

FCC Test Report

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

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

Date of Receipt	Aug. 19, 2015
Issued Date	Sep. 21, 2015
Report No.	1580559R-RFUSP05V00
Report Version	V1.0



The test results relate only to the samples tested.

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

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Test Report

Issued Date: Sep. 21, 2015

Report No.: 1580559R-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-2, WK-2-B, WK-2-C, WK-2-CB
FCC ID.	SLY-WK2X33
EUT Rated Voltage	AC 100-240V, 50/0Hz
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

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Approved By :

Vincent Lin

(Director / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	802.11ac Dual Band Access Point
Trade Name	Pakedge
FCC ID.	SLY-WK2X33
Model No.	WK-2, WK-2-B, WK-2-C, WK-2-CB
Frequency Range	802.11a/n-20MHz: 5180-5240MHz, 5745-5825MHz 802.11n-40MHz: 5190-5230, 5755-5795MHz 802.11ac-80MHz: 5210, 5775MHz
Number of Channels	802.11a/n-20MHz: 9; 802.11n-40MHz: 4; 802.11ac-80MHz: 2
Data Rate	802.11a: 6 - 54Mbps 802.11n: up to 450Mbps 802.11ac-80MHz: up to 1300MHz
Channel Control	Auto
Type of Modulation	802.11a/n: OFDM, BPSK, QPSK, 16QAM, 64QAM, 256QAM
Antenna type	PIFA Antenna
Antenna Gain	Refer to the table "Antenna List"
LAN Cable	Non-Shielded, 2.0m
Power Adapter	MFR: Asian, M/N: WA-24Q12FU Input: AC 100-240V, 50-60Hzm 0.7A Output: DV 12V, 2A Cable Out: Non-Shielded, 1.8m

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Lite-On	30100006566D (5G-1) 30100006716D (5G-2) 30100007386D (5G-3)	PIFA	5.6 dBi for 5.15~5.25GHz 5.6 dBi for 5.25~5.35GHz 5.2 dBi for 5.47~5.725GHz 4.4 dBi for 5.725~5.850GHz

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 36:	5180 MHz	Channel 40:	5200 MHz	Channel 44:	5220 MHz	Channel 48:	5240 MHz
Channel 149:	5745 MHz	Channel 153:	5765 MHz	Channel 157:	5785 MHz	Channel 161:	5805 MHz
Channel 165:	5825 MHz						

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

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 38:	5190 MHz	Channel 46:	5230 MHz	Channel 151:	5755 MHz	Channel 159:	5795 MHz

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

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 42:	5210 MHz	Channel 155:	5775 MHz				

Note:

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

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

3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
4. At result of pretests, module supports three-channel transmission. (802.11 a/b/g/n/ac is chain A+ chain B + chain C)
5. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11a is 6Mbps 、802.11n-20BW is 21.7Mbps 、802.11n-40BW is 45Mbps and 802.11ac(80M-BW) is 97.5 Mbps)
6. 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.
7. 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 21.7Mbps) Mode 3: Transmit (802.11n-40BW 45Mbps) Mode 4: Transmit (802.11ac-80BW-97.5Mbps)
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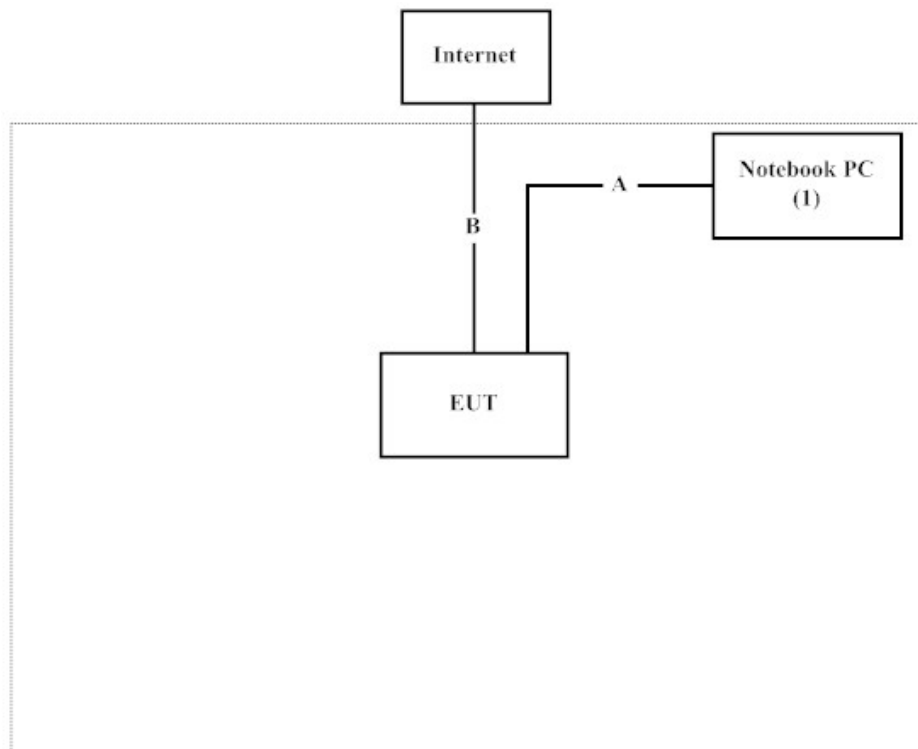
1.3. Tested System Details

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

Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	PPT	N/A
				Non-Shielded, 0.8m

Signal Cable Type	Signal cable Description
A	LAN Cable
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 “ART-GUI (v2.3)” program on the EUT.
- (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 about the test site and management system can be downloaded from

QuieTek Corporation's Web Site : <http://www.quietek.com/chinese/about/certificates.aspx?bval=5>

The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site :

<http://www.quietek.com/>

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

Site Name: Quietek Corporation
Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,
Lin-Kou Shiang, Taipei,
Taiwan, R.O.C.
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

FCC Accreditation Number: TW1014

2. Conducted Emission

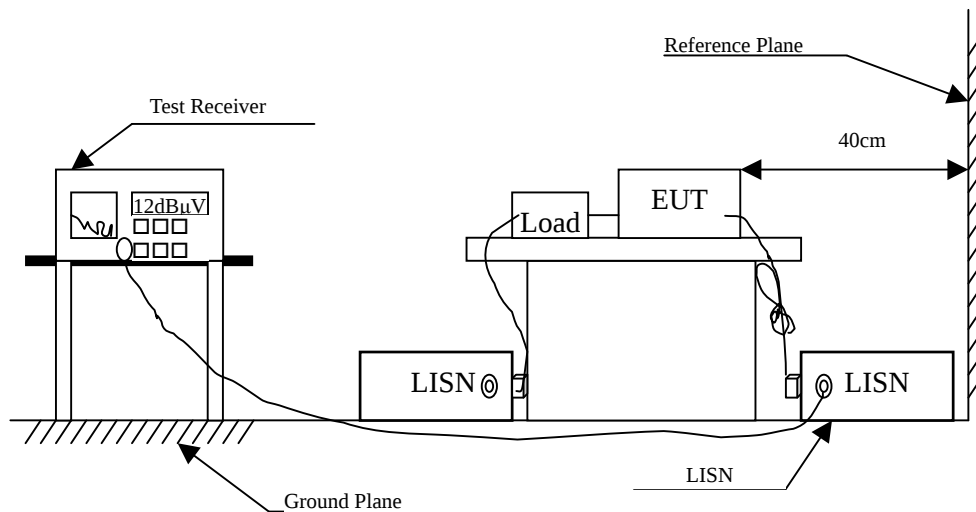
2.1. Test Equipment

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

Note:

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

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (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 investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

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.

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 4: Transmit (802.11ac-80BW-97.5Mbps) (5210MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV	Margin dB	Limit dBμV
LINE 1					
Quasi-Peak					
0.150	9.764	26.540	36.304	-29.696	66.000
0.185	9.755	18.950	28.705	-36.295	65.000
0.310	9.763	24.620	34.383	-27.046	61.429
0.638	9.789	18.900	28.689	-27.311	56.000
0.880	9.807	14.350	24.157	-31.843	56.000
3.334	9.950	19.650	29.600	-26.400	56.000
Average					
0.150	9.764	23.740	33.504	-22.496	56.000
0.185	9.755	6.480	16.235	-38.765	55.000
0.310	9.763	17.140	26.903	-24.526	51.429
0.638	9.789	13.070	22.859	-23.141	46.000
0.880	9.807	13.120	22.927	-23.073	46.000
3.334	9.950	11.520	21.470	-24.530	46.000

Note:

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

Product : 802.11ac Dual Band Access Point
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 4: Transmit (802.11ac-80BW-97.5Mbps) (5210MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBμV	dBμV	dB	dBμV
LINE 2					
Quasi-Peak					
0.154	9.763	27.600	37.363	-28.523	65.886
0.287	9.761	22.190	31.951	-30.135	62.086
0.306	9.763	25.580	35.343	-26.200	61.543
0.576	9.784	17.690	27.474	-28.526	56.000
0.904	9.809	14.170	23.979	-32.021	56.000
3.392	9.952	19.680	29.632	-26.368	56.000
Average					
0.154	9.763	21.650	31.413	-24.473	55.886
0.287	9.761	21.900	31.661	-20.425	52.086
0.306	9.763	25.570	35.333	-16.210	51.543
0.576	9.784	11.280	21.064	-24.936	46.000
0.904	9.809	14.050	23.859	-22.141	46.000
3.392	9.952	7.280	17.232	-28.768	46.000

Note:

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

Product : 802.11ac Dual Band Access Point
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 4: Transmit (802.11ac-80BW-97.5Mbps) (5775MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV	Margin dB	Limit dBμV
LINE 1					
Quasi-Peak					
0.150	9.764	26.480	36.244	-29.756	66.000
0.287	9.761	22.830	32.591	-29.495	62.086
0.306	9.763	25.340	35.103	-26.440	61.543
0.580	9.784	14.380	24.164	-31.836	56.000
0.638	9.789	17.160	26.949	-29.051	56.000
3.502	9.954	18.920	28.874	-27.126	56.000
Average					
0.150	9.764	20.220	29.984	-26.016	56.000
0.287	9.761	22.820	32.581	-19.505	52.086
0.306	9.763	23.970	33.733	-17.810	51.543
0.580	9.784	11.500	21.284	-24.716	46.000
0.638	9.789	12.930	22.719	-23.281	46.000
3.502	9.954	11.150	21.104	-24.896	46.000

Note:

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

Product : 802.11ac Dual Band Access Point
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 4: Transmit (802.11ac-80BW-97.5Mbps) (5775MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBμV	dBμV	dB	dBμV
LINE 2					
Quasi-Peak					
0.154	9.763	27.790	37.553	-28.333	65.886
0.177	9.757	23.470	33.227	-32.002	65.229
0.306	9.763	25.120	34.883	-26.660	61.543
0.576	9.784	17.790	27.574	-28.426	56.000
3.638	9.956	18.650	28.606	-27.394	56.000
7.330	10.047	10.590	20.637	-39.363	60.000
Average					
0.154	9.763	21.650	31.413	-24.473	55.886
0.177	9.757	14.050	23.807	-31.422	55.229
0.306	9.763	22.470	32.233	-19.310	51.543
0.576	9.784	12.020	21.804	-24.196	46.000
3.638	9.956	12.160	22.116	-23.884	46.000
7.330	10.047	4.170	14.217	-35.783	50.000

Note:

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

3. Maximun conducted output power

3.1. Test Equipment

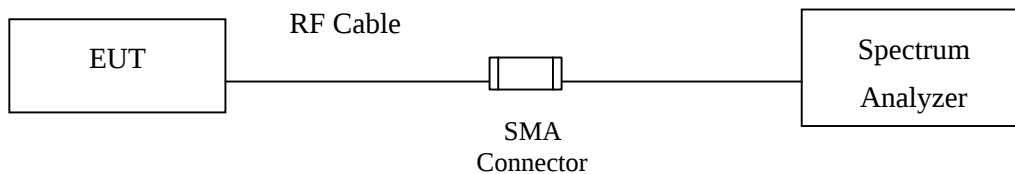
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2015
X	Power Sensor	Anritsu	MA2411B/0738448	Jun., 2015
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

Note:

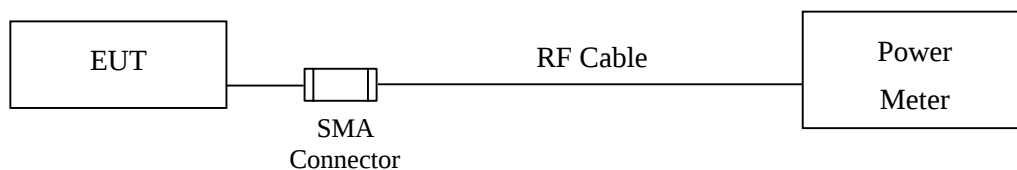
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

3.2. Test Setup

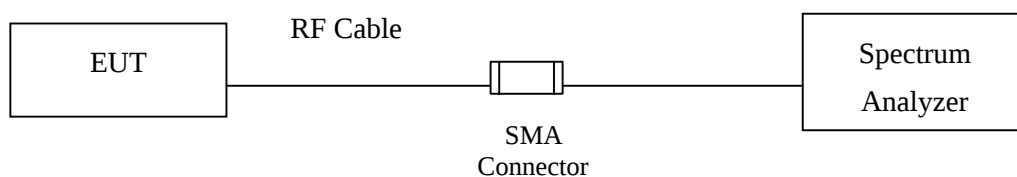
26dBc Occupied Bandwidth



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-to-point 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 ($BW \leq 40\text{MHz}$) 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 ($BW=80\text{MHz}$) 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

$\pm 1.27 \text{ dB}$

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)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	20.41	--	--	--	--	--	--	--	<30dBm
44	5220	23.05	22.95	22.84	22.76	22.61	22.58	22.49	22.34	<30dBm
48	5240	22.91	--	--	--	--	--	--	--	<30dBm
149	5745	17.89	--	--	--	--	--	--	--	<30dBm
157	5785	23.33	23.26	23.15	23.07	22.98	22.84	22.79	22.64	<30dBm
165	5825	21.97	--	--	--	--	--	--	--	<30dBm

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)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	20.94	--	--	--	--	--	--	--	<30dBm
44	5220	23.43	23.35	23.24	23.18	23.09	22.94	22.88	22.76	<30dBm
48	5240	23.21	--	--	--	--	--	--	--	<30dBm
149	5745	17.62	--	--	--	--	--	--	--	<30dBm
157	5785	23.34	23.26	23.18	23.02	22.94	22.81	22.76	22.69	<30dBm
165	5825	22.16	--	--	--	--	--	--	--	<30dBm

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

CHAIN C

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	20.77	--	--	--	--	--	--	--	<30dBm
44	5220	23.08	22.99	22.87	22.76	22.65	22.58	22.49	22.31	<30dBm
48	5240	23.01	--	--	--	--	--	--	--	<30dBm
149	5745	17.86	--	--	--	--	--	--	--	<30dBm
157	5785	23.78	23.66	23.54	23.41	23.35	23.28	23.16	23.07	<30dBm
165	5825	21.84	--	--	--	--	--	--	--	<30dBm

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

Maximum conducted output power Measurement:

(CHAIN A+ B+C)

Channel Number	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Output Power (dBm)	Output Power Limit
						(dBm)
36	5180	20.41	20.94	20.77	25.48	30
44	5220	23.05	23.43	23.08	27.96	30
48	5240	22.91	23.21	23.01	27.82	30
149	5745	17.89	17.62	17.86	22.56	30
157	5785	23.33	23.34	23.78	28.26	30
165	5825	21.97	22.16	21.84	26.76	30

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) + Chain C Power (mW))

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 21.7Mbps)

CHAIN A

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		21.7	43.3	65	86.7	130.7	173.3	195	216.7	
		Measurement Level (dBm)								
36	5180	20.36	--	--	--	--	--	--	--	<30dBm
44	5220	23.44	23.35	23.24	23.19	23.02	22.91	22.84	22.78	<30dBm
48	5240	23.45	--	--	--	--	--	--	--	<30dBm
149	5745	17.52	--	--	--	--	--	--	--	<30dBm
157	5785	23.49	23.38	23.25	23.16	23.08	22.95	22.84	22.77	<30dBm
165	5825	19.48	--	--	--	--	--	--	--	<30dBm

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)								Required Limit
		21.7	43.3	65	86.7	130.7	173.3	195	216.7	
		Measurement Level (dBm)								
36	5180	20.98	--	--	--	--	--	--	--	<30dBm
44	5220	23.95	23.86	23.77	23.68	23.54	23.41	23.35	23.26	<30dBm
48	5240	23.87	--	--	--	--	--	--	--	<30dBm
149	5745	17.32	--	--	--	--	--	--	--	<30dBm
157	5785	23.33	23.26	23.18	23.09	23.01	22.94	22.85	22.77	<30dBm
165	5825	19.62	--	--	--	--	--	--	--	<30dBm

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

CHAIN C

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		21.7	43.3	65	86.7	130.7	173.3	195	216.7	
		Measurement Level (dBm)								
36	5180	20.56	--	--	--	--	--	--	--	<30dBm
44	5220	23.37	23.29	23.15	23.07	22.94	22.86	22.77	22.61	<30dBm
48	5240	23.28	--	--	--	--	--	--	--	<30dBm
149	5745	17.33	--	--	--	--	--	--	--	<30dBm
157	5785	23.41	23.31	23.23	23.15	23.08	22.99	22.91	22.81	<30dBm
165	5825	19.16	--	--	--	--	--	--	--	<30dBm

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

Maximum conducted output power Measurement:

(CHAIN A+ B+C)

Channel Number	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Output Power (dBm)	Output Power Limit
						(dBm)
36	5180	20.36	20.98	20.56	25.41	30
44	5220	23.44	23.95	23.37	28.37	30
48	5240	23.45	23.87	23.28	28.31	30
149	5745	17.52	17.32	17.33	22.16	30
157	5785	23.49	23.33	23.41	28.18	30
165	5825	19.48	19.62	19.16	24.20	30

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) + Chain C Power(mW))

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 45Mbps)

CHAIN A

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		45	90	135	180	270	360	405	450	
		Measurement Level (dBm)								
38	5190	15.91	--	--	--	--	--	--	--	<30dBm
46	5230	22.73	22.64	22.58	22.48	22.35	22.26	22.18	22.05	<30dBm
151	5755	13.84	--	--	--	--	--	--	--	<30dBm
159	5795	21.43	21.34	21.26	21.15	21.04	20.98	20.91	20.83	<30dBm

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)								Required Limit
		45	90	135	180	270	360	405	450	
		Measurement Level (dBm)								
38	5190	16.69	--	--	--	--	--	--	--	<30dBm
46	5230	23.19	23.06	22.95	22.84	22.76	22.64	22.59	22.48	<30dBm
151	5755	13.83	--	--	--	--	--	--	--	<30dBm
159	5795	21.12	21.05	20.97	20.89	20.74	20.66	20.58	20.47	<30dBm

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

CHAIN C

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		45	90	135	180	270	360	405	450	
		Measurement Level (dBm)								
38	5190	15.86	--	--	--	--	--	--	--	<30dBm
46	5230	22.38	22.31	22.24	22.16	22.08	21.94	21.83	21.76	<30dBm
151	5755	13.6	--	--	--	--	--	--	--	<30dBm
159	5795	21.05	20.97	20.83	20.76	20.61	20.52	20.43	20.38	<30dBm

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

**Maximum conducted output power Measurement:
(CHAIN A+ B+C)**

Channel Number	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Output Power (dBm)	Output Power Limit
						(dBm)
38	5190	15.91	16.69	15.86	20.94	30
46	5230	22.73	23.19	22.38	27.55	30
151	5755	13.84	13.83	13.60	18.53	30
159	5795	21.43	21.12	21.05	25.97	30

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)+ Chain C Power (mW))

Product : 802.11ac Dual Band Access Point
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11ac-80BW-97.5Mbps)

Chain A

Cable loss=1dB		Maximum conducted output power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
42	5210	12.55	12.43	12.35	12.26	12.15	12.04	11.98	11.86	11.74	11.63	<30dBm
155	5775	11.67	11.55	11.48	11.36	11.25	11.13	11.05	10.98	10.85	10.77	<30dBm

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)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
42	5210	13.51	13.48	13.35	13.25	13.18	13.05	12.94	12.84	12.77	12.66	<30dBm
155	5775	11.11	11.05	10.97	10.84	10.76	10.65	10.59	10.48	10.35	10.29	<30dBm

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

Chain C

Cable loss=1dB		Maximum conducted output power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
42	5210	12.43	12.36	12.26	12.17	12.02	11.95	11.87	11.79	11.62	11.54	<30dBm
155	5775	11.07	10.98	10.89	10.79	10.71	10.64	10.58	10.43	10.35	10.25	<30dBm

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

**Maximum conducted output power Measurement:
(CHAIN A+ B+C)**

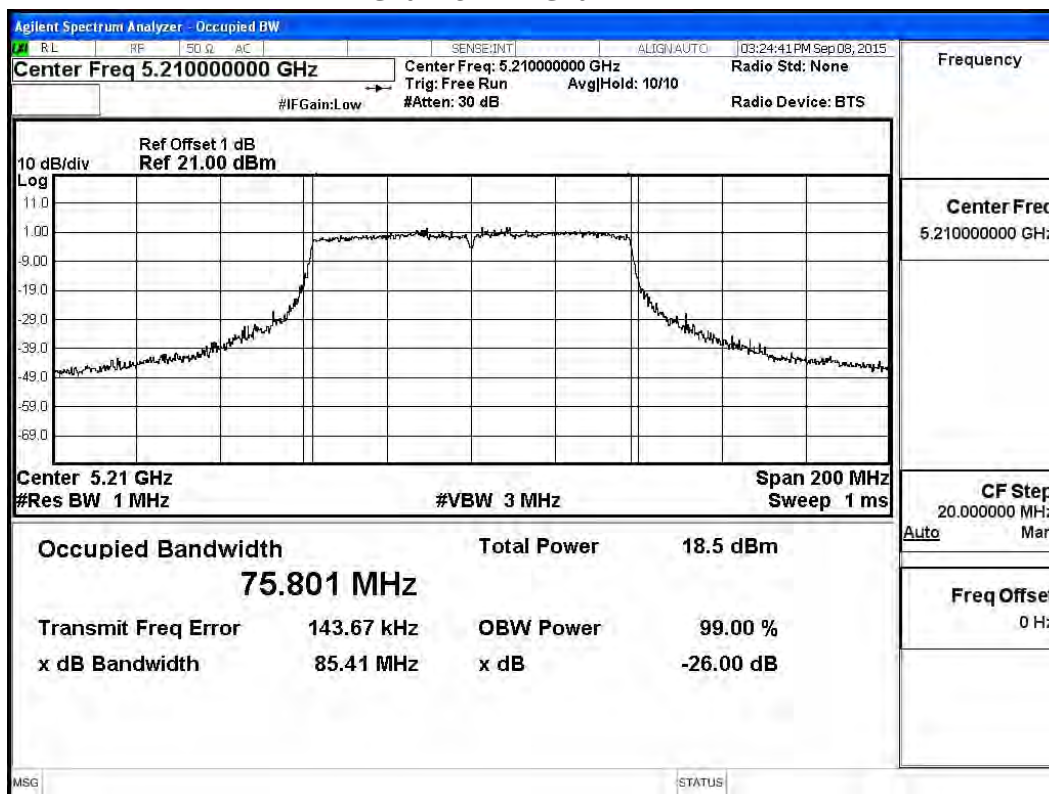
Channel Number	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Output Power (dBm)	Output Power Limit (dBm)
42	5210	12.55	13.51	12.43	17.63	30
155	5775	11.67	11.11	11.07	16.06	30

Note:

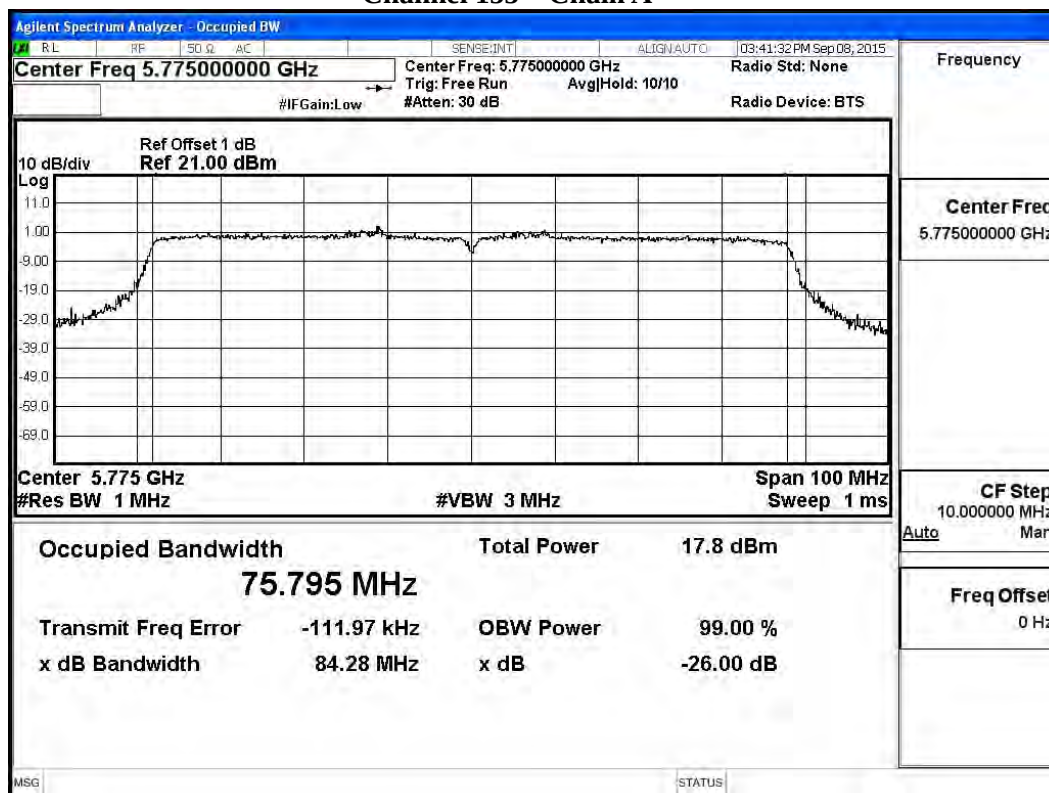
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (mW)+ Chain B Power (mW)+ + Chain C Power (mW))

26dBc Occupied Bandwidth:

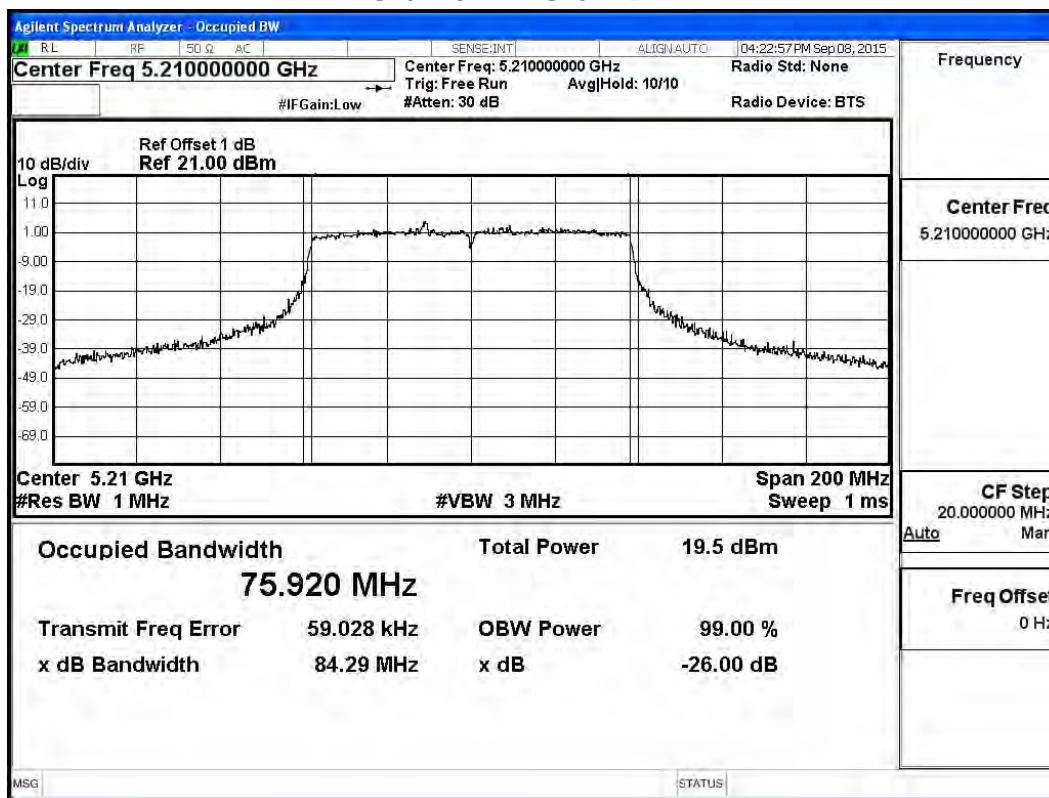
Channel 42 – Chain A



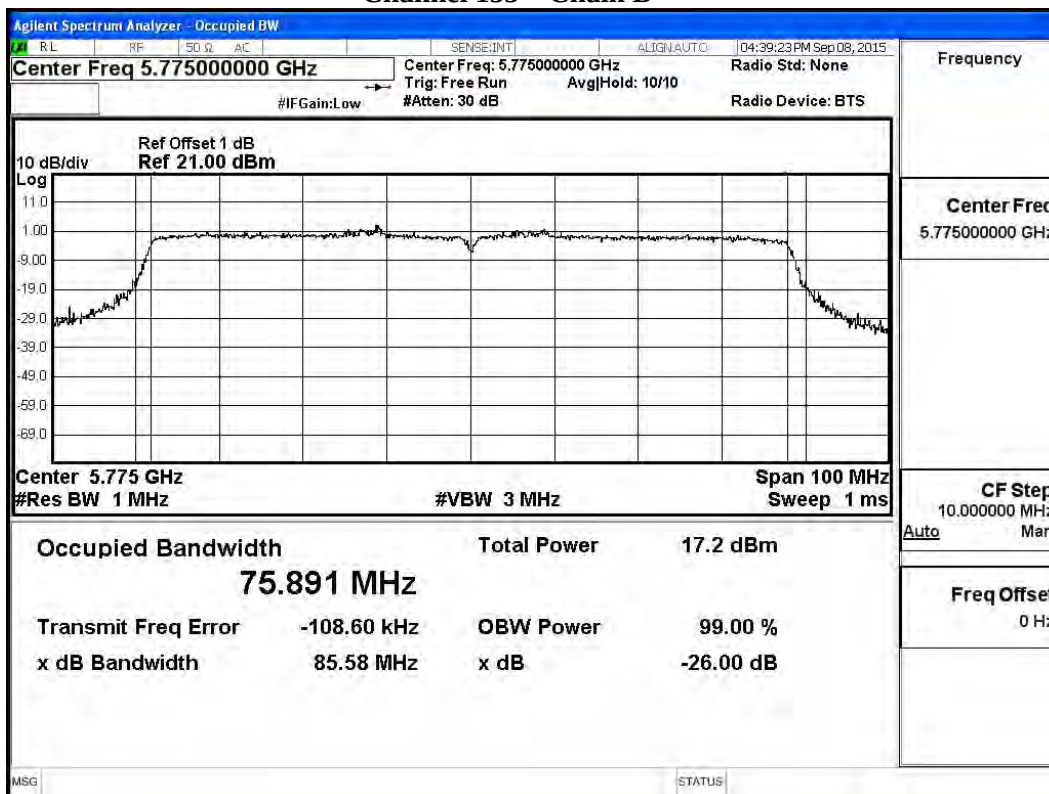
Channel 155 – Chain A



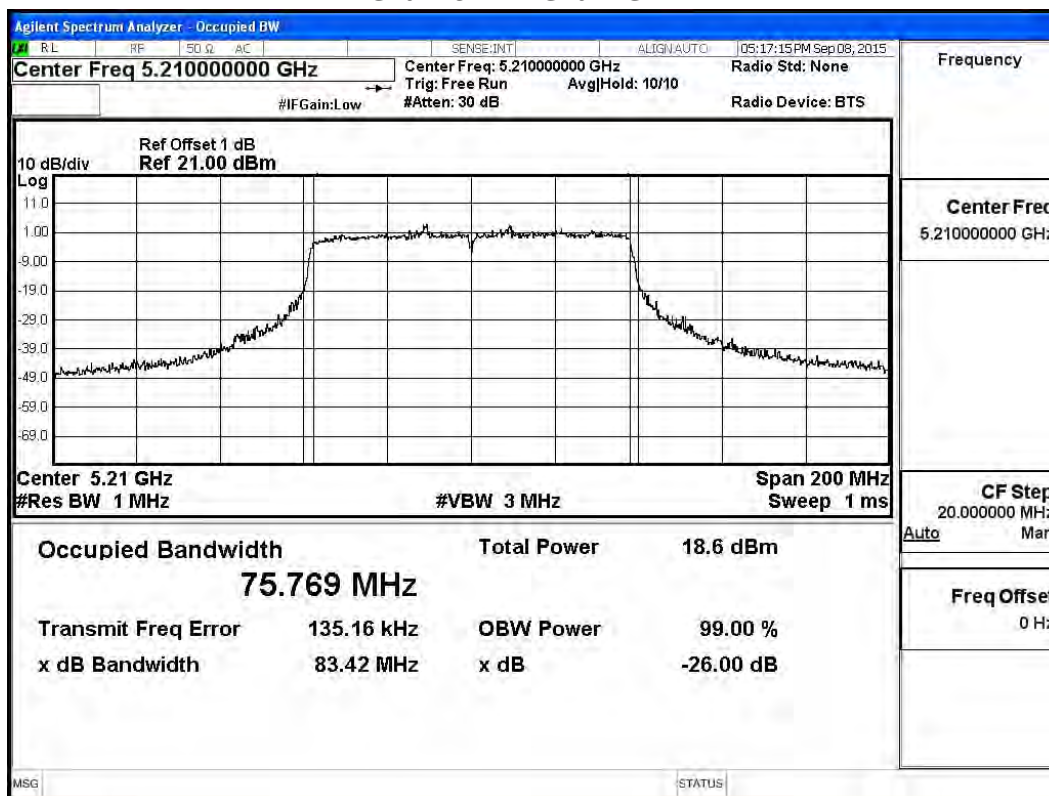
26dBc Occupied Bandwidth: Channel 42 – Chain B



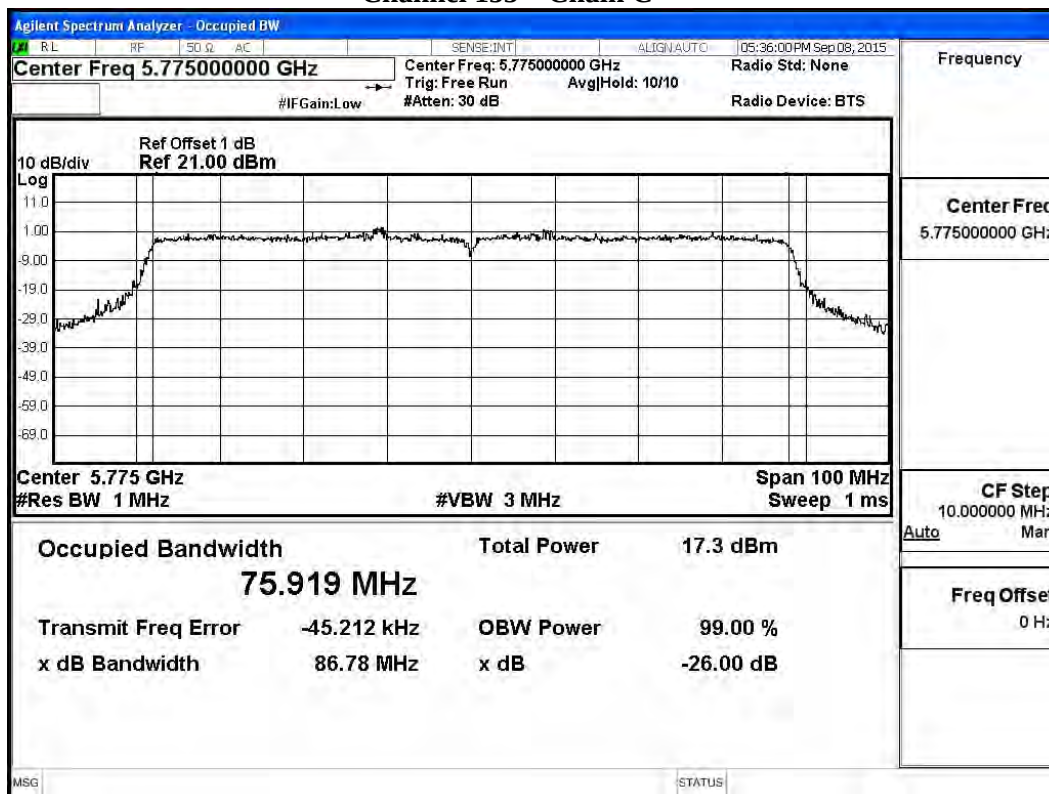
Channel 155 – Chain B



26dBc Occupied Bandwidth: Channel 42 – Chain C

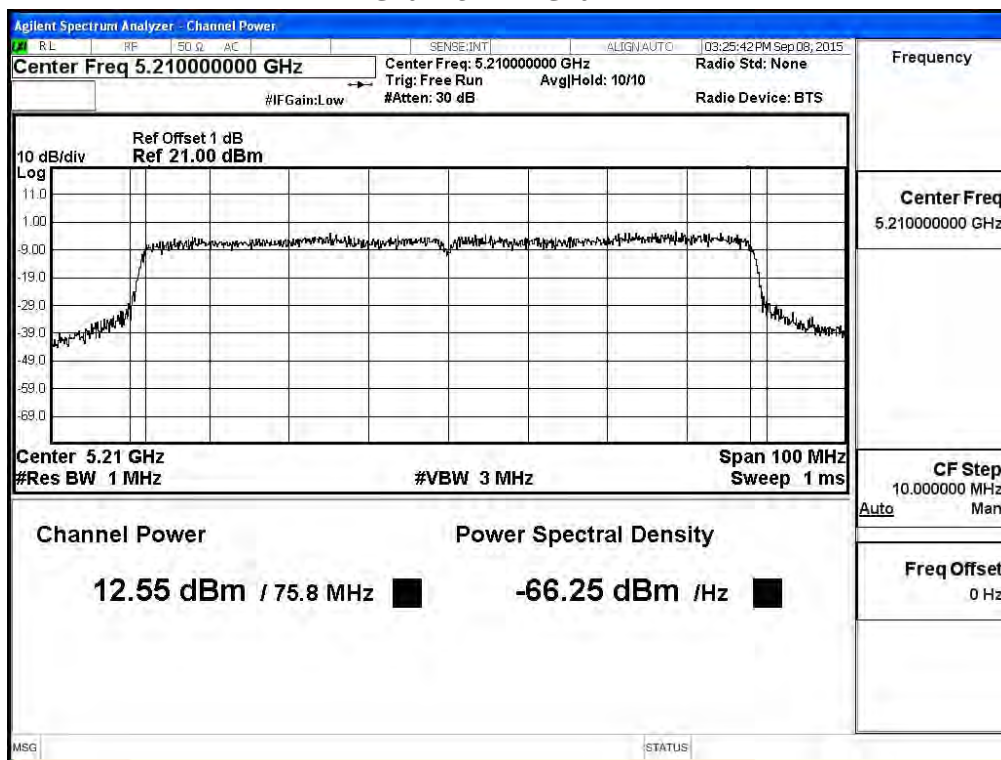


Channel 155 – Chain C



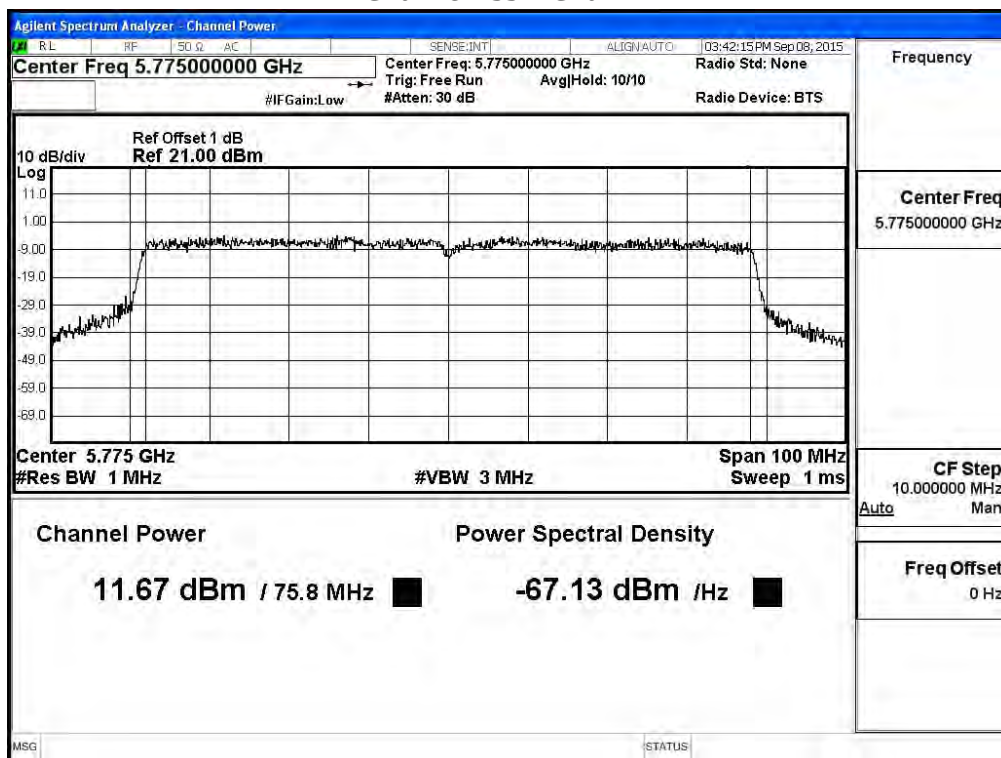
Maximum conducted output power:

Channel 42 – Chain A



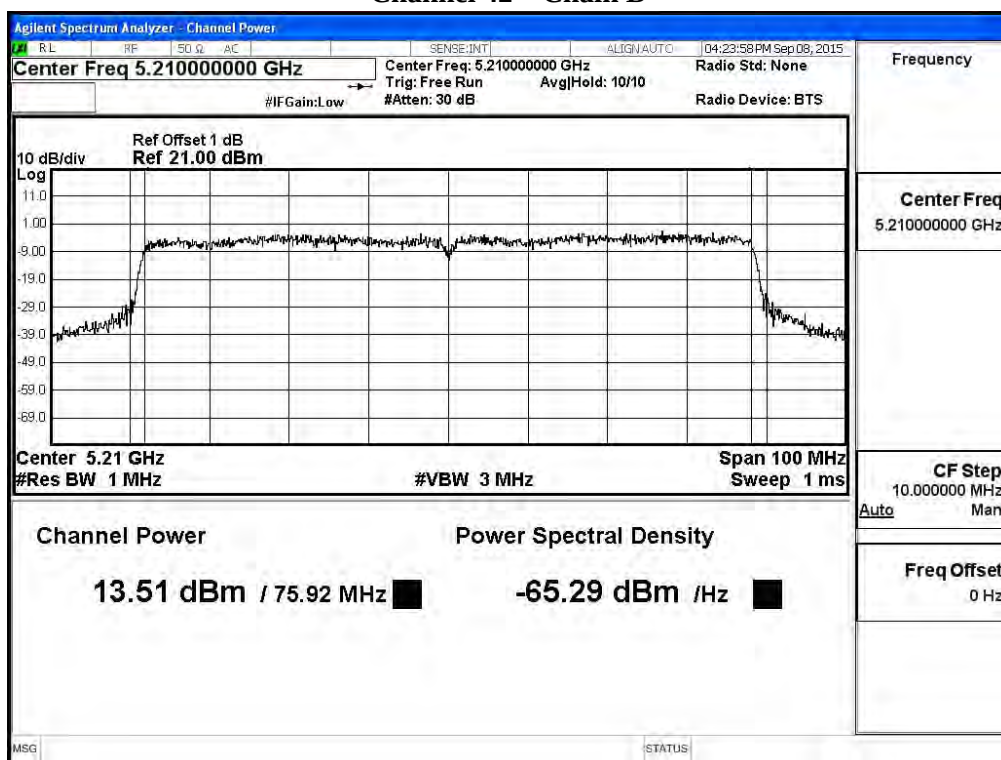
Maximum conducted output power:

