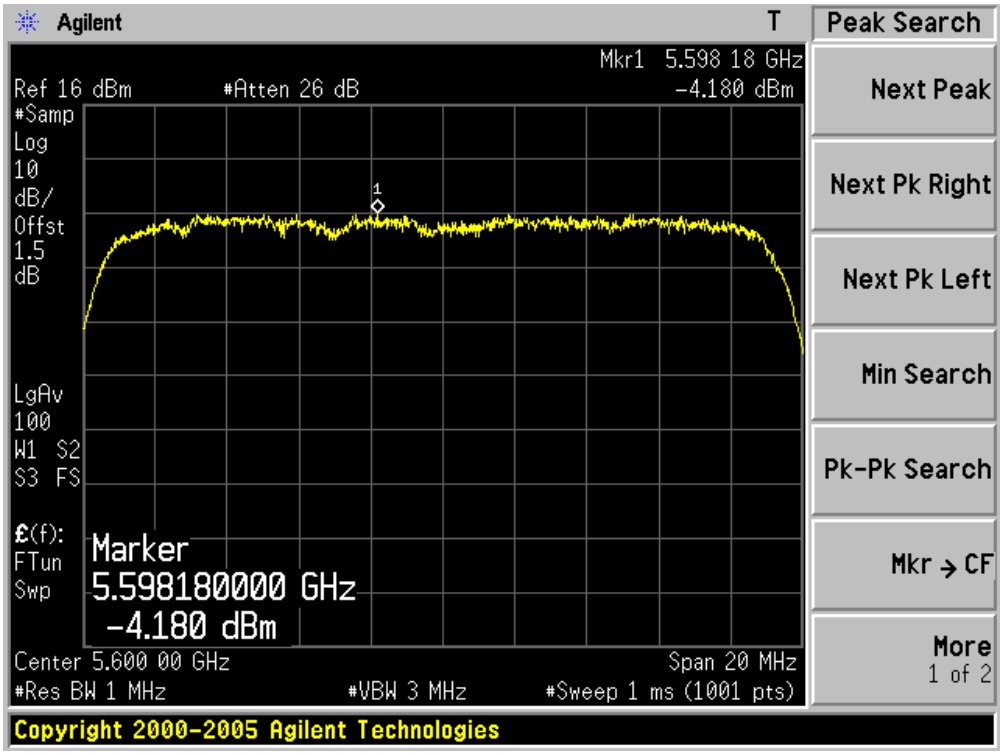
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz Bandwidth) (Chain 110)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 100	Chain 010			
100	5500	-3.80	-3.35	-0.56	11	Pass
120	5600	-4.18	-3.72	-0.93	11	Pass
140	5700	-3.50	-3.88	-0.68	11	Pass

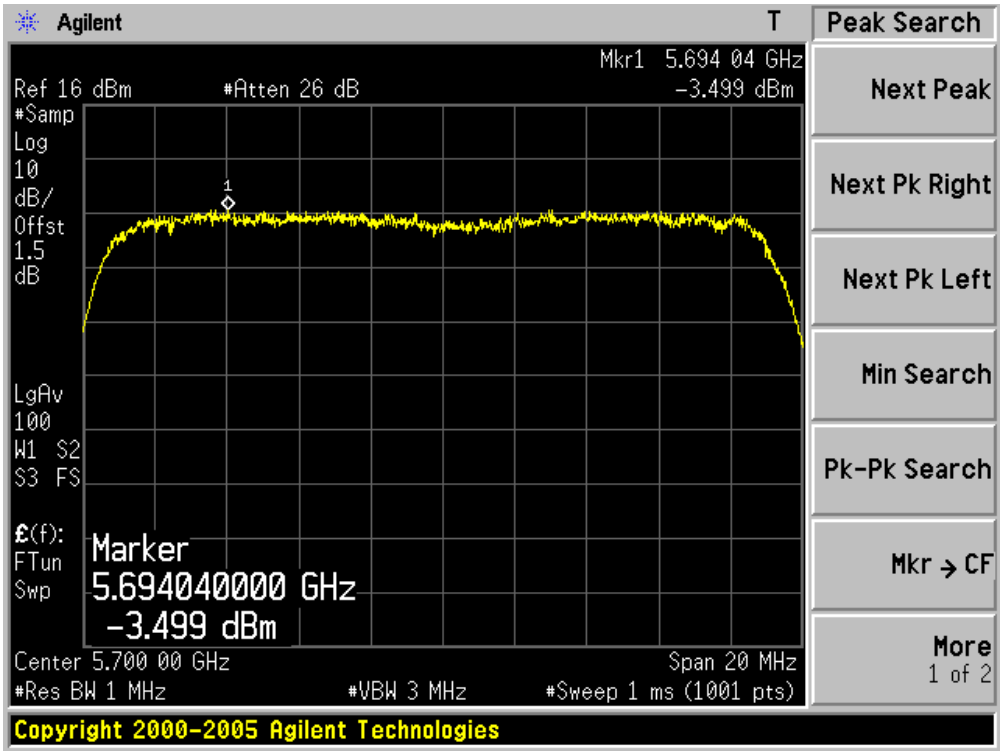
Channel 100 (5500MHz) - Chain 100



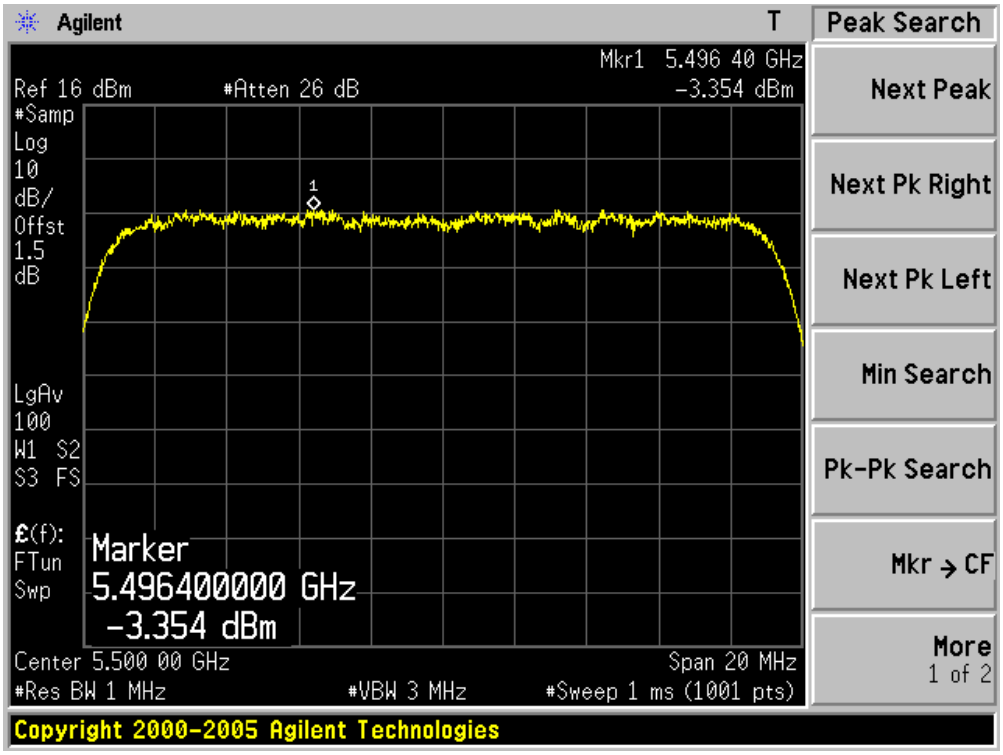
Channel 120 (5600MHz) - Chain 100



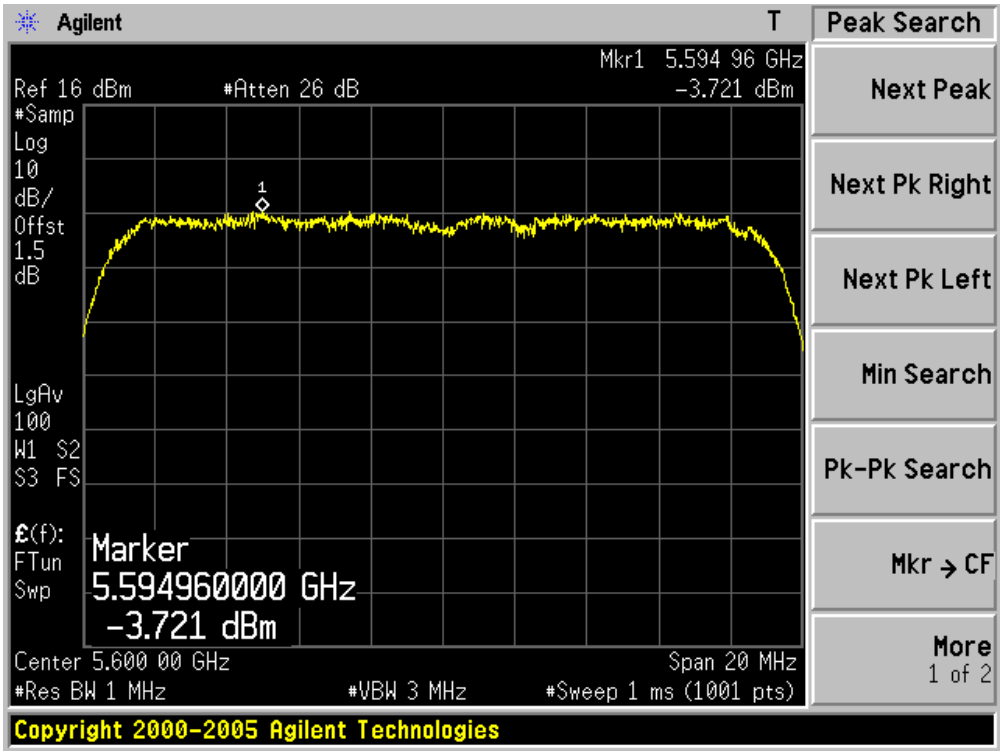
Channel 140 (5700MHz) - Chain 100



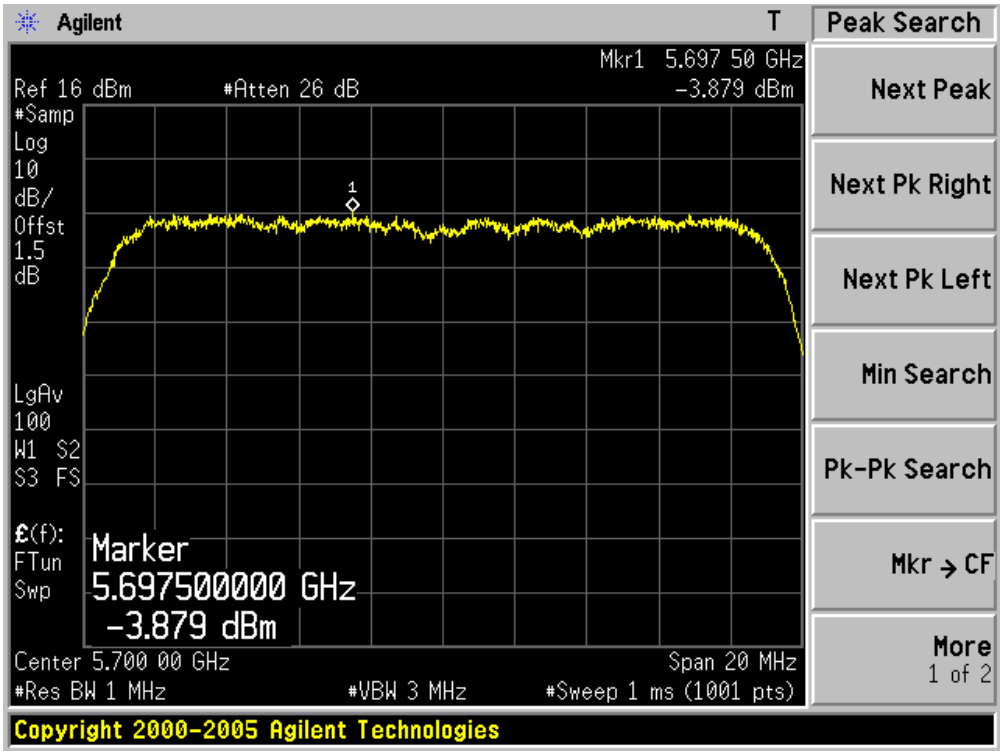
Channel 100 (5500MHz) - Chain 010



Channel 120 (5600MHz) - Chain 010



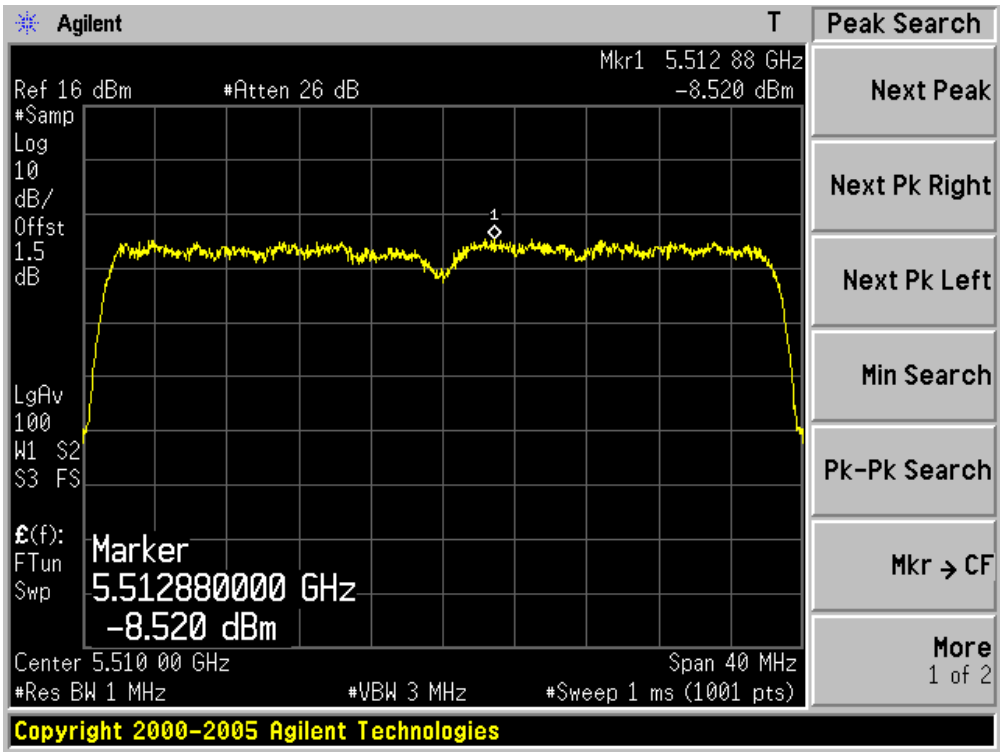
Channel 140 (5700MHz) - Chain 010



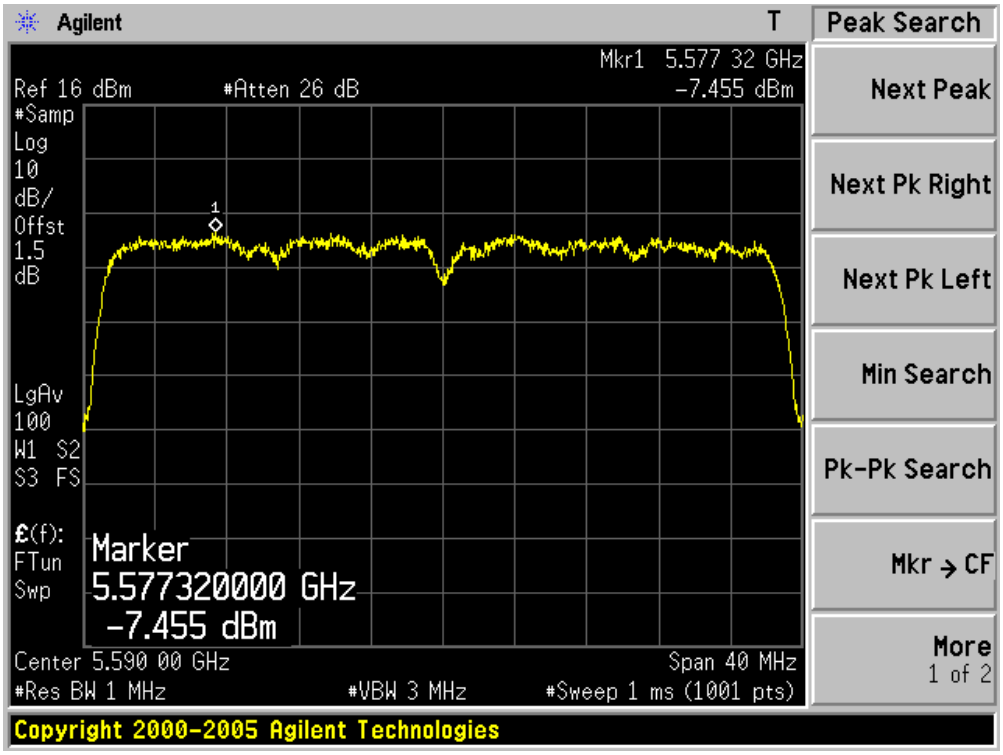
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz Bandwidth) (Chain 100)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 100	Chain 010			
102	5510	-8.52	N/A	-8.52	11	Pass
118	5590	-7.46	N/A	-7.46	11	Pass
134	5670	-7.52	N/A	-7.52	11	Pass

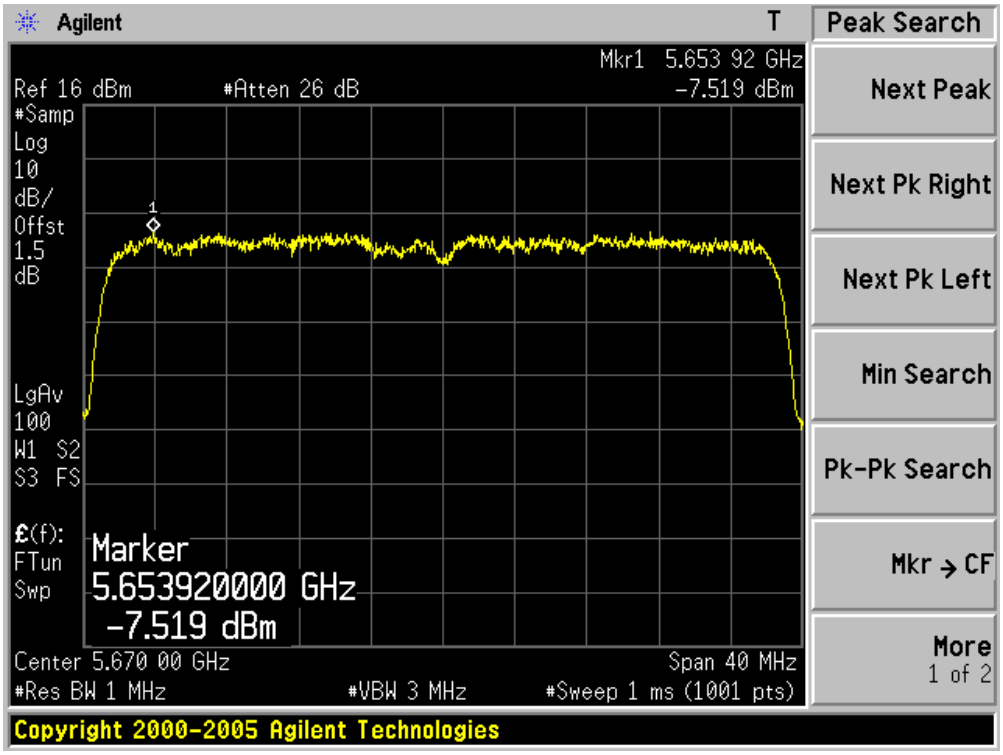
Channel 102 (5510MHz)



Channel 118 (5590MHz)



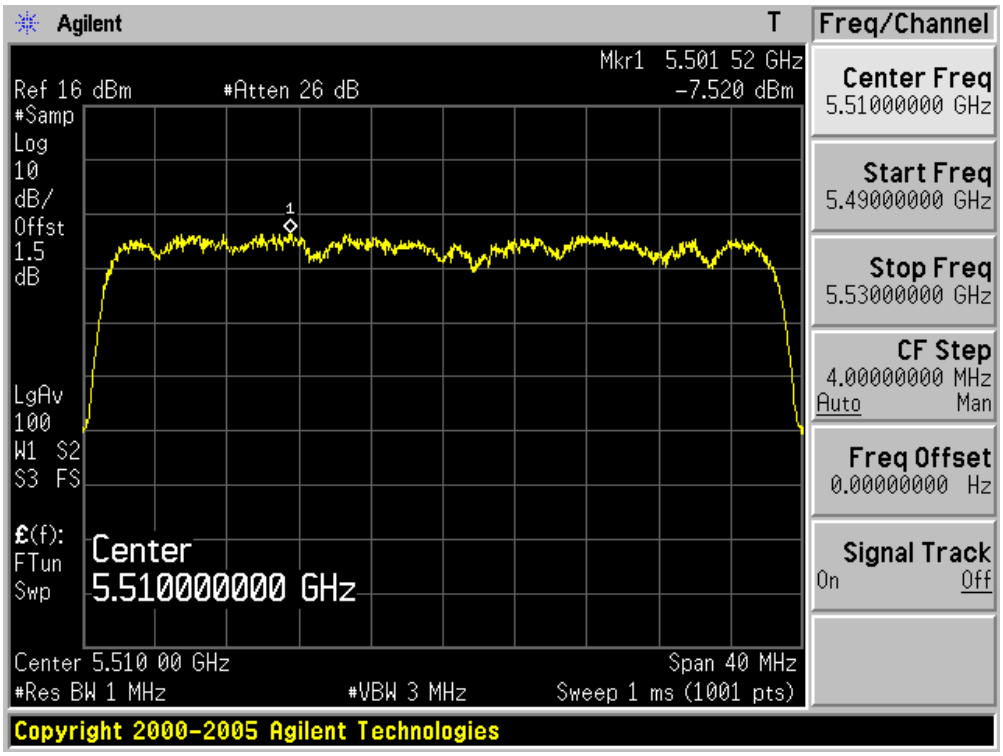
Channel 134 (5670MHz)



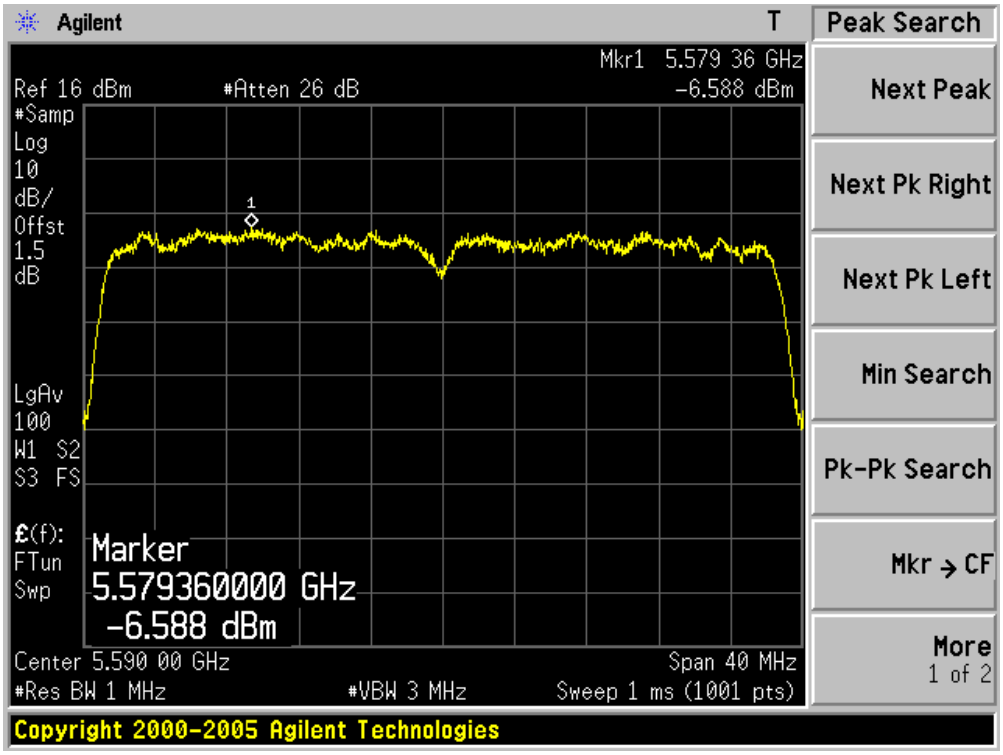
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz Bandwidth) (Chain 010

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 100	Chain 010			
102	5510	N/A	-7.52	-7.52	11	Pass
118	5590	N/A	-6.59	-6.59	11	Pass
134	5670	N/A	-7.48	-7.48	11	Pass

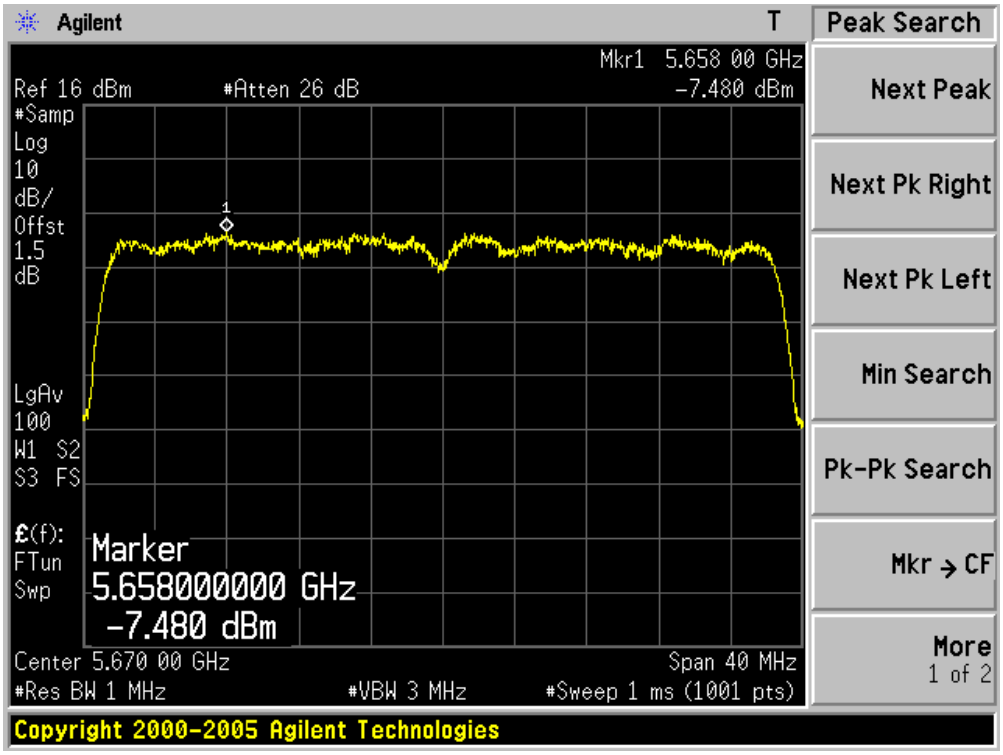
Channel 102 (5510MHz)



Channel 118 (5590MHz)



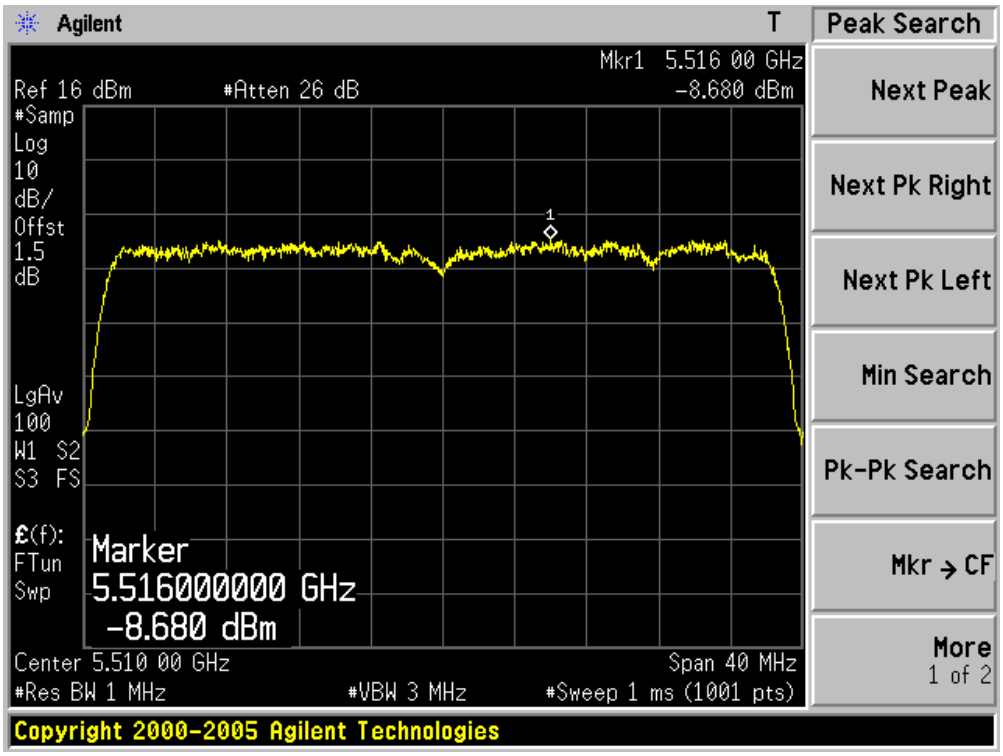
Channel 134 (5670MHz)



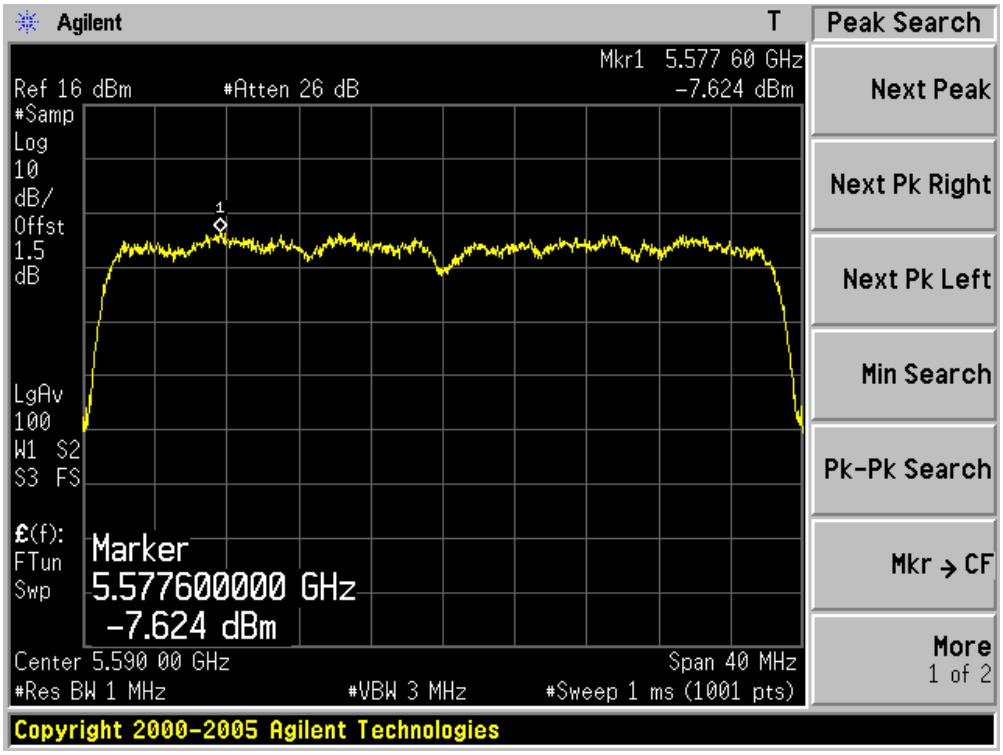
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz Bandwidth) (Chain 110)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 100	Chain 010			
102	5510	-8.68	-7.65	-5.12	11	Pass
118	5590	-7.62	-6.97	-4.27	11	Pass
134	5670	-6.89	-7.39	-4.12	11	Pass

