

# Test Report

## FCC Part15 Subpart C

Product Name : 802.11n 2x2 Wireless ADSL2+ 4-port Gateway  
Model No. : AMG1312-T10D, AMG1312-T30D,  
AMG1302-T10D, AMG1302-T30D  
FCC ID : I88AMG1312T10D

Applicant : ZyXEL Communications Corporation  
Address : No.2, Gongye E. 9th Road, Hsinchu Science  
Park, Hsinchu, Taiwan

Date of Receipt : Dec. 12, 2014  
Test Date : Dec. 11, 2014~ Dec. 18, 2014  
Issued Date : Jan. 06, 2015  
Report No. : 14C0378S-RF-US-P06V01  
Report Version : V3.0

This report was based on Quietek report No: 14C0351R



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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# Test Report Certification

Issued Date : Jan. 06, 2015  
 Report No. : 14C0378S-RF-US-P06V01



Product Name : 802.11n 2x2 Wireless ADSL2+ 4-port Gateway  
 Applicant : ZyXEL Communications Corporation  
 Address : No.2, Gongye E. 9th Road, Hsinchu Science Park, Hsinchu, Taiwan  
 Manufacturer : ZyXEL Communications Corporation  
 Address : No.2, Gongye E. 9th Road, Hsinchu Science Park, Hsinchu, Taiwan  
 Model No. : AMG1312-T10D, AMG1312-T30D, AMG1302-T10D, AMG1302-T30D  
 FCC ID : I88AMG1312T10D  
 EUT Voltage : AC 100-240V, 50/60Hz  
 Brand Name : ZyXEL  
 Applicable Standard : FCC CFR Title 47 Part 15 Subpart C: 2014  
 ANSI C63.4:2009; KDB 558074 D01 v03r02  
 Test Result : Complied  
 Performed Location : Suzhou EMC Laboratory  
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 FCC Registration Number: 800392

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## 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:

<b>Taiwan R.O.C.</b>	<b>:</b>	<b>BSMI, NCC, TAF</b>
<b>Germany</b>	<b>:</b>	<b>TUV Rheinland</b>
<b>Norway</b>	<b>:</b>	<b>Nemko, DNV</b>
<b>USA</b>	<b>:</b>	<b>FCC</b>
<b>Japan</b>	<b>:</b>	<b>VCCI</b>
<b>China</b>	<b>:</b>	<b>CNAS</b>

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/ctg/cts/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:

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**History of This Test Report**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
14C0378S-RF-US-P06V01	V1.0	Initial Issued Report	Dec. 25, 2014
14C0378S-RF-US-P06V01	V2.0	Modified the model number	Jan. 05, 2015
14C0378S-RF-US-P06V01	V3.0	Modified FCC ID	Jan. 06, 2015

1. General Information

1.1. EUT Description

Product Name	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Brand Name	ZyXEL
Model No.	AMG1312-T10D, AMG1312-T30D, AMG1302-T10D, AMG1302-T30D
EUT Voltage	DC 12V
Frequency Range	<b>For 2.4GHz Band</b> 802.11b/g/n(20MHz): 2412~2462MHz 802.11n(40MHz): 2422~2452MHz
Channel Number	For 2.4GHz Band 802.11b/g/n(20MHz): 11 802.11n(40MHz): 7
Type of Modulation	802.11b: DSSS 802.11/g/n: OFDM
Data Rate	802.11g: 6/9/12/18/24/36/48/54 Mbps 802.11b: 1/2/5.5/11 Mbps 802.11n: up to 450 Mbps
Channel Control	Auto
Antenna Delivery	2*Tx + 2*Rx for 2.4GHz
Antenna Type	Reference to Antenna List
Peak Antenna Gain	Reference to Antenna List

Note: The only difference of models as show below:

model	USB Port
AMG1312-T10D	with
AMG1312-T30D	with
AMG1302-T10D	without
AMG1302-T30D	without

The RF specifications of four models are identical. AMG1312-T10D is the same with AMG1312-T30D, AMG1302-T10D is the same with AMG1302-T30D, the only difference is the marketing sale.

**For 2.4GHz Band**

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

**Antenna List**

Antenna	Type	Model No.	Peak Gain
Antenna #1	Internal PCB antenna	R380500314	2.4GHz band: 3.0dBi
Antenna #2	Internal PCB antenna	WTS2450	2.4GHz band: 3.0dBi

Or use

Antenna	Type	Model No.	Peak Gain
Antenna #1	Printed antenna	N/A	2.4GHz band: 2.9dBi
Antenna #2	Printed antenna	N/A	2.4GHz band: 2.0dBi

Note 1: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$  dBi

Note 2: We use maximum antenna gain for the testing.



Power Parameter Value of the test software

Test Mode	Test Channel	Ant1	Ant2	MIMO MODE(Ant1+2)
802.11b	2412	N/A	N/A	N/A
	2437	N/A	N/A	N/A
	2462	N/A	N/A	N/A
802.11g	2412	N/A	N/A	N/A
	2437	N/A	N/A	N/A
	2462	N/A	N/A	N/A
802.11n(20MHz)	2412	N/A	N/A	N/A
	2437	N/A	N/A	N/A
	2462	N/A	N/A	N/A
802.11n(40MHz)	2422	N/A	N/A	N/A
	2437	N/A	N/A	N/A
	2452	N/A	N/A	N/A

Note: the power parameter cannot be configured, use the default value.

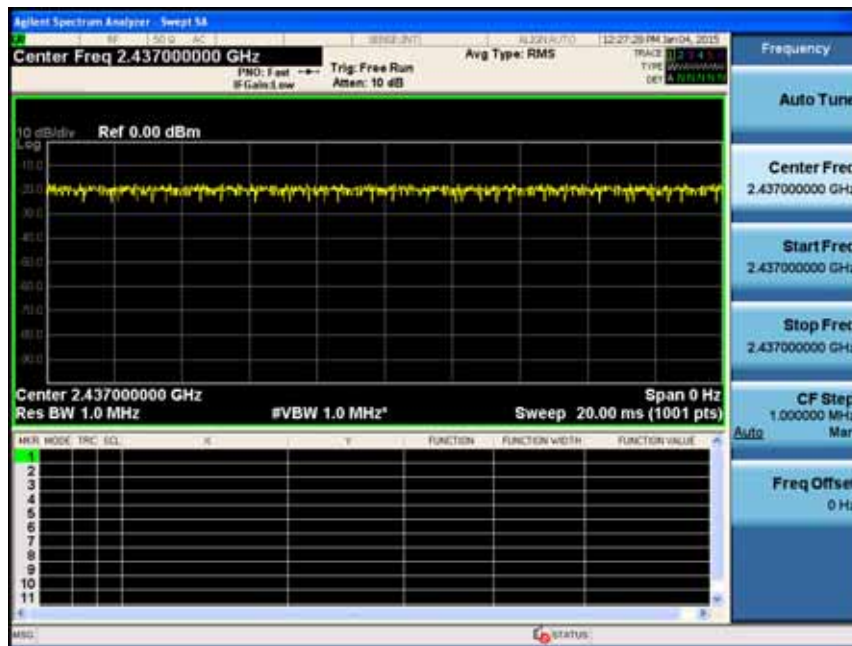
The test mode of the test software can support.

Test Mode	Test Channel	Ant1	Ant2	MIMO MODE(Ant1+2)
802.11b	2412	√	√	×
	2437	√	√	×
	2462	√	√	×
802.11g	2412	√	√	×
	2437	√	√	×
	2462	√	√	×
802.11n(20MHz)	2412	√	√	√
	2437	√	√	√
	2462	√	√	√
802.11n(40MHz)	2422	√	√	√
	2437	√	√	√
	2452	√	√	√

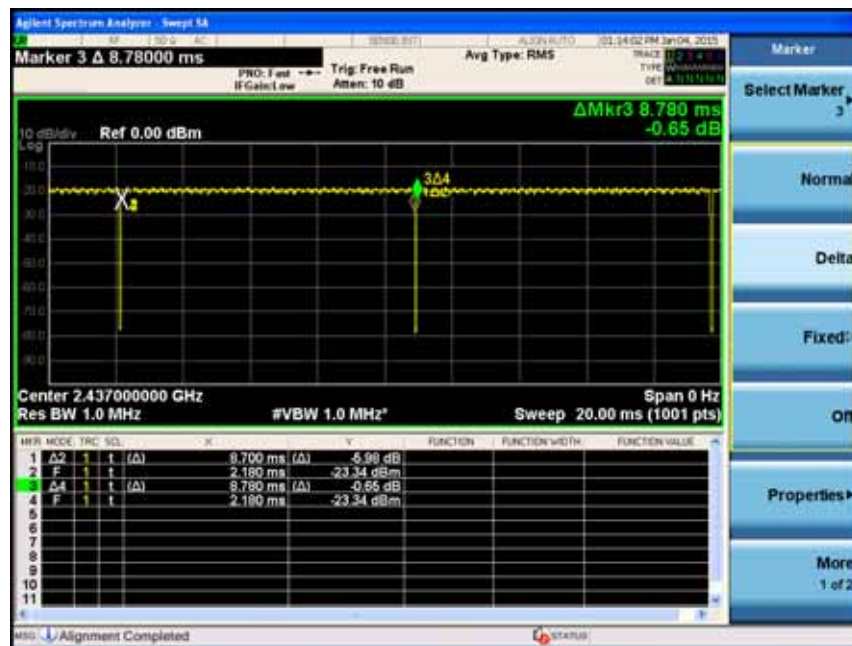
Duty Cycle  
2.4GHz Band

Test Mode	Duty Cycle
802.11b	100.0%
802.11g	99.1%
802.11n(20MHz)	98.6%
802.11n(40MHz)	98.0%

802.11b



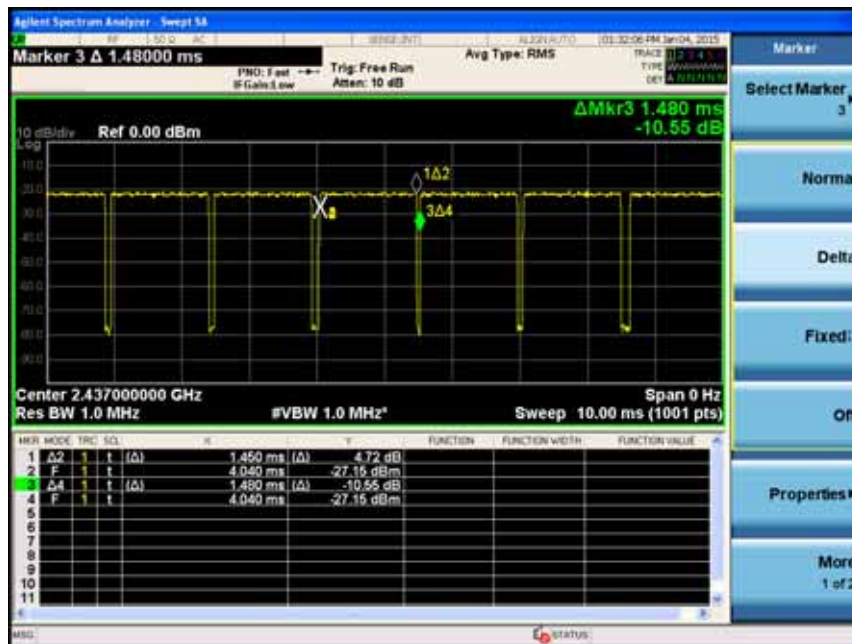
802.11g



802.11n(20MHz)



802.11n(40MHz)



**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 802.11b(Ant1;Ant2)
Mode 2: Transmit by 802.11g(Ant1;Ant2)
Mode 3: Transmit by 802.11n(20MHz) (Ant1;Ant2;MIMO MODE)
Mode 4: Transmit by 802.11n(40MHz) (Ant1;Ant2;MIMO MODE)

**Note:**

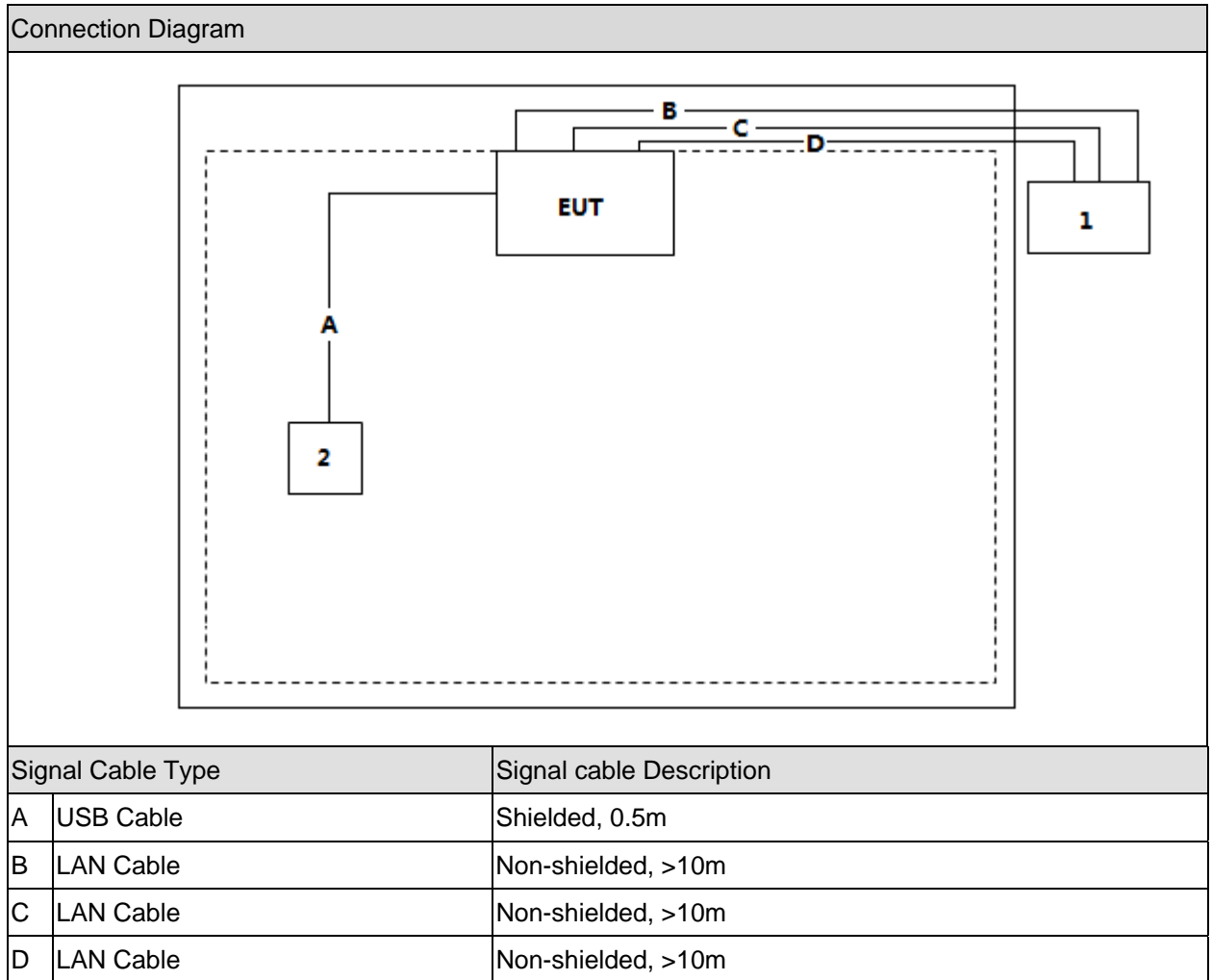
Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.

**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	Assistant router	N/A	N/A	N/A	
2	USB 3.0 Hard Disc Drive	Lenovo	F360	OA0503512400231	Power by EUT

1.4. Configuration of Tested System



**1.5. EUT Exercise Software**

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Run the RF test software "MTool", 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: 2014 Section 15.207	Yes	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.209	Yes	No
RF Antenna Conducted Spurious	FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.247(d)	Yes	No
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2014 15.247(d)	Yes	No
Operation Frequency Range of 20dB Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2014 15.215(c)	Yes	No
Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.247(a)(2)	Yes	No
Power Output	FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.247(b)(3)	Yes	No
Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.247(e)	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

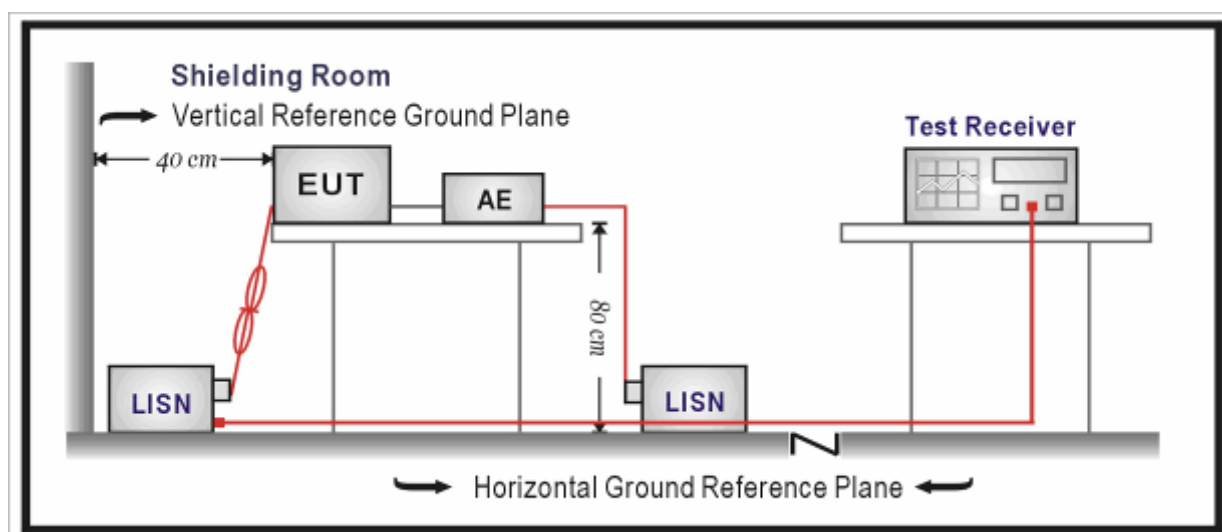
#### 3.1. Test Equipment

Conducted Emission / TR-1

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100726	2015.03.28
Two-Line V-Network	R&S	ENV216	100043	2015.03.28
Two-Line V-Network	R&S	ENV216	100044	2015.09.16
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2015.03.01
50ohm Termination	SHX	TF2	07081401	2015.09.16
Temperature/Humidity Meter	zhicheng	ZC1-2	TR1-TH	2015.01.08

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**

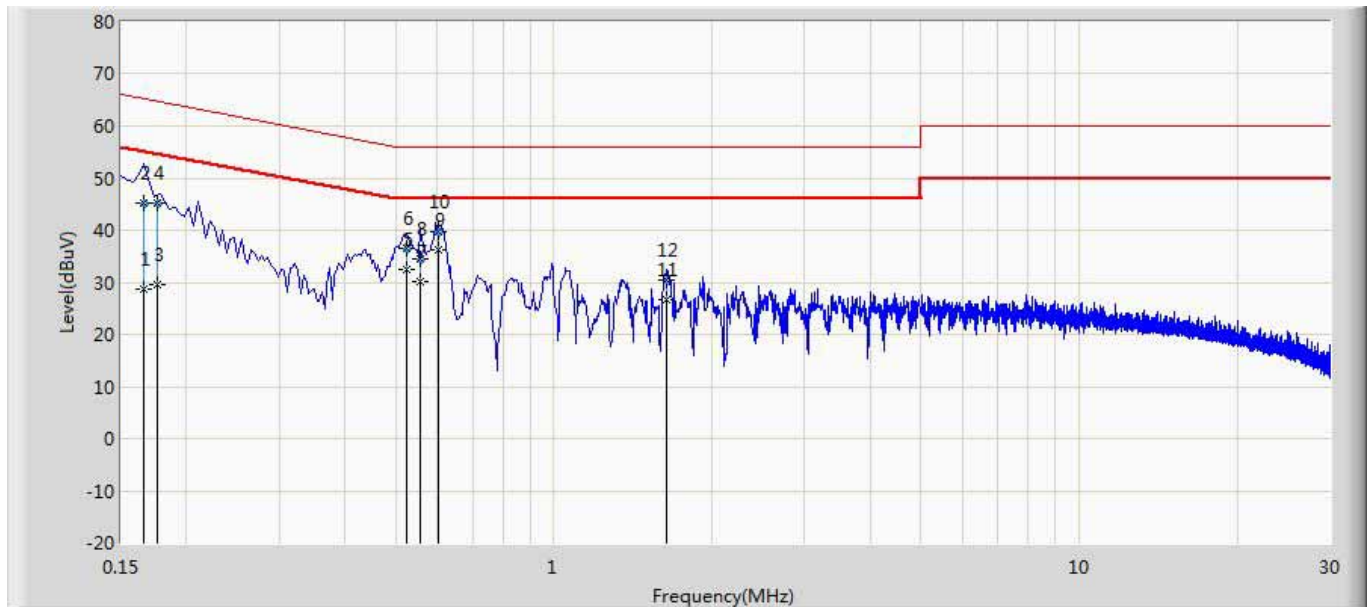
The EUT was setup according to ANSI C63.4, 2009 for compliance to FCC 47CFR 15.247 requirements. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of 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 9 kHz.

**3.5. Uncertainty**

The measurement uncertainty is defined as  $\pm 2.02$  dB

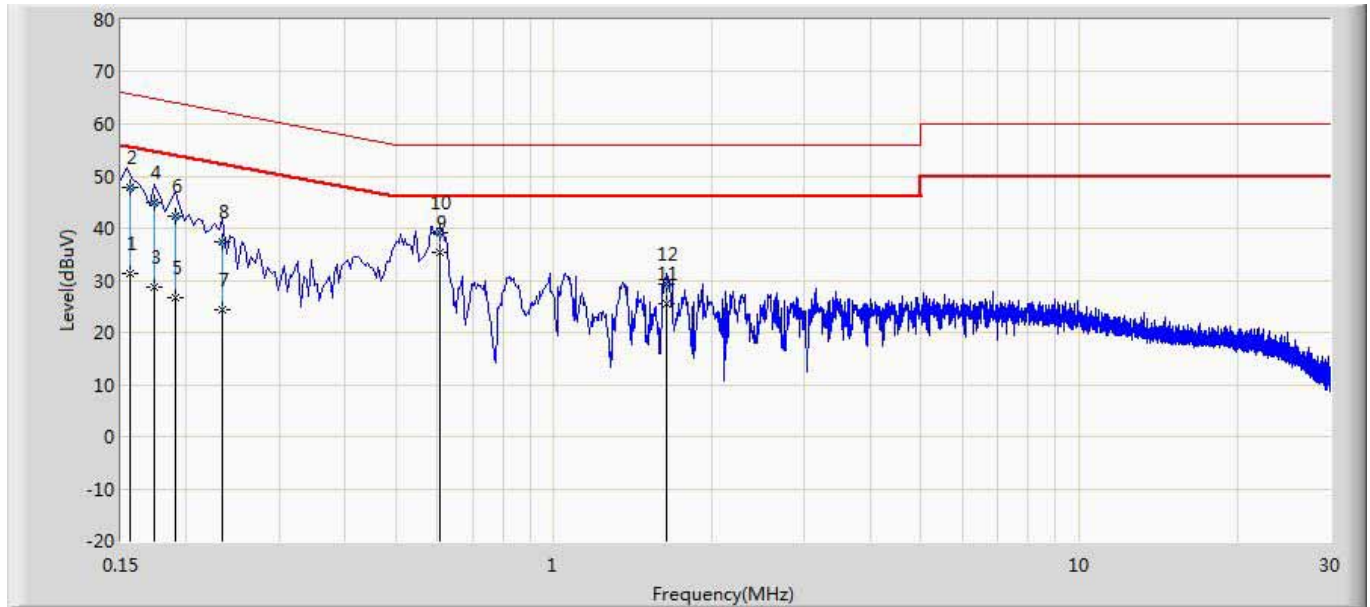
3.6. Test Result

Site: TR1	Time: 2014/12/18 - 10:56
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Neutral
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.166	28.591	18.929	-26.567	55.158	9.662	AV
2		0.166	45.301	35.639	-19.857	65.158	9.662	QP
3		0.176	29.498	19.835	-25.193	54.692	9.664	AV
4		0.176	45.170	35.507	-19.521	64.692	9.664	QP
5		0.526	32.539	22.869	-13.461	46.000	9.670	AV
6		0.526	36.476	26.806	-19.524	56.000	9.670	QP
7		0.558	30.258	20.588	-15.742	46.000	9.670	AV
8		0.558	34.619	24.949	-21.381	56.000	9.670	QP
9	*	0.602	36.273	26.603	-9.727	46.000	9.670	AV
10		0.602	39.841	30.171	-16.159	56.000	9.670	QP
11		1.642	26.637	16.931	-19.363	46.000	9.706	AV
12		1.642	30.309	20.602	-25.691	56.000	9.706	QP

Site: TR1	Time: 2014/12/18 - 10:59
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Line
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.156	31.406	21.744	-24.250	55.656	9.662	AV
2		0.156	47.744	38.081	-17.912	65.656	9.662	QP
3		0.174	28.699	19.031	-26.068	54.767	9.668	AV
4		0.174	44.997	35.329	-19.771	64.767	9.668	QP
5		0.190	26.575	16.905	-27.462	54.037	9.670	AV
6		0.190	42.363	32.693	-21.673	64.037	9.670	QP
7		0.234	24.212	14.542	-28.095	52.307	9.670	AV
8		0.234	37.526	27.856	-24.780	62.307	9.670	QP
9	*	0.606	35.235	25.555	-10.765	46.000	9.680	AV
10		0.606	39.022	29.342	-16.978	56.000	9.680	QP
11		1.642	25.544	15.844	-20.456	46.000	9.700	AV
12		1.642	29.171	19.471	-26.829	56.000	9.700	QP

4. Radiated Emission

4.1. Test Equipment

Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2015.03.28
Loop Antenna	R&S	HFH2-Z2	833799/003	2015.11.17
Bilog Chainenna	Teseq GmbH	CBL6112D	27611	2015.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2015.03.01
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC2-TH	2015.01.08

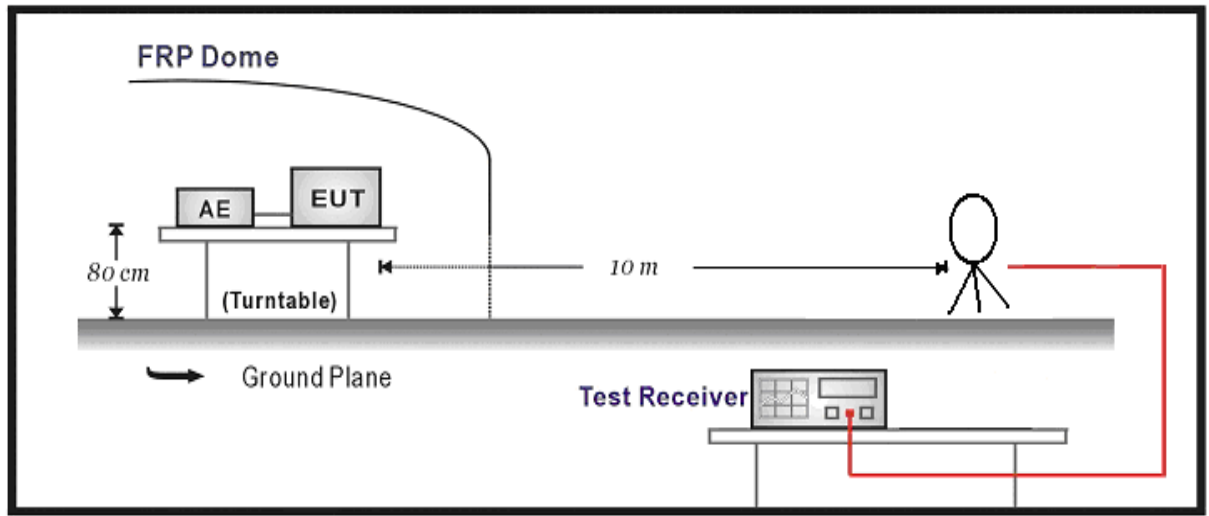
Radiated Emission / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
Spectrum Analyzer	Agilent	N9020A	MY49100159	2015.03.28
Spectrum Analyzer	Agilent	E4446A	MY45300103	2015.01.07
Preamplifier	Miteq	NSP1800-25	1364185	2015.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2015.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2015.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2015.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2015.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2015.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2015.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2015.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2015.01.08

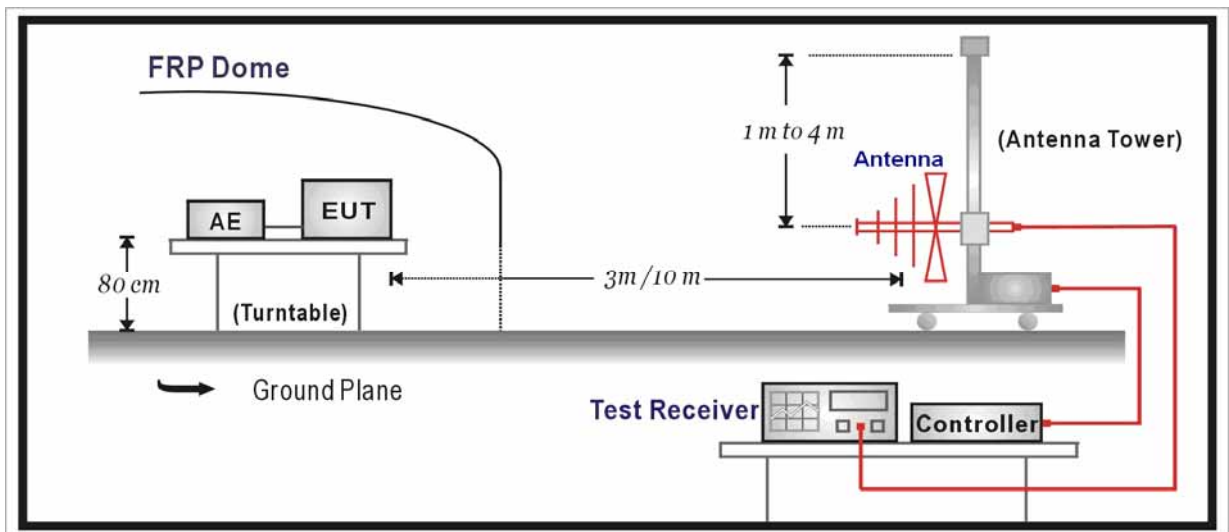
Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

### 4.2. Test Setup

Below 30MHz Test Setup:

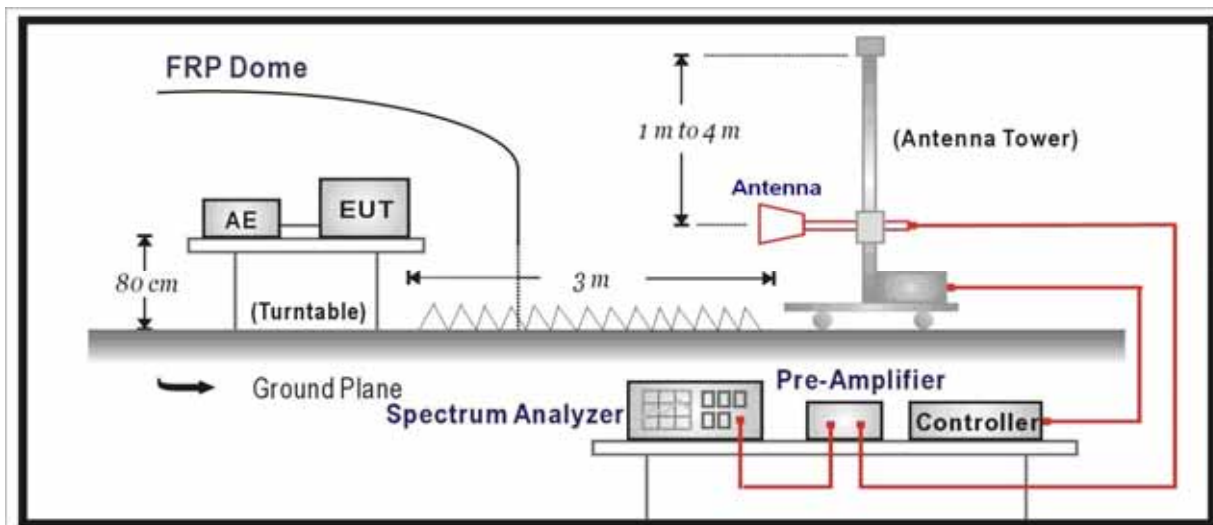


Below 1GHz Test Setup:





Above 1GHz Test Setup:



### 4.3. Limit

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

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

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

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

### 4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2009 and tested according to KDB 558074 for compliance to FCC 47CFR 15.247 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.

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

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

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

#### **4.5. Uncertainty**

The measurement uncertainty above 1G is defined as  $\pm 3.9$  dB  
below 1G is defined as  $\pm 3.8$  dB

**4.6. Test Result**

All of the test result shown indicates the worst case, and spectrum analyzer parameters setting as shown below:

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

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

Measure Level = Reading Level + Cable Loss + Antenna Factor - Preamplifier Gain

Mode1: Transmit by 802.11b

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Ant 1	1	H	4824	44.3	8.0	52.3	54(note3)	-1.7	PK
		H	7236	37.8	10.6	48.4	54(note3)	-5.6	PK
		H	9648	39.2	12.5	51.7	54(note3)	-2.3	PK
		V	4824	44.1	7.9	52.0	54(note3)	-2.0	PK
		V	7236	38.2	10.6	48.8	54(note3)	-5.2	PK
		V	9648	38.8	12.6	51.4	54(note3)	-2.6	PK
	6	H	4874	43.6	8.0	51.6	54(note3)	-2.4	PK
		H	7311	38.9	10.8	49.7	54(note3)	-4.3	PK
		H	9748	38.8	12.7	51.5	54(note3)	-2.5	PK
		V	4874	44.1	8.0	52.1	54(note3)	-1.9	PK
		V	7311	40.0	10.8	50.8	54(note3)	-3.2	PK
		V	9748	39.0	12.8	51.8	54(note3)	-2.2	PK
	11	H	4924	43.3	8.1	51.4	54(note3)	-2.6	PK
		H	7386	39.6	10.9	50.5	54(note3)	-3.5	PK
		H	9848	37.5	12.9	50.4	54(note3)	-3.6	PK
		V	4924	43.8	8.2	52.0	54(note3)	-2.0	PK
		V	7386	38.9	10.9	49.8	54(note3)	-4.2	PK
		V	9848	37.7	13.0	50.7	54(note3)	-3.3	PK
Ant 2	1	H	4824	43.7	7.9	51.6	54(note3)	-2.4	PK
		H	7236	38.5	10.6	49.1	54(note3)	-4.9	PK
		H	9648	38.5	12.6	51.1	54(note3)	-2.9	PK
		V	4824	42.7	8.0	50.7	54(note3)	-3.3	PK
		V	7236	37.2	10.6	47.8	54(note3)	-6.2	PK
		V	9648	38.5	12.5	51.0	54(note3)	-3.0	PK
	6	H	4874	43.1	8.0	51.1	54(note3)	-2.9	PK
		H	7311	38.3	10.8	49.1	54(note3)	-4.9	PK
		H	9748	37.5	12.8	50.3	54(note3)	-3.7	PK

		V	4874	43.8	8.0	51.8	54(note3)	-2.2	PK
		V	7311	38.3	10.8	49.1	54(note3)	-4.9	PK
		V	9748	37.8	12.7	50.5	54(note3)	-3.5	PK
	11	H	4924	42.1	8.1	50.2	54(note3)	-3.8	PK
		H	7386	39.3	10.9	50.2	54(note3)	-3.8	PK
		H	9848	39.0	12.9	51.9	54(note3)	-2.1	PK
		V	4924	41.9	8.2	50.1	54(note3)	-3.9	PK
		V	7386	38.6	10.9	49.5	54(note3)	-4.5	PK
		V	9848	38.3	13.0	51.3	54(note3)	-2.7	PK

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

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

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

Mode2: Transmit by 802.11g

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Ant 1	1	H	4824	42.8	8.0	50.8	54(note3)	-3.2	PK
		H	7236	37.6	10.6	48.2	54(note3)	-5.8	PK
		H	9648	39.4	12.5	51.9	54(note3)	-2.1	PK
		V	4824	43.7	7.9	51.6	54(note3)	-2.4	PK
		V	7236	37.6	10.6	48.2	54(note3)	-5.8	PK
		V	9648	39.2	12.6	51.8	54(note3)	-2.2	PK
	6	H	4874	42.1	8.0	50.1	54(note3)	-3.9	PK
		H	7311	38.5	10.8	49.3	54(note3)	-4.7	PK
		H	9748	38.5	12.7	51.2	54(note3)	-2.8	PK
		V	4874	41.2	8.0	49.2	54(note3)	-4.8	PK
		V	7311	38.2	10.8	49.0	54(note3)	-5.0	PK
		V	9748	38.5	12.8	51.3	54(note3)	-2.7	PK
	11	H	9748	37.7	12.8	50.5	54(note3)	-3.5	PK
		H	4924	41.1	8.1	49.2	54(note3)	-4.8	PK
		H	7386	40.0	10.9	50.9	54(note3)	-3.1	PK
		V	9848	38.4	12.9	51.3	54(note3)	-2.7	PK
		V	4924	41.6	8.2	49.8	54(note3)	-4.2	PK
		V	7386	39.2	10.9	50.1	54(note3)	-3.9	PK
Ant 2	1	H	4824	40.8	8.0	48.8	54(note3)	-5.2	PK
		H	7236	37.2	10.6	47.8	54(note3)	-6.2	PK
		H	9648	40.6	12.5	53.1	54(note3)	-0.9	PK
		V	4824	41.4	7.9	49.3	54(note3)	-4.7	PK
		V	7236	37.7	10.6	48.3	54(note3)	-5.7	PK
		V	9648	38.3	12.6	50.9	54(note3)	-3.1	PK
	6	H	4874	41.2	8.0	49.2	54(note3)	-4.8	PK
		H	7311	38.6	10.8	49.4	54(note3)	-4.6	PK
		H	9748	38.5	12.7	51.2	54(note3)	-2.8	PK
		V	4874	40.6	8.0	48.6	54(note3)	-5.4	PK
		V	7311	38.2	10.8	49.0	54(note3)	-5.0	PK
		V	9748	38.5	12.8	51.3	54(note3)	-2.7	PK
	11	H	4924	41.3	8.1	49.4	54(note3)	-4.6	PK
		H	7386	38.6	10.9	49.5	54(note3)	-4.5	PK

	H	9848	39.5	12.9	52.4	54(note3)	-1.6	PK
	V	4924	41.7	8.2	49.9	54(note3)	-4.1	PK
	V	7386	38.8	10.9	49.7	54(note3)	-4.3	PK
	V	9848	37.7	13.0	50.7	54(note3)	-3.3	PK

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

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

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

Mode3: Transmit by 802.11n(20MHz)

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Ant 1	1	H	4824	43.5	8.0	51.5	54(note3)	-2.5	PK
		H	7236	37.4	10.6	48.0	54(note3)	-6.0	PK
		H	9648	39.1	12.5	51.6	54(note3)	-2.4	PK
		V	4824	42.8	7.9	50.7	54(note3)	-3.3	PK
		V	7236	38.6	10.6	49.2	54(note3)	-4.8	PK
		V	9648	38.6	12.6	51.2	54(note3)	-2.8	PK
	6	H	4874	43.2	8.0	51.2	54(note3)	-2.8	PK
		H	7311	38.5	10.8	49.3	54(note3)	-4.7	PK
		H	9748	38.3	12.7	51.0	54(note3)	-3.0	PK
		V	4874	42.9	8.0	50.9	54(note3)	-3.1	PK
		V	7311	38.2	10.8	49.0	54(note3)	-5.0	PK
		V	9748	37.9	12.8	50.7	54(note3)	-3.3	PK
	11	H	4924	42.0	8.1	50.1	54(note3)	-3.9	PK
		H	7386	39.6	10.9	50.5	54(note3)	-3.5	PK
		H	9848	38.6	12.9	51.5	54(note3)	-2.5	PK
		V	4924	42.6	8.2	50.8	54(note3)	-3.2	PK
		V	7386	39.5	10.9	50.4	54(note3)	-3.6	PK
		V	9848	36.9	13.0	49.9	54(note3)	-4.1	PK
Ant 2	1	H	4824	42.8	8.0	50.8	54(note3)	-3.2	PK
		H	7236	37.5	10.6	48.1	54(note3)	-5.9	PK
		H	9648	40.5	12.5	53.0	54(note3)	-1.0	PK
		V	4824	41.1	7.9	49.0	54(note3)	-5.0	PK
		V	7236	37.5	10.6	48.1	54(note3)	-5.9	PK
		V	9648	39.1	12.6	51.7	54(note3)	-2.3	PK
	6	H	4874	42.8	8.0	50.8	54(note3)	-3.2	PK
		H	7311	38.4	10.8	49.2	54(note3)	-4.8	PK
		H	9748	39.0	12.7	51.7	54(note3)	-2.3	PK
		V	4874	41.4	8.0	49.4	54(note3)	-4.6	PK
		V	7311	38.2	10.8	49.0	54(note3)	-5.0	PK
		V	9748	38.1	12.8	50.9	54(note3)	-3.1	PK
	11	H	4924	42.1	8.1	50.2	54(note3)	-3.8	PK
		H	7386	39.0	10.9	49.9	54(note3)	-4.1	PK

		H	9848	37.9	12.9	50.8	54(note3)	-3.2	PK
		V	4924	41.7	8.2	49.9	54(note3)	-4.1	PK
		V	7386	39.0	10.9	49.9	54(note3)	-4.1	PK
		V	9848	37.9	13.0	50.9	54(note3)	-3.1	PK
Ant 1+2	1	H	4824	44.5	8.0	52.5	54(note3)	-1.5	PK
		H	7236	37.4	10.6	48.0	54(note3)	-6.0	PK
		H	9648	39.3	12.5	51.8	54(note3)	-2.2	PK
		V	4824	41.2	7.9	49.1	54(note3)	-4.9	PK
		V	7236	38.2	10.6	48.8	54(note3)	-5.2	PK
		V	9648	39.1	12.6	51.7	54(note3)	-2.3	PK
	6	H	4874	44.4	8.0	52.4	54(note3)	-1.6	PK
		H	7311	38.0	10.8	48.8	54(note3)	-5.2	PK
		H	9748	37.9	12.7	50.6	54(note3)	-3.4	PK
		V	4874	41.2	8.0	49.2	54(note3)	-4.8	PK
		V	7311	38.5	10.8	49.3	54(note3)	-4.7	PK
		V	9748	38.6	12.8	51.4	54(note3)	-2.6	PK
	11	H	4924	43.0	8.1	51.1	54(note3)	-2.9	PK
		H	7386	38.9	10.9	49.8	54(note3)	-4.2	PK
		H	9848	37.3	12.9	50.2	54(note3)	-3.8	PK
		V	4924	43.8	8.2	52.0	54(note3)	-2.0	PK
		V	7386	39.0	10.9	49.9	54(note3)	-4.1	PK
		V	9848	37.4	13.0	50.4	54(note3)	-3.6	PK

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

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

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



Mode4: Transmit by 802.11n(40MHz)

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Ant 1	3	H	4844	43.7	8.0	51.7	54(note3)	-2.3	PK
		H	7266	37.3	10.7	48.0	54(note3)	-6.0	PK
		H	9688	37.9	12.7	50.6	54(note3)	-3.4	PK
		V	4844	42.6	7.9	50.5	54(note3)	-3.5	PK
		V	7266	38.6	10.7	49.3	54(note3)	-4.7	PK
		V	9688	38.0	12.7	50.7	54(note3)	-3.3	PK
	6	H	4874	42.4	8.0	50.4	54(note3)	-3.6	PK
		H	7311	38.2	10.8	49.0	54(note3)	-5.0	PK
		H	9748	37.8	12.7	50.5	54(note3)	-3.5	PK
		V	4874	44.7	8.0	52.7	54(note3)	-1.3	PK
		V	7311	38.5	10.8	49.3	54(note3)	-4.7	PK
		V	9748	37.8	12.8	50.6	54(note3)	-3.4	PK
	9	H	4904	44.8	8.1	52.9	54(note3)	-1.1	PK
		H	7356	38.7	10.8	49.5	54(note3)	-4.5	PK
		H	9808	38.2	12.8	51.0	54(note3)	-3.0	PK
		V	4904	43.4	8.2	51.6	54(note3)	-2.4	PK
		V	7356	38.4	10.8	49.2	54(note3)	-4.8	PK
		V	9808	36.5	12.9	49.4	54(note3)	-4.6	PK
Ant 2	3	H	4844	43.6	8.0	51.6	54(note3)	-2.4	PK
		H	7266	37.3	10.7	48.0	54(note3)	-6.0	PK
		H	9688	38.7	12.7	51.4	54(note3)	-2.6	PK
		V	4844	42.3	7.9	50.2	54(note3)	-3.8	PK
		V	7266	37.9	10.7	48.6	54(note3)	-5.4	PK
		V	9688	37.6	12.7	50.3	54(note3)	-3.7	PK
	6	H	4874	43.4	8.0	51.4	54(note3)	-2.6	PK
		H	7311	39.6	10.8	50.4	54(note3)	-3.6	PK
		H	9748	38.6	12.7	51.3	54(note3)	-2.7	PK
		V	4874	44.3	8.0	52.3	54(note3)	-1.7	PK
		V	7311	38.4	10.8	49.2	54(note3)	-4.8	PK
		V	9748	38.0	12.8	50.8	54(note3)	-3.2	PK
9	H	4904	43.1	8.1	51.2	54(note3)	-2.8	PK	
	H	7356	38.5	10.8	49.3	54(note3)	-4.7	PK	

		H	9808	37.4	12.8	50.2	54(note3)	-3.8	PK
		V	4904	44.6	8.2	52.8	54(note3)	-1.2	PK
		V	7356	38.6	10.8	49.4	54(note3)	-4.6	PK
		V	9808	37.1	12.9	50.0	54(note3)	-4.0	PK
Ant 1+2	3	H	4844	44.9	8.0	52.9	54(note3)	-1.1	PK
		H	7266	38.1	10.7	48.8	54(note3)	-5.2	PK
		H	9688	39.5	12.7	52.2	54(note3)	-1.8	PK
		V	4844	43.4	7.9	51.3	54(note3)	-2.7	PK
		V	7266	37.4	10.7	48.1	54(note3)	-5.9	PK
		V	9688	37.7	12.7	50.4	54(note3)	-3.6	PK
	6	H	4874	43.8	8.0	51.8	54(note3)	-2.2	PK
		H	7311	38.6	10.8	49.4	54(note3)	-4.6	PK
		H	9748	38.4	12.7	51.1	54(note3)	-2.9	PK
		V	4874	44.3	8.0	52.3	54(note3)	-1.7	PK
		V	7311	38.6	10.8	49.4	54(note3)	-4.6	PK
		V	9748	38.3	12.8	51.1	54(note3)	-2.9	PK
	9	H	4904	43.3	8.1	51.4	54(note3)	-2.6	PK
		H	7356	38.8	10.8	49.6	54(note3)	-4.4	PK
		H	9808	37.2	12.8	50.0	54(note3)	-4.0	PK
		V	4904	42.6	8.2	50.8	54(note3)	-3.2	PK
		V	7356	38.7	10.8	49.5	54(note3)	-4.5	PK
		V	9808	36.9	12.9	49.8	54(note3)	-4.2	PK

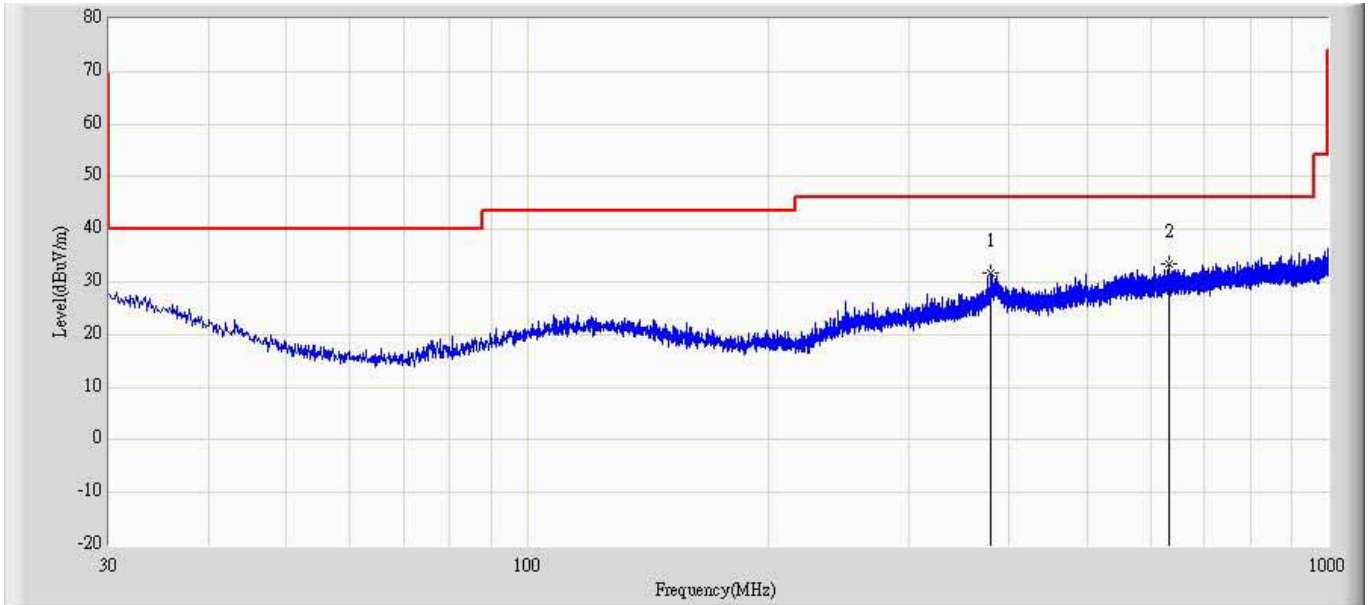
Note: 1. Measure Level = Reading Level + Factor.

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

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

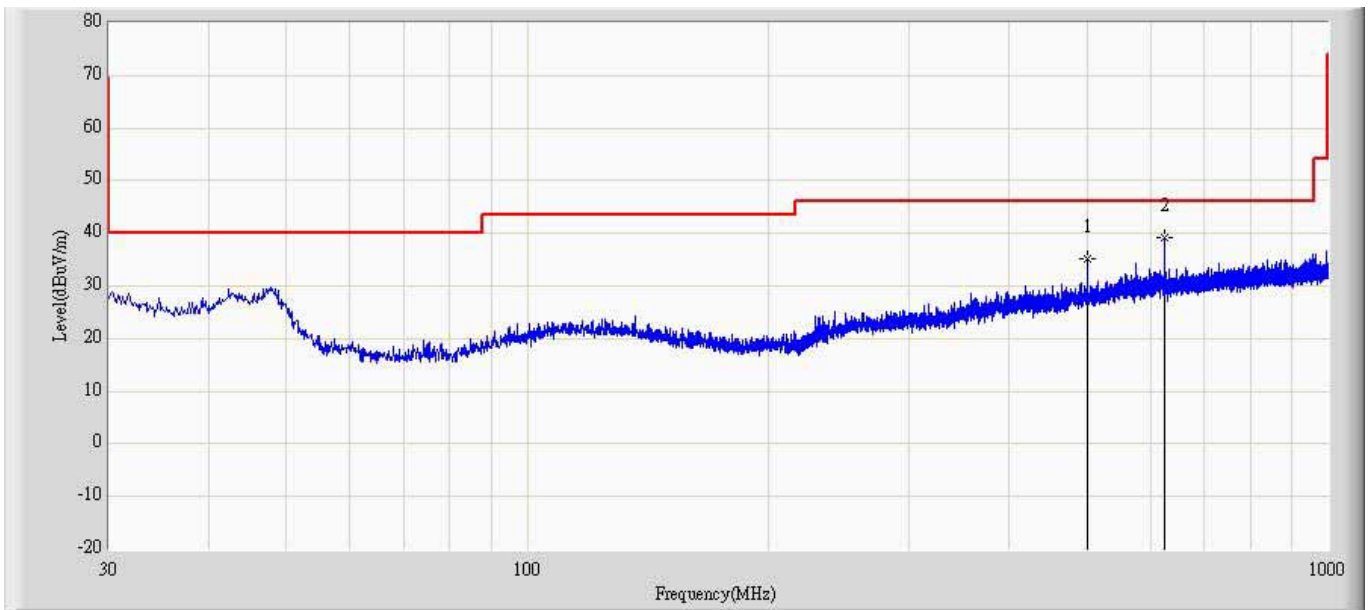
The worst case of Radiated Emission below 1GHz:

Site: AC2	Time: 2014/12/19 -09:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: CBL6112D_27611(30-1000MHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode4: Transmit at channel 2412MHz by 802.11n40	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		378.715	31.656	8.756	-14.344	46.000	22.9	QP
2	*	634.431	33.588	6.156	-12.412	46.000	27.432	QP

Site: AC2	Time: 2014/12/19 -09:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: CBL6112D_27611(30-1000MHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode4: Transmit at channel 2412MHz by 802.11n40	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		378.715	35.625	10.185	-10.375	46.000	25.44	QP
2	*	634.431	39.384	11.986	-6.616	46.000	27.398	QP

## 5. RF Antenna Conducted Spurious

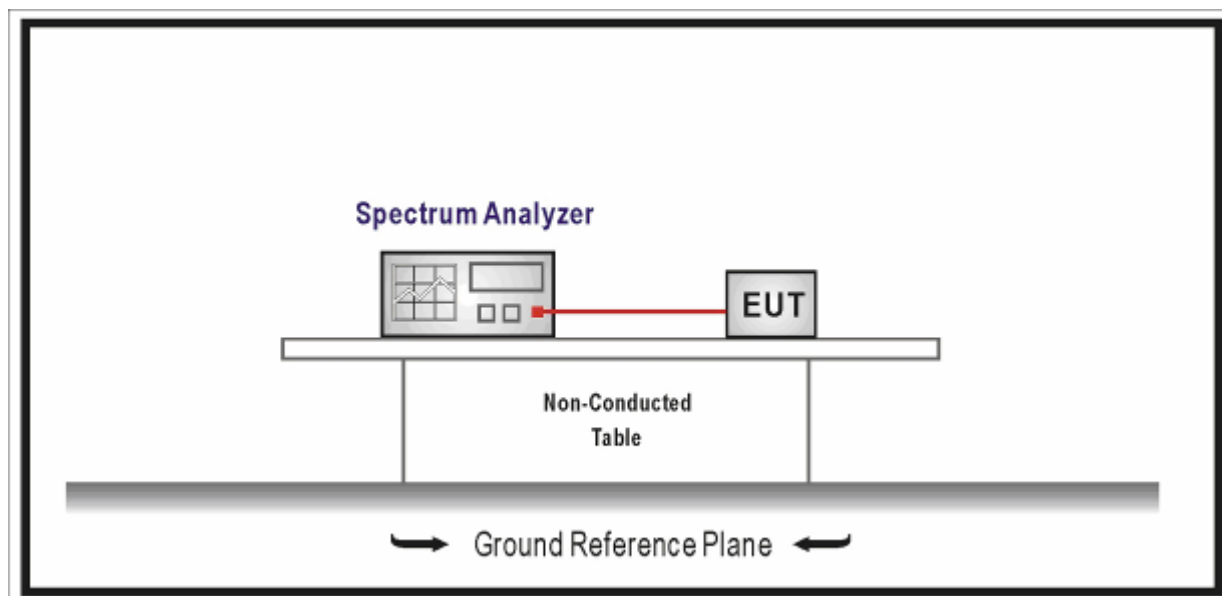
### 5.1. Test Equipment

RF Antenna Conducted Spurious / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2015.01.07
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2015.04.09

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

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

#### 5.4. Test Procedure

The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.