Channel 155 – Chain A



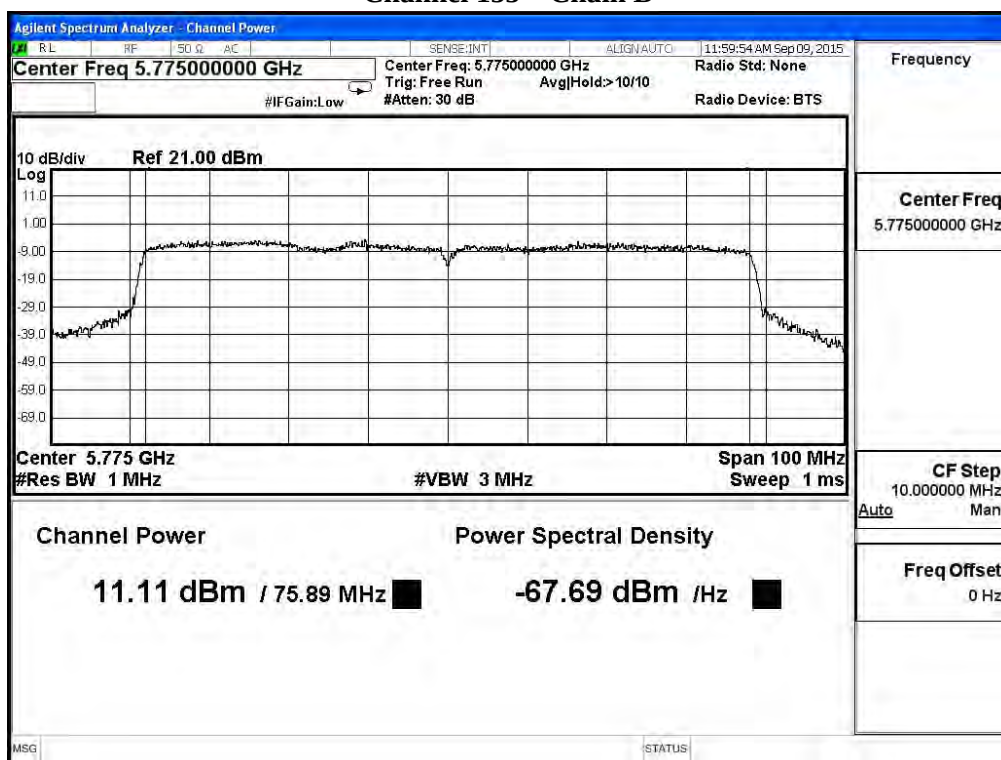
Maximum conducted output power:

Channel 42 – Chain B



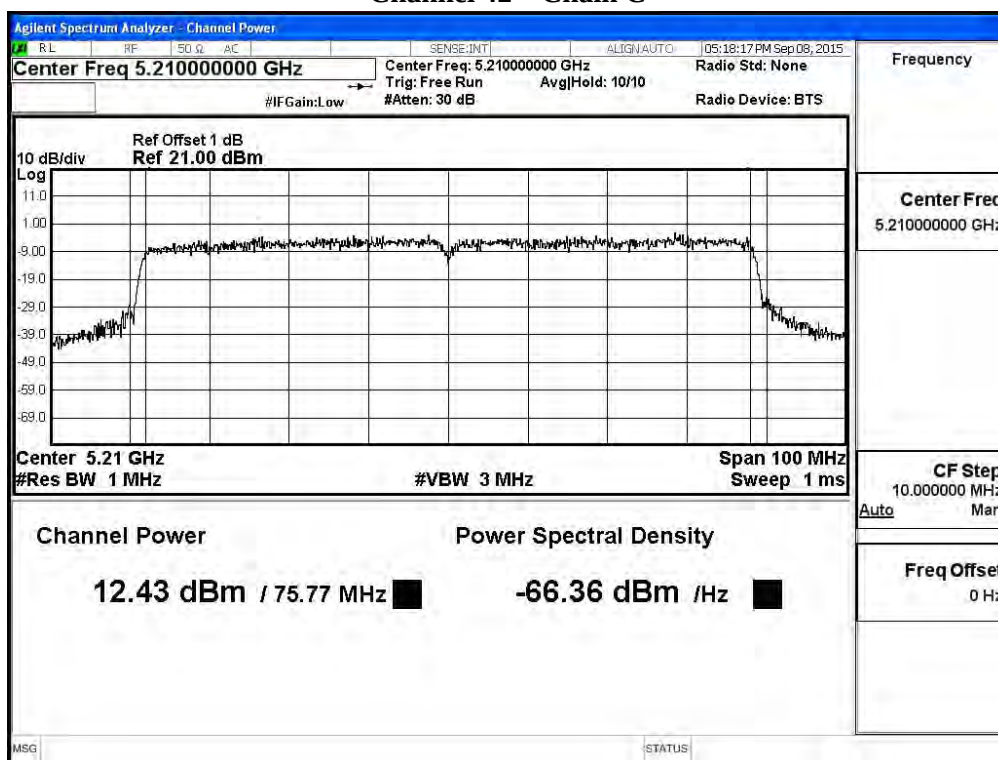
Maximum conducted output power:

Channel 155 – Chain B



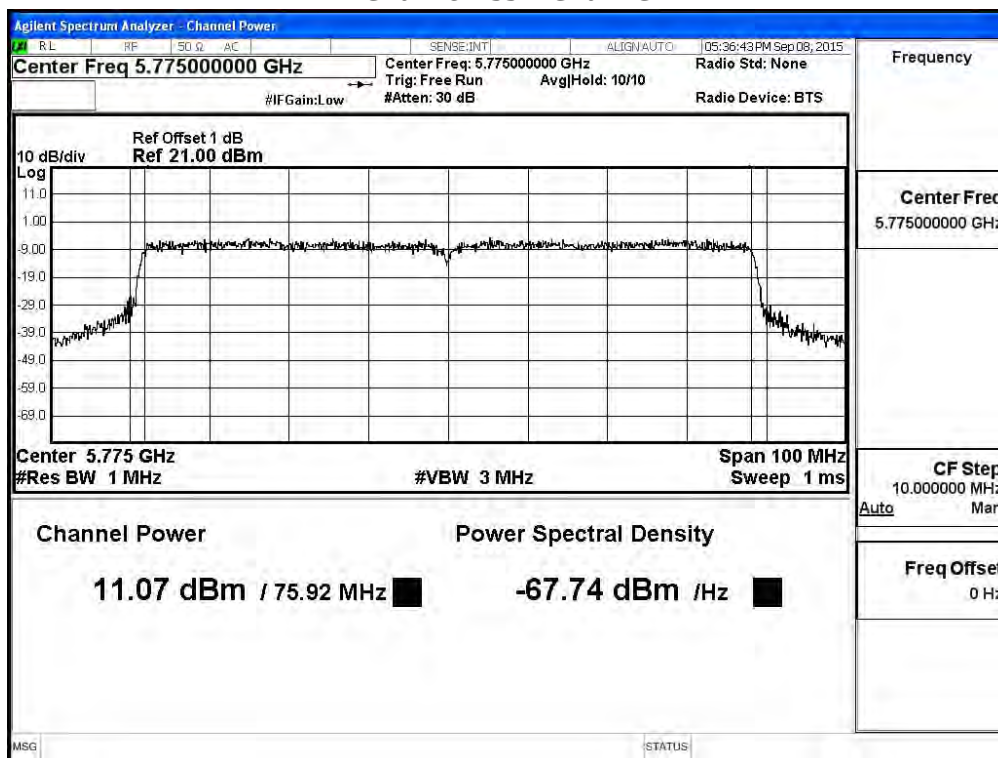
Maximum conducted output power:

Channel 42 – Chain C



Maximum conducted output power:

Channel 155 – Chain C



4. Peak Power Spectral Density

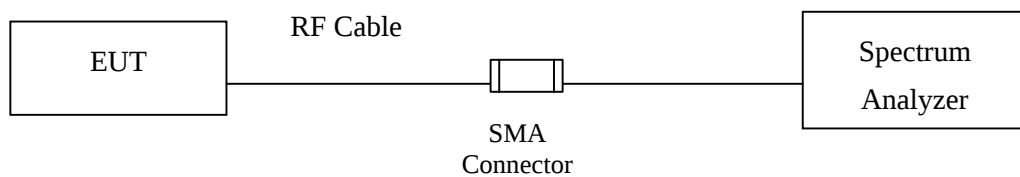
4.1. Test Equipment

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

4.2. Test Setup



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-to-point 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 correction factor (BWCF) where $BWCF = 10\log(500\text{ kHz}/100\text{ kHz}) = 6.98\text{ dB}$.

4.5. Uncertainty

$\pm 1.27\text{ dB}$

4.6. Test Result of Peak Power Spectral Density

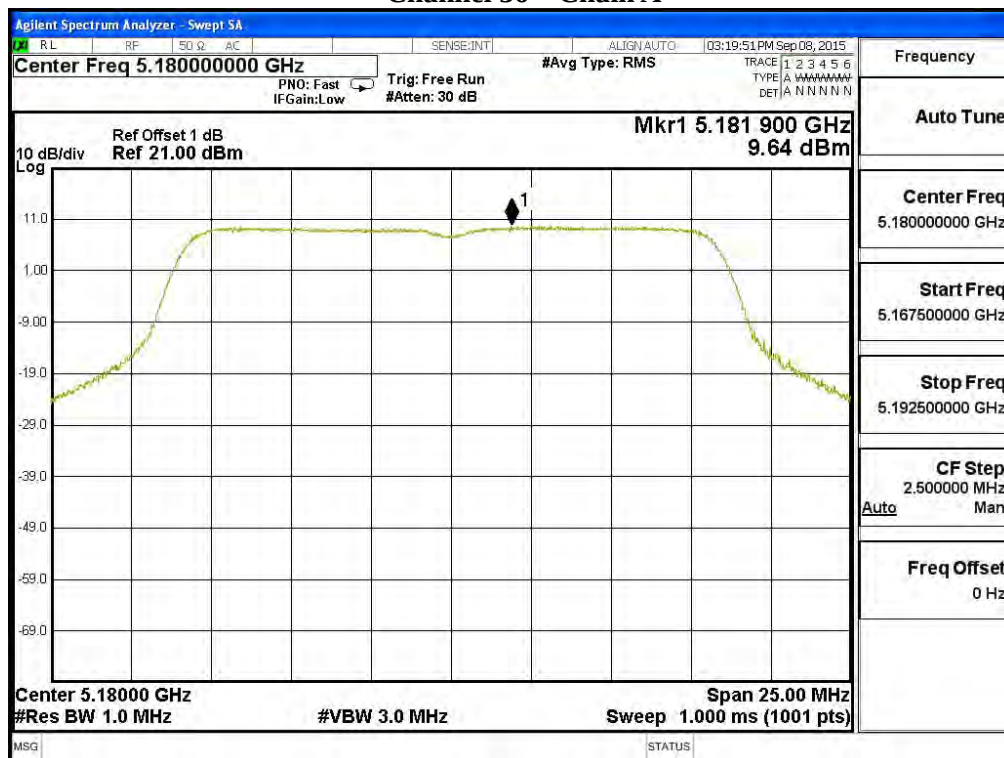
Product : 802.11ac Dual Band Access Point
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	Total PPSD (dBm)	Required Limit (dBm)	Result
36	5180	A	9.640	14.411	17	Pass
		B	9.950	14.721	17	Pass
		C	9.110	13.881	17	Pass
44	5220	A	11.970	16.741	17	Pass
		B	12.130	16.901	17	Pass
		C	11.470	16.241	17	Pass
48	5240	A	11.910	16.681	17	Pass
		B	11.750	16.521	17	Pass
		C	12.050	16.821	17	Pass

Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
149	5745	A	-2.710	6.98	9.041	<30	Pass
		B	-3.180	6.98	8.571	<30	Pass
		C	-3.480	6.98	8.271	<30	Pass
157	5785	A	3.130	6.98	14.881	<30	Pass
		B	2.930	6.98	14.681	<30	Pass
		C	3.250	6.98	15.001	<30	Pass
165	5825	A	1.420	6.98	13.171	<30	Pass
		B	1.610	6.98	13.361	<30	Pass
		C	1.020	6.98	12.771	<30	Pass

Note 1: The quantity $10 \cdot \log 3$ (three antennas) is added to the spectrum peak value according to document 662911 D01.

