Test Report

Industry Canada RSS-Gen Issue 4/RSS-210 Issue 8
FCC Part15 Subpart C

Product Name	:	IP-STB
Model No.	:	4200X
FCC ID	:	TC2-R1004
IC	:	5959A-R1004

Applicant	:	Roku Inc.
Address	:	12980 Saratoga Ave, Suite D Saratoga, CA 95070

Date of Receipt	:	Jul. 08, 2014
Test Date	:	Jul. 08, 2014~Dec. 22, 2014
Issued Date	:	Jan. 20, 2015
Report No.	:	1470218R-RF-US-P05V01
Report Version	:	V1.1

Test Report Certification

Issued Date : Jan. 20, 2015
Report No. : 1470218R-RF-US-P05V01

QuieTek

Product Name	:	IP-STB
Applicant	:	Roku Inc.
Address	:	12980 Saratoga Ave, Suite D Saratoga, CA 95070
Manufacturer	:	Ambit Mircosystems (Shanghai) LTD.
Address	:	1925, Nanle Road, Songjiang Export Processing Zone, Shanghai, China 201613
Model No.	:	4200X
FCC ID	:	TC2-R1004
IC	:	5959A-R1004
EUT Voltage	:	12V
Brand Name	:	Roku
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C: 2014 ANSI C63.4: 2009; KDB 558074 Industry Canada RSS-Gen Issue 4/RSS-210 Issue 8
Test Result	:	Complied
Performed Location	:	Suzhou EMC Laboratory No.99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., Suzhou, China TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098 FCC Registration Number: 800392; IC Lab Code: 4075B

Documented By	:	Alice Ni
Reviewed By	:	Dream Cao
Approved By	:	Jeff Chen

Laboratory Information

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

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

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:

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

LinKou Testing Laboratory :
No.5-22, Ruishukeng, Linkou Dist., New Taipei City 24451, Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : service@quietek.com

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

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1470218R-RF-US-P05V01	V1.0	Initial Issued Report	Dec. 24, 2014
1470218R-RF-US-P05V01	V1.1	Add the power measurement	Jan. 20, 2015

1. General Information

1.1. EUT Description

Product Name	IP-STB
Brand Name	Roku
Model No.	4200X
EUT Voltage	12V
Frequency Range	**For 2.4GHz Band** 802.11b/g/n(20MHz): 2412~2462MHz 802.11n(40MHz): 2422~2452MHz **For 5.0GHz Band** 802.11a/n(20MHz): 5180~5240MHz, 5745~5825MHz 802.11n(40MHz): 5190~5230MHz, 5755~5795MHz
Channel Number	For 2.4GHz Band 802.11b/g/n(20MHz): 11 802.11n(40MHz): 7 For 5.0GHz Band 802.11a/n(20MHz): 9 802.11n(40MHz): 4
Type of Modulation	802.11b: DSSS
	802.11a/g/n: OFDM
Data Rate	802.11a/g: 6/9/12/18/24/36/48/54 Mbps
	802.11b: 1/2/5.5/11 Mbps
	802.11n: up to 300 Mbps
Channel Control	Auto
Antenna Delivery	2*Tx + 2*Rx
Antenna Type	Reference to Antenna List
Peak Antenna Gain	Reference to Antenna List
Components	
Adapter #1	Brand Name: AmpowerTek M/N: T99A123.00 Input: 100-120V~0.5A 50/60Hz Output: 12V, 1A
Adapter #2	Brand Name: Roku M/N: FA-1201000SUC Input: 120V~60Hz 0.5A Output: 12V, 1.0A

Adapter #3	Brand Name: Roku M/N: MU12AB120100-A1 Input: 100-240V~50/60Hz 0.3A Output: 12V, 1A

Note

1: This EUT has three kinds of adapter, we choose adapter 1# for all RF testing.

2: This is IP STB, streaming players deliver an affordable, fun and friendly way to instantly stream entertainment to a TV, embody 2.4/5GHz dual band 2 by 2 antenna WiFi function.

This report is an updated report based on 129S019R. Comparison of the original sample, the EUT only changed flash memory. Manufacturer has declared that the flash memory is the only difference. The RF characterize keeps identical, and the RSE & Bandedge parts were re-assessed.

We found for spurious emission, the deviation is less than 3dB comparing with the original test data.

For 2.4GHz Band

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

For 5.0GHz Band

802.11a/n(20MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz	48	5240 MHz
149	5745 MHz	153	5765 MHz	157	5785 MHz	161	5805 MHz
165	5825 MHz	N/A	N/A	N/A	N/A	N/A	N/A
802.11n(40MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	151	5755 MHz	159	5795 MHz

802.11a/b/g/n Antenna List

Antenna	Manufacturer	Model No.	Peak Gain
Antenna 1	Cortec Technology Inc.	N/A	2dBi for 2.4GHz, 1dBi for 5GHz
Antenna 2	Cortec Technology Inc.	N/A	2dBi for 2.4GHz, 1dBi for 5GHz

1.2. Mode of Operation

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

Test Mode
Mode 1: Transmit by 802.11b
Mode 2: Transmit by 802.11g
Mode 3: Transmit by 802.11a
Mode 4: Transmit by 802.11n (20MHz)
Mode 5: Transmit by 802.11n (40MHz)

Note:

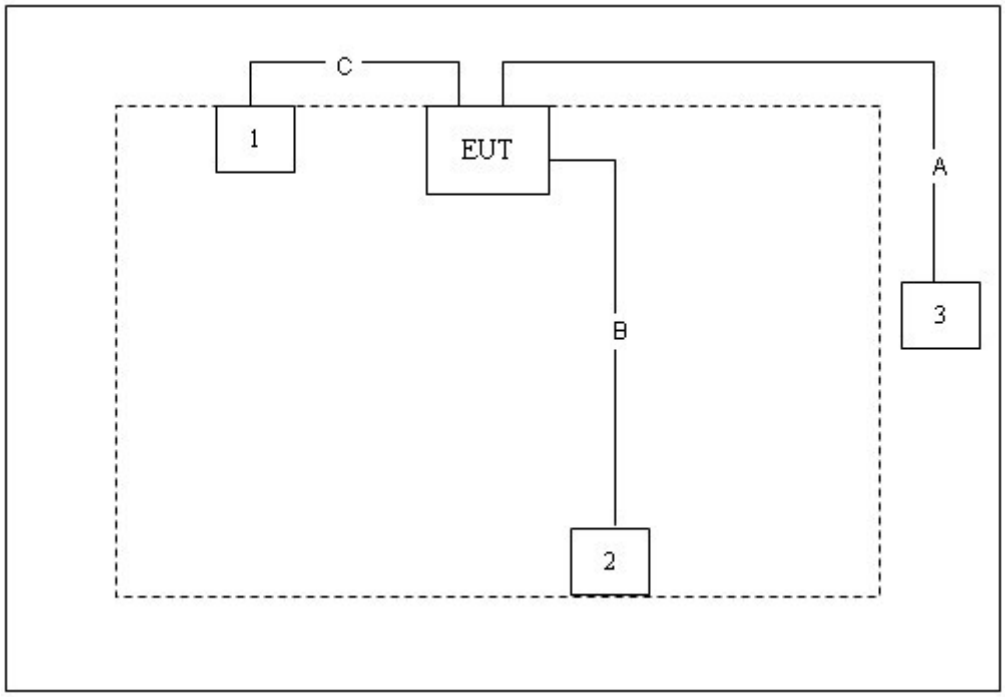
1. Regards to the frequency band operation: the lowest、middle and highest frequency of channel were selected to perform the test, then shown on this report.
2. This device is a composite device in accordance with Part 15 Subpart B regulations. The function for the receiver was measured and made a test report that the report number is 129259R-ITUSP01V02.

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	LCD Monitor	DELL	ST2420LB	CN-OXOK27-74261-189-OA4U	Non-Shielded, 1.8m
2	iPod	Apple	A1199	7J71085BVQ5E	Power by PC
3	Laptop PC	Asus	N80V	8BN0AS226971468	N/A

1.4. Configuration of Tested System

Connection Diagram


Signal Cable Type		Signal cable Description
A	LAN Cable	Shielded, >10m
B	USB Cable	Shielded, 0.5m
C	HDMI Cable	Shielded, 0.8m

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Execute some commands on the PC provided by applicant.
4	Setup the test channel and the test mode press ok to start the continue transmit.

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	No	N/A
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)	No	N/A
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)	No	N/A
Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.247(a)(2)	No	N/A
Power Output	FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.247(b)(3)	No	N/A
Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.247(e)	No	No

Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission	RSS-Gen Issue 4 November 2014 Section 7.2.2	No	N/A
Radiated Emission	RSS-210 Issue 8 December 2010 Section 2.7 Table 2 and Table 3	Yes	No
RF Antenna Conducted Spurious	RSS-210 Issue 8 December 2010 Section A8.5	No	N/A
Radiated Emission Band Edge	RSS-210 Issue 8 December 2010 Section A8.5	Yes	No
Occupied Bandwidth	RSS-Gen Issue 4 November 2014 Section 4.6.1 and 4.6.2 RSS-210 Issue 8 December 2010 Section A8.2(1)	No	N/A
Power Output	RSS-210 Issue 8 December 2010 Section A8.4(4)	No	N/A
Power Spectral Density	RSS-210 Issue 8 December 2010 Section A8.2(2)	No	N/A

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. Power Output

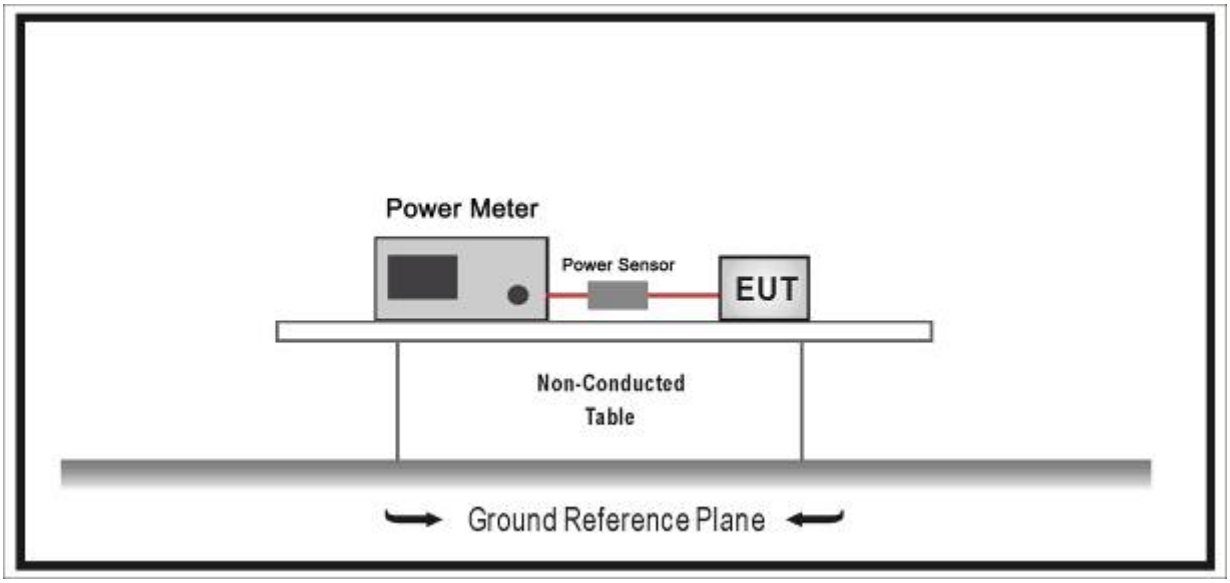
3.1. Test Equipment

Power Output / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2013.01.12
Power Sensor	Anritsu	MA2411B	0846014	2013.01.12
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2013.05.07

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

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.

3.4. Test Procedure

The EUT was tested according to ANSI C63.10: 2009 and KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

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

3.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

3.6. 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(Chain 1)	20	2437	6	1	18.33
				5.5	18.12
				11	18.14
802.11g(Chain 1)	20	2437	6	6	23.78
				24	23.46
				54	24.25
802.11a(Chain 1)	20	5785	157	6	18.62
				24	18.53
				54	18.61
802.11n(Chain 1)	20	2437	6	MCS0	23.13
				MCS4	23.11
				MCS7	23.10
		5785	157	MCS0	17.47
				MCS4	17.44
				MCS7	17.43
802.11n(Chain 1)	40	2437	6	MCS0	22.51
				MCS4	22.46
				MCS7	22.36
		5755	151	MCS0	17.42
				MCS4	17.23
				MCS7	17.25

Product	:	IP-STB
Test Item	:	Power Output
Test Site	:	TR8
Test Mode	:	Mode 1: Transmit by 802.11b (Chain 1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result	Max.EIRP (dBm)
		Chain 1	Chain 2				
1	2412	17.64	N/A	17.64	30.00	Pass	19.64
6	2437	18.33	N/A	18.33	30.00	Pass	20.33
11	2462	17.42	N/A	17.42	30.00	Pass	19.42

Max.EIRP=Total Power + Antenna Gain

Product	:	IP-STB
Test Item	:	Power Output
Test Site	:	TR8
Test Mode	:	Mode 1: Transmit by 802.11b (Chain 2)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result	Max.EIRP (dBm)
		Chain 1	Chain 2				
1	2412	N/A	18.34	18.34	30.00	Pass	20.34
6	2437	N/A	18.57	18.57	30.00	Pass	20.57
11	2462	N/A	18.43	18.43	30.00	Pass	20.43

Max.EIRP=Total Power + Antenna Gain

Product	:	IP-STB
Test Item	:	Power Output
Test Site	:	TR8
Test Mode	:	Mode 2: Transmit by 802.11g (Chain 1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result	Max.EIRP (dBm)
		Chain 1	Chain 2				
1	2412	23.53	N/A	23.53	30.00	Pass	25.53
6	2437	23.78	N/A	23.78	30.00	Pass	25.78
11	2462	24.56	N/A	24.56	30.00	Pass	26.56

Max.EIRP=Total Power + Antenna Gain

Product	:	IP-STB
Test Item	:	Power Output
Test Site	:	TR8
Test Mode	:	Mode 2: Transmit by 802.11g (Chain 2)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result	Max.EIRP (dBm)
		Chain 1	Chain 2				
1	2412	N/A	24.75	24.75	30.00	Pass	26.75
6	2437	N/A	25.62	25.62	30.00	Pass	27.62
11	2462	N/A	25.43	25.43	30.00	Pass	27.43

Max.EIRP=Total Power + Antenna Gain

Product	:	IP-STB
Test Item	:	Power Output
Test Site	:	TR8
Test Mode	:	Mode 3: Transmit by 802.11a (Chain 1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result	Max.EIRP (dBm)
		Chain 1	Chain 2				
149	5745	18.44	N/A	18.44	30.00	Pass	19.44
157	5785	18.62	N/A	18.62	30.00	Pass	19.62
165	5825	18.37	N/A	18.37	30.00	Pass	19.37

Max.EIRP=Total Power + Antenna Gain

Product	:	IP-STB
Test Item	:	Power Output
Test Site	:	TR8
Test Mode	:	Mode 3: Transmit by 802.11a (Chain 2)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result	Max.EIRP (dBm)
		Chain 1	Chain 2				
149	5745	N/A	19.35	19.35	30.00	Pass	20.35
157	5785	N/A	18.43	18.43	30.00	Pass	19.43
165	5825	N/A	19.72	19.72	30.00	Pass	20.72

Max.EIRP=Total Power + Antenna Gain

Product	:	IP-STB
Test Item	:	Power Output
Test Site	:	TR8
Test Mode	:	Mode 4: Transmit by 802.11n(20MHz) (Chain 1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result	Max.EIRP (dBm)
		Chain 1	Chain 2				
1	2412	22.62	N/A	22.62	30.00	Pass	24.62
6	2437	23.13	N/A	23.13	30.00	Pass	25.13
11	2462	22.56	N/A	22.56	30.00	Pass	24.56
149	5745	17.84	N/A	17.84	30.00	Pass	18.84
157	5785	17.47	N/A	17.47	30.00	Pass	18.47
165	5825	18.36	N/A	18.36	30.00	Pass	19.36

Max.EIRP=Total Power + Antenna Gain

Product	:	IP-STB
Test Item	:	Power Output
Test Site	:	TR8
Test Mode	:	Mode 4: Transmit by 802.11n(20MHz) (Chain 2)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result	Max.EIRP (dBm)
		Chain 1	Chain 2				
1	2412	N/A	24.75	24.75	30.00	Pass	26.75
6	2437	N/A	25.67	25.67	30.00	Pass	27.67
11	2462	N/A	24.53	24.53	30.00	Pass	26.53
149	5745	N/A	19.42	19.42	30.00	Pass	20.42
157	5785	N/A	19.28	19.28	30.00	Pass	20.28
165	5825	N/A	20.13	20.13	30.00	Pass	21.13

Max.EIRP=Total Power + Antenna Gain

Product	:	IP-STB
Test Item	:	Power Output
Test Site	:	TR8
Test Mode	:	Mode 4: Transmit by 802.11n(20MHz) (Chain 1+2)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result	Max.EIRP (dBm)
		Chain 1	Chain 2				
1	2412	20.35	23.37	25.13	30.00	Pass	27.13
6	2437	23.13	24.46	26.86	30.00	Pass	28.86
11	2462	21.54	23.25	25.49	30.00	Pass	27.49
149	5745	16.27	18.71	20.67	30.00	Pass	21.67
157	5785	17.56	18.35	20.98	30.00	Pass	21.98
165	5825	16.42	19.46	21.21	30.00	Pass	22.21

Max.EIRP=Total Power + Antenna Gain

Product	:	IP-STB
Test Item	:	Power Output
Test Site	:	TR8
Test Mode	:	Mode 5: Transmit by 802.11n(40MHz) (Chain 1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result	Max.EIRP (dBm)
		Chain 1	Chain 2				
3	2422	22.38	N/A	22.38	30.00	Pass	24.38
6	2437	22.51	N/A	22.51	30.00	Pass	24.51
9	2452	22.64	N/A	22.64	30.00	Pass	24.64
151	5755	17.42	N/A	17.42	30.00	Pass	18.42
159	5795	16.13	N/A	16.13	30.00	Pass	17.13

Max.EIRP=Total Power + Antenna Gain

Product	:	IP-STB
Test Item	:	Power Output
Test Site	:	TR8
Test Mode	:	Mode 5: Transmit by 802.11n(40MHz) (Chain 2)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result	Max.EIRP (dBm)
		Chain 1	Chain 2				
3	2422	N/A	23.34	23.34	30.00	Pass	25.34
6	2437	N/A	22.27	22.27	30.00	Pass	24.27
9	2452	N/A	23.21	23.21	30.00	Pass	25.21
151	5755	N/A	19.42	19.42	30.00	Pass	20.42
159	5795	N/A	19.37	19.37	30.00	Pass	20.37

Max.EIRP=Total Power + Antenna Gain

Product	:	IP-STB
Test Item	:	Power Output
Test Site	:	TR8
Test Mode	:	Mode 5: Transmit by 802.11n(40MHz) (Chain 1+2)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result	Max.EIRP (dBm)
		Chain 1	Chain 2				
3	2422	20.32	21.23	23.81	30.00	Pass	25.81
6	2437	20.13	20.22	23.19	30.00	Pass	25.19
9	2452	20.45	21.41	23.97	30.00	Pass	25.97
151	5755	16.62	19.37	21.22	30.00	Pass	22.22
159	5795	18.37	18.85	21.63	30.00	Pass	22.63

Max.EIRP=Total Power + Antenna Gain

4. Radiated Emission

4.1. Test Equipment

Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
EMI Test Receiver	R&S	ESCI	100573	2014.03.28
Loop Antenna	R&S	HFH2-Z2	833799/003	2014.11.25
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2014.10.10
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2014.03.01
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC2-TH	2014.01.08

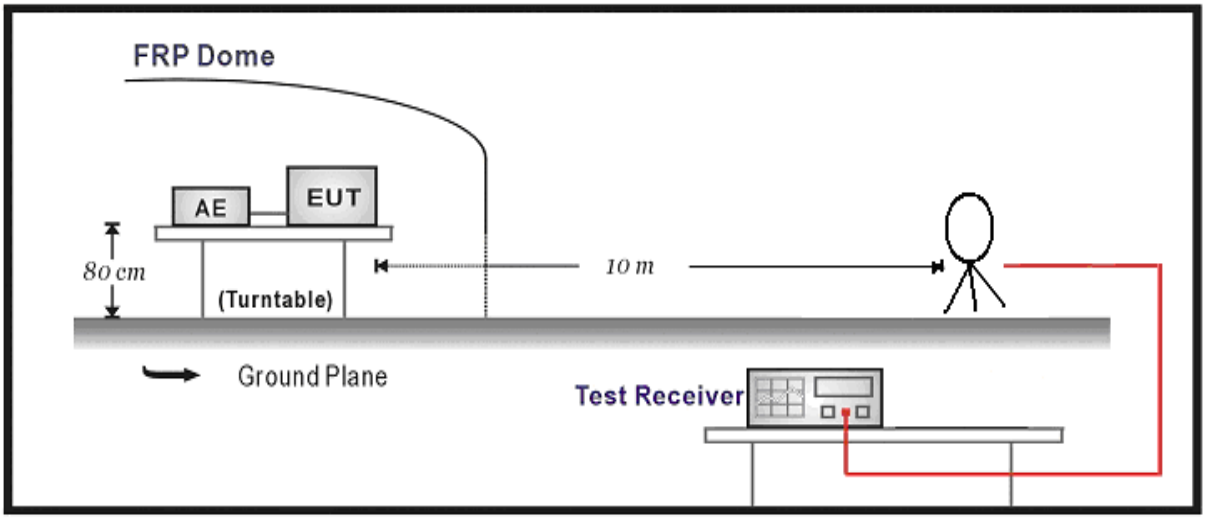
Radiated Emission / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2014.03.28
Preamplifier	Miteq	NSP1800-25	1364185	2014.05.12
Preamplifier	QuieTek	AP-040G	CHM-0906001	2014.05.03
Bilog Antenna	Teseq GmbH	CBL6112D	27612	2014.05.03
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2014.10.15
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2014.01.07
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2014.04.10
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2014.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2014.03.01
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC5-TH	2014.06.09

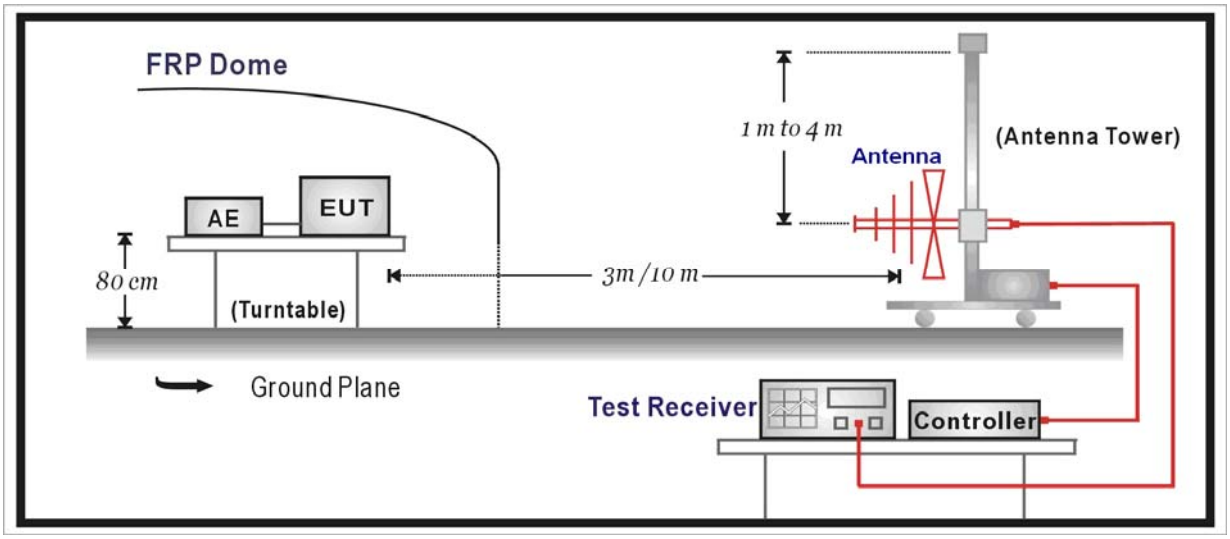
Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

4.2. Test Setup

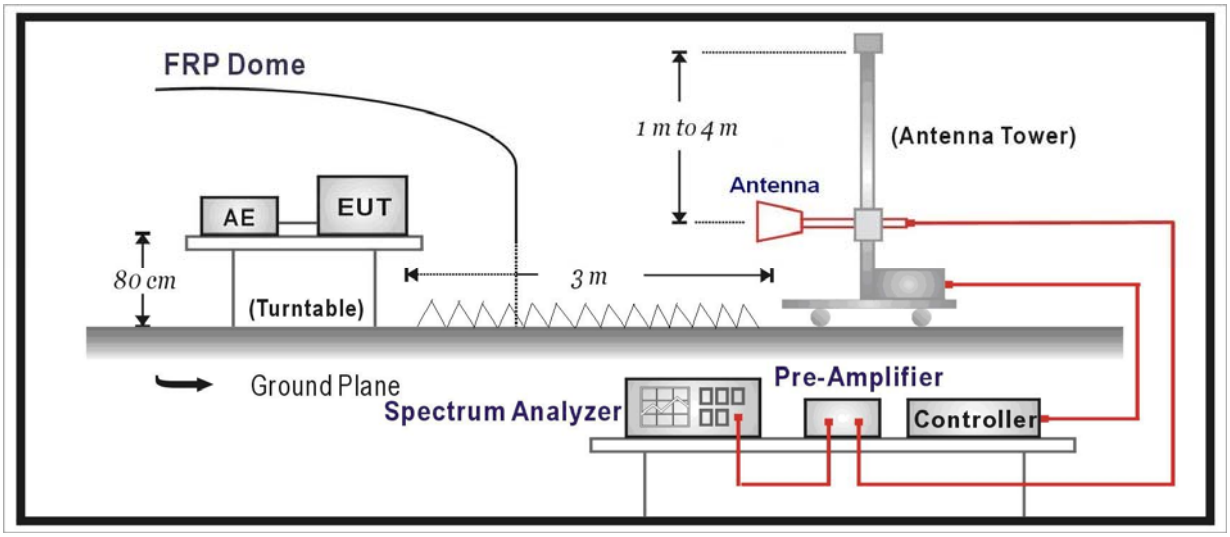
Below 30MHz Test Setup:



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 ANSI C63.10: 2009 and 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 60 degrees for H-plane and 90 degrees for E-plane.

4.5. Uncertainty

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

below 1G is defined as ± 3.8 dB

4.6. Test Result

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

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

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

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

802.11b

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Chain 1	1	V	303.1	13.4	14.8	28.2	46	-17.8	QP
		V	500	15.3	19.7	35.0	46	-11.0	QP
		V	3200	42.2	-0.6	41.6	54(note3)	-12.4	PK
		V	4824.1	47.4	2.6	50.0	54(note3)	-4.0	PK
		V	7236	51.3	8.9	60.2	74	-13.8	PK
		V	7236	44.5	8.9	53.4	54	-0.6	AV
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	6	V	317.2	13.1	15.2	28.3	46	-17.7	QP
		V	572.1	13	21.2	34.2	46	-11.8	QP
		V	3200	43.4	-0.6	42.8	54(note3)	-11.2	PK
		V	4876	49.2	2.8	52.0	54(note3)	-2.0	PK
		V	7315.2	53.3	8.8	62.1	74	-11.9	PK
		V	7311	43.5	8.8	52.3	54	-1.7	AV
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	11	V	306.0	12.6	14.9	27.5	46	-18.5	QP
		H	580.0	12.9	21.2	34.1	46	-11.9	QP
		V	3200.0	44.1	-0.6	43.5	54(note3)	-10.5	PK
		V	4924.0	45.0	3.0	48.0	54(note3)	-6.0	PK
		V	7383.5	50.1	8.9	59.0	74	-15.0	PK
		V	7386.0	43.2	8.9	52.1	54	-1.9	AV
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
Chain 2	1	V	322.2	12.2	15.4	27.6	46	-18.4	QP
		V	549.2	14.2	21.2	35.2	46	-10.8	QP
		V	3200.1	42.7	-0.6	42.1	54(note3)	-11.9	PK
		V	4824.0	49.1	2.6	51.7	54(note3)	-2.3	PK
		V	7236.3	51.1	8.9	60.0	74	-14.0	PK
		V	7236.1	44.1	8.9	53.0	54	-1.0	AV

		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	6	H	317.3	13.1	15.2	28.3	46	-17.7	QP
		V	547.6	13.1	21.2	34.3	46	-11.7	QP
		V	3200.2	42.3	-0.6	41.7	54(note3)	-12.3	PK
		V	4876.1	48.2	2.8	51.0	54(note3)	-3.0	PK
		V	7311.0	43.2	8.8	52.0	54(note3)	-2.0	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	11	V	310.2	12.4	15.0	27.4	46	-18.6	QP
		H	543.1	13.3	21.0	34.3	46	-11.7	QP
		V	3200.1	42.4	-0.6	41.8	54(note3)	-12.2	PK
		V	4924.1	50.2	3.0	53.2	54	-0.8	AV
		V	4927.1	53.2	3.0	56.1	74	-17.9	PK
		V	7386.1	49.1	8.9	58.0	74	-16.0	PK
		V	7386.0	44.1	8.9	53.0	54	-1.0	AV
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK

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

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

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

802.11g

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Chain 1	1	H	296.3	13.1	14.7	27.6	46	-18.4	QP
		H	567.3	13.4	21.3	34.7	46	-11.3	QP
		V	3200.1	50.3	-13.4	36.9	54(note3)	-17.1	PK
		V	4824.3	43.6	2.6	46.2	54(note3)	-7.8	PK
		V	7236.0	36.3	8.9	45.2	54	-8.8	AV
		V	7236.1	50.1	8.9	59.0	74	-15.0	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	6	V	302.2	12.7	14.8	27.5	46	-18.5	QP
		V	599.3	13.8	21.2	35.0	46	-11.0	QP
		V	3200.4	42.5	-0.6	41.9	54(note3)	-12.1	PK
		V	4876.6	45.3	2.8	48.1	54(note3)	-5.9	PK

		V	7298.3	44.1	8.8	52.9	54(note3)	-1.1	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	11	H	587.8	13.2	21.2	34.4	46	-11.6	QP
		V	286.1	12.3	14.7	27.0	46	-19.1	QP
		V	3200.0	42.7	-0.6	42.1	54(note3)	-11.9	PK
		V	4924.0	45.3	3.0	48.3	54(note3)	-5.7	PK
		V	7386.1	37.4	8.9	46.3	54	-7.7	AV
		V	7392.4	51.5	8.9	60.4	74	-13.6	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
Chain 2	1	H	296.2	13.1	14.7	27.8	46	-18.2	QP
		H	599.7	13.1	21.2	34.3	46	-11.0	QP
		V	3200.2	42.5	-0.6	41.9	54(note3)	-12.1	PK
		V	4824.1	44.3	2.6	46.9	54(note3)	-7.1	PK
		V	7236.3	33.6	8.9	42.5	54	-11.5	AV
		V	7239.1	45.6	8.9	54.5	74	-19.5	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	6	H	290.2	13.2	14.9	28.1	46	-17.9	QP
		H	628.1	14.3	21.2	35.5	46	-10.5	QP
		V	3200.1	42.5	-0.6	41.9	54(note3)	-12.1	PK
		V	4867.1	44.5	2.7	47.2	54(note3)	-6.8	PK
		V	7311.0	44.1	8.8	52.9	54(note3)	-1.1	PK
		H	24000.1	59.1	-8.9	50.2	54(note3)	-3.8	PK
	11	H	291.3	12.4	14.8	27.2	46	-18.8	QP
		H	500.1	16.7	19.7	36.4	46	-9.6	QP
		V	3200.1	42.5	-0.6	41.9	54(note3)	-12.1	PK
		V	4924.3	53.1	3.0	56.1	74	-17.9	PK
		V	4924.1	49.6	3.0	52.6	54	-1.4	AV
		V	7383.5	47.4	8.9	56.3	74	-17.7	PK
		V	7386.0	34.1	8.9	43.0	54	-11.0	AV
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK

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

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

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

802.11a

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Chain 1	149	H	300.1	5.8	20.5	26.3	46	-19.7	QP
		H	900.4	1.5	29.2	30.7	46	-15.3	QP
		V	13000.1	34.4	9.8	44.2	54(note3)	-9.8	PK
		V	11489.3	49.7	8.5	58.2	74	-15.8	PK
		V	11489.1	40.5	8.5	49.0	54	-5.0	AV
		V	16000.2	40.3	7.6	47.9	54(note3)	-6.1	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	157	H	300	4.1	20.5	24.6	46	-21.4	QP
		H	900	1.5	29.2	30.7	46	-15.3	QP
		V	13000.0	38.5	9.8	48.3	54(note3)	-5.7	PK
		V	11570.0	42.7	8.6	51.3	54	-2.7	AV
		V	11574.0	52.5	8.5	61.0	74	-13.0	PK
		V	16000.0	40.0	7.6	47.6	54(note3)	-6.4	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	165	H	300.3	5.2	21.2	26.4	46	-19.6	QP
		H	900.2	1.9	29.5	31.4	46	-14.6	QP
		V	13000.7	34.9	8.7	43.6	54(note3)	-10.4	PK
		V	11650.2	41.3	8.9	50.2	54	-3.8	AV
		V	11650.3	53.7	9.2	62.9	74	-11.1	PK
		V	16000.2	40.1	7.5	47.6	54(note3)	-6.4	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
Chain 2	149	H	301.3	5.6	20.5	26.1	46	-19.9	QP
		H	900.2	2.8	29.2	32.0	46	-14.0	QP
		H	13000.1	34.5	9.8	44.3	54(note3)	-9.7	PK
		V	11489.4	54.8	8.5	63.3	74	-10.7	PK
		V	11489.2	43.5	8.5	52.0	54	-2.0	AV
		V	16000.1	41.6	7.6	49.2	54(note3)	-4.8	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	157	H	300.1	4.3	20.5	24.8	46	-21.2	QP
		H	900.2	2.7	29.2	31.9	46	-14.1	QP
		V	13000.2	39.7	9.8	49.5	54(note3)	-4.5	PK
		V	11565.7	54.6	8.6	63.2	74	-10.8	PK
		V	11570.2	43.7	8.6	52.3	54	-1.7	AV
		V	16000.1	40.7	7.6	48.3	54(note3)	-5.7	PK

