FCC Test Report

(Class II Permissive Change)

Product Name	802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Model No	BCM94360HMB
FCC ID.	QDS-BRCM1082

Applicant	Broadcom Corporation
Address	190 Mathilda Place Sunnyvale CA 94086 U.S.A.

Date of Receipt	Apr. 01, 2014
Issue Date	Jun. 27, 2014
Report No.	1440118R-RFUSP25V00
Report Version	V1.0

Testing Laboratory
0914

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

Test Report

Issue Date: Jun. 27, 2014
Report No.: 1440118R-RFUSP25V00

Product Name	802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Applicant	Broadcom Corporation
Address	190 Mathilda Place Sunnyvale CA 94086 U.S.A.
Manufacturer	Broadcom Corporation
Model No.	BCM94360HMB
FCC ID.	QDS-BRCM1082
EUT Rated Voltage	DC 3.3V (via Mini-PCI Express slot)
EUT Test Voltage	AC 120V/60Hz
Trade Name	Broadcom
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2014 ANSI C63.10: 2009, KDB 558074
Test Result	Complied

Documented By : Rita Huang

(Senior Adm. Specialist / Rita Huang)

Tested By : Andy Lin

(Engineer / Andy Lin)

Approved By :

(Director / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Trade Name	Broadcom
Model No.	BCM94360HMB
FCC ID.	QDS-BRCM1082
Frequency Range	802.11b/g/n-20MHz: 2412-2472MHz, 802.11n-40MHz: 2422-2462MHz 802.11a/n-20MHz: 5745-5825MHz, 802.11n-40MHz: 5755-5795MHz 802.11ac-80MHz: 5775 MHz
Number of Channels	802.11b/g/n-20MHz: 13, n-40MHz: 9 802.11a/n-20MHz: 5, n-40MHz: 2 802.11ac-80MHz: 1
Data Speed	802.11b: 1-11Mbps, 802.11a/g: 6-54Mbps, 802.11n: up to 450Mbps 802.11ac-80MHz: up to 1.3GHz
Channel separation	802.11b/g/n-20MHz: 5 MHz, 802.11a/n-20MHz: 20MHz 802.11n-40MHz: 40MHz, 802.11ac-80MHz: 80MHz
Type of Modulation	802.11b:DSSS, DBPSK, DQPSK, CCK 802.11a/g/n: OFDM, BPSK, QPSK, 16QAM, 64QAM, 256QAM
Antenna Type	PIFA Antenna
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto
Test Platform.(Notebook PC)	Brand Name: ASUS, M/N: NX500J / GX500J
Power Adapter	MFR: DELTA, M/N: ADP-130EB D Input: AC 100-240V ~ 50-60Hz, 1.8A Output: 19.5Vdc⎓6.67A Cable Out: Non-shielded, 1.8m

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	ACON	APP6Y-700108 (Main)(Aux)(MIMO)	PIFA	1.38dBi For 2.4GHz -0.85dBi For 5725-5850GHz
2	INPAQ	WA-F-LBLBLB-12-001 (Main)(Aux) (MIMO)	PIFA	1.35dBi For 2.4GHz -1.38dBi For 5725-5850GHz

Note: 1. The antenna of EUT is conform to FCC 15.203

2. Only the higher gain antenna was tested and recorded in this report.

802.11b/g/n-20MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2412 MHz	Channel 02:	2417 MHz	Channel 03:	2422 MHz	Channel 04:	2427 MHz
Channel 05:	2432 MHz	Channel 06:	2437 MHz	Channel 07:	2442 MHz	Channel 08:	2447 MHz
Channel 09:	2452 MHz	Channel 10:	2457 MHz	Channel 11:	2462 MHz	Channel 12:	2467 MHz
Channel 13:	2472 MHz						

802.11a/n-20MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 149:	5745 MHz	Channel 153:	5765 MHz	Channel 157:	5785 MHz	Channel 161:	5805 MHz
Channel 165:	5825 MHz						

802.11n-40MHz (2.4G Band) Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 3:	2422 MHz	Channel 4:	2427 MHz	Channel 5:	2432 MHz	Channel 6:	2437 MHz
Channel 7:	2442 MHz	Channel 8:	2447 MHz	Channel 9:	2452 MHz	Channel 10:	2457 MHz
Channel 11:	2462 MHz						

802.11n-40MHz (5G Band) Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency
Channel 151:	5755 MHz	Channel 159:	5795 MHz

802.11ac-80MHz Carrier Frequency of Each Channel:

Channel	Frequency
Channel 155:	5775 MHz

Note:

1. This device is a 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card, Contains functions and so on WLAN、Bluetooth, This report for WLAN.
2. The Hardware is identical for two models, the differences between the models is sale via different distributors.
3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
4. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11b is 1Mbps、802.11g is 6Mbps、802.11n(20M-BW) is 21.7Mbps、802.11n(40M-BW) is 45Mbps) and 802.11ac(80M-BW) is 97.5Mbps.
5. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11a/b/g/n/ac transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.
6. This is to request a Class II permissive change for FCC ID: QDS-BRCM1082, originally granted on 06/16/2014.

   The major change filed under this application is:

   Change #1: Additional Chassis added, Model number: NX500J, GX500J

   (The Hardware is identical for two models, the differences between the models is sale via different distributors.)

   #2: Reduce the Output Power through firmware (only reduce Wi-Fi Power, Bluetooth power haven't changes).

   #3: Addition two new antennas, the antenna type is the same, the antenna gain is smaller than the original application.

Test Mode:	Mode 1: Transmit - 802.11b 1Mbps
	Mode 2: Transmit - 802.11g 6Mbps
	Mode 3: Transmit - 802.11a 6Mbps
	Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band)
	Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band)
	Mode 6: Transmit - 802.11n-20BW_21.7Mbps(5G Band)
	Mode 7: Transmit - 802.11n-40BW_45Mbps(5G Band)
	Mode 8: Transmit - 802.11ac-80BW_97.5Mbps(5G Band)

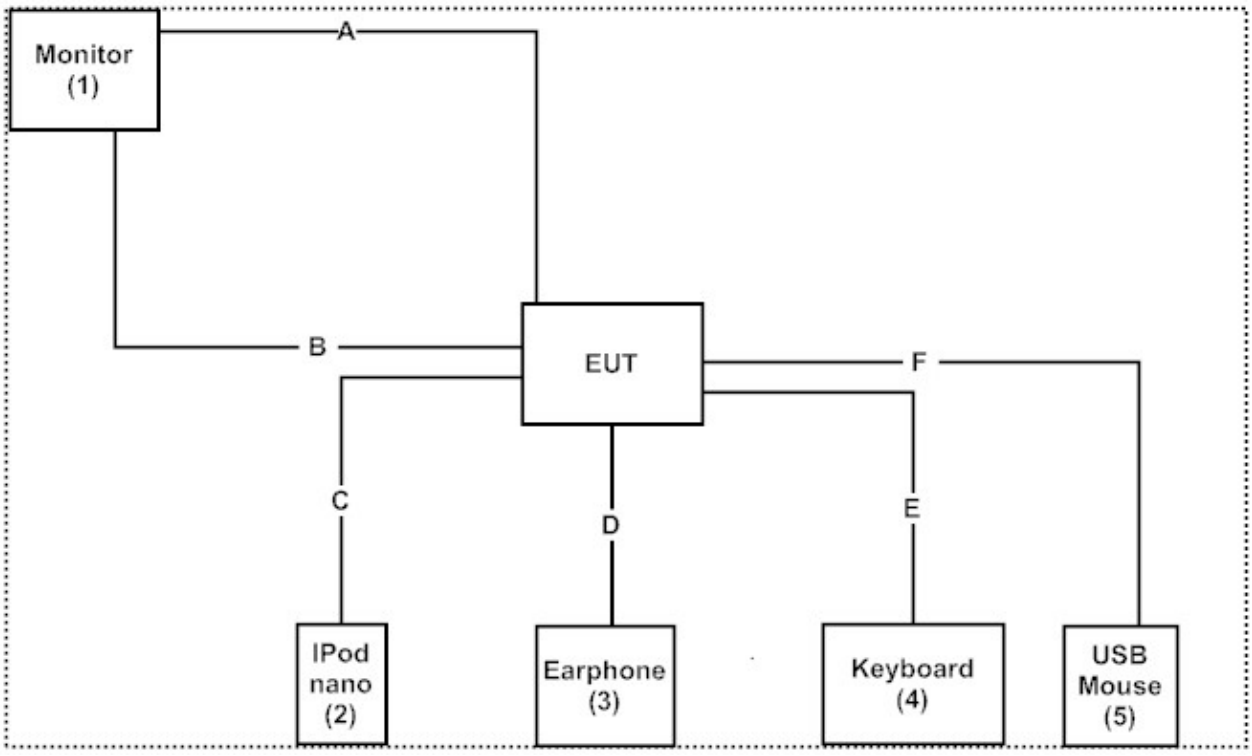
1.3. Tested System Details

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

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Monitor	DELL	U2410f	CN-082WXD-72872-23E-ACRL	Non-Shielded, 1.8m
2	IPod nano	Apple	A1199	5U705F6YVQ5	N/A
3	Earphone	Dr.AV	CD-806B	N/A	N/A
4	Keyboard	DELL	SK-8115	MY-0DJ325-71619-79D-0176	N/A
5	USB Mouse	Logitech	M-U0026	1245HS0684D8	N/A

Signal Cable Type		Signal cable Description
A	HDMI Cable	Non-Shielded, 1.5m
B	Display Cable	Non-Shielded, 1.8m
C	I-Pod Cable	Non-Shielded, 0.9m
D	Earphone Cable	Non-Shielded, 1.5m
E	Keyboard Cable	Non-Shielded, 1.8 m, with one ferrite core bonded.
F	Mouse Cable	Non-Shielded, 1.8m

1.4. Configuration of Tested System



1.5. EUT Exercise Software

(1) Setup the EUT as shown in Section 1.4

(2) Execute ”MTool Ver2.0.1.8” the Notebook PC.

(3) Configure the test mode, the test channel, and the data rate.

(4) Press “OK” to start the continuous Transmit.

(5) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

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/

Site Description: File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 92195

Site Name: Quietek Corporation
Site Address: 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

FCC Accreditation Number: TW1014

2. Peak Power Output

2.1. Test Equipment

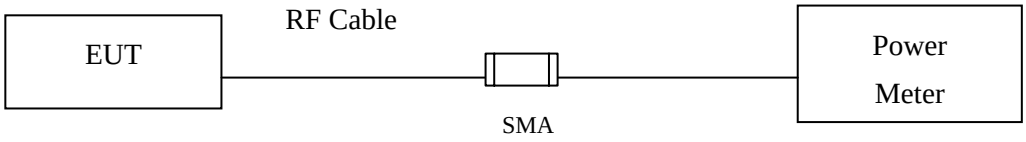
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2014
X	Power Sensor	Anritsu	MA2411B/0738448	Jun., 2014
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2014
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2014
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2014

Note:

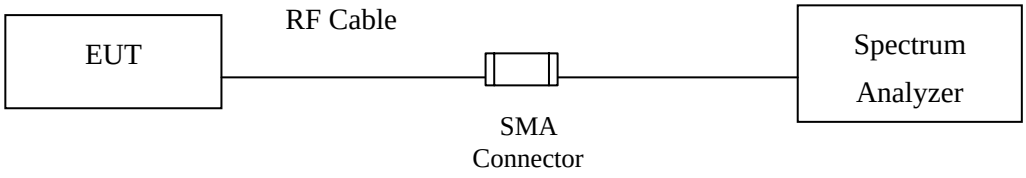
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

2.2. Test Setup

Conduction Power Measurement (for 802.11abgn)



Conduction Power Measurement (for 802.11ac)



2.3. Limits

The maximum peak power shall be less 1 Watt.

2.4. Test Procedure

The EUT was tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements. The maximum peak conducted output power using KDB 558074 section 9.1.3 PKPM1 Peak power meter method.
Note: the power meter have a video bandwidth that is greater than or equal to the measurement bandwidth, (Anritsu/ MA2411B video bandwidth: 65MHz)

802.11ac (BW=80MHz) maximum peak conducted output power was tested using spectrum measurement, when transmitted signals consist of two or more non-contiguous spectrum segments (e.g., 80+80 MHz mode) or when a single spectrum segment of a transmission crosses the boundary between two adjacent U-NII bands, KDB 644545 D01 section F) procedure is used for measurements.

2.5. Uncertainty

± 1.27 dB

2.6. Test Result of Peak Power Output

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - 802.11b 1Mbps

CHAIN A

Channel No	Frequency (MHz)	Peak Power Data Rate 6 Mbps	Required Limit	Result
01	2412	16.10	<30dBm	Pass
06	2437	16.17	<30dBm	Pass
13	2472	15.38	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN B

Channel No	Frequency (MHz)	Peak Power Data Rate 6 Mbps	Required Limit	Result
01	2412	15.98	<30dBm	Pass
06	2437	15.92	<30dBm	Pass
13	2472	14.54	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN C

Channel No	Frequency (MHz)	Peak Power Data Rate 6 Mbps	Required Limit	Result
01	2412	15.85	<30dBm	Pass
06	2437	15.81	<30dBm	Pass
13	2472	14.79	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN A+B+C

Channel	Frequency (MHz)	Data Rata (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain A+B+C Power (dBm)	Limit (dBm)	Result
1	2412	1	16.10	15.98	15.85	20.75	<30dBm	Pass
6	2437	1	16.17	15.92	15.81	20.74	<30dBm	Pass
13	2472	1	15.38	14.54	14.79	19.69	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW)+ Chain C (mW))

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps

CHAIN A

Channel No	Frequency (MHz)	Peak Power Data Rate 6 Mbps	Required Limit	Result
01	2412	13.80	<30dBm	Pass
02	2417	15.86	<30dBm	Pass
06	2437	15.88	<30dBm	Pass
10	2457	15.89	<30dBm	Pass
11	2462	13.81	<30dBm	Pass
12	2467	13.21	<30dBm	Pass
13	2472	10.63	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN B

Channel No	Frequency (MHz)	Peak Power Data Rate 6 Mbps	Required Limit	Result
01	2412	14.07	<30dBm	Pass
02	2417	15.74	<30dBm	Pass
06	2437	15.67	<30dBm	Pass
10	2457	15.81	<30dBm	Pass
11	2462	13.88	<30dBm	Pass
12	2467	13.07	<30dBm	Pass
13	2472	10.13	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN C

Channel No	Frequency (MHz)	Peak Power Data Rate 6 Mbps	Required Limit	Result
01	2412	14.10	<30dBm	Pass
02	2417	15.36	<30dBm	Pass
06	2437	15.43	<30dBm	Pass
10	2457	15.44	<30dBm	Pass
11	2462	15.51	<30dBm	Pass
12	2467	13.85	<30dBm	Pass
13	2472	13.38	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN A+B+C

Channel	Frequency (MHz)	Data Rata (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain A+B+C Power (dBm)	Limit (dBm)	Result
01	2412	6	13.80	14.07	14.10	18.76	<30dBm	Pass
02	2417	6	15.86	15.74	15.36	20.43	<30dBm	Pass
06	2437	6	15.88	15.67	15.43	20.44	<30dBm	Pass
10	2457	6	15.89	15.81	15.51	20.51	<30dBm	Pass
11	2462	6	13.81	13.88	13.85	18.62	<30dBm	Pass
12	2467	6	13.21	13.07	13.38	17.99	<30dBm	Pass
13	2472	6	10.63	10.13	10.74	15.28	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW)+ Chain C (mW))

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit - 802.11a 6Mbps

CHAIN A

Channel No	Frequency (MHz)	Peak Power Data Rate 6 Mbps	Required Limit	Result
149	5745	12.81	<30dBm	Pass
157	5785	12.82	<30dBm	Pass
165	5825	13.02	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN B

Channel No	Frequency (MHz)	Peak Power Data Rate 6 Mbps	Required Limit	Result
149	5745	12.44	<30dBm	Pass
157	5785	12.37	<30dBm	Pass
165	5825	12.39	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN C

Channel No	Frequency (MHz)	Peak Power Data Rate 6 Mbps	Required Limit	Result
149	5745	12.84	<30dBm	Pass
157	5785	12.79	<30dBm	Pass
165	5825	12.80	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN A+B+C

Channel	Frequency (MHz)	Data Rata (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain A+B+C Power (dBm)	Limit (dBm)	Result
149	5745	6	12.81	12.44	12.84	17.47	<30dBm	Pass
157	5785	6	12.82	12.37	12.79	17.44	<30dBm	Pass
165	5825	6	13.02	12.39	12.80	17.52	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW)+ Chain C (mW))

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band)

CHAIN A

Channel No	Frequency (MHz)	Peak Power
		Data Rate 14.4 Mbps
01	2412	13.51
06	2437	13.82
10	2457	14.31
11	2462	12.23
12	2467	11.35
13	2472	10.87

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN B

Channel No	Frequency (MHz)	Peak Power
		Data Rate 14.4 Mbps
01	2412	14.42
06	2437	14.88
10	2457	14.28
11	2462	12.47
12	2467	11.56
13	2472	10.54

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN C

Channel No	Frequency (MHz)	Peak Power
		Data Rate 14.4 Mbps
01	2412	13.55
06	2437	14.31
10	2457	14.36
11	2462	12.11
12	2467	11.57
13	2472	10.88

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN A+B+C

Channel	Frequency (MHz)	Data Rata (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain A+B+C Power (dBm)	Limit (dBm)	Result
1	2412	21.7	13.51	14.42	13.55	18.62	<30dBm	Pass
6	2437	21.7	13.82	14.88	14.31	19.13	<30dBm	Pass
10	2457	21.7	14.31	14.28	14.36	19.09	<30dBm	Pass
11	2462	21.7	12.23	12.47	12.11	17.04	<30dBm	Pass
12	2467	21.7	11.35	11.56	11.57	16.27	<30dBm	Pass
13	2472	21.7	10.87	10.54	10.88	15.54	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW)+ Chain C (mW))

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band)

CHAIN A

Channel No	Frequency (MHz)	Peak Power
		Data Rate 30 Mbps
03	2422	12.08
04	2427	11.89
06	2437	11.88
08	2447	11.85
09	2452	11.11
10	2457	10.61
11	2462	10.35

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN B

Channel No	Frequency (MHz)	Peak Power
		Data Rate 30 Mbps
03	2422	11.57
04	2427	10.86
06	2437	10.42
08	2447	10.23
09	2452	9.38
10	2457	9.19
11	2462	8.69

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN C

Channel No	Frequency (MHz)	Peak Power
		Data Rate 30 Mbps
03	2422	12.18
04	2427	12.06
06	2437	12.02
08	2447	12.04
09	2452	11.03
10	2457	10.54
11	2462	10.18

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN A+B+C

Channel	Frequency (MHz)	Data Rata (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain A+B+C Power (dBm)	Limit (dBm)	Result
03	2422	45	12.08	11.57	12.18	16.72	<30dBm	Pass
04	2427	45	11.89	10.86	12.06	16.41	<30dBm	Pass
06	2437	45	11.88	10.42	12.02	16.27	<30dBm	Pass
08	2447	45	11.85	10.23	12.04	16.22	<30dBm	Pass
09	2452	45	11.11	9.38	11.03	15.35	<30dBm	Pass
10	2457	45	10.61	9.19	10.54	14.93	<30dBm	Pass
11	2462	45	10.35	8.69	10.18	14.57	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW)+ Chain C (mW))

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit - 802.11n-20BW_21.7Mbps(5G Band)

CHAIN A

Channel No	Frequency (MHz)	Peak Power
		Data Rate 14.4 Mbps
149	5745	10.22
157	5785	10.13
165	5825	10.21

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN B

Channel No	Frequency (MHz)	Peak Power
		Data Rate 14.4 Mbps
149	5745	10.89
157	5785	11.09
165	5825	11.06

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN C

Channel No	Frequency (MHz)	Peak Power
		Data Rate 14.4 Mbps
149	5745	9.71
157	5785	9.67
165	5825	9.98

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN A+B+C

Channel	Frequency (MHz)	Data Rata (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain A+B+C Power (dBm)	Limit (dBm)	Result
149	5745	21.7	10.22	10.89	9.71	15.07	<30dBm	Pass
157	5785	21.7	10.13	11.09	9.67	15.11	<30dBm	Pass
165	5825	21.7	10.21	11.06	9.98	15.21	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW)+ Chain C (mW))

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 7: Transmit - 802.11n-40BW_45Mbps(5G Band)

CHAIN A

Channel No	Frequency (MHz)	Peak Power
		Data Rate 30 Mbps
151	5755	10.33
159	5795	9.95

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN B

Channel No	Frequency (MHz)	Peak Power
		Data Rate 30 Mbps
151	5755	10.81
159	5795	10.85

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN C

Channel No	Frequency (MHz)	Peak Power
		Data Rate 30 Mbps
151	5755	9.91
159	5795	9.45

Note: Peak Power Output Value =Reading value on power meter + cable loss

CHAIN A+B+C

Channel	Frequency (MHz)	Data Rata (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain A+B+C Power (dBm)	Limit (dBm)	Result
151	5755	45	10.33	10.81	9.91	15.14	<30dBm	Pass
159	5795	45	9.95	10.85	9.45	14.89	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW))

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 8: Transmit - 802.11ac-80BW_97.5Mbps(5G Band)

CHAIN A

Channel No	Frequency (MHz)	Peak Power
		Data Rate 65 Mbps
155	5775	9.90

CHAIN B

Channel No	Frequency (MHz)	Peak Power
		Data Rate 65 Mbps
155	5775	10.46

CHAIN C

Channel No	Frequency (MHz)	Peak Power
		Data Rate 65 Mbps
155	5775	9.86

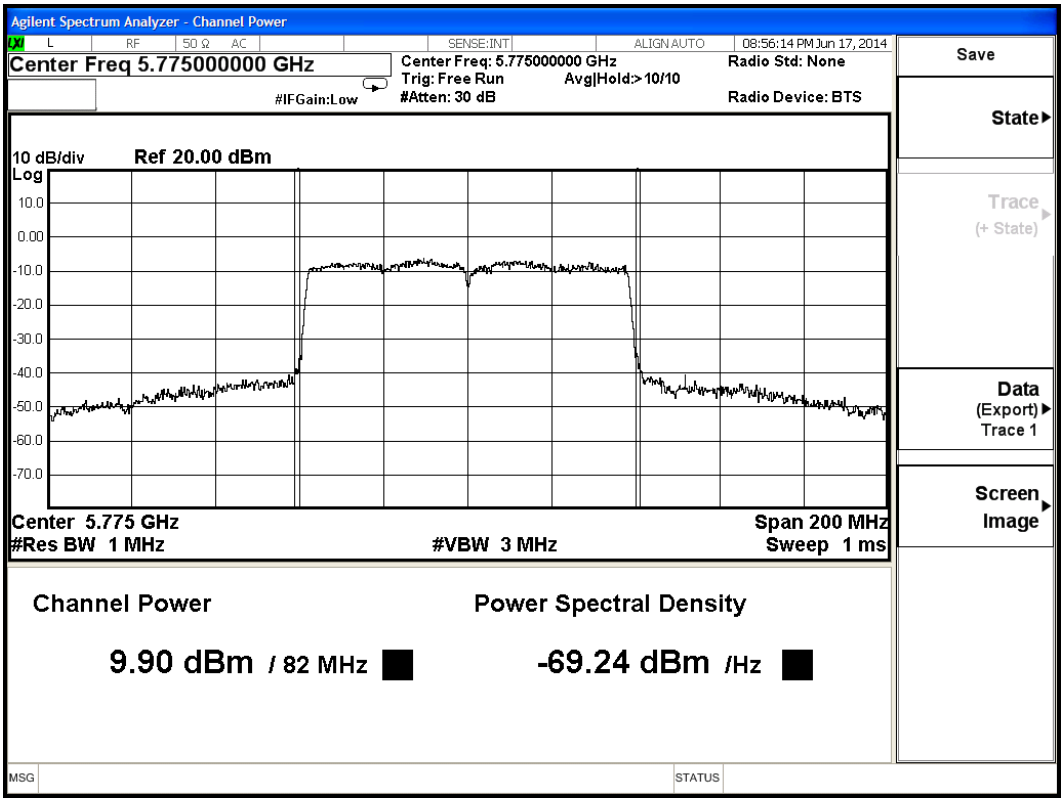
CHAIN A+B+C

Channel	Frequency (MHz)	Data Rata (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain A+B+C Power (dBm)	Limit (dBm)	Result
155	5775	97.5	9.90	10.46	9.86	14.85	<30dBm	Pass

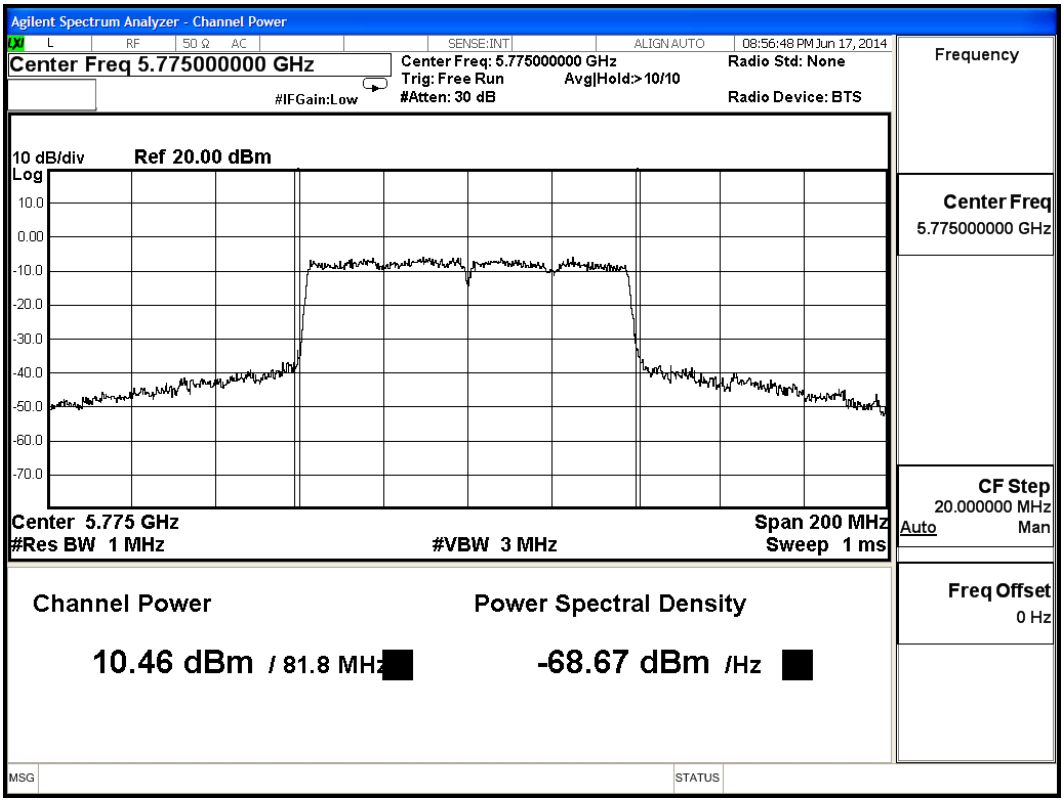
Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW)+ Chain C (mW))