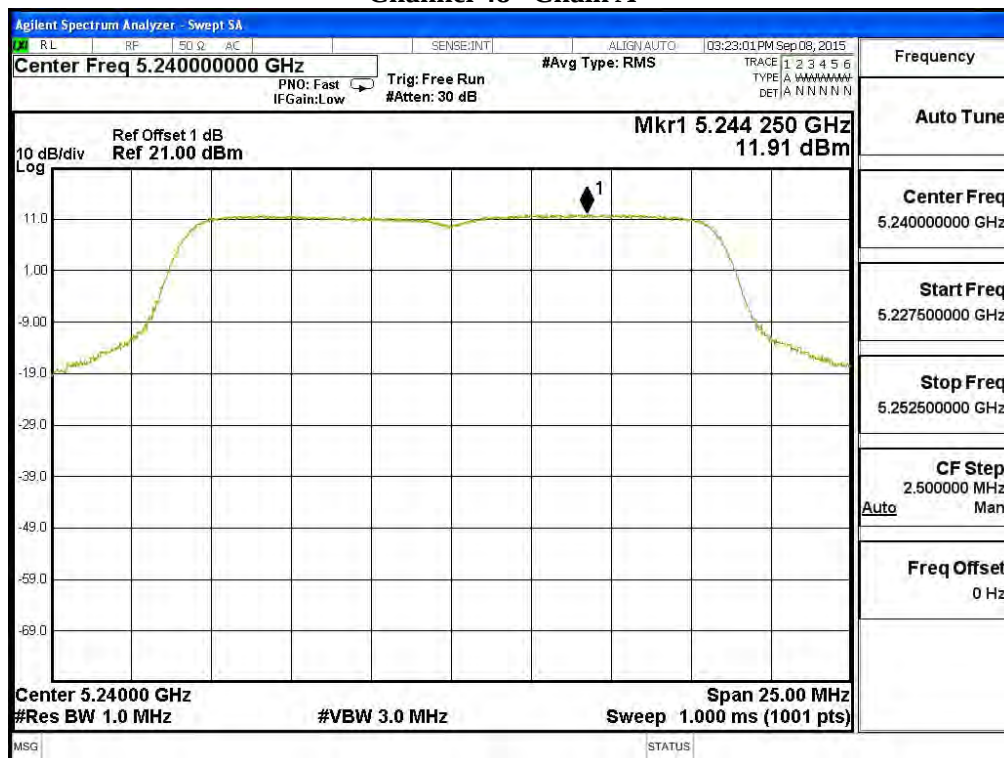
Channel 36 – Chain A



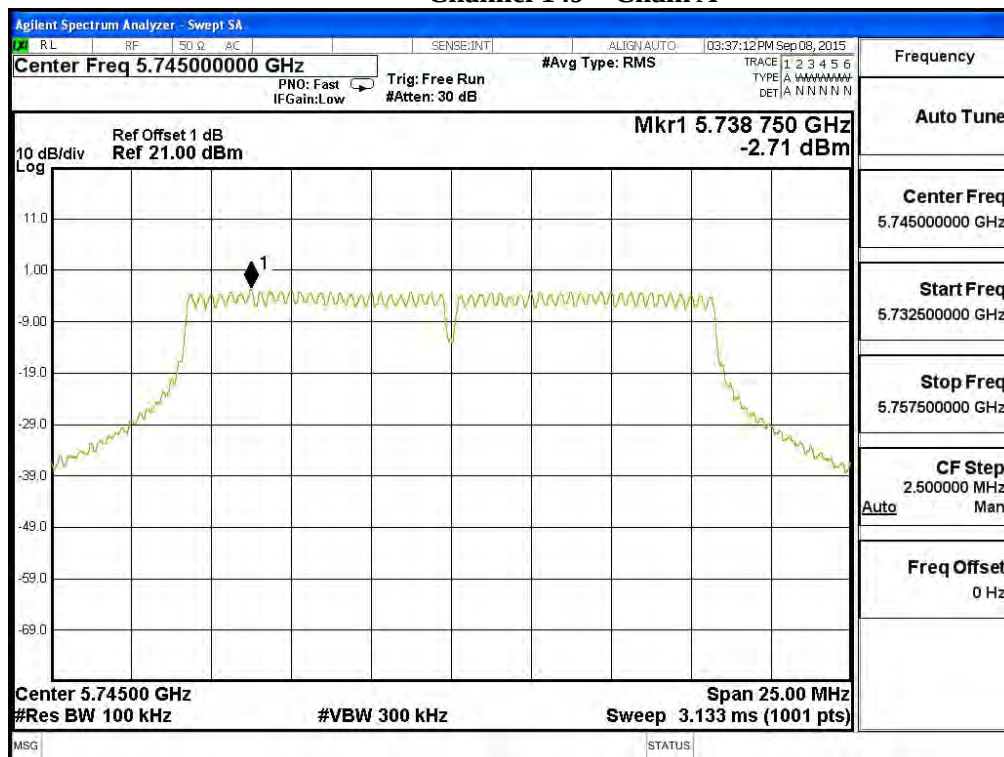
Channel 44 – Chain A



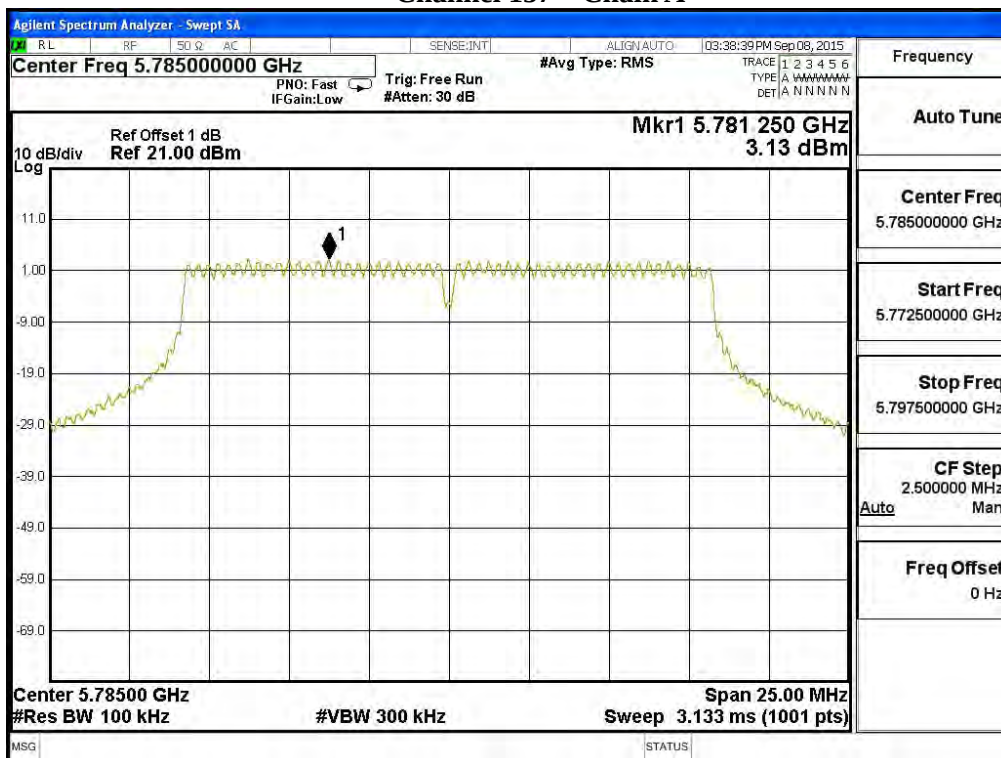
Channel 48– Chain A



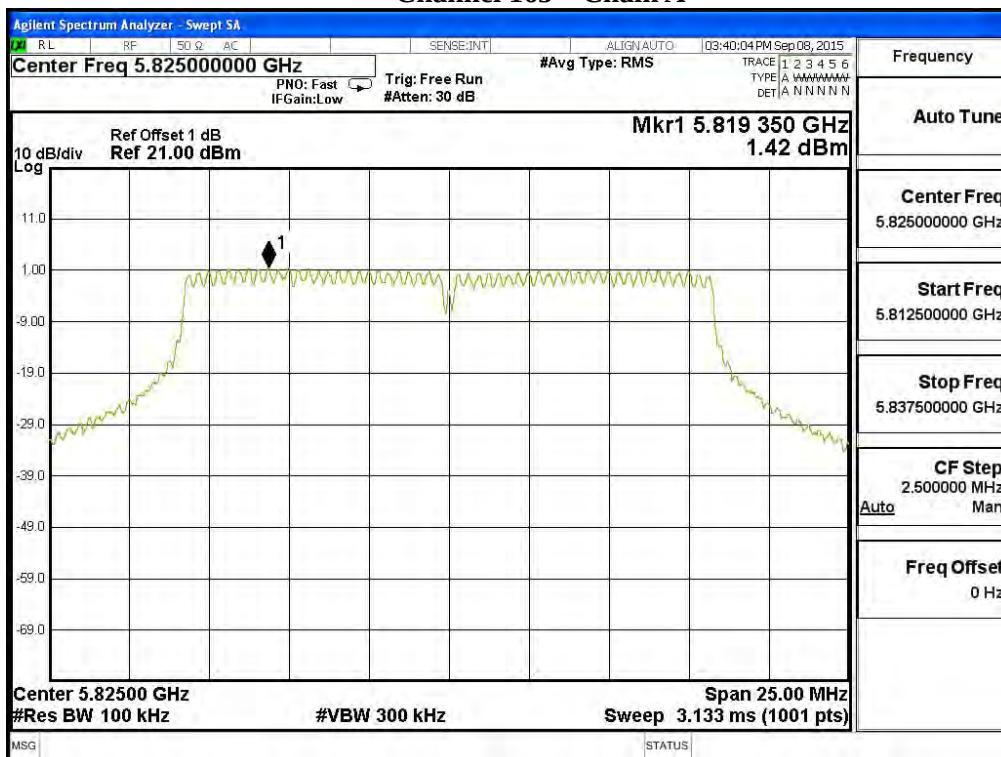
Channel 149 – Chain A



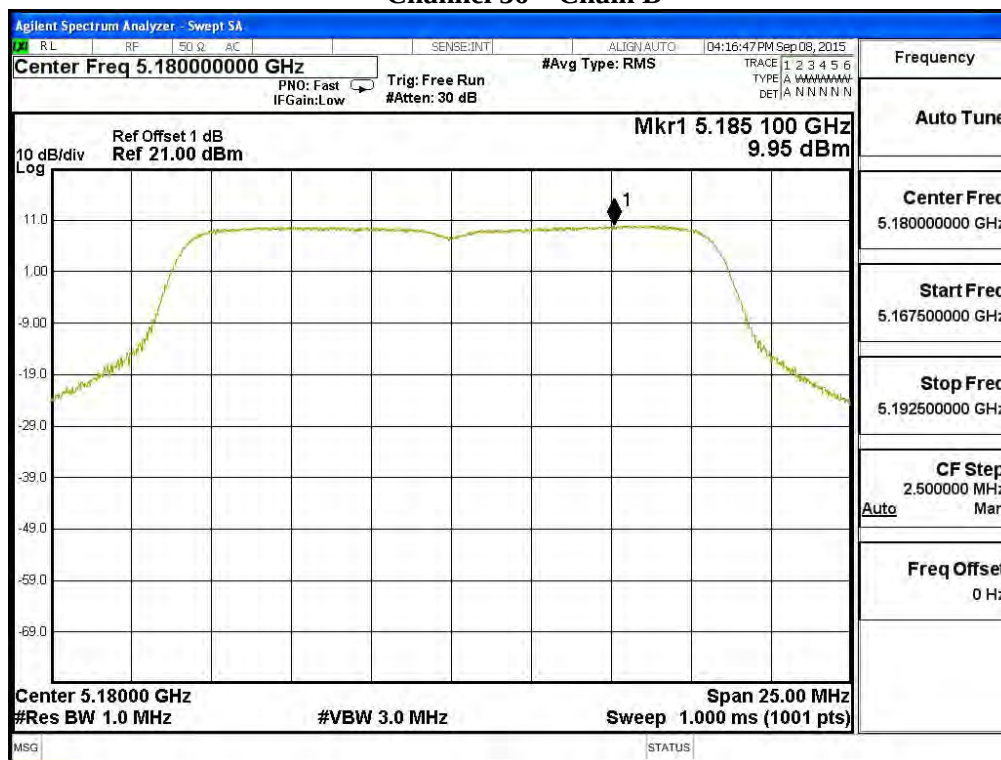
Channel 157 – Chain A



Channel 165 – Chain A



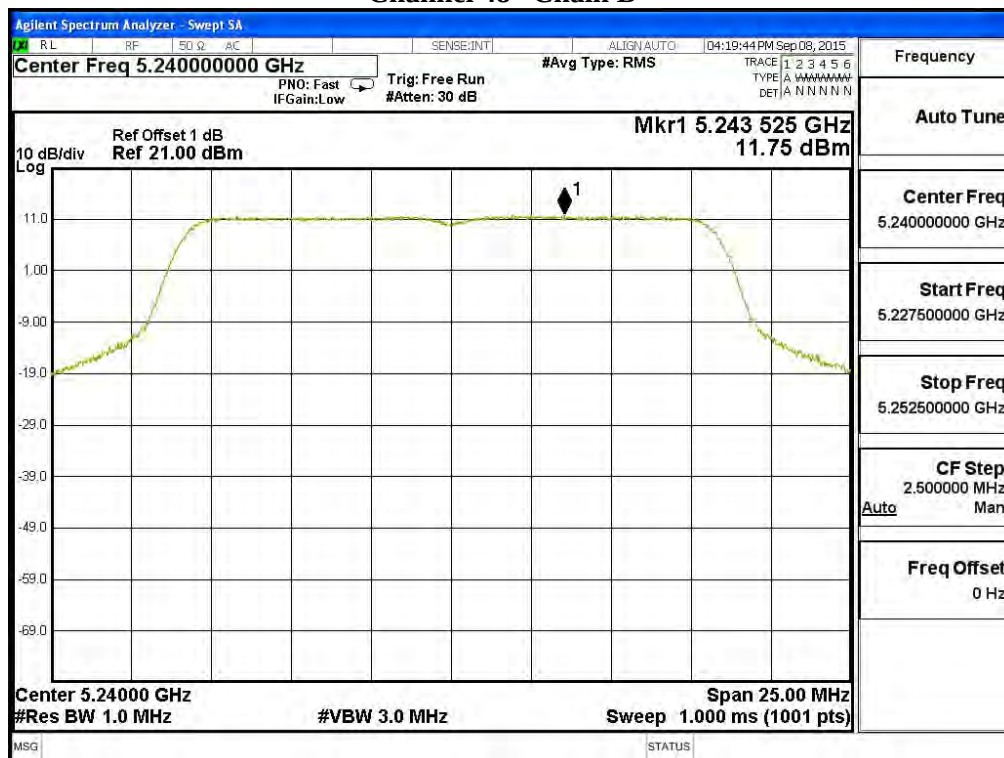
Channel 36 – Chain B



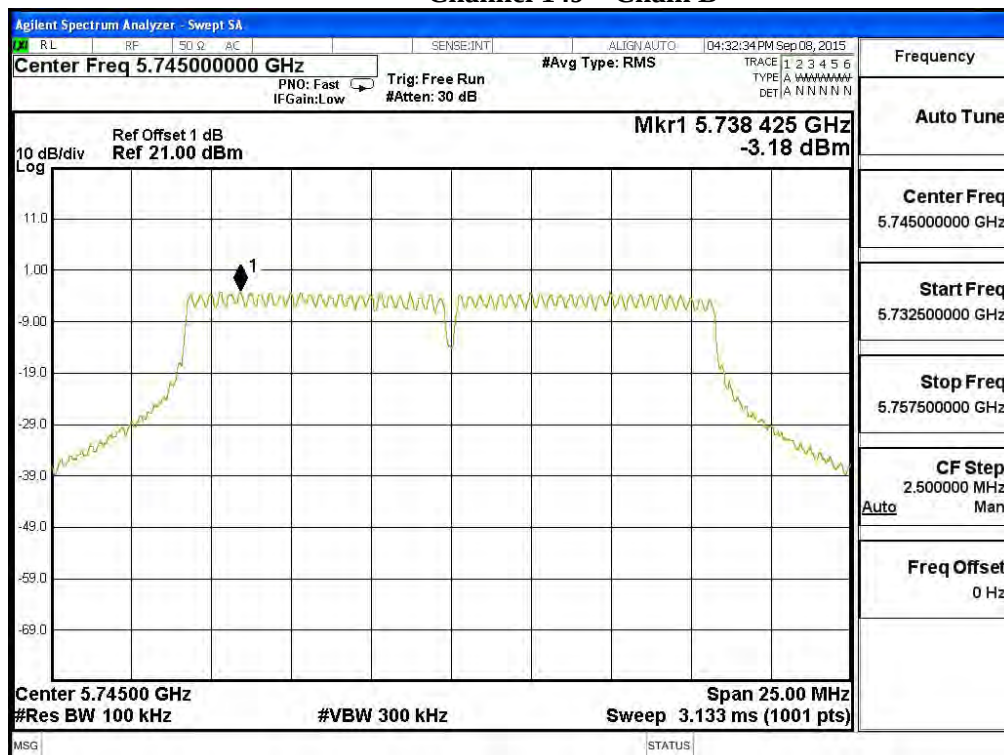
Channel 44 – Chain B



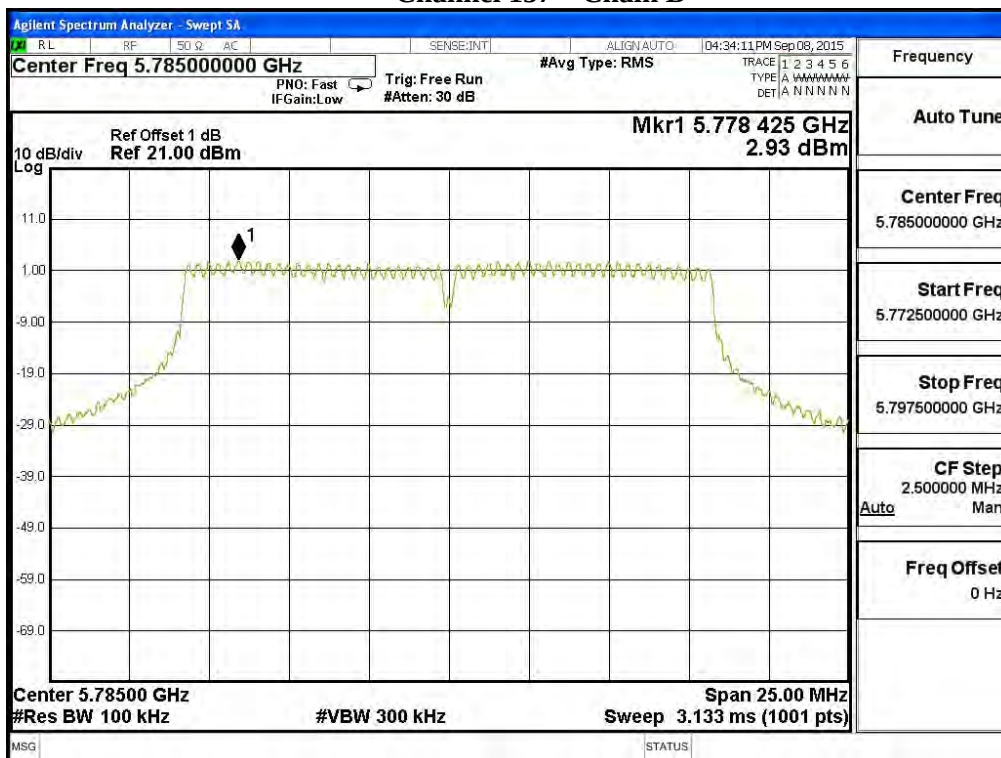
Channel 48– Chain B



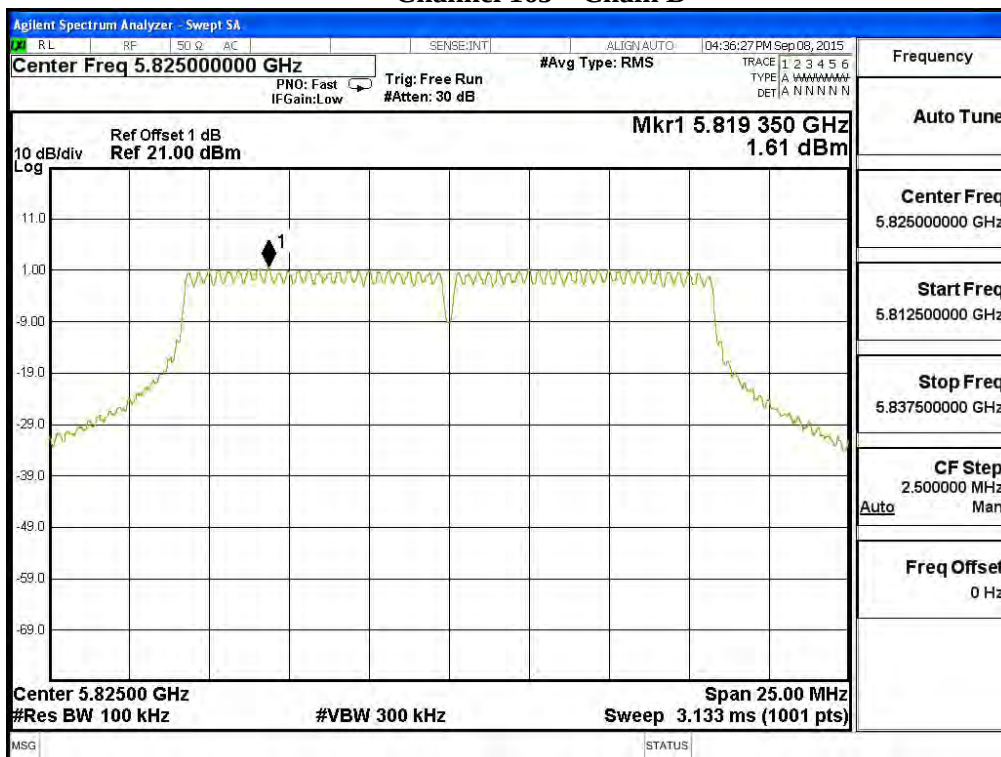
Channel 149 – Chain B



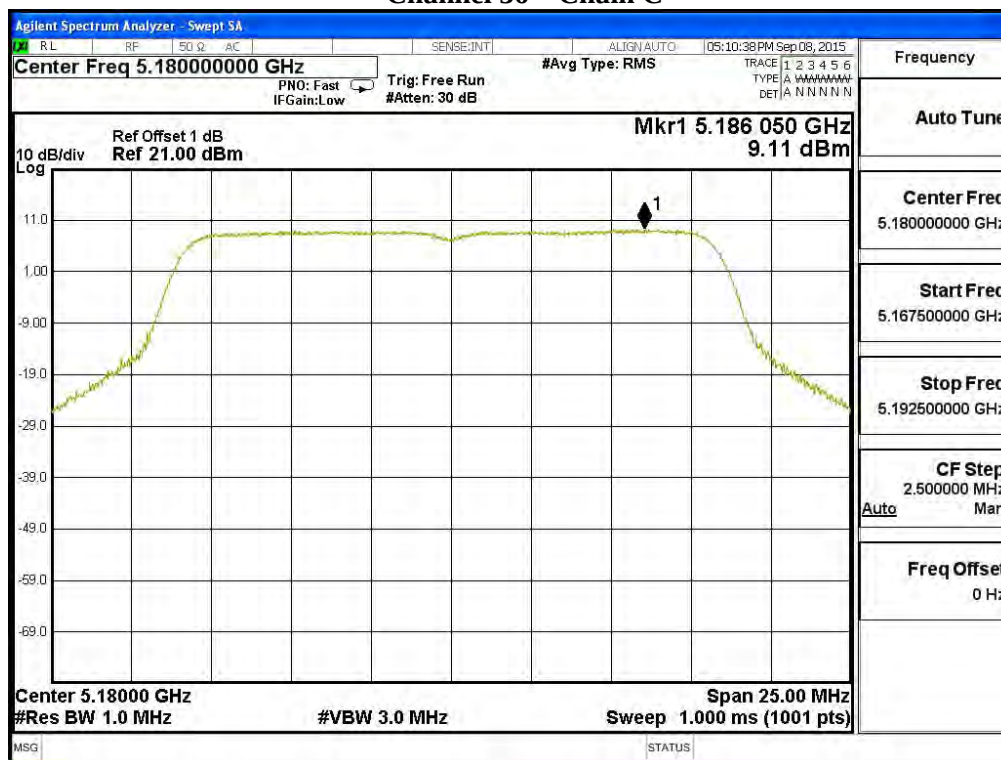
Channel 157 – Chain B



Channel 165 – Chain B



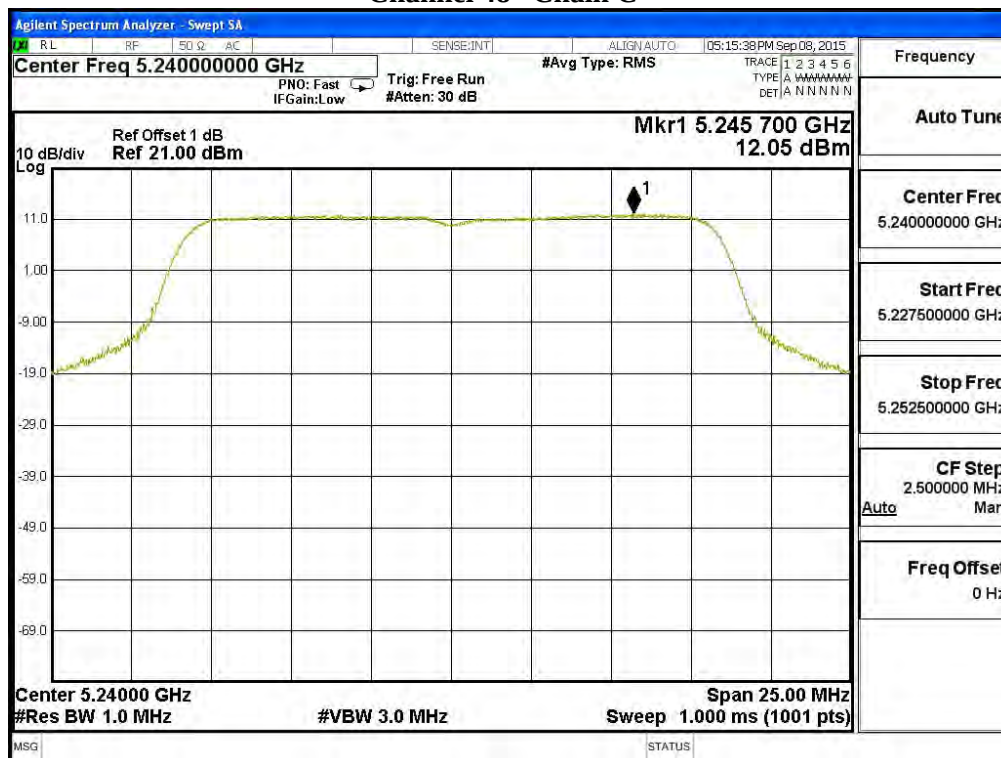
Channel 36 – Chain C



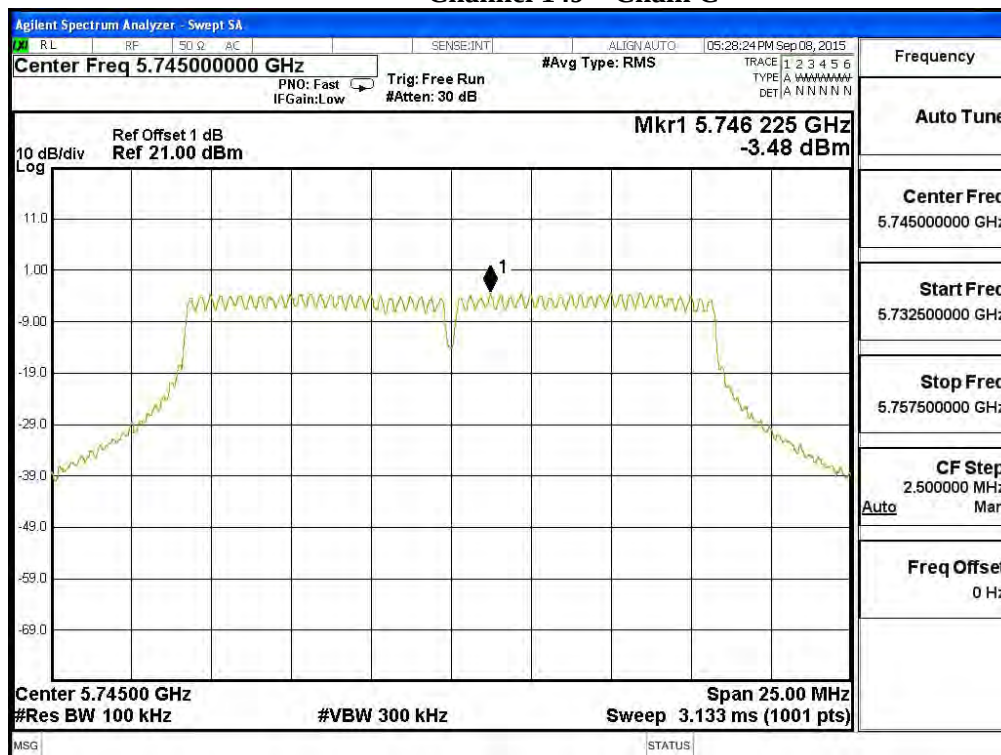
Channel 44 – Chain C



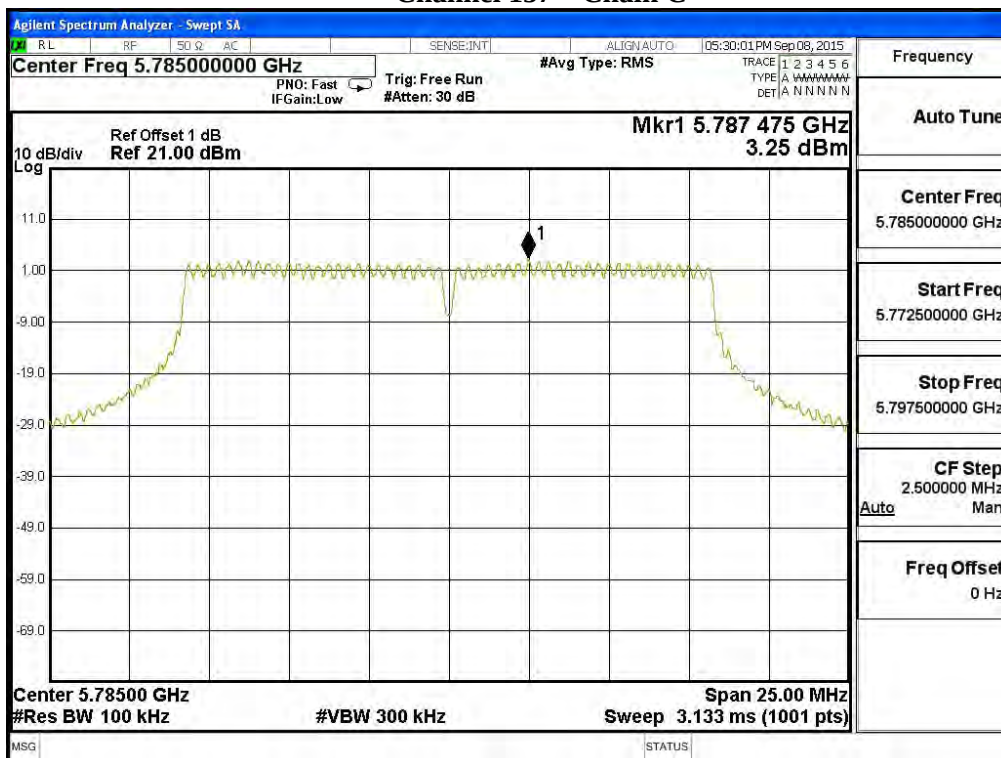
Channel 48– Chain C



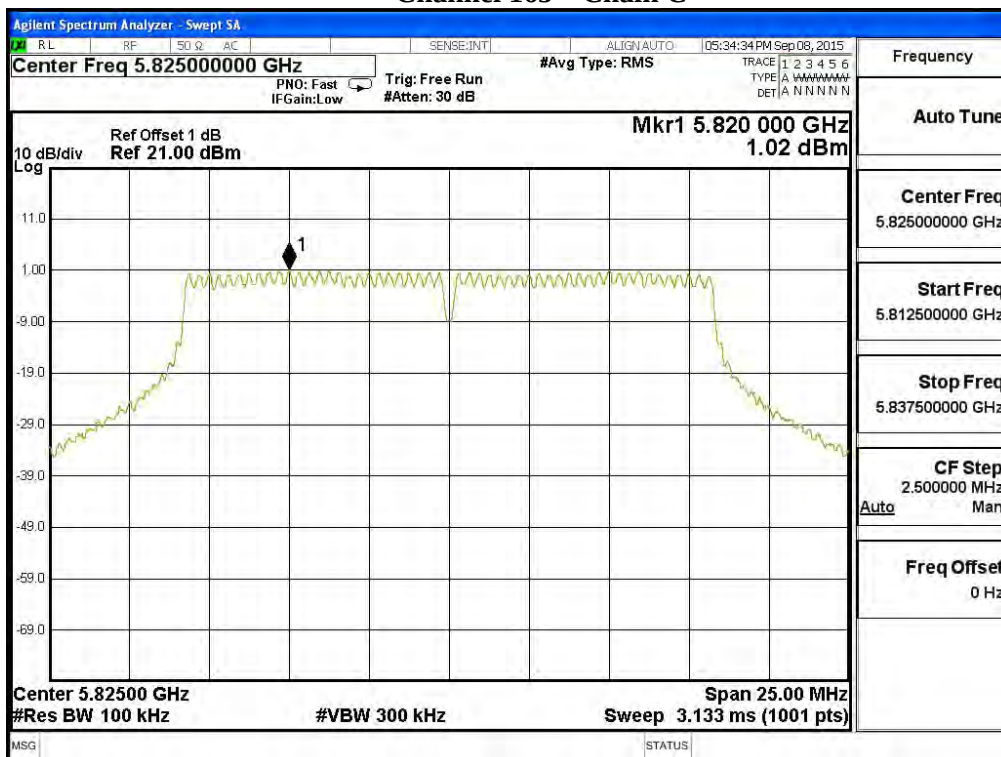
Channel 149 – Chain C



Channel 157 – Chain C



Channel 165 – Chain C



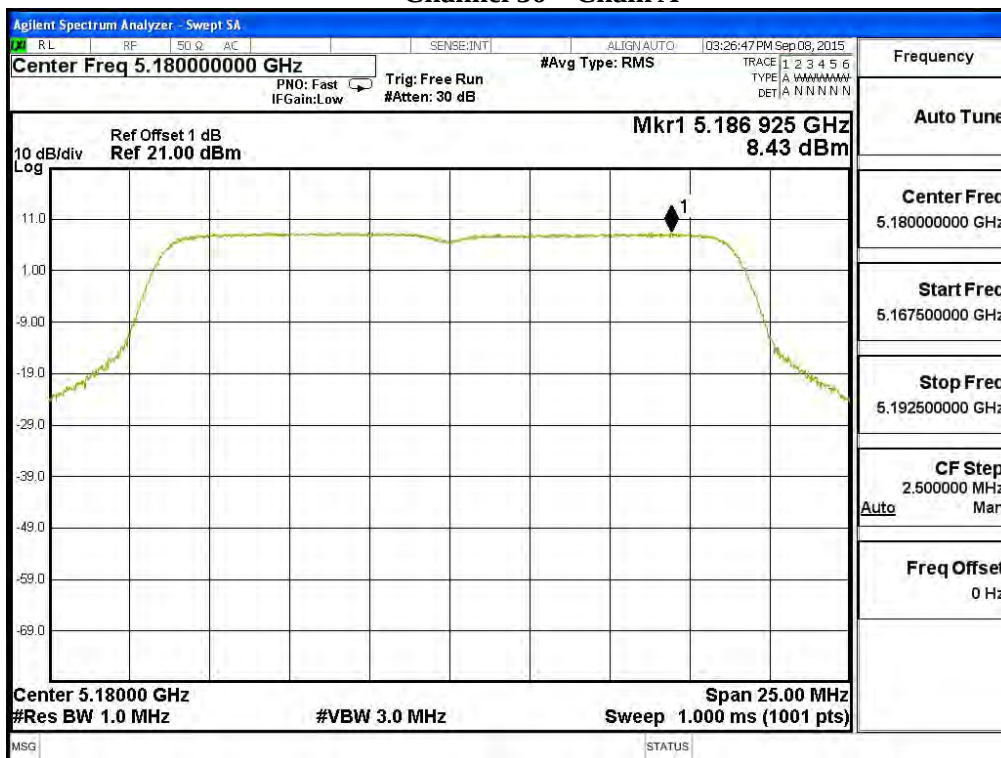
Product : 802.11ac Dual Band Access Point
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps)

Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	Total PSD (dBm)	Required Limit (dBm)	Result
36	5180	A	8.430	13.201	17	Pass
		B	9.830	14.601	17	Pass
		C	8.780	13.551	17	Pass
44	5220	A	11.810	16.581	17	Pass
		B	12.150	16.921	17	Pass
		C	11.530	16.301	17	Pass
48	5240	A	12.220	16.991	17	Pass
		B	12.140	16.911	17	Pass
		C	11.780	16.551	17	Pass

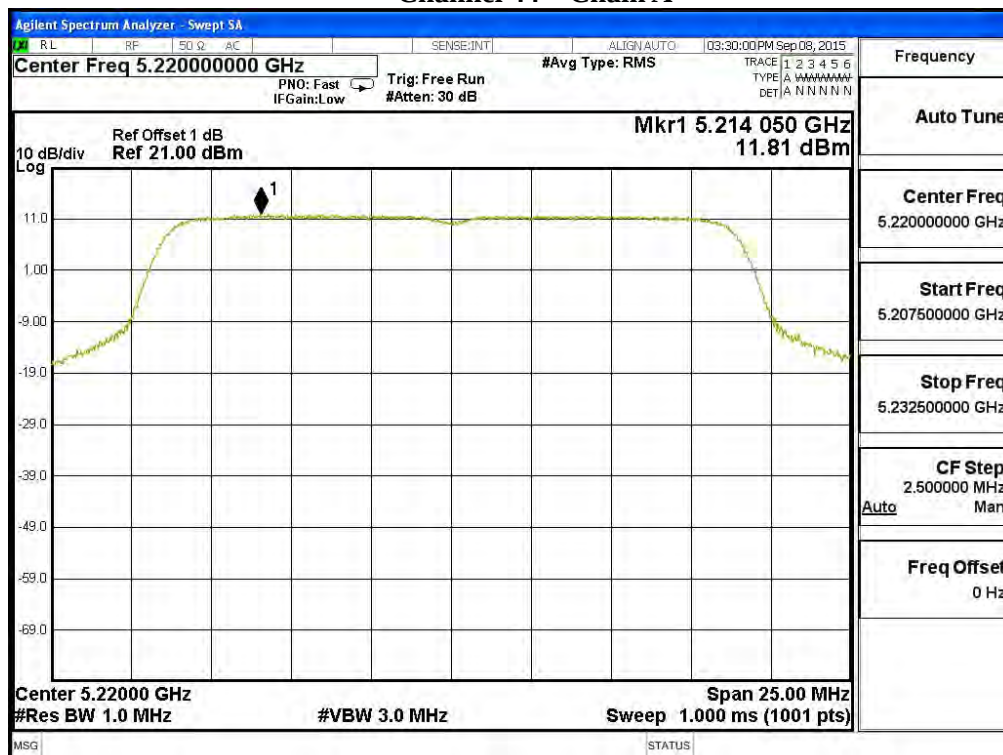
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PSD (dBm)	Required Limit (dBm)	Result
149	5745	A	-4.070	6.980	7.681	<30	Pass
		B	-4.150	6.980	7.601	<30	Pass
		C	-4.750	6.980	7.001	<30	Pass
157	5785	A	2.500	6.980	14.251	<30	Pass
		B	2.310	6.980	14.061	<30	Pass
		C	2.110	6.980	13.861	<30	Pass
165	5825	A	-0.073	6.980	11.678	<30	Pass
		B	-0.144	6.980	11.607	<30	Pass
		C	-0.028	6.980	11.723	<30	Pass

Note 1: The quantity $10 \cdot \log 3$ (three antennas) is added to the spectrum peak value according to document 662911 D01.

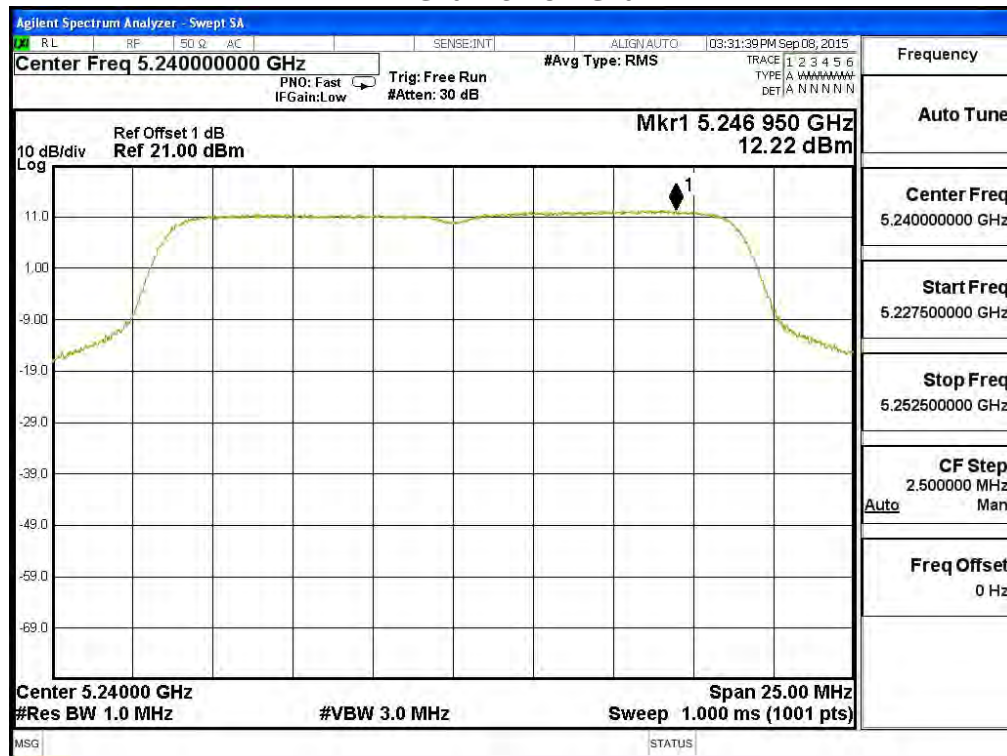
Channel 36 – Chain A



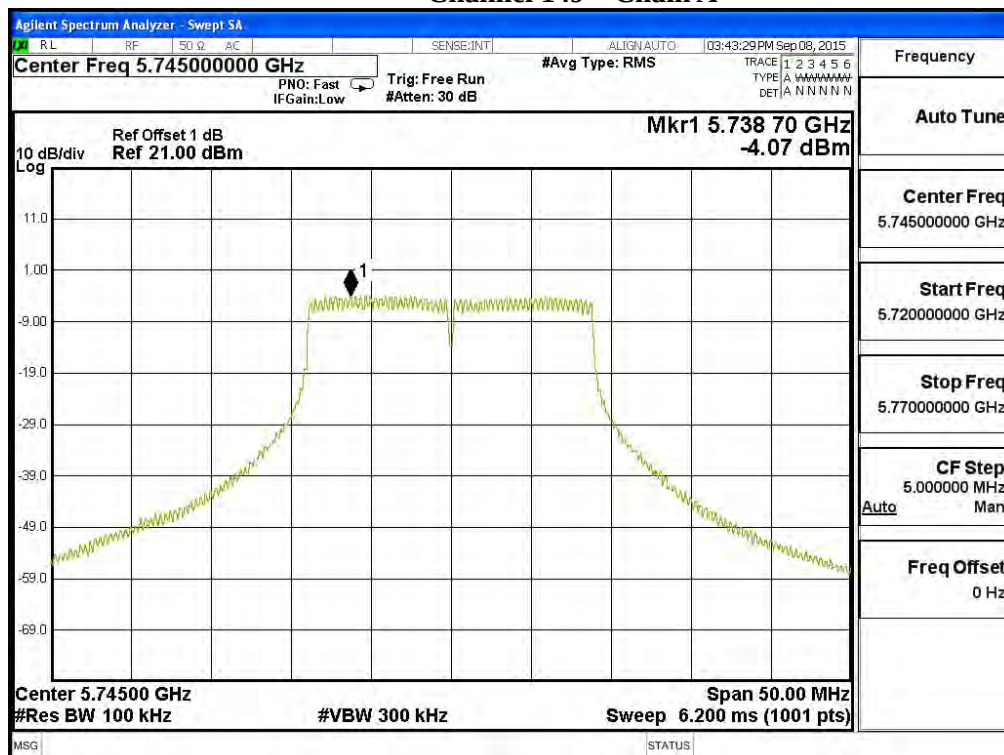
Channel 44 – Chain A



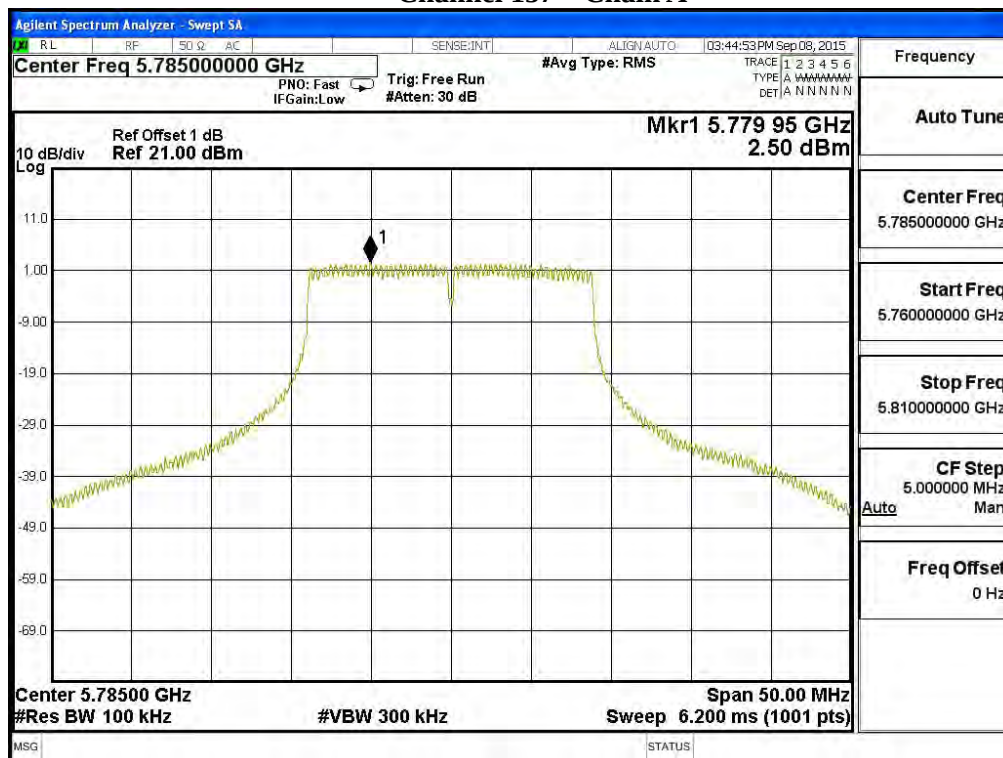
Channel 48 – Chain A



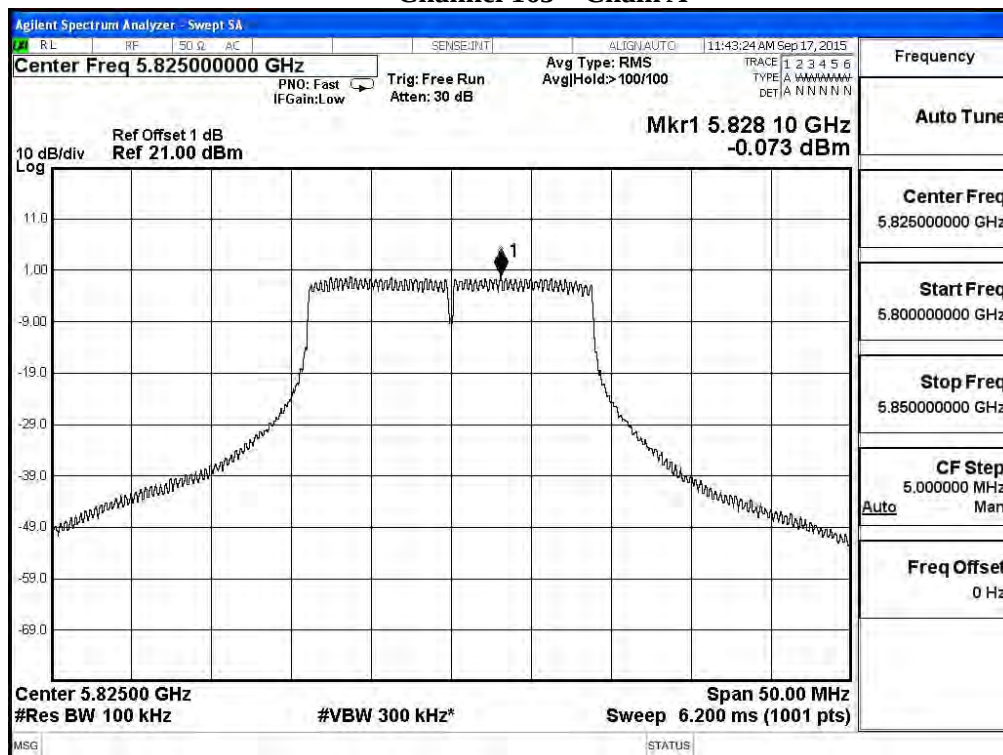
Channel 149 – Chain A



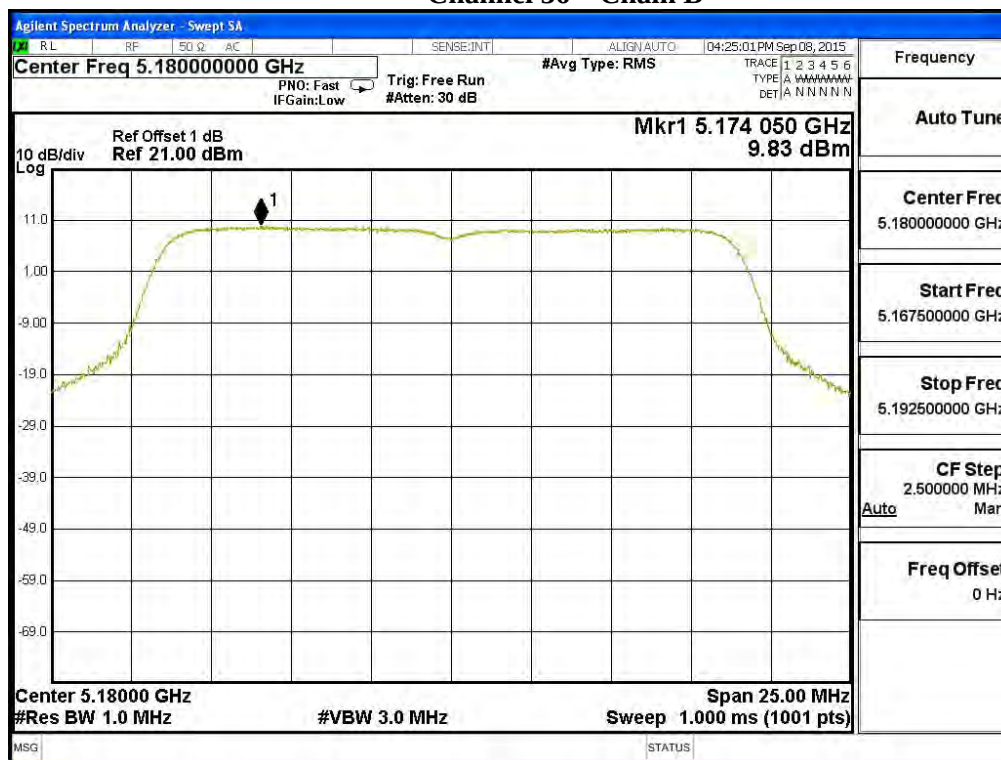
Channel 157 – Chain A



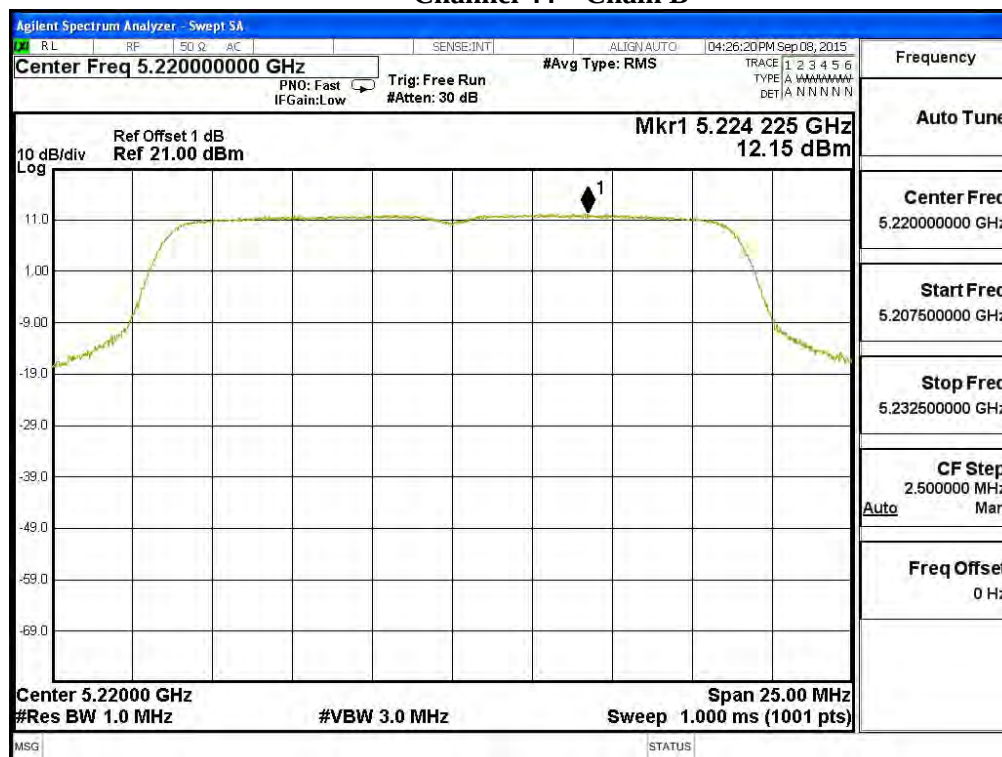
Channel 165 – Chain A



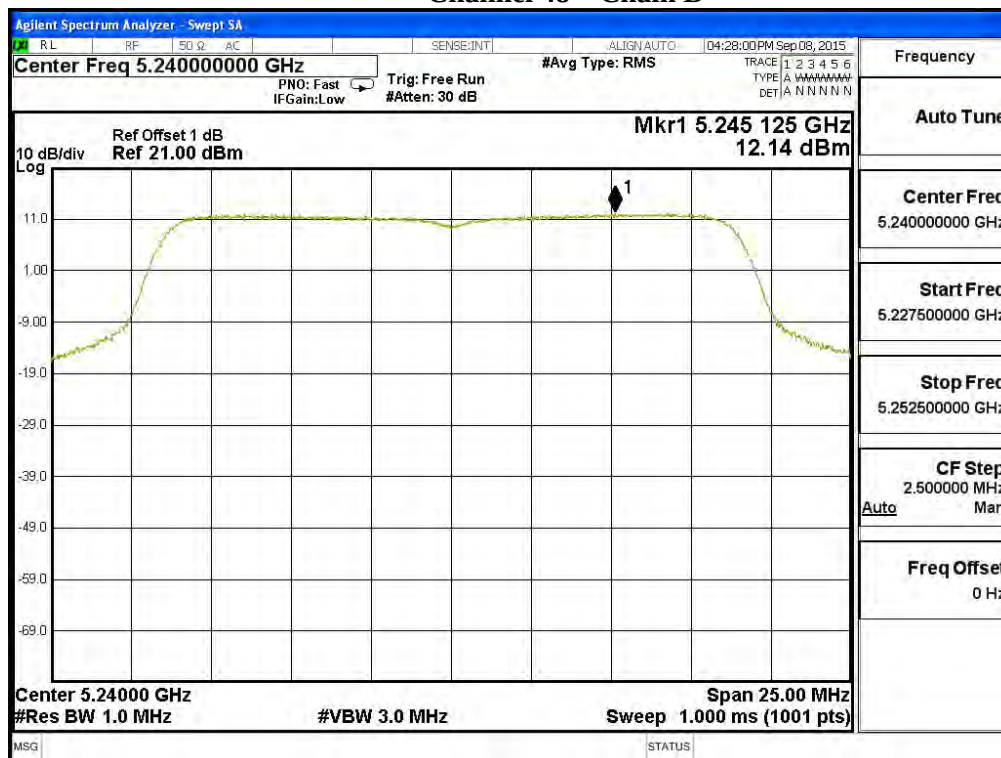
Channel 36 – Chain B



Channel 44 – Chain B



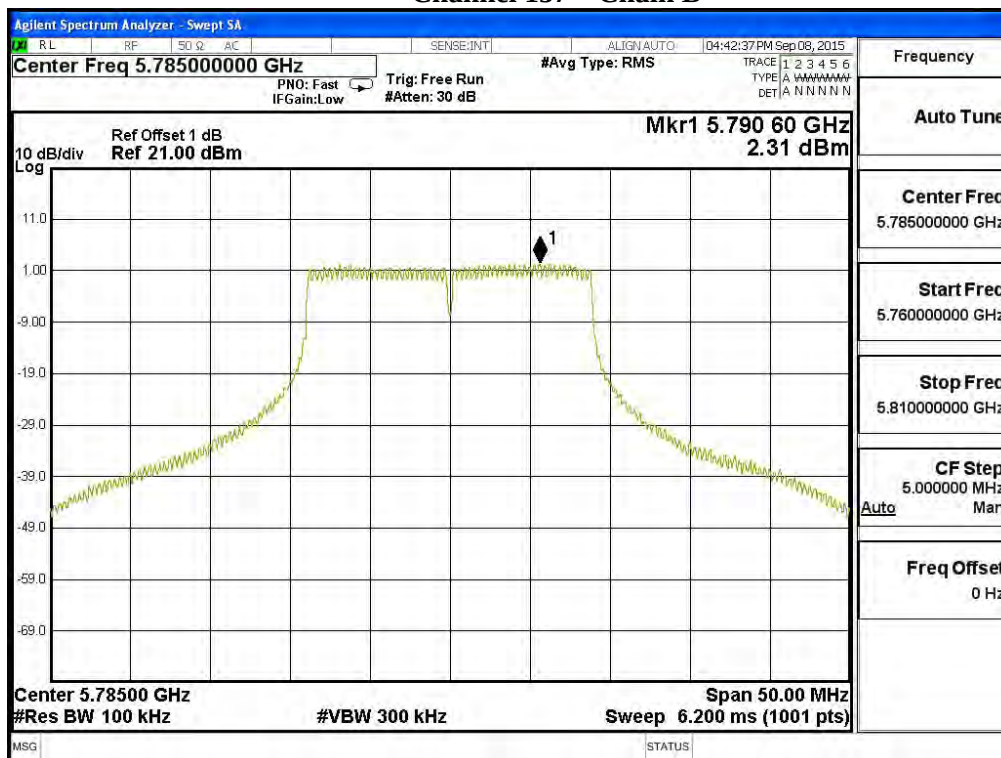
Channel 48 – Chain B



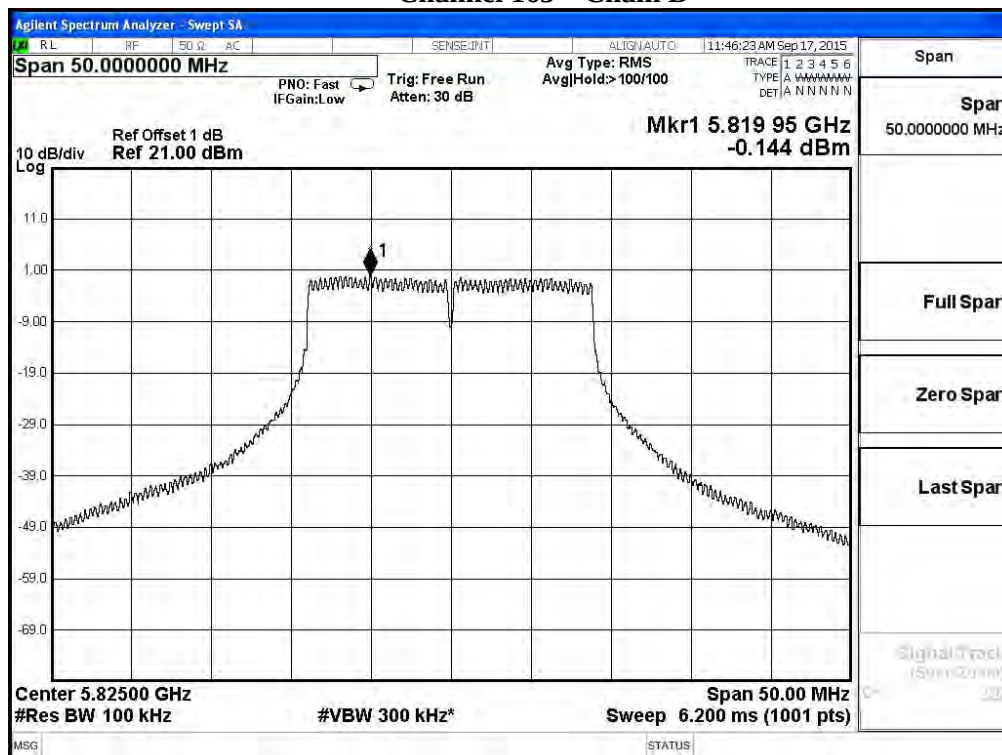
Channel 149 – Chain B



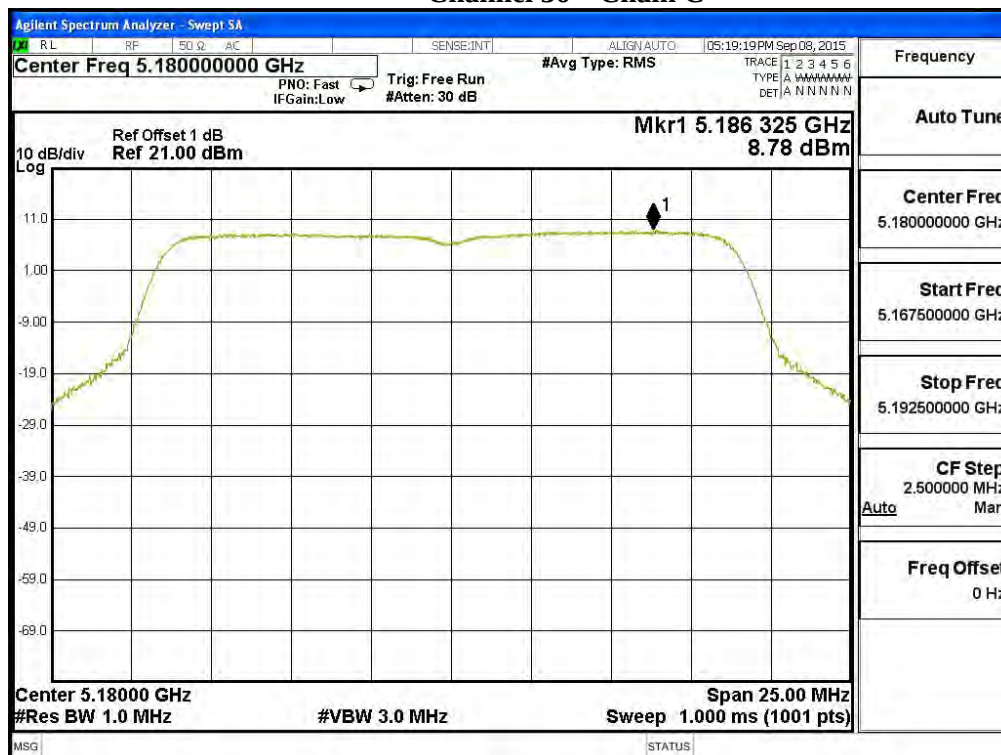
Channel 157 – Chain B



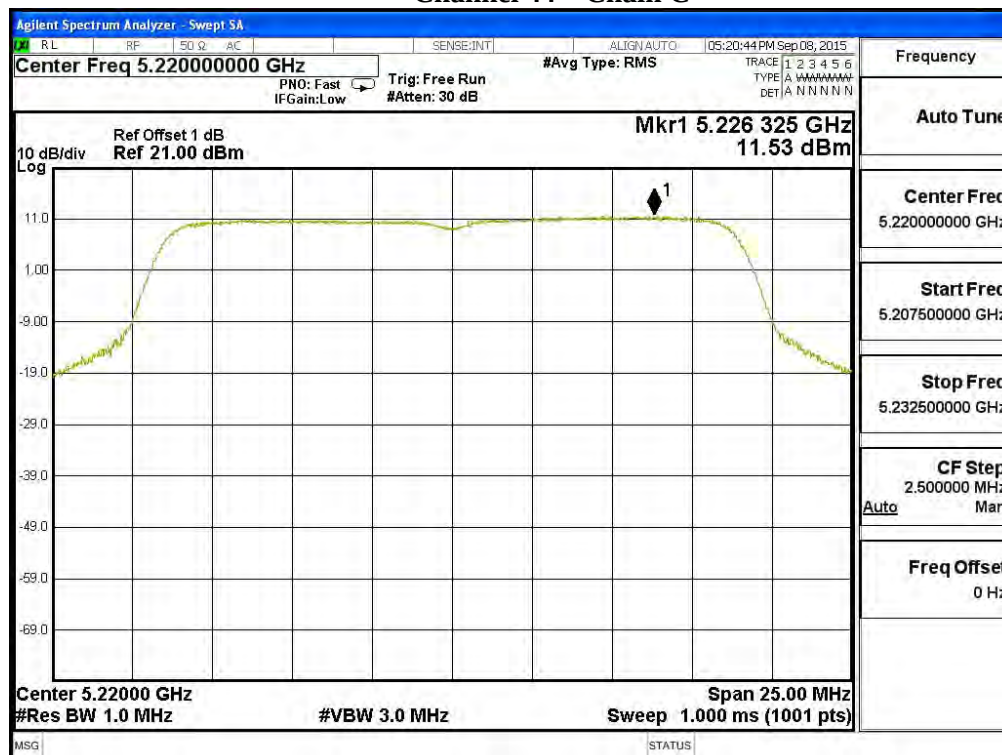
Channel 165 – Chain B



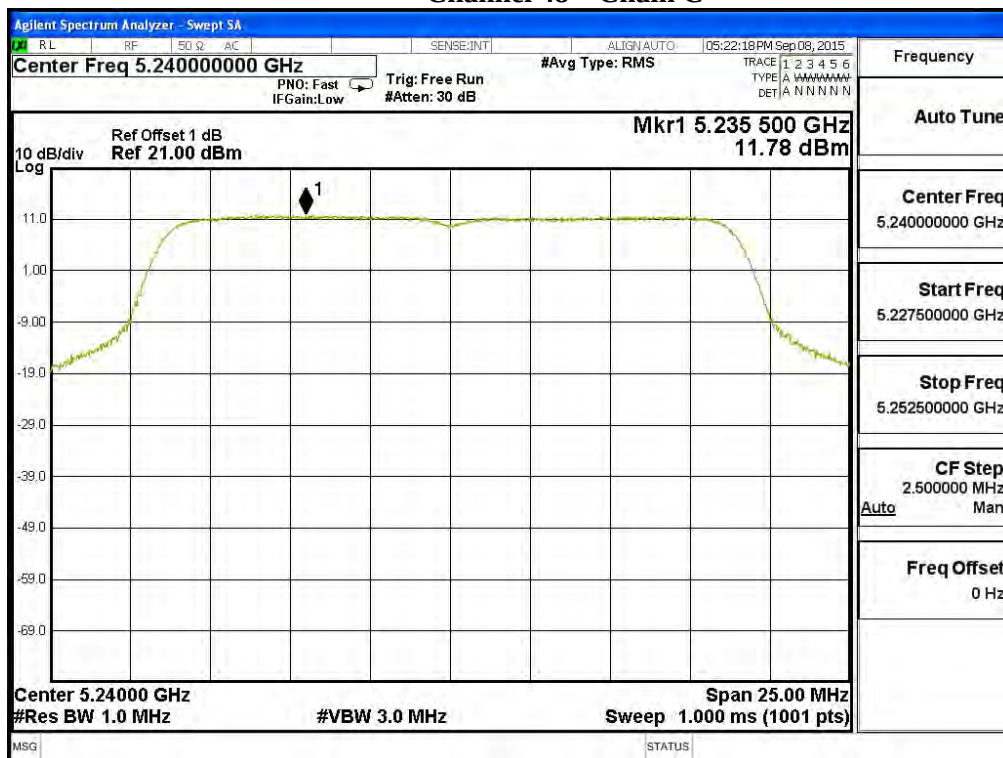
Channel 36 – Chain C



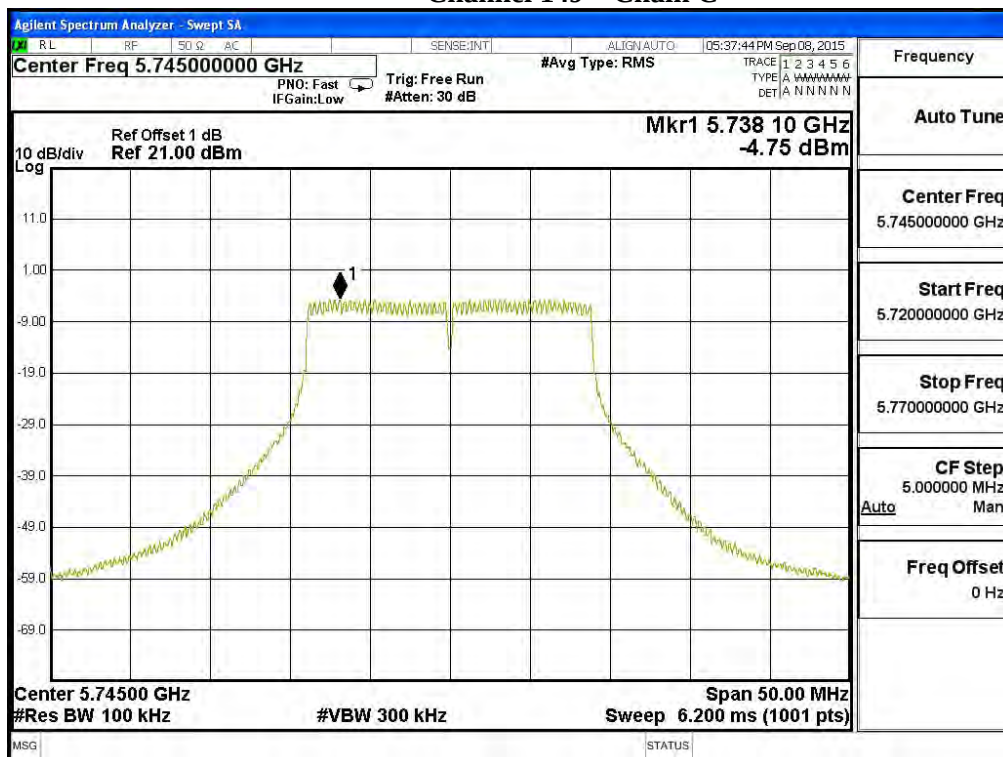
Channel 44 – Chain C



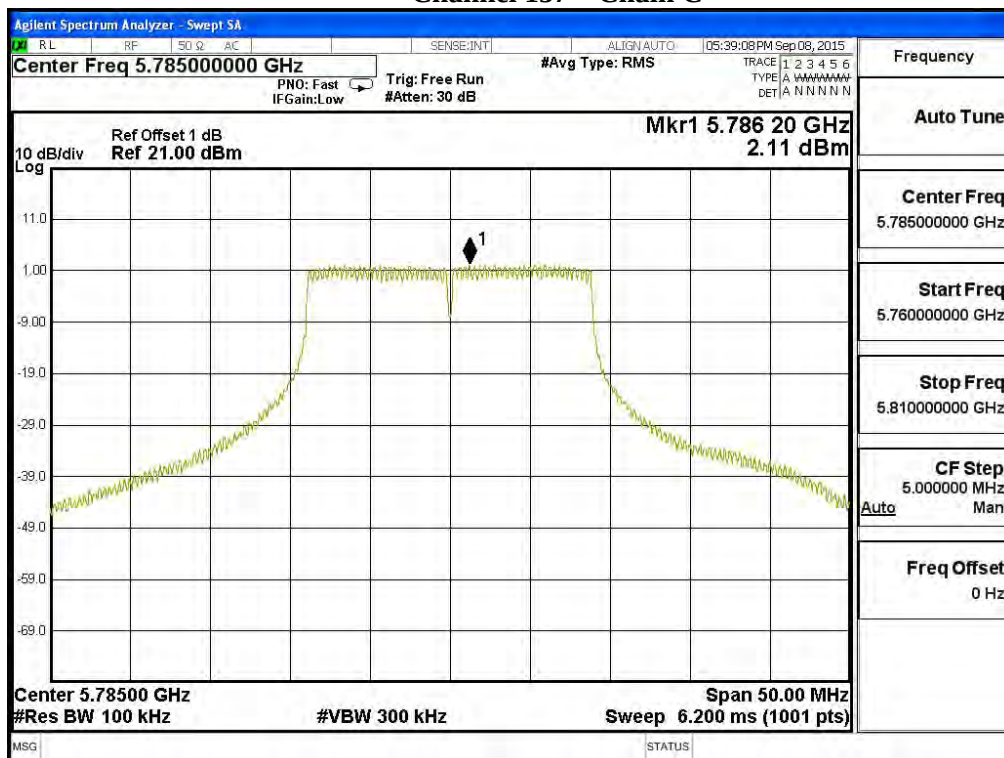
Channel 48 – Chain C



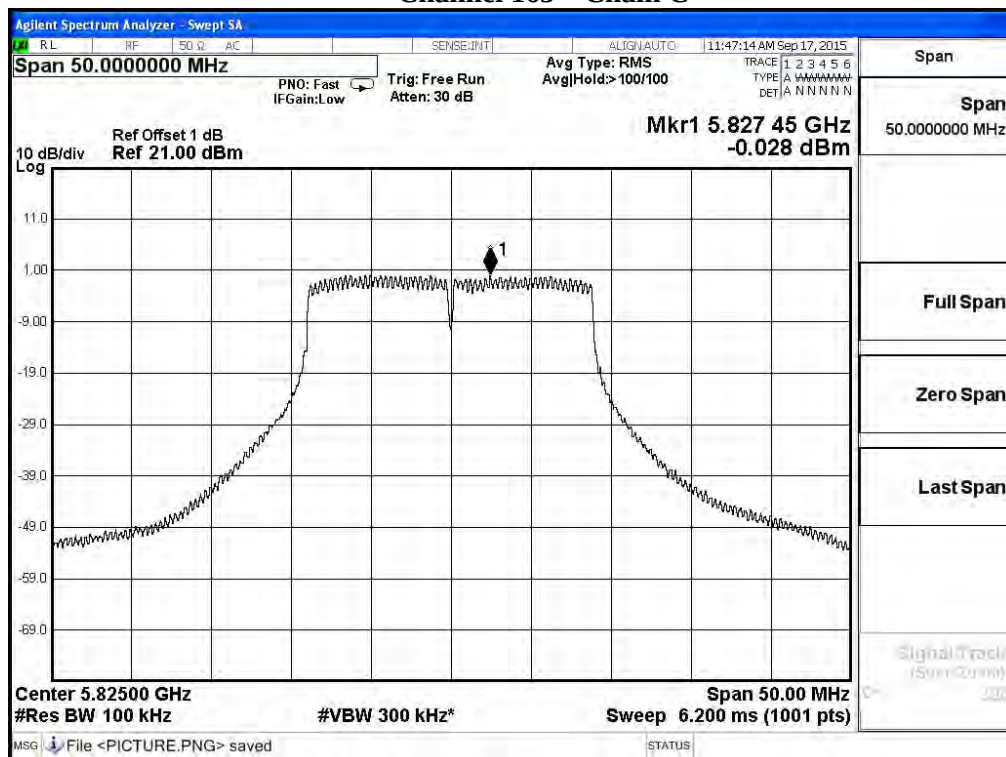
Channel 149 – Chain C



Channel 157 – Chain C



Channel 165 – Chain C



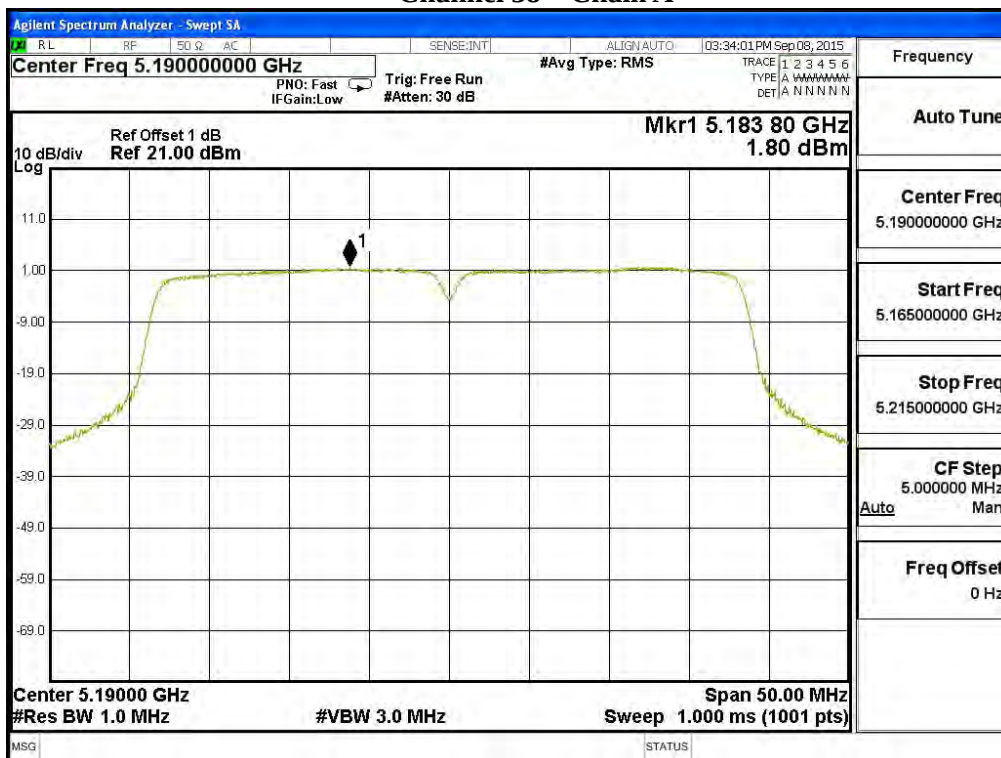
Product : 802.11ac Dual Band Access Point
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps)

Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	Total PSD (dBm)	Required Limit (dBm)	Result
38	5190	A	1.800	6.571	17	Pass
		B	2.050	6.821	17	Pass
		C	1.066	5.837	17	Pass
46	5230	A	8.530	13.301	17	Pass
		B	8.440	13.211	17	Pass
		C	7.550	12.321	17	Pass

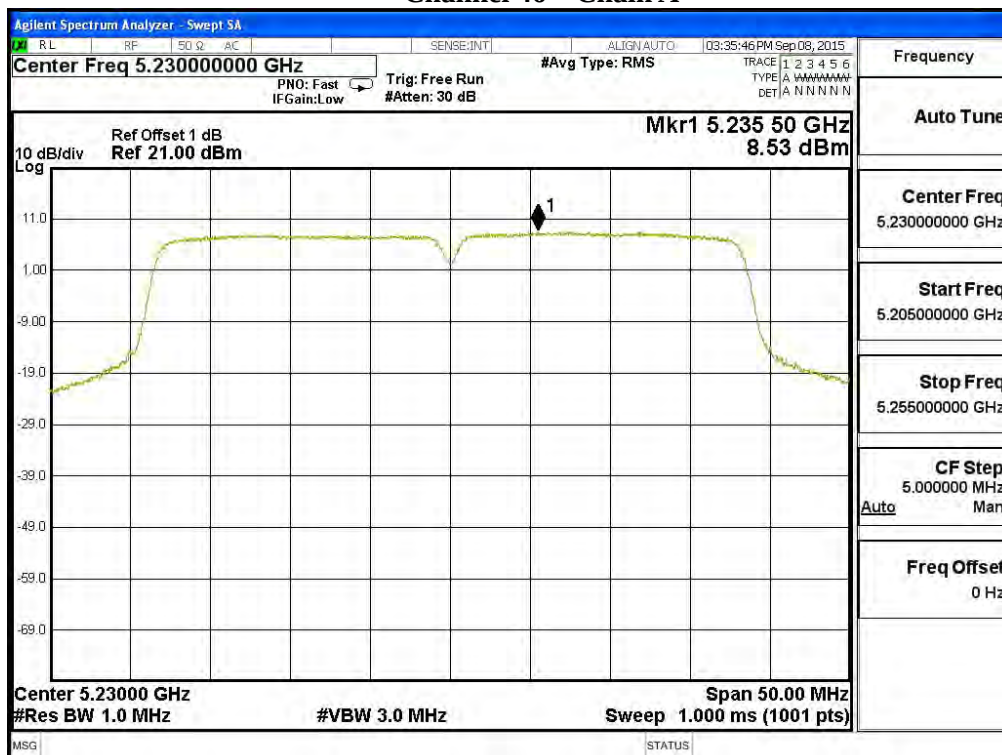
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PSD (dBm)	Required Limit (dBm)	Result
151	5755	A	-11.270	6.980	0.481	<30	Pass
		B	-11.367	6.980	0.384	<30	Pass
		C	-11.483	6.980	0.268	<30	Pass
159	5795	A	-2.610	6.980	9.141	<30	Pass
		B	-3.140	6.980	8.611	<30	Pass
		C	-3.320	6.980	8.431	<30	Pass

Note 1: The quantity $10 \cdot \log 3$ (three antennas) is added to the spectrum peak value according to document 662911 D01.

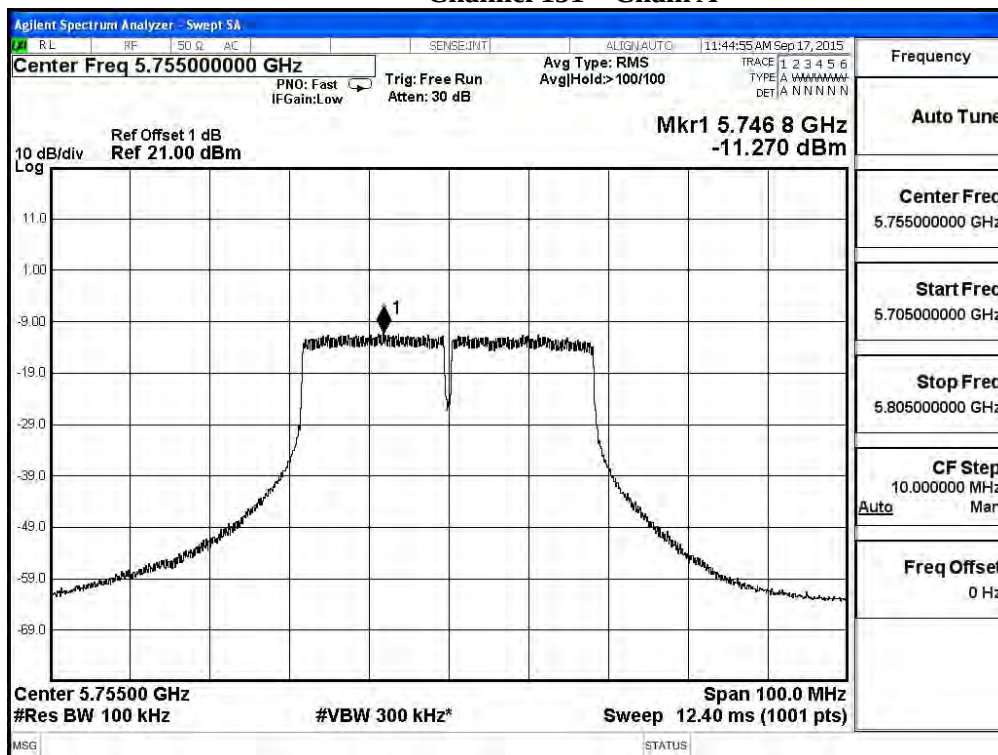
Channel 38 – Chain A



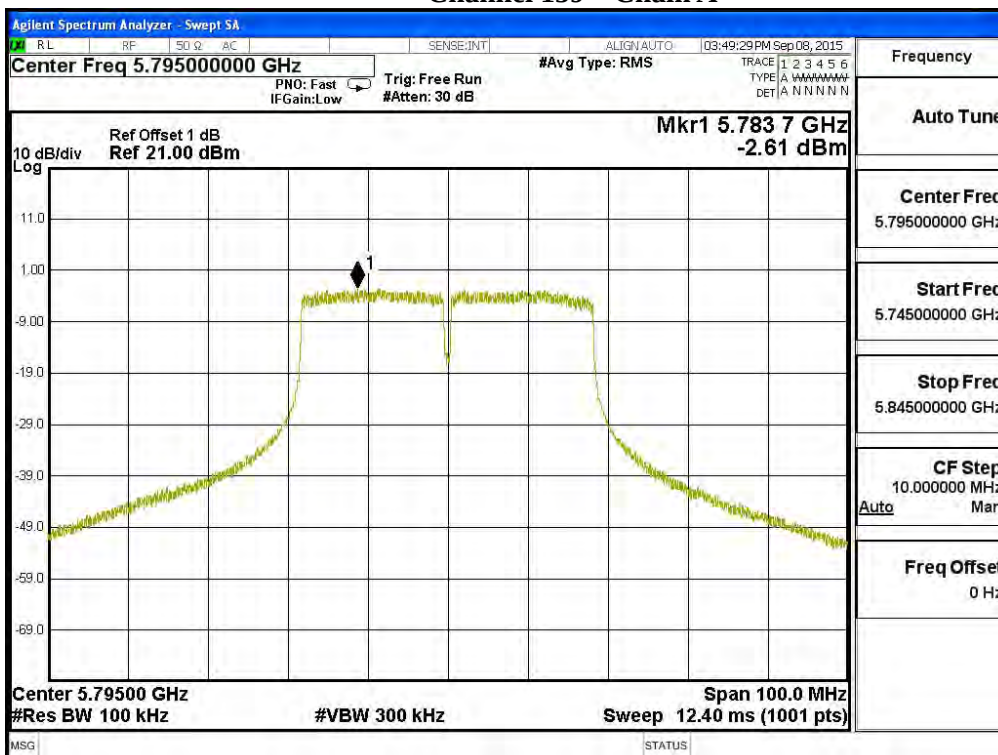
Channel 46 – Chain A



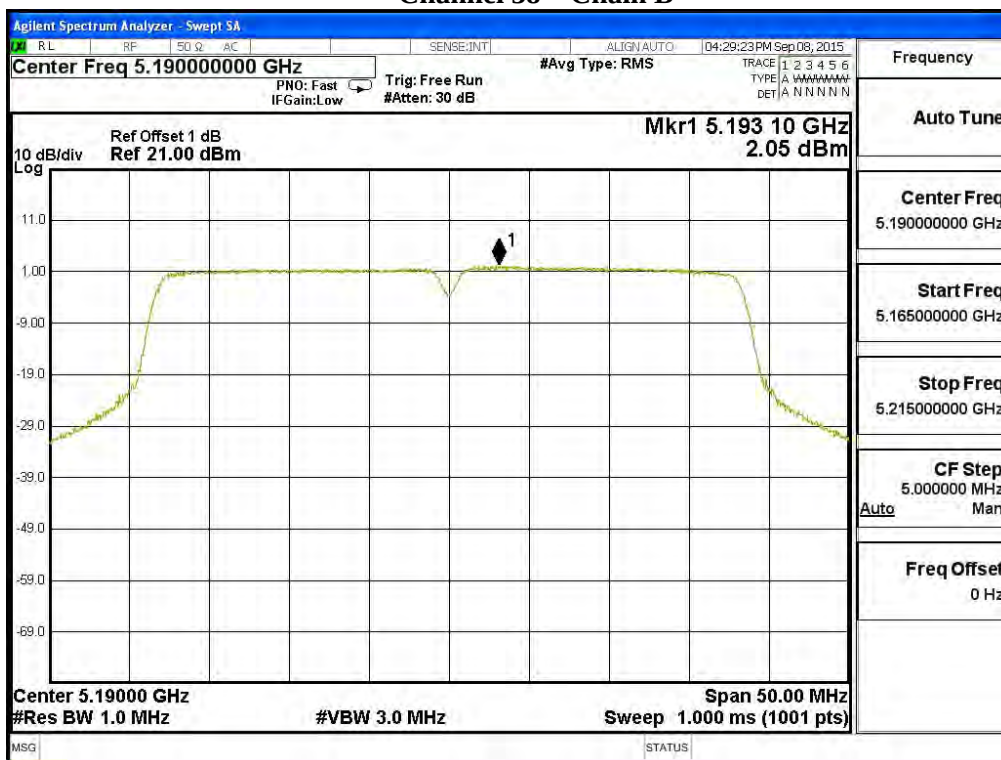
Channel 151 – Chain A



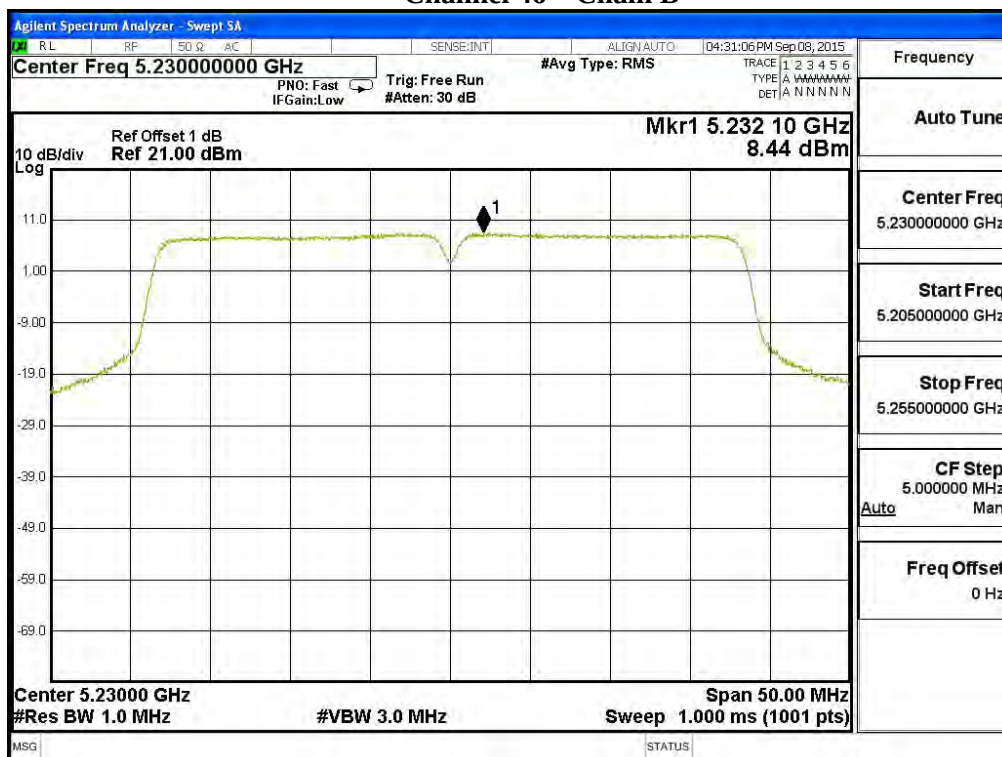
Channel 159 – Chain A



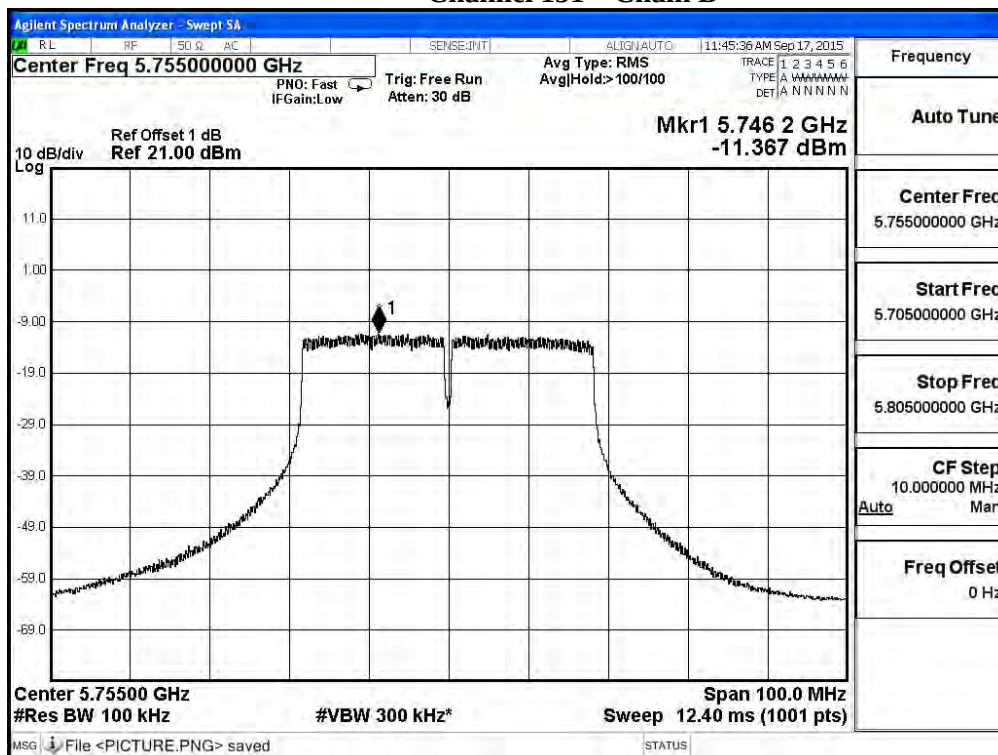
Channel 38 – Chain B



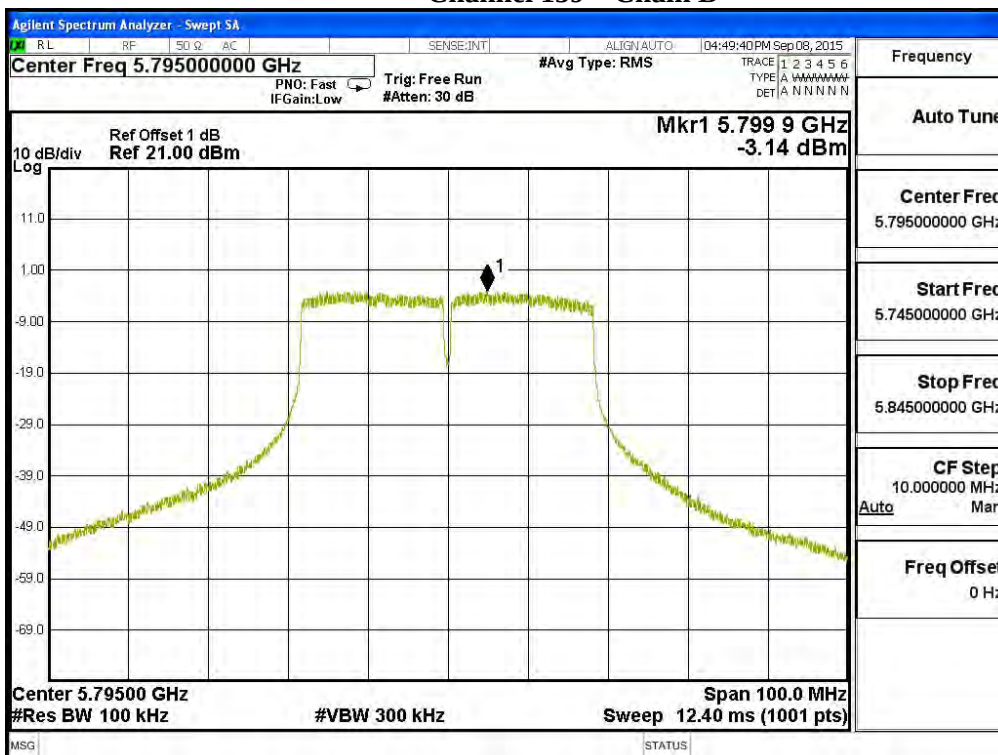
Channel 46 – Chain B



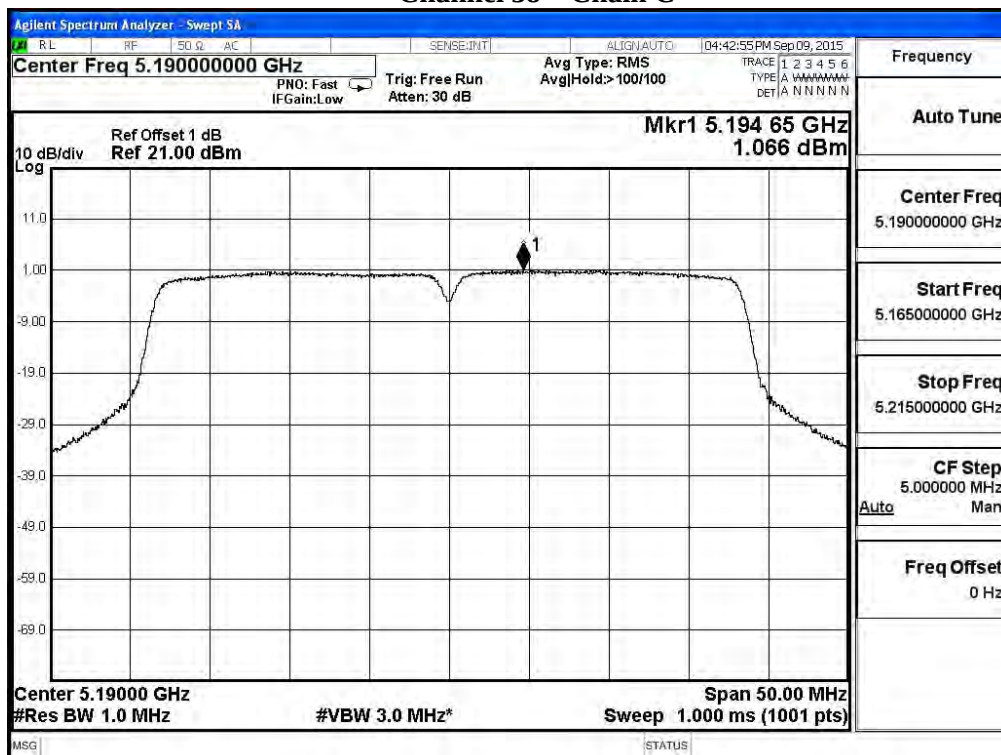
Channel 151 – Chain B



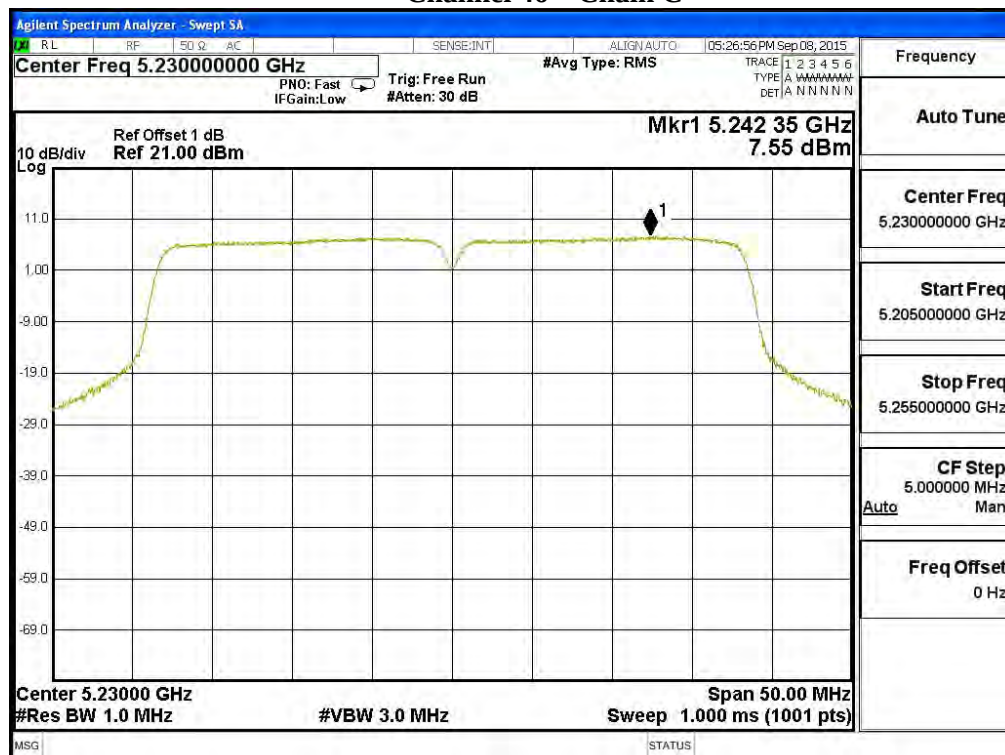
Channel 159 – Chain B



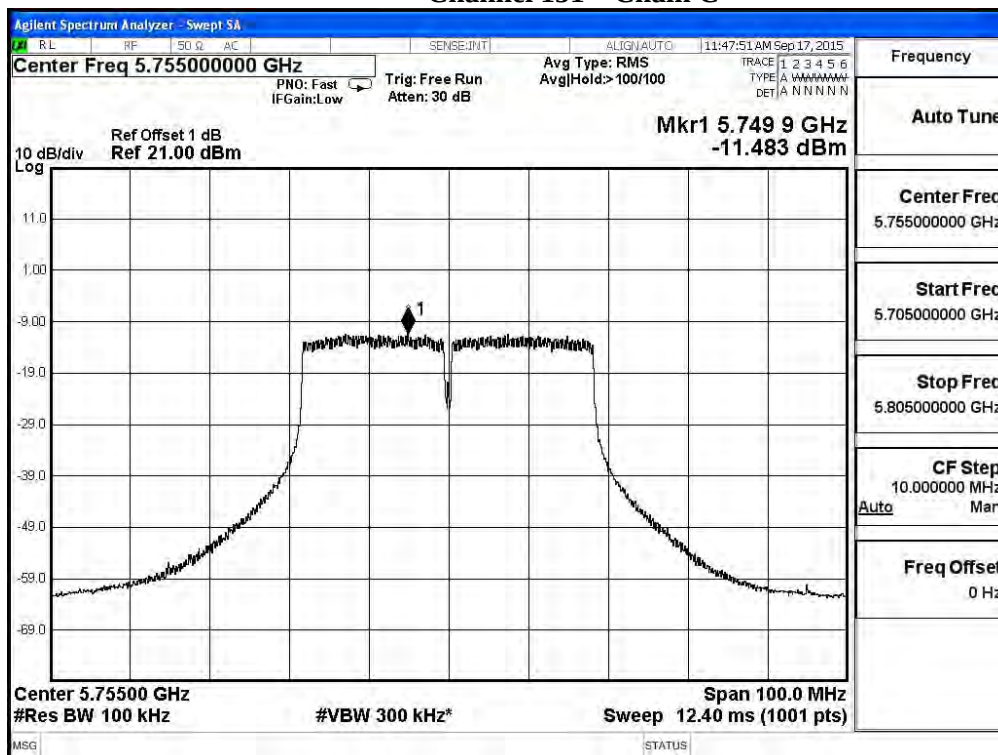
Channel 38 – Chain C



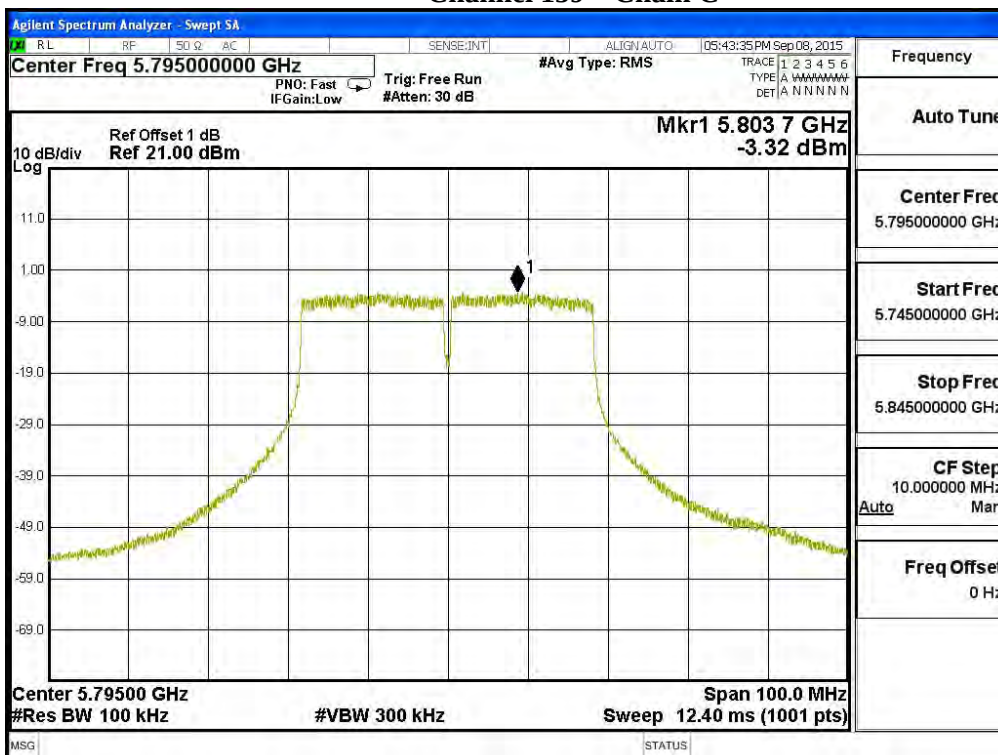
Channel 46 – Chain C



Channel 151 – Chain C



Channel 159 – Chain C



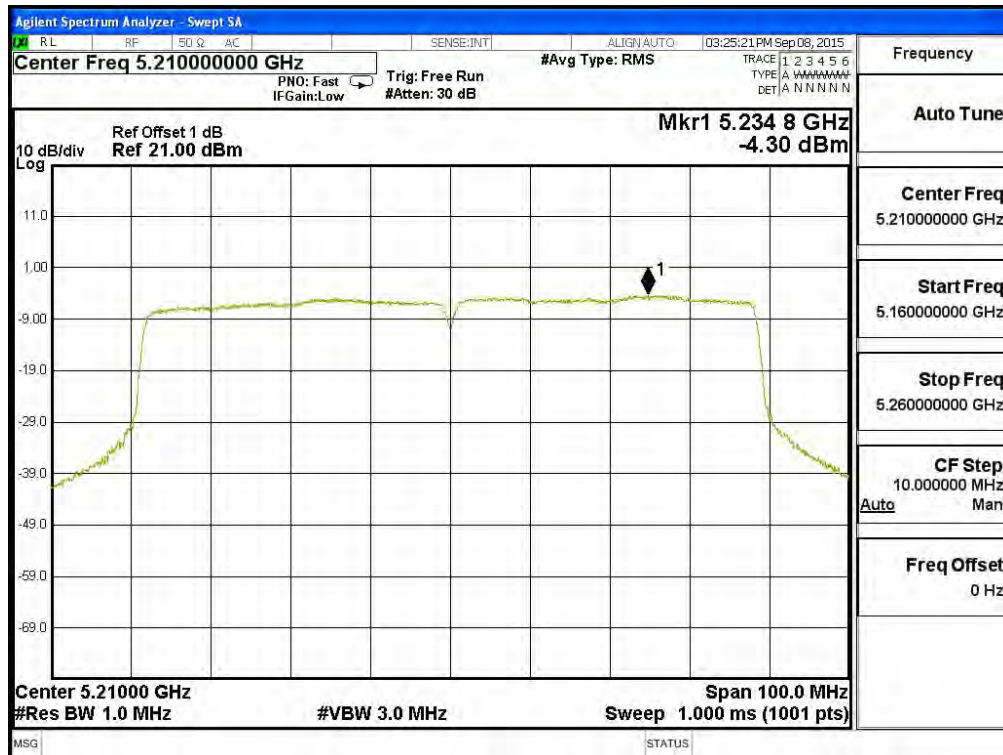
Product : 802.11ac Dual Band Access Point
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11ac-80BW-97.5Mbps)

Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	Total PSD (dBm)	Required Limit (dBm)	Result
42	5210	A	-4.300	0.471	17	Pass
		B	-3.720	1.051	17	Pass
		C	-4.830	-0.059	17	Pass

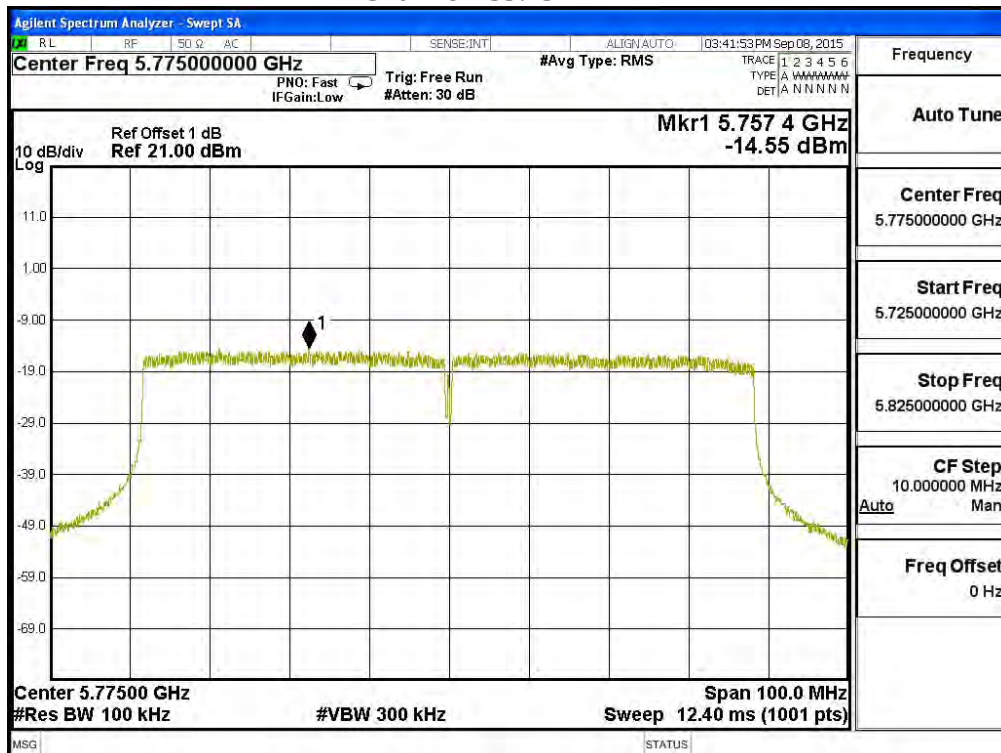
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PSD (dBm)	Required Limit (dBm)	Result
155	5775	A	-14.550	6.980	-2.799	<30	Pass
		B	-15.076	6.980	-3.325	<30	Pass
		C	-15.570	6.980	-3.819	<30	Pass

Note 1: The quantity $10 \cdot \log 3$ (three antennas) is added to the spectrum peak value according to document 662911 D01.

