

# FCC Test Report

Product Name	802.11ac Dual Band Access Point
Model No	WK-1-O
FCC ID	SLY-WK1O22

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

Date of Receipt	Mar. 15, 2016
Issued Date	Apr. 7, 2016
Report No.	1630276R-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.

This report must not be used to claim product endorsement by TAF or any agency of the government.

The test report shall not be reproduced without the written approval of Quietek Corporation.

# Test Report

Issued Date: Apr. 7, 2016

Report No.: 1630276R-RFUSP05V00



Product Name	802.11ac Dual Band Access Point
Applicant	Pakedge Device and Software Inc.
Address	3847 Breakwater Avenue, Hayward, CA 94545
Manufacturer	Pakedge Device and Software Inc.
Factory	Lite-On Network Communication (Dongguan) Limited
Model No.	WK-1-O
FCC ID.	SLY-WK1O22
EUT Rated Voltage	DC 48V (Power by PoE)
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 v01r01
Test Result	Complied

Documented By : Rita Huang  
( Senior Adm. Specialist / Rita Huang )

Tested By : Ivan Chuang  
( Engineer / Ivan Chuang )

Approved By : Vincent Lin  
( Director / Vincent Lin )

## TABLE OF CONTENTS

Description	Page
<b>1. GENERAL INFORMATION .....</b>	<b>5</b>
1.1. EUT Description.....	5
1.2. Operational Description .....	7
1.3. Tested System Details.....	8
1.4. Configuration of tested System .....	8
1.5. EUT Exercise Software .....	8
1.6. Test Facility .....	9
<b>2. Conducted Emission.....</b>	<b>10</b>
2.1. Test Equipment.....	10
2.2. Test Setup .....	10
2.3. Limits .....	11
2.4. Test Procedure .....	11
2.5. Uncertainty .....	11
2.6. Test Result of Conducted Emission.....	12
<b>3. Maximun conducted output power .....</b>	<b>13</b>
3.1. Test Equipment.....	13
3.2. Test Setup .....	13
3.3. Limits .....	14
3.4. Test Procedure .....	15
3.5. Uncertainty .....	15
3.6. Test Result of Maximum conducted output power.....	16
<b>4. Peak Power Spectral Density.....</b>	<b>24</b>
4.1. Test Equipment.....	24
4.2. Test Setup .....	24
4.3. Limits .....	24
4.4. Test Procedure .....	25
4.5. Uncertainty .....	25
4.6. Test Result of Peak Power Spectral Density .....	26
<b>5. Radiated Emission .....</b>	<b>48</b>
5.1. Test Equipment.....	48
5.2. Test Setup .....	49
5.3. Limits .....	50
5.4. Test Procedure .....	51
5.5. Uncertainty .....	51
5.6. Test Result of Radiated Emission.....	52
<b>6. Band Edge .....</b>	<b>78</b>
6.1. Test Equipment.....	78
6.2. Test Setup .....	79
6.3. Limits .....	80
6.4. Test Procedure .....	80
6.5. Uncertainty .....	80
6.6. Test Result of Band Edge .....	81
<b>7. Occupied Bandwidth .....</b>	<b>104</b>

---

7.1.	Test Equipment.....	104
7.2.	Test Setup .....	104
7.3.	Limits .....	104
7.4.	.Test Procedure .....	104
7.5.	Uncertainty .....	104
7.6.	Test Result of Occupied Bandwidth .....	105
<b>8.</b>	<b>Frequency Stability.....</b>	<b>114</b>
8.1.	Test Equipment.....	114
8.2.	Test Setup .....	114
8.3.	Limits .....	114
8.4.	Test Procedure .....	114
8.5.	Uncertainty .....	114
8.6.	Test Result of Frequency Stability.....	115
<b>9.</b>	<b>Maximum e.i.r.p at any elevation angle above 30 degrees .....</b>	<b>121</b>
<b>10.</b>	<b>EMI Reduction Method During Compliance Testing .....</b>	<b>122</b>
Attachment 1: EUT Test Photographs		
Attachment 2: EUT Detailed Photographs		

## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	802.11ac Dual Band Access Point
Trade Name	Pakedge
FCC ID.	SLY-WK1022
Model No.	WK-1-O
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 300Mbps 802.11ac-80MHz: up to 866.7MHz
Type of Modulation	802.11a/n:OFDM, BPSK, QPSK, 16QAM, 64QAM, 256QAM
Antenna type	Dipole Antenna
Antenna Gain	Refer to the table "Antenna List"
Channel Control	Auto
LAN Cable	Non-Shielded, 1.8m

#### Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Mogear	C1790-510002-A	Dipole Antenna	5.3 dBi For 5.15~5.25GHz 6.2 dBi For 5.725~5.825GHz

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 a 802.11ac Dual Band Access Point with a built-in 802.11a/b/g/n/ac WLAN transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. 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 14.4Mbps 、802.11n-40BW is 30Mbps and 802.11ac(80M-BW) is 65 Mbps)
4. 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.
5. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

Test Mode	Mode 1: Transmit (802.11a-6Mbps) Mode 2: Transmit (802.11n-20BW 14.4Mbps) Mode 3: Transmit (802.11n-40BW 30Mbps) Mode 4: Transmit (802.11ac-80BW-65Mbps)
-----------	---

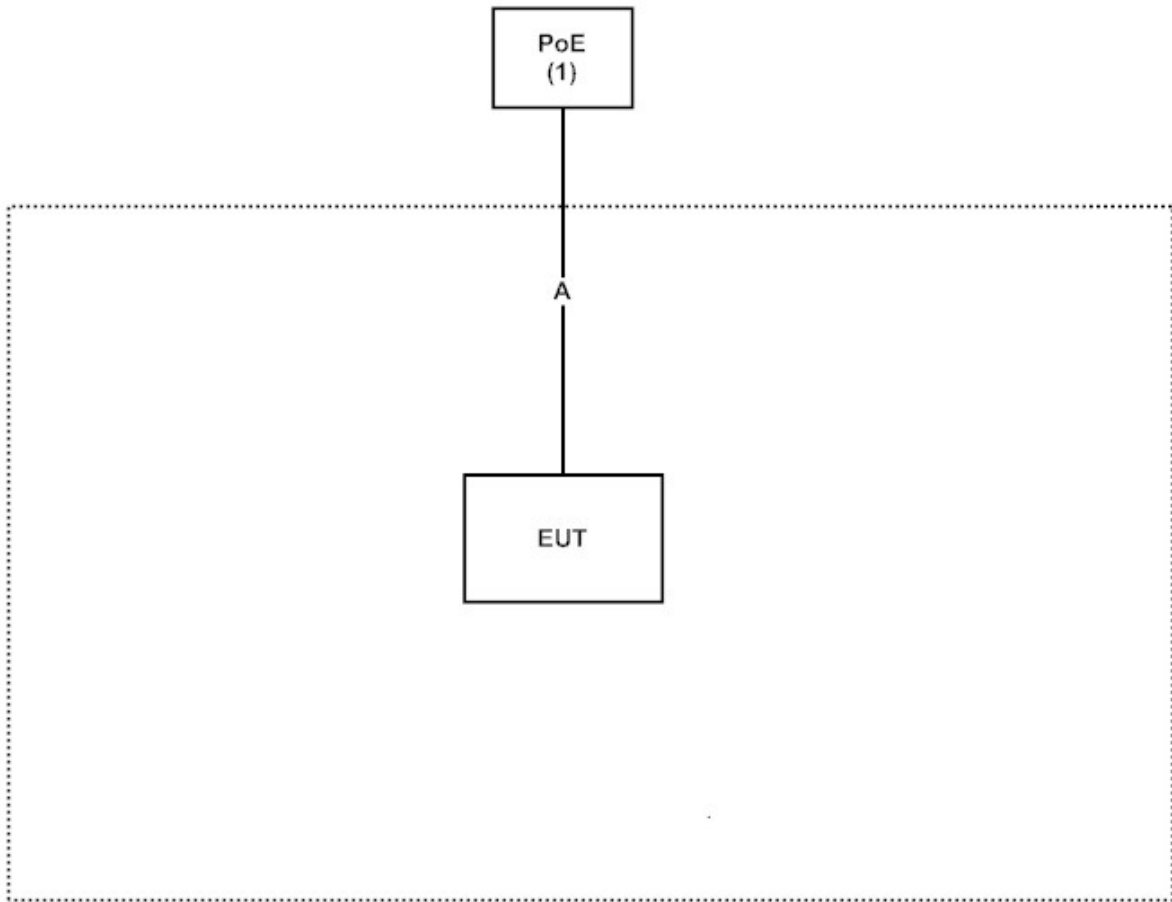
### 1.3. Tested System Details

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   PoE	LINKSYS	LGS108P	13U10C993500R	N/A

Signal Cable Type	Signal cable Description
A   LAN Cable	Non-Shielded, 5.0m

### 1.4. Configuration of tested System



### 1.5. EUT Exercise Software

- (1) Setup the EUT as shown on 1.4
- (2) Execute “ART2 GUI-V2.3” program on the Notebook PC.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Start the continuous transmission.
- (5) Verify that the EUT works properly.

**1.6. Test Facility**

Ambient conditions in the laboratory:

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

The related certificate for our laboratories 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, Ruishukeng,  
Linkou Dist. New Taipei City 24451,  
Taiwan, R.O.C.  
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789  
E-Mail : [service@quietek.com](mailto:service@quietek.com)

FCC Accreditation Number: TW1014



## 2. Conducted Emission

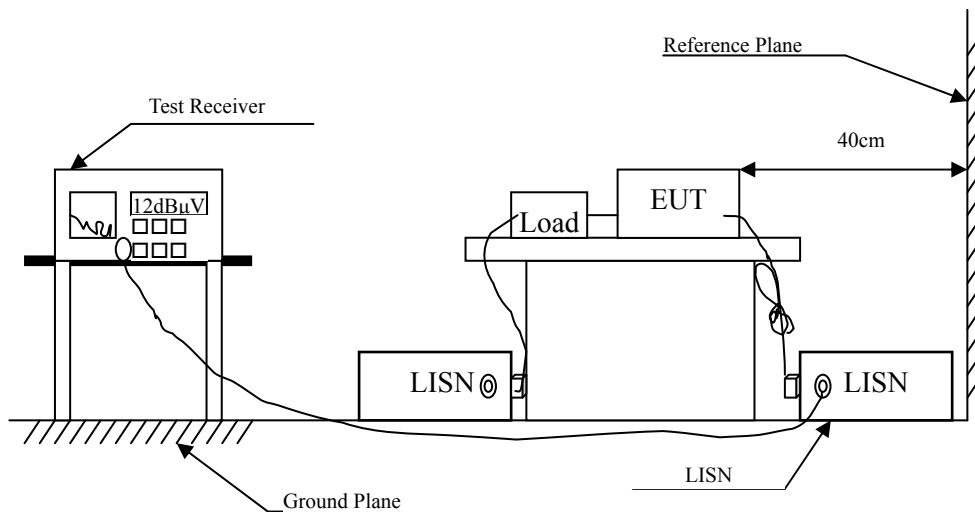
### 2.1. Test Equipment

	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., 2016	Peripherals
X	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2016	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar, 2016	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2016	
	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**

<b>FCC Part 15 Subpart C Paragraph 15.207 (dBµV) Limit</b>		
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**

Owing to the DC operation of EUT, this test item is not performed.

### 3. Maximun conducted output power

#### 3.1. Test Equipment

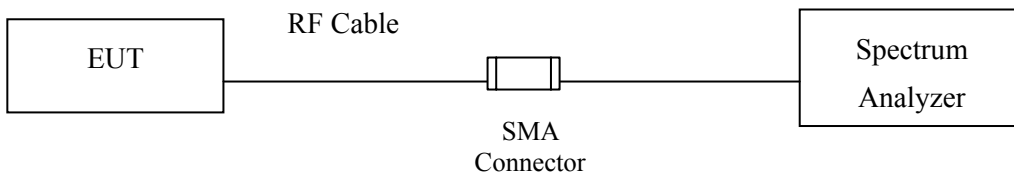
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2015
X	Power Sensor	Anritsu	MA2411B/0738448	Jun., 2015
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2016

Note:

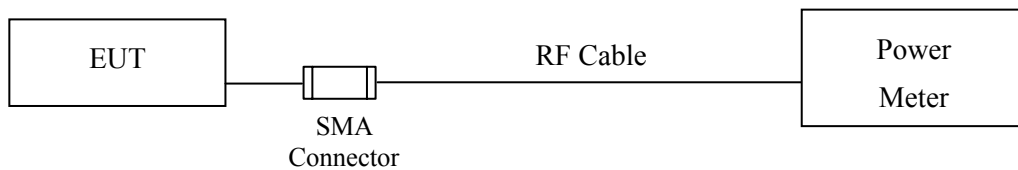
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

#### 3.2. Test Setup

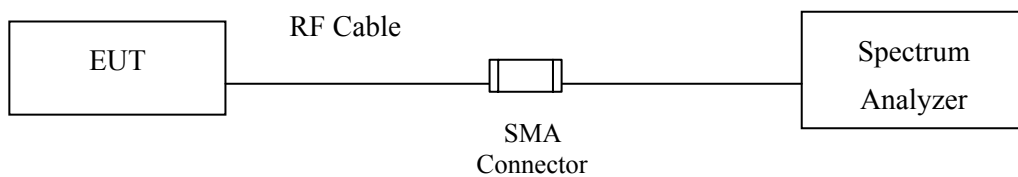
##### 26dBc Occupied Bandwidth



##### Conduction Power Measurement (for 802.11a)



##### 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  $11 \text{ dBm} + 10 \log B$ , 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  $\leq$  40MHz) Maximum conducted output power using KDB 789033 section E)3)b) Method PM-G (Measurement using a gated RF average power meter)

Note: the power meter have a video bandwidth that is greater than or equal to the measurement bandwidth, (Anritsu/ MA2411B video bandwidth: 65MHz)

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

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

### 3.5. Uncertainty

$\pm 1.27$  dB

**3.6. Test Result of Maximum conducted output power**

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

**CHAIN A**

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	11.83	--	--	--	--	--	--	--	<30dBm
44	5220	11.76	11.68	11.52	11.44	11.39	11.28	11.10	11.08	<30dBm
48	5240	11.82	--	--	--	--	--	--	--	<30dBm
149	5745	21.76	--	--	--	--	--	--	--	<30dBm
157	5785	23.58	23.47	23.39	23.26	23.14	23.03	22.97	22.87	<30dBm
165	5825	23.5	--	--	--	--	--	--	--	<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	11.75	--	--	--	--	--	--	--	<30dBm
44	5220	11.72	11.68	11.58	11.42	11.39	11.2	11.18	11.05	<30dBm
48	5240	11.69	--	--	--	--	--	--	--	<30dBm
149	5745	22.23	--	--	--	--	--	--	--	<30dBm
157	5785	23.98	23.84	23.71	23.61	23.48	23.32	23.18	23.06	<30dBm
165	5825	23.14	--	--	--	--	--	--	--	<30dBm

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

**Maximum conducted output power Measurement:**

**(CHAIN A+ B)**

Channel Number	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Output Power (dBm)	Output Power Limit
					(dBm)
36	5180	11.83	11.75	14.80	30
44	5220	11.76	11.72	14.75	30
48	5240	11.82	11.69	14.77	30
149	5745	21.76	22.23	25.01	30
157	5785	23.58	23.98	26.79	30
165	5825	23.50	23.14	26.33	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))



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

**CHAIN A**

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	
		Measurement Level (dBm)								
36	5180	11.82	--	--	--	--	--	--	--	<30dBm
44	5220	11.29	11.18	11.08	10.96	10.85	11.74	11.63	11.52	<30dBm
48	5240	11.76	--	--	--	--	--	--	--	<30dBm
149	5745	22.04	--	--	--	--	--	--	--	<30dBm
157	5785	24.07	23.98	23.88	23.74	23.64	23.58	23.45	23.39	<30dBm
165	5825	24.1	--	--	--	--	--	--	--	<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
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	
		Measurement Level (dBm)								
36	5180	11.63	--	--	--	--	--	--	--	<30dBm
44	5220	11.58	11.47	11.36	11.28	11.18	11.02	10.93	10.88	<30dBm
48	5240	11.69	--	--	--	--	--	--	--	<30dBm
149	5745	22.42	--	--	--	--	--	--	--	<30dBm
157	5785	24.01	23.94	23.81	23.74	23.62	23.51	23.42	23.32	<30dBm
165	5825	23.78	--	--	--	--	--	--	--	<30dBm

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

**Maximum conducted output power Measurement:**

**(CHAIN A+ B)**

Channel Number	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Output Power (dBm)	Output Power Limit
					(dBm)
36	5180	11.82	11.63	14.74	30
44	5220	11.29	11.58	14.45	30
48	5240	11.76	11.69	14.74	30
149	5745	22.04	22.42	25.24	30
157	5785	24.07	24.01	27.05	30
165	5825	24.10	23.78	26.95	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))

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

**CHAIN A**

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		30	60	90	120	180	240	270	300	
		Measurement Level (dBm)								
38	5190	11.58	--	--	--	--	--	--	--	<30dBm
46	5230	11.79	11.63	11.55	11.48	11.30	11.28	11.14	11.04	<30dBm
151	5755	19.4	--	--	--	--	--	--	--	<30dBm
159	5795	20.14	20.06	19.93	19.82	19.71	19.53	19.48	19.31	<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
		30	60	90	120	180	240	270	300	
		Measurement Level (dBm)								
38	5190	11.68	--	--	--	--	--	--	--	<30dBm
46	5230	11.69	11.58	11.48	11.3	11.21	11.17	11.02	10.95	<30dBm
151	5755	20.14	--	--	--	--	--	--	--	<30dBm
159	5795	22.64	22.51	22.48	22.30	22.18	21.96	21.87	21.75	<30dBm

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

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

Channel Number	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Output Power (dBm)	Output Power Limit
					(dBm)
38	5190	11.58	11.68	14.64	30
46	5230	11.79	11.69	14.75	30
151	5755	19.40	20.14	22.80	30
159	5795	20.14	22.64	24.58	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))

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-65Mbps)

**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	12.69	12.57	12.43	12.36	12.28	12.11	12.05	11.99	11.86	11.78	<30dBm
155	5775	18.36	18.25	18.11	18.02	17.96	17.80	17.72	17.65	17.58	17.44	<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	11.47	11.38	11.28	11.17	11.08	10.97	10.86	10.76	10.63	10.58	<30dBm
155	5775	16.76	16.63	16.58	16.44	16.38	16.28	16.17	16.08	15.99	15.86	<30dBm

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

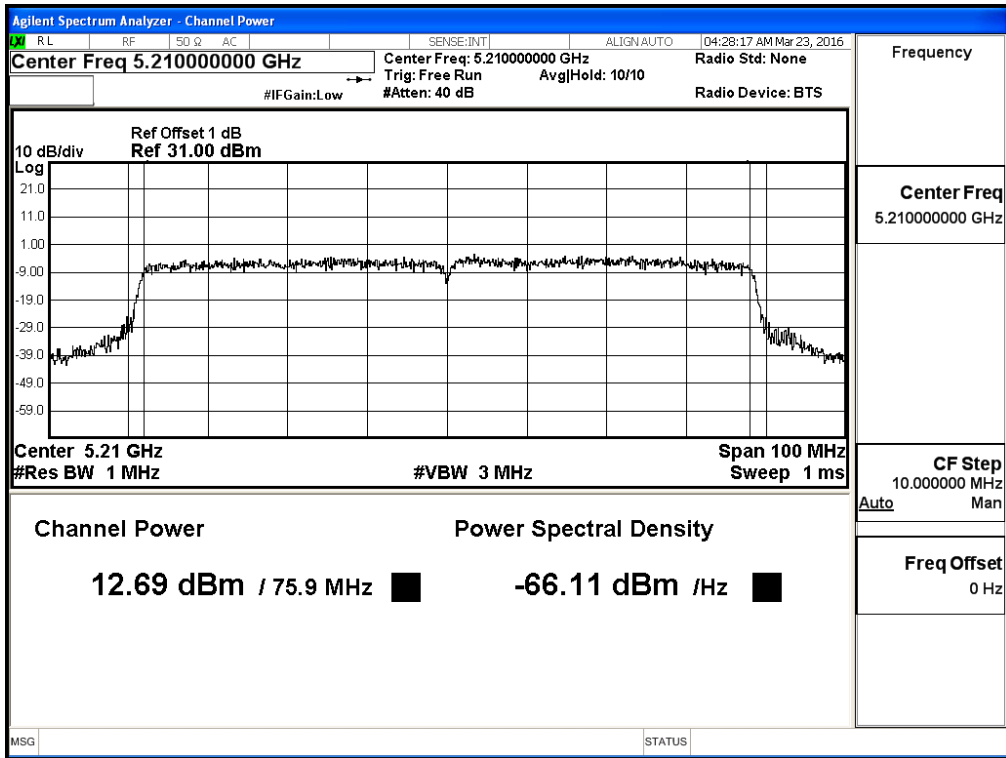
**Maximum conducted output power Measurement:  
(CHAIN A+ B)**

Channel Number	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Output Power (dBm)	Output Power Limit
					(dBm)
42	5210	12.69	11.47	15.13	30
155	5775	18.36	16.76	20.64	30

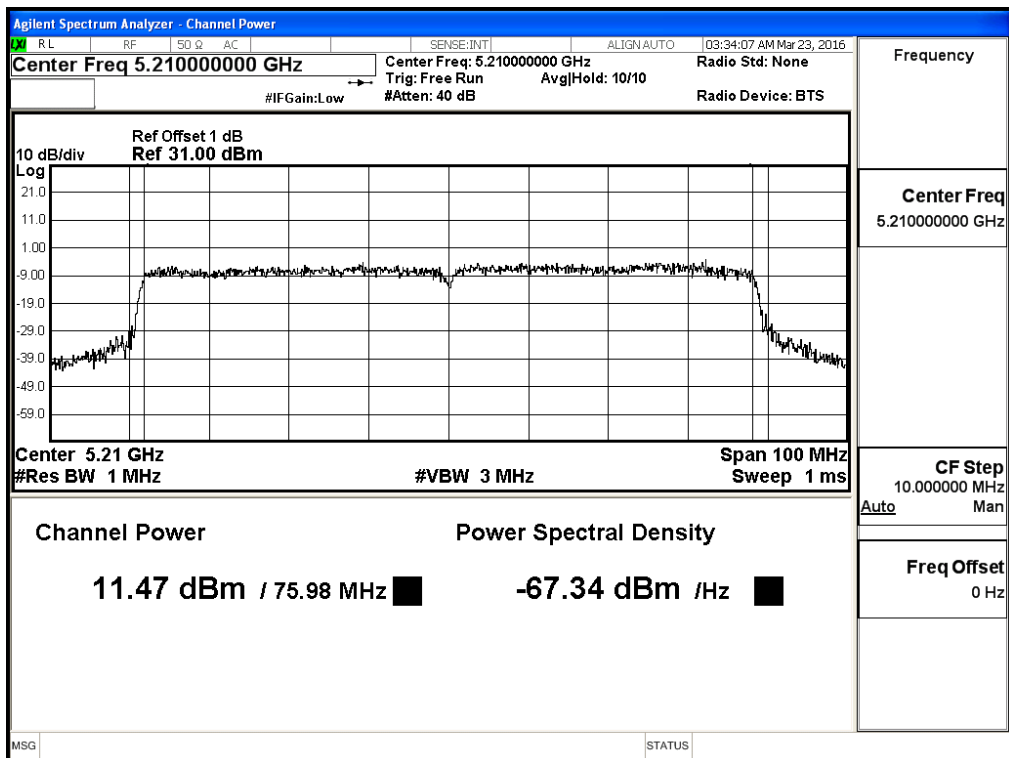
Note:

- Output Power (dBm) = 10LOG (Chain A Power (mW)+ Chain B Power (mW))

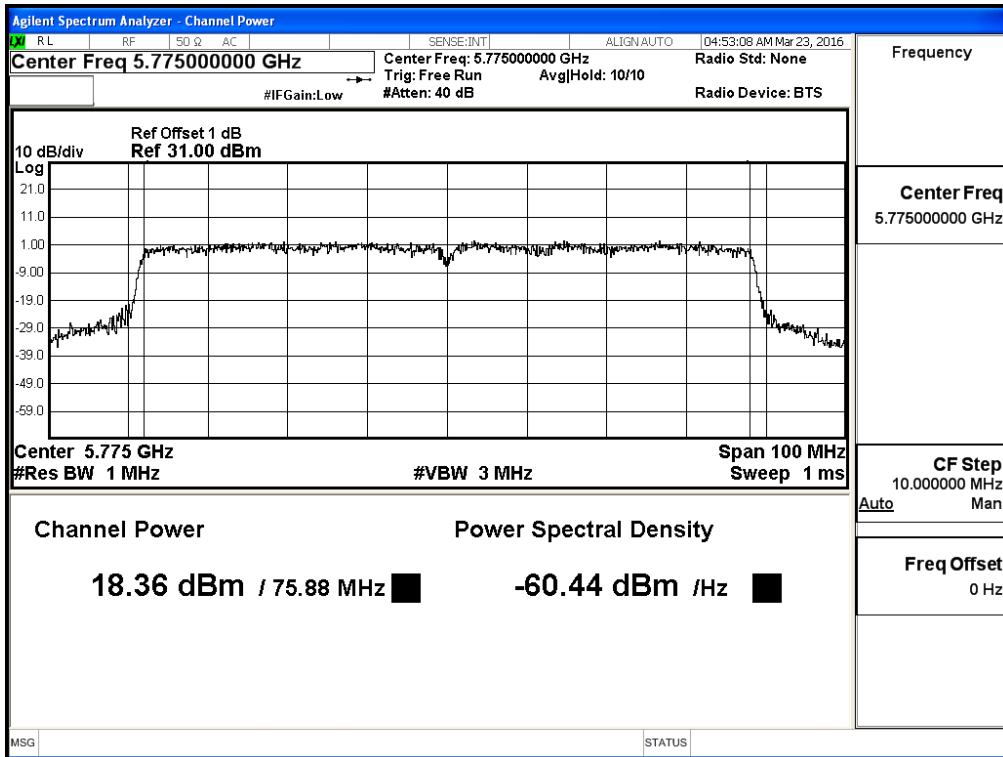
**Maximum conducted output power:**  
**Channel 42 – Chain A**



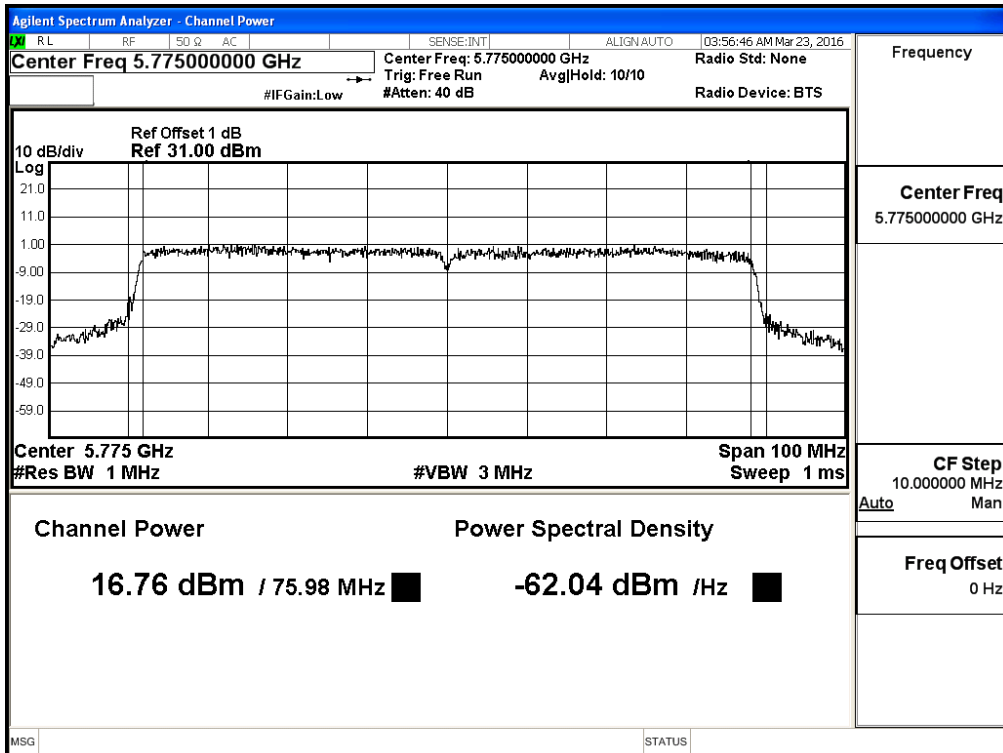
**Maximum conducted output power:**  
**Channel 42 – Chain B**



**Maximum conducted output power:  
Channel 155 – Chain A**



**Maximum conducted output power:  
Channel 155 – Chain B**



## 4. Peak Power Spectral Density

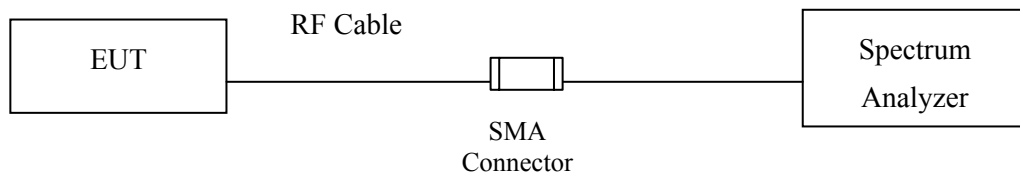
### 4.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2015
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2015
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr, 2016

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 DTS 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**

± 1.27 dB



#### 4.6. Test Result of Peak Power Spectral Density

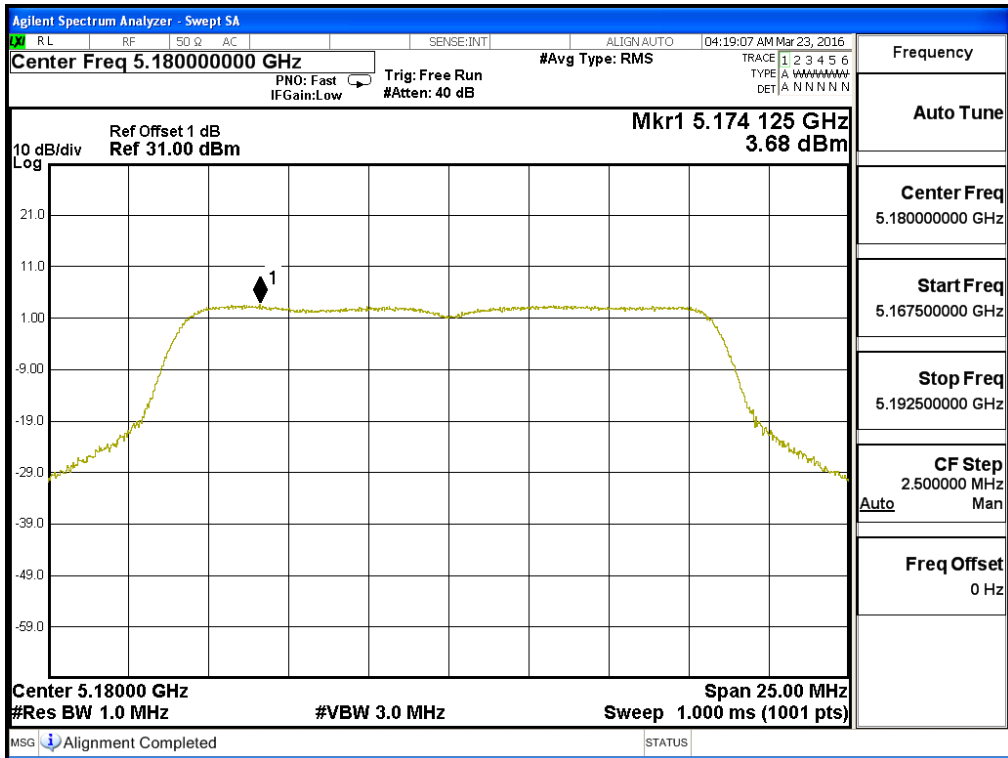
Product : 802.11ac Dual Band Access Point  
 Test Item : Peak Power Spectral Density  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	Total PPSD (dBm)	Required Limit (dBm)	Result
36	5180	A	3.680	6.690	17	Pass
		B	3.150	6.160	17	Pass
44	5220	A	3.300	6.310	17	Pass
		B	2.450	5.460	17	Pass
48	5240	A	4.430	7.440	17	Pass
		B	3.090	6.100	17	Pass