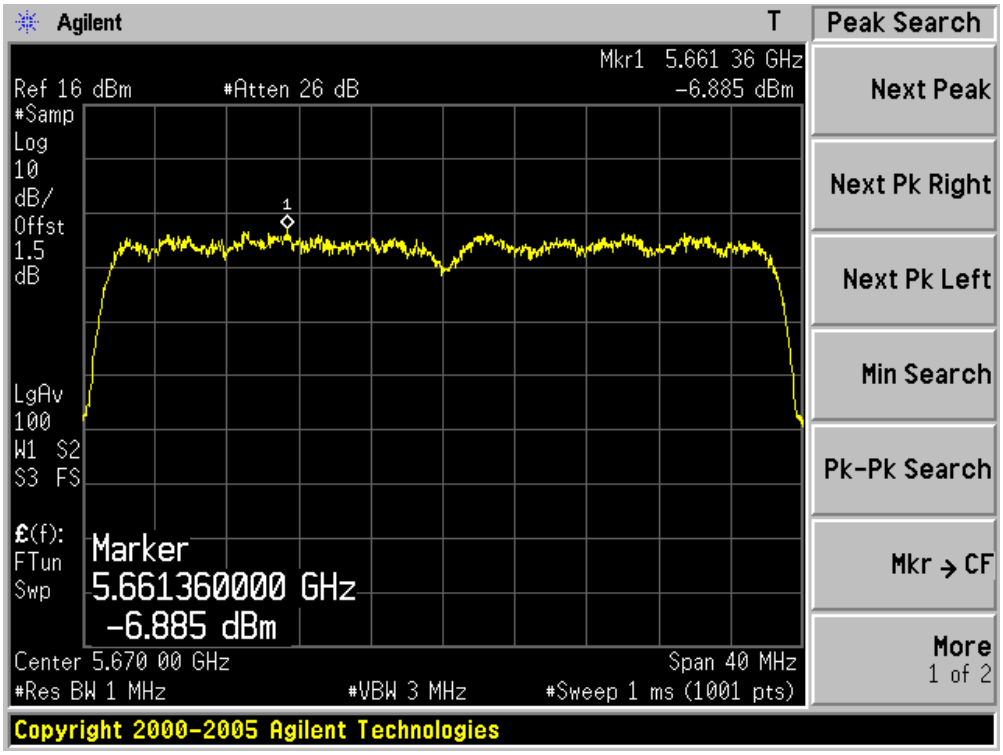
Channel 102 (5510MHz) - Chain 100



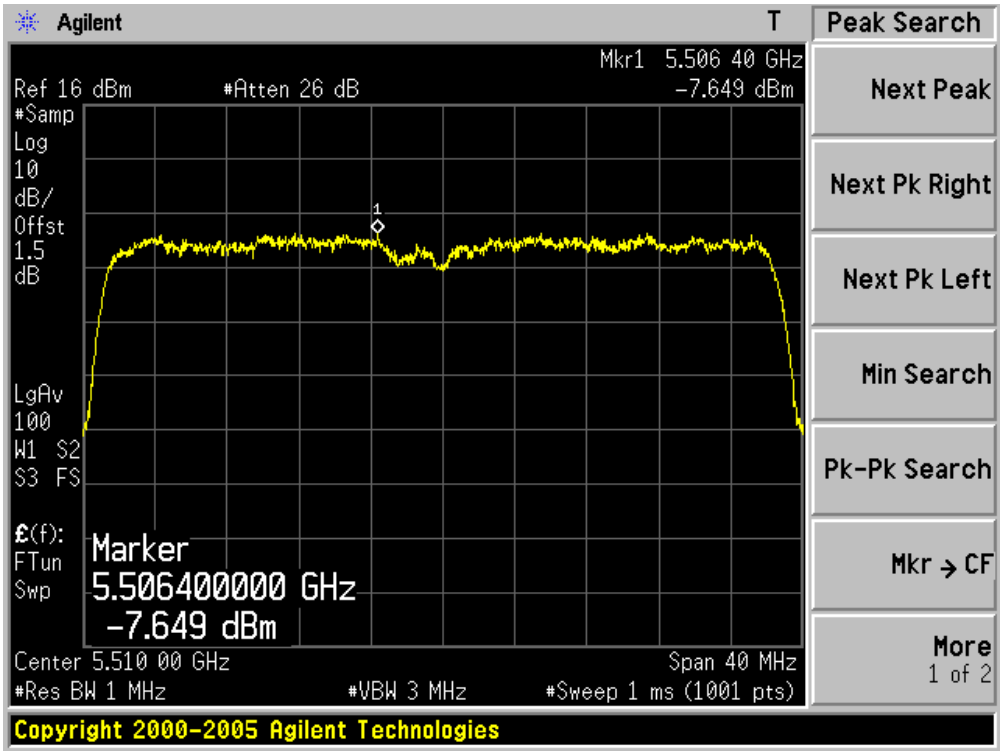
Channel 118 (5590MHz) - Chain 100



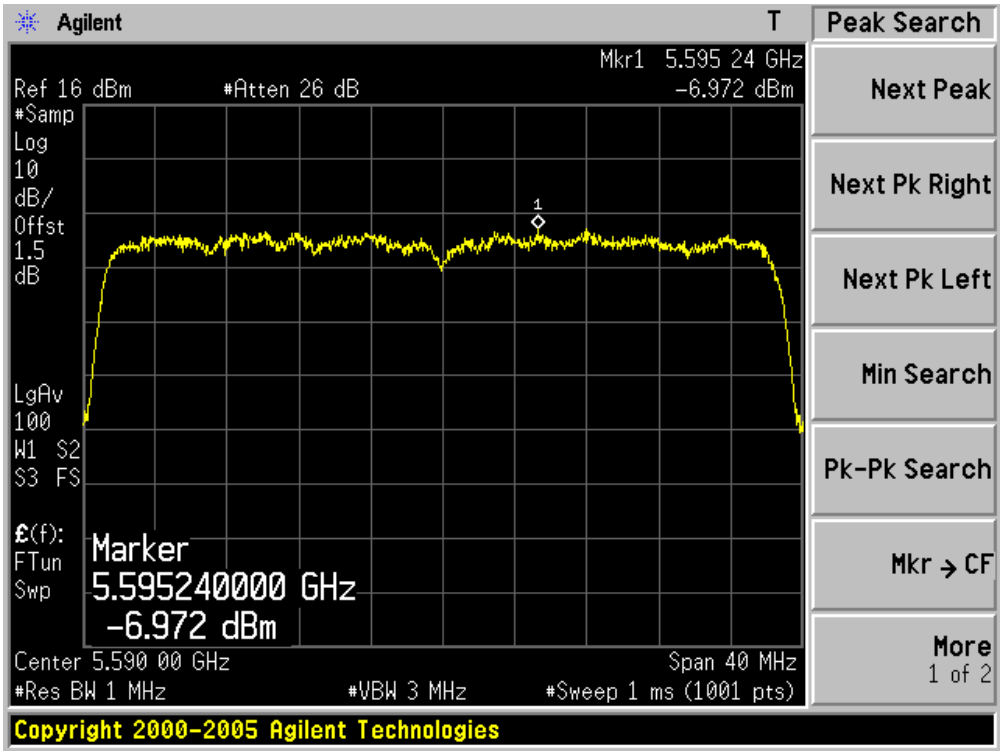
Channel 134 (5670MHz) - Chain 100



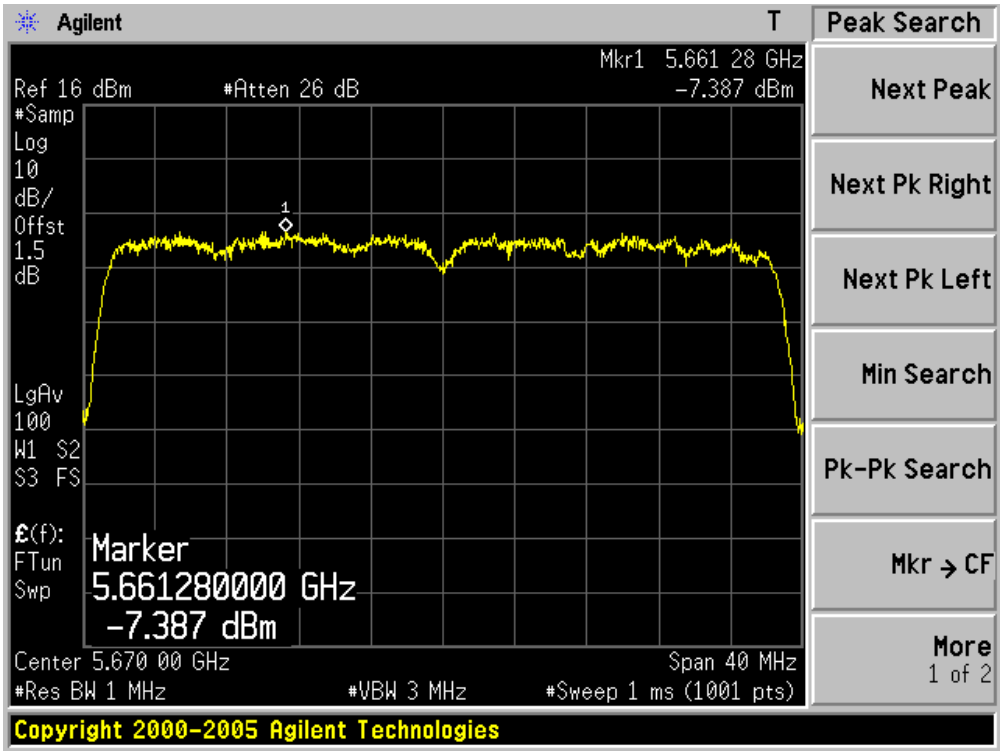
Channel 102 (5510MHz) - Chain 010



Channel 118 (5590MHz) - Chain 010



Channel 134 (5670MHz) - Chain 010



9. Peak Excursion

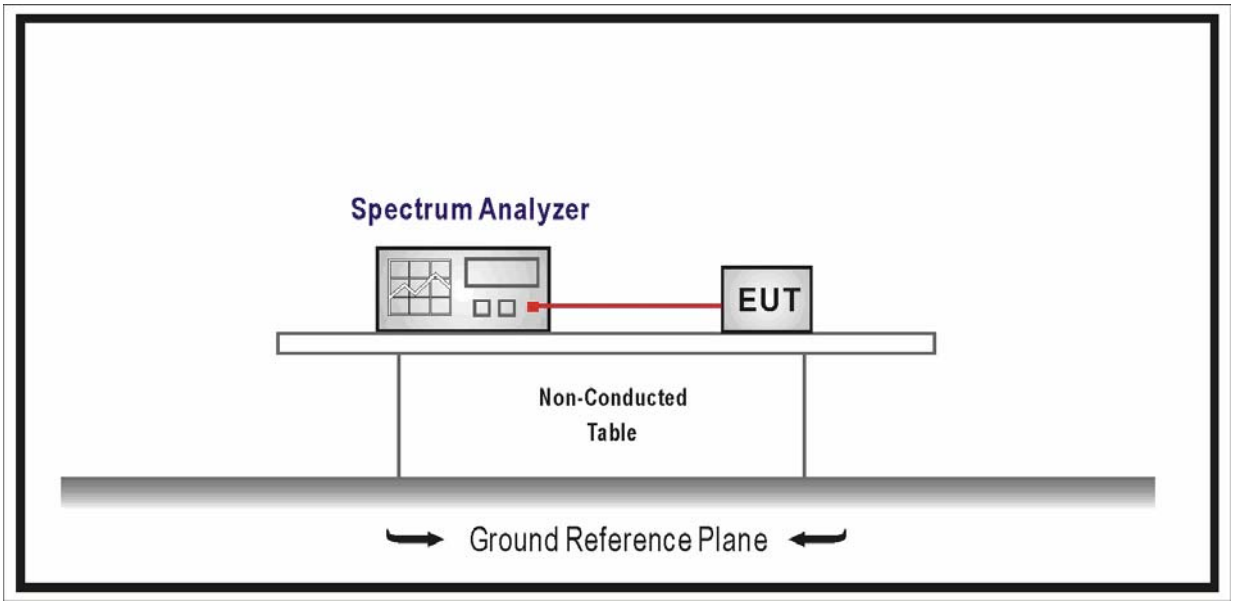
9.1. Test Equipment

Peak Excursion / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2010.04.30
Temperature/Humidity Meter	zhicheng	ZC1-2	AC6-TH	2010.01.14

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

9.2. Test Setup



9.3. 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.

9.4. Test Procedure

The EUT was tested according to ANSI C63.10: 2009 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 maxhold settings.
- 2nd Trace: Set RBW = 1 MHz, VBW = 30 kHz with peak detector and maxhold settings.

9.5. Uncertainty

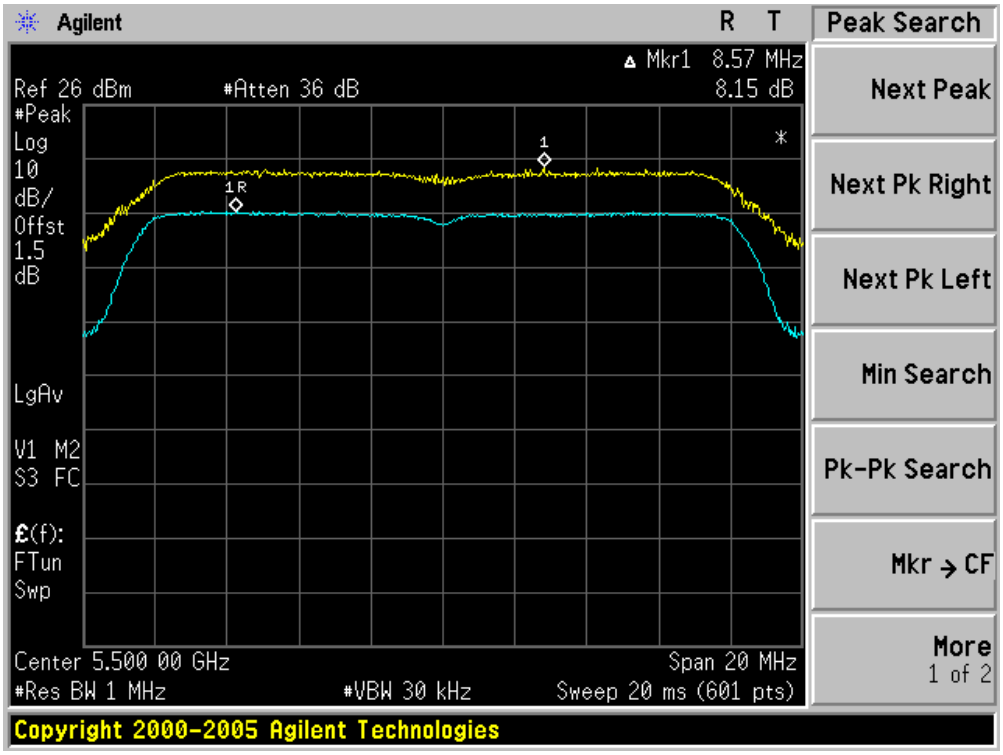
The measurement uncertainty is defined as ± 1.27 dB

9.6. Test Result

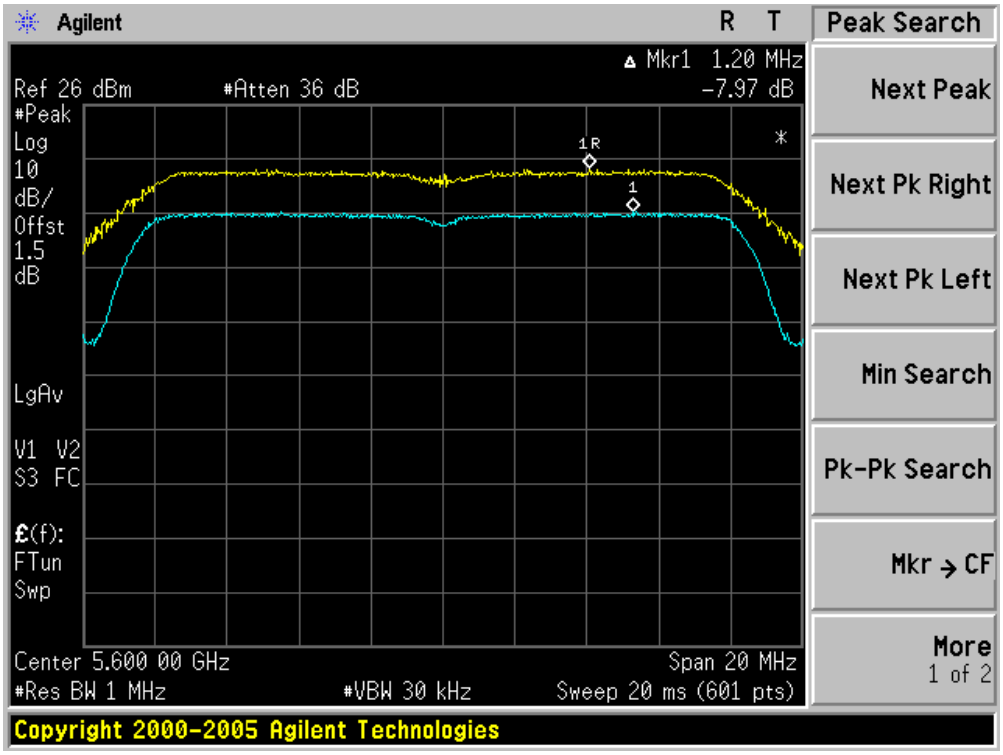
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 100)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
100	5500	8.15	13	Pass
120	5600	7.97	13	Pass
140	5700	8.40	13	Pass

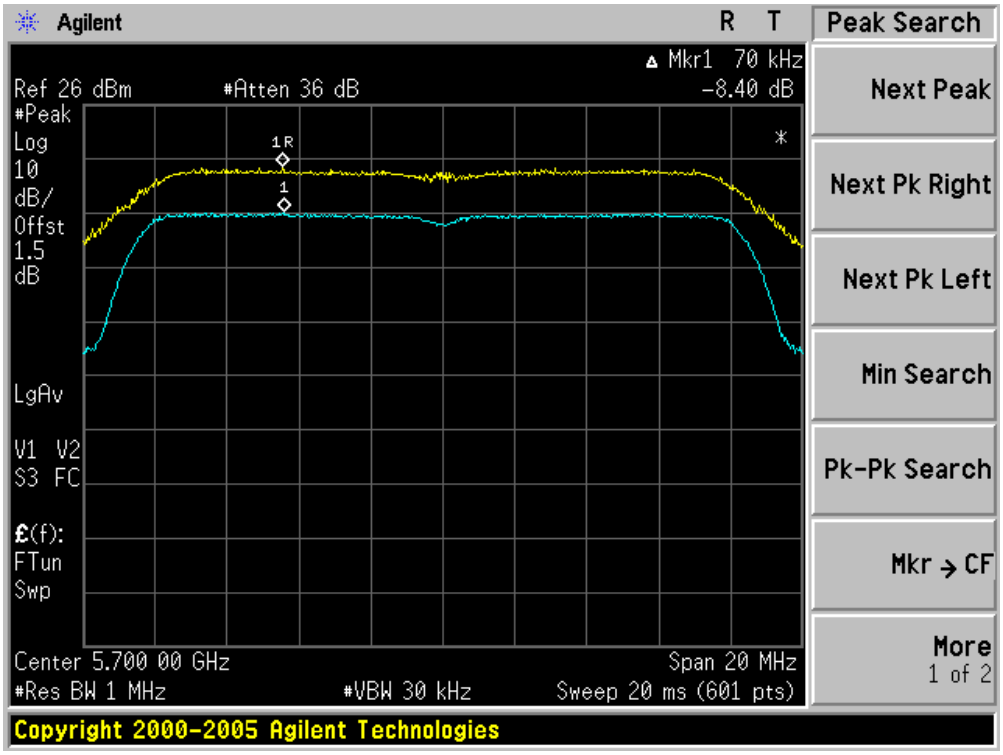
Channel 100 (5500MHz)



Channel 120 (5600MHz)



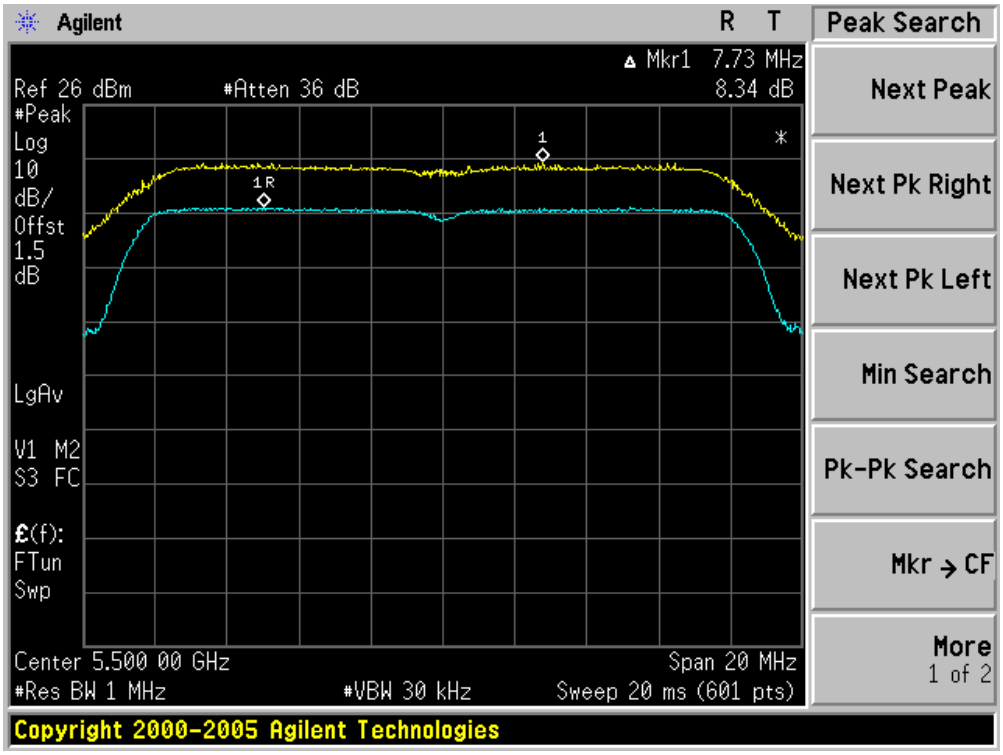
Channel 140 (5700MHz)



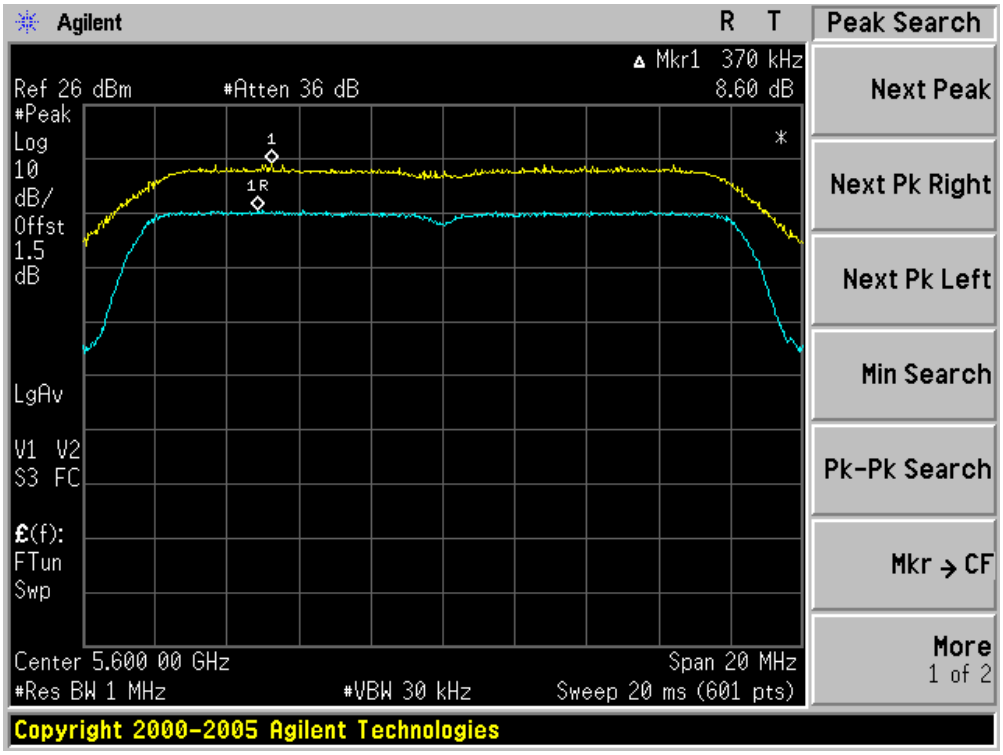
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 010)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
100	5500	7.73	13	Pass
120	5600	8.60	13	Pass
140	5700	7.93	13	Pass

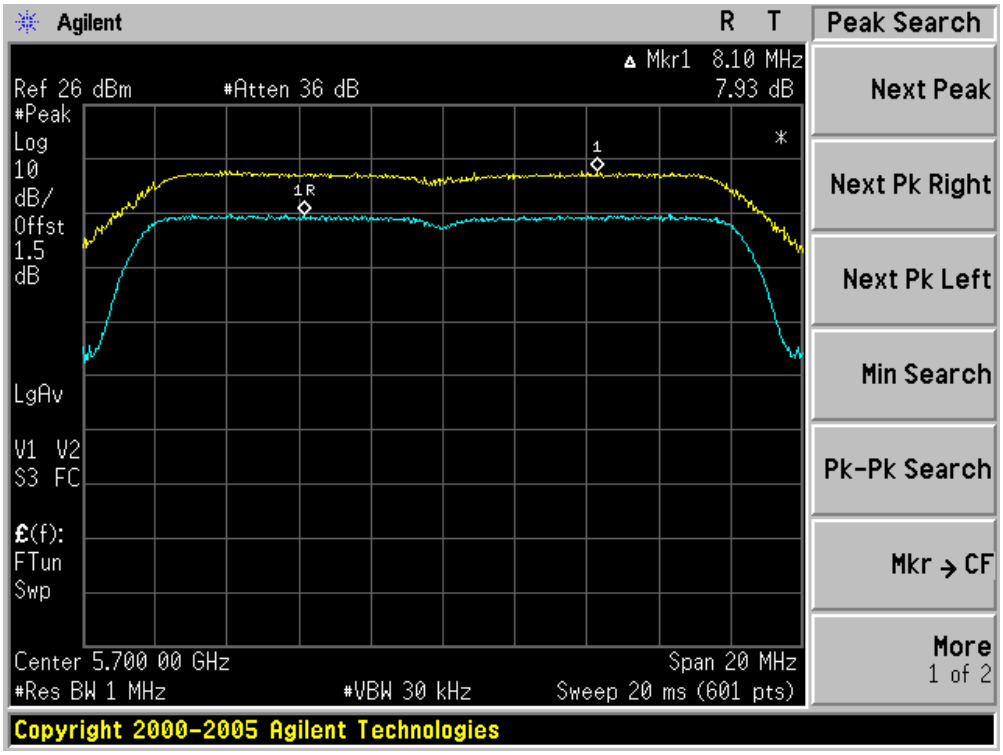
Channel 100 (5500MHz)



Channel 120 (5600MHz)



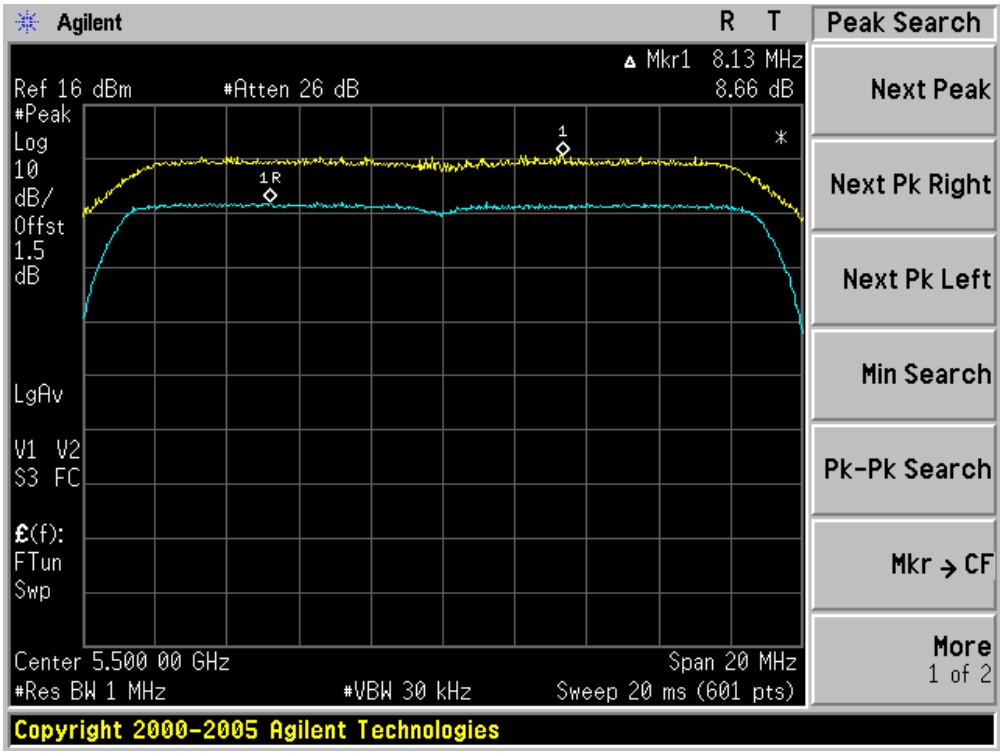
Channel 140 (570MHz)



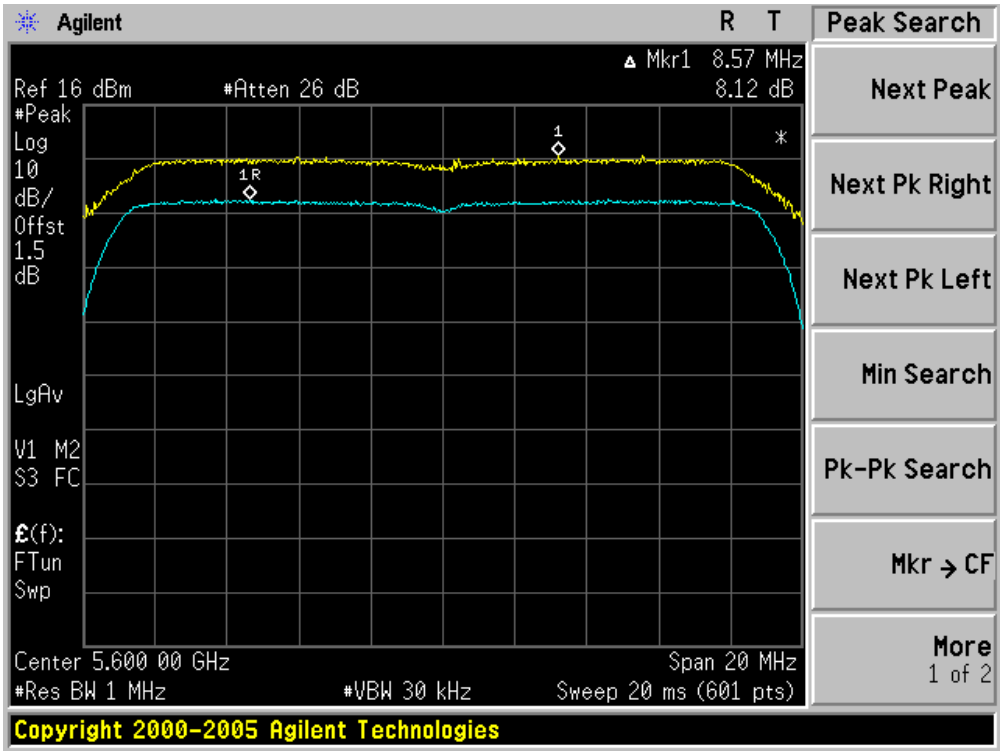
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz Bandwidth) (Chain 100)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
100	5500	8.66	13	Pass
120	5600	8.12	13	Pass
140	5700	8.49	13	Pass

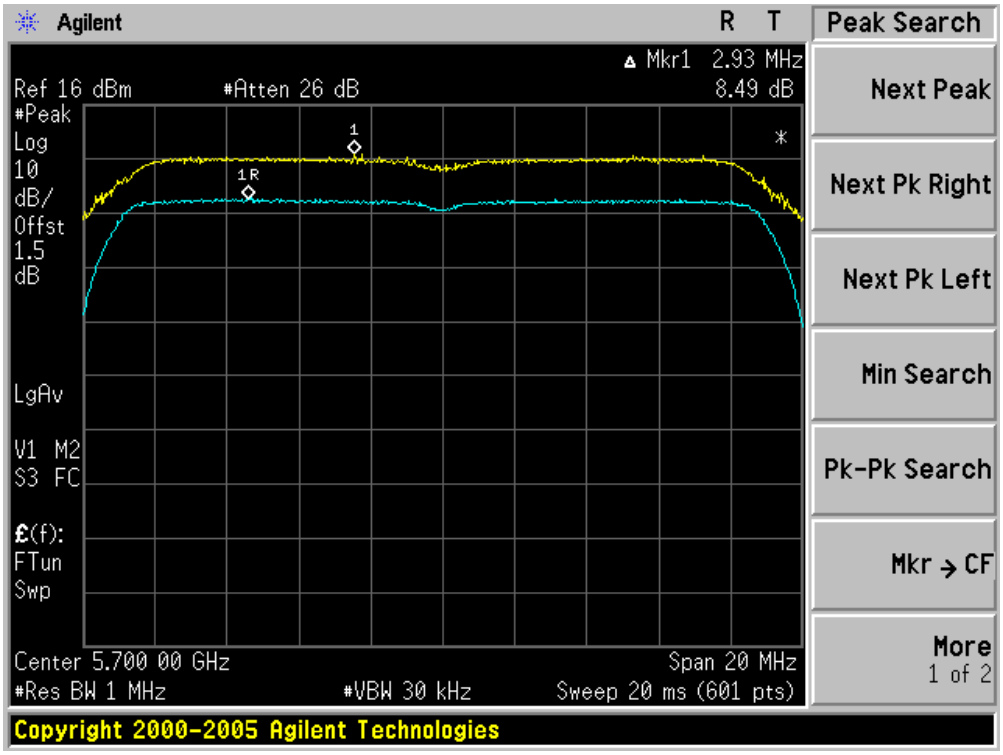
Channel 100 (5500MHz)



Channel 120 (5600MHz)



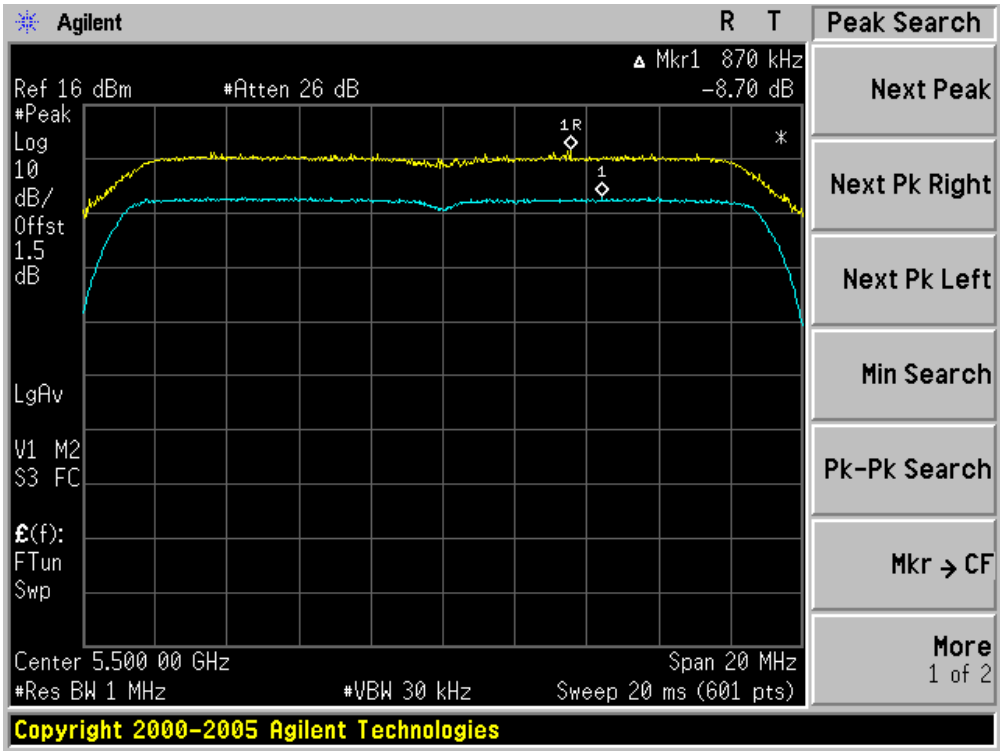
Channel 140 (5700MHz)



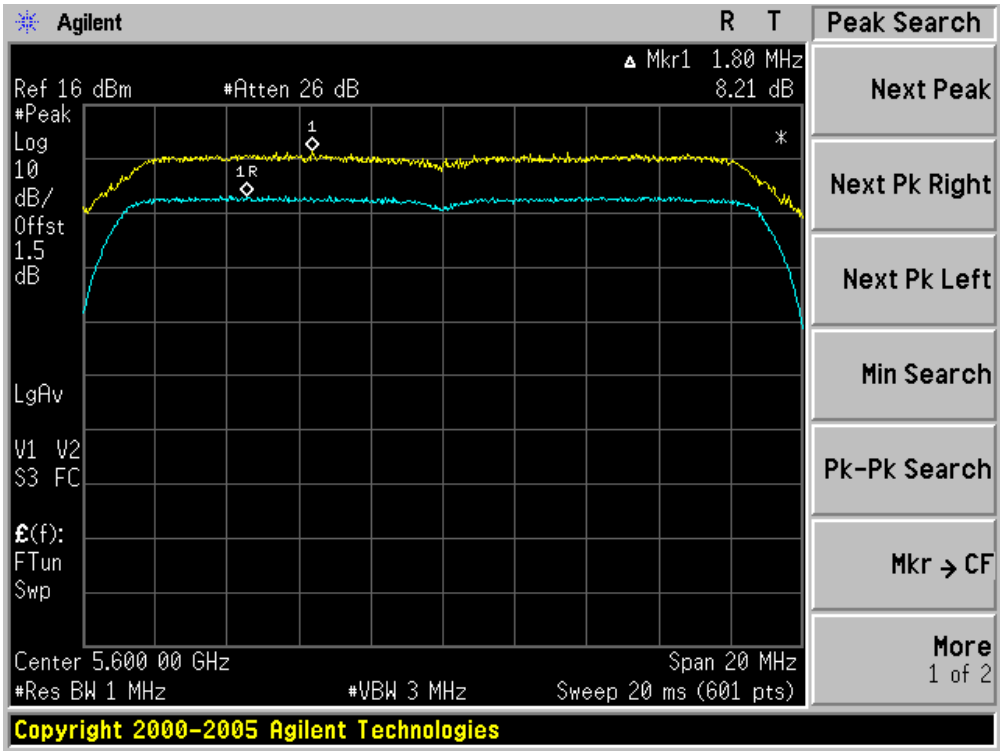
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz Bandwidth) (Chain 010)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
100	5500	8.70	13	Pass
120	5600	8.21	13	Pass
140	5700	8.47	13	Pass

