FCC Test Report
(Class II Permissive Change)

Product Name	802.11ac Dual Band Access Point
Model No	WK-1,WK-1-B,WK-1-C,WK-1-CB
FCC ID	SLY-WK1X22

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

Date of Receipt	June. 24, 2015
Issued Date	Aug. 17, 2015
Report No.	1560591R-RFUSP05V00
Report Version	V1.0

Testing Laboratory
3023

Test Report

Issued Date: Aug. 17, 2015
Report No.: 1560591R-RFUSP05V00

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-1,WK-1-B,WK-1-C,WK-1-CB
FCC ID.	SLY-WK1X22
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 E: 2014 ANSI C63.4: 2014, ANSI C63.10: 2013 789033 D02 General UNII Test Procedures New Rules v01
Test Result	Complied

Documented By : Leven Huang

(Senior Adm. Specialist / Leven Huang)

Tested By : Jerry Tsai

(Engineer / Jerry Tsai)

Approved By :

(Director / Vincent Lin)

TABLE OF CONTENTS

Description Page

1. GENERAL INFORMATION 5

1.1. EUT Description 5
1.2. Operational Description 8
1.3. Tested System Datails 9
1.4. Configuration of tested System 9
1.5. EUT Exercise Software 9
1.6. Test Facility 10

2. Conducted Emission 11

2.1. Test Equipment 11
2.2. Test Setup 11
2.3. Limits 12
2.4. Test Procedure 12
2.5. Uncertainty 12
2.6. Test Result of Conducted Emission 13

3. Maximun conducted output power 17

3.1. Test Equipment 17
3.2. Test Setup 17
3.3. Limits 18
3.4. Test Procedure 19
3.5. Uncertainty 19
3.6. Test Result of Maximum conducted output power 20

4. Peak Power Spectral Density 48

4.1. Test Equipment 48
4.2. Test Setup 48
4.3. Limits 48
4.4. Test Procedure 49
4.5. Uncertainty 49
4.6. Test Result of Peak Power Spectral Density 50

5. Radiated Emission 74

5.1. Test Equipment 74
5.2. Test Setup 74
5.3. Limits 75
5.4. Test Procedure 77
5.5. Uncertainty 77
5.6. Test Result of Radiated Emission 78

6. Band Edge 106

6.1. Test Equipment 106
6.2. Test Setup 107
6.3. Limits 108
6.4. Test Procedure 108
6.5. Uncertainty 108
6.6. Test Result of Band Edge 109

7. Frequency Stability.....132

7.1. Test Equipment.....132
7.2. Test Setup.....132
7.3. Limits.....132
7.4. Test Procedure.....132
7.5. Uncertainty.....132
7.6. Test Result of Frequency Stability.....133

8. EMI Reduction Method During Compliance Testing.....139

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
FCC ID.	SLY-WK1X22
Model No.	WK-1,WK-1-B,WK-1-C,WK-1-CB
Frequency Range	802.11a/n-20MHz: 5260-5320MHz, 5500-5700MHz 802.11n-40MHz: 5270-5310MHz, 5510-5670MHz 802.11ac-80MHz: 5290MHz, 5530-5610MHz
Number of Channels	802.11a/n-20MHz: 15, n-40MHz: 7 802.11ac-80MHz: 3
Data Rate	802.11a: 6-54Mbps, 802.11n: up to 300Mbps 802.11ac-80MHz: up to 866.7MHz
Type of Modulation	802.11a/n:OFDM, BPSK, QPSK, 16QAM, 64QAM, 256QAM
Antenna type	PIFA Antenna
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto
LAN Cable	Non-Shielded, 1.8m
Power Adapter	MFR: Asian Power Devices, M/N: WB-18D12FU Input: AC 100-240V, 50-60Hz ,0.5A Output: DC 12V⎓1.5A Cable out: Non-Shielded, 1.8m

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Lite-On	30100006566D	PIFA Antenna	5.0dBi for 5.250-5.350 GHz
		30100006716D		5.6dBi for 5.470-5.725 GHz

Note: The antenna of EUT is conform to FCC 15.203

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

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 52:	5260 MHz	Channel 56:	5280 MHz	Channel 60:	5300 MHz	Channel 64:	5320 MHz
Channel 100:	5500 MHz	Channel 104:	5520 MHz	Channel 108:	5540 MHz	Channel 112:	5560 MHz
Channel 116:	5580 MHz	Channel 120:	5600 MHz	Channel 124:	5620 MHz	Channel 128:	5640 MHz
Channel 132:	5660 MHz	Channel 136:	5680 MHz	Channel 140:	5700 MHz		

802.11n-40MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 54:	5270 MHz	Channel 62:	5310 MHz	Channel 102:	5510 MHz	Channel 110:	5550 MHz
Channel 118:	5590 MHz	Channel 126:	5630 MHz	Channel 134:	5670 MHz		

802.11ac-80MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 58:	5290 MHz	Channel 106:	5530 MHz	Channel 122:	5610 MHz

Note:

1. This device is a 802.11ac Dual Band Access Point with a built-in 5GHz WLAN transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. At result of pretests, module supports dual-channel transmission, only the worst case is shown in the report. (802.11a is chain A、802.11n and 802.11ac is chain A+chain B)
4. The different of the each model is shown as below:

Model Number	Description
WK-1	White
WK-1-B	Black
WK-1-C	Circular case ,White
WK-1-CB	Circular case ,Black

5. This is to request a Class II permissive change for FCC ID: SLY-WK1X22, originally granted on 04/14/2015.

   The differences are listed as below:

   Change # 1: Original grant compliance band 1 and bans 3, this C2PC is add the frequency band of band 2a and band 2C by software.

   Change # 2: All other hardware is identical with original granted.
6. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11a is 6Mbps、802.11n(20M-BW) is 14.4Mbps、802.11n(40M-BW) is 30Mbps、802.11ac(20M-BW) is 14.4Mbps、802.11ac(40M-BW) is 30Mbps and 802.11ac(80M-BW) is 65Mbps)
7. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart E for Unlicensed National Information Infrastructure devices.
8. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

Test Mode	Mode 1: Transmit (802.11a-6Mbps)
	Mode 2: Transmit (802.11n-20BW 14.4Mbps)
	Mode 3: Transmit (802.11n-40BW 30Mbps)
	Mode 6 Transmit (802.11ac-80BW-65Mbps)

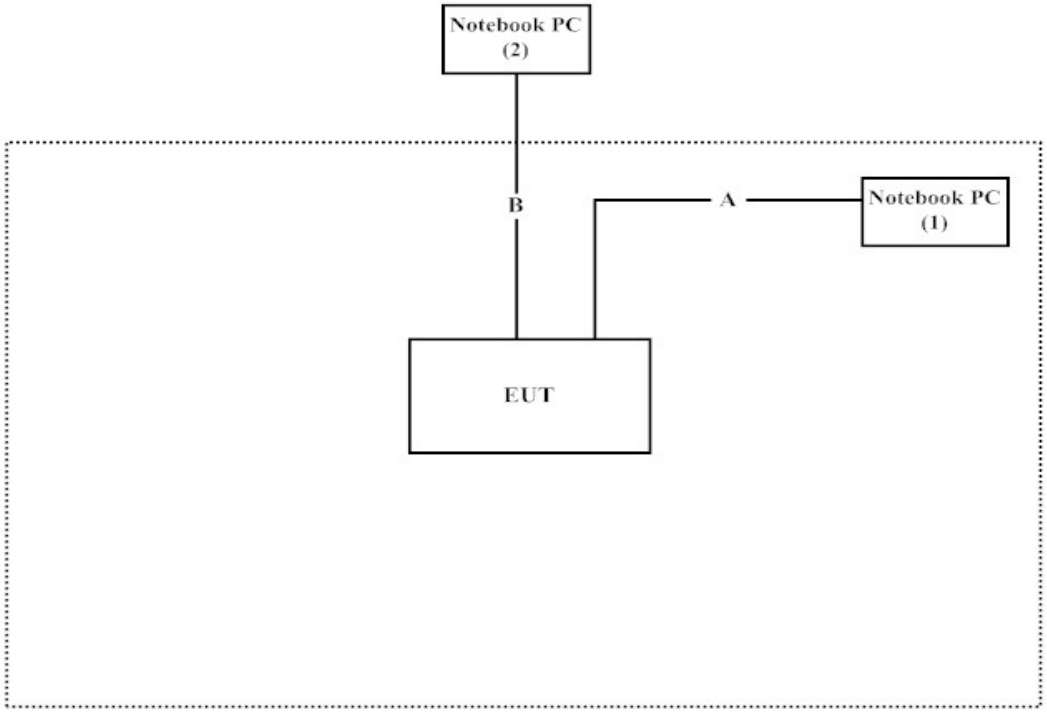
1.3. Tested System Datails

List of support equipment and cables used during testing:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	PPT	N/A	Non-Shielded, 1.8m
2	Notebook PC	DELL	PPT	N/A	Non-Shielded, 1.8m

Signal Cable Type		Signal cable Description
A	LAN Cable	Non-Shielded, 1.8m
B	LAN Cable	Non-Shielded, 1.8m

1.4. Configuration of tested System



1.5. EUT Exercise Software

(1) Setup the EUT as shown on 1.4
(2) Execute “ART2 GUI-V2.3” program on the Notebook PC.
(3) Configure the test mode, the test channel, and the data rate.
(4) Start the continuous transmission.
(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 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, Ruishukeng,
Linkou Dist. New Taipei City 24451,
Taiwan, R.O.C.
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

FCC Accreditation Number: TW1014

2. Conducted Emission

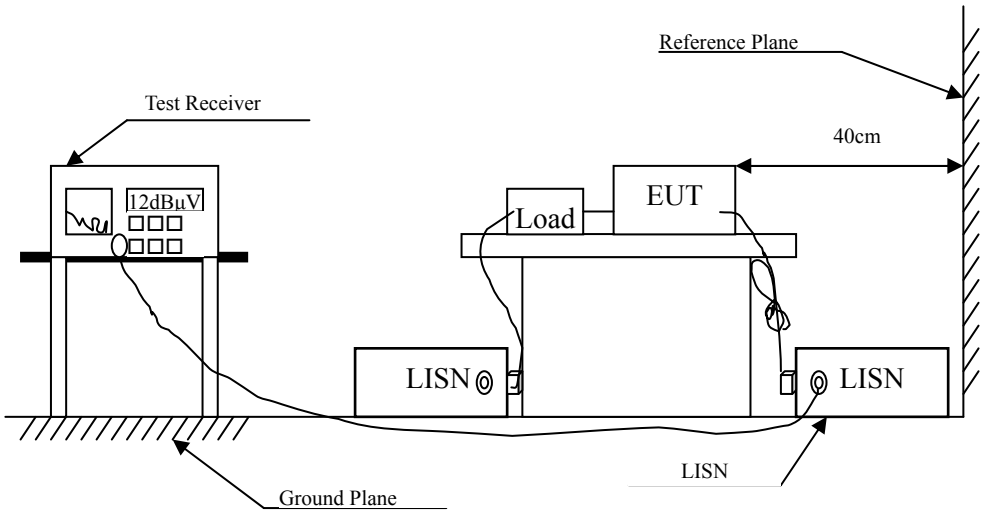
2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
X	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2014	
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 equipment is calibrated once a year or as required by manufacturer.
2. All equipment is calibrated to traceable calibration procedures.
3. 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 (dBμV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks : In the above table, the tighter limit applies at the band edges.

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 C63.10:2013 on conducted measurement.
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.
The EUT was setup to ANSI C63.4, 2014; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

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 6 Transmit (802.11ac-80BW-65Mbps) (5290MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 1					
Quasi-Peak					
0.154	9.670	36.550	46.220	-19.666	65.886
0.185	9.661	32.590	42.251	-22.749	65.000
0.548	9.679	32.510	42.189	-13.811	56.000
1.584	9.746	21.150	30.896	-25.104	56.000
2.377	9.784	22.100	31.884	-24.116	56.000
19.298	10.055	11.120	21.175	-38.825	60.000
Average					
0.154	9.670	24.810	34.480	-21.406	55.886
0.185	9.661	22.480	32.141	-22.859	55.000
0.548	9.679	30.460	40.139	-5.861	46.000
1.584	9.746	15.740	25.486	-20.514	46.000
2.377	9.784	14.650	24.434	-21.566	46.000
19.298	10.055	1.060	11.115	-38.885	50.000

Note:

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

Product : 802.11ac Dual Band Access Point
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 6 Transmit (802.11ac-80BW-65Mbps) (5290MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 2					
Quasi-Peak					
0.154	9.670	35.610	45.280	-20.606	65.886
0.185	9.661	30.820	40.481	-24.519	65.000
0.548	9.679	31.500	41.179	-14.821	56.000
1.982	9.768	22.220	31.988	-24.012	56.000
2.345	9.783	22.950	32.733	-23.267	56.000
18.357	10.167	13.250	23.417	-36.583	60.000
Average					
0.154	9.670	22.010	31.680	-24.206	55.886
0.185	9.661	18.880	28.541	-26.459	55.000
0.548	9.679	29.360	39.039	-6.961	46.000
1.982	9.768	15.110	24.878	-21.122	46.000
2.345	9.783	14.920	24.703	-21.297	46.000
18.357	10.167	3.900	14.067	-35.933	50.000

Note:

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

Product : 802.11ac Dual Band Access Point
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 6 Transmit (802.11ac-80BW-65Mbps) (5530MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 1					
Quasi-Peak					
0.154	9.670	36.450	46.120	-19.766	65.886
0.181	9.662	33.540	43.202	-21.912	65.114
0.548	9.679	32.530	42.209	-13.791	56.000
1.560	9.745	21.730	31.475	-24.525	56.000
1.990	9.768	22.140	31.908	-24.092	56.000
18.412	10.047	11.560	21.607	-38.393	60.000
Average					
0.154	9.670	24.610	34.280	-21.606	55.886
0.181	9.662	23.530	33.192	-21.922	55.114
0.548	9.679	30.520	40.199	-5.801	46.000
1.560	9.745	15.170	24.915	-21.085	46.000
1.990	9.768	14.660	24.428	-21.572	46.000
18.412	10.047	1.560	11.607	-38.393	50.000

Note:

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

Product : 802.11ac Dual Band Access Point
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 6 Transmit (802.11ac-80BW-65Mbps) (5530MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 2					
Quasi-Peak					
0.154	9.670	35.570	45.240	-20.646	65.886
0.181	9.662	31.730	41.392	-23.722	65.114
0.548	9.679	31.520	41.199	-14.801	56.000
1.529	9.743	19.990	29.733	-26.267	56.000
2.033	9.770	21.510	31.280	-24.720	56.000
18.623	10.169	11.470	21.639	-38.361	60.000
Average					
0.154	9.670	22.190	31.860	-24.026	55.886
0.181	9.662	19.830	29.492	-25.622	55.114
0.548	9.679	29.400	39.079	-6.921	46.000
1.529	9.743	12.950	22.693	-23.307	46.000
2.033	9.770	14.020	23.790	-22.210	46.000
18.623	10.169	4.180	14.349	-35.651	50.000

Note:

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

3. Maximun conducted output power

3.1. Test Equipment

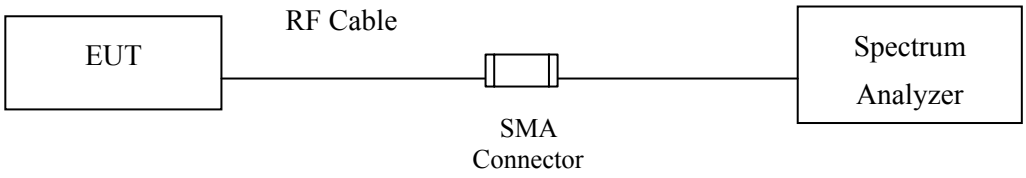
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2015
X	Power Sensor	Anritsu	MA2411B/0738448	Jun., 2015
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

Note:

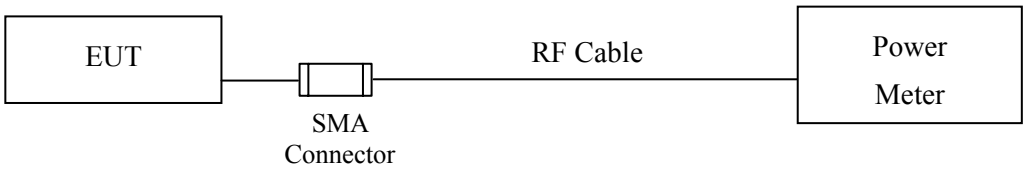
1. All equipment is calibrated once a year or as required by manufacturer.
2. All equipment is calibrated to traceable calibration procedures.
3. The test instruments marked with "X" are used to measure the final test results.

3.2. Test Setup

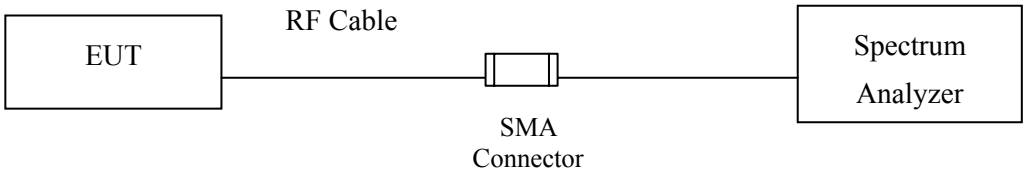
26dBc Occupied Bandwidth



Conduction Power Measurement (for 802.11an)



Conduction Power Measurement (for 802.11ac)



3.3. Limits

3.3.1. For the band 5.15-5.25 GHz,

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-topoint U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.3. For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any

corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

3.4. Test Procedure

As an alternative to FCC KDB-789033, the EUT maximum conducted output power was measured with an average power meter employing a video bandwidth greater the 6dB BW of the emission under test. Maximum conducted output power was read directly from the meter across all data rates, and across three channels within each sub-band. Special care was used to make sure that the EUT was transmitting in continuous mode. This method exceeds the limitations of FCC KDB-789033, and provides more accurate measurements.

802.11an (BW≦40MHz) Maximum conducted output power using KDB 789033 section E)3)b) Method PM-G (Measurement using a gated RF average power meter)
Note: the power meter have a video bandwidth that is greater than or equal to the measurement bandwidth, (Anritsu/ MA2411B video bandwidth: 65MHz)

802.11ac (BW=80MHz) Maximum conducted output power using KDB 789033 section E)2)b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep).

When transmitted signals consist of two or more non-contiguous spectrum segments (e.g., 80+80 MHz mode) or when a single spectrum segment of a transmission crosses the boundary between two adjacent U-NII bands, KDB 644545 D01 section F) procedure is used for measurements.

3.5. Uncertainty

± 1.27 dB

3.6. Test Result of Maximum conducted output power

Product : 802.11ac Dual Band Access Point
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Chain A

Cable loss=1dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
		Measurement Level (dBm)							
52	5260	18.31	--	--	--	--	--	--	--
60	5300	18.23	18.11	17.99	17.87	17.75	17.63	17.51	17.39
64	5320	18.95	--	--	--	--	--	--	--
100	5500	17.93	--	--	--	--	--	--	--
116	5580	18.14	18.02	17.9	17.78	17.66	17.54	17.42	17.31
140	5700	16.66	--	--	--	--	--	--	--

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Chain B

Cable loss=1dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
		Measurement Level (dBm)							
52	5260	18.64	--	--	--	--	--	--	--
60	5300	18.46	18.32	18.18	18.04	17.9	17.76	17.62	17.48
64	5320	19.26	--	--	--	--	--	--	--
100	5500	18.2	--	--	--	--	--	--	--
116	5580	18.57	18.42	18.27	18.12	17.97	17.82	17.67	17.52
140	5700	16.35	--	--	--	--	--	--	--

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

(Chain A+ B) (High power):

Channel Number	Frequency	99% Bandwidth	Chain A Power	Chain B Power	Output Power	Output Power Limit	
	(MHz)	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	dBm+10log(BW)
52	5260	17.473	18.31	18.64	21.49	24	23.42
60	5300	17.458	18.23	18.46	21.36	24	23.42
64	5320	17.398	18.95	19.26	22.12	24	23.40
100	5500	17.408	17.93	18.20	21.08	24	23.41
116	5580	17.438	18.14	18.57	21.37	24	23.41
140	5700	17.457	16.66	16.35	19.52	24	23.42

Note:

1. Power Output Value =Reading value on average power meter + cable loss.
2. Output Power (dBm) = 10LOG (Chain A Power (mW) + Chain B Power (mW)).
3. 99% Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.

Maximum conducted output power Measurement:

(Chain A+ B) (Low power):

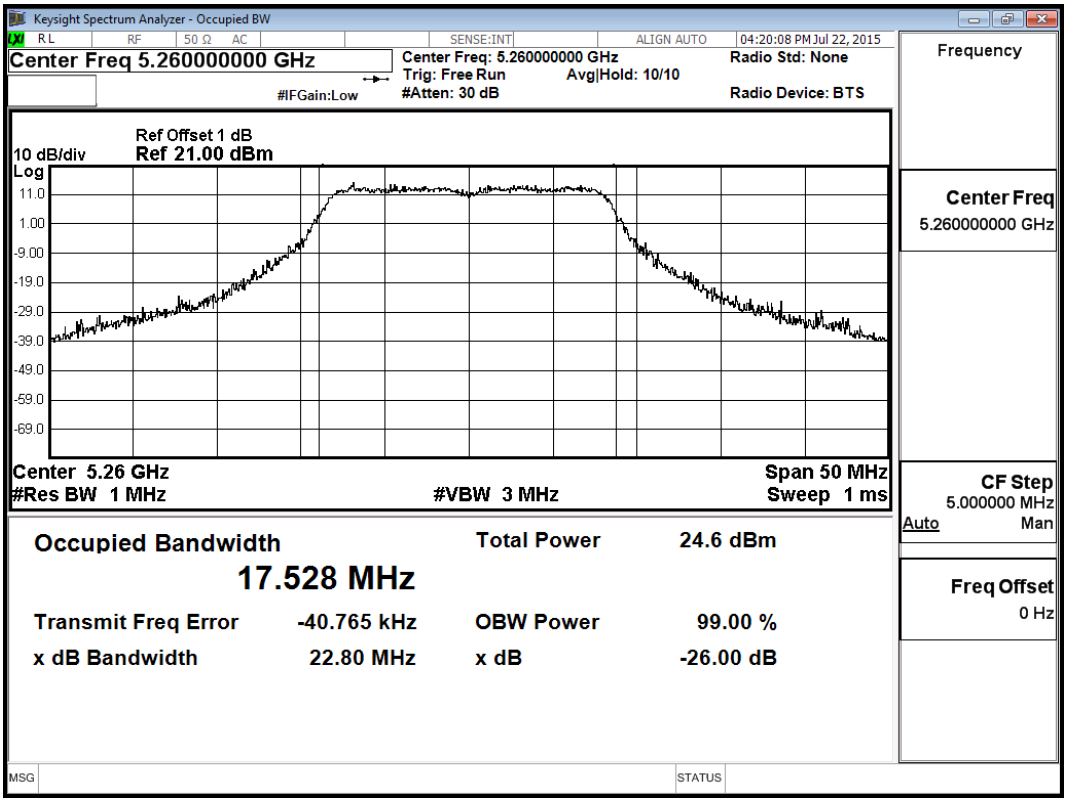
Channel Number	Frequency	Chain A Power	Chain B Power	Output Power	Antenna Gain	EIRP	EIRP Limit
	(MHz)	(dBm)	(dBm)	(dBm)	(dBi)	(dBm)	(dBm)
52	5260	11.29	11.58	14.45	5.0	19.45	24
60	5300	11.29	11.38	14.35	5.0	19.35	24
64	5320	11.84	12.10	14.98	5.0	19.98	24
100	5500	10.87	11.10	14.00	5.6	19.60	24
116	5580	11.03	11.59	14.33	5.6	19.93	24
140	5700	9.62	9.47	12.56	5.6	18.16	24

Note:

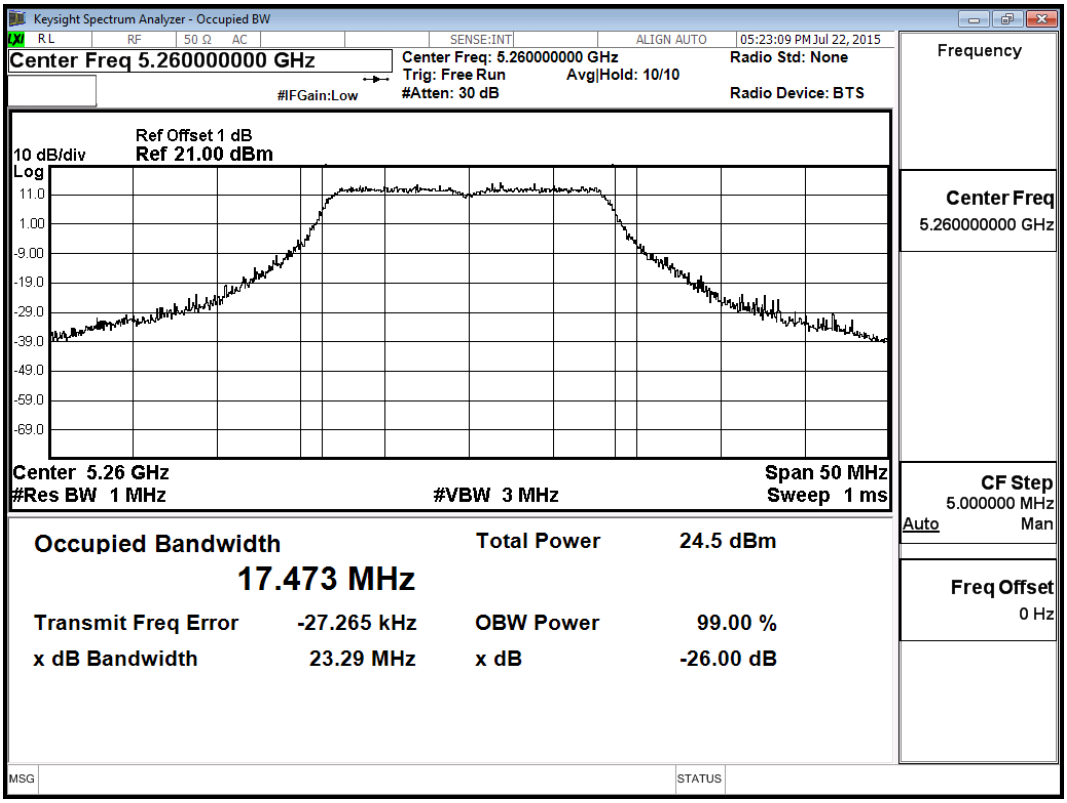
1. Power Output Value =Reading value on average power meter + cable loss.
2. Output Power (dBm) = 10LOG (Chain A Power (mW) + Chain B Power (mW)).
3. The EUT employ a TPC mechanism and the device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm.

99% Occupied Bandwidth:

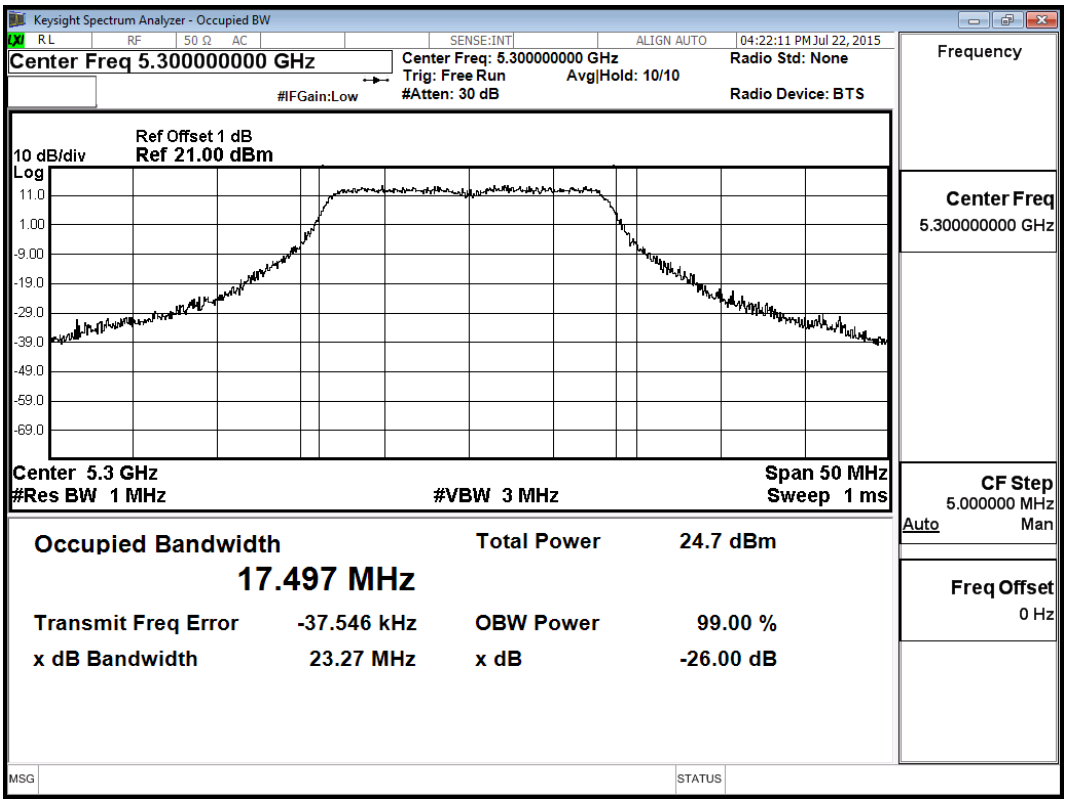
Channel 52: Chain A



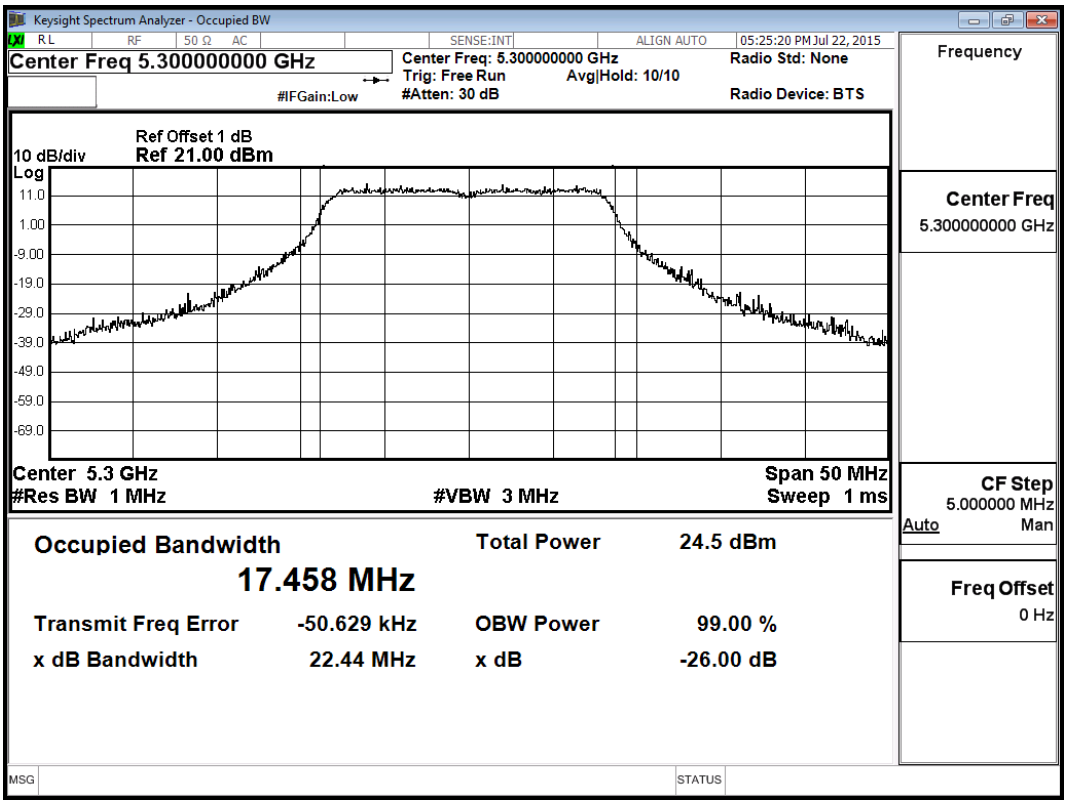
Channel 52: Chain B



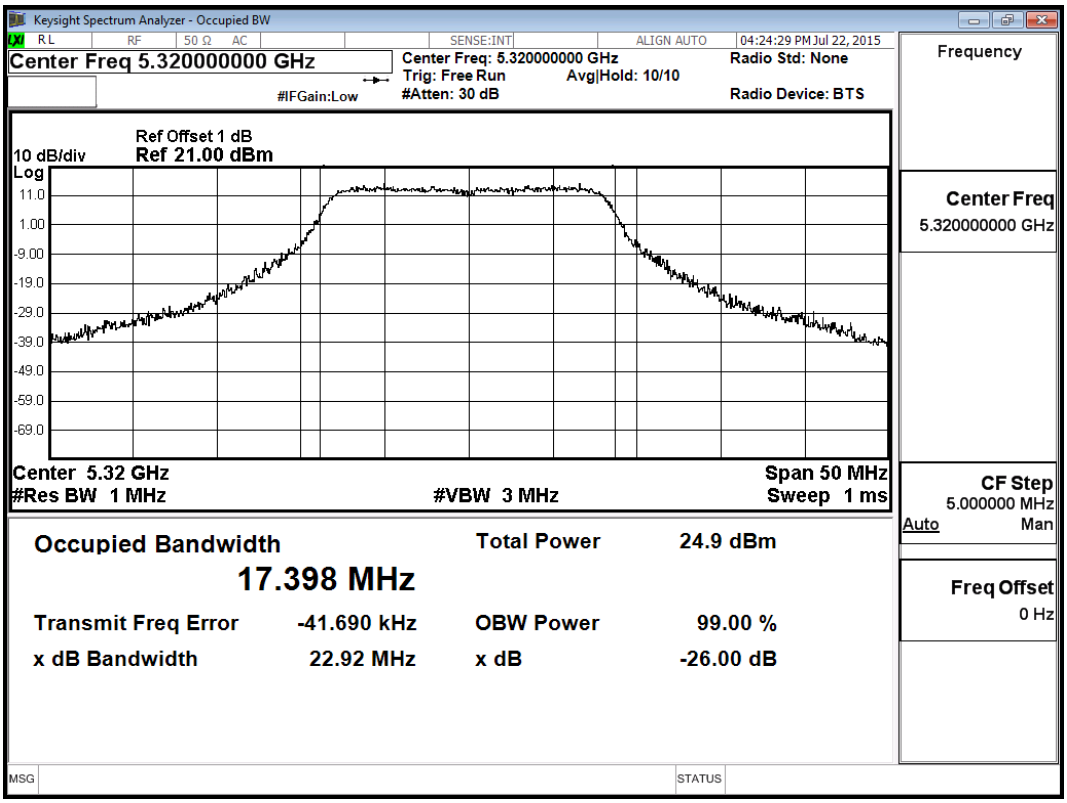
Channel 60: Chain A



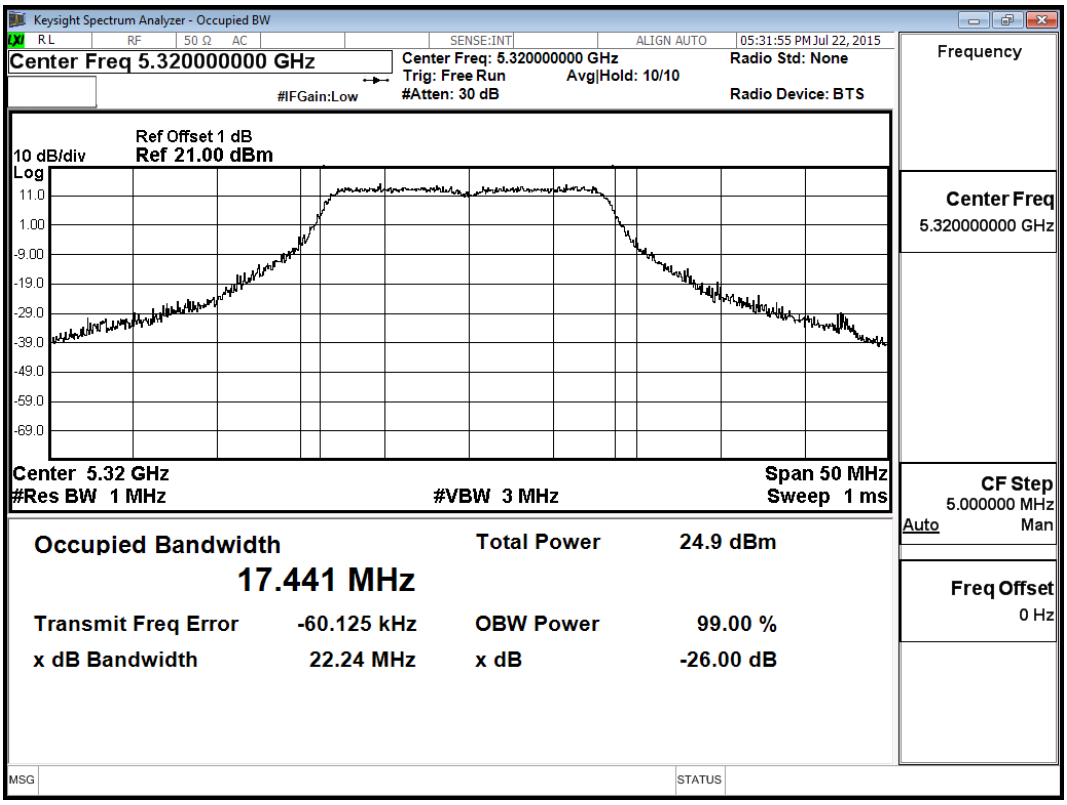
Channel 60: Chain B



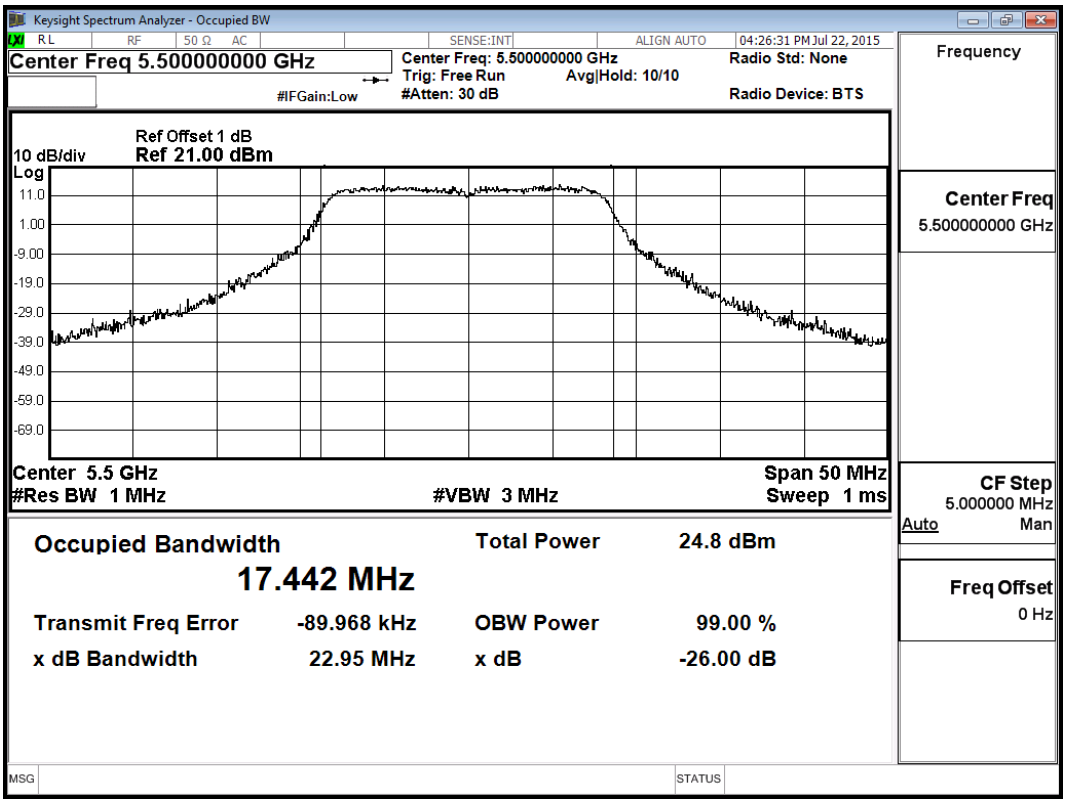
Channel 64: Chain A



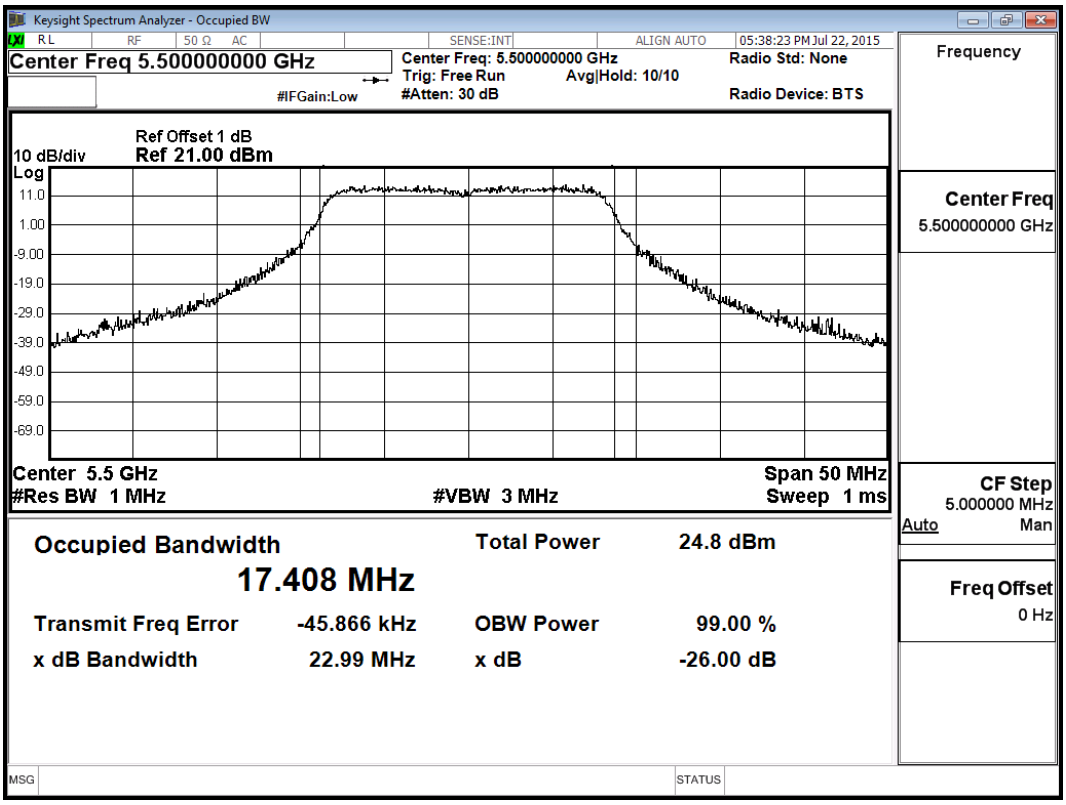
Channel 64: Chain B



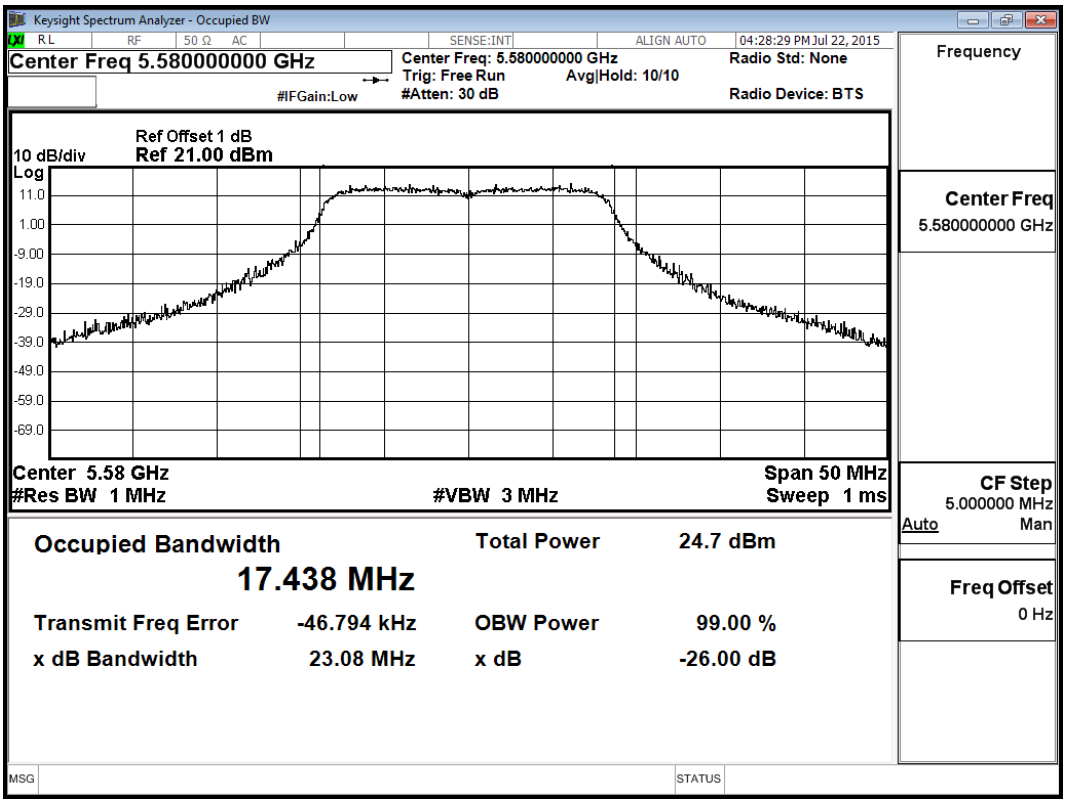
Channel 100: Chain A



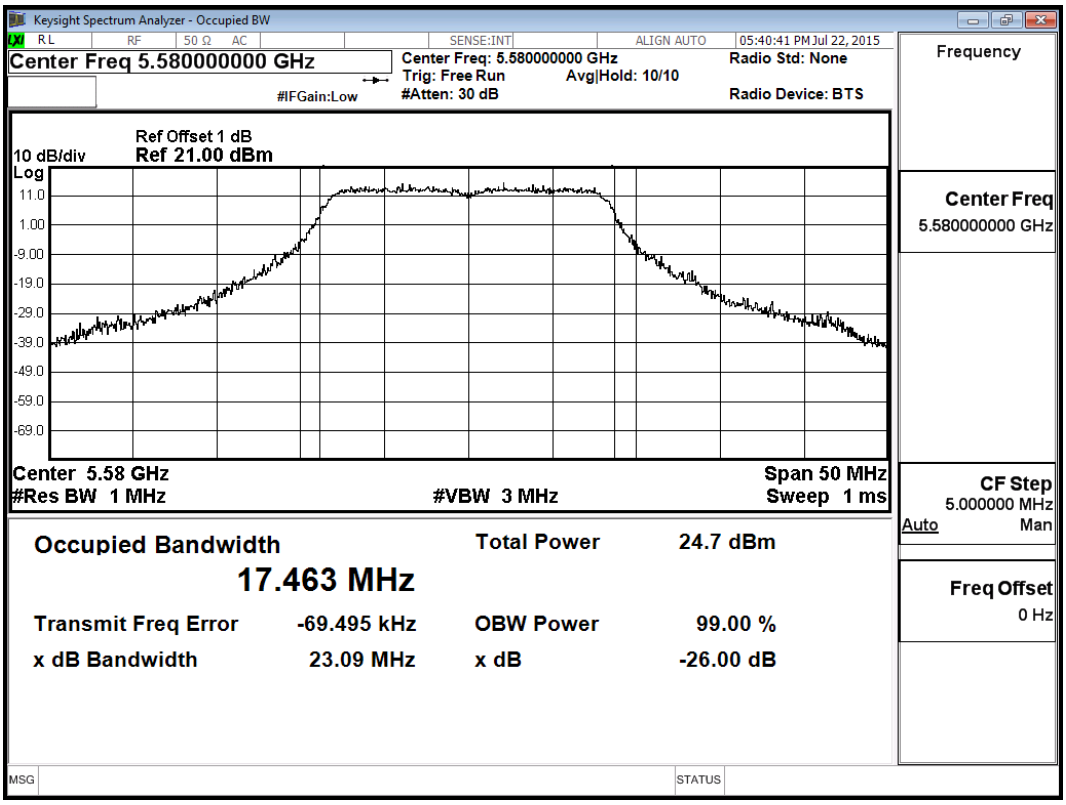
Channel 100: Chain B



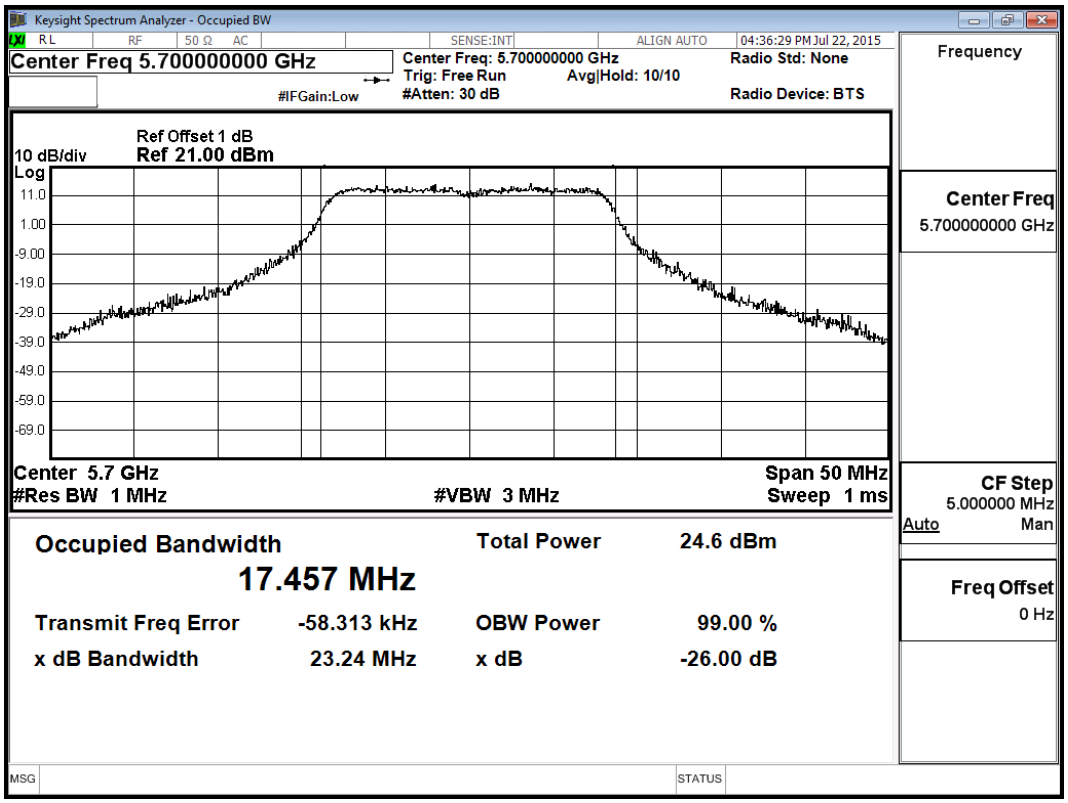
Channel 116: Chain A



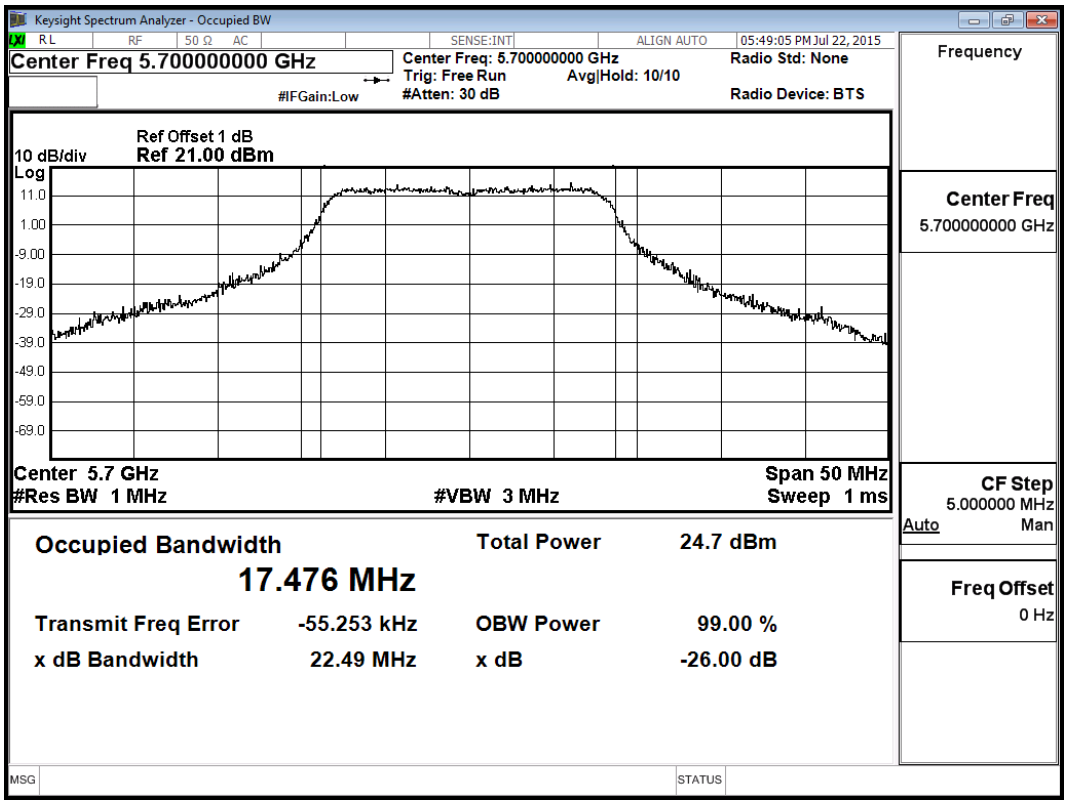
Channel 116: Chain B



Channel 140: Chain A



Channel 140: Chain B



Product : 802.11ac Dual Band Access Point
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)