Peak Power Output

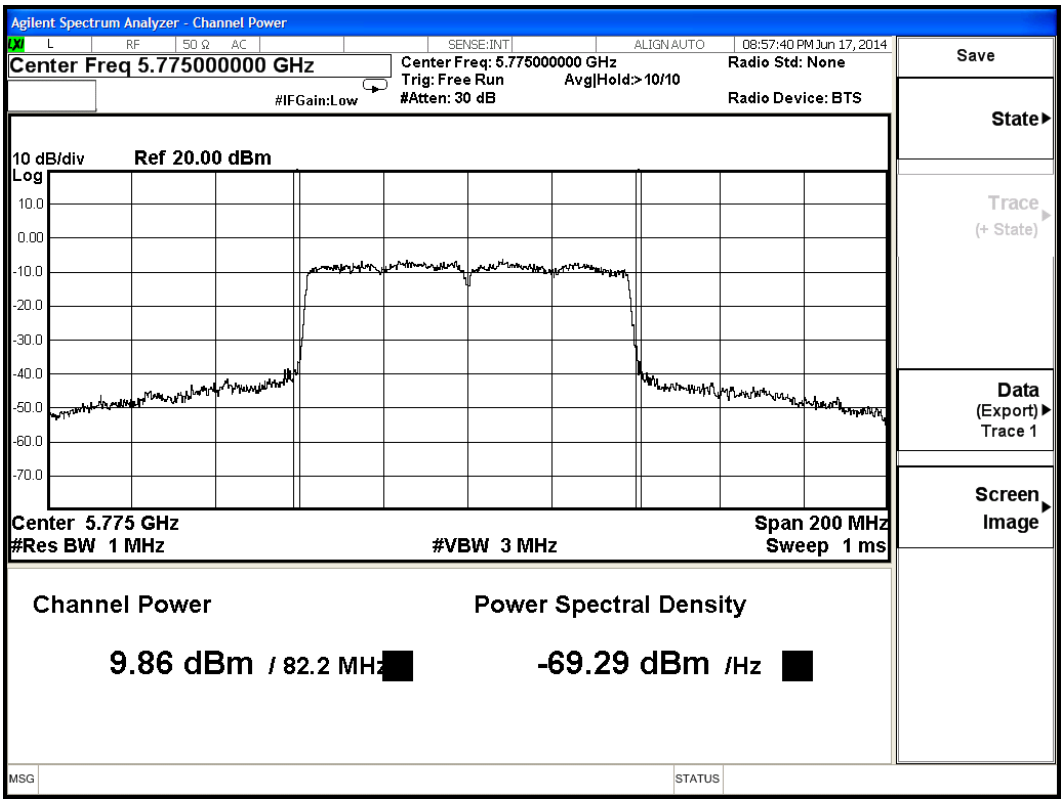
Channel 155– Chain A



Channel 155– Chain B



Channel 155– Chain C



3. Radiated Emission

3.1. Test Equipment

The following test equipment are used during the radiated emission test:

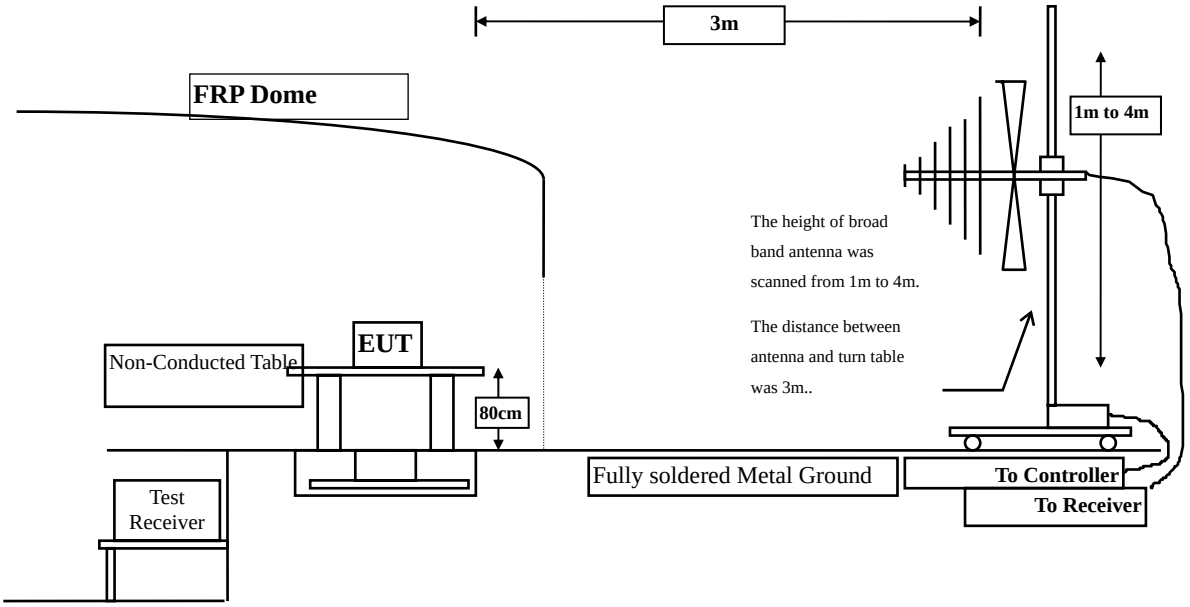
Test Site	Equipment		Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3	X	Loop Antenna	Teseq	HLA6120 / 26739	Jul., 2013
	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2013
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2013
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2013
	X	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2014
	X	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2013
	X	Pre-Amplifier	MITEQ	AMF-4D-180400-45-6P/ 925975	Mar, 2014
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2014
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2013
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2014
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

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

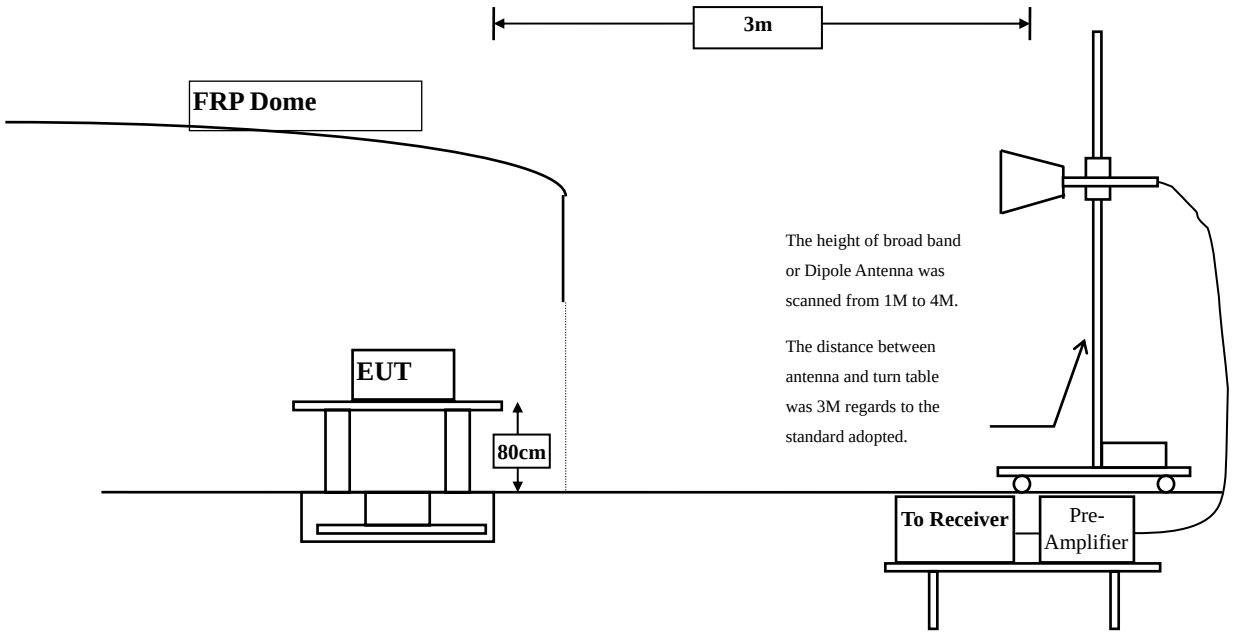
2. The test instruments marked with “X” are used to measure the final test results.

3.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



3.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

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

3.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2009 and tested according to DTS test procedure of KDB558074 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 between 1 meter and 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 C63.10:2009 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The measurement frequency range form 9kHz - 10th Harmonic of fundamental was investigated.

3.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

3.6. Test Result of Radiated Emission

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - 802.11b 1Mbps (2412MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.261	37.590	40.851	-33.149	74.000
7236.000	10.650	36.590	47.240	-26.760	74.000
9648.000	13.337	37.450	50.786	-23.214	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	6.421	42.090	48.511	-25.489	74.000
7236.000	11.495	37.010	48.505	-25.495	74.000
9648.000	13.807	36.590	50.396	-23.604	74.000
Average Detector:					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - 802.11b 1Mbps (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
4874.000	3.038	37.590	40.627	-33.373	74.000
7311.000	11.795	37.150	48.944	-25.056	74.000
9748.000	12.635	36.150	48.785	-25.215	74.000
Average Detector:					
--					
Vertical Peak Detector:					
4874.000	5.812	43.260	49.071	-24.929	74.000
7311.000	12.630	37.150	49.779	-24.221	74.000
9748.000	13.126	36.590	49.716	-24.284	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - 802.11b 1Mbps (2472 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4944.000	2.805	37.150	39.955	-34.045	74.000
7416.000	12.342	37.260	49.601	-24.399	74.000
9888.000	13.231	36.590	49.821	-24.179	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
4944.000	5.542	37.150	42.692	-31.308	74.000
7416.000	13.394	36.590	49.983	-24.017	74.000
9888.000	13.833	36.540	50.374	-23.626	74.000
Average					
Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps (2412MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.261	38.590	41.851	-32.149	74.000
7236.000	10.650	37.140	47.790	-26.210	74.000
9648.000	13.337	36.590	49.926	-24.074	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	6.421	44.150	50.571	-23.429	74.000
7236.000	11.495	36.590	48.085	-25.915	74.000
9648.000	13.807	37.150	50.956	-23.044	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	3.038	37.590	40.627	-33.373	74.000
7311.000	11.795	36.540	48.334	-25.666	74.000
9748.000	12.635	36.580	49.215	-24.785	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
4874.000	5.812	43.570	49.381	-24.619	74.000
7311.000	12.630	36.980	49.609	-24.391	74.000
9748.000	13.126	37.540	50.666	-23.334	74.000
Average					
Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps (2472 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4944.000	2.805	37.020	39.825	-34.175	74.000
7416.000	12.342	36.590	48.931	-25.069	74.000
9888.000	13.231	36.550	49.781	-24.219	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
4944.000	5.542	37.150	42.692	-31.308	74.000
7416.000	13.394	36.580	49.973	-24.027	74.000
9888.000	13.833	36.550	50.384	-23.616	74.000
Average					
Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit - 802.11a 6Mbps (5745 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11490.000	17.106	35.190	52.297	-21.703	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11490.000	18.034	35.330	53.365	-20.635	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit - 802.11a 6Mbps (5785 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11570.000	16.809	36.260	53.069	-20.931	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11570.000	17.698	36.060	53.758	-20.242	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit - 802.11a 6Mbps (5825 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11650.000	16.158	35.260	51.418	-22.582	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11650.000	17.274	35.540	52.815	-21.185	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band) (2412MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.261	37.150	40.411	-33.589	74.000
7236.000	10.650	36.480	47.130	-26.870	74.000
9648.000	13.337	37.150	50.486	-23.514	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	6.421	38.150	44.571	-29.429	74.000
7236.000	11.495	36.590	48.085	-25.915	74.000
9648.000	13.807	37.010	50.816	-23.184	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	3.038	37.150	40.187	-33.813	74.000
7311.000	11.795	36.590	48.384	-25.616	74.000
9748.000	12.635	36.590	49.225	-24.775	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
4874.000	5.812	38.150	43.961	-30.039	74.000
7311.000	12.630	36.590	49.219	-24.781	74.000
9748.000	13.126	36.980	50.106	-23.894	74.000
Average					
Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band) (2472 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4944.000	2.805	36.890	39.695	-34.305	74.000
7416.000	12.342	36.980	49.321	-24.679	74.000
9888.000	13.231	36.980	50.211	-23.789	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
4944.000	5.542	36.980	42.522	-31.478	74.000
7416.000	13.394	36.360	49.753	-24.247	74.000
9888.000	13.833	36.480	50.314	-23.686	74.000
Average					
Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) (2422MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4844.000	3.171	37.590	40.761	-33.239	74.000
7266.000	11.162	36.580	47.742	-26.258	74.000
9688.000	12.964	36.590	49.555	-24.445	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4844.000	6.178	38.580	44.758	-29.242	74.000
7266.000	11.982	36.470	48.452	-25.548	74.000
9688.000	13.507	36.570	50.078	-23.922	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
4874.000	3.038	37.440	40.477	-33.523	74.000
7311.000	11.795	36.520	48.314	-25.686	74.000
9748.000	12.635	36.980	49.615	-24.385	74.000
Average Detector:					
--					
Vertical Peak Detector:					
4874.000	5.812	38.690	44.501	-29.499	74.000
7311.000	12.630	36.850	49.479	-24.521	74.000
9748.000	13.126	36.980	50.106	-23.894	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) (2462 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4924.000	2.858	37.800	40.657	-33.343	74.000
7386.000	12.127	36.550	48.678	-25.322	74.000
9848.000	12.852	37.150	50.003	-23.997	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
4924.000	5.521	37.240	42.760	-31.240	74.000
7386.000	13.254	36.170	49.424	-24.576	74.000
9848.000	13.367	36.220	49.587	-24.413	74.000
Average					
Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit - 802.11n-20BW_21.7Mbps(5G Band) (5745MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11490.000	17.106	36.512	53.619	-20.381	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
11490.000	18.034	35.480	53.515	-20.485	74.000
Average					
Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit - 802.11n-20BW_21.7Mbps(5G Band) (5785 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11570.000	16.809	36.590	53.399	-20.601	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11570.000	17.698	35.590	53.288	-20.712	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit - 802.11n-20BW_21.7Mbps(5G Band) (5825 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11650.000	16.158	36.590	52.748	-21.252	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11650.000	17.274	36.150	53.425	-20.575	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 7: Transmit - 802.11n-40BW_45Mbps(5G Band) (5755MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11510.000	17.124	35.150	52.274	-21.726	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
11510.000	18.081	35.590	53.671	-20.329	74.000
Average					
Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 7: Transmit - 802.11n-40BW_45Mbps(5G Band) (5795 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11590.000	16.701	35.150	51.850	-22.150	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11590.000	17.567	36.290	53.856	-20.144	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 8: Transmit - 802.11ac-80BW_97.5Mbps(5G Band) (5775 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11550.000	16.914	35.150	52.064	-21.936	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11550.000	17.826	34.870	52.695	-21.305	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - 802.11b 1Mbps (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
94.020	-8.189	43.191	35.001	-8.499	43.500
330.700	-4.492	42.056	37.564	-8.436	46.000
468.440	1.195	34.784	35.979	-10.021	46.000
606.180	4.666	30.836	35.502	-10.498	46.000
728.400	3.452	32.159	35.611	-10.389	46.000
920.460	6.467	29.637	36.104	-9.896	46.000
Vertical					
82.380	-5.215	40.563	35.348	-4.652	40.000
202.660	-7.739	46.555	38.816	-4.684	43.500
338.460	-4.265	41.347	37.082	-8.918	46.000
507.240	-0.471	38.506	38.035	-7.965	46.000
703.180	0.139	33.146	33.284	-12.716	46.000
965.080	7.932	27.965	35.897	-18.103	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8 No emission found between lowest internal used/generated frequency to 30MHz.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
142.520	-10.427	48.202	37.775	-5.725	43.500
330.700	-4.492	42.056	37.564	-8.436	46.000
468.440	1.195	34.784	35.979	-10.021	46.000
606.180	4.666	30.836	35.502	-10.498	46.000
728.400	3.452	32.159	35.611	-10.389	46.000
920.460	6.467	29.637	36.104	-9.896	46.000
Vertical					
132.820	-4.440	40.375	35.935	-7.565	43.500
330.700	-4.912	42.056	37.144	-8.856	46.000
507.240	-0.471	38.506	38.035	-7.965	46.000
703.180	0.139	33.146	33.284	-12.716	46.000
815.700	3.221	28.812	32.033	-13.967	46.000
943.740	6.592	28.263	34.856	-11.144	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit - 802.11a 6Mbps (5785MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
117.300	-9.196	47.333	38.137	-5.363	43.500
282.200	-5.211	43.485	38.274	-7.726	46.000
449.040	-2.238	39.290	37.052	-8.948	46.000
650.800	2.175	31.921	34.096	-11.904	46.000
811.820	5.081	32.485	37.565	-8.435	46.000
955.380	6.247	28.702	34.949	-11.051	46.000
Vertical					
107.600	-0.318	39.374	39.056	-4.444	43.500
227.880	-8.519	47.062	38.544	-7.456	46.000
406.360	-6.660	39.695	33.035	-12.965	46.000
540.220	0.121	29.639	29.760	-16.240	46.000
668.260	-1.694	40.358	38.664	-7.336	46.000
901.060	3.331	32.854	36.185	-9.815	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
175.500	-10.017	49.342	39.324	-4.176	43.500
338.460	-3.925	41.347	37.422	-8.578	46.000
507.240	0.759	38.506	39.265	-6.735	46.000
606.180	4.666	30.836	35.502	-10.498	46.000
728.400	3.452	32.159	35.611	-10.389	46.000
901.060	5.591	32.854	38.445	-7.555	46.000
Vertical					
105.660	-0.253	39.151	38.898	-4.602	43.500
202.660	-7.739	46.555	38.816	-4.684	43.500
406.360	-6.660	39.695	33.035	-12.965	46.000
507.240	-0.471	38.506	38.035	-7.965	46.000
749.740	2.510	39.396	41.906	-4.094	46.000
965.080	7.932	27.965	35.897	-18.103	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
117.300	-9.196	47.333	38.137	-5.363	43.500
272.500	-5.359	42.144	36.785	-9.215	46.000
330.700	-4.492	42.056	37.564	-8.436	46.000
507.240	0.759	38.506	39.265	-6.735	46.000
728.400	3.452	32.159	35.611	-10.389	46.000
901.060	5.591	32.854	38.445	-7.555	46.000
Vertical					
107.600	-0.318	39.374	39.056	-4.444	43.500
202.660	-7.739	46.555	38.816	-4.684	43.500
338.460	-4.265	41.347	37.082	-8.918	46.000
507.240	-0.471	38.506	38.035	-7.965	46.000
728.400	-0.188	32.159	31.971	-14.029	46.000
965.080	7.932	27.965	35.897	-18.103	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit - 802.11n-20BW_21.7Mbps(5G Band) (5785 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
117.300	-9.196	47.333	38.137	-5.363	43.500
268.620	-4.942	44.057	39.115	-6.885	46.000
449.040	-2.238	39.290	37.052	-8.948	46.000
666.320	2.031	38.300	40.332	-5.668	46.000
811.820	5.081	32.485	37.565	-8.435	46.000
943.740	6.492	28.263	34.756	-11.244	46.000
Vertical					
107.600	-0.318	39.374	39.056	-4.444	43.500
227.880	-8.519	47.062	38.544	-7.456	46.000
338.460	-4.265	41.347	37.082	-8.918	46.000
507.240	-0.471	38.506	38.035	-7.965	46.000
681.840	1.484	37.538	39.022	-6.978	46.000
901.060	3.331	32.854	36.185	-9.815	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 7: Transmit - 802.11n-40BW_45Mbps(5G Band) (5755MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
117.300	-9.196	47.333	38.137	-5.363	43.500
233.700	-8.619	46.008	37.389	-8.611	46.000
330.700	-4.492	42.056	37.564	-8.436	46.000
507.240	0.759	38.506	39.265	-6.735	46.000
728.400	3.452	32.159	35.611	-10.389	46.000
920.460	6.467	29.637	36.104	-9.896	46.000
Vertical					
111.480	-0.954	37.955	37.001	-6.499	43.500
256.980	-7.573	46.941	39.368	-6.632	46.000
338.460	-4.265	41.347	37.082	-8.918	46.000
449.040	-7.498	39.290	31.792	-14.208	46.000
681.840	1.484	37.538	39.022	-6.978	46.000
901.060	3.331	32.854	36.185	-9.815	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 8: Transmit - 802.11ac-80BW_97.5Mbps(5G Band) (5775MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
173.560	-9.954	35.260	25.307	-18.193	43.500
355.140	-2.514	31.470	28.956	-17.044	46.000
605.500	4.748	26.760	31.508	-14.492	46.000
701.580	2.659	24.910	27.570	-18.430	46.000
822.140	6.016	28.069	34.085	-11.915	46.000
961.200	6.450	35.480	41.930	-12.070	54.000
Vertical					
121.250	-3.818	36.520	32.702	-10.798	43.500
310.300	-6.843	40.280	33.437	-12.563	46.000
392.410	-3.445	34.920	31.475	-14.525	46.000
616.200	-1.974	33.210	31.235	-14.765	46.000
689.240	2.522	31.010	33.532	-12.468	46.000
922.160	5.532	26.510	32.042	-13.958	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

4. Band Edge

4.1. Test Equipment

RF Radiated Measurement:

The following test equipments are used during the band edge tests:

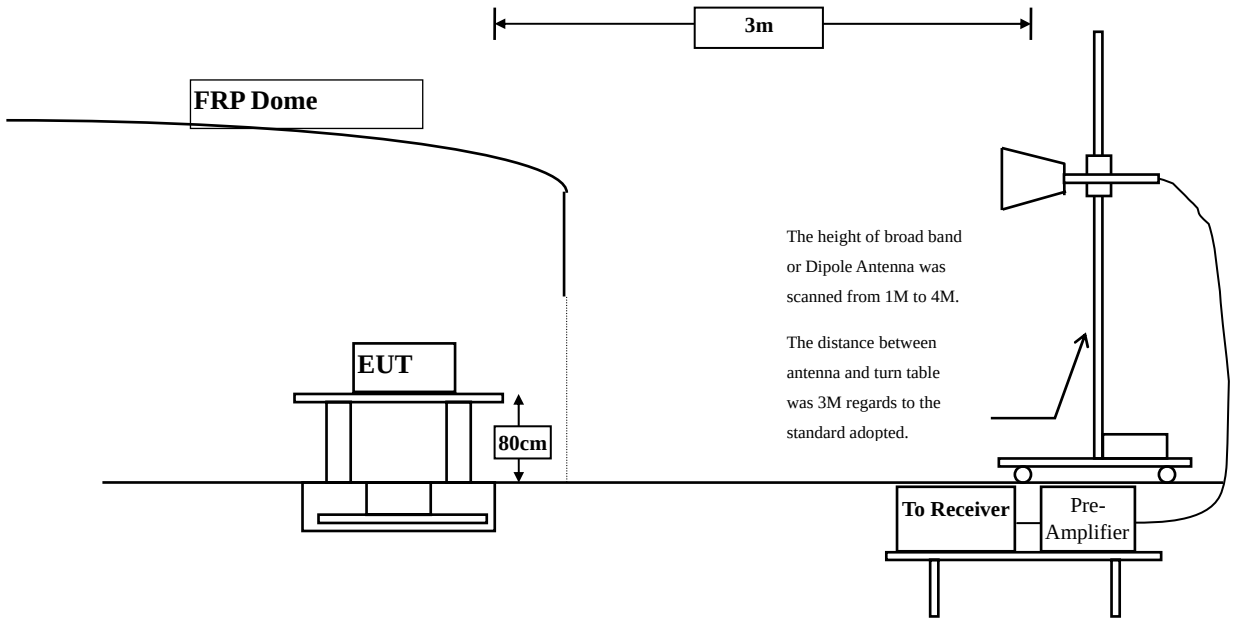
Test Site	Equipment		Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2013
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2013
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2013
		Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2014
	X	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2013
		Pre-Amplifier	MITEQ	AMF-4D-180400-45-6P/ 925975	Mar, 2014
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2014
		Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2013
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2014
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

Note: 1. All instruments are calibrated every one year.

2. The test instruments marked by "X" are used to measure the final test results.

4.2. Test Setup

RF Radiated Measurement:



4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

4.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2009 and tested according to DTS test procedure of KDB558074 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 C63.10:2009. on radiated measurement.