		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	165	H	300.1	5.3	20.5	25.8	46	-20.2	QP
		H	900.3	2.1	29.2	31.3	46	-14.7	QP
		V	13000.5	35.7	9.8	45.5	54(note3)	-8.5	PK
		V	11650.3	42.7	8.7	51.4	74	-22.6	AV
		V	11659.4	55.4	8.7	64.1	54	10.1	PK
		V	16000.2	41.2	7.6	48.8	54(note3)	-5.2	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK

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

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

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

802.11n(20MHz)

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Chain 1	1	H	597.5	14.3	21.2	35.5	46	-10.5	QP
		H	311.6	13.4	15.1	28.5	46	-17.5	QP
		V	3200.1	43.1	-0.6	42.5	54(note3)	-11.5	PK
		V	4824.7	42.1	2.6	44.7	54(note3)	-9.3	PK
		V	7236.3	33.7	8.9	42.6	54	-11.4	AV
		V	7239.7	45.9	8.9	54.8	74	-19.2	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	6	H	561.3	13.5	21.2	34.7	46	-11.3	QP
		H	343.1	13.4	16	29.4	46	-16.6	QP
		V	3200.2	43.1	-0.6	42.5	54(note3)	-11.5	PK
		V	4876.3	45.7	2.8	48.5	54(note3)	-5.5	PK
		V	7311.1	54.3	8.8	63.1	74	-10.9	PK
		V	7311	41.3	8.8	50.1	54	-3.9	AV
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	11	H	300.3	13.4	14.7	28.1	46	-17.9	QP
		H	553.7	12.5	21.2	33.7	46	-12.3	QP
		V	3200.2	43.7	-0.6	43.1	54(note3)	-10.9	PK
		V	4924.1	41.8	3	44.8	54(note3)	-9.2	PK

		V	7375.4	50.6	9	59.6	74	-14.4	PK
		V	7378.1	33.9	9	42.9	54	-11.1	AV
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	149	H	313.4	12.9	15.1	28.0	46	-18.0	QP
		H	597.5	14.3	21.2	35.5	46	-10.5	QP
		H	13000.2	35.7	9.8	45.5	54(note3)	-8.5	PK
		V	11489.6	51.2	8.5	59.7	74	-14.3	PK
		V	11490.1	39.5	8.5	48.0	54	-6.0	AV
		V	16000.7	40.3	7.6	47.9	54(note3)	-6.1	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	157	H	300.2	4.7	20.5	25.2	46	-20.8	QP
		H	900.1	2.8	29.2	32.0	46	-14.0	QP
		V	13000.5	37.6	9.8	47.4	54(note3)	-6.6	PK
		V	11570.3	37.9	8.6	46.5	54	-7.5	AV
		V	11574.2	49.2	8.5	57.7	74	-16.3	PK
		V	16000.1	40.8	7.6	48.4	54(note3)	-5.6	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	165	H	300.2	4.5	20.5	25.0	46	-21.0	QP
		H	900.1	2.3	29.2	31.5	46	-14.5	QP
		H	13000.3	34.8	9.8	44.6	54(note3)	-9.4	PK
		V	11650.2	39.7	8.7	48.4	54	-5.6	AV
		V	11650.7	47.6	8.7	56.3	74	-17.7	PK
		V	16000.3	40.9	7.6	48.5	54(note3)	-5.5	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
Chain 2	1	V	313.3	13.4	15.1	28.5	46	-17.5	QP
		V	597.5	14.6	21.2	35.8	46	-10.2	QP
		V	3200.2	41.6	-0.6	41.0	54(note3)	-13.0	PK
		V	4824.4	43.8	2.6	46.4	54(note3)	-7.6	PK
		V	7236.1	42.8	8.9	51.7	54(note3)	-2.3	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	6	H	306.3	13.7	14.9	28.6	46	-17.4	QP
		H	561.5	13.5	21.2	34.7	46	-11.3	QP
		V	3200.1	42.6	-0.6	42.0	54(note3)	-12.0	PK
		V	4867.4	47.3	2.7	50.0	54(note3)	-4.0	PK
		V	7311.4	50.6	8.8	59.4	74	-14.6	PK
		V	7311	37.5	8.8	46.3	54	-7.7	AV
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK

	11	H	321.2	14.3	15.3	29.6	46	-16.4	QP
		H	551.7	13.2	21.2	34.4	46	-11.6	QP
		V	3200.3	42.1	-0.6	41.5	54(note3)	-12.5	PK
		V	4927.1	47.6	3	50.6	74	-23.4	PK
		V	7383.7	32.5	8.9	41.4	54	-12.6	AV
		V	7383.1	45.7	8.9	54.6	74	-19.4	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	149	H	256.1	6.4	19.7	26.1	46	-19.9	QP
		H	299.3	8.7	20.5	29.2	46	-16.8	QP
		H	13000.1	34.5	9.8	44.3	54(note3)	-9.7	PK
		V	11489.7	47.8	8.5	56.3	74	-17.7	PK
		V	11560.3	39.6	8.6	48.2	54	-5.8	AV
		V	16000.1	40.6	7.6	48.2	54(note3)	-5.8	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	157	H	207.3	6.3	15.9	22.2	43.5	-21.3	QP
		H	299.4	8.7	20.5	29.2	46	-16.8	QP
		H	13000.1	39.5	9.8	49.3	54(note3)	-4.7	PK
		V	11565.3	52.3	8.6	60.9	74	-13.1	PK
		V	11570.1	40.2	8.6	48.8	54	-5.2	AV
		V	16000.3	40.7	7.6	48.3	54(note3)	-5.7	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	165	H	303.3	11.3	20.6	31.9	46	-14.1	QP
		H	565.1	5.2	26.6	31.8	46	-14.2	QP
		V	13000.2	34.7	9.8	44.5	54(note3)	-9.5	PK
		V	11650.1	38.6	8.7	47.3	54	-6.7	AV
		V	11650.4	46.2	8.7	54.9	74	-19.1	PK
		V	16000.2	40.3	7.6	47.9	54(note3)	-6.1	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
Chain 1+2	1	H	539.1	14.3	20.9	35.2	46	-10.8	QP
		H	297.3	13.7	14.7	28.4	46	-17.6	QP
		V	3200.1	42.5	-0.6	41.9	54(note3)	-12.1	PK
		V	4824.4	42.1	2.6	44.7	54(note3)	-9.3	PK
		V	7236.5	44.7	8.9	53.6	54	-0.4	AV
		V	7239.1	47.3	8.9	56.2	74	2.2	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	6	H	301.2	13.4	14.7	28.1	46	-17.9	QP
		H	539.1	14.3	20.9	35.2	46	-10.8	QP

		V	3200.3	51.3	-13.4	37.9	54(note3)	-16.1	PK
		V	4867.2	47.8	2.7	50.5	54(note3)	-3.5	PK
		V	7311	55.7	8.8	64.5	74	-9.5	PK
		V	7307.7	43.6	8.8	52.4	54	-1.6	AV
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	11	H	280.1	14.2	14.5	28.7	46	-17.3	QP
		H	500.3	17.3	19.7	37.0	46	-9.0	QP
		V	3200.1	42.1	-0.6	41.5	54(note3)	-12.5	PK
		V	4918.7	44.3	3	47.3	54(note3)	-6.7	PK
		V	7391.3	33.7	8.9	42.6	54	-11.4	AV
		V	7400.1	49.5	8.9	58.4	74	4.4	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	149	H	301.7	11.7	20.5	32.2	46	-13.8	QP
		H	565.2	5.1	26.6	31.7	46	-14.3	QP
		H	13000.1	35.7	9.8	45.5	54(note3)	-8.5	PK
		V	11489.3	53.6	8.5	62.1	74	-11.9	PK
		V	11490.4	39.8	8.5	48.3	54	-5.7	AV
		V	16000.2	40.3	7.6	47.9	54(note3)	-6.1	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	157	H	201.4	7.4	16.1	23.5	43.5	-20.0	QP
		H	299.6	8.7	20.5	29.2	46	-16.8	QP
		V	13000	38.6	9.8	48.4	54(note3)	-5.6	PK
		V	11570	40.8	8.6	49.4	54	-4.6	AV
		V	11574	51.3	8.5	59.8	74	-14.2	PK
		V	16000	42.1	7.6	49.7	54(note3)	-4.3	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	165	H	544.1	5.4	26.5	31.9	46	-14.1	QP
		H	900.2	2.2	29.2	31.4	46	-14.6	QP
		V	13000.4	34.3	9.8	44.1	54(note3)	-9.9	PK
		V	11570.1	41.7	8.6	50.3	54	-3.7	AV
		V	11659.2	50.8	8.7	59.5	74	-14.5	PK
		V	16000.3	40.7	7.6	48.3	54(note3)	-5.7	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK

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

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

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

802.11n(40MHz)

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Chain 1	3	H	341.2	14.3	16	30.3	46	-15.7	QP
		H	564.2	14.7	21.2	35.9	46	-10.1	QP
		V	3200.1	42.6	-0.6	42.0	54(note3)	-12.0	PK
		V	4844.3	41.7	2.6	44.3	54(note3)	-9.7	PK
		V	7290.1	44.8	8.8	53.6	54(note3)	-0.4	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	6	H	291.7	12.7	14.8	27.5	46	-18.5	QP
		H	553.2	13.7	21.2	34.9	46	-11.1	QP
		V	3200.3	42.3	-0.6	41.7	54(note3)	-12.3	PK
		V	4874.1	41.5	2.8	44.3	54(note3)	-9.7	PK
		V	7349.3	32.7	9	41.7	54	-12.3	AV
		V	7358.2	46.7	9	55.7	74	-18.3	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	9	H	586.1	14.3	21.2	35.5	46	-10.5	QP
		H	294..4	12.7	14.8	27.5	46	-18.5	QP
		V	3200.3	43.5	-0.6	42.9	54(note3)	-11.1	PK
		V	4904.1	41.5	2.9	44.4	54(note3)	-9.6	PK
		V	7349.2	32.6	9	41.6	54	-12.4	AV
		V	7349.7	45.7	9	54.7	74	-19.3	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	151	H	303.2	12.3	20.6	32.9	46	-13.1	QP
		H	565.1	5.7	26.6	32.3	46	-13.7	QP
		H	13000.2	35.4	9.8	45.2	54(note3)	-8.8	PK
		V	11510.7	39.4	8.5	47.9	54	-6.1	AV
		V	11523.1	49.9	8.5	58.4	74	-15.6	PK
		V	16000.2	40.8	7.6	48.4	54(note3)	-5.6	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	159	H	298.4	12.3	20.4	32.7	46	-13.3	QP
		H	606.3	6.7	27	33.7	46	-12.3	QP
		V	13000.1	34.8	9.8	44.6	54(note3)	-9.4	PK
		V	11574.4	48.9	8.5	57.4	74	3.4	PK
		V	11590.2	39.7	8.5	48.2	54	-5.8	AV

		V	16000.3	40.1	7.6	47.7	54(note3)	-6.3	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
Chain 2	3	H	301.3	12.3	20.5	32.8	46	-13.2	QP
		H	565.1	5.7	26.6	32.3	46	-13.7	QP
		V	3200.2	42.3	-0.6	41.7	54(note3)	-12.3	PK
		V	4844.1	42.6	2.6	45.2	54(note3)	-8.8	PK
		V	7266.7	43.7	8.8	52.5	54(note3)	-1.5	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	6	H	309.3	12.3	15	27.3	46	-18.7	QP
		H	608.1	14.7	21.2	35.9	46	-10.1	QP
		V	3200.2	43.7	-0.6	43.1	54(note3)	-10.9	PK
		V	4874.5	42.1	2.8	44.9	54(note3)	-9.1	PK
		V	7311.3	42.3	8.8	51.1	54(note3)	-2.9	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	9	H	500.3	17.3	19.7	37.0	46	-9.0	QP
		H	266.1	13.7	14.3	28.0	46	-18.0	QP
		V	3200.2	42.3	-0.6	41.7	54(note3)	-12.3	PK
		V	4904.3	43.8	2.9	46.7	54(note3)	-7.3	PK
		V	7356.2	43.8	9	52.8	54(note3)	-1.2	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	151	V	599.1	7.3	13.7	21.0	46	-25.0	QP
		V	697.7	4.1	14.3	18.4	46	-27.6	QP
		V	13000.3	35.6	9.8	45.4	54(note3)	-8.6	PK
		v	11510.1	48.2	8.5	56.7	74	-17.3	PK
		v	11510.5	39.5	8.5	48.0	54	-6.0	AV
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	159	H	553.1	7.5	11.9	19.4	46	-26.6	QP
		H	697.3	5.7	14.3	20.0	46	-26.0	QP
		V	13000.2	35.5	9.8	45.3	54(note3)	-8.7	PK
		V	11582.7	48.7	8.5	57.2	74	-16.8	PK
		V	11590.3	38.3	8.5	46.8	54	-7.2	AV
		V	16000.4	41.3	7.6	48.9	54(note3)	-5.1	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
		H	299.2	8.3	20.5	28.8	46	-17.2	QP
		H	548.1	6.4	26.6	33.0	46	-13.0	QP
Chain 1+2		V	3200.3	43.4	-0.6	42.8	54(note·3)	-11.2	PK
		V	4844.3	42.7	2.6	45.3	54(note·3)	-8.7	PK

		V	7264.5	40.8	8.8	49.6	54	-4.4	AV
		V	7273.2	51.7	8.8	60.5	74	-13.5	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	6	H	280.1	14.1	14.5	28.6	46	-17.4	QP
		H	500.3	17.2	19.7	36.9	46	-9.1	QP
		V	3200.1	42.7	-0.6	42.1	54(note3)	-11.9	PK
		V	4876.2	46.1	2.8	48.9	54(note3)	-5.1	PK
		V	7290.4	50.4	8.8	59.2	74	-14.8	PK
		V	7290.3	38.6	8.8	47.4	54	-6.6	AV
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	9	H	324.2	13.4	15.5	28.9	46	-17.1	QP
		H	553.1	13.7	21.2	34.9	46	-11.1	QP
		V	3200.3	42.3	-0.6	41.7	54(note3)	-12.3	PK
		V	4904.7	43.8	2.9	46.7	54(note3)	-7.3	PK
		V	7358.3	47.5	9	56.5	74	-17.5	PK
		V	7358.1	35.2	9	44.2	54	-9.8	AV
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK
	151	H	299.3	5.9	20.5	26.4	46	-19.6	QP
		H	548.3	5.7	26.6	32.3	46	-13.7	QP
		V	13000.1	35.7	9.8	45.5	54(note3)	-8.5	PK
		V	11510.7	42.5	8.5	51.0	54	-3.0	AV
		V	11514.3	53.7	8.5	62.2	74	-11.8	PK
		V	16000.7	41.2	7.6	48.8	54(note3)	-5.2	PK
		H	24000.0	59.6	-8.9	50.7	54(note3)	-3.3	PK
	159	H	298.4	7.1	20.4	27.5	46	-18.5	QP
		H	571.3	6.3	26.6	32.9	46	-13.1	QP
		H	13000.1	34.2	9.8	44.0	54(note3)	-10.0	PK
		V	11590.4	39.6	8.5	48.1	54	-5.9	AV
		V	11591.2	51.3	8.5	59.8	74	-14.2	PK
		V	16000.3	40.8	7.6	48.4	54(note3)	-5.6	PK
		H	24000.0	59.1	-8.9	50.2	54(note3)	-3.8	PK

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

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

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

5. Radiated Emission Band Edge

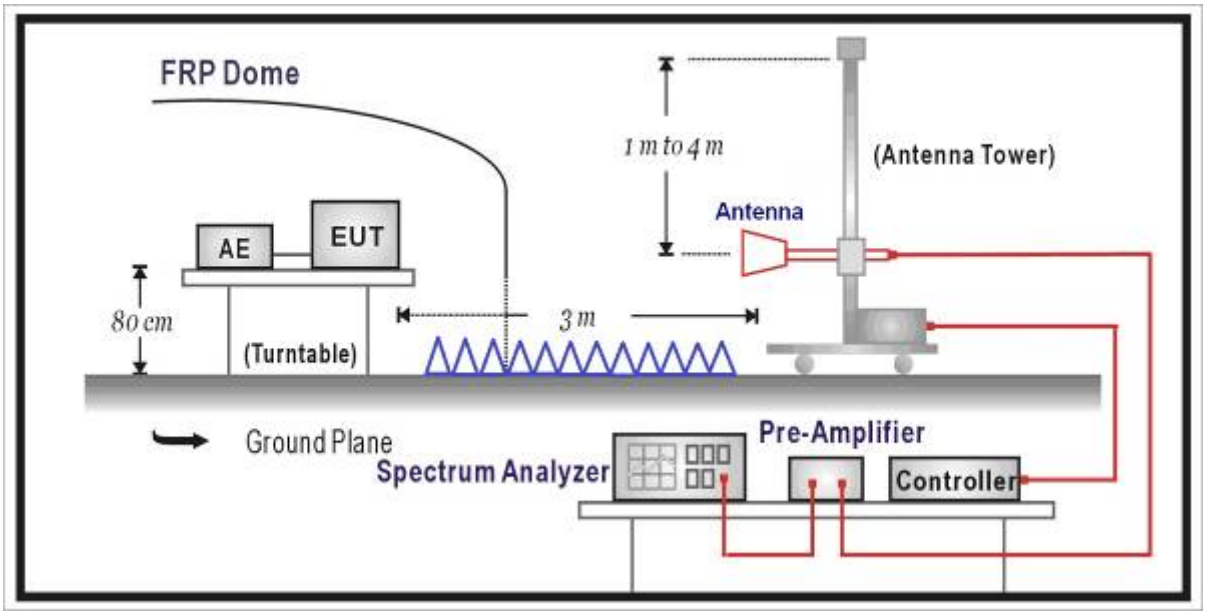
5.1. Test Equipment

☒Radiated Emission Band Edge / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2014.03.28
EMI Test Receiver	R&S	ESCI	100573	2014.05.12
Preamplifier	Miteq	NSP1800-25	1364185	2014.05.03
Preamplifier	QuieTek	AP-040G	CHM-0906001	2014.05.03
Bilog Type Antenna	Schaffner	CBL6112B	2932	2014.10.15
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2014.06.08
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2014.03.01
Temperature/Humidity Meter	zhicheng	ZC1-2	AC5-TH	2014.01.08

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

5.2. Test Setup



5.3. 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)).

5.4. Test Procedure

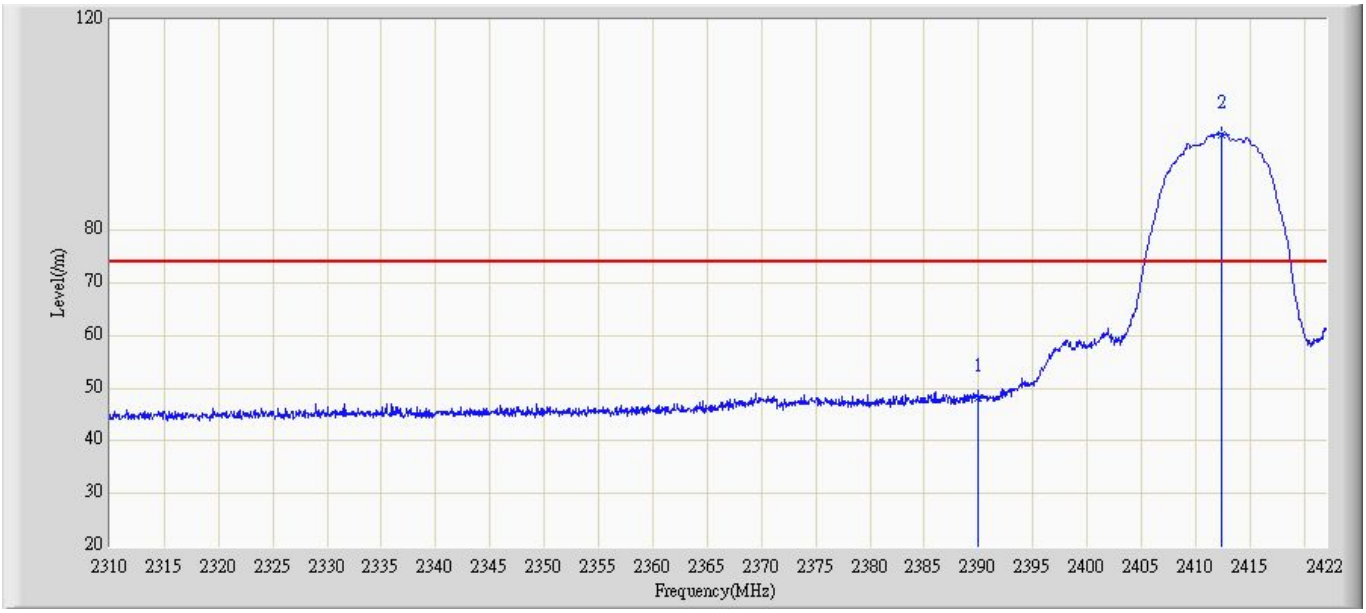
The EUT was setup according to ANSI C63.4: 2009 and tested according to ANSI C63.10: 2009 and KDB 558074 for compliance to FCC 47CFR 15.247 requirements.
The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission 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.

5.5. Uncertainty

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

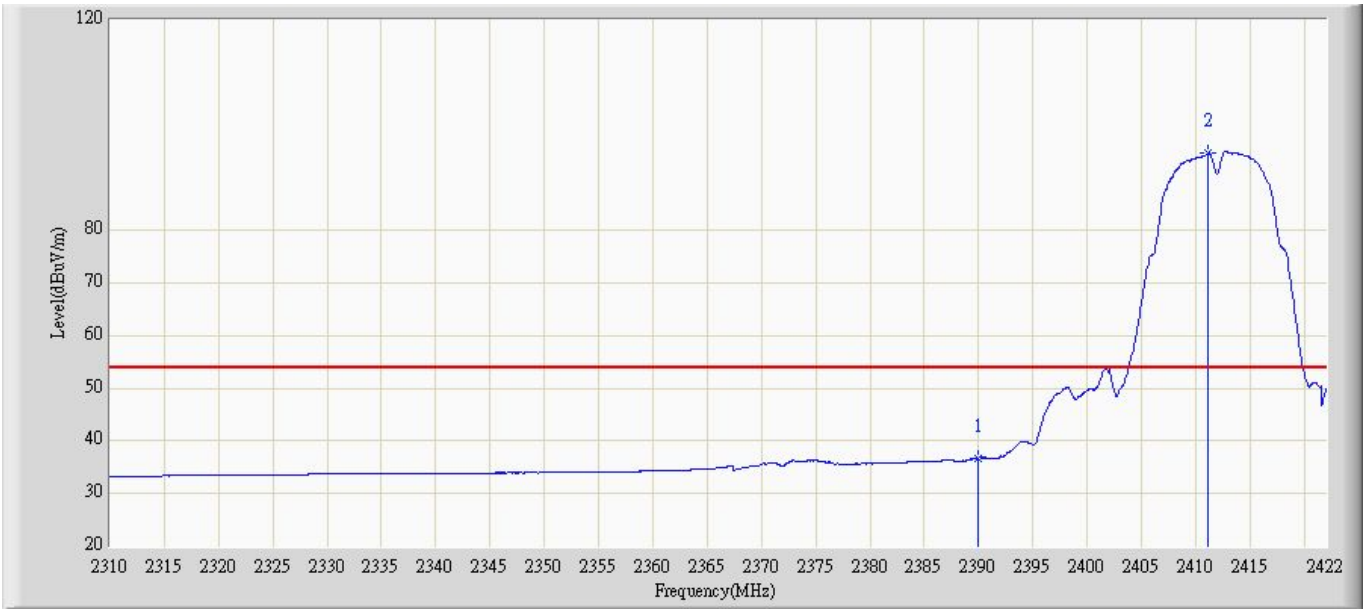
5.6. Test Result

Site: AC5	Time: 2014/12/18 - 16:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode1:Transmit at channel 2412MHz by 802.11b chain 1	



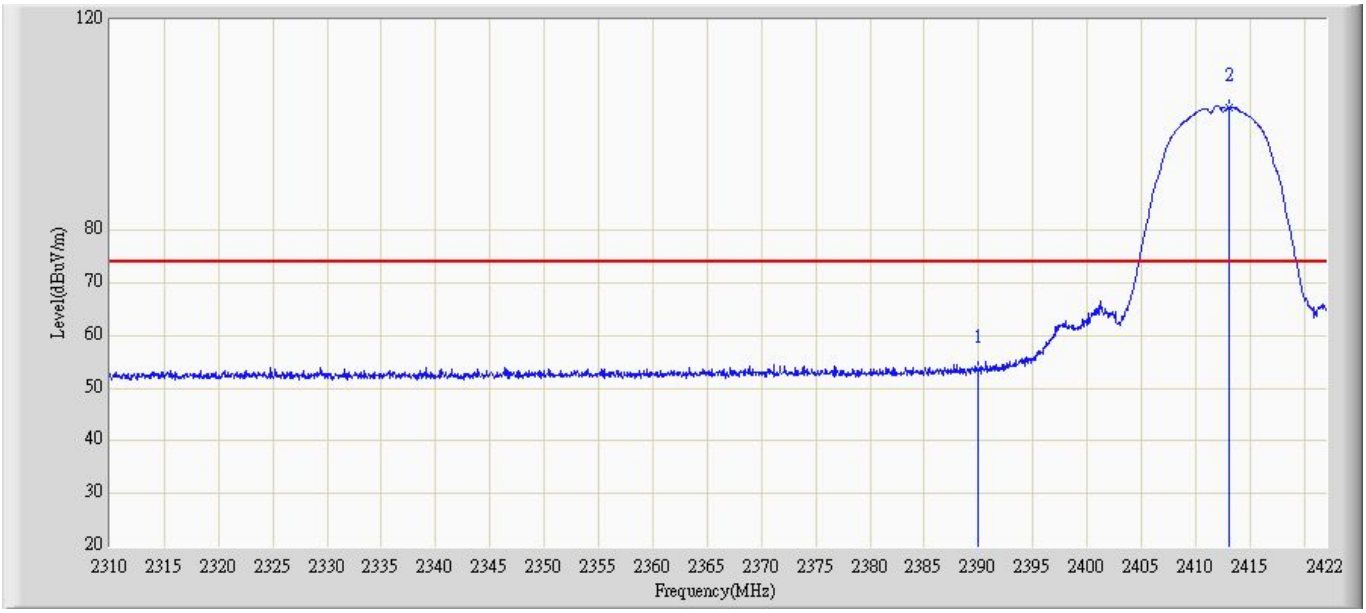
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	48.158	17.808	-25.842	74.000	30.350	PK
2	*	2412.368	98.206	67.802	N/A	N/A	30.403	PK

Site: AC5	Time: 2014/12/18 - 16:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode1:Transmit at channel 2412MHz by 802.11b chain 1	



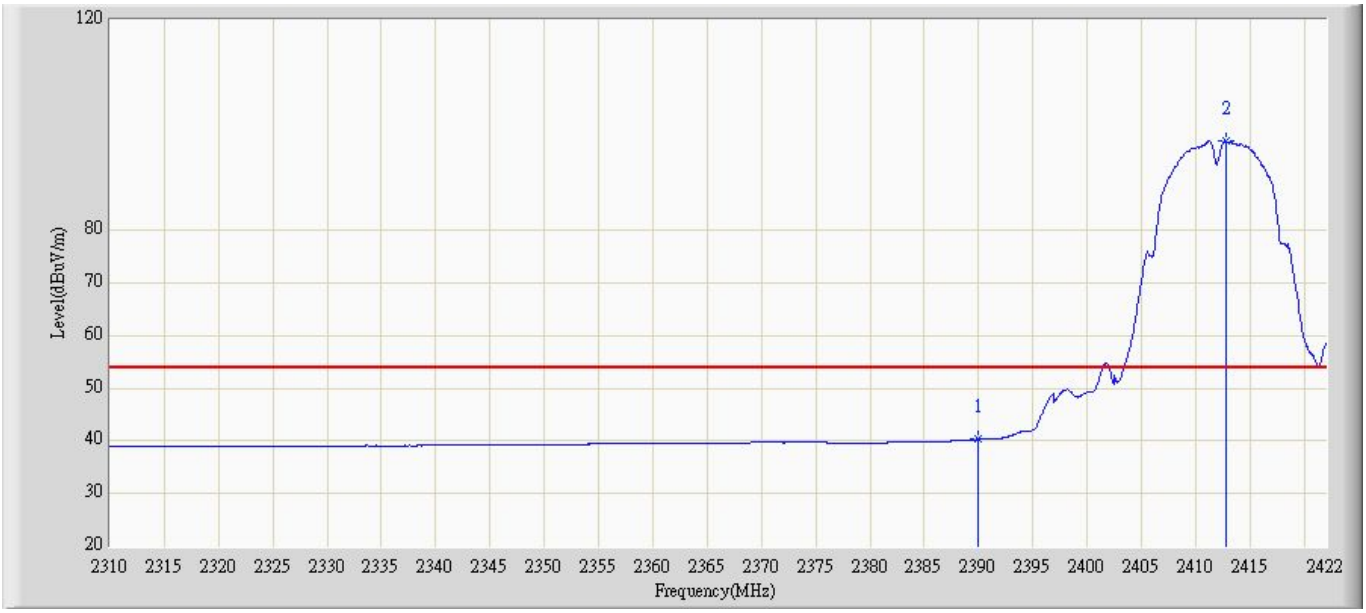
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	36.804	6.454	-17.196	54.000	30.350	AV
2	*	2411.136	94.717	64.317	N/A	N/A	30.400	AV

Site: AC5	Time: 2014/12/18 - 16:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode1:Transmit at channel 2412MHz by 802.11b chain 1	



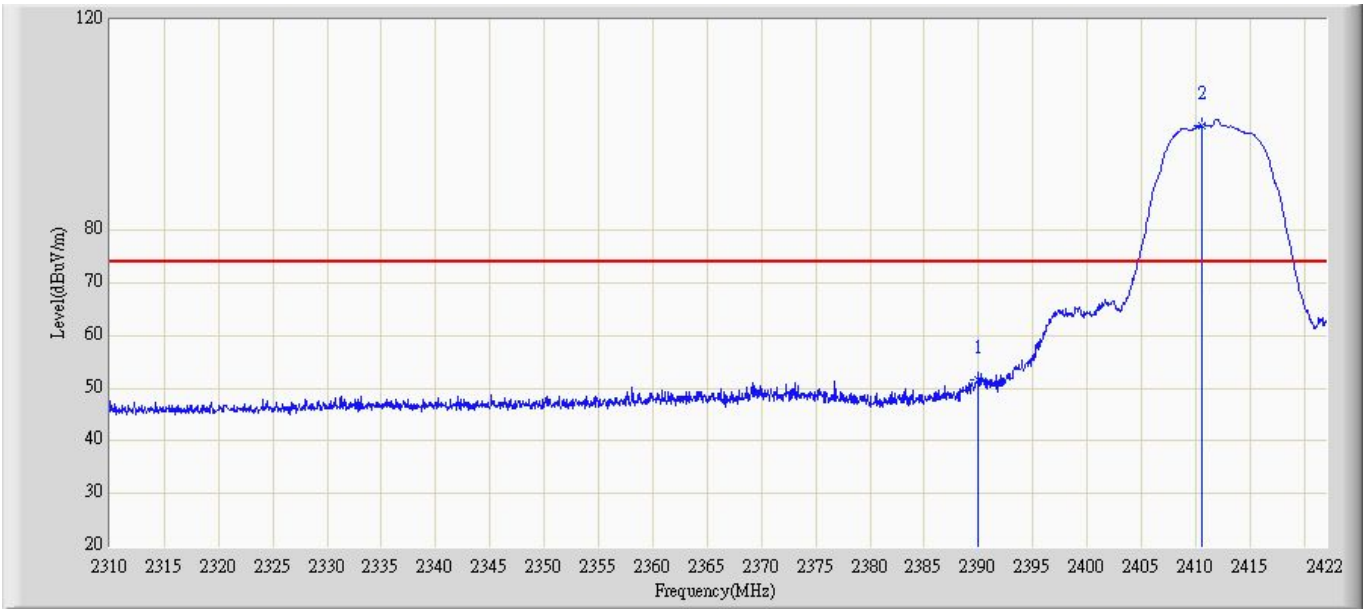
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.484	23.134	-20.516	74.000	30.350	PK
2	*	2413.152	103.398	72.992	N/A	N/A	30.406	PK