Chain A

Cable loss=1dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4
		Measurement Level (dBm)							
52	5260	18.38	--	--	--	--	--	--	--
60	5300	18.17	18.04	17.91	17.78	17.65	17.52	17.39	17.26
64	5320	18.88	--	--	--	--	--	--	--
100	5500	17.95	--	--	--	--	--	--	--
116	5580	18.24	18.12	18	17.88	17.76	17.64	17.52	17.4
140	5700	16.69	--	--	--	--	--	--	--

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Chain B

Cable loss=1dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4
		Measurement Level (dBm)							
52	5260	18.69	--	--	--	--	--	--	--
60	5300	18.51	18.42	18.33	18.24	18.15	18.06	17.97	17.68
64	5320	19.12	--	--	--	--	--	--	--
100	5500	18.11	--	--	--	--	--	--	--
116	5580	18.56	18.42	18.28	18.14	18	17.86	17.72	17.58
140	5700	16.78	--	--	--	--	--	--	--

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

(Chain A+ B) (High power):

Channel Number	Frequency	99% Bandwidth	Chain A Power	Chain B Power	Output Power	Output Power Limit	
	(MHz)	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	dBm+10log(BW)
52	5260	18.572	18.38	18.69	21.55	24	23.69
60	5300	18.573	18.17	18.51	21.35	24	23.69
64	5320	18.706	18.88	19.12	22.01	24	23.72
100	5500	18.610	17.95	18.11	21.04	24	23.70
116	5580	18.588	18.24	18.56	21.41	24	23.69
140	5700	18.626	16.69	16.78	19.75	24	23.70

Note:

1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (mW) + Chain B Power (mW))
3. 99% Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.

(Chain A+ B) (Low power):

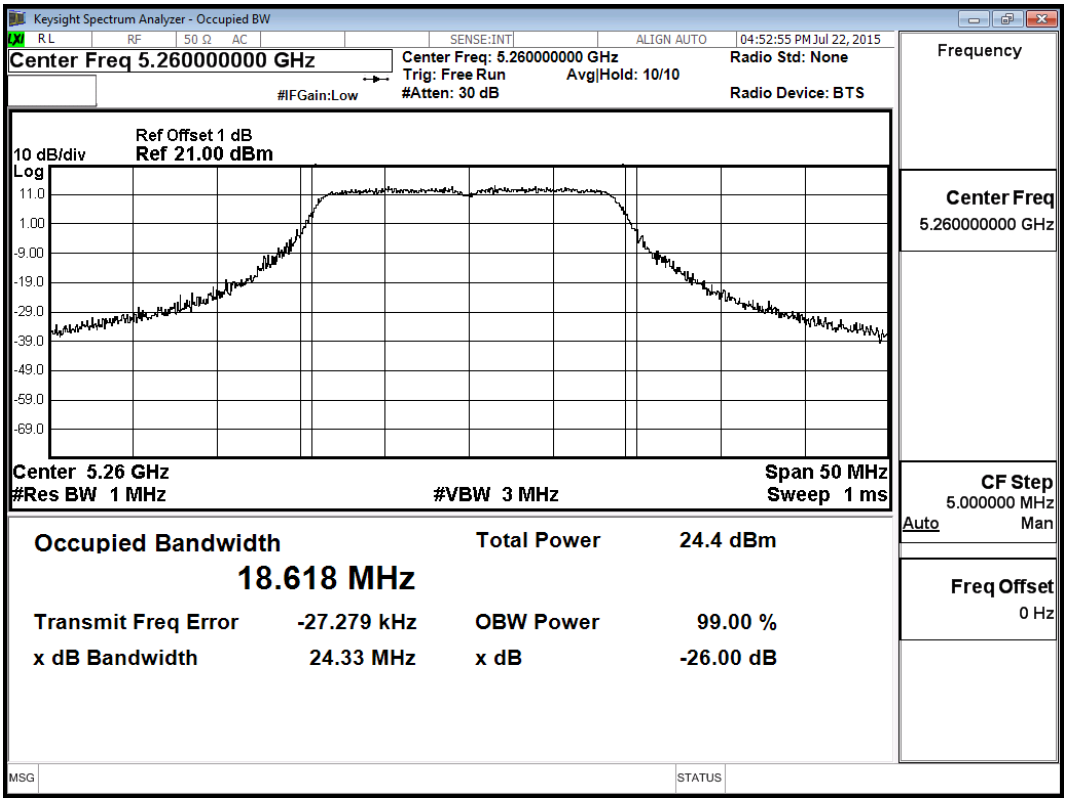
Channel Number	Frequency	Chain A Power	Chain B Power	Output Power	Antenna Gain	EIRP	EIRP Limit
	(MHz)	(dBm)	(dBm)	(dBm)	(dBi)	(dBm)	(dBm)
52	5260	11.44	11.75	14.61	5.0	19.61	24
60	5300	11.04	11.38	14.22	5.0	19.22	24
64	5320	11.79	12.03	14.92	5.0	19.92	24
100	5500	11.06	11.22	14.15	5.6	19.75	24
116	5580	11.16	11.48	14.33	5.6	19.93	24
140	5700	9.63	9.72	12.69	5.6	18.29	24

Note:

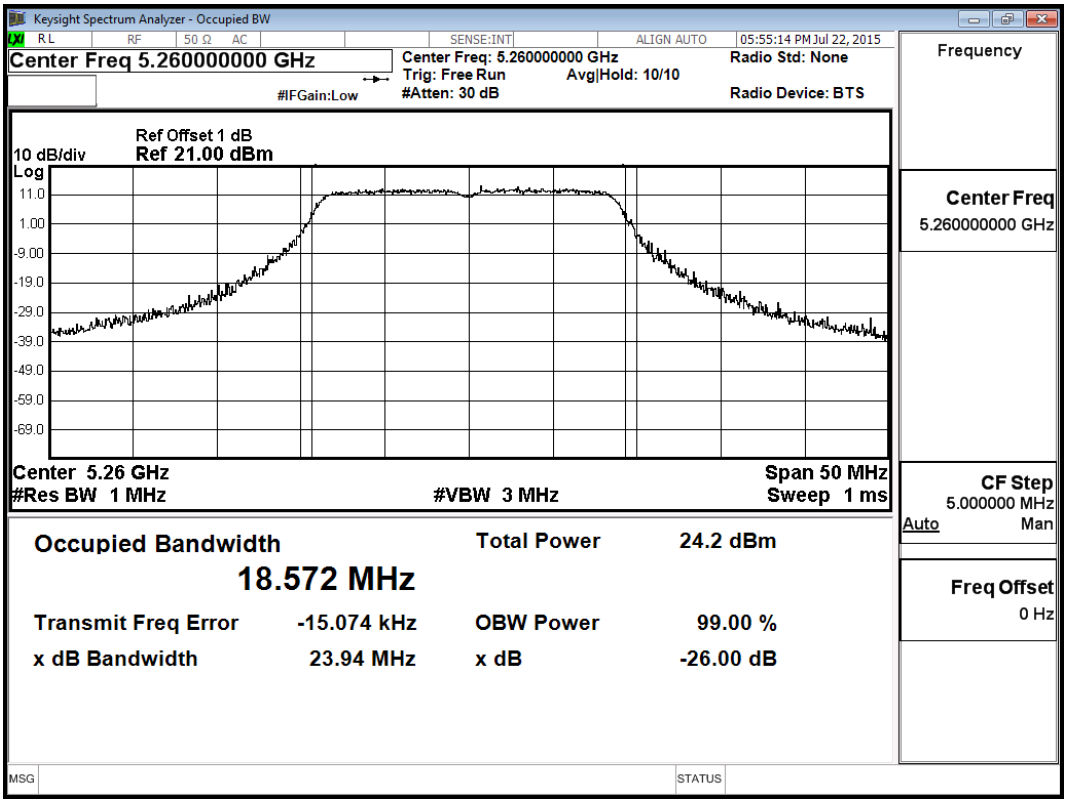
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (mW) + Chain B Power (mW))
3. The EUT employ a TPC mechanism, the device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm.

99% Occupied Bandwidth:

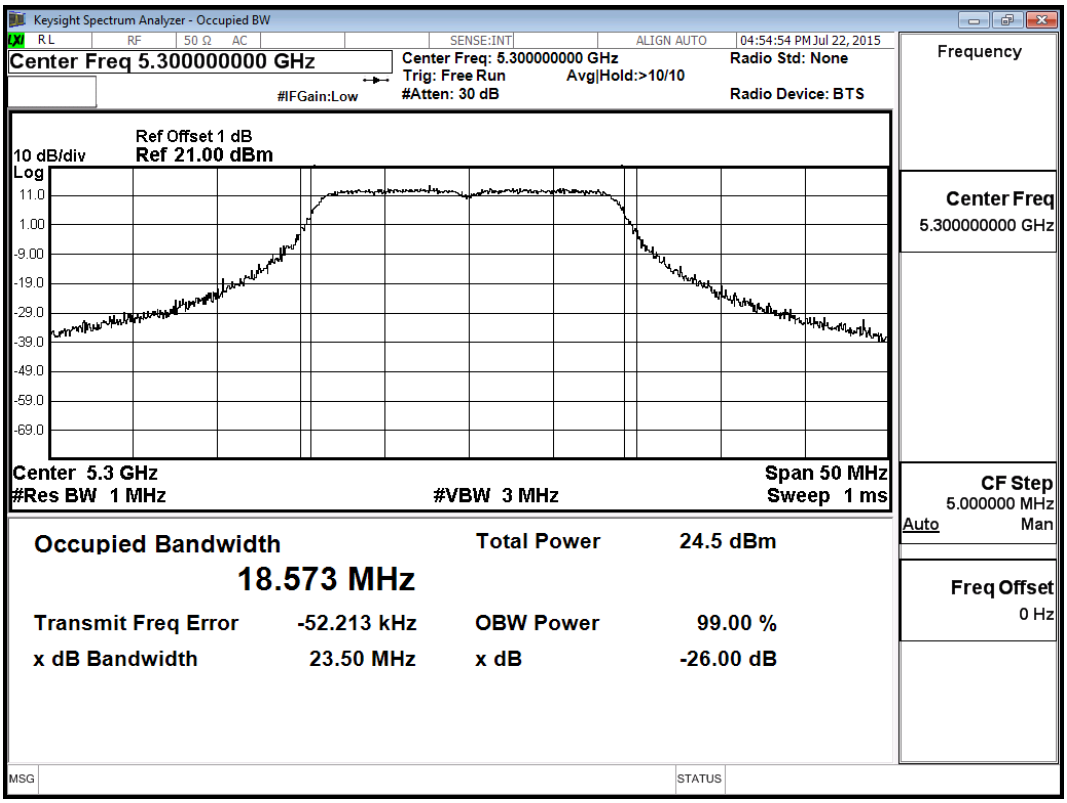
Channel 52: Chain A



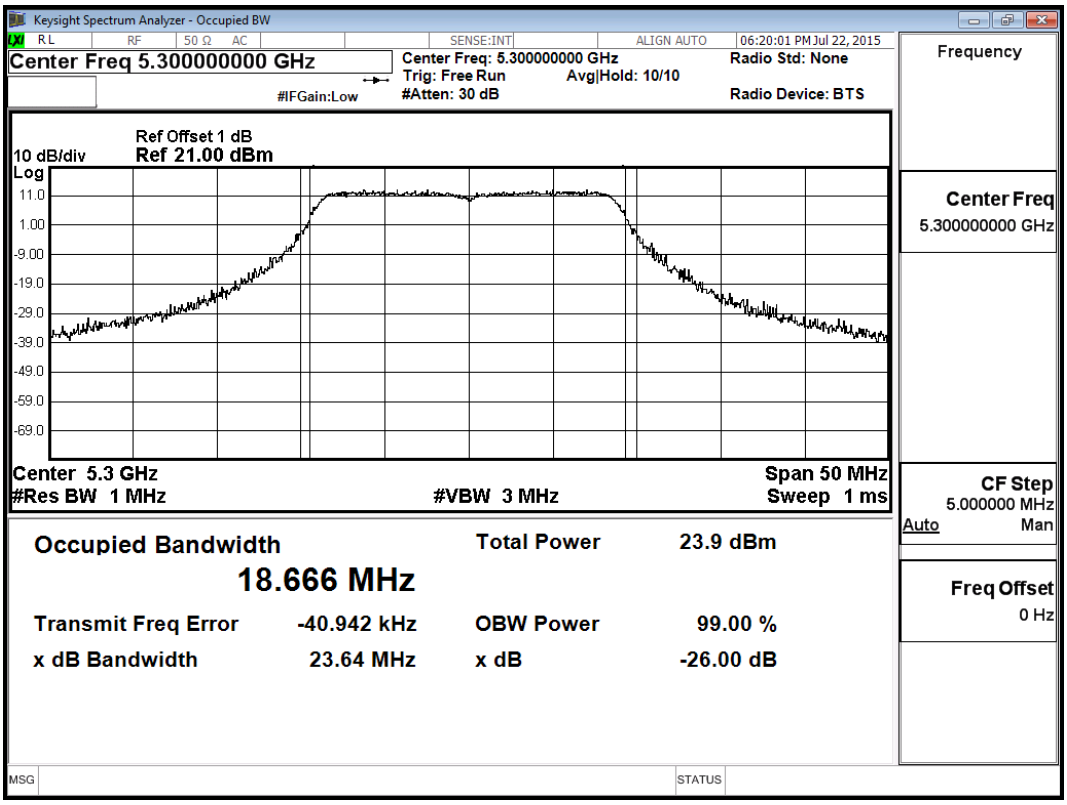
Channel 52: Chain B



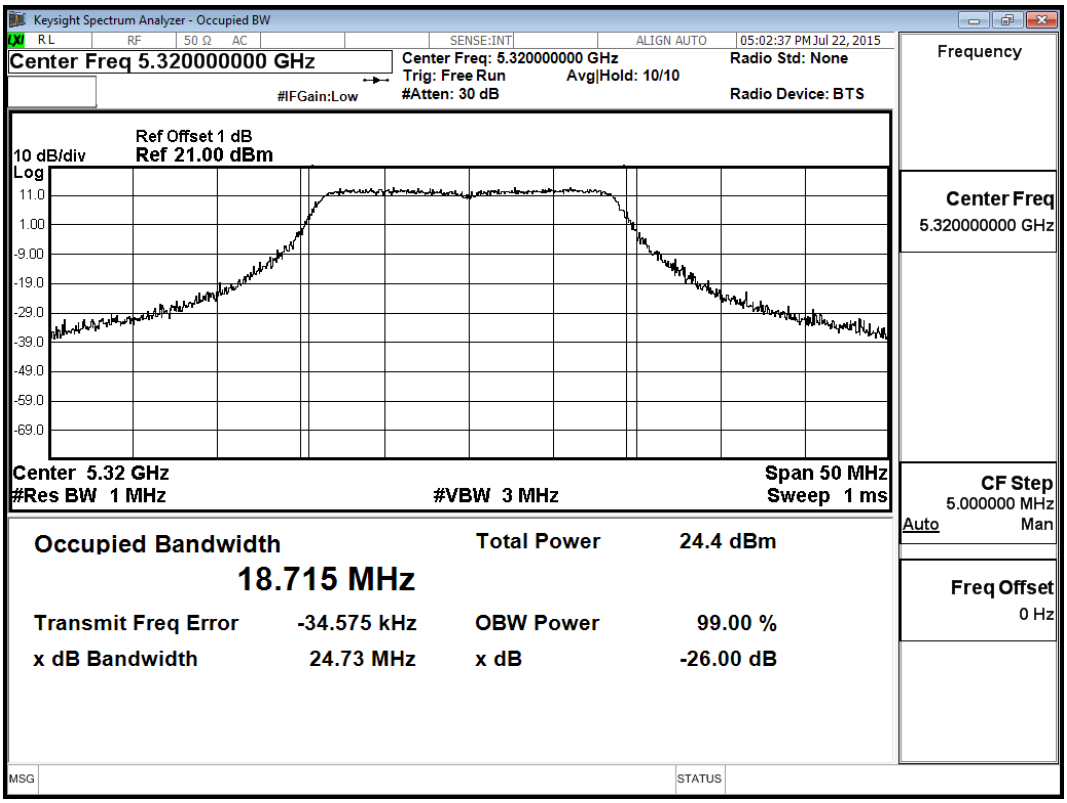
Channel 60: Chain A



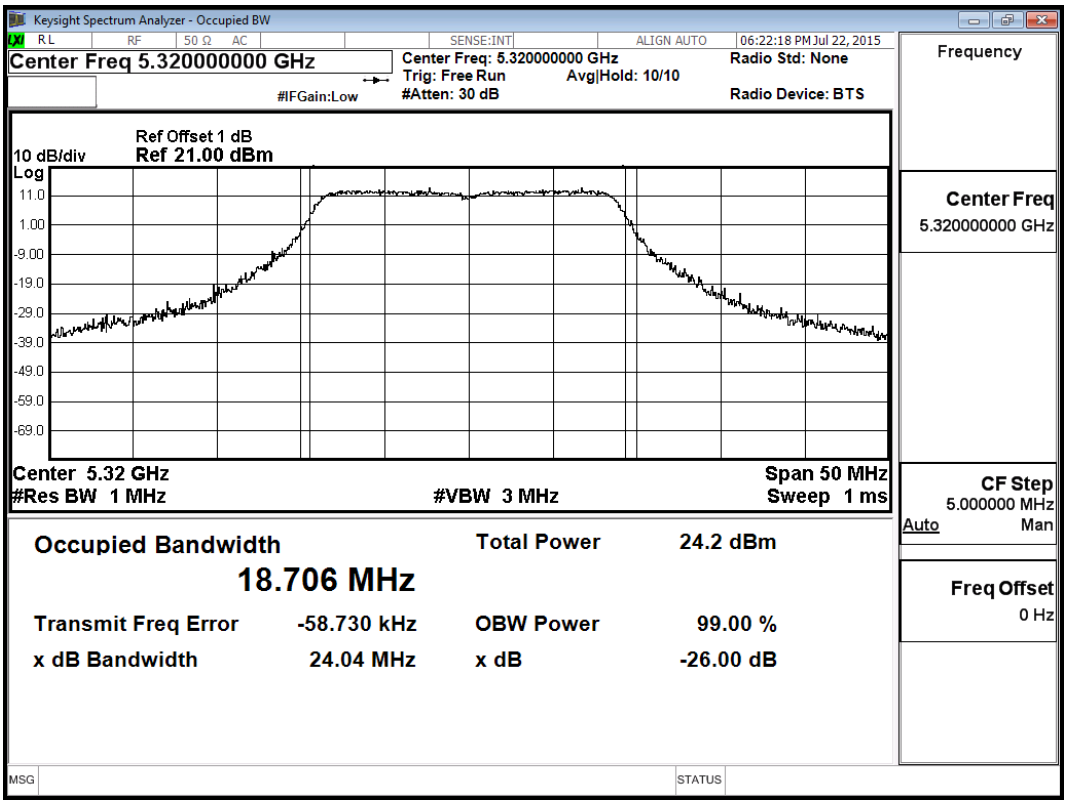
Channel 60: Chain B



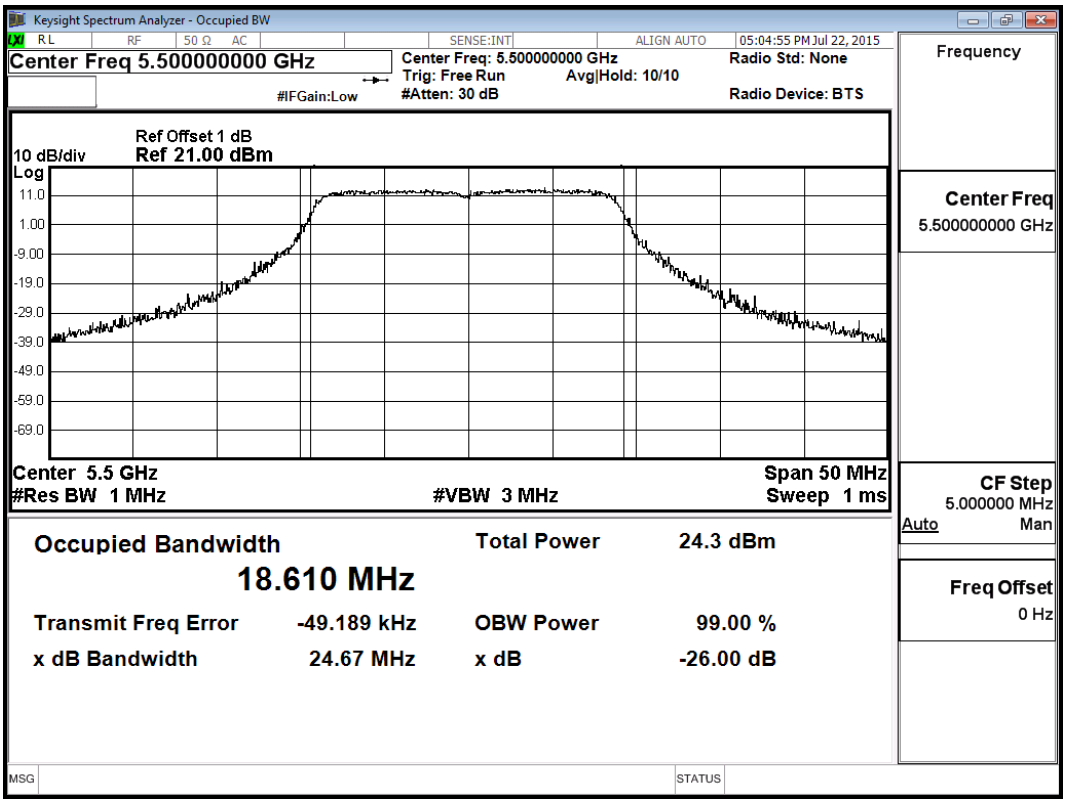
Channel 64: Chain A



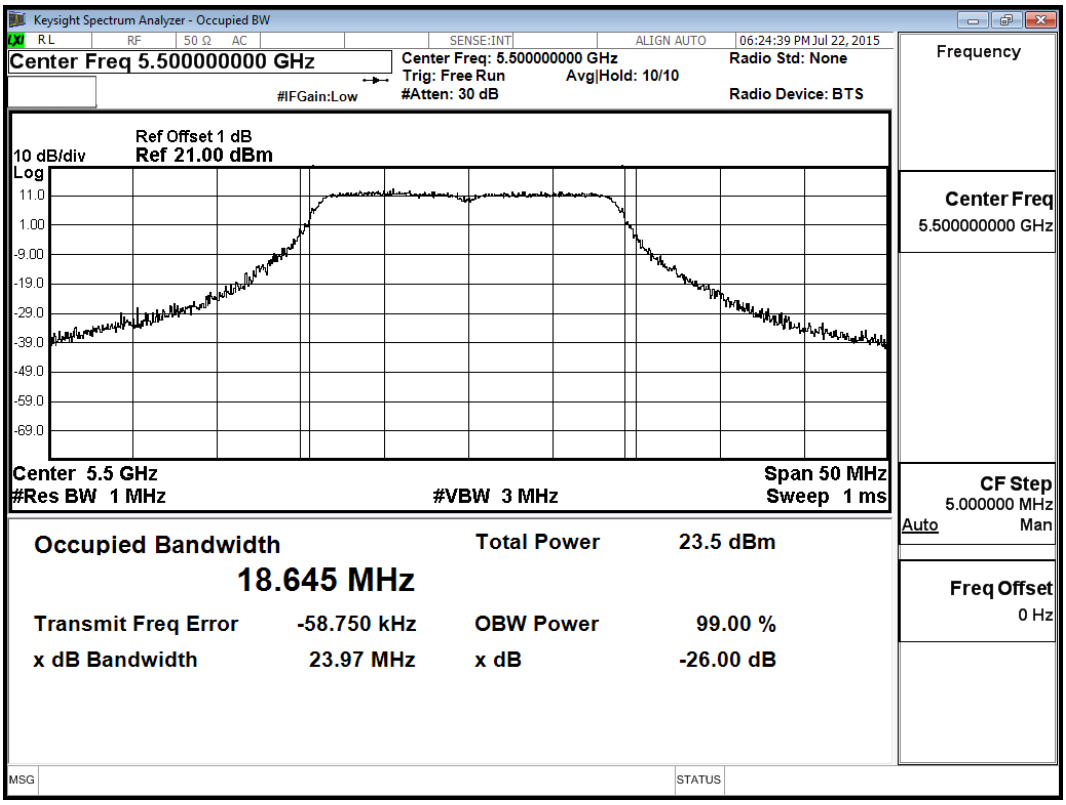
Channel 64: Chain B



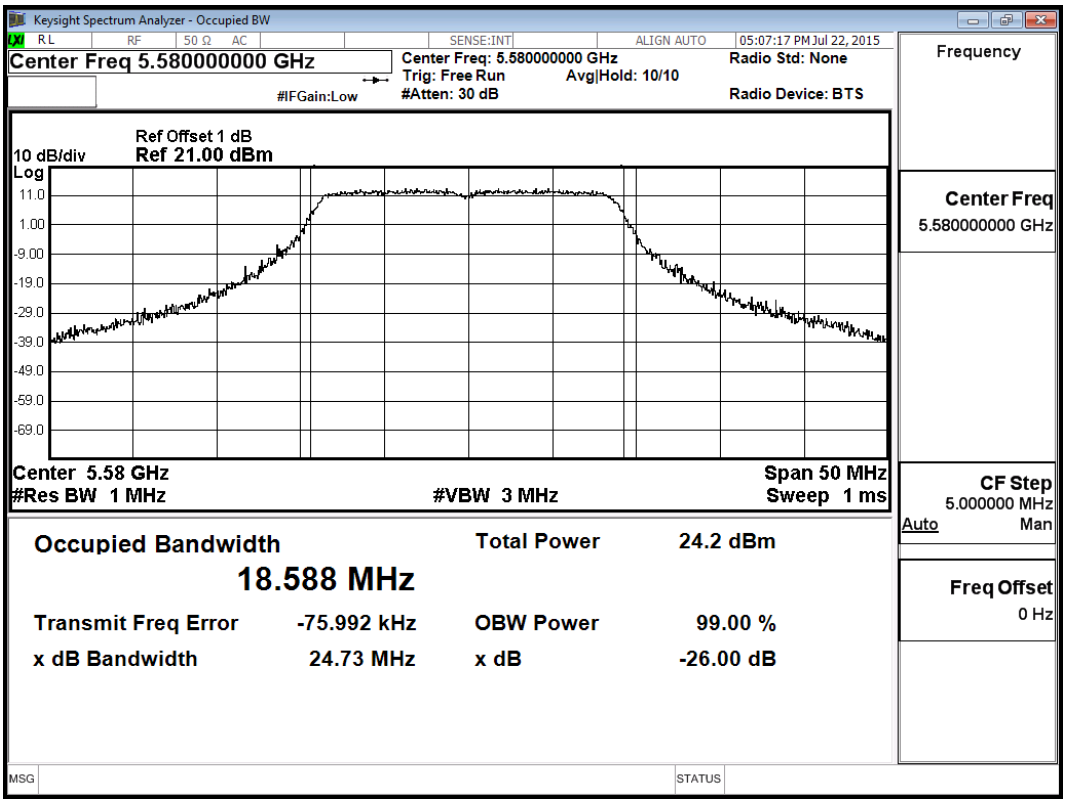
Channel 100: Chain A



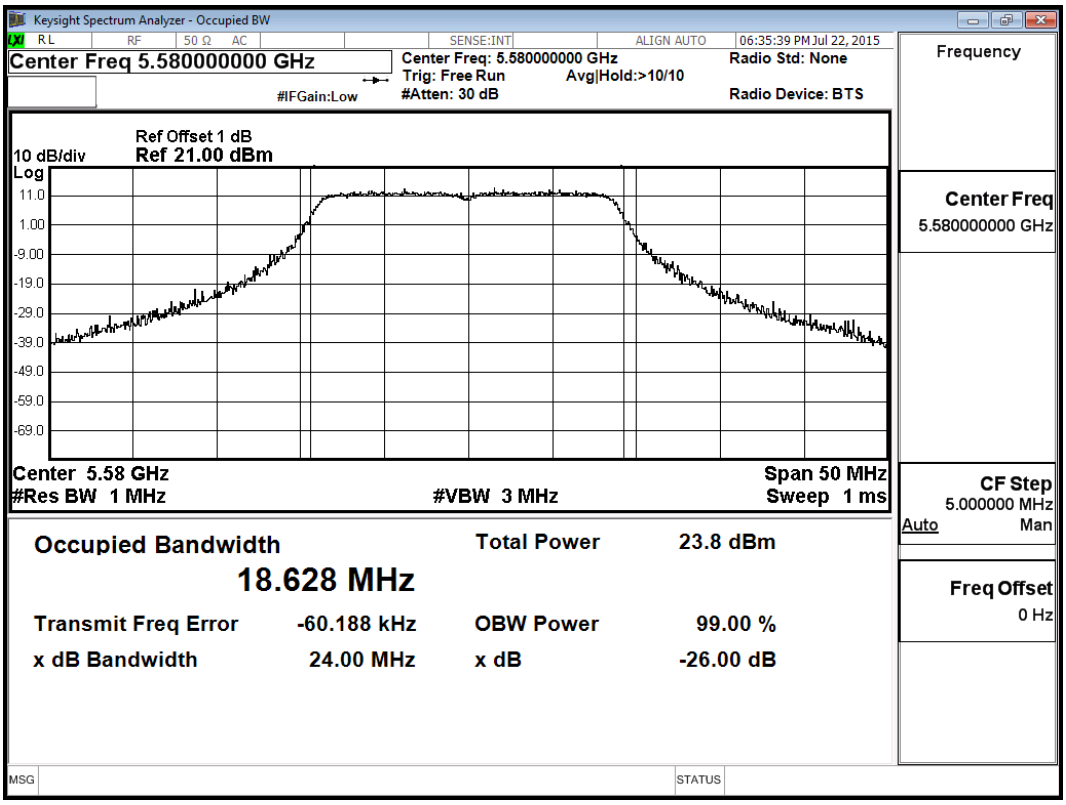
Channel 100: Chain B



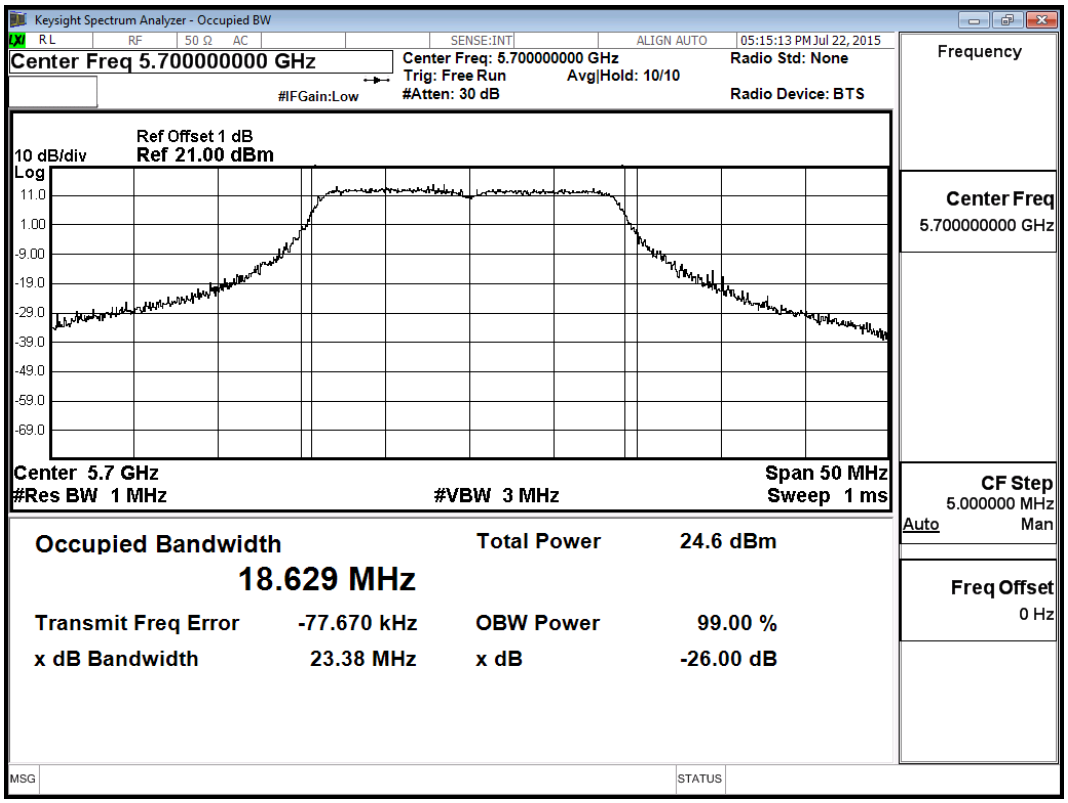
Channel 116: Chain A



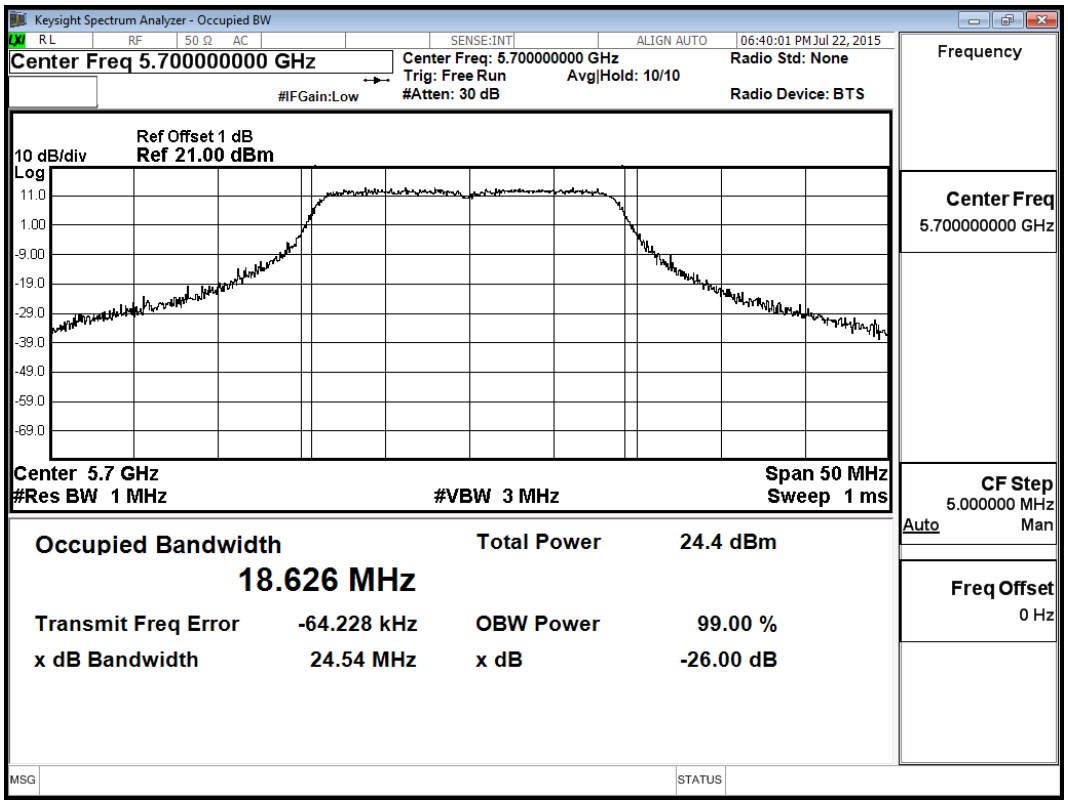
Channel 116: Chain B



Channel 140: Chain A



Channel 140: Chain B



Product : 802.11ac Dual Band Access Point
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)

Chain A

Cable loss=1dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		30	60	90	120	180	240	270	300
		Measurement Level (dBm)							
54	5270	19.79	--	--	--	--	--	--	--
62	5310	13.83	13.71	13.59	13.47	13.35	13.23	13.11	13.09
102	5510	15.36	--	--	--	--	--	--	--
110	5550	20.31	20.18	20.05	19.92	19.79	19.66	19.53	19.48
134	5670	20.02	--	--	--	--	--	--	--

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Chain B

Cable loss=1dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		30	60	90	120	180	240	270	300
		Measurement Level (dBm)							
54	5270	21.28	--	--	--	--	--	--	--
62	5310	14.65	14.52	14.39	14.26	14.13	14	13.87	13.74
102	5510	15.64	--	--	--	--	--	--	--
110	5550	21.08	20.92	20.76	20.6	20.44	20.28	20.12	19.92
134	5670	21.04	--	--	--	--	--	--	--

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

(Chain A+ B) (High power):

Channel Number	Frequency	99% Bandwidth	Chain A Power	Chain B Power	Output Power	Output Power Limit	
	(MHz)	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	dBm+10log(BW)
54	5270	36.722	19.79	21.28	23.61	24	26.65
62	5310	36.637	13.83	14.65	17.27	24	26.64
102	5510	36.655	15.36	15.64	18.51	24	26.64
110	5550	36.756	20.31	21.08	23.72	24	26.65
134	5670	36.749	20.02	21.04	23.57	24	26.65

Note:

1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (mW) + Chain B Power (mW))
3. 99% Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.

(Chain A+ B) (Low power):

Channel Number	Frequency	Chain A Power	Chain B Power	Output Power	Antenna Gain	EIRP	EIRP Limit
	(MHz)	(dBm)	(dBm)	(dBm)	(dBi)	(dBm)	(dBm)
54	5270	12.88	14.33	16.68	5.0	21.68	24
62	5310	6.81	7.59	10.23	5.0	15.23	24
102	5510	8.23	8.56	11.41	5.0	16.41	24
110	5550	13.24	14.07	16.69	5.6	22.29	24
134	5670	12.87	13.94	16.45	5.6	22.05	24

Note:

1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (mW) + Chain B Power (mW))
3. The EUT employ a TPC mechanism, the device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm.