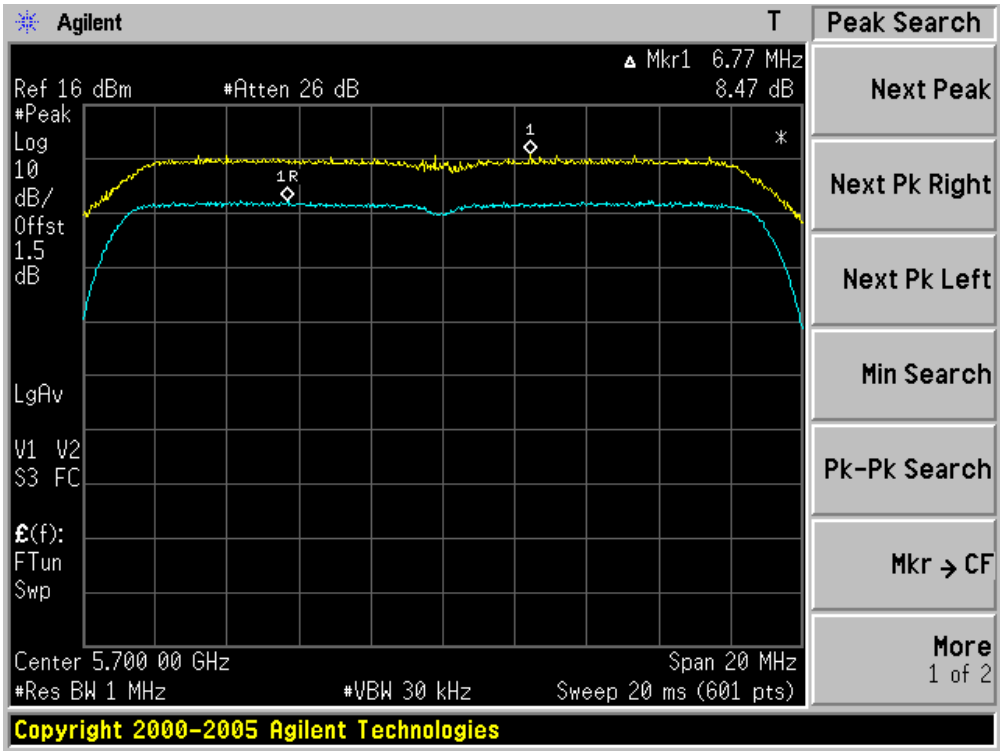
Channel 100 (5500MHz)



Channel 120 (5600MHz)



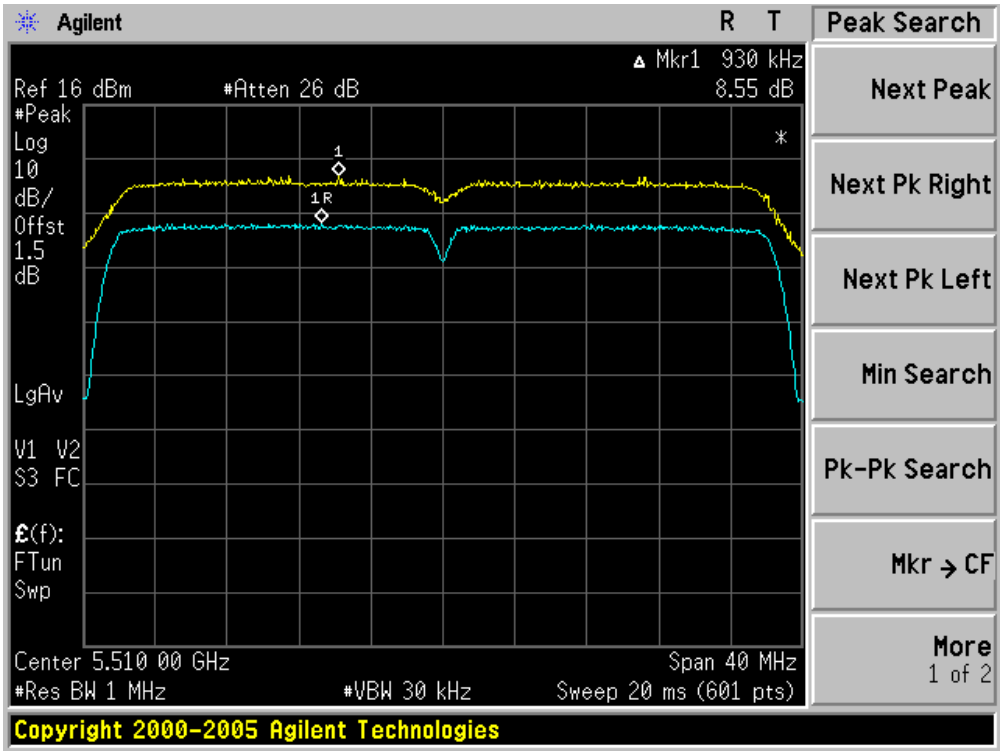
Channel 140 (5700MHz)



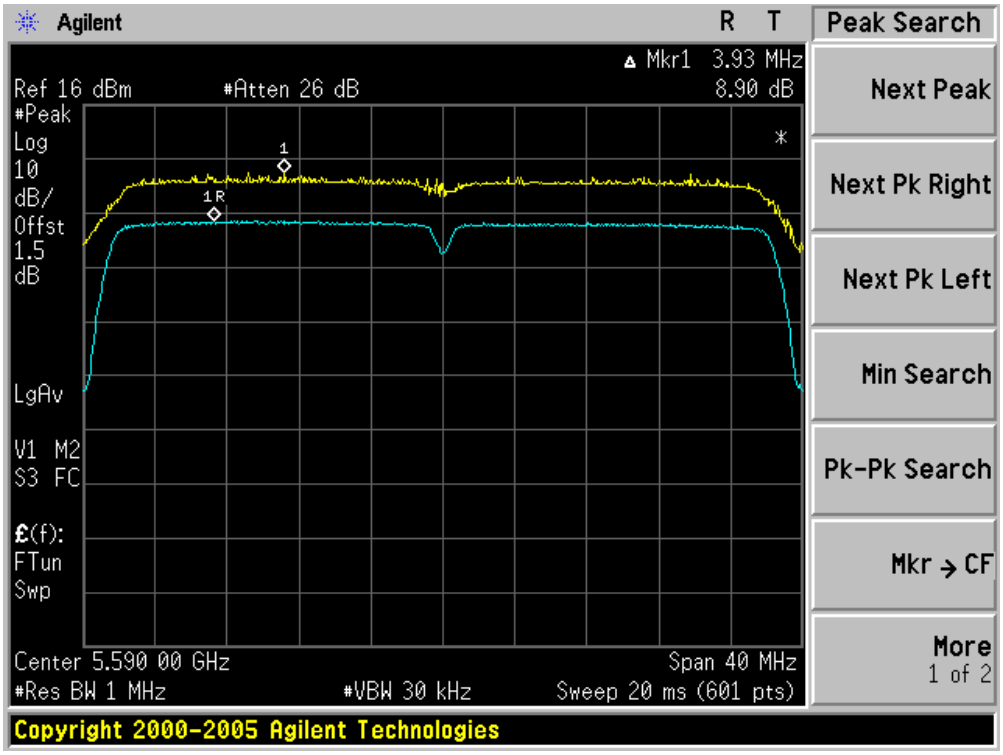
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz Bandwidth) (Chain 100)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
102	5510	8.55	13	Pass
118	5590	8.90	13	Pass
134	5670	8.22	13	Pass

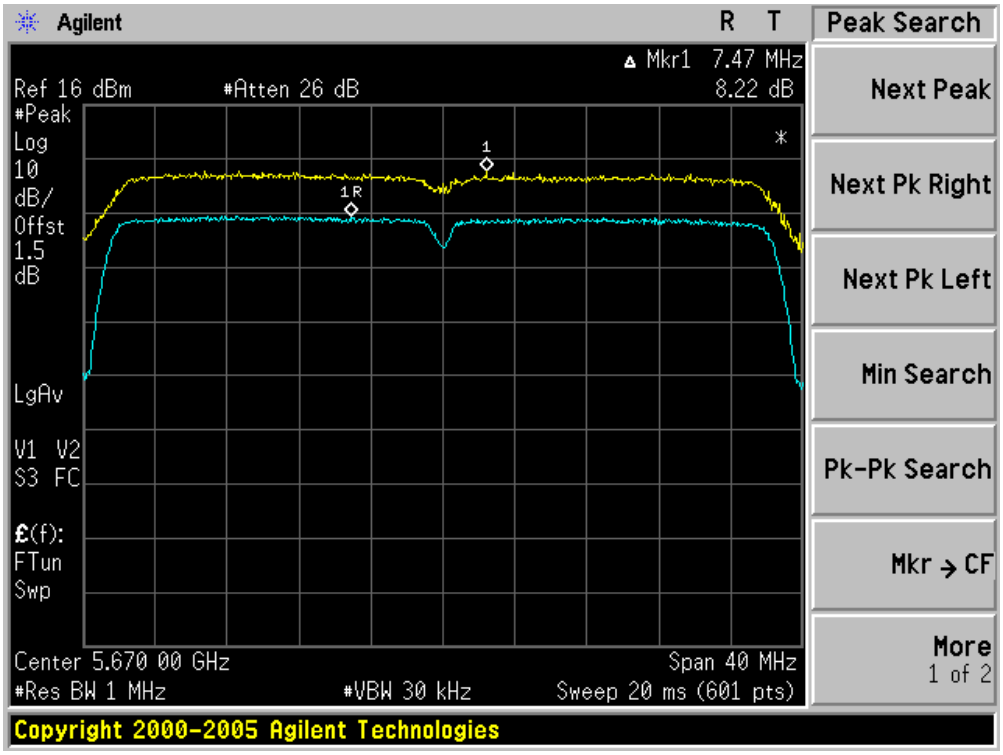
Channel 102 (5510MHz)



Channel 118 (5590MHz)



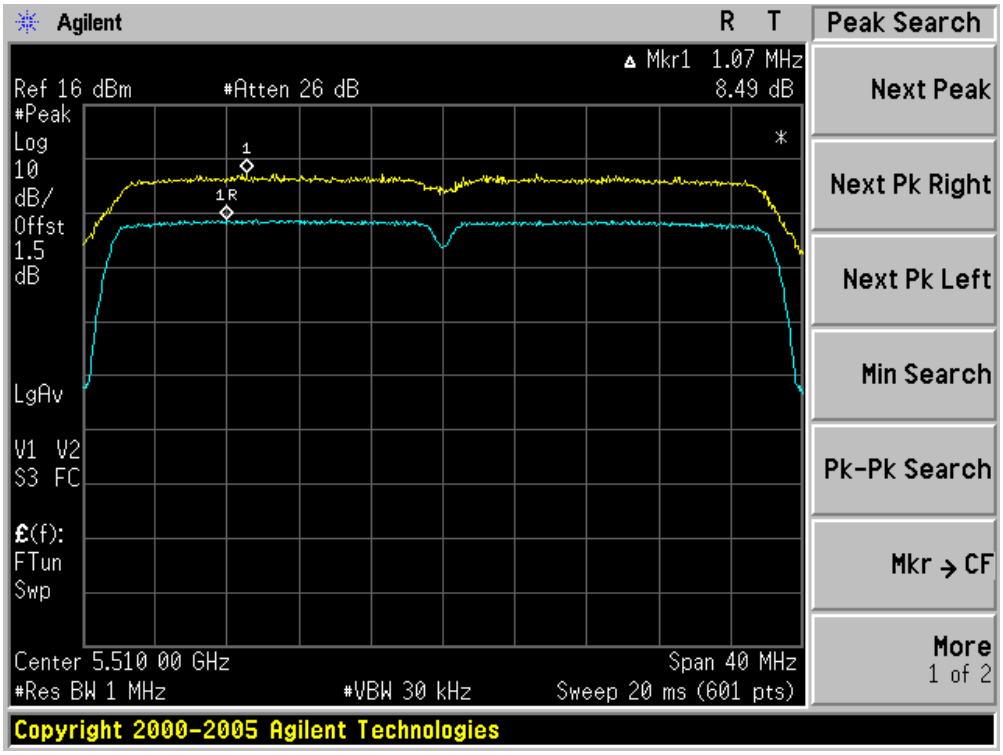
Channel 134 (5670MHz)



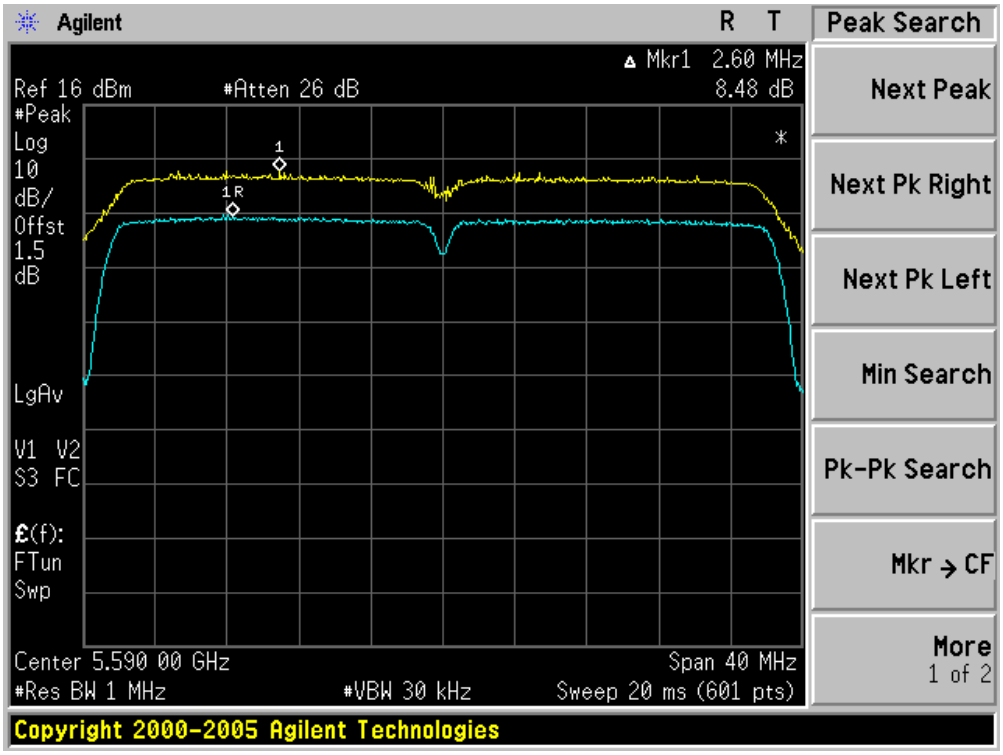
Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz Bandwidth) (Chain 010)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
102	5510	8.49	13	Pass
118	5590	8.48	13	Pass
134	5670	8.66	13	Pass

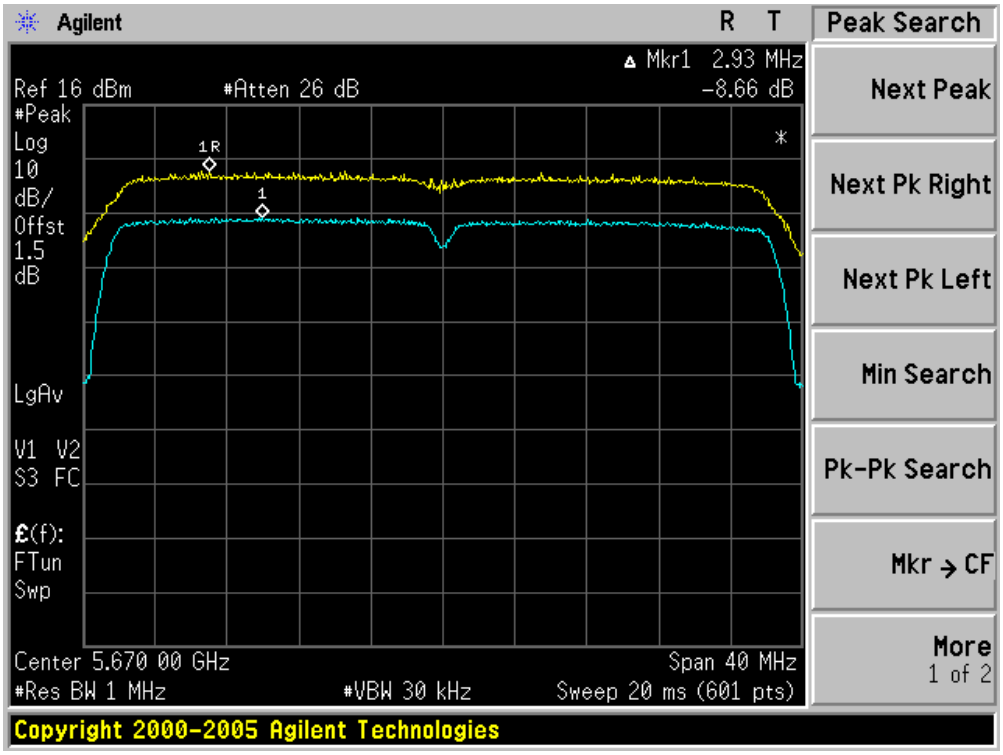
Channel 102 (5510MHz)



Channel 118 (5590MHz)



Channel 136 (5670MHz)



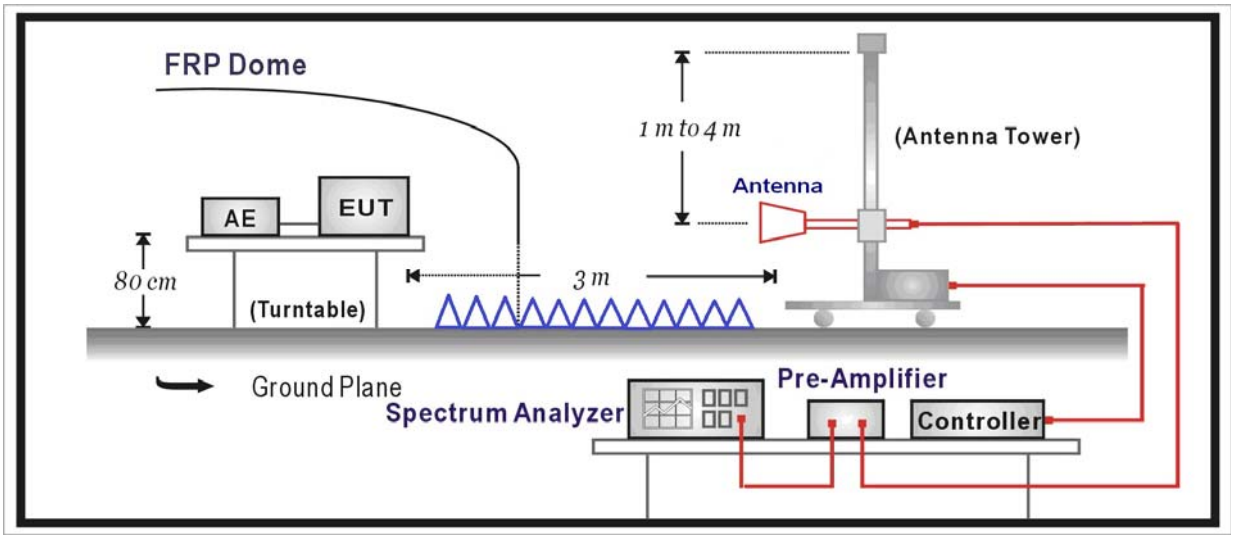
10. Radiated Emission Band Edge

10.1. Test Equipment

☒Radiated Emission Band Edge / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2010.04.23
EMI Test Receiver	R&S	ESCI	100573	2010.04.23
Preamplifier	Quietek	AP-025C	CHM-0511006	2010.05.05
Preamplifier	Quietek	AP-180C	CHM-0602013	2010.05.05
Bilog Type Antenna	Schaffner	CBL6112B	2932	2009.11.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2010.06.11
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2010.05.05
Temperature/Humidity Meter	zhicheng	ZC1-2	AC5-TH	2010.01.14

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 5.47-5725 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): Outsitde 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 ANSI C63.10: 2009 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.

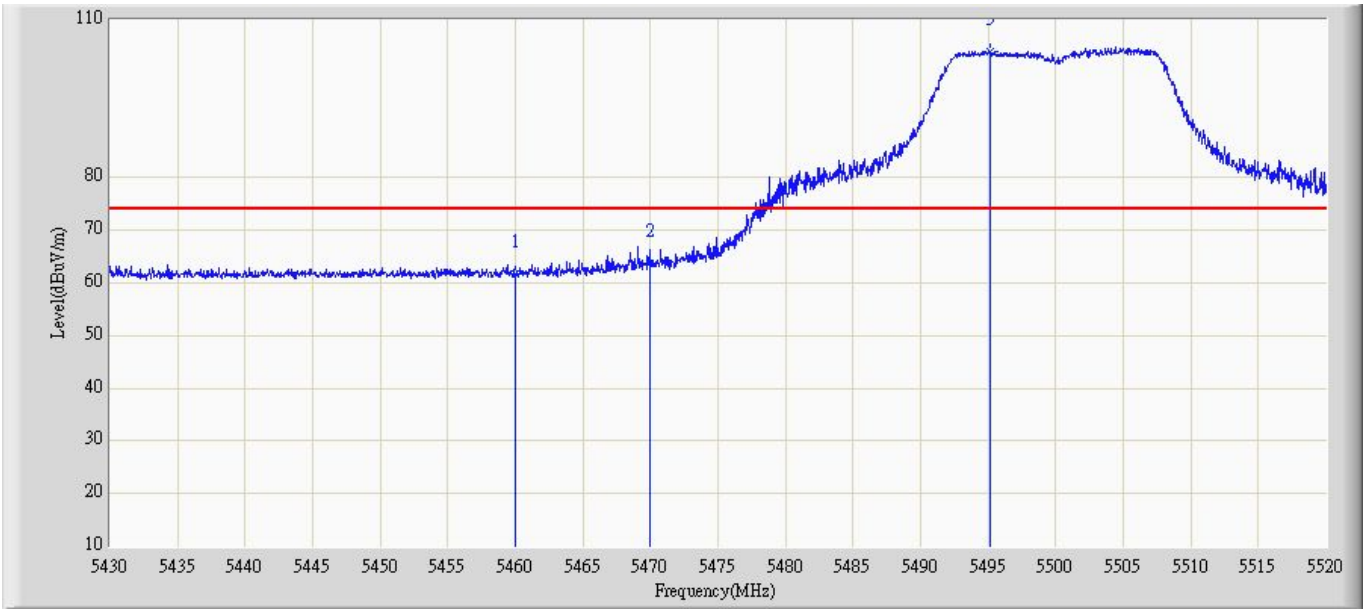
10.5. Uncertainty

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

10.6. Test Result

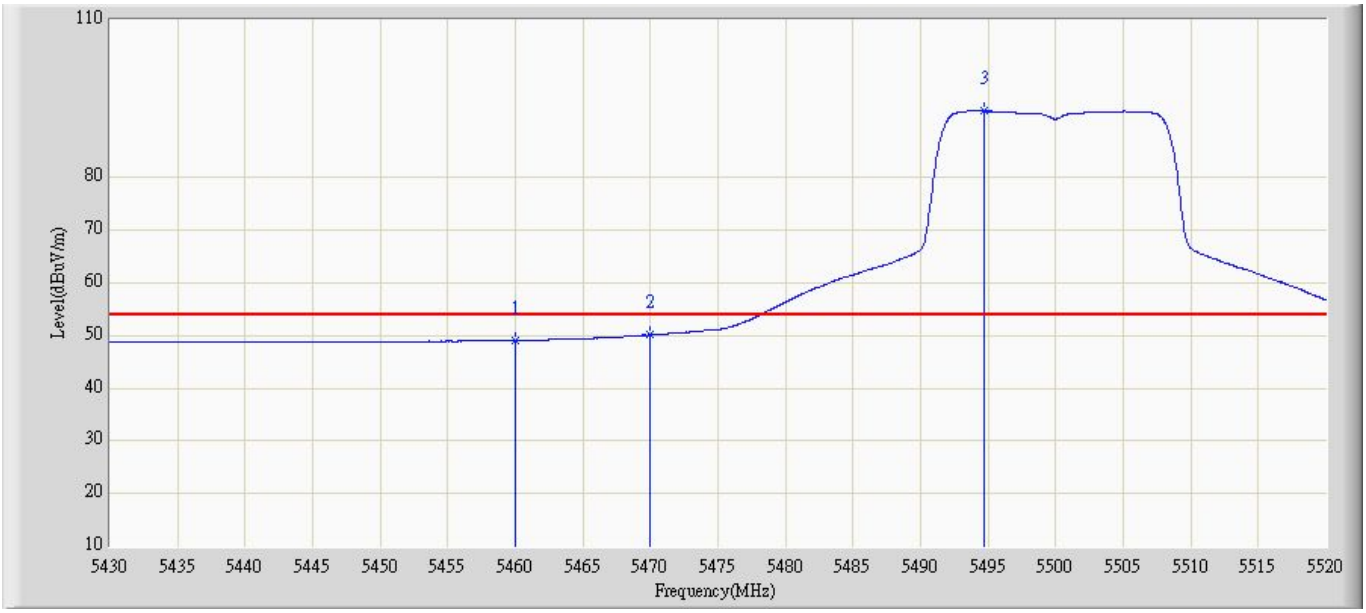
Peak detector: RBW = 1MHz, VBW = 3MHz, sweep time = 200ms;
Average detector: RBW = 1MHz, VBW = 10Hz, sweep time = auto.

Profile: 106S012R	Page No.: 131
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5500MHz By 802.11a(100)	



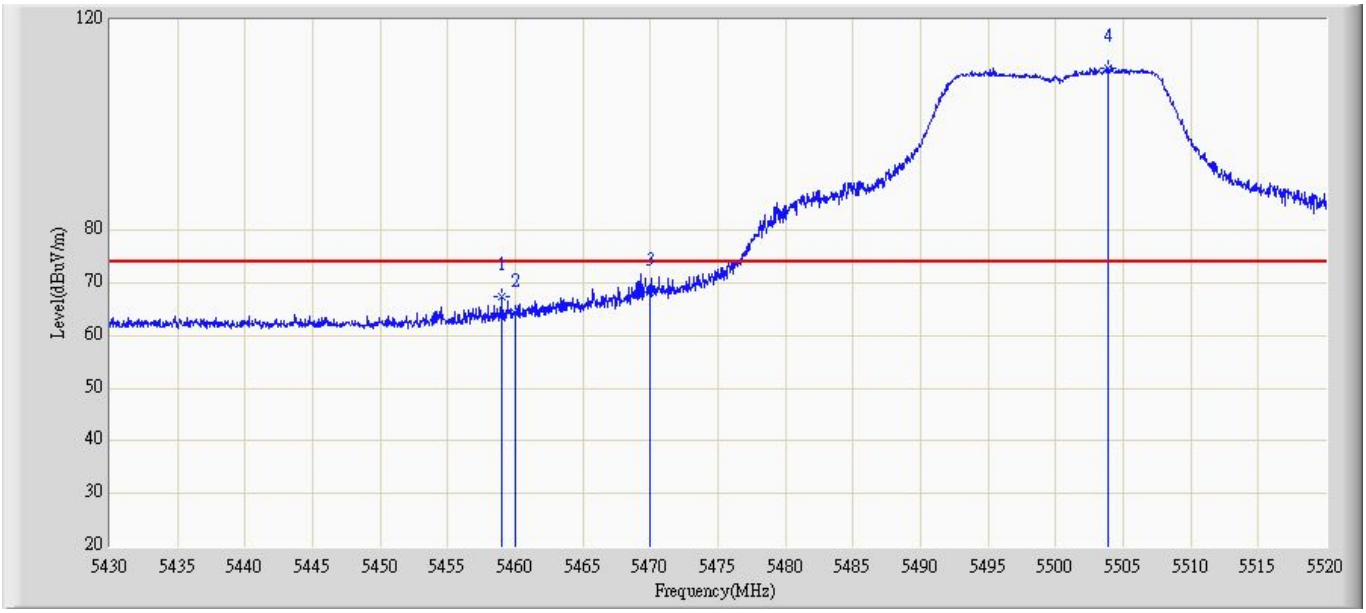
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	61.718	25.680	-12.282	74.000	36.038	PK
2		5470.000	63.675	27.625	-24.625	88.300	36.050	PK
3	*	5495.115	104.019	67.970	N/A	N/A	36.048	PK

Profile: 106S012R	Page No.: 132
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5500MHz By 802.11a(100)	



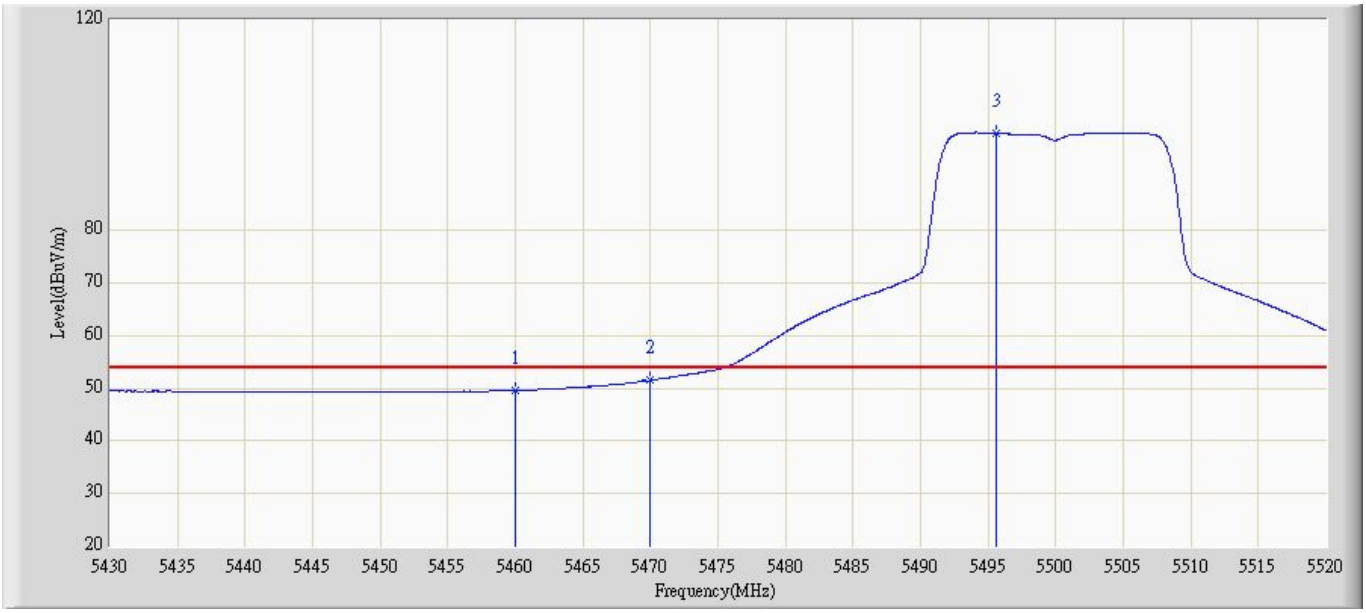
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	49.062	13.024	-4.938	54.000	36.038	AV
2		5470.000	50.153	14.103	-18.147	68.300	36.050	AV
3	*	5494.755	92.647	56.599	N/A	N/A	36.049	AV

Profile: 106S012R	Page No.: 133
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5500MHz By 802.11a(100)	



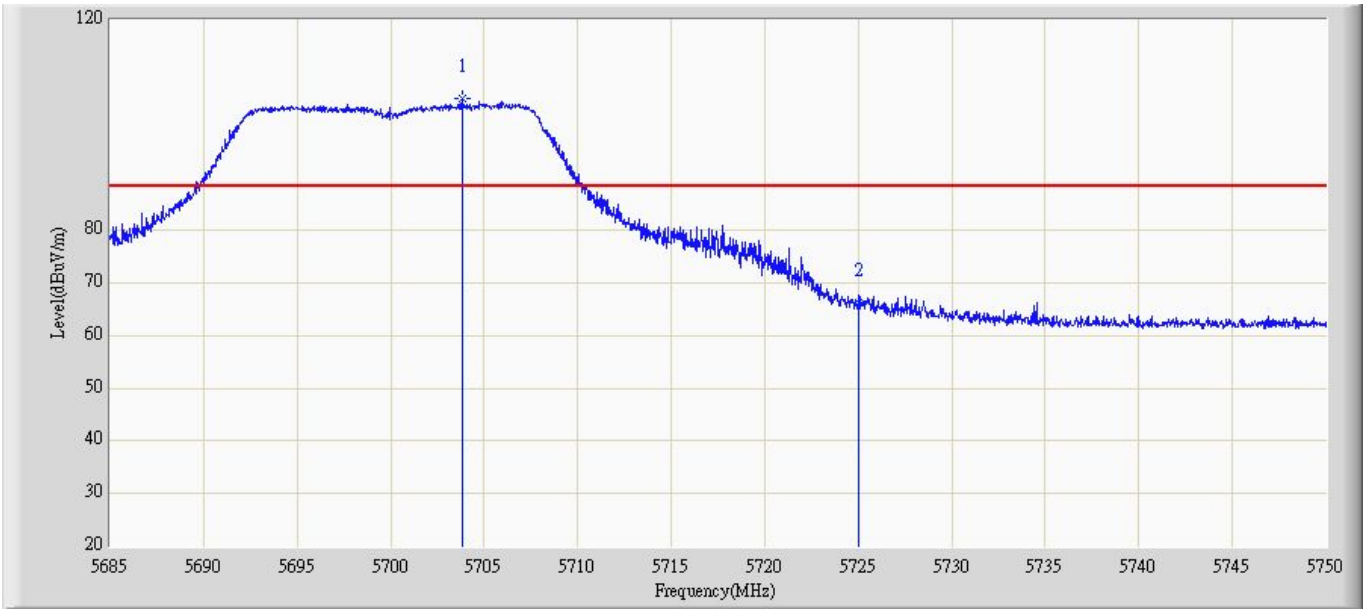
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5458.980	67.489	31.453	-6.511	74.000	36.037	PK
2		5460.000	64.260	28.222	-9.740	74.000	36.038	PK
3		5470.000	68.159	32.109	-20.141	88.300	36.050	PK
4	*	5503.890	110.914	74.856	N/A	N/A	36.058	PK

