

# FCC Test Report (Class II Permissive Change)

Product Name	Wireless Access Point
Model No	AP-90M
FCC ID	AFJ360300

Applicant	ICOM Incorporated
Address	1-1-32 Kamiminami, Hirano-ku, Osaka, 547-0003, Japan

Date of Receipt	Jul. 24, 2015
Issued Date	Sep. 17, 2015
Report No.	1570612R-RFUSP42V00
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 of the equipment and evaluated measurement uncertainty herein.

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# Test Report

Issued Date: Sep. 17, 2015

Report No.: 1570612R-RFUSP42V00



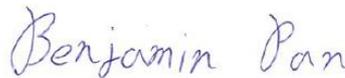
Product Name	Wireless Access Point
Applicant	ICOM Incorporated
Address	1-1-32 Kamiminami, Hirano-ku, Osaka, 547-0003, Japan
Manufacturer	ICOM Incorporated
Model No.	AP-90M
FCC ID.	AFJ360300
EUT Rated Voltage	AC 100-240V, 50-60Hz
EUT Test Voltage	AC 120V/60Hz
Trade Name	ICOM
Applicable Standard	FCC CFR Title 47 Part 15 Subpart E: 2014 ANSI C63.4: 2014, ANSI C63.10: 2013 789033 D02 General UNII Test Procedures New Rules v01
Test Result	Complied

Documented By :



( Senior Adm. Specialist / Joanne Lin )

Tested By :



( Engineer / Benjamin Pan )

Approved By :



( Director / Vincent Lin )

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## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	Wireless Access Point
Trade Name	ICOM
FCC ID.	AFJ360300
Model No.	AP-90M
Frequency Range	802.11a/n-20MHz:5745-5825MHz 802.11an-40MHz:5755-5795MHz 802.11ac-80MHz: 5775MHz
Number of Channels	802.11a/n-20MHz: 5 802.11an-40MHz: 2 802.11ac-80MHz: 1
Data Rate	802.11a: 6-54Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps
Channel Control	Auto
Type of Modulation	802.11a/n/ac:OFDM, BPSK, QPSK, 16QAM, 64QAM, 256QAM
Antenna Gain	Refer to the table “Antenna List”
Antenna type	Internal / External: Dipole
Power Adapter	MFR: ICOM, M/N: SA142B-12U Input: AC 100-240V~50-60Hz, 1.2A Output: 12V $\equiv$ 3.5A Cable Out: Non-Shielded, 1.8m

#### Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain	Note
1	Wistron NeWeb Corp.	3ARNRA001S1 (Main)(Aux)	Dipole	2.73dBi for 5.15~5.25GHz 2.73dBi for 5.25~5.35GHz 3.24dBi for 5.47~5.725GHz 3.24dBi for 5.725~5.825GHz	Internal Antenna
2	WHA YU INDUSTRIAL	C1251-510008-A (Main)(Aux)	Dipole	5.00dBi for 5.15~5.25GHz 5.00dBi for 5.25~5.35GHz 5.00dBi for 5.47~5.725GHz 5.00dBi for 5.725~5.825GHz	External Antenna

Note: The antenna connector is Reverse SMA type.

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

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

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

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

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

Channel	Frequency
Channel 155:	5775 MHz

Note:

1. This device is a Wireless Access Point with a built-in two WLAN transceivers, Internal Antenna of transceiver support 802.11a/n20/n40, External Antenna of transceiver support 802.11a/n20/n40/ac20/ac40/ac80 technology.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Continuous transmission mode provides a 100% duty cycle to perform the test.
4. At result of pretests, module supports dual-channel transmission, only the worst case is shown in the report. (802.11a is chain A)
5. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11a is 6Mbps 、802.11n-20BW is 14.4Mbps 、802.11n-40BW is 30Mbps and 802.11ac(80M-BW) is 65 Mbps)
6. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart E for Unlicensed National Information Infrastructure devices.
7. The EUT was setup according to ANSI C63.10: 2013 (table height of 1.5 meters was used during radiated emission measurements above 1 GHz instead of a 80 cm table height).
8. This is to request a Class II permissive change for FCC ID:AFJ360300 originally granted on 06/22/2015. Changes in operation in U-NII-3 Band:  
This device previously authorized under Section 15.247, a Class II permissive change filing to demonstrate compliance with the New Rules.

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

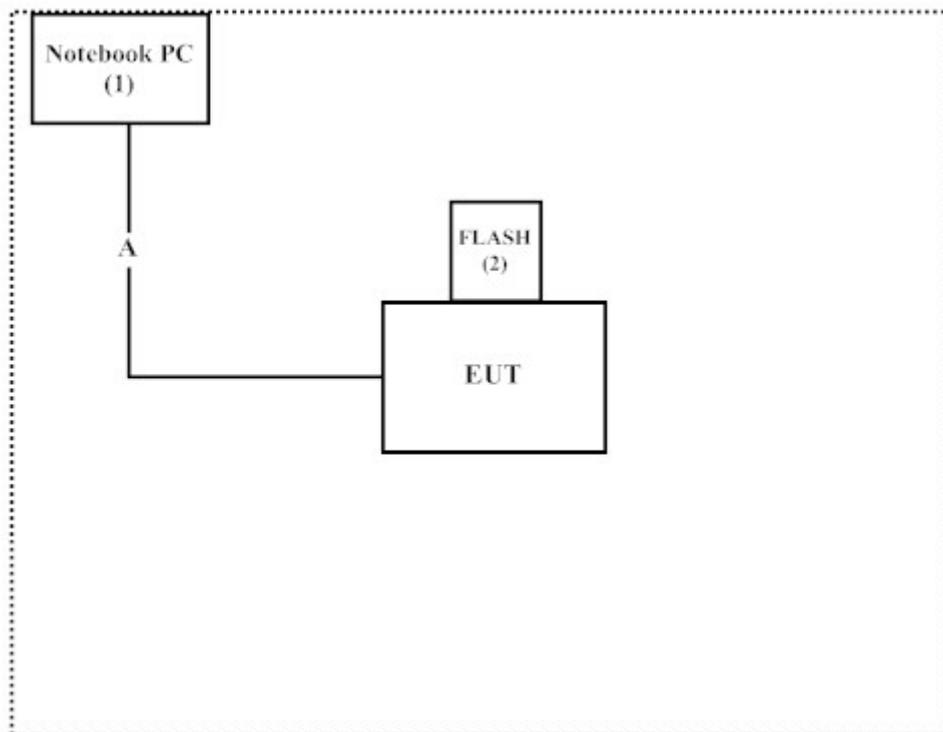
### 1.3. Tested System Details

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

Product	Manufacturer	Model No.	Serial No.	Power Cord
1   Notebook PC	DELL	PP18L	36119001664	Non-Shielded, 0.8m
2   FLASH	Transcend	JetFlash110	155422-2931	N/A

Signal Cable Type	Signal cable Description
A   LAN Cable	Non-Shielded, 2m

### 1.4. Configuration of tested System



### 1.5. EUT Exercise Software

- (1) Setup the EUT as shown on 1.4
- (2) Execute “Cmd Tool v1.0.0.3” program on the EUT.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Start the continuous transmission.
- (5) Verify that the EUT works properly.

**1.6. Test Facility**

Ambient conditions in the laboratory:

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

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site : <http://www.quietek.com/chinese/about/certificates.aspx?bval=5>

The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>

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

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

FCC Accreditation Number: TW1014

## 2. Conducted Emission

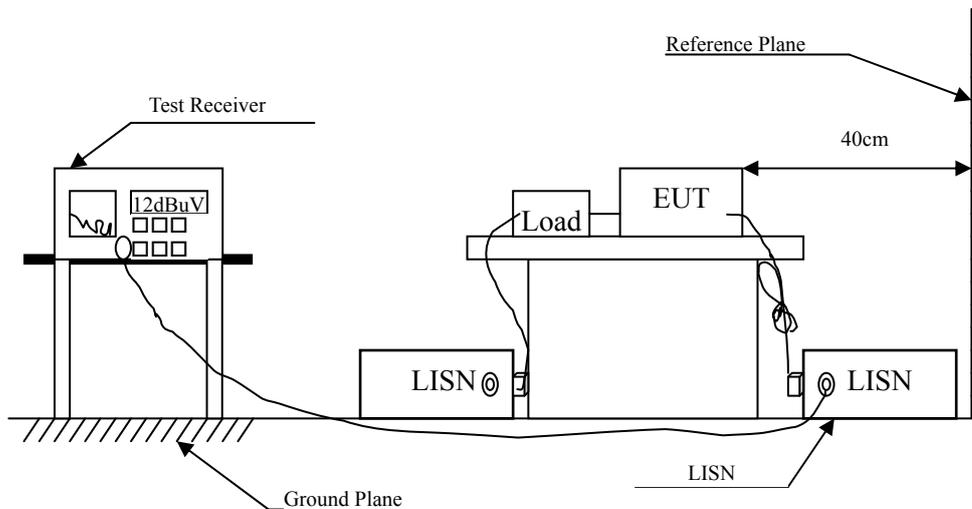
### 2.1. Test Equipment

	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., 2015	Peripherals
X	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2015	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar., 2015	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2015	
	No.1 Shielded Room				

Note:

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

### 2.2. Test Setup



**2.3. Limits**

<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 C63.4, 2014; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

**2.5. Uncertainty**

± 2.26 dB

**2.6. Test Result of Conducted Emission**

Product : Wireless Access Point  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 4: Transmit (802.11ac-80BW-65Mbps)\_External Antenna (5775MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV	Margin dB	Limit dBμV
<b>LINE 1</b>					
<b>Quasi-Peak</b>					
0.248	9.663	28.310	37.973	-25.227	63.200
0.591	9.682	17.820	27.502	-28.498	56.000
1.045	9.706	28.550	38.256	-17.744	56.000
4.029	9.831	14.870	24.701	-31.299	56.000
8.982	9.942	24.440	34.382	-25.618	60.000
11.943	9.978	25.530	35.508	-24.492	60.000
<b>Average</b>					
0.248	9.663	24.280	33.943	-19.257	53.200
0.591	9.682	7.290	16.972	-29.028	46.000
1.045	9.706	5.760	15.466	-30.534	46.000
4.029	9.831	9.240	19.071	-26.929	46.000
8.982	9.942	18.500	28.442	-21.558	50.000
11.943	9.978	23.200	33.178	-16.822	50.000

Note:

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

Product : Wireless Access Point  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 4: Transmit (802.11ac-80BW-65Mbps)\_External Antenna (5775MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV	Margin dB	Limit dBμV
<b>LINE 2</b>					
<b>Quasi-Peak</b>					
0.162	9.667	26.530	36.197	-29.460	65.657
0.248	9.663	28.390	38.053	-25.147	63.200
0.591	9.682	18.180	27.862	-28.138	56.000
1.041	9.706	29.120	38.826	-17.174	56.000
4.209	9.835	16.130	25.965	-30.035	56.000
8.947	9.971	24.780	34.751	-25.249	60.000
<b>Average</b>					
0.162	9.667	20.320	29.987	-25.670	55.657
0.248	9.663	27.930	37.593	-15.607	53.200
0.591	9.682	2.040	11.722	-34.278	46.000
1.041	9.706	4.130	13.836	-32.164	46.000
4.209	9.835	11.200	21.035	-24.965	46.000
8.947	9.971	19.030	29.001	-20.999	50.000

Note:

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

Product : Wireless Access Point  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 3: Transmit (802.11n-40BW-30Mbps)\_Internal Antenna (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBµV	Measurement Level dBµV	Margin dB	Limit dBµV
<b>LINE 1</b>					
<b>Quasi-Peak</b>					
0.255	9.663	28.170	37.833	-25.167	63.000
0.599	9.682	17.840	27.522	-28.478	56.000
0.990	9.704	22.740	32.444	-23.556	56.000
4.080	9.833	14.670	24.503	-31.497	56.000
9.310	9.945	24.550	34.495	-25.505	60.000
11.947	9.979	25.890	35.869	-24.131	60.000
<b>Average</b>					
0.255	9.663	22.310	31.973	-21.027	53.000
0.599	9.682	7.120	16.802	-29.198	46.000
0.990	9.704	9.350	19.054	-26.946	46.000
4.080	9.833	8.470	18.303	-27.697	46.000
9.310	9.945	20.750	30.695	-19.305	50.000
11.947	9.979	23.280	33.259	-16.741	50.000

Note:

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

Product : Wireless Access Point  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 3: Transmit (802.11n-40BW-30Mbps)\_Internal Antenna (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV	Margin dB	Limit dBμV
<b>LINE 2</b>					
<b>Quasi-Peak</b>					
0.170	9.665	23.690	33.355	-32.074	65.429
0.259	9.664	29.520	39.184	-23.702	62.886
0.568	9.680	16.190	25.870	-30.130	56.000
0.966	9.702	21.130	30.832	-25.168	56.000
4.162	9.834	15.490	25.324	-30.676	56.000
9.310	9.975	24.910	34.885	-25.115	60.000
<b>Average</b>					
0.170	9.665	16.430	26.095	-29.334	55.429
0.259	9.664	24.890	34.554	-18.332	52.886
0.568	9.680	3.360	13.040	-32.960	46.000
0.966	9.702	10.400	20.102	-25.898	46.000
4.162	9.834	11.710	21.544	-24.456	46.000
9.310	9.975	21.470	31.445	-18.555	50.000

Note:

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

### 3. Maximun conducted output power

#### 3.1. Test Equipment

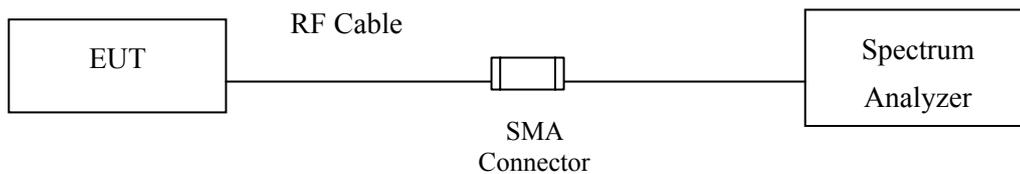
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2015
X	Power Sensor	Anritsu	MA2411B/0738448	Jun., 2015
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

Note:

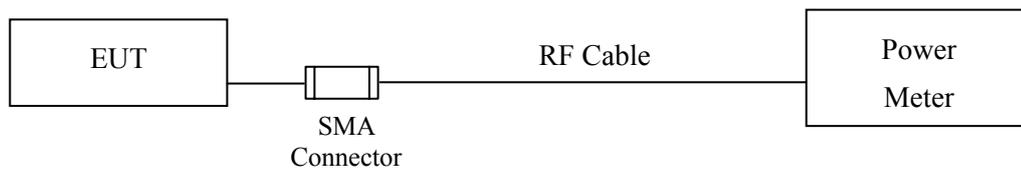
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

#### 3.2. Test Setup

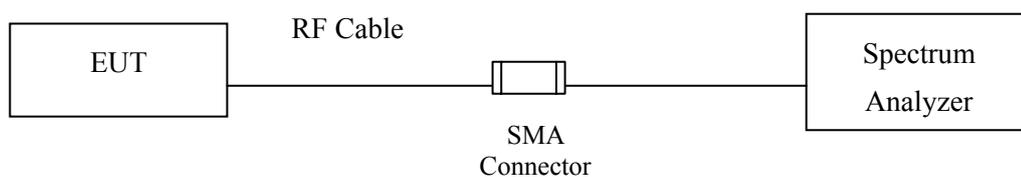
##### 26dBc Occupied Bandwidth



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



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



### 3.3. 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 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.
- (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) 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 than 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 : Wireless Access Point  
 Test Item : Maximum conducted output power  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)\_External Antenna

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)								
149	5745	11.11	--	--	--	--	--	--	--	<30dBm
157	5785	11.37	11.32	11.28	11.25	11.18	11.1	11.09	10.64	<30dBm
165	5825	11.2	--	--	--	--	--	--	--	<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)								
149	5745	11.04	--	--	--	--	--	--	--	<30dBm
157	5785	11.08	--	--	--	--	--	--	--	<30dBm
165	5825	11.15	11.08	10.97	11.05	11.01	10.96	10.91	10.81	<30dBm

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

Maximum conducted output power Measurement:

Channel Number	Frequency	Output Power	Output Power Limit
	(MHz)	(dBm)	(dBm)
149	5745	11.11	30
157	5785	11.37	30
165	5825	11.2	30

Note:

1. Power Output Value =Reading value on average power meter + cable loss

Product : Wireless Access Point  
 Test Item : Maximum conducted output power  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW-14.4Mbps)\_External Antenna

**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)								
149	5745	9.83	9.82	9.78	9.75	9.72	9.59	9.51	9.43	<30dBm
157	5785	9.36	--	--	--	--	--	--	--	<30dBm
165	5825	8.59	--	--	--	--	--	--	--	<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)								
149	5745	10.42	10.3	10.23	10.14	10.02	9.84	9.68	9.49	<30dBm
157	5785	9.98	--	--	--	--	--	--	--	<30dBm
165	5825	9.61	--	--	--	--	--	--	--	<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	Chain A Power	Chain B Power	Output Power	Output Power Limit
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)
149	5745	9.83	10.42	13.15	30
157	5785	9.36	9.98	12.69	30
165	5825	8.59	9.61	12.14	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 : Wireless Access Point  
 Test Item : Maximum conducted output power  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW-30Mbps)\_External Antenna

**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)								
151	5755	14.41	14.33	14.26	14.19	14.11	14.06	14	13.93	<30dBm
159	5795	13.57	--	--	--	--	--	--	--	<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)								
151	5755	14.43	14.3	14.22	14.15	14.06	13.99	13.93	13.88	<30dBm
159	5795	13.17	--	--	--	--	--	--	--	<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	Chain A Power	Chain B Power	Output Power	Output Power Limit
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)
151	5755	14.41	14.43	17.43	30
159	5795	13.57	13.17	16.38	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 : Wireless Access Point  
 Test Item : Maximum conducted output power  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11ac-80BW-65Mbps)\_External Antenna

**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	
155	5775	10.23	10.11	10.07	9.89	9.75	9.59	9.51	9.41	9.39	9.33	<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	
155	5775	9.64	8.85	8.66	8.12	7.65	7.15	6.64	6.09	6.06	5.66	<30dBm

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

**Maximum conducted output power Measurement:**

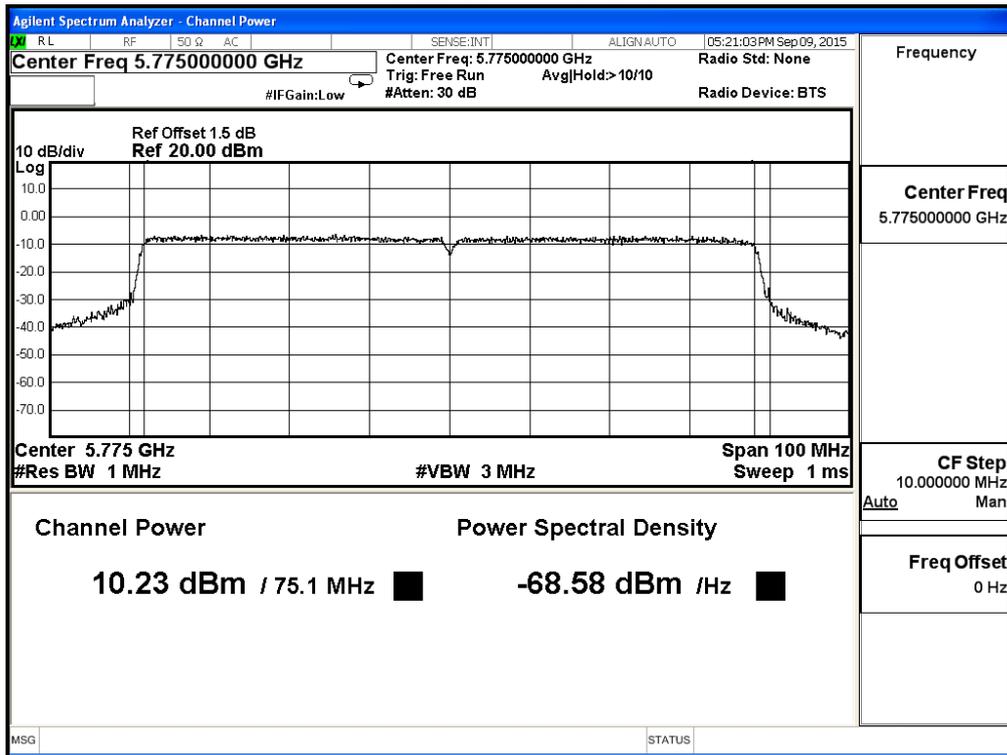
**Chain A+ B**

Channel Number	Frequency	Chain A Power	Chain B Power	Output Power	Output Power Limit
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)
155	5775	10.23	9.64	12.96	30

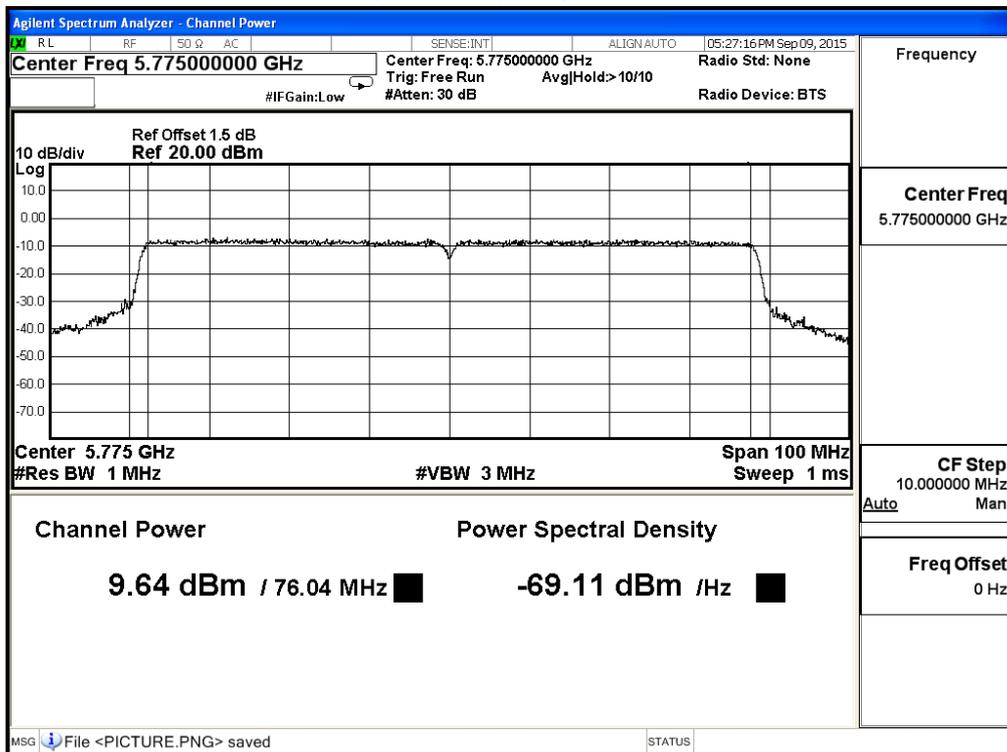
Note:

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))

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



**Channel 155 – Chain B**



Product : Wireless Access Point  
 Test Item : Maximum conducted output power  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)\_Internal Antenna

**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)								
149	5745	10.58	--	--	--	--	--	--	--	<30dBm
157	5785	11.04	10.99	10.95	10.92	10.85	10.77	10.76	10.31	<30dBm
165	5825	10.89	--	--	--	--	--	--	--	<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)								
149	5745	10.57	--	--	--	--	--	--	--	<30dBm
157	5785	11.02	10.95	10.84	10.92	10.88	10.83	10.78	10.68	<30dBm
165	5825	10.82	--	--	--	--	--	--	--	<30dBm

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

**Maximum conducted output power Measurement:**

Channel Number	Frequency	Output Power	Output Power Limit
	(MHz)	(dBm)	(dBm)
149	5745	10.58	30
157	5785	11.04	30
165	5825	10.89	30

Note:

1. Power Output Value =Reading value on average power meter + cable loss

Product : Wireless Access Point  
 Test Item : Maximum conducted output power  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW-14.4Mbps)\_Internal Antenna

**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)								
149	5745	9.02	9.01	8.97	8.94	8.91	8.78	8.7	8.62	<30dBm
157	5785	8.92	--	--	--	--	--	--	--	<30dBm
165	5825	8.49	--	--	--	--	--	--	--	<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)								
149	5745	9.13	9.01	8.94	8.85	8.73	8.55	8.39	8.2	<30dBm
157	5785	8.69	--	--	--	--	--	--	--	<30dBm
165	5825	7.66	--	--	--	--	--	--	--	<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	Chain A Power	Chain B Power	Output Power	Output Power Limit
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)
149	5745	9.02	9.13	12.09	30
157	5785	8.92	8.69	11.82	30
165	5825	8.49	7.66	11.11	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 : Wireless Access Point  
 Test Item : Maximum conducted output power  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW-30Mbps)\_Internal Antenna

**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)								
151	5755	9.68	9.6	9.53	9.46	9.38	9.33	9.27	9.2	<30dBm
159	5795	9.5	--	--	--	--	--	--	--	<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
		30	60	90	120	180	240	270	300	
		Measurement Level (dBm)								
151	5755	9.61	9.48	9.4	9.33	9.24	9.17	9.11	9.06	<30dBm
159	5795	9.56	--	--	--	--	--	--	--	<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	Chain A Power	Chain B Power	Output Power	Output Power Limit
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)
151	5755	9.68	9.61	12.66	30
159	5795	9.50	9.56	12.54	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))

#### 4. Peak Power Spectral Density

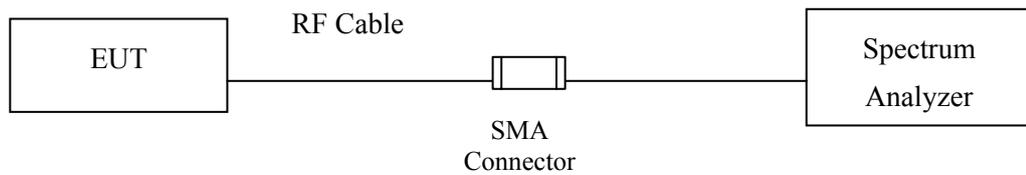
##### 4.1. Test Equipment

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

Note:

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

##### 4.2. Test Setup



### 4.3. Limits

- (1) For the band 5.15-5.25 GHz,
  - (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
  - (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
  - (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
  - (iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.+
  
- (2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
  
- (3) For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

#### **4.4. Test Procedure**

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

The Peak Power Spectral Density using KDB 789033 section F) procedure, Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer.

SA-1 method is selected to run the test.

Scale the observed power level to an equivalent value in 500 kHz by adjusting (increase) the measured power by a bandwidth correction factor (BWCF) where  $BWCF = 10\log(500\text{ kHz}/100\text{ kHz}) = 6.98\text{ dB}$ .

#### **4.5. Uncertainty**

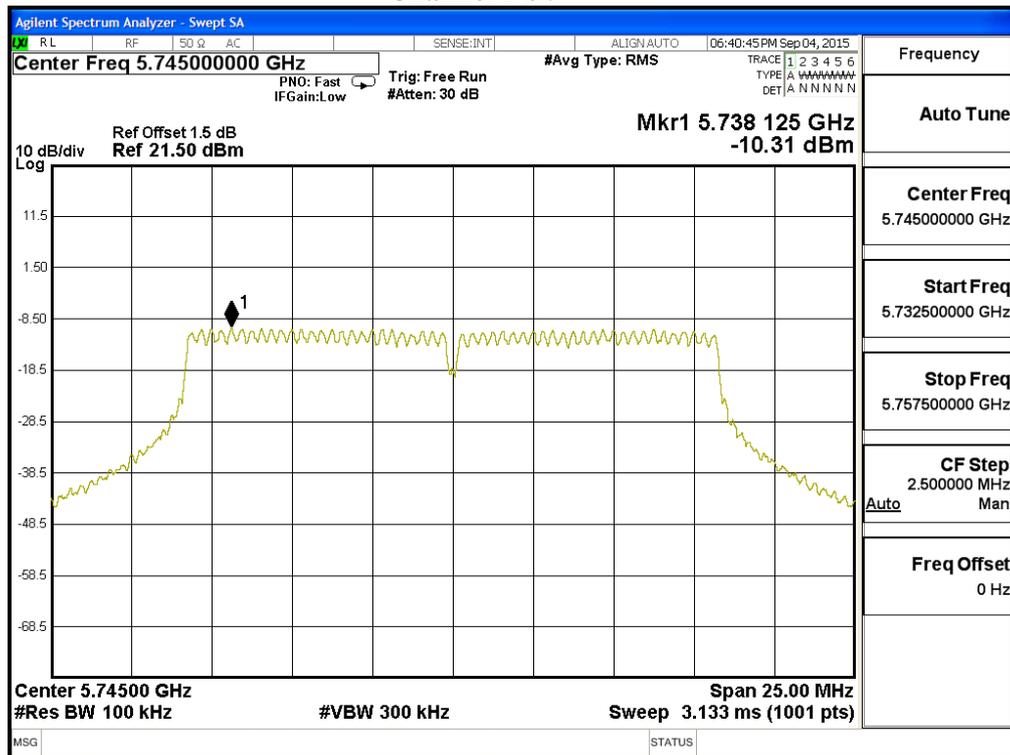
$\pm 1.27\text{ dB}$

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

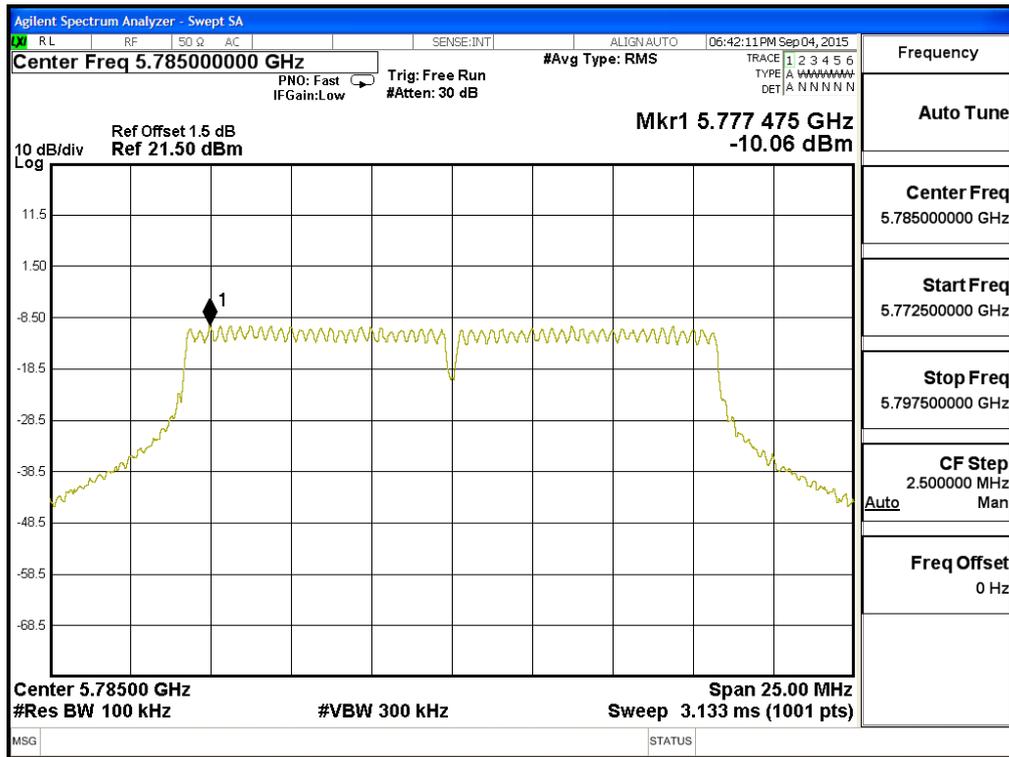
Product : Wireless Access Point  
 Test Item : Peak Power Spectral Density  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)\_External Antenna