99% Occupied Bandwidth:

Figure Channel 54: (Chain A)

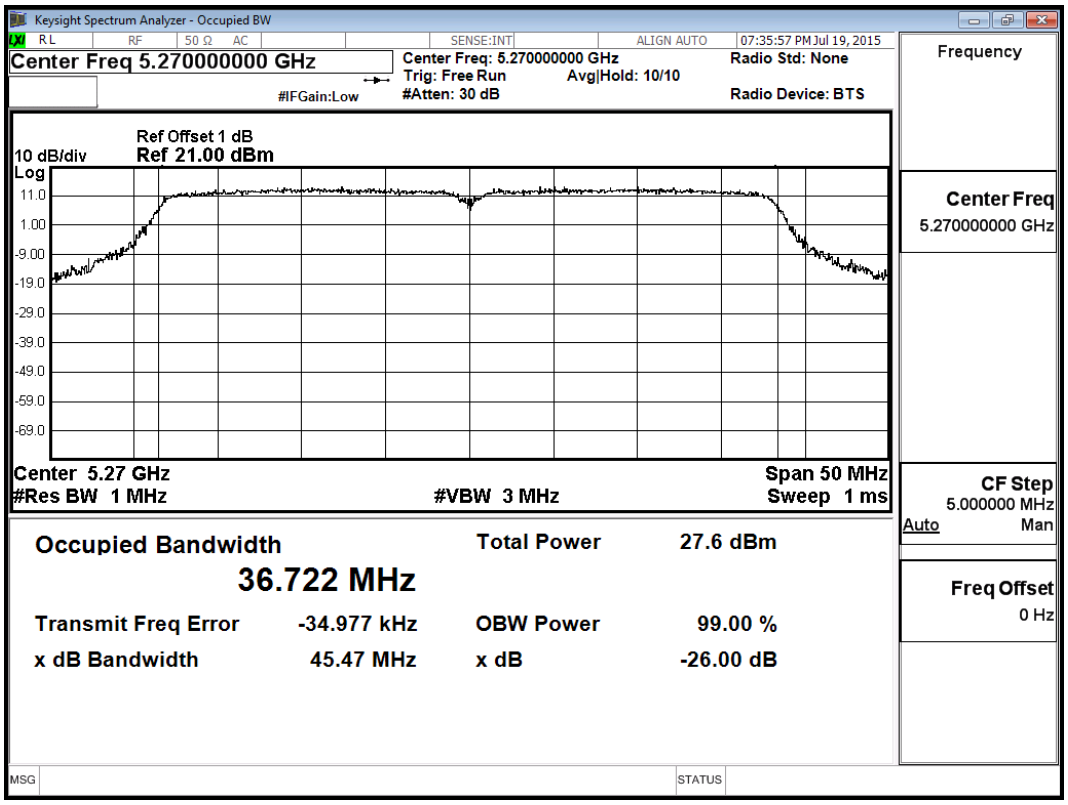


Figure Channel 54: (Chain B)

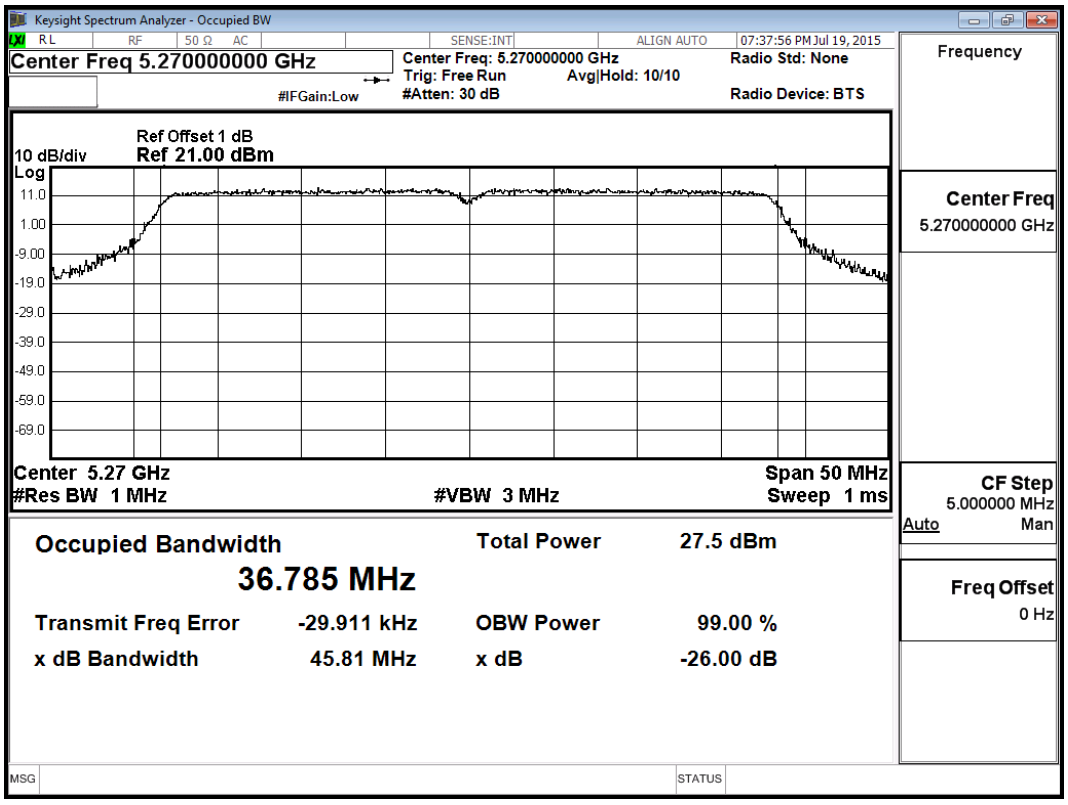


Figure Channel 62: (Chain A)

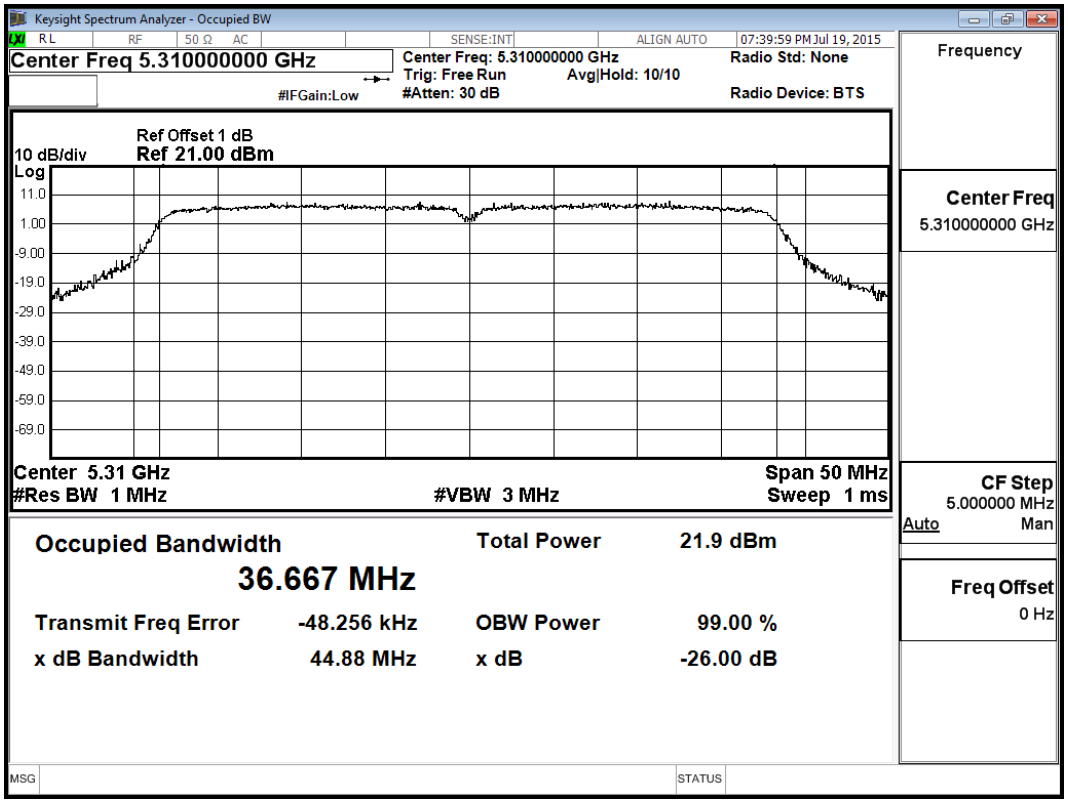


Figure Channel 62: (Chain B)

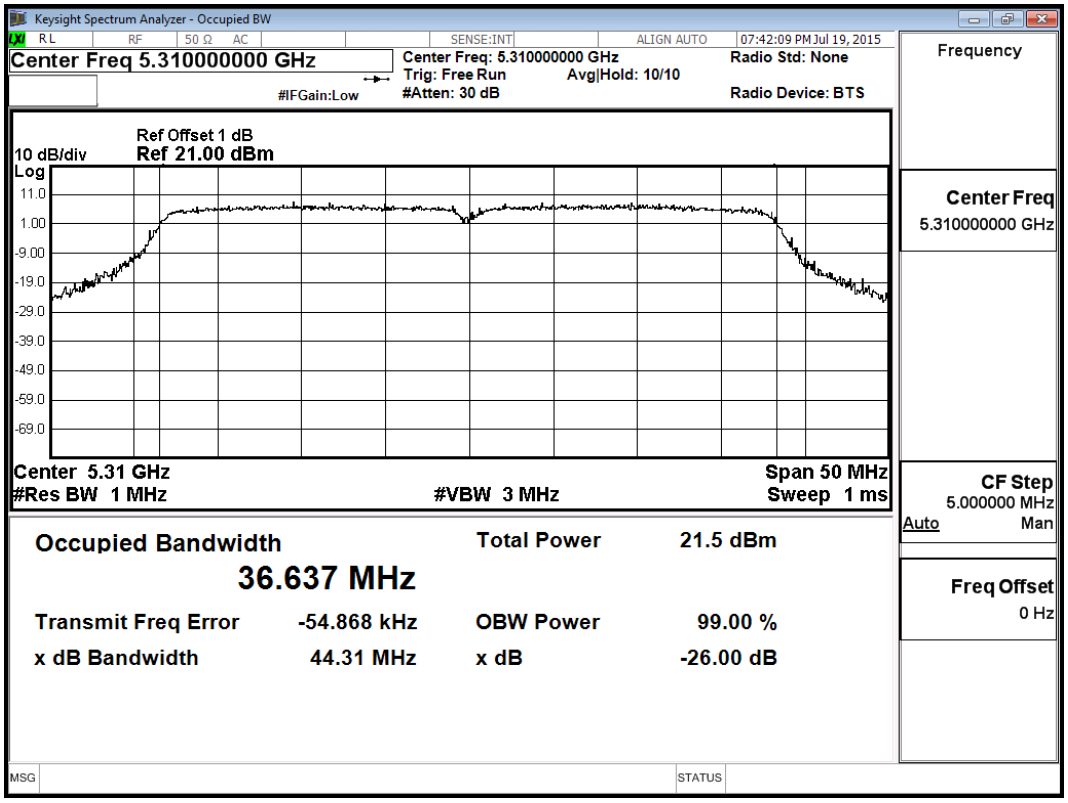


Figure Channel 102: (Chain A)

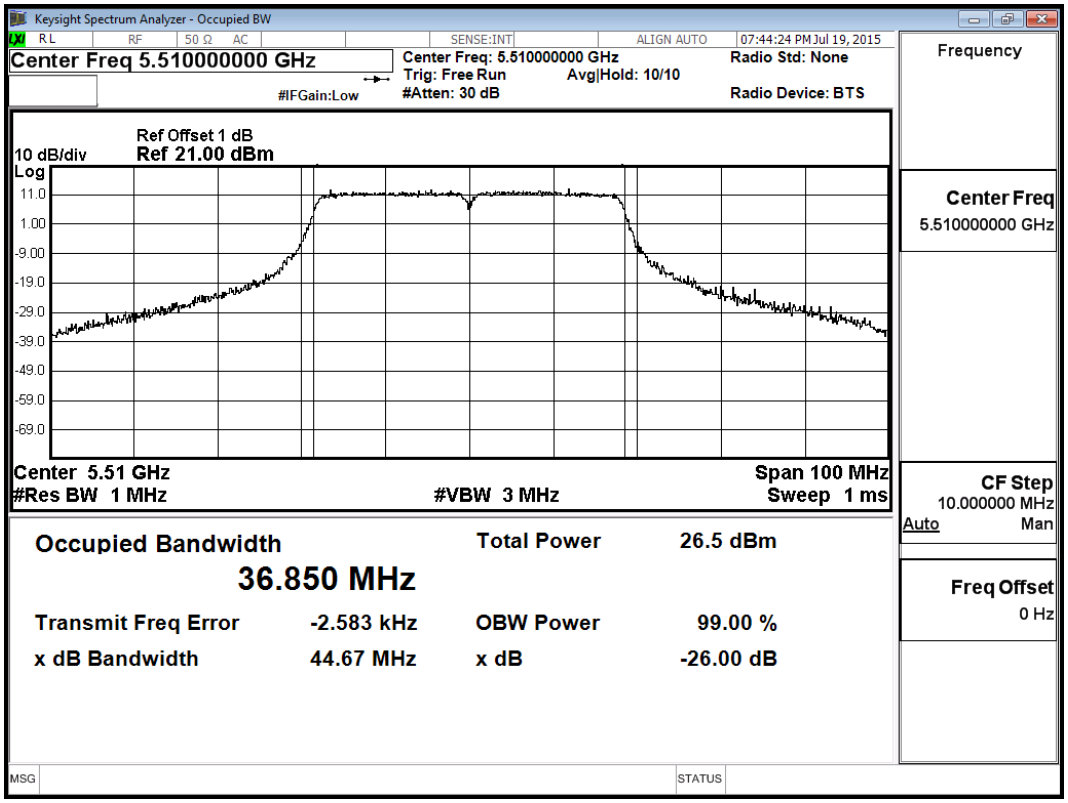


Figure Channel 102: (Chain B)

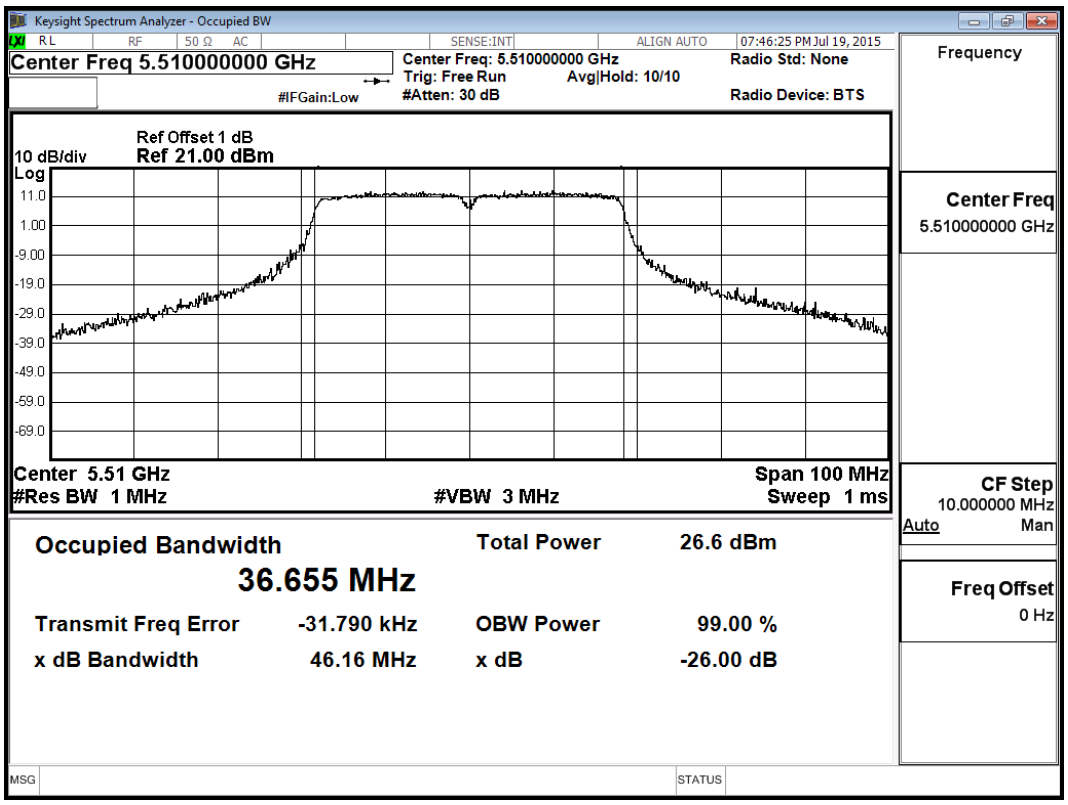


Figure Channel 110: (Chain A)

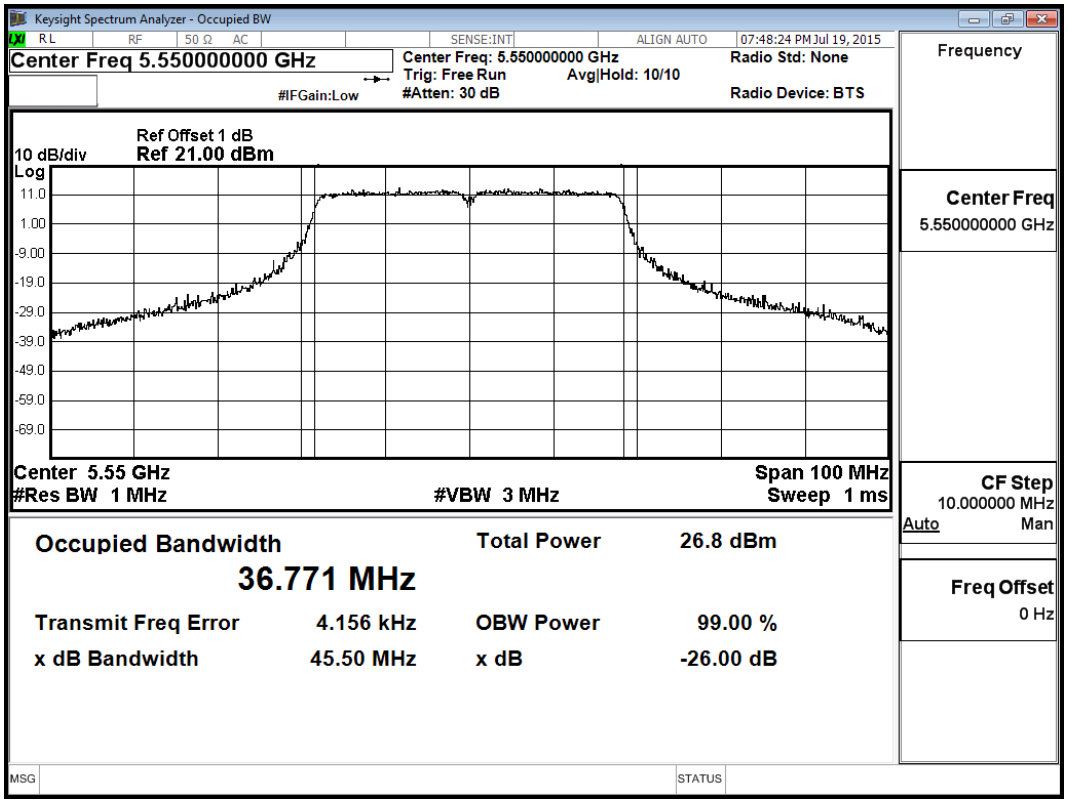


Figure Channel 110: (Chain B)

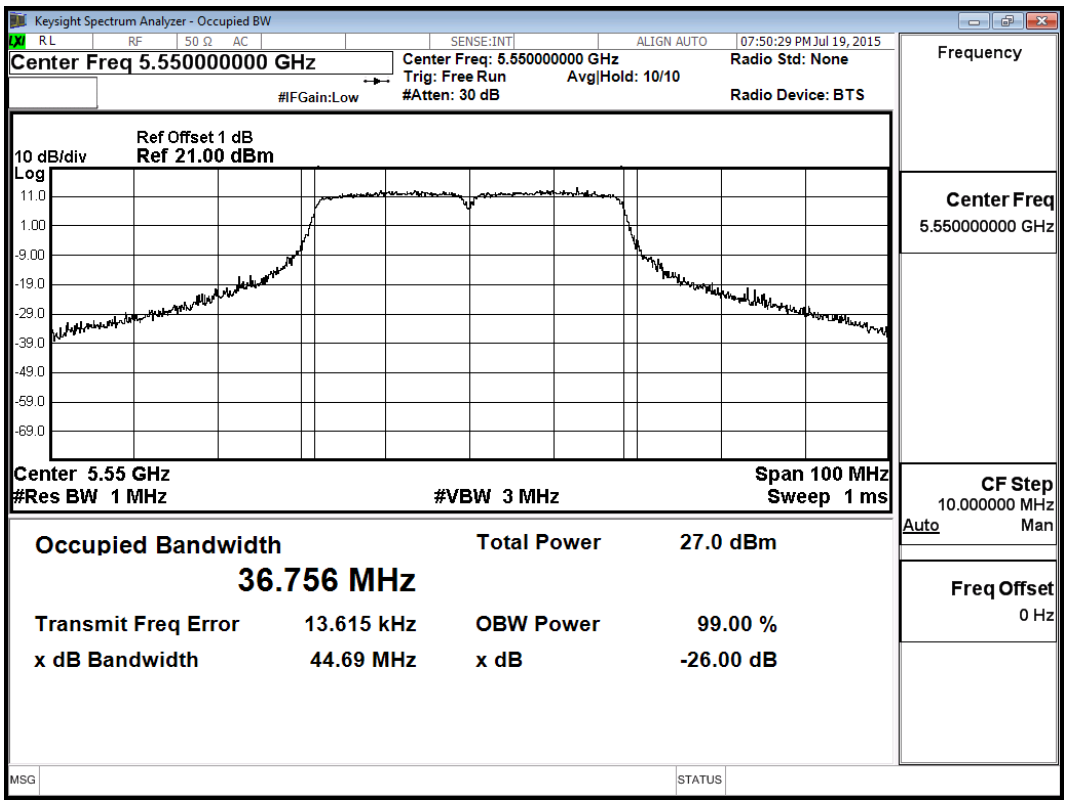


Figure Channel 134: (Chain A)

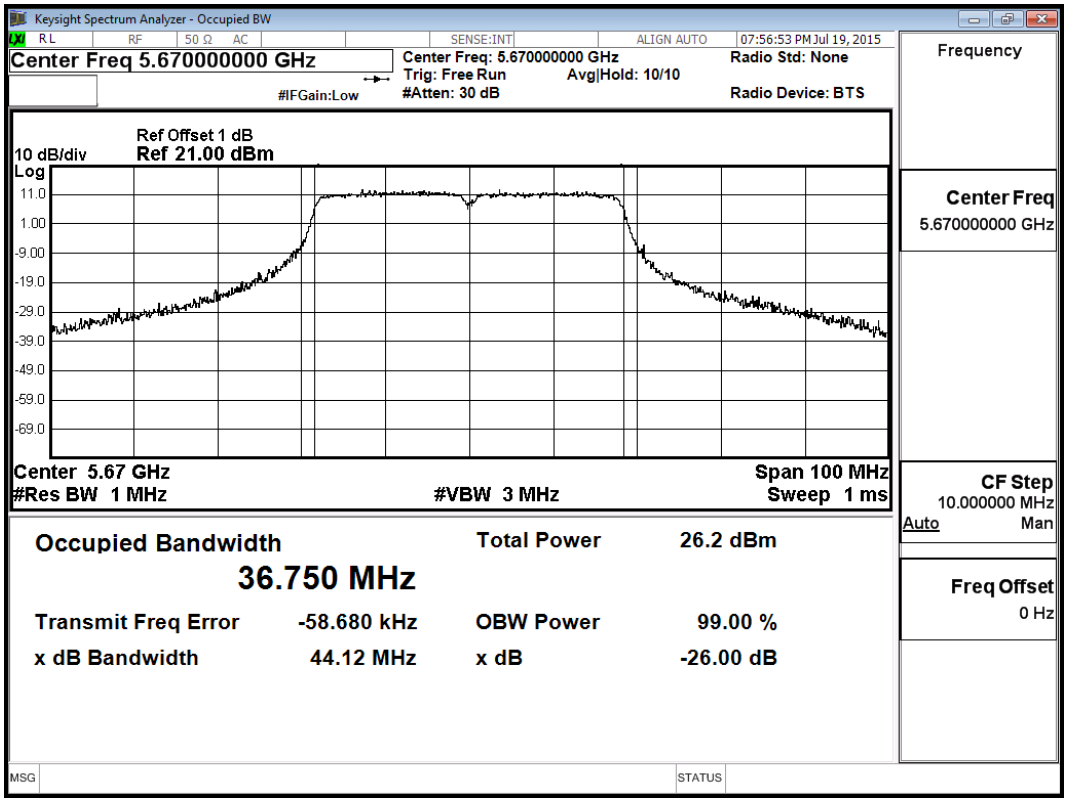
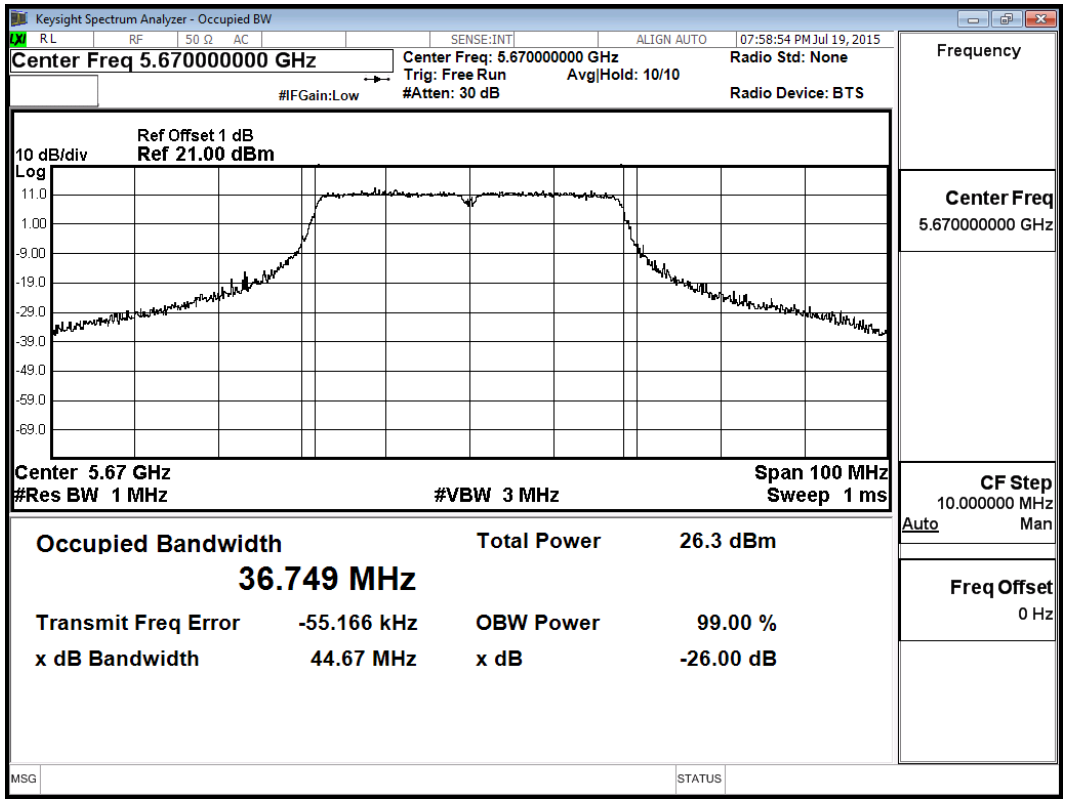


Figure Channel 134: (Chain B)



Product : 802.11ac Dual Band Access Point
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 6 Transmit (802.11ac-80BW-65Mbps)

Chain A

Cable loss=1dB		Maximum conducted output power									
Channel No	Frequency (MHz)	Data Rate (Mbps)									
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9
58	5290	15.16	15.07	14.98	14.89	14.8	14.71	14.62	14.53	14.44	14.35
106	5530	14.02	13.94	13.86	13.78	13.7	13.62	13.54	13.46	13.38	13.21
122	5610	19.57	19.46	19.35	19.27	19.13	19.04	18.91	18.8	18.69	18.52

Note: 1.Maximum conducted output power Value =Reading value on average power meter + cable loss

Chain B

Cable loss=1dB		Maximum conducted output power									
Channel No	Frequency (MHz)	Data Rate (Mbps)									
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9
58	5290	14.38	14.27	14.16	14.05	13.94	13.83	13.72	13.61	13.5	13.39
106	5530	14.54	14.42	14.3	14.18	14.06	13.94	13.82	13.7	13.58	13.46
122	5610	19.47	19.41	19.35	19.29	19.23	19.17	19.11	19.05	18.97	18.91

Note: 1.Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

(Chain A+ B) (High power):

Channel Number	Frequency	99% Bandwidth	Chain A Power	Chain B Power	Output Power	Output Power Limit	
	(MHz)	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	dBm+10log(BW)
58	5290	75.632	15.16	14.38	17.80	24	29.79
106	5530	75.912	14.02	14.54	17.30	24	29.80
122	5610	75.778	19.57	19.47	22.53	24	29.80

Note:

1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (mW) + Chain B Power (mW))
3. 99% Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.

(Chain A+ B) (Low power):

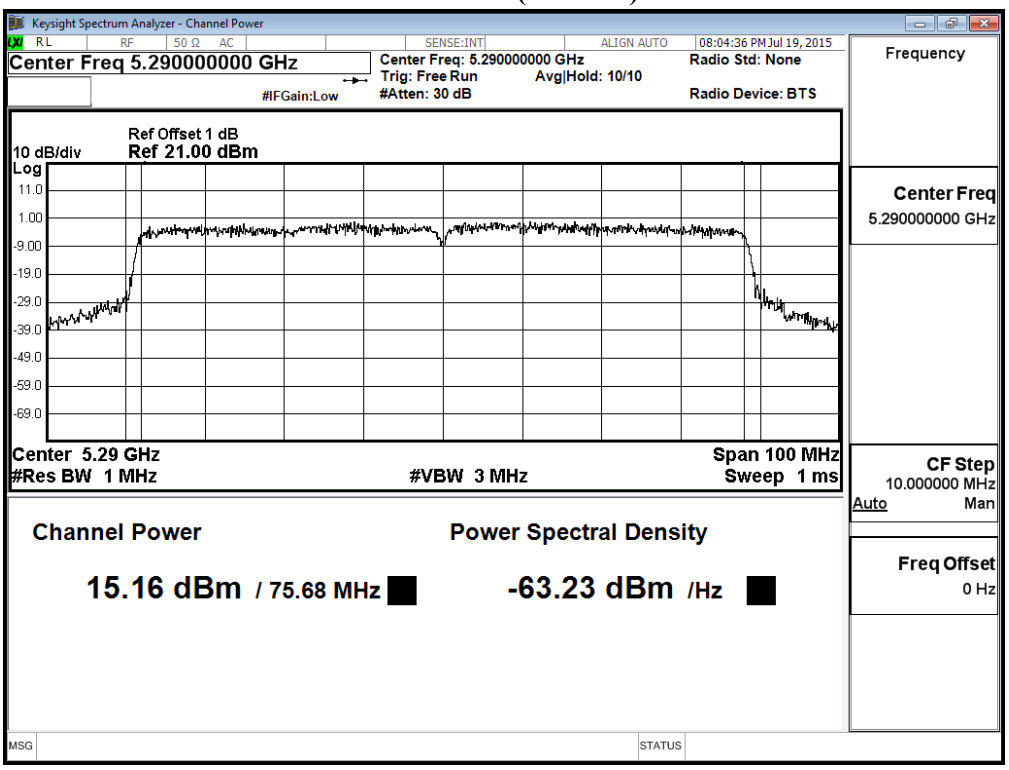
Channel Number	Frequency	Chain A Power	Chain B Power	Output Power	Antenna Gain	EIRP	EIRP Limit
	(MHz)	(dBm)	(dBm)	(dBm)	(dBi)	(dBm)	(dBm)
58	5290	8.08	8.11	11.11	5.0	16.11	24
106	5530	6.95	7.30	10.14	5.0	15.14	24
122	5610	12.36	12.35	15.37	5.0	20.37	24

Note:

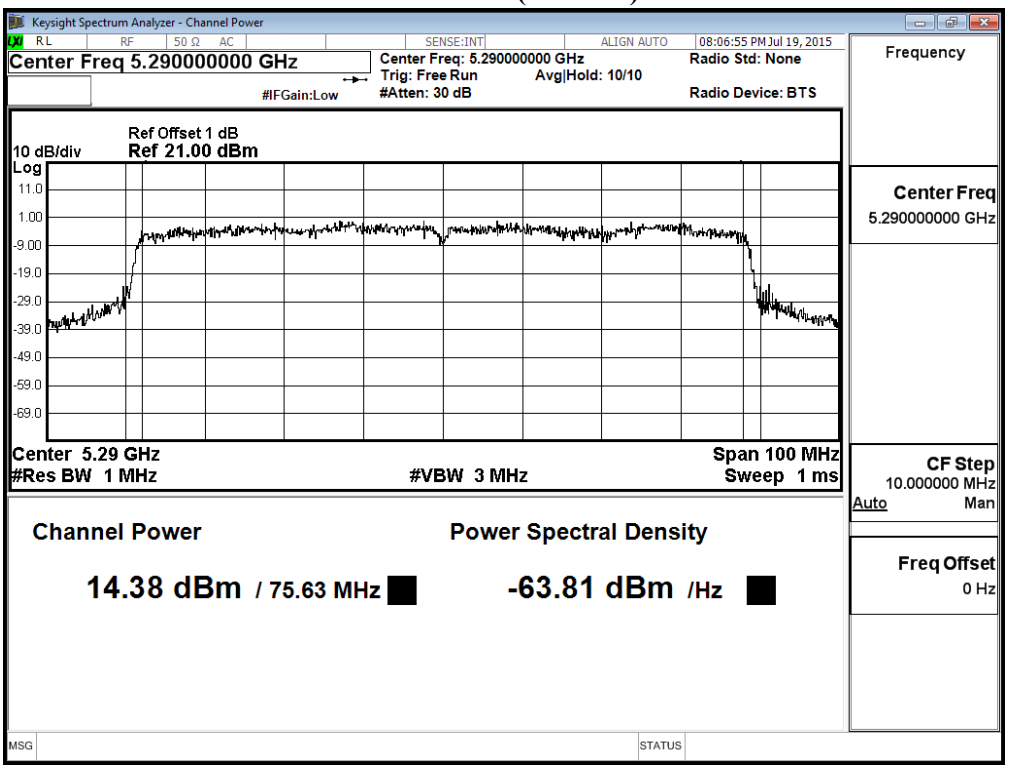
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (mW) + Chain B Power (mW))
3. The EUT employ a TPC mechanism, the device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm.

Maximum conducted output power:

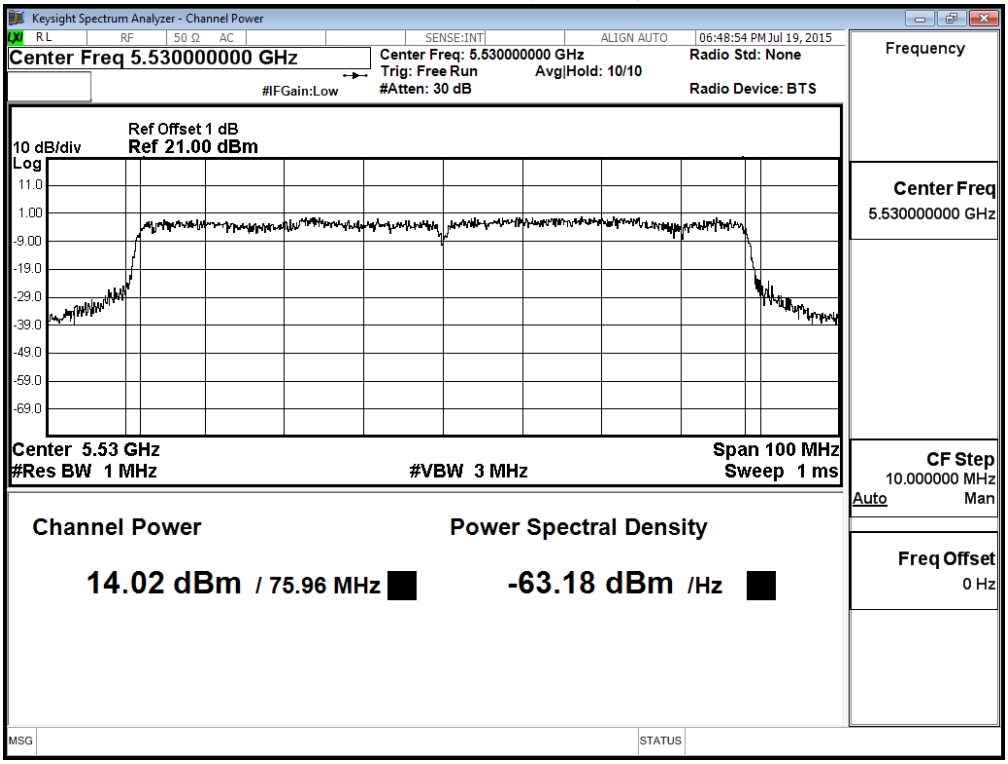
Channel 58 (Chain A)



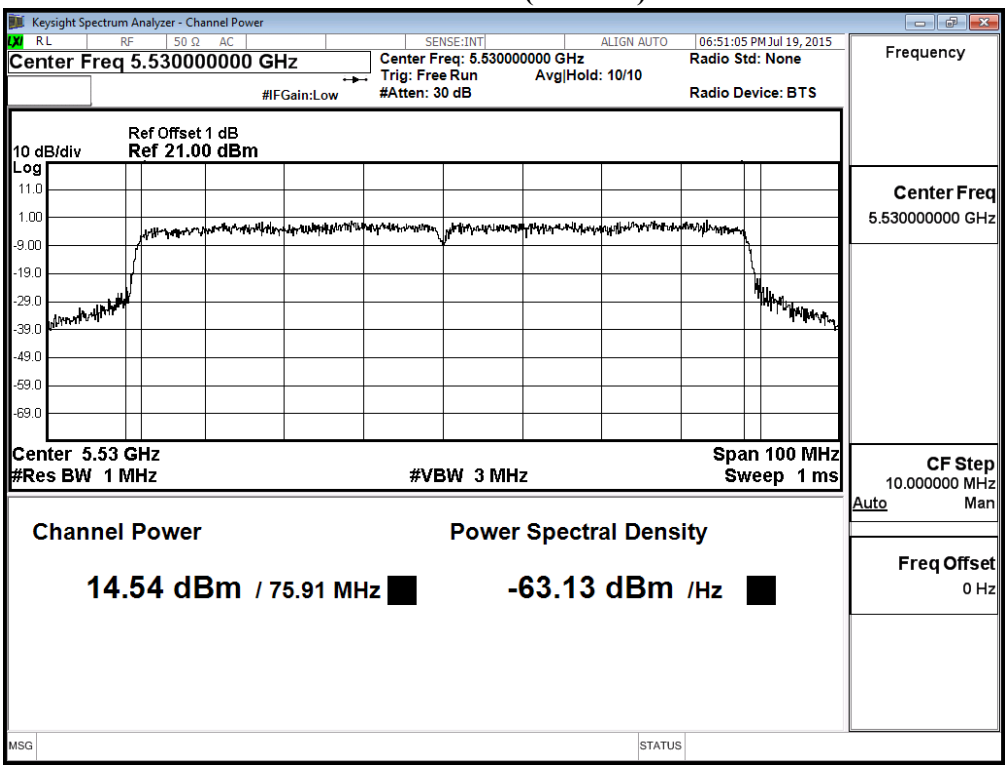
Channel 58 (Chain B)



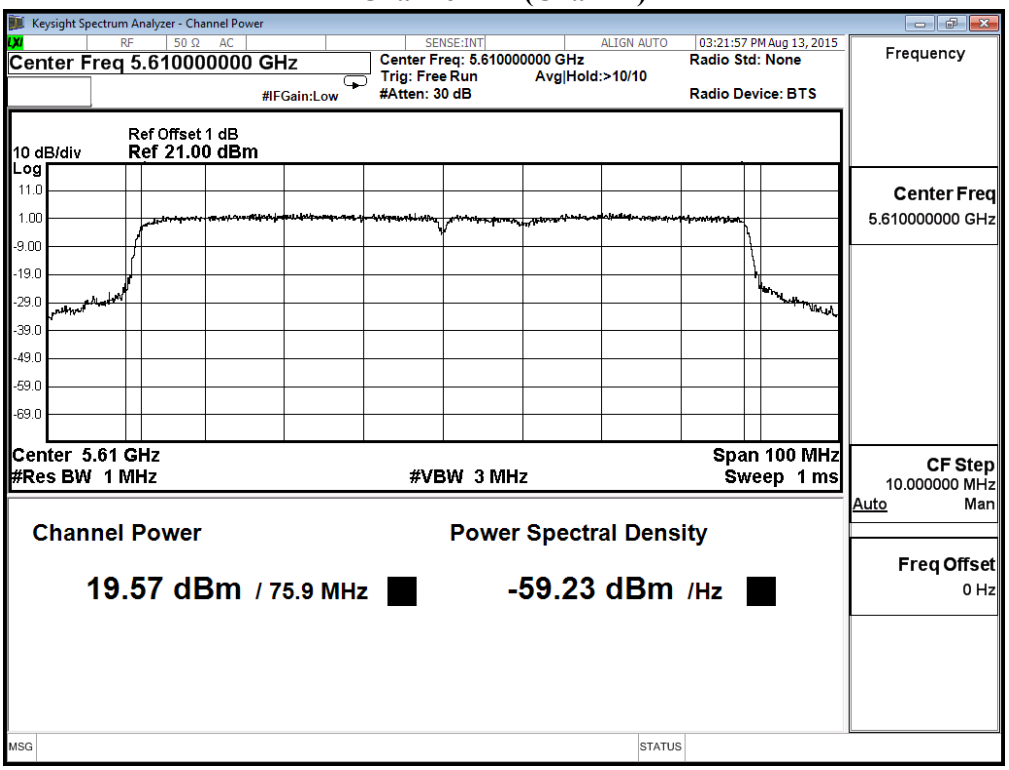
Channel 106 (Chain A)



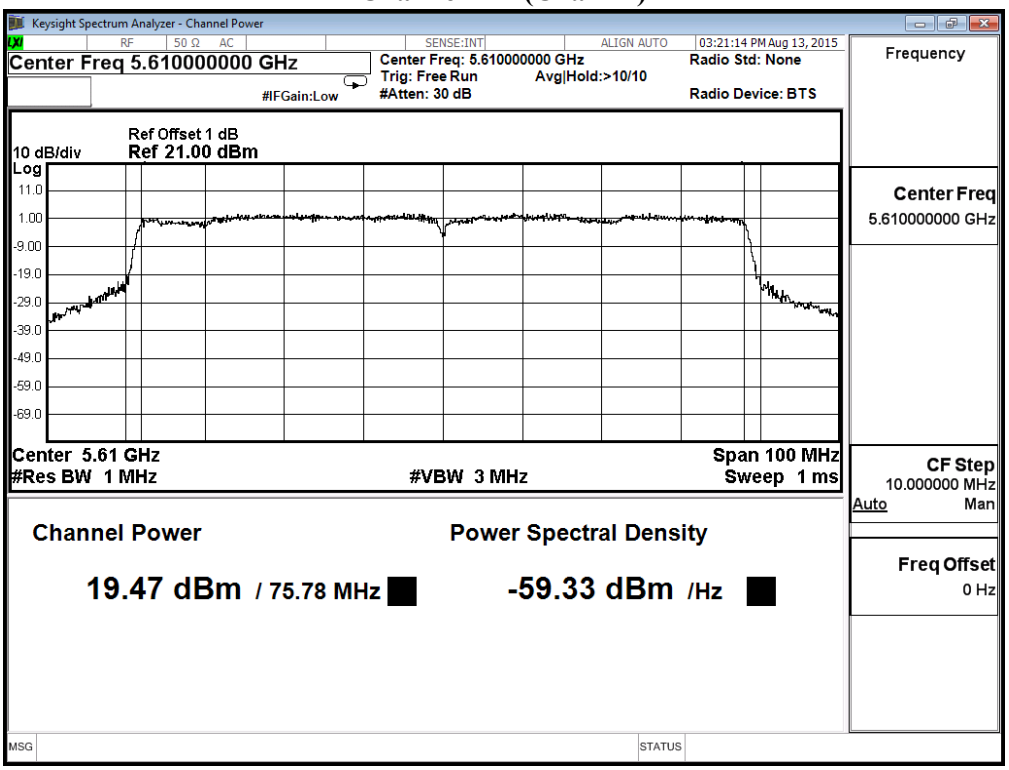
Channel 106 (Chain B)



Channel 122 (Chain A)



Channel 122 (Chain B)



4. Peak Power Spectral Density

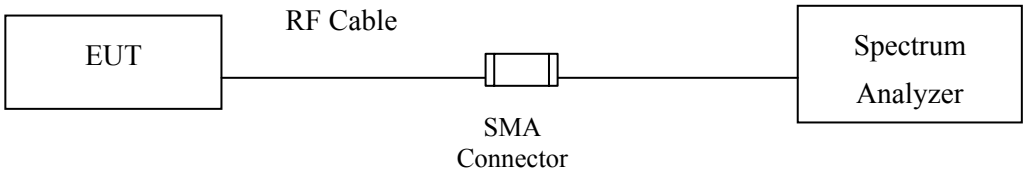
4.1. Test Equipment

	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 equipment is calibrated once a year or as required by manufacturer.
2. All equipment is calibrated to traceable calibration procedures.
3. The test instruments marked with "X" are used to measure the final test results.

4.2. Test Setup



4.3. Limits

(1) For the band 5.15-5.25 GHz,

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-topoint U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated

transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. (iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.+

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

4.4. Test Procedure

The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.
The Peak Power Spectral Density using KDB 789033 section F) procedure, Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer.
SA-1 method is selected to run the test.
For the band 5.725-5.85 GHz, Scale the observed power level to an equivalent value in 500 kHz by adjusting (increase) the measured power by a bandwidth Correctionion factor (BWCF) where BWCF = 10log (500 kHz/100 kHz) = 6.98 dB.

