



REPORT No.: SZ17010097W02

# FCC RF TEST REPORT

**APPLICANT** : Patriot Memory LLC

**PRODUCT NAME** : Wireless AC600 USB2.0 Mini Adapter

**MODEL NAME** : AC600

**TRADE NAME** : N/A

**BRAND NAME** : N/A

**FCC ID** : 2AL6WGC139694

**STANDARD(S)** : 47 CFR Part 15 Subpart E

**ISSUE DATE** : 2017-05-19

**SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.**

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Change History

Issue	Date	Reason for change
1.0	2017-05-19	First edition

**TEST REPORT DECLARATION**

Applicant	Patriot Memory LLC
Applicant Address	11F, No. 700, Jhong Jheng Road., Jhong He District, New Taipei City , 23552, Taiwan
Manufacturer	MTN HIGH-TECHNOLOGY (HONGKONG) CO., LTD
Manufacturer Address	UNIT D 16/F CHEUK NANG PLAZA 250 HENNESSY RD WANCHAI HONGKONG
Product Name	Wireless AC600 USB2.0 Mini Adapter
Model Name	AC600
Brand Name	N/A
HW Version	BSD01-V1.2
SW Version	V1.0
Test Standards	47 CFR Part 15 Subpart E
Test Date	2017-02-04 to 2017-02-20
Test Result	PASS

Tested by : Li Jingzong  
Li Jingzong (Test Engineer)

Approved by : Qiu Xiaojun  
Qiu Xiaojun (Supervisor)



# 1. GENERAL INFORMATION

## 1.1 EUT Description

<b>EUT Type</b> .....:	Wireless AC600 USB2.0 Mini Adapter
<b>Serial No.</b> .....	(n.a, marked #1 by test site)
<b>Hardware Version</b> .....:	BSD01-V1.2
<b>Software Version</b> .....	V1.0
<b>Applicant</b> .....:	Patriot Memory LLC 11F, No. 700, Jhong Jheng Road., Jhong He District, New Taipei City , 23552, Taiwan
<b>Manufacturer</b> .....	MTN HIGH-TECHNOLOGY (HONGKONG) CO., LTD UNIT D 16/F CHEUK NANG PLAZA 250 HENNESSY RD WANCHAI HONGKONG
<b>Frequency Range</b> .....:	802.11b/g/n: 2.400GHz - 2.4835GHz 802.11ac/n: 5.150GHz- 5.250GHz 5.725GHz- 5.850GHz
<b>Channel Number</b> .....	2.4GHz Band: 802.11b/g/n-20MHz: 11 802.11n-40MHz: 7 802.11ac/n -20MHz: 5.150GHz – 5.250GHz: 4 Channels 5.725GHz- 5.850GHz: 5 Channels 802.11ac/n -40MHz: 5.150GHz – 5.250GHz: 2 Channels 5.725GHz- 5.850GHz: 2 Channels 802.11ac -80MHz: 5.150GHz – 5.250GHz: 1 Channel 5.725GHz- 5.850GHz: 1 Channel
<b>Modulation Type</b> .....:	DSSS, OFDM
<b>Antenna Type</b> .....:	PCB Antenna
<b>Antenna Gain</b> .....:	1.5dBi MAX(2.4GHz); 2.3dBi MAX(5GHz);

**Note:**

1. The U-NII band is applicable to this report, another bands of operation (2.4GHz) is documented in a separate report.
2. For 802.11ac/n-20MHz (5.150GHz – 5.250GHz), the frequencies allocated is  $F$  (MHz) =  $5180+20*(n-1)$  ( $1 \leq n \leq 4$ ). For 5.150GHz – 5.250GHz The channel of the EUT used and tested in this report are separately 36 (5180MHz), 44 (5220MHz) and 48 (5240MHz).
3. For 802.11ac/n-20MHz (5.725GHz – 5.825GHz), the frequencies allocated is  $F$  (MHz) =  $5745+20*(n-1)$  ( $1 \leq n \leq 5$ ). The channel of the EUT used and tested in this report are separately CH149 (5745MHz), CH157 (5785MHz) and CH165 (5825GHz) are tested in this report.
4. For 802.11ac/n-40MHz (5.150GHz – 5.250GHz), the frequencies allocated is  $F$  (MHz)



=5190+40\*(n-1) (1<=n<=2). For 5.150GHz – 5.250GHz The channel of the EUT used and tested in this report are separately 38 (5190MHz), 46 (5230MHz).

5. For 802.11ac/n-40MHz (5.725GHz – 5.825GHz), the frequencies allocated is F (MHz) =5755+40\*(n-1) (1<=n<=2). The channel of the EUT used and tested in this report are separately CH151 (5755MHz), CH159 (5795MHz) are tested in this report.
6. For 802.11ac-80MHz (5.150GHz – 5.250GHz and 5.725GHz – 5.825GHz), the frequencies allocated is 5210MHz and 5775MHz. The channel of the EUT used and tested in this report are separately CH42 (5210MHz), CH155 (5775MHz) are tested in this report.
7. During test, the duty cycle of the EUT was setting to 100%.
8. For a more detailed description, please refer to Specification or User’s Manual supplied by the applicant and/or manufacturer.
9. The antenna connector of EUT is designed with permanent attachment and no consideration of replacement.

## 1.2 Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 15 Subpart E (UNII band) for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 15 (5-1-14 Edition)	Radio Frequency Devices

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Result
1	15.203	Antenna Requirement	<b><u>PASS</u></b>
2	15.407(a) (e)	Emission Bandwidth	<b><u>PASS</u></b>
3	15.407(a)	Maximum conducted output Power	<b><u>PASS</u></b>
4	15.407(a)	Peak Power spectral density	<b><u>PASS</u></b>
5	15.407(b)	Restricted Frequency Bands	<b><u>PASS</u></b>
6	15.407(g)	Frequency Stability	<b><u>PASS</u></b>
7	15.207	Conducted Emission	<b><u>PASS</u></b>
8	15.407(b)	Radiated Emission	<b><u>PASS</u></b>
9	15.407(f)	RF exposure evaluation	<b><u>PASS</u></b>

The tests of Conducted Emission and Radiated Emission were performed according to the method of measurements prescribed in ANSI C63.10 2013 and KDB558074 D01 v03r05 (04/08/2016).

## 1.3 Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15 - 35
Relative Humidity (%):	30 -60
Atmospheric Pressure (kPa):	86-106

## 2. 47 CFR PART 15E REQUIREMENTS

### 2.1 Antenna requirement

#### 2.1.1 Applicable Standard

According to FCC 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

#### 2.1.2 Result: Compliant

The EUT has a permanently and irreplaceable attached antenna. Please refer to the EUT internal photos.

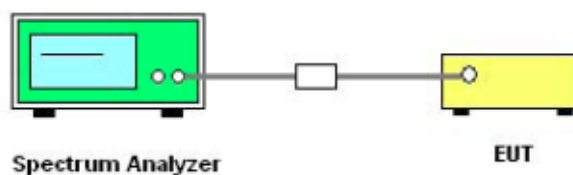
### 2.2 Emission Bandwidth

#### 2.2.1 Requirement

For purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Determination of the emissions bandwidth is based on the use of measurement instrumentation employing a peak detector function with an instrument resolution bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement. Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

#### 2.2.2 Test Description

##### A. Test Set:



The EUT which is powered by the battery, is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

##### B. Test Procedure

1. KDB 789033 Section C) 1) Emission Bandwidth was used in order to prove compliance
  - 1) Set RBW = approximately 1% of the emission bandwidth.
  - 2) Set the VBW > RBW.



3) Detector = Peak.

4) Trace mode = max hold.

5) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

2. KDB 789033 Section C) 2) minimum emission bandwidth for the band 5.725-5.85GHz was used in order to prove compliance.

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

a) Set RBW = 100 kHz.

b) Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.

c) Detector = Peak.

d) Trace mode = max hold.

e) Sweep = auto couple.

f) Allow the trace to stabilize.

g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.





**2.2.3 Test Result**

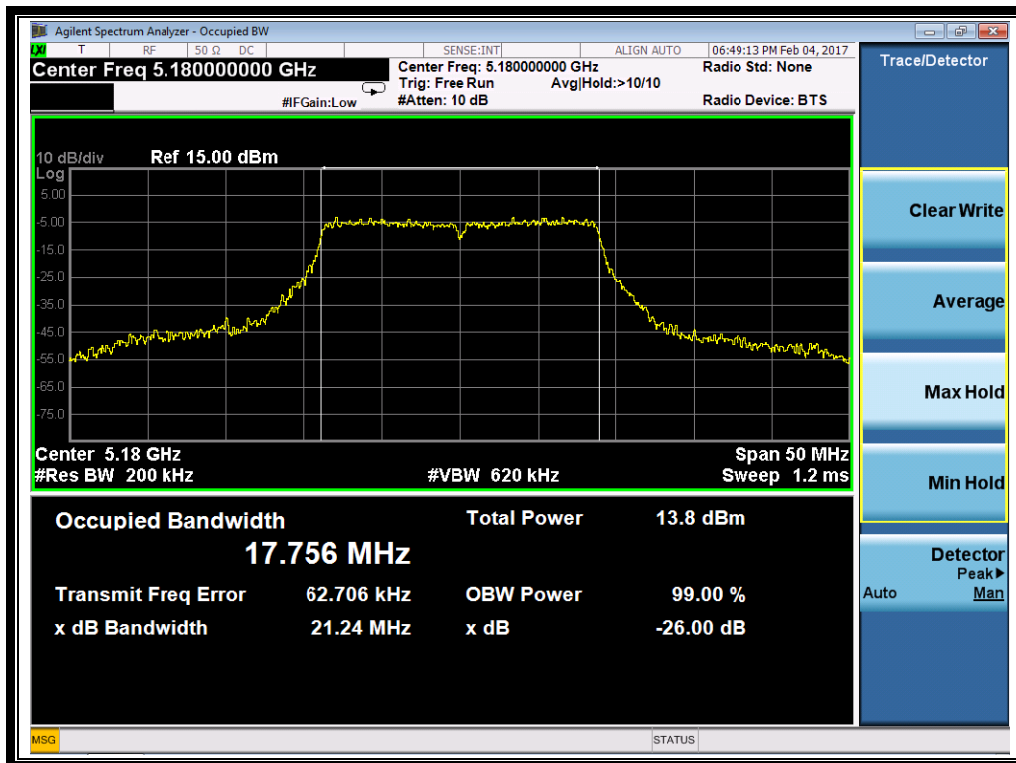
The lowest, middle and highest channels are selected to perform testing to record the 26 dB bandwidth of the Module.

**2.2.3.1 802.11ac-20MHz Test mode**

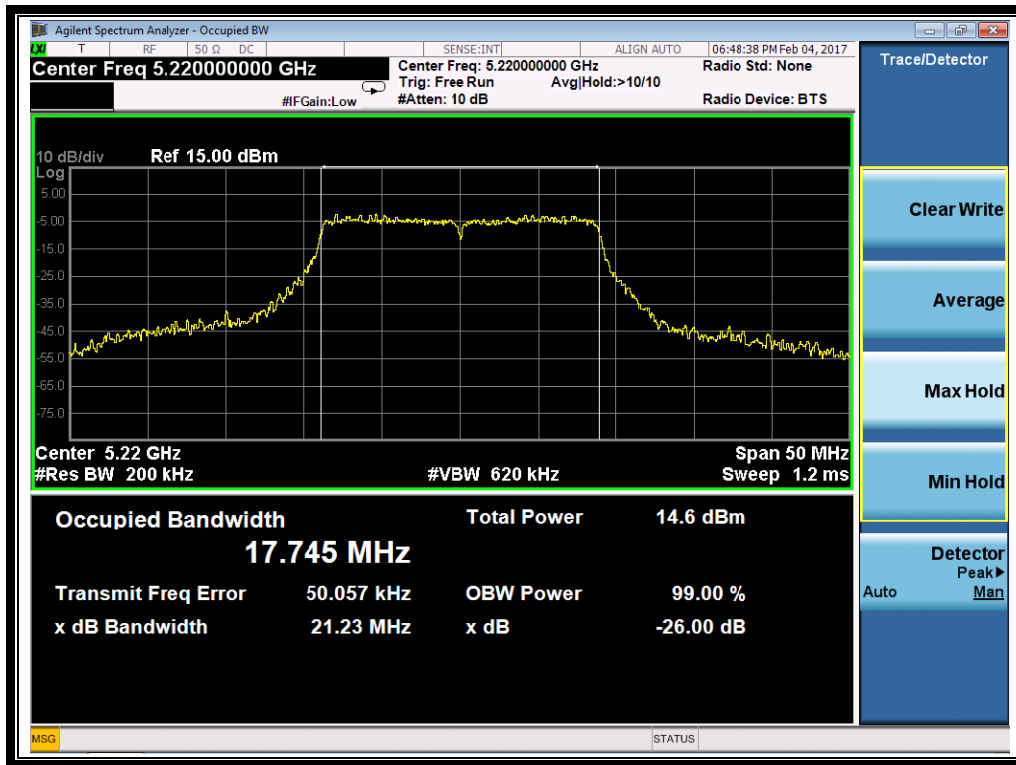
**A. Test Verdict:**

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
36	5180	21.24
44	5220	21.23
48	5240	21.29

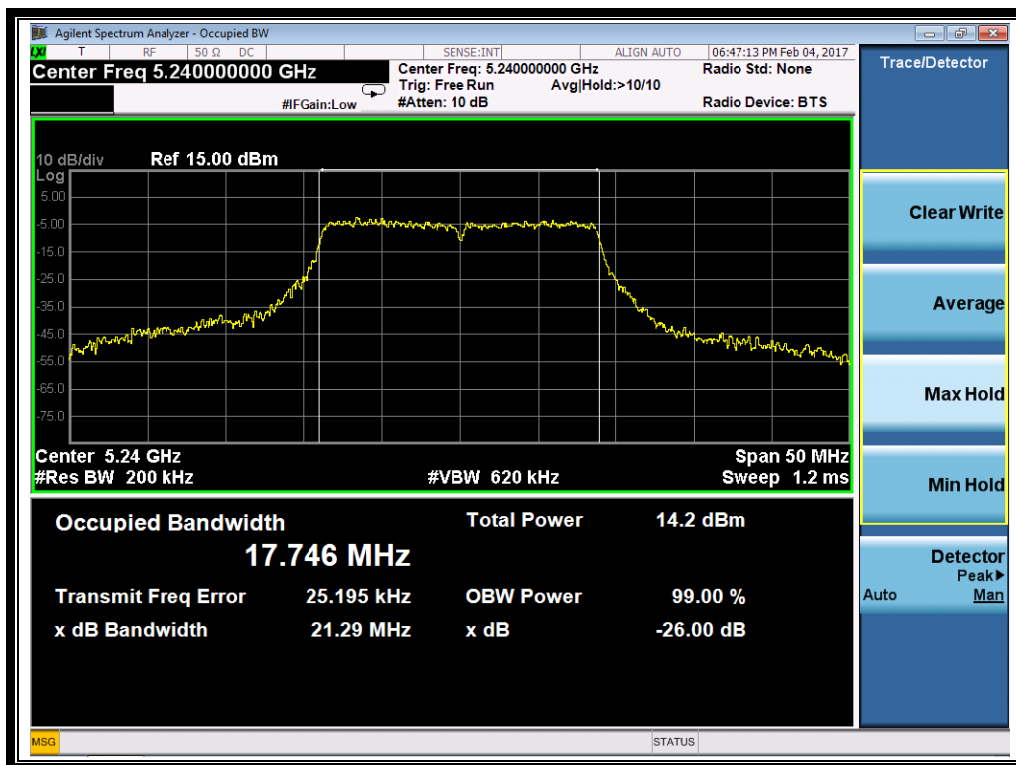
**B. Test Plots**



(Channel 36: 5180MHz @ 802.11ac)



(Channel 44: 5220 MHz @ 802.11ac)



(Channel 48: 5240MHz @ 802.11ac)

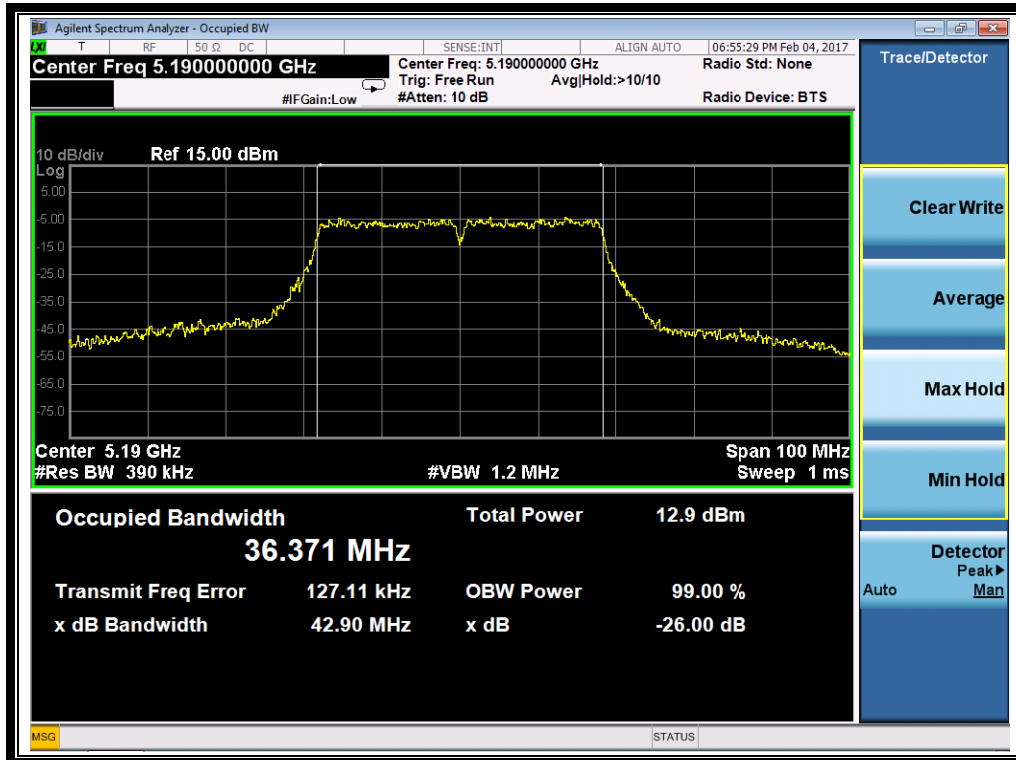


2.2.3.2 802.11ac-40MHz Test mode

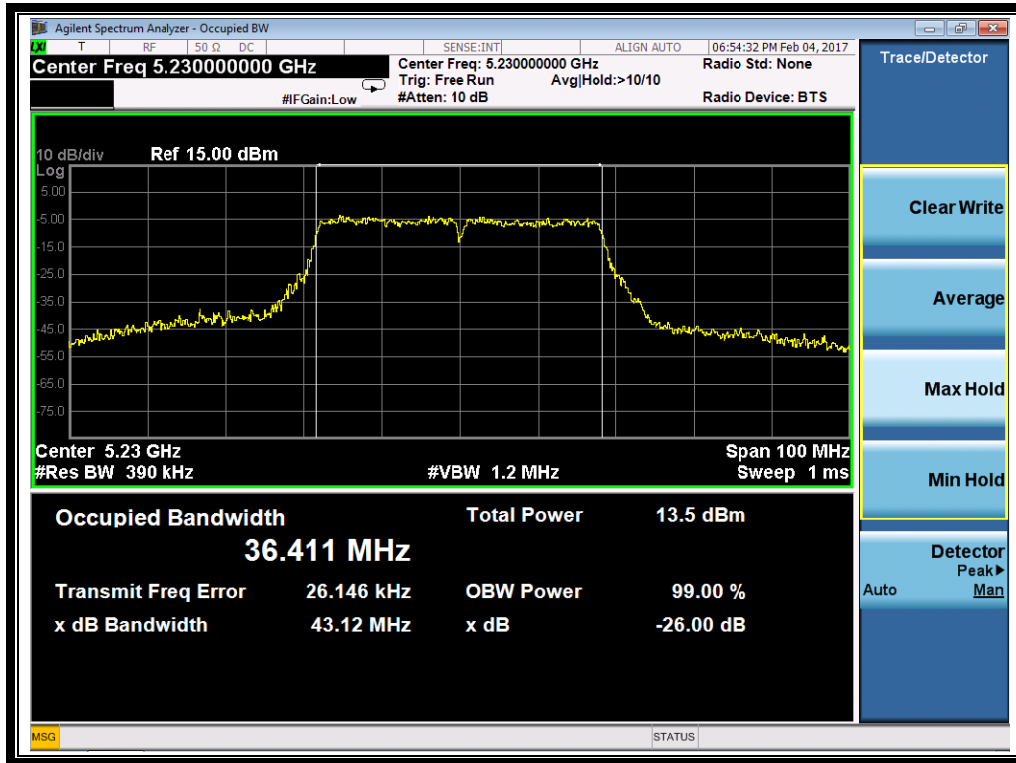
A. Test Verdict:

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
38	5190	42.90
46	5230	43.12

B. Test Plots



(Channel 38: 5190MHz @ 802.11ac)



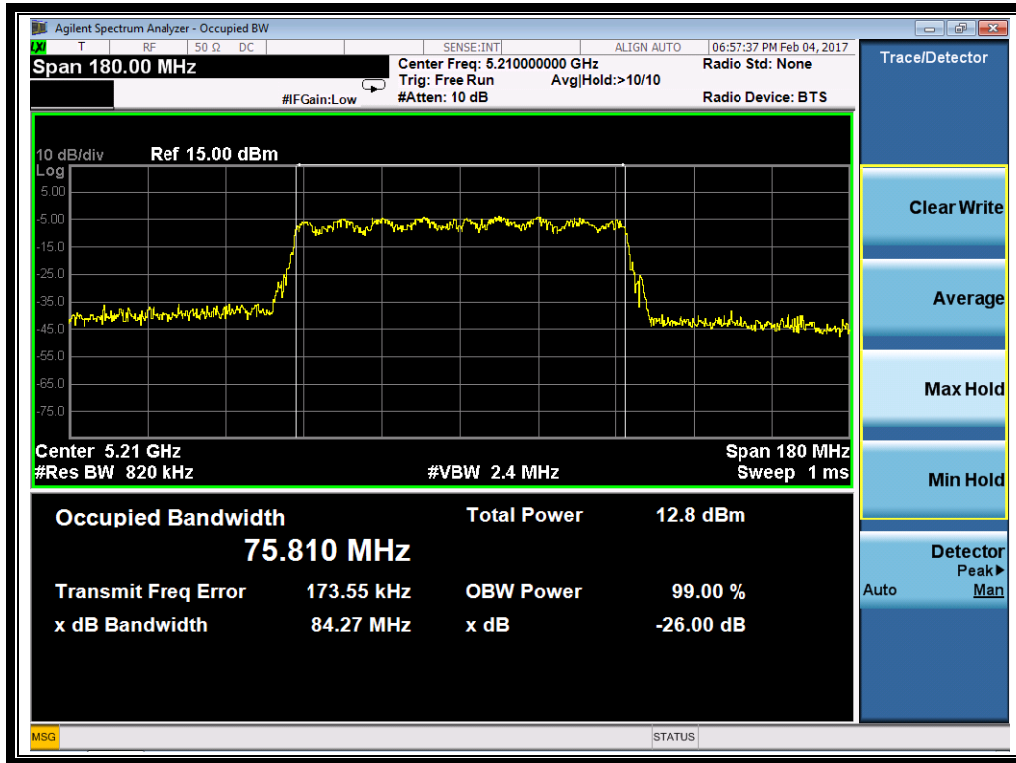
(Channel 46: 5230 MHz @ 802.11ac)

2.2.3.3 802.11ac-80MHz Test mode

A. Test Verdict:

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
42	5210	84.27

B. Test Plots



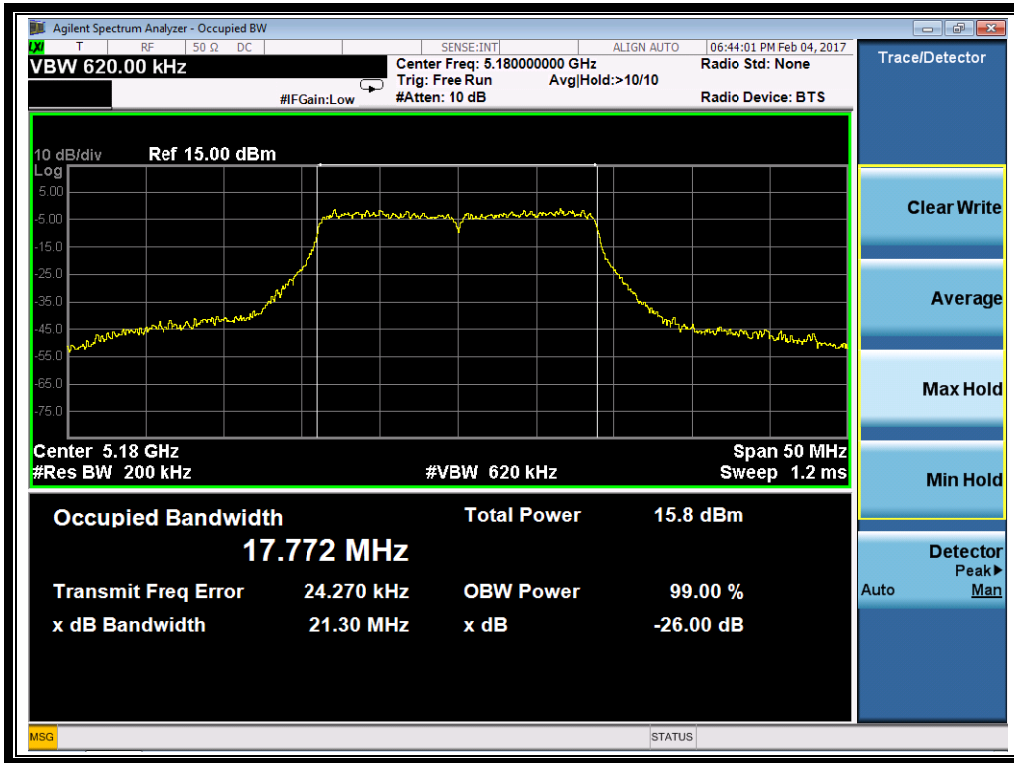
(Channel 42: 5210MHz @ 802.11ac)

2.2.3.4 802.11n-20MHz Test mode

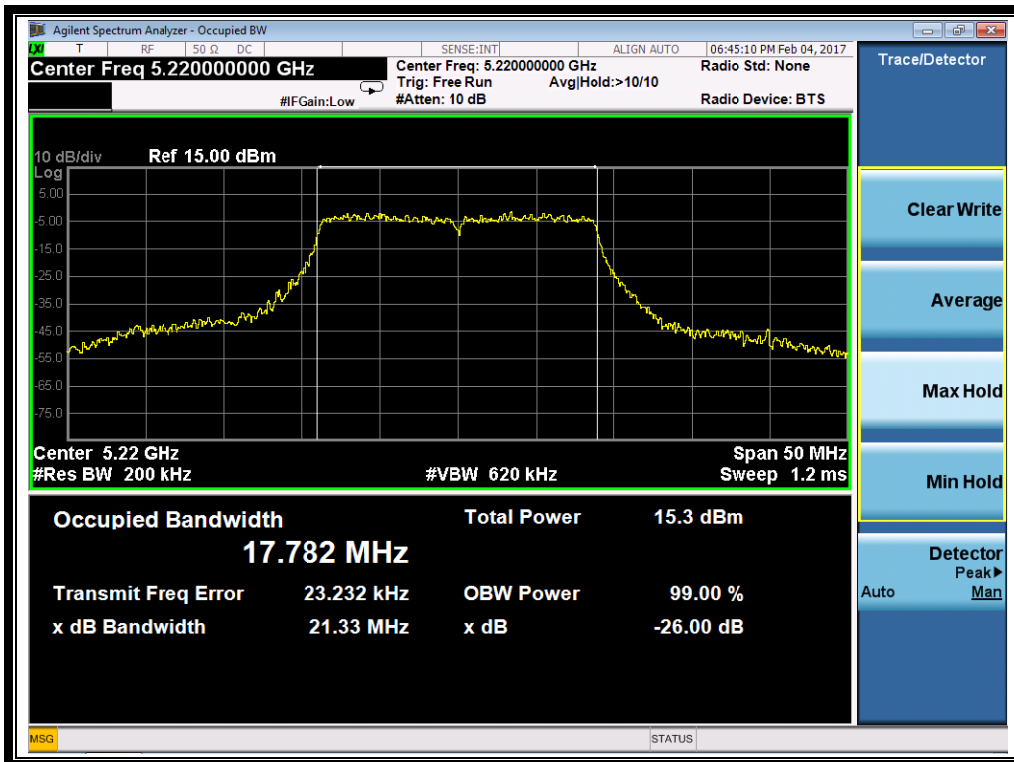
A. Test Verdict:

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
36	5180	21.30
44	5220	21.33
48	5240	21.03

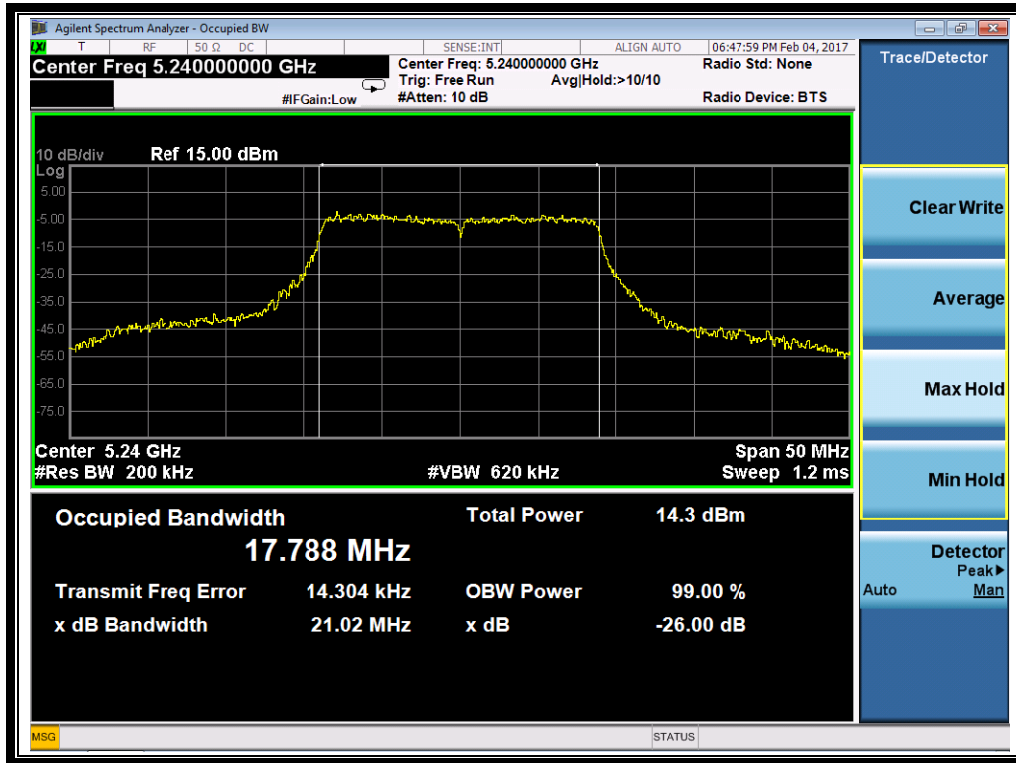
B. Test Plots



(Channel 36: 5180MHz @ 802.11n-20MHz)



(Channel 44: 5220 MHz @ 802.11n-20MHz)



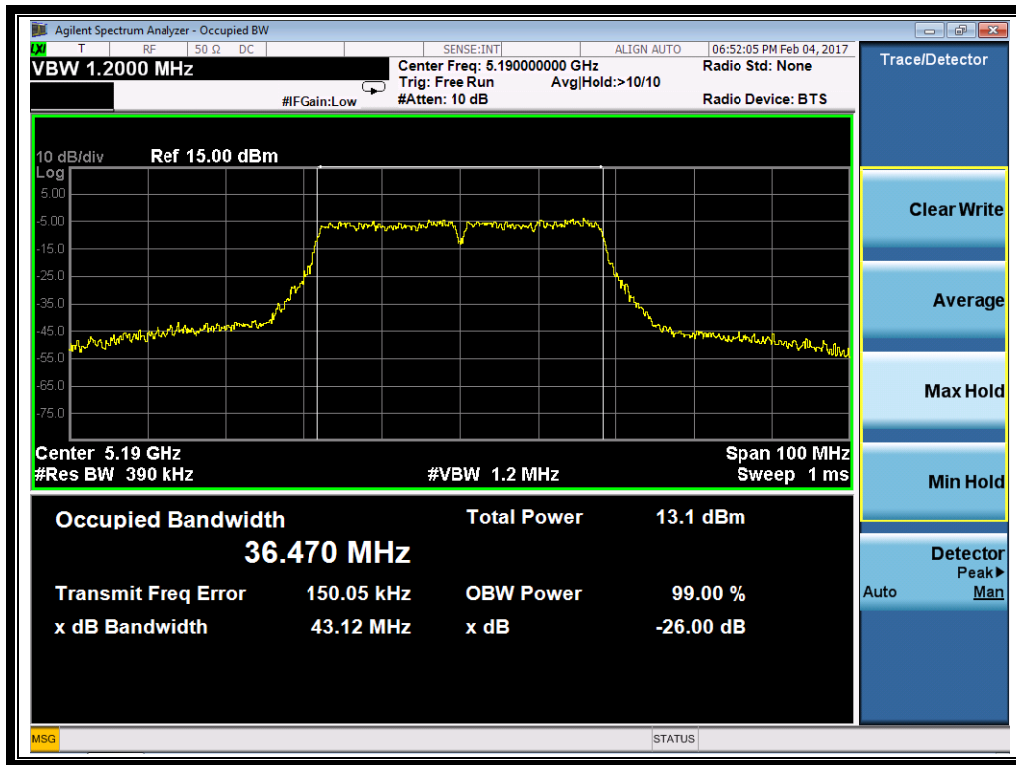
(Channel 48: 5240MHz @ 802.11n-20MHz)

### 2.2.3.5 802.11n-40MHz Test mode

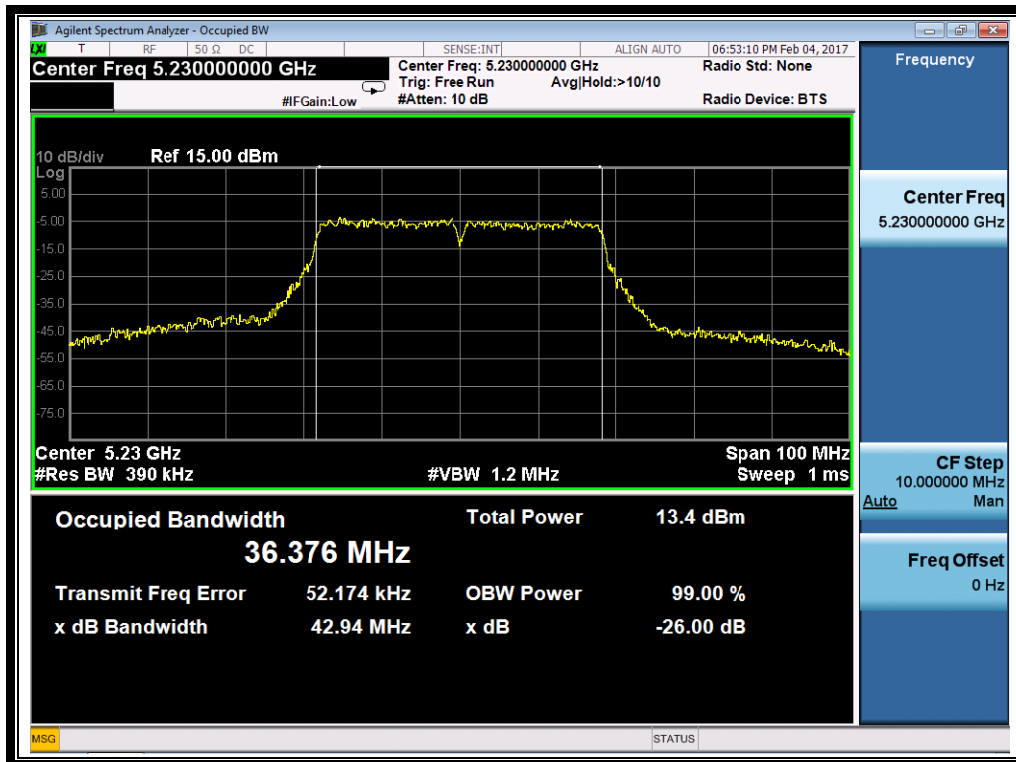
#### A. Test Verdict:

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
38	5190	43.12
46	5230	42.94

#### B. Test Plots



(Channel 38: 5190MHz @ 802.11n-40MHz)



(Channel 46: 5230 MHz @ 802.11n-40MHz)





**2.2.4 Test Result**

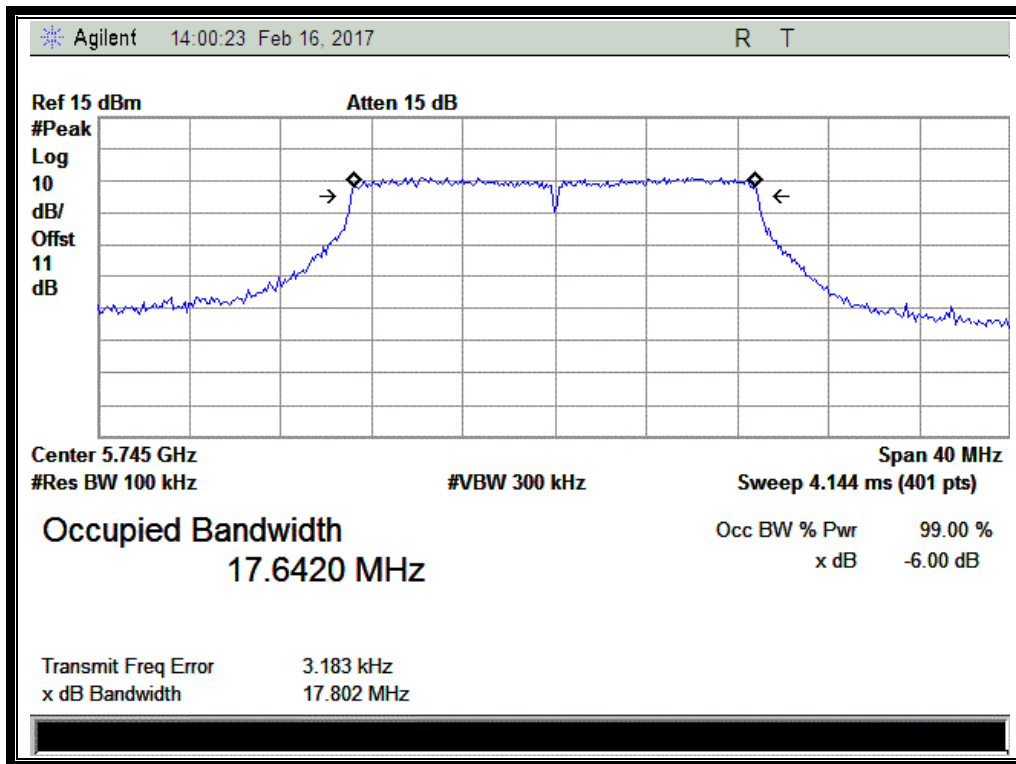
The lowest, middle and highest channels are selected to perform testing to record the 6 dB bandwidth of the Module.