4.5. Uncertainty

± 3.9 dB above 1GHz
± 3.8 dB below 1GHz

4.6. Test Result of Band Edge

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - 802.11b 1Mbps

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2388.800	11.669	38.707	50.376	74.00	54.00	Pass
01 (Peak)	2390.000	11.672	37.677	49.349	74.00	54.00	Pass
01 (Peak)	2400.000	11.703	44.559	56.261	--	--	Pass
01 (Peak)	2411.000	11.740	91.308	103.048	--	--	Pass
01 (Average)	2390.000	11.672	26.510	38.182	74.00	54.00	Pass
01 (Average)	2400.000	11.703	35.930	47.632	--	--	Pass
01 (Average)	2411.400	11.740	85.639	97.380	--	--	Pass

Figure Channel 01: Horizontal (Peak)

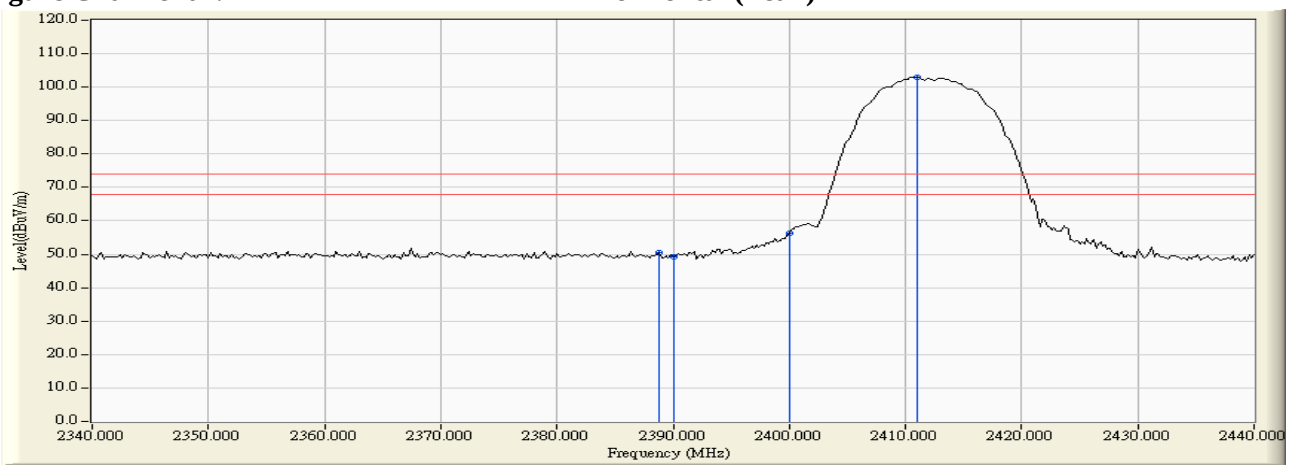
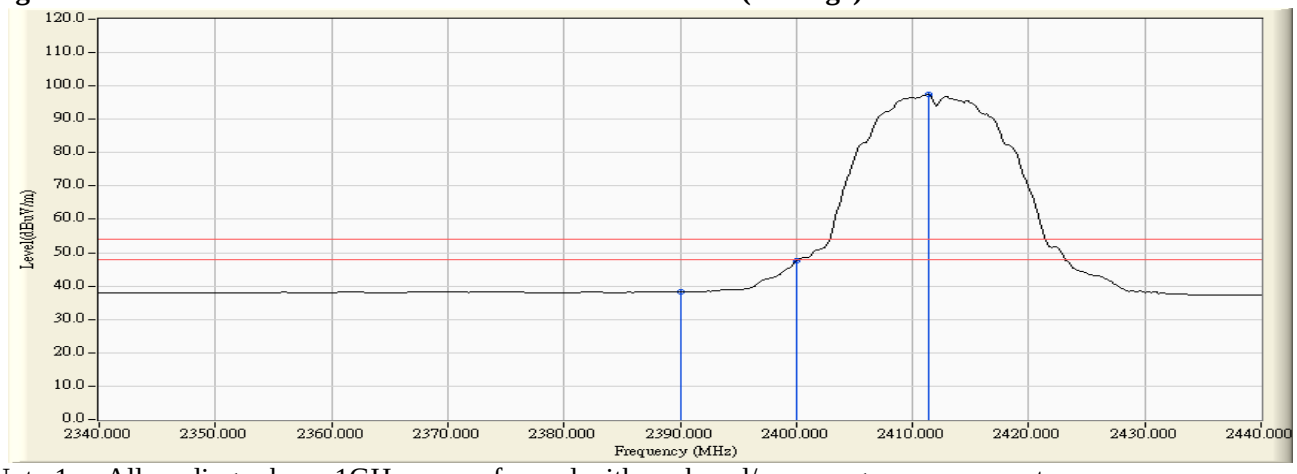


Figure Channel 01: Horizontal (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - 802.11b 1Mbps

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2388.400	11.668	42.239	53.907	74.00	54.00	Pass
01 (Peak)	2390.000	11.672	41.733	53.405	74.00	54.00	Pass
01 (Peak)	2400.000	11.703	50.741	62.443	--	--	Pass
01 (Peak)	2411.600	11.742	100.267	112.008	--	--	Pass
01 (Average)	2390.000	11.672	30.034	41.706	74.00	54.00	Pass
01 (Average)	2400.000	11.703	41.366	53.068	--	--	Pass
01 (Average)	2412.800	11.744	92.443	104.187	--	--	Pass

Figure Channel 01: Vertical (Peak)

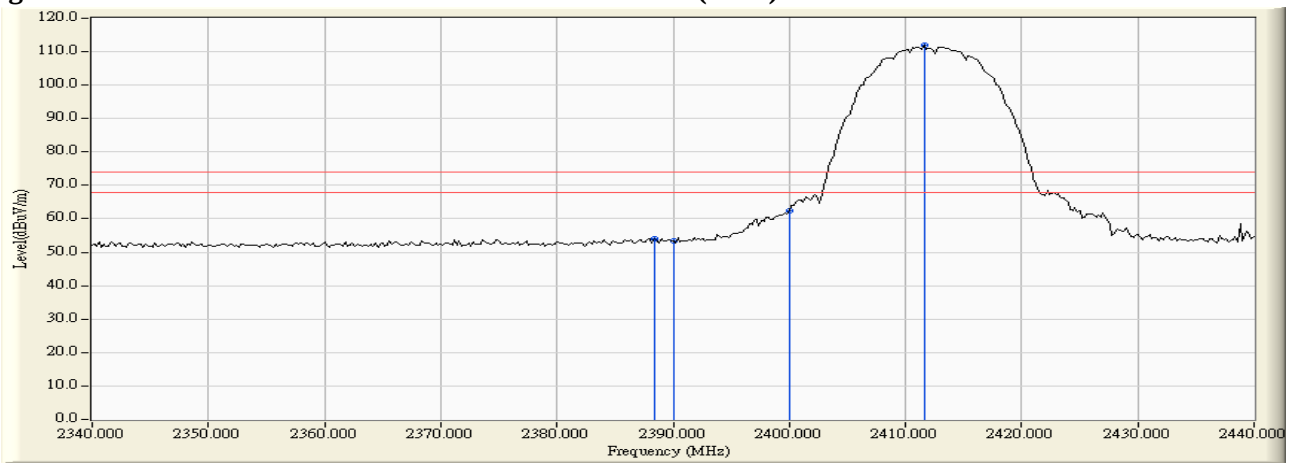
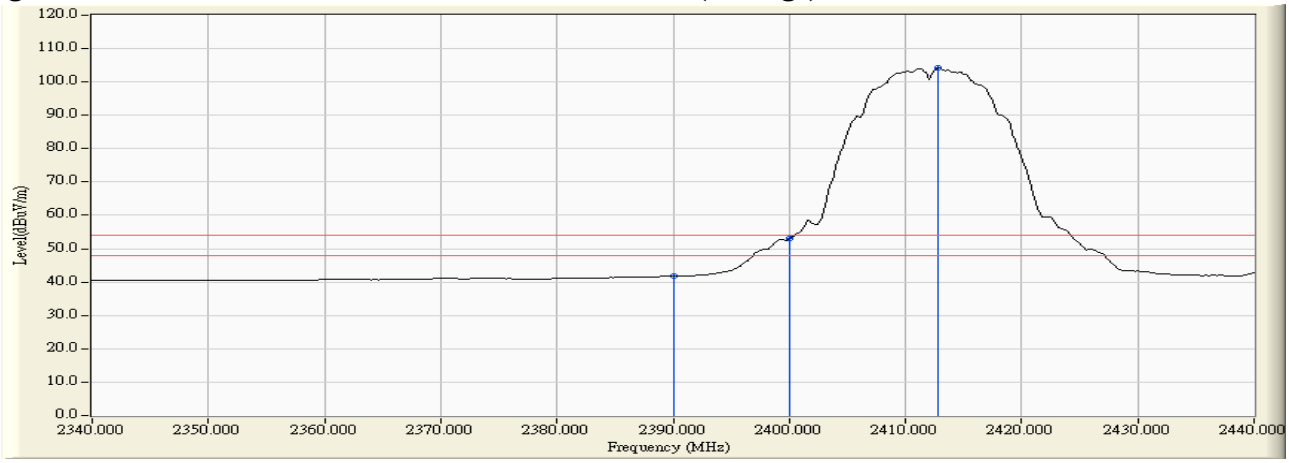


Figure Channel 01: Vertical (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - 802.11b 1Mbps

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
13 (Peak)	2471.900	11.942	97.347	109.289	--	--	Pass
13 (Peak)	2483.500	12.049	46.069	58.118	74.00	54.00	Pass
13 (Average)	2470.100	11.916	91.409	103.324	--	--	Pass
13 (Average)	2483.500	12.049	38.282	50.331	74.00	54.00	Pass

Figure Channel 13: Horizontal (Peak)

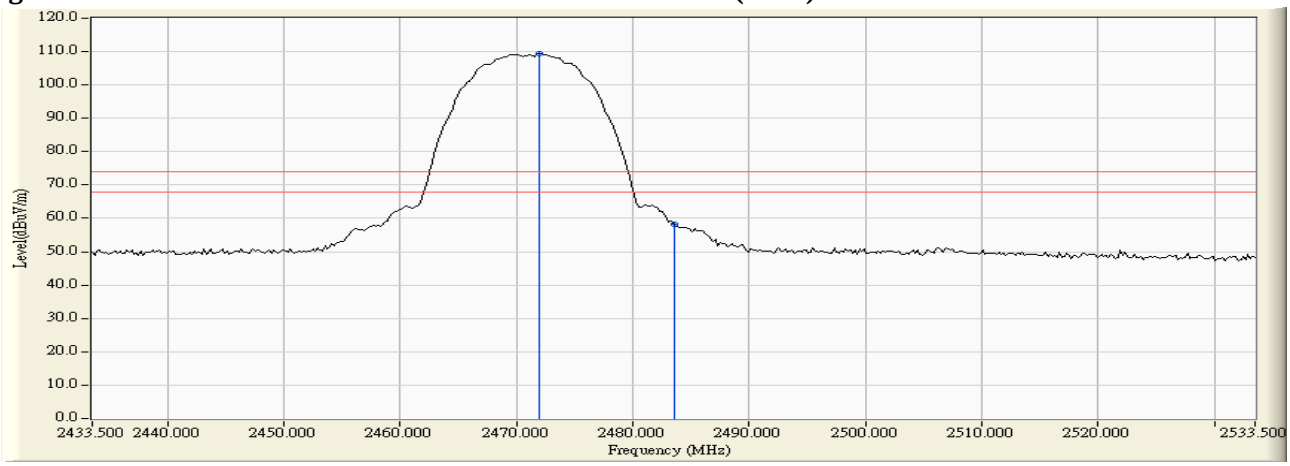
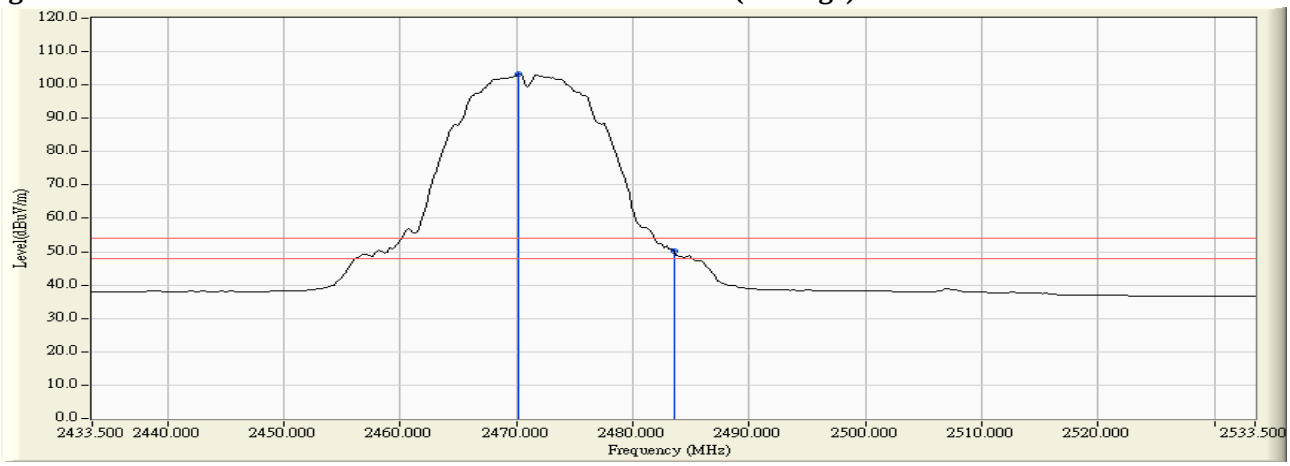


Figure Channel 13: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - 802.11b 1Mbps

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
13 (Peak)	2469.900	11.913	98.281	110.193	--	--	Pass
13 (Peak)	2483.500	12.049	45.060	57.109	74.00	54.00	Pass
13 (Average)	2470.100	11.916	92.393	104.308	--	--	Pass
13 (Average)	2483.500	12.049	35.564	47.613	74.00	54.00	Pass

Figure Channel 13: Vertical (Peak)

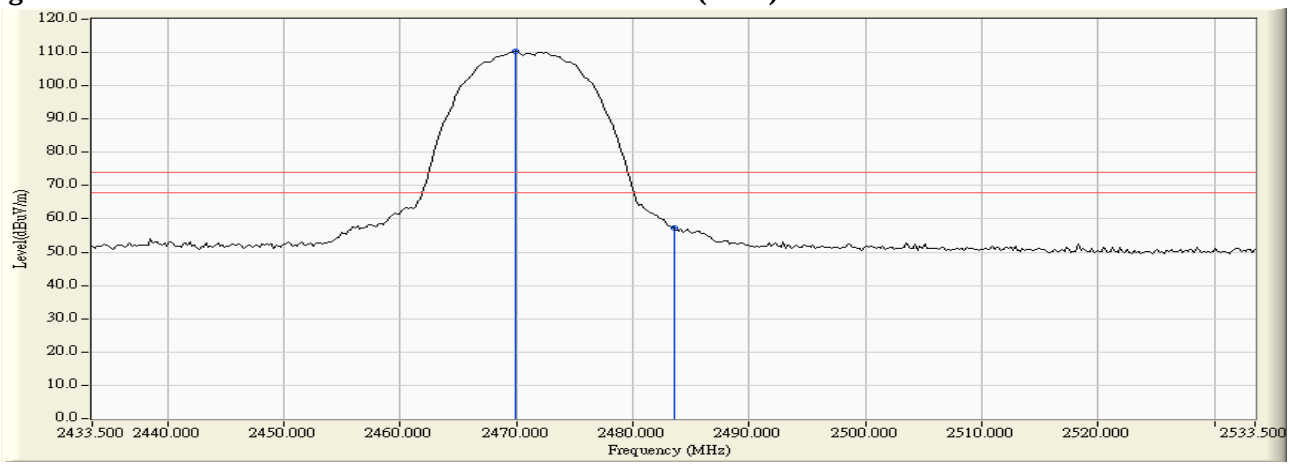
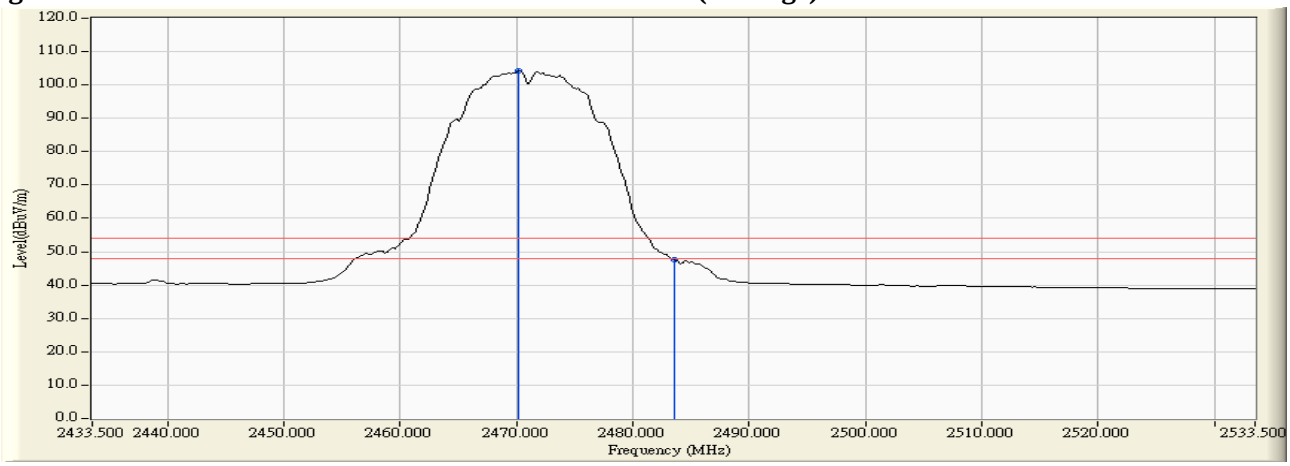


Figure Channel 13: Vertical (Average)



Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	11.672	49.625	61.297	74.00	54.00	Pass
01 (Peak)	2400.000	11.703	59.230	70.932	--	--	Pass
01 (Peak)	2413.800	11.746	90.161	101.907	--	--	Pass
01(Average)	2390.000	11.672	29.236	40.908	74.00	54.00	Pass
01(Average)	2400.000	11.703	37.128	48.830	--	--	Pass
01(Average)	2411.000	11.740	77.372	89.112	--	--	Pass

Figure Channel 01: Horizontal (Peak)

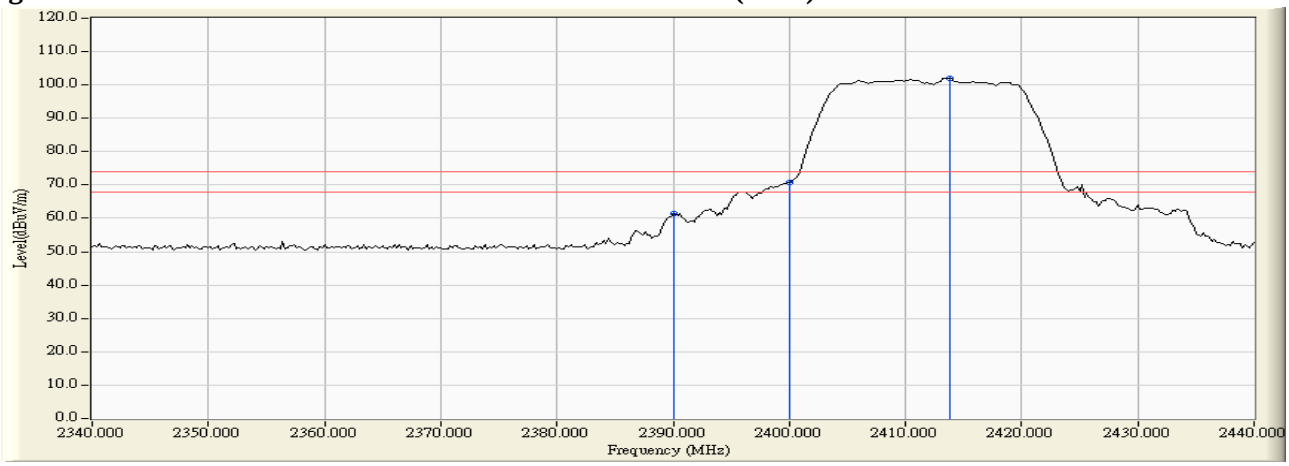
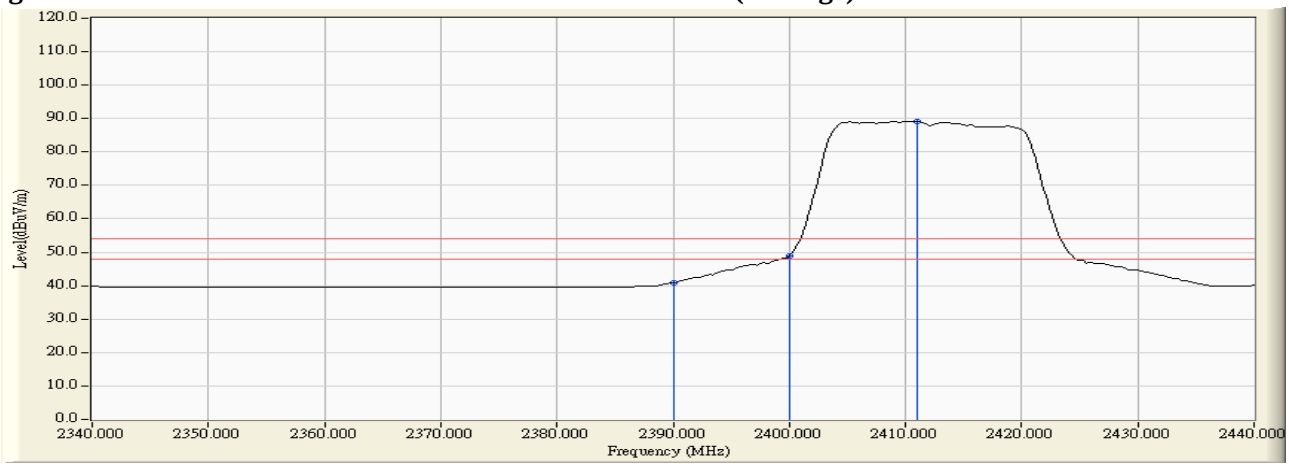


Figure Channel 01: Horizontal (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	11.672	54.443	66.115	74.00	54.00	Pass
01 (Peak)	2400.000	11.703	65.201	76.903	--	--	Pass
01 (Peak)	2413.800	11.746	96.731	108.477	--	--	Pass
01 (Average)	2390.000	11.672	31.196	42.868	74.00	54.00	Pass
01 (Average)	2400.000	11.703	42.266	53.968	--	--	Pass
01 (Average)	2413.600	11.746	83.635	95.381	--	--	Pass

Figure Channel 01: Vertical (Peak)

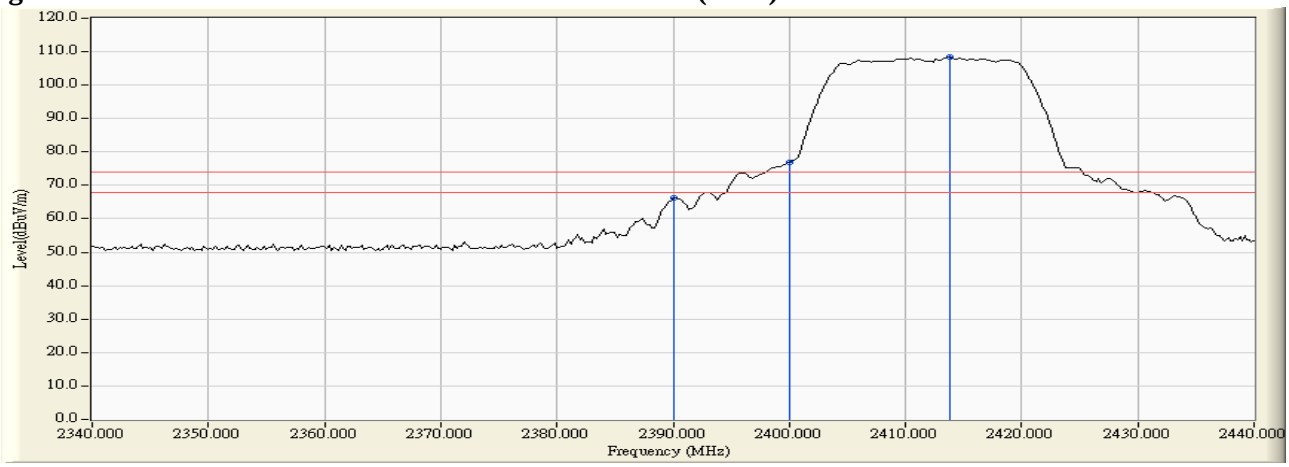
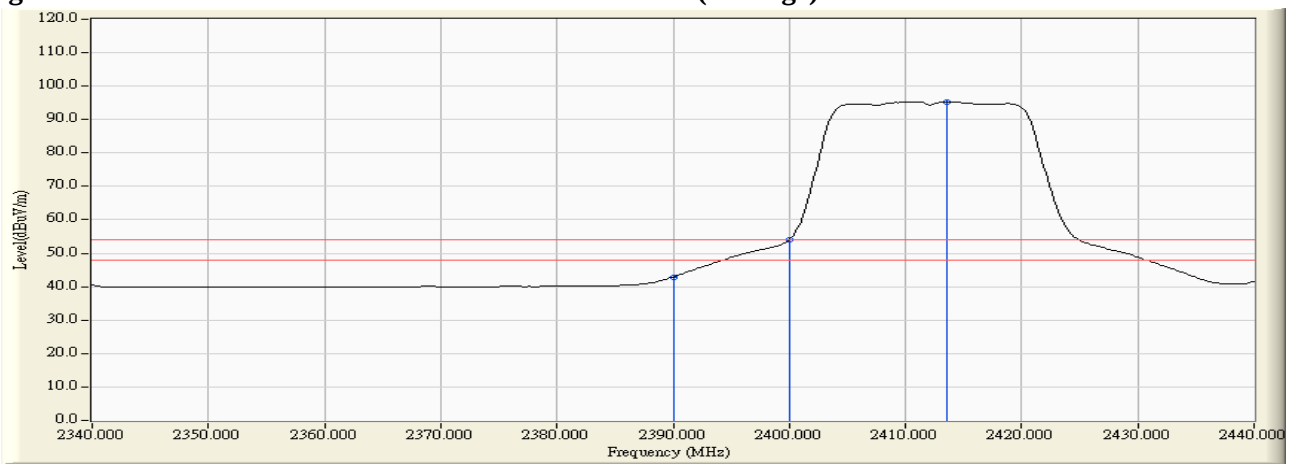


Figure Channel 01: Vertical (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
02 (Peak)	2384.000	11.659	47.283	58.942	74.00	54.00	Pass
02 (Peak)	2390.000	11.672	47.150	58.822	74.00	54.00	Pass
02 (Peak)	2400.000	11.703	64.378	76.080	--	--	Pass
02 (Peak)	2423.600	11.809	92.280	104.089	--	--	Pass
02(Average)	2390.000	11.672	30.170	41.842	74.00	54.00	Pass
02(Average)	2400.000	11.703	42.319	54.021	--	--	Pass
02(Average)	2410.200	11.738	79.329	91.066	--	--	Pass

Figure Channel 02: Horizontal (Peak)