4.5. Uncertainty

± 1.27 dB

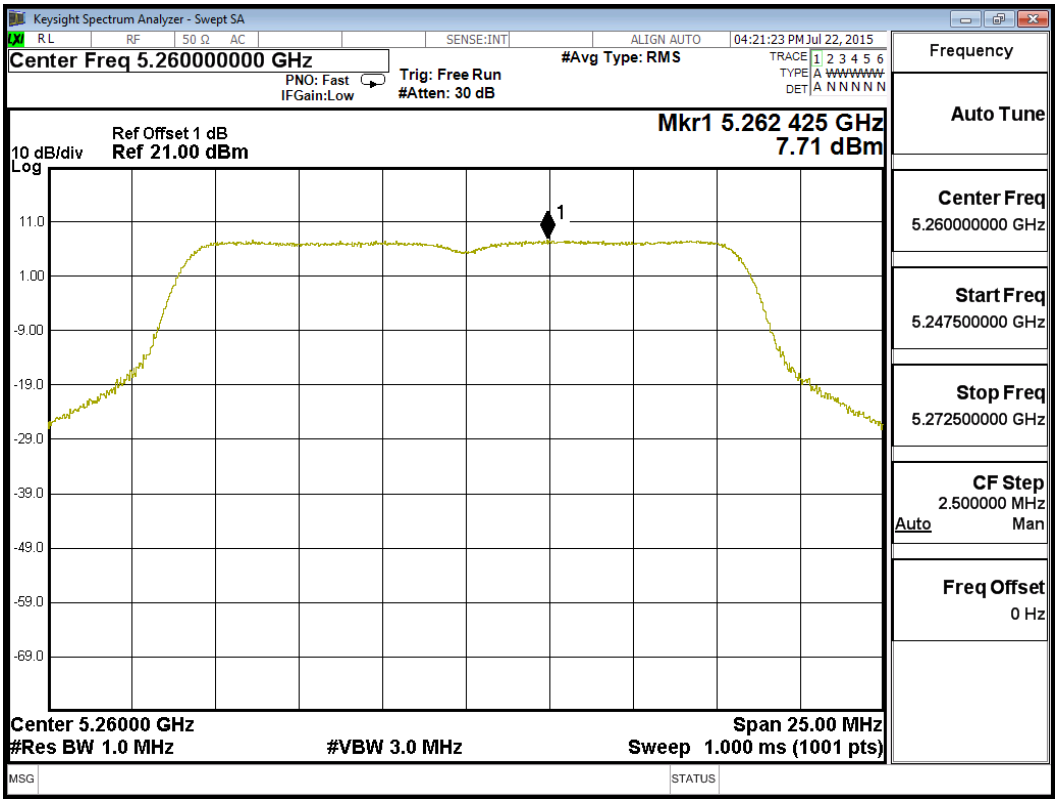
4.6. Test Result of Peak Power Spectral Density

Product : 802.11ac Dual Band Access Point
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)

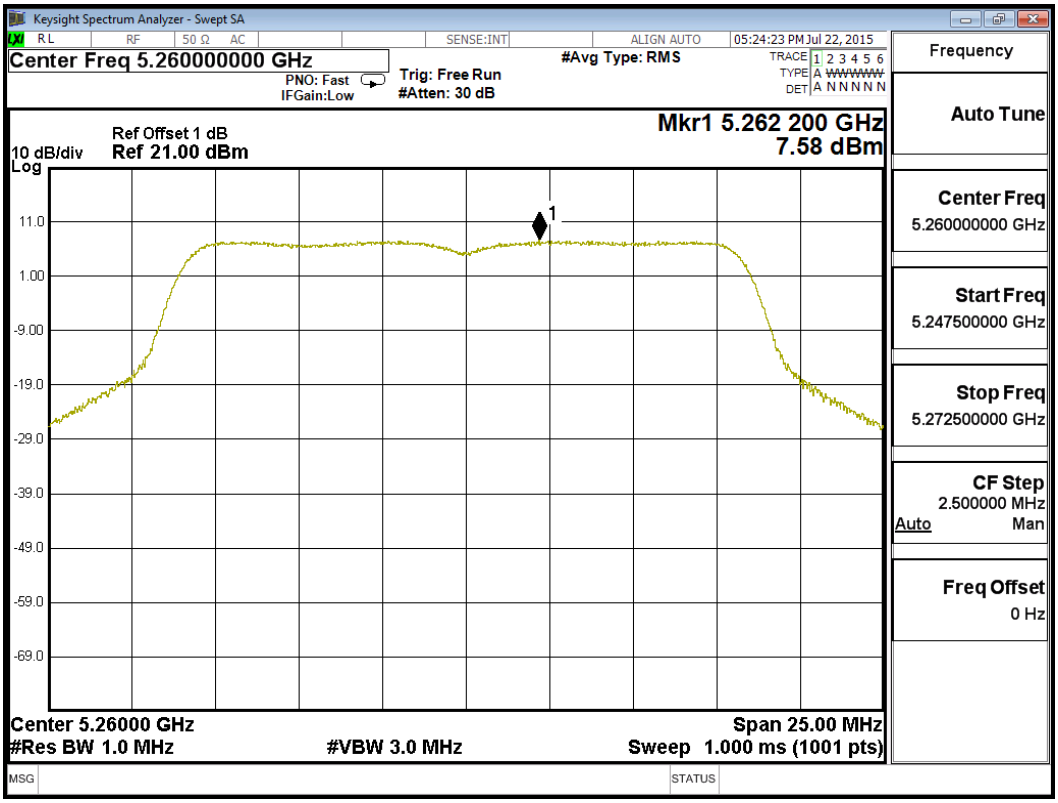
Channel Number	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)[1]	Required Limit (dBm)	Result
52	5260	A	7.710	10.720	<11	Pass
		B	7.580	10.590	<11	Pass
60	5300	A	7.790	10.800	<11	Pass
		B	7.520	10.530	<11	Pass
64	5320	A	7.960	10.970	<11	Pass
		B	7.890	10.900	<11	Pass
100	5500	A	7.810	10.820	<11	Pass
		B	7.640	10.650	<11	Pass
116	5580	A	7.710	10.720	<11	Pass
		B	7.700	10.710	<11	Pass
140	5700	A	7.850	10.860	<11	Pass
		B	7.890	10.900	<11	Pass

Note 1: The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

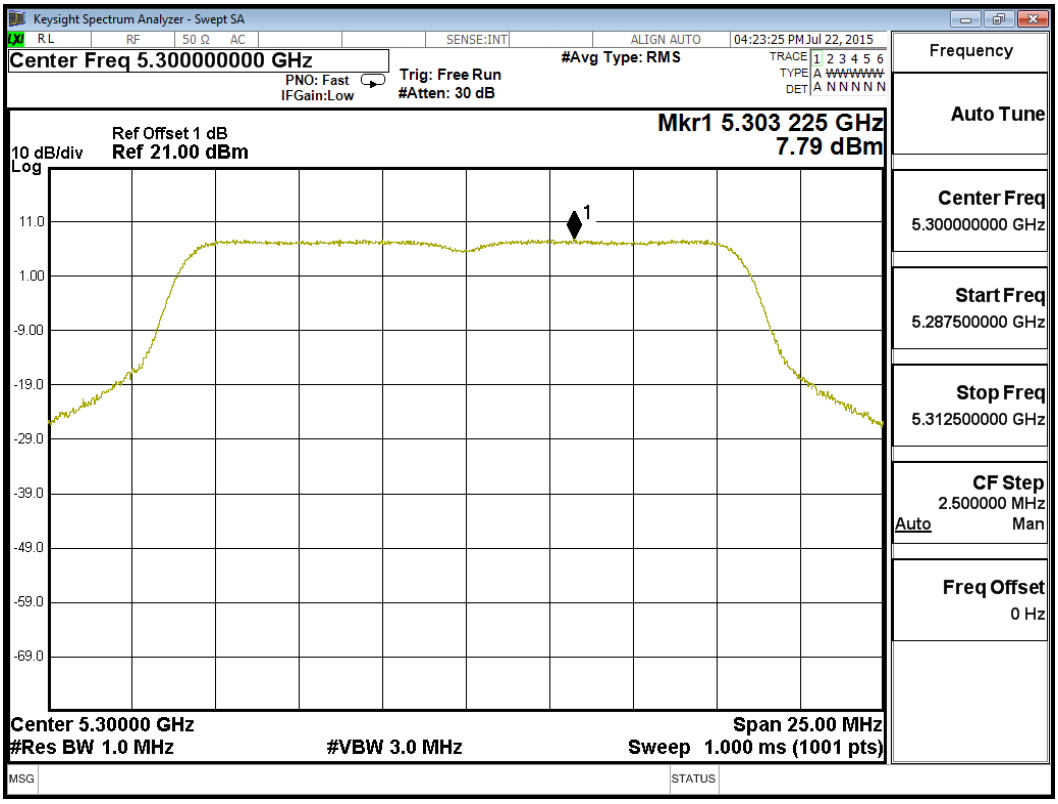
Channel 52: Chain A



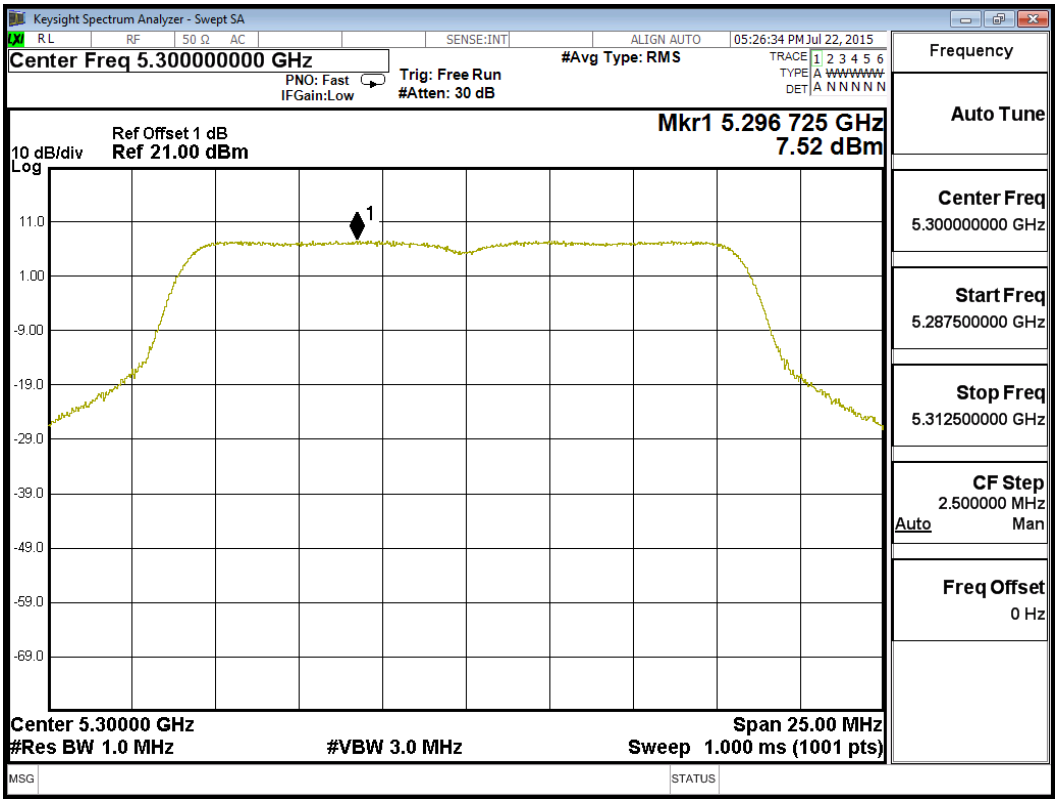
Channel 52: Chain B



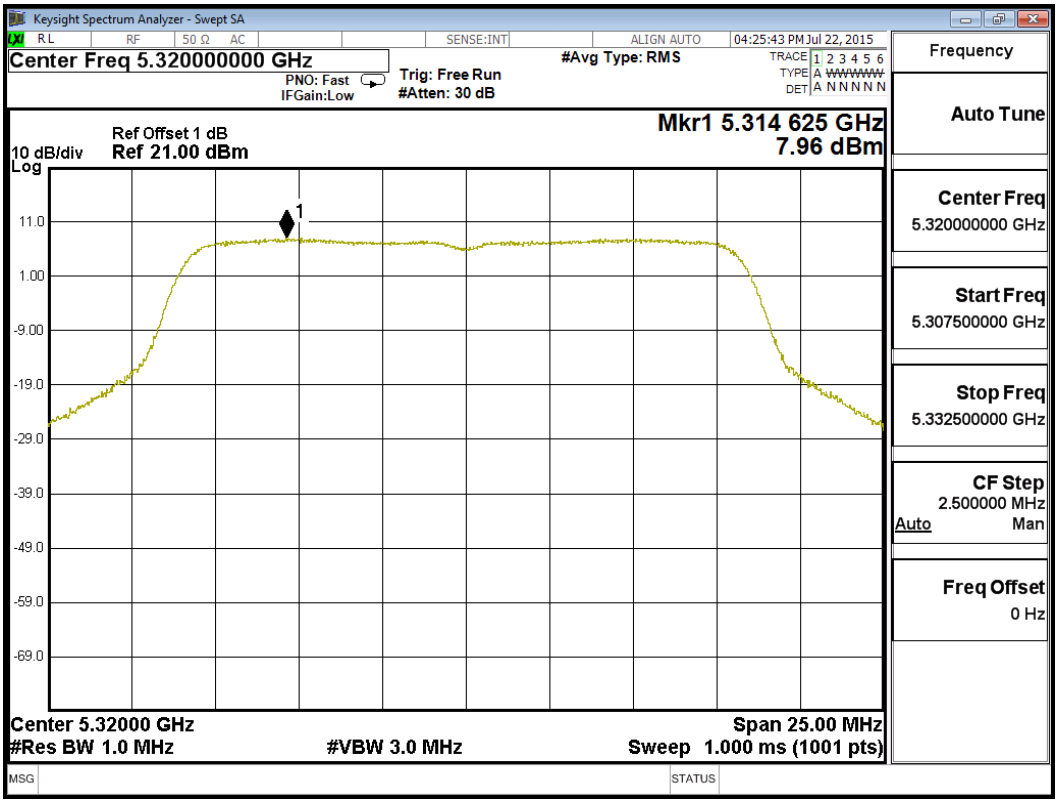
Channel 60: Chain A



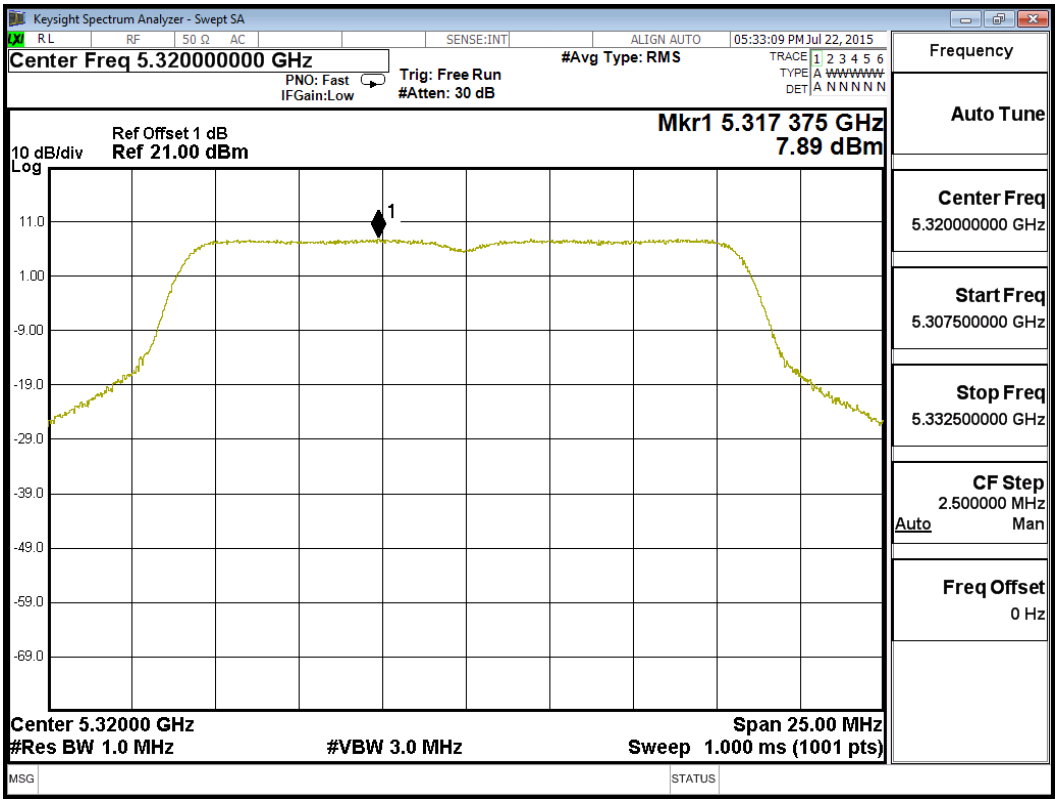
Channel 60: Chain B



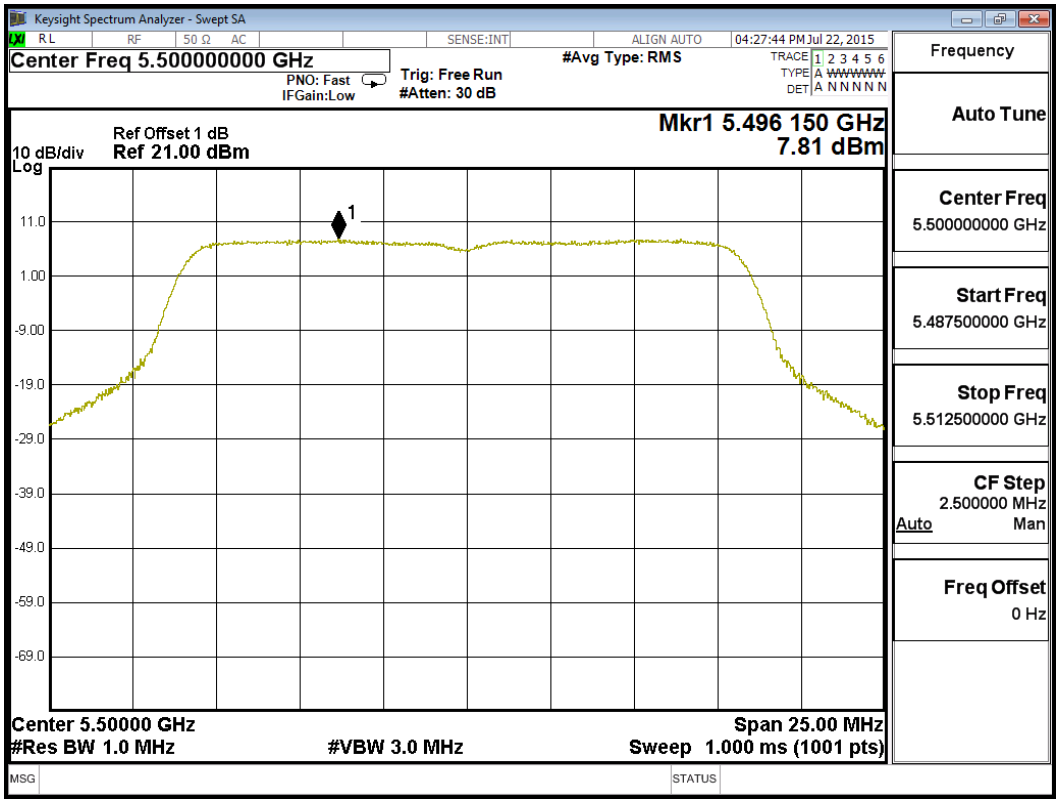
Channel 64: Chain A



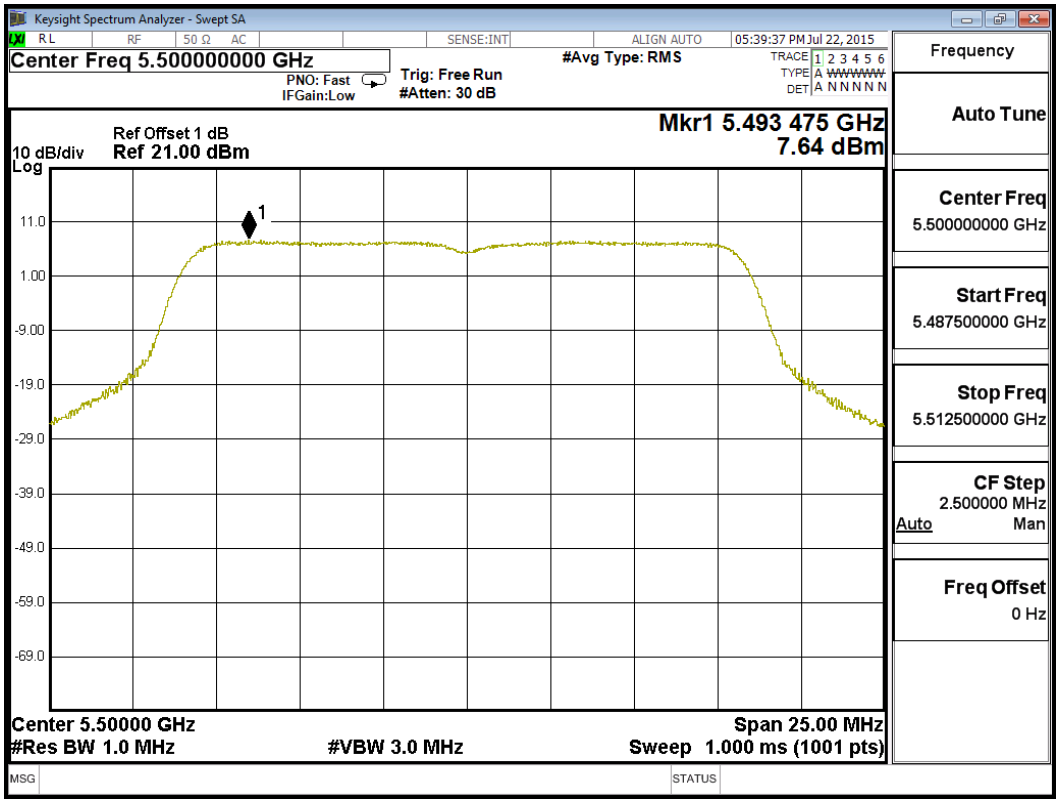
Channel 64: Chain B



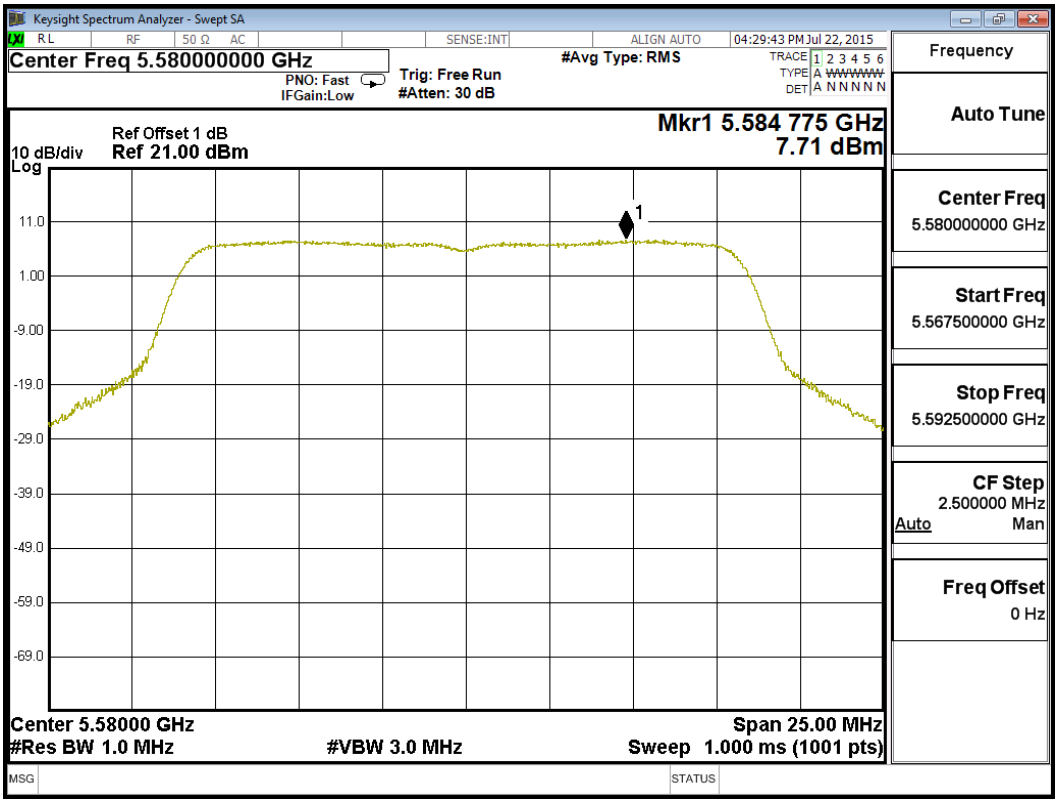
Channel 100: Chain A



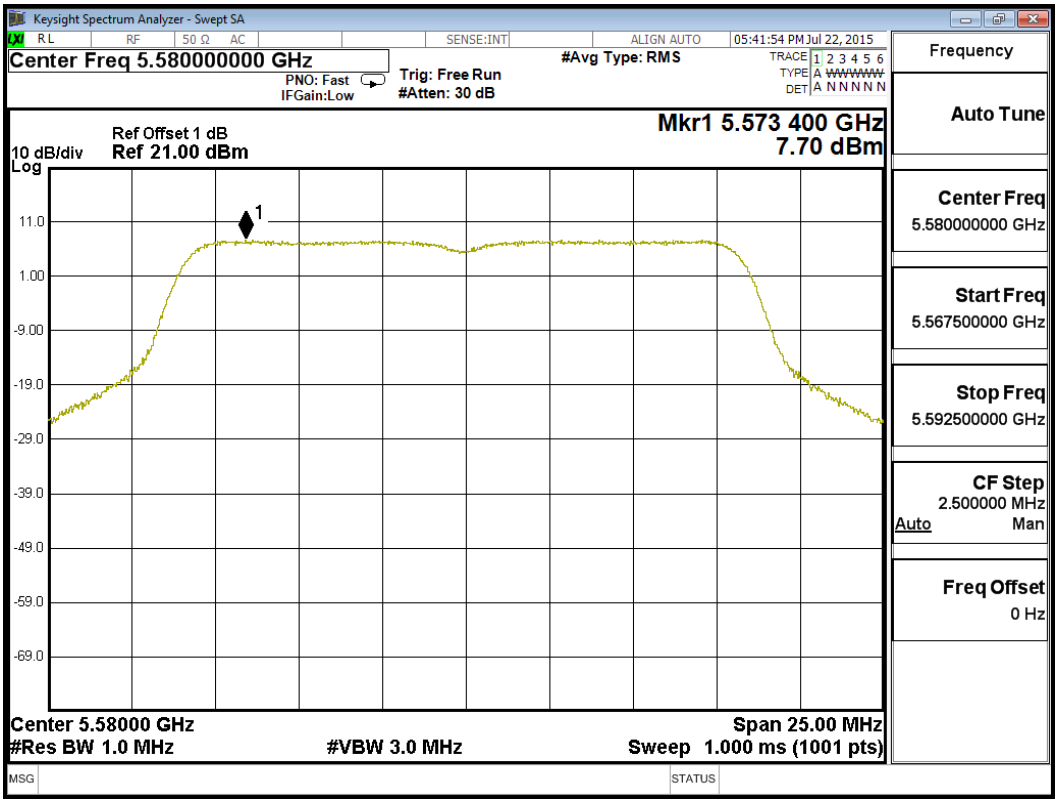
Channel 100: Chain B



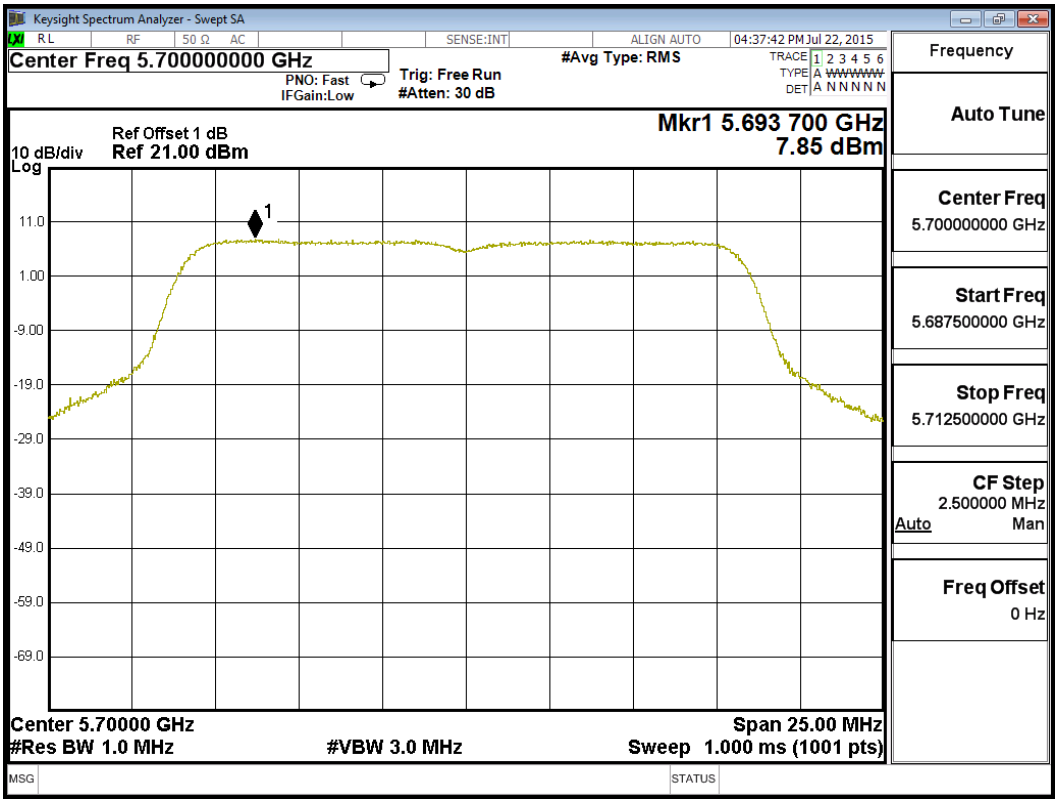
Channel 116: Chain A



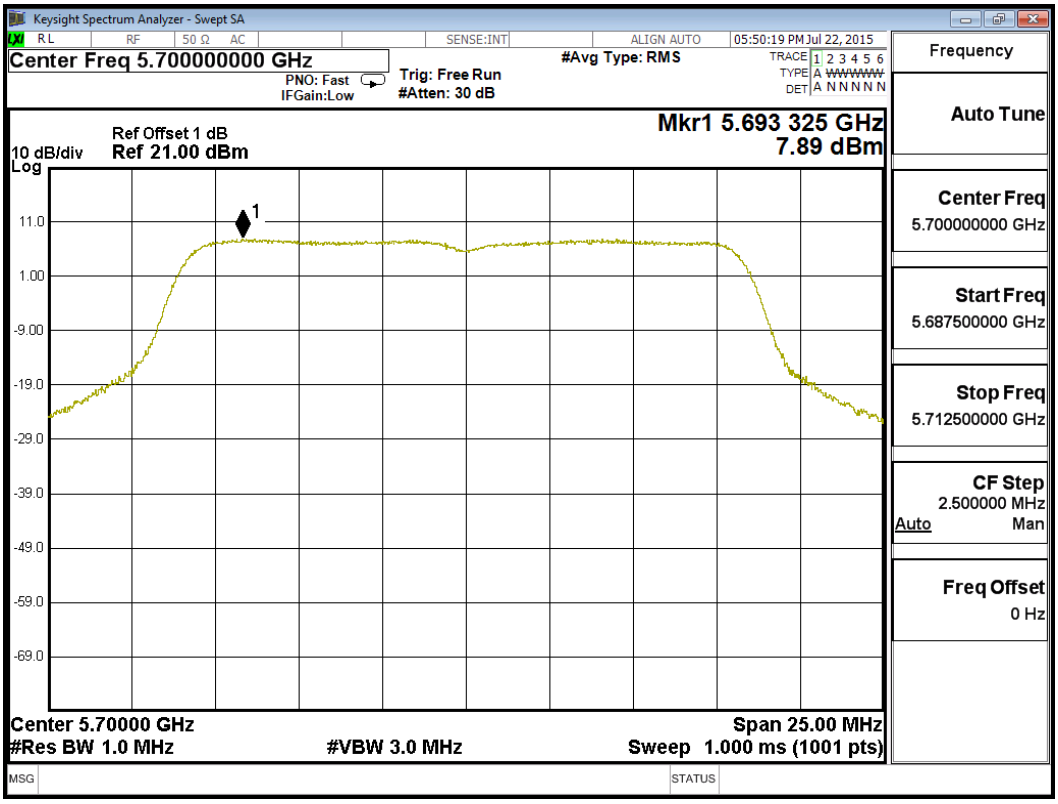
Channel 116:: Chain B



Channel 140: Chain A



Channel 140: Chain B

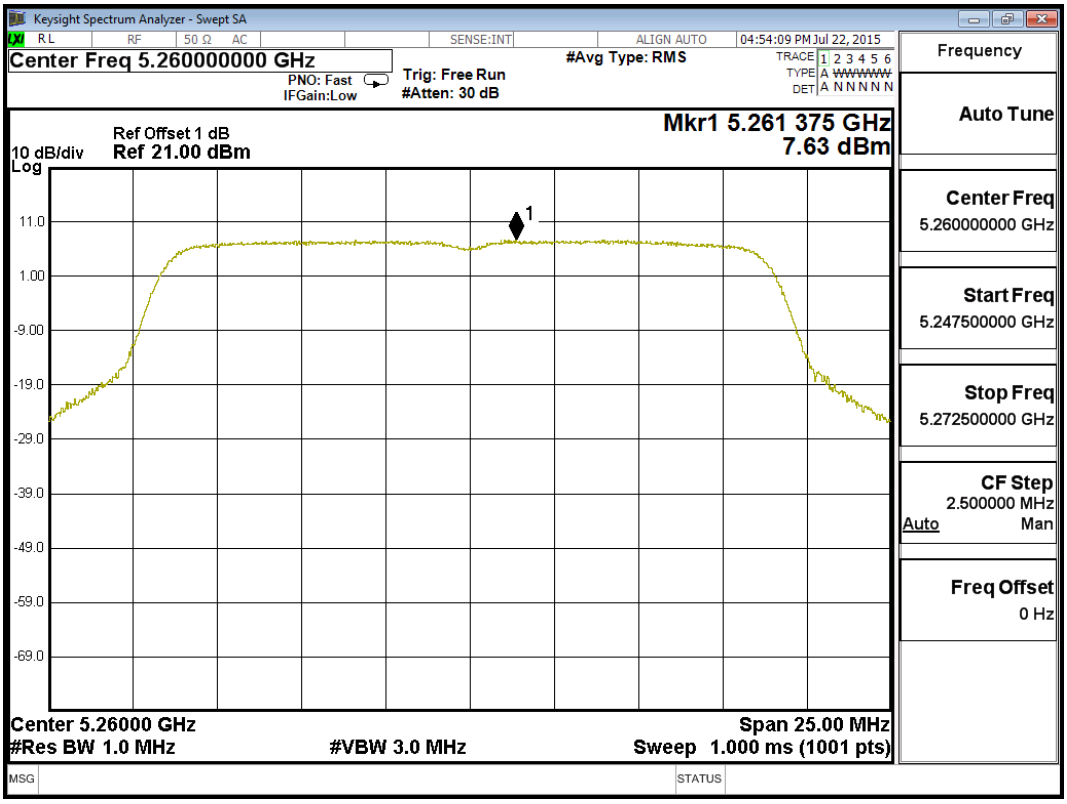


Product : 802.11ac Dual Band Access Point
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)

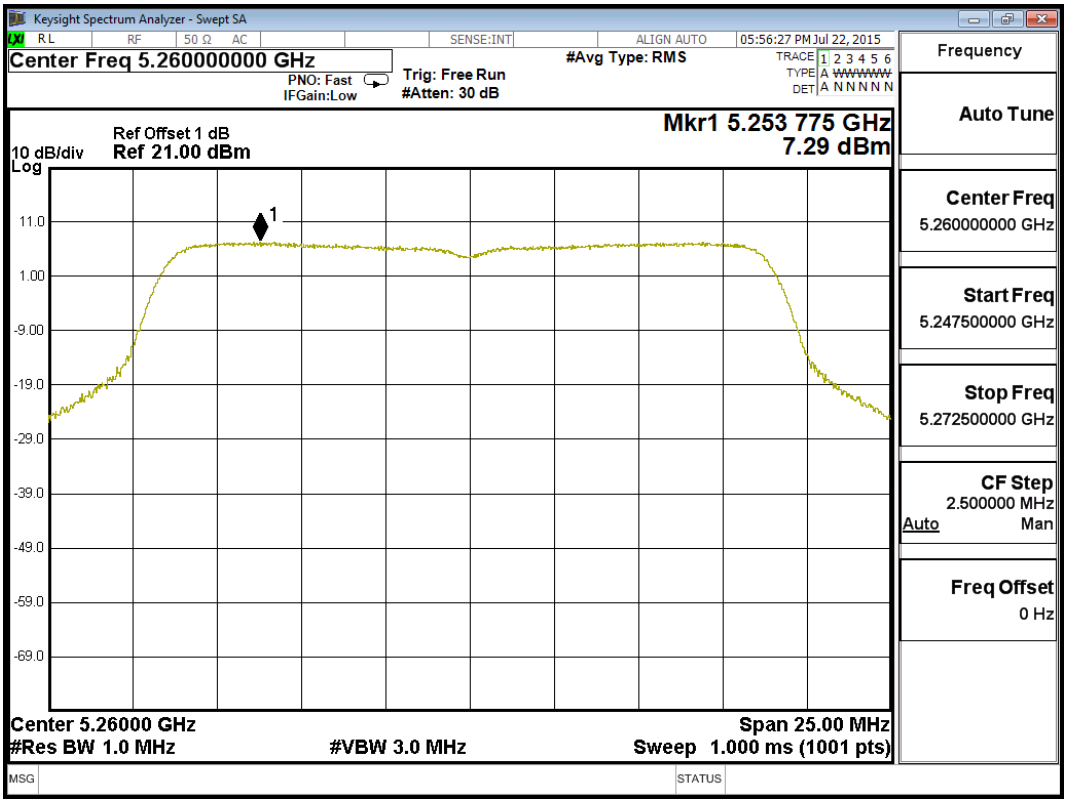
Channel Number	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)[1]	Required Limit (dBm)	Result
52	5260	A	7.630	10.640	<11	Pass
		B	7.290	10.300	<11	Pass
60	5300	A	7.550	10.560	<11	Pass
		B	7.090	10.100	<11	Pass
64	5320	A	7.750	10.760	<11	Pass
		B	7.560	10.570	<11	Pass
100	5500	A	7.330	10.340	<11	Pass
		B	7.080	10.090	<11	Pass
116	5580	A	7.260	10.270	<11	Pass
		B	7.020	10.030	<11	Pass
140	5700	A	7.650	10.660	<11	Pass
		B	7.700	10.710	<11	Pass