Profile: 106S012R	Page No.: 134
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5500MHz By 802.11a(100)	



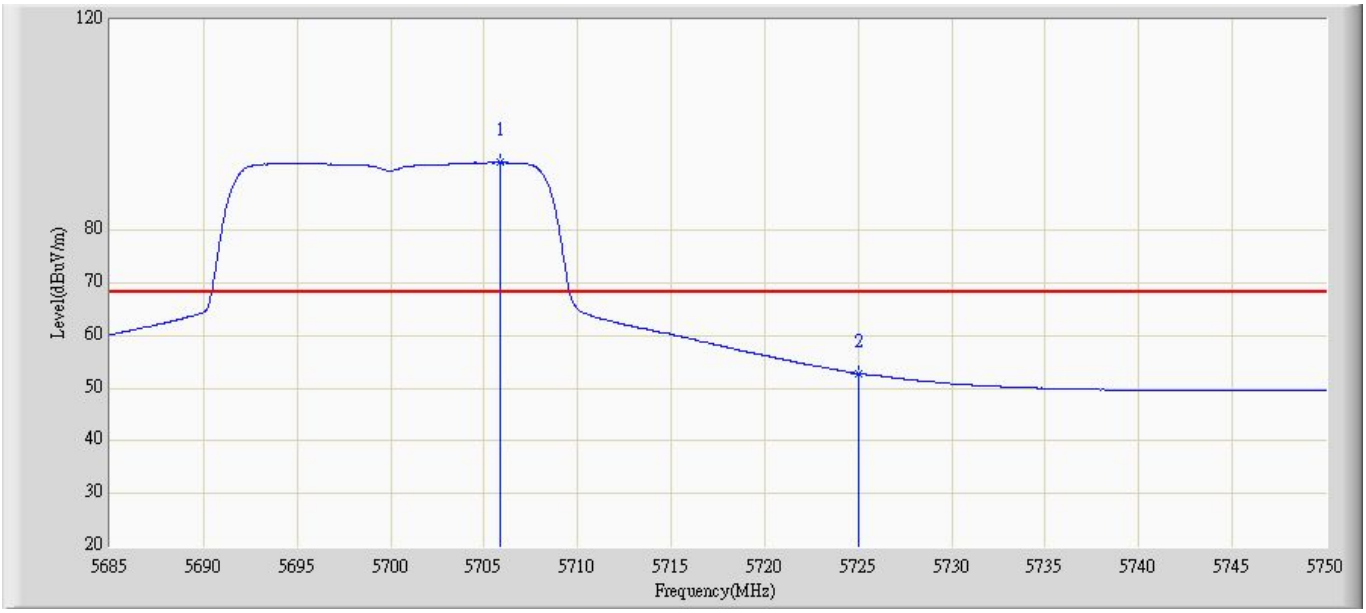
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	49.543	13.505	-4.457	54.000	36.038	AV
2		5470.000	51.503	15.453	-16.797	68.300	36.050	AV
3	*	5495.565	98.514	62.465	N/A	N/A	36.049	AV

Profile: 106S012R	Page No.: 135
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:43
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5700MHz By 802.11a(100)	



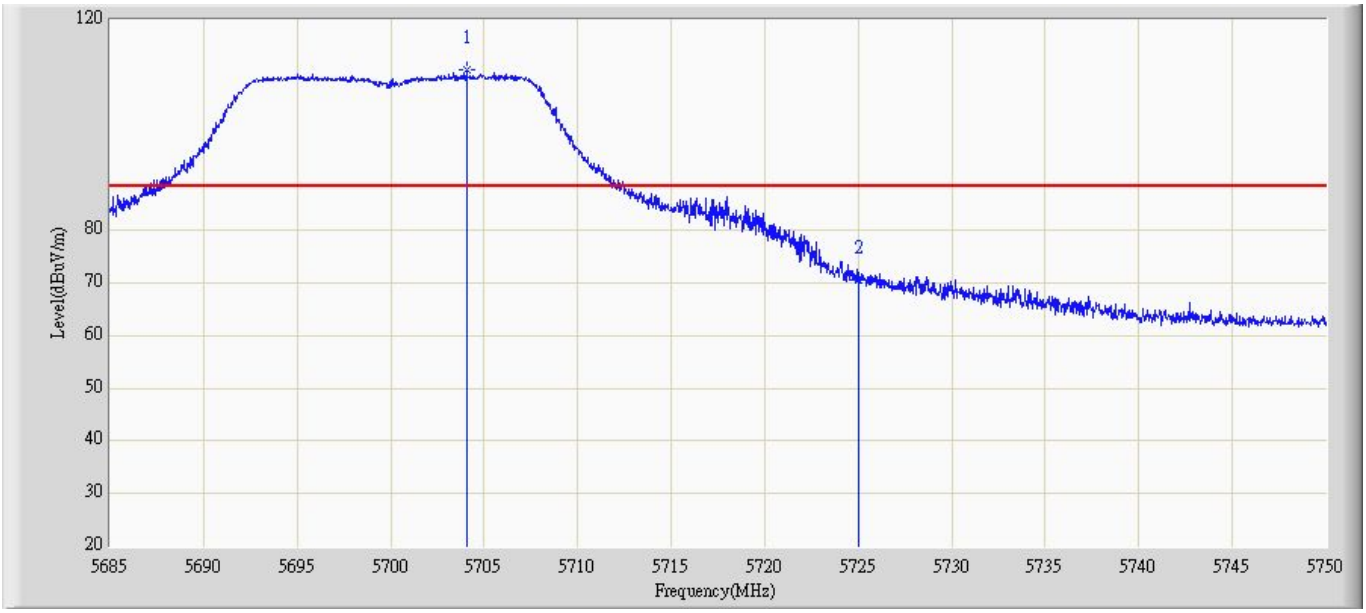
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5703.817	105.091	68.748	N/A	N/A	36.344	PK
2		5725.000	66.138	29.701	-22.162	88.300	36.437	PK

Profile: 106S012R	Page No.: 136
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:45
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5700MHz By 802.11a(100)	



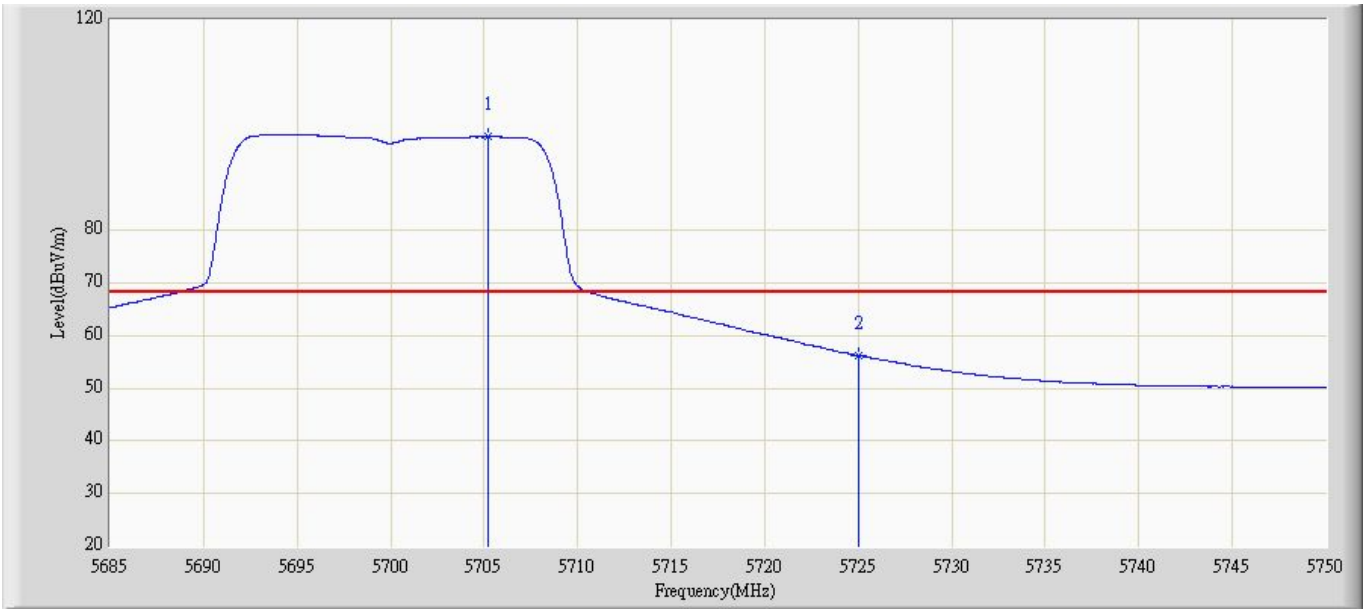
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5705.833	92.903	56.556	N/A	N/A	36.347	AV
2		5725.000	52.836	16.399	-15.464	68.300	36.437	AV

Profile: 106S012R	Page No.: 137
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:46
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5700MHz By 802.11a(100)	



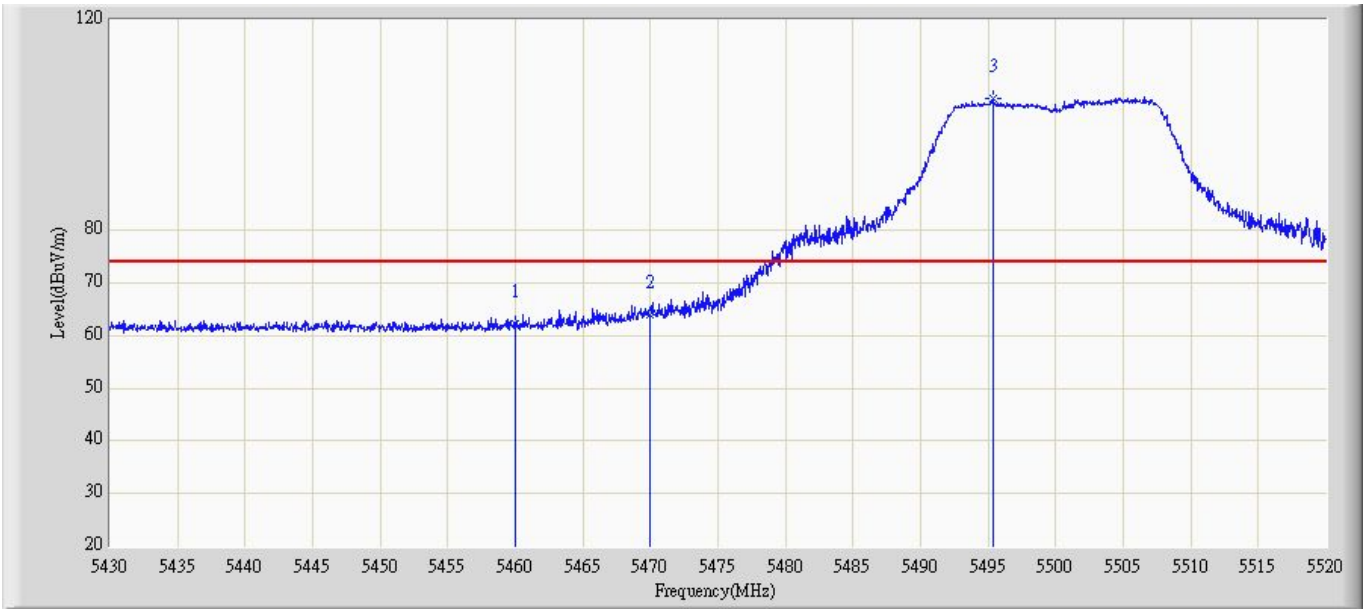
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5704.045	110.464	74.120	N/A	N/A	36.344	PK
2		5725.000	70.565	34.128	-17.735	88.300	36.437	PK

Profile: 106S012R	Page No.: 138
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:47
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5700MHz By 802.11a(100)	



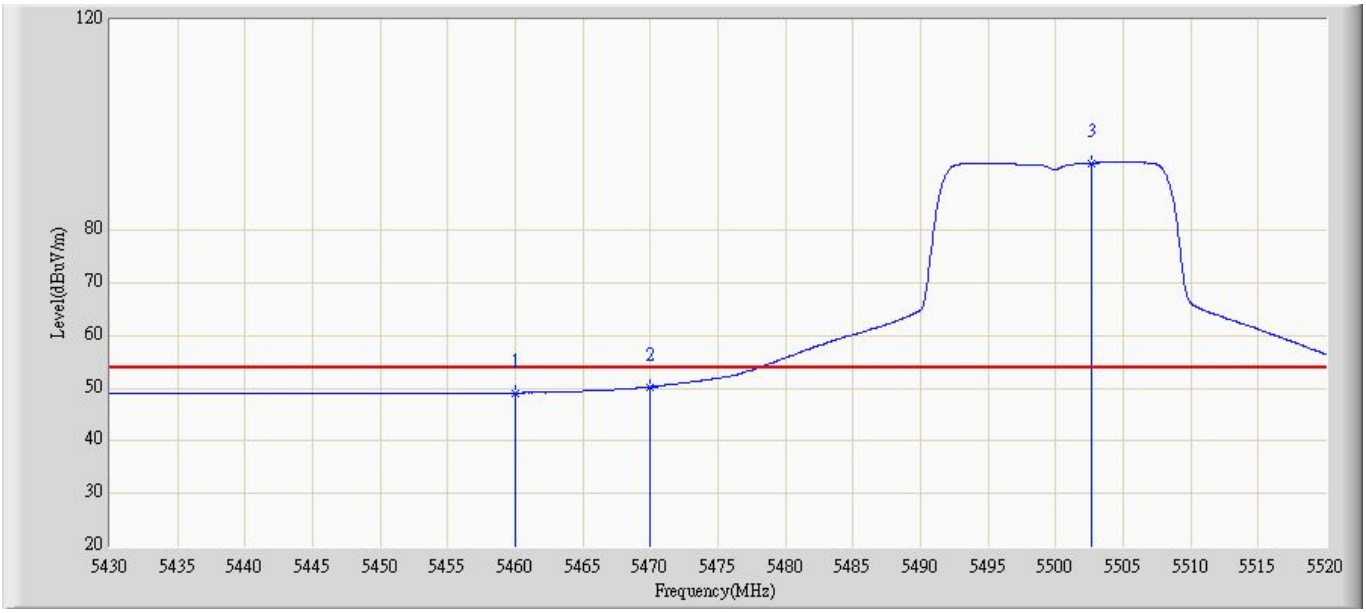
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5705.215	97.820	61.474	N/A	N/A	36.346	AV
2		5725.000	56.255	19.818	-12.045	68.300	36.437	AV

Profile: 106S012R	Page No.: 139
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5500MHz By 802.11a(010)	



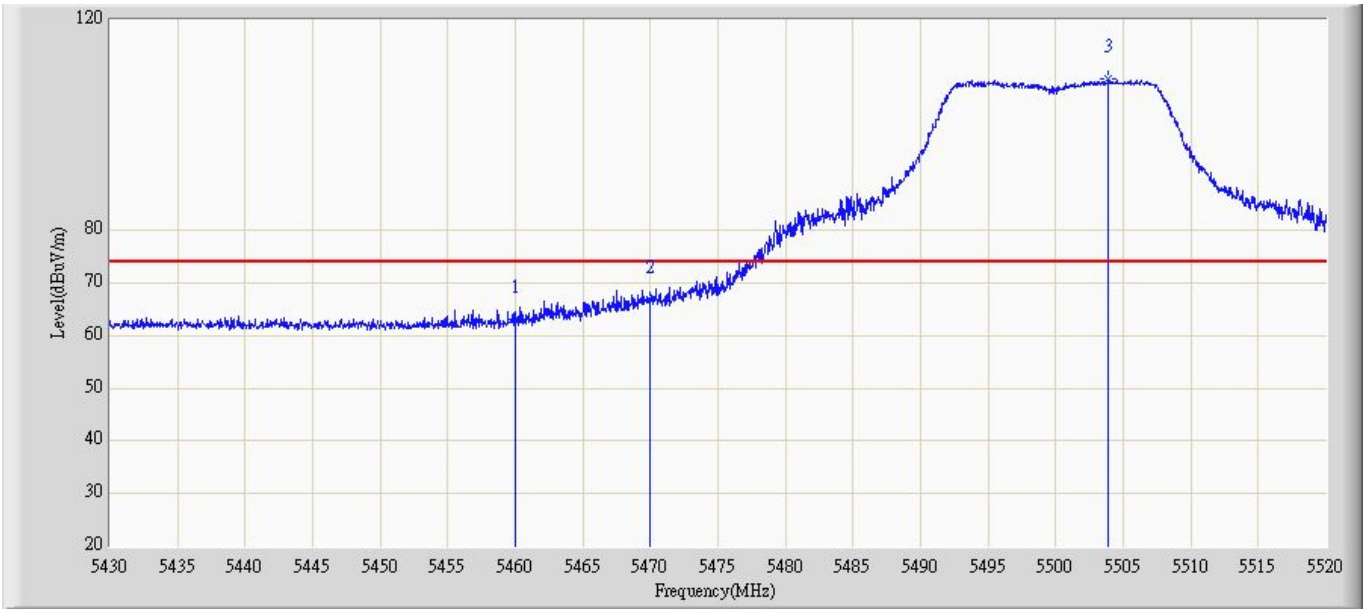
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	62.358	26.320	-11.642	74.000	36.038	PK
2		5470.000	63.914	27.864	-24.386	88.300	36.050	PK
3	*	5495.385	105.118	69.069	N/A	N/A	36.049	PK

Profile: 106S012R	Page No.: 140
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5500MHz By 802.11a(010)	



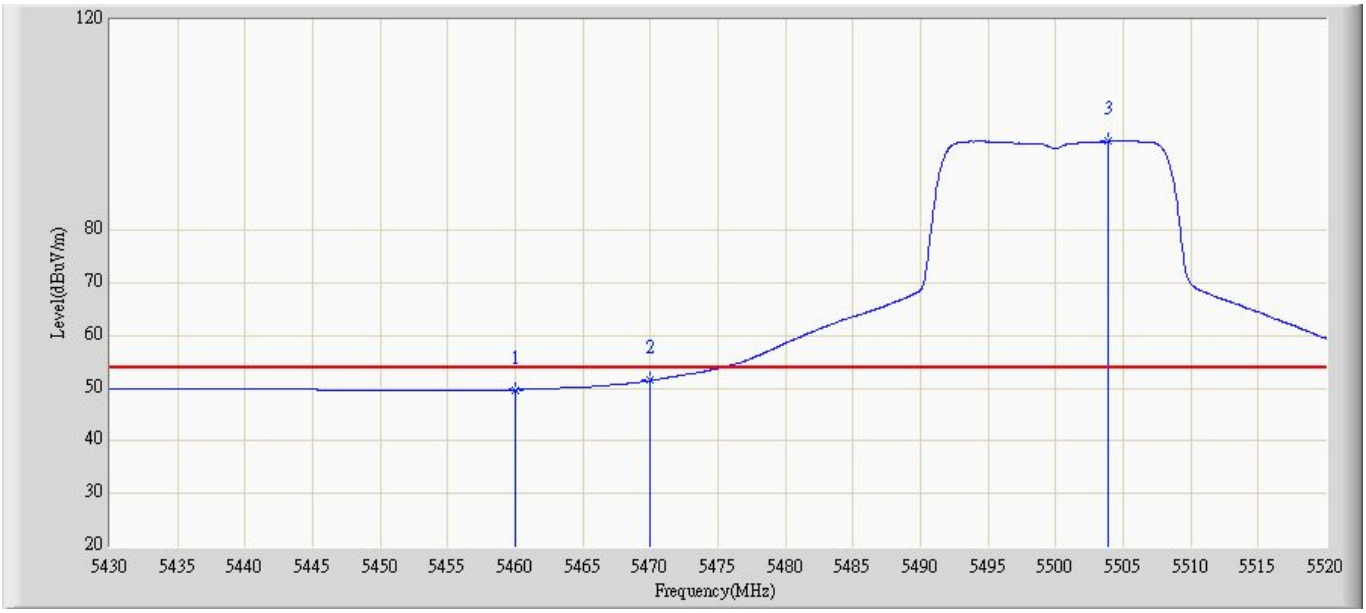
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	49.082	13.044	-4.918	54.000	36.038	AV
2		5470.000	50.308	14.258	-17.992	68.300	36.050	AV
3	*	5502.630	92.833	56.777	N/A	N/A	36.056	AV

Profile: 106S012R	Page No.: 141
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5500MHz By 802.11a(010)	



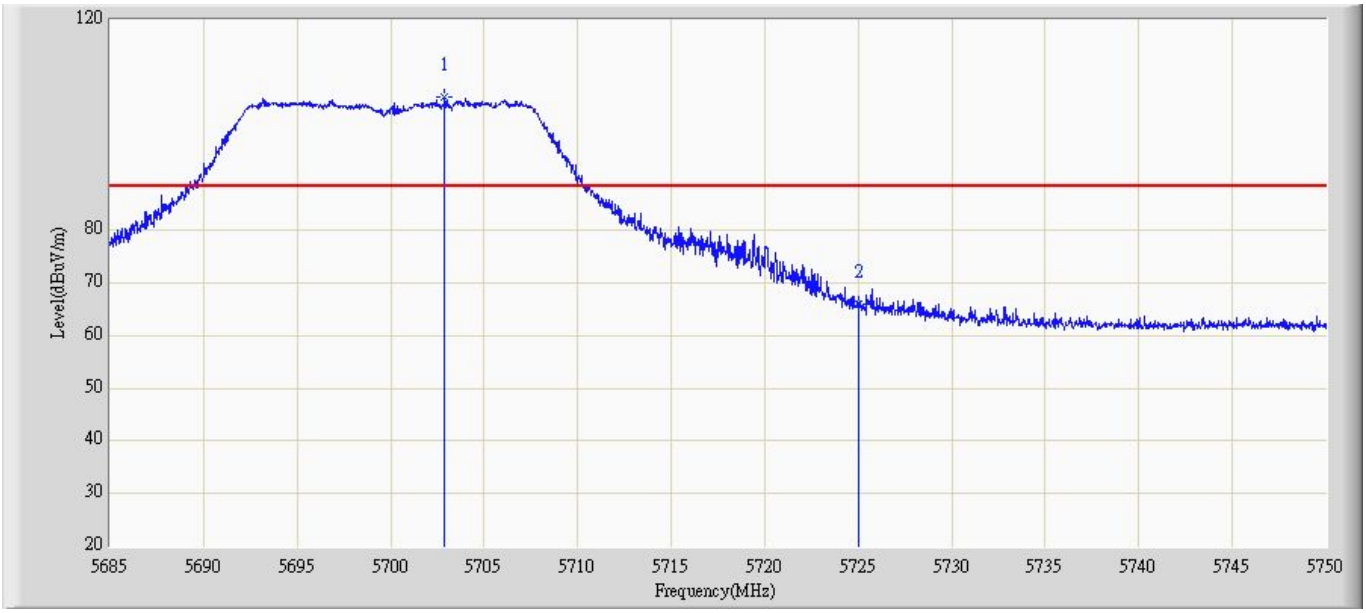
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	63.090	27.052	-10.910	74.000	36.038	PK
2		5470.000	66.750	30.700	-21.550	88.300	36.050	PK
3	*	5503.935	108.822	72.764	N/A	N/A	36.058	PK

Profile: 106S012R	Page No.: 142
Engineer: jame	
Site: AC5	Time: 2010/07/08 - 16:52
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5500MHz By 802.11a(010)	



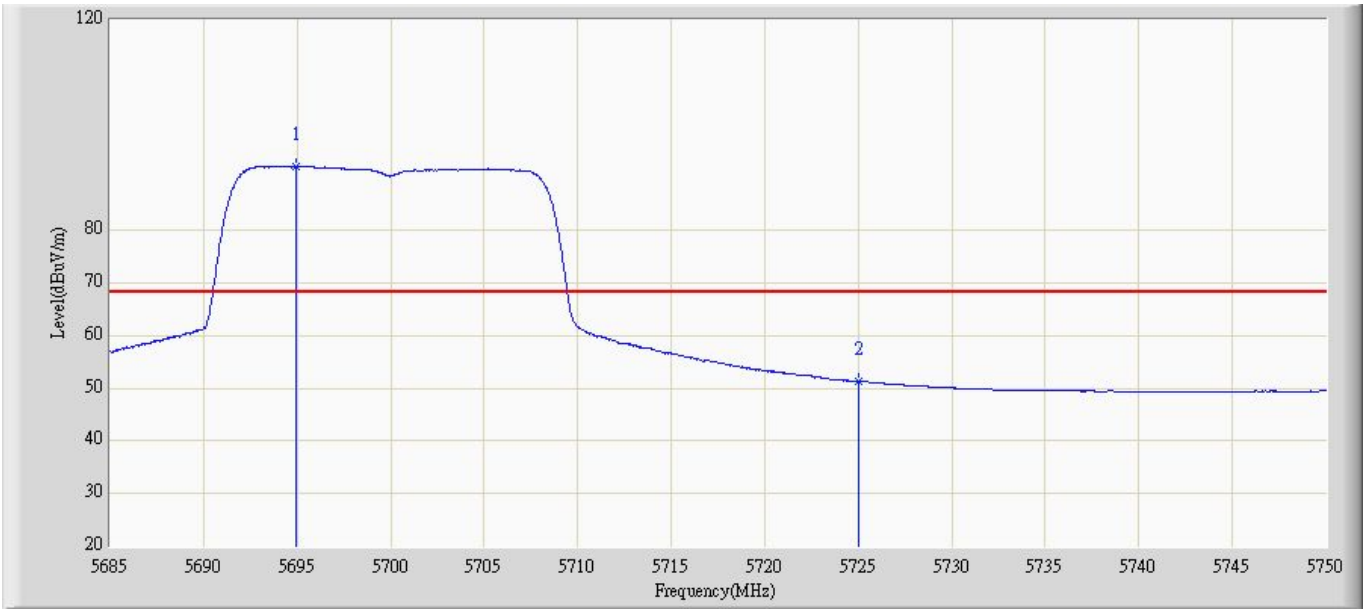
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	49.706	13.668	-4.294	54.000	36.038	AV
2		5470.000	51.471	15.421	-16.829	68.300	36.050	AV
3	*	5503.890	96.887	60.829	N/A	N/A	36.058	AV

Profile: 106S012R	Page No.: 143
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:52
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5700MHz By 802.11a(010)	



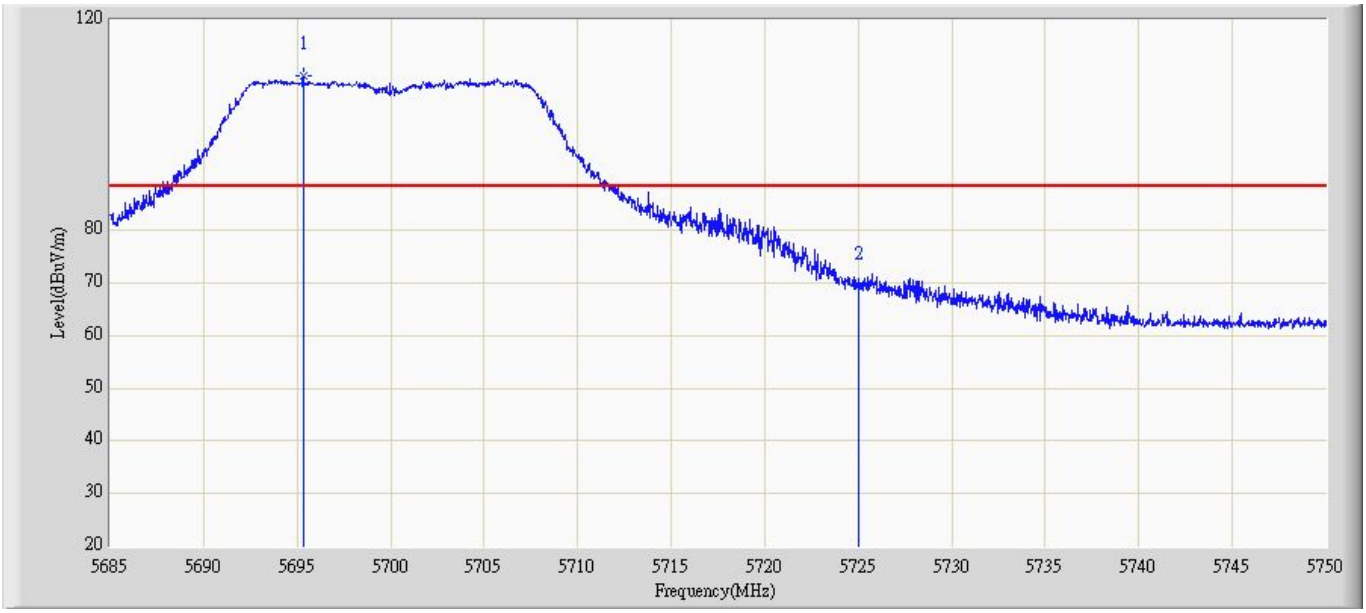
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5702.875	105.318	68.976	N/A	N/A	36.341	PK
2		5725.000	65.873	29.436	-22.427	88.300	36.437	PK

Profile: 106S012R	Page No.: 144
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:54
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5700MHz By 802.11a(010)	



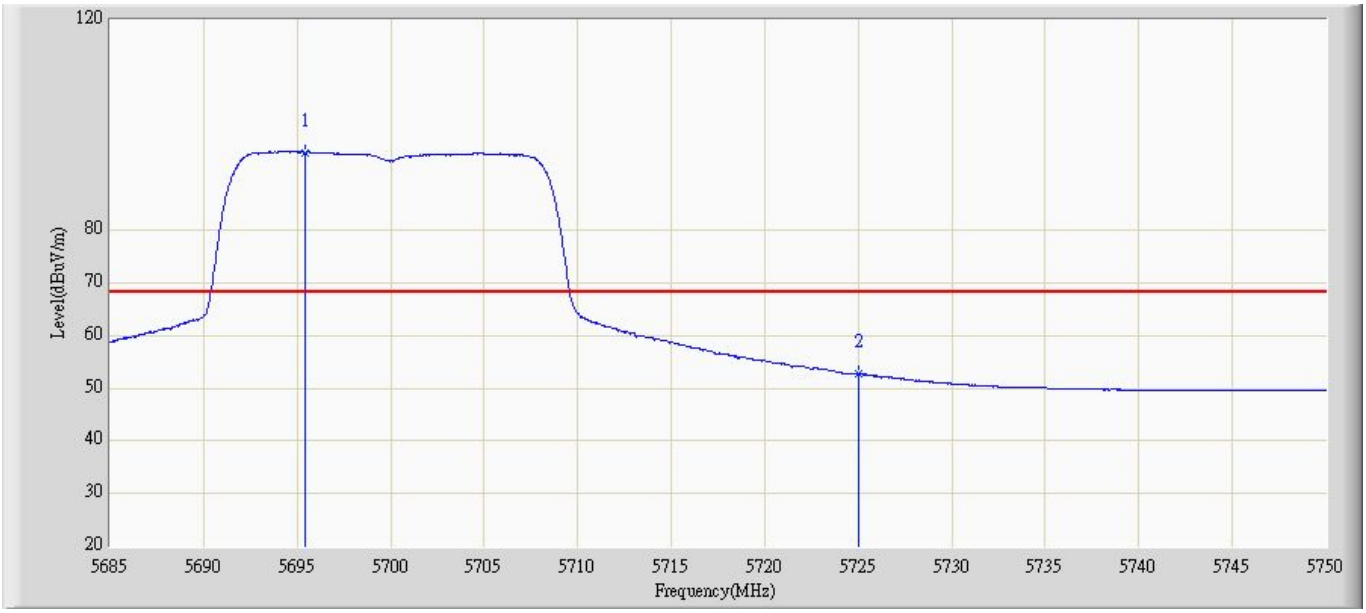
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5694.945	92.081	55.754	N/A	N/A	36.327	AV
2		5725.000	51.314	14.877	-16.986	68.300	36.437	AV

Profile: 106S012R	Page No.: 145
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:54
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5700MHz By 802.11a(010)	



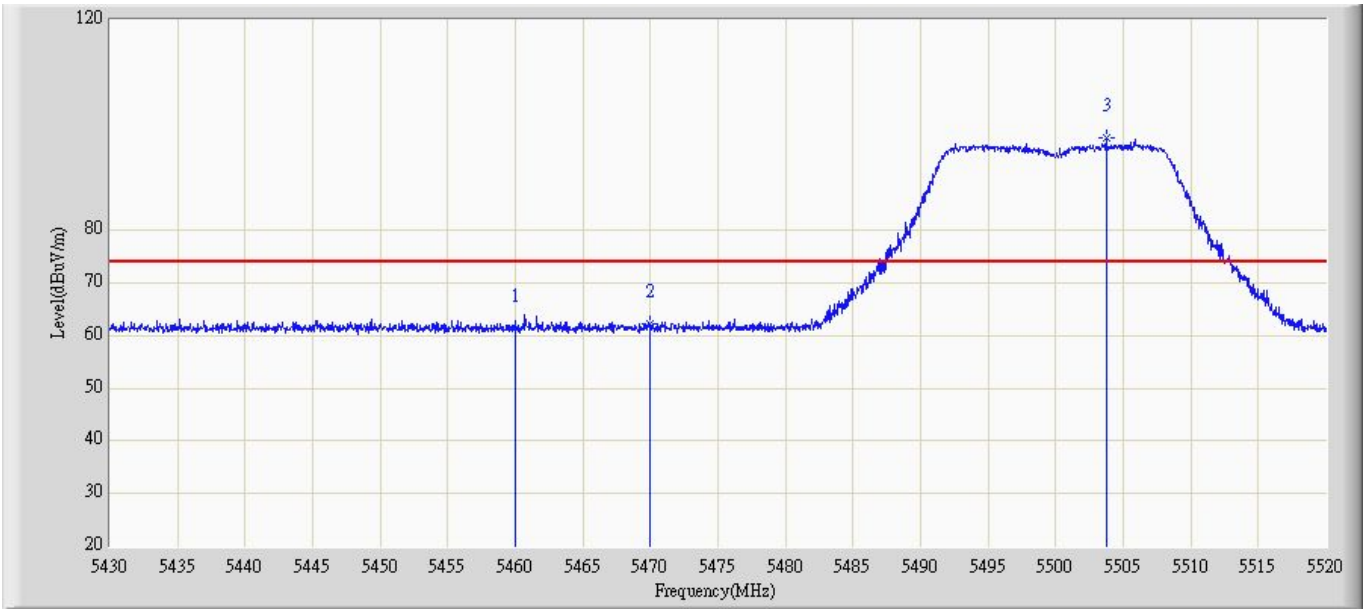
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5695.335	109.259	72.931	N/A	N/A	36.328	PK
2		5725.000	69.470	33.033	-18.830	88.300	36.437	PK

Profile: 106S012R	Page No.: 146
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:55
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 5700MHz By 802.11a(010)	