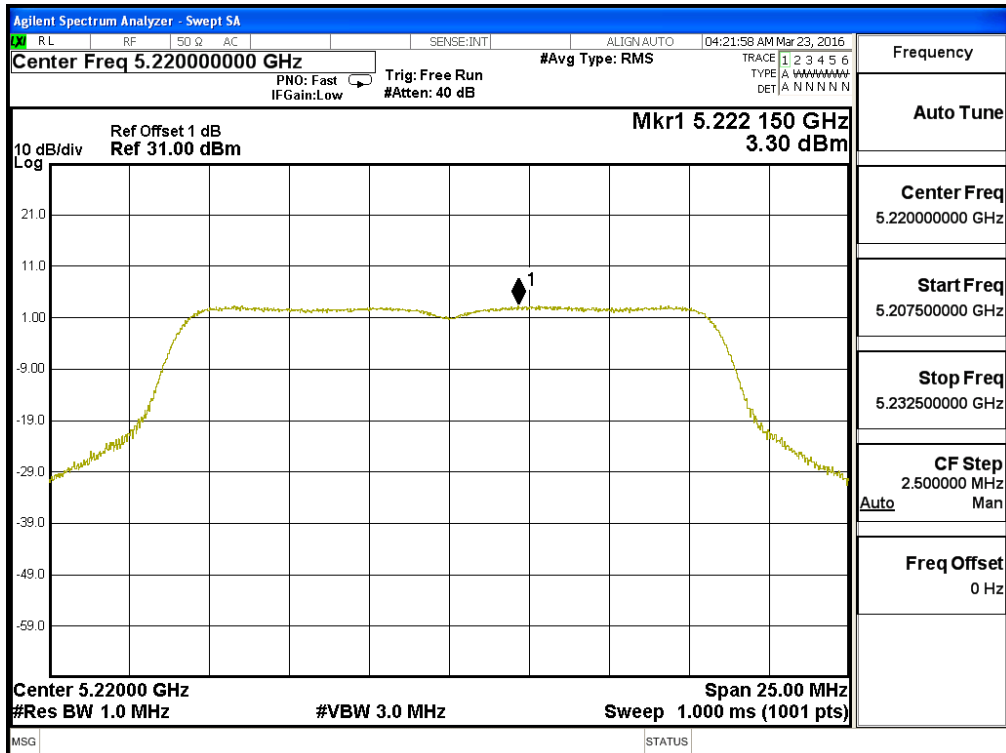
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
149	5745	A	4.51	6.980	11.490	<30	Pass
		B	3.670	6.980	13.660	<30	Pass
157	5785	A	4.850	6.980	11.830	<30	Pass
		B	3.650	6.980	13.640	<30	Pass
165	5825	A	4.190	6.980	11.170	<30	Pass
		B	3.510	6.980	13.500	<30	Pass

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

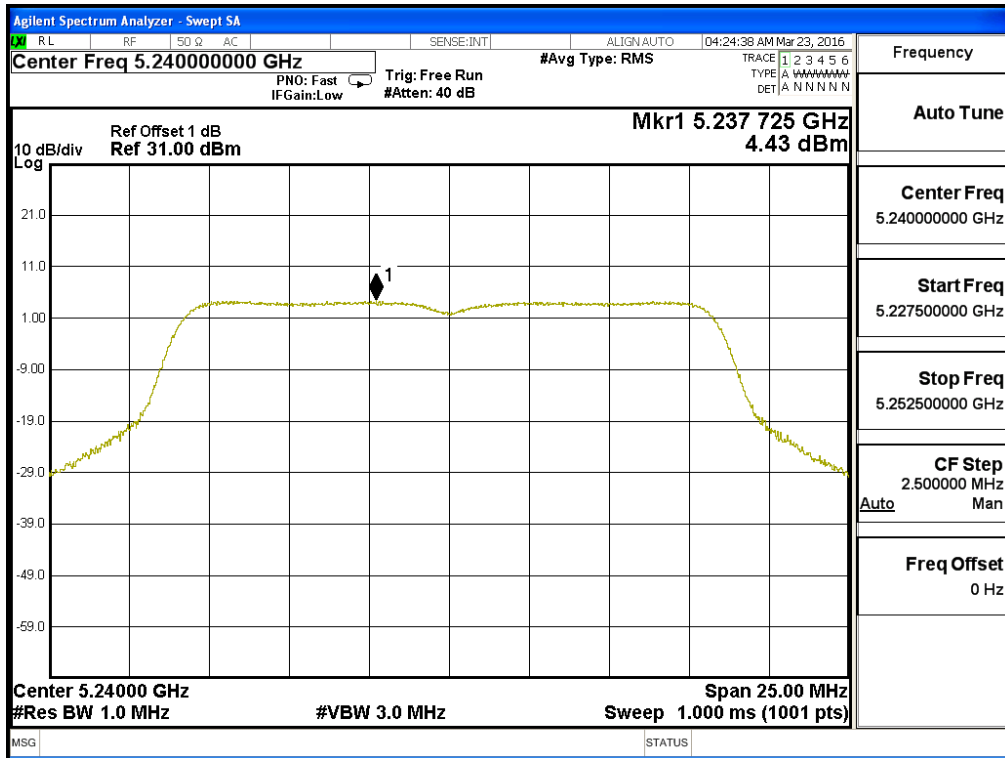
### Channel 36 – Chain A



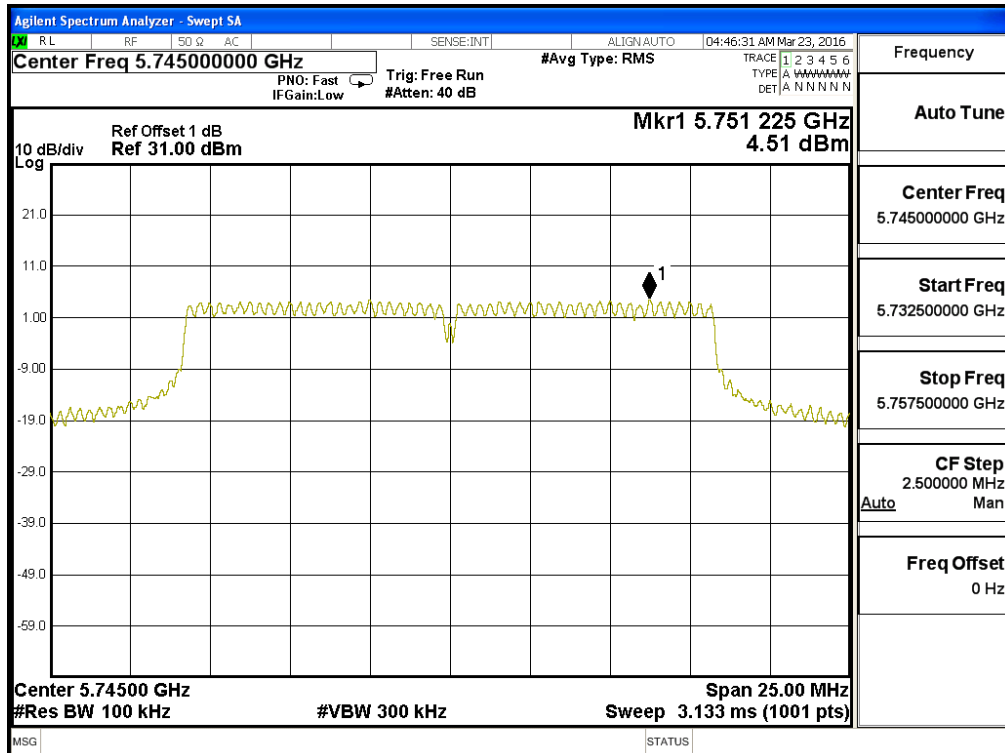
### Channel 44 – Chain A



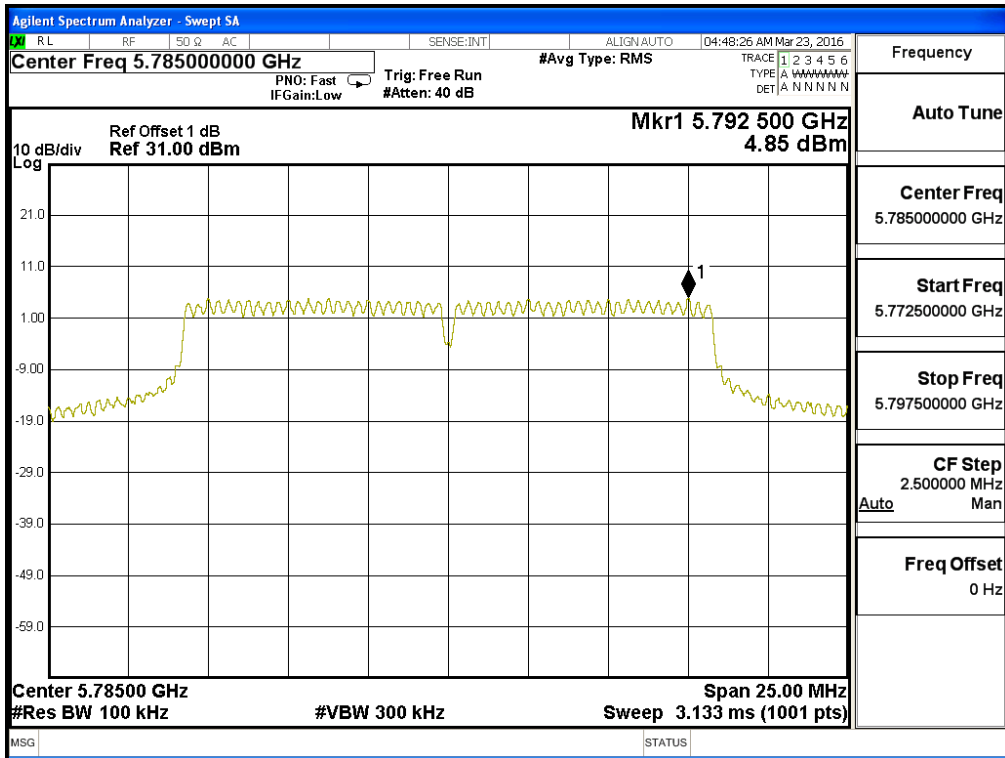
### Channel 48 – Chain A



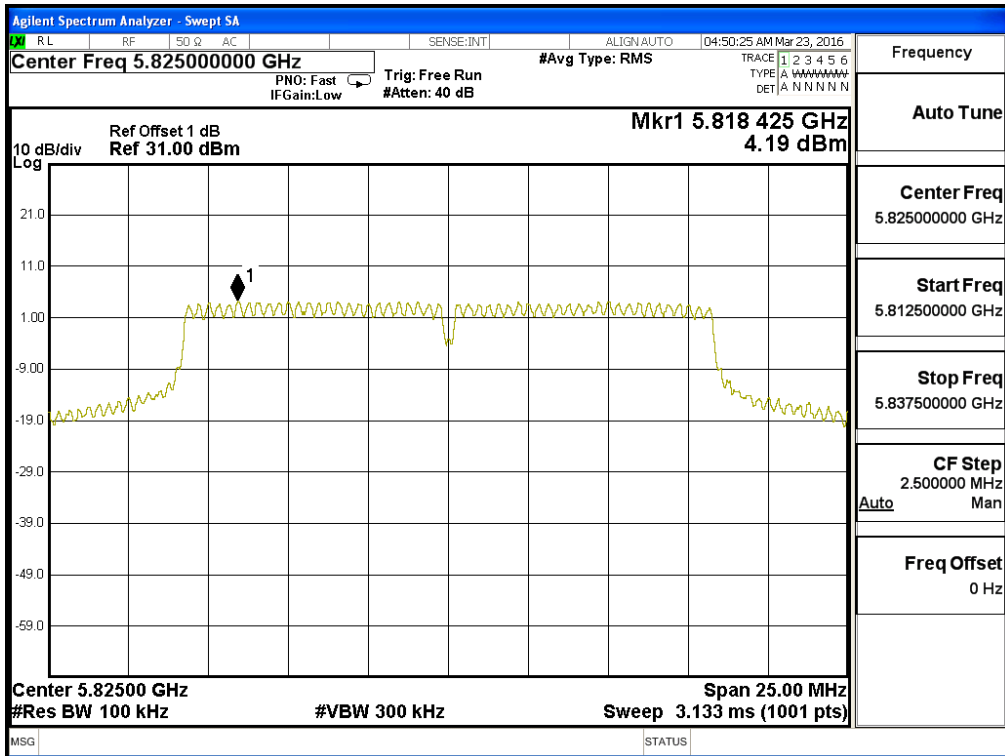
### Channel 149 – Chain A



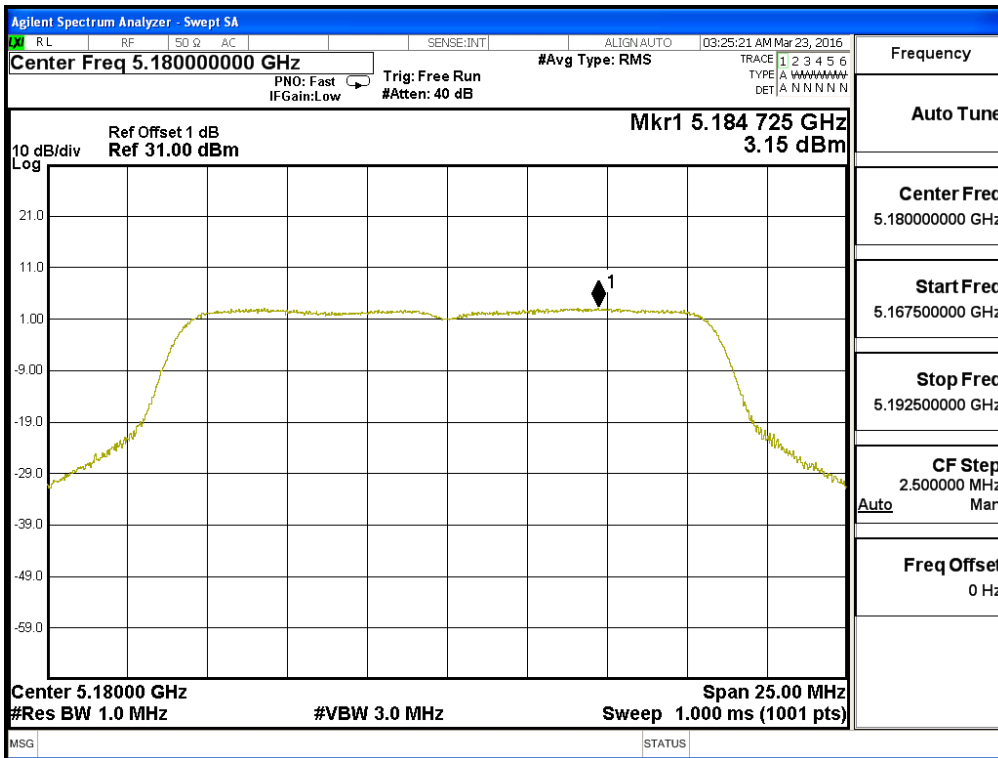
### Channel 157 – Chain A



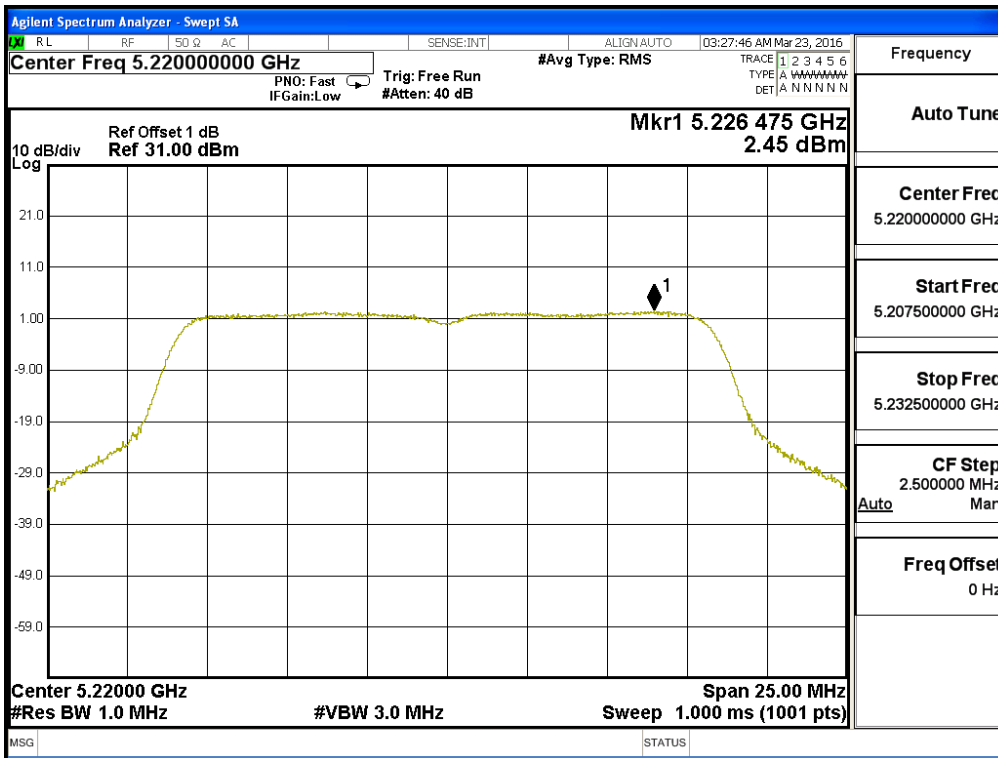
### Channel 165 – Chain A



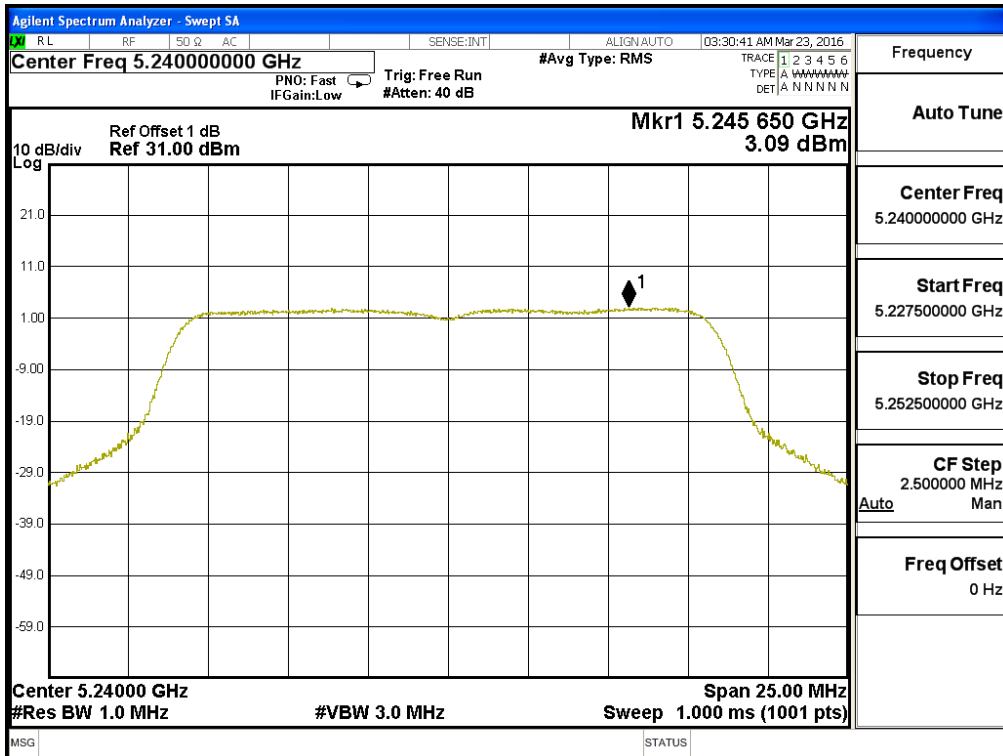
**Channel 36 – Chain B**



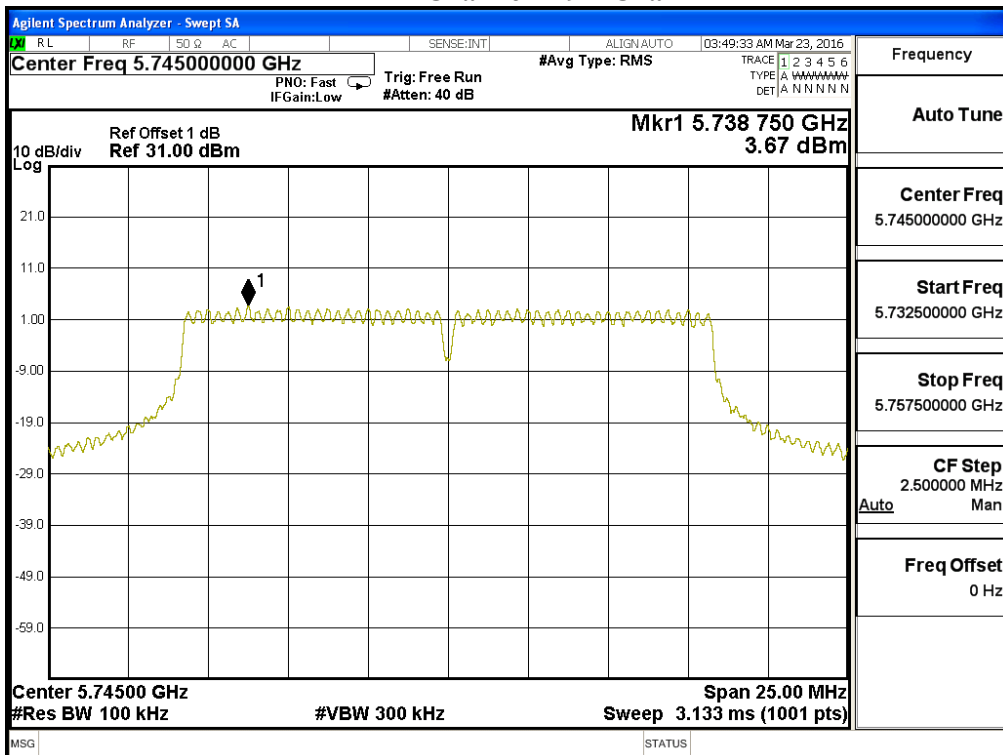
**Channel 44 – Chain B**



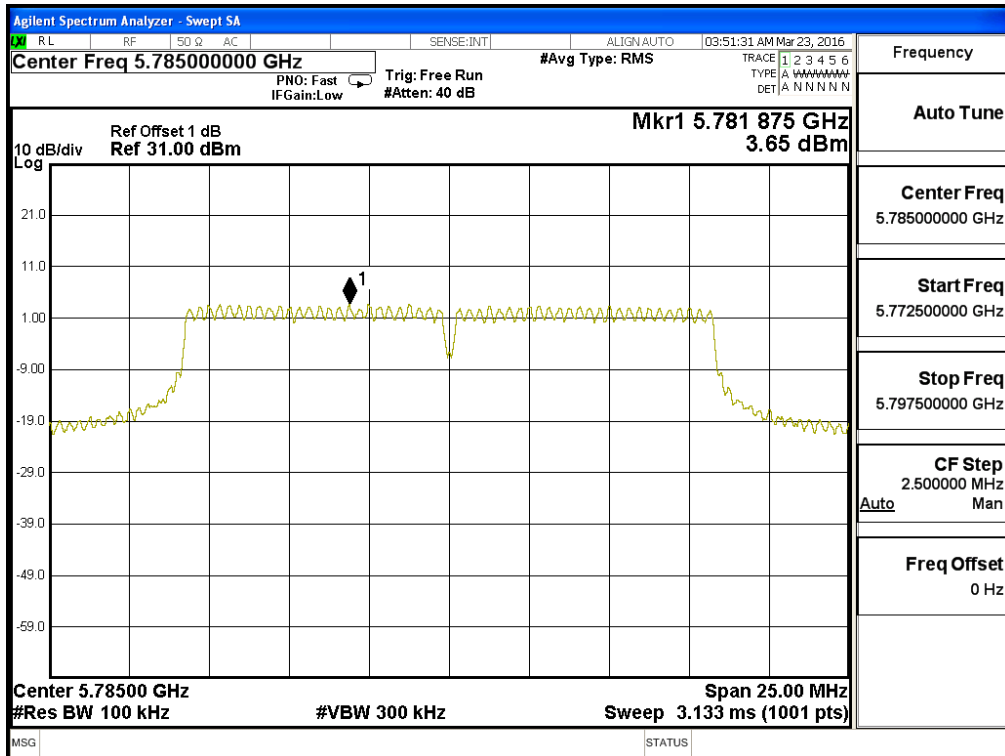
### Channel 48 – Chain B



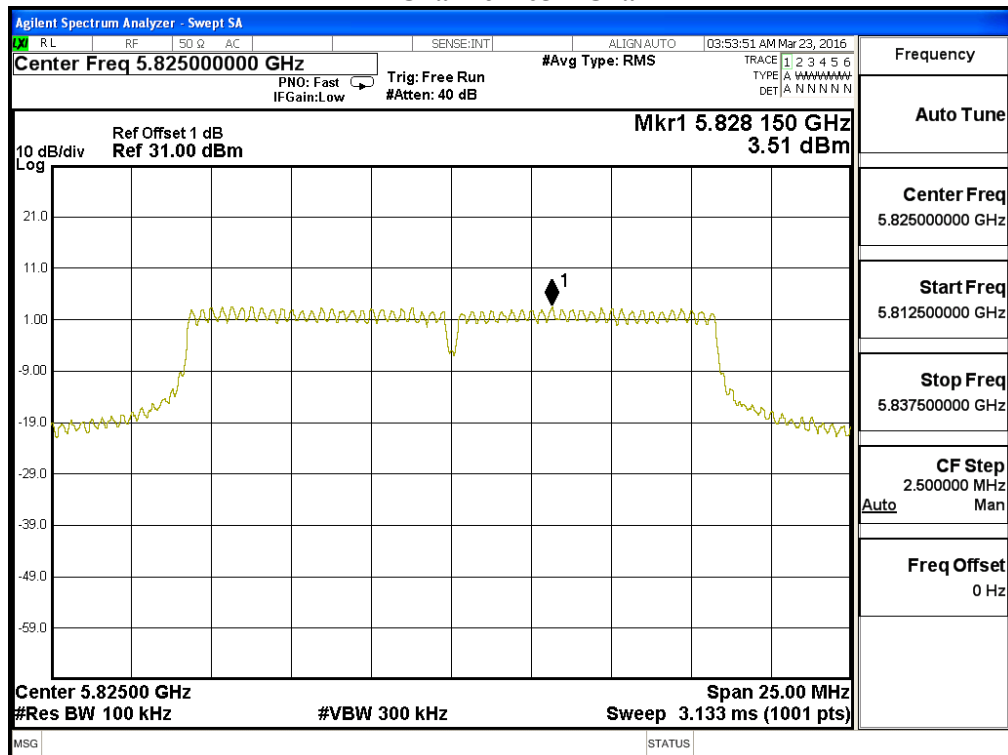
### Channel 149 – Chain B



### Channel 157 – Chain B



### Channel 165 – Chain B



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

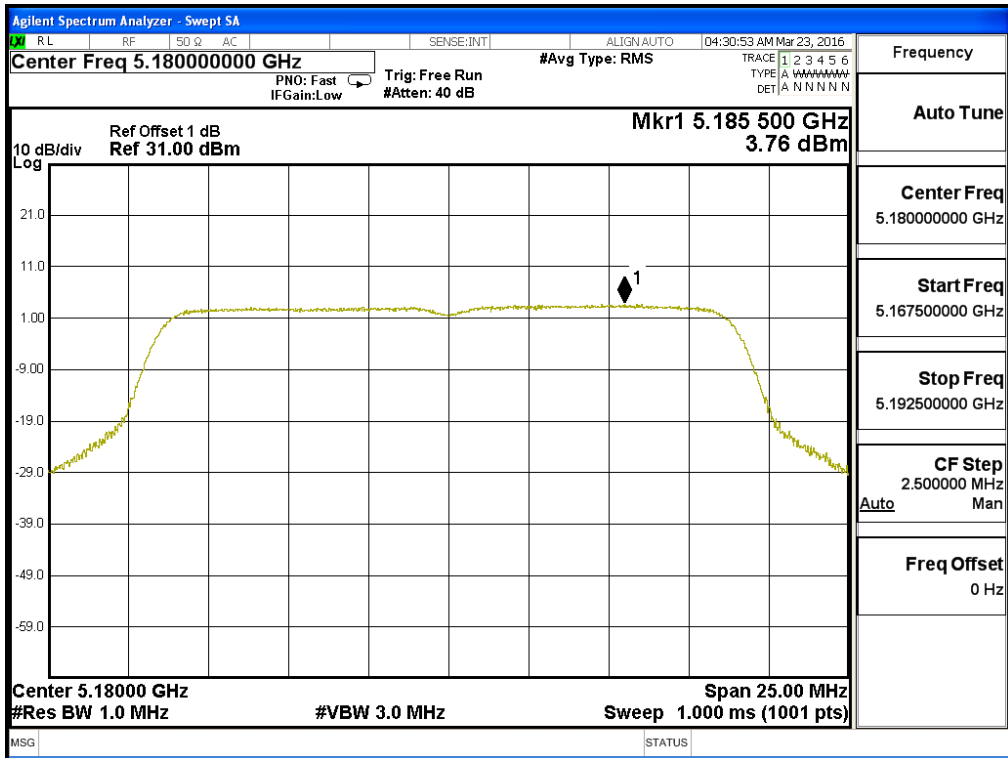
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	Total PPSD (dBm) <sup>1</sup>	Required Limit (dBm)	Result
36	5180	A	3.760	6.770	17	Pass
		B	2.290	5.300	17	Pass
44	5220	A	3.800	6.810	17	Pass
		B	2.650	5.660	17	Pass
48	5240	A	3.920	6.930	17	Pass
		B	2.430	5.440	17	Pass

Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm) <sup>1</sup>	Required Limit (dBm)	Result
149	5745	A	3.920	6.980	13.910	<30	Pass
		B	2.930	6.980	12.920	<30	Pass
157	5785	A	3.200	6.980	13.190	<30	Pass
		B	2.170	6.980	12.160	<30	Pass
165	5825	A	3.100	6.980	13.090	<30	Pass
		B	2.390	6.980	12.380	<30	Pass

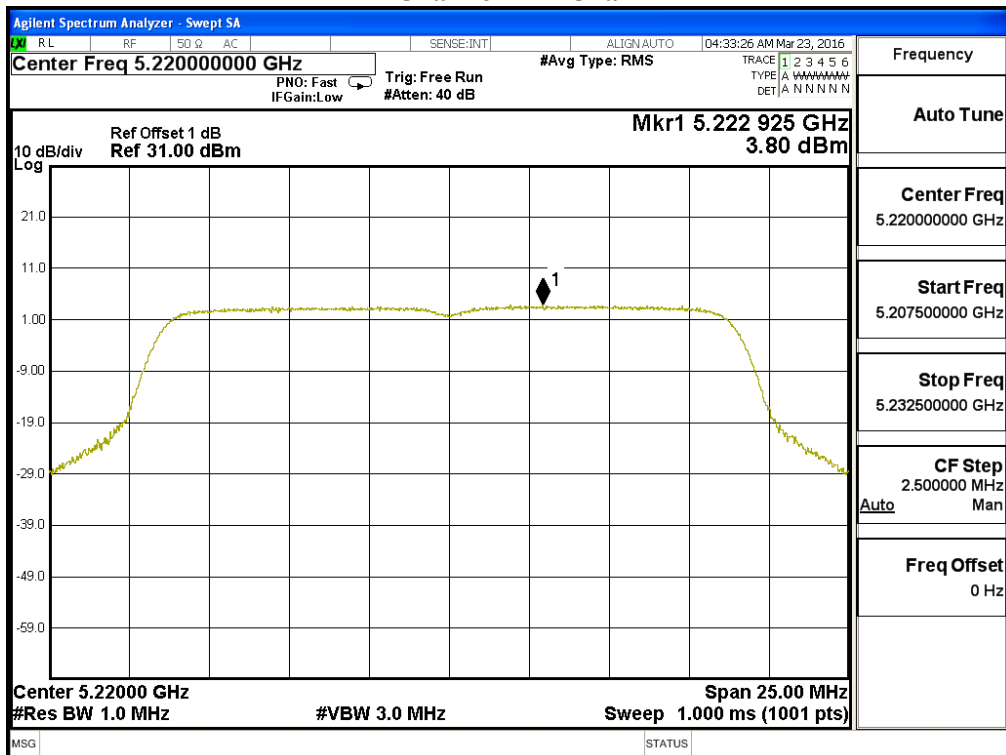
Note 1: The quantity  $10 \cdot \log 2$  (two antennas) is added to the spectrum peak value according to document 662911 D01.



