FCC Test Report

Product Name	802.11ac Dual Band Access Point
Model No	WK-2, WK-2-B,WK-2-C, WK-2-CB
FCC ID.	SLY-WK2X33

Applicant	Pakedge Device and Software Inc.
Address	3847 Breakwater Avenue, Hayward, CA 94545

Date of Receipt	Aug. 19, 2015
Issue Date	Sep. 18, 2015
Report No.	1580559R-RFUSP01V00
Report Version	V1.0

Testing Laboratory
3023

Test Report

Issue Date: Sep. 18, 2015
Report No.: 1580559R-RFUSP01V00

Product Name	802.11ac Dual Band Access Point
Applicant	Pakedge Device and Software Inc.
Address	3847 Breakwater Avenue, Hayward, CA 94545
Manufacturer	Pakedge Device and Software Inc.
Factory	Lite-On Network Communication (Dongguan) Limited
Model No.	WK-2, WK-2-B,WK-2-C, WK-2-CB
EUT Rated Voltage	AC 100-240V, 50-60Hz
EUT Test Voltage	AC 120V/60Hz
Trade Name	Pakedge
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2013 ANSI C63.4: 2014, ANSI C63.10: 2013 KDB 558074 D01 DTS Meas Guidance v03r03
Test Result	Complied

Documented By : Genie Chang

(Senior Adm. Specialist / Genie Chang)

Tested By : Eason chen

(Assistant Engineer / Eason Chen)

Approved By :

(Director / Vincent Lin)

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Attachment 1: EUT Test Photographs
Attachment 2: EUT Detailed Photographs

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	802.11ac Dual Band Access Point
Trade Name	Pakedge
Model No.	WK-2, WK-2-B,WK-2-C, WK-2-CB
FCC ID.	SLY-WK2X33
Frequency Range	802.11b/g/n-20MHz:2412-2462MHz,802.11n-40MHz:2422-2452MHz
Number of Channels	802.11b/g/n-20MHz: 11, n-40MHz: 7
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: up to 450Mbps
Type of Modulation	802.11b:DSSS DBPSK, DQPSK, CCK 802.11g/n: OFDM BPSK, QPSK, 16QAM, 64QAM
Antenna Type	PIFA Antenna
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto
LAN Cable	Non-Shielded, 2.0m
Power Adapter	MFR: Asian, M/N: WA-24Q12FU Input: AC 100-240V, 50-60Hzm 0.7A Output: DV 12V, 2A Cable Out: Non-Shielded, 1.8m

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Lite-On	30100006726D (2G-1) 30100007216D (2G-2) 30100007496D (2G-3)	PIFA	5.4 dBi for 2.4 GHz

Note: The antenna of EUT is conform to FCC 15.203

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		

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

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 1:	2422 MHz	Channel 2:	2427 MHz	Channel 3:	2432 MHz	Channel 4:	2437 MHz
Channel 5:	2442 MHz	Channel 6:	2447 MHz	Channel 7:	2452 MHz		

Note:

1. This device is an 802.11ac Dual Band Access Point with a built-in 2.4GHz WLAN transceiver.
2. The different of each model is shown as below:

Model Number	Description
WK-2, WK-2-B	same PCBA and housing outlook, but different color of housing
WK-2, WK-2-C	same PCBA, different housing outlook with white color on both models.
WK-2-C, WK-2-CB	same PCBA and housing outlook, but different color of housing, white for WK-2-C and black for WK-2-CB

3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
4. At result of pretests, module supports three-channel transmission. (802.11 a/b/g/n/ac are chain A+ chain B + chain C)
5. 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 and、802.11n(40M-BW) is 45Mbps).
6. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g/n transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.

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

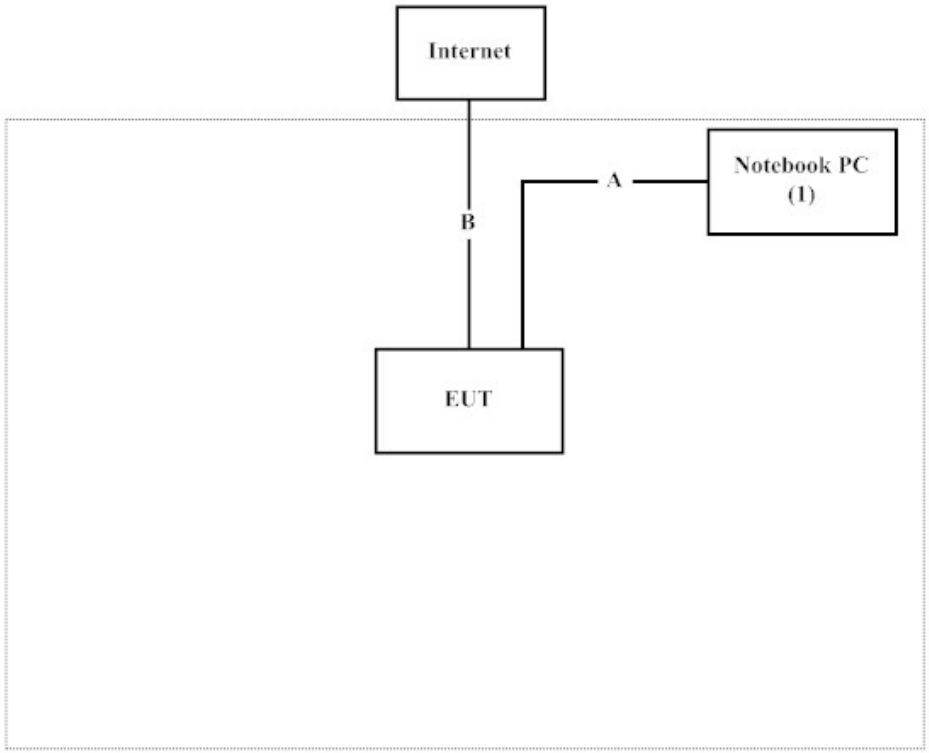
1.3. Tested System Details

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	Notebook PC	DELL	PPT	N/A	Non-Shielded, 0.8m

Signal Cable Type		Signal cable Description
A	LAN Cable	Non-Shielded, 2.0m
B	LAN 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 software “ART-GUI (v2.3)” on the EUT.
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/chinese/about/certificates.aspx?bval=5
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, Ruei-Shu Valley, Ruei-Ping Tsuen,
Lin-Kou Shiang, Taipei,
Taiwan, R.O.C.
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

FCC Accreditation Number: TW1014

2. Conducted Emission

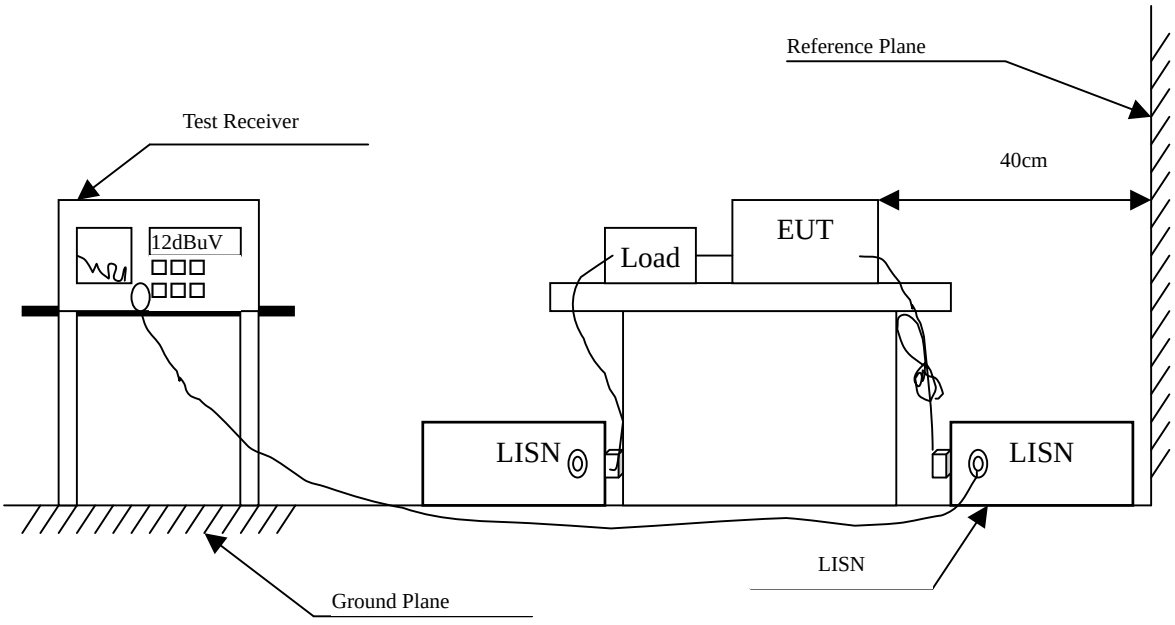
2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
X	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2015	
X	Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2015	Peripherals
X	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2015	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar, 2015	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2015	
	No.1 Shielded Room				

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked by “X” are used to measure the final test results.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AVG
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)
Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : 802.11ac Dual Band Access Point
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
Line 1					
Quasi-Peak					
0.154	9.763	27.180	36.943	-28.943	65.886
0.173	9.758	22.540	32.298	-33.045	65.343
0.310	9.763	24.740	34.503	-26.926	61.429
0.576	9.784	17.290	27.074	-28.926	56.000
3.310	9.950	19.130	29.080	-26.920	56.000
3.892	9.961	17.660	27.621	-28.379	56.000
Average					
0.154	9.763	13.070	22.833	-33.053	55.886
0.173	9.758	13.360	23.118	-32.225	55.343
0.310	9.763	18.920	28.683	-22.746	51.429
0.576	9.784	12.870	22.654	-23.346	46.000
3.310	9.950	6.090	16.040	-29.960	46.000
3.892	9.961	10.490	20.451	-25.549	46.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : 802.11ac Dual Band Access Point
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
Line 2					
Quasi-Peak					
0.154	9.763	27.240	37.003	-28.883	65.886
0.193	9.754	19.240	28.994	-35.777	64.771
0.287	9.761	22.640	32.401	-29.685	62.086
0.310	9.763	24.030	33.793	-27.636	61.429
0.638	9.789	16.560	26.349	-29.651	56.000
3.451	9.953	19.130	29.083	-26.917	56.000
Average					
0.154	9.763	15.600	25.363	-30.523	55.886
0.193	9.754	10.730	20.484	-34.287	54.771
0.287	9.761	22.630	32.391	-19.695	52.086
0.310	9.763	19.820	29.583	-21.846	51.429
0.638	9.789	13.540	23.329	-22.671	46.000
3.451	9.953	10.330	20.283	-25.717	46.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ “ means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3. Peak Power Output

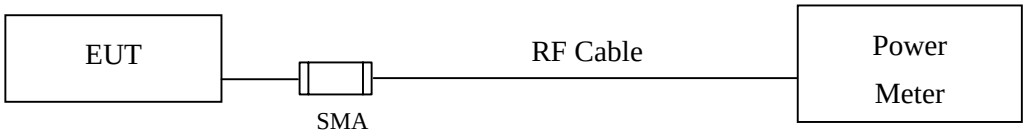
3.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2015
X	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2015

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



3.3. Limits

The maximum peak power shall be less 1 Watt.

3.4. Test Procedure

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

3.5. Uncertainty

± 1.27 dB

3.6. Test Result of Peak Power Output

Product : 802.11ac Dual Band Access Point
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)	Average Power For different Data Rate (Mbps)				Average Power	Required Limit	Result
		1	2	5.5	11	1		
		Measurement Level (dBm)						
01	2412	21.45	--	--	--	21.45	<30dBm	Pass
06	2437	24.23	24.15	24.02	23.97	24.23	<30dBm	Pass
11	2462	20.83	--	--	--	20.83	<30dBm	Pass

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

CHAIN B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Average Power	Required Limit	Result
		1	2	5.5	11	1		
		Measurement Level (dBm)						
01	2412	21.03	--	--	--	21.03	<30dBm	Pass
06	2437	23.78	23.69	23.57	23.45	23.78	<30dBm	Pass
11	2462	21.28	--	--	--	21.28	<30dBm	Pass

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

CHAIN C

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Average Power	Required Limit	Result
		1	2	5.5	11	1		
		Measurement Level (dBm)						
01	2412	21.36	--	--	--	21.36	<30dBm	Pass
06	2437	24.24	24.18	24.06	23.99	24.24	<30dBm	Pass
11	2462	21.54	--	--	--	21.54	<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	21.45	21.03	21.36	26.05	<30dBm	Pass
6	2437	1	24.23	23.78	24.24	28.86	<30dBm	Pass
11	2462	1	20.83	21.28	21.54	26.00	<30dBm	Pass

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

Product : 802.11ac Dual Band Access Point
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)	Average Power For different Data Rate (Mbps)								Average Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
01	2412	16.49	--	--	--	--	--	--	--	16.49	<30dBm	Pass
06	2437	24.09	23.97	23.88	23.74	23.64	23.58	23.49	23.32	24.09	<30dBm	Pass
11	2462	15.14	--	--	--	--	--	--	--	15.14	<30dBm	Pass

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

CHAIN B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Average Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
01	2412	16.62	--	--	--	--	--	--	--	16.62	<30dBm	Pass
06	2437	23.78	23.71	23.64	23.58	23.47	23.32	23.22	23.16	23.78	<30dBm	Pass
11	2462	15.77	--	--	--	--	--	--	--	15.77	<30dBm	Pass

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

CHAIN C

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Average Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
01	2412	16.82	--	--	--	--	--	--	--	16.82	<30dBm	Pass
06	2437	24.4	24.31	24.26	24.18	24.04	23.94	23.82	23.76	24.4	<30dBm	Pass
11	2462	15.78	--	--	--	--	--	--	--	15.78	<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	6	16.49	16.62	16.82	21.42	<30dBm	Pass
6	2437	6	24.09	23.78	24.40	28.87	<30dBm	Pass
11	2462	6	15.14	15.77	15.78	20.34	<30dBm	Pass

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

Product : 802.11ac Dual Band Access Point
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)	Average Power For different Data Rate (Mbps)								Average Power
		21.7	43.3	65	86.7	130.7	173.3	195	216.7	21.7
		Measurement Level (dBm)								
01	2412	16.04	--	--	--	--	--	--	--	16.04
06	2437	22.72	22.64	22.58	22.42	22.36	22.24	22.15	22.06	22.72
11	2462	13.74	--	--	--	--	--	--	--	13.74

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

CHAIN B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Average Power
		21.7	43.3	65	86.7	130.7	173.3	195	216.7	21.7
		Measurement Level (dBm)								
01	2412	16.71	--	--	--	--	--	--	--	16.71
06	2437	22.49	22.42	22.35	22.31	22.28	22.16	22.05	22.94	22.49
11	2462	14.41	--	--	--	--	--	--	--	14.41

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

CHAIN C

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Average Power
		21.7	43.3	65	86.7	130.7	173.3	195	216.7	21.7
		Measurement Level (dBm)								
01	2412	16.72	--	--	--	--	--	--	--	16.72
06	2437	22.81	22.71	22.66	22.51	22.44	22.36	22.28	22.19	22.81
11	2462	14.38	--	--	--	--	--	--	--	14.38

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	7.2	16.04	16.71	16.72	21.27	<30dBm	Pass
6	2437	7.2	22.72	22.49	22.81	27.45	<30dBm	Pass
11	2462	7.2	13.74	14.41	14.38	18.96	<30dBm	Pass

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

Product : 802.11ac Dual Band Access Point
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)	Average Power For different Data Rate (Mbps)								Average Power
		45	90	135	180	270	360	405	450	45
		Measurement Level (dBm)								
3	2422	14.22	--	--	--	--	--	--	--	14.22
6	2437	17.63	17.58	17.44	17.33	17.25	17.11	17.05	16.92	17.63
9	2452	11.86	--	--	--	--	--	--	--	11.86

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

CHAIN B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Average Power
		45	90	135	180	270	360	405	450	45
		Measurement Level (dBm)								
3	2422	13.95	--	--	--	--	--	--	--	13.95
6	2437	17.82	17.75	17.62	17.59	17.48	17.33	17.25	17.11	17.82
9	2452	12.04	--	--	--	--	--	--	--	12.04

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

CHAIN C

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Average Power
		45	90	135	180	270	360	405	450	45
		Measurement Level (dBm)								
3	2422	14.12	--	--	--	--	--	--	--	14.12
6	2437	17.75	17.69	17.58	17.42	17.31	17.23	17.18	17.08	17.75
9	2452	11.93	--	--	--	--	--	--	--	11.93

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
3	2422	15	14.22	13.95	14.12	18.87	<30dBm	Pass
6	2437	15	17.63	17.82	17.75	22.51	<30dBm	Pass
9	2452	15	11.86	12.04	11.93	16.72	<30dBm	Pass

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

4. Radiated Emission

4.1. Test Equipment

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

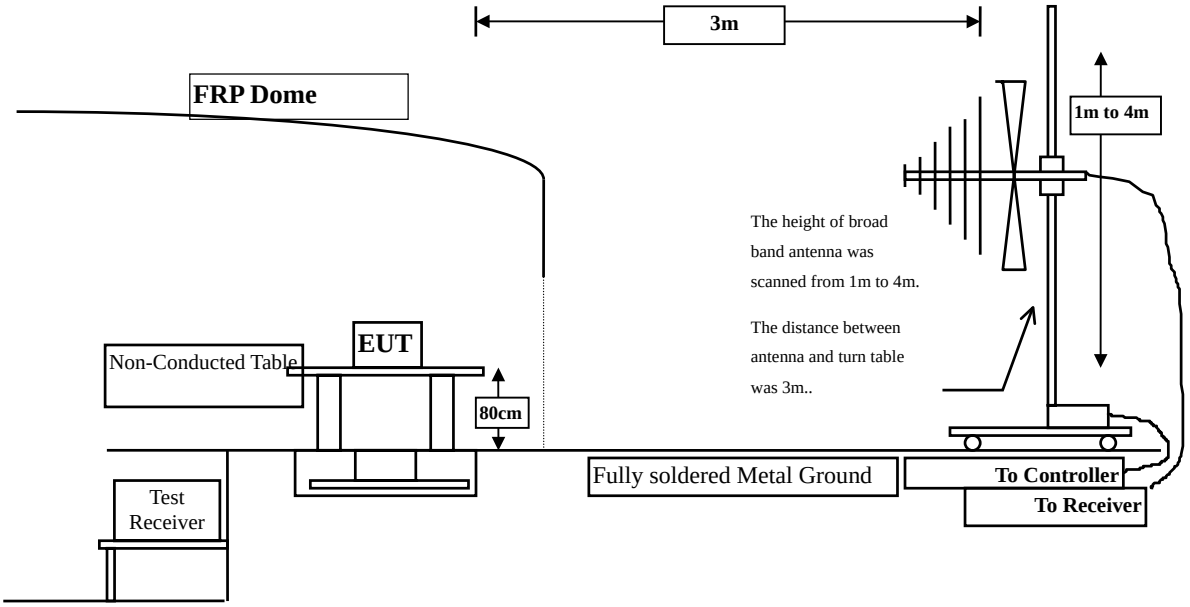
Test Site	Equipment		Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3	X	Magnetic Loop Antenna	Teseq	HLA6121/ 37133	Sep, 2015
	X	Bilog Antenna	Schaffner Chase	CBL6112B/ 2707	Jun, 2015
	X	EMI Test Receiver	R&S	ESCS 30/838251/ 001	Jun, 2015
	X	Coaxial Cable	QTK(Arnist)	RG 214/ LC003-RG	Jun, 2015
	X	Coaxial signal switch	Arnist	MP59B/ 6200798682	Jun, 2015

Test Site	Equipment		Manufacturer	Model No./Serial No.	Last Cal.
☒CB # 8	X	Spectrum Analyzer	R&S	FSP40/ 100339	Oct, 2014
	X	Horn Antenna	ETS-Lindgren	3117/ 35205	Mar, 2015
	X	Horn Antenna	Schwarzbeck	BBHA9170/209	Jan, 2015
	X	Horn Antenna	TRC	AH-0801/95051	Aug, 2015
	X	Pre-Amplifier	EMCI	EMC012630SE/980210	Jan, 2015
	X	Pre-Amplifier	MITEQ	JS41-001040000-58-5P/153945	Jul, 2015
	X	Pre-Amplifier	NARDA	DBL-1840N506/013	Jul, 2015

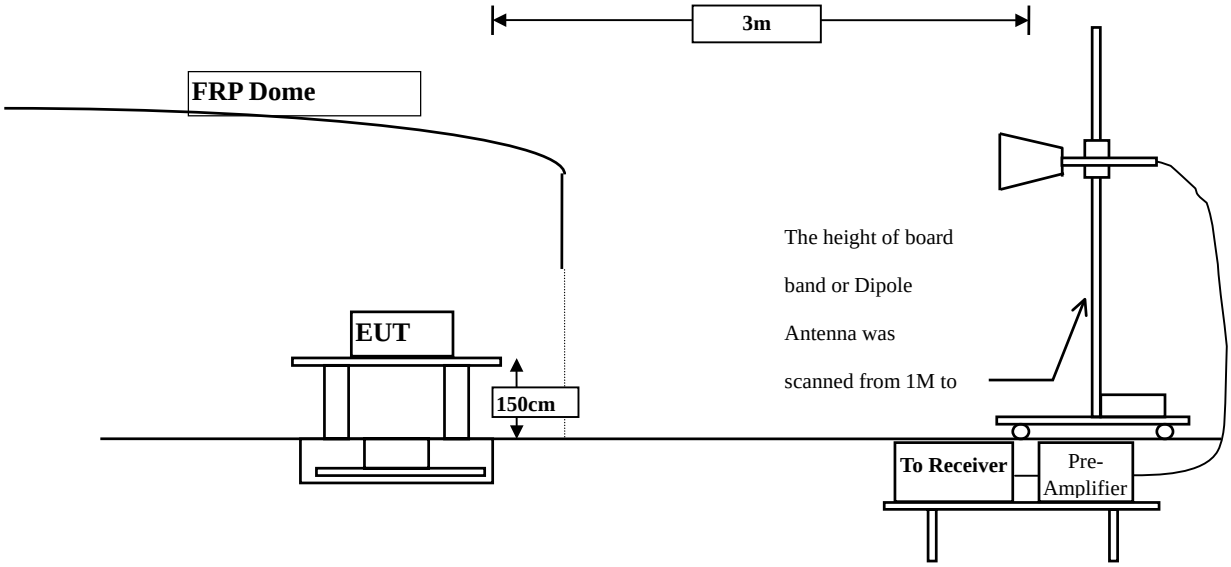
Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

4.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



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.

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)

4.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground,when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 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: 2013 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.

4.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

4.6. Test Result of Radiated Emission

Product : 802.11ac Dual Band Access Point
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	40.500	43.761	-30.239	74.000
7236.000	10.650	32.630	43.280	-30.720	74.000
9648.000	13.337	32.610	45.946	-28.054	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	6.421	40.000	46.421	-27.579	74.000
7236.000	11.495	32.420	43.915	-30.085	74.000
9648.000	13.807	32.840	46.646	-27.354	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 : 802.11ac Dual Band Access Point
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	43.390	46.427	-27.573	74.000
7311.000	12.563	33.060	45.622	-28.378	74.000
9748.000	12.895	32.830	45.725	-28.275	74.000
Average Detector:					
--					
Vertical Peak Detector:					
4874.000	5.812	44.870	50.681	-23.319	74.000
7311.000	12.630	34.750	47.379	-26.621	74.000
9748.000	13.126	32.440	45.566	-28.434	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 : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (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	38.130	40.987	-33.013	74.000
7386.000	12.127	32.000	44.128	-29.872	74.000
9848.000	12.852	33.280	46.133	-27.867	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
4924.000	5.521	41.500	47.020	-26.980	74.000
7386.000	13.254	33.430	46.684	-27.316	74.000
9848.000	13.367	33.000	46.367	-27.633	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 : 802.11ac Dual Band Access Point
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	36.660	39.921	-34.079	74.000
7236.000	10.650	32.600	43.250	-30.750	74.000
9648.000	13.337	32.560	45.896	-28.104	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	6.421	34.580	41.001	-32.999	74.000
7236.000	11.495	32.080	43.575	-30.425	74.000
9648.000	13.807	32.970	46.776	-27.224	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 : 802.11ac Dual Band Access Point
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	43.870	46.907	-27.093	74.000
7311.000	11.795	39.450	51.244	-22.756	74.000
9748.000	12.635	32.260	44.895	-29.105	74.000
Average Detector:					
--					
Vertical Peak Detector:					
4874.000	5.812	47.790	53.601	-20.399	74.000
7311.000	12.630	38.700	51.329	-22.671	74.000
9748.000	13.126	32.370	45.496	-28.504	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 : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (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	34.050	36.907	-37.093	74.000
7386.000	12.127	33.010	45.138	-28.862	74.000
9848.000	12.852	32.660	45.513	-28.487	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
4924.000	5.521	35.520	41.040	-32.960	74.000
7386.000	13.254	33.590	46.844	-27.156	74.000
9848.000	13.367	32.970	46.337	-27.663	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 : 802.11ac Dual Band Access Point
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	36.568	39.829	-34.171	74.000
7236.000	10.650	33.615	44.265	-29.735	74.000
9648.000	13.337	32.649	45.985	-28.015	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	6.421	34.810	41.231	-32.769	74.000
7236.000	11.495	32.121	43.616	-30.384	74.000
9648.000	13.807	33.009	46.815	-27.185	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 : 802.11ac Dual Band Access Point
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	43.845	46.882	-27.118	74.000
7311.000	11.795	39.560	51.354	-22.646	74.000
9748.000	12.635	32.150	44.785	-29.215	74.000
Average Detector:					
--					
Vertical Peak Detector:					
4874.000	5.812	47.693	53.504	-20.496	74.000
7311.000	12.630	38.823	51.452	-22.548	74.000
9748.000	13.126	32.569	45.695	-28.305	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 : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(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	34.359	37.216	-36.784	74.000
7386.000	12.127	33.123	45.251	-28.749	74.000
9848.000	12.852	32.762	45.615	-28.385	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
4924.000	5.521	36.805	42.325	-31.675	74.000
7386.000	13.254	33.661	46.915	-27.085	74.000
9848.000	13.367	33.183	46.550	-27.450	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 : 802.11ac Dual Band Access Point
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	36.191	39.362	-34.638	74.000
7266.000	11.162	31.419	42.581	-31.419	74.000
9688.000	12.964	32.010	44.975	-29.025	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4844.000	6.178	35.320	41.498	-32.502	74.000
7266.000	11.982	31.772	43.754	-30.246	74.000
9688.000	13.507	32.715	46.223	-27.777	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 : 802.11ac Dual Band Access Point
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	41.523	44.560	-29.440	74.000
7311.000	11.795	38.566	50.360	-23.640	74.000
9748.000	12.635	30.847	43.482	-30.518	74.000
Average Detector:					
--					
Vertical Peak Detector:					
4874.000	5.812	45.584	51.395	-22.605	74.000
7311.000	12.630	37.636	50.265	-23.735	74.000
9748.000	13.126	32.096	45.222	-28.778	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 : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) (2452 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4904.000	2.914	33.970	36.885	-37.115	74.000
7356.000	11.995	33.164	45.158	-28.842	74.000
9808.000	12.475	32.950	45.425	-28.575	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
4904.000	5.530	36.529	42.060	-31.940	74.000
7356.000	13.005	33.781	46.785	-27.215	74.000
9808.000	12.901	33.581	46.482	-27.518	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 : 802.11ac Dual Band Access Point
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					
88.200	-12.076	47.698	35.622	-7.878	43.500
365.510	0.371	33.454	33.824	-12.176	46.000
499.480	1.991	28.220	30.210	-15.790	46.000
602.352	3.809	24.805	28.614	-17.386	46.000
749.750	3.965	29.647	33.612	-12.388	46.000
875.810	5.814	26.927	32.741	-13.259	46.000
Vertical					
97.800	-6.458	42.597	36.140	-7.360	43.500
365.620	0.282	33.473	33.755	-12.245	46.000
499.480	-0.199	30.101	29.901	-16.099	46.000
602.300	1.704	26.456	28.160	-17.840	46.000
875.840	0.516	31.994	32.510	-13.490	46.000
965.080	3.832	29.978	33.810	-20.190	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 : 802.11ac Dual Band Access Point
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					
66.860	-13.595	47.845	34.250	-5.750	40.000
367.560	0.592	35.889	36.480	-9.520	46.000
419.940	-0.254	34.775	34.521	-11.479	46.000
588.720	3.289	28.251	31.540	-14.460	46.000
749.740	3.963	28.547	32.510	-13.490	46.000
875.840	5.816	32.904	38.720	-7.280	46.000
Vertical					
84.310	-4.206	38.356	34.150	-5.850	40.000
158.040	-5.172	30.034	24.862	-18.638	43.500
375.150	0.359	31.221	31.580	-14.420	46.000
625.580	0.299	30.180	30.480	-15.520	46.000
901.060	1.858	33.893	35.751	-10.249	46.000
968.960	3.936	30.084	34.020	-19.980	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 : 802.11ac Dual Band Access Point
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					
90.140	-12.085	44.435	32.350	-11.150	43.500
365.620	0.382	33.838	34.220	-11.780	46.000
435.460	0.874	37.941	38.815	-7.185	46.000
598.520	3.520	31.130	34.650	-11.350	46.000
749.850	3.982	30.178	34.160	-11.840	46.000
875.770	5.812	31.538	37.350	-8.650	46.000
Vertical					
94.110	-6.621	44.601	37.980	-5.520	43.500
369.400	-0.408	36.727	36.320	-9.680	46.000
499.350	-0.230	28.980	28.750	-17.250	46.000
625.570	0.300	30.944	31.245	-14.755	46.000
749.860	2.045	28.195	30.240	-15.760	46.000
967.110	3.891	30.689	34.580	-19.420	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 : 802.11ac Dual Band Access Point
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					
101.670	-9.150	39.199	30.050	-13.450	43.500
365.510	0.371	39.395	39.765	-6.235	46.000
466.400	3.136	29.183	32.320	-13.680	46.000
600.350	3.472	31.749	35.221	-10.779	46.000
749.650	3.959	29.391	33.350	-12.650	46.000
901.880	5.903	29.087	34.990	-11.010	46.000
Vertical					
101.840	-5.556	39.575	34.020	-9.480	43.500
156.200	-5.215	30.955	25.740	-17.760	43.500
379.200	0.881	25.679	26.560	-19.440	46.000
625.480	0.308	29.311	29.620	-16.380	46.000
755.560	2.829	25.951	28.780	-17.220	46.000
903.100	1.395	28.954	30.350	-15.650	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.

5. RF antenna conducted test

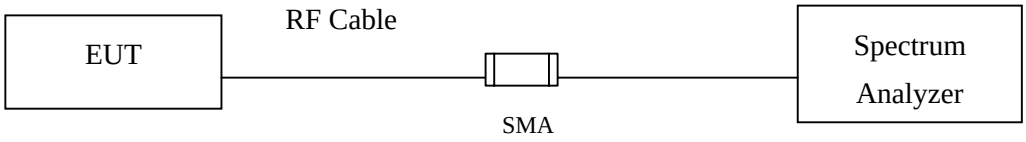
5.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2015
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2015
	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

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.