Note 1: The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

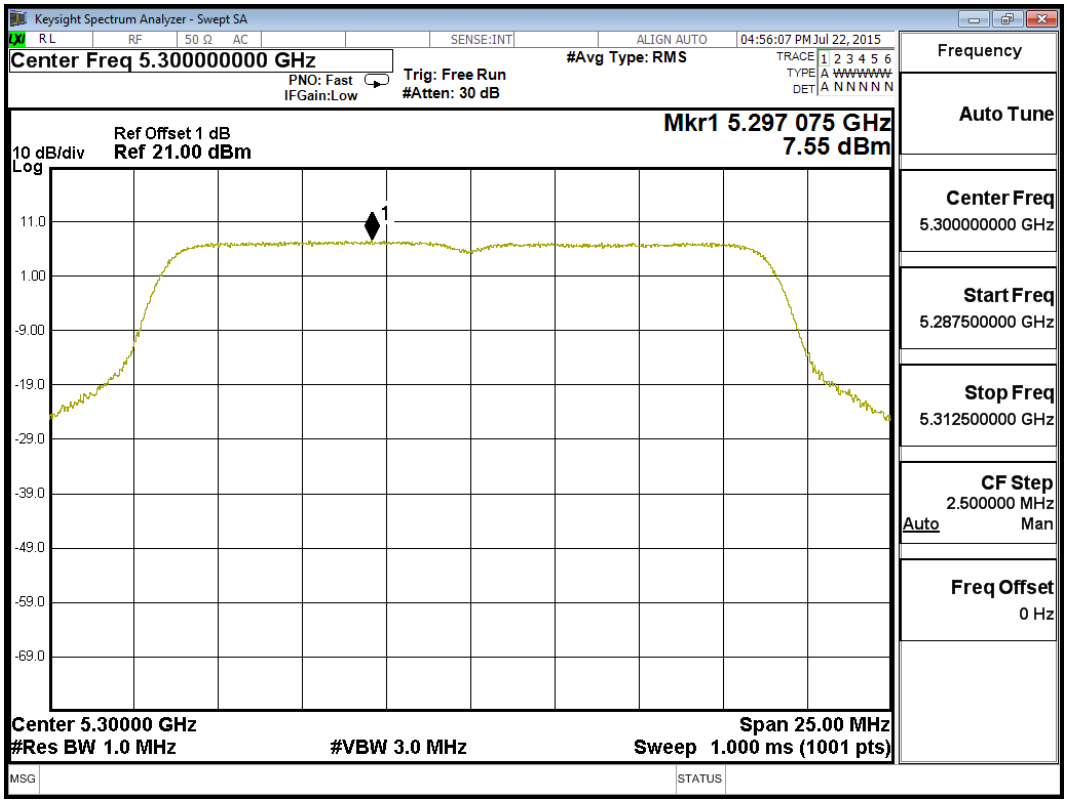
Channel 52: Chain A



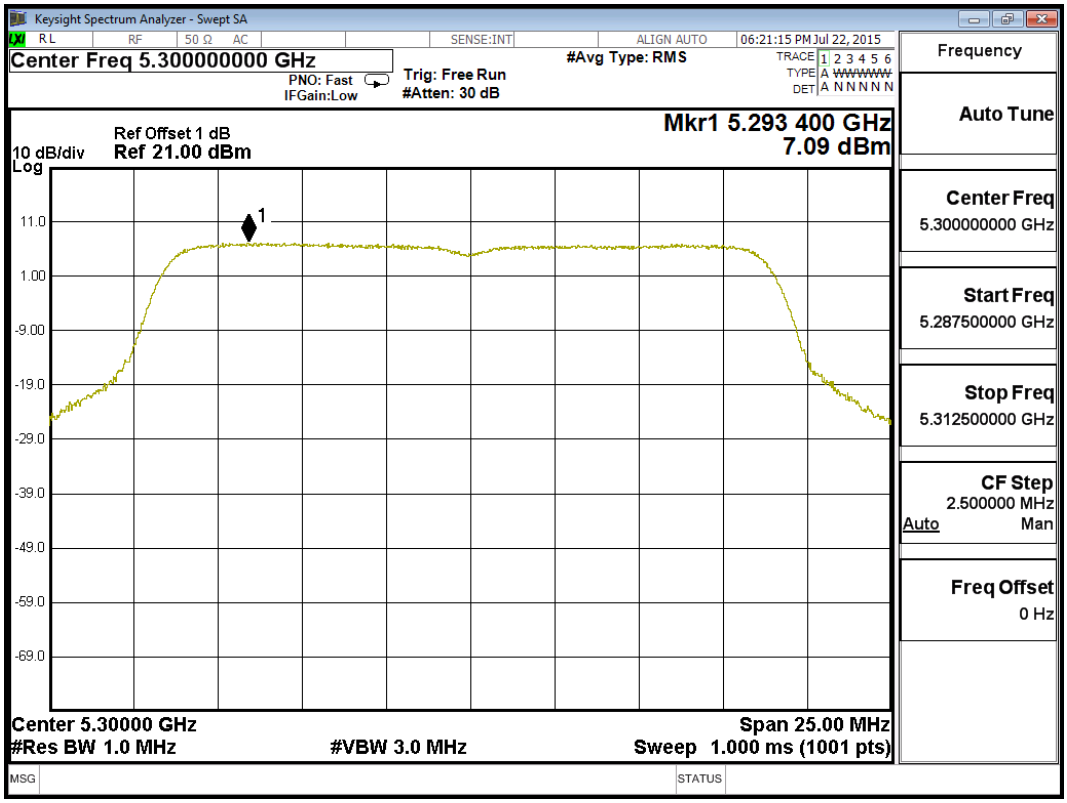
Channel 52: Chain B



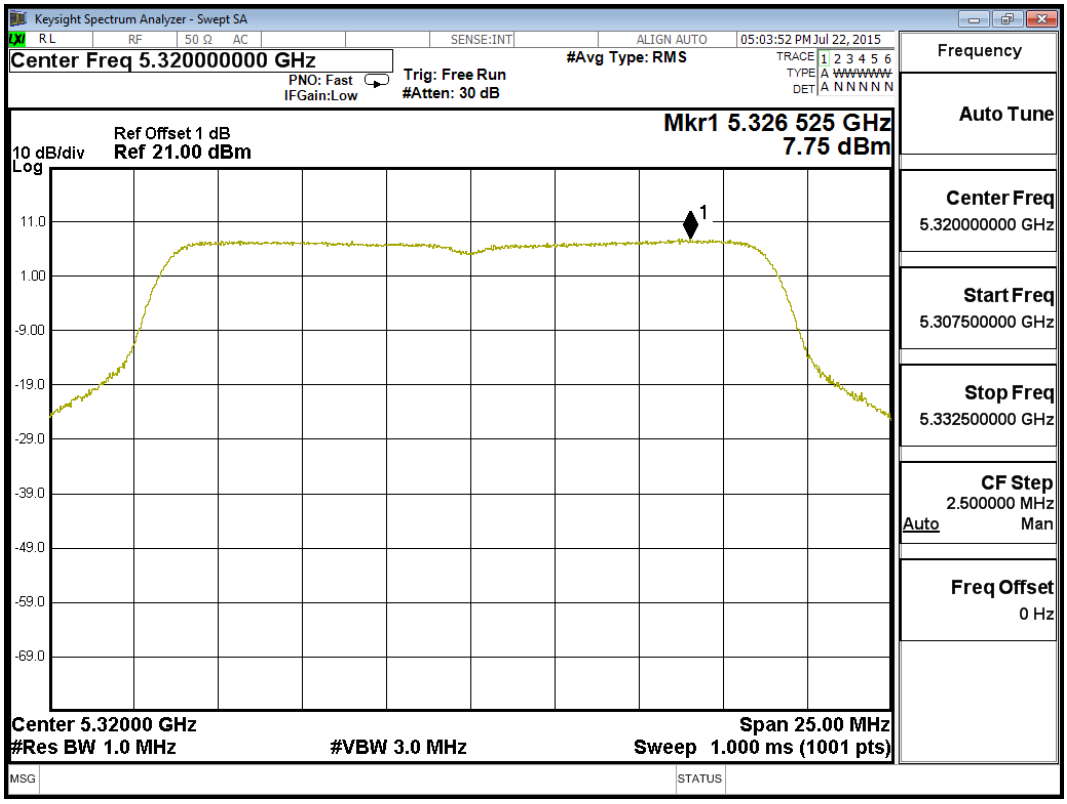
Channel 60: Chain A



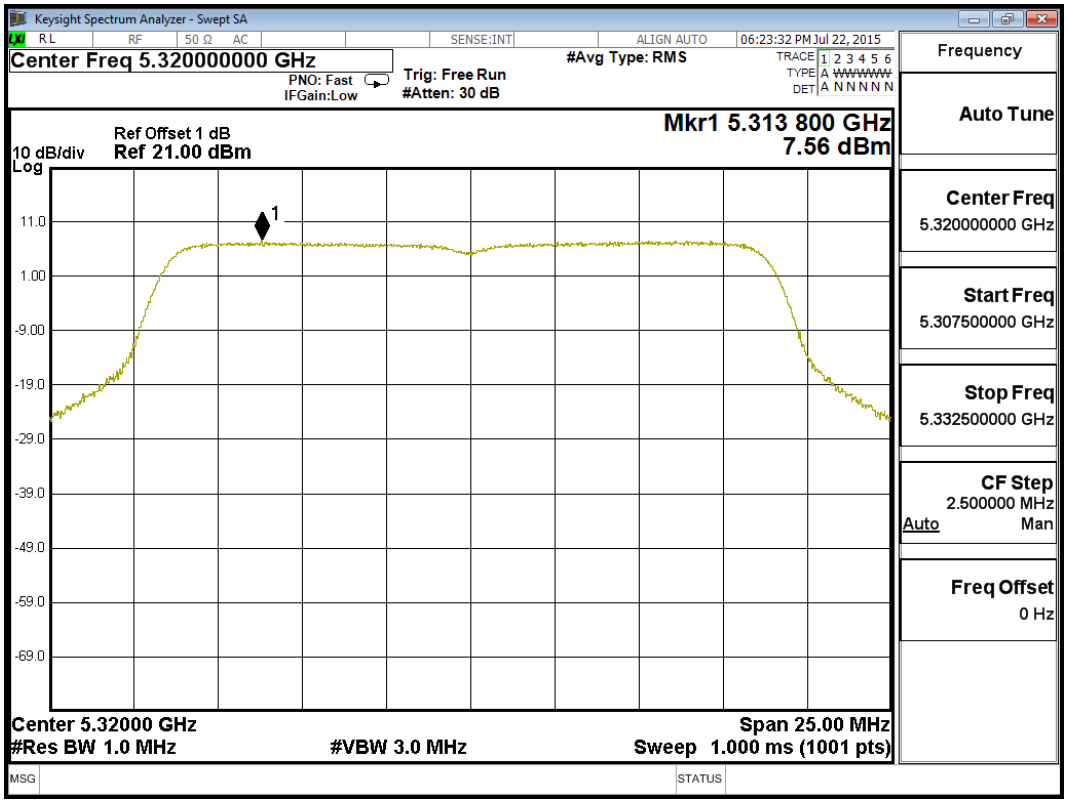
Channel 60: Chain B



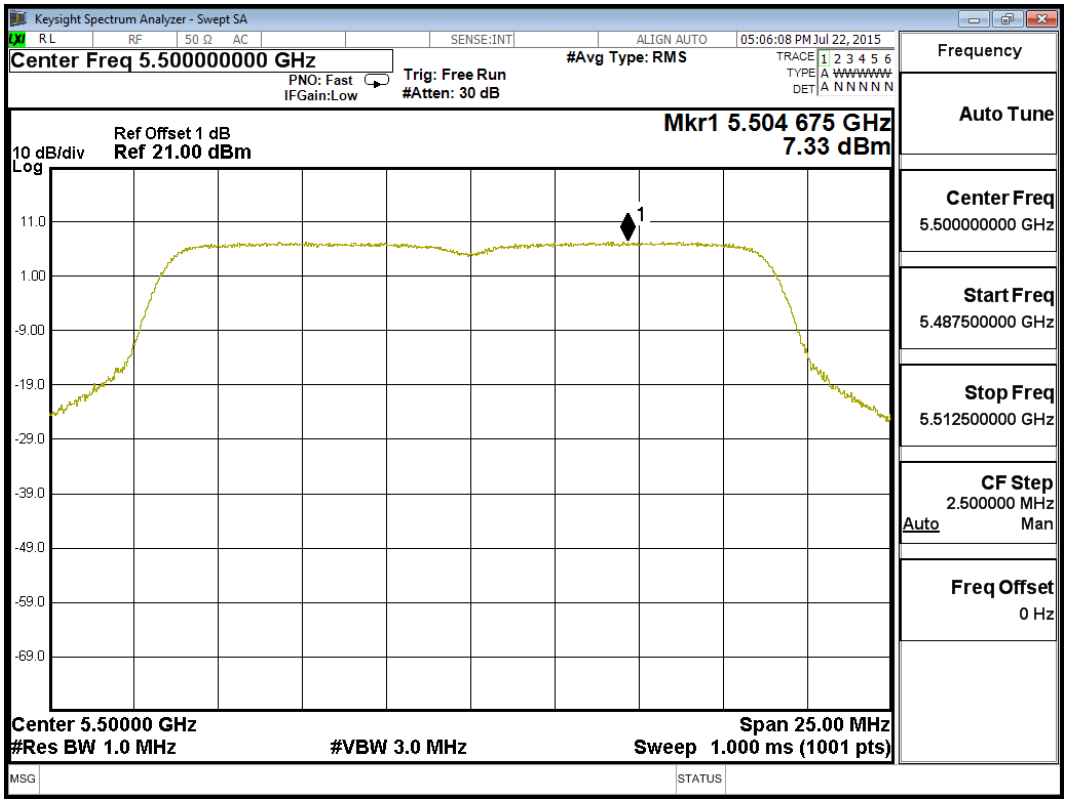
Channel 64: Chain A



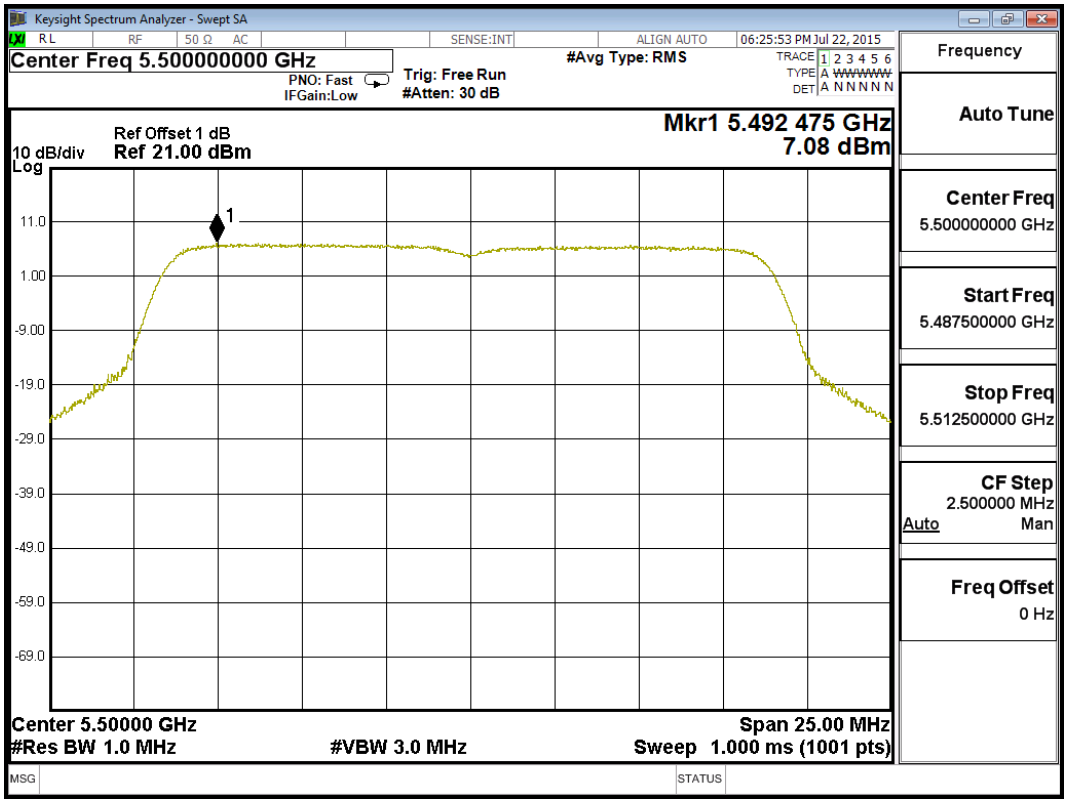
Channel 64: Chain B



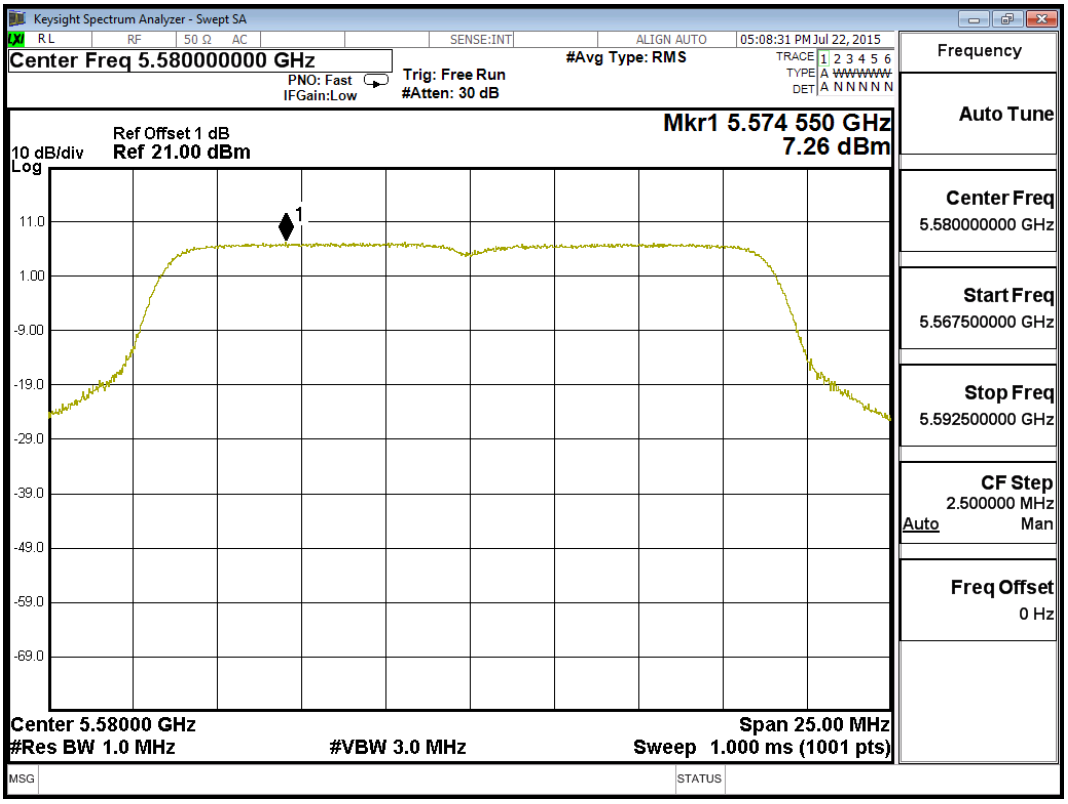
Channel 100: Chain A



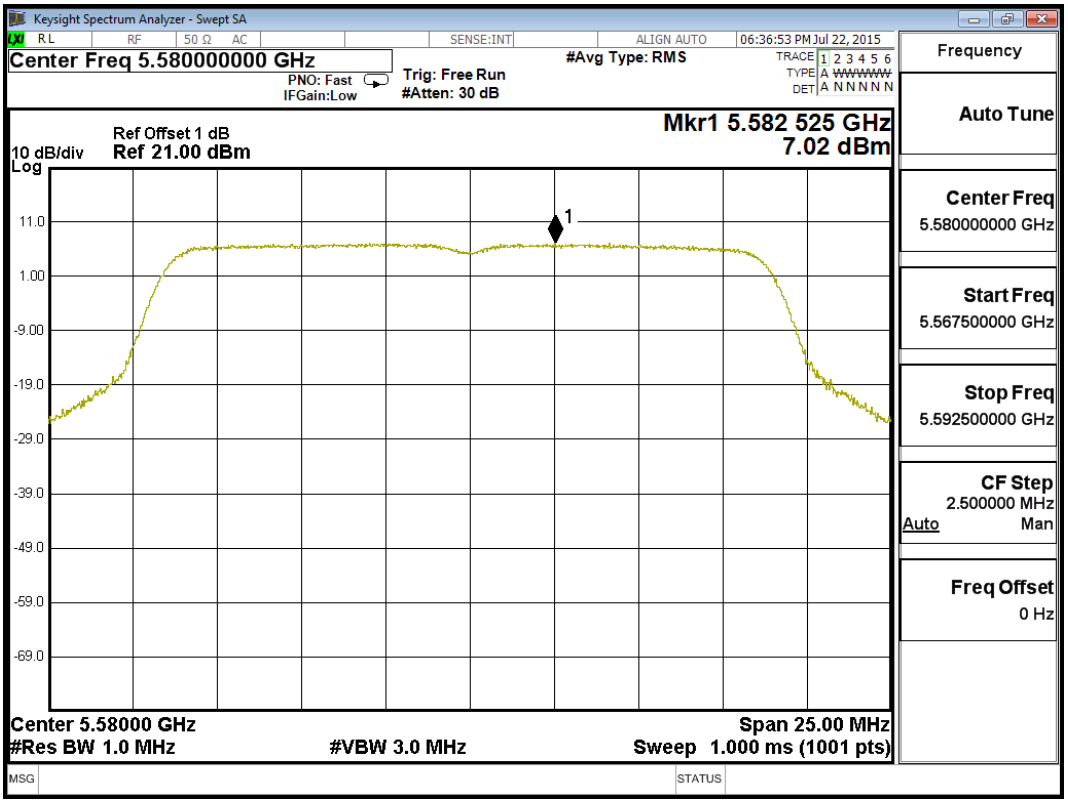
Channel 100: Chain B



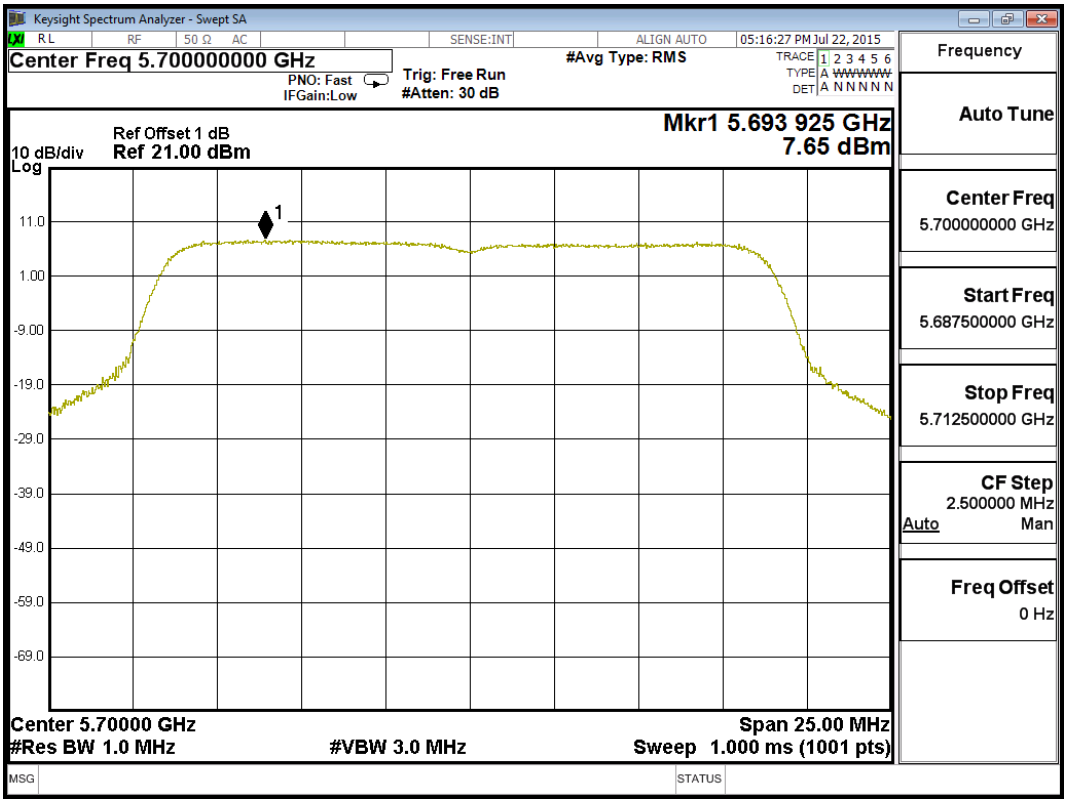
Channel 116: Chain A



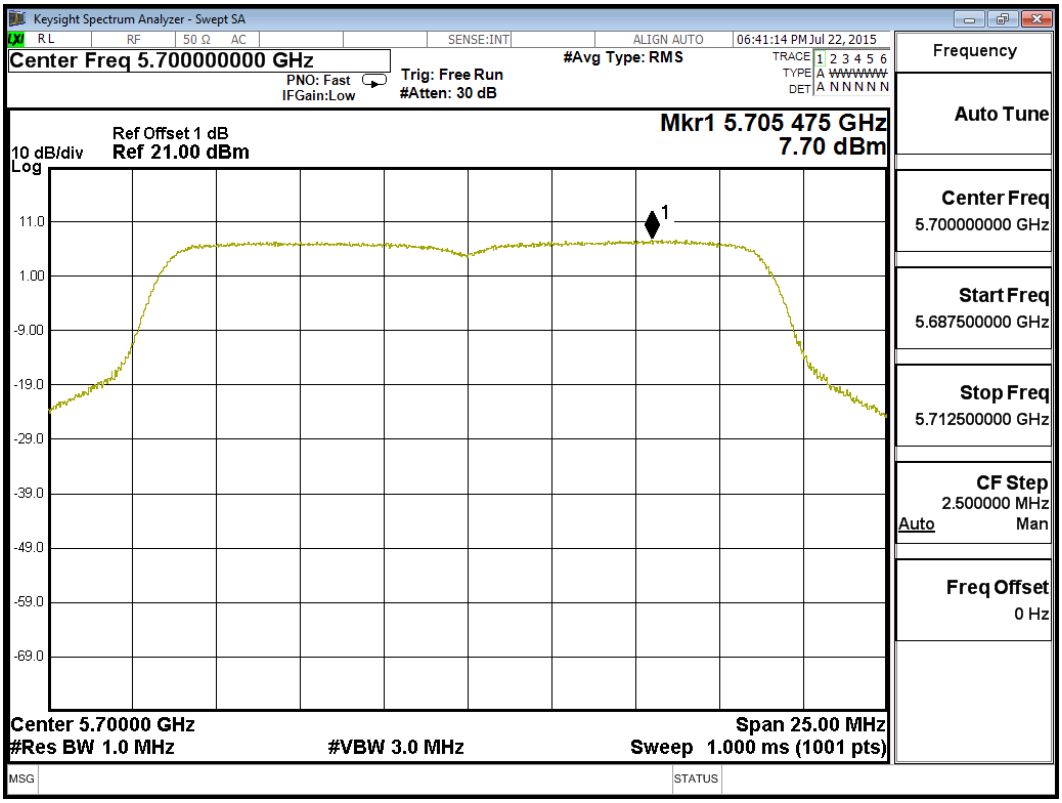
Channel 116: Chain B



Channel 140: Chain A



Channel 140: Chain B

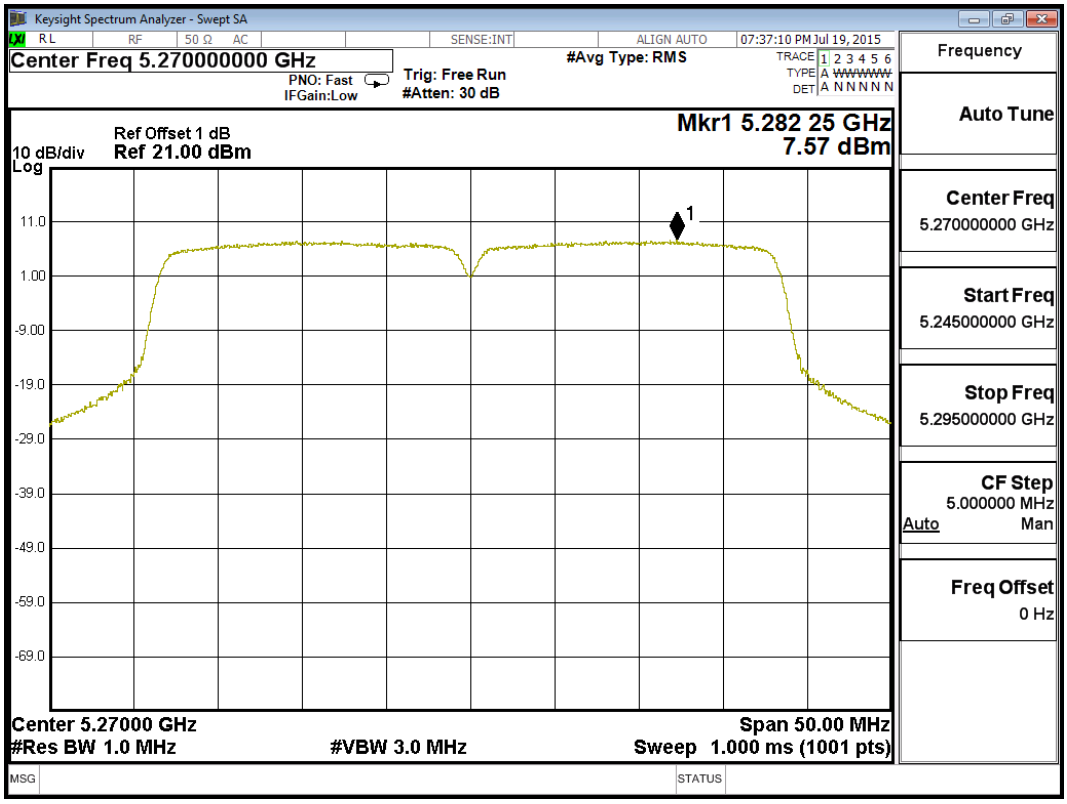


Product : 802.11ac Dual Band Access Point
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)

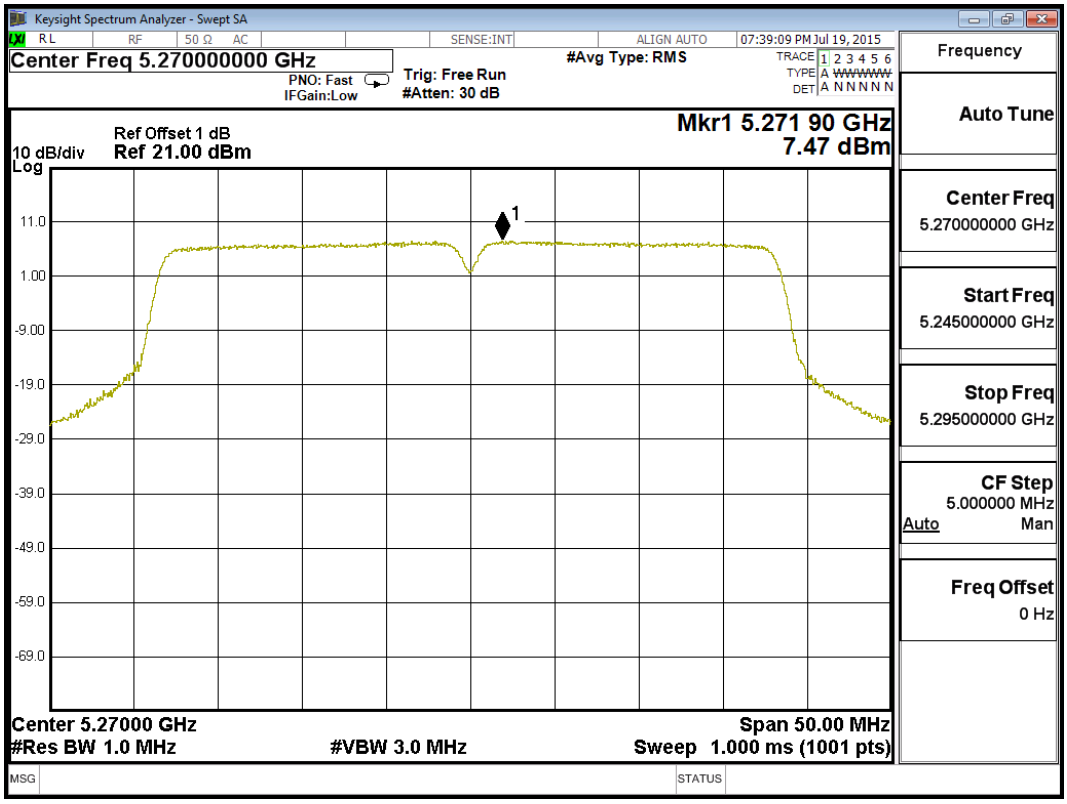
Channel Number	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)[1]	Required Limit (dBm)	Result
54	5270	A	7.570	10.580	<11	Pass
		B	7.470	10.480	<11	Pass
62	5310	A	1.590	4.600	<11	Pass
		B	1.610	4.620	<11	Pass
102	5510	A	6.560	9.570	<11	Pass
		B	6.640	9.650	<11	Pass
110	5550	A	6.780	9.790	<11	Pass
		B	7.060	10.070	<11	Pass
134	5670	A	6.230	9.240	<11	Pass
		B	6.280	9.290	<11	Pass

Note 1: The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01

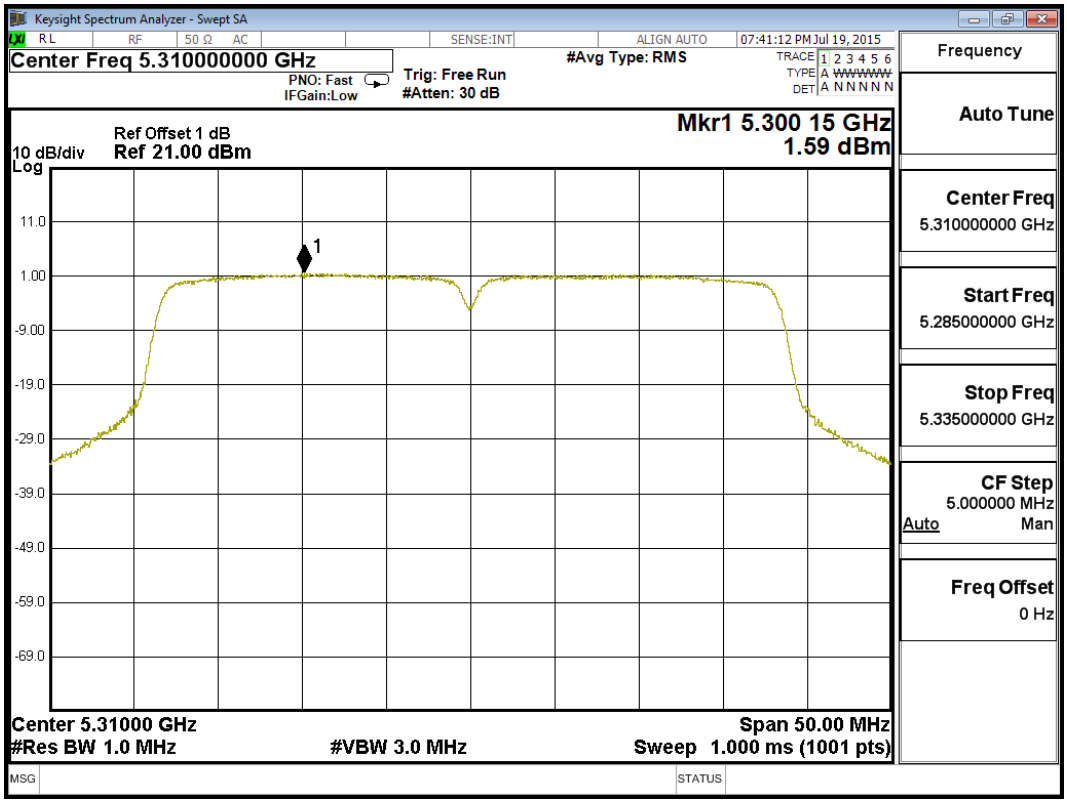
Channel 54: Chain A



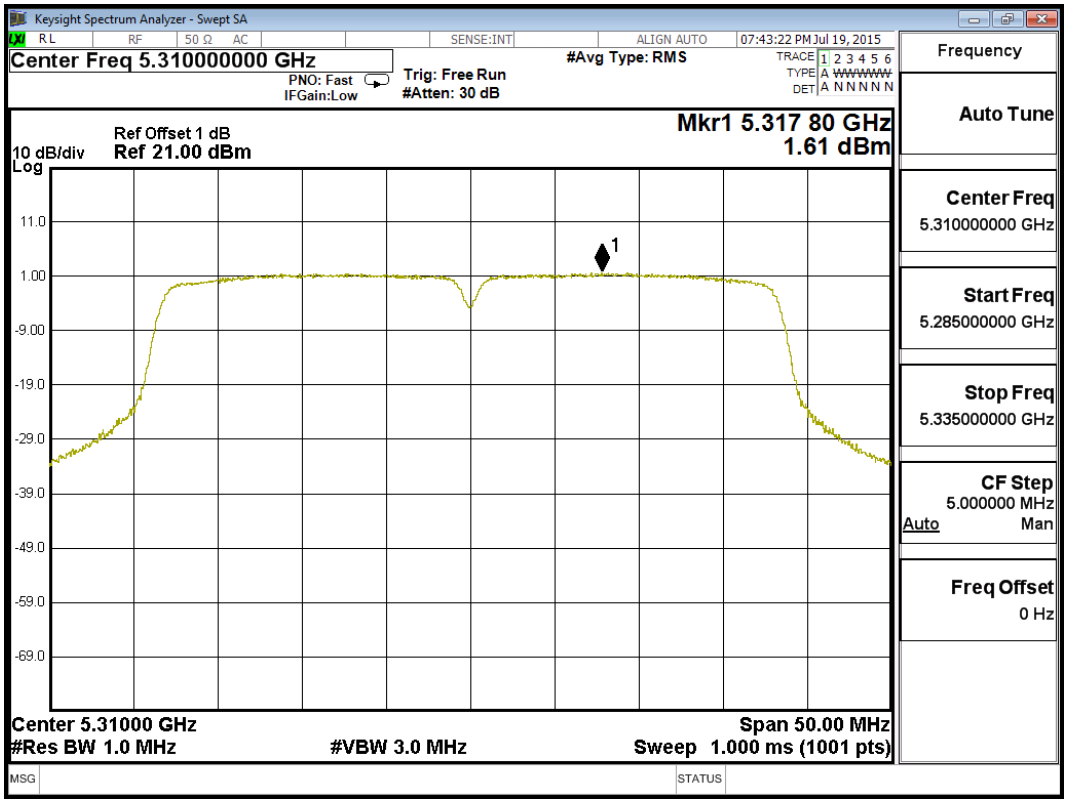
Channel 54: Chain B



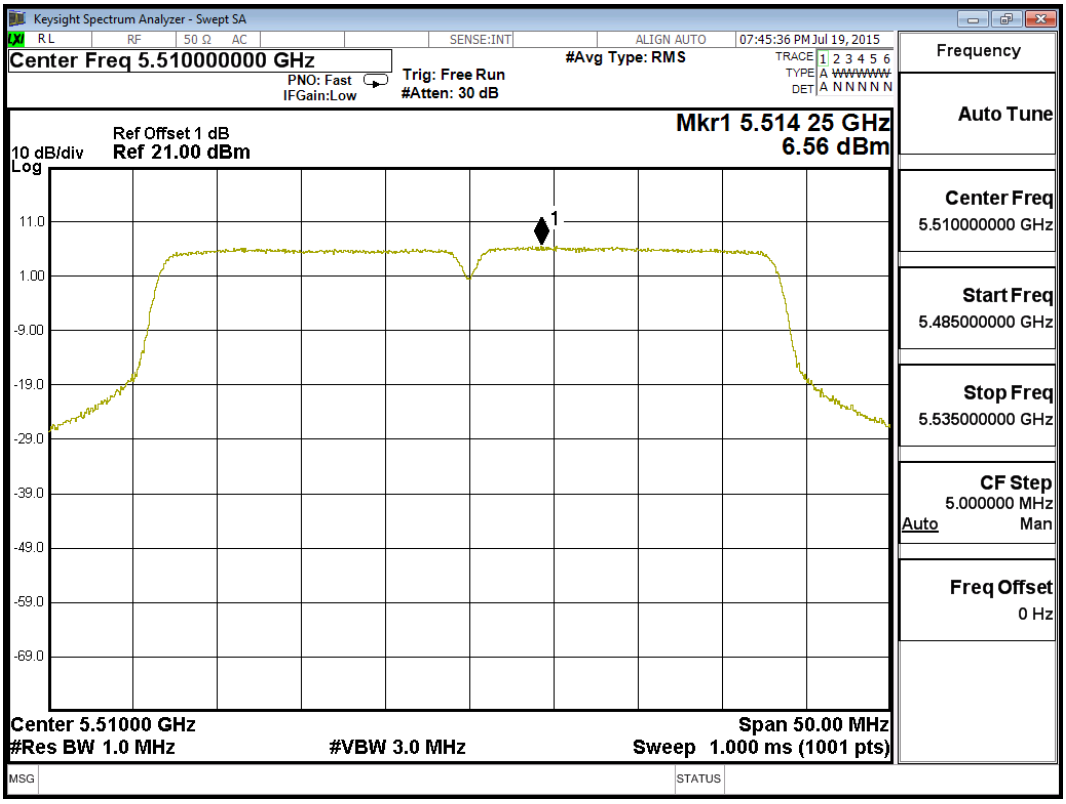
Channel 62: Chain A



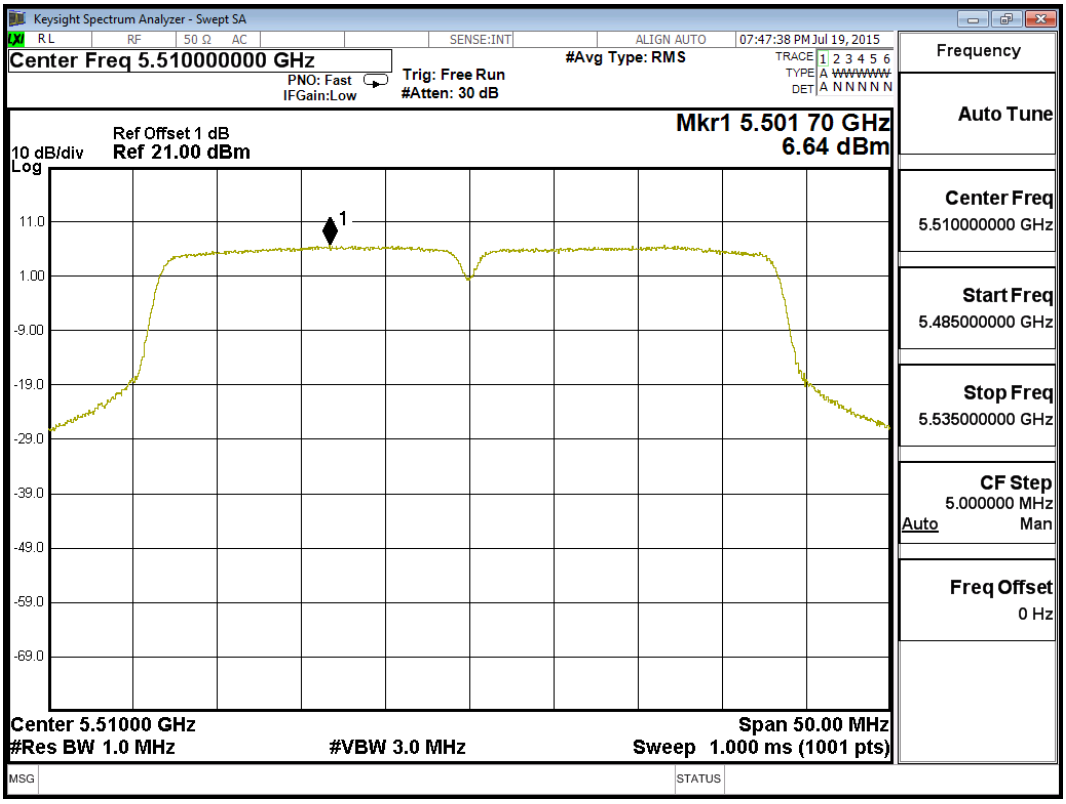
Channel 62: Chain B



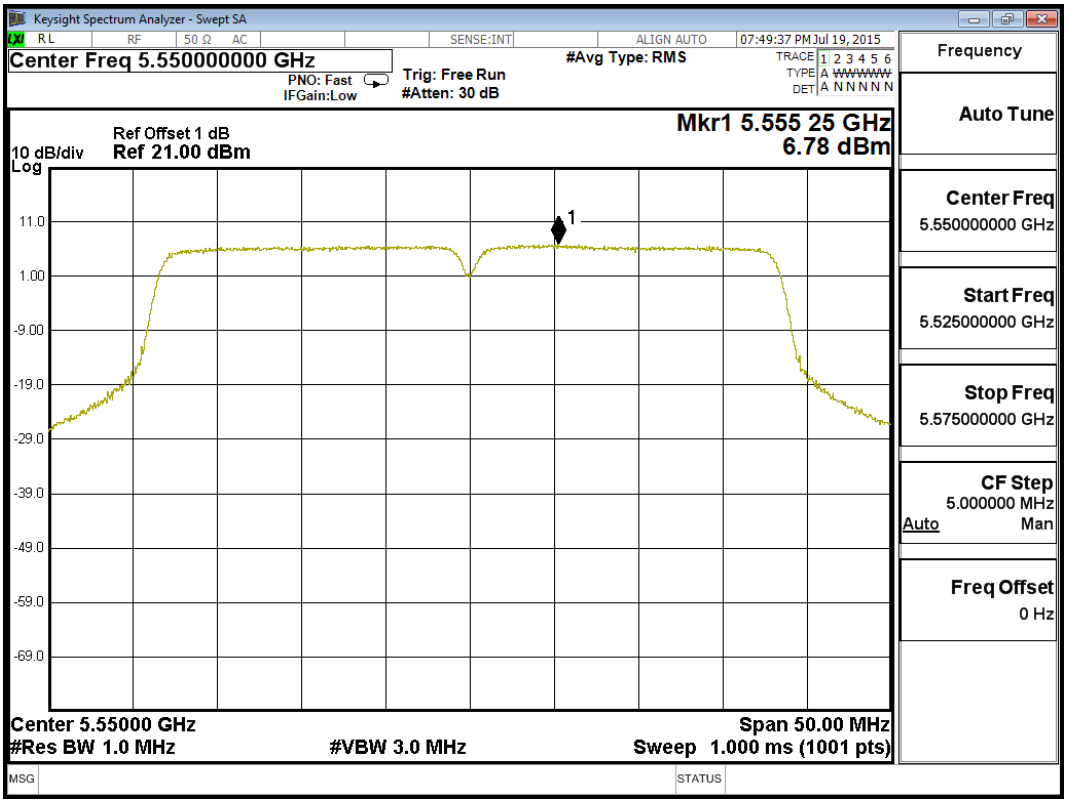
Channel 102: Chain A



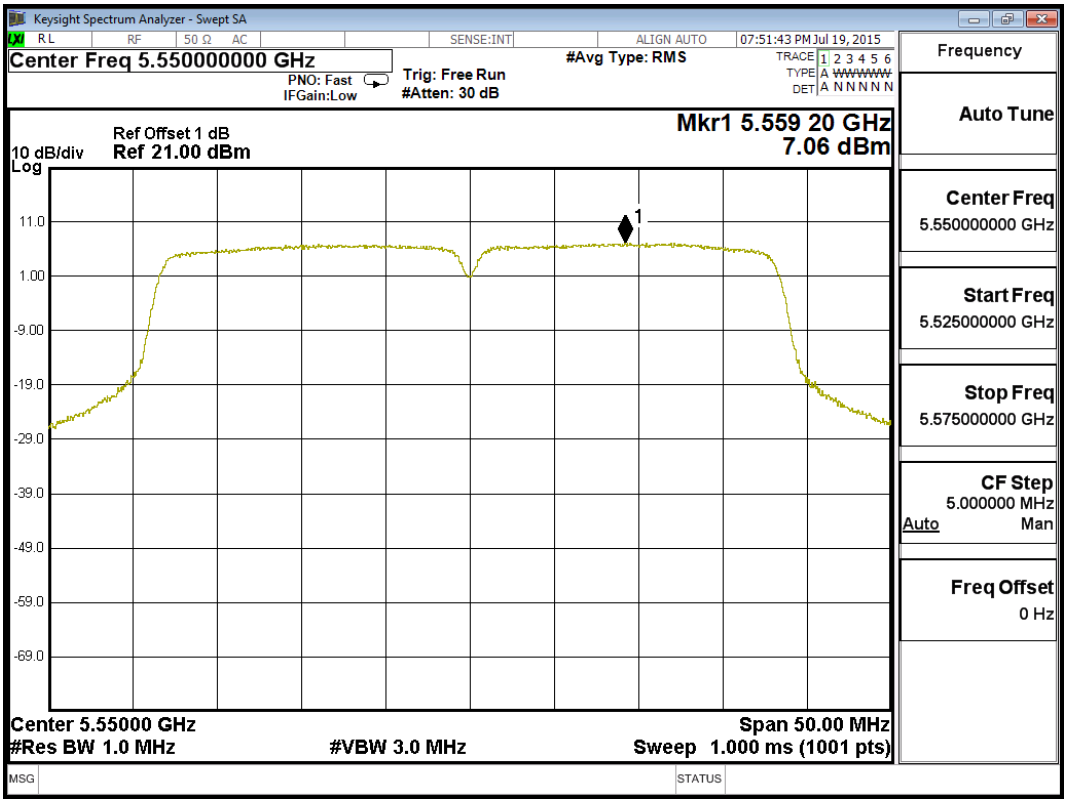
Channel 102: Chain B



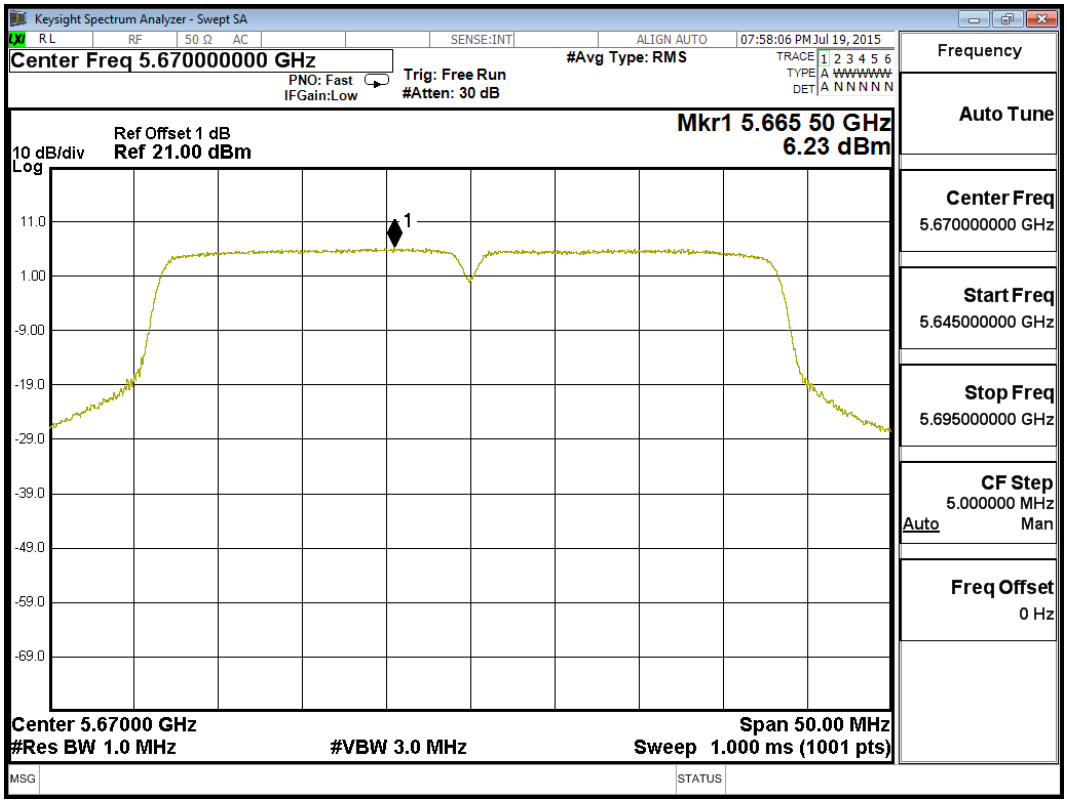
Channel 110: Chain A



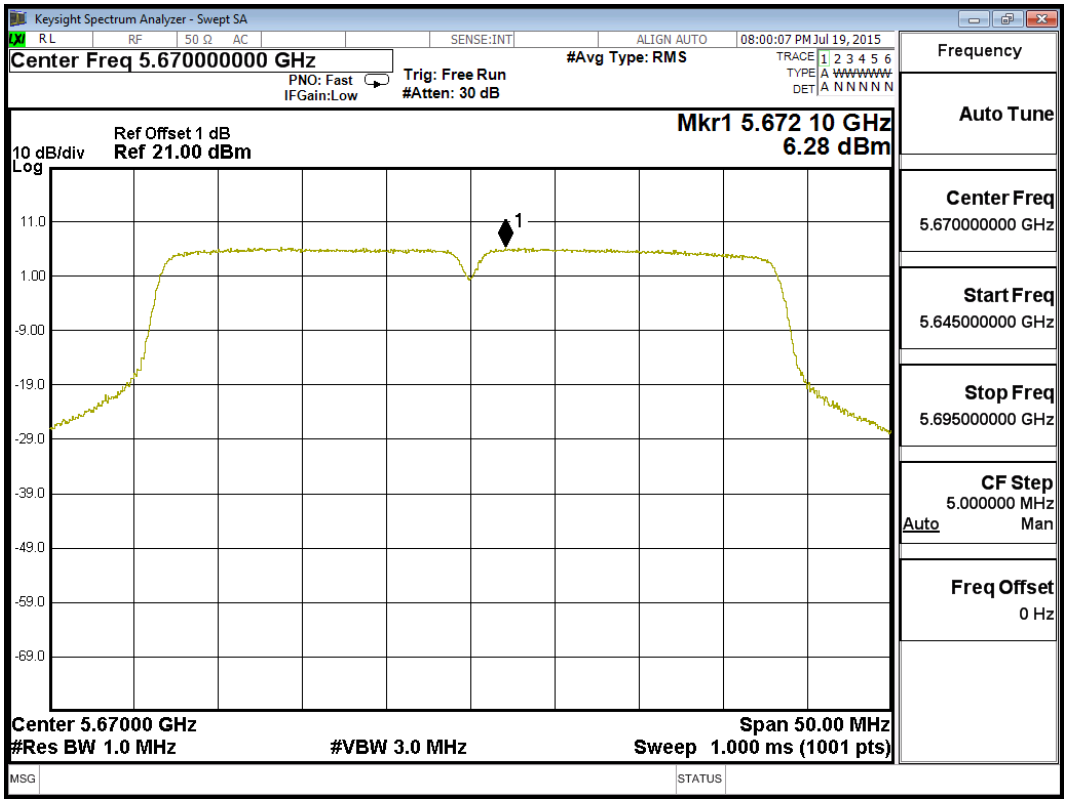
Channel 110: Chain B



Channel 134: Chain A



Channel 134: Chain B

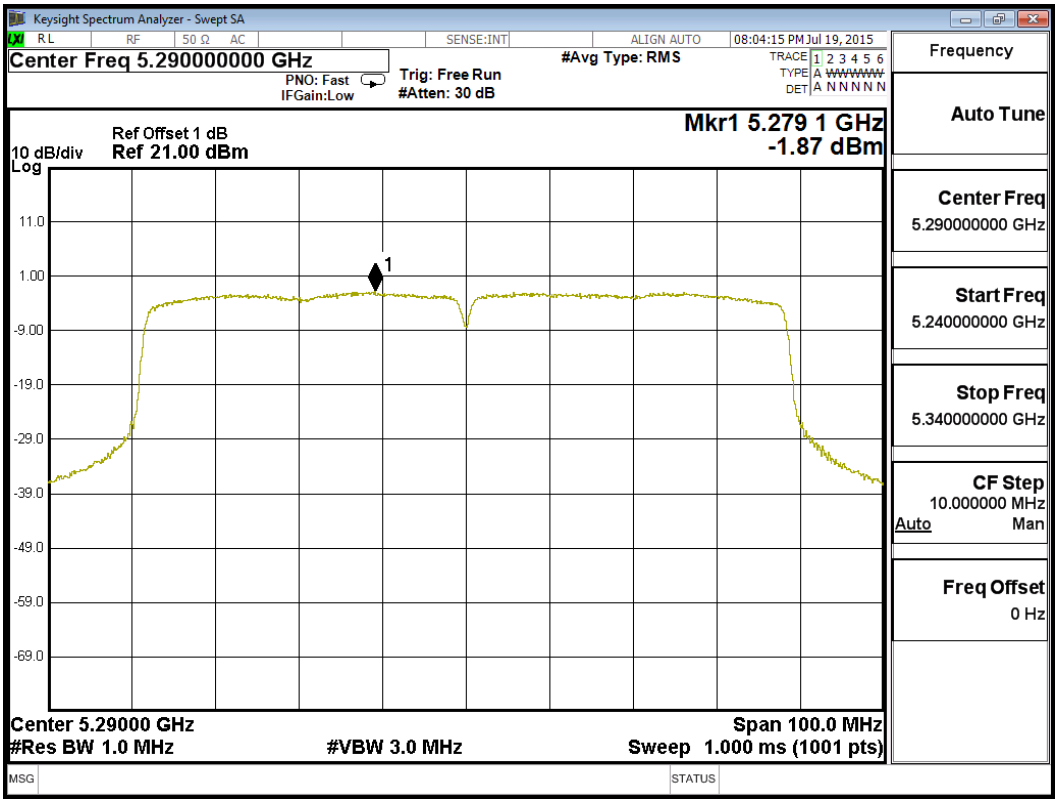


Product : 802.11ac Dual Band Access Point
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 6 Transmit (802.11ac-80BW-65Mbps)

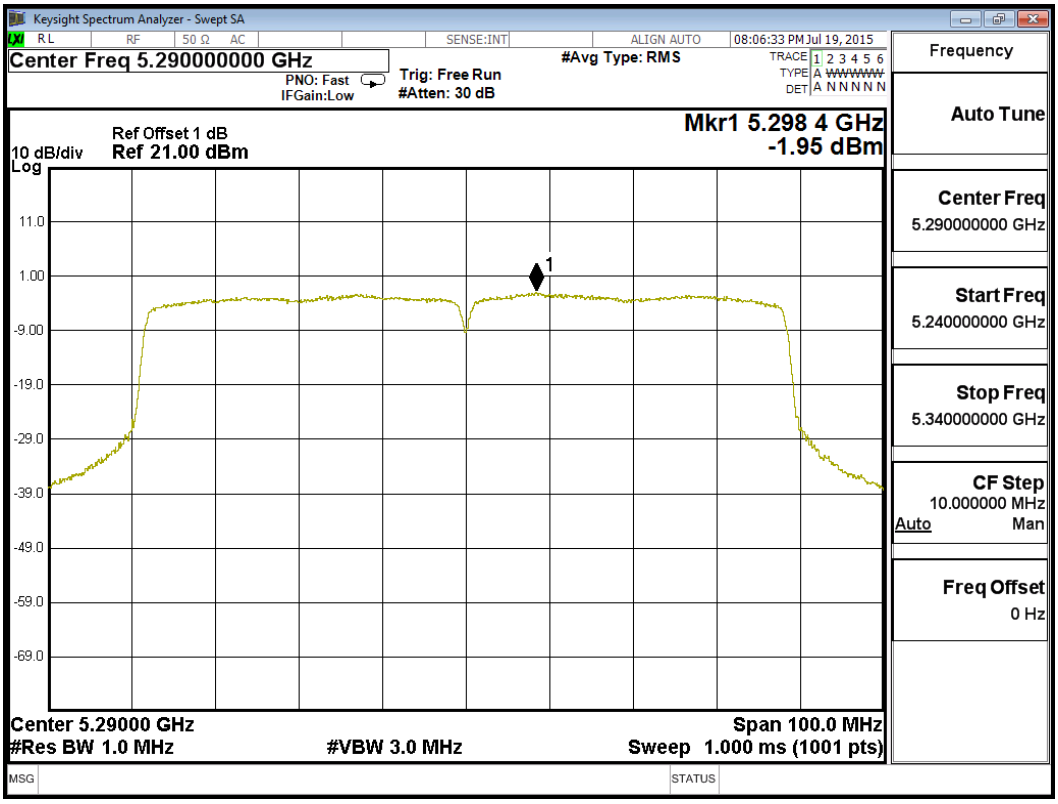
Channel Number	Frequency (MHz)	Chain	PPSD/MHz (dBm)	BWCF (dB)	Total PPSD/MHz (dBm)[1]	Required Limit (dBm)	Result
58	5290	A	-1.870	--	1.140	<11	Pass
		B	-1.950	--	1.060	<11	Pass
106	5530	A	-1.770	--	1.240	<11	Pass
		B	-1.620	--	1.390	<11	Pass
122	5610	A	1.978	--	4.988	<11	Pass
		B	1.860	--	4.870	<11	Pass