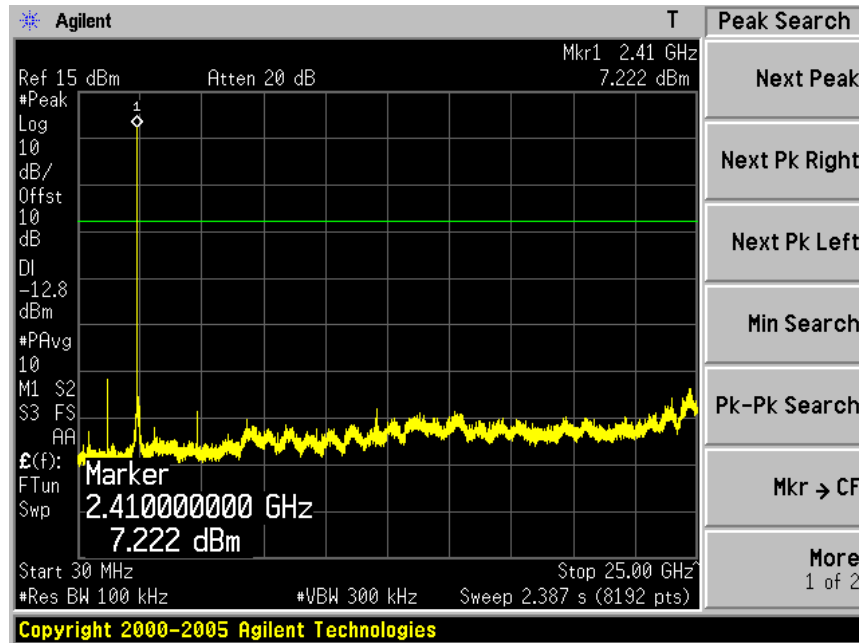
#### 5.5. Uncertainty

The measurement uncertainty is defined as  $\pm 1.27$  dB

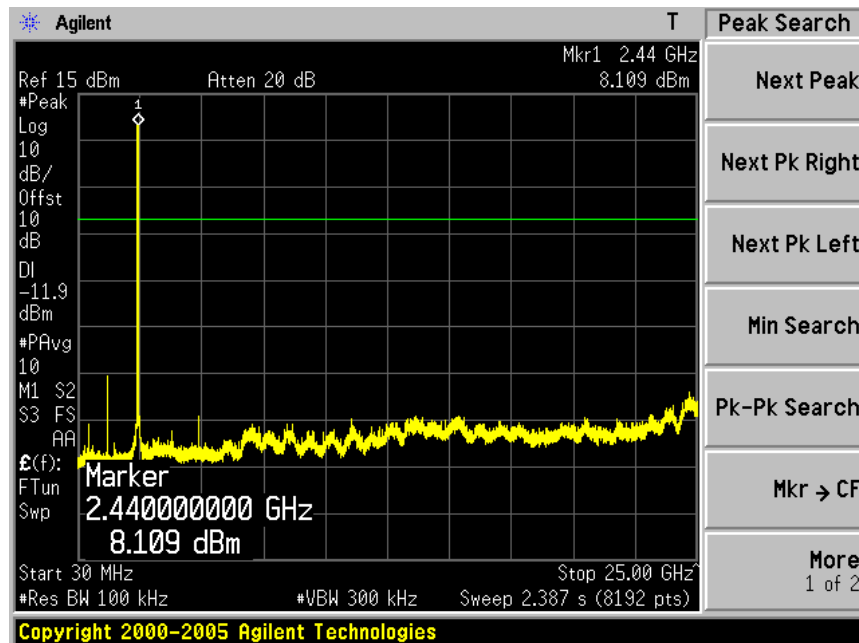
5.6. Test Result

Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: RF Antenna Conducted Spurious
Test Site	: TR-8
Test Mode	: Mode 1: Transmit by 802.11b (Ant 1)

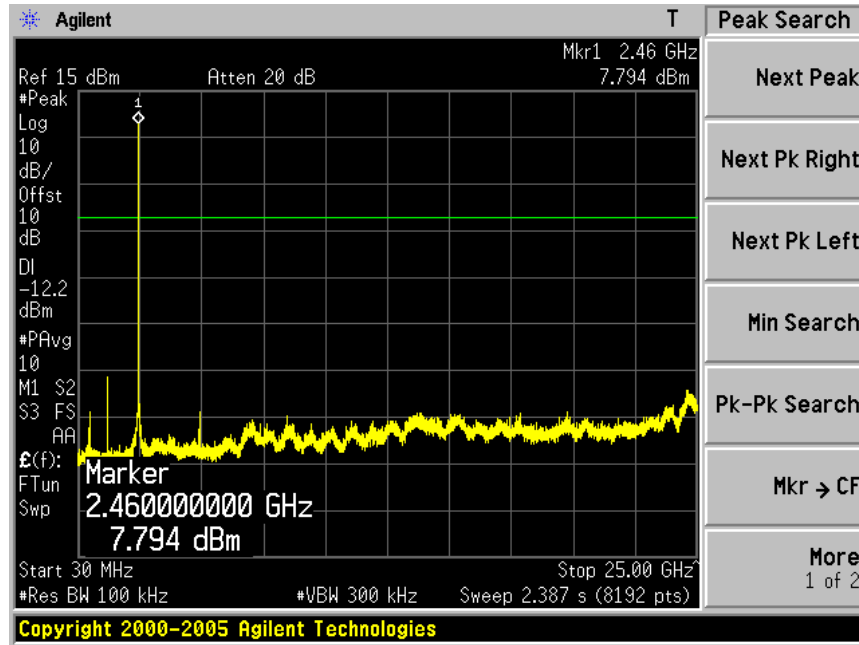
Channel 01 (2412MHz)



Channel 06 (2437MHz)



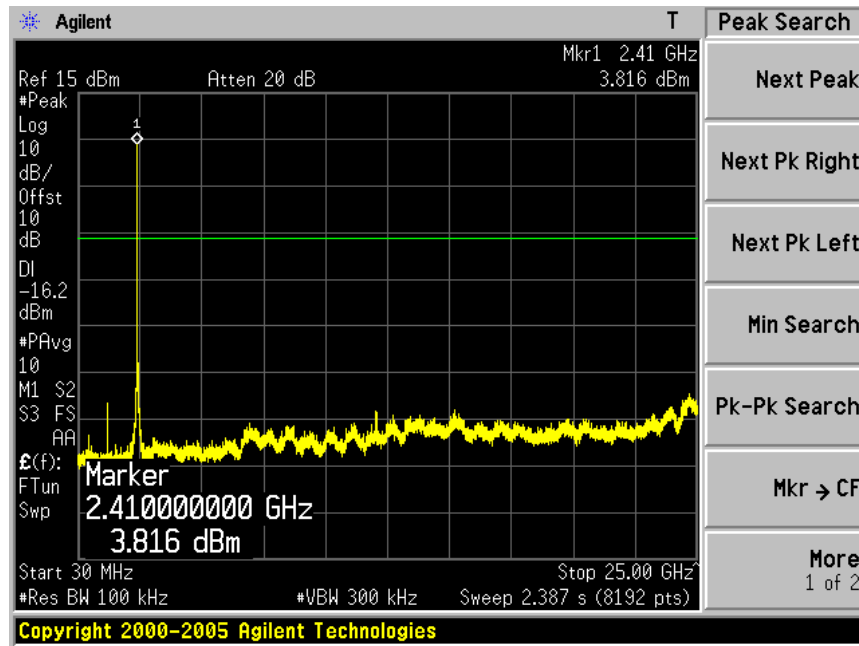
Channel 11 (2462MHz)



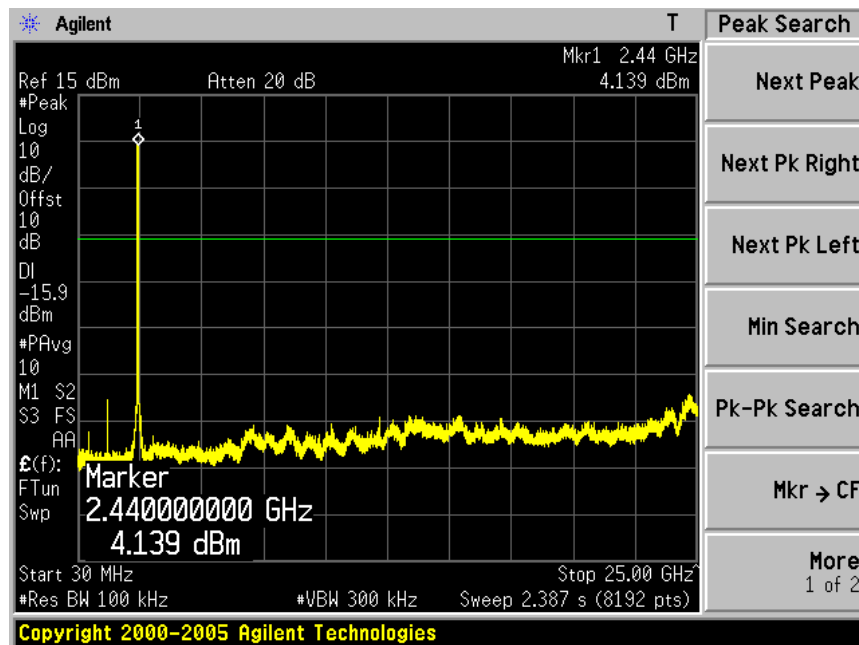


Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: RF Antenna Conducted Spurious
Test Site	: TR-8
Test Mode	: Mode 2: Transmit by 802.11g (Ant 1)

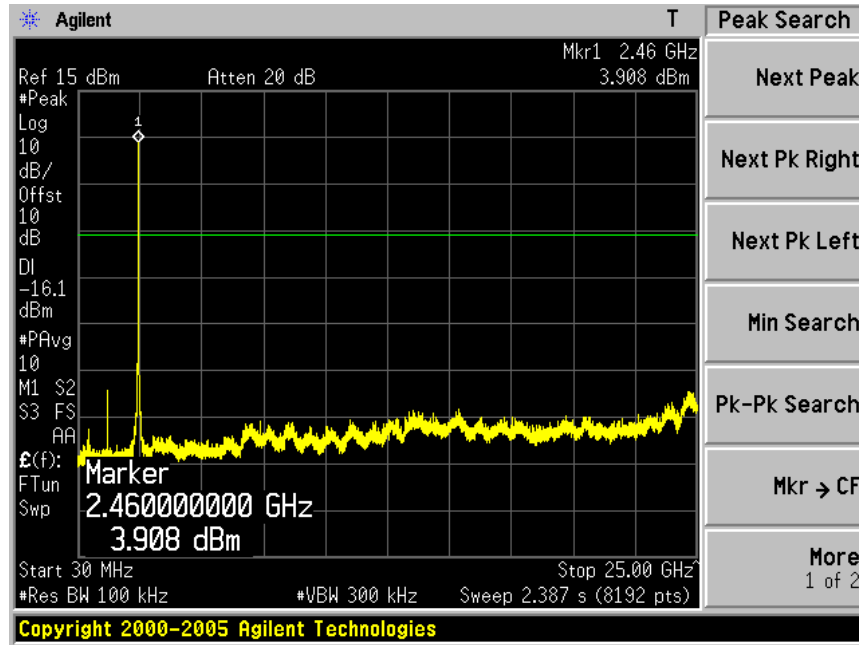
Channel 01 (2412MHz)



Channel 06 (2437MHz)

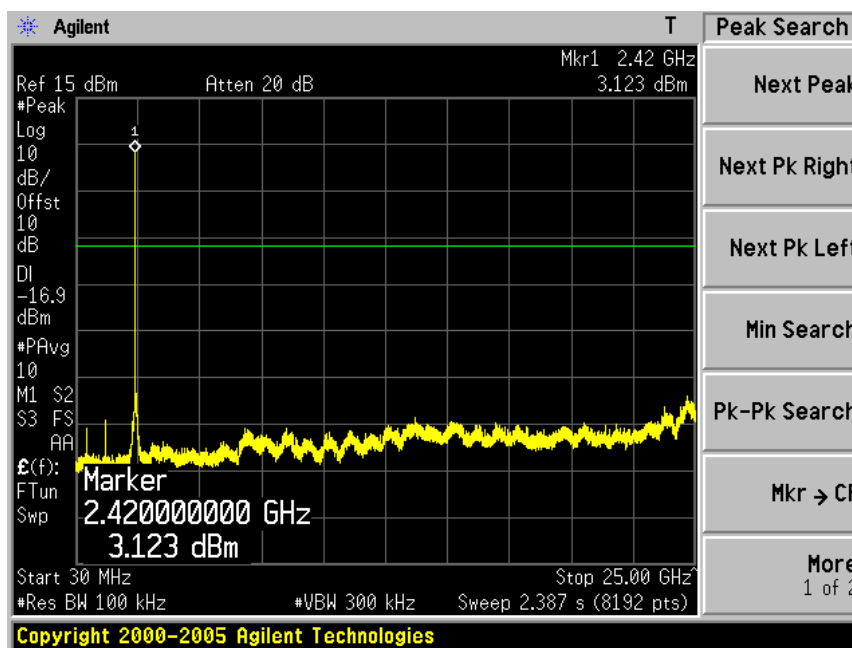


Channel 11 (2462MHz)

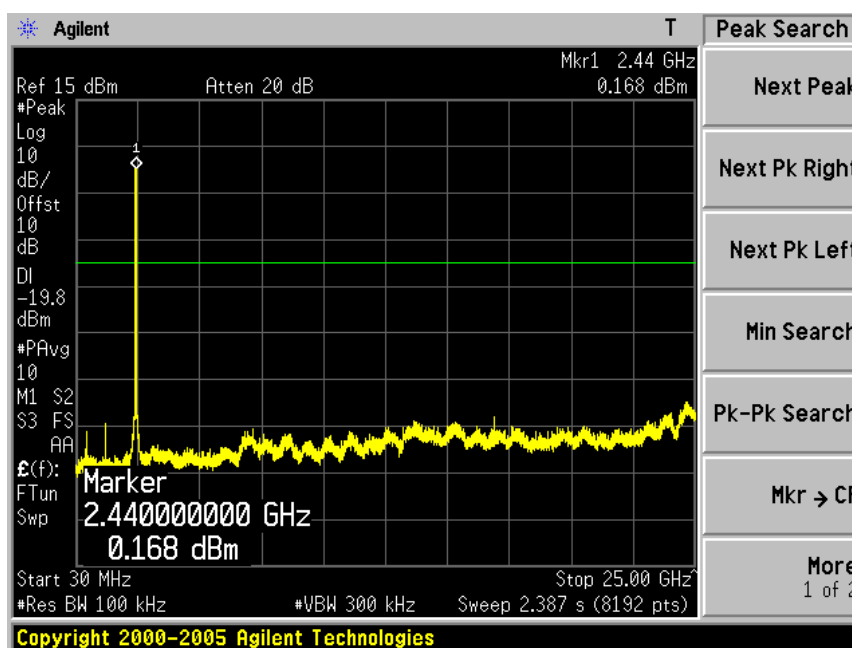


Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: RF Antenna Conducted Spurious
Test Site	: TR-8
Test Mode	: Mode 3: Transmit by 802.11n(20MHz) (Ant 1)

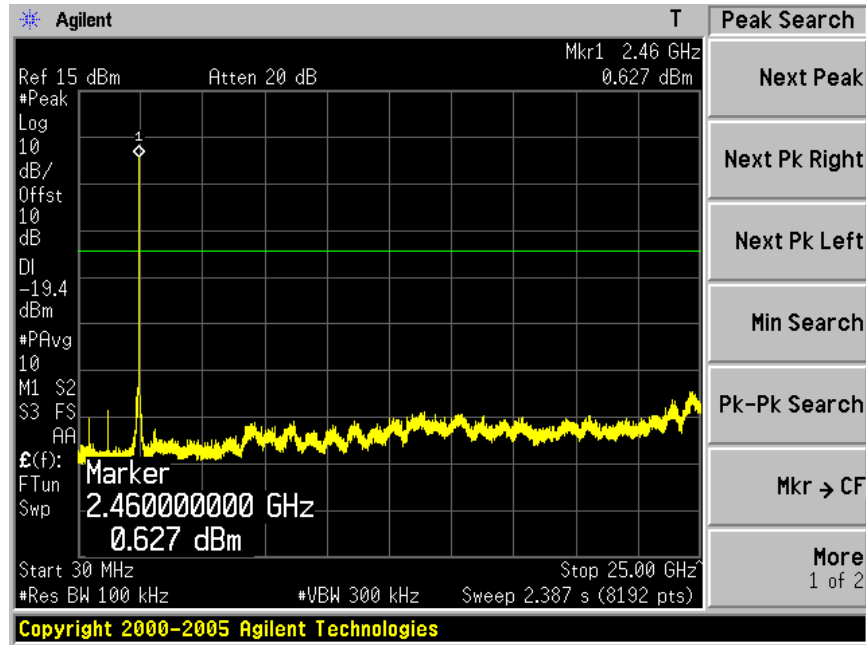
Channel 01 (2412MHz)



Channel 06 (2437MHz)

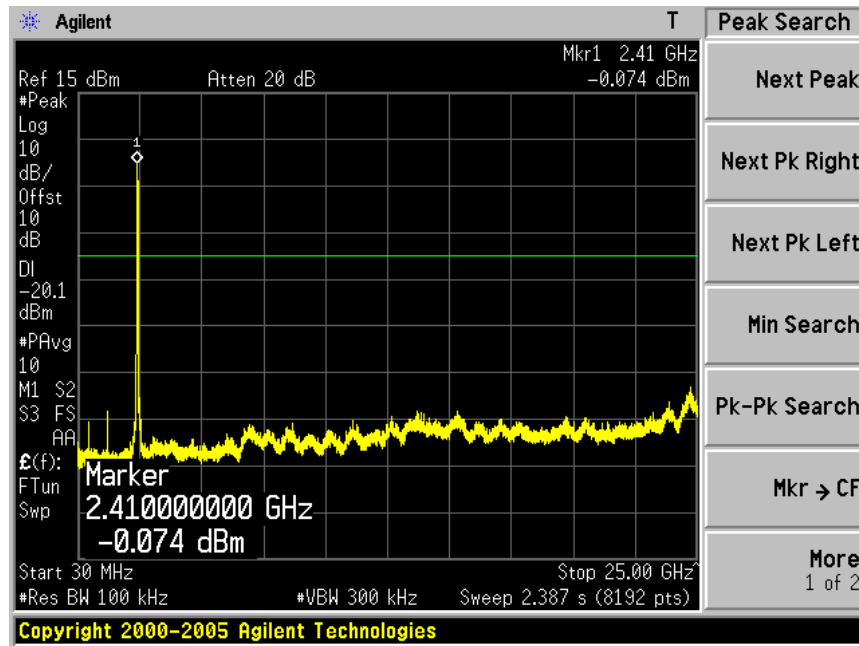


Channel 11 (2462MHz)

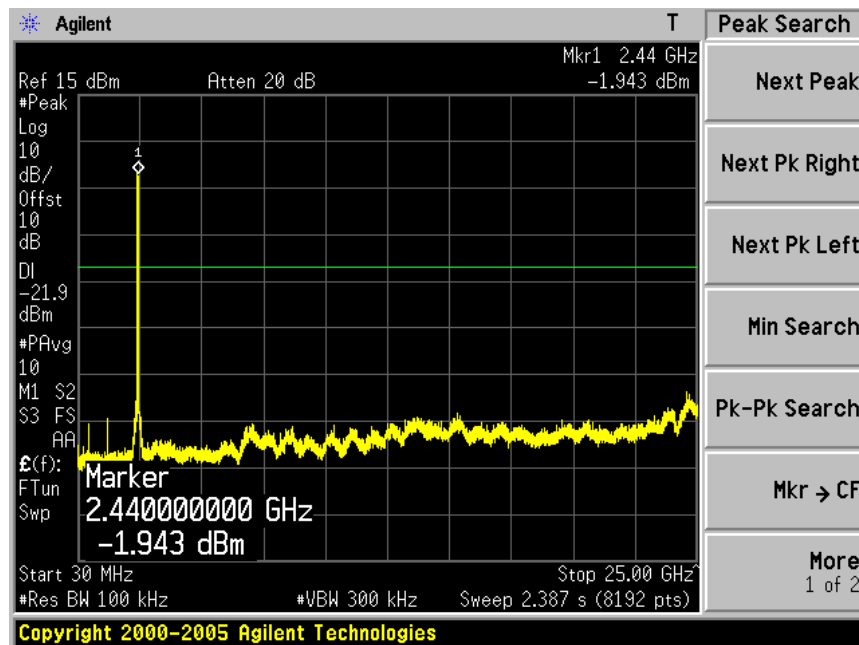


Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: RF Antenna Conducted Spurious
Test Site	: TR-8
Test Mode	: Mode 4: Transmit by 802.11n(40MHz) (Ant 1)

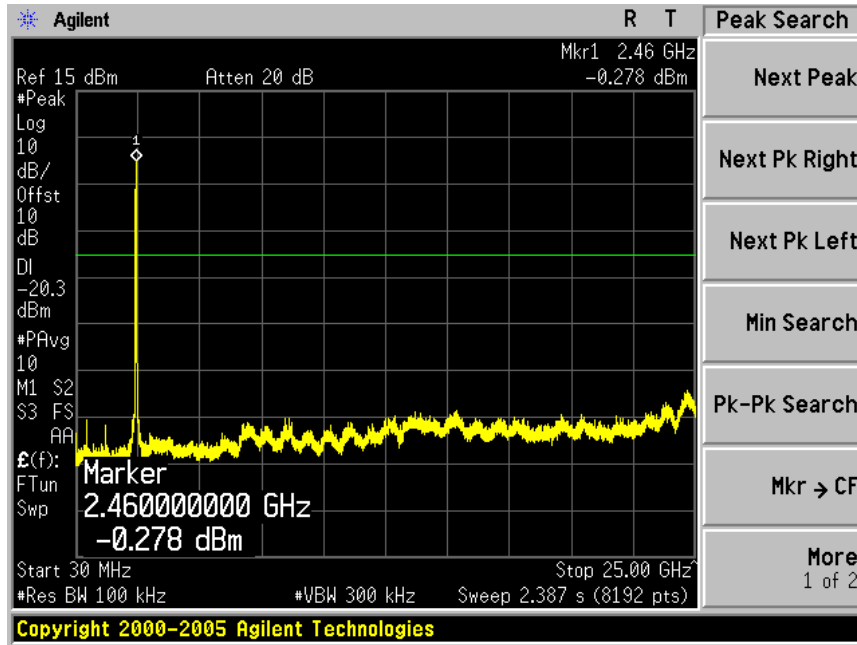
Channel 03 (2422MHz)



Channel 06 (2437MHz)

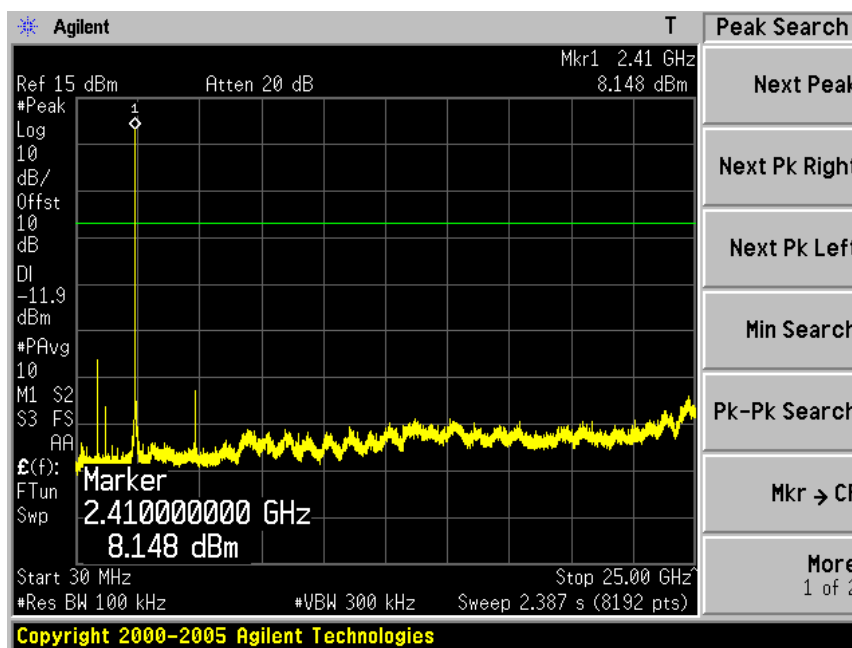


Channel 09 (2452MHz)

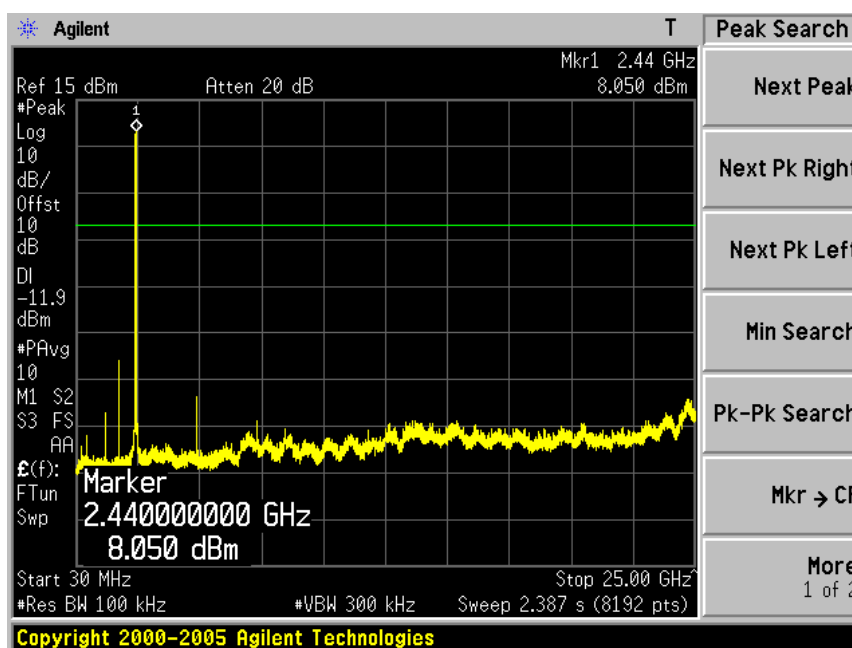


Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: RF Antenna Conducted Spurious
Test Site	: TR-8
Test Mode	: Mode 1: Transmit by 802.11b (Ant 2)

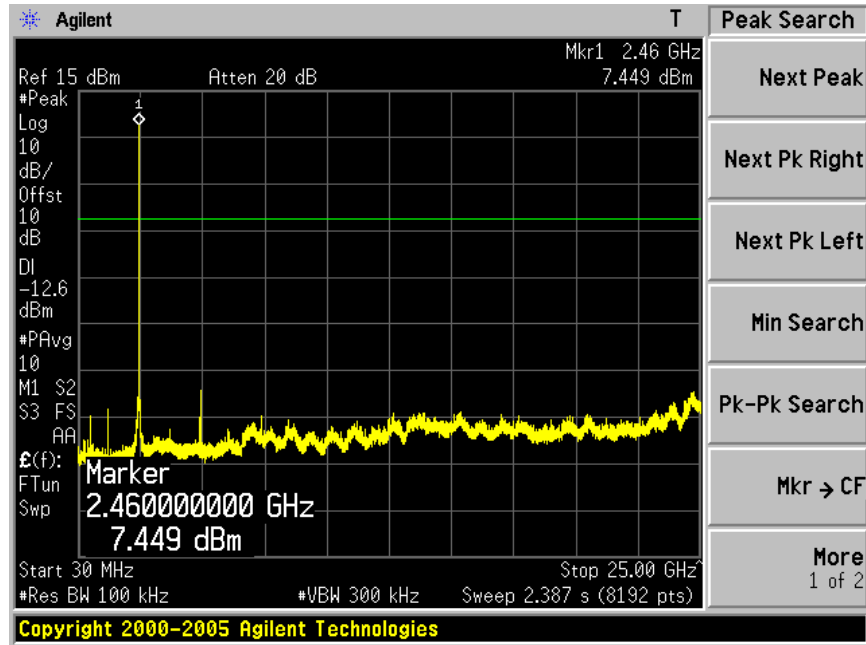
Channel 01 (2412MHz)



Channel 06 (2437MHz)



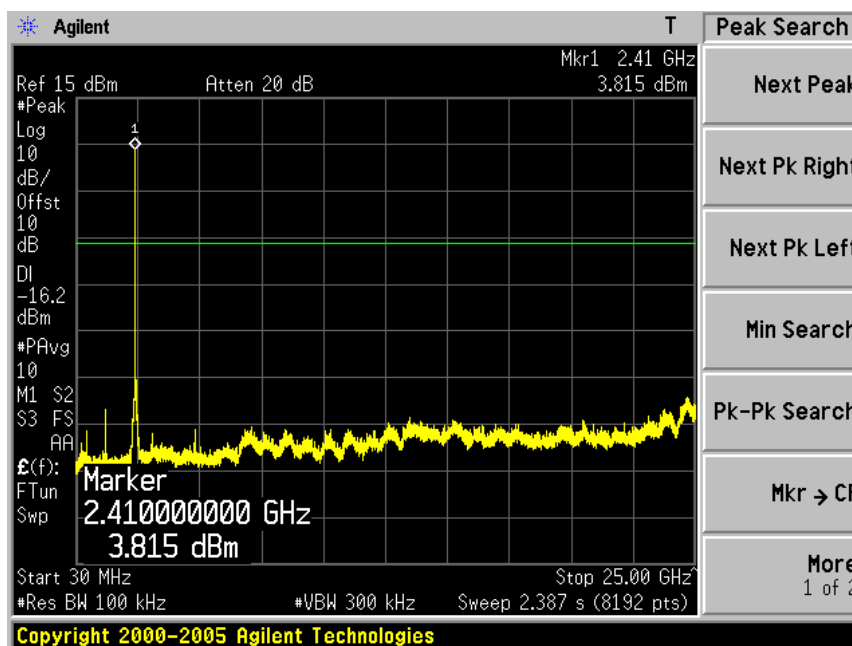
Channel 11 (2462MHz)



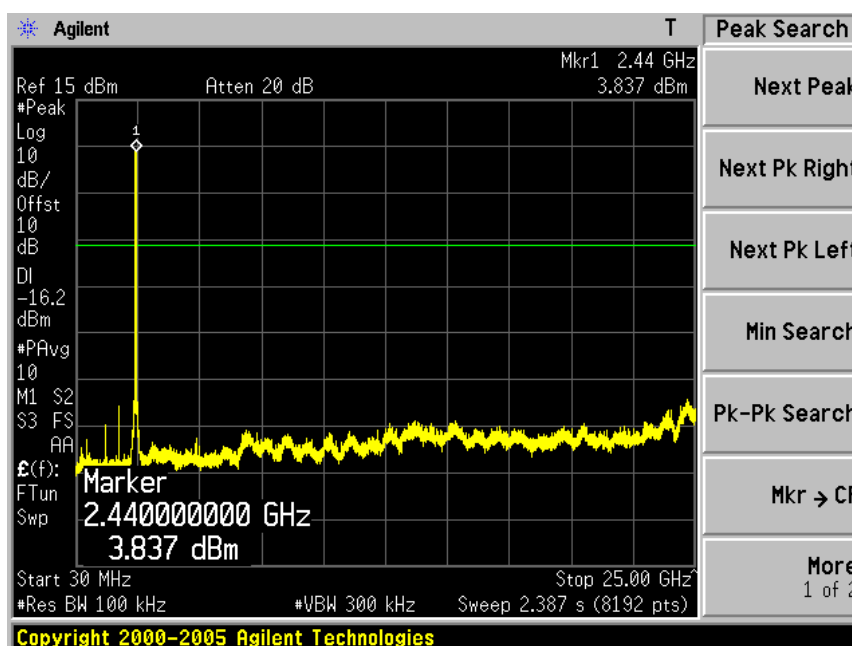


Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: RF Antenna Conducted Spurious
Test Site	: TR-8
Test Mode	: Mode 2: Transmit by 802.11g (Ant 2)

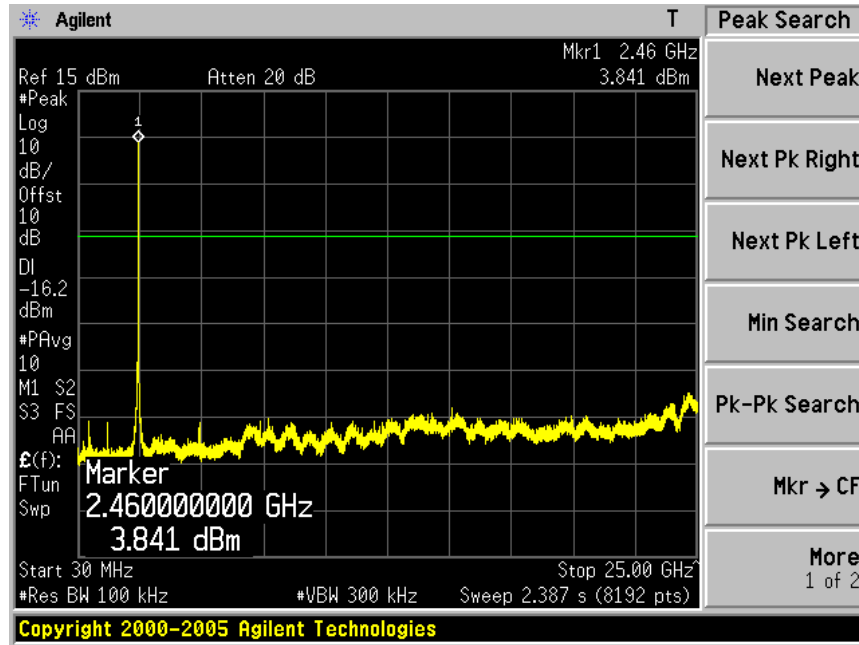
Channel 01 (2412MHz)



Channel 06 (2437MHz)

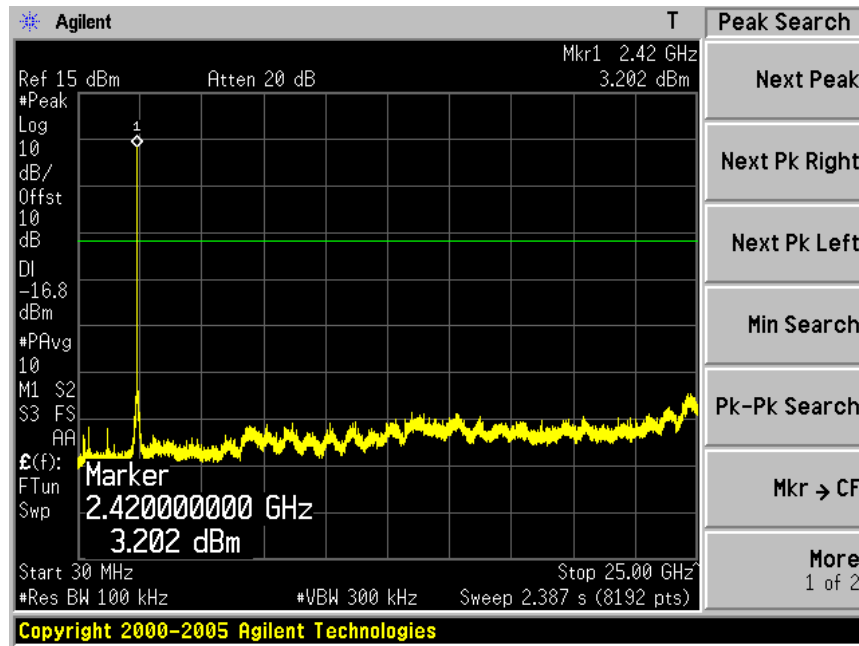


Channel 11 (2462MHz)

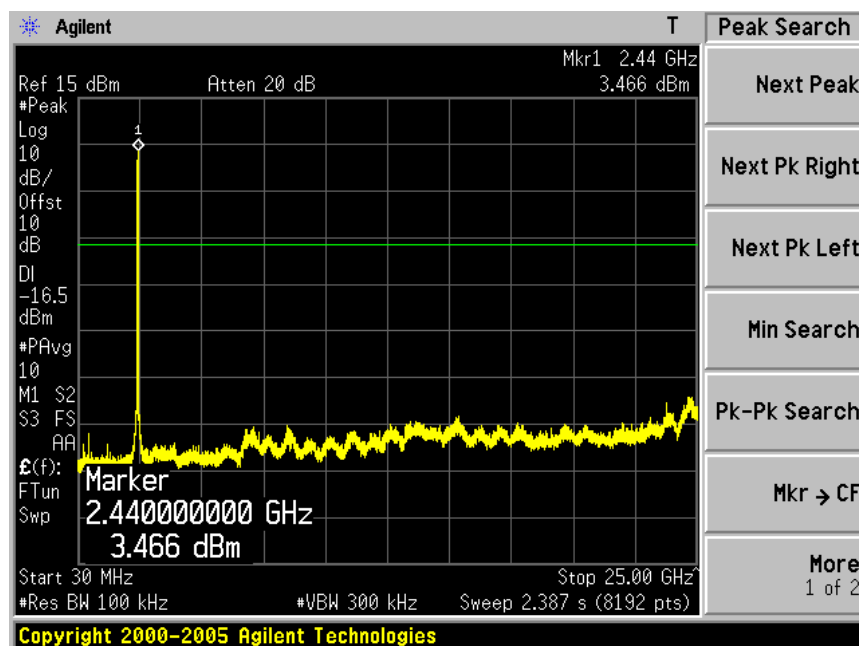


Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: RF Antenna Conducted Spurious
Test Site	: TR-8
Test Mode	: Mode 3: Transmit by 802.11n(20MHz) (Ant 2)

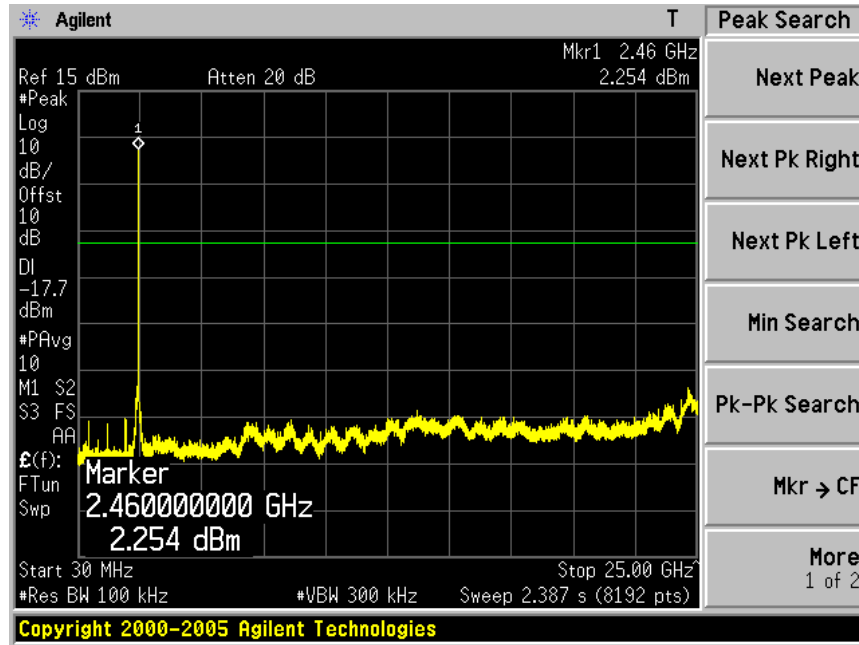
Channel 01 (2412MHz)



Channel 06 (2437MHz)

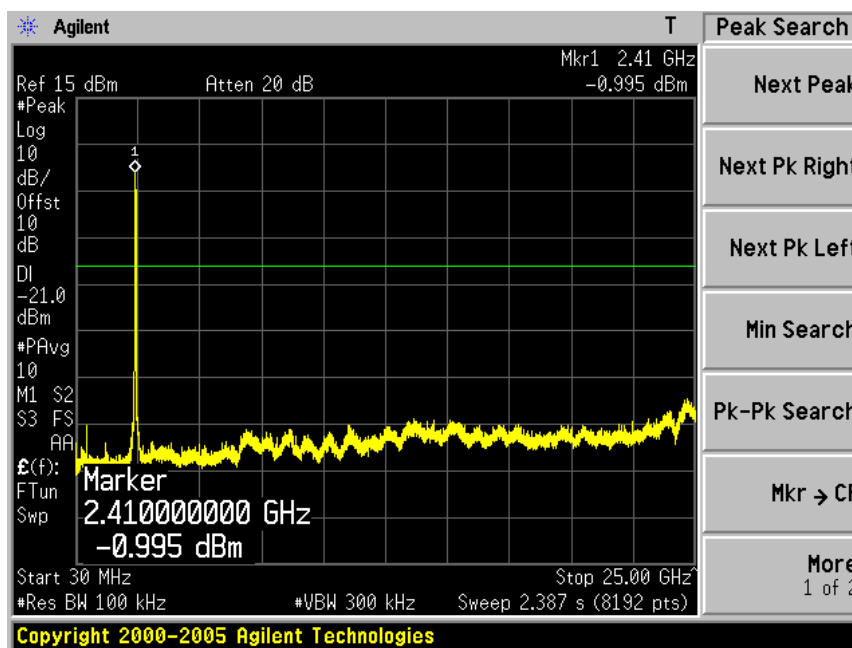


Channel 11 (2462MHz)

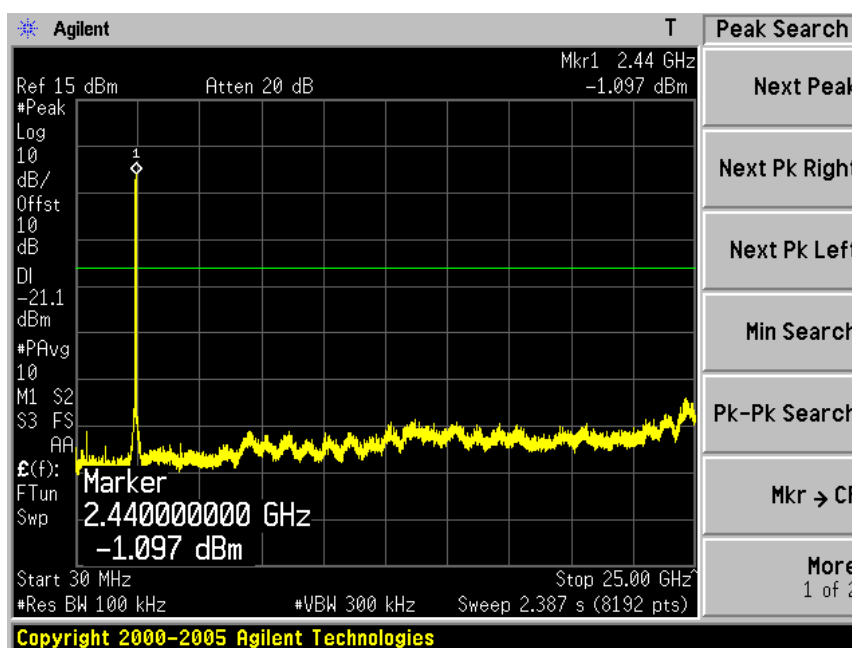


Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: RF Antenna Conducted Spurious
Test Site	: TR-8
Test Mode	: Mode 6: Transmit by 802.11n(40MHz) (Ant 2)

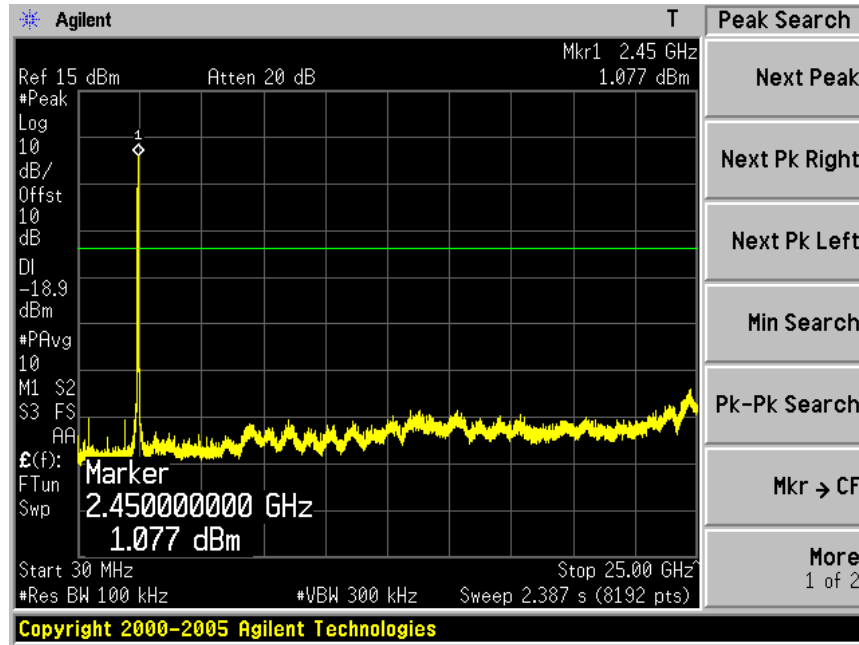
Channel 03 (2422MHz)



Channel 06 (2437MHz)



Channel 09 (2452MHz)



**6. Radiated Emission Band Edge**

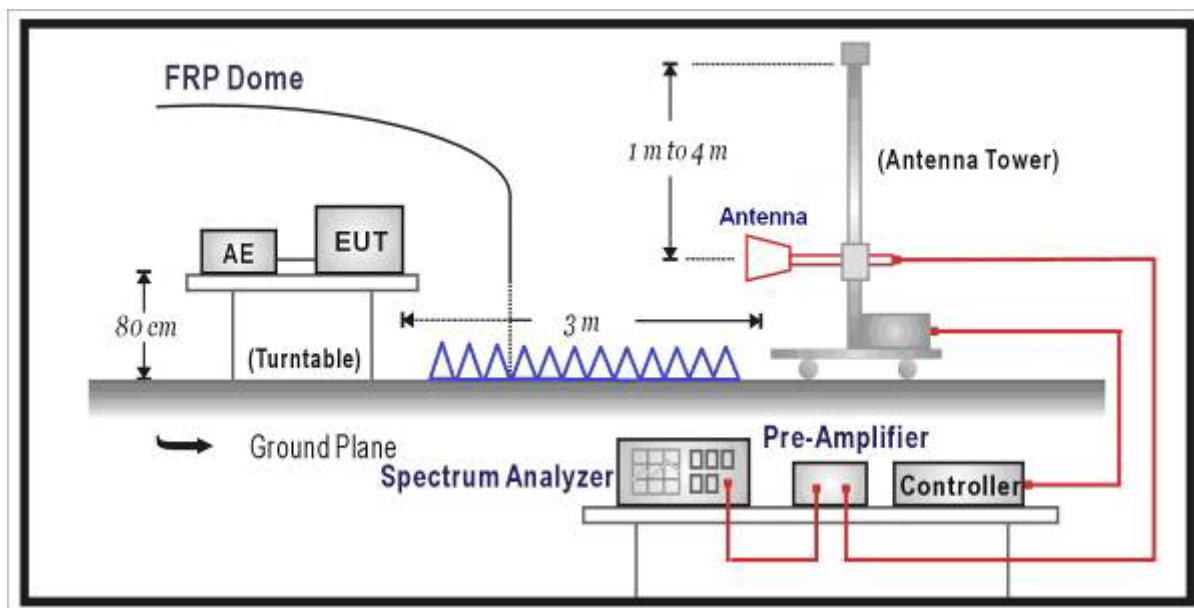
**6.1. Test Equipment**

Radiated Emission Band Edge / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MY49100159	2015.03.28
Preamplifier	Miteq	NSP1800-25	1364185	2015.05.03
Preamplifier	QuieTek	AP-040G	CHM-0906001	2015.05.03
Bilog Antenna	Teseq GmbH	CBL6112D	27612	2015.10.15
DRG Horn	ETS-Lindgren	3117	00123988	2015.01.07
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2015.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2015.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2015.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2015.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2015.01.08

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

## 6.2. Test Setup



## 6.3. Limit

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) (see Section 15.205(c)).

## 6.4. Test Procedure

Since the EUT can be set to transmit continuously (Duty cycle >98%), use KDB 558074 Section 13.3.1 to perform band edge test for average value.

If the EUT can be configured or modified to transmit continuously ( $D \geq 98\%$ ), then the average emission levels within 2 MHz of the authorized band edge may be measured using the following method (with EUT transmitting continuously):

- a) Set instrument center frequency to the frequency of the emission to be measured (must be within 2 MHz of the authorized band edge).
- b) Set span to 2 MHz.
- c) RBW = 100 kHz.
- d) VBW  $\geq [3 \times \text{RBW}]$ .
- e) Detector = RMS (power averaging), if  $[\text{span} / (\# \text{ of points in sweep})] \leq (\text{RBW} / 2)$ .
- f) Averaging type = power (i.e., rms).
  - 1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
  - 2) Some instruments require linear display mode to use linear voltage averaging. Log or



dB averaging shall not be used.

g) Sweep time = auto.

h) Perform a trace average of at least 100 traces.

i) Compute the power by integrating the spectrum over 1 MHz using the analyzer's band power measurement function with band limits set equal to the emission frequency (femission)  $\pm$  0.5 MHz.

If the instrument does not have a band power function, then sum the amplitude levels (in power units) at 100 kHz intervals extending across the 1 MHz spectrum defined by femission  $\pm$  0.5 MHz.

## 6.5. Uncertainty

The measurement uncertainty above 1G is defined as  $\pm$  3.9 dB

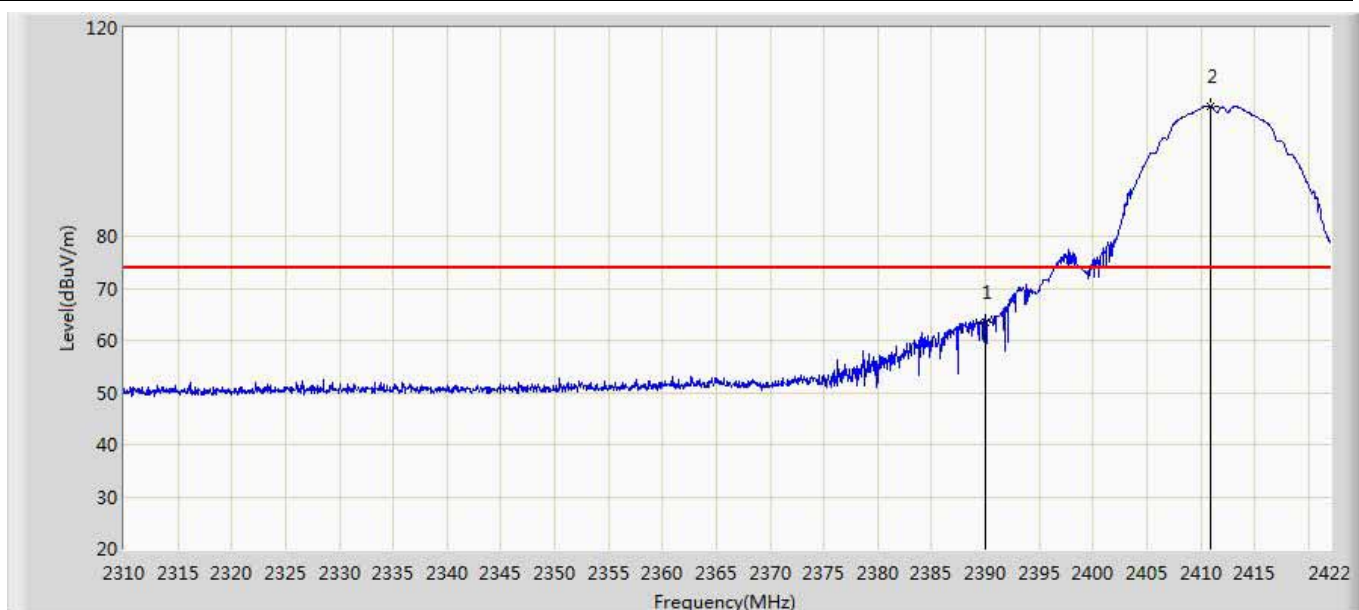
### 6.6. Test Result

Measure Level = Reading Level + Cable Loss + Antenna Factor - Preamplifier Gain

In case the emission is fail due to the used RB/VB is too wide, marker-delta method of FCC Public Notice will be followed.

Note: when the duty cycle is less than 98%, a duty cycle factor is calculated in the correction factor.

Site: AC5	Time: 2014/12/16 - 20:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2412 by 11b ant1	



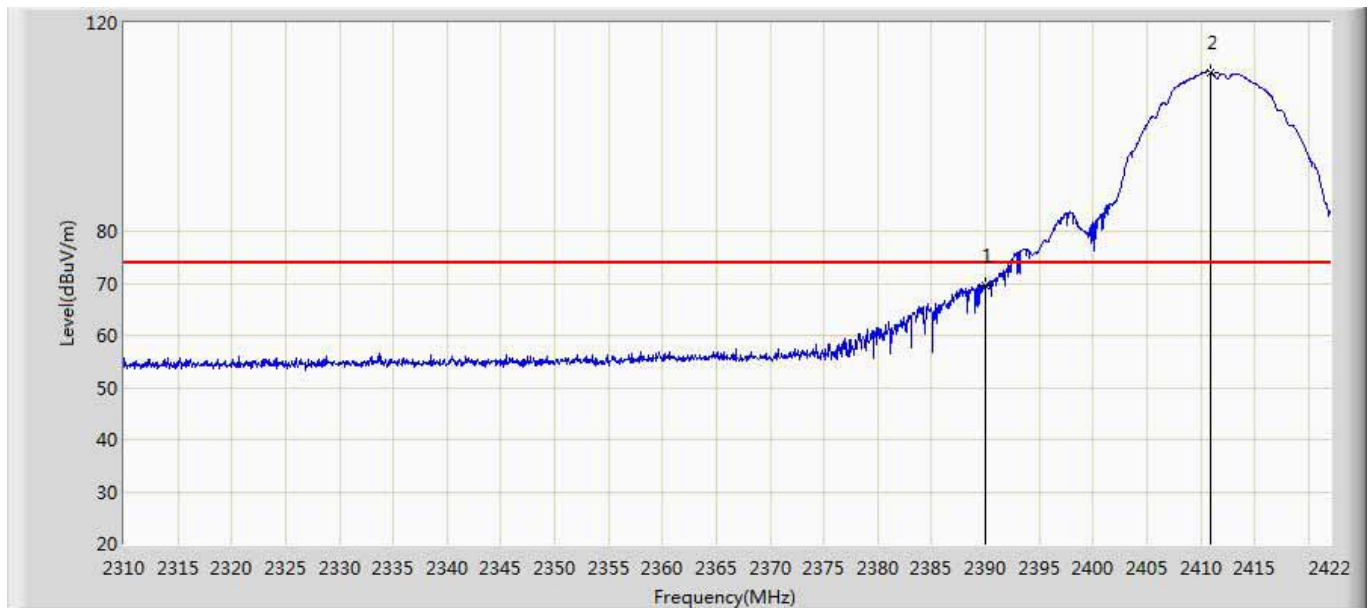
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	63.538	25.845	-10.462	74.000	37.693	PK
2	*	2410.856	105.035	67.239	31.035	74.000	37.796	PK

Site: AC5	Time: 2014/12/16 - 20:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2412 by 11b ant1	



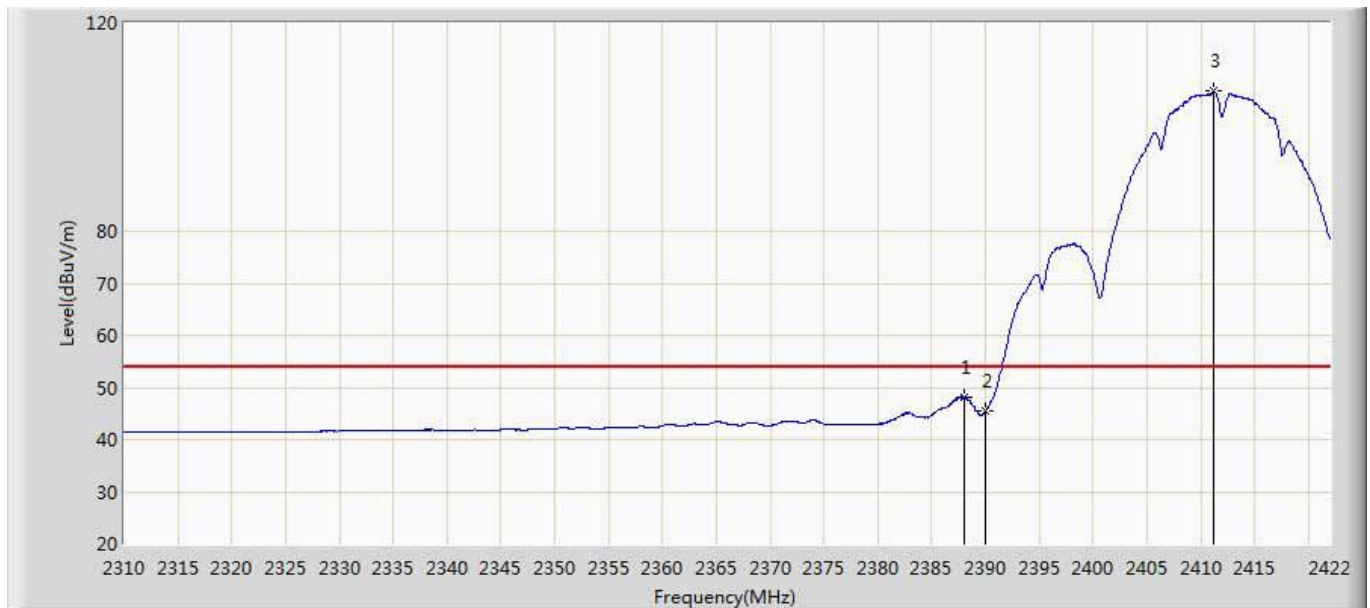
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2388.008	42.452	4.769	-11.548	54.000	37.683	AV
2		2390.000	40.304	2.611	-13.696	54.000	37.693	AV
3	*	2411.360	101.082	63.283	47.082	54.000	37.799	AV

Site: AC5	Time: 2014/12/16 - 20:55
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2412 by 11b ant1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	69.478	31.785	-4.522	74.000	37.693	PK
2	*	2410.912	110.549	72.752	36.549	74.000	37.797	PK

Site: AC5	Time: 2014/12/16 - 20:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2412 by 11b ant1	



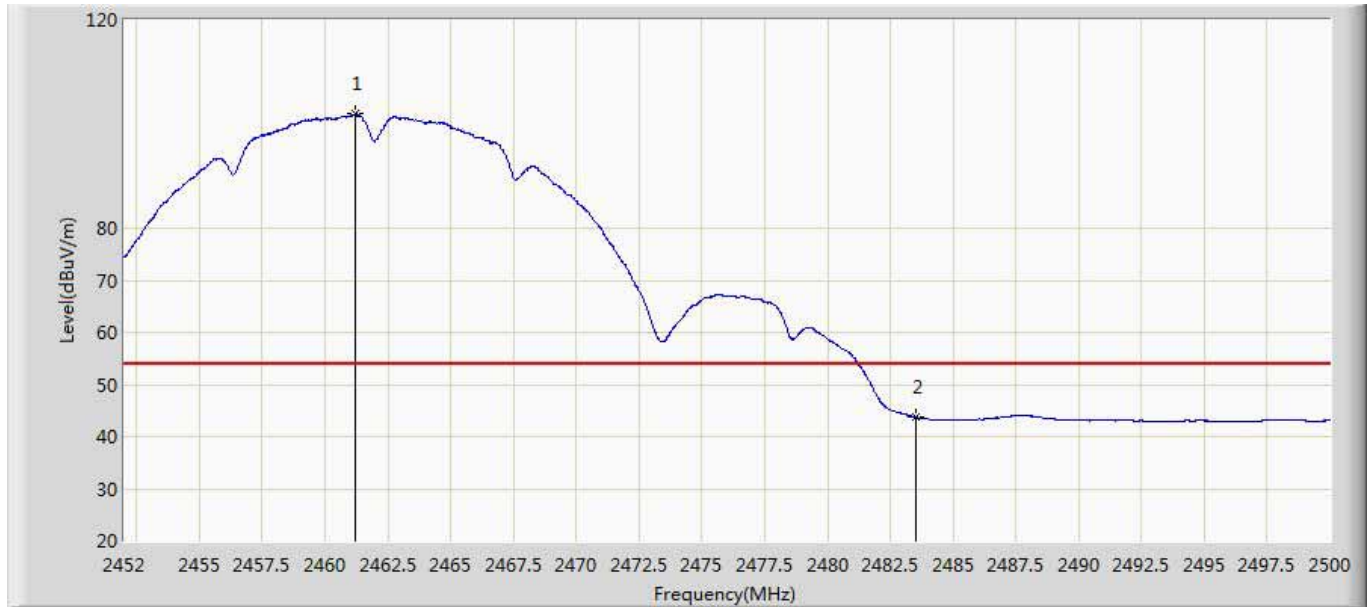
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2388.008	48.259	10.576	-5.741	54.000	37.683	AV
2		2390.000	45.469	7.776	-8.531	54.000	37.693	AV
3	*	2411.192	106.829	69.031	52.829	54.000	37.798	AV

Site: AC5	Time: 2014/12/16 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2462 by 11b ant1	