Channel Number	Frequency (MHz)	Data Rate (Mbps)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
149	5745	6	-10.312	6.980	-3.332	<30	Pass
157	5785	6	-10.064	6.980	-3.084	<30	Pass
165	5825	6	-10.060	6.980	-3.080	<30	Pass

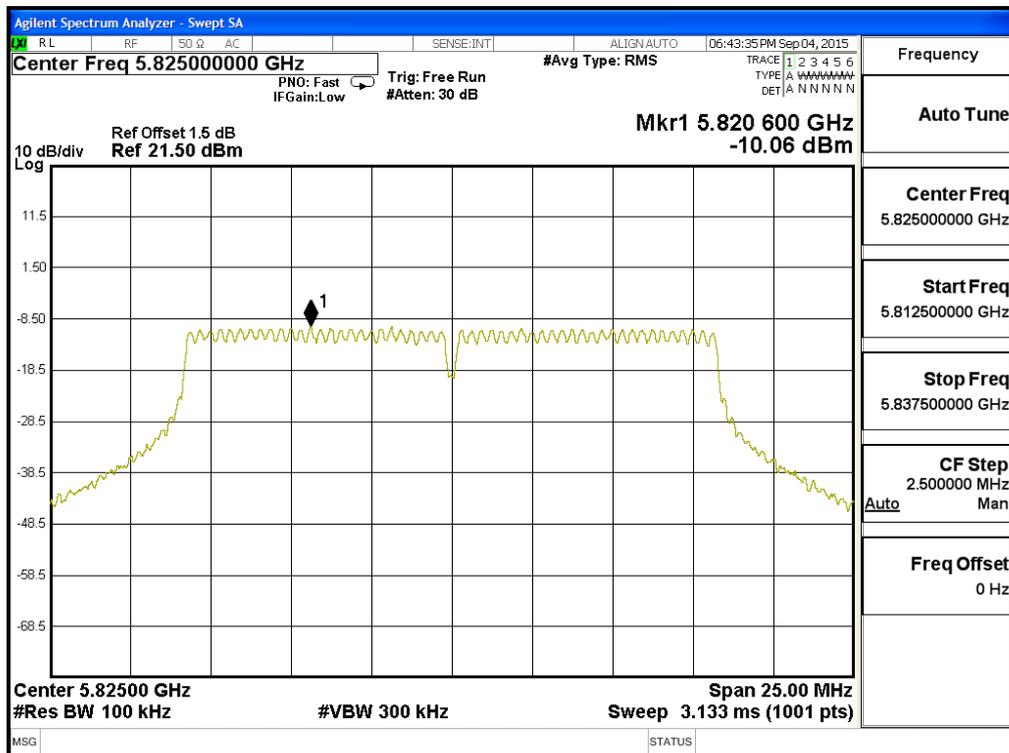
**Channel 149:**



**Channel 157:**



**Channel 165:**

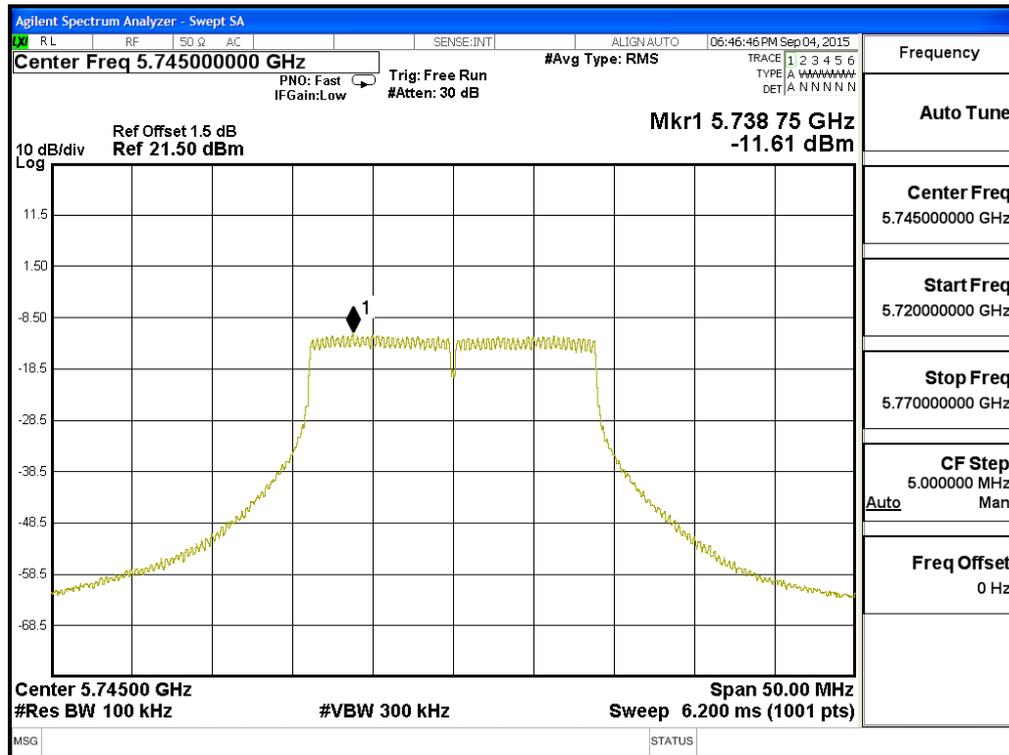


Product : Wireless Access Point  
 Test Item : Peak Power Spectral Density  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW-14.4Mbps)\_External Antenna

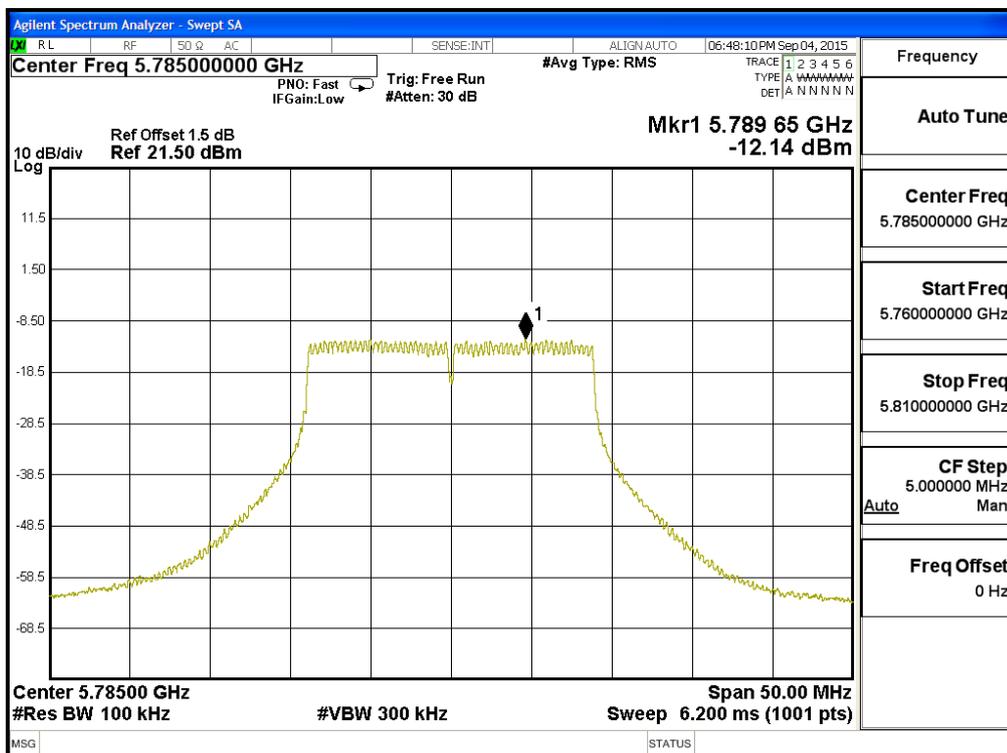
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm) <sup>1</sup>	Required Limit (dBm)	Result
149	5745	A	-11.614	6.980	-1.624	<30	Pass
		B	-12.464	6.980	-2.474	<30	Pass
157	5785	A	-12.144	6.980	-2.154	<30	Pass
		B	-12.768	6.980	-2.778	<30	Pass
165	5825	A	-12.607	6.980	-2.617	<30	Pass
		B	-13.586	6.980	-3.596	<30	Pass

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

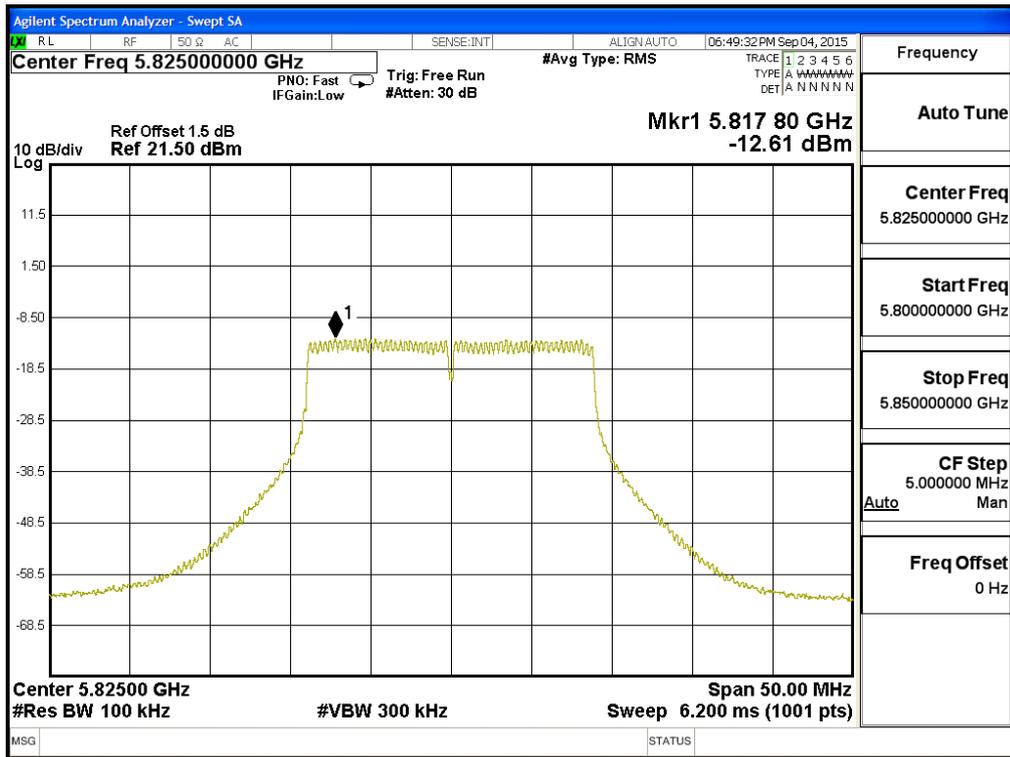
### Channel 149 – Chain A



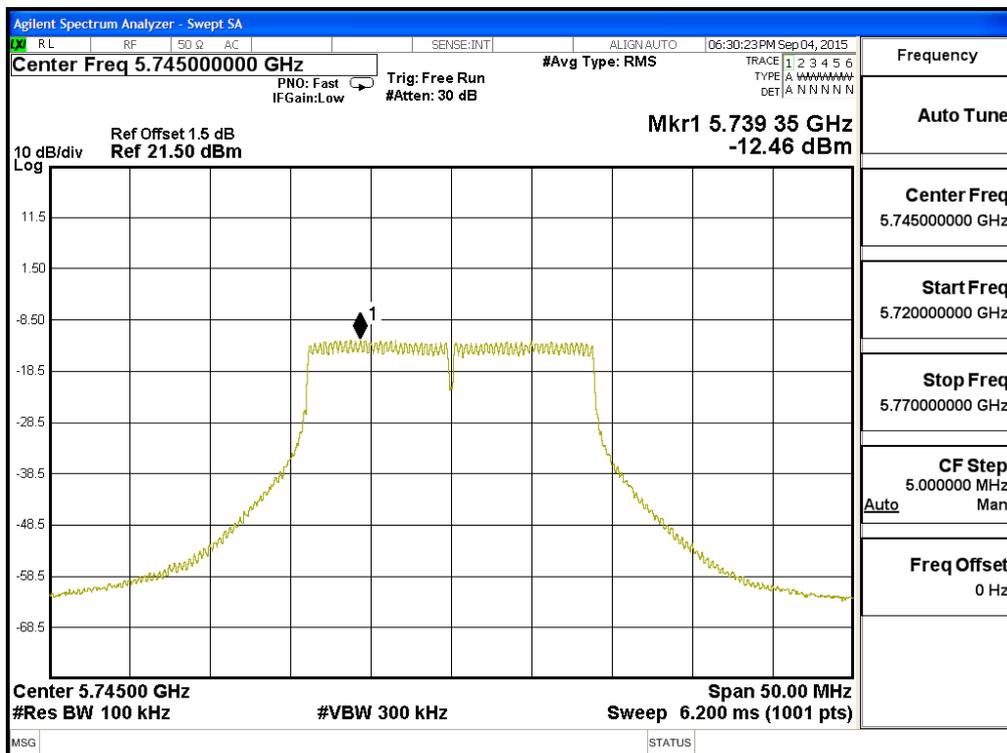
### Channel 157 – Chain A



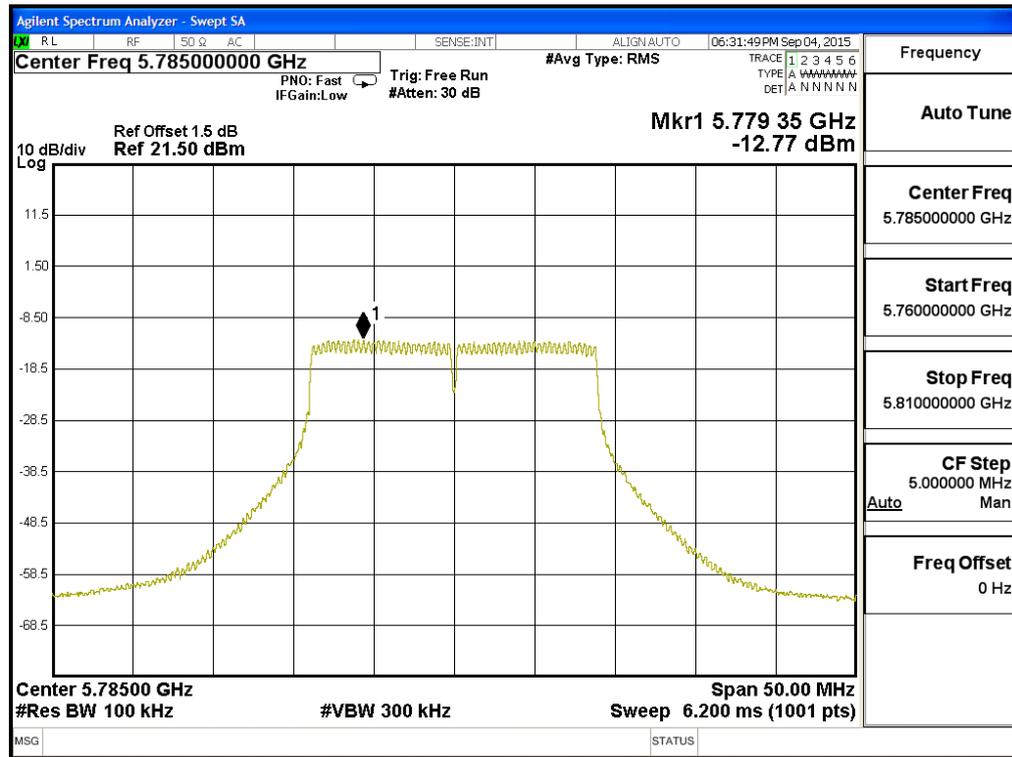
### Channel 165 – Chain A



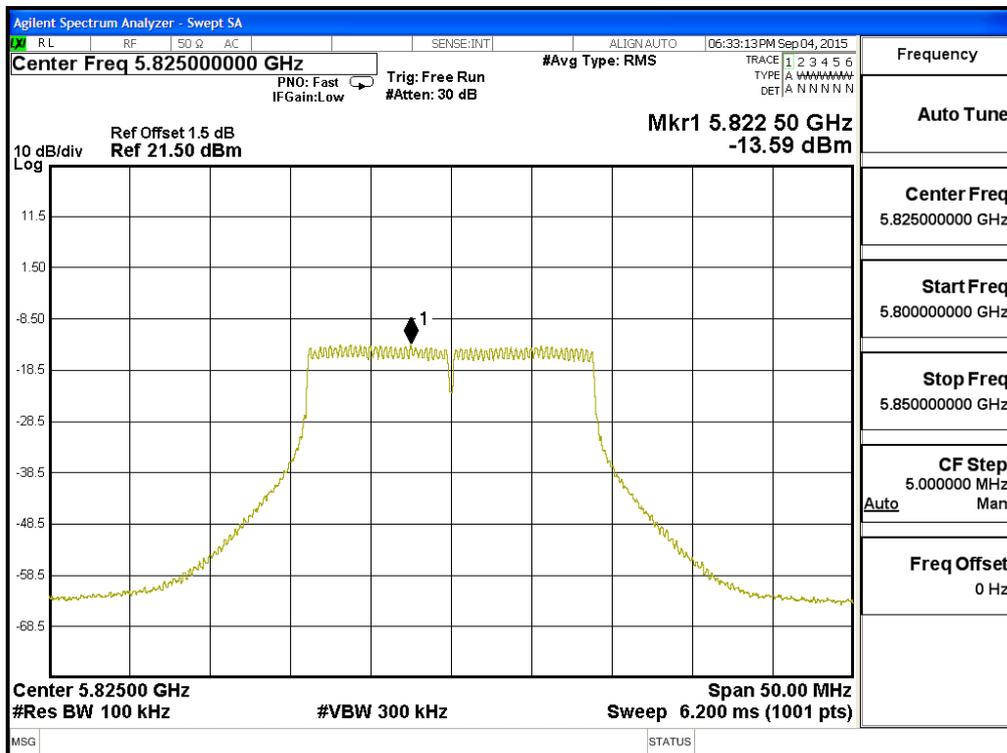
### Channel 149 – Chain B



Channel 157 – Chain B



Channel 165 – Chain B

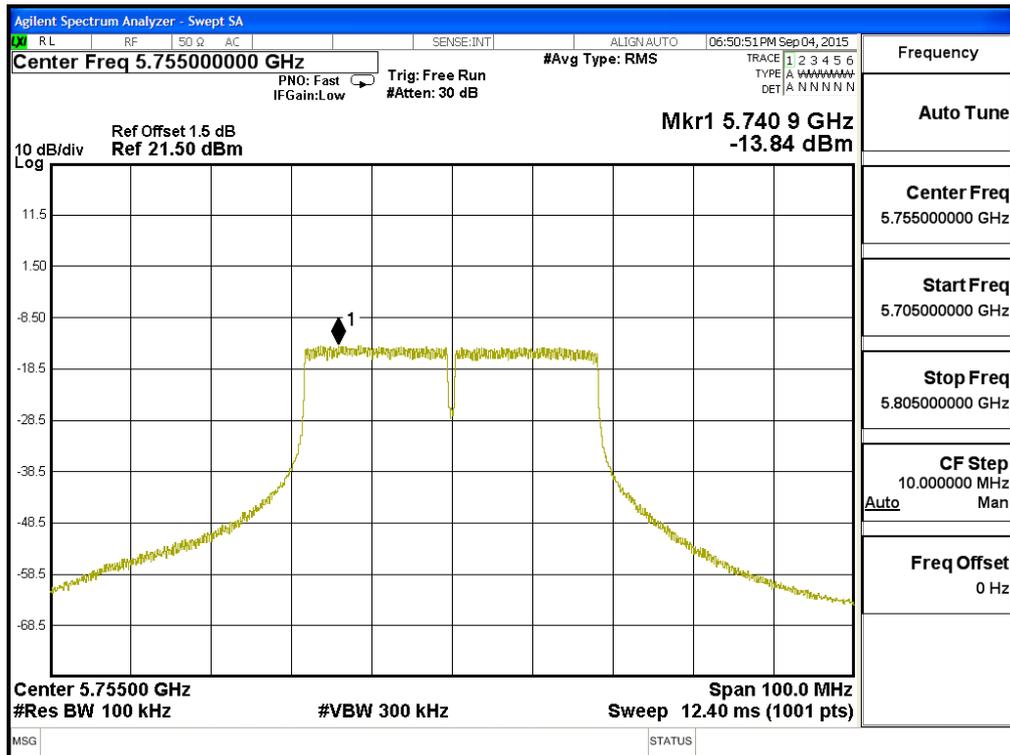


Product : Wireless Access Point  
 Test Item : Peak Power Spectral Density  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW-30Mbps)\_External Antenna

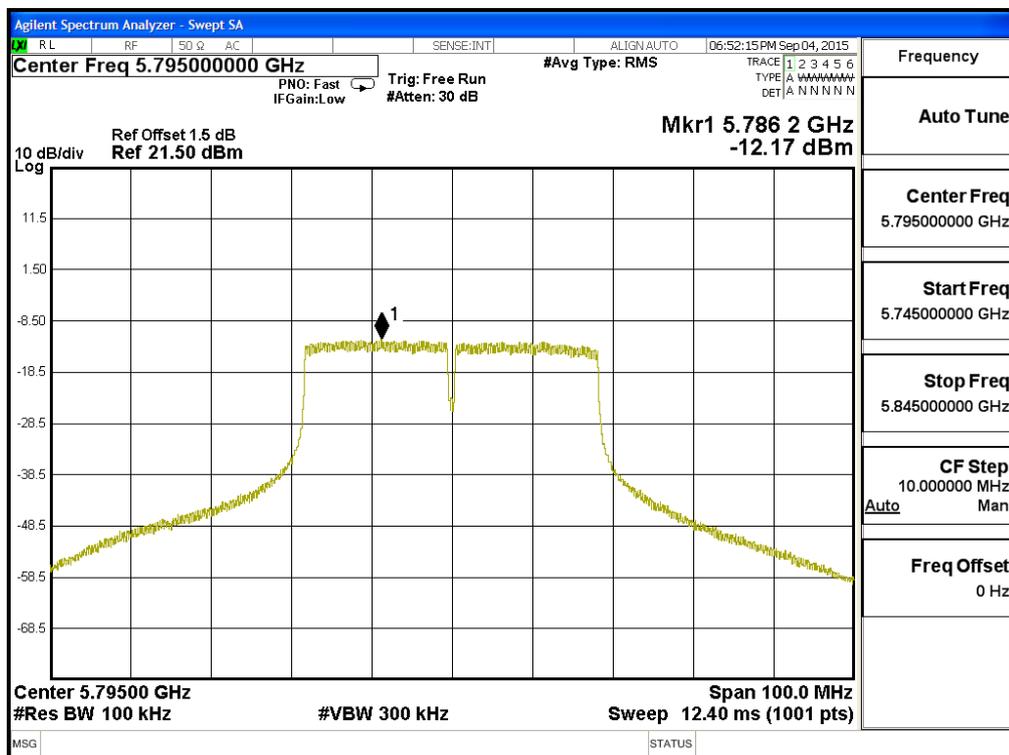
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm) <sup>1</sup>	Required Limit (dBm)	Result
151	5755	A	-13.838	6.980	-3.848	<30	Pass
		B	-14.352	6.980	-4.362	<30	Pass
159	5795	A	-12.168	6.980	-2.178	<30	Pass
		B	-11.401	6.980	-1.411	<30	Pass

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

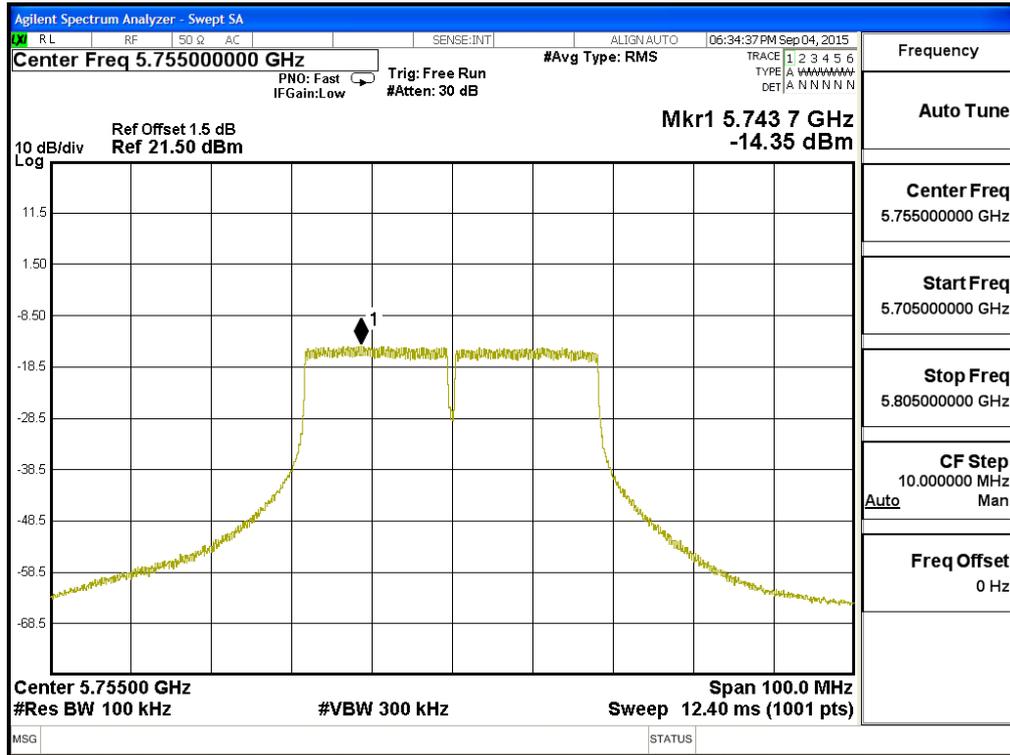
Channel 151 – Chain A



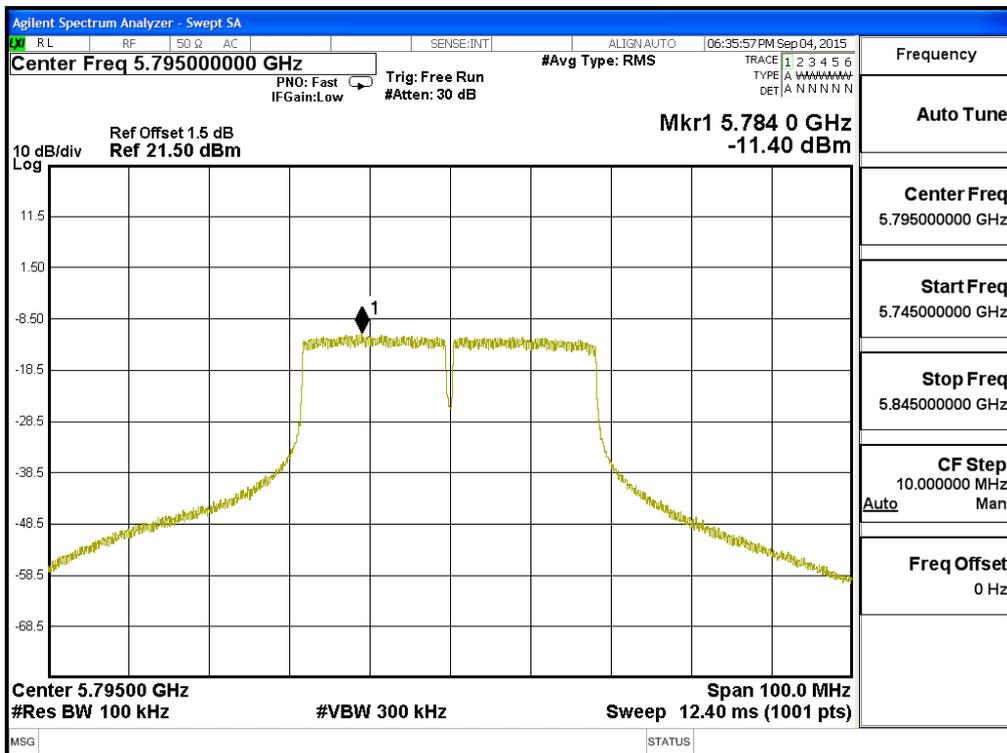
Channel 159 – Chain A



### Channel 151 – Chain B



### Channel 159 – Chain B

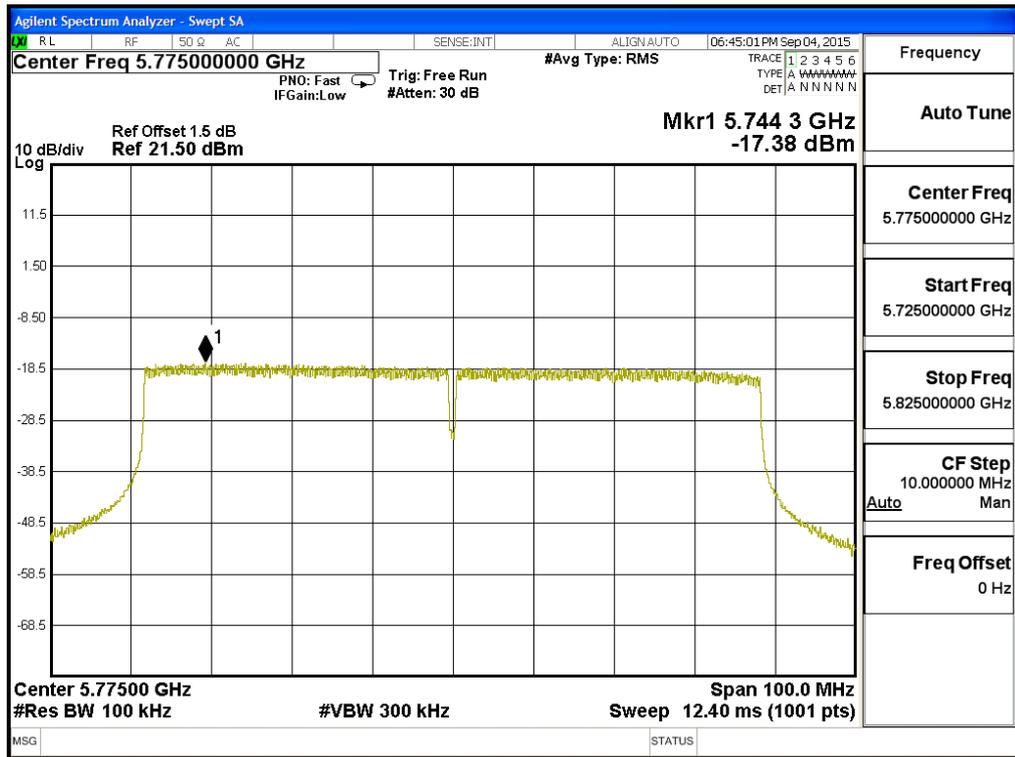


Product : Wireless Access Point  
 Test Item : Peak Power Spectral Density  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11ac-80BW-65Mbps)\_External Antenna