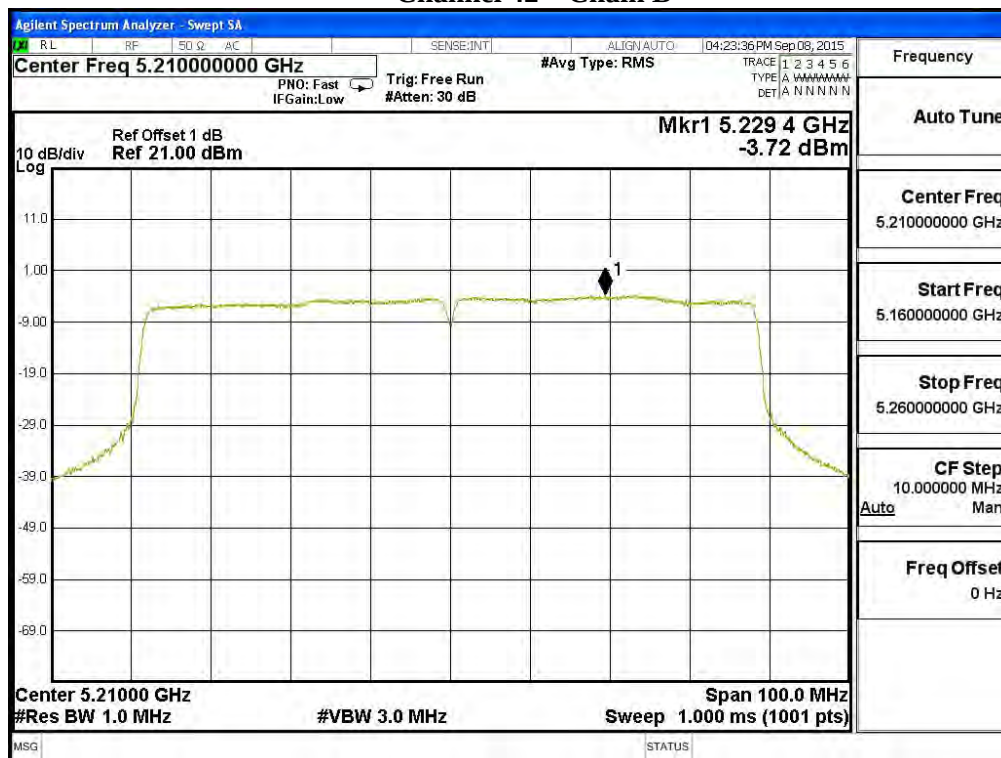
Channel 42 – Chain A



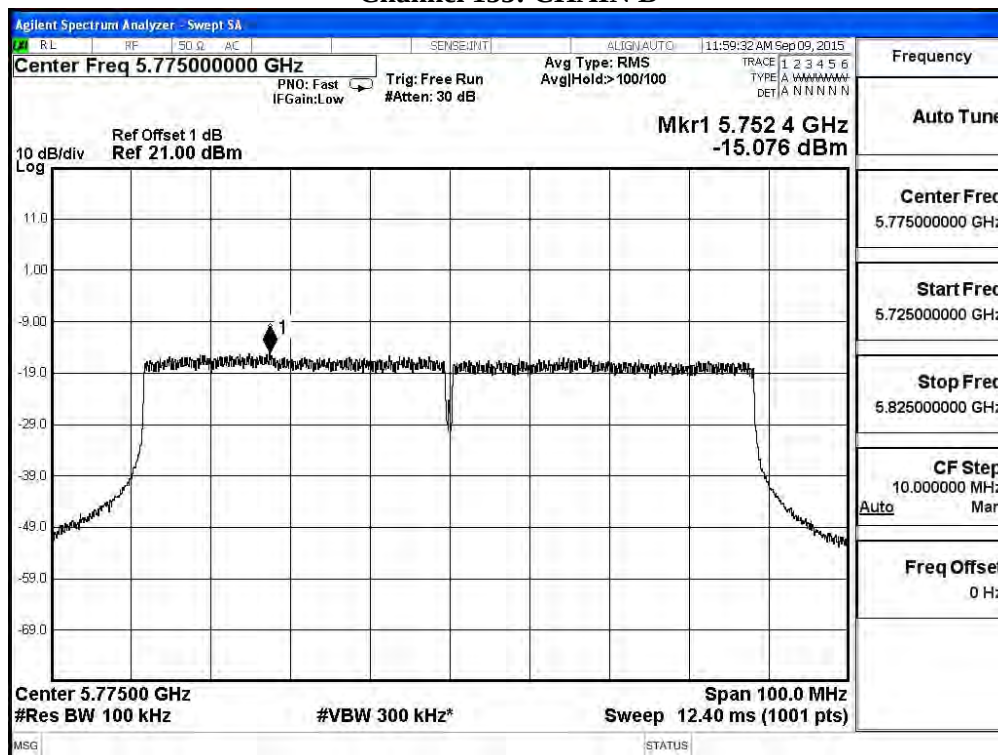
Channel 155: CHAIN A



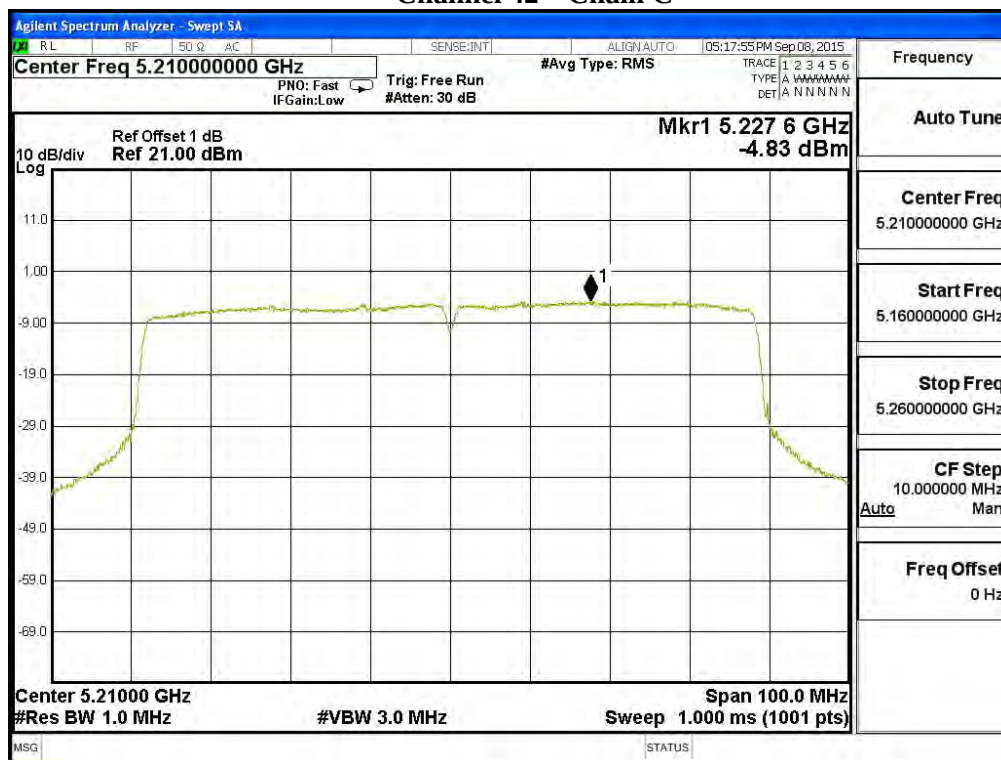
Channel 42 – Chain B



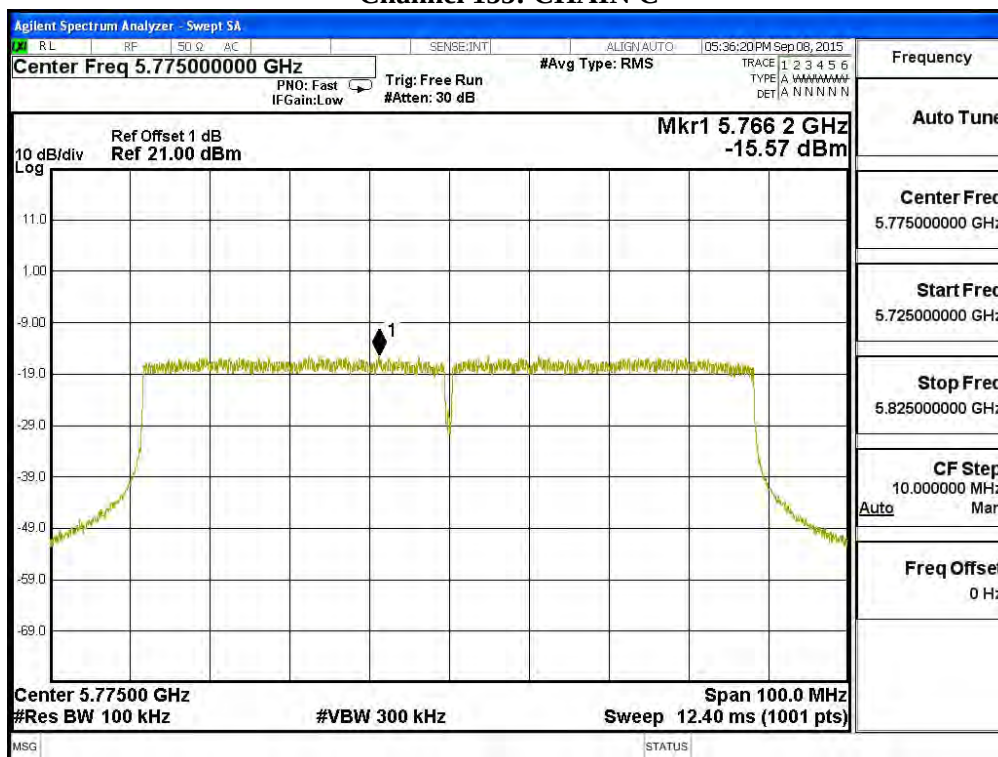
Channel 155: CHAIN B



Channel 42 – Chain C



Channel 155: CHAIN C



5. Radiated Emission

5.1. Test Equipment

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

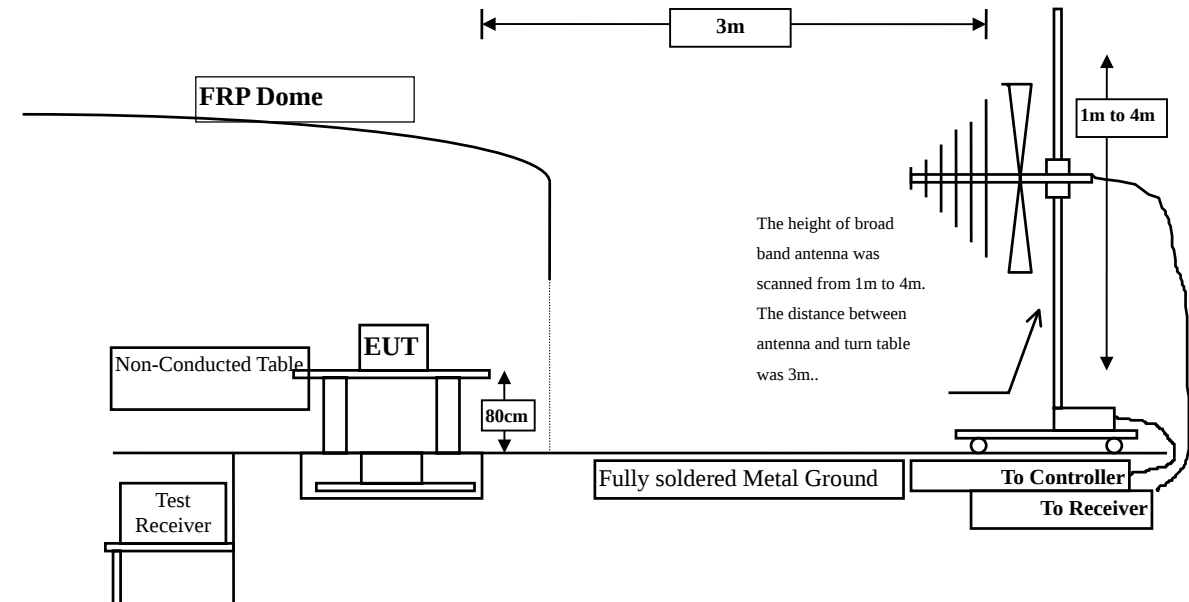
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X	Magnetic Loop Antenna	Teseq	HLA6121/ 37133	Sep, 2015
	X	Bilog Antenna	Schaffner Chase	CBL6112B/ 2707	Jun, 2015
	X	EMI Test Receiver	R&S	ESCS 30/838251/ 001	Jun, 2015
	X	Coaxial Cable	QTK(Armist)	RG 214/ LC003-RG	Jun, 2015
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

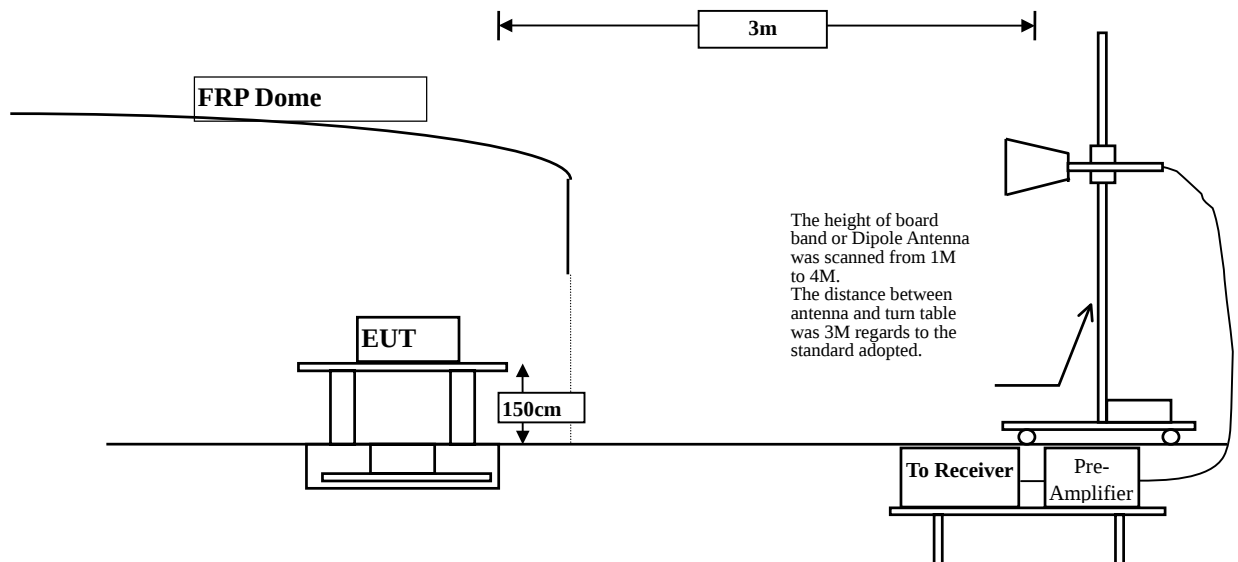
- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
 2. The test instruments marked with "X" are used to measure the final test results.

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 from 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) (5180MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector:					
10360.000	13.192	37.160	50.352	-23.648	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10360.000	13.986	33.300	47.286	-26.714	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5220MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector:					
10440.000	13.626	38.140	51.766	-22.234	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10440.000	14.549	33.080	47.629	-26.371	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5240MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector:					
10480.000	13.971	36.990	50.962	-23.038	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10480.000	14.898	32.600	47.498	-26.502	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5745MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
11490.000	17.676	36.300	53.977	-20.023	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11490.000	18.604	34.890	53.495	-20.505	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
11570.000	17.459	36.293	53.752	-20.248	74.000
17355.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11570.000	18.348	35.521	53.869	-20.131	74.000
17355.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5825MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11650.000	16.715	36.610	53.326	-20.674	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11650.000	17.831	35.460	53.292	-20.708	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps) (5180MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dB μ V	dB μ V/m	dB	dB μ V/m
Horizontal					
Peak Detector:					
10360.000	13.192	38.332	51.524	-22.476	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10360.000	13.986	34.335	48.321	-25.679	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps) (5220MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector:					
10360.000	13.986	34.335	48.321	-25.679	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10360.000	13.986	34.335	48.321	-25.679	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps) (5240MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector:					
10480.000	13.971	36.868	50.840	-23.160	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10480.000	14.898	32.787	47.685	-26.315	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps) (5745MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11490.000	17.676	36.200	53.877	-20.123	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11490.000	18.604	34.710	53.315	-20.685	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps) (5785MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11570.000	17.459	36.250	53.709	-20.291	74.000
17355.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11570.000	18.348	35.151	53.499	-20.501	74.000
17355.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps) (5825MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11650.000	16.715	37.080	53.796	-20.204	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11650.000	17.831	35.620	53.452	-20.548	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps) (5190MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector:					
10380.000	13.235	37.386	50.621	-23.379	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10380.000	14.092	32.938	47.030	-26.970	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps) (5230MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dB μ V	dB μ V/m	dB	dB μ V/m
Horizontal					
Peak Detector:					
10460.000	13.799	37.681	51.480	-22.520	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10460.000	14.724	33.096	47.820	-26.180	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps) (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
11510.000	17.714	35.981	53.695	-20.305	74.000
17265.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
31140.000	*	*	*	*	74.000
36330.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11510.000	18.671	34.431	53.102	-20.898	74.000
17265.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
31140.000	*	*	*	*	74.000
36330.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps) (5795MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
11590.000	17.371	36.372	53.742	-20.258	74.000
17385.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11590.000	18.237	35.017	53.253	-20.747	74.000
17385.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11ac-80BW-97.5Mbps) (5210MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
10420.000	13.452	36.938	50.390	-23.610	74.000
11550.000	*	*	*	*	74.000
17325.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10420.000	14.374	33.856	48.230	-25.770	74.000
11550.000	*	*	*	*	74.000
17325.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11ac-80BW-97.5Mbps) (5775MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
11550.000	17.544	34.776	52.320	-21.680	74.000
17325.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11550.000	18.456	31.055	49.510	-24.490	74.000
17325.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	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 + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 802.11ac Dual Band Access Point
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5220MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
90.210	-12.060	47.421	35.360	-8.140	43.500
167.740	-9.816	36.066	26.250	-17.250	43.500
369.500	0.787	40.103	40.890	-5.110	46.000
499.480	1.991	33.870	35.860	-10.140	46.000
602.300	3.794	31.186	34.980	-11.020	46.000
875.950	5.836	31.994	37.830	-8.170	46.000
Vertical					
Peak Detector					
101.780	-5.570	43.421	37.850	-5.650	43.500
231.750	-6.456	42.686	36.230	-9.770	46.000
367.550	-0.086	37.627	37.540	-8.460	46.000
538.160	1.972	32.587	34.560	-11.440	46.000
749.610	1.999	31.641	33.640	-12.360	46.000
955.160	2.961	29.690	32.650	-13.350	46.000

Note:

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

Product : 802.11ac Dual Band Access Point
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps) (5785MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dB μ V	dB μ V/m	dB	dB μ V/m

Horizontal

Peak Detector

88.300	-12.078	48.074	35.996	-7.504	43.500
367.540	0.589	39.171	39.760	-6.240	46.000
499.480	1.991	32.666	34.656	-11.344	46.000
625.580	1.419	34.700	36.120	-9.880	46.000
749.650	3.959	29.851	33.810	-12.190	46.000
984.480	8.098	25.112	33.210	-20.790	54.000

Vertical

Peak Detector

72.670	-9.656	42.135	32.480	-7.520	40.000
159.970	-5.120	34.161	29.040	-14.460	43.500
365.620	0.282	37.568	37.850	-8.150	46.000
536.340	1.609	32.671	34.280	-11.720	46.000
749.750	2.025	28.556	30.581	-15.419	46.000
901.070	1.856	33.304	35.160	-10.840	46.000

Note:

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

Product : 802.11ac Dual Band Access Point
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps) (5220MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
88.300	-12.078	47.519	35.441	-8.059	43.500
167.750	-9.816	35.166	25.350	-18.150	43.500
369.600	0.792	37.458	38.251	-7.749	46.000
499.480	1.991	34.220	36.210	-9.790	46.000
625.580	1.419	35.108	36.528	-9.472	46.000
875.940	5.835	31.996	37.830	-8.170	46.000
Vertical					
Peak Detector					
103.420	-5.163	42.328	37.165	-6.335	43.500
367.560	-0.088	34.939	34.850	-11.150	46.000
499.480	-0.199	35.961	35.761	-10.239	46.000
600.350	1.301	31.350	32.651	-13.349	46.000
749.850	2.043	29.797	31.840	-14.160	46.000
963.150	3.582	29.677	33.260	-20.740	54.000

Note:

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

Product : 802.11ac Dual Band Access Point
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps) (5785MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dB μ V	dB μ V/m	dB	dB μ V/m
Horizontal					
Peak Detector					
90.240	-12.051	48.301	36.250	-7.250	43.500
249.220	-6.216	30.776	24.560	-21.440	46.000
367.561	0.592	37.649	38.240	-7.760	46.000
499.480	1.991	32.906	34.896	-11.104	46.000
625.580	1.419	33.395	34.815	-11.185	46.000
901.060	5.878	26.812	32.690	-13.310	46.000
Vertical					
Peak Detector					
104.550	-4.878	39.030	34.152	-9.348	43.500
255.160	-5.084	24.444	19.360	-26.640	46.000
375.360	0.393	31.256	31.650	-14.350	46.000
586.780	-2.214	37.074	34.860	-11.140	46.000
796.500	2.638	32.864	35.502	-10.498	46.000
968.960	3.936	31.333	35.269	-18.731	54.000

Note:

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

Product : 802.11ac Dual Band Access Point
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps) (5190MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dB μ V	dB μ V/m	dB	dB μ V/m
Horizontal					
Peak Detector					
86.150	-12.043	45.553	33.510	-6.490	40.000
367.540	0.589	37.361	37.950	-8.050	46.000
499.480	1.991	33.230	35.220	-10.780	46.000
602.330	3.803	33.112	36.915	-9.085	46.000
875.940	5.835	34.376	40.210	-5.790	46.000
986.410	8.190	24.311	32.501	-21.499	54.000
Vertical					
Peak Detector					
101.740	-5.580	40.741	35.160	-8.340	43.500
375.260	0.377	32.132	32.510	-13.490	46.000
540.220	2.169	32.746	34.915	-11.085	46.000
749.840	2.042	30.119	32.160	-13.840	46.000
875.840	0.516	31.774	32.290	-13.710	46.000
968.960	3.936	29.079	33.015	-20.985	54.000

Note:

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

Product : 802.11ac Dual Band Access Point
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps) (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector					
101.340	-9.294	36.934	27.640	-15.860	43.500
369.500	0.787	39.058	39.845	-6.155	46.000
499.480	1.991	33.994	35.984	-10.016	46.000
749.840	3.980	29.170	33.150	-12.850	46.000
860.250	6.365	22.614	28.980	-17.020	46.000
963.540	7.066	23.223	30.290	-23.710	54.000
Vertical					
Peak Detector					
99.540	-6.121	44.731	38.610	-4.890	43.500
286.250	-5.417	23.777	18.360	-27.640	46.000
504.200	-0.059	25.753	25.694	-20.306	46.000
625.580	0.299	29.210	29.510	-16.490	46.000
805.610	3.645	24.676	28.320	-17.680	46.000
945.540	3.306	28.344	31.650	-14.350	46.000

Note:

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

Product : 802.11ac Dual Band Access Point
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11ac-80BW-97.5Mbps) (5210MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
84.250	-12.408	42.988	30.580	-9.420	40.000
249.350	-6.205	31.855	25.650	-20.350	46.000
365.620	0.382	38.608	38.990	-7.010	46.000
580.950	3.467	30.794	34.260	-11.740	46.000
749.810	3.976	32.275	36.250	-9.750	46.000
974.750	7.041	23.308	30.350	-23.650	54.000
Vertical					
Peak Detector					
103.720	-5.090	40.301	35.210	-8.290	43.500
362.510	-0.356	28.282	27.925	-18.075	46.000
482.210	-3.006	29.390	26.384	-19.616	46.000
608.300	2.168	26.372	28.540	-17.460	46.000
749.950	2.061	29.144	31.205	-14.795	46.000
945.845	3.295	27.397	30.692	-15.308	46.000

Note:

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

Product : 802.11ac Dual Band Access Point
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11ac-80BW-97.5Mbps) (5775MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dB μ V	dB μ V/m	dB	dB μ V/m
Horizontal					
Peak Detector					
67.540	-13.970	49.119	35.150	-4.850	40.000
262.420	-5.477	42.028	36.551	-9.449	46.000
433.516	0.841	35.676	36.516	-9.484	46.000
602.580	3.875	33.940	37.815	-8.185	46.000
875.840	5.816	33.434	39.250	-6.750	46.000
967.010	7.299	25.211	32.510	-21.490	54.000
Vertical					
Peak Detector					
105.250	-4.689	36.228	31.540	-11.960	43.500
375.650	0.434	30.411	30.845	-15.155	46.000
497.560	-0.707	28.267	27.560	-18.440	46.000
598.602	1.129	32.121	33.250	-12.750	46.000
786.500	2.725	26.145	28.870	-17.130	46.000
934.050	2.984	28.641	31.625	-14.375	46.000

Note:

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

6. Band Edge

6.1. Test Equipment

RF Conducted Measurement

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

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

Note:

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

RF Radiated Measurement:

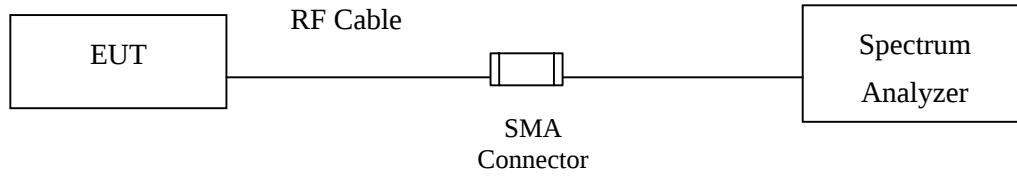
The following test equipments are used during the band edge tests:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ CB # 8	X	Spectrum Analyzer	R&S	FSP40/ 100339	Oct, 2014
	X	Horn Antenna	ETS-Lindgren	3117/ 35205	Mar, 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

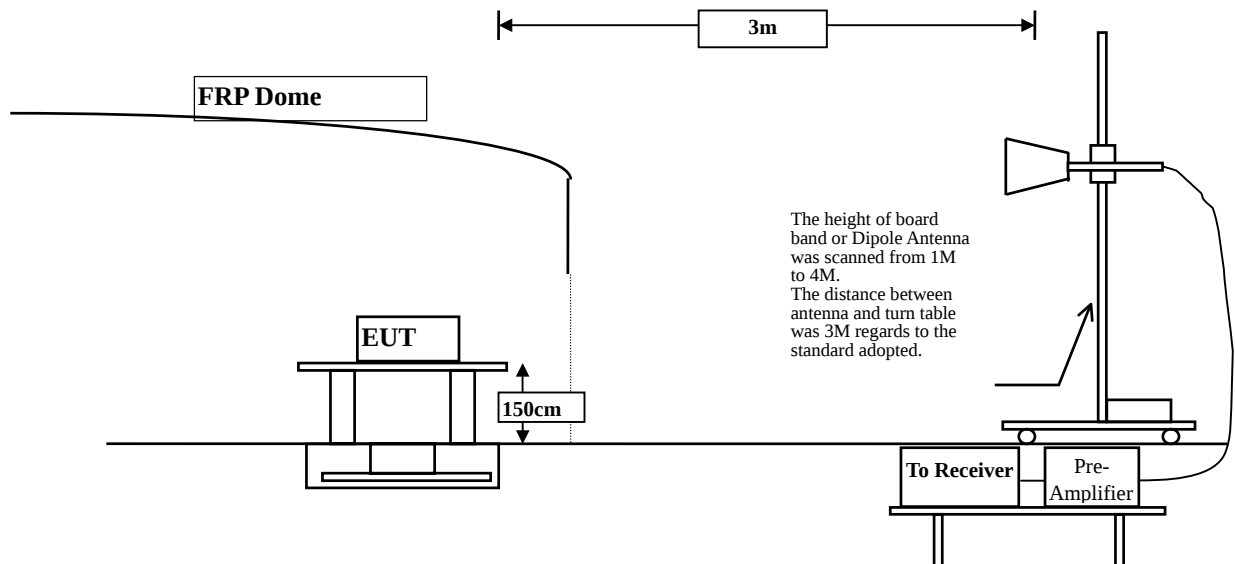
- Note:
1. All instruments are calibrated every one year.
 2. The test instruments marked by "X" are used to measure the final test results.

6.2. Test Setup

RF Conducted Measurement:



RF Radiated Measurement:



6.3. Limits

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 36

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
36 (Peak)	5147.600	3.348	58.949	62.298	74.00	54.00	Pass
36 (Peak)	5150.000	3.340	56.785	60.125	74.00	54.00	Pass
36 (Peak)	5184.000	3.220	112.109	115.329	--	--	--
36 (Average)	5150.000	3.340	44.271	47.611	74.00	54.00	Pass
36 (Average)	5184.000	3.220	100.772	103.992	--	--	--

Figure Channel 36: Horizontal (Peak)

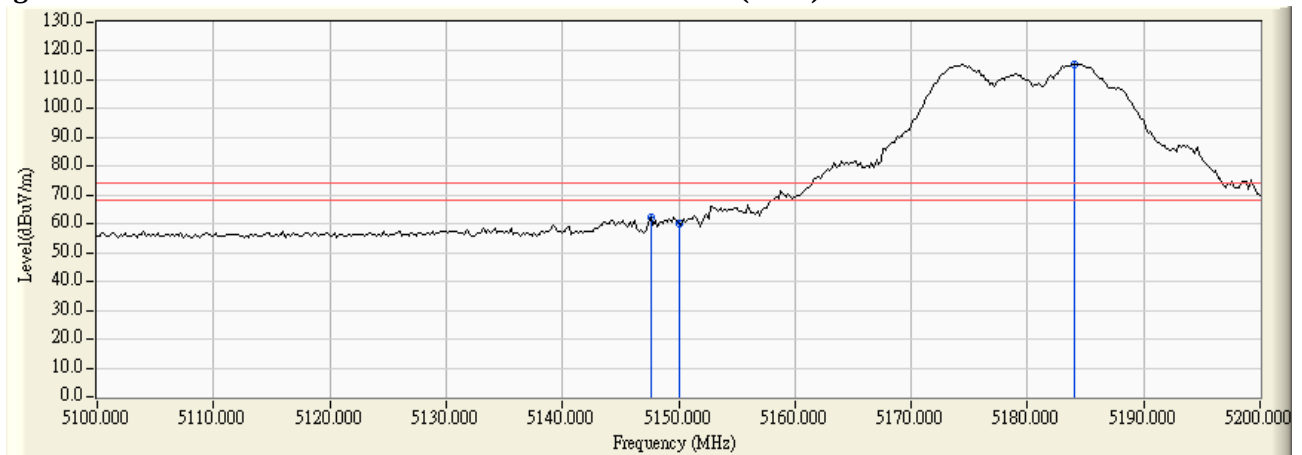
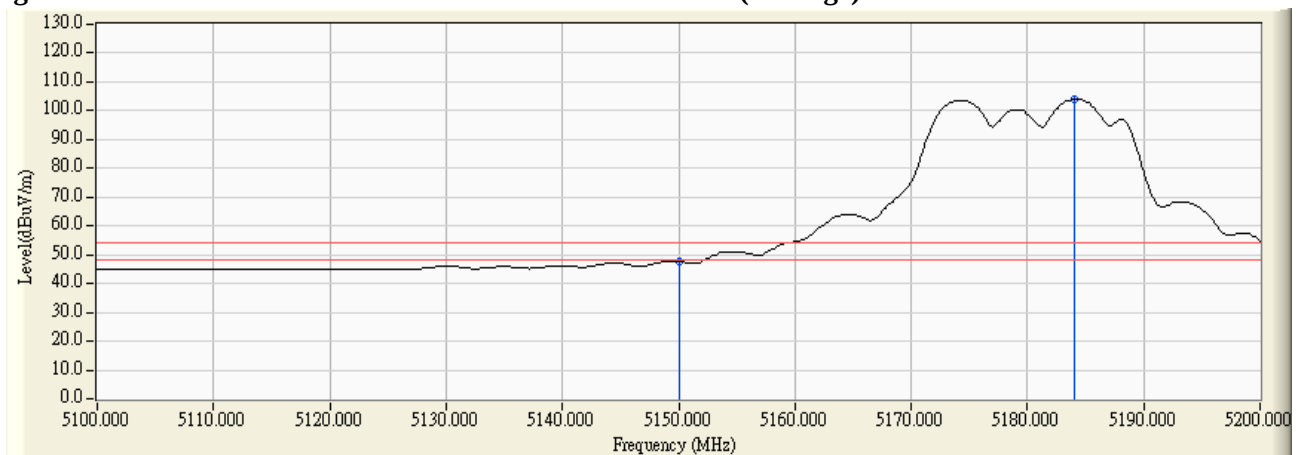


Figure Channel 36: Horizontal (Average)



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

Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 36

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
36 (Peak)	5150.000	5.260	65.860	71.120	74.00	54.00	Pass
36 (Peak)	5184.348	5.354	115.450	120.803	--	--	--
36 (Average)	5150.000	5.260	48.352	53.612	74.00	54.00	Pass
36 (Average)	5184.783	5.355	101.665	107.020	--	--	--

Figure Channel 36: Vertical (Peak)

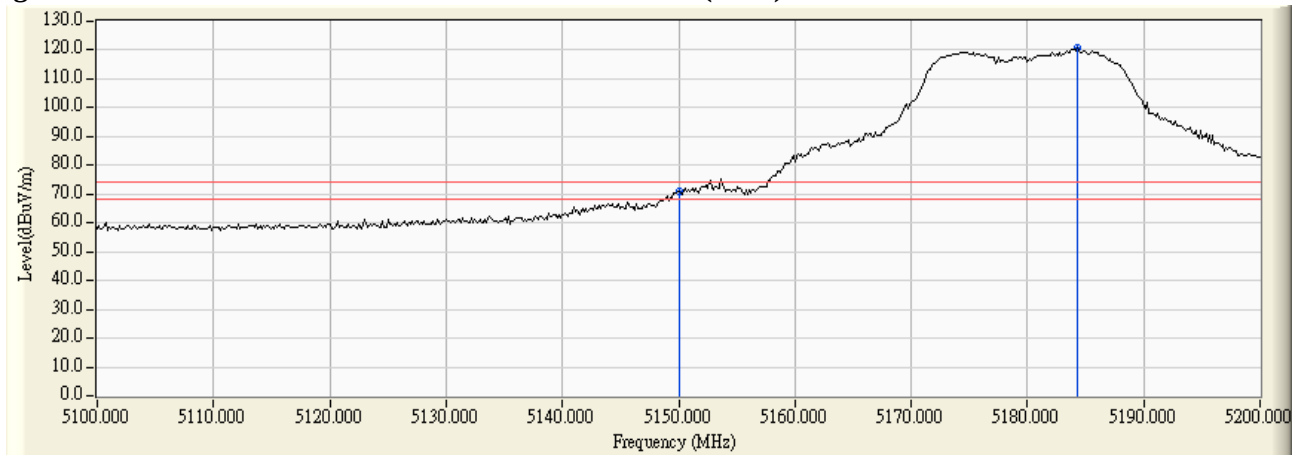
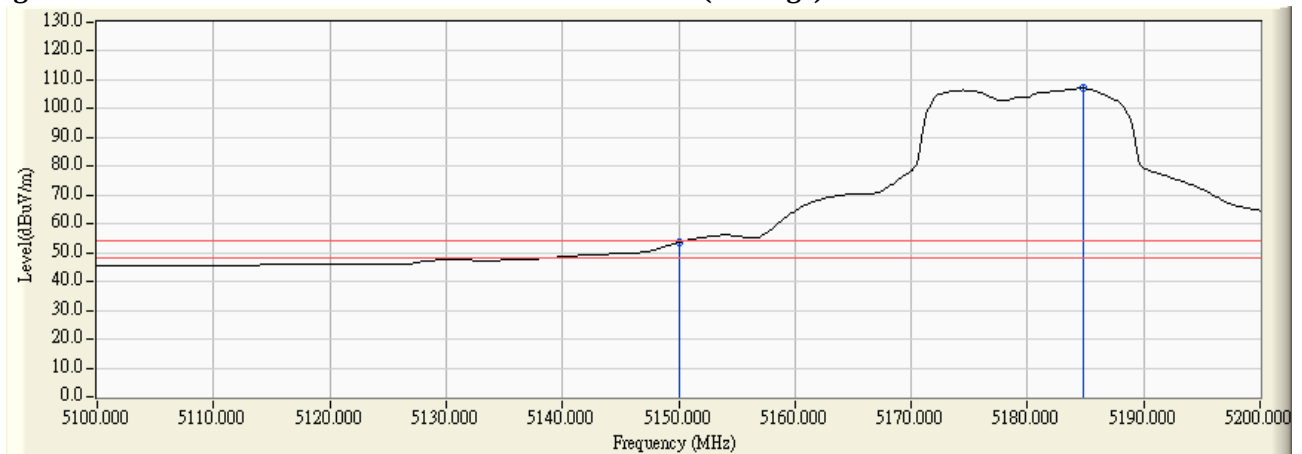


Figure Channel 36: Vertical (Average)



Note:

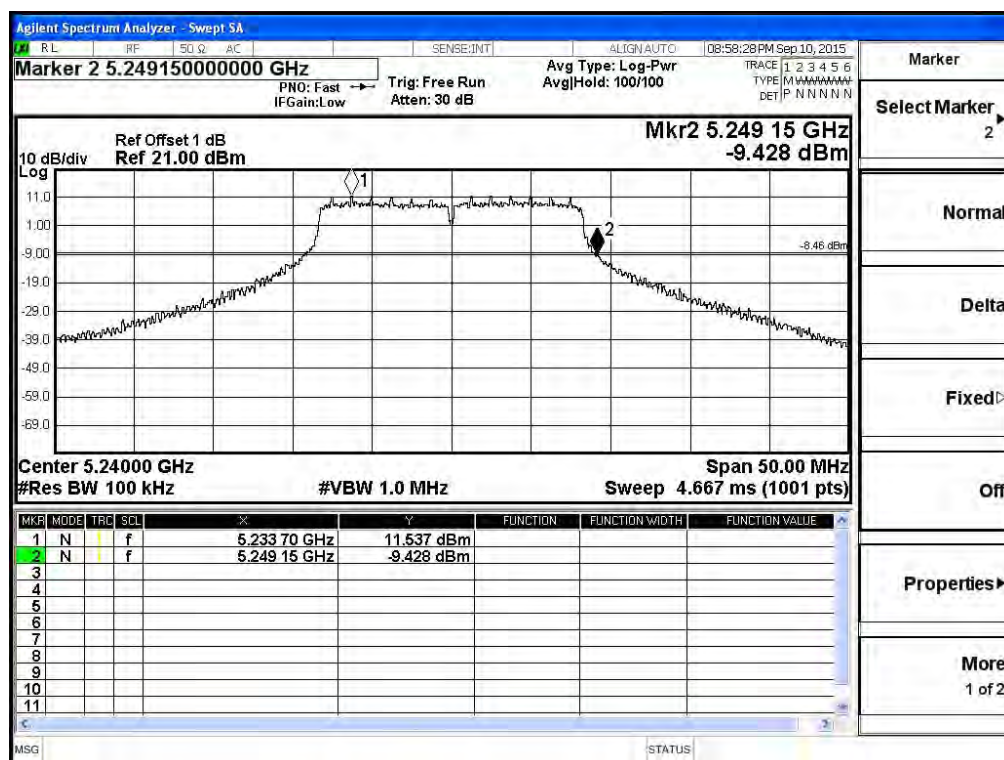
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : 802.11ac Dual Band Access Point
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 48

Chain A

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.15	<5250	PASS

NOTE: Accordance with 15.215 requirement.

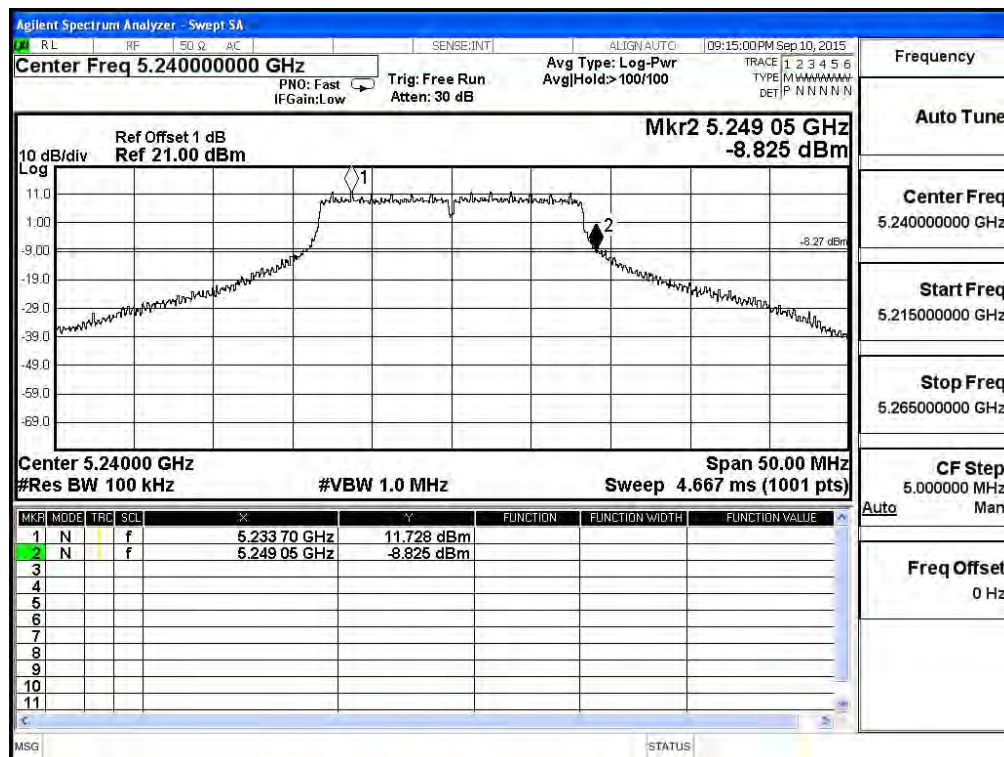


Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 48

Chain B

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.05	<5250	PASS

NOTE: Accordance with 15.215 requirement.

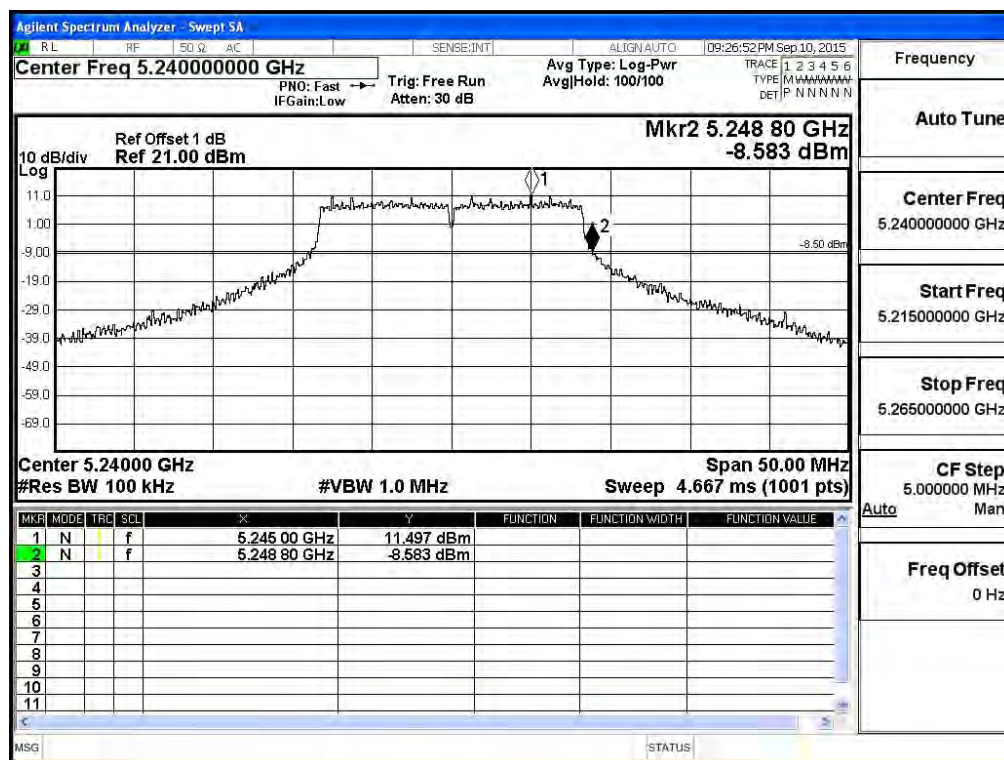


Product : 802.11ac Dual Band Access Point
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 48

Chain C

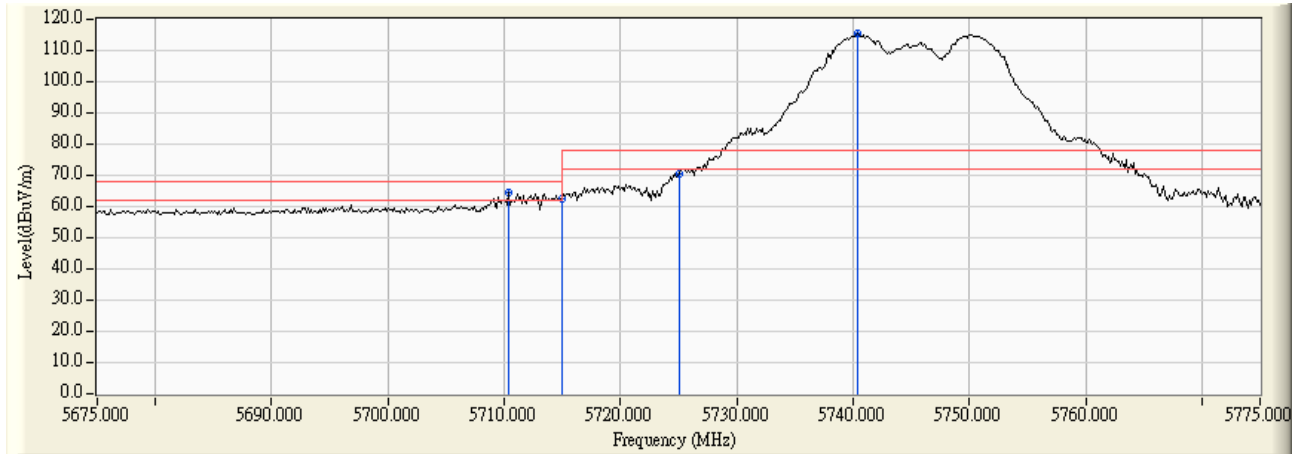
Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5248.80	<5250	PASS

NOTE: Accordance with 15.215 requirement.