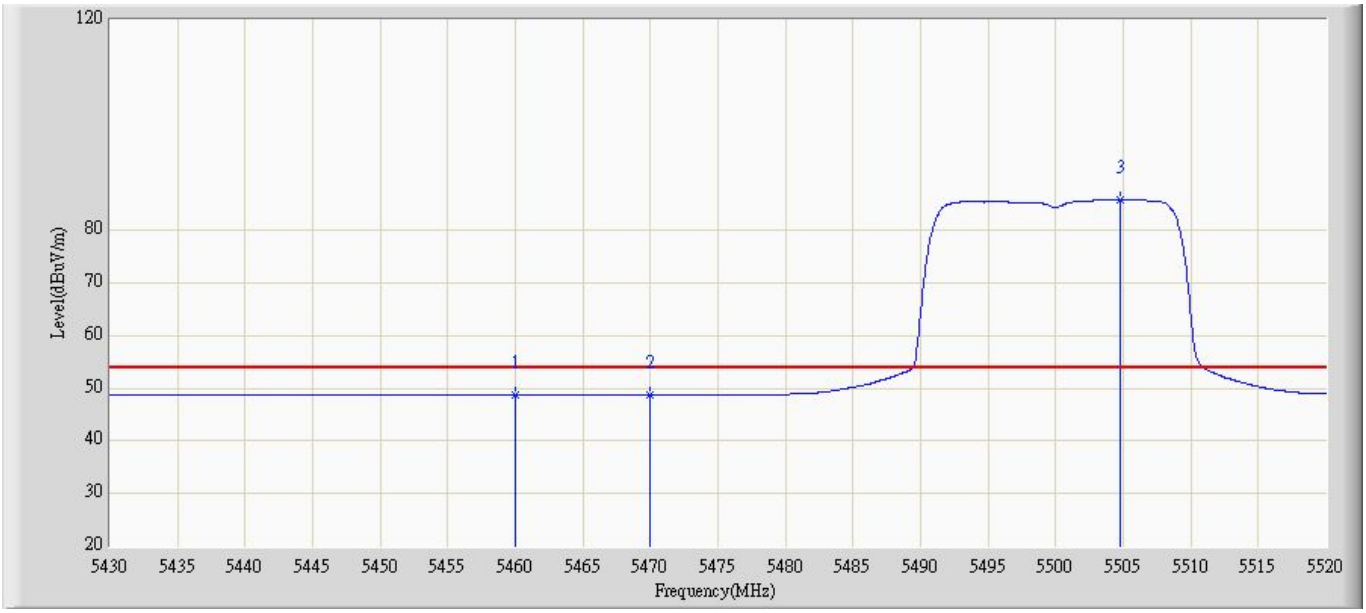
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5695.433	94.814	58.486	N/A	N/A	36.328	AV
2		5725.000	52.700	16.263	-15.600	68.300	36.437	AV

Profile: 106S012R	Page No.: 147
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5500MHz By 802.11n(20MHz)(100)	



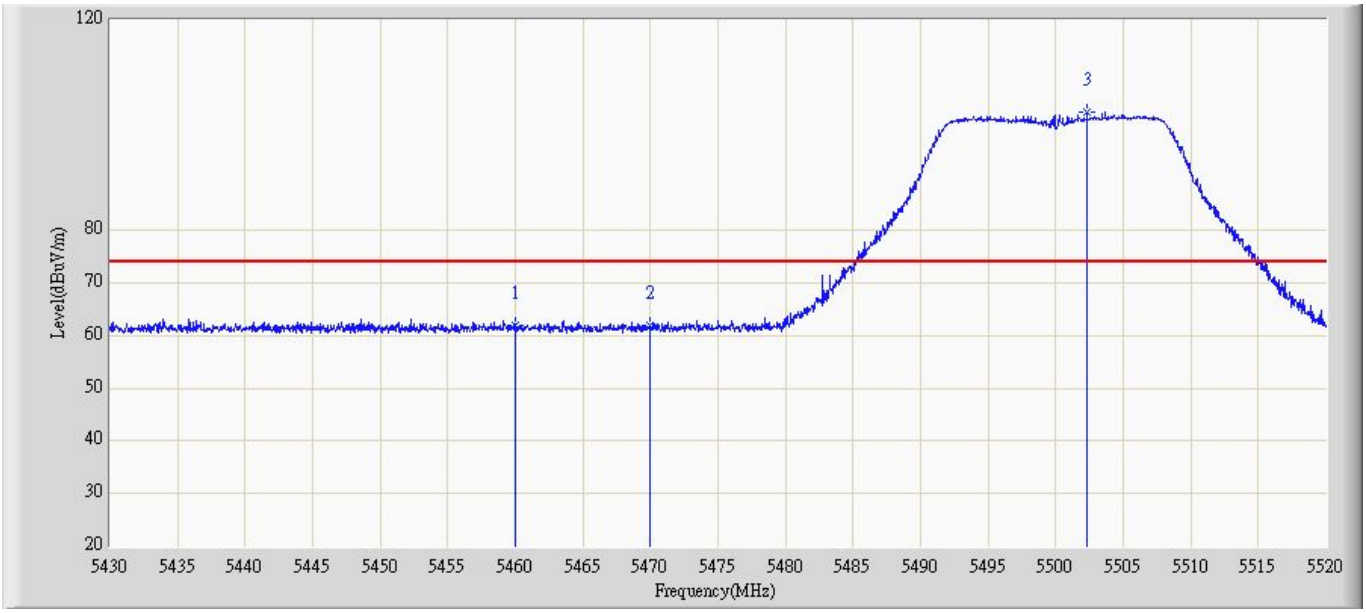
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	61.339	25.301	-12.661	74.000	36.038	PK
2		5470.000	62.145	26.095	-26.155	88.300	36.050	PK
3	*	5503.755	97.451	61.393	N/A	N/A	36.058	PK

Profile: 106S012R	Page No.: 148
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 16:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5500MHz By 802.11n(20MHz)(100)	



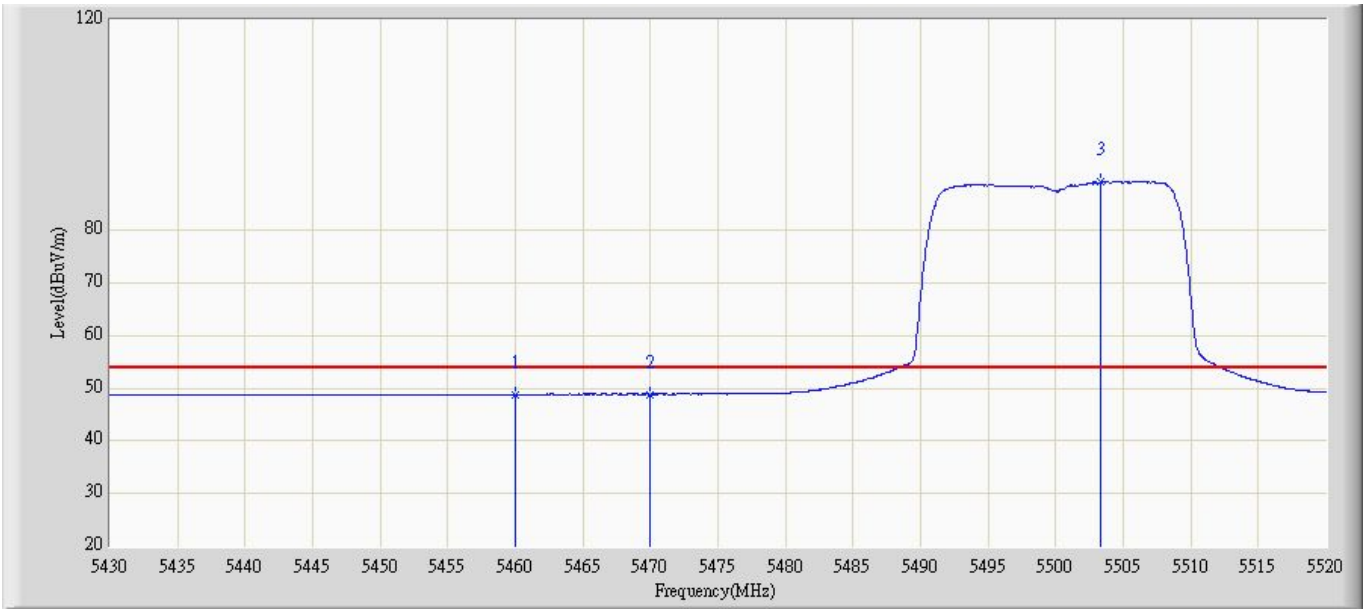
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	48.722	12.684	-5.278	54.000	36.038	AV
2		5470.000	48.778	12.728	-19.522	68.300	36.050	AV
3	*	5504.745	85.871	49.812	N/A	N/A	36.059	AV

Profile: 106S012R	Page No.: 149
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5500MHz By 802.11n(20MHz)(100)	



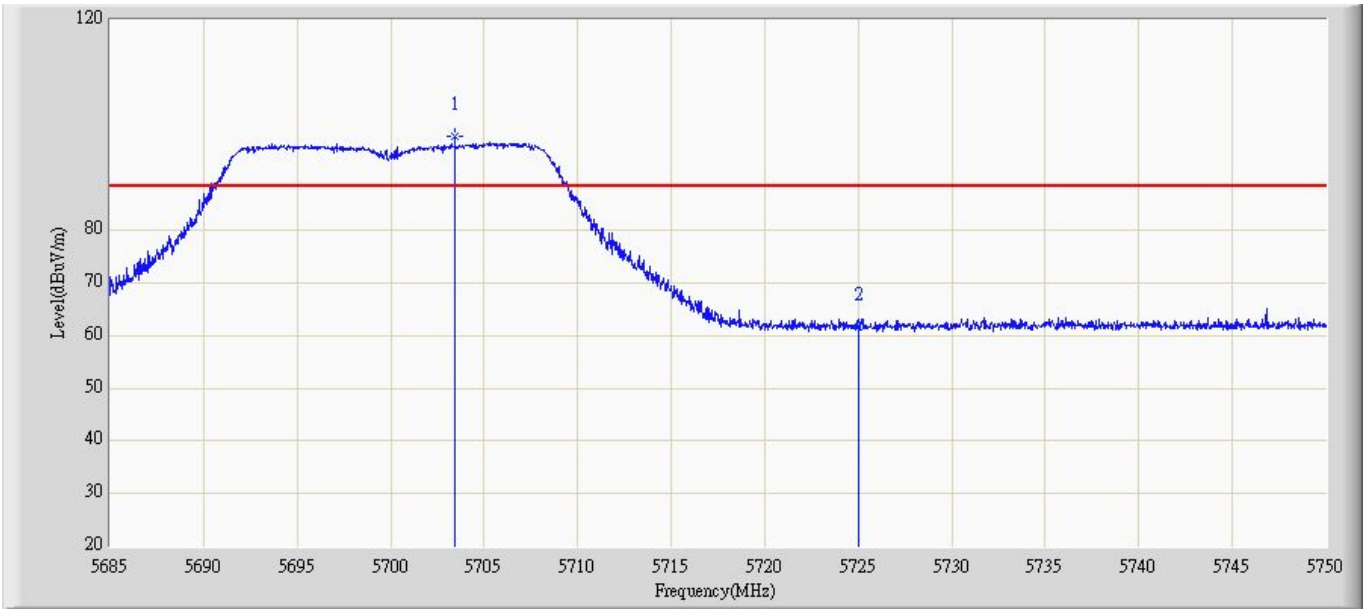
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	61.987	25.949	-12.013	74.000	36.038	PK
2		5470.000	62.004	25.954	-26.296	88.300	36.050	PK
3	*	5502.315	102.523	66.467	N/A	N/A	36.056	PK

Profile: 106S012R	Page No.: 150
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5500MHz By 802.11n(20MHz)(100)	



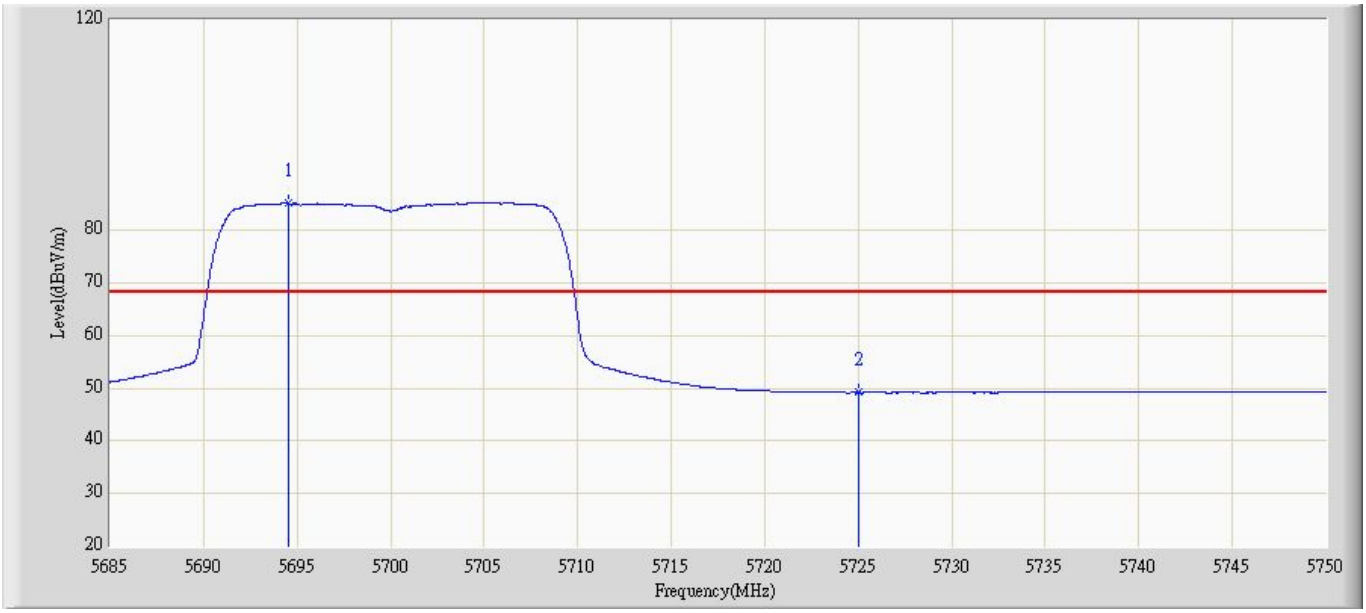
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	48.815	12.777	-5.185	54.000	36.038	AV
2		5470.000	48.856	12.806	-19.444	68.300	36.050	AV
3	*	5503.350	89.168	53.111	N/A	N/A	36.057	AV

Profile: 106S012R	Page No.: 151
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:03
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5700MHz By 802.11n(20MHz)(100)	



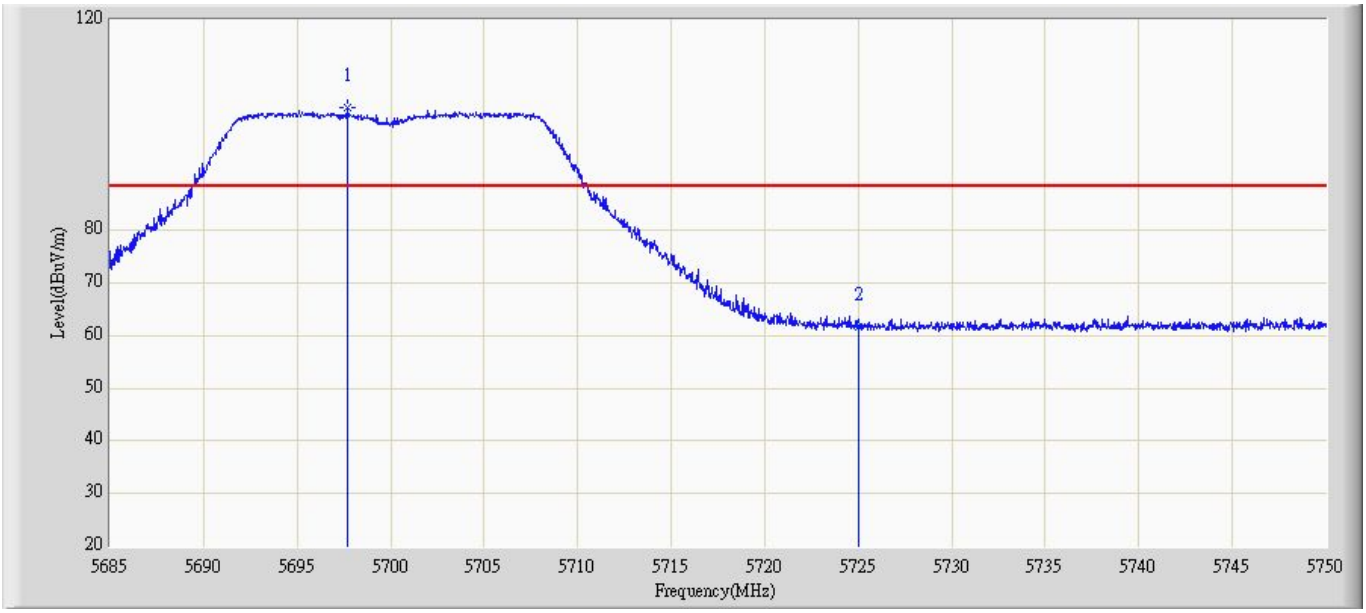
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5703.428	97.875	61.532	N/A	N/A	36.343	PK
2		5725.000	61.568	25.131	-26.732	88.300	36.437	PK

Profile: 106S012R	Page No.: 152
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:04
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5700MHz By 802.11n(20MHz)(100)	



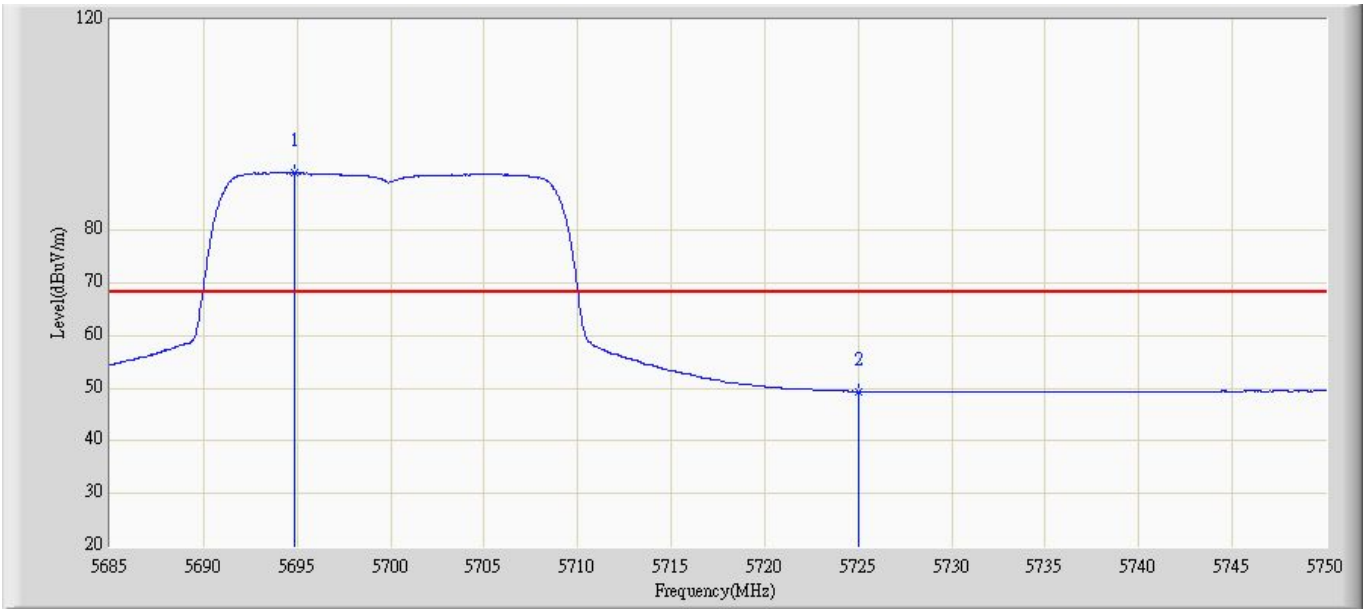
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5694.522	85.106	48.780	N/A	N/A	36.326	AV
2		5725.000	49.185	12.748	-19.115	68.300	36.437	AV

Profile: 106S012R	Page No.: 153
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:07
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5700MHz By 802.11n(20MHz)(100)	



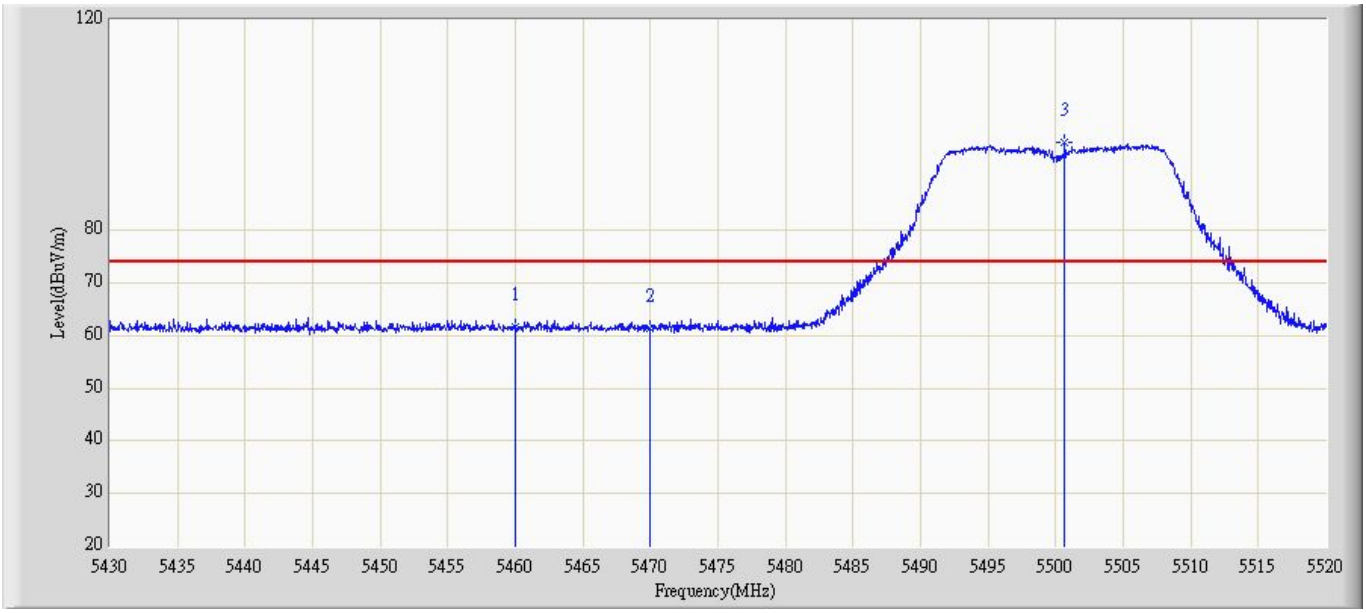
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5697.675	103.235	66.903	N/A	N/A	36.332	PK
2		5725.000	61.736	25.299	-26.564	88.300	36.437	PK

Profile: 106S012R	Page No.: 154
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:07
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5700MHz By 802.11n(20MHz)(100)	



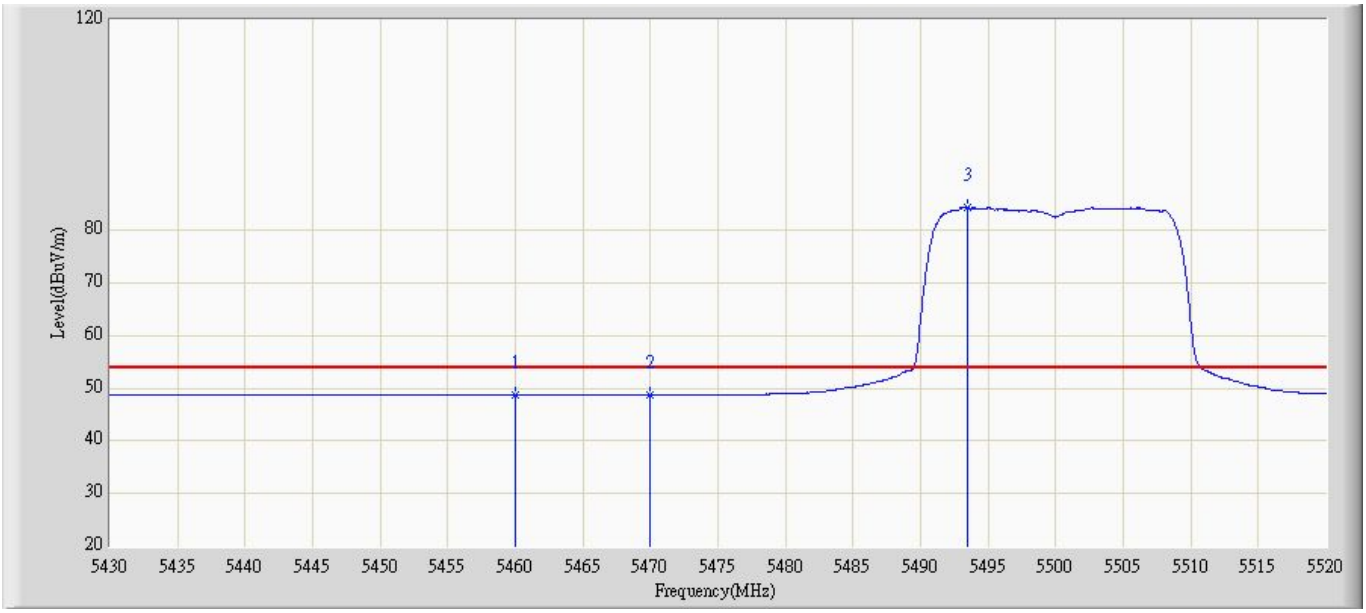
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5694.848	90.999	54.672	N/A	N/A	36.327	AV
2		5725.000	49.384	12.947	-18.916	68.300	36.437	AV

Profile: 106S012R	Page No.: 155
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5500MHz By 802.11n(20MHz)(010)	



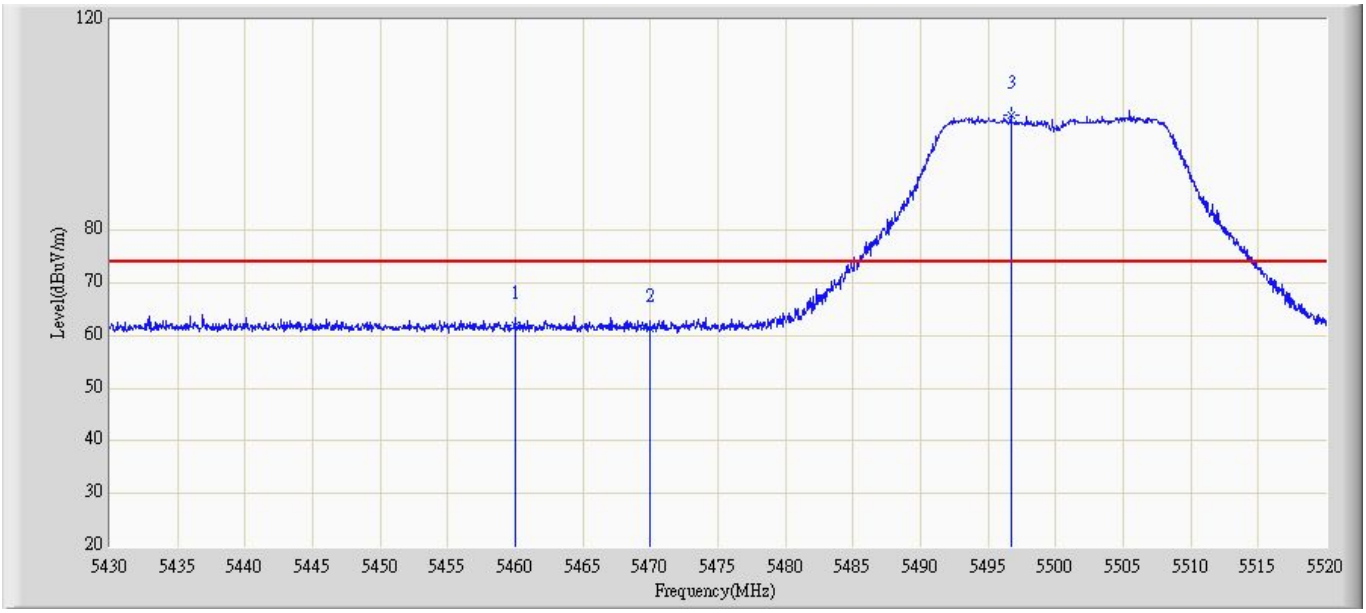
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	61.702	25.664	-12.298	74.000	36.038	PK
2		5470.000	61.435	25.385	-26.865	88.300	36.050	PK
3	*	5500.650	96.597	60.543	N/A	N/A	36.055	PK

Profile: 106S012R	Page No.: 156
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5500MHz By 802.11n(20MHz)(010)	



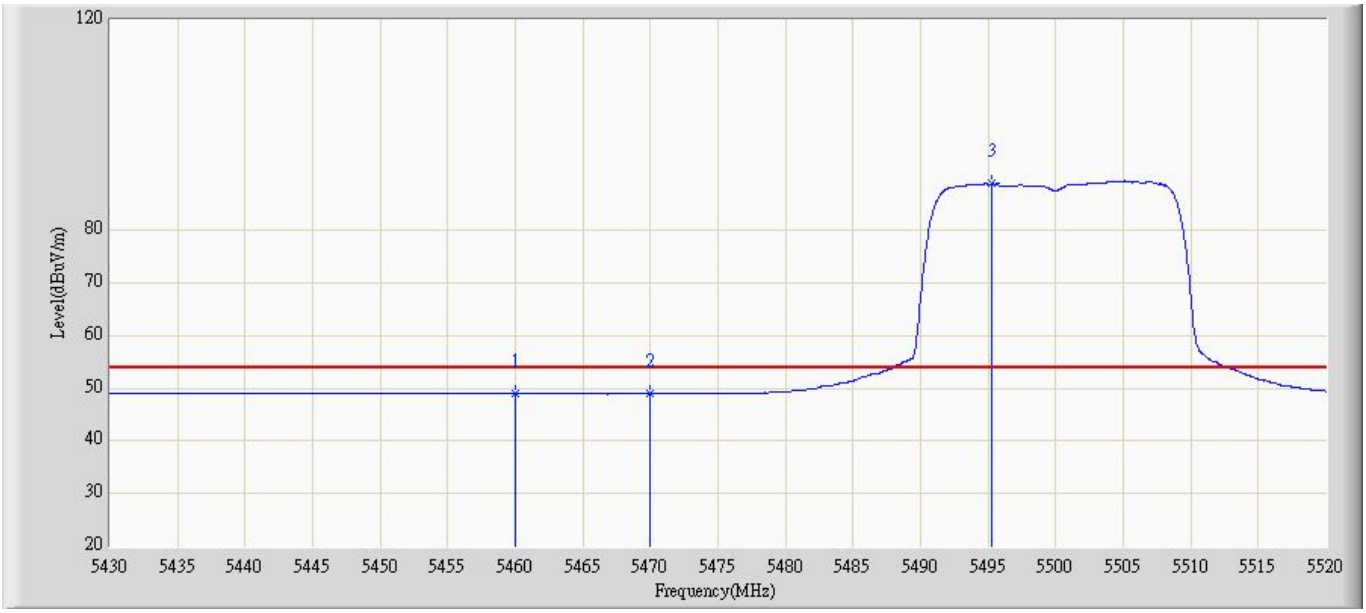
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	48.702	12.664	-5.298	54.000	36.038	AV
2		5470.000	48.835	12.785	-19.465	68.300	36.050	AV
3	*	5493.450	84.453	48.406	N/A	N/A	36.047	AV

Profile: 106S012R	Page No.: 157
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5500MHz By 802.11n(20MHz)(010)	



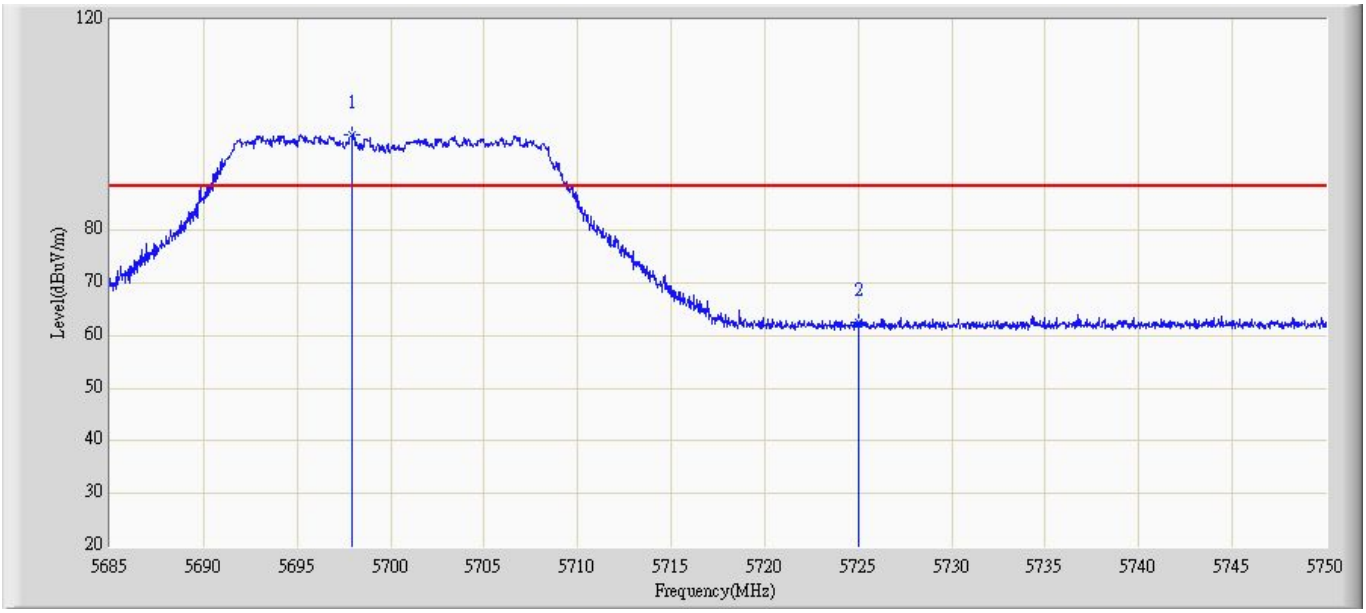
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	61.853	25.815	-12.147	74.000	36.038	PK
2		5470.000	61.272	25.222	-27.028	88.300	36.050	PK
3	*	5496.690	101.790	65.740	N/A	N/A	36.050	PK

Profile: 106S012R	Page No.: 158
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5500MHz By 802.11n(20MHz)(010)	