**2.2.4.1 802.11ac-20MHz Test mode**

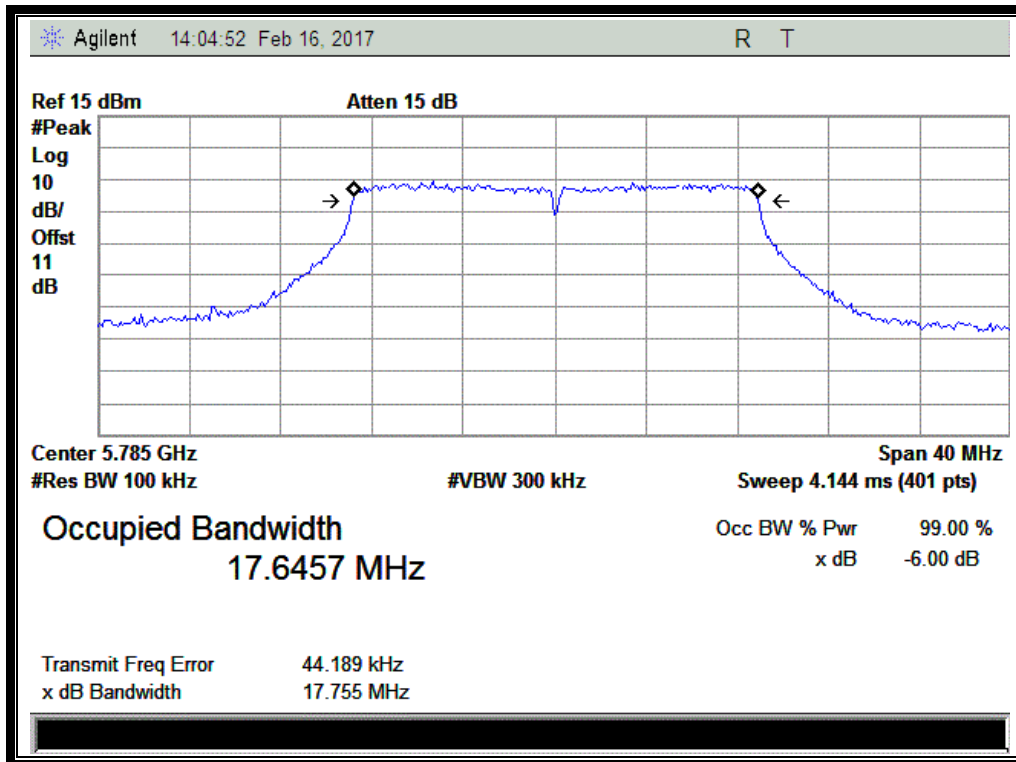
**A. Test Verdict:**

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
149	5745	17.802
157	5785	17.755
165	5825	17.759

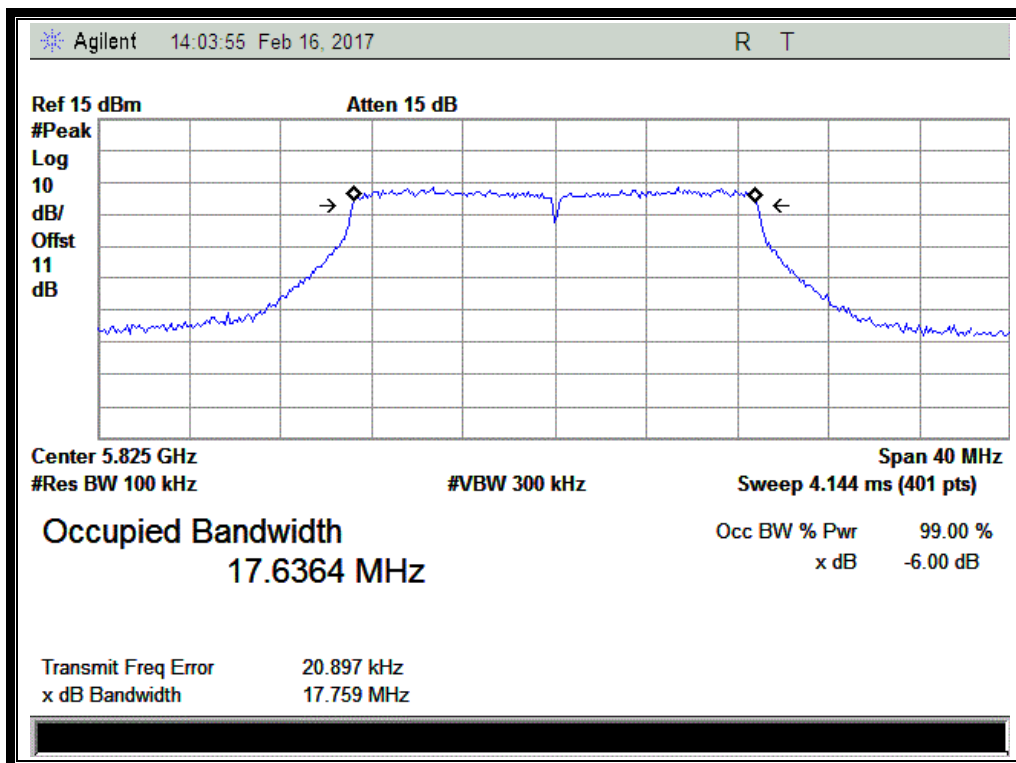
**B. Test Plots**



(Channel 149: 5745MHz @ 802.11ac)



(Channel 157: 5785 MHz @ 802.11ac)



(Channel 165: 5825MHz @ 802.11ac)

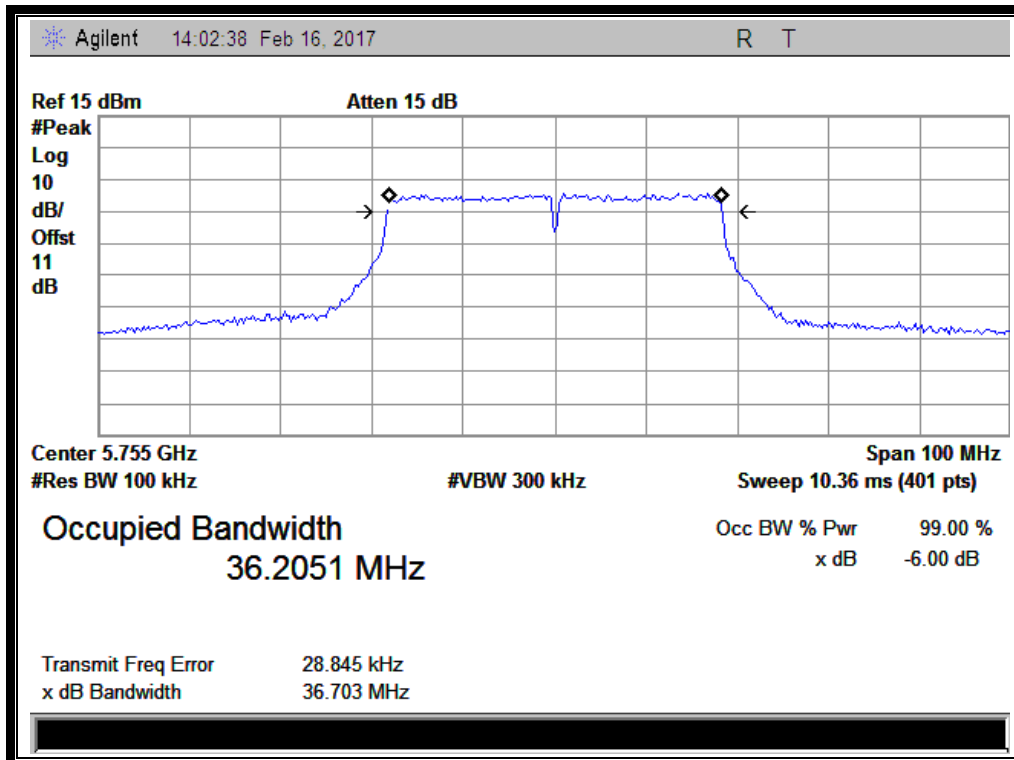


2.2.4.2 802.11ac-40MHz Test mode

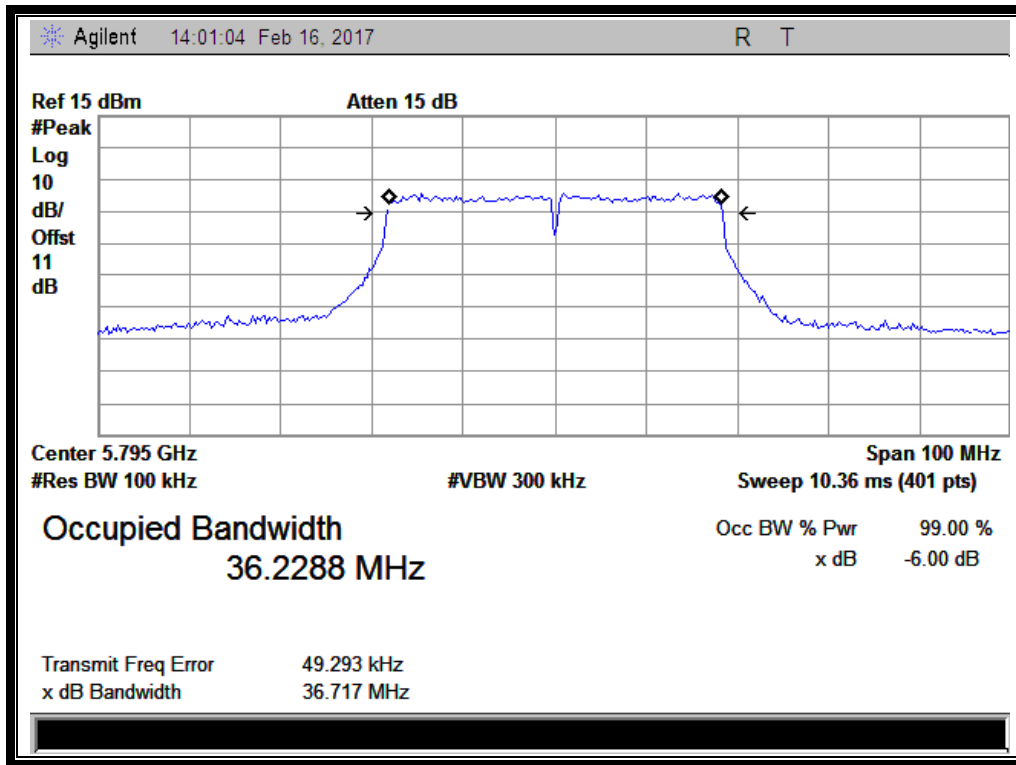
A. Test Verdict:

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
151	5755	36.703
159	5795	36.717

B. Test Plots



(Channel 151: 5755MHz @ 802.11ac)



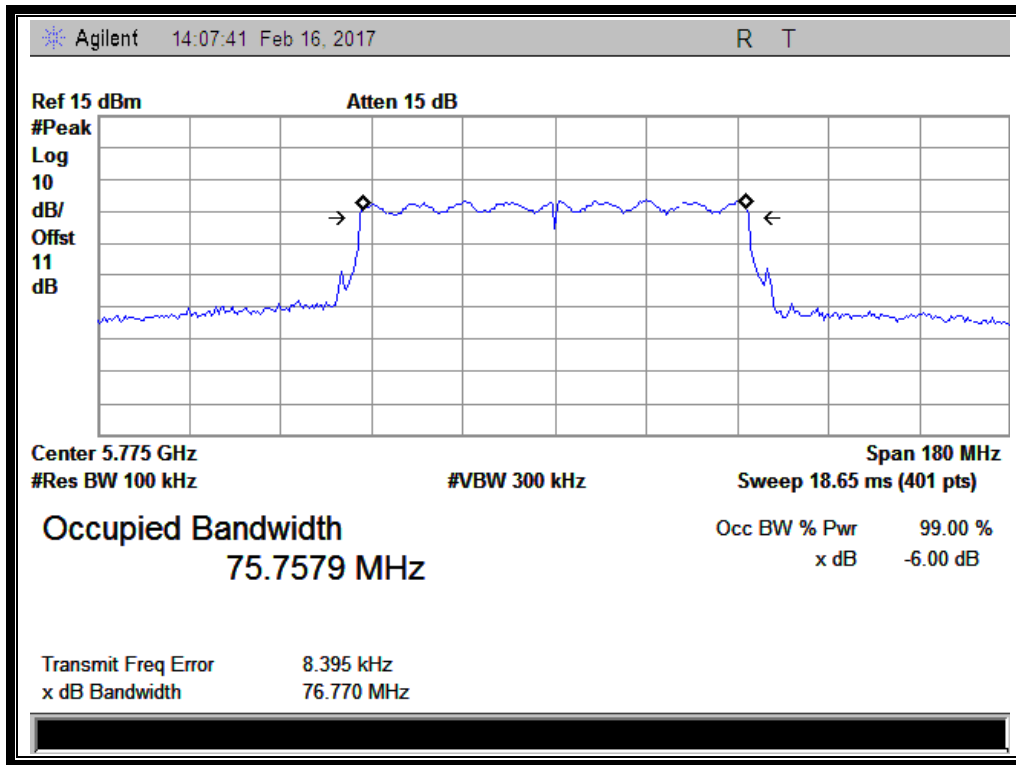
(Channel 159: 5795 MHz @ 802.11ac)

2.2.4.3 802.11ac-80MHz Test mode

A. Test Verdict:

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
155	5775	76.77

B. Test Plots



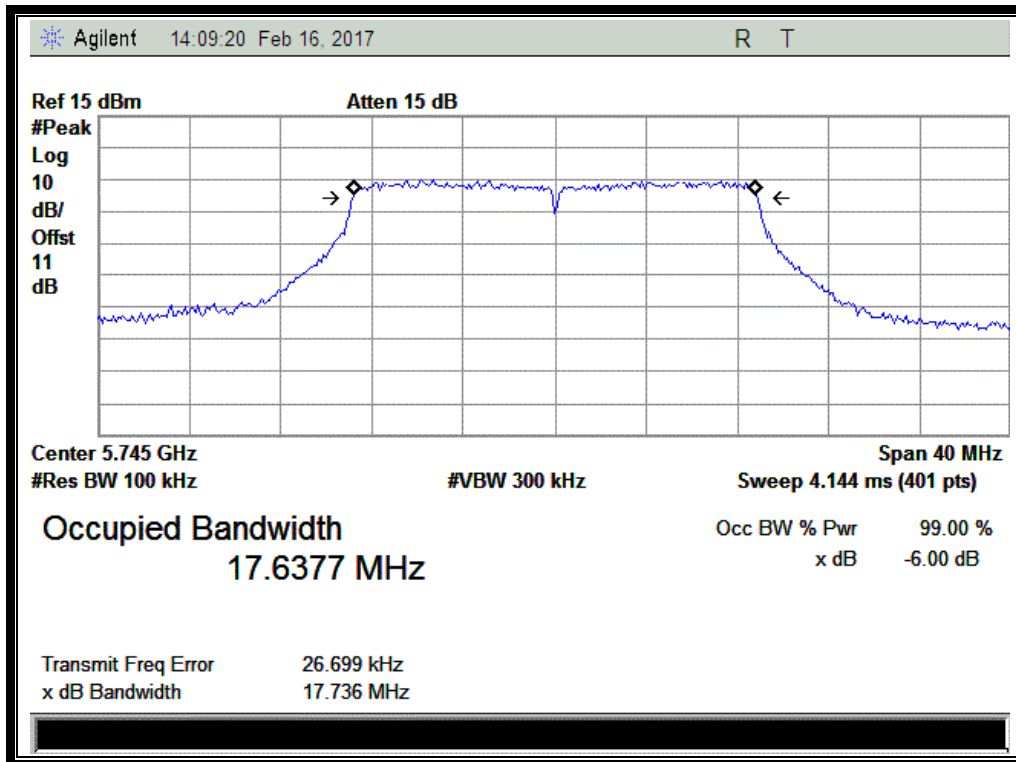
(Channel 155: 5775MHz @ 802.11ac)

2.2.4.4 802.11n-20MHz Test mode

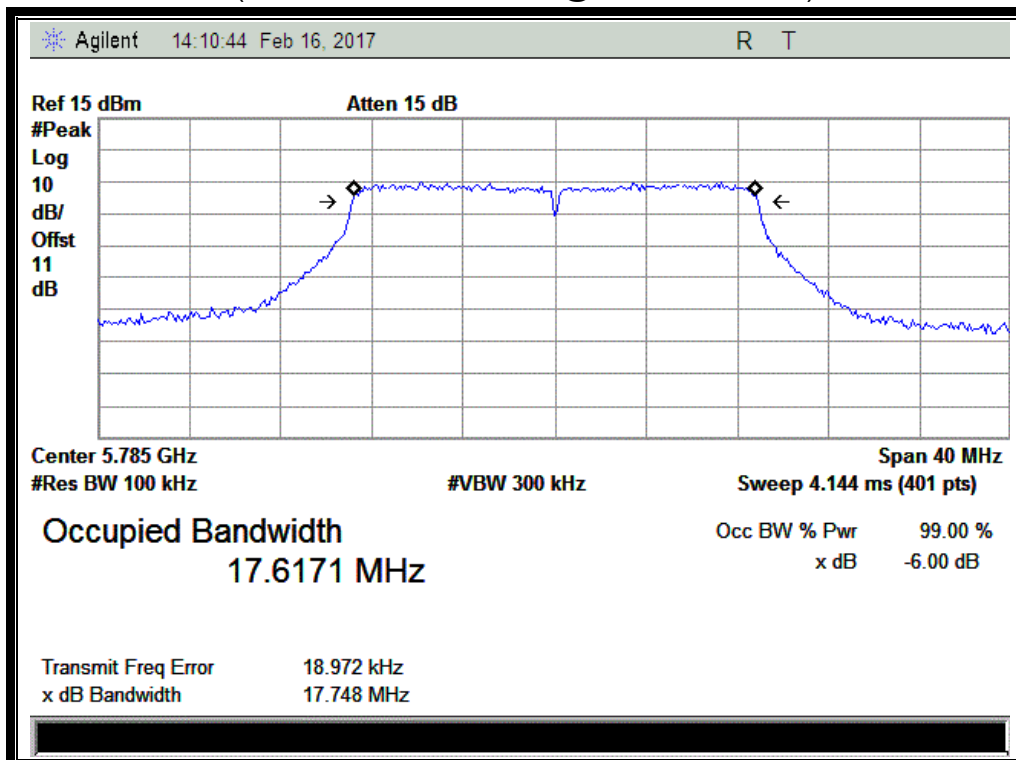
A. Test Verdict:

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
149	5745	17.736
157	5785	17.748
165	5825	17.796

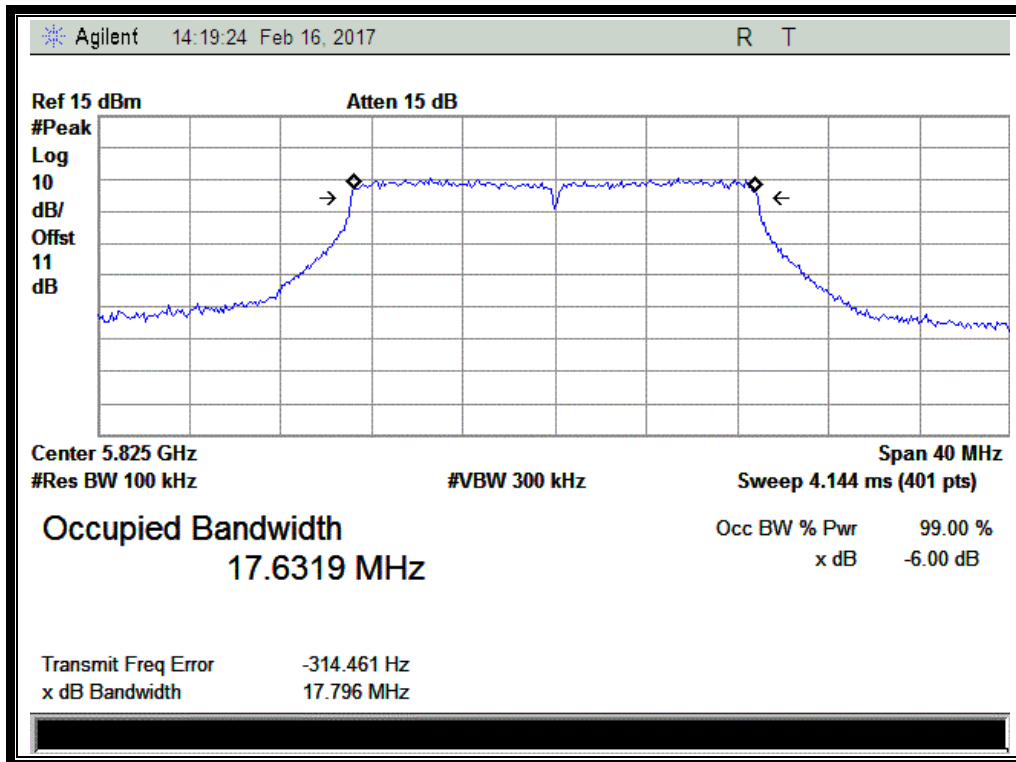
B. Test Plots



(Channel 149: 5745MHz @ 802.11n-20MHz)



(Channel 157: 5785 MHz @ 802.11n-20MHz)



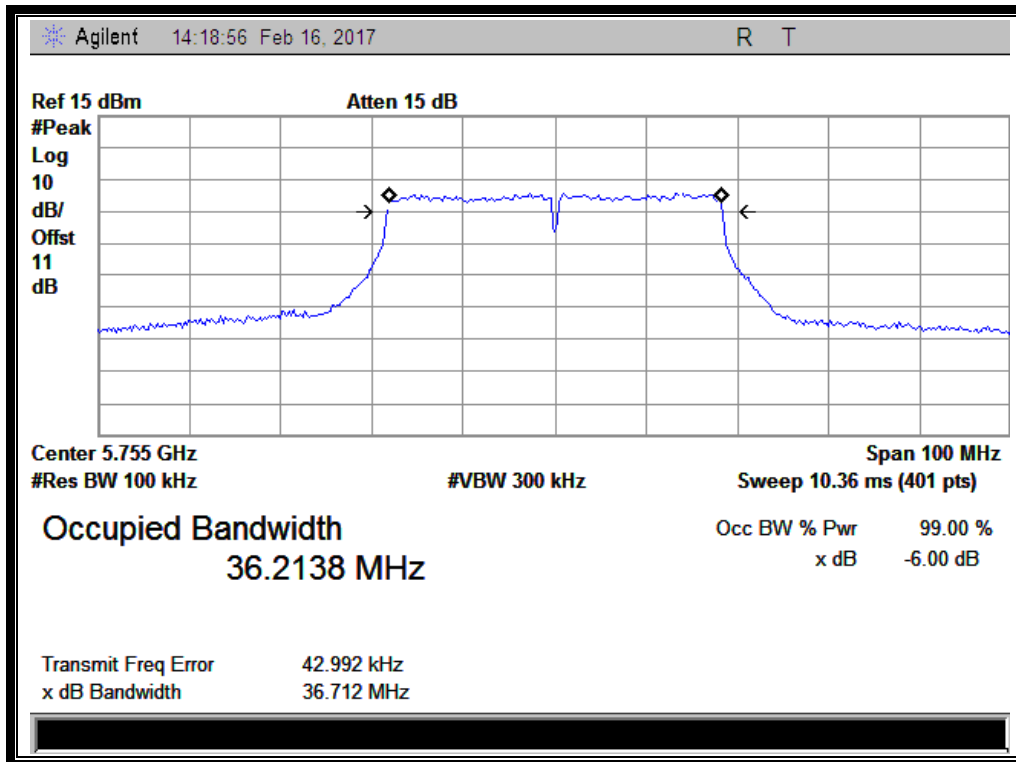
(Channel 165: 5825MHz @ 802.11n-20MHz)

2.2.4.5 802.11n-40MHz Test mode

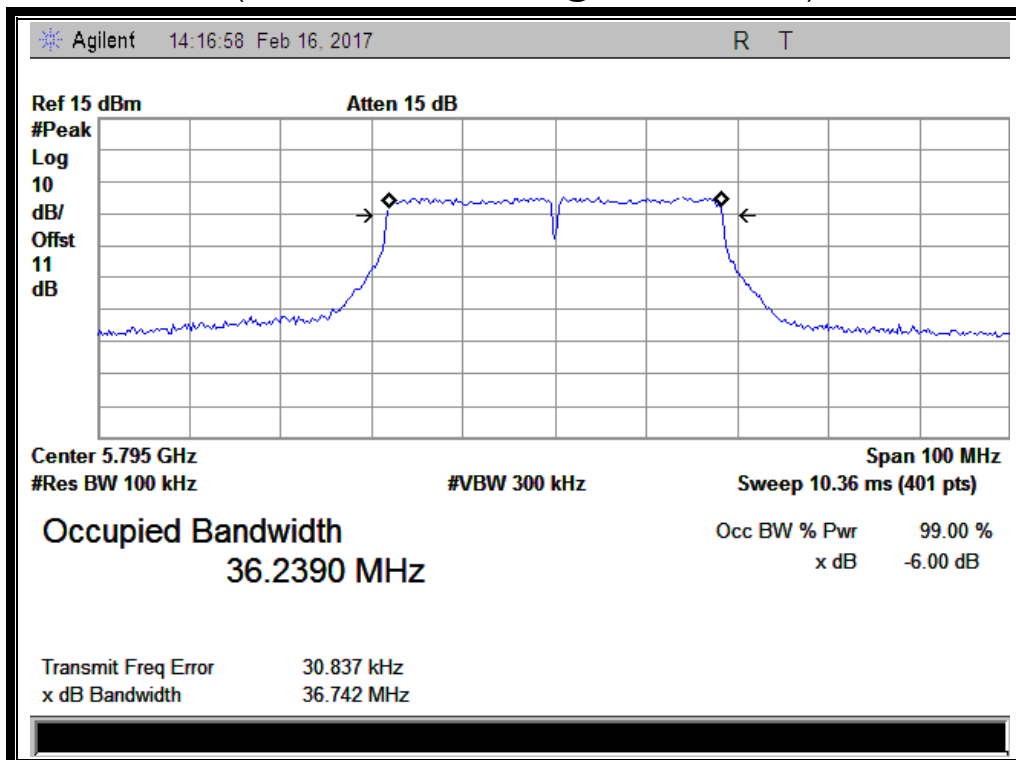
A. Test Verdict:

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
151	5755	36.712
159	5795	36.742

B. Test Plots



(Channel 151: 5755MHz @ 802.11n-40MHz)



(Channel 159: 5795 MHz @ 802.11n-40MHz)



## 2.3 Maximum conducted output Power

### 2.3.1 Requirement

(1) 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.

(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 250mW or 11dBm + 10log B, where B is the 26 dB emission bandwidth in megahertz.

(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.

*If transmitting antennas of directional gain greater than 6dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.*

### 2.3.2 Test Description

Section E) 3) of KDB 789033 defines a methodology using an RF average power meter.

#### A. Test Setup:



The EUT (Equipment under the test) which is powered by the Battery is coupled to the Power Meter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading, all test result in power meter.

### 2.3.3 Test Result

#### 2.3.3.1 802.11ac-20MHz Test mode

Channel	Frequency (MHz)	Measured Output Power(dBm)	Limit (dBm)	Verdict
36	5180	8.09	24	PASS
44	5220	8.15		
48	5240	8.19		
149	5745	6.51	30	
157	5785	5.85		
165	5825	5.71		

**2.3.3.2 802.11ac-40MHz Test mode**

Channel	Frequency (MHz)	Measured Output Power(dBm)	Limit (dBm)	Verdict
38	5190	8.18	24	PASS
46	5230	8.15		
151	5755	7.05	30	
159	5795	6.95		

**2.3.3.3 802.11ac-80MHz Test mode**

Channel	Frequency (MHz)	Measured Output Power(dBm)	Limit (dBm)	Verdict
42	5210	8.06	24	PASS
155	5775	6.91	30	

**2.3.3.4 802.11n-20MHz Test mode**

Channel	Frequency (MHz)	Measured Output Power(dBm)	Limit (dBm)	Verdict
36	5180	8.17	24	PASS
44	5220	8.19		
48	5240	8.14		
149	5745	5.93	30	
157	5782	5.37		
165	5825	5.50		

**2.3.3.5 802.11n-40MHz Test mode**

Channel	Frequency (MHz)	Measured Output Power(dBm)	Limit (dBm)	Verdict
38	5190	7.92	24	PASS
46	5230	8.21		
151	5755	6.81	30	
159	5795	6.71		

## 2.4 Peak Power spectral density

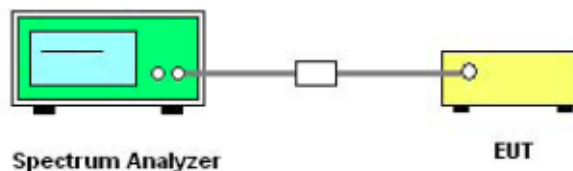
### 2.4.1 Requirement

- (1) 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.
- (2) For the 5.25–5.35 GHz and 5.47–5.725GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.
- (3) For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500KHz band.

*If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.*

### 2.4.2 Test Description

#### A. Test Set:



The EUT which is powered by the Battery, is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

#### B. Test Procedure

KDB 789033 Section F) Maximum Power Spectral Density (PSD) Method SA-1 was used in order to prove compliance

- 1) Set span to encompass the entire 26-dB emission bandwidth
- 2) Set RBW = 1 MHz. Set VBW  $\geq$  3 MHz.
- 3) Number of points in sweep  $\geq$  2 Span / RBW. Sweep time = auto.
- 4) Detector = RMS (i.e., power averaging)
- 5) Trace average at least 100 traces in power averaging (i.e., RMS) mode
- 6) Record the max value



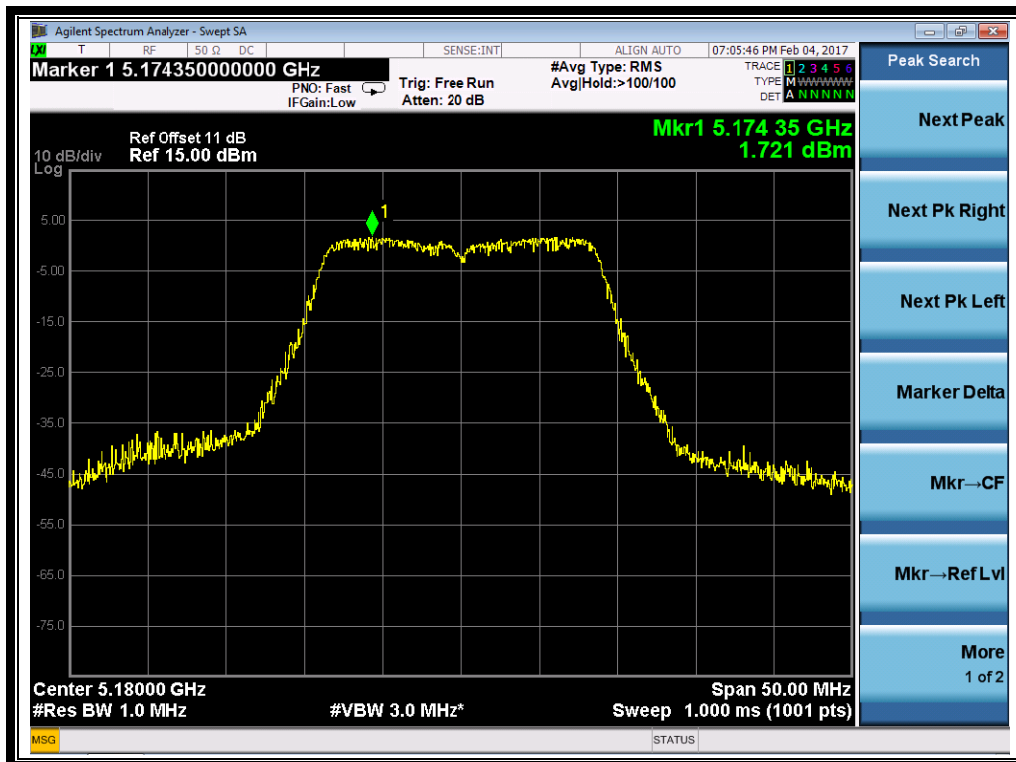
2.4.3 Test Result

2.4.3.1 802.11ac-20MHz Test mode

A. Test Verdict:

Channel	Frequency (MHz)	Measured PPSD (dBm)	Limit (dBm)	Verdict
36	5180	1.721	11	PASS
44	5220	2.161		
48	5240	2.024		
149	5745	-2.047	30	
157	5785	-3.560		
165	5825	-3.607		

B. Test Plots:



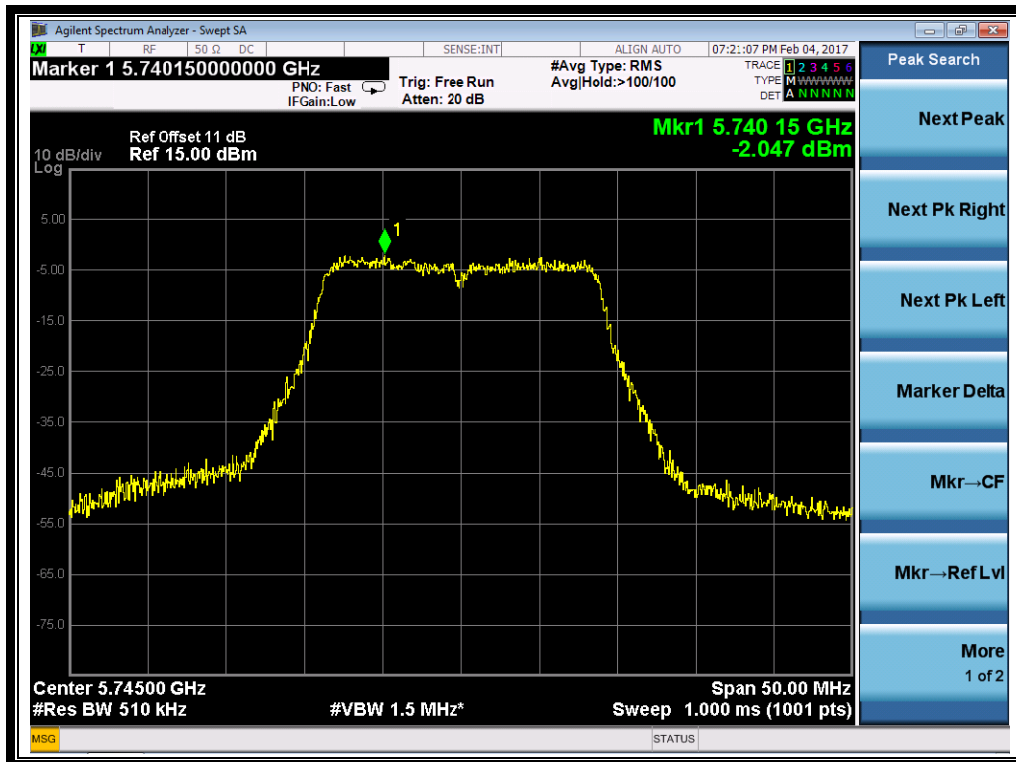
(Channel 36: 5180MHz @ 802.11ac)



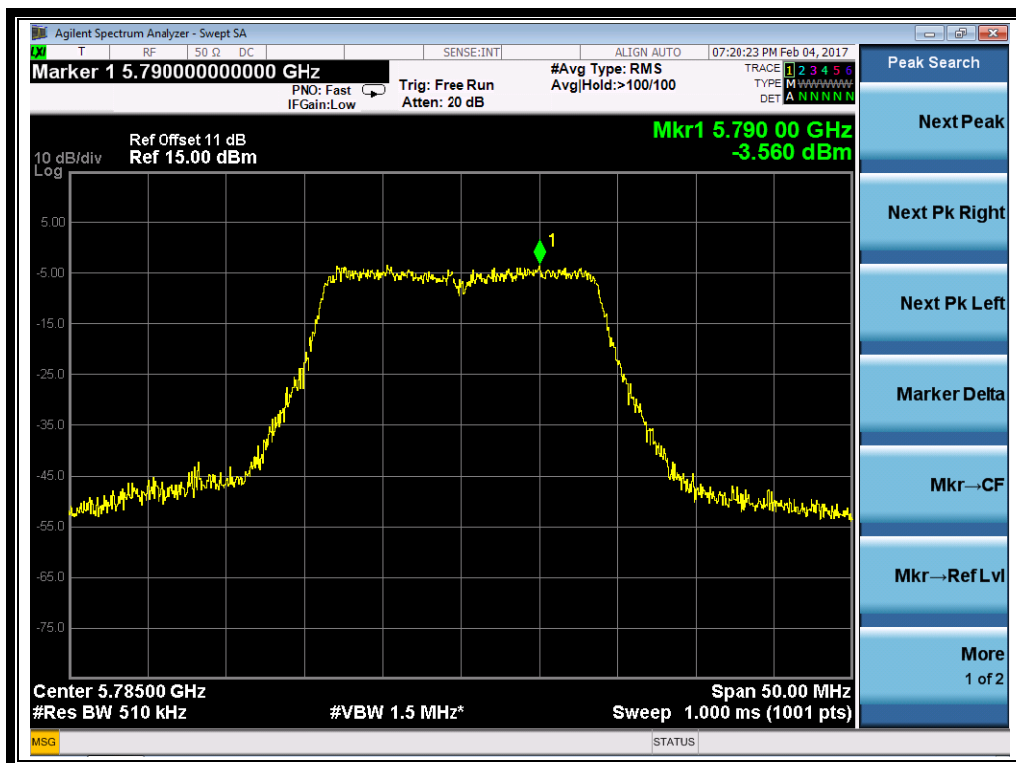
(Channel 44: 5220 MHz @ 802.11ac)



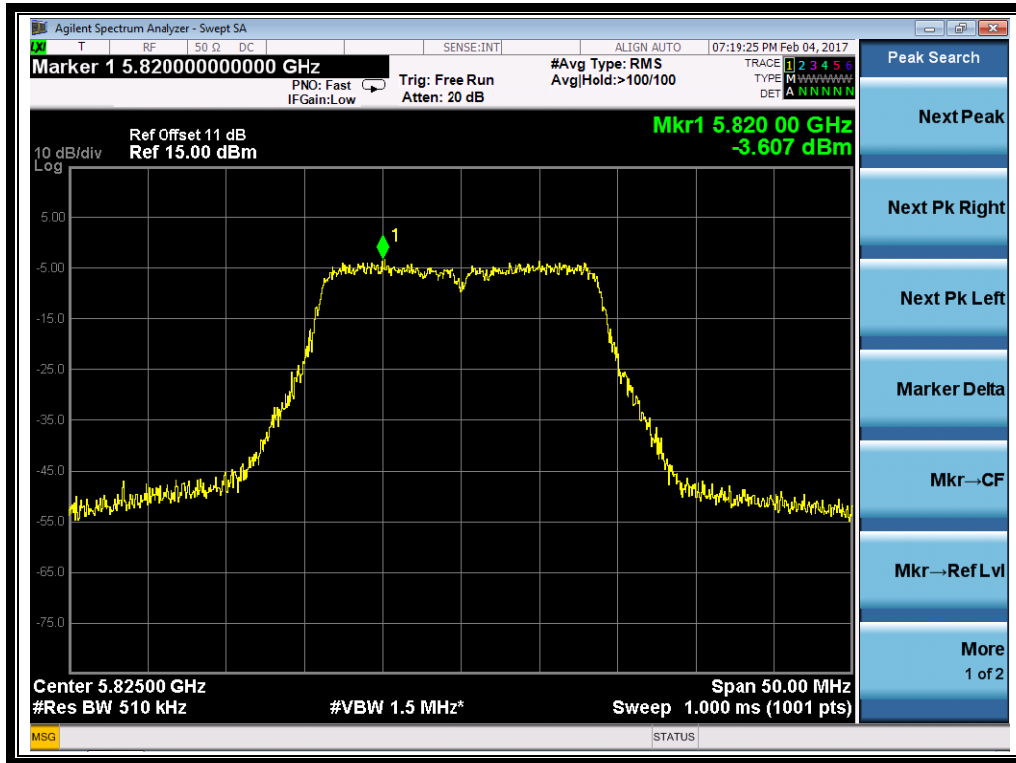
(Channel 48: 5240MHz @ 802.11ac)



(Channel 149: 5745MHz @ 802.11ac)



(Channel 157: 5785MHz @ 802.11ac)



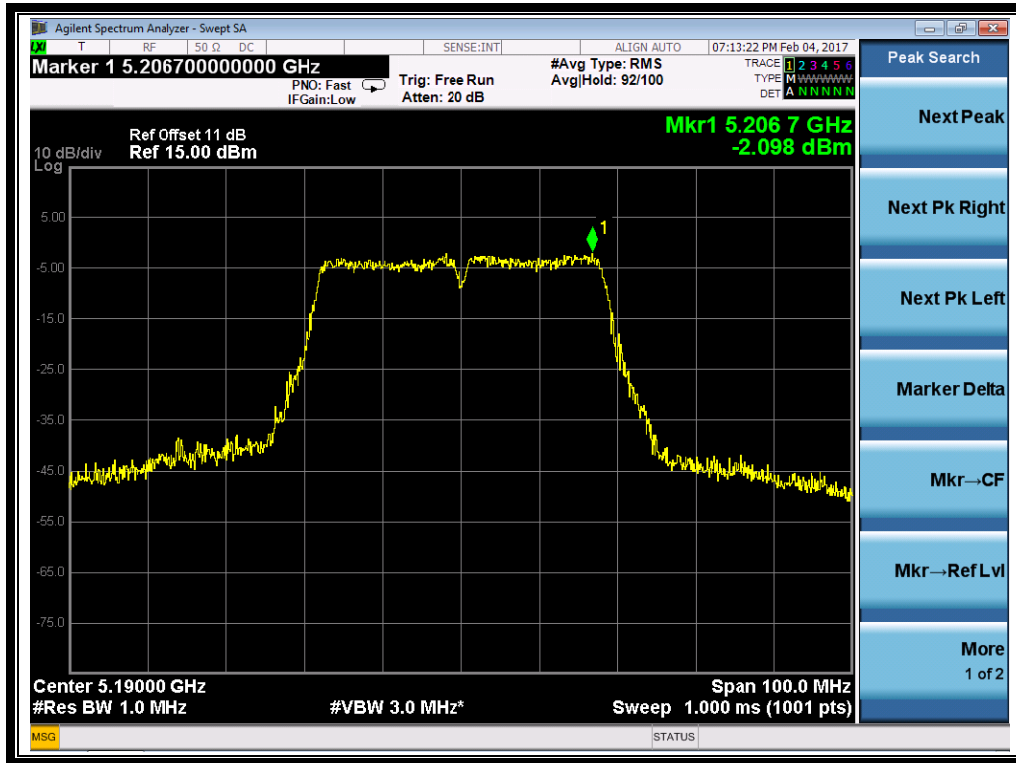
(Channel 165: 5825MHz @ 802.11ac)

2.4.3.2 802.11ac-40MHz Test mode

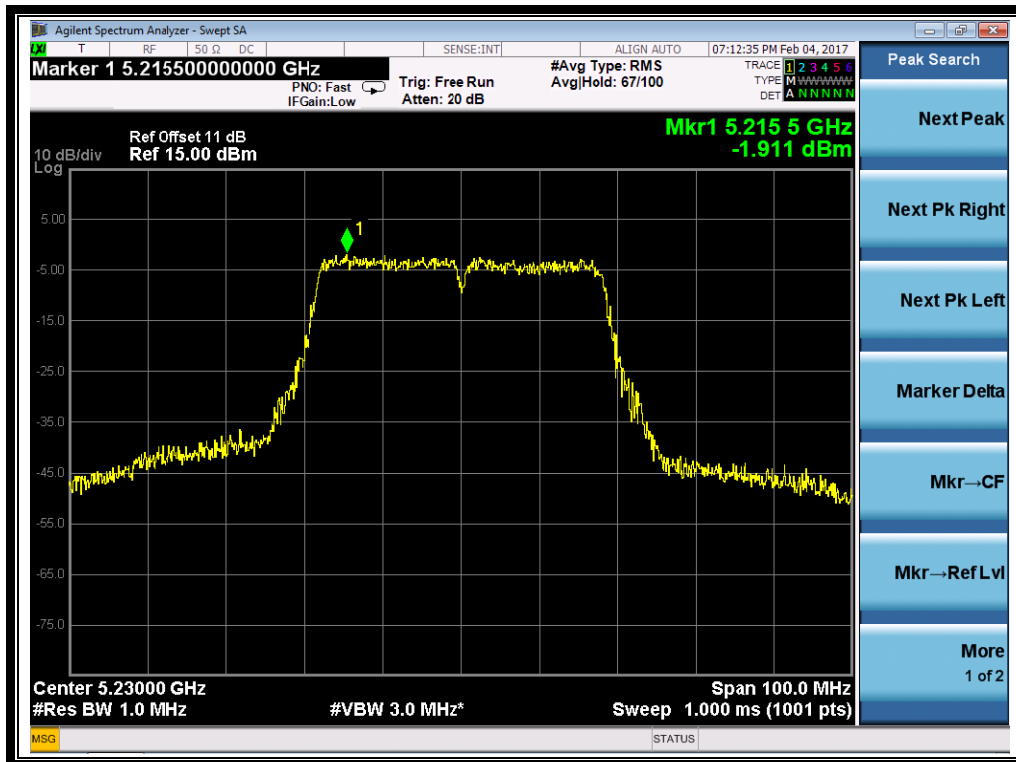
A. Test Verdict:

Channel	Frequency (MHz)	Measured PPSD (dBm)	Limit (dBm)	Verdict
38	5190	-2.098	11	PASS
46	5230	-19.11		
151	5755	-6.264	30	
159	5795	-7.447		

B. Test Plots:

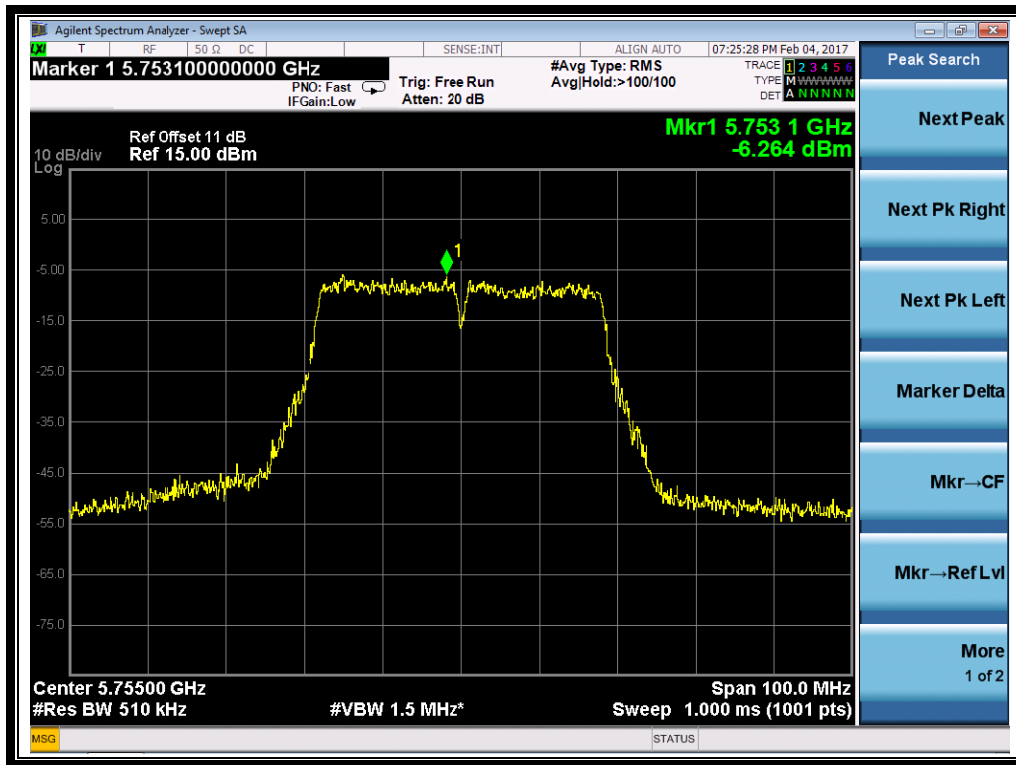


(Channel 38: 5190MHz @ 802.11ac)