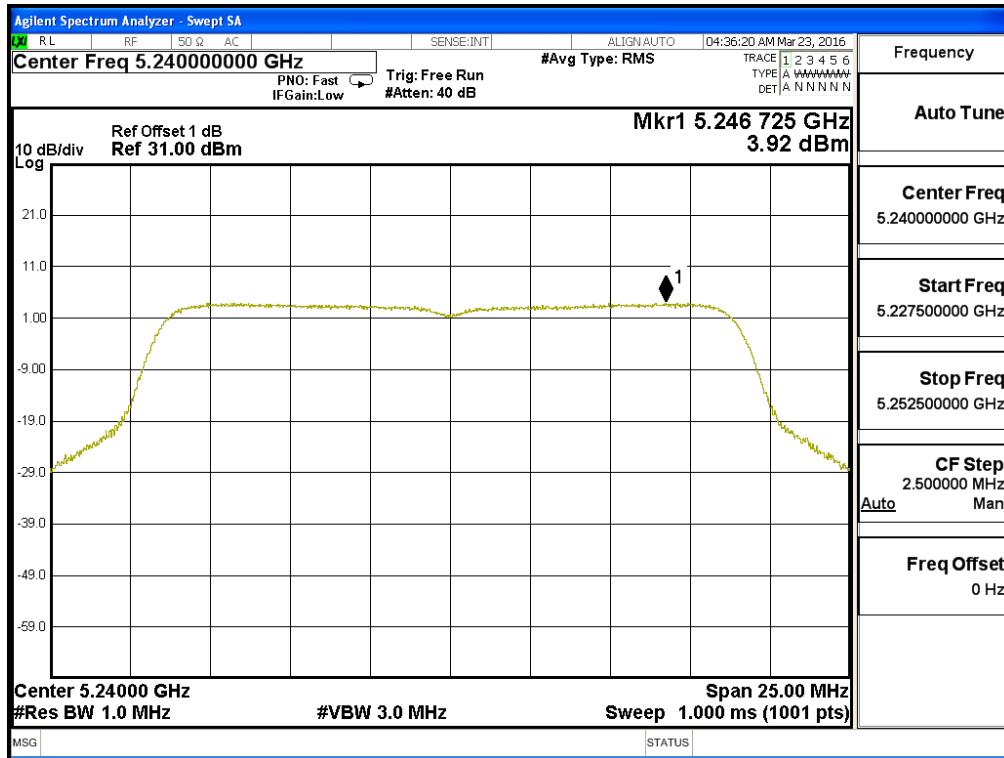
### Channel 36 – Chain A



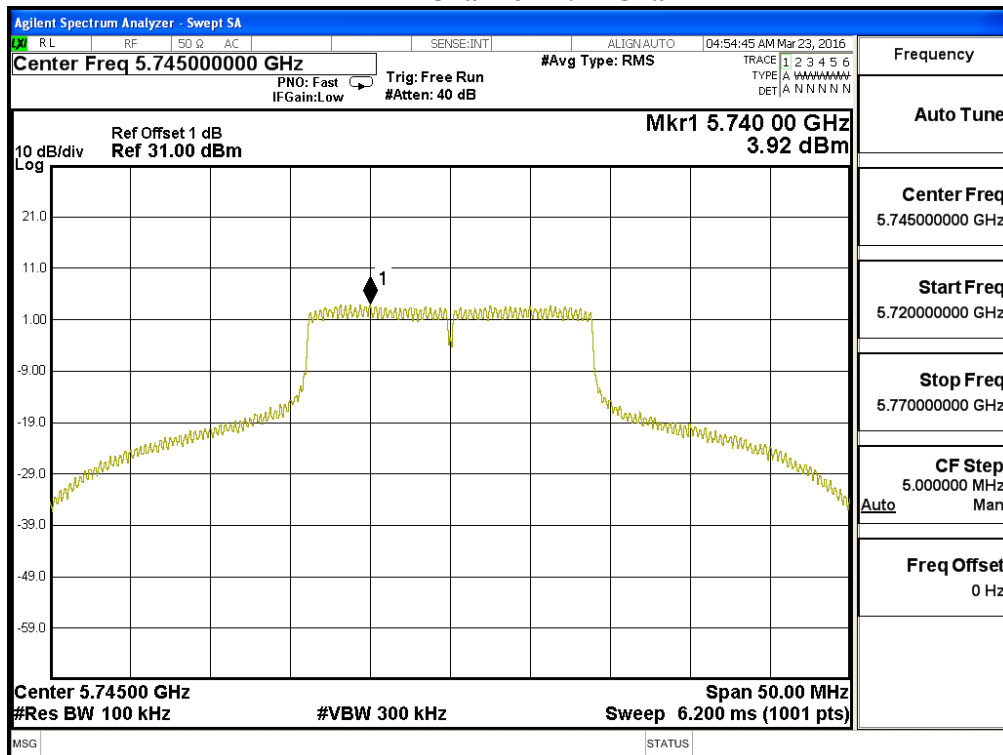
### Channel 44 – Chain A



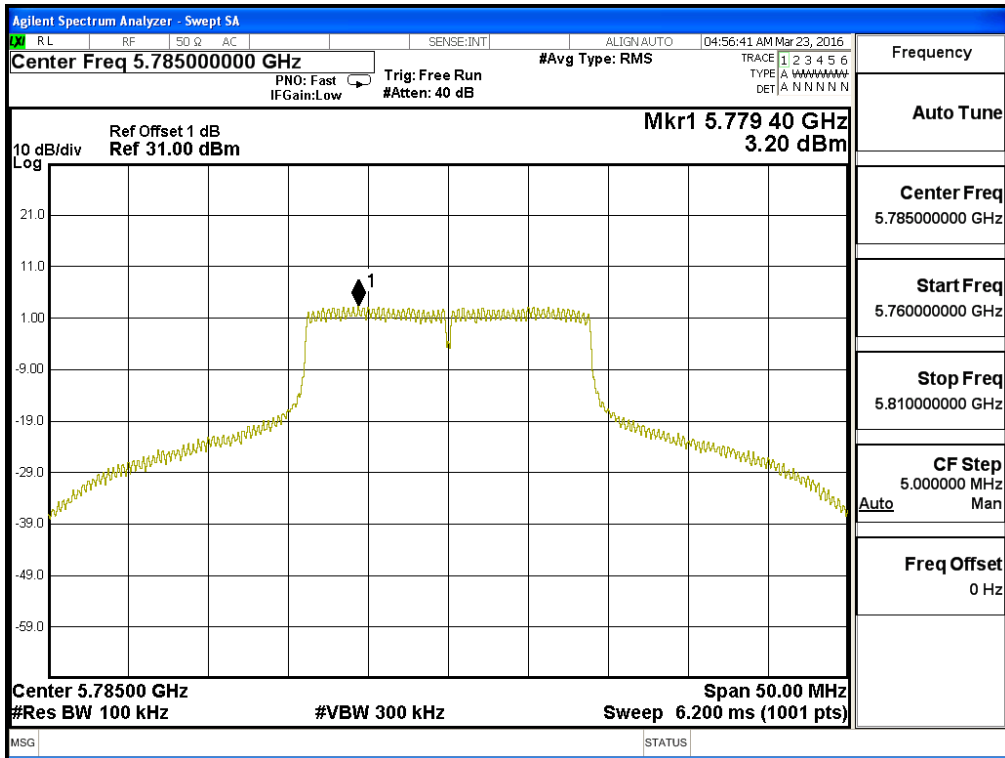
### Channel 48 – Chain A



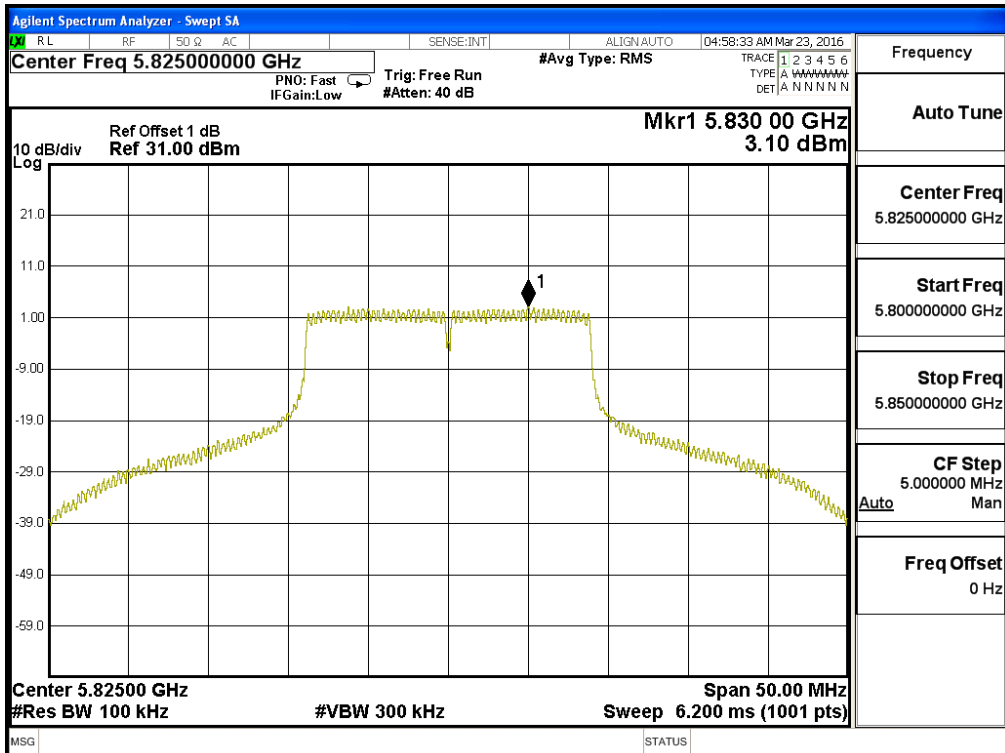
### Channel 149 – Chain A



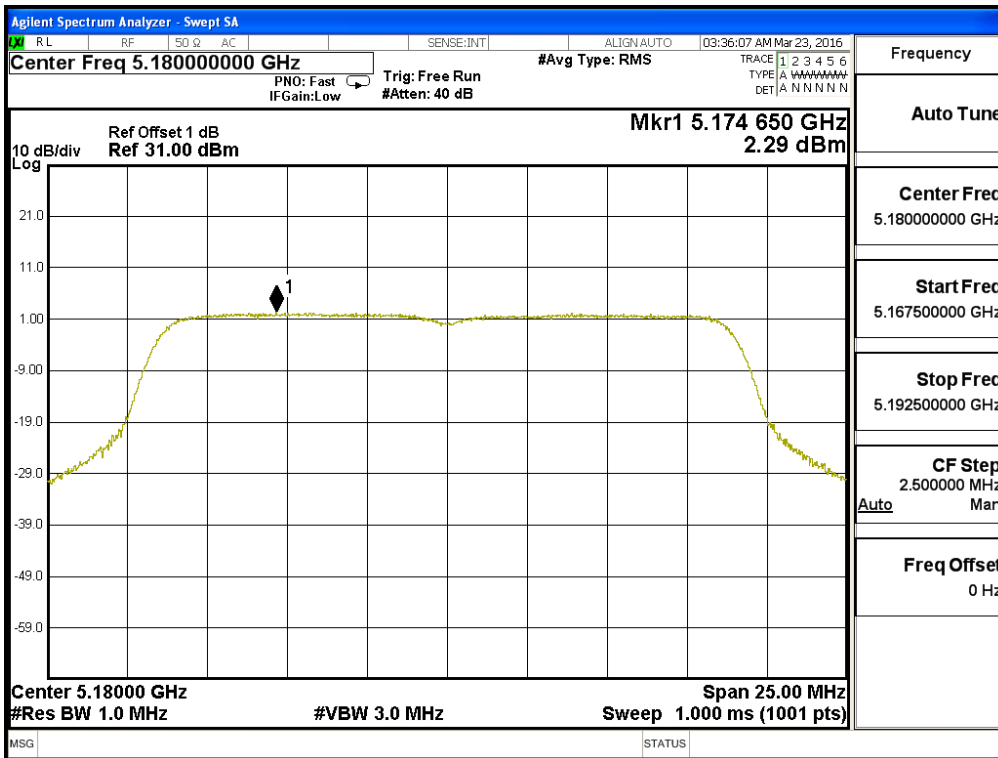
**Channel 157 – Chain A**



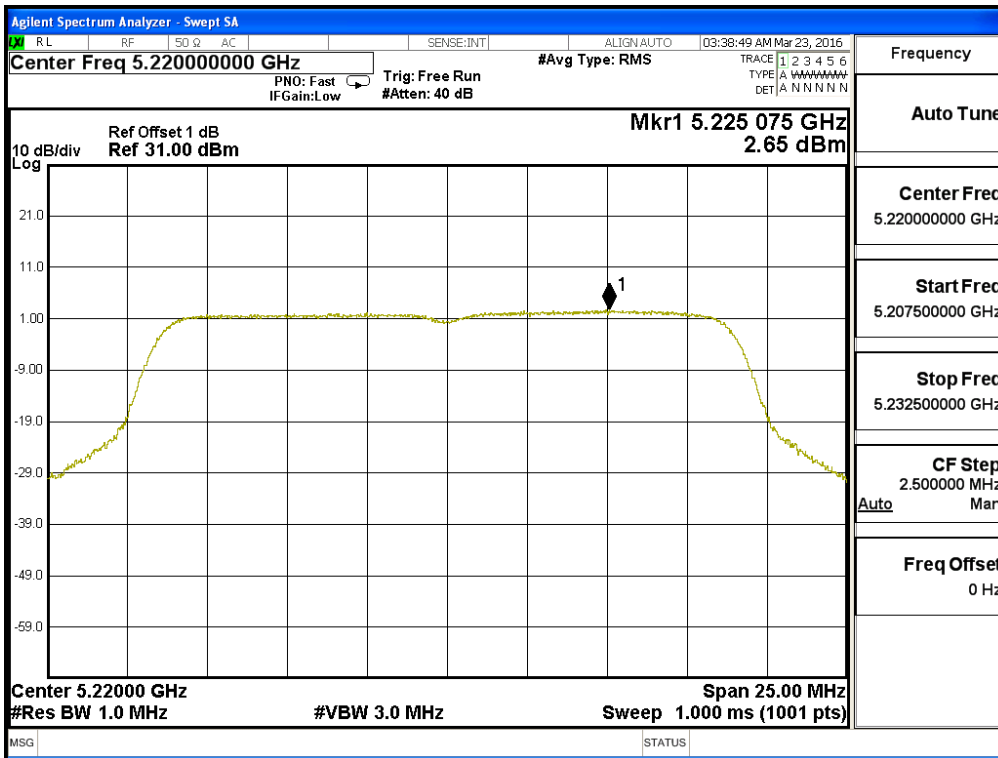
**Channel 165 – Chain A**



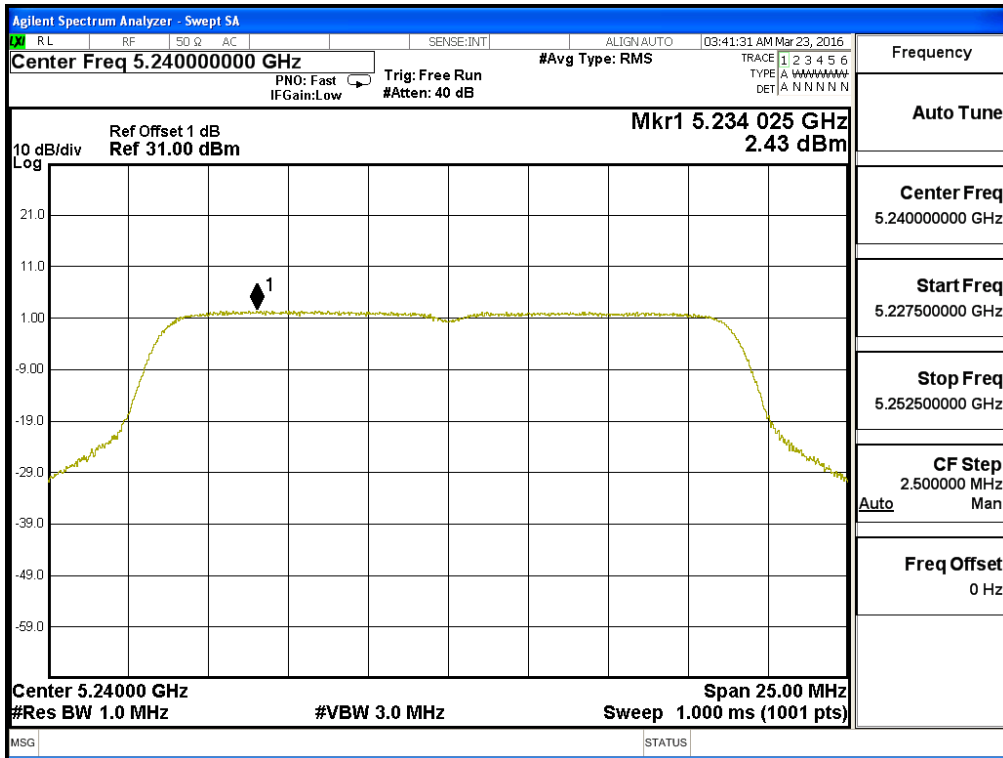
### Channel 36 – Chain B



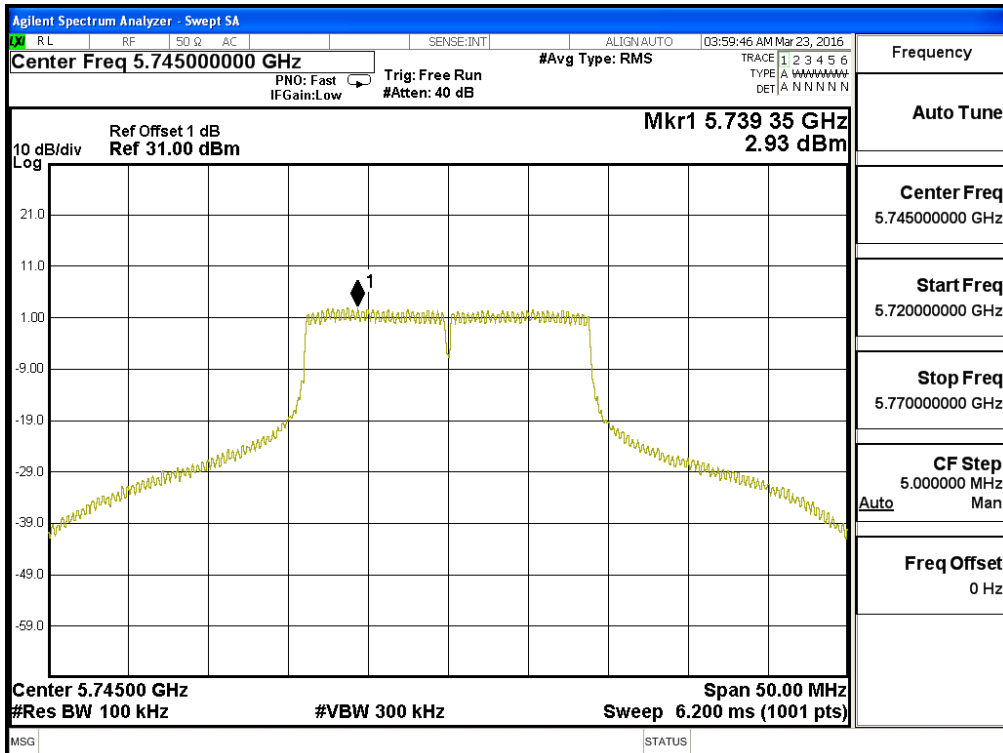
### Channel 44 – Chain B



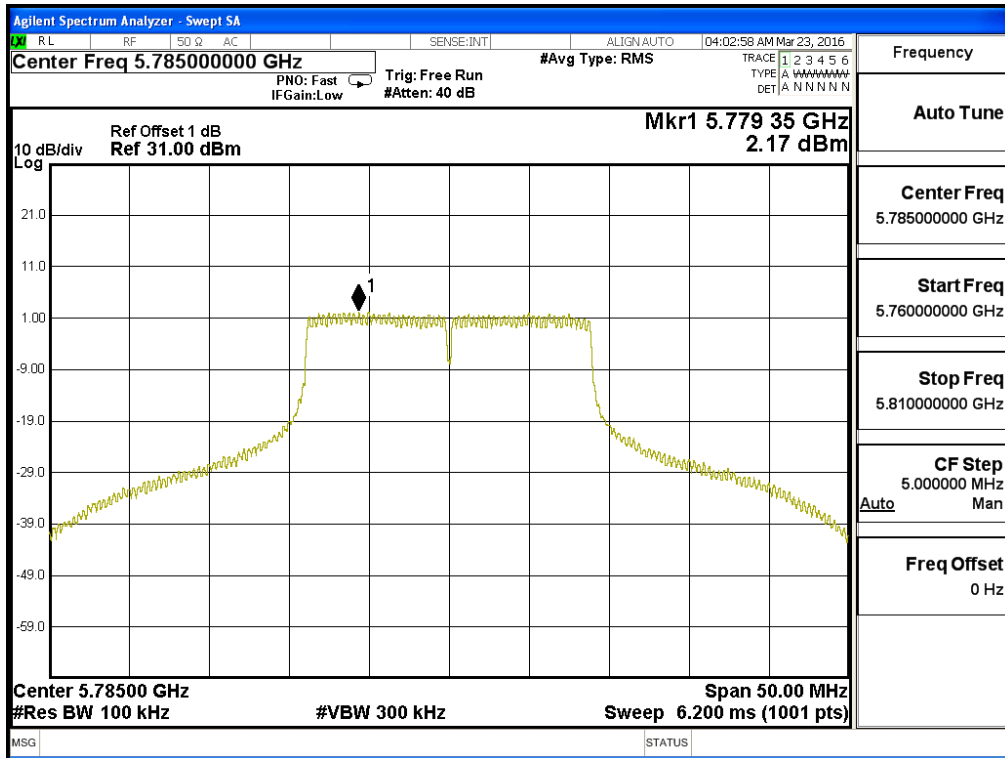
### Channel 48 – Chain B



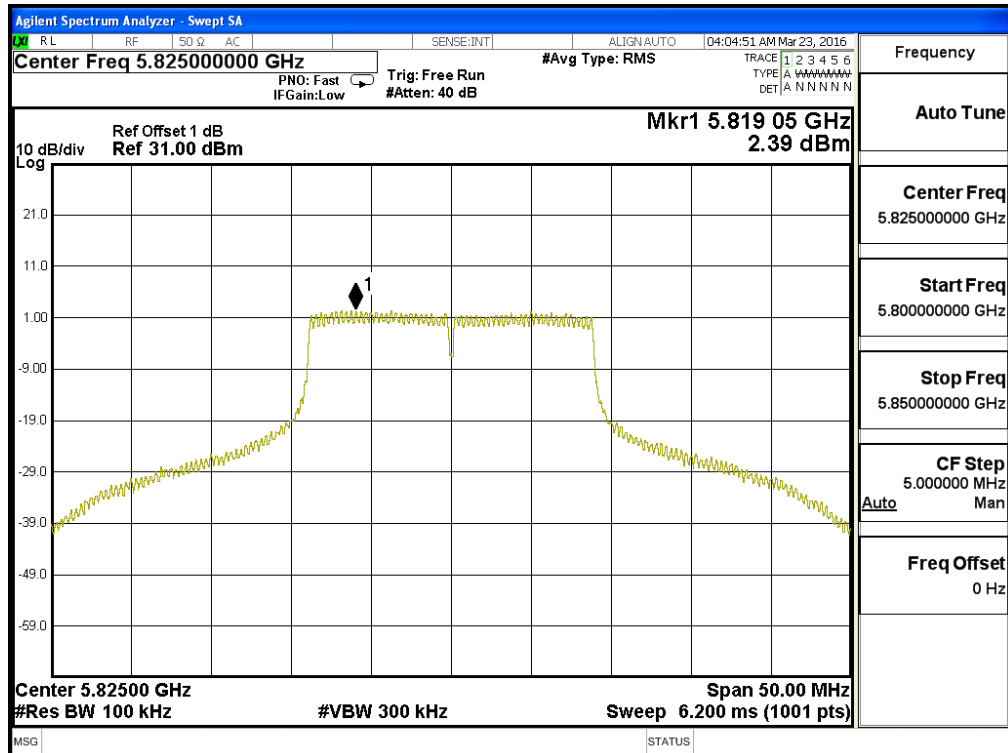
### Channel 149 – Chain B



### Channel 157 – Chain B



### Channel 165 – Chain B



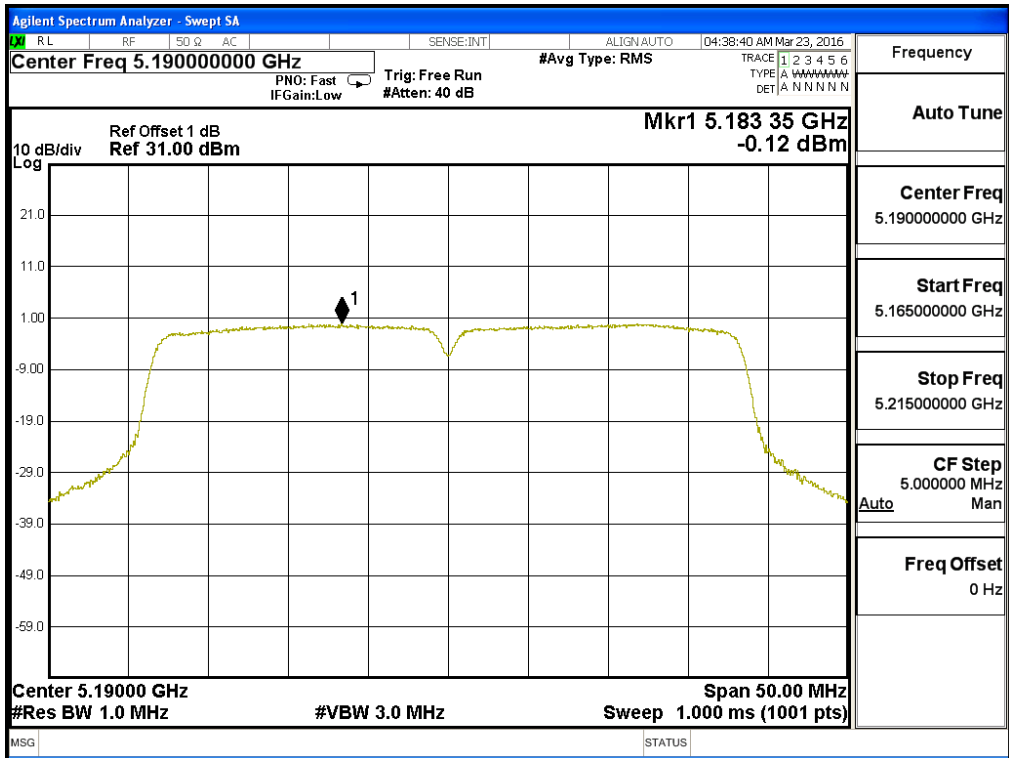
Product : 802.11ac Dual Band Access Point  
 Test Item : Peak Power Spectral Density  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)

Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	Total PPSD (dBm) <sup>1</sup>	Required Limit (dBm)	Result
38	5190	A	-0.120	2.890	17	Pass
		B	-1.080	1.930	17	Pass
46	5230	A	0.940	3.950	17	Pass
		B	-0.370	2.640	17	Pass

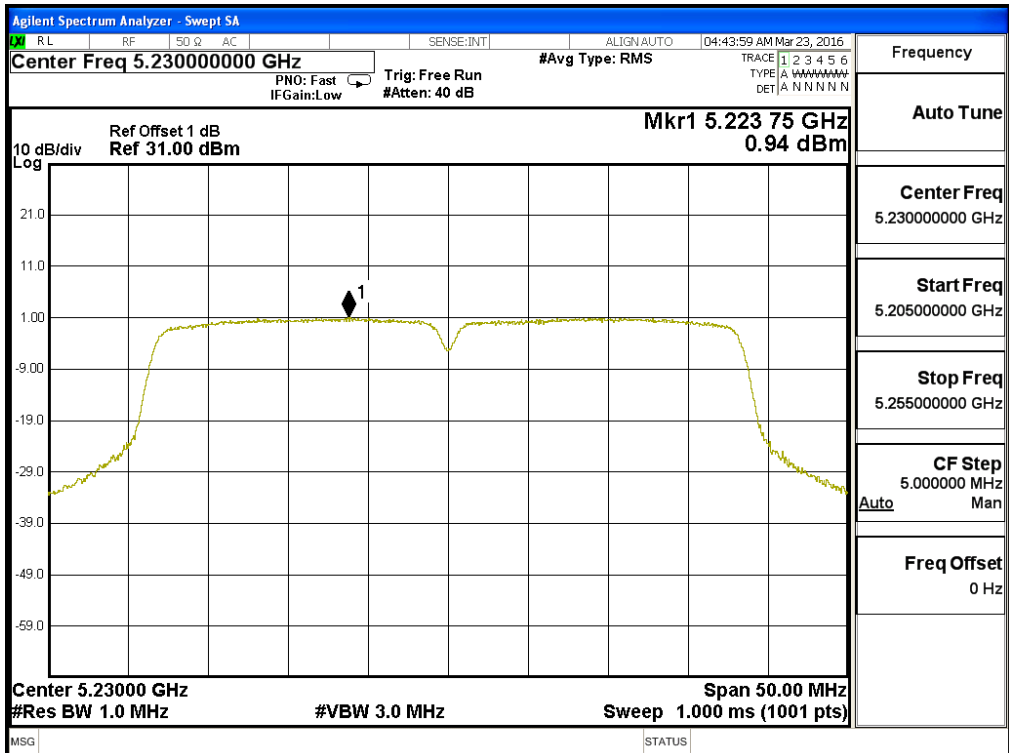
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm) <sup>1</sup>	Required Limit (dBm)	Result
151	5755	A	0.240	6.980	10.230	<30	Pass
		B	-1.290	6.980	8.700	<30	Pass
159	5795	A	-0.640	6.980	9.350	<30	Pass
		B	-1.550	6.980	8.440	<30	Pass