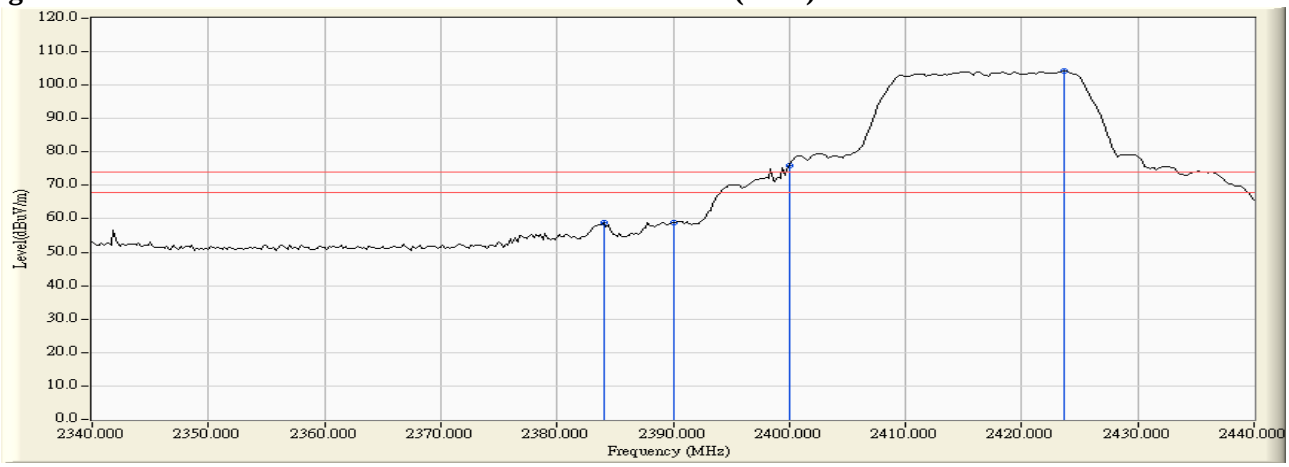
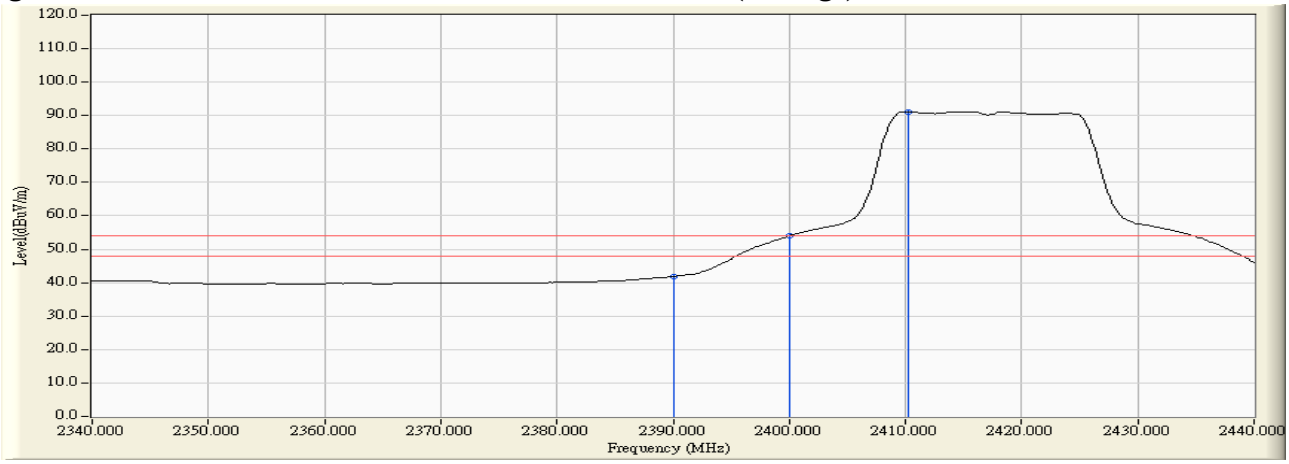


Figure Channel 02: Horizontal (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
02 (Peak)	2390.000	11.672	51.657	63.329	74.00	54.00	Pass
02 (Peak)	2400.000	11.703	69.858	81.560	--	--	Pass
02 (Peak)	2415.600	11.750	99.252	111.003	--	--	Pass
02(Average)	2390.000	11.672	32.676	44.348	74.00	54.00	Pass
02(Average)	2400.000	11.703	47.398	59.100	--	--	Pass
02(Average)	2418.600	11.757	86.388	98.145	--	--	Pass

Figure Channel 02: Vertical (Peak)

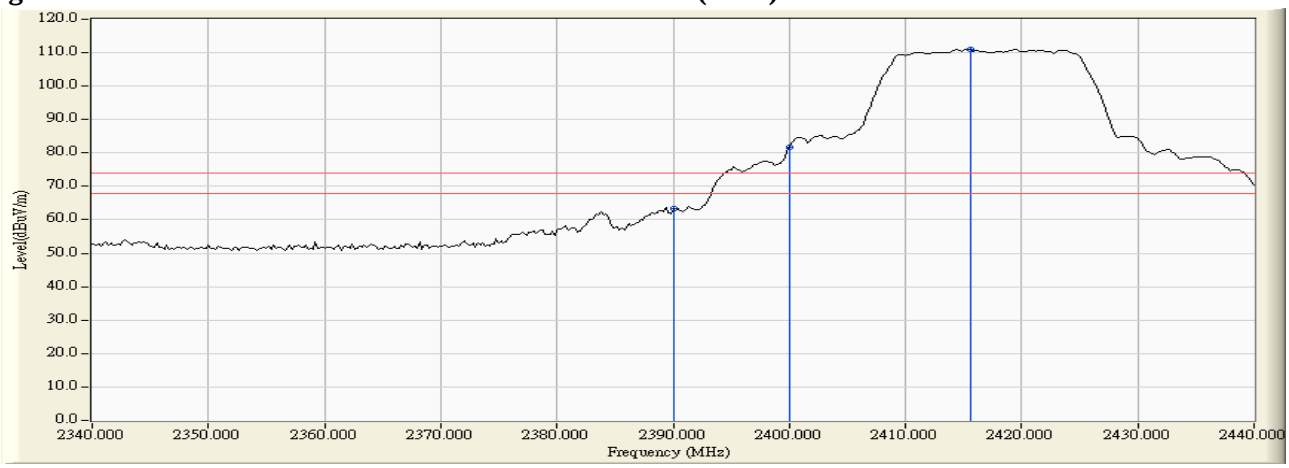
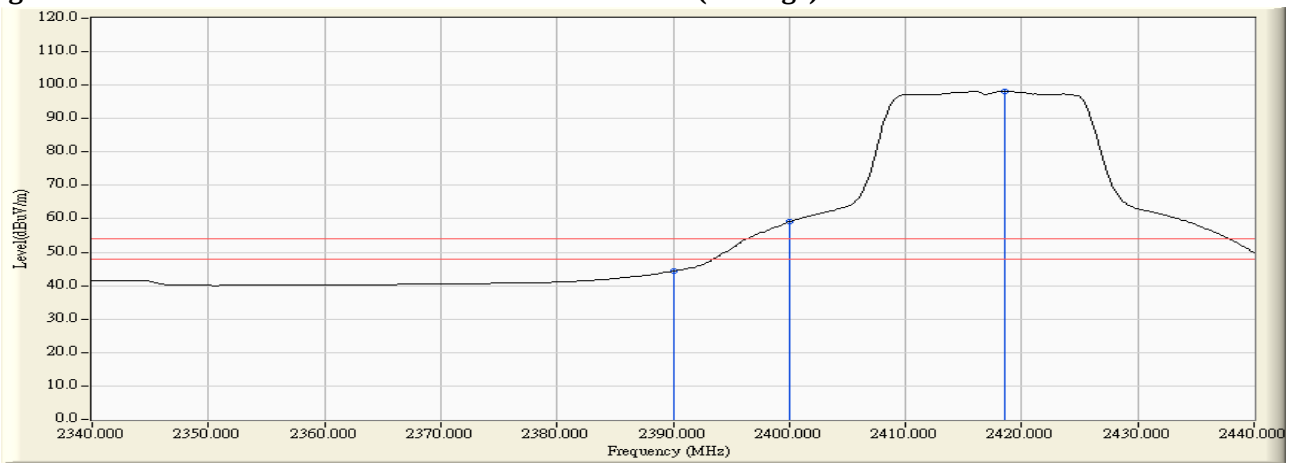


Figure Channel 02: Vertical (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
10 (Peak)	2455.100	11.723	92.475	104.198	--	--	Pass
10 (Peak)	2483.500	12.049	40.361	52.410	74.00	54.00	Pass
10 (Peak)	2484.300	12.055	41.343	53.399	74.00	54.00	Pass
10 (Average)	2458.300	11.743	79.660	91.404	--	--	Pass
10 (Average)	2483.500	12.049	28.308	40.357	74.00	54.00	Pass

Figure Channel 10: Horizontal (Peak)

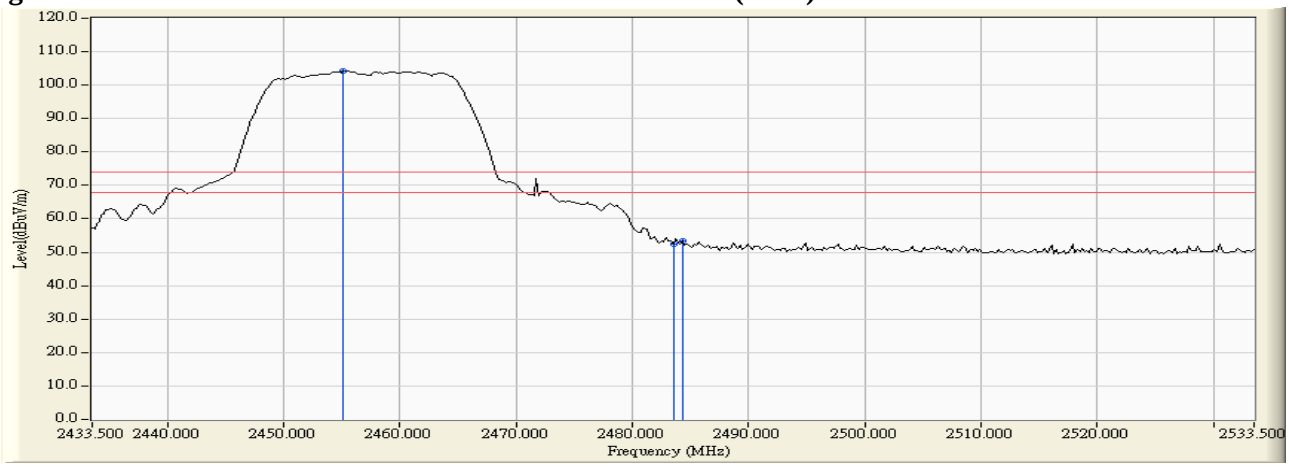
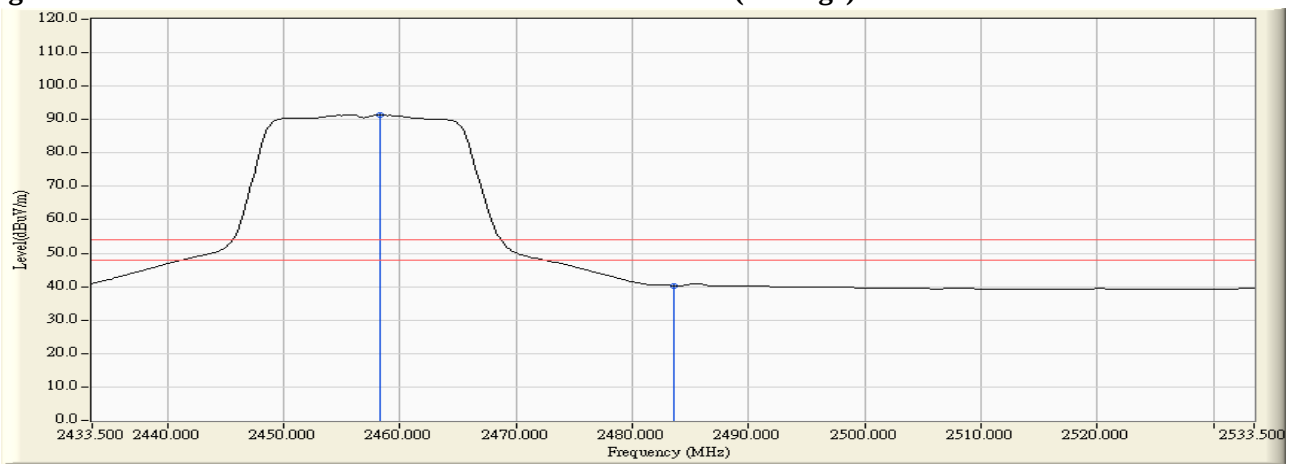


Figure Channel 10: Horizontal (Average)



Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
10 (Peak)	2455.100	11.723	100.832	112.555	--	--	Pass
10 (Peak)	2483.500	12.049	49.744	61.793	74.00	54.00	Pass
10 (Average)	2458.500	11.747	88.303	100.049	--	--	Pass
10 (Average)	2483.500	12.049	32.404	44.453	74.00	54.00	Pass
10 (Average)	2485.500	12.065	34.783	46.848	74.00	54.00	Pass
10 (Average)	2520.300	11.861	33.533	45.394	74.00	54.00	Pass

Figure Channel 10: Vertical (Peak)

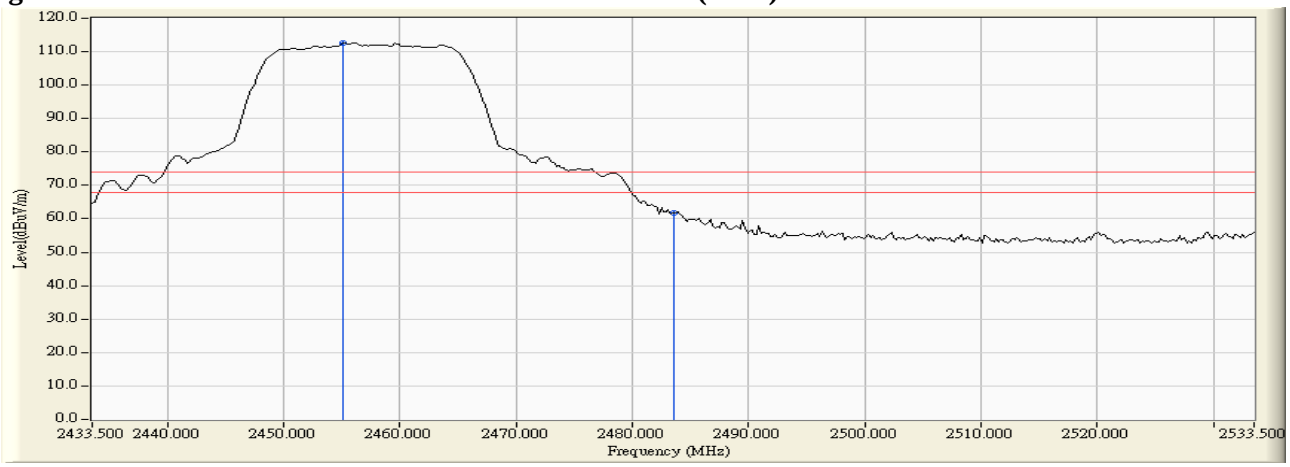
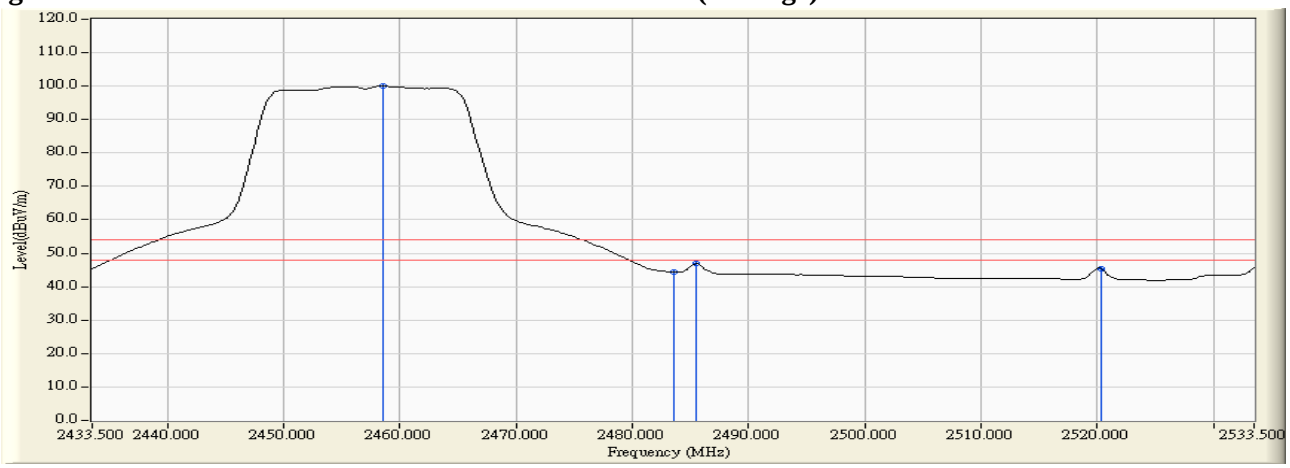


Figure Channel 10: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2468.700	11.895	89.222	101.117	--	--	Pass
11 (Peak)	2483.500	12.049	46.262	58.311	74.00	54.00	Pass
11 (Average)	2468.500	11.893	74.414	86.306	--	--	Pass
11 (Average)	2483.500	12.049	28.177	40.226	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

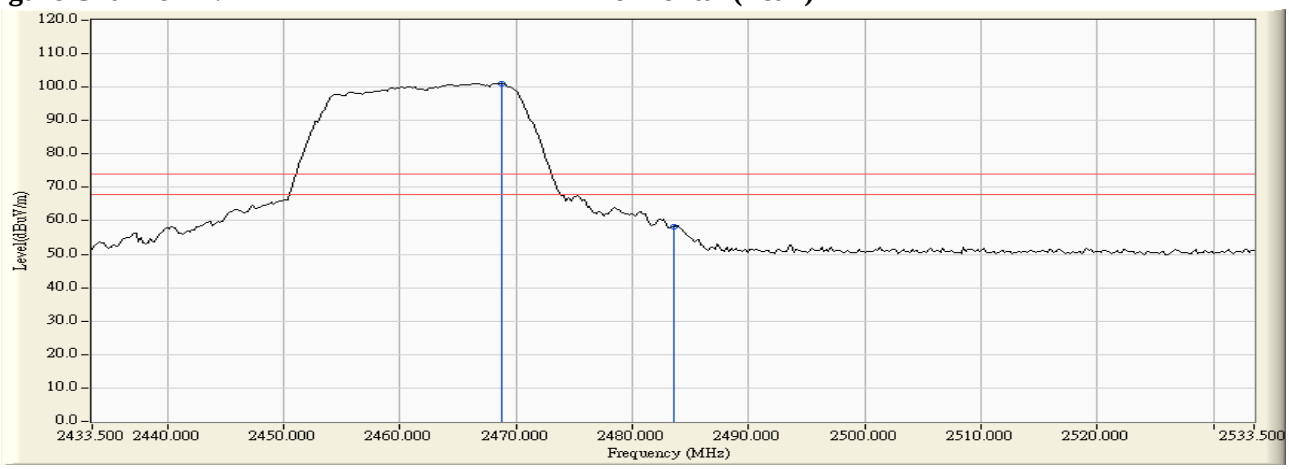
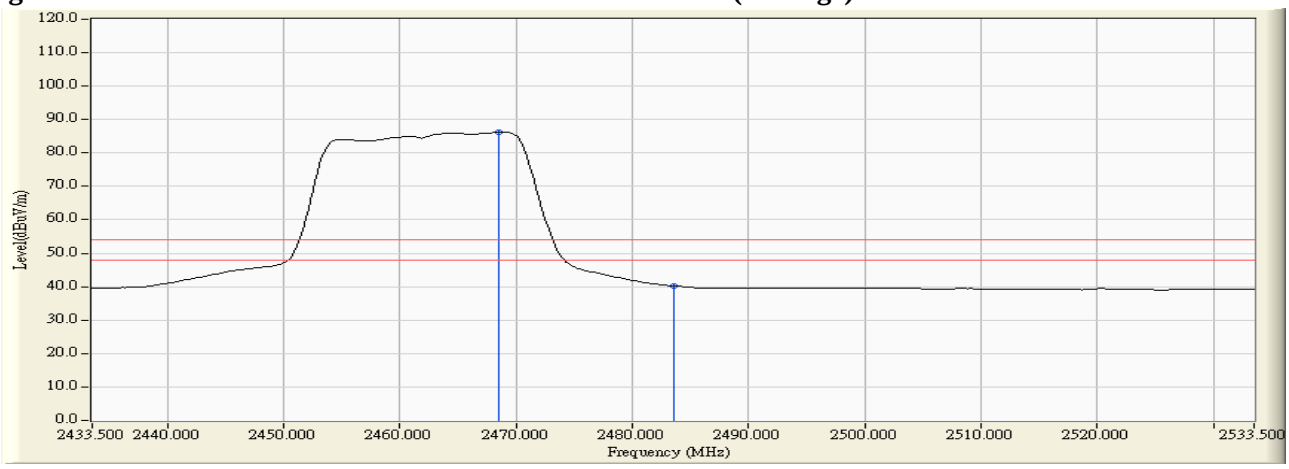


Figure Channel 11: Horizontal (Average)



Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2463.500	11.820	95.058	106.877	--	--	Pass
11 (Peak)	2483.500	12.049	53.021	65.070	74.00	54.00	Pass
11 (Average)	2468.700	11.895	81.321	93.216	--	--	Pass
11 (Average)	2483.500	12.049	32.689	44.738	74.00	54.00	Pass

Figure Channel 11: Vertical (Peak)

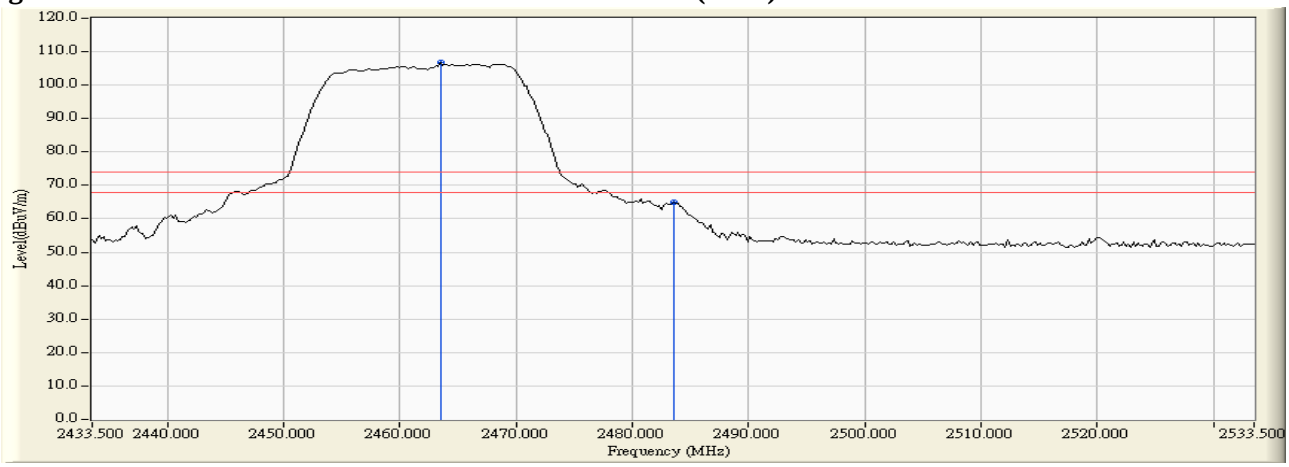
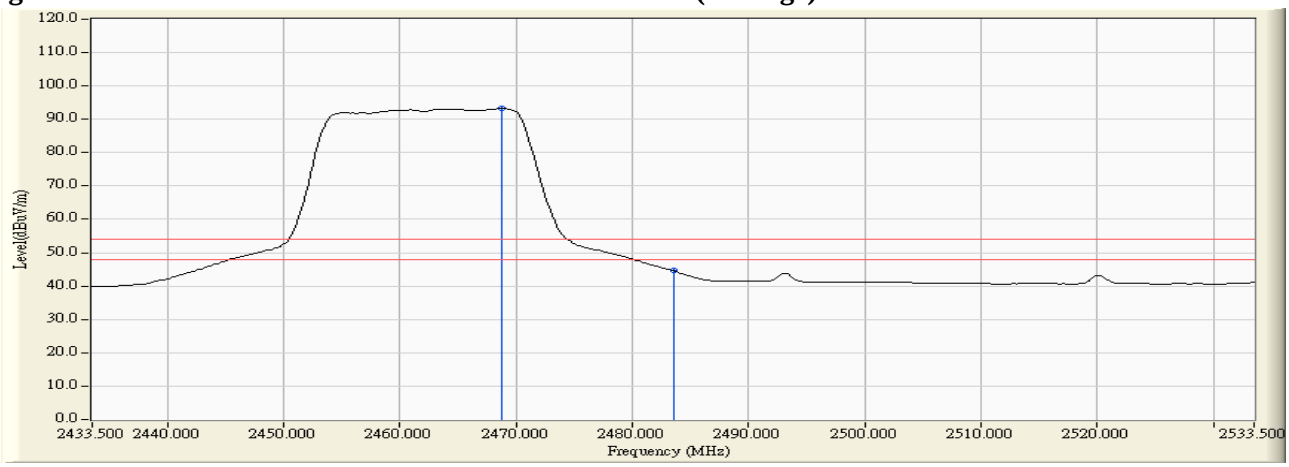


Figure Channel 11: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
12 (Peak)	2464.300	11.831	97.823	109.654	--	--	Pass
12 (Peak)	2483.500	12.049	58.782	70.831	74.00	54.00	Pass
12 (Average)	2464.700	11.837	85.463	97.300	--	--	Pass
12 (Average)	2483.500	12.049	39.523	51.572	74.00	54.00	Pass

Figure Channel 12: Horizontal (Peak)