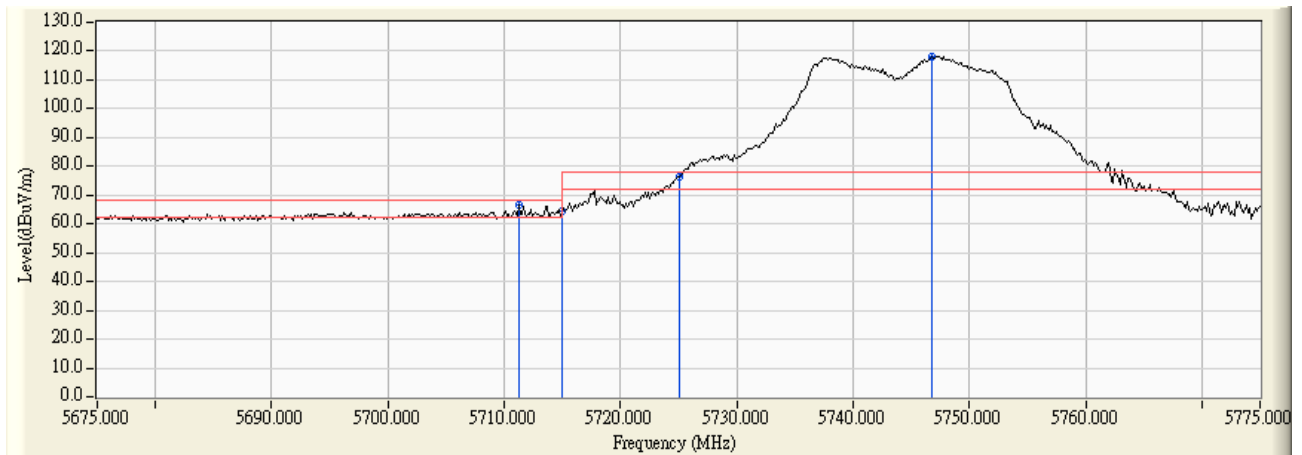


Product : 802.11ac Dual Band Access Point
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 149

RF Radiated Measurement:



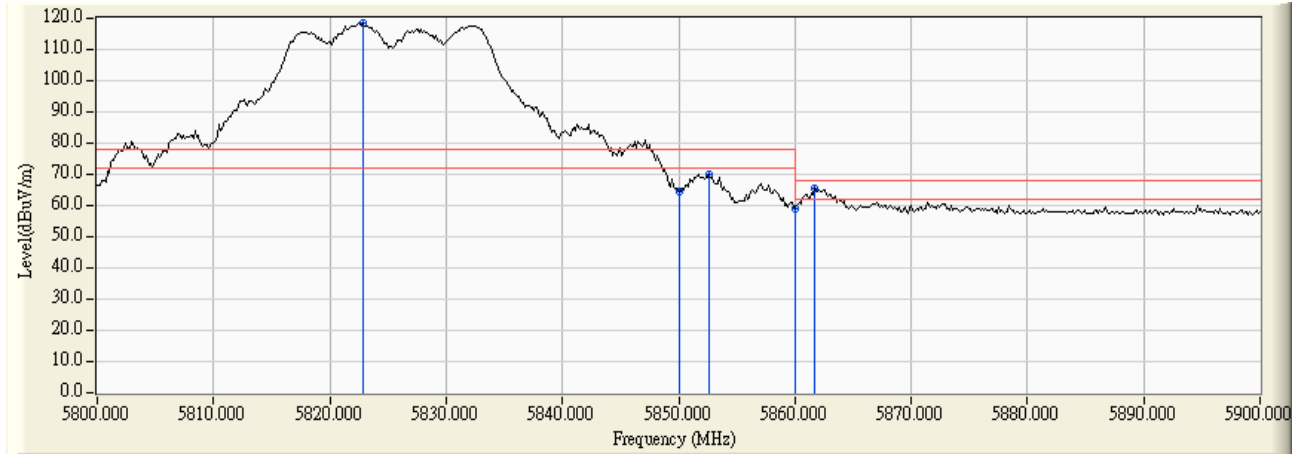
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Horizontal	5710.362	4.651	59.996	64.647	-3.573	68.220	Pass
Horizontal	5715.000	4.652	57.774	62.426	-5.794	68.220	Pass
Horizontal	5725.000	4.654	65.945	70.599	-7.621	78.220	Pass
Horizontal	5740.362	4.656	110.733	115.389	37.169	78.220	Pass



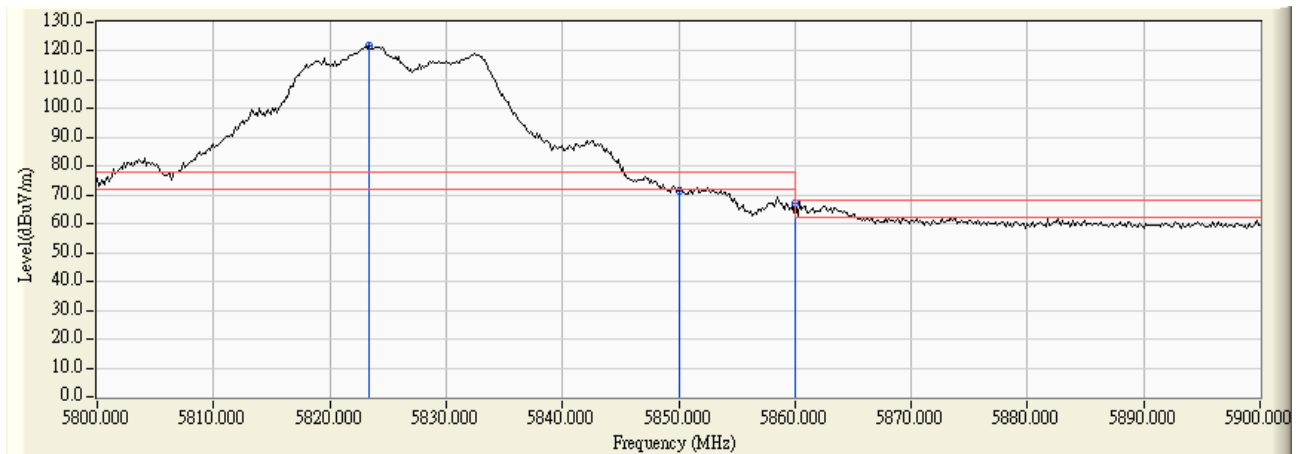
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Vertical	5711.232	5.994	60.882	66.876	-1.344	68.220	Pass
Vertical	5715.000	5.994	58.540	64.534	-3.686	68.220	Pass
Vertical	5725.000	5.992	70.243	76.236	-1.984	78.220	Pass
Vertical	5746.739	5.989	111.981	117.969	39.749	78.220	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 165

RF Radiated Measurement:



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Horizontal	5822.899	4.802	113.669	118.471	40.251	78.220	Pass
Horizontal	5850.000	4.964	59.609	64.573	-13.647	78.220	Pass
Horizontal	5852.609	4.978	64.916	69.895	-8.325	78.220	Pass
Horizontal	5860.000	5.023	54.182	59.205	-9.015	68.220	Pass
Horizontal	5861.739	5.033	60.385	65.418	-2.802	68.220	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Vertical	5823.333	6.005	115.839	121.844	43.624	78.220	Pass
Vertical	5850.000	6.037	65.703	71.740	-6.480	78.220	Pass
Vertical	5860.000	6.047	61.350	67.397	-0.823	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 21.7Mbps) -Channel 36

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
36 (Peak)	5150.000	3.340	59.876	63.216	74.00	54.00	Pass
36 (Peak)	5178.000	3.240	113.081	116.322	--	--	--
36 (Average)	5150.000	3.340	44.895	48.235	74.00	54.00	Pass
36 (Average)	5177.400	3.244	100.314	103.557	--	--	--

Figure Channel 36:

Horizontal (Peak)

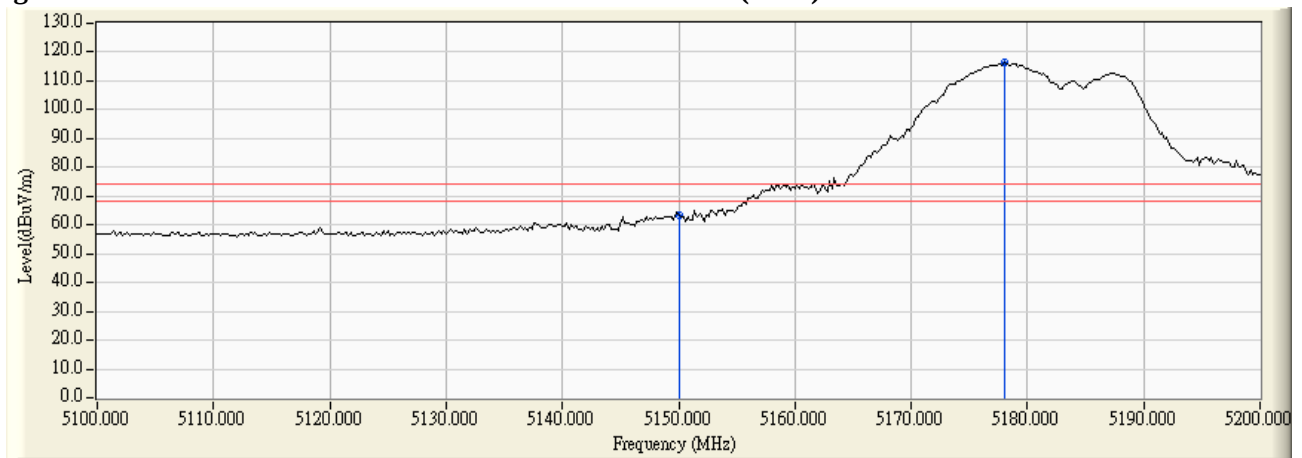
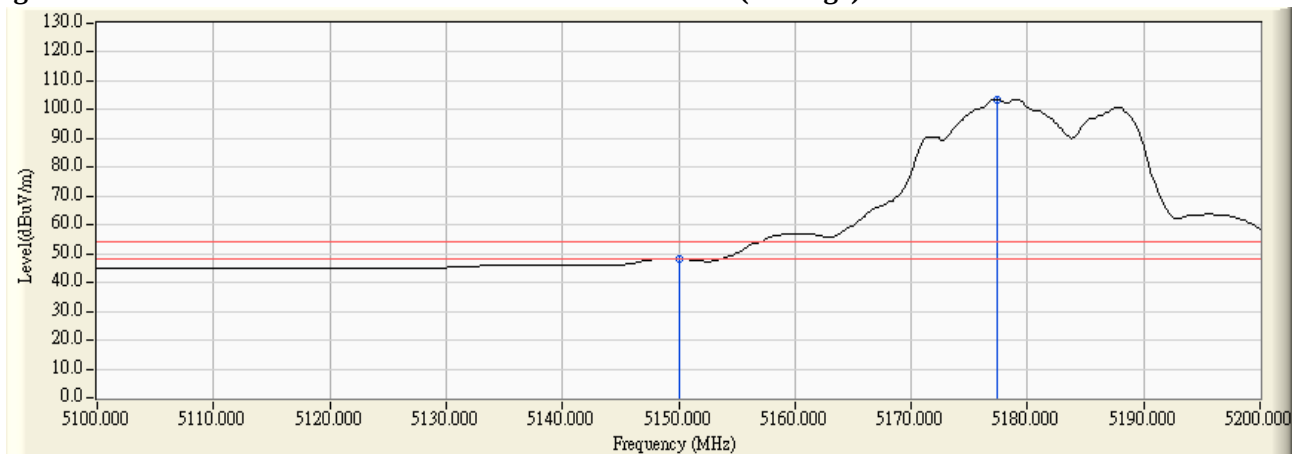


Figure Channel 36:

Horizontal (Average)



Note:

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

Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps) -Channel 36

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
36 (Peak)	5150.000	5.260	62.888	68.148	74.00	54.00	Pass
36 (Peak)	5176.232	5.332	114.407	119.739	--	--	--
36 (Average)	5150.000	5.260	47.125	52.385	74.00	54.00	Pass
36 (Average)	5176.522	5.333	99.829	105.161	--	--	--

Figure Channel 36: Vertical (Peak)

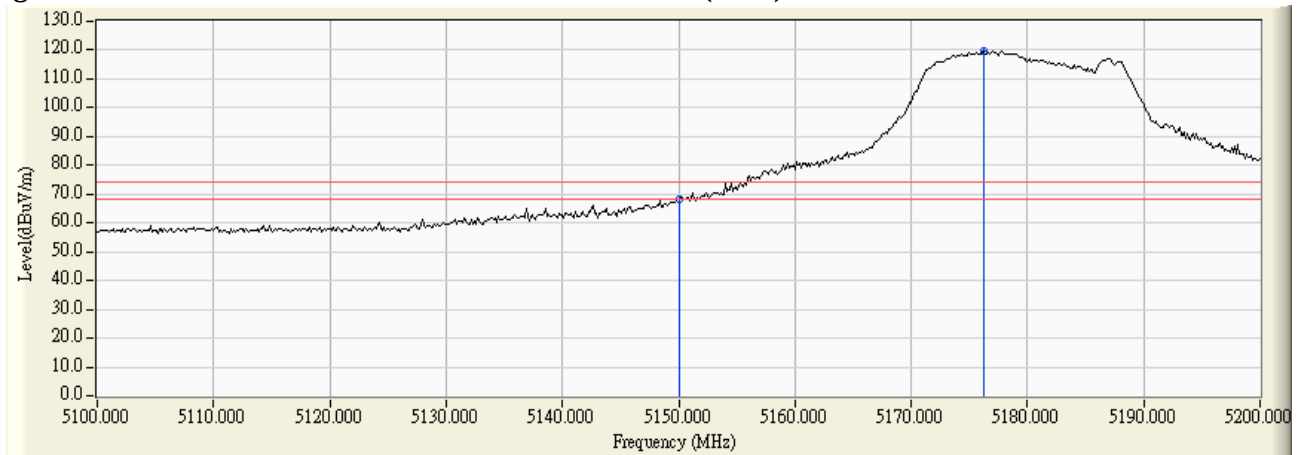
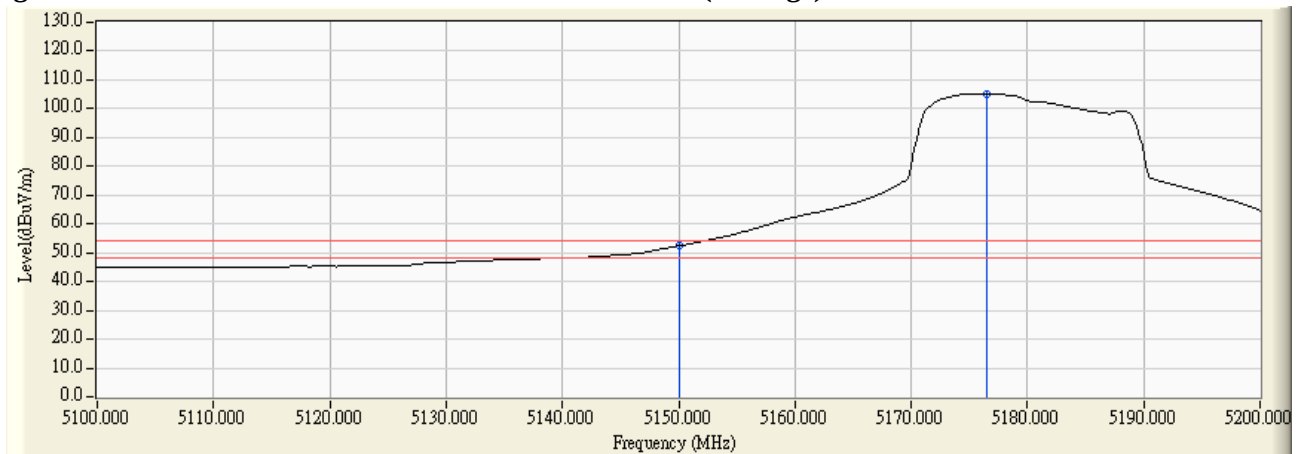


Figure Channel 36: Vertical (Average)



Note:

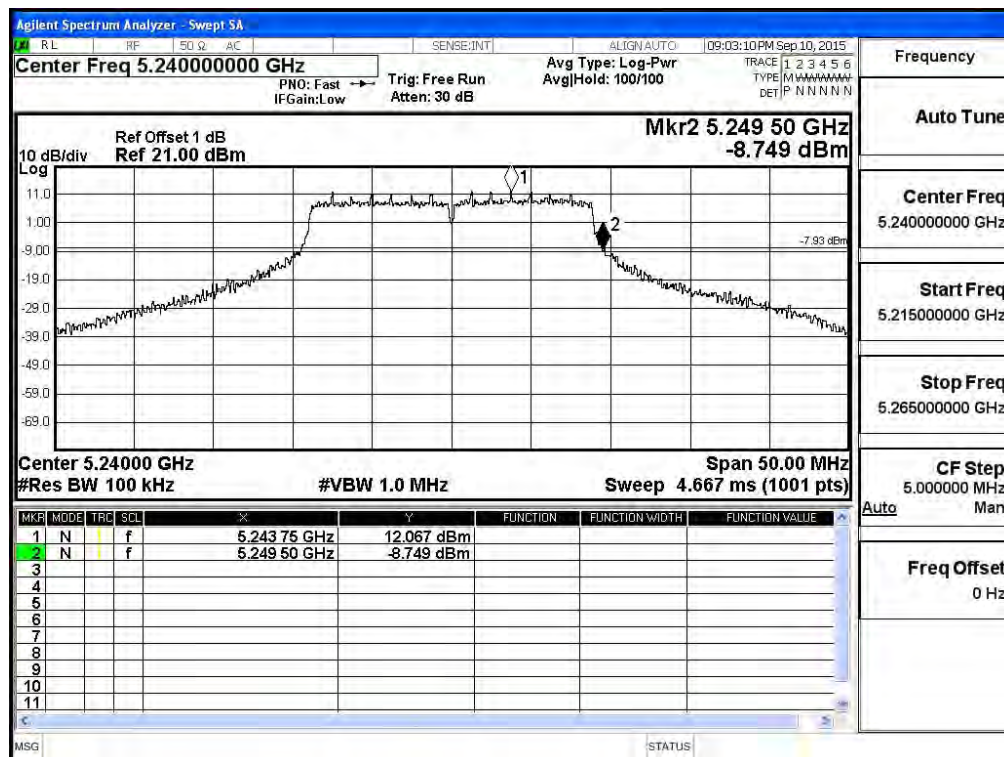
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps) Channel 48

Chain A

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.50	<5250	PASS

NOTE: Accordance with 15.215 requirement.

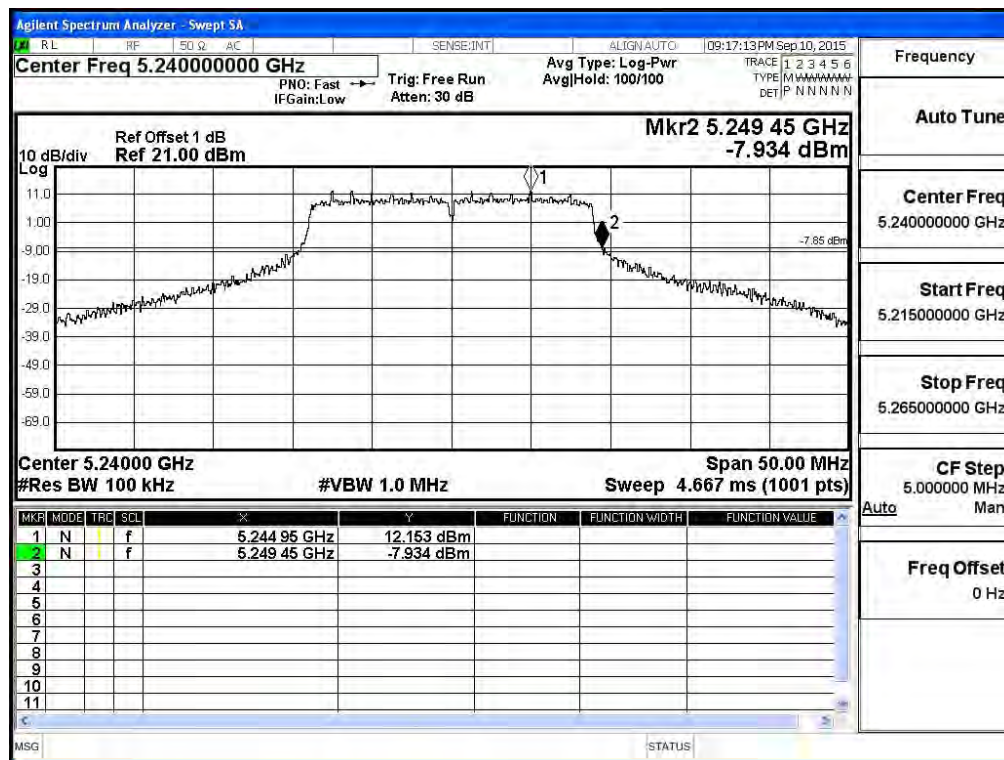


Product : 802.11ac Dual Band Access Point
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps)-Channel 48

Chain B

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.45	<5250	PASS

NOTE: Accordance with 15.215 requirement.

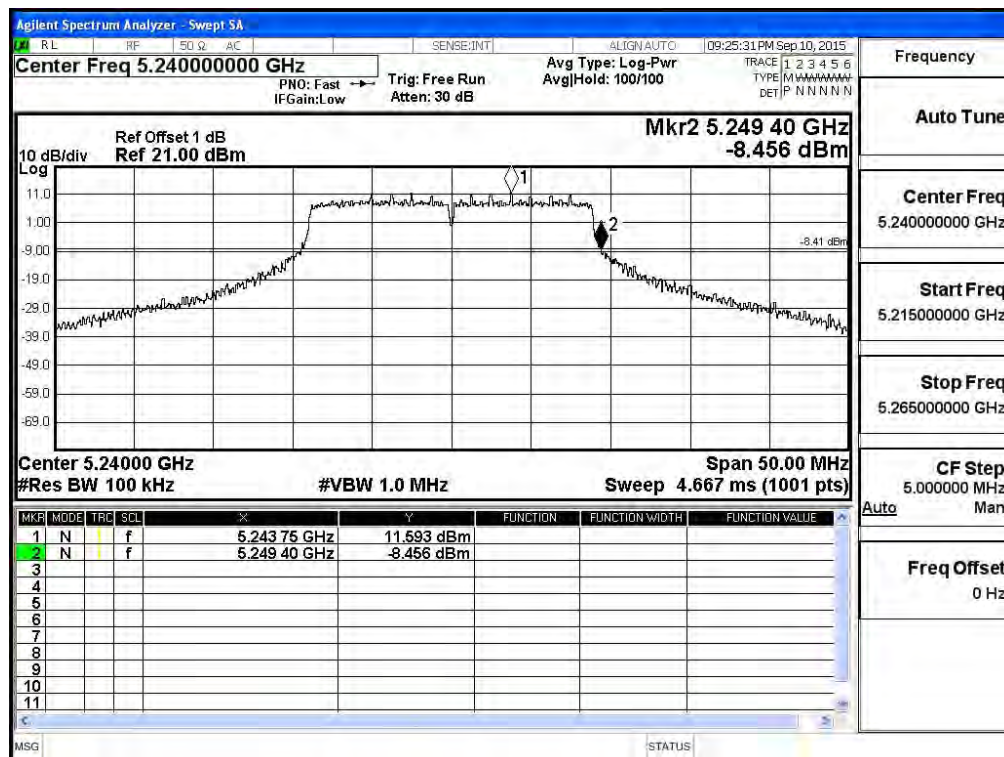


Product : 802.11ac Dual Band Access Point
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps)-Channel 48

Chain C

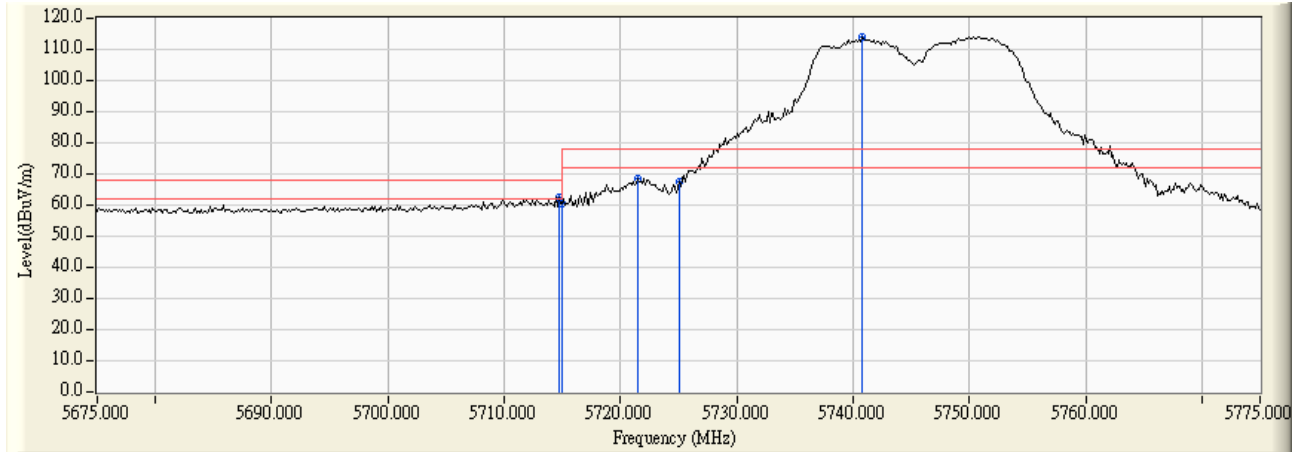
Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.40	<5250	PASS

NOTE: Accordance with 15.215 requirement.

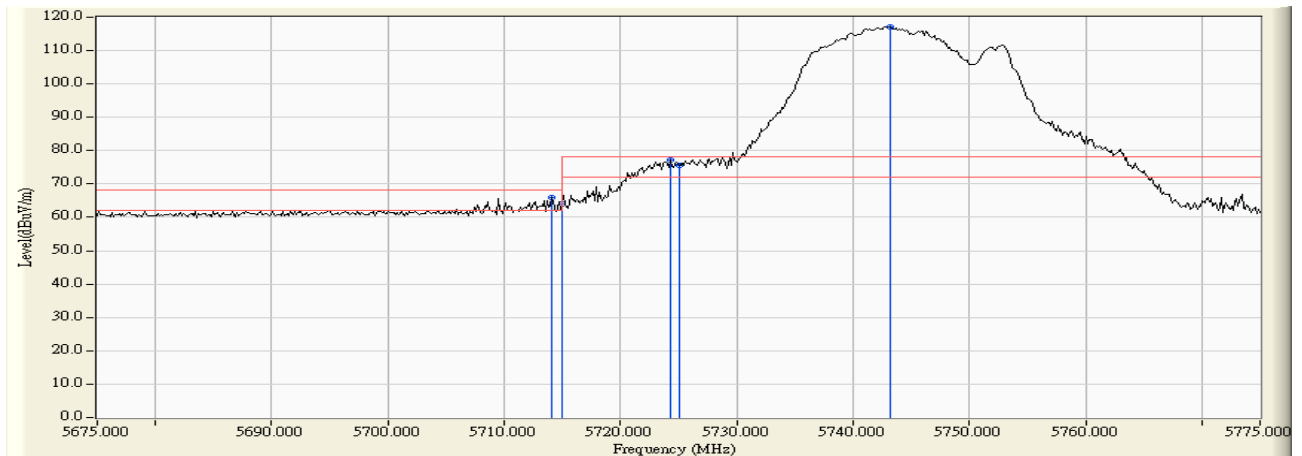


Product : 802.11ac Dual Band Access Point
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps)-Channel 149

RF Radiated Measurement:



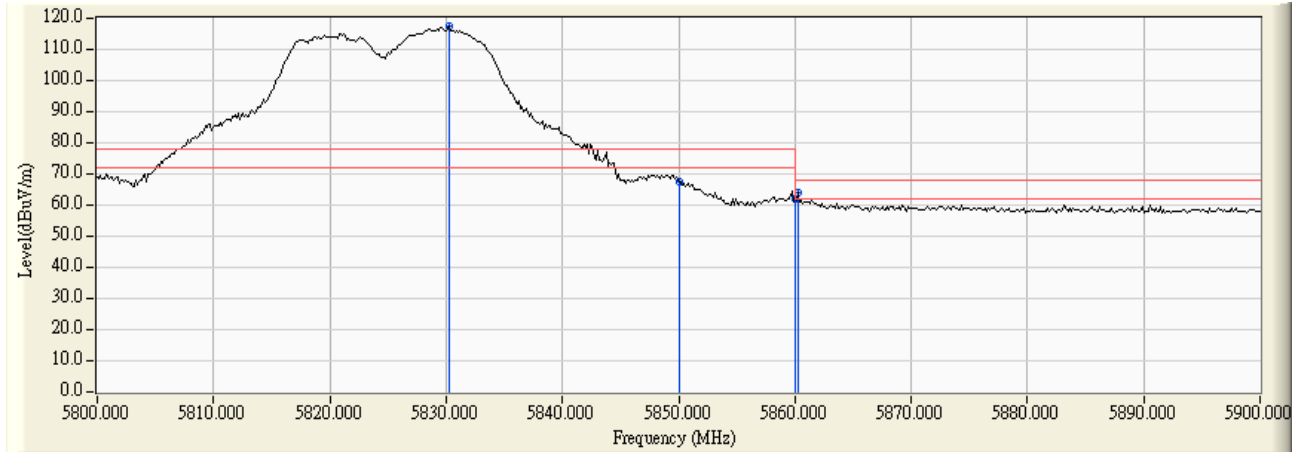
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Horizontal	5714.710	4.652	58.085	62.737	-5.483	68.220	Pass
Horizontal	5715.000	4.652	55.653	60.305	-7.915	68.220	Pass
Horizontal	5721.522	4.653	63.815	68.468	-9.752	78.220	Pass
Horizontal	5725.000	4.654	62.935	67.589	-10.631	78.220	Pass
Horizontal	5740.797	4.656	109.354	114.010	35.790	78.220	Pass



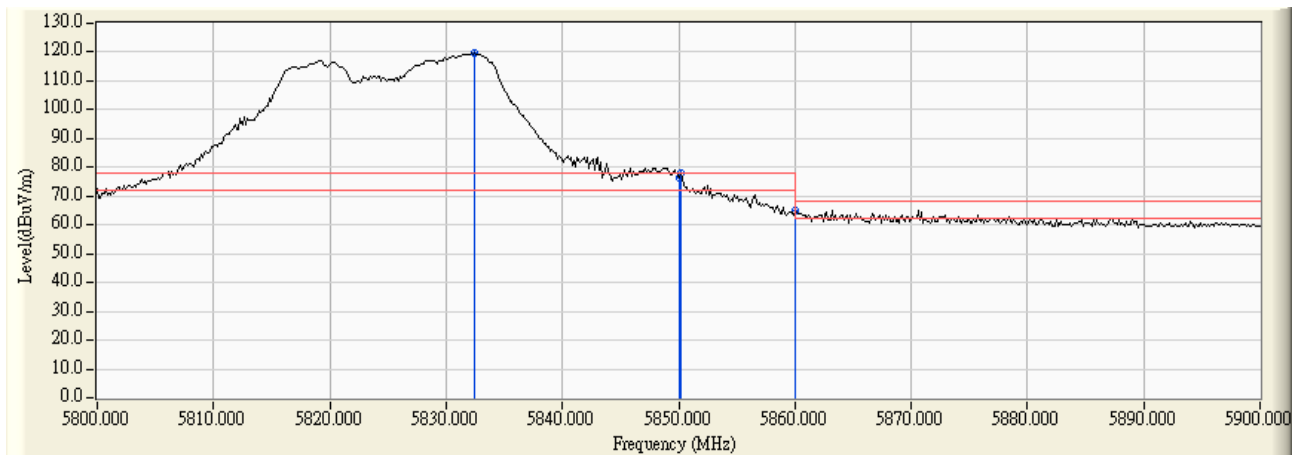
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Vertical	5714.130	5.994	60.008	66.002	-2.218	68.220	Pass
Vertical	5715.000	5.994	57.996	63.990	-4.230	68.220	Pass
Vertical	5724.275	5.993	71.309	77.302	-0.918	78.220	Pass
Vertical	5725.000	5.992	69.721	75.714	-2.506	78.220	Pass
Vertical	5743.261	5.989	111.253	117.242	39.022	78.220	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 21.7Mbps)-Channel 165

RF Radiated Measurement:



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Horizontal	5830.290	4.845	112.438	117.283	39.063	78.220	Pass
Horizontal	5850.000	4.964	62.443	67.407	-10.813	78.220	Pass
Horizontal	5860.000	5.023	56.978	62.001	-6.219	68.220	Pass
Horizontal	5860.290	5.024	58.756	63.780	-4.440	68.220	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Vertical	5832.464	6.016	113.679	119.695	41.475	78.220	Pass
Vertical	5850.000	6.037	70.382	76.419	-1.801	78.220	Pass
Vertical	5850.145	6.037	71.841	77.878	-0.342	78.220	Pass
Vertical	5860.000	6.047	58.942	64.989	-3.231	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 45Mbps)-Channel 38

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
38 (Peak)	5149.200	3.343	63.174	66.517	74.00	54.00	Pass
38 (Peak)	5150.000	3.340	60.679	64.019	74.00	54.00	Pass
38 (Peak)	5198.400	3.159	105.959	109.118	--	--	--
38 (Average)	5150.000	3.340	45.905	49.245	74.00	54.00	Pass
38 (Average)	5198.400	3.159	91.356	94.515	--	--	--

Figure Channel 38:

Horizontal (Peak)

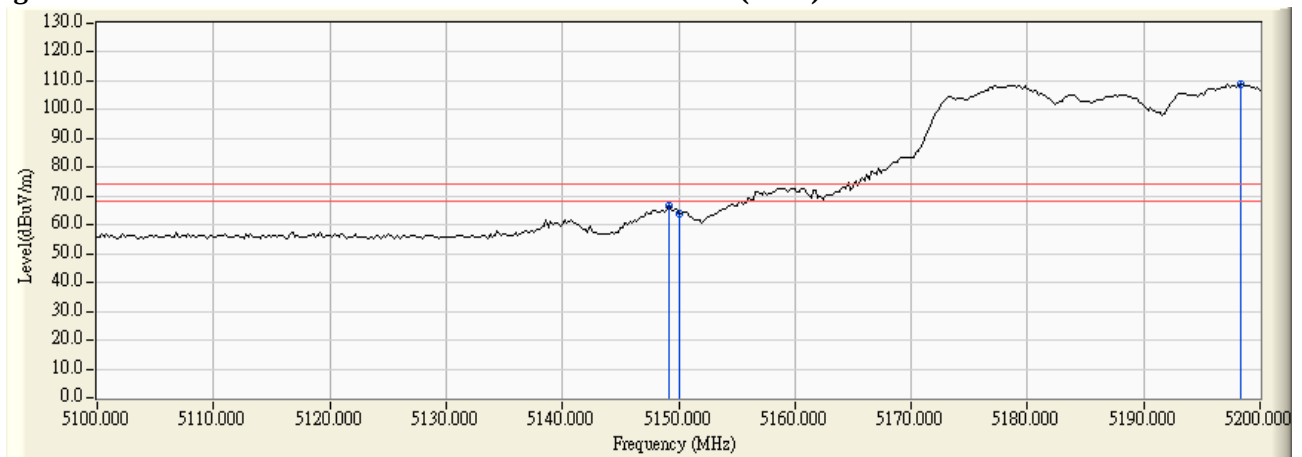
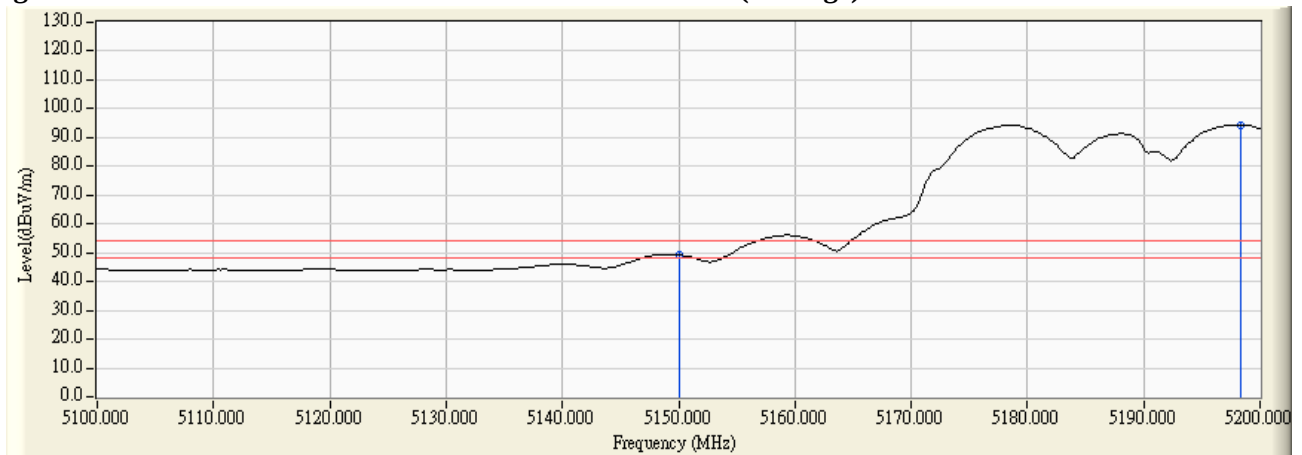


Figure Channel 38:

Horizontal (Average)



Note:

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

Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps)-Channel 38

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
38 (Peak)	5149.855	5.259	64.966	70.226	74.00	54.00	Pass
38 (Peak)	5150.000	5.260	63.466	68.726	74.00	54.00	Pass
38 (Peak)	5194.928	5.375	109.133	114.509	--	--	--
38 (Average)	5150.000	5.260	48.053	53.313	74.00	54.00	Pass
38 (Average)	5195.072	5.376	93.952	99.328	--	--	--

Figure Channel 38: Vertical (Peak)

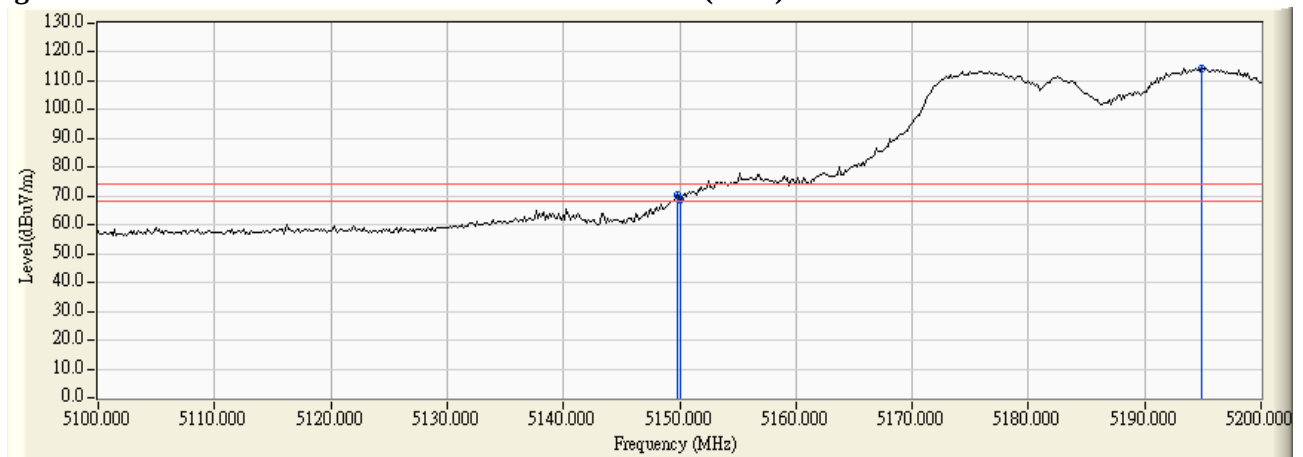
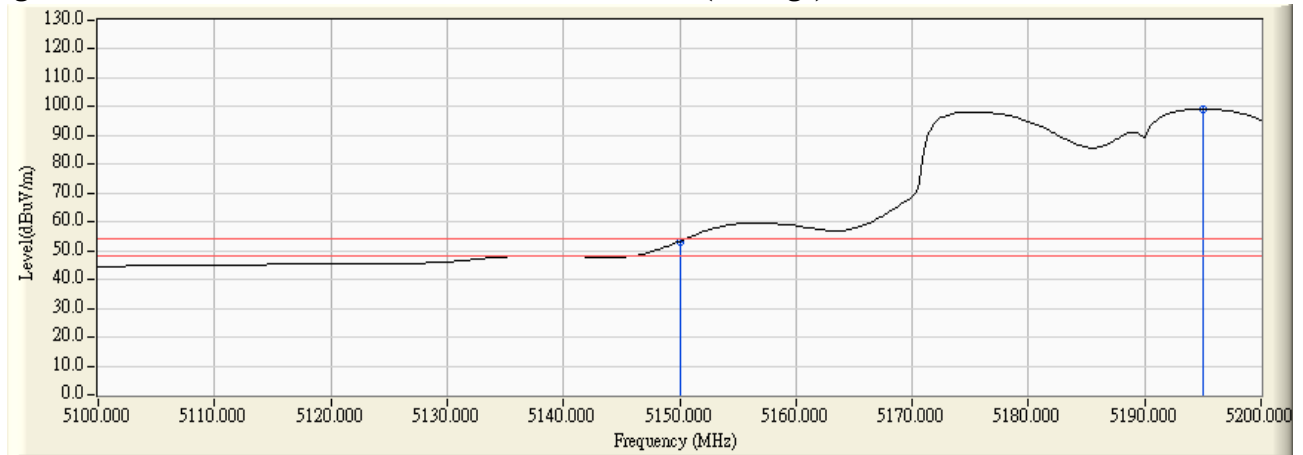


Figure Channel 38: Vertical (Average)



Note:

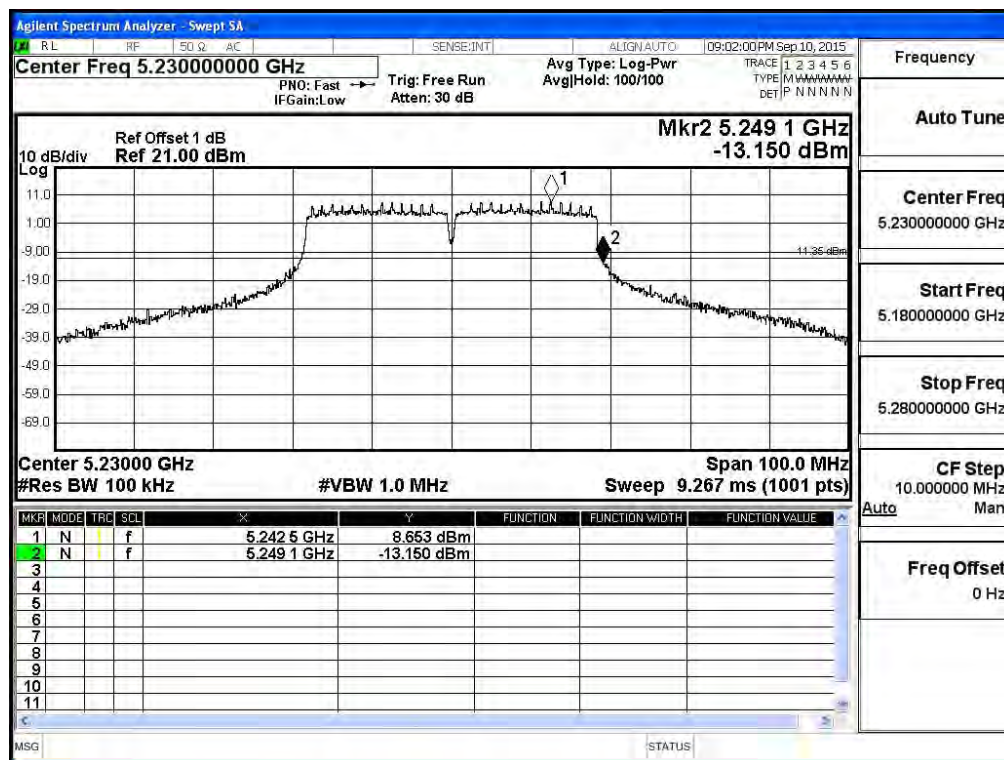
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps)-Channel 46

Chain A

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5230	5249.10	<5250	PASS

NOTE: Accordance with 15.215 requirement.