Note : The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

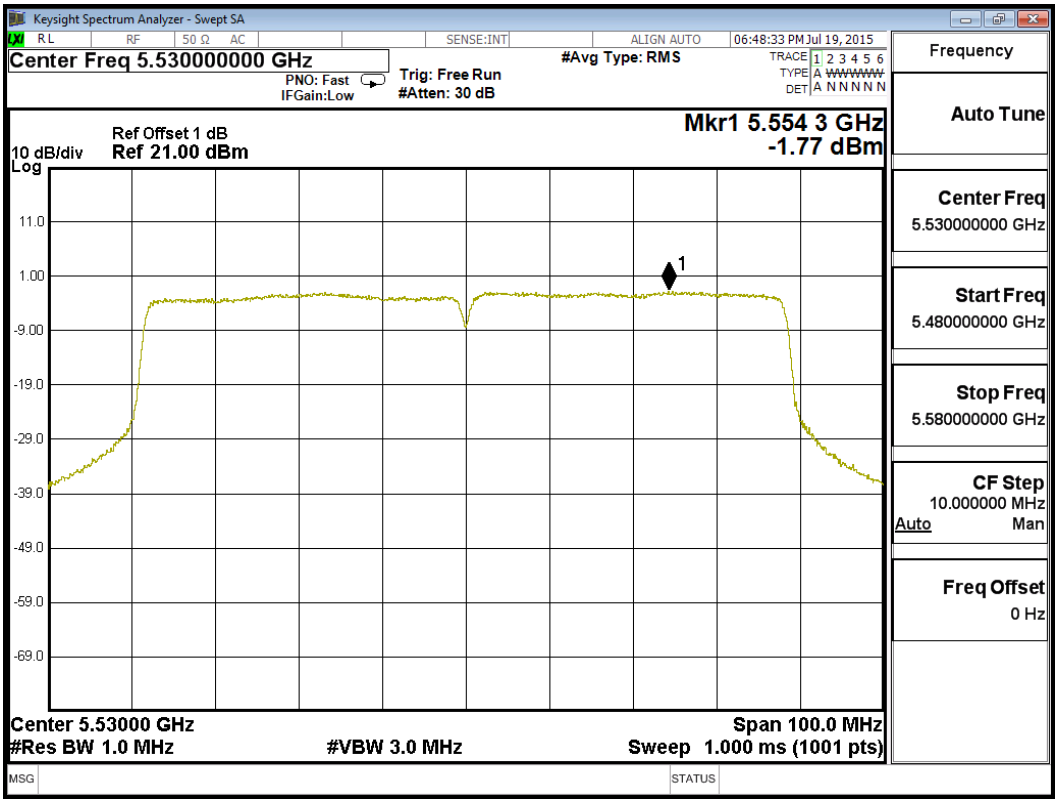
Channel 58: Chain A



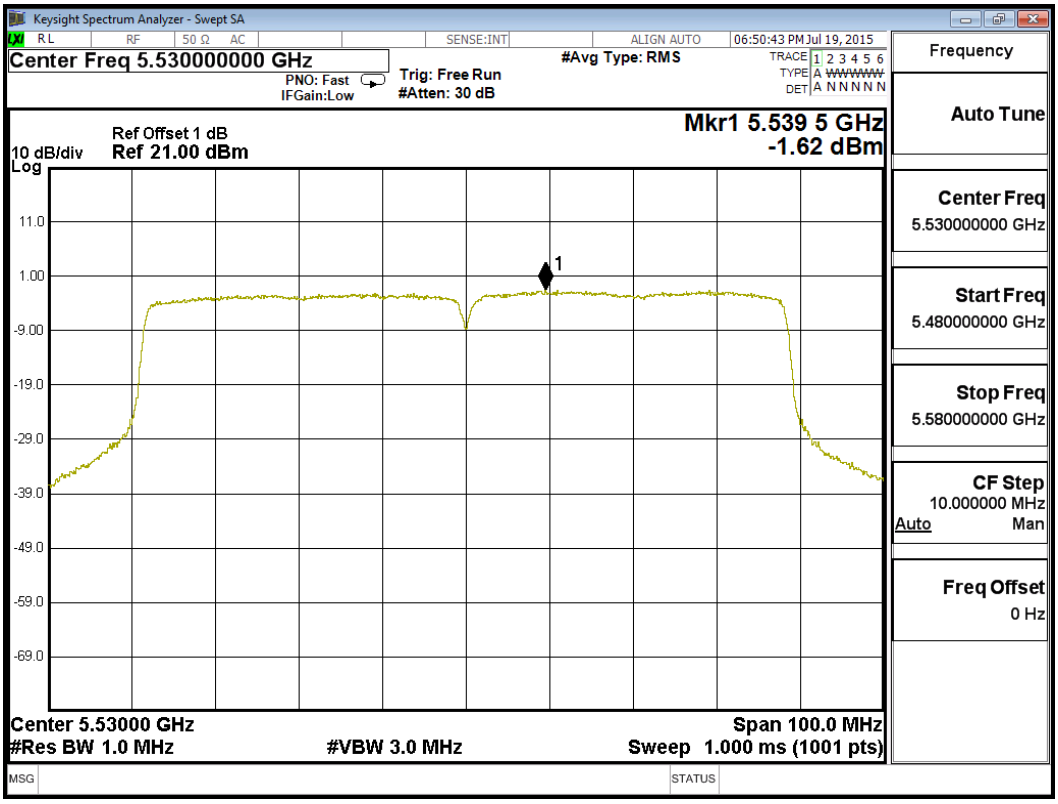
Channel 58: Chain B



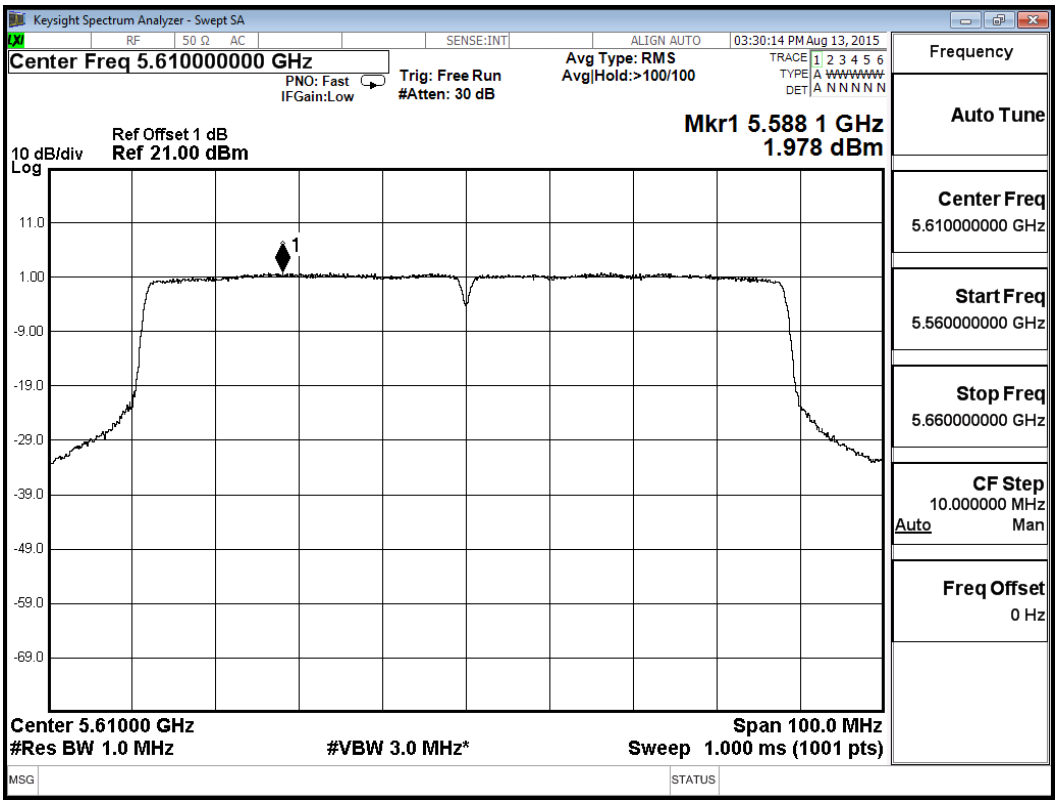
Channel 106: Chain A



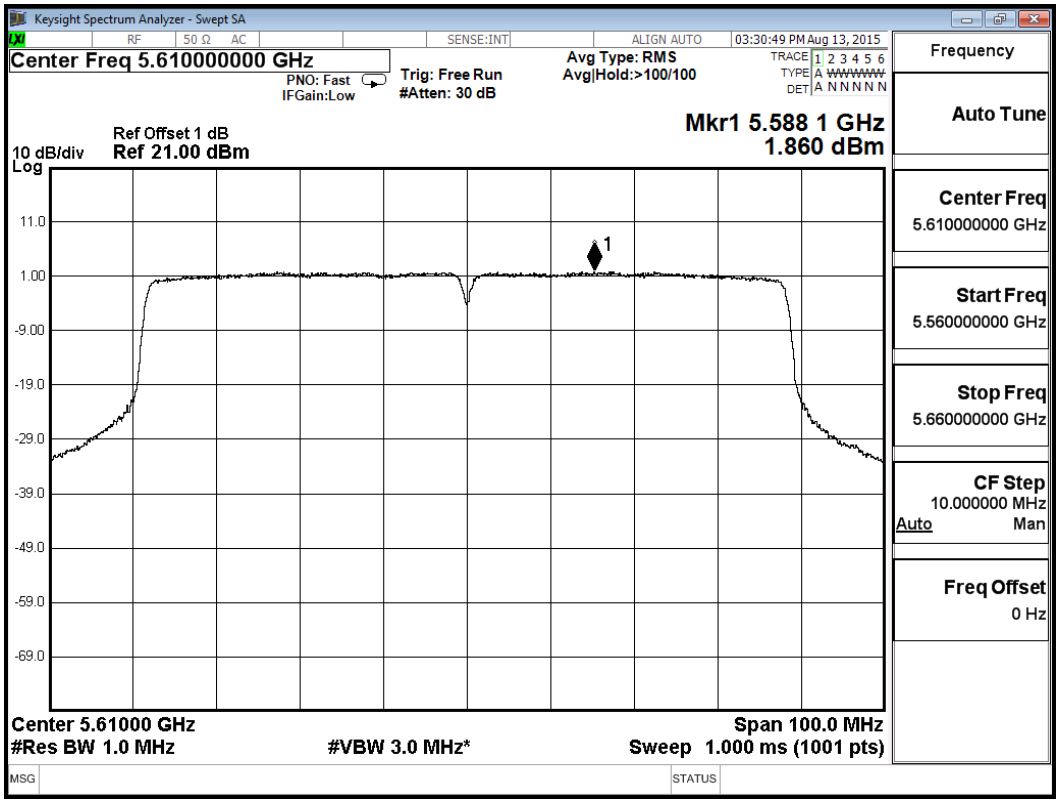
Channel 106: Chain B



Channel 122: Chain A



Channel 122: Chain B



5. Radiated Emission

5.1. Test Equipment

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

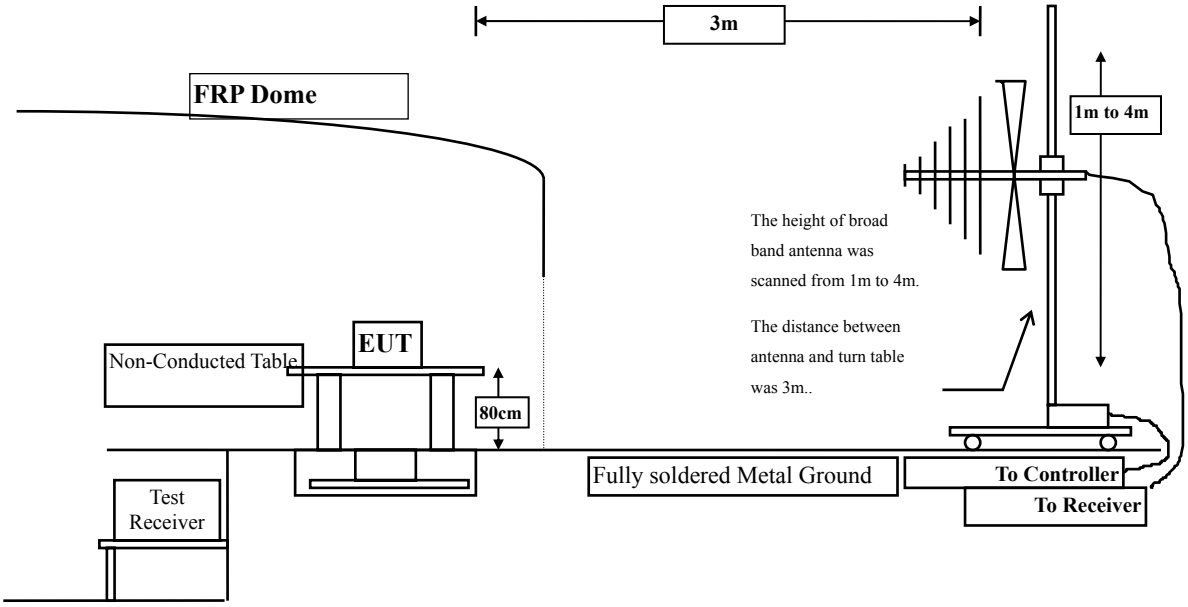
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3	X	Magnetic Loop Antenna	Teseq	HLA6121/ 37133	Sep, 2014
	X	Bilog Antenna	Schaffner Chase	CBL6112B/ 2707	Jun, 2015
	X	EMI Test Receiver	R&S	ESCS 30/838251/ 001	Jun, 2015
	X	Coaxial Cable	QTK(Arnist)	RG 214/ LC003-RG	Jun, 2015
	X	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

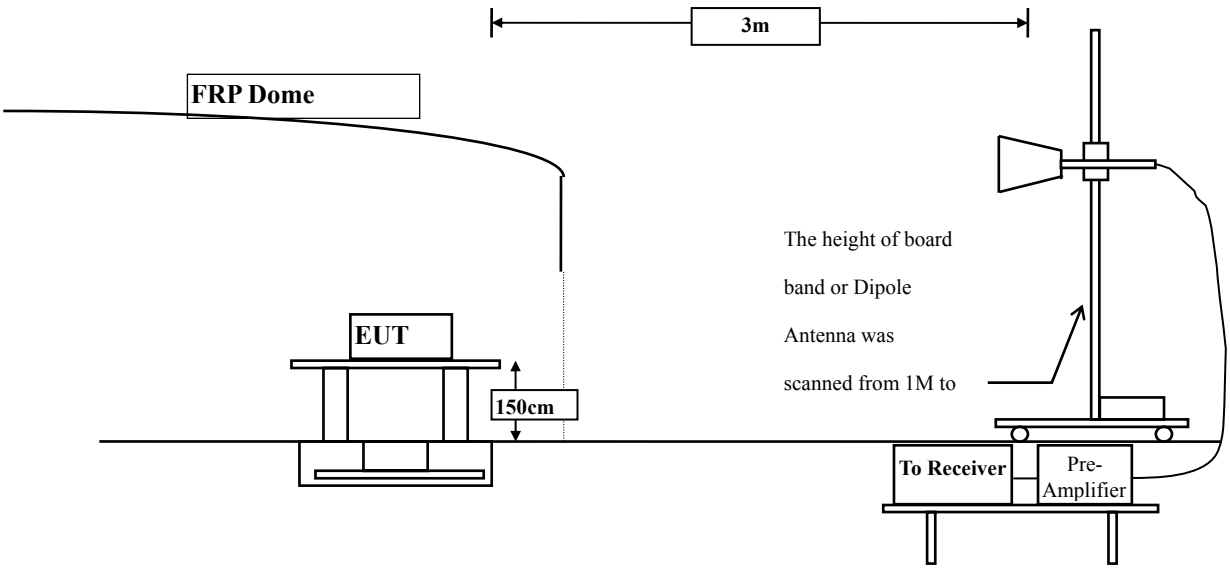
Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

5.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



5.3. 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 (dBμV/m) = 20 log E field strength (uV/m)

5.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested according to FCC KDB-789033 test procedure for compliance to FCC 47CFR 15. 407 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.

5.5. Uncertainty

± 3.8 dB below 1GHz

± 3.9 dB above 1GHz

5.6. 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 (802.11a-6Mbps) (5260MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10520.000	14.015	34.450	48.465	-25.535	74.000
15780.000	*	*	*	*	74.000
21040.000	*	*	*	*	74.000
26300.000	*	*	*	*	74.000
31560.000	*	*	*	*	74.000
36820.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10520.000	14.818	33.940	48.758	-25.242	74.000
15780.000	*	*	*	*	74.000
21040.000	*	*	*	*	74.000
26300.000	*	*	*	*	74.000
31560.000	*	*	*	*	74.000
36820.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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 (802.11a-6Mbps) (5300MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10600.000	14.550	35.040	49.589	-24.411	74.000
15900.000	*	*	*	*	74.000
21200.000	*	*	*	*	74.000
26500.000	*	*	*	*	74.000
31800.000	*	*	*	*	74.000
37100.000	*	*	*	*	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
10600.000	14.881	34.770	49.651	-24.349	74.000
15900.000	*	*	*	*	74.000
21200.000	*	*	*	*	74.000
26500.000	*	*	*	*	74.000
31800.000	*	*	*	*	74.000
37100.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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 (802.11a-6Mbps) (5320MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10640.000	14.690	35.570	50.260	-23.740	74.000
15960.000	*	*	*	*	74.000
21280.000	*	*	*	*	74.000
26600.000	*	*	*	*	74.000
31920.000	*	*	*	*	74.000
37240.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10640.000	15.083	35.600	50.683	-23.317	74.000
15960.000	*	*	*	*	74.000
21280.000	*	*	*	*	74.000
26600.000	*	*	*	*	74.000
31920.000	*	*	*	*	74.000
37240.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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 (802.11a-6Mbps) (5500MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
11000.000	16.399	34.050	50.449	-23.551	74.000
16500.000	*	*	*	*	74.000
22000.000	*	*	*	*	74.000
27500.000	*	*	*	*	74.000
33000.000	*	*	*	*	74.000
38500.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11000.000	17.132	33.630	50.762	-23.238	74.000
16500.000	*	*	*	*	74.000
22000.000	*	*	*	*	74.000
27500.000	*	*	*	*	74.000
33000.000	*	*	*	*	74.000
38500.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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 (802.11a-6Mbps) (5580MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
11160.000	16.664	34.580	51.245	-22.755	74.000
16740.000	*	*	*	*	74.000
22320.000	*	*	*	*	74.000
27900.000	*	*	*	*	74.000
33480.000	*	*	*	*	74.000
39060.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11160.000	17.643	33.940	51.583	-22.417	74.000
16740.000	*	*	*	*	74.000
22320.000	*	*	*	*	74.000
27900.000	*	*	*	*	74.000
33480.000	*	*	*	*	74.000
39060.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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 (802.11a-6Mbps) (5700MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
11400.000	16.530	34.560	51.091	-22.909	74.000
17100.000	*	*	*	*	74.000
22800.000	*	*	*	*	74.000
28500.000	*	*	*	*	74.000
34200.000	*	*	*	*	74.000
39900.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11400.000	17.138	34.970	52.108	-21.892	74.000
17100.000	*	*	*	*	74.000
22800.000	*	*	*	*	74.000
28500.000	*	*	*	*	74.000
34200.000	*	*	*	*	74.000
39900.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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 (802.11n-20BW 14.4Mbps) (5260MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10520.000	14.015	34.980	48.995	-25.005	74.000
15780.000	*	*	*	*	74.000
21040.000	*	*	*	*	74.000
26300.000	*	*	*	*	74.000
31560.000	*	*	*	*	74.000
36820.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10520.000	14.818	34.870	49.688	-24.312	74.000
15780.000	*	*	*	*	74.000
21040.000	*	*	*	*	74.000
26300.000	*	*	*	*	74.000
31560.000	*	*	*	*	74.000
36820.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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 (802.11n-20BW 14.4Mbps) (5300MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10600.000	14.550	35.050	49.599	-24.401	74.000
15900.000	*	*	*	*	74.000
21200.000	*	*	*	*	74.000
26500000	*	*	*	*	74.000
31800.000	*	*	*	*	74.000
37100.000	*	*	*	*	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
10600.000	14.881	34.920	49.801	-24.199	74.000
15900.000	*	*	*	*	74.000
21200.000	*	*	*	*	74.000
26500000	*	*	*	*	74.000
31800.000	*	*	*	*	74.000
37100.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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 (802.11n-20BW 14.4Mbps) (5320MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10640.000	14.690	35.190	49.880	-24.120	74.000
15960.000	*	*	*	*	74.000
21280.000	*	*	*	*	74.000
26600.000	*	*	*	*	74.000
31920.000	*	*	*	*	74.000
37240.000	*	*	*	*	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
10640.000	15.083	35.020	50.103	-23.897	74.000
15960.000	*	*	*	*	74.000
21280.000	*	*	*	*	74.000
26600.000	*	*	*	*	74.000
31920.000	*	*	*	*	74.000
37240.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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 (802.11n-20BW 14.4Mbps) (5500MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
11000.000	16.399	35.240	51.639	-22.361	74.000
16500.000	*	*	*	*	74.000
22000.000	*	*	*	*	74.000
27500.000	*	*	*	*	74.000
33000.000	*	*	*	*	74.000
38500.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11000.000	17.132	34.040	51.172	-22.828	74.000
16500.000	*	*	*	*	74.000
22000.000	*	*	*	*	74.000
27500.000	*	*	*	*	74.000
33000.000	*	*	*	*	74.000
38500.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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 (802.11n-20BW 14.4Mbps) (5580MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
11160.000	16.664	35.260	51.925	-22.075	74.000
16740.000	*	*	*	*	74.000
22320.000	*	*	*	*	74.000
27900.000	*	*	*	*	74.000
33480.000	*	*	*	*	74.000
39060.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11160.000	17.643	34.860	52.503	-21.497	74.000
16740.000	*	*	*	*	74.000
22320.000	*	*	*	*	74.000
27900.000	*	*	*	*	74.000
33480.000	*	*	*	*	74.000
39060.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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 (802.11n-20BW 14.4Mbps) (5700MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
11400.000	16.530	35.330	51.861	-22.139	74.000
17100.000	*	*	*	*	74.000
22800.000	*	*	*	*	74.000
28500.000	*	*	*	*	74.000
34200.000	*	*	*	*	74.000
39900.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11400.000	17.138	35.080	52.218	-21.782	74.000
17100.000	*	*	*	*	74.000
22800.000	*	*	*	*	74.000
28500.000	*	*	*	*	74.000
34200.000	*	*	*	*	74.000
39900.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5270MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10540.000	14.151	34.590	48.740	-25.260	74.000
15810.000	*	*	*	*	74.000
21080.000	*	*	*	*	74.000
26350.000	*	*	*	*	74.000
31620.000	*	*	*	*	74.000
36890.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10540.000	14.829	34.350	49.178	-24.822	74.000
15810.000	*	*	*	*	74.000
21080.000	*	*	*	*	74.000
26350.000	*	*	*	*	74.000
31620.000	*	*	*	*	74.000
36890.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5310MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10620.000	14.623	34.790	49.413	-24.587	74.000
15930.000	*	*	*	*	74.000
21240.000	*	*	*	*	74.000
26550.000	*	*	*	*	74.000
31860.000	*	*	*	*	74.000
37170.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10620.000	14.970	34.580	49.550	-24.450	74.000
15930.000	*	*	*	*	74.000
21240.000	*	*	*	*	74.000
26550.000	*	*	*	*	74.000
31860.000	*	*	*	*	74.000
37170.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5510MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
11020.000	16.474	34.690	51.163	-22.837	74.000
15930.000	*	*	*	*	74.000
21240.000	*	*	*	*	74.000
26550.000	*	*	*	*	74.000
31860.000	*	*	*	*	74.000
37170.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11020.000	17.224	34.540	51.764	-22.236	74.000
15930.000	*	*	*	*	74.000
21240.000	*	*	*	*	74.000
26550.000	*	*	*	*	74.000
31860.000	*	*	*	*	74.000
37170.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5550MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
11100.000	16.681	35.090	51.771	-22.229	74.000
15930.000	*	*	*	*	74.000
21240.000	*	*	*	*	74.000
26550.000	*	*	*	*	74.000
31860.000	*	*	*	*	74.000
37170.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11100.000	17.523	35.020	52.543	-21.457	74.000
15930.000	*	*	*	*	74.000
21240.000	*	*	*	*	74.000
26550.000	*	*	*	*	74.000
31860.000	*	*	*	*	74.000
37170.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5670MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
11340.000	16.408	35.260	51.667	-22.333	74.000
15930.000	*	*	*	*	74.000
21240.000	*	*	*	*	74.000
26550.000	*	*	*	*	74.000
31860.000	*	*	*	*	74.000
37170.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11340.000	17.167	35.110	52.277	-21.723	74.000
15930.000	*	*	*	*	74.000
21240.000	*	*	*	*	74.000
26550.000	*	*	*	*	74.000
31860.000	*	*	*	*	74.000
37170.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 6 Transmit (802.11ac-80BW-65Mbps) (5290MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10580.000	14.423	34.480	48.903	-25.097	74.000
15870.000	*	*	*	*	74.000
21160.000	*	*	*	*	74.000
26450.000	*	*	*	*	74.000
31740.000	*	*	*	*	74.000
37030.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10580.000	14.849	34.590	49.439	-24.561	74.000
15870.000	*	*	*	*	74.000
21160.000	*	*	*	*	74.000
26450.000	*	*	*	*	74.000
31740.000	*	*	*	*	74.000
37030.000	*	*	*	*	74.000
Average Detector:					
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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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 6 Transmit (802.11ac-80BW-65Mbps) (5530MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
11060.000	16.580	35.470	52.050	-21.950	74.000
16590.000	*	*	*	*	74.000
22120.000	*	*	*	*	74.000
27650.000	*	*	*	*	74.000
33180.000	*	*	*	*	74.000
38710.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11060.000	17.375	35.360	52.735	-21.265	74.000
16590.000	*	*	*	*	74.000
22120.000	*	*	*	*	74.000
27650.000	*	*	*	*	74.000
33180.000					
38710.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 6 Transmit (802.11ac-80BW-65Mbps) (5610MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal Peak Detector:					
11220.000	16.589	35.580	52.170	-21.830	74.000
16830.000	*	*	*	*	74.000
22440.000	*	*	*	*	74.000
28050.000	*	*	*	*	74.000
33660.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11220.000	17.620	35.490	53.110	-20.890	74.000
11220.000	*	*	*	*	74.000
16830.000	*	*	*	*	74.000
22440.000	*	*	*	*	74.000
28050.000	*	*	*	*	74.000
33660.000	*	*	*	*	74.000
Average Detector:					
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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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11ac Dual Band Access Point
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5300MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
287.261	-4.621	32.543	27.922	-18.078	46.000
458.768	0.846	33.724	34.569	-11.431	46.000
604.971	4.781	32.703	37.483	-8.517	46.000
728.681	3.450	32.401	35.851	-10.149	46.000
858.014	6.047	32.709	38.756	-7.244	46.000
984.536	7.688	33.805	41.493	-12.507	54.000
Vertical					
Peak Detector					
104.507	-0.201	33.044	32.843	-10.657	43.500
381.449	-1.656	32.080	30.424	-15.576	46.000
543.116	-0.476	34.212	33.736	-12.264	46.000
651.362	-4.670	32.205	27.535	-18.465	46.000
821.464	3.378	33.864	37.243	-8.757	46.000
967.667	8.104	32.560	40.664	-13.336	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5580MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
110.130	-7.619	33.339	25.720	-17.780	43.500
374.420	-1.202	33.011	31.809	-14.191	46.000
512.188	1.531	33.549	35.081	-10.919	46.000
593.725	3.860	33.312	37.172	-8.828	46.000
723.058	3.493	32.420	35.913	-10.087	46.000
880.507	6.254	32.666	38.920	-7.080	46.000
Vertical					
Peak Detector					
105.913	-0.261	33.212	32.951	-10.549	43.500
389.884	-3.070	32.883	29.812	-16.188	46.000
544.522	-0.790	31.161	30.371	-15.629	46.000
689.319	2.525	33.055	35.580	-10.420	46.000
813.029	3.143	32.358	35.500	-10.500	46.000
963.449	7.661	32.907	40.568	-13.432	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5300MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
110.130	-7.619	32.731	25.112	-18.388	43.500
292.884	-4.019	34.071	30.052	-15.948	46.000
465.797	0.638	33.733	34.371	-11.629	46.000
676.667	2.905	32.493	35.399	-10.601	46.000
858.014	6.047	32.261	38.308	-7.692	46.000
984.536	7.688	32.995	40.683	-13.317	54.000
Vertical					
Peak Detector					
105.913	-0.261	32.935	32.674	-10.826	43.500
380.043	-1.440	32.380	30.940	-15.060	46.000
522.029	-0.312	32.875	32.562	-13.438	46.000
690.725	2.504	33.112	35.616	-10.384	46.000
842.551	3.059	32.646	35.705	-10.295	46.000
963.449	7.661	32.437	40.098	-13.902	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5580MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
141.058	-10.460	34.357	23.897	-19.603	43.500
382.855	-1.143	32.818	31.675	-14.325	46.000
495.319	-0.541	33.952	33.411	-12.589	46.000
621.841	2.155	34.019	36.174	-9.826	46.000
793.348	5.193	32.324	37.516	-8.484	46.000
932.522	6.858	32.980	39.837	-6.163	46.000
Vertical					
Peak Detector					
107.319	-0.308	32.469	32.161	-11.339	43.500
381.449	-1.656	33.218	31.562	-14.438	46.000
499.536	-0.848	33.917	33.069	-12.931	46.000
690.725	2.504	32.680	35.184	-10.816	46.000
814.435	3.185	33.109	36.294	-9.706	46.000
964.855	7.897	32.615	40.513	-13.487	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5310MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
105.913	-6.721	32.648	25.928	-17.572	43.500
305.536	-2.939	32.299	29.361	-16.639	46.000
460.174	1.425	32.169	33.595	-12.405	46.000
604.971	4.781	31.985	36.765	-9.235	46.000
791.942	5.212	32.401	37.613	-8.387	46.000
950.797	6.682	32.242	38.924	-7.076	46.000
Vertical					
Peak Detector					
101.696	-0.016	31.826	31.810	-11.690	43.500
344.899	-3.084	33.573	30.489	-15.511	46.000
460.174	-3.359	32.620	29.262	-16.738	46.000
616.217	-1.978	33.411	31.433	-14.567	46.000
824.275	3.474	33.390	36.864	-9.136	46.000
969.072	8.191	32.868	41.059	-12.941	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5550MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
104.507	-6.647	32.255	25.608	-17.892	43.500
335.058	-3.873	32.647	28.774	-17.226	46.000
461.580	1.526	32.058	33.584	-12.416	46.000
606.377	4.638	32.500	37.137	-8.863	46.000
782.101	4.297	33.552	37.849	-8.151	46.000
918.464	6.388	33.730	40.118	-5.882	46.000
Vertical					
Peak Detector					
107.319	-0.308	32.570	32.262	-11.238	43.500
343.493	-3.321	32.937	29.616	-16.384	46.000
499.536	-0.848	32.501	31.653	-14.347	46.000
683.696	1.948	32.075	34.023	-11.977	46.000
815.841	3.224	32.465	35.689	-10.311	46.000
969.072	8.191	31.954	40.145	-13.855	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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
Test Site : No.3 OATS
Test Mode : Mode 6 Transmit (802.11ac-80BW-65Mbps) (5290MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
238.058	-7.475	34.041	26.565	-19.435	46.000
380.043	-0.966	32.983	32.017	-13.983	46.000
548.739	3.135	32.715	35.850	-10.150	46.000
687.913	3.342	33.092	36.434	-9.566	46.000
825.681	6.260	32.519	38.779	-7.221	46.000
926.899	6.620	34.083	40.702	-5.298	46.000
Vertical					
Peak Detector					
101.696	-0.016	31.891	31.875	-11.625	43.500
374.420	-2.179	32.933	30.754	-15.246	46.000
517.812	-0.719	33.418	32.699	-13.301	46.000
686.507	2.371	32.313	34.684	-11.316	46.000
818.652	3.297	32.678	35.975	-10.025	46.000
966.261	8.016	33.144	41.160	-12.840	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown 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
Test Site : No.3 OATS
Test Mode : Mode 6 Transmit (802.11ac-80BW-65Mbps) (5530MHz)

Frequency	Correction Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
111.480	2.710	-80.889	-78.179	-24.179	-54.000
340.400	4.360	-80.535	-76.175	-40.175	-36.000
528.580	9.890	-85.060	-75.170	-21.170	-54.000
660.500	9.220	-84.344	-75.124	-21.124	-54.000
823.460	11.080	-82.244	-71.164	-17.164	-54.000
972.840	12.320	-81.937	-69.617	-33.617	-36.000
Vertical					
Peak Detector					
70.740	0.930	-76.030	-75.100	-21.100	-54.000
245.340	2.220	-80.909	-78.689	-42.689	-36.000
443.220	7.260	-80.387	-73.127	-37.127	-36.000
592.600	9.020	-82.755	-73.735	-19.735	-54.000
767.200	11.100	-83.622	-72.522	-18.522	-54.000
972.840	13.020	-81.937	-68.917	-32.917	-36.000

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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

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 equipment is calibrated once a year or as required by manufacturer.
2. All equipment is calibrated to traceable calibration procedures.
3. The test instruments marked by "X" are used to measure the final test results.

RF Radiated Measurement:

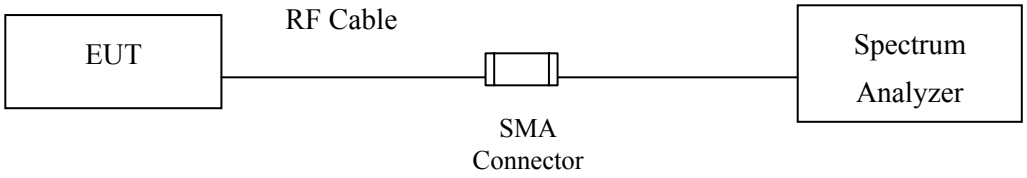
The following test equipments are used during the band edge tests:

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, 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

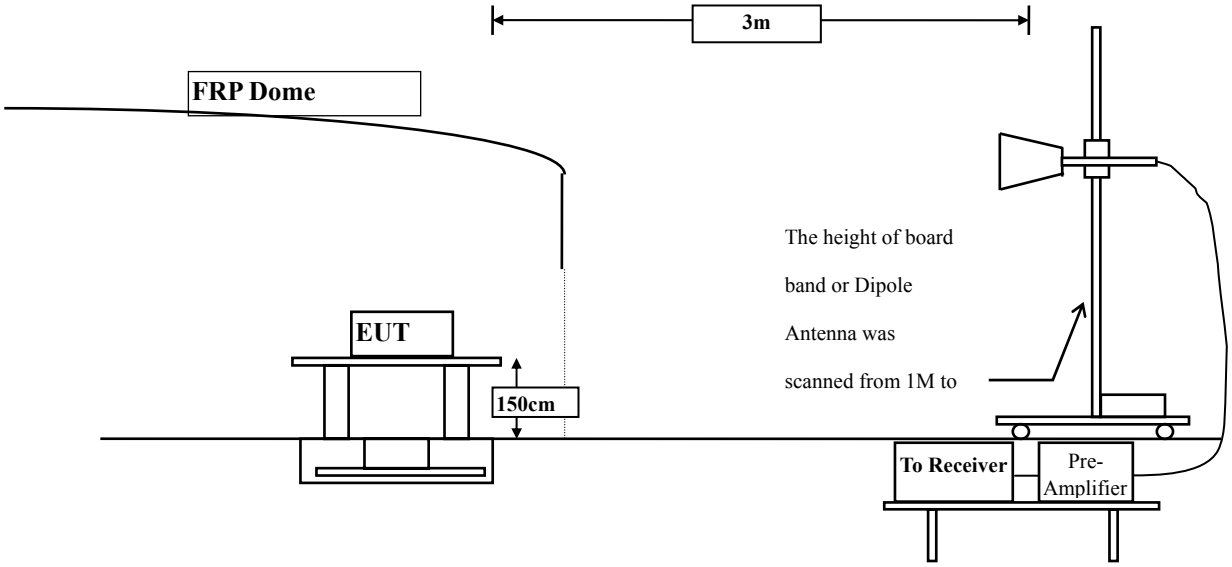
Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

6.2. Test Setup

RF Conducted Measurement:



RF Radiated Measurement:



6.3. Limits

The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.

Radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209:

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	uV/m @3m	dBμV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks : 1. RF Voltage (dBμV) = 20 log RF Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

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

6.4. Test Procedure

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table can rotate 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 can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10:2013 on radiated measurement.

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

The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

6.5. Uncertainty

± 3.8 dB below 1GHz

± 3.9 dB above 1GHz

6.6. Test Result of Band Edge

Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 64 (5320MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
64 (Peak)	5324.800	3.797	109.913	113.710	--	--	Pass
64 (Peak)	5350.000	3.716	59.998	63.715	74.00	54.00	Pass
64 (Average)	5316.000	3.824	97.330	101.155	--	--	Pass
64 (Average)	5350.000	3.716	44.631	48.348	74.00	54.00	Pass

Figure Channel 64: Horizontal (Peak)

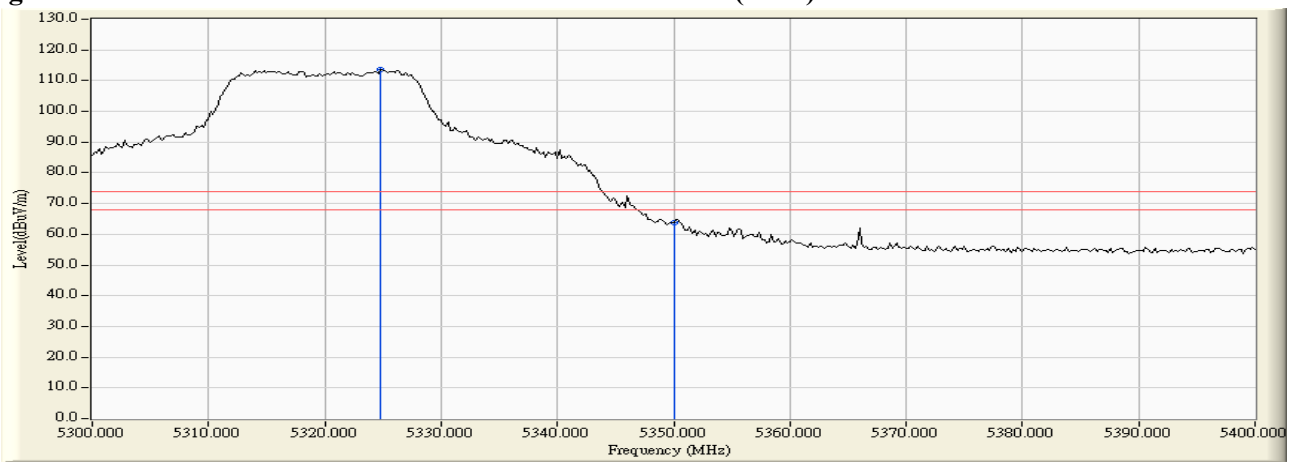
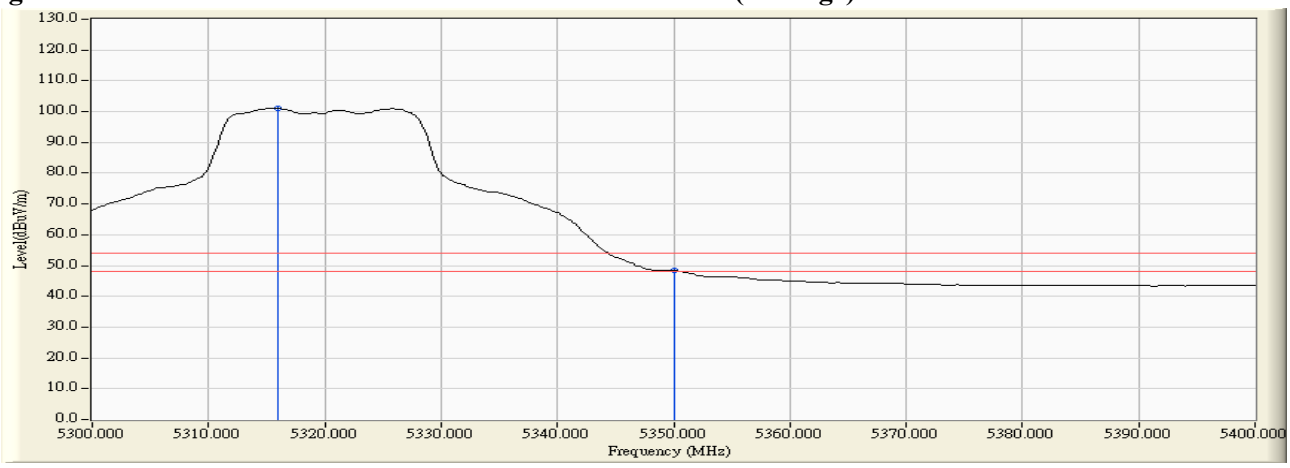


Figure Channel 64: Horizontal (Average)



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 + Correction Factor.
6. The average measurement was not performed when the peak measured data is 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 (802.11a-6Mbps) -Channel 64 (5320MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
64 (Peak)	5317.600	5.732	108.653	114.385	--	--	Pass
64 (Peak)	5350.000	5.691	62.685	68.377	74.00	54.00	Pass
64 (Peak)	5356.400	5.682	63.186	68.869	74.00	54.00	Pass
64 (Average)	5317.400	5.732	97.273	103.005	--	--	Pass
64 (Average)	5350.000	5.691	45.116	50.808	74.00	54.00	Pass

Figure Channel 64: Vertical (Peak)

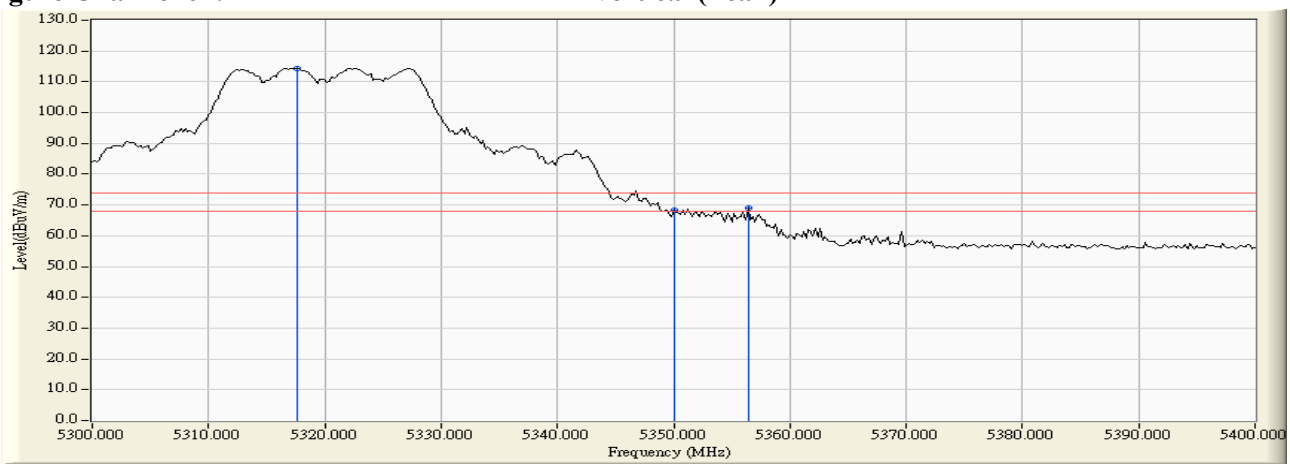
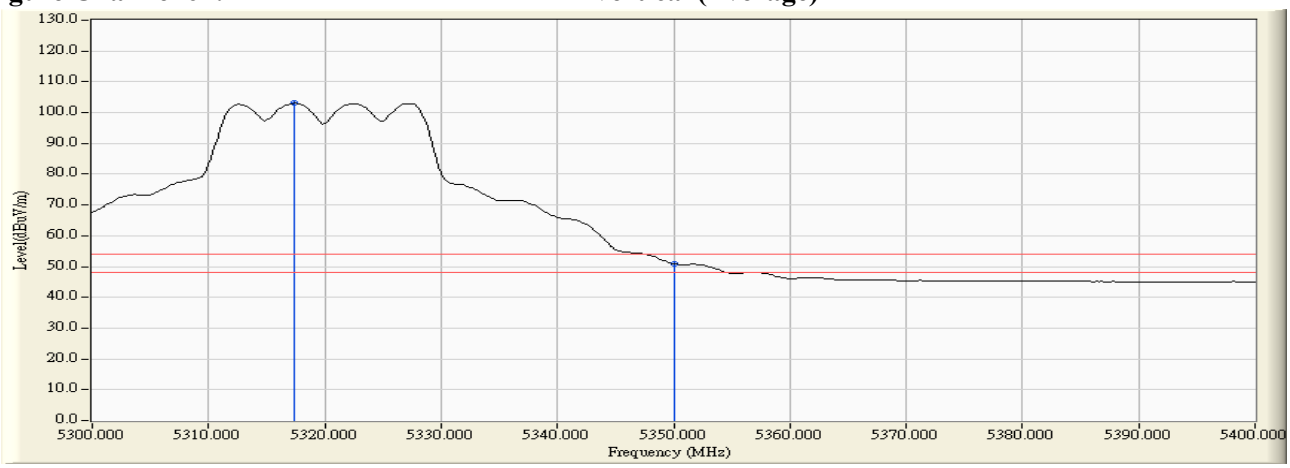


Figure Channel 64: Vertical (Average)



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 + Correction Factor.
6. The average measurement was not performed when the peak measured data is 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 (802.11a-6Mbps) -Channel 100 (5500MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
100 (Peak)	5459.200	4.343	55.805	60.148	74.00	54.00	Pass
100 (Peak)	5460.000	4.354	53.953	58.307	74.00	54.00	Pass
100 (Peak)	5495.800	4.786	108.865	113.650	--	--	Pass
100 (Average)	5460.000	4.354	41.254	45.608	74.00	54.00	Pass
100 (Average)	5505.200	4.847	96.314	101.161	--	--	Pass

Figure Channel 100: Horizontal (Peak)

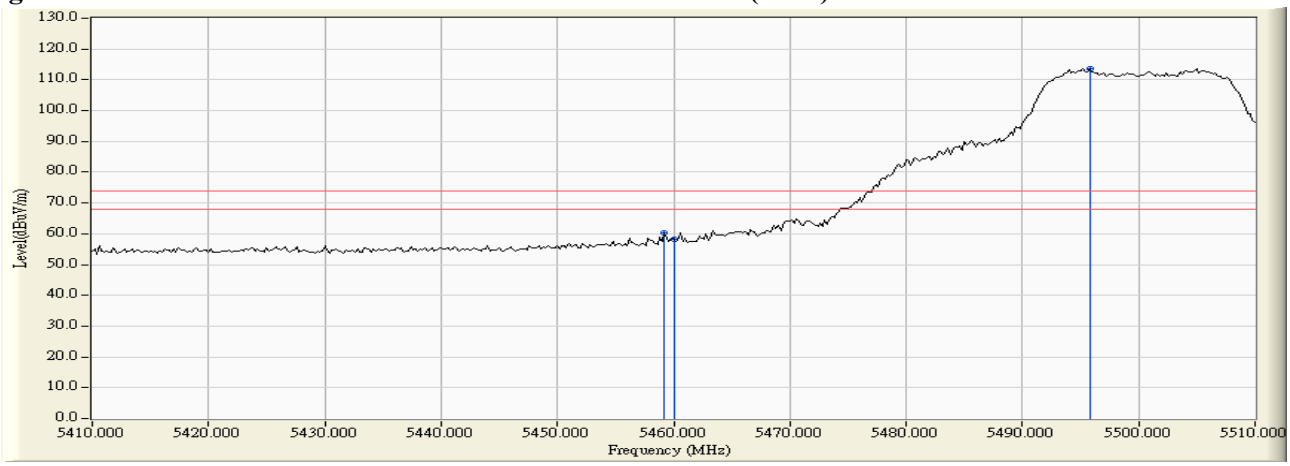
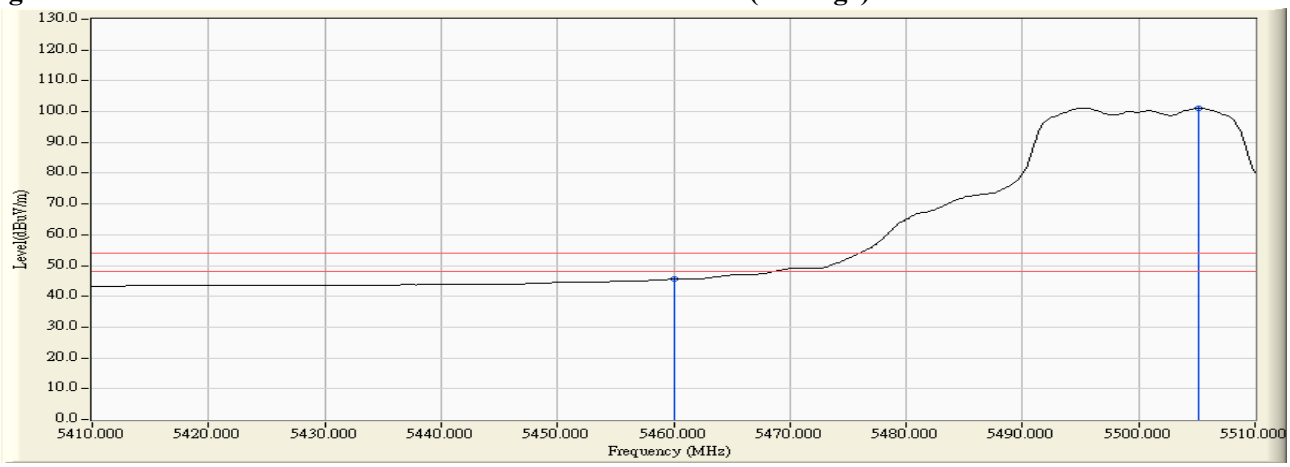


Figure Channel 100: Horizontal (Average)



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 + Correction Factor.
6. The average measurement was not performed when the peak measured data is 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 (802.11a-6Mbps) -Channel 100 (5500MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
100 (Peak)	5458.000	6.027	54.574	60.601	74.00	54.00	Pass
100 (Peak)	5460.000	6.041	52.193	58.234	74.00	54.00	Pass
100 (Peak)	5503.800	6.287	106.369	112.655	--	--	Pass
100 (Average)	5460.000	6.041	40.288	46.329	74.00	54.00	Pass
100 (Average)	5493.400	6.255	94.828	101.083	--	--	Pass

Figure Channel 100: Vertical (Peak)

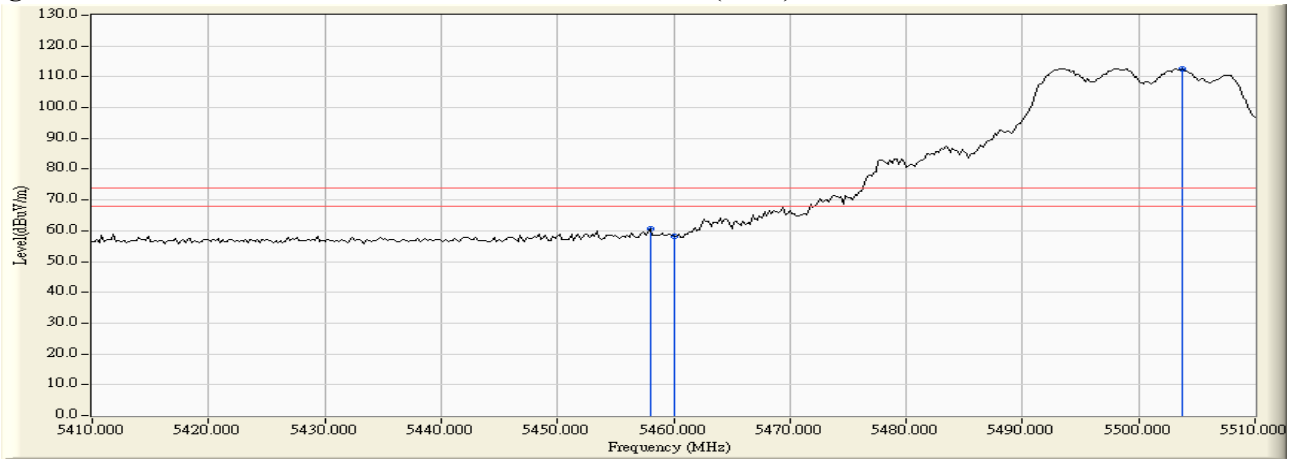
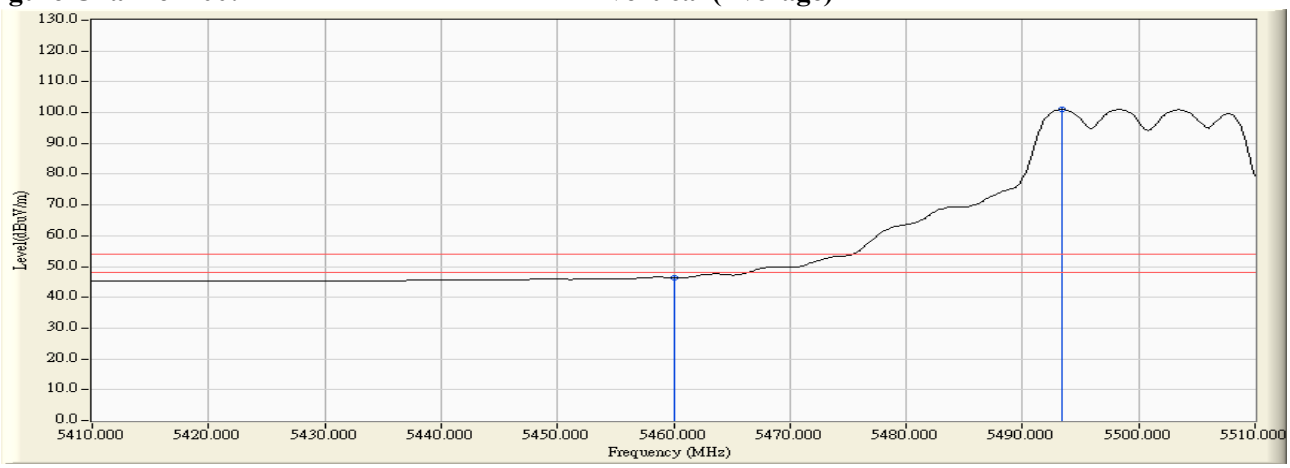


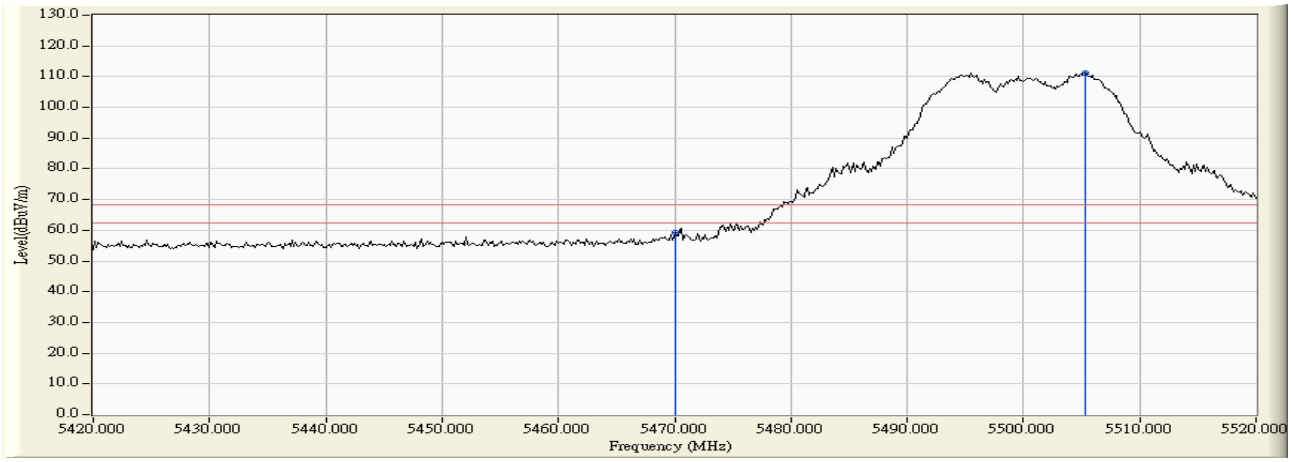
Figure Channel 100: Vertical (Average)



Note:

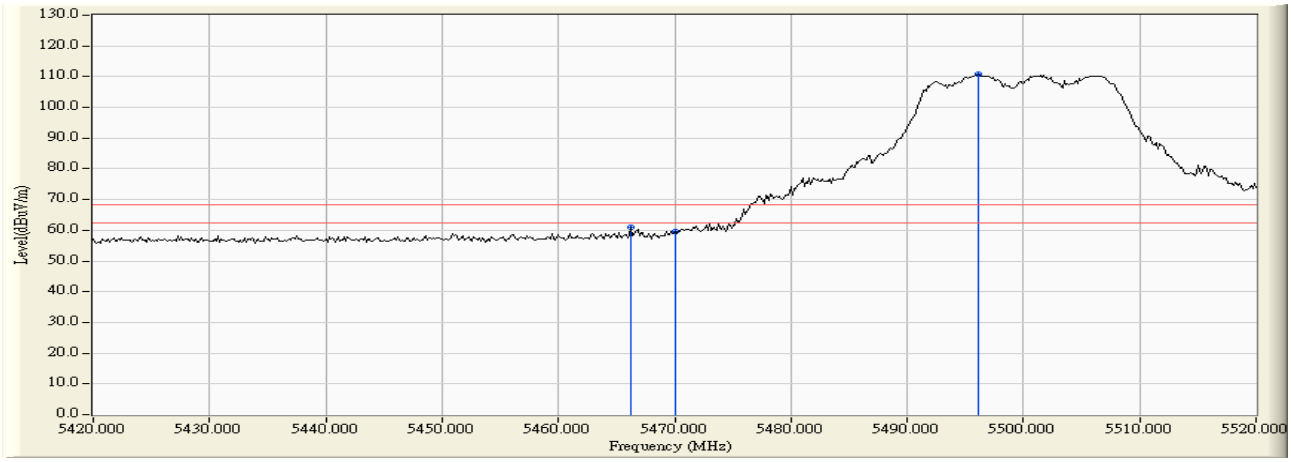
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is 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 (802.11a-6Mbps) -Channel 100 (5500MHz)



RF Radiated Measurement:

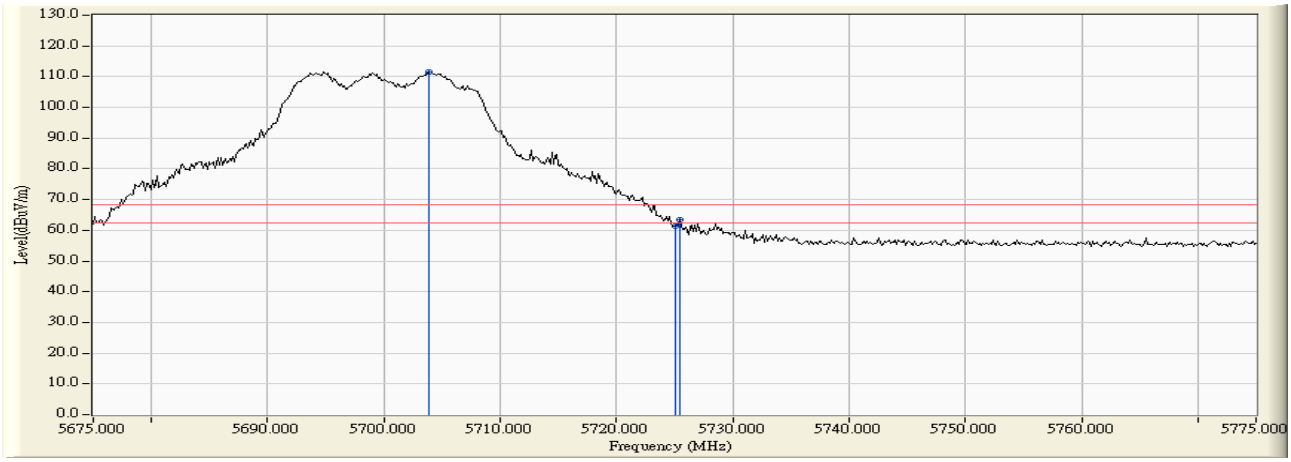
	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5470.000	4.488	54.769	59.257	-8.963	68.220	Pass
Horizontal	5505.362	4.846	106.463	111.309	43.089	68.220	Pass



RF Radiated Measurement:

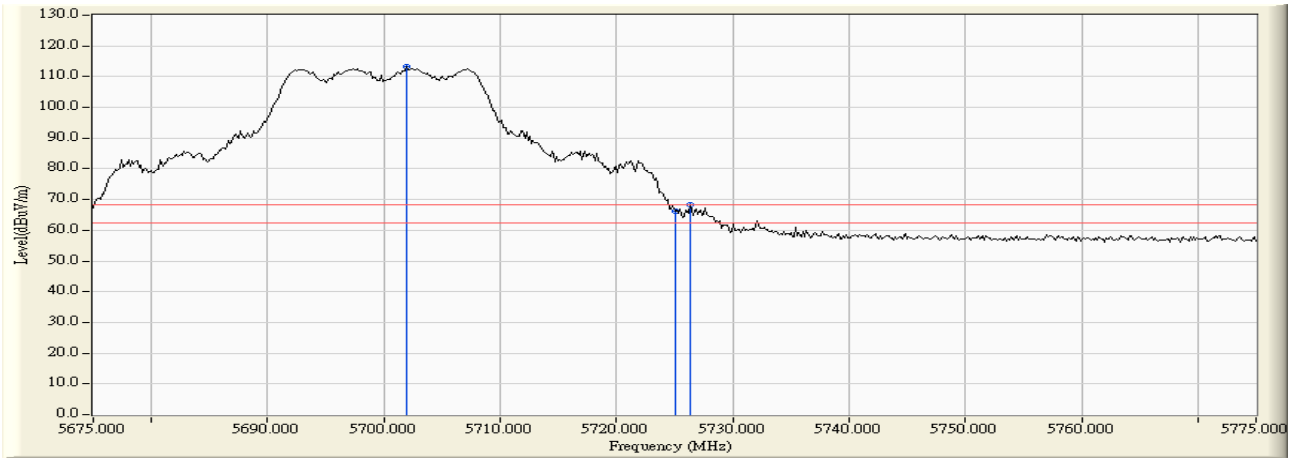
	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5466.232	6.085	54.933	61.018	-7.202	68.220	Pass
Vertical	5470.000	6.112	53.358	59.469	-8.751	68.220	Pass
Vertical	5496.087	6.263	104.702	110.965	42.745	68.220	Pass

Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 140 (5700MHz)



RF Radiated Measurement:

	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5703.841	4.637	106.973	111.610	43.390	68.220	Pass
Horizontal	5725.000	4.654	56.725	61.379	-6.841	68.220	Pass
Horizontal	5725.435	4.654	58.936	63.590	-4.630	68.220	Pass



RF Radiated Measurement:

	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5701.957	5.985	107.113	113.098	44.878	68.220	Pass
Vertical	5725.000	5.992	60.067	66.060	-2.160	68.220	Pass
Vertical	5726.304	5.992	62.165	68.157	-0.063	68.220	Pass

Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) -Channel 64 (5320MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
64 (Peak)	5314.000	3.832	109.199	113.031	--	--	Pass
64 (Peak)	5350.000	3.716	60.176	63.893	74.00	54.00	Pass
64 (Peak)	5351.400	3.712	61.405	65.117	74.00	54.00	Pass
64 (Average)	5312.000	3.838	96.621	100.459	--	--	Pass
64 (Average)	5350.000	3.716	45.101	48.818	74.00	54.00	Pass

Figure Channel 64: Horizontal (Peak)

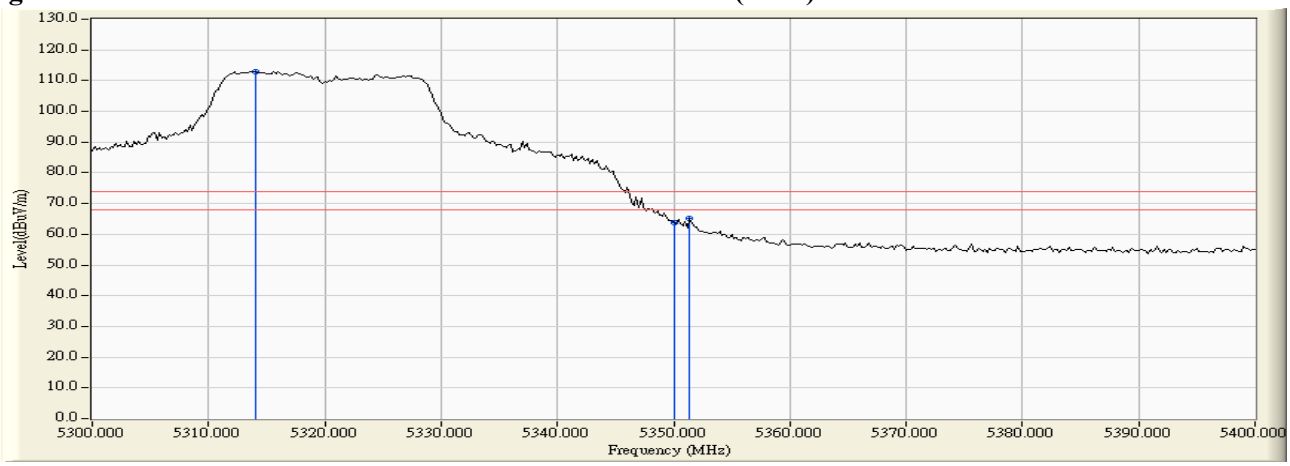
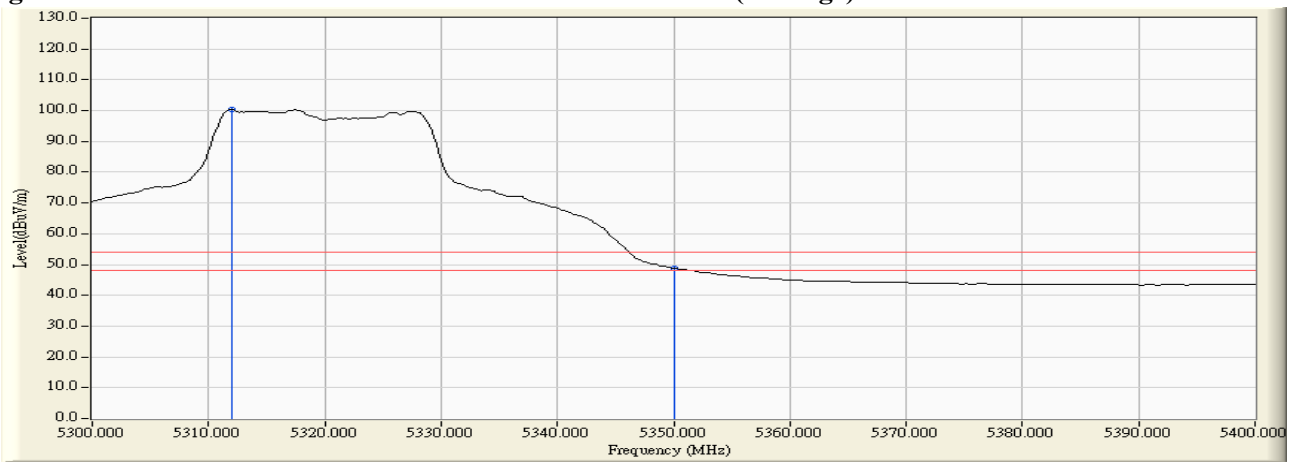


Figure Channel 64: Horizontal (Average)



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 + Correction Factor.
6. The average measurement was not performed when the peak measured data is 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 (802.11n-20BW 14.4Mbps) -Channel 64 (5320MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
64 (Peak)	5327.400	5.720	108.492	114.212	--	--	Pass
64 (Peak)	5350.000	5.691	63.661	69.353	74.00	54.00	Pass
64 (Average)	5327.200	5.720	97.233	102.953	--	--	Pass
64 (Average)	5350.000	5.691	47.624	53.316	74.00	54.00	Pass

Figure Channel 64: Vertical (Peak)

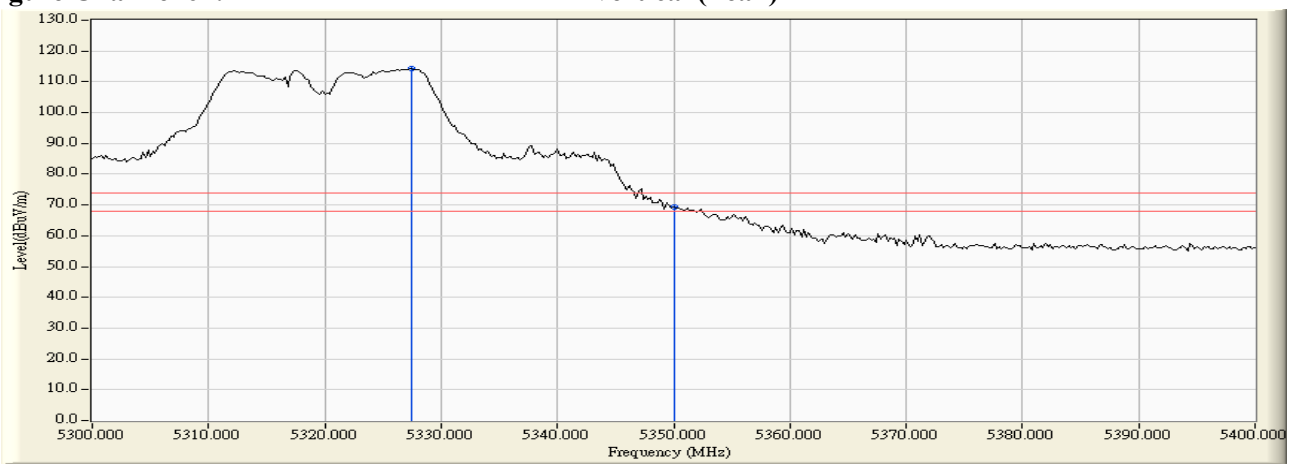
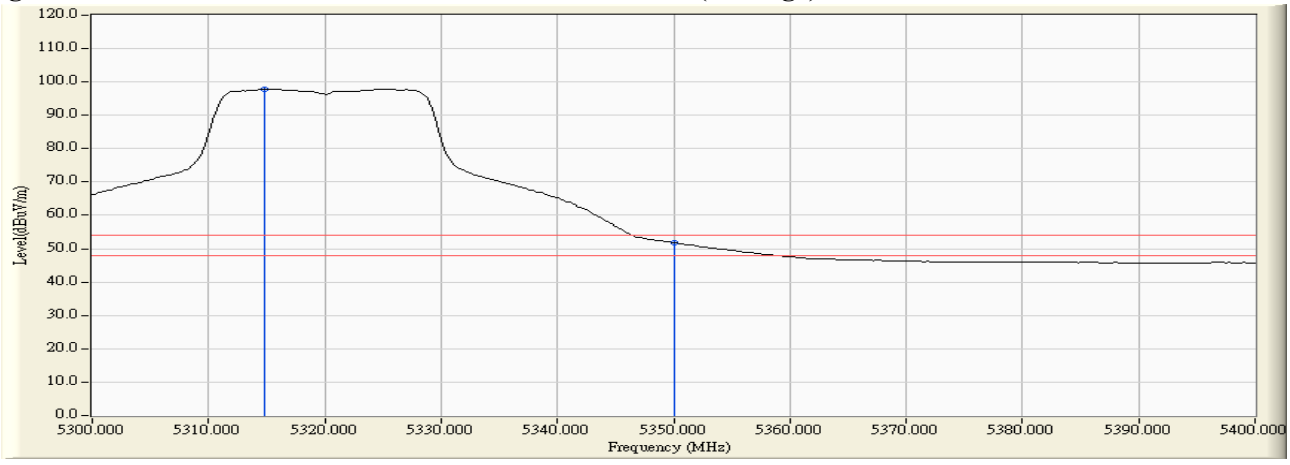


Figure Channel 64: Vertical (Average)



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 + Correction Factor.
6. The average measurement was not performed when the peak measured data is 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 (802.11n-20BW 14.4Mbps) -Channel 100 (5500MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
100 (Peak)	5456.400	4.305	57.918	62.224	74.00	54.00	Pass
100 (Peak)	5460.000	4.354	54.675	59.029	74.00	54.00	Pass
100 (Peak)	5497.000	4.794	107.826	112.620	--	--	Pass
100 (Average)	5460.000	4.354	41.993	46.347	74.00	54.00	Pass
100 (Average)	5498.800	4.806	95.846	100.652	--	--	Pass

Figure Channel 100: Horizontal (Peak)

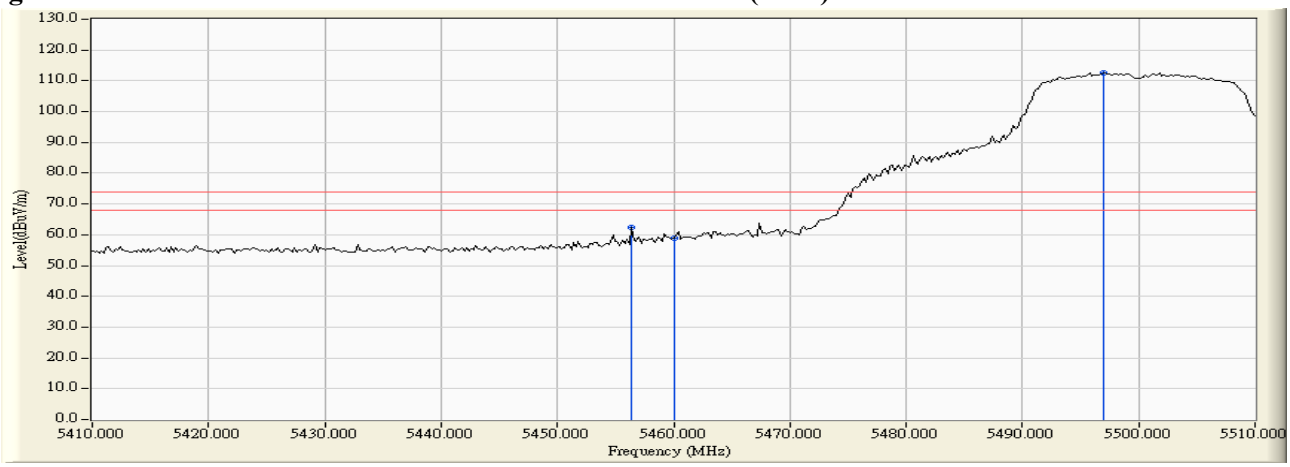
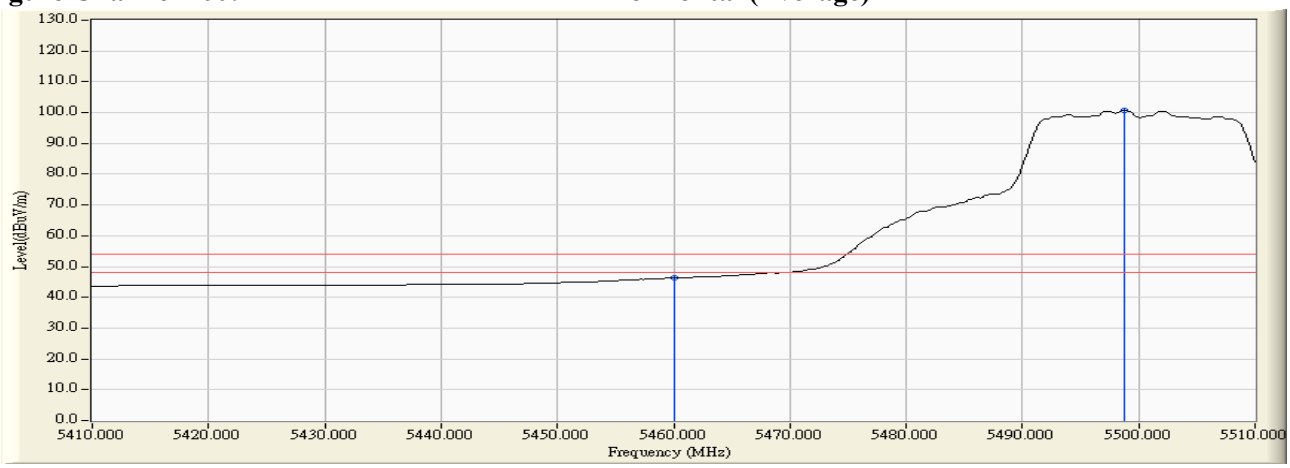


Figure Channel 100: Horizontal (Average)



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 + Correction Factor.
6. The average measurement was not performed when the peak measured data is 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 (802.11n-20BW 14.4Mbps) -Channel 100 (5500MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
100 (Peak)	5456.800	6.018	54.347	60.365	74.00	54.00	Pass
100 (Peak)	5460.000	6.041	52.856	58.897	74.00	54.00	Pass
100 (Peak)	5494.600	6.259	106.952	113.211	--	--	Pass
100 (Average)	5460.000	6.041	40.264	46.305	74.00	54.00	Pass
100 (Average)	5492.400	6.252	94.761	101.013	--	--	Pass

Figure Channel 100: Vertical (Peak)

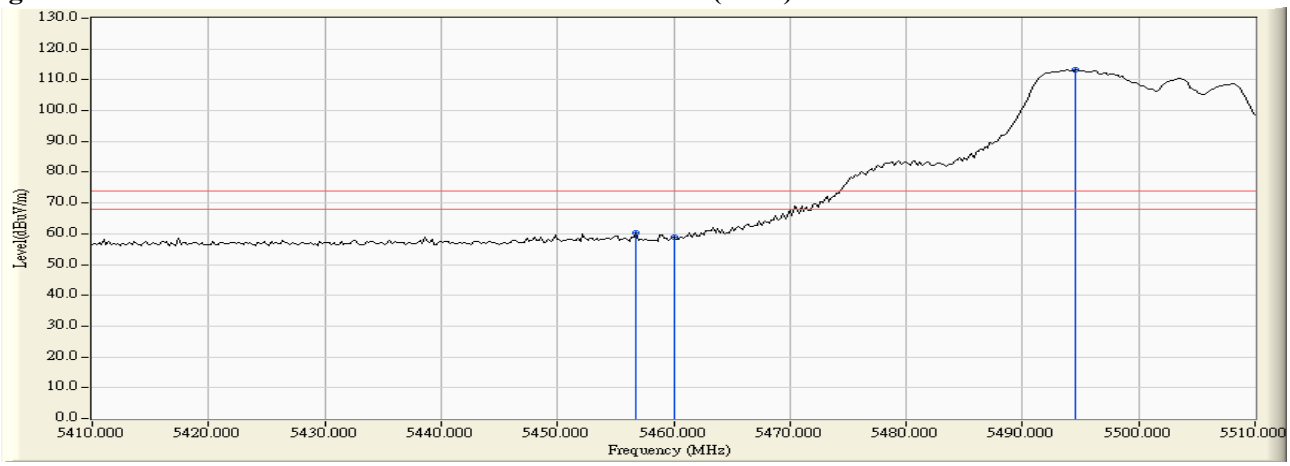
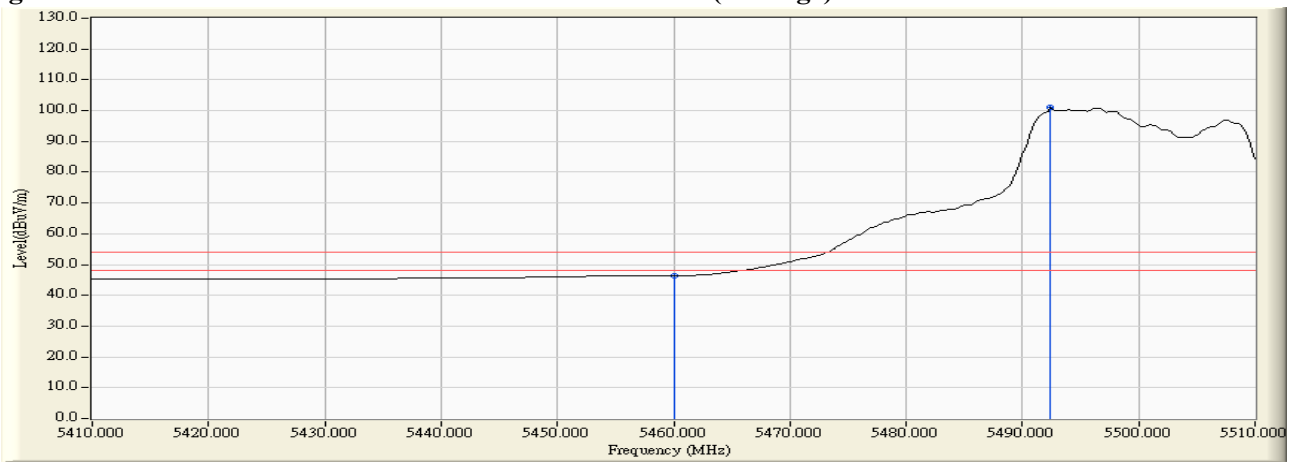


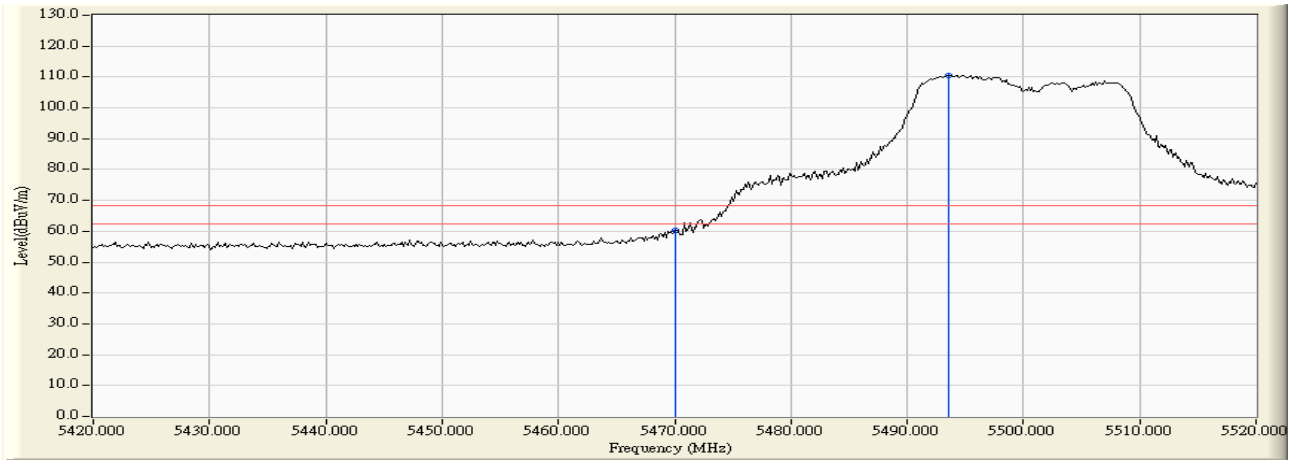
Figure Channel 100: Vertical (Average)



Note:

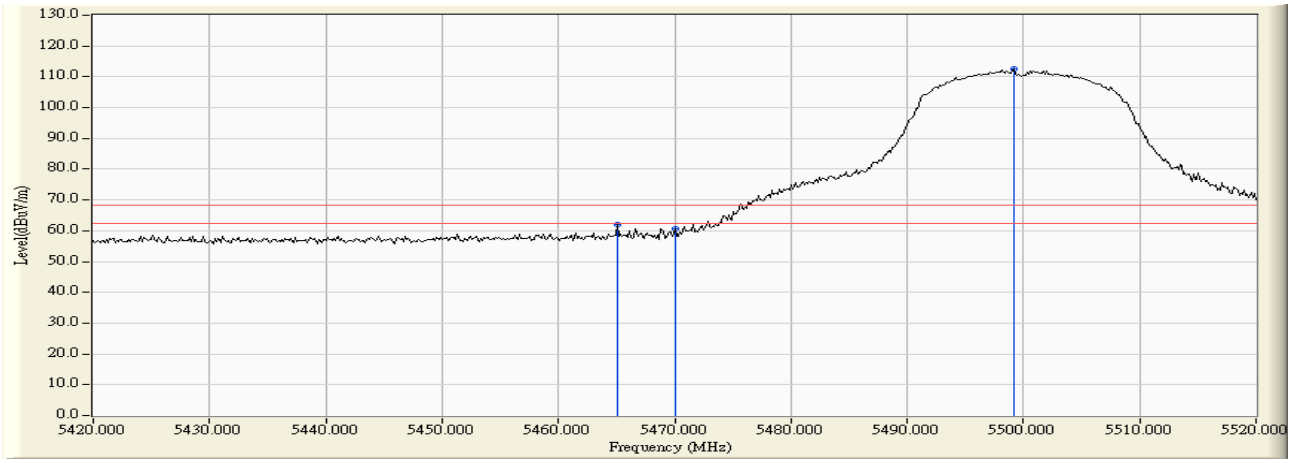
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is 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 (802.11n-20BW 14.4Mbps) -Channel 100 (5500MHz)



RF Radiated Measurement:

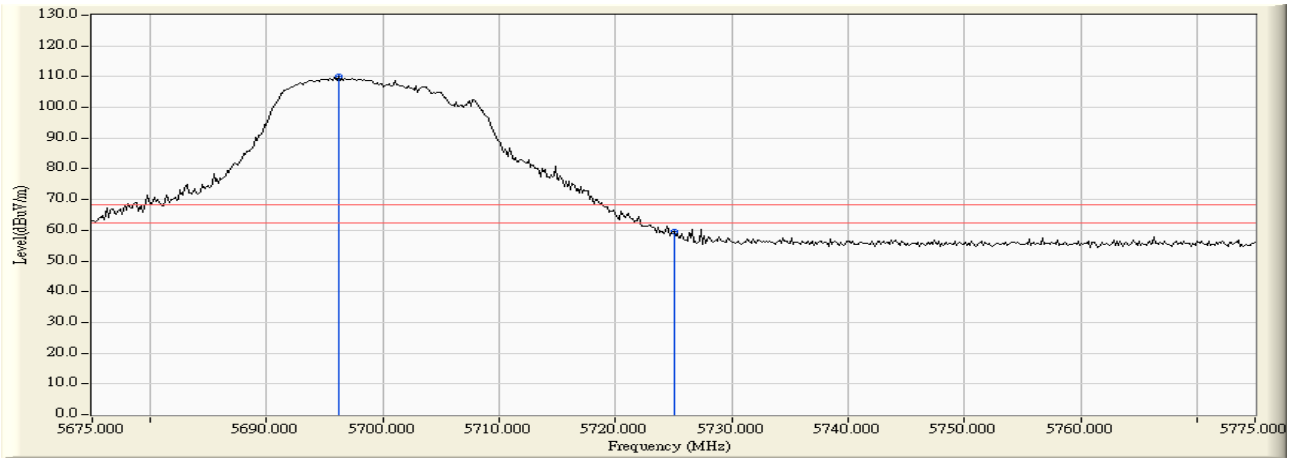
	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5470.000	4.488	55.805	60.293	-7.927	68.220	Pass
Horizontal	5493.623	4.771	105.878	110.648	42.428	68.220	Pass



RF Radiated Measurement:

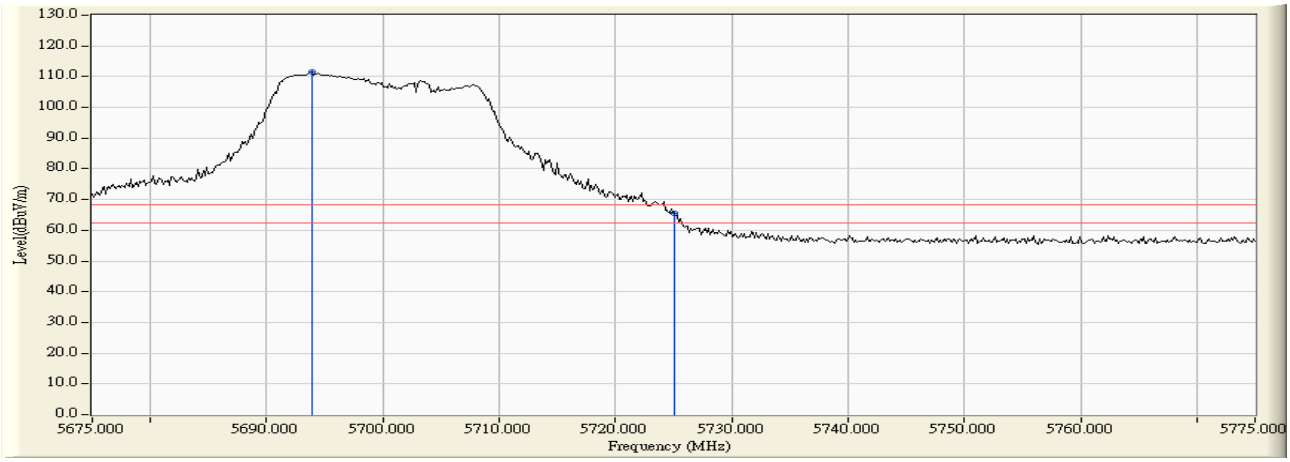
	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5465.072	6.076	55.822	61.898	-6.322	68.220	Pass
Vertical	5470.000	6.112	54.385	60.496	-7.724	68.220	Pass
Vertical	5499.130	6.273	106.286	112.558	44.338	68.220	Pass

Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) -Channel 140 (5700MHz)



RF Radiated Measurement:

	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5696.159	4.617	105.468	110.085	41.865	68.220	Pass
Horizontal	5725.000	4.654	55.004	59.658	-8.562	68.220	Pass



RF Radiated Measurement:

	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5693.841	5.974	105.395	111.369	43.149	68.220	Pass
Vertical	5725.000	5.992	59.591	65.584	-2.636	68.220	Pass

Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) -Channel 62 (5310MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
62 (Peak)	5321.400	3.809	102.052	105.860	--	--	Pass
62 (Peak)	5350.000	3.716	65.459	69.176	74.00	54.00	Pass
62 (Peak)	5351.800	3.710	66.568	70.279	74.00	54.00	Pass
62 (Average)	5303.000	3.868	87.862	91.729	--	--	Pass
62 (Average)	5350.000	3.716	49.829	53.546	74.00	54.00	Pass

Figure Channel 62: Horizontal (Peak)

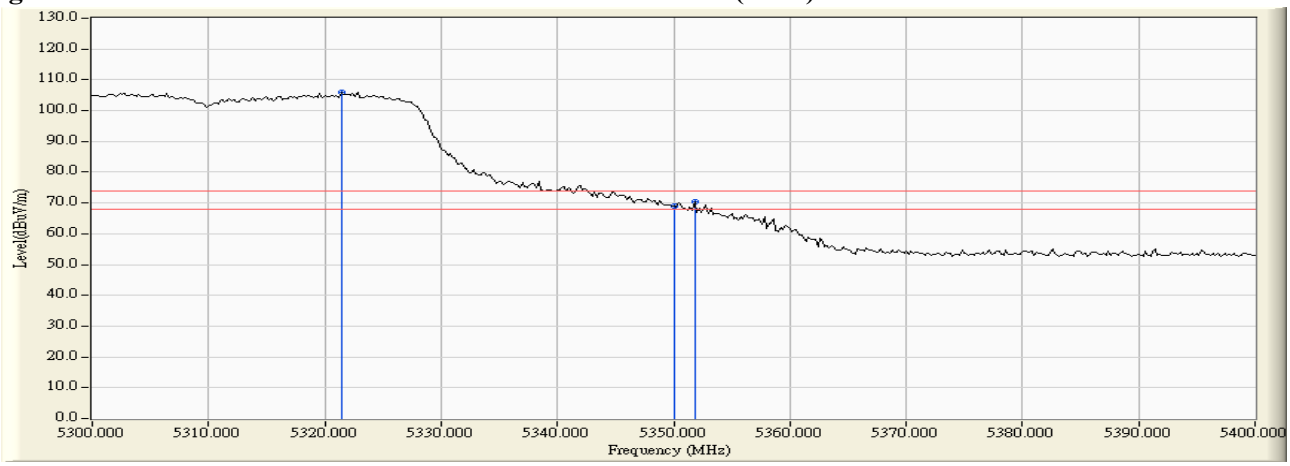
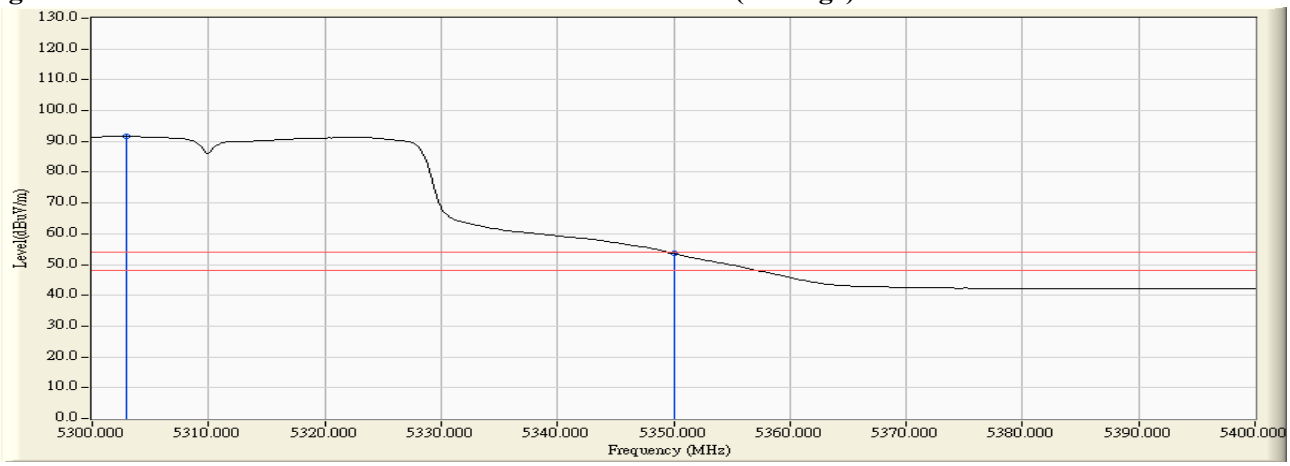


Figure Channel 62: Horizontal (Average)



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 + Correction Factor.
6. The average measurement was not performed when the peak measured data is 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 3: Transmit (802.11n-40BW 30Mbps) -Channel 62 (5310MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
62 (Peak)	5321.200	5.728	101.792	107.520	--	--	Pass
62 (Peak)	5350.000	5.691	63.284	68.976	74.00	54.00	Pass
62 (Peak)	5351.200	5.690	64.030	69.720	74.00	54.00	Pass
62 (Average)	5321.400	5.728	86.609	92.336	--	--	Pass
62 (Average)	5350.000	5.691	46.311	52.003	74.00	54.00	Pass

Figure Channel 62: Vertical (Peak)

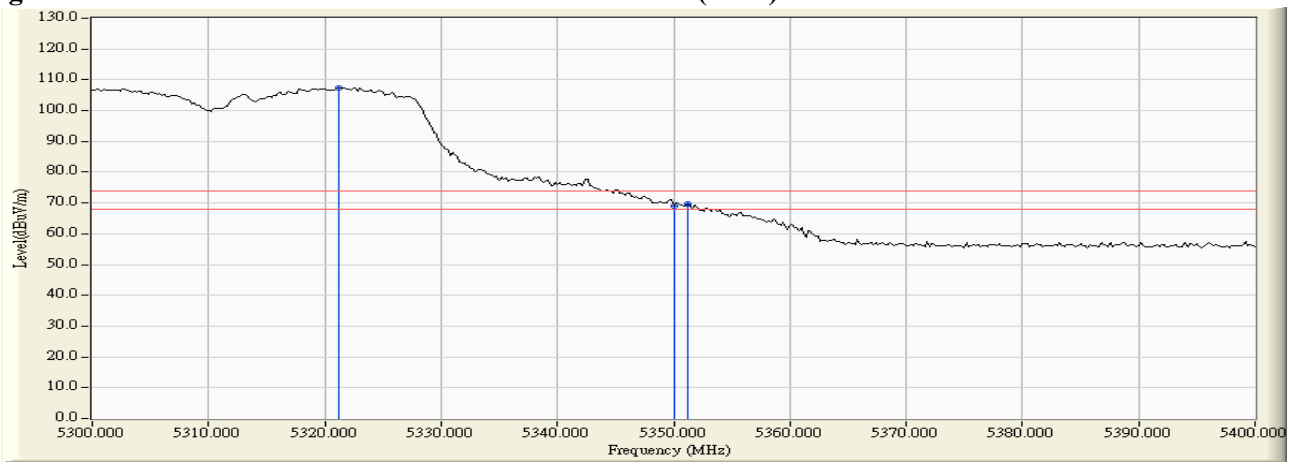
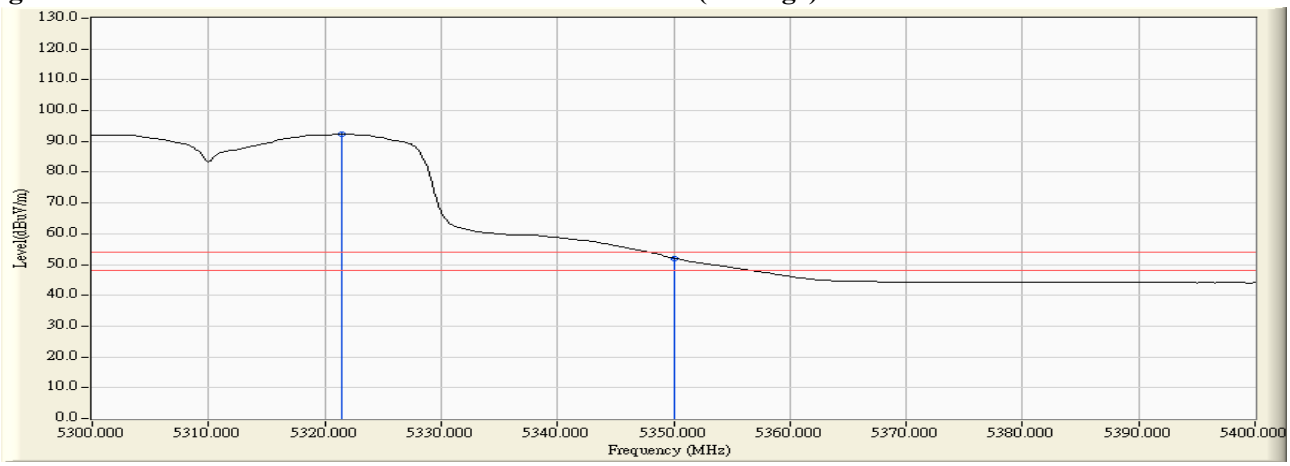


Figure Channel 62: Vertical (Average)



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 + Correction Factor.
6. The average measurement was not performed when the peak measured data is 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 3: Transmit (802.11n-40BW 30Mbps) -Channel 102 (5510MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
102 (Peak)	5459.800	4.352	69.325	73.676	74.00	54.00	Pass
102 (Peak)	5460.000	4.354	67.970	72.324	74.00	54.00	Pass
102 (Peak)	5502.000	4.829	104.365	109.193	--	--	Pass
102 (Average)	5460.000	4.354	49.414	53.768	74.00	54.00	Pass
102 (Average)	5498.800	4.806	90.420	95.226	--	--	Pass

Figure Channel 102: Horizontal (Peak)