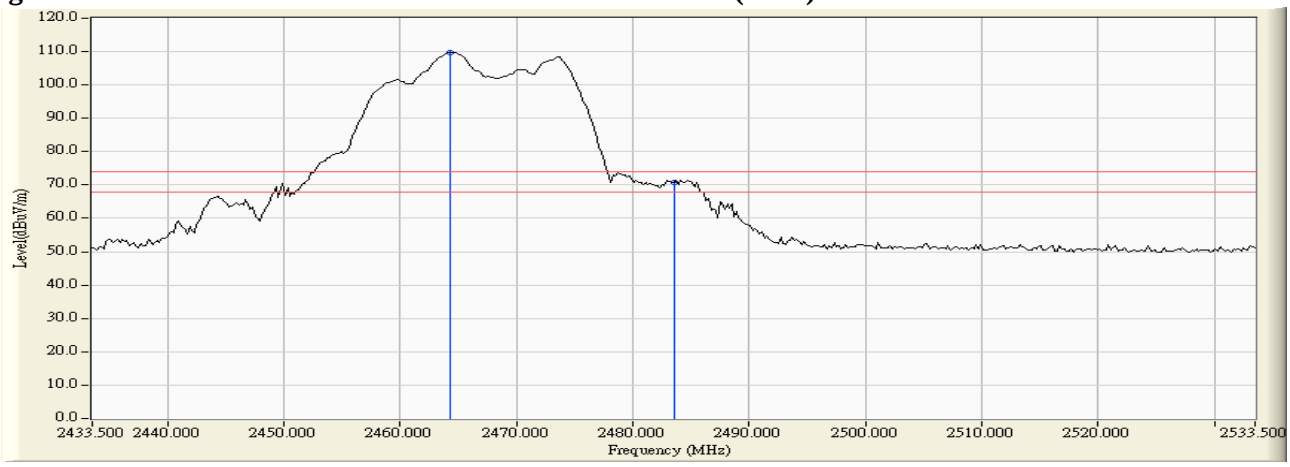
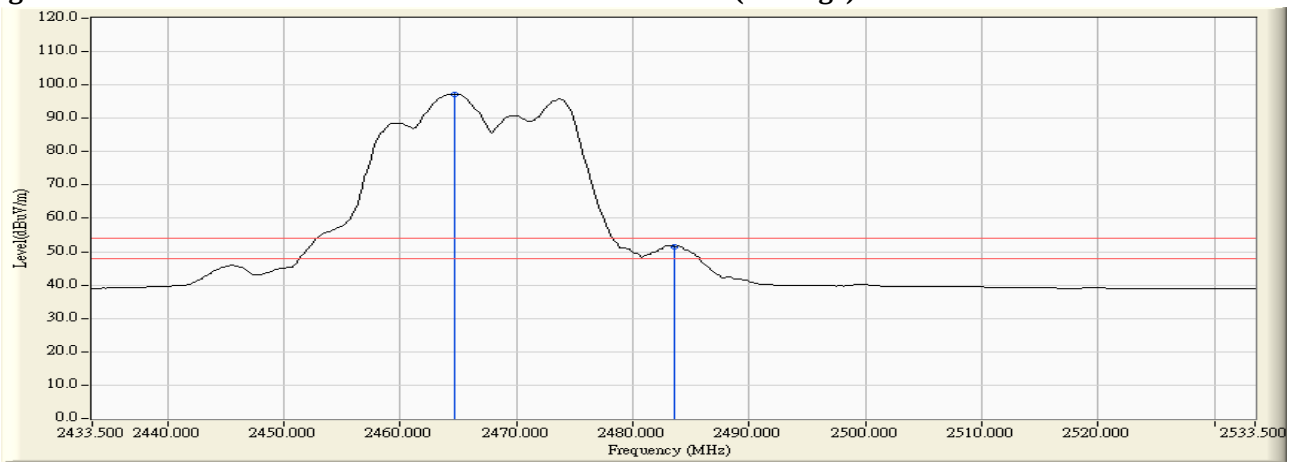


Figure Channel 12: Horizontal (Average)



Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
12 (Peak)	2462.700	11.807	98.138	109.946	--	--	Pass
12 (Peak)	2483.500	12.049	58.081	70.130	74.00	54.00	Pass
12 (Average)	2462.700	11.807	86.087	97.895	--	--	Pass
12 (Average)	2483.500	12.049	40.804	52.853	74.00	54.00	Pass

Figure Channel 12: Vertical (Peak)

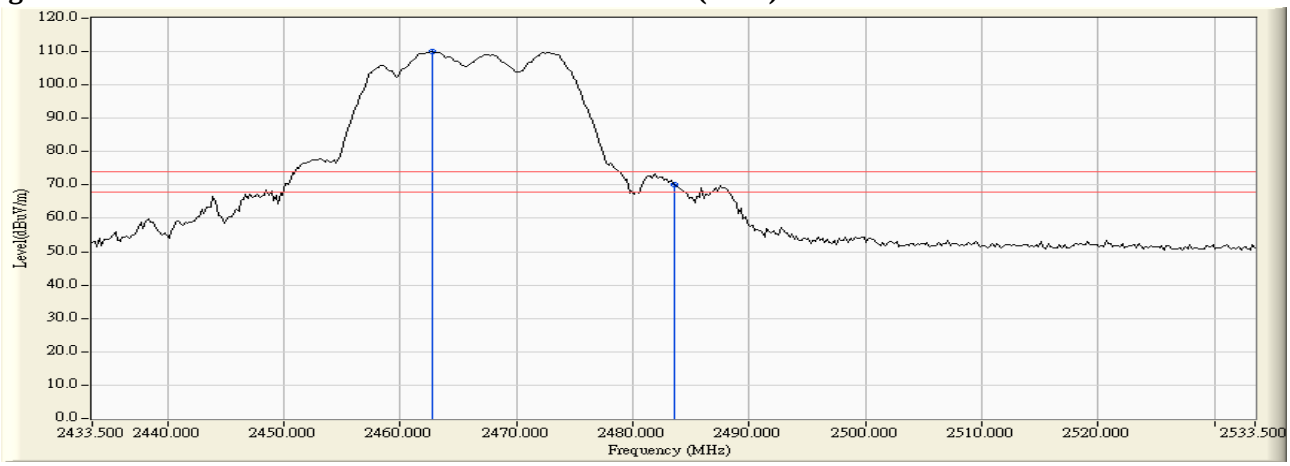
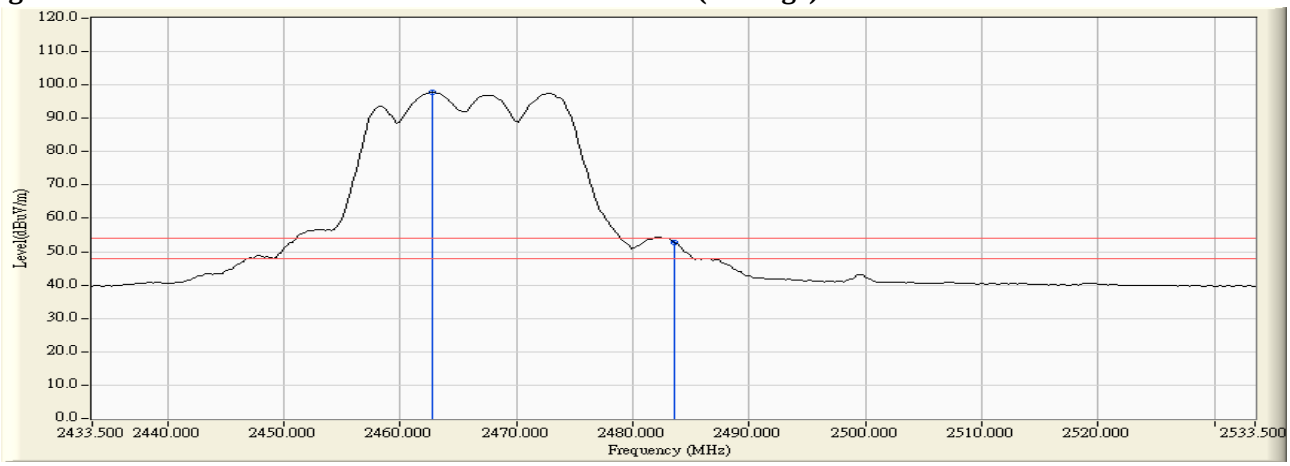


Figure Channel 12: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
13 (Peak)	2469.700	11.910	96.696	108.606	--	--	Pass
13 (Peak)	2483.500	12.049	53.352	65.401	74.00	54.00	Pass
13 (Average)	2469.900	11.913	84.398	96.310	--	--	Pass
13 (Average)	2483.500	12.049	37.241	49.290	74.00	54.00	Pass

Figure Channel 13: Horizontal (Peak)

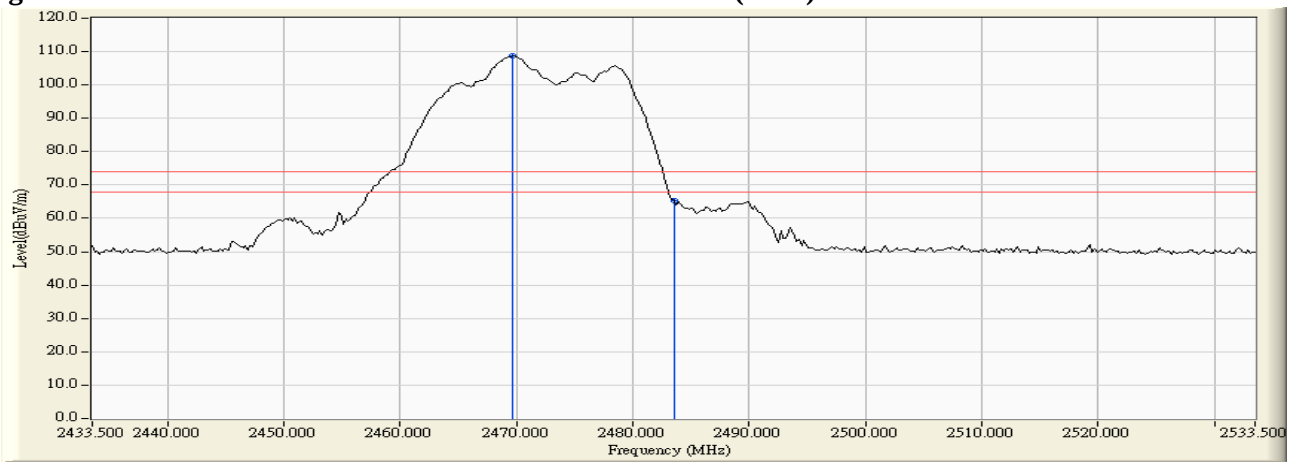
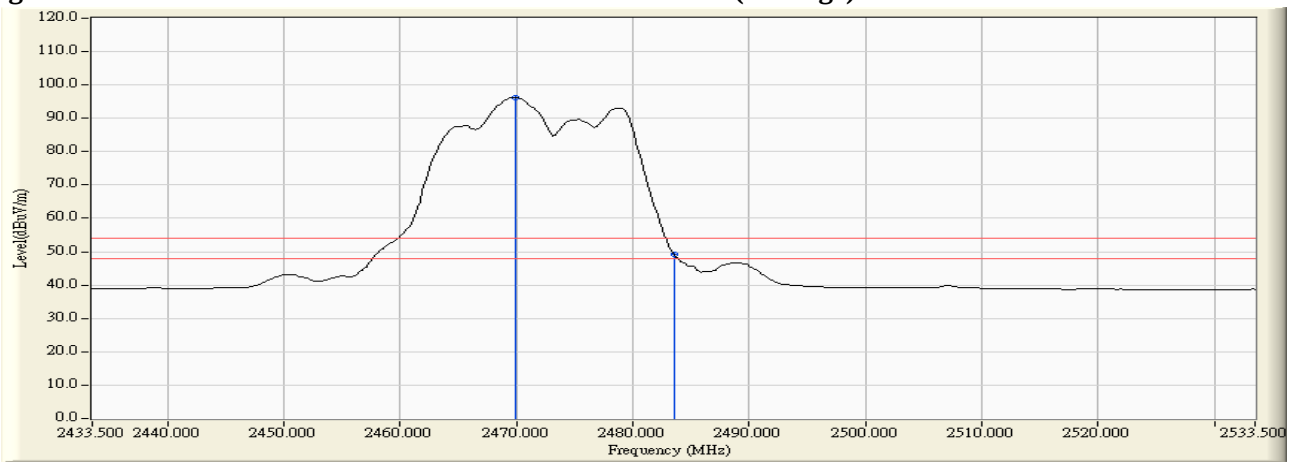


Figure Channel 13: Horizontal (Average)



Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 802.11g 6Mbps

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
13 (Peak)	2467.700	11.880	96.221	108.101	--	--	Pass
13 (Peak)	2483.500	12.049	56.285	68.334	74.00	54.00	Pass
13 (Average)	2467.700	11.880	84.201	96.081	--	--	Pass
13 (Average)	2483.500	12.049	40.865	52.914	74.00	54.00	Pass

Figure Channel 13: Vertical (Peak)

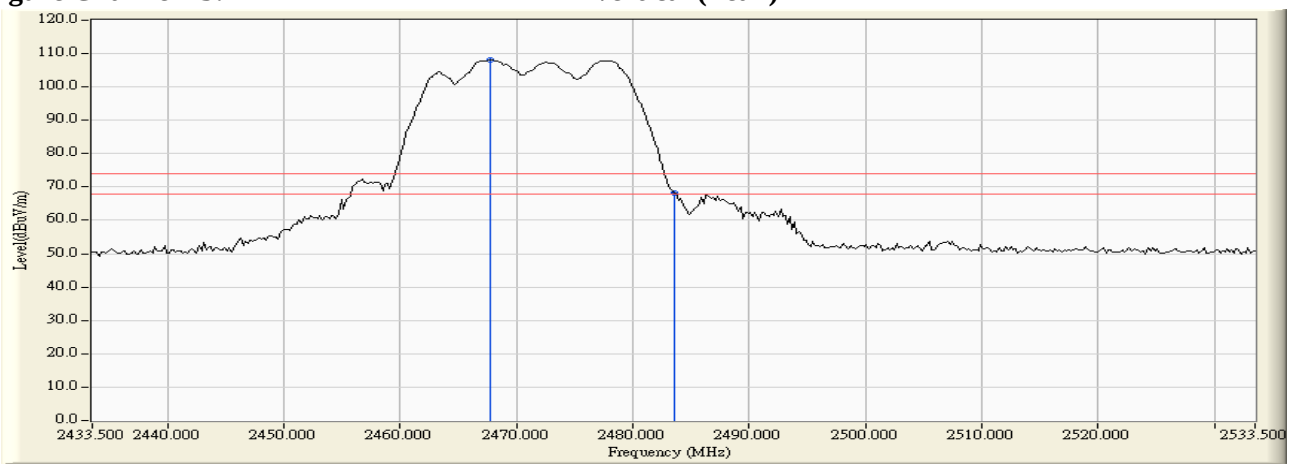
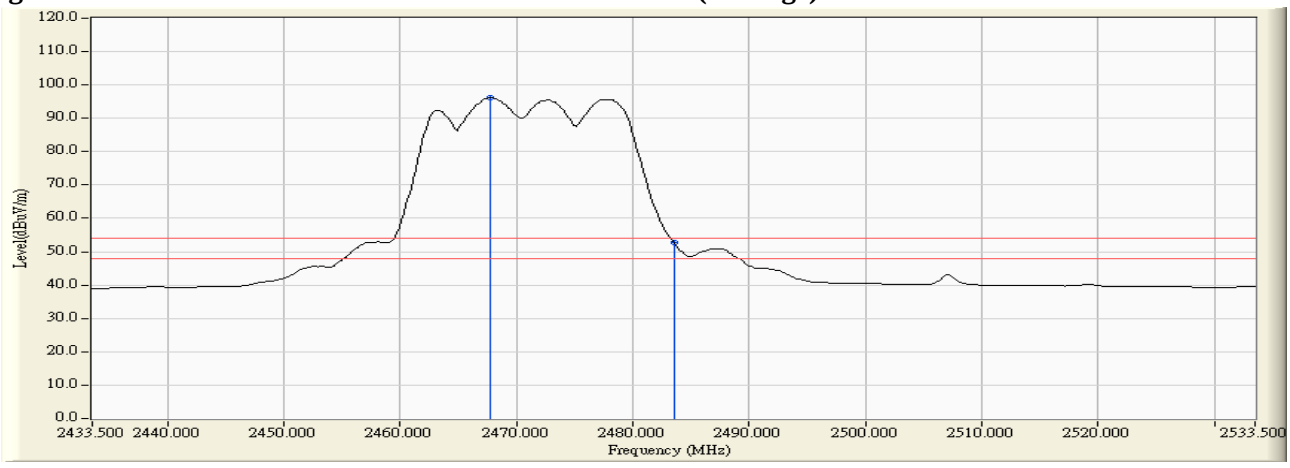


Figure Channel 13: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	11.672	53.270	64.942	74.00	54.00	Pass
01 (Peak)	2400.000	11.703	64.783	76.485	--	--	Pass
01 (Peak)	2410.600	11.739	100.612	112.351	--	--	Pass
01 (Average)	2390.000	11.672	35.823	47.495	74.00	54.00	Pass
01 (Average)	2400.000	11.703	46.939	58.641	--	--	Pass
01 (Average)	2411.000	11.740	85.940	97.680	--	--	Pass

Figure Channel 01: Horizontal (Peak)

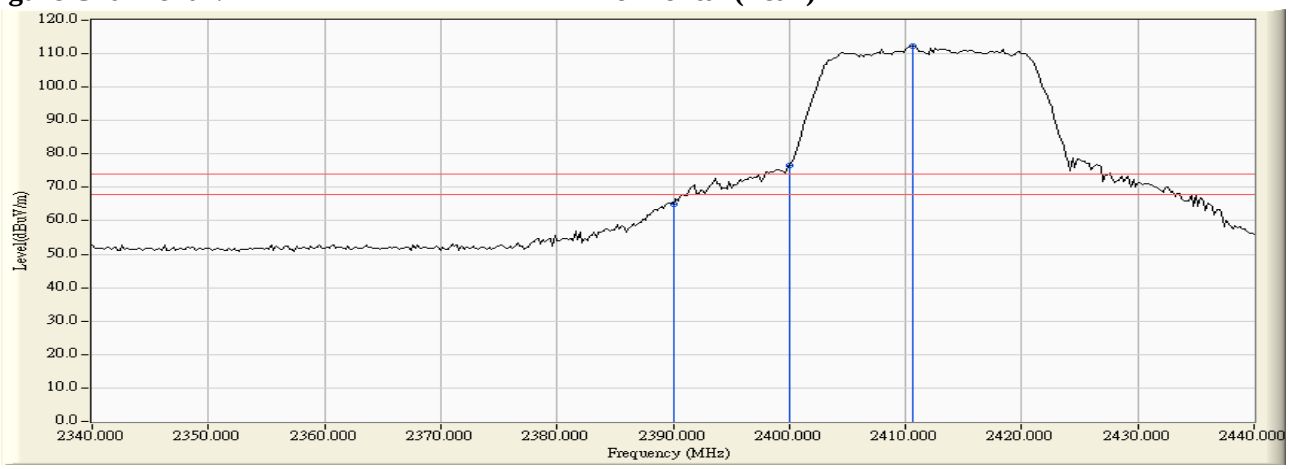
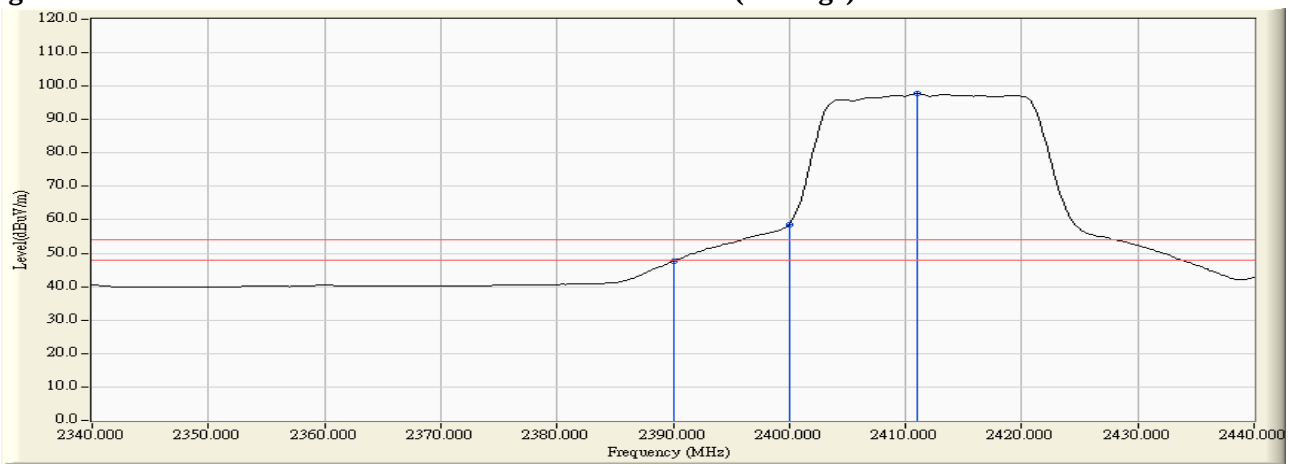


Figure Channel 01: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	11.672	53.611	65.283	74.00	54.00	Pass
01 (Peak)	2400.000	11.703	63.596	75.298	--	--	Pass
01 (Peak)	2410.400	11.738	100.137	111.875	--	--	Pass
01 (Average)	2390.000	11.672	36.254	47.926	74.00	54.00	Pass
01 (Average)	2400.000	11.703	46.958	58.660	--	--	Pass
01 (Average)	2411.000	11.740	85.113	96.853	--	--	Pass

Figure Channel 01: Vertical (Peak)

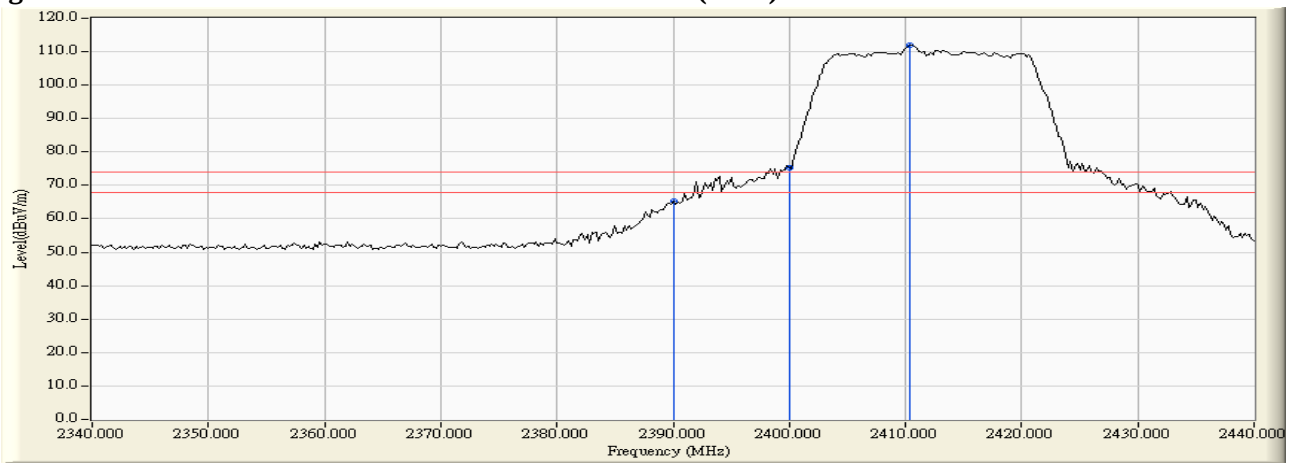
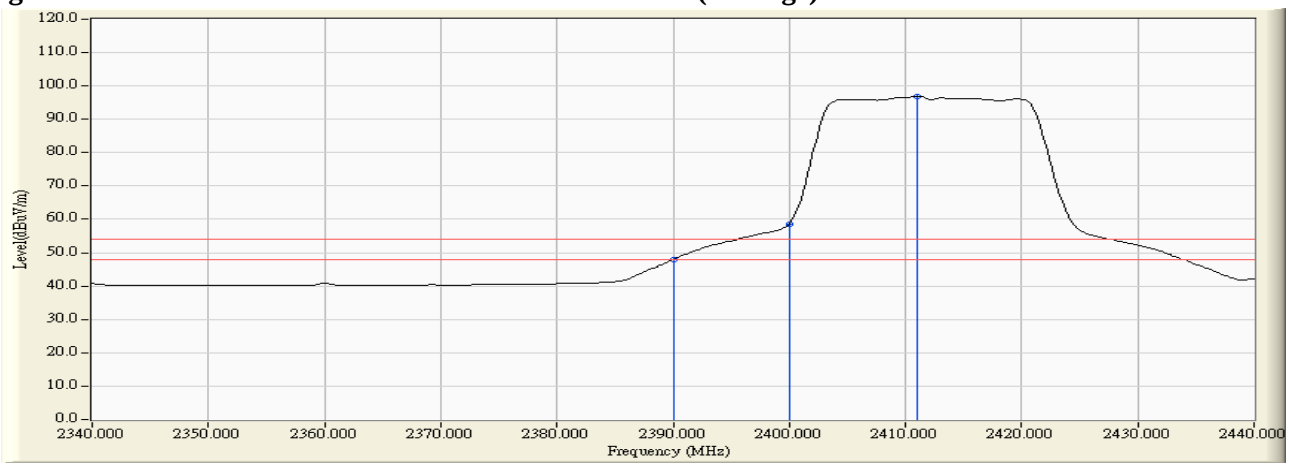


Figure Channel 01: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
10 (Peak)	2455.300	11.720	101.696	113.416	--	--	Pass
10 (Peak)	2483.500	12.049	44.302	56.351	74.00	54.00	Pass
10 (Average)	2454.700	11.729	86.679	98.408	--	--	Pass
10 (Average)	2483.500	12.049	30.411	42.460	74.00	54.00	Pass

Figure Channel 10: Horizontal (Peak)