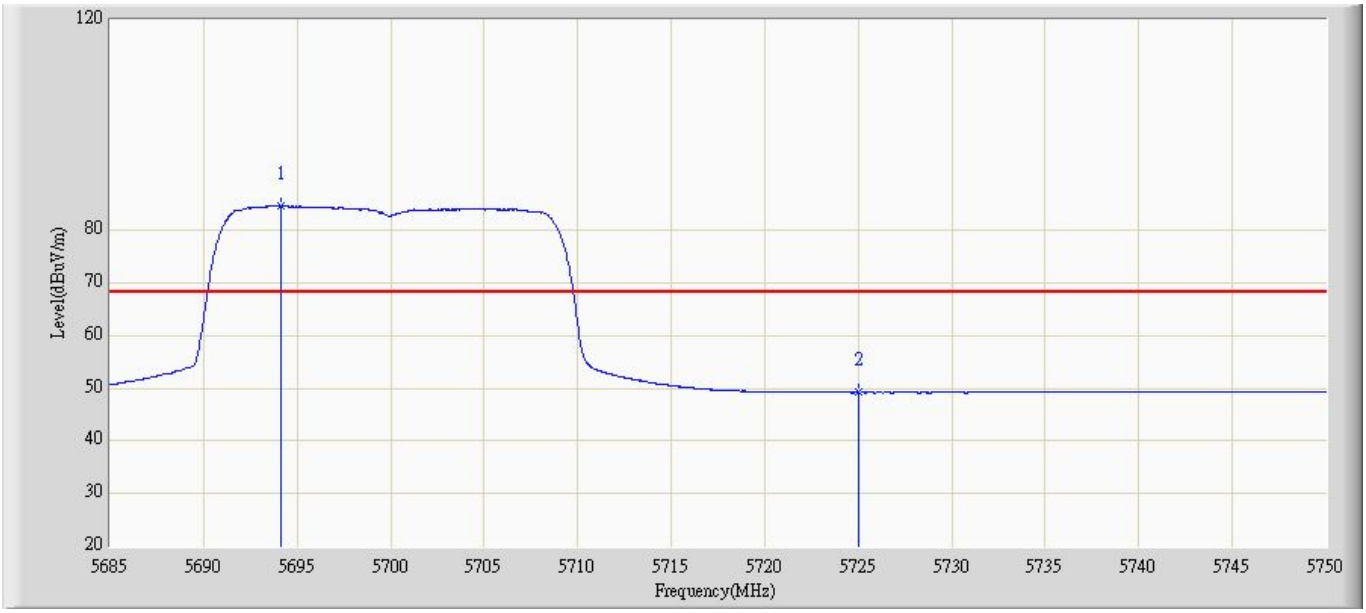
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	48.939	12.901	-5.061	54.000	36.038	AV
2		5470.000	48.941	12.891	-19.359	68.300	36.050	AV
3	*	5495.295	88.882	52.833	N/A	N/A	36.049	AV

Profile: 106S012R	Page No.: 159
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:13
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5700MHz By 802.11n(20MHz)(010)	



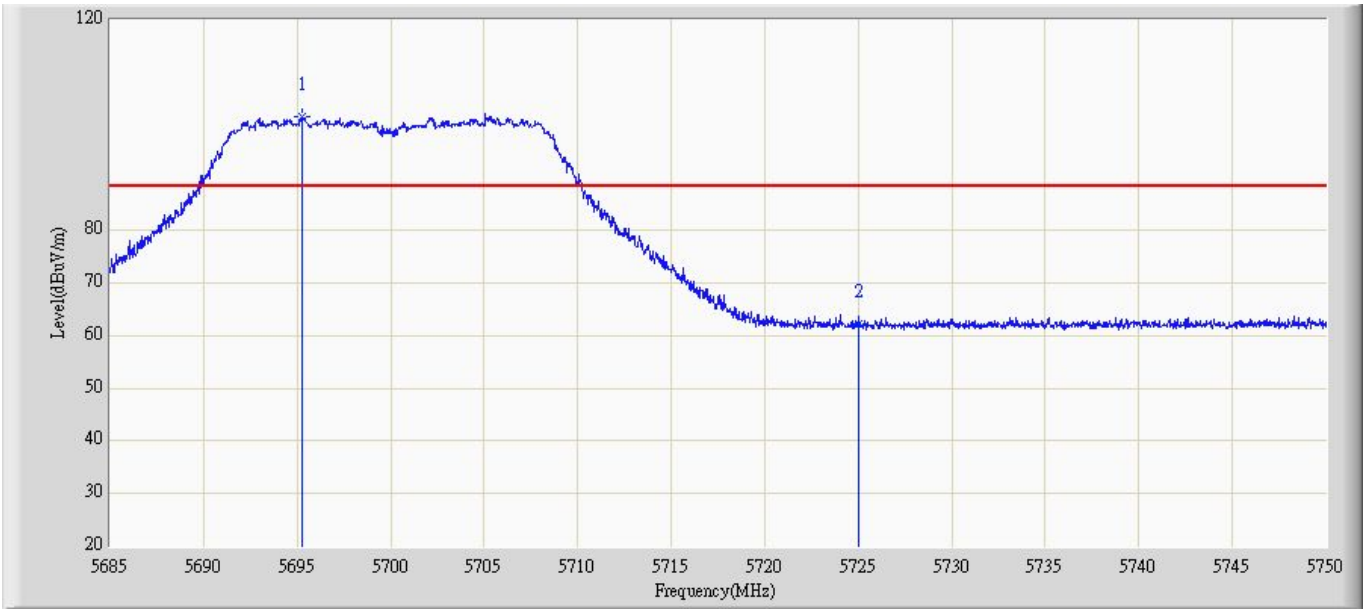
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5697.902	98.240	61.908	N/A	N/A	36.332	PK
2		5725.000	62.405	25.968	-25.895	88.300	36.437	PK

Profile: 106S012R	Page No.: 160
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:14
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5700MHz By 802.11n(20MHz)(010)	



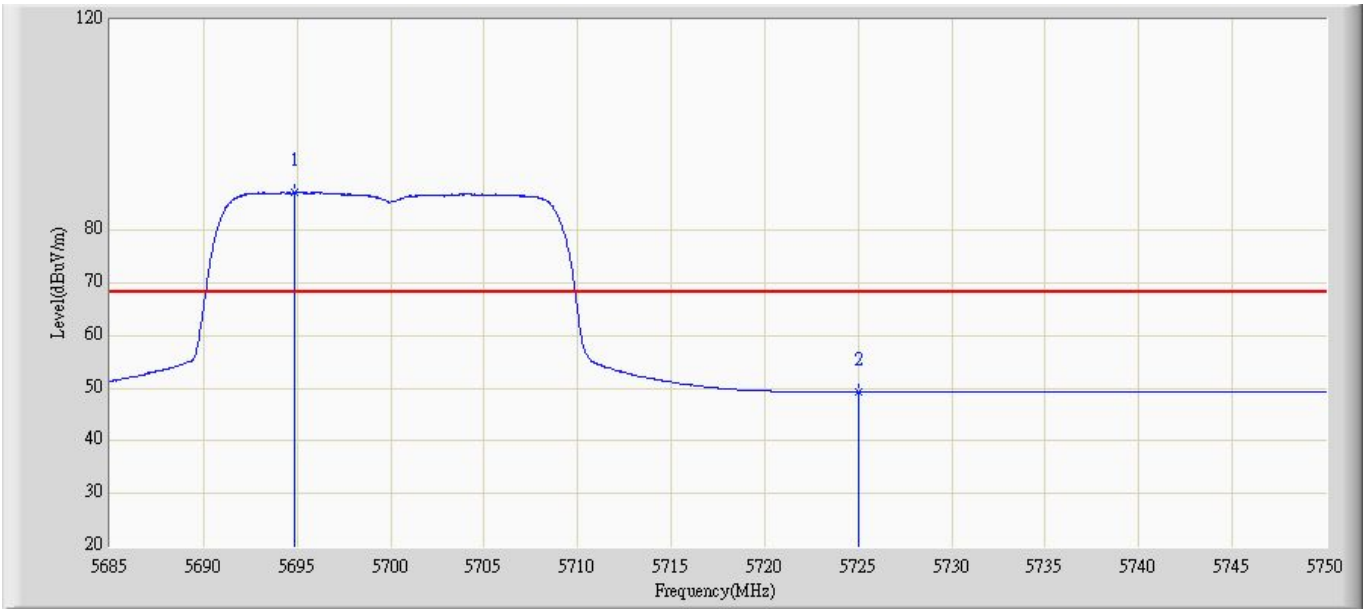
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5694.132	84.777	48.452	N/A	N/A	36.326	AV
2		5725.000	49.167	12.730	-19.133	68.300	36.437	AV

Profile: 106S012R	Page No.: 161
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:15
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5700MHz By 802.11n(20MHz)(010)	



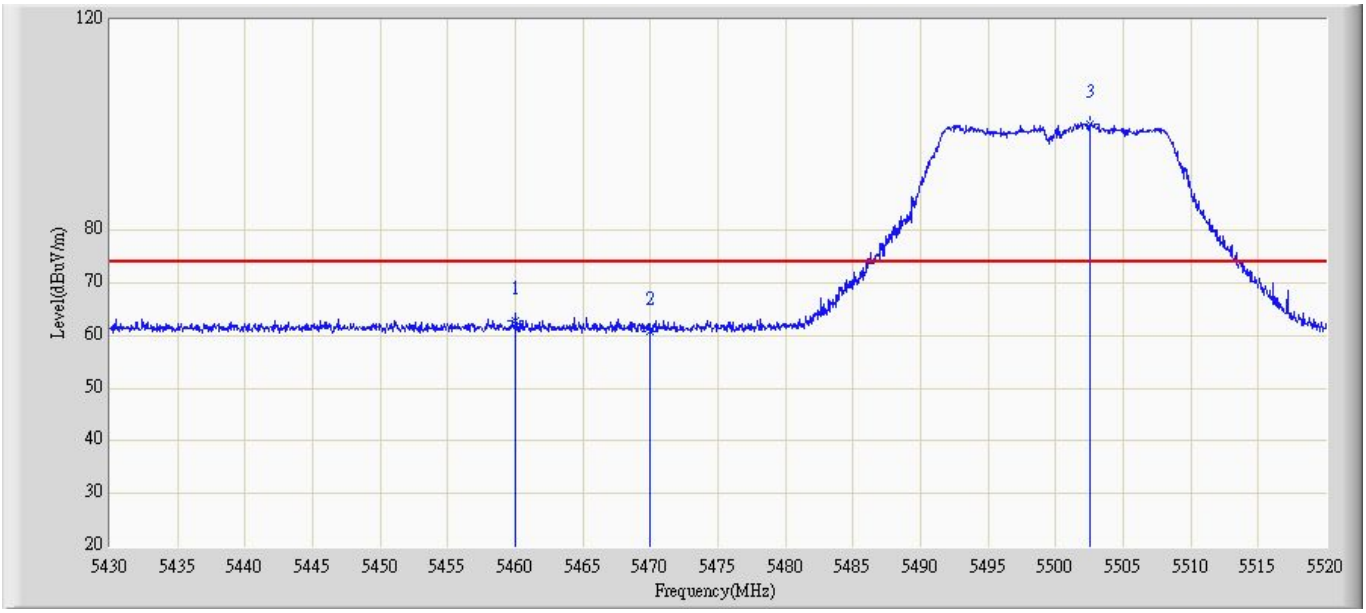
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5695.237	101.612	65.285	N/A	N/A	36.328	PK
2		5725.000	62.118	25.681	-26.182	88.300	36.437	PK

Profile: 106S012R	Page No.: 162
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:16
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5700MHz By 802.11n(20MHz)(010)	



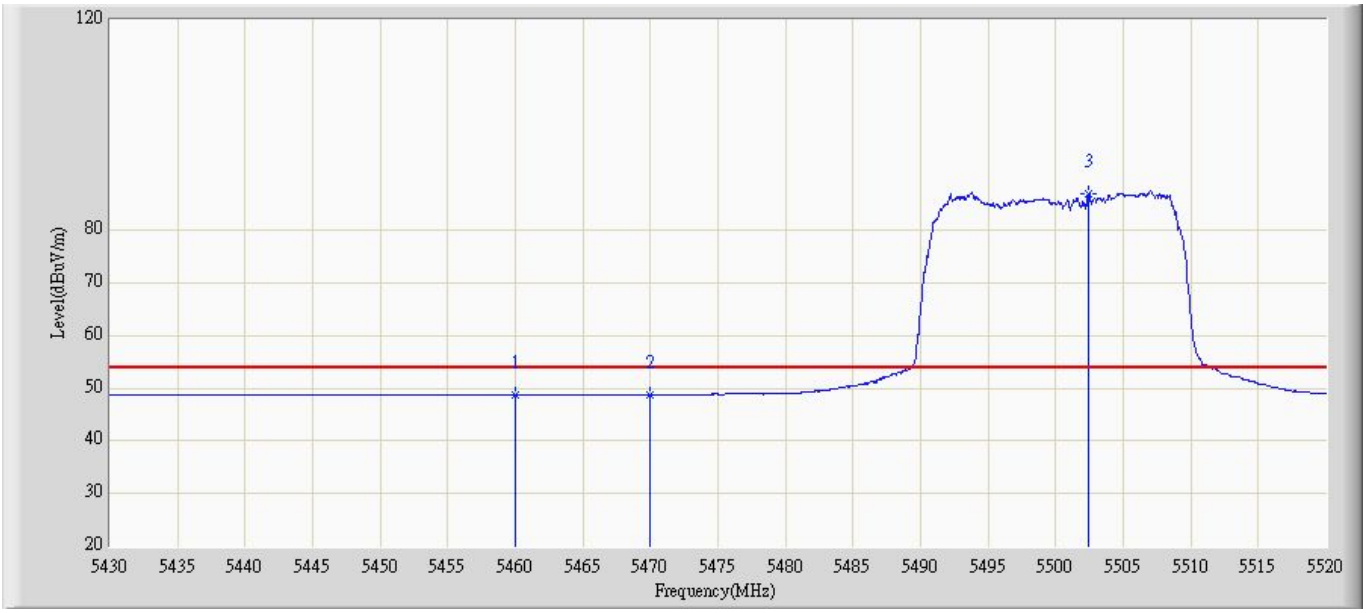
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5694.880	87.240	50.913	N/A	N/A	36.327	AV
2		5725.000	49.211	12.774	-19.089	68.300	36.437	AV

Profile: 106S012R	Page No.: 163
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5500MHz By 802.11n(20MHz)(110)	



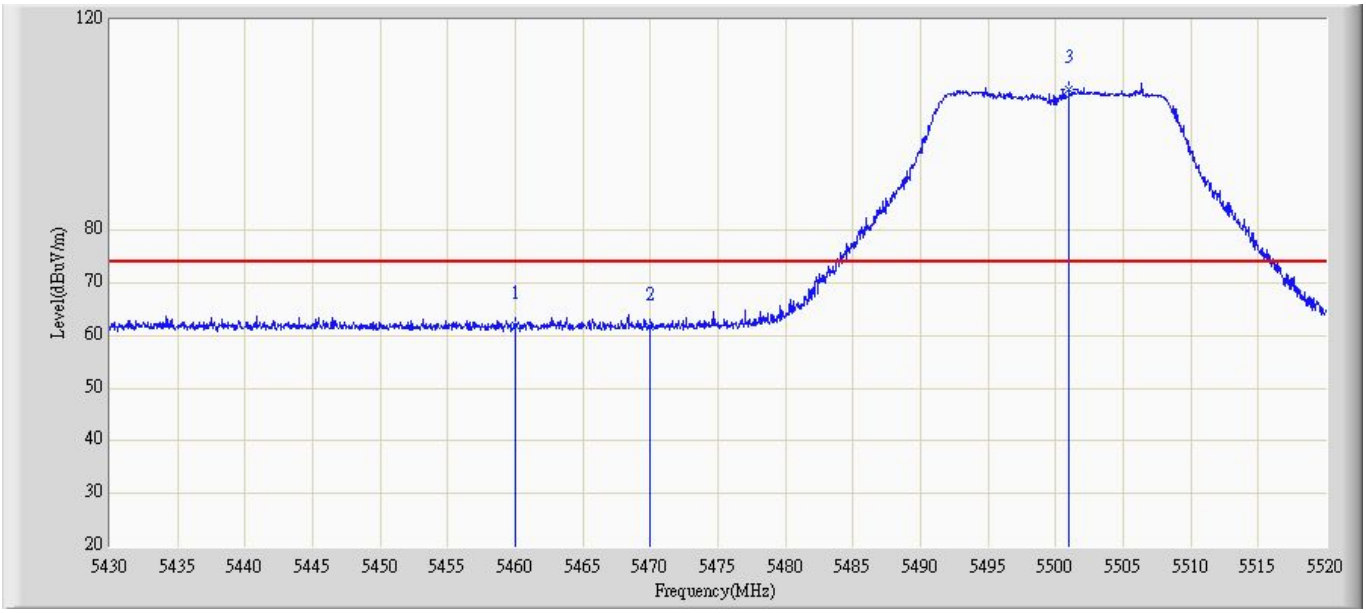
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	62.765	26.727	-11.235	74.000	36.038	PK
2		5470.000	60.880	24.830	-27.420	88.300	36.050	PK
3	*	5502.495	100.296	64.240	N/A	N/A	36.056	PK

Profile: 106S012R	Page No.: 164
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5500MHz By 802.11n(20MHz)(110)	



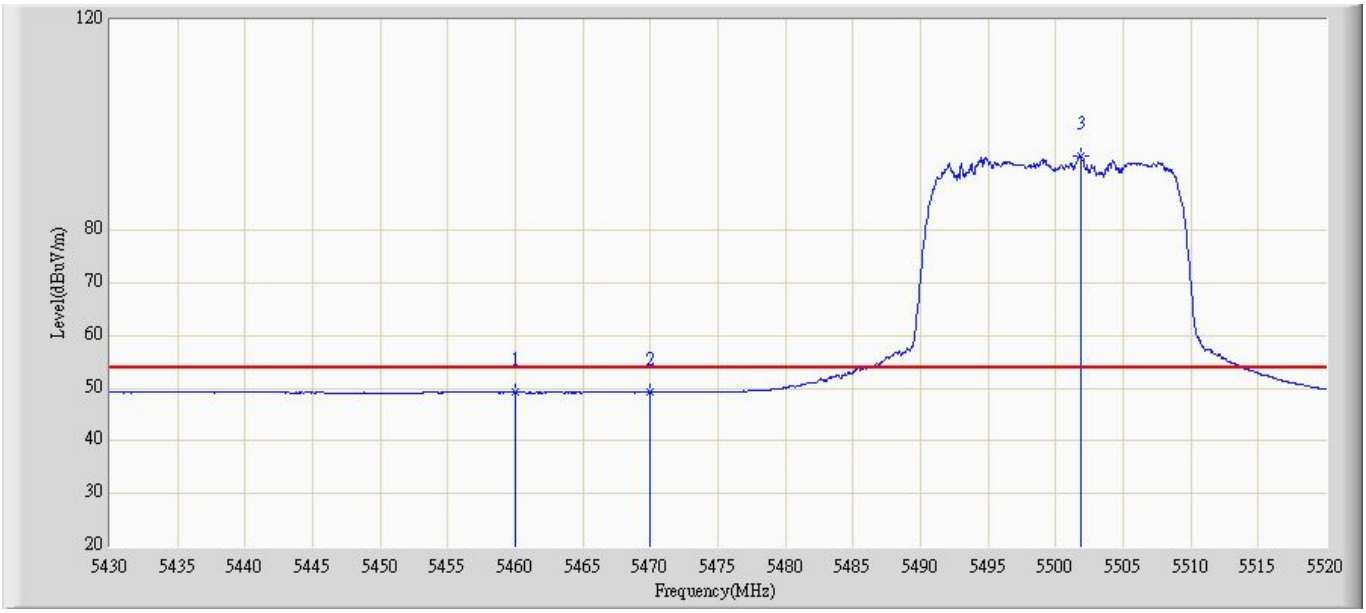
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	48.802	12.764	-5.198	54.000	36.038	AV
2		5470.000	48.798	12.748	-19.502	68.300	36.050	AV
3	*	5502.450	86.967	50.911	N/A	N/A	36.056	AV

Profile: 106S012R	Page No.: 165
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5500MHz By 802.11n(20MHz)(110)	



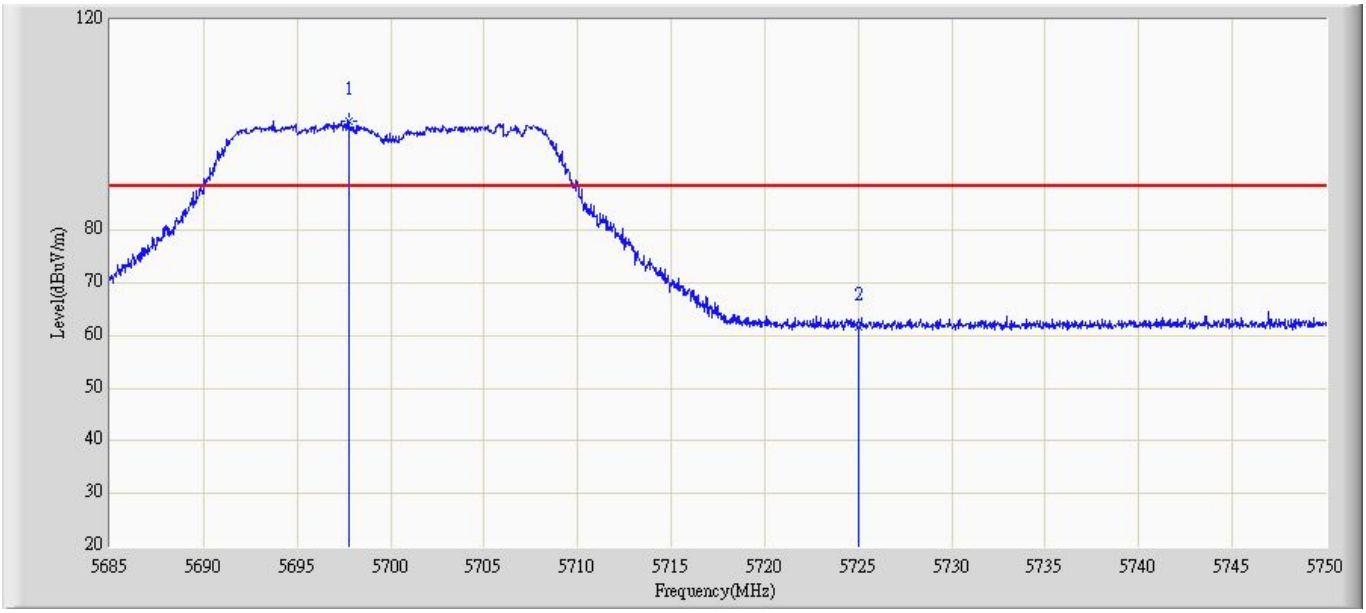
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	62.050	26.012	-11.950	74.000	36.038	PK
2		5470.000	61.673	25.623	-26.627	88.300	36.050	PK
3	*	5500.965	106.885	70.830	N/A	N/A	36.054	PK

Profile: 106S012R	Page No.: 166
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5500MHz By 802.11n(20MHz)(110)	



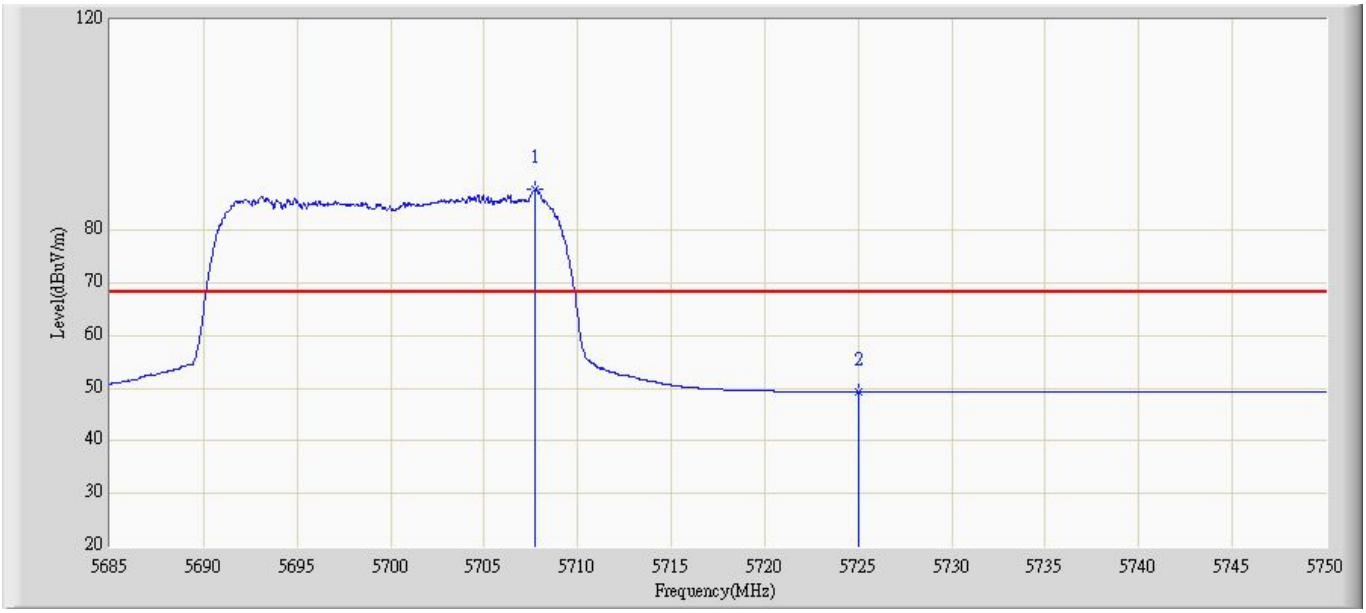
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	49.201	13.163	-4.799	54.000	36.038	AV
2		5470.000	49.207	13.157	-19.093	68.300	36.050	AV
3	*	5501.820	94.078	58.022	N/A	N/A	36.055	AV

Profile: 106S012R	Page No.: 167
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:24
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5700MHz By 802.11n(20MHz)(110)	



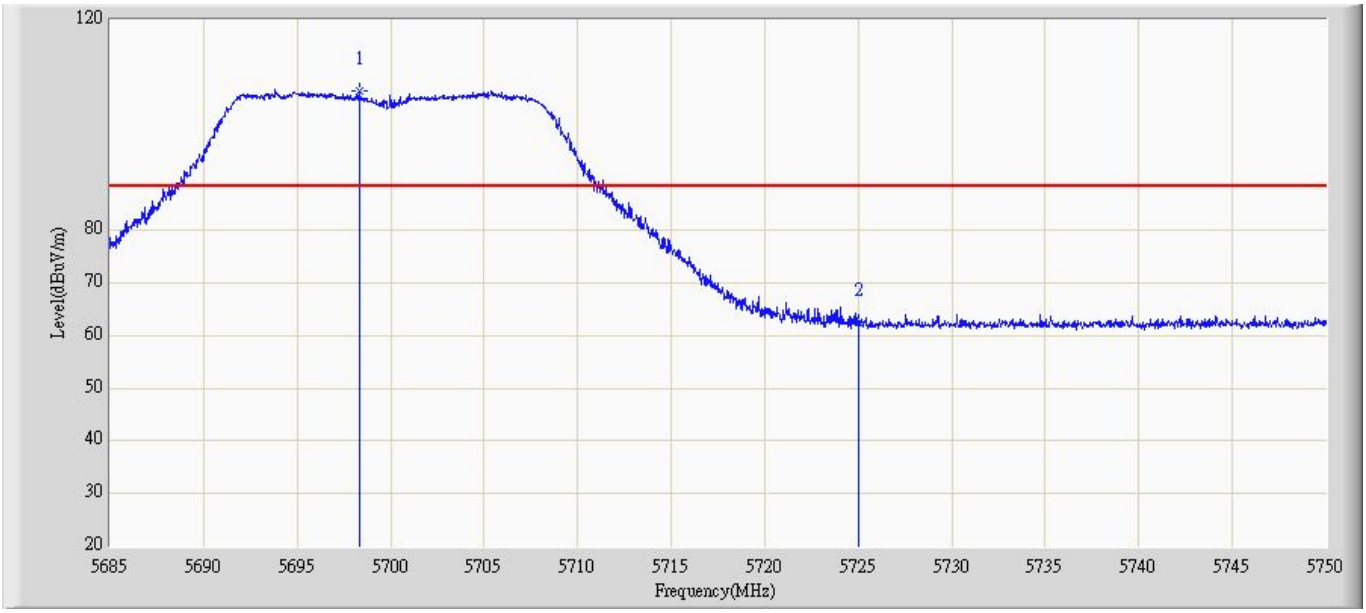
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5697.805	100.641	64.309	N/A	N/A	36.332	PK
2		5725.000	61.749	25.312	-26.551	88.300	36.437	PK

Profile: 106S012R	Page No.: 168
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:26
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5700MHz By 802.11n(20MHz)(110)	



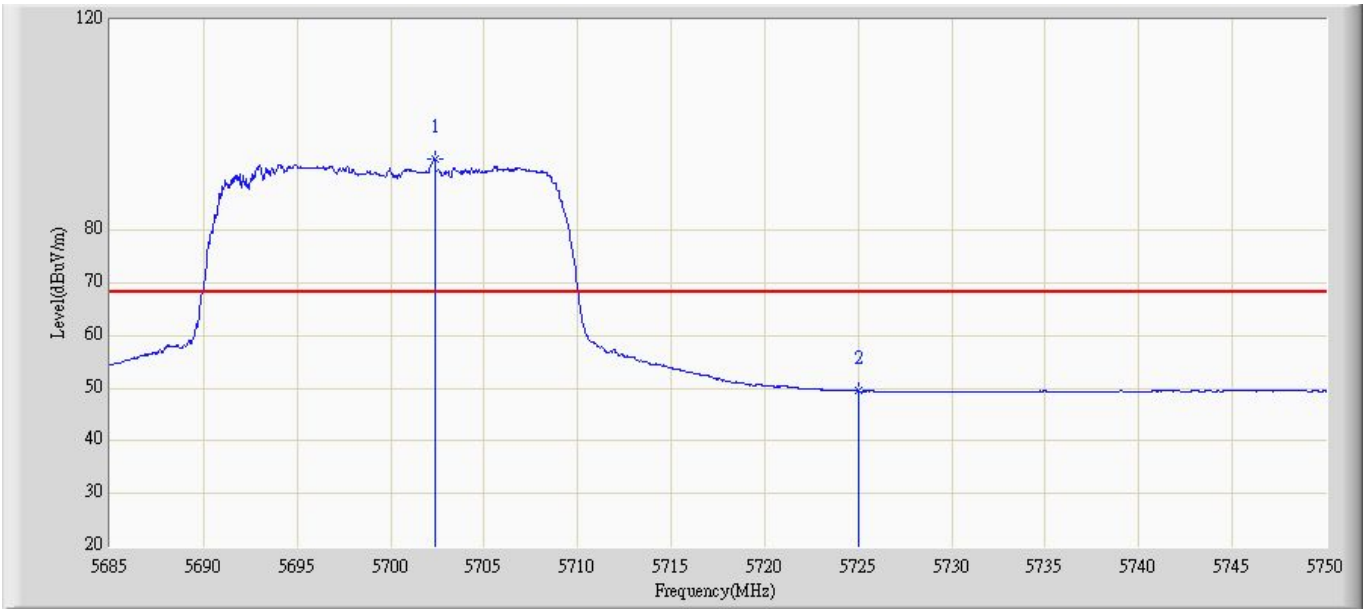
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5707.750	87.886	51.535	N/A	N/A	36.351	AV
2		5725.000	49.211	12.774	-19.089	68.300	36.437	AV

Profile: 106S012R	Page No.: 169
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:27
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5700MHz By 802.11n(20MHz)(110)	



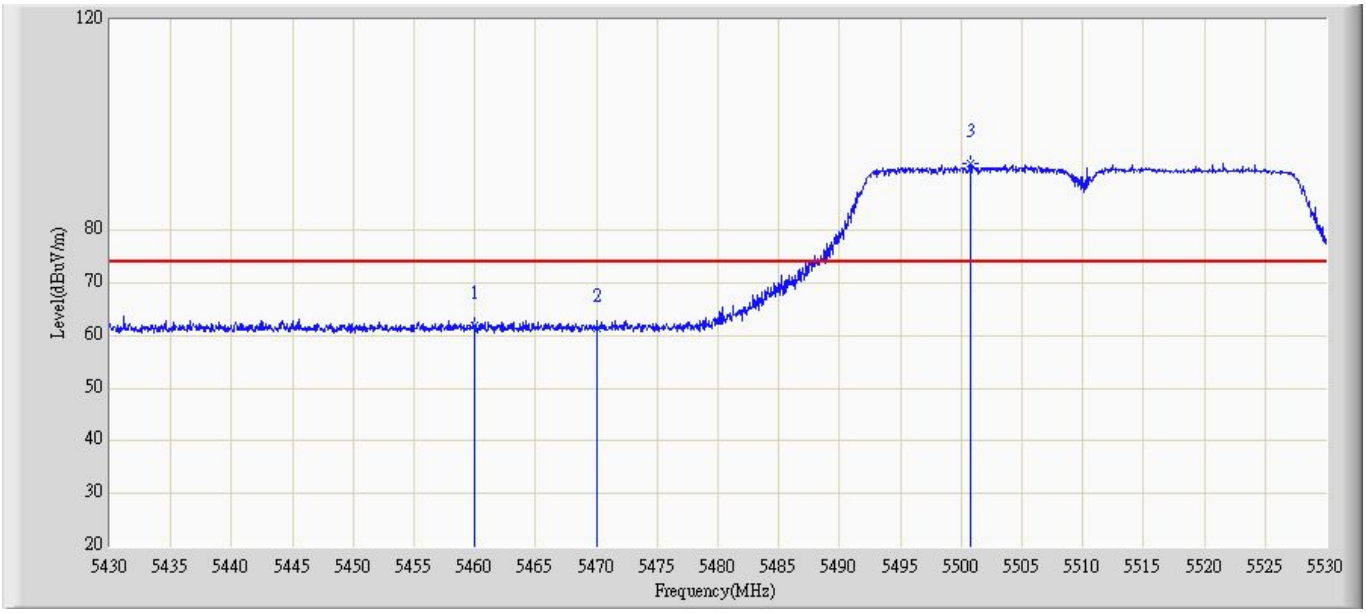
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5698.357	106.544	70.211	N/A	N/A	36.333	PK
2		5725.000	62.660	26.223	-25.640	88.300	36.437	PK

Profile: 106S012R	Page No.: 170
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:29
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 5700MHz By 802.11n(20MHz)(110)	