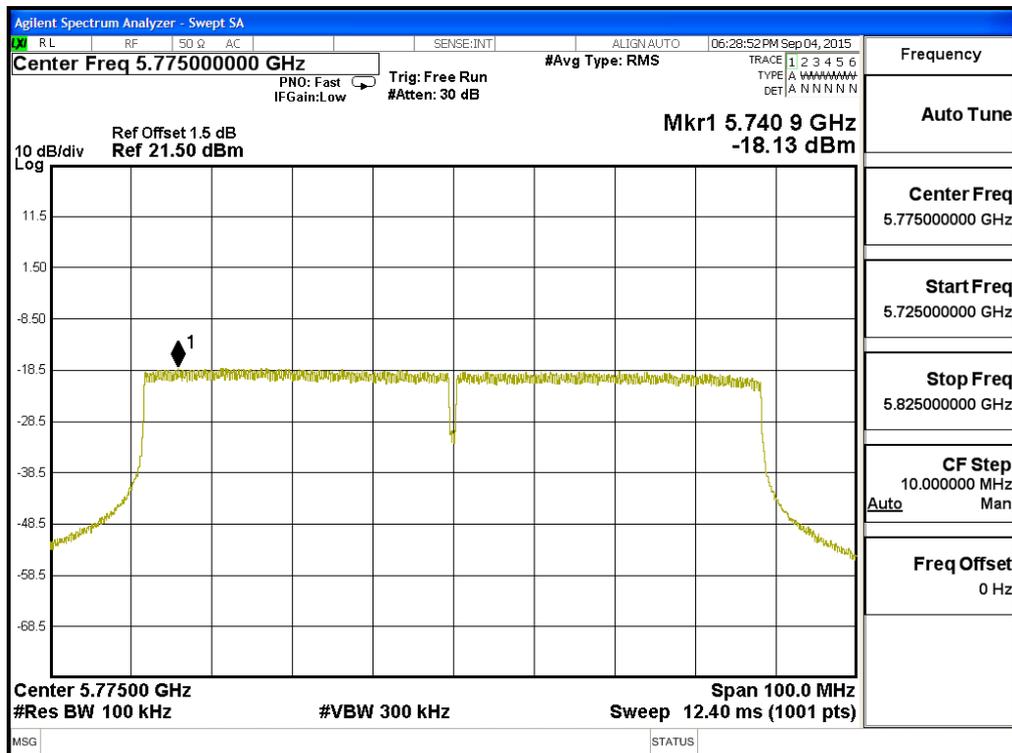
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm) <sup>1</sup>	Required Limit (dBm)	Result
155	5775	A	-17.380	6.980	-7.390	<30	Pass
		B	-18.130	6.980	-8.140	<30	Pass

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

### Channel 155: Chain A



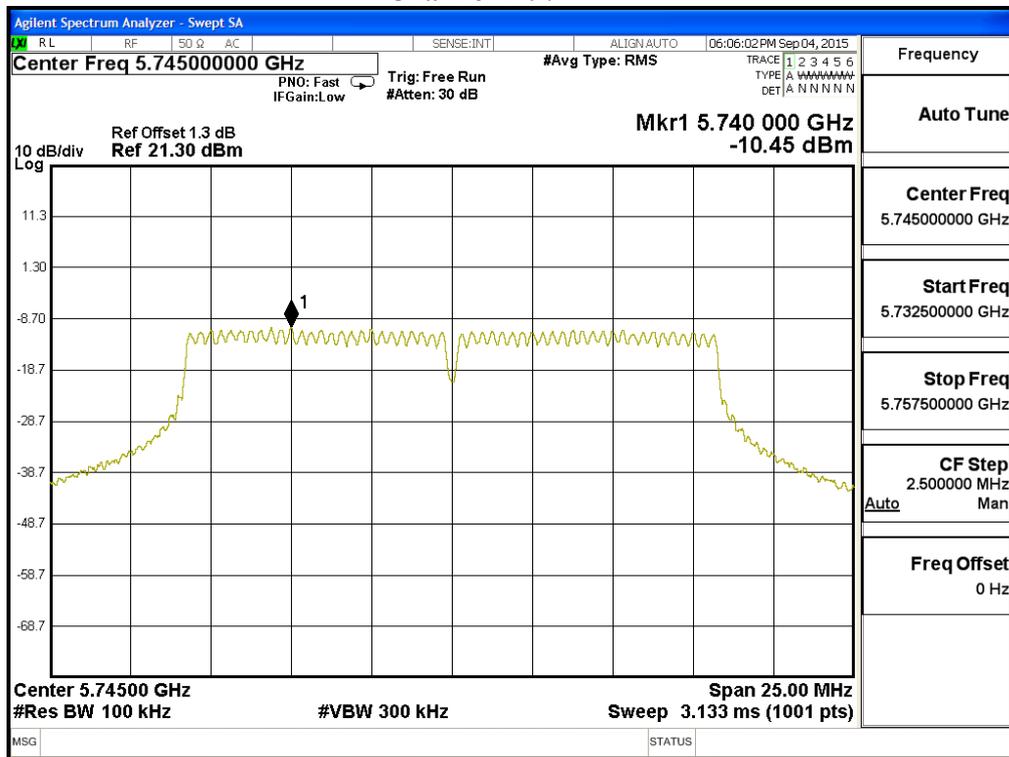
### Channel 155: Chain B



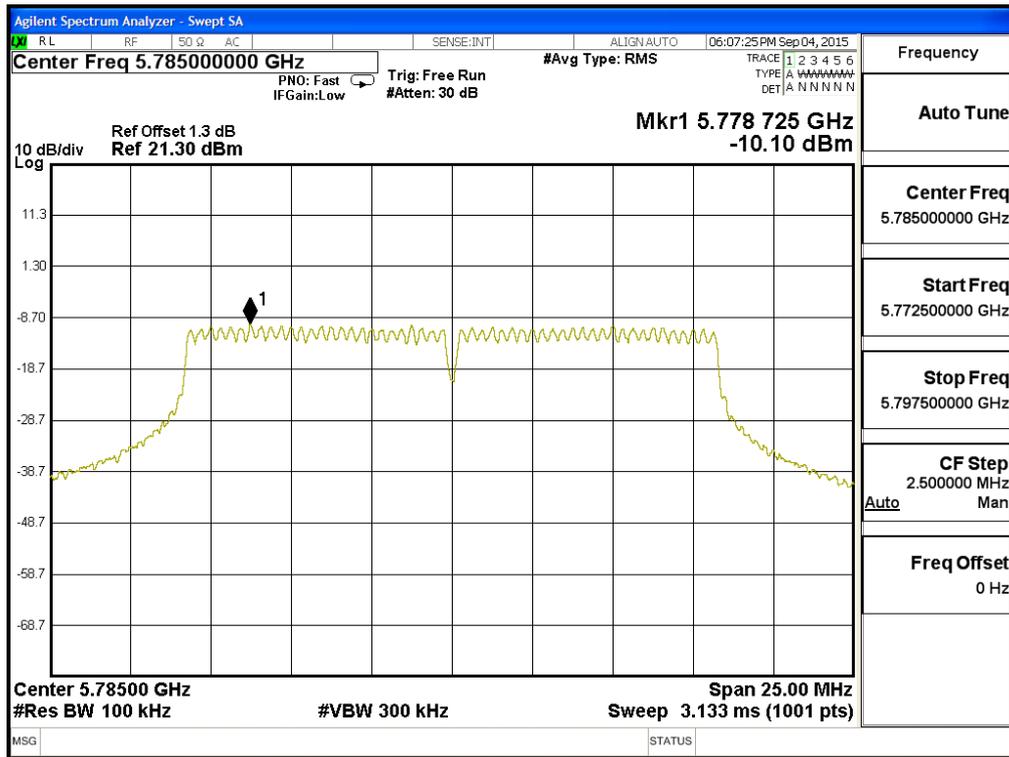
Product : Wireless Access Point  
 Test Item : Peak Power Spectral Density  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)\_Internal Antenna

Channel Number	Frequency (MHz)	Data Rate (Mbps)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
149	5745	6	-10.450	6.980	-3.470	<30	Pass
157	5785	6	-10.100	6.980	-3.120	<30	Pass
165	5825	6	-10.490	6.980	-3.510	<30	Pass

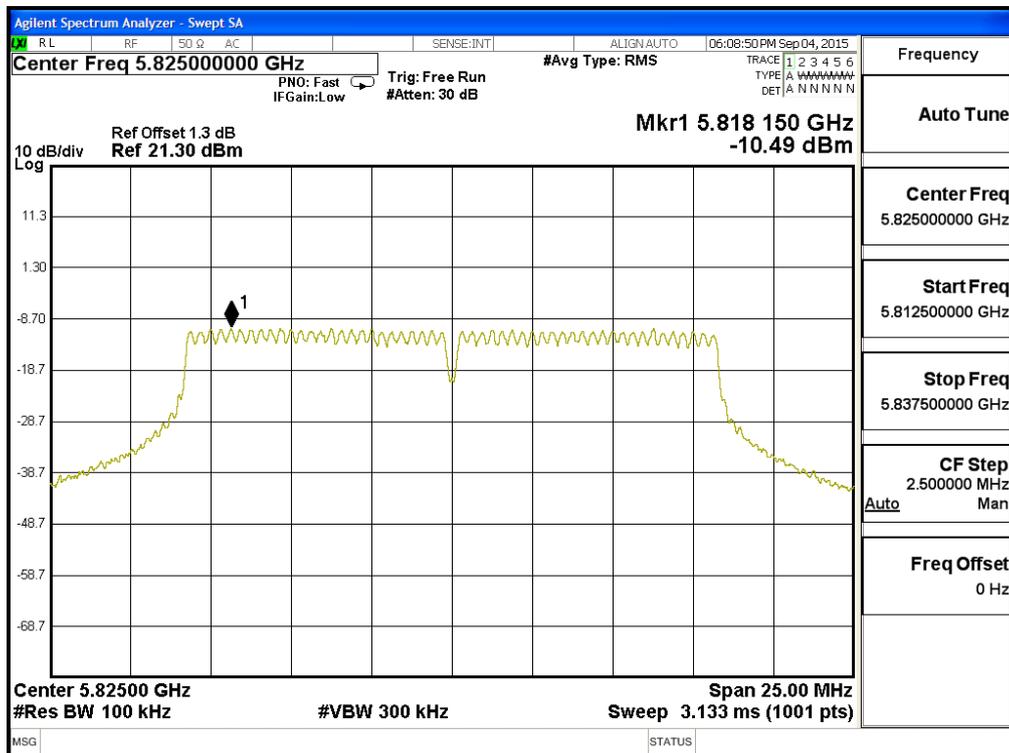
**Channel 149:**



**Channel 157:**



**Channel 165:**

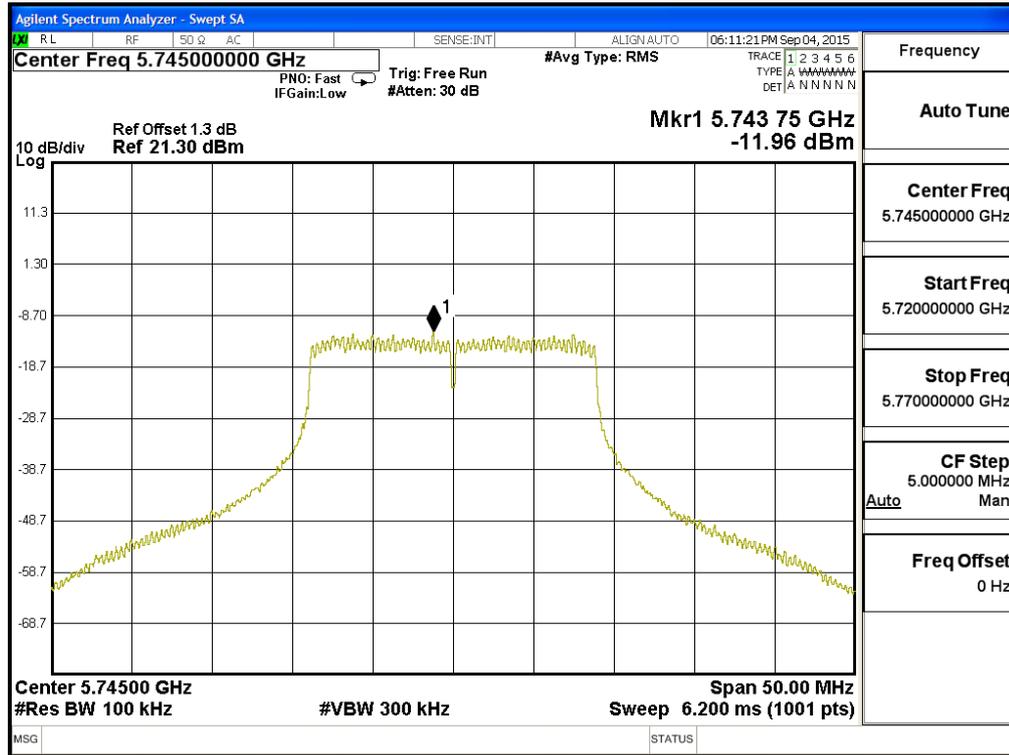


Product : Wireless Access Point  
 Test Item : Peak Power Spectral Density  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW-14.4Mbps)\_Internal Antenna

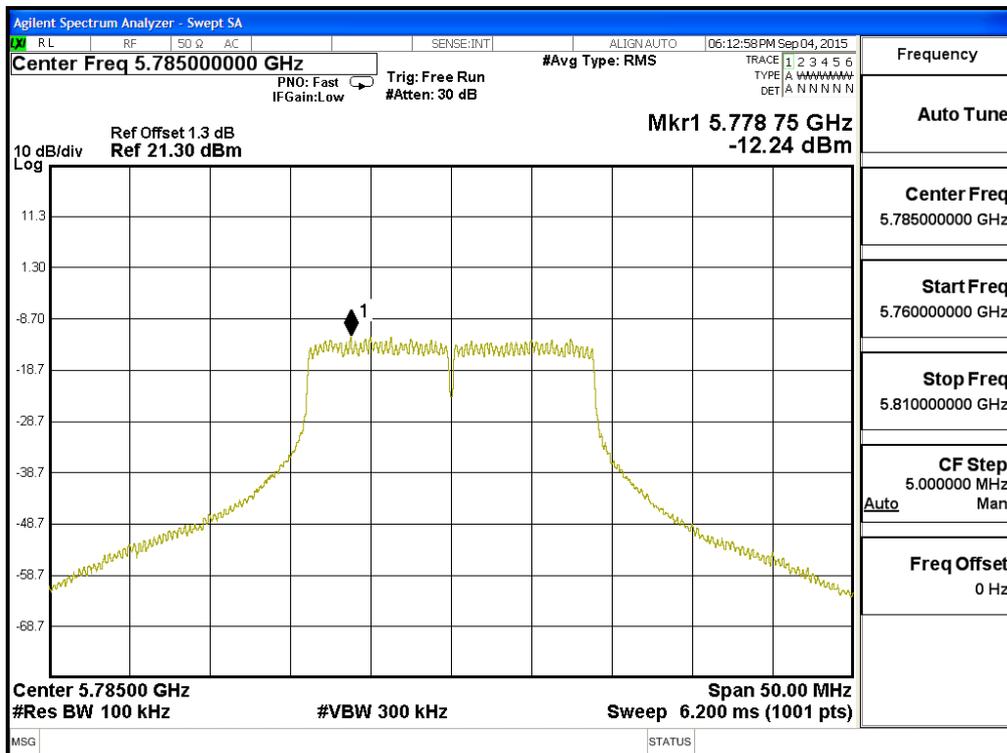
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm) <sup>1</sup>	Required Limit (dBm)	Result
149	5745	A	-11.964	6.980	-1.974	<30	Pass
		B	-13.559	6.980	-3.569	<30	Pass
157	5785	A	-12.238	6.980	-2.248	<30	Pass
		B	-12.012	6.980	-2.022	<30	Pass
165	5825	A	-13.188	6.980	-3.198	<30	Pass
		B	-13.005	6.980	-3.015	<30	Pass

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

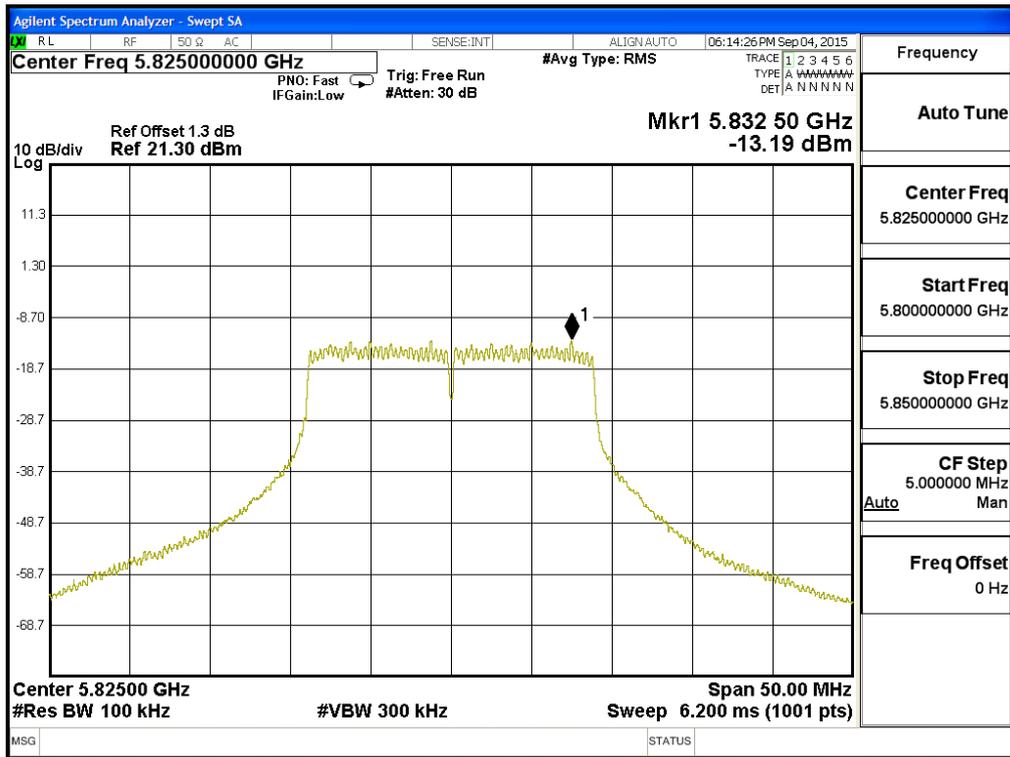
### Channel 149 – Chain A



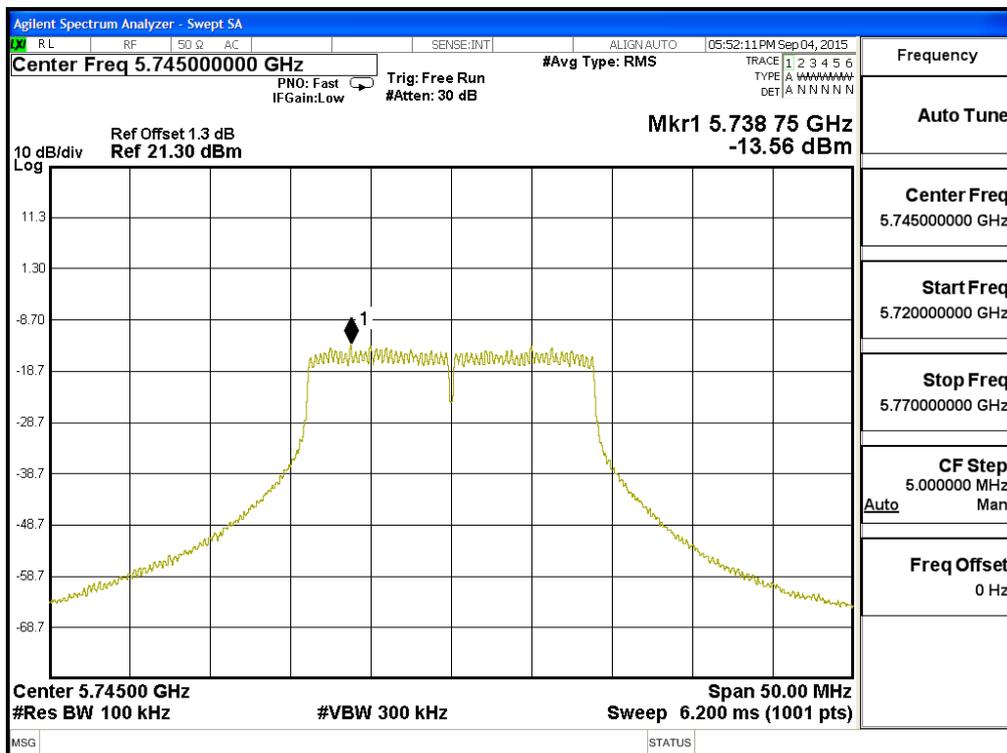
### Channel 157 – Chain A



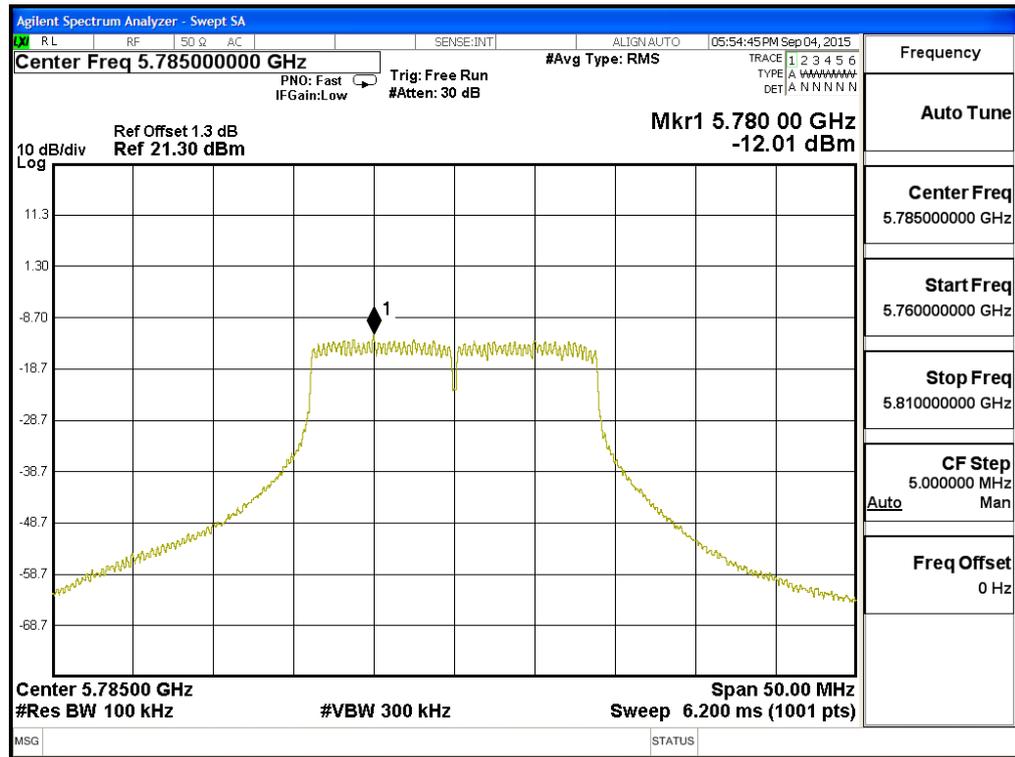
### Channel 165 – Chain A



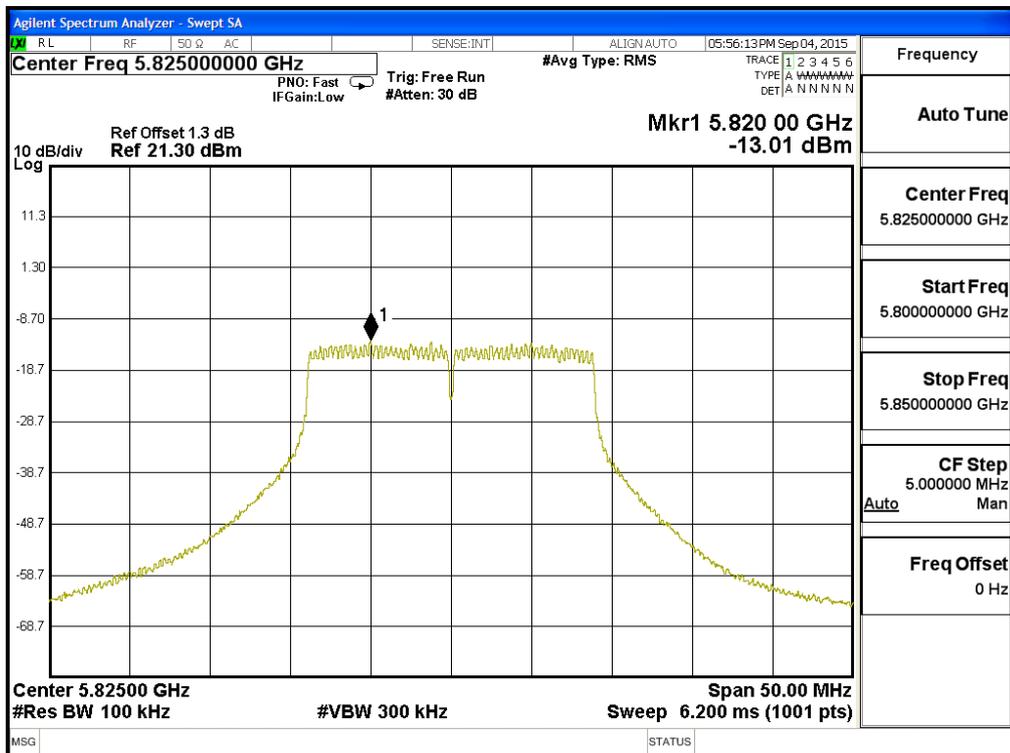
### Channel 149 – Chain B



Channel 157 – Chain B



Channel 165 – Chain B

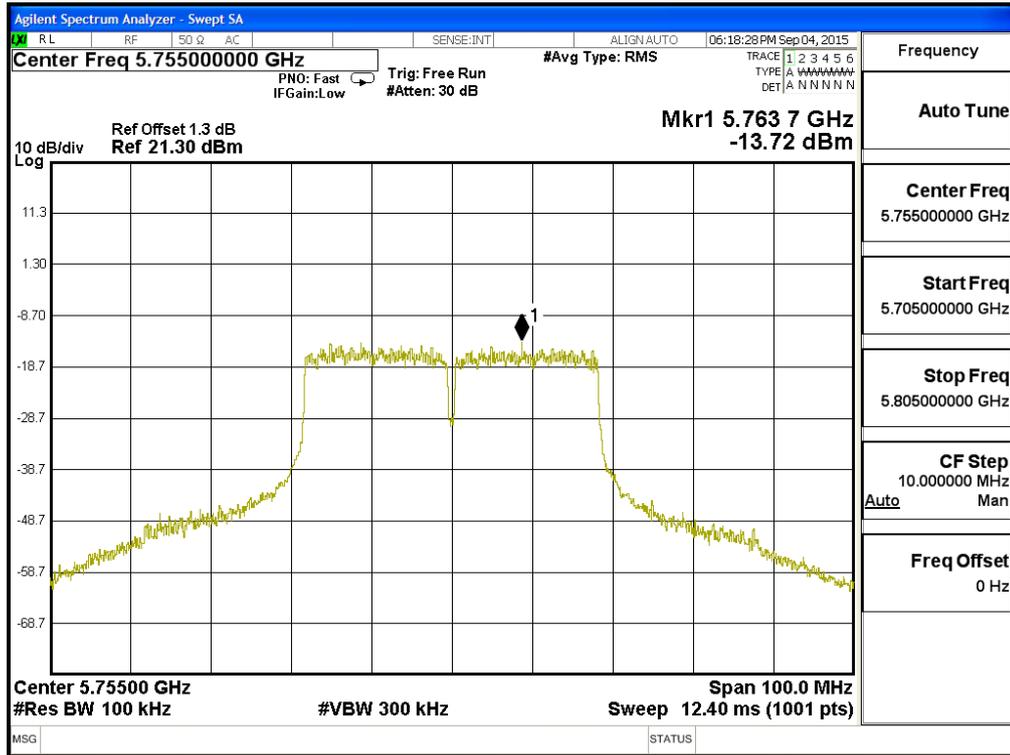


Product : Wireless Access Point  
 Test Item : Peak Power Spectral Density  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW-30Mbps)\_Internal Antenna

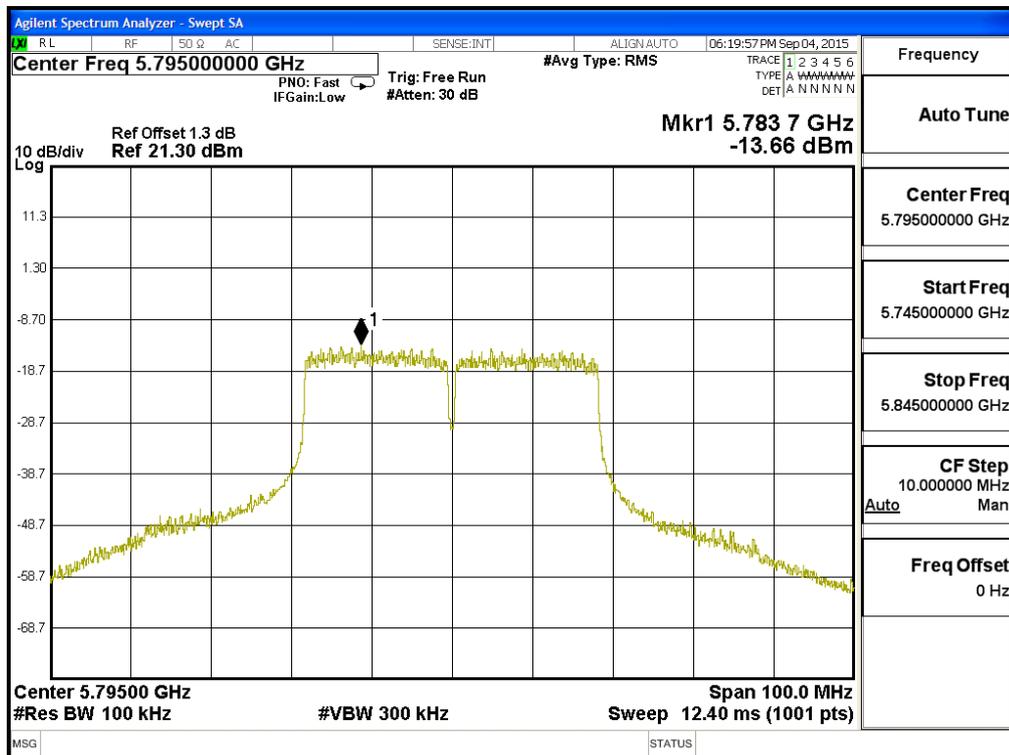
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm) <sup>1</sup>	Required Limit (dBm)	Result
151	5755	A	-13.717	6.980	-3.727	<30	Pass
		B	-18.064	6.980	-8.074	<30	Pass
159	5795	A	-13.659	6.980	-3.669	<30	Pass
		B	-14.330	6.980	-4.340	<30	Pass