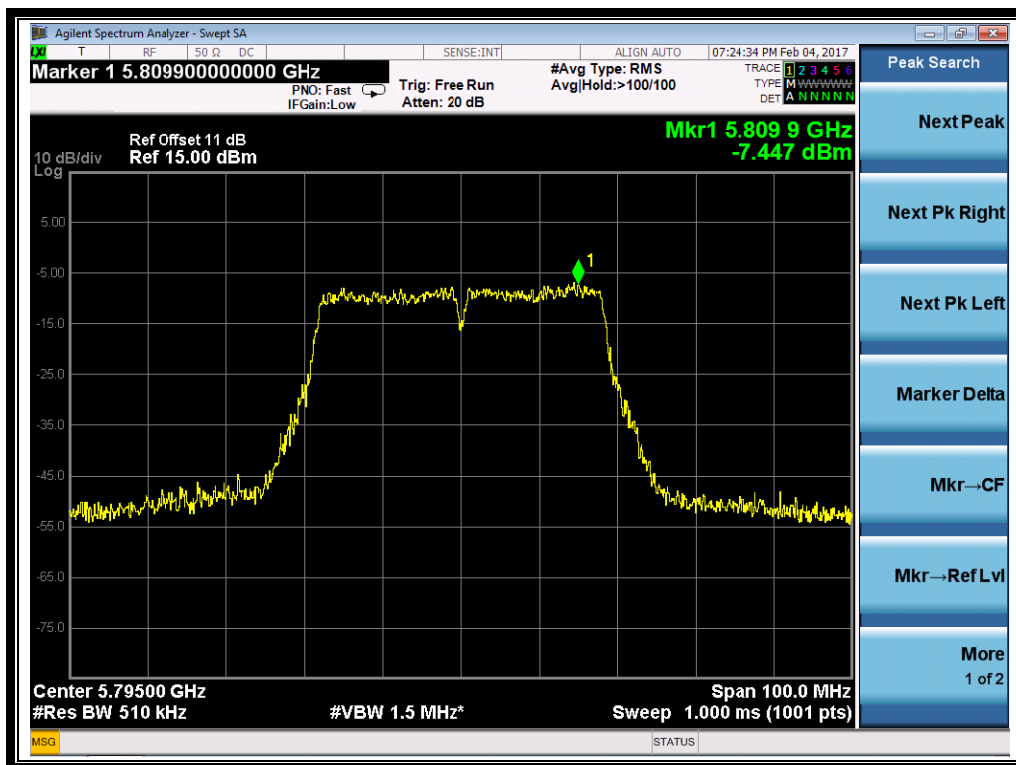


(Channel 46: 5230 MHz @ 802.11ac)





(Channel 151: 5755MHz @ 802.11ac)



(Channel 159: 5795MHz @ 802.11ac)

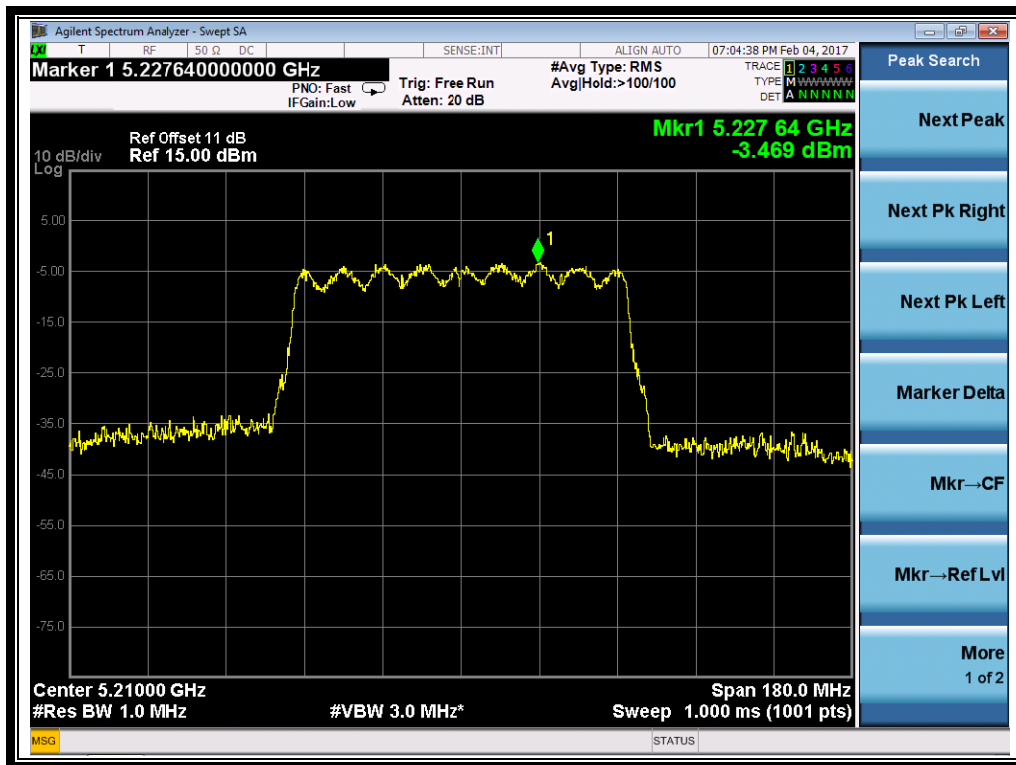


2.4.3.3 802.11ac-80MHz Test mode

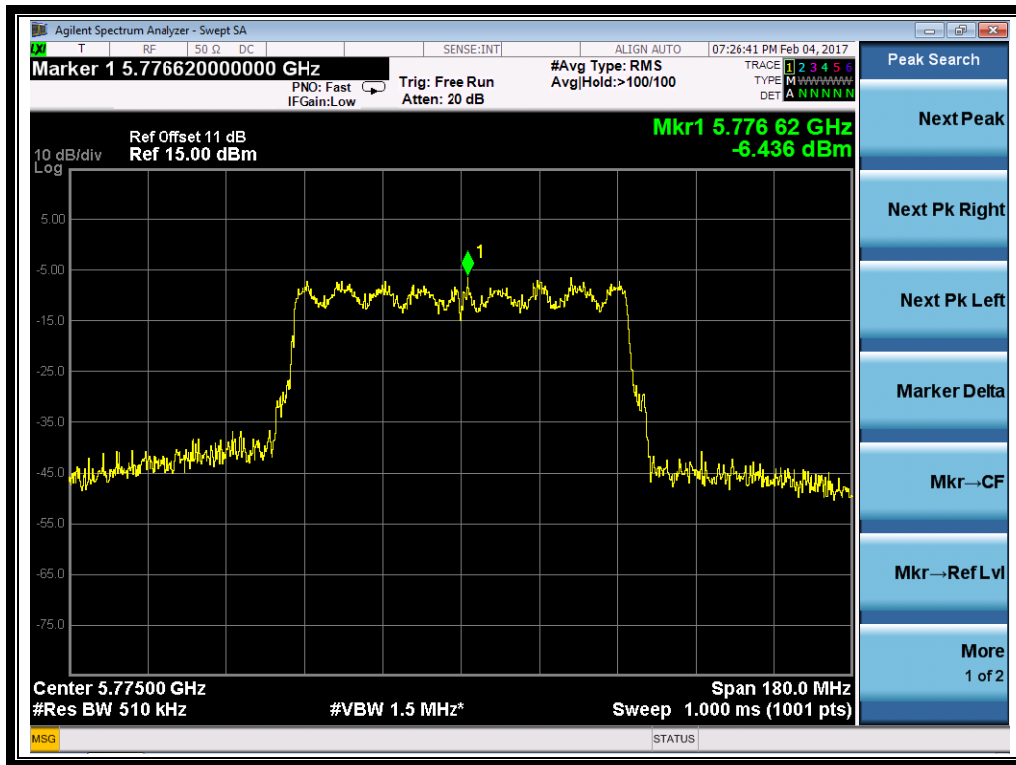
A. Test Verdict:

Channel	Frequency (MHz)	Measured PPSD (dBm)	Limit (dBm)	Verdict
42	5210	-3.469	11	PASS
155	5775	-6.436	30	

B. Test Plots:



(Channel 42: 5210MHz @ 802.11ac)



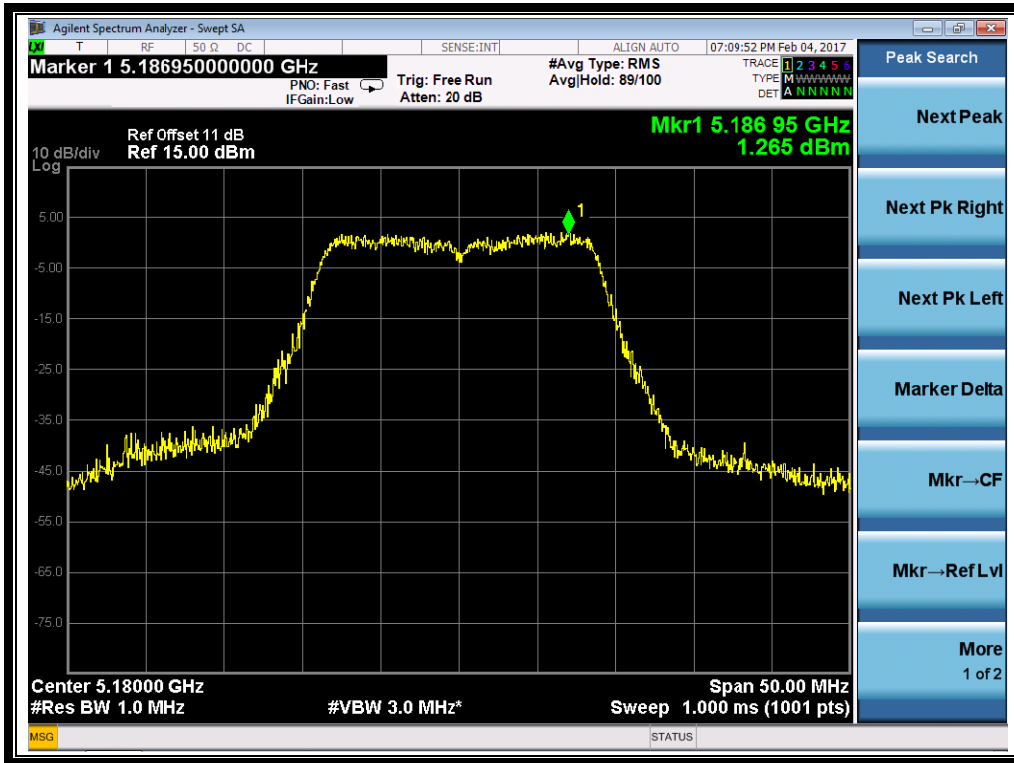
(Channel 155: 5775MHz @ 802.11ac)

2.4.3.4 802.11n-20MHz Test mode

A. Test Verdict:

Channel	Frequency (MHz)	Measured PPSD (dBm)	Limit (dBm)	Verdict
36	5180	1.265	11	PASS
44	5220	1.860		
48	5240	1.643		
149	5745	-1.569	30	
157	5785	-2.558		
165	5825	-3.337		

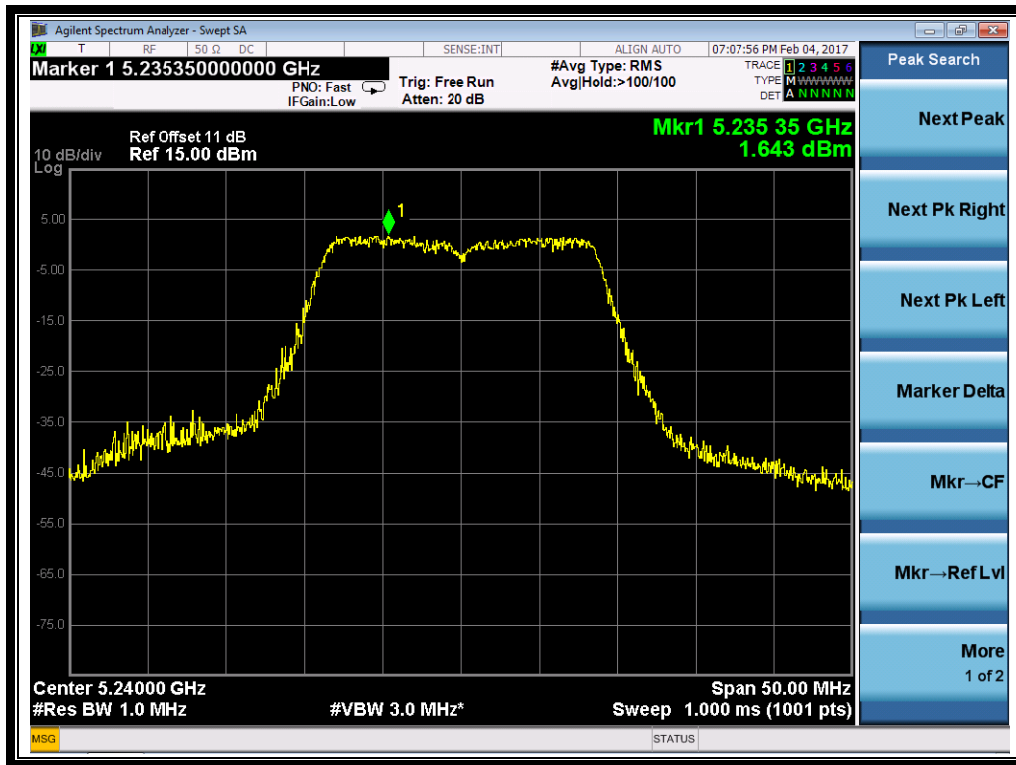
B. Test Plots:



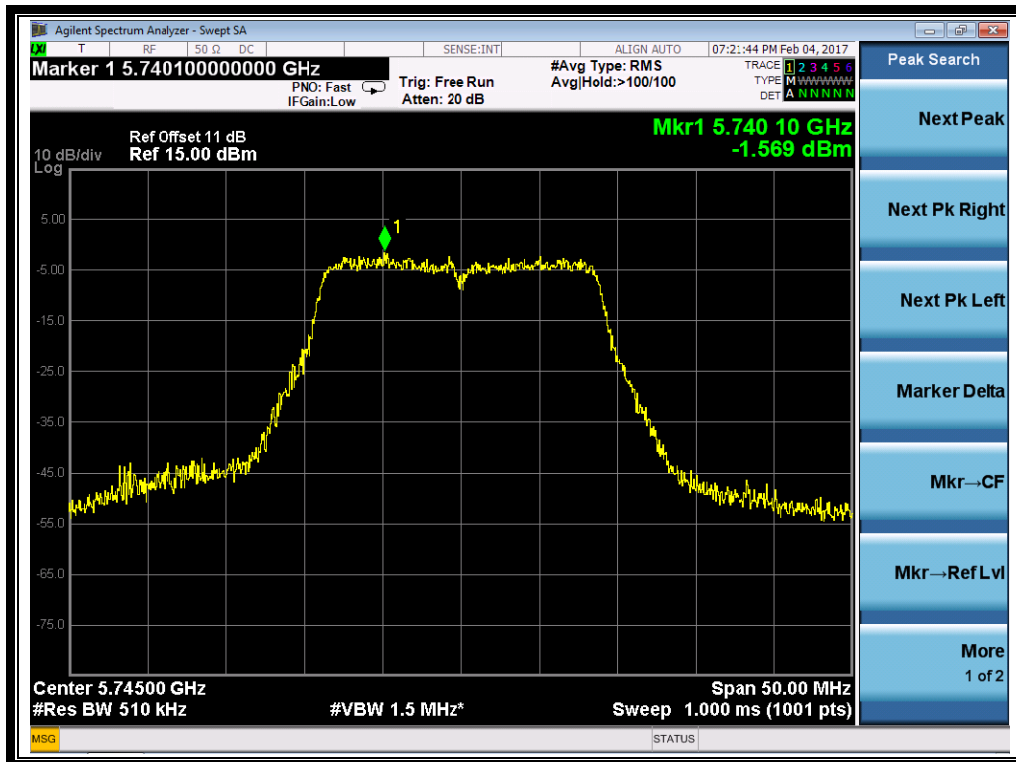
(Channel 36: 5180MHz @ 802.11n-20MHz)



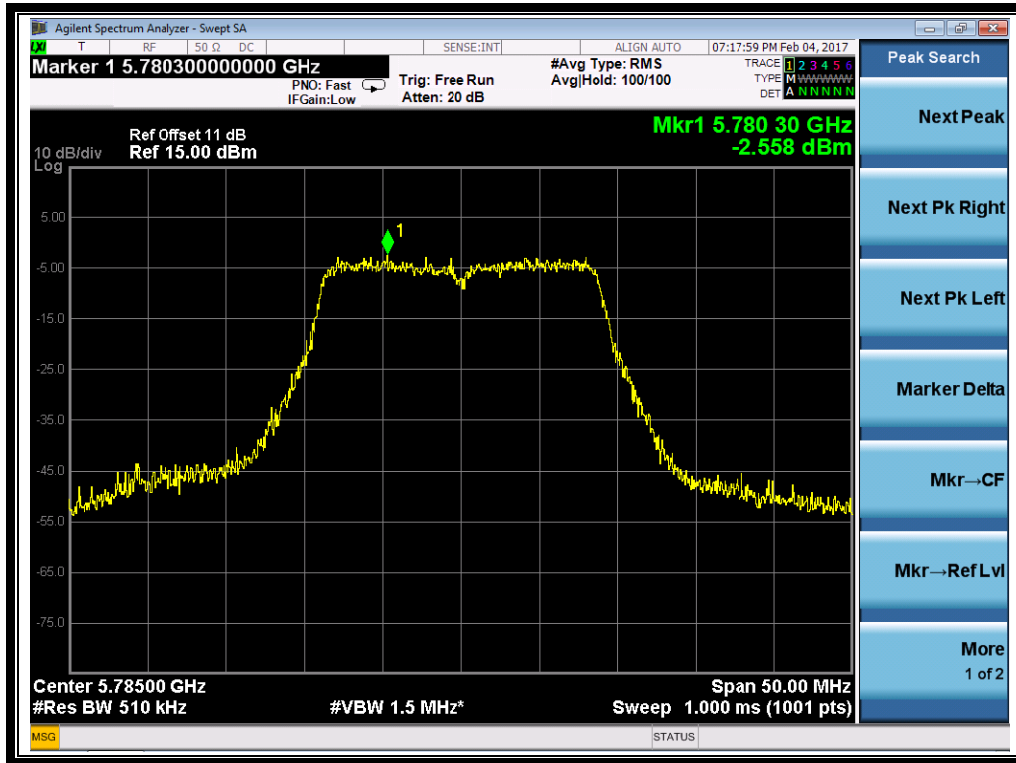
(Channel 44: 5220 MHz @ 802.11n-20MHz)



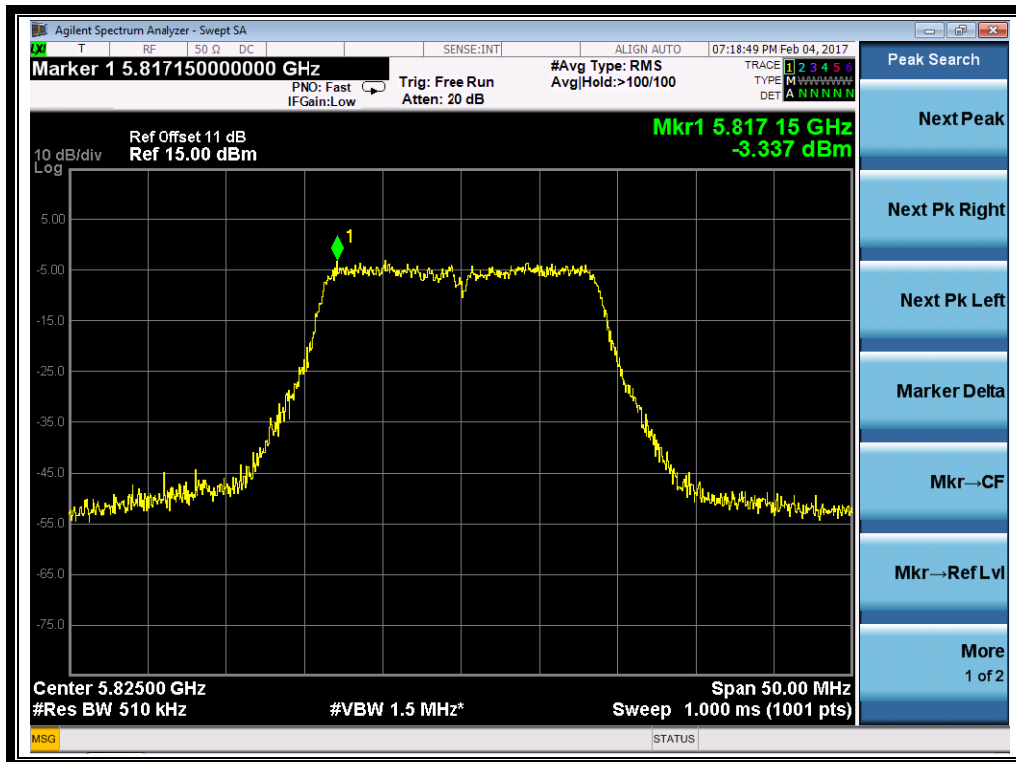
(Channel 48: 5240MHz @ 802.11n-20MHz)



(Channel 149: 5475MHz @ 802.11n-20MHz)



(Channel 157: 5785MHz @ 802.11n-20MHz)



(Channel 165: 5825MHz @ 802.11n-20MHz)

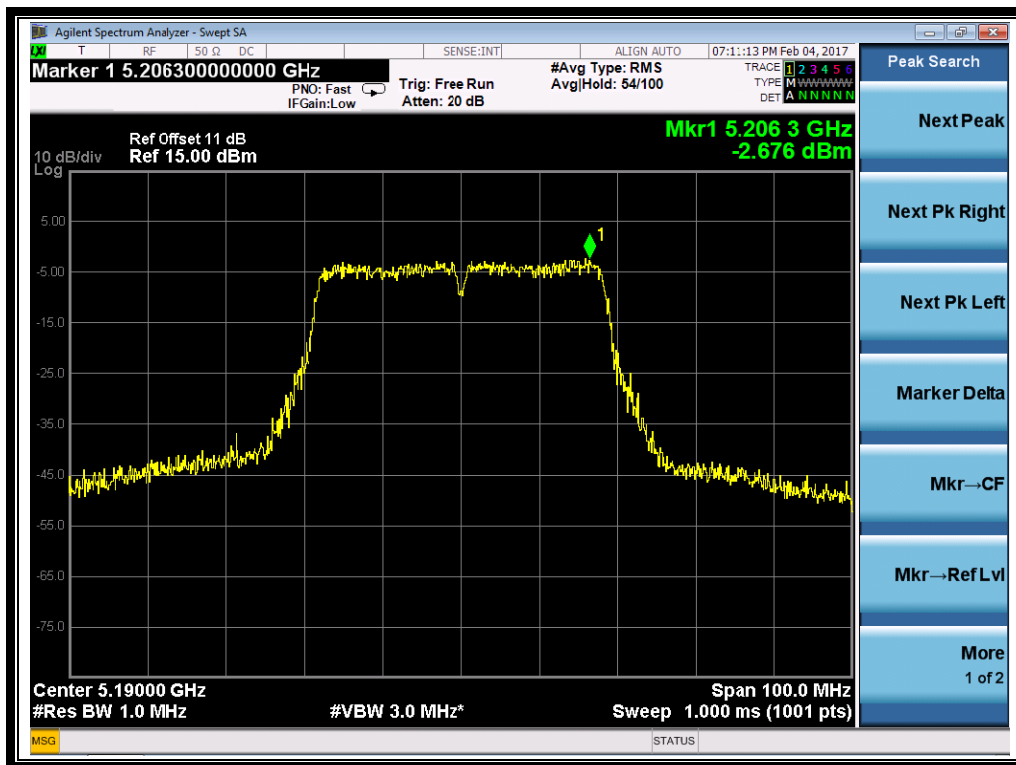


2.4.3.5 802.11n-40MHz Test mode

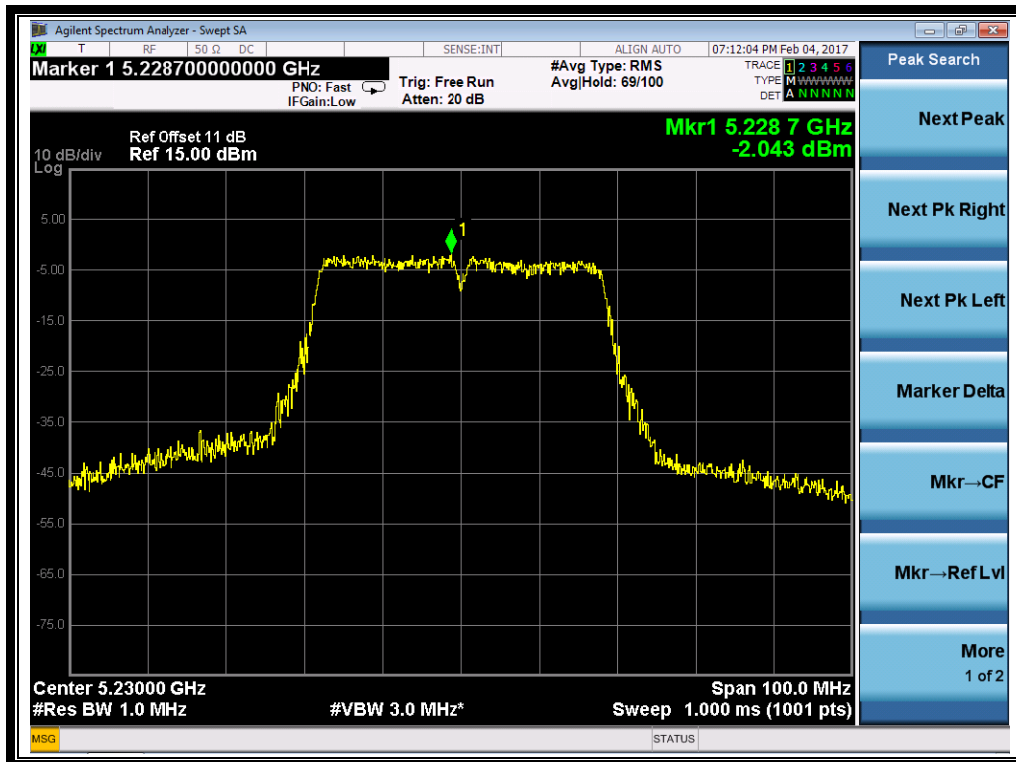
A. Test Verdict:

Channel	Frequency (MHz)	Measured PPSD (dBm)	Limit (dBm)	Verdict
38	5190	-2.676	11	PASS
46	5230	-2.043		
151	5755	-6.093	30	
159	5795	-7.003		

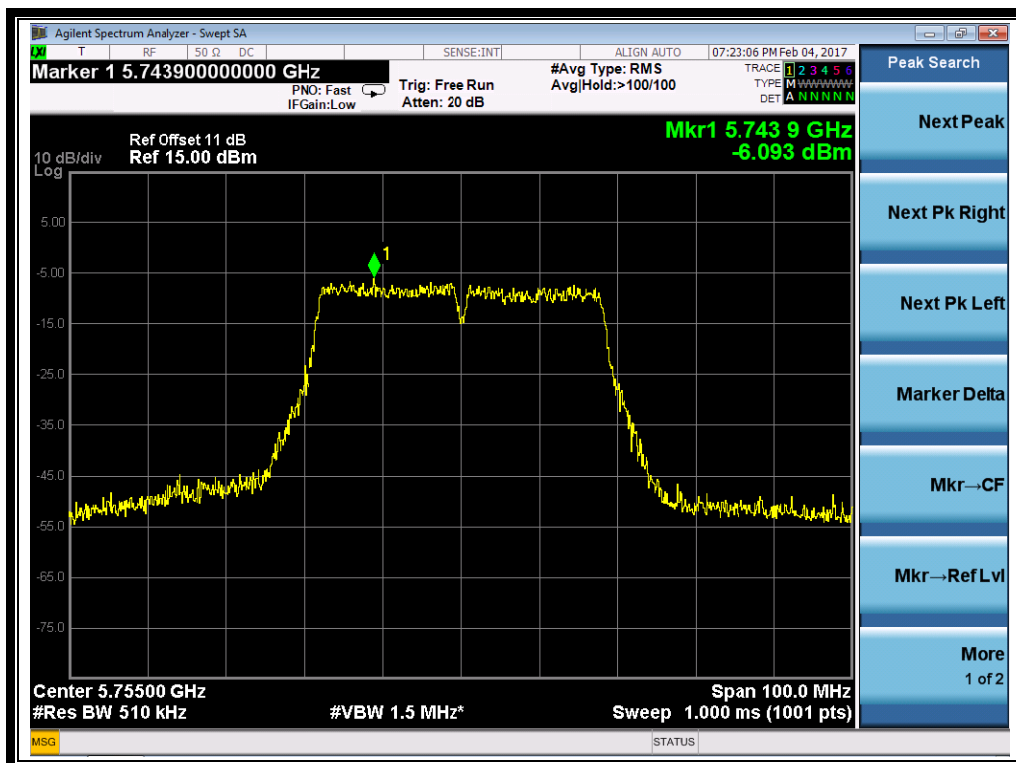
B. Test Plots:



(Channel 38: 5190MHz @ 802.11n-40MHz)

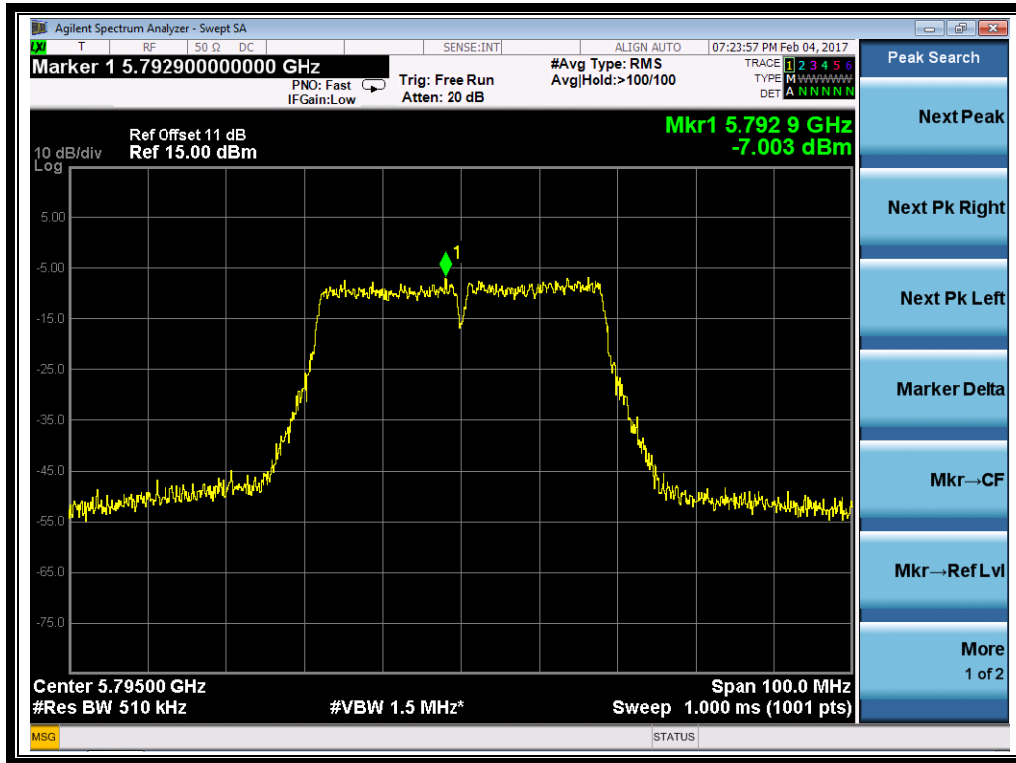


(Channel 46: 5230 MHz @ 802.11n-40MHz)



(Channel 151: 5755MHz @ 802.11n-40MHz)





(Channel 159: 5795MHz @ 802.11n-40MHz)

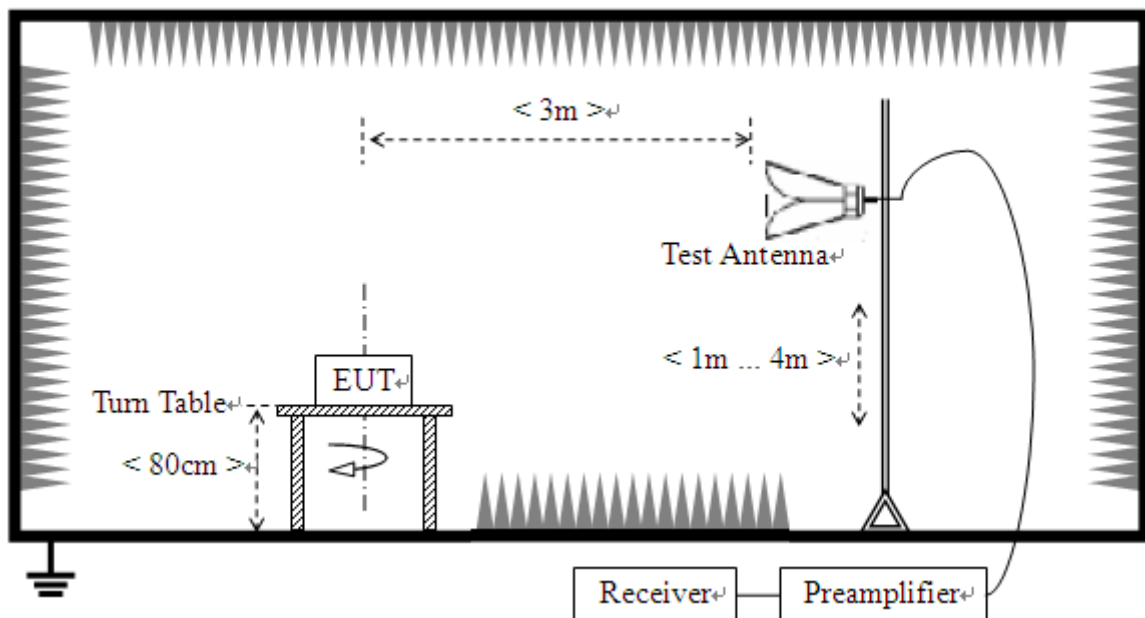
## 2.5 Restricted Frequency Bands

### 2.5.1 Requirement

According to FCC section 15.407(b)(7), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in 15.205(a), must also comply with the radiated emission limits specified in 15.209(a).

### 2.5.2 Test Description

#### A. Test Setup



The Module is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading.

KDB 789033 Section H) 3)5)6(d)) was used in order to prove compliance

For the Test Antenna:

Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength.



### 2.5.3 Test Result

The lowest and highest channels are tested to verify Restricted Frequency Bands.

The measurement results are obtained as below:

$$E \text{ [dB}\mu\text{V/m]} = U_R + A_T + A_{\text{Factor}} \text{ [dB]}; A_T = L_{\text{Cable loss}} \text{ [dB]} - G_{\text{preamp}} \text{ [dB]}$$

$A_T$ : Total correction Factor except Antenna

$U_R$ : Receiver Reading

$G_{\text{preamp}}$ : Preamplifier Gain

$A_{\text{Factor}}$ : Antenna Factor at 3m

**Note:** Restricted Frequency Bands were performed when antenna was at vertical and horizontal polarity, and only the worse test condition (vertical) was recorded in this test report.

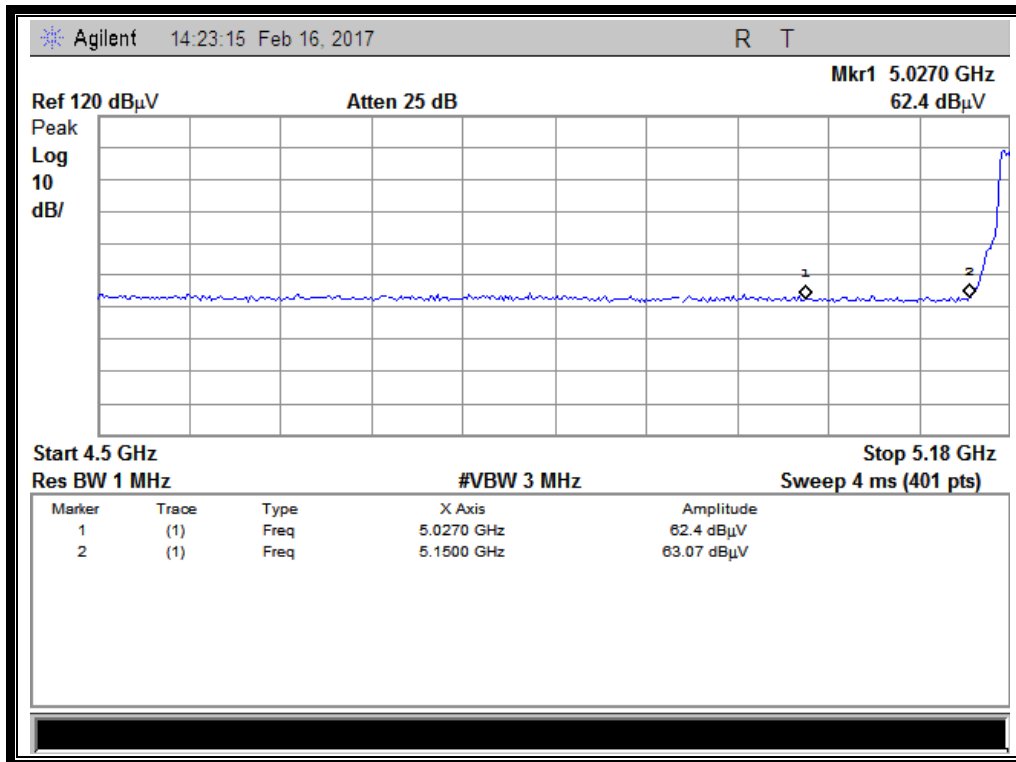
#### 2.5.3.1 802.11ac-20MHz Test mode

The lowest and highest channels are tested to verify the band edge emissions.

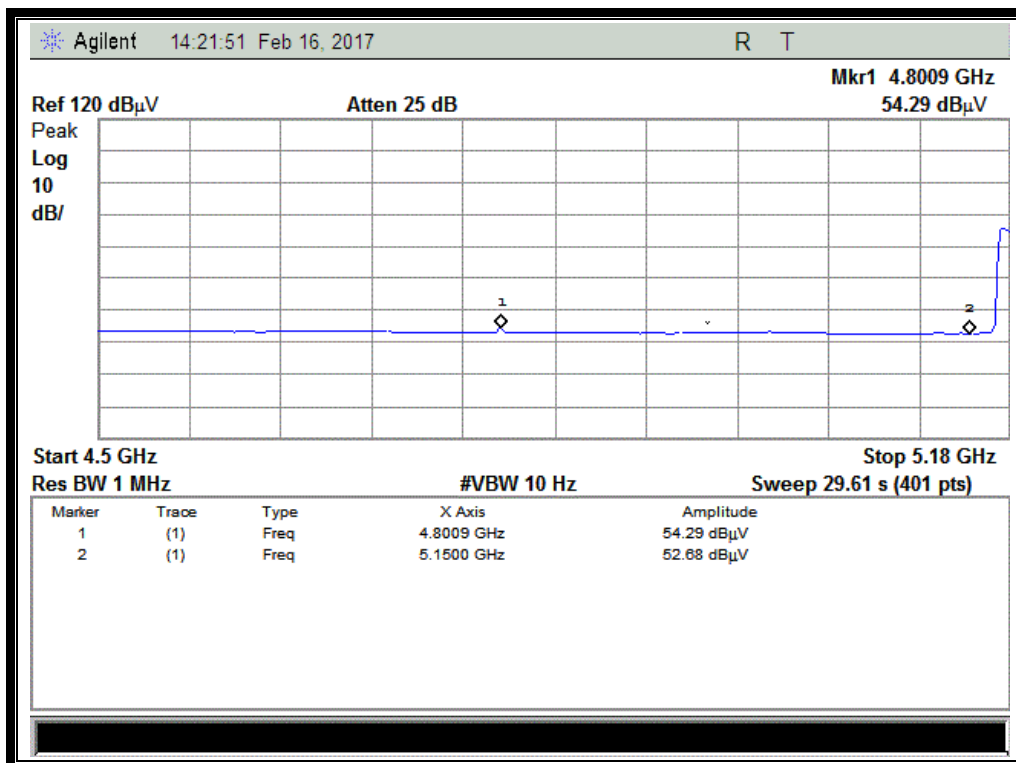
##### A. Test Verdict:

Channel	Frequency (MHz)	Detector	Receiver Reading	$A_T$ (dB)	$A_{\text{Factor}}$ (dB@3m)	Max. Emission E (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Verdict
		PK/ AV	$U_R$ (dB $\mu$ V)					
36	5027.00	PK	62.4	-50.65	32.11	43.86	74	Pass
36	4800.90	AV	54.29	-50.65	32.11	35.75	54	Pass

##### B. Test Plots:



(Channel = 36 PEAK @ 802.11ac)



(Channel = 36 AVG @ 802.11ac)



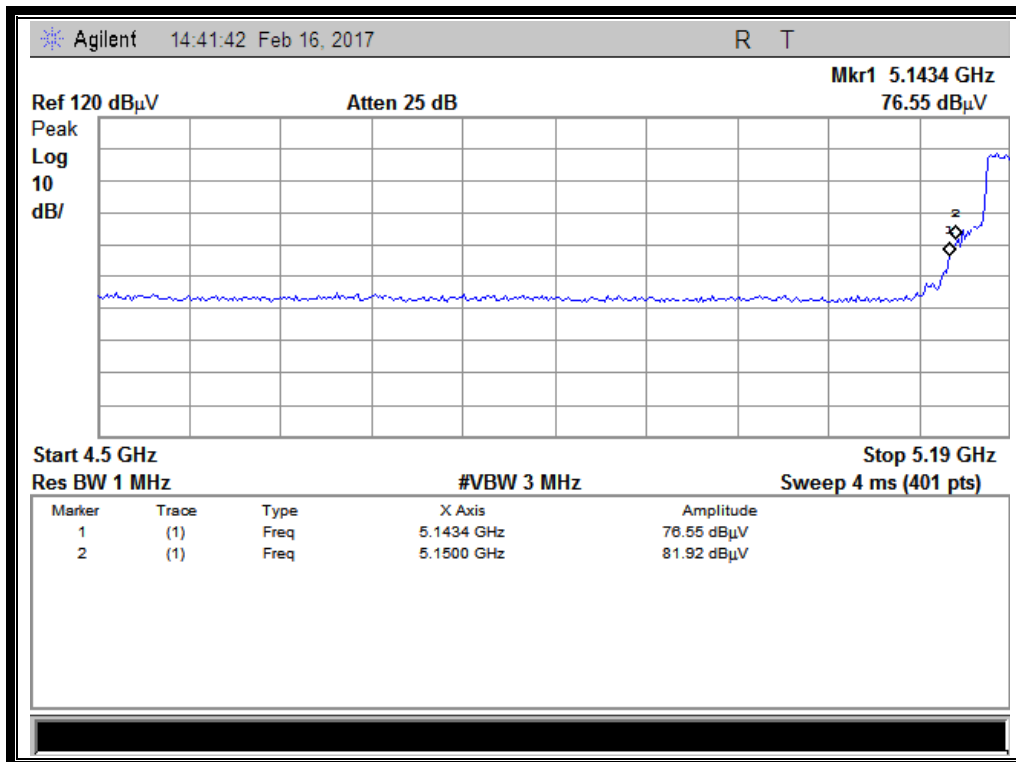
**2.5.3.2 802.11ac-40MHz Test mode**

The lowest and highest channels are tested to verify the band edge emissions.