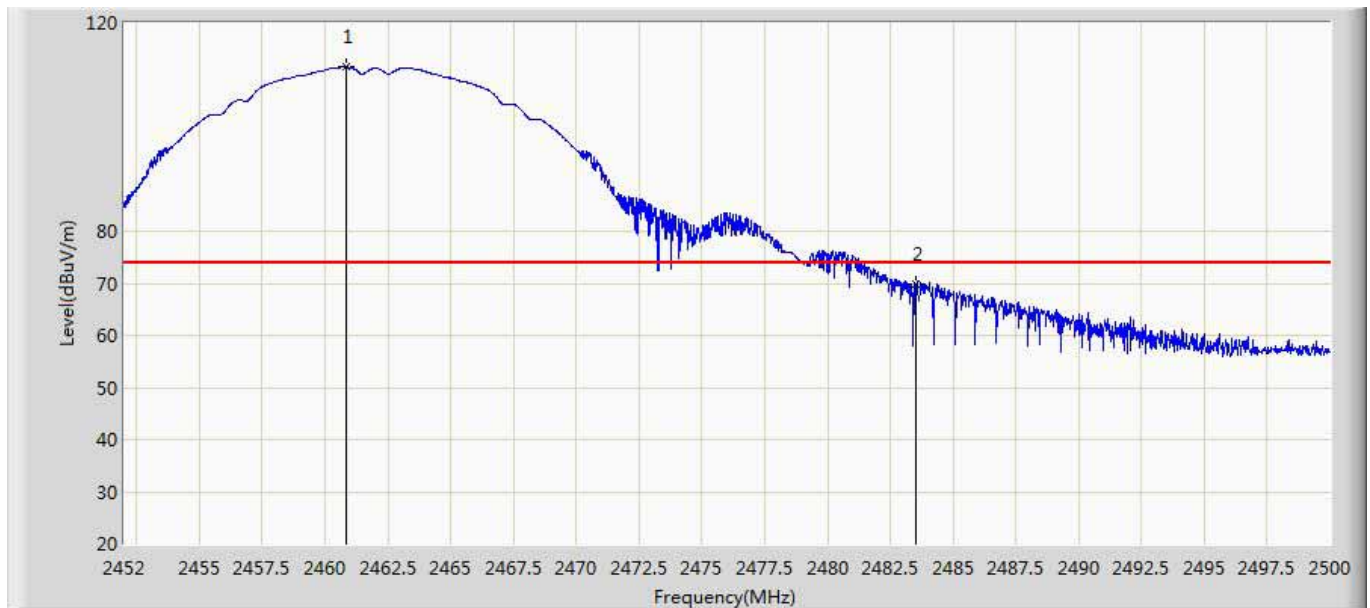
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.856	105.561	67.520	31.561	74.000	38.041	PK
2		2483.500	63.322	25.171	-10.678	74.000	38.150	PK

Site: AC5	Time: 2014/12/16 - 21:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2462 by 11b ant1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.216	101.890	63.848	47.890	54.000	38.042	AV
2		2483.500	43.766	5.615	-10.234	54.000	38.150	AV

Site: AC5	Time: 2014/12/16 - 21:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2462 by 11b ant1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.832	111.478	73.437	37.478	74.000	38.041	PK
2		2483.500	69.859	31.708	-4.141	74.000	38.150	PK

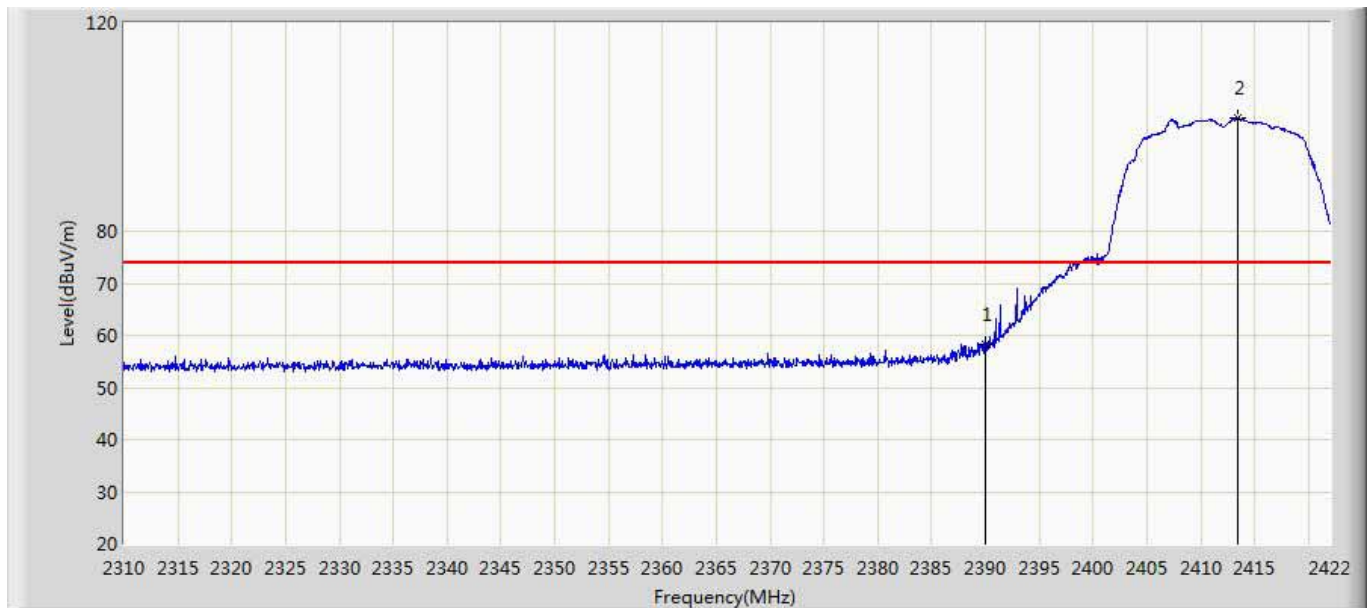


Site: AC5	Time: 2014/12/16 - 21:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2462 by 11b ant1	



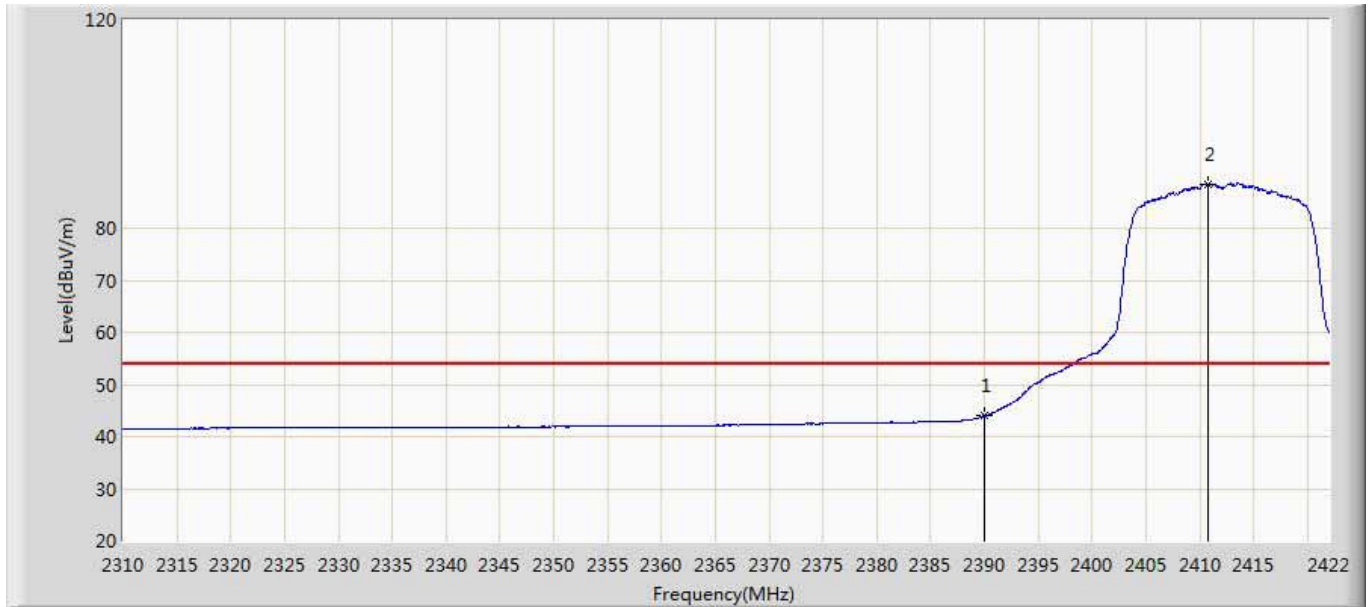
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.288	107.450	69.407	53.450	54.000	38.042	AV
2		2483.500	46.426	8.275	-7.574	54.000	38.150	AV

Site: AC5	Time: 2014/12/17 - 19:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2412 by 11g ant1	



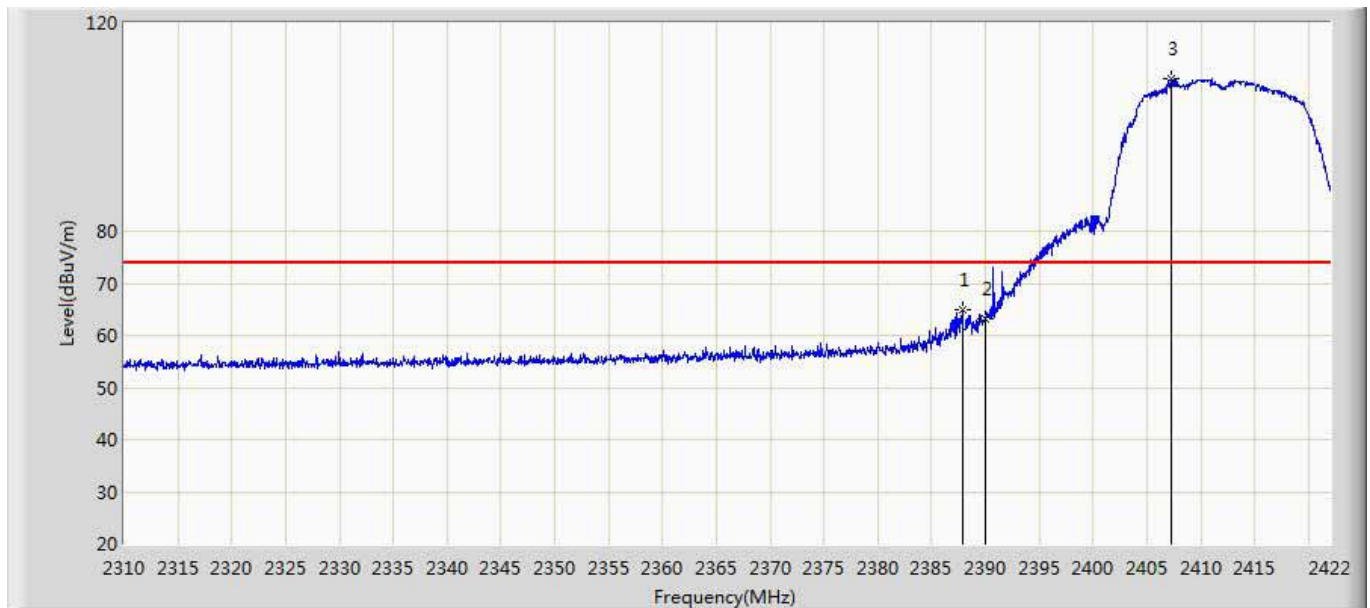
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	58.173	20.480	-15.827	74.000	37.693	PK
2	*	2413.432	101.855	64.046	27.855	74.000	37.809	PK

Site: AC5	Time: 2014/12/17 - 19:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2412 by 11g ant1	



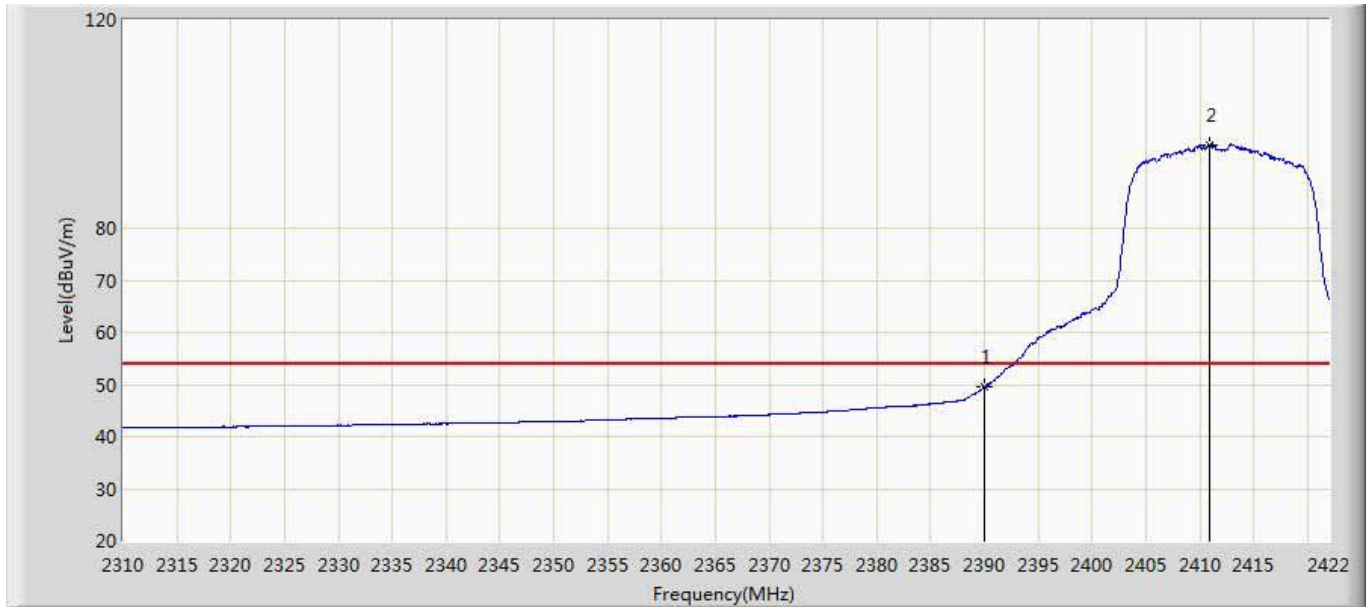
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	43.979	6.286	-10.021	54.000	37.693	AV
2	*	2410.744	88.523	50.727	34.523	54.000	37.796	AV

Site: AC5	Time: 2014/12/17 - 19:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2412 by 11g ant1	



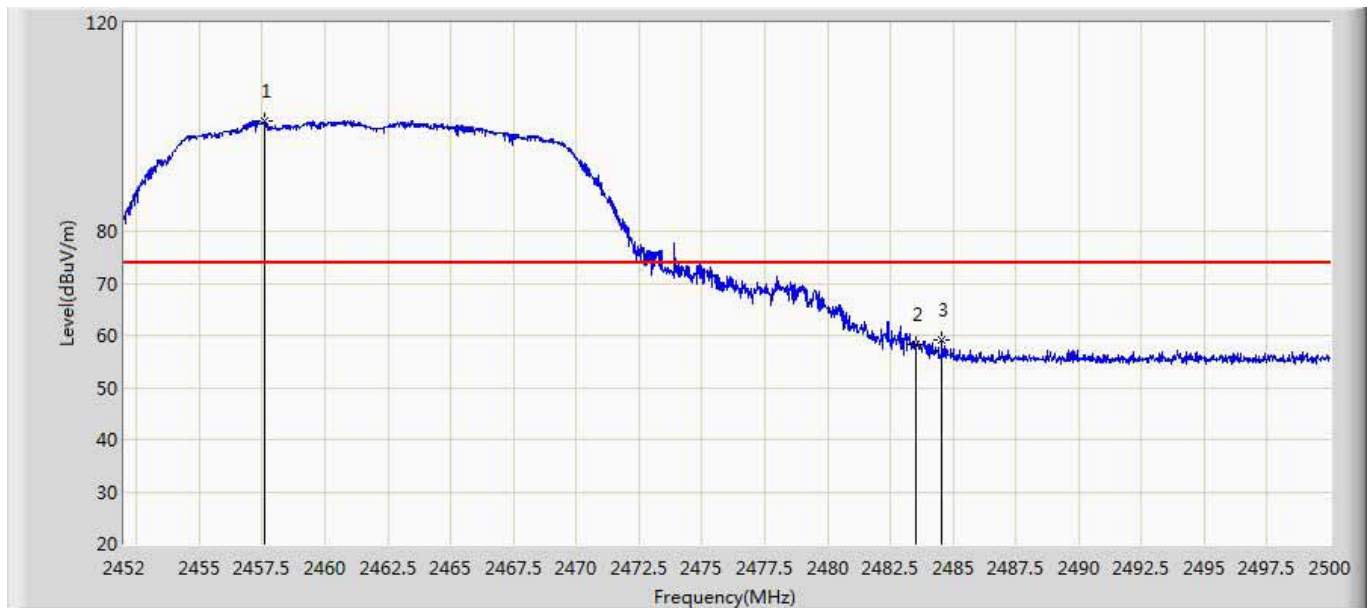
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2387.896	64.941	27.258	-9.059	74.000	37.683	PK
2		2390.000	63.204	25.511	-10.796	74.000	37.693	PK
3	*	2407.216	109.178	71.400	35.178	74.000	37.778	PK

Site: AC5	Time: 2014/12/17 - 19:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2412 by 11g ant1	



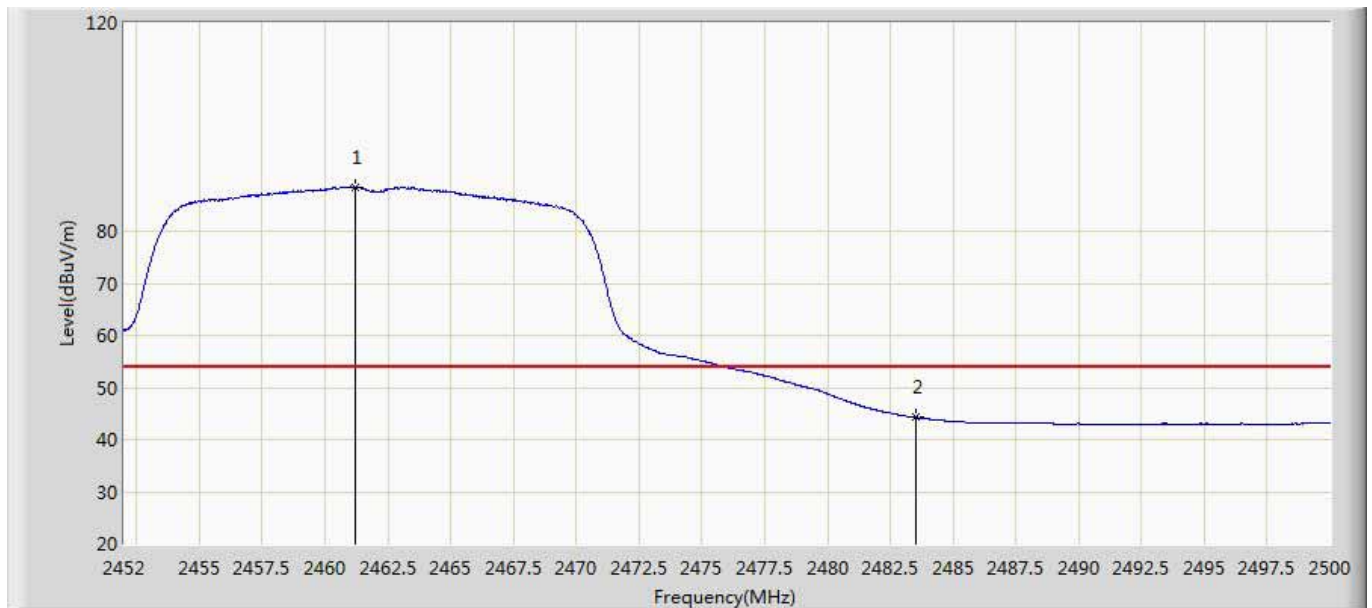
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	49.539	11.846	-4.461	54.000	37.693	AV
2	*	2410.912	96.079	58.282	42.079	54.000	37.797	AV

Site: AC5	Time: 2014/12/17 - 19:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2462 by 11g ant1	



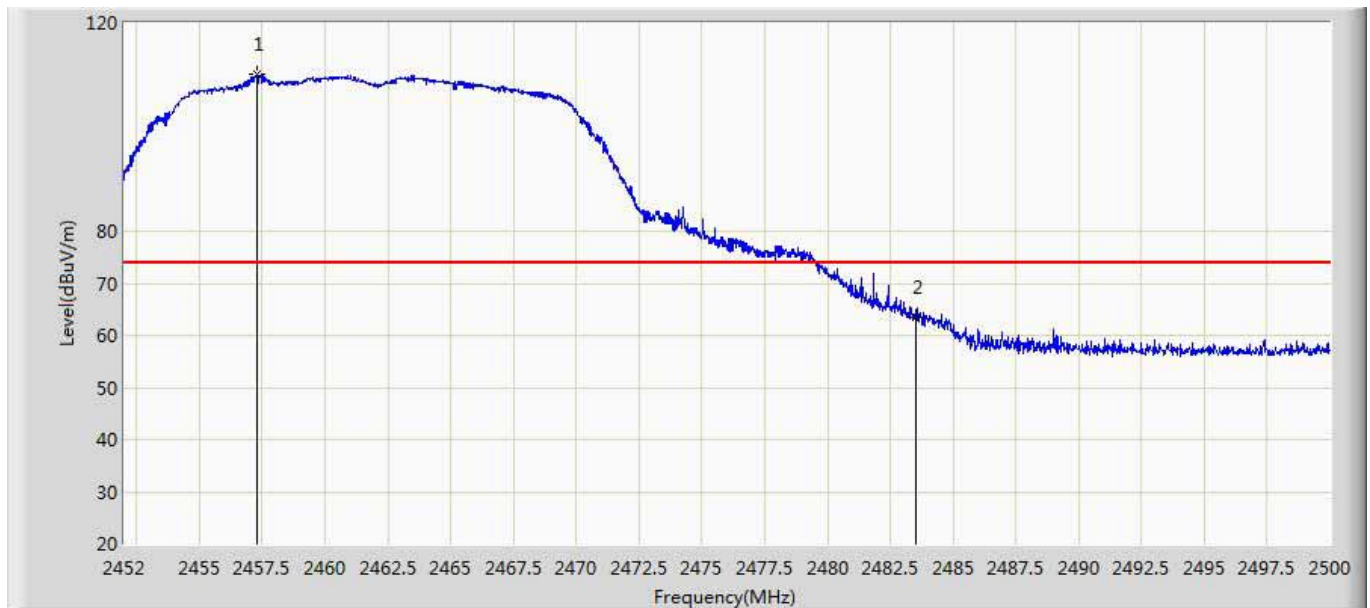
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2457.568	101.214	63.189	27.214	74.000	38.025	PK
2		2483.500	58.310	20.159	-15.690	74.000	38.150	PK
3		2484.568	59.136	20.980	-14.864	74.000	38.156	PK

Site: AC5	Time: 2014/12/17 - 19:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2462 by 11g ant1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.216	88.550	50.508	34.550	54.000	38.042	AV
2		2483.500	44.242	6.091	-9.758	54.000	38.150	AV

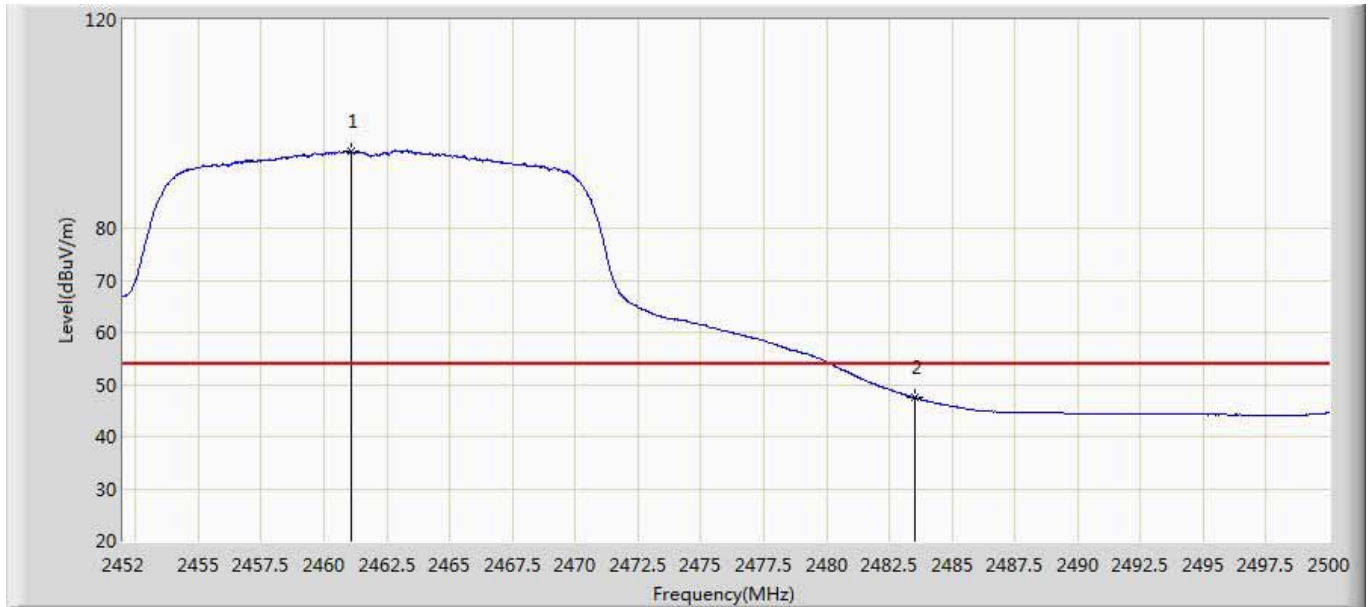
Site: AC5	Time: 2014/12/17 - 19:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2462 by 11g ant1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2457.304	110.008	71.984	36.008	74.000	38.024	PK
2		2483.500	63.345	25.194	-10.655	74.000	38.150	PK

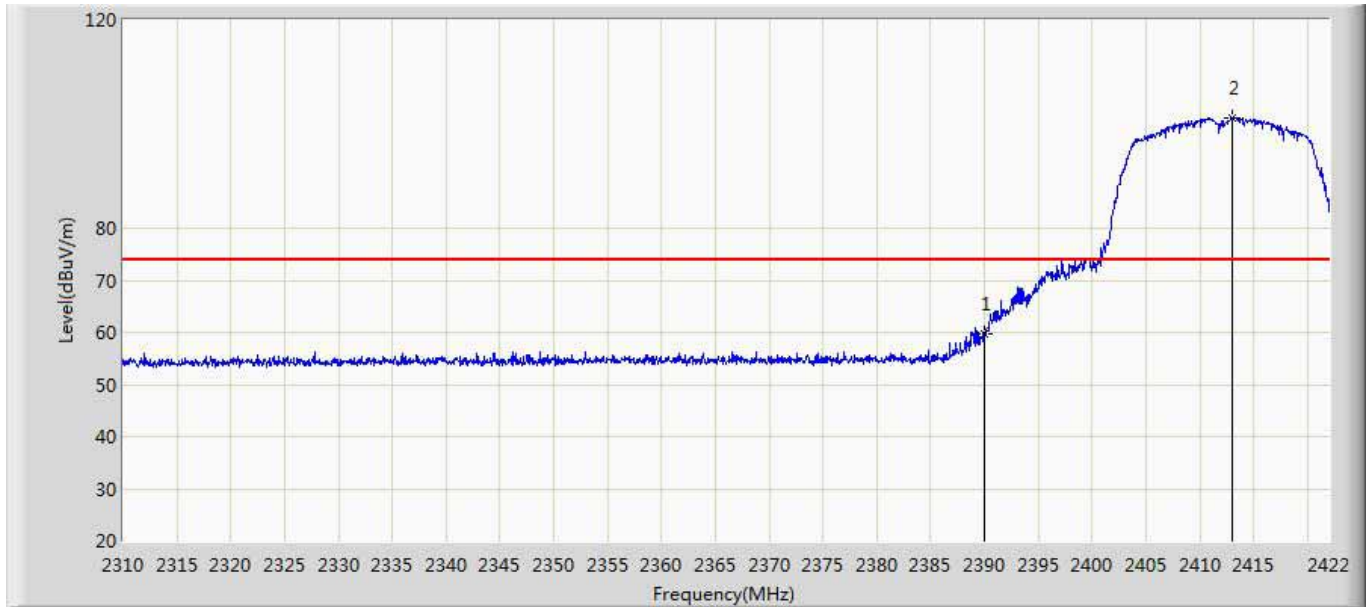


Site: AC5	Time: 2014/12/17 - 19:33
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2462 by 11g ant1	



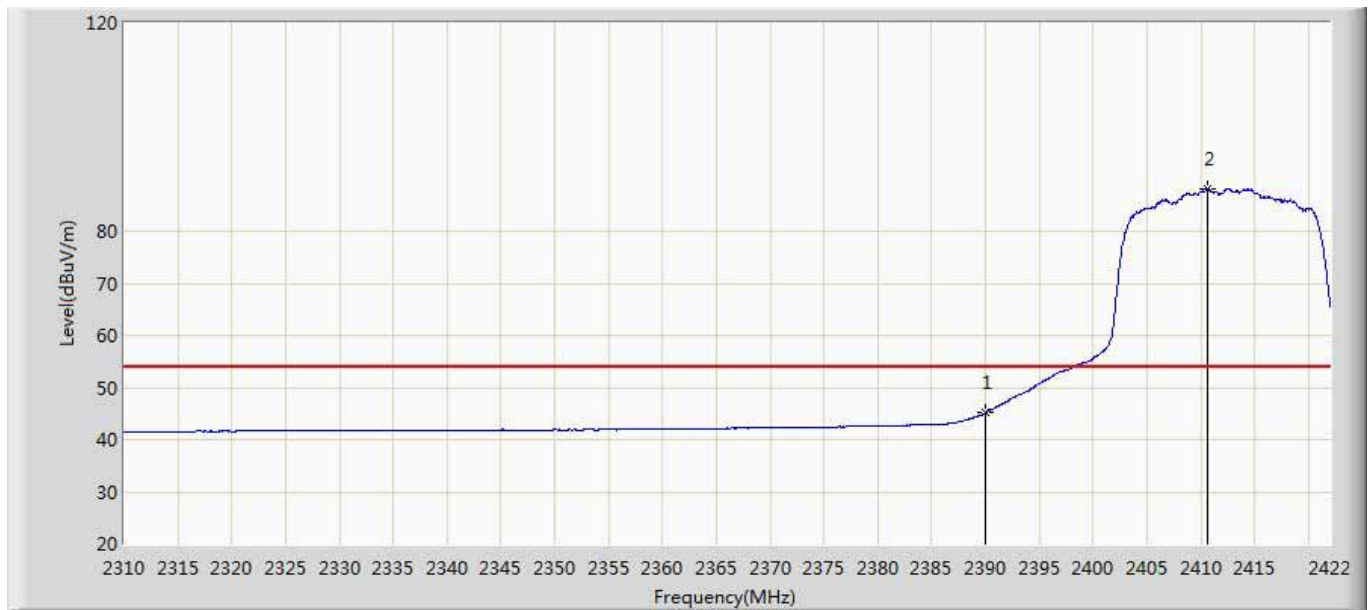
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.072	94.813	56.771	40.813	54.000	38.042	AV
2		2483.500	47.487	9.336	-6.513	54.000	38.150	AV

Site: AC5	Time: 2014/12/17 - 19:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2412 by 11n20 ant1	



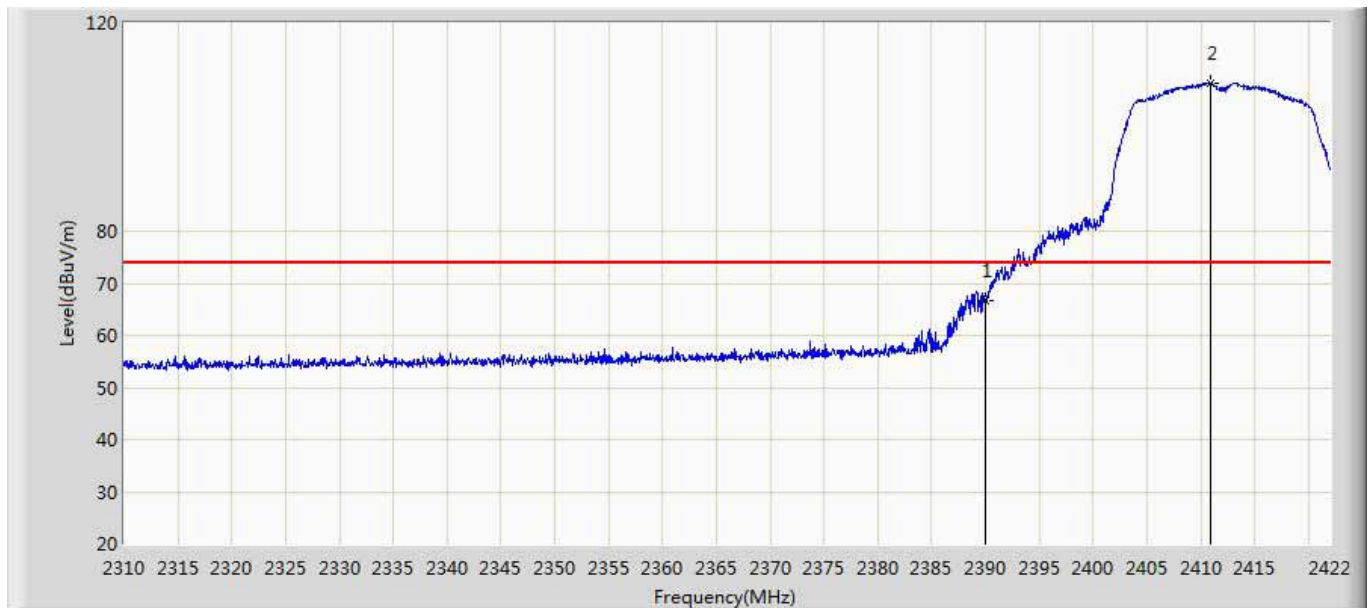
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	59.578	21.885	-14.422	74.000	37.693	PK
2	*	2413.040	101.246	63.439	27.246	74.000	37.807	PK

Site: AC5	Time: 2014/12/17 - 19:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2412 by 11n20 ant1	



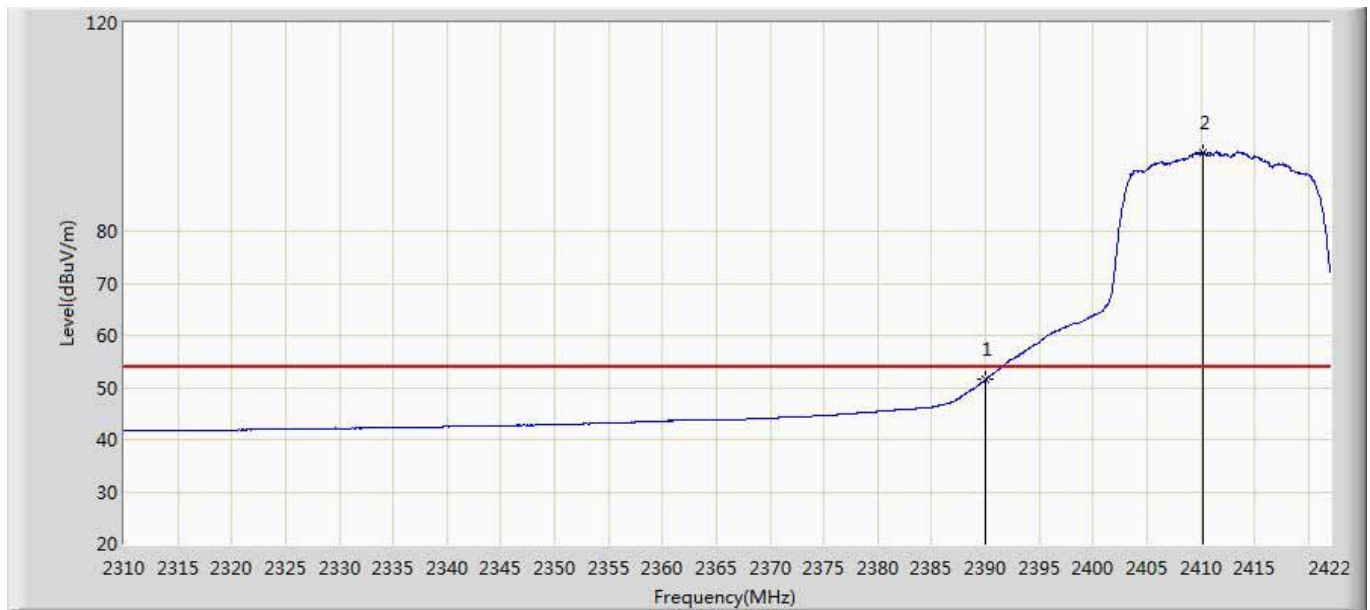
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	45.125	7.432	-8.875	54.000	37.693	AV
2	*	2410.688	88.175	50.379	34.175	54.000	37.796	AV

Site: AC5	Time: 2014/12/17 - 19:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2412 by 11n20 ant1	



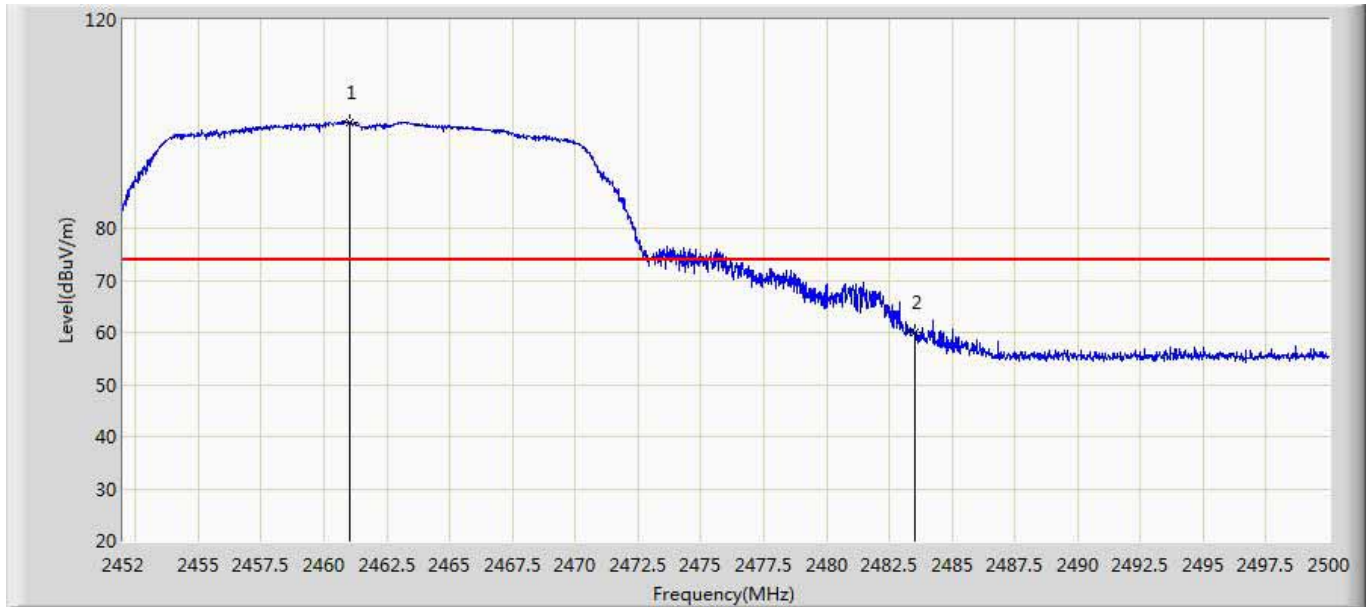
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	66.568	28.875	-7.432	74.000	37.693	PK
2	*	2410.968	108.450	70.653	34.450	74.000	37.797	PK

Site: AC5	Time: 2014/12/17 - 19:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2412 by 11n20 ant1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.484	13.791	-2.516	54.000	37.693	AV
2	*	2410.240	95.110	57.317	41.110	54.000	37.793	AV

Site: AC5	Time: 2014/12/17 - 19:43
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2462 by 11n20 ant1	



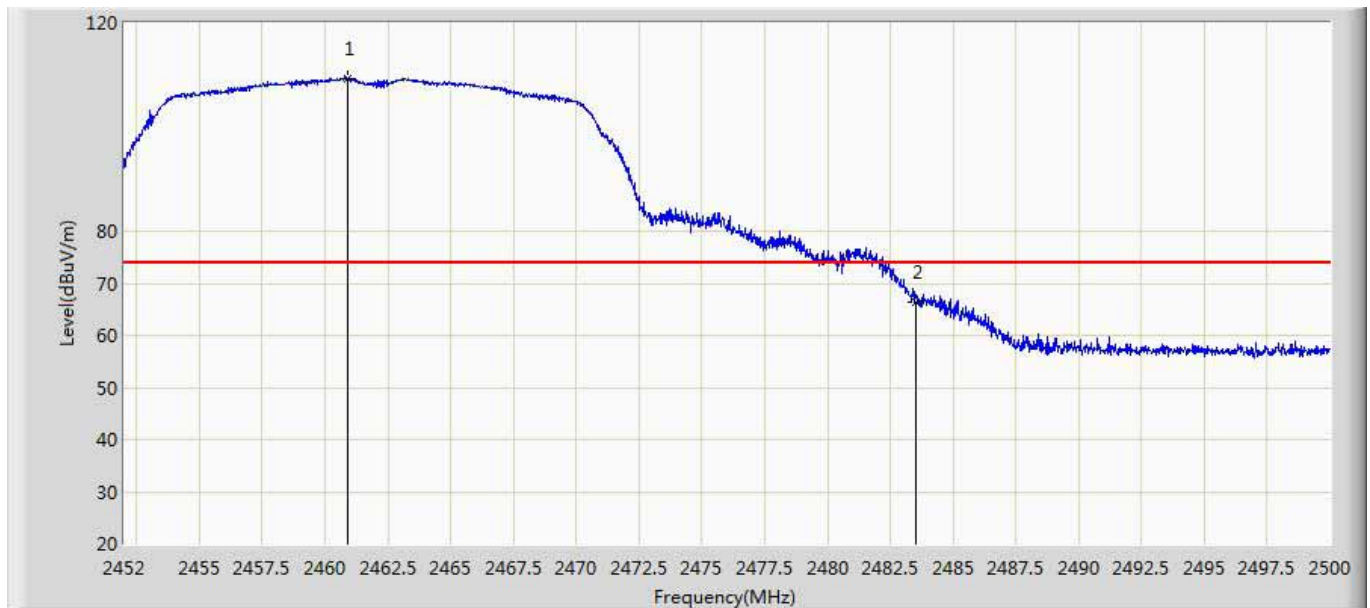
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.000	100.308	62.267	26.308	74.000	38.041	PK
2		2483.500	60.006	21.855	-13.994	74.000	38.150	PK

Site: AC5	Time: 2014/12/17 - 19:43
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2462 by 11n20 ant1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.216	86.957	48.915	32.957	54.000	38.042	AV
2		2483.500	46.218	8.067	-7.782	54.000	38.150	AV

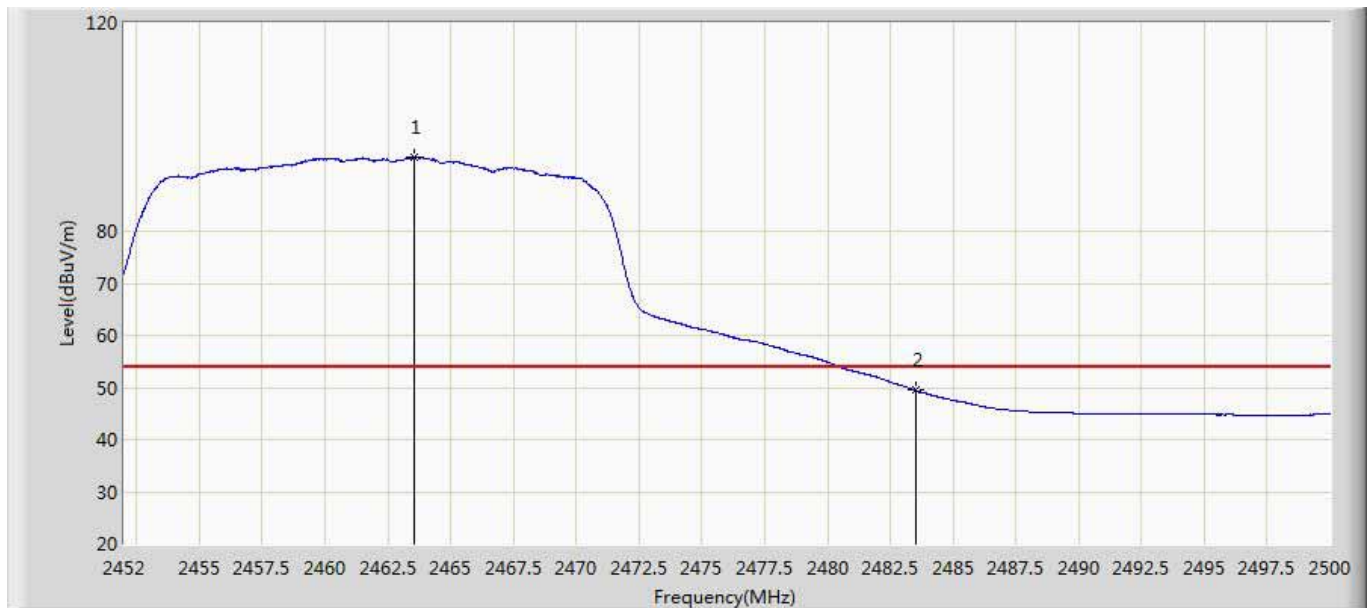
Site: AC5	Time: 2014/12/17 - 19:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2462 by 11n20 ant1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.928	109.357	71.316	35.357	74.000	38.041	PK
2		2483.500	66.444	28.293	-7.556	74.000	38.150	PK

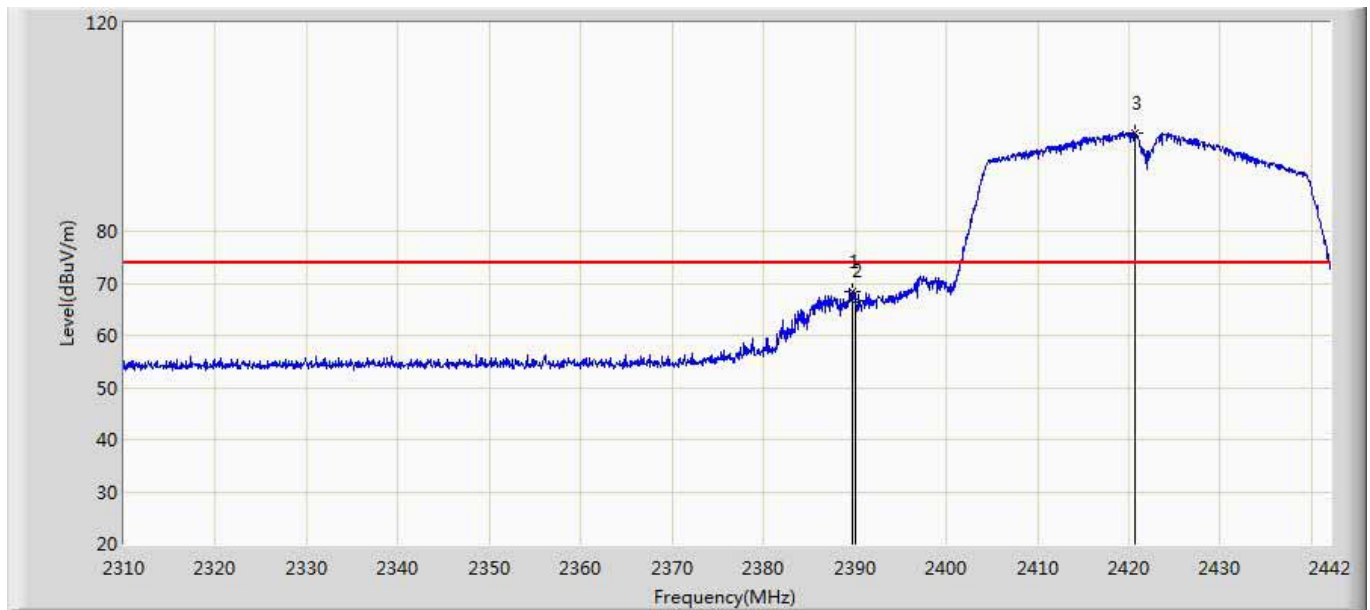


Site: AC5	Time: 2014/12/17 - 19:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2462 by 11n20 ant1	



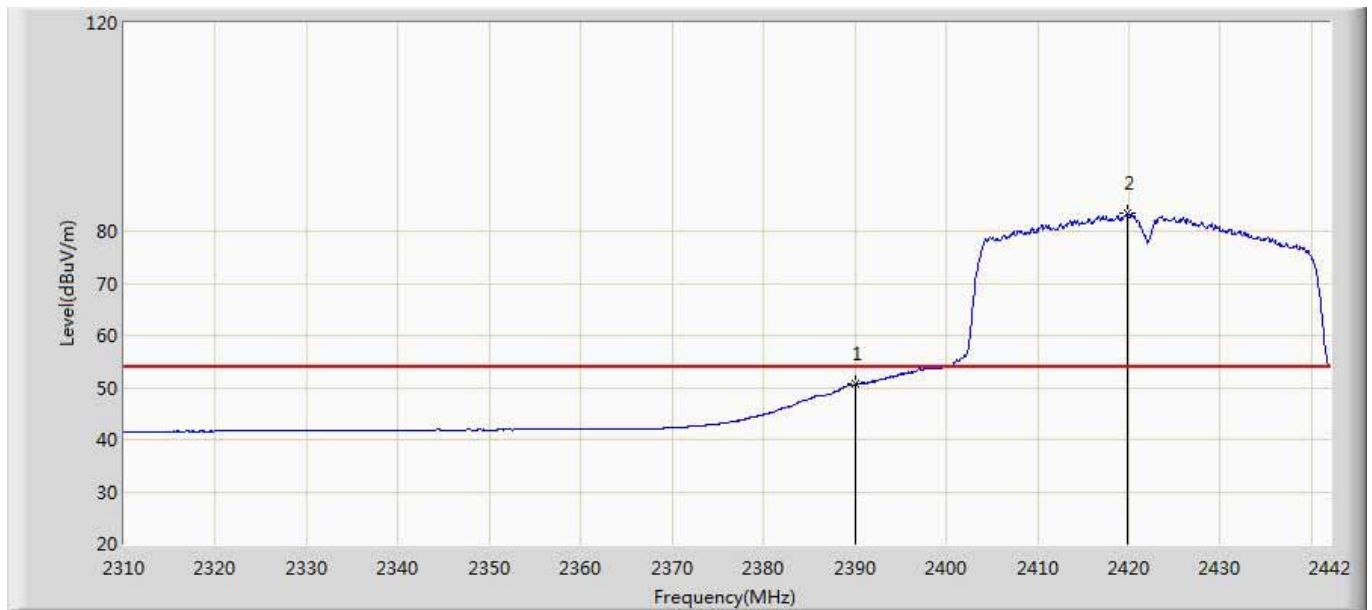
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.544	94.158	56.104	40.158	54.000	38.054	AV
2		2483.500	49.492	11.341	-4.508	54.000	38.150	AV

Site: AC5	Time: 2014/12/17 - 19:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2422 by 11n40 ant1	



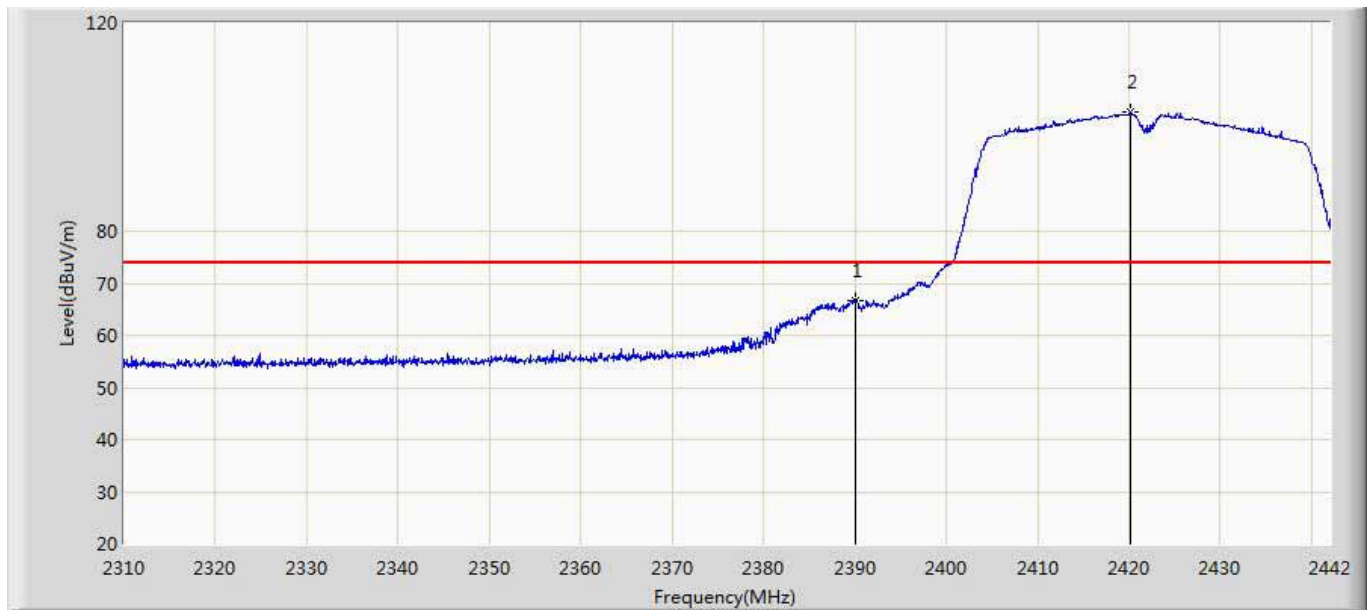
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.662	68.312	30.621	-5.688	74.000	37.691	PK
2		2390.000	66.601	28.908	-7.399	74.000	37.693	PK
3	*	2420.682	98.872	61.027	24.872	74.000	37.845	PK

Site: AC5	Time: 2014/12/17 - 19:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2422 by 11n40 ant1	



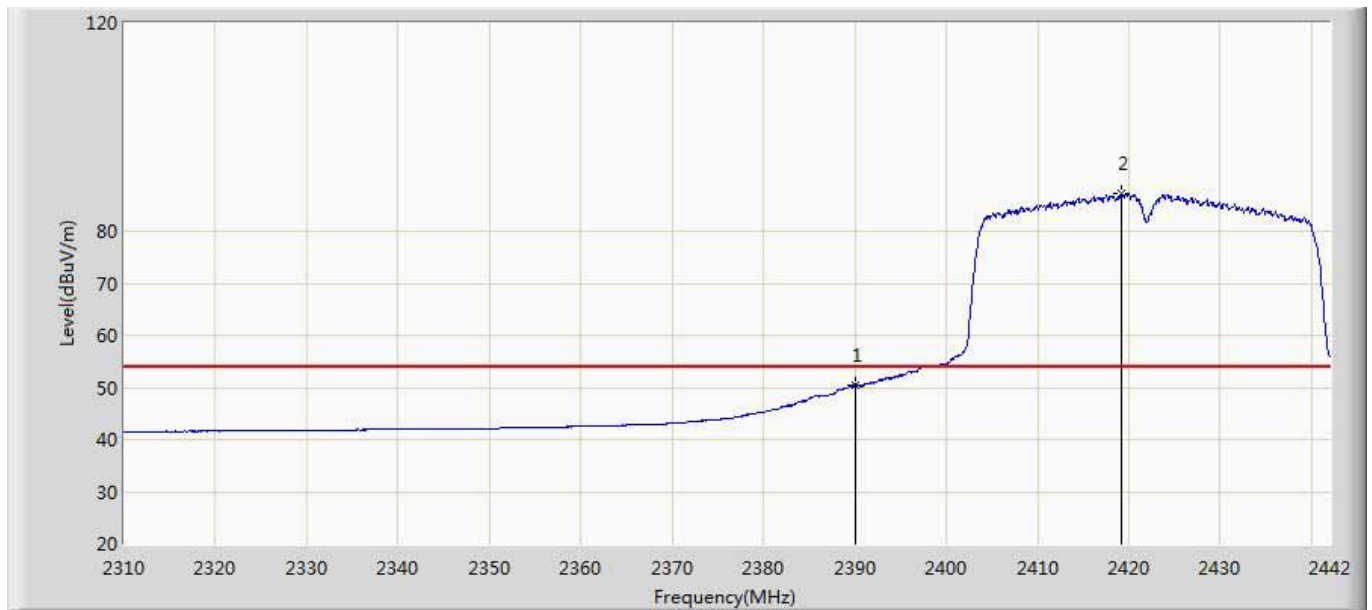
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.621	12.928	-3.379	54.000	37.693	AV
2	*	2419.824	83.529	45.688	29.529	54.000	37.841	AV

Site: AC5	Time: 2014/12/17 - 20:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2422 by 11n40 ant1	



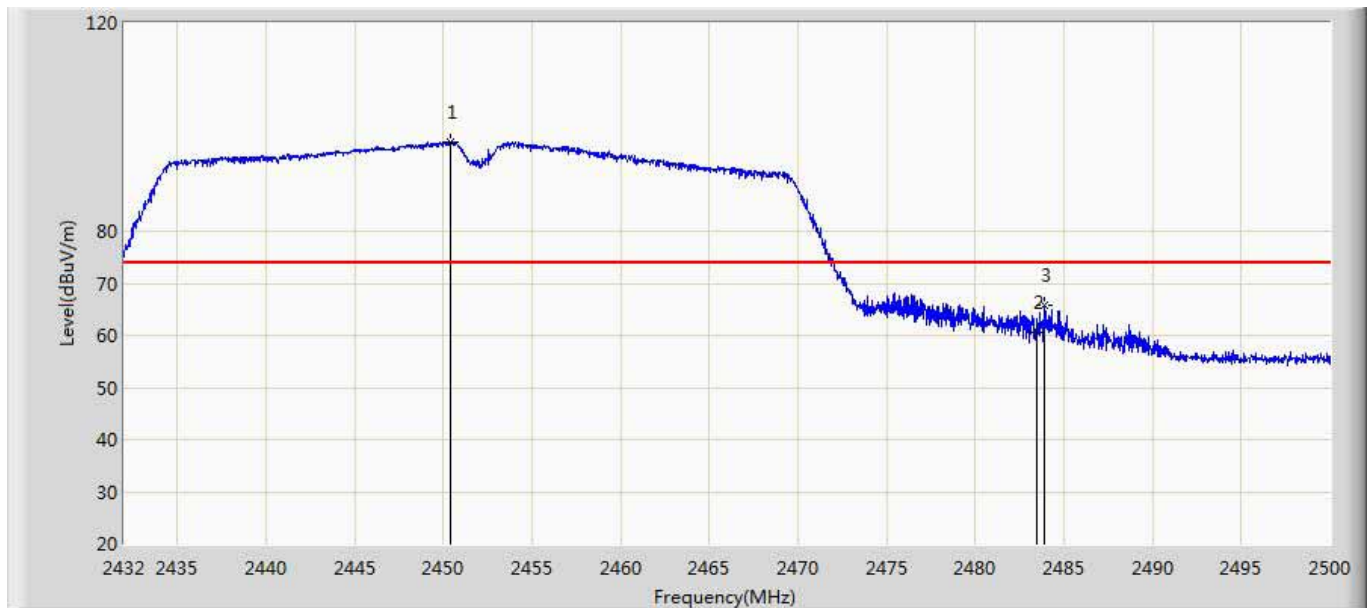
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	66.789	29.096	-7.211	74.000	37.693	PK
2	*	2420.088	102.859	65.017	28.859	74.000	37.842	PK

Site: AC5	Time: 2014/12/17 - 20:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2422 by 11n40 ant1	