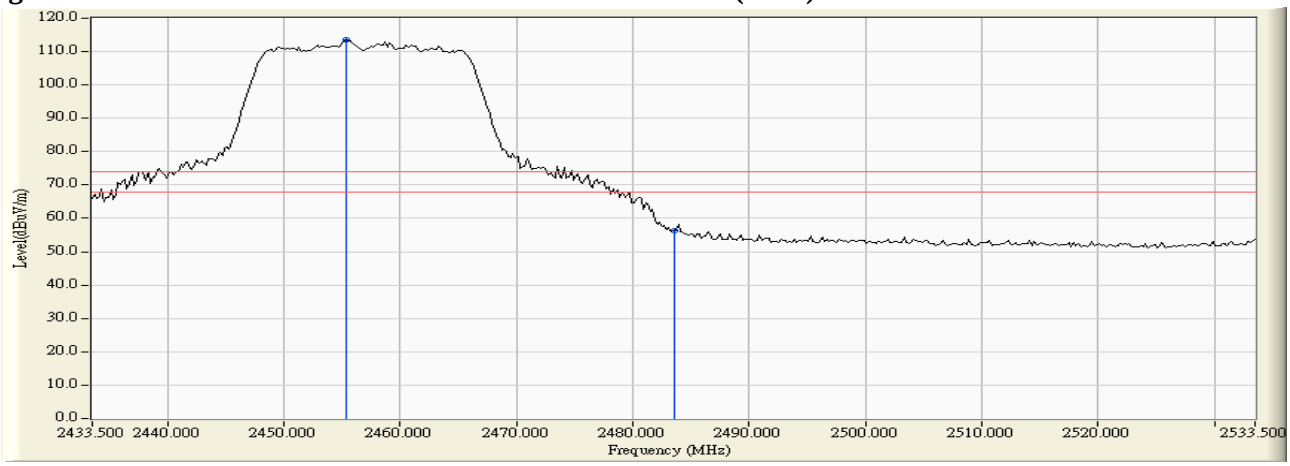
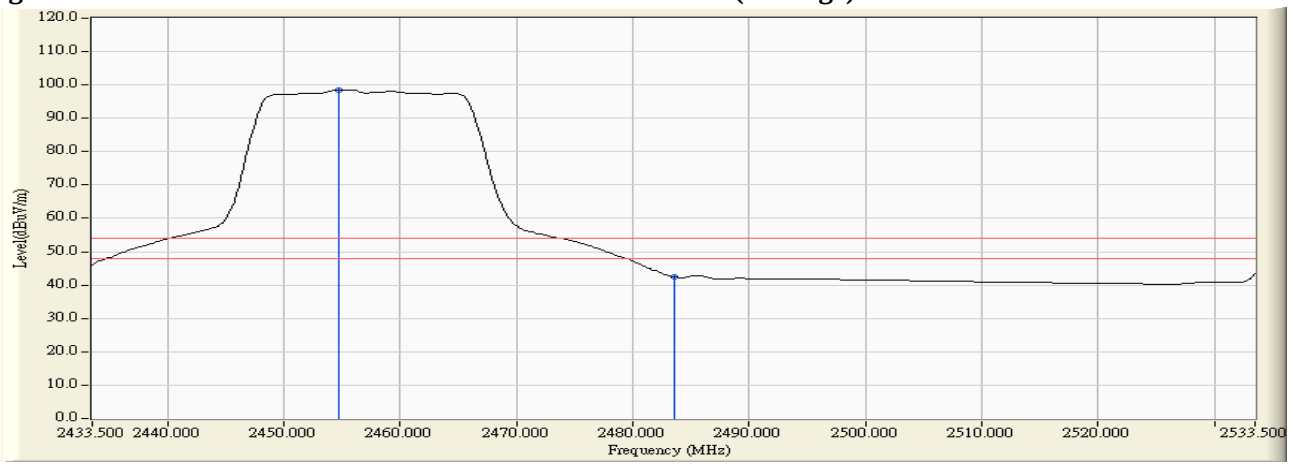


Figure Channel 10: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
10 (Peak)	2458.900	11.753	101.835	113.587	--	--	Pass
10 (Peak)	2483.500	12.049	44.228	56.277	74.00	54.00	Pass
10 (Average)	2454.700	11.729	88.637	100.366	--	--	Pass
10 (Average)	2483.500	12.049	31.904	43.953	74.00	54.00	Pass

Figure Channel 10: Vertical (Peak)

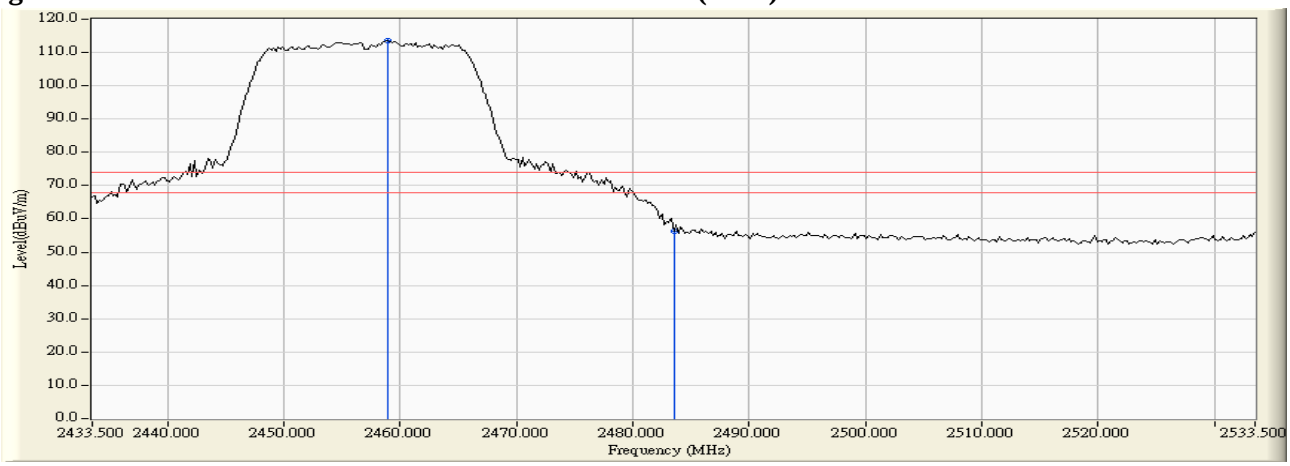
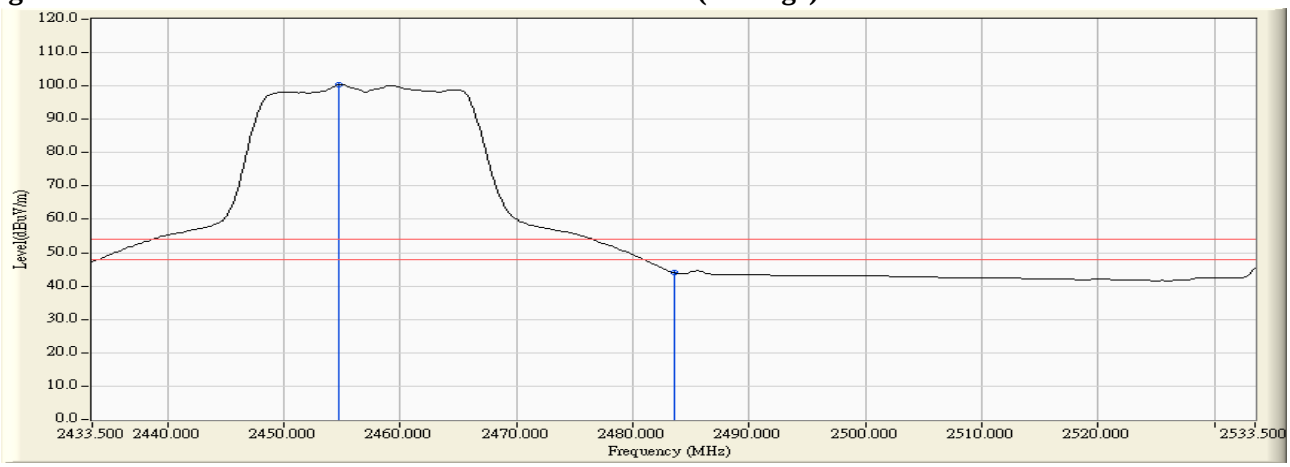


Figure Channel 10: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2460.500	11.775	97.988	109.764	--	--	Pass
11 (Peak)	2483.500	12.049	50.415	62.464	74.00	54.00	Pass
11 (Average)	2461.100	11.784	84.241	96.025	--	--	Pass
11 (Average)	2483.500	12.049	32.029	44.078	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

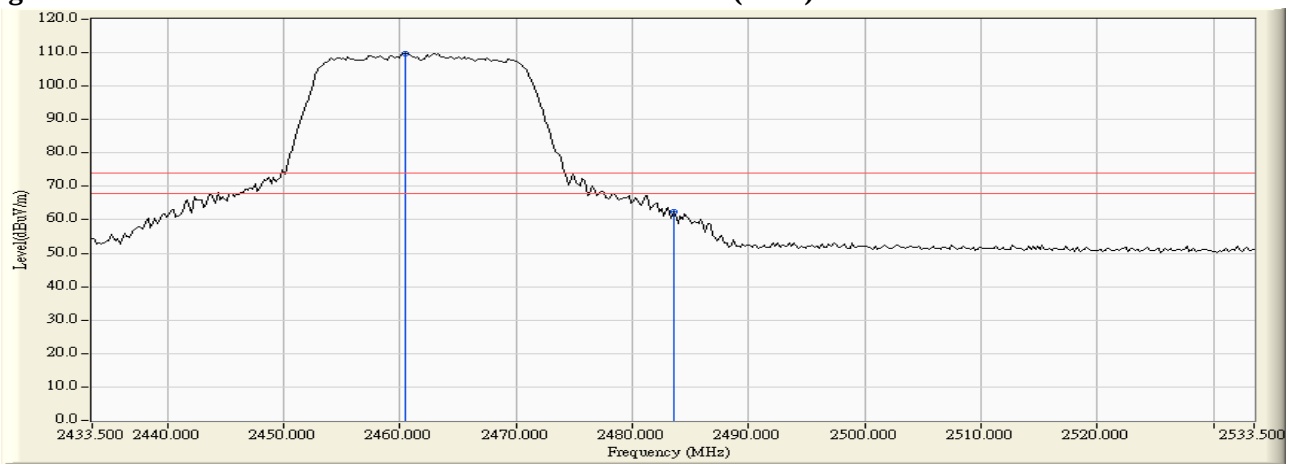
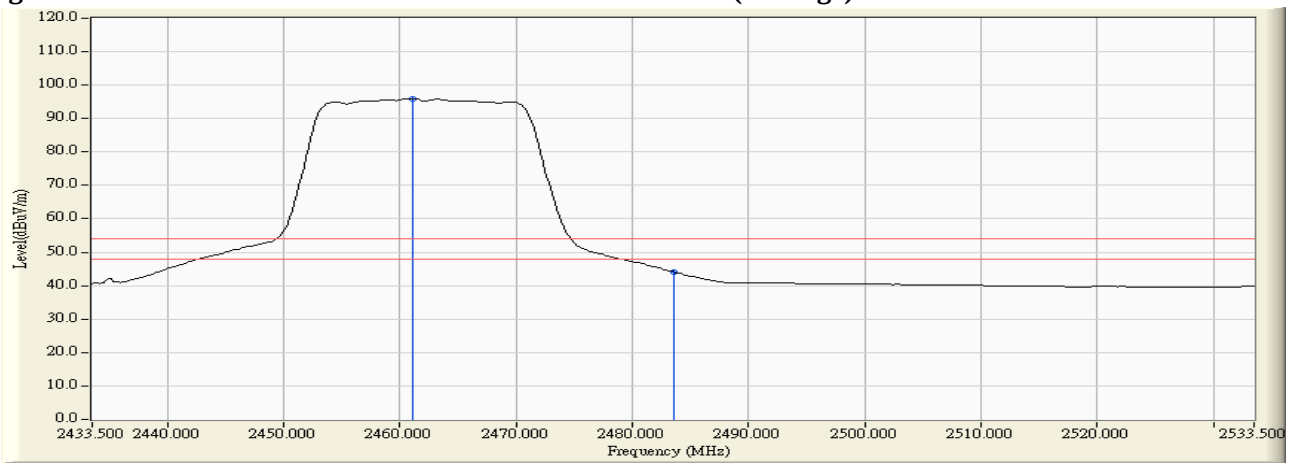


Figure Channel 11: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2462.900	11.811	100.696	112.507	--	--	Pass
11 (Peak)	2483.500	12.049	53.789	65.838	74.00	54.00	Pass
11 (Peak)	2485.100	12.062	54.022	66.084	74.00	54.00	Pass
11 (Average)	2459.900	11.767	86.273	98.040	--	--	Pass
11 (Average)	2483.500	12.049	36.116	48.165	74.00	54.00	Pass

Figure Channel 11: Vertical (Peak)

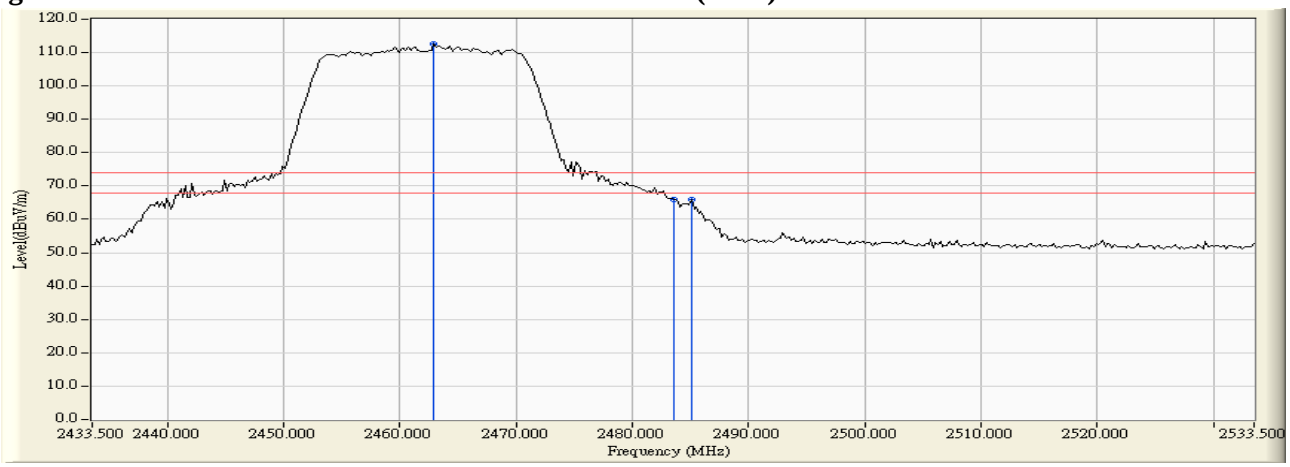
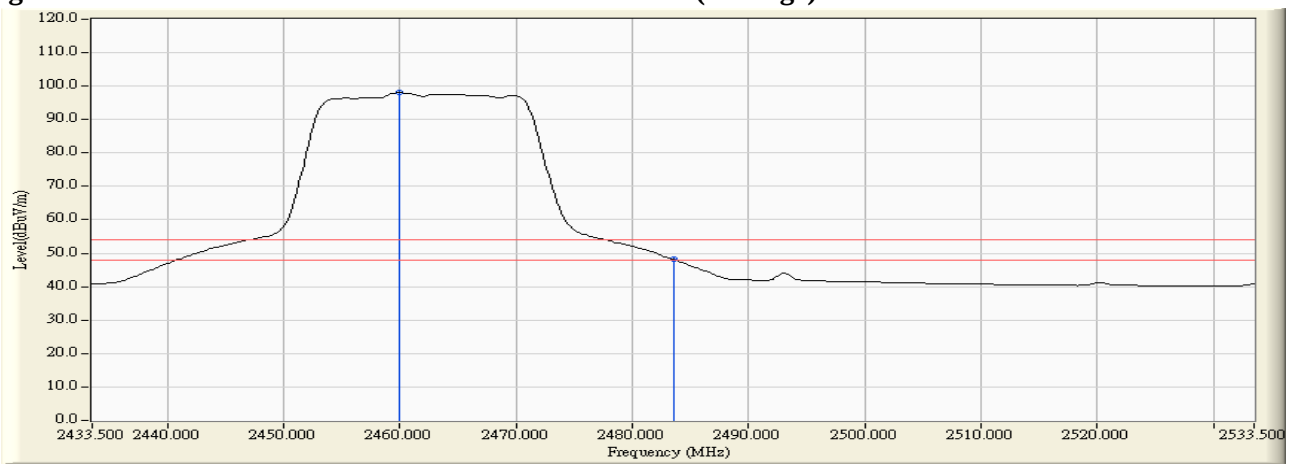


Figure Channel 11: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
12 (Peak)	2464.500	11.833	95.454	107.288	--	--	Pass
12 (Peak)	2483.500	12.049	50.990	63.039	74.00	54.00	Pass
12 (Average)	2464.900	11.840	80.481	92.321	--	--	Pass
12 (Average)	2483.500	12.049	34.051	46.100	74.00	54.00	Pass

Figure Channel 12: Horizontal (Peak)

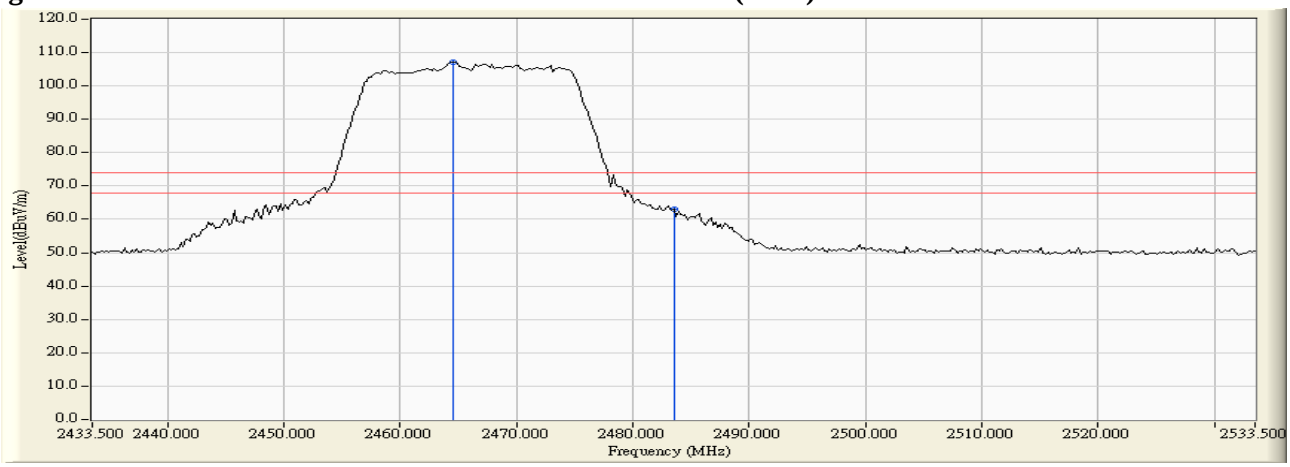
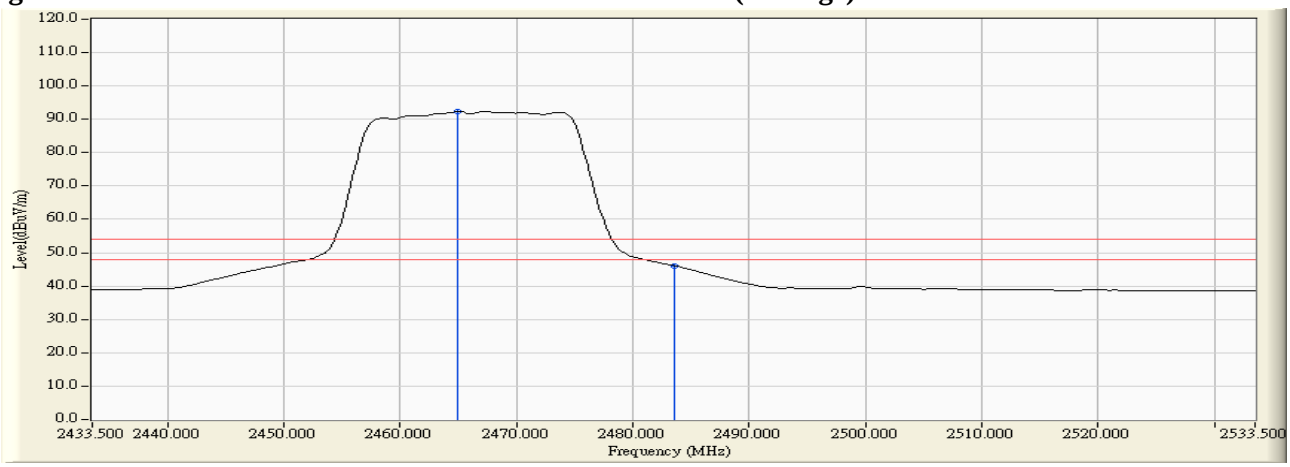


Figure Channel 12: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
12 (Peak)	2467.300	11.874	96.893	108.768	--	--	Pass
12 (Peak)	2483.500	12.049	55.059	67.108	74.00	54.00	Pass
12 (Average)	2468.100	11.887	83.712	95.598	--	--	Pass
12 (Average)	2483.500	12.049	36.331	48.380	74.00	54.00	Pass

Figure Channel 12: Vertical (Peak)

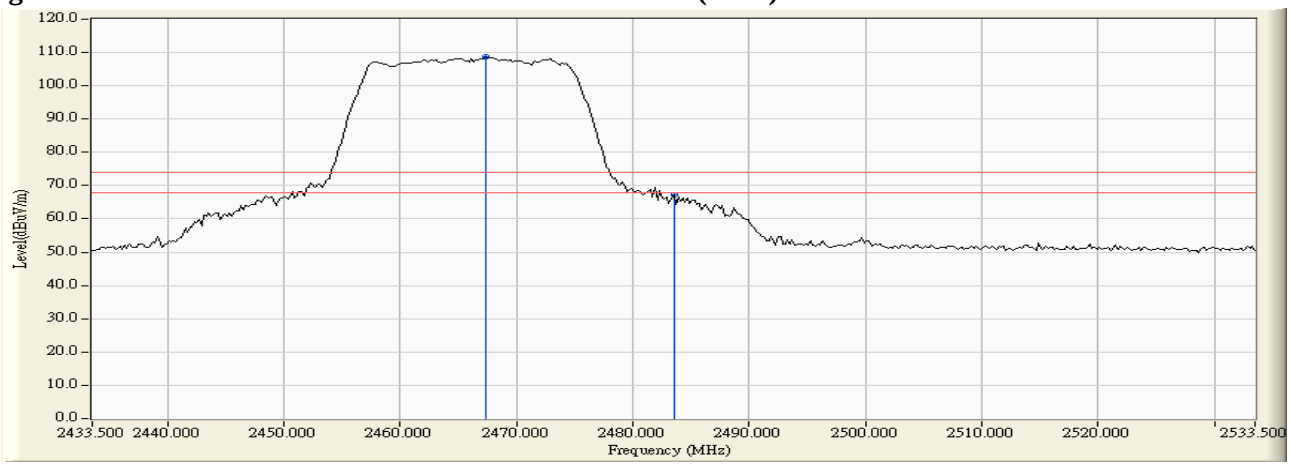
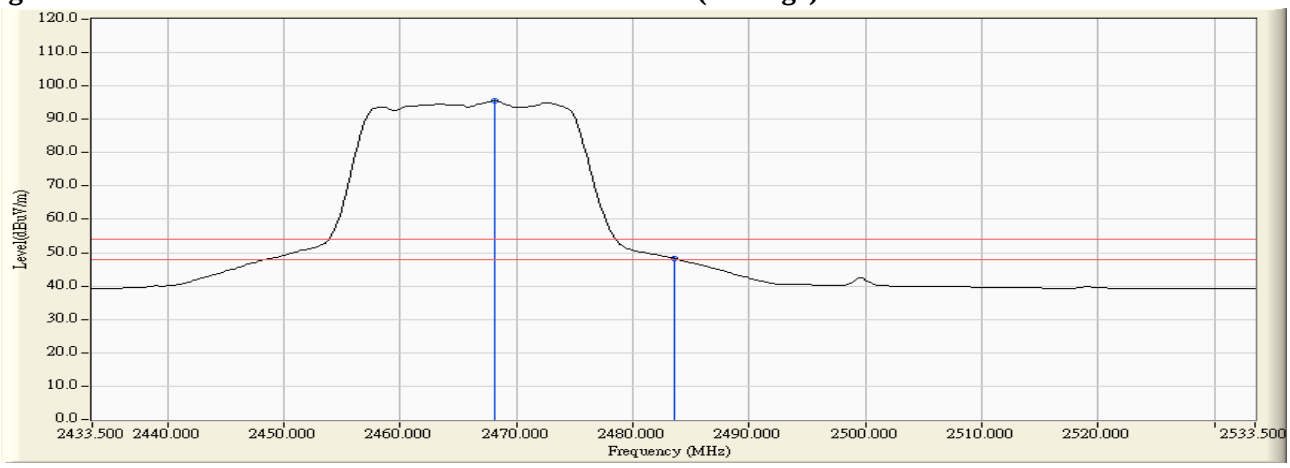


Figure Channel 12: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
13 (Peak)	2469.500	11.906	94.988	106.895	--	--	Pass
13 (Peak)	2483.500	12.049	57.560	69.609	74.00	54.00	Pass
13 (Average)	2473.300	11.962	79.971	91.933	--	--	Pass
13 (Average)	2483.500	12.049	38.998	51.047	74.00	54.00	Pass

Figure Channel 13: Horizontal (Peak)

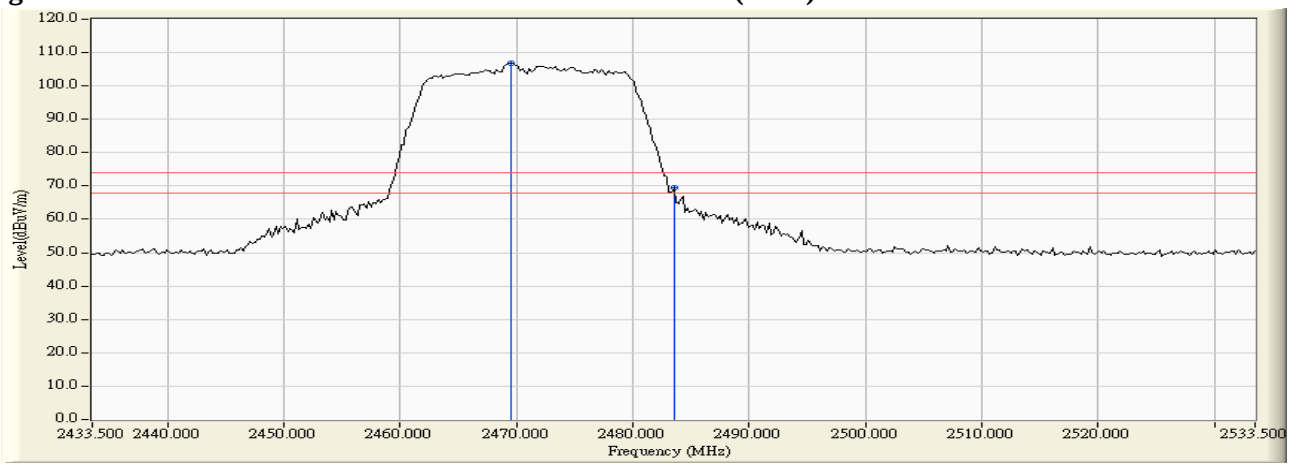
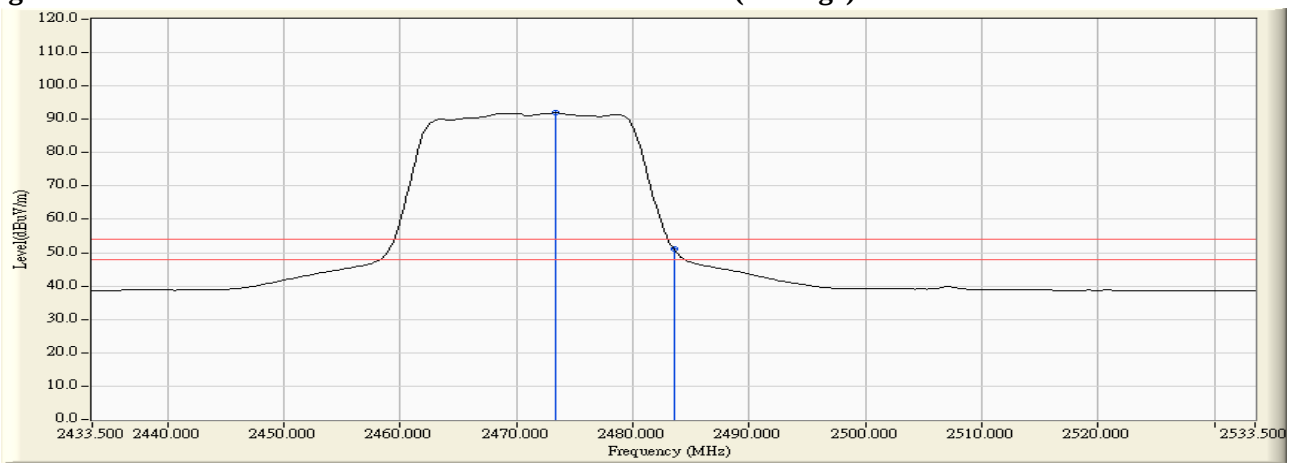