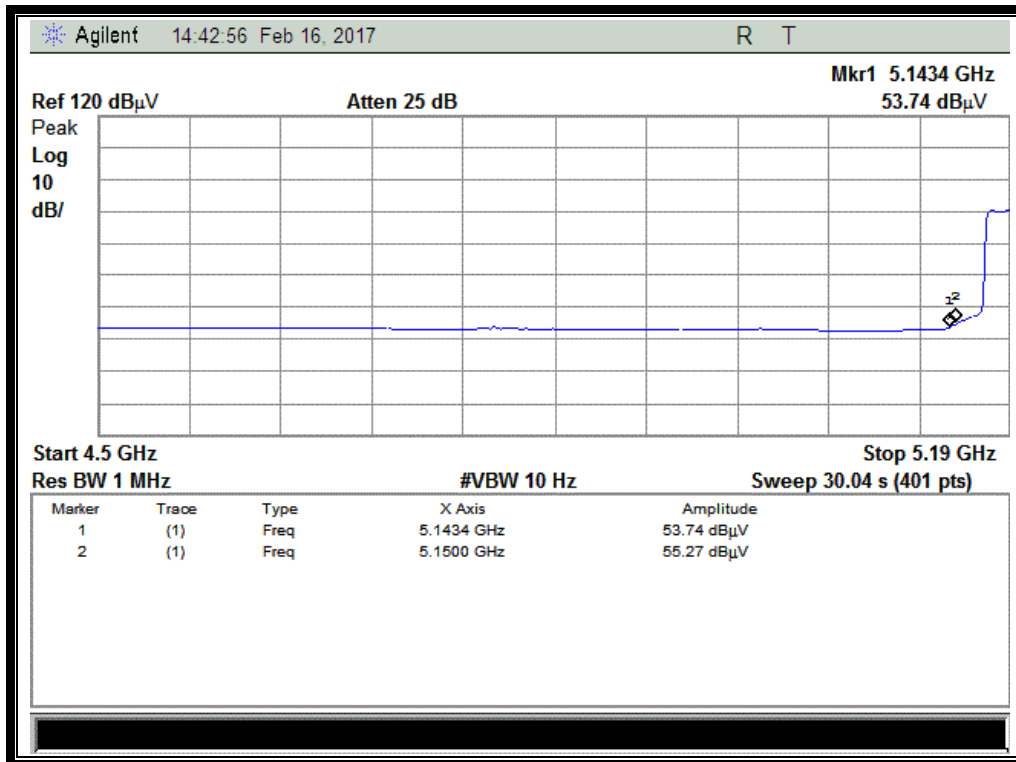
**A. Test Verdict:**

Channel	Frequency (MHz)	Detector	Receiver Reading	A <sub>T</sub>	A <sub>Factor</sub>	Max. Emission	Limit	Verdict
		PK/ AV	U <sub>R</sub> (dBuV)	(dB)	(dB@3m)	E (dBμV/m)	(dBμV/m)	
38	5143.40	PK	76.55	-50.65	32.11	58.01	74	Pass
38	5143.40	AV	53.74	-50.65	32.11	35.2	54	Pass

**B. Test Plots:**



(Channel = 38 PEAK @ 802.11ac)



(Channel = 38 AVG @ 802.11ac)

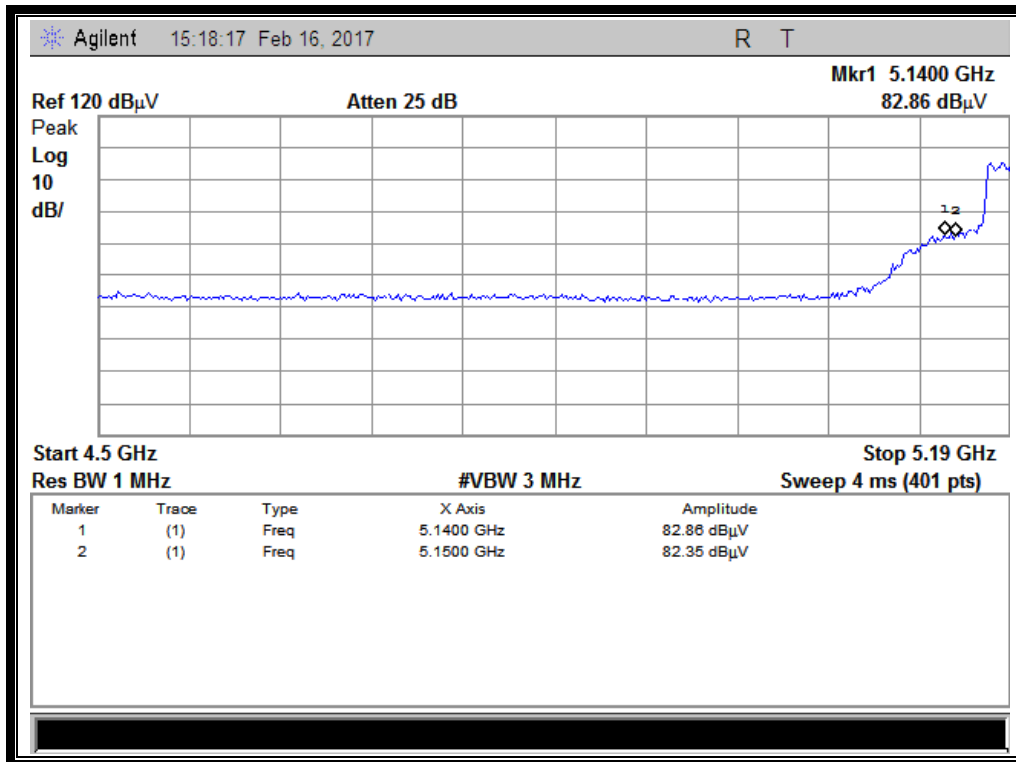
**2.5.3.3 802.11ac-80MHz Test mode**

The lowest and highest channels are tested to verify the band edge emissions.

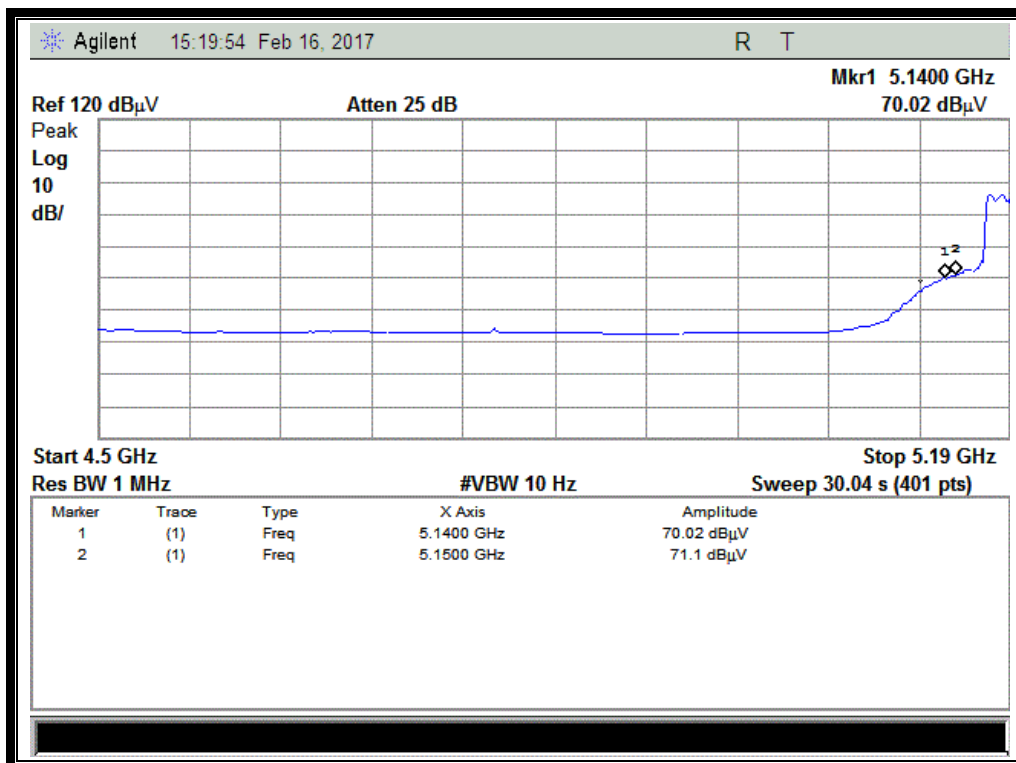
**A. Test Verdict:**

Channel	Frequency (MHz)	Detector	Receiver Reading $U_R$ (dBuV)	$A_T$ (dB)	$A_{Factor}$ (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
		PK/ AV						
42	5140.00	PK	82.86	-50.65	32.11	64.32	74	Pass
42	5140.00	AV	70.02	-50.65	32.11	51.48	54	Pass

**B. Test Plots:**



(Channel = 42 PEAK @ 802.11ac)



(Channel = 42 AVG @ 802.11ac)



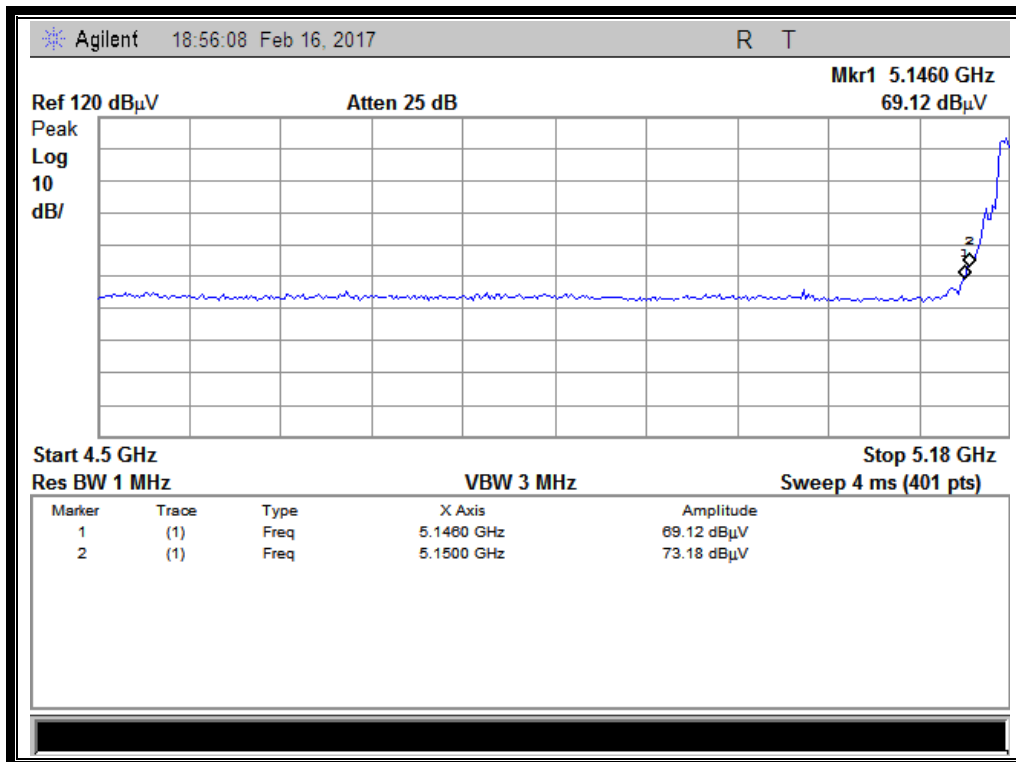
**2.5.3.4 802.11n-20MHz Test mode**

The lowest and highest channels are tested to verify the band edge emissions.

**A. Test Verdict:**

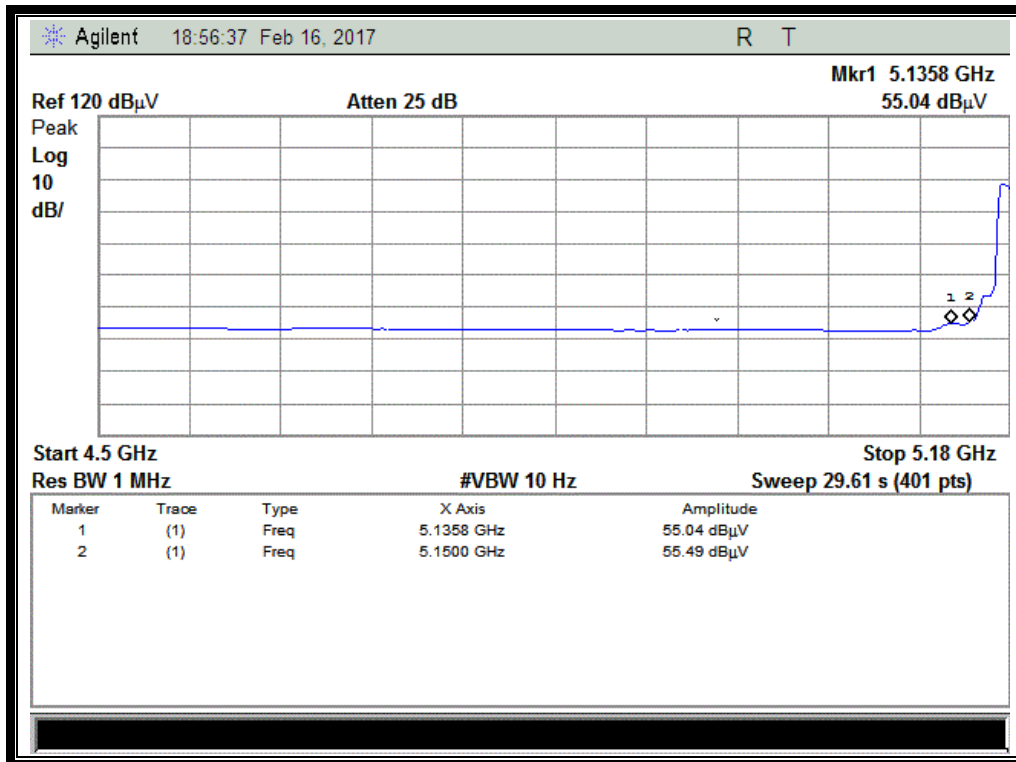
Channel	Frequency (MHz)	Detector	Receiver Reading	A <sub>T</sub>	A <sub>Factor</sub>	Max. Emission E	Limit	Verdict
		PK/ AV	U <sub>R</sub> (dBuV)	(dB)	(dB@3m)	(dBμV/m)	(dBμV/m)	
36	5146.00	PK	69.12	-50.65	32.11	50.58	74	Pass
36	5135.8	AV	55.04	-50.65	32.11	36.5	54	Pass

**B. Test Plots:**



(Channel = 36 PEAK @ 802.11n-20MHz)





(Channel = 36 AVG @ 802.11n-20MHz)

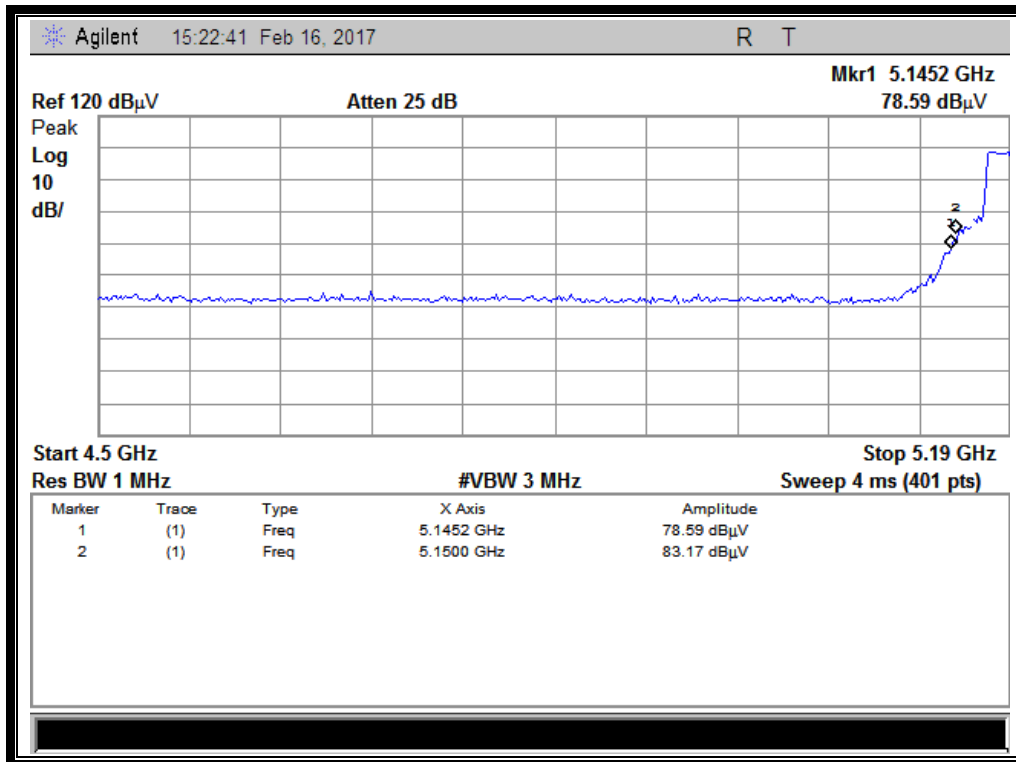
**2.5.3.5 802.11n-40MHz Test mode**

The lowest and highest channels are tested to verify the band edge emissions.

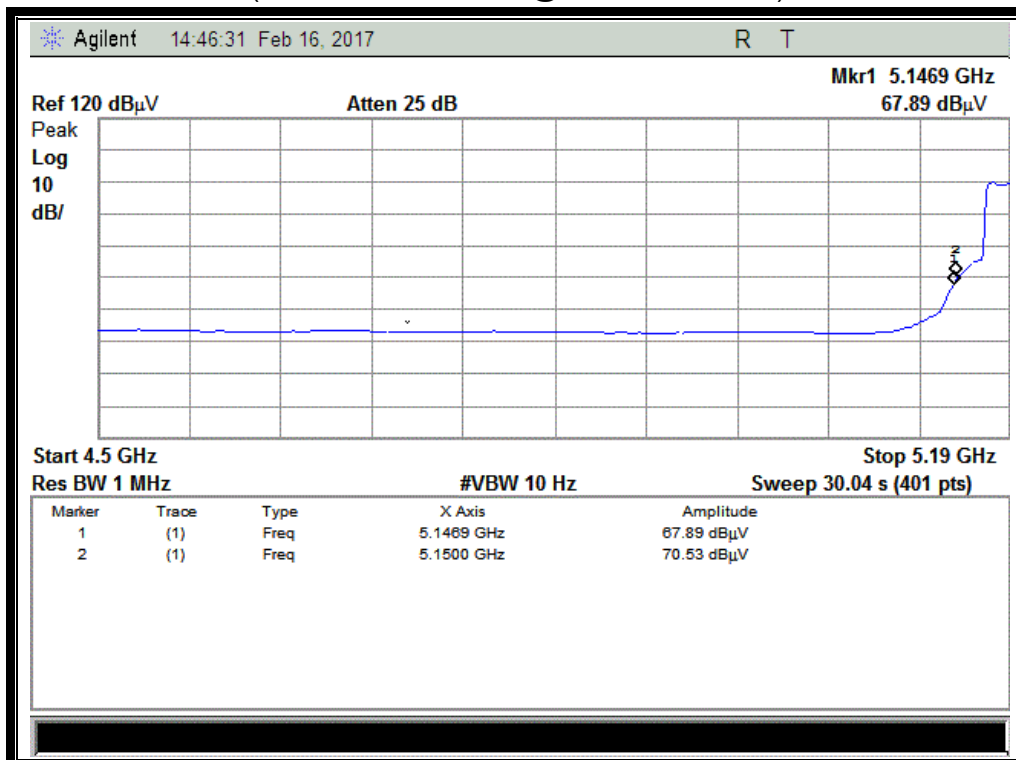
**A. Test Verdict:**

Channel	Frequency (MHz)	Detector	Receiver Reading $U_R$ (dBµV)	$A_T$ (dB)	$A_{Factor}$ (dB@3m)	Max. Emission E (dBµV/m)	Limit (dBµV/m)	Verdict
		PK/ AV						
38	5145.20	PK	78.59	-50.65	32.11	60.05	74	Pass
38	5146.90	AV	67.89	-50.65	32.11	49.35	54	Pass

**B. Test Plots:**



(Channel = 38 PEAK @ 802.11n-40MHz)



(Channel = 38 AVG @ 802.11n-40MHz)



## 2.6 Frequency Stability

### 2.6.1 Requirement

Manufacturers 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 in the user's manual.

### 2.6.2 Test Procedure

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.

### 2.6.3 Test Result

Frequency Stability Measurements for UNII Band 1 (Ch. 36)

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq Dev. (Hz)	Deviation (%)
100%	5.0	+20(Ref)	5,180,000,008	8	0.00000015
100%		-30	5,179,999,996	-4	-0.00000008
100%		-20	5,180,000,003	3	0.00000006
100%		-10	5,179,999,991	-9	-0.00000017
100%		0	5,179,999,985	-15	-0.00000029
100%		+10	5,179,999,993	-7	-0.00000014
100%		+20	5,179,999,990	-10	-0.00000019
100%		+30	5,180,000,010	10	0.00000019
100%		+40	5,180,000,004	4	0.00000008
100%		+50	5,179,999,988	-12	-0.00000023
114%		4.75	+20	5,180,000,009	9
BATT.END POINT	5.25	+20	5,179,999,997	-3	-0.00000006



Frequency Stability Measurements for UNII Band 3 (Ch. 149)

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq Dev. (Hz)	Deviation (%)
100%	5.0	+20(Ref)	5,744,999,992	-8	-0.00000014
100%		-30	5,744,999,983	-17	-0.00000030
100%		-20	5,745,000,011	11	0.00000019
100%		-10	5,744,999,996	-4	-0.00000007
100%		0	5,745,000,003	3	0.00000005
100%		+10	5,744,999,987	-13	-0.00000023
100%		+20	5,745,000,013	13	0.00000023
100%		+30	5,745,000,007	7	0.00000012
100%		+40	5,744,999,991	-9	-0.00000016
100%		+50	5,745,000,009	9	0.00000016
114%		4.75	+20	5,745,000,001	1
BATT.ENDP OINT	5.25	+20	5,744,999,995	-5	-0.00000009

**Note:** Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

## 2.7 Conducted Emission

### 2.7.1 Requirement

According to FCC section 15.207, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50 $\mu$ H/50 $\Omega$  line impedance stabilization network (LISN).

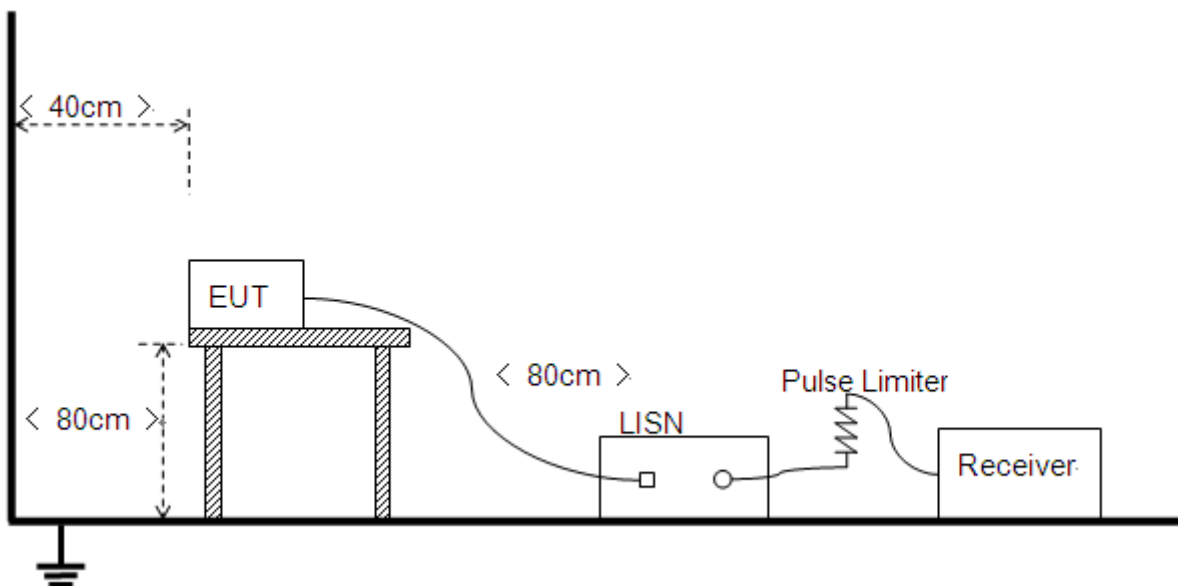
Frequency range (MHz)	Conducted Limit (dB $\mu$ V)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

**NOTE:**

- (a) The lower limit shall apply at the band edges.
- (b) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

### 2.7.2 Test Description

**A. Test Setup:**



The Table-top EUT was placed upon a non-metallic table 0.8m above the horizontal metal reference ground plane. EUT was connected to LISN and LISN was connected to reference Ground Plane. EUT was 80cm from LISN. The set-up and test methods were according to ANSI C63.10 2013.

### 2.7.3 Test Result

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

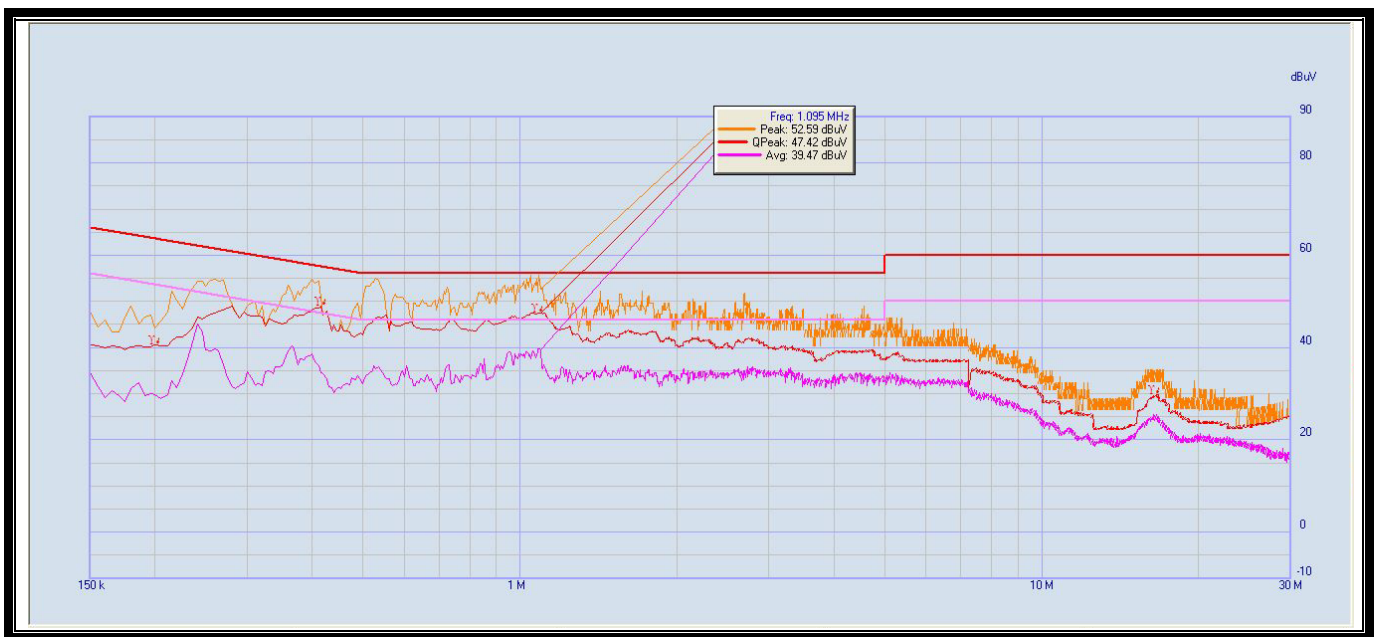
Note: All test modes are performed, only the worst case is recorded in this report.

#### A. Test setup:

The EUT configuration of the emission tests is EUT + Link.

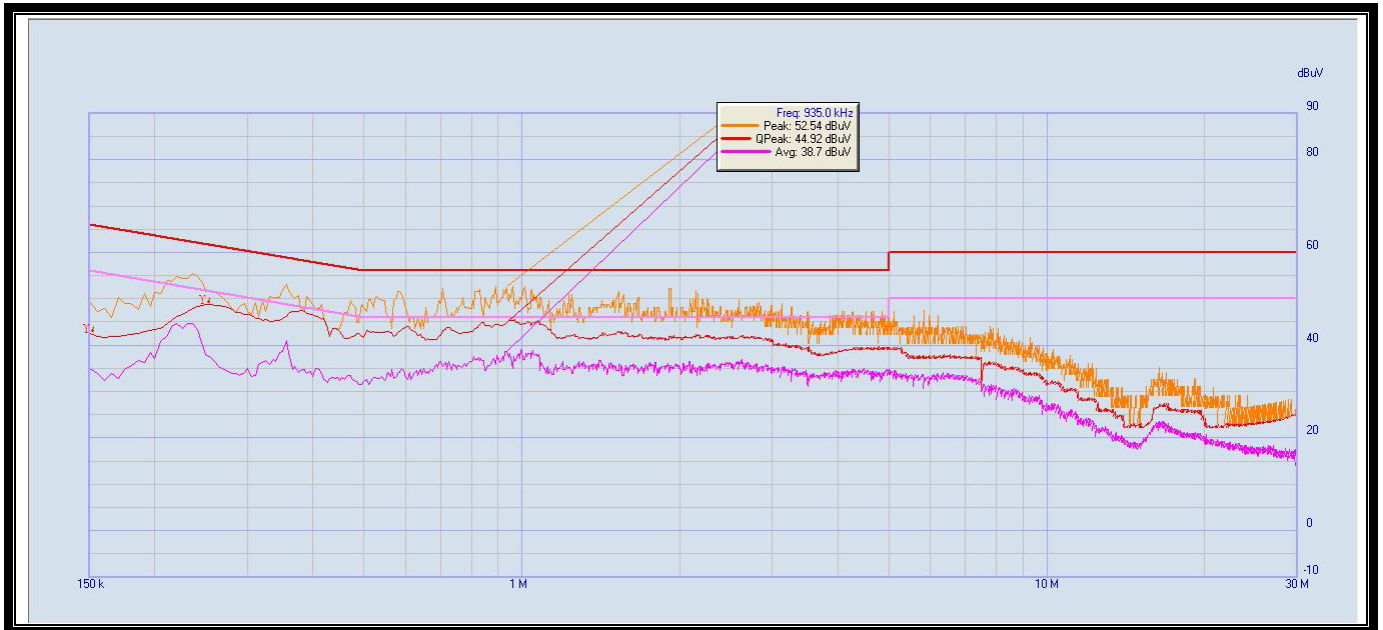
**Note:** The test voltage is AC 120V/60Hz.

#### B. Test Plots:



(Plot A: L Phase)

NO.	Fre. (MHz)	Emission Level (dBµV)		Limit (dBµV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.2	40.52	29.82	64.57	54.57	Line	PASS
2	0.415	49.07	34.52	58.43	48.43		PASS
3	1.085	47.43	39.73	56	46		PASS
4	16.445	29.65	25.47	60	50		PASS



(Plot B: N Phase)

NO.	Fre. (MHz)	Emission Level (dBμV)		Limit (dBμV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.15	42.53	34.90	66	56	Line	PASS
2	0.25	48.88	38.06	63.14	53.14		PASS



## 2.8 Radiated Emission

### 2.8.1 Requirement

The peak emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of -27dBm/MHz.
- (2) For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of -27dBm/MHz.
- (3) For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of -27dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

The following formula is used to convert the equipment isotropic radiated power(eirp) to field strength (dBμV/m);

$$E = 1000000 \times \sqrt{30P} / 3 \mu\text{V/m}$$

where P is the EIRP in Watts

Therefore: -27 dBm/MHz = 68.23 dBuV/m

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3



216 - 960	200	3
Above 960	500	3

Note:

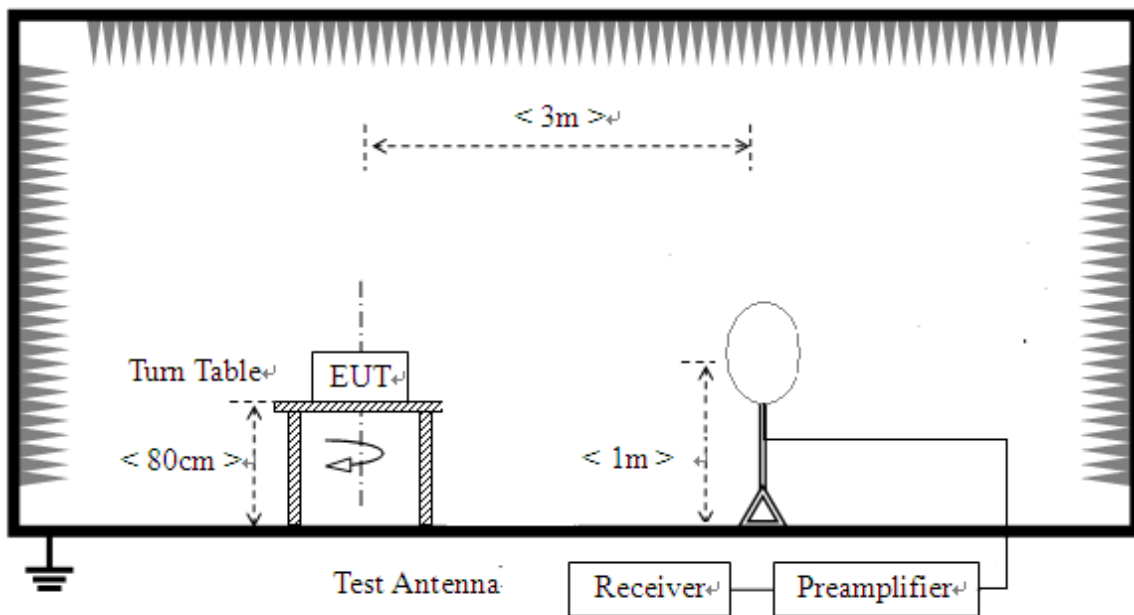
For Above 1000MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.

In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), also should comply with the radiated emission limits specified in Section 15.209(a)(above table)

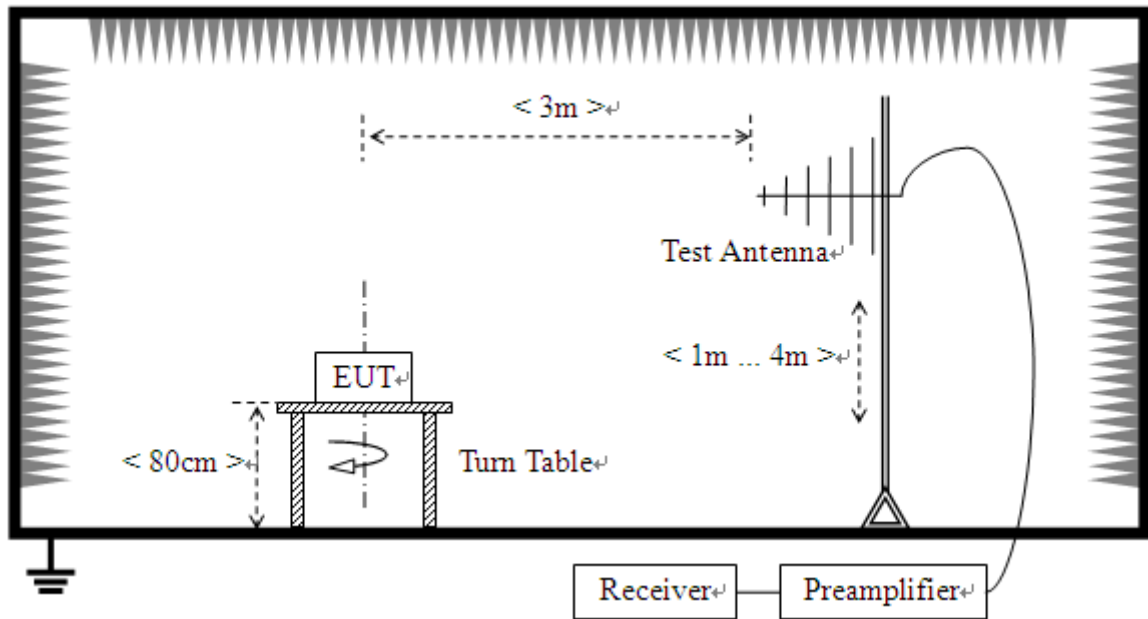
### 2.8.2 Test Description

#### A. Test Setup:

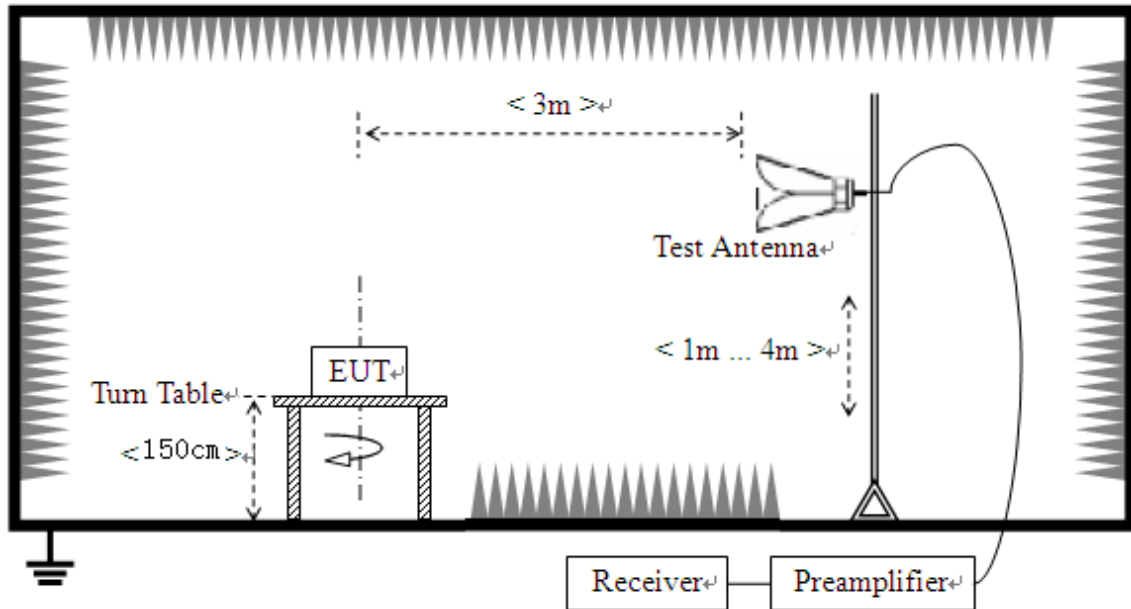
- 1) For radiated emissions from 9kHz to 30MHz



- 2) For radiated emissions from 30MHz to 1GHz



3) For radiated emissions above 1GHz





The RF absorbing material used on the reference ground plane and on the turntable have a maximum height (thickness) of 30 cm (12 in) and have a minimum-rated attenuation of 20 dB at all frequencies from 1 GHz to 18 GHz. Test site have a minimum area of the ground plane covered with RF absorbing material as specified in Figure 6 of ANSI C63.4: 2014.

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4dB according to the standards: ANSI C63.10 (2013). For radiated emissions below or equal to 1GHz, The EUT was set-up on insulator 80cm above the Ground Plane, For radiated emissions above 1GHz, The EUT was set-up on insulator 150cm above the Ground Plane. The set-up and test methods were according to ANSI C63.10

For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

The EUT is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading

For the Test Antenna:

(a) In the frequency range of 9kHz to 30MHz, magnetic field is measured with Loop Test Antenna. The Test Antenna is positioned with its plane vertical at 1m distance from the EUT. The center of the Loop Test Antenna is 1m above the ground. During the measurement the Loop Test Antenna rotates about its vertical axis for maximum response at each azimuth about the EUT.

(b) In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Place the test antenna at 3m away from area of the EUT, while keeping the test antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The test antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final test antenna elevation shall be that which maximizes the emissions. The test antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane. The emission levels at both horizontal and vertical polarizations should be tested.



### 2.8.3 Test Result

According to ANSI C63.10, because of peak detection will yield amplitudes equal to or greater than amplitudes measured with the quasi-peak (or average) detector, the measurement data from a spectrum analyzer peak detector will represent the worst-case results, if the peak measured value complies with the quasi-peak limit, it is unnecessary to perform an quasi-peak measurement.

The measurement results are obtained as below:

$$E \text{ [dB}\mu\text{V/m]} = U_R + A_T + A_{\text{Factor}} \text{ [dB]}; A_T = L_{\text{Cable loss}} \text{ [dB]} - G_{\text{preamp}} \text{ [dB]}$$

$A_T$ : Total correction Factor except Antenna

$U_R$ : Receiver Reading

$G_{\text{preamp}}$ : Preamplifier Gain

$A_{\text{Factor}}$ : Antenna Factor at 3m

During the test, the total correction Factor  $A_T$  and  $A_{\text{Factor}}$  were built in test software.

**Note:** All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

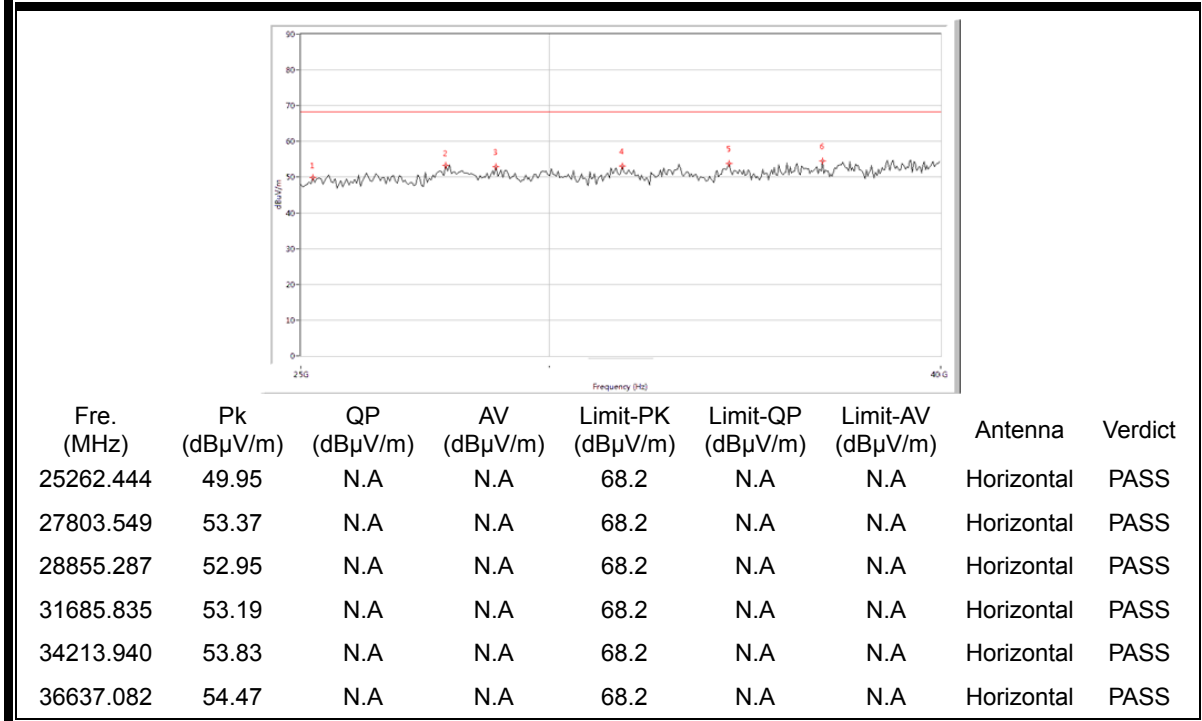
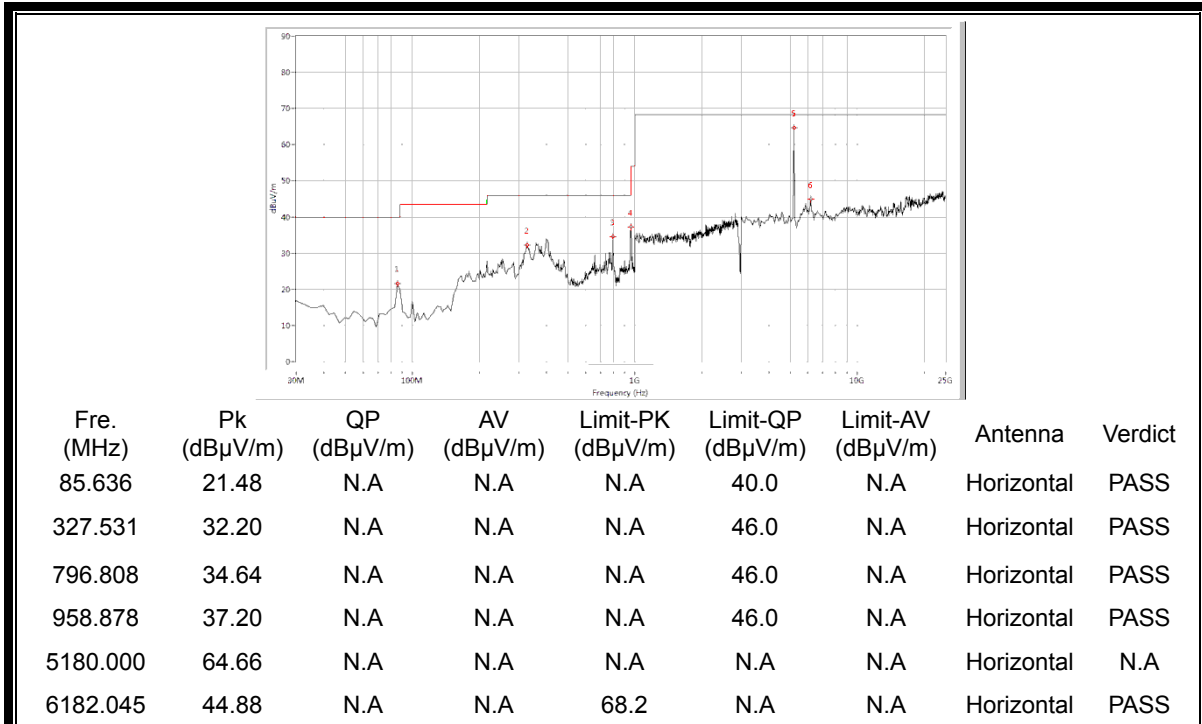
The low frequency, which started from 9KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.



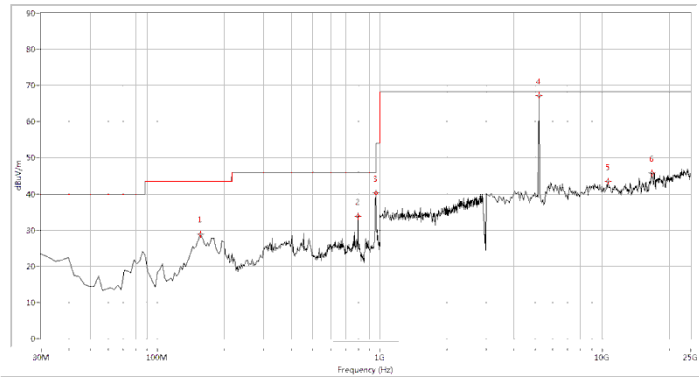
2.8.3.1 802.11ac-20MHz Test mode

A. Test Plots for the Whole Measurement Frequency Range:

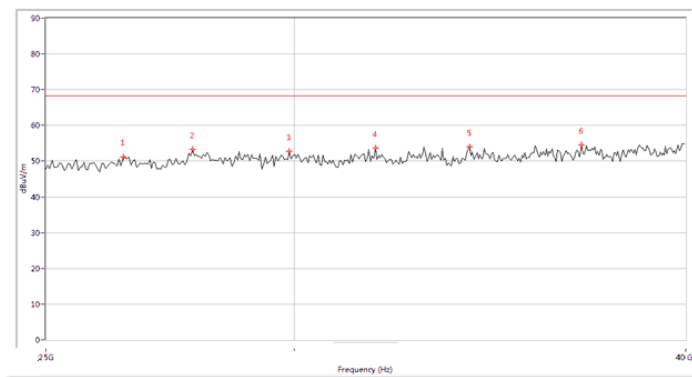
Plots for Channel = 36



(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
155.786	28.80	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
796.808	33.78	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
958.878	40.28	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
5180.000	67.27	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
10625.935	43.45	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
16715.711	45.76	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

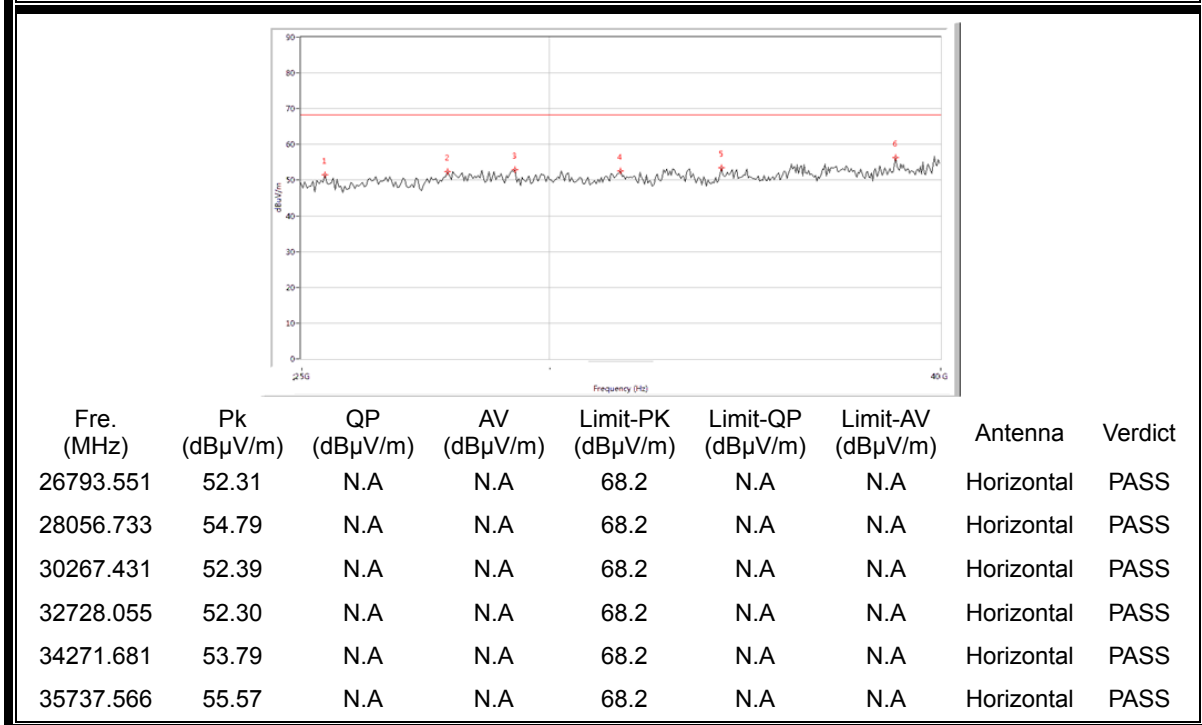
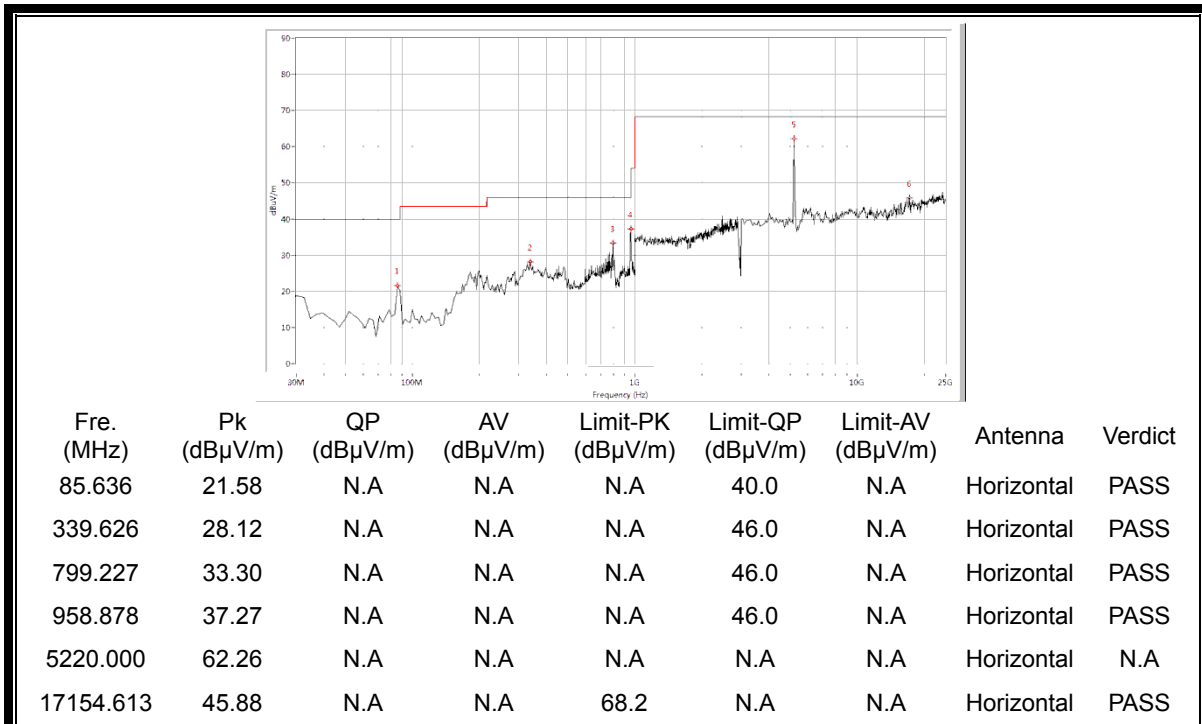


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26425.885	51.18	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
27684.289	53.26	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29920.025	52.77	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31874.539	53.58	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34132.718	53.96	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
37054.489	54.46	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

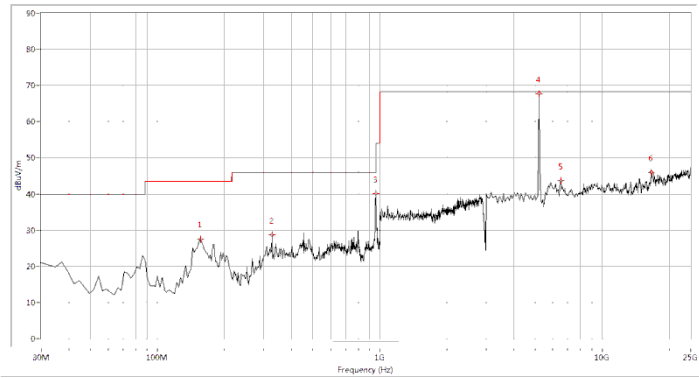
(Antenna Vertical, 30MHz to 40GHz)



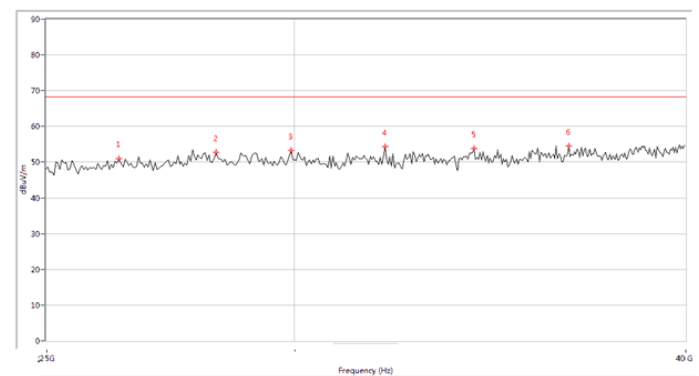
Plot for Channel = 44



(Antenna Horizontal, 30MHz to 25GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
155.786	27.40	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
327.531	28.66	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
958.878	40.05	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
5220.000	67.68	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
6511.222	43.70	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
16660.848	45.89	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



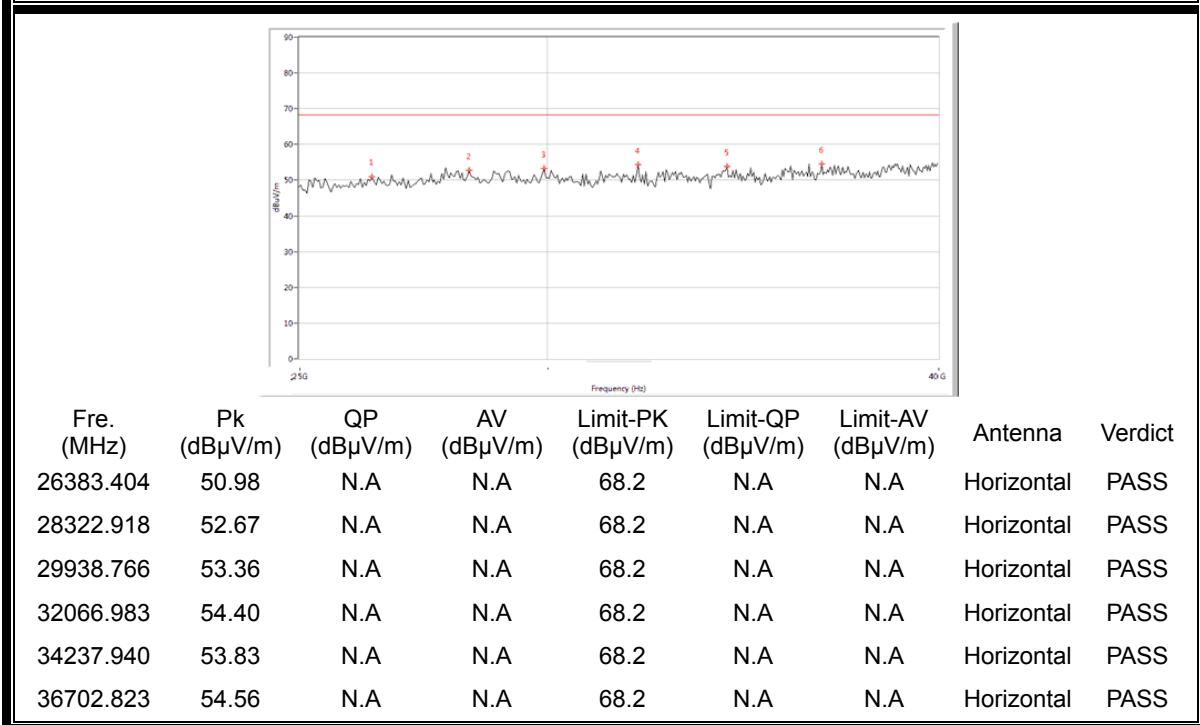
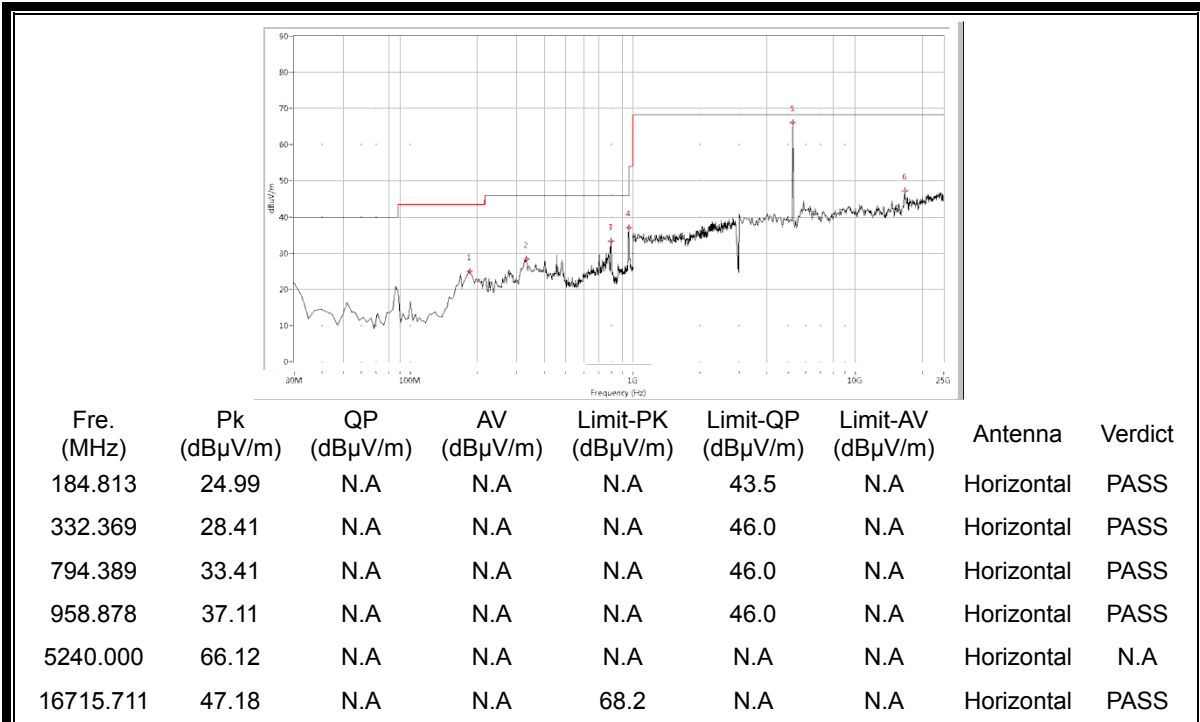
Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
25434.888	51.42	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
27854.289	52.33	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29262.434	52.96	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31627.095	52.63	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34053.237	53.55	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
38691.077	56.32	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

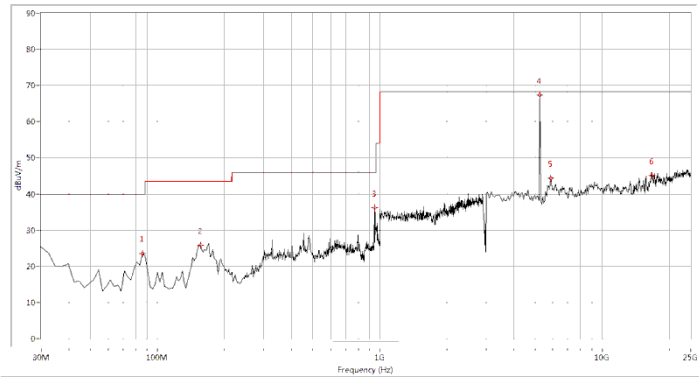




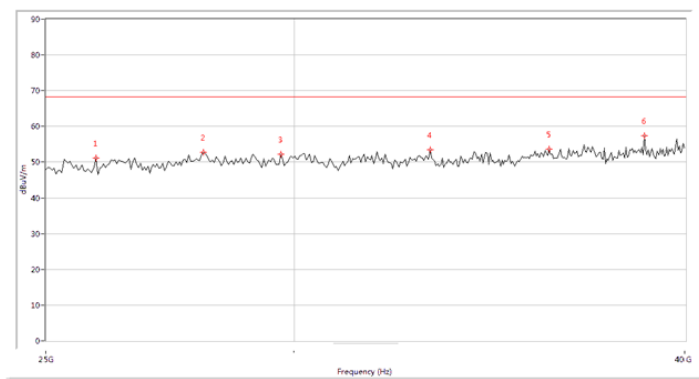
Plot for Channel = 48



(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	23.48	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
155.786	25.89	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
946.783	36.10	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
5240.000	67.45	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
5852.868	44.40	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
16715.711	45.14	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



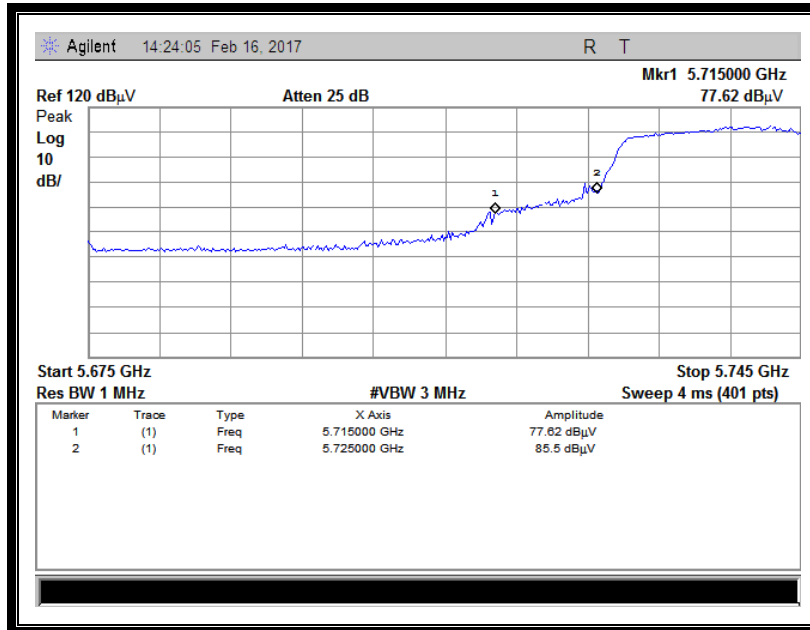
Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
25936.516	51.21	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28026.733	52.68	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29761.322	52.28	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
33157.461	53.47	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36182.454	53.67	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
38806.299	57.47	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

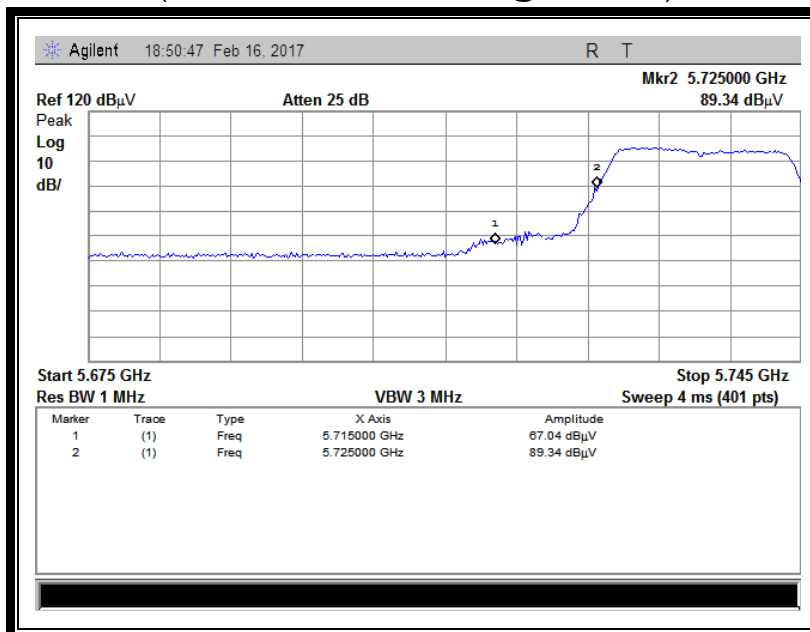


Plots for Channel = 149

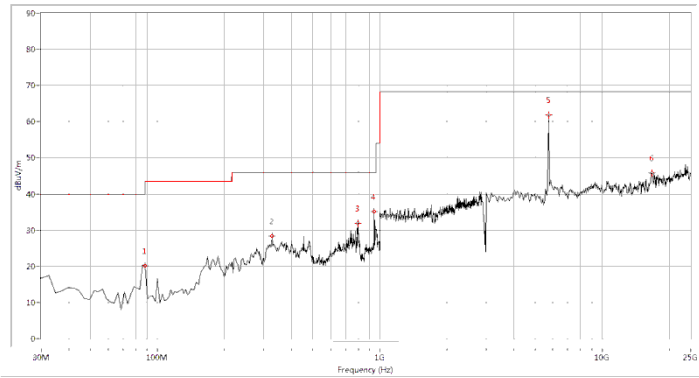
Channel	Frequency (MHz)	Antenna	Receiver Reading	A <sub>T</sub> (dB)	A <sub>Factor</sub> (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
		Horiz./ Vert.	U <sub>R</sub> (dBuV)					
149	5725.00	Horizontal	77.62	-50.65	32.11	59.08	78.2	Pass
149	5725.00	Vertical	89.34	-50.65	32.11	70.8	78.2	Pass



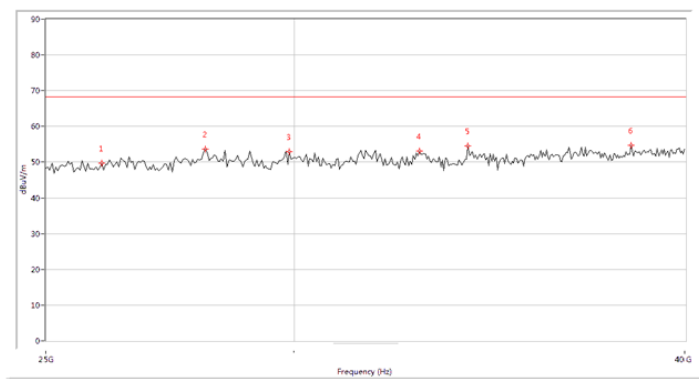
(Channel = 149 Horizontal @ 802.11ac)



(Channel = 149 Vertical @ 802.11ac)

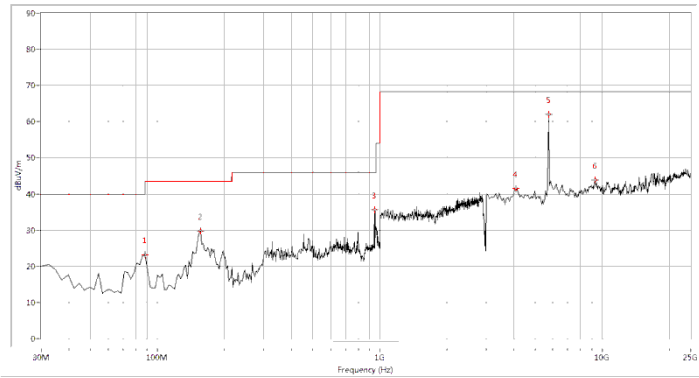


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
88.055	20.20	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
327.531	28.28	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
794.389	31.97	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
944.364	35.04	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
5745.000	61.77	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
16770.574	45.81	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

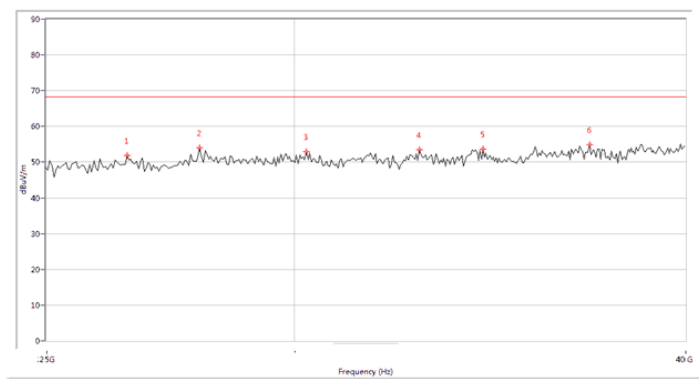


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26043.738	49.70	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
28110.474	53.66	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29906.025	52.88	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32895.277	53.19	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
34086.978	54.60	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
38423.893	54.66	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
88.055	23.13	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
155.786	29.73	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
946.783	35.69	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
4097.257	41.56	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5745.000	61.95	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
9309.227	43.78	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

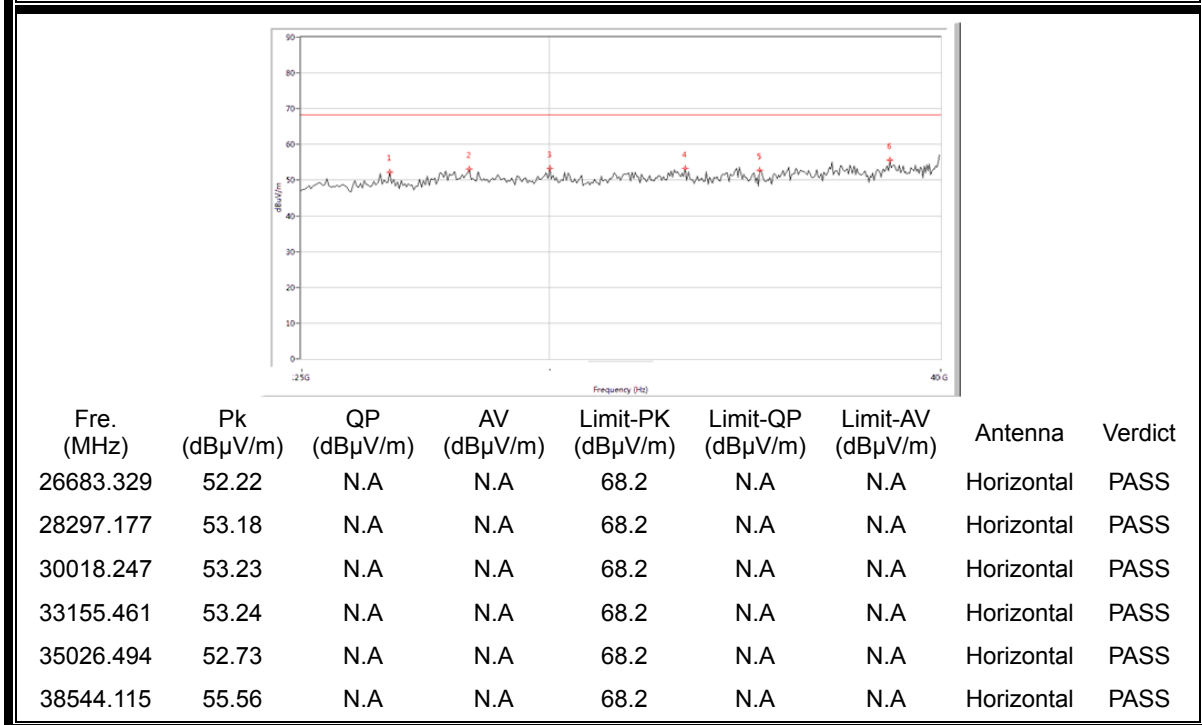
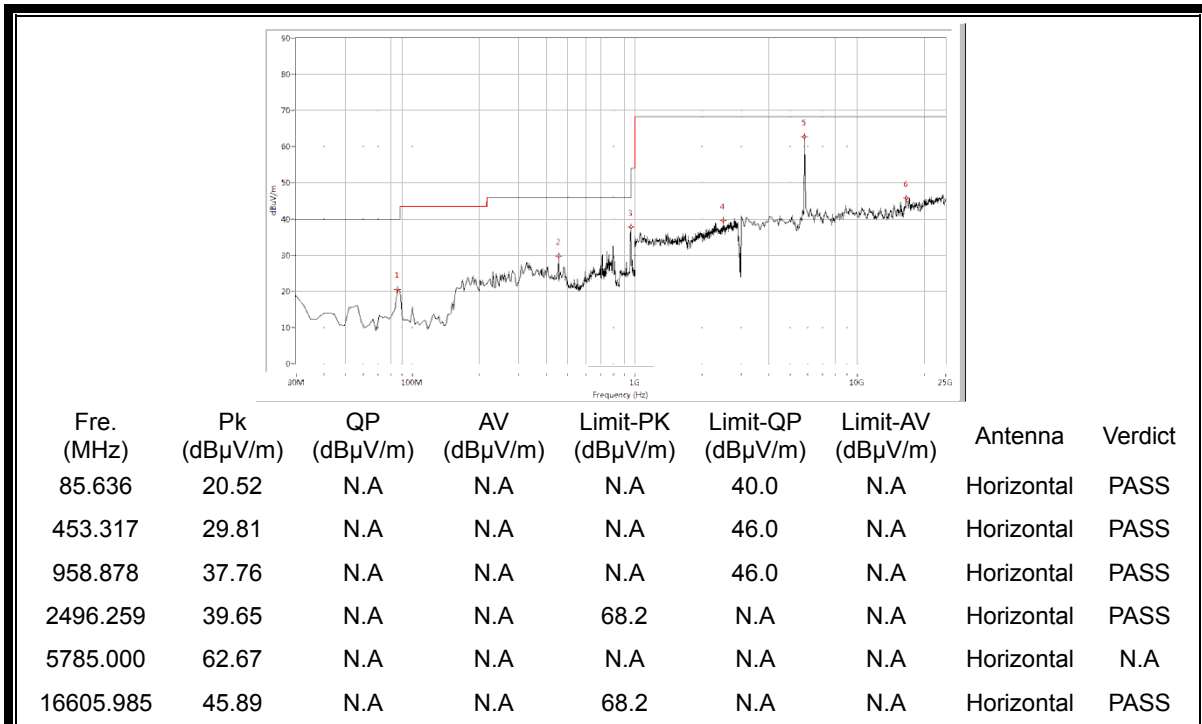


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26536.367	51.85	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
27992.252	54.04	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
30273.431	52.96	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
32898.277	53.42	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34467.384	53.61	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
37263.933	54.80	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

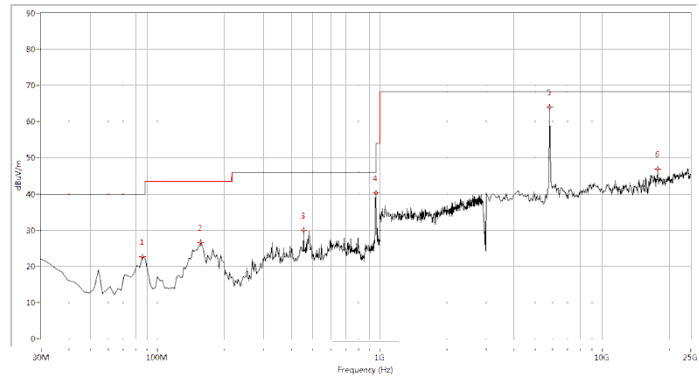
(Antenna Vertical, 30MHz to 40GHz)



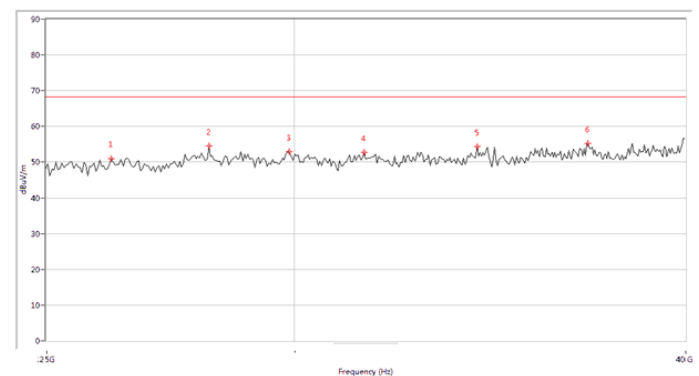
Plot for Channel = 157



(Antenna Horizontal, 30MHz to 25GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	22.56	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
155.786	26.54	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
453.317	29.99	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
958.878	40.19	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
5785.000	63.97	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
17758.105	46.80	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



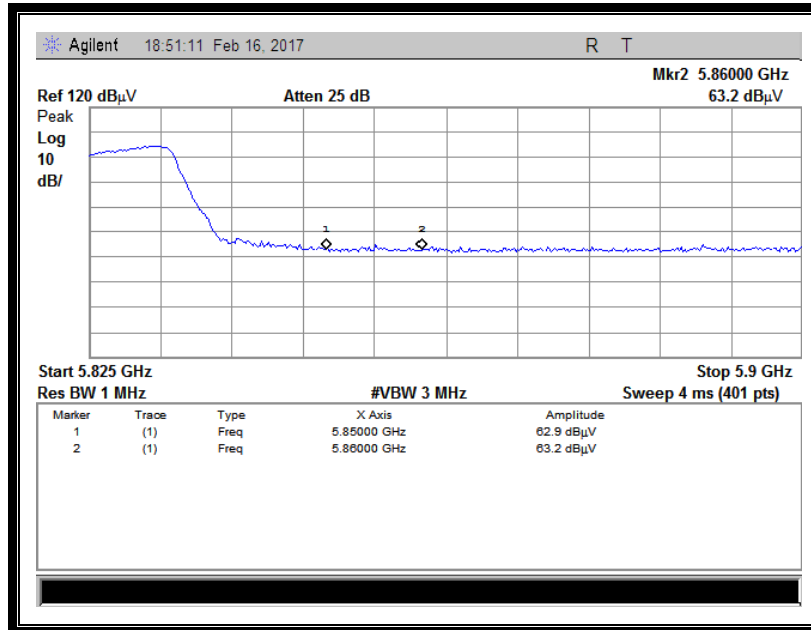
Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26233.441	50.88	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28167.955	54.51	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29904.025	52.95	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31582.354	52.78	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34317.421	54.28	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
37235.192	55.21	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 25GHz)

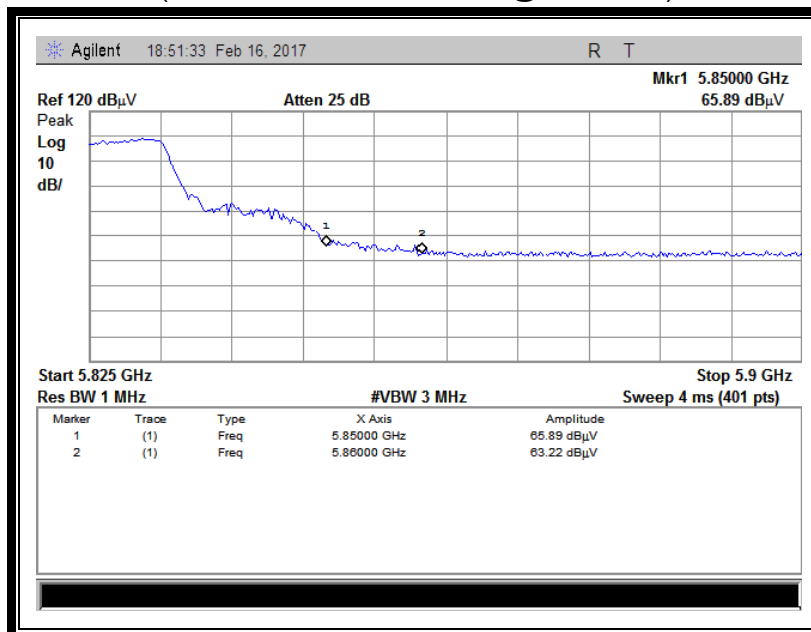


Plot for Channel = 165

Channel	Frequency (MHz)	Antenna	Receiver Reading	A <sub>T</sub> (dB)	A <sub>Factor</sub> (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
		Horiz./ Vert.	U <sub>R</sub> (dBuV)					
165	5860.00	Horizontal	63.20	-50.65	32.11	44.66	78.2	Pass
165	5850.00	Vertical	65.89	-50.65	32.11	47.35	78.2	Pass

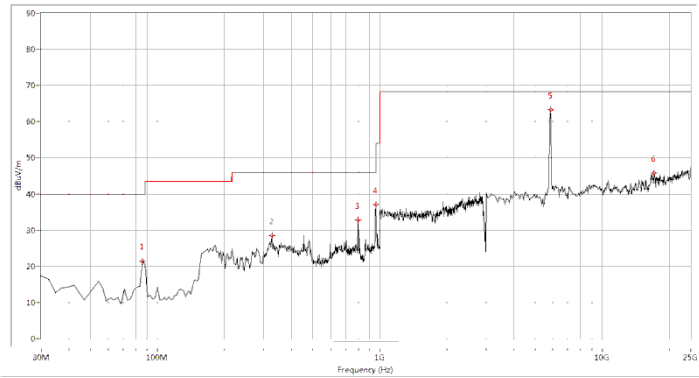


(Channel = 165 Horizontal @ 802.11ac)

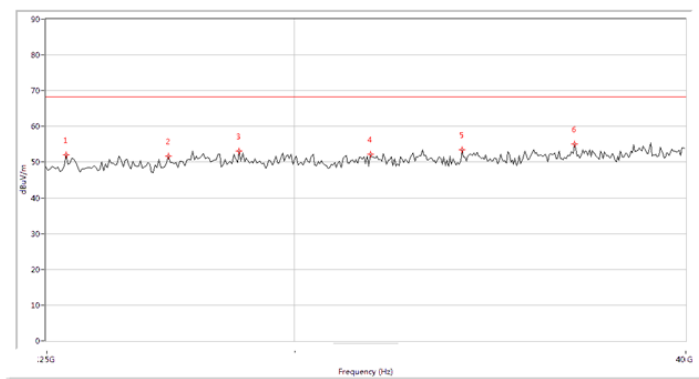


(Channel = 165 Vertical @ 802.11ac)



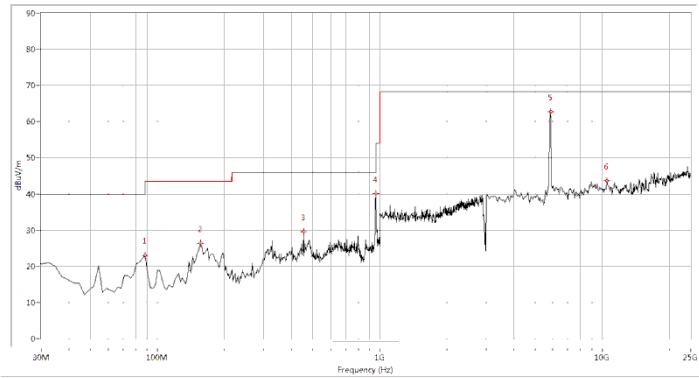


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	21.35	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
327.531	28.54	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
799.227	32.74	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
958.878	37.04	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
5825.000	63.23	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
17099.751	45.81	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

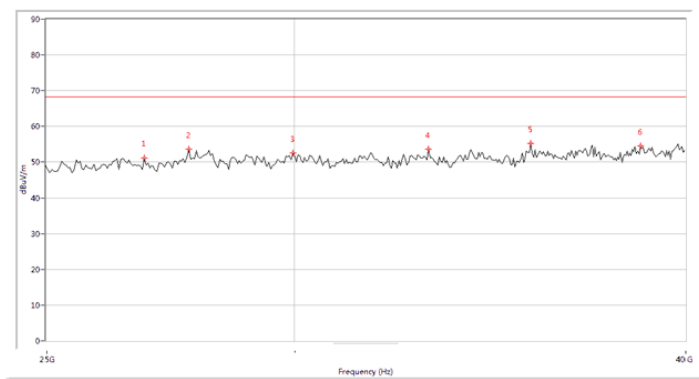


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
25372.406	52.13	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
27357.661	51.61	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
28815.546	53.15	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
31732.317	52.31	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
33946.015	53.53	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36851.786	55.01	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
88.055	23.01	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
155.786	26.33	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
453.317	29.60	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
958.878	40.18	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
5825.000	62.65	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
10516.209	43.64	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26875.032	51.12	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
27763.808	53.61	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29974.506	52.63	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
33115.721	53.57	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
35693.825	55.21	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
38692.077	54.51	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

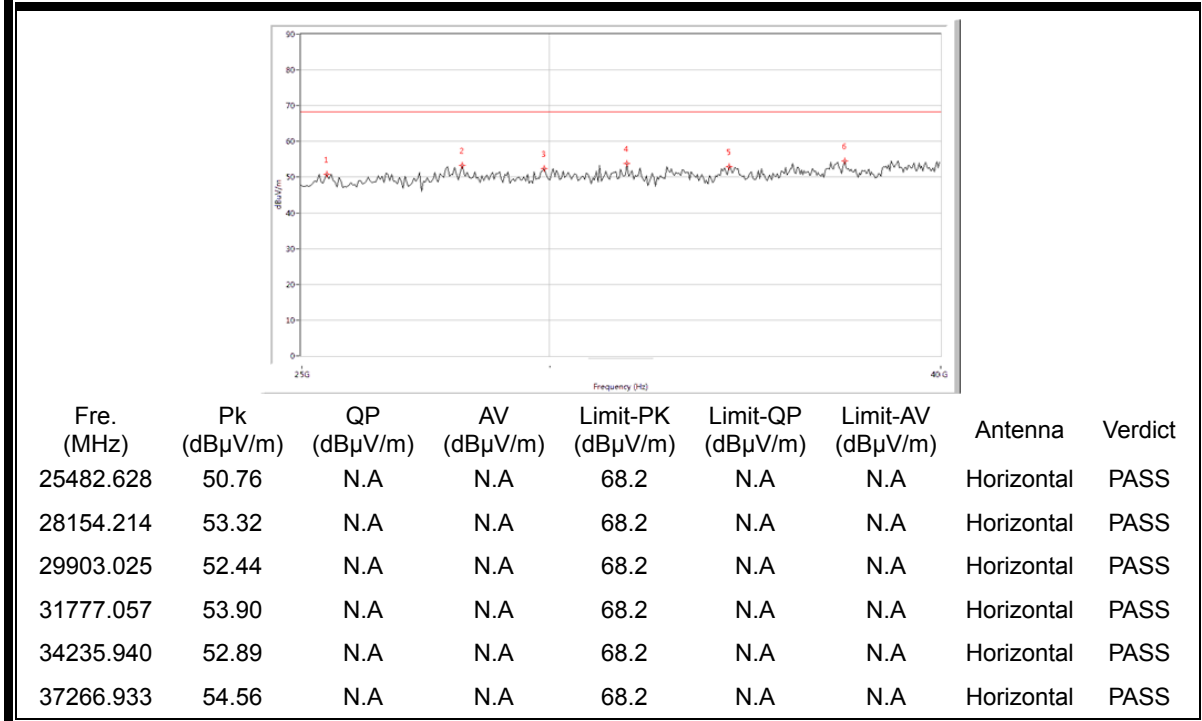
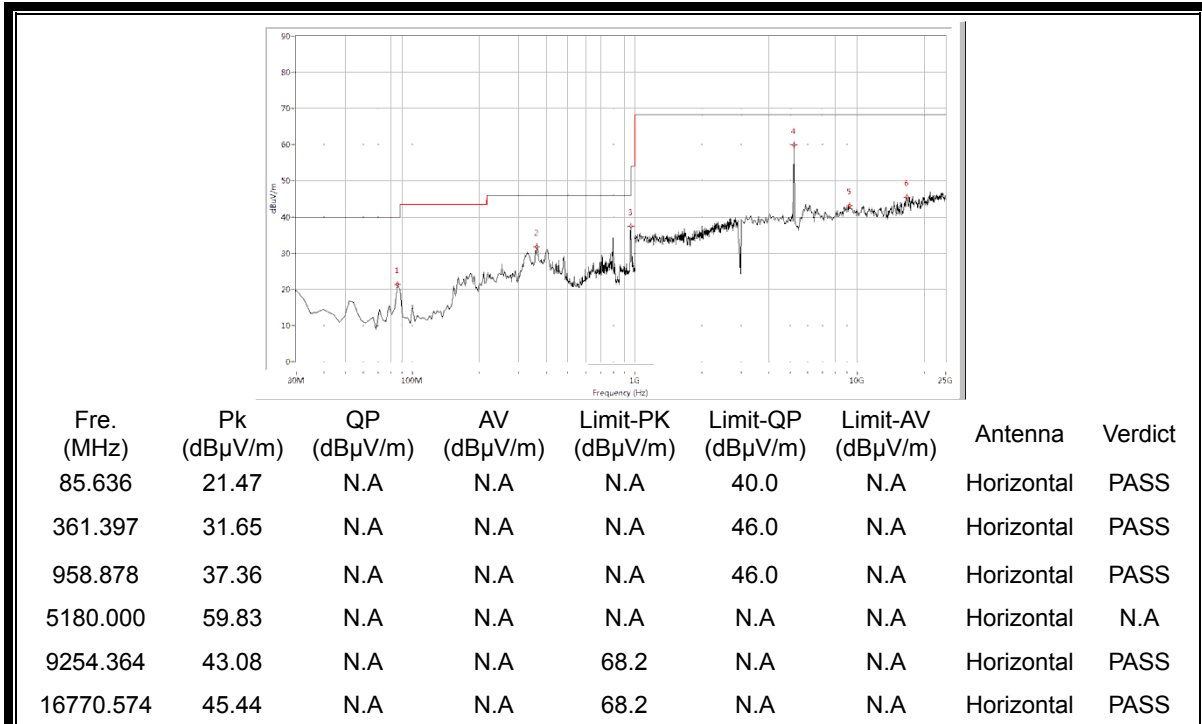
(Antenna Vertical, 30MHz to 40GHz)



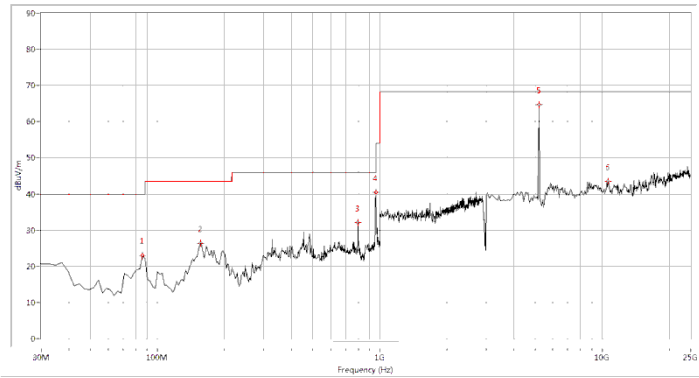
2.8.3.2 802.11n-20MHz Test mode

A. Test Plots for the Whole Measurement Frequency Range:

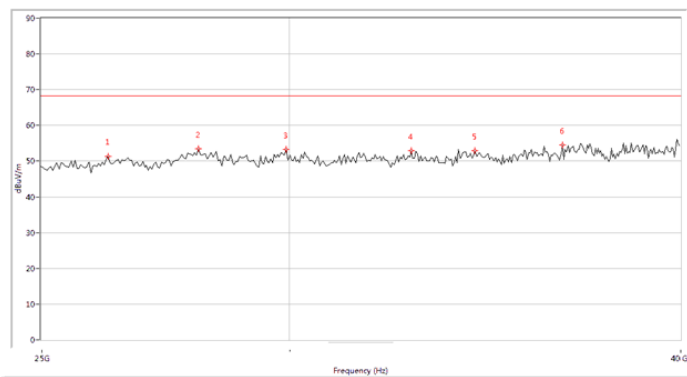
Plots for Channel = 36



(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	23.01	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
155.786	26.40	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
796.808	32.10	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
958.878	40.46	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
5180.000	64.76	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
10625.935	43.47	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

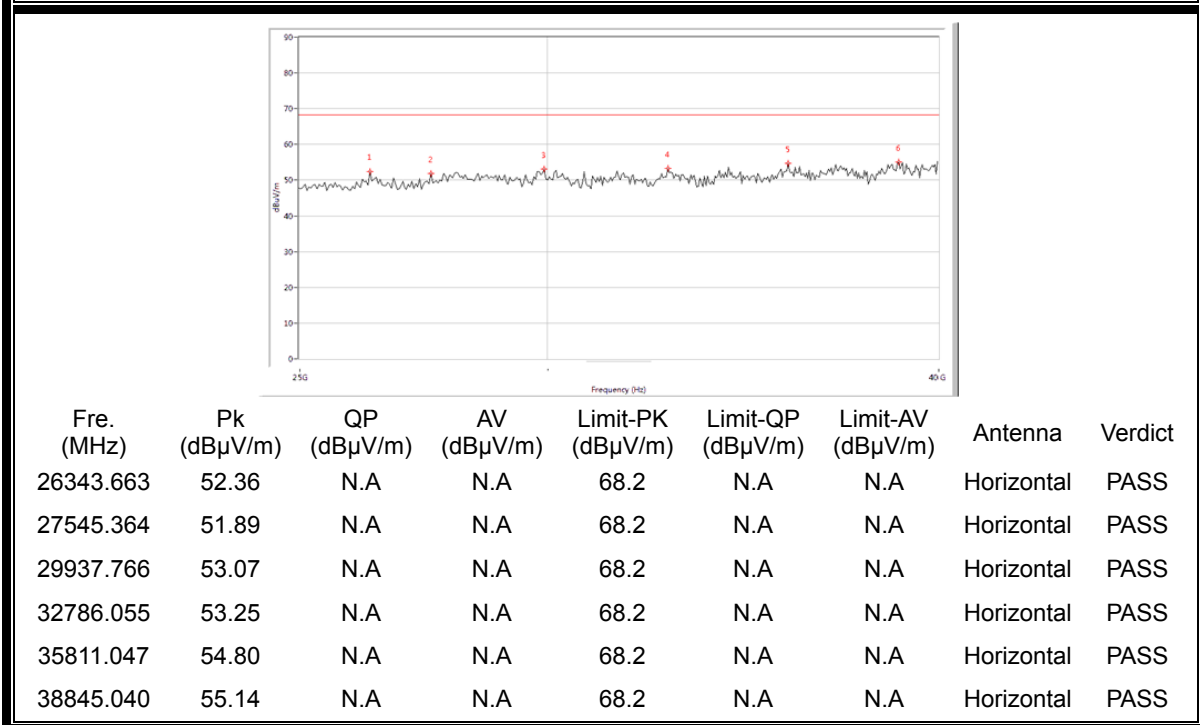
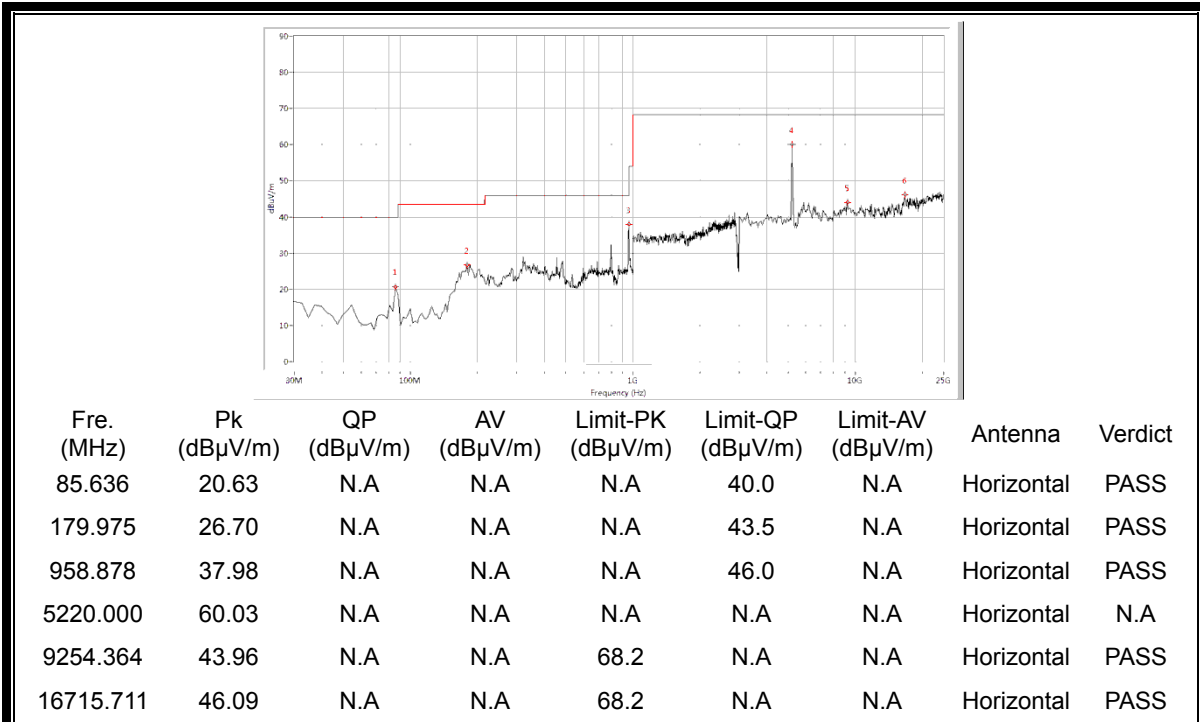


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26273.182	51.34	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28065.733	53.39	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29931.766	53.31	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
32815.796	52.98	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34380.903	52.93	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36676.082	54.52	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

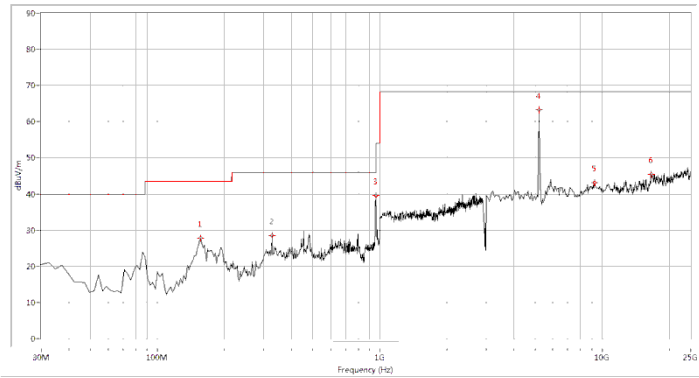
(Antenna Vertical, 30MHz to 40GHz)



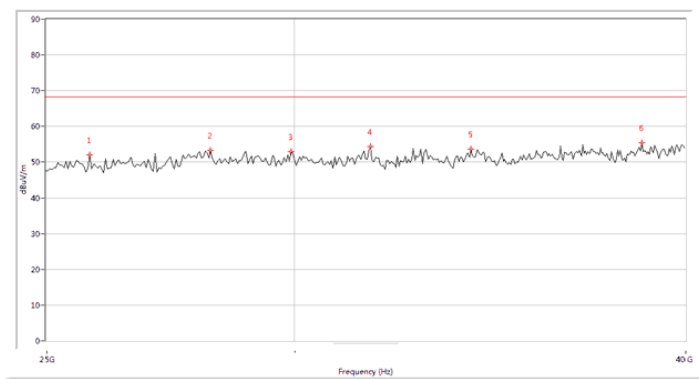
Plot for Channel = 44



(Antenna Horizontal, 30MHz to 25GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
155.786	27.73	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
327.531	28.44	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
958.878	39.63	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
5220.000	63.34	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
9254.364	43.09	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
16605.985	45.44	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

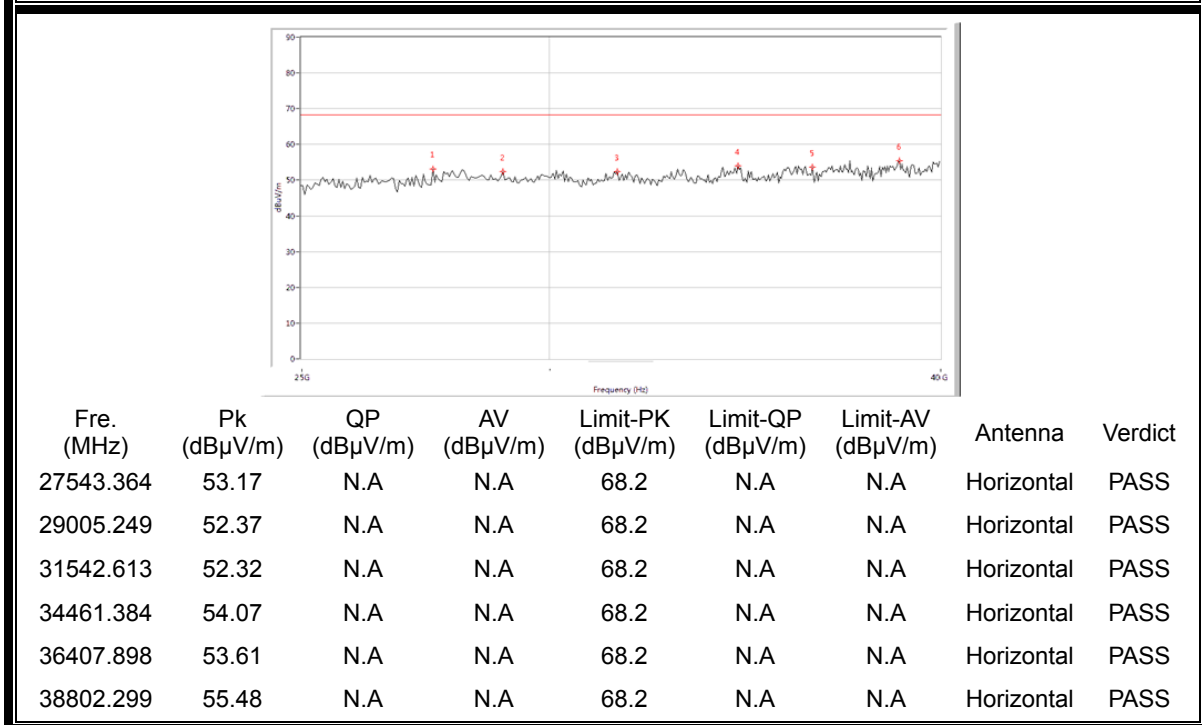
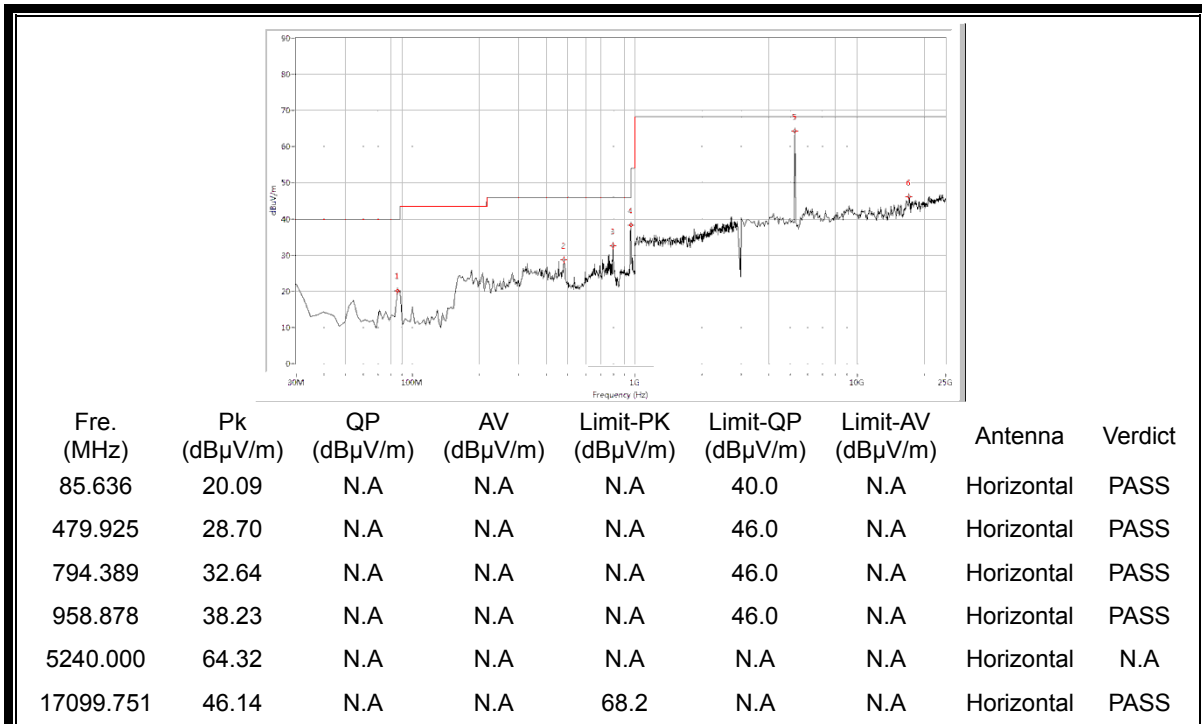


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
25823.294	52.01	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28215.696	53.27	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29930.766	52.87	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31735.317	54.41	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34167.459	53.63	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
38723.818	55.41	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

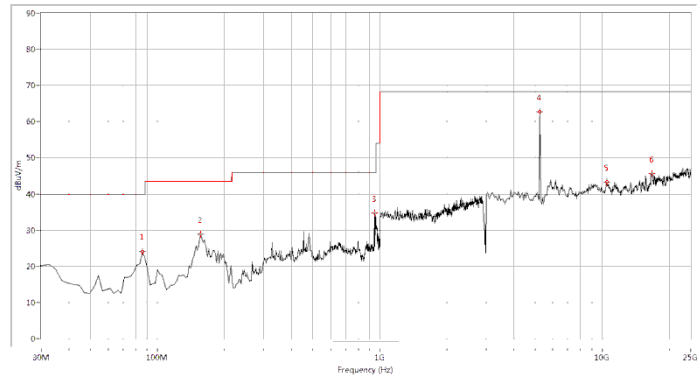
(Antenna Vertical, 30MHz to 25GHz)



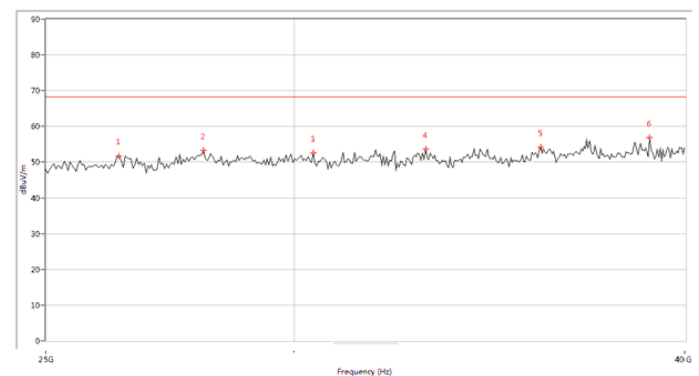
Plot for Channel = 48



(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	24.15	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
155.786	28.87	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
946.783	34.83	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
5240.000	62.71	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
10516.209	43.29	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
16715.711	45.56	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26384.404	51.73	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28062.733	53.22	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
30421.394	52.56	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
33043.239	53.73	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
35960.010	54.21	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
38955.262	56.80	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

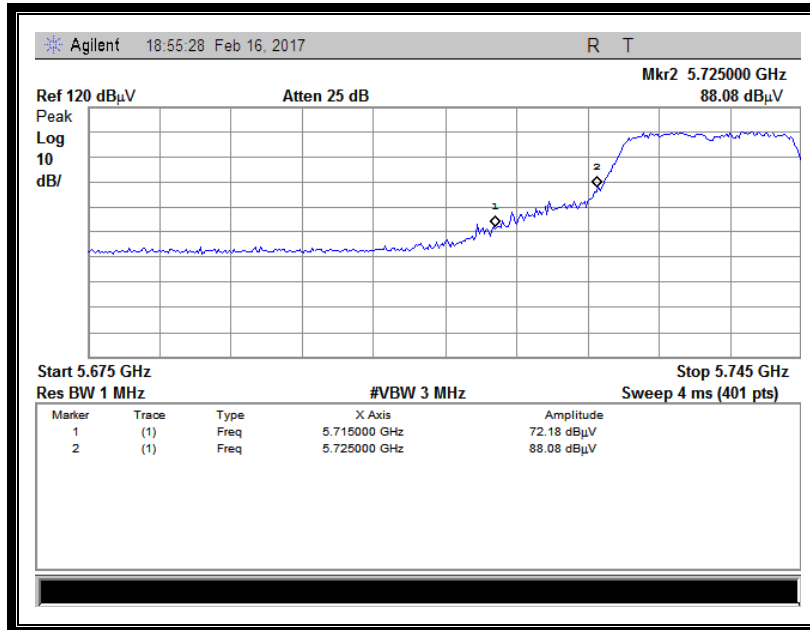
(Antenna Vertical, 30MHz to 40GHz)



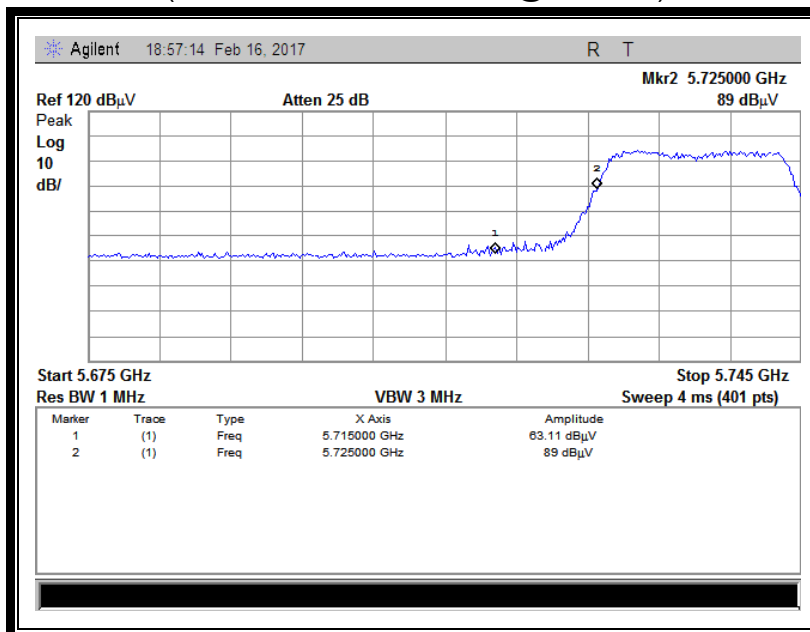


Plots for Channel = 149

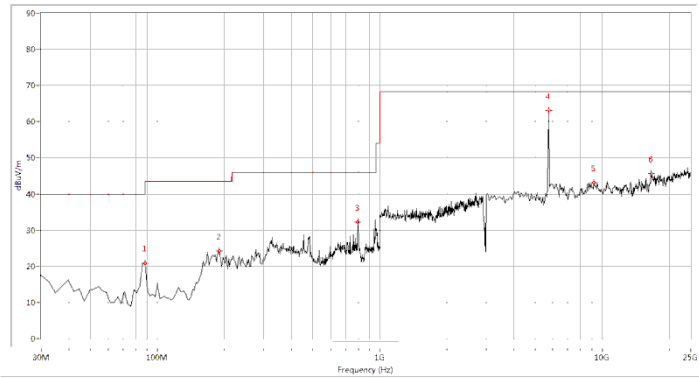
Channel	Frequency (MHz)	Antenna	Receiver Reading	A <sub>T</sub> (dB)	A <sub>Factor</sub> (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
		Horiz./ Vert.	U <sub>R</sub> (dBuV)					
149	5725.00	Horizontal	88.08	-50.65	32.11	69.54	78.2	Pass
149	5725.00	Vertical	89.00	-50.65	32.11	70.46	78.2	Pass



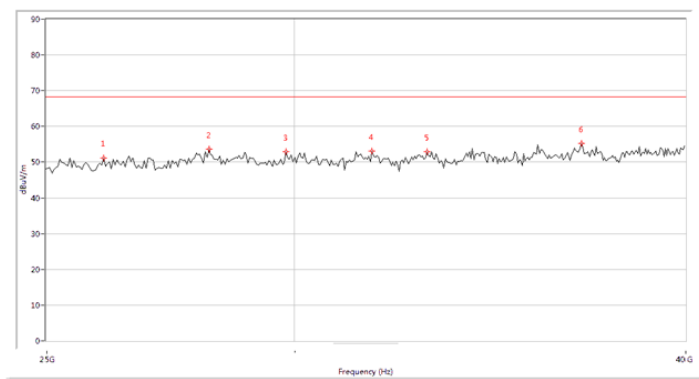
(Channel = 149 Horizontal @ 802.11n)



(Channel = 149 Vertical @ 802.11n)

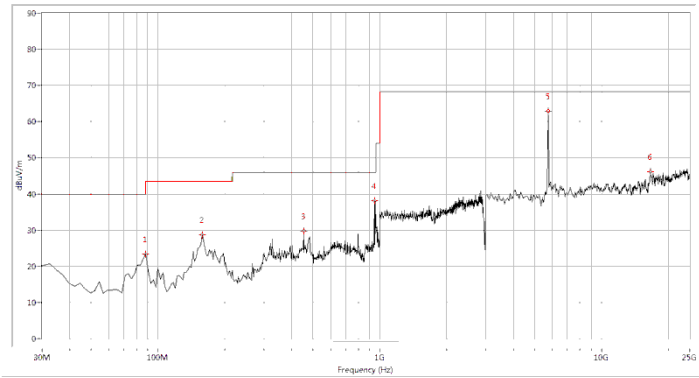


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
88.055	20.78	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
189.651	24.17	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
794.389	32.22	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
5745.000	63.00	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
9199.501	43.11	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
16605.985	45.69	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

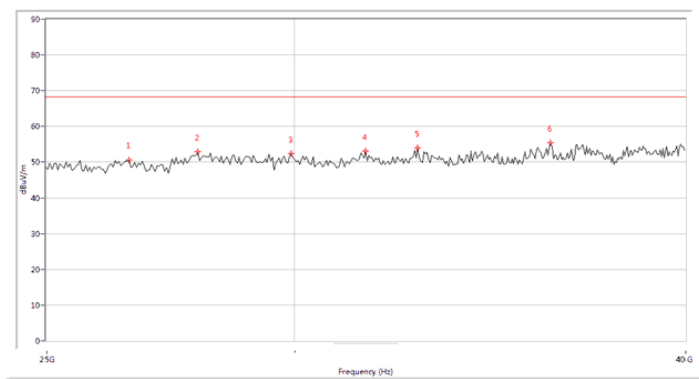


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26082.479	51.20	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
28173.955	53.57	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29827.544	52.92	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
31775.057	53.18	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
33076.980	52.85	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
37042.489	55.25	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
88.055	23.29	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
158.204	28.72	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
453.317	29.79	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
946.783	38.10	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
5745.000	62.95	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
16660.848	46.22	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

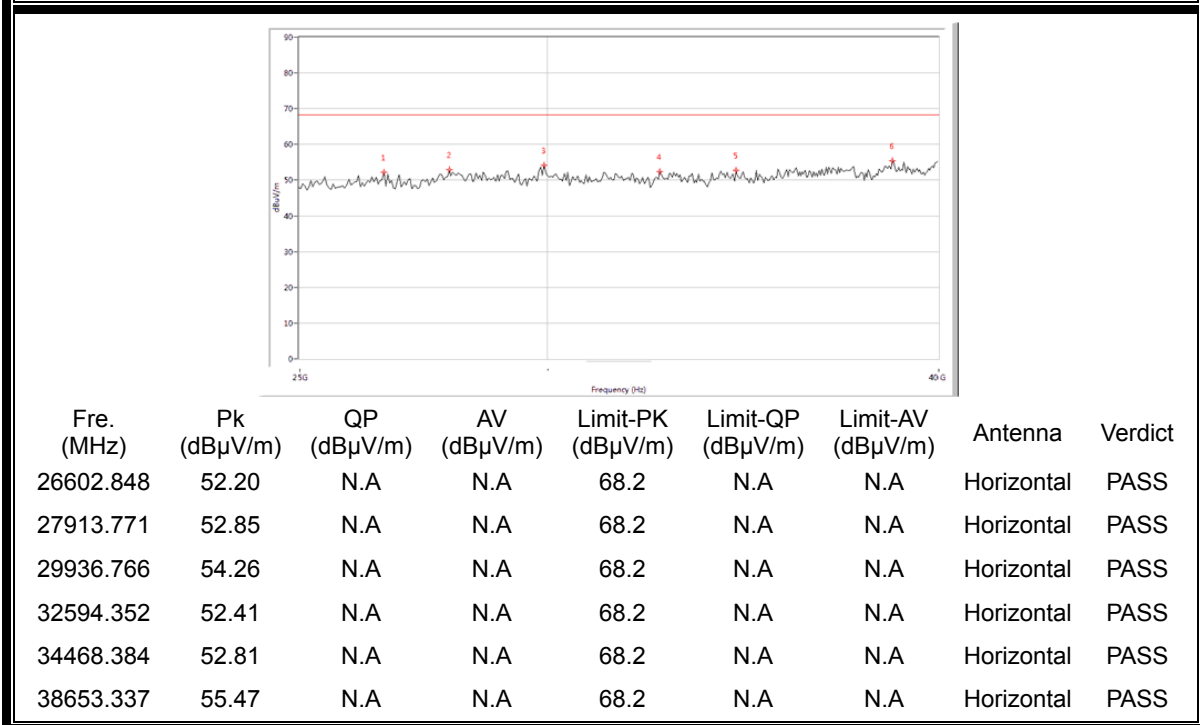
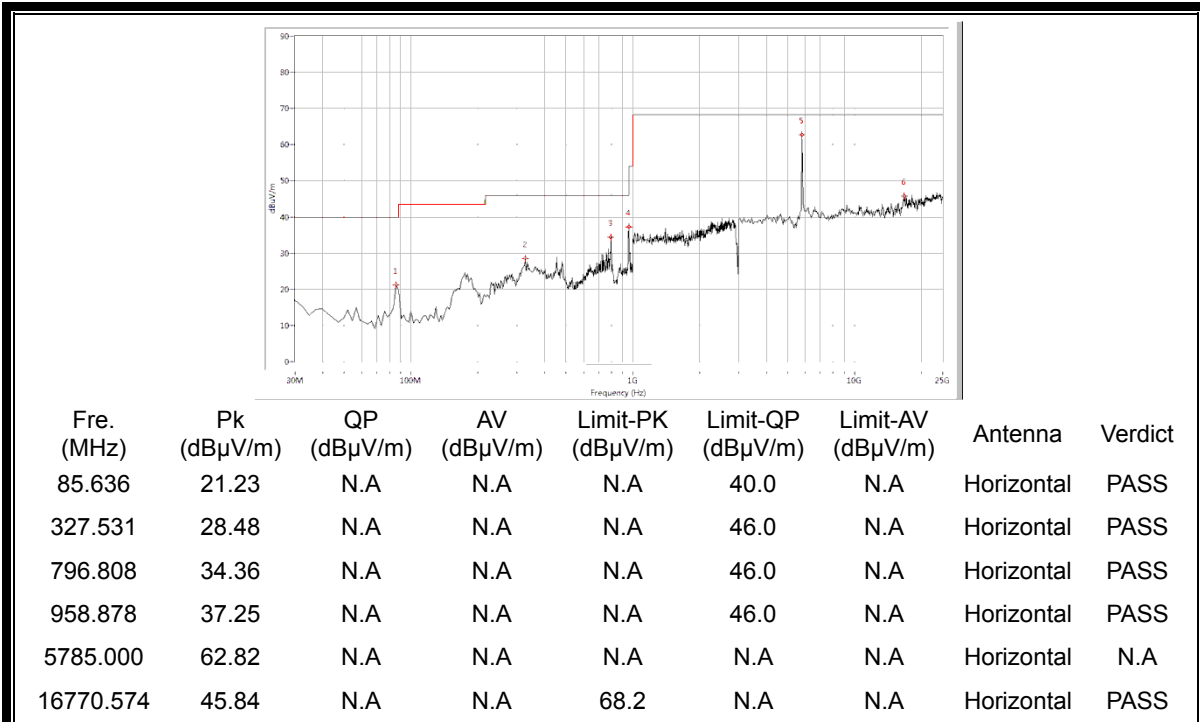


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26573.107	50.55	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
27950.511	52.98	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29935.766	52.38	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31626.095	53.09	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
32857.536	53.97	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36221.195	55.34	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

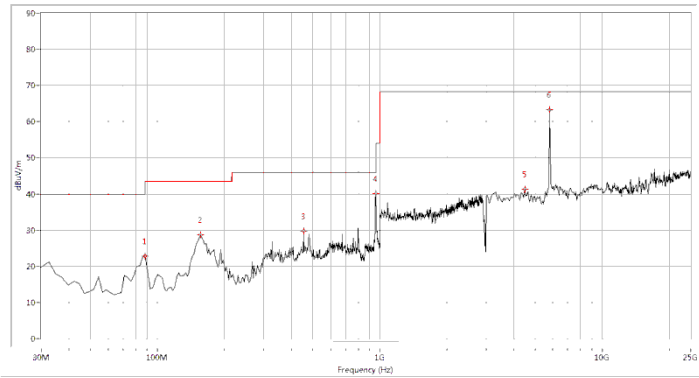
(Antenna Vertical, 30MHz to 40GHz)



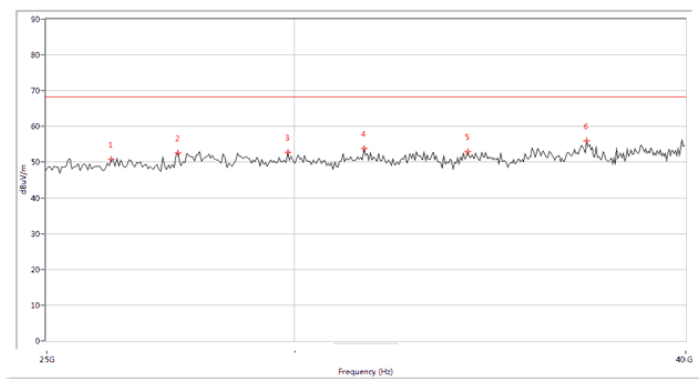
Plot for Channel = 157



(Antenna Horizontal, 30MHz to 25GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
88.055	22.82	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
155.786	28.75	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
453.317	29.70	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
958.878	40.07	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
4481.297	41.32	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5785.000	63.19	N.A	N.A	N.A	N.A	N.A	Vertical	N.A



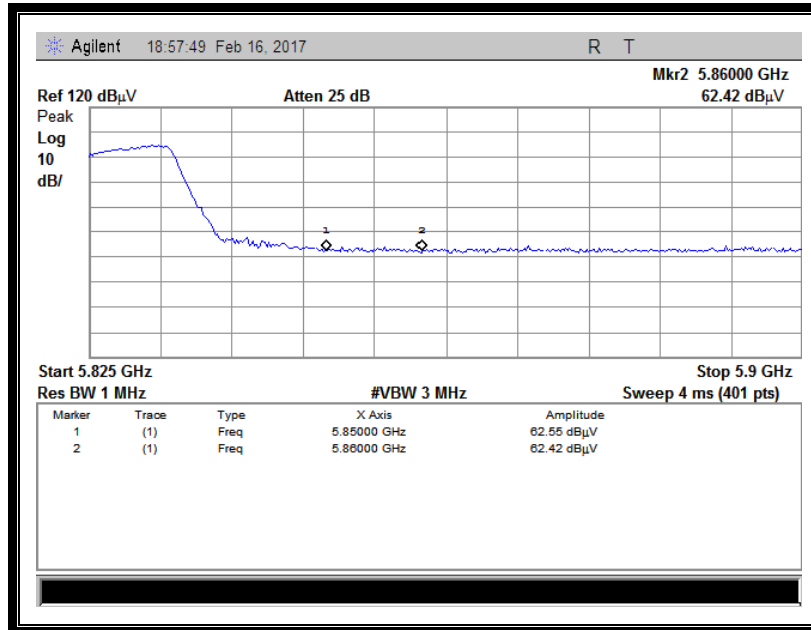
Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26236.441	50.71	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
27543.364	52.56	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29862.284	52.82	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31587.354	53.87	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34085.978	52.89	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
37191.451	55.94	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 25GHz)

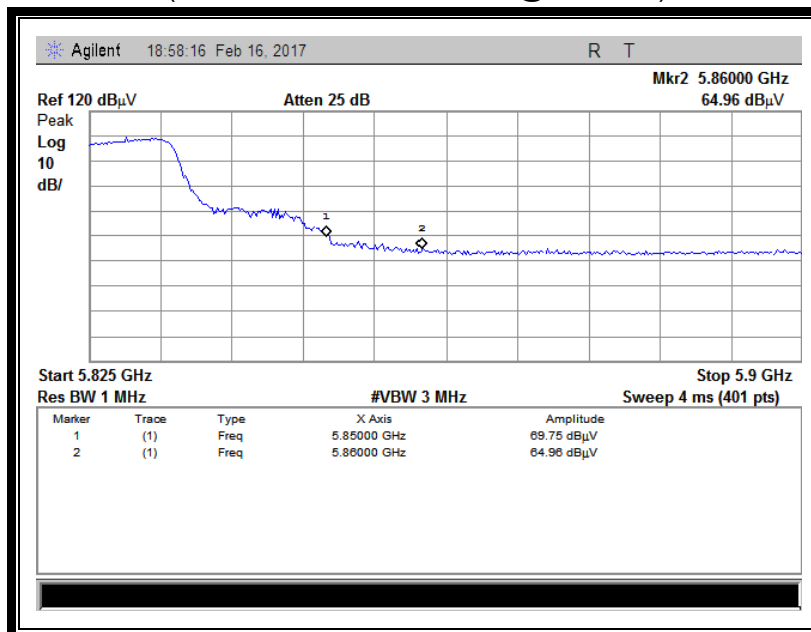


Plot for Channel = 165

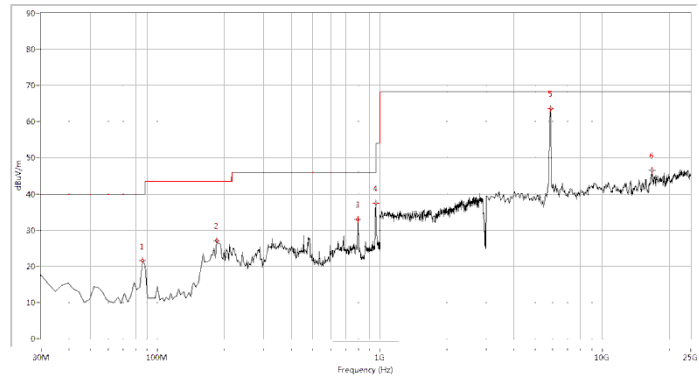
Channel	Frequency (MHz)	Antenna	Receiver Reading	A <sub>T</sub> (dB)	A <sub>Factor</sub> (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
		Horiz./ Vert.	U <sub>R</sub> (dBuV)					
165	5850.00	Horizontal	62.42	-50.65	32.11	43.88	78.2	Pass
165	5850.00	Vertical	64.96	-50.65	32.11	46.42	78.2	Pass