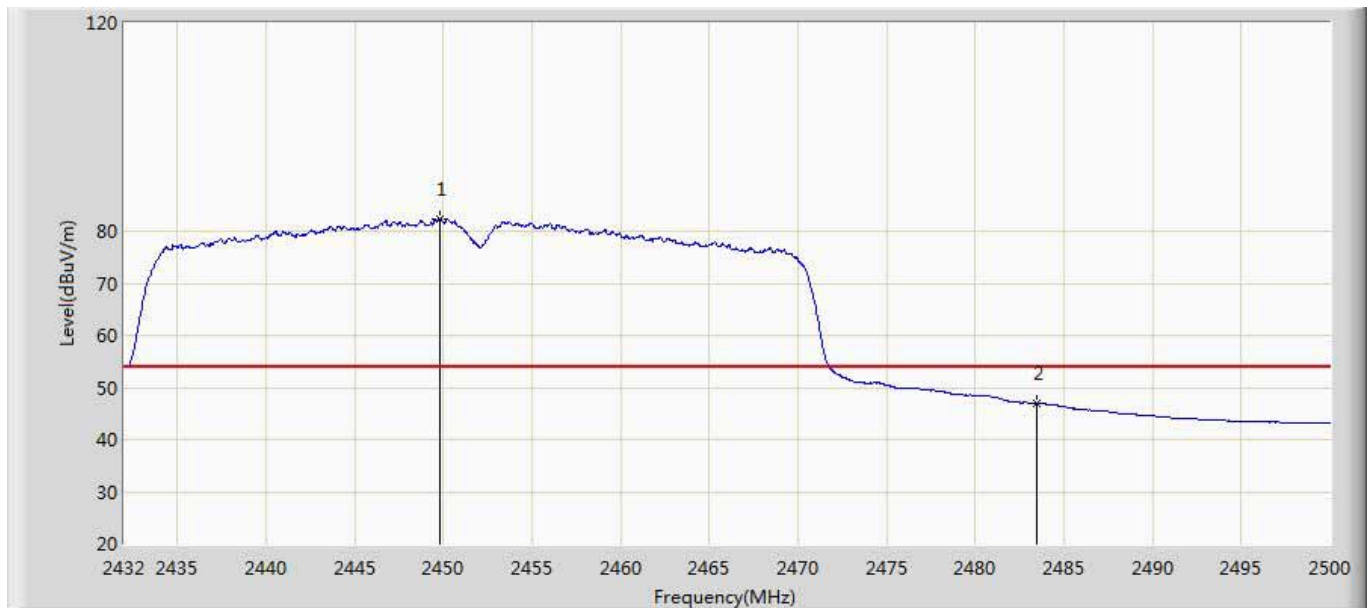
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.440	12.747	-3.560	54.000	37.693	AV
2	*	2419.230	87.321	49.483	33.321	54.000	37.838	AV

Site: AC5	Time: 2014/12/17 - 20:40
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2452 by 11n40 ant1	



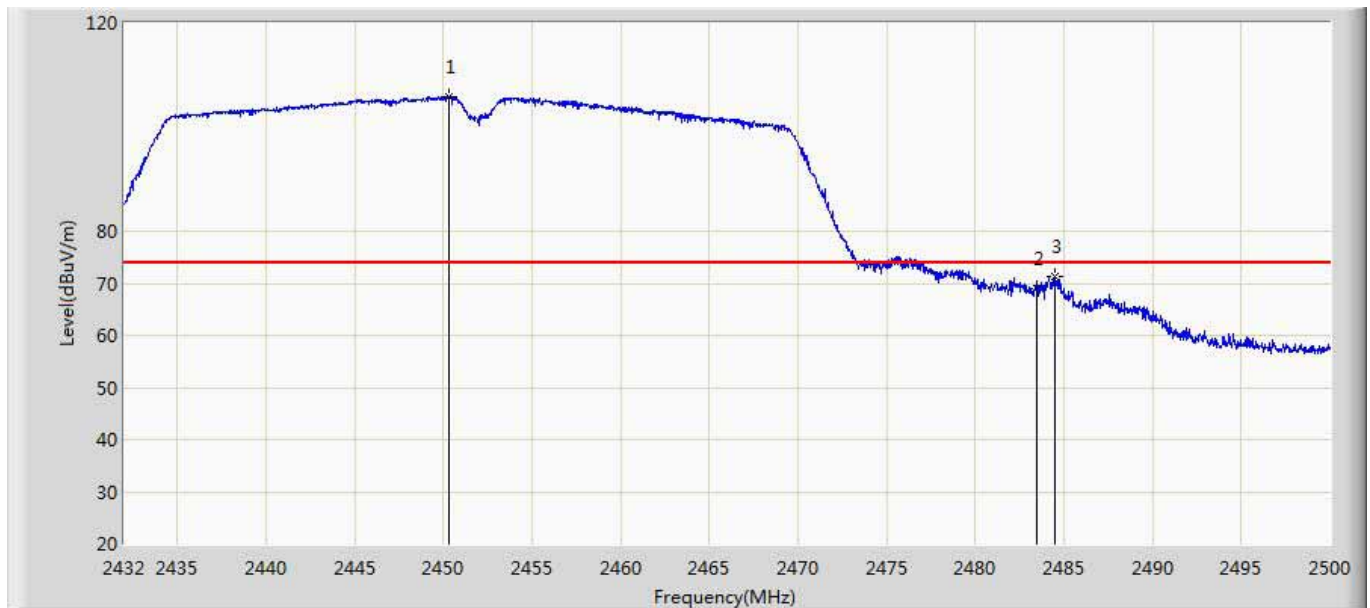
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2450.394	97.214	59.223	23.214	74.000	37.990	PK
2		2483.500	60.458	22.307	-13.542	74.000	38.150	PK
3		2483.918	65.767	27.614	-8.233	74.000	38.153	PK

Site: AC5	Time: 2014/12/17 - 20:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2452 by 11n40 ant1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2449.816	82.374	44.386	28.374	54.000	37.988	AV
2		2483.500	46.858	8.707	-7.142	54.000	38.150	AV

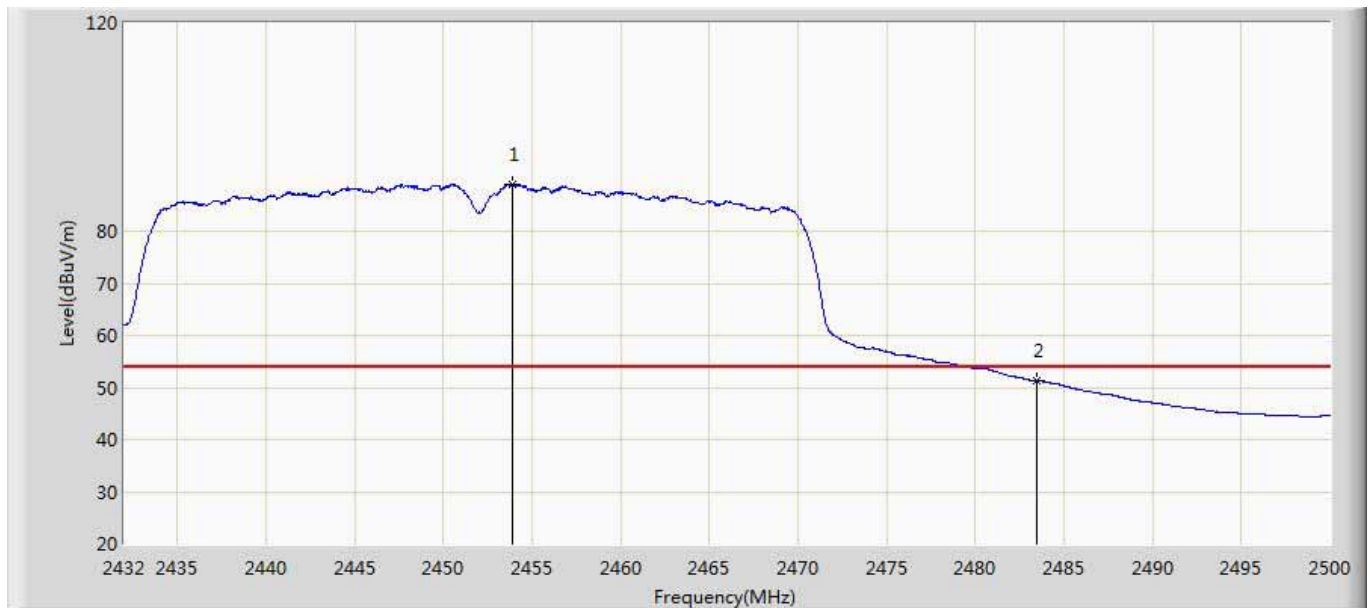
Site: AC5	Time: 2014/12/17 - 20:43
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2452 by 11n40 ant1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2450.326	105.889	67.899	31.889	74.000	37.990	PK
2		2483.500	68.843	30.692	-5.157	74.000	38.150	PK
3		2484.530	71.439	33.283	-2.561	74.000	38.156	PK

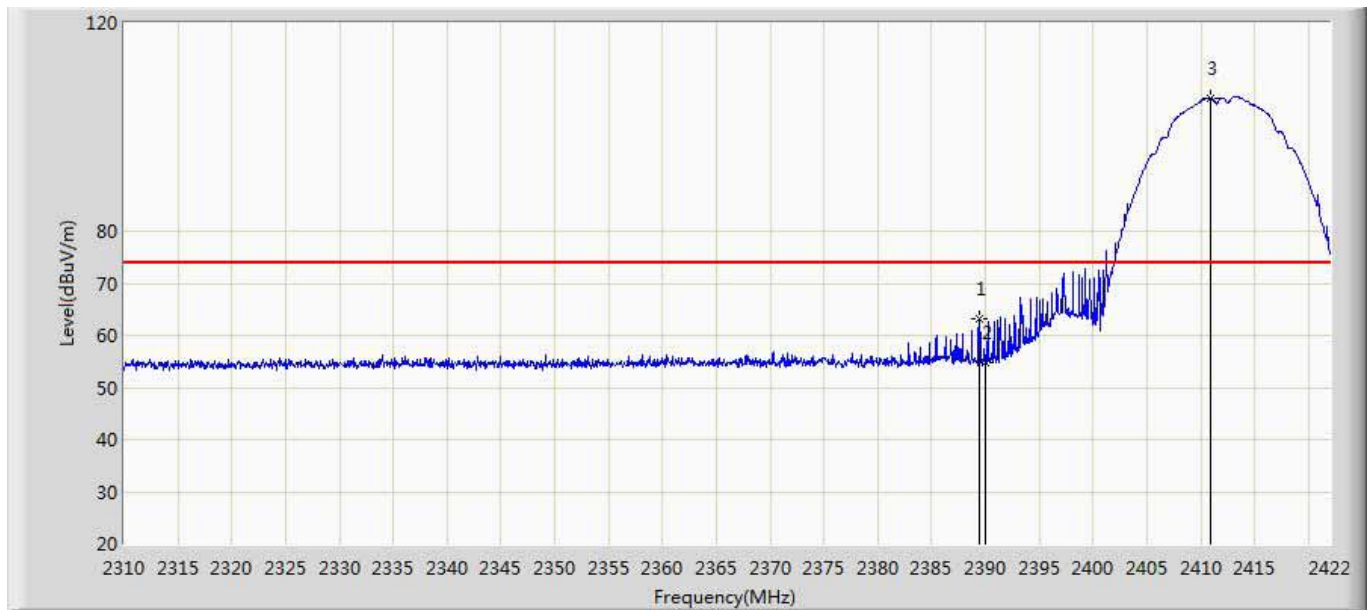


Site: AC5	Time: 2014/12/17 - 20:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2452 by 11n40 ant1	



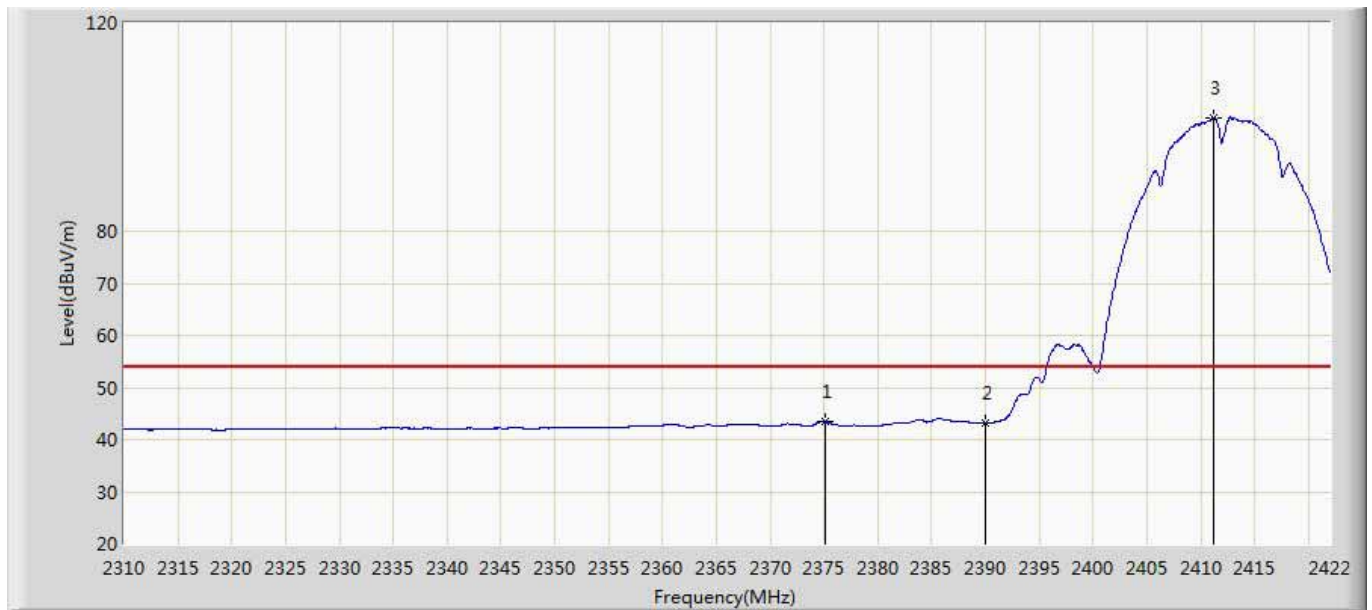
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2453.896	89.112	51.105	35.112	54.000	38.008	AV
2		2483.500	51.344	13.193	-2.656	54.000	38.150	AV

Site: AC5	Time: 2014/12/18 - 09:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2412 by 11b ant2	



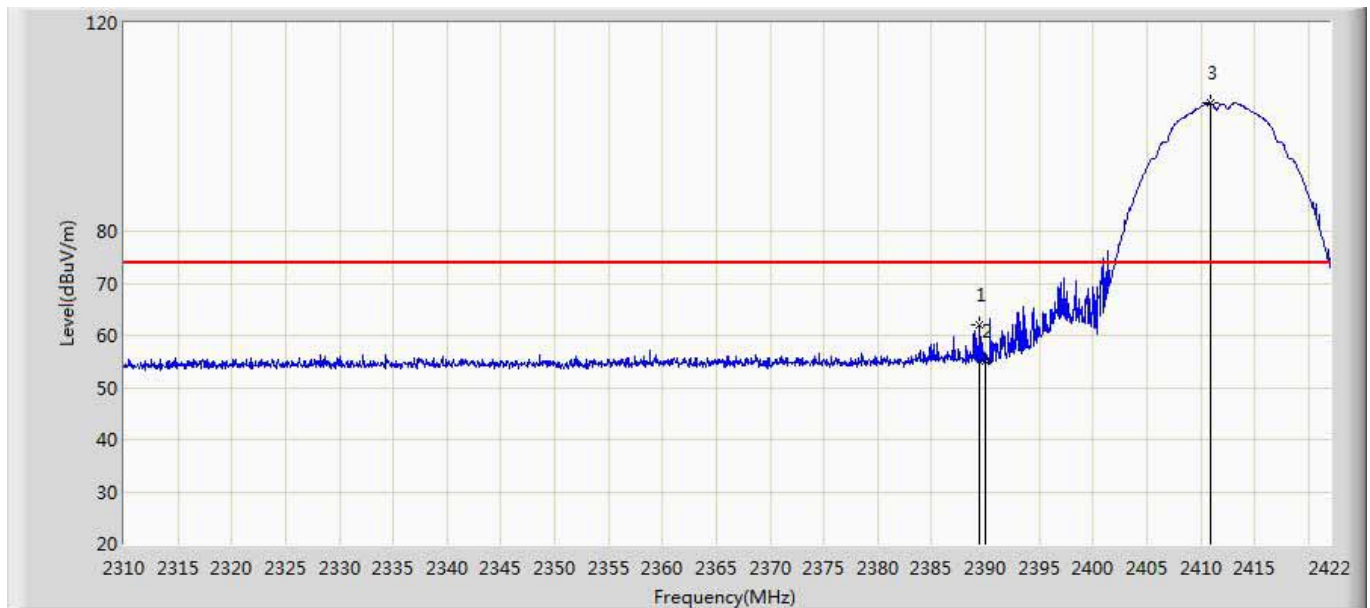
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.464	63.104	25.414	-10.896	74.000	37.690	PK
2		2390.000	54.912	17.219	-19.088	74.000	37.693	PK
3	*	2410.912	105.578	67.781	31.578	74.000	37.797	PK

Site: AC5	Time: 2014/12/18 - 09:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2412 by 11b ant2	



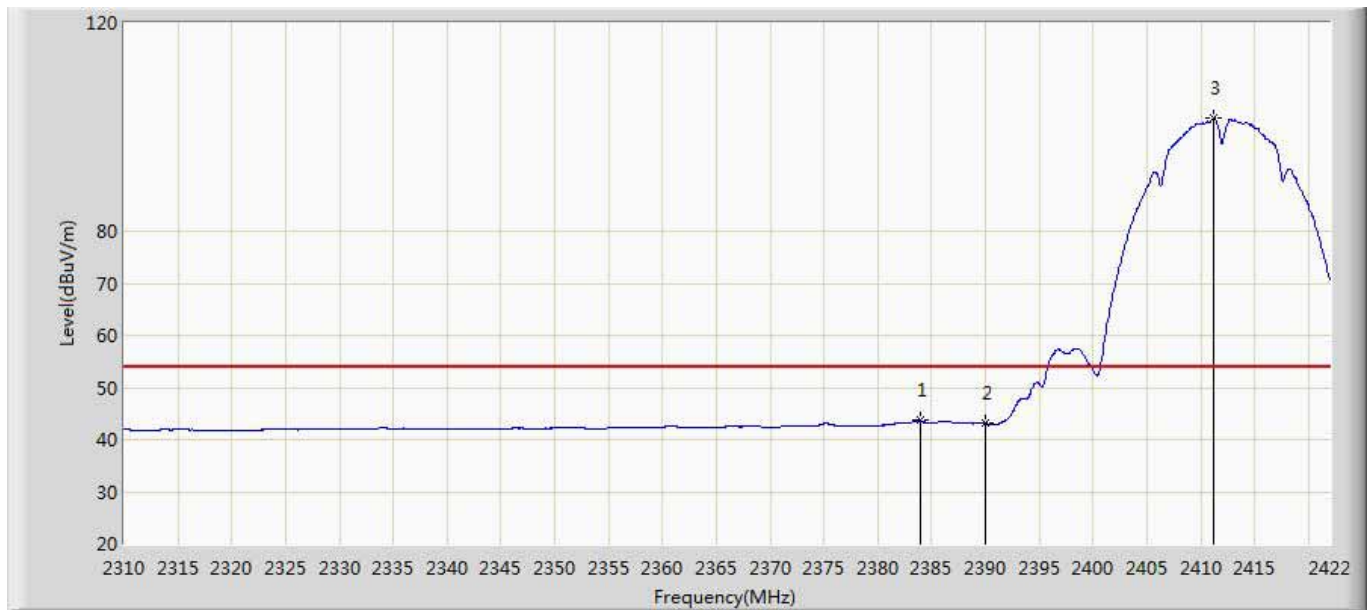
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2375.128	43.575	5.954	-10.425	54.000	37.621	AV
2		2390.000	43.235	5.542	-10.765	54.000	37.693	AV
3	*	2411.248	101.843	64.045	47.843	54.000	37.798	AV

Site: AC5	Time: 2014/12/18 - 09:40
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2412 by 11b ant2	



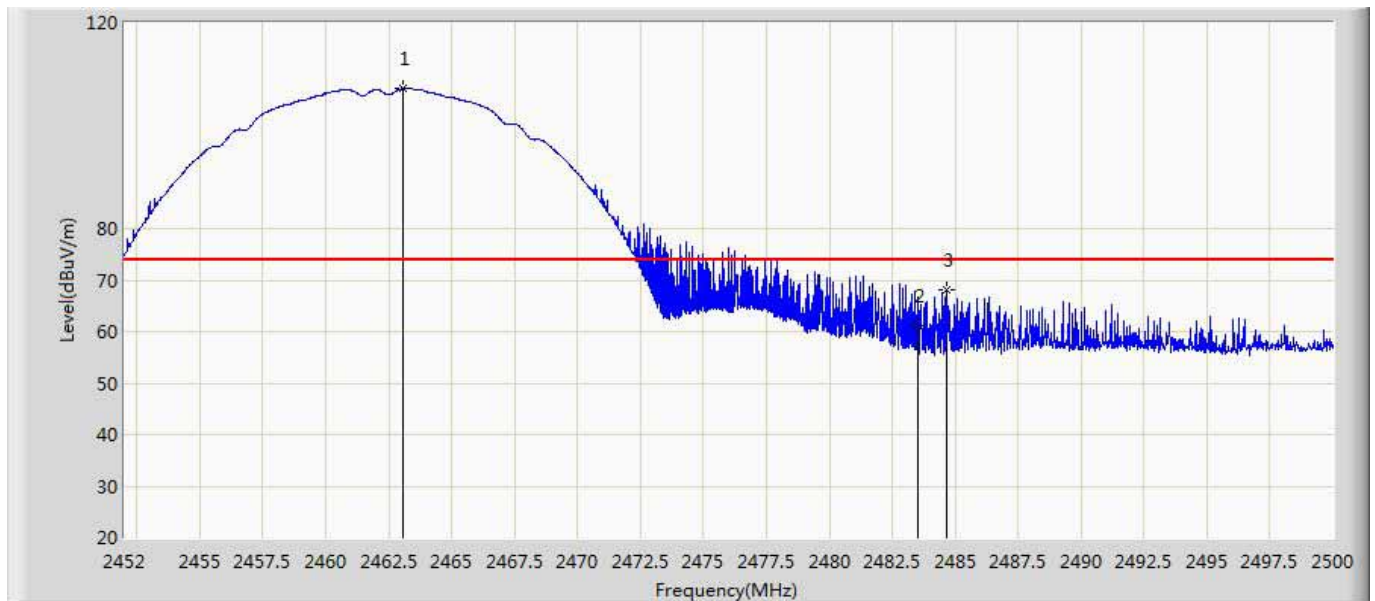
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.464	62.121	24.431	-11.879	74.000	37.690	PK
2		2390.000	55.198	17.505	-18.802	74.000	37.693	PK
3	*	2410.912	104.540	66.743	30.540	74.000	37.797	PK

Site: AC5	Time: 2014/12/18 - 09:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2412 by 11b ant2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2383.920	43.632	5.969	-10.368	54.000	37.664	AV
2		2390.000	43.093	5.400	-10.907	54.000	37.693	AV
3	*	2411.248	101.620	63.822	47.620	54.000	37.798	AV

Site: AC5	Time: 2014/12/18 - 09:47
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2462 by 11b ant2	



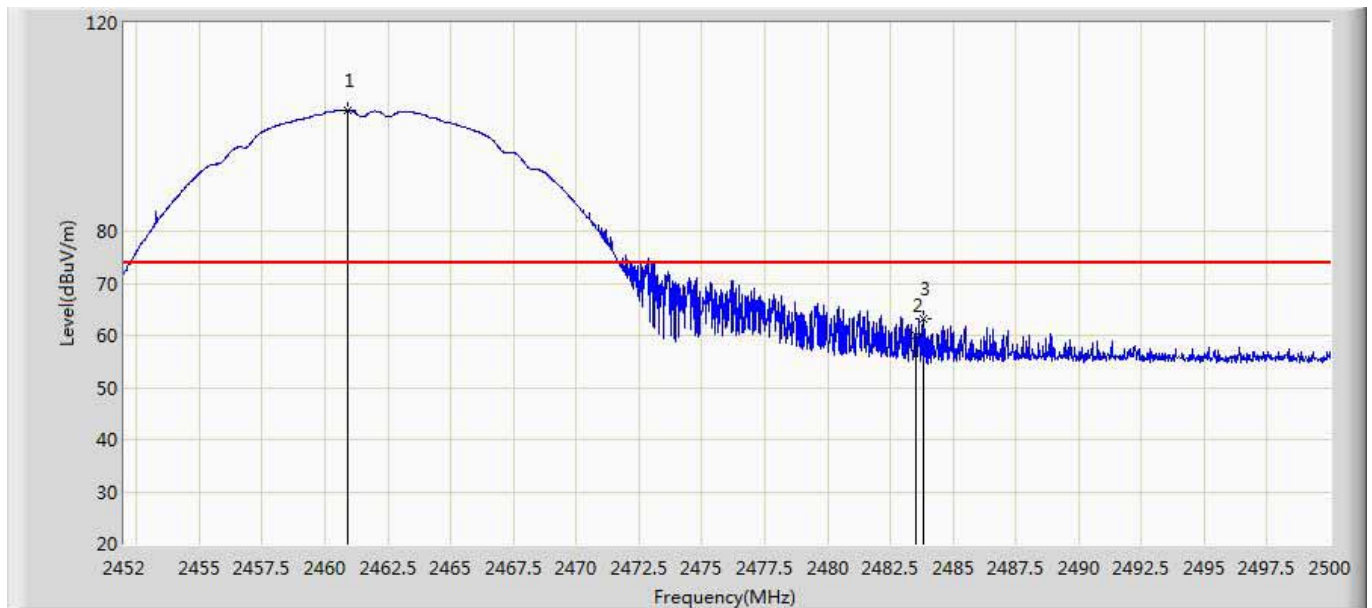
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.088	107.155	69.103	33.155	74.000	38.052	PK
2		2483.500	61.106	22.955	-12.894	74.000	38.150	PK
3		2484.688	68.097	29.940	-5.903	74.000	38.157	PK

Site: AC5	Time: 2014/12/18 - 09:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2462 by 11b ant2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.360	103.443	65.400	49.443	54.000	38.043	AV
2		2483.500	45.444	7.293	-8.556	54.000	38.150	AV
3		2488.360	47.175	9.000	-6.825	54.000	38.174	AV

Site: AC5	Time: 2014/12/18 - 09:53
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2462 by 11b ant2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.904	103.238	65.197	29.238	74.000	38.041	PK
2		2483.500	59.958	21.807	-14.042	74.000	38.150	PK
3		2483.800	63.208	25.056	-10.792	74.000	38.153	PK

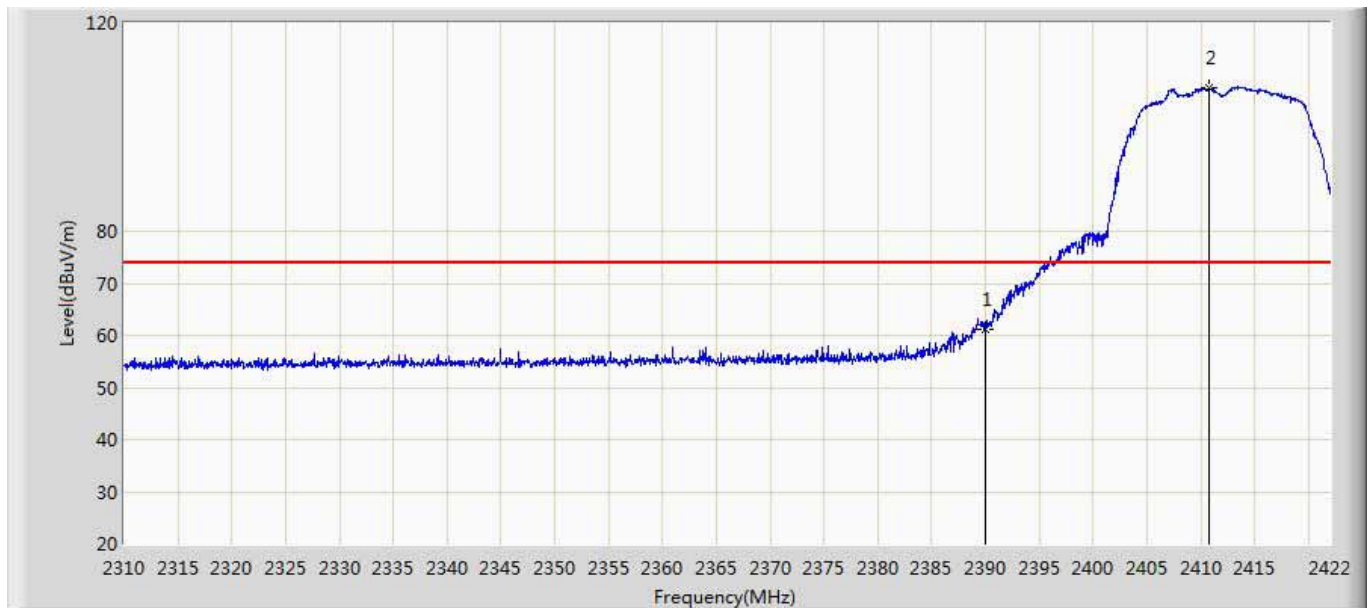


Site: AC5	Time: 2014/12/18 - 09:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 1:Transmit at CH2462 by 11b ant2	



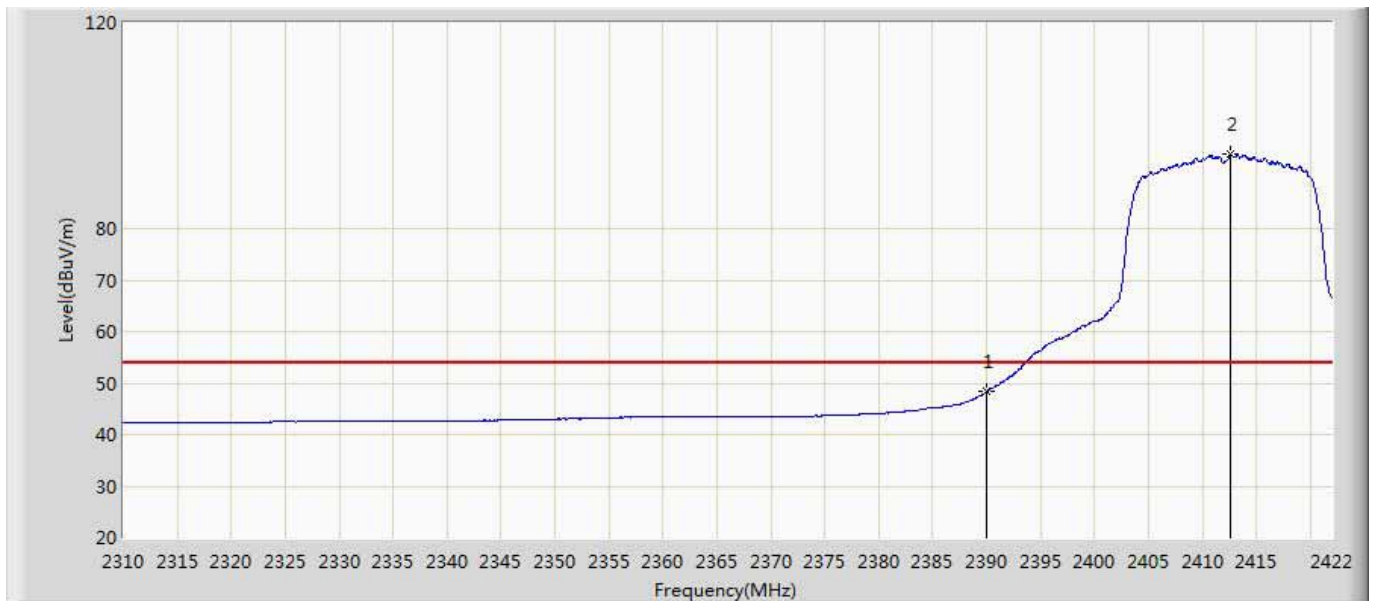
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.144	98.142	60.100	44.142	54.000	38.042	AV
2		2483.500	43.251	5.100	-10.749	54.000	38.150	AV
3		2488.336	43.783	5.609	-10.217	54.000	38.174	AV

Site: AC5	Time: 2014/12/18 - 09:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2412 by 11g ant2	



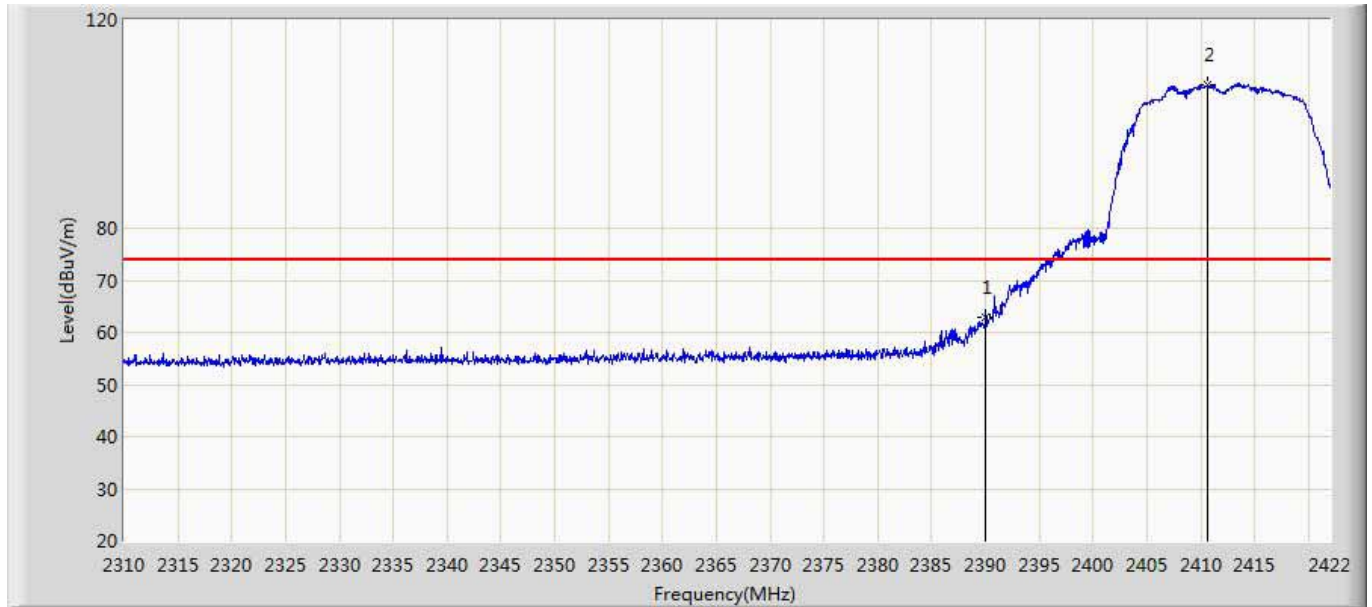
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	61.234	23.541	-12.766	74.000	37.693	PK
2	*	2410.800	107.493	69.697	33.493	74.000	37.796	PK

Site: AC5	Time: 2014/12/18 - 09:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2412 by 11g ant2	



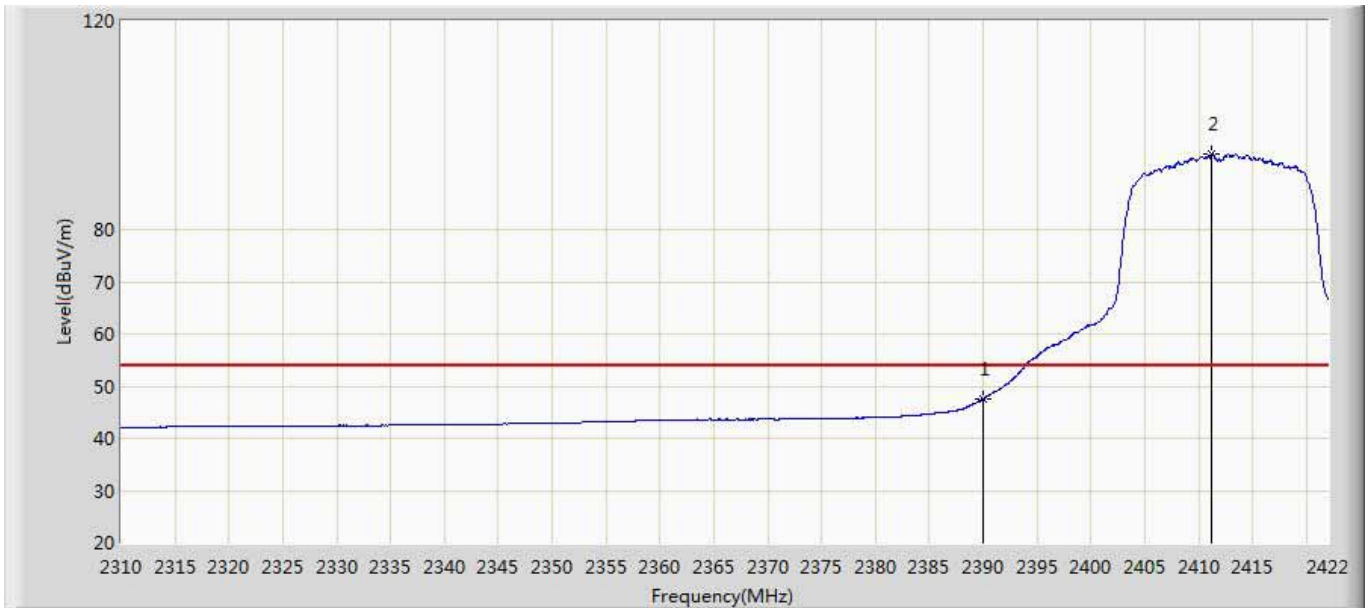
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	48.265	10.572	-5.735	54.000	37.693	AV
2	*	2412.648	94.391	56.586	40.391	54.000	37.805	AV

Site: AC5	Time: 2014/12/18 - 10:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2412 by 11g ant2	



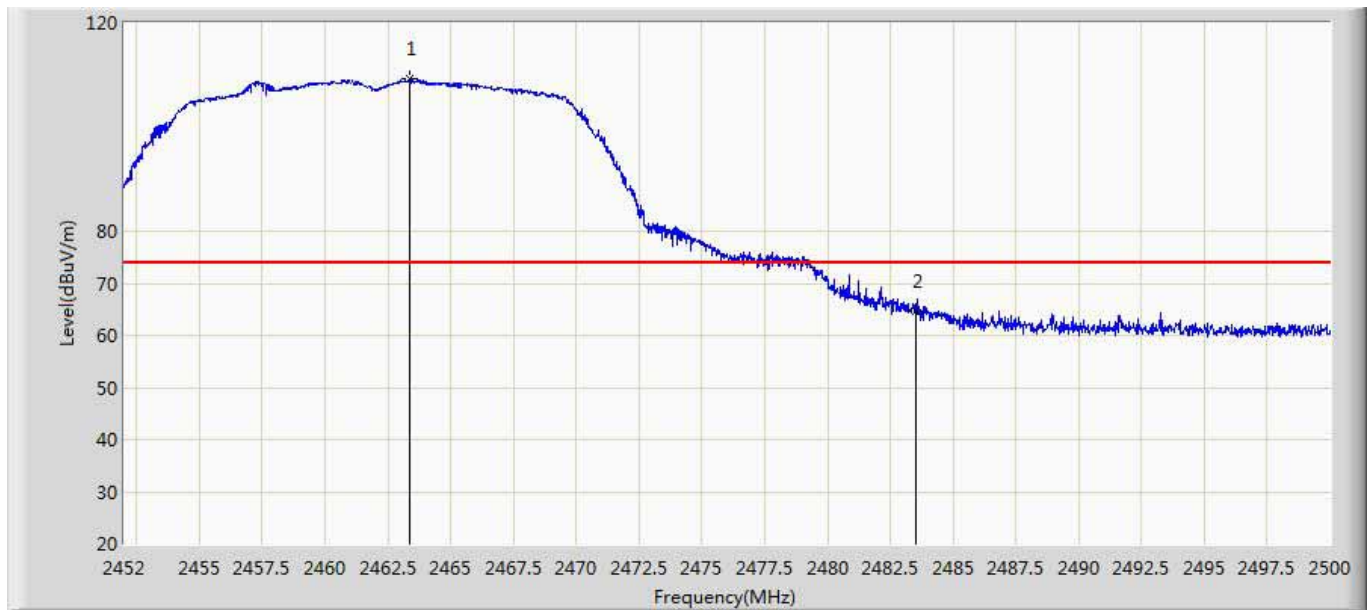
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	63.020	25.327	-10.980	74.000	37.693	PK
2	*	2410.632	107.575	69.780	33.575	74.000	37.796	PK

Site: AC5	Time: 2014/12/18 - 10:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2412 by 11g ant2	



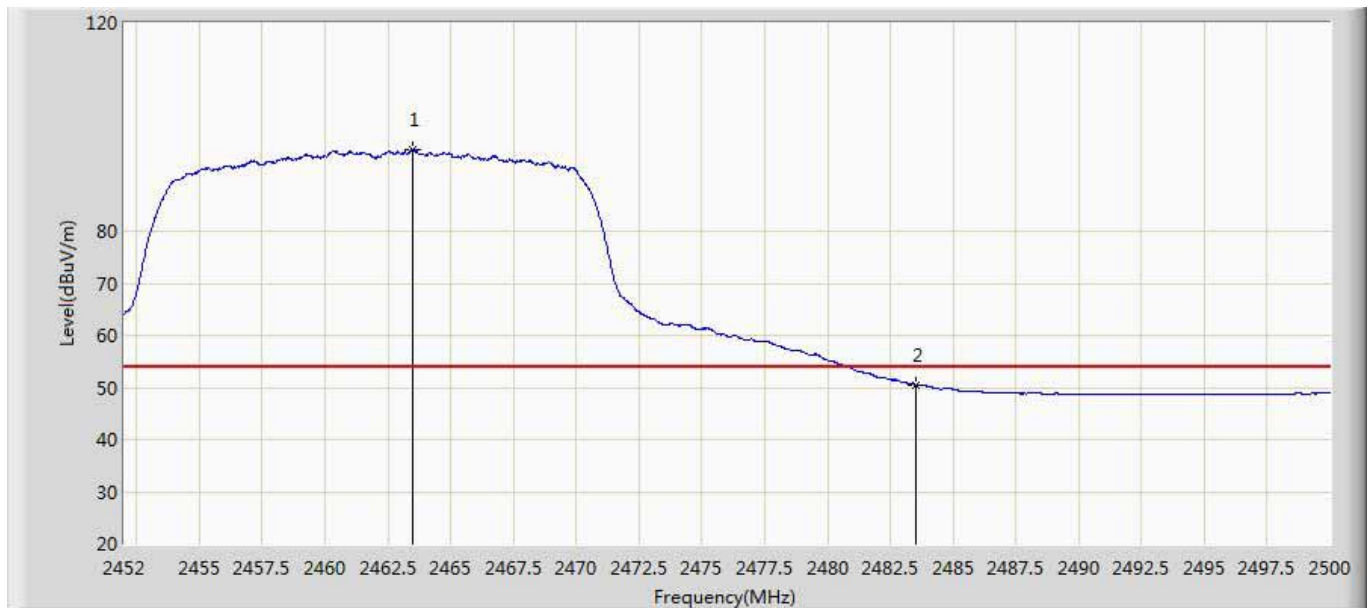
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	47.541	9.848	-6.459	54.000	37.693	AV
2	*	2411.248	94.469	56.671	40.469	54.000	37.798	AV

Site: AC5	Time: 2014/12/18 - 10:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2462 by 11g ant2	



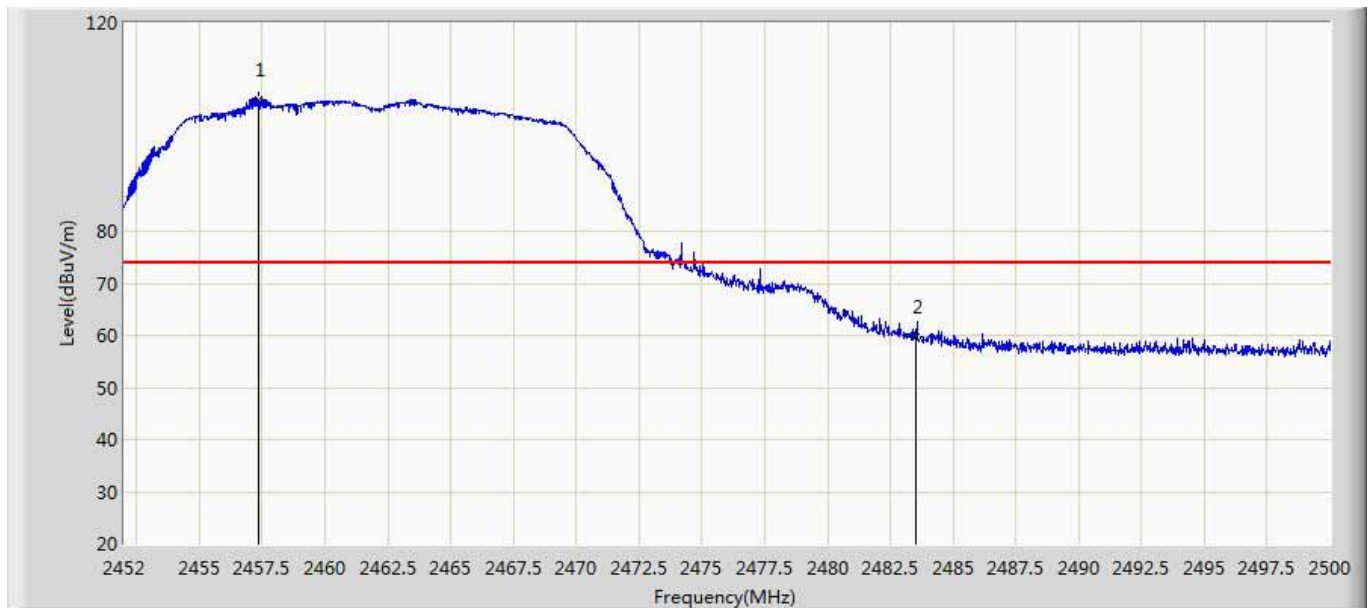
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.352	109.179	71.126	35.179	74.000	38.053	PK
2		2483.500	64.714	26.563	-9.286	74.000	38.150	PK

Site: AC5	Time: 2014/12/18 - 10:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2462 by 11g ant2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.472	95.667	57.614	41.667	54.000	38.053	AV
2		2483.500	50.500	12.349	-3.500	54.000	38.150	AV

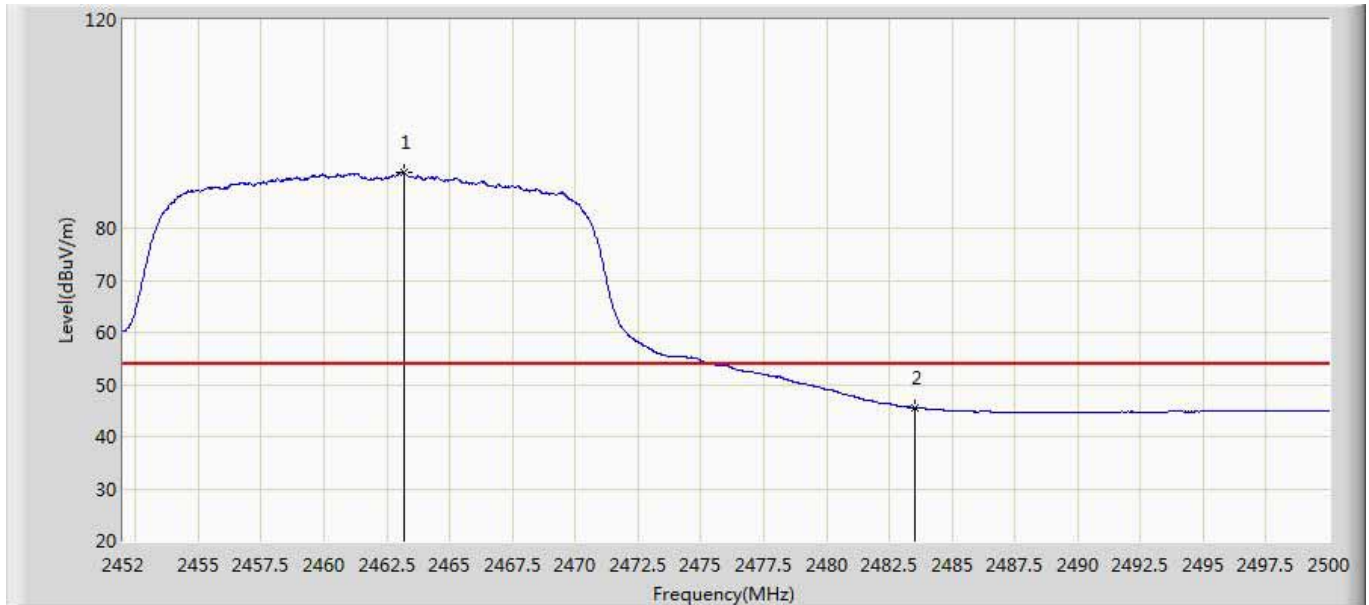
Site: AC5	Time: 2014/12/18 - 10:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2462 by 11g ant2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2457.376	105.308	67.284	31.308	74.000	38.024	PK
2		2483.500	59.726	21.575	-14.274	74.000	38.150	PK

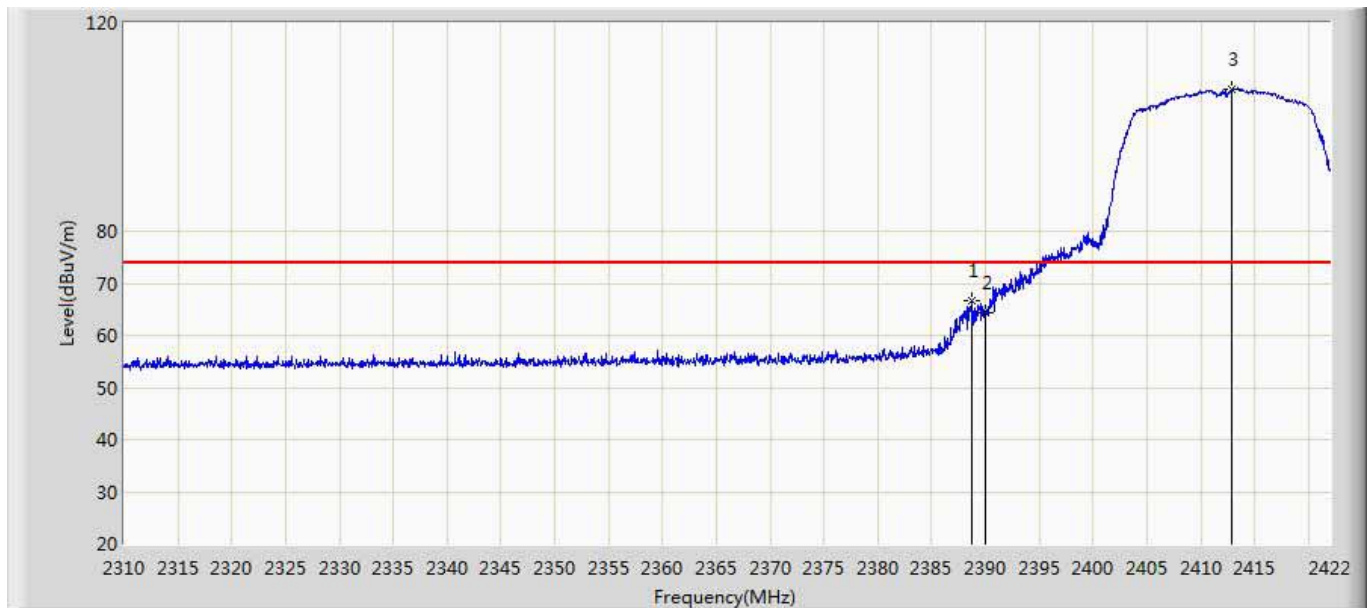


Site: AC5	Time: 2014/12/18 - 10:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2462 by 11g ant2	



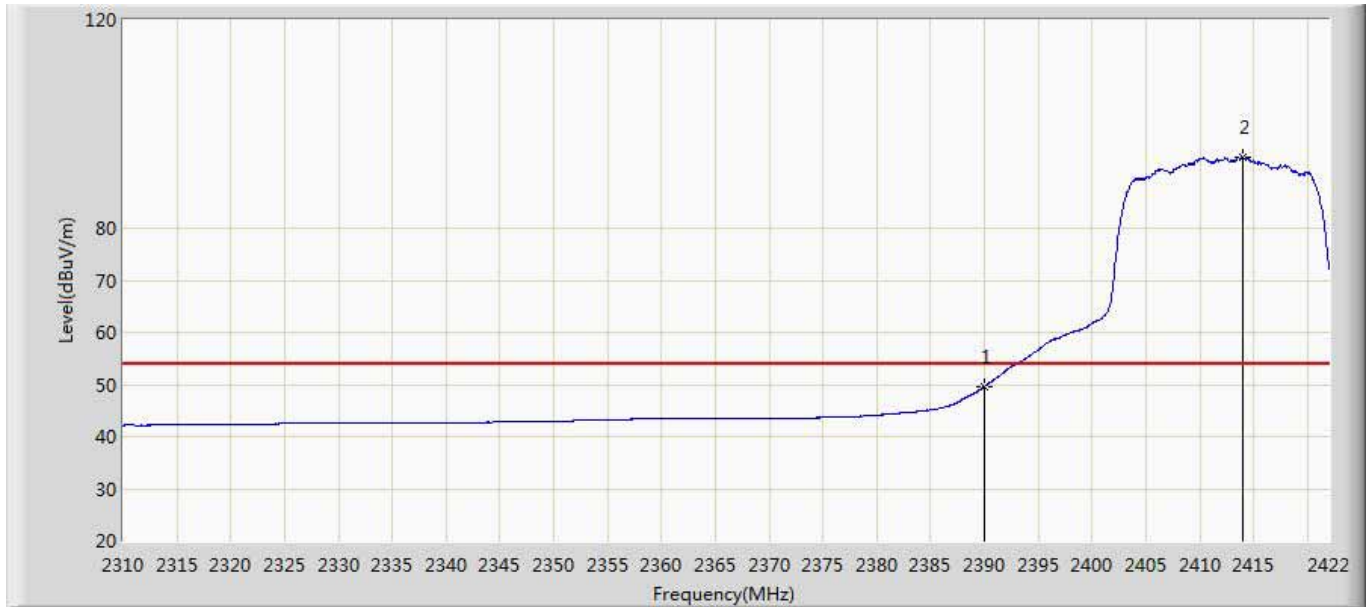
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.160	90.662	52.610	36.662	54.000	38.052	AV
2		2483.500	45.644	7.493	-8.356	54.000	38.150	AV

Site: AC5	Time: 2014/12/18 - 10:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2412 by 11n20 ant2	



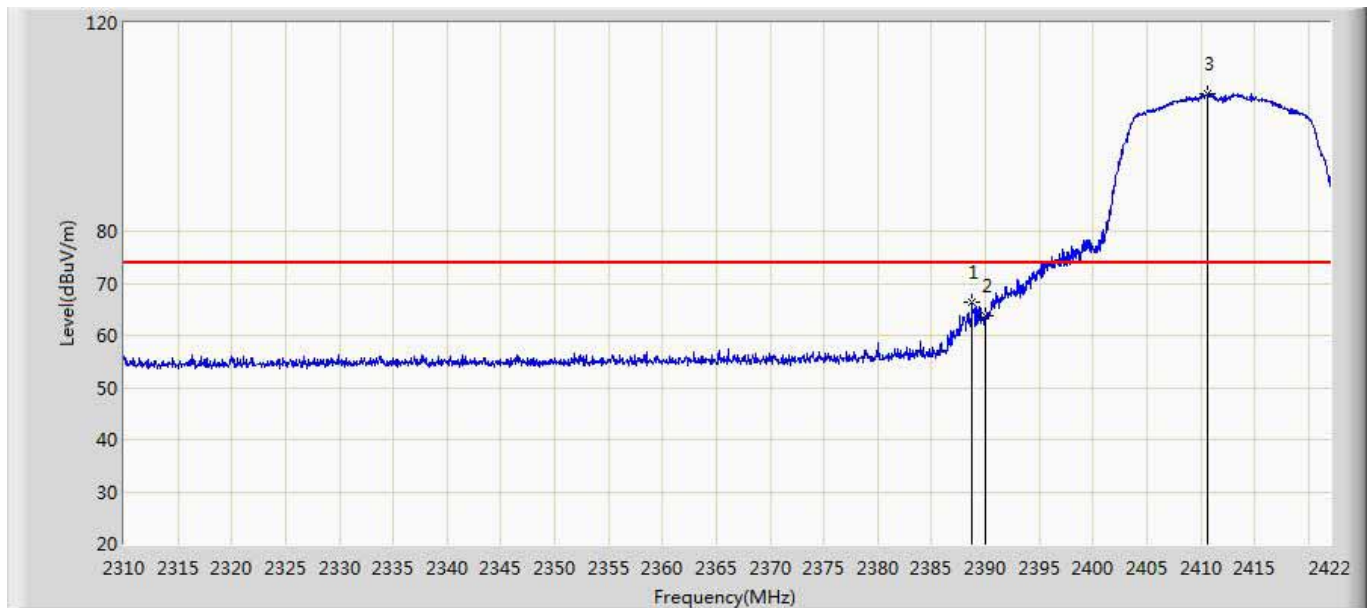
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2388.680	66.554	28.868	-7.446	74.000	37.687	PK
2		2390.000	64.422	26.729	-9.578	74.000	37.693	PK
3	*	2412.928	107.248	69.441	33.248	74.000	37.807	PK

Site: AC5	Time: 2014/12/18 - 10:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2412 by 11n20 ant2	



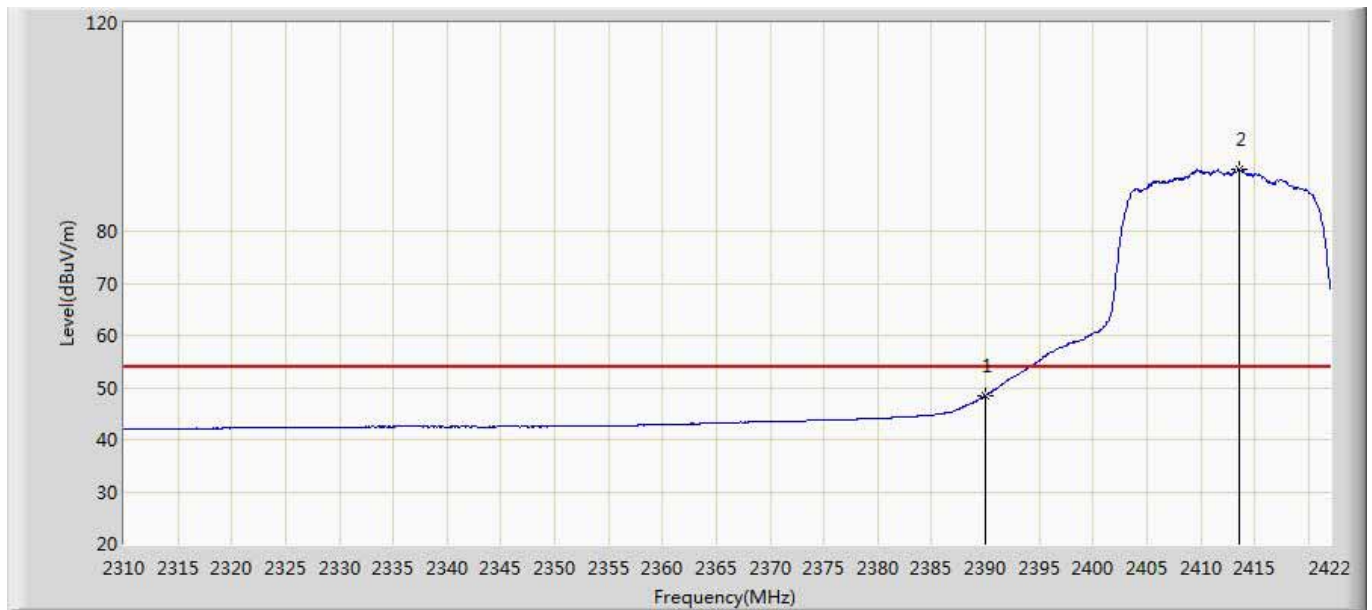
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	49.578	11.885	-4.422	54.000	37.693	AV
2	*	2413.992	93.768	55.956	39.768	54.000	37.812	AV