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

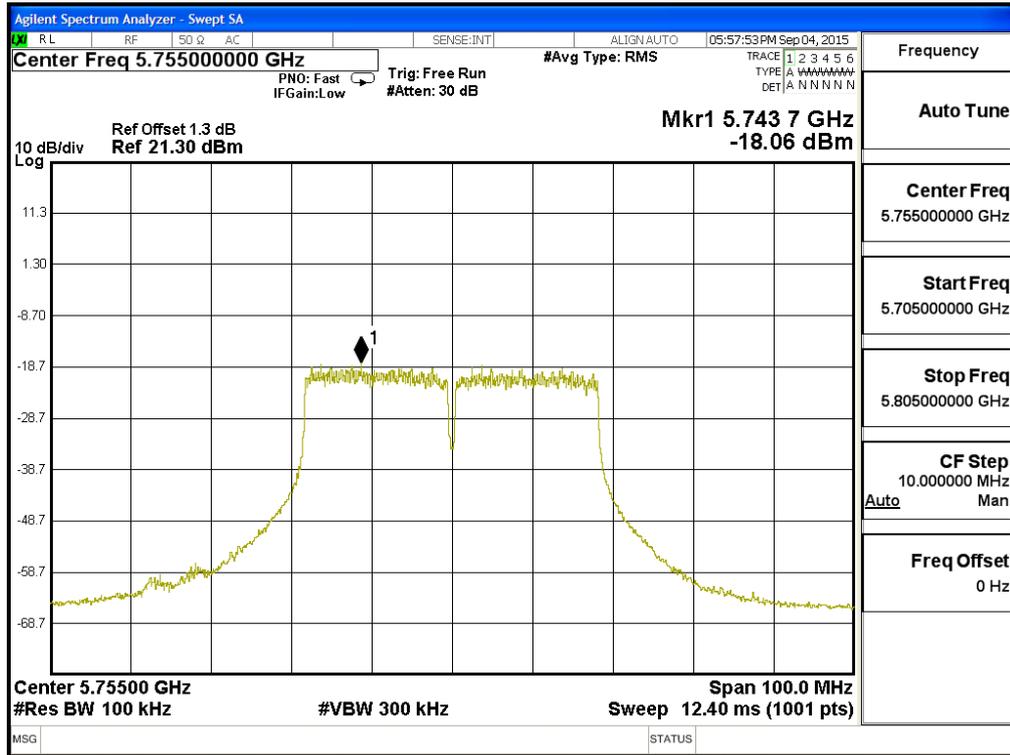
### Channel 151 – Chain A



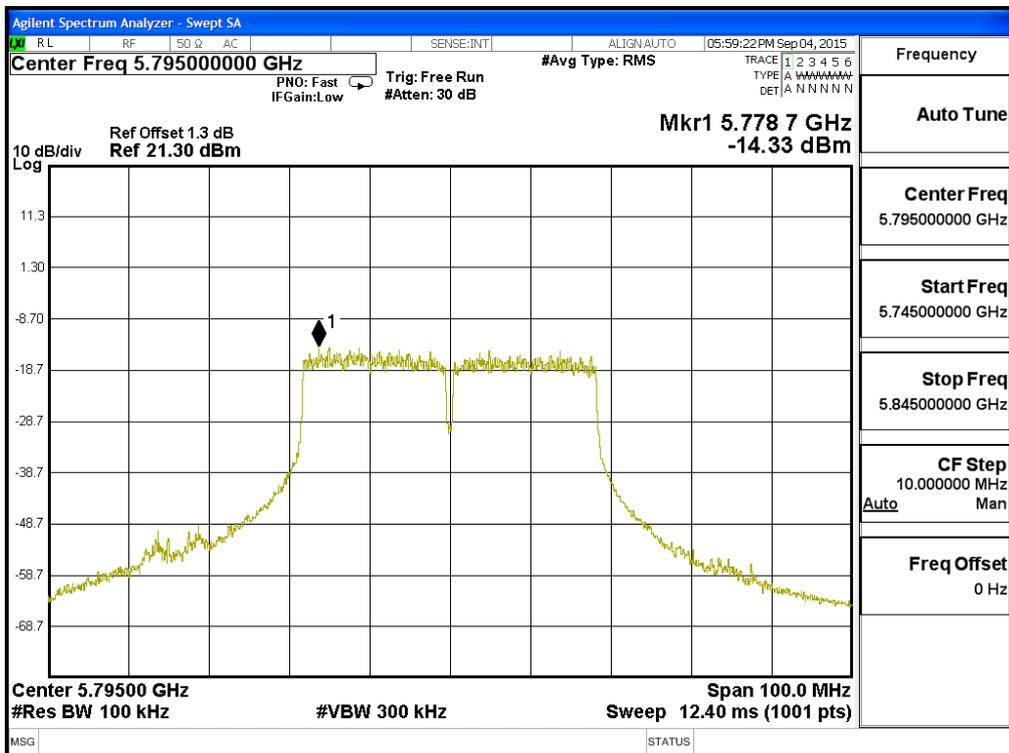
### Channel 159 – Chain A



### Channel 151 – Chain B



### Channel 159 – Chain B



## 5. Radiated Emission

### 5.1. Test Equipment

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

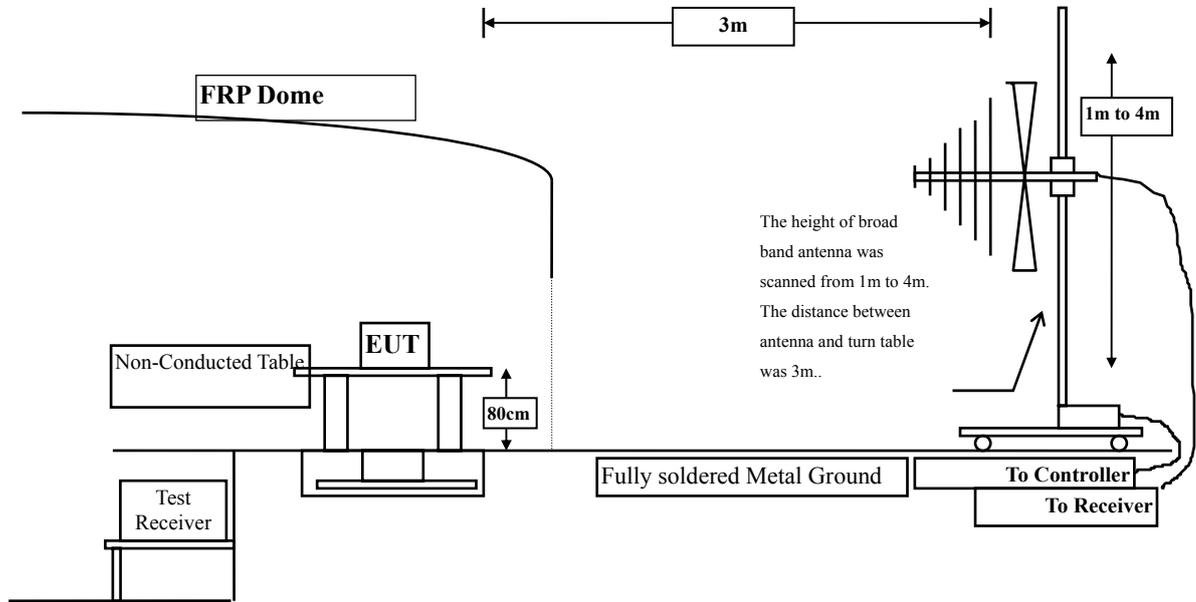
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X	Magnetic Loop Antenna	Teseq	HLA6121/ 37133	Sep., 2015
	X	Bilog Antenna	Schaffner Chase	CBL6112B/ 2707	Jun., 2015
	X	EMI Test Receiver	R&S	ESCS 30/838251/ 001	Jun., 2015
	X	Coaxial Cable	QTK(Arnist)	RG 214/ LC003-RG	Jun., 2015
	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., 2014
	X	Horn Antenna	ETS-Lindgren	3117/ 35205	Mar., 2015
	X	Horn Antenna	Schwarzbeck	BBHA9170/209	Jan., 2015
	X	Horn Antenna	TRC	AH-0801/95051	Aug., 2015
	X	Pre-Amplifier	EMCI	EMC012630SE/980210	Jan, 2015
	X	Pre-Amplifier	MITEQ	JS41-001040000-58-5P/153945	Jul., 2015
	X	Pre-Amplifier	NARDA	DBL-1840N506/013	Jul., 2015

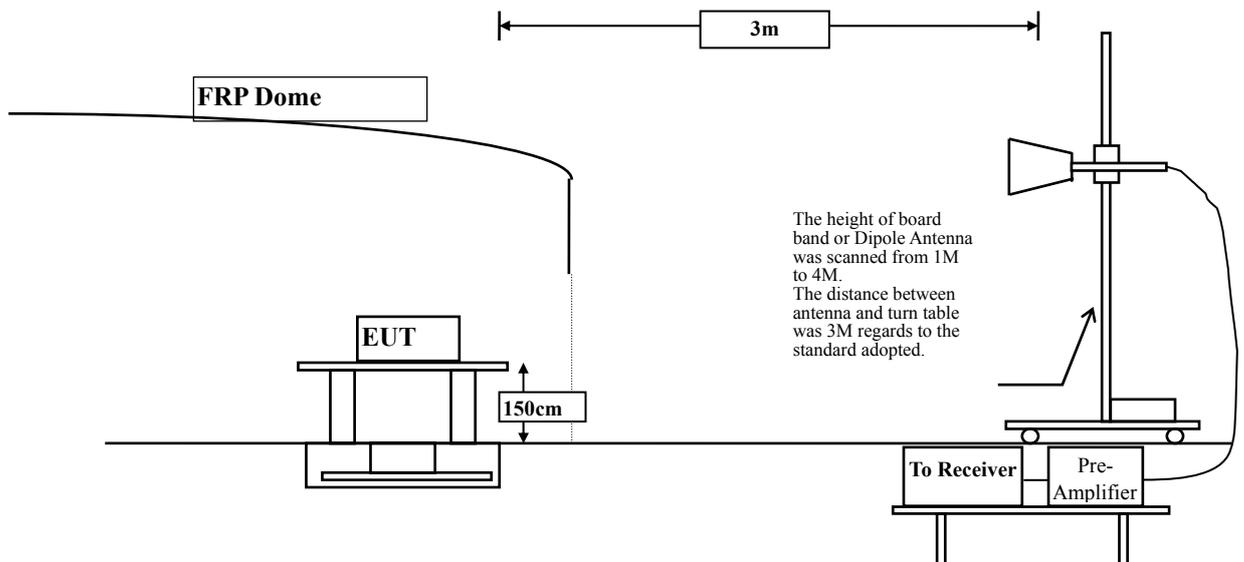
- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
  2. The test instruments marked with "X" are used to measure the final test results.

## 5.2. Test Setup

### Radiated Emission Below 1GHz



### Radiated Emission Above 1GHz



**5.3. Limits**

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

<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 : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)\_External Antenna (5745MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11490.000	17.106	43.330	60.437	-13.563	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>					
11490.000	17.106	27.250	44.357	-9.643	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11490.000	18.034	49.190	67.225	-6.775	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>					
11490.000	18.034	33.990	52.025	-1.975	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)\_External Antenna (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11570.000	16.809	41.050	57.859	-16.141	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>					
11570.000	16.809	26.320	43.129	-10.871	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11570.000	17.698	49.360	67.058	-6.942	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>					
11570.000	17.698	32.740	50.438	-3.562	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)\_External Antenna (5825MHz)

Frequency MHz	Correct Factor dB	Reading Level dBµV	Measurement Level dBµV/m	Margin dB	Limit dBµV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11650.000	16.158	39.870	56.028	-17.972	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>					
11650.000	16.158	25.970	42.128	-11.872	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11650.000	17.274	48.750	66.025	-7.975	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>					
11650.000	17.274	31.990	49.265	-4.735	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW-14.4Mbps)\_External Antenna (5745MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11490.000	17.106	40.850	57.957	-16.043	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>					
11490.000	17.106	27.530	44.637	-9.363	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11490.000	18.034	51.250	69.285	-4.715	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>					
11490.000	18.034	34.270	52.305	-1.695	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW-14.4Mbps)\_External Antenna (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11570.000	16.809	40.250	57.059	-16.941	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>					
11570.000	16.809	25.970	42.779	-11.221	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11570.000	17.698	49.780	67.478	-6.522	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>					
11570.000	17.698	34.080	51.778	-2.222	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW-14.4Mbps)\_External Antenna (5825MHz)

Frequency MHz	Correct Factor dB	Reading Level dBµV	Measurement Level dBµV/m	Margin dB	Limit dBµV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11650.000	16.158	39.540	55.698	-18.302	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>					
11650.000	16.158	26.090	42.248	-11.752	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11650.000	17.274	49.740	67.015	-6.985	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>					
11650.000	17.274	33.580	50.855	-3.145	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW-30Mbps)\_External Antenna (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dBµV	Measurement Level dBµV/m	Margin dB	Limit dBµV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11510.000	17.124	37.980	55.104	-18.896	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>					
11510.000	17.124	37.980	55.104	-18.896	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11150.000	17.623	48.040	65.664	-8.336	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>					
11510.000	18.081	32.080	50.161	-3.839	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW-30Mbps)\_External Antenna (5795MHz)

Frequency MHz	Correct Factor dB	Reading Level dBµV	Measurement Level dBµV/m	Margin dB	Limit dBµV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11590.000	16.701	37.970	54.670	-19.330	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>					
11590.000	16.701	24.590	41.290	-12.710	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11590.000	17.567	49.040	66.606	-7.394	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>					
11590.000	17.567	32.780	50.346	-3.654	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11ac-80BW-65Mbps)\_External Antenna (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>					
11550.000	16.914	37.340	54.254	-19.746	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>					
11550.000	16.914	23.480	40.394	-13.606	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11550.000	17.826	46.230	64.055	-9.945	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>					
11550.000	17.826	31.070	48.895	-5.105	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)\_External Antenna (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>					
101.696	-7.157	33.273	26.116	-17.384	43.500
371.609	-1.104	33.999	32.895	-13.105	46.000
552.957	2.593	35.936	38.529	-7.471	46.000
697.754	3.111	35.388	38.499	-7.501	46.000
813.029	5.088	34.603	39.690	-6.310	46.000
893.159	5.407	33.725	39.132	-6.868	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
107.319	-0.308	35.756	35.448	-8.052	43.500
378.638	-1.584	35.462	33.878	-12.122	46.000
520.623	-0.316	34.300	33.984	-12.016	46.000
692.130	2.343	36.757	39.100	-6.900	46.000
834.116	2.121	34.889	37.010	-8.990	46.000
964.855	7.897	35.715	43.613	-10.387	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW-14.4Mbps)\_External Antenna (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
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**Horizontal**

**Peak Detector**

270.391	-4.997	36.387	31.391	-14.609	46.000
460.174	1.425	35.420	36.846	-9.154	46.000
544.522	3.597	35.976	39.573	-6.427	46.000
602.159	4.254	33.151	37.405	-8.595	46.000
737.116	2.640	33.507	36.147	-9.853	46.000
873.478	5.191	34.274	39.465	-6.535	46.000

**Vertical**

**Peak Detector**

103.101	-0.110	33.453	33.343	-10.157	43.500
346.304	-3.109	36.372	33.264	-12.736	46.000
500.942	-0.786	37.566	36.779	-9.221	46.000
689.319	2.525	35.793	38.318	-7.682	46.000
839.739	2.760	36.533	39.293	-6.707	46.000
901.594	3.231	35.048	38.279	-7.721	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 : Wireless Access Point  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW-30Mbps)\_External Antenna (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
<b>Horizontal</b>					
<b>Peak Detector</b>					
108.725	-7.307	35.296	27.989	-15.511	43.500
304.130	-2.997	33.895	30.898	-15.102	46.000
461.580	1.526	35.306	36.832	-9.168	46.000
543.116	3.257	35.929	39.187	-6.813	46.000
682.290	2.840	34.013	36.853	-9.147	46.000
834.116	5.412	34.073	39.486	-6.514	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
110.130	-0.531	34.567	34.036	-9.464	43.500
378.638	-1.584	35.364	33.780	-12.220	46.000
538.899	0.097	35.691	35.788	-10.212	46.000
683.696	1.948	34.829	36.777	-9.223	46.000
804.594	3.701	35.320	39.021	-6.979	46.000
883.319	2.569	35.213	37.782	-8.218	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 : Wireless Access Point  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11ac-80BW-65Mbps)\_External Antenna (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>					
243.681	-6.428	35.330	28.902	-17.098	46.000
306.942	-3.194	36.144	32.951	-13.049	46.000
475.638	-0.217	36.114	35.897	-10.103	46.000
588.101	3.501	36.461	39.962	-6.038	46.000
724.464	3.485	34.236	37.721	-8.279	46.000
839.739	5.147	33.488	38.635	-7.365	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
103.101	-0.110	35.514	35.404	-8.096	43.500
364.580	-2.168	36.372	34.204	-11.796	46.000
498.130	-1.211	36.597	35.387	-10.613	46.000
690.725	2.504	36.314	38.818	-7.182	46.000
801.783	3.085	36.544	39.629	-6.371	46.000
926.899	5.943	33.612	39.555	-6.445	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 : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)\_Internal Antenna (5745MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11490.000	17.106	37.650	54.757	-19.243	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>					
11490.000	17.106	23.400	40.507	-13.493	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11490.000	18.034	43.540	61.575	-12.425	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>					
11490.000	18.034	31.010	49.045	-4.955	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)\_Internal Antenna (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBµV	Measurement Level dBµV/m	Margin dB	Limit dBµV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11570.000	16.809	37.960	54.769	-19.231	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>					
11570.000	16.809	23.960	40.769	-13.231	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11570.000	17.698	42.570	60.268	-13.732	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>					
11570.000	17.698	30.210	47.908	-6.092	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)\_Internal Antenna (5825MHz)

Frequency MHz	Correct Factor dB	Reading Level dBµV	Measurement Level dBµV/m	Margin dB	Limit dBµV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11650.000	16.158	37.060	53.218	-20.782	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>					
*	*	*	*	*	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11650.000	17.274	42.040	59.315	-14.685	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>					
11650.000	17.274	29.150	46.425	-7.575	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW-14.4Mbps)\_Internal Antenna (5745MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11490.000	17.106	40.010	57.117	-16.883	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>					
11490.000	17.106	26.080	43.187	-10.813	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11490.000	18.034	50.800	68.835	-5.165	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>					
11490.000	18.034	34.540	52.575	-1.425	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW-14.4Mbps)\_Internal Antenna (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBµV	Measurement Level dBµV/m	Margin dB	Limit dBµV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11570.000	16.809	38.930	55.739	-18.261	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>					
11570.000	16.809	24.390	41.199	-12.801	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11570.000	17.698	49.850	67.548	-6.452	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>					
11570.000	17.698	33.340	51.038	-2.962	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW-14.4Mbps)\_Internal Antenna (5825MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11650.000	16.158	38.040	54.198	-19.802	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>					
11650.000	16.158	23.980	40.138	-13.862	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11650.000	17.274	49.070	66.345	-7.655	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>					
11650.000	17.274	33.040	50.315	-3.685	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW-30Mbps)\_Internal Antenna (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11510.000	17.124	37.250	54.374	-19.626	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>					
11510.000	17.124	24.570	41.694	-12.306	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11510.000	18.081	49.750	67.831	-6.169	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>					
11510.000	18.081	33.640	51.721	-2.279	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW-30Mbps)\_Internal Antenna (5795MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11590.000	16.701	37.540	54.240	-19.760	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>					
11590.000	16.701	23.540	40.240	-13.760	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
11590.000	17.567	48.740	66.306	-7.694	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>					
11590.000	17.567	32.870	50.436	-3.564	54.000

Note:

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

Product : Wireless Access Point  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)\_Internal Antenna (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>					
108.725	-7.307	33.199	25.892	-17.608	43.500
297.101	-3.640	36.235	32.595	-13.405	46.000
387.072	-1.533	34.626	33.093	-12.907	46.000
519.217	1.723	33.279	35.002	-10.998	46.000
654.174	2.152	34.816	36.968	-9.032	46.000
801.783	5.101	35.240	40.341	-5.659	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
111.536	-0.981	32.807	31.827	-11.673	43.500
394.101	-3.877	35.481	31.603	-14.397	46.000
520.623	-0.316	37.713	37.397	-8.603	46.000
672.449	-1.044	37.098	36.054	-9.946	46.000
772.261	2.895	36.682	39.576	-6.424	46.000
891.754	2.141	34.212	36.353	-9.647	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 : Wireless Access Point  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW-14.4Mbps)\_Internal Antenna (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
------------------	-------------------------	--------------------------	--------------------------------	--------------	-----------------

**Horizontal**

**Peak Detector**

104.507	-6.647	33.439	26.792	-16.708	43.500
364.580	-1.385	36.415	35.031	-10.969	46.000
464.391	0.568	36.331	36.898	-9.102	46.000
609.188	4.228	33.947	38.175	-7.825	46.000
737.116	2.640	33.189	35.829	-10.171	46.000
862.232	5.641	33.483	39.124	-6.876	46.000

**Vertical**

**Peak Detector**

105.913	-0.261	36.034	35.773	-7.727	43.500
346.304	-3.109	37.360	34.252	-11.748	46.000
531.870	-0.546	36.880	36.334	-9.666	46.000
682.290	1.601	35.832	37.433	-8.567	46.000
789.130	2.940	34.718	37.658	-8.342	46.000
912.841	1.710	34.539	36.248	-9.752	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 : Wireless Access Point  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW-30Mbps)\_Internal Antenna (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
<b>Horizontal</b>					
<b>Peak Detector</b>					
100.290	-7.403	35.718	28.314	-15.186	43.500
301.319	-3.412	36.253	32.841	-13.159	46.000
470.014	1.259	35.322	36.581	-9.419	46.000
592.319	3.744	33.952	37.696	-8.304	46.000
713.217	3.567	35.651	39.217	-6.783	46.000
838.333	5.122	34.309	39.431	-6.569	46.000
<b>Vertical</b>					
<b>Peak Detector</b>					
103.101	-0.110	34.235	34.125	-9.375	43.500
365.986	-2.246	33.647	31.401	-14.599	46.000
537.493	-0.111	34.493	34.382	-11.618	46.000
693.536	2.162	35.824	37.986	-8.014	46.000
828.493	2.982	36.256	39.237	-6.763	46.000
969.072	8.191	33.456	41.647	-12.353	54.000

Note:

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

**6. Band Edge**

**6.1. Test Equipment**

**RF Radiated Measurement:**

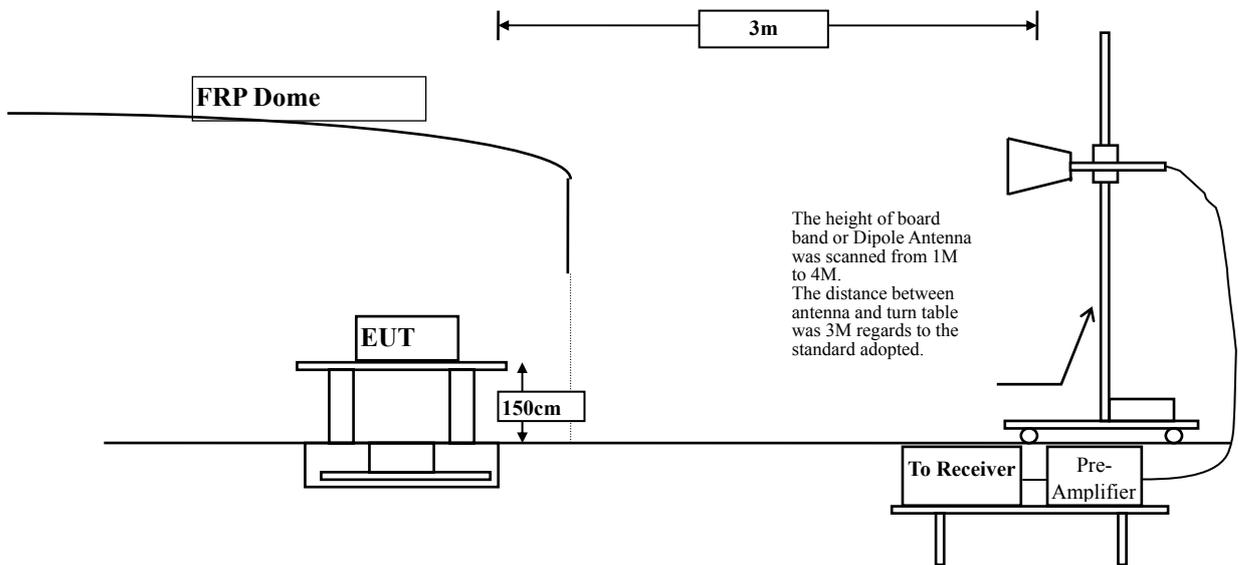
The following test equipments are used during the band edge tests:

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

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

## 6.2. Test Setup

### RF Radiated Measurement:



## 6.3. Limits

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

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

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

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

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

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

#### **6.4. Test Procedure**

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

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

The bandwidth below 1GHz setting on the field strength meter is 120 kHz, above 1GHz are 1 MHz. The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

#### **6.5. Uncertainty**

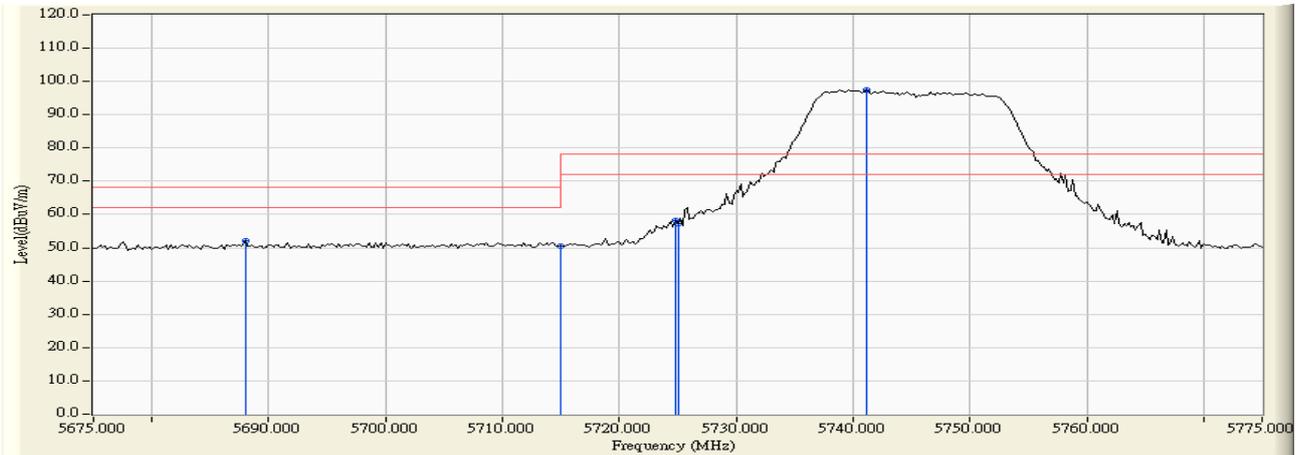
± 3.8 dB below 1GHz

± 3.9 dB above 1GHz

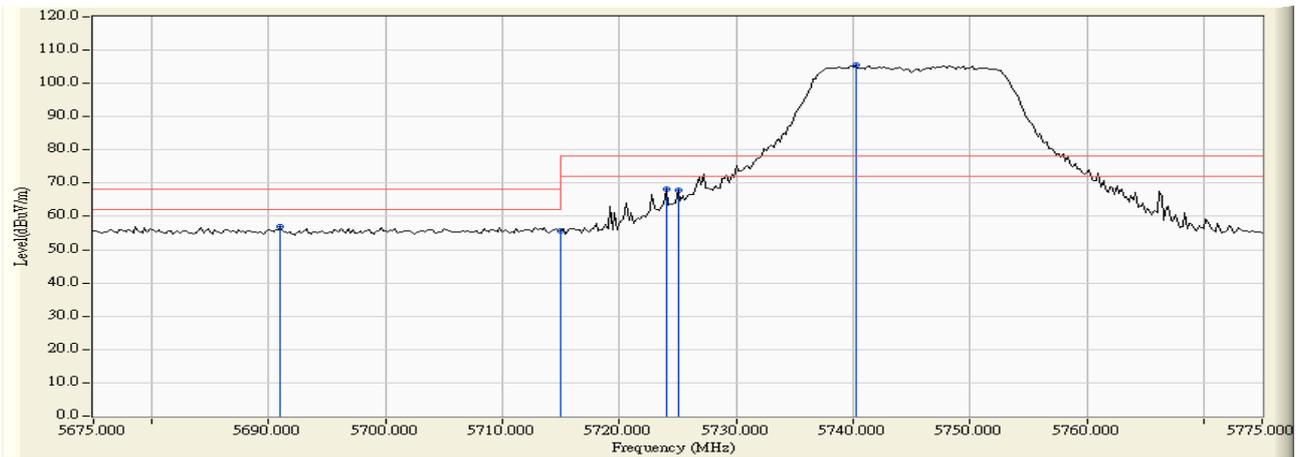
### 6.6. Test Result of Band Edge

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

#### RF Radiated Measurement:



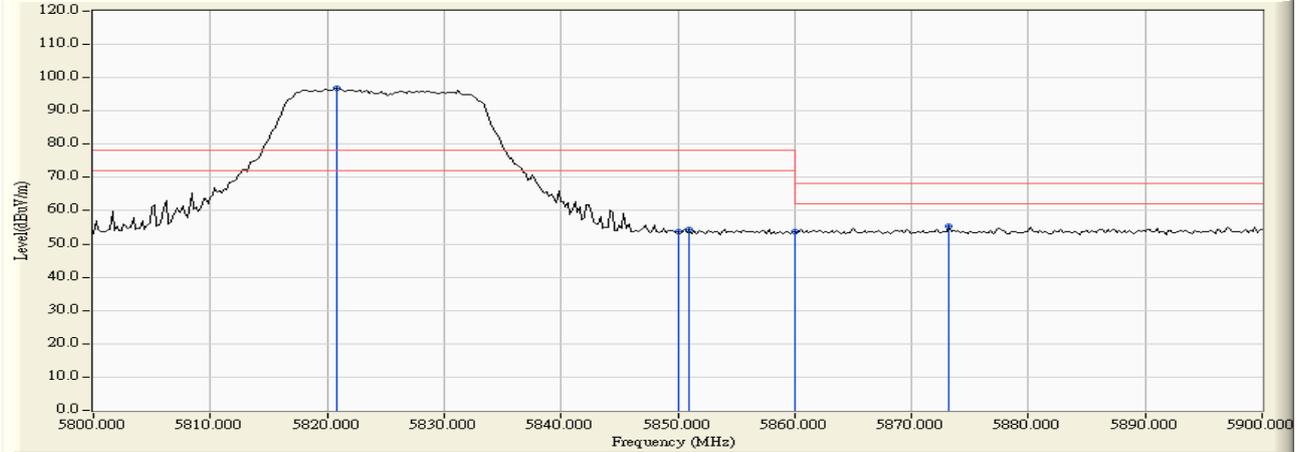
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5688.000	4.955	47.140	52.095	-16.125	68.220	Pass
Horizontal	5715.000	5.063	45.559	50.622	-17.598	68.220	Pass
Horizontal	5724.800	5.102	53.153	58.256	-19.964	78.220	Pass
Horizontal	5725.000	5.104	52.176	57.279	-20.941	78.220	Pass
Horizontal	5741.200	5.171	92.279	97.450	19.230	78.220	Pass



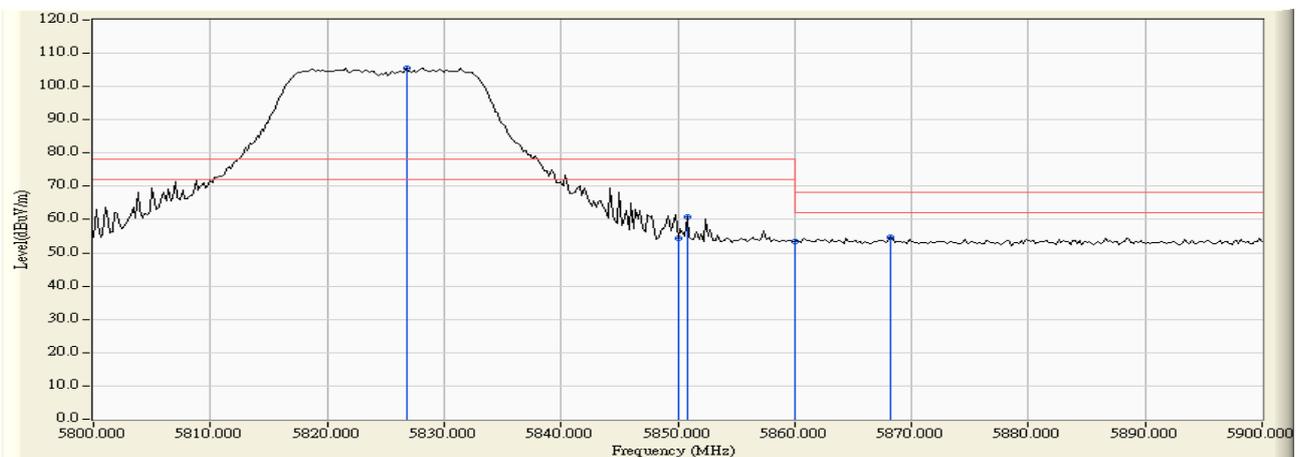
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5691.000	4.187	52.792	56.980	-11.240	68.220	Pass
Vertical	5715.000	4.186	51.382	55.568	-12.652	68.220	Pass
Vertical	5724.000	4.212	64.042	68.254	-9.966	78.220	Pass
Vertical	5725.000	4.215	63.515	67.730	-10.490	78.220	Pass
Vertical	5740.200	4.261	101.278	105.538	27.318	78.220	Pass