Site: AC5	Time: 2014/12/18 - 16:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode1:Transmit at channel 2412MHz by 802.11b chain 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.283	9.543	-13.717	54.000	30.740	AV
2	*	2412.816	96.980	66.575	N/A	N/A	30.405	AV

Site: AC5	Time: 2014/12/18 - 16:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode1:Transmit at channel 2412MHz by 802.11b chain 2	

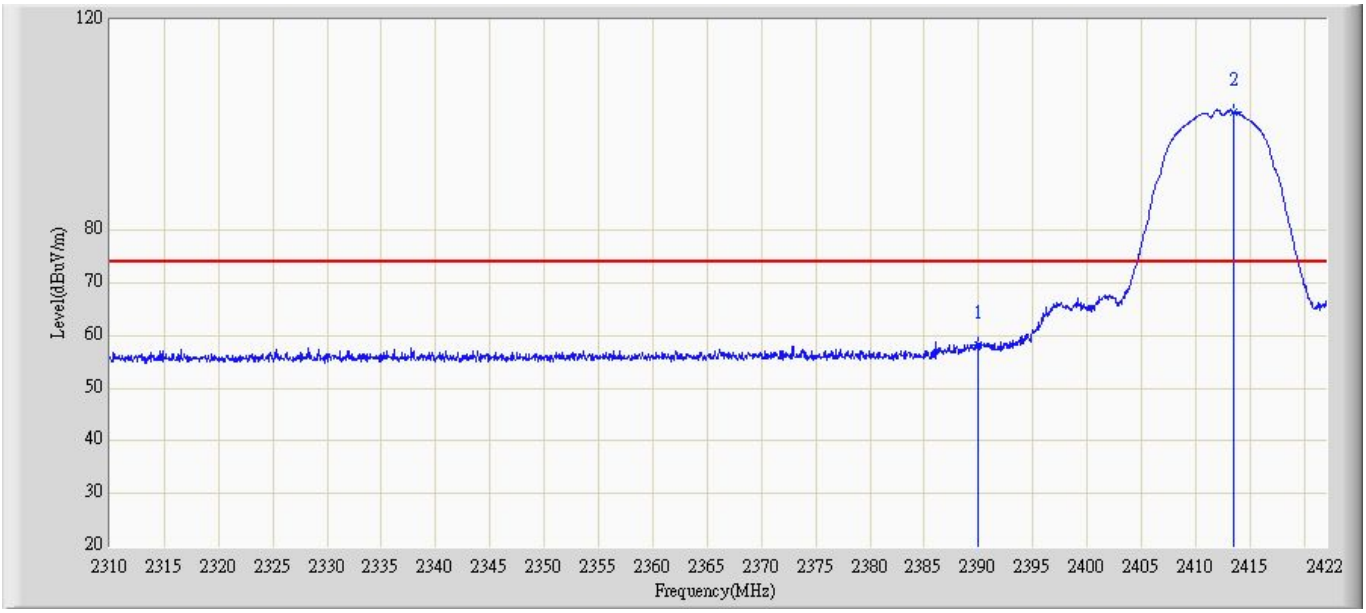


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.512	20.772	-22.488	74.000	30.740	PK
2	*	2410.520	99.858	69.459	N/A	N/A	30.399	PK

Site: AC5	Time: 2014/12/18 - 16:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode1:Transmit at channel 2412MHz by 802.11b chain 2	

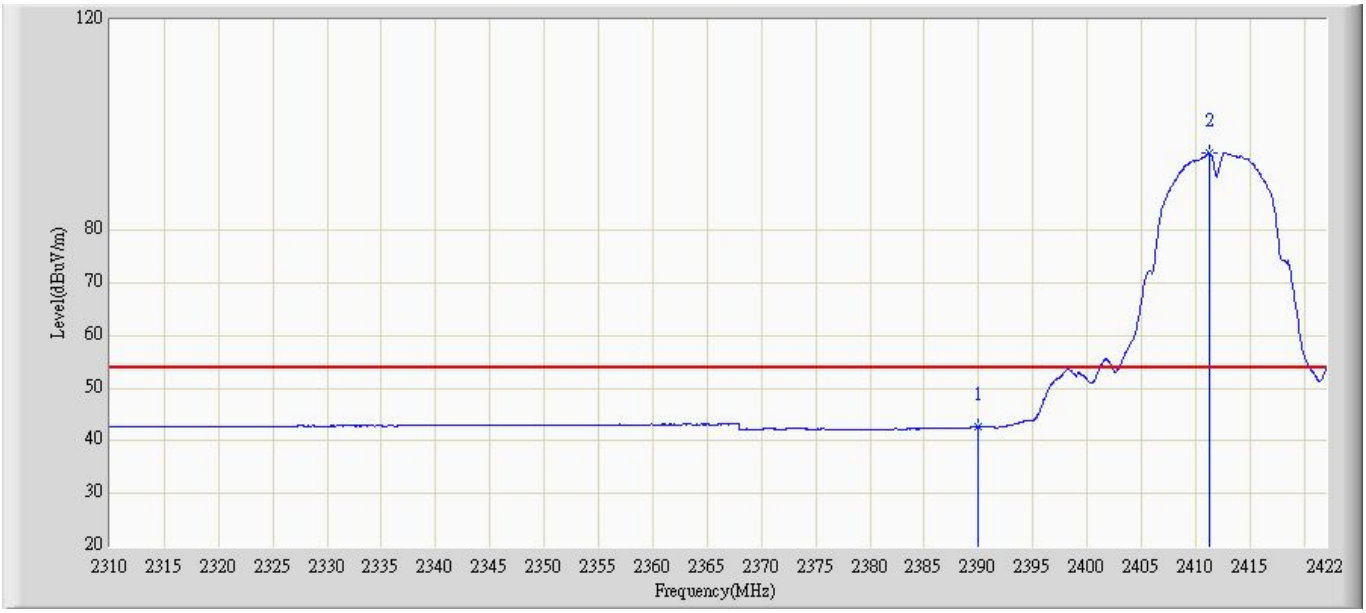
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.769	9.029	-14.231	54.000	30.740	AV
2	*	2412.816	95.888	65.483	N/A	N/A	30.405	AV

Site: AC5	Time: 2014/12/18 - 17:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode1:Transmit at channel 2412MHz by 802.11b chain 2	



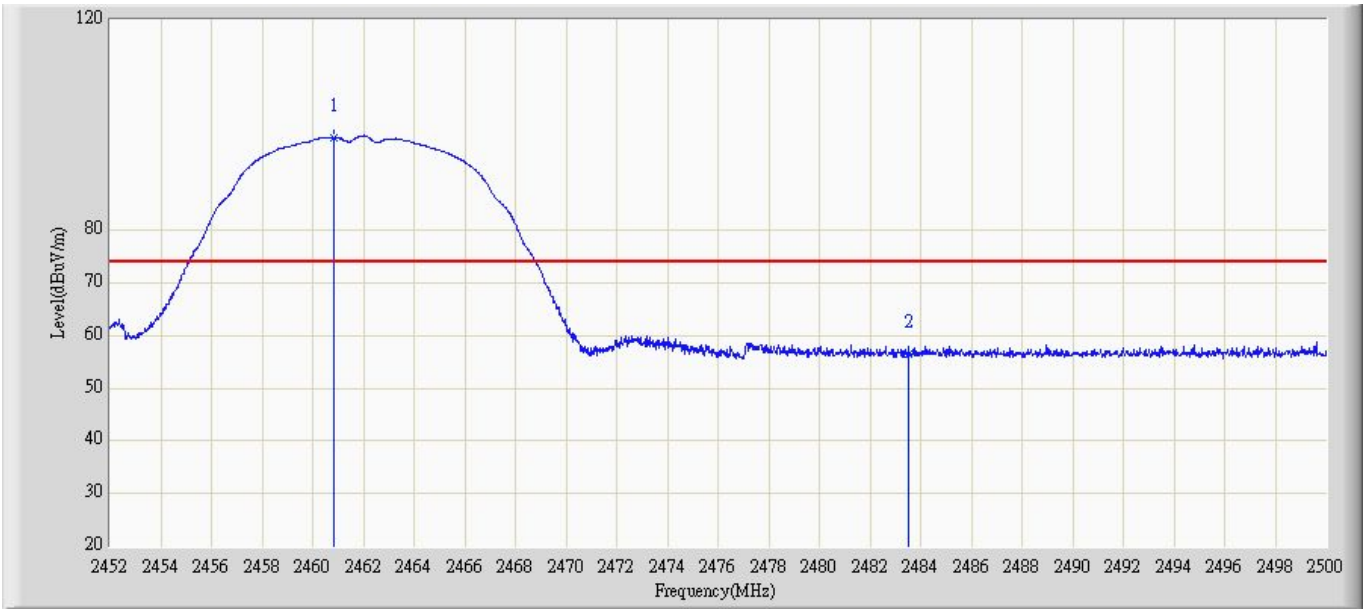
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	58.194	27.454	-15.806	74.000	30.740	PK
2	*	2413.544	102.523	72.116	N/A	N/A	30.406	PK

Site: AC5	Time: 2014/12/18 - 17:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode1:Transmit at channel 2412MHz by 802.11b chain 2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	42.751	12.011	-11.249	54.000	30.740	AV
2	*	2411.248	94.619	64.218	N/A	N/A	30.400	AV

Site: AC5	Time: 2014/12/18 - 17:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode1:Transmit at channel 2462MHz by 802.11b chain 1	

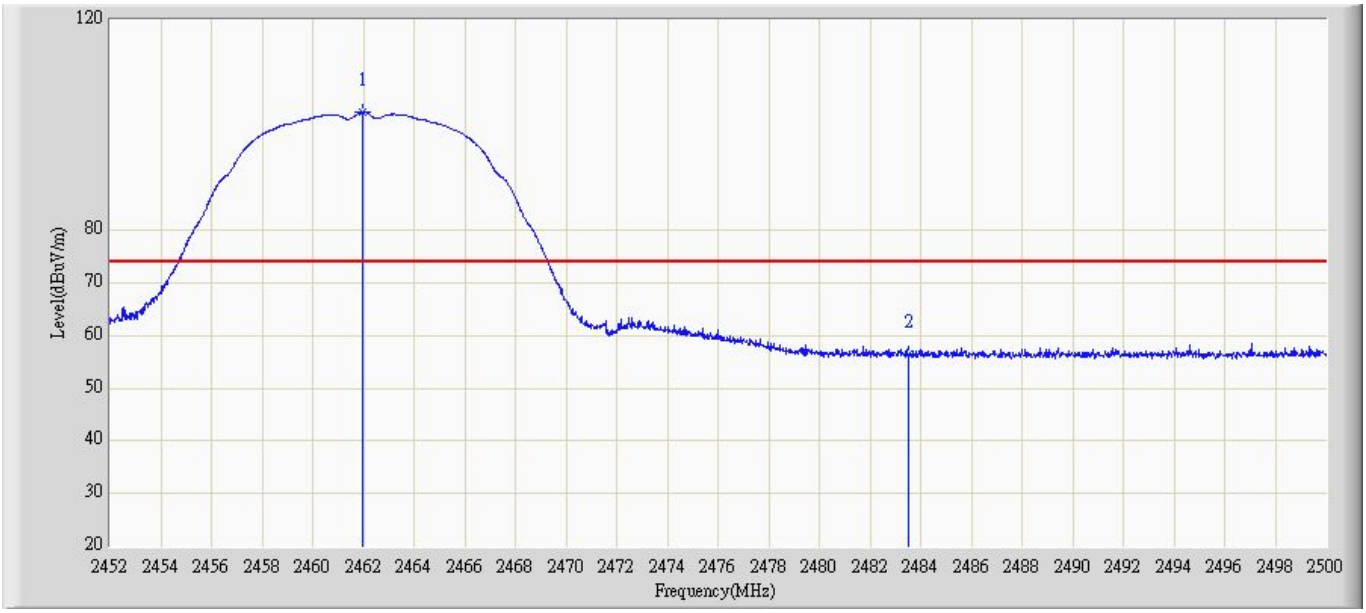


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.832	97.674	67.142	N/A	N/A	30.532	PK
2		2483.500	56.406	25.421	-17.594	74.000	30.985	PK

Site: AC5	Time: 2014/12/18 - 17:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode1:Transmit at channel 2462MHz by 802.11b chain 1	

No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.288	95.764	65.231	N/A	N/A	30.533	AV
2		2483.500	43.915	12.930	-10.085	54.000	30.985	AV

Site: AC5	Time: 2014/12/18 - 17:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode1:Transmit at channel 2462MHz by 802.11b chain 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.984	102.417	71.485	N/A	N/A	30.932	PK
2		2483.500	56.396	25.411	-17.604	74.000	30.985	PK

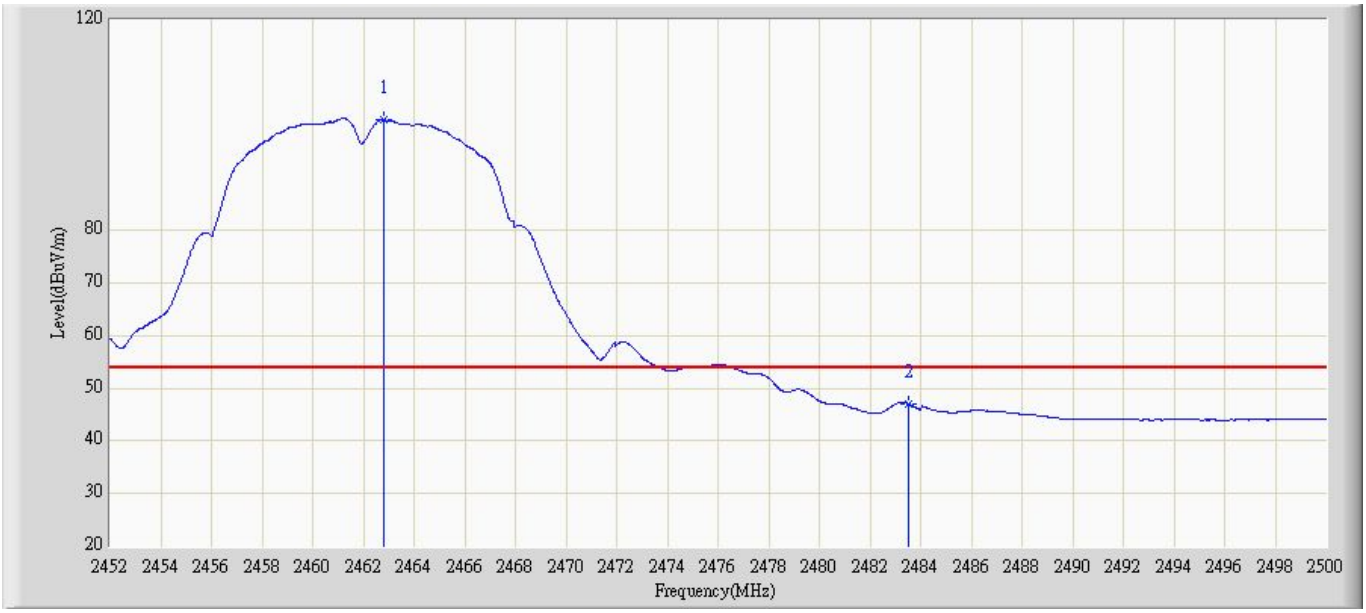
Site: AC5	Time: 2014/12/18 - 17:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode1:Transmit at channel 2462MHz by 802.11b chain 1	

No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.288	97.232	66.699	N/A	N/A	30.533	AV
2		2483.500	42.887	11.902	-11.113	54.000	30.985	AV

Site: AC5	Time: 2014/12/18 - 17:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode1:Transmit at channel 2462MHz by 802.11b chain 2	

No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.904	102.745	72.213	N/A	N/A	30.532	PK
2		2483.500	59.809	28.824	-14.191	74.000	30.985	PK

Site: AC5	Time: 2014/12/18 - 17:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode1:Transmit at channel 2462MHz by 802.11b chain 2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.800	100.985	70.448	N/A	N/A	30.537	AV
2		2483.500	47.111	16.126	-6.889	54.000	30.985	AV

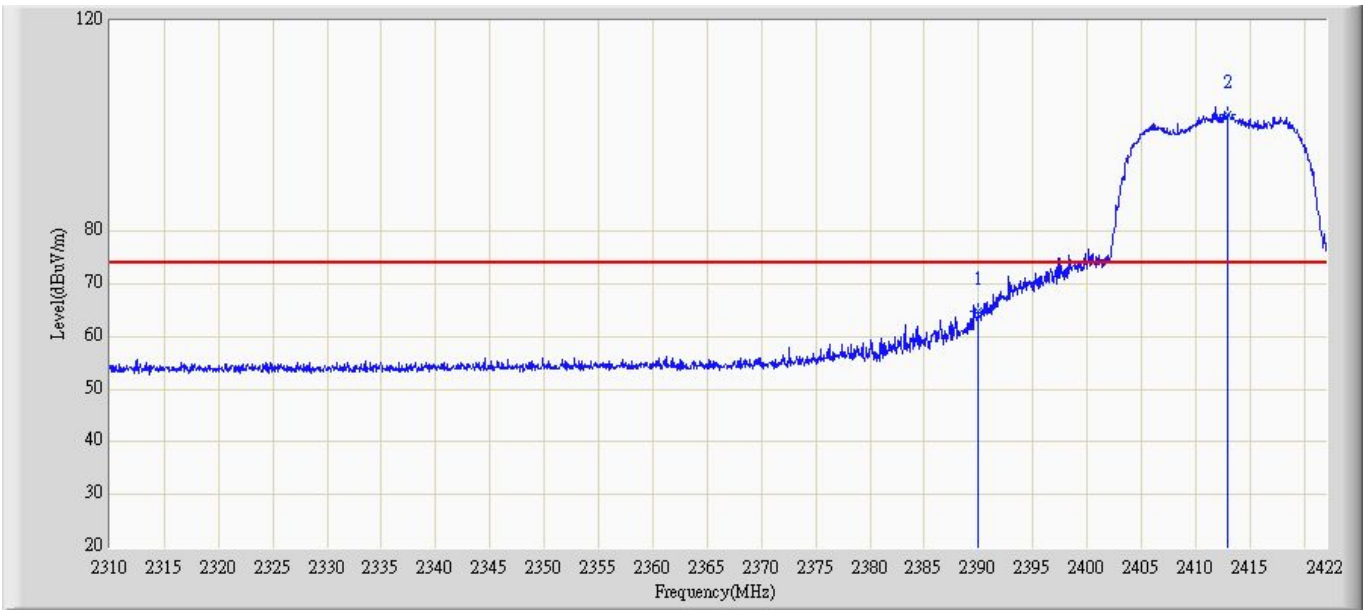
Site: AC5	Time: 2014/12/18 - 17:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode1:Transmit at channel 2462MHz by 802.11b chain 2	

No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.688	106.566	76.035	N/A	N/A	30.532	PK
2		2483.500	58.631	27.646	-15.369	74.000	30.985	PK

Site: AC5	Time: 2014/12/18 - 17:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode1:Transmit at channel 2462MHz by 802.11b chain 2	

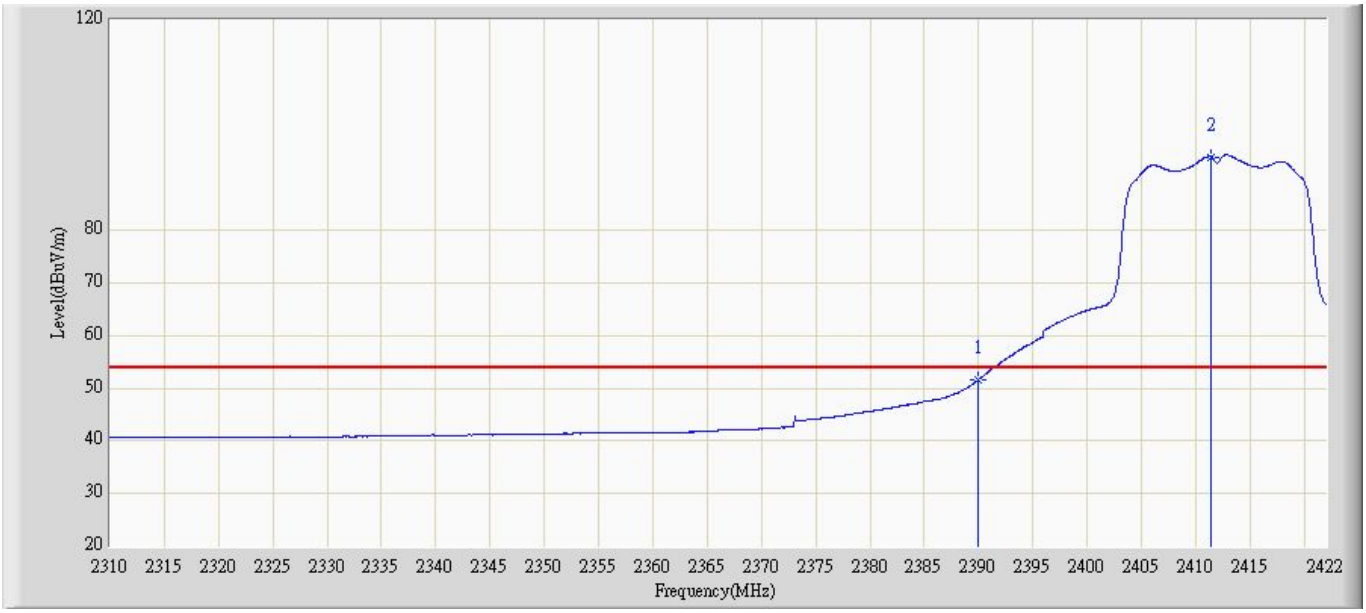
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.560	102.314	71.778	N/A	N/A	30.536	AV
2		2483.500	48.687	17.702	-5.313	54.000	30.985	AV

Profile: 129S019R	Page No.: 57
Site: AC5	Time: 2014/12/18 - 17:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode2:Transmit at channel 2412MHz by 802.11g chain 1	



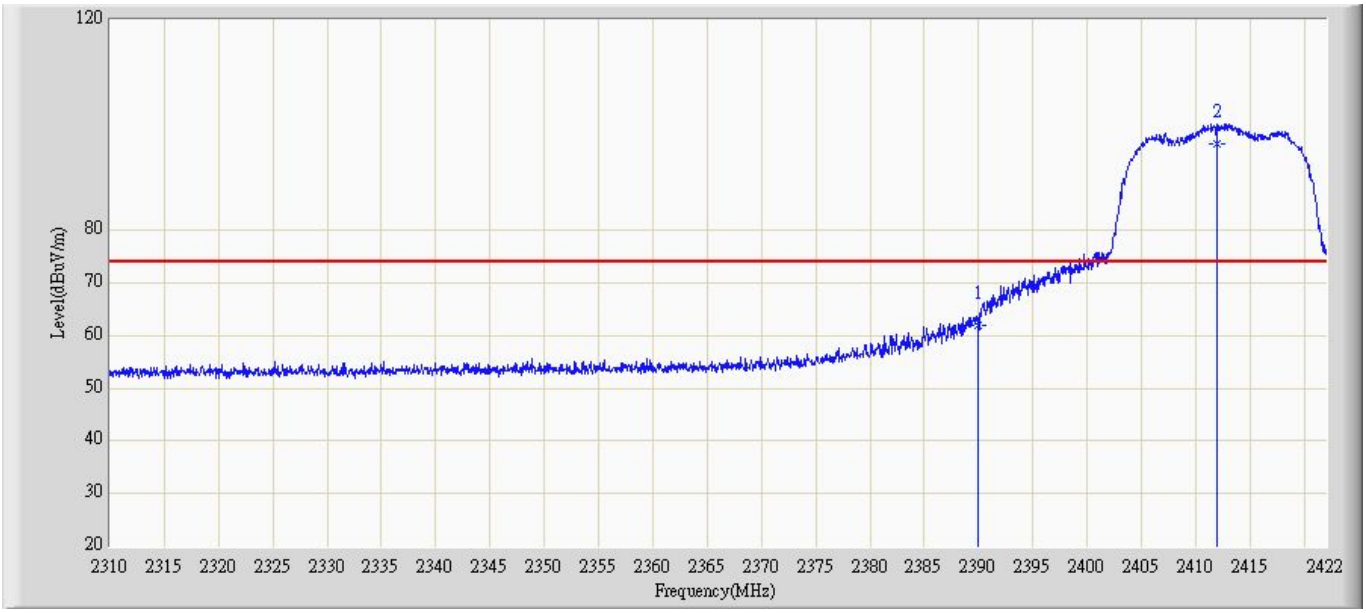
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	64.735	33.995	-9.265	74.000	30.740	PK
2	*	2412.984	102.161	71.756	N/A	N/A	30.406	PK

Site: AC5	Time: 2014/12/18 - 17:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode2:Transmit at channel 2412MHz by 802.11g chain 1	



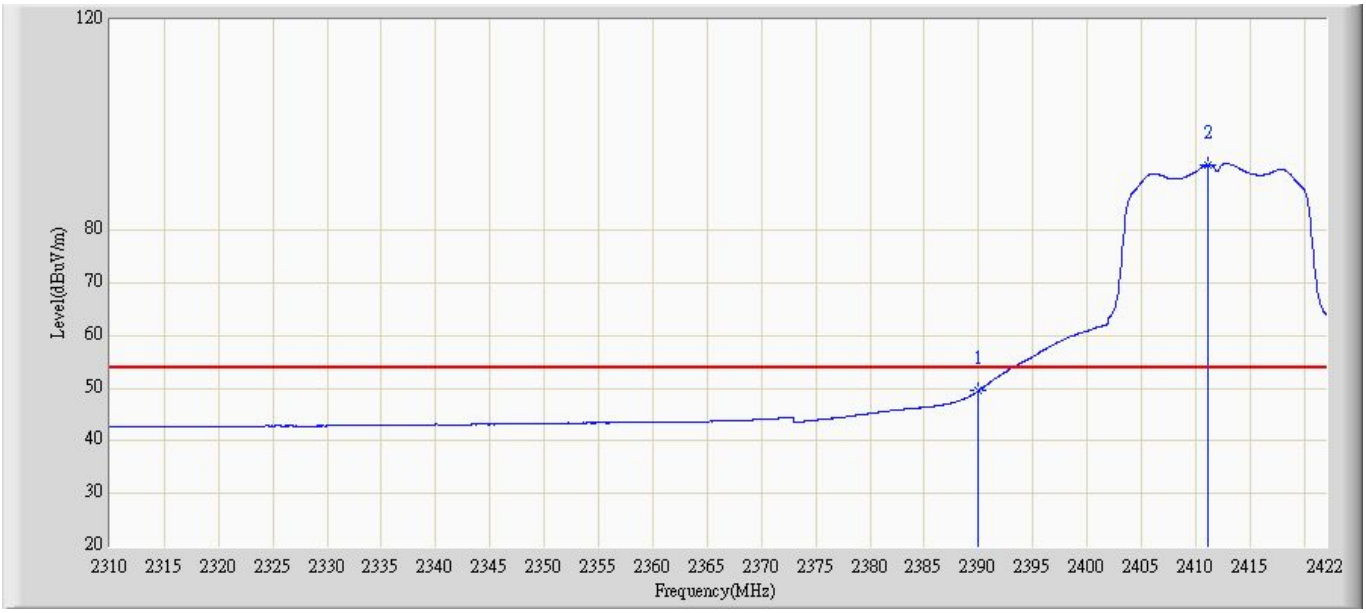
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.694	20.954	-2.306	54.000	30.740	AV
2	*	2411.416	93.984	63.583	N/A	N/A	30.401	AV

Site: AC5	Time: 2014/12/18 - 17:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode2:Transmit at channel 2412MHz by 802.11g chain 1	



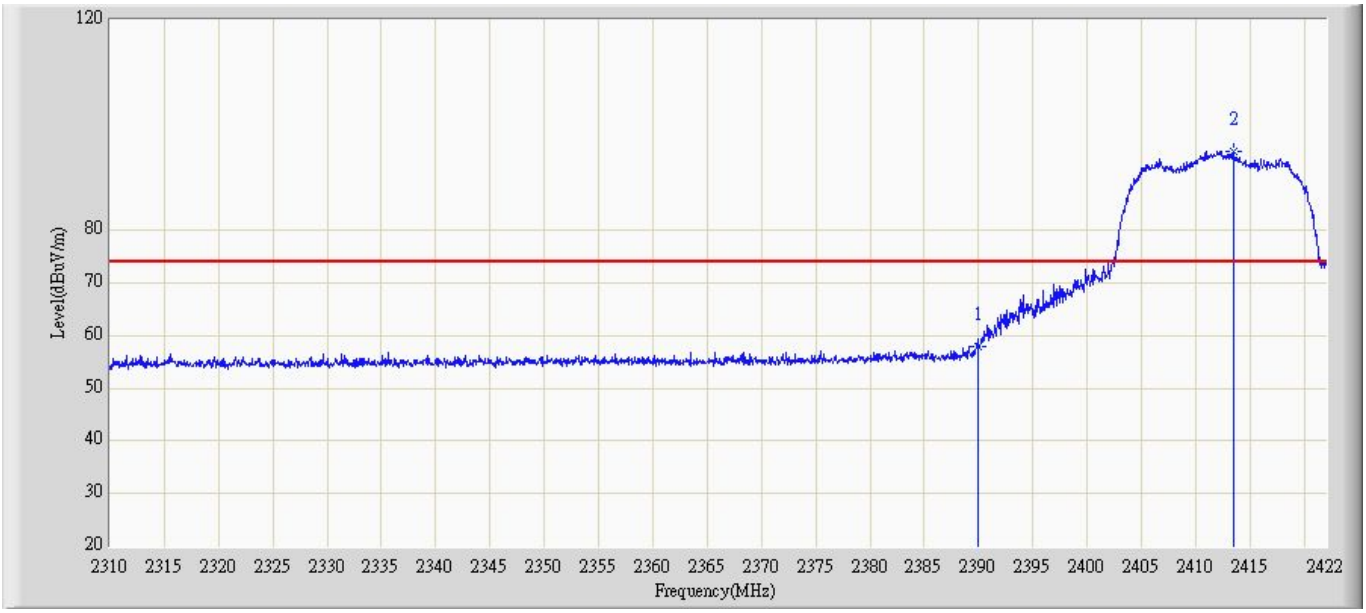
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	61.865	31.125	-12.135	74.000	30.740	PK
2	*	2411.920	96.464	65.671	N/A	N/A	30.793	PK

Site: AC5	Time: 2014/12/18 - 17:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode2:Transmit at channel 2412MHz by 802.11g chain 1	



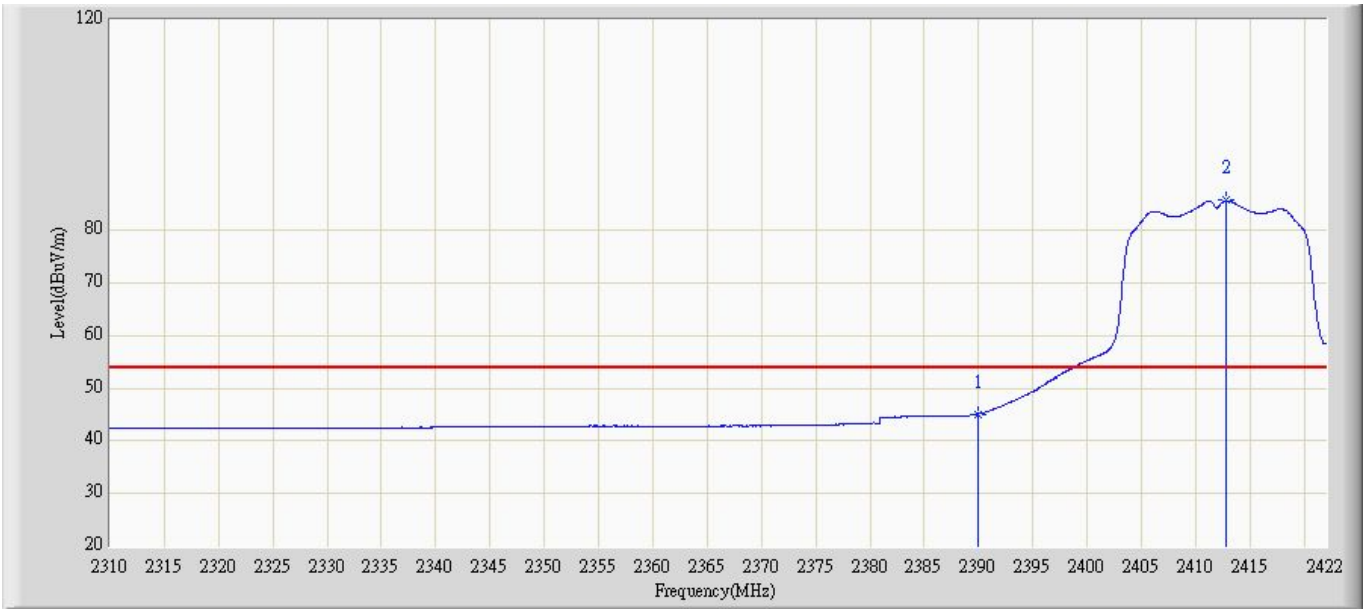
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	49.512	18.772	-4.488	54.000	30.740	AV
2	*	2411.080	92.449	62.049	N/A	N/A	30.400	AV

Site: AC5	Time: 2014/12/18 - 17:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode2:Transmit at channel 2412MHz by 802.11g chain 2	



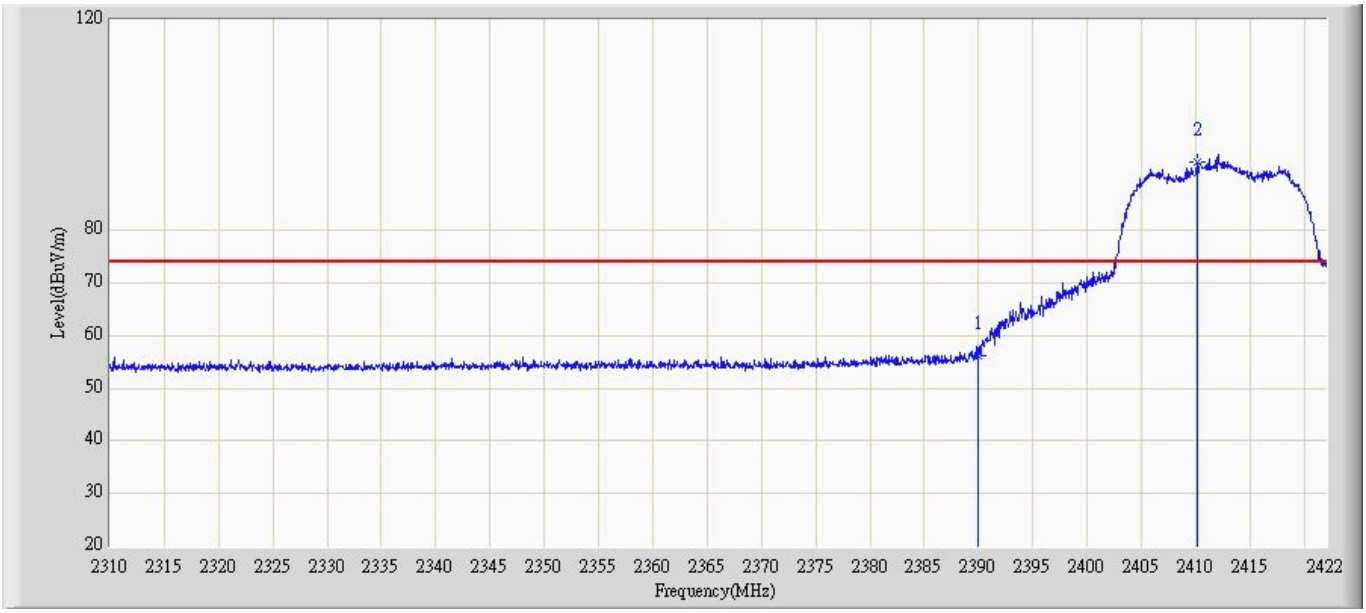
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	57.987	27.247	-16.013	74.000	30.740	PK
2	*	2413.544	95.056	64.649	N/A	N/A	30.406	PK

Site: AC5	Time: 2014/12/18 - 17:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode2:Transmit at channel 2412MHz by 802.11g chain 2	



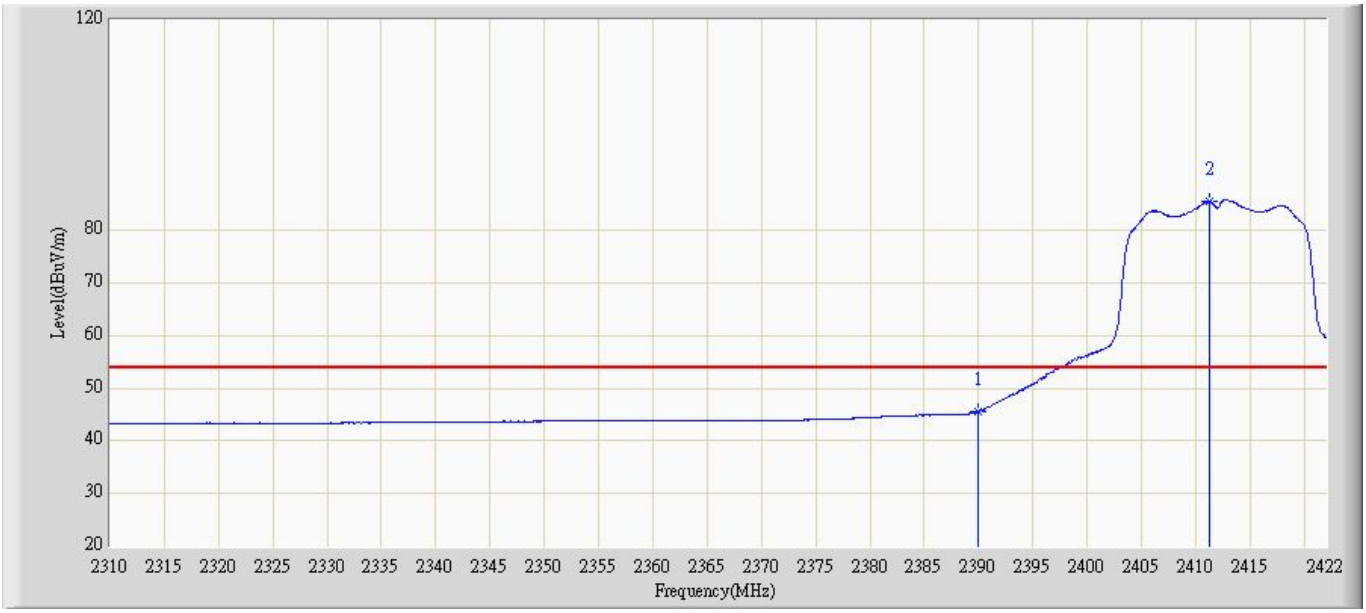
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	45.125	14.385	-8.875	54.000	30.740	AV
2	*	2412.816	85.706	55.301	N/A	N/A	30.405	AV

Site: AC5	Time: 2014/12/19 - 09:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode2:Transmit at channel 2412MHz by 802.11g chain 2	



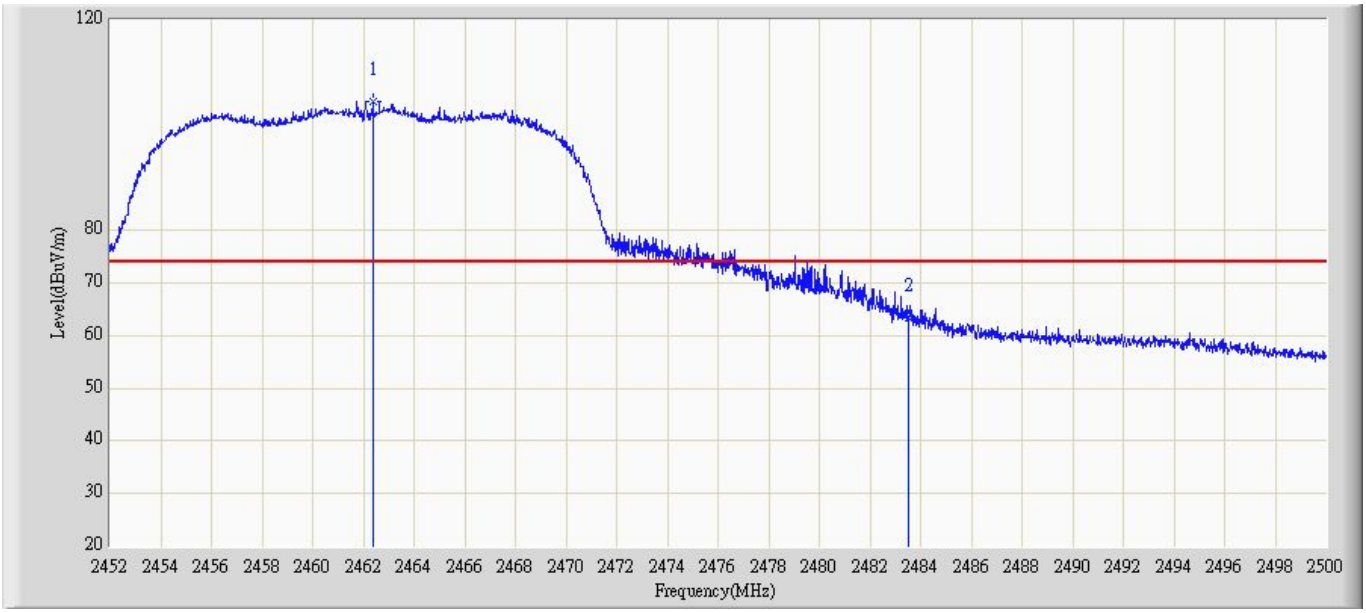
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	56.088	25.348	-17.912	74.000	30.740	PK
2	*	2410.128	92.882	62.484	N/A	N/A	30.398	PK

Site: AC5	Time: 2014/12/19 - 09:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode2:Transmit at channel 2412MHz by 802.11g chain 2	



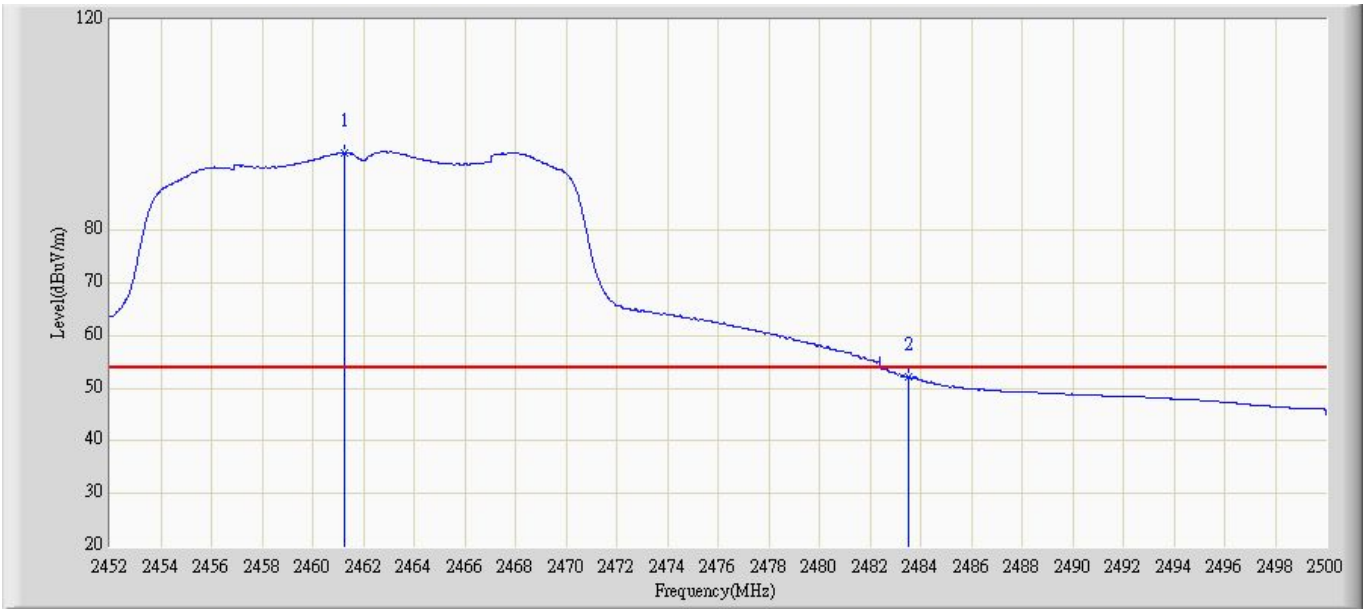
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	45.629	14.889	-8.371	54.000	30.740	AV
2	*	2411.248	85.482	55.081	N/A	N/A	30.400	AV

Site: AC5	Time: 2014/12/19 - 09:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode2:Transmit at channel 2462MHz by 802.11g chain 1	



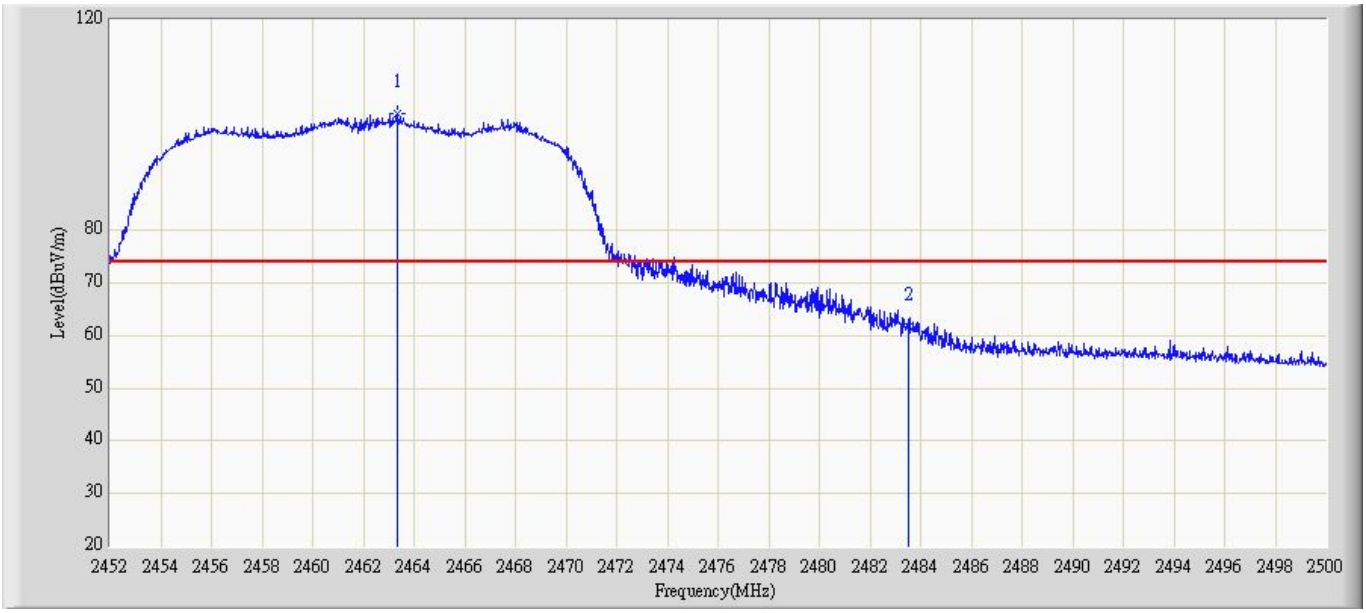
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.368	104.405	73.869	N/A	N/A	30.536	PK
2		2483.500	63.251	32.266	-10.749	74.000	30.985	PK

Site: AC5	Time: 2014/12/19 - 10:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode2:Transmit at channel 2462MHz by 802.11g chain 1	



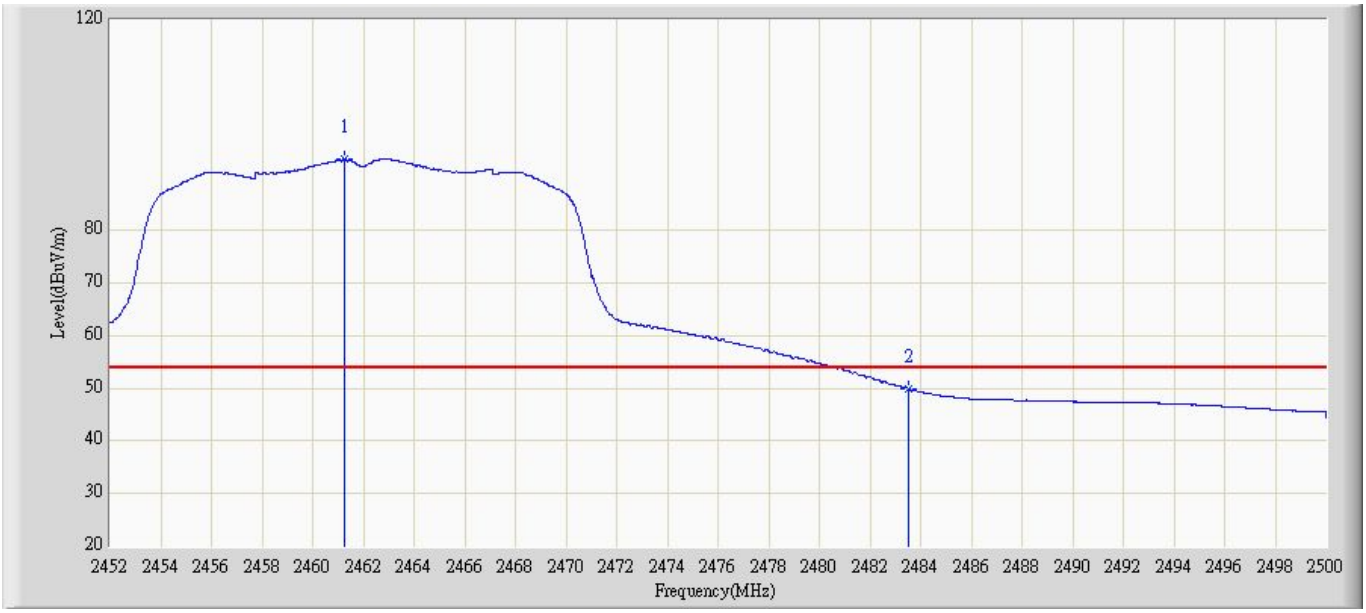
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.240	94.696	64.163	N/A	N/A	30.533	AV
2		2483.500	52.234	21.249	-1.766	54.000	30.985	AV

Site: AC5	Time: 2014/12/19 - 10:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode2:Transmit at channel 2462MHz by 802.11g chain 1	



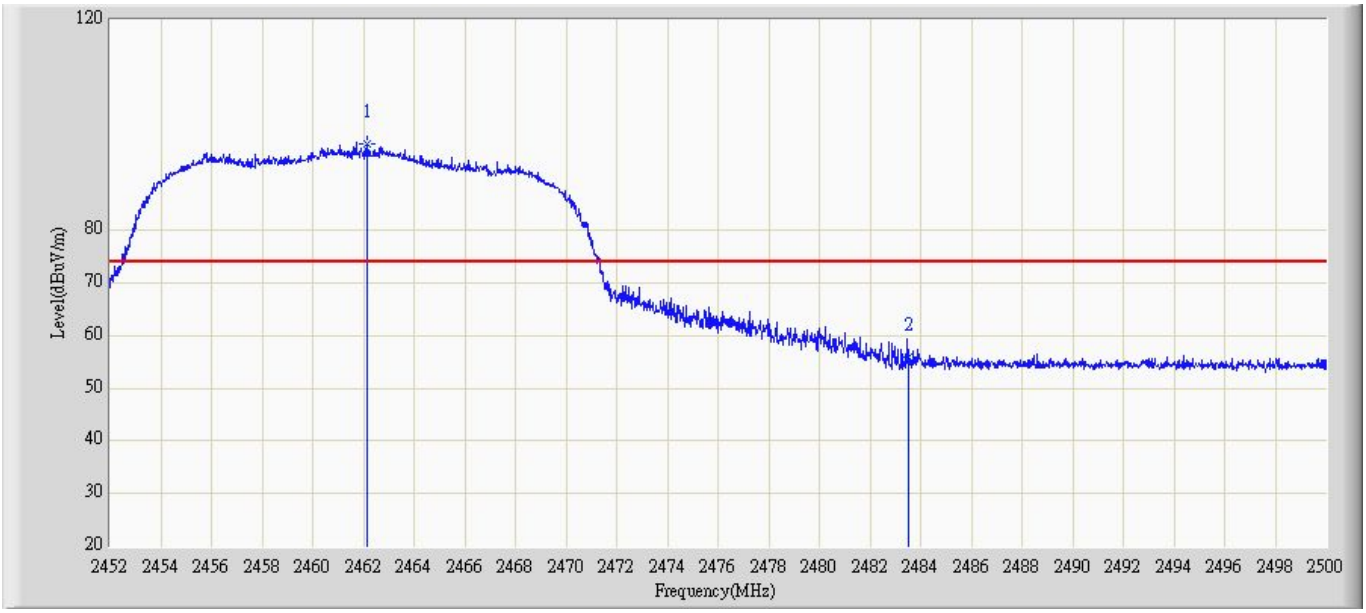
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.352	102.094	71.556	N/A	N/A	30.538	PK
2		2483.500	61.807	30.822	-12.193	74.000	30.985	PK

Site: AC5	Time: 2014/12/19 - 10:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode2:Transmit at channel 2462MHz by 802.11g chain 1	



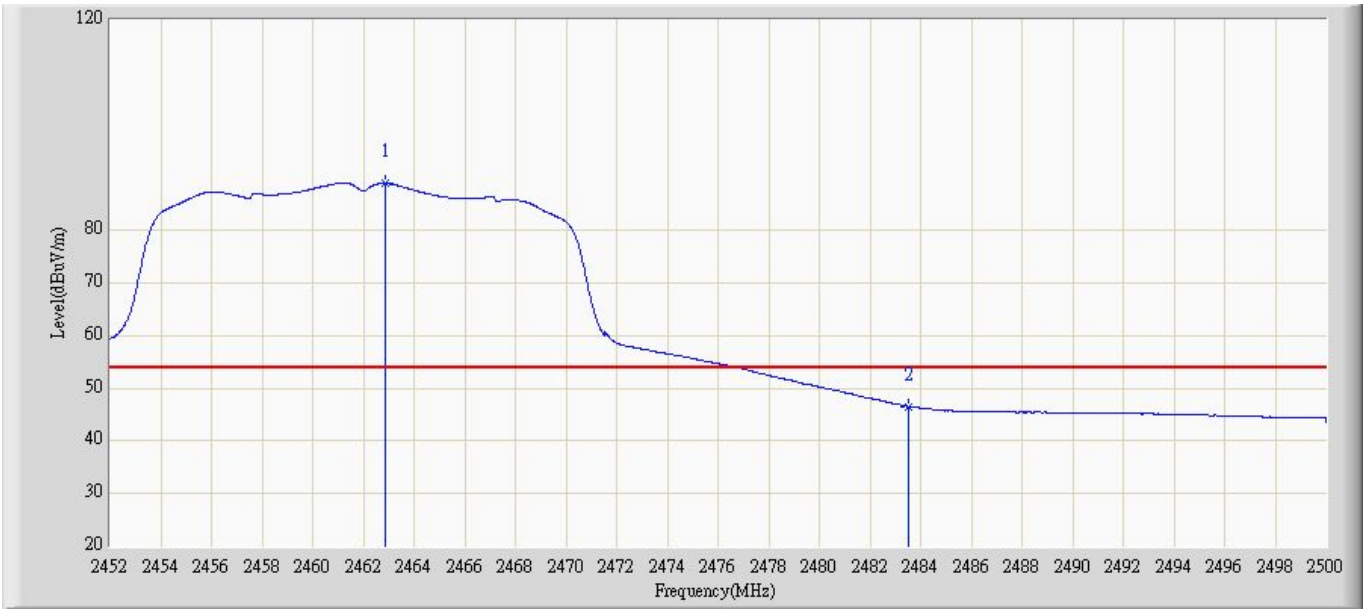
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.240	93.467	62.934	N/A	N/A	30.533	AV
2		2483.500	50.016	19.031	-3.984	54.000	30.985	AV

Site: AC5	Time: 2014/12/19 - 10:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode2:Transmit at channel 2462MHz by 802.11g chain1	



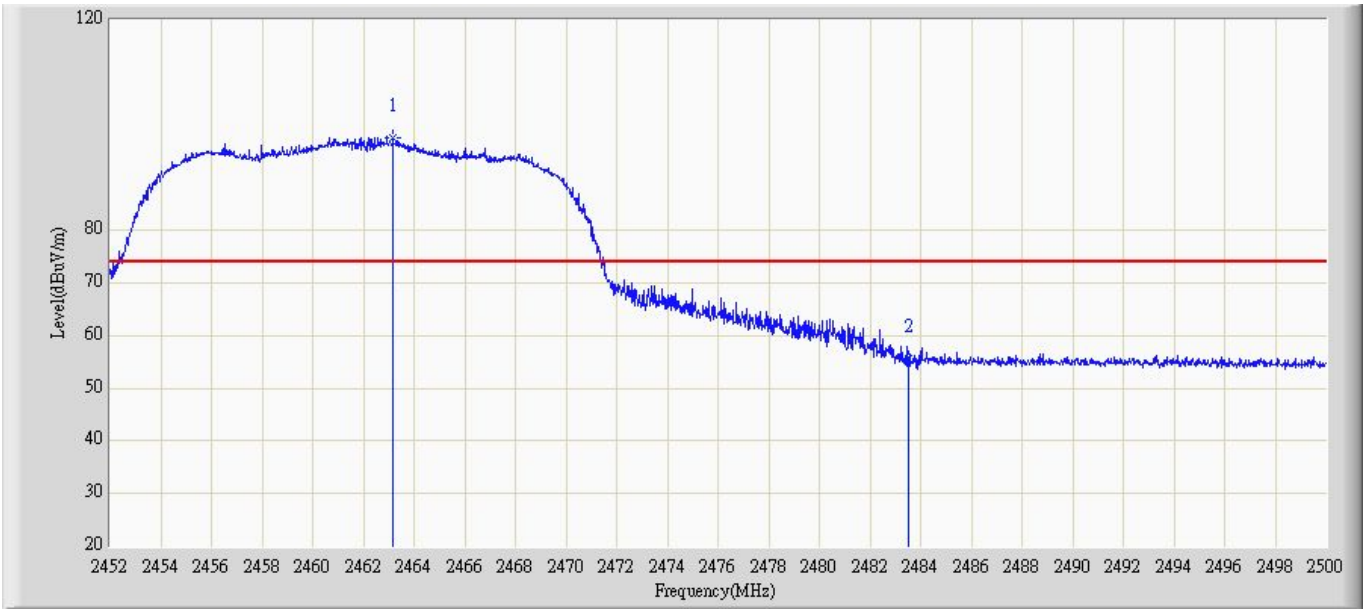
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.152	96.554	66.019	N/A	N/A	30.535	PK
2		2483.500	55.922	24.937	-18.078	74.000	30.985	PK

Site: AC5	Time: 2014/12/19 - 10:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode2:Transmit at channel 2462MHz by 802.11g chain1	



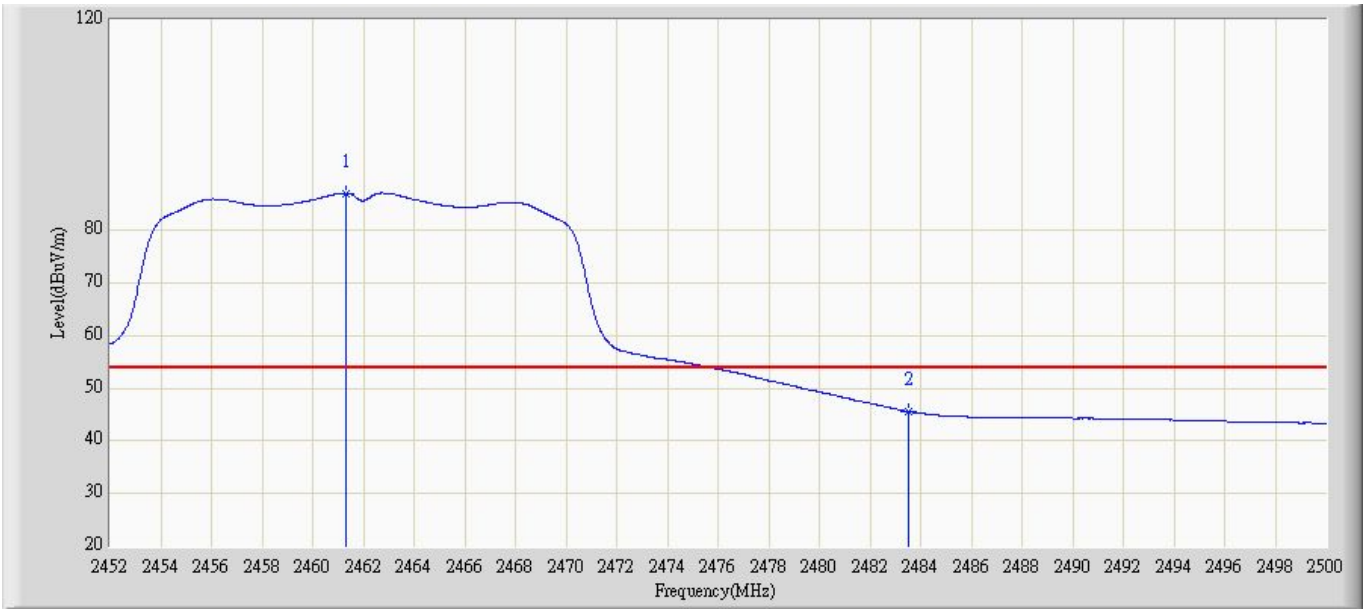
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.872	88.910	58.373	N/A	N/A	30.538	AV
2		2483.500	46.544	15.559	-7.456	54.000	30.985	AV

Site: AC5	Time: 2014/12/19 - 10:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode2:Transmit at channel 2462MHz by 802.11g chain1	



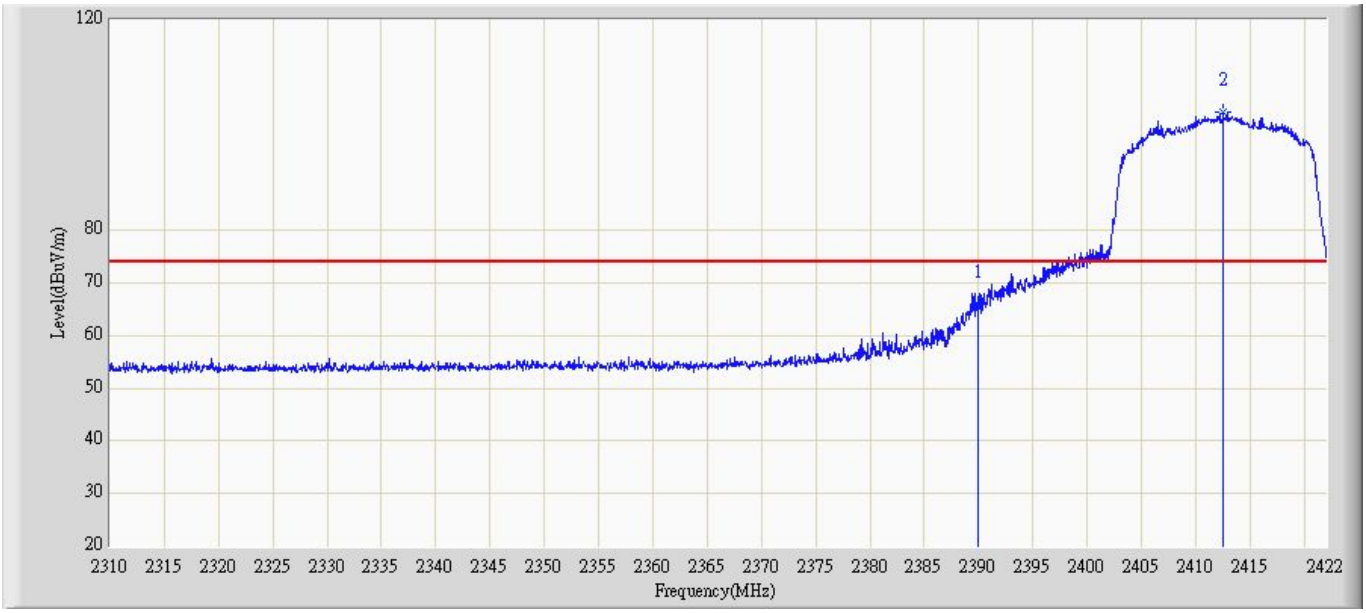
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.160	97.490	66.952	N/A	N/A	30.538	PK
2		2483.500	55.536	24.551	-18.464	74.000	30.985	PK

Site: AC5	Time: 2014/12/19 - 10:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode2:Transmit at channel 2462MHz by 802.11g chain1	



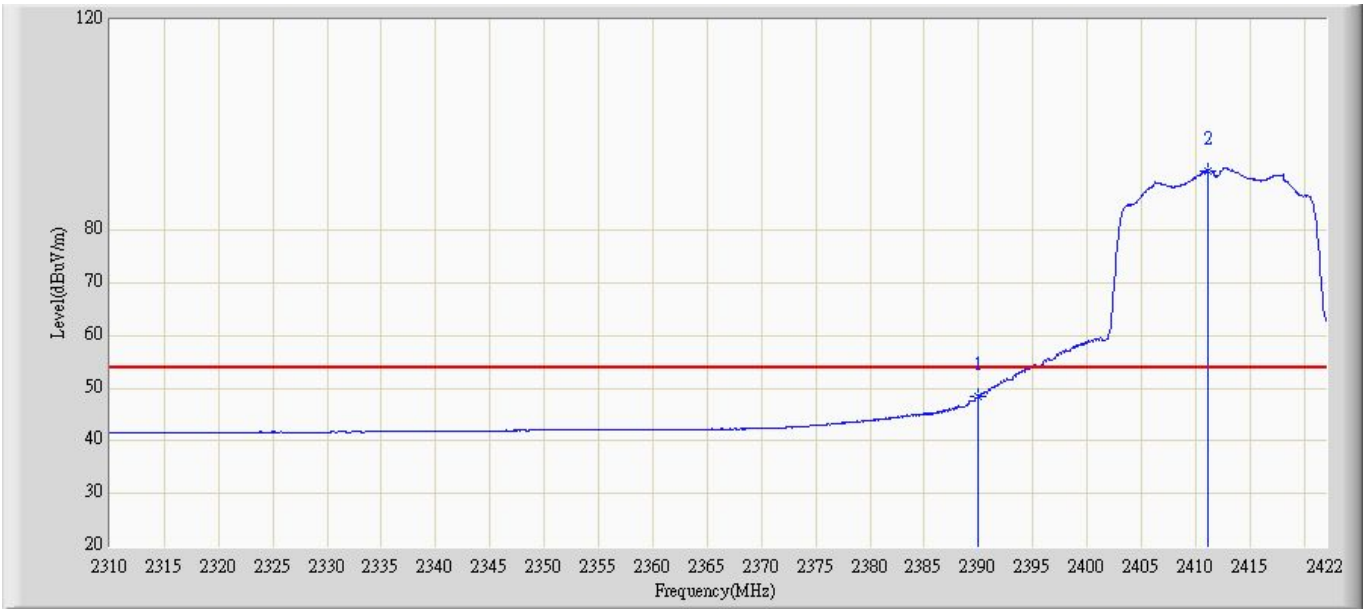
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.288	87.062	56.529	N/A	N/A	30.533	AV
2		2483.500	45.589	14.604	-8.411	54.000	30.985	AV

Site: AC5	Time: 2014/12/19 - 10:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2412MHz by 802.11n20 chain 1	



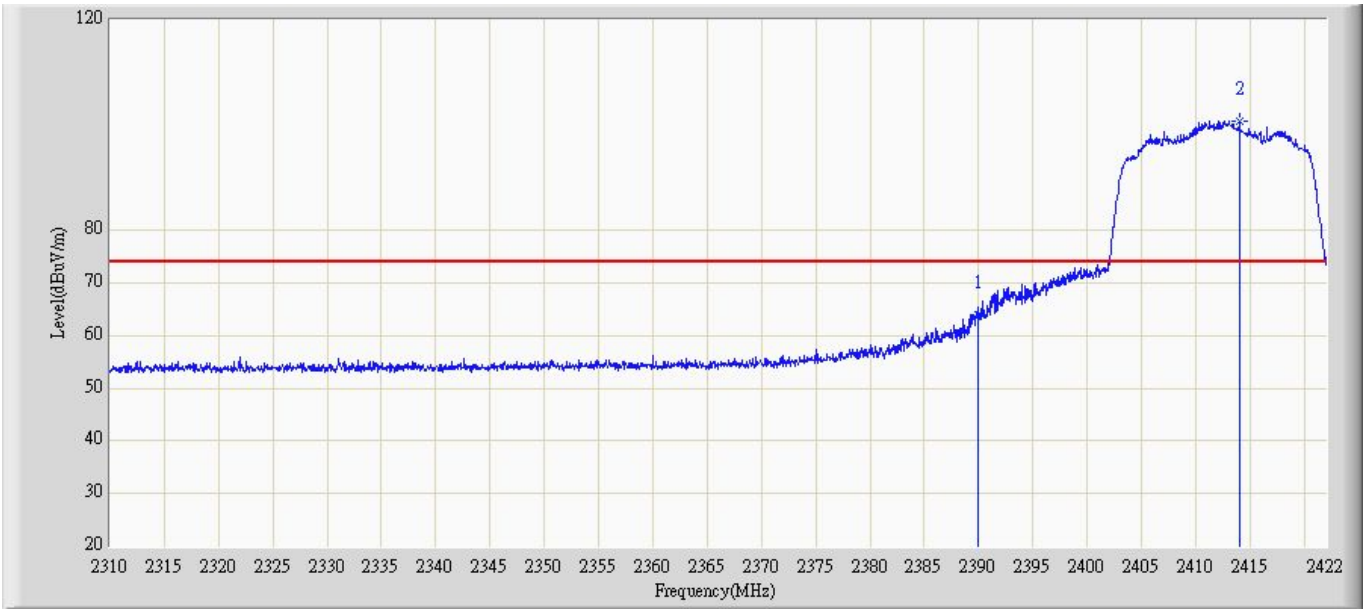
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	66.005	35.265	-7.995	74.000	30.740	PK
2	*	2412.536	102.367	71.963	N/A	N/A	30.404	PK

Site: AC5	Time: 2014/12/19 - 10:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2412MHz by 802.11n20 chain 1	



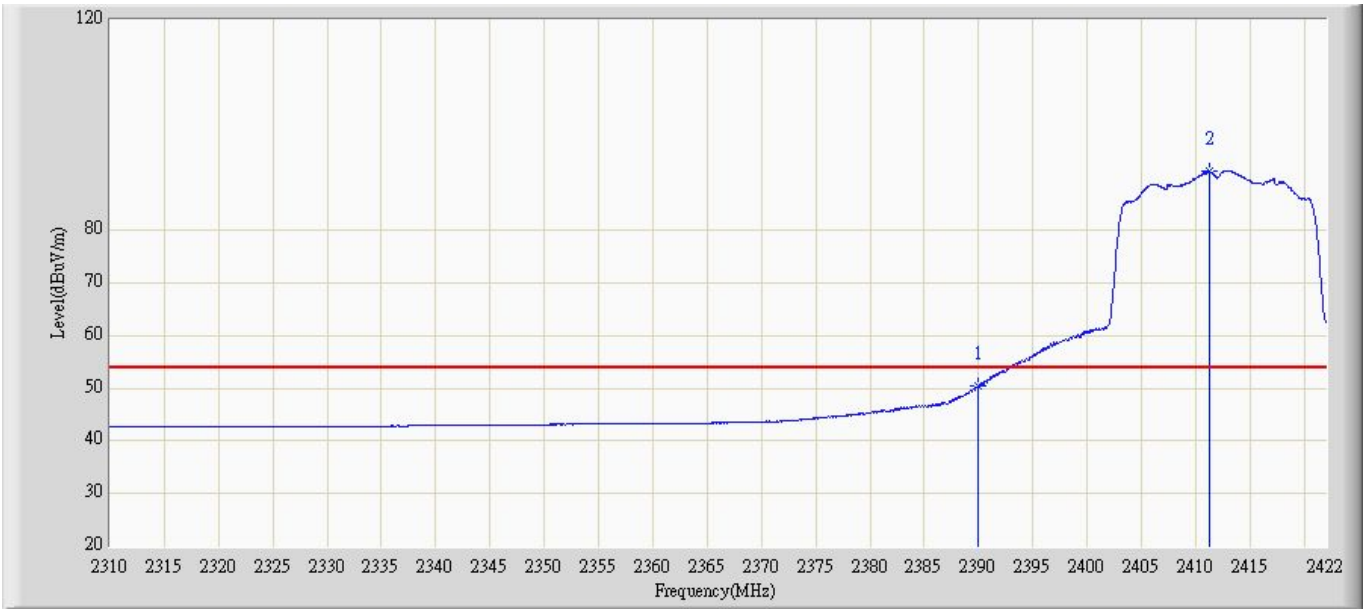
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	48.578	17.838	-5.422	54.000	30.740	AV
2	*	2411.080	91.289	60.889	N/A	N/A	30.400	AV

Site: AC5	Time: 2014/12/19 - 10:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2412MHz by 802.11n20 chain 1	



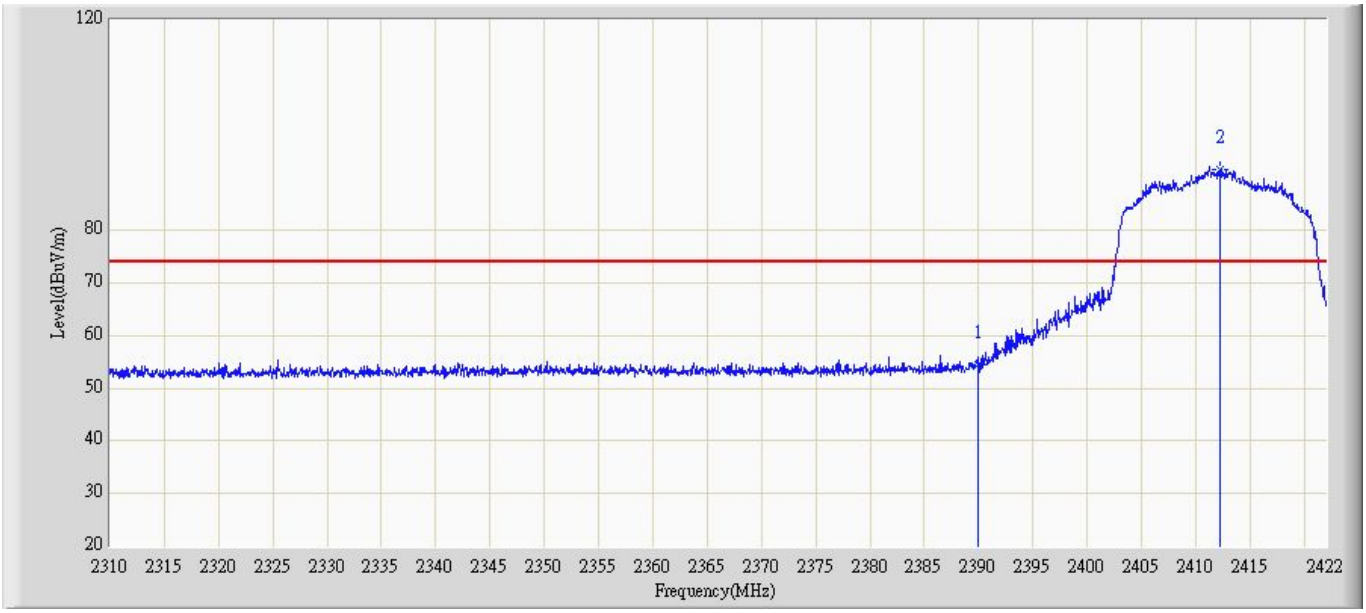
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	63.974	33.234	-10.026	74.000	30.740	PK
2	*	2414.048	100.831	70.423	N/A	N/A	30.408	PK

Site: AC5	Time: 2014/12/19 - 11:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2412MHz by 802.11n20 chain 1	



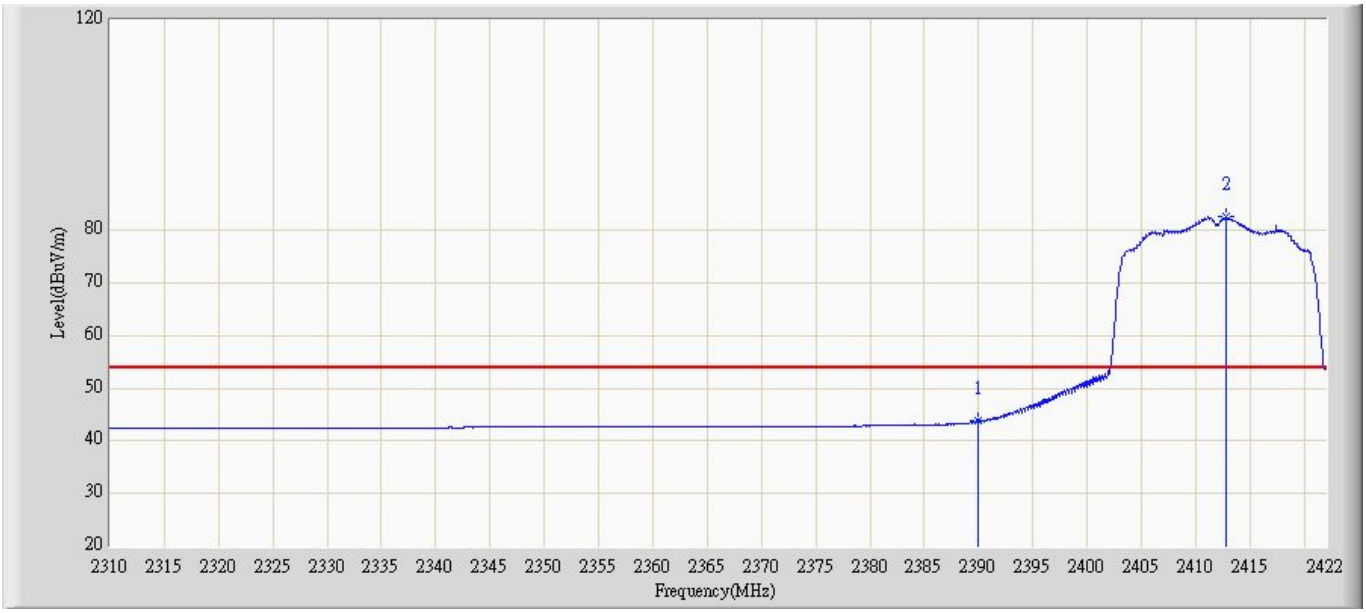
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.391	19.651	-3.609	54.000	30.740	AV
2	*	2411.248	91.207	60.806	N/A	N/A	30.400	AV

Site: AC5	Time: 2014/12/19 - 11:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2412MHz by 802.11n20 chain 2	



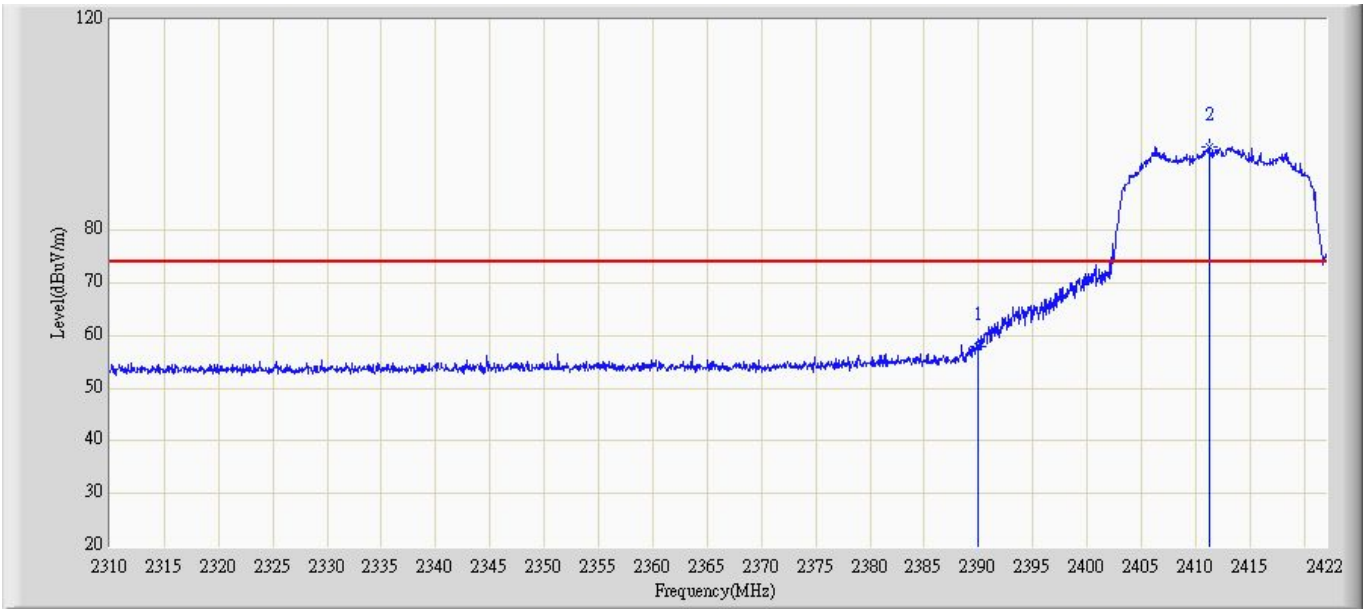
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	54.564	23.824	-19.436	74.000	30.740	PK
2	*	2412.312	91.422	61.018	N/A	N/A	30.403	PK

Site: AC5	Time: 2014/12/19 - 11:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2412MHz by 802.11n20 chain 2	



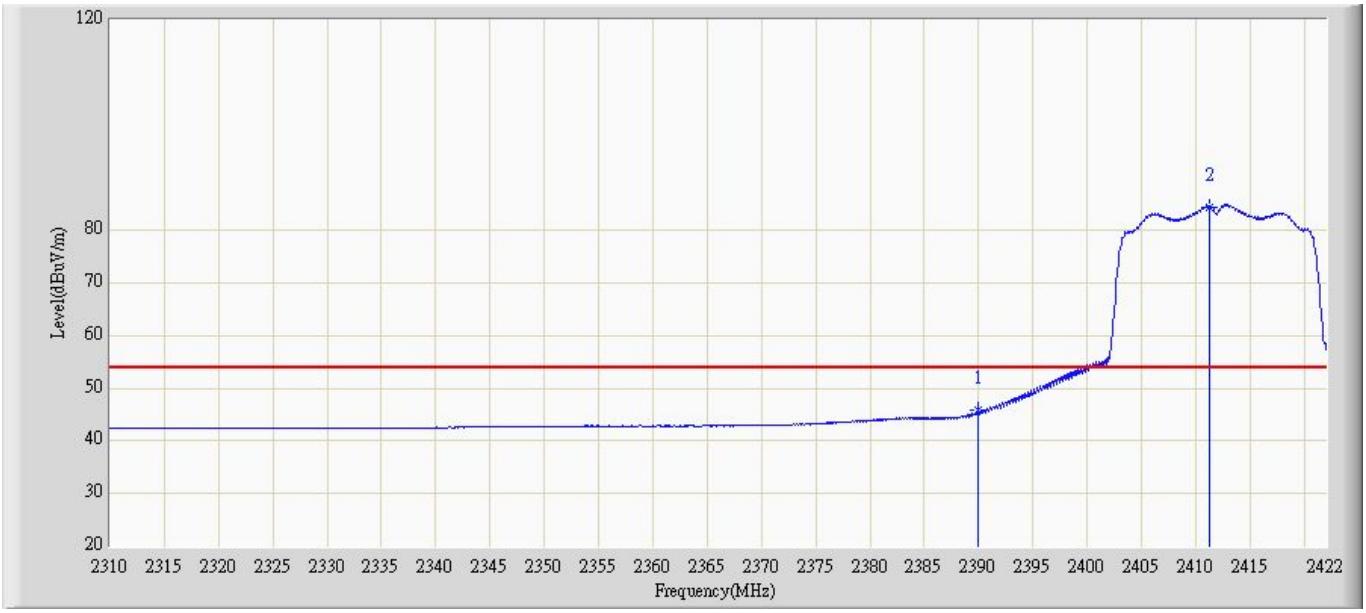
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	43.861	13.121	-10.139	54.000	30.740	AV
2	*	2412.760	82.597	52.192	N/A	N/A	30.405	AV

Site: AC5	Time: 2014/12/19 - 11:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2412MHz by 802.11n20 chain 2	



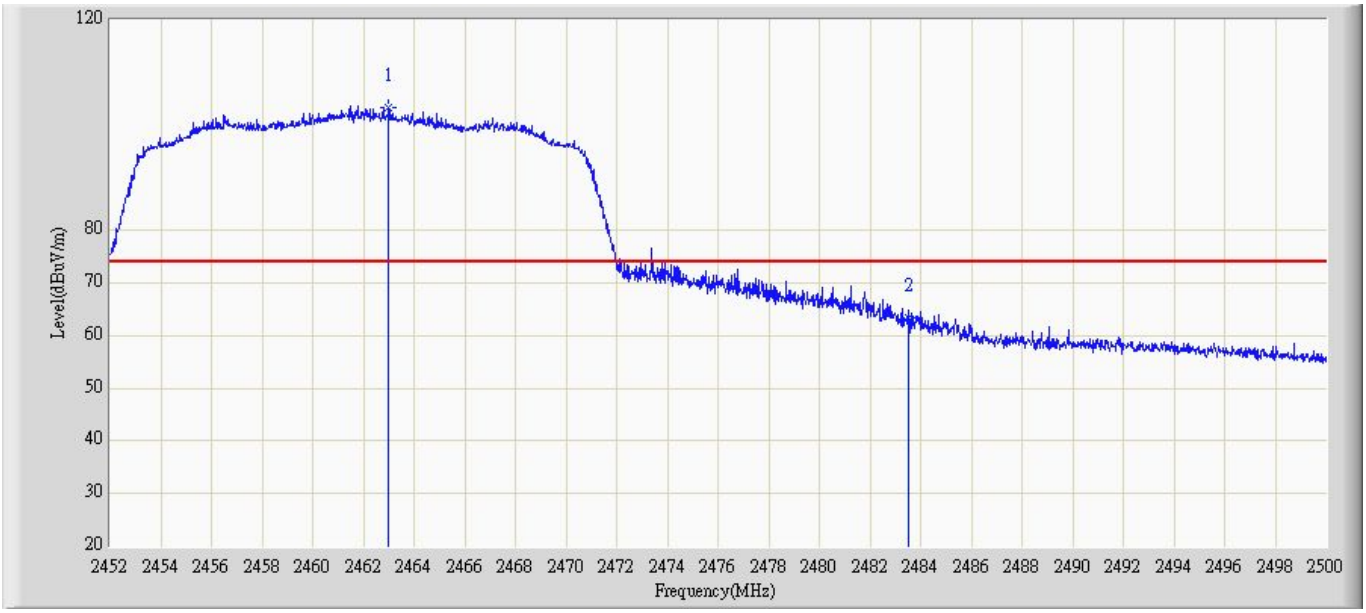
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	58.025	27.285	-15.975	74.000	30.740	PK
2	*	2411.248	95.946	65.545	N/A	N/A	30.400	PK

Site: AC5	Time: 2014/12/19 - 11:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2412MHz by 802.11n20 chain 2	



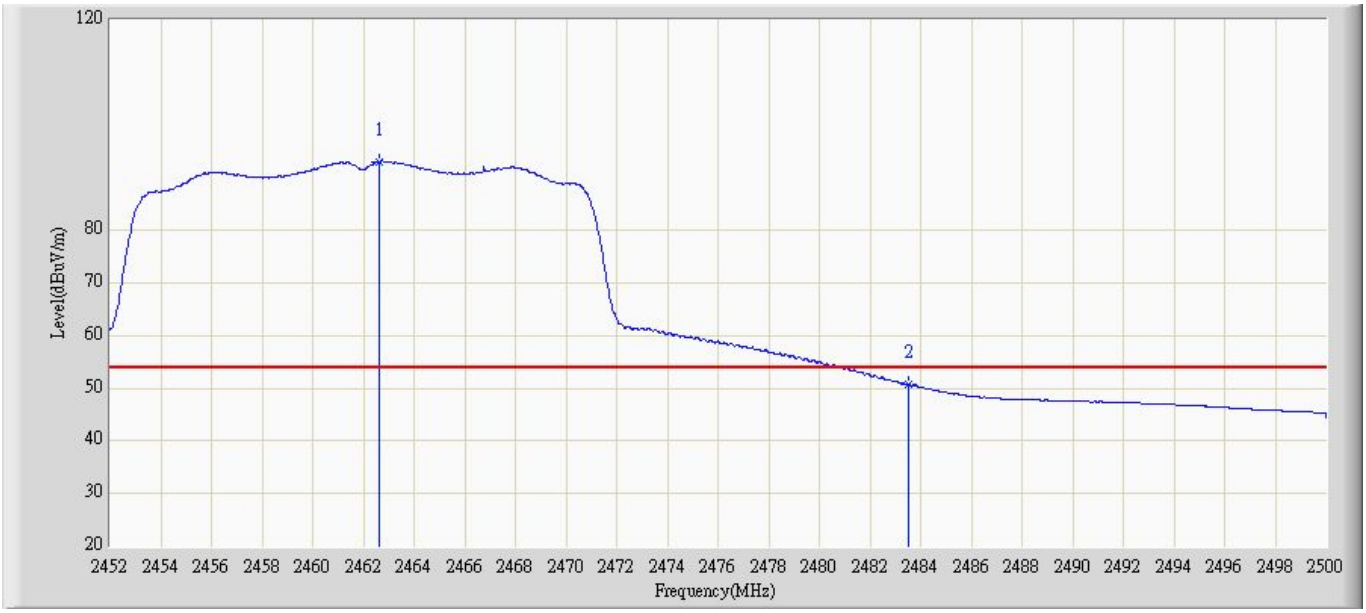
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	45.938	15.198	-8.062	54.000	30.740	AV
2	*	2411.248	84.484	54.083	N/A	N/A	30.400	AV

Site: AC5	Time: 2014/12/19 - 13:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2462MHz by 802.11n20 chain 1	



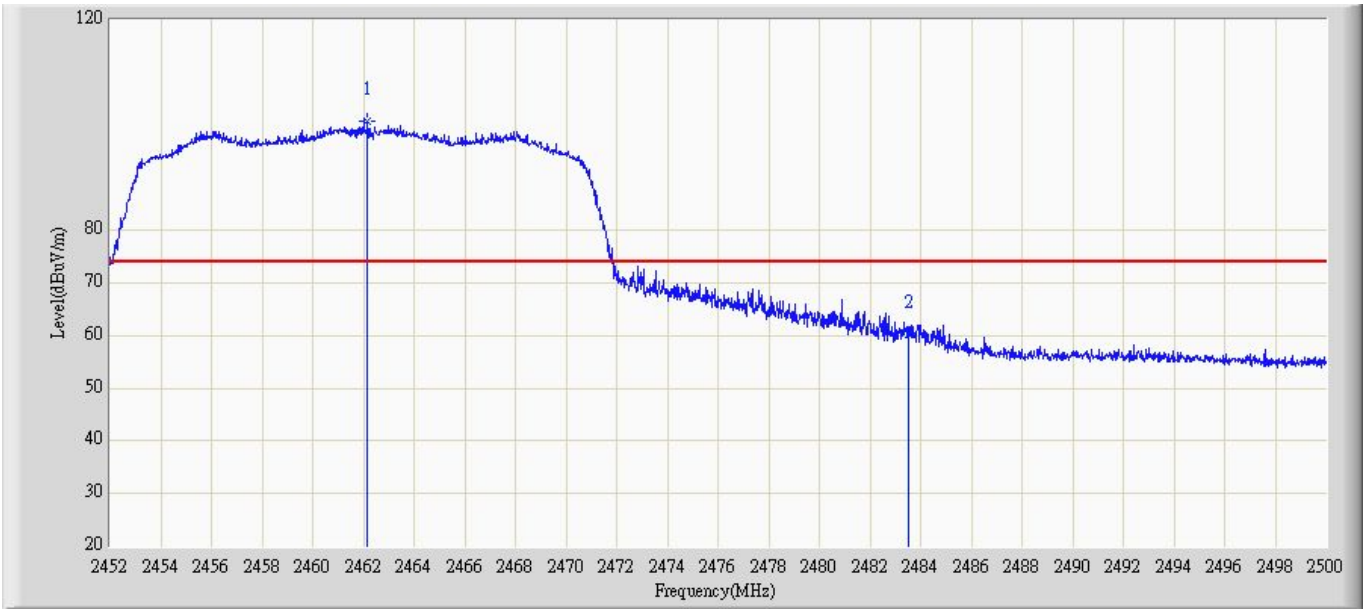
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.992	103.432	72.894	N/A	N/A	30.538	PK
2		2483.500	63.513	32.528	-10.487	74.000	30.985	PK

Site: AC5	Time: 2014/12/19 - 13:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2462MHz by 802.11n20 chain 1	



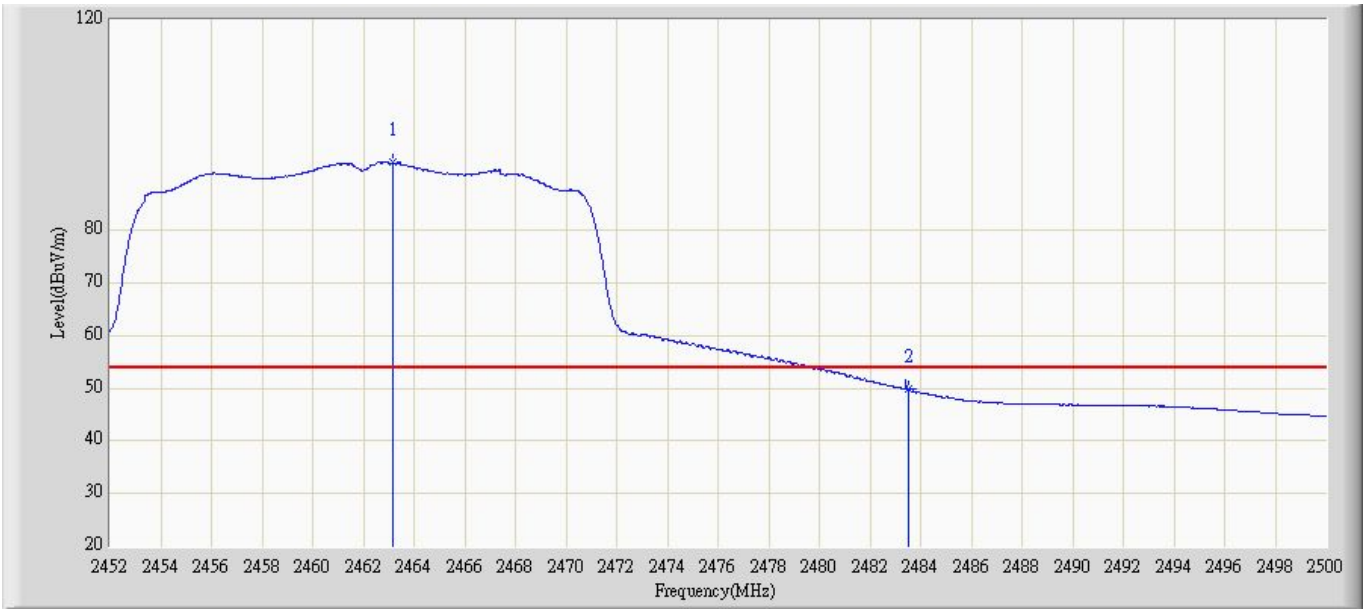
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.656	93.025	62.092	N/A	N/A	30.933	AV
2		2483.500	50.746	19.761	-3.254	54.000	30.985	AV

Site: AC5	Time: 2014/12/19 - 13:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2462MHz by 802.11n20 chain 1	



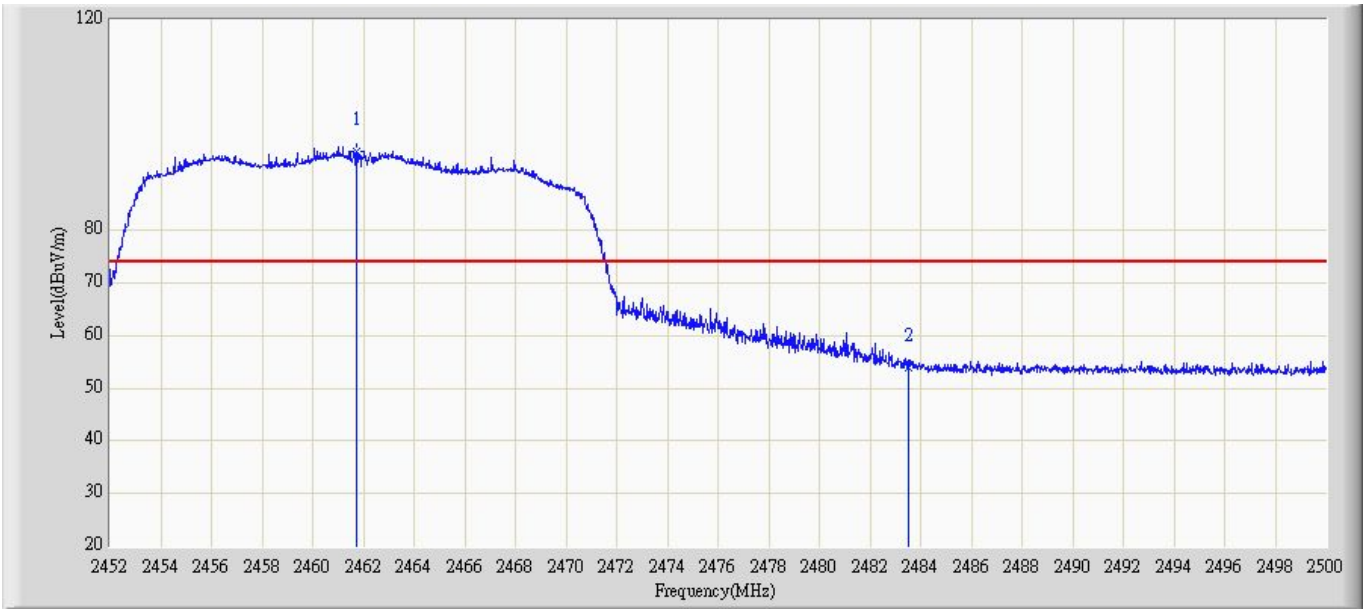
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.176	100.604	70.069	N/A	N/A	30.535	PK
2		2483.500	60.358	29.373	-13.642	74.000	30.985	PK

Site: AC5	Time: 2014/12/19 - 13:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2462MHz by 802.11n20 chain 1	



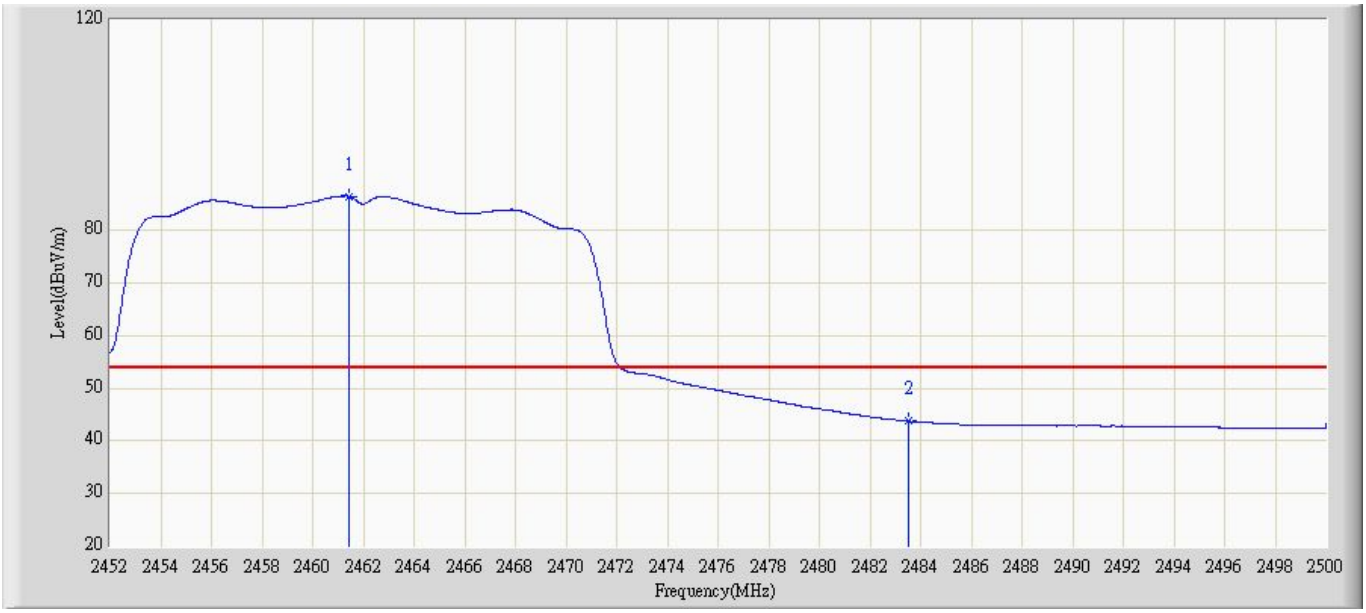
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.160	92.858	62.320	N/A	N/A	30.538	AV
2		2483.500	49.803	18.818	-4.197	54.000	30.985	AV

Site: AC5	Time: 2014/12/19 - 13:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2462MHz by 802.11n20 chain 2	



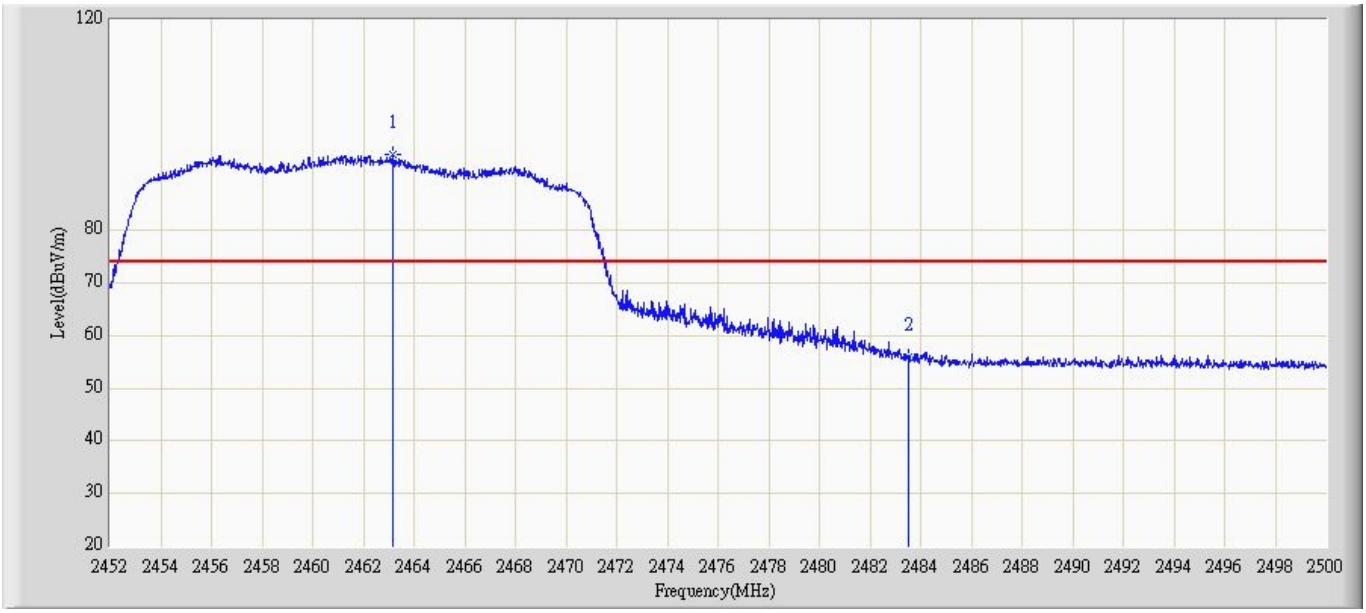
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.744	94.988	64.454	N/A	N/A	30.535	PK
2		2483.500	53.972	22.987	-20.028	74.000	30.985	PK

Site: AC5	Time: 2014/12/19 - 13:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2462MHz by 802.11n20 chain 2	



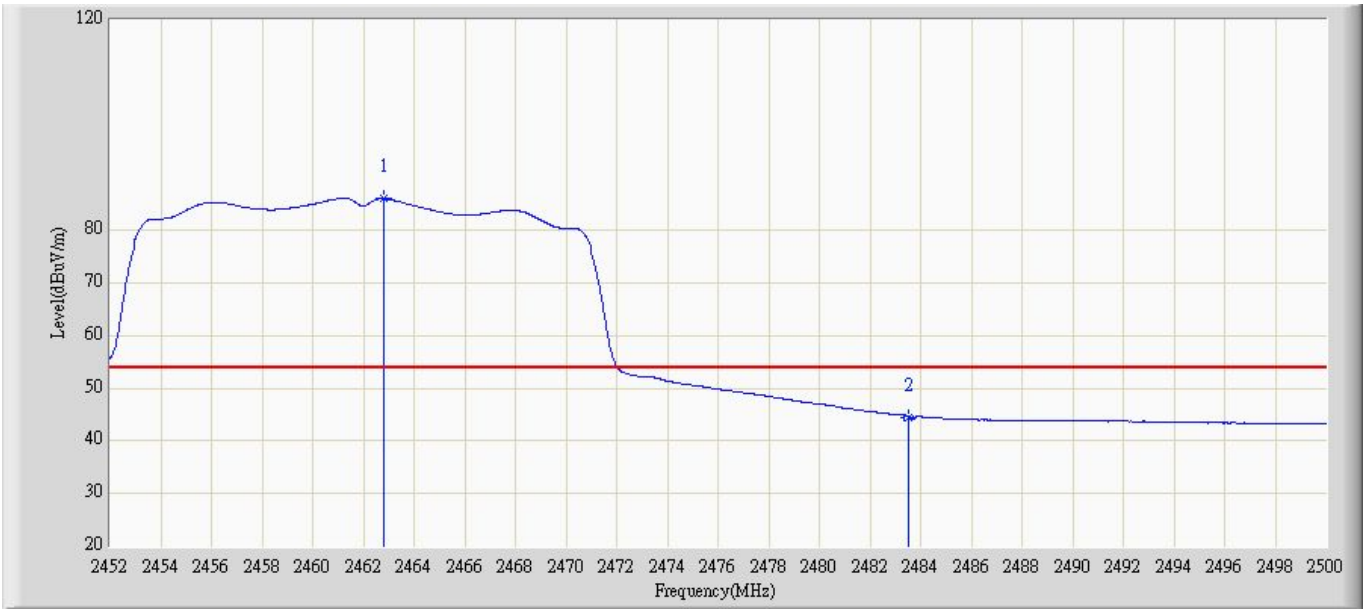
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.432	86.427	55.894	N/A	N/A	30.533	AV
2		2483.500	43.802	12.817	-10.198	54.000	30.985	AV

Site: AC5	Time: 2014/12/19 - 13:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2462MHz by 802.11n20 chain 2	



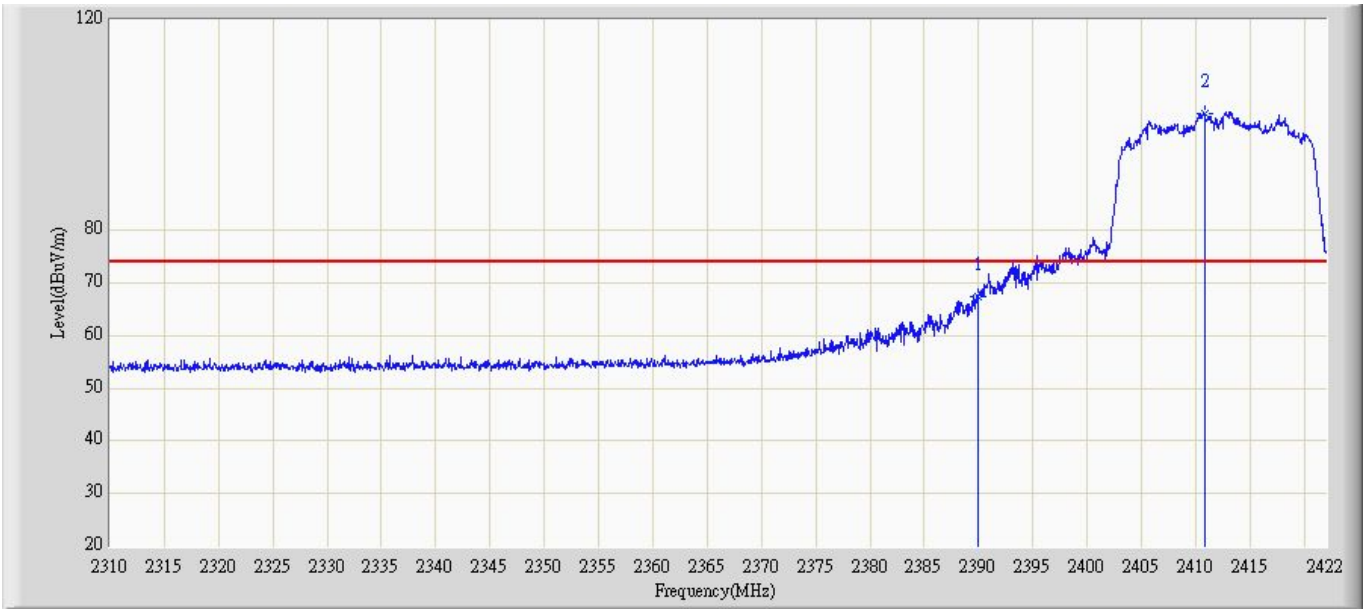
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.136	94.282	63.744	N/A	N/A	30.538	PK
2		2483.500	56.002	25.017	-17.998	74.000	30.985	PK

Site: AC5	Time: 2014/12/19 - 13:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2462MHz by 802.11n20 chain 2	



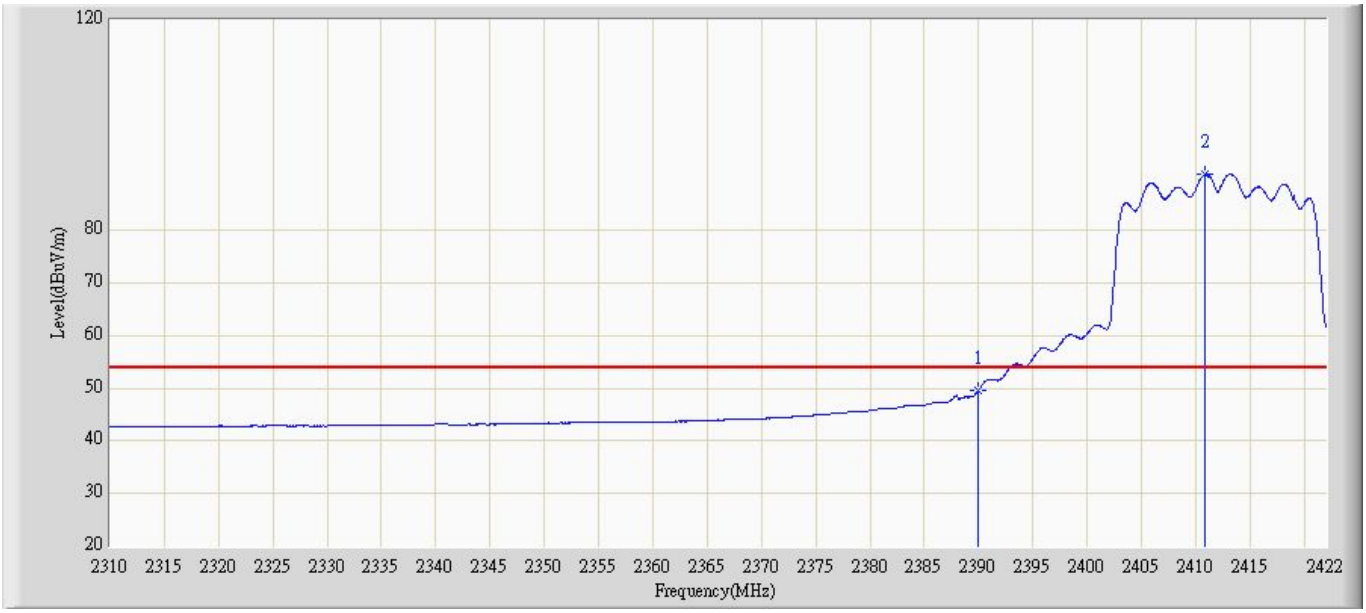
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.800	85.984	55.447	N/A	N/A	30.537	AV
2		2483.500	44.541	13.556	-9.459	54.000	30.985	AV

Site: AC5	Time: 2014/12/19 - 13:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2412MHz by 802.11n20 chain 1+2	



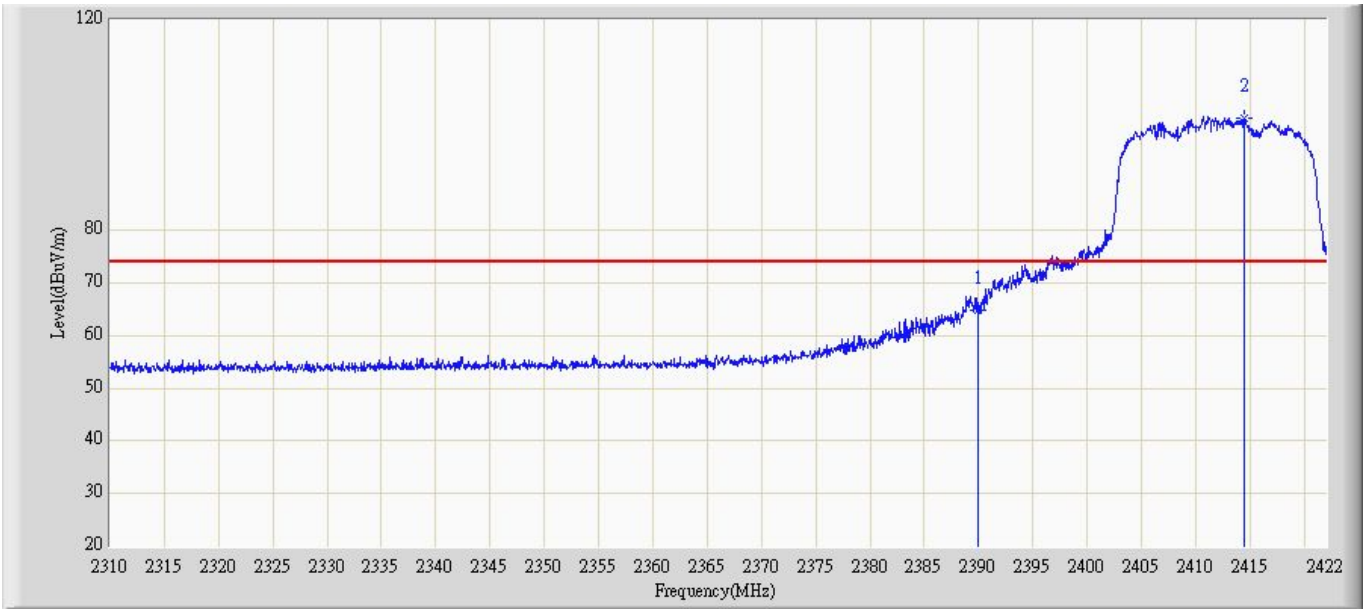
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	67.459	36.719	-6.541	74.000	30.740	PK
2	*	2410.800	102.274	71.874	N/A	N/A	30.400	PK

Site: AC5	Time: 2014/12/19 - 13:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2412MHz by 802.11n20 chain 1+2	



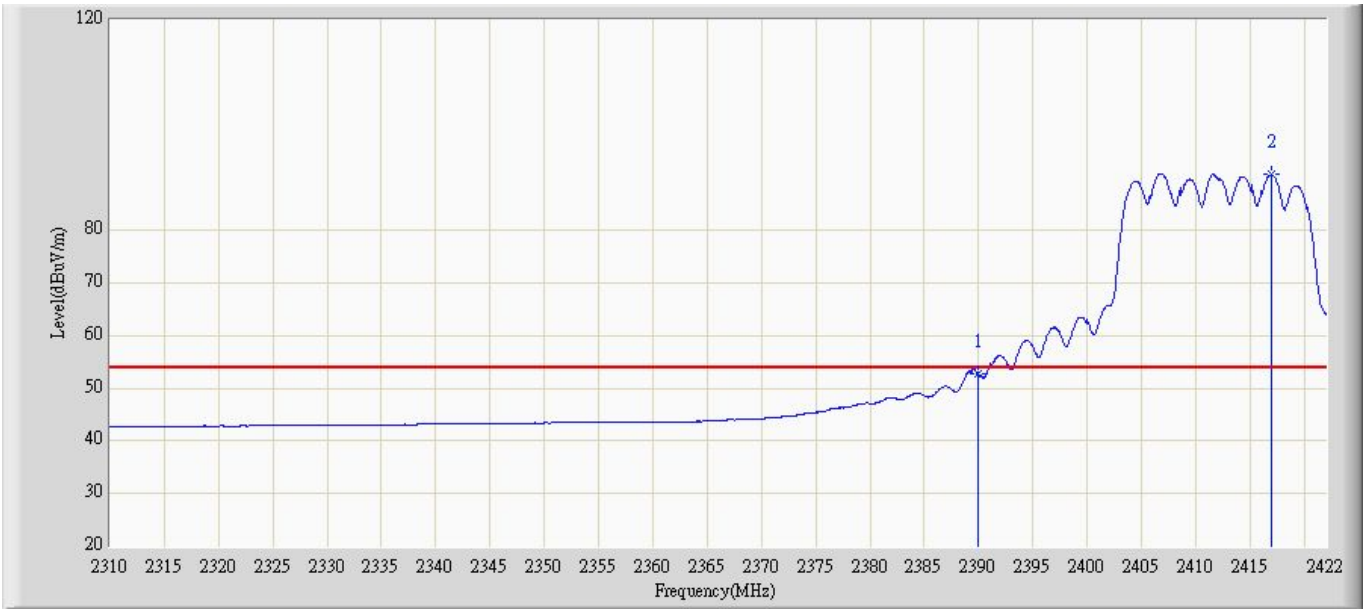
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	49.629	18.889	-4.371	54.000	30.740	AV
2	*	2410.912	90.591	60.191	N/A	N/A	30.400	AV

Site: AC5	Time: 2014/12/19 - 13:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2412MHz by 802.11n20 chain 1+2	



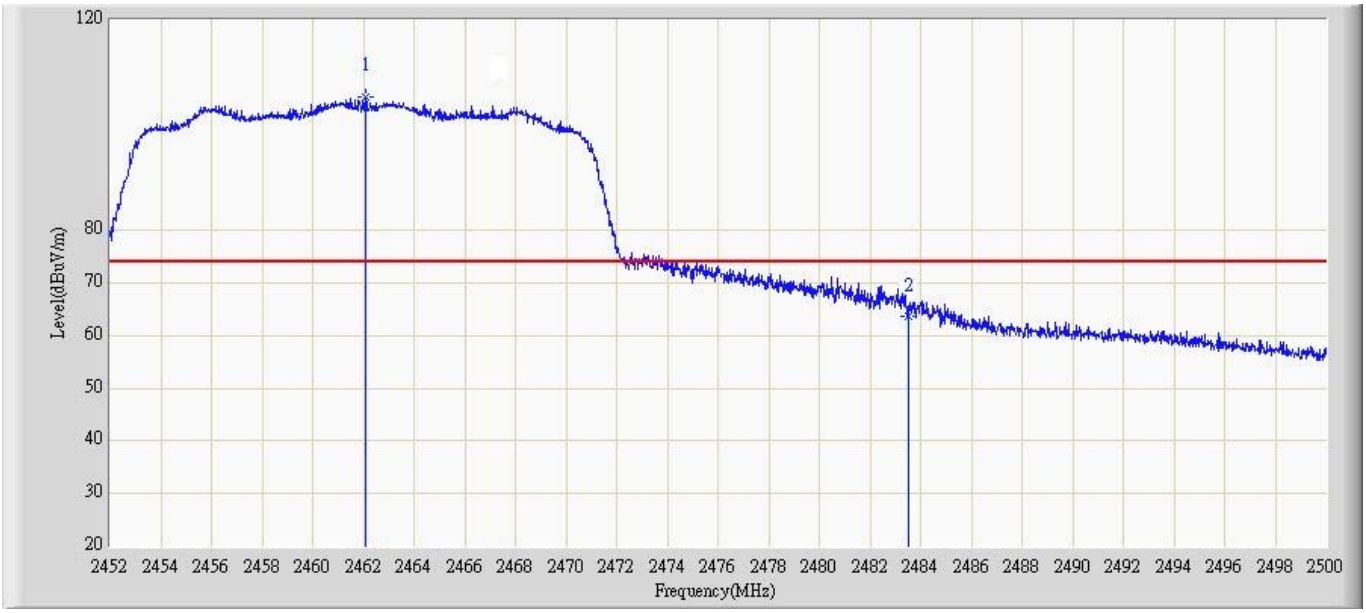
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	64.936	34.196	-9.064	74.000	30.740	PK
2	*	2414.440	101.252	70.843	N/A	N/A	30.409	PK

Site: AC5	Time: 2014/12/19 - 13:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2412MHz by 802.11n20 chain 1+2	



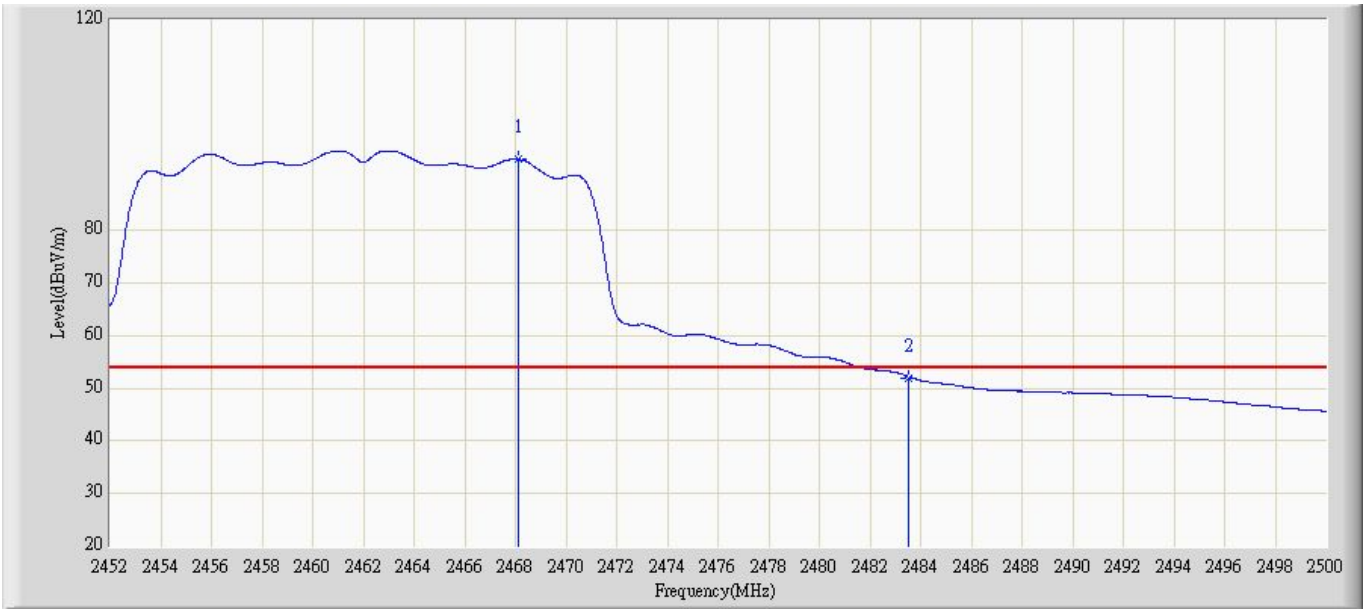
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.787	22.047	-1.213	54.000	30.740	AV
2	*	2417.016	90.550	60.134	N/A	N/A	30.417	AV

Site: AC5	Time: 2014/12/19 - 13:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2462MHz by 802.11n20 chain 1+2	



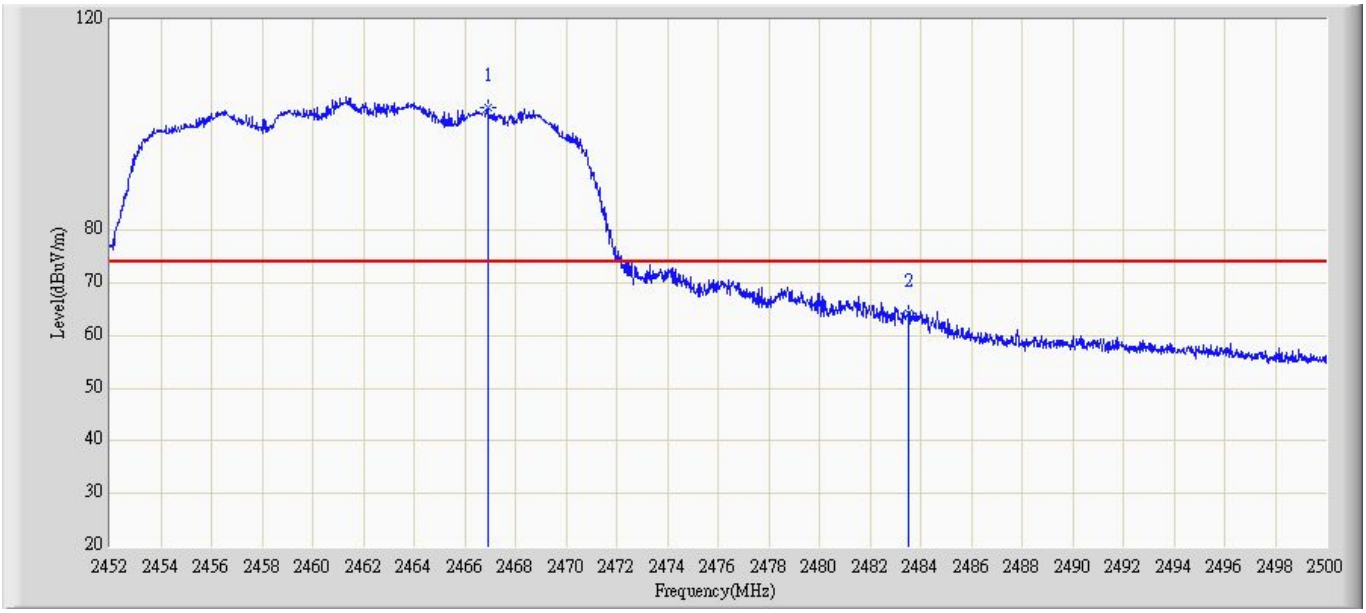
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.104	105.218	74.286	N/A	N/A	30.932	PK
2		2483.500	63.588	32.996	-10.412	74.000	30.592	PK

Site: AC5	Time: 2014/12/19 - 13:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2462MHz by 802.11n20 chain 1+2	



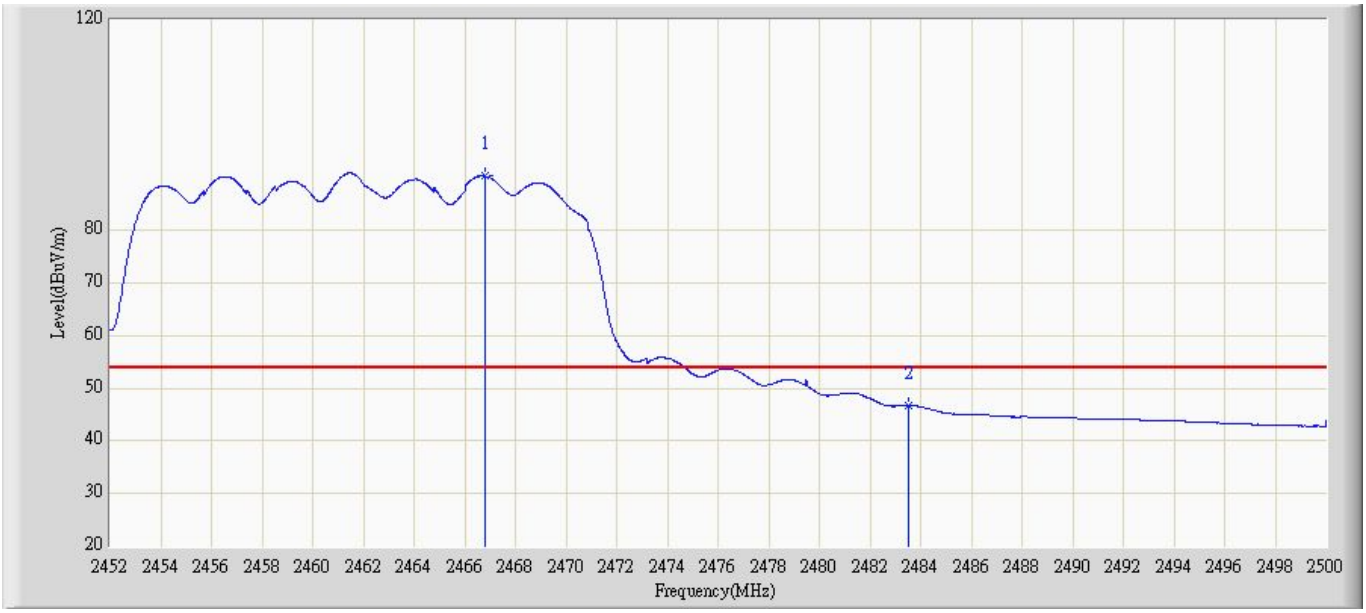
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2468.128	93.517	62.966	N/A	N/A	30.551	AV
2		2483.500	51.908	20.923	-2.092	54.000	30.985	AV

Site: AC5	Time: 2014/12/19 - 13:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2462MHz by 802.11n20 chain 1+2	



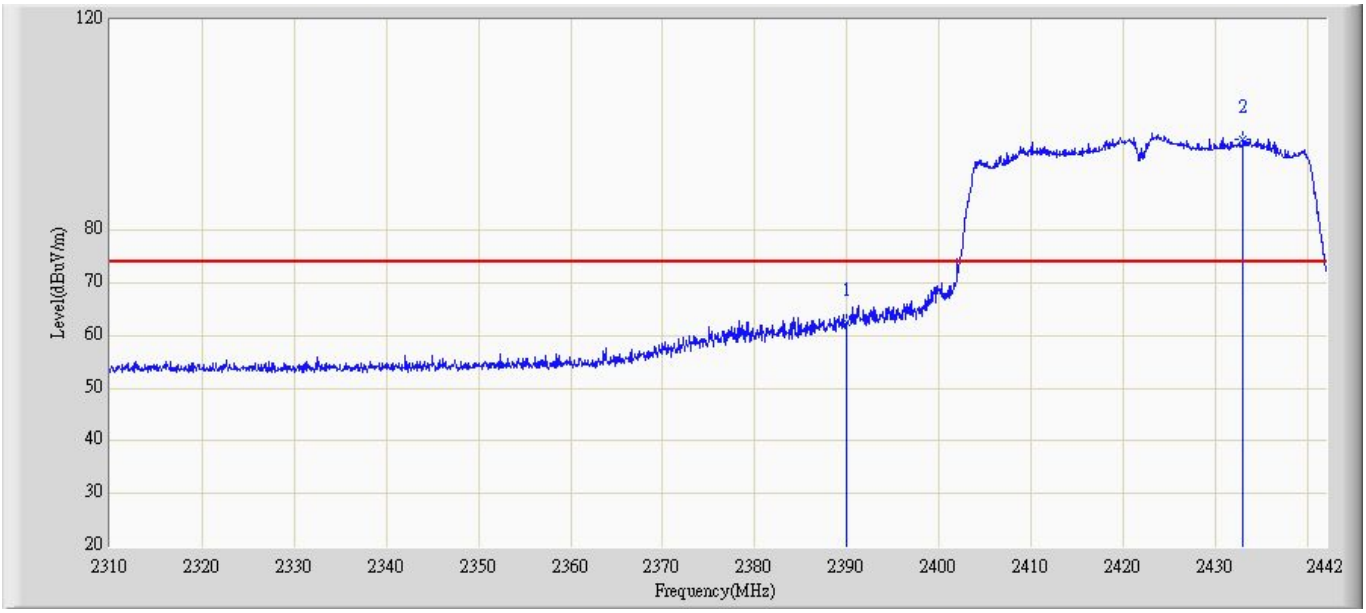
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2466.904	103.423	72.876	N/A	N/A	30.548	PK
2		2483.500	64.111	33.126	-9.889	74.000	30.985	PK

Site: AC5	Time: 2014/12/19 - 13:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode3:Transmit at channel 2462MHz by 802.11n20 chain 1+2	



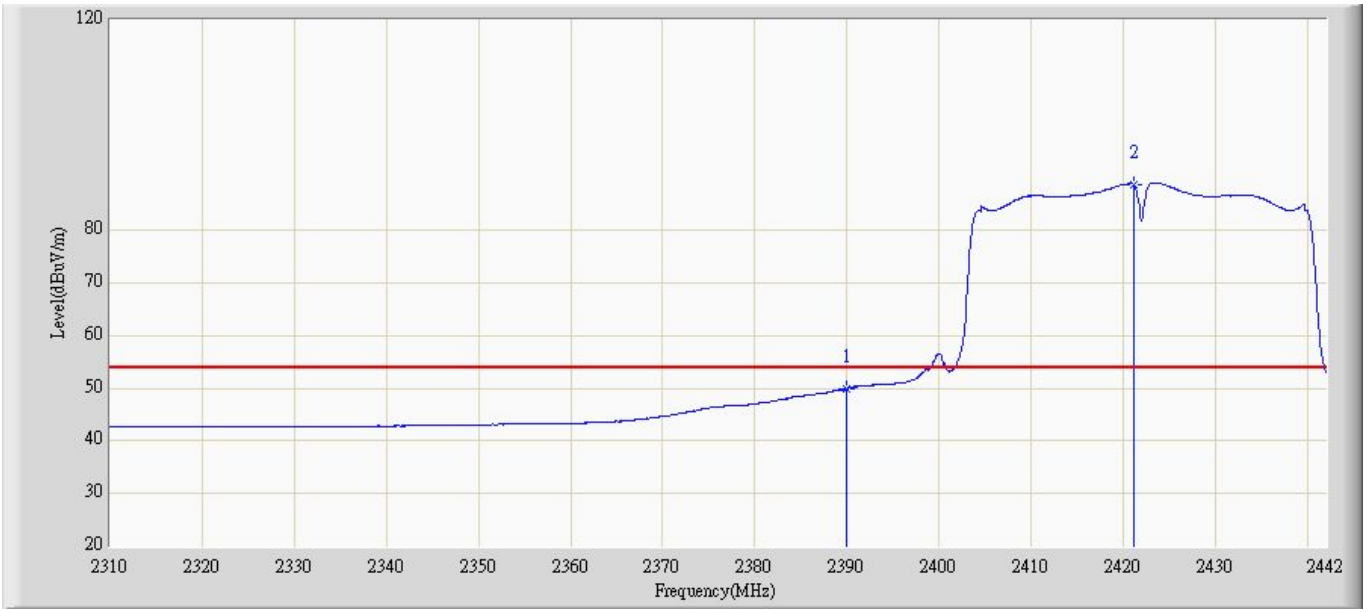
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2466.784	90.306	59.759	N/A	N/A	30.547	AV
2		2483.500	46.775	15.790	-7.225	54.000	30.985	AV

Site: AC5	Time: 2014/12/19 - 13:52
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2422MHz by 802.11n40 chain 1	



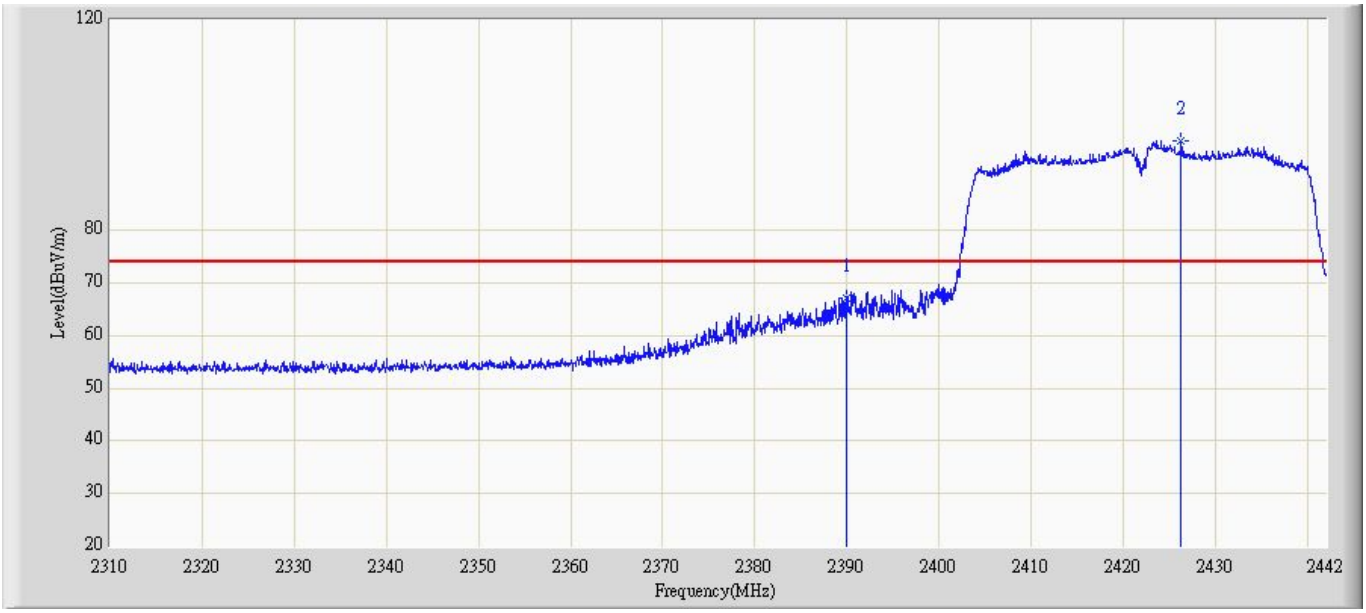
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	62.568	31.828	-11.432	74.000	30.740	PK
2	*	2432.958	97.374	66.916	N/A	N/A	30.458	PK

Site: AC5	Time: 2014/12/19 - 13:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2422MHz by 802.11n40 chain 1	



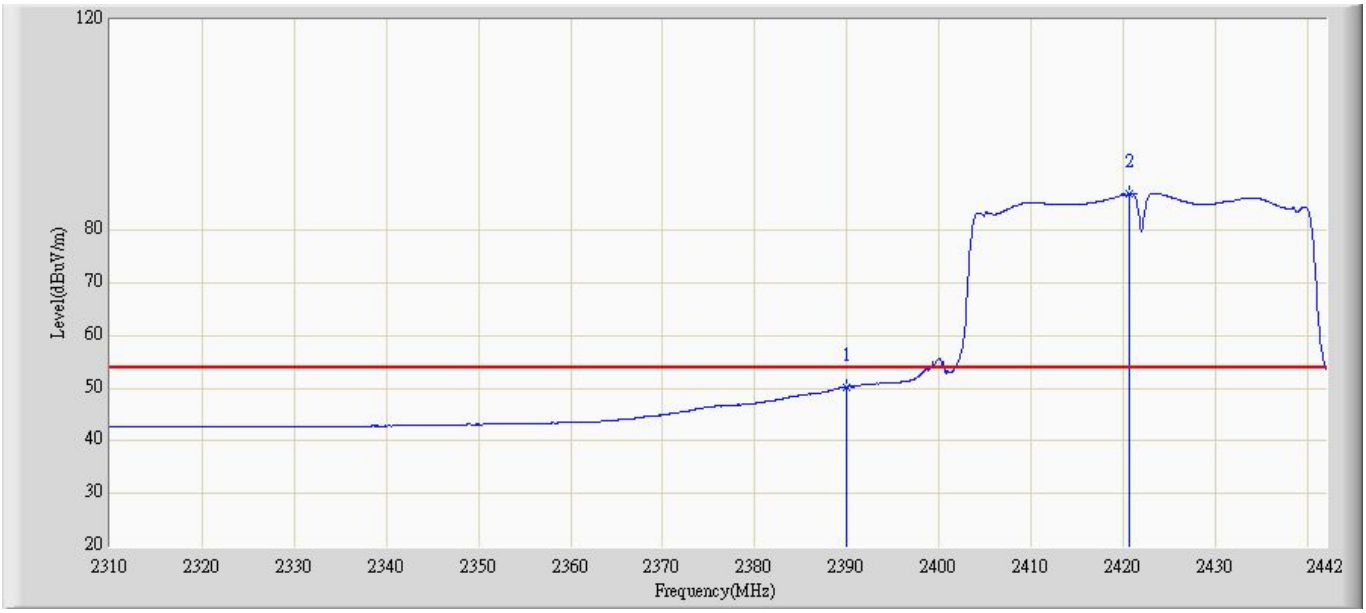
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.025	19.285	-3.975	54.000	30.740	AV
2	*	2421.078	88.799	58.372	N/A	N/A	30.427	AV

Site: AC5	Time: 2014/12/19 - 13:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2422MHz by 802.11n40 chain 1	



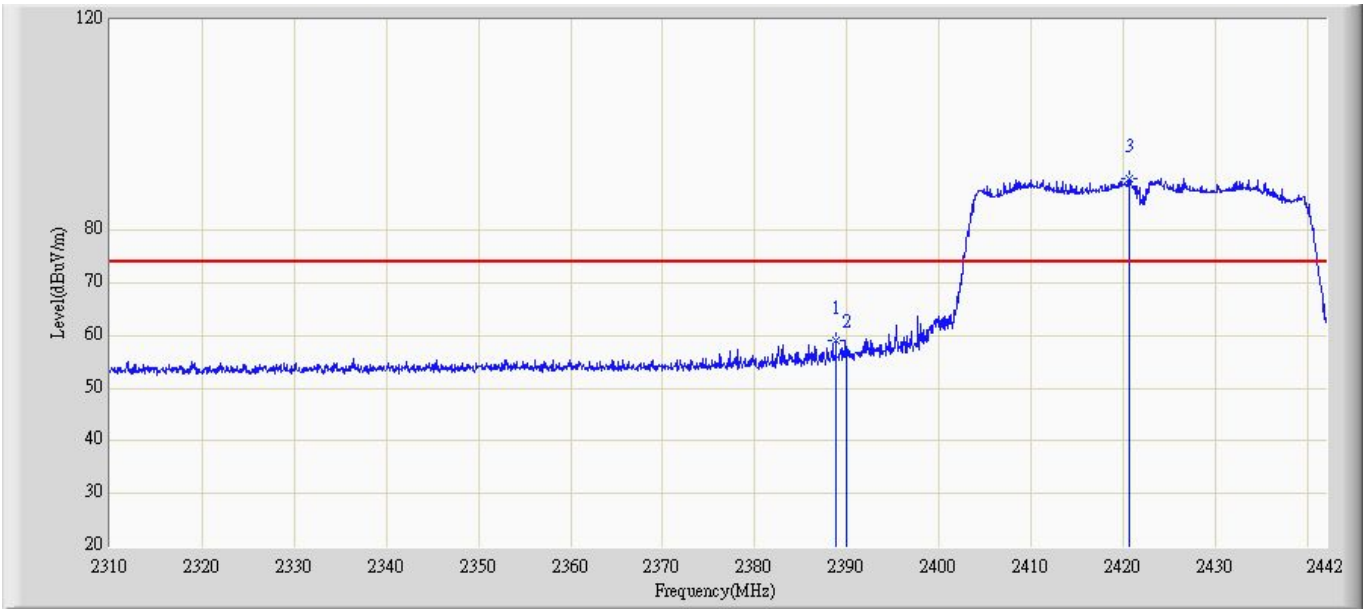
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	67.165	36.425	-6.835	74.000	30.740	PK
2	*	2426.292	96.992	66.551	N/A	N/A	30.441	PK

Site: AC5	Time: 2014/12/19 - 14:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2422MHz by 802.11n40 chain 1	



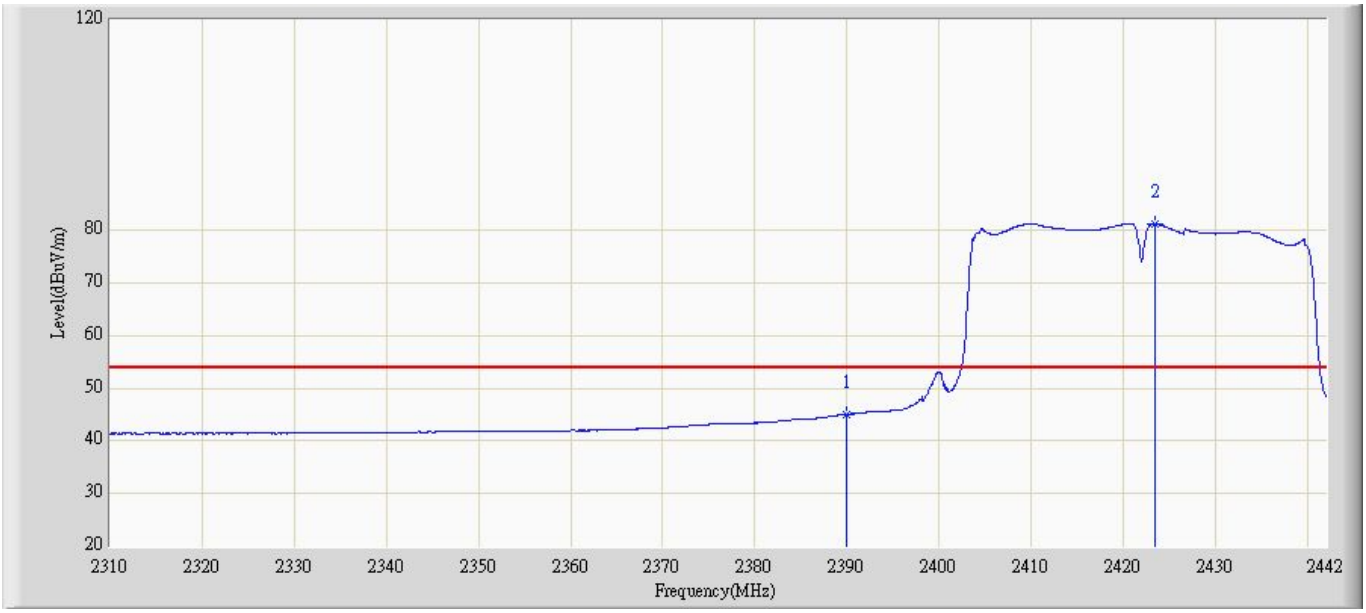
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.246	19.506	-3.754	54.000	30.740	AV
2	*	2420.682	86.868	56.442	N/A	N/A	30.426	AV

Site: AC5	Time: 2014/12/19 - 14:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2422MHz by 802.11n40 chain 2	



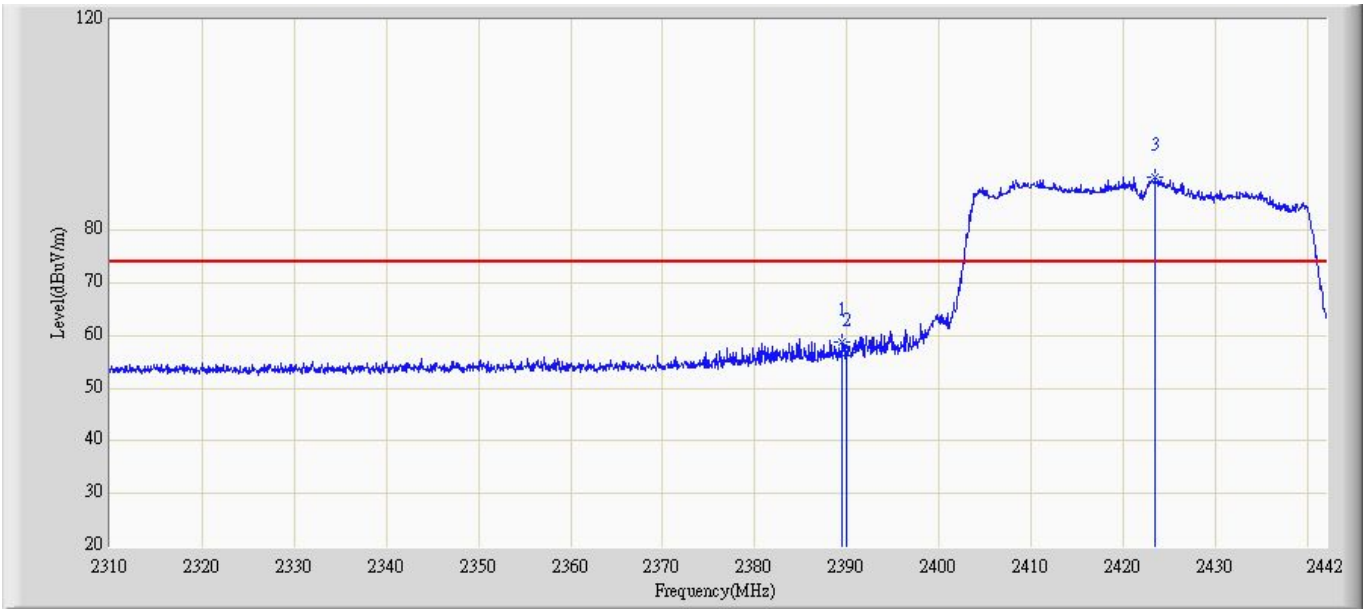
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2388.804	59.005	28.659	-14.995	74.000	30.346	PK
2		2390.000	56.442	25.702	-17.558	74.000	30.740	PK
3	*	2420.682	89.698	59.272	N/A	N/A	30.426	PK

Site: AC5	Time: 2014/12/19 - 14:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2422MHz by 802.11n40 chain 2	



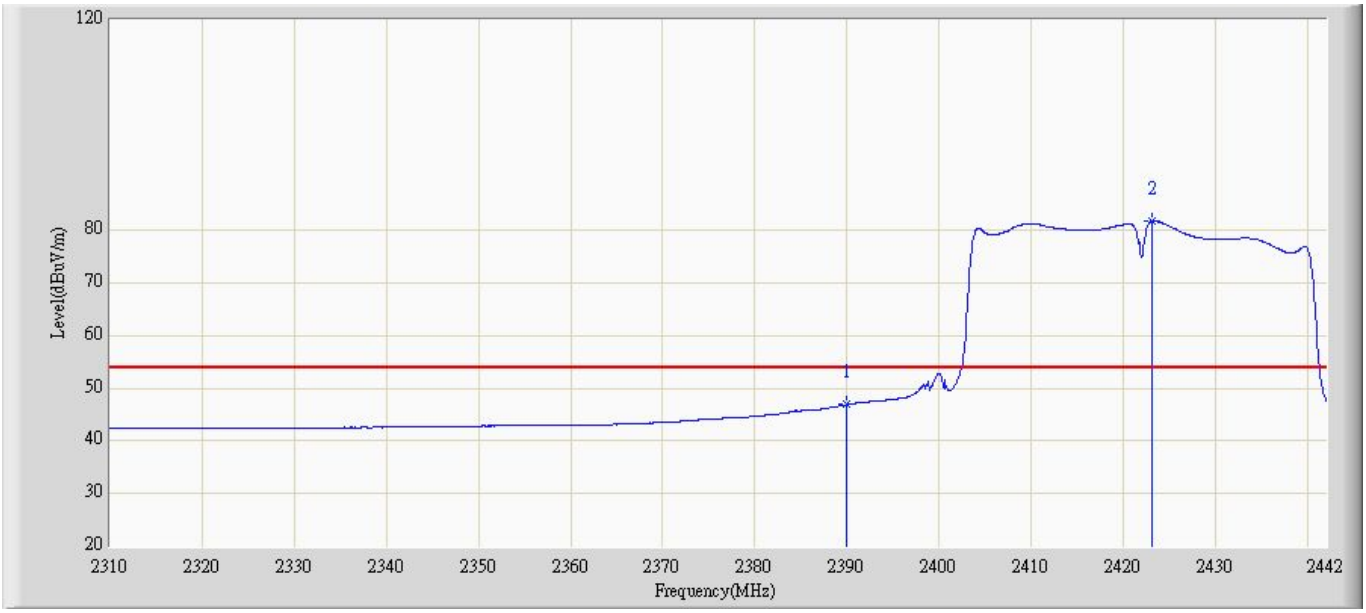
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	45.088	14.348	-8.912	54.000	30.740	AV
2	*	2423.520	81.204	50.770	N/A	N/A	30.434	AV

Site: AC5	Time: 2014/12/19 - 14:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2422MHz by 802.11n40 chain 2	



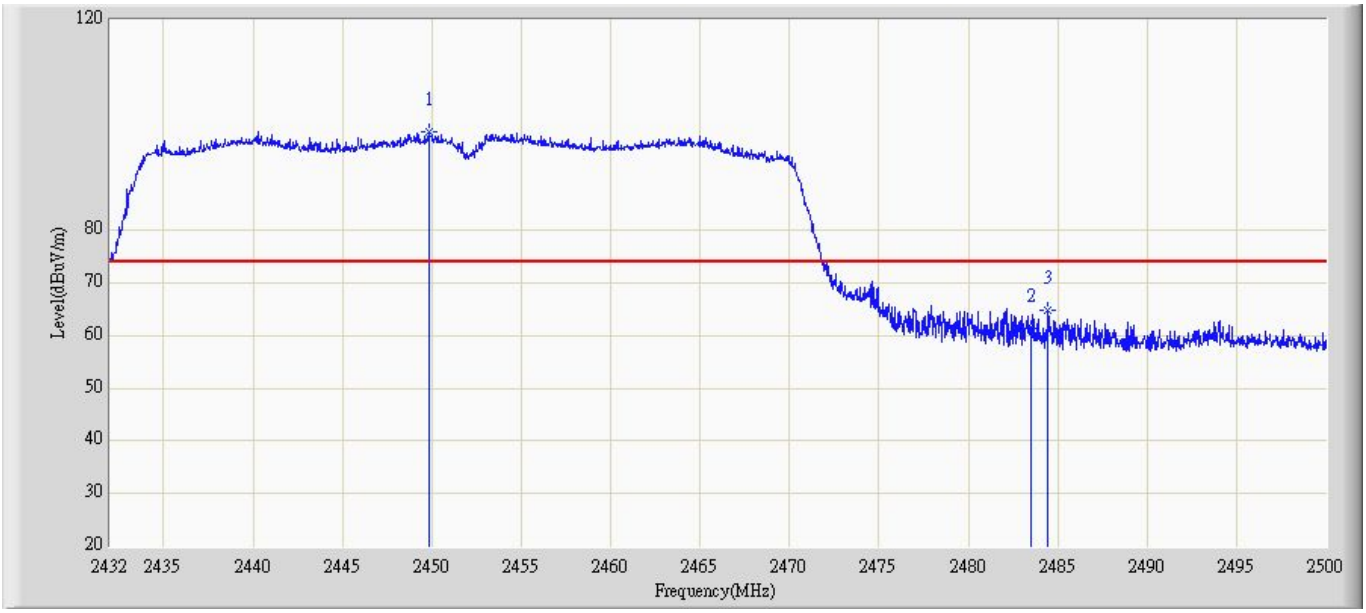
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.530	58.684	27.946	-15.316	74.000	30.738	PK
2		2390.000	56.713	25.973	-17.287	74.000	30.740	PK
3	*	2423.520	90.154	59.720	N/A	N/A	30.434	PK

Site: AC5	Time: 2014/12/19 - 14:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2422MHz by 802.11n40 chain 2	



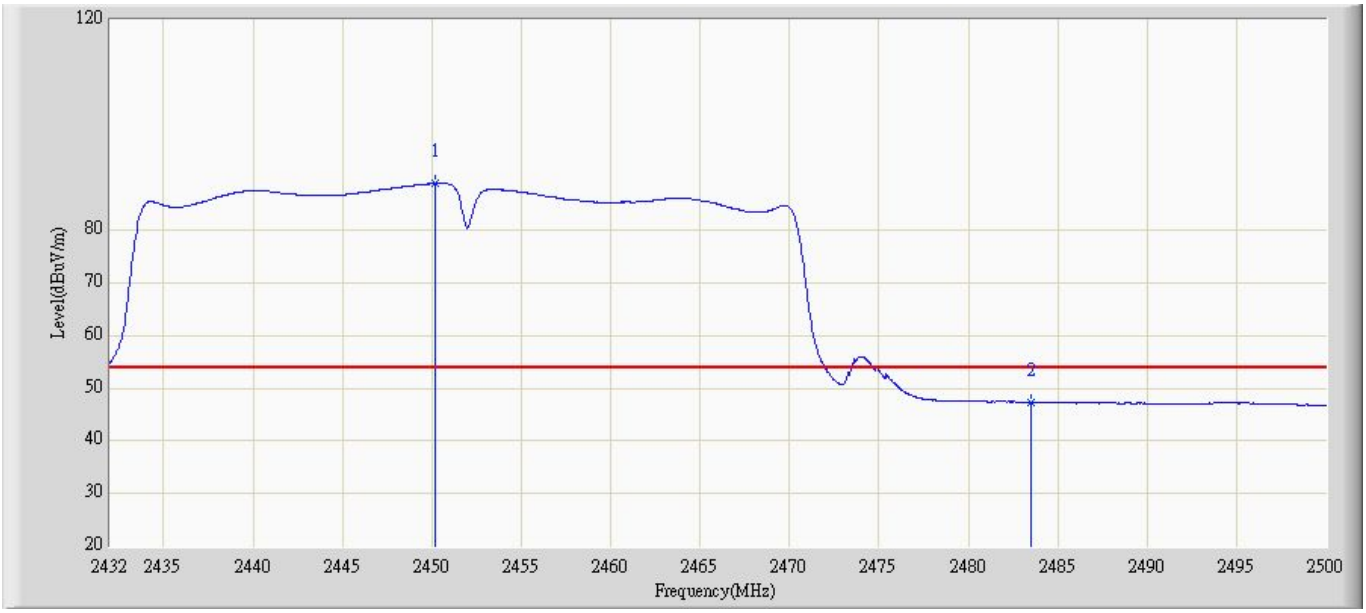
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	46.907	16.167	-7.093	54.000	30.740	AV
2	*	2423.124	81.796	51.363	N/A	N/A	30.432	AV

Site: AC5	Time: 2014/12/19 - 14:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2452MHz by 802.11n40 chain 1	



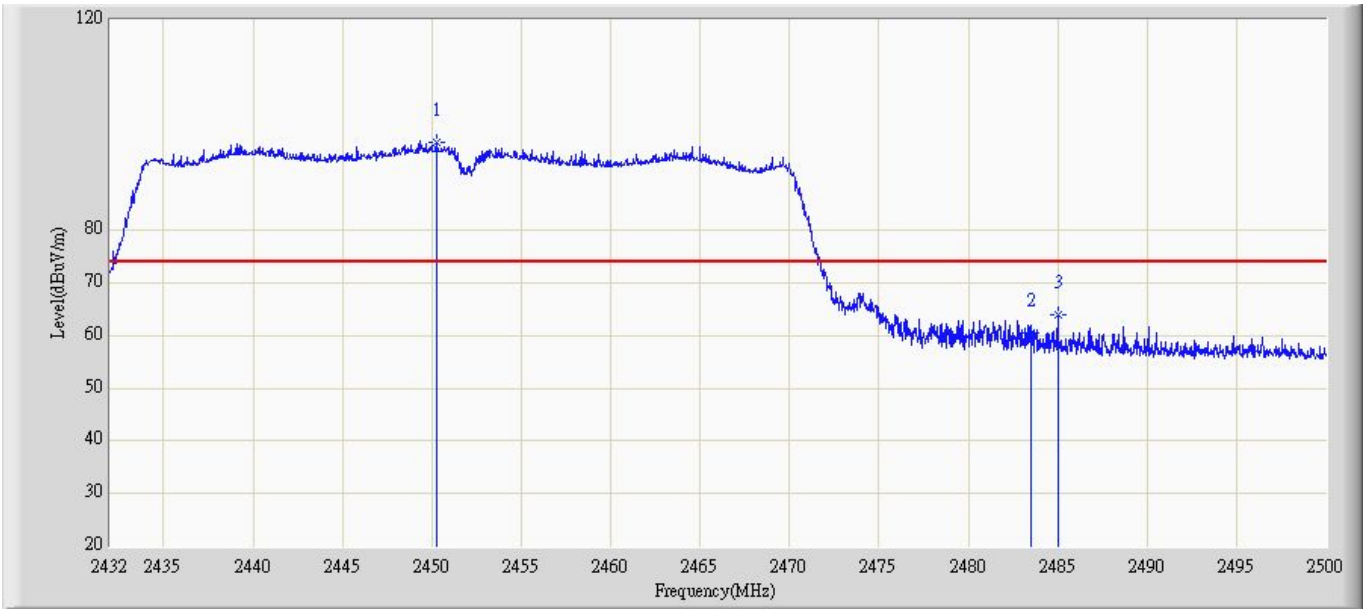
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2449.850	98.644	68.144	N/A	N/A	30.500	PK
2		2483.500	61.481	30.496	-12.519	74.000	30.985	PK
3		2484.462	64.726	33.738	-9.274	74.000	30.988	PK

Site: AC5	Time: 2014/12/19 - 14:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2452MHz by 802.11n40 chain 1	



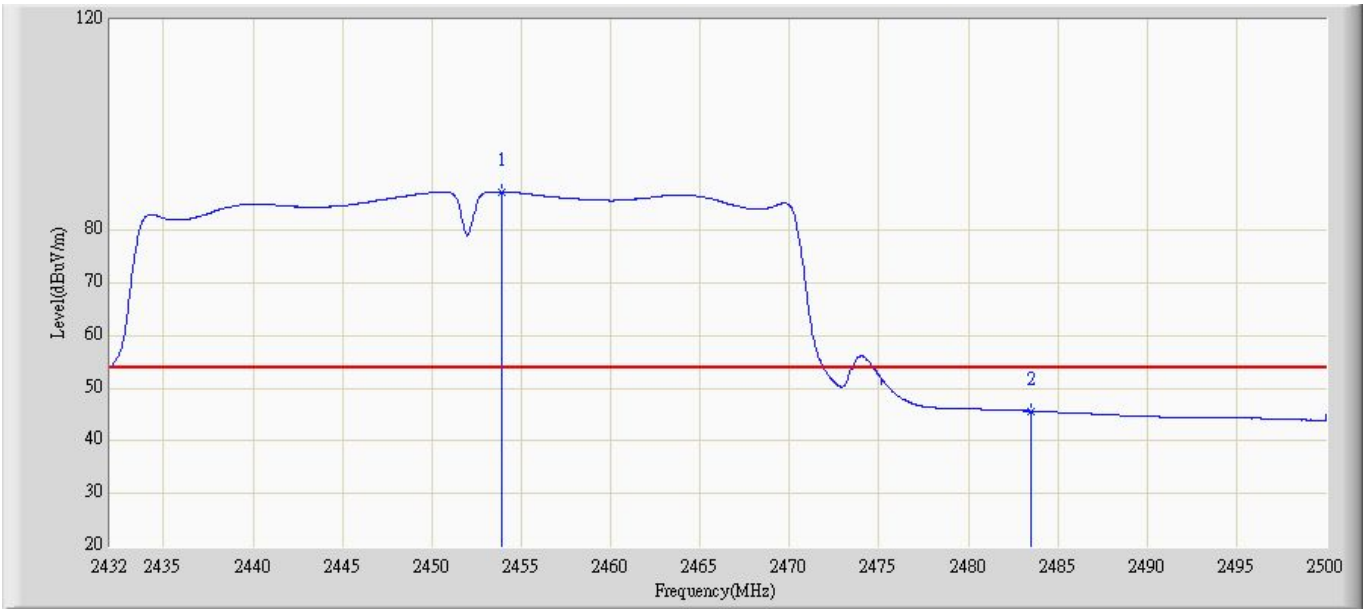
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2450.156	88.868	58.367	N/A	N/A	30.500	AV
2		2483.500	47.368	16.383	-6.632	54.000	30.985	AV

Site: AC5	Time: 2014/12/19 - 14:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2452MHz by 802.11n40 chain 1	



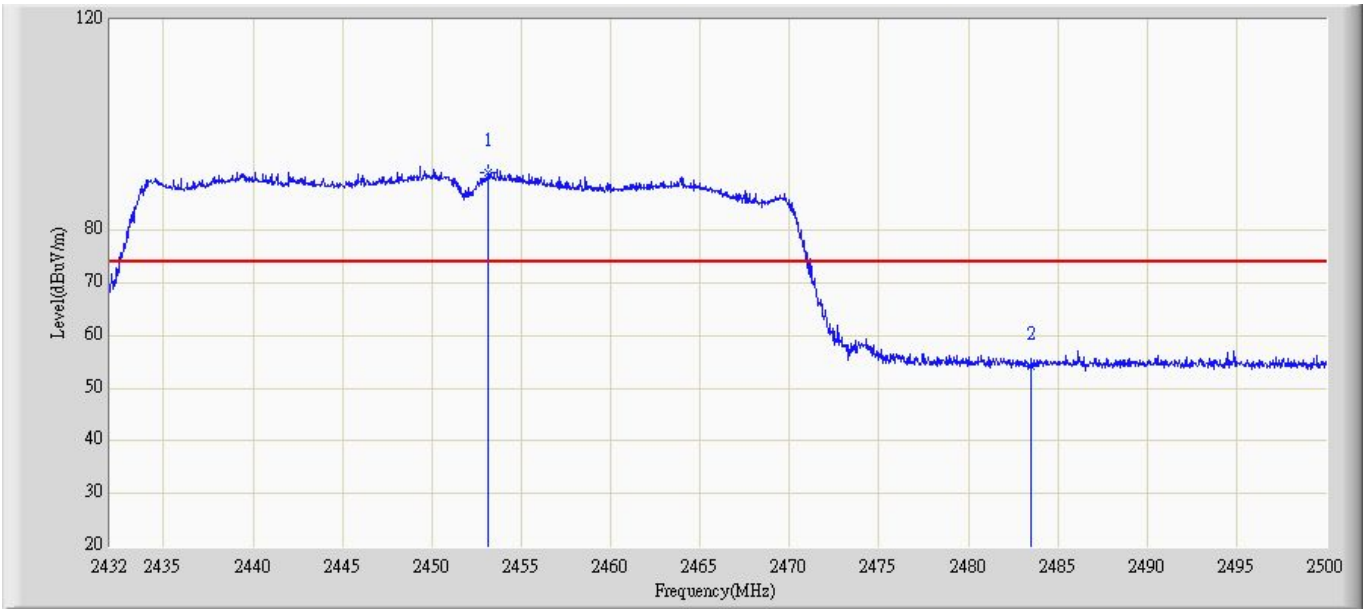
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2450.258	96.619	66.118	N/A	N/A	30.502	PK
2		2483.500	60.459	29.474	-13.541	74.000	30.985	PK
3		2485.006	63.857	33.261	-10.143	74.000	30.596	PK

Site: AC5	Time: 2014/12/19 - 14:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2452MHz by 802.11n40 chain 1	



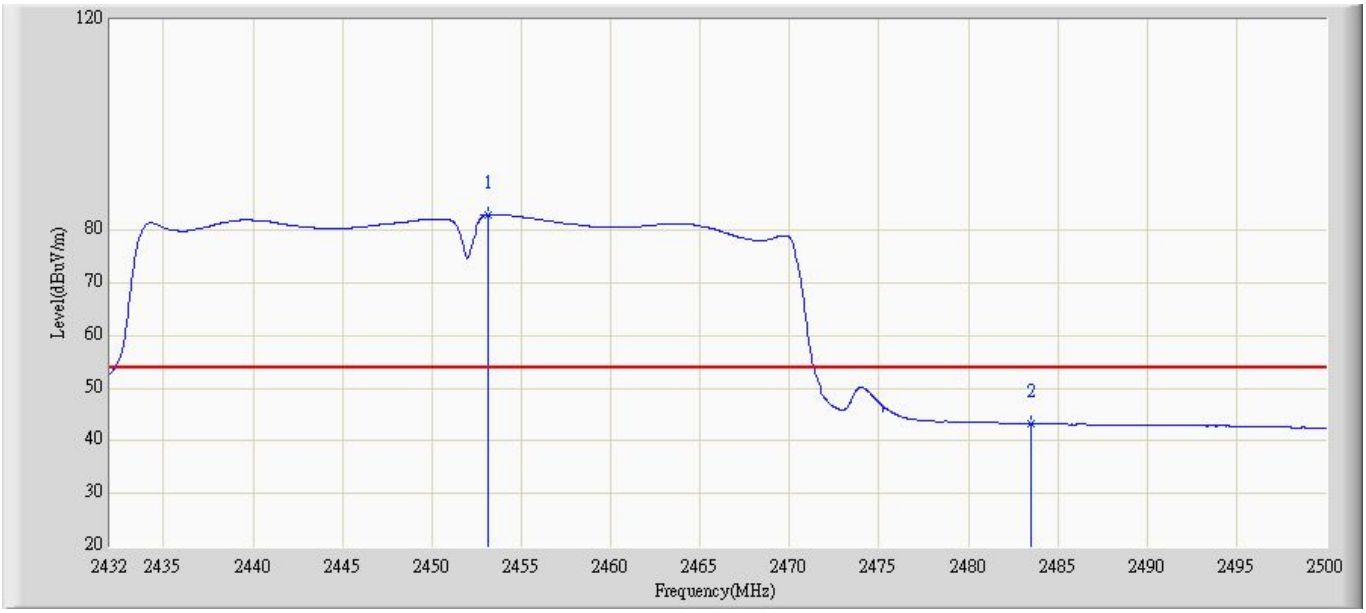
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2453.896	87.351	56.839	N/A	N/A	30.511	AV
2		2483.500	45.699	14.714	-8.301	54.000	30.985	AV

Site: AC5	Time: 2014/12/19 - 14:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2452MHz by 802.11n40 chain 2	



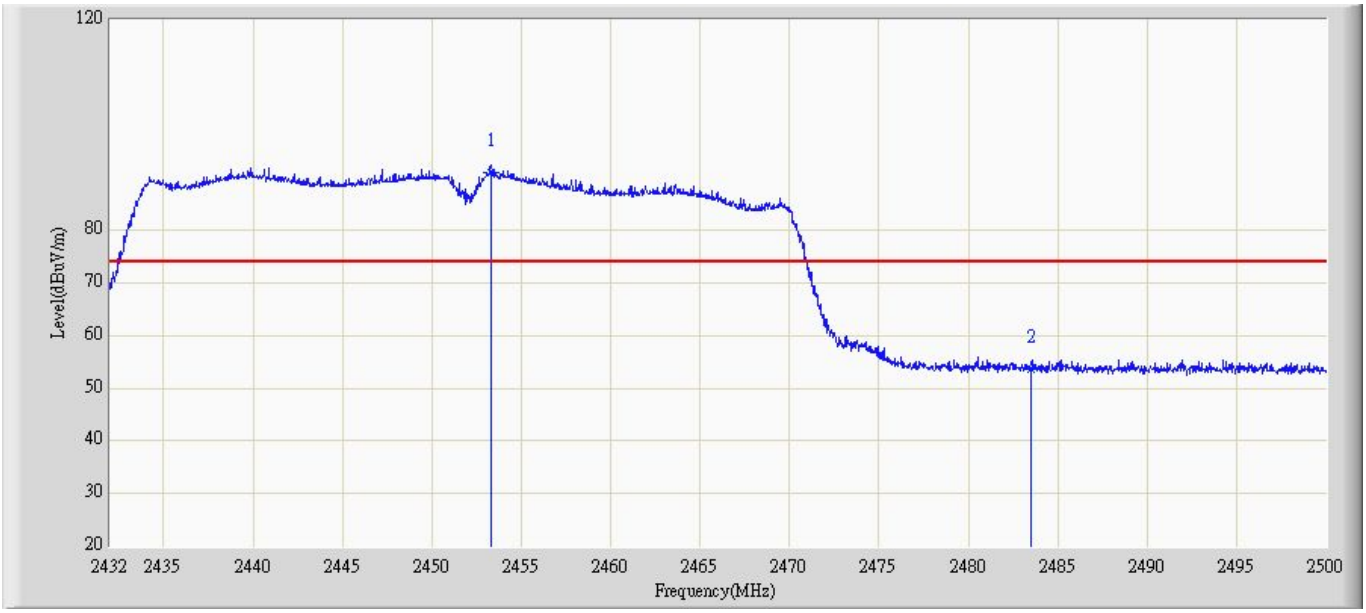
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2453.182	91.001	60.491	N/A	N/A	30.510	PK
2		2483.500	54.312	23.327	-19.688	74.000	30.985	PK

Site: AC5	Time: 2014/12/19 - 15:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2452MHz by 802.11n40 chain 2	



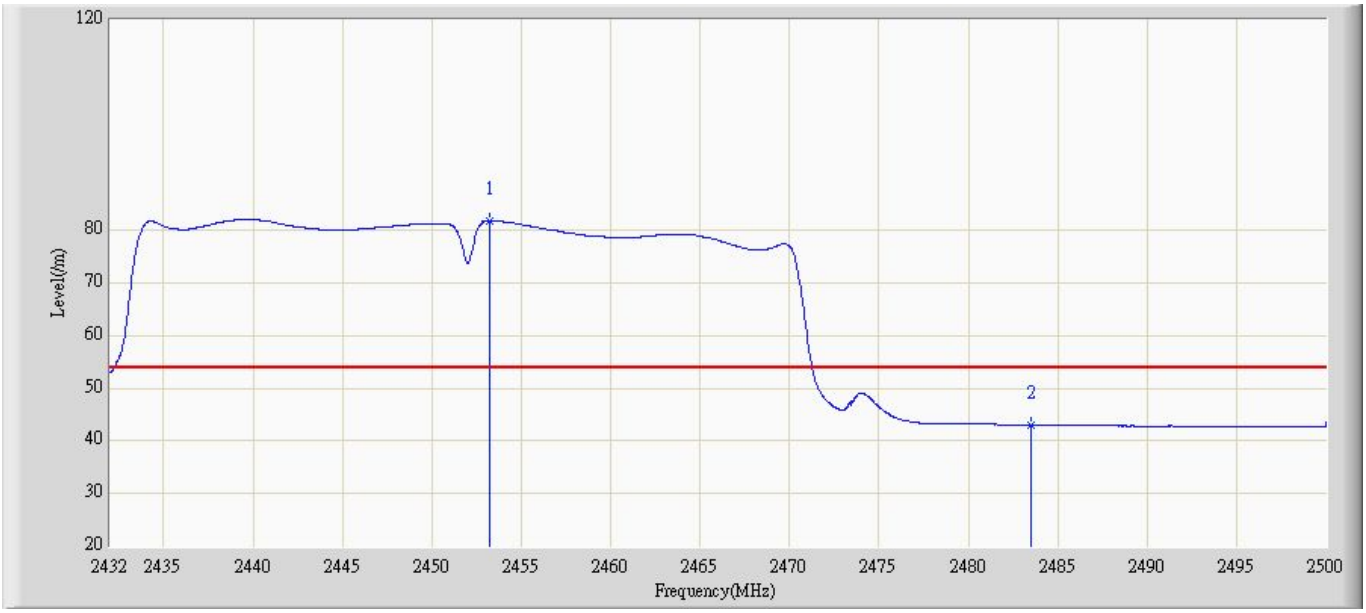
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2453.148	82.966	52.457	N/A	N/A	30.510	AV
2		2483.500	43.259	12.274	-10.741	54.000	30.985	AV

Site: AC5	Time: 2014/12/19 - 15:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2452MHz by 802.11n40 chain 2	



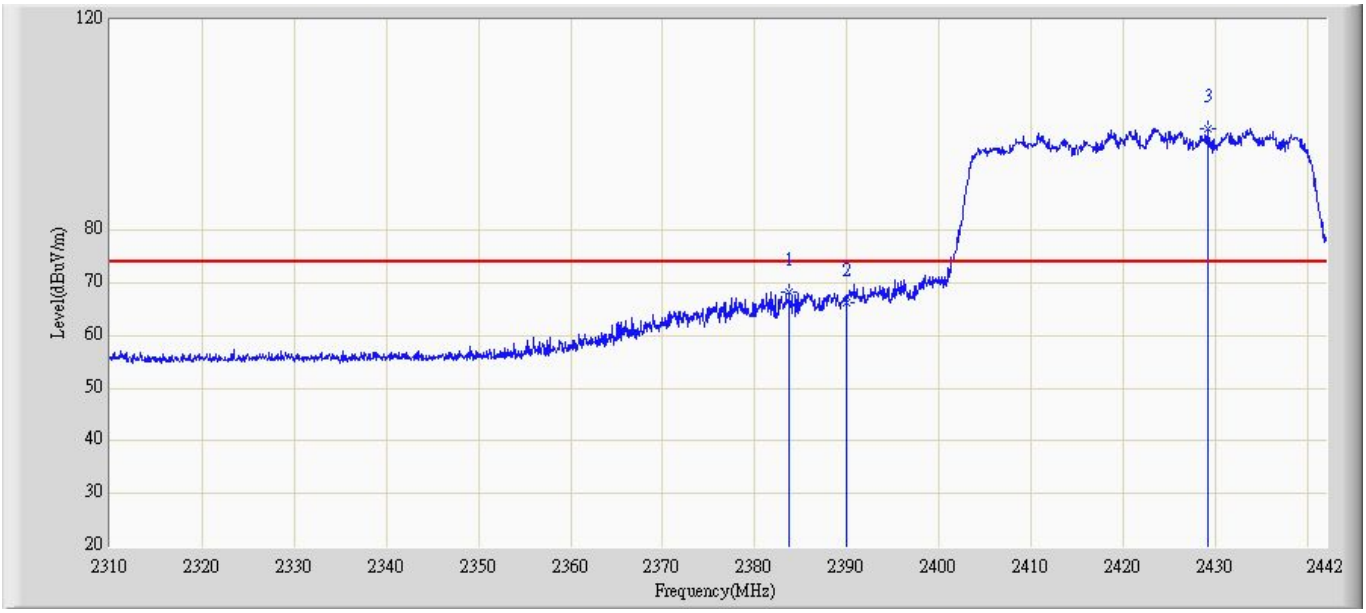
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2453.352	91.103	60.593	N/A	N/A	30.510	PK
2		2483.500	53.518	22.533	-20.482	74.000	30.985	PK

Site: AC5	Time: 2014/12/19 - 15:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2452MHz by 802.11n40 chain 2	



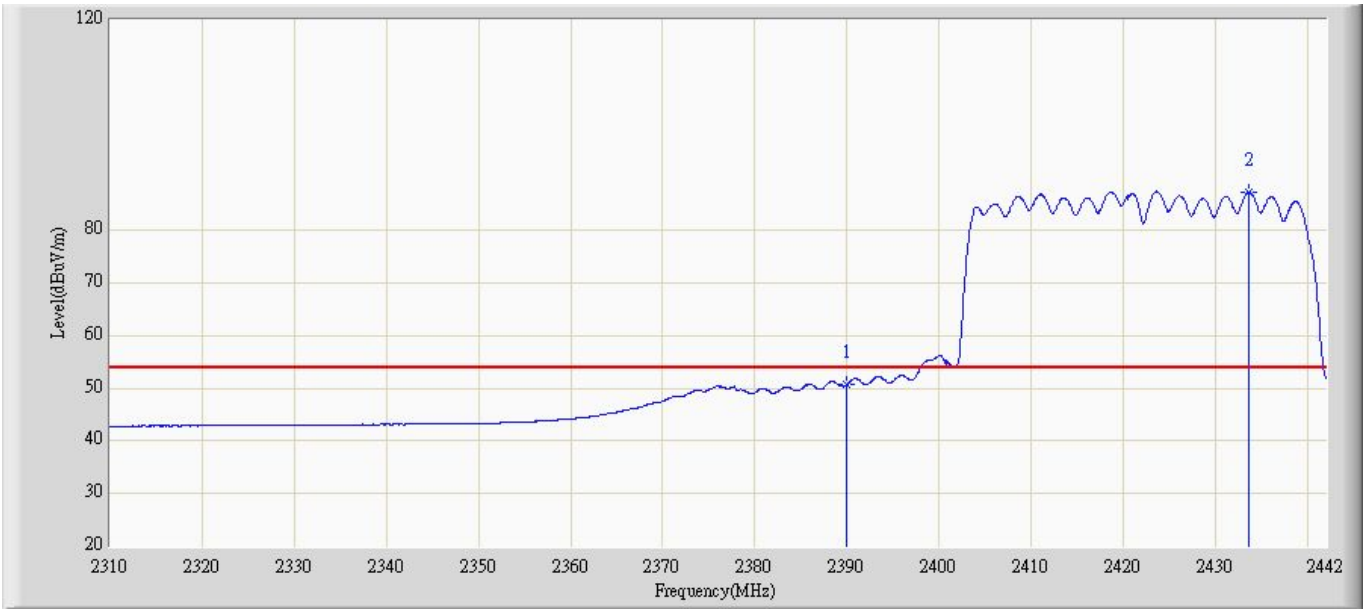
No	Mark	Frequency (MHz)	Measure Level (/m)	Reading Level ()	Over Limit (dB)	Limit (/m)	Factor (dB)	Type
1	*	2453.250	81.797	51.287	N/A	N/A	30.510	AV
2		2483.500	43.034	12.049	-10.966	54.000	30.985	AV

Site: AC5	Time: 2014/12/19 - 15:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2422MHz by 802.11n40 chain 1+2	



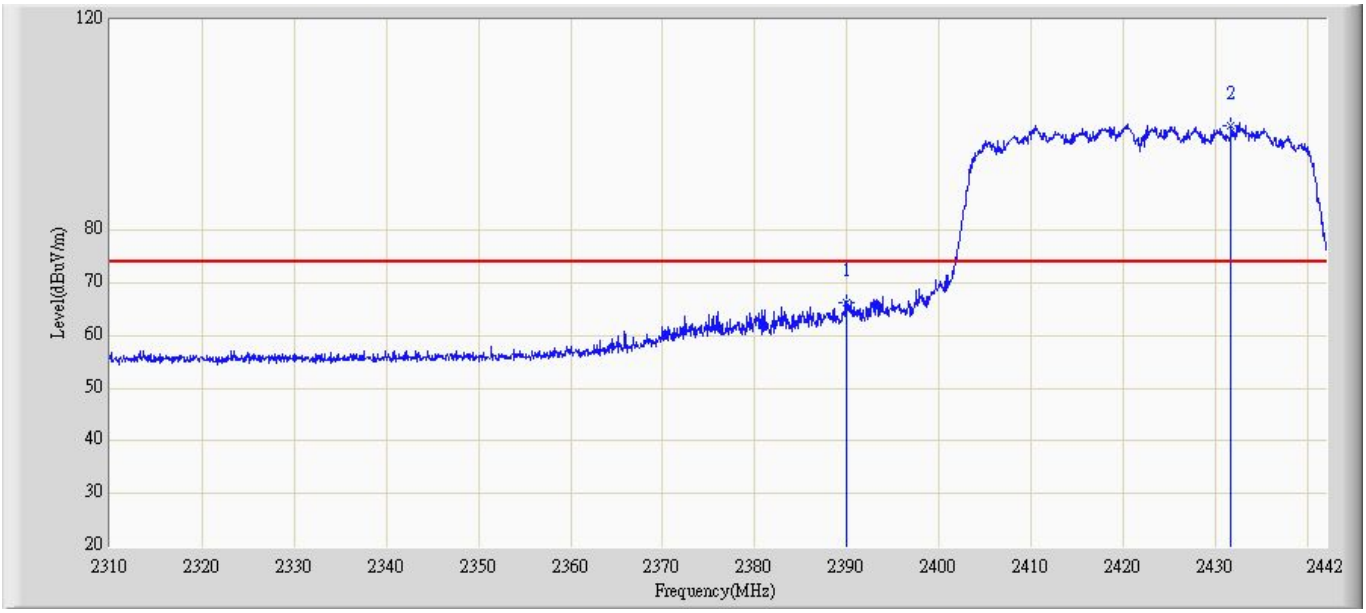
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2383.788	68.293	37.962	-5.707	74.000	30.331	PK
2		2390.000	66.217	35.477	-7.783	74.000	30.740	PK
3	*	2429.262	99.277	68.828	N/A	N/A	30.449	PK

Site: AC5	Time: 2014/12/19 - 15:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2422MHz by 802.11n40 chain 1+2	



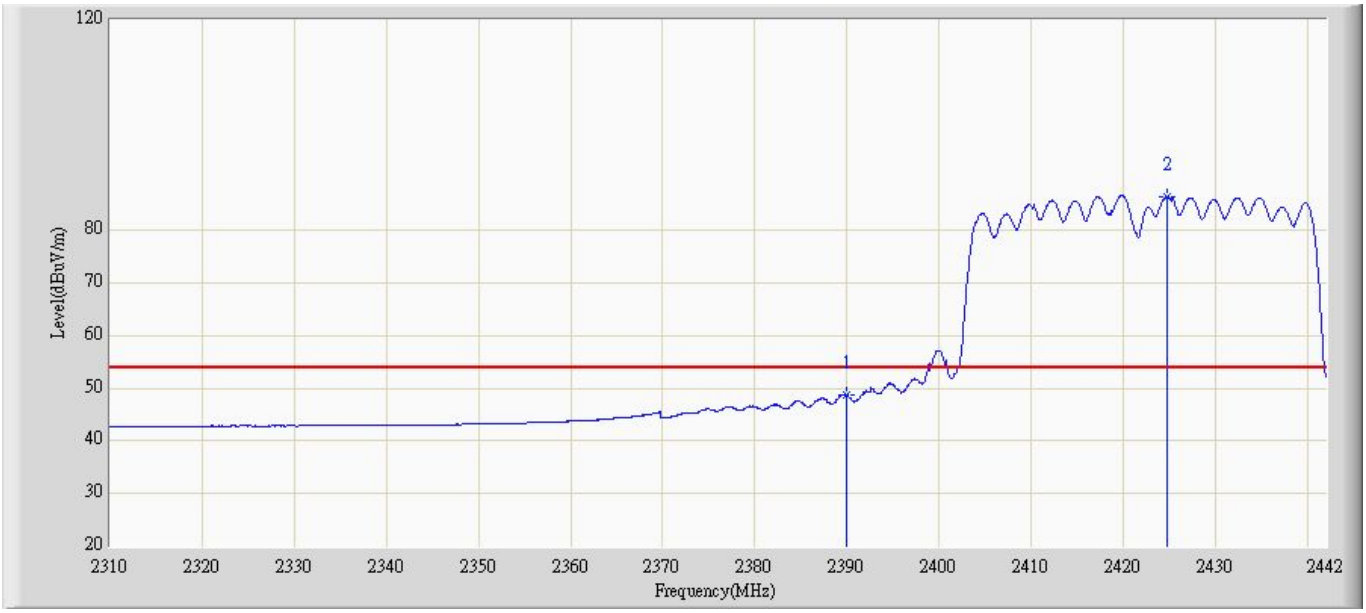
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.699	19.959	-3.301	54.000	30.740	AV
2	*	2433.684	87.268	56.809	N/A	N/A	30.459	AV

Site: AC5	Time: 2014/12/19 - 15:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2422MHz by 802.11n40 chain 1+2	



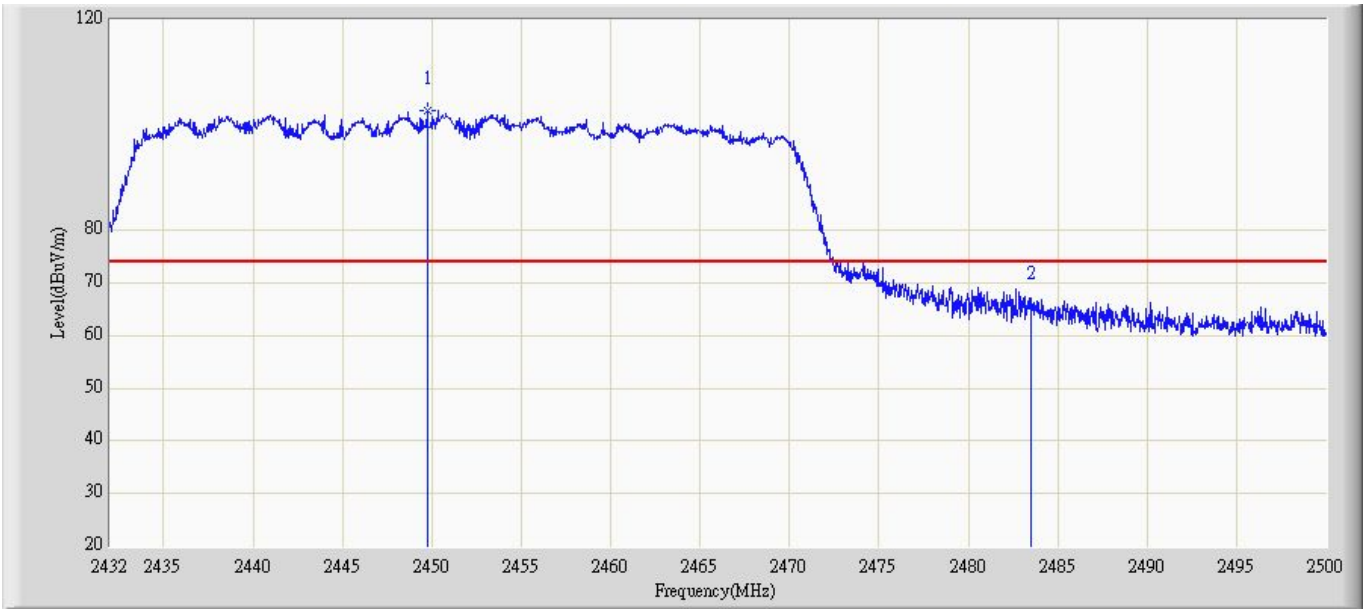
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	66.274	35.534	-7.726	74.000	30.740	PK
2	*	2431.704	100.018	69.563	N/A	N/A	30.455	PK

Site: AC5	Time: 2014/12/19 - 15:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2422MHz by 802.11n40 chain 1+2	



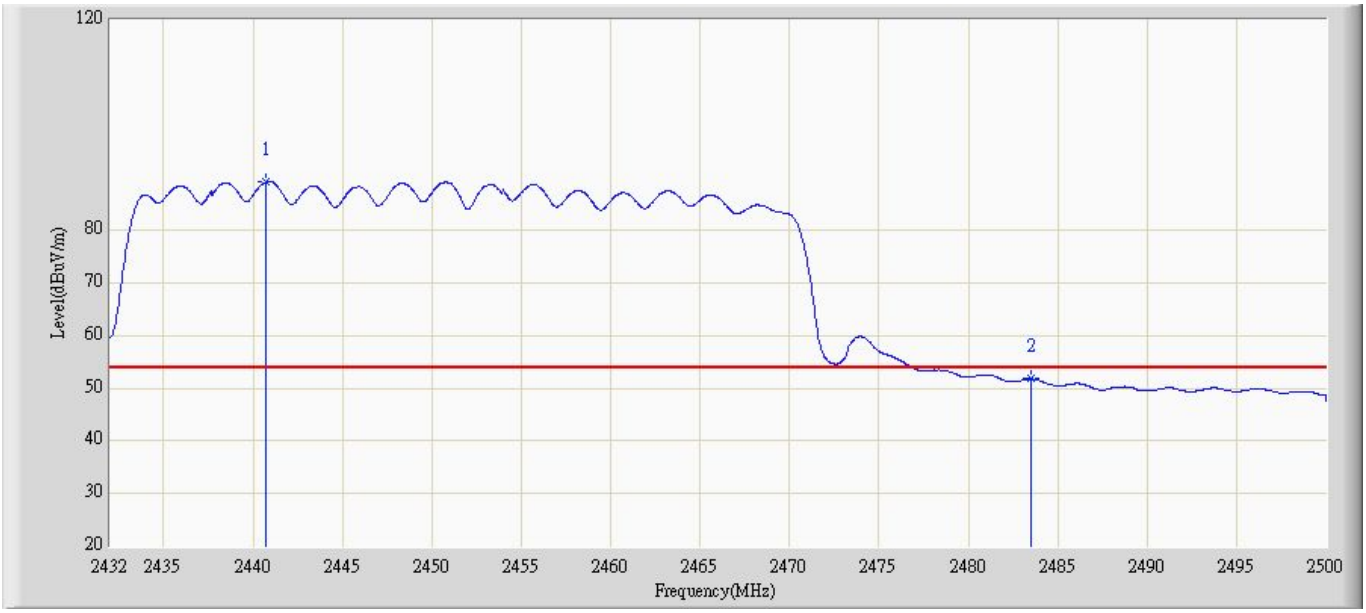
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	48.675	17.935	-5.325	54.000	30.740	AV
2	*	2424.774	86.385	55.948	N/A	N/A	30.437	AV

Site: AC5	Time: 2014/12/19 - 15:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2452MHz by 802.11n40 chain 1+2	



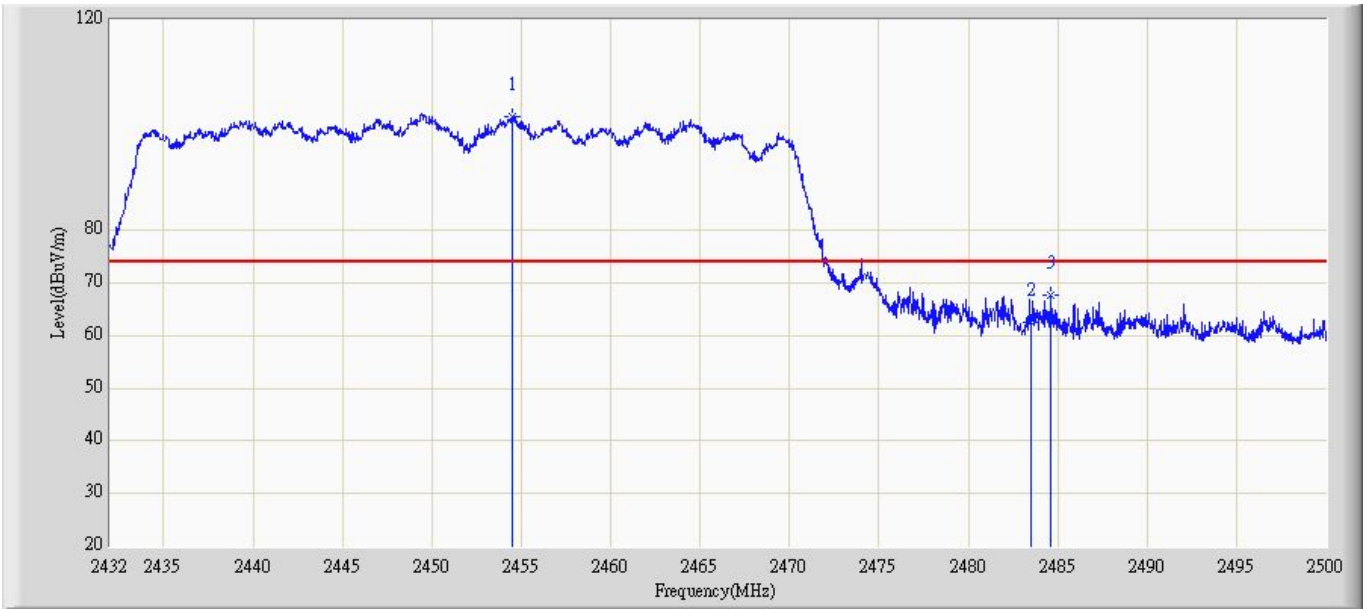
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2449.748	102.676	72.176	N/A	N/A	30.500	PK
2		2483.500	65.570	34.585	-8.430	74.000	30.985	PK

Site: AC5	Time: 2014/12/19 - 15:33
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2452MHz by 802.11n40 chain 1+2	



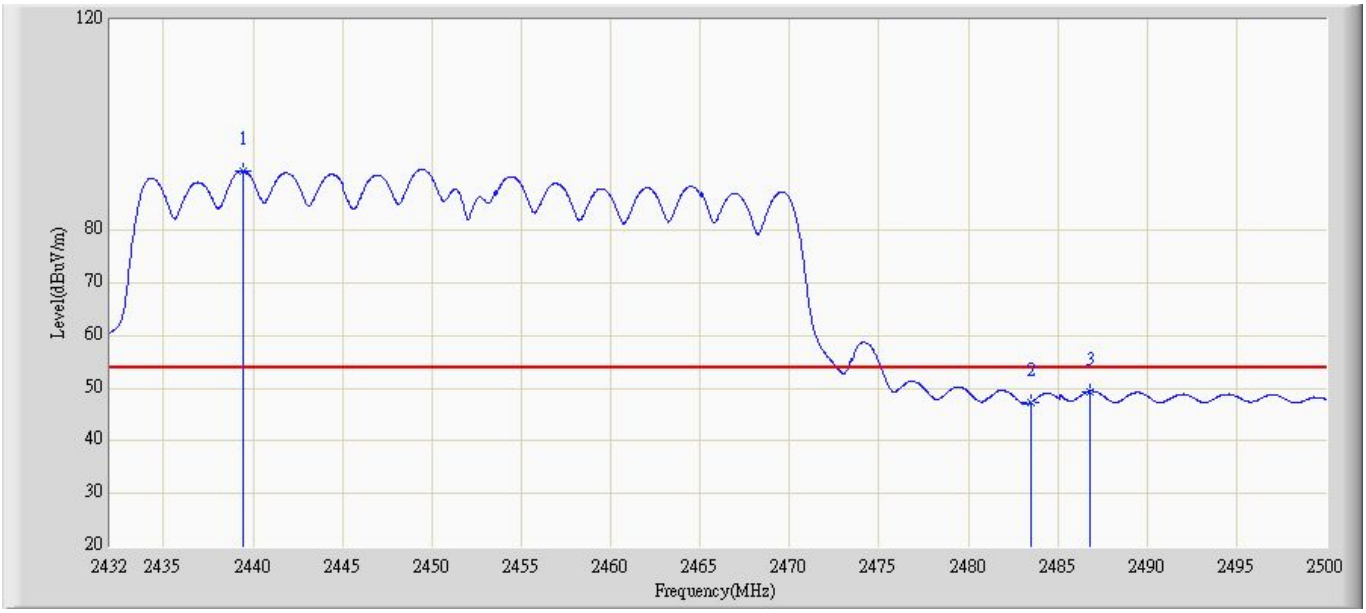
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2440.704	89.204	58.728	N/A	N/A	30.476	AV
2		2483.500	51.786	20.801	-2.214	54.000	30.985	AV

Site: AC5	Time: 2014/12/19 - 15:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2452MHz by 802.11n40 chain 1+2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2454.508	101.636	71.123	N/A	N/A	30.513	PK
2		2483.500	62.567	31.582	-11.433	74.000	30.985	PK
3		2484.632	67.710	37.115	-6.290	74.000	30.595	PK

Site: AC5	Time: 2014/12/19 - 15:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: AC 120V/60Hz
Note: Mode4:Transmit at channel 2452MHz by 802.11n40 chain 1+2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2439.412	91.331	60.858	N/A	N/A	30.473	AV
2		2483.500	47.282	16.297	-6.718	54.000	30.985	AV
3		2486.774	49.396	18.794	-4.604	54.000	30.602	AV

The End