Site: AC5	Time: 2014/12/18 - 10:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2412 by 11n20 ant2	



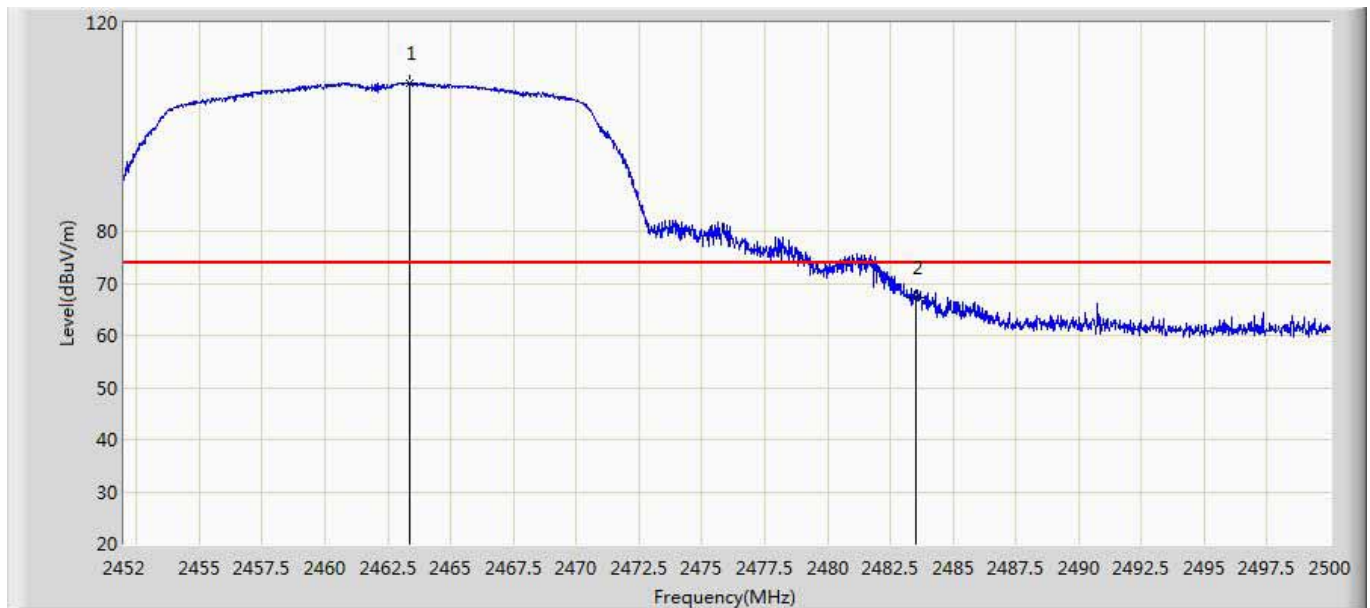
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2388.736	66.272	28.585	-7.728	74.000	37.687	PK
2		2390.000	63.636	25.943	-10.364	74.000	37.693	PK
3	*	2410.632	106.315	68.520	32.315	74.000	37.796	PK

Site: AC5	Time: 2014/12/18 - 10:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 2:Transmit at CH2412 by 11n20 ant2	



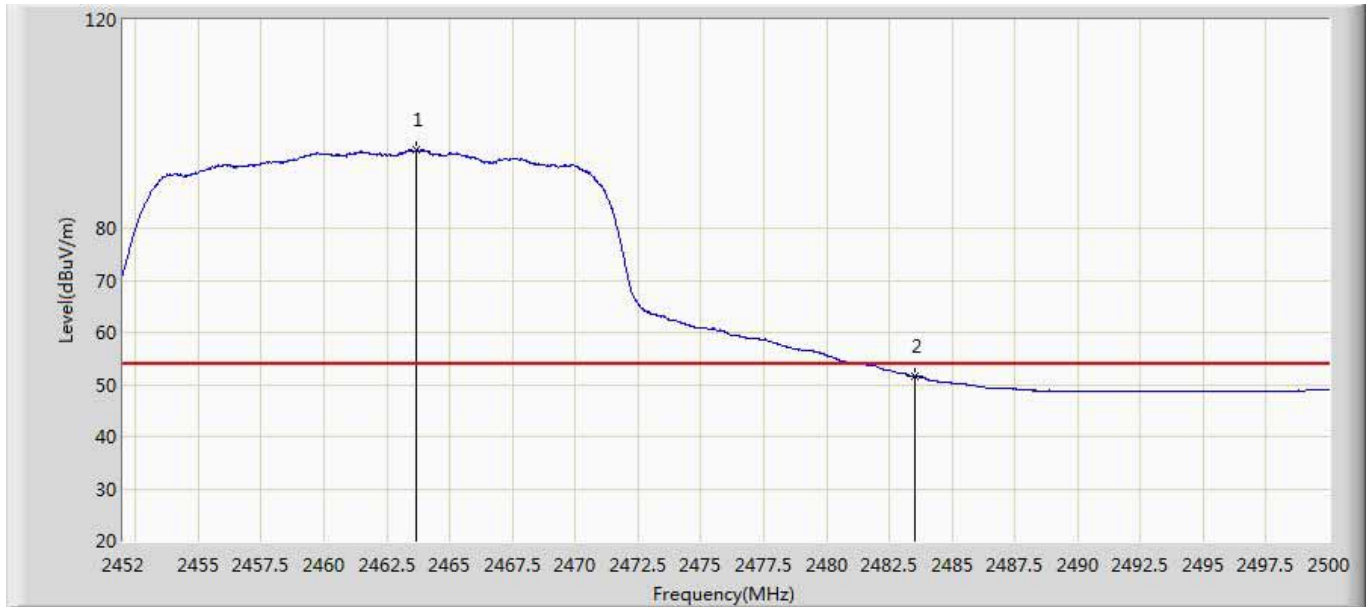
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	48.453	10.760	-5.547	54.000	37.693	AV
2	*	2413.544	91.967	54.157	37.967	54.000	37.810	AV

Site: AC5	Time: 2014/12/18 - 10:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2462 by 11n20 ant2	



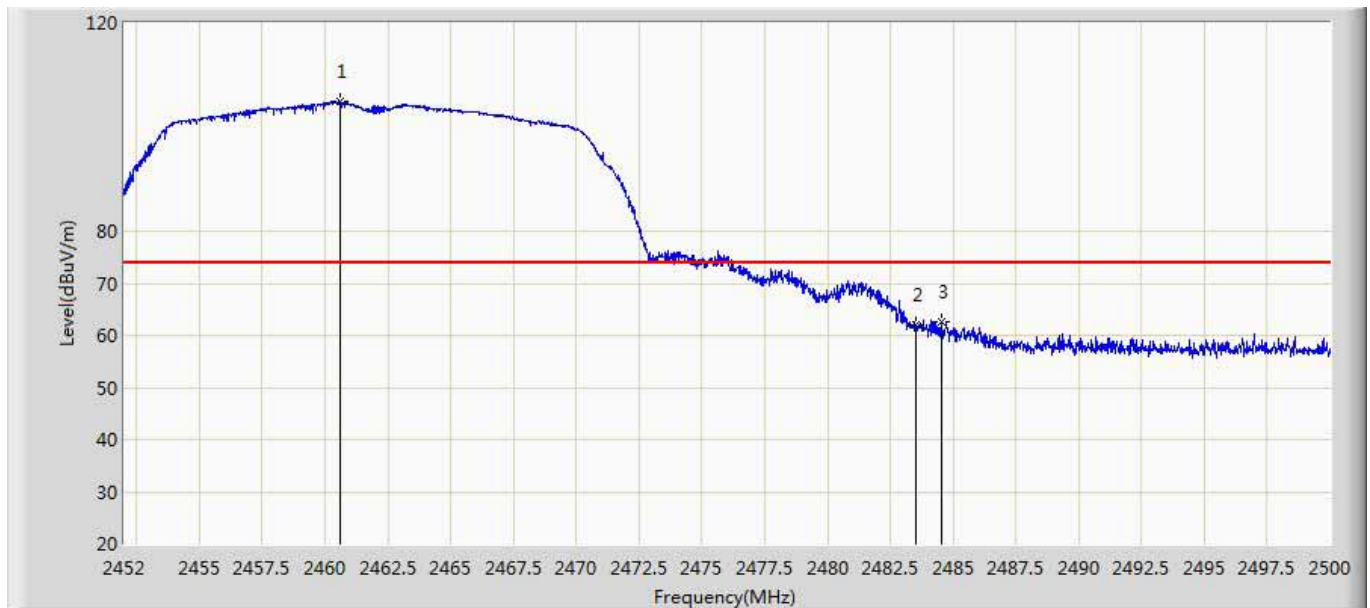
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.376	108.443	70.390	34.443	74.000	38.053	PK
2		2483.500	67.197	29.046	-6.803	74.000	38.150	PK

Site: AC5	Time: 2014/12/18 - 10:33
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2462 by 11n20 ant2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.640	95.020	56.966	41.020	54.000	38.054	AV
2		2483.500	51.631	13.480	-2.369	54.000	38.150	AV

Site: AC5	Time: 2014/12/18 - 10:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2462 by 11n20 ant2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.616	104.851	66.811	30.851	74.000	38.040	PK
2		2483.500	61.927	23.776	-12.073	74.000	38.150	PK
3		2484.568	62.726	24.570	-11.274	74.000	38.156	PK

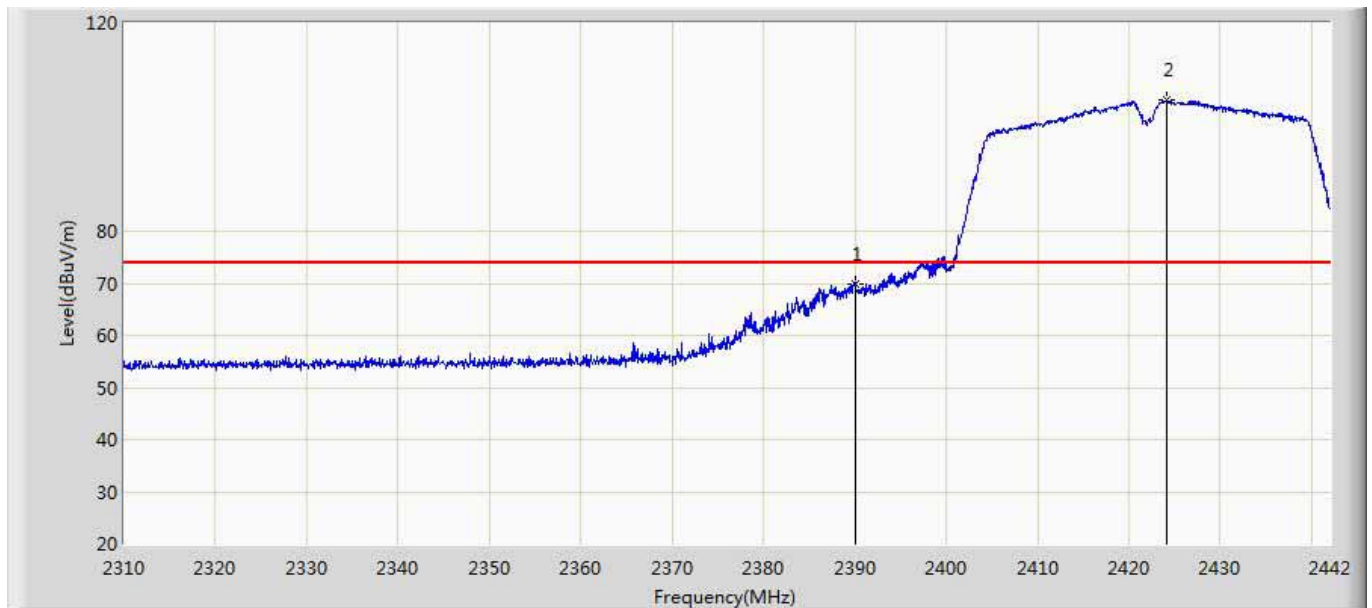


Site: AC5	Time: 2014/12/18 - 10:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2462 by 11n20 ant2	



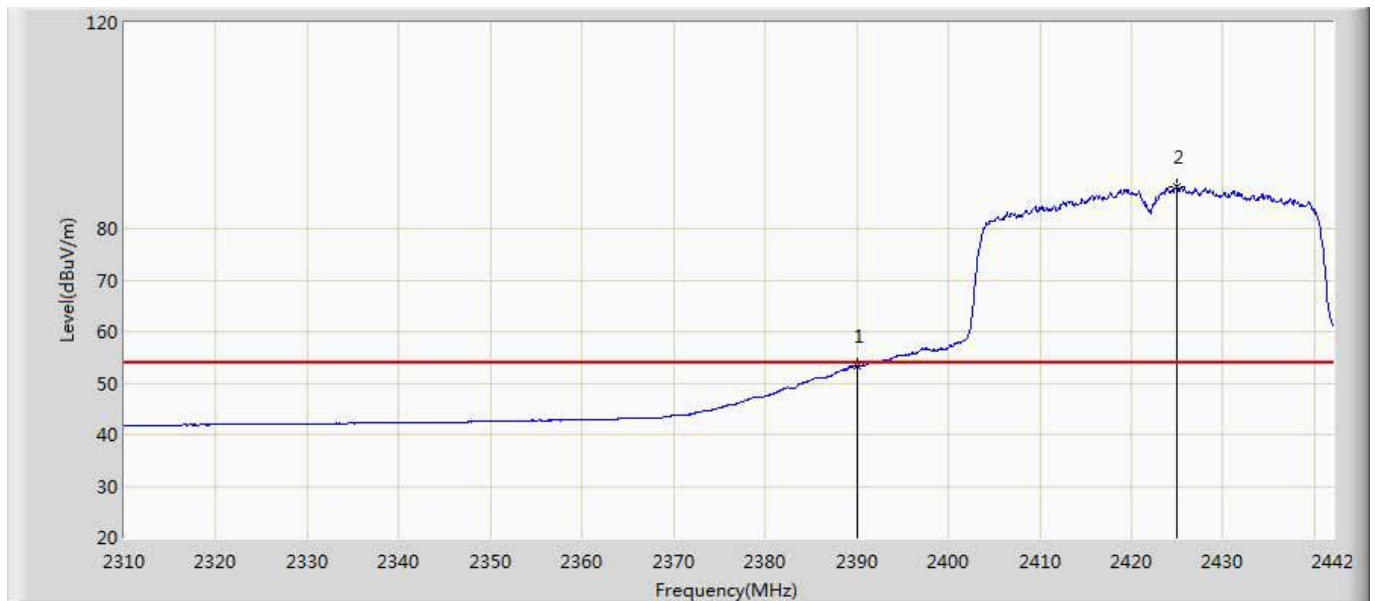
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.504	89.510	51.466	35.510	54.000	38.044	AV
2		2483.500	46.238	8.087	-7.762	54.000	38.150	AV

Site: AC5	Time: 2014/12/18 - 10:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2422 by 11n40 ant2	



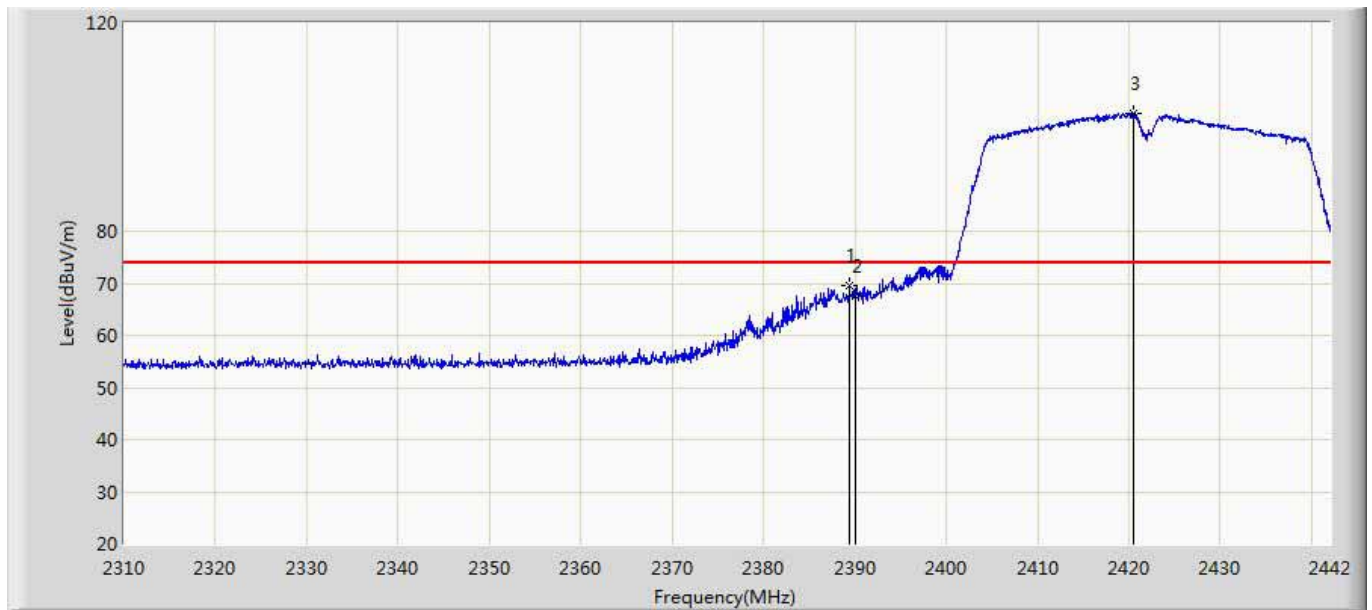
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	69.996	32.303	-4.004	74.000	37.693	PK
2	*	2424.114	105.079	67.217	31.079	74.000	37.862	PK

Site: AC5	Time: 2014/12/18 - 10:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2422 by 11n40 ant2	



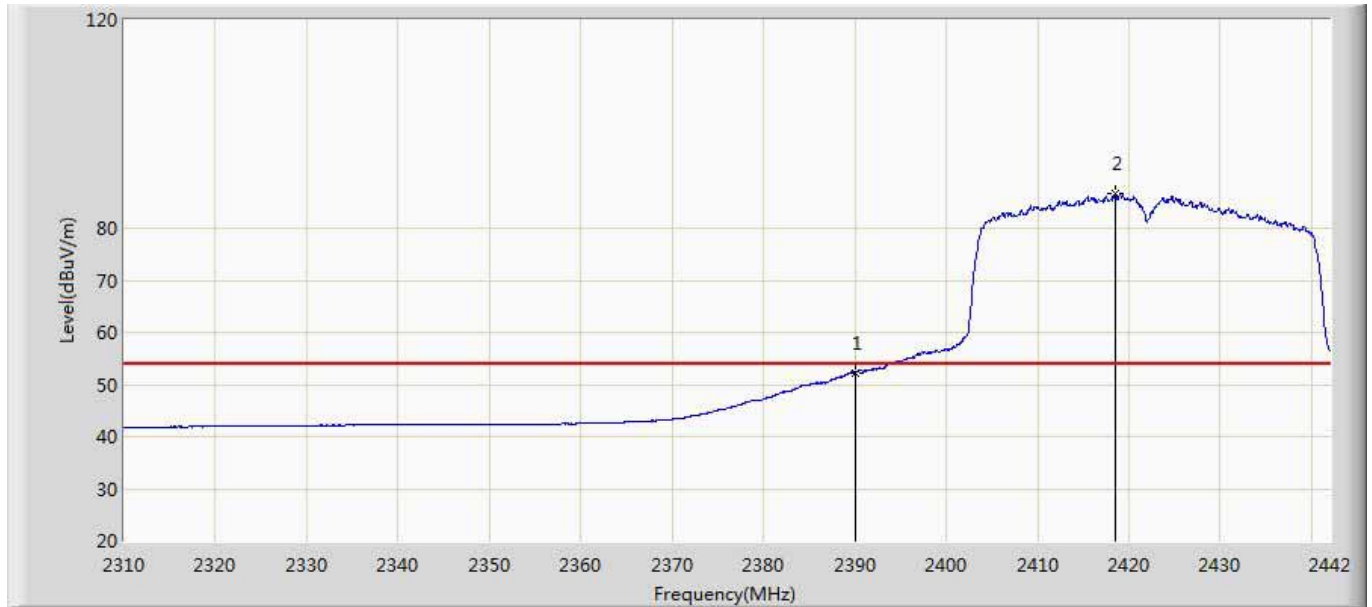
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.454	15.761	-0.546	54.000	37.693	AV
2	*	2424.972	88.179	50.313	34.179	54.000	37.866	AV

Site: AC5	Time: 2014/12/18 - 10:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2422 by 11n40 ant2	



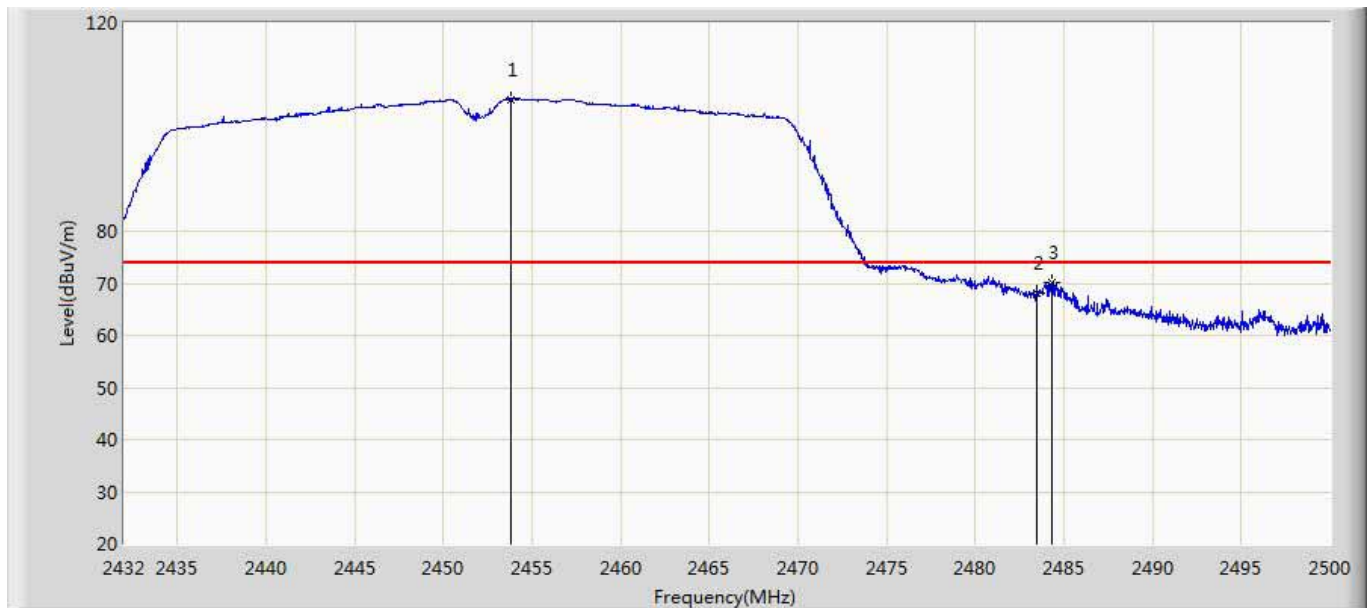
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.398	69.704	32.014	-4.296	74.000	37.689	PK
2		2390.000	67.543	29.850	-6.457	74.000	37.693	PK
3	*	2420.418	102.579	64.735	28.579	74.000	37.844	PK

Site: AC5	Time: 2014/12/18 - 10:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2422 by 11n40 ant2	



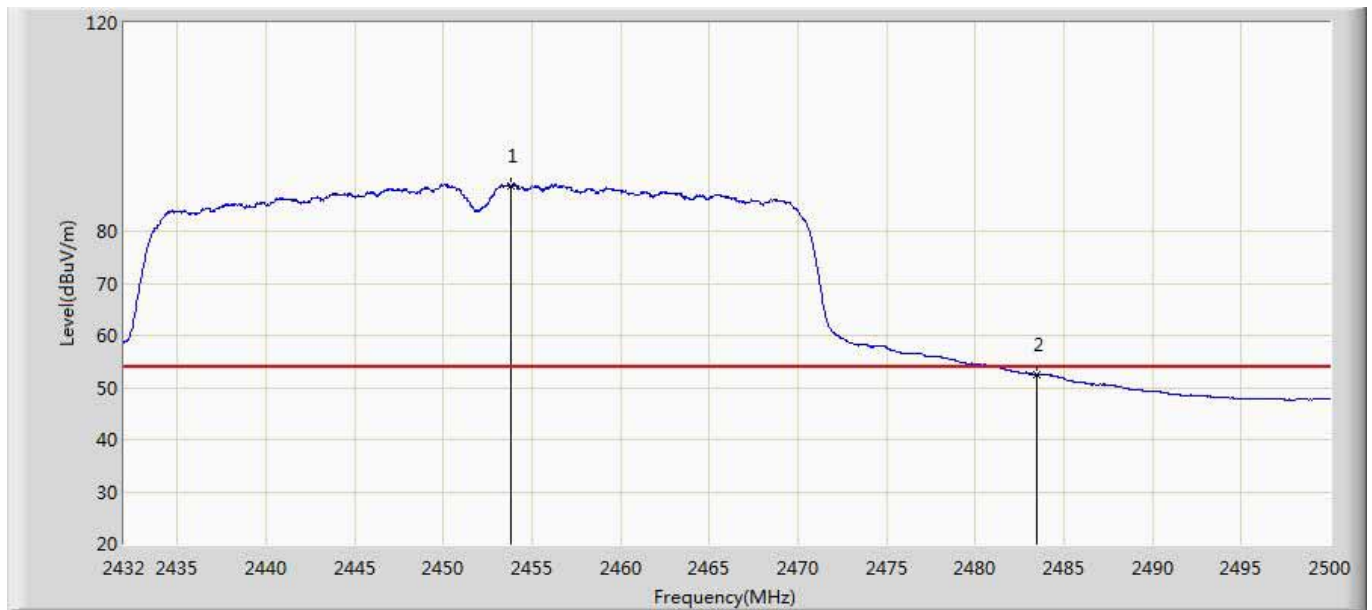
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.297	14.604	-1.703	54.000	37.693	AV
2	*	2418.570	86.543	48.708	32.543	54.000	37.834	AV

Site: AC5	Time: 2014/12/19 - 09:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2452 by 11n40 ant2	



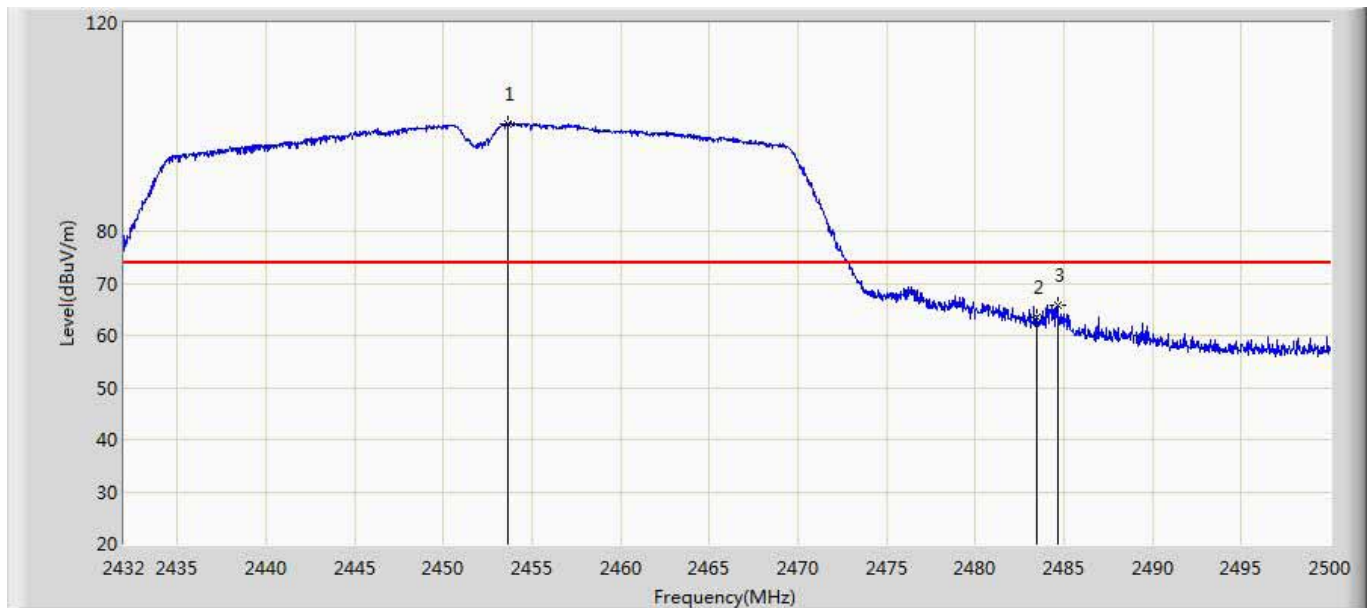
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2453.794	105.331	67.324	31.331	74.000	38.007	PK
2		2483.500	68.021	29.870	-5.979	74.000	38.150	PK
3		2484.292	70.208	32.053	-3.792	74.000	38.154	PK

Site: AC5	Time: 2014/12/19 - 09:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2452 by 11n40 ant2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2453.794	88.832	50.825	34.832	54.000	38.007	AV
2		2483.500	52.441	14.290	-1.559	54.000	38.150	AV

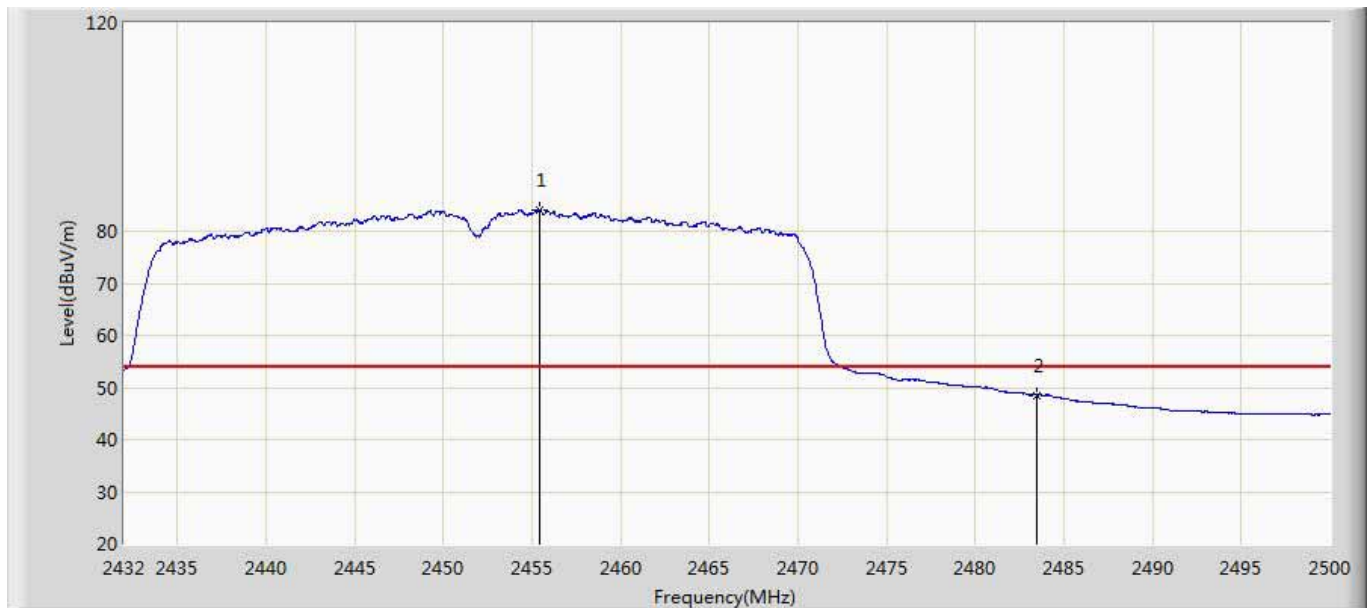
Site: AC5	Time: 2014/12/19 - 09:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2452 by 11n40 ant2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2453.658	100.680	62.674	26.680	74.000	38.006	PK
2		2483.500	63.365	25.214	-10.635	74.000	38.150	PK
3		2484.632	65.857	27.701	-8.143	74.000	38.157	PK

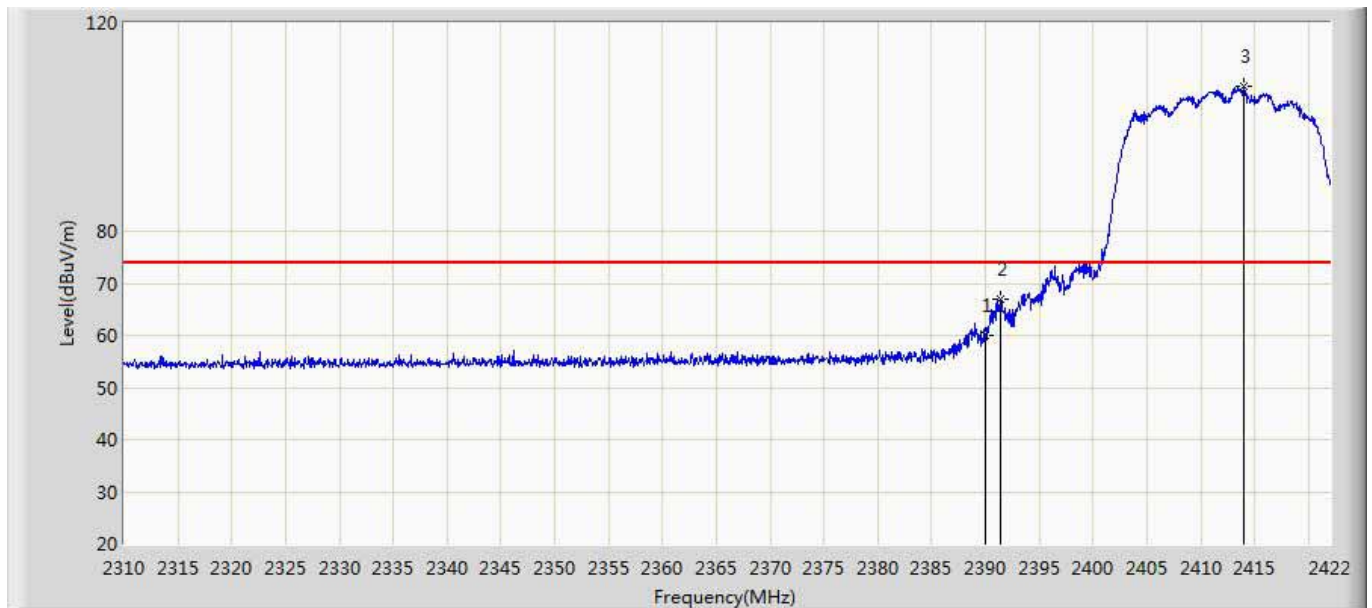


Site: AC5	Time: 2014/12/19 - 09:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2452 by 11n40 ant2	



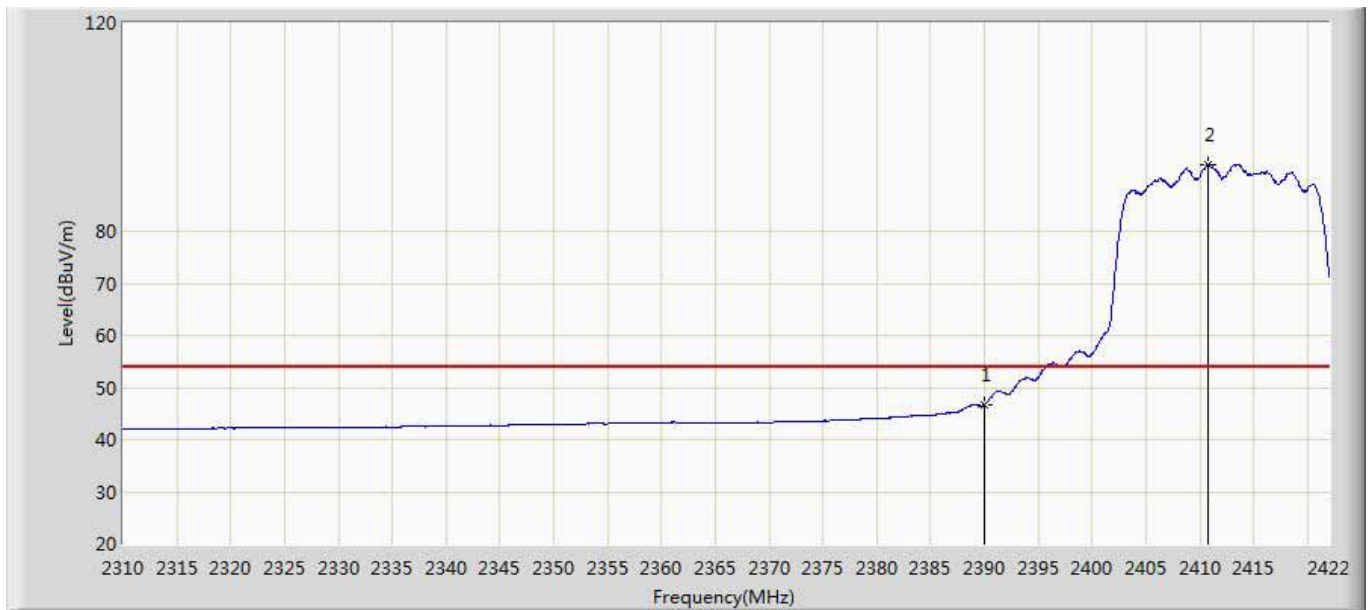
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2455.392	84.163	46.148	30.163	54.000	38.014	AV
2		2483.500	48.501	10.350	-5.499	54.000	38.150	AV

Site: AC5	Time: 2014/12/19 - 10:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2412 by 11n20 ant1+2	



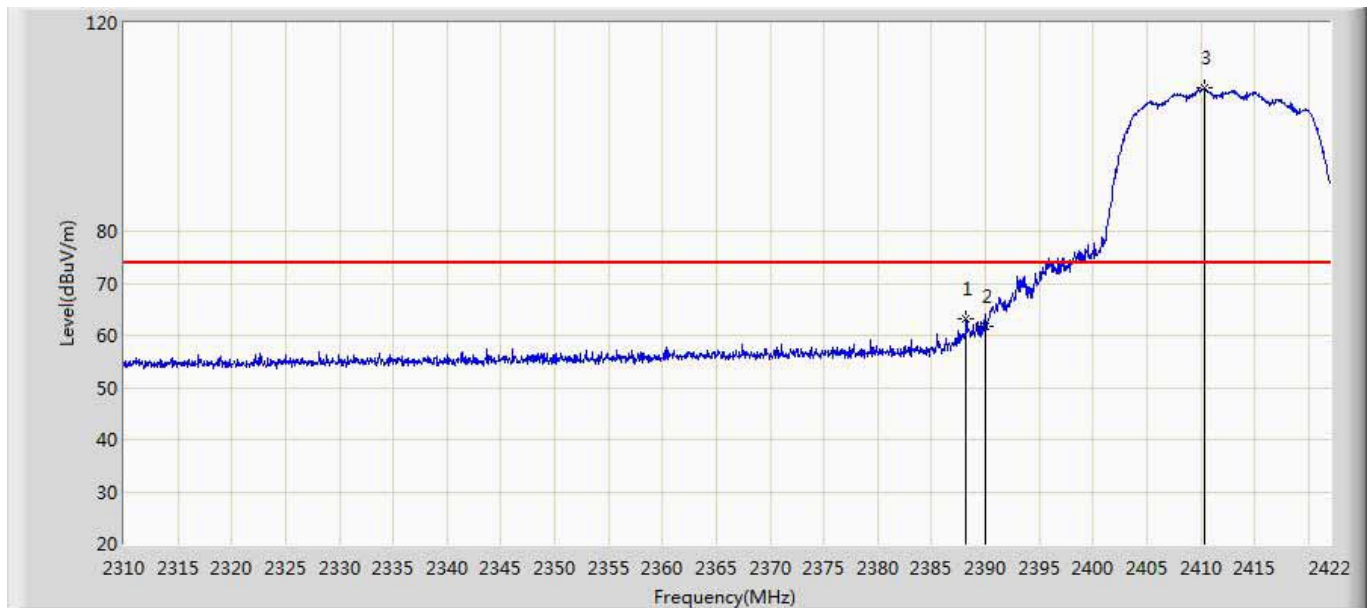
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	60.001	22.308	-13.999	74.000	37.693	PK
2		2391.368	66.960	29.261	-7.040	74.000	37.700	PK
3	*	2413.936	107.723	69.911	33.723	74.000	37.812	PK

Site: AC5	Time: 2014/12/19 - 10:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2412 by 11n20 ant1+2	



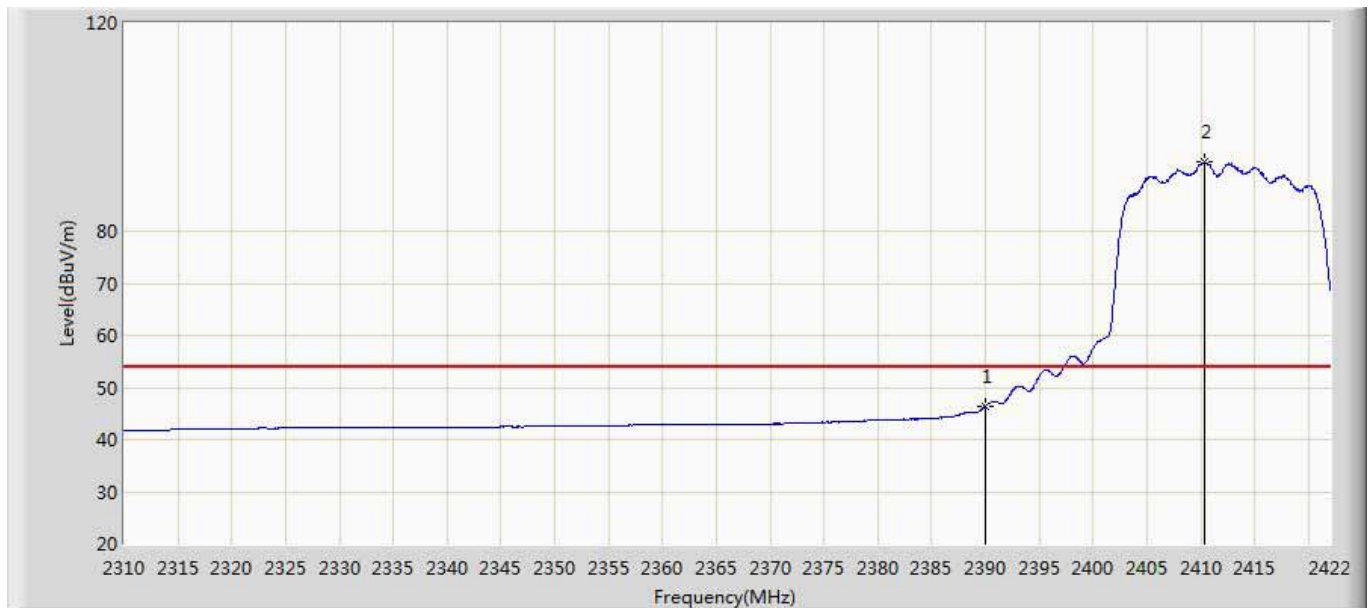
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	46.718	9.025	-7.282	54.000	37.693	AV
2	*	2410.744	92.888	55.092	38.888	54.000	37.796	AV

Site: AC5	Time: 2014/12/19 - 10:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2412 by 11n20 ant1+2	



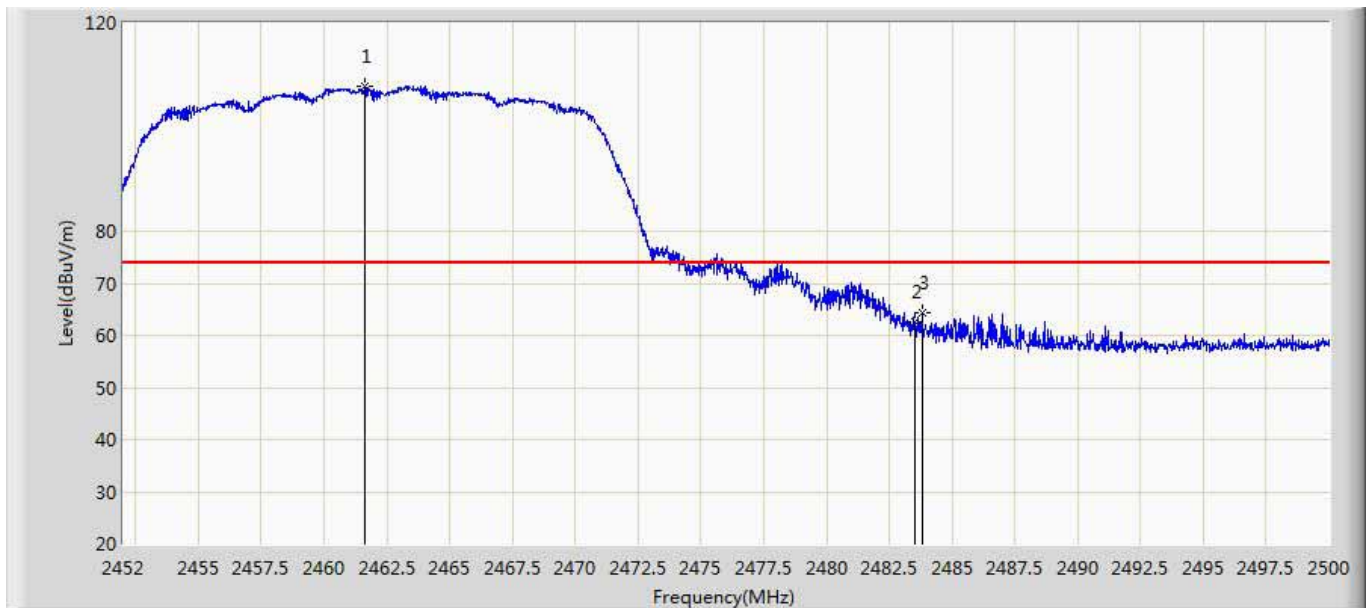
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2388.232	63.080	25.396	-10.920	74.000	37.684	PK
2		2390.000	61.838	24.145	-12.162	74.000	37.693	PK
3	*	2410.352	107.470	69.676	33.470	74.000	37.794	PK

Site: AC5	Time: 2014/12/19 - 10:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2412 by 11n20 ant1+2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	46.450	8.757	-7.550	54.000	37.693	AV
2	*	2410.352	93.311	55.517	39.311	54.000	37.794	AV

Site: AC5	Time: 2014/12/19 - 10:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2462 by 11n20 ant1+2	



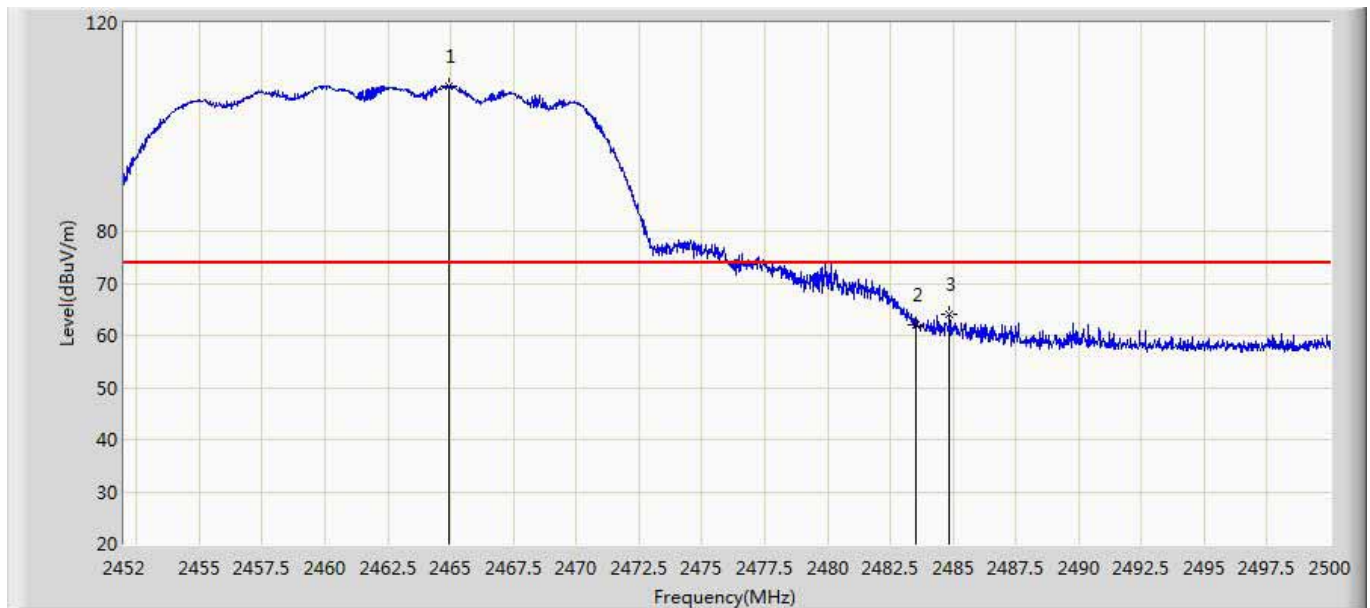
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.600	107.738	69.694	33.738	74.000	38.045	PK
2		2483.500	62.493	24.342	-11.507	74.000	38.150	PK
3		2483.800	64.277	26.125	-9.723	74.000	38.153	PK

Site: AC5	Time: 2014/12/19 - 10:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2462 by 11n20 ant1+2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.328	93.857	55.804	39.857	54.000	38.053	AV
2		2483.500	47.927	9.776	-6.073	54.000	38.150	AV

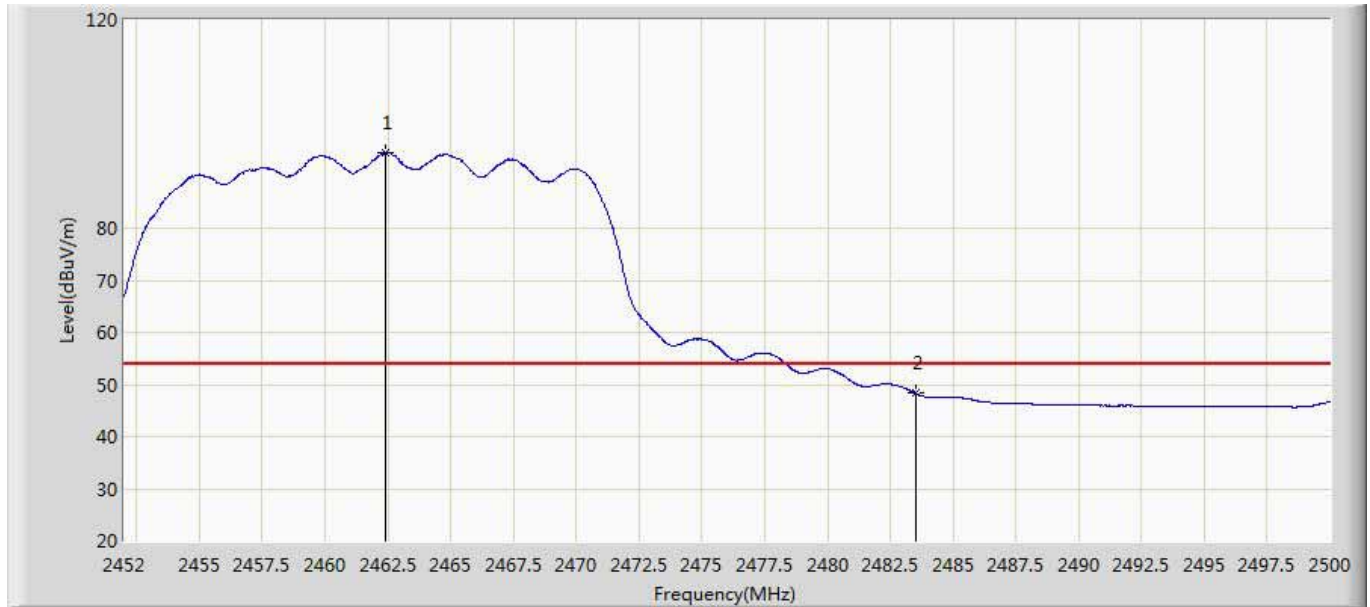
Site: AC5	Time: 2014/12/19 - 10:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2462 by 11n20 ant1+2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.960	107.811	69.750	33.811	74.000	38.061	PK
2		2483.500	62.035	23.884	-11.965	74.000	38.150	PK
3		2484.856	64.153	25.996	-9.847	74.000	38.157	PK

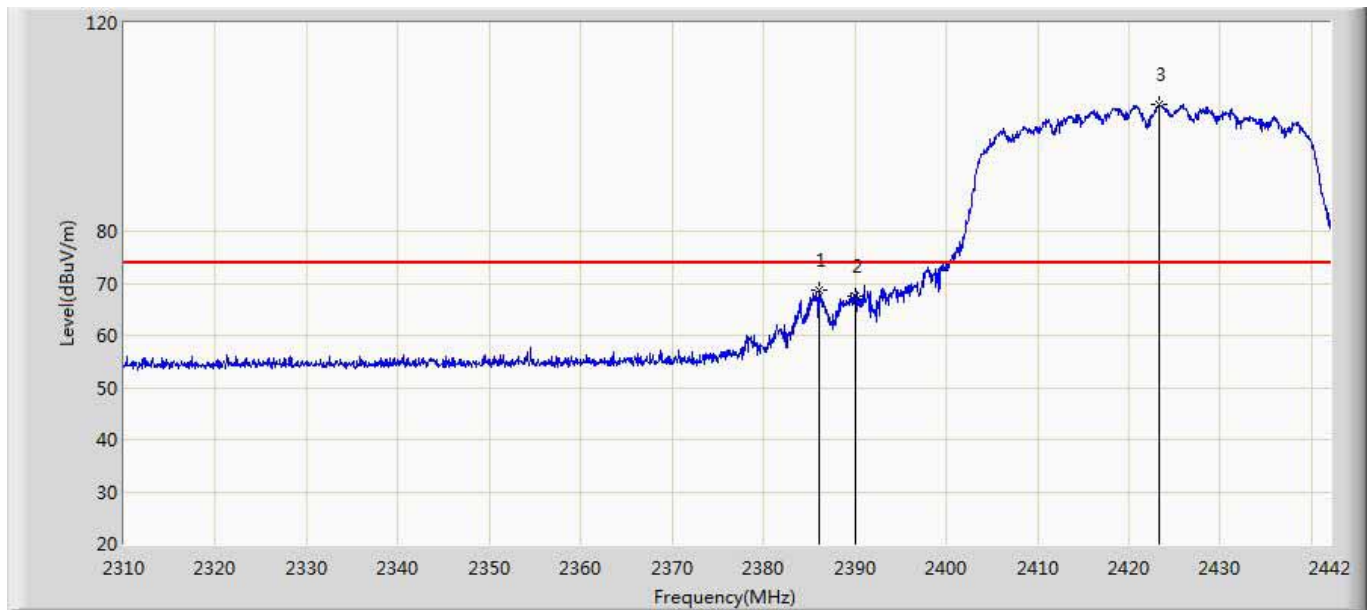


Site: AC5	Time: 2014/12/19 - 10:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 3:Transmit at CH2462 by 11n20 ant1+2	



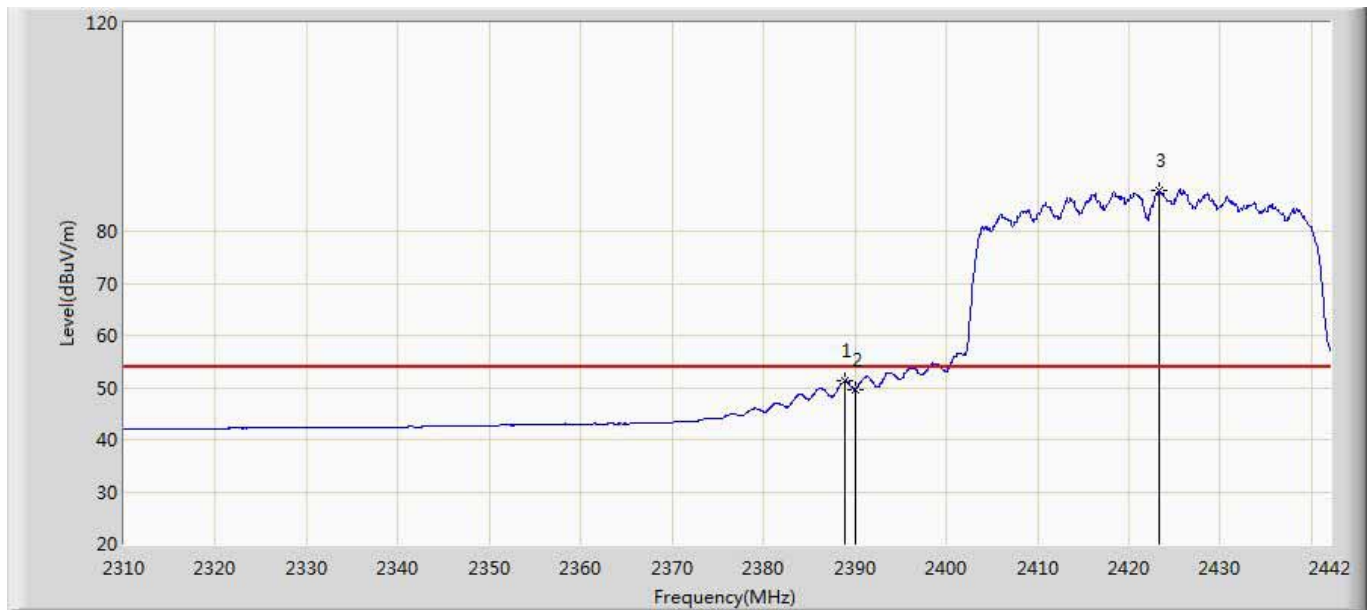
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.416	94.470	56.422	40.470	54.000	38.048	AV
2		2483.500	48.299	10.148	-5.701	54.000	38.150	AV

Site: AC5	Time: 2014/12/19 - 10:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2422 by 11n40 ant1+2	