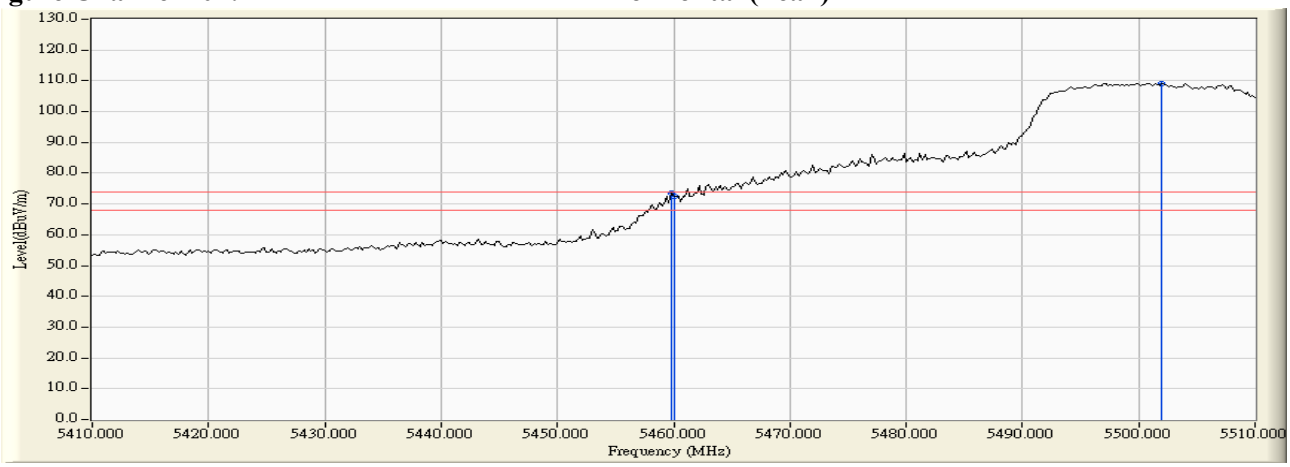
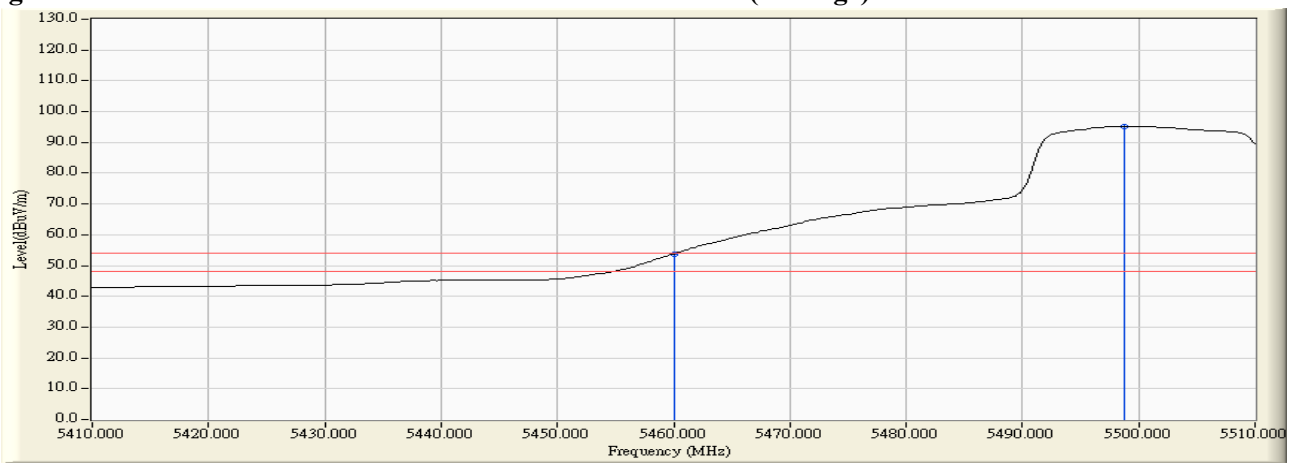


Figure Channel 102: Horizontal (Average)



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 + Correction Factor.
6. The average measurement was not performed when the peak measured data is 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 3: Transmit (802.11n-40BW 30Mbps) -Channel 102 (5510MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
102 (Peak)	5460.000	6.041	66.886	72.927	74.00	54.00	Pass
102 (Peak)	5503.000	6.284	104.517	110.801	--	--	Pass
102 (Average)	5460.000	6.041	47.678	53.719	74.00	54.00	Pass
102 (Average)	5503.600	6.285	90.237	96.523	--	--	Pass

Figure Channel 102: Vertical (Peak)

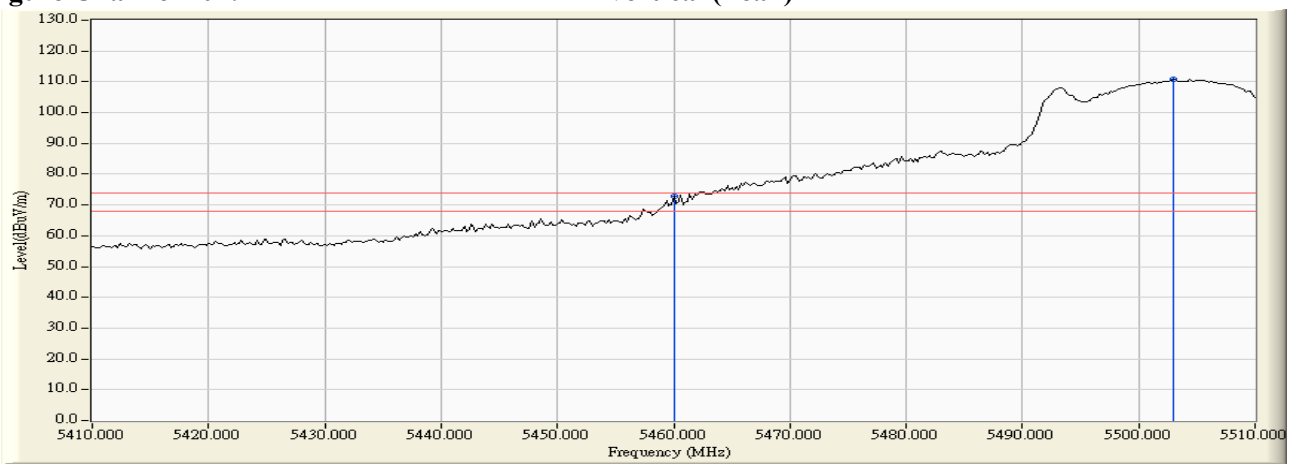
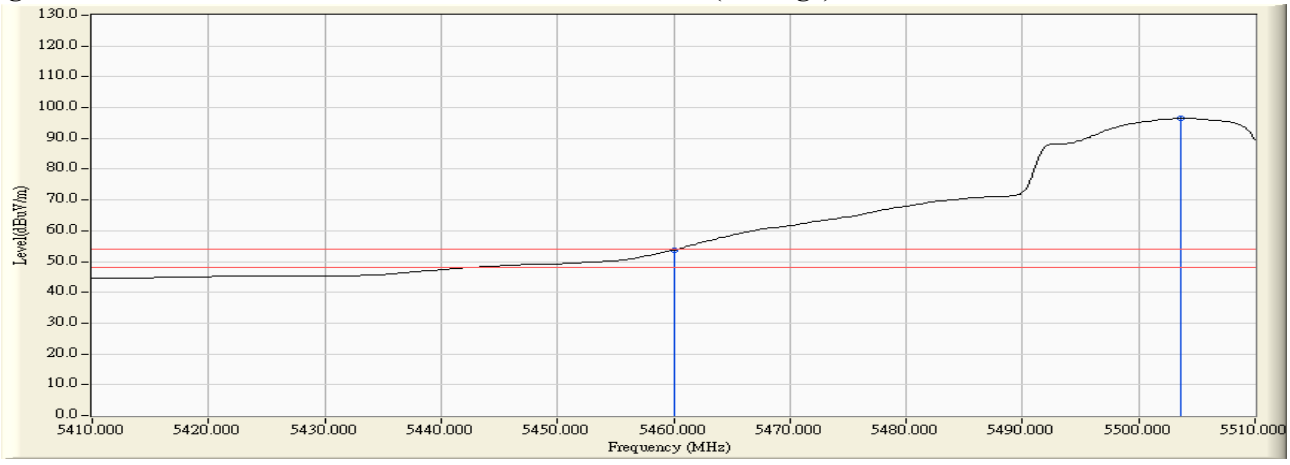


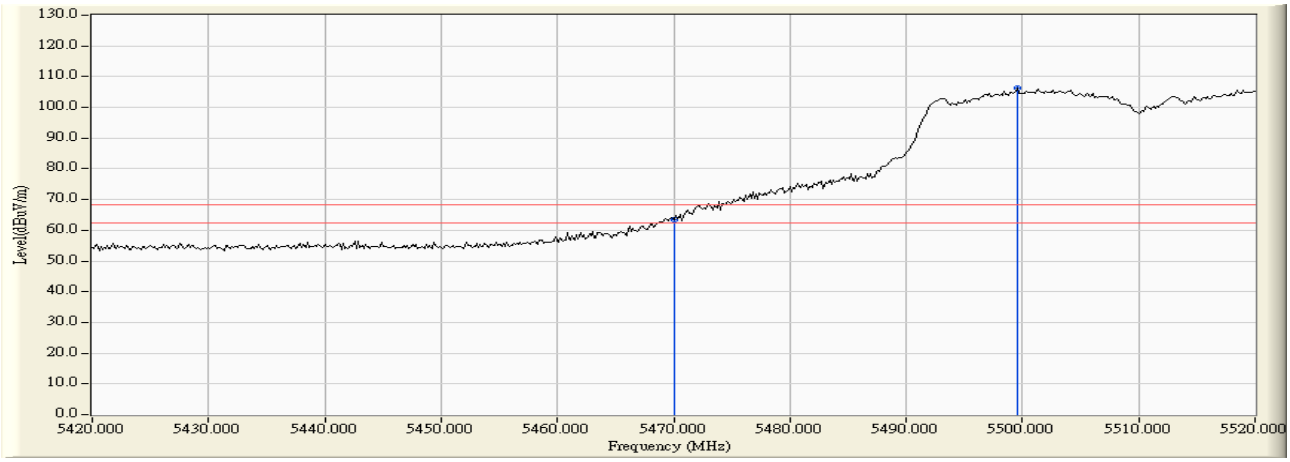
Figure Channel 102: Vertical (Average)



Note:

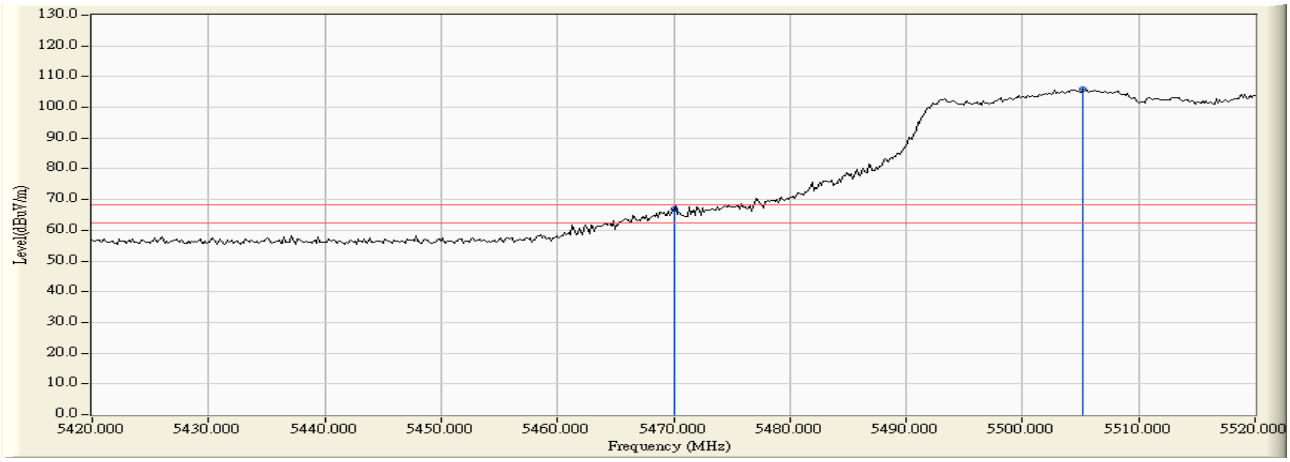
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is 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 3: Transmit (802.11n-40BW 30Mbps) -Channel 102 (5510MHz)



RF Radiated Measurement:

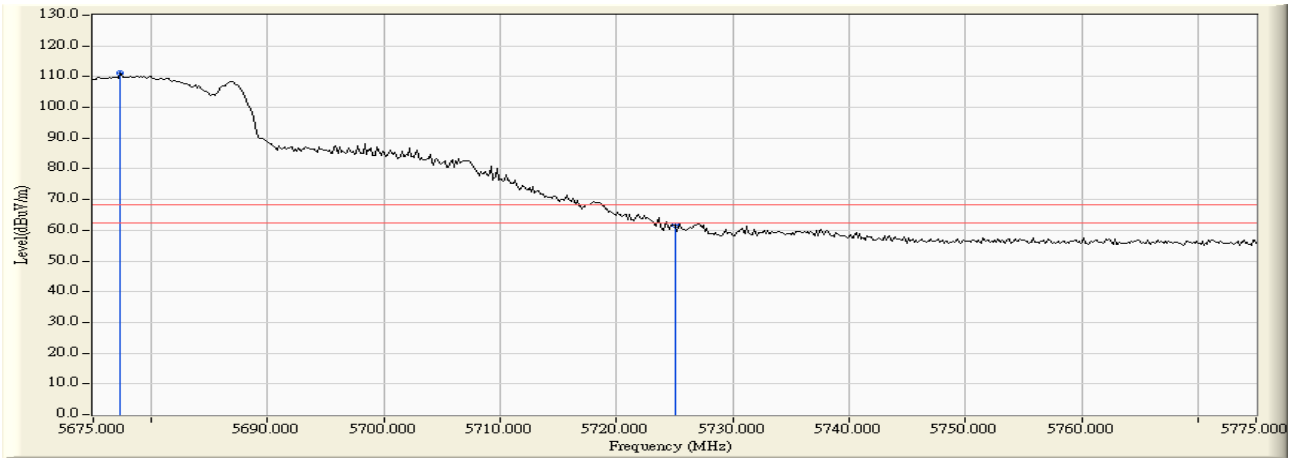
	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5470.000	4.488	58.881	63.369	-4.851	68.220	Pass
Horizontal	5499.565	4.812	101.402	106.213	37.993	68.220	Pass



RF Radiated Measurement:

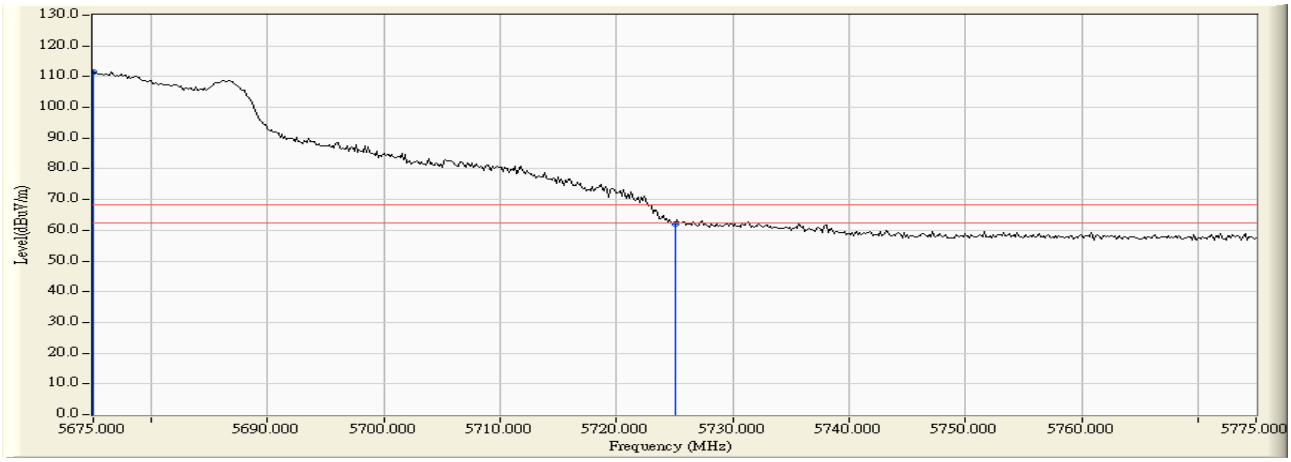
	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5470.000	6.112	60.879	66.990	-1.230	68.220	Pass
	5505.217	6.289	99.606	105.895	37.675	68.220	Pass

Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) -Channel 134 (5670MHz)



RF Radiated Measurement:

	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5677.319	4.525	106.763	111.288	43.068	68.220	Pass
Horizontal	5725.000	4.654	57.031	61.685	-6.535	68.220	Pass



RF Radiated Measurement:

	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5675.000	5.922	105.770	111.692	43.472	68.220	Pass
Vertical	5725.000	5.992	56.055	62.048	-6.172	68.220	Pass

Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 6 Transmit (802.11ac-80BW-65Mbps) -Channel 58 (5290MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
58 (Peak)	5307.800	3.852	98.196	102.048	--	--	Pass
58 (Peak)	5350.000	3.716	64.067	67.784	74.00	54.00	Pass
58 (Peak)	5351.000	3.713	66.106	69.819	74.00	54.00	Pass
58 (Average)	5307.200	3.854	81.500	85.354	--	--	Pass
58 (Average)	5350.000	3.716	48.747	52.464	74.00	54.00	Pass

Figure Channel 58: Horizontal (Peak)

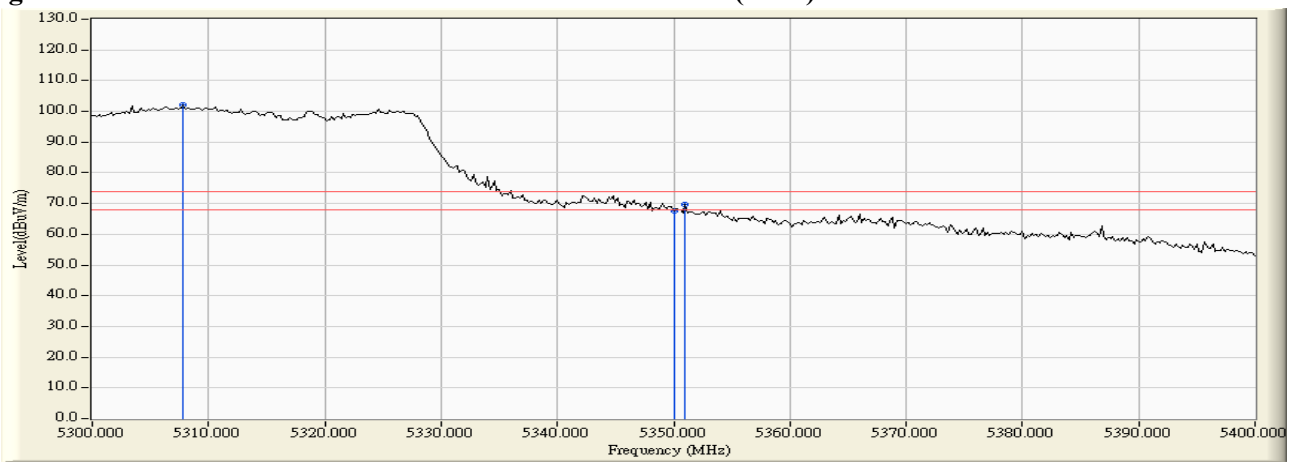
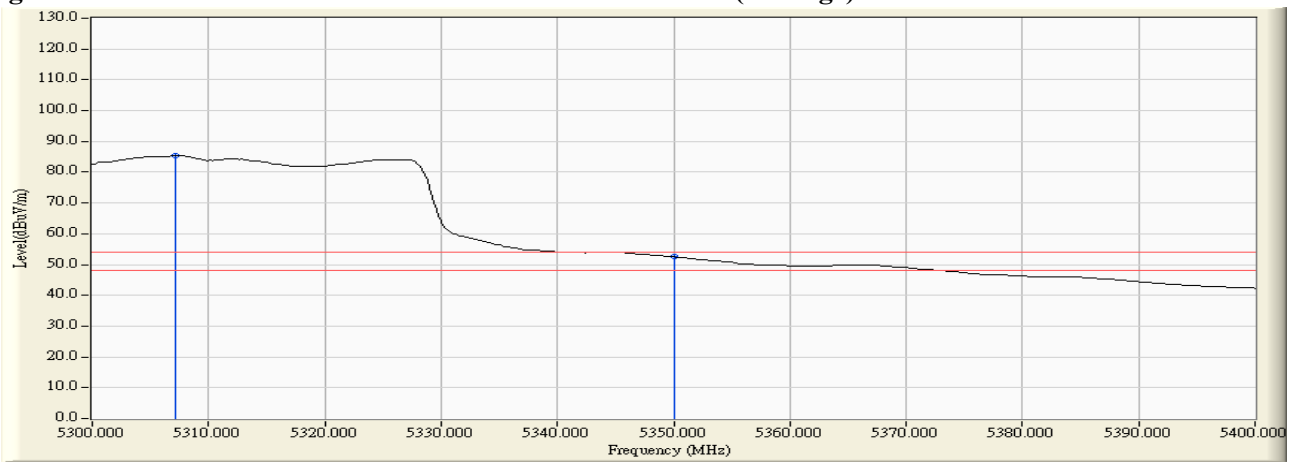


Figure Channel 58: Horizontal (Average)



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 + Correction Factor.
6. The average measurement was not performed when the peak measured data is 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 6 Transmit (802.11ac-80BW-65Mbps) -Channel 58 (5290MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
58 (Peak)	5308.000	5.745	95.447	101.192	--	--	Pass
58 (Peak)	5350.000	5.691	61.674	67.366	74.00	54.00	Pass
58 (Average)	5307.800	5.745	79.707	85.452	--	--	Pass
58 (Average)	5350.000	5.691	46.202	51.894	74.00	54.00	Pass

Figure Channel 58: Vertical (Peak)

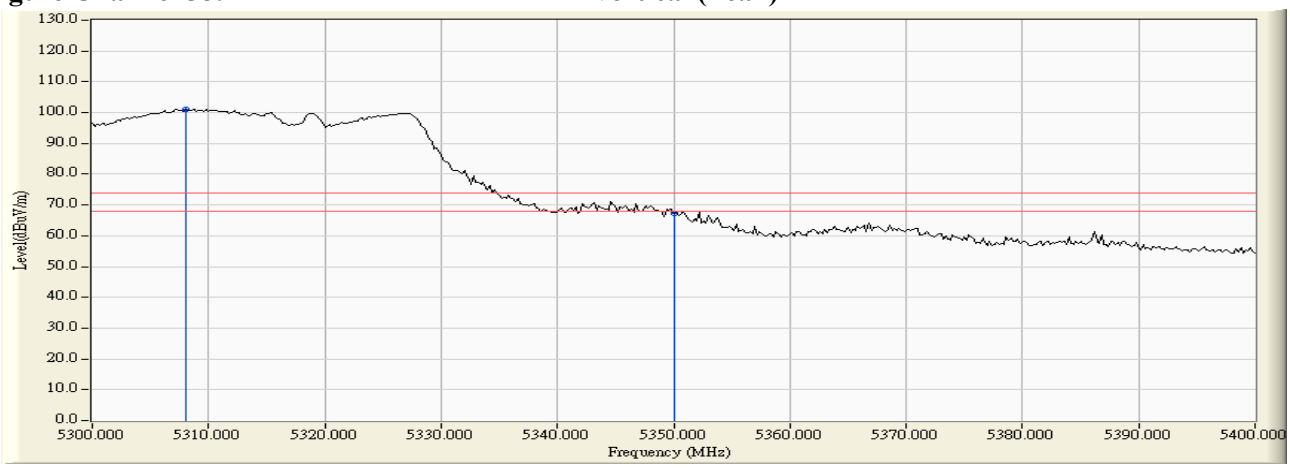
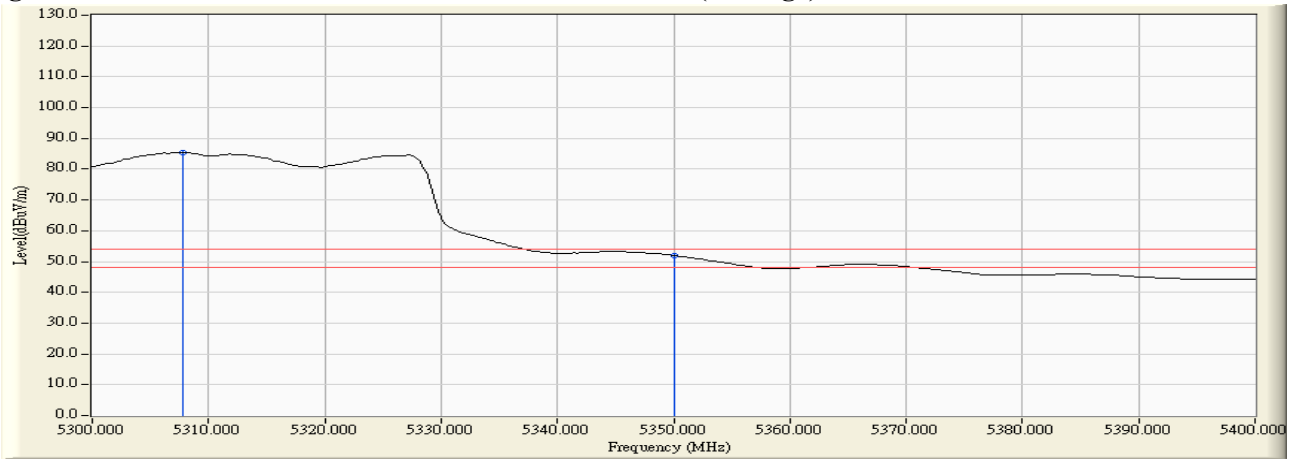


Figure Channel 58: Vertical (Average)



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 + Correction Factor.
6. The average measurement was not performed when the peak measured data is 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 6 Transmit (802.11ac-80BW-65Mbps) -Channel 106 (5530MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
106 (Peak)	5458.600	4.335	60.898	65.233	74.00	54.00	Pass
106 (Peak)	5460.000	4.354	58.424	62.778	74.00	54.00	Pass
106 (Peak)	5498.800	4.806	96.320	101.126	--	--	Pass
106 (Average)	5460.000	4.354	45.140	49.494	74.00	54.00	Pass
106 (Average)	5507.600	4.828	80.128	84.956	--	--	Pass

Figure Channel 106: Horizontal (Peak)

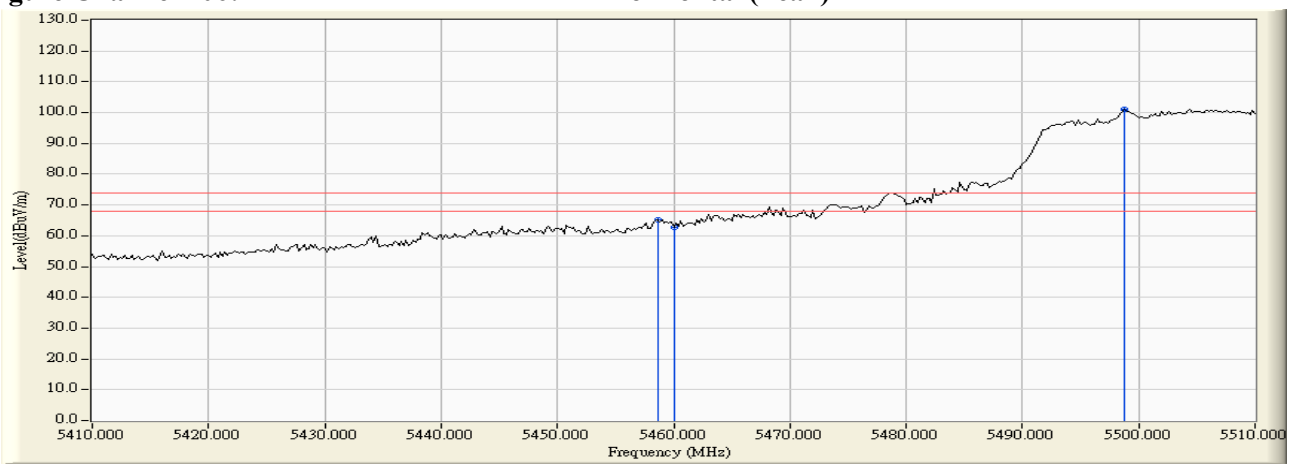
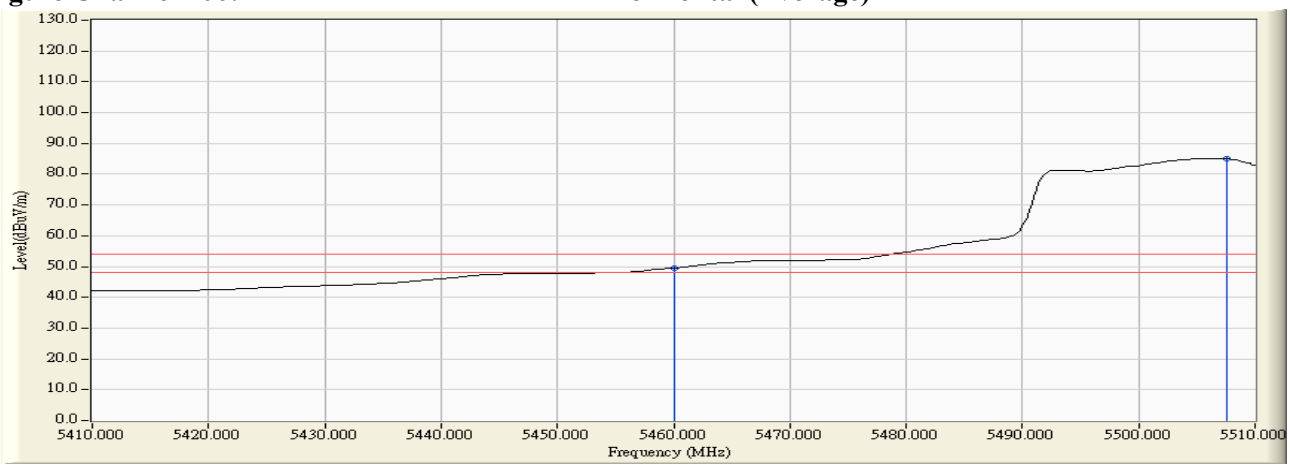


Figure Channel 106: Horizontal (Average)



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 + Correction Factor.
6. The average measurement was not performed when the peak measured data is 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 6 Transmit (802.11ac-80BW-65Mbps) -Channel 106 (5530MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
106 (Peak)	5459.000	6.033	61.186	67.220	74.00	54.00	Pass
106 (Peak)	5460.000	6.041	58.002	64.043	74.00	54.00	Pass
106 (Peak)	5495.400	6.261	94.591	100.852	--	--	Pass
106 (Average)	5456.200	6.014	44.796	50.810	74.00	54.00	Pass
106 (Average)	5460.000	6.041	44.080	50.121	74.00	54.00	Pass
106 (Average)	5495.000	6.260	78.605	84.865	--	--	Pass

Figure Channel 106: Vertical (Peak)

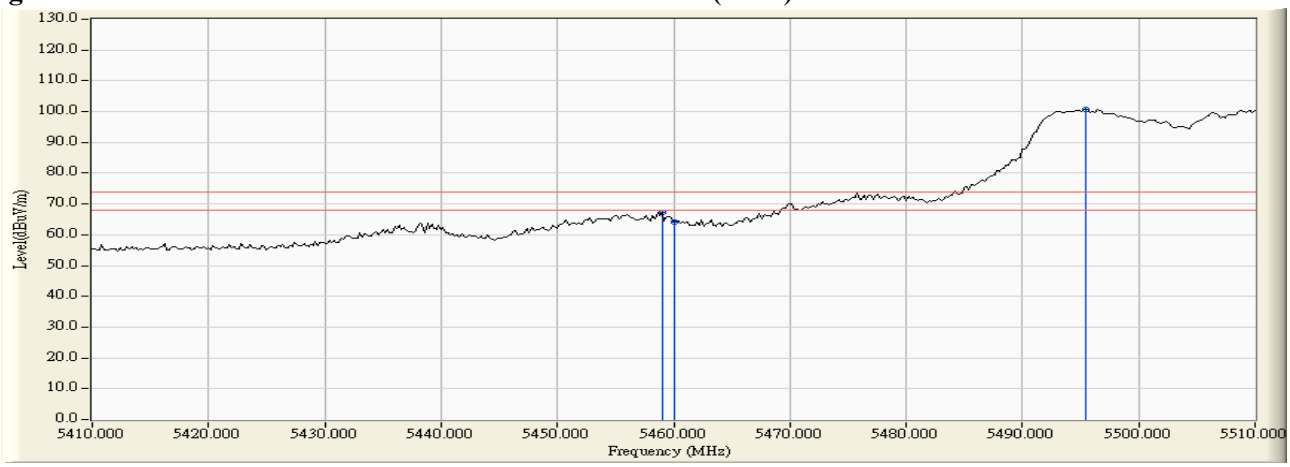
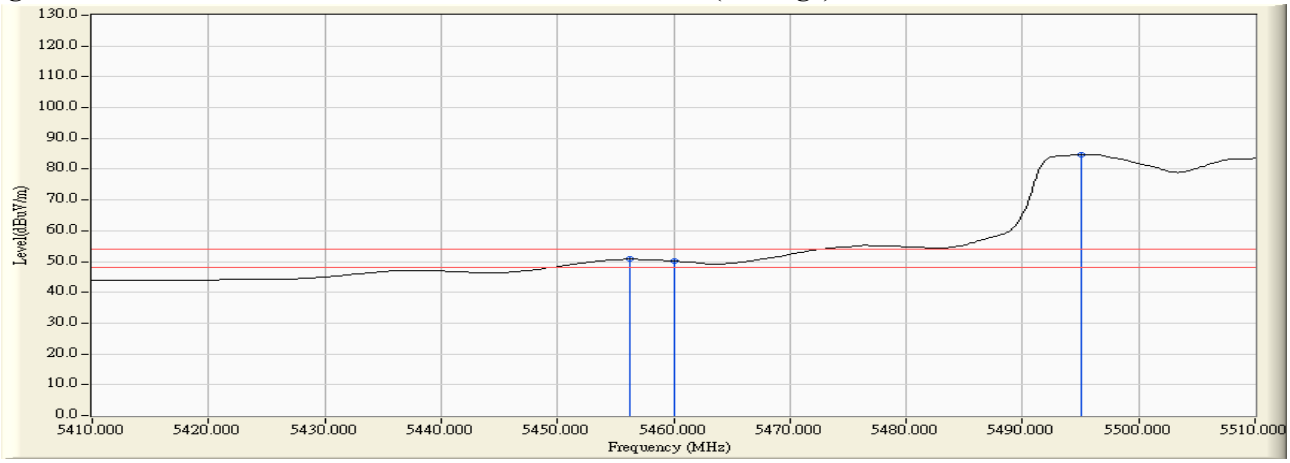


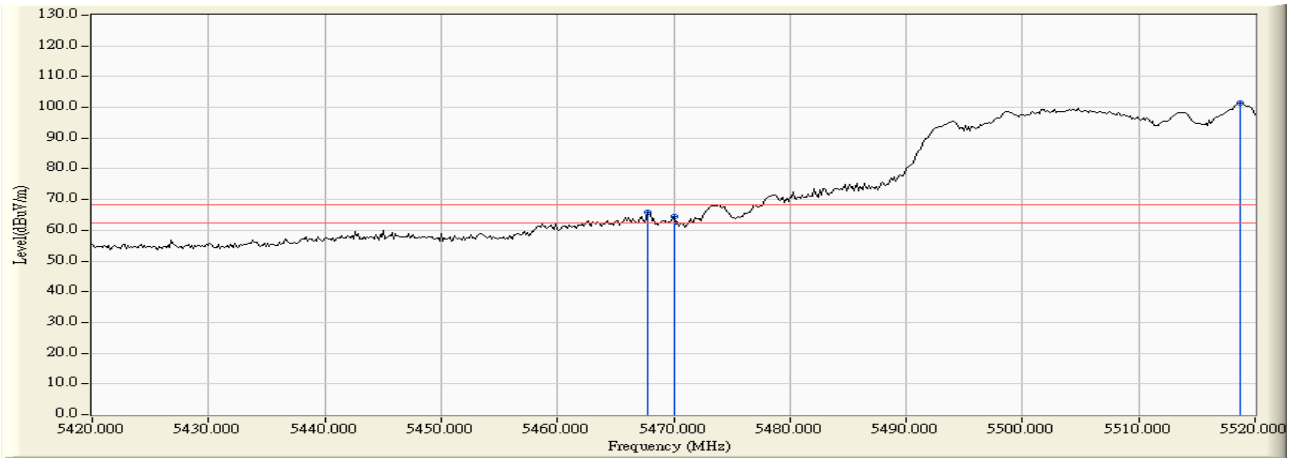
Figure Channel 106: Vertical (Average)



Note:

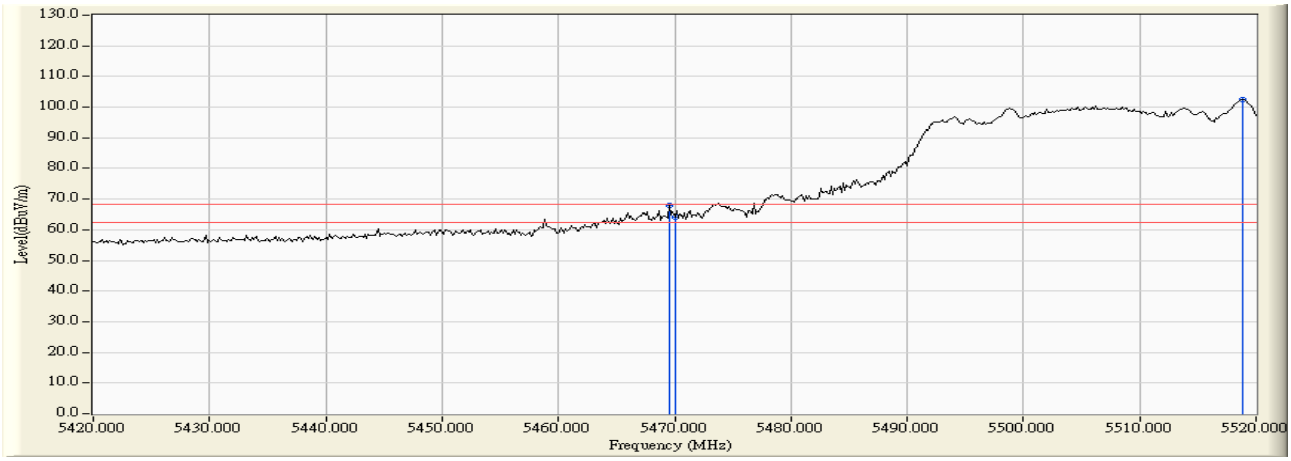
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is 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 6 Transmit (802.11ac-80BW-65Mbps) -Channel 106 (5530MHz)



RF Radiated Measurement:

	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5467.826	4.459	61.256	65.715	-2.505	68.220	Pass
Horizontal	5470.000	4.488	60.162	64.650	-3.570	68.220	Pass
Horizontal	5518.696	4.739	96.679	101.418	33.198	68.220	Pass



RF Radiated Measurement:

	Frequency (MHz)	Correction Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5469.565	6.108	61.819	67.927	-0.293	68.220	Pass
Vertical	5470.000	6.112	58.167	64.278	-3.942	68.220	Pass
Vertical	5518.841	6.202	96.372	102.574	34.354	68.220	Pass

7. Frequency Stability

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 equipment is calibrated once a year or as required by manufacturer.
2. All equipment is calibrated to traceable calibration procedures.
3. The test instruments marked by "X" are used to measure the final test results.

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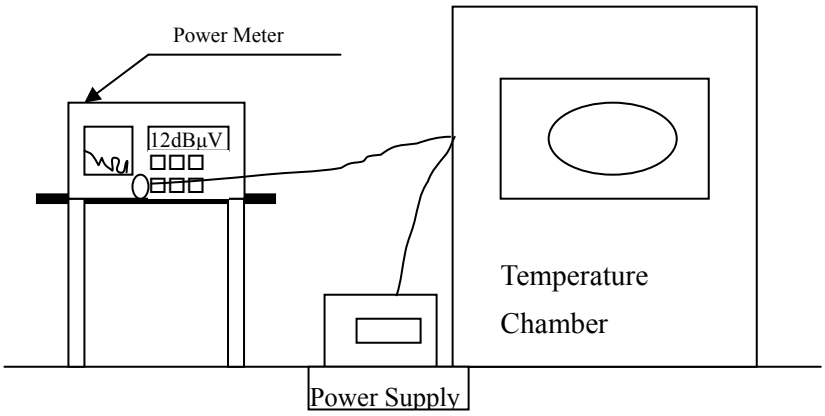
7.2. Test Setup



7.3. Limits

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

7.4. Test Procedure

The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

7.5. Uncertainty

± 150 Hz

7.6. Test Result of Frequency Stability

Product : 802.11ac Dual Band Access Point
Test Item : Frequency Stability
Test Site : Temperature Chamber
Test Mode : Carrier Wave

Chain A

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (20) °C	Vnom (120)V	52	5260.0000	5260.0068	-0.0068
		54	5270.0000	5270.0055	-0.0055
		60	5300.0000	5300.0043	-0.0043
		62	5310.0000	5310.0052	-0.0052
		64	5320.0000	5320.0066	-0.0066
		100	5500.0000	5500.0071	-0.0071
		102	5510.0000	5510.0072	-0.0072
		110	5550.0000	5550.0067	-0.0067
		116	5580.0000	5580.0048	-0.0048
		134	5670.0000	5670.0062	-0.0062
		140	5700.0000	5700.0072	-0.0072
Tmax (50) °C	Vmax (138)V	52	5260.0000	5260.0067	-0.0067
		54	5270.0000	5270.0048	-0.0048
		60	5300.0000	5300.0062	-0.0062
		62	5310.0000	5310.0072	-0.0072
		64	5320.0000	5320.0068	-0.0068
		100	5500.0000	5500.0055	-0.0055
		102	5510.0000	5510.0043	-0.0043
		110	5550.0000	5550.0052	-0.0052
		116	5580.0000	5580.0071	-0.0071
		134	5670.0000	5670.0072	-0.0072
		140	5700.0000	5700.0067	-0.0067
Tmax (50) °C	Vmin (102)V	52	5260.0000	5260.0068	-0.0068
		54	5270.0000	5270.0055	-0.0055
		60	5300.0000	5300.0043	-0.0043
		62	5310.0000	5310.0052	-0.0052
		64	5320.0000	5320.0071	-0.0071
		100	5500.0000	5500.0072	-0.0072
		102	5510.0000	5510.0067	-0.0067
		110	5550.0000	5550.0067	-0.0067
		116	5580.0000	5580.0048	-0.0048
		134	5670.0000	5670.0062	-0.0062
		140	5700.0000	5700.0072	-0.0072

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tmin (0) °C	Vmax (138)V	52	5260.0000	5260.0088	-0.0088
		54	5270.0000	5270.0084	-0.0084
		60	5300.0000	5300.0071	-0.0071
		62	5310.0000	5310.0068	-0.0068
		64	5320.0000	5320.0082	-0.0082
		100	5500.0000	5500.0094	-0.0094
		102	5510.0000	5510.0068	-0.0068
		110	5550.0000	5550.0072	-0.0072
		116	5580.0000	5580.0084	-0.0084
		134	5670.0000	5670.0088	-0.0088
		140	5700.0000	5700.0092	-0.0092
Tmin (0) °C	Vmin (102)V	52	5260.0000	5260.0088	-0.0088
		54	5270.0000	5270.0084	-0.0084
		60	5300.0000	5300.0071	-0.0071
		62	5310.0000	5310.0068	-0.0068
		64	5320.0000	5320.0082	-0.0082
		100	5500.0000	5500.0094	-0.0094
		102	5510.0000	5510.0068	-0.0068
		110	5550.0000	5550.0072	-0.0072
		116	5580.0000	5580.0084	-0.0084
		134	5670.0000	5670.0088	-0.0088
		140	5700.0000	5700.0092	-0.0092

Chain B

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (20) °C	Vnom (120)V	52	5260.0000	5260.0058	-0.0058
		54	5270.0000	5270.0051	-0.0051
		60	5300.0000	5300.0048	-0.0048
		62	5310.0000	5310.0052	-0.0052
		64	5320.0000	5320.0066	-0.0066
		100	5500.0000	5500.0071	-0.0071
		102	5510.0000	5510.0081	-0.0081
		110	5550.0000	5550.0062	-0.0062
		116	5580.0000	5580.0057	-0.0057
		134	5670.0000	5670.0048	-0.0048
		140	5700.0000	5700.0062	-0.0062
Tmax (50) °C	Vmax (138)V	52	5260.0000	5260.0062	-0.0062
		54	5270.0000	5270.0057	-0.0057
		60	5300.0000	5300.0048	-0.0048
		62	5310.0000	5310.0062	-0.0062
		64	5320.0000	5320.0058	-0.0058
		100	5500.0000	5500.0051	-0.0051
		102	5510.0000	5510.0048	-0.0048
		110	5550.0000	5550.0052	-0.0052
		116	5580.0000	5580.0071	-0.0071
		134	5670.0000	5670.0081	-0.0081
		140	5700.0000	5700.0062	-0.0062
Tmax (50) °C	Vmin (102)V	52	5260.0000	5260.0058	-0.0058
		54	5270.0000	5270.0051	-0.0051
		60	5300.0000	5300.0048	-0.0048
		62	5310.0000	5310.0052	-0.0052
		64	5320.0000	5320.0071	-0.0071
		100	5500.0000	5500.0081	-0.0081
		102	5510.0000	5510.0062	-0.0062
		110	5550.0000	5550.0062	-0.0062
		116	5580.0000	5580.0057	-0.0057
		134	5670.0000	5670.0048	-0.0048
		140	5700.0000	5700.0062	-0.0062

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tmin (0) °C	Vmax (138)V	52	5260.0000	5260.0094	-0.0094
		54	5270.0000	5270.0068	-0.0068
		60	5300.0000	5300.0072	-0.0072
		62	5310.0000	5310.0084	-0.0084
		64	5320.0000	5320.0088	-0.0088
		100	5500.0000	5500.0092	-0.0092
		102	5510.0000	5510.0088	-0.0088
		110	5550.0000	5550.0084	-0.0084
		116	5580.0000	5580.0071	-0.0071
		134	5670.0000	5670.0068	-0.0068
		140	5700.0000	5700.0082	-0.0082
Tmin (0) °C	Vmin (102)V	52	5260.0000	5260.0094	-0.0094
		54	5270.0000	5270.0068	-0.0068
		60	5300.0000	5300.0072	-0.0072
		62	5310.0000	5310.0084	-0.0084
		64	5320.0000	5320.0088	-0.0088
		100	5500.0000	5500.0092	-0.0092
		102	5510.0000	5510.0088	-0.0088
		110	5550.0000	5550.0084	-0.0084
		116	5580.0000	5580.0071	-0.0071
		134	5670.0000	5670.0068	-0.0068
		140	5700.0000	5700.0082	-0.0082

Product : 802.11ac Dual Band Access Point
Test Item : Frequency Stability
Test Site : Temperature Chamber
Test Mode : Carrier Wave (AC)

Chain A

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (20) oC	Vnom (120)V	58	5290.0000	5290.0046	-0.0046
		106	5530.0000	5530.0068	-0.0068
		122	5610.0000	5610.0028	-0.0028
Tnom (50) oC	Vnom (138)V	58	5290.0000	5290.0072	-0.0072
		106	5530.0000	5530.0068	-0.0068
		122	5610.0000	5610.0042	-0.0042
Tnom (50) oC	Vnom (102)V	58	5290.0000	5290.0072	-0.0072
		106	5530.0000	5530.0068	-0.0068
		122	5610.0000	5610.0042	-0.0042
Tnom (0) oC	Vnom (138)V	58	5290.0000	5290.0072	-0.0072
		106	5530.0000	5530.0068	-0.0068
		122	5610.0000	5610.0064	-0.0064
Tnom (0) oC	Vnom (102)V	58	5290.0000	5290.0072	-0.0072
		106	5530.0000	5530.0068	-0.0068
		122	5610.0000	5610.0064	-0.0064

Chain B

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (20) oC	Vnom (120)V	58	5290.0000	5290.0038	-0.0038
		106	5530.0000	5530.0072	-0.0072
		122	5610.0000	5610.0032	-0.0032
Tnom (50) oC	Vnom (138)V	58	5290.0000	5290.0066	-0.0066
		106	5530.0000	5530.0052	-0.0052
		122	5610.0000	5610.0038	-0.0038
Tnom (50) oC	Vnom (102)V	58	5290.0000	5290.0066	-0.0066
		106	5530.0000	5530.0058	-0.0058
		122	5610.0000	5610.0038	-0.0038
Tnom (0) oC	Vnom (138)V	58	5290.0000	5290.0066	-0.0066
		106	5530.0000	5530.0058	-0.0058
		122	5610.0000	5610.0052	-0.0052
Tnom (0) oC	Vnom (102)V	58	5290.0000	5290.0068	-0.0068
		106	5530.0000	5530.0058	-0.0058
		122	5610.0000	5610.0052	-0.0052

8. EMI Reduction Method During Compliance Testing

No modification was made during testing.