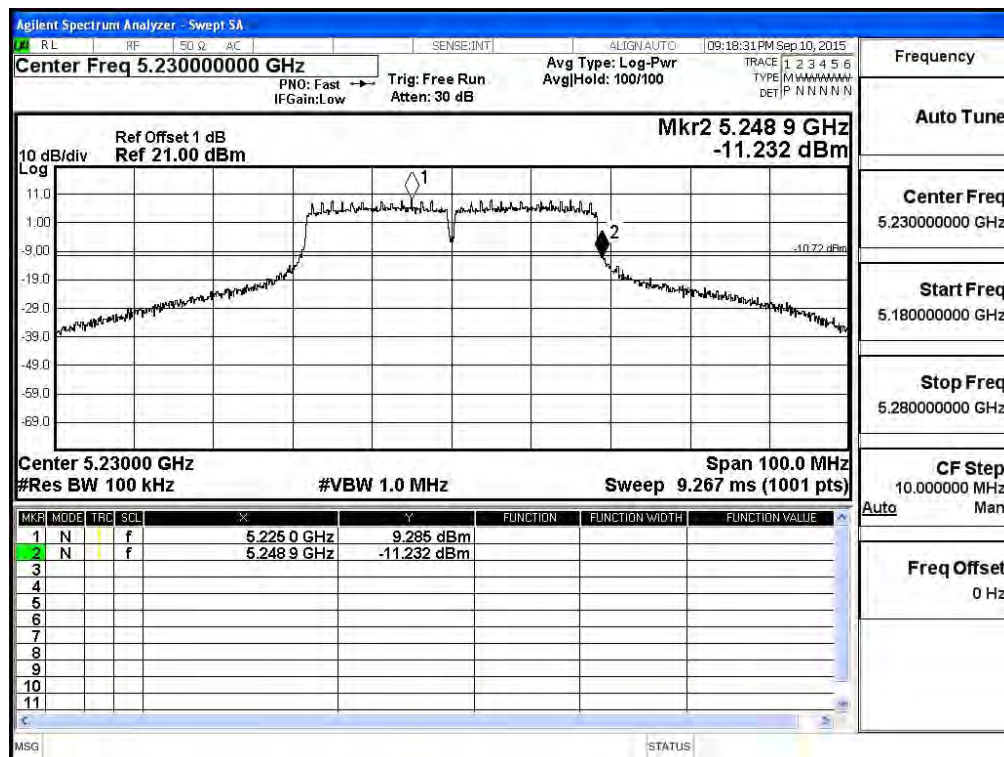


Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps)-Channel 46

Chain B

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5230	5248.90	<5250	PASS

NOTE: Accordance with 15.215 requirement.

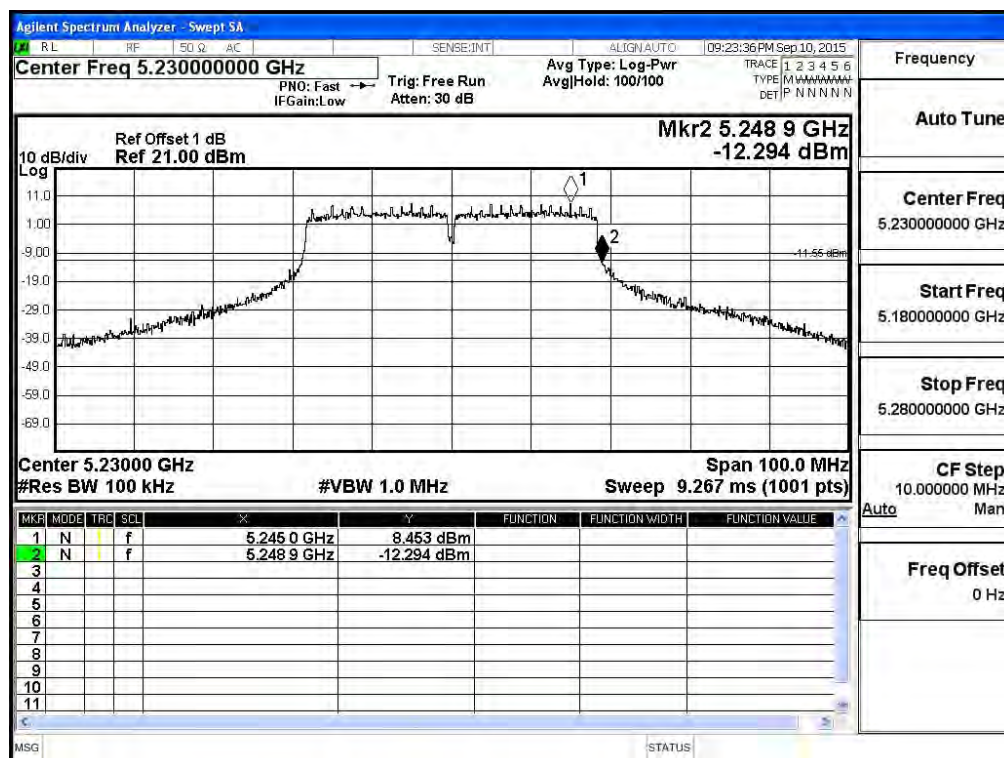


Product : 802.11ac Dual Band Access Point
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps)-Channel 46

Chain C

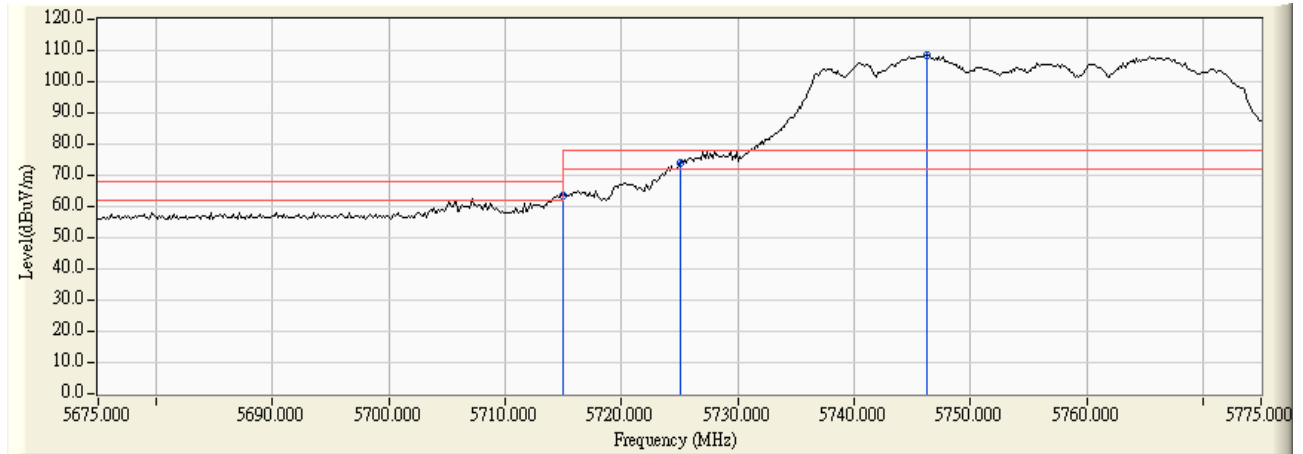
Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5230	5248.90	<5250	PASS

NOTE: Accordance with 15.215 requirement.

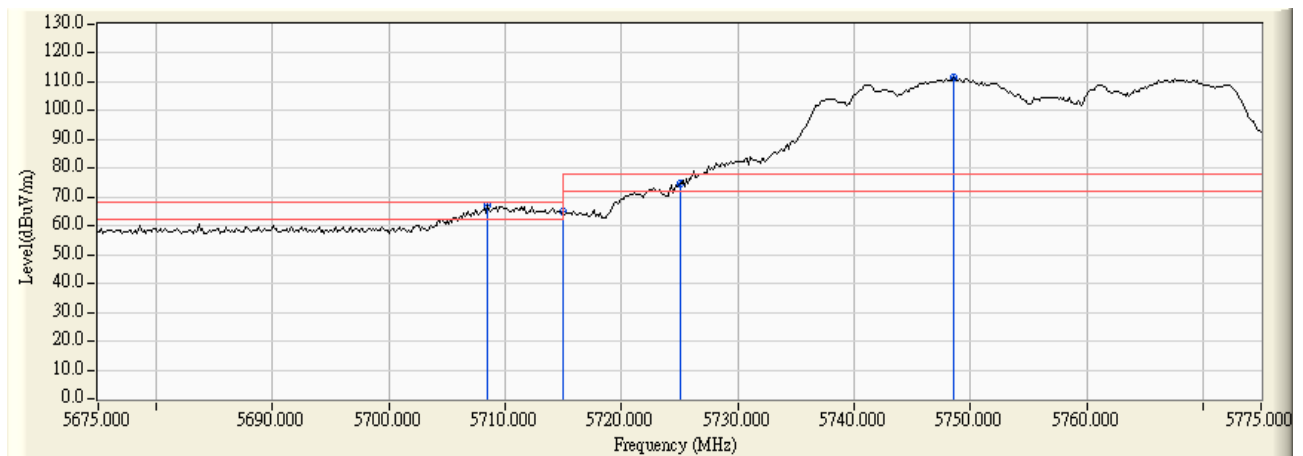


Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps) -Channel 151

RF Radiated Measurement :



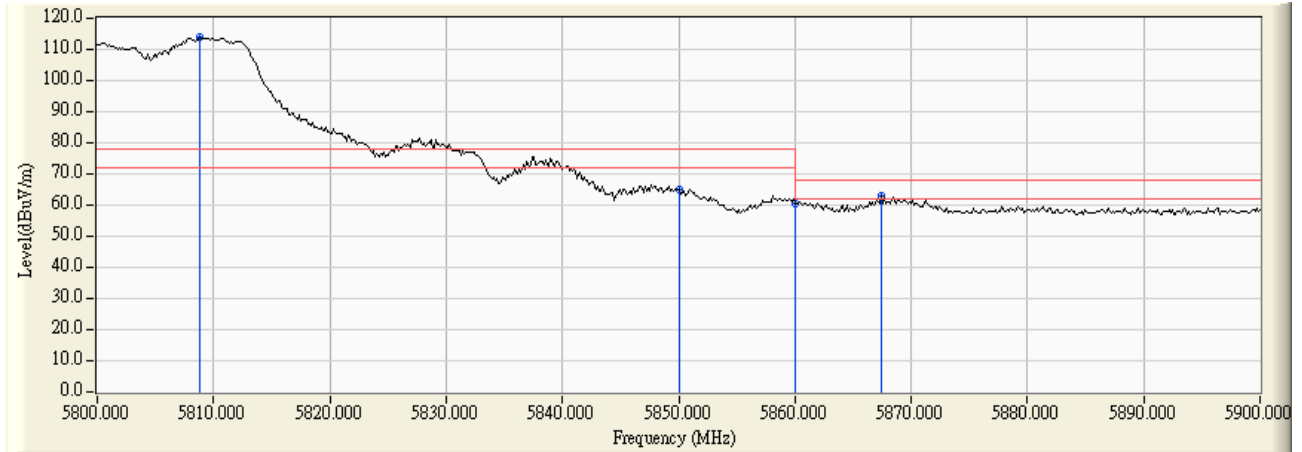
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Horizontal	5715.000	4.652	58.668	63.320	-4.900	68.220	Pass
Horizontal	5725.000	4.654	69.352	74.006	-4.214	78.220	Pass
Horizontal	5746.304	4.656	104.020	108.677	30.457	78.220	Pass



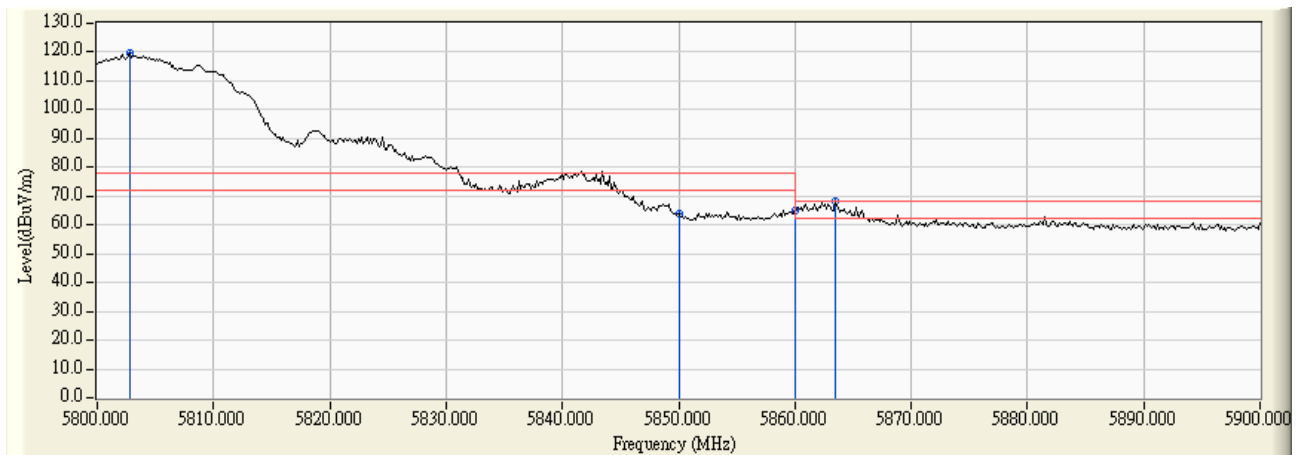
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Vertical	5708.478	5.994	61.183	67.177	-1.043	68.220	Pass
Vertical	5715.000	5.994	58.860	64.854	-3.366	68.220	Pass
Vertical	5725.000	5.992	68.928	74.921	-3.299	78.220	Pass
Vertical	5748.623	5.988	105.352	111.340	33.120	78.220	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 45Mbps)-Channel 159

RF Radiated Measurement:



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Horizontal	5808.841	4.723	109.460	114.183	35.963	78.220	Pass
Horizontal	5850.000	4.964	60.217	65.181	-13.039	78.220	Pass
Horizontal	5860.000	5.023	55.232	60.255	-7.965	68.220	Pass
Horizontal	5867.391	5.066	57.810	62.876	-5.344	68.220	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Vertical	5802.754	5.982	113.966	119.948	41.728	78.220	Pass
Vertical	5850.000	6.037	57.729	63.766	-14.454	78.220	Pass
Vertical	5860.000	6.047	58.941	64.988	-3.232	68.220	Pass
Vertical	5863.478	6.051	62.076	68.127	-0.093	68.220	Pass

Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11ac-80BW-97.5Mbps)-Channel 42

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
42 (Peak)	5149.400	3.342	64.076	67.419	74.00	54.00	Pass
42 (Peak)	5150.000	3.340	63.544	66.884	74.00	54.00	Pass
42 (Peak)	5199.000	3.156	101.702	104.858	--	--	--
42 (Average)	5150.000	3.340	46.530	49.870	74.00	54.00	Pass
42 (Average)	5188.200	3.204	82.885	86.090	--	--	--

Figure Channel 42: Horizontal (Peak)

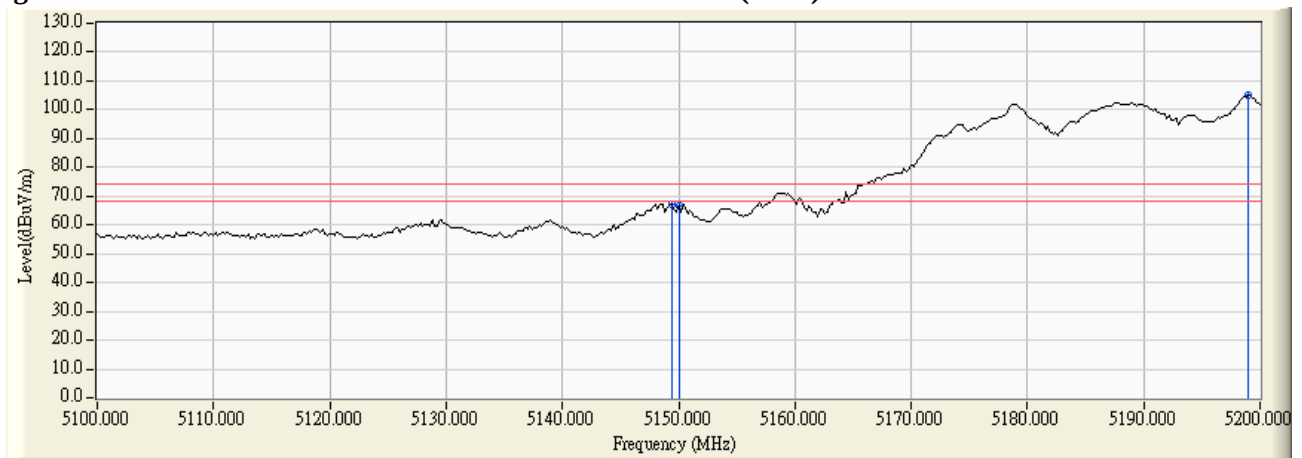
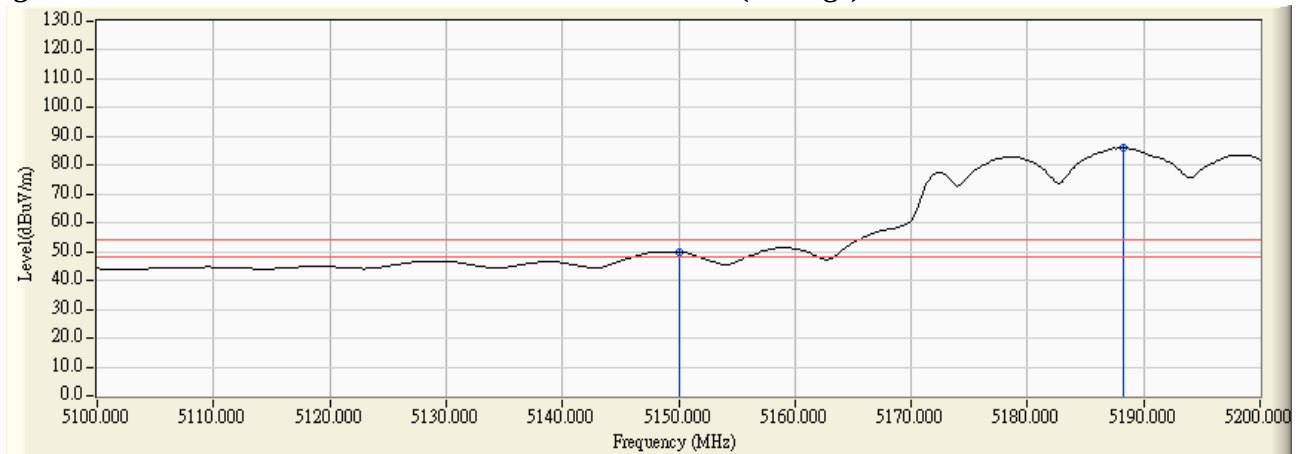


Figure Channel 42: Horizontal (Average)



Note:

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

Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11ac-80BW-97.5Mbps) -Channel 42

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
42 (Peak)	5150.000	5.260	66.350	71.610	74.00	54.00	Pass
42 (Peak)	5198.841	5.382	102.789	108.172	--	--	--
42 (Average)	5150.000	5.260	47.777	53.037	74.00	54.00	Pass
42 (Average)	5187.971	5.363	82.902	88.265	--	--	--

Figure Channel 42: Vertical (Peak)

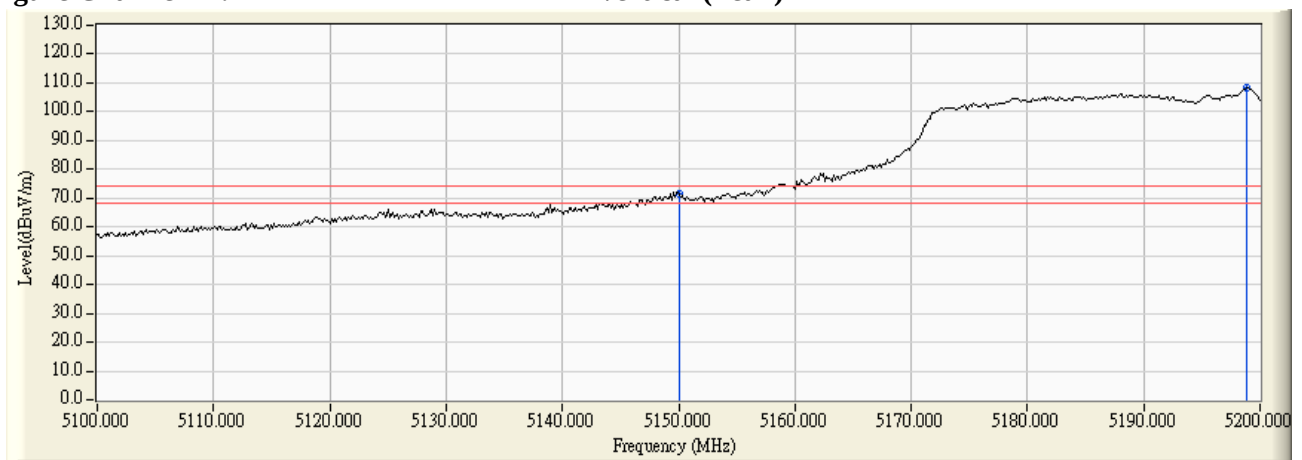
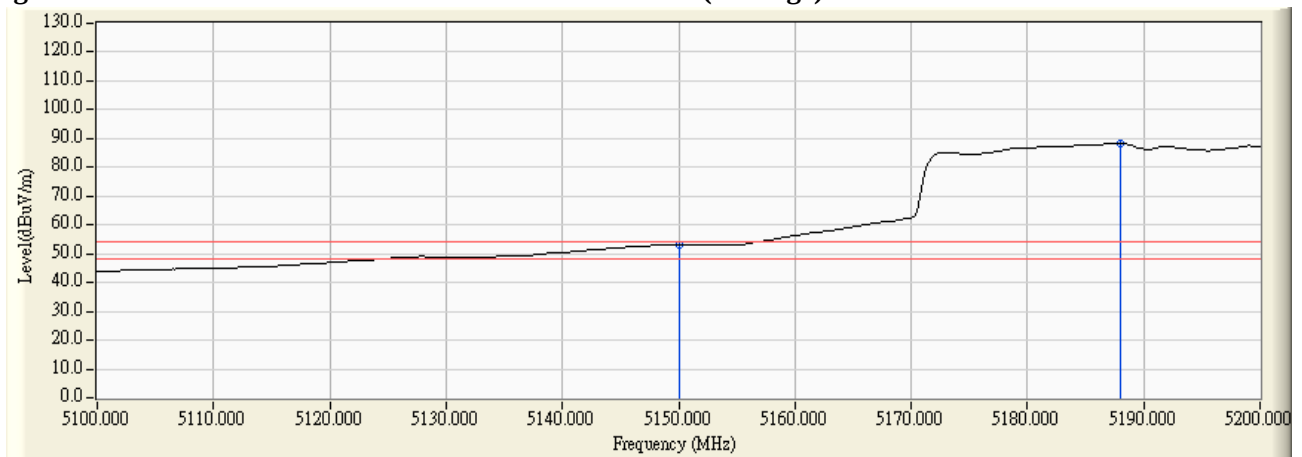


Figure Channel 42: Vertical (Average)



Note:

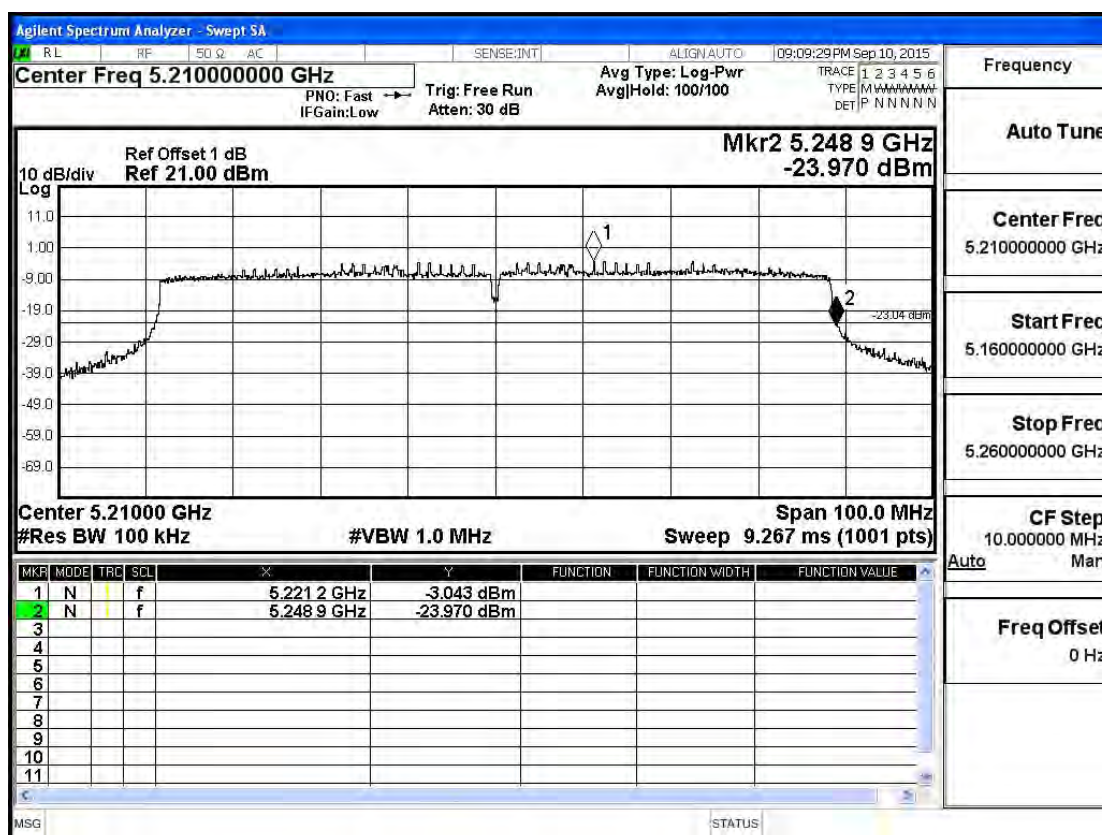
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading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

Product : 802.11ac Dual Band Access Point
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 4: Transmit (802.11ac-80BW-97.5Mbps) -Channel 42

Chain A

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5210	5248.90	<5250	PASS

NOTE: Accordance with 15.215 requirement.

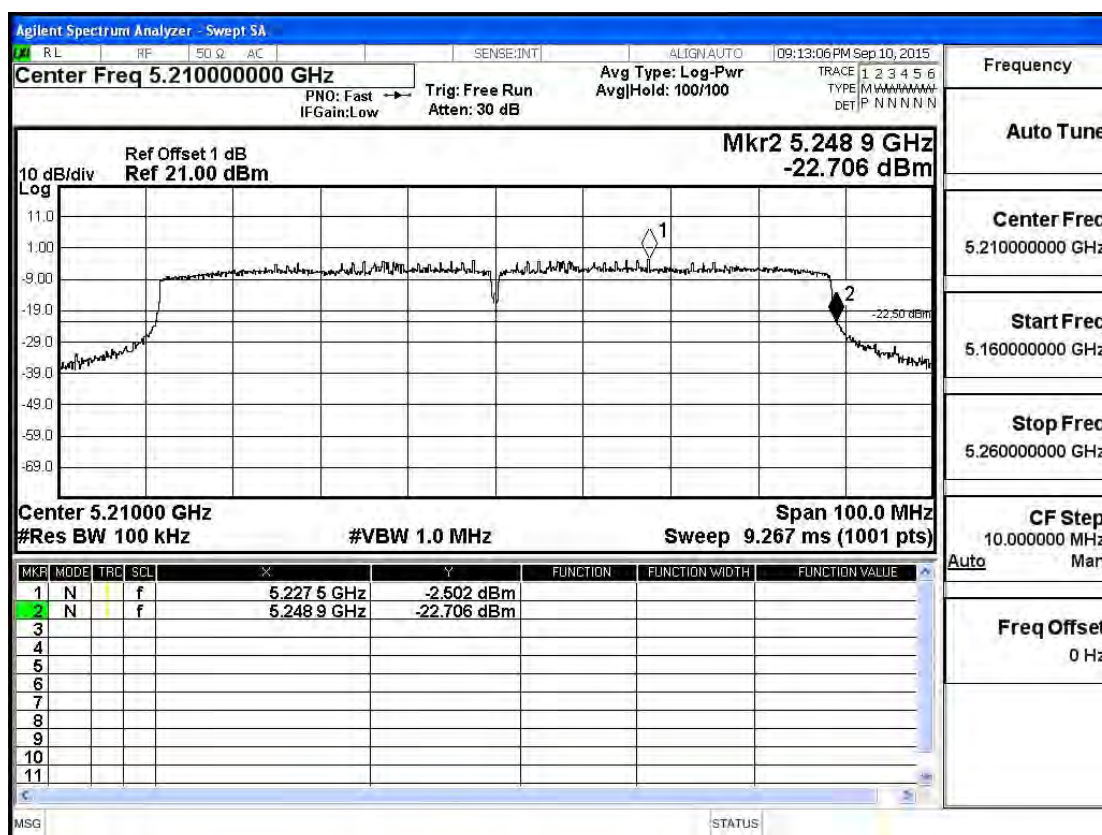


Product : 802.11ac Dual Band Access Point
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 4: Transmit (802.11ac-80BW-97.5Mbps)-Channel 42

Chain B

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5210	5248.90	<5250	PASS

NOTE: Accordance with 15.215 requirement.

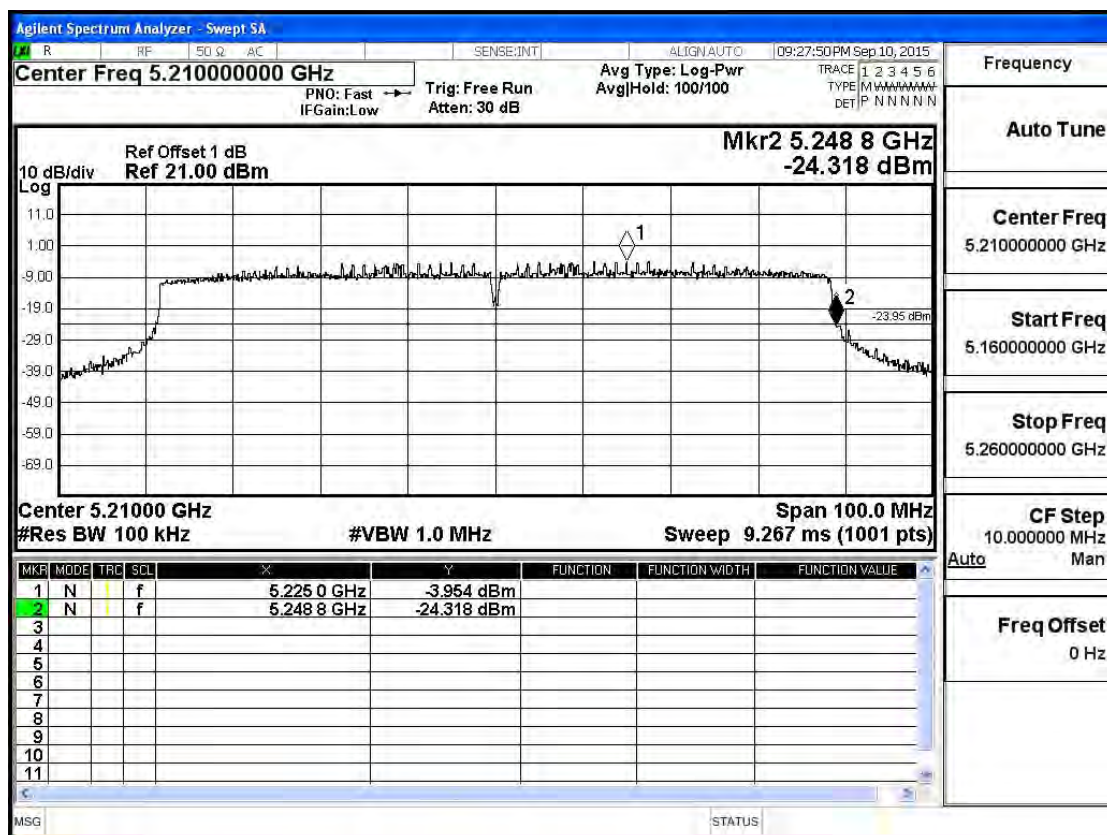


Product : 802.11ac Dual Band Access Point
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 4: Transmit (802.11ac-80BW-97.5Mbps)-Channel 42

Chain C

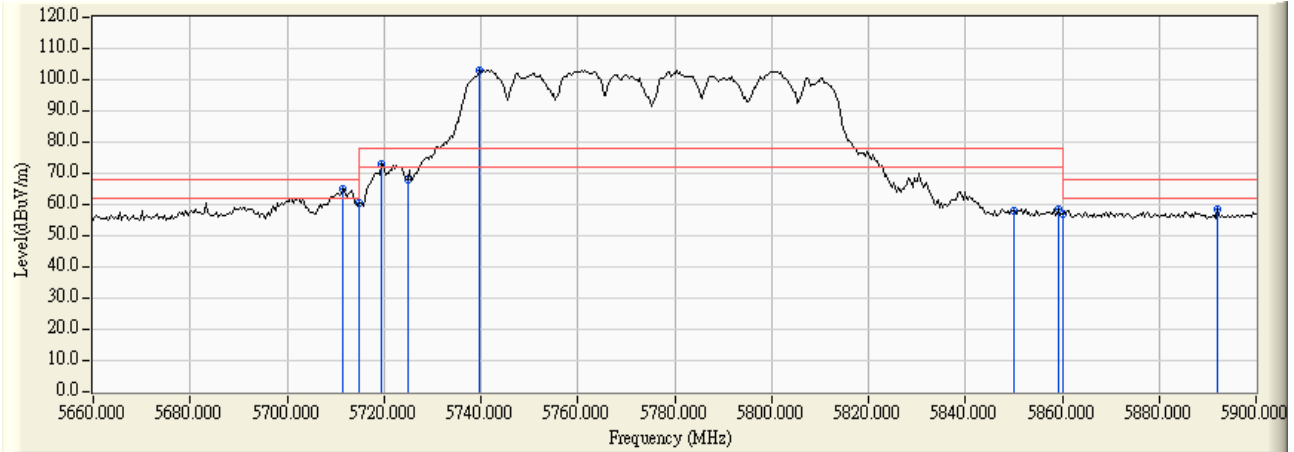
Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5210	5248.80	<5250	PASS

NOTE: Accordance with 15.215 requirement.

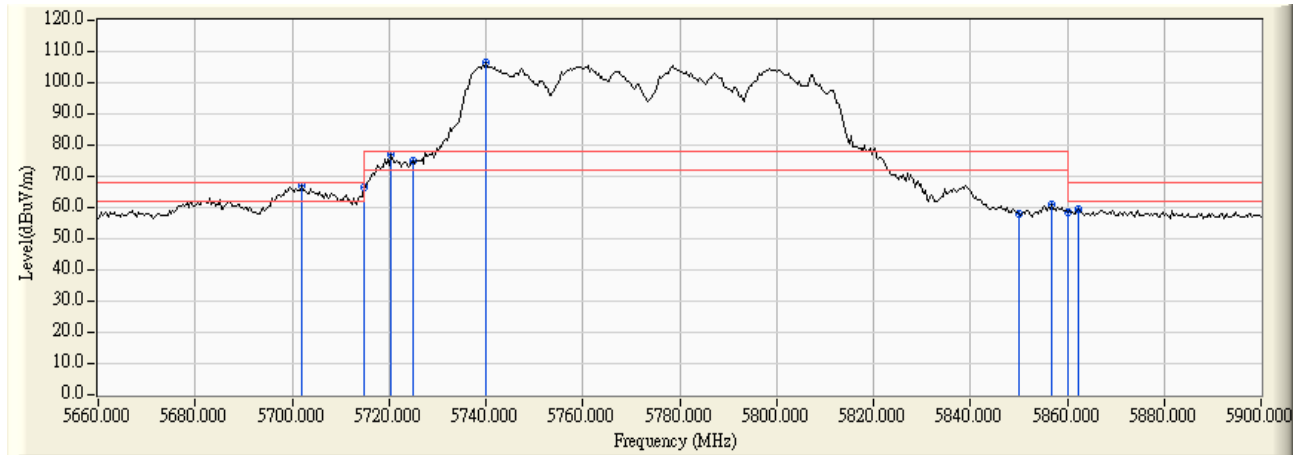


Product : 802.11ac Dual Band Access Point
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11ac-80BW-97.5Mbps)-Channel 155

RF Radiated Measurement:



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Horizontal	5711.478	4.651	60.227	64.878	-3.342	68.220	Pass
Horizontal	5715.000	4.652	55.931	60.583	-7.637	68.220	Pass
Horizontal	5719.478	4.653	68.256	72.909	-5.311	78.220	Pass
Horizontal	5725.000	4.654	63.398	68.052	-10.168	78.220	Pass
Horizontal	5739.652	4.657	98.539	103.195	24.975	78.220	Pass
Horizontal	5850.000	4.964	53.147	58.111	-20.109	78.220	Pass
Horizontal	5859.304	5.018	53.676	58.695	-19.525	78.220	Pass
Horizontal	5860.000	5.023	52.124	57.147	-11.073	68.220	Pass
Horizontal	5892.000	5.216	53.206	58.422	-9.798	68.220	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Vertical	5702.087	5.985	60.953	66.938	-1.282	68.220	Pass
Vertical	5715.000	5.994	60.540	66.534	-1.686	68.220	Pass
Vertical	5720.522	5.994	70.804	76.797	-1.423	78.220	Pass
Vertical	5725.000	5.992	69.152	75.145	-3.075	78.220	Pass
Vertical	5740.000	5.990	100.580	106.570	28.350	78.220	Pass
Vertical	5850.000	6.037	51.761	57.798	-20.422	78.220	Pass
Vertical	5856.870	6.043	54.832	60.876	-17.344	78.220	Pass
Vertical	5860.000	6.047	52.477	58.524	-9.696	68.220	Pass
Vertical	5862.435	6.050	53.586	59.636	-8.584	68.220	Pass

7. Occupied Bandwidth

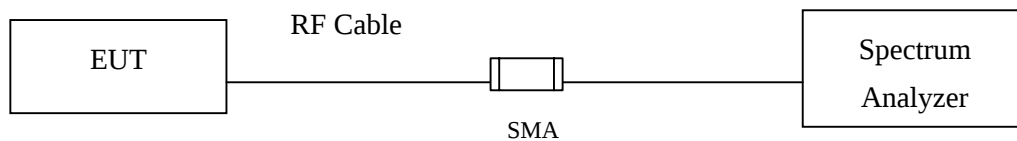
7.1. Test Equipment

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

Note:

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

7.2. Test Setup



7.3. Limits

For the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz

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

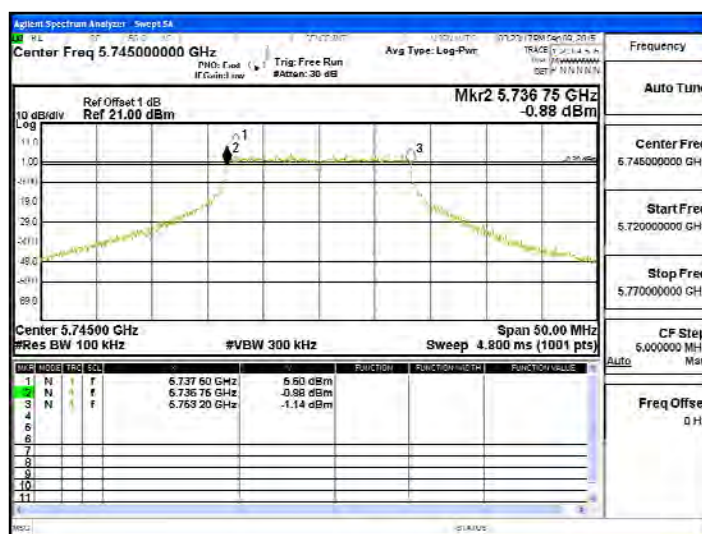
$\pm 150\text{Hz}$

7.6. Test Result of Occupied Bandwidth

Product : 802.11ac Dual Band Access Point
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5745MHz)

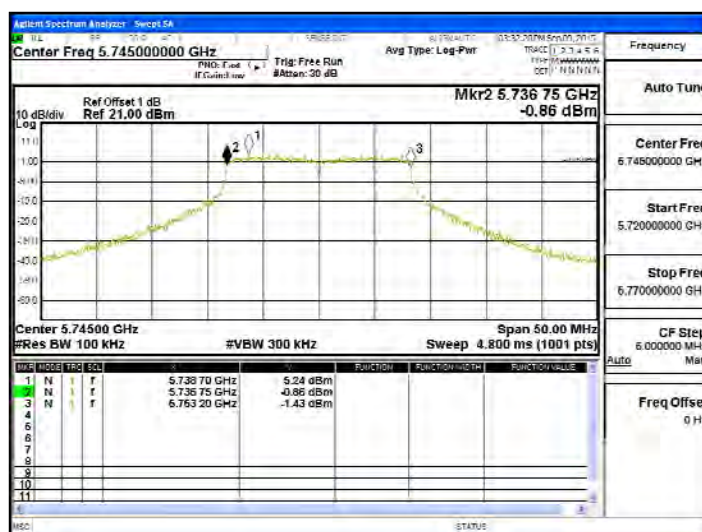
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745.00	16450	>500	Pass

Figure Channel 149 – Chin A



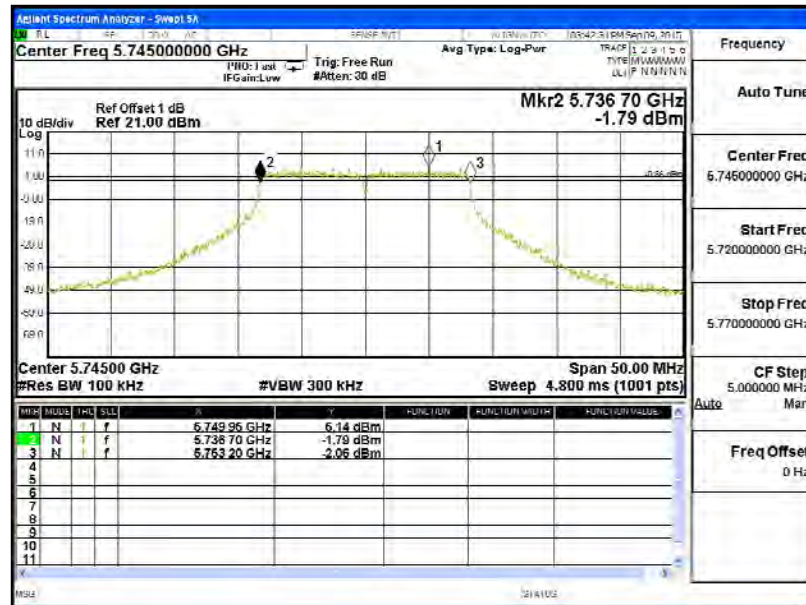
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745.00	16450	>500	Pass