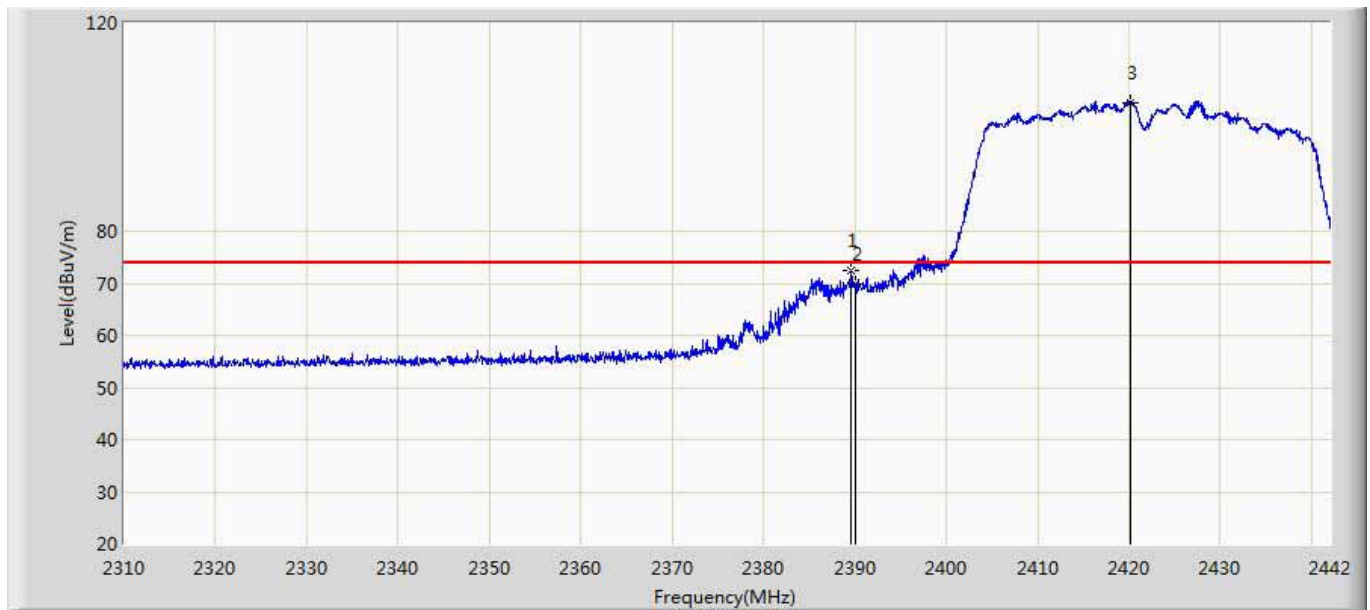
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2386.032	68.572	30.898	-5.428	74.000	37.673	PK
2		2390.000	67.527	29.834	-6.473	74.000	37.693	PK
3	*	2423.388	104.203	66.345	30.203	74.000	37.858	PK

Site: AC5	Time: 2014/12/19 - 10:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2422 by 11n40 ant1+2	



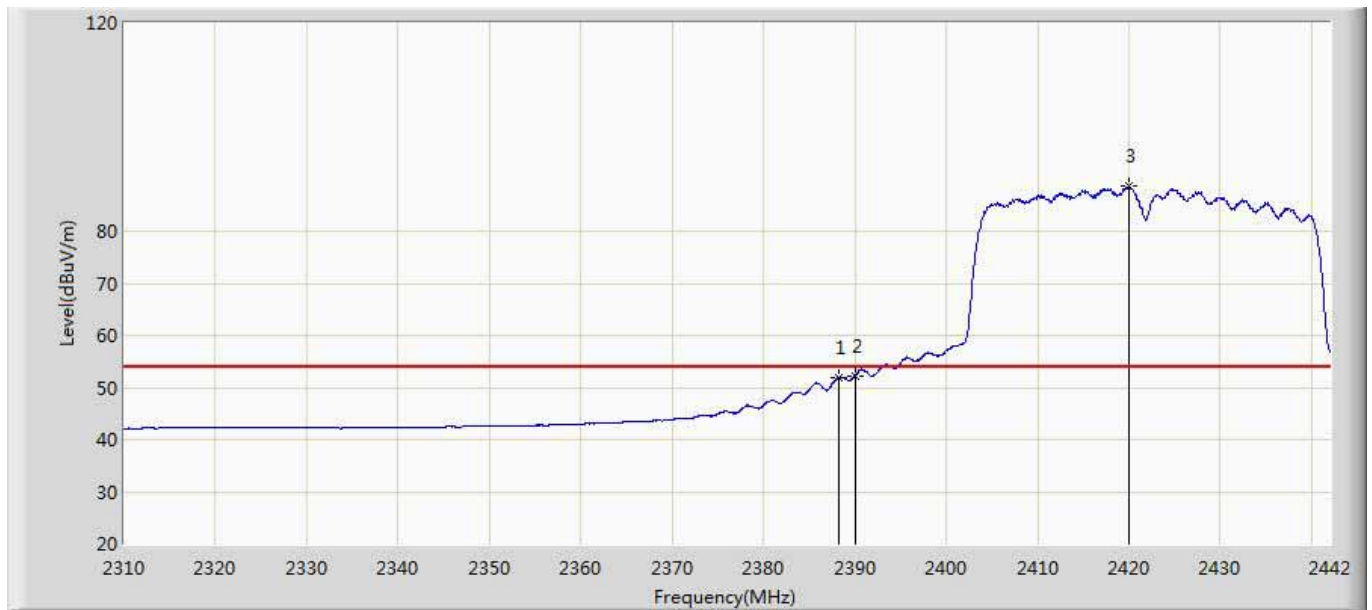
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2388.870	51.171	13.484	-2.829	54.000	37.688	AV
2		2390.000	49.638	11.945	-4.362	54.000	37.693	AV
3	*	2423.322	87.867	50.009	33.867	54.000	37.858	AV

Site: AC5	Time: 2014/12/19 - 10:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2422 by 11n40 ant1+2	



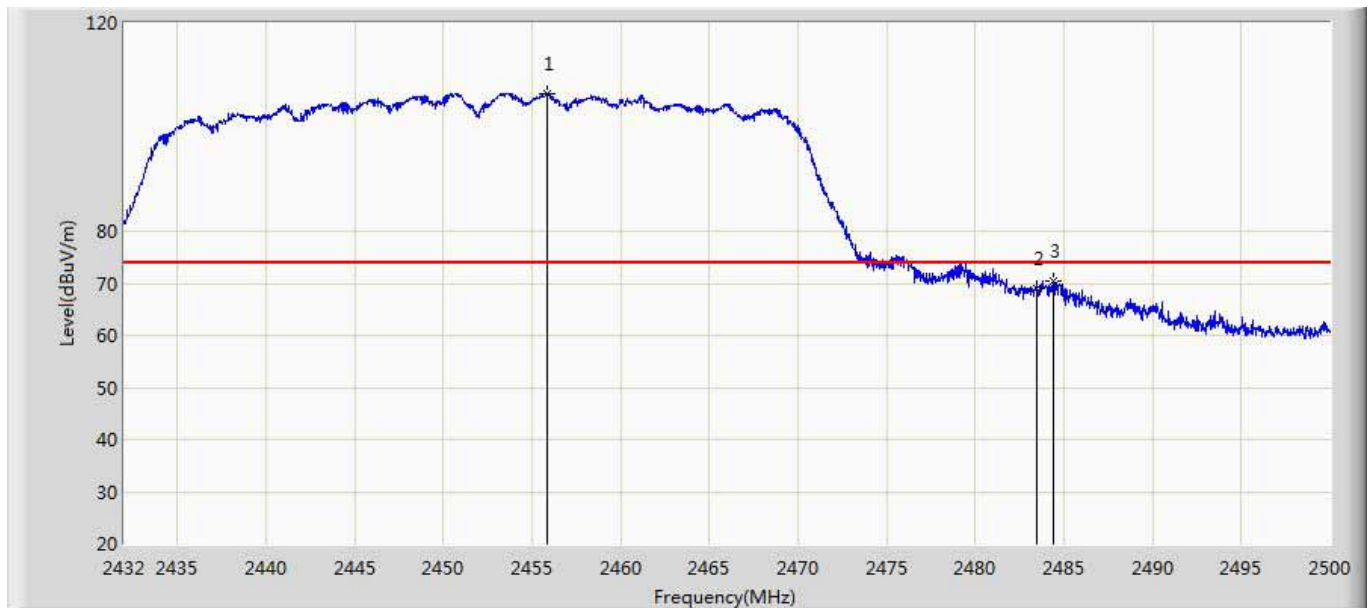
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.596	72.596	34.905	-1.404	74.000	37.691	PK
2		2390.000	69.812	32.119	-4.188	74.000	37.693	PK
3	*	2420.220	104.719	66.876	30.719	74.000	37.843	PK

Site: AC5	Time: 2014/12/19 - 10:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2422 by 11n40 ant1+2	



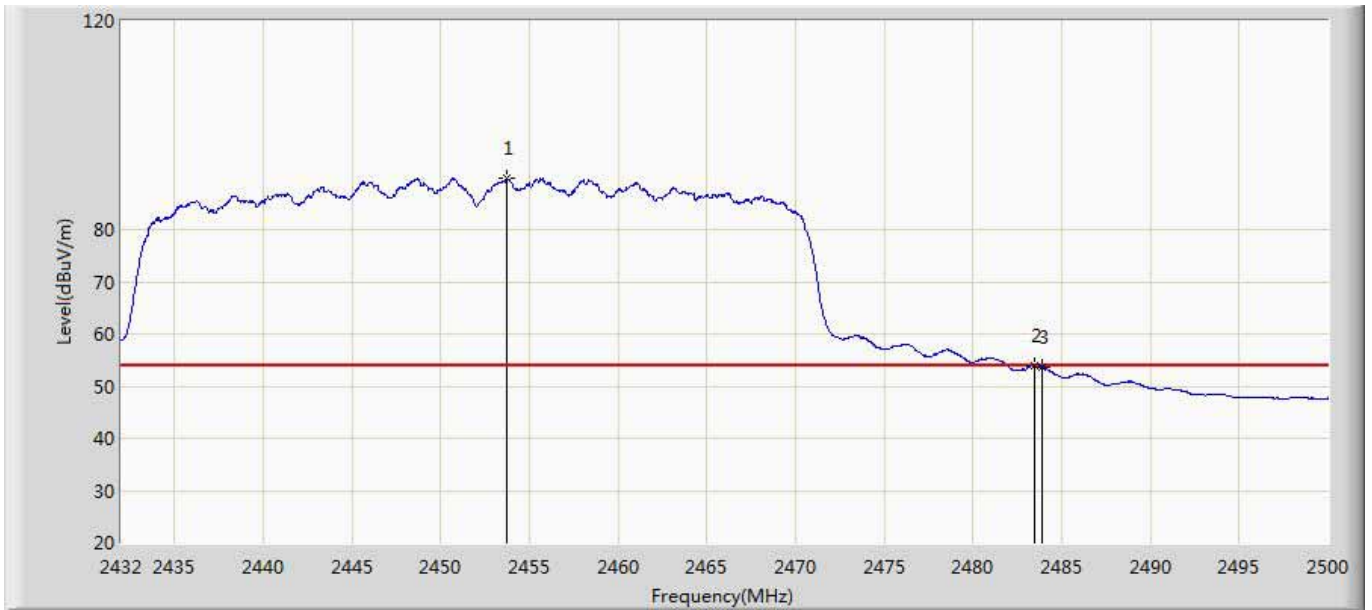
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2388.210	51.898	14.214	-2.102	54.000	37.684	AV
2		2390.000	52.232	14.539	-1.768	54.000	37.693	AV
3	*	2419.956	88.640	50.799	34.640	54.000	37.841	AV
4		2483.500	56.939	18.788	2.939	54.000	38.150	AV

Site: AC5	Time: 2014/12/19 - 10:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2452 by 11n40 ant1+2	



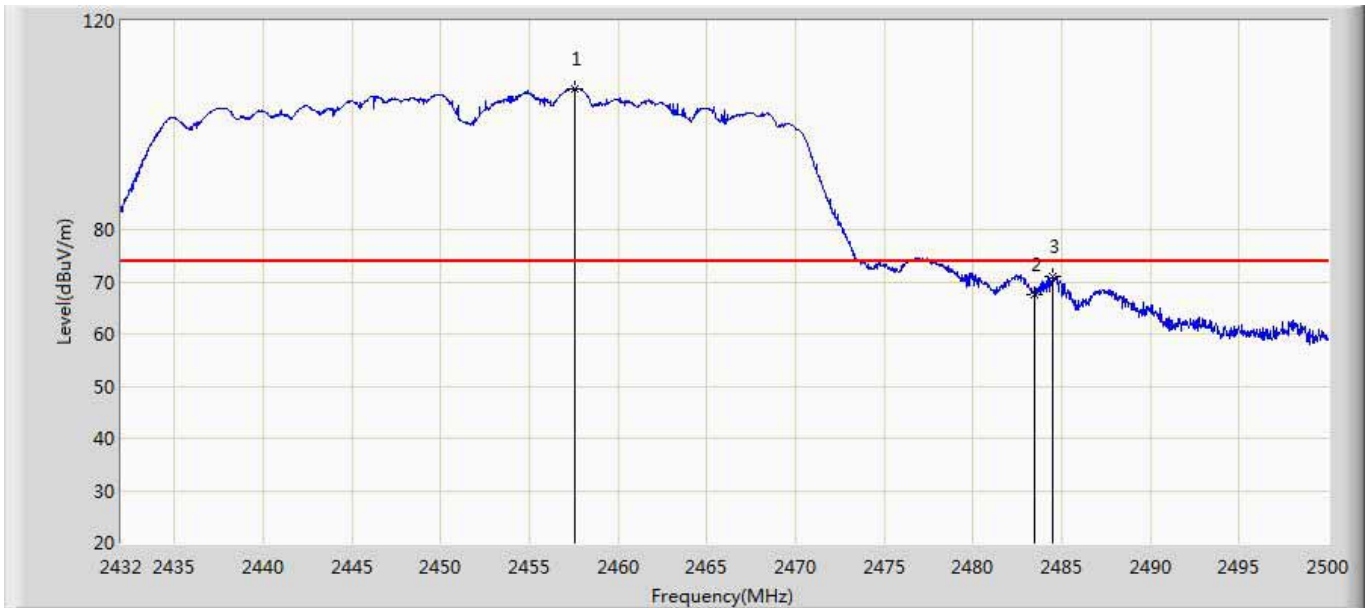
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2455.834	106.499	68.482	32.499	74.000	38.017	PK
2		2483.500	69.004	30.853	-4.996	74.000	38.150	PK
3		2484.428	70.569	32.414	-3.431	74.000	38.156	PK

Site: AC5	Time: 2014/12/19 - 10:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2452 by 11n40 ant1+2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2453.760	89.753	51.746	35.753	54.000	38.006	AV
2		2483.500	53.955	15.804	-0.045	54.000	38.150	AV
3		2483.884	53.699	15.546	-0.301	54.000	38.153	AV

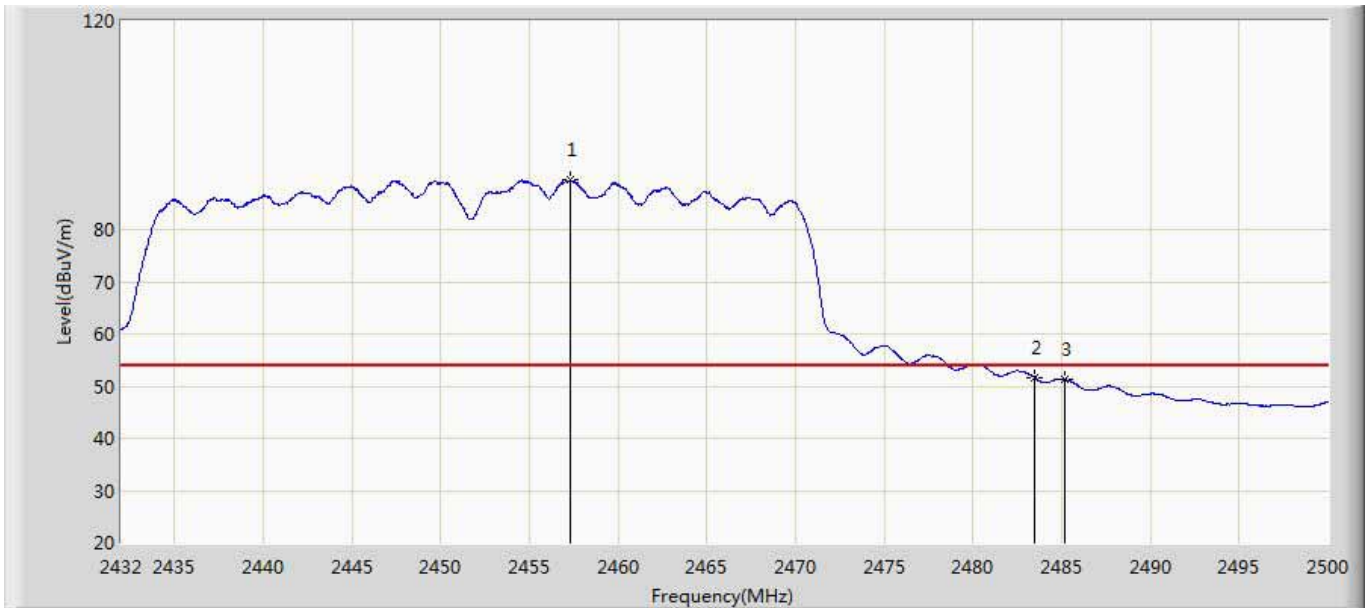
Site: AC5	Time: 2014/12/19 - 10:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2452 by 11n40 ant1+2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2457.602	107.014	68.989	33.014	74.000	38.025	PK
2		2483.500	67.568	29.417	-6.432	74.000	38.150	PK
3		2484.530	71.041	32.885	-2.959	74.000	38.156	PK



Site: AC5	Time: 2014/12/19 - 10:33
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway	Power: AC 120V/60Hz
Note: Mode 4:Transmit at CH2452 by 11n40 ant1+2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2457.296	89.485	51.461	35.485	54.000	38.024	AV
2		2483.500	51.630	13.479	-2.370	54.000	38.150	AV
3		2485.176	51.268	13.109	-2.732	54.000	38.160	AV

## 7. Operation Frequency Range of 20dB Bandwidth

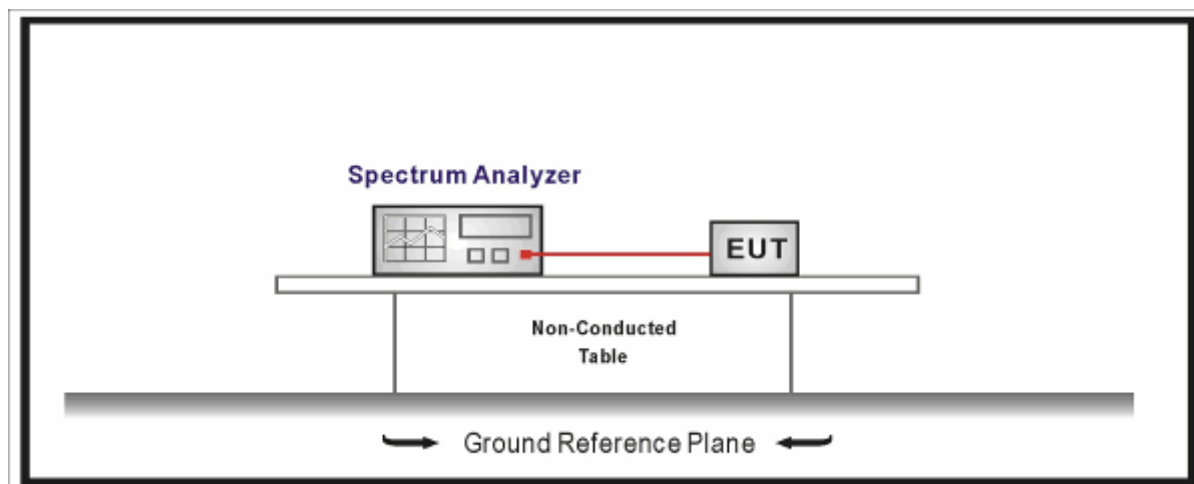
### 7.1. Test Equipment

Operation Frequency Range of 20dB Bandwidth / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2015.01.07
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2015.04.09

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

20 dB bandwidth of the emission is contained within the operation frequency band.

### 7.4. Test Procedure

The EUT was setup according to ANSI C63.4: 2009; tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The 20dB bandwidth test is using KDB 558074 Section 8.1 option 1 method.

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.

- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20dB relative to the maximum level measured in the fundamental emission.
- h) Remark the 20dB down frequency point and make sure this is within the operating frequency band.

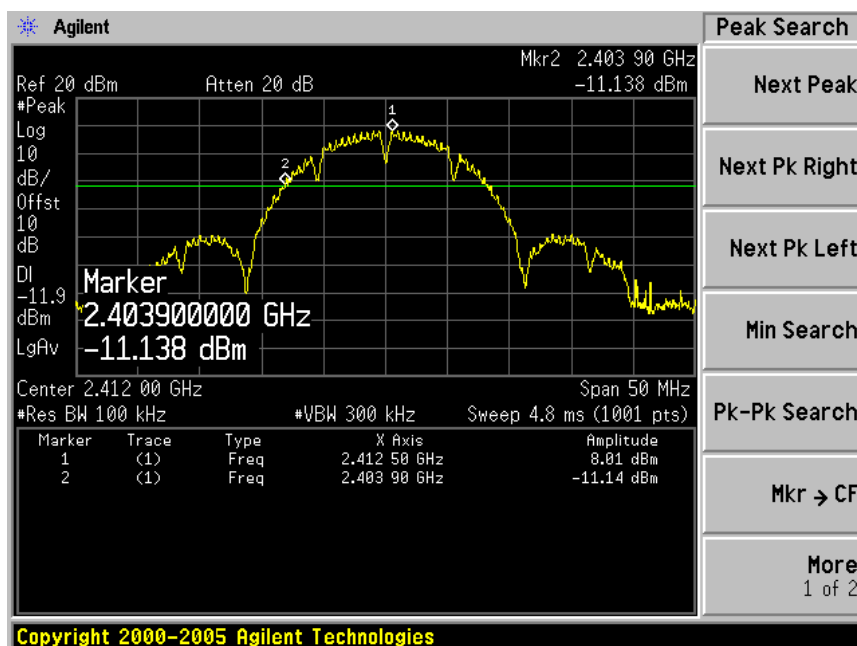
## 7.5. Uncertainty

The measurement uncertainty is defined as  $\pm 1$  kHz

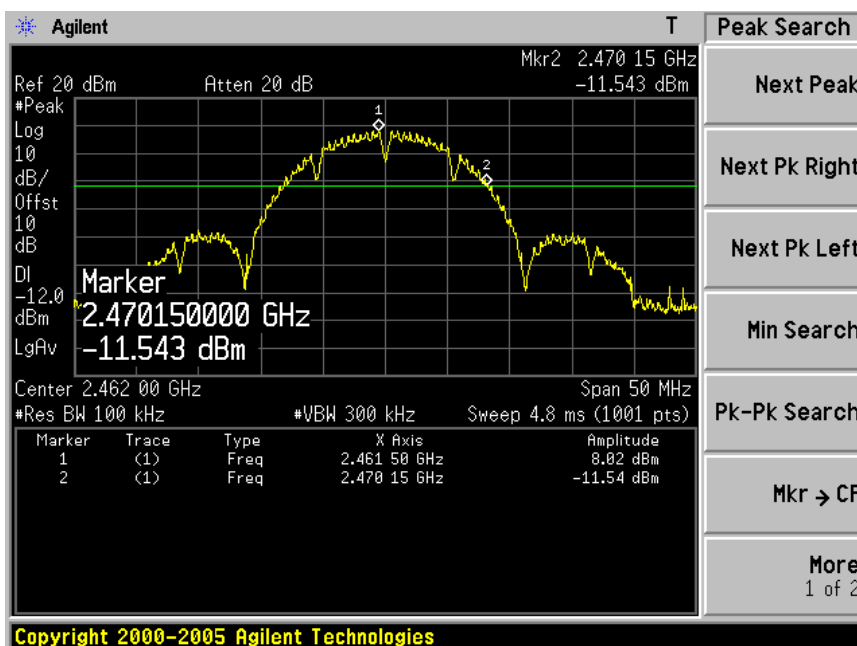
7.6. Test Result

Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: Operation Frequency Range of 20dB Bandwidth
Test Site	: TR-8
Test Mode	: Mode 1: Transmit by 802.11b (Ant 1)

Channel 01 (2412MHz)

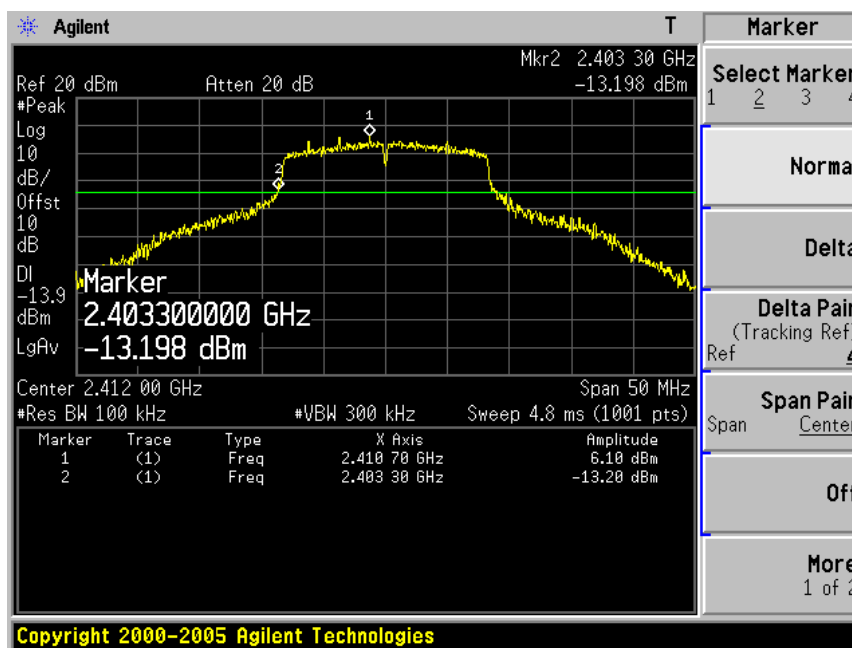


Channel 11 (2462MHz)

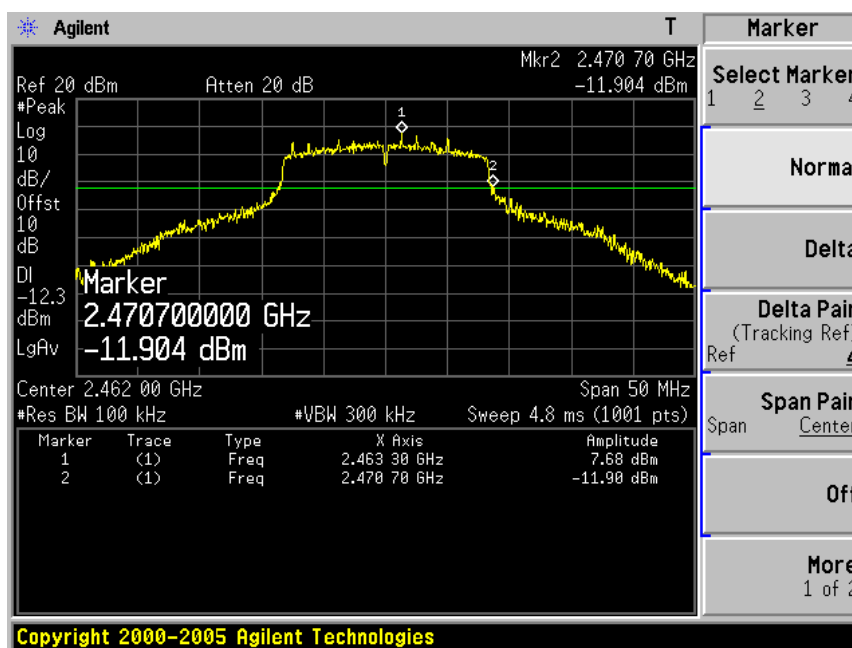


Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: Operation Frequency Range of 20dB Bandwidth
Test Site	: TR-8
Test Mode	: Mode 2: Transmit by 802.11g (Ant 1)

### Channel 01 (2412MHz)

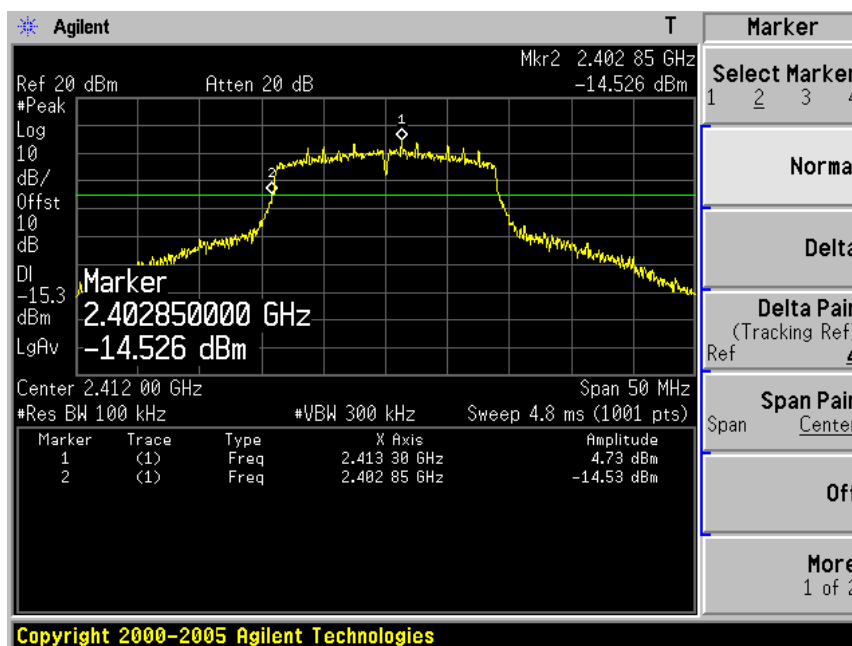


### Channel 11 (2462MHz)

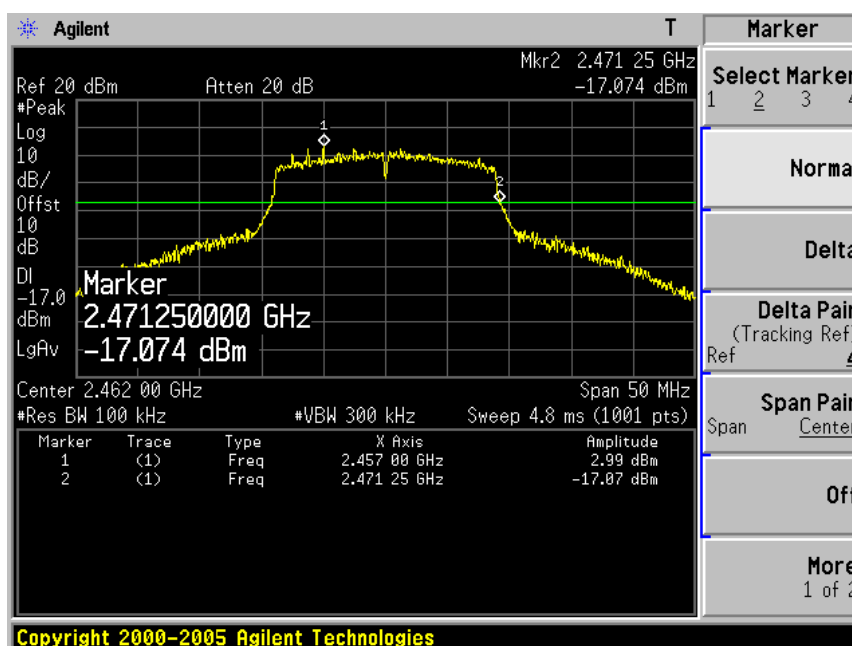


Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: Operation Frequency Range of 20dB Bandwidth
Test Site	: TR-8
Test Mode	: Mode 3: Transmit by 802.11n(20MHz) (Ant 1)

### Channel 01 (2412MHz)

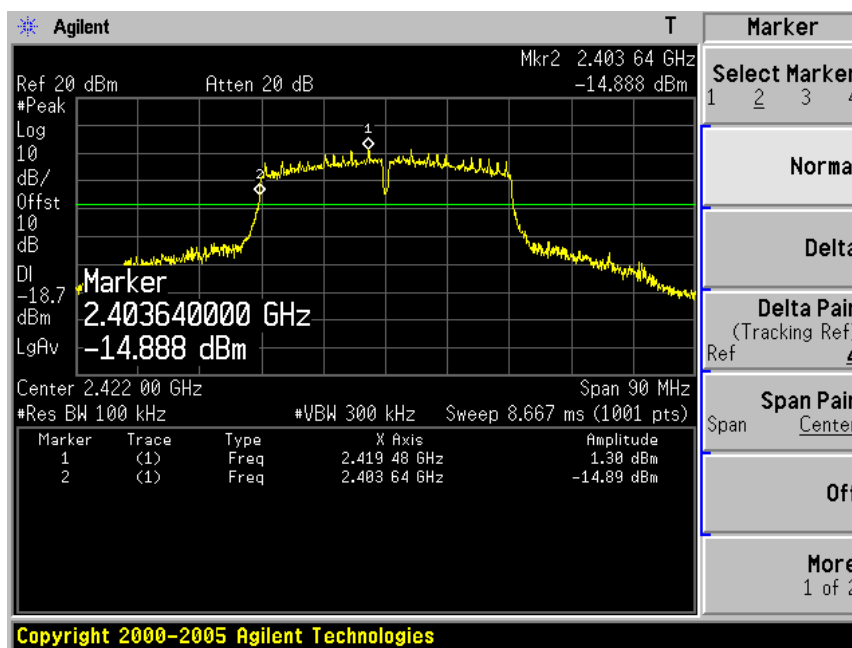


### Channel 11 (2462MHz)

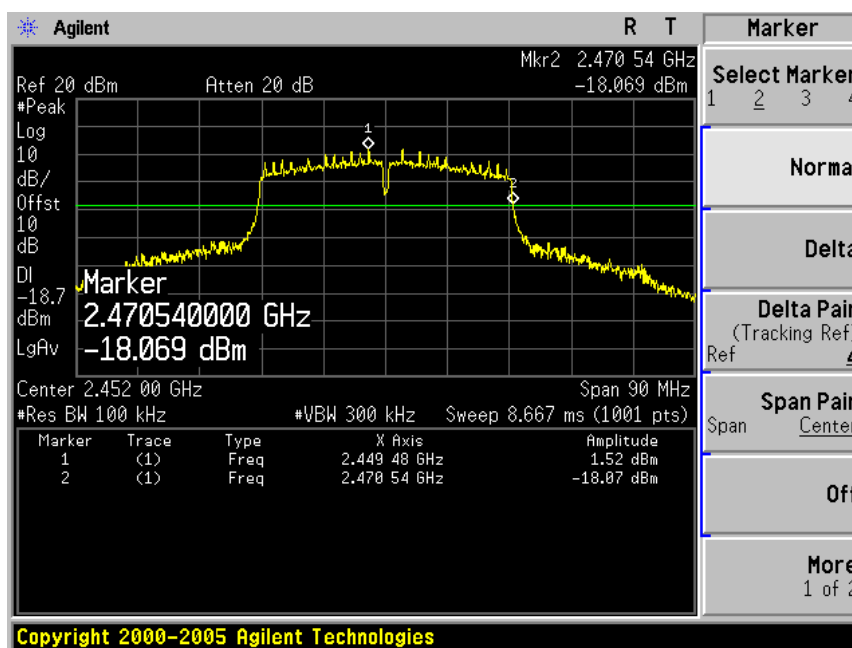


Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: Operation Frequency Range of 20dB Bandwidth
Test Site	: TR-8
Test Mode	: Mode 4: Transmit by 802.11n(40MHz) (Ant 1)

### Channel 03 (2422MHz)

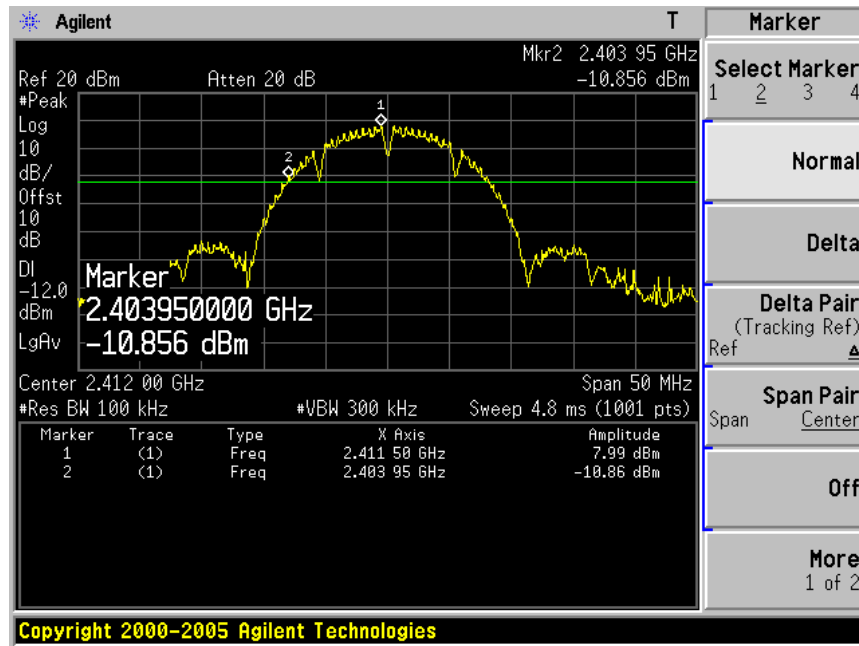


### Channel 09 (2452MHz)

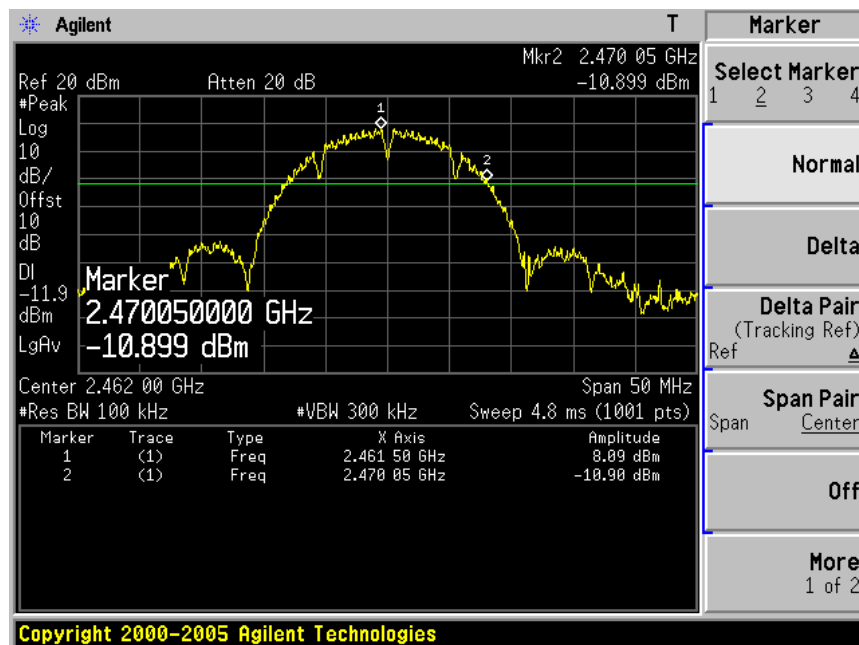


Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: Operation Frequency Range of 20dB Bandwidth
Test Site	: TR-8
Test Mode	: Mode 1: Transmit by 802.11b (Ant 2)

Channel 01 (2412MHz)



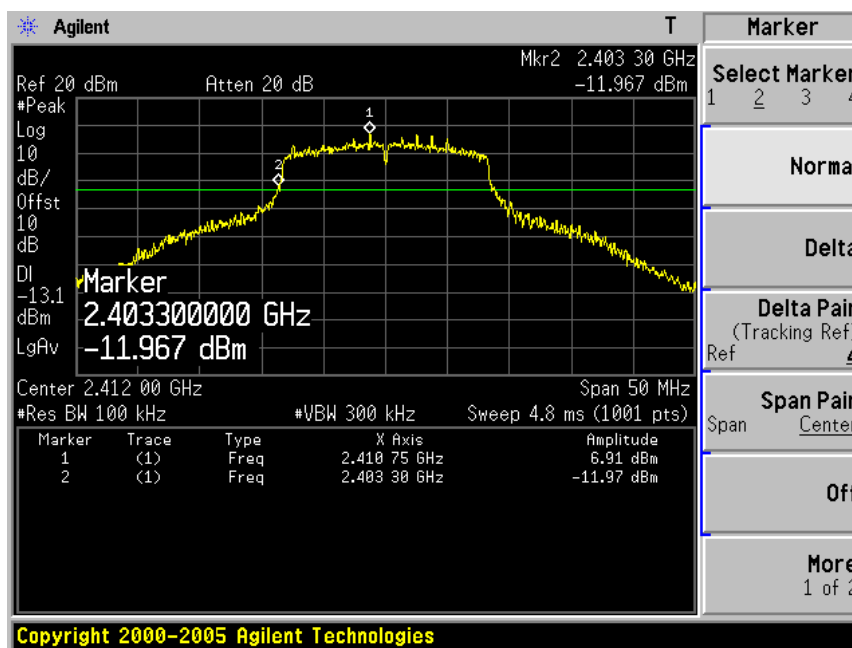
Channel 11 (2462MHz)



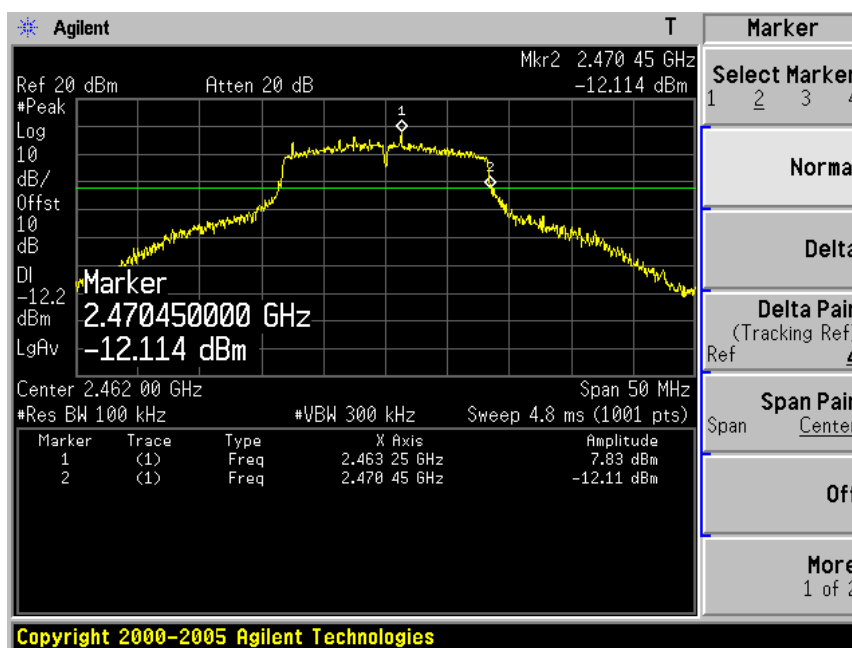


Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: Operation Frequency Range of 20dB Bandwidth
Test Site	: TR-8
Test Mode	: Mode 2: Transmit by 802.11g (Ant 2)

### Channel 01 (2412MHz)

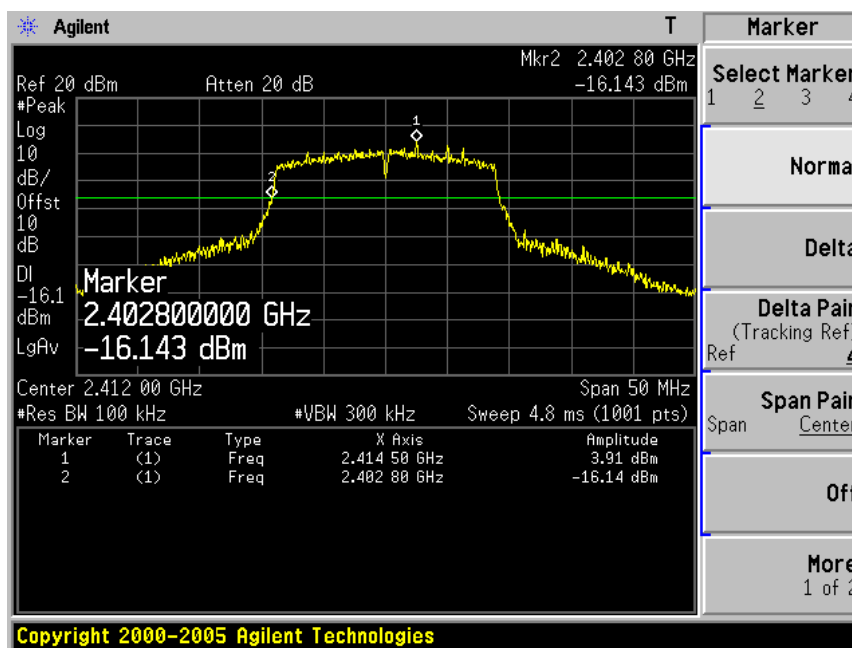


### Channel 11 (2462MHz)

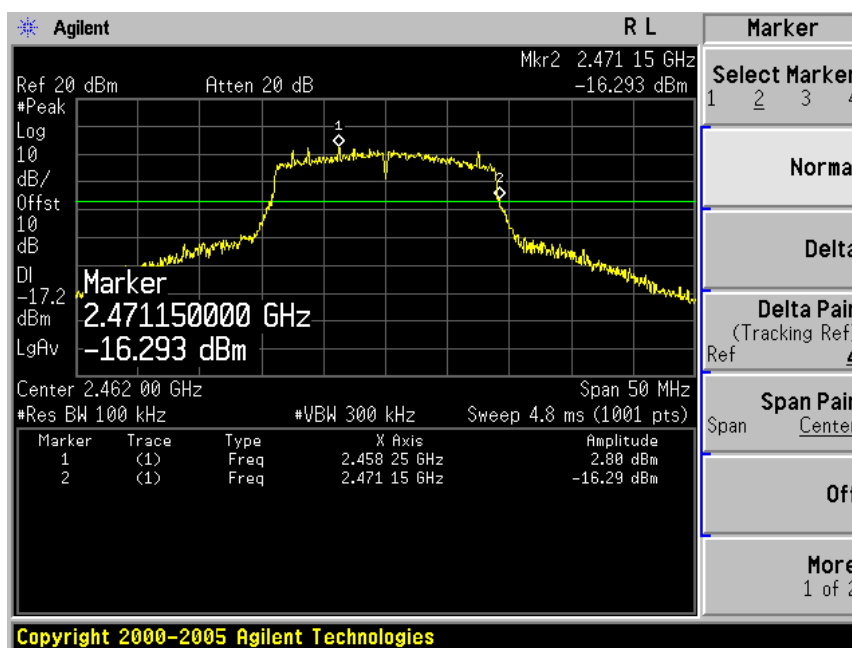


Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: Operation Frequency Range of 20dB Bandwidth
Test Site	: TR-8
Test Mode	: Mode 3: Transmit by 802.11n(20MHz) (Ant 2)

### Channel 01 (2412MHz)

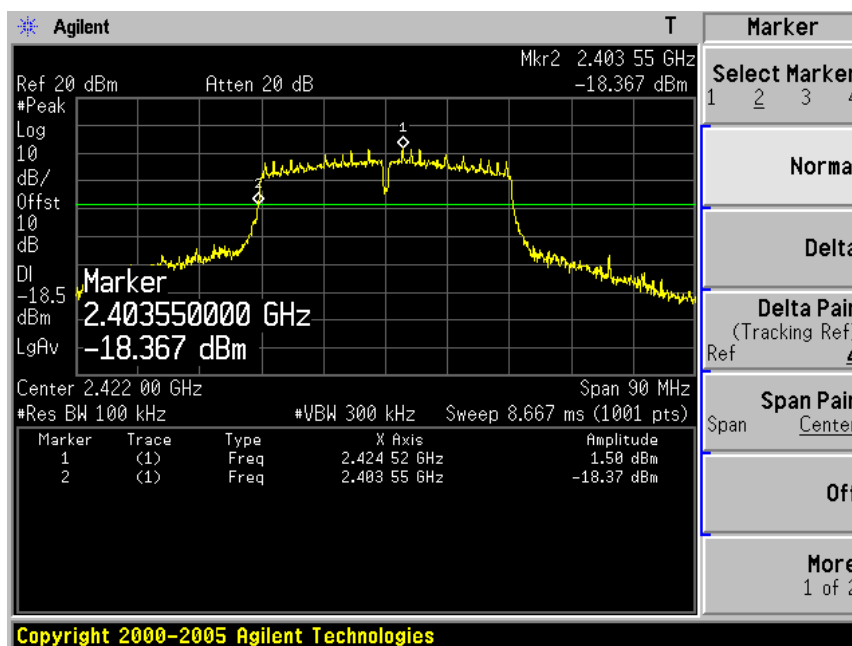


### Channel 11 (2462MHz)

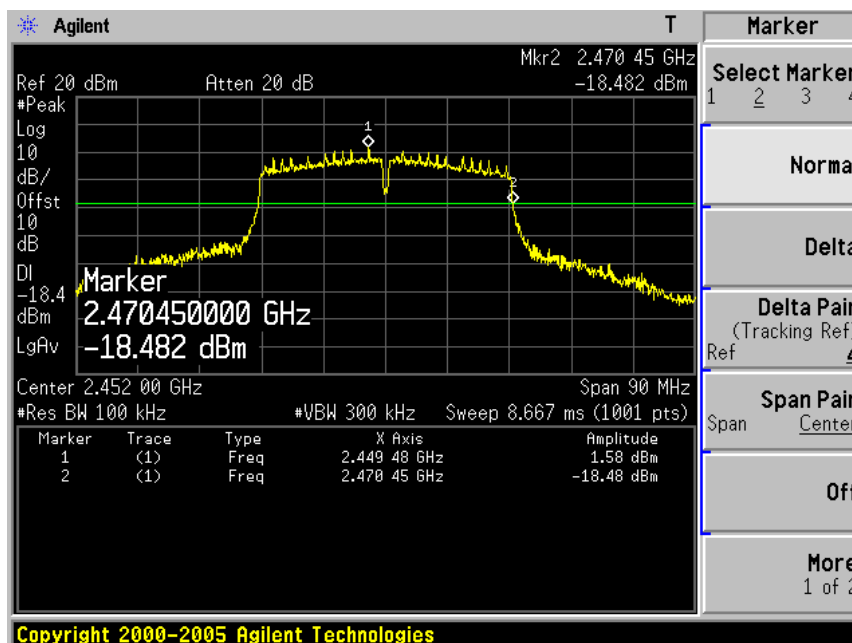


Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: Operation Frequency Range of 20dB Bandwidth
Test Site	: TR-8
Test Mode	: Mode 6: Transmit by 802.11n(40MHz) (Ant 2)

### Channel 03 (2422MHz)



### Channel 09 (2452MHz)



## 8. Occupied Bandwidth

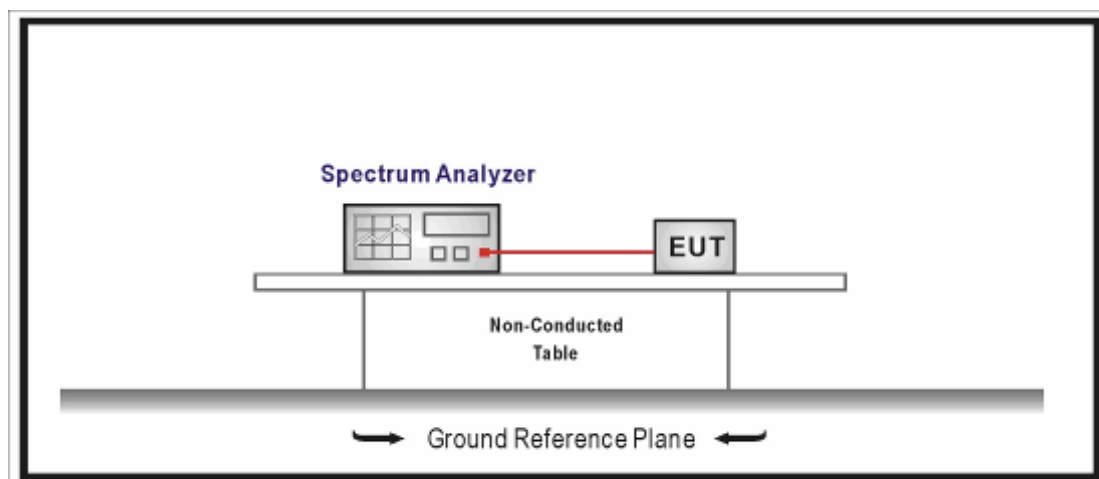
### 8.1. Test Equipment

Occupied Bandwidth / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2015.01.07
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2015.04.09

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

The minimum 6dB bandwidth shall be at least 500 kHz.

### 8.4. Test Procedure

The EUT was setup according to ANSI C63.4: 2009; tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The 6dB bandwidth test is using KDB 558074 Section 8.1 option 1 method.

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.

- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

## 8.5. Uncertainty

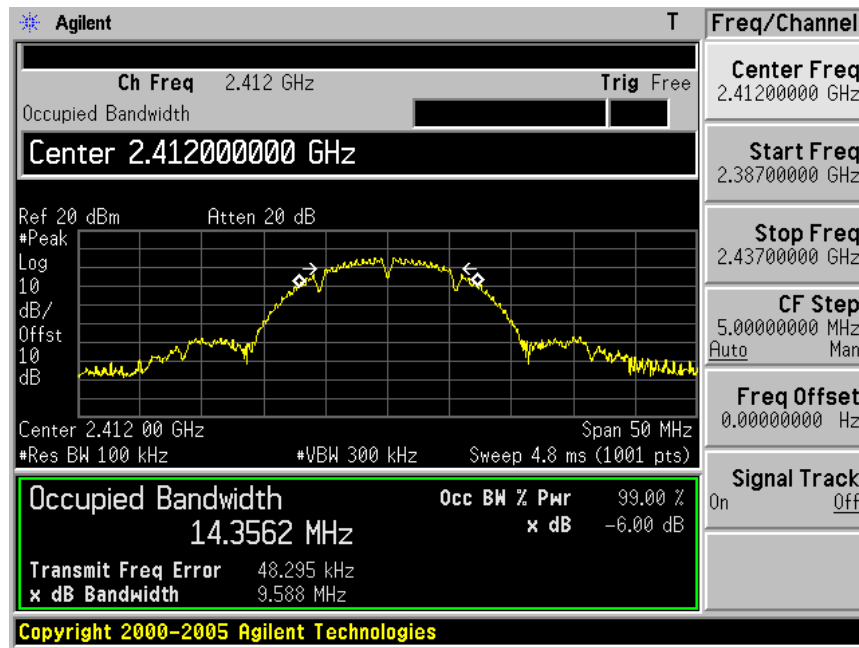
The measurement uncertainty is defined as  $\pm 1$  kHz

8.6. Test Result

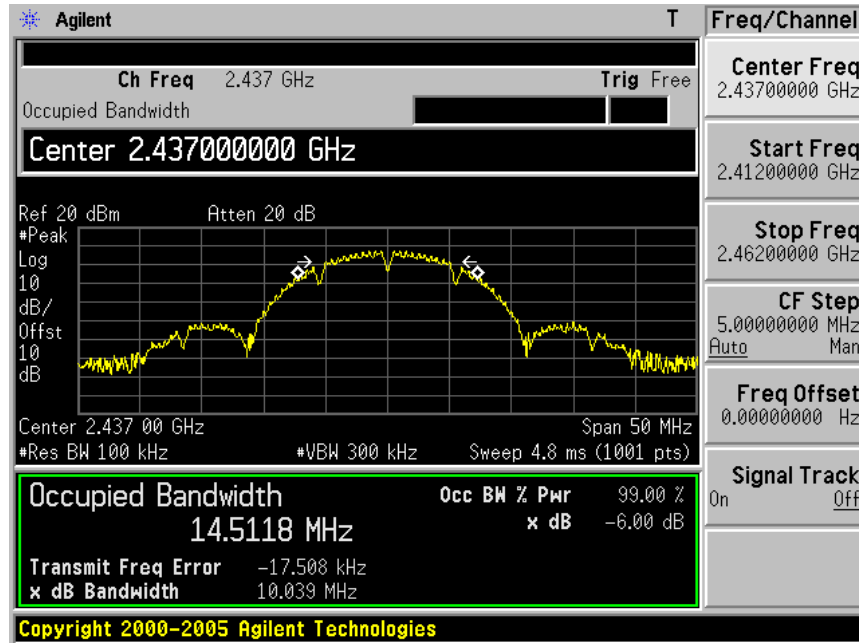
Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	6dB Occupied Bandwidth
Test Mode	:	Mode 1: Transmit by 802.11b (Ant 1)

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	2412	9588	500	Pass
06	2437	10039	500	Pass
11	2462	9574	500	Pass

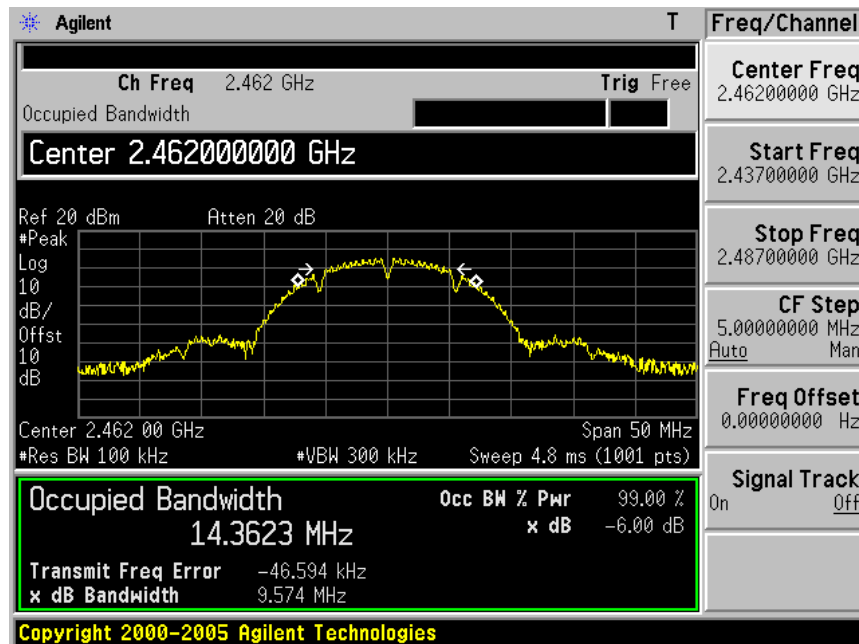
Channel 01 (2412MHz)



Channel 06 (2437MHz)



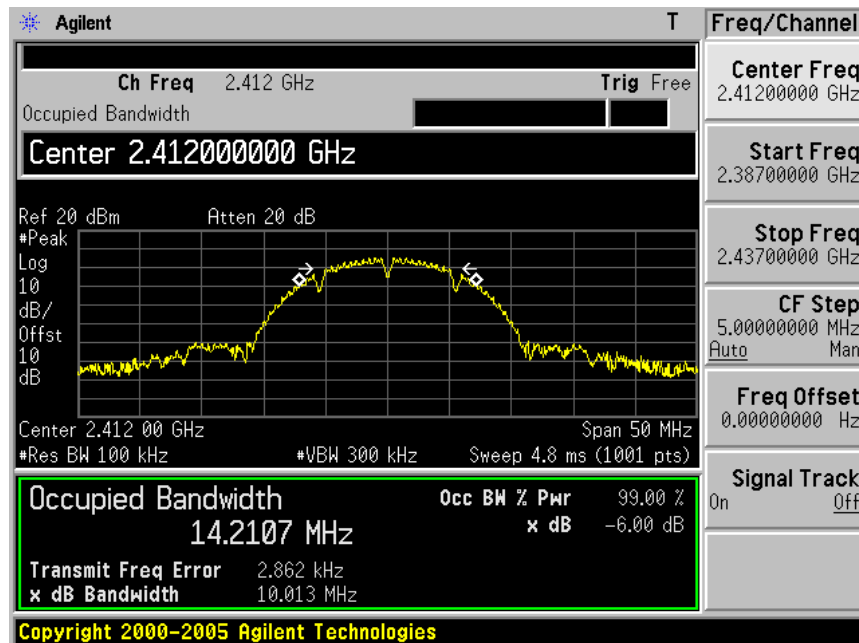
Channel 11 (2462MHz)



Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	6dB Occupied Bandwidth
Test Mode	:	Mode 1: Transmit by 802.11b (Ant 2)

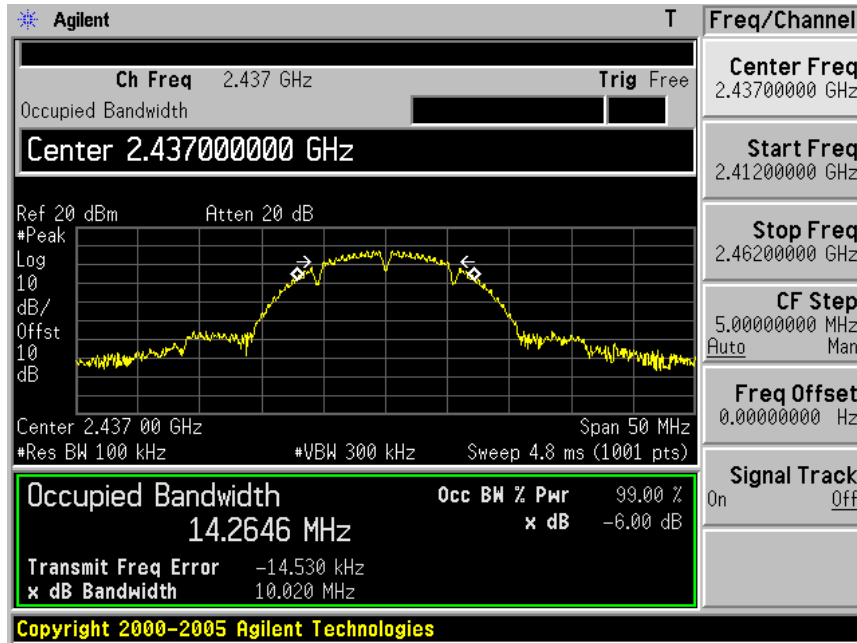
Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	2412	10013	500	Pass
06	2437	10020	500	Pass
11	2462	9578	500	Pass

Channel 01 (2412MHz)

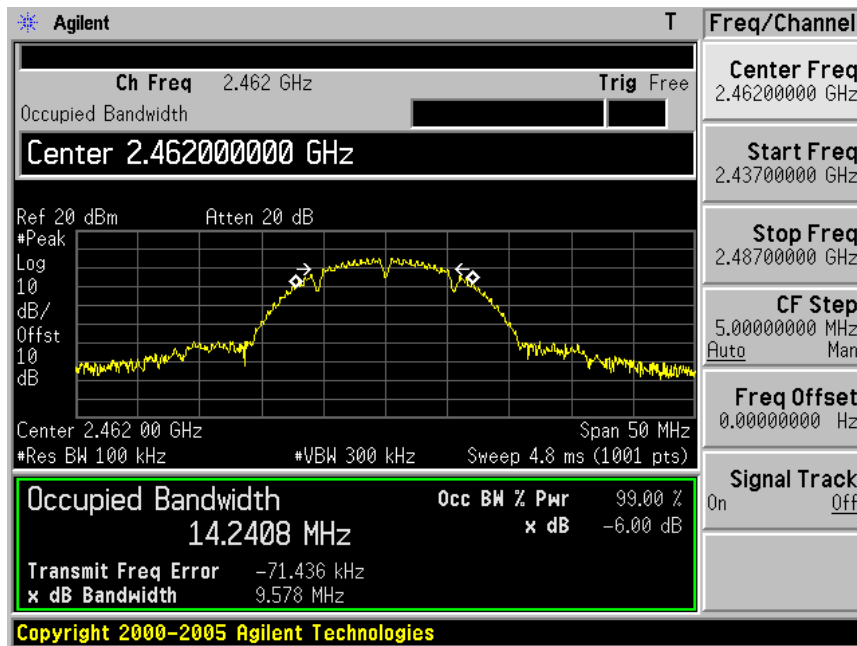




Channel 06 (2437MHz)



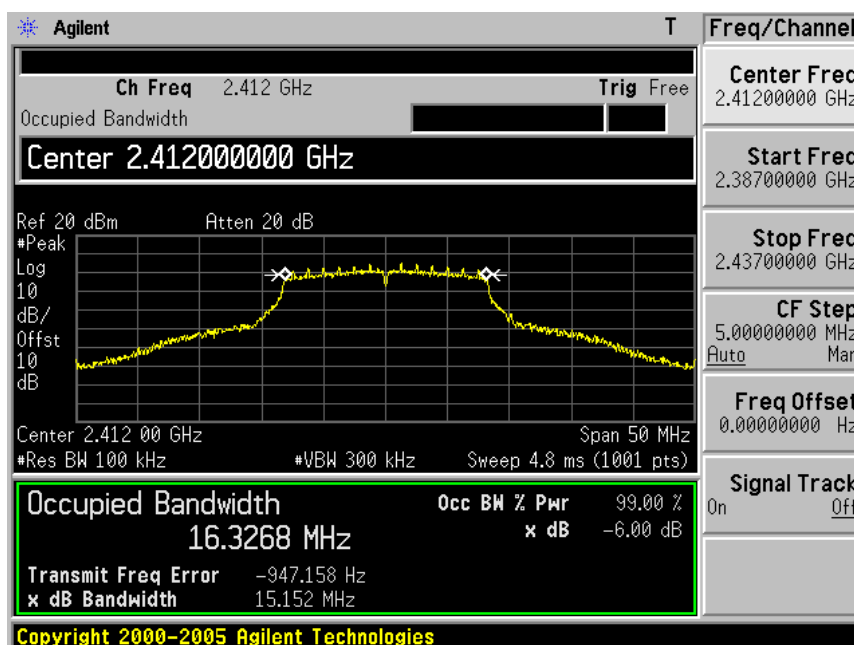
Channel 11 (2462MHz)



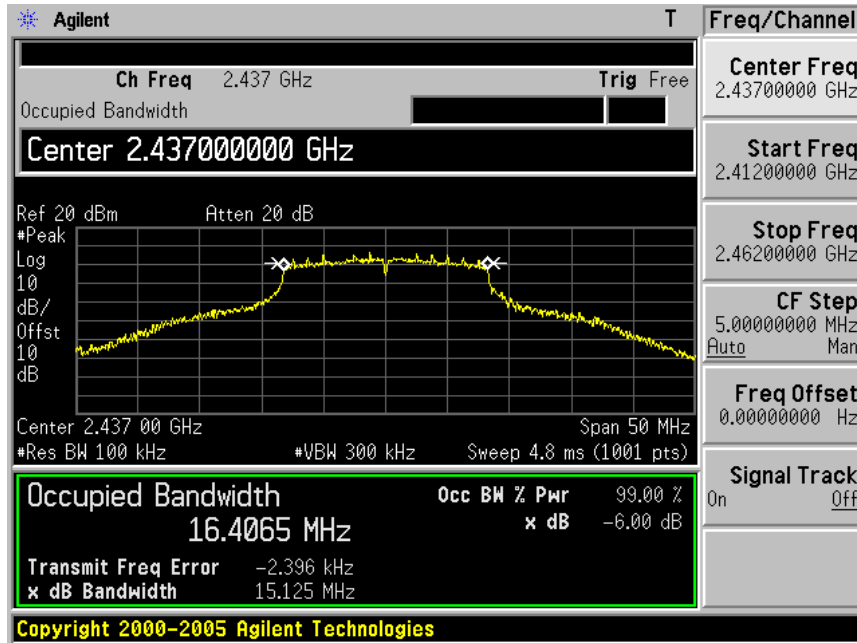
Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	6dB Occupied Bandwidth
Test Mode	:	Mode 2: Transmit by 802.11g (Ant 1)

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	2412	15152	500	Pass
06	2437	15125	500	Pass
11	2462	15103	500	Pass

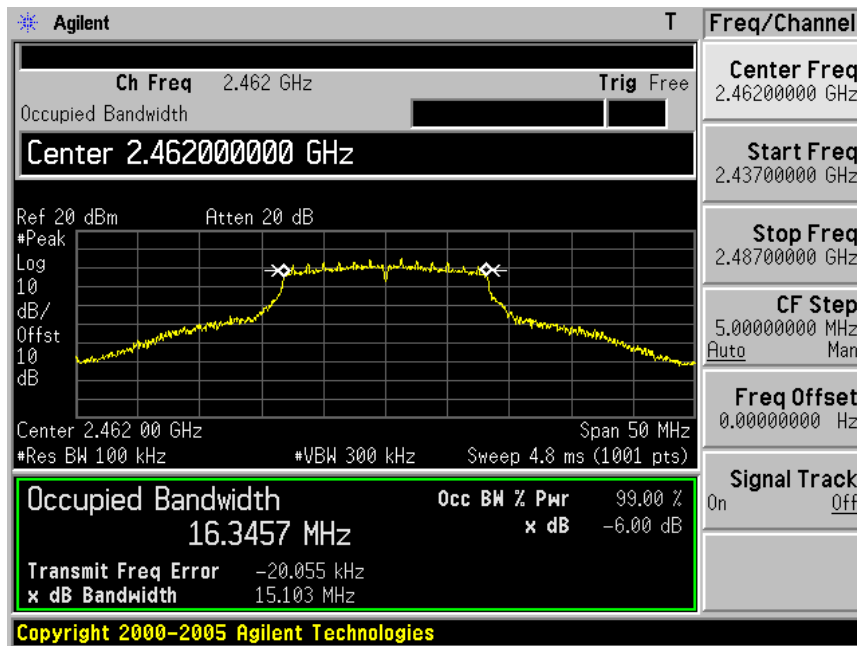
Channel 01 (2412MHz)



Channel 06 (2437MHz)



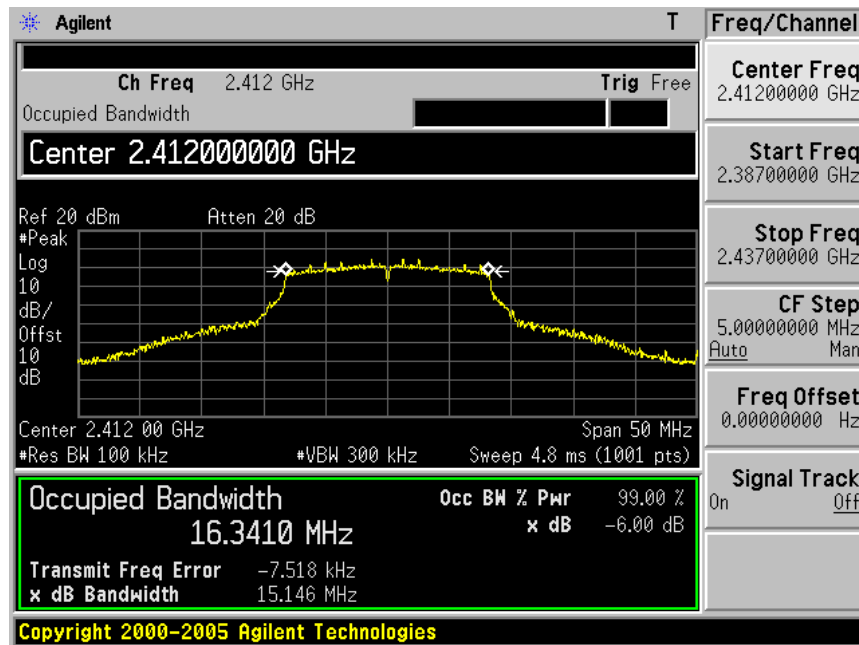
Channel 11 (2462MHz)



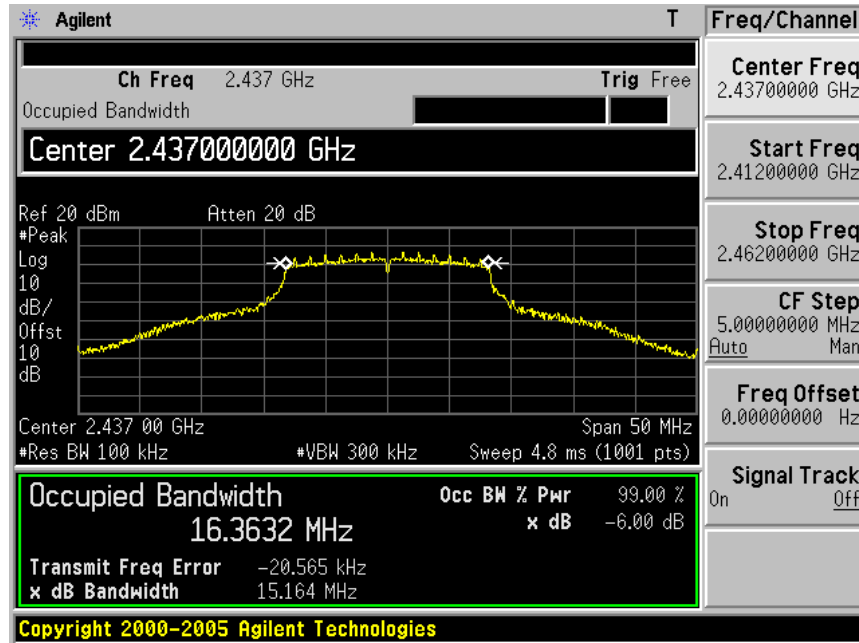
Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	6dB Occupied Bandwidth
Test Mode	:	Mode 2: Transmit by 802.11g (Ant 2)

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	2412	15146	500	Pass
06	2437	15164	500	Pass
11	2462	15132	500	Pass

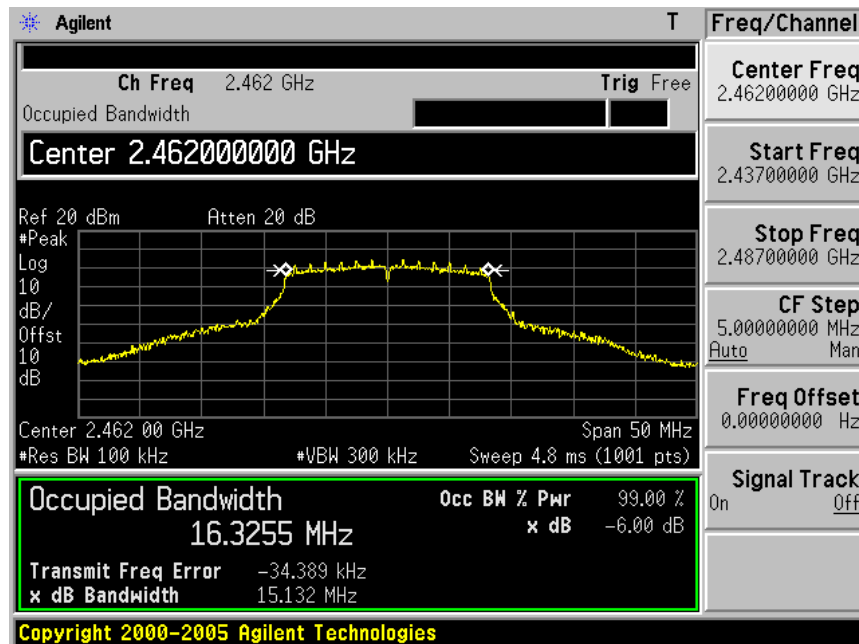
Channel 01 (2412MHz)



Channel 06 (2437MHz)



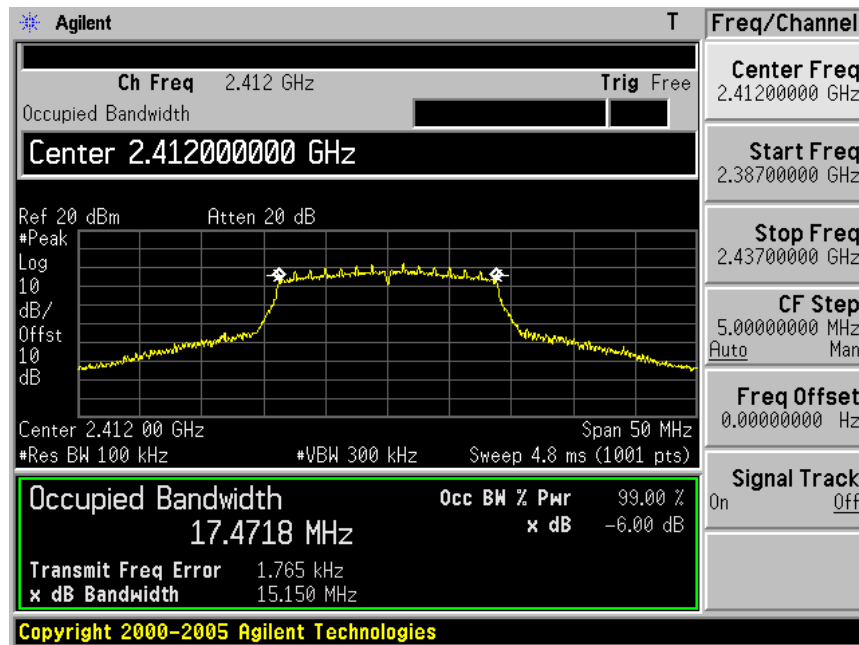
Channel 11 (2462MHz)



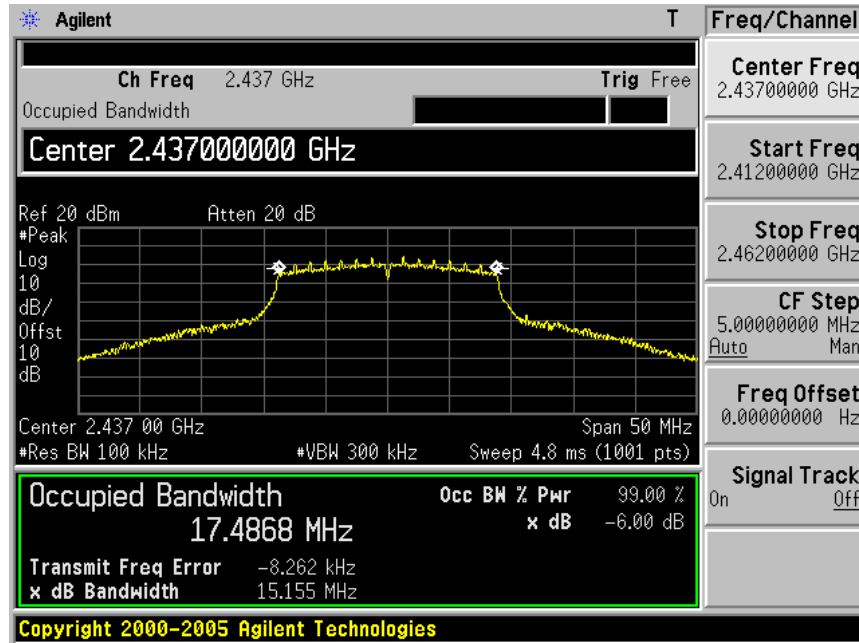
Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	6dB Occupied Bandwidth
Test Mode	:	Mode 3: Transmit by 802.11n(20MHz) (Ant 1)

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	2412	15150	500	Pass
06	2437	15155	500	Pass
11	2462	15157	500	Pass

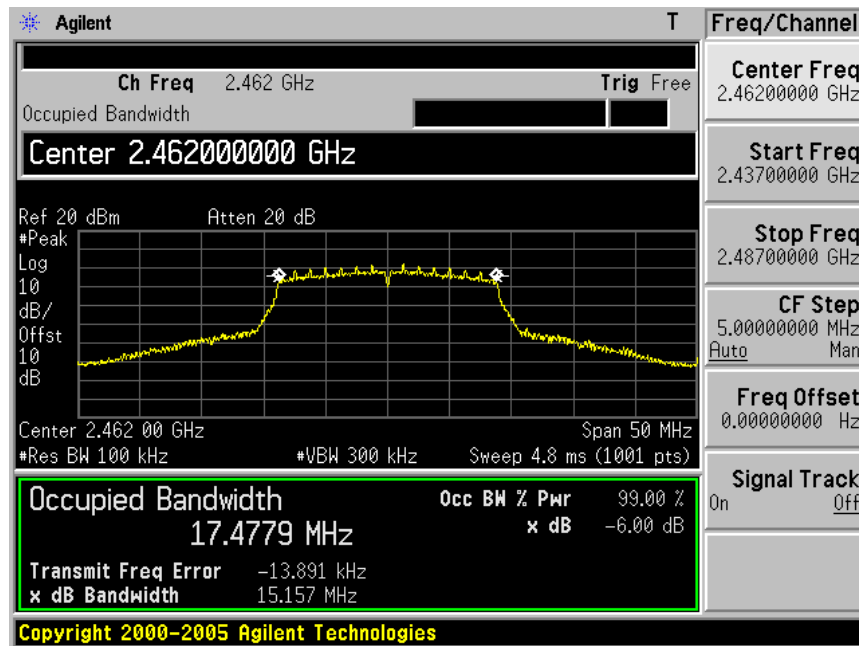
Channel 01 (2412MHz)



Channel 06 (2437MHz)



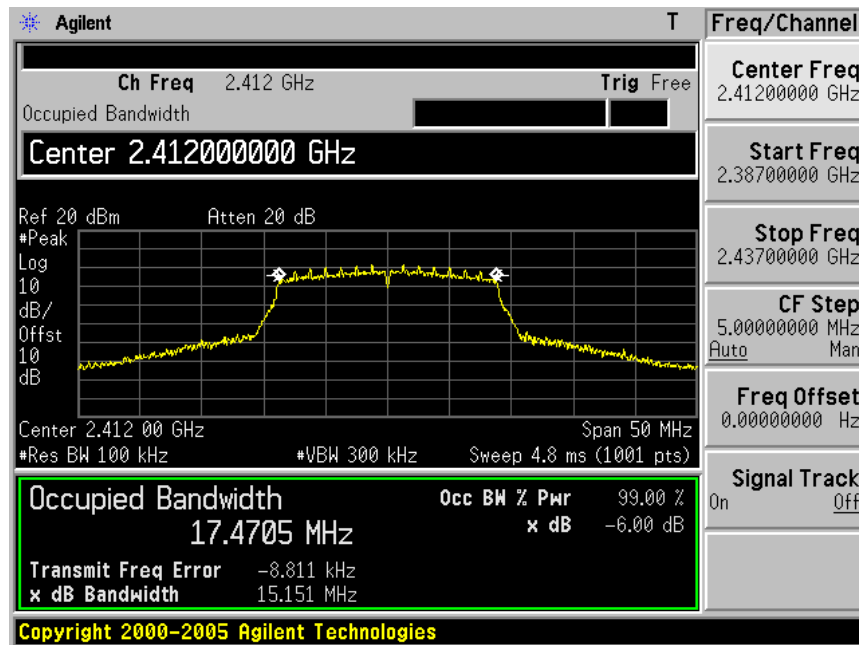
Channel 11 (2462MHz)



Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	6dB Occupied Bandwidth
Test Mode	:	Mode 3: Transmit by 802.11n(20MHz) (Ant 2)

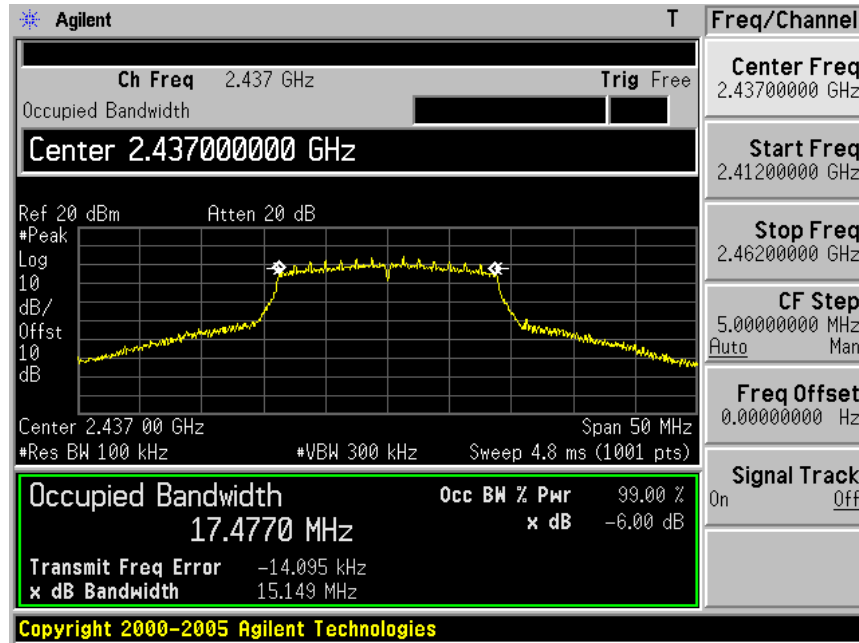
Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	2412	15151	500	Pass
06	2437	15149	500	Pass
11	2462	15156	500	Pass

### Channel 01 (2412MHz)

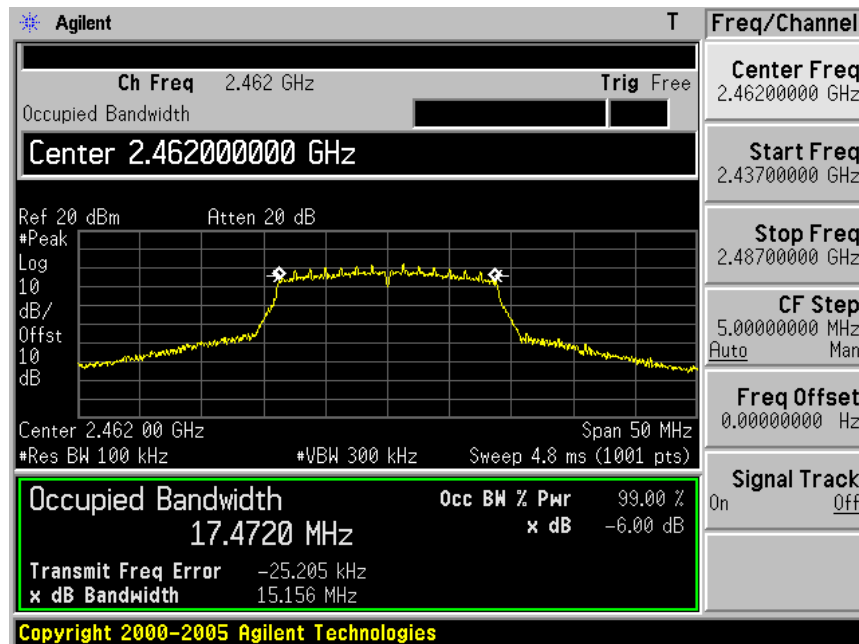




Channel 06 (2437MHz)



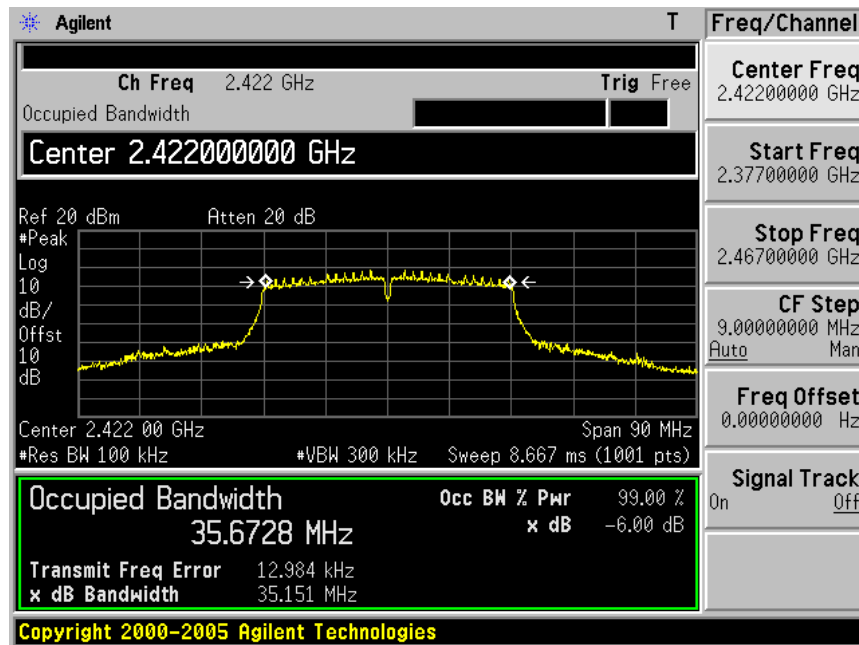
Channel 11 (2462MHz)



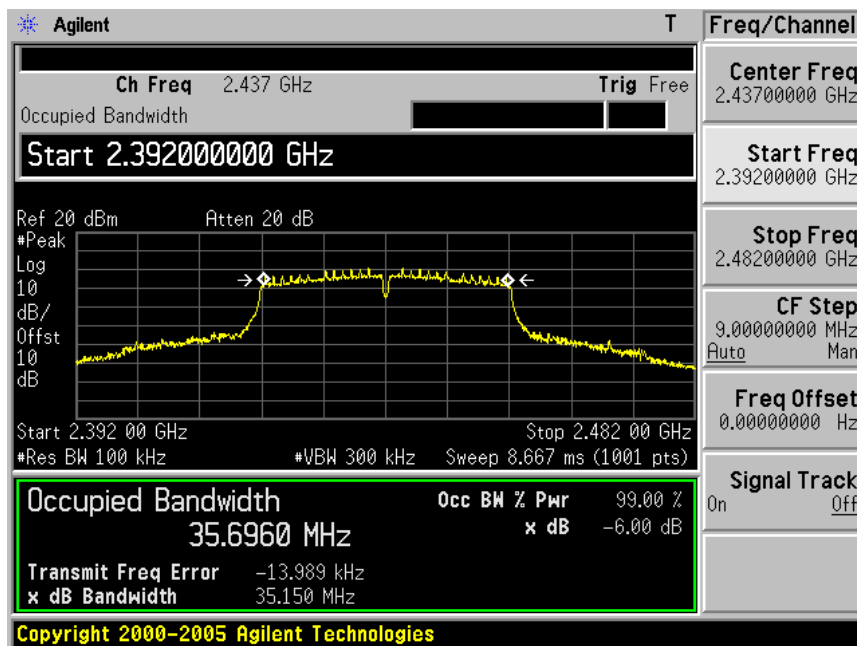
Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	6dB Occupied Bandwidth
Test Mode	:	Mode 4: Transmit by 802.11n(40MHz) (Ant 1)

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
03	2422	35151	500	Pass
06	2437	35150	500	Pass
09	2452	35155	500	Pass

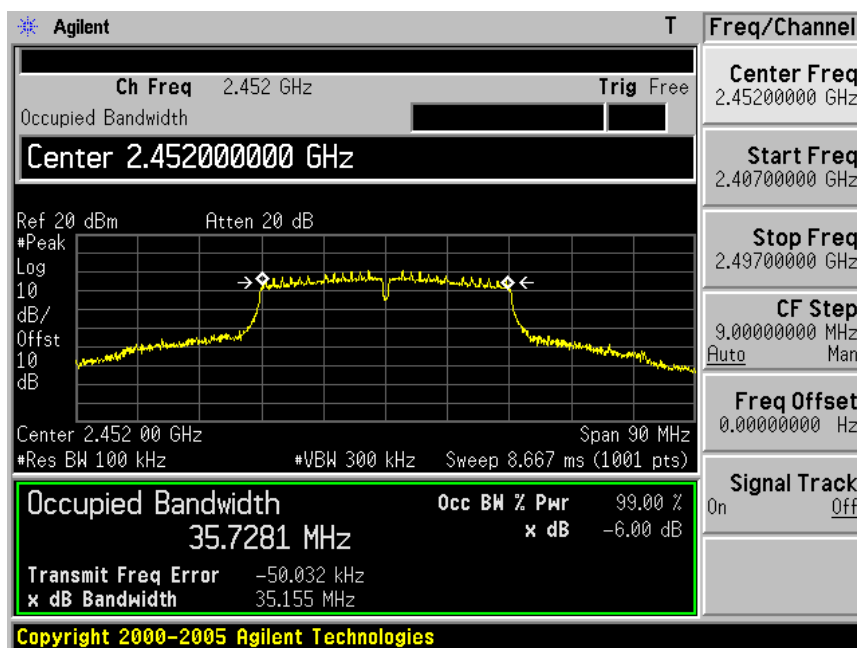
Channel 03 (2422MHz)



Channel 06 (2437MHz)



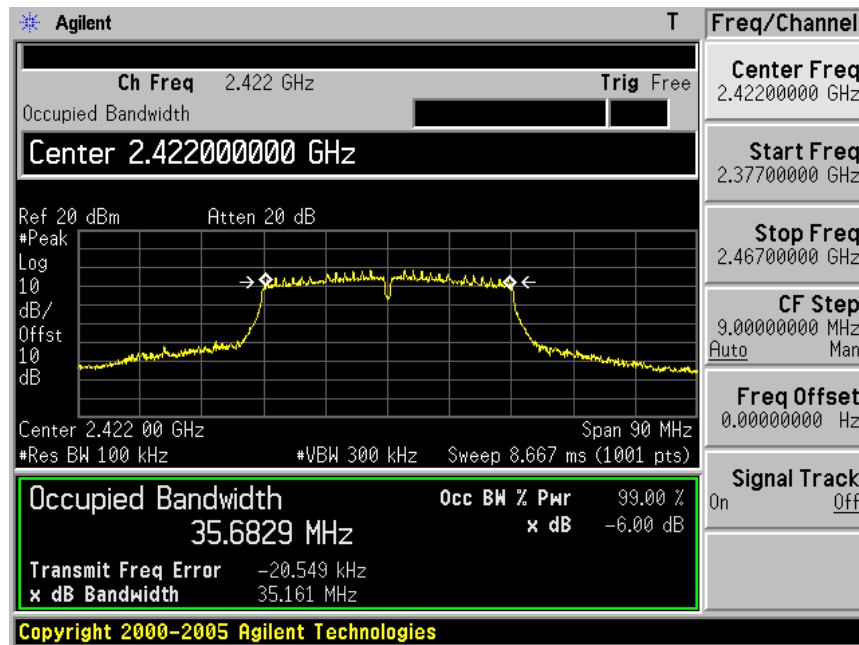
Channel 09 (2452MHz)



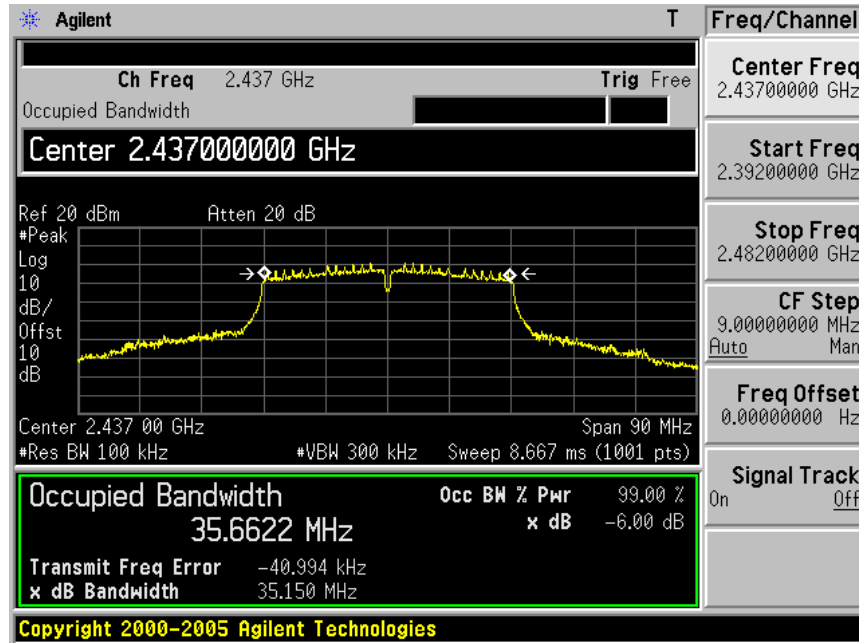
Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	6dB Occupied Bandwidth
Test Mode	:	Mode 6: Transmit by 802.11n(40MHz) (Ant 2)

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
03	2422	35161	500	Pass
06	2437	35150	500	Pass
09	2452	35154	500	Pass

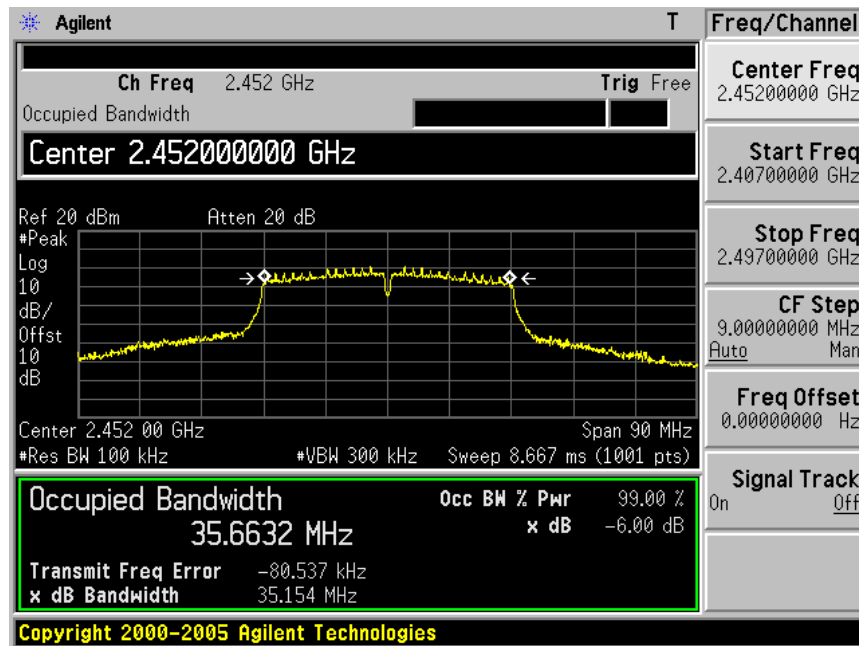
Channel 03 (2422MHz)



Channel 06 (2437MHz)



Channel 09 (2452MHz)



## 9. Power Output

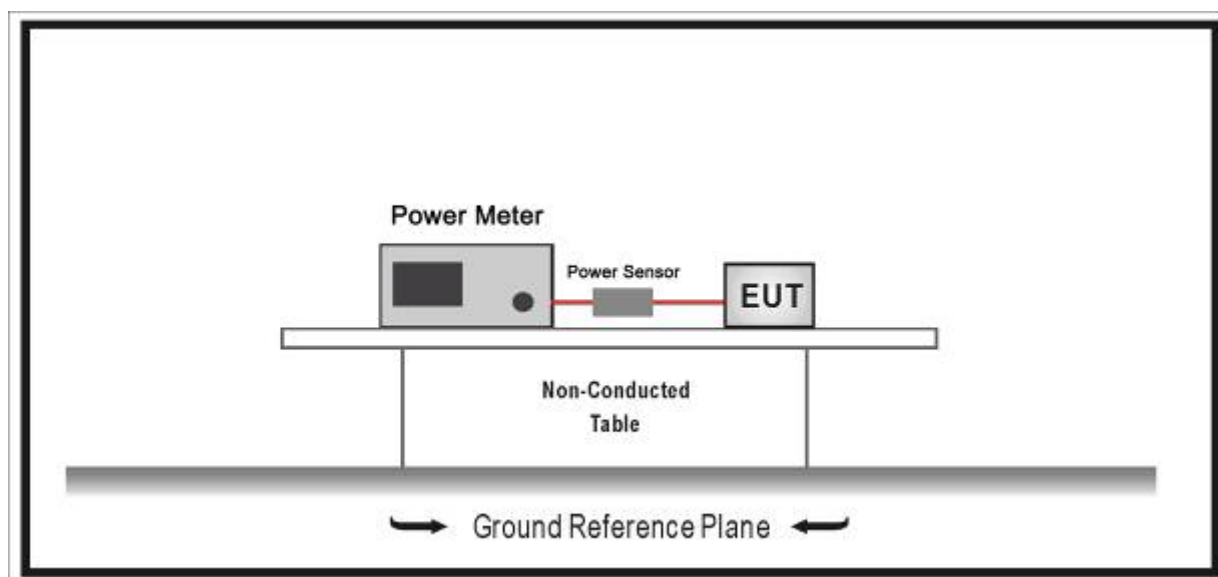
### 9.1. Test Equipment

Power Output / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2015.11.10
Power Sensor	Anritsu	MA2411B	0846014	2015.11.10
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2015.04.09

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 maximum peak power shall be less 1 Watt (30dBm).

Note: the conducted output power limit specified above is based on the use the antennas with directional gains that do not exceed 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values above, as appropriate, by the amount in dB that the directional gain of antenna exceeds 6 dBi.

#### 9.4. Test Procedure

The EUT was tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements. The maximum peak conducted output power using KDB 558074 D01 DTS Meas Guidance v03r02 section 9.1.2 PKPM1 Peak power meter method.

2. Power meter and sensor's minimum video bandwidth is 50MHz, larger than zigbee bandwidth;
3. Fast responding diode sensors respond immediately to changes in power level to reduce total test time.
3. Use peak detector to test.

#### 9.5. Uncertainty

The measurement uncertainty is defined as  $\pm 1.27$  dB

9.6. 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)						
		802.11b	802.11g	802.11a	20MHz Bandwidth		40MHz Bandwidth	
					800ns GI	400ns GI	800ns GI	400ns GI
0	1	1	6	6	6.5	7.2	13.5	15.0
1	1	2	9	9	13.0	14.4	27.0	30.0
2	1	5.5	12	12	19.5	21.7	40.5	45.0
3	1	11	18	18	26.0	28.9	54.0	60.0
4	1	---	24	24	39.0	43.3	81.0	90.0
5	1	---	36	36	52.0	57.8	108.0	120.0
6	1	---	48	48	58.5	65.0	121.5	135.0
7	1	---	54	54	65.0	72.2	135.0	150.0
8	2	---	---	---	13.0	14.4	27.0	30.0
9	2	---	---	---	26.0	28.9	54.0	60.0
10	2	---	---	---	39.0	43.3	81.0	90.0
11	2	---	---	---	52.0	57.8	108.0	120.0
12	2	---	---	---	78.0	86.7	162.0	180.0
13	2	---	---	---	104.0	115.6	216.0	240.0
14	2	---	---	---	117.0	130.0	243.0	270.0
15	2	---	---	---	130.0	144.0	270.0	300.0



Power output at various data rates:

Test Mode	Bandwidth	Frequency (MHz)	Channel	Data Rate	Peak Power (dBm)
802.11b(Ant 1)	20	2437	6	1	21.14
				5.5	20.89
				11	20.96
802.11g(Ant 1)	20	2437	6	6	24.17
				24	23.90
				54	23.86
802.11n (Ant 1)	20	2437	6	MCS0	24.13
				MCS4	24.01
				MCS7	24.03
802.11n (Ant 1)	40	2437	6	MCS0	24.14
				MCS4	24.10
				MCS7	24.01

Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: Power Output
Test Site	: TR8
Test Mode	: Mode 1: Transmit by 802.11b (Ant 1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
1	2412	21.19	N/A	21.19	30.00	Pass
6	2437	21.14	N/A	21.14	30.00	Pass
11	2462	21.11	N/A	21.11	30.00	Pass

Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: Power Output
Test Site	: TR8
Test Mode	: Mode 1: Transmit by 802.11b (Ant 2)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
1	2412	N/A	21.61	21.61	30.00	Pass
6	2437	N/A	21.56	21.56	30.00	Pass
11	2462	N/A	21.53	21.53	30.00	Pass

Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	Power Output
Test Site	:	TR8
Test Mode	:	Mode 2: Transmit by 802.11g (Ant 1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
1	2412	24.23	N/A	24.23	30.00	Pass
6	2437	24.17	N/A	24.17	30.00	Pass
11	2462	24.09	N/A	24.09	30.00	Pass

Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	Power Output
Test Site	:	TR8
Test Mode	:	Mode 2: Transmit by 802.11g (Ant 2)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
1	2412	N/A	25.06	25.06	30.00	Pass
6	2437	N/A	24.97	24.97	30.00	Pass
11	2462	N/A	24.79	24.79	30.00	Pass

Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: Power Output
Test Site	: TR8
Test Mode	: Mode 3: Transmit by 802.11n(20MHz) (Ant 1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
1	2412	24.15	N/A	24.15	30.00	Pass
6	2437	24.13	N/A	24.13	30.00	Pass
11	2462	24.08	N/A	24.08	30.00	Pass

Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: Power Output
Test Site	: TR8
Test Mode	: Mode 3: Transmit by 802.11n(20MHz) (Ant 2)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
1	2412	N/A	24.69	24.69	30.00	Pass
6	2437	N/A	25.01	25.01	30.00	Pass
11	2462	N/A	24.85	24.85	30.00	Pass

Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: Power Output
Test Site	: TR8
Test Mode	: Mode 4: Transmit by 802.11n(20MHz) (Ant 1+2)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
1	2412	13.11	12.92	16.03	30.00	Pass
6	2437	12.97	13.18	16.09	30.00	Pass
11	2462	13.04	13.33	16.20	30.00	Pass

Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: Power Output
Test Site	: TR8
Test Mode	: Mode 4: Transmit by 802.11n(40MHz) (Ant 1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
3	2422	24.19	N/A	24.19	30.00	Pass
6	2437	24.14	N/A	24.14	30.00	Pass
9	2452	24.06	N/A	24.06	30.00	Pass

Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: Power Output
Test Site	: TR8
Test Mode	: Mode 4: Transmit by 802.11n(40MHz) (Ant 2)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
3	2422	N/A	24.70	24.70	30.00	Pass
6	2437	N/A	24.66	24.66	30.00	Pass
9	2452	N/A	24.57	24.57	30.00	Pass

Product	: 802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	: Power Output
Test Site	: TR8
Test Mode	: Mode 4: Transmit by 802.11n(40MHz) (Ant 1+2)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
3	2422	12.10	12.07	15.10	30.00	Pass
6	2437	12.23	12.22	15.24	30.00	Pass
9	2452	12.16	12.27	15.23	29.47	Pass

## 10. Power Spectral Density

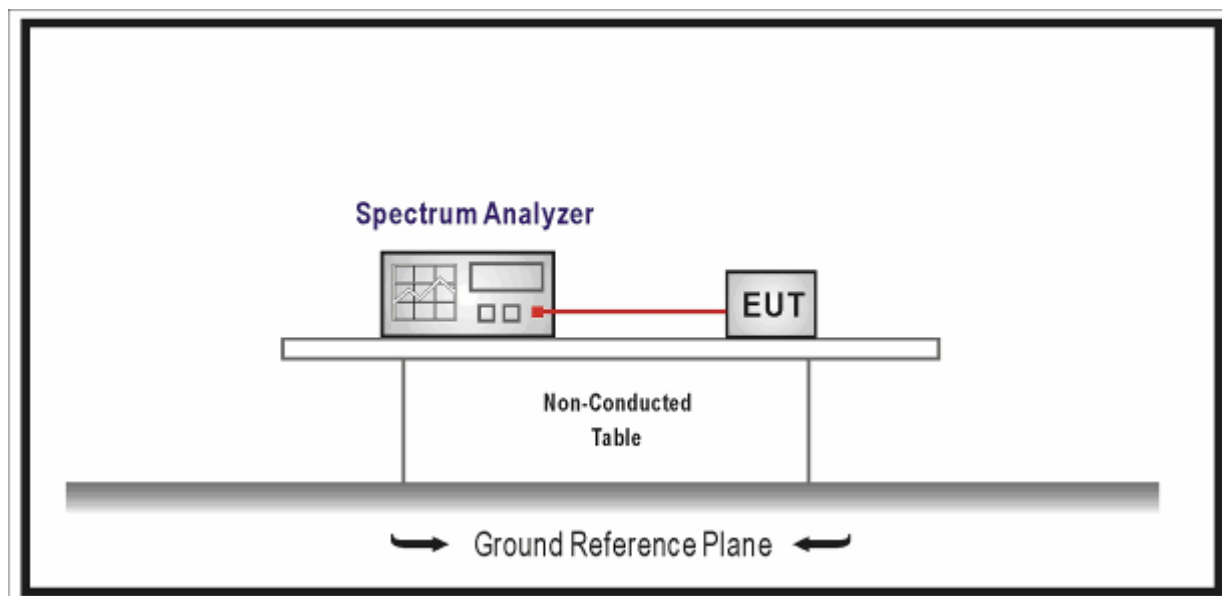
### 10.1. Test Equipment

Power Spectral Density / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2015.01.07
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2015.04.09

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

### 10.2. Test Setup



### 10.3. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiated to the Antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

#### 10.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2009; tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

The maximum power spectral density using KDB 558074 section 10.2 PKPSD (peak PSD) method.

- a) Set analyzer center frequency to DTS channel center frequency.
- b) Set the span to 1.5 times the DTS bandwidth.
- c) Set the RBW to:  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ . (Actually we use 3kHz RBW)
- d) Set the VBW  $\geq 3 \times \text{RBW}$ .
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum amplitude level within the band.
- j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

#### 10.5. Uncertainty

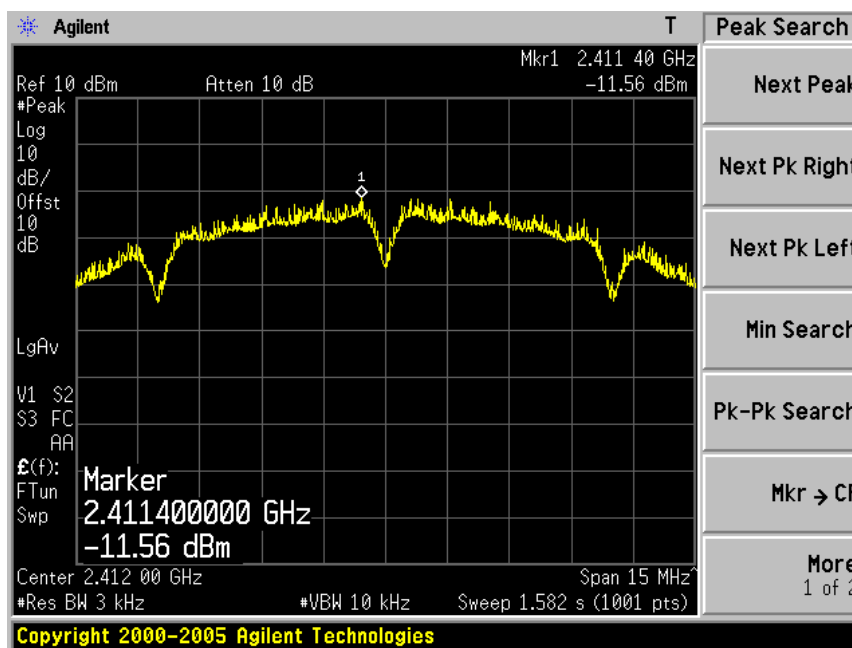
The measurement uncertainty is defined as  $\pm 1.27 \text{ dB}$

10.6. Test Result

Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11b (Ant 1)

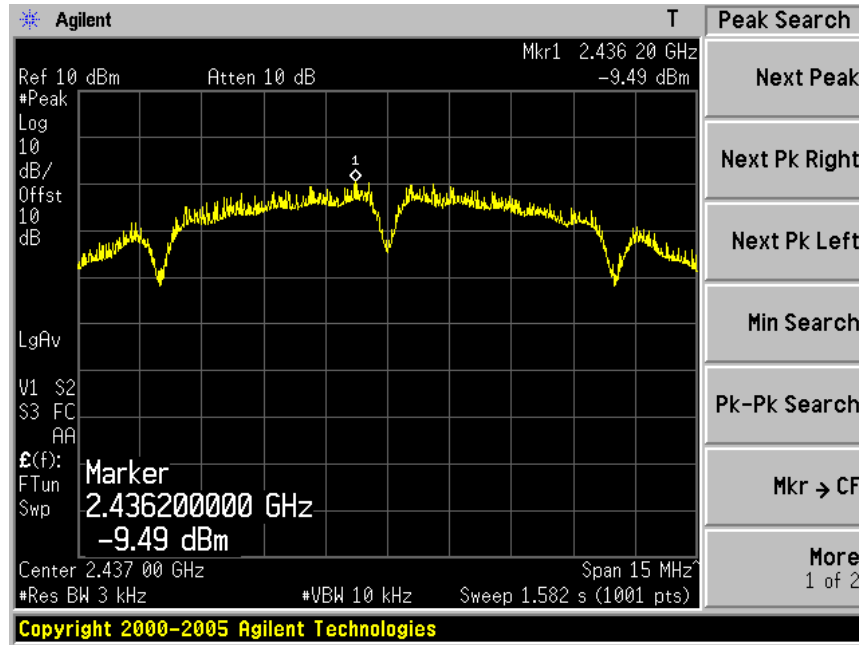
Channel No.	Frequency (MHz)	Measurement PPSD (dBm)		Total PPSD (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
01	2412	-11.56	N/A	-11.56	8	Pass
06	2437	-9.49	N/A	-9.49	8	Pass
11	2462	-10.50	N/A	-10.50	8	Pass

Channel 01 (2412MHz)

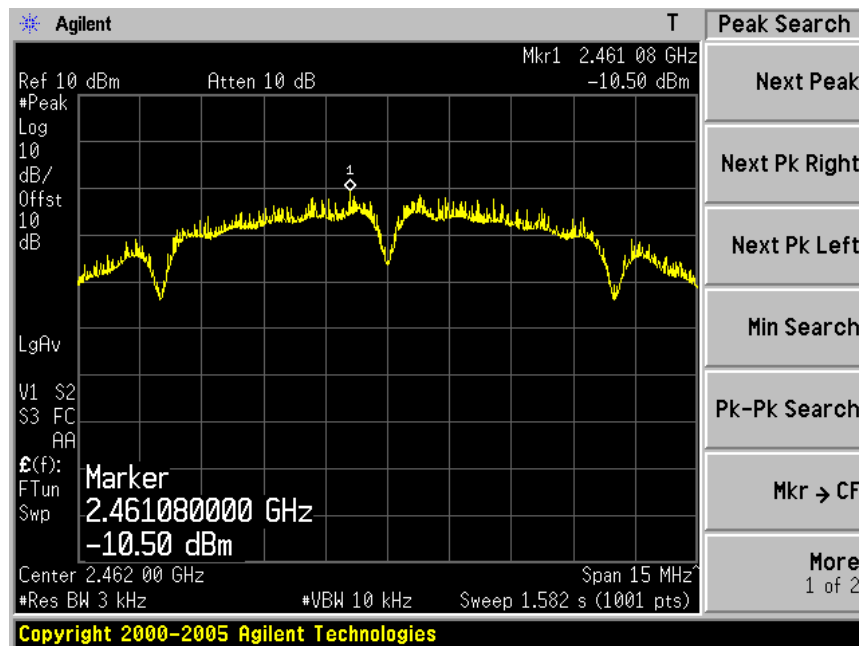




Channel 06 (2437MHz)



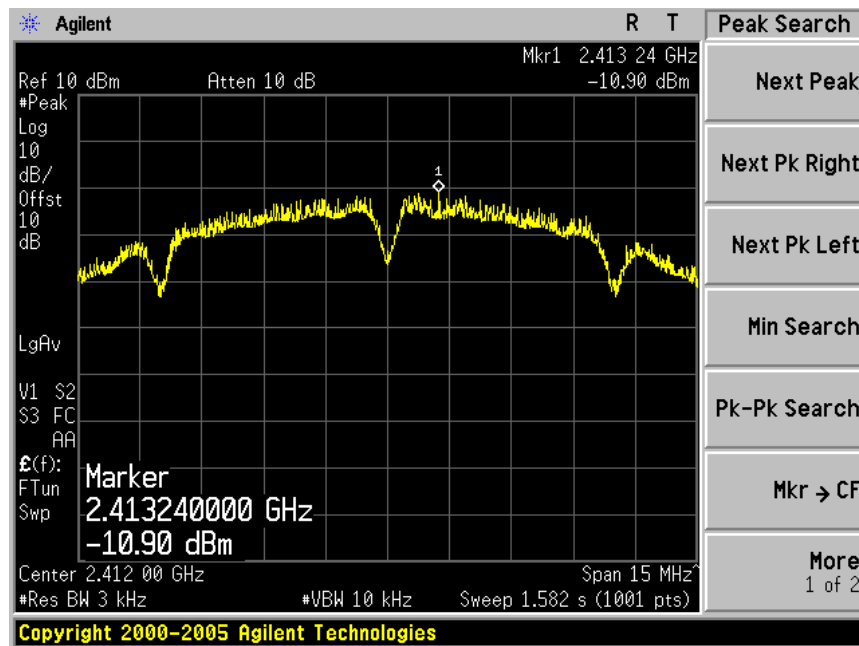
Channel 11 (2462MHz)



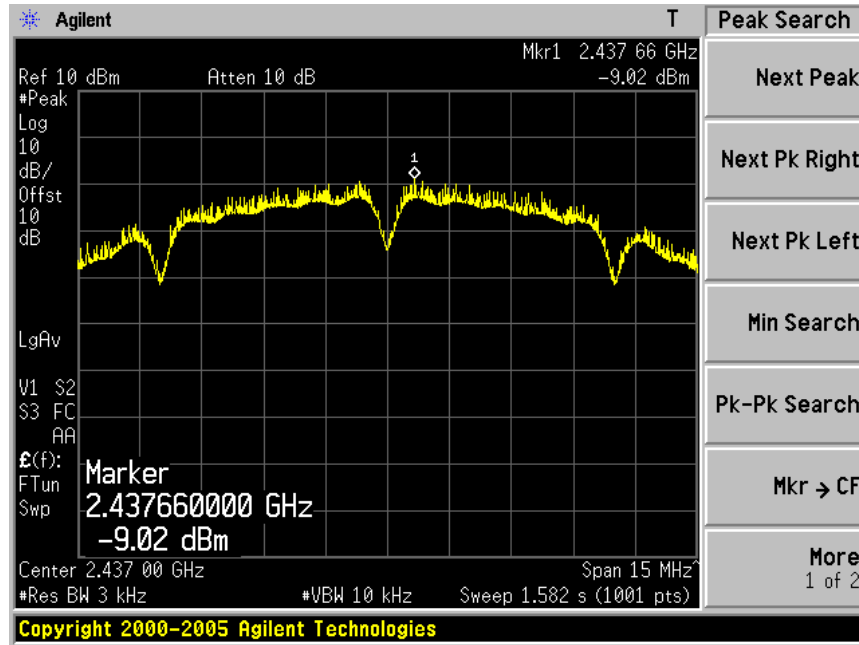
Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11b (Ant 2)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm)		Total PPSD (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
01	2412	N/A	-10.90	-10.90	8	Pass
06	2437	N/A	-9.02	-9.02	8	Pass
11	2462	N/A	-10.89	-10.89	8	Pass

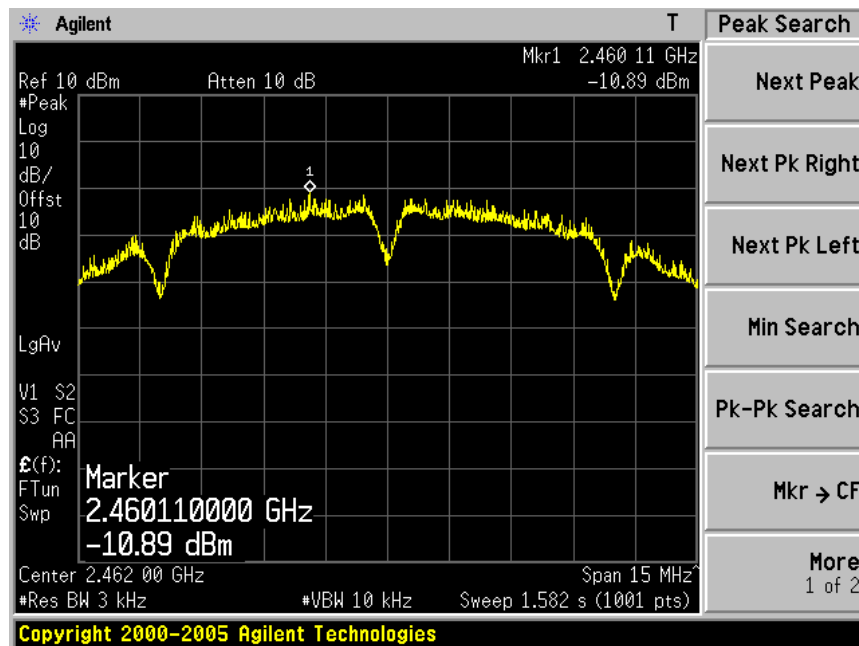
### Channel 01 (2412MHz)



Channel 06 (2437MHz)



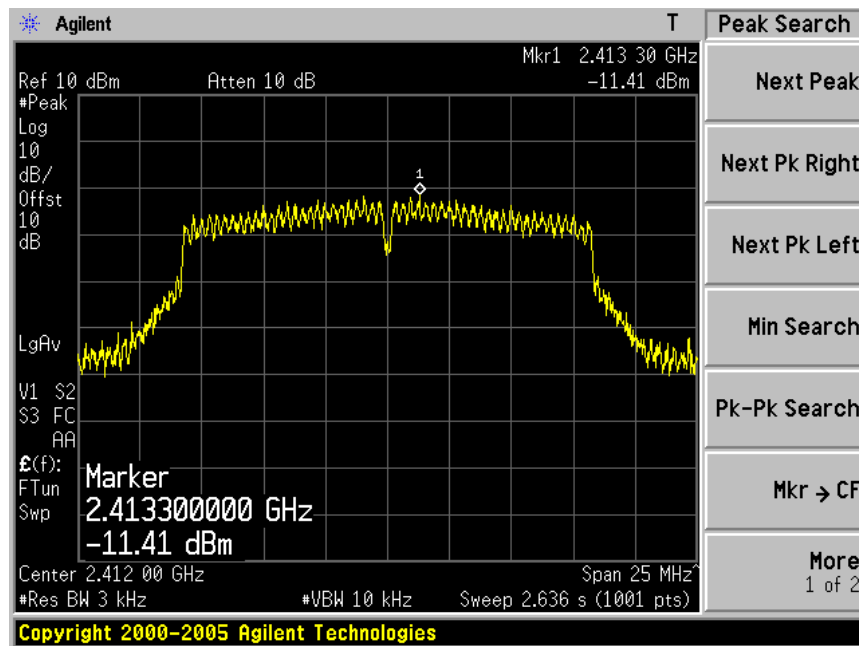
Channel 11 (2462MHz)



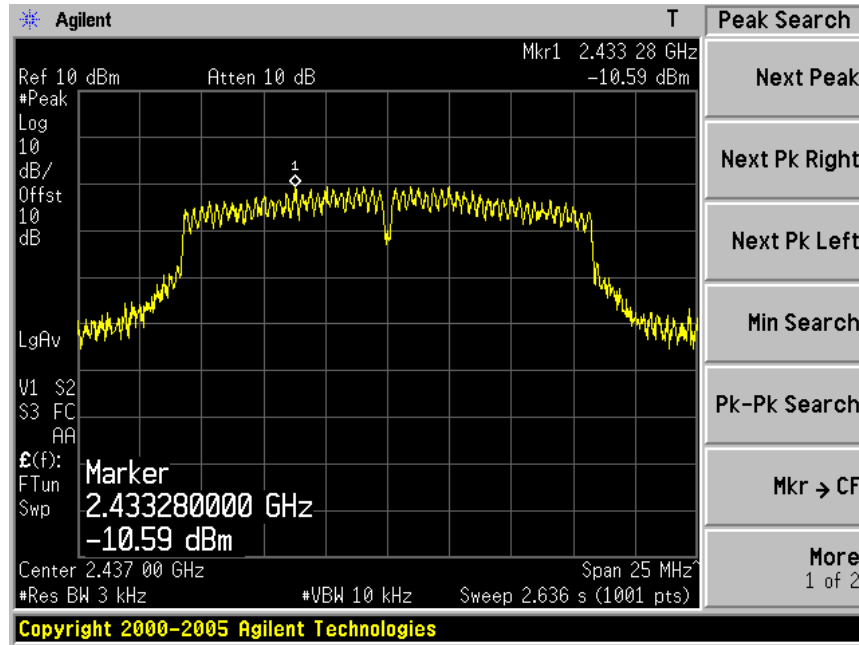
Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11g (Ant 1)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm)		Total PPSD (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
01	2412	-11.41	N/A	-11.41	8	Pass
06	2437	-10.59	N/A	-10.59	8	Pass
11	2462	-12.33	N/A	-12.33	8	Pass

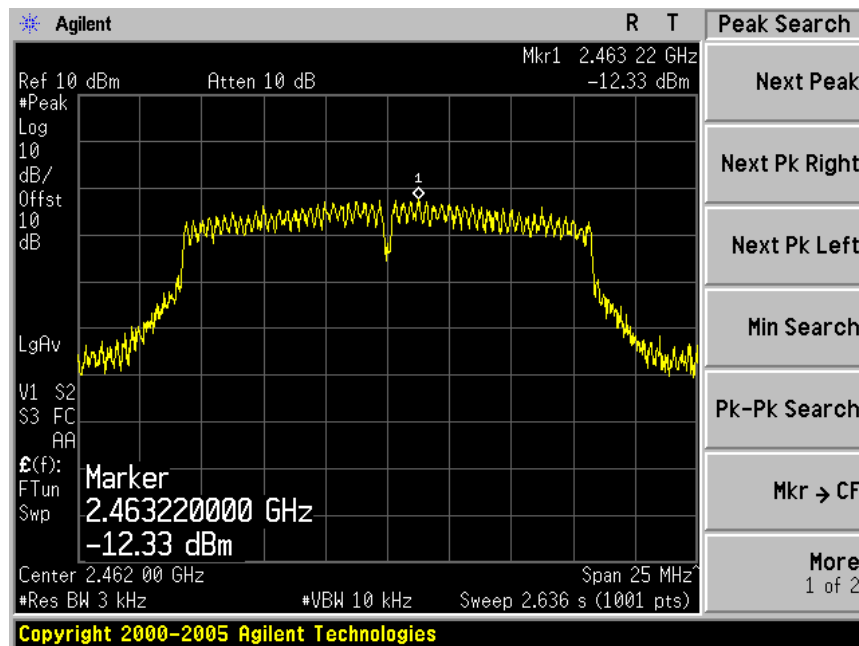
### Channel 01 (2412MHz)



Channel 06 (2437MHz)



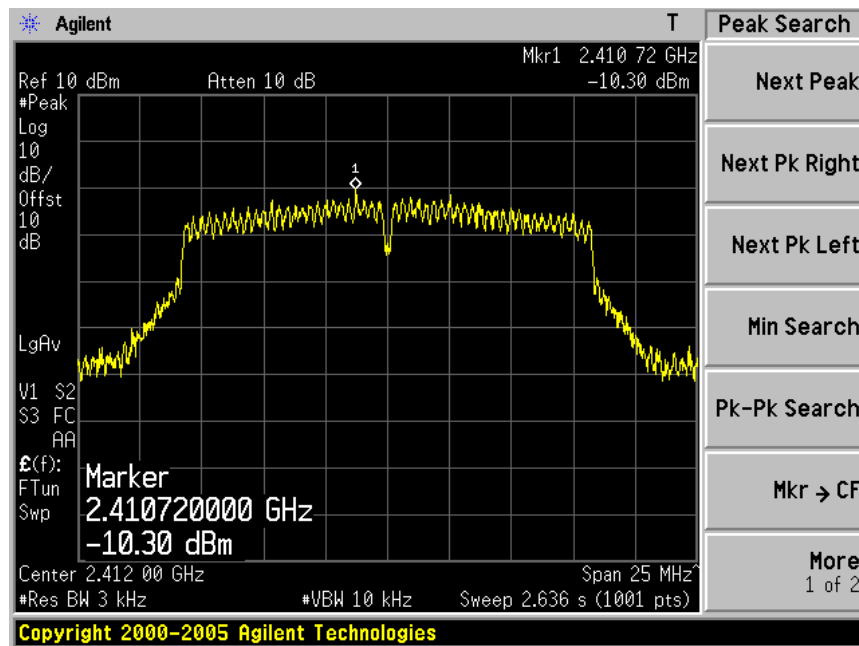
Channel 11 (2462MHz)



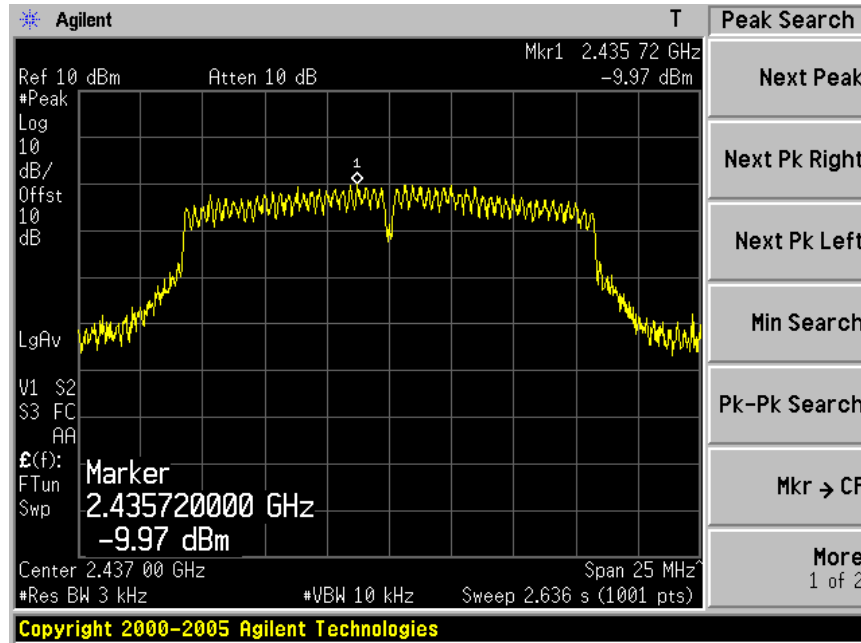
Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11g (Ant 2)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm)		Total PPSD (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
01	2412	N/A	-10.30	-10.30	8	Pass
06	2437	N/A	-9.97	-9.97	8	Pass
11	2462	N/A	-10.73	-10.73	8	Pass

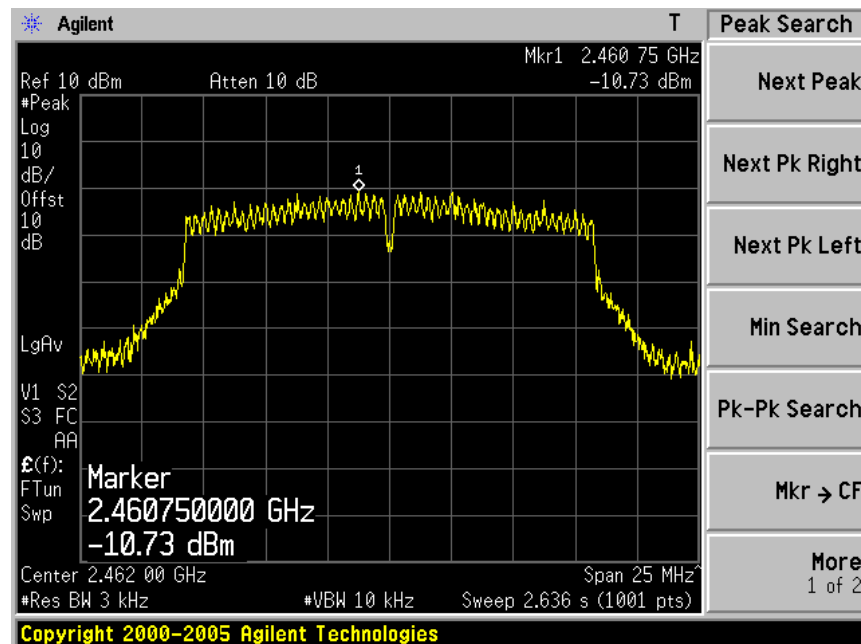
### Channel 01 (2412MHz)



Channel 06 (2437MHz)



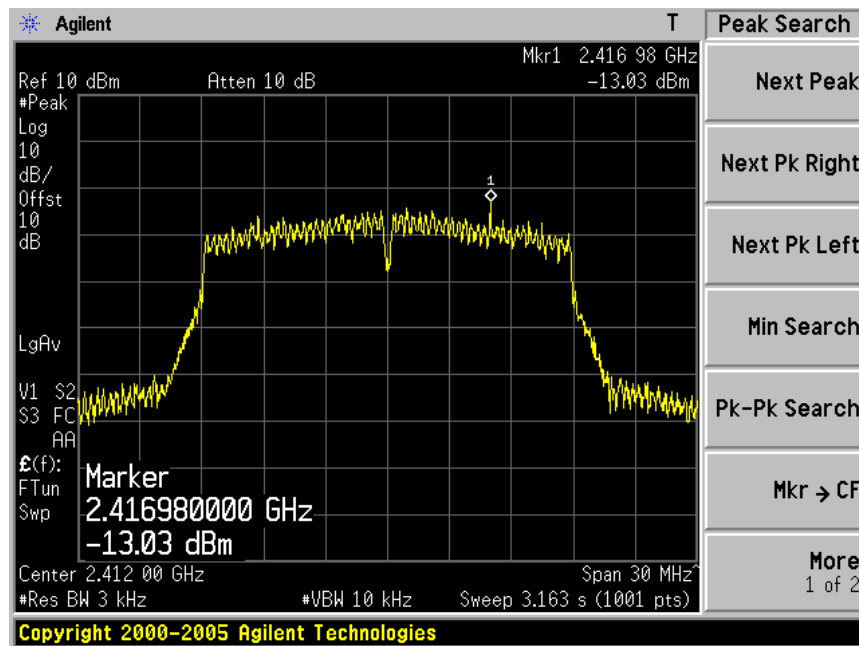
Channel 11 (2462MHz)



Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n(20MHz) (Ant 1)

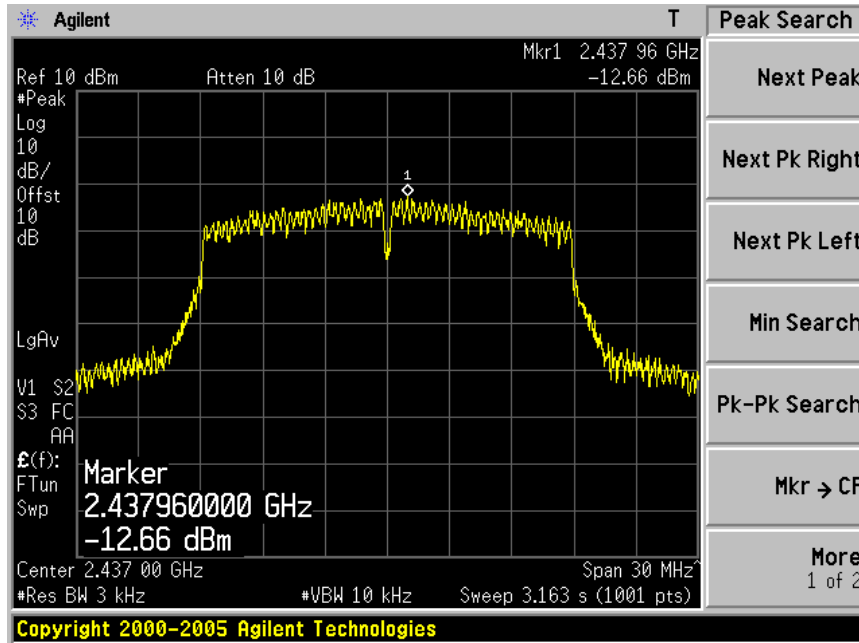
Channel No.	Frequency (MHz)	Measurement PPSD (dBm)		Total PPSD (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
01	2412	-13.03	N/A	-13.03	8	Pass
06	2437	-12.66	N/A	-12.66	8	Pass
11	2462	-13.39	N/A	-13.39	8	Pass

### Channel 01 (2412MHz)

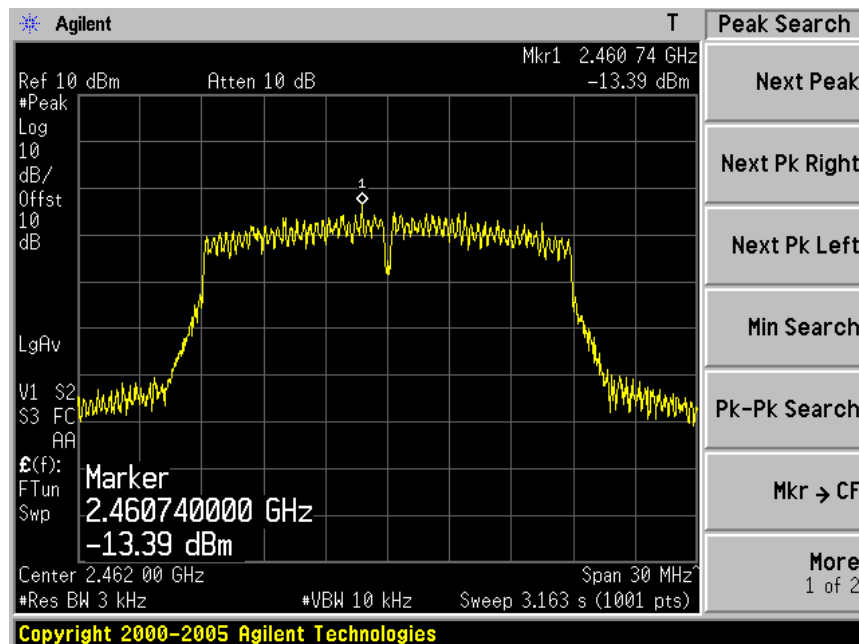




Channel 06 (2437MHz)



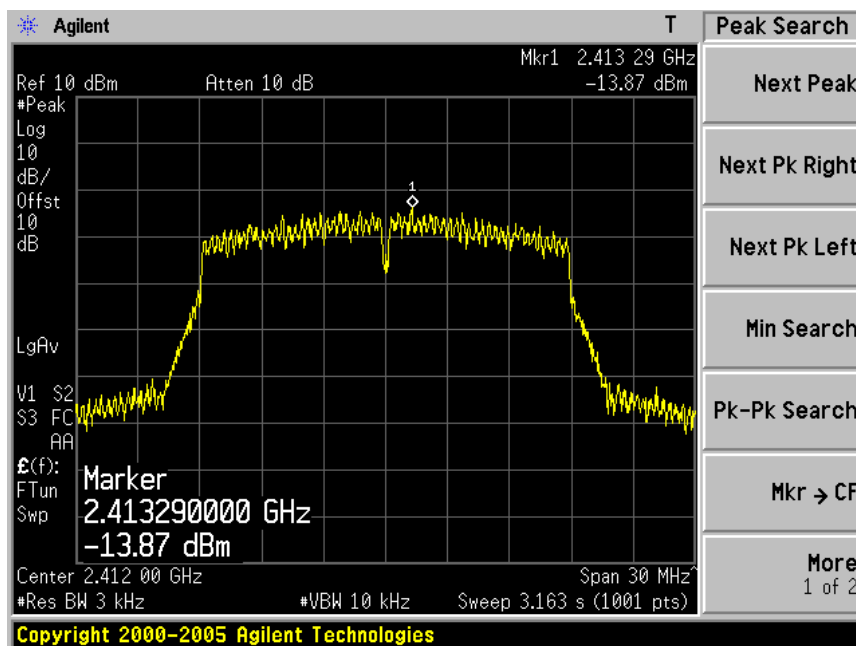
Channel 11 (2462MHz)



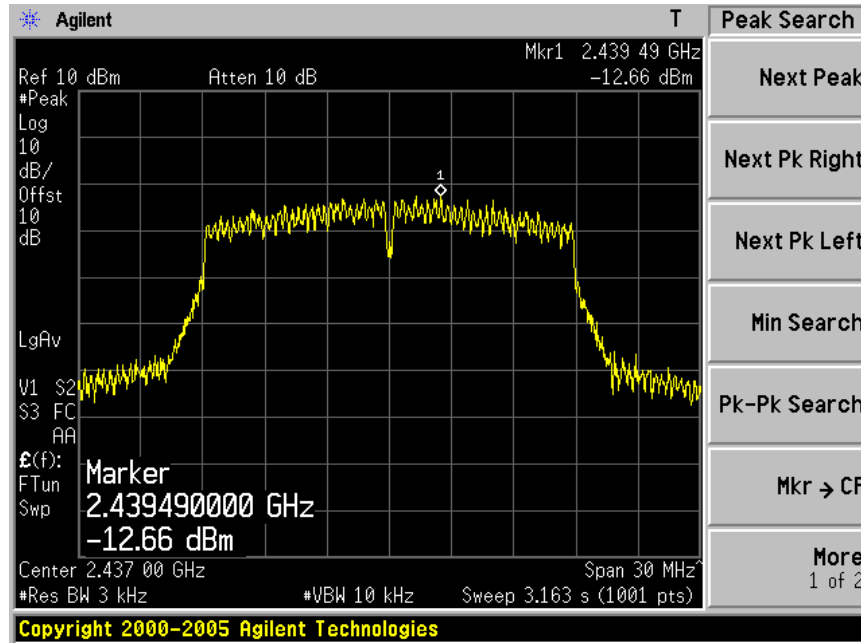
Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n(20MHz) (Ant 2)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm)		Total PPSD (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
01	2412	N/A	-13.87	-13.87	8	Pass
06	2437	N/A	-12.66	-12.66	8	Pass
11	2462	N/A	-14.14	-14.14	8	Pass

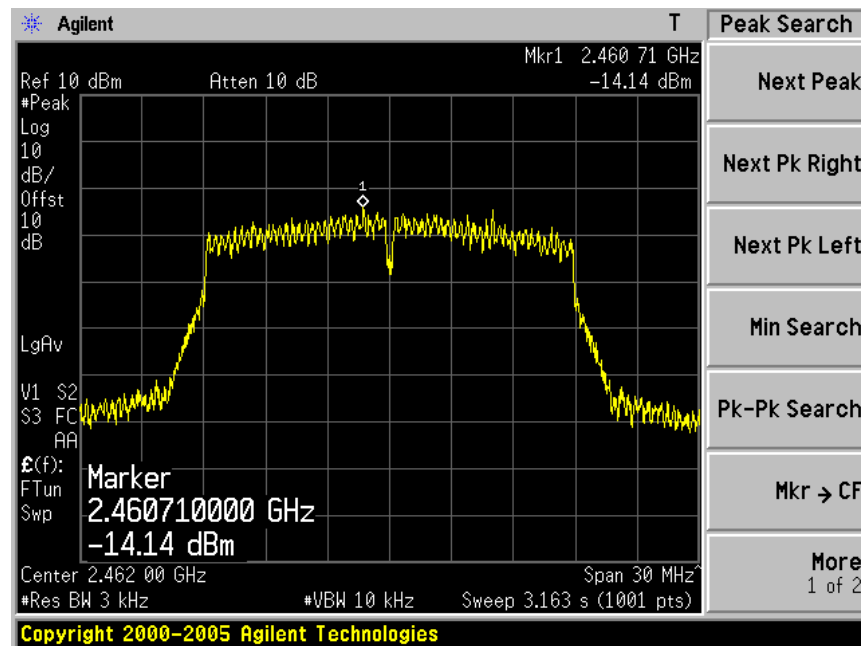
### Channel 01 (2412MHz)



Channel 06 (2437MHz)



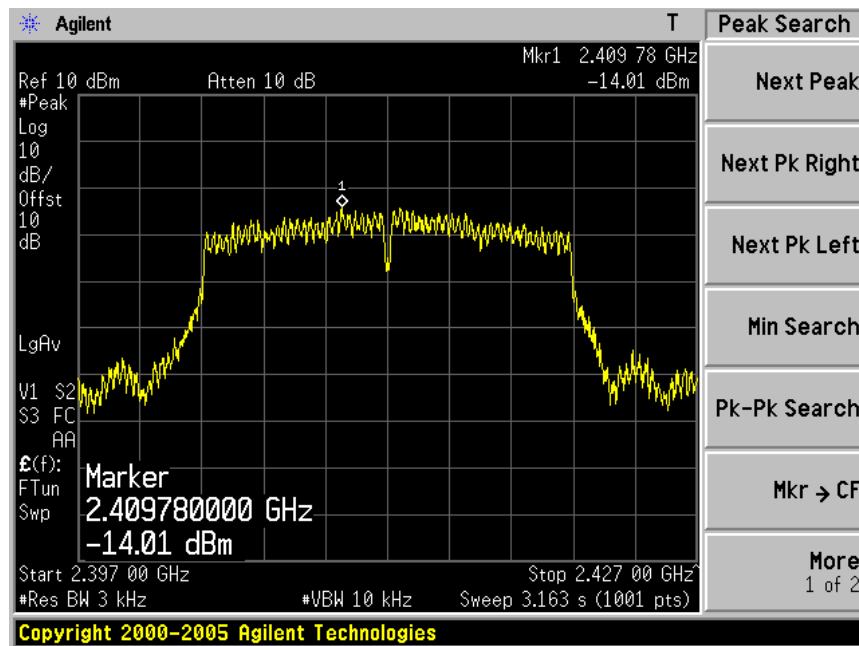
Channel 11 (2462MHz)



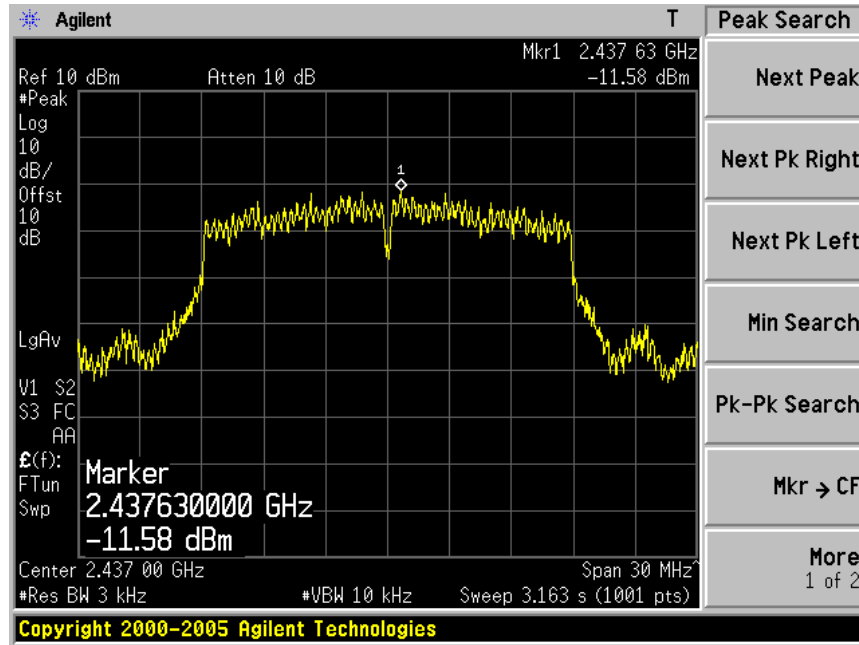
Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n(20MHz) (Ant 1+2)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm)		Total PPSD (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
01	2412	-14.01	-8.36	-7.31	8	Pass
06	2437	-11.58	-10.84	-8.18	8	Pass
11	2462	-13.48	-13.39	-10.42	8	Pass

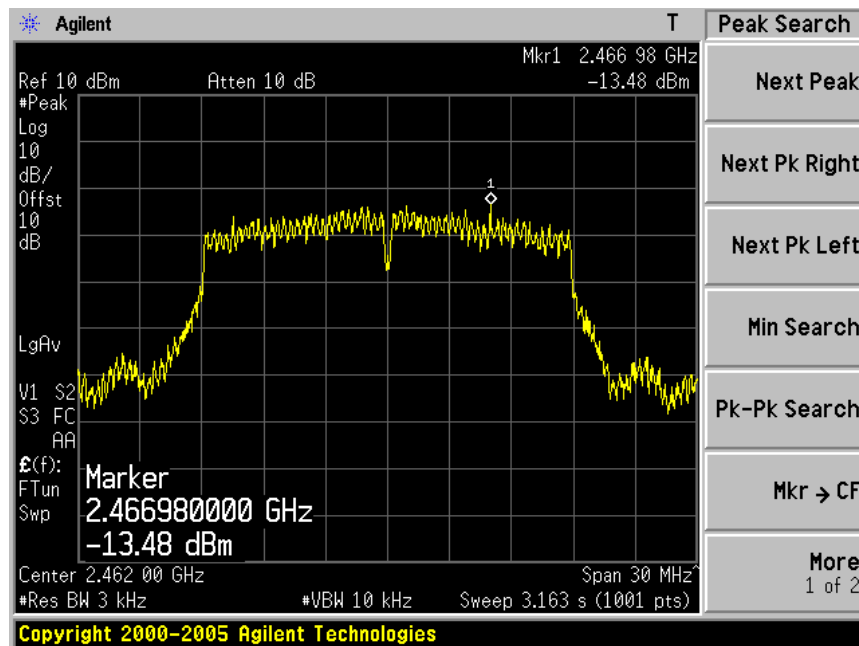
Channel 01 (2412MHz) Ant 1



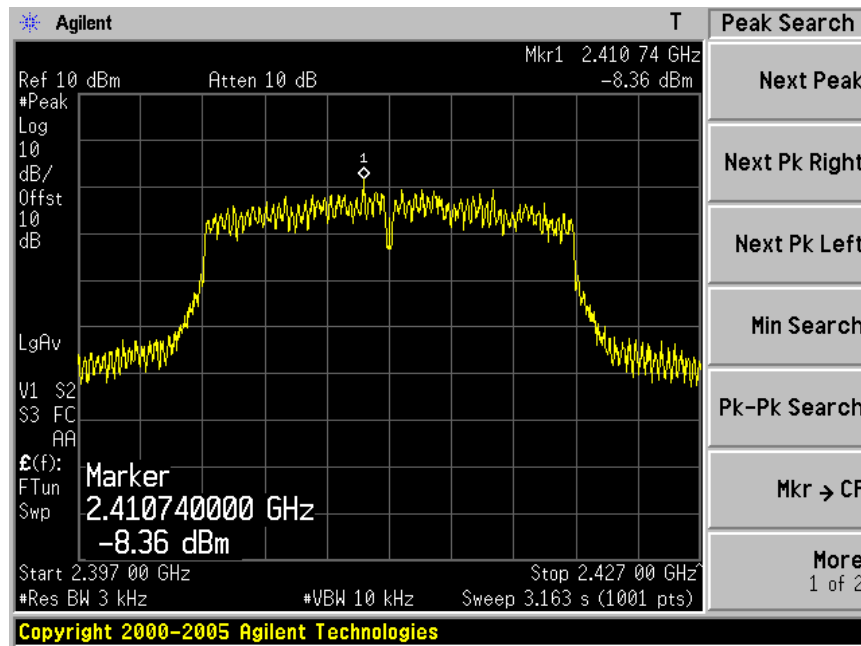
Channel 06 (2437MHz) Ant 1



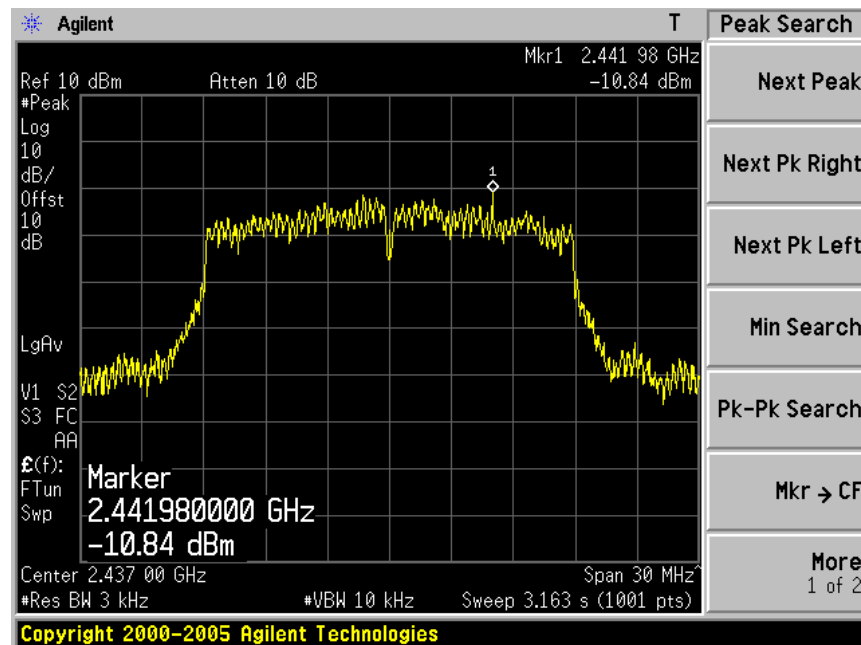
Channel 11 (2462MHz) Ant 1



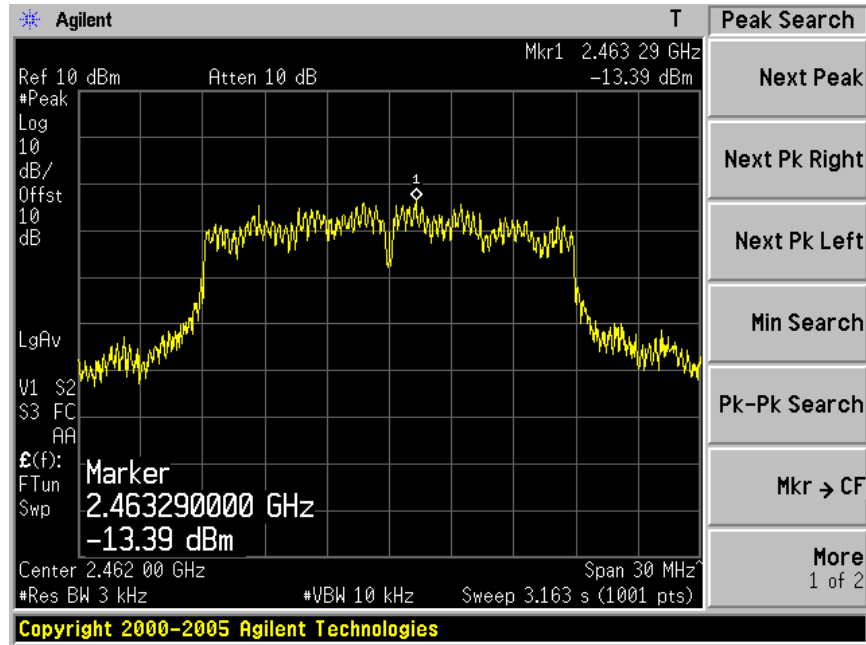
Channel 01 (2412MHz) Ant 2



Channel 06 (2437MHz) Ant 2



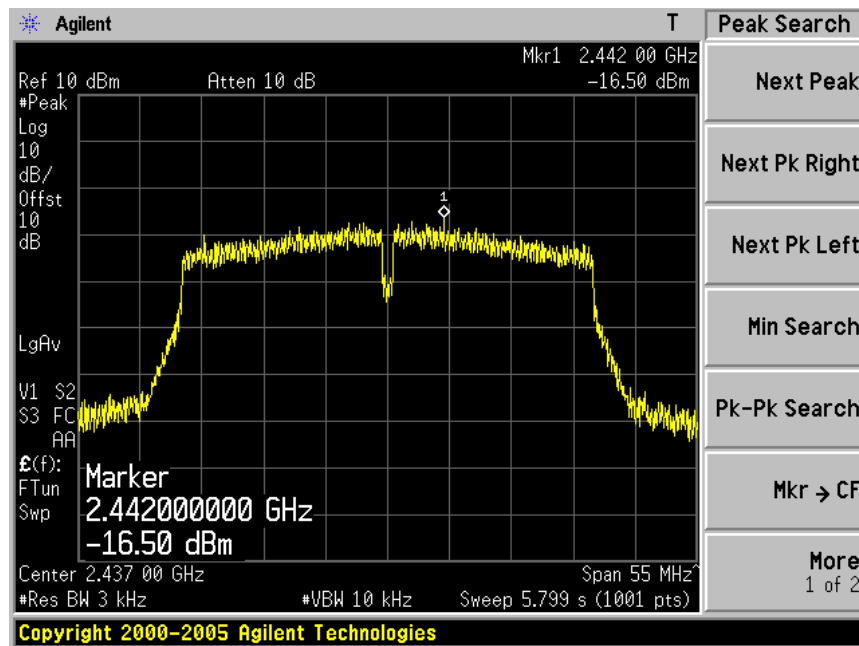
Channel 11 (2462MHz) Ant 2



Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 4: Transmit by 802.11n(40MHz) (Ant 1)

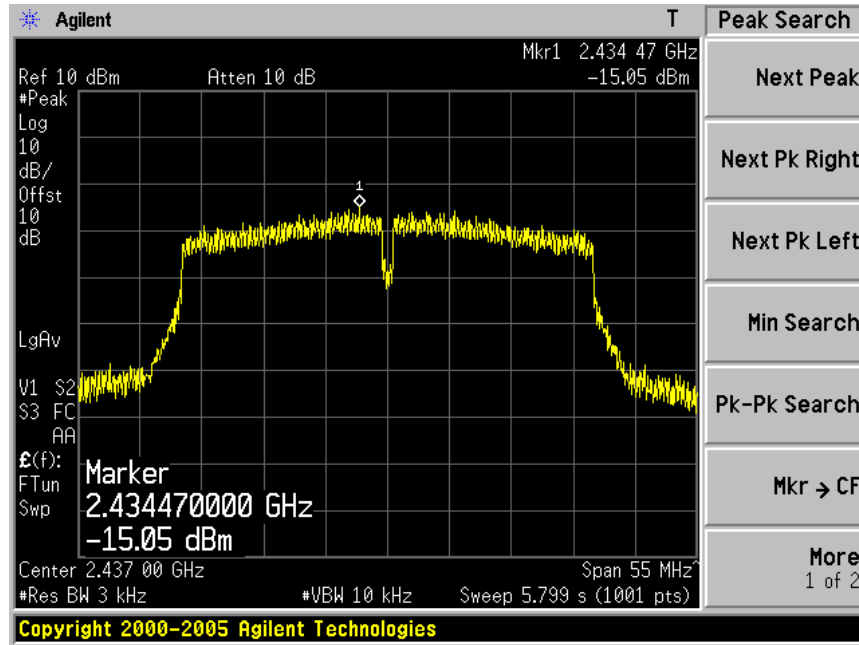
Channel No.	Frequency (MHz)	Measurement PPSD (dBm)		Total PPSD (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
03	2422	-16.50	N/A	-16.50	8	Pass
06	2437	-15.05	N/A	-15.05	8	Pass
09	2452	-14.99	N/A	-14.99	8	Pass

Channel 03 (2422MHz)

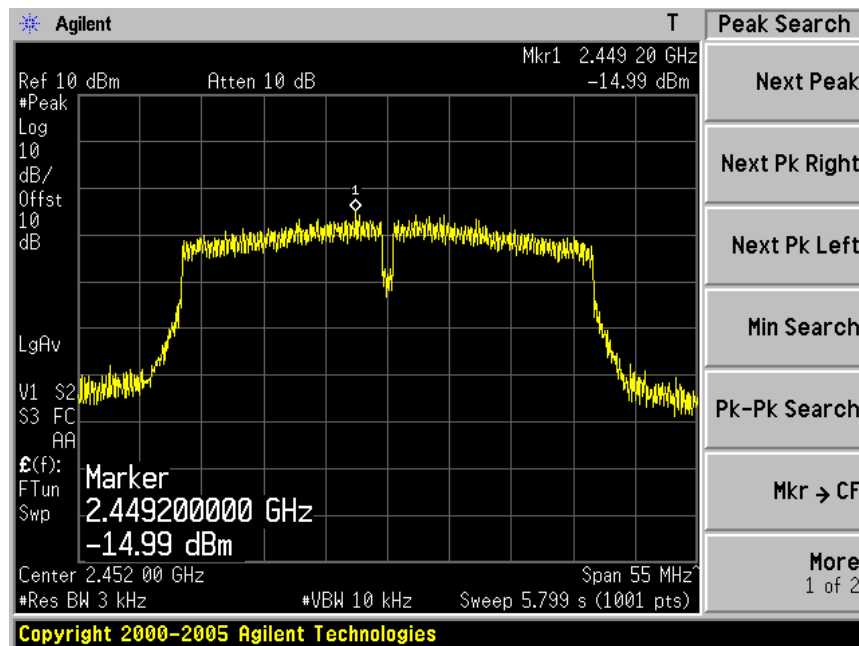




Channel 06 (2437MHz)



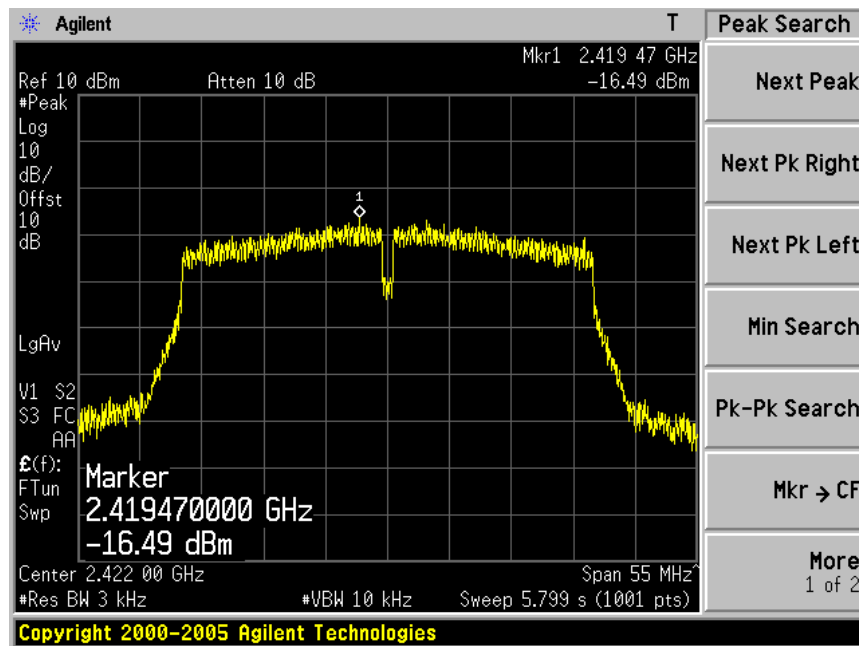
Channel 09 (2452MHz)



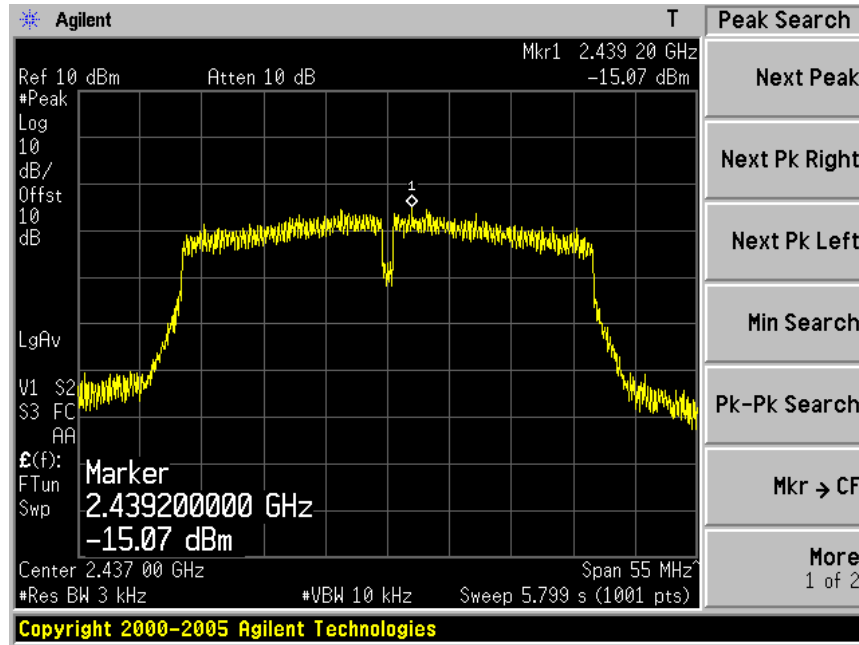
Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 4: Transmit by 802.11n(40MHz) (Ant 2)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm)		Total PPSD (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
03	2422	N/A	-16.49	-16.49	8	Pass
06	2437	N/A	-15.07	-15.07	8	Pass
09	2452	N/A	-17.08	-17.08	8	Pass

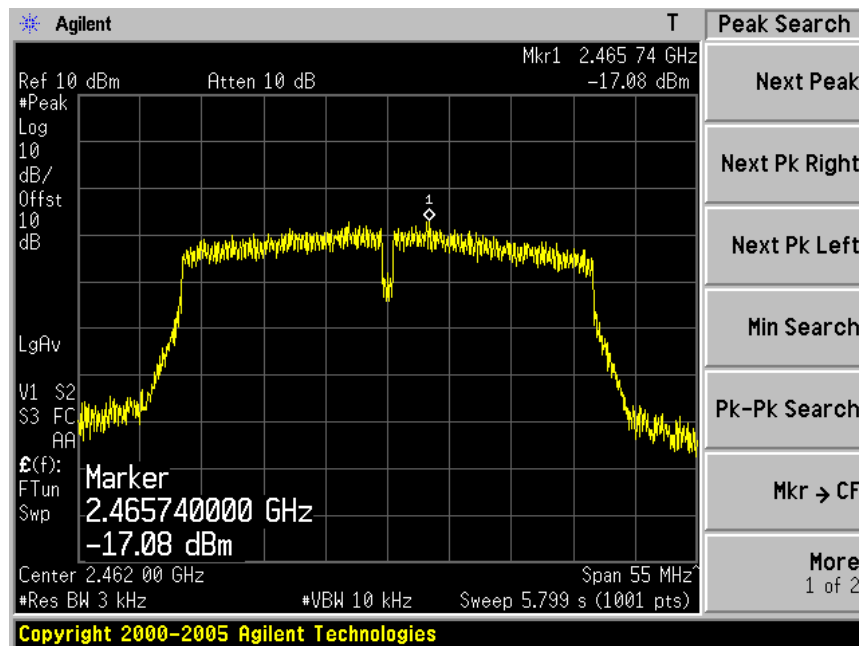
Channel 03 (2422MHz)



Channel 06 (2437MHz)



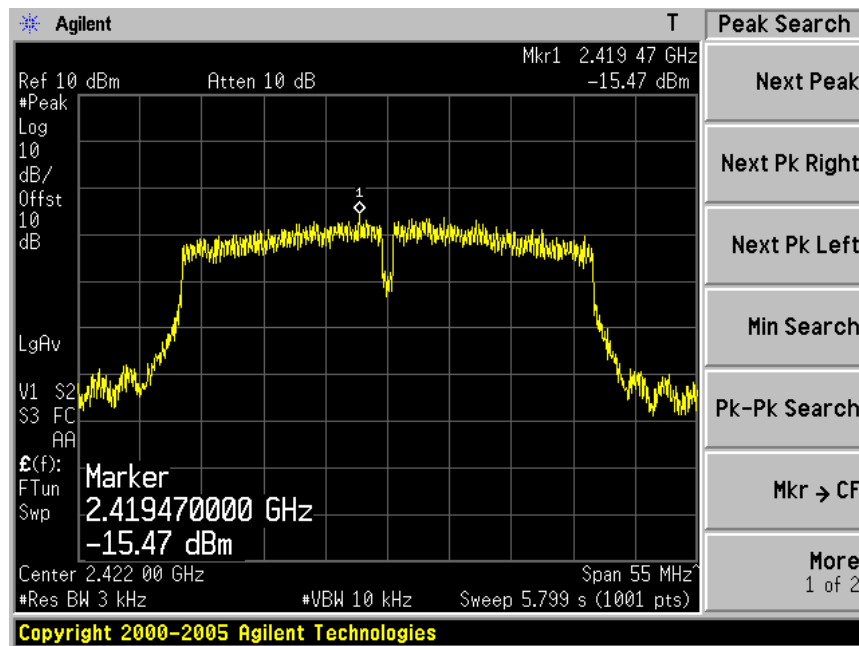
Channel 09 (2452MHz)



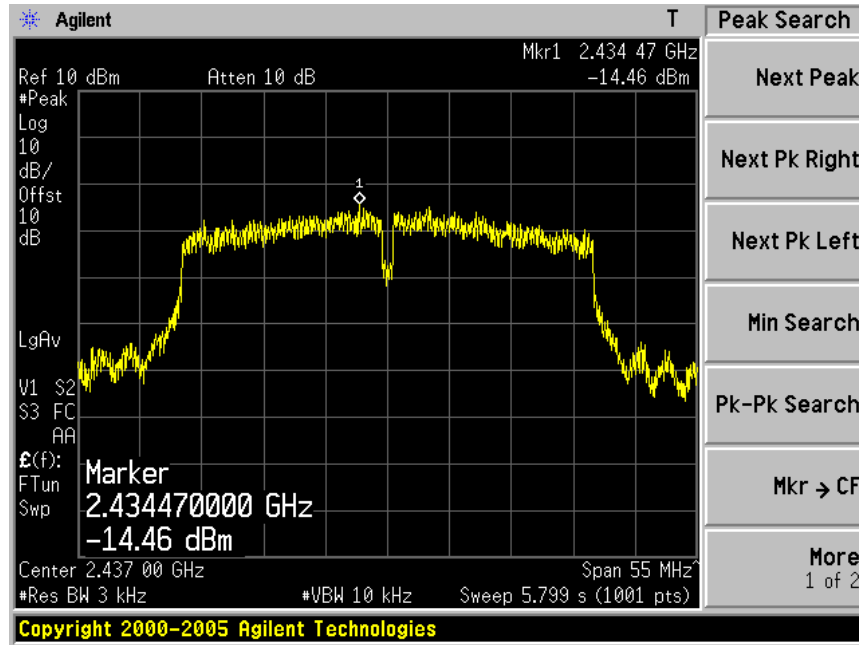
Product	:	802.11n 2x2 Wireless ADSL2+ 4-port Gateway
Test Item	:	Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 4: Transmit by 802.11n(40MHz) (Ant 1+2)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm)		Total PPSD (dBm)	Limit (dBm)	Result
		Ant 1	Ant 2			
03	2422	-15.47	-16.20	-12.81	8	Pass
06	2437	-14.46	-13.15	-10.75	8	Pass
09	2452	-14.88	-17.08	-12.83	8	Pass

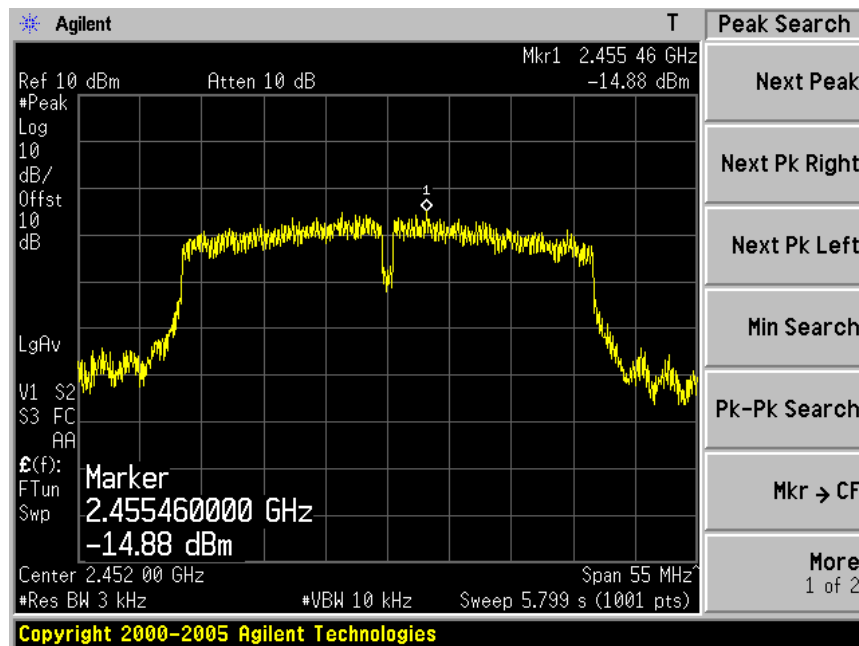
### Channel 03 (2422MHz) Ant 1



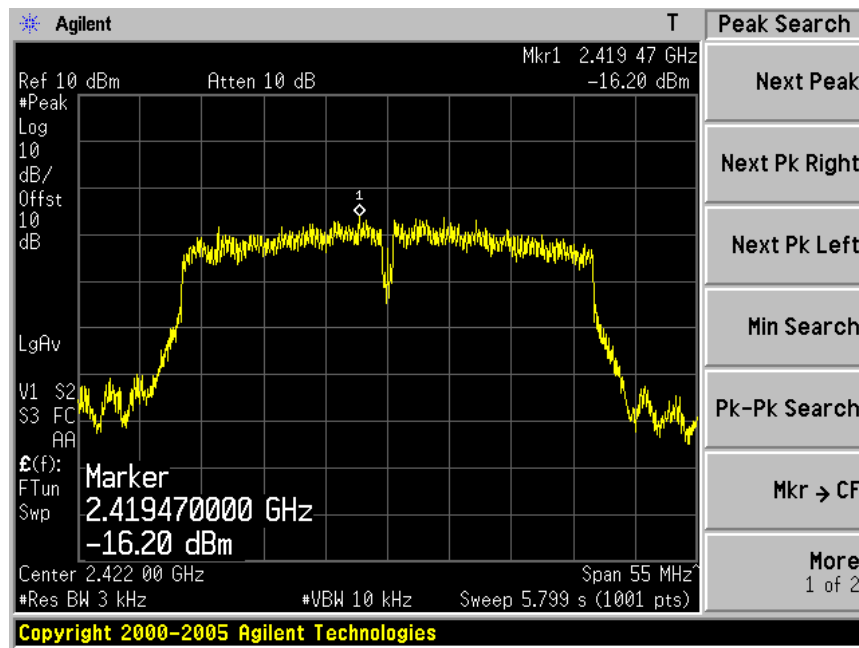
Channel 06 (2437MHz) Ant 1



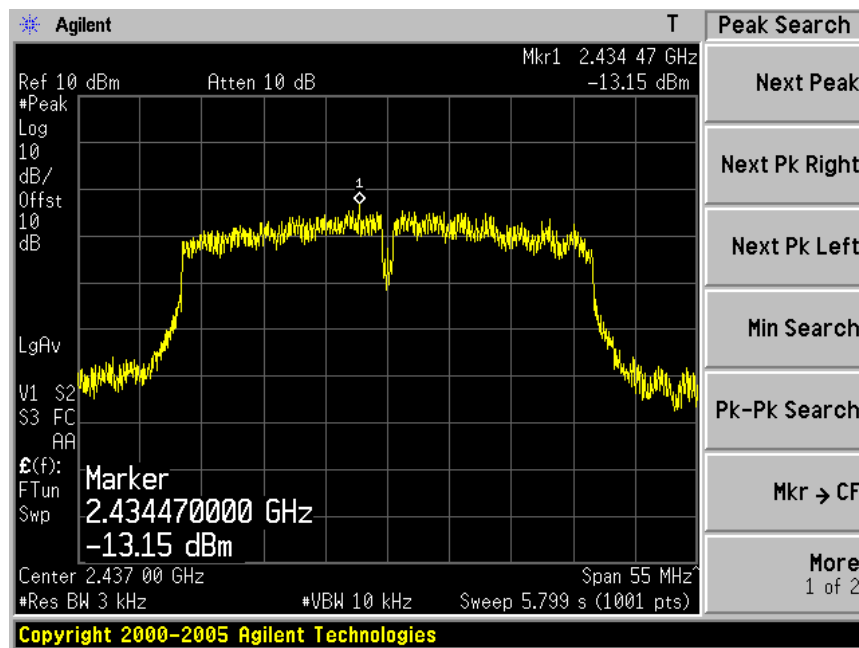
Channel 09 (2452MHz) Ant 1



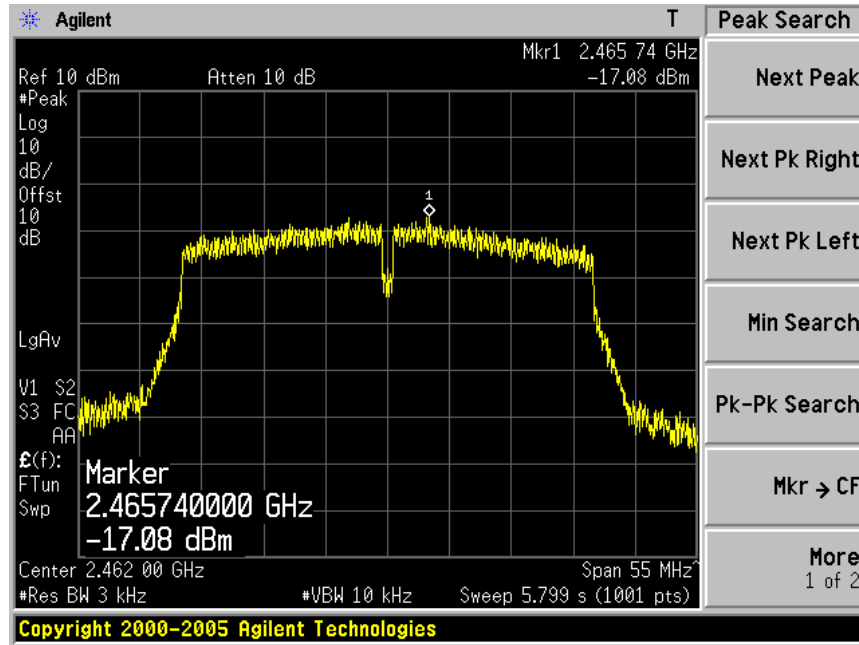
Channel 03 (2422MHz) Ant 2



Channel 06 (2437MHz) Ant 2



Channel 09 (2452MHz) Ant 2



The End