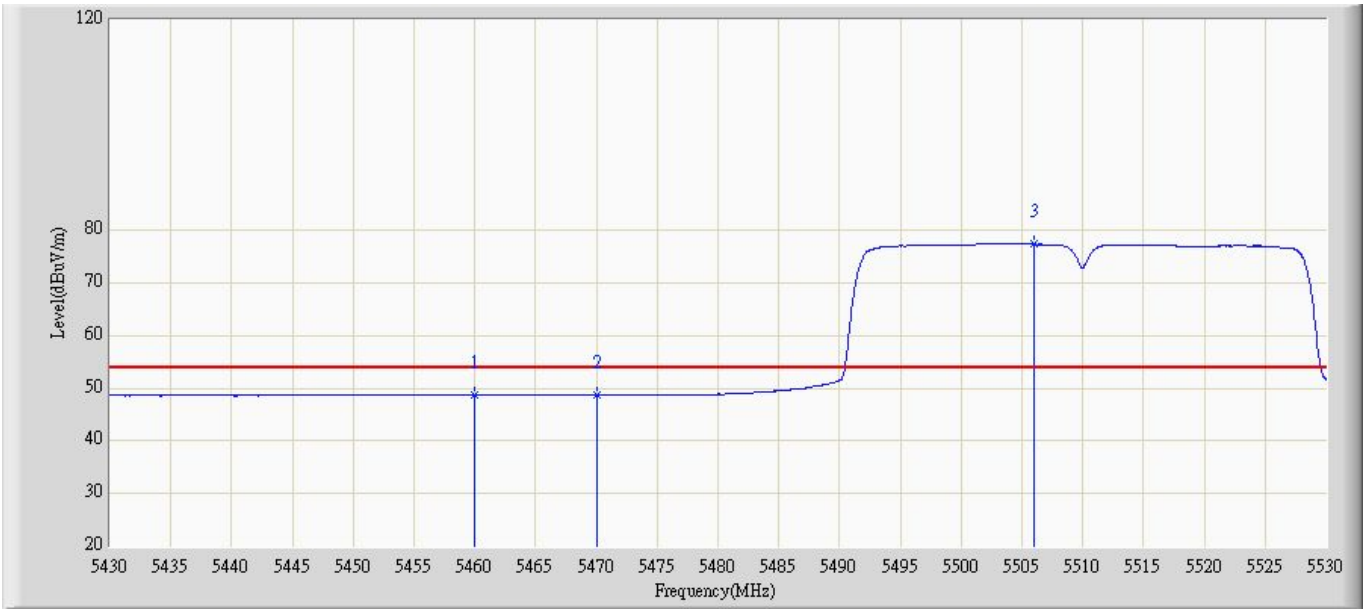
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5702.355	93.486	57.145	N/A	N/A	36.340	AV
2		5725.000	49.485	13.048	-18.815	68.300	36.437	AV

Profile: 106S012R	Page No.: 171
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5510MHz By 802.11n(40MHz)(100)	



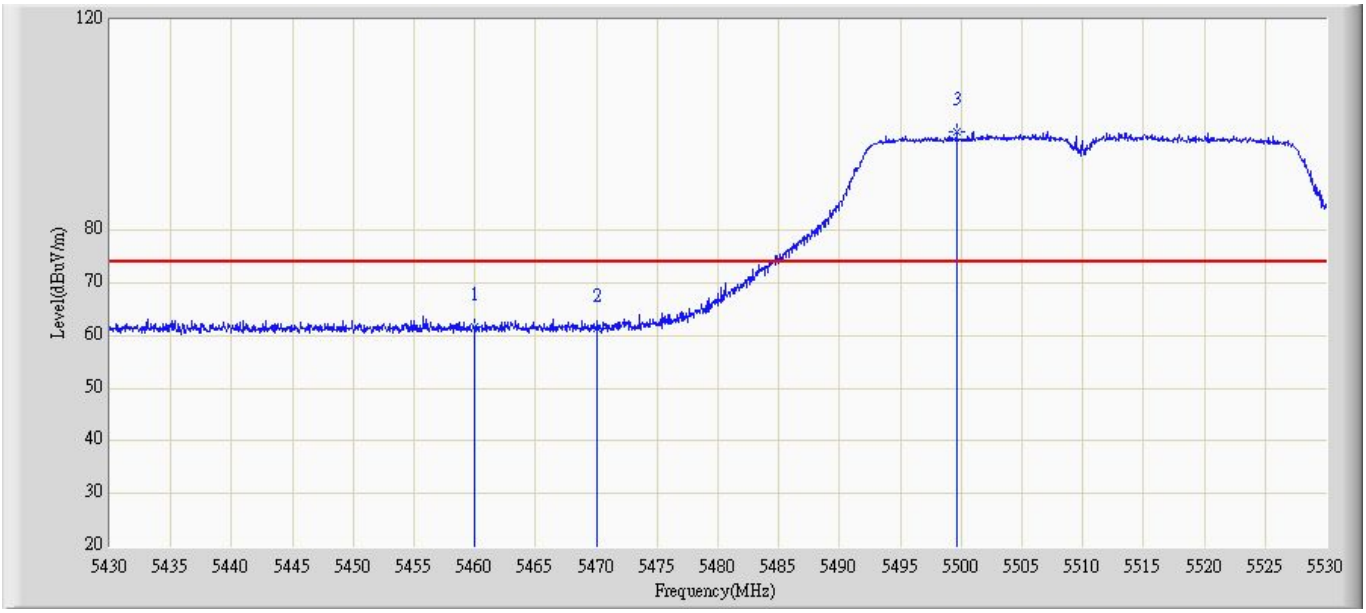
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	61.867	25.829	-12.133	74.000	36.038	PK
2		5470.000	61.271	25.221	-27.029	88.300	36.050	PK
3	*	5500.750	92.739	56.684	N/A	N/A	36.055	PK

Profile: 106S012R	Page No.: 172
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5510MHz By 802.11n(40MHz)(100)	



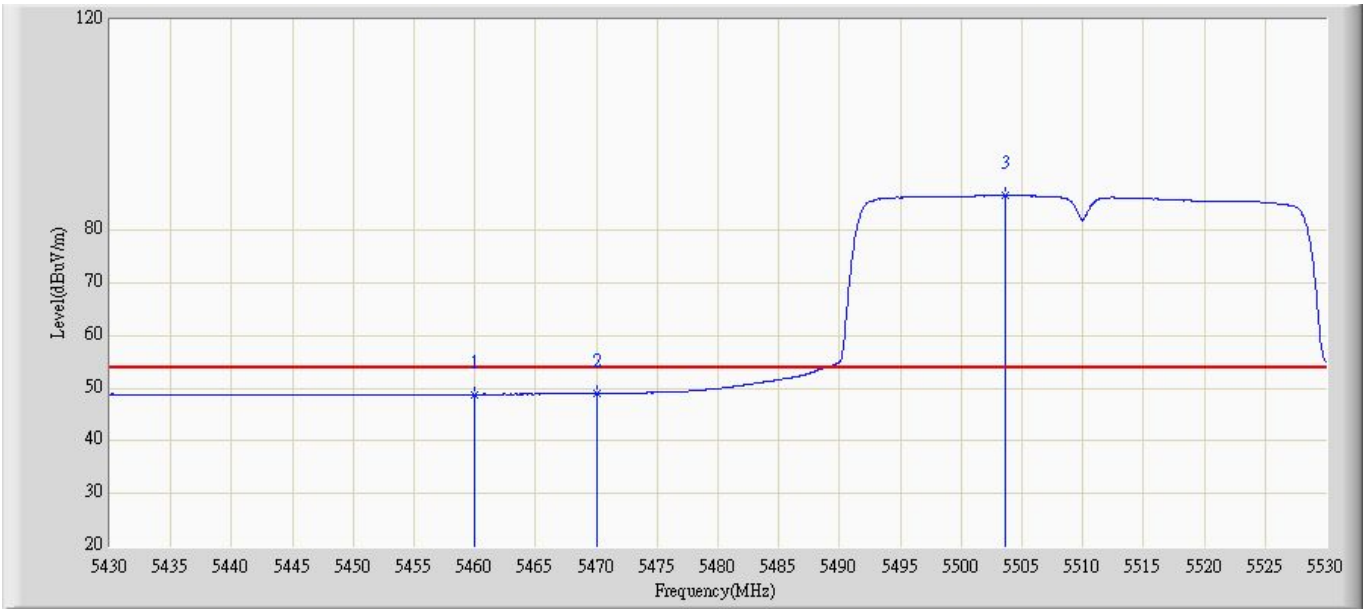
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	48.664	12.626	-5.336	54.000	36.038	AV
2		5470.000	48.742	12.692	-19.558	68.300	36.050	AV
3	*	5506.000	77.337	41.275	N/A	N/A	36.062	AV

Profile: 106S012R	Page No.: 173
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5510MHz By 802.11n(40MHz)(100)	



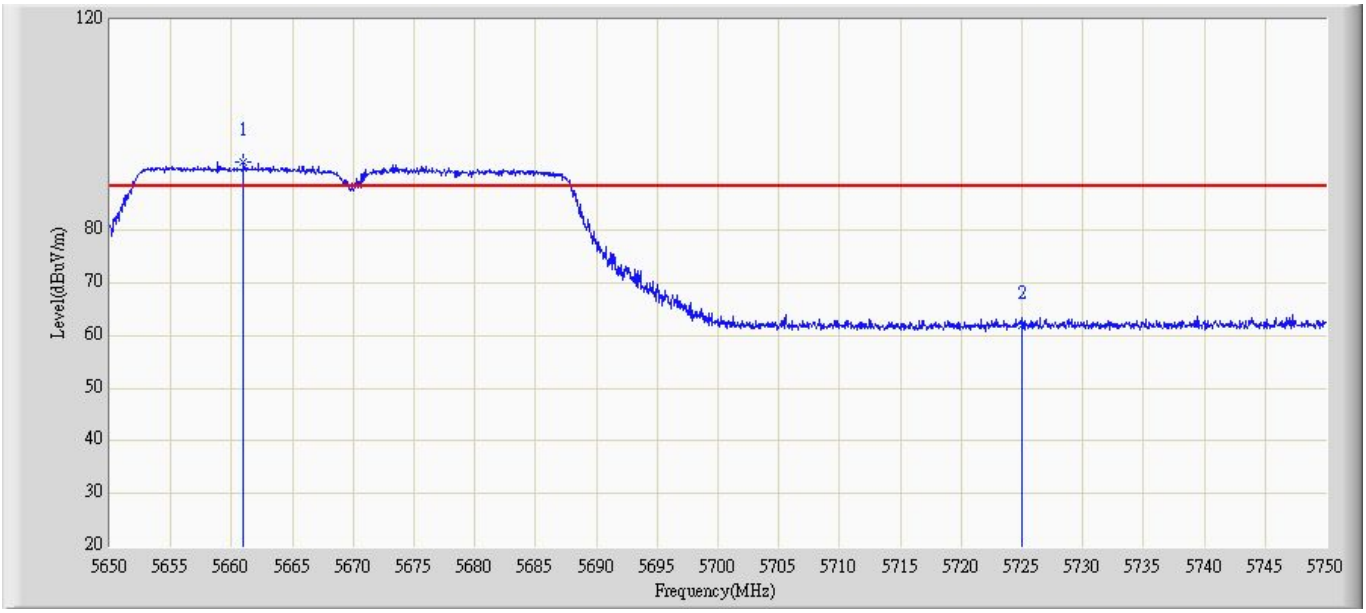
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	61.736	25.698	-12.264	74.000	36.038	PK
2		5470.000	61.379	25.329	-26.921	88.300	36.050	PK
3	*	5499.650	98.852	62.799	N/A	N/A	36.054	PK

Profile: 106S012R	Page No.: 174
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5510MHz By 802.11n(40MHz)(100)	



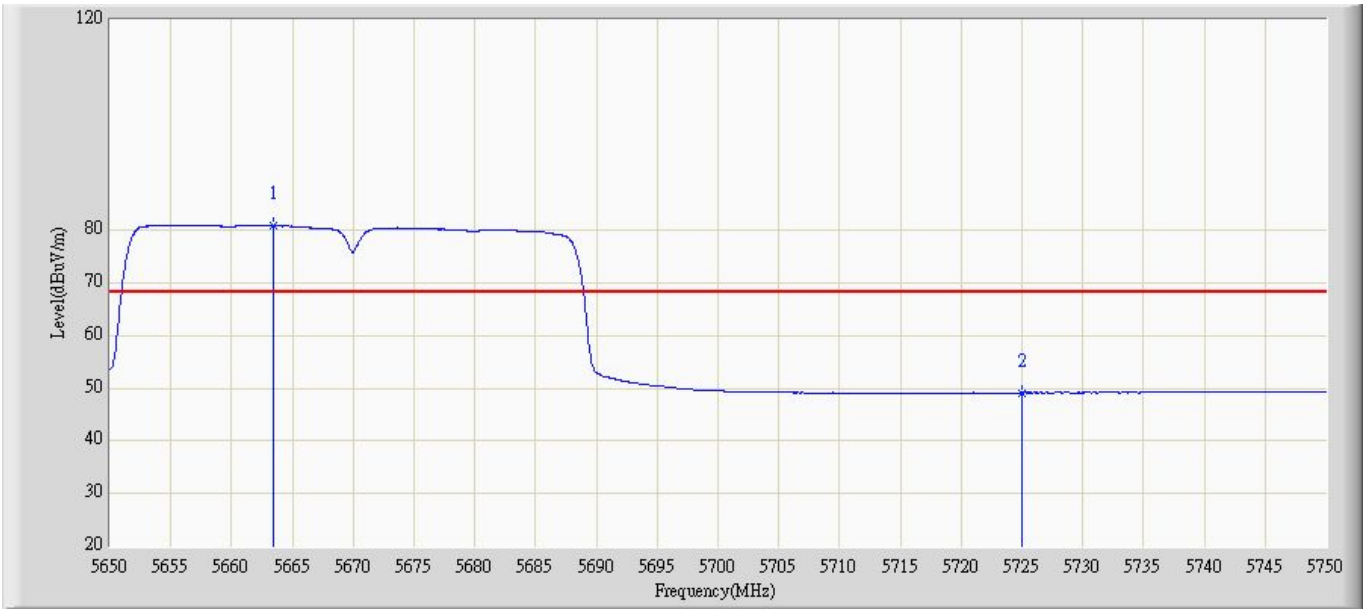
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	48.829	12.791	-5.171	54.000	36.038	AV
2		5470.000	48.952	12.902	-19.348	68.300	36.050	AV
3	*	5503.650	86.630	50.573	N/A	N/A	36.057	AV

Profile: 106S012R	Page No.: 175
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:37
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5670MHz By 802.11n(40MHz)(100)	



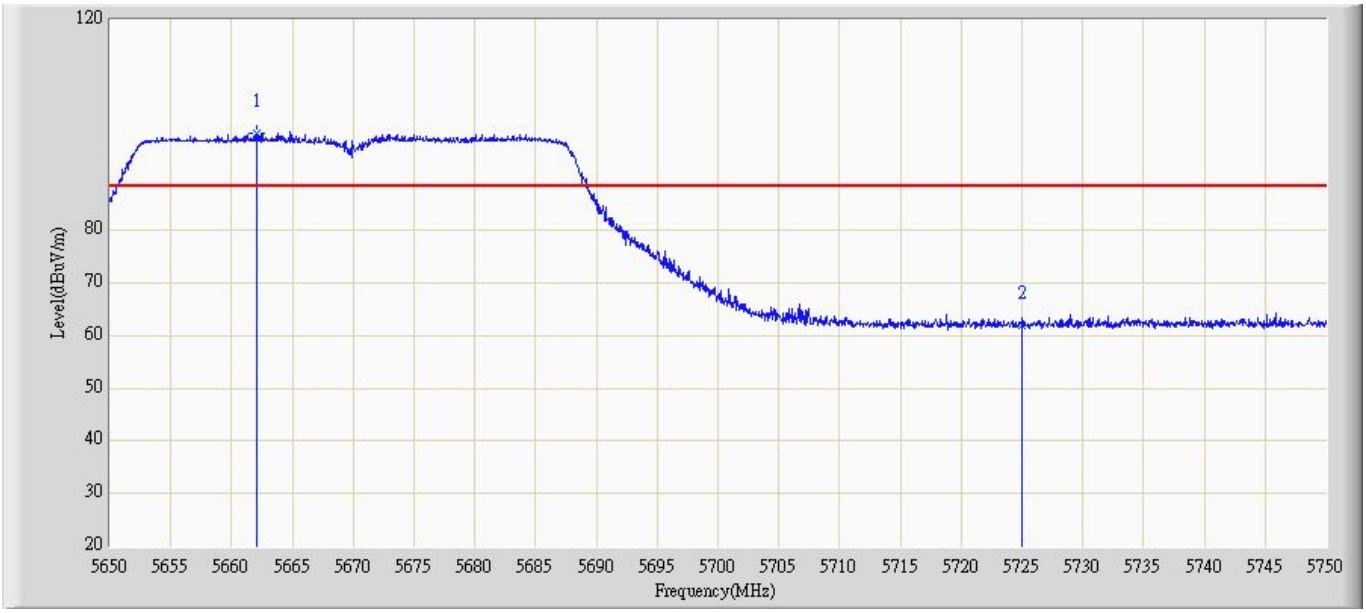
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5661.000	92.953	56.654	N/A	N/A	36.299	PK
2		5725.000	61.953	25.516	-26.347	88.300	36.437	PK

Profile: 106S012R	Page No.: 176
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:33
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5670MHz By 802.11n(40MHz)(100)	



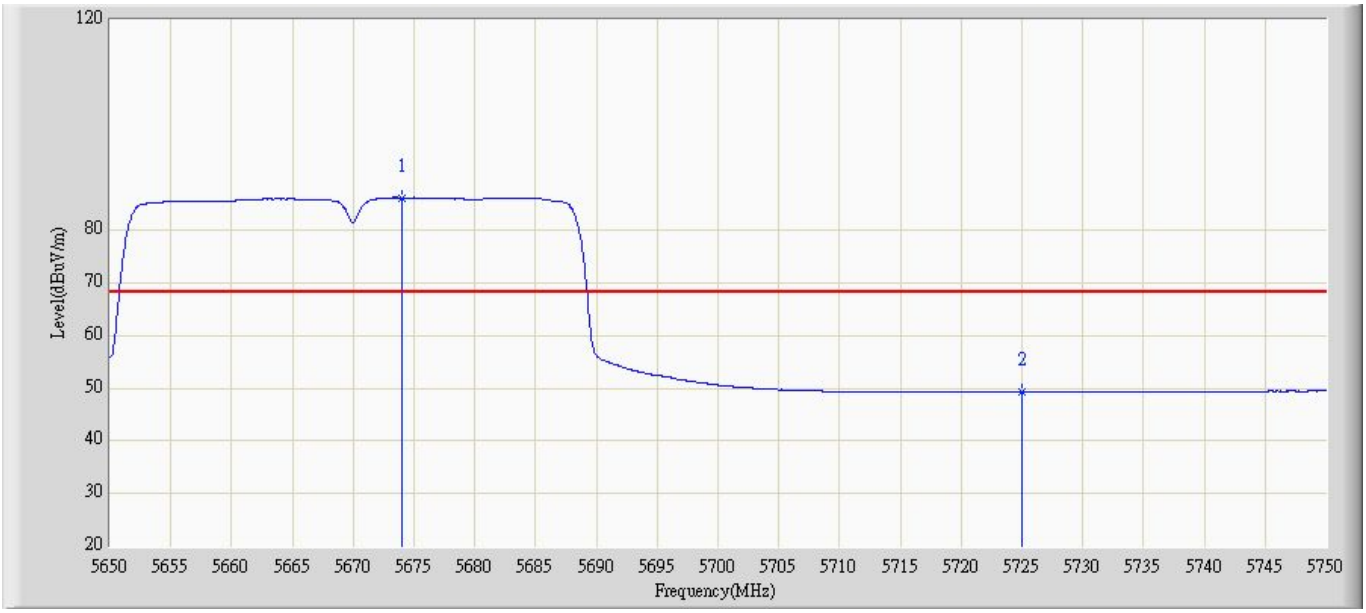
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5663.400	80.897	44.596	N/A	N/A	36.301	AV
2		5725.000	49.160	12.723	-19.140	68.300	36.437	AV

Profile: 106S012R	Page No.: 177
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:33
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5670MHz By 802.11n(40MHz)(100)	



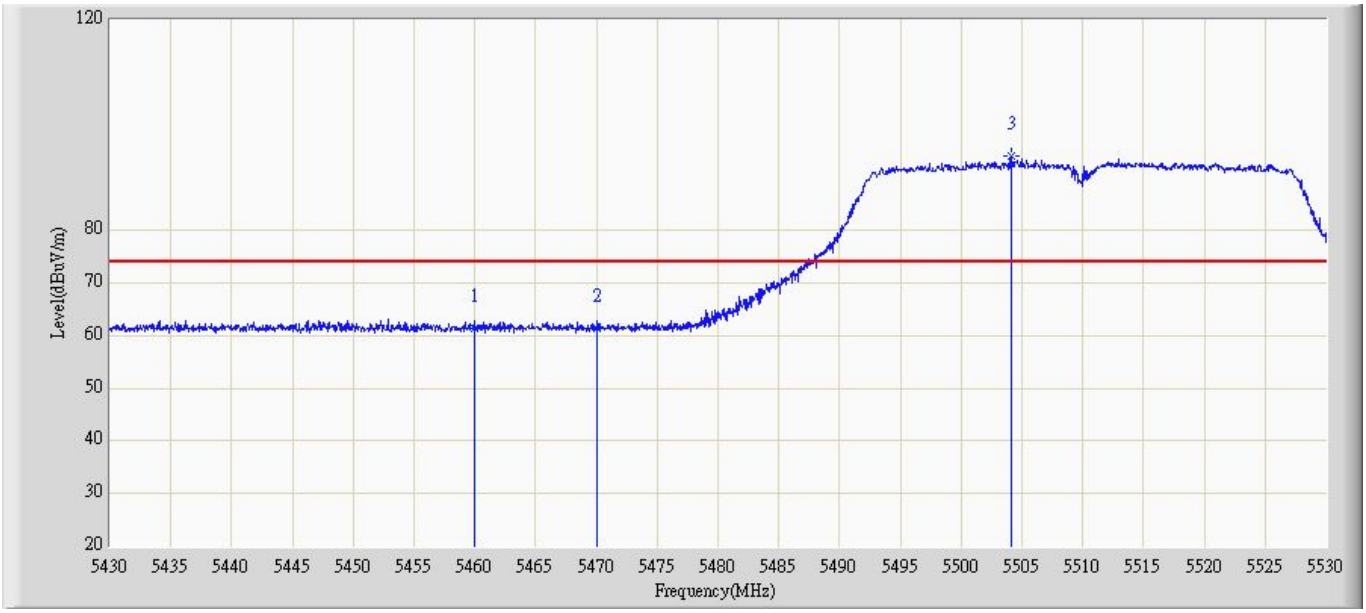
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5662.050	98.538	62.238	N/A	N/A	36.299	PK
2		5725.000	61.907	25.470	-26.393	88.300	36.437	PK

Profile: 106S012R	Page No.: 178
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:36
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5670MHz By 802.11n(40MHz)(100)	



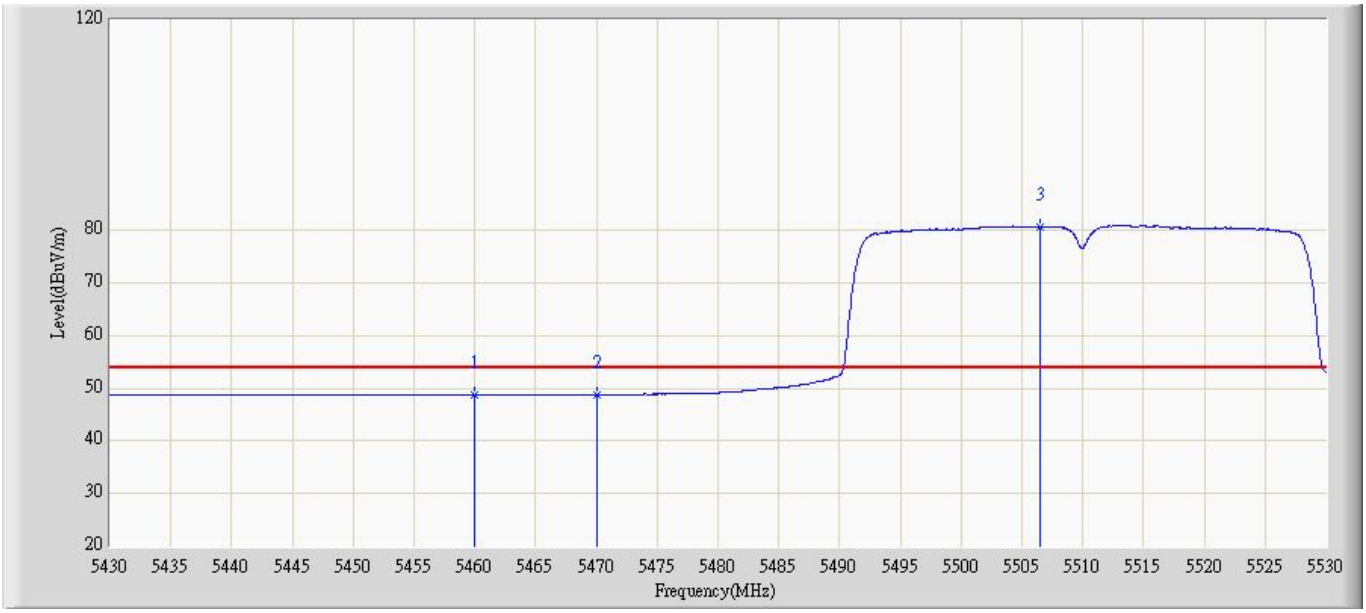
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5674.050	86.202	49.894	N/A	N/A	36.308	AV
2		5725.000	49.271	12.834	-19.029	68.300	36.437	AV

Profile: 106S012R	Page No.: 179
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5510MHz By 802.11n(40MHz)(010)	



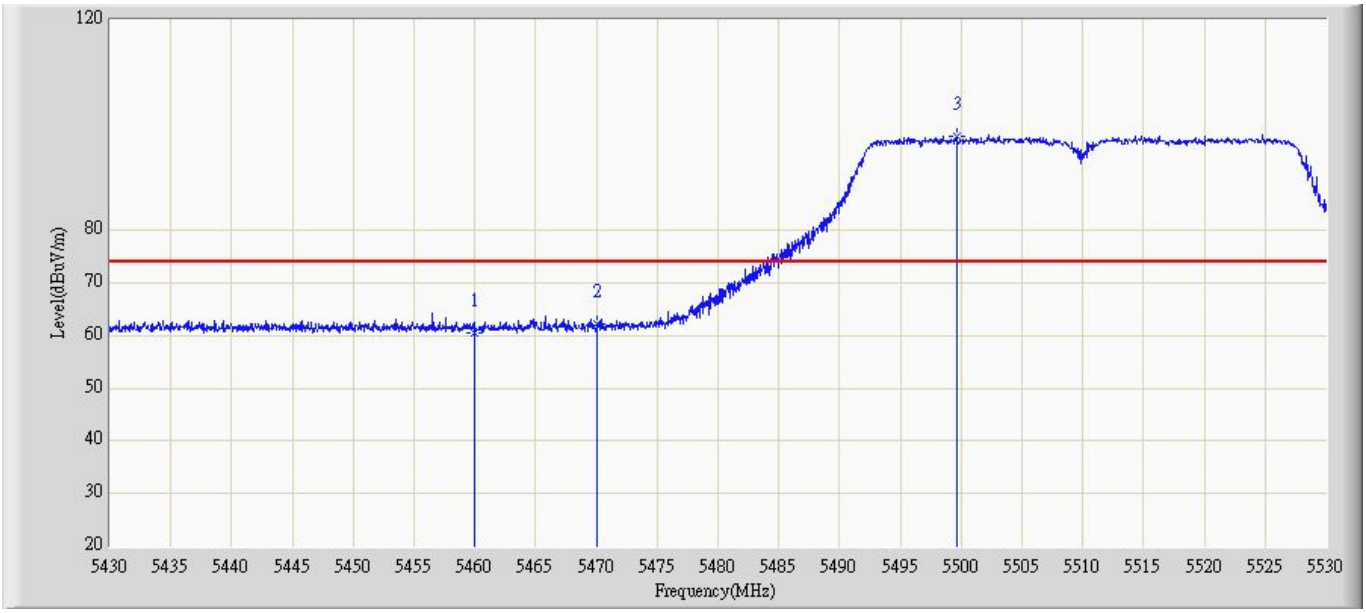
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	61.289	25.251	-12.711	74.000	36.038	PK
2		5470.000	61.282	25.232	-27.018	88.300	36.050	PK
3	*	5504.150	94.042	57.984	N/A	N/A	36.058	PK

Profile: 106S012R	Page No.: 180
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5510MHz By 802.11n(40MHz)(010)	



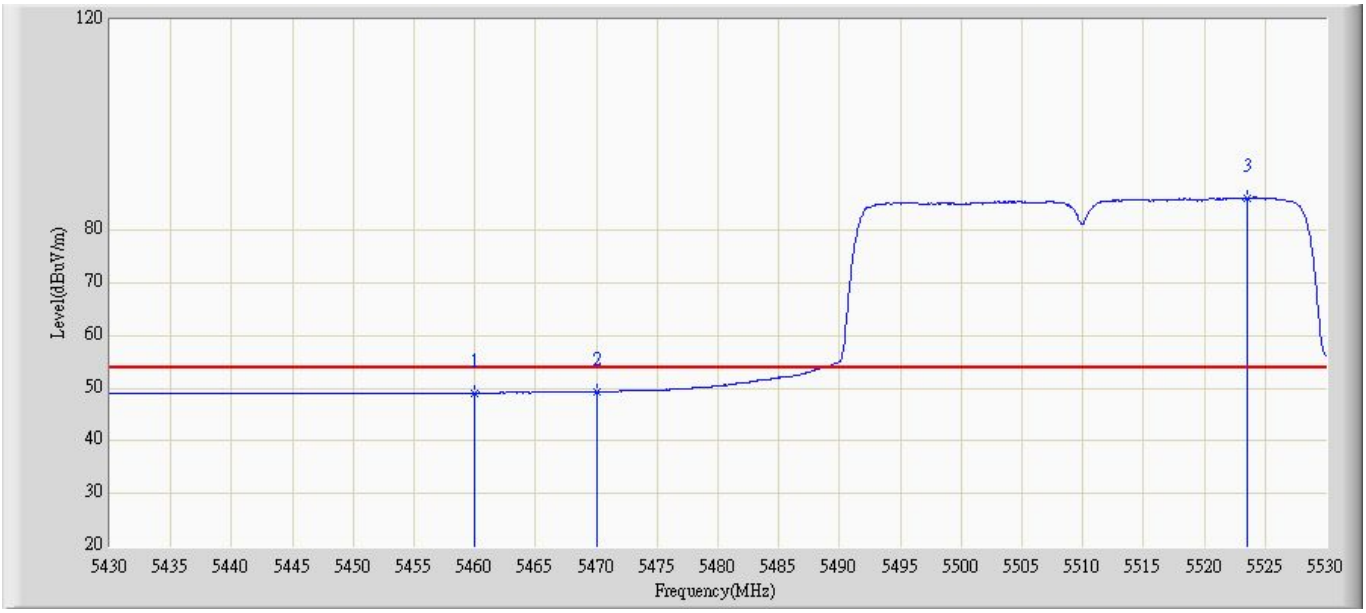
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	48.750	12.712	-5.250	54.000	36.038	AV
2		5470.000	48.784	12.734	-19.516	68.300	36.050	AV
3	*	5506.450	80.718	44.654	N/A	N/A	36.064	AV

Profile: 106S012R	Page No.: 181
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5510MHz By 802.11n(40MHz)(010)	



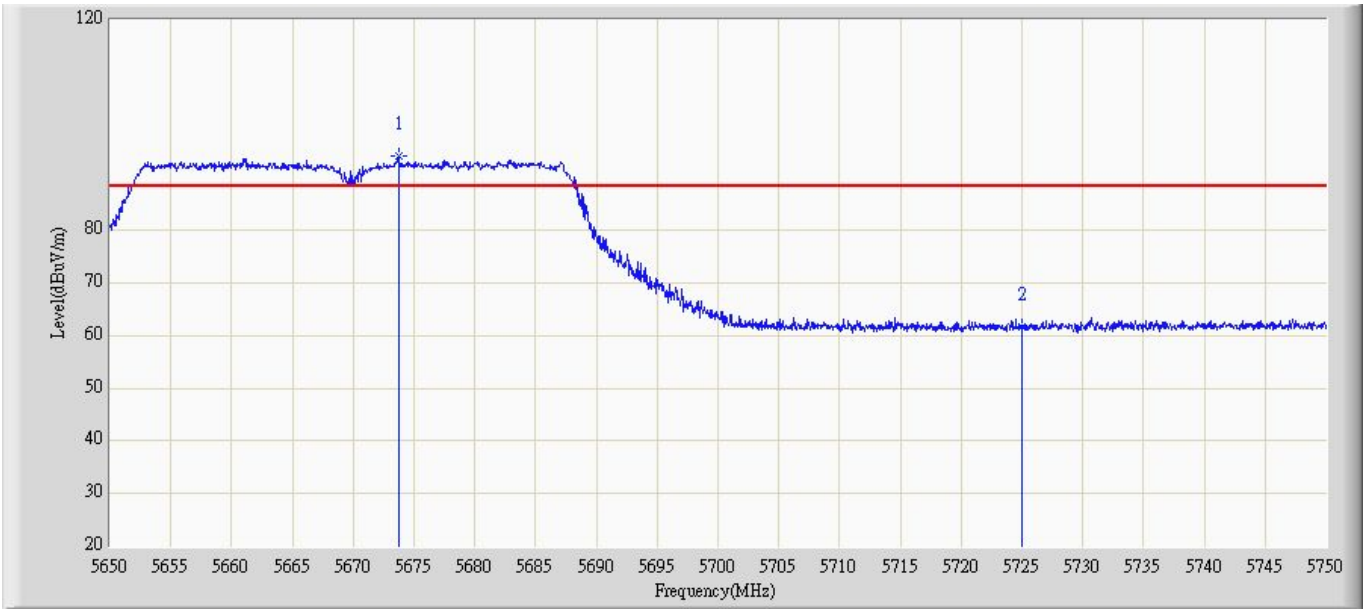
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	60.595	24.557	-13.405	74.000	36.038	PK
2		5470.000	62.231	26.181	-26.069	88.300	36.050	PK
3	*	5499.650	97.929	61.876	N/A	N/A	36.054	PK

Profile: 106S012R	Page No.: 182
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5510MHz By 802.11n(40MHz)(010)	



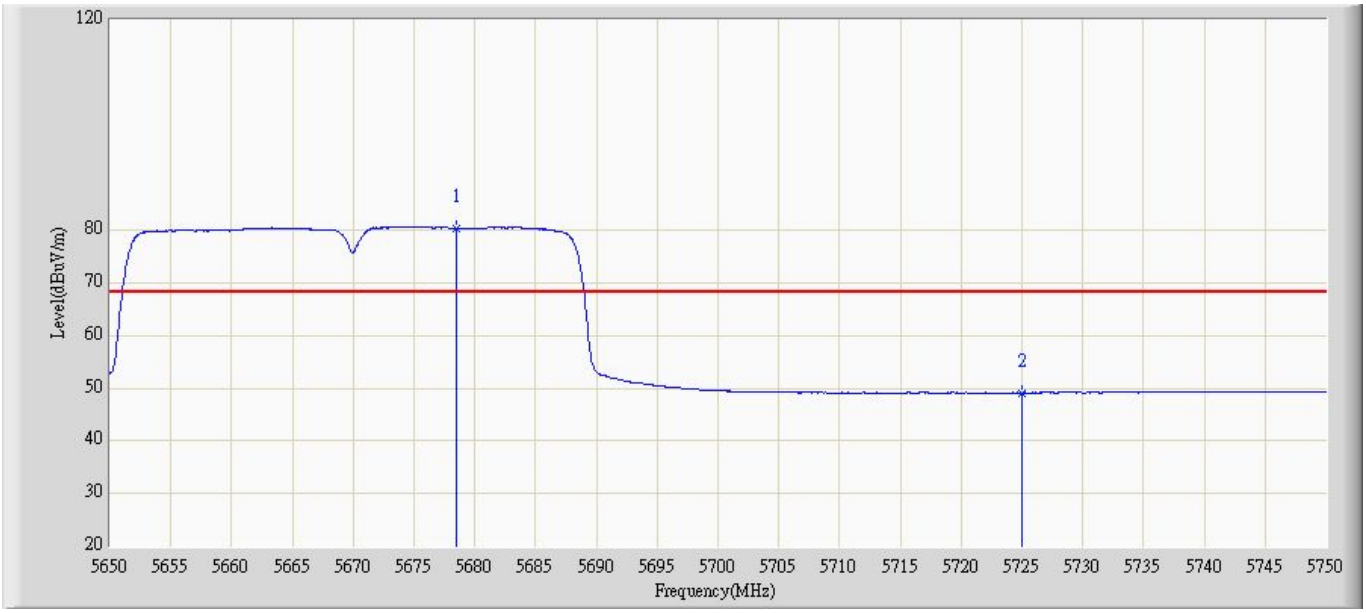
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	49.057	13.019	-4.943	54.000	36.038	AV
2		5470.000	49.348	13.298	-18.952	68.300	36.050	AV
3	*	5523.550	86.120	49.999	N/A	N/A	36.121	AV