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

**RF Radiated Measurement:**



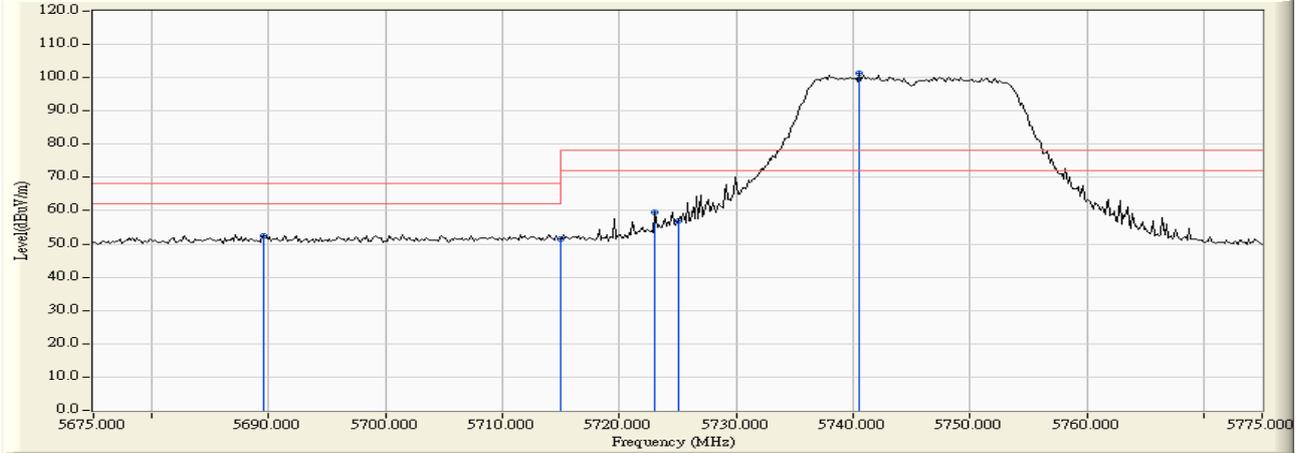
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5820.800	5.513	91.329	96.842	18.622	78.220	Pass
Horizontal	5850.000	5.715	48.028	53.743	-24.477	78.220	Pass
Horizontal	5851.000	5.723	48.759	54.482	-23.738	78.220	Pass
Horizontal	5860.000	5.798	47.907	53.705	-14.515	68.220	Pass
Horizontal	5873.200	5.915	49.362	55.277	-12.943	68.220	Pass



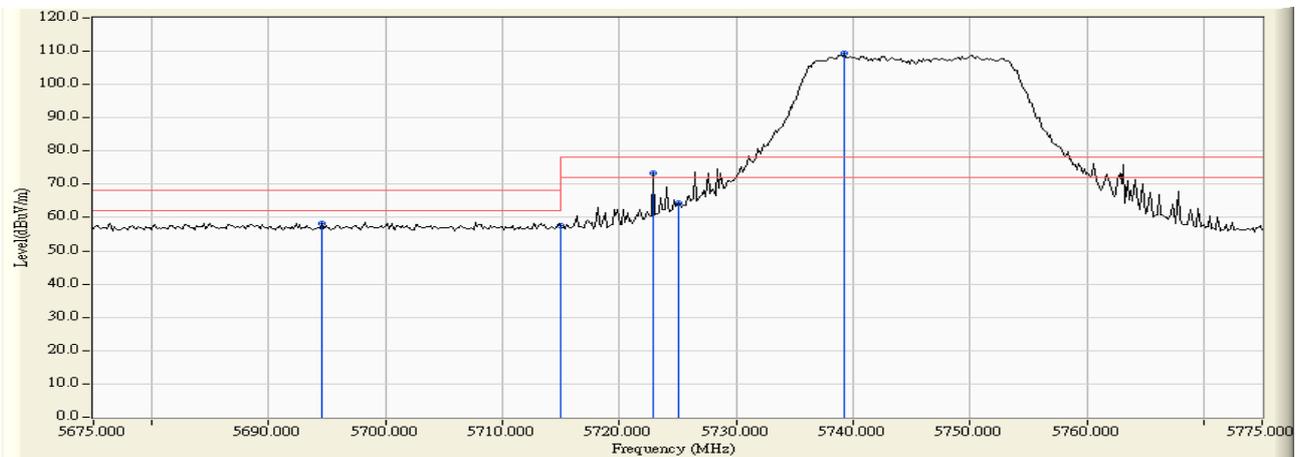
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5826.800	4.285	101.291	105.576	27.356	78.220	Pass
Vertical	5850.000	4.194	50.328	54.522	-23.698	78.220	Pass
Vertical	5850.800	4.193	56.703	60.895	-17.325	78.220	Pass
Vertical	5860.000	4.168	49.089	53.257	-14.963	68.220	Pass
Vertical	5868.200	4.151	50.572	54.723	-13.497	68.220	Pass

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

**RF Radiated Measurement:**



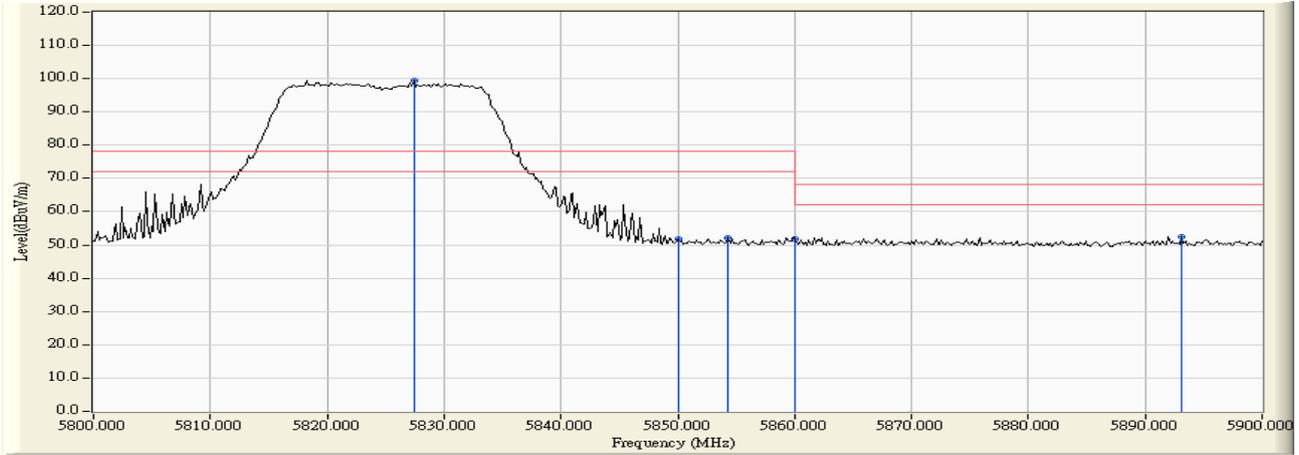
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5689.583	4.960	47.544	52.505	-15.715	68.220	Pass
Horizontal	5715.000	5.063	46.363	51.426	-16.794	68.220	Pass
Horizontal	5723.077	5.096	54.365	59.461	-18.759	78.220	Pass
Horizontal	5725.000	5.104	51.827	56.930	-21.290	78.220	Pass
Horizontal	5740.545	5.169	96.030	101.198	22.978	78.220	Pass



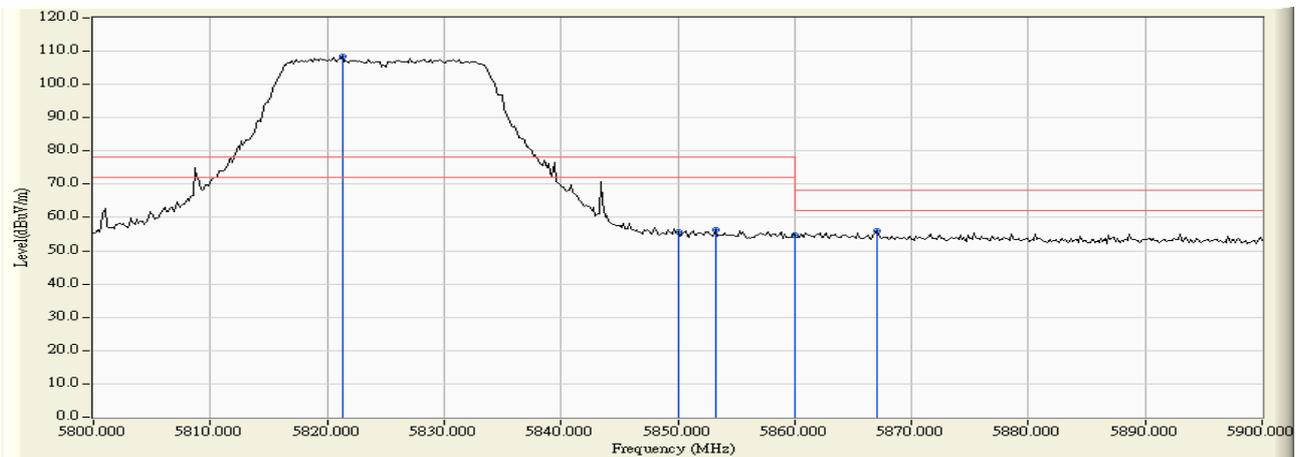
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5694.551	4.180	54.185	58.365	-9.855	68.220	Pass
Vertical	5715.000	4.186	53.261	57.447	-10.773	68.220	Pass
Vertical	5722.917	4.209	69.139	73.348	-4.872	78.220	Pass
Vertical	5725.000	4.215	59.987	64.202	-14.018	78.220	Pass
Vertical	5739.263	4.257	105.192	109.449	31.229	78.220	Pass

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

**RF Radiated Measurement:**



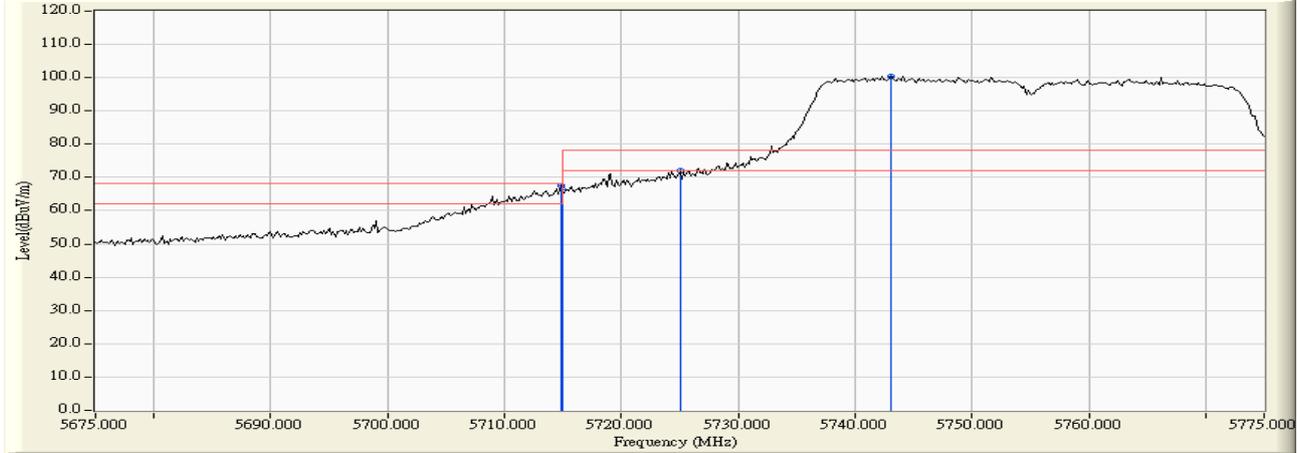
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5827.404	5.556	93.983	99.540	21.320	78.220	Pass
Horizontal	5850.000	5.715	45.966	51.681	-26.539	78.220	Pass
Horizontal	5854.327	5.751	46.436	52.187	-26.033	78.220	Pass
Horizontal	5860.000	5.798	46.146	51.944	-16.276	68.220	Pass
Horizontal	5893.109	6.096	46.345	52.441	-15.779	68.220	Pass



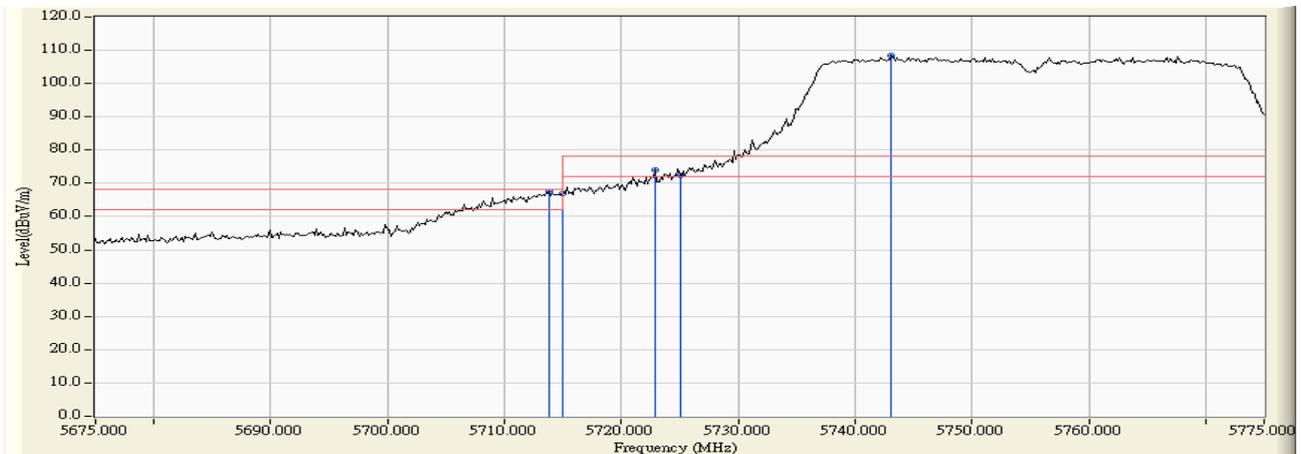
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5821.314	4.309	104.085	108.393	30.173	78.220	Pass
Vertical	5850.000	4.194	51.499	55.693	-22.527	78.220	Pass
Vertical	5853.205	4.186	51.997	56.183	-22.037	78.220	Pass
Vertical	5860.000	4.168	50.622	54.790	-13.430	68.220	Pass
Vertical	5866.987	4.153	51.939	56.092	-12.128	68.220	Pass

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

**RF Radiated Measurement :**



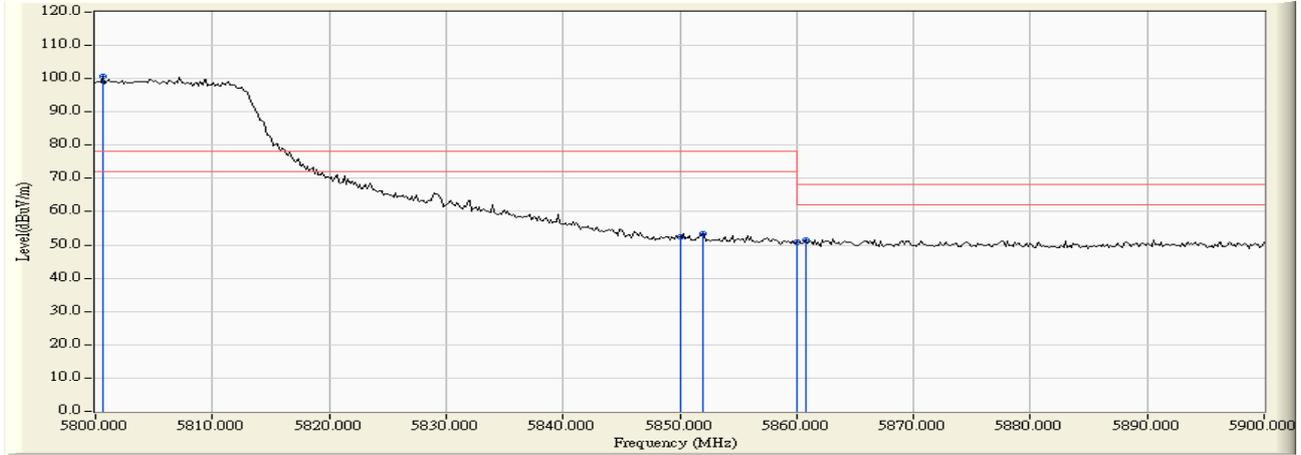
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5714.904	5.062	62.533	67.595	-0.625	68.220	Pass
Horizontal	5715.000	5.063	61.078	66.141	-2.079	68.220	Pass
Horizontal	5725.000	5.104	66.907	72.010	-6.210	78.220	Pass
Horizontal	5743.109	5.180	95.159	100.338	22.118	78.220	Pass



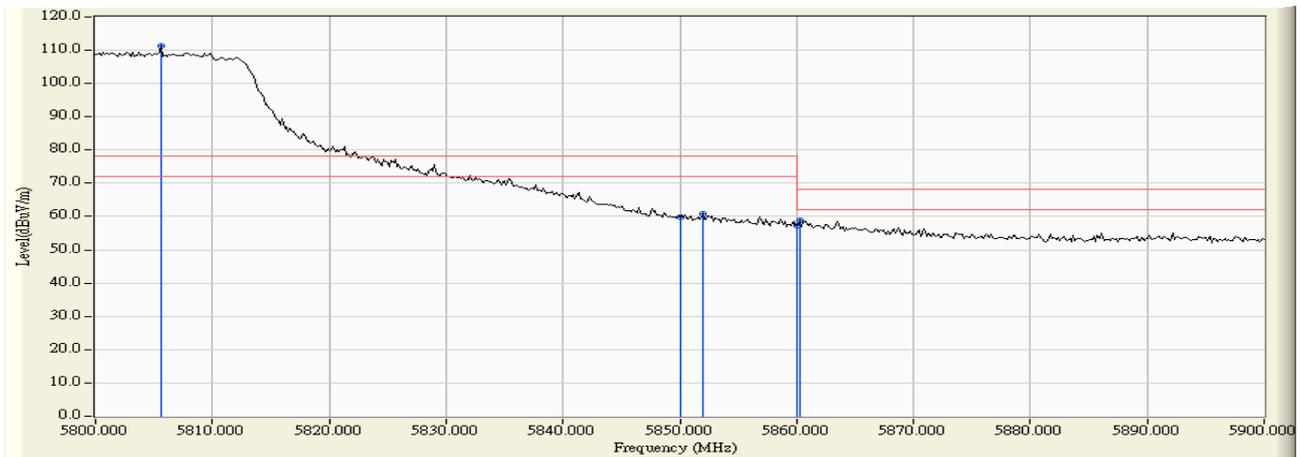
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5713.782	4.182	63.271	67.453	-0.767	68.220	Pass
Vertical	5715.000	4.186	62.790	66.976	-1.244	68.220	Pass
Vertical	5722.917	4.209	69.891	74.100	-4.120	78.220	Pass
Vertical	5725.000	4.215	68.024	72.239	-5.981	78.220	Pass
Vertical	5743.109	4.269	104.067	108.336	30.116	78.220	Pass

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

**RF Radiated Measurement:**



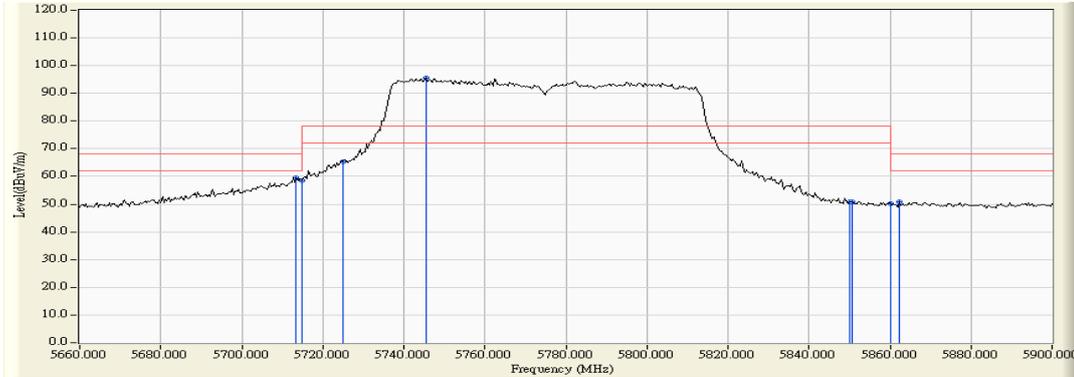
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5800.641	5.390	95.361	100.751	22.531	78.220	Pass
Horizontal	5850.000	5.715	46.679	52.394	-25.826	78.220	Pass
Horizontal	5851.923	5.731	47.536	53.267	-24.953	78.220	Pass
Horizontal	5860.000	5.798	45.147	50.945	-17.275	68.220	Pass
Horizontal	5860.737	5.804	45.665	51.469	-16.751	68.220	Pass



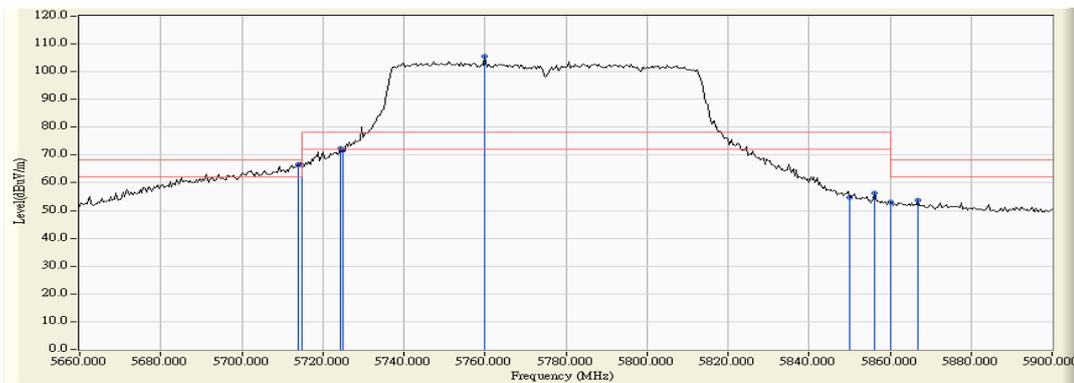
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5805.609	4.362	107.056	111.417	33.197	78.220	Pass
Vertical	5850.000	4.194	55.805	59.999	-18.221	78.220	Pass
Vertical	5851.923	4.189	56.764	60.953	-17.267	78.220	Pass
Vertical	5860.000	4.168	53.114	57.282	-10.938	68.220	Pass
Vertical	5860.256	4.168	54.808	58.975	-9.245	68.220	Pass

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

**RF Radiated Measurement:**



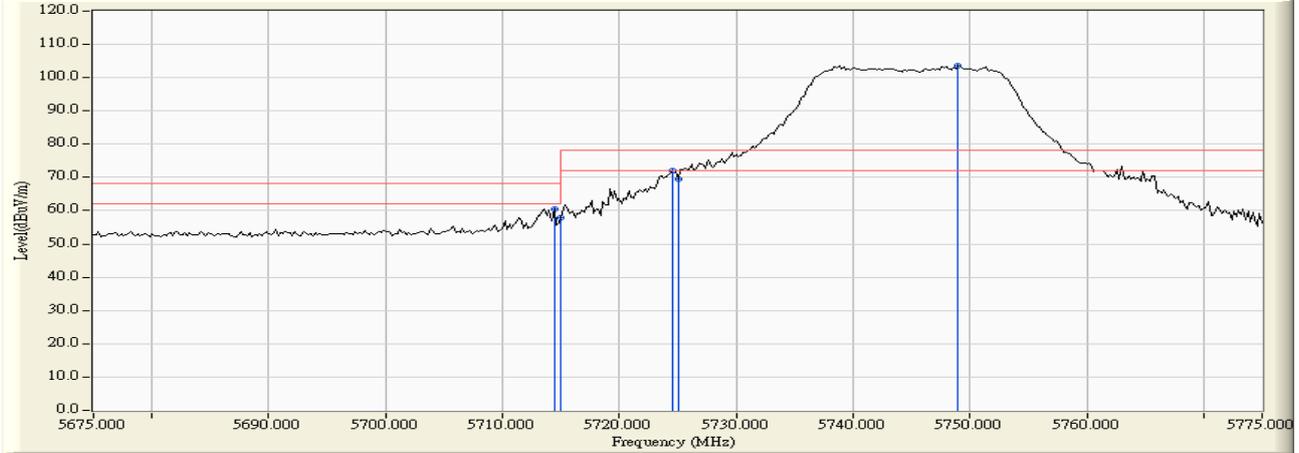
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5713.462	5.057	54.539	59.596	-8.624	68.220	Pass
Horizontal	5715.000	5.063	53.548	58.611	-9.609	68.220	Pass
Horizontal	5725.000	5.104	60.202	65.305	-12.915	78.220	Pass
Horizontal	5745.385	5.188	90.471	95.658	17.438	78.220	Pass
Horizontal	5850.000	5.715	45.053	50.768	-27.452	78.220	Pass
Horizontal	5850.769	5.722	45.150	50.871	-27.349	78.220	Pass
Horizontal	5860.000	5.798	44.249	50.047	-18.173	68.220	Pass
Horizontal	5862.308	5.817	45.148	50.965	-17.255	68.220	Pass



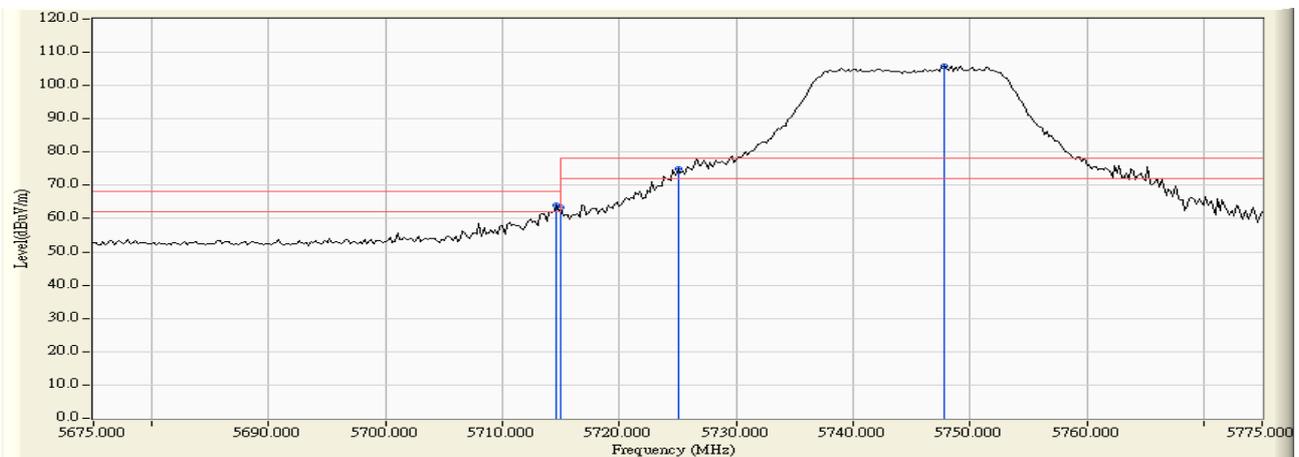
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5713.846	4.183	62.466	66.648	-1.572	68.220	Pass
Vertical	5715.000	4.186	62.044	66.230	-1.990	68.220	Pass
Vertical	5724.231	4.213	68.318	72.530	-5.690	78.220	Pass
Vertical	5725.000	4.215	67.370	71.585	-6.635	78.220	Pass
Vertical	5760.000	4.312	101.083	105.395	27.175	78.220	Pass
Vertical	5850.000	4.194	50.383	54.577	-23.643	78.220	Pass
Vertical	5856.154	4.178	51.973	56.151	-22.069	78.220	Pass
Vertical	5860.000	4.168	48.959	53.127	-15.093	68.220	Pass
Vertical	5866.923	4.153	49.490	53.643	-14.577	68.220	Pass

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

**RF Radiated Measurement:**



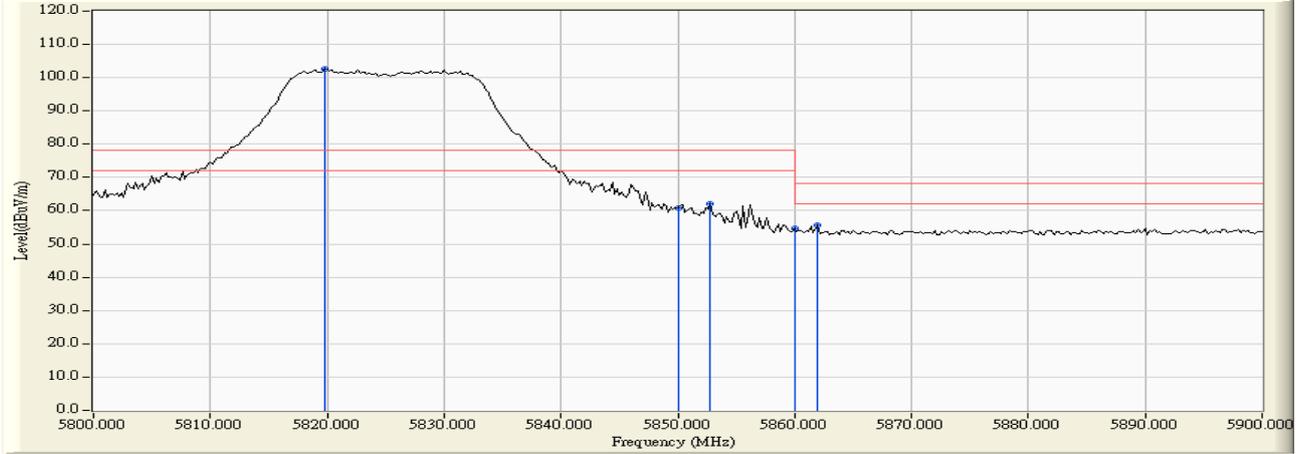
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5714.400	5.060	55.567	60.627	-7.593	68.220	Pass
Horizontal	5715.000	5.063	52.885	57.948	-10.272	68.220	Pass
Horizontal	5724.600	5.102	66.915	72.017	-6.203	78.220	Pass
Horizontal	5725.000	5.104	64.321	69.424	-8.796	78.220	Pass
Horizontal	5749.000	5.201	98.273	103.473	25.253	78.220	Pass



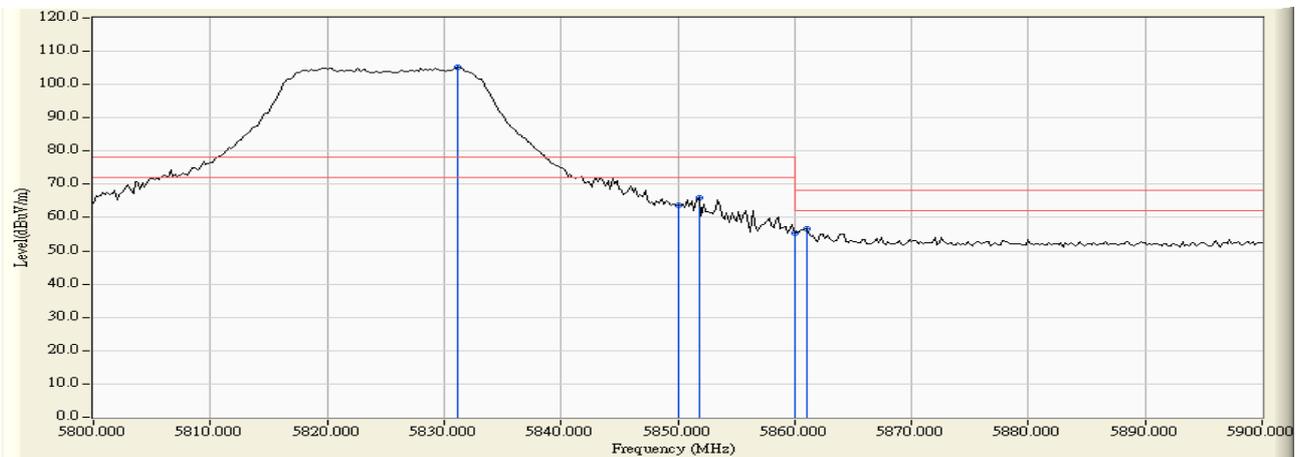
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5714.600	4.185	59.679	63.864	-4.356	68.220	Pass
Vertical	5715.000	4.186	59.231	63.417	-4.803	68.220	Pass
Vertical	5725.000	4.215	70.837	75.052	-3.168	78.220	Pass
Vertical	5747.800	4.280	101.659	105.940	27.720	78.220	Pass
Vertical	5740.200	4.261	101.278	105.538	27.318	78.220	Pass