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

### Channel 38 – Chain A

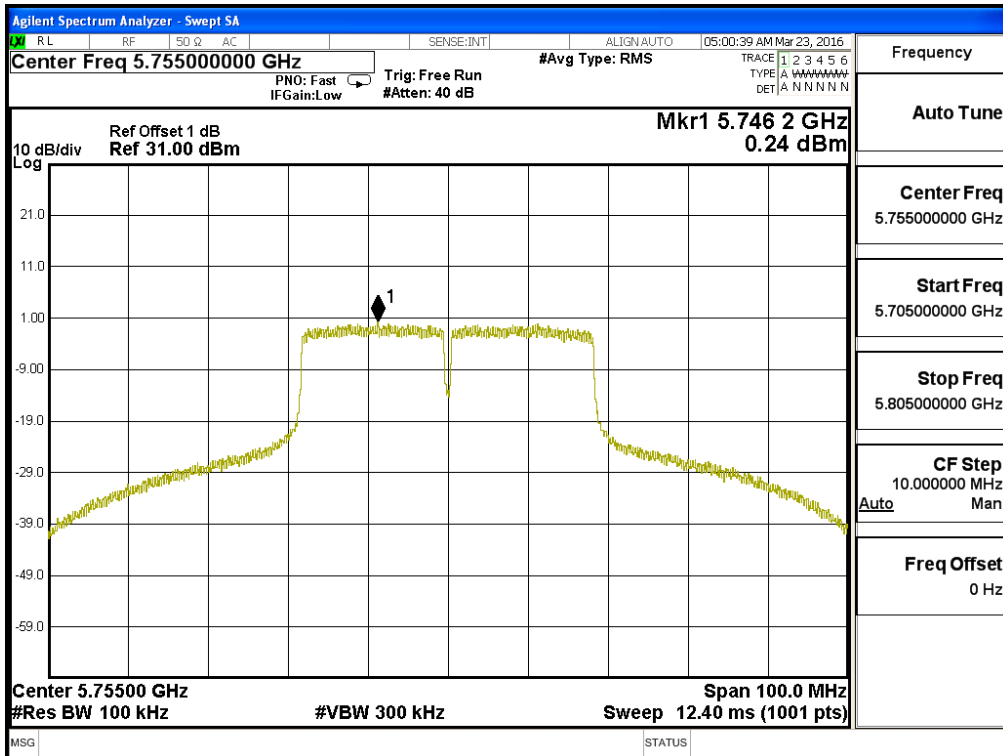


### Channel 46 – Chain A

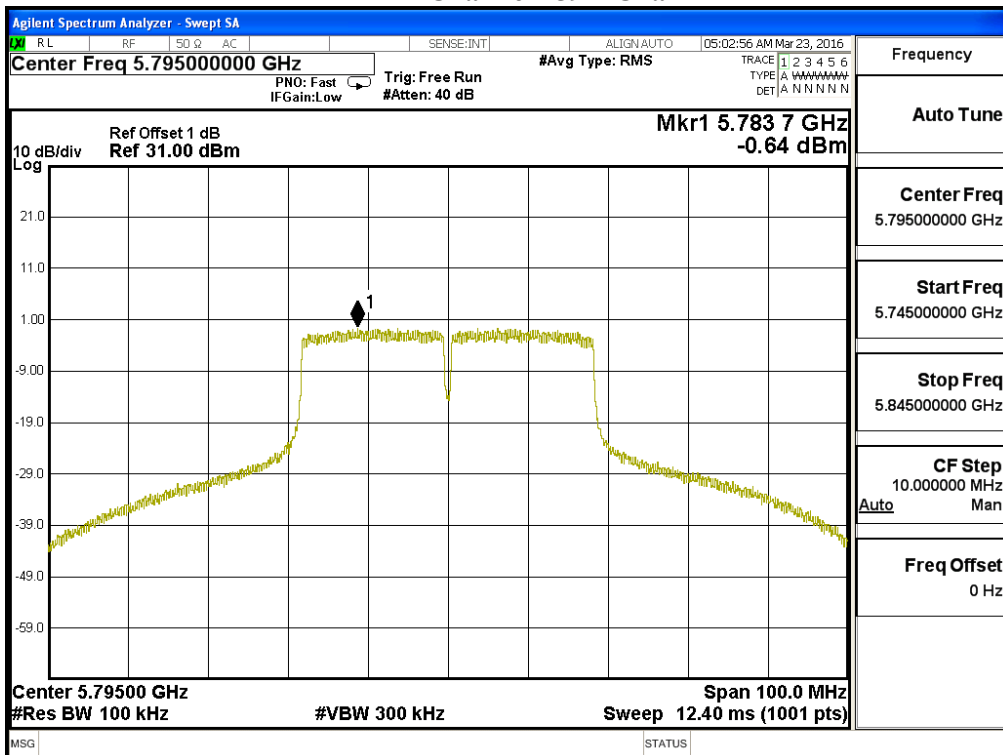




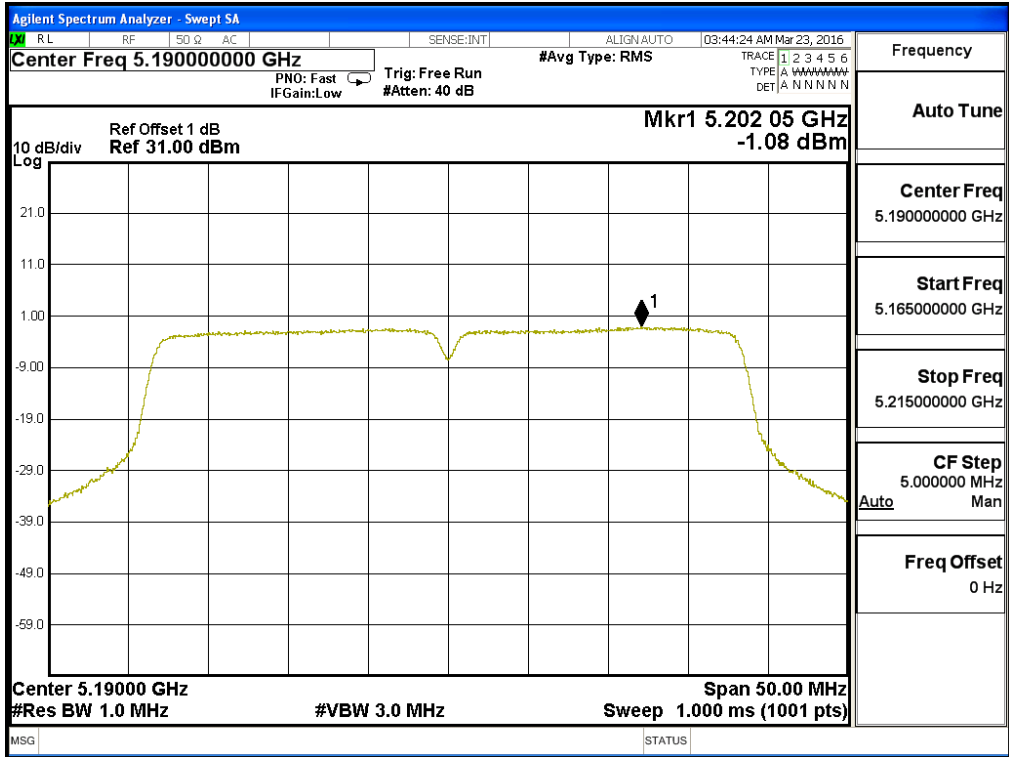
### Channel 151 – Chain A



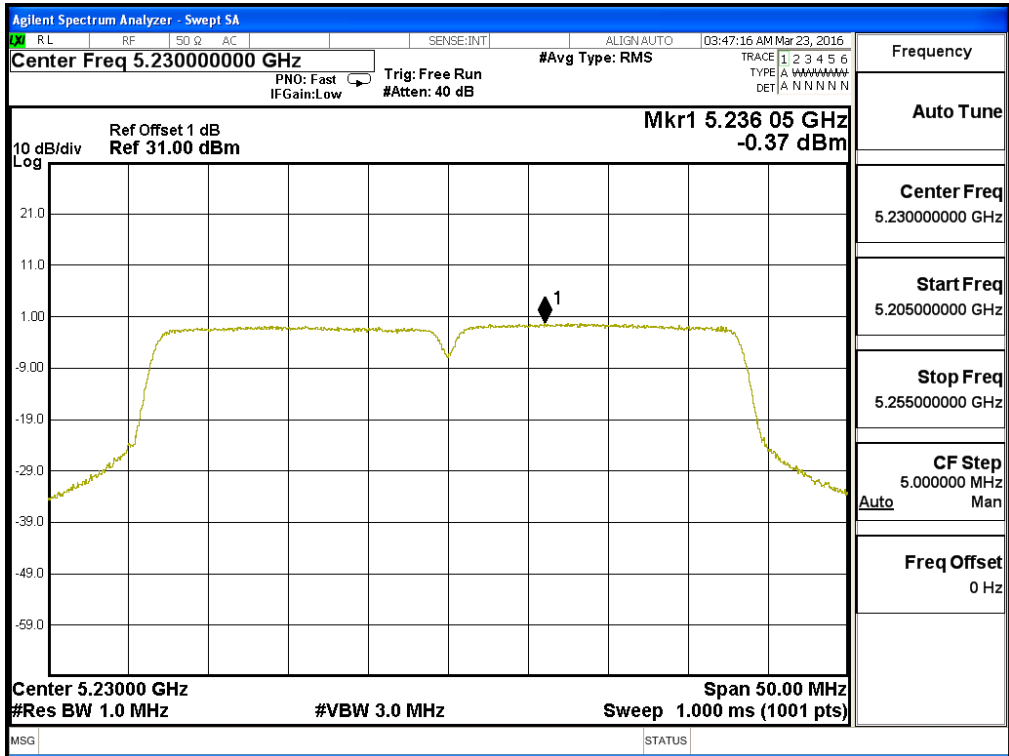
### Channel 159 – Chain A



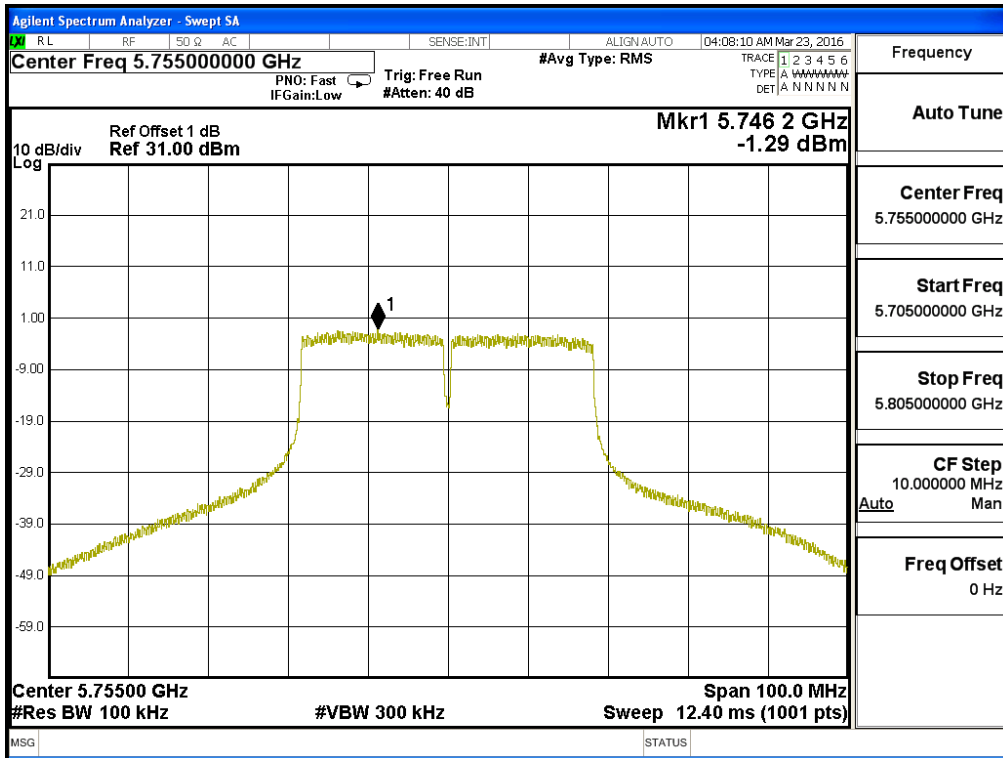
**Channel 38 – Chain B**



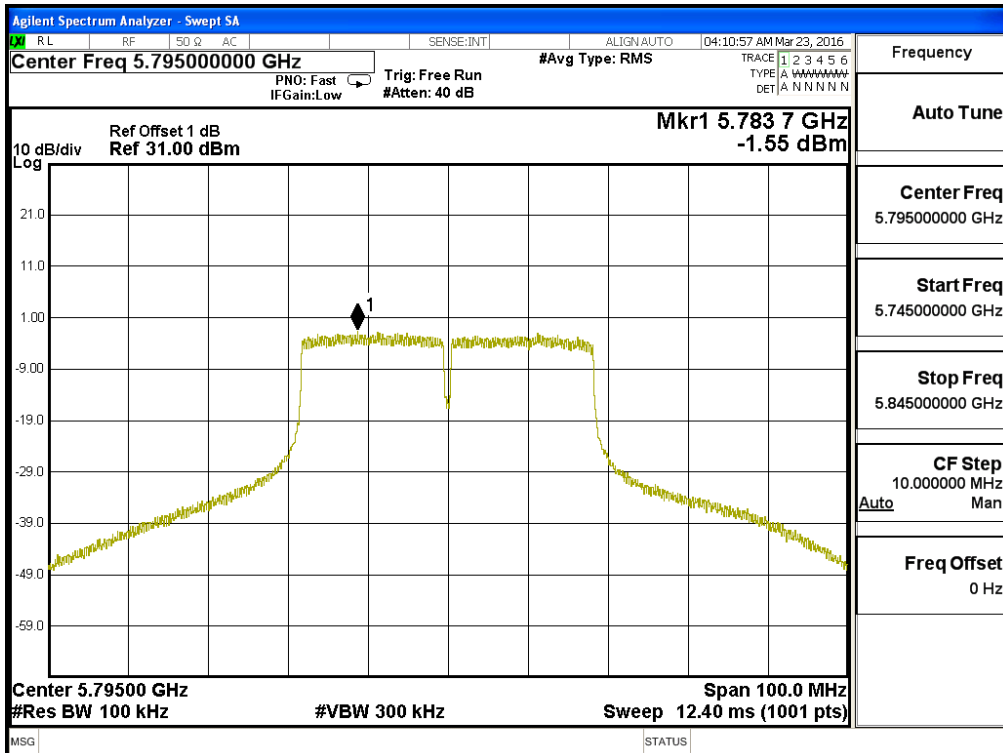
**Channel 46 – Chain B**



### Channel 151 – Chain B



### Channel 159 – Chain B



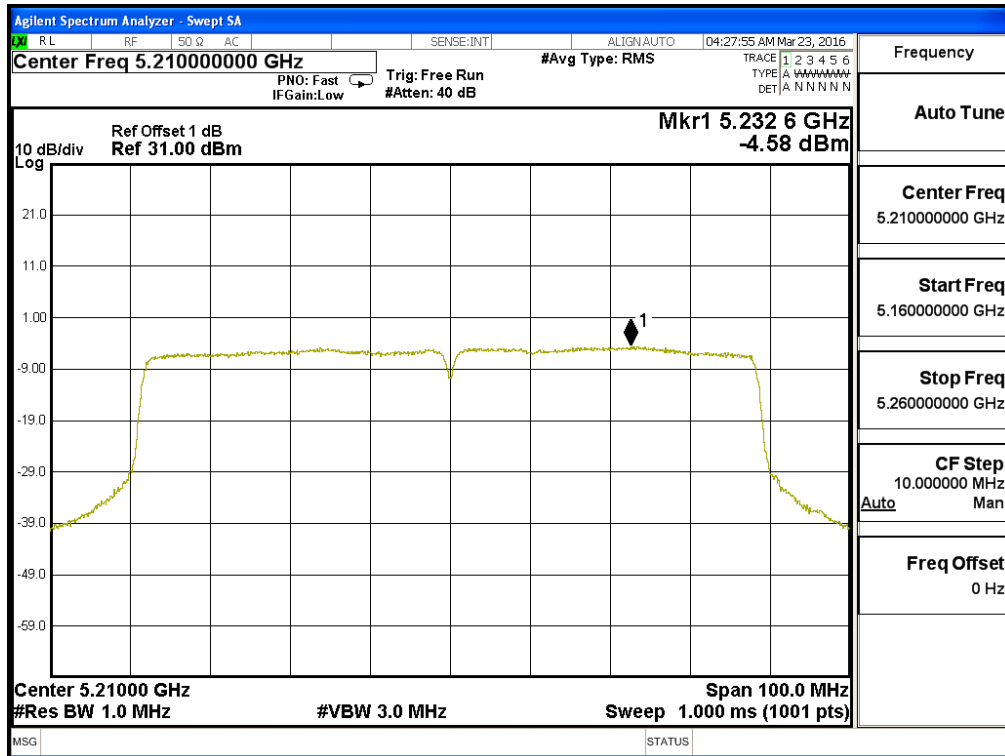
Product : 802.11ac Dual Band Access Point  
 Test Item : Peak Power Spectral Density  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11ac-80BW-65Mbps)

Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	Total PPSD (dBm) <sup>1</sup>	Required Limit (dBm)	Result
42	5210	A	-4.580	-1.570	17	Pass
		B	-5.440	-2.430	17	Pass

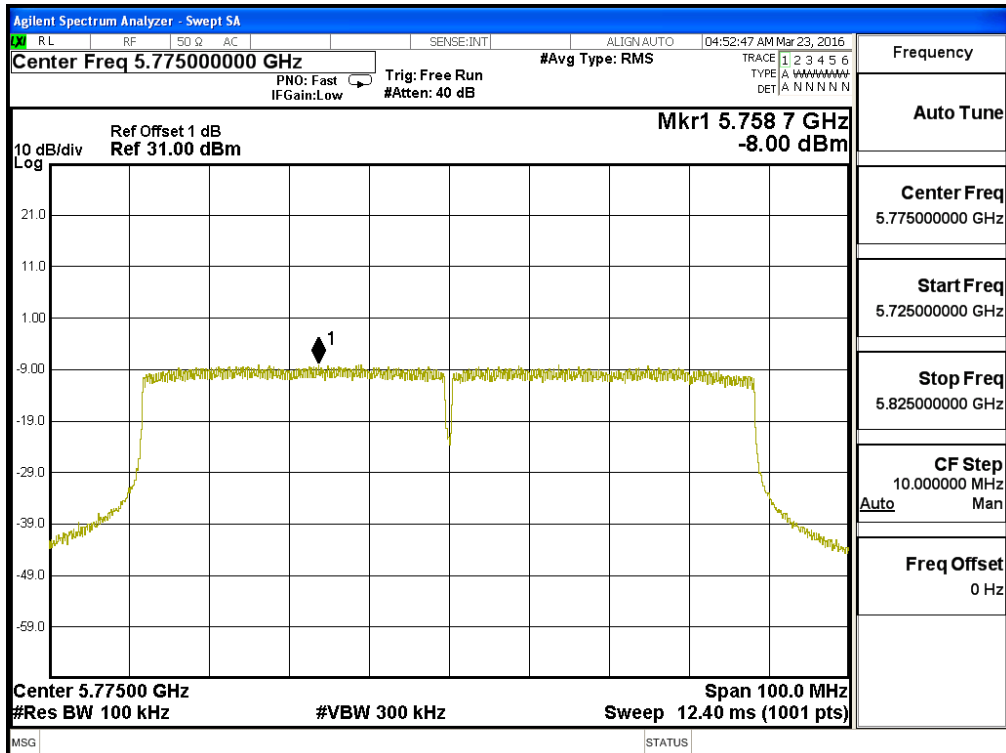
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm) <sup>1</sup>	Required Limit (dBm)	Result
155	5775	A	-8.000	6.980	1.990	<30	Pass
		B	-9.450	6.980	0.540	<30	Pass

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

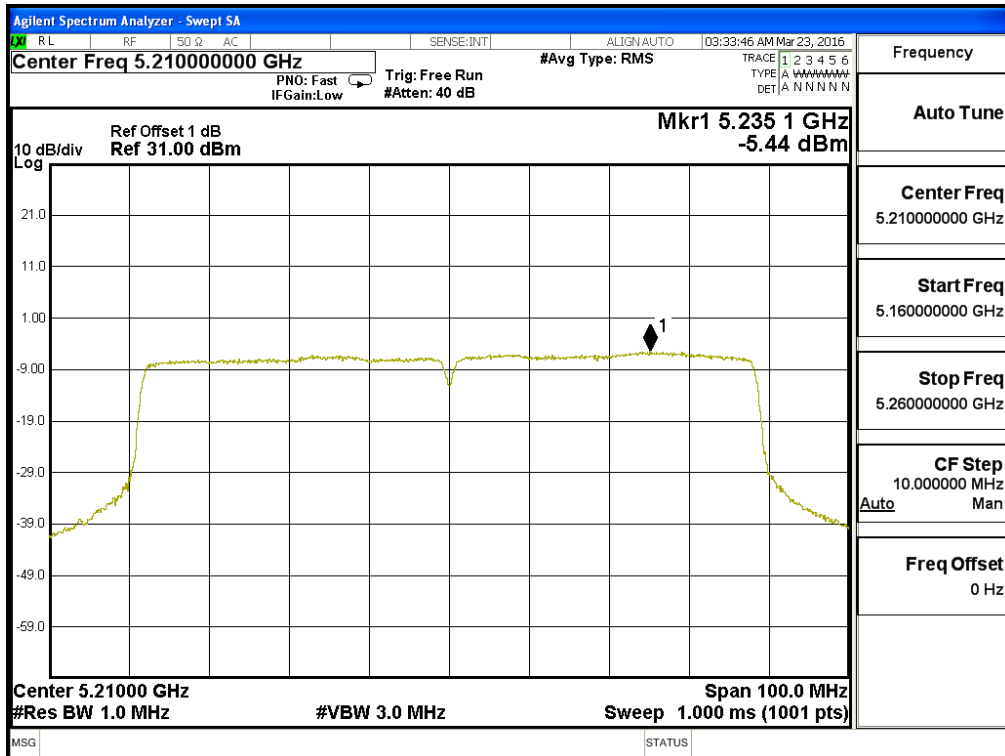
### Channel 42 – Chain A



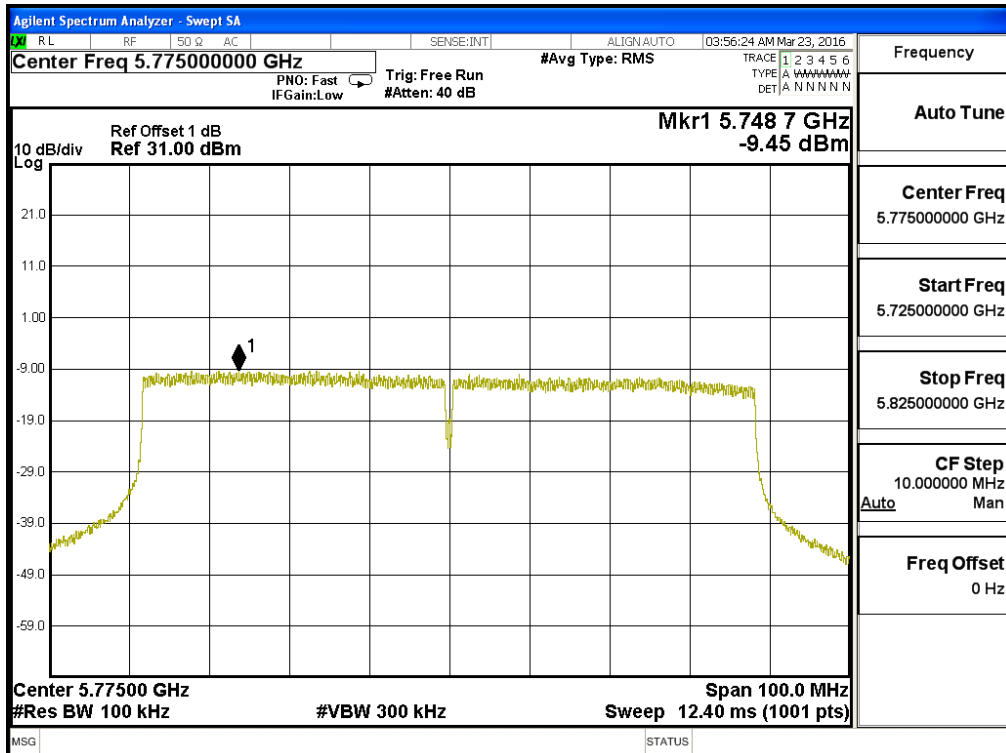
### Channel 155 - Chain A



### Channel 42 – Chain B



### Channel 155 – Chain B



## 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(Arnist)	RG 214/ LC003-RG	Jun, 2015
	X	Coaxial signal switch	Arnist	MP59B/ 6200798682	Jun, 2015

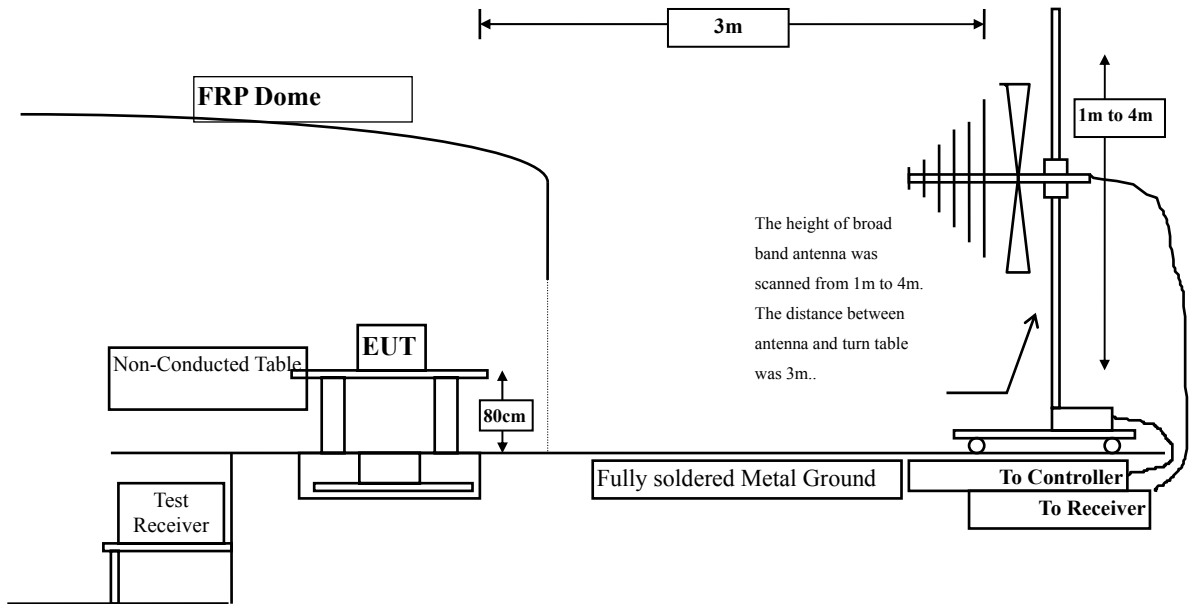
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ CB # 8	X	Spectrum Analyzer	R&S	FSP40/ 100339	Oct, 2015
	X	Horn Antenna	ETS-Lindgren	3117/ 35205	Mar, 2016
	X	Horn Antenna	Schwarzbeck	BBHA9170/209	Jan, 2016
	X	Horn Antenna	TRC	AH-0801/95051	Aug, 2015
	X	Pre-Amplifier	EMCI	EMC012630SE/980210	Jan, 2016
	X	Pre-Amplifier	MITEQ	JS41-001040000-58-5P/153945	Jul, 2015
	X	Pre-Amplifier	NARDA	DBL-1840N506/013	Jul, 2015

Note:

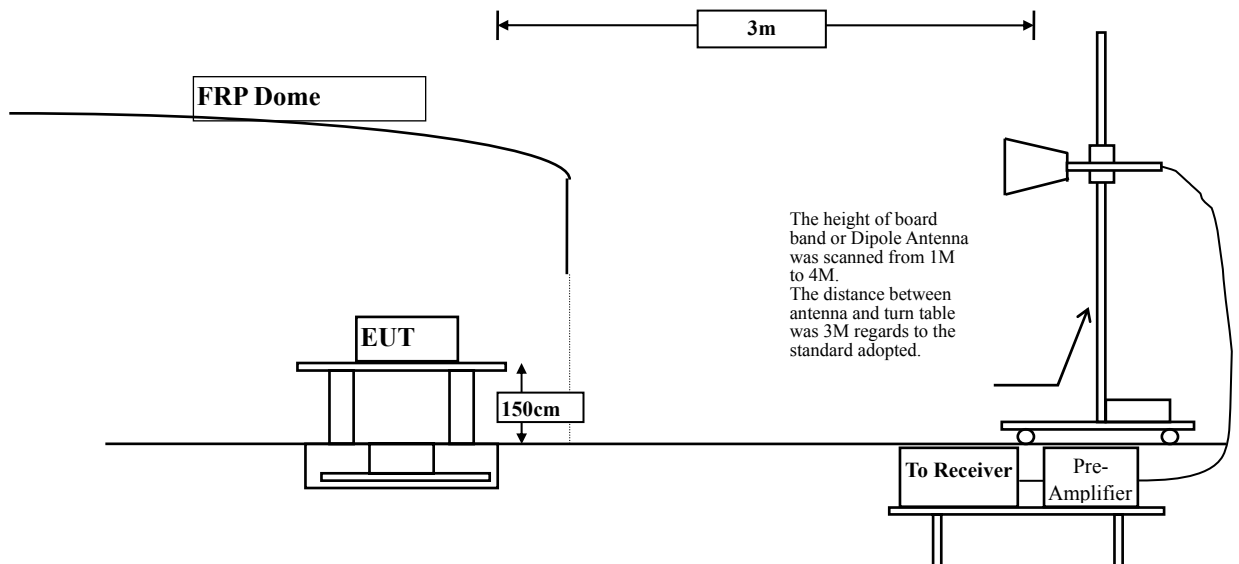
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.
3. All equipments are calibrated every one year.