Profile: 106S012R	Page No.: 183
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:45
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5670MHz By 802.11n(40MHz)(010)	



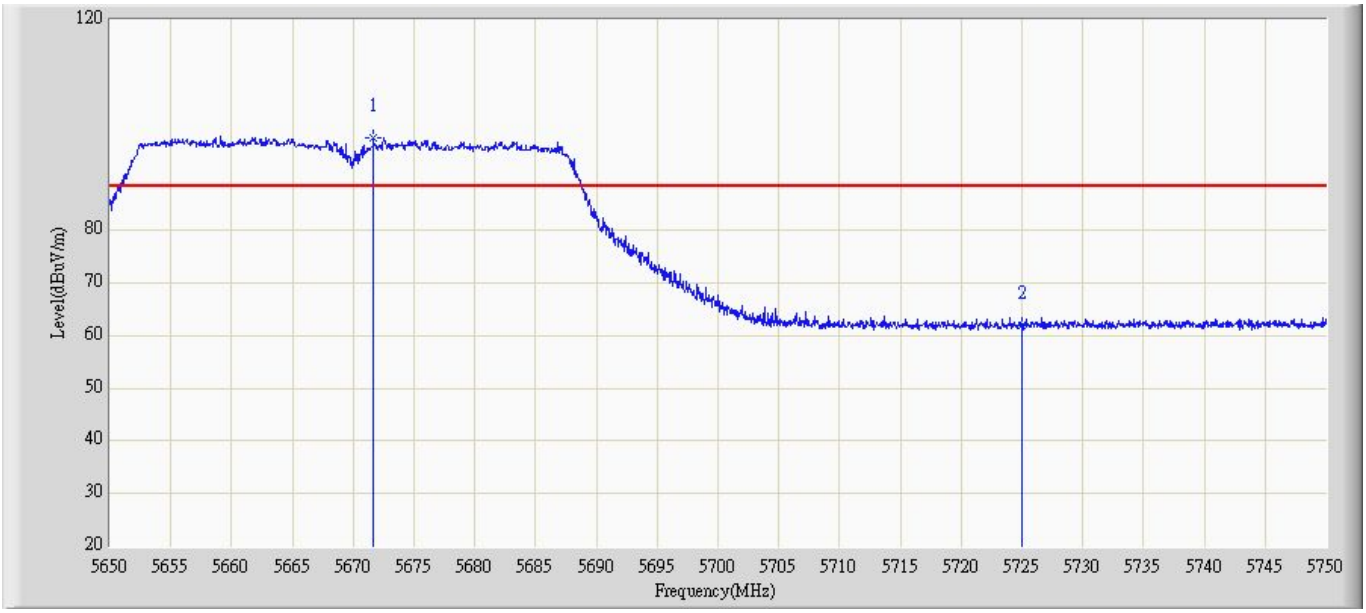
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5673.700	94.114	57.806	N/A	N/A	36.308	PK
2		5725.000	61.724	25.287	-26.576	88.300	36.437	PK

Profile: 106S012R	Page No.: 184
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:46
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5670MHz By 802.11n(40MHz)(010)	



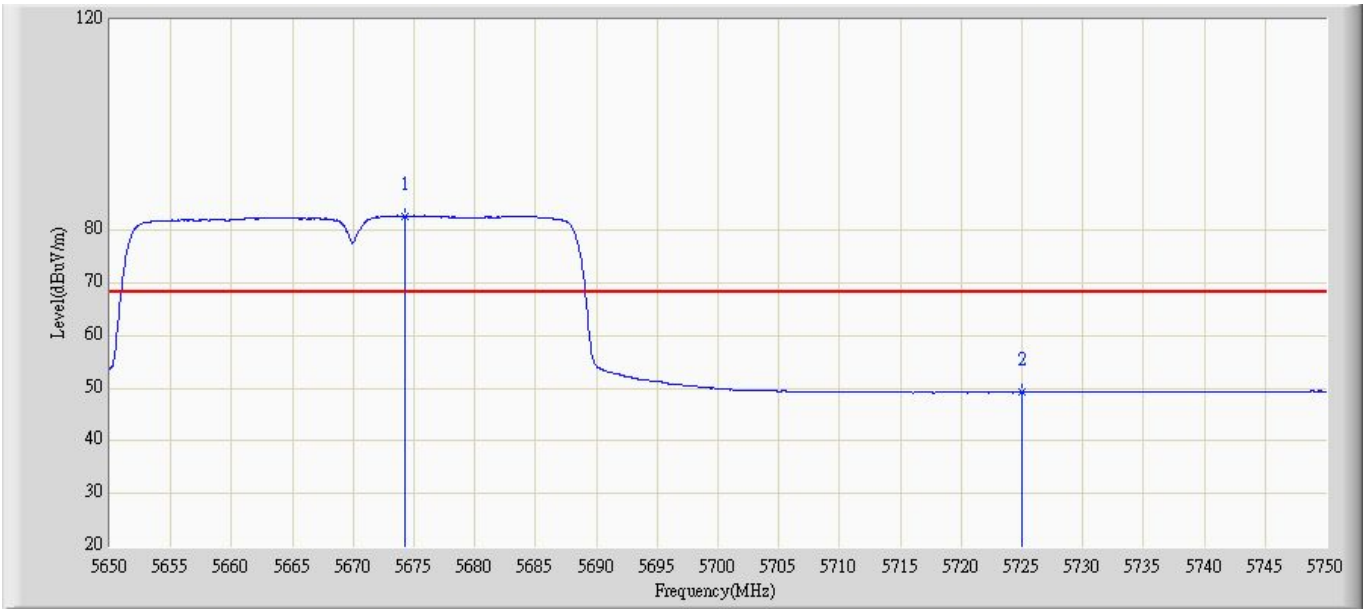
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5678.500	80.451	44.139	N/A	N/A	36.311	AV
2		5725.000	49.154	12.717	-19.146	68.300	36.437	AV

Profile: 106S012R	Page No.: 185
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:47
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5670MHz By 802.11n(40MHz)(010)	



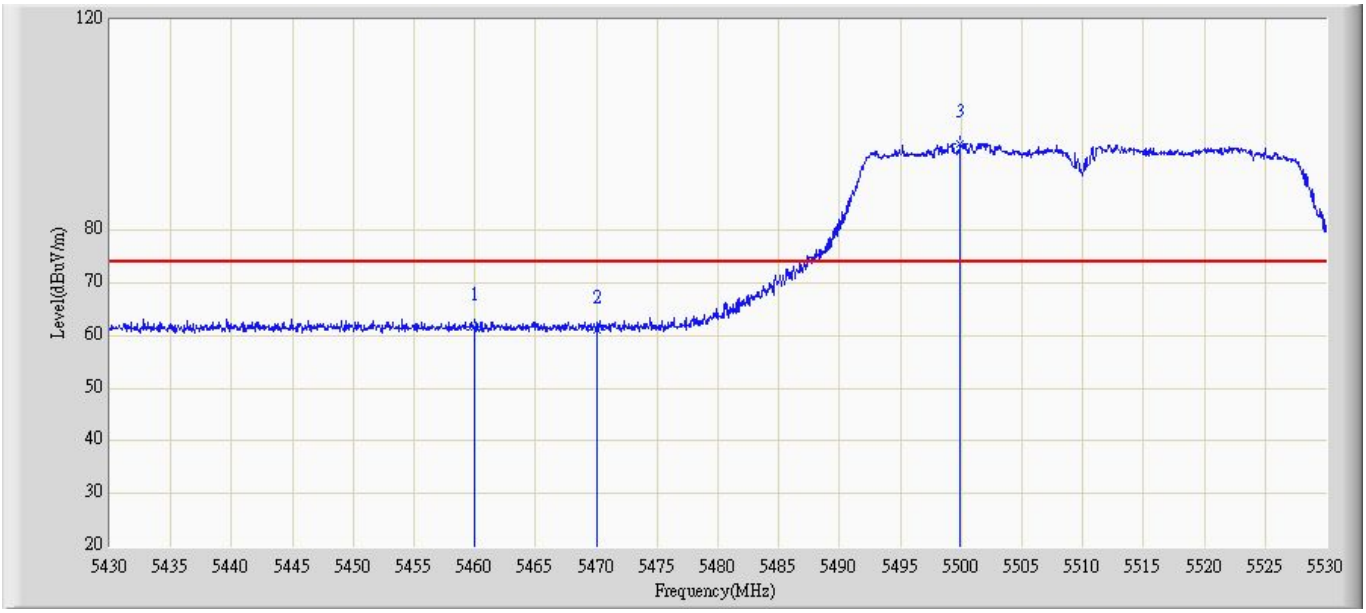
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5671.650	97.533	61.226	N/A	N/A	36.306	PK
2		5725.000	62.007	25.570	-26.293	88.300	36.437	PK

Profile: 106S012R	Page No.: 186
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:48
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5670MHz By 802.11n(40MHz)(010)	



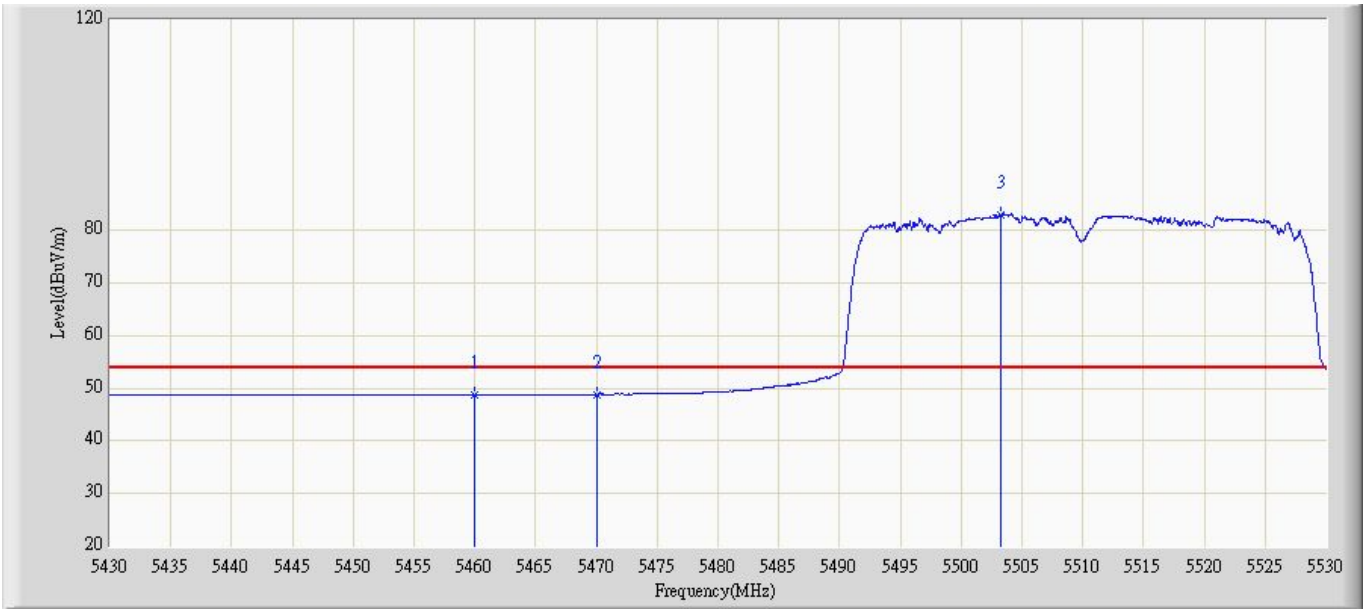
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5674.200	82.645	46.337	N/A	N/A	36.309	AV
2		5725.000	49.206	12.769	-19.094	68.300	36.437	AV

Profile: 106S012R	Page No.: 187
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5510MHz By 802.11n(40MHz)(110)	



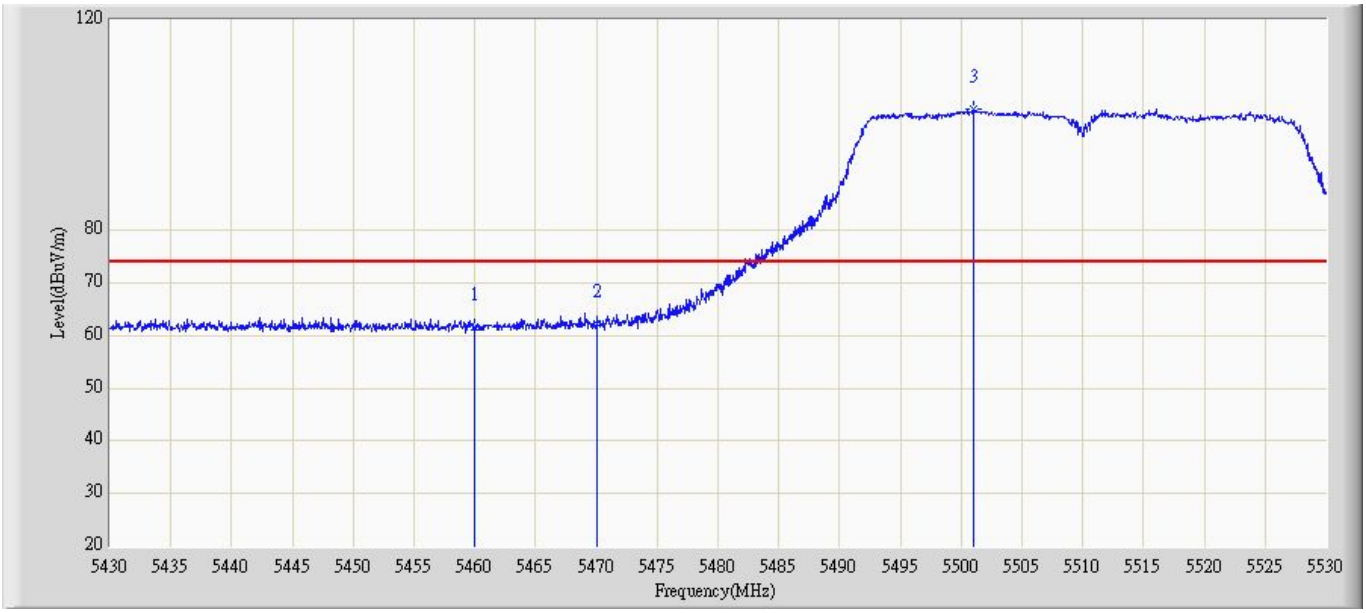
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	61.712	25.674	-12.288	74.000	36.038	PK
2		5470.000	61.113	25.063	-27.187	88.300	36.050	PK
3	*	5499.900	96.318	60.264	N/A	N/A	36.054	PK

Profile: 106S012R	Page No.: 188
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5510MHz By 802.11n(40MHz)(110)	



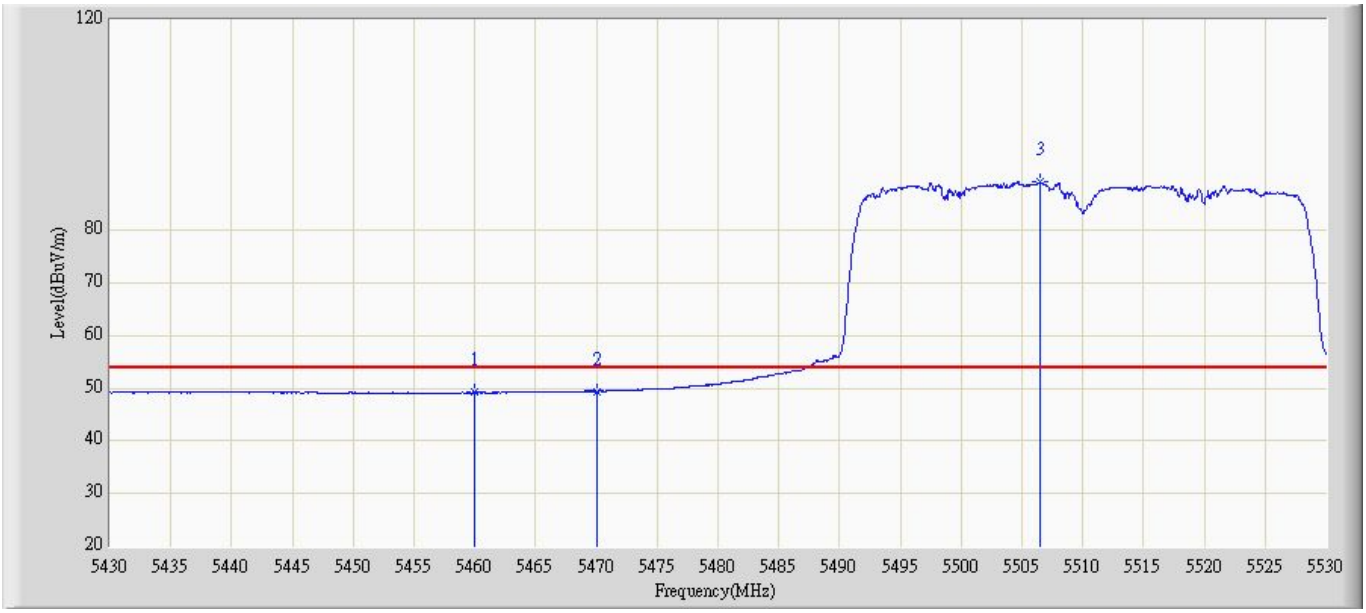
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	48.795	12.757	-5.205	54.000	36.038	AV
2		5470.000	48.835	12.785	-19.465	68.300	36.050	AV
3	*	5503.300	82.924	46.867	N/A	N/A	36.057	AV

Profile: 106S012R	Page No.: 189
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5510MHz By 802.11n(40MHz)(110)	



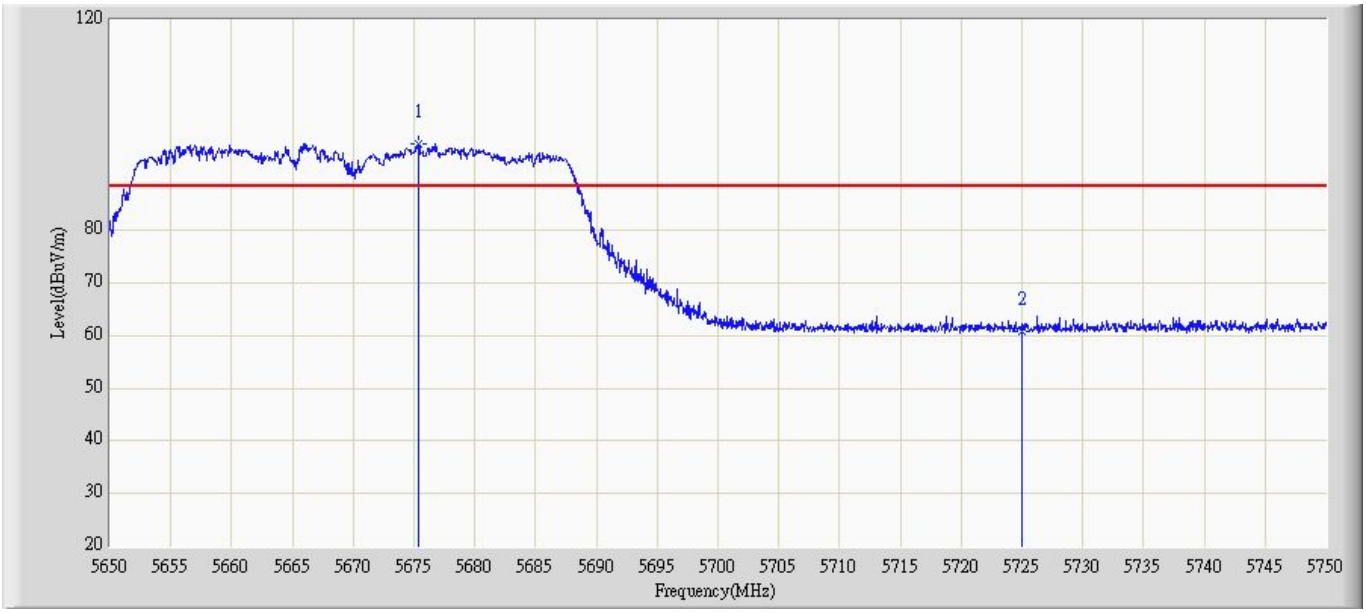
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	61.711	25.673	-12.289	74.000	36.038	PK
2		5470.000	62.115	26.065	-26.185	88.300	36.050	PK
3	*	5501.050	103.178	67.123	N/A	N/A	36.054	PK

Profile: 106S012R	Page No.: 190
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:52
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5510MHz By 802.11n(40MHz)(110)	



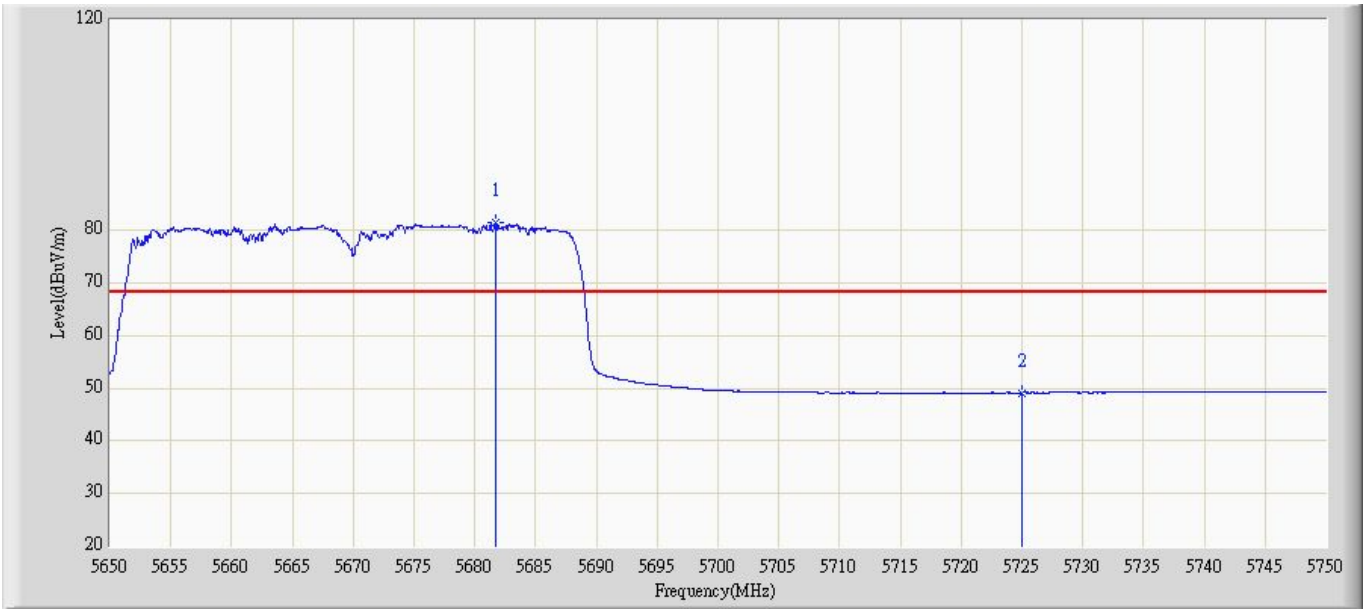
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	49.171	13.133	-4.829	54.000	36.038	AV
2		5470.000	49.398	13.348	-18.902	68.300	36.050	AV
3	*	5506.450	89.147	53.083	N/A	N/A	36.064	AV

Profile: 106S012R	Page No.: 191
Engineer: jame	
Site: AC5	Time: 2010/07/08 - 17:54
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5670MHz By 802.11n(40MHz)(110)	



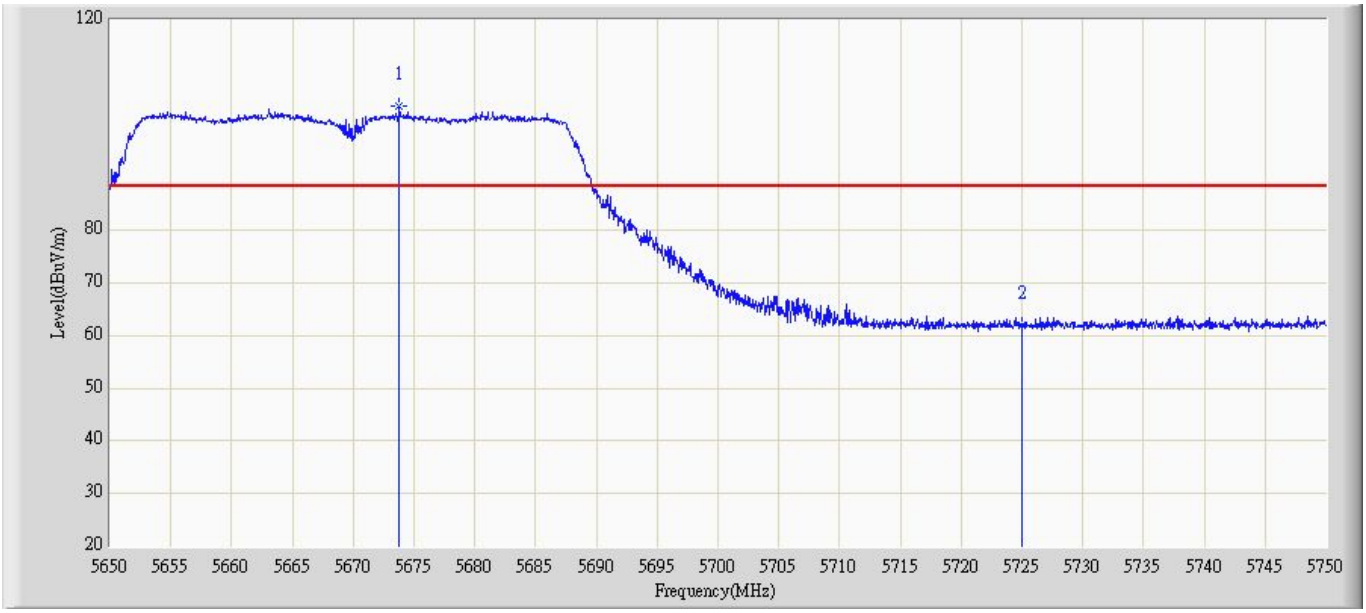
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5675.350	96.471	60.162	N/A	N/A	36.310	PK
2		5725.000	60.732	24.295	-27.568	88.300	36.437	PK

Profile: 106S012R	Page No.: 192
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:54
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Horizontal
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5670MHz By 802.11n(40MHz)(110)	



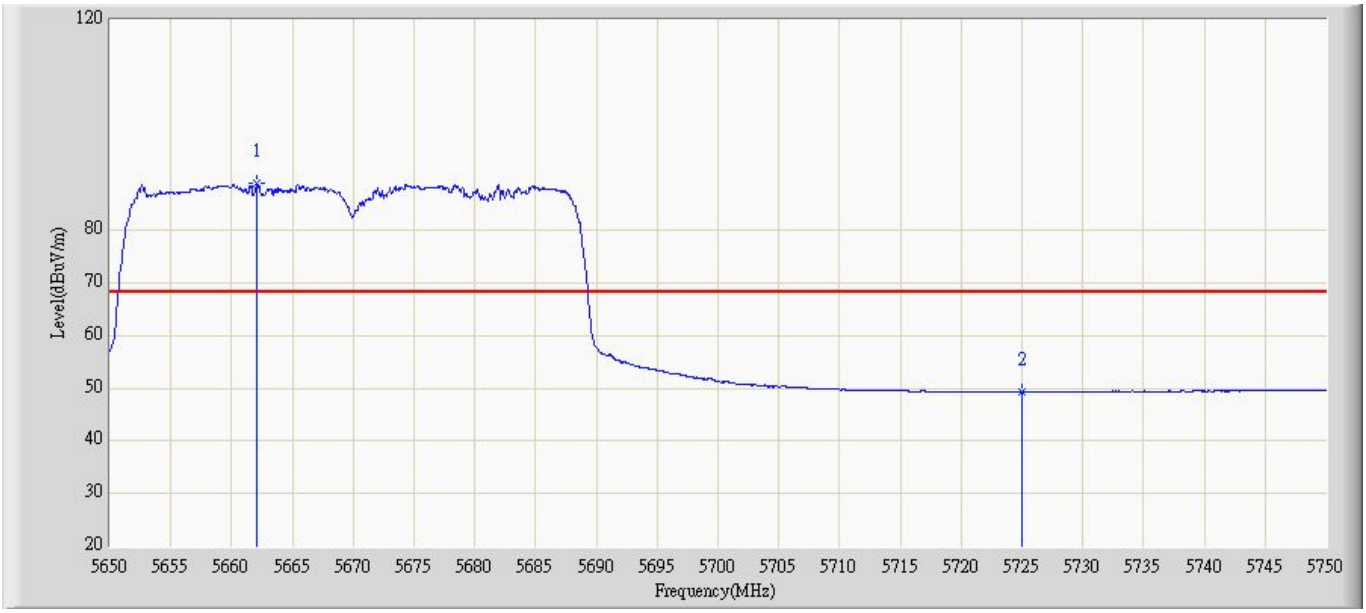
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5681.750	81.394	45.080	N/A	N/A	36.314	AV
2		5725.000	49.150	12.713	-19.150	68.300	36.437	AV

Profile: 106S012R	Page No.: 193
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 17:59
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5670MHz By 802.11n(40MHz)(110)	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5673.800	103.715	67.407	N/A	N/A	36.308	PK
2		5725.000	61.910	25.473	-26.390	88.300	36.437	PK

Profile: 106S012R	Page No.: 194
Engineer: Jame	
Site: AC5	Time: 2010/07/08 - 18:00
Limit: FCC_PartE_15.407_RE(3m)	Margin: 0
Probe: BBHA9120D-499(1-18GHz)	Polarity: Vertical
EUT: Wireless-A/N 23dBm Network Mini PCI Adapter With ESD	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 5670MHz By 802.11n(40MHz)(110)	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5662.100	88.920	52.620	N/A	N/A	36.299	AV
2		5725.000	49.342	12.905	-18.958	68.300	36.437	AV

11. Frequency Stability

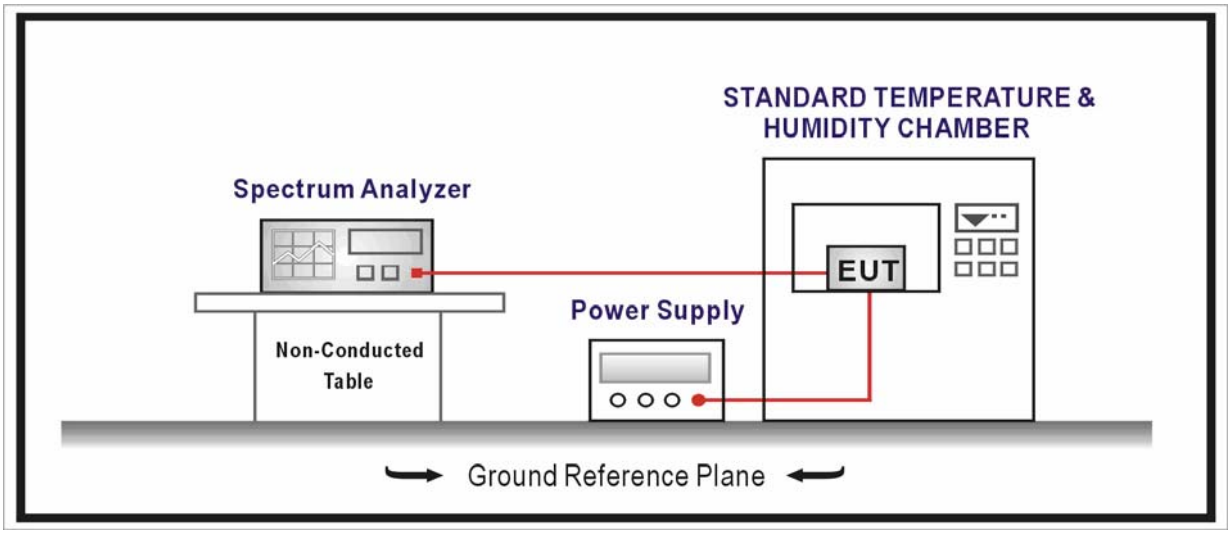
11.1. Test Equipment

Frequency Stability / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2010.04.30
AC Power Supply	IDRC	CF-500TP	979422	2009.10.21
DC Power Supply	IDRC	CD-035-020PR	977272	2009.10.21
Programmable Temperature & Humidity Chamber	Gaoyu	TH-1P-B	WIT-05121302	2010.01.19
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2010.01.14

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

11.2. Test Setup



11.3. Limit

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

11.4. Test Procedure

Frequency Stability Under Temperature Variations:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20℃ operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10℃ decreased per stage until the lowest temperature reached.

Frequency Stability Under Voltage Variations:

Set chamber temperature to 20℃. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.
Reduce the input voltage to specify extreme voltage variation (±15%) and endpoint, record the maximum frequency change.

11.5. Uncertainty

The measurement uncertainty is defined as ± 100 Hz

11.6. Test Result

Product	:	WIRELESS-A/N 23DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Frequency Stability
Test Site	:	TR-8
Test Mode	:	Carrier Transmit

Operating Frequency: 5500MHz					
Temp (℃)	Voltage (AC)	Frequency Tolerance (ppm)			
		0 minutes	2 minutes	5 minutes	10 minutes
-20	102	2.13	2.13	2.19	2.18
	120	1.98	1.97	1.96	1.98
	138	2.22	2.21	2.21	2.14
20	102	2.13	2.13	2.19	2.18
	120	1.96	1.96	1.95	1.94
	138	2.21	2.21	2.21	2.14
70	102	2.13	2.13	2.19	2.18
	120	1.97	1.96	1.96	1.94
	138	2.22	2.20	2.18	2.16

Operating Frequency: 5700MHz					
Temp (℃)	Voltage (AC)	Frequency Tolerance (ppm)			
		0 minutes	2 minutes	5 minutes	10 minutes
-20	102	2.02	2.03	2.01	2.02
	120	1.68	1.68	1.66	1.65
	138	2.12	2.11	2.08	2.09
20	102	2.02	2.03	2.01	2.02
	120	1.68	1.68	1.66	1.65
	138	2.13	2.11	2.08	2.09
70	102	2.02	2.03	2.01	2.02
	120	1.69	1.67	1.66	1.65
	138	2.12	2.12	2.08	2.09