Figure Channel 149 – Chin B



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745.00	16500	>500	Pass

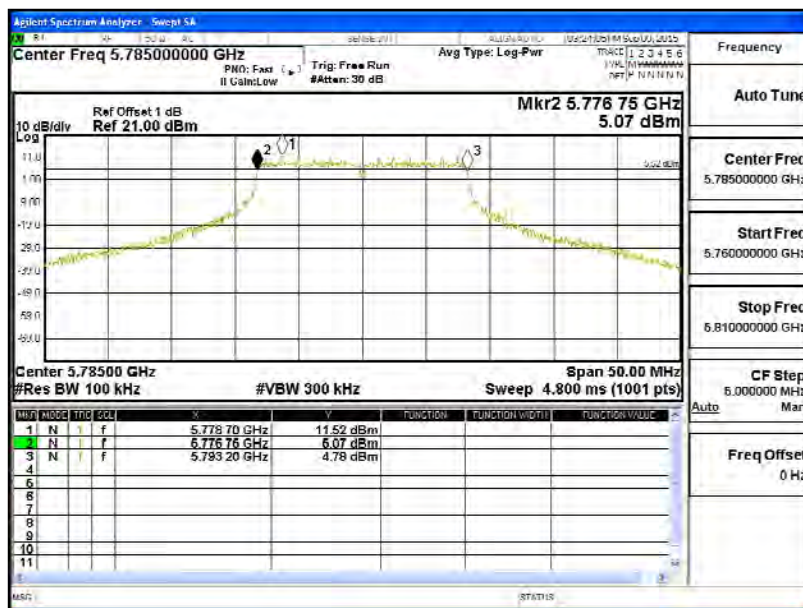
Figure Channel 149 – Chin C



Product : 802.11ac Dual Band Access Point
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5785MHz)

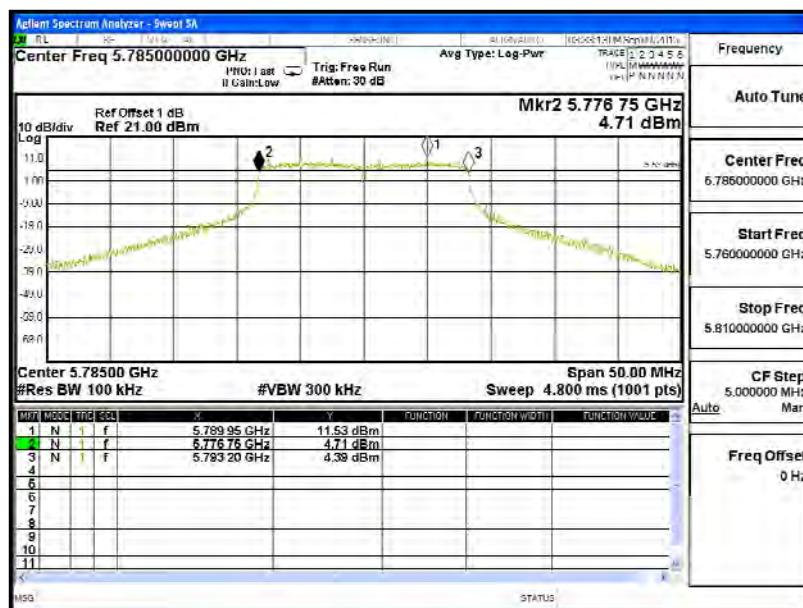
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
157	5785.00	16450	>500	Pass

Figure Channel 157 – Chin A



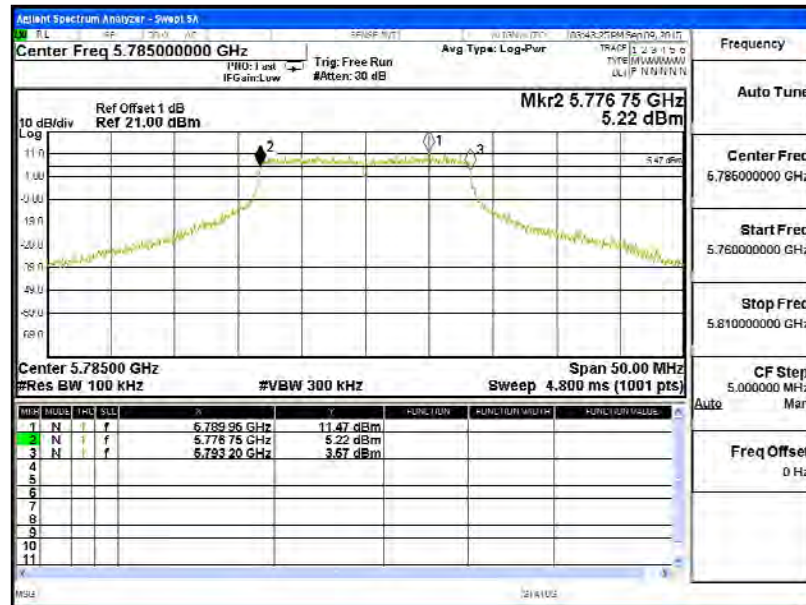
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
157	5785.00	16450	>500	Pass

Figure Channel 157 – Chin B



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
157	5785.00	16450	>500	Pass

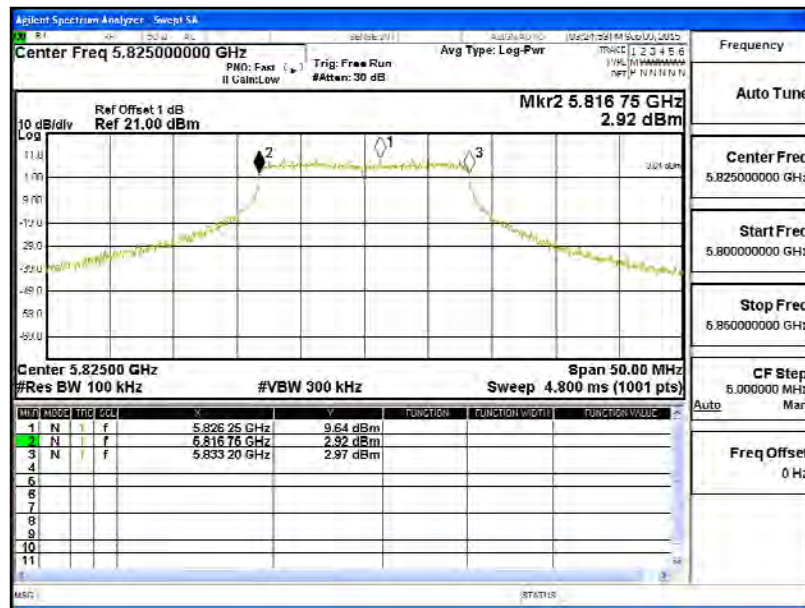
Figure Channel 157 – Chin C



Product : 802.11ac Dual Band Access Point
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5825MHz)

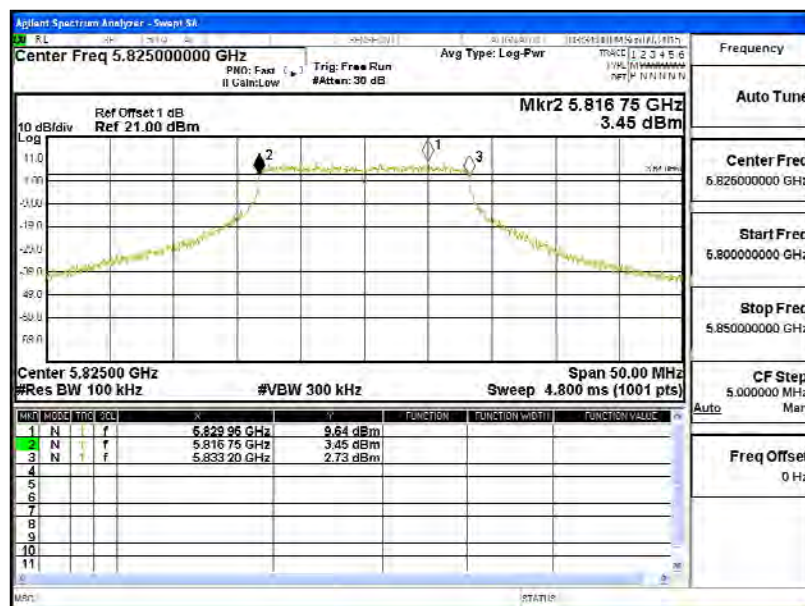
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
165	5825.00	16450	>500	Pass

Figure Channel 165 – Chin A



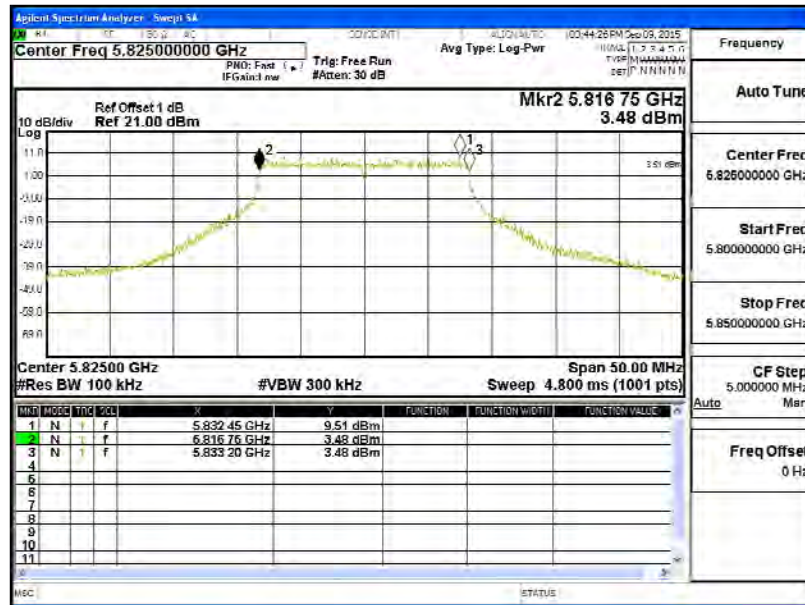
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
165	5825.00	16450	>500	Pass

Figure Channel 165 – Chin B



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
165	5825.00	16450	>500	Pass

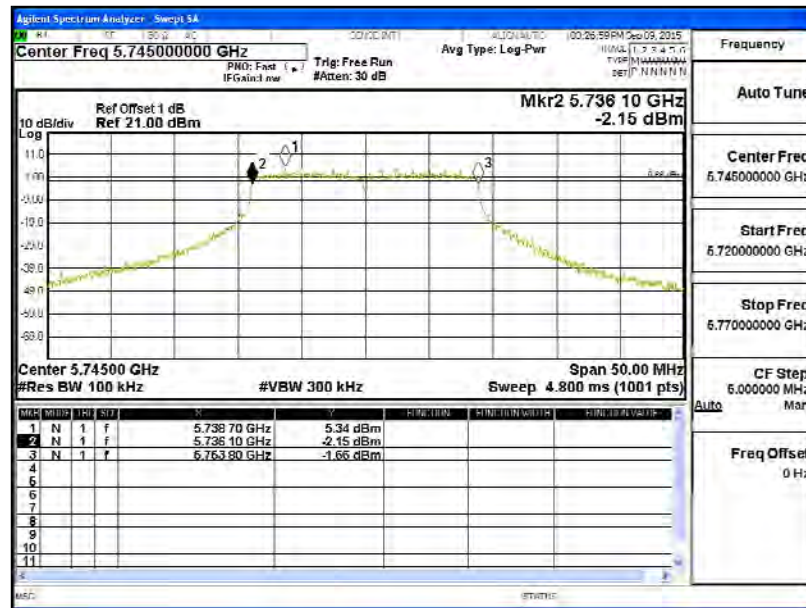
Figure Channel 165 – Chin C



Product : 802.11ac Dual Band Access Point
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps) (5745MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745.00	17700	>500	Pass

Figure Channel 149 - Chain A



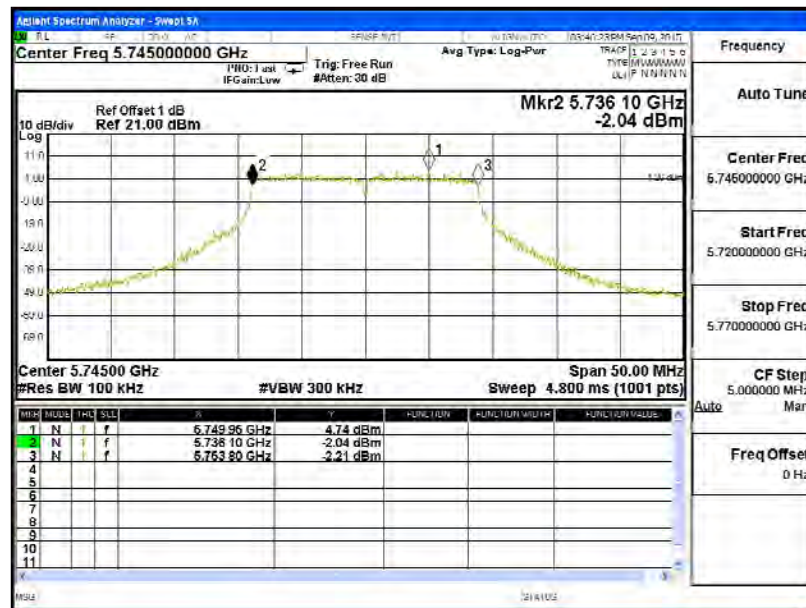
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745.00	17700	>500	Pass

Figure Channel 149 - Chain B



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745.00	17700	>500	Pass

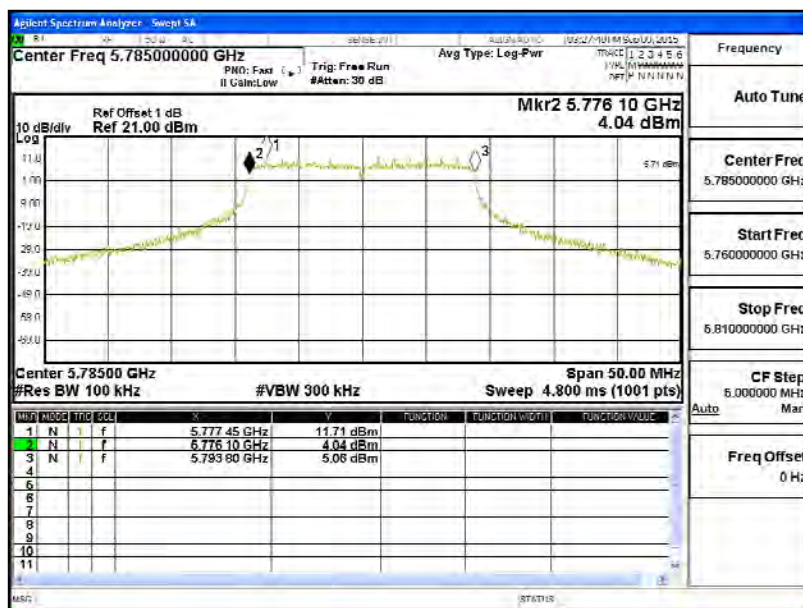
Figure Channel 149 - Chain C



Product : 802.11ac Dual Band Access Point
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps) (5785MHz)

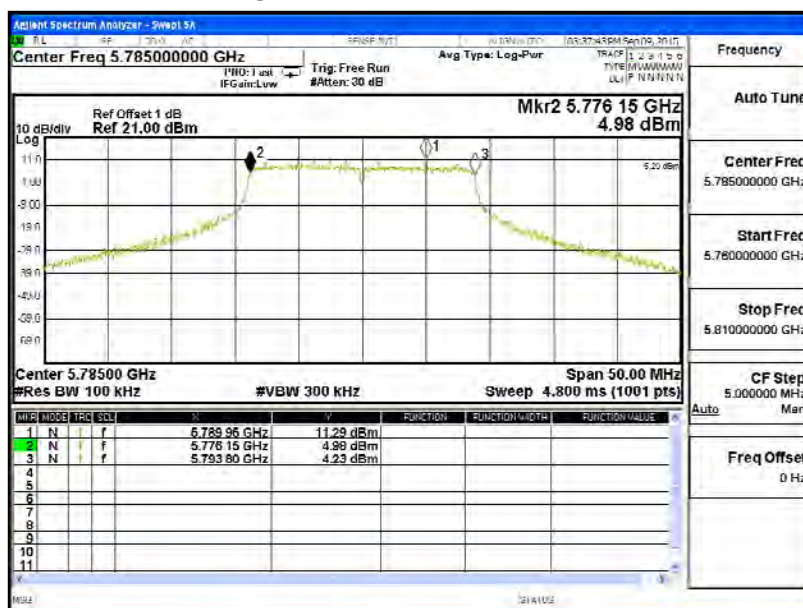
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
157	5785.00	17700	>500	Pass

Figure Channel 157 - Chain A



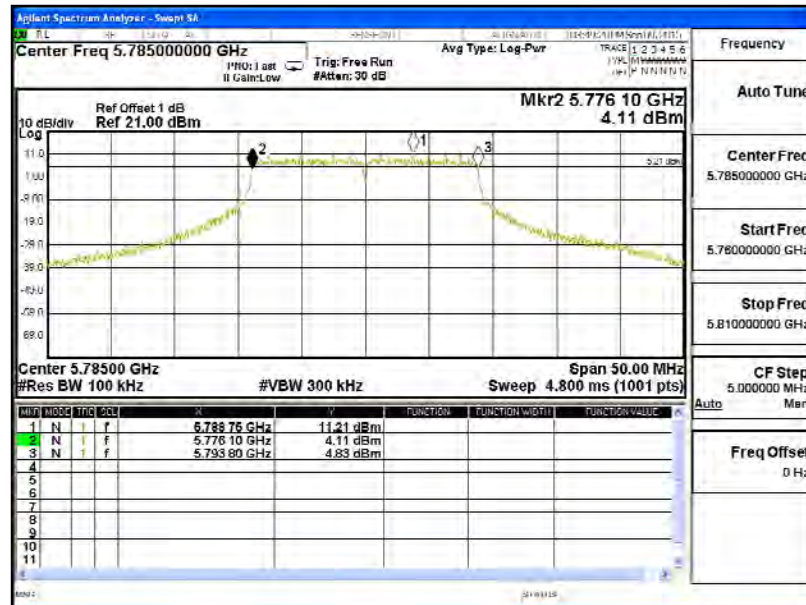
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
157	5785.00	17650	>500	Pass

Figure Channel 157- Chain B



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
157	5785.00	17700	>500	Pass

Figure Channel 157- Chain C



Product : 802.11ac Dual Band Access Point
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps) (5825MHz)

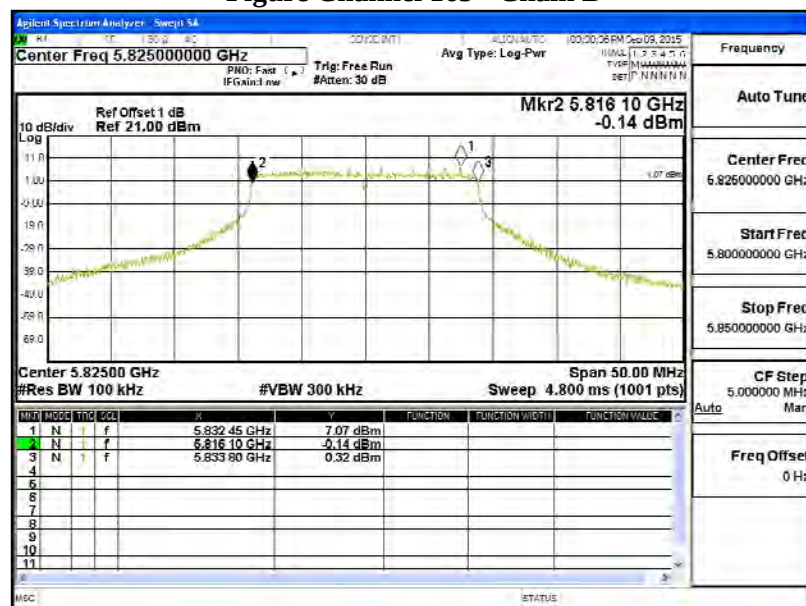
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
165	5825.00	17700	>500	Pass

Figure Channel 165 - Chain A



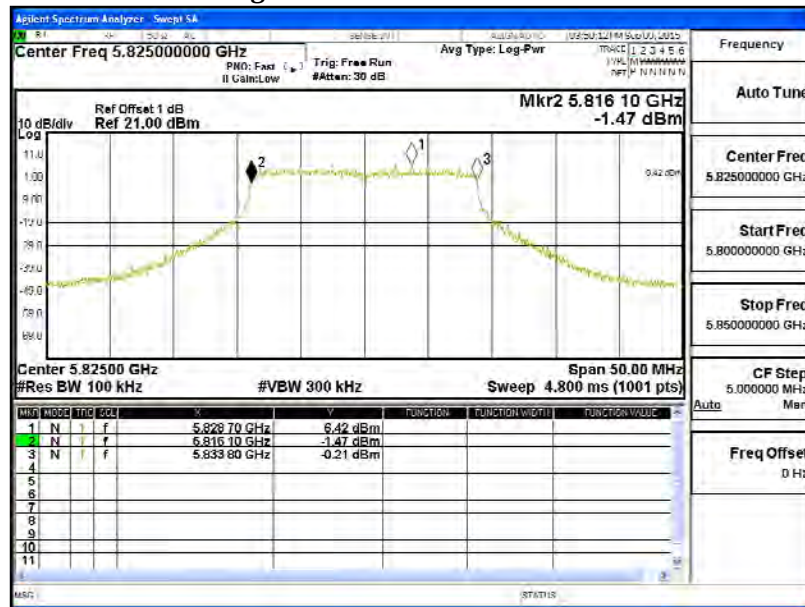
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
165	5825.00	17700	>500	Pass

Figure Channel 165 - Chain B



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
165	5825.00	17700	>500	Pass

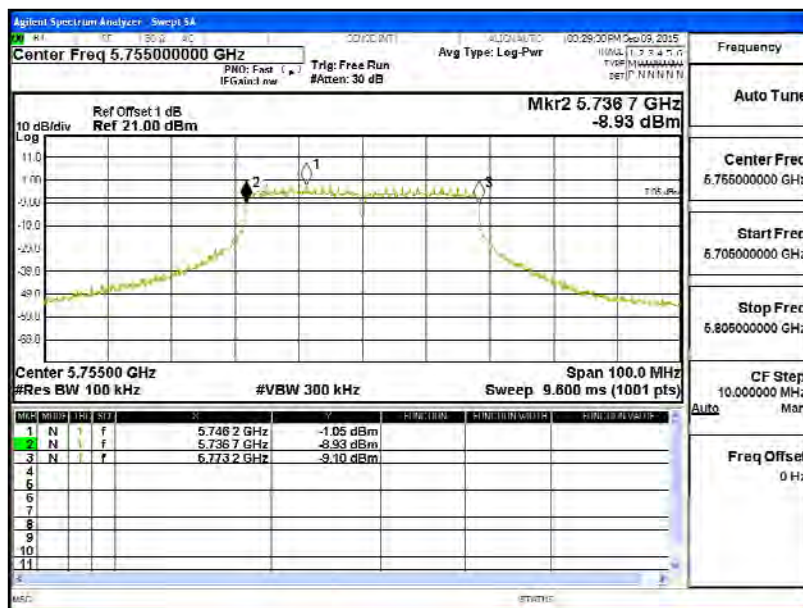
Figure Channel 165 - Chain C



Product : 802.11ac Dual Band Access Point
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps) (5755MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
151	5755.00	36500	>500	Pass

Figure Channel 151 - Chain A



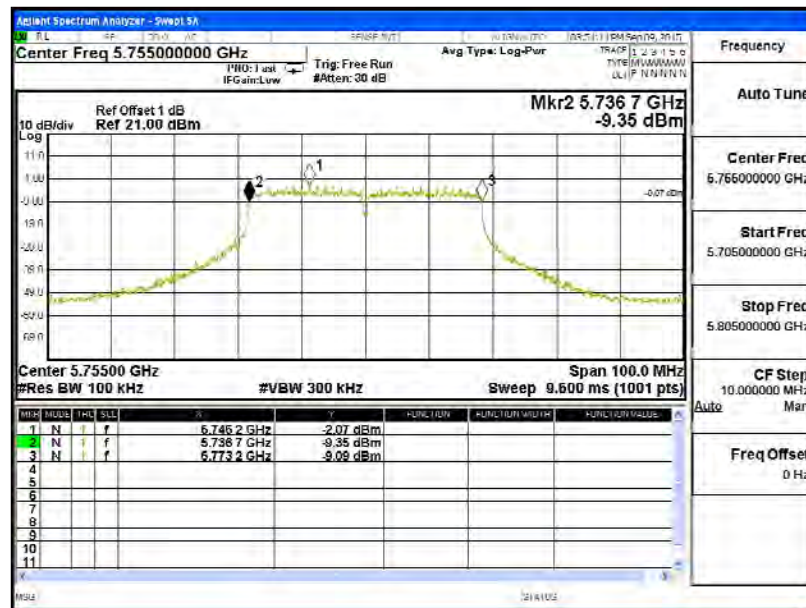
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
151	5755.00	36500	>500	Pass

Figure Channel 151 - Chain B



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
151	5755.00	36500	>500	Pass

Figure Channel 151 - Chain C



Product : 802.11ac Dual Band Access Point
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps) (5795MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
159	5795.00	36300	>500	Pass

Figure Channel 159 - Chain A



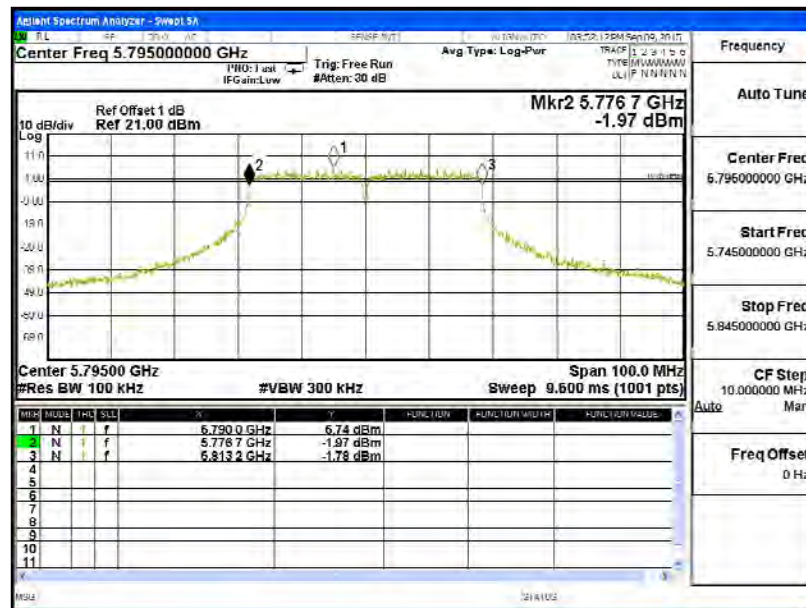
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
159	5795.00	36500	>500	Pass

Figure Channel 159 - Chain B



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
159	5795.00	36500	>500	Pass

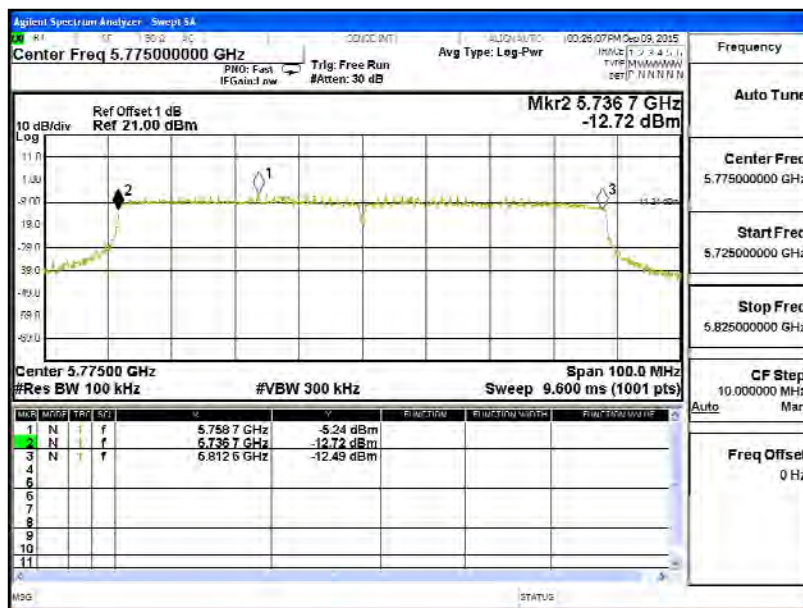
Figure Channel 159 - Chain C



Product : 802.11ac Dual Band Access Point
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 4: Transmit (802.11ac-80BW-97.5Mbps) (5775MHz)

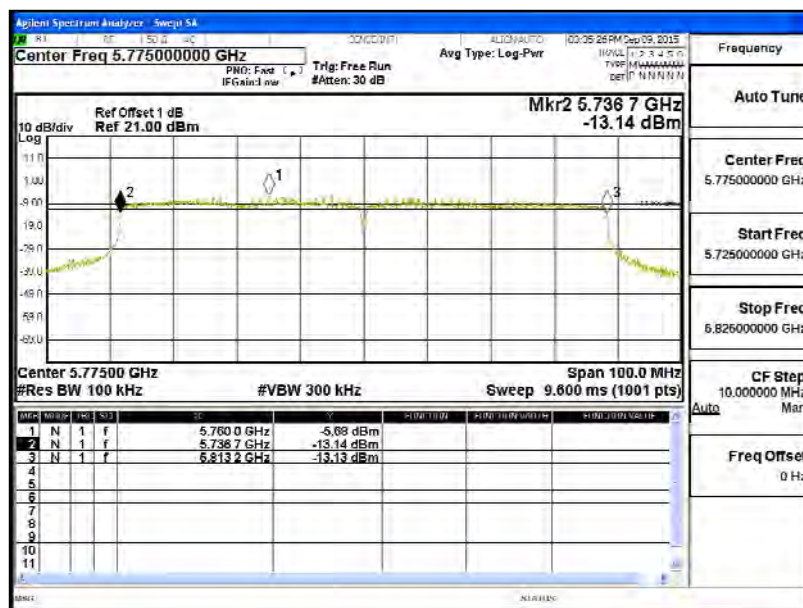
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
155	5775.00	75900	>500	Pass

Figure Channel 155 - Chain A



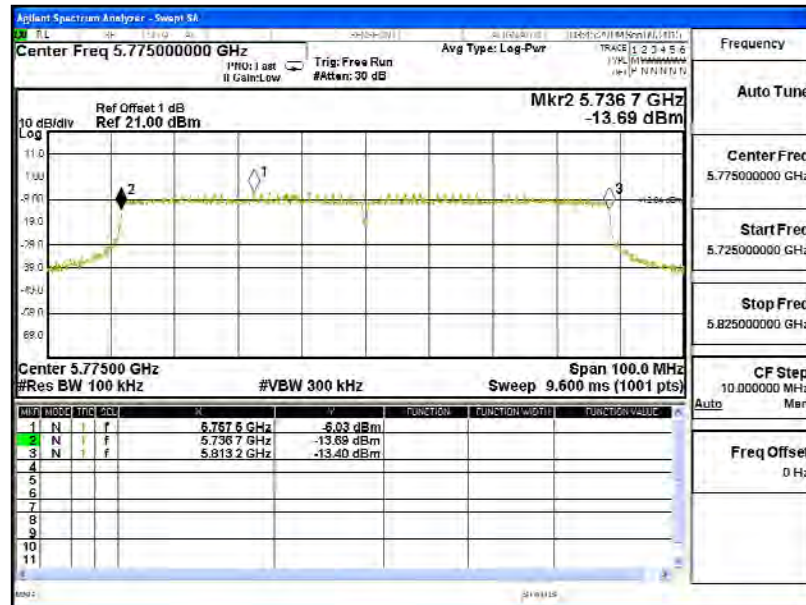
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
155	5775.00	76500	>500	Pass

Figure Channel 155 - Chain B



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
155	5775.00	76500	>500	Pass

Figure Channel 155 - Chain C



8. Frequency Stability

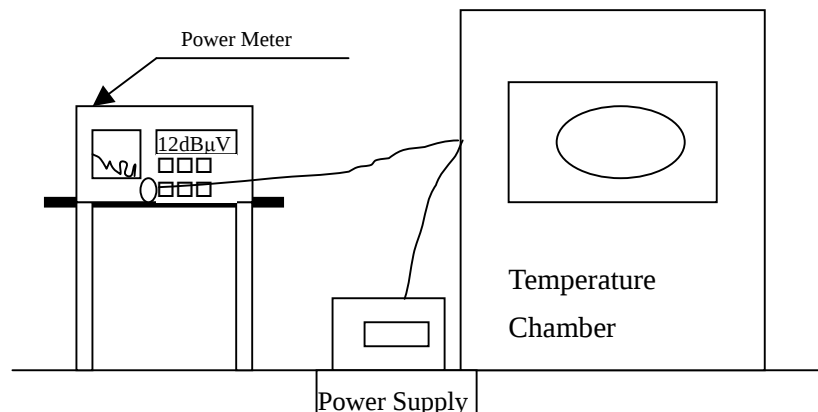
8.1. Test Equipment

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

Note:

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

8.2. Test Setup



8.3. 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

8.4. 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.

8.5. Uncertainty

± 150 Hz

8.6. 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)	Δ F (MHz)
Tnom (20) oC	Vnom (120)V	36	5180.0000	5179.9950	0.0050
		38	5190.0000	5189.9990	0.0010
		44	5220.0000	5219.9990	0.0010
		46	5230.0000	5229.9970	0.0030
		48	5240.0000	5239.9930	0.0070
		149	5745.0000	5744.9950	0.0050
		151	5755.0000	5754.9940	0.0060
		157	5785.0000	5784.9970	0.0030
		159	5795.0000	5794.9960	0.0040
		165	5825.0000	5824.9950	0.0050
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	Δ F (MHz)
Tnom (50) oC	Vnom (138)V	36	5180.0000	5179.9930	0.0070
		38	5190.0000	5189.9970	0.0030
		44	5220.0000	5219.9980	0.0020
		46	5230.0000	5229.9960	0.0040
		48	5240.0000	5239.9990	0.0010
		149	5745.0000	5744.9970	0.0030
		151	5755.0000	5754.9960	0.0040
		157	5785.0000	5784.9990	0.0010
		159	5795.0000	5794.9980	0.0020
		165	5825.0000	5824.9990	0.0010

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (50) oC	Vnom (102)V	36	5180.0000	5179.9930	0.0070
		38	5190.0000	5189.9970	0.0030
		44	5220.0000	5219.9980	0.0020
		46	5230.0000	5229.9960	0.0040
		48	5240.0000	5239.9990	0.0010
		149	5745.0000	5744.9970	0.0030
		151	5755.0000	5754.9960	0.0040
		157	5785.0000	5784.9990	0.0010
		159	5795.0000	5794.9980	0.0020
		165	5825.0000	5824.9990	0.0010
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (-10) oC	Vnom (138)V	36	5180.0000	5179.9940	0.0060
		38	5190.0000	5189.9980	0.0020
		44	5220.0000	5219.9980	0.0020
		46	5230.0000	5229.9970	0.0030
		48	5240.0000	5239.9960	0.0040
		149	5745.0000	5744.9920	0.0080
		151	5755.0000	5754.9930	0.0070
		157	5785.0000	5784.9980	0.0020
		159	5795.0000	5794.9990	0.0010
		165	5825.0000	5824.9970	0.0030
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (-10) oC	Vnom (102)V	36	5180.0000	5179.9940	0.0060
		38	5190.0000	5189.9980	0.0020
		44	5220.0000	5219.9980	0.0020
		46	5230.0000	5229.9970	0.0030
		48	5240.0000	5239.9960	0.0040
		149	5745.0000	5744.9920	0.0080
		151	5755.0000	5754.9930	0.0070
		157	5785.0000	5784.9980	0.0020
		159	5795.0000	5794.9990	0.0010
		165	5825.0000	5824.9970	0.0030

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tnom (20) °C	Vnom (120)V	42	5210.0000	5209.9920	0.0080
		155	5775.0000	5774.9940	0.0060
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tmax (50) °C	Vmax (138)V	42	5210.0000	5210.0110	-0.0110
		155	5775.0000	5775.0030	-0.0030
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tmax (50) °C	Vmin (102)V	42	5210.0000	5210.0090	-0.0090
		155	5775.0000	5775.0070	-0.0070
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tmax (-10) °C	Vmax (138)V	42	5210.0000	5210.0170	-0.0170
		155	5775.0000	5775.0670	-0.0670
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tmax (-10) °C	Vmin (102)V	42	5210.0000	5210.0580	-0.0580
		155	5775.0000	5775.0580	-0.0580

Chain B

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (20) oC	Vnom (120)V	36	5180.0000	5179.9970	0.0030
		38	5190.0000	5189.9960	0.0040
		44	5220.0000	5219.9940	0.0060
		46	5230.0000	5229.9930	0.0070
		48	5240.0000	5239.9990	0.0010
		149	5745.0000	5744.9970	0.0030
		151	5755.0000	5754.9960	0.0040
		157	5785.0000	5784.9950	0.0050
		159	5795.0000	5794.9940	0.0060
		165	5825.0000	5824.9990	0.0010
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (50) oC	Vnom (138)V	36	5180.0000	5179.9960	0.0040
		38	5190.0000	5189.9980	0.0020
		44	5220.0000	5219.9950	0.0050
		46	5230.0000	5229.9960	0.0040
		48	5240.0000	5239.9970	0.0030
		149	5745.0000	5744.9980	0.0020
		151	5755.0000	5754.9990	0.0010
		157	5785.0000	5784.9960	0.0040
		159	5795.0000	5794.9920	0.0080
		165	5825.0000	5824.9960	0.0040

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (50) oC	Vnom (102)V	36	5180.0000	5179.9960	0.0040
		38	5190.0000	5189.9980	0.0020
		44	5220.0000	5219.9950	0.0050
		46	5230.0000	5229.9960	0.0040
		48	5240.0000	5239.9970	0.0030
		149	5745.0000	5744.9980	0.0020
		151	5755.0000	5754.9990	0.0010
		157	5785.0000	5784.9960	0.0040
		159	5795.0000	5794.9920	0.0080
		165	5825.0000	5824.9960	0.0040
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (-10) oC	Vnom (138)V	36	5180.0000	5179.9960	0.0040
		38	5190.0000	5189.9980	0.0020
		44	5220.0000	5219.9940	0.0060
		46	5230.0000	5229.9920	0.0080
		48	5240.0000	5239.9980	0.0020
		149	5745.0000	5744.9990	0.0010
		151	5755.0000	5754.9960	0.0040
		157	5785.0000	5784.9940	0.0060
		159	5795.0000	5794.9950	0.0050
		165	5825.0000	5824.9970	0.0030
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (-10) oC	Vnom (102)V	36	5180.0000	5179.9960	0.0040
		38	5190.0000	5189.9980	0.0020
		44	5220.0000	5219.9940	0.0060
		46	5230.0000	5229.9920	0.0080
		48	5240.0000	5239.9980	0.0020
		149	5745.0000	5744.9990	0.0010
		151	5755.0000	5754.9960	0.0040
		157	5785.0000	5784.9940	0.0060
		159	5795.0000	5794.9950	0.0050
		165	5825.0000	5824.9970	0.0030

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tnom (20) °C	Vnom (120)V	42	5210.0000	5209.9940	0.0060
		155	5775.0000	5774.9960	0.0040
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tmax (50) °C	Vmax (138)V	42	5210.0000	5210.0130	-0.0130
		155	5775.0000	5775.0070	-0.0070
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tmax (50) °C	Vmin (102)V	42	5210.0000	5210.0180	-0.0180
		155	5775.0000	5775.0110	-0.0110
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tmax (-10) °C	Vmax (138)V	42	5210.0000	5210.0780	-0.0780
		155	5775.0000	5775.0790	-0.0790
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tmax (-10) °C	Vmin (102)V	42	5210.0000	5210.0570	-0.0570
		155	5775.0000	5775.0650	-0.0650

Chain C

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle F$ (MHz)
Tnom (20) oC	Vnom (120)V	36	5180.0000	5179.9960	0.0040
		38	5190.0000	5189.9950	0.0050
		44	5220.0000	5219.9990	0.0010
		46	5230.0000	5229.9980	0.0020
		48	5240.0000	5239.9940	0.0060
		149	5745.0000	5744.9960	0.0040
		151	5755.0000	5754.9970	0.0030
		157	5785.0000	5784.9930	0.0070
		159	5795.0000	5794.9950	0.0050
		165	5825.0000	5824.9980	0.0020
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle F$ (MHz)
Tnom (50) oC	Vnom (138)V	36	5180.0000	5179.9970	0.0030
		38	5190.0000	5189.9960	0.0040
		44	5220.0000	5219.9980	0.0020
		46	5230.0000	5229.9970	0.0030
		48	5240.0000	5239.9950	0.0050
		149	5745.0000	5744.9930	0.0070
		151	5755.0000	5754.9960	0.0040
		157	5785.0000	5784.9950	0.0050
		159	5795.0000	5794.9960	0.0040
		165	5825.0000	5824.9980	0.0020

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (50) oC	Vnom (102)V	36	5180.0000	5179.9970	0.0030
		38	5190.0000	5189.9960	0.0040
		44	5220.0000	5219.9980	0.0020
		46	5230.0000	5229.9970	0.0030
		48	5240.0000	5239.9950	0.0050
		149	5745.0000	5744.9930	0.0070
		151	5755.0000	5754.9960	0.0040
		157	5785.0000	5784.9950	0.0050
		159	5795.0000	5794.9960	0.0040
		165	5825.0000	5824.9980	0.0020
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (-10) oC	Vnom (138)V	36	5180.0000	5179.9940	0.0060
		38	5190.0000	5189.9960	0.0040
		44	5220.0000	5219.9970	0.0030
		46	5230.0000	5229.9960	0.0040
		48	5240.0000	5239.9980	0.0020
		149	5745.0000	5744.9990	0.0010
		151	5755.0000	5754.9970	0.0030
		157	5785.0000	5784.9940	0.0060
		159	5795.0000	5794.9960	0.0040
		165	5825.0000	5824.9990	0.0010
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (-10) oC	Vnom (102)V	36	5180.0000	5179.9940	0.0060
		38	5190.0000	5189.9960	0.0040
		44	5220.0000	5219.9970	0.0030
		46	5230.0000	5229.9960	0.0040
		48	5240.0000	5239.9980	0.0020
		149	5745.0000	5744.9990	0.0010
		151	5755.0000	5754.9970	0.0030
		157	5785.0000	5784.9940	0.0060
		159	5795.0000	5794.9960	0.0040
		165	5825.0000	5824.9990	0.0010

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tnom (20) °C	Vnom (120)V	42	5210.0000	5209.9970	0.0030
		155	5775.0000	5774.9960	0.0040
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tmax (50) °C	Vmax (138)V	42	5210.0000	5210.0020	-0.0020
		155	5775.0000	5775.0080	-0.0080
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tmax (50) °C	Vmin (102)V	42	5210.0000	5210.0150	-0.0150
		155	5775.0000	5775.0130	-0.0130
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tmax (-10) °C	Vmax (138)V	42	5210.0000	5210.0770	-0.0770
		155	5775.0000	5775.0720	-0.0720
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tmax (-10) °C	Vmin (102)V	42	5210.0000	5210.0610	-0.0610
		155	5775.0000	5775.0660	-0.0660

9. EMI Reduction Method During Compliance Testing

No modification was made during testing.