## 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.

<b>FCC Part 15 Subpart C Paragraph 15.209(a) Limits</b>		
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 dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10360.000	12.930	33.520	46.450	-27.550	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
10360.000	13.724	33.650	47.374	-26.626	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*

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 $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10440.000	13.322	32.670	45.992	-28.008	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
10440.000	14.245	33.290	47.535	-26.465	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*

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 $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10480.000	13.693	32.960	46.654	-27.346	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
10480.000	14.620	33.250	47.871	-26.129	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*

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
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11490.000	17.106	32.840	49.947	-24.053	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
11490.000	18.034	32.760	50.795	-23.205	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*

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
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11570.000	16.809	33.810	50.619	-23.381	74.000
17355.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
11570.000	17.698	33.740	51.438	-22.562	74.000
17355.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*

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 MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11650.000	16.158	33.160	49.318	-24.682	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
11650.000	17.274	32.970	50.245	-23.755	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*

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 14.4Mbps) (5180MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10360.000	12.930	32.970	45.900	-28.100	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
10360.000	13.724	32.680	46.404	-27.596	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*

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 14.4Mbps) (5220MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10440.000	13.322	32.490	45.812	-28.188	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
10440.000	14.245	31.880	46.125	-27.875	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*

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 14.4Mbps) (5240MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10480.000	13.693	32.610	46.304	-27.696	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
10480.000	14.620	33.020	47.641	-26.359	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*

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 14.4Mbps) (5745MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11490.000	17.106	32.240	49.347	-24.653	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
11490.000	18.034	32.290	50.325	-23.675	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*

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 14.4Mbps) (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11570.000	16.809	32.520	49.329	-24.671	74.000
17355.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
11570.000	17.698	32.190	49.888	-24.112	74.000
17355.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*

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 14.4Mbps) (5825MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11650.000	16.158	32.780	48.938	-25.062	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
11650.000	17.274	32.460	49.735	-24.265	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*

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 30Mbps) (5190MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10380.000	12.939	31.920	44.859	-29.141	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
10380.000	13.796	32.410	46.206	-27.794	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*

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 30Mbps) (5230MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10460.000	13.508	32.180	45.688	-28.312	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
10460.000	14.433	31.870	46.303	-27.697	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*

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 30Mbps) (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11510.000	17.124	32.660	49.784	-24.216	74.000
17265.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
31140.000	*	*	*	*	74.000
36330.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
11510.000	18.081	32.190	50.271	-23.729	74.000
17265.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
31140.000	*	*	*	*	74.000
36330.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*

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 30Mbps) (5795MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11590.000	16.701	32.450	49.150	-24.850	74.000
17385.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
11590.000	17.567	32.670	50.236	-23.764	74.000
17385.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	74.000
<b>Average Detector:</b>					
*	*	*	*	*	*

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-65Mbps) (5210MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
10420.000	13.135	32.450	45.585	-28.415	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
<b>Average</b>					
<b>Detector:</b>					
*	*	*	*	*	*
<b>Vertical</b>					
<b>Peak Detector:</b>					
10420.000	14.057	32.170	46.227	-27.773	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
<b>Average</b>					
<b>Detector:</b>					
*	*	*	*	*	*

Note:

- All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- Measurement Level = Reading Level + Correct Factor.
- Correct Factor = Antenna factor + Cable loss – Amplifier gain.
- The average measurement was not performed when the peak measured data under the limit of average detection.
- 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-65Mbps) (5775MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11550.000	16.914	32.270	49.184	-24.816	74.000
17325.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
11550.000	17.826	32.370	50.195	-23.805	74.000
17325.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
<b>Average Detector:</b>					
--					

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 dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
------------------	-------------------------	--------------------------------	--------------------------------------	--------------	-----------------------

**Horizontal**

**Peak Detector**

249.304	-6.004	42.320	36.316	-9.684	46.000
374.420	-1.202	31.565	30.363	-15.637	46.000
499.536	0.051	33.591	33.642	-12.358	46.000
624.652	1.861	27.507	29.368	-16.632	46.000
749.768	3.324	26.914	30.238	-15.762	46.000
932.522	6.858	23.676	30.533	-15.467	46.000

**Vertical**

**Peak Detector**

249.304	-7.622	40.123	32.502	-13.498	46.000
374.420	-2.179	28.927	26.748	-19.252	46.000
499.536	-0.848	33.165	32.317	-13.683	46.000
600.754	-2.748	28.657	25.909	-20.091	46.000
749.768	2.515	25.528	28.043	-17.957	46.000
900.188	3.388	25.965	29.353	-16.647	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 14.4Mbps) (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector</b>					
96.072	-7.811	38.852	31.042	-12.458	43.500
249.304	-6.004	41.107	35.103	-10.897	46.000
499.536	0.051	33.651	33.702	-12.298	46.000
624.652	1.861	28.355	30.216	-15.784	46.000
749.768	3.324	28.906	32.230	-13.770	46.000
900.188	5.549	25.995	31.544	-14.456	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
111.536	-0.981	35.820	34.840	-8.660	43.500
288.667	-8.221	41.916	33.695	-12.305	46.000
499.536	-0.848	32.641	31.793	-14.207	46.000
749.768	2.515	26.986	29.501	-16.499	46.000
874.884	1.443	26.037	27.480	-18.520	46.000
950.797	6.619	23.427	30.046	-15.954	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 14.4Mbps) (5220MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector</b>					
93.261	-8.436	38.672	30.236	-13.264	43.500
249.304	-6.004	41.851	35.847	-10.153	46.000
499.536	0.051	33.513	33.564	-12.436	46.000
624.652	1.861	27.611	29.472	-16.528	46.000
749.768	3.324	27.822	31.146	-14.854	46.000
908.623	6.011	24.623	30.634	-15.366	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
110.130	-0.531	32.753	32.222	-11.278	43.500
249.304	-7.622	40.335	32.714	-13.286	46.000
374.420	-2.179	28.423	26.244	-19.756	46.000
499.536	-0.848	31.638	30.790	-15.210	46.000
749.768	2.515	26.288	28.803	-17.197	46.000
900.188	3.388	26.250	29.638	-16.362	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 14.4Mbps) (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector</b>					
249.304	-6.004	41.352	35.348	-10.652	46.000
374.420	-1.202	31.839	30.637	-15.363	46.000
499.536	0.051	34.347	34.398	-11.602	46.000
624.652	1.861	28.251	30.112	-15.888	46.000
749.768	3.324	28.542	31.866	-14.134	46.000
874.884	5.221	25.733	30.954	-15.046	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
249.304	-7.622	39.785	32.164	-13.836	46.000
374.420	-2.179	29.782	27.603	-18.397	46.000
499.536	-0.848	32.477	31.629	-14.371	46.000
692.130	2.343	23.537	25.880	-20.120	46.000
843.957	3.138	25.106	28.244	-17.756	46.000
949.391	6.615	24.063	30.678	-15.322	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 3: Transmit (802.11n-40BW 30Mbps) (5190MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
<b>Horizontal</b>					
<b>Peak Detector</b>					
249.304	-6.004	41.293	35.289	-10.711	46.000
374.420	-1.202	30.752	29.550	-16.450	46.000
499.536	0.051	33.769	33.820	-12.180	46.000
624.652	1.861	27.533	29.394	-16.606	46.000
749.768	3.324	27.536	30.860	-15.140	46.000
933.928	6.630	23.368	29.999	-16.001	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
249.304	-7.622	39.547	31.926	-14.074	46.000
382.855	-2.110	25.617	23.507	-22.493	46.000
499.536	-0.848	32.325	31.477	-14.523	46.000
624.652	-2.567	27.335	24.769	-21.231	46.000
749.768	2.515	27.745	30.260	-15.740	46.000
949.391	6.615	24.070	30.685	-15.315	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 3: Transmit (802.11n-40BW 30Mbps) (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector</b>					
249.304	-6.004	40.793	34.789	-11.211	46.000
374.420	-1.202	32.852	31.650	-14.350	46.000
499.536	0.051	32.169	32.220	-13.780	46.000
624.652	1.861	24.933	26.794	-19.206	46.000
738.522	2.902	26.333	29.235	-16.765	46.000
935.333	6.448	22.498	28.946	-17.054	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
287.261	-8.153	36.584	28.431	-17.569	46.000
374.420	-2.179	28.539	26.360	-19.640	46.000
499.536	-0.848	32.325	31.477	-14.523	46.000
685.101	2.239	23.382	25.621	-20.379	46.000
794.754	2.853	24.620	27.473	-18.527	46.000
929.710	6.434	23.894	30.328	-15.672	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-65Mbps) (5210MHz)

Frequency MHz	Correct Factor dB	Reading Level dB $\mu$ V	Measurement Level dB $\mu$ V/m	Margin dB	Limit dB $\mu$ V/m
<b>Horizontal</b>					
<b>Peak Detector</b>					
108.725	-7.307	34.215	26.908	-16.592	43.500
299.913	-3.564	35.087	31.523	-14.477	46.000
544.522	3.597	24.577	28.174	-17.826	46.000
658.391	2.117	25.433	27.549	-18.451	46.000
798.971	5.150	24.265	29.415	-16.585	46.000
929.710	7.135	23.953	31.088	-14.912	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
153.710	-6.217	33.333	27.116	-16.384	43.500
287.261	-8.153	36.916	28.763	-17.237	46.000
499.536	-0.848	32.256	31.408	-14.592	46.000
600.754	-2.748	29.740	26.992	-19.008	46.000
749.768	2.515	27.697	30.212	-15.788	46.000
946.580	6.596	25.274	31.870	-14.130	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-65Mbps) (5775MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
<b>Horizontal</b>					
<b>Peak Detector</b>					
105.913	-6.721	35.164	28.444	-15.056	43.500
294.290	-3.800	36.116	32.315	-13.685	46.000
461.580	1.526	23.801	25.327	-20.673	46.000
624.652	1.861	27.698	29.559	-16.441	46.000
793.348	5.193	24.323	29.515	-16.485	46.000
957.826	6.265	23.141	29.406	-16.594	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
156.522	-6.199	35.172	28.973	-14.527	43.500
284.449	-8.158	36.571	28.413	-17.587	46.000
506.565	-0.582	26.214	25.631	-20.369	46.000
624.652	-2.567	27.950	25.384	-20.616	46.000
786.319	2.978	23.259	26.237	-19.763	46.000
931.116	6.341	23.872	30.213	-15.787	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., 2016

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:

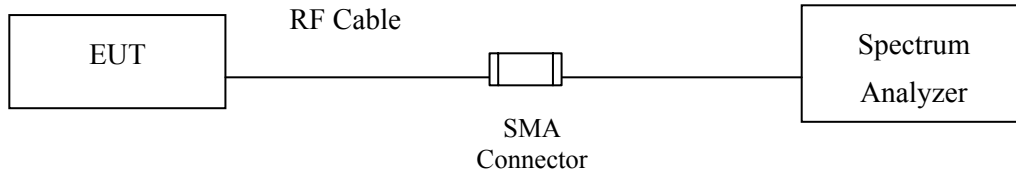
The following test equipments are used during the band edge tests:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒CB # 8	X	Spectrum Analyzer	R&S	FSP40/ 100339	Oct, 2015
	X	Horn Antenna	ETS-Lindgren	3117/ 35205	Mar, 2016
	X	Horn Antenna	Schwarzbeck	BBHA9170/209	Jan, 2016
	X	Horn Antenna	TRC	AH-0801/95051	Aug, 2015
	X	Pre-Amplifier	EMCI	EMC012630SE/980210	Jan, 2016
	X	Pre-Amplifier	MITEQ	JS41-001040000-58-5P/153945	Jul, 2015
	X	Pre-Amplifier	NARDA	DBL-1840N506/013	Jul, 2015

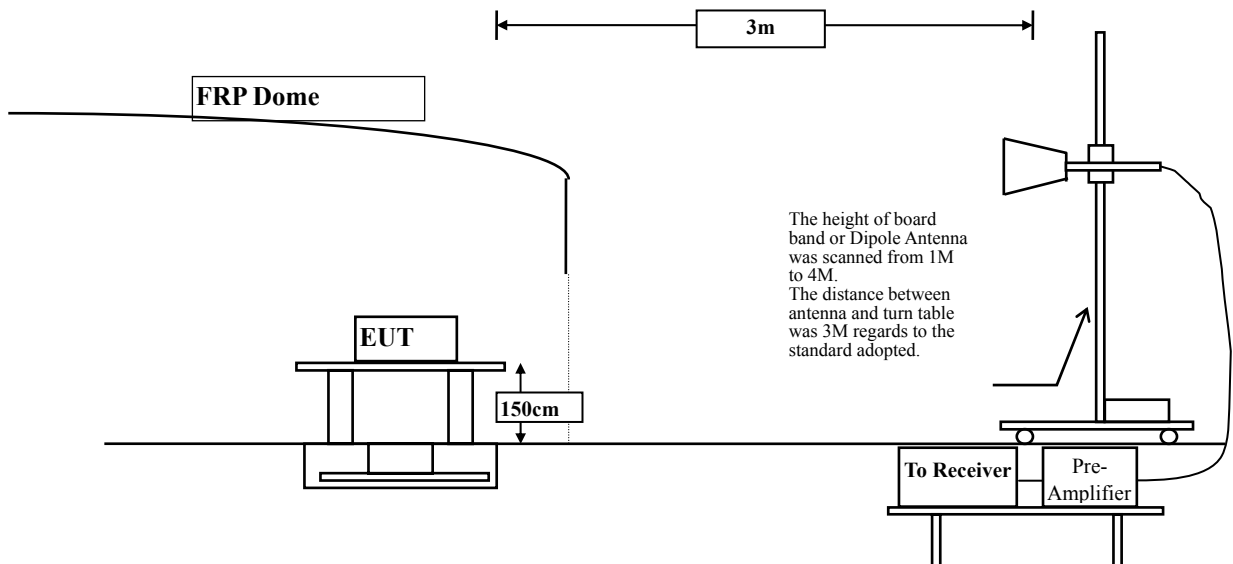
- Note:
1. All instruments are calibrated every one year.
  2. The test instruments marked by "X" are used to measure the final test results.

## 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:

<b>FCC Part 15 Subpart C Paragraph 15.209 Limits</b>		
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

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 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 DTS 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

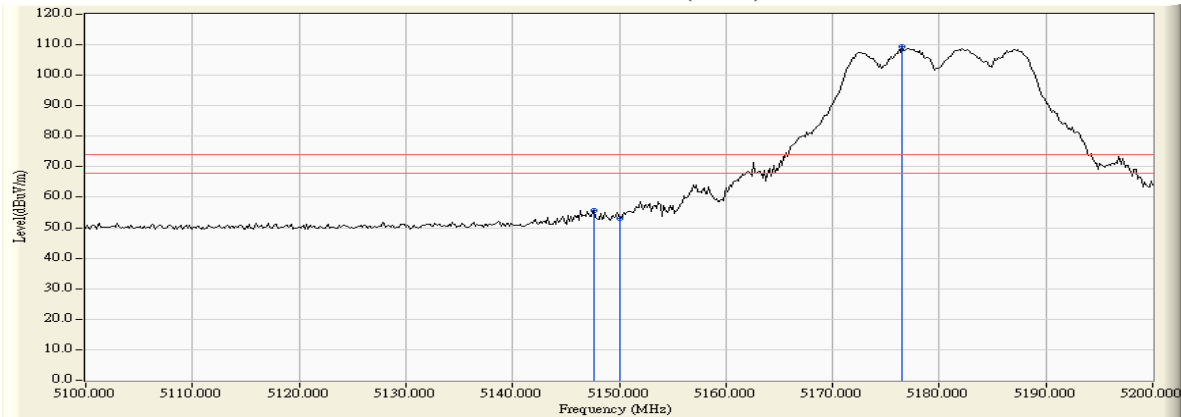
### 6.6. Test Result of Band Edge

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

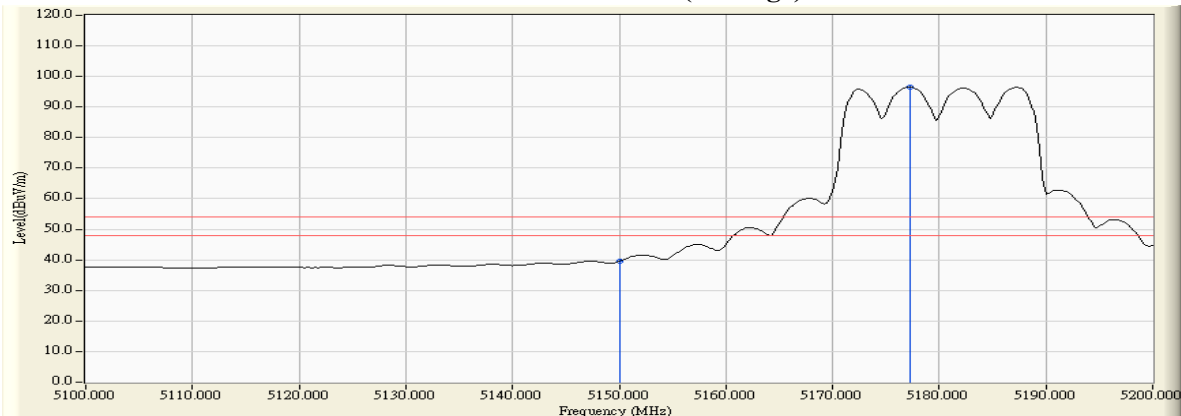
#### RF Radiated Measurement (Horizontal):

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)	5147.681	33.493	52.154	55.503	74.00	54.00	Pass
36 (Peak)	5150.000	33.485	49.618	52.958	74.00	54.00	Pass
36 (Peak)	5176.522	33.394	106.037	109.284	--	--	--
36 (Average)	5150.000	3.340	36.209	39.549	74.00	54.00	Pass
36 (Average)	5177.246	3.244	93.297	96.541	--	--	--

**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.

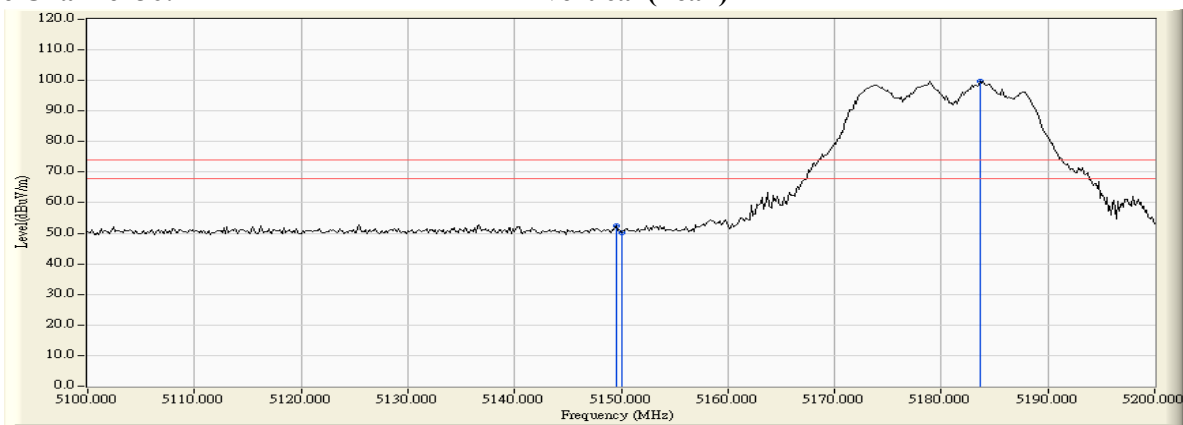


Product : 802.11ac Dual Band Access Point  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 36

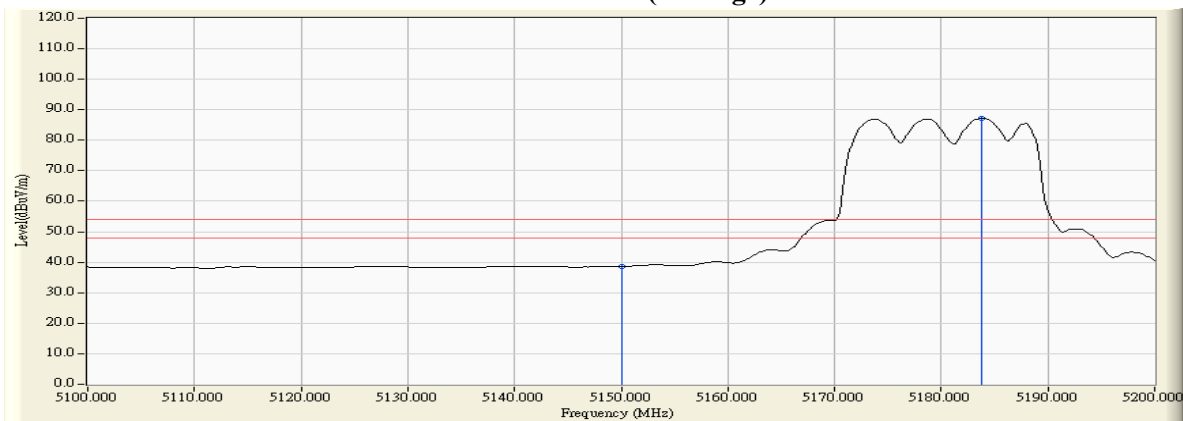
**RF Radiated Measurement (Vertical):**

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)	5149.565	5.259	47.187	52.446	74.00	54.00	Pass
36 (Peak)	5150.000	5.260	45.039	50.299	74.00	54.00	Pass
36 (Peak)	5183.623	5.351	94.317	99.668	--	--	--
36 (Average)	5150.000	5.260	33.335	38.595	74.00	54.00	Pass
36 (Average)	5183.768	5.352	81.882	87.234	--	--	--

**Figure Channel 36: Vertical (Peak)**



**Figure Channel 36: Vertical (Average)**



Note:

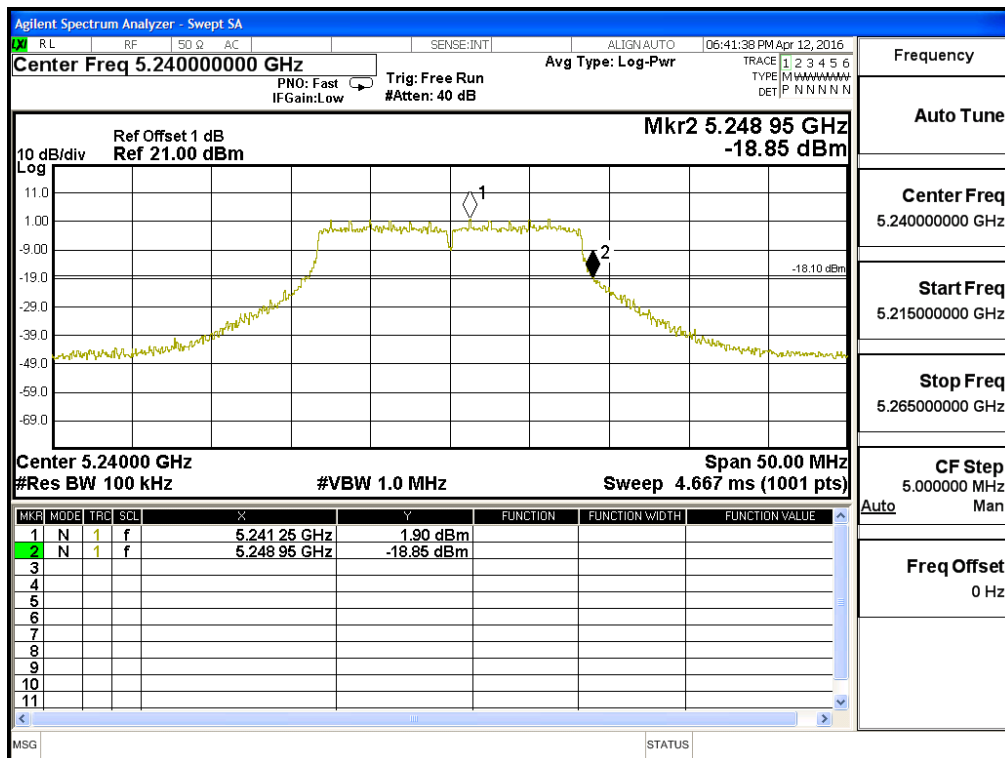
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading 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	5248.95	<5250	PASS

NOTE: Accordance with 15.215 requirement.

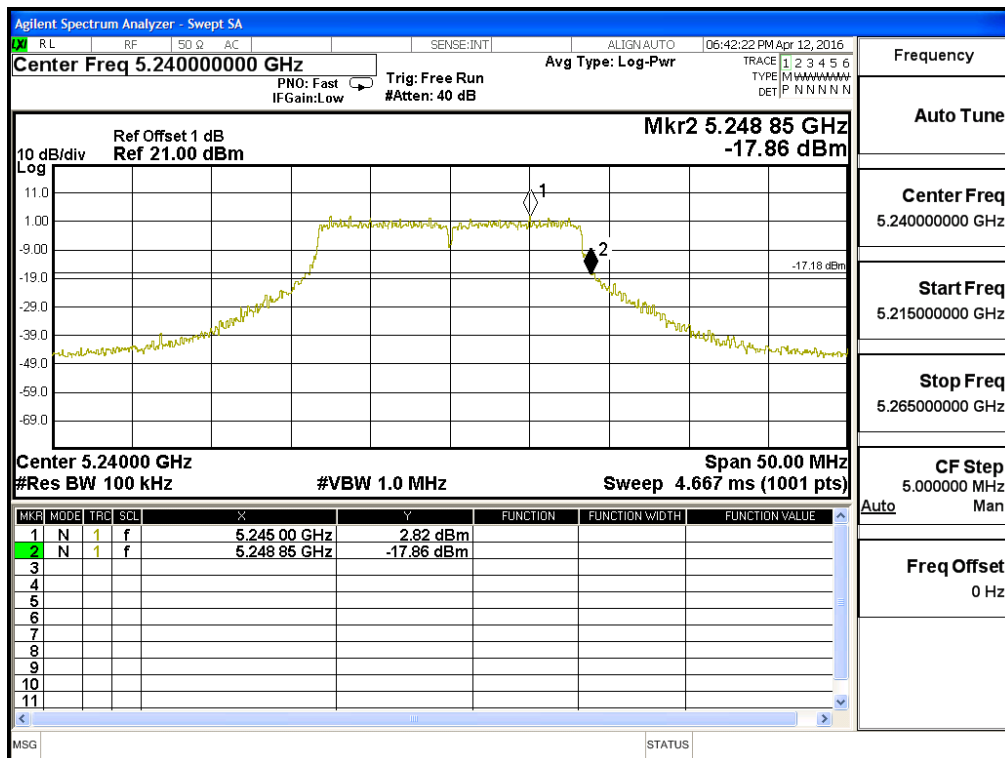


Product : 802.11ac Dual Band Access Point  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 48

**Chain B**

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5248.85	<5250	PASS

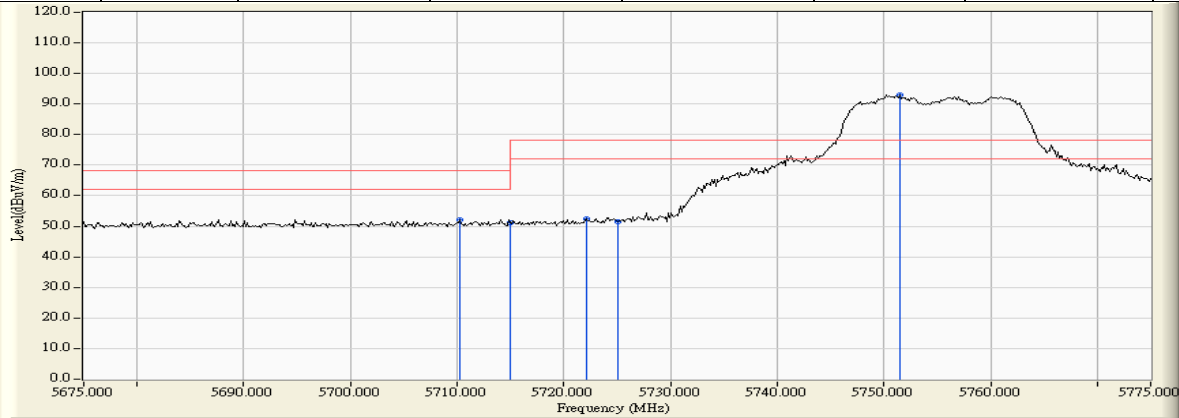
NOTE: Accordance with 15.215 requirement.



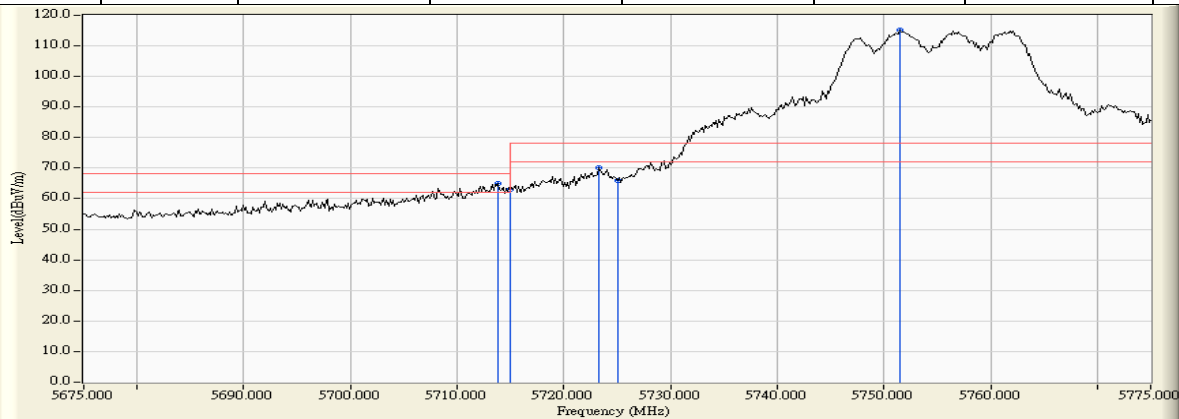
Product : 802.11ac Dual Band Access Point  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 149

**RF Radiated Measurement:**

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5710.217	4.651	47.506	52.157	-16.063	68.220	Pass
Horizontal	5715.000	4.652	46.381	51.033	-17.187	68.220	Pass
Horizontal	5722.101	4.654	47.887	52.541	-25.679	78.220	Pass
Horizontal	5725.000	4.654	46.820	51.474	-26.746	78.220	Pass
Horizontal	5751.522	4.658	88.396	93.054	--	--	--



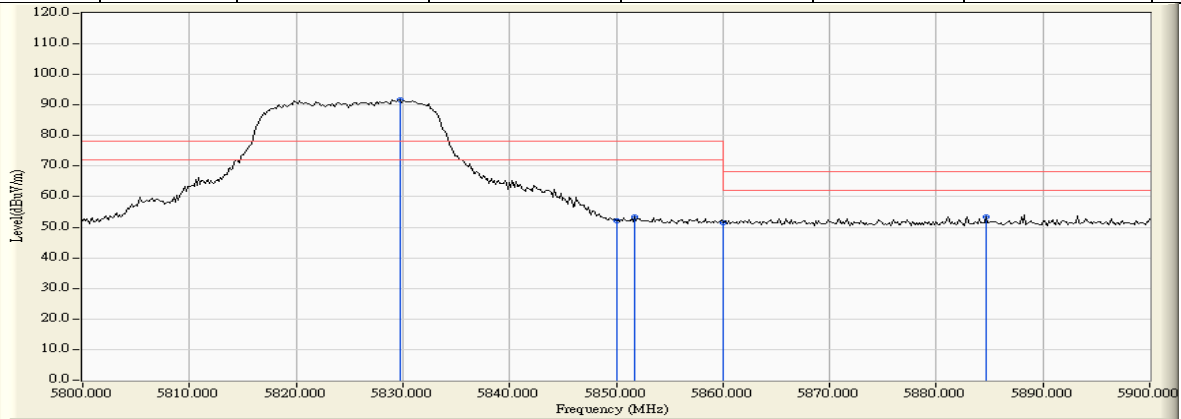
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5713.841	5.994	59.027	65.021	-3.199	68.220	Pass
Vertical	5715.000	5.994	57.199	63.193	-5.027	68.220	Pass
Vertical	5723.261	5.993	64.147	70.140	-8.080	78.220	Pass
Vertical	5725.000	5.992	60.082	66.075	-12.145	78.220	Pass
Vertical	5751.522	5.987	109.176	115.163	--	--	--



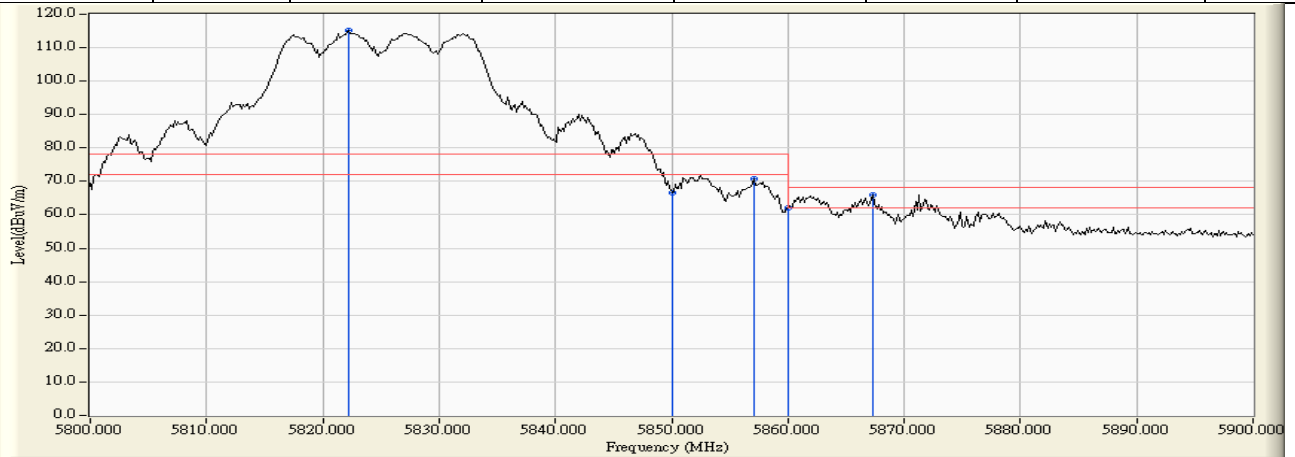
Product : 802.11ac Dual Band Access Point  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 165

**RF Radiated Measurement:**

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5829.710	4.842	86.966	91.808	--	--	--
Horizontal	5850.000	4.964	47.144	52.108	-26.112	78.220	Pass
Horizontal	5851.739	4.974	48.523	53.497	-24.723	78.220	Pass
Horizontal	5860.000	5.023	46.557	51.580	-16.640	68.220	Pass
Horizontal	5884.638	5.171	48.211	53.381	-14.839	68.220	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5822.174	6.005	109.196	115.200	--	--	--
Vertical	5850.000	6.037	60.670	66.707	-11.513	78.220	Pass
Vertical	5857.101	6.044	64.611	70.655	-7.565	78.220	Pass
Vertical	5860.000	6.047	56.140	62.187	-6.033	68.220	Pass
Vertical	5867.246	6.055	59.776	65.831	-2.389	68.220	Pass

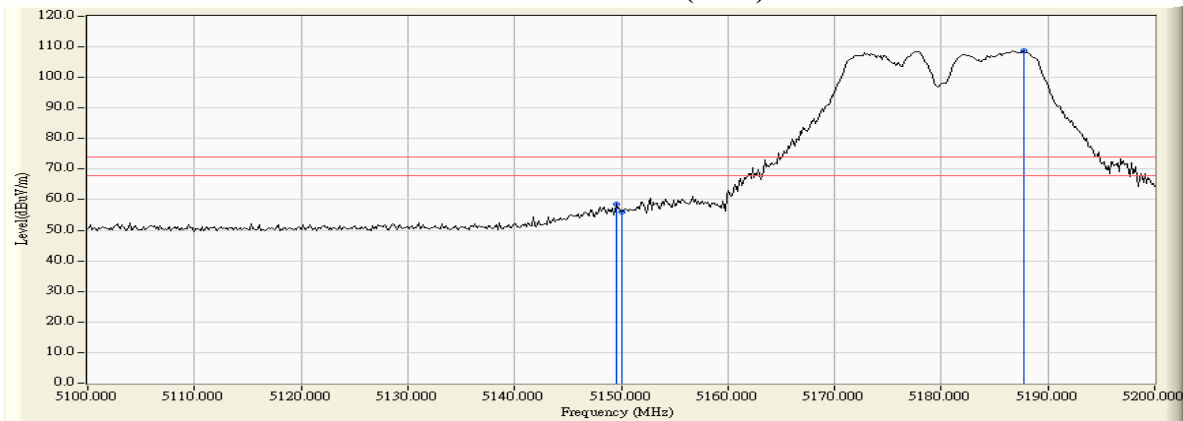


Product : 802.11ac Dual Band Access Point  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) -Channel 36

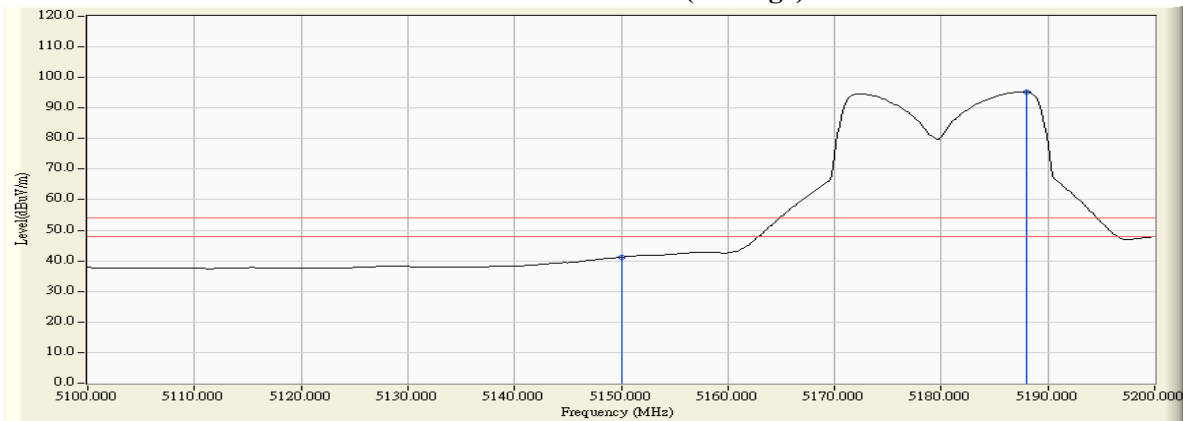
**RF Radiated Measurement (Horizontal):**

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)	5149.565	3.342	55.222	58.564	74.00	54.00	Pass
36 (Peak)	5150.000	3.340	52.722	56.062	74.00	54.00	Pass
36 (Peak)	5187.681	3.207	105.581	108.788	--	--	--
36 (Average)	5150.000	3.340	37.917	41.257	74.00	54.00	Pass
36 (Average)	5187.971	3.205	92.173	95.379	--	--	--

**Figure Channel 36: Horizontal (Peak)**



**Figure Channel 36: Horizontal (Average)**



Note:

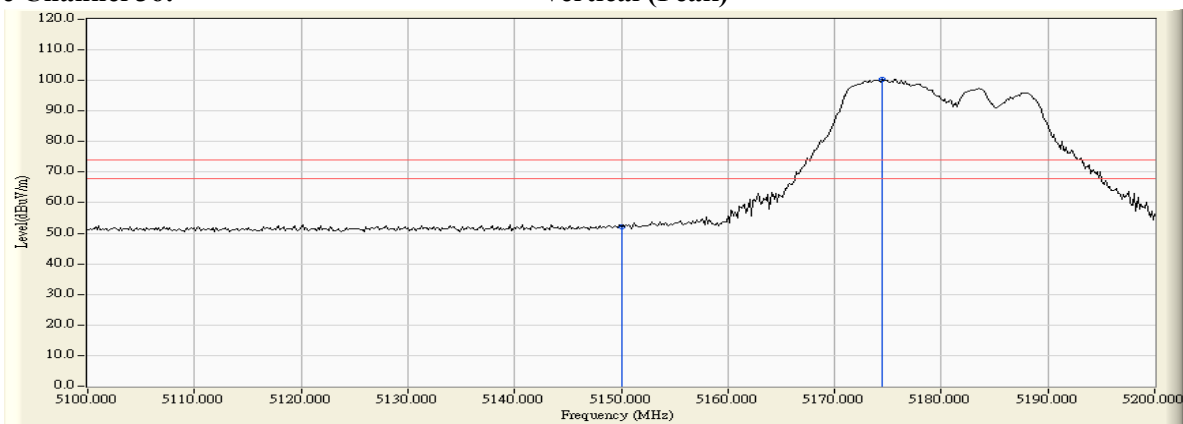
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading 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 14.4Mbps) -Channel 36

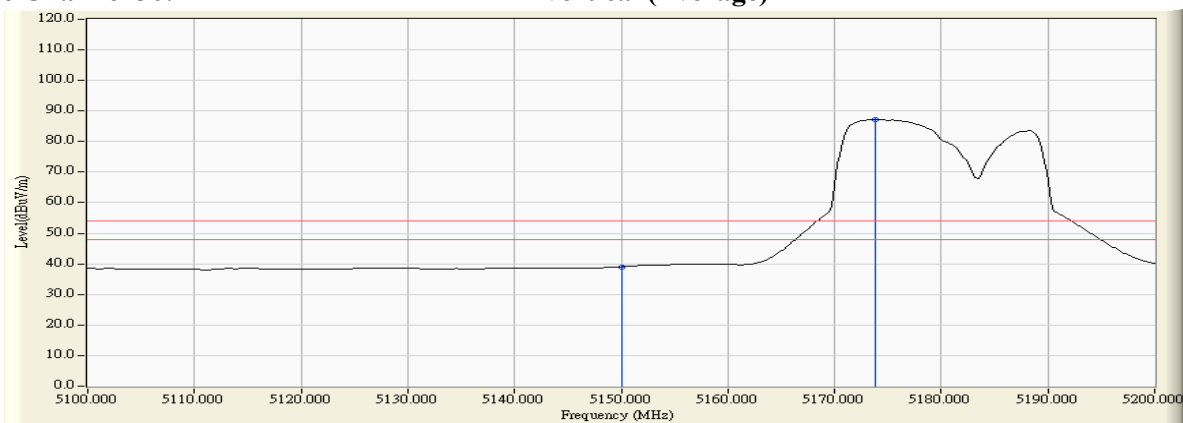
**RF Radiated Measurement (Vertical):**

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	46.726	51.986	74.00	54.00	Pass
36 (Peak)	5174.493	5.327	95.092	100.419	--	--	--
36 (Average)	5150.000	5.260	33.823	39.083	74.00	54.00	Pass
36 (Average)	5173.768	5.326	81.877	87.202	--	--	--

**Figure Channel 36: Vertical (Peak)**



**Figure Channel 36: Vertical (Average)**



Note:

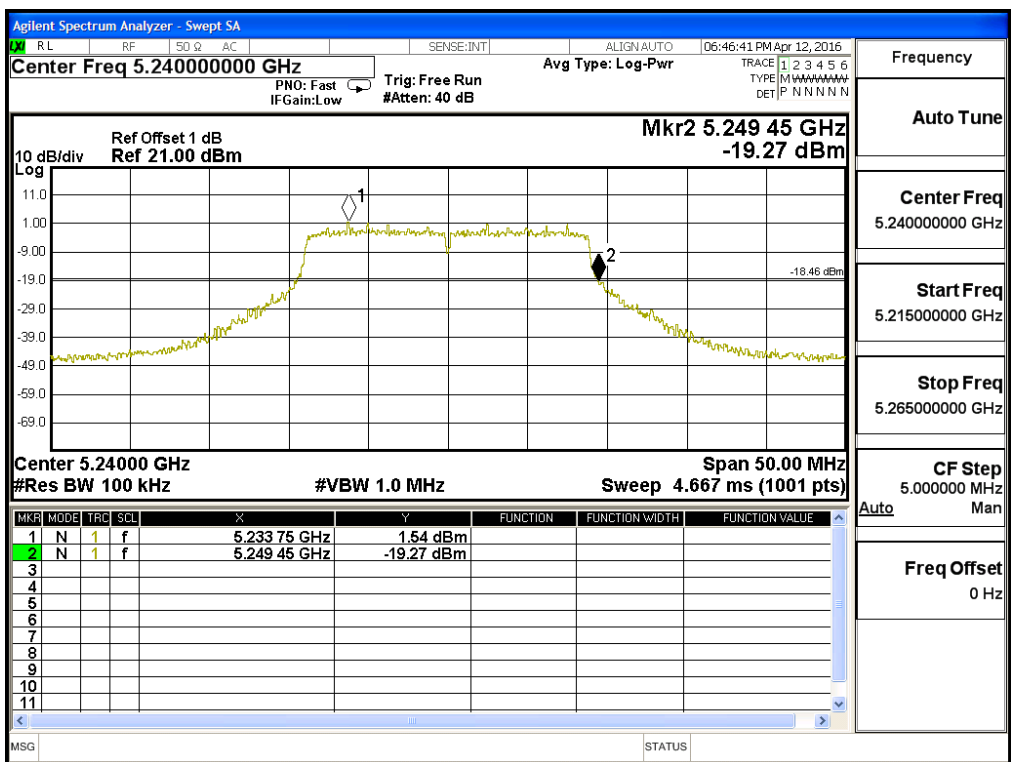
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading 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 14.4Mbps) Channel 48

**Chain A**

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

NOTE: Accordance with 15.215 requirement.



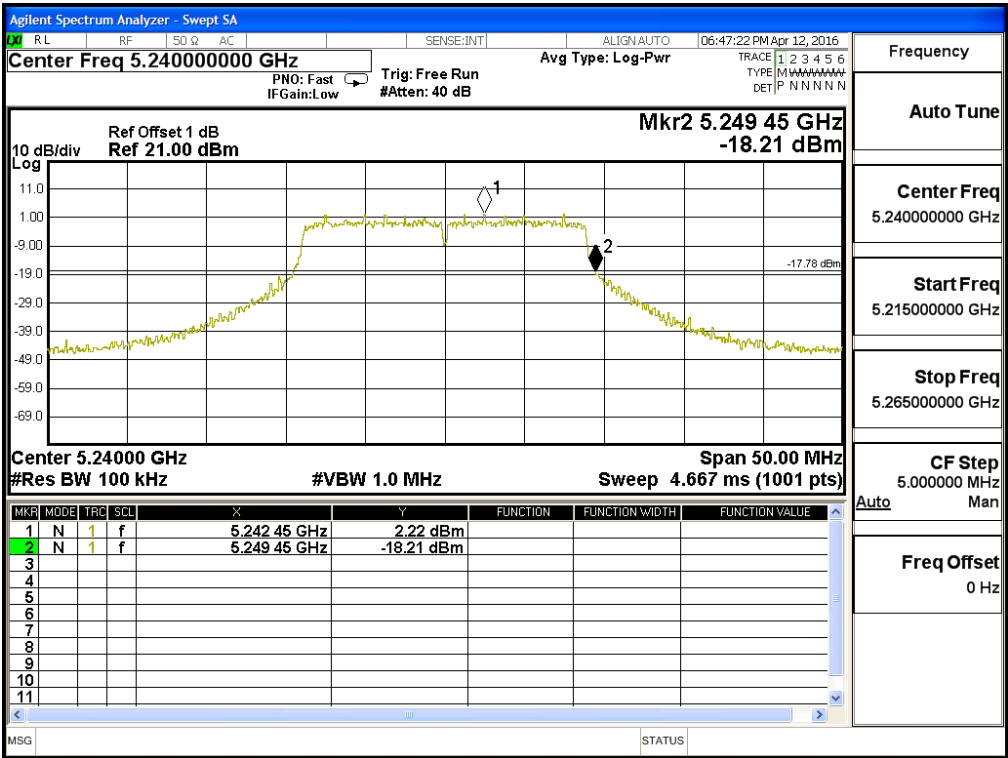


Product : 802.11ac Dual Band Access Point  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)-Channel 48

**Chain B**

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

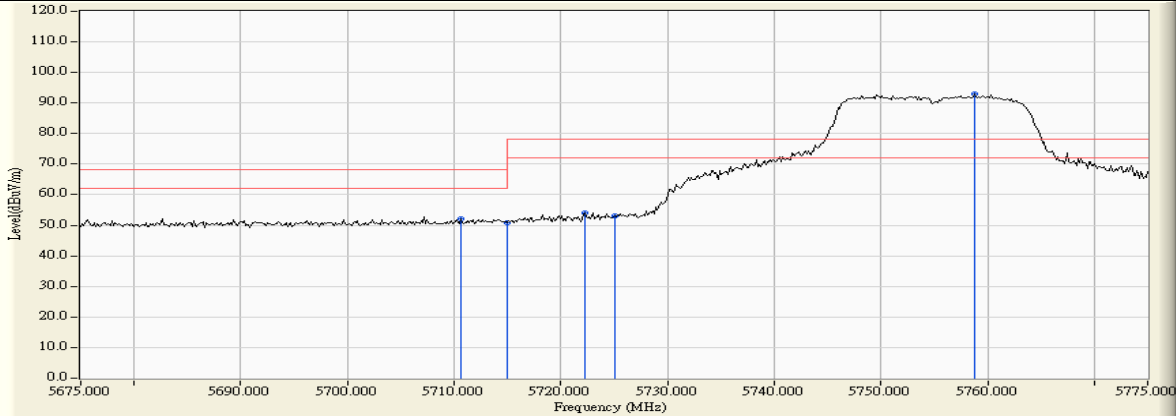
NOTE: Accordance with 15.215 requirement.



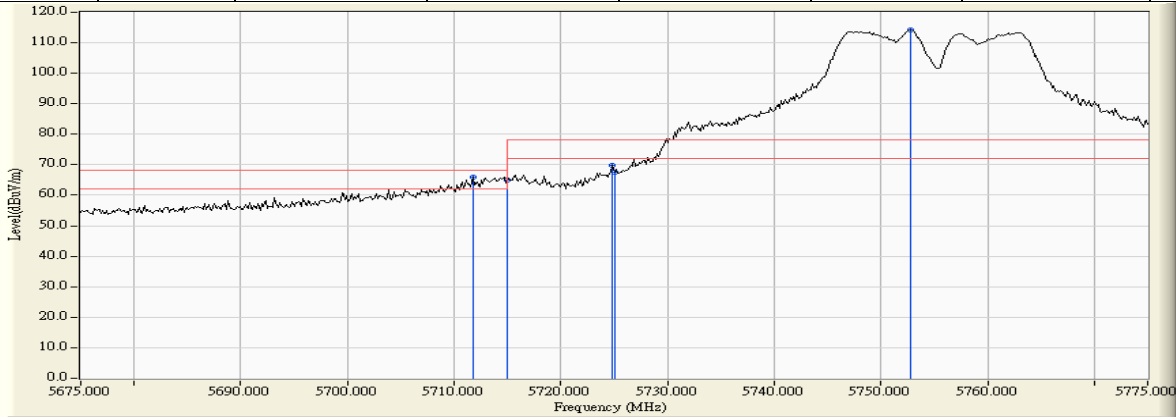
Product : 802.11ac Dual Band Access Point  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)-Channel 149

**RF Radiated Measurement:**

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5710.652	4.651	47.621	52.272	-15.948	68.220	Pass
Horizontal	5715.000	4.652	46.223	50.875	-17.345	68.220	Pass
Horizontal	5722.246	4.653	49.375	54.029	-24.191	78.220	Pass
Horizontal	5725.000	4.654	48.366	53.020	-25.200	78.220	Pass
Horizontal	5758.768	4.658	88.173	92.832	--	--	--



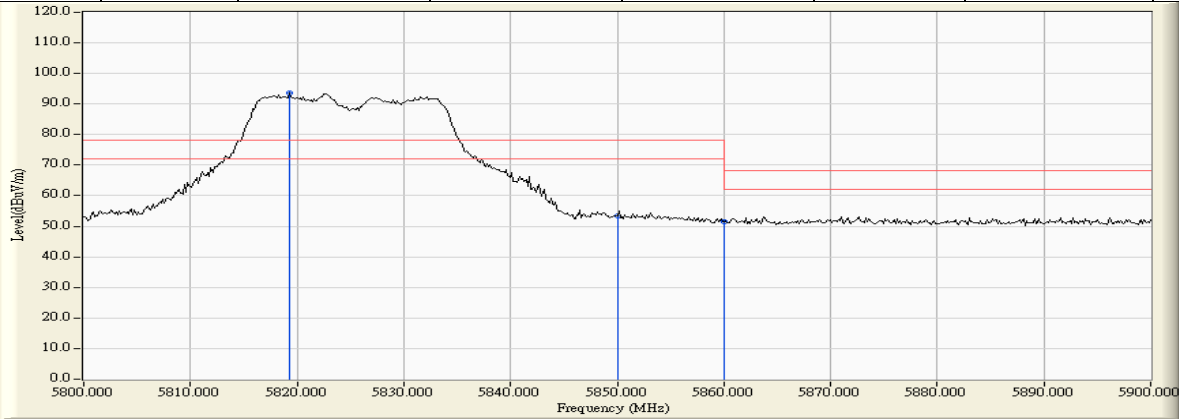
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5711.812	5.994	59.825	65.819	-2.401	68.220	Pass
Vertical	5715.000	5.994	58.842	64.836	-3.384	68.220	Pass
Vertical	5724.855	5.993	63.976	69.969	-8.251	78.220	Pass
Vertical	5725.000	5.992	61.677	67.670	-10.550	78.220	Pass
Vertical	5752.826	5.987	108.157	114.144	--	--	--



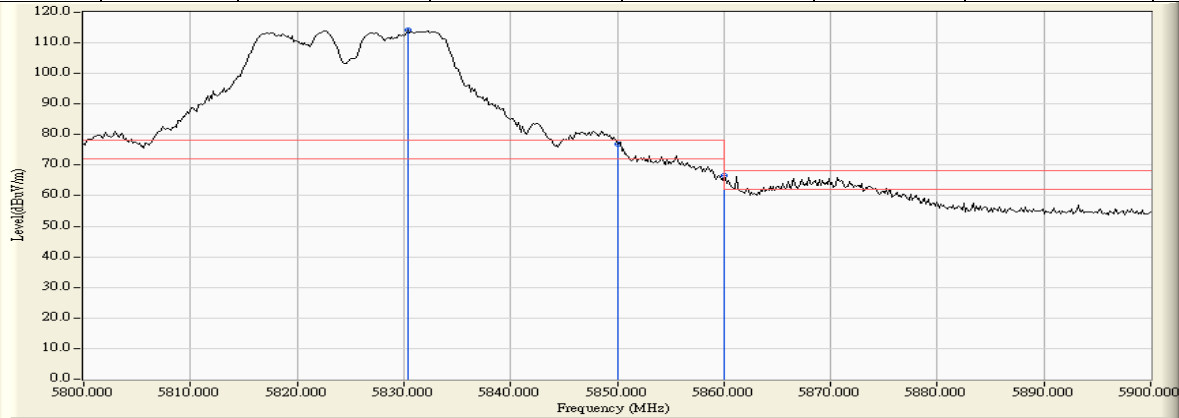
Product : 802.11ac Dual Band Access Point  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)-Channel 165

**RF Radiated Measurement:**

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5819.275	4.780	88.752	93.532	--	--	--
Horizontal	5850.000	4.964	48.590	53.554	-24.666	78.220	Pass
Horizontal	5860.000	5.023	46.401	51.424	-16.796	68.220	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5830.435	6.013	108.252	114.265	--	--	--
Vertical	5850.000	6.037	70.772	76.809	-1.411	78.220	Pass
Vertical	5860.000	6.047	60.539	66.586	-1.634	68.220	Pass

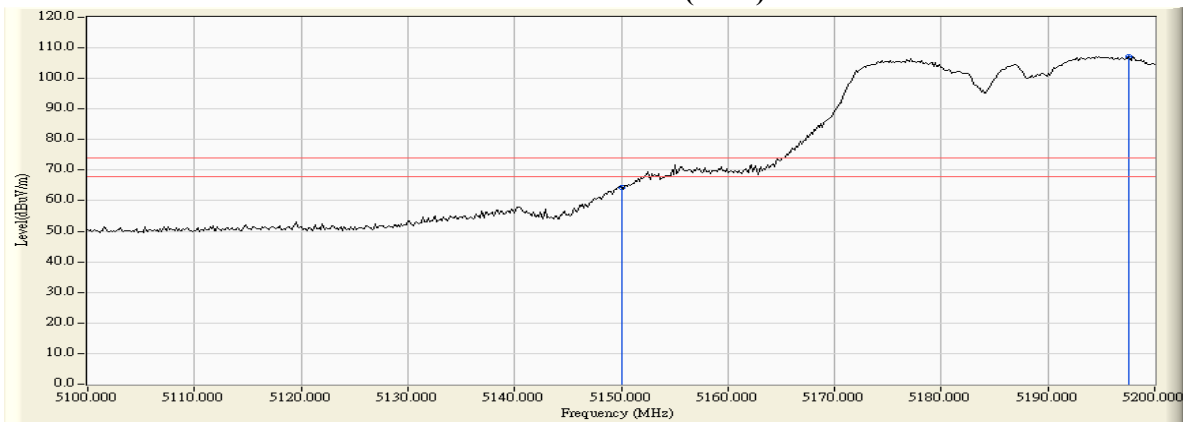


Product : 802.11ac Dual Band Access Point  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)-Channel 38

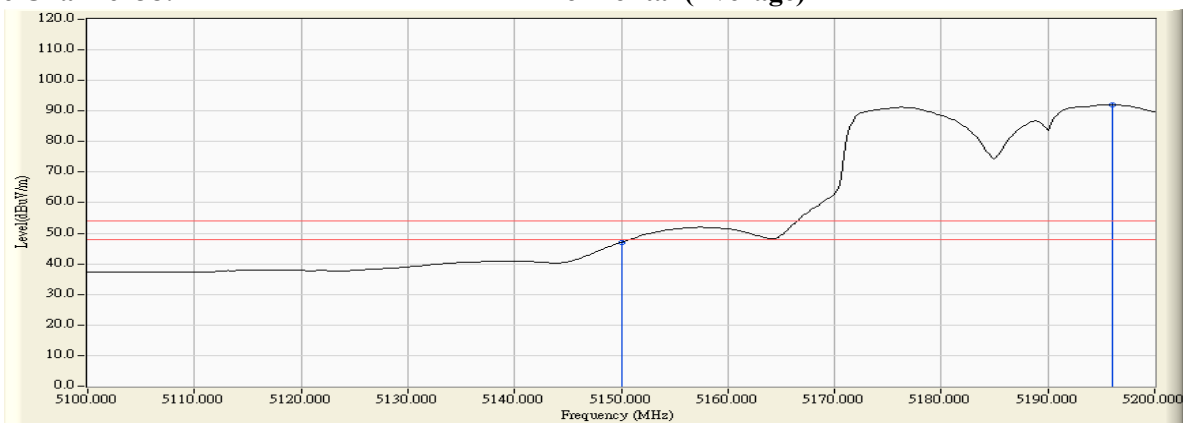
**RF Radiated Measurement (Horizontal):**

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)	5150.000	3.340	60.985	64.325	74.00	54.00	Pass
38 (Peak)	5197.536	3.163	104.092	107.254	--	--	--
38 (Average)	5150.000	3.340	43.725	47.065	74.00	54.00	Pass
38 (Average)	5196.087	3.168	88.934	92.103	--	--	--

**Figure Channel 38: Horizontal (Peak)**



**Figure Channel 38: Horizontal (Average)**



Note:

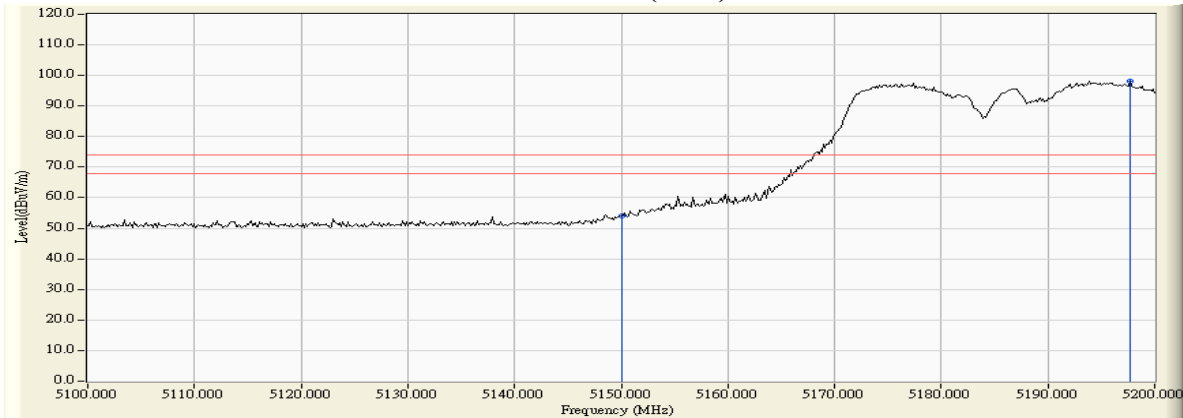
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading 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 30Mbps)-Channel 38

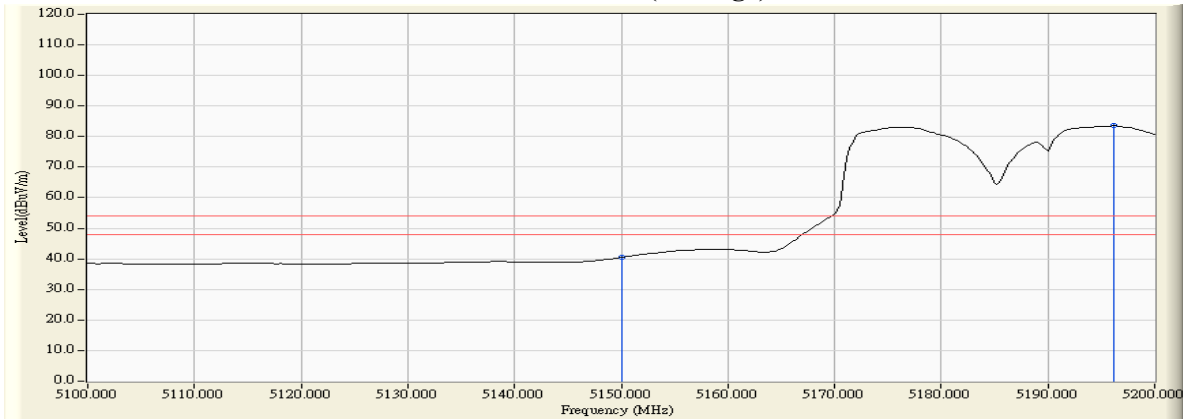
**RF Radiated Measurement (Vertical):**

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)	5150.000	5.260	48.782	54.042	74.00	54.00	Pass
38 (Peak)	5197.681	5.380	92.638	98.019	--	--	--
38 (Average)	5150.000	5.260	35.224	40.484	74.00	54.00	Pass
38 (Average)	5196.232	5.378	78.119	83.497	--	--	--

**Figure Channel 38: Vertical (Peak)**



**Figure Channel 38: Vertical (Average)**



Note:

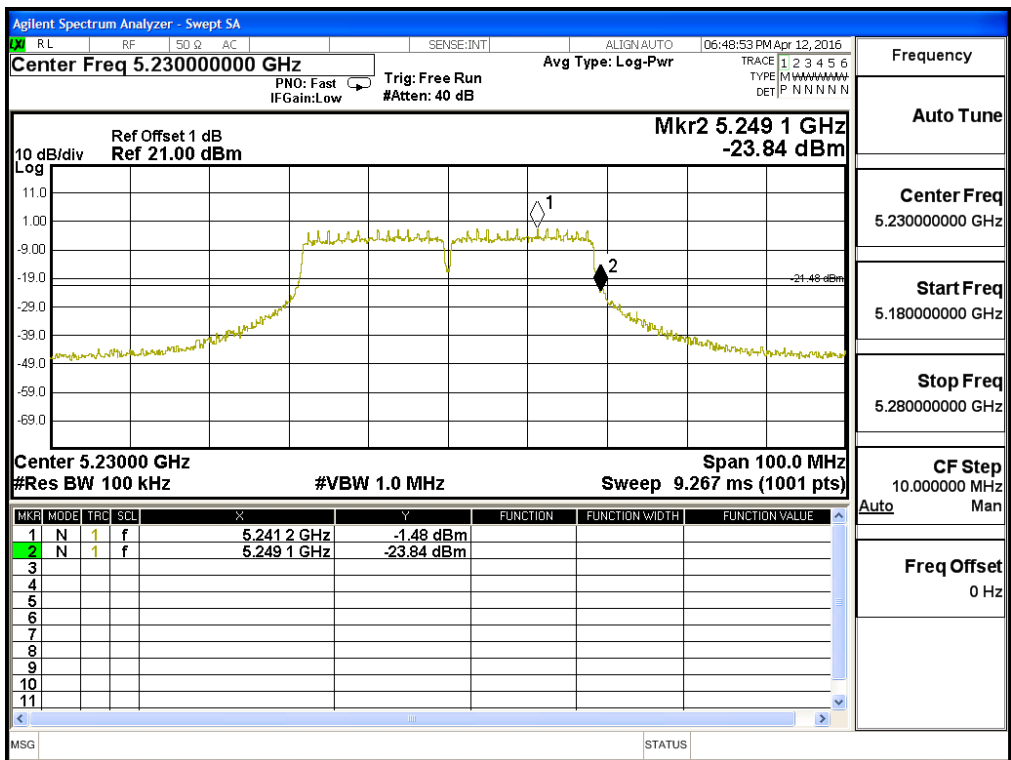
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading 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 30Mbps)-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.

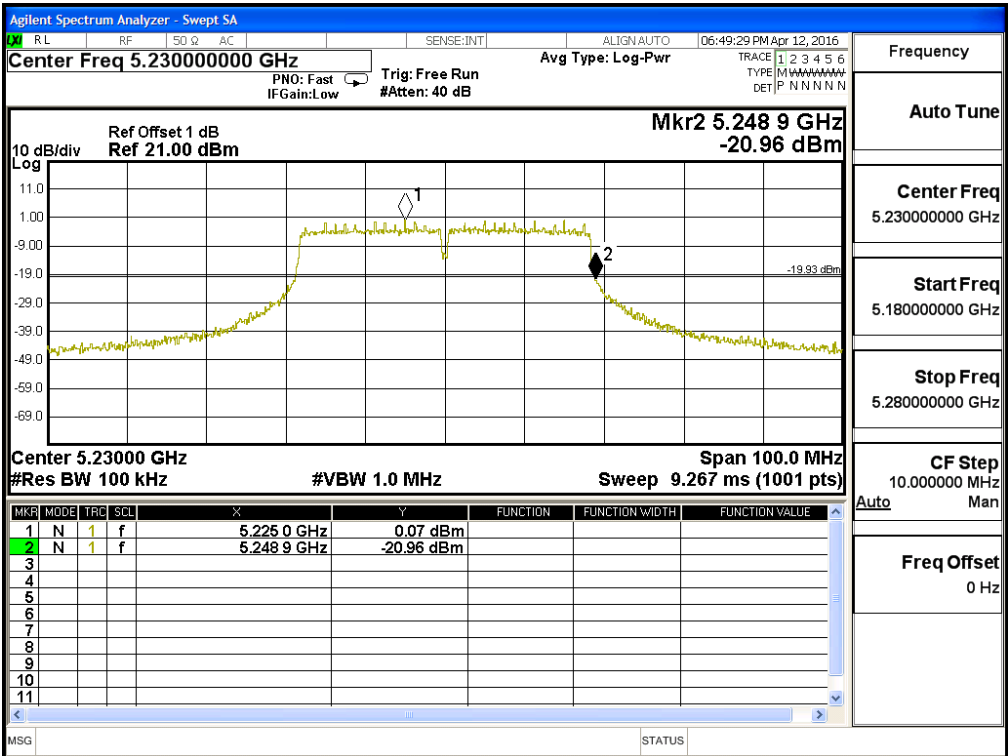


Product : 802.11ac Dual Band Access Point  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)-Channel 46

**Chain B**

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

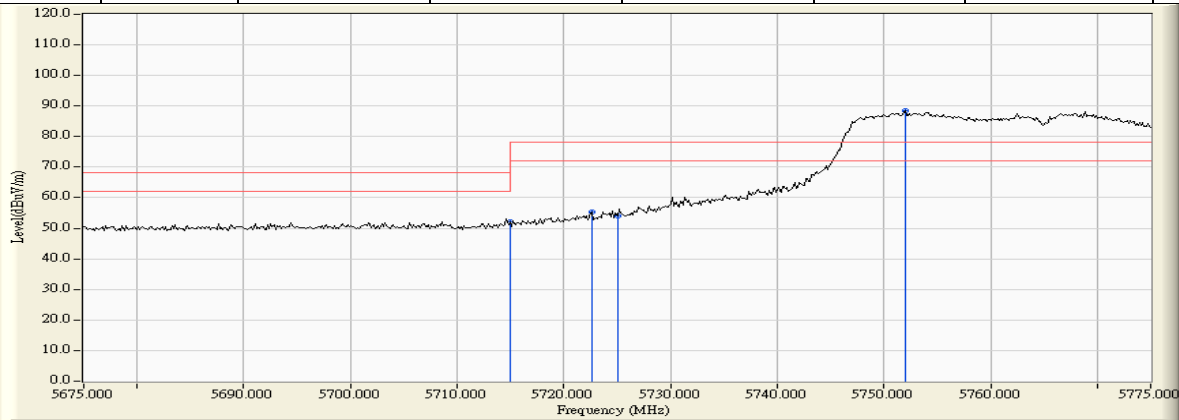
NOTE: Accordance with 15.215 requirement.



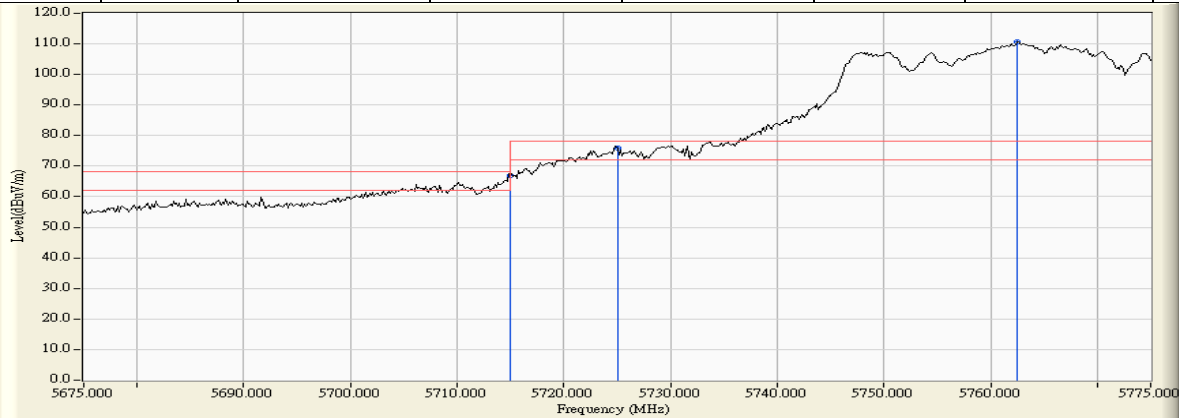
Product : 802.11ac Dual Band Access Point  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) -Channel 151

**RF Radiated Measurement :**

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5715.000	4.652	47.311	51.963	-16.257	68.220	Pass
Horizontal	5722.681	4.654	50.820	55.474	-22.746	78.220	Pass
Horizontal	5725.000	4.654	49.481	54.135	-24.085	78.220	Pass
Horizontal	5751.957	4.658	83.897	88.555	--	--	--



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5715.000	5.994	60.894	66.888	-1.332	68.220	Pass
Vertical	5725.000	5.992	70.020	76.013	-2.207	78.220	Pass
Vertical	5762.536	5.985	104.547	110.532	--	--	--

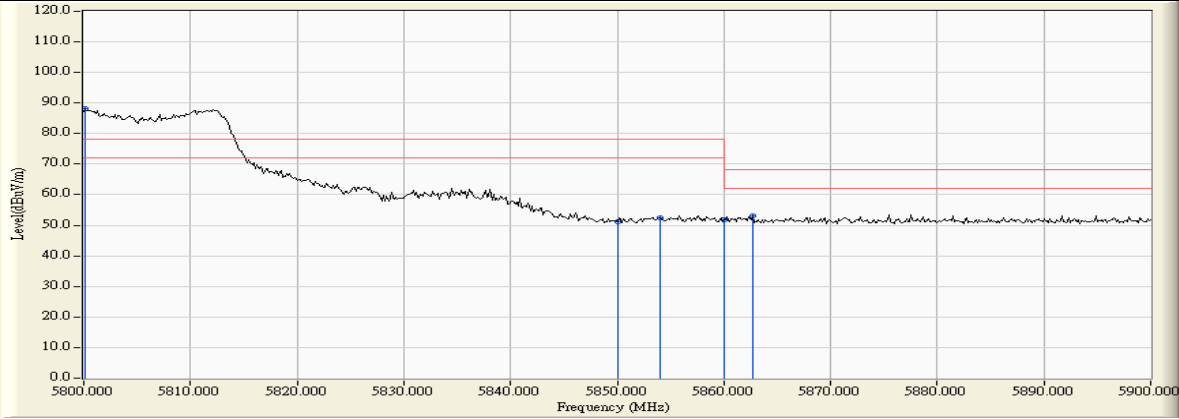




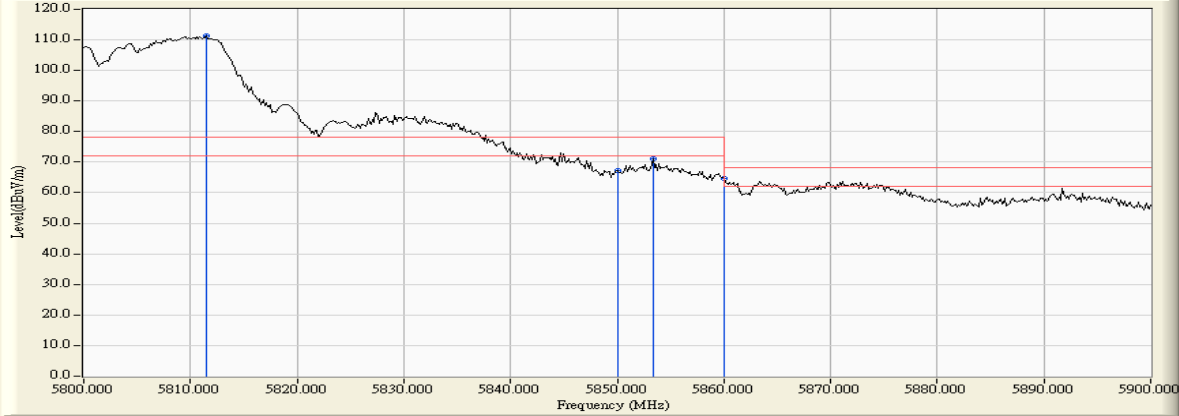
Product : 802.11ac Dual Band Access Point  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)-Channel 159

**RF Radiated Measurement:**

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5800.145	4.684	83.488	88.171	--	--	--
Horizontal	5850.000	4.964	46.175	51.139	-27.081	78.220	Pass
Horizontal	5854.058	4.988	47.558	52.546	-25.674	78.220	Pass
Horizontal	5860.000	5.023	46.892	51.915	-16.305	68.220	Pass
Horizontal	5862.754	5.039	47.967	53.006	-15.214	68.220	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5811.449	5.993	105.213	111.206	--	--	--
Vertical	5850.000	6.037	61.181	67.218	-11.002	78.220	Pass
Vertical	5853.333	6.040	64.957	70.997	-7.223	78.220	Pass
Vertical	5860.000	6.047	58.587	64.634	-3.586	68.220	Pass

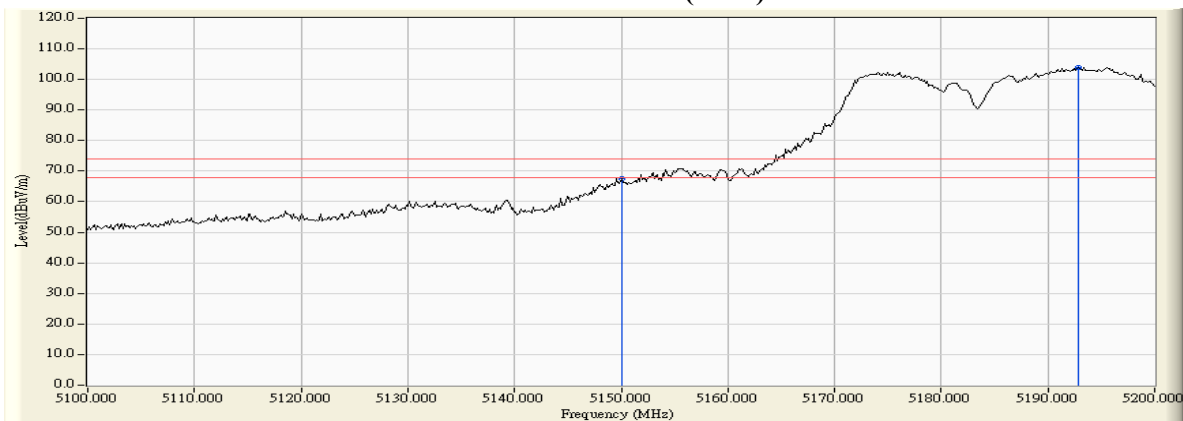


Product : 802.11ac Dual Band Access Point  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11ac-80BW-65Mbps)-Channel 42

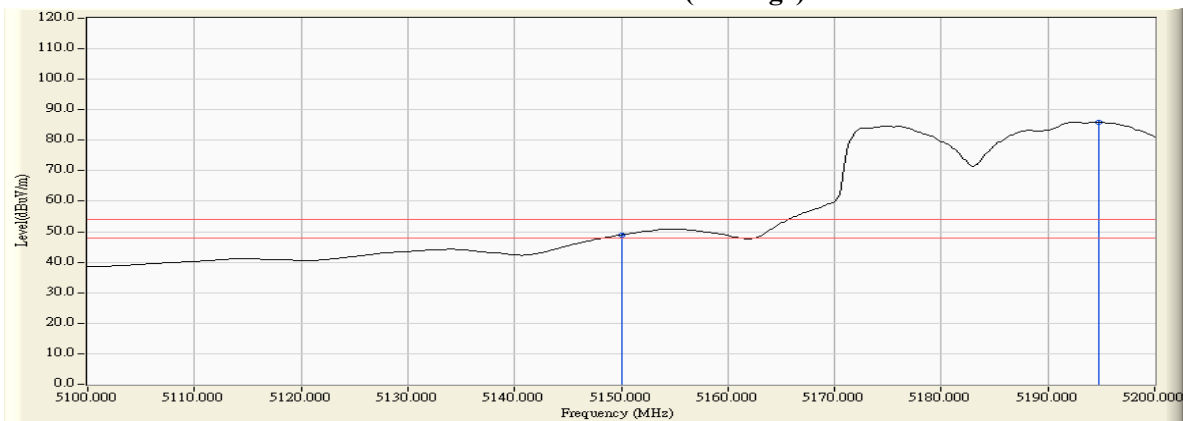
**RF Radiated Measurement (Horizontal):**

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)	5150.000	3.340	64.222	67.562	74.00	54.00	Pass
42 (Peak)	5192.899	3.184	100.855	104.038	--	--	--
42 (Average)	5150.000	3.340	45.662	49.002	74.00	54.00	Pass
42 (Average)	5194.783	3.175	82.764	85.939	--	--	--

**Figure Channel 42: Horizontal (Peak)**



**Figure Channel 42: Horizontal (Average)**



**Note:**

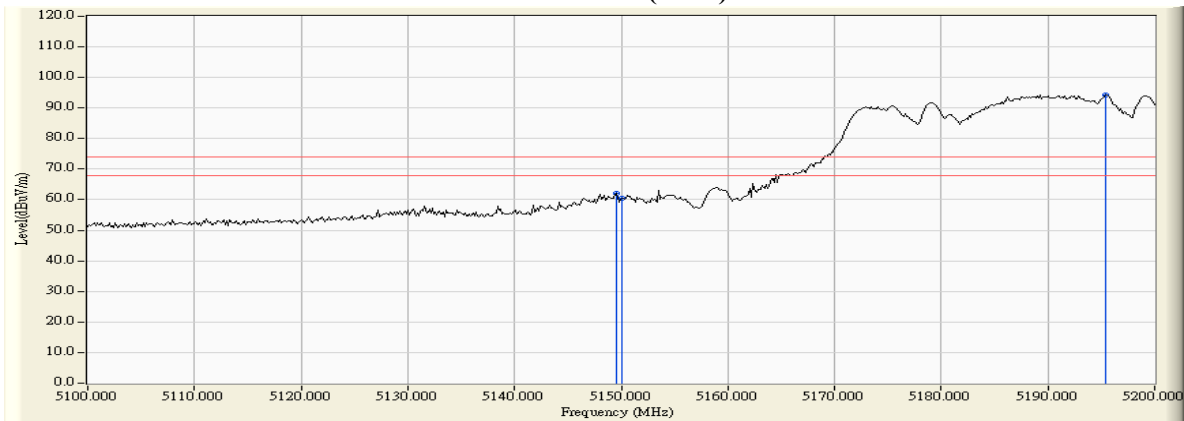
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading 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-65Mbps) -Channel 42

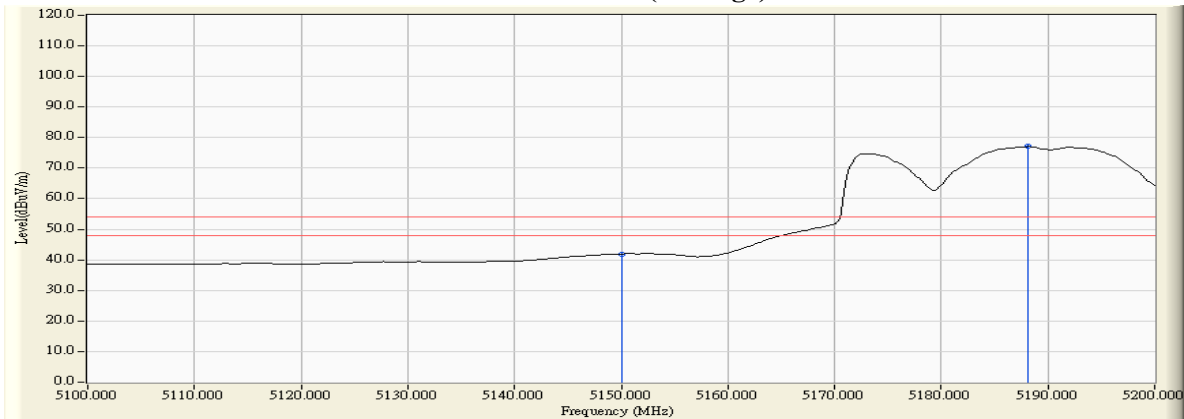
**RF Radiated Measurement (Vertical):**

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)	5149.565	5.259	56.763	62.022	74.00	54.00	Pass
42 (Peak)	5150.000	5.260	55.178	60.438	74.00	54.00	Pass
42 (Peak)	5195.362	5.376	88.827	94.203	--	--	--
42 (Average)	5150.000	5.260	36.653	41.913	74.00	54.00	Pass
42 (Average)	5188.116	5.364	71.709	77.073	--	--	--

**Figure Channel 42: Vertical (Peak)**



**Figure Channel 42: Vertical (Average)**



Note:

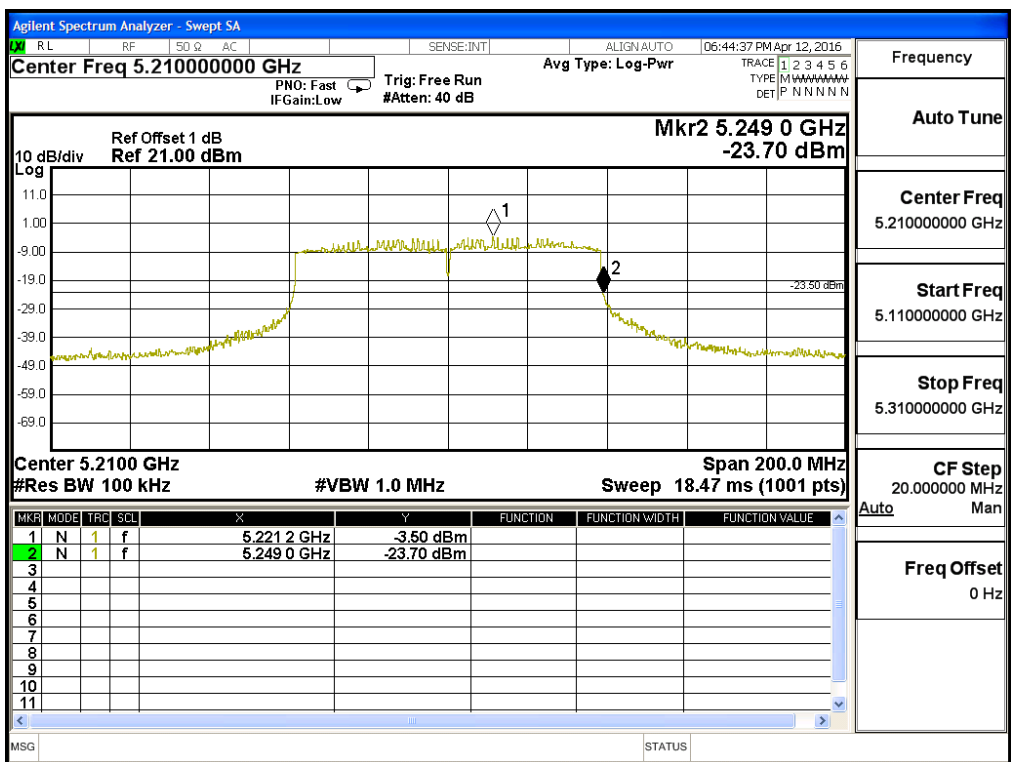
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading 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-65Mbps) -Channel 42

**Chain A**

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5210	5249.00	<5250	PASS

NOTE: Accordance with 15.215 requirement.

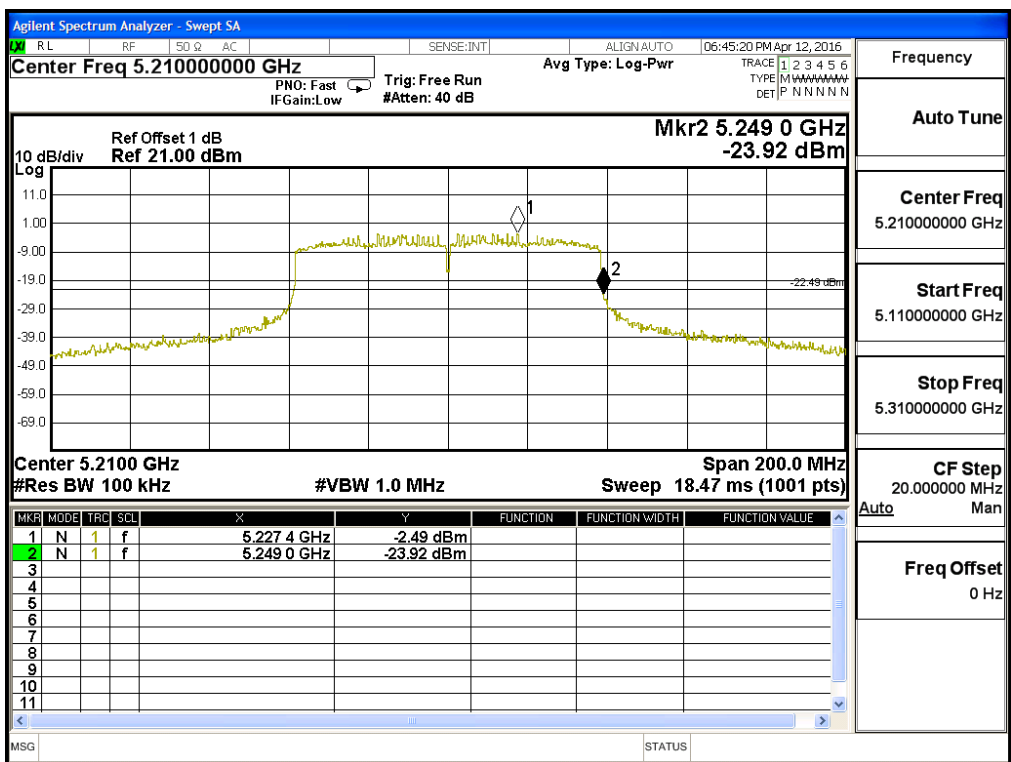


Product : 802.11ac Dual Band Access Point  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11ac-80BW-65Mbps)-Channel 42

**Chain B**

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5210	5249.00	<5250	PASS

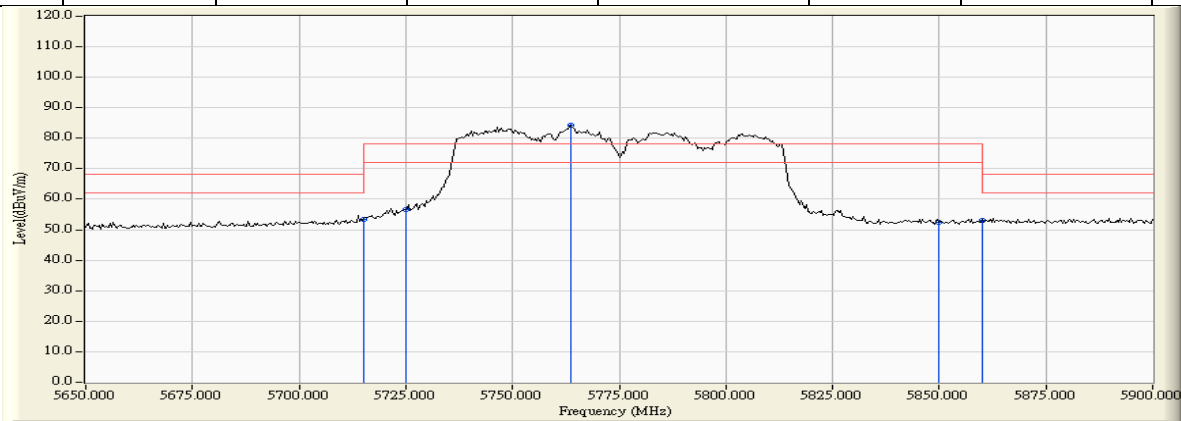
NOTE: Accordance with 15.215 requirement.



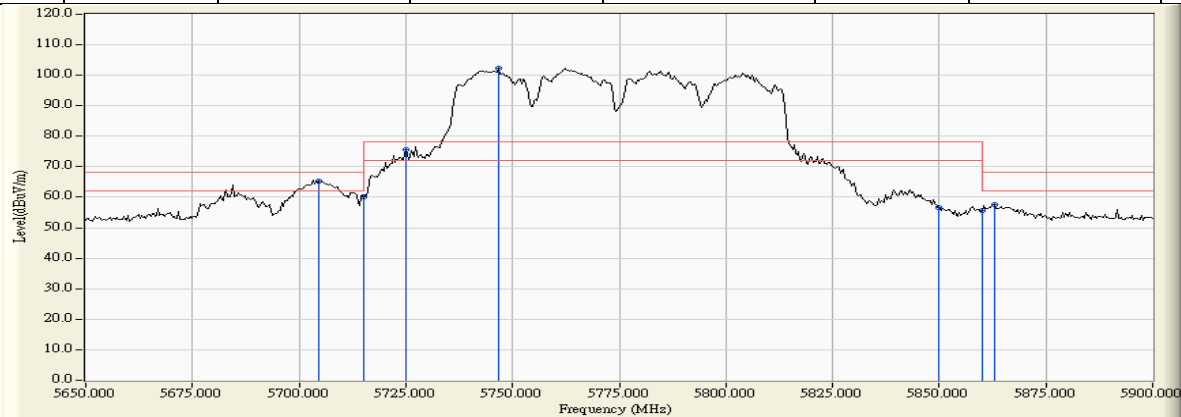
Product : 802.11ac Dual Band Access Point  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11ac-80BW-65Mbps)-Channel 155

**RF Radiated Measurement:**

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5715.000	4.652	48.630	53.282	-14.938	68.220	Pass
Horizontal	5725.000	4.654	51.926	56.580	-21.640	78.220	Pass
Horizontal	5763.768	4.660	79.482	84.142	--	--	--
Horizontal	5850.000	4.964	47.460	52.424	-25.796	78.220	Pass
Horizontal	5860.000	5.023	47.963	52.986	-15.234	68.220	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5704.710	5.989	59.423	65.412	-2.808	68.220	Pass
Vertical	5715.000	5.994	54.254	60.248	-7.972	68.220	Pass
Vertical	5725.000	5.992	69.538	75.531	-2.689	78.220	Pass
Vertical	5746.739	5.989	96.437	102.425	--	--	--
Vertical	5850.000	6.037	50.709	56.746	-21.474	78.220	Pass
Vertical	5860.000	6.047	49.499	55.546	-12.674	68.220	Pass
Vertical	5863.043	6.051	51.391	57.442	-10.778	68.220	Pass



## 7. Occupied Bandwidth

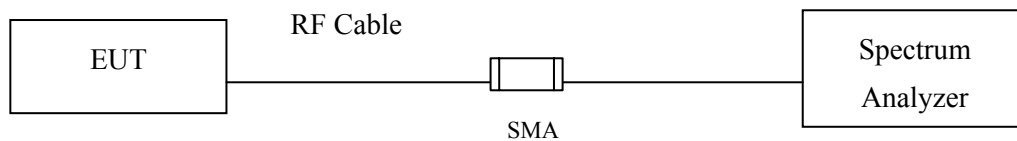
### 7.1. Test Equipment

	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., 2016

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

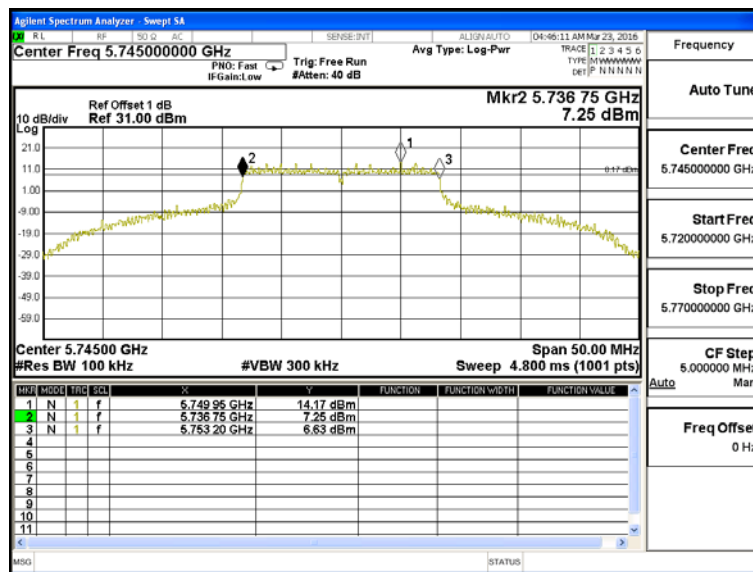
± 150Hz

### 7.6. Test Result of Occupied Bandwidth

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

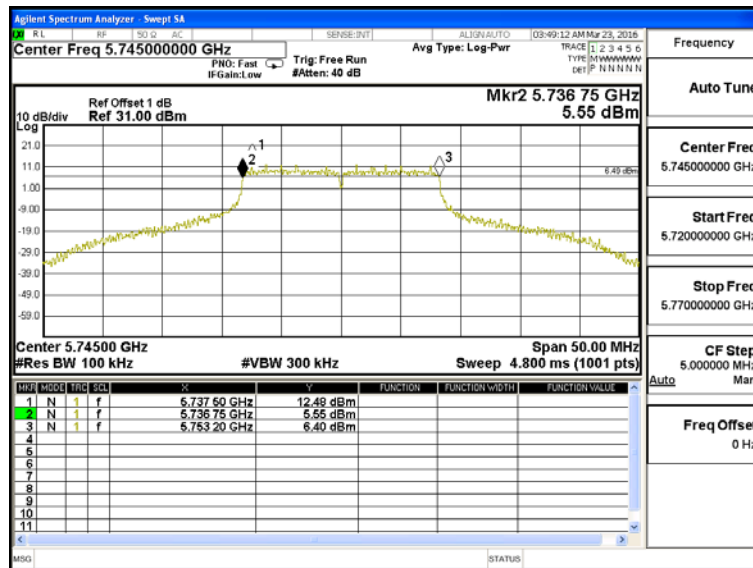
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745.00	16450	>500	Pass

**Figure Channel 149: (Chain A)**



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

**Figure Channel 149: (Chain B)**

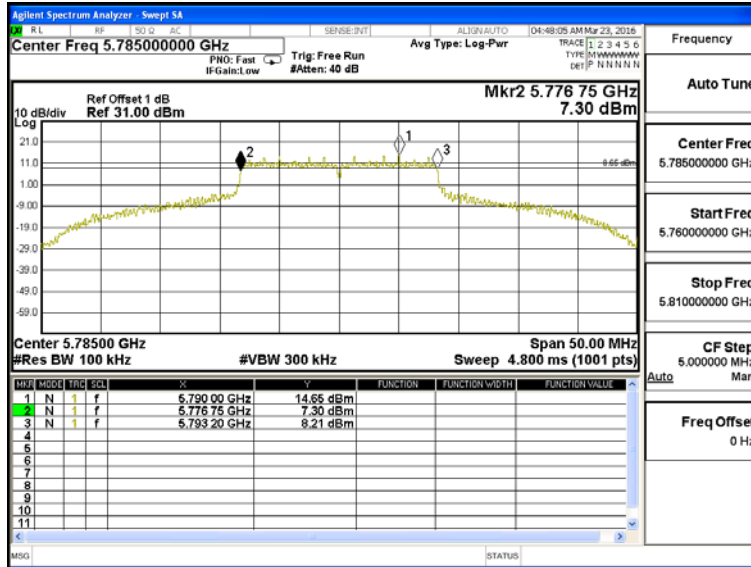




Product : 802.11ac Dual Band Access Point  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5785MHz)

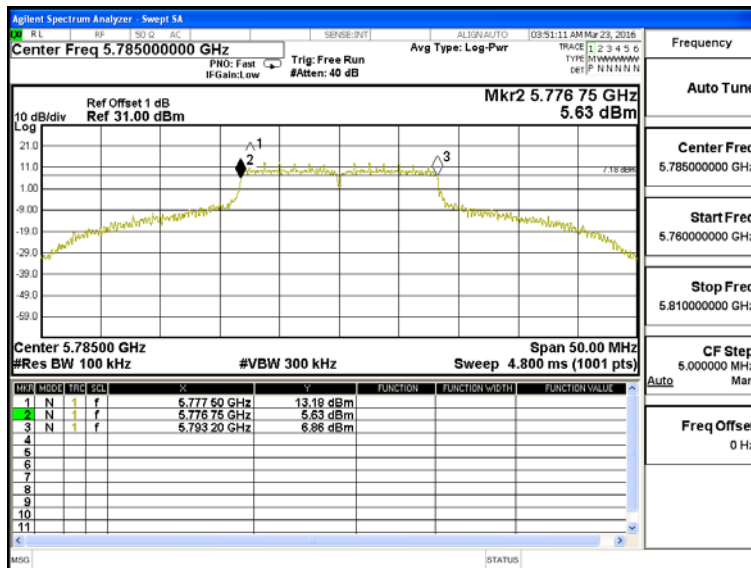
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
157	5785.00	16450	>500	Pass

**Figure Channel 157: (Chain A)**



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

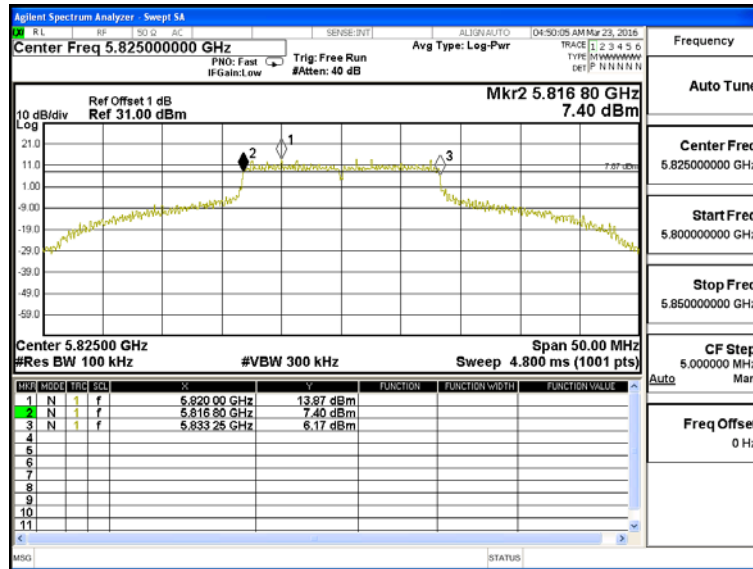
**Figure Channel 157: (Chain B)**



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)

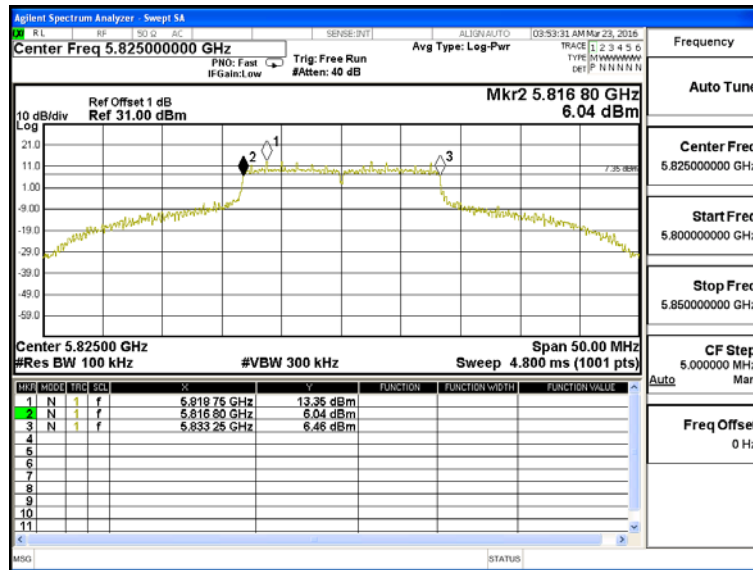
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
165	5825.00	16450	>500	Pass

**Figure Channel 165: (Chain A)**



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

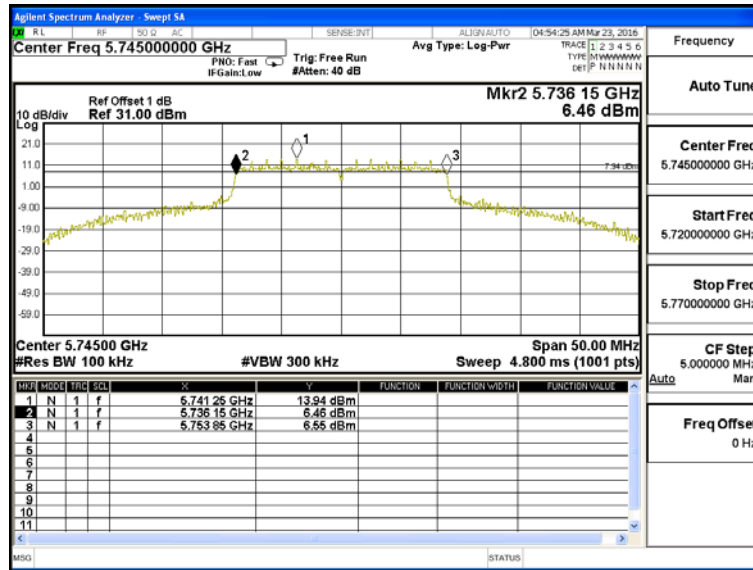
**Figure Channel 165: (Chain B)**



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 14.4Mbps) (5745MHz)

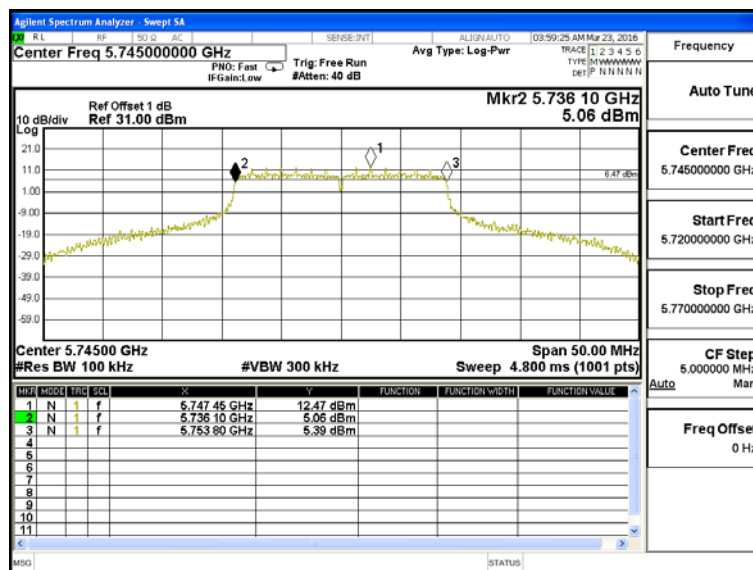
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745.00	17700	>500	Pass

**Figure Channel 149: (Chain A)**



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

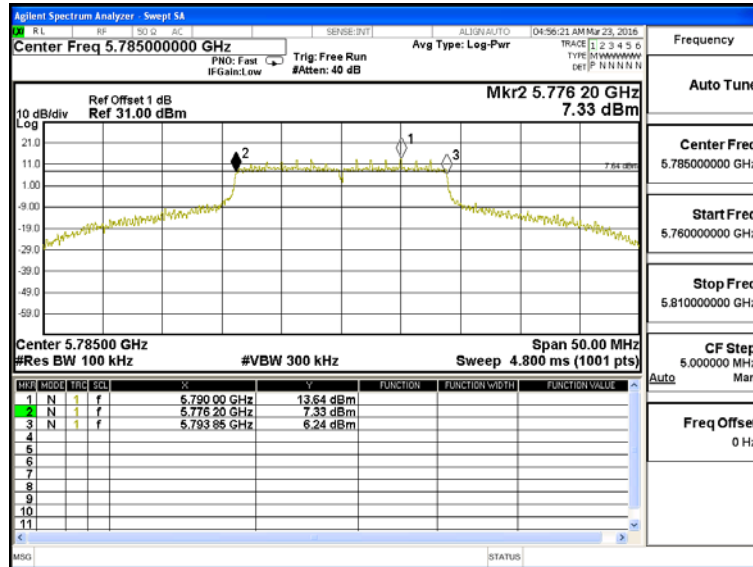
**Figure Channel 149: (Chain B)**



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 14.4Mbps) (5785MHz)

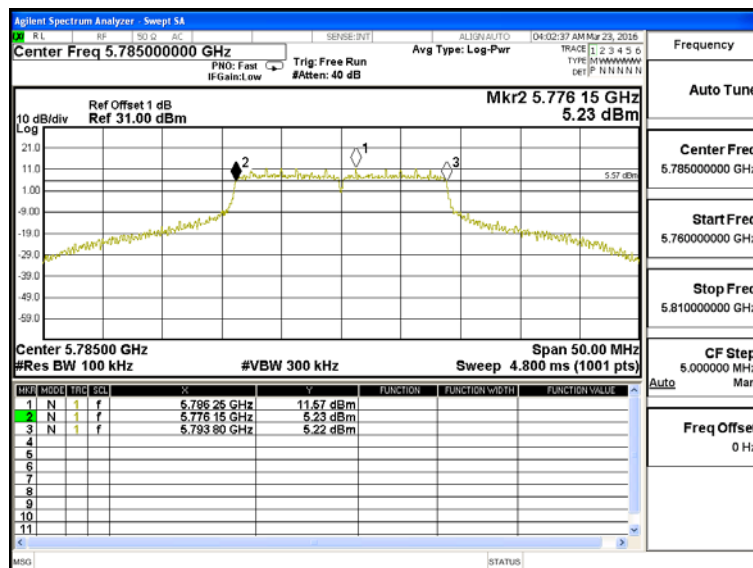
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
157	5785.00	17650	>500	Pass

**Figure Channel 157: (Chain A)**



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

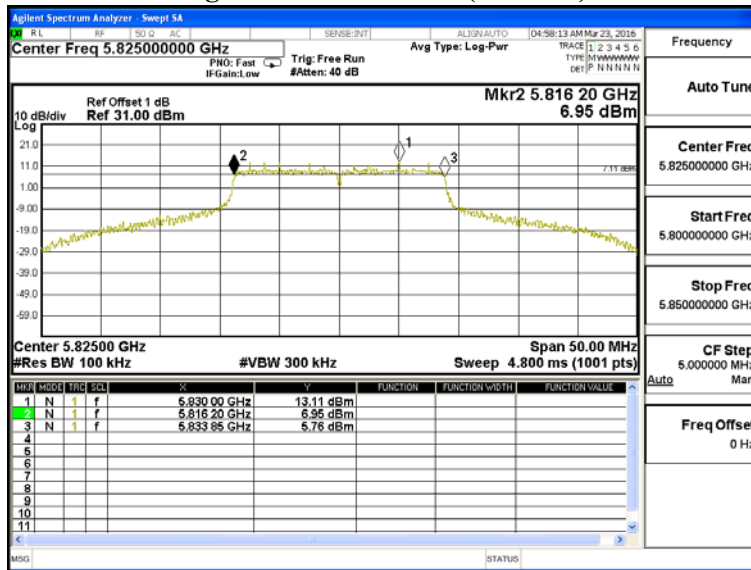
**Figure Channel 157: (Chain B)**



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 14.4Mbps) (5825MHz)

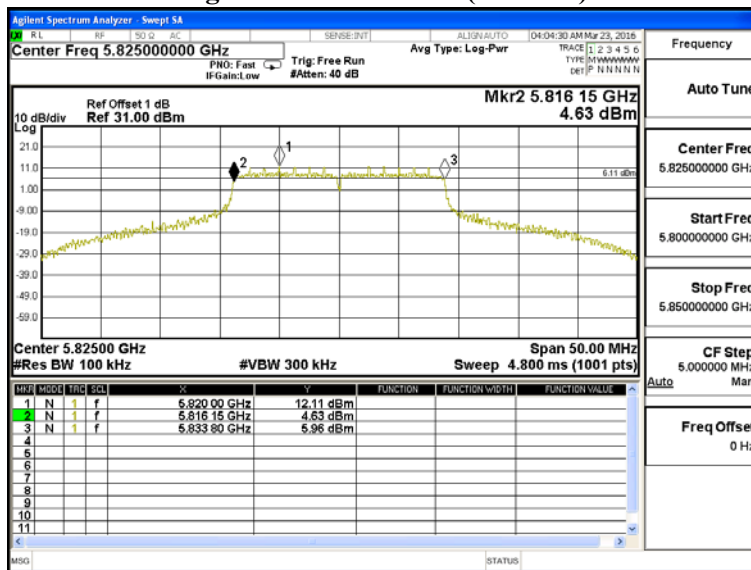
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
165	5825.00	17650	>500	Pass

**Figure Channel 165: (Chain A)**



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
165	5825.00	17650	>500	Pass

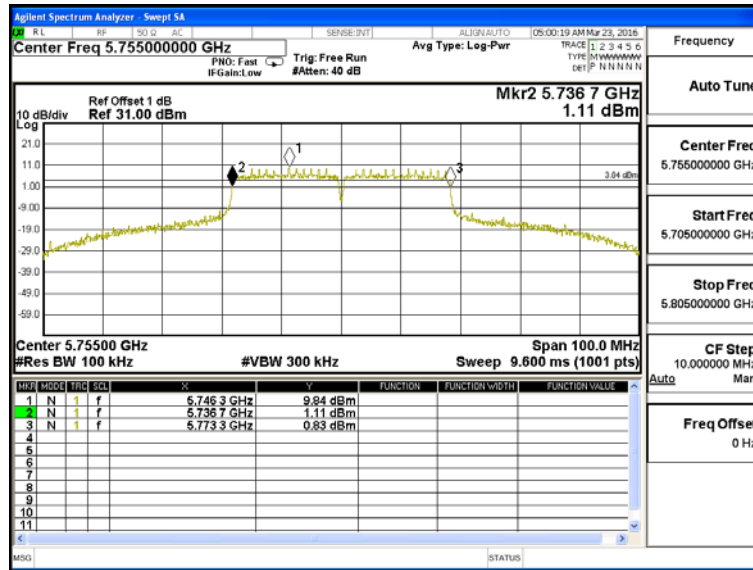
**Figure Channel 165: (Chain B)**



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 30Mbps) (5755MHz)

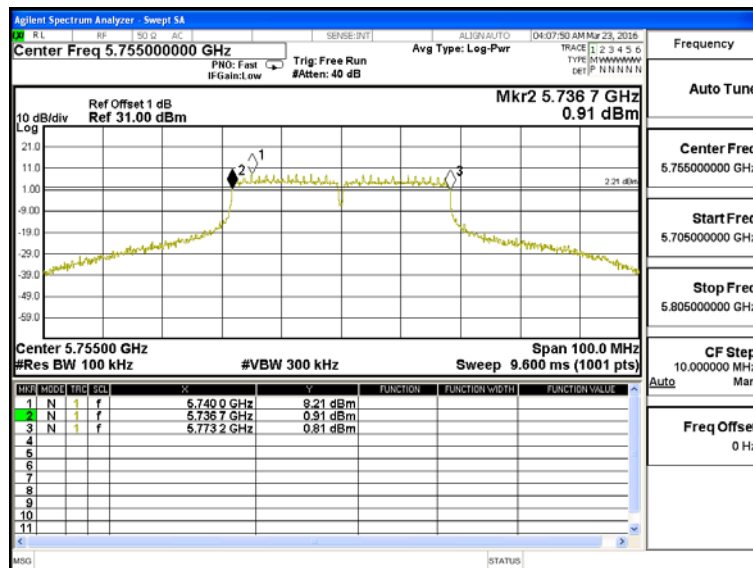
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
151	5755.00	36600	>500	Pass

**Figure Channel 151: (Chain A)**



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

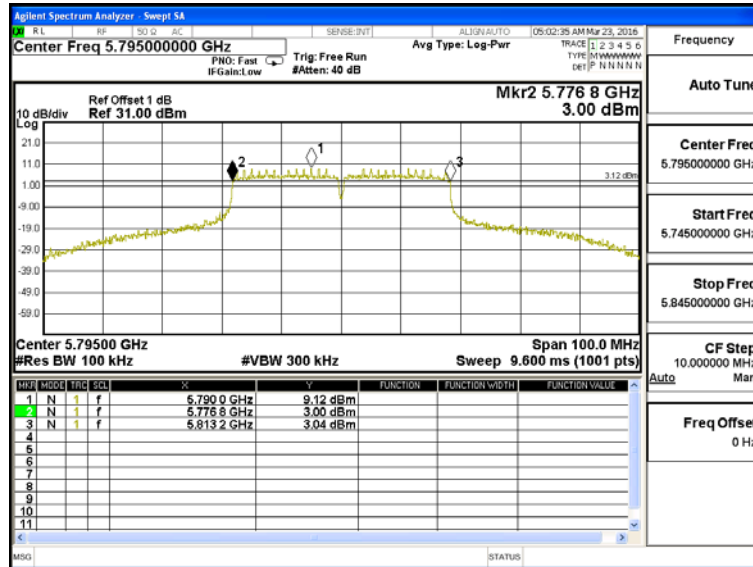
**Figure Channel 151: (Chain B)**



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 30Mbps) (5795MHz)

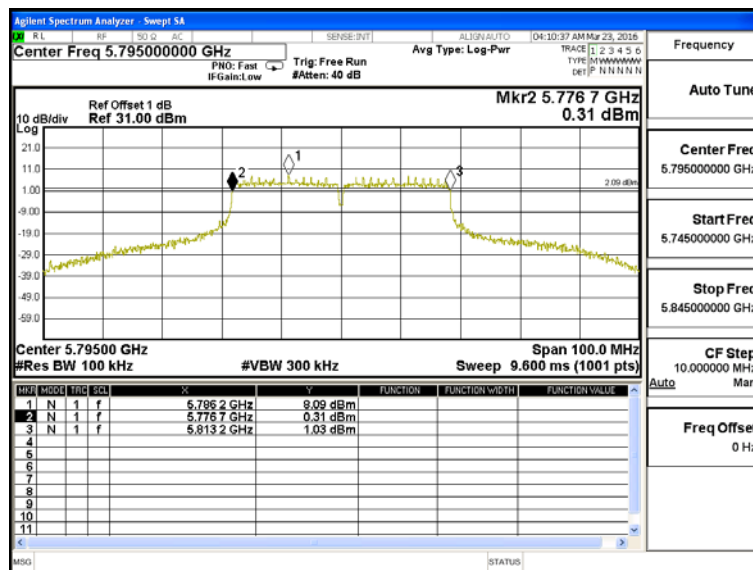
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
159	5795.00	36400	>500	Pass

**Figure Channel 159: (Chain A)**



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

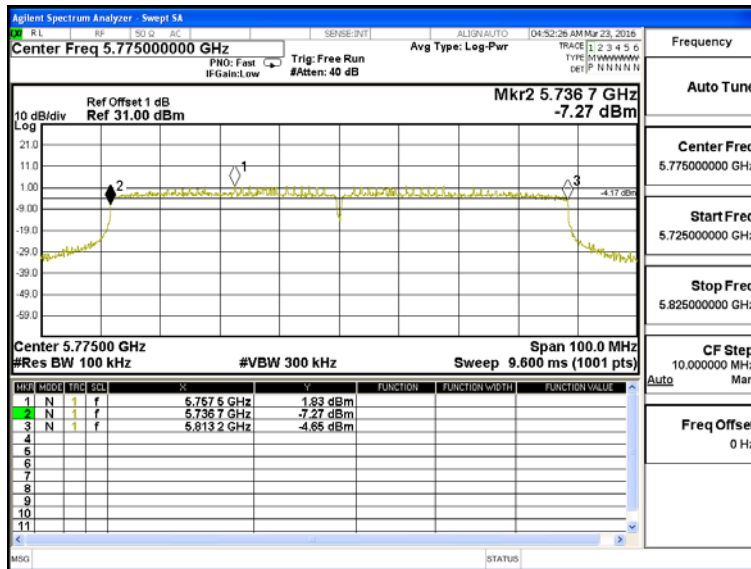
**Figure Channel 159: (Chain B)**



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-65Mbps) (5775MHz)

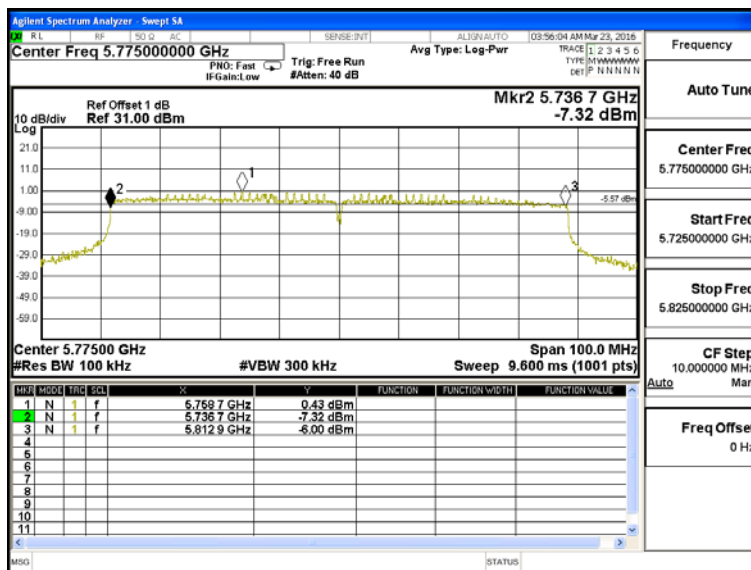
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
155	5775.00	76500	>500	Pass

**Figure Channel 155: (Chain A)**



Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
155	5775.00	76200	>500	Pass

**Figure Channel 155: (Chain B)**





## 8. Frequency Stability

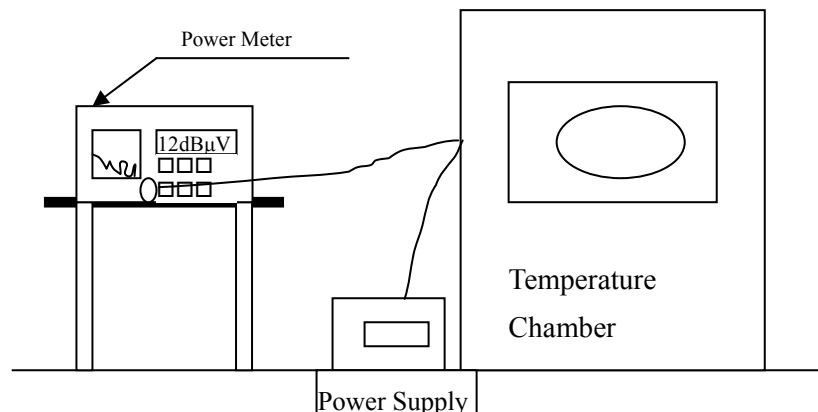
### 8.1. Test Equipment

	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., 2016

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 DTS 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)	$\Delta F$ (MHz)
Tnom (20) oC	Vnom (120)V	36	5180.0000	5180.0033	-0.0033
		38	5190.0000	5190.0049	-0.0049
		44	5220.0000	5220.0067	-0.0067
		46	5230.0000	5230.0016	-0.0016
		48	5240.0000	5240.0029	-0.0029
		149	5745.0000	5745.0061	-0.0061
		151	5755.0000	5755.0084	-0.0084
		157	5785.0000	5785.0037	-0.0037
		159	5795.0000	5795.0092	-0.0092
		165	5825.0000	5825.0093	-0.0093
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (50) oC	Vnom (138)V	36	5180.0000	5180.0081	-0.0081
		38	5190.0000	5190.0057	-0.0057
		44	5220.0000	5220.0041	-0.0041
		46	5230.0000	5230.0051	-0.0051
		48	5240.0000	5240.0067	-0.0067
		149	5745.0000	5745.0059	-0.0059
		151	5755.0000	5755.0103	-0.0103
		157	5785.0000	5785.0109	-0.0109
		159	5795.0000	5795.0046	-0.0046
		165	5825.0000	5825.0102	-0.0102

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (50) oC	Vnom (102)V	36	5180.0000	5180.0050	-0.0050
		38	5190.0000	5190.0042	-0.0042
		44	5220.0000	5220.0092	-0.0092
		46	5230.0000	5230.0083	-0.0083
		48	5240.0000	5240.0048	-0.0048
		149	5745.0000	5745.0032	-0.0032
		151	5755.0000	5755.0081	-0.0081
		157	5785.0000	5785.0049	-0.0049
		159	5795.0000	5795.0102	-0.0102
		165	5825.0000	5825.0047	-0.0047
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (0) oC	Vnom (138)V	36	5180.0000	5180.0010	-0.0010
		38	5190.0000	5190.0044	-0.0044
		44	5220.0000	5220.0044	-0.0044
		46	5230.0000	5230.0044	-0.0044
		48	5240.0000	5240.0048	-0.0048
		149	5745.0000	5745.0029	-0.0029
		151	5755.0000	5755.0061	-0.0061
		157	5785.0000	5785.0062	-0.0062
		159	5795.0000	5795.0020	-0.0020
		165	5825.0000	5825.0094	-0.0094
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (0) oC	Vnom (102)V	36	5180.0000	5180.0010	-0.0010
		38	5190.0000	5190.0044	-0.0044
		44	5220.0000	5220.0044	-0.0044
		46	5230.0000	5230.0044	-0.0044
		48	5240.0000	5240.0048	-0.0048
		149	5745.0000	5745.0029	-0.0029
		151	5755.0000	5755.0061	-0.0061
		157	5785.0000	5785.0062	-0.0062
		159	5795.0000	5795.0020	-0.0020
		165	5825.0000	5825.0094	-0.0094

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (20) °C	Vnom (120)V	42	5210.0000	5210.0220	-0.0220
		155	5775.0000	5775.0034	-0.0034
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tmax (50) °C	Vmax (138)V	42	5210.0000	5210.0024	-0.0024
		155	5775.0000	5775.0029	-0.0029
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tmax (50) °C	Vmin (102)V	42	5210.0000	5210.0024	-0.0024
		155	5775.0000	5775.0016	-0.0016
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tmax (0) °C	Vmax (138)V	42	5210.0000	5210.0024	-0.0024
		155	5775.0000	5775.0046	-0.0046
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tmax (0) °C	Vmin (102)V	42	5210.0000	5210.0024	-0.0024
		155	5775.0000	5775.0045	-0.0045

**Chain B**

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (20) oC	Vnom (120)V	36	5180.0000	5180.0083	-0.0083
		38	5190.0000	5190.0044	-0.0044
		44	5220.0000	5220.0101	-0.0101
		46	5230.0000	5230.0090	-0.0090
		48	5240.0000	5240.0025	-0.0025
		149	5745.0000	5745.0034	-0.0034
		151	5755.0000	5755.0033	-0.0033
		157	5785.0000	5785.0040	-0.0040
		159	5795.0000	5795.0054	-0.0054
		165	5825.0000	5825.0079	-0.0079
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (50) oC	Vnom (138)V	36	5180.0000	5180.0077	-0.0077
		38	5190.0000	5190.0022	-0.0022
		44	5220.0000	5220.0187	-0.0187
		46	5230.0000	5230.0044	-0.0044
		48	5240.0000	5240.0189	-0.0189
		149	5745.0000	5745.0064	-0.0064
		151	5755.0000	5755.0031	-0.0031
		157	5785.0000	5785.0078	-0.0078
		159	5795.0000	5795.0073	-0.0073
		165	5825.0000	5825.0094	-0.0094

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (50) oC	Vnom (102)V	36	5180.0000	5180.0067	-0.0067
		38	5190.0000	5190.0012	-0.0012
		44	5220.0000	5220.0087	-0.0087
		46	5230.0000	5230.0034	-0.0034
		48	5240.0000	5240.0089	-0.0089
		149	5745.0000	5745.0068	-0.0068
		151	5755.0000	5755.0037	-0.0037
		157	5785.0000	5785.0109	-0.0109
		159	5795.0000	5795.0046	-0.0046
		165	5825.0000	5825.0102	-0.0102
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (0) oC	Vnom (138)V	36	5180.0000	5180.0077	-0.0077
		38	5190.0000	5190.0022	-0.0022
		44	5220.0000	5220.0187	-0.0187
		46	5230.0000	5230.0044	-0.0044
		48	5240.0000	5240.0089	-0.0089
		149	5745.0000	5745.0069	-0.0069
		151	5755.0000	5755.0014	-0.0014
		157	5785.0000	5785.0080	-0.0080
		159	5795.0000	5795.0058	-0.0058
		165	5825.0000	5825.0021	-0.0021
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (0) oC	Vnom (102)V	36	5180.0000	5180.0107	-0.0107
		38	5190.0000	5190.0047	-0.0047
		44	5220.0000	5220.0103	-0.0103
		46	5230.0000	5230.0091	-0.0091
		48	5240.0000	5240.0010	-0.0010
		149	5745.0000	5745.0069	-0.0069
		151	5755.0000	5755.0014	-0.0014
		157	5785.0000	5785.0080	-0.0080
		159	5795.0000	5795.0058	-0.0058
		165	5825.0000	5825.0021	-0.0021

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (20) °C	Vnom (120)V	42	5210.0000	5210.0220	-0.0220
		155	5775.0000	5775.0034	-0.0034
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tmax (50) °C	Vmax (138)V	42	5210.0000	5210.0220	-0.0220
		155	5775.0000	5775.0029	-0.0029
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tmax (50) °C	Vmin (102)V	42	5210.0000	5210.0220	-0.0220
		155	5775.0000	5775.0016	-0.0016
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tmax (0) °C	Vmax (138)V	42	5210.0000	5210.0220	-0.0220
		155	5775.0000	5775.0046	-0.0046
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tmax (0) °C	Vmin (102)V	42	5210.0000	5210.0220	-0.0220
		155	5775.0000	5775.0045	-0.0045

**9. Maximum e.i.r.p at any elevation angle above 30 degrees**

The EUT used for outdoor, Band1 Maximum EIRP = 20.43dB < 21dBm, this test item is not performed.

(Maximum conducted output power of Band 1 = 15.13dBm, Antenna Gain = 5.3, Maximum EIRP = 15.13 + 5.3 = 20.43dBm)



**10. EMI Reduction Method During Compliance Testing**

No modification was made during testing.

## Attachment 1: EUT Test Photographs

## Attachment 2: EUT Detailed Photographs