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

**RF Radiated Measurement:**



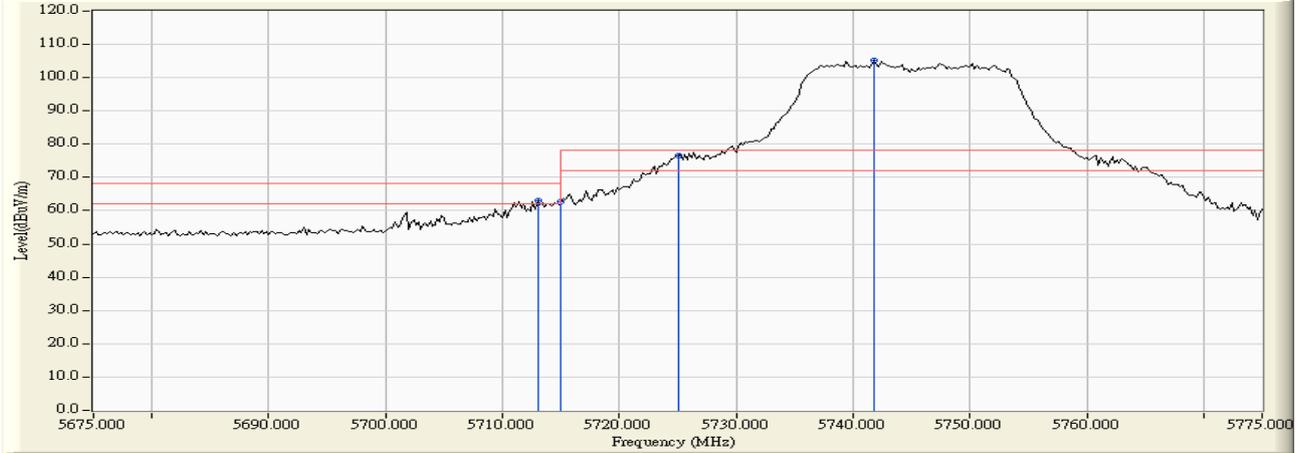
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5819.800	5.507	96.999	102.506	24.286	78.220	Pass
Horizontal	5850.000	5.715	55.023	60.738	-17.482	78.220	Pass
Horizontal	5852.800	5.738	56.242	61.980	-16.240	78.220	Pass
Horizontal	5860.000	5.798	48.853	54.651	-13.569	68.220	Pass
Horizontal	5862.000	5.815	49.990	55.805	-12.415	68.220	Pass



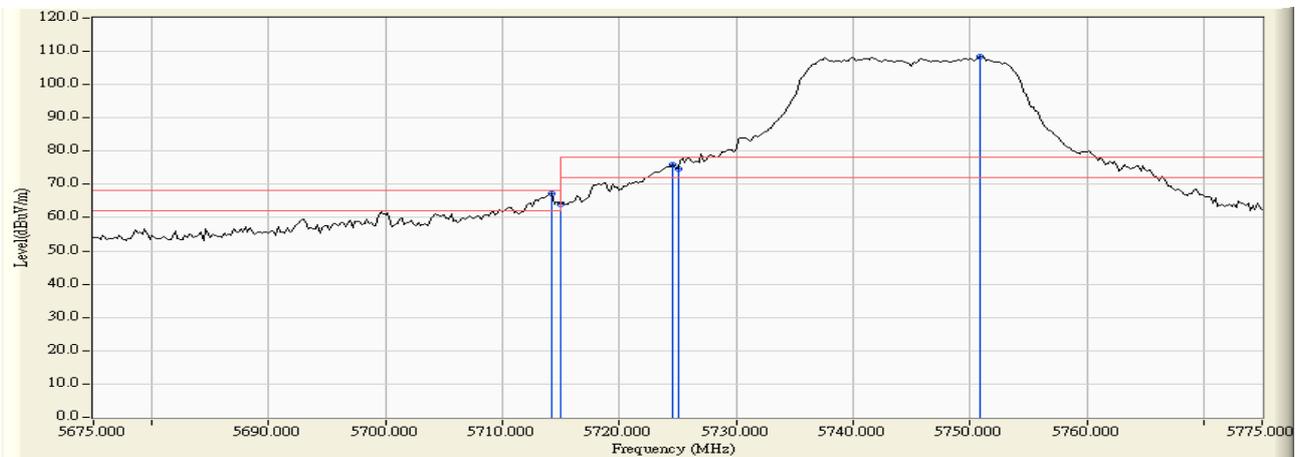
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5831.200	4.265	100.867	105.133	26.913	78.220	Pass
Vertical	5850.000	4.194	59.602	63.796	-14.424	78.220	Pass
Vertical	5851.800	4.190	61.773	65.963	-12.257	78.220	Pass
Vertical	5860.000	4.168	51.051	55.219	-13.001	68.220	Pass
Vertical	5861.000	4.165	52.428	56.593	-11.627	68.220	Pass

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

**RF Radiated Measurement:**



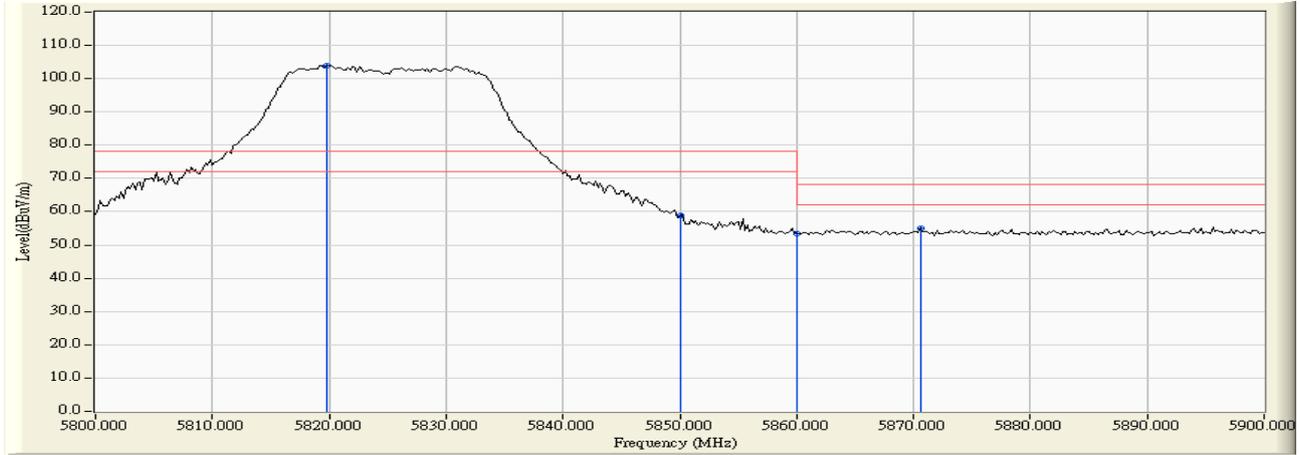
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5713.000	5.054	57.954	63.009	-5.211	68.220	Pass
Horizontal	5715.000	5.063	57.722	62.785	-5.435	68.220	Pass
Horizontal	5725.000	5.104	71.509	76.612	-1.608	78.220	Pass
Horizontal	5741.800	5.173	100.083	105.257	27.037	78.220	Pass



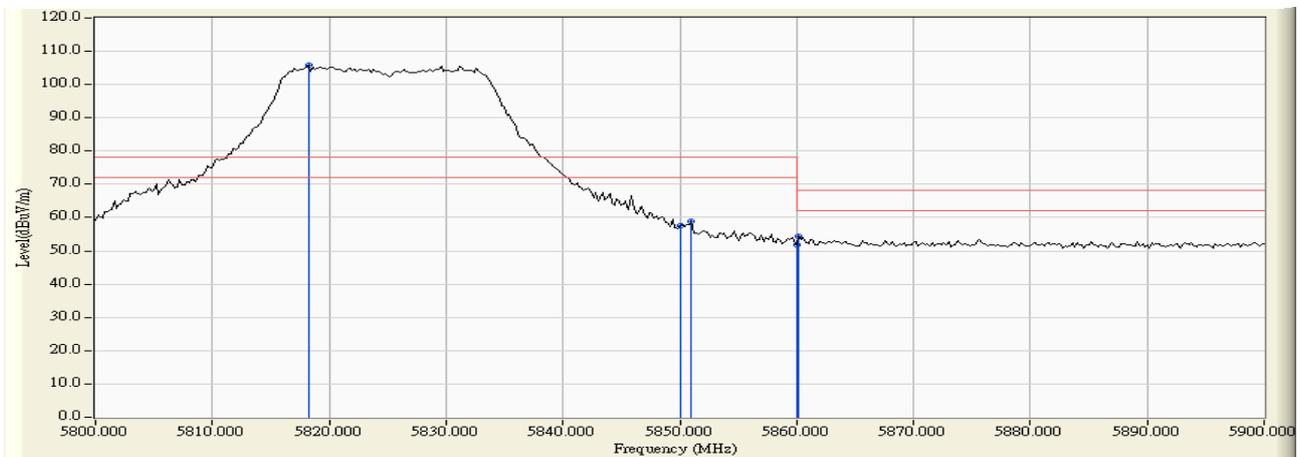
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5714.200	4.183	63.025	67.208	-1.012	68.220	Pass
Vertical	5715.000	4.186	59.680	63.866	-4.354	68.220	Pass
Vertical	5724.600	4.213	71.560	75.773	-2.447	78.220	Pass
Vertical	5725.000	4.215	70.483	74.698	-3.522	78.220	Pass
Vertical	5750.800	4.288	104.002	108.290	30.070	78.220	Pass

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

**RF Radiated Measurement:**



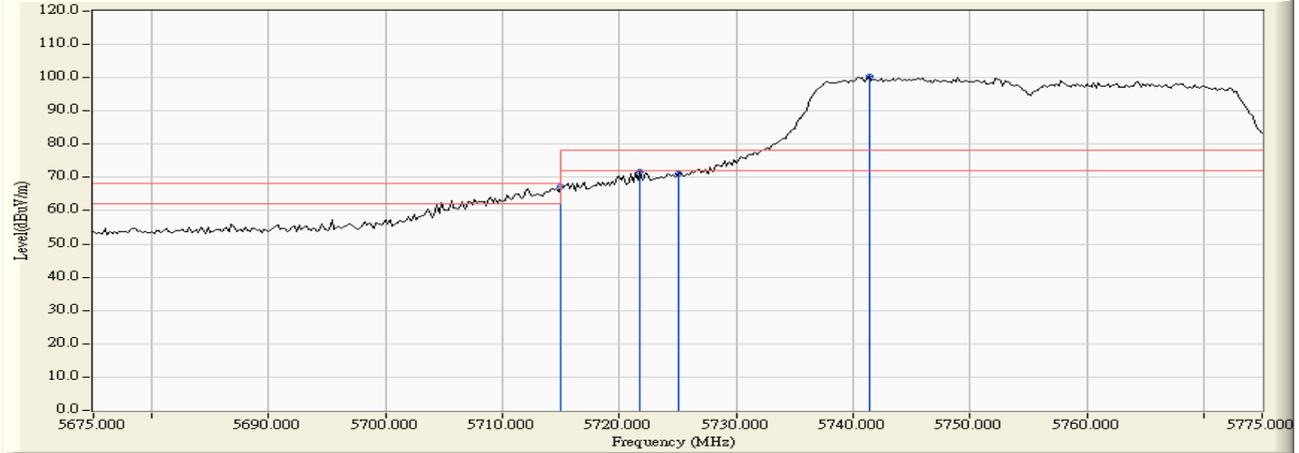
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5819.800	5.507	98.562	104.069	25.849	78.220	Pass
Horizontal	5850.000	5.715	53.085	58.800	-19.420	78.220	Pass
Horizontal	5860.000	5.798	47.672	53.470	-14.750	68.220	Pass
Horizontal	5870.600	5.893	49.145	55.037	-13.183	68.220	Pass



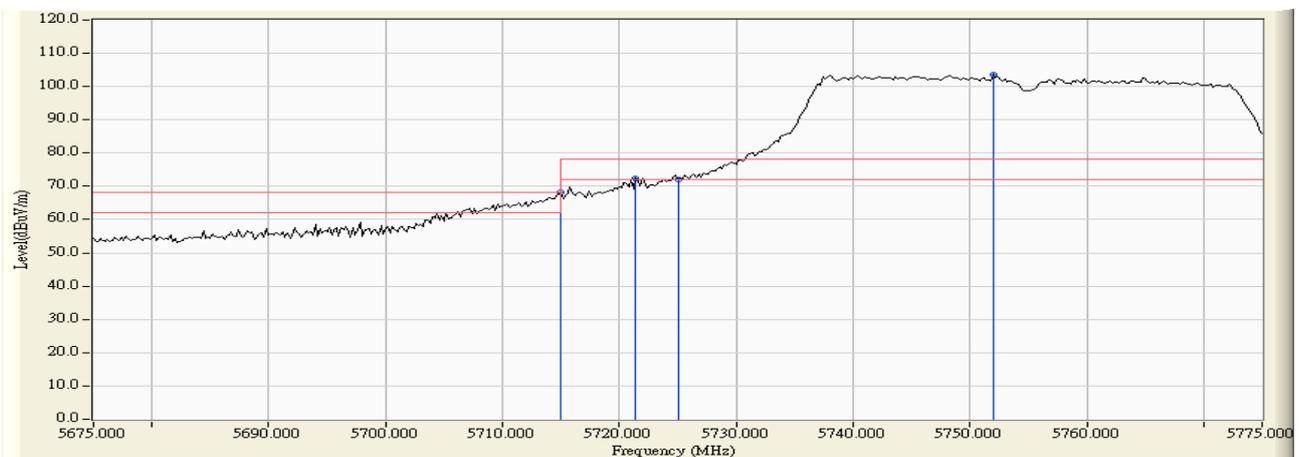
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5818.200	4.321	101.369	105.690	27.470	78.220	Pass
Vertical	5850.000	4.194	53.306	57.500	-20.720	78.220	Pass
Vertical	5851.000	4.191	54.812	59.004	-19.216	78.220	Pass
Vertical	5860.000	4.168	47.626	51.794	-16.426	68.220	Pass
Vertical	5860.200	4.167	50.093	54.260	-13.960	68.220	Pass

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

**RF Radiated Measurement :**



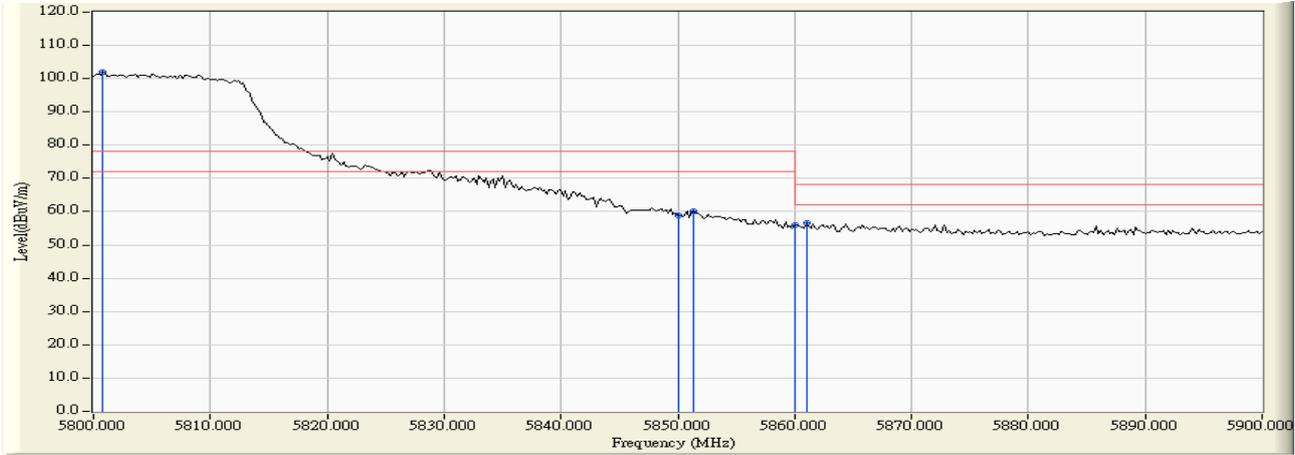
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5715.000	5.063	62.286	67.349	-0.871	68.220	Pass
Horizontal	5721.800	5.091	66.612	71.702	-6.518	78.220	Pass
Horizontal	5725.000	5.104	66.034	71.137	-7.083	78.220	Pass
Horizontal	5741.400	5.172	95.206	100.378	22.158	78.220	Pass



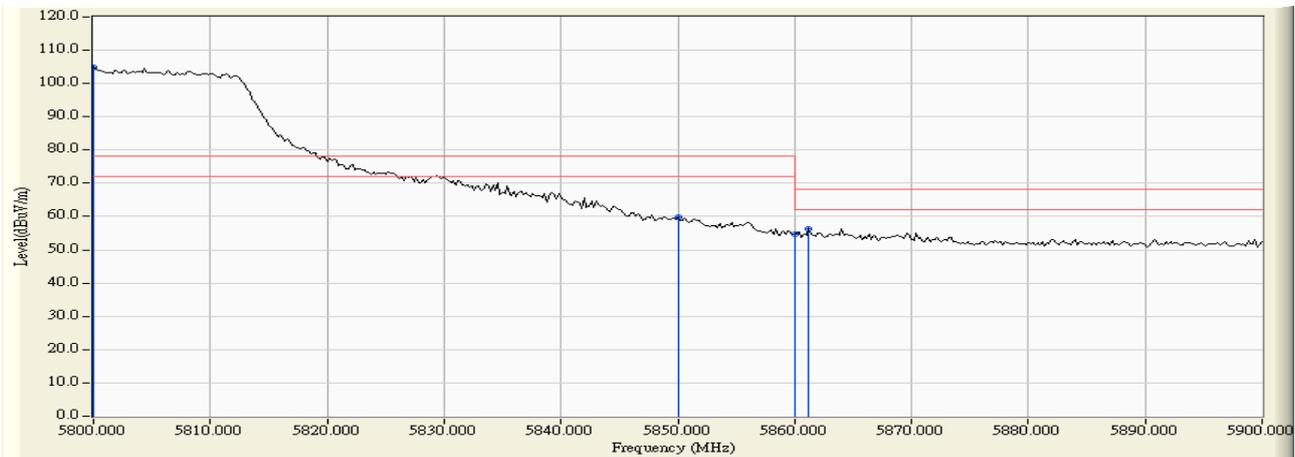
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5715.000	4.186	63.962	68.148	-0.072	68.220	Pass
Vertical	5721.400	4.204	68.129	72.333	-5.887	78.220	Pass
Vertical	5725.000	4.215	67.978	72.193	-6.027	78.220	Pass
Vertical	5752.000	4.292	99.418	103.709	25.489	78.220	Pass

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

**RF Radiated Measurement:**



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5800.800	5.391	96.618	102.008	23.788	78.220	Pass
Horizontal	5850.000	5.715	53.040	58.755	-19.465	78.220	Pass
Horizontal	5851.400	5.726	54.388	60.115	-18.105	78.220	Pass
Horizontal	5860.000	5.798	50.275	56.073	-12.147	68.220	Pass
Horizontal	5861.000	5.806	50.740	56.546	-11.674	68.220	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5800.000	4.371	100.357	104.728	26.508	78.220	Pass
Vertical	5850.000	4.194	55.639	59.833	-18.387	78.220	Pass
Vertical	5860.000	4.168	50.467	54.635	-13.585	68.220	Pass
Vertical	5861.200	4.165	52.212	56.377	-11.843	68.220	Pass

## 7. Occupied Bandwidth

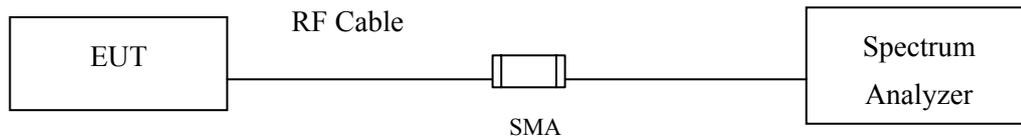
### 7.1. Test Equipment

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

Note:

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

### 7.2. Test Setup



### 7.3. Limits

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

### 7.4. Test Procedure

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

### 7.5. Uncertainty

$\pm 150\text{Hz}$

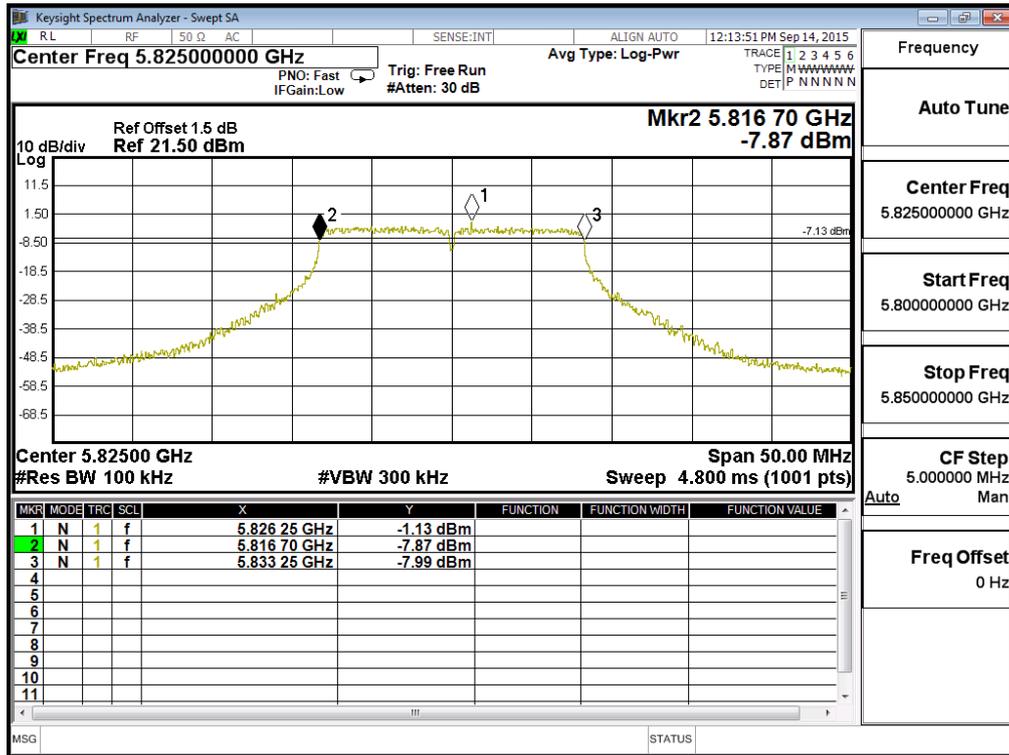
### 7.6. Test Result of Occupied Bandwidth

Product : Wireless Access Point  
Test Item : Occupied Bandwidth Data  
Test Site : No.3 OATS  
Test Mode : Mode 1: Transmit (802.11a-6Mbps)\_External Antenna

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745	16550	>500	Pass
157	5785	16600	>500	Pass
165	5825	16550	>500	Pass



Figure Channel 165:



Product : Wireless Access Point  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW-14.4Mbps)\_External Antenna

Channel No.	Frequency (MHz)	Chain	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745	A	17800	>500	Pass
157	5785	A	17800	>500	Pass
165	5825	A	17850	>500	Pass
149	5745	B	17850	>500	Pass
157	5785	B	17800	>500	Pass
165	5825	B	17800	>500	Pass

Figure Channel 149: (Chain A)

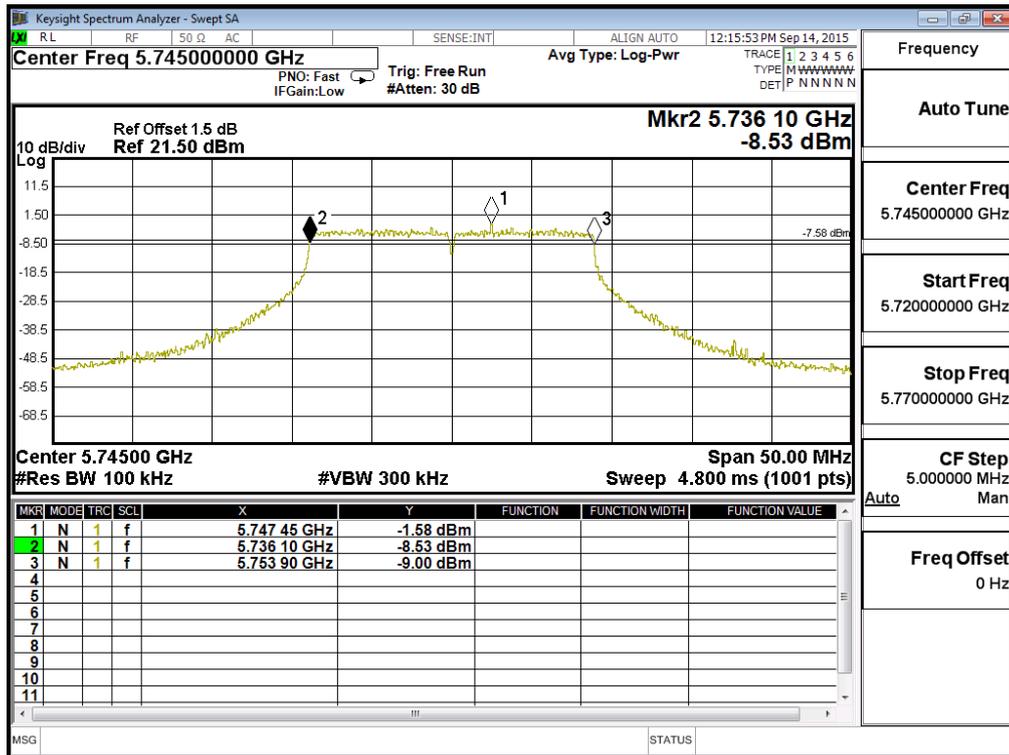


Figure Channel 157: (Chain A)

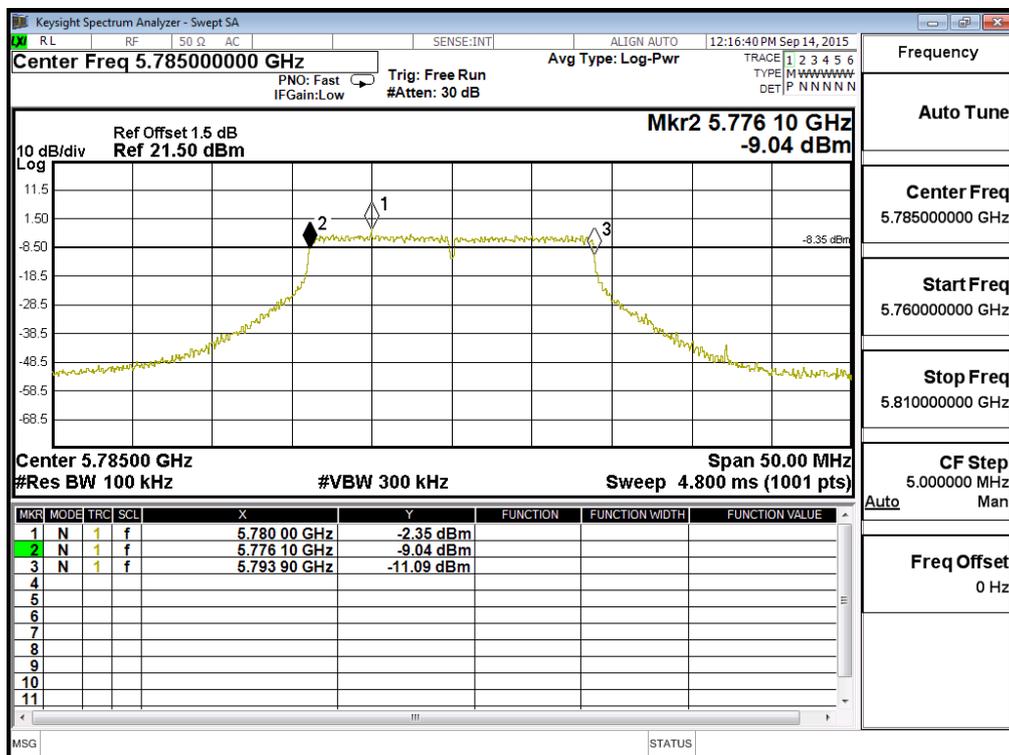


Figure Channel 165: (Chain A)

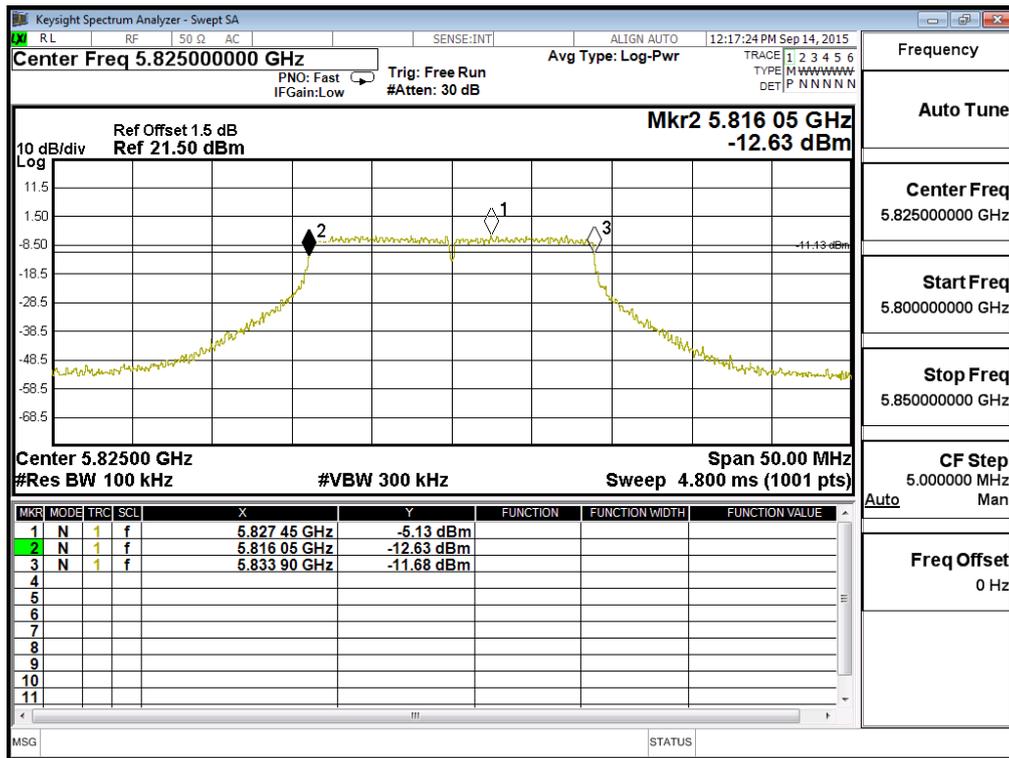


Figure Channel 149: (Chain B)

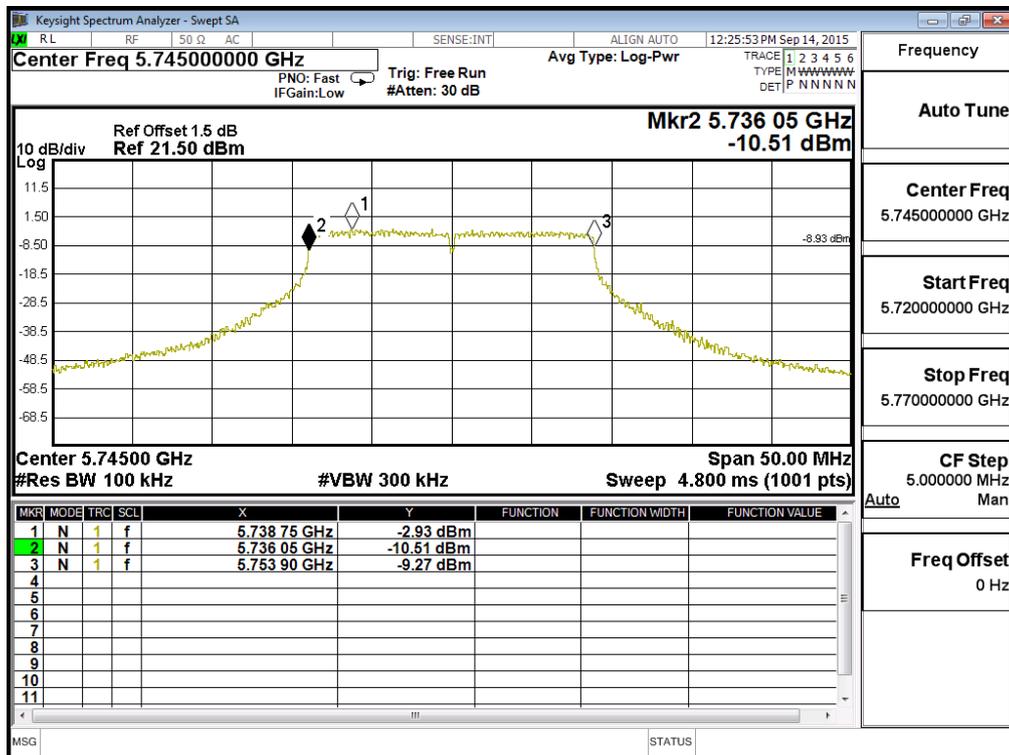


Figure Channel 157: (Chain B)

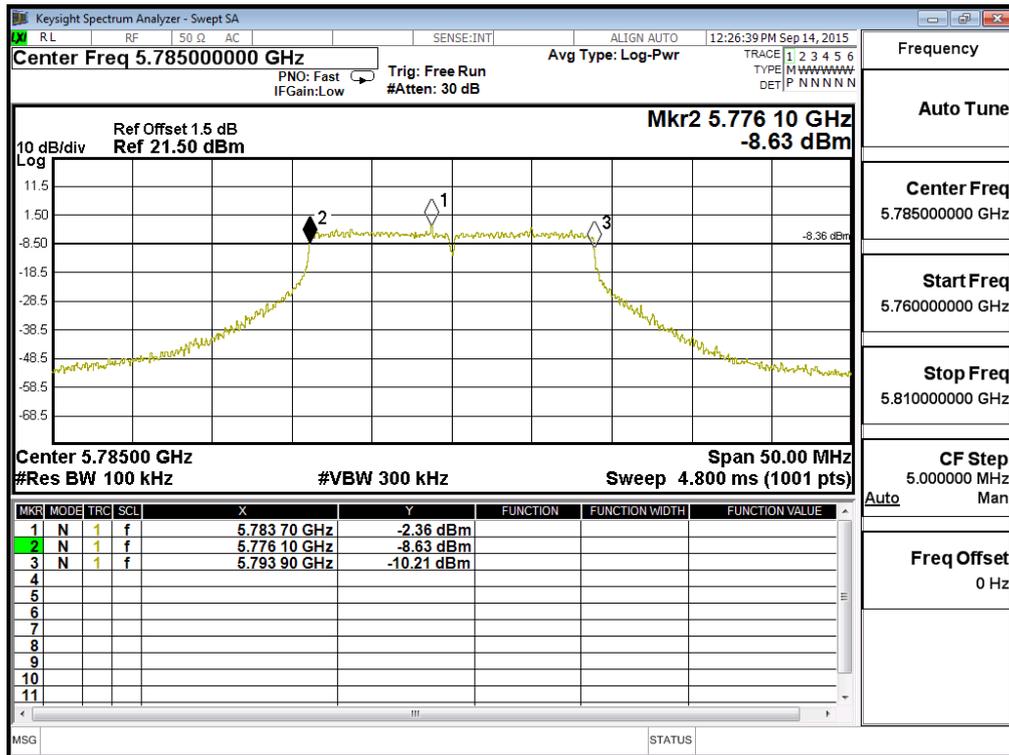
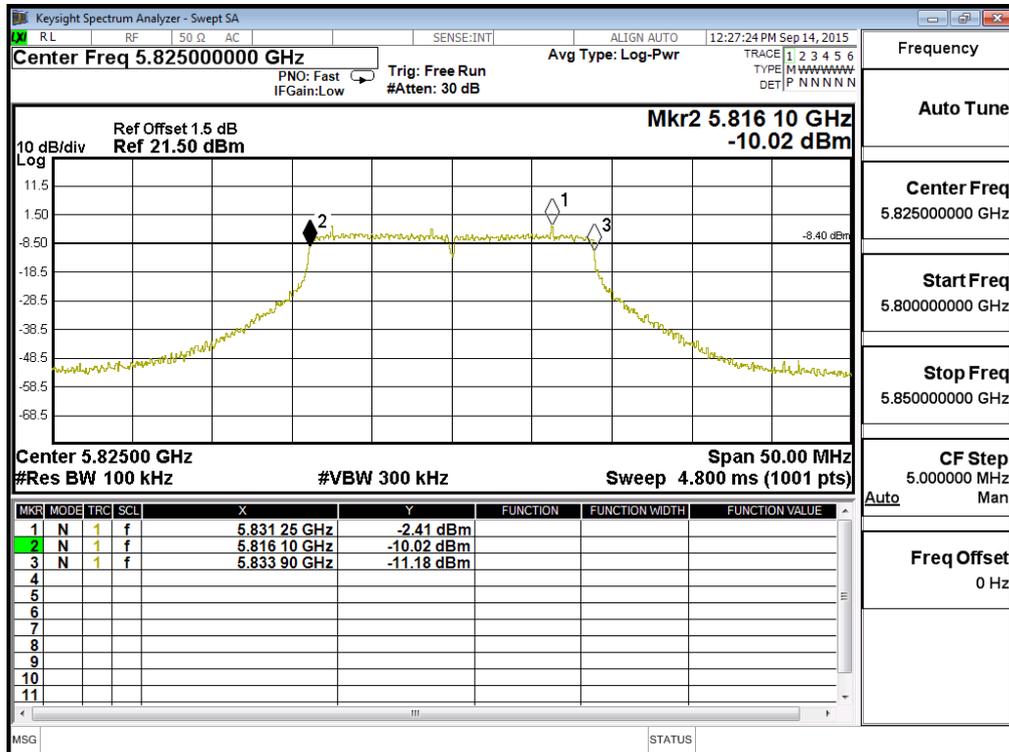


Figure Channel 165: (Chain B)



Product : Wireless Access Point  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW-30Mbps)\_External Antenna

Channel No.	Frequency (MHz)	Chain	Measurement Level (kHz)	Required Limit (kHz)	Result
151	5755	A	36600	>500	Pass
159	5795	A	36600	>500	Pass
151	5755	B	36600	>500	Pass
159	5795	B	36600	>500	Pass

Figure Channel 151: (Chain A)

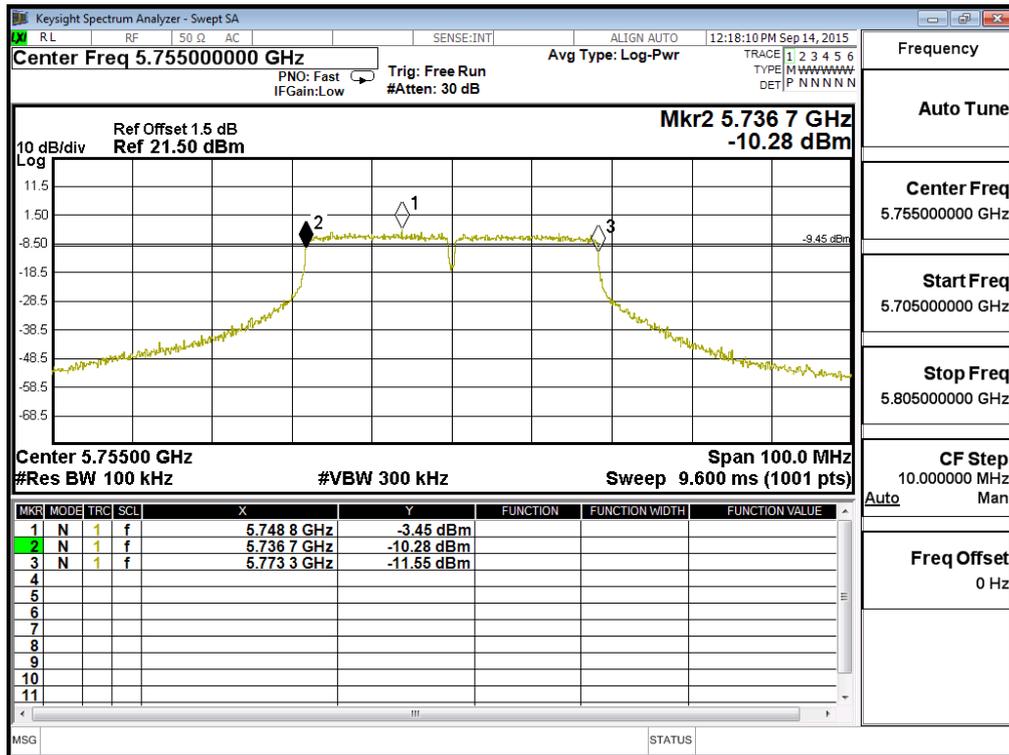


Figure Channel 159: (Chain B)

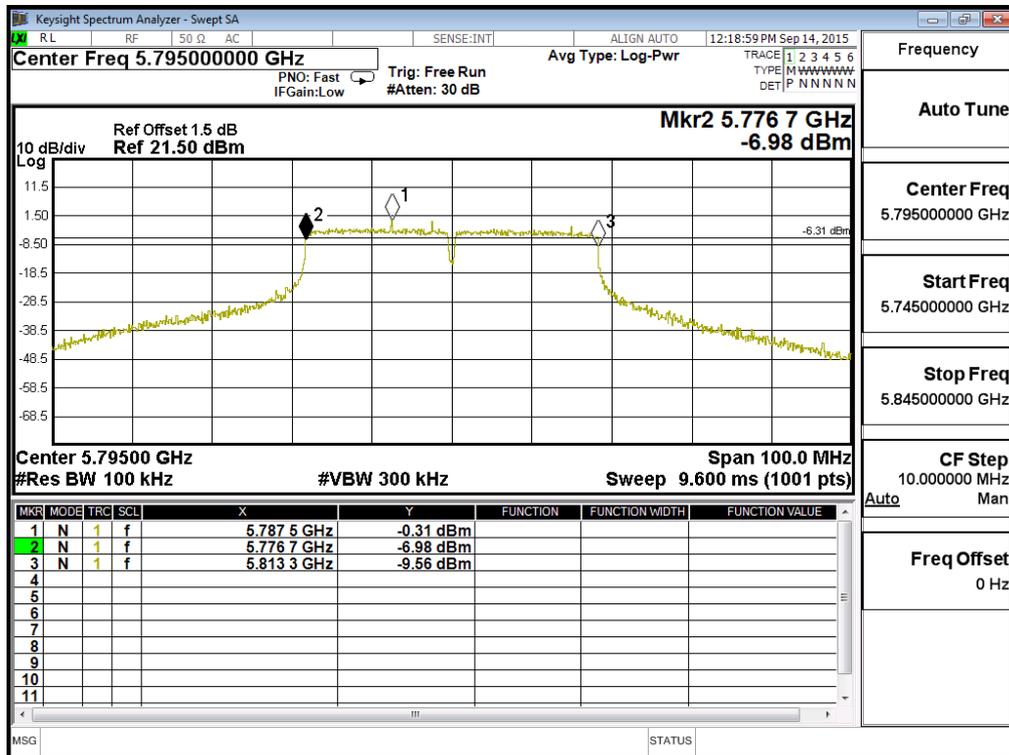


Figure Channel 151: (Chain B)

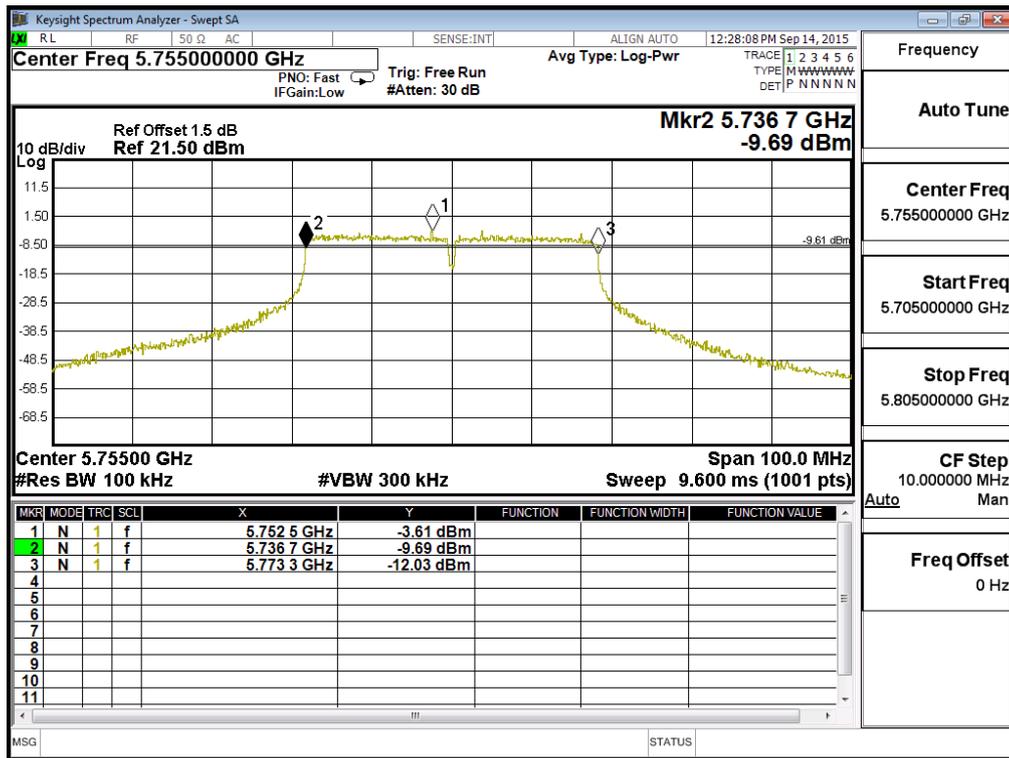
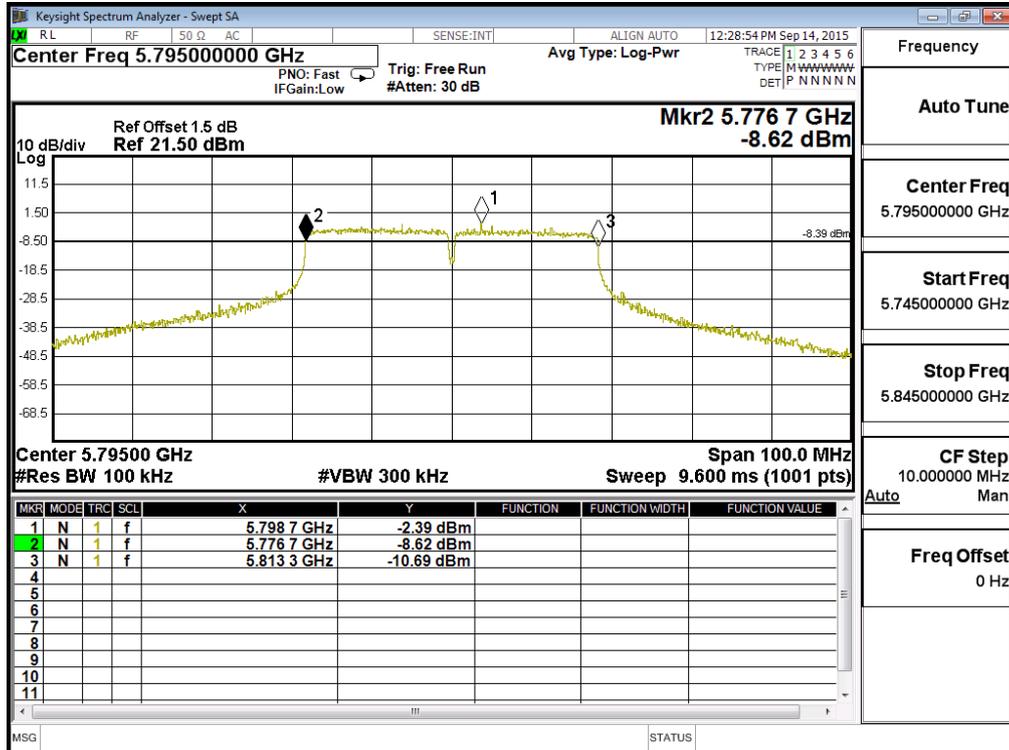


Figure Channel 159: (Chain B)



Product : Wireless Access Point  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11ac-80BW-65Mbps)\_External Antenna

Channel No.	Frequency (MHz)	Chain	Measurement Level (kHz)	Required Limit (kHz)	Result
155	5775	A	77200	>500	Pass
155	5775	B	76500	>500	Pass

Figure Channel 155: (Chain A)

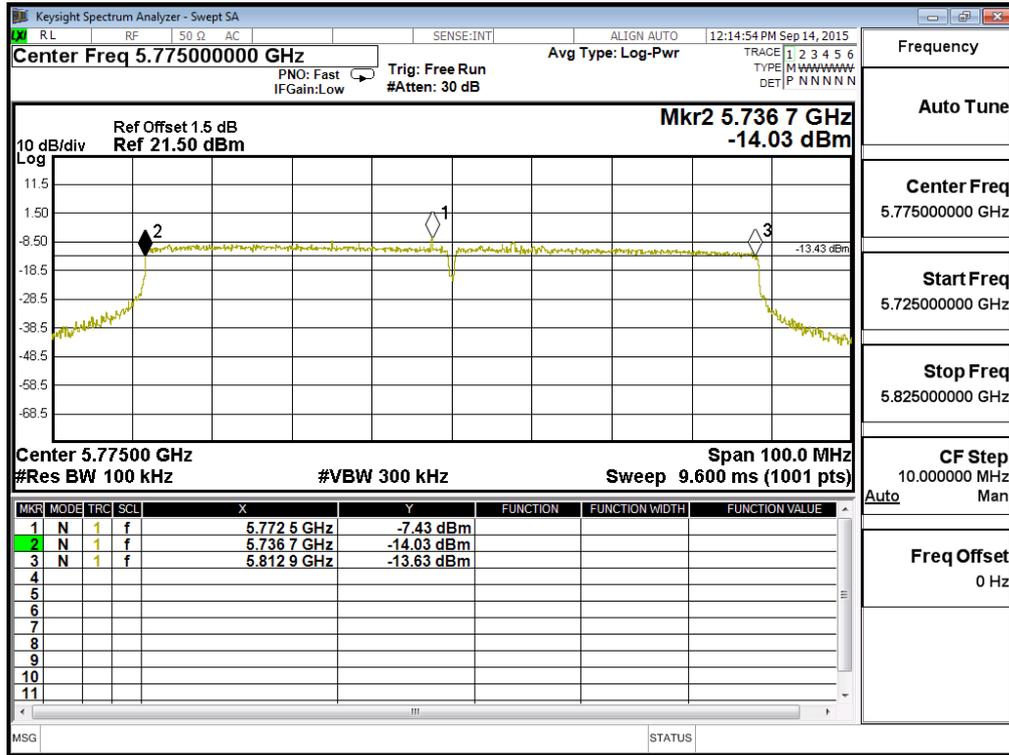
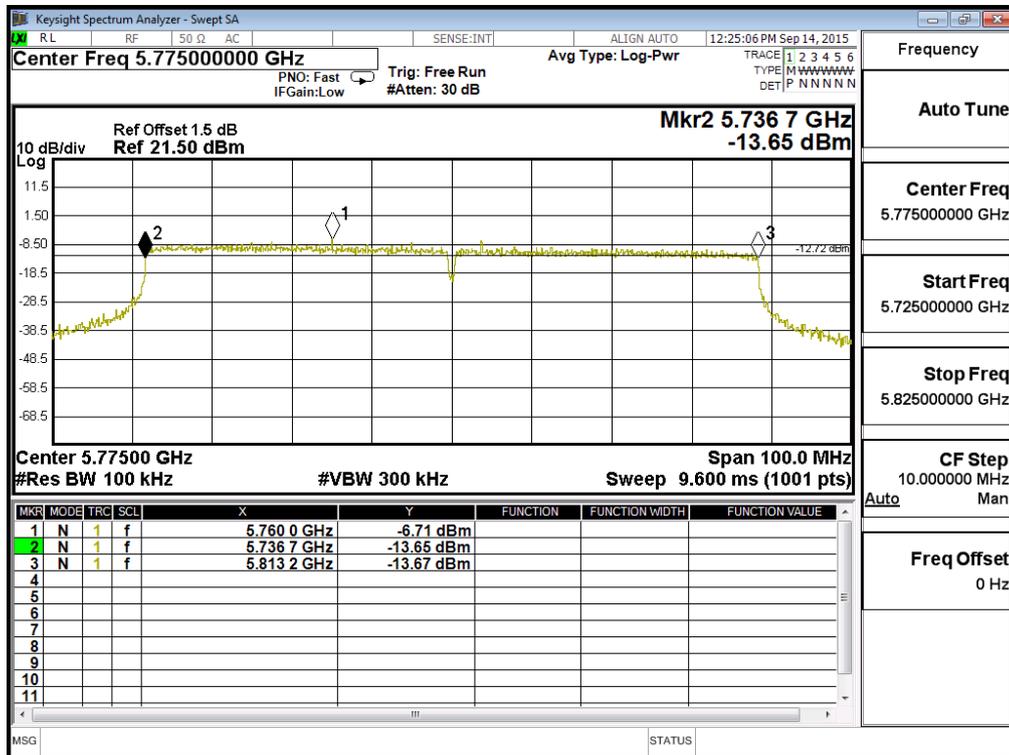


Figure Channel 155: (Chain B)



Product : Wireless Access Point  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)\_Internal Antenna

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745	16500	>500	Pass
157	5785	16500	>500	Pass
165	5825	16500	>500	Pass

Figure Channel 149:

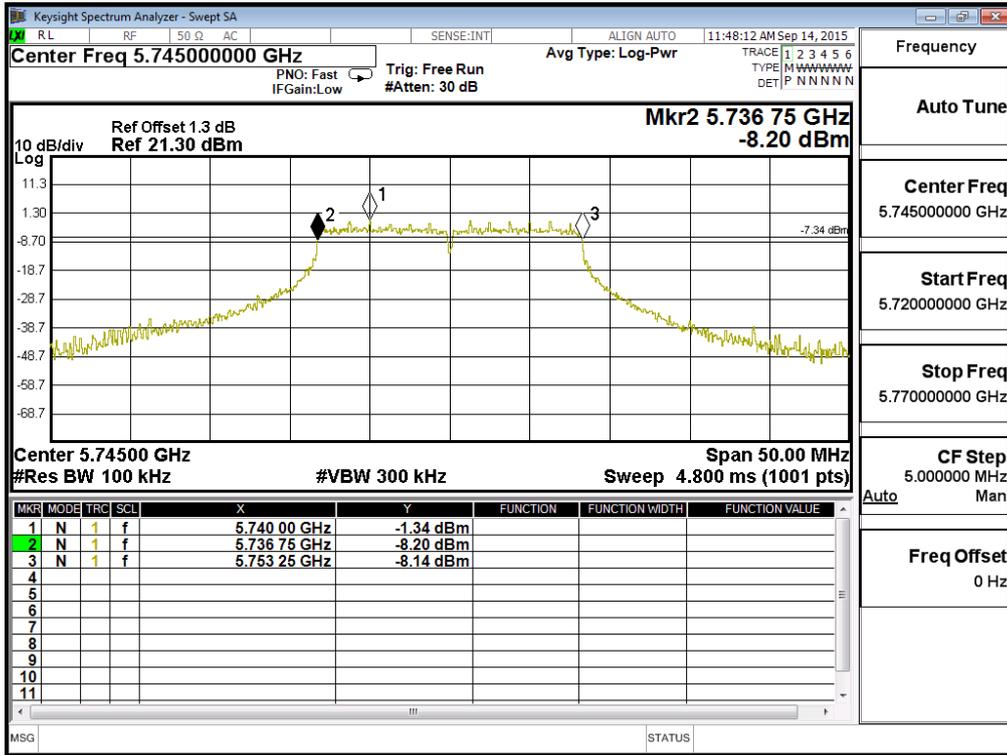


Figure Channel 157:

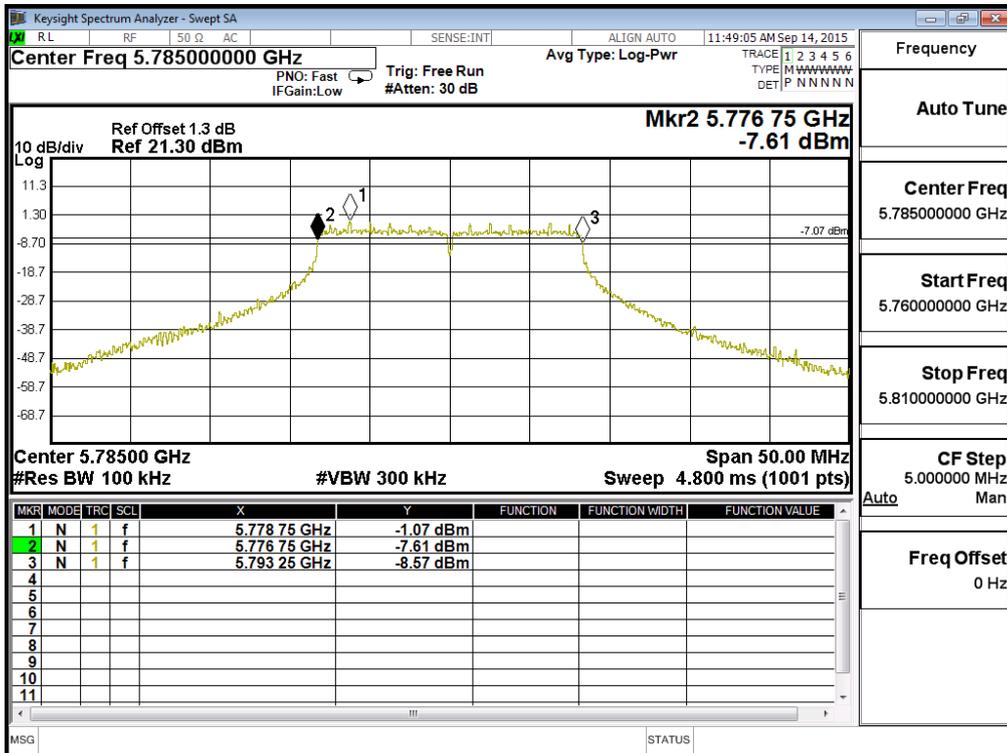
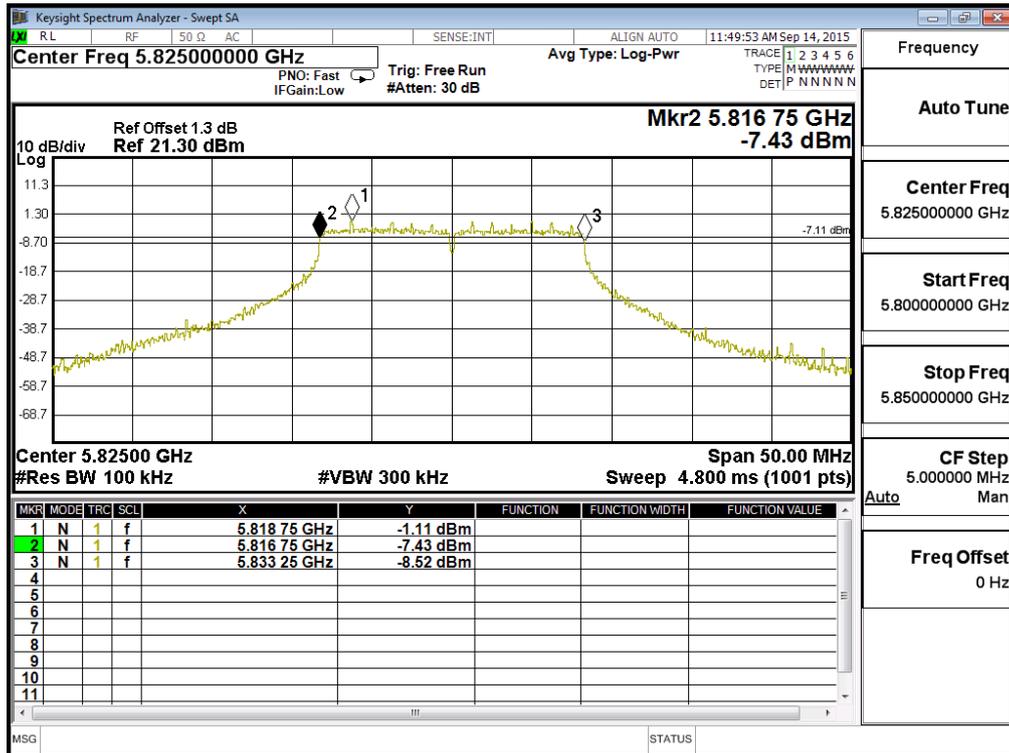


Figure Channel 165:



Product : Wireless Access Point  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW-14.4Mbps)\_Internal Antenna

Channel No.	Frequency (MHz)	Chain	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745	A	17700	>500	Pass
157	5785	A	17700	>500	Pass
165	5825	A	17800	>500	Pass
149	5745	B	17800	>500	Pass
157	5785	B	17700	>500	Pass
165	5825	B	17650	>500	Pass

Figure Channel 149: (Chain A)

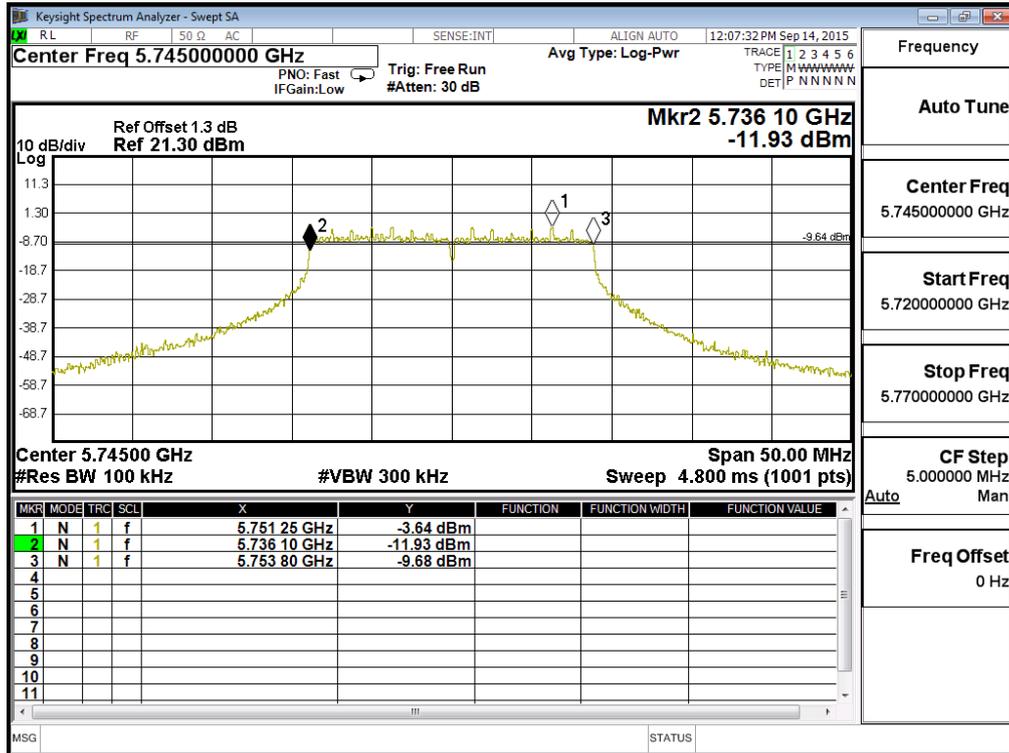


Figure Channel 157: (Chain A)

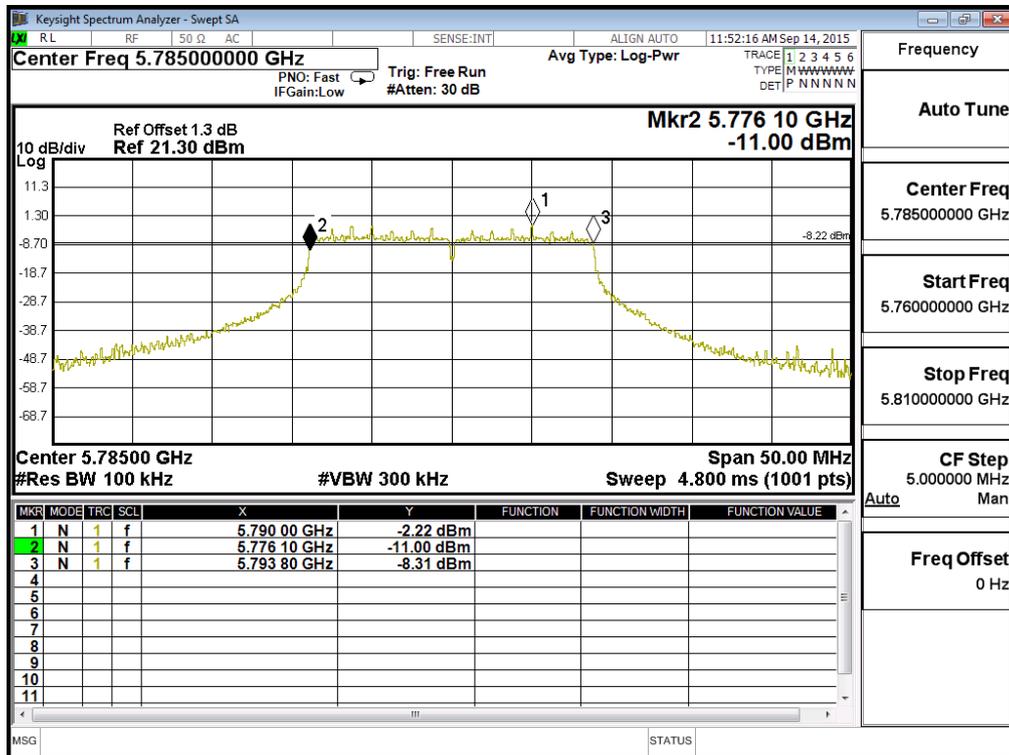


Figure Channel 165: (Chain A)

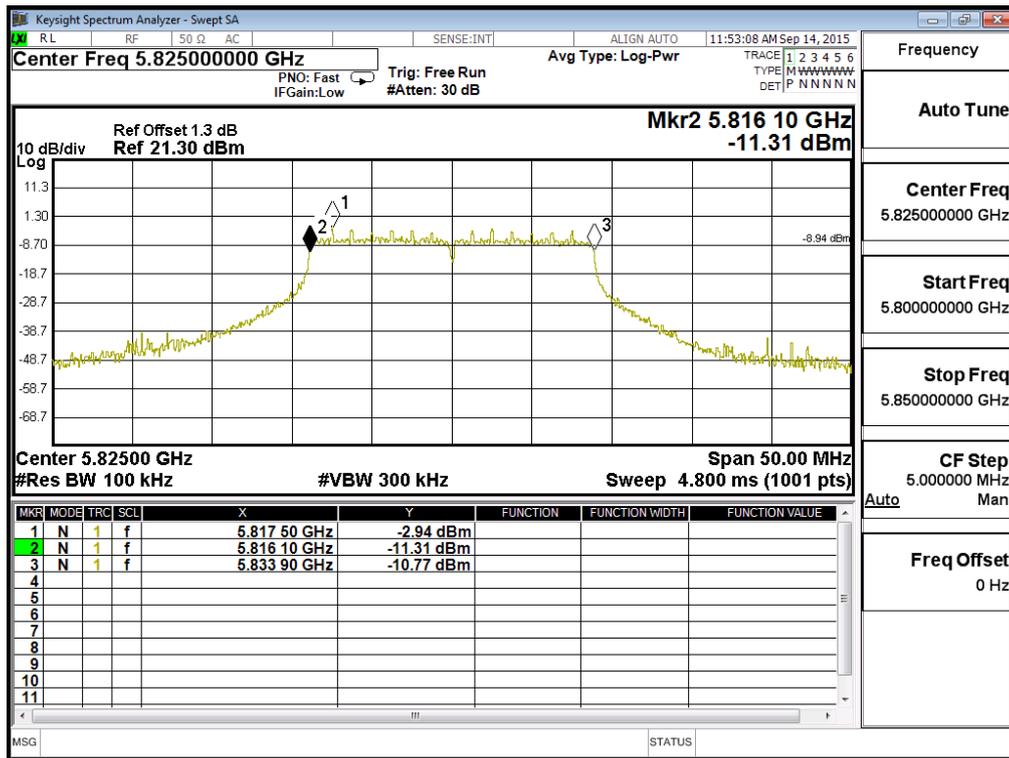


Figure Channel 149: (Chain B)

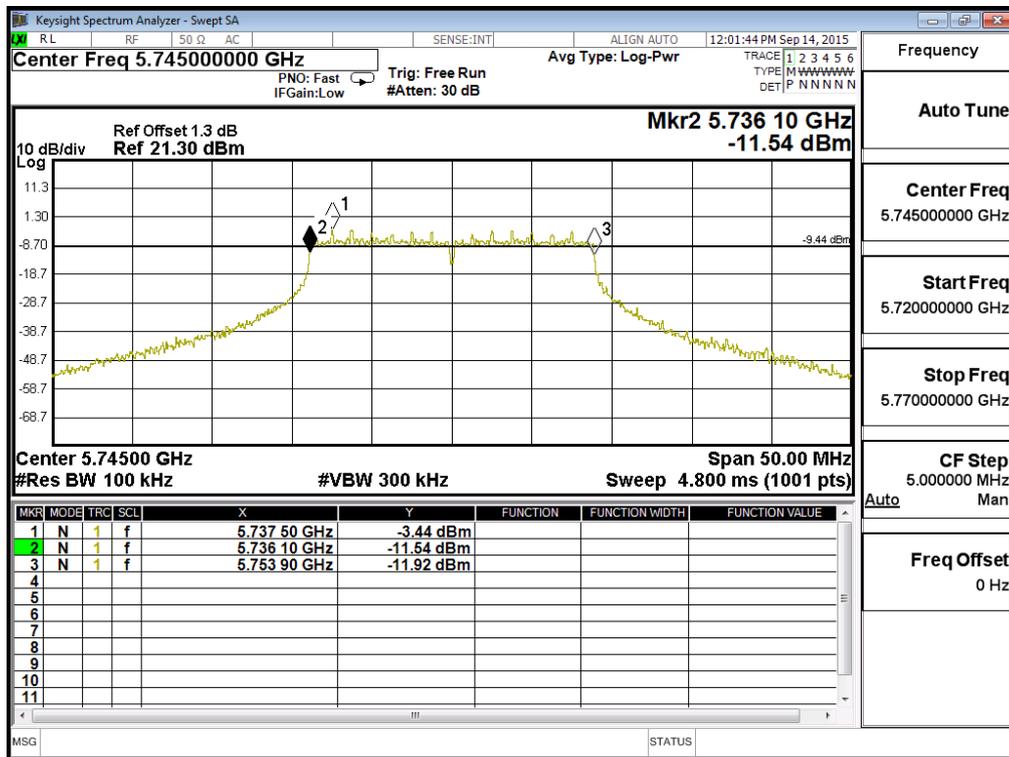


Figure Channel 157: (Chain B)

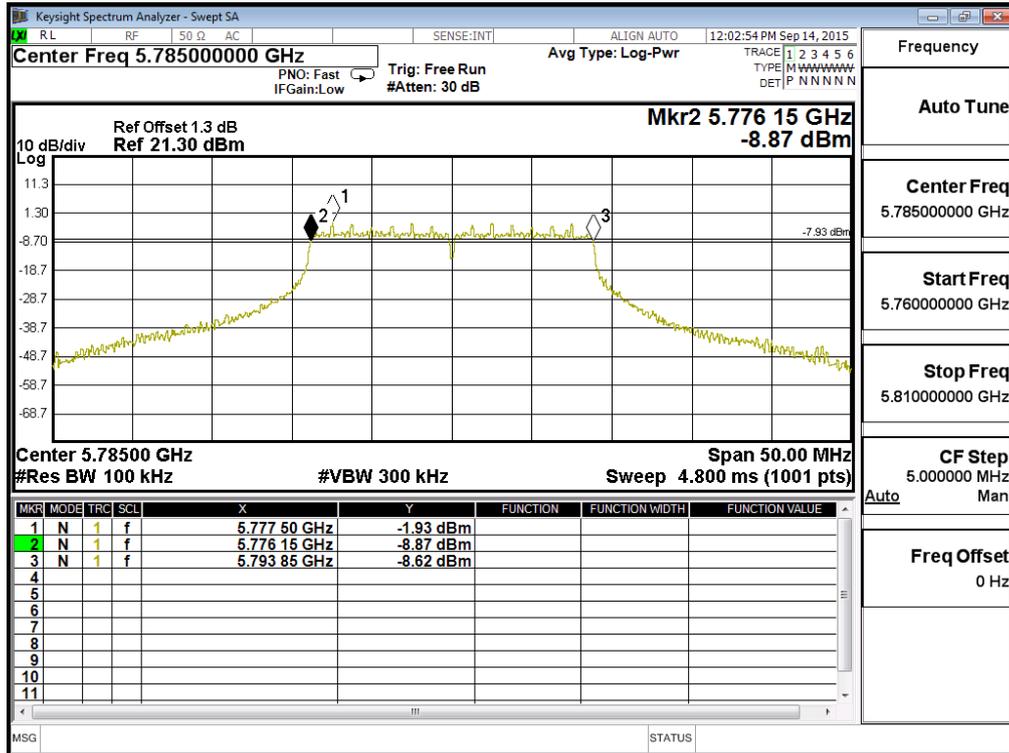
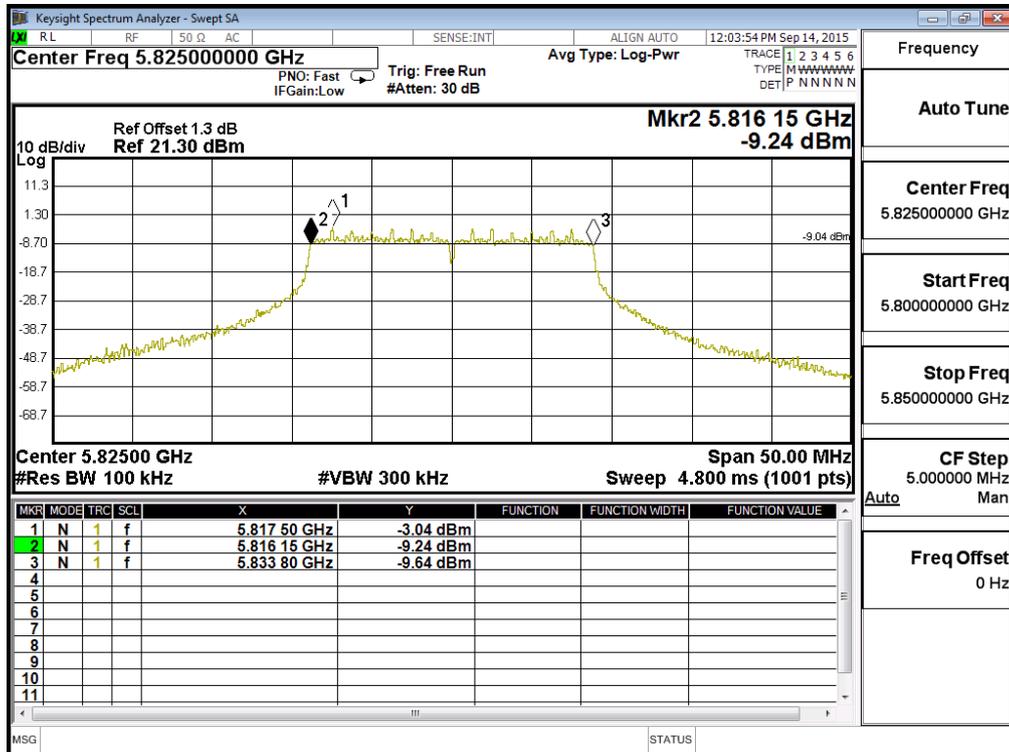


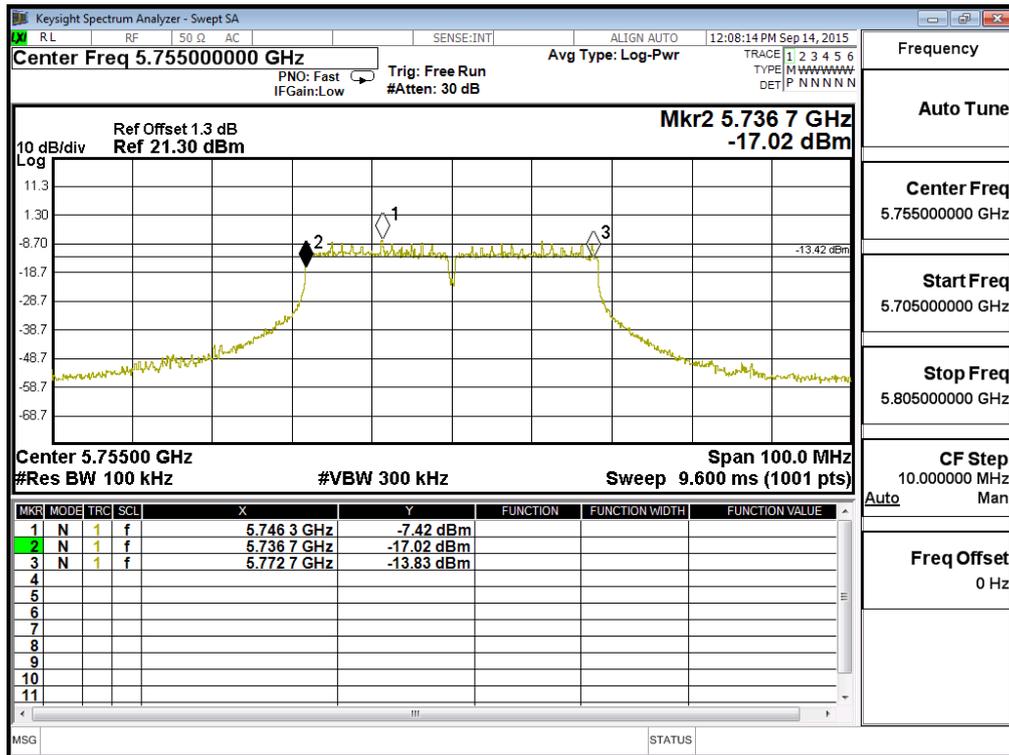
Figure Channel 165: (Chain B)



Product : Wireless Access Point  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW-30Mbps)\_Internal Antenna

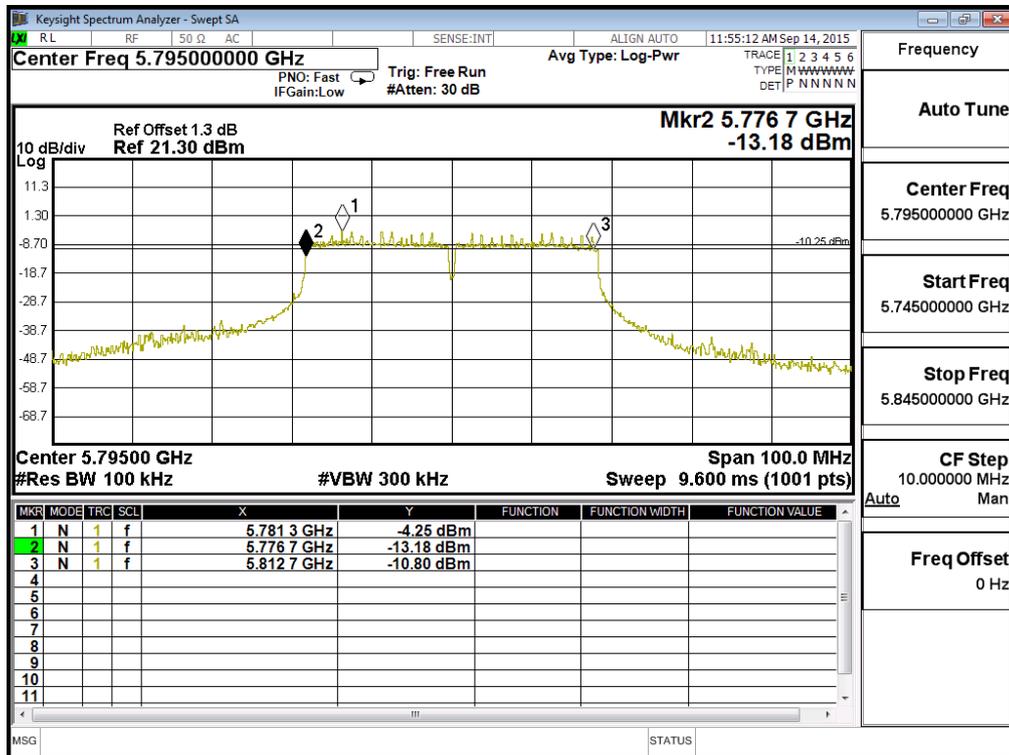
Channel No.	Frequency (MHz)	Chain	Measurement Level (kHz)	Required Limit (kHz)	Result
151	5755	A	36000	>500	Pass
159	5795	A	36000	>500	Pass
151	5755	B	36600	>500	Pass
159	5795	B	36300	>500	Pass

Figure Channel 151: (Chain A)



Frequency
Auto Tune
Center Freq 5.75500000 GHz
Start Freq 5.70500000 GHz
Stop Freq 5.80500000 GHz
CF Step 10.000000 MHz
Auto Man
Freq Offset 0 Hz

Figure Channel 159: (Chain A)



Frequency
Auto Tune
Center Freq 5.79500000 GHz
Start Freq 5.74500000 GHz
Stop Freq 5.84500000 GHz
CF Step 10.000000 MHz
Auto Man
Freq Offset 0 Hz

Figure Channel 151: (Chain B)

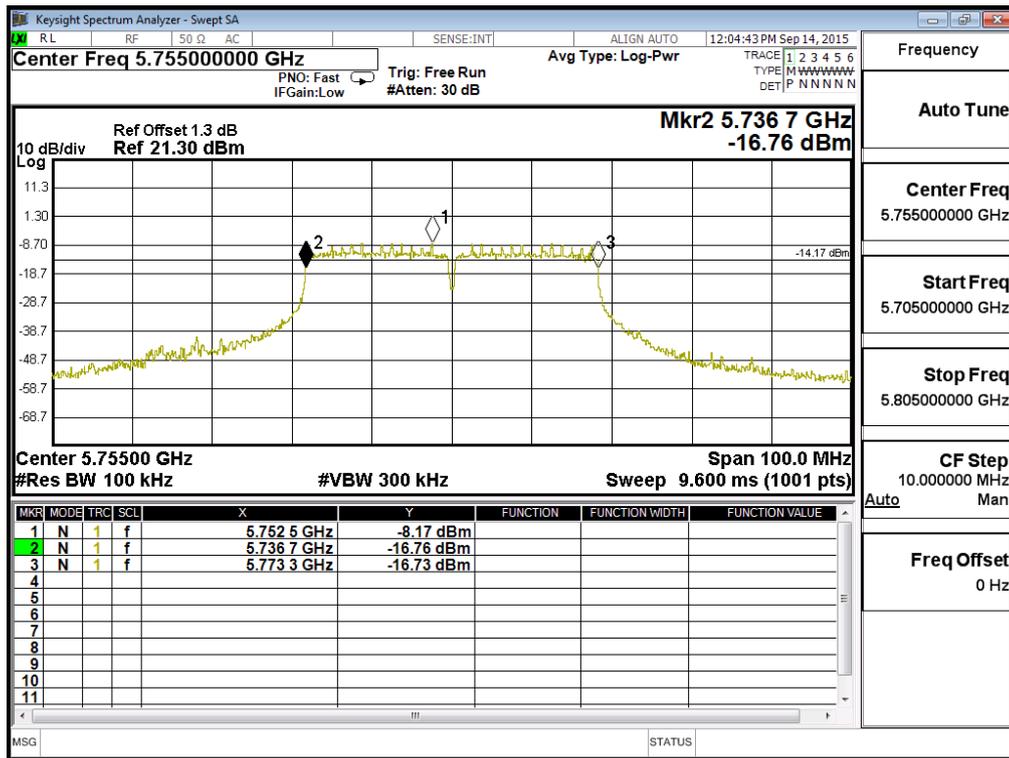
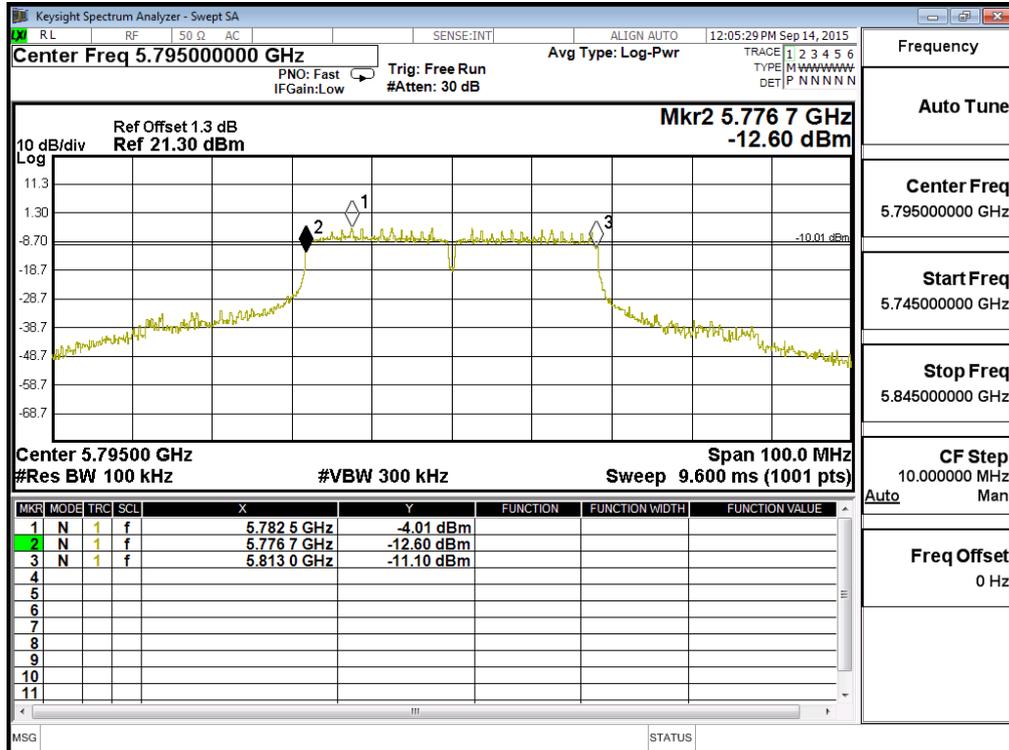


Figure Channel 159: (Chain B)



## 8. Frequency Stability

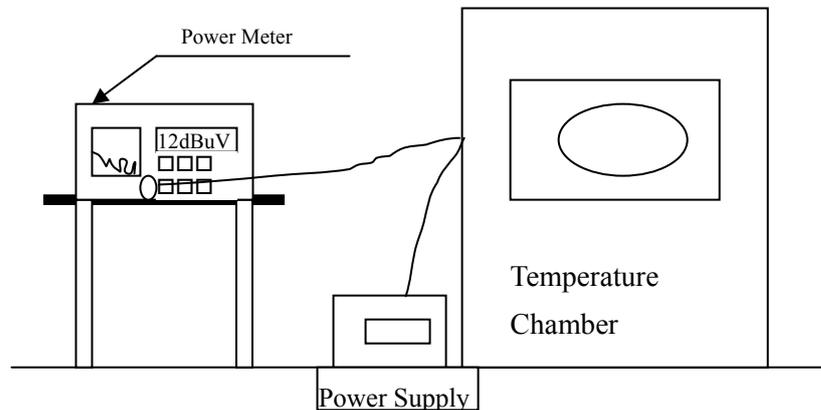
### 8.1. Test Equipment

	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., 2015

Note:

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

### 8.2. Test Setup



### 8.3. Limits

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

### 8.4. Test Procedure

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

### 8.5. Uncertainty

± 150 Hz

**8.6. Test Result of Frequency Stability**

Product : Wireless Access Point  
 Test Item : Frequency Stability  
 Test Site : Temperature Chamber  
 Test Mode : Carrier Wave (External Antenna)

**Chain A**

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (20) °C	Vnom (120)V	149	5745.0000	5745.0018	-0.0018
		151	5755.0000	5755.0013	-0.0013
		157	5785.0000	5785.0010	-0.0010
		159	5795.0000	5795.0011	-0.0011
		165	5825.0000	5825.0014	-0.0014
Tmax (50) °C	Vmax (138)V	149	5745.0000	5745.0018	-0.0018
		151	5755.0000	5755.0013	-0.0013
		157	5785.0000	5785.0013	-0.0013
		159	5795.0000	5795.0015	-0.0015
		165	5825.0000	5825.0017	-0.0017
Tmax (50) °C	Vmin (102)V	149	5745.0000	5745.0012	-0.0012
		151	5755.0000	5755.0015	-0.0015
		157	5785.0000	5785.0012	-0.0012
		159	5795.0000	5795.0010	-0.0010
		165	5825.0000	5825.0019	-0.0019
Tmin (0) °C	Vmax (138)V	149	5745.0000	5745.0016	-0.0016
		151	5755.0000	5755.0015	-0.0015
		157	5785.0000	5785.0014	-0.0014
		159	5795.0000	5795.0011	-0.0011
		165	5825.0000	5825.0018	-0.0018
Tmin (0) °C	Vmin (102)V	149	5745.0000	5745.0016	-0.0016
		151	5755.0000	5755.0015	-0.0015
		157	5785.0000	5785.0014	-0.0014
		159	5795.0000	5795.0011	-0.0011
		165	5825.0000	5825.0018	-0.0018

**Chain B**

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (20) °C	Vnom (120)V	149	5745.0000	5745.0014	-0.0014
		151	5755.0000	5755.0015	-0.0015
		157	5785.0000	5785.0019	-0.0019
		159	5795.0000	5795.0013	-0.0013
		165	5825.0000	5825.0016	-0.0016
Tmax (50) °C	Vmax (138)V	149	5745.0000	5745.0010	-0.0010
		151	5755.0000	5755.0018	-0.0018
		157	5785.0000	5785.0014	-0.0014
		159	5795.0000	5795.0018	-0.0018
		165	5825.0000	5825.0016	-0.0016
Tmax (50) °C	Vmin (102)V	149	5745.0000	5745.0015	-0.0015
		151	5755.0000	5755.0017	-0.0017
		157	5785.0000	5785.0013	-0.0013
		159	5795.0000	5795.0017	-0.0017
		165	5825.0000	5825.0014	-0.0014
Tmin (0) °C	Vmax (138)V	149	5745.0000	5745.0016	-0.0016
		151	5755.0000	5755.0019	-0.0019
		157	5785.0000	5785.0018	-0.0018
		159	5795.0000	5795.0019	-0.0019
		165	5825.0000	5825.0015	-0.0015
Tmin (0) °C	Vmin (102)V	149	5745.0000	5745.0012	-0.0012
		151	5755.0000	5755.0013	-0.0013
		157	5785.0000	5785.0010	-0.0010
		159	5795.0000	5795.0016	-0.0016
		165	5825.0000	5825.0019	-0.0019

**Chain A**

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (20) °C	Vnom (120)V	155	5775.0000	5775.0050	-0.0050
Tmax (50) °C	Vmax (138)V	155	5775.0000	5775.0089	-0.0089
Tmax (50) °C	Vmin (102)V	155	5775.0000	5775.0022	-0.0022
Tmin (0) °C	Vmax (138)V	155	5775.0000	5775.0008	-0.0008
Tmin (0) °C	Vmin (102)V	155	5775.0000	5775.0006	-0.0006

**Chain B**

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (20) °C	Vnom (120)V	155	5775.0000	5775.0063	-0.0063
Tmax (50) °C	Vmax (138)V	155	5775.0000	5775.0081	-0.0081
Tmax (50) °C	Vmin (102)V	155	5775.0000	5775.0049	-0.0049
Tmin (0) °C	Vmax (138)V	155	5775.0000	5775.0028	-0.0028
Tmin (0) °C	Vmin (102)V	155	5775.0000	5775.0076	-0.0076

Product : Wireless Access Point  
 Test Item : Frequency Stability  
 Test Site : Temperature Chamber  
 Test Mode : Carrier Wave (Internal Antenna)

**Chain A**

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (20) °C	Vnom (120)V	149	5745.0000	5745.0012	-0.0012
		151	5755.0000	5755.0014	-0.0014
		157	5785.0000	5785.0017	-0.0017
		159	5795.0000	5795.0018	-0.0018
		165	5825.0000	5825.0017	-0.0017
Tmax (50) °C	Vmax (138)V	149	5745.0000	5745.0011	-0.0011
		151	5755.0000	5755.0018	-0.0018
		157	5785.0000	5785.0017	-0.0017
		159	5795.0000	5795.0018	-0.0018
		165	5825.0000	5825.0016	-0.0016
Tmax (50) °C	Vmin (102)V	149	5745.0000	5745.0016	-0.0016
		151	5755.0000	5755.0011	-0.0011
		157	5785.0000	5785.0014	-0.0014
		159	5795.0000	5795.0019	-0.0019
		165	5825.0000	5825.0019	-0.0019
Tmin (0) °C	Vmax (138)V	149	5745.0000	5745.0013	-0.0013
		151	5755.0000	5755.0016	-0.0016
		157	5785.0000	5785.0015	-0.0015
		159	5795.0000	5795.0014	-0.0014
		165	5825.0000	5825.0013	-0.0013
Tmin (0) °C	Vmin (102)V	149	5745.0000	5745.0013	-0.0013
		151	5755.0000	5755.0016	-0.0016
		157	5785.0000	5785.0015	-0.0015
		159	5795.0000	5795.0014	-0.0014
		165	5825.0000	5825.0013	-0.0013

**Chain B**

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\Delta F$ (MHz)
Tnom (20) °C	Vnom (120)V	149	5745.0000	5745.0017	-0.0017
		151	5755.0000	5755.0018	-0.0018
		157	5785.0000	5785.0010	-0.0010
		159	5795.0000	5795.0014	-0.0014
		165	5825.0000	5825.0018	-0.0018
Tmax (50) °C	Vmax (138)V	149	5745.0000	5745.0020	-0.0020
		151	5755.0000	5755.0019	-0.0019
		157	5785.0000	5785.0012	-0.0012
		159	5795.0000	5795.0018	-0.0018
		165	5825.0000	5825.0011	-0.0011
Tmax (50) °C	Vmin (102)V	149	5745.0000	5745.0011	-0.0011
		151	5755.0000	5755.0018	-0.0018
		157	5785.0000	5785.0019	-0.0019
		159	5795.0000	5795.0018	-0.0018
		165	5825.0000	5825.0013	-0.0013
Tmin (0) °C	Vmax (138)V	149	5745.0000	5745.0015	-0.0015
		151	5755.0000	5755.0019	-0.0019
		157	5785.0000	5785.0010	-0.0010
		159	5795.0000	5795.0012	-0.0012
		165	5825.0000	5825.0013	-0.0013
Tmin (0) °C	Vmin (102)V	149	5745.0000	5745.0015	-0.0015
		151	5755.0000	5755.0015	-0.0015
		157	5785.0000	5785.0012	-0.0012
		159	5795.0000	5795.0016	-0.0016
		165	5825.0000	5825.0010	-0.0010

## 9. EMI Reduction Method During Compliance Testing

No modification was made during testing.

## **Attachment 1: EUT Test Photographs**

## **Attachment 2: EUT Detailed Photographs**