Figure Channel 13: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
13 (Peak)	2472.500	11.950	95.686	107.636	--	--	Pass
13 (Peak)	2483.500	12.049	56.452	68.501	74.00	54.00	Pass
13 (Average)	2473.100	11.960	82.605	94.564	--	--	Pass
13 (Average)	2483.500	12.049	41.157	53.206	74.00	54.00	Pass

Figure Channel 13: Vertical (Peak)

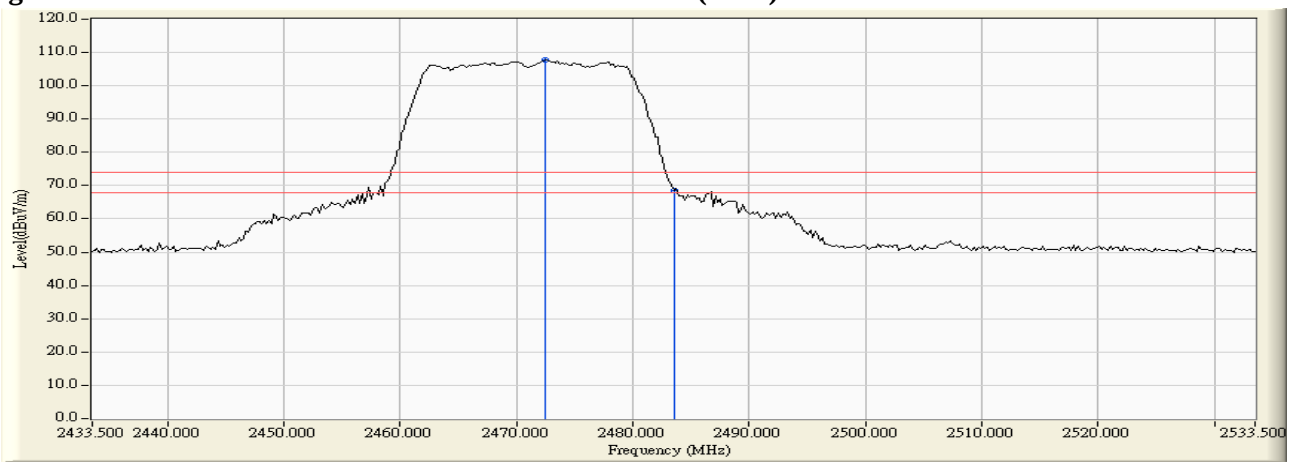
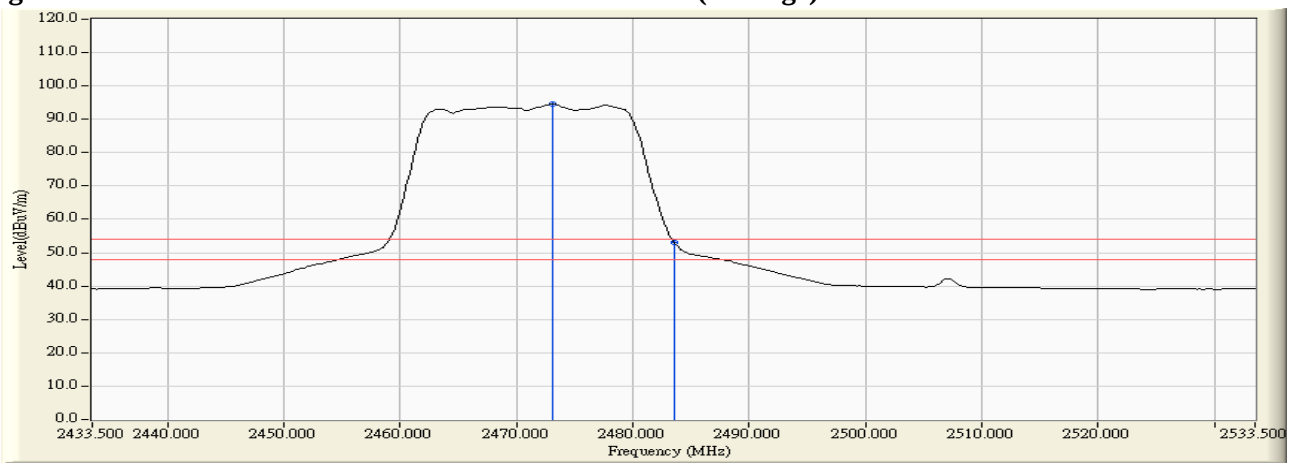


Figure Channel 13: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) –2422MHz

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
03 (Peak)	2389.400	11.671	54.301	65.972	74.00	54.00	Pass
03 (Peak)	2390.000	11.672	53.454	65.126	74.00	54.00	Pass
03 (Peak)	2400.000	11.703	63.992	75.694	--	--	Pass
03 (Peak)	2436.000	11.975	96.216	108.191	--	--	Pass
03 (Average)	2390.000	11.672	37.555	49.227	74.00	54.00	Pass
03 (Average)	2400.000	11.703	41.637	53.339	--	--	Pass
03 (Average)	2426.800	11.852	81.309	93.161	--	--	Pass

Figure Channel 03: Horizontal (Peak)

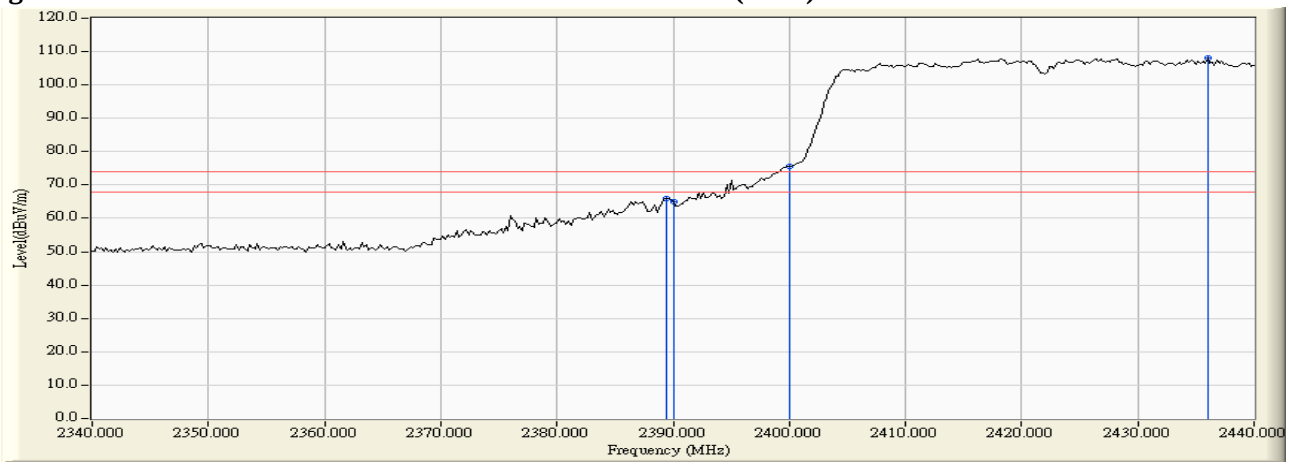
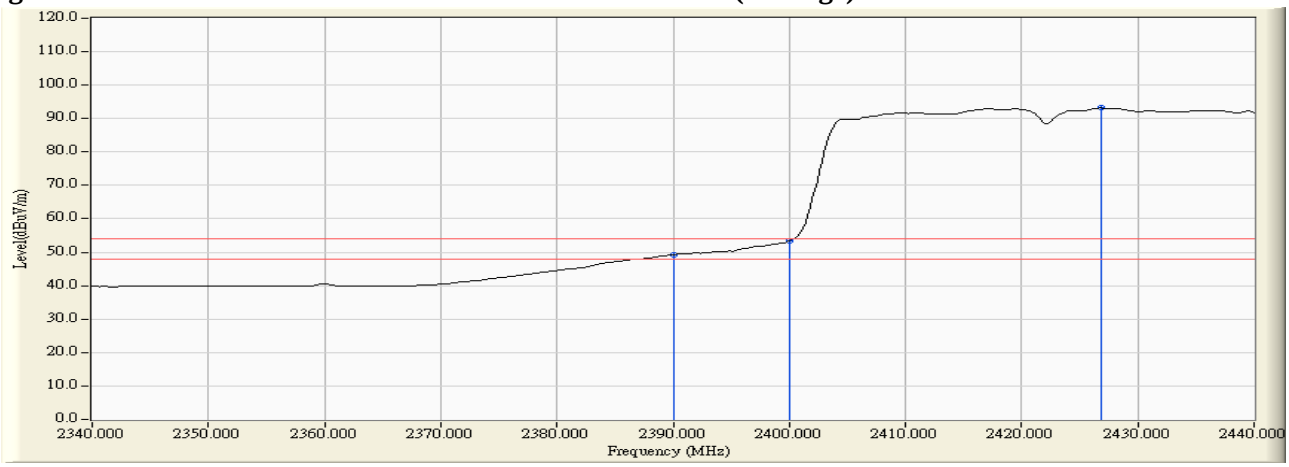


Figure Channel 03: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) –2422MHz

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
03 (Peak)	2390.000	11.672	56.734	68.406	74.00	54.00	Pass
03 (Peak)	2400.000	11.703	66.016	77.718	--	--	Pass
03 (Peak)	2426.600	11.849	95.869	107.718	--	--	Pass
03 (Average)	2390.000	11.672	37.690	49.362	74.00	54.00	Pass
03 (Average)	2400.000	11.703	41.375	53.077	--	--	Pass
03 (Average)	2435.400	11.967	79.917	91.884	--	--	Pass

Figure Channel 03: Vertical (Peak)

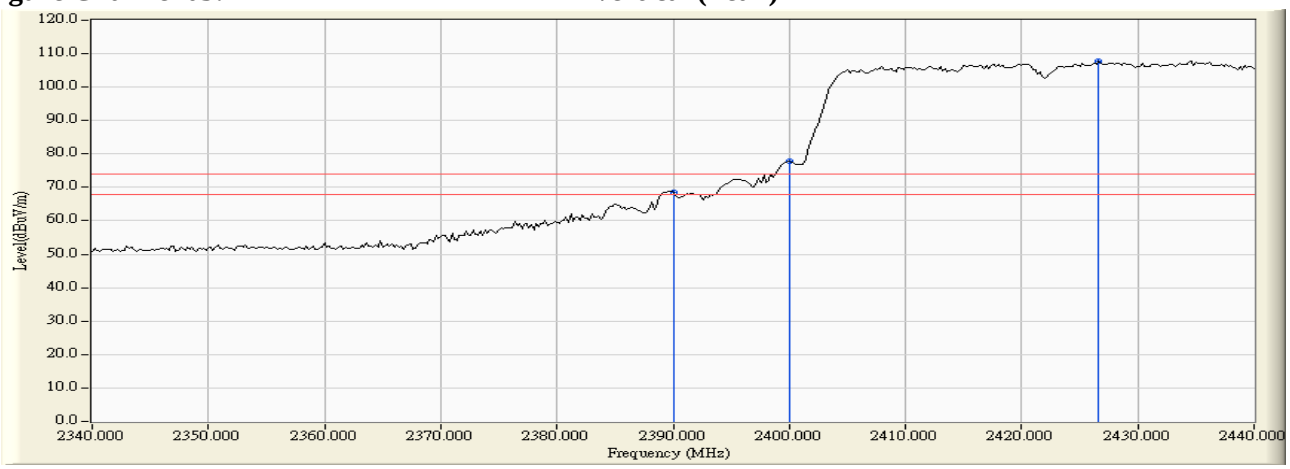
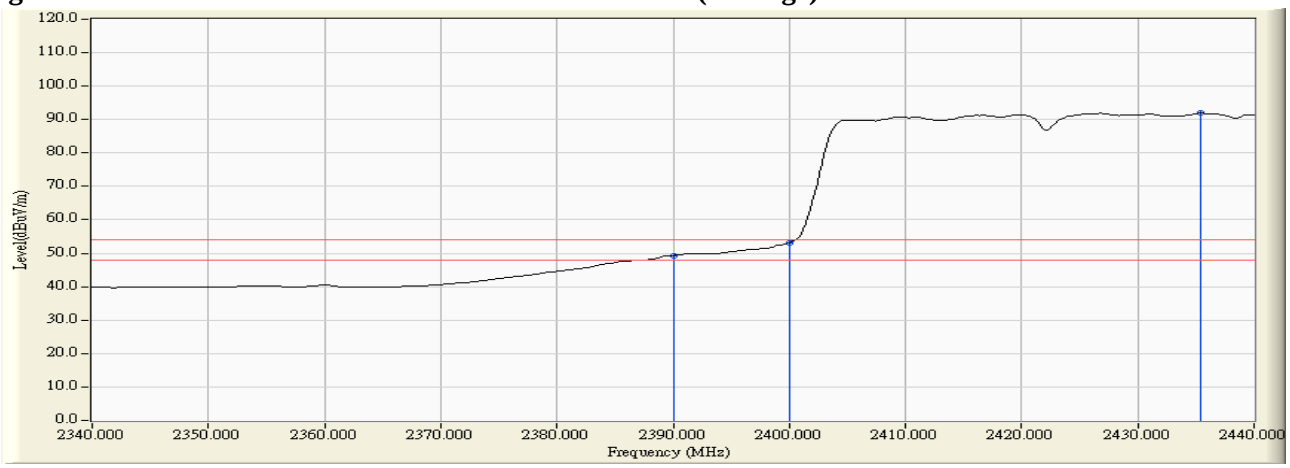


Figure Channel 03: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

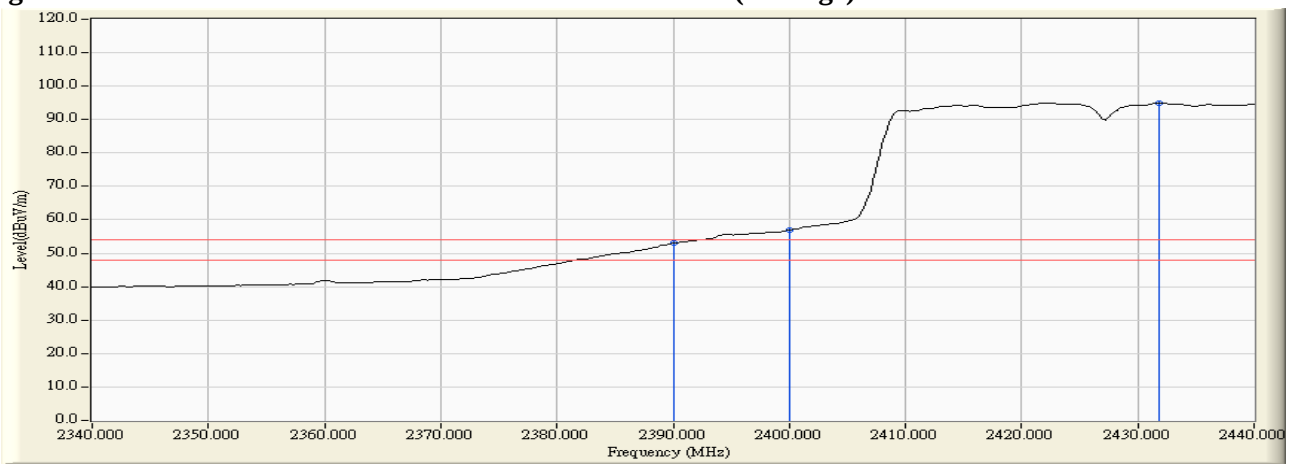
Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) –2427MHz

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
04 (Peak)	2390.000	11.672	60.727	72.399	74.00	54.00	Pass
04 (Peak)	2400.000	11.703	67.855	79.557	--	--	Pass
04 (Peak)	2432.200	11.924	99.019	110.943	--	--	Pass
04 (Average)	2390.000	11.672	41.264	52.936	74.00	54.00	Pass
04 (Average)	2400.000	11.703	45.275	56.977	--	--	Pass
04 (Average)	2431.800	11.918	83.095	95.014	--	--	Pass

Figure Channel 04: Horizontal (Peak)

Figure Channel 04: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

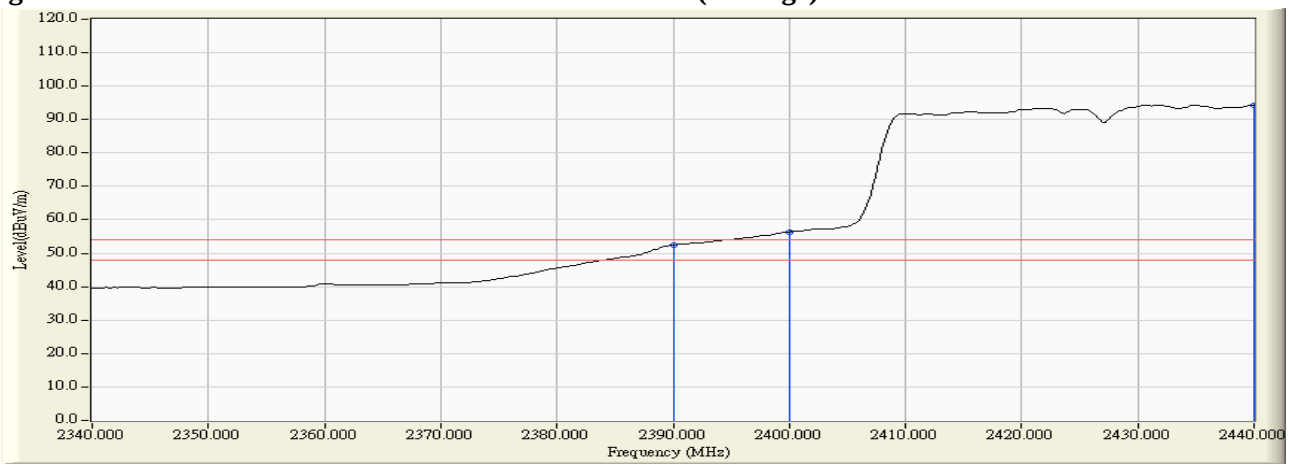
Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) –2427MHz

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
04 (Peak)	2390.000	11.672	61.054	72.726	74.00	54.00	Pass
04 (Peak)	2400.000	11.703	67.705	79.407	--	--	Pass
04 (Peak)	2434.000	11.948	97.791	109.739	--	--	Pass
04 (Average)	2390.000	11.672	40.706	52.378	74.00	54.00	Pass
04 (Average)	2400.000	11.703	44.696	56.398	--	--	Pass
04 (Average)	2440.000	11.968	82.334	94.302	--	--	Pass

Figure Channel 04: Vertical (Peak)

Figure Channel 04: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) –2447MHz

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
08 (Peak)	2452.500	11.764	96.536	108.301	--	--	Pass
08 (Peak)	2483.500	12.049	57.962	70.011	74.00	54.00	Pass
08 (Peak)	2484.500	12.057	60.230	72.287	74.00	54.00	Pass
08 (Average)	2451.700	11.778	80.986	92.764	--	--	Pass
08 (Average)	2483.500	12.049	38.600	50.649	74.00	54.00	Pass

Figure Channel 08: Horizontal (Peak)

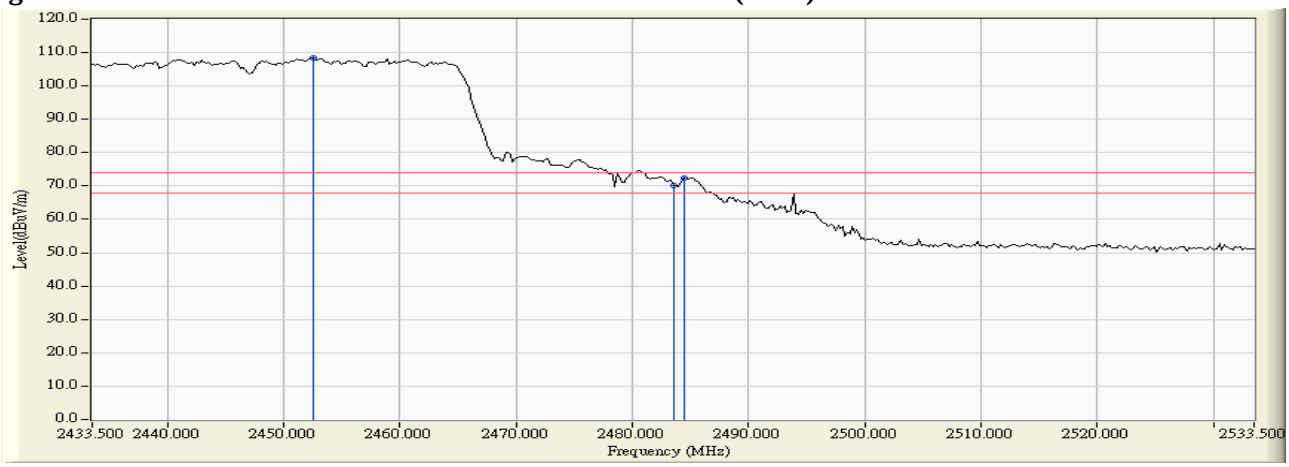
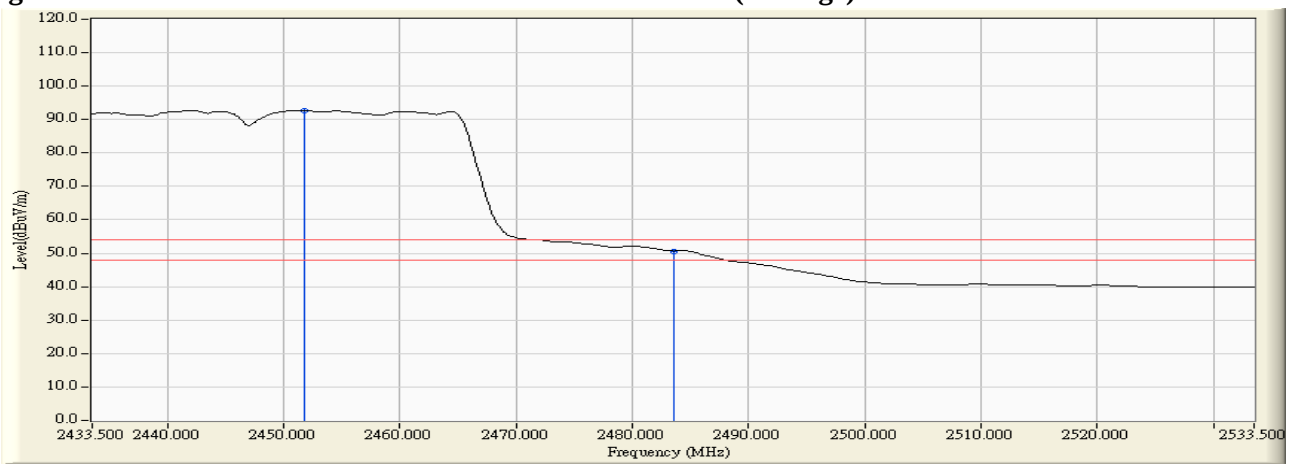


Figure Channel 08: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

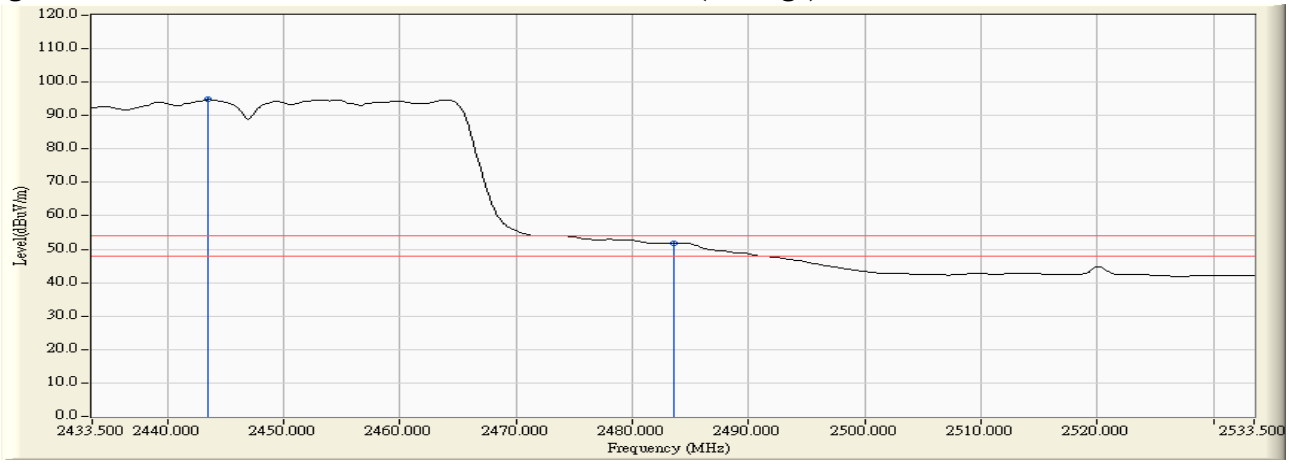
Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) –2447MHz

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
08 (Peak)	2453.700	11.745	98.290	110.035	--	--	Pass
08 (Peak)	2483.500	12.049	59.702	71.751	74.00	54.00	Pass
08 (Average)	2443.500	11.910	82.840	94.750	--	--	Pass
08 (Average)	2483.500	12.049	39.827	51.876	74.00	54.00	Pass