5.2. Test Setup

RF antenna Conducted Measurement:



5.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.4. Test Procedure

The EUT was tested according to DTS test procedure of Jan. 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

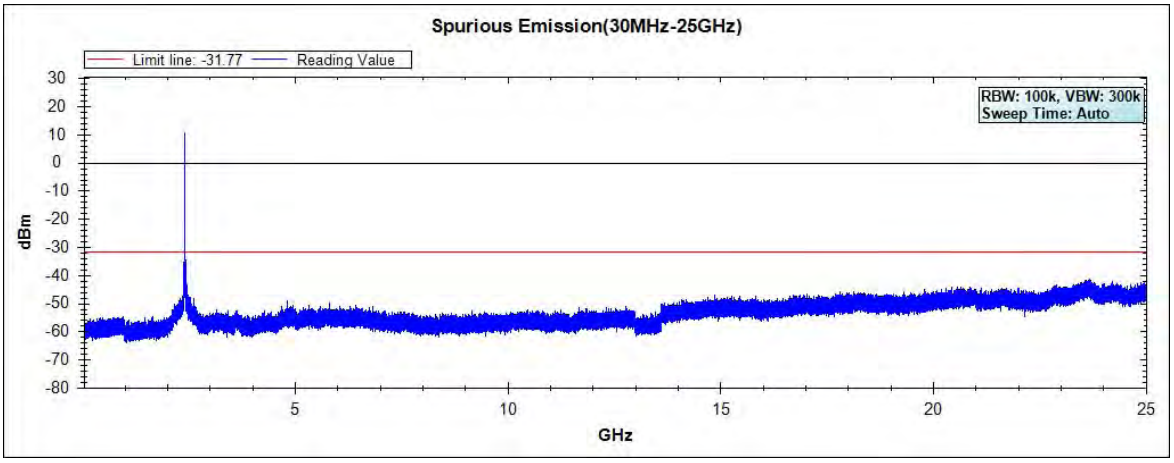
5.5. Uncertainty

The measurement uncertainty
Conducted is defined as ± 1.27dB

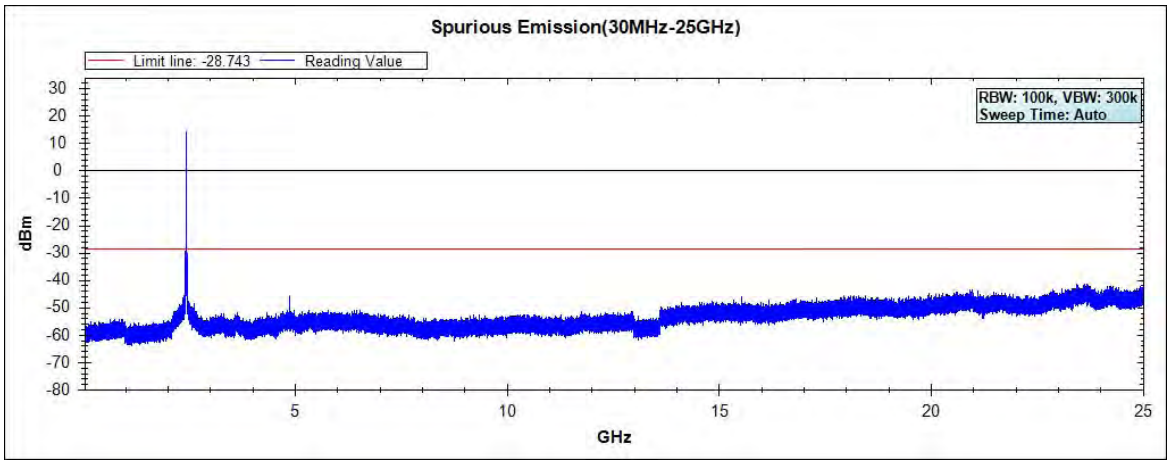
5.6. Test Result of RF antenna conducted test

Product : 802.11ac Dual Band Access Point
Test Item : RF antenna conducted test
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

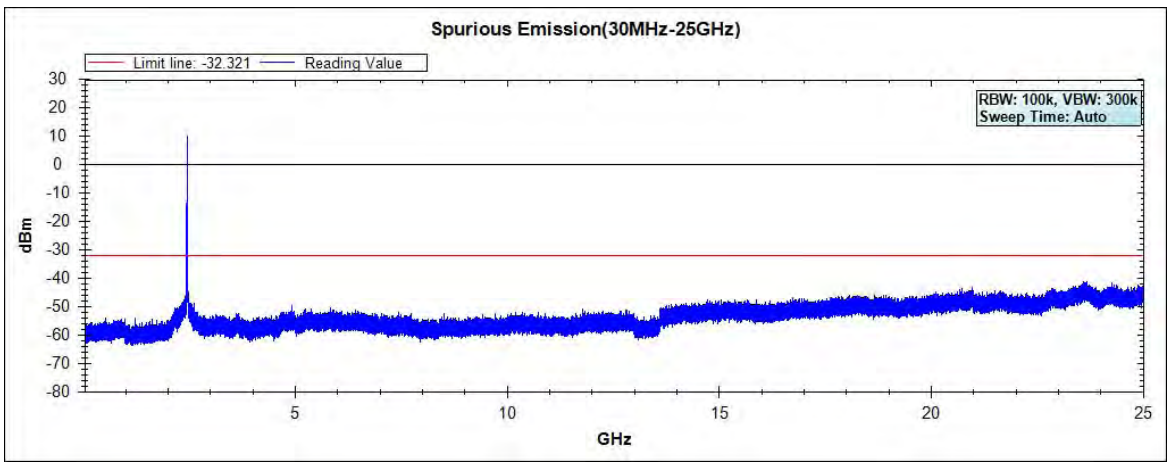
Channel 01 (2412MHz) 30MHz-25GHz-Chain A



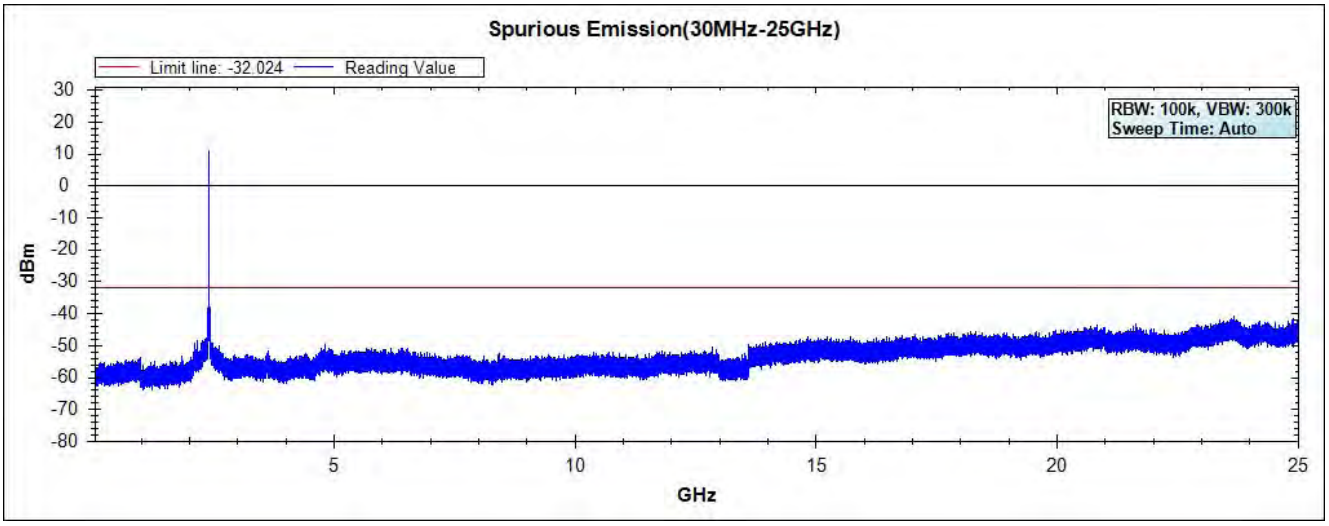
Channel 06 (2437MHz) 30MHz -25GHz-Chain A



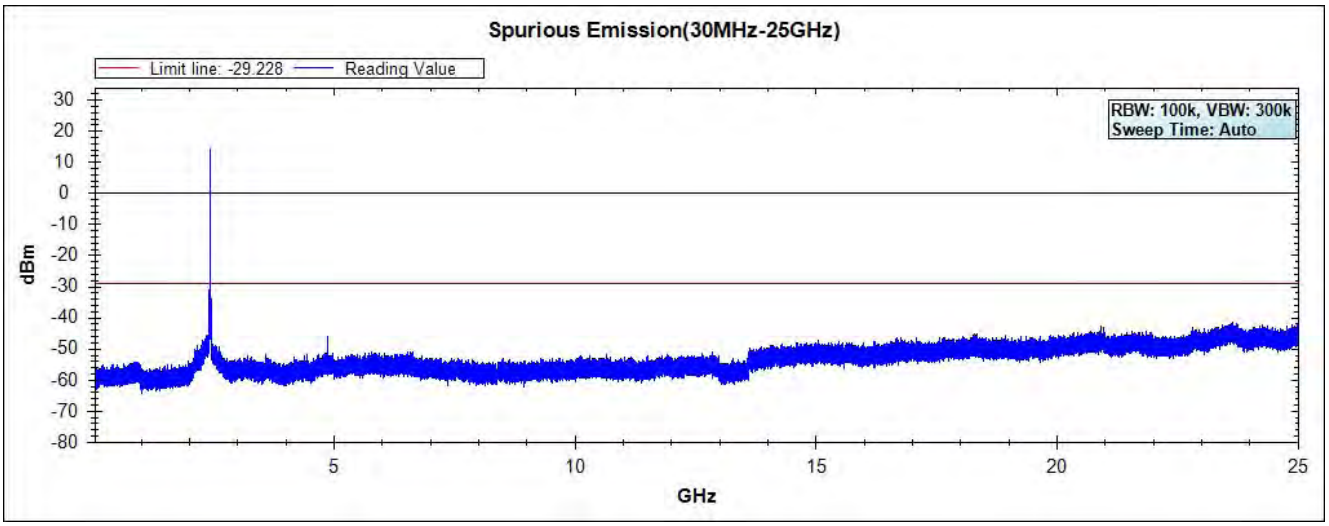
Channel 11 (2462MHz) 30MHz -25GHz-Chain A



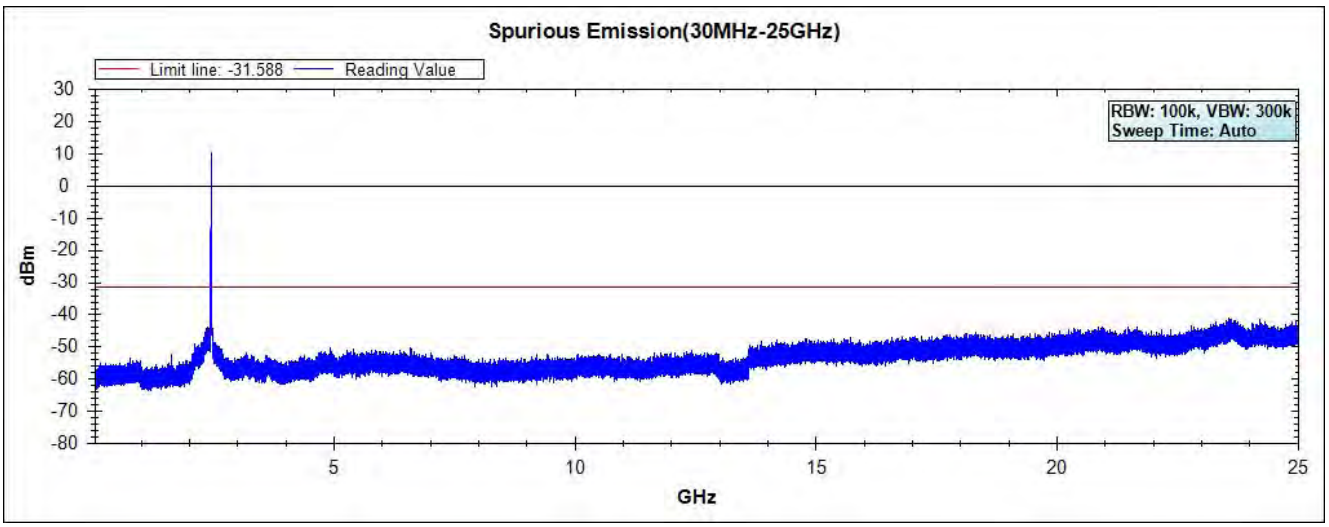
Channel 01 (2412MHz) 30MHz-25GHz-Chain B



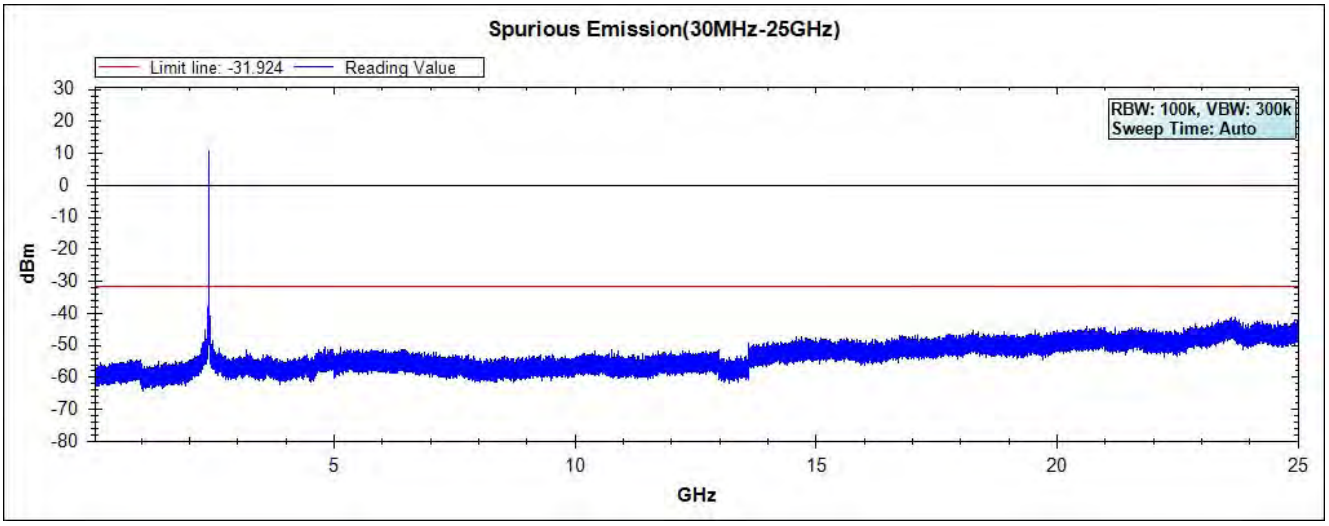
Channel 06 (2437MHz) 30MHz -25GHz-Chain B



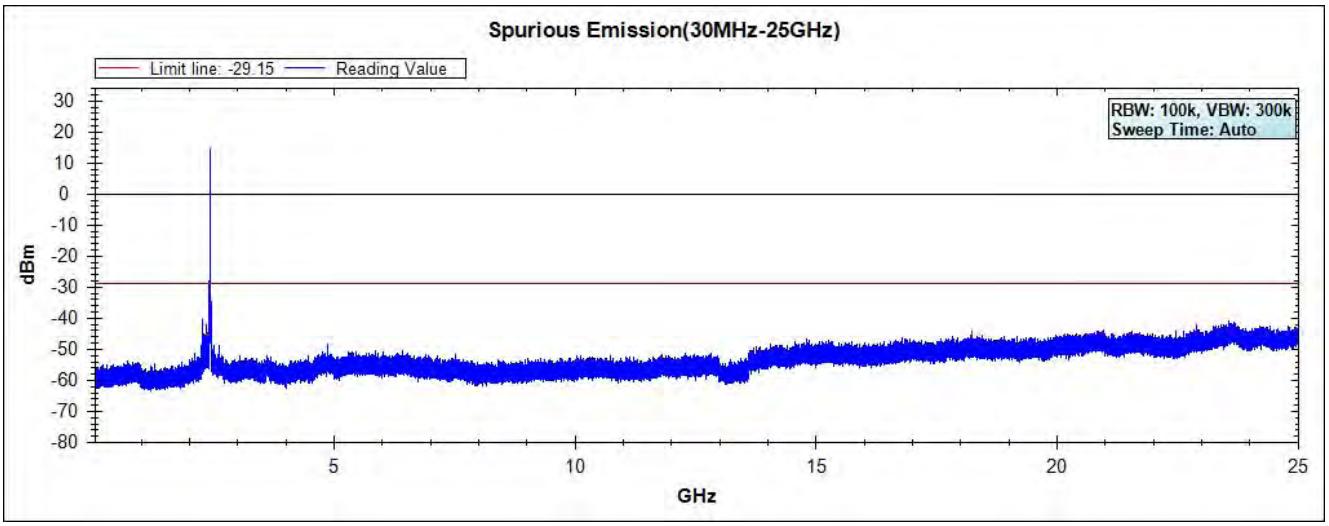
Channel 11 (2462MHz) 30MHz -25GHz-Chain B



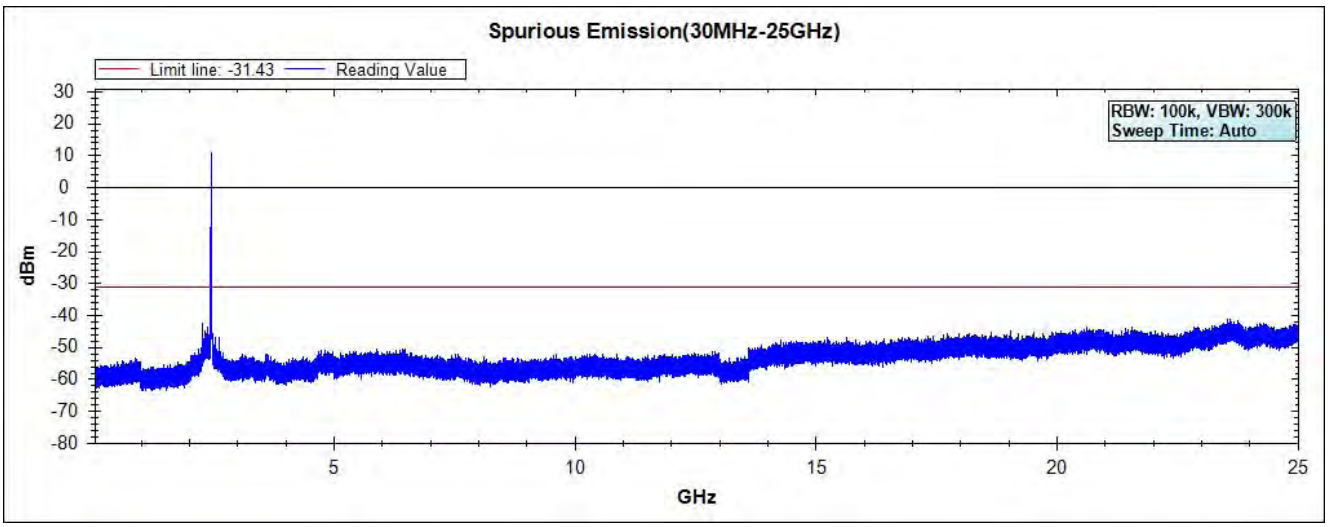
Channel 01 (2412MHz) 30MHz-25GHz-Chain C



Channel 06 (2437MHz) 30MHz -25GHz-Chain C

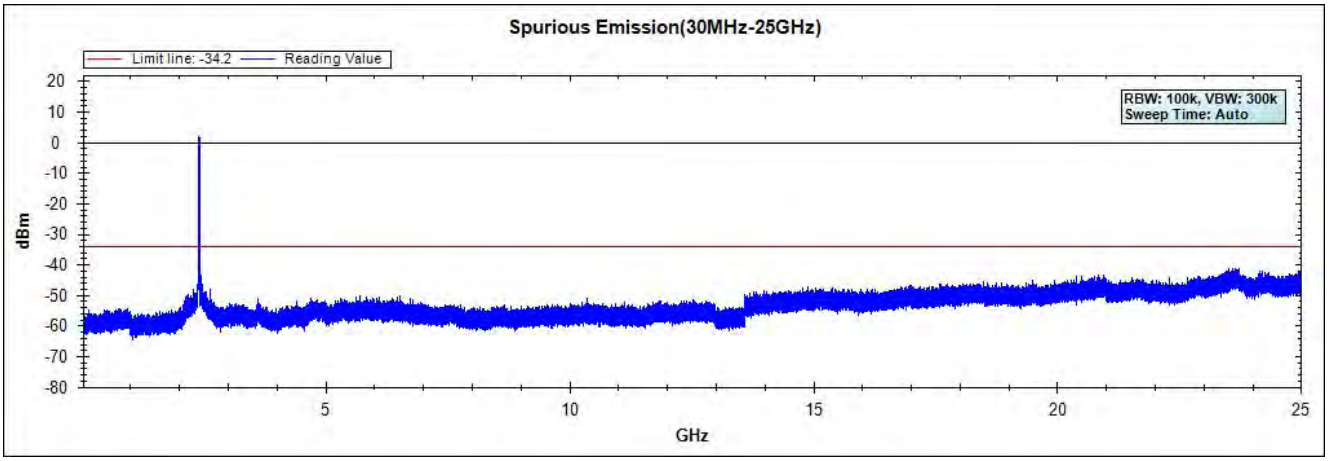


Channel 11 (2462MHz) 30MHz -25GHz-Chain C

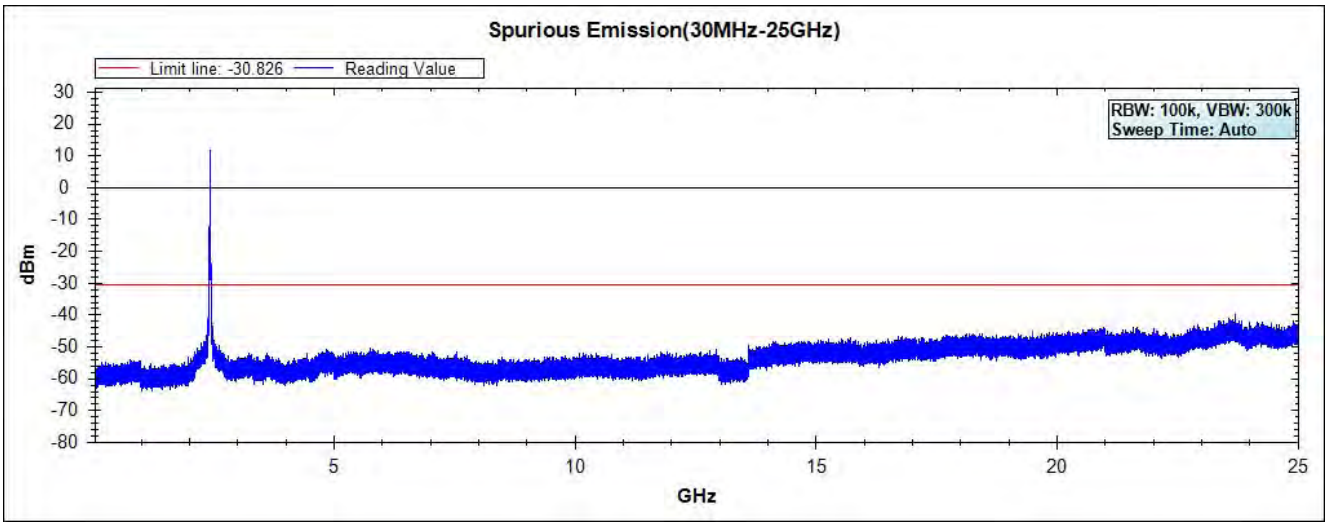


Product : 802.11ac Dual Band Access Point
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

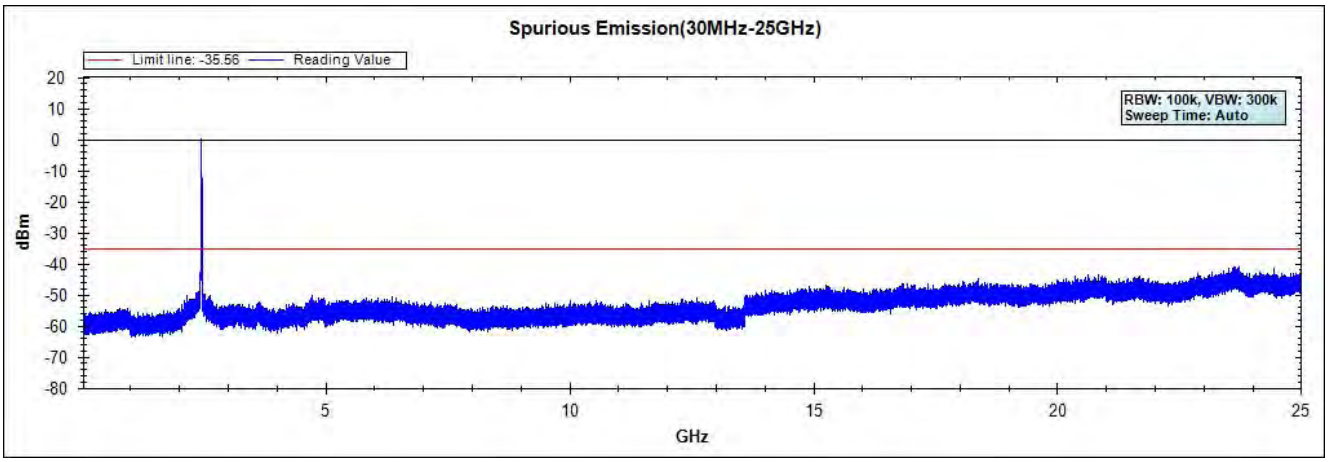
Channel 01 (2412MHz) 30MHz -25GHz-Chain A



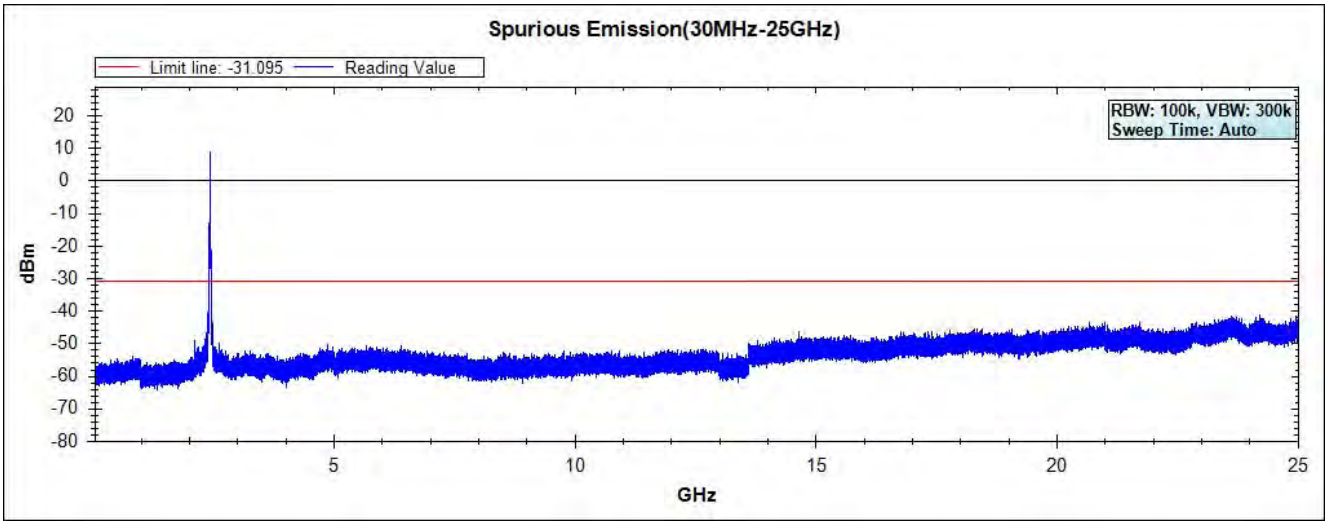
Channel 06 (2437MHz) 30MHz -25GHz-Chain A



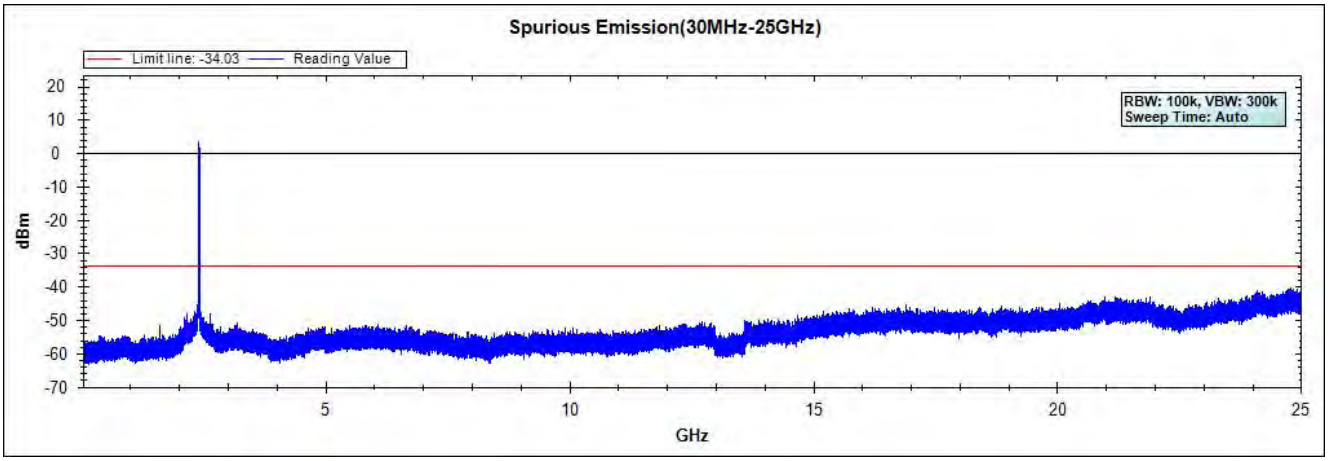
Channel 11 (2462MHz) 30MHz -25GHz-Chain A



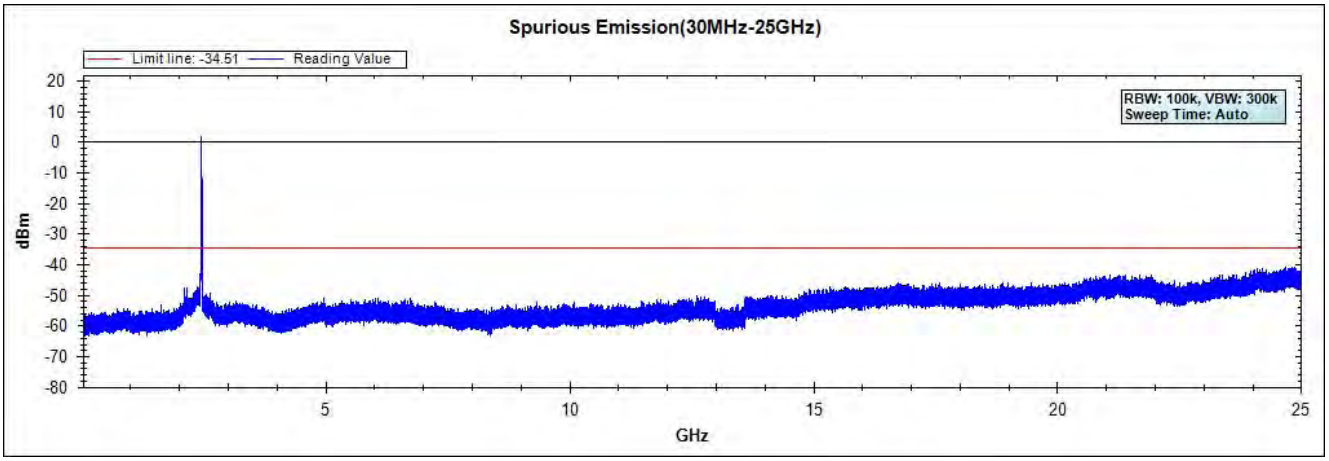
Channel 01 (2412MHz) 30MHz -25GHz-Chain B



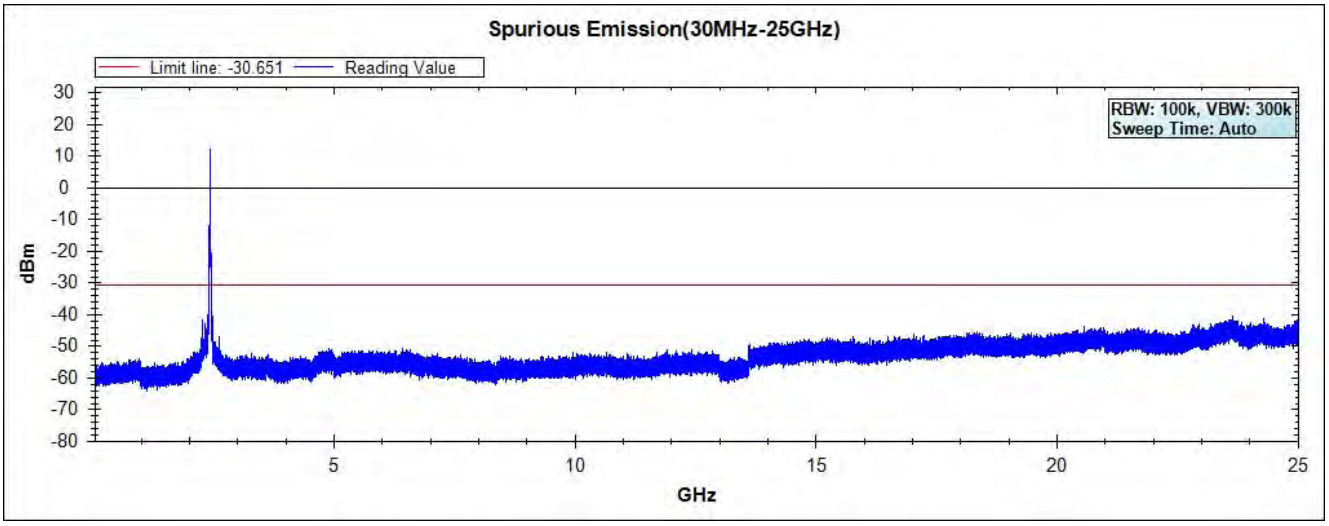
Channel 06 (2437MHz) 30MHz -25GHz-Chain B



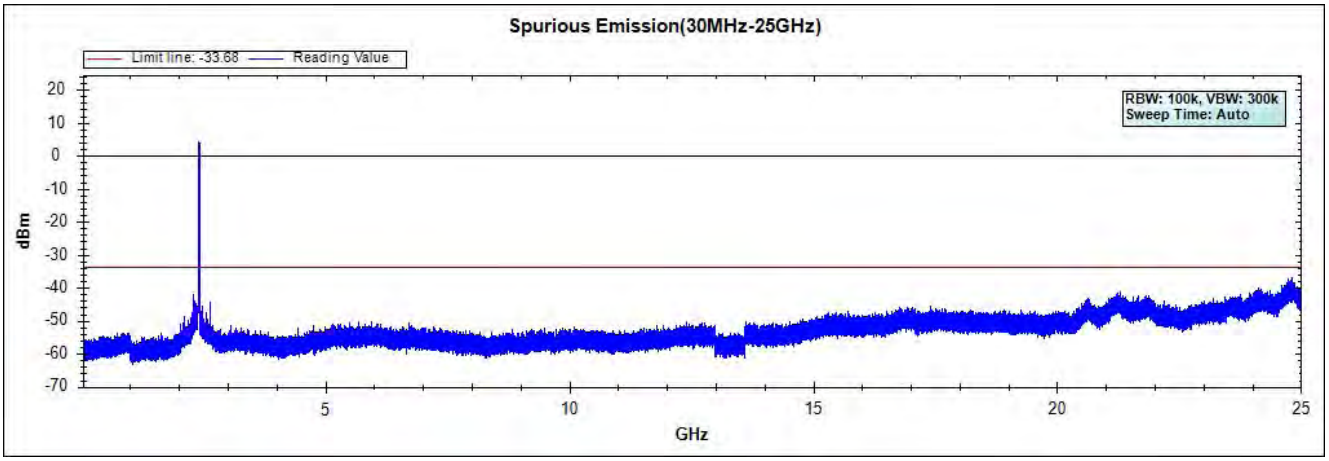
Channel 11 (2462MHz) 30MHz -25GHz-Chain B



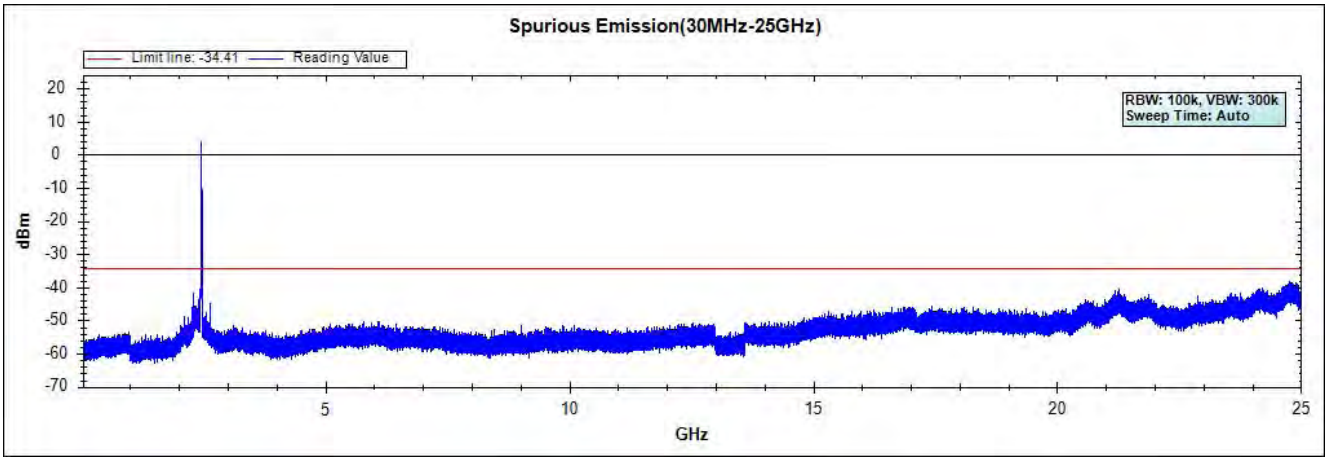
Channel 01 (2412MHz) 30MHz -25GHz-Chain C



Channel 06 (2437MHz) 30MHz -25GHz-Chain C

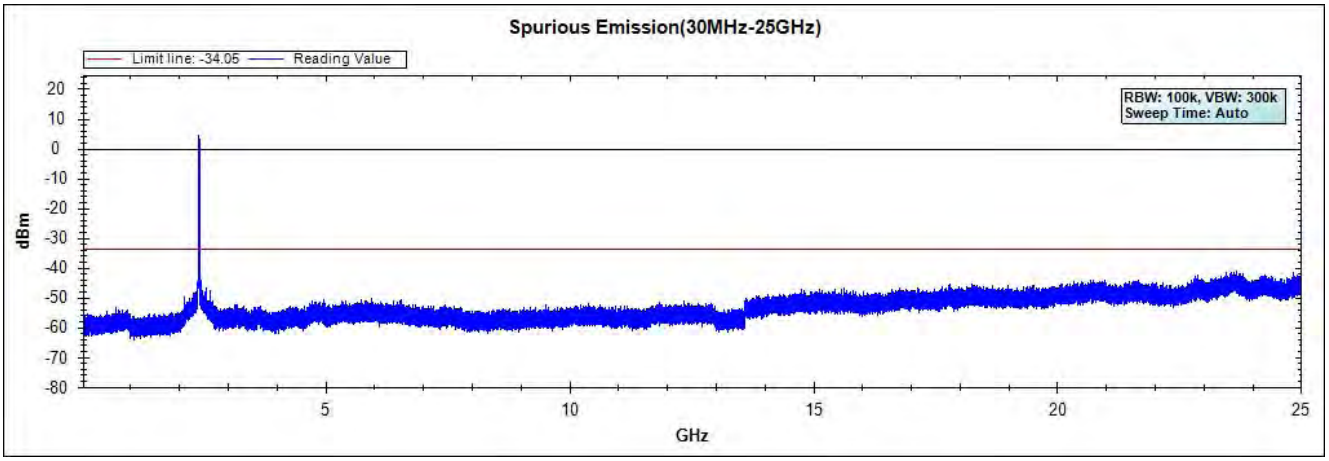


Channel 11 (2462MHz) 30MHz -25GHz-Chain C

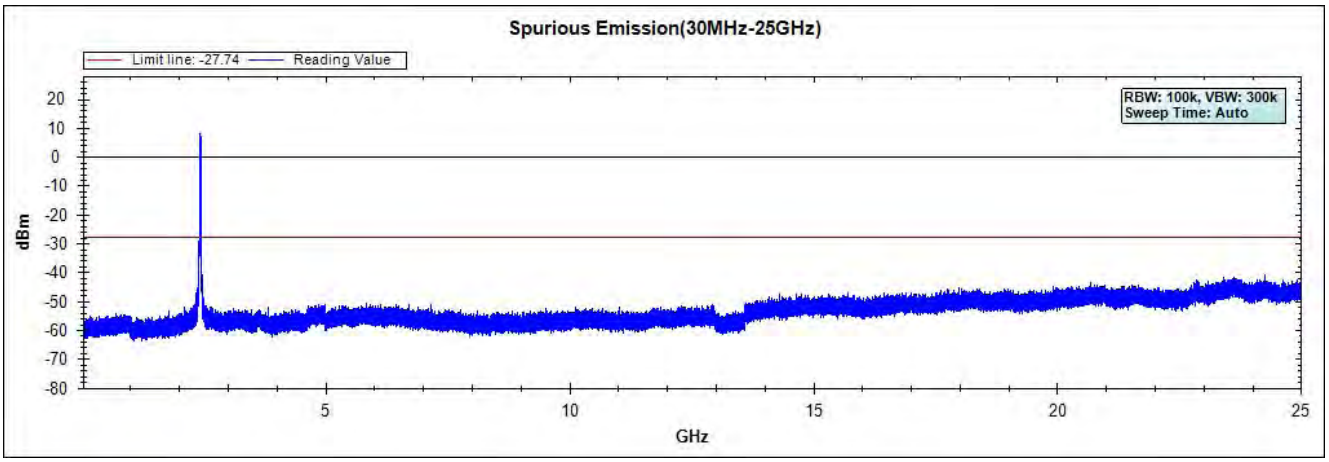


Product : 802.11ac Dual Band Access Point
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band)

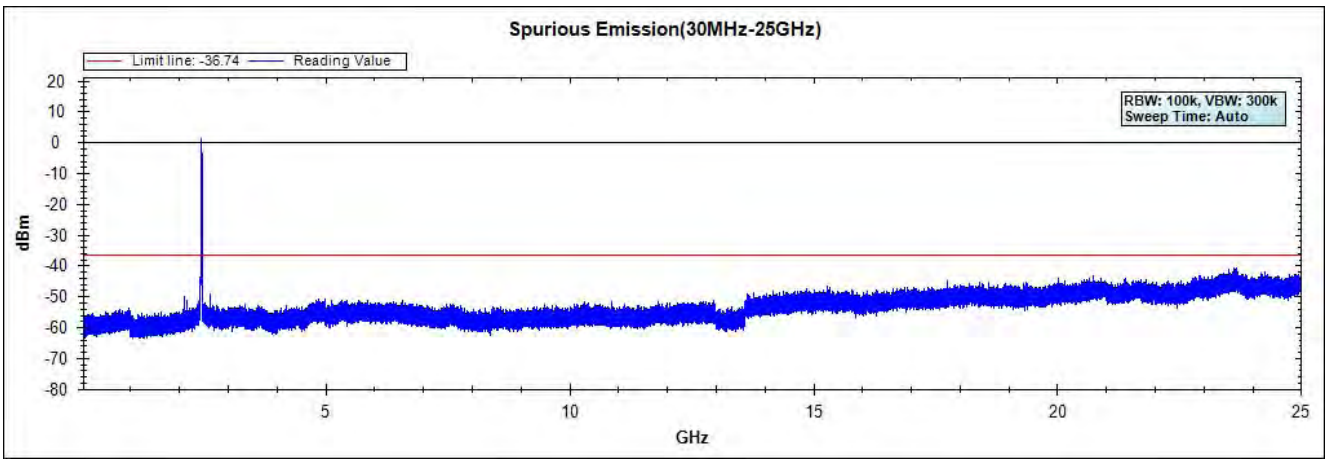
Channel 01 (2412MHz) 30MHz -25GHz-Chain A



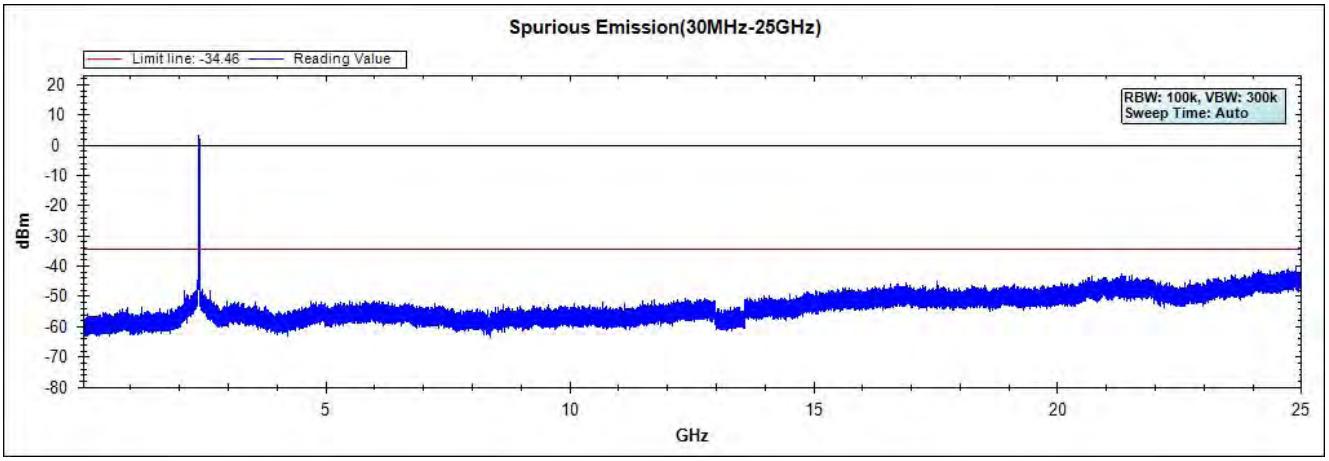
Channel 06 (2437MHz) 30MHz -25GHz-Chain A



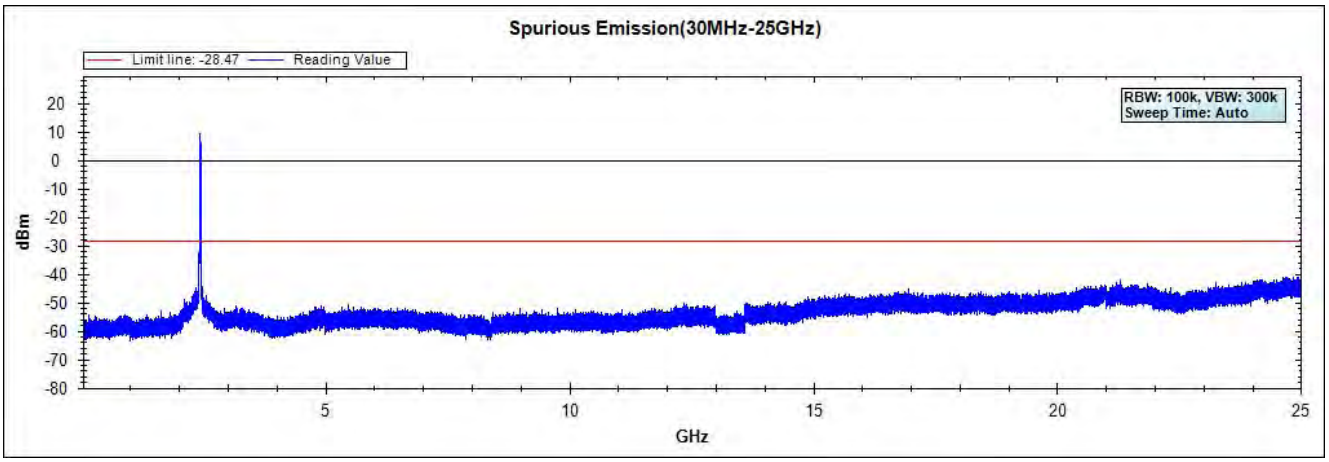
Channel 11 (2462MHz) 30MHz -25GHz-Chain A



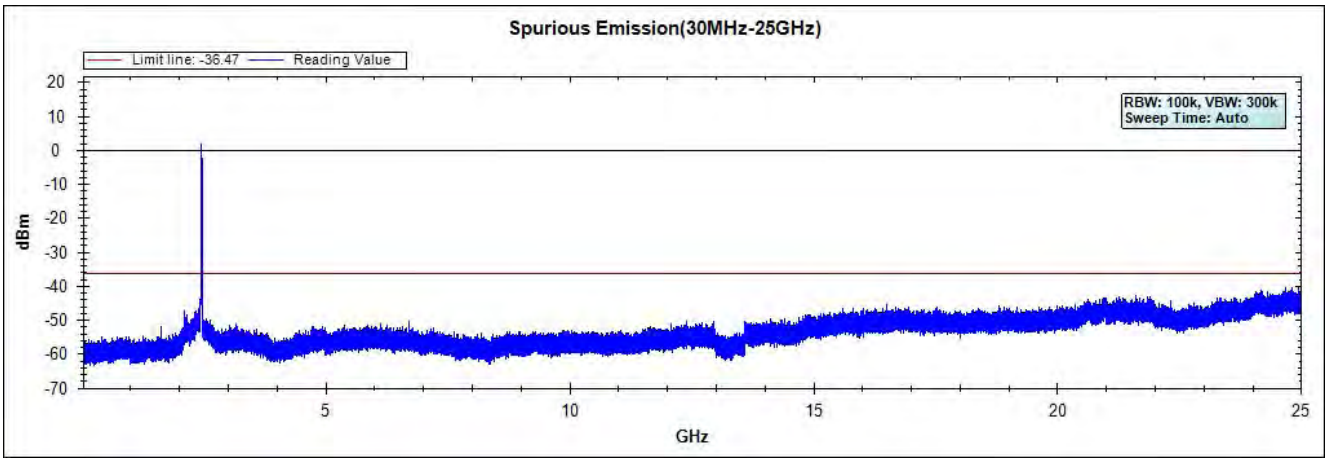
Channel 01 (2412MHz) 30MHz -25GHz-Chain B



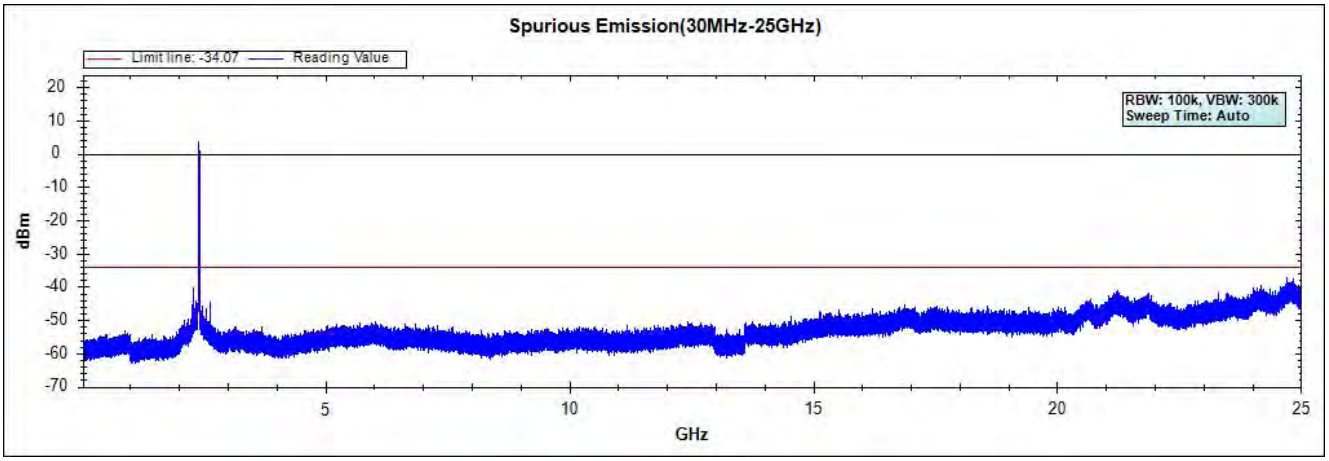
Channel 06 (2437MHz) 30MHz -25GHz-Chain B



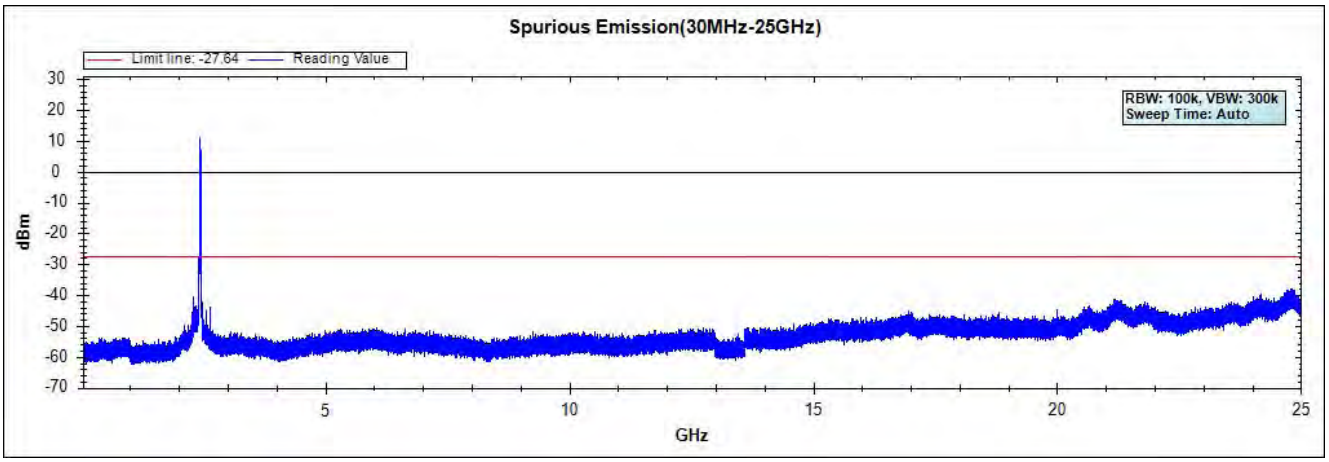
Channel 11 (2462MHz) 30MHz -25GHz-Chain B



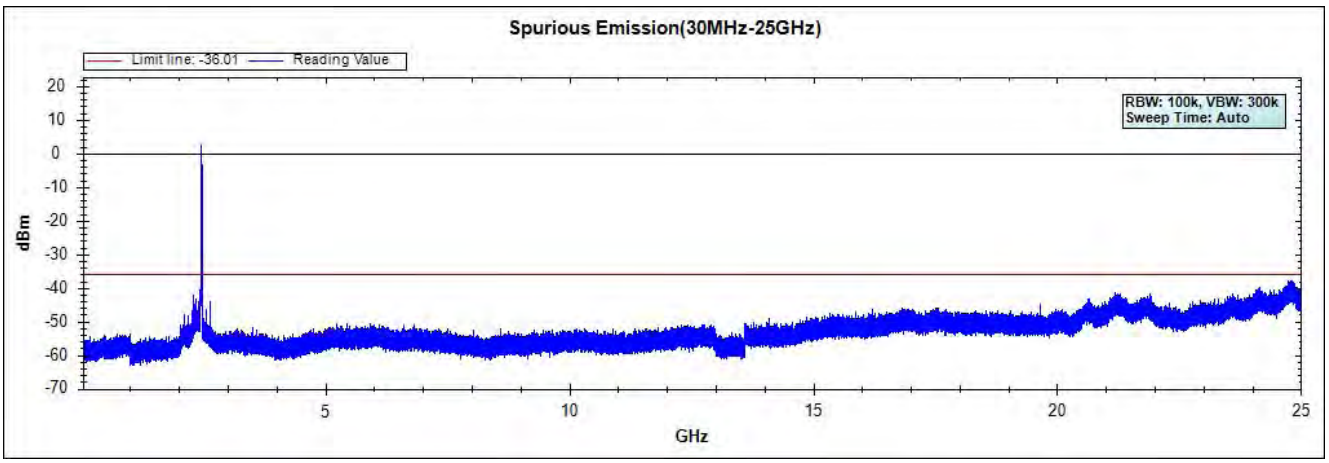
Channel 01 (2412MHz) 30MHz -25GHz-Chain C



Channel 06 (2437MHz) 30MHz -25GHz-Chain C

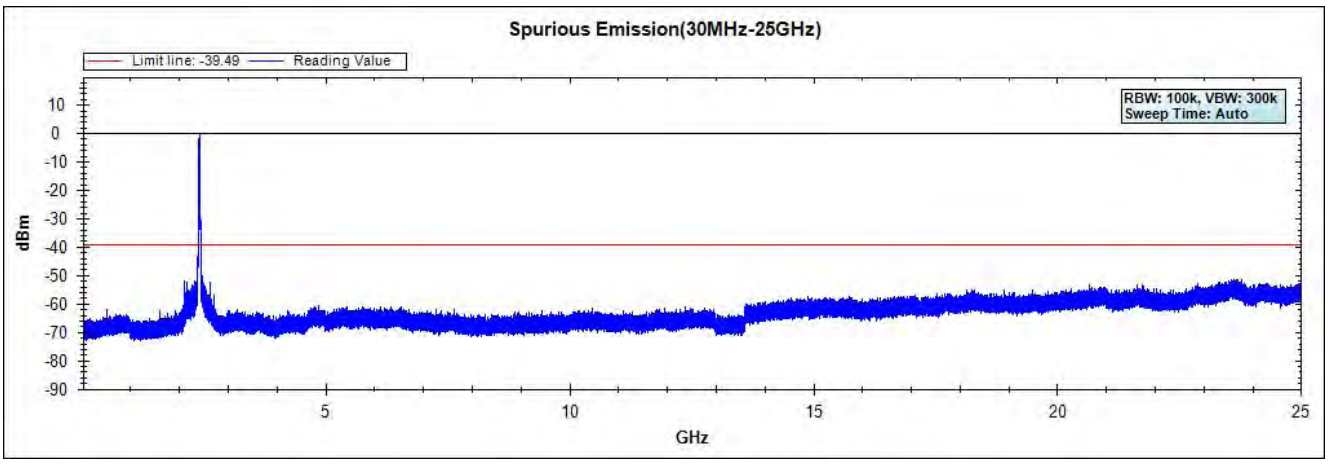


Channel 11 (2462MHz) 30MHz -25GHz-Chain C

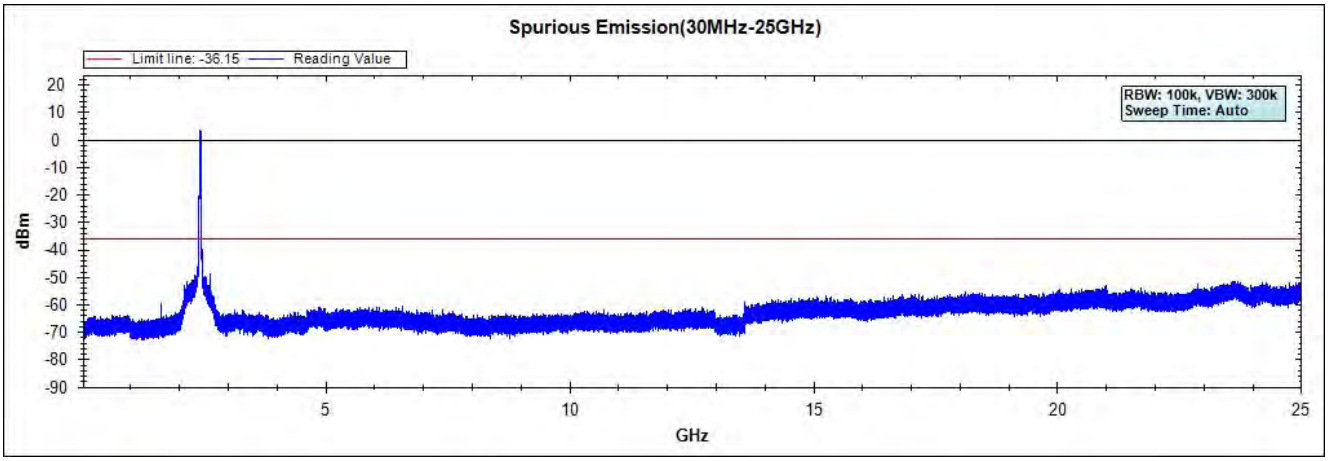


Product : 802.11ac Dual Band Access Point
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band)

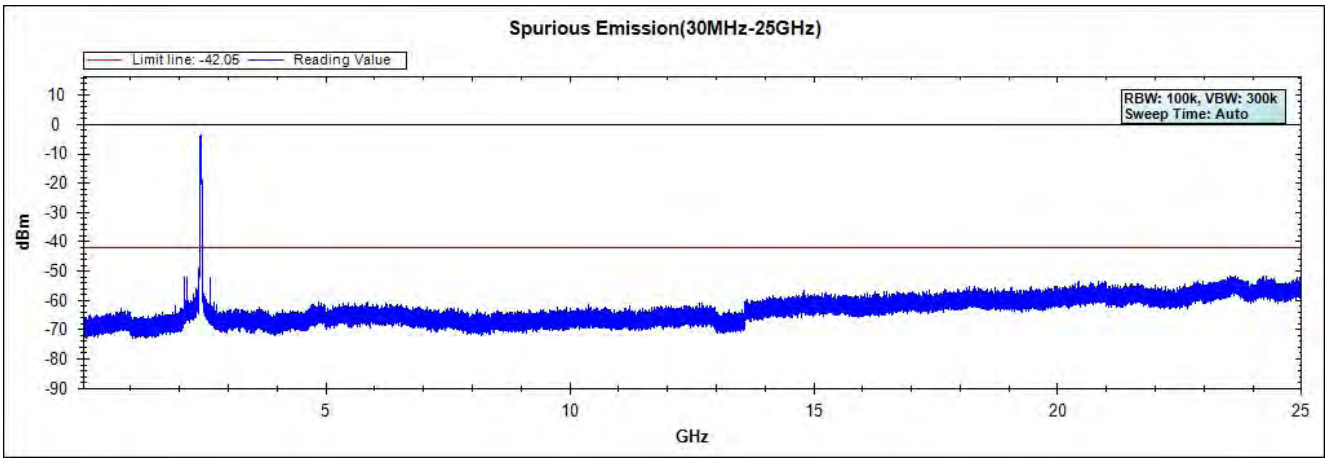
Channel 01 (2422MHz) 30MHz -25GHz-Chain A



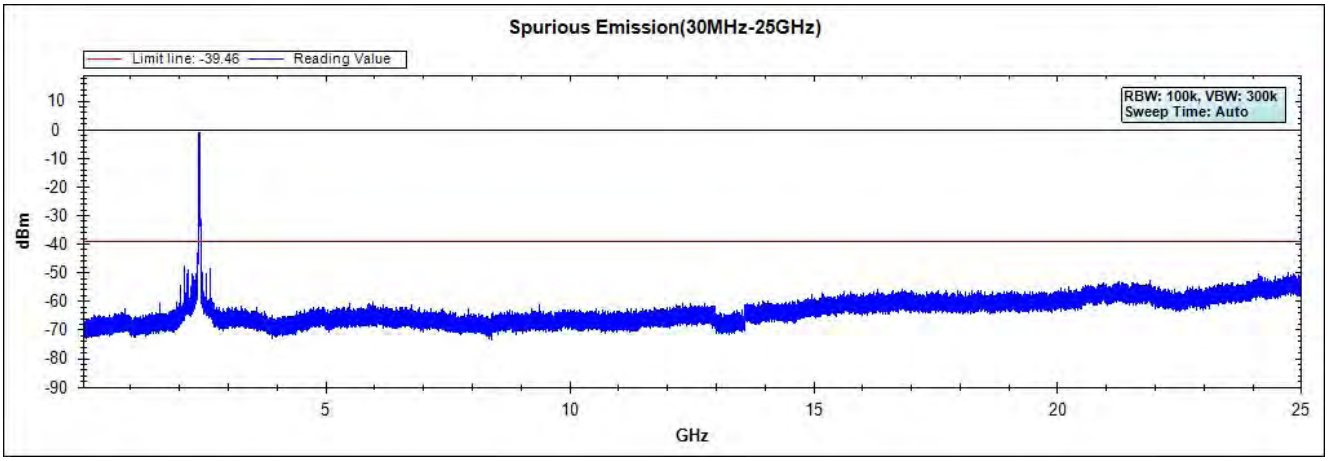
Channel 04 (2437MHz) 30MHz -25GHz-Chain A



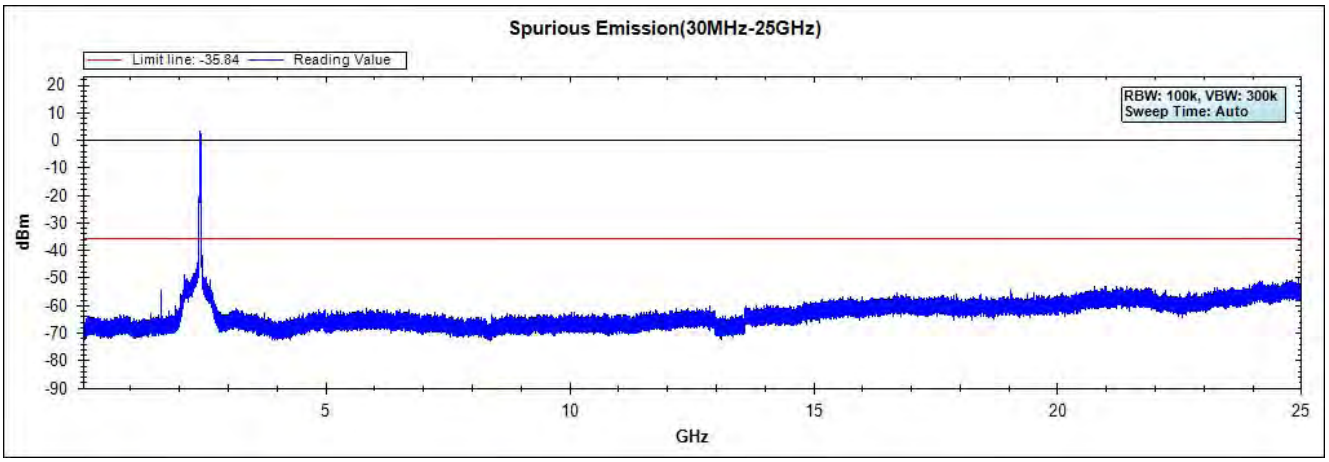
Channel 07 (2452MHz) 30MHz -25GHz-Chain A



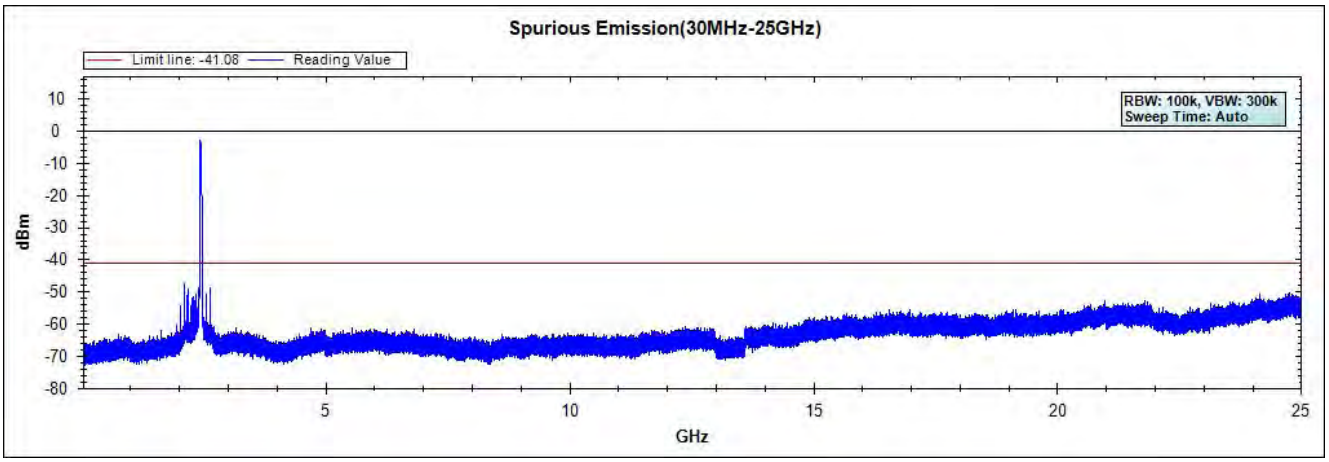
Channel 01 (2422MHz) 30MHz -25GHz-Chain B



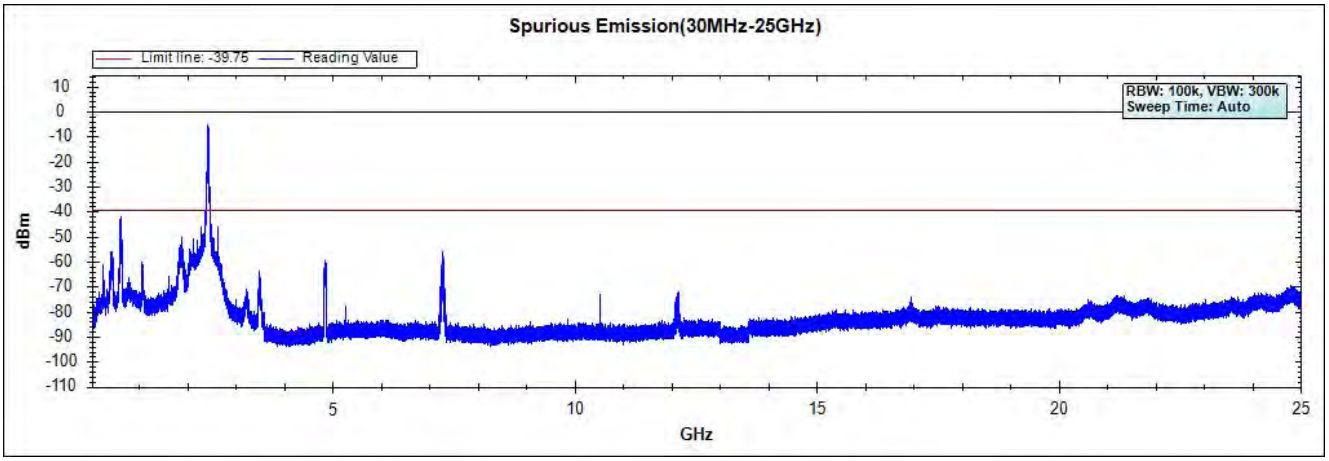
Channel 04 (2437MHz) 30MHz -25GHz-Chain B



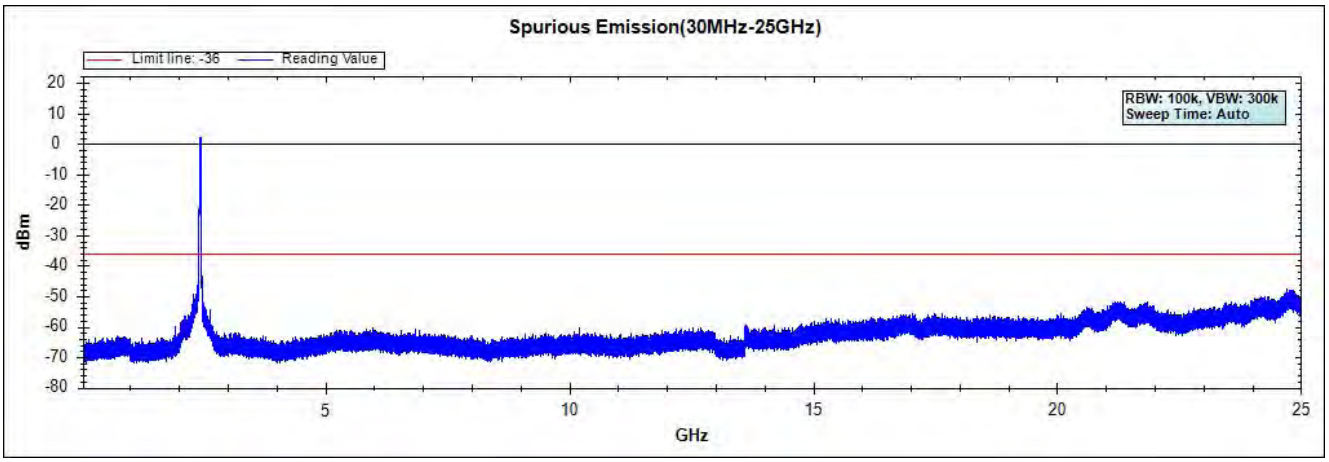
Channel 07 (2452MHz) 30MHz -25GHz-Chain B



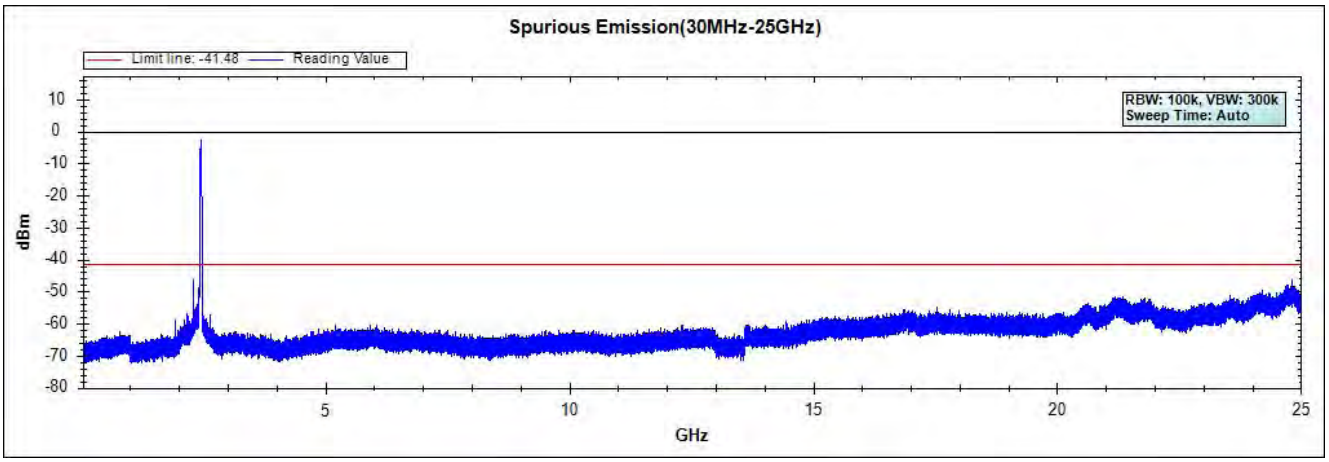
Channel 01 (2422MHz) 30MHz -25GHz-Chain C



Channel 04 (2437MHz) 30MHz -25GHz-Chain C



Channel 07 (2452MHz) 30MHz -25GHz-Chain C



6. Band Edge

6.1. Test Equipment

RF Conducted Measurement

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

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2015
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2015
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

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.

RF Radiated Measurement:

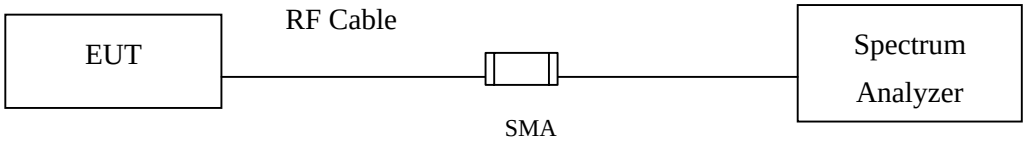
The following test equipments are used during the band edge tests:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒CB # 8	X	Spectrum Analyzer	R&S	FSP40/ 100339	Oct, 2014
	X	Horn Antenna	ETS-Lindgren	3117/ 35205	Mar, 2014
	X	Horn Antenna	Schwarzbeck	BBHA9170/209	Jan, 2015
	X	Horn Antenna	TRC	AH-0801/95051	Aug, 2015
	X	Pre-Amplifier	EMCI	EMC012630SE/980210	Jan, 2015
	X	Pre-Amplifier	MITEQ	JS41-001040000-58-5P/153945	Jul, 2015
	X	Pre-Amplifier	NARDA	DBL-1840N506/013	Jul, 2015

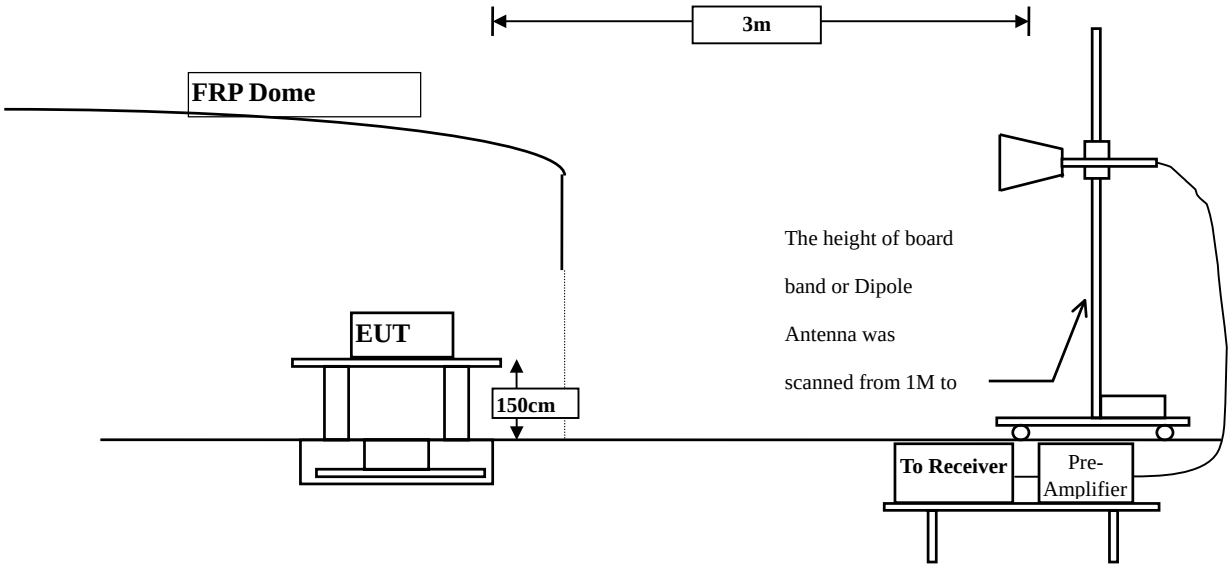
Note: 1. All instruments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

6.2. Test Setup

RF Conducted Measurement



RF Radiated Measurement:



6.3. 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.

6.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 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 1.5 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 C63.10:2013 on radiated measurement.

6.5. Uncertainty

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

6.6. Test Result of Band Edge

Product : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2371.594	33.725	31.216	64.940	74.00	54.00	Pass
01 (Peak)	2390.000	33.739	30.718	64.457	74.00	54.00	Pass
01 (Peak)	2413.043	33.775	82.046	115.820	--	--	--
01 (Average)	2390.000	33.739	17.927	51.666	74.00	54.00	Pass
01 (Average)	2412.754	33.774	78.881	112.655	--	--	--

Figure Channel 01: Horizontal (Peak)

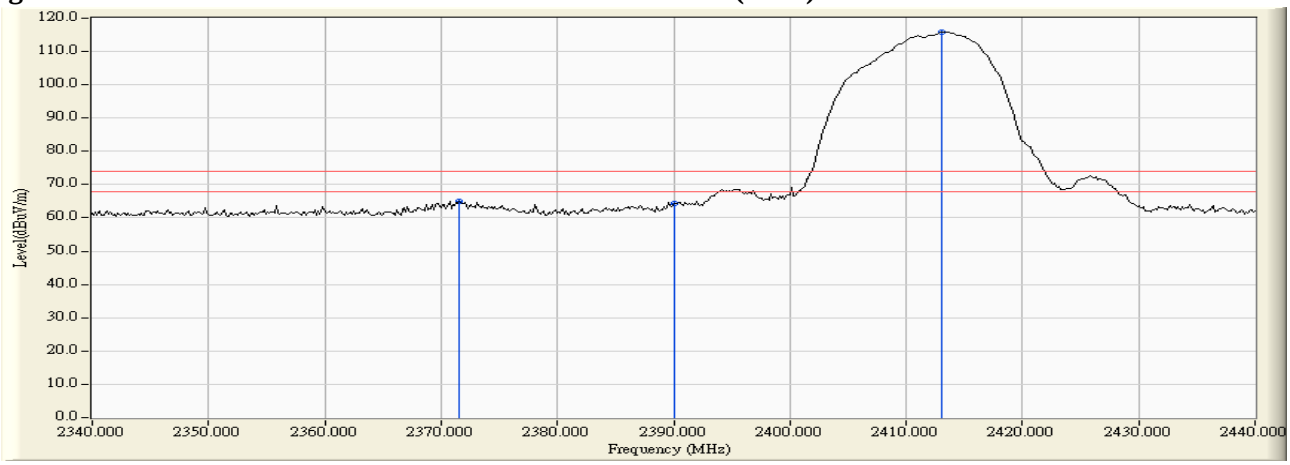
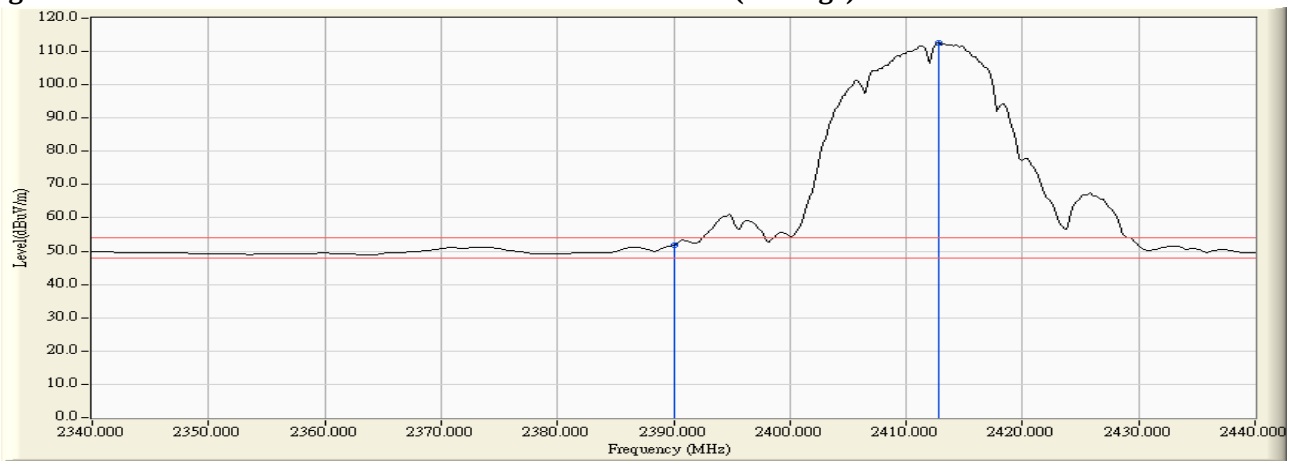


Figure Channel 01: Horizontal (Average)



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 : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2387.600	32.284	25.727	58.011	74.00	54.00	Pass
01 (Peak)	2390.000	32.267	24.380	56.647	74.00	54.00	Pass
01 (Peak)	2411.000	32.244	77.578	109.822	--	--	--
01 (Average)	2390.000	32.267	14.234	46.501	74.00	54.00	Pass
01 (Average)	2411.400	32.247	73.627	105.873	--	--	--

Figure Channel 01: VERTICAL (Peak)

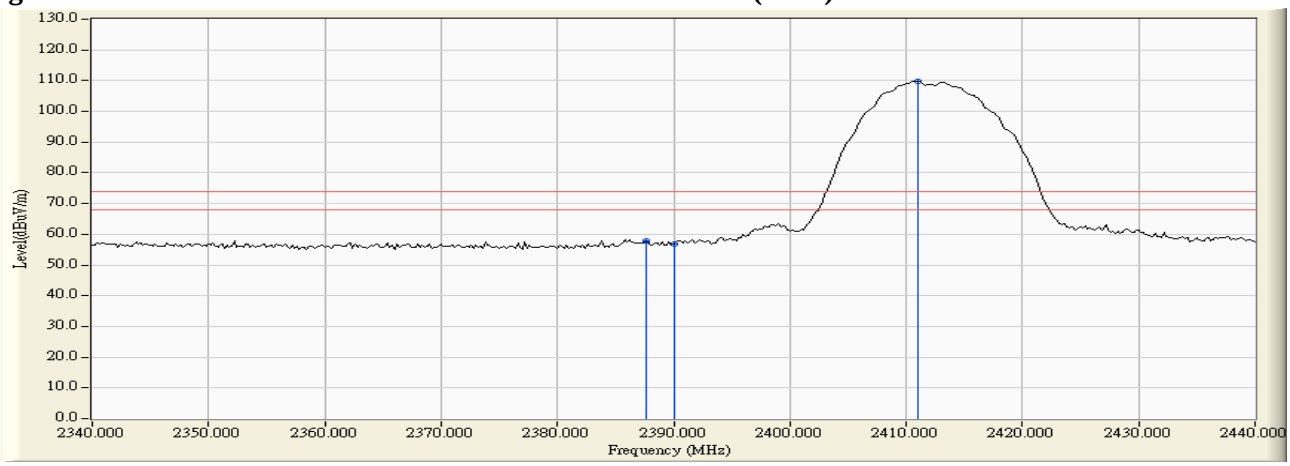
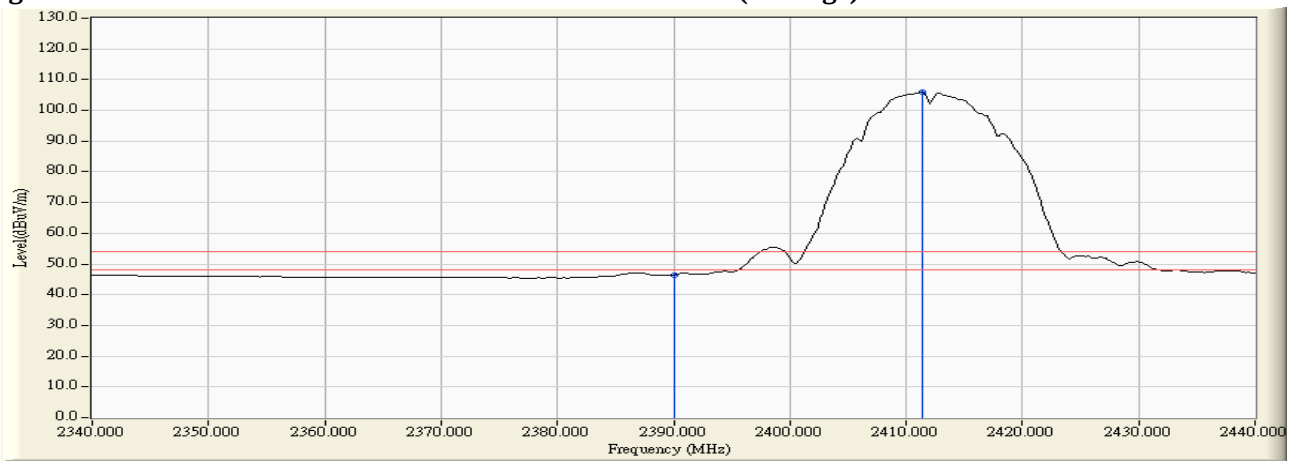


Figure Channel 01: VERTICAL (Average)



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 : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2463.065	33.895	81.489	115.384	--	--	--
11 (Peak)	2483.500	33.951	29.513	63.463	74.00	54.00	Pass
11 (Peak)	2487.558	33.961	29.734	63.694	74.00	54.00	Pass
11 (Average)	2462.775	33.895	78.163	112.057	--	--	--
11 (Average)	2483.500	33.951	19.595	53.545	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

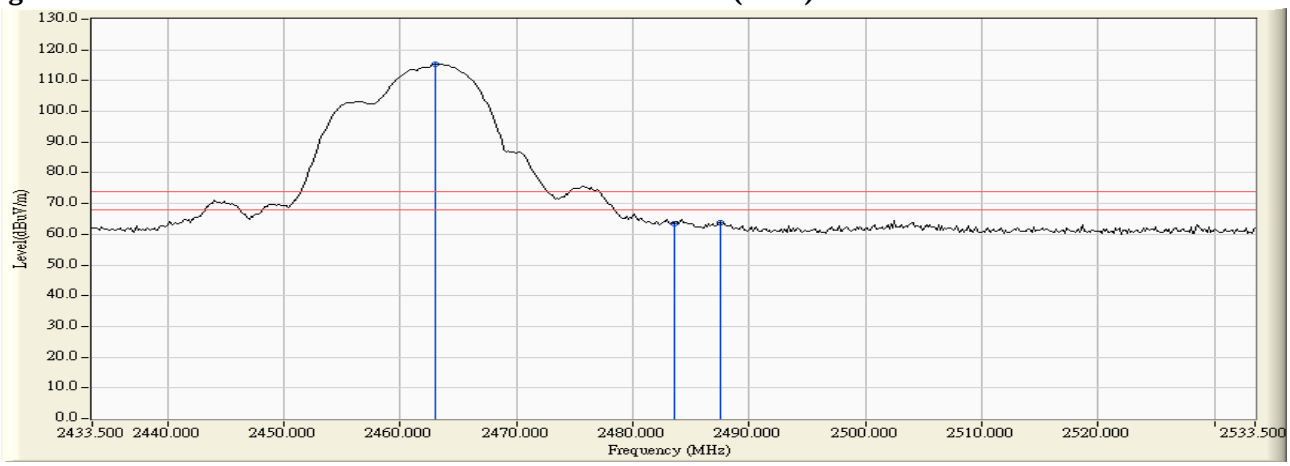
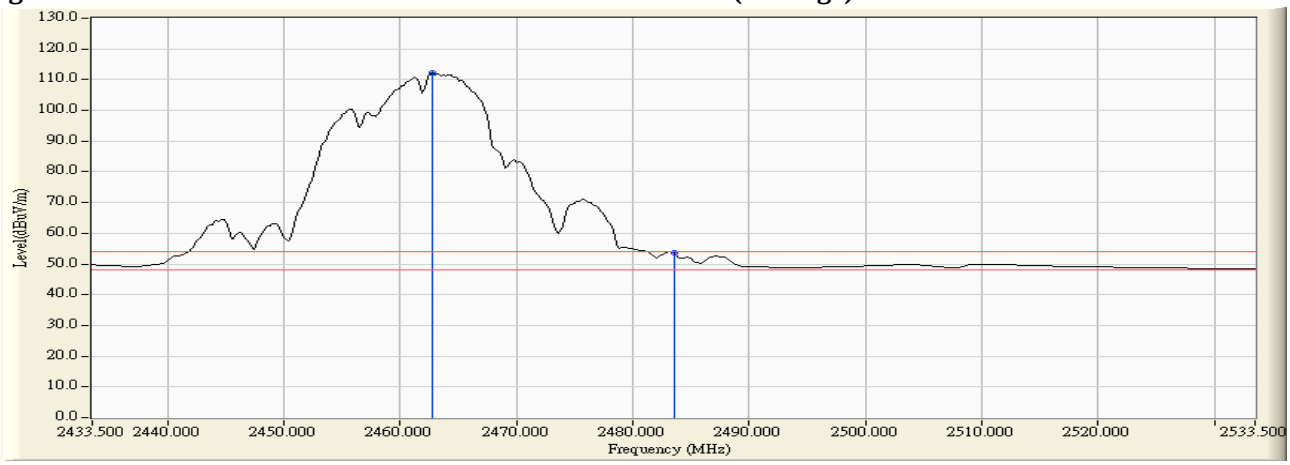


Figure Channel 11: Horizontal (Average)



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 : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2460.500	32.473	78.656	111.129	--	--	--
11 (Peak)	2483.500	32.586	26.385	58.970	74.00	54.00	Pass
11 (Average)	2461.300	32.477	74.599	107.076	--	--	--
11 (Average)	2483.500	32.586	17.055	49.640	74.00	54.00	Pass

Figure Channel 11: VERTICAL (Peak)

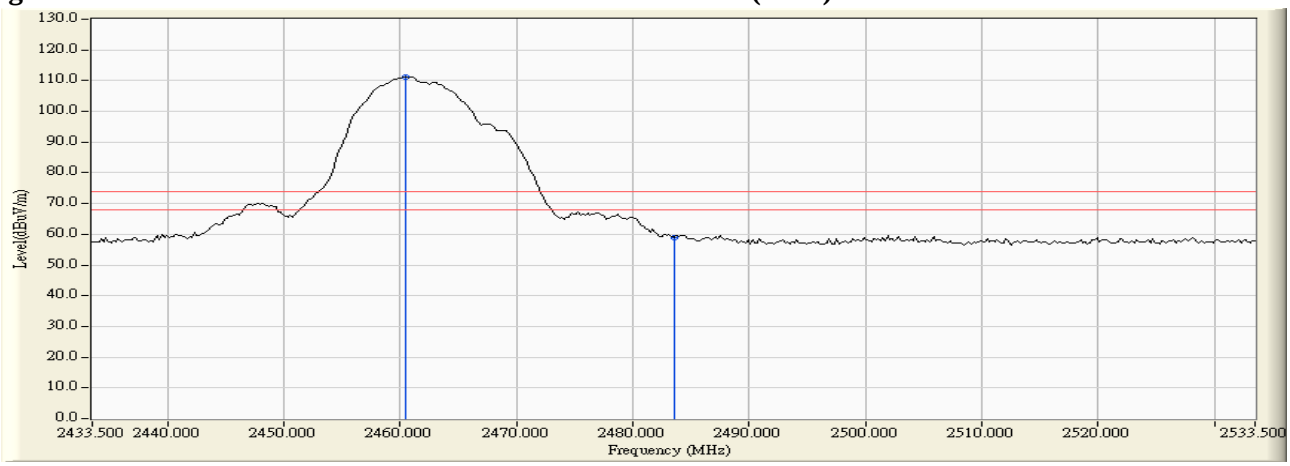
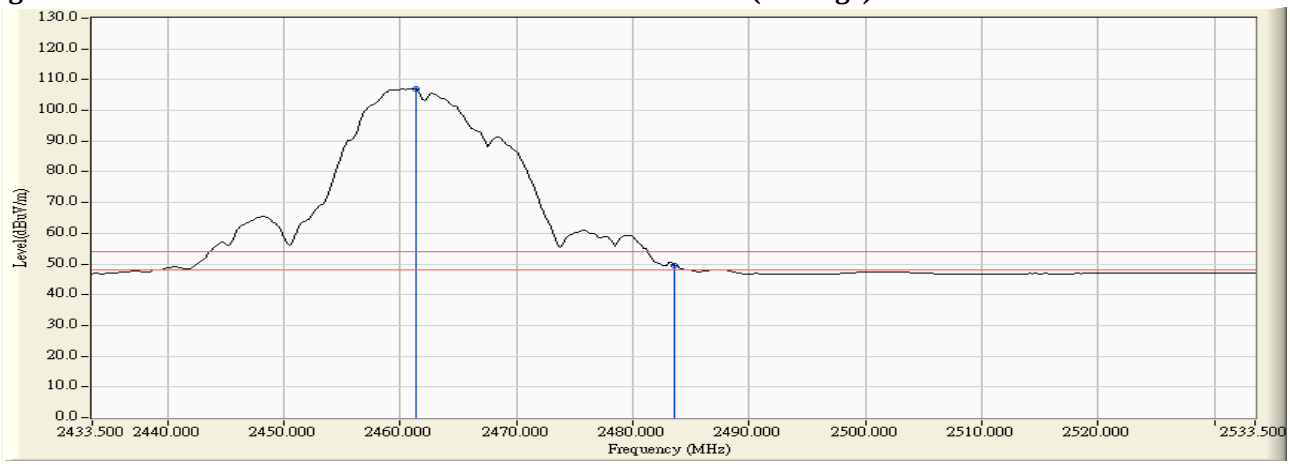


Figure Channel 11: VERTICAL (Average)



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 : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2390.000	33.739	33.791	67.530	74.00	54.00	Pass
01 (Peak)	2412.754	33.774	81.365	115.139	--	--	--
01 (Average)	2390.000	33.739	18.357	52.096	74.00	54.00	Pass
01 (Average)	2413.043	33.775	69.803	103.577	--	--	--

Figure Channel 01: Horizontal (Peak)

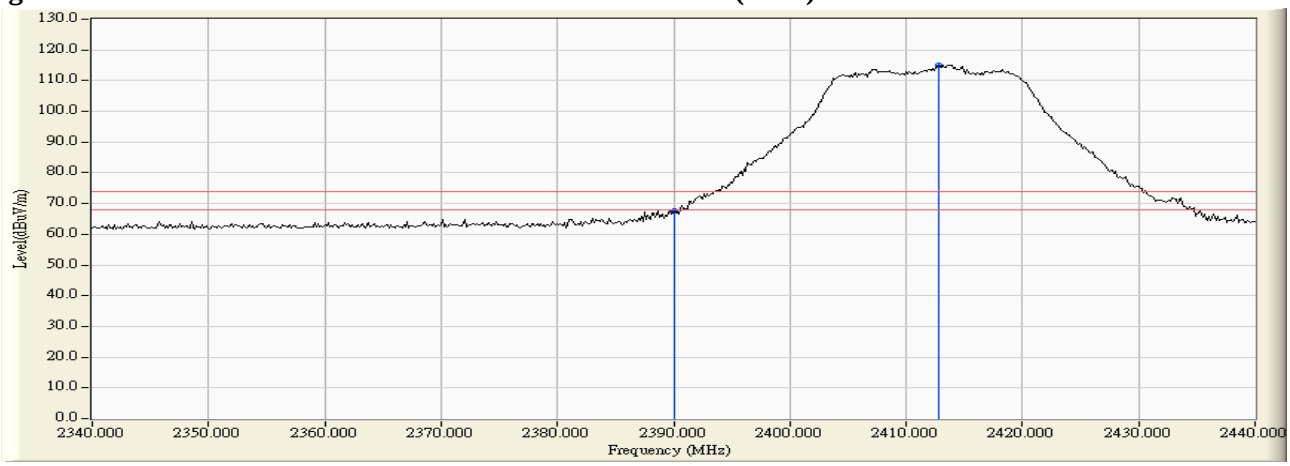
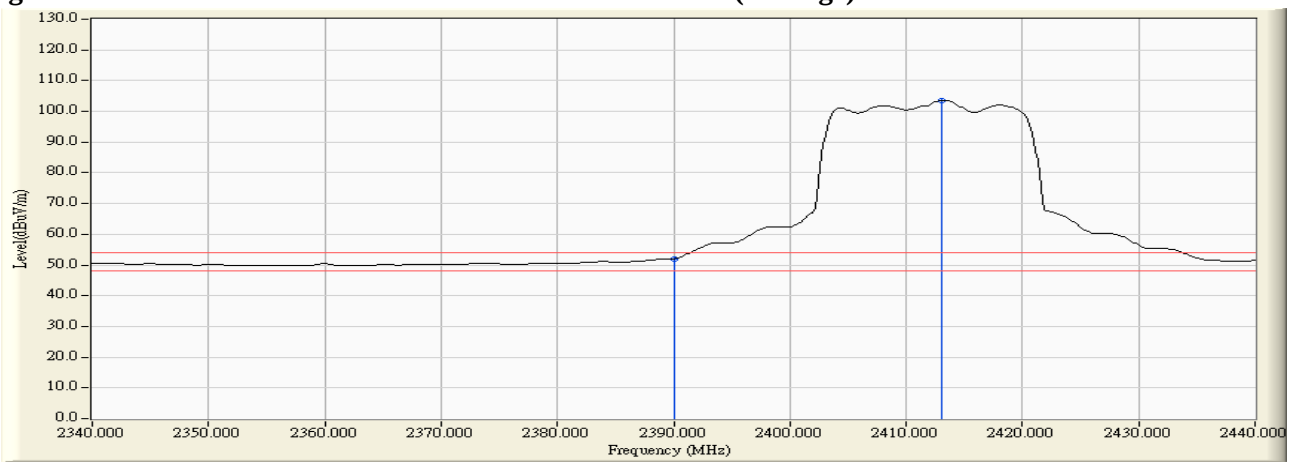


Figure Channel 01: Horizontal (Average)



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 : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2390.000	32.267	28.006	60.273	74.00	54.00	Pass
01 (Peak)	2416.200	32.268	76.149	108.417	--	--	--
01 (Average)	2390.000	32.267	15.033	47.300	74.00	54.00	Pass
01 (Average)	2415.600	32.264	64.423	96.688	--	--	--

Figure Channel 01: VERTICAL (Peak)

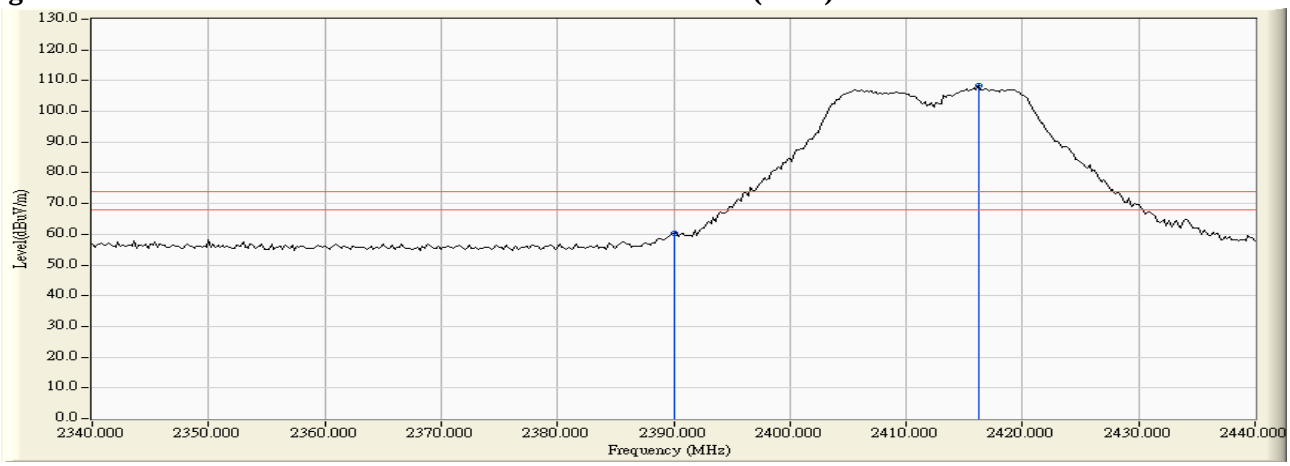
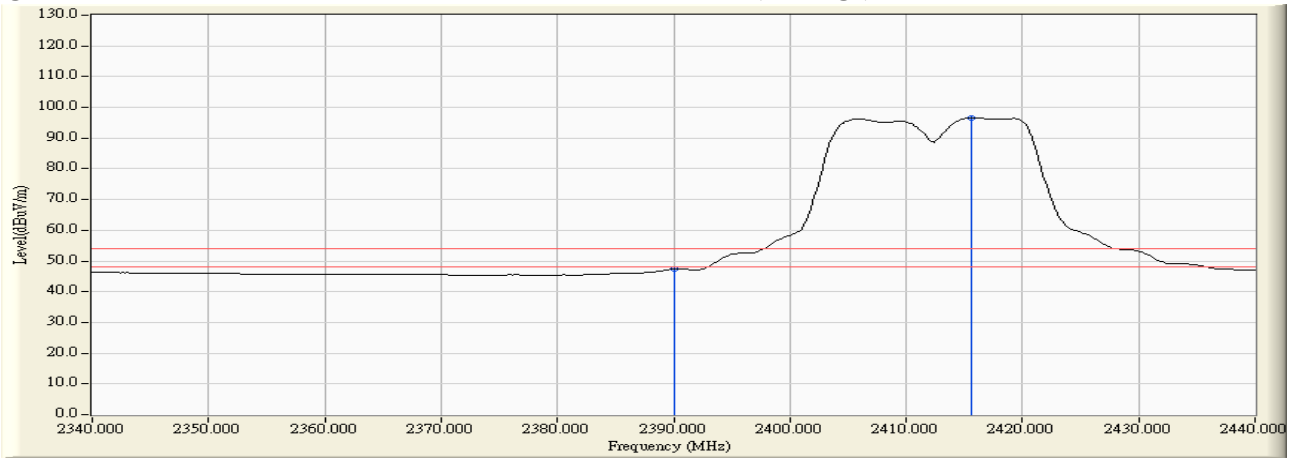


Figure Channel 01: VERTICAL (Average)



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 : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2455.964	33.877	81.219	115.096	--	--	--
11 (Peak)	2483.500	33.951	37.292	71.242	74.00	54.00	Pass
11 (Average)	2455.529	33.877	68.720	102.596	--	--	--
11 (Average)	2483.500	33.951	18.957	52.907	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

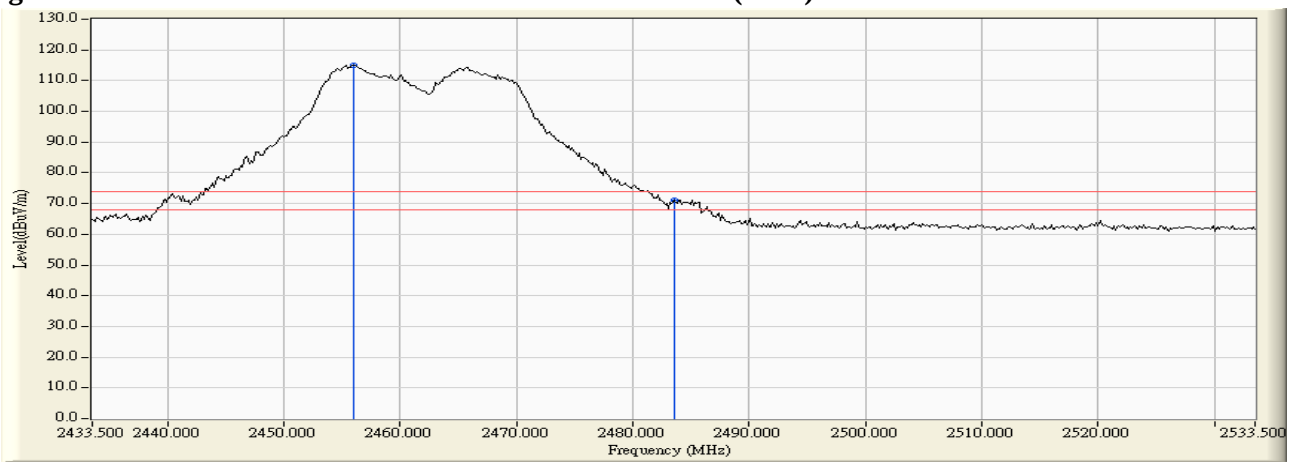
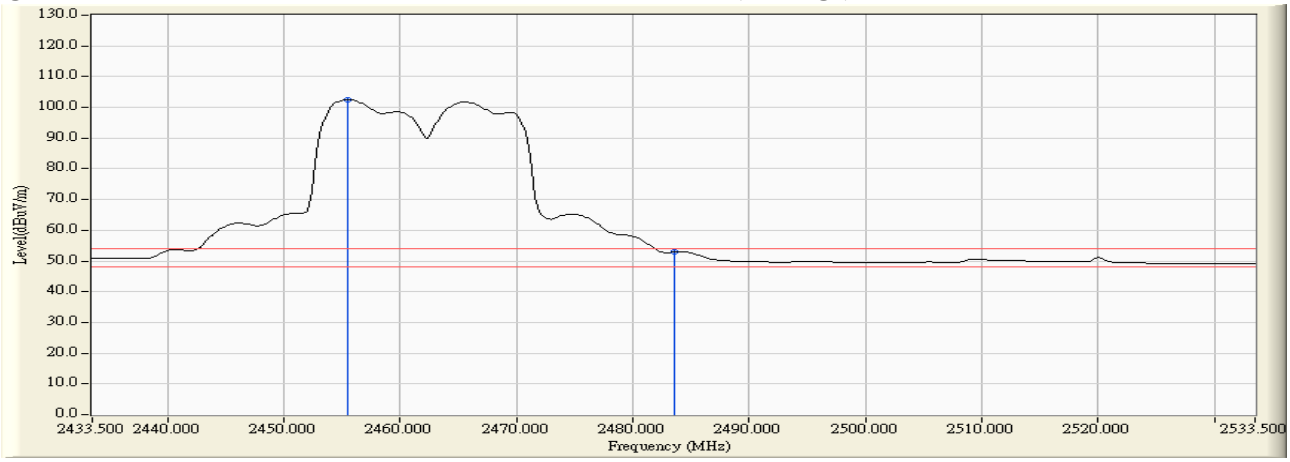


Figure Channel 11: Horizontal (Average)



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 : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2465.500	32.497	74.907	107.404	--	--	--
11 (Peak)	2483.500	32.586	32.139	64.724	74.00	54.00	Pass
11 (Peak)	2484.500	32.590	33.368	65.958	74.00	54.00	Pass
11 (Average)	2455.300	32.449	64.409	96.857	--	--	--
11 (Average)	2483.500	32.586	16.295	48.880	74.00	54.00	Pass

Figure Channel 11: VERTICAL (Peak)

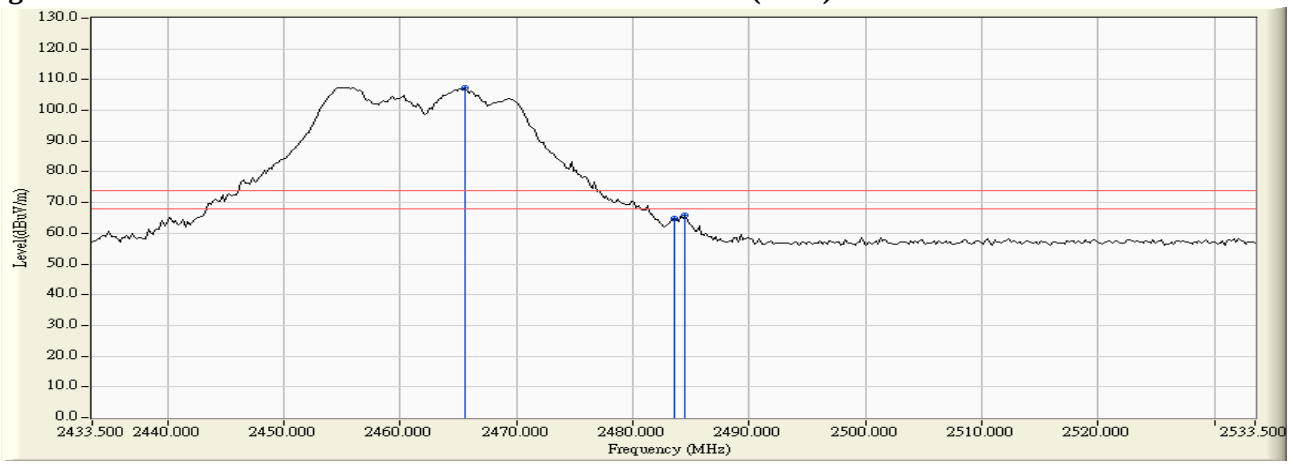
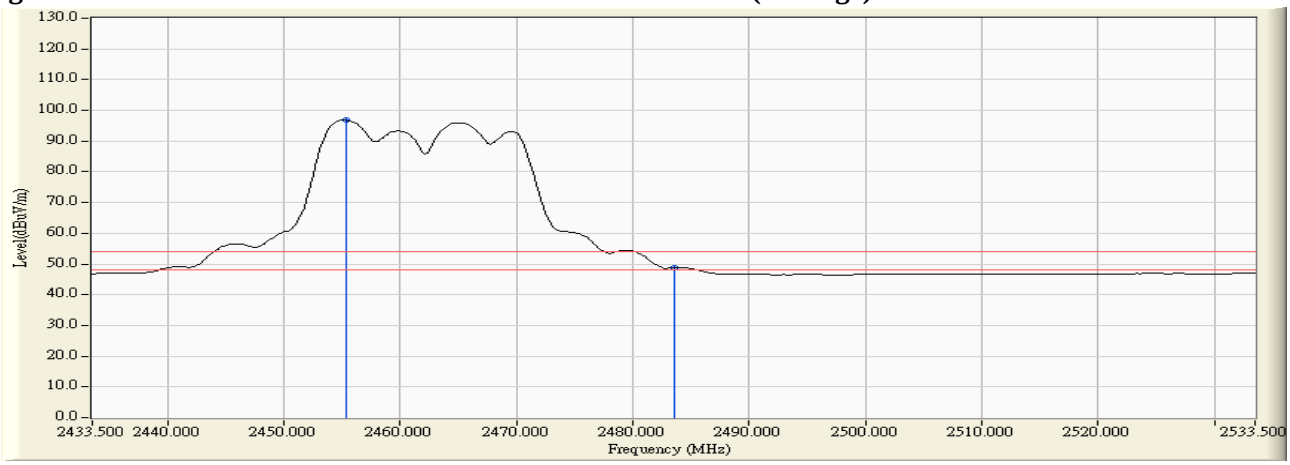


Figure Channel 11: VERTICAL (Average)



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 : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band) (2412MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2390.000	33.739	37.191	70.930	74.00	54.00	Pass
01 (Peak)	2409.420	33.768	82.012	115.779	--	--	--
01 (Peak)	2390.000	33.739	19.474	53.213	74.00	54.00	Pass
01 (Average)	2406.087	33.760	69.628	103.389	--	--	--

Figure Channel 01: Horizontal (Peak)

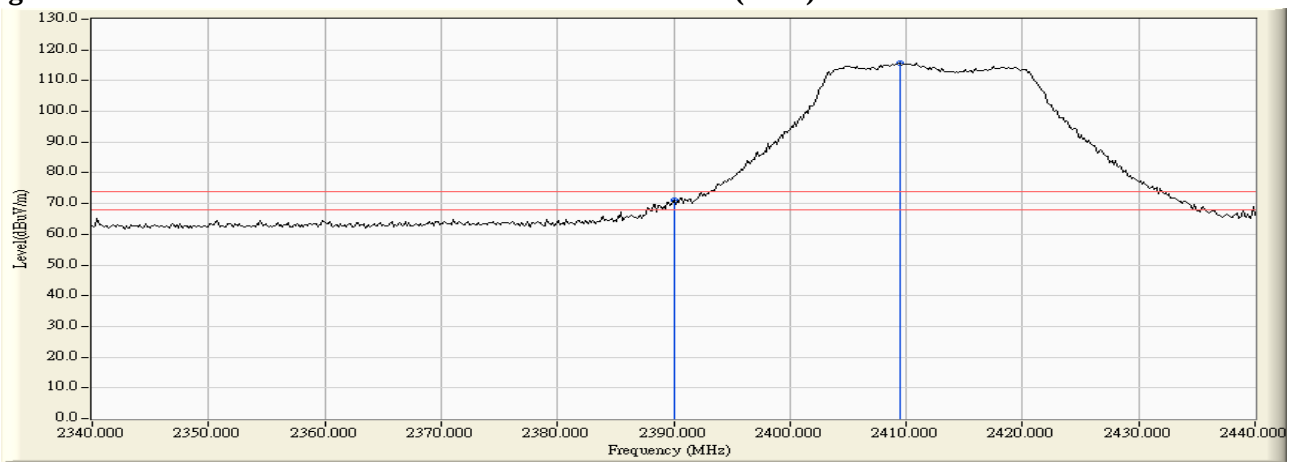
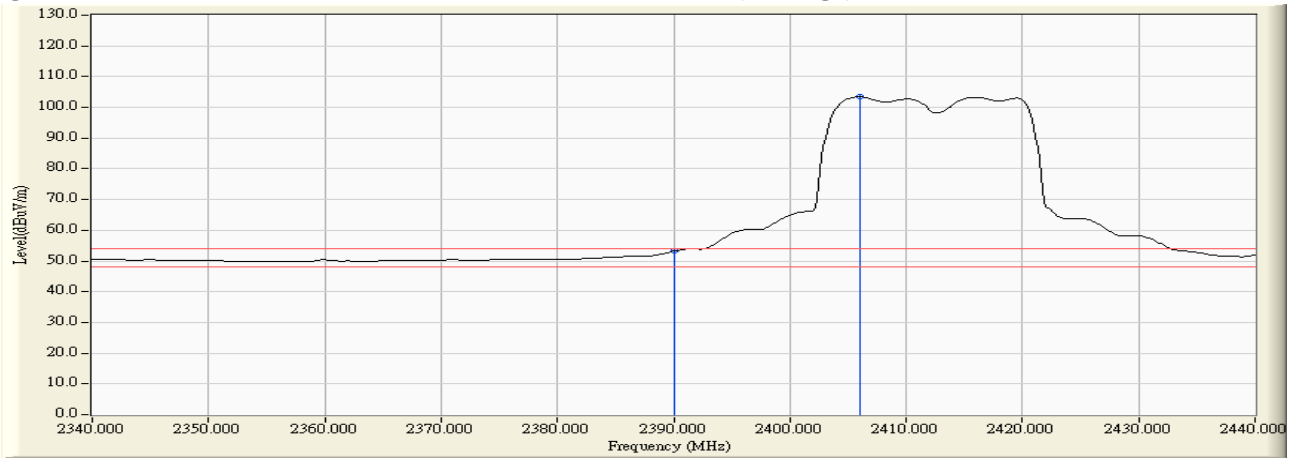


Figure Channel 01: Horizontal (Average)



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 : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band) (2412MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
01 (Peak)	2388.600	32.276	28.969	61.246	74.00	54.00	Pass
01 (Peak)	2390.000	32.267	27.359	59.626	74.00	54.00	Pass
01 (Peak)	2419.000	32.280	75.748	108.028	--	--	--
01 (Average)	2390.000	32.267	15.632	47.899	74.00	54.00	Pass
01 (Average)	2419.000	32.280	64.909	97.189	--	--	--

Figure Channel 01: VERTICAL (Peak)

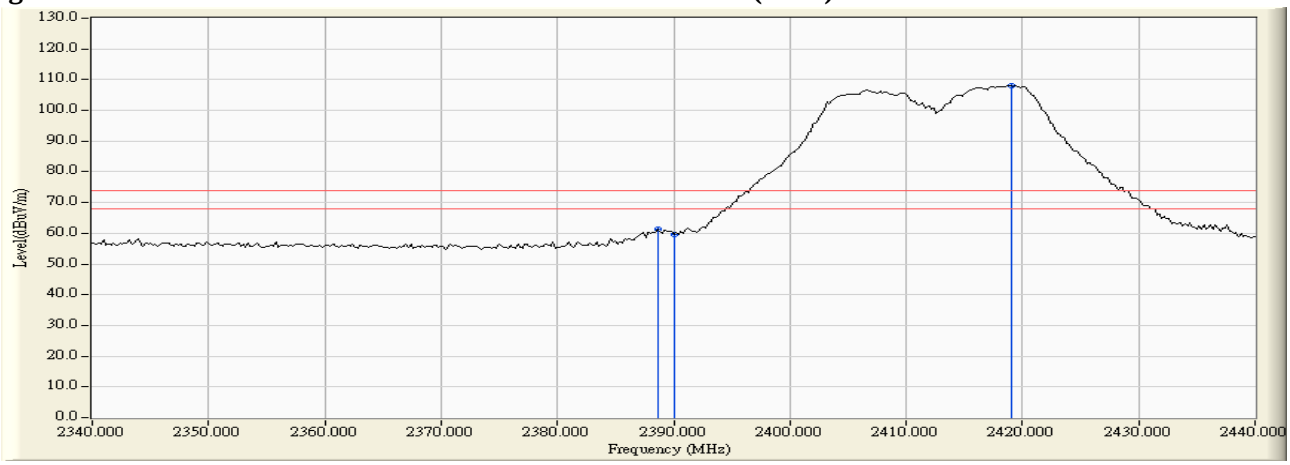
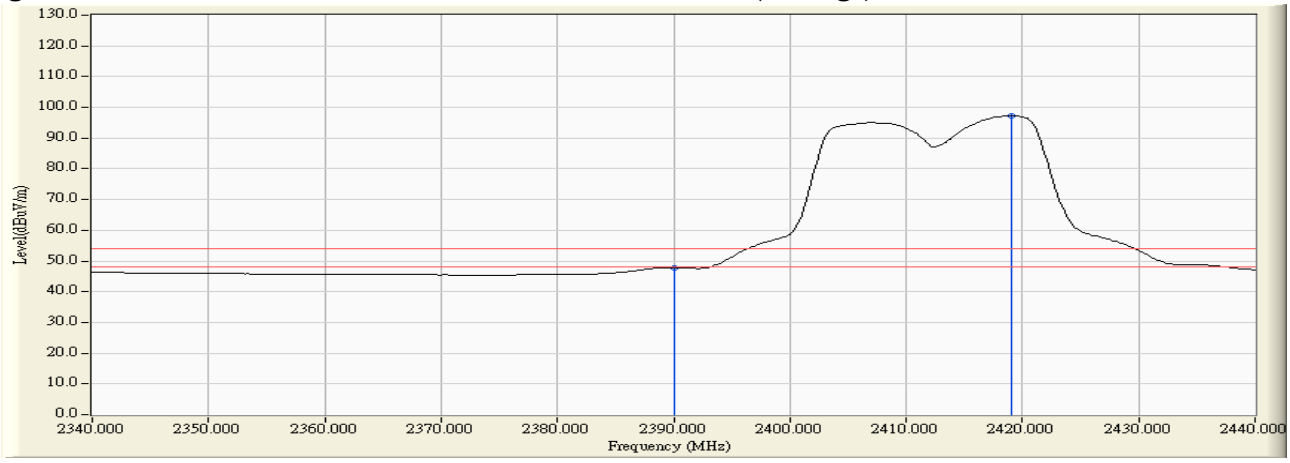


Figure Channel 01: VERTICAL (Average)



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 : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band) (2462MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2455.819	33.877	79.612	113.489	--	--	--
11 (Peak)	2483.500	33.951	38.465	72.415	74.00	54.00	Pass
11 (Peak)	2484.080	33.951	39.726	73.677	74.00	54.00	Pass
11 (Average)	2454.804	33.874	67.404	101.278	--	--	--
11 (Average)	2483.500	33.951	19.954	53.904	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

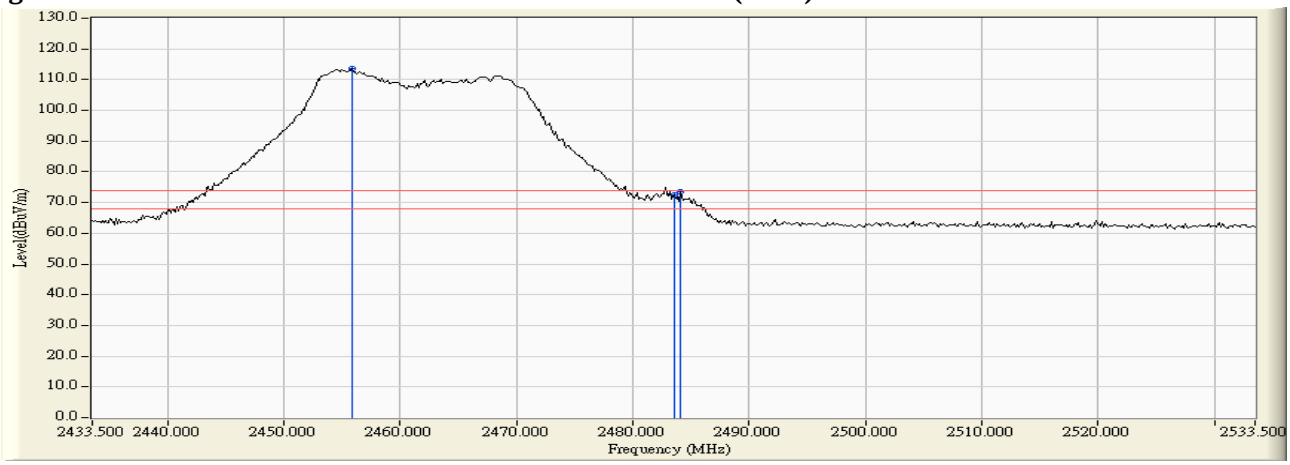
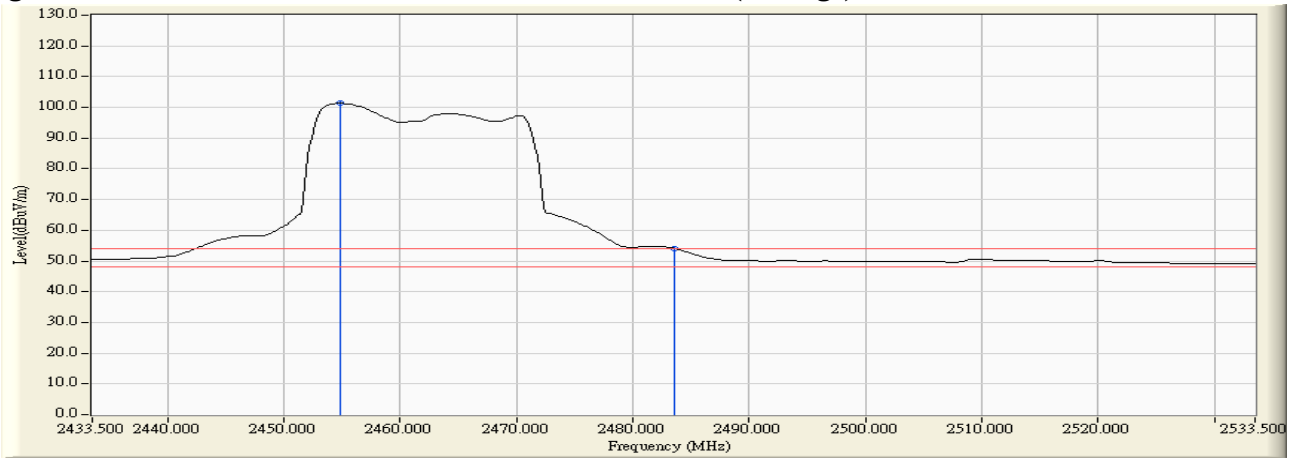


Figure Channel 11: Horizontal (Average)



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 : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band) (2462MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
11 (Peak)	2457.700	32.460	73.527	105.987	--	--	--
11 (Peak)	2483.500	32.586	26.949	59.534	74.00	54.00	Pass
11 (Peak)	2484.700	32.591	30.539	63.130	74.00	54.00	Pass
11 (Average)	2458.700	32.465	61.958	94.423	--	--	--
11 (Average)	2483.500	32.586	15.095	47.680	74.00	54.00	Pass

Figure Channel 11: VERTICAL (Peak)

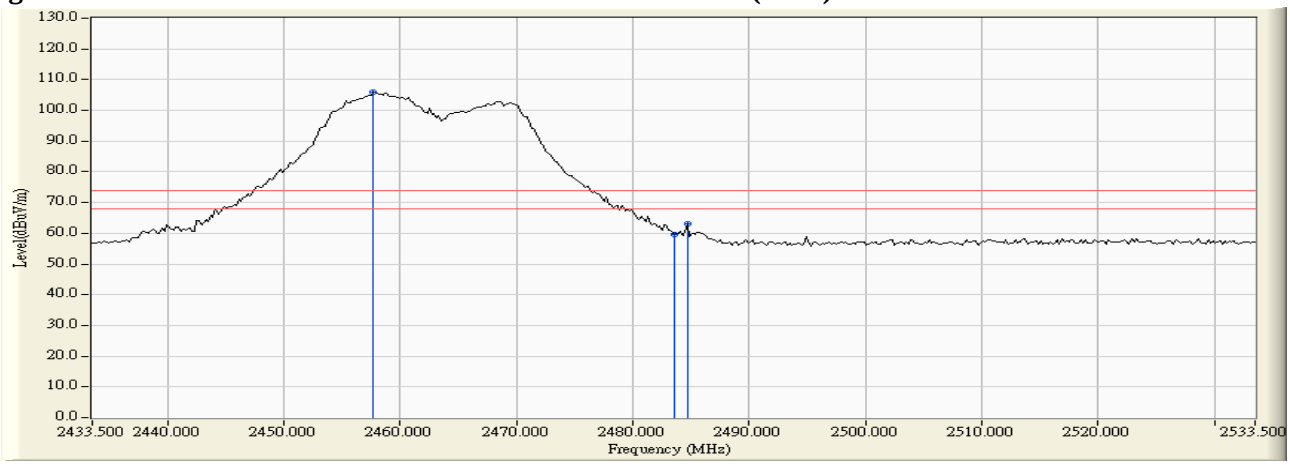
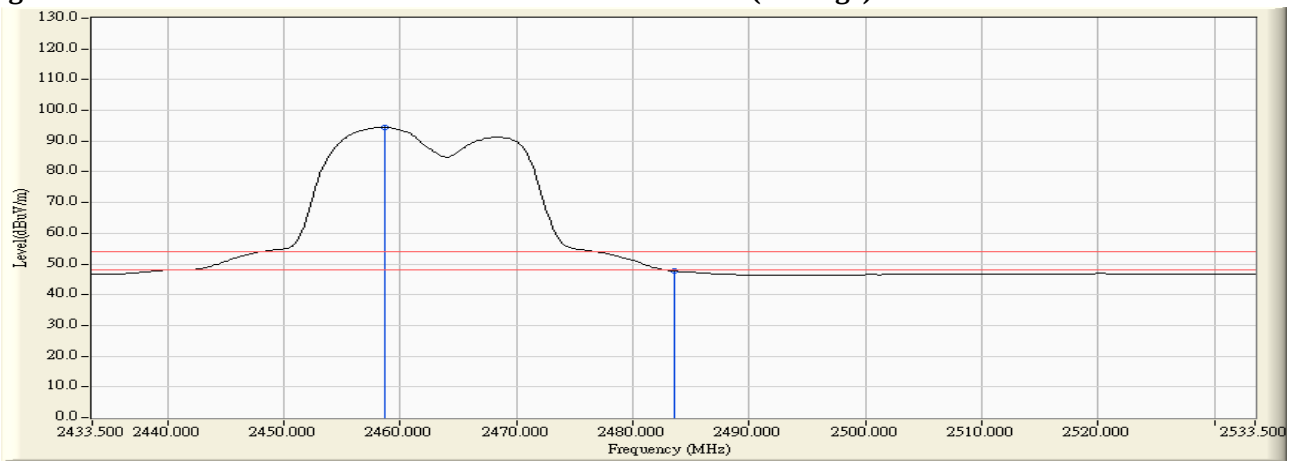


Figure Channel 11: VERTICAL (Average)



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 : 802.11ac Dual Band Access Point
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 (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
03 (Peak)	2390.000	33.739	37.941	71.680	74.00	54.00	Pass
03 (Peak)	2424.493	33.802	76.801	110.603	--	--	--
03 (Average)	2384.928	33.734	19.386	53.121	74.00	54.00	Pass
03 (Average)	2390.000	33.739	18.113	51.852	74.00	54.00	Pass
03 (Average)	2424.203	33.802	64.216	98.017	--	--	--

Figure Channel 03: Horizontal (Peak)

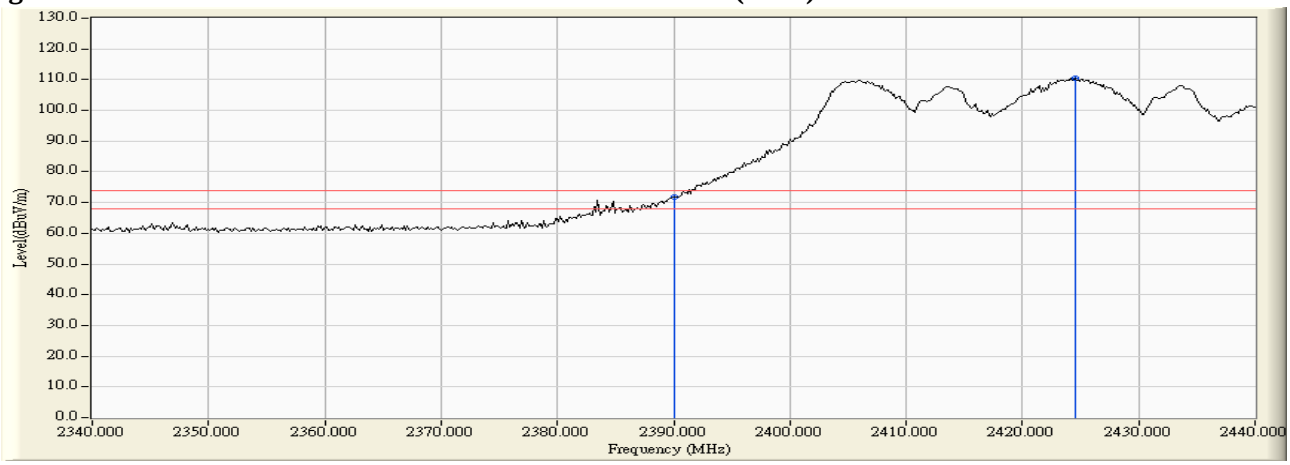
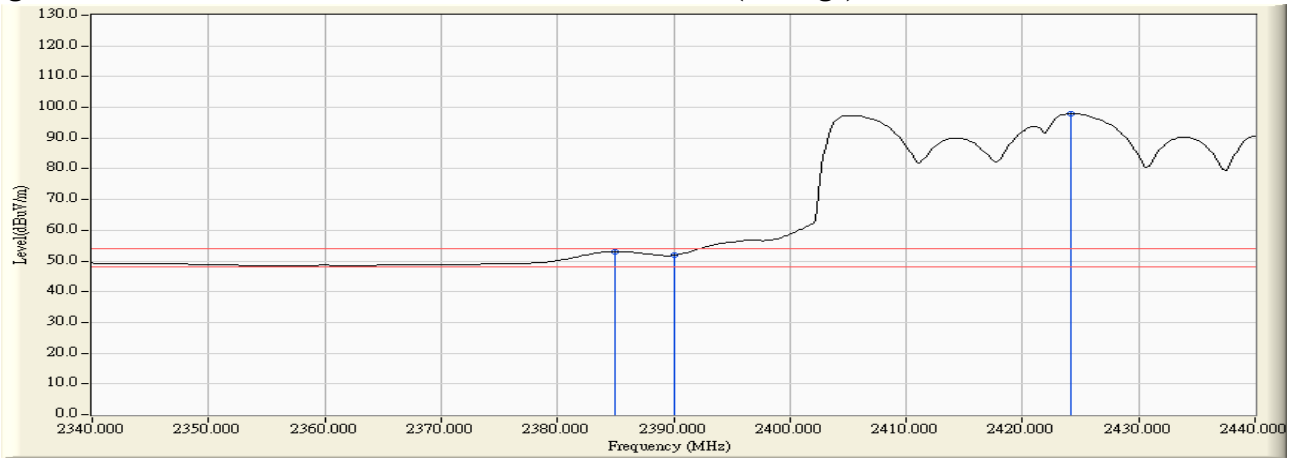


Figure Channel 03: Horizontal (Average)



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 : 802.11ac Dual Band Access Point
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 (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
03 (Peak)	2389.200	32.273	27.670	59.942	74.00	54.00	Pass
03 (Peak)	2390.000	32.267	27.150	59.417	74.00	54.00	Pass
03 (Peak)	2420.200	32.286	69.738	102.024	--	--	--
03 (Average)	2390.000	32.267	14.419	46.686	74.00	54.00	Pass
03 (Average)	2423.800	32.302	57.800	90.102	--	--	--

Figure Channel 03: VERTICAL (Peak)

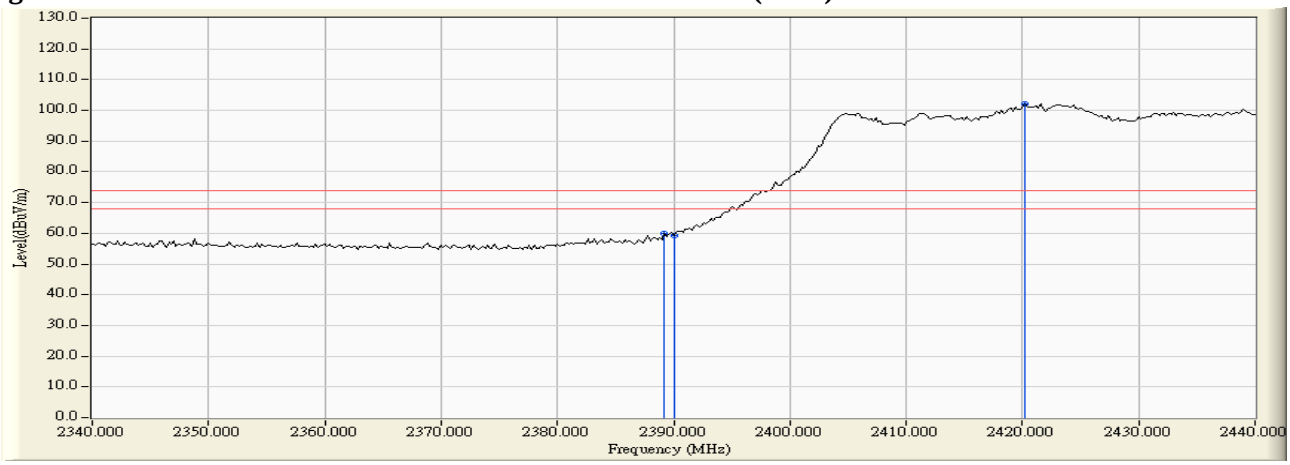
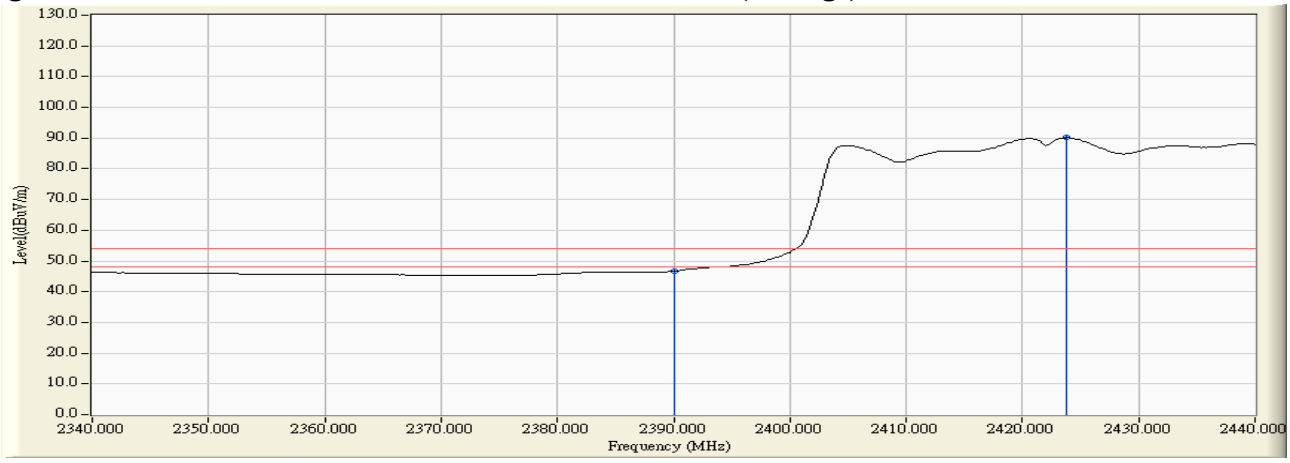


Figure Channel 03: VERTICAL (Average)



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 : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
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 (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
09 (Peak)	2444.804	33.849	75.512	109.361	--	--	--
09 (Peak)	2483.500	33.951	36.963	70.913	74.00	54.00	Pass
09 (Average)	2444.225	33.848	62.495	96.343	--	--	--
09 (Average)	2483.500	33.951	19.574	53.524	74.00	54.00	Pass

Figure Channel 09: Horizontal (Peak)

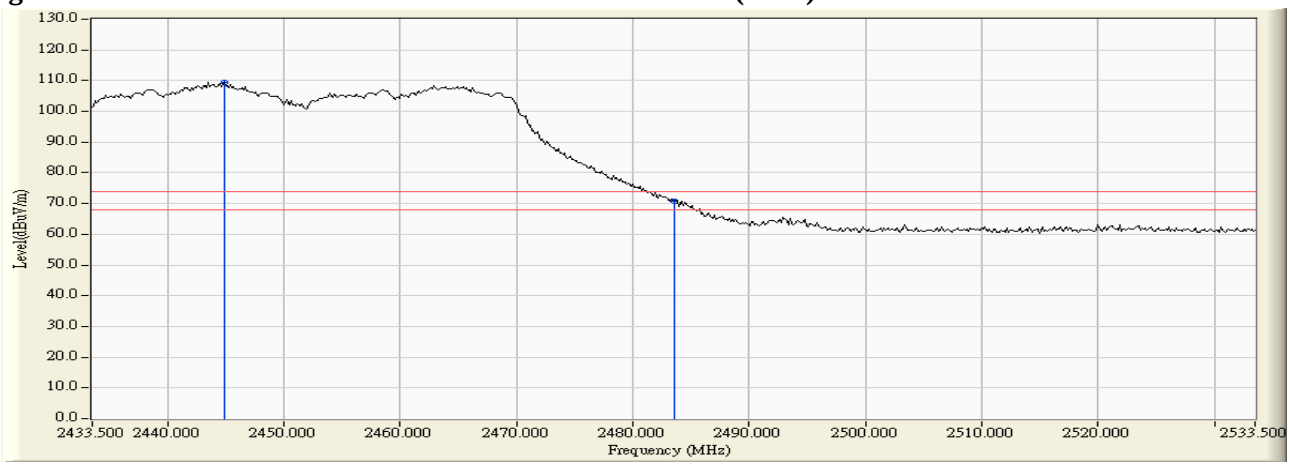
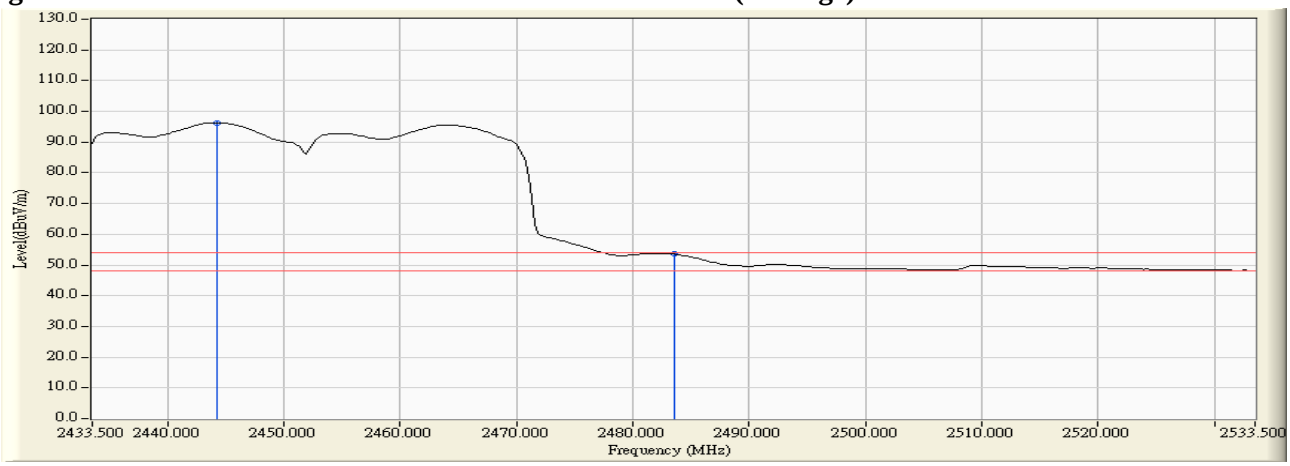


Figure Channel 09: Horizontal (Average)



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 : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
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 (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
09 (Peak)	2437.700	32.366	68.820	101.185	--	--	--
09 (Peak)	2483.500	32.586	29.396	61.981	74.00	54.00	Pass
09 (Peak)	2483.900	32.587	30.608	63.195	74.00	54.00	Pass
09 (Average)	2438.500	32.369	56.908	89.277	--	--	--
09 (Average)	2483.500	32.586	15.151	47.736	74.00	54.00	Pass

Figure Channel 09: VERTICAL (Peak)

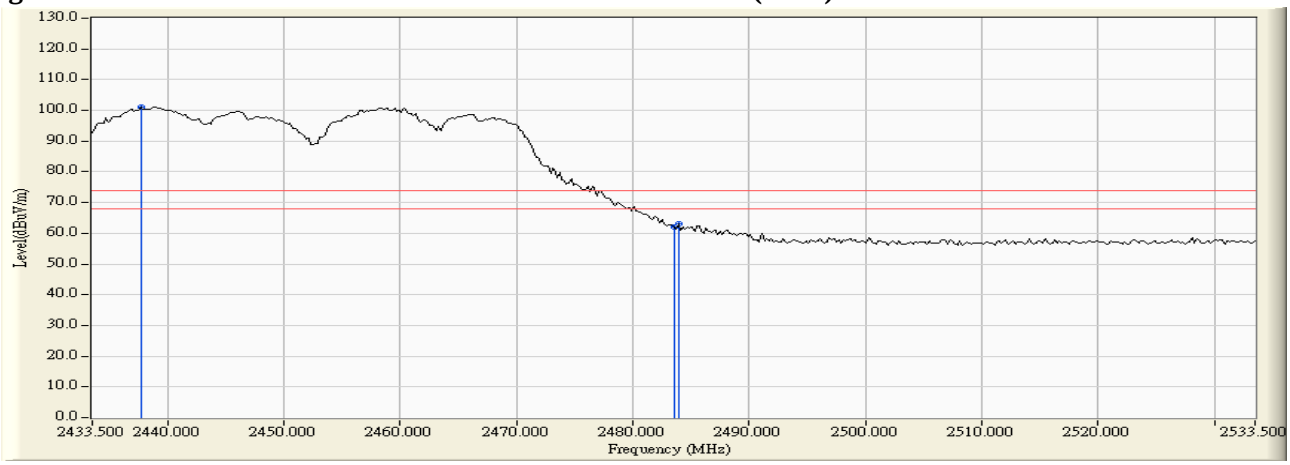
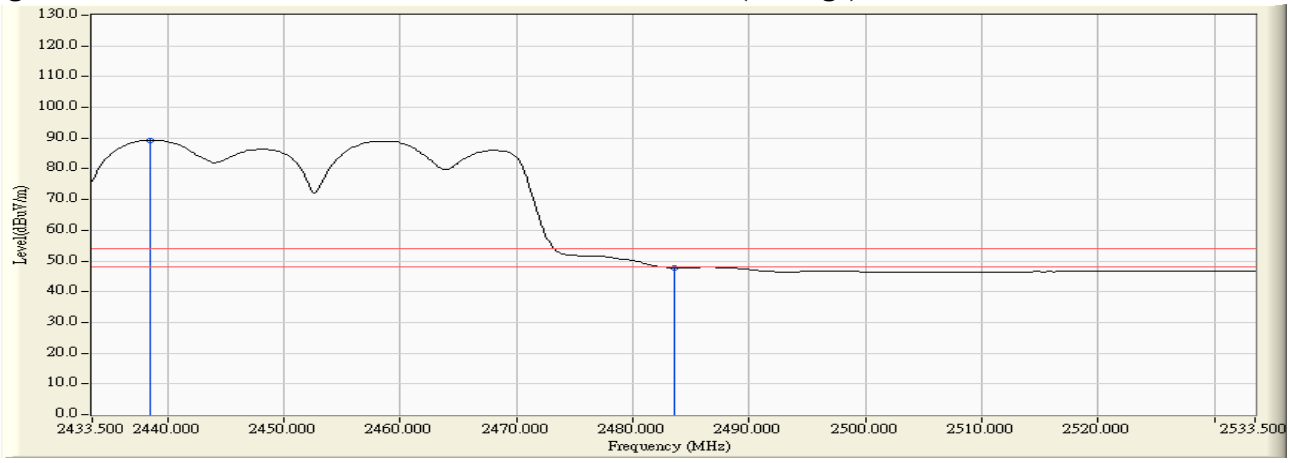


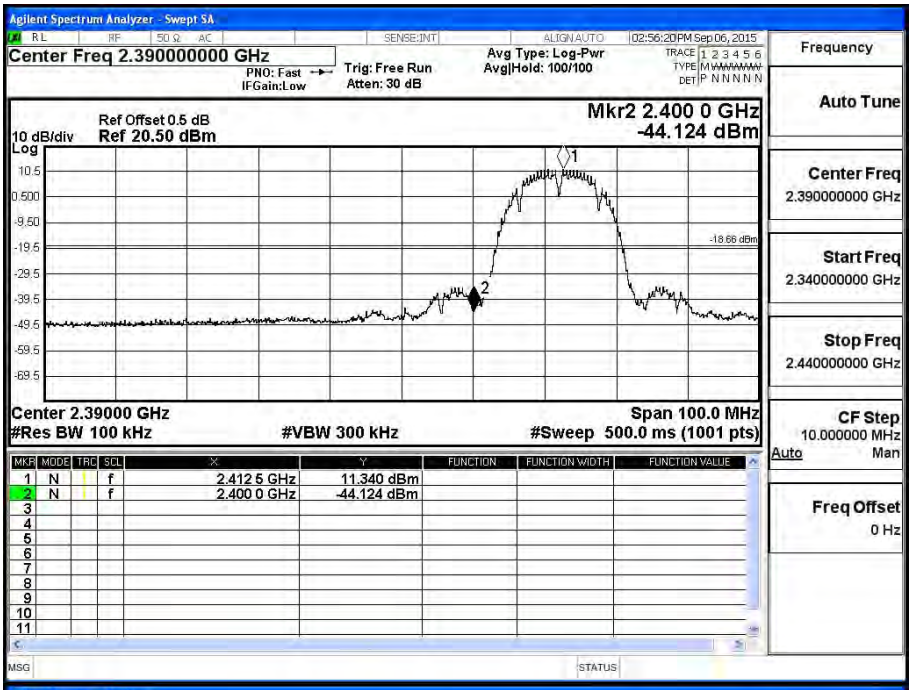
Figure Channel 09: VERTICAL (Average)



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.

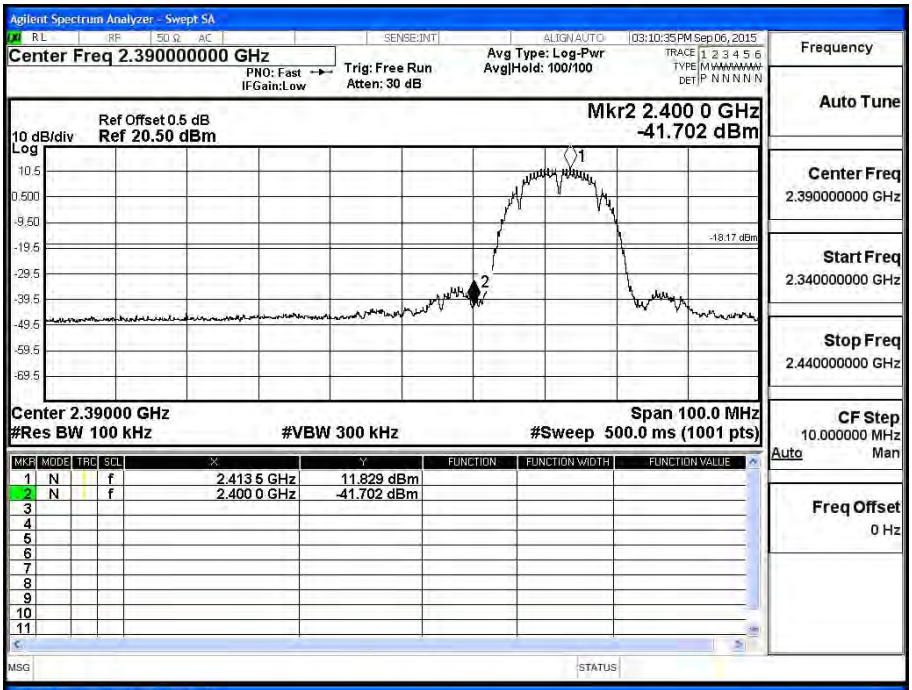
Product : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) Chain A

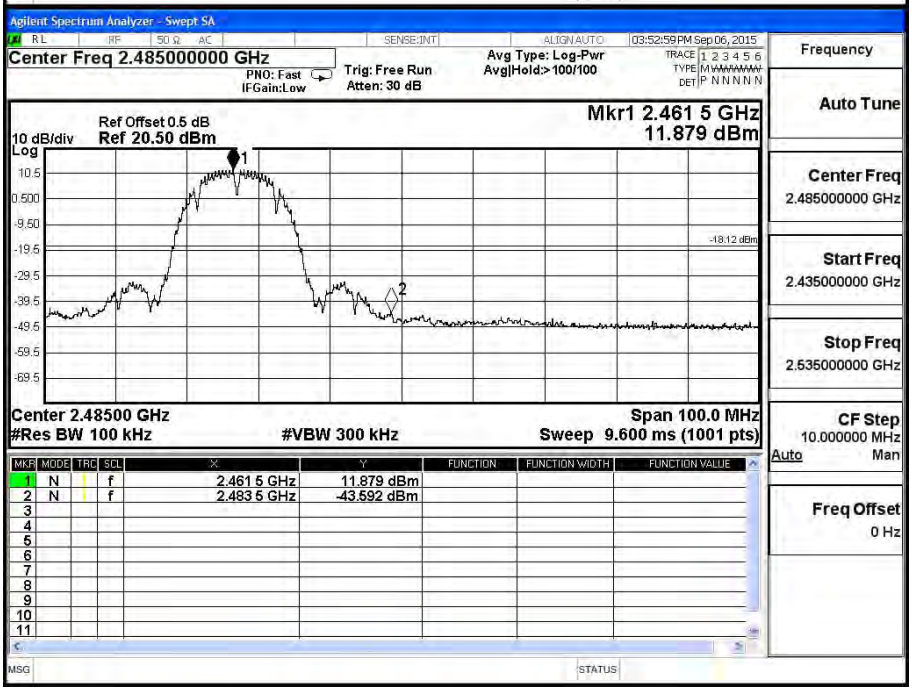
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
2412	55.46	>30	PASS
2462	56.80	>30	PASS



Product : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) Chain B

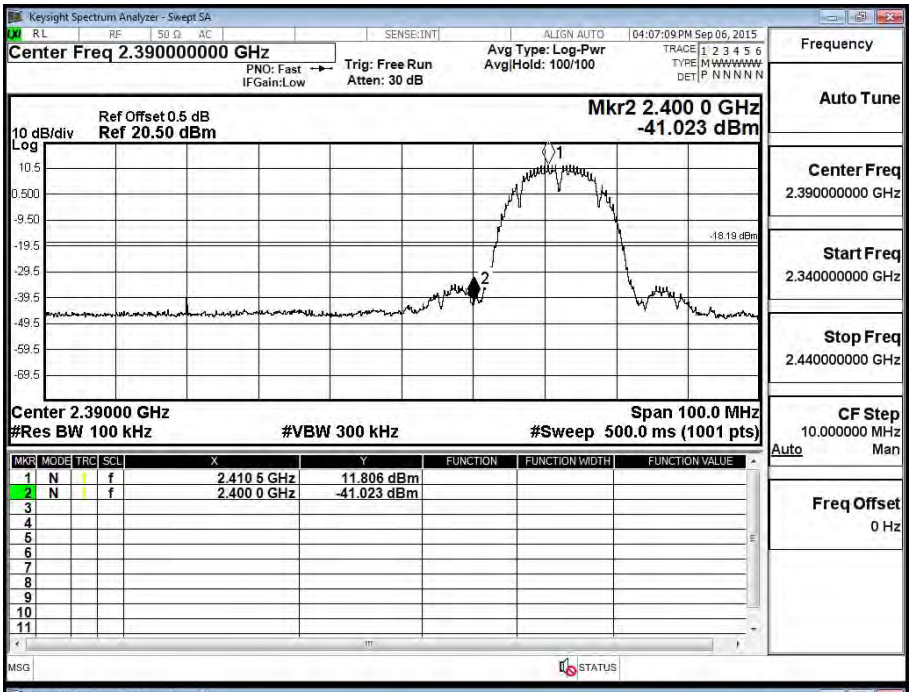
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
2412	53.53	>30	PASS
2462	55.47	>30	PASS





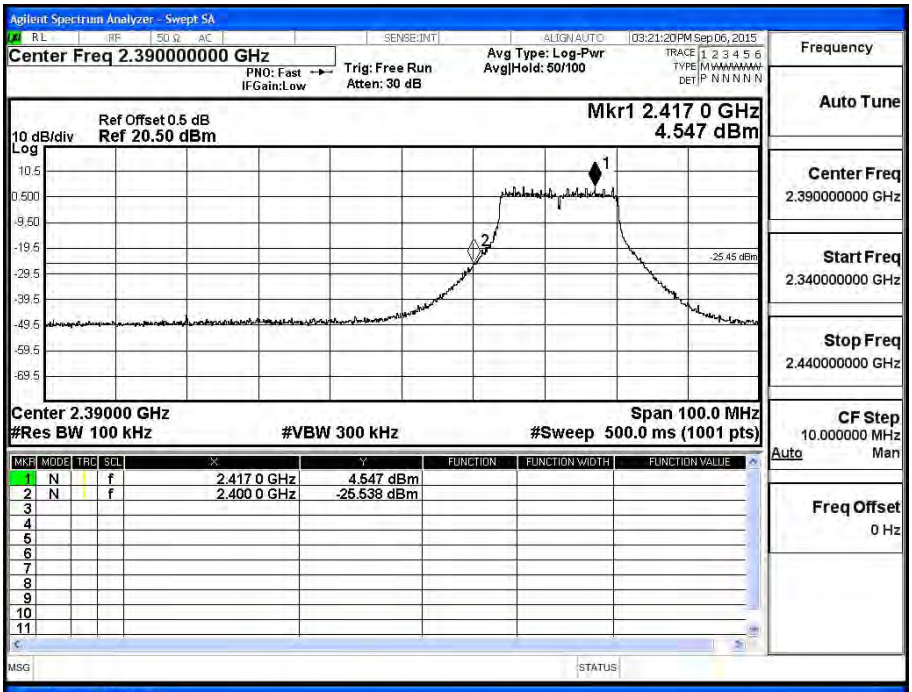
Product : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) Chain C

Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
2412	52.83	>30	PASS
2462	56.35	>30	PASS



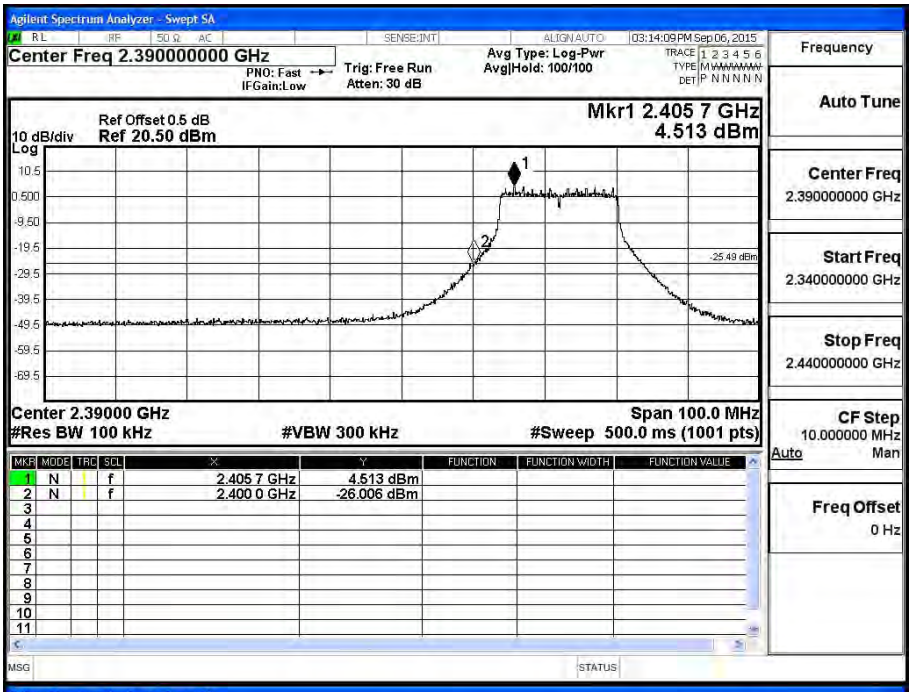
Product : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) Chain A

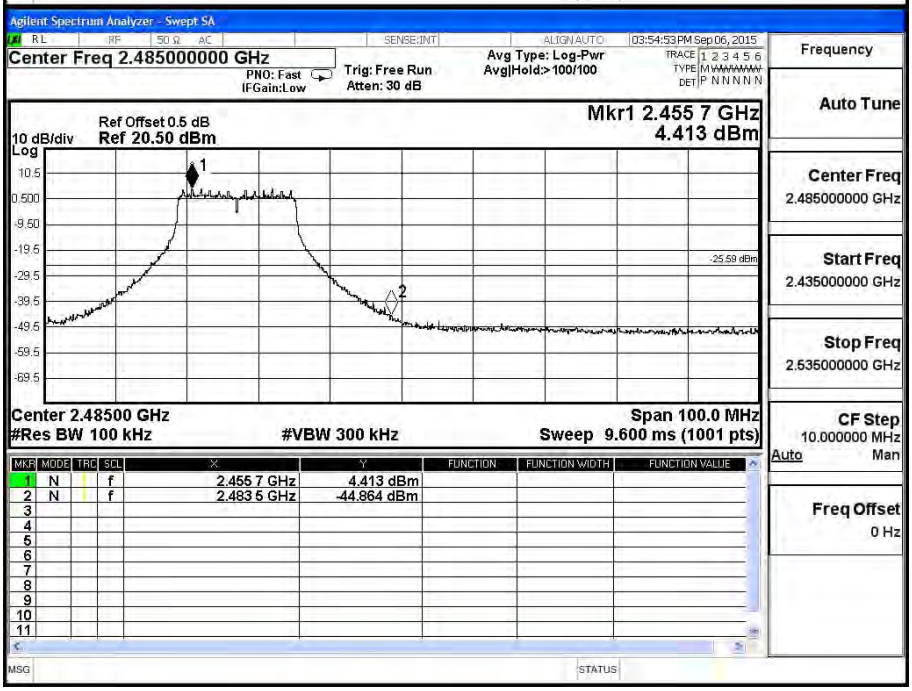
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
2412	30.09	>30	PASS
2462	50.76	>30	PASS



Product : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) Chain B

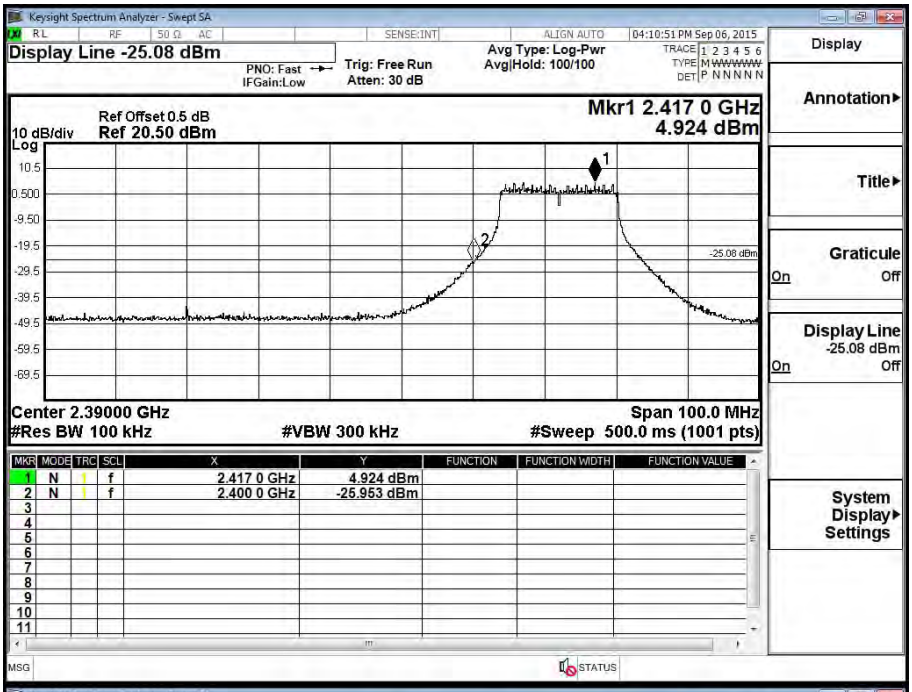
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
2412	30.52	>30	PASS
2462	49.28	>30	PASS





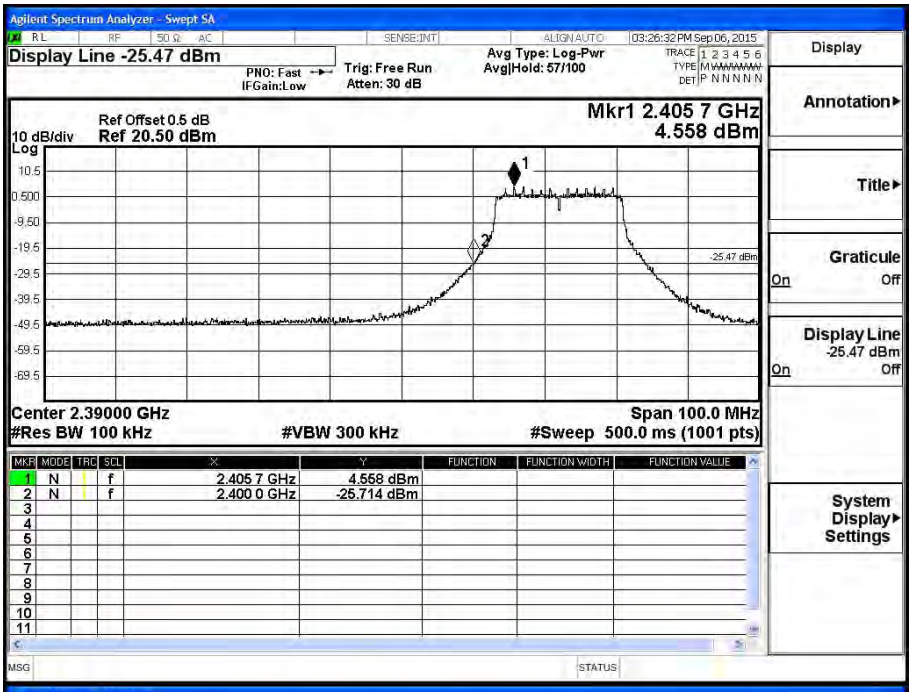
Product : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) Chain C

Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
2412	30.88	>30	PASS
2462	47.41	>30	PASS



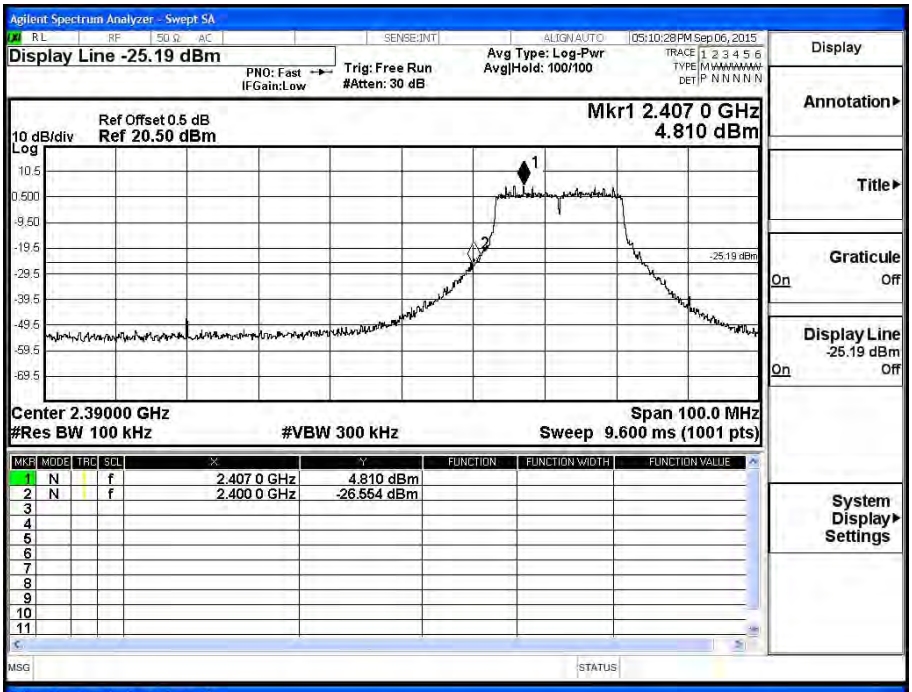
Product : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band) Chain A

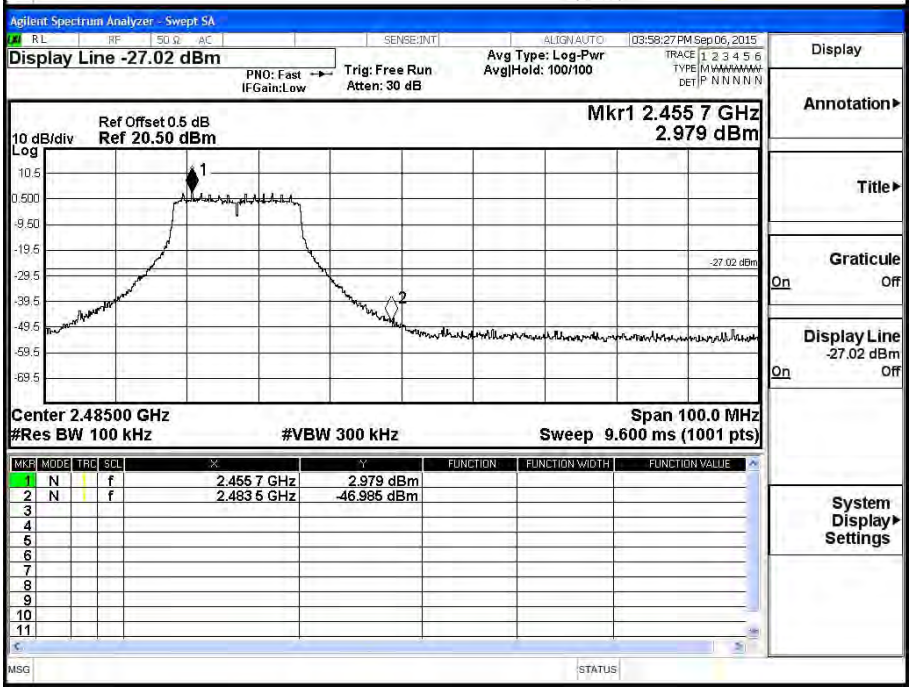
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
2412	30.27	>30	PASS
2462	49.12	>30	PASS



Product : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band) Chain B

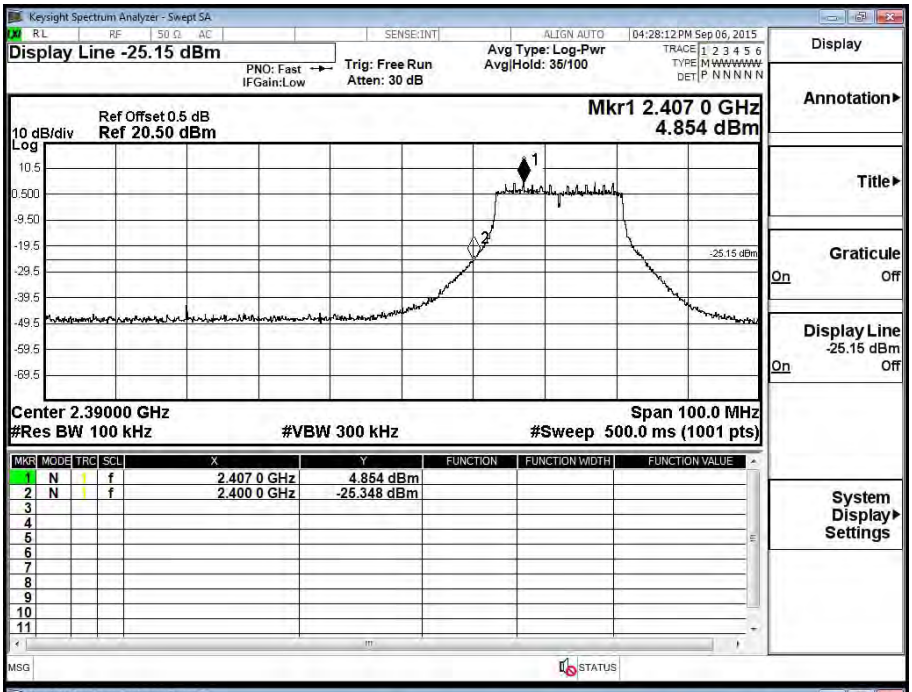
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
2412	31.36	>30	PASS
2462	49.96	>30	PASS





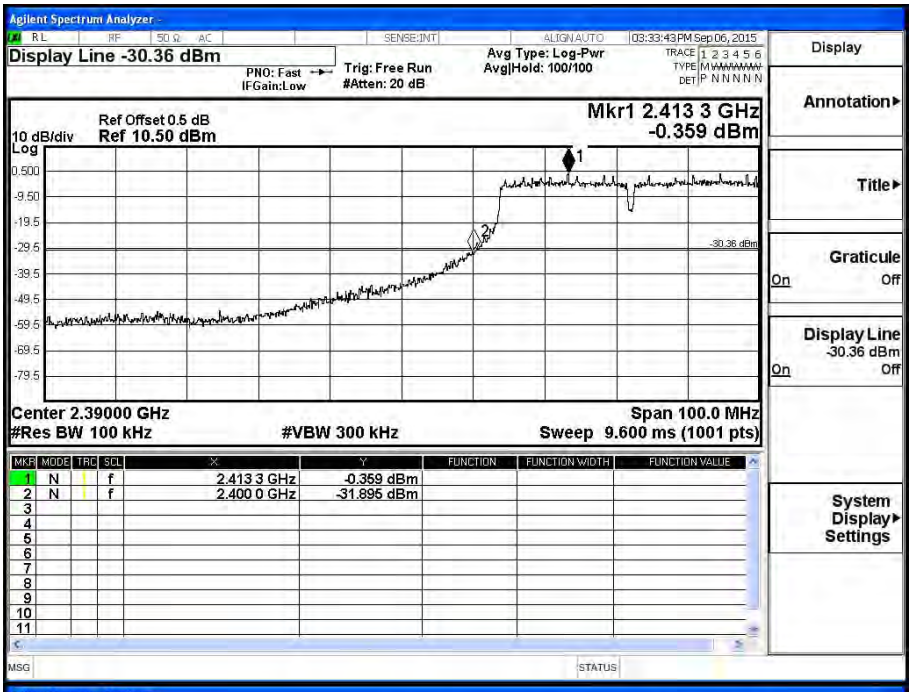
Product : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_21.7Mbps(2.4G Band) Chain C

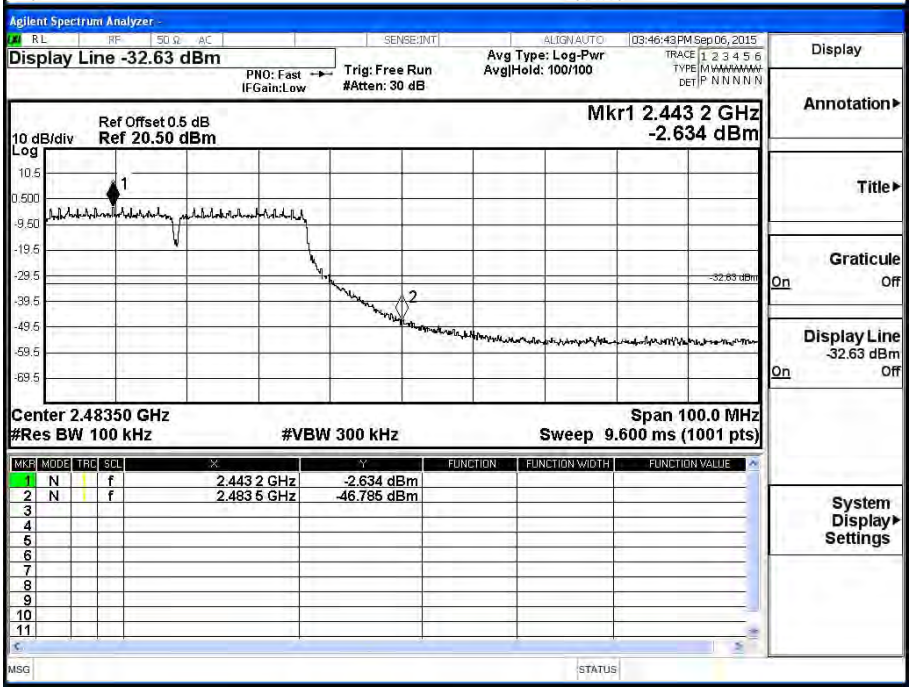
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
2412	30.20	>30	PASS
2462	48.03	>30	PASS



Product : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) Chain A

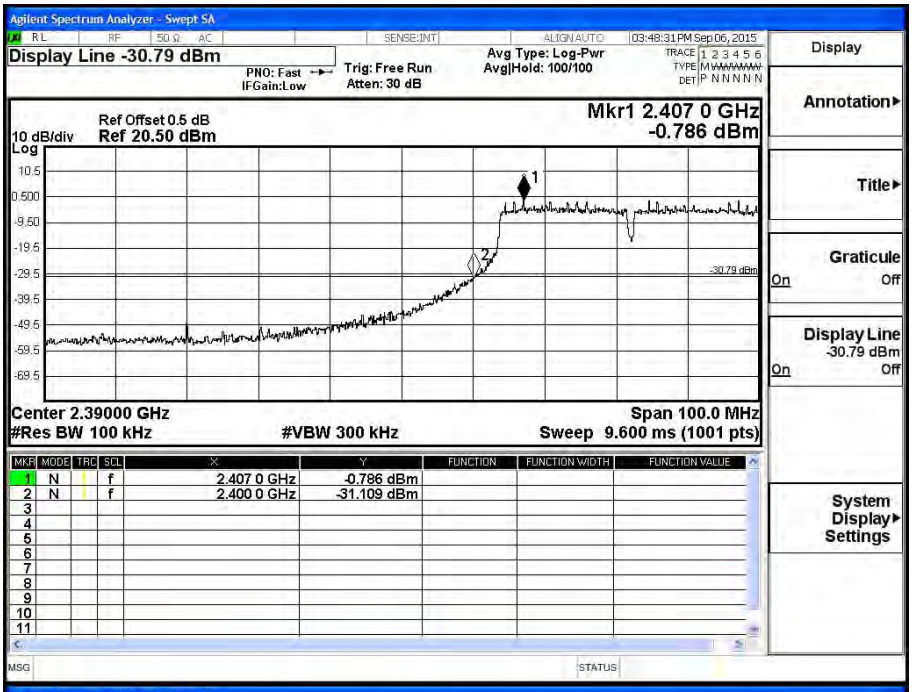
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
2422	31.54	>30	PASS
2452	44.15	>30	PASS

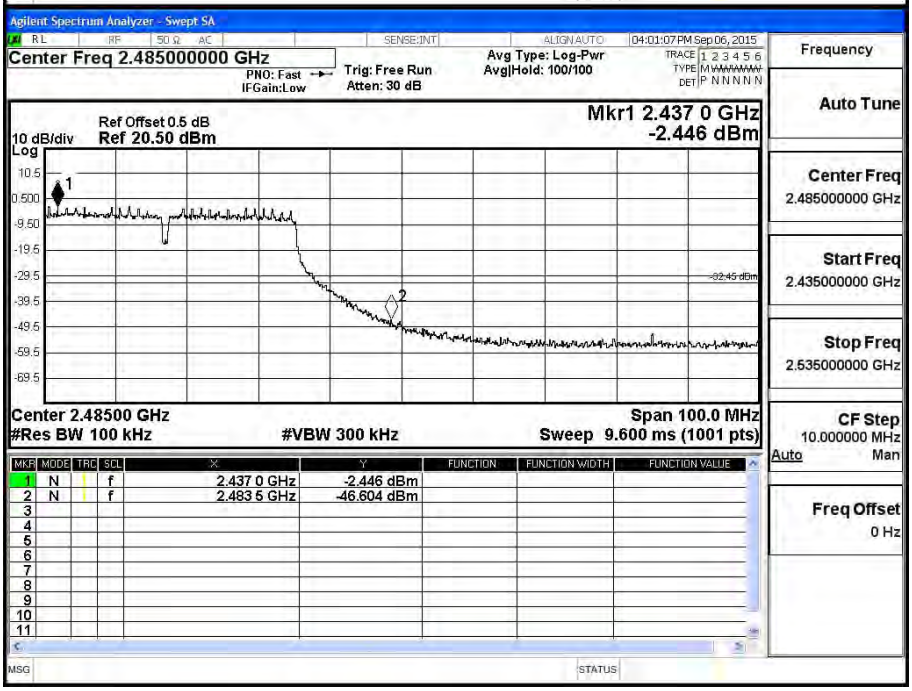




Product : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) Chain B

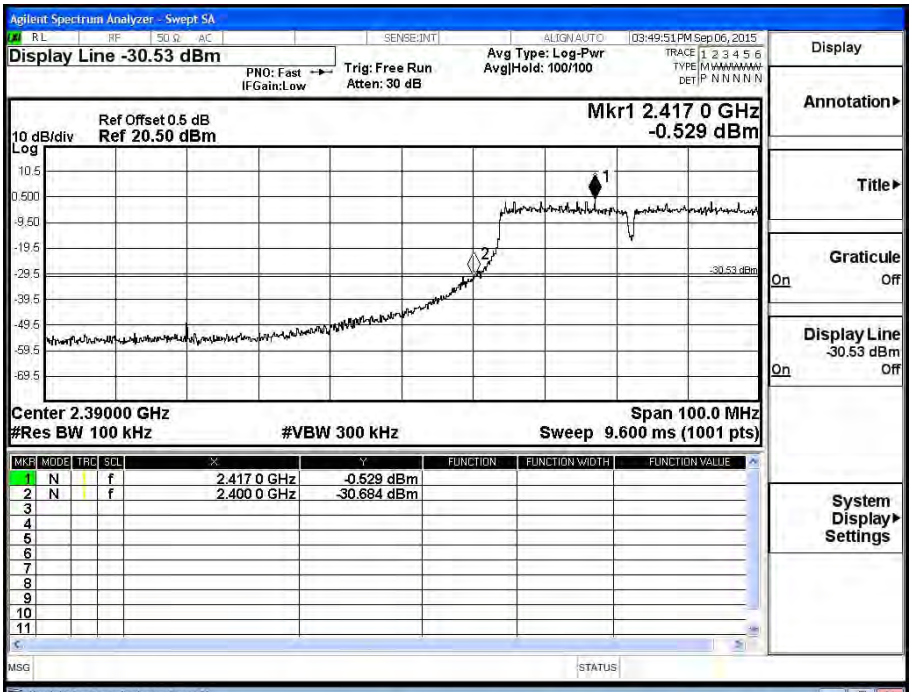
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
2422	30.32	>30	PASS
2452	44.16	>30	PASS





Product : 802.11ac Dual Band Access Point
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_45Mbps(2.4G Band) Chain C

Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
2422	30.16	>30	PASS
2452	45.96	>30	PASS



7. Occupied Bandwidth

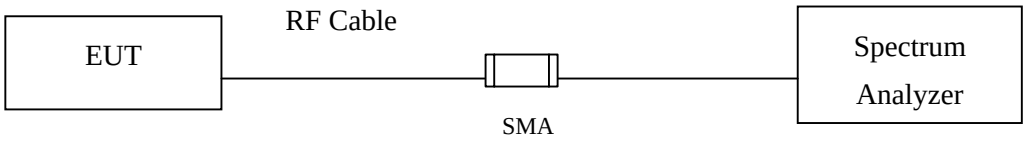
7.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2015
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2015
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

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.

7.2. Test Setup



7.3. Limits

The minimum bandwidth shall be at least 500 kHz.

7.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2014; tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

7.5. Uncertainty

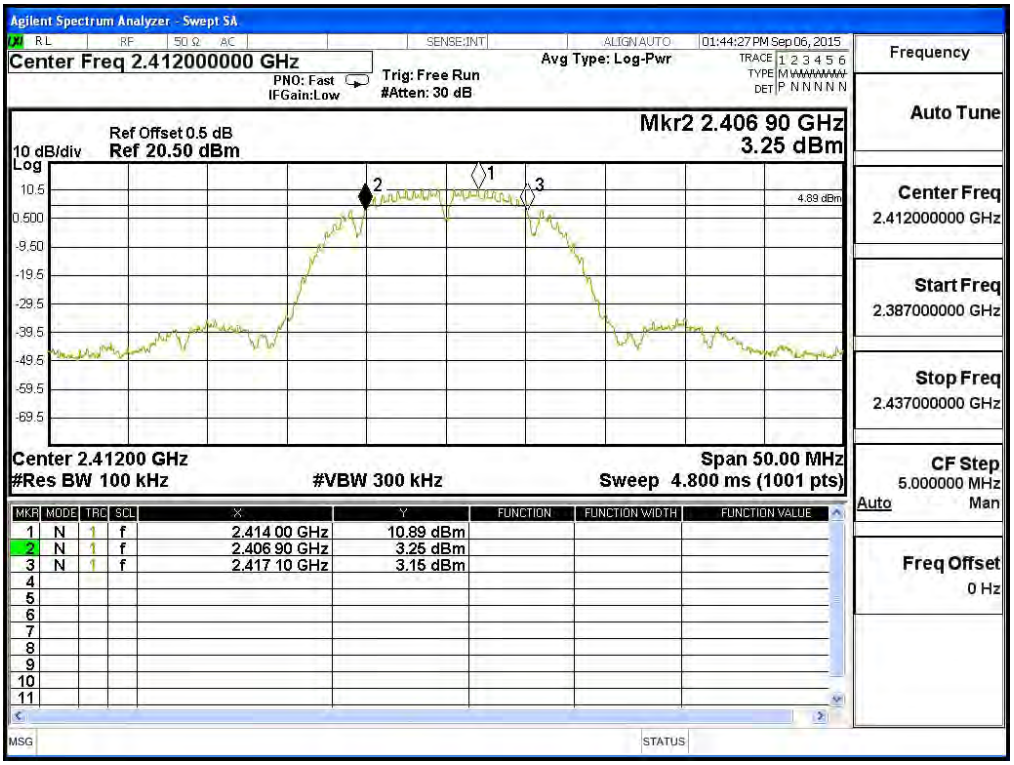
± 150Hz

7.6. Test Result of Occupied Bandwidth

Product : 802.11ac Dual Band Access Point
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

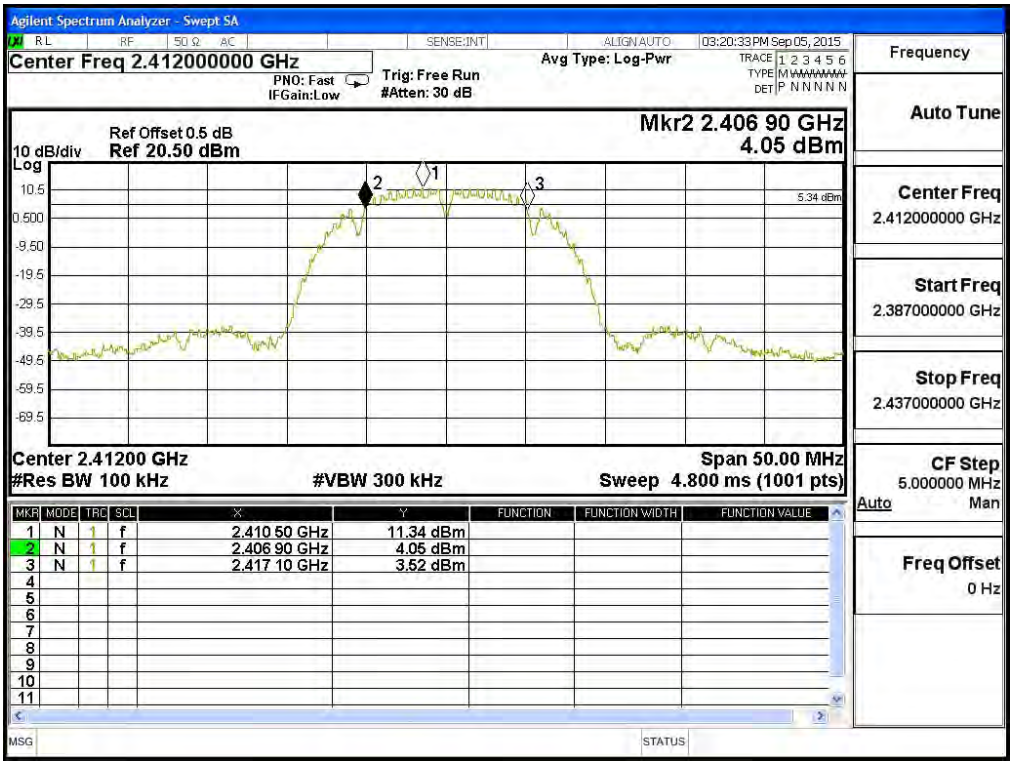
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412.00	10200	>500	Pass

Figure Channel 1: (Chain A)



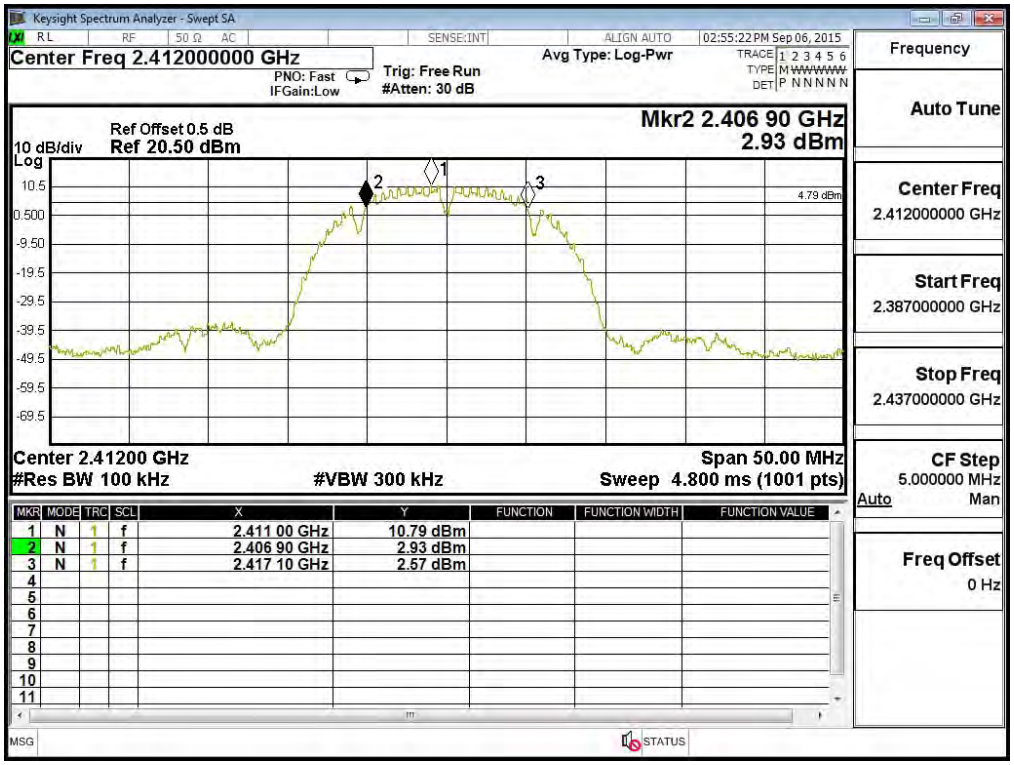
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412.00	10200	>500	Pass

Figure Channel 1: (Chain B)



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412.00	10200	>500	Pass

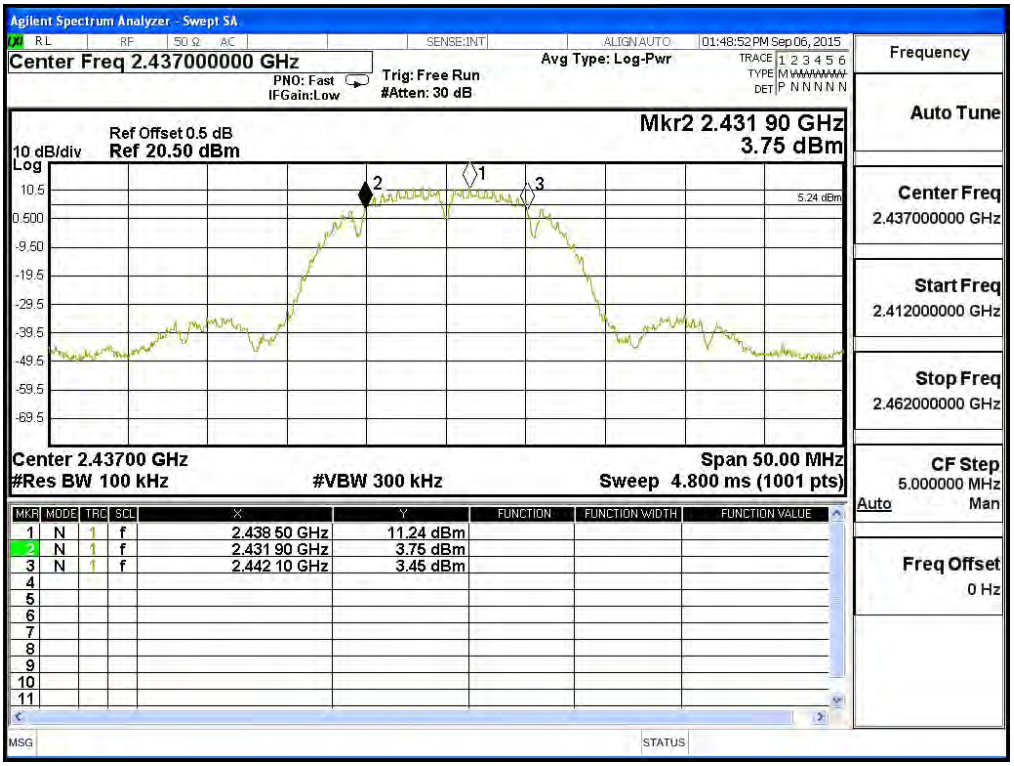
Figure Channel 1: (Chain C)



Product : 802.11ac Dual Band Access Point
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437MHz)

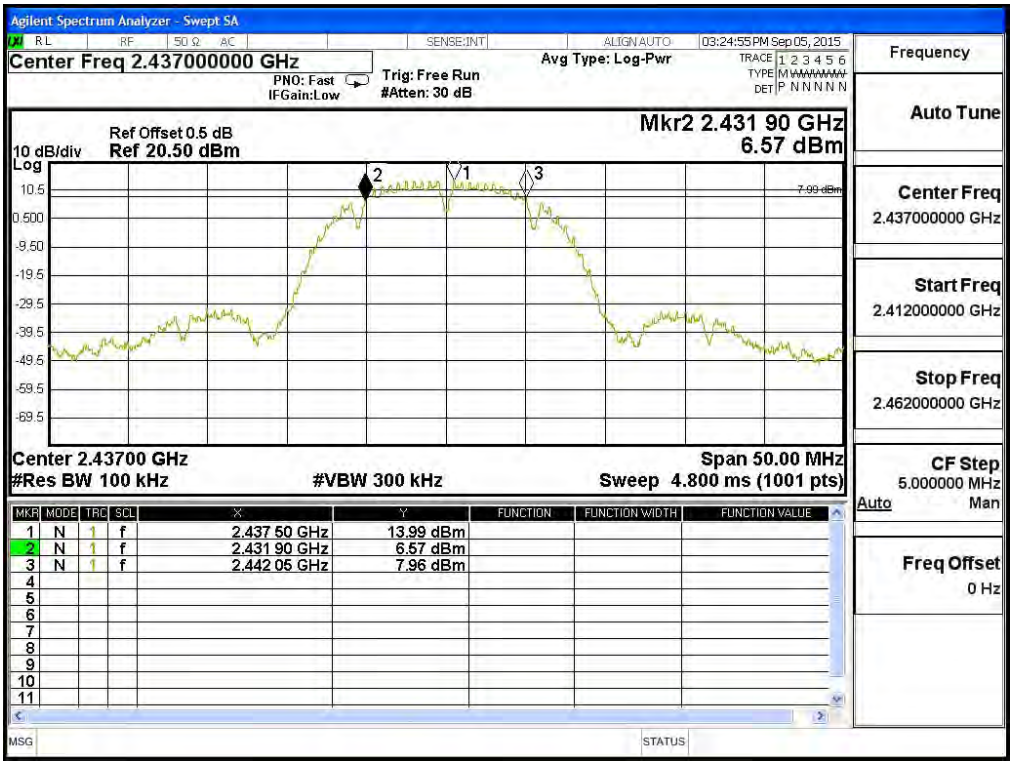
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437.00	10200	>500	Pass

Figure Channel 6: (Chain A)



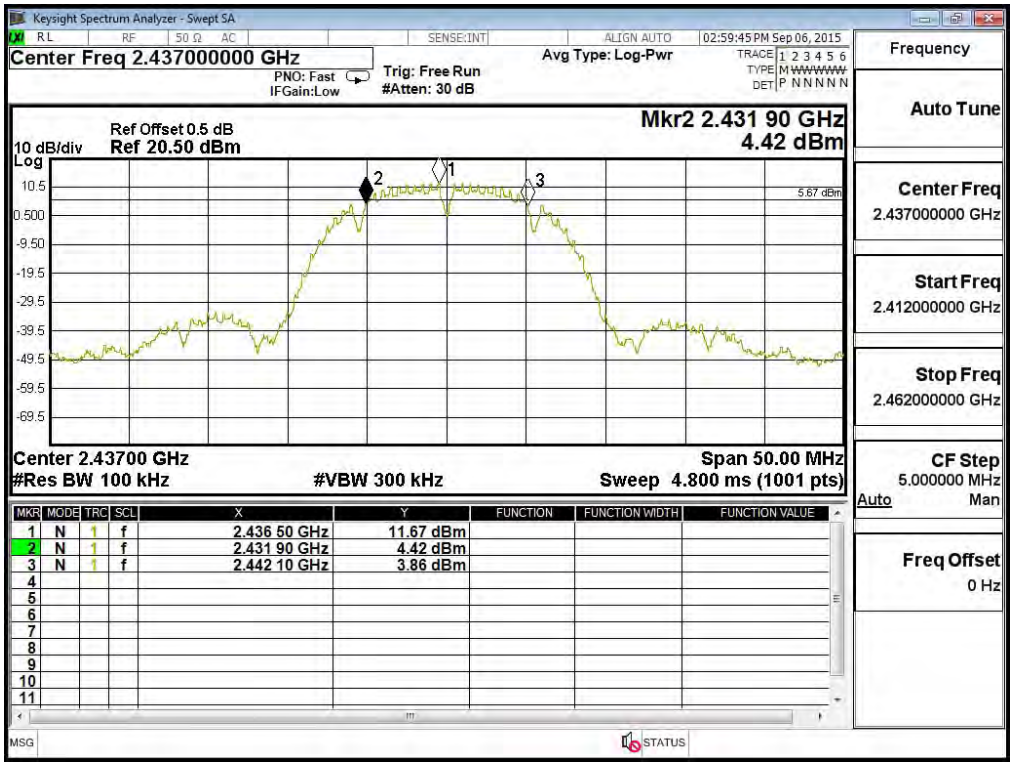
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437.00	10150	>500	Pass

Figure Channel 6: (Chain B)



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437.00	10200	>500	Pass

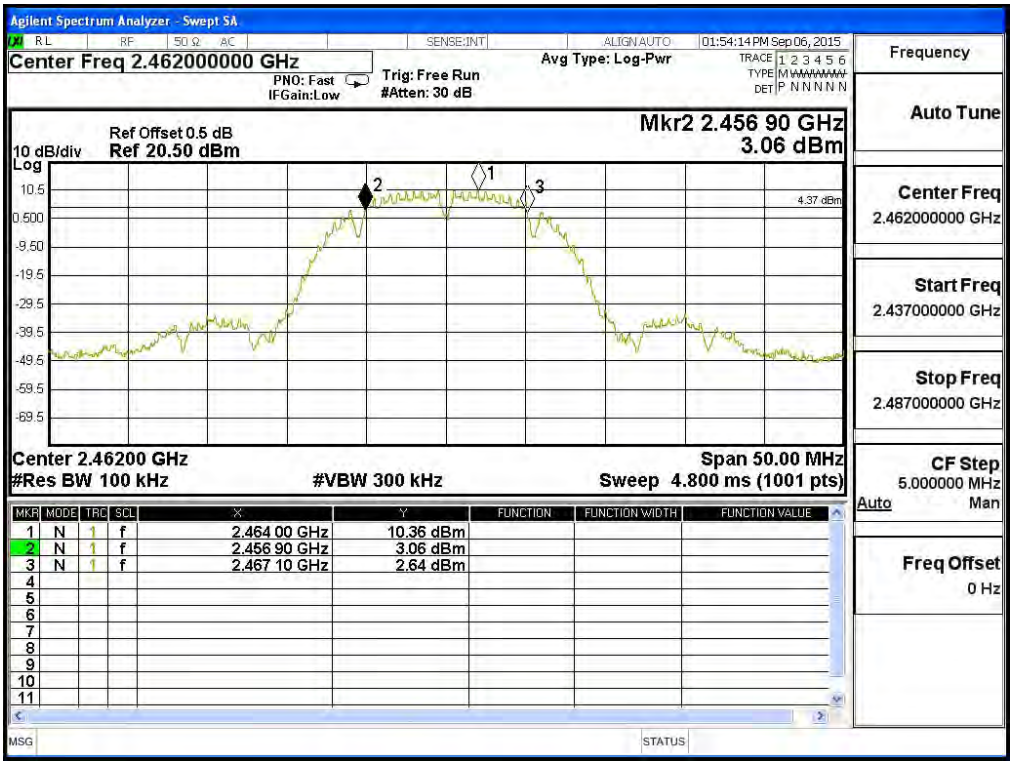
Figure Channel 6: (Chain C)



Product : 802.11ac Dual Band Access Point
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

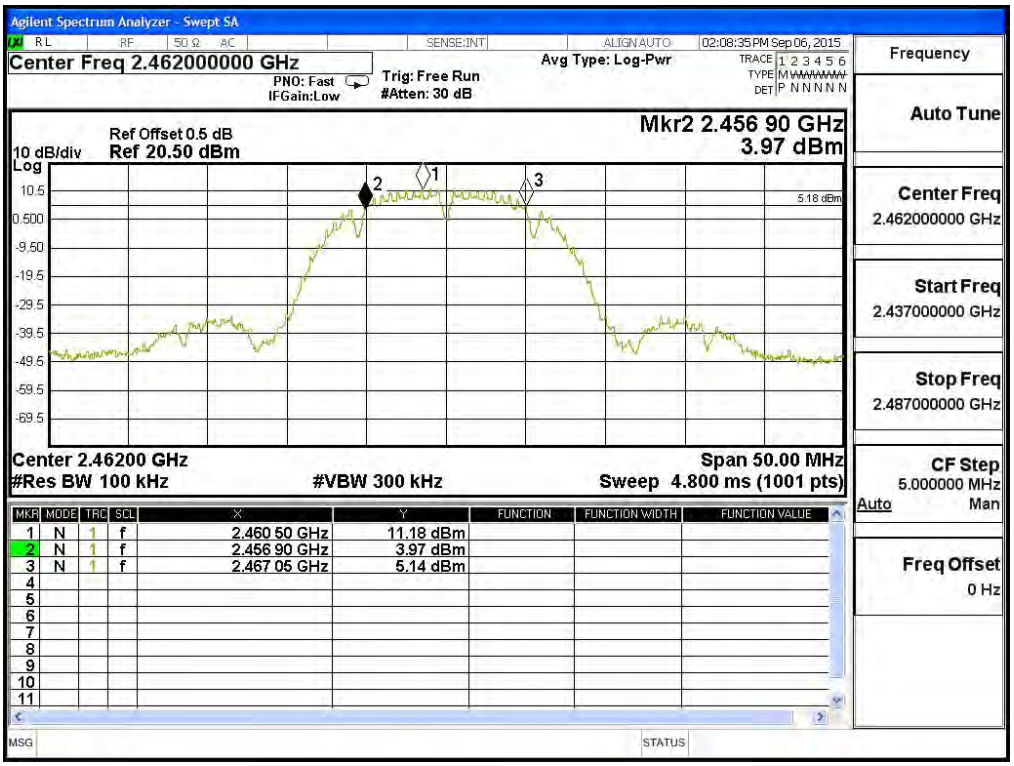
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462.00	10200	>500	Pass

Figure Channel 11: (Chain A)



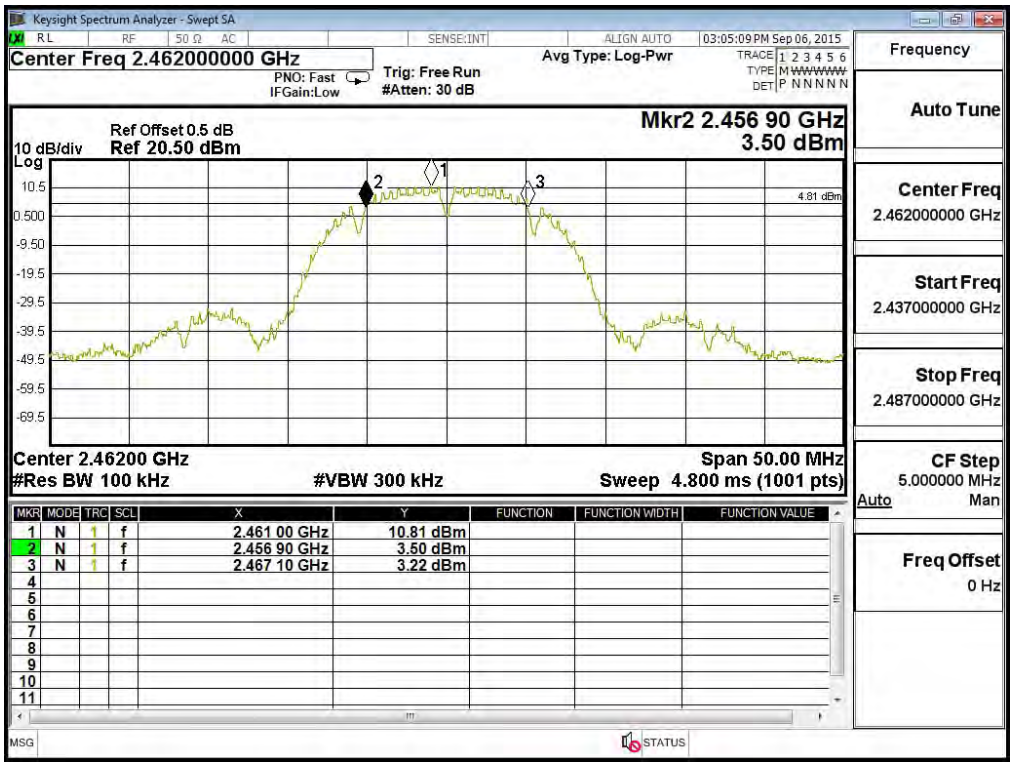
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462.00	10150	>500	Pass

Figure Channel 11: (Chain B)



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462.00	10200	>500	Pass

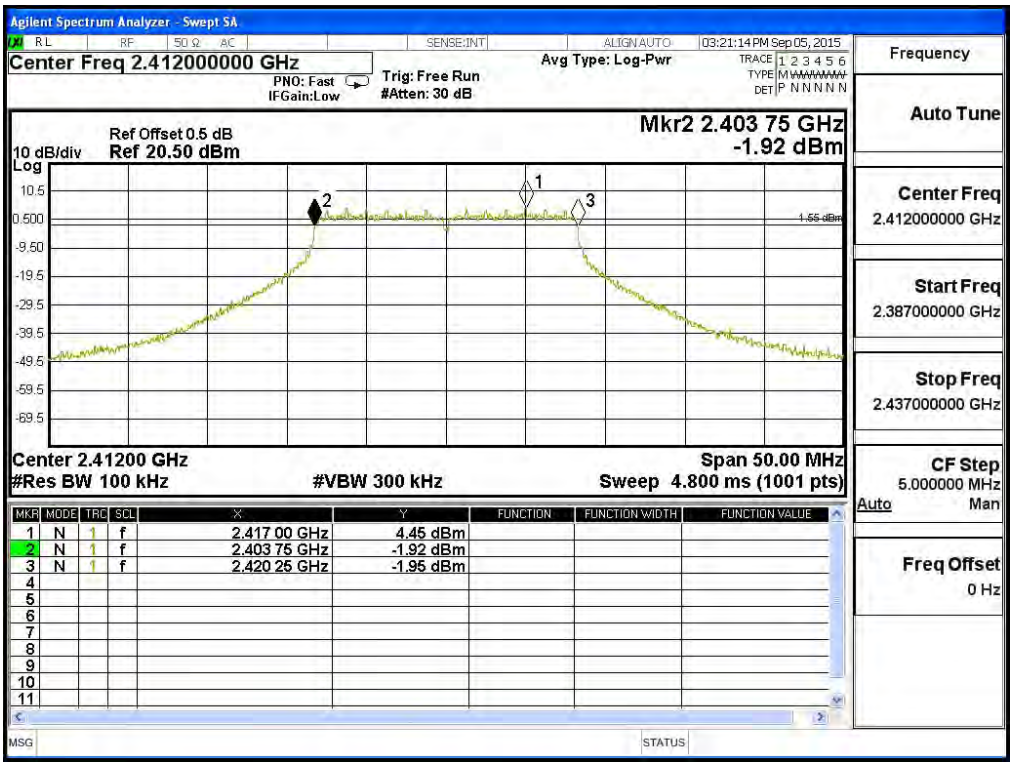
Figure Channel 11: (Chain C)



Product : 802.11ac Dual Band Access Point
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

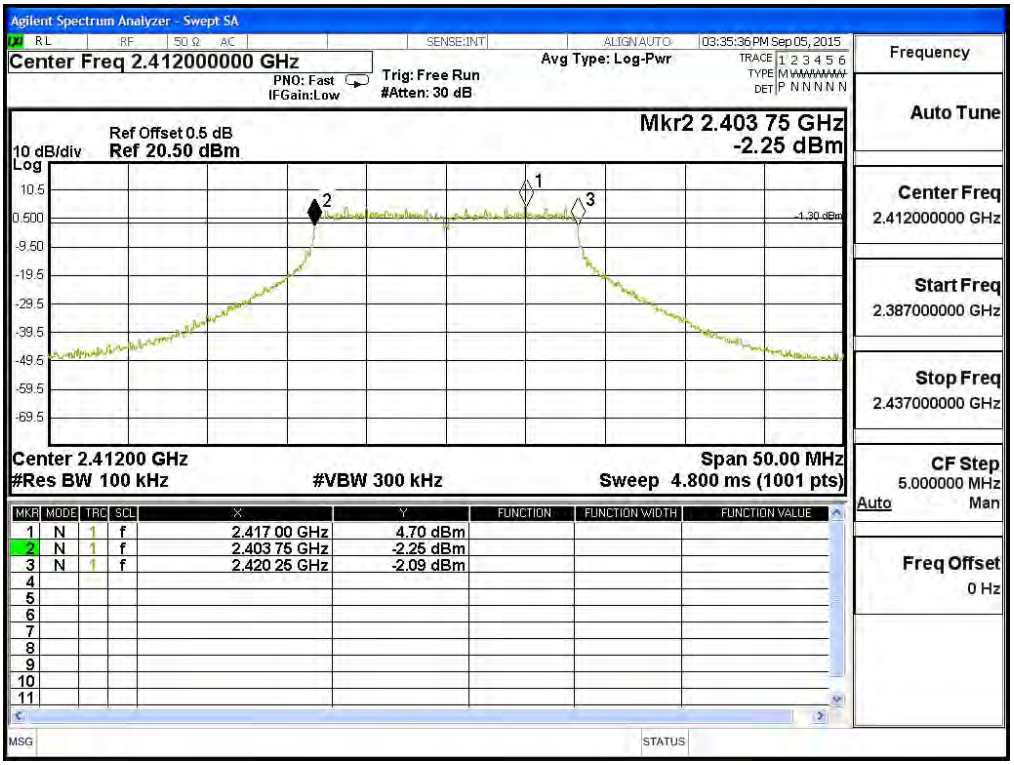
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412.00	16500	>500	Pass

Figure Channel 1: (Chain A)



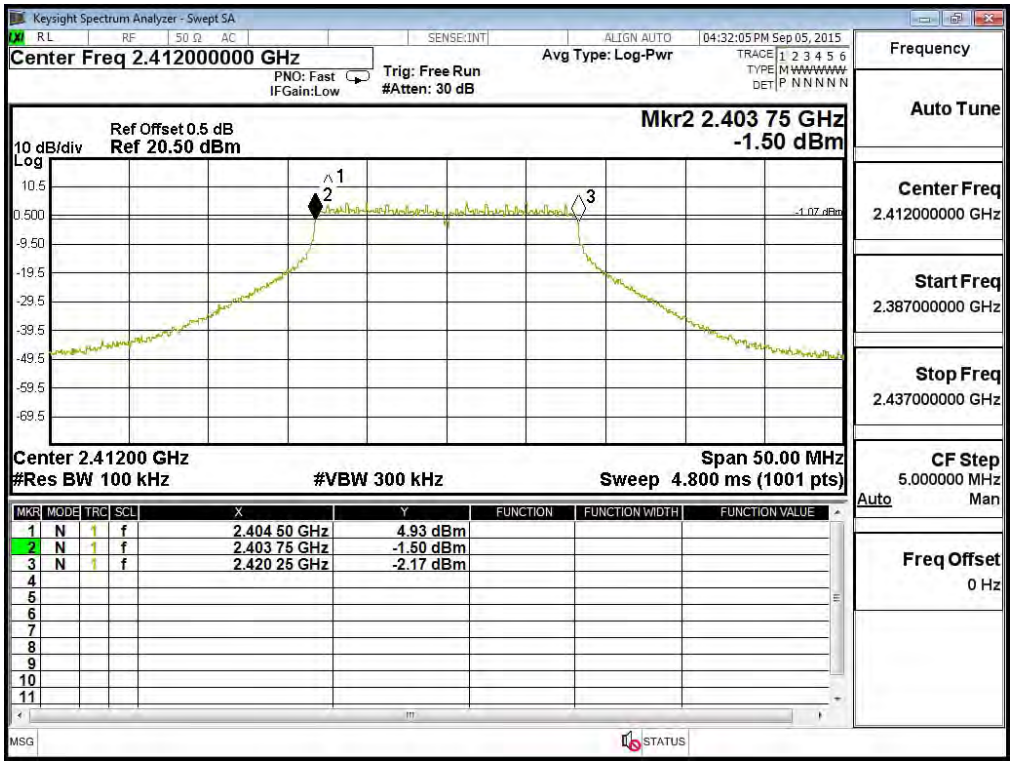
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412.00	16500	>500	Pass

Figure Channel 1: (Chain B)



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412.00	16500	>500	Pass

Figure Channel 1: (Chain C)



Product : 802.11ac Dual Band Access Point
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437.00	16500	>500	Pass

Figure Channel 6: (Chain A)