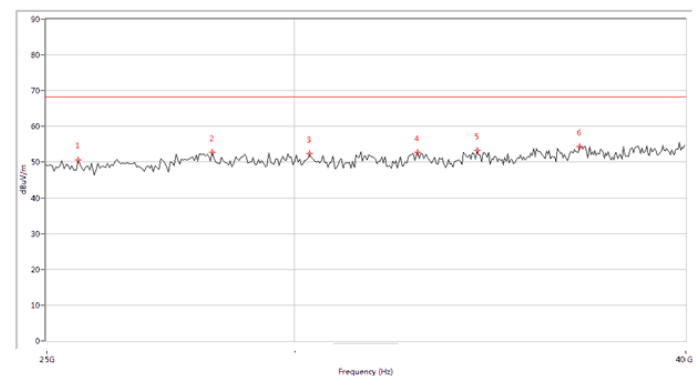
(Channel = 165 Horizontal @ 802.11n)



(Channel = 165 Vertical @ 802.11n)

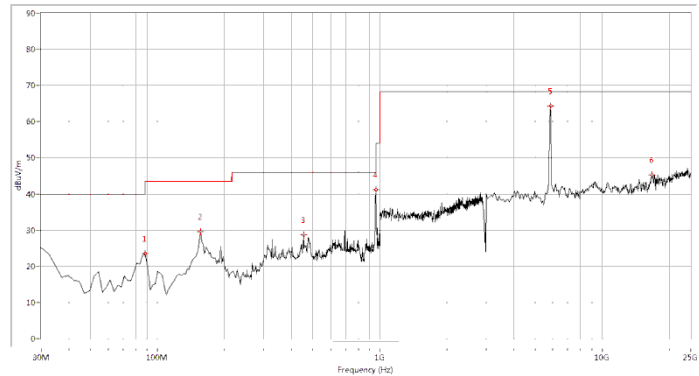


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	21.51	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
184.813	27.08	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
799.227	32.98	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
958.878	37.38	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
5825.000	63.60	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
16770.574	46.43	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

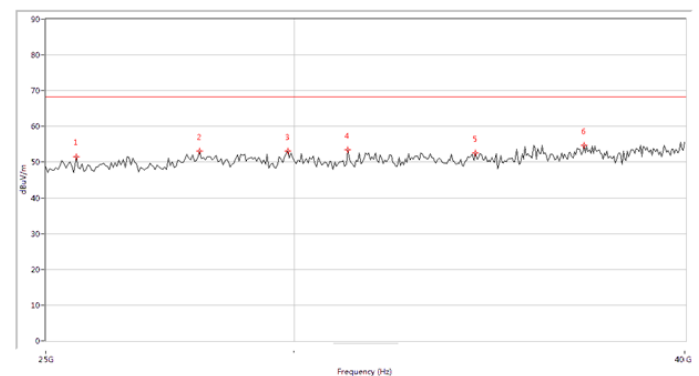


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
25593.850	50.67	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
28250.436	52.80	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
30374.913	52.41	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32851.536	52.75	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
34313.421	53.36	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
37006.748	54.27	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
88.055	23.52	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
155.786	29.56	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
453.317	28.72	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
958.878	41.12	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
5825.000	64.25	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
16770.574	45.25	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
25563.110	51.44	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
27994.252	53.09	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29866.284	53.03	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31205.948	53.54	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34278.681	52.54	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
37116.970	54.71	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

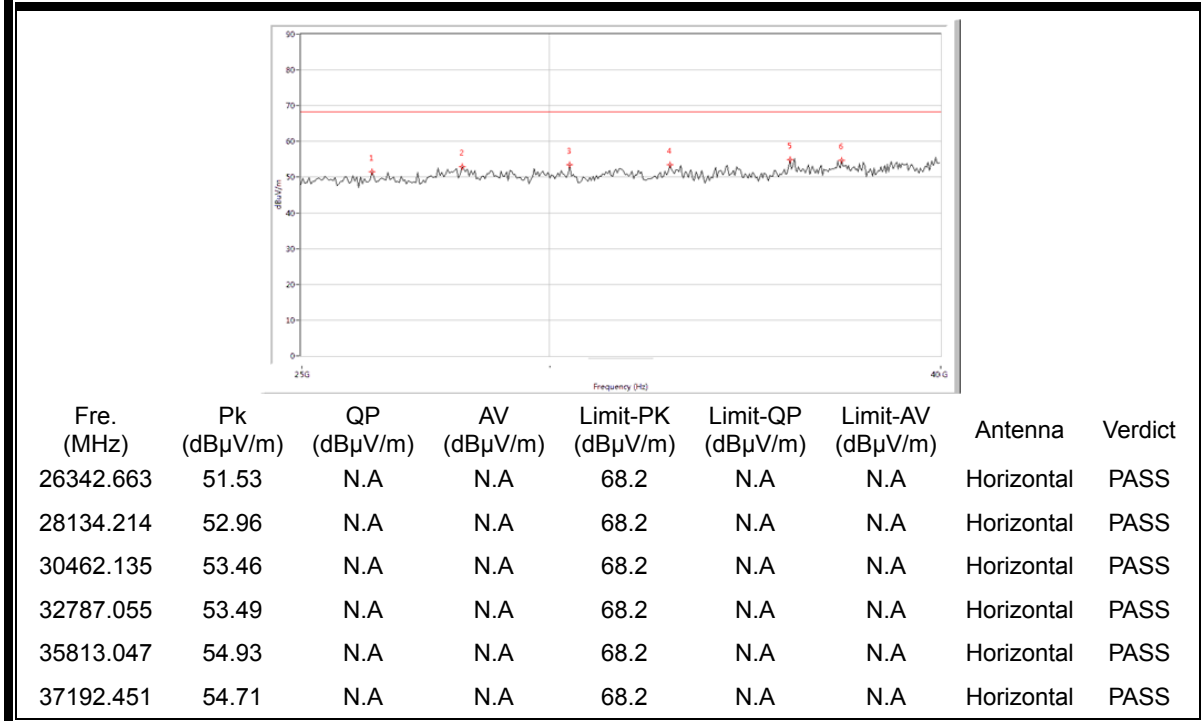
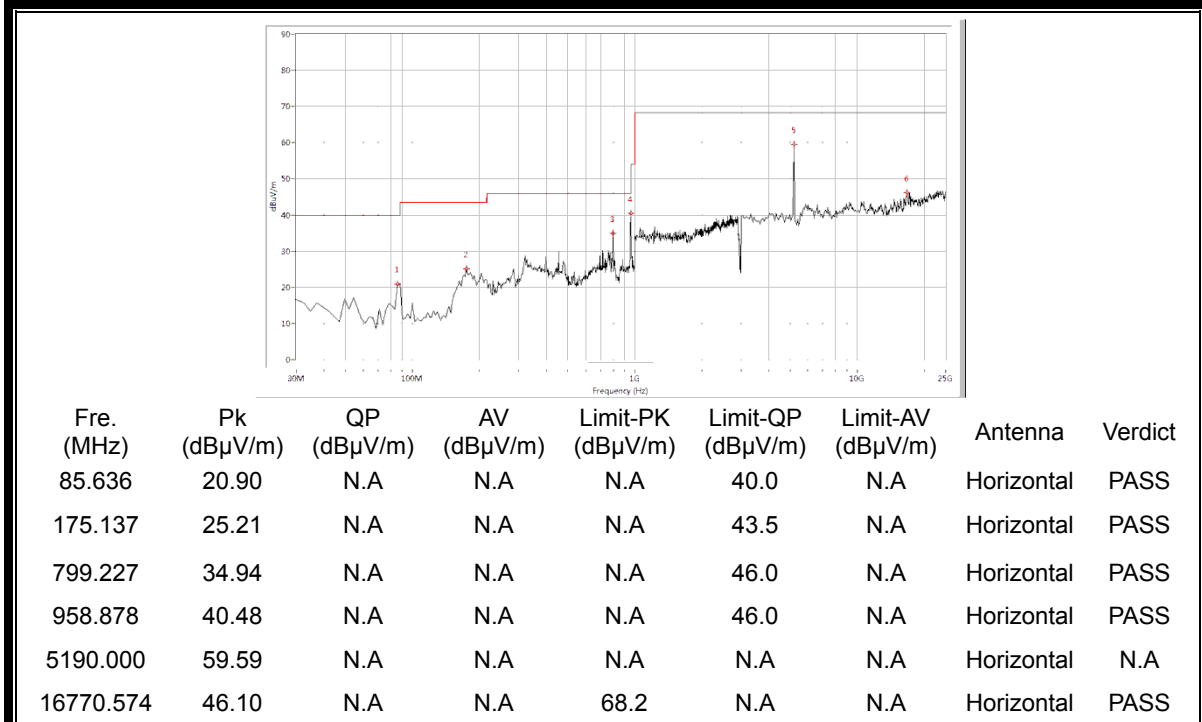




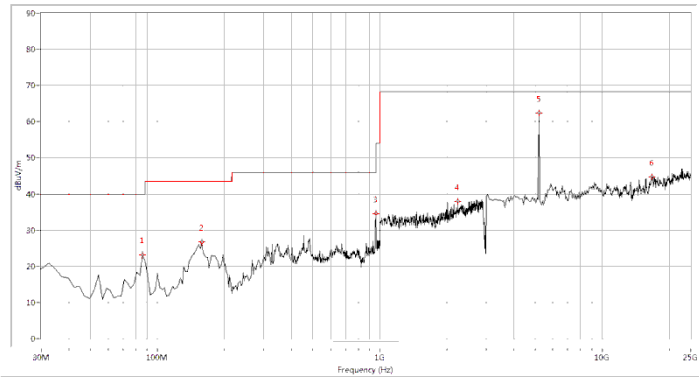
2.8.3.3 802.11ac-40MHz Test mode

A. Test Plots for the Whole Measurement Frequency Range:

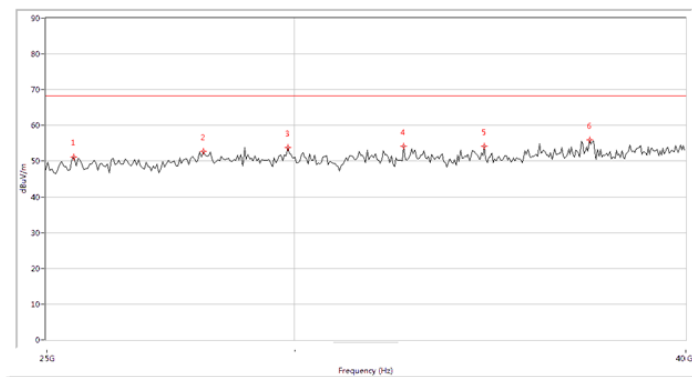
Plots for Channel = 38



(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	23.13	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
158.204	26.80	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
958.878	34.62	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
2241.895	37.94	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5190.000	62.35	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
16715.711	44.70	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

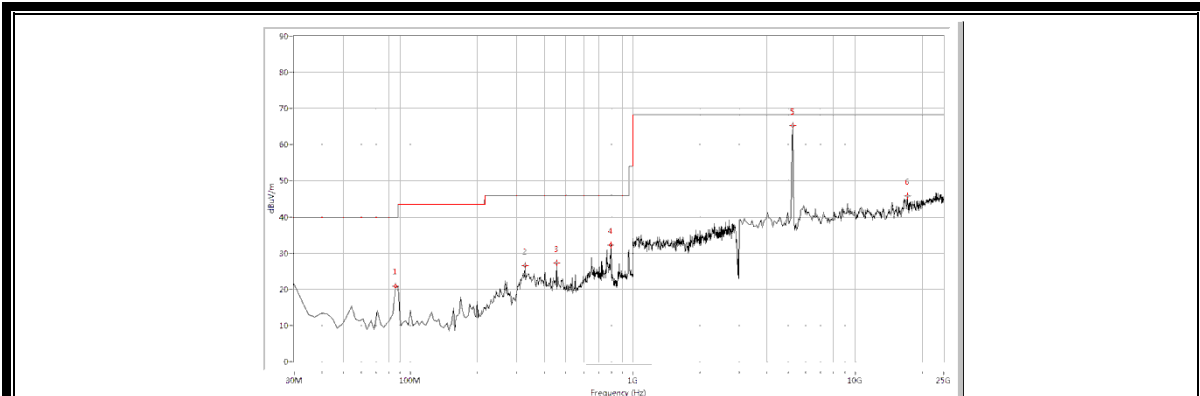


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
25523.369	51.19	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28067.733	52.67	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29861.284	53.77	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
32515.870	54.23	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34506.125	54.13	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
37260.933	55.94	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

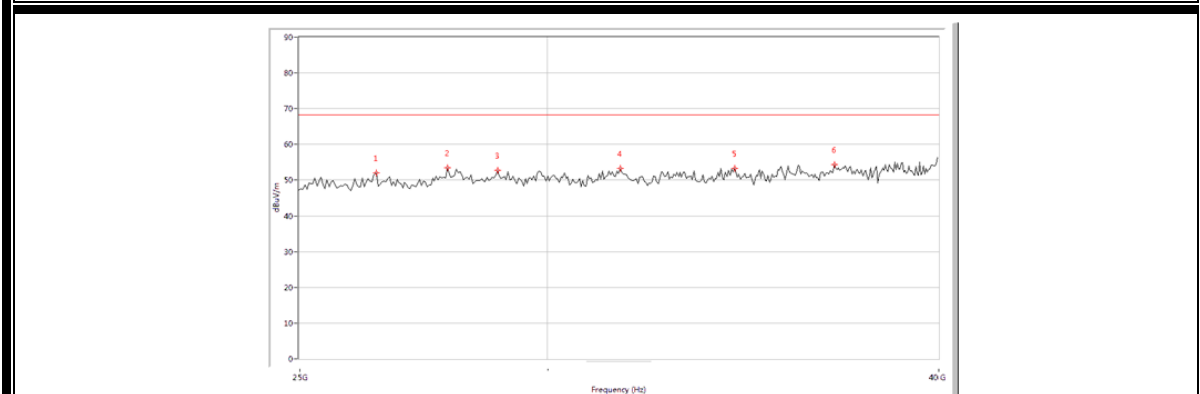
(Antenna Vertical, 30MHz to 40GHz)



Plot for Channel = 46

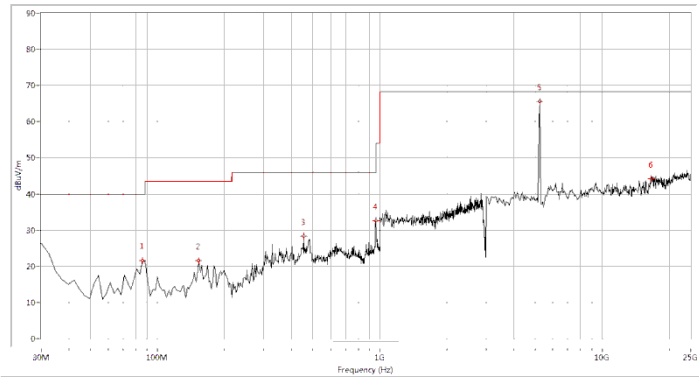


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	20.81	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
327.531	26.48	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
453.317	27.34	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
794.389	32.23	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
5230.000	65.17	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
17154.613	45.73	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

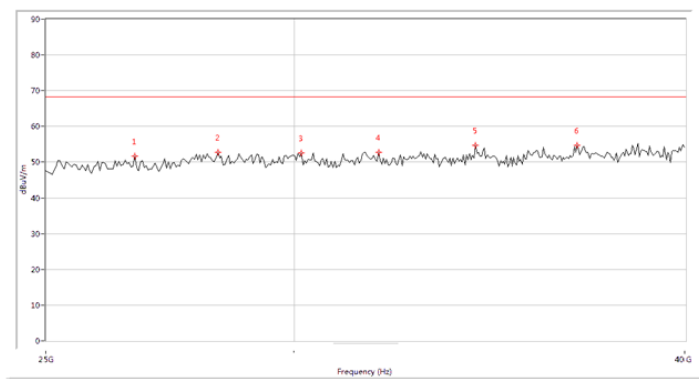


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26452.885	52.12	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
27883.030	53.52	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
28925.768	52.68	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
31651.835	53.34	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
34425.643	53.25	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
37047.489	54.44	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 25GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	21.50	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
153.367	21.49	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
453.317	28.37	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
958.878	32.69	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
5230.000	65.61	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
16660.848	44.20	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



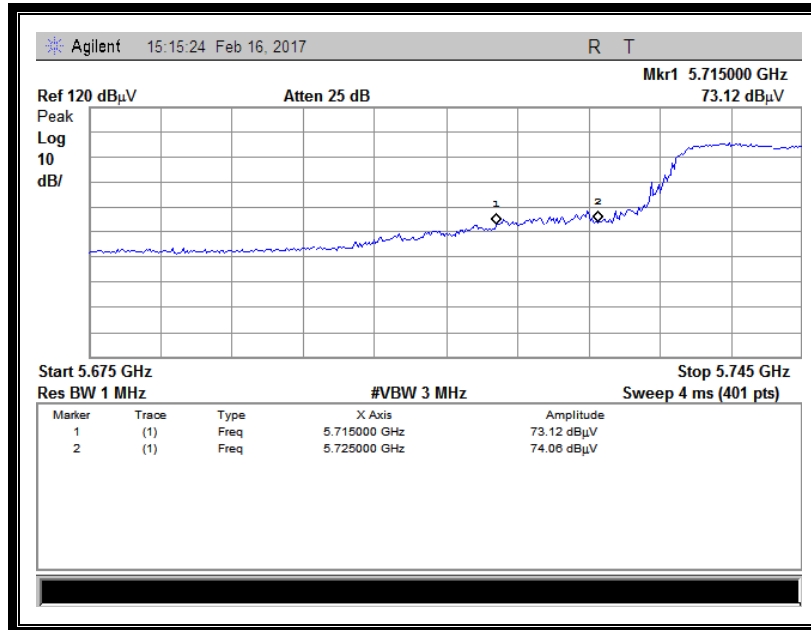
Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26682.329	51.70	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28362.658	52.76	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
30164.209	52.61	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31922.020	52.80	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34271.681	54.80	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36935.267	54.65	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

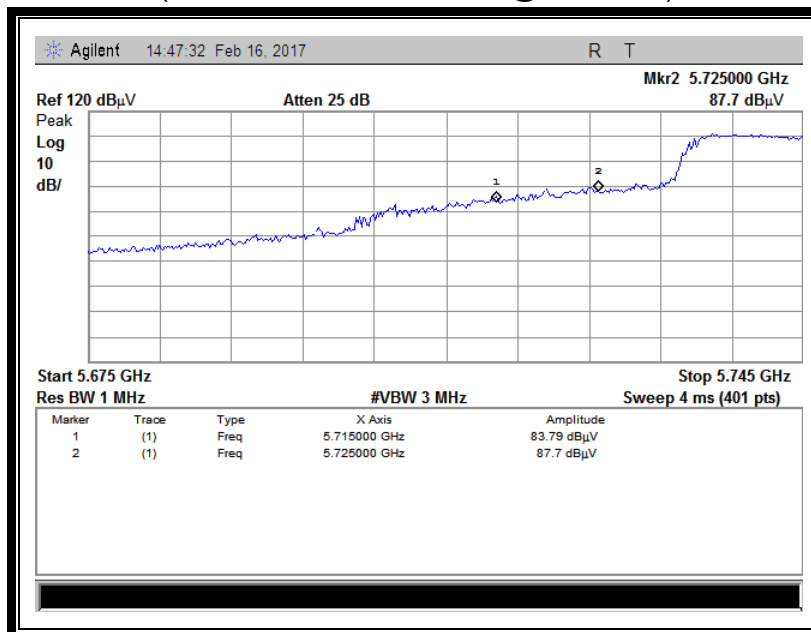


Plot for Channel = 151

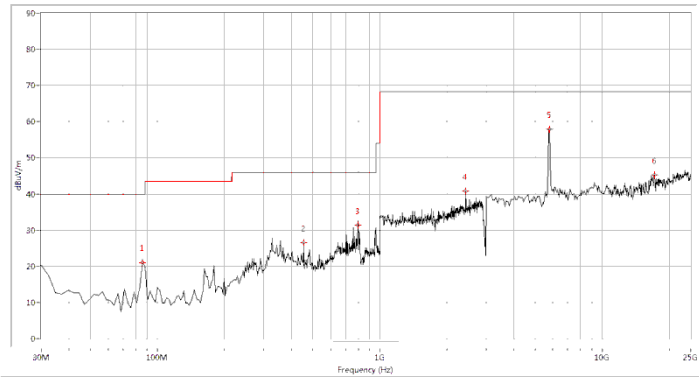
Channel	Frequency (MHz)	Antenna	Receiver Reading	A <sub>T</sub> (dB)	A <sub>Factor</sub> (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
		Horiz./ Vert.	U <sub>R</sub> (dBuV)					
151	5725.00	Horizontal	73.12	-50.65	32.11	54.58	78.2	Pass
151	5725.00	Vertical	87.70	-50.65	32.11	69.16	78.2	Pass



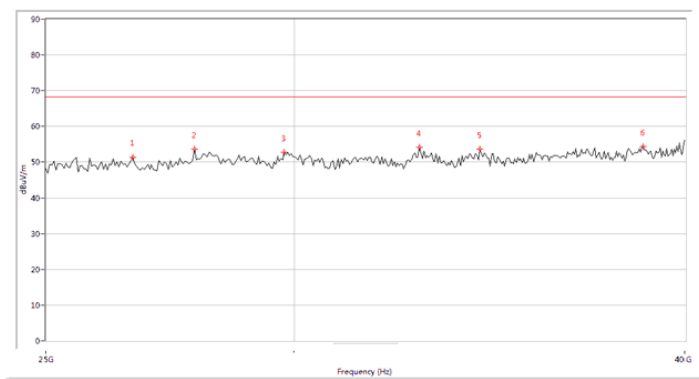
(Channel = 151 Horizontal @ 802.11ac)



(Channel = 151 Vertical @ 802.11ac)

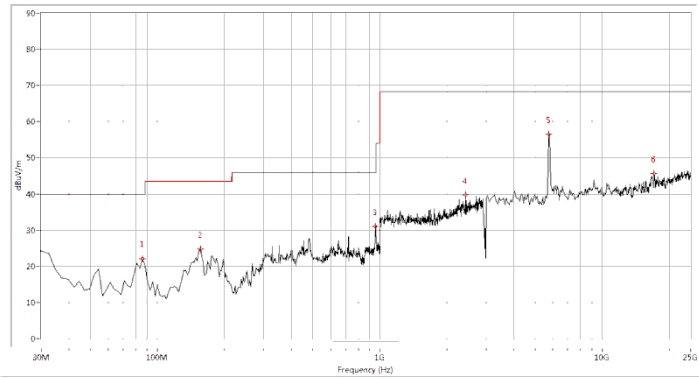


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	21.07	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
453.317	26.57	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
799.227	31.40	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
2436.409	40.88	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5755.000	57.86	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
17154.613	45.35	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

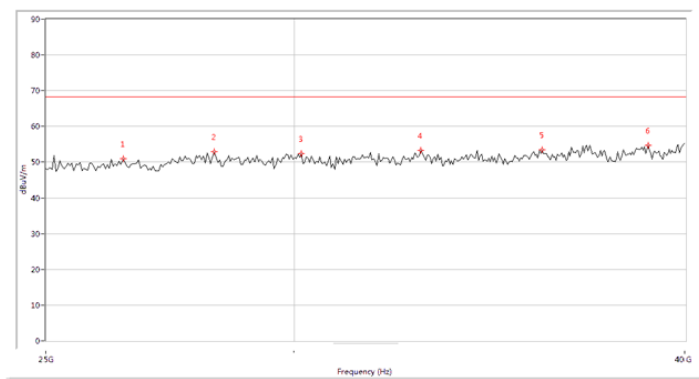


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26642.589	51.35	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
27885.030	53.58	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29787.803	52.72	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32891.277	54.15	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
34383.903	53.58	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
38766.559	54.34	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	22.02	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
155.786	24.75	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
956.459	30.98	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
2436.409	39.70	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5755.000	56.53	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
17099.751	45.55	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



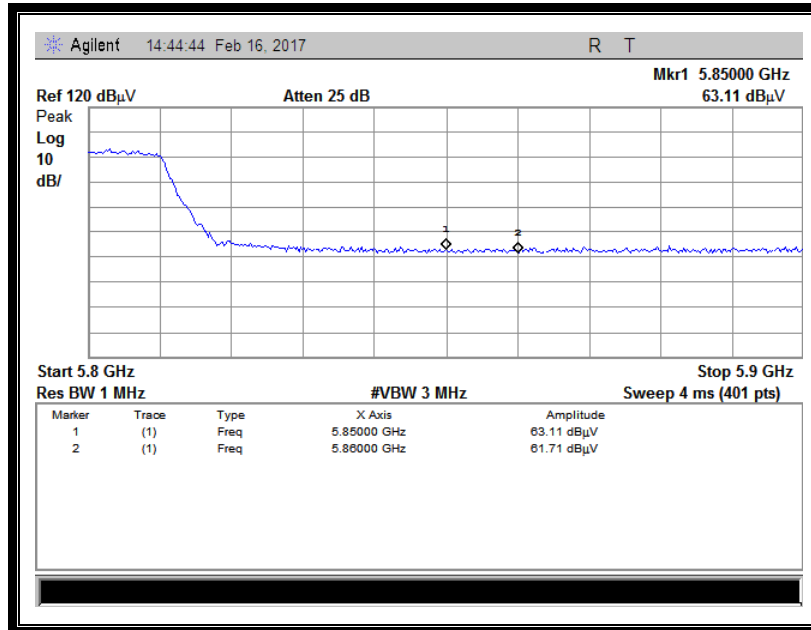
Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26452.885	50.96	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28219.177	52.95	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
30160.209	52.36	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
32933.017	53.31	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
35991.751	53.53	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
38915.521	54.70	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

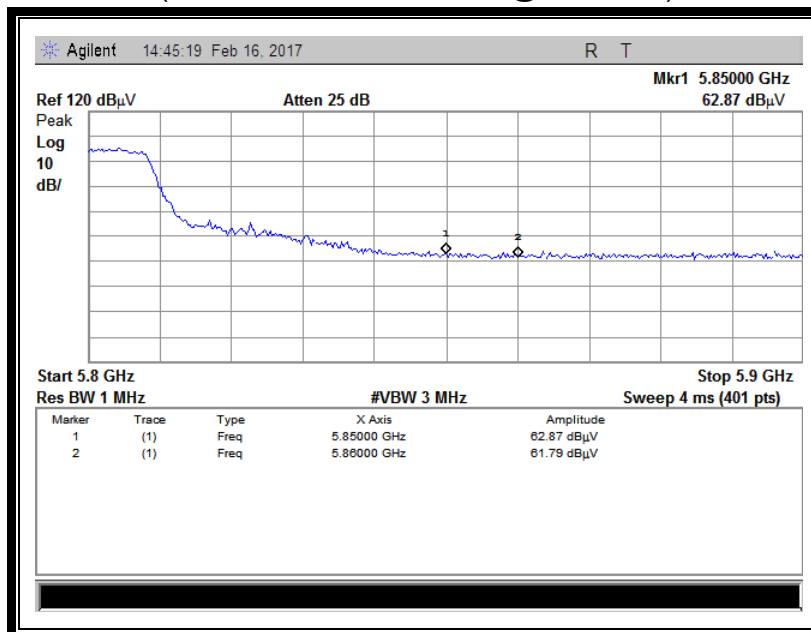


Plots for Channel = 159

Channel	Frequency (MHz)	Antenna	Receiver Reading	A <sub>T</sub> (dB)	A <sub>Factor</sub> (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
		Horiz./ Vert.	U <sub>R</sub> (dBuV)					
159	5850.00	Horizontal	63.11	-50.65	32.11	44.57	78.2	Pass
159	5850.00	Vertical	62.87	-50.65	32.11	44.33	78.2	Pass

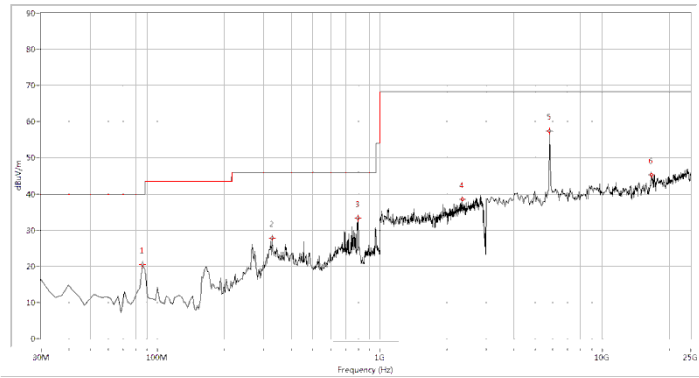


(Channel = 159 Horizontal @ 802.11ac)

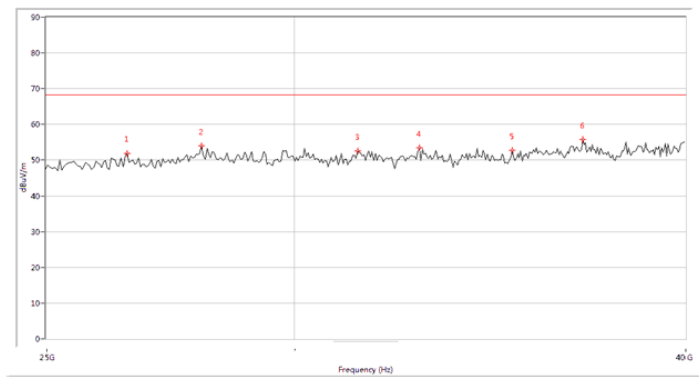


(Channel = 159 Vertical @ 802.11ac)



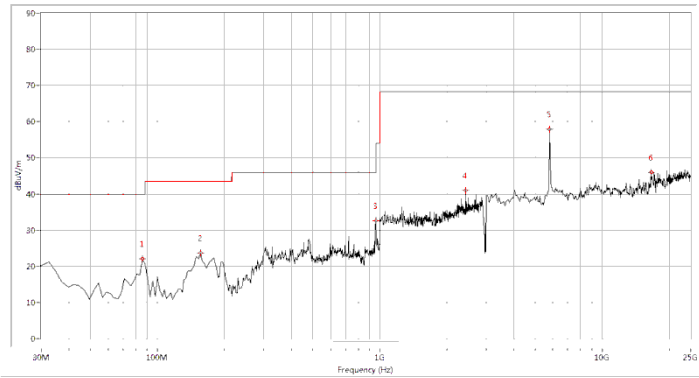


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	20.54	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
327.531	27.84	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
794.389	33.26	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
2346.633	38.47	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5795.000	57.44	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
16660.848	45.31	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

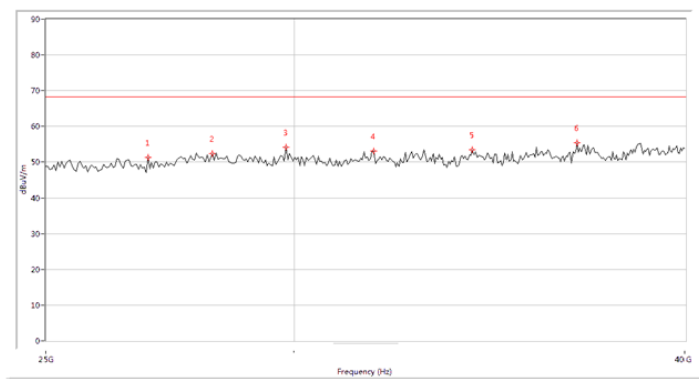


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26533.367	51.78	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
28028.993	53.93	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
31435.392	52.58	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32894.277	53.42	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
35210.197	52.80	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
37088.229	55.85	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	22.19	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
155.786	23.67	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
958.878	32.58	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
2431.421	40.96	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5795.000	58.00	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
16605.985	45.91	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26943.514	51.30	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28252.436	52.37	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29829.544	54.10	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31801.798	53.09	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34205.200	53.39	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36937.267	55.37	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

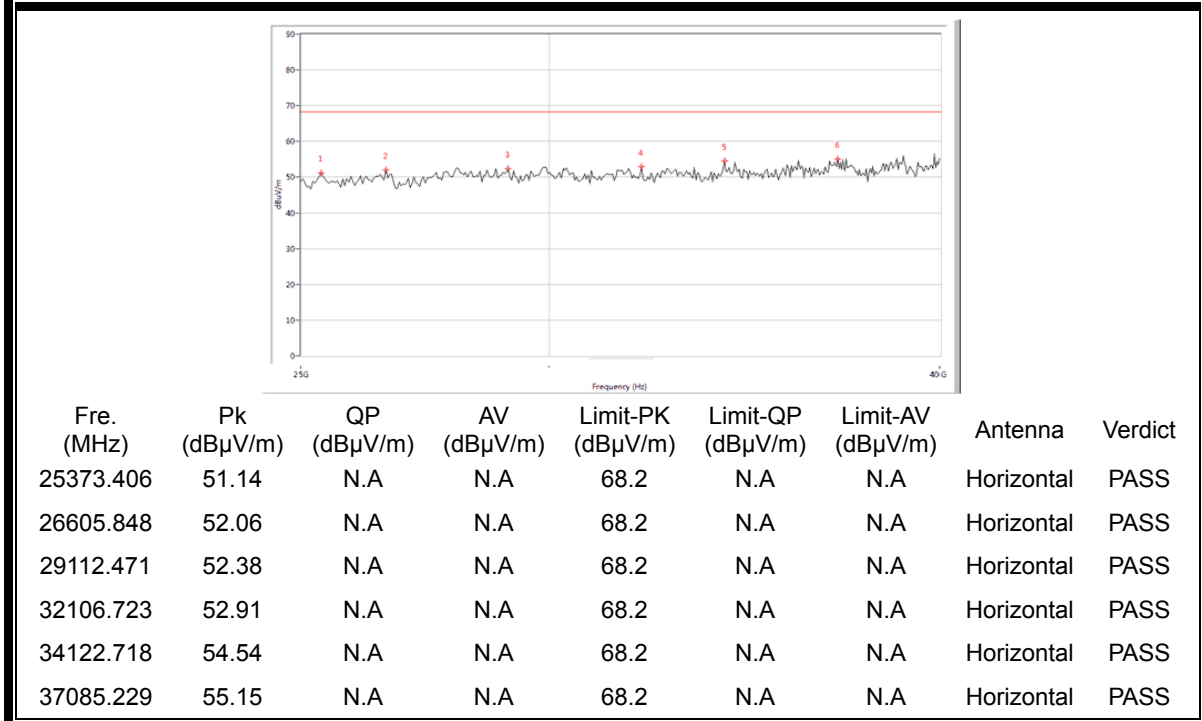
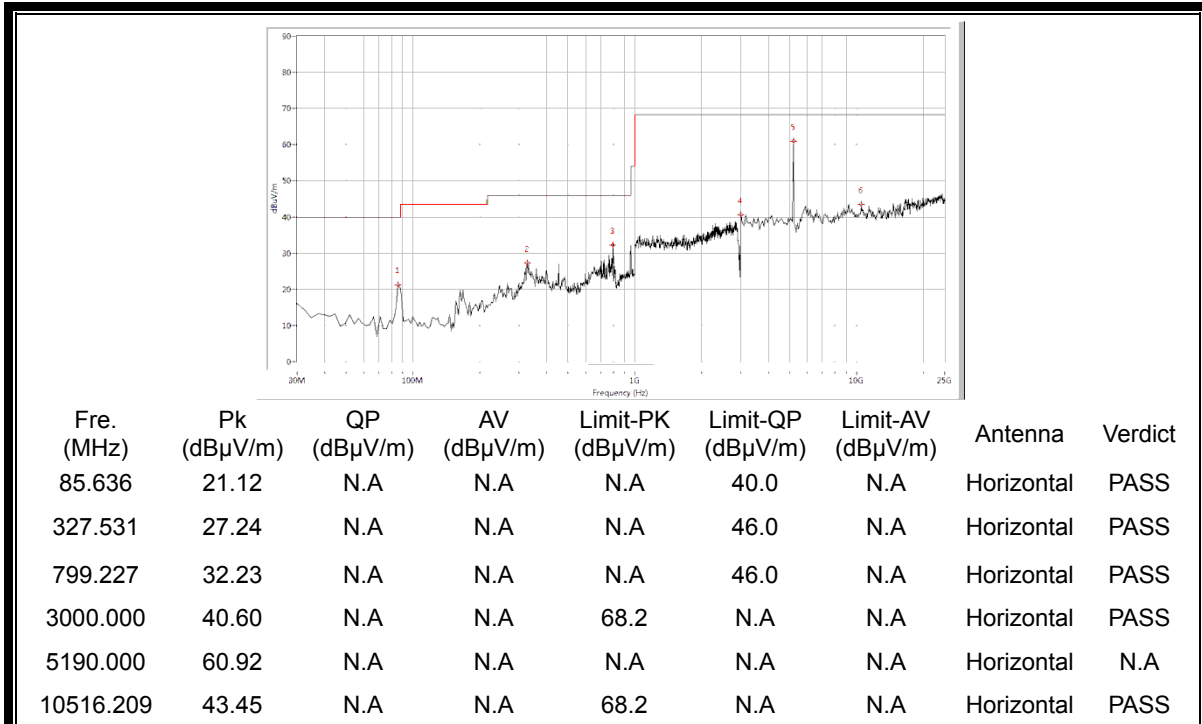
(Antenna Vertical, 30MHz to 40GHz)



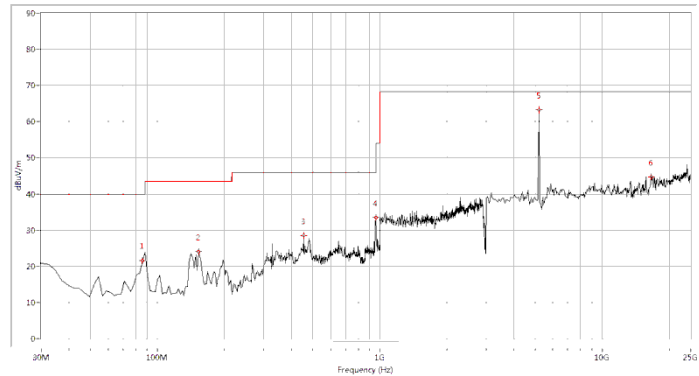
2.8.3.4 802.11n-40MHz Test mode

A. Test Plots for the Whole Measurement Frequency Range:

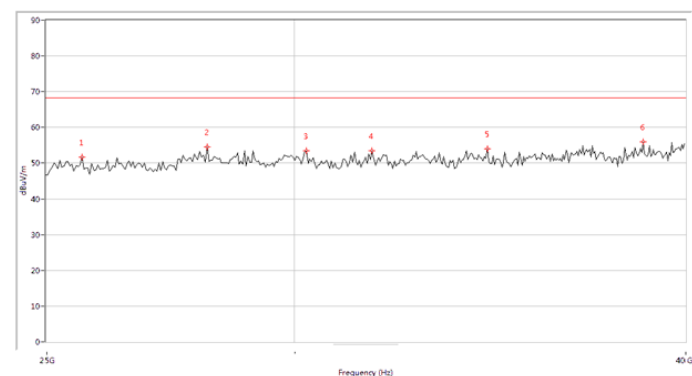
Plots for Channel = 38



(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	21.53	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
153.367	24.06	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
453.317	28.52	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
958.878	33.51	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
5190.000	63.26	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
16660.848	44.65	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

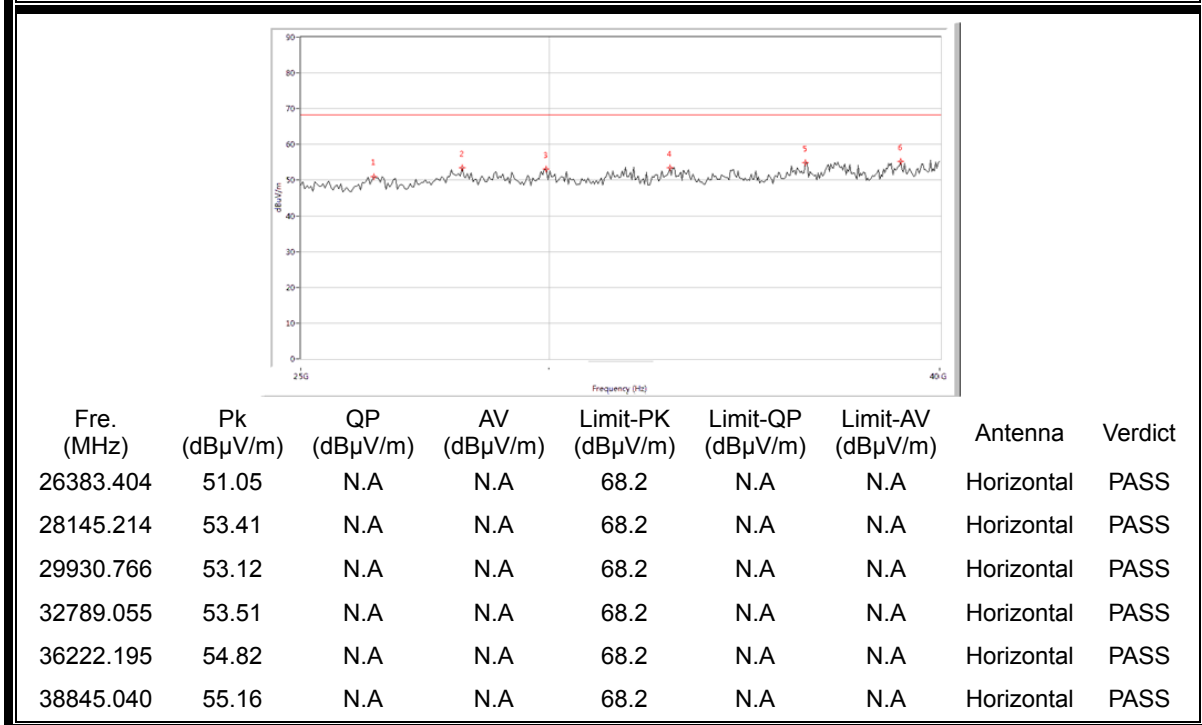
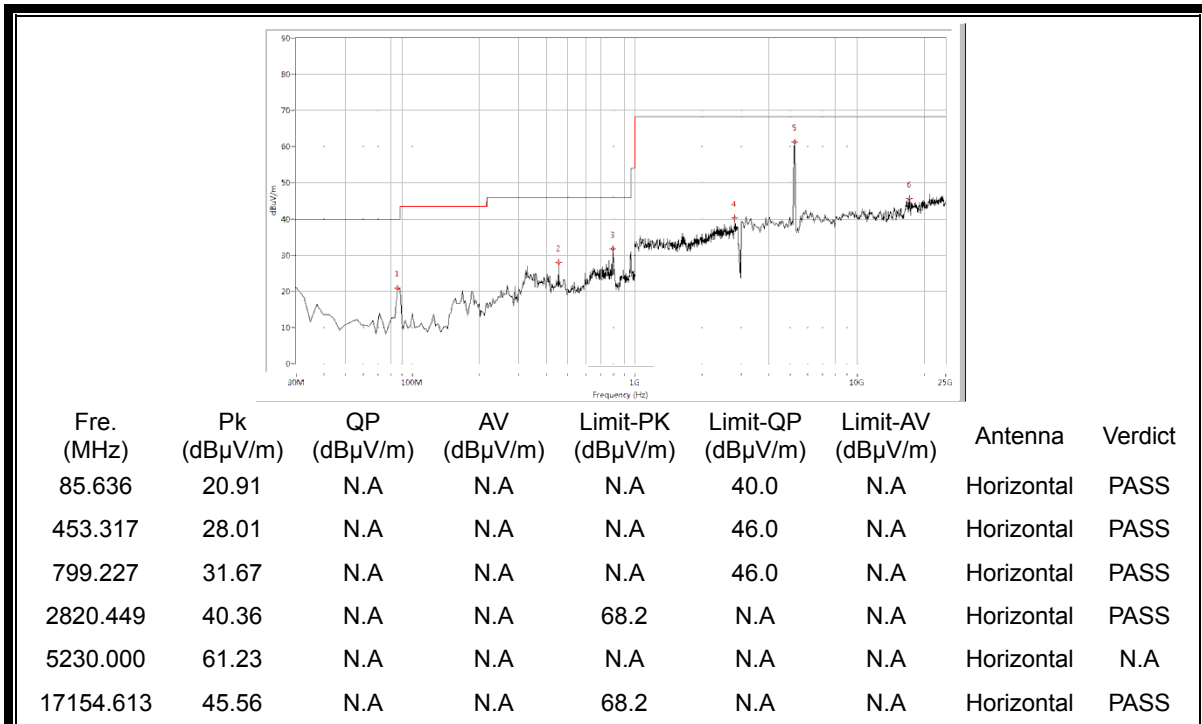


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
25673.332	51.69	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28142.214	54.61	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
30278.431	53.45	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31774.057	53.39	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34570.606	53.95	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
38765.559	55.92	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

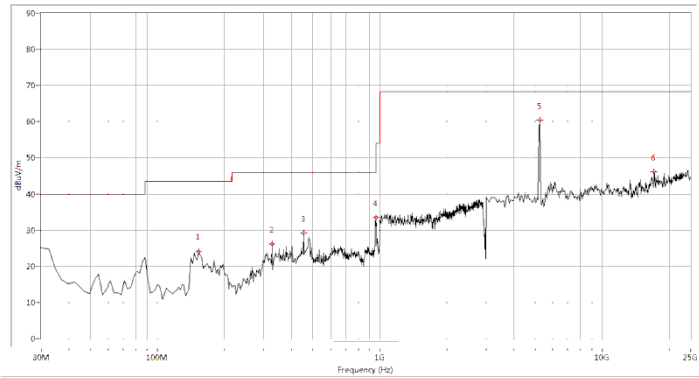
(Antenna Vertical, 30MHz to 40GHz)



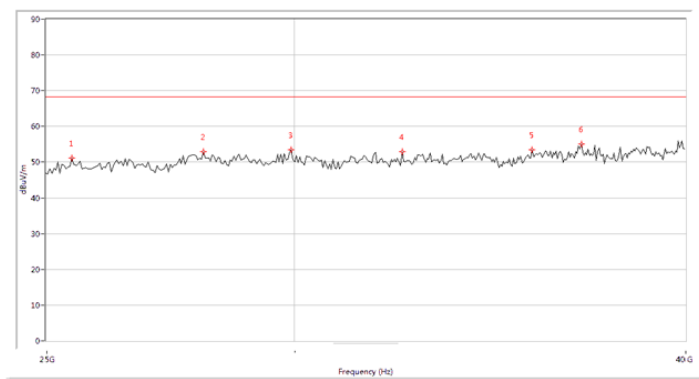
Plot for Channel = 46



(Antenna Horizontal, 30MHz to 25GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
153.367	24.08	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
327.531	26.14	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
453.317	29.14	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
958.878	33.57	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
5230.000	60.41	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
17099.751	46.19	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



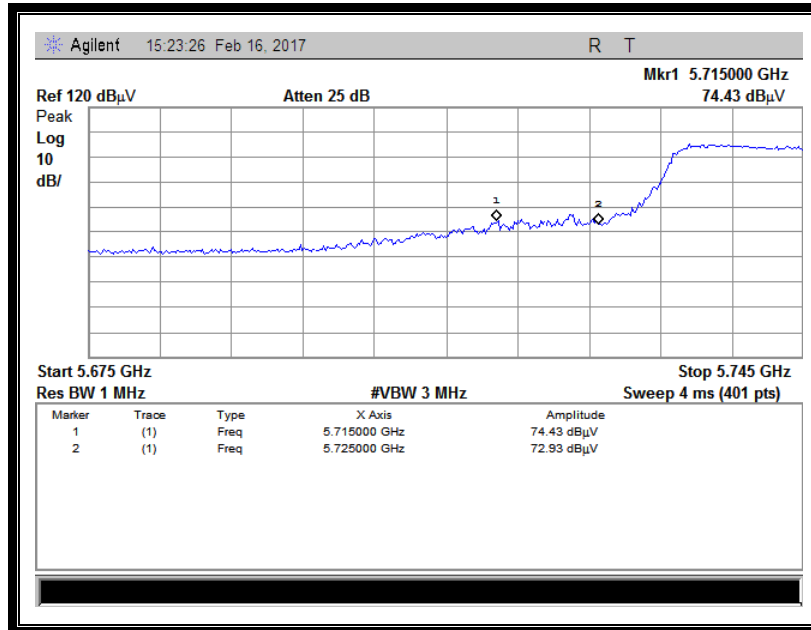
Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
25483.628	51.19	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28061.733	52.95	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29935.766	53.52	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
32486.130	53.00	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
35732.566	53.52	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
37043.489	55.11	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 25GHz)

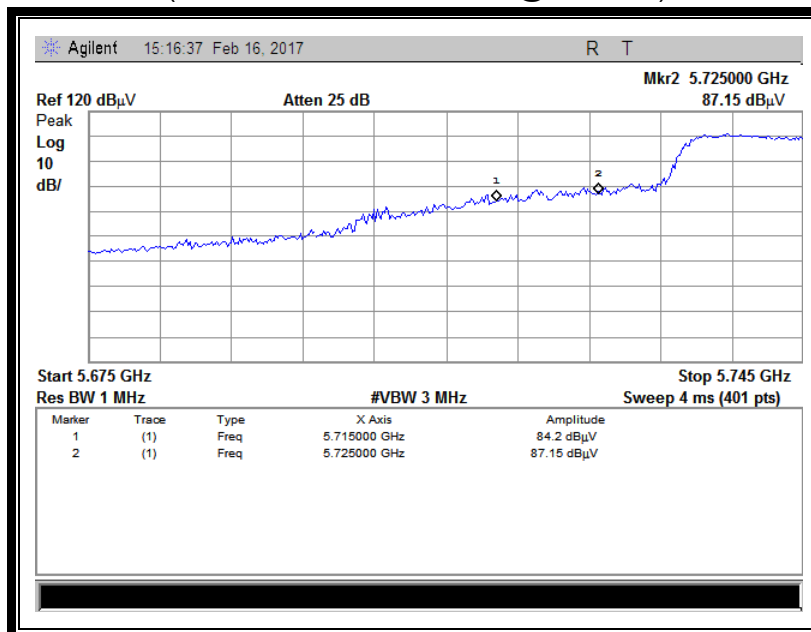


Plot for Channel = 151

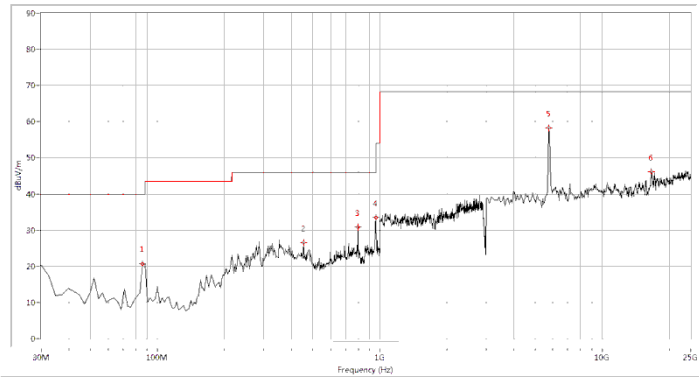
Channel	Frequency (MHz)	Antenna	Receiver Reading	A <sub>T</sub> (dB)	A <sub>Factor</sub> (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
		Horiz./ Vert.	U <sub>R</sub> (dBuV)					
151	5715.00	Horizontal	74.43	-50.65	32.11	55.89	78.2	Pass
151	5725.00	Vertical	87.15	-50.65	32.11	68.61	78.2	Pass



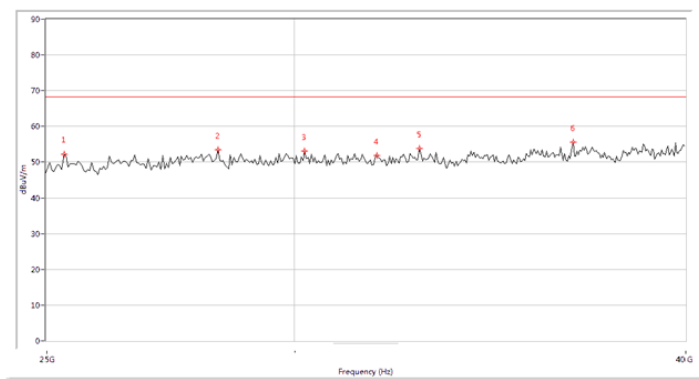
(Channel = 151 Horizontal @ 802.11n)



(Channel = 151 Vertical @ 802.11n)



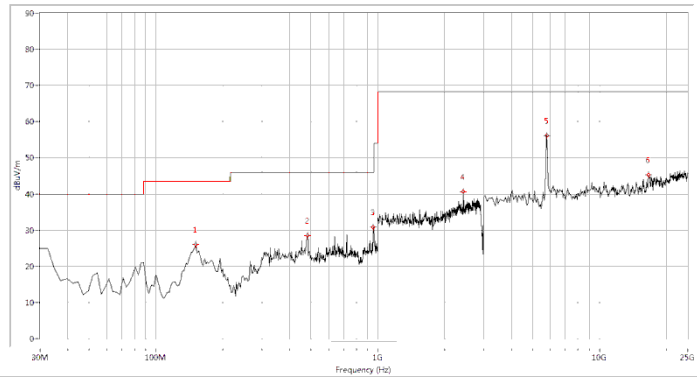
Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	20.73	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
453.317	26.52	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
796.808	30.89	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
958.878	33.53	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
5755.000	58.30	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
16605.985	46.12	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS



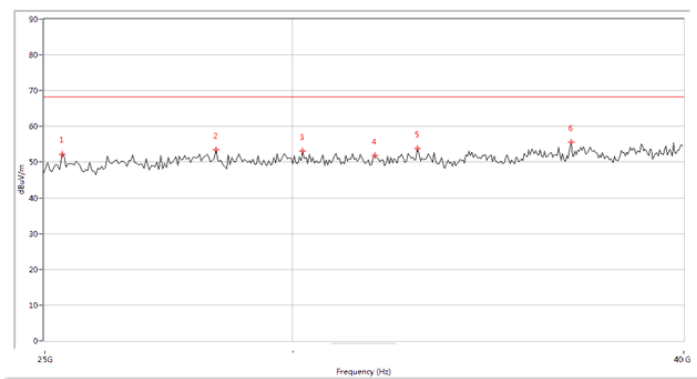
Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
25332.666	52.14	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
28365.658	53.49	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
30230.691	53.07	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
31886.279	51.87	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32891.277	53.78	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36828.045	55.62	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)





Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
150.948	26.07	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
482.344	28.45	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
956.459	30.90	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
2436.409	40.60	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5755.000	56.15	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
16660.848	45.29	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



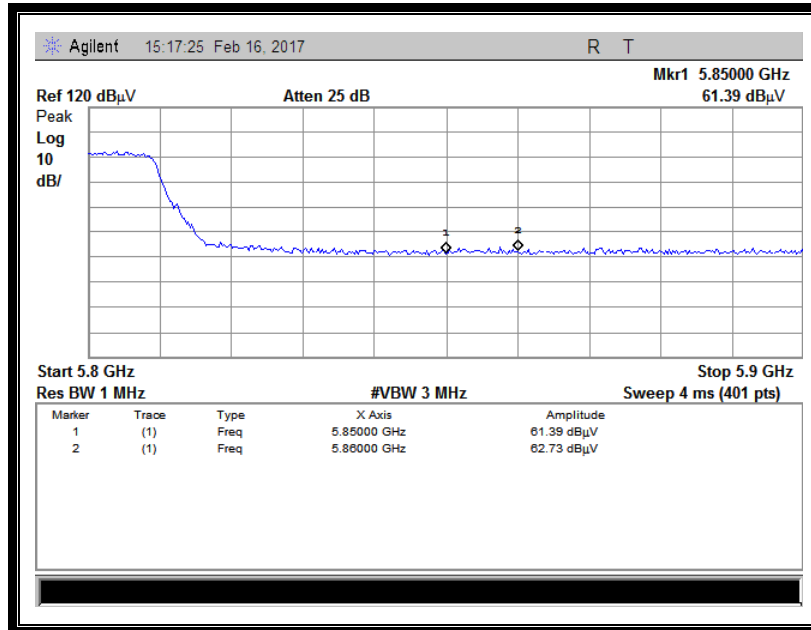
Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
27093.476	51.12	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28665.584	53.63	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
30790.800	52.36	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
33049.239	53.71	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
35842.788	54.29	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
37341.414	54.63	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

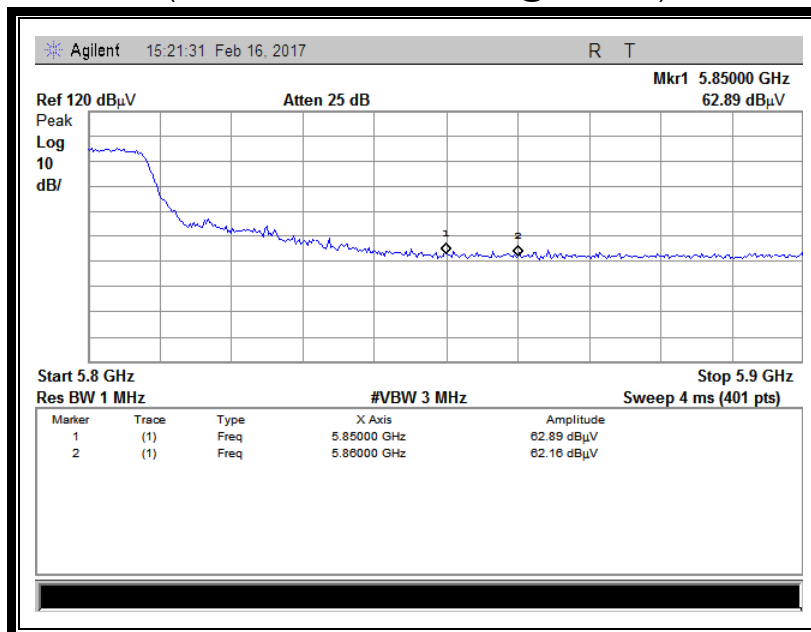


Plots for Channel = 159

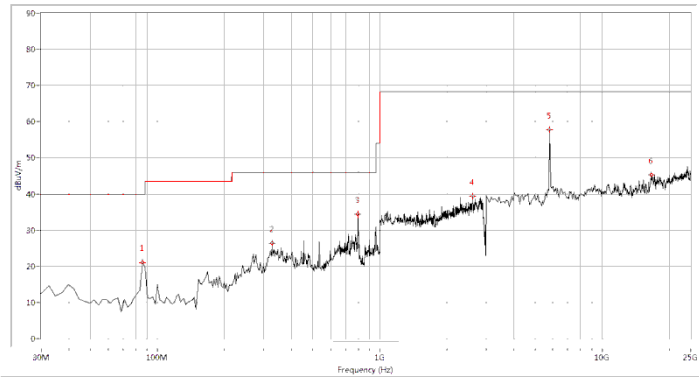
Channel	Frequency (MHz)	Antenna	Receiver Reading	A <sub>T</sub> (dB)	A <sub>Factor</sub> (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
		Horiz./ Vert.	U <sub>R</sub> (dBuV)					
159	5860.00	Horizontal	61.39	-50.65	32.11	42.85	78.2	Pass
159	5850.00	Vertical	62.89	-50.65	32.11	44.35	78.2	Pass



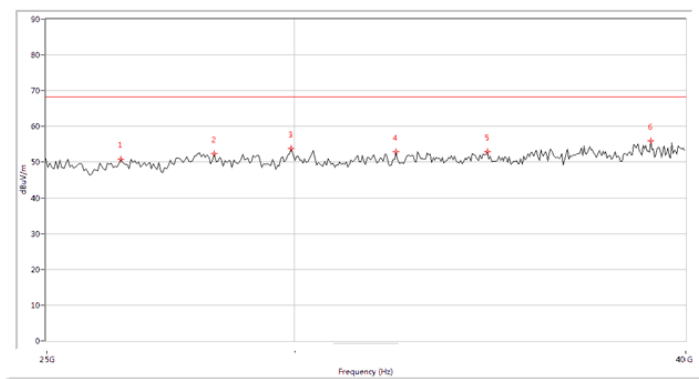
(Channel = 149 Horizontal @ 802.11n)



(Channel = 149 Vertical @ 802.11n)

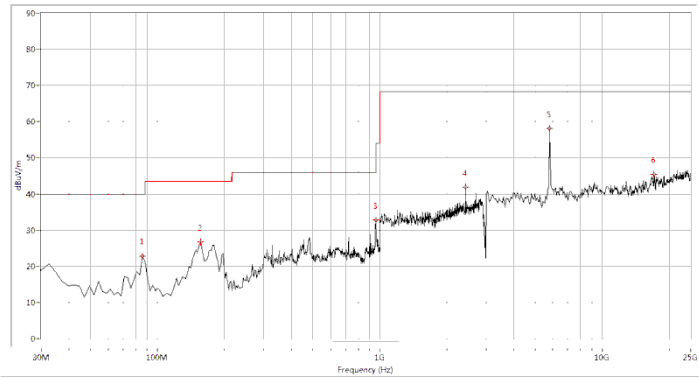


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	20.96	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
327.531	26.38	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
799.227	34.39	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
2615.960	39.46	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5795.000	57.79	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
16605.985	45.23	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

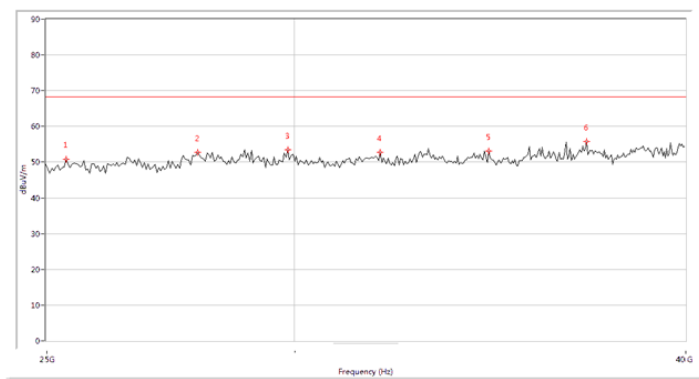


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26423.145	50.72	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
28295.177	52.31	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29938.766	53.79	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32331.167	52.89	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
34576.606	52.94	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
38994.002	56.02	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	22.77	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
155.786	26.65	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
958.878	32.85	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
2431.421	41.81	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5795.000	58.08	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
17099.751	45.46	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
25373.406	50.86	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
27958.511	52.84	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29864.284	53.45	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31957.761	52.77	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34616.347	53.14	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
37190.451	55.72	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

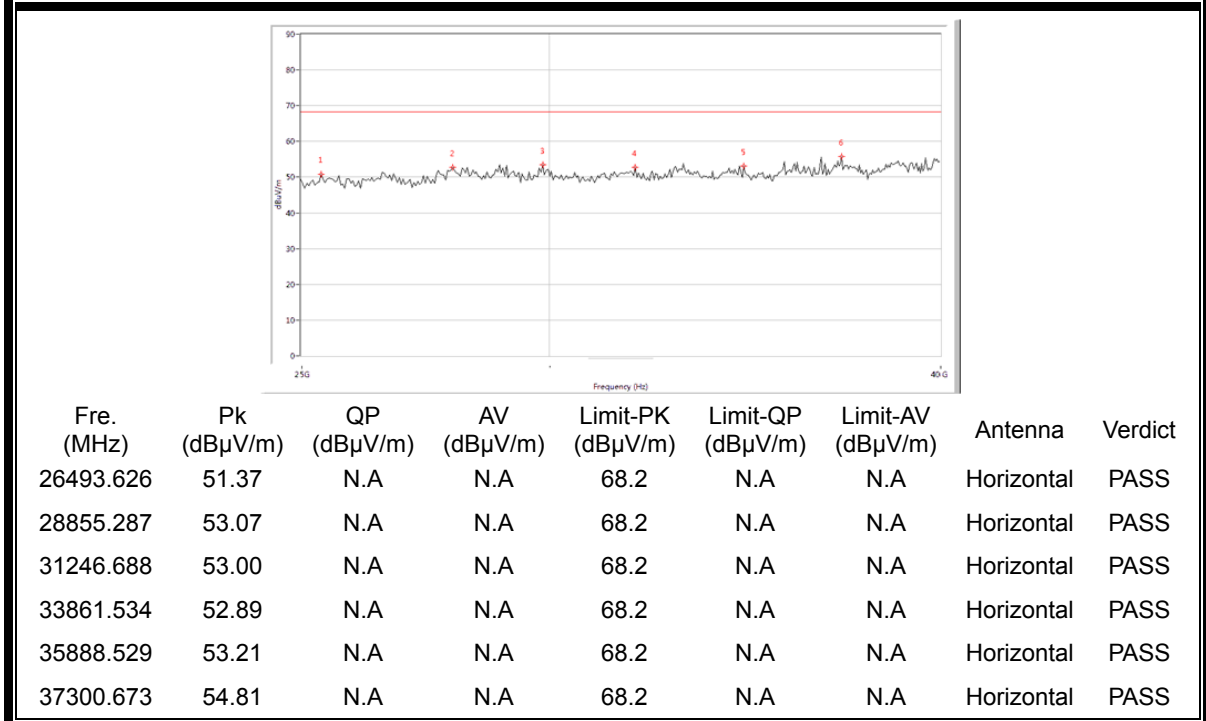
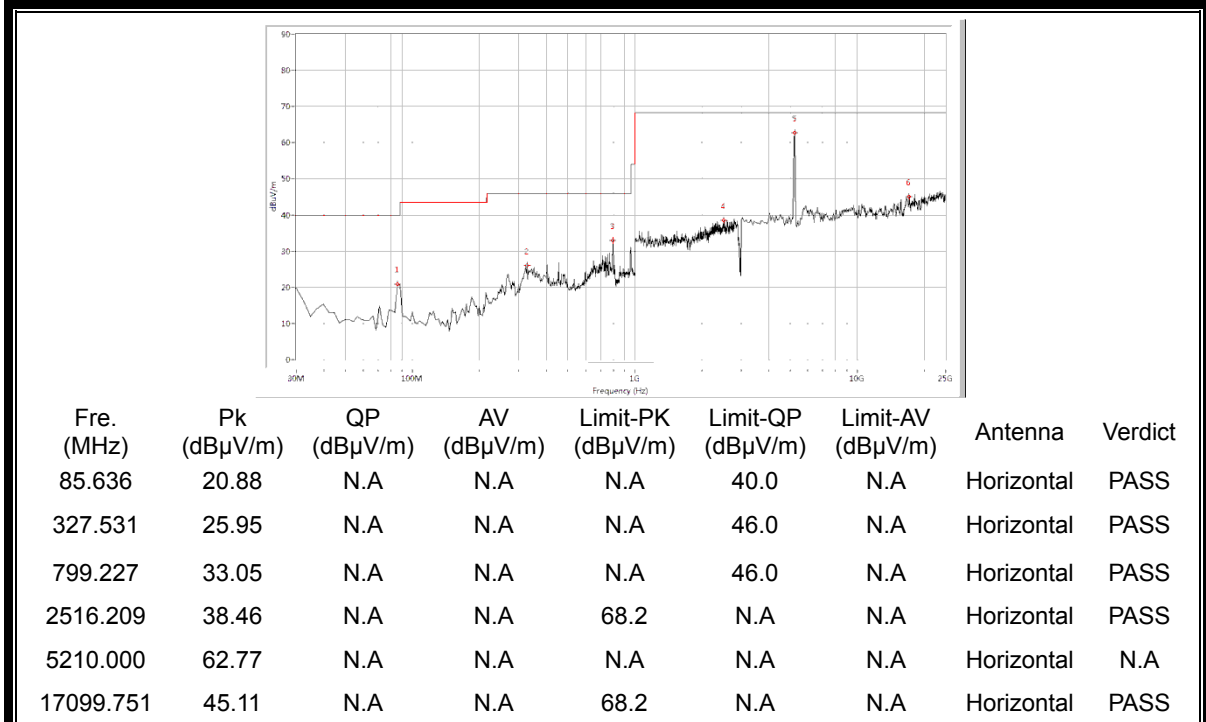
(Antenna Vertical, 30MHz to 40GHz)



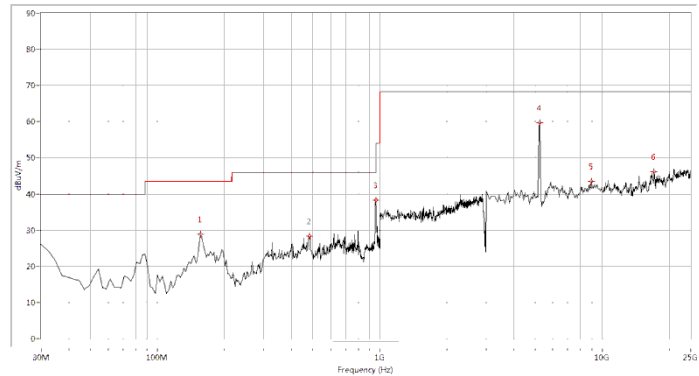
2.8.3.5 802.11ac-80MHz Test mode

A. Test Plots for the Whole Measurement Frequency Range:

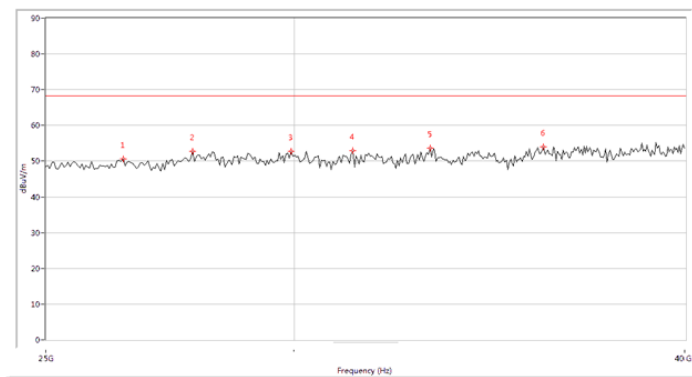
Plots for Channel = 42



(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
155.786	28.93	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
482.344	28.32	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
958.878	38.31	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
5210.000	59.65	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
8925.187	43.49	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
17099.751	46.13	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



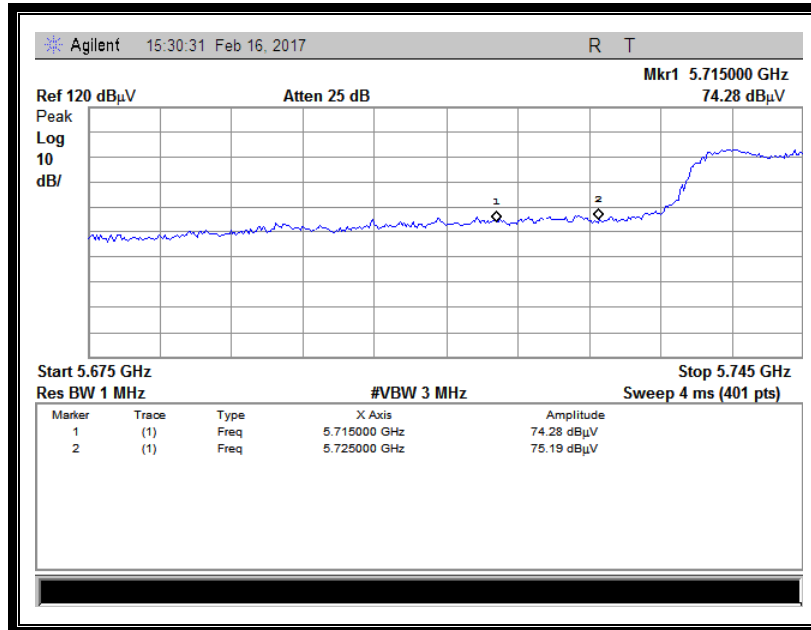
Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26456.885	50.55	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
27845.289	52.67	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29930.766	52.83	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31328.170	52.98	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
33151.461	53.69	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36036.491	53.96	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

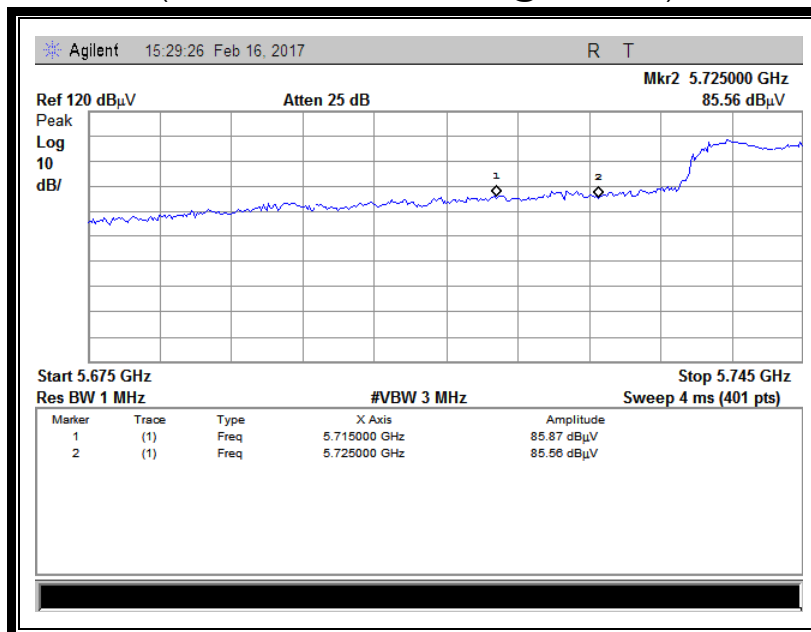


Plot for Channel = 155

Channel	Frequency (MHz)	Antenna	Receiver Reading	A <sub>T</sub> (dB)	A <sub>Factor</sub> (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
		Horiz./ Vert.	U <sub>R</sub> (dBuV)					
155	5725.00	Horizontal	74.28	-50.65	32.11	55.74	78.2	Pass
155	5715.00	Vertical	85.56	-50.65	32.11	67.02	78.2	Pass



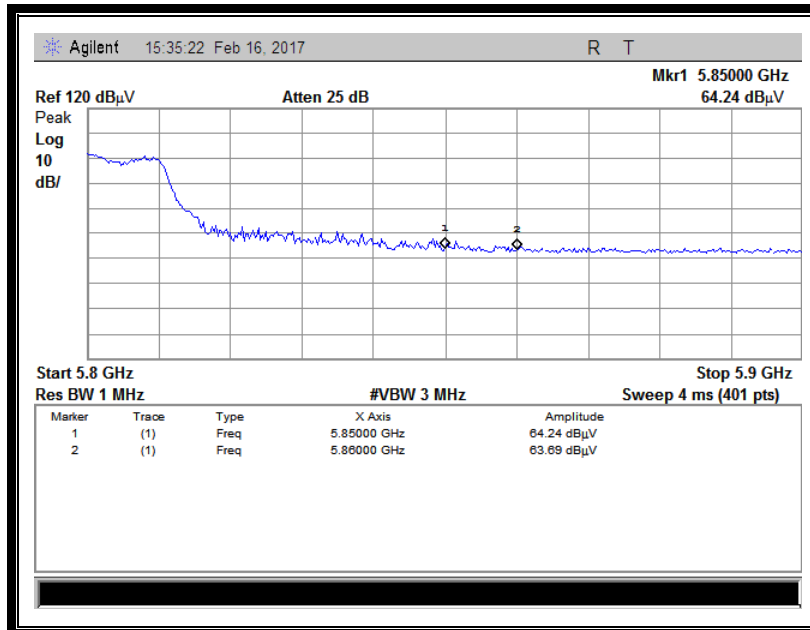
(Channel = 155 Horizontal @ 802.11ac)



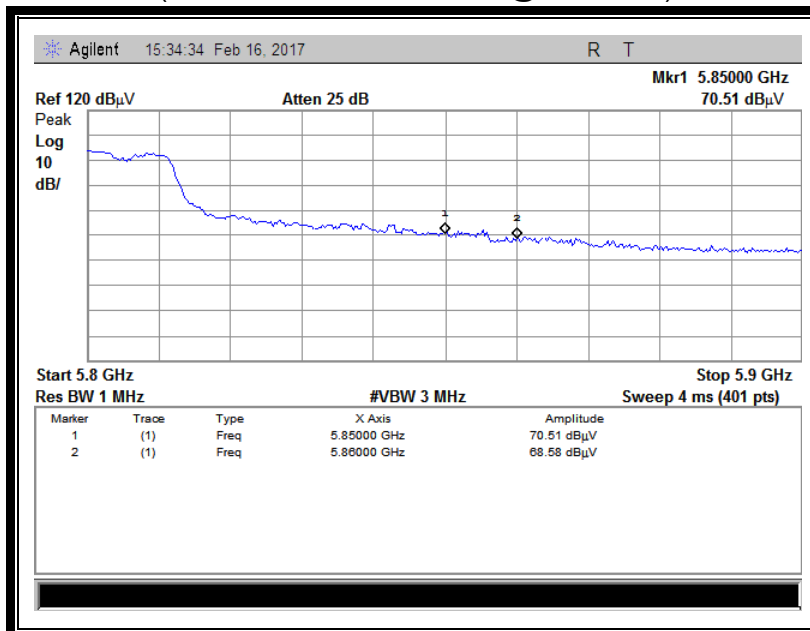
(Channel = 155 Vertical @ 802.11ac)



Channel	Frequency (MHz)	Antenna	Receiver Reading	A <sub>T</sub> (dB)	A <sub>Factor</sub> (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
		Horiz./ Vert.	U <sub>R</sub> (dBuV)					
155	5850.00	Horizontal	64.24	-50.65	32.11	45.7	78.2	Pass
155	5850.00	Vertical	70.51	-50.65	32.11	51.97	78.2	Pass

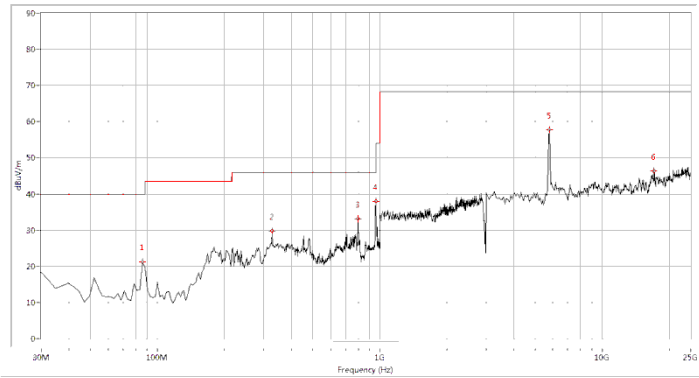


(Channel = 155 Horizontal @ 802.11ac)

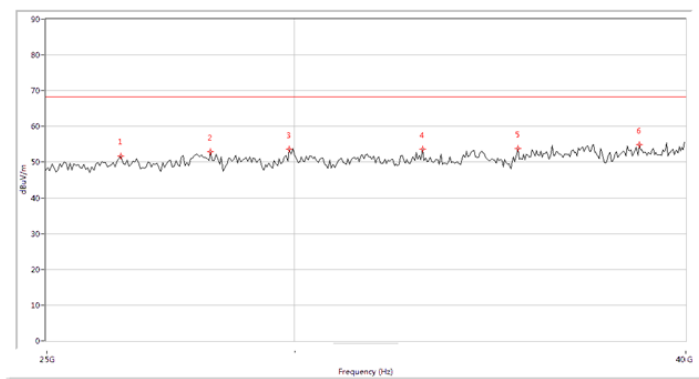


(Channel = 155 Vertical @ 802.11ac)



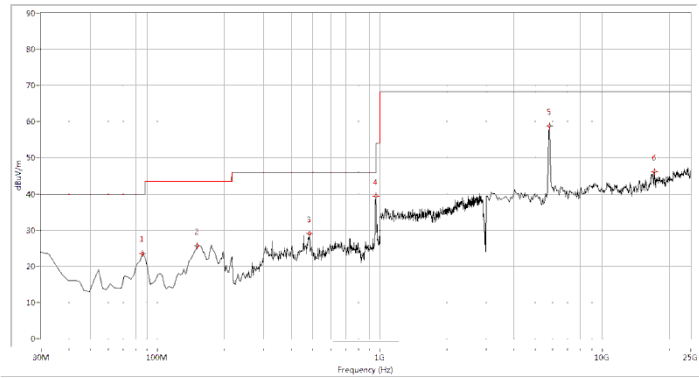


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26423.145	51.68	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
28215.696	52.95	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
29906.025	53.73	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
32968.758	53.66	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
35362.160	53.76	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
38657.337	54.95	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

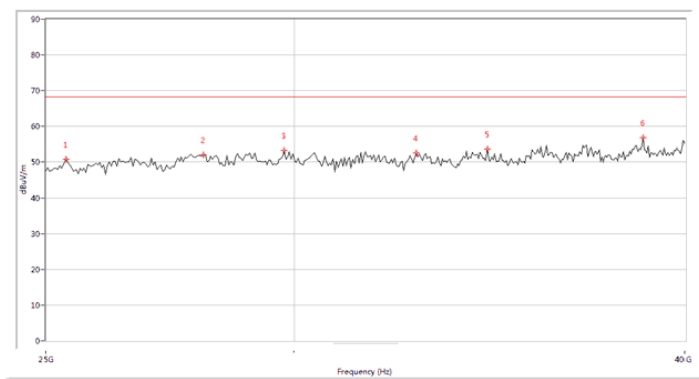


Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
26422.145	51.68	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
28213.696	52.95	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29906.025	53.73	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32966.758	53.66	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
35367.160	53.76	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
38658.337	54.95	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 25GHz)



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
85.636	23.57	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
150.948	25.63	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
482.344	29.11	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
958.878	39.41	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
5775.000	58.78	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
17154.613	46.13	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



Fre. (MHz)	Pk (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
25373.406	50.72	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28065.733	52.01	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29786.803	53.32	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
32818.796	52.63	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34570.606	53.69	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
38769.559	56.81	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 25GHz)



## **2.9 RF exposure evaluation**

### **2.9.1 Requirement**

According to § 1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of Commission's guideline.

### **2.9.2 Result**

Please refer to SAR report.



## ANNEX A GENERAL INFORMATION

### 1.1 Identification of the Responsible Testing Laboratory

Company Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Department:	Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Responsible Test Lab Manager:	Mr. Su Feng
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

### 1.2 Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

### 1.3 Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at FL.1, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10 2013 and CISPR Publication 22; the FCC registration number is 695796.

### 1.4 Maximum measurement uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for test performed on the EUT as specified in CISPR 16-1-2:

Test items	Uncertainty
Peak Output Power	±2.22dB
Power spectral density (PSD)	±2.22dB
Bandwidth	±5%
Conducted Spurious Emission	±2.77 dB
Restricted Frequency Bands	±5%
Radiated Emission	±2.95dB
Conducted Emission	±2.44dB



## 1.5 Test Equipments Utilized

### 1.5.1 Conducted Test Equipments

Conducted Test Equipment						
No.	Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Cal. Due
1	Spectrum Analyzer	MY45101810	E4407B	Agilent	2016.06.02	2017.06.01
2	Power Splitter	NW521	1506A	Weinschel	2016.06.02	2017.06.01
3	Attenuator 1	(N/A.)	10dB	Resnet	2016.06.02	2017.06.01
4	Attenuator 2	(N/A.)	3dB	Resnet	2016.06.02	2017.06.01
5	EXA Signal Analyzer	MY53470836	N9010A	Agilent	2016.12.07	2017.12.06
6	RF cable (30MHz-26GHz)	CB01	RF01	Morlab	N/A	N/A
7	Coaxial cable	CB02	RF02	Morlab	N/A	N/A
8	SMA connector	CN01	RF03	HUBER-SUHNER	N/A	N/A

### 1.5.2 Conducted Emission Test Equipments

Conducted Emission Test Equipments						
No.	Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Cal. Due
1	Receiver	US44210471	E7405A	Agilent	2016.06.02	2017.06.01
2	LISN	812744	NSLK 8127	Schwarzbeck	2016.06.02	2017.06.01
3	Service Supplier	100448	CMU200	R&S	2016.06.02	2017.06.01
4	Pulse Limiter (20dB)	9391	VTSD 9561-D	Schwarzbeck	2016.06.02	2017.06.01
5	Coaxial cable(BNC) (30MHz-26GHz)	CB01	EMC01	Morlab	N/A	N/A

### 1.5.3 Auxiliary Test Equipment

Auxiliary Test Equipment						
No.	Equipment Name	Model No.	Brand Name	Manufacturer	Cal.Date	Cal.Due Date
1	Computer	T430i	Think Pad	Lenovo	N/A	N/A



**1.5.4 Radiated Test Equipments**

Radiated Test Equipments						
No.	Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Cal.Due Date
1	System Simulator	GB45360846	8960-E5515C	Agilent	2016.06.02	2017.06.01
2	Receiver	MY54130016	N9038A	Agilent	2016.06.02	2017.06.01
3	Test Antenna - Bi-Log	N/A	VULB9163	Schwarzbeck	2016.07.05	2017.07.04
4	Test Antenna - Horn	9170C-531	BBHA9170	Schwarzbeck	2016.07.05	2017.07.04
5	Test Antenna - Loop	1519-022	FMZB1519	Schwarzbeck	2016.07.05	2017.07.04
6	Test Antenna - Horn	71688	BBHA 9120D	Schwarzbeck	2016.07.05	2017.07.04
7	Coaxial cable (N male) (9KHz-30MHz)	CB04	EMC04	Morlab	N/A	N/A
8	Coaxial cable (N male) (30MHz-26GHz)	CB02	EMC02	Morlab	N/A	N/A
9	Coaxial cable(N male) (30MHz-26GHz)	CB03	EMC03	Morlab	N/A	N/A
10	1-18GHz pre-Amplifier	MA02	TS-PR18	Rohde& Schwarz	2016.07.05	2017.07.04
11	18-26.5GHz pre-Amplifier	MA03	TS-PR18	Rohde& Schwarz	2016.07.05	2017.07.04

**1.5.5 Climate Chamber**

Climate Chamber						
No.	Equipment Name	Serial No.	Type	Manufacturer	Cal.Date	Cal.Due Date
1	Climate Chamber	2004012	HL4003T	Yinhe	2017.01.11	2018.01.10

**1.5.6 Vibration Table**

Vibration Table						
No.	Equipment Name	Serial No.	Type	Manufacturer	Cal.Date	Cal.Due Date
1	Vibration Table	N/A	ACT2000-S015L	CMI-COM	2017.01.11	2018.01.10

**1.5.7 Anechoic Chamber**

Anechoic Chamber						
No.	Equipment Name	Serial No.	Type	Manufacturer	Cal.Date	Cal.Due Date
1	Anechoic Chamber	N/A	9m*6m*6m	Changning	2017.01.11	2018.01.10

\*\*\*\*\* END OF REPORT \*\*\*\*\*