Figure Channel 08: Vertical (Peak)

Figure Channel 08: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) –2452MHz

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
09 (Peak)	2457.100	11.726	94.562	106.288	--	--	Pass
09 (Peak)	2483.500	12.049	51.998	64.047	74.00	54.00	Pass
09 (Peak)	2483.700	12.051	53.353	65.404	74.00	54.00	Pass
09 (Average)	2446.900	11.854	78.980	90.835	--	--	Pass
09 (Average)	2483.500	12.049	34.004	46.053	74.00	54.00	Pass

Figure Channel 09: Horizontal (Peak)

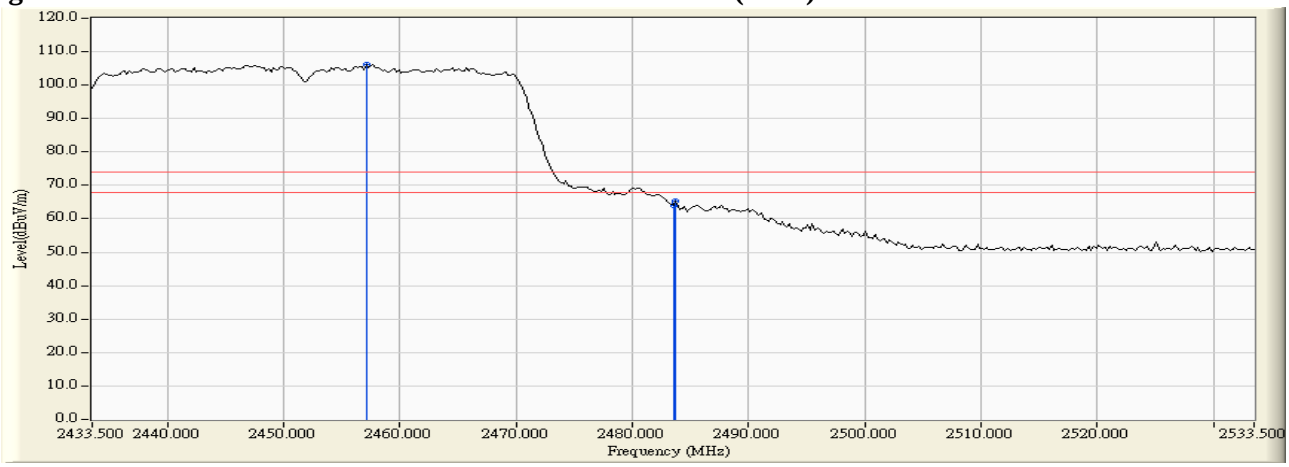
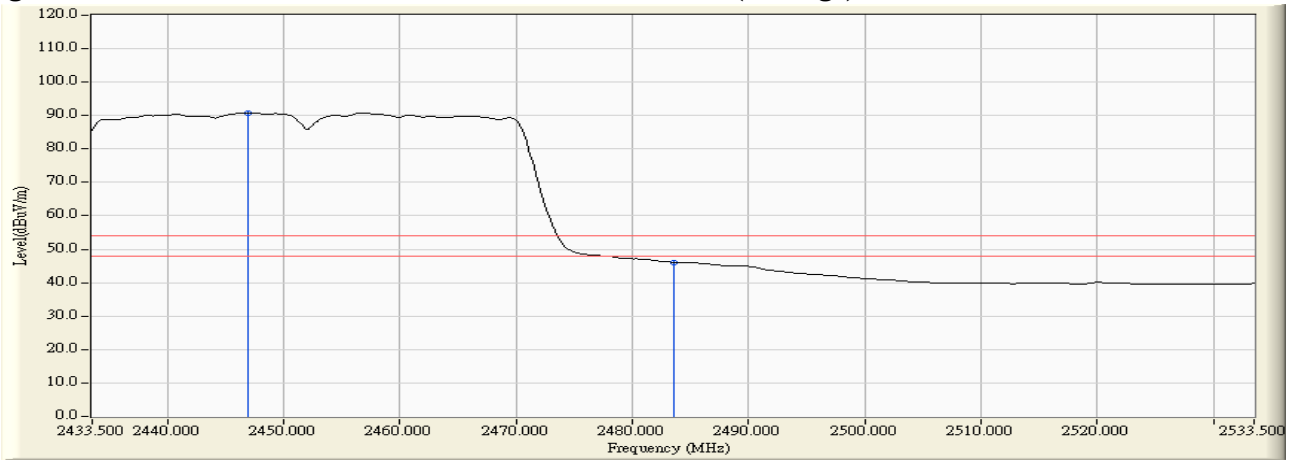


Figure Channel 09: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) –2452MHz

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
09 (Peak)	2458.700	11.749	95.152	106.901	--	--	Pass
09 (Peak)	2483.500	12.049	53.451	65.500	74.00	54.00	Pass
09 (Peak)	2485.500	12.065	56.350	68.415	74.00	54.00	Pass
09 (Average)	2456.700	11.721	79.864	91.584	--	--	Pass
09 (Average)	2483.500	12.049	36.299	48.348	74.00	54.00	Pass

Figure Channel 09: Vertical (Peak)

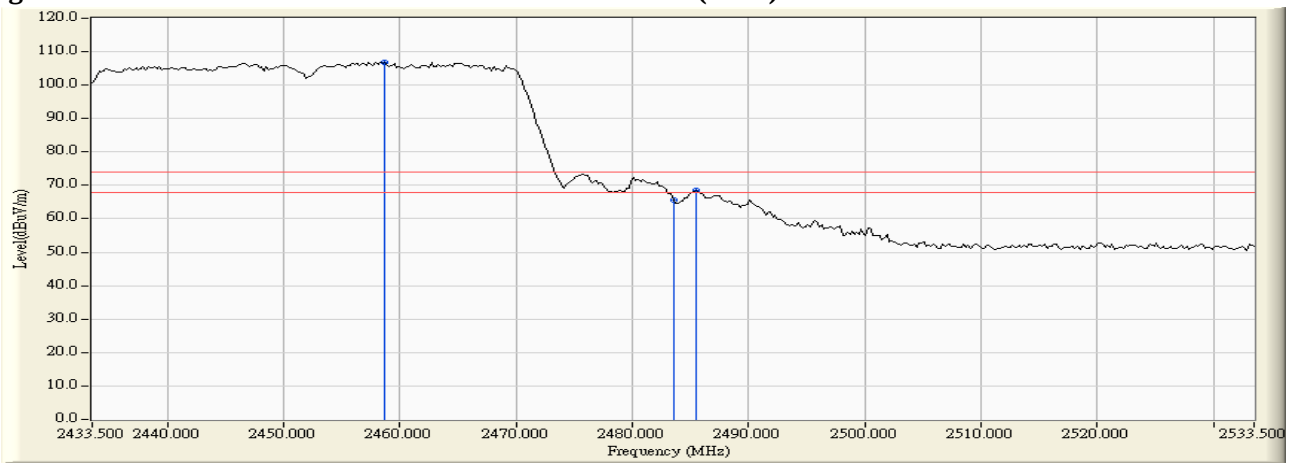
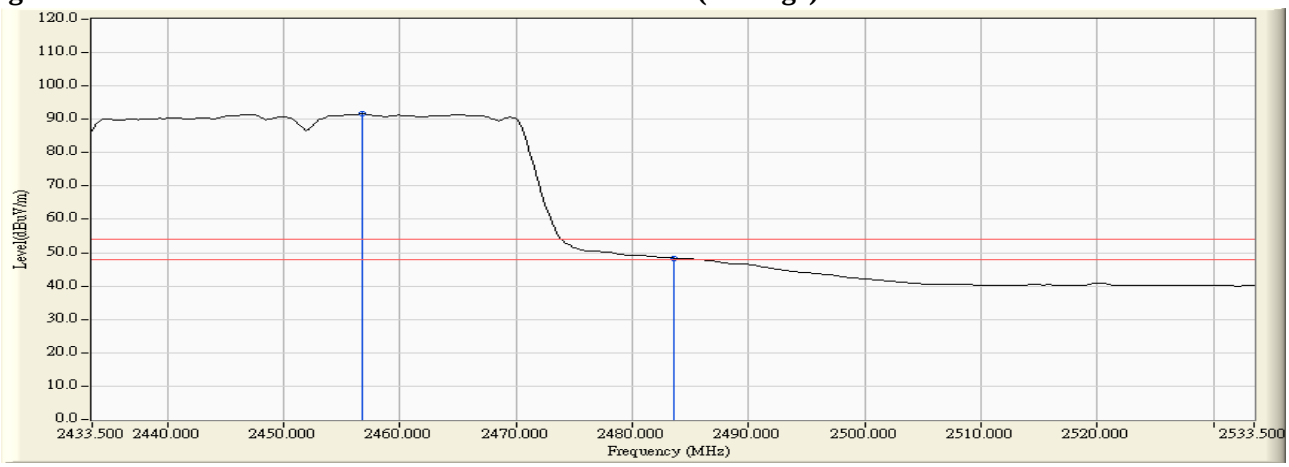


Figure Channel 09: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) –2457MHz

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
10 (Peak)	2452.700	11.762	95.448	107.209	--	--	Pass
10 (Peak)	2483.500	12.049	59.509	71.558	74.00	54.00	Pass
10 (Peak)	2485.500	12.065	60.321	72.386	74.00	54.00	Pass
10 (Average)	2461.700	11.793	79.696	91.489	--	--	Pass
10 (Average)	2483.500	12.049	36.749	48.798	74.00	54.00	Pass

Figure Channel 10: Horizontal (Peak)

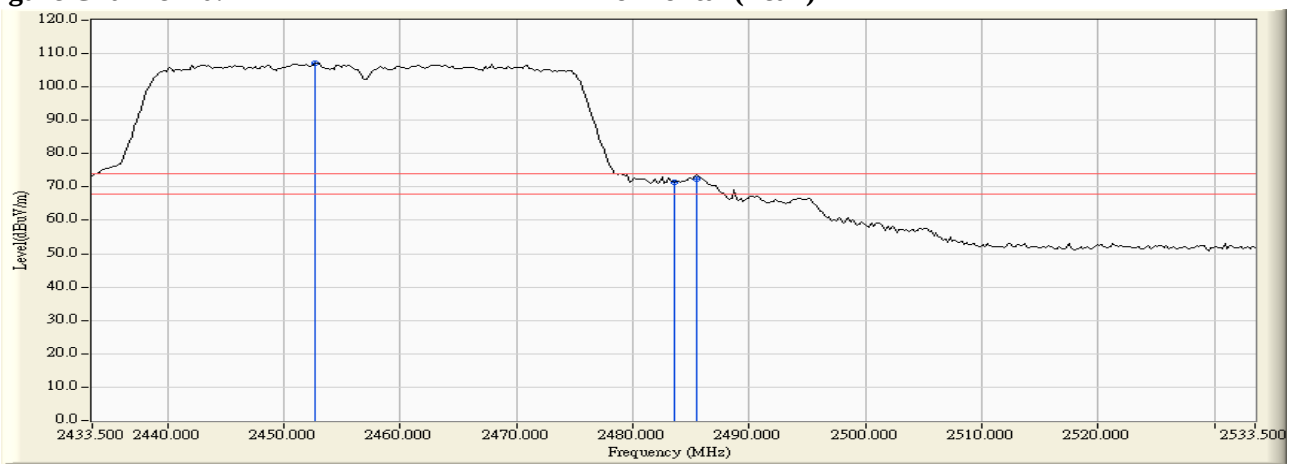
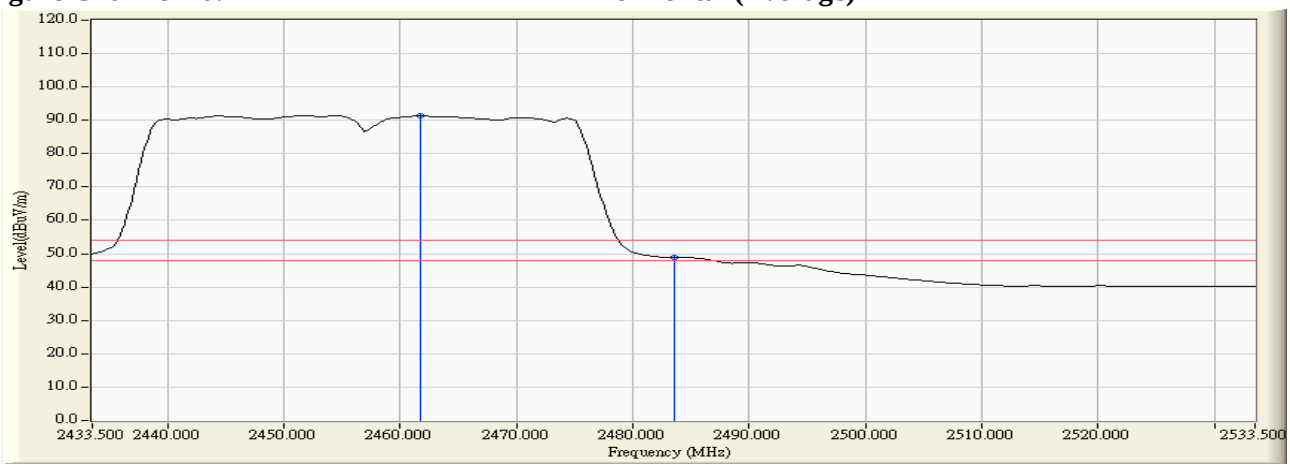


Figure Channel 10: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) –2457MHz

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
10 (Peak)	2463.900	11.825	95.768	107.593	--	--	Pass
10 (Peak)	2483.500	12.049	58.343	70.392	74.00	54.00	Pass
10 (Peak)	2485.100	12.062	60.825	72.887	74.00	54.00	Pass
10 (Average)	2464.700	11.837	80.371	92.208	--	--	Pass
10 (Average)	2483.500	12.049	36.614	48.663	74.00	54.00	Pass

Figure Channel 10: Vertical (Peak)

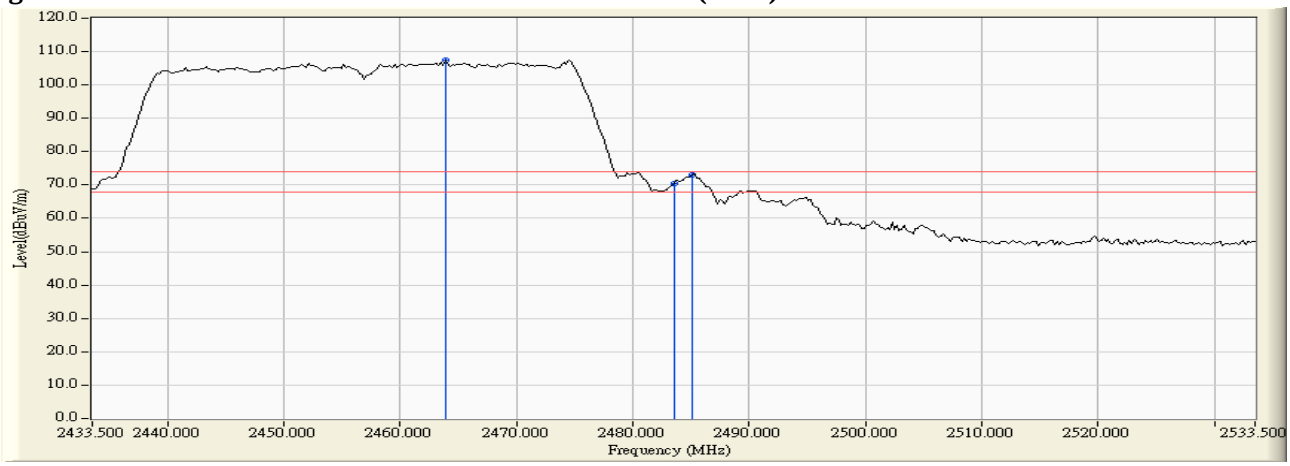
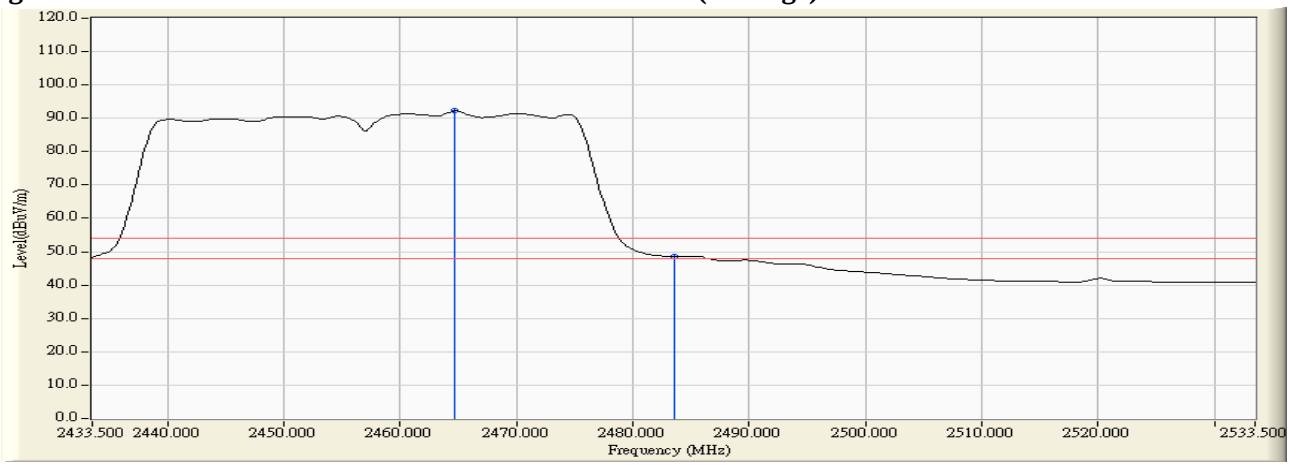


Figure Channel 10: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) –2462MHz

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2469.100	11.900	92.179	104.080	--	--	Pass
11 (Peak)	2483.500	12.049	58.536	70.585	74.00	54.00	Pass
11 (Peak)	2490.100	12.101	59.780	71.881	74.00	54.00	Pass
11 (Average)	2469.700	11.910	77.193	89.103	--	--	Pass
11 (Average)	2483.500	12.049	41.274	53.323	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

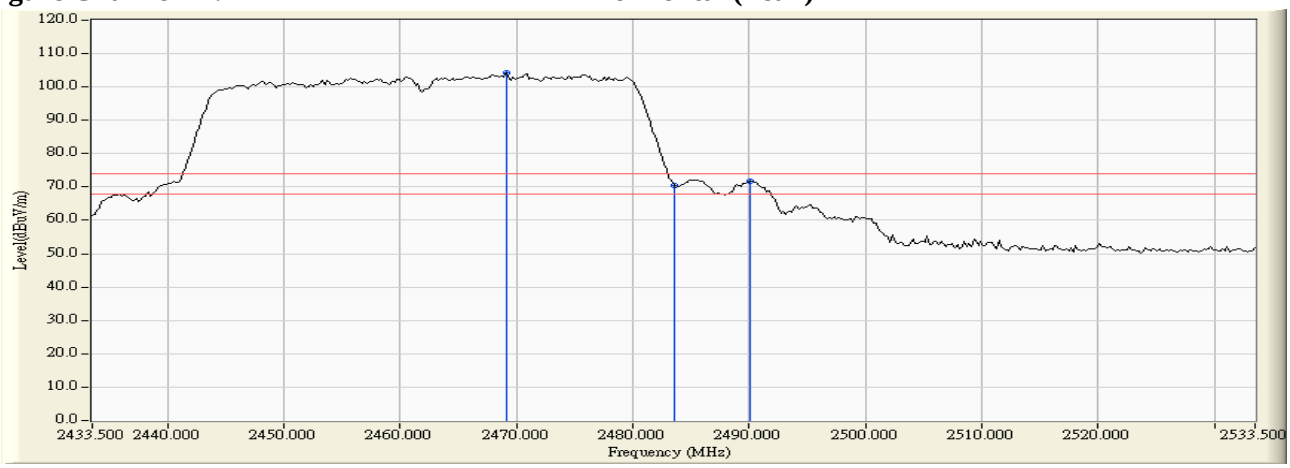
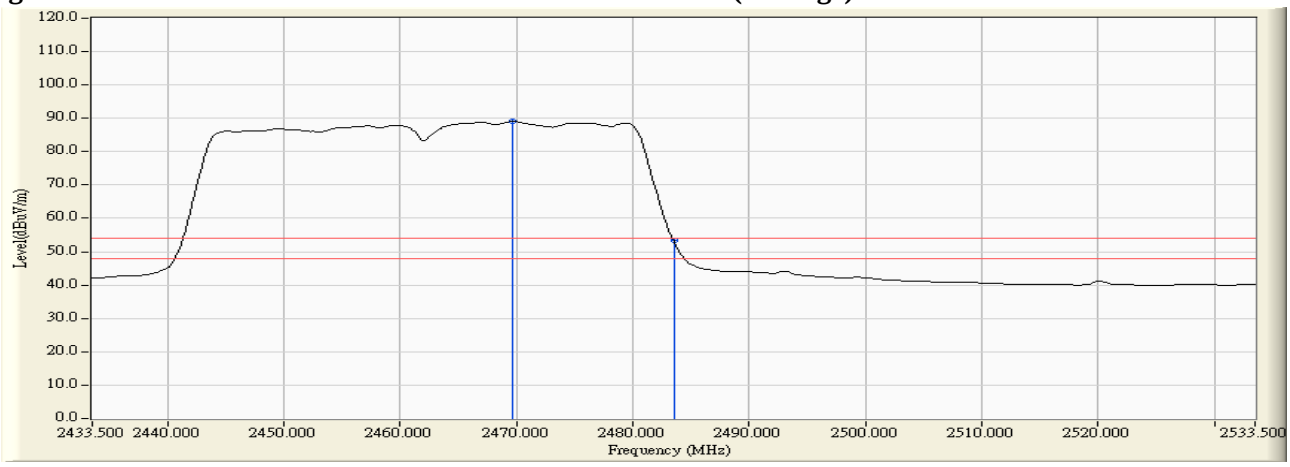


Figure Channel 11: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 802.11abgn/11ac WLAN + Bluetooth PCI-E Mini Card
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) –2462MHz

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2469.100	11.900	92.950	104.851	--	--	Pass
11 (Peak)	2483.500	12.049	59.628	71.677	74.00	54.00	Pass
11 (Peak)	2485.700	12.067	60.660	72.727	74.00	54.00	Pass
11 (Average)	2469.700	11.910	78.187	90.097	--	--	Pass
11 (Average)	2483.500	12.049	41.377	53.426	74.00	54.00	Pass

Figure Channel 11: Vertical (Peak)

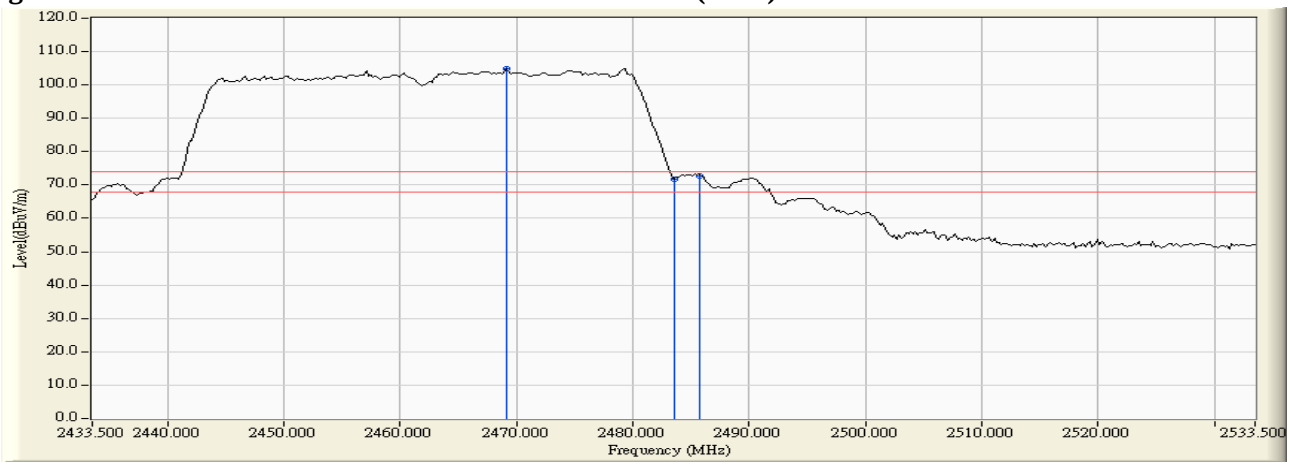
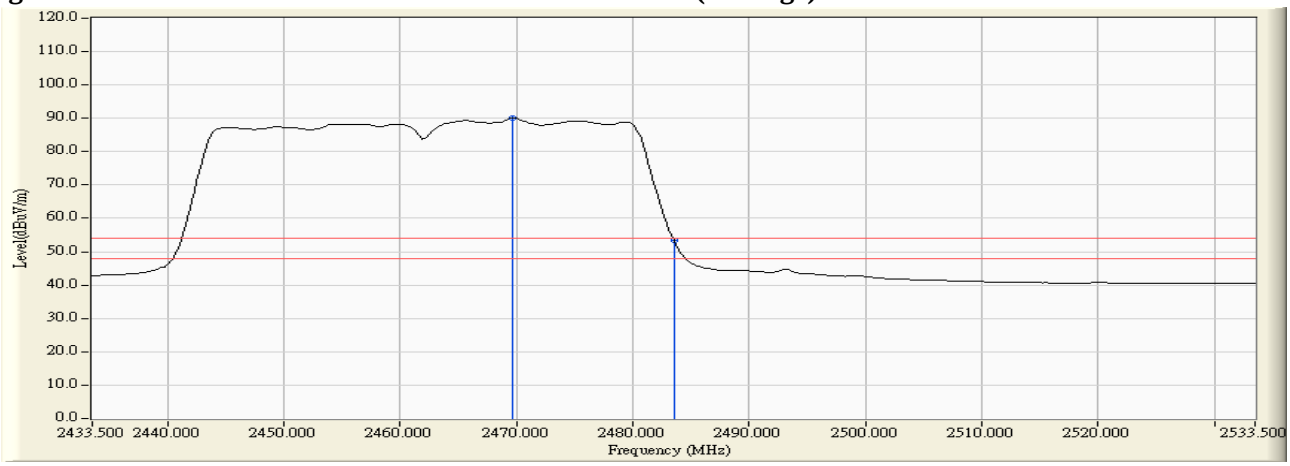


Figure Channel 11: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

5. During Compliance Testing

No modification was made during testing.

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs