REPORT No.: SZ15030089W02

# FCC RF TEST REPORT

| | | |
|---|---|---|
| **APPLICANT** | : | KaiJet Technology International Limited |
| **PRODUCT NAME** | : | Wireless AC600 USB2.0 Mini Adapter |
| **MODEL NAME** | : | JUE303 |
| **TRADE NAME** | : | j5 create |
| **BRAND NAME** | : | N/A |
| **FCC ID** | : | 2AD37JUE303 |
| **STANDARD(S)** | : | 47 CFR Part 15 Subpart E |
| **ISSUE DATE** | : | 2015-4-2 |

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



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# DIRECTORY

| Change History | | |
|---|---|---|
| Issue | Date | Reason for change |
| 1.0 | 2015-4-2 | First edition |
| | | |

# TEST REPORT DECLARATION

| | |
|---|---|
| Applicant | KaiJet Technology International Limited |
| Applicant Address | 6F., No113, Zhongcheng Rd., Tucheng Dist., New Taipei City 236, Taiwan (R.O.C.) |
| Manufacturer | SHENZHEN MTN ELECTRONICS CO.,LTD |
| Manufacturer Address | MTN Industrial Park, No.5,9, FuTai Road, Pingxi community, Pingdi Street, Longgang District, Shenzhen |
| Product Name | Wireless AC600 USB2.0 Mini Adapter |
| Model Name | JUE303 |
| Brand Name | N/A |
| HW Version | V2.0 |
| SW Version | N/A |
| Test Standards | 47 CFR Part 15 Subpart E |
| Test Date | 2015-3-17 to 2015-3-27 |
| Test Result | PASS |

Tested by : Zou Jian
Zou Jian

Reviewed by : Qiu Xiaojun
Qiu Xiaojun

Approved by : Zeng Dexin
Zeng Dexin

# 1. GENERAL INFORMATION

## 1.1 EUT Description

| | |
|---|---|
| **EUT Type.....:** | Wireless AC600 USB2.0 Mini Adapter |
| **Serial No. .....:** | (n.a, marked #1 by test site) |
| **Hardware Version.....:** | V2.0 |
| **Software Version.....:** | N/A |
| **Applicant.....:** | KaiJet Technology International Limited<br>6F., No113, Zhongcheng Rd., Tucheng Dist., New Taipei City 236, Taiwan (R.O.C.) |
| **Manufacturer .....:** | SHENZHEN MTN ELECTRONICS CO.,LTD<br>MTN Industrial Park, No.5,9, FuTai Road, Pingxi community, Pingdi Street, Longgang District, Shenzhen |
| **Frequency Range.....:** | 802.11b/g/n: 2.400GHz - 2.4835GHz<br>802.11ac/n: 5.150GHz- 5.250GHz<br>5.725GHz- 5.850GHz |
| **Channel Number .....:** | 2.4GHz Band: 802.11b/g/n-20MHz: 11<br>802.11n-40MHz: 7<br>802.11ac/n -20MHz: 5.150GHz – 5.250GHz: 4 Channels<br>5.725GHz- 5.850GHz: 5 Channels<br>802.11ac/n -40MHz: 5.150GHz – 5.250GHz: 2 Channels<br>5.725GHz- 5.850GHz: 2 Channels<br>802.11ac -80MHz: 5.150GHz – 5.250GHz: 1 Channel<br>5.725GHz- 5.850GHz: 1 Channel |
| **Modulation Type.....:** | DSSS, OFDM |
| **Antenna Type.....:** | PCB Antenna |
| **Antenna Gain.....:** | 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<=n<=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<=n<=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 | **PASS** |
| 2 | 15.407(a) (e) | Emission Bandwidth | **PASS** |
| 3 | 15.407(a) | Maximum conducted output Power | **PASS** |
| 4 | 15.407(a) | Peak Power spectral density | **PASS** |
| 5 | 15.407(b) | Restricted Frequency Bands | **PASS** |
| 6 | 15.407(g) | Frequency Stability | **PASS** |
| 7 | 15.207 | Conducted Emission | **PASS** |
| 8 | 15.407(b) | Radiated Emission | **PASS** |
| 9 | 15.407(f) | RF exposure evaluation | **PASS** |

The tests of Conducted Emission and Radiated Emission were performed according to the method of measurements prescribed in ANSI C63.4 2009.

These RF tests were performed according to the method of measurements prescribed in KDB789033 D02 v01 (06/06/2014).

## 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.

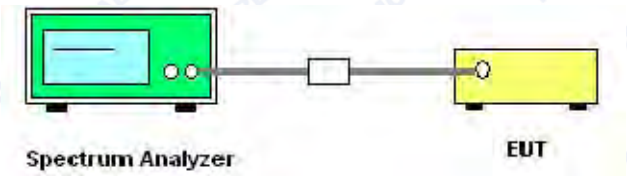
## 2.2 Emission Bandwidth

### 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) ≥ 3 × 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

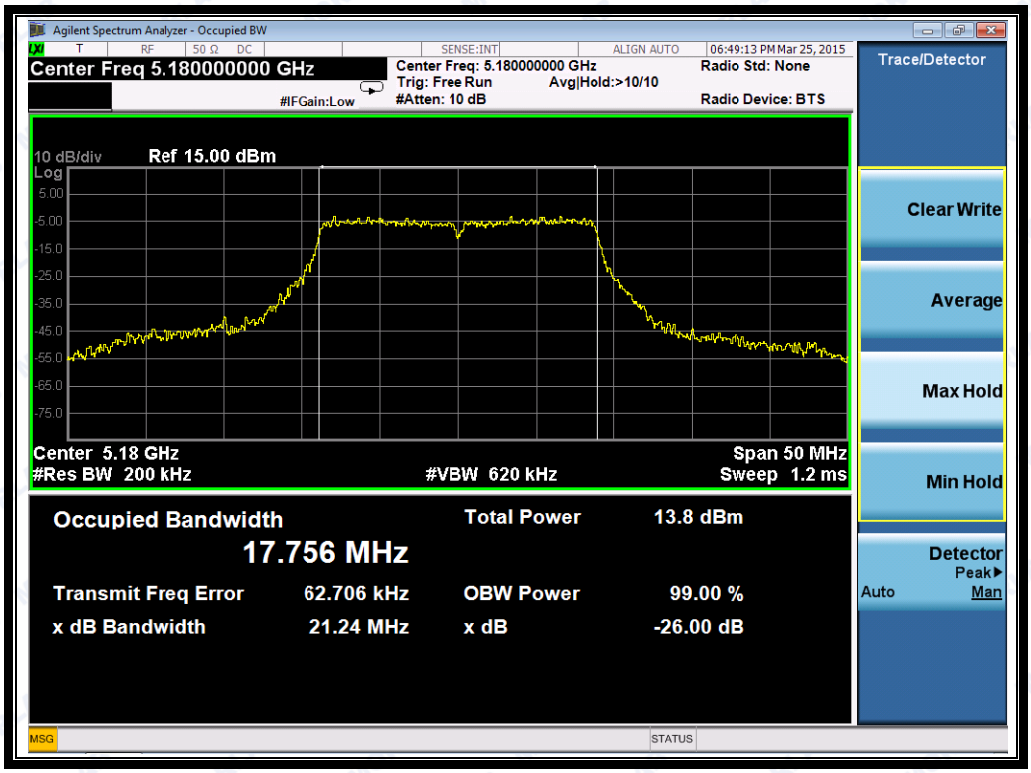
The lowest, middle and highest channels are selected to perform testing to record the 26 dB bandwidth of the Module.

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

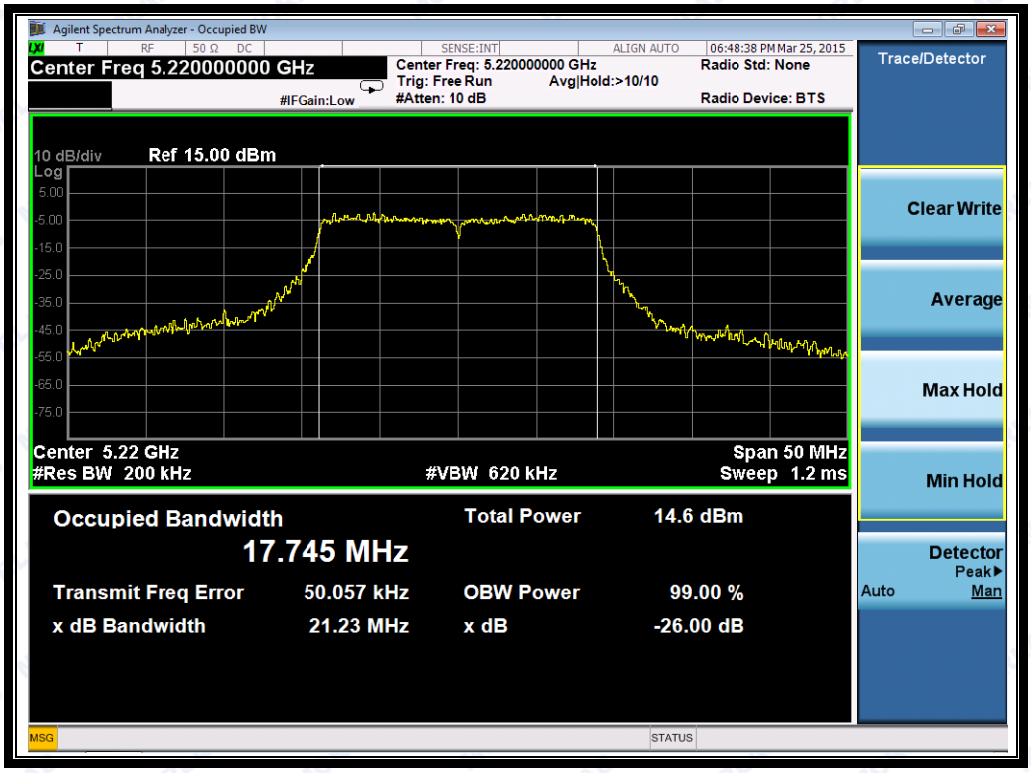
**A. Test Verdict:**

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

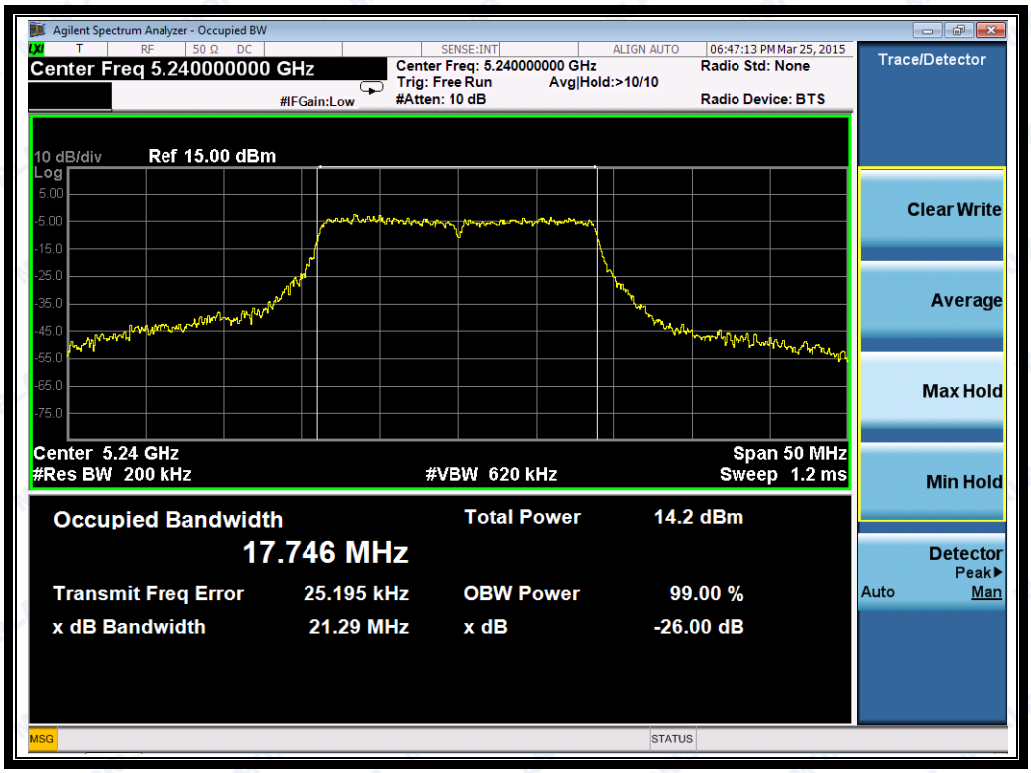
**B. Test Plots**




(Channel 36: 5180MHz @ 802.11ac)




(Channel 44: 5220 MHz @ 802.11ac)



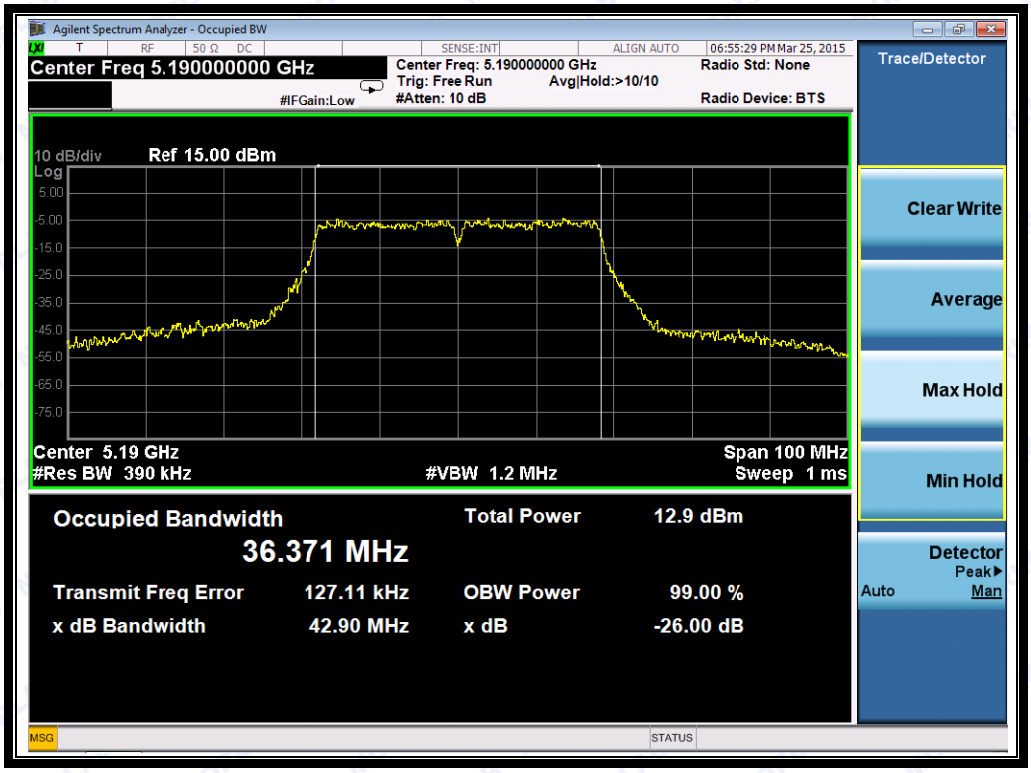

(Channel 48: 5240MHz @ 802.11ac)

### 2.2.3.2 802.11ac-40MHz Test mode

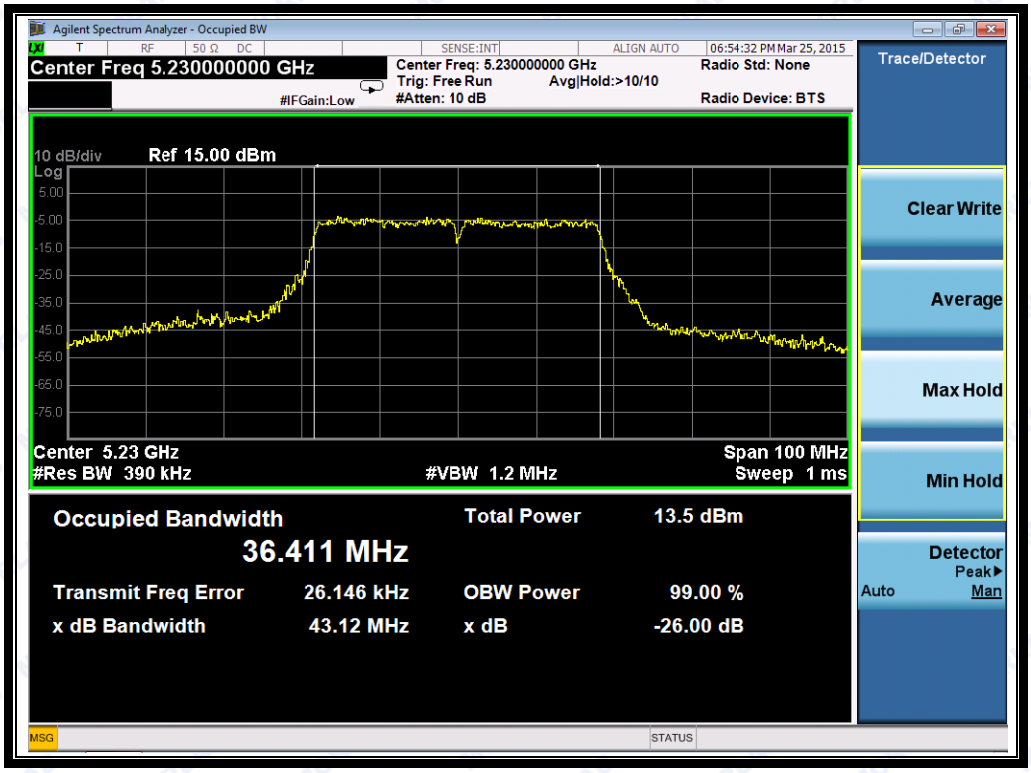
**A. Test Verdict:**

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

**B. Test Plots**




(Channel 38: 5190MHz @ 802.11ac)



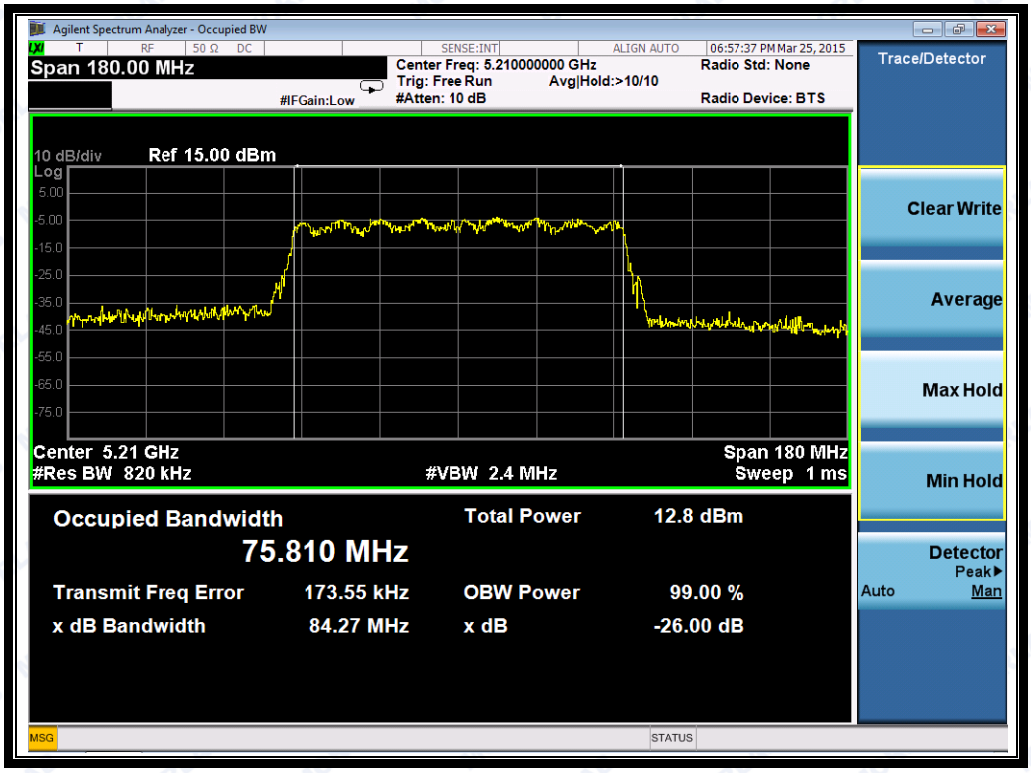

(Channel 46: 5230 MHz @ 802.11ac)

### 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**



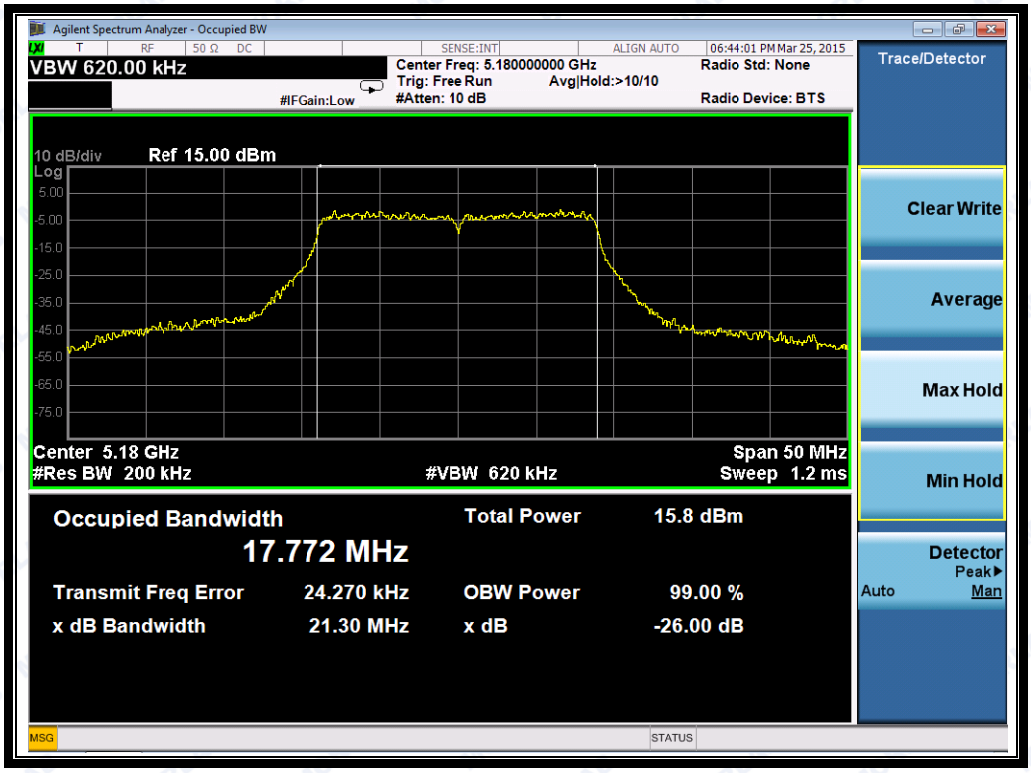

(Channel 42: 5210MHz @ 802.11ac)

### 2.2.3.4 802.11n-20MHz Test mode

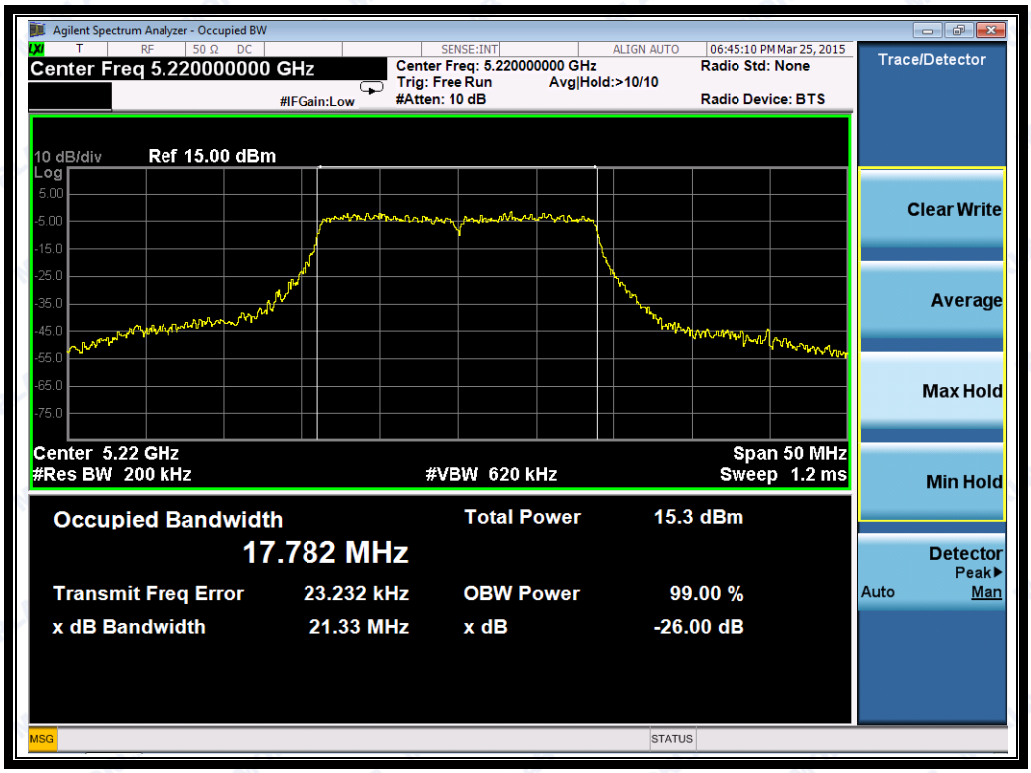
**A. Test Verdict:**

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

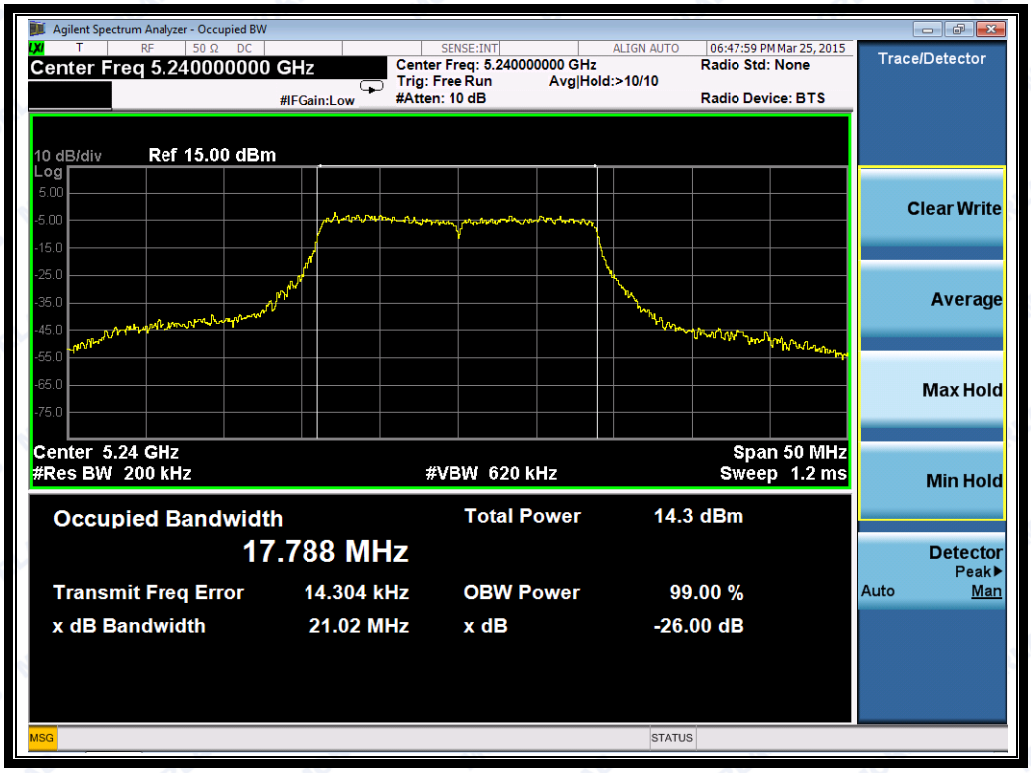
**B. Test Plots**




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




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



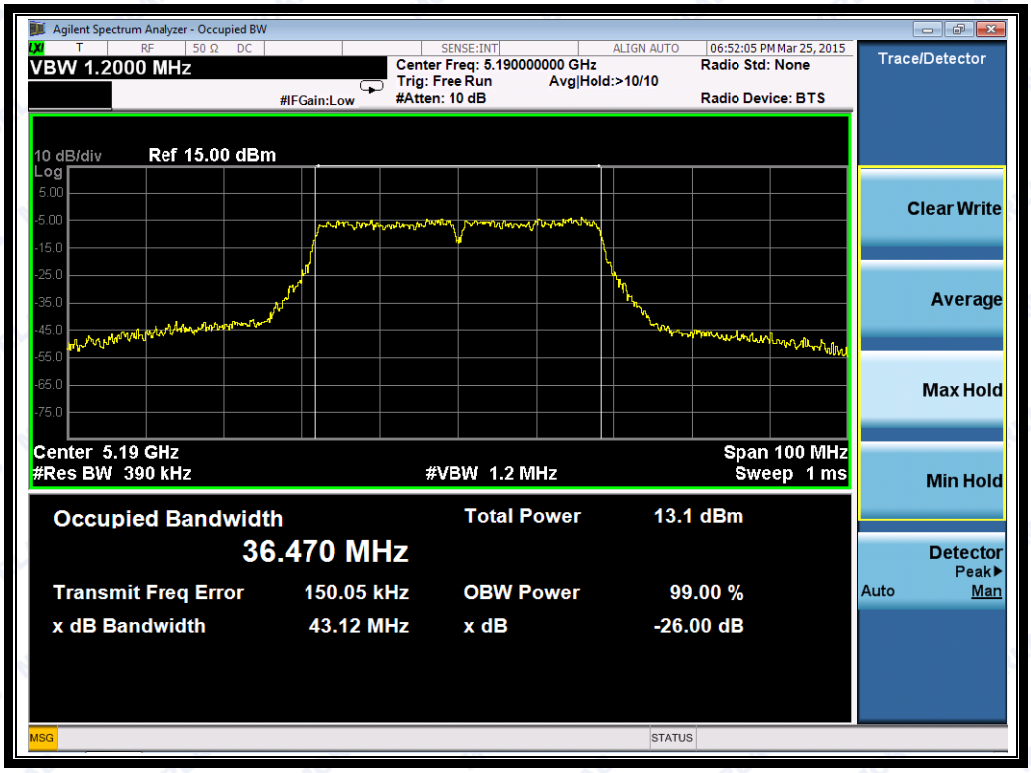

(Channel 48: 5240MHz @ 802.11n-20MHz)

### 2.2.3.5 802.11n-40MHz Test mode

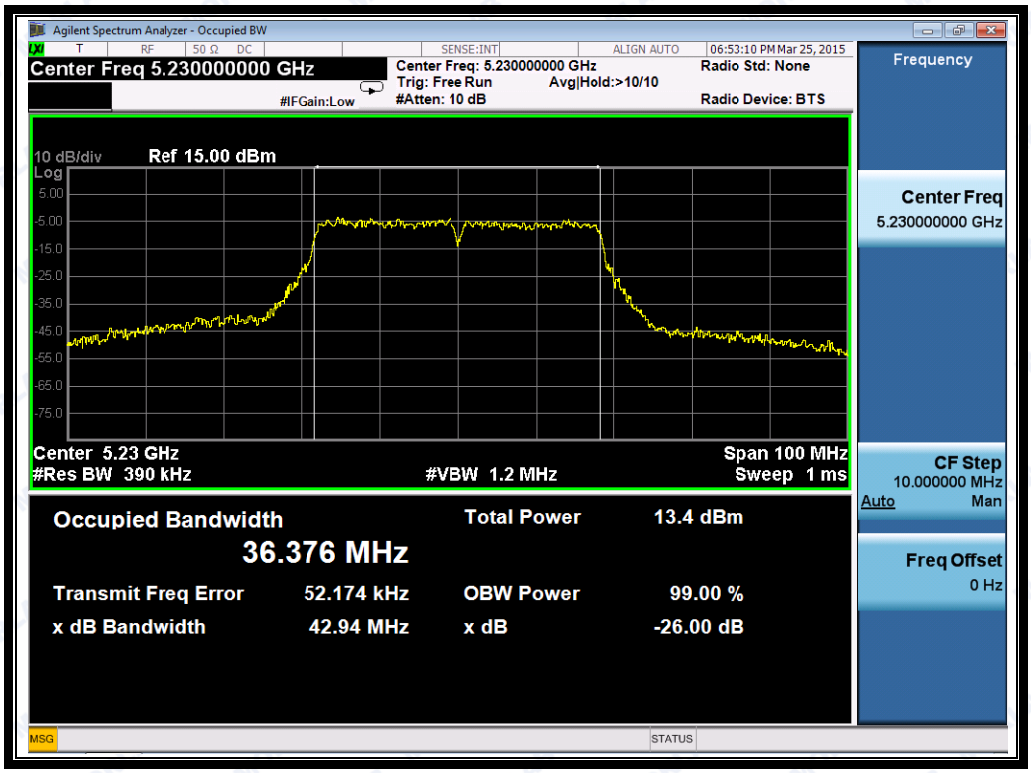
**A. Test Verdict:**

| 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

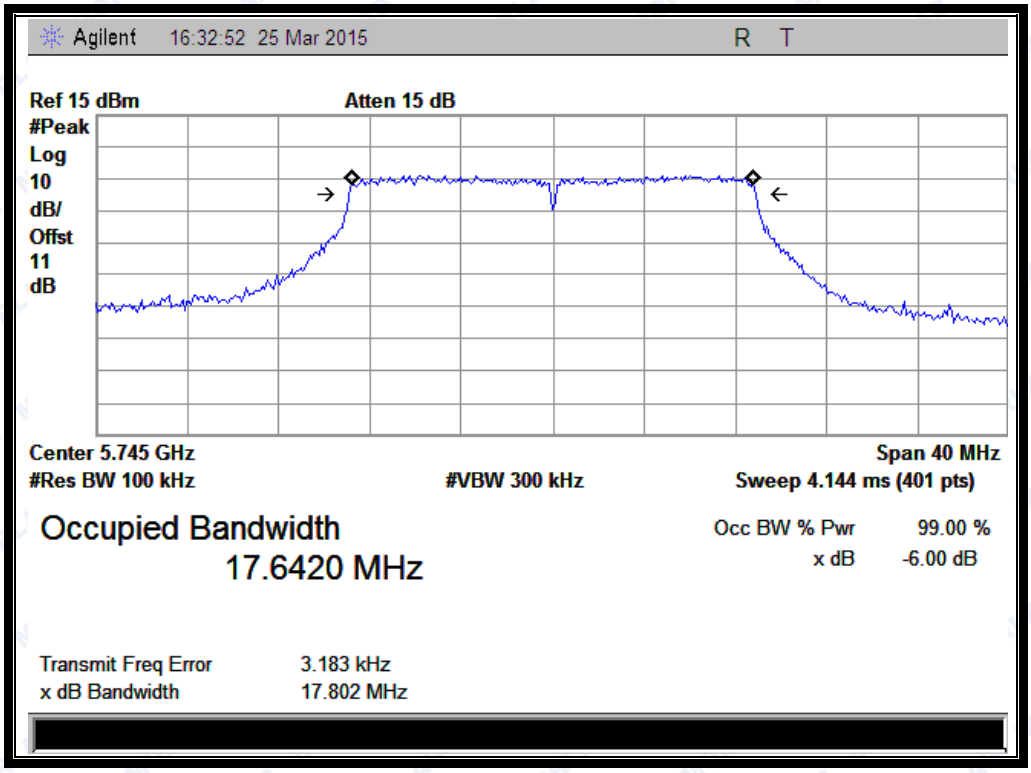
The lowest, middle and highest channels are selected to perform testing to record the 6 dB bandwidth of the Module.

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

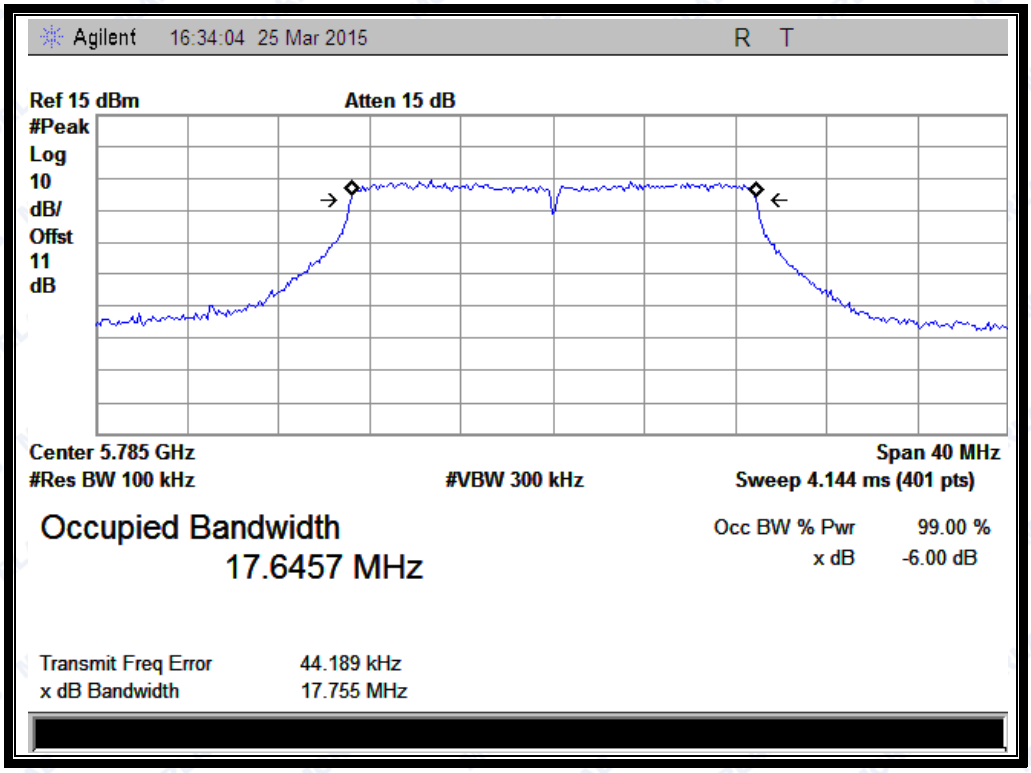
**A. Test Verdict:**

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

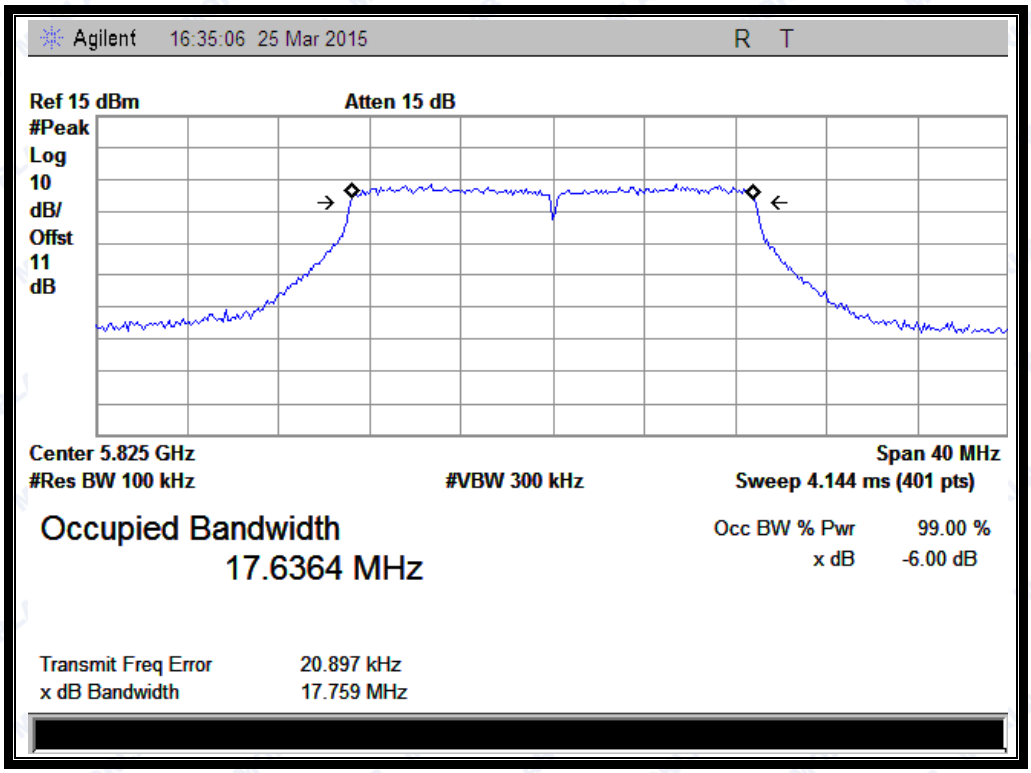
**B. Test Plots**




(Channel 149: 5745MHz @ 802.11ac)




(Channel 157: 5785 MHz @ 802.11ac)



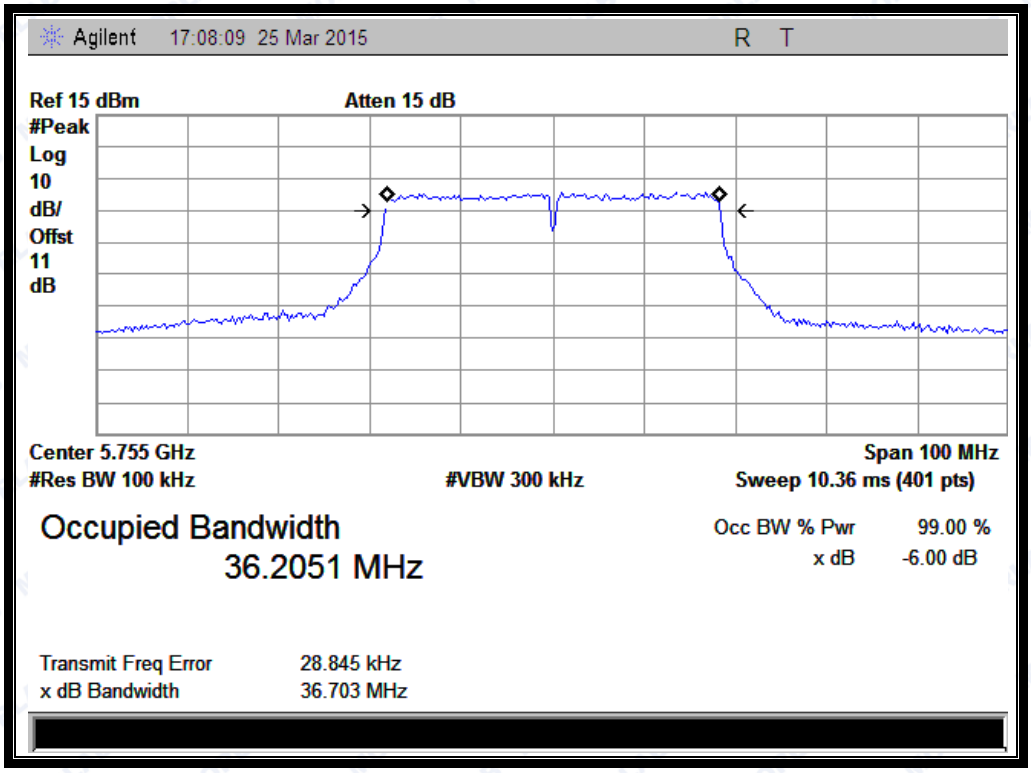

(Channel 165: 5825MHz @ 802.11ac)

### 2.2.4.2 802.11ac-40MHz Test mode

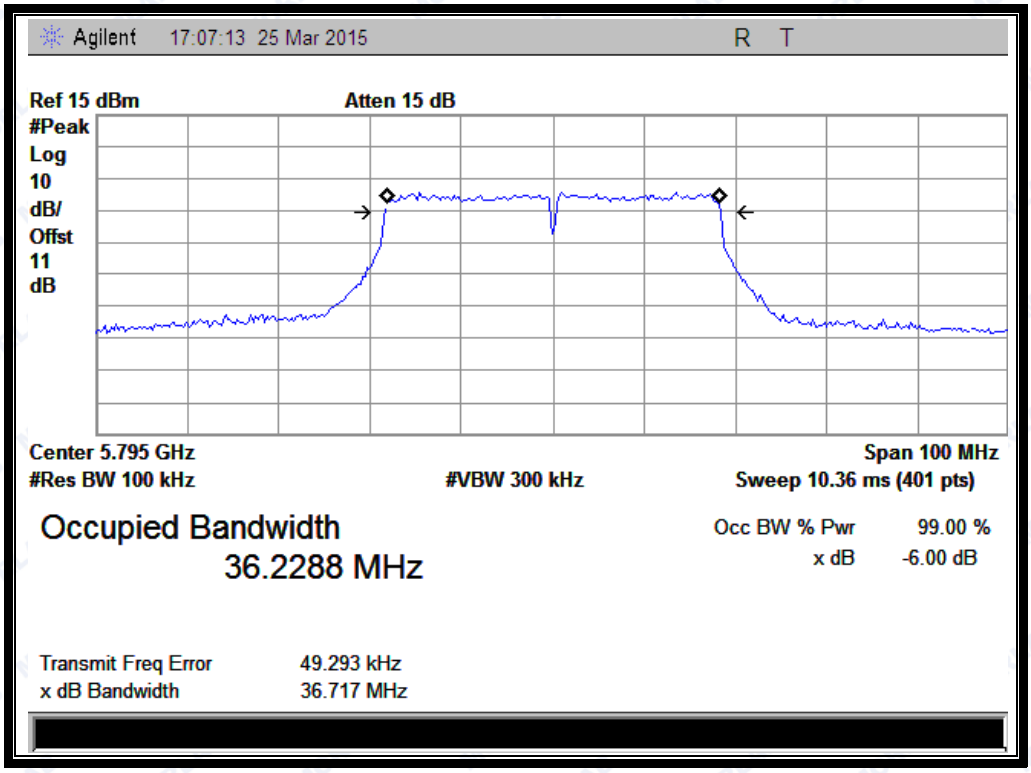
**A. Test Verdict:**

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

**B. Test Plots**




(Channel 151: 5755MHz @ 802.11ac)



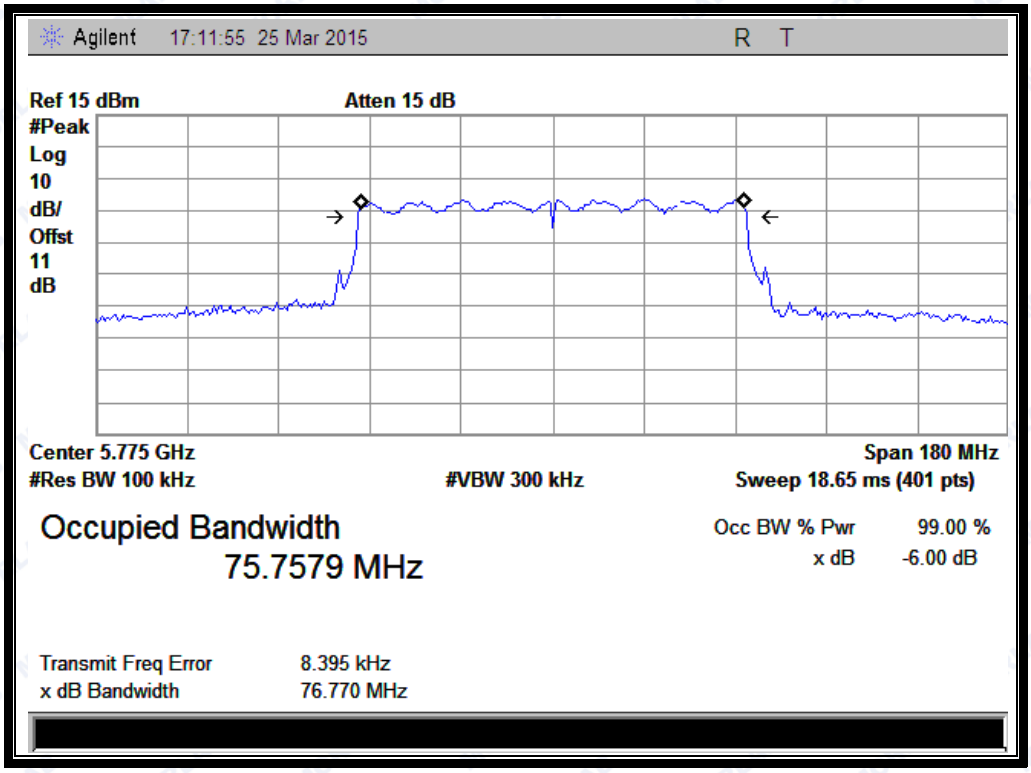

(Channel 159: 5795 MHz @ 802.11ac)

### 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**



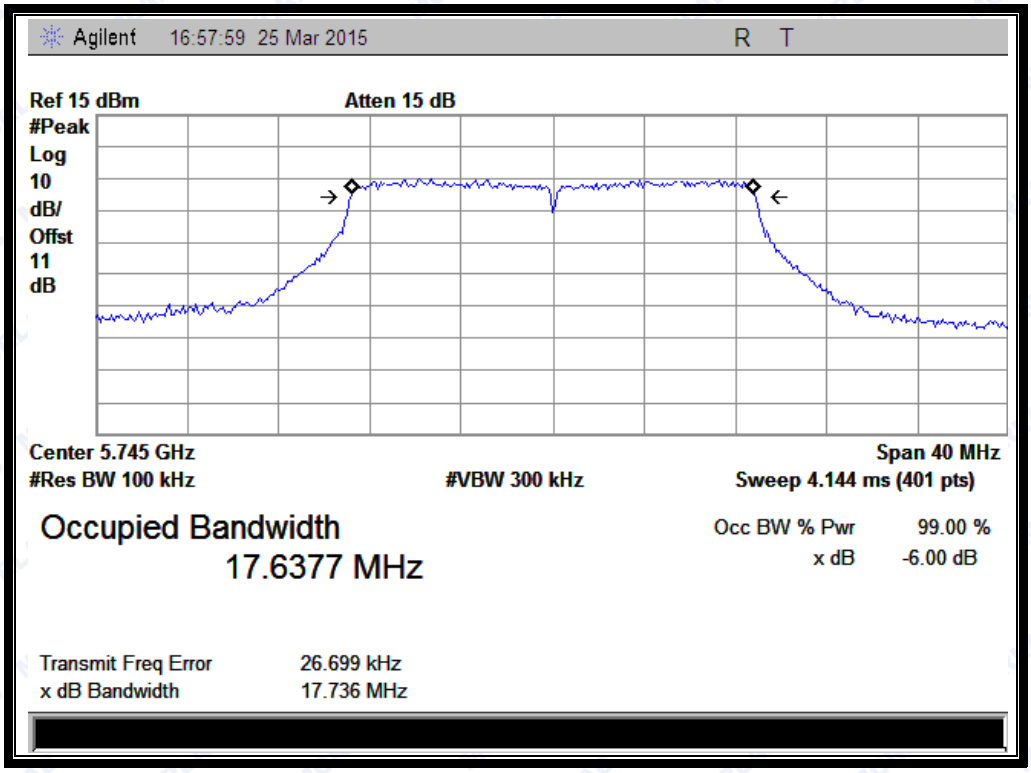

(Channel 155: 5775MHz @ 802.11ac)

#### 2.2.4.4 802.11n-20MHz Test mode

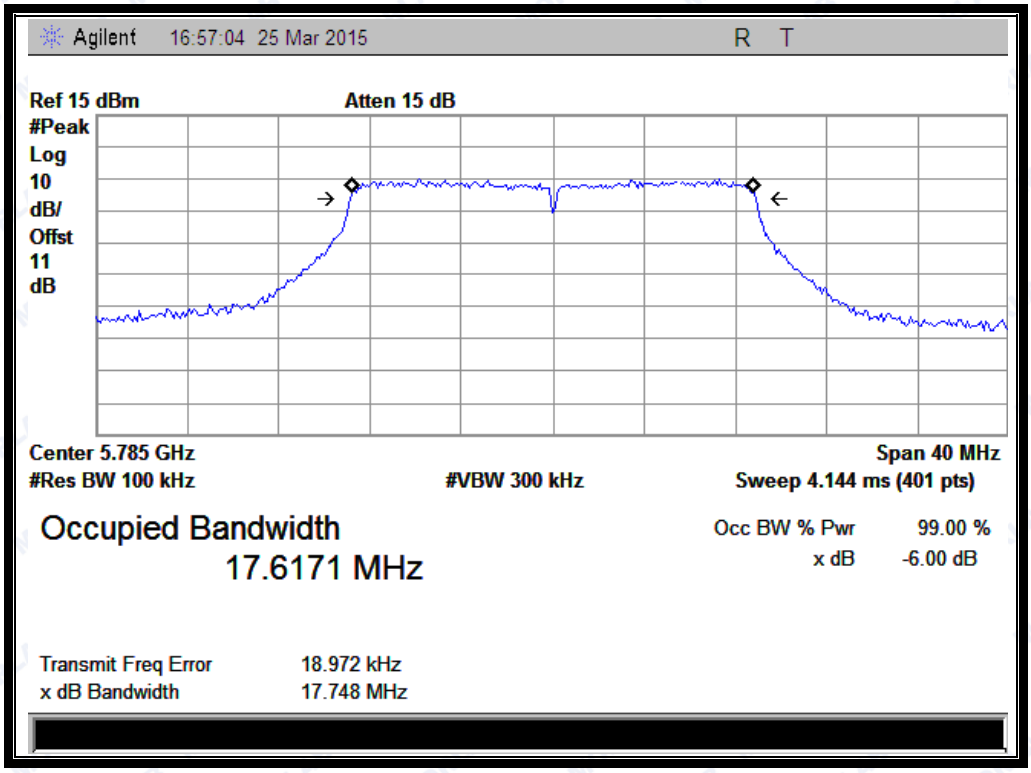
**A. Test Verdict:**

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

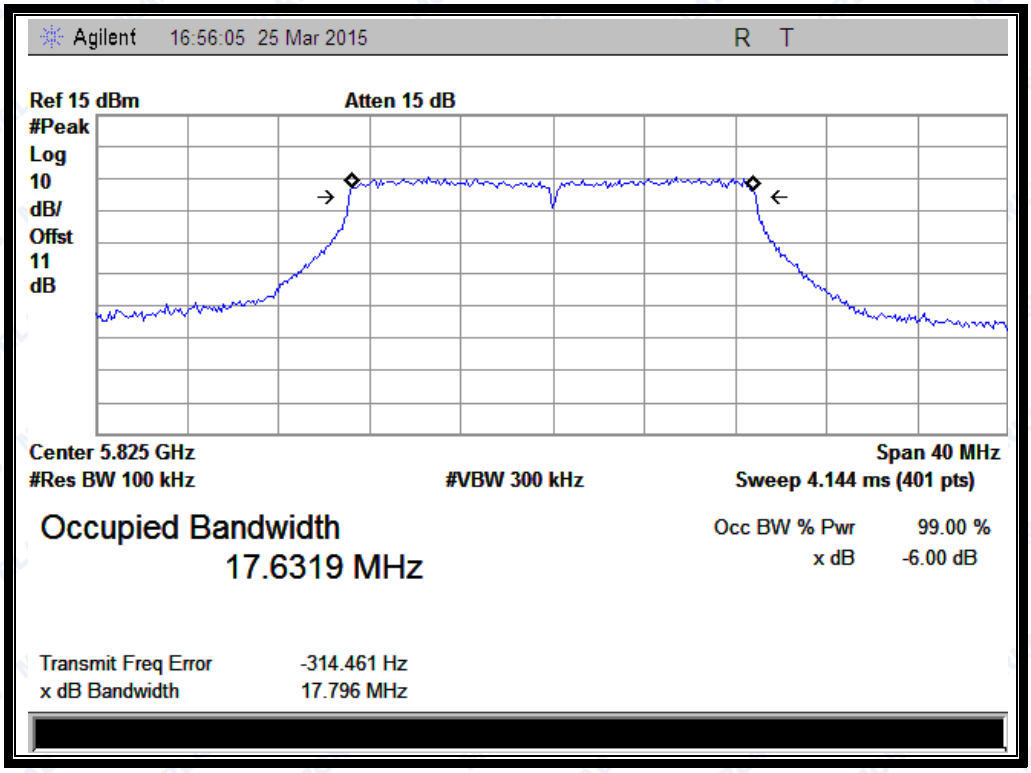
**B. Test Plots**




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




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



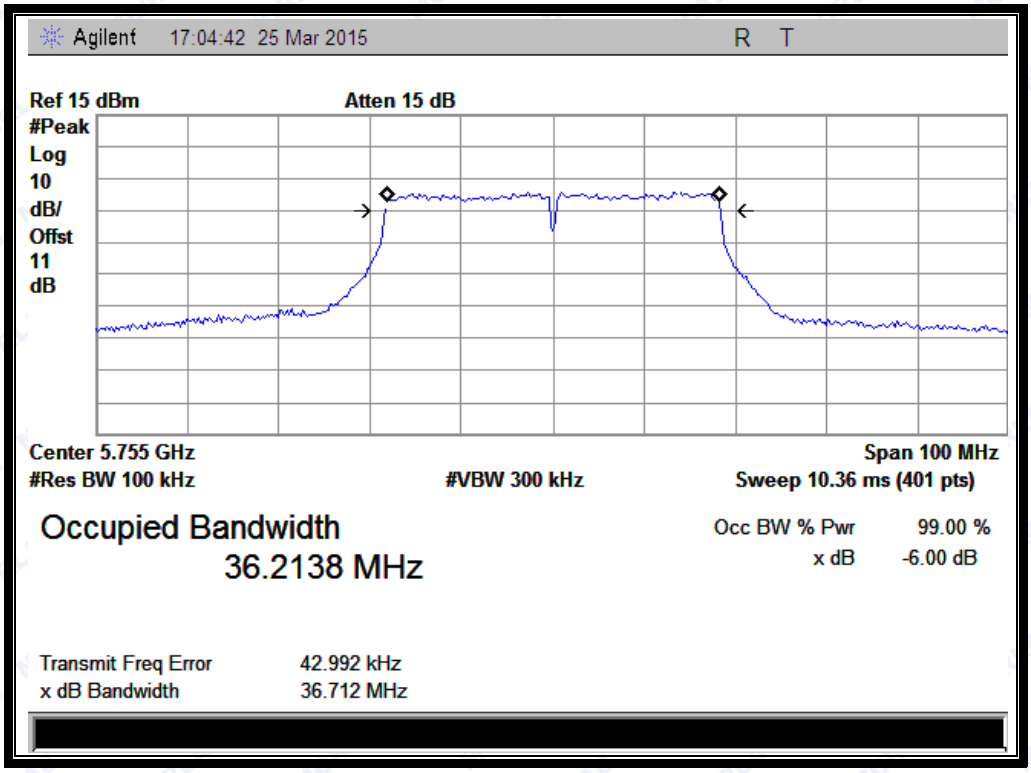

(Channel 165: 5825MHz @ 802.11n-20MHz)

### 2.2.4.5 802.11n-40MHz Test mode

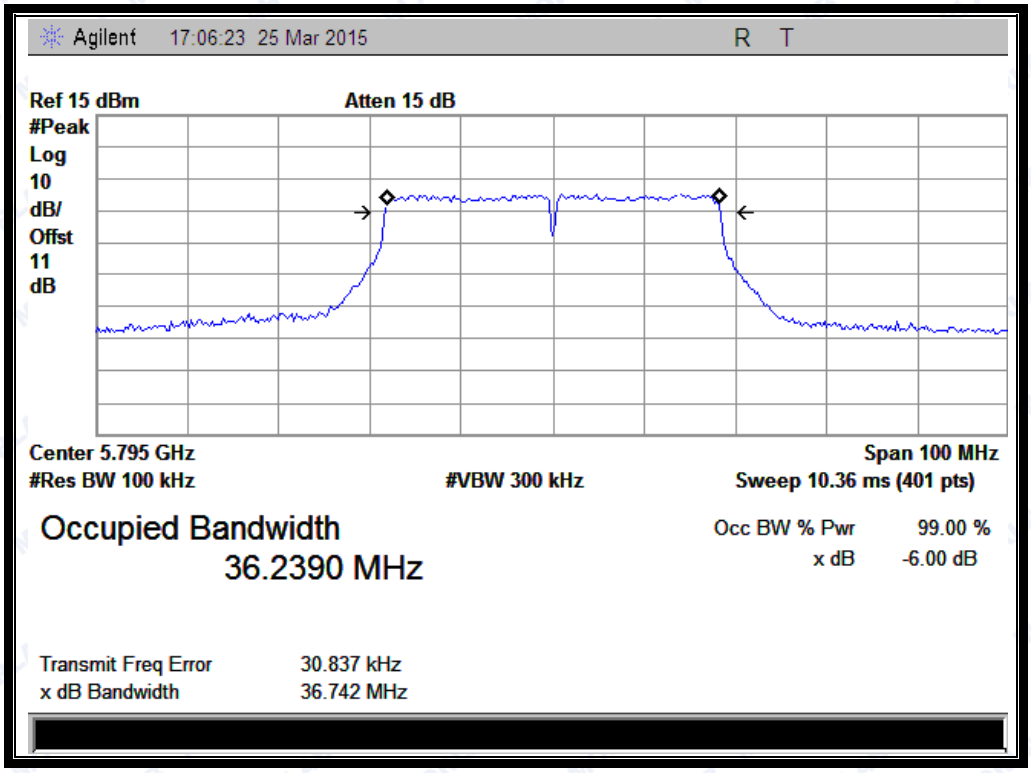
**A. Test Verdict:**

| 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.

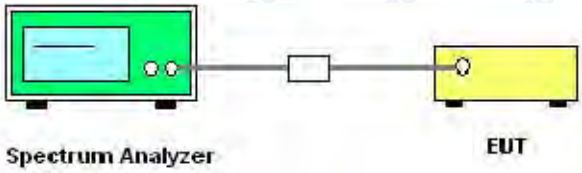
(2) For the 5.25–5.35 GHz and 5.47–5.725GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

(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 ≥ 3 MHz.
3) Number of points in sweep ≥ 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

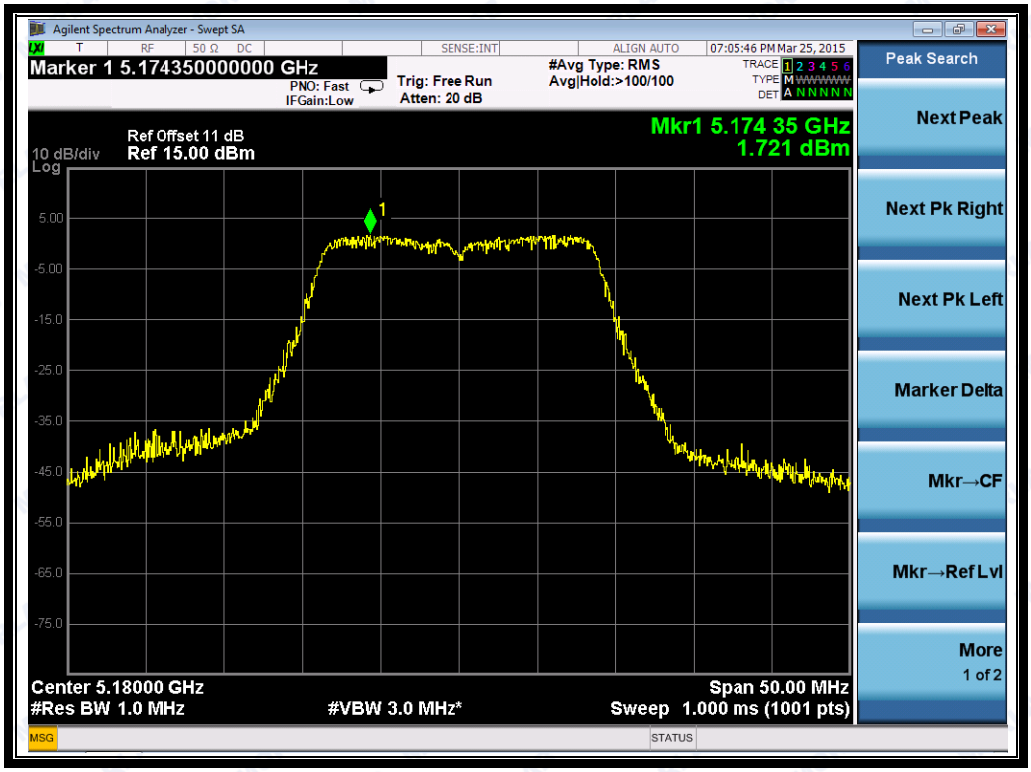
### 2.4.3 Test Result

#### 2.4.3.1 802.11ac-20MHz Test mode

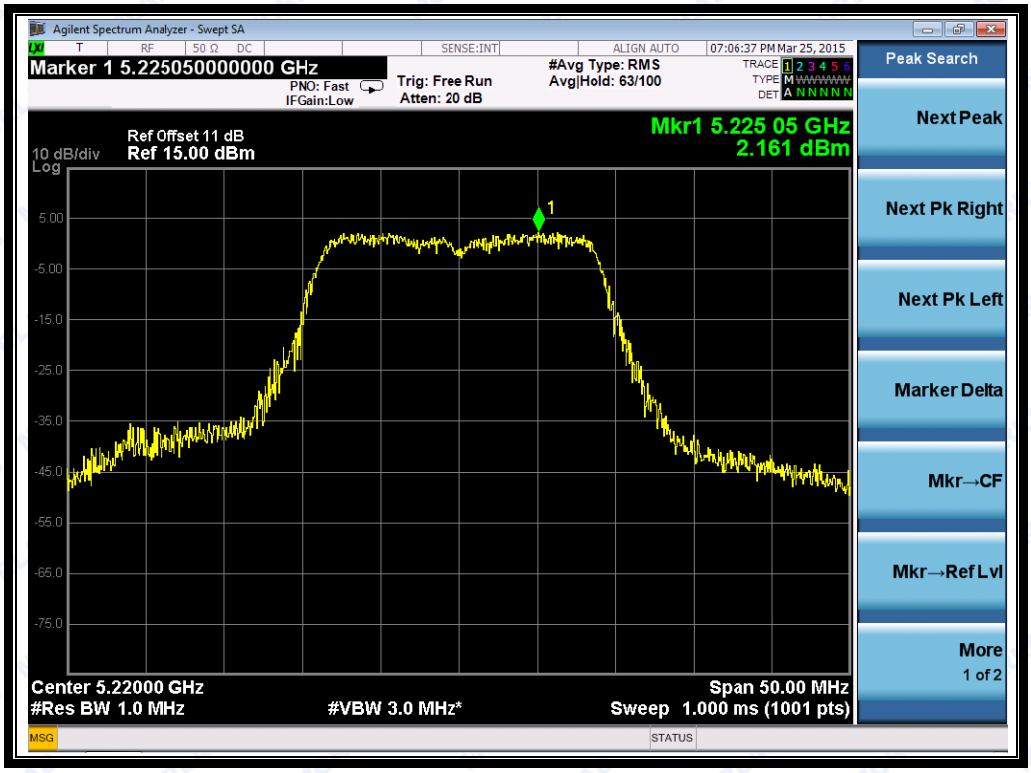
**A. Test Verdict:**

| 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 | | |

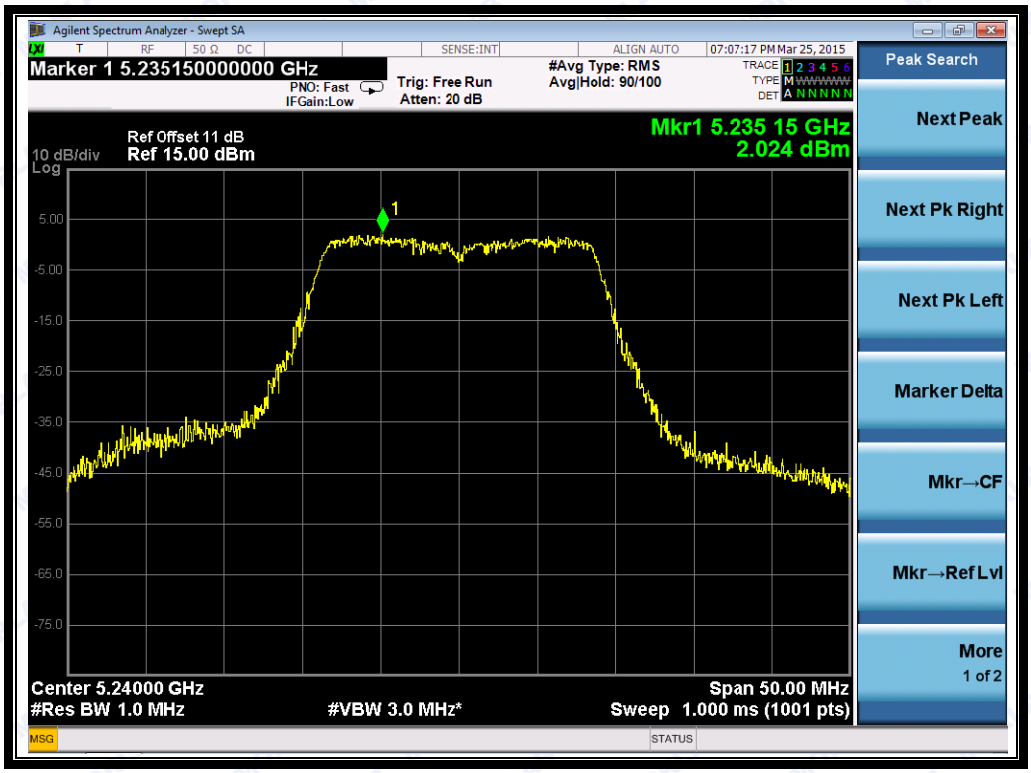
**B. Test Plots:**



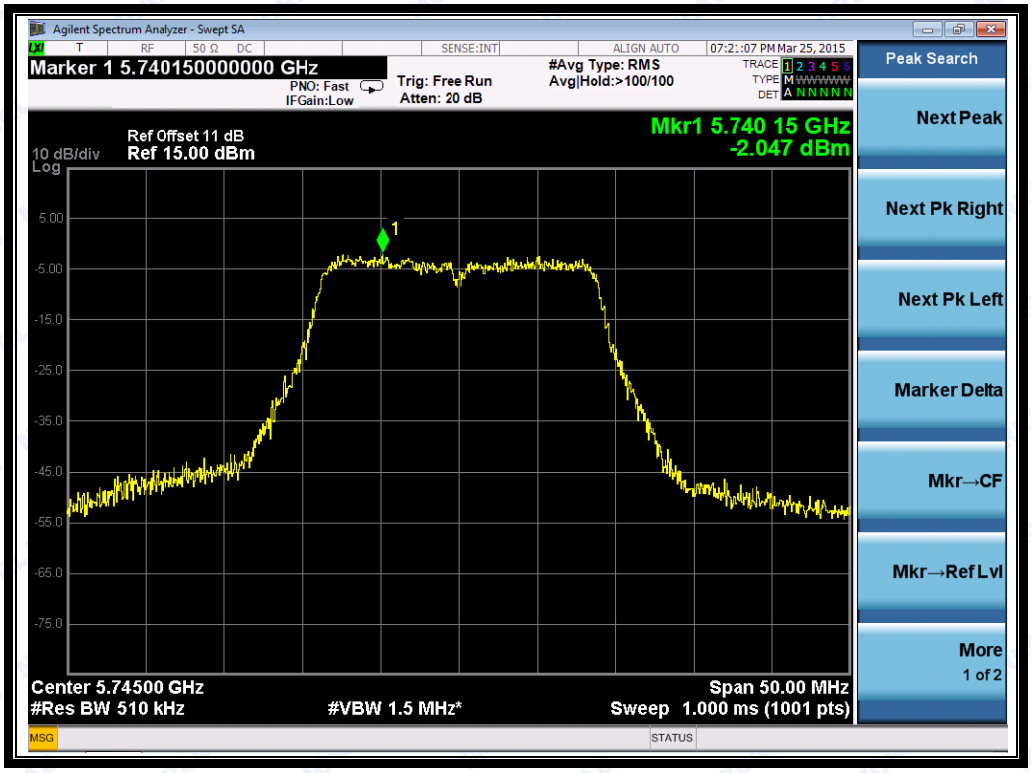

(Channel 36: 5180MHz @ 802.11ac)



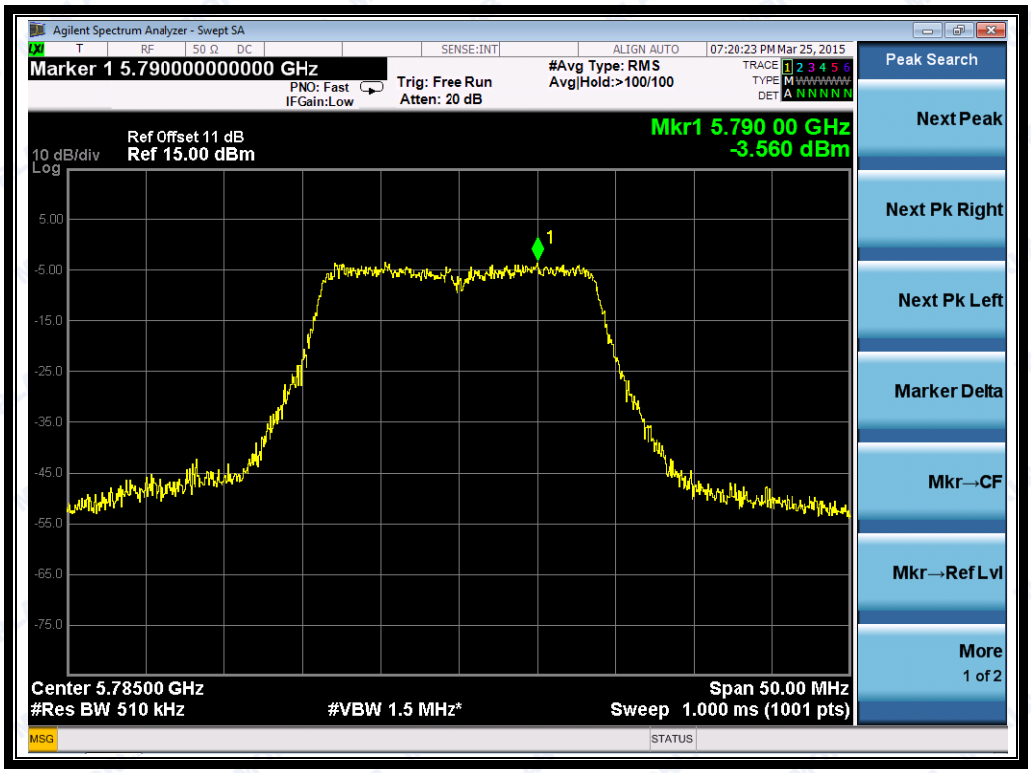

(Channel 44: 5220 MHz @ 802.11ac)



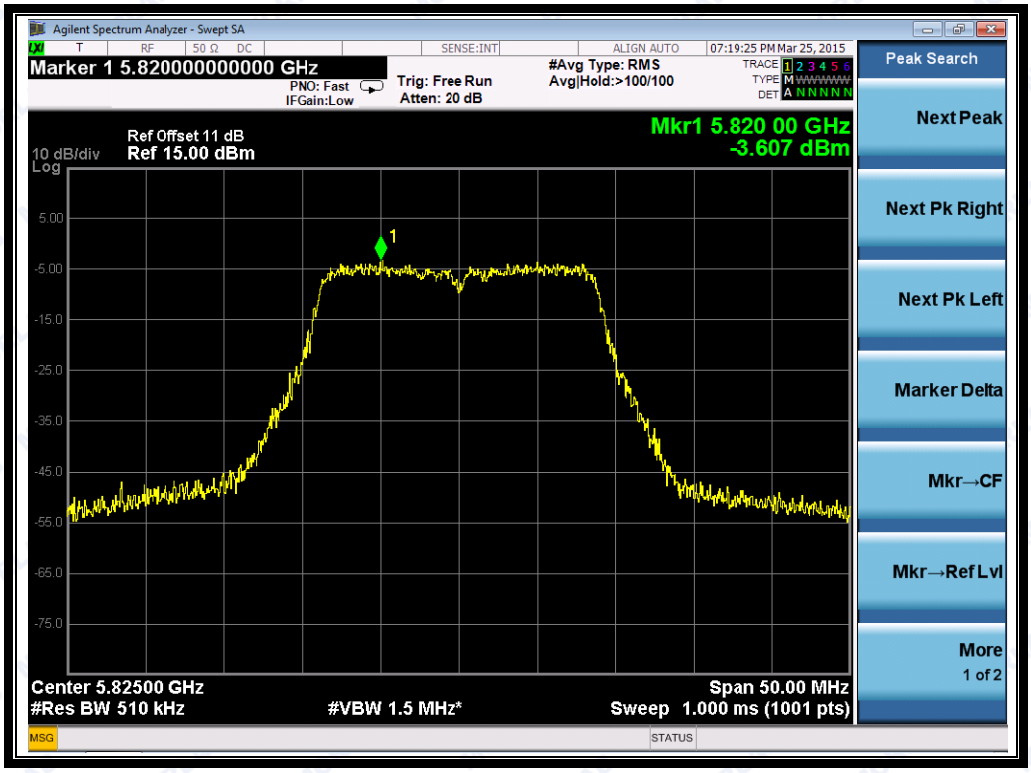

(Channel 48: 5240MHz @ 802.11ac)




(Channel 149: 5745MHz @ 802.11ac)




(Channel 157: 5785MHz @ 802.11ac)



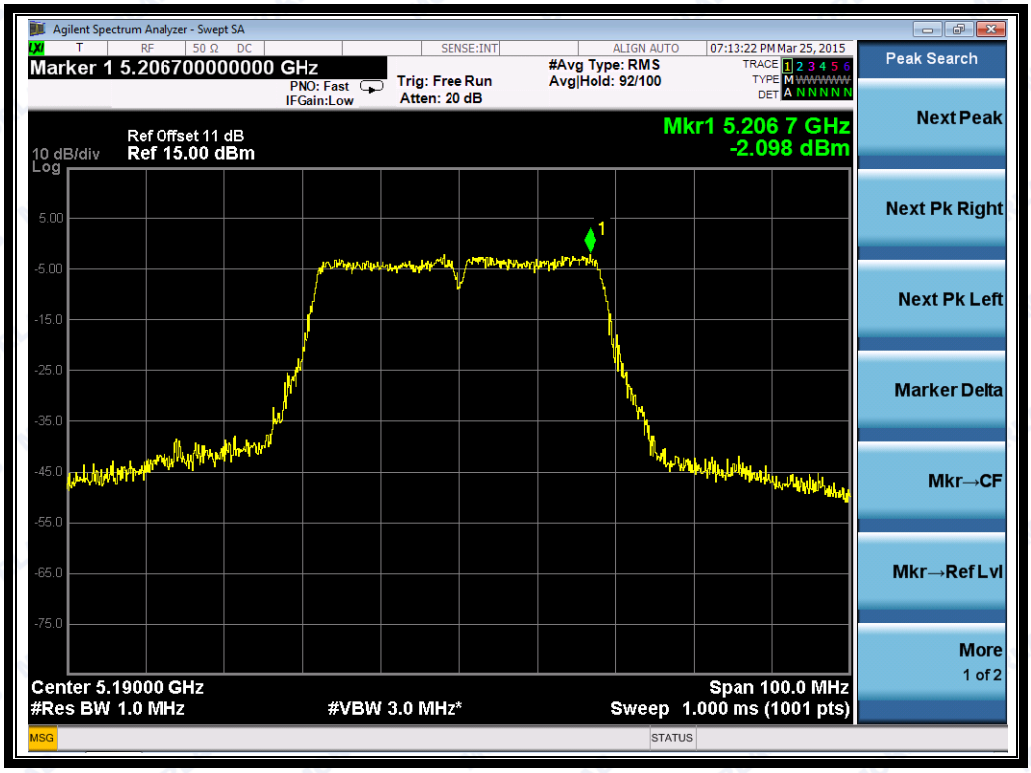

(Channel 165: 5825MHz @ 802.11ac)

### 2.4.3.2 802.11ac-40MHz Test mode

**A. Test Verdict:**

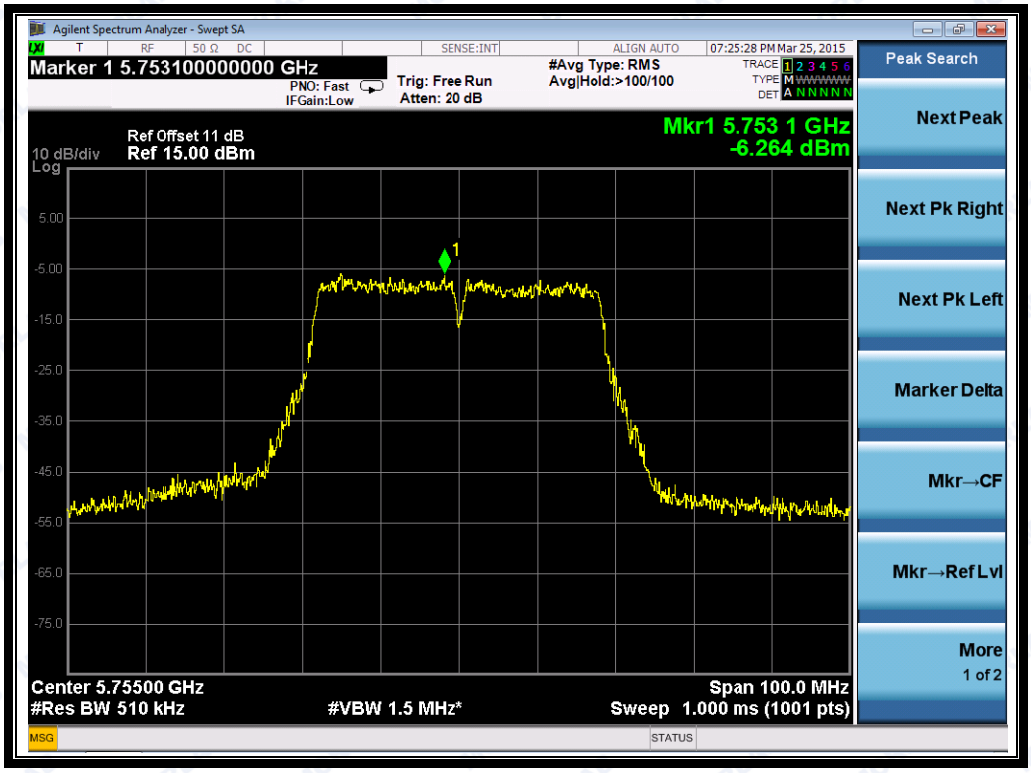
| Channel | Frequency (MHz) | Measured PPSD (dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|
| 38 | 5190 | -2.098 | 11 | PASS |
| 46 | 5230 | -19.11 | | |
| 151 | 5755 | -6.264 | 30 | |
| 159 | 5795 | -7.447 | | |

**B. Test Plots:**

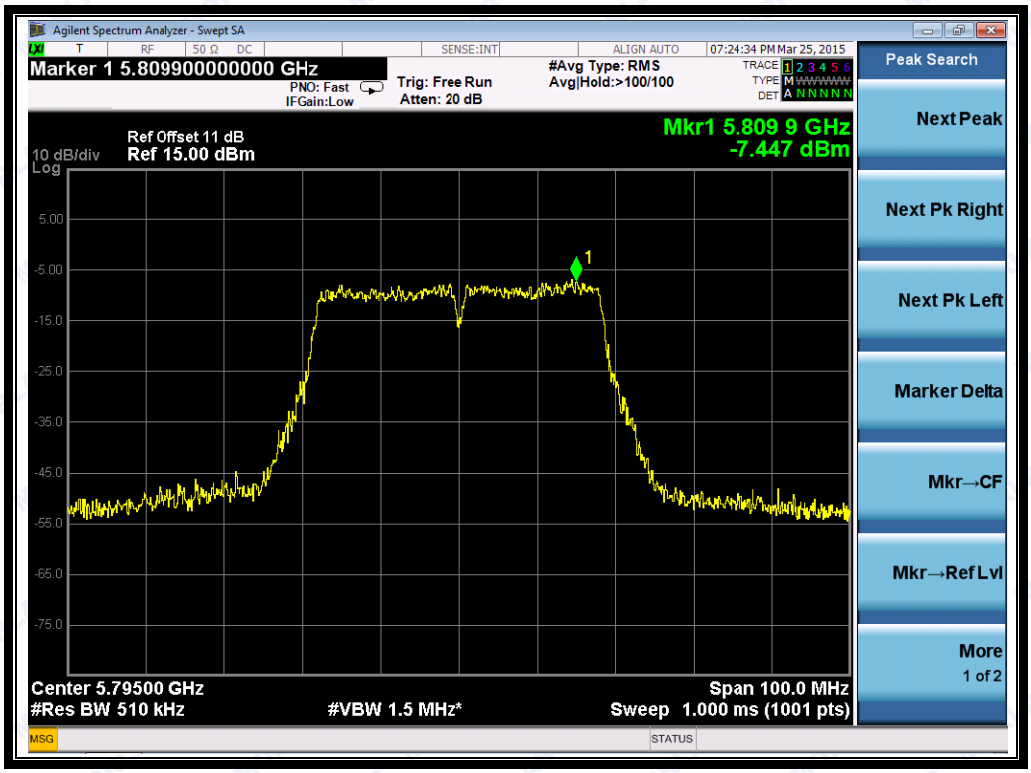



(Channel 38: 5190MHz @ 802.11ac)


(Channel 46: 5230 MHz @ 802.11ac)




(Channel 151: 5755MHz @ 802.11ac)



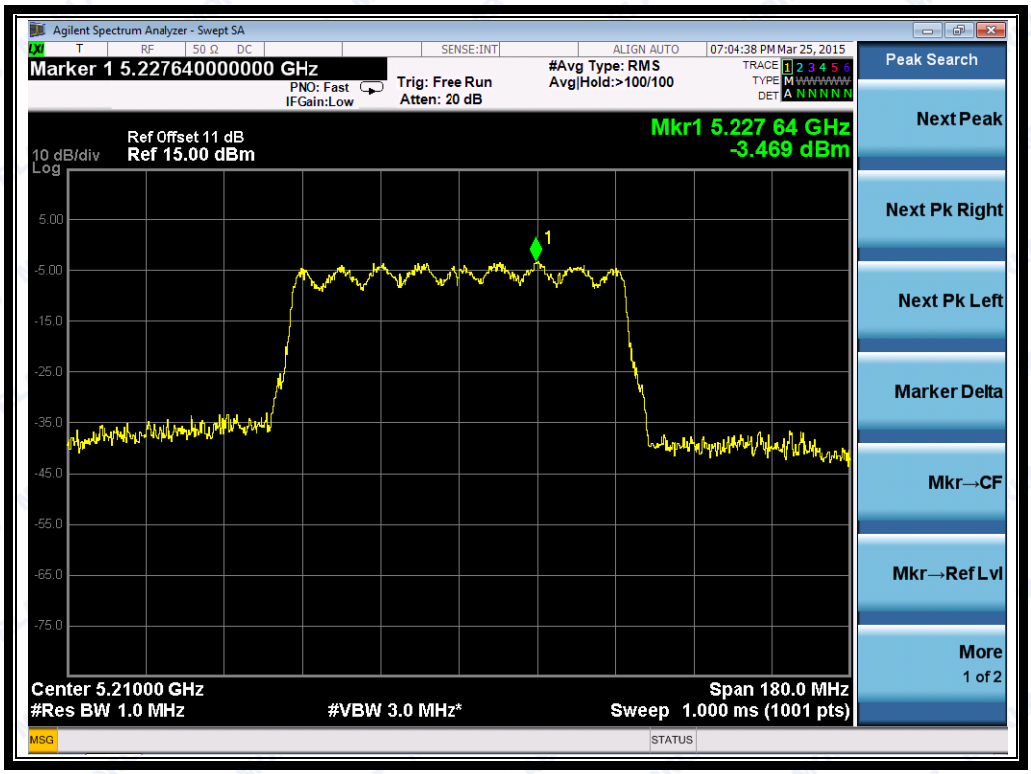

(Channel 159: 5795MHz @ 802.11ac)

### 2.4.3.3 802.11ac-80MHz Test mode

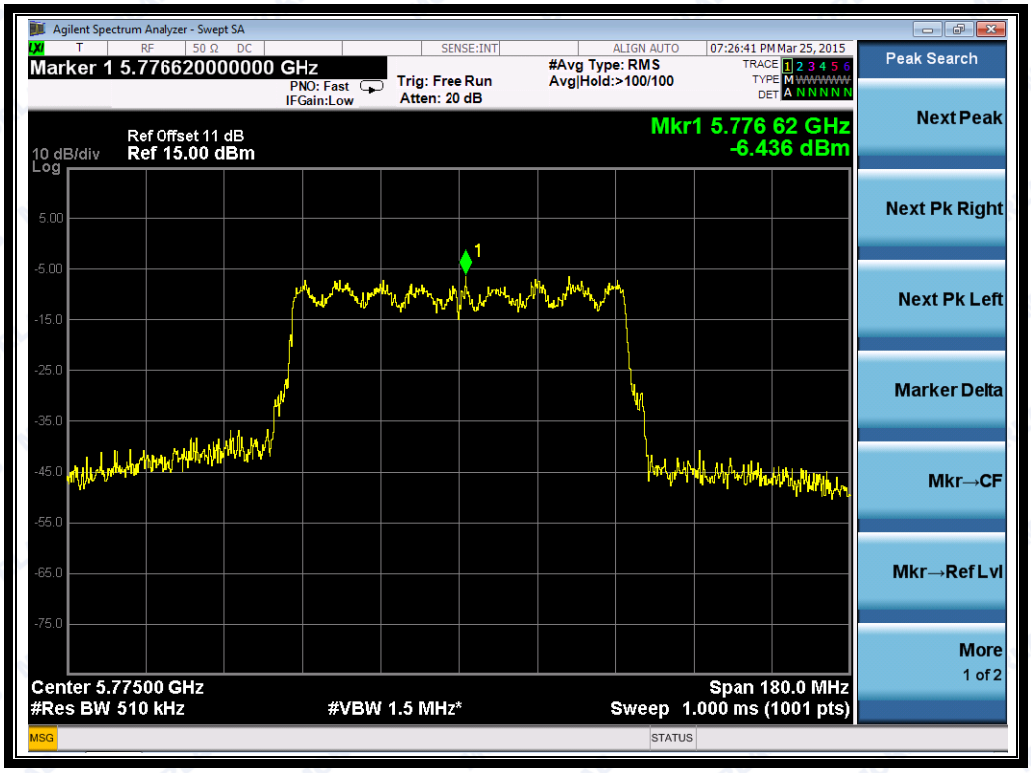
**A. Test Verdict:**

| 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)



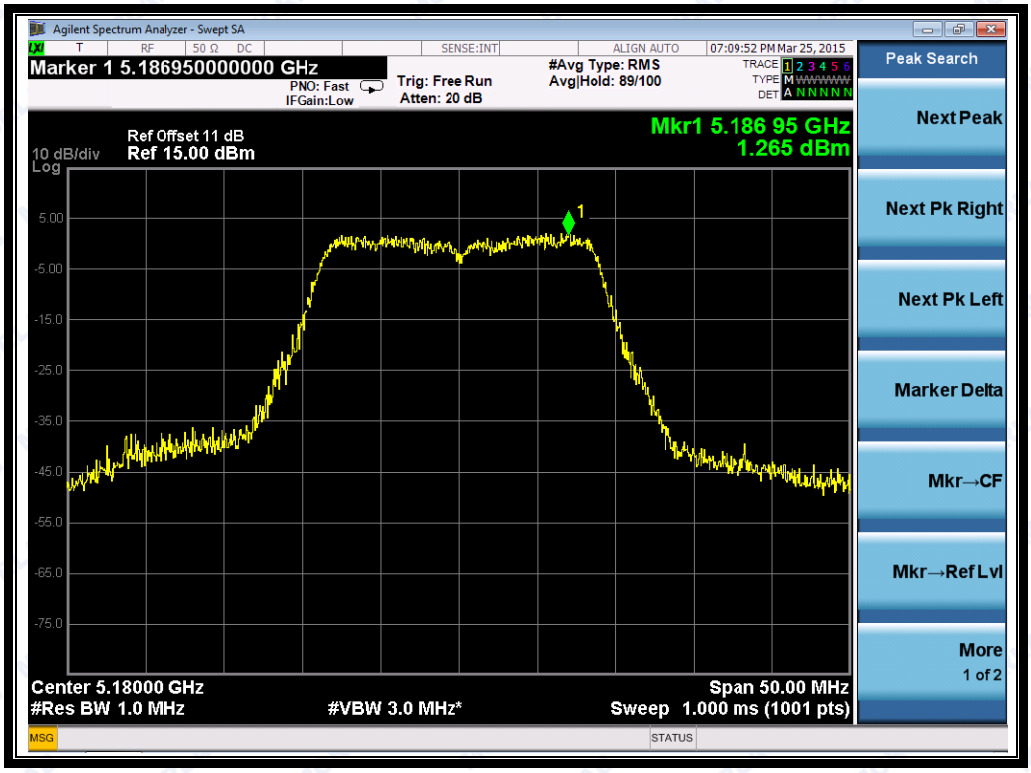

(Channel 155: 5775MHz @ 802.11ac)

### 2.4.3.4 802.11n-20MHz Test mode

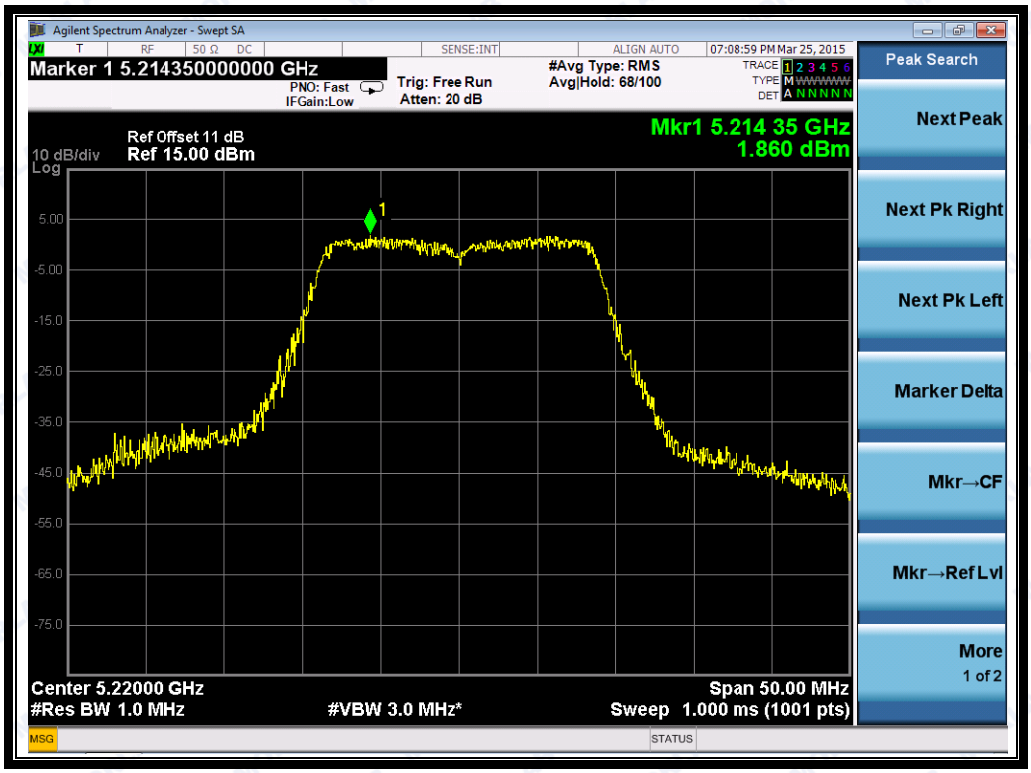
**A. Test Verdict:**

| 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 | | |

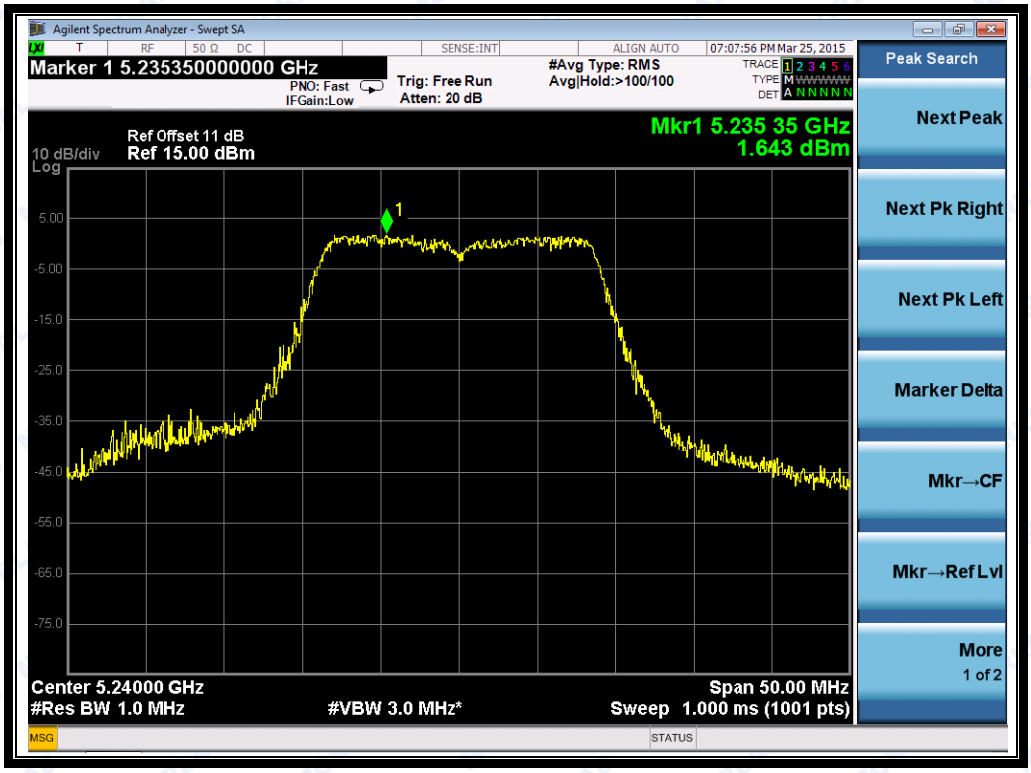
**B. Test Plots:**



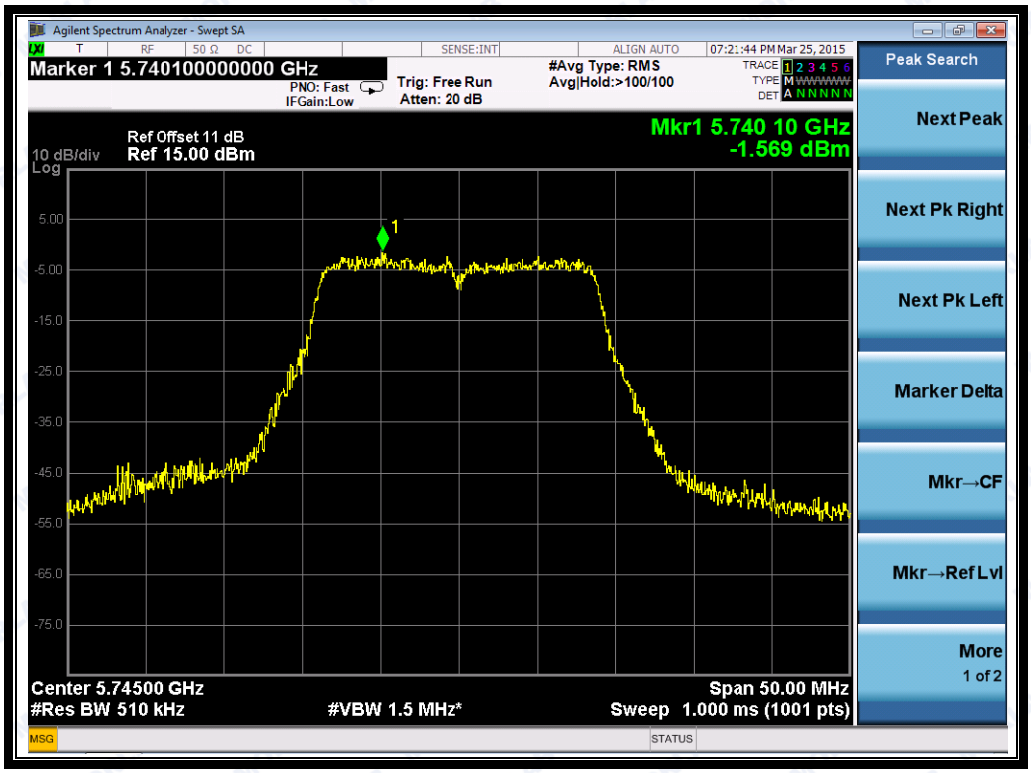

(Channel 36: 5180MHz @ 802.11n-20MHz)



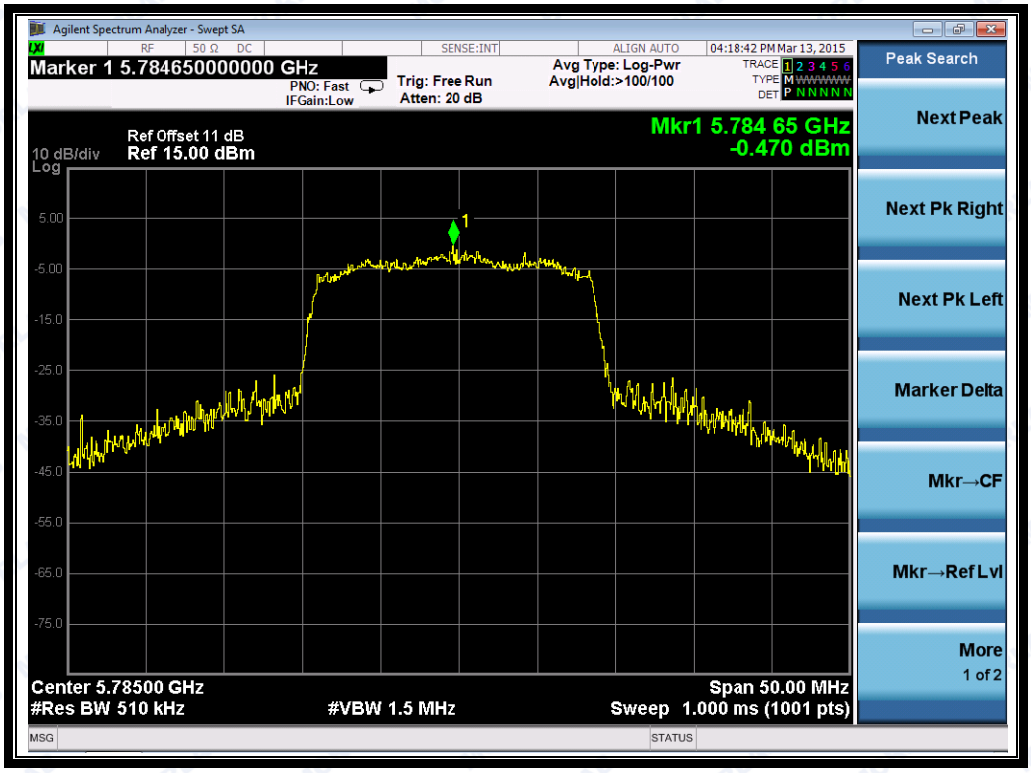

(Channel 44: 5220 MHz @ 802.11n-20MHz)



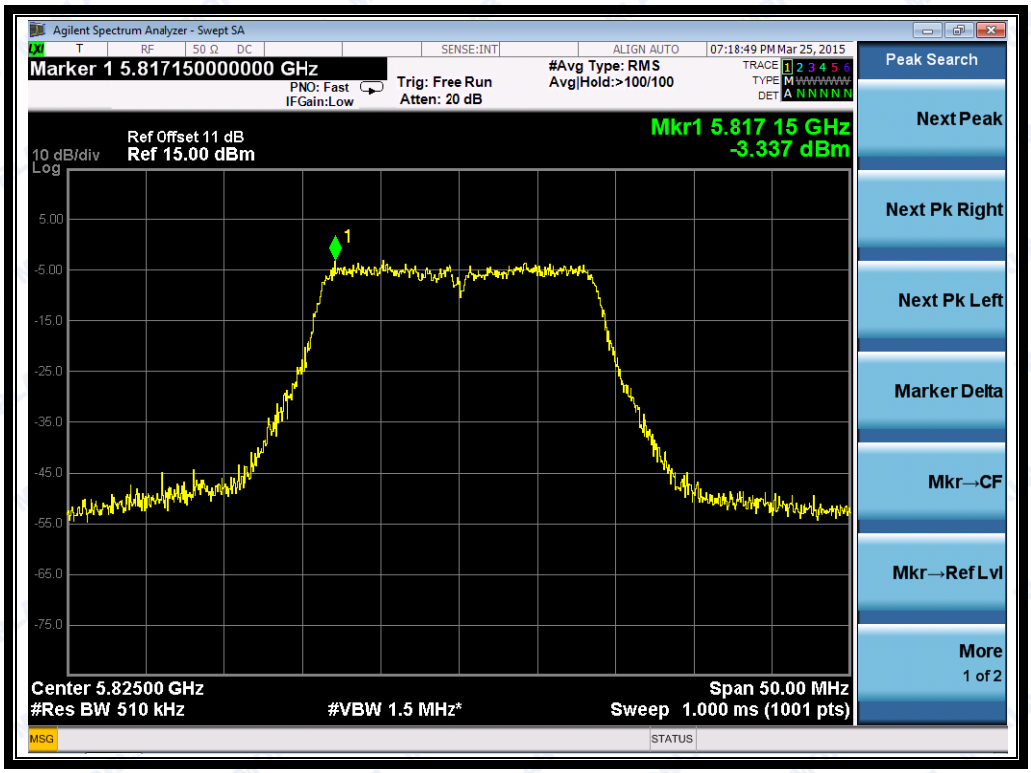

(Channel 48: 5240MHz @ 802.11n-20MHz)




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




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



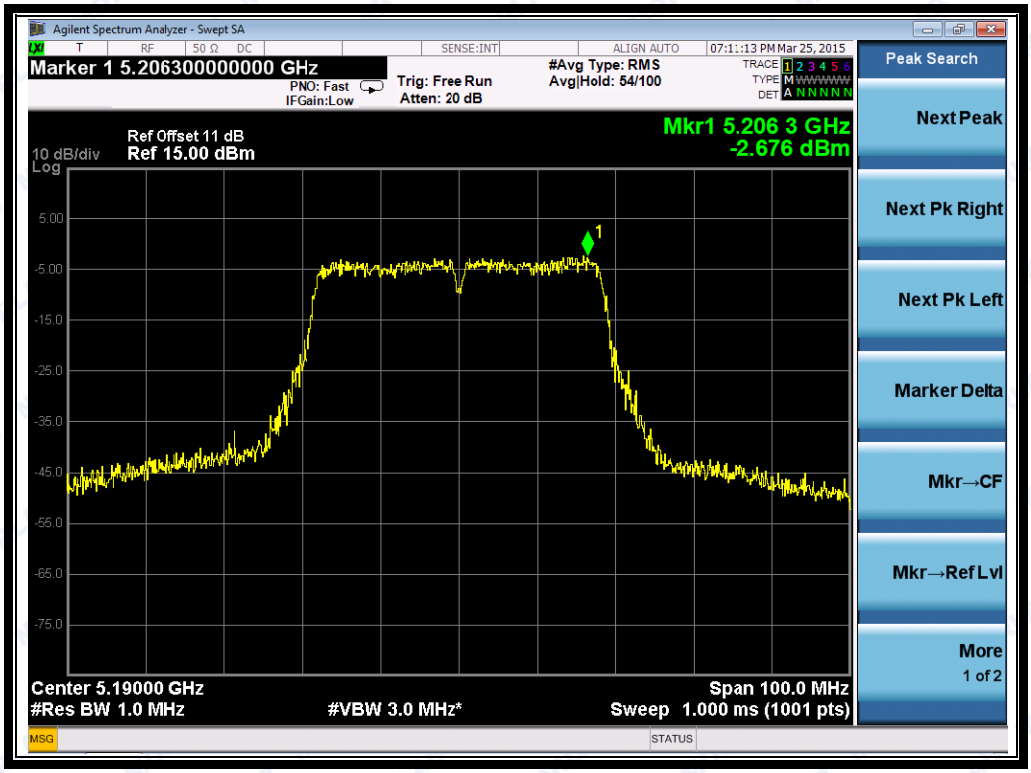

(Channel 165: 5825MHz @ 802.11n-20MHz)

### 2.4.3.5 802.11n-40MHz Test mode

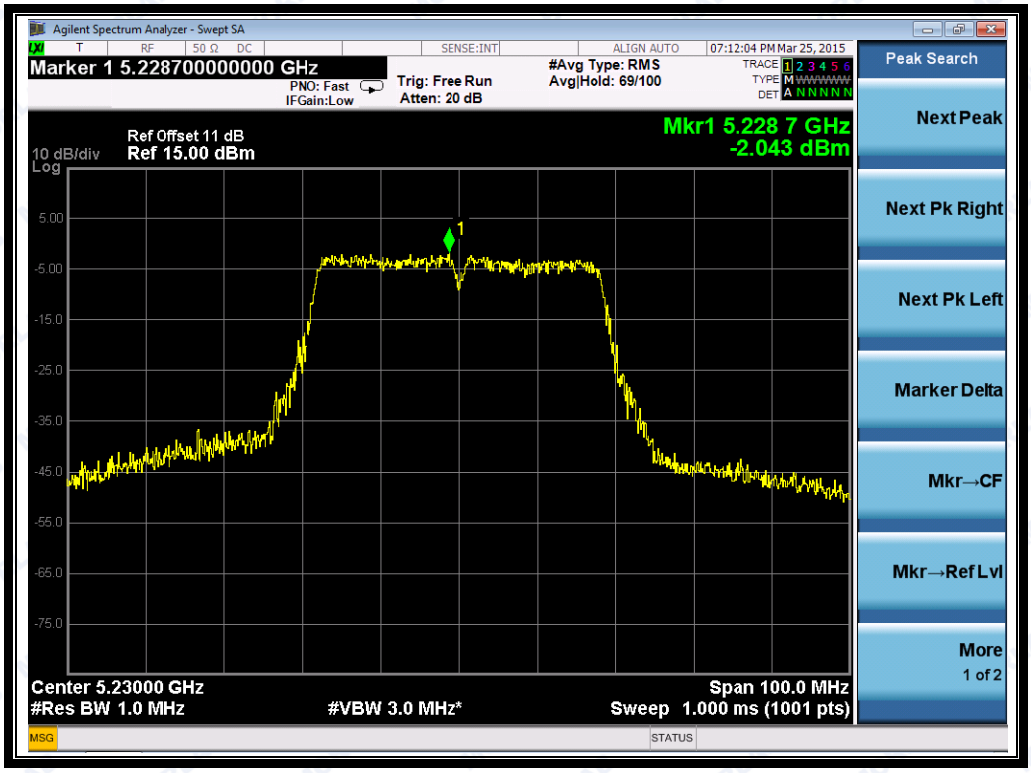
**A. Test Verdict:**

| 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 | | |

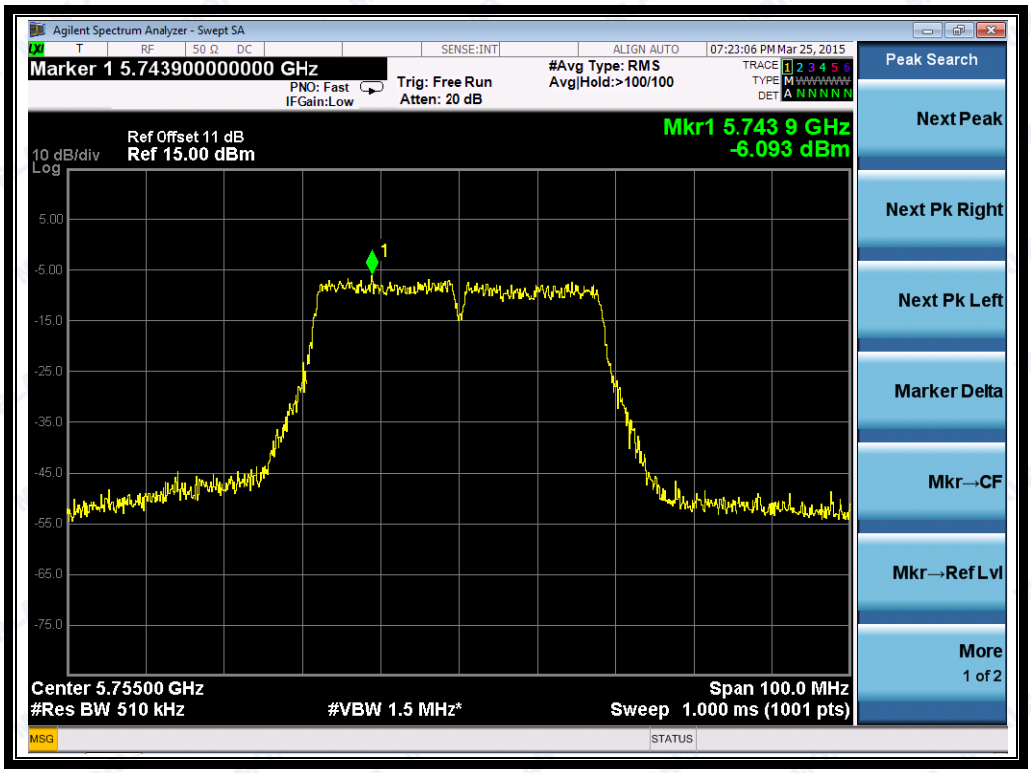
**B. Test Plots:**



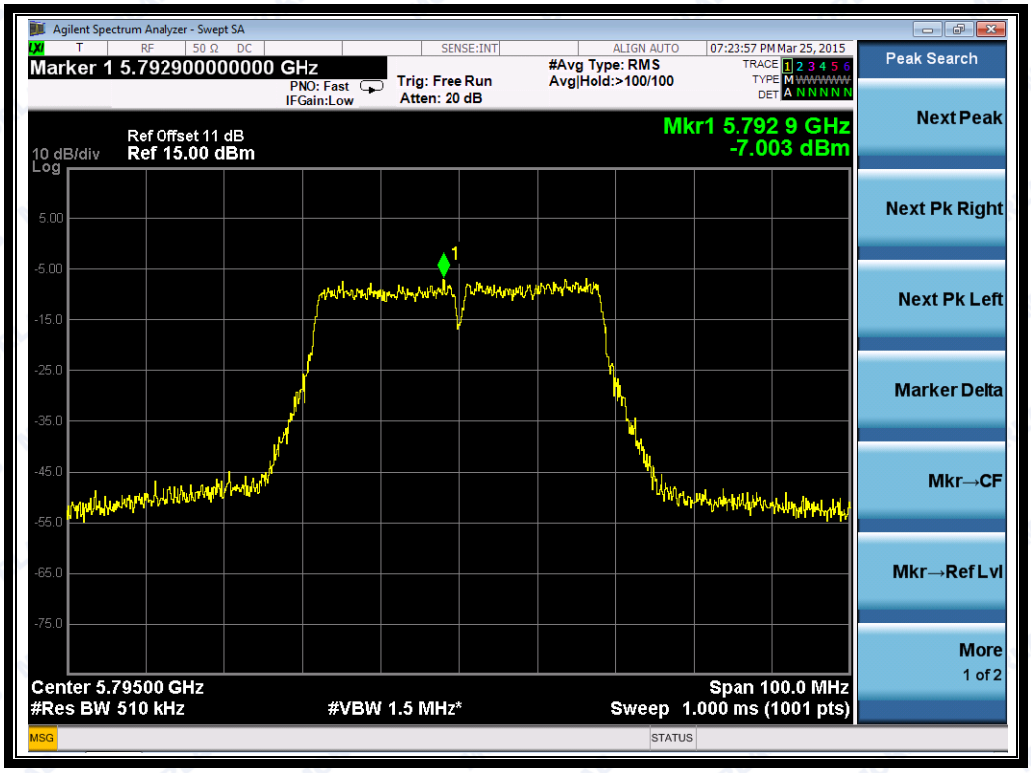

(Channel 38: 5190MHz @ 802.11n-40MHz)




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




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




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

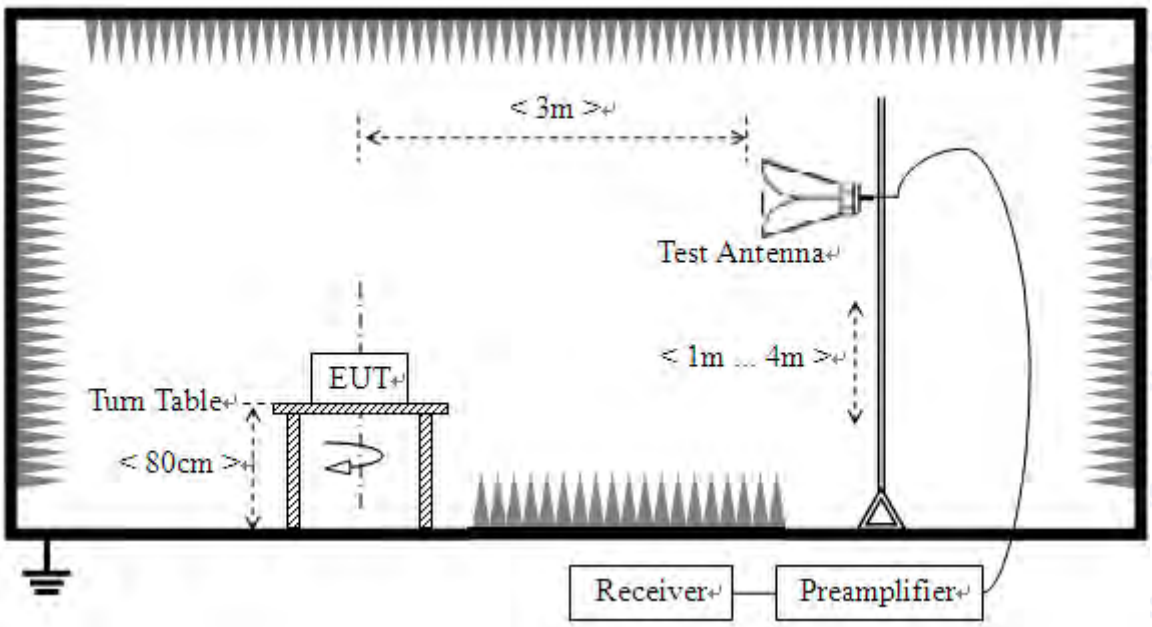
## 2.5 Restricted Frequency Bands

### 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:

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

$A_T$: Total correction Factor except Antenna

$U_R$: Receiver Reading

$G_{preamp}$: Preamplifier Gain

$A_{Factor}$: 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.

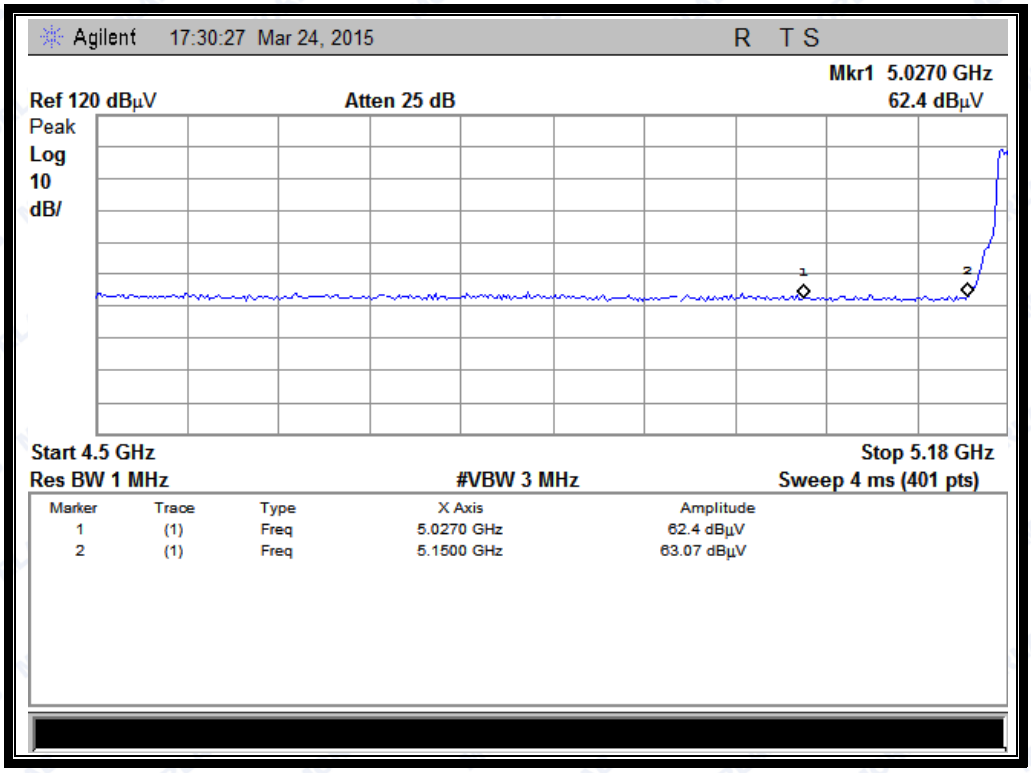
#### 2.5.3.1 802.11ac-20MHz Test mode

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

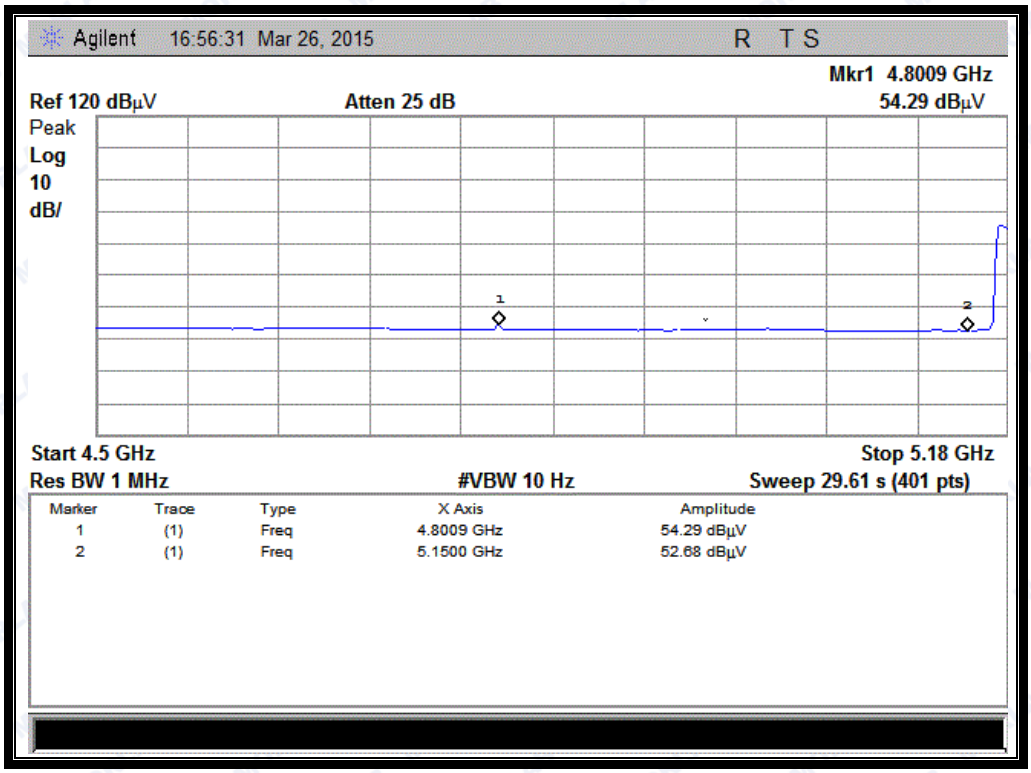
**A. Test Verdict:**

| Channel | Frequency (MHz) | Detector | Receiver Reading $U_R$ (dBuV) | $A_T$ (dB) | $A_{Factor}$ (dB@3m) | Max. Emission E (dBμV/m) | Limit (dBμV/m) | Verdict |
|---|---|---|---|---|---|---|---|---|
| | | PK/ AV | | | | | | |
| 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)

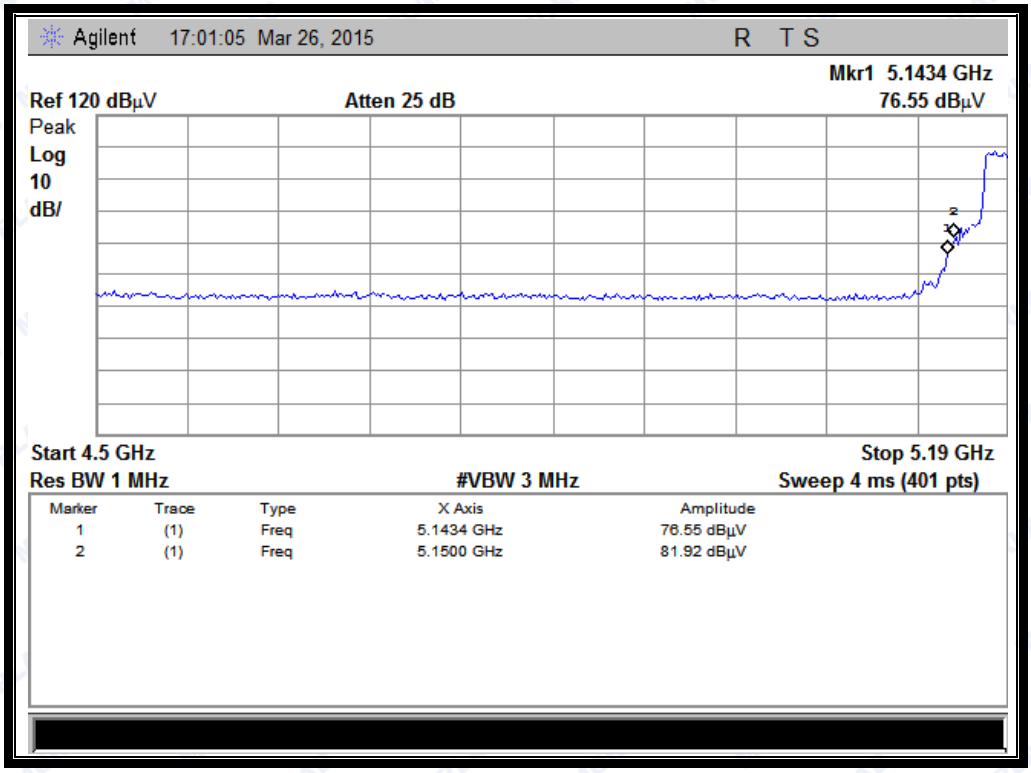
### 2.5.3.2 802.11ac-40MHz Test mode

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

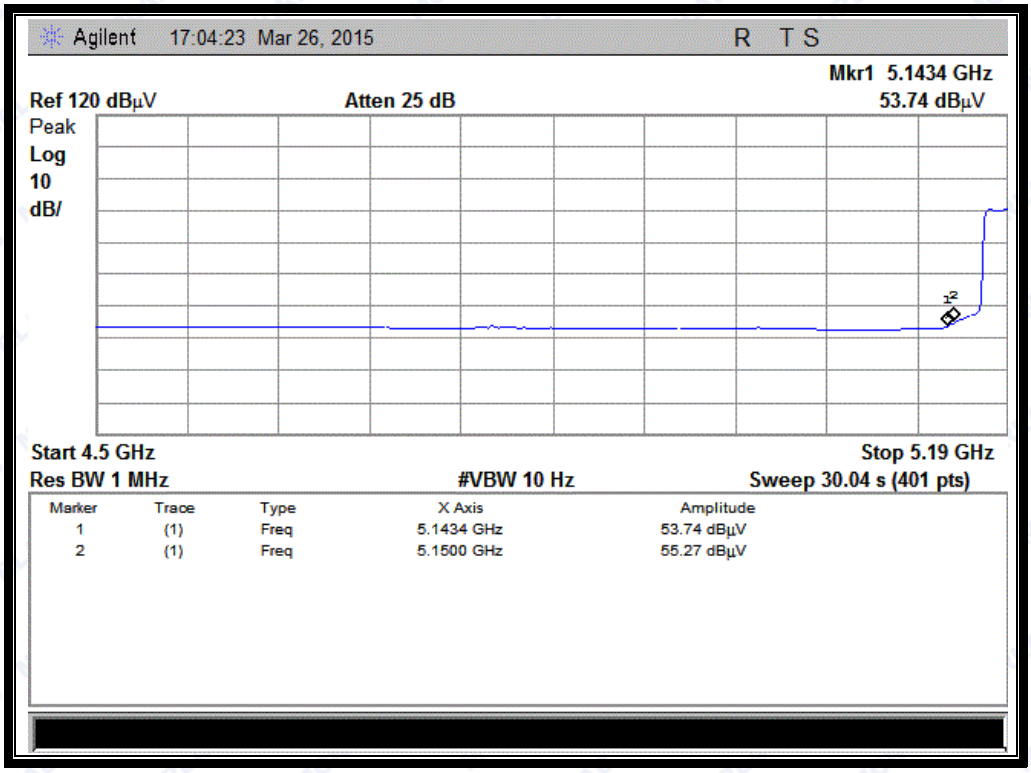
**A. Test Verdict:**

| Channel | Frequency (MHz) | Detector | Receiver Reading $U_R$ (dBuV) | $A_T$ (dB) | $A_{Factor}$ (dB@3m) | Max. Emission E (dBμV/m) | Limit (dBμV/m) | Verdict |
|---|---|---|---|---|---|---|---|---|
| | | PK/ AV | | | | | | |
| 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)

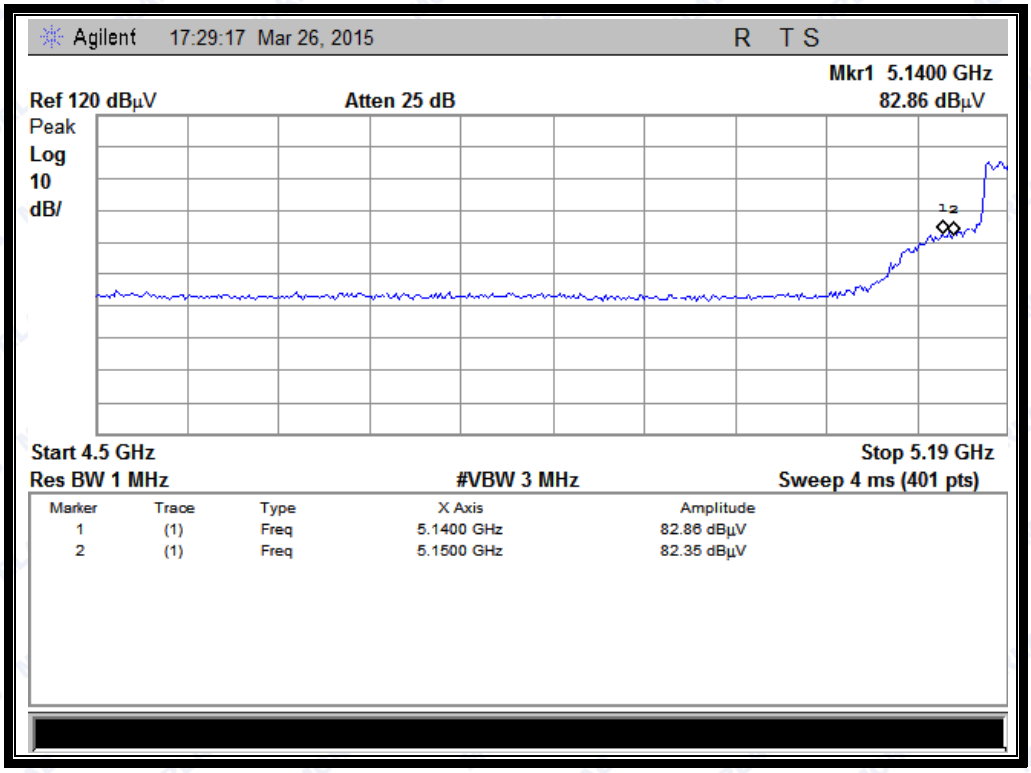
### 2.5.3.3 802.11ac-80MHz Test mode

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

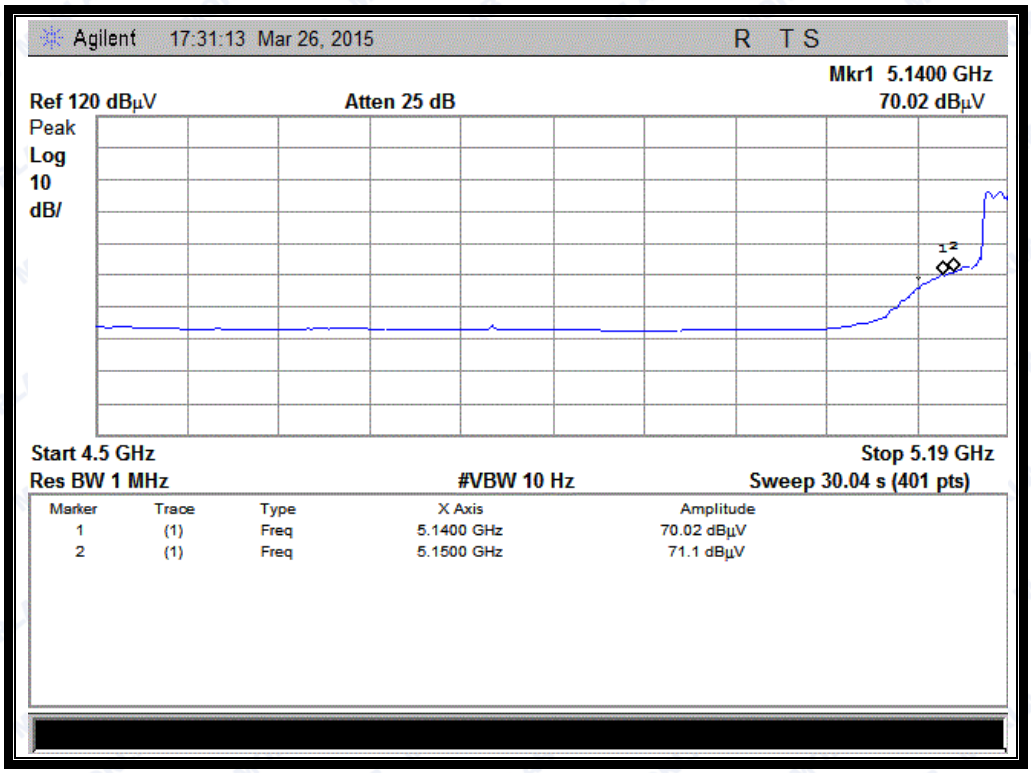
**A. Test Verdict:**

| 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)

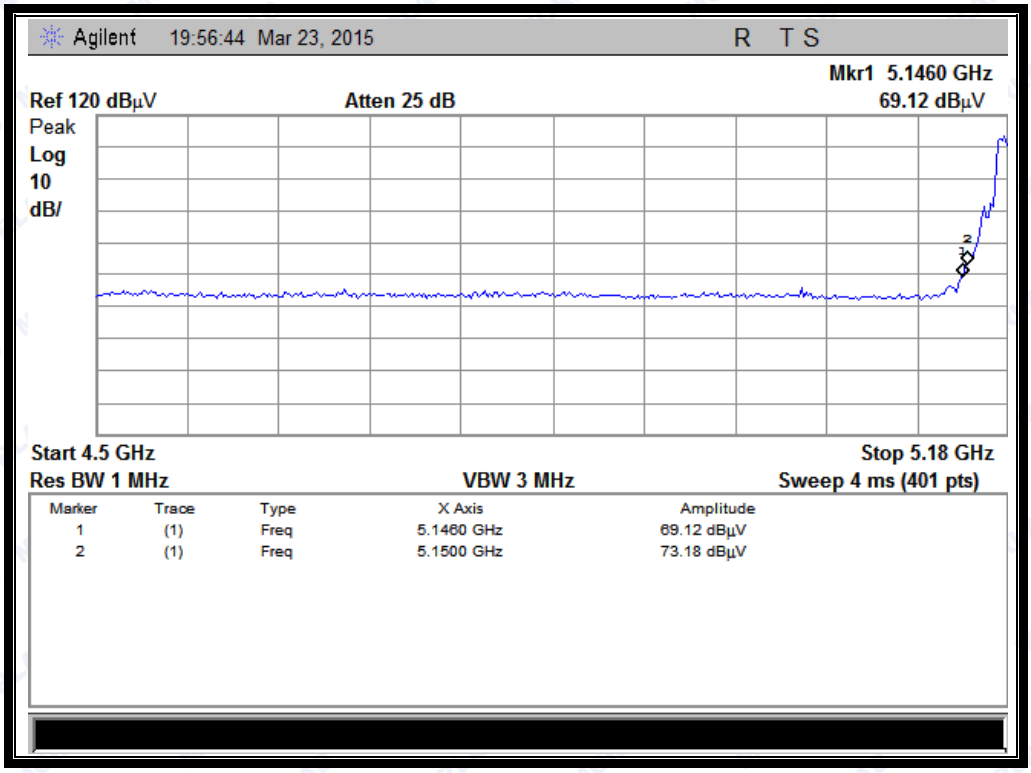
### 2.5.3.4 802.11n-20MHz Test mode

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

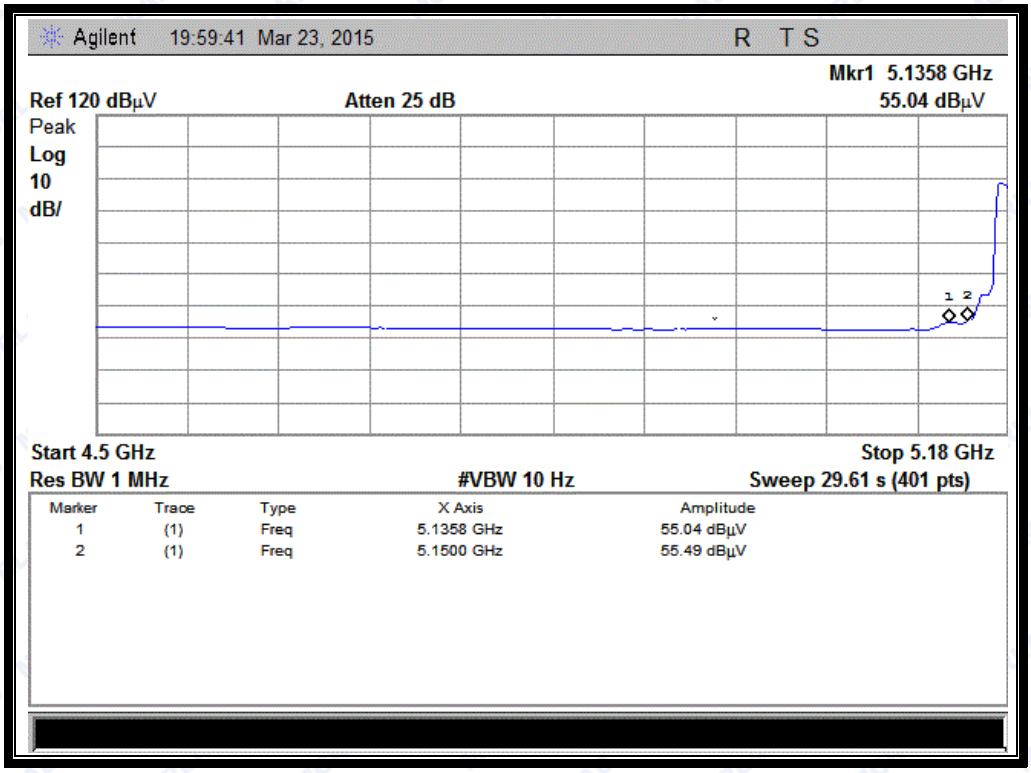
**A. Test Verdict:**

| Channel | Frequency (MHz) | Detector | Receiver Reading $U_R$ (dBuV) | $A_T$ (dB) | $A_{Factor}$ (dB@3m) | Max. Emission E (dBμV/m) | Limit (dBμV/m) | Verdict |
|---|---|---|---|---|---|---|---|---|
| | | PK/ AV | | | | | | |
| 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)

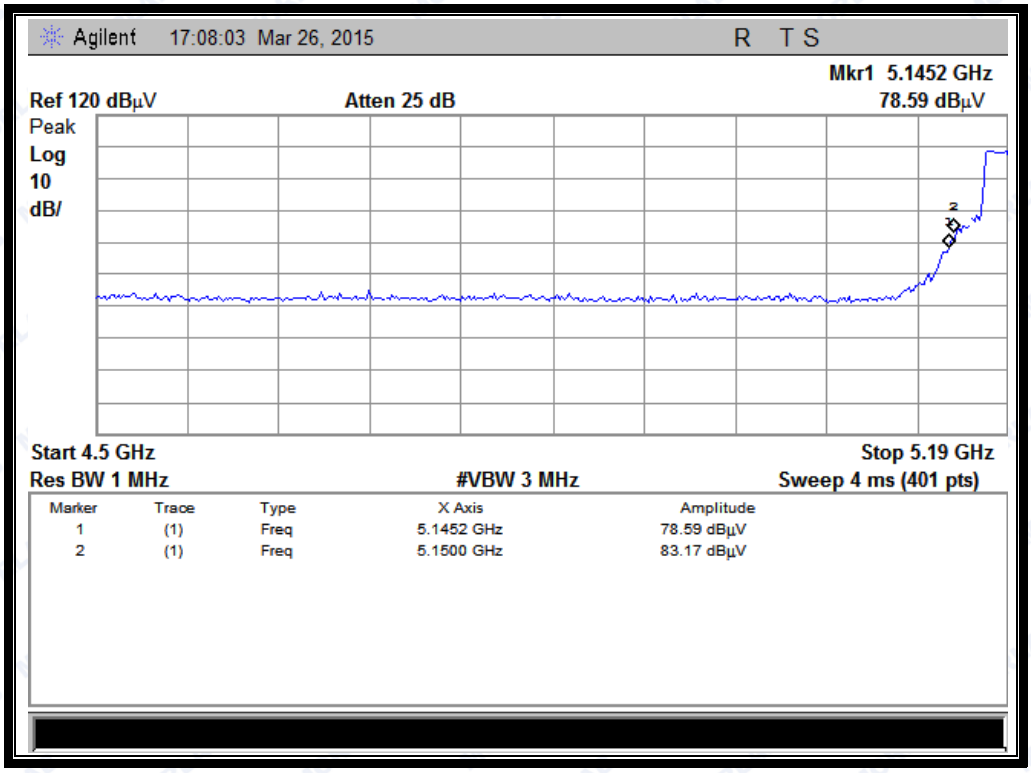
### 2.5.3.5 802.11n-40MHz Test mode

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

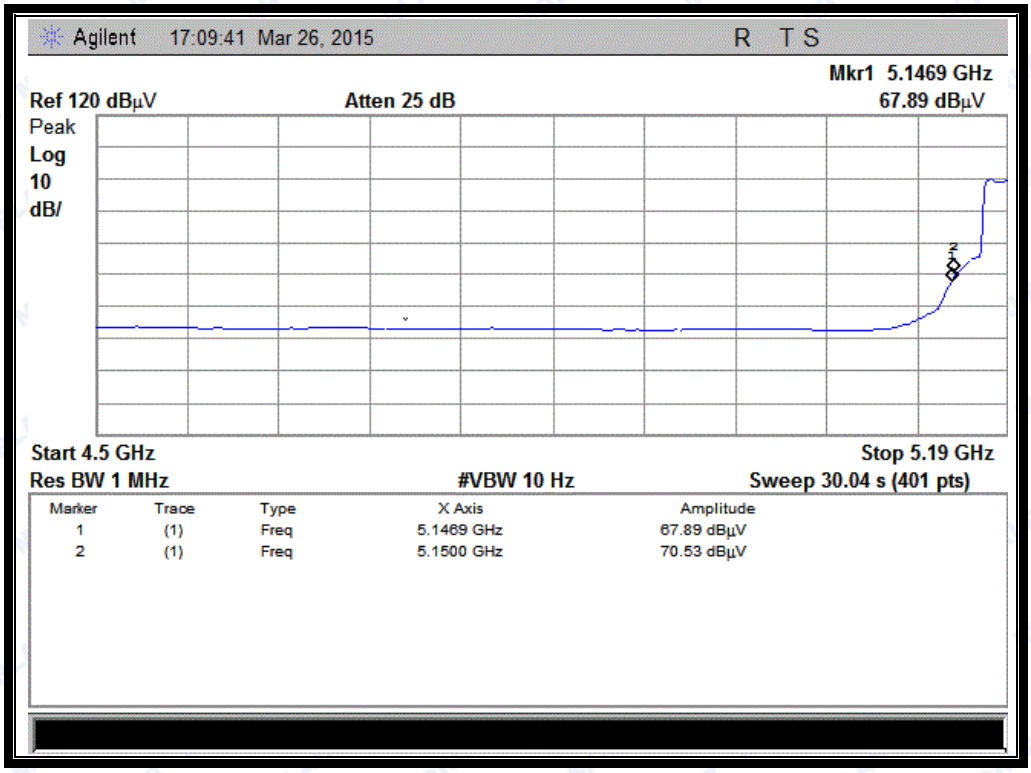
**A. Test Verdict:**

| Channel | Frequency (MHz) | Detector | Receiver Reading $U_R$ (dBuV) | $A_T$ (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 $10^{o}$ 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 | 0.00000017 |
| 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 | 0.00000002 |
| BATT.ENDPOINT | 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 50μH/50Ω line impedance stabilization network (LISN).

| Frequency range (MHz) | Conducted Limit (dBμV) | |
|---|---|---|
| | Quai-peak | Average |
| 0.15 - 0.50 | 66 to 56 | 56 to 46 |
| 0.50 - 5 | 56 | 46 |
| 5 - 30 | 60 | 50 |

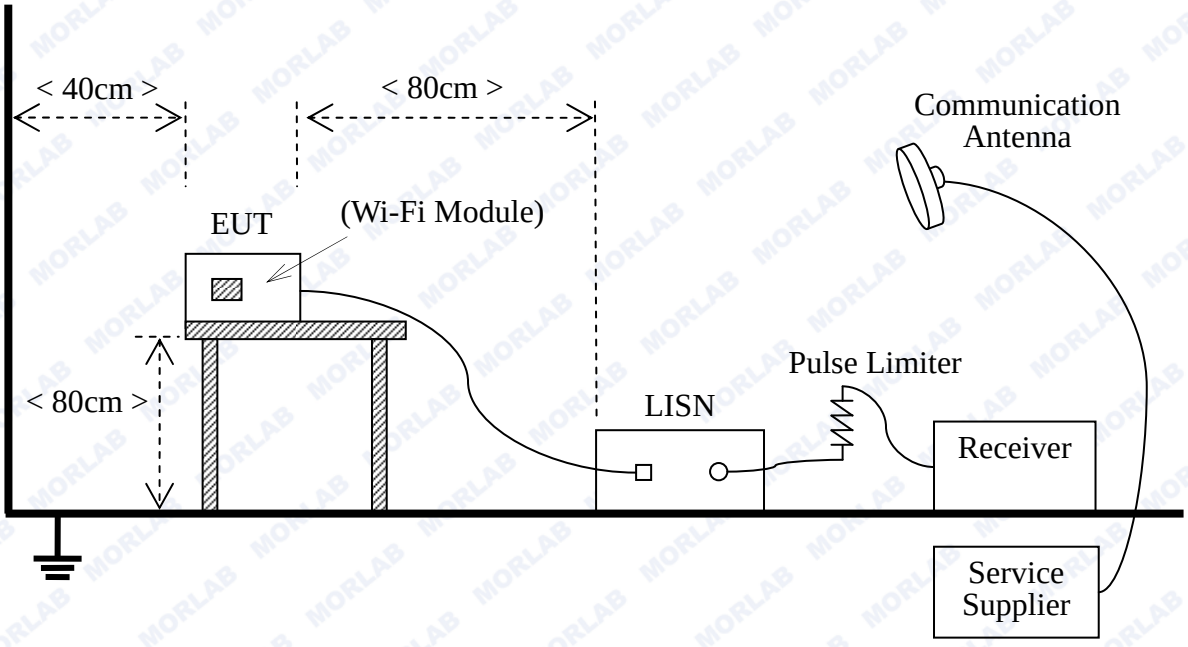
**NOTE:**

(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 C63.4:2009

The EUT is powered by the Battery charged with the AC Adapter which is powered by 120V, 60Hz

AC mains supply. The factors of the site are calibrated to correct the reading. During the measurement, the EUT is activated and controlled by the Wi-Fi Service Supplier (SS) via a Common Antenna.

### 2.7.3 Test Result

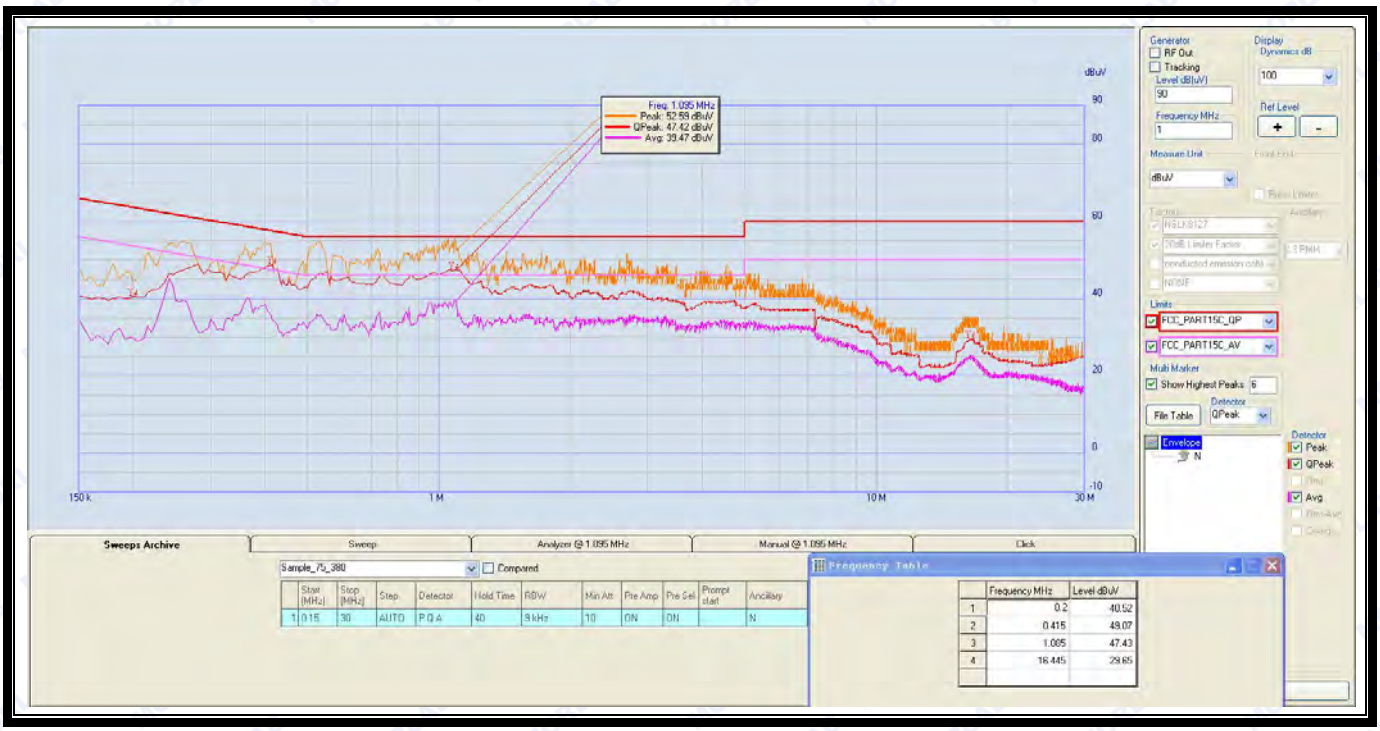
The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT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

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

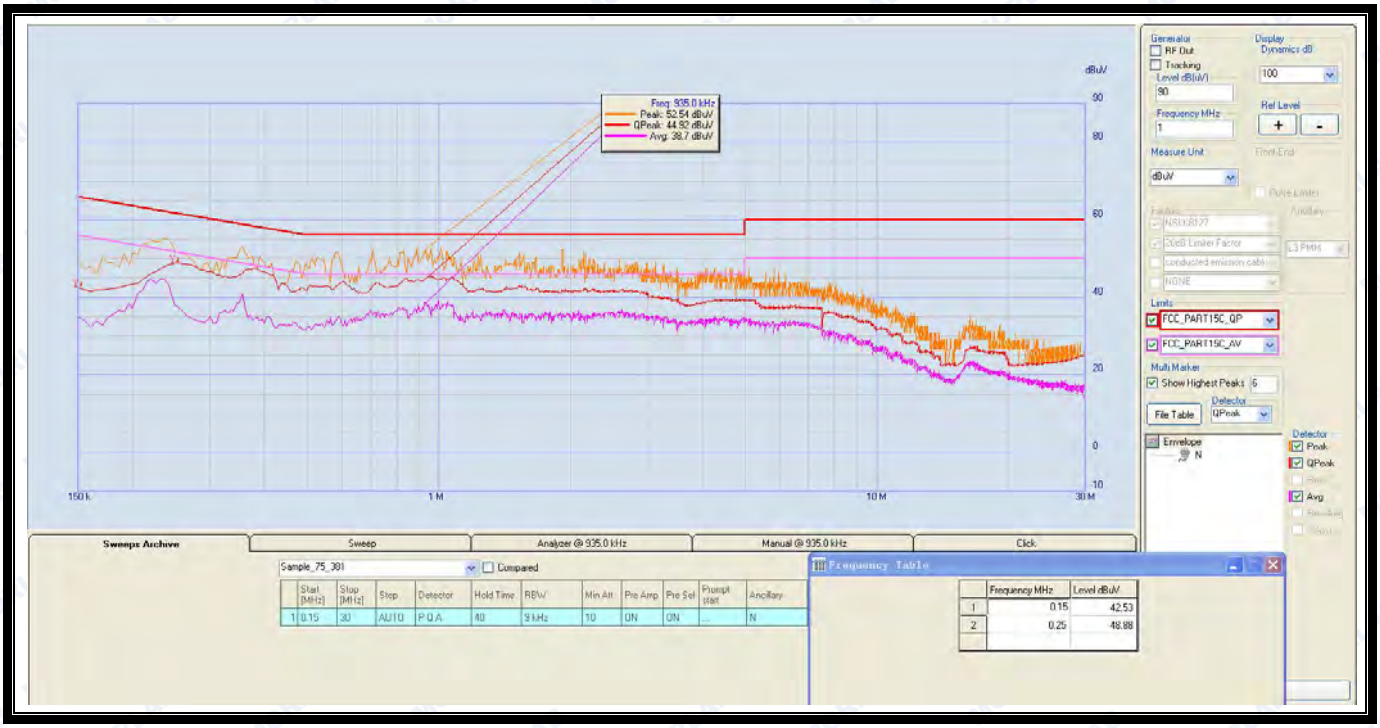
**A. Test setup:**

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

**B. Test Plots:**




(Plot A: L Phase)




(Plot B: N Phase)

## 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);

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

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:

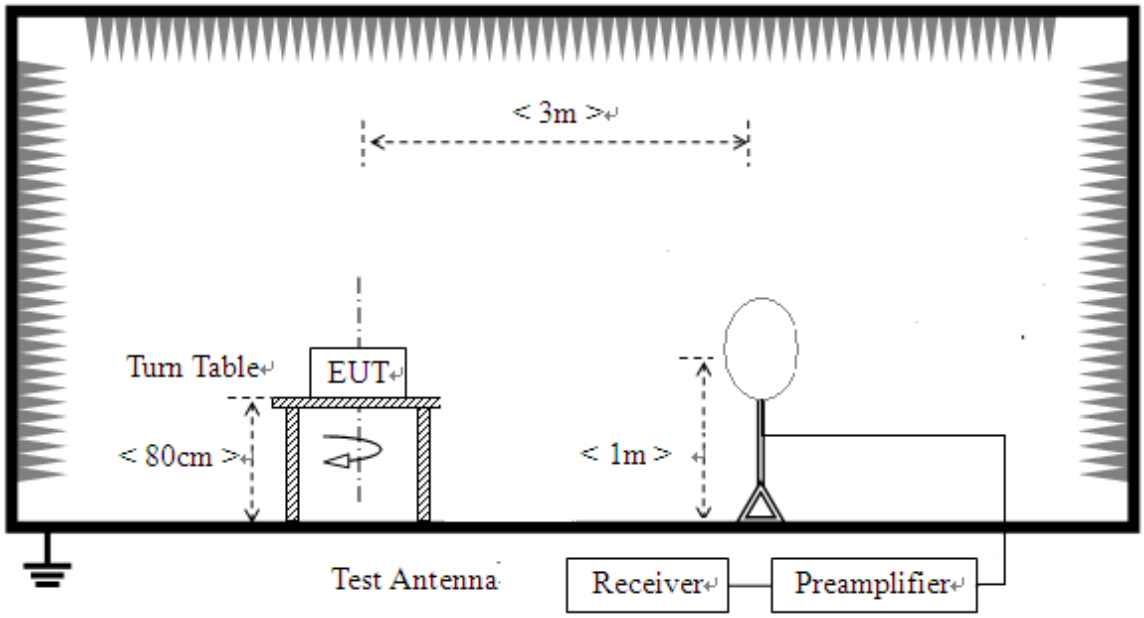
For Above 1000MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.

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)

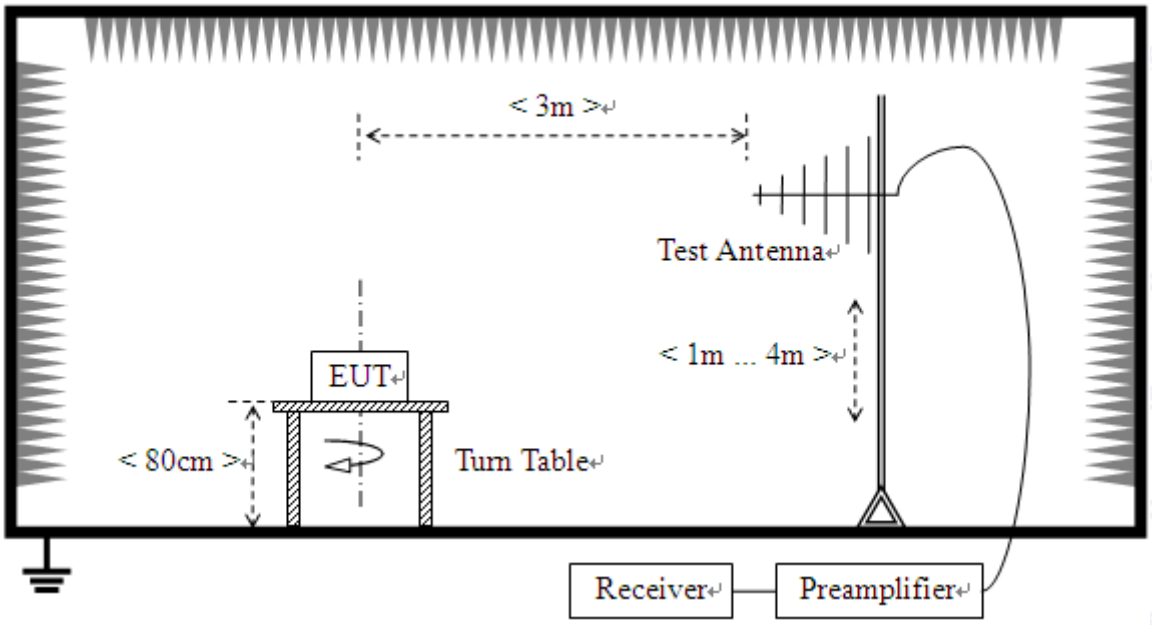
### 2.8.2 Test Description

**A. Test Setup:**

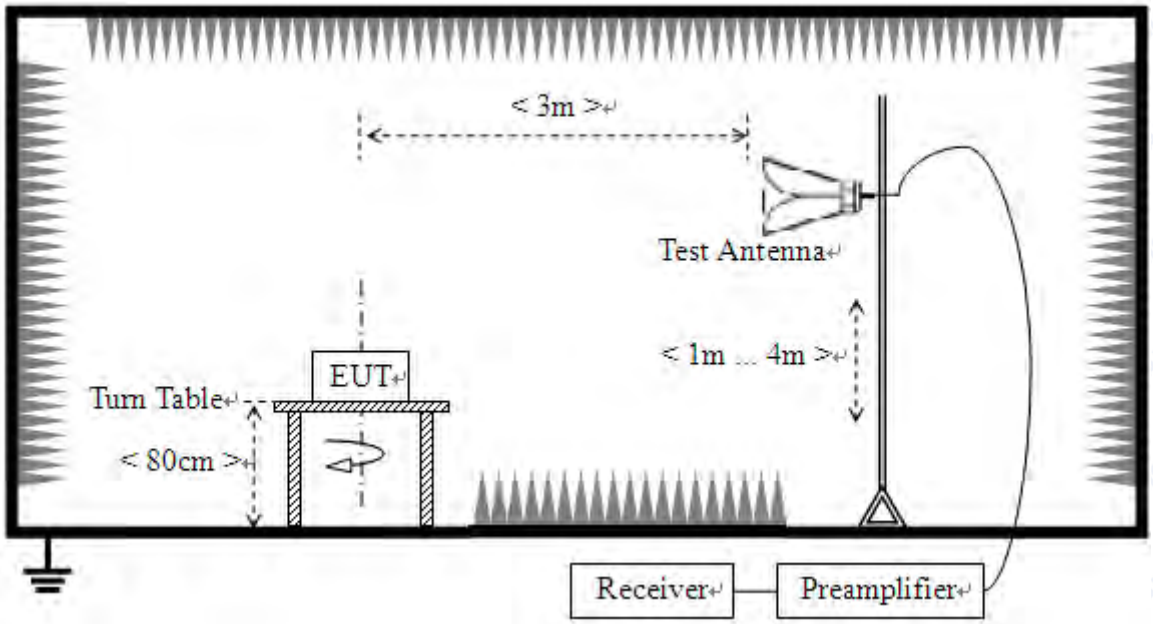
1) For radiated emissions from 9kHz to 30MHz




2) For radiated emissions from 30MHz to1GHz



3) For radiated emissions above 1GHz




The test site semi-anechoic chamber has met the requirement of NSA tolerance 4dB according to the standards: ANSI C63.4 (2009). The EUT was set-up on insulator 80cm above the Ground Plane. The set-up and test methods were according to ANSI C63.4.

The EUT of the EUT is powered by the Battery charged with the AC Adapter which is powered by 120V, 60Hz AC mains supply. 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. During the measurement, the EUT is activated and controlled by the Wireless Router via a Common Antenna, and is set to operate under hopping-on test mode.

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 2GHz) and Horn Test Antenna (above 2GHz) are used. 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. The emission levels at both horizontal and vertical polarizations should be tested.

### 2.8.3 Test Result

According to ANSI C63.4 selection 4.2.2, 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:

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

$A_T$: Total correction Factor except Antenna

$U_R$: Receiver Reading

$G_{preamp}$: Preamplifier Gain

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

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

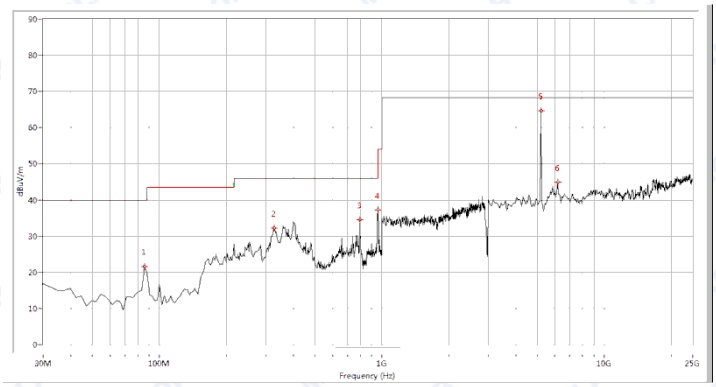
**Note:** All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

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.

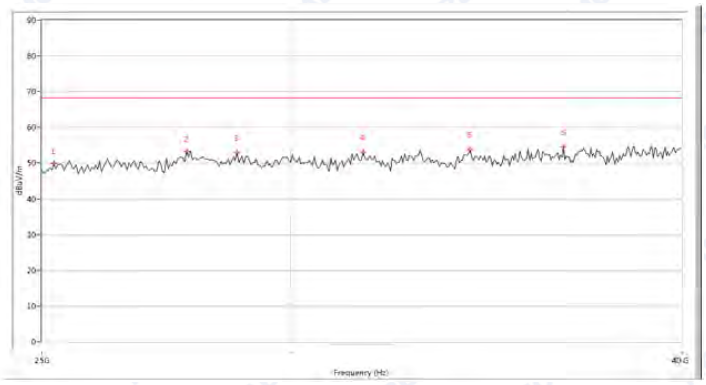
### 2.8.3.1 802.11ac-20MHz Test mode

### A. Test Plots for the Whole Measurement Frequency Range:

Plots for Channel = 36

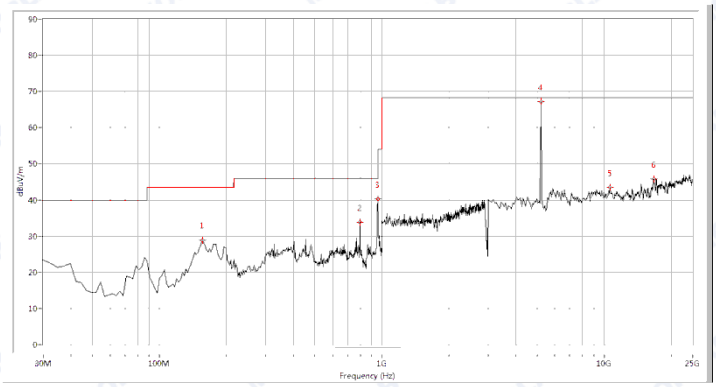


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 21.48 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 327.531 | 32.20 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 796.808 | 34.64 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 958.878 | 37.20 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 5180.000 | 64.66 | N.A | N.A | N.A | N.A | N.A | Horizontal | N.A |
| 6182.045 | 44.88 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

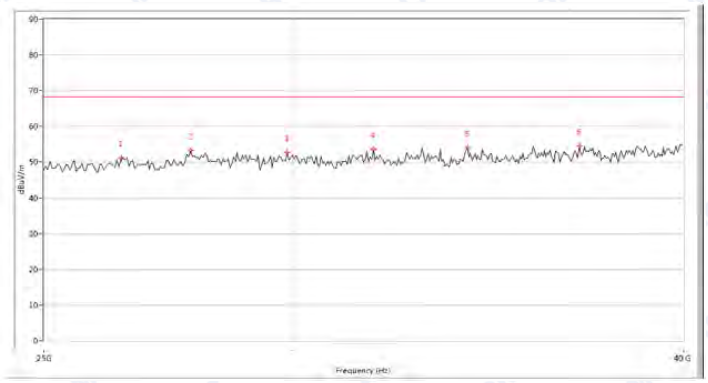


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 25262.444 | 49.95 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 27803.549 | 53.37 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28855.287 | 52.95 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 31685.835 | 53.19 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 34213.940 | 53.83 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 36637.082 | 54.47 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 40GHz)



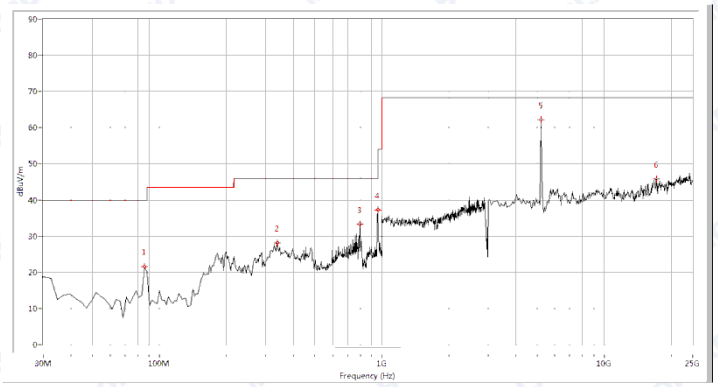
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 155.786 | 28.80 | N.A | N.A | N.A | 43.5 | N.A | Vertical | PASS |
| 796.808 | 33.78 | N.A | N.A | N.A | 46.0 | N.A | Vertical | PASS |
| 958.878 | 40.28 | N.A | N.A | N.A | 46.0 | 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 |



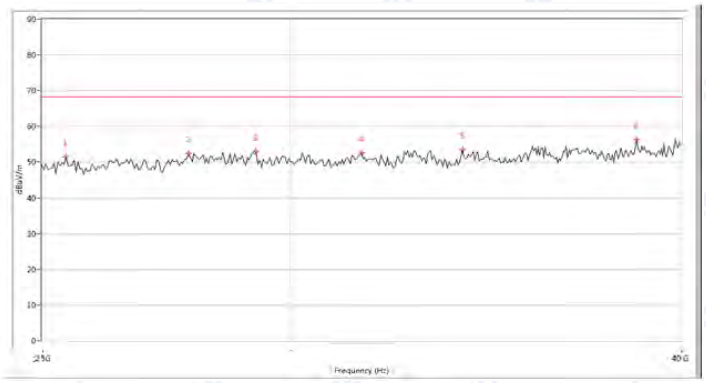
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26425.885 | 51.18 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 27684.289 | 53.26 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 29920.025 | 52.77 | N.A | N.A | 68.2 | 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

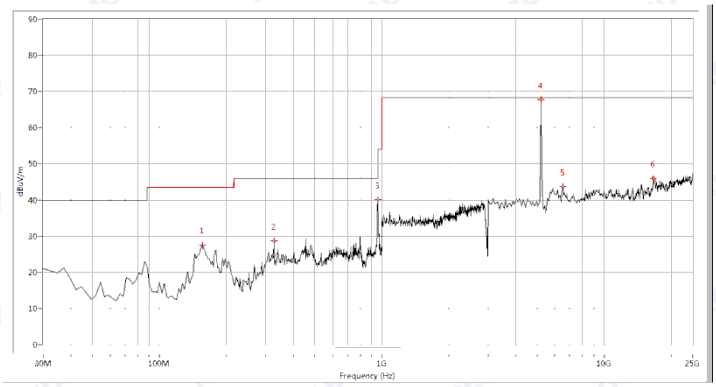


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 21.58 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 339.626 | 28.12 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 799.227 | 33.30 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 958.878 | 37.27 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 5220.000 | 62.26 | N.A | N.A | N.A | N.A | N.A | Horizontal | N.A |
| 17154.613 | 45.88 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

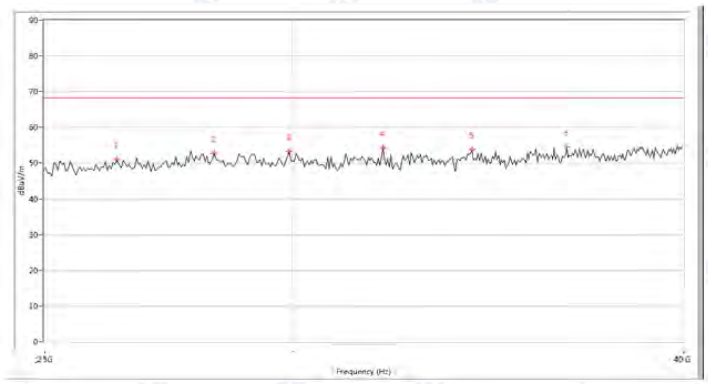


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26793.551 | 52.31 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28056.733 | 54.79 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 30267.431 | 52.39 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 32728.055 | 52.30 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 34271.681 | 53.79 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 35737.566 | 55.57 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 25GHz)



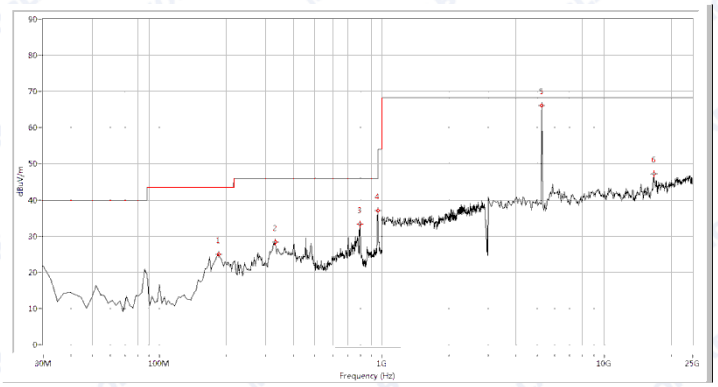
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 155.786 | 27.40 | N.A | N.A | N.A | 43.5 | N.A | Vertical | PASS |
| 327.531 | 28.66 | N.A | N.A | N.A | 46.0 | N.A | Vertical | PASS |
| 958.878 | 40.05 | N.A | N.A | N.A | 46.0 | 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 |



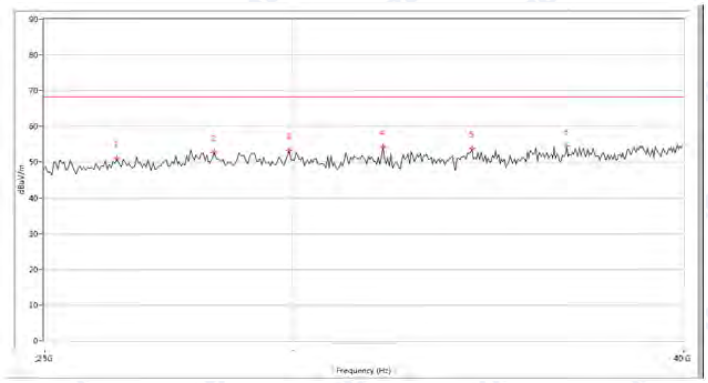
| Fre. (MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 25434.888 | 51.42 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 27854.289 | 52.33 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 29262.434 | 52.96 | N.A | N.A | 68.2 | 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

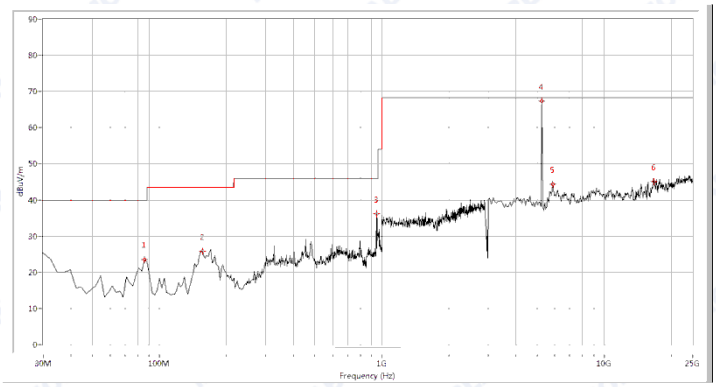


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 184.813 | 24.99 | N.A | N.A | N.A | 43.5 | N.A | Horizontal | PASS |
| 332.369 | 28.41 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 794.389 | 33.41 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 958.878 | 37.11 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 5240.000 | 66.12 | N.A | N.A | N.A | N.A | N.A | Horizontal | N.A |
| 16715.711 | 47.18 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

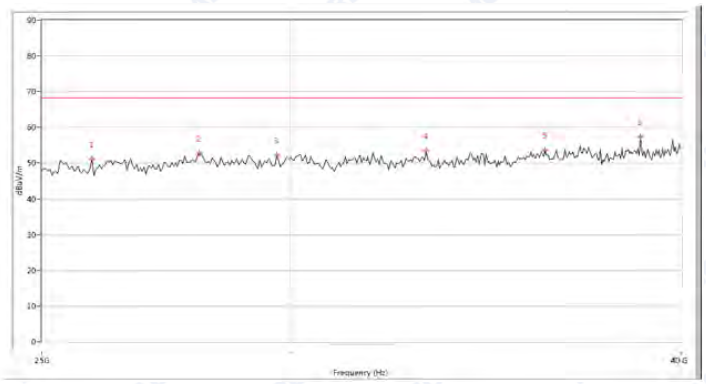


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26383.404 | 50.98 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28322.918 | 52.67 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 29938.766 | 53.36 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 32066.983 | 54.40 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 34237.940 | 53.83 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 36702.823 | 54.56 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 40GHz)



| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | 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 |

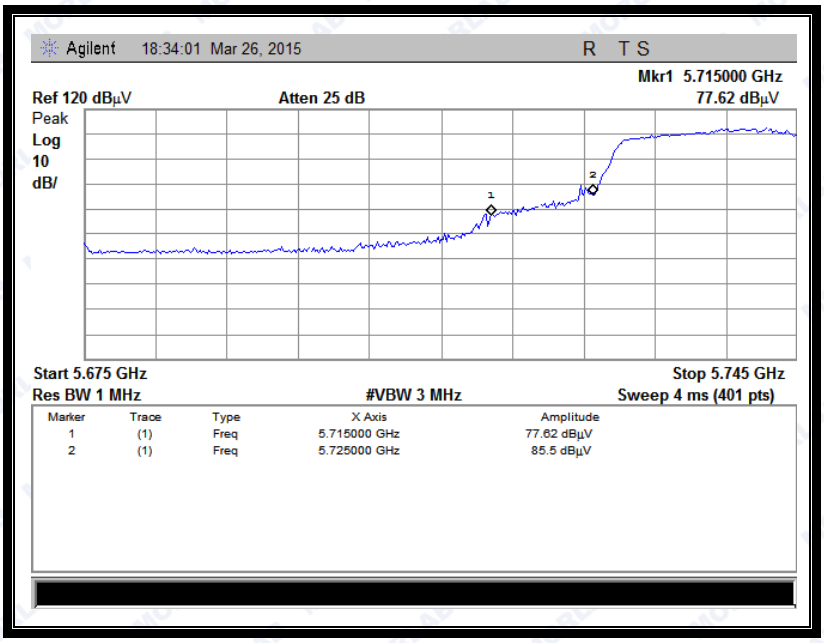


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 25936.516 | 51.21 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 28026.733 | 52.68 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 29761.322 | 52.28 | N.A | N.A | 68.2 | 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 |

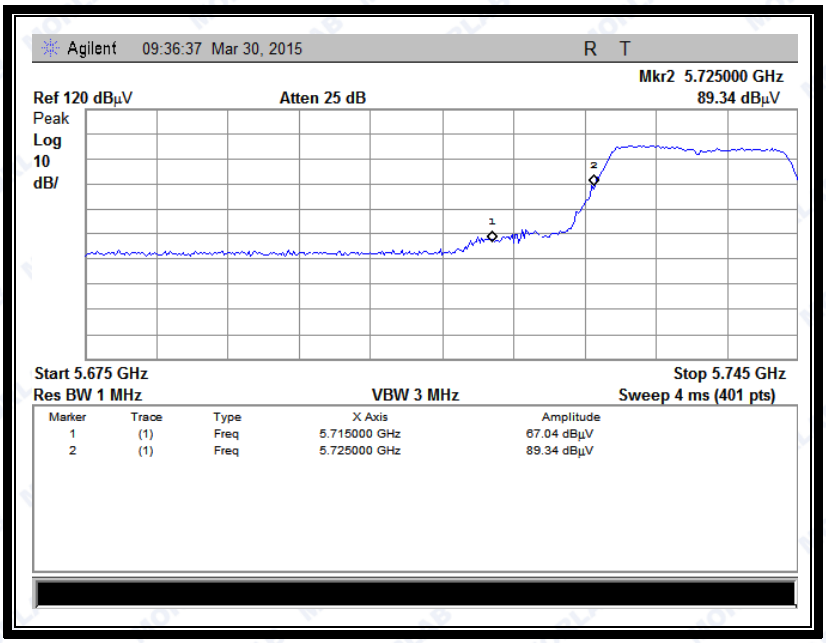
(Antenna Vertical, 30MHz to 40GHz)

Plots for Channel = 149

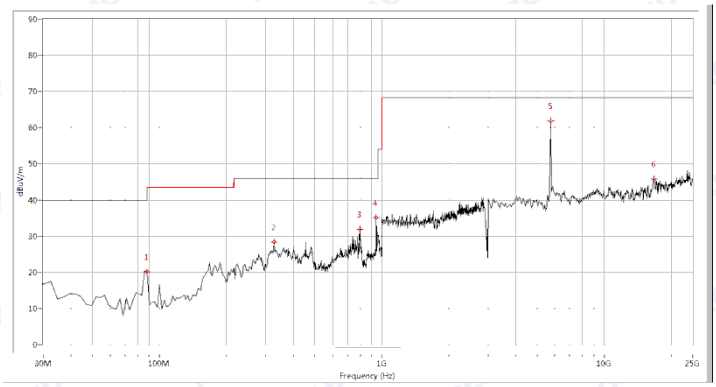
| Channel | Frequency (MHz) | Antenna Horiz./ Vert. | Receiver Reading $U_R$ (dBuV) | $A_T$ (dB) | $A_{Factor}$ (dB@3m) | Max. Emission E (dBμV/m) | Limit (dBμV/m) | Verdict |
|---|---|---|---|---|---|---|---|---|
| 149 | 5725.00 | Horizontal | 85.50 | -50.65 | 32.11 | 66.96 | 78.2 | Pass |
| 149 | 5725.00 | Vertical | 89.34 | -50.65 | 32.11 | 70.8 | 78.2 | Pass |



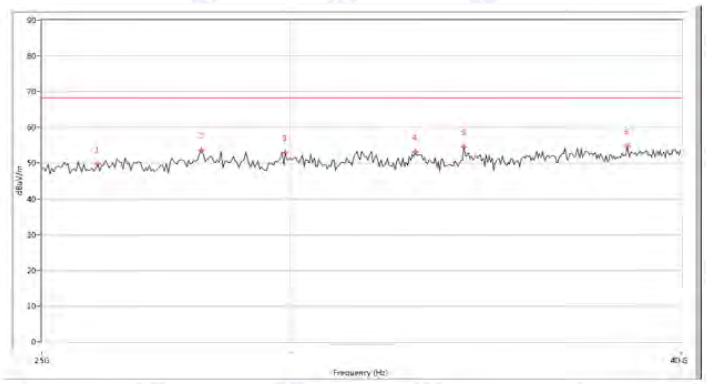

(Channel = 149 Horizontal @ 802.11ac)




(Channel = 149 Vertical @ 802.11ac)

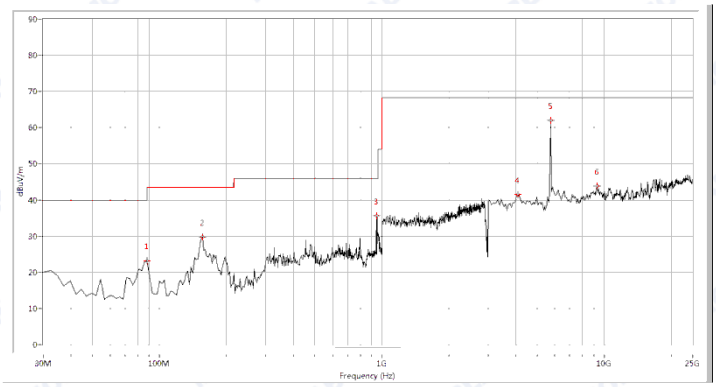


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 88.055 | 20.20 | N.A | N.A | N.A | 43.5 | N.A | Horizontal | PASS |
| 327.531 | 28.28 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 794.389 | 31.97 | N.A | N.A | N.A | 46.0 | 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 |

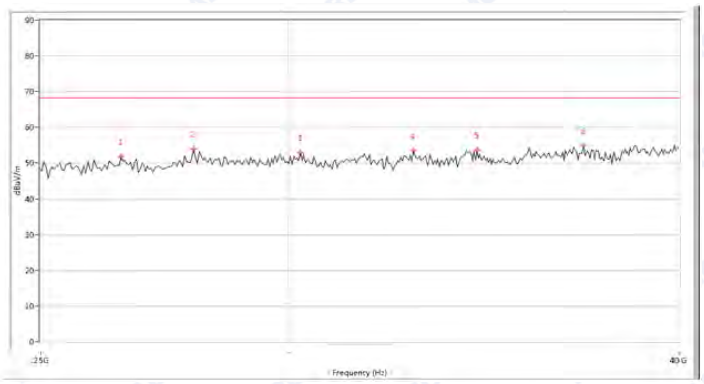


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26043.738 | 49.70 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28110.474 | 53.66 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 29906.025 | 52.88 | N.A | N.A | 68.2 | 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)



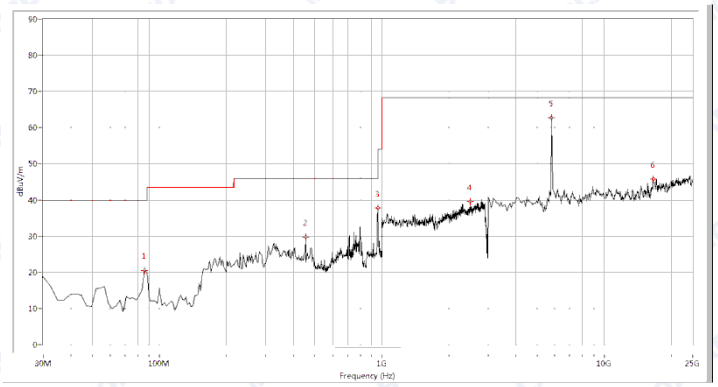
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 88.055 | 23.13 | N.A | N.A | N.A | 43.5 | N.A | Vertical | PASS |
| 155.786 | 29.73 | N.A | N.A | N.A | 43.5 | N.A | Vertical | PASS |
| 946.783 | 35.69 | N.A | N.A | N.A | 46.0 | 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 |



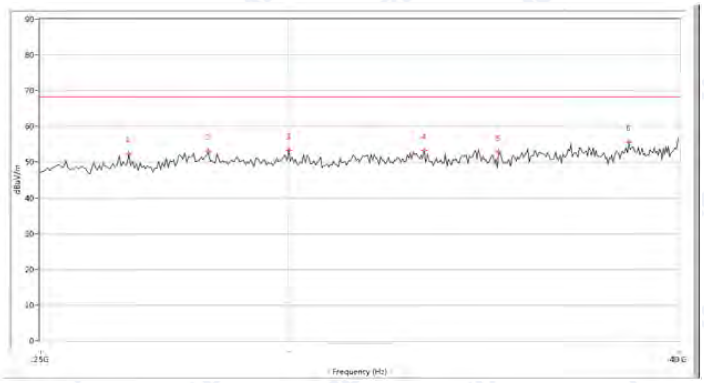
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26536.367 | 51.85 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 27992.252 | 54.04 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 30273.431 | 52.96 | N.A | N.A | 68.2 | 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

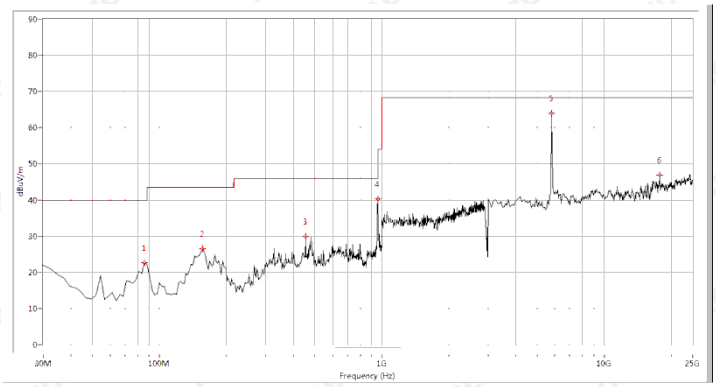


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 20.52 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 453.317 | 29.81 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 958.878 | 37.76 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 2496.259 | 39.65 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 5785.000 | 62.67 | N.A | N.A | N.A | N.A | N.A | Horizontal | N.A |
| 16605.985 | 45.89 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

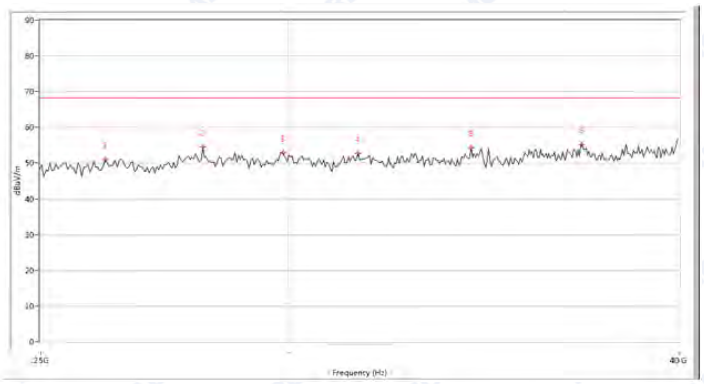


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26683.329 | 52.22 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28297.177 | 53.18 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 30018.247 | 53.23 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 33155.461 | 53.24 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 35026.494 | 52.73 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 38544.115 | 55.56 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 25GHz)



| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | 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 |

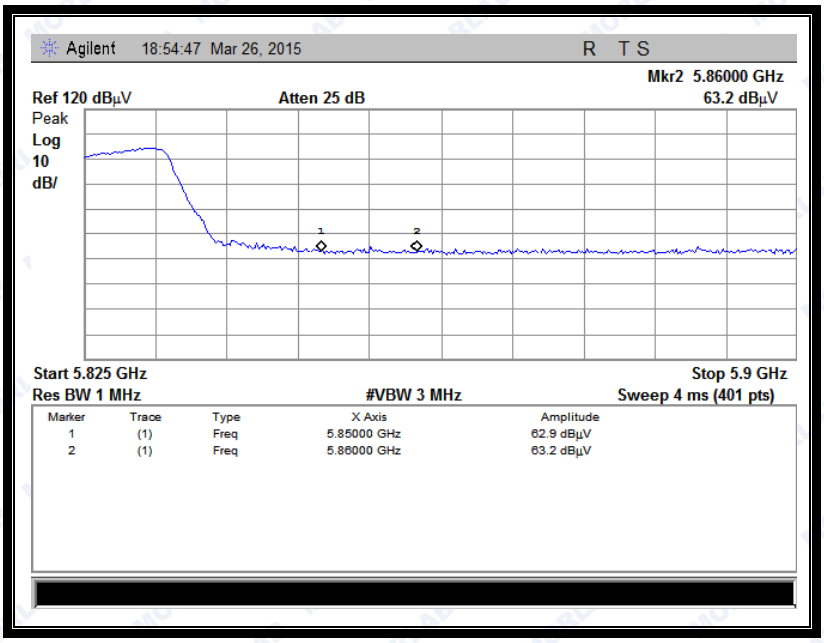


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26233.441 | 50.88 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 28167.955 | 54.51 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 29904.025 | 52.95 | N.A | N.A | 68.2 | 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 |

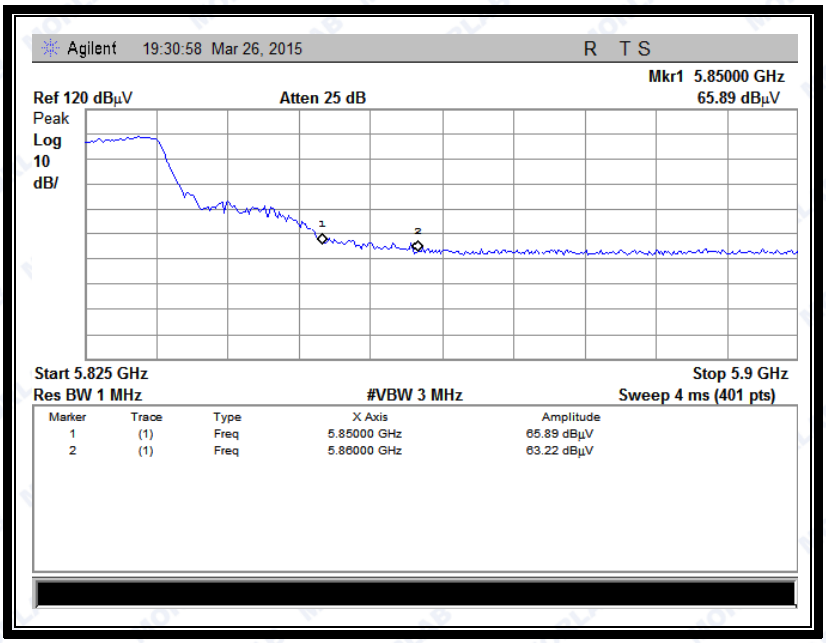
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 165

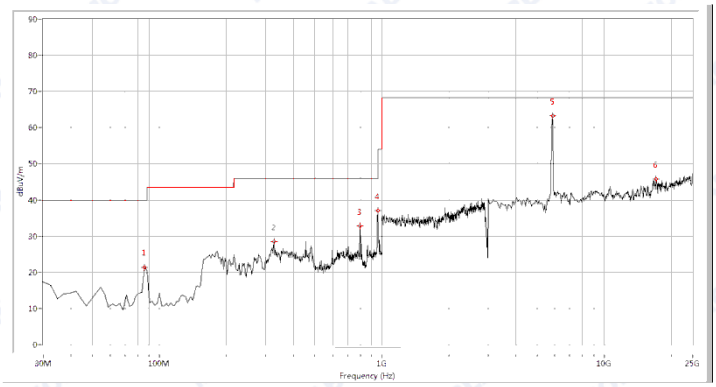
| Channel | Frequency (MHz) | Antenna Horiz./ Vert. | Receiver Reading $U_R$ (dBuV) | $A_T$ (dB) | $A_{Factor}$ (dB@3m) | Max. Emission E (dBμV/m) | Limit (dBμV/m) | Verdict |
|---|---|---|---|---|---|---|---|---|
| 165 | 5860.00 | Horizontal | 63.20 | -50.65 | 32.11 | 44.66 | 78.2 | Pass |
| 165 | 5850.00 | Vertical | 65.89 | -50.65 | 32.11 | 47.35 | 78.2 | Pass |



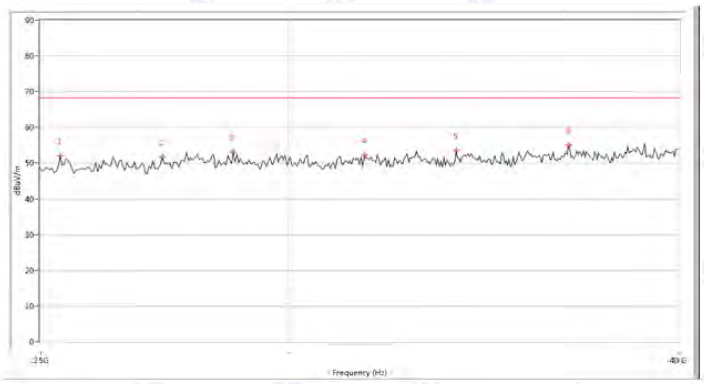

(Channel = 165 Horizontal @ 802.11ac)




(Channel = 165 Vertical @ 802.11ac)

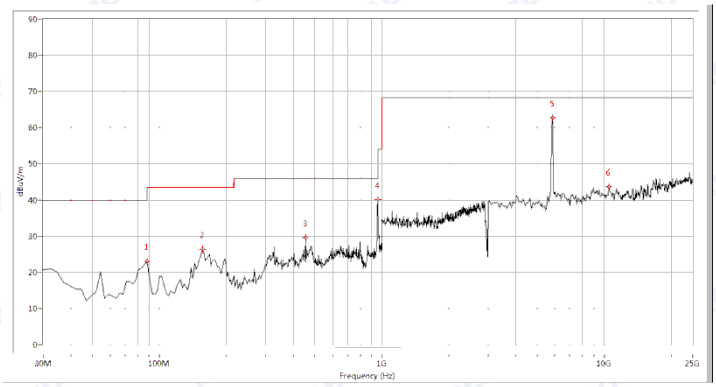


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 21.35 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 327.531 | 28.54 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 799.227 | 32.74 | N.A | N.A | N.A | 46.0 | 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 |

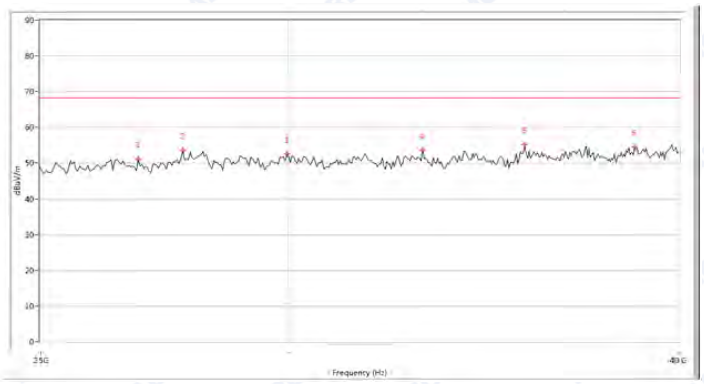


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 25372.406 | 52.13 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 27357.661 | 51.61 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28815.546 | 53.15 | N.A | N.A | 68.2 | 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 | QP | AV | Limit-PK | Limit-QP | Limit-AV | 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 |



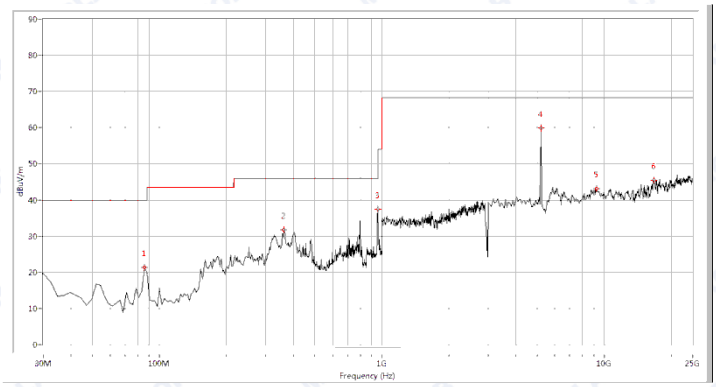
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26875.032 | 51.12 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 27763.808 | 53.61 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 29974.506 | 52.63 | N.A | N.A | 68.2 | 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)

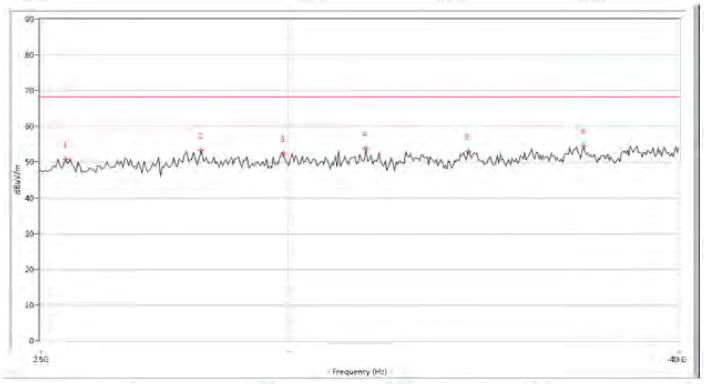
### 2.8.3.2 802.11n-20MHz Test mode

**A. Test Plots for the Whole Measurement Frequency Range:**

Plots for Channel = 36

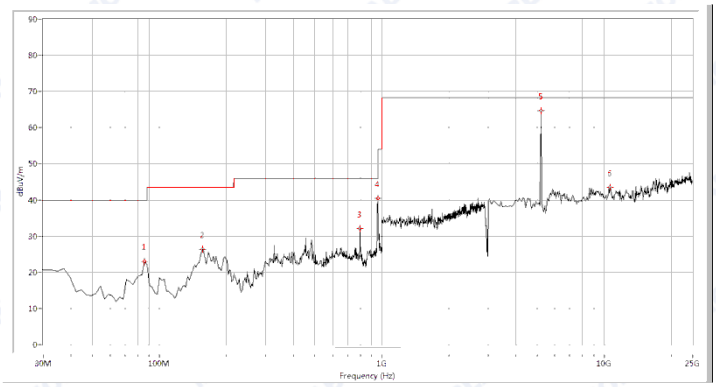


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 21.47 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 361.397 | 31.65 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 958.878 | 37.36 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 5180.000 | 59.83 | N.A | N.A | N.A | N.A | N.A | Horizontal | N.A |
| 9254.364 | 43.08 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 16770.574 | 45.44 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

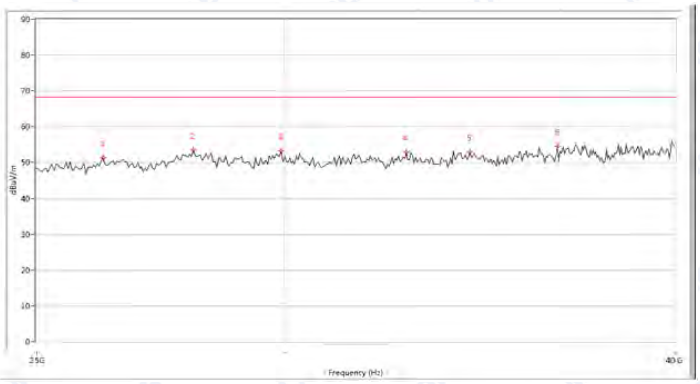


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 25482.628 | 50.76 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28154.214 | 53.32 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 29903.025 | 52.44 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 31777.057 | 53.90 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 34235.940 | 52.89 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 37266.933 | 54.56 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 40GHz)



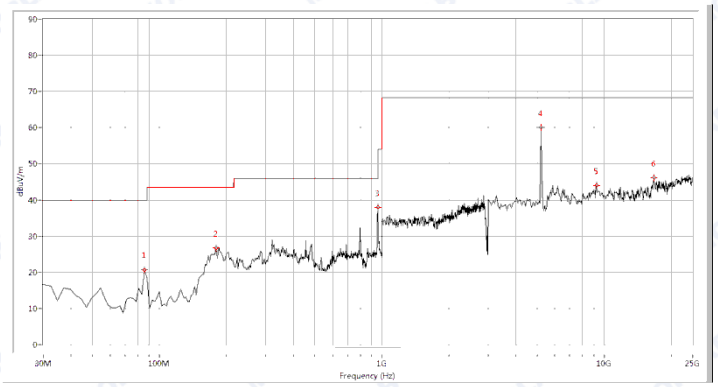
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 23.01 | N.A | N.A | N.A | 40.0 | N.A | Vertical | PASS |
| 155.786 | 26.40 | N.A | N.A | N.A | 43.5 | N.A | Vertical | PASS |
| 796.808 | 32.10 | N.A | N.A | N.A | 46.0 | 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 |



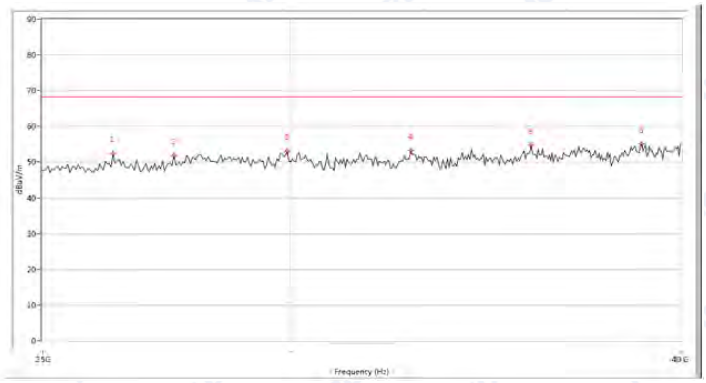
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26273.182 | 51.34 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 28065.733 | 53.39 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 29931.766 | 53.31 | N.A | N.A | 68.2 | 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

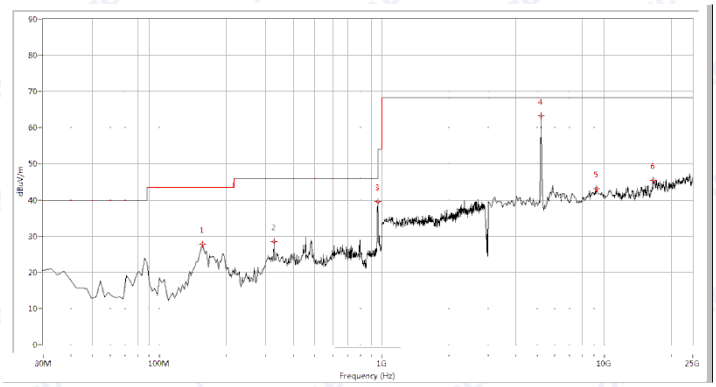


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 20.63 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 179.975 | 26.70 | N.A | N.A | N.A | 43.5 | N.A | Horizontal | PASS |
| 958.878 | 37.98 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 5220.000 | 60.03 | N.A | N.A | N.A | N.A | N.A | Horizontal | N.A |
| 9254.364 | 43.96 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 16715.711 | 46.09 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

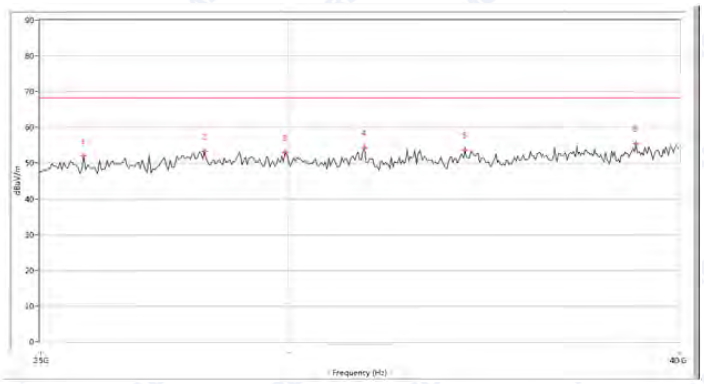


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26343.663 | 52.36 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 27545.364 | 51.89 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 29937.766 | 53.07 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 32786.055 | 53.25 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 35811.047 | 54.80 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 38845.040 | 55.14 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 25GHz)



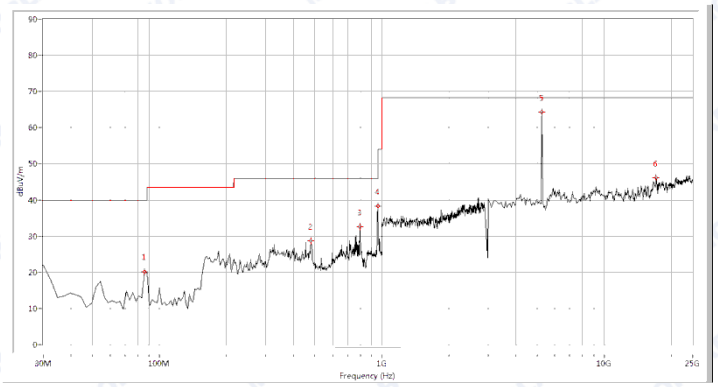
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 155.786 | 27.73 | N.A | N.A | N.A | 43.5 | N.A | Vertical | PASS |
| 327.531 | 28.44 | N.A | N.A | N.A | 46.0 | N.A | Vertical | PASS |
| 958.878 | 39.63 | N.A | N.A | N.A | 46.0 | 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 |



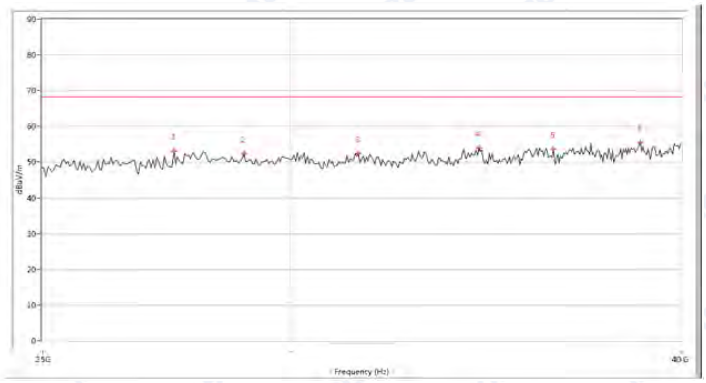
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 25823.294 | 52.01 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 28215.696 | 53.27 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 29930.766 | 52.87 | N.A | N.A | 68.2 | 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

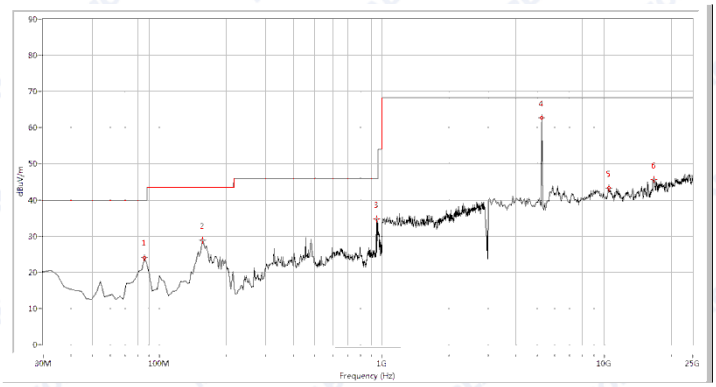


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 20.09 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 479.925 | 28.70 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 794.389 | 32.64 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 958.878 | 38.23 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 5240.000 | 64.32 | N.A | N.A | N.A | N.A | N.A | Horizontal | N.A |
| 17099.751 | 46.14 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

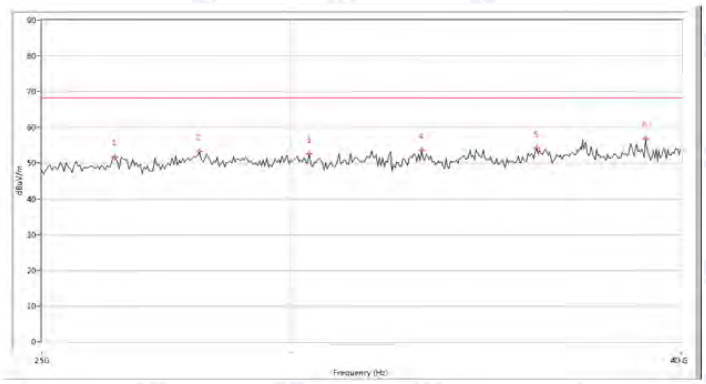


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 27543.364 | 53.17 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 29005.249 | 52.37 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 31542.613 | 52.32 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 34461.384 | 54.07 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 36407.898 | 53.61 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 38802.299 | 55.48 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 40GHz)



| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | 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 |

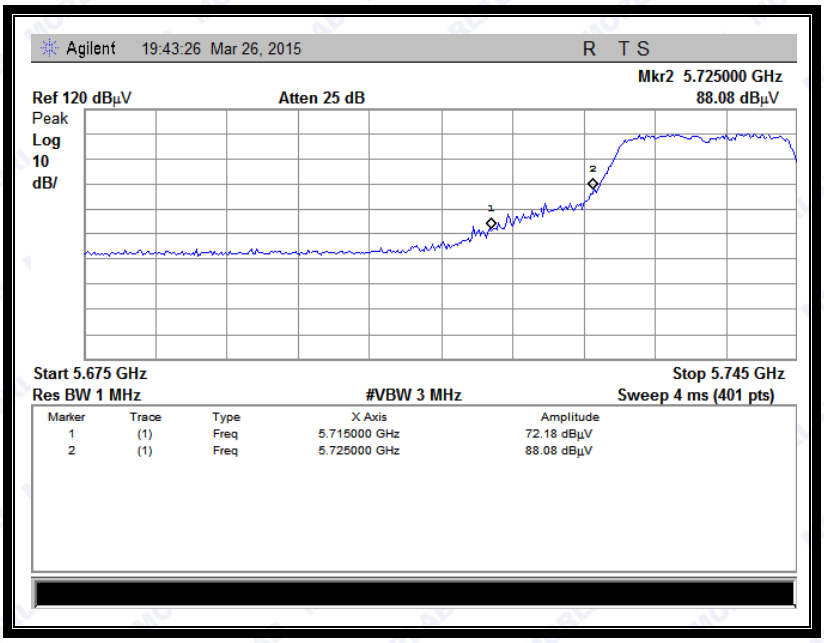


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26384.404 | 51.73 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 28062.733 | 53.22 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 30421.394 | 52.56 | N.A | N.A | 68.2 | 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 |

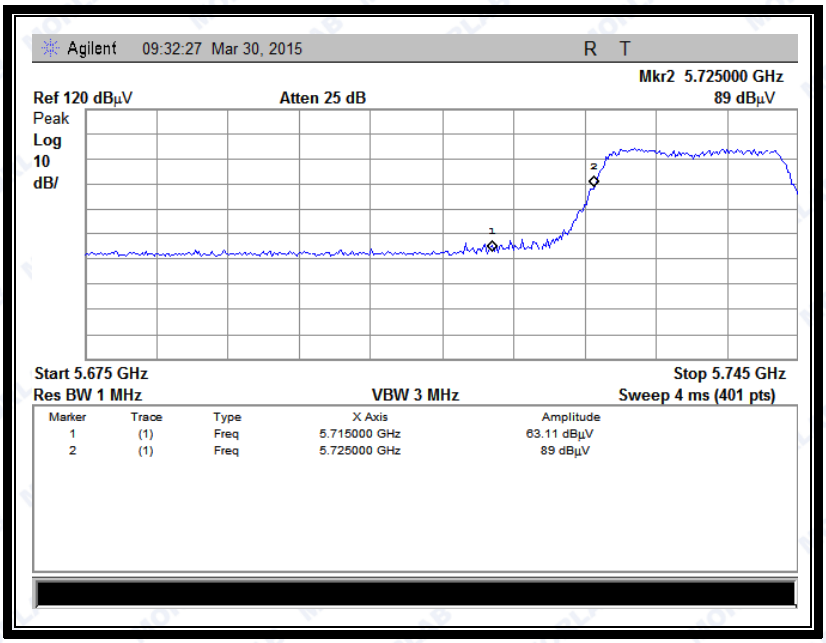
(Antenna Vertical, 30MHz to 40GHz)

Plots for Channel = 149

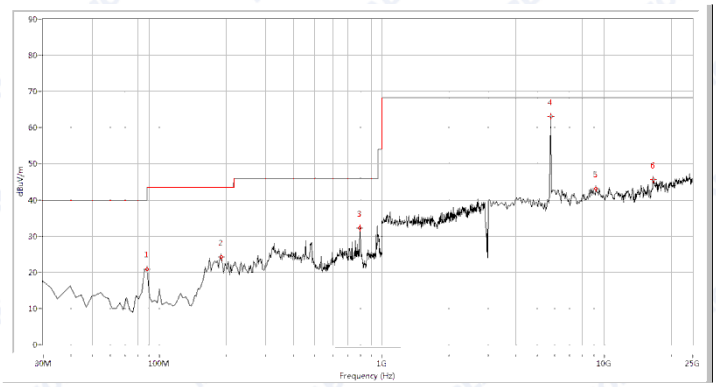
| Channel | Frequency (MHz) | Antenna Horiz./ Vert. | Receiver Reading $U_R$ (dBuV) | $A_T$ (dB) | $A_{Factor}$ (dB@3m) | Max. Emission E (dBμV/m) | Limit (dBμV/m) | Verdict |
|---|---|---|---|---|---|---|---|---|
| 149 | 5725.00 | Horizontal | 88.08 | -50.65 | 32.11 | 69.54 | 78.2 | Pass |
| 149 | 5725.00 | Vertical | 89.00 | -50.65 | 32.11 | 70.46 | 78.2 | Pass |



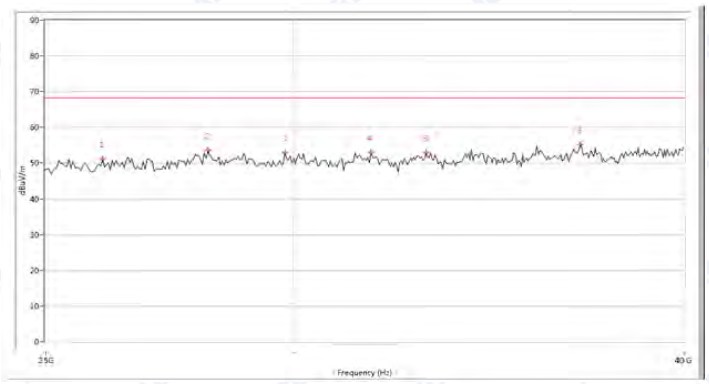

(Channel = 149 Horizontal @ 802.11n)




(Channel = 149 Vertical @ 802.11n)

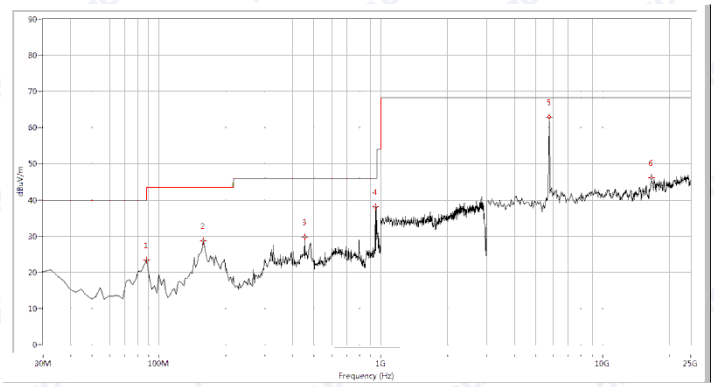


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 88.055 | 20.78 | N.A | N.A | N.A | 43.5 | N.A | Horizontal | PASS |
| 189.651 | 24.17 | N.A | N.A | N.A | 43.5 | N.A | Horizontal | PASS |
| 794.389 | 32.22 | N.A | N.A | N.A | 46.0 | 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 |

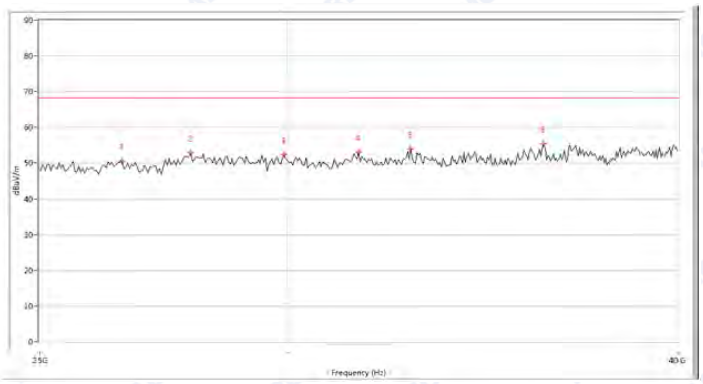


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26082.479 | 51.20 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28173.955 | 53.57 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 29827.544 | 52.92 | N.A | N.A | 68.2 | 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)



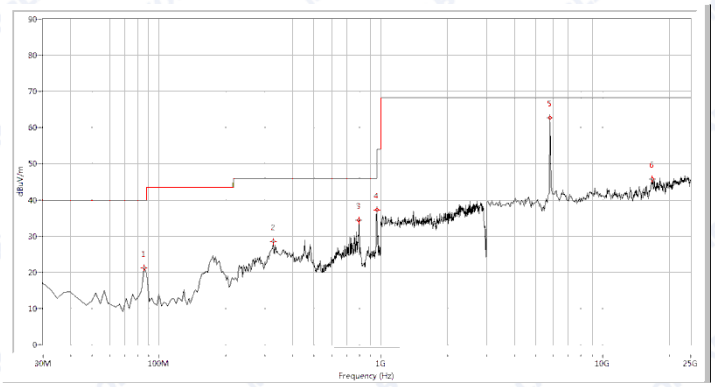
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 88.055 | 23.29 | N.A | N.A | N.A | 43.5 | N.A | Vertical | PASS |
| 158.204 | 28.72 | N.A | N.A | N.A | 43.5 | N.A | Vertical | PASS |
| 453.317 | 29.79 | N.A | N.A | N.A | 46.0 | 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 |



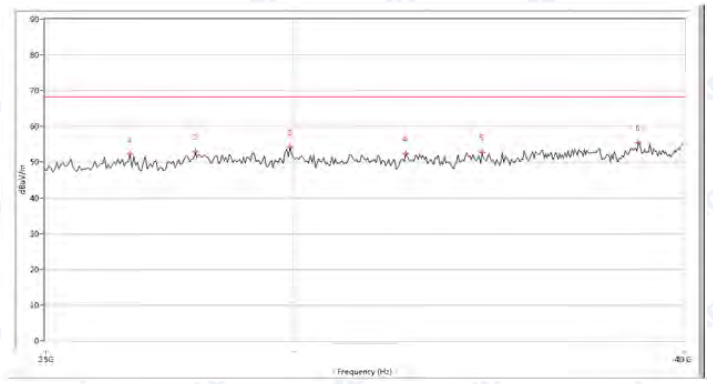
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26573.107 | 50.55 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 27950.511 | 52.98 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 29935.766 | 52.38 | N.A | N.A | 68.2 | 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

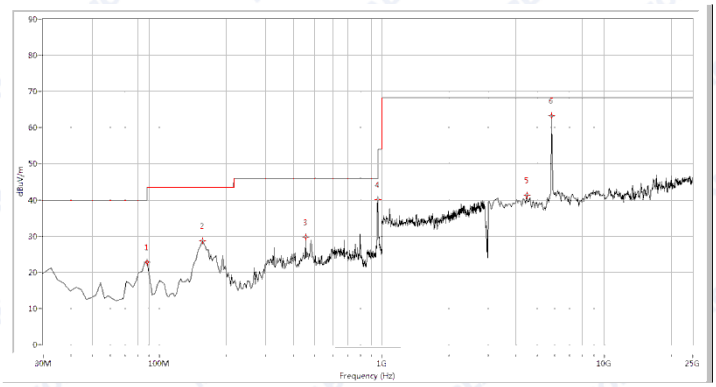


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 21.23 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 327.531 | 28.48 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 796.808 | 34.36 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 958.878 | 37.25 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 5785.000 | 62.82 | N.A | N.A | N.A | N.A | N.A | Horizontal | N.A |
| 16770.574 | 45.84 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

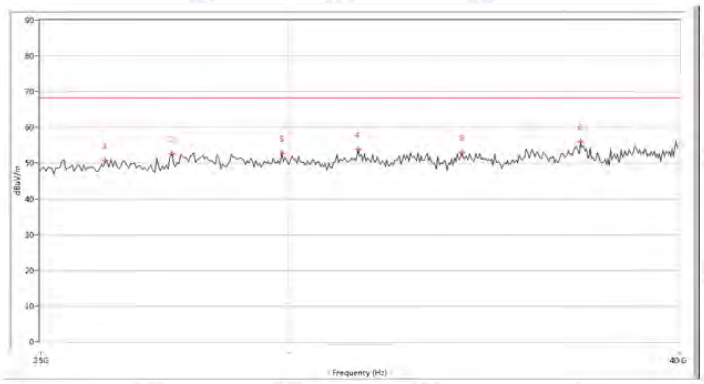


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26602.848 | 52.20 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 27913.771 | 52.85 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 29936.766 | 54.26 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 32594.352 | 52.41 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 34468.384 | 52.81 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 38653.337 | 55.47 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 25GHz)



| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | 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 |

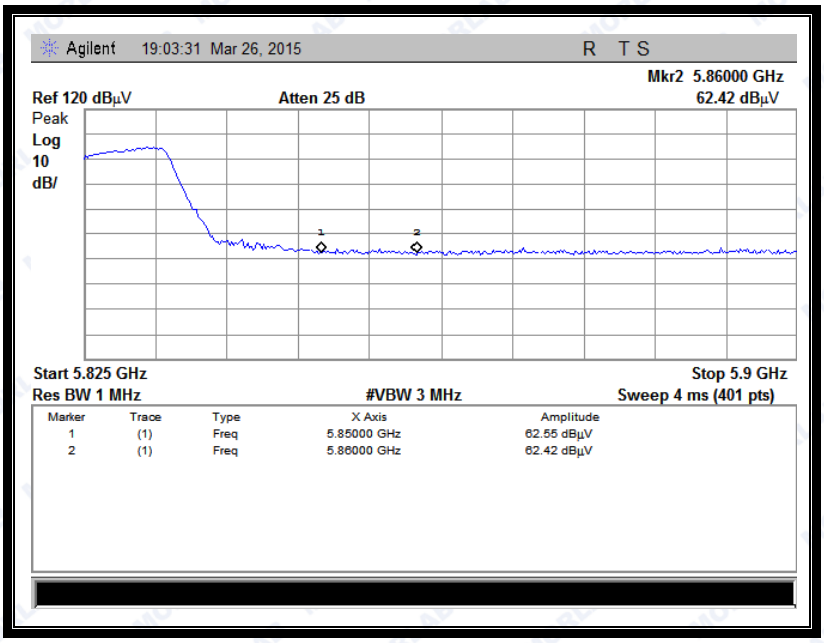


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26236.441 | 50.71 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 27543.364 | 52.56 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 29862.284 | 52.82 | N.A | N.A | 68.2 | 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 |

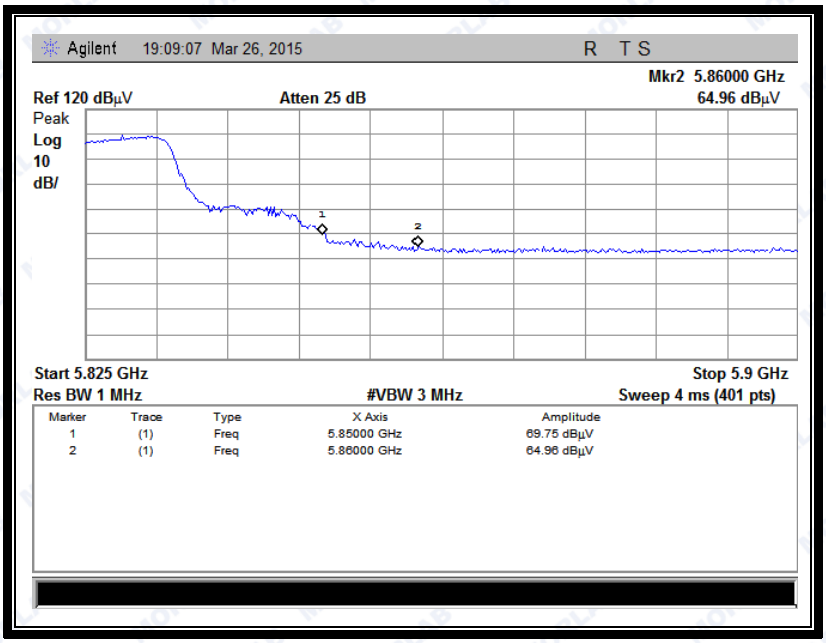
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 165

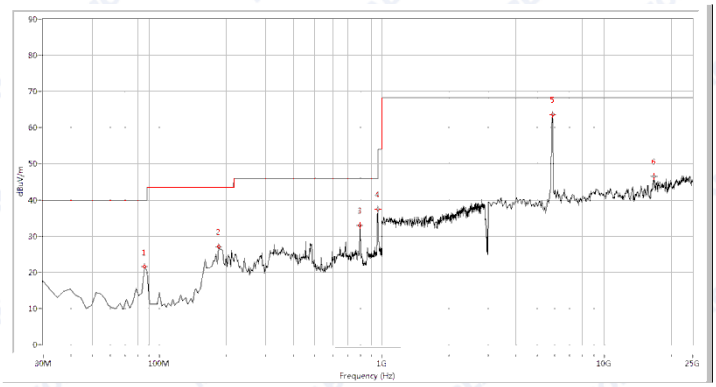
| Channel | Frequency (MHz) | Antenna Horiz./ Vert. | Receiver Reading $U_R$ (dBuV) | $A_T$ (dB) | $A_{Factor}$ (dB@3m) | Max. Emission E (dBμV/m) | Limit (dBμV/m) | Verdict |
|---|---|---|---|---|---|---|---|---|
| 165 | 5850.00 | Horizontal | 62.55 | -50.65 | 32.11 | 44.01 | 78.2 | Pass |
| 165 | 5850.00 | Vertical | 69.75 | -50.65 | 32.11 | 51.21 | 78.2 | Pass |



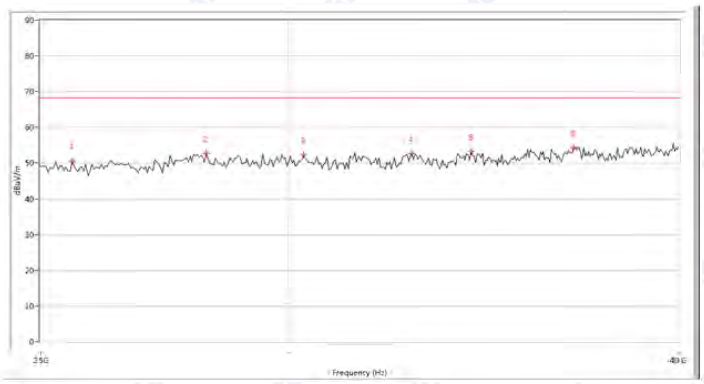

(Channel = 165 Horizontal @ 802.11n)




(Channel = 165 Vertical @ 802.11n)

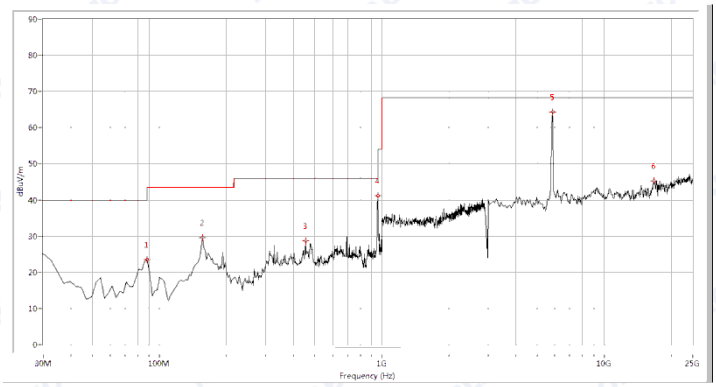


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 21.51 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 184.813 | 27.08 | N.A | N.A | N.A | 43.5 | N.A | Horizontal | PASS |
| 799.227 | 32.98 | N.A | N.A | N.A | 46.0 | 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 |

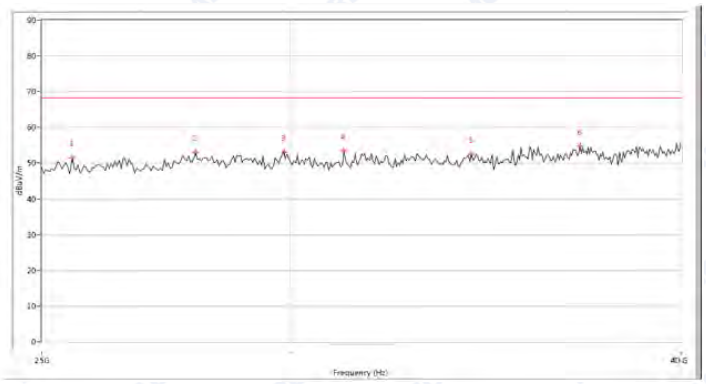


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 25593.850 | 50.67 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28250.436 | 52.80 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 30374.913 | 52.41 | N.A | N.A | 68.2 | 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 | QP | AV | Limit-PK | Limit-QP | Limit-AV | 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 |



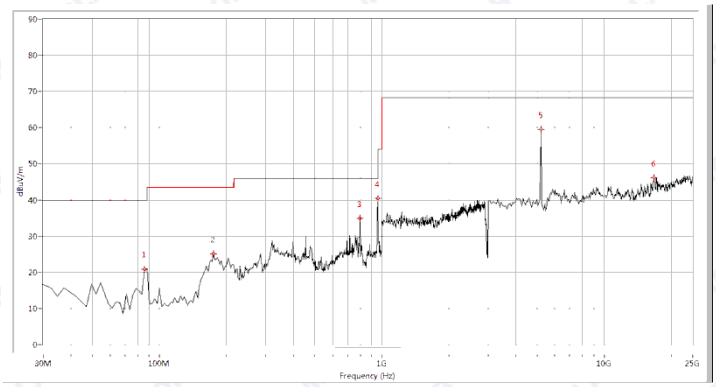
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 25563.110 | 51.44 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 27994.252 | 53.09 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 29866.284 | 53.03 | N.A | N.A | 68.2 | 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)

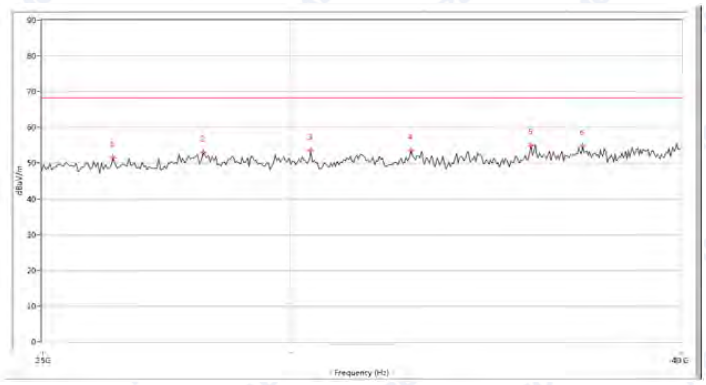
### 2.8.3.3 802.11ac-40MHz Test mode

**A. Test Plots for the Whole Measurement Frequency Range:**

Plots for Channel = 38

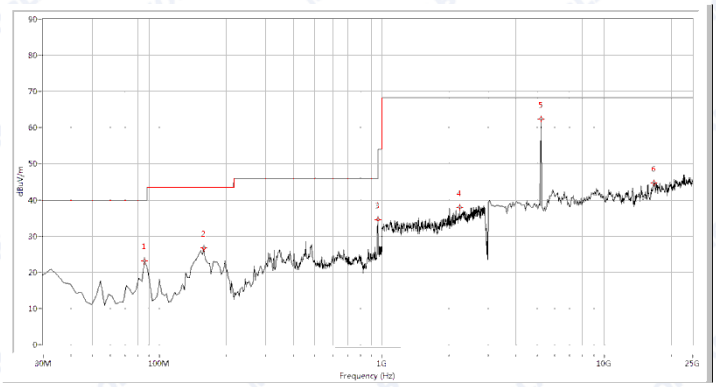


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 20.90 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 175.137 | 25.21 | N.A | N.A | N.A | 43.5 | N.A | Horizontal | PASS |
| 799.227 | 34.94 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 958.878 | 40.48 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 5190.000 | 59.59 | N.A | N.A | N.A | N.A | N.A | Horizontal | N.A |
| 16770.574 | 46.10 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

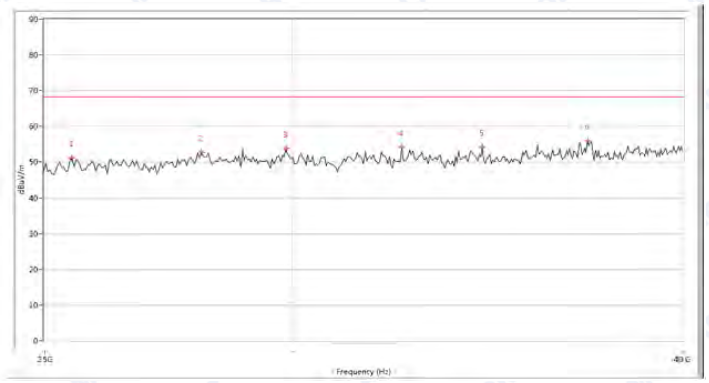


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26342.663 | 51.53 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28134.214 | 52.96 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 30462.135 | 53.46 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 32787.055 | 53.49 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 35813.047 | 54.93 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 37192.451 | 54.71 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 40GHz)



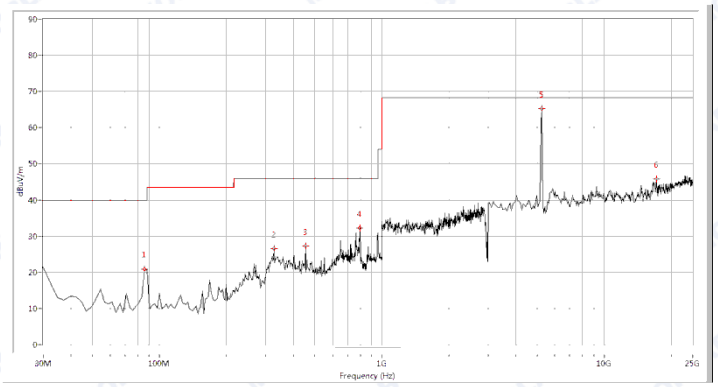
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 23.13 | N.A | N.A | N.A | 40.0 | N.A | Vertical | PASS |
| 158.204 | 26.80 | N.A | N.A | N.A | 43.5 | N.A | Vertical | PASS |
| 958.878 | 34.62 | N.A | N.A | N.A | 46.0 | 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 |



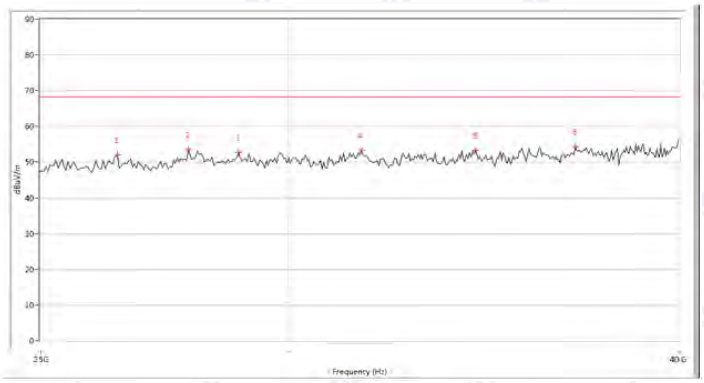
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 25523.369 | 51.19 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 28067.733 | 52.67 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 29861.284 | 53.77 | N.A | N.A | 68.2 | 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

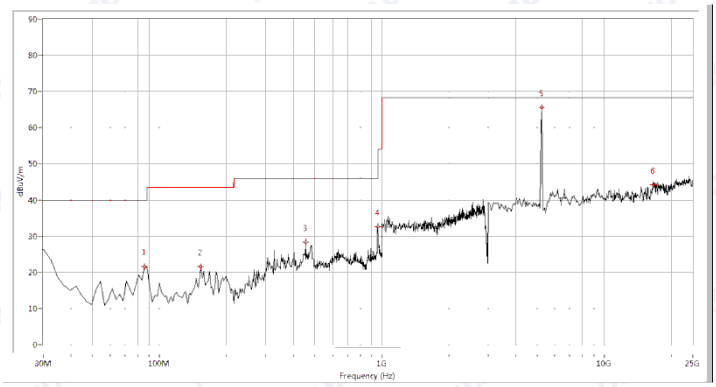


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 20.81 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 327.531 | 26.48 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 453.317 | 27.34 | N.A | N.A | N.A | 46.0 | 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 |

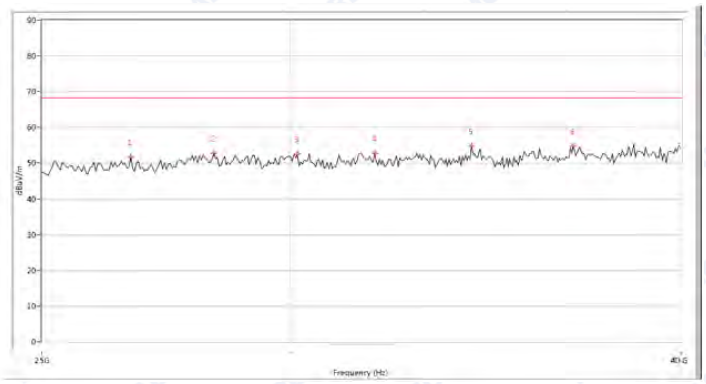


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26452.885 | 52.12 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 27883.030 | 53.52 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28925.768 | 52.68 | N.A | N.A | 68.2 | 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 | QP | AV | Limit-PK | Limit-QP | Limit-AV | 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 |

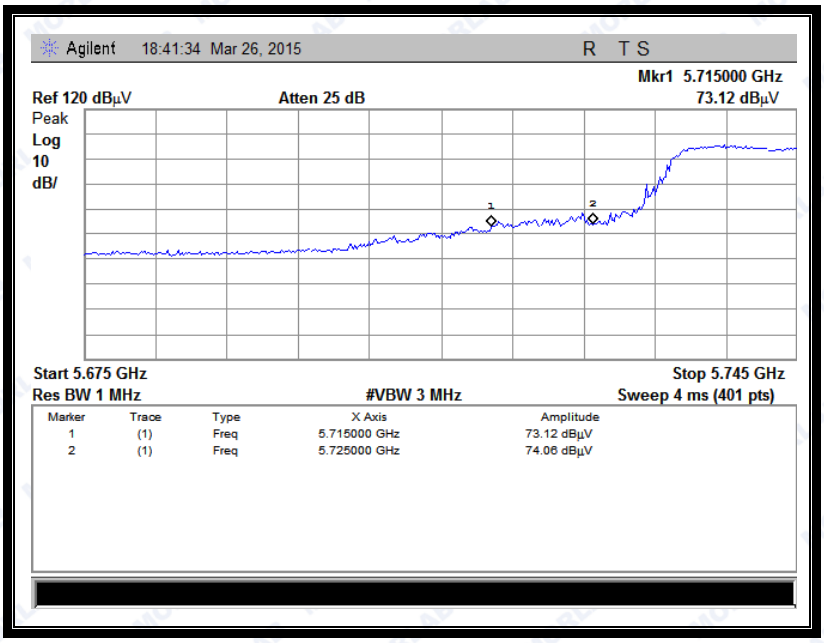


| Fre. (MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26682.329 | 51.70 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 28362.658 | 52.76 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 30164.209 | 52.61 | N.A | N.A | 68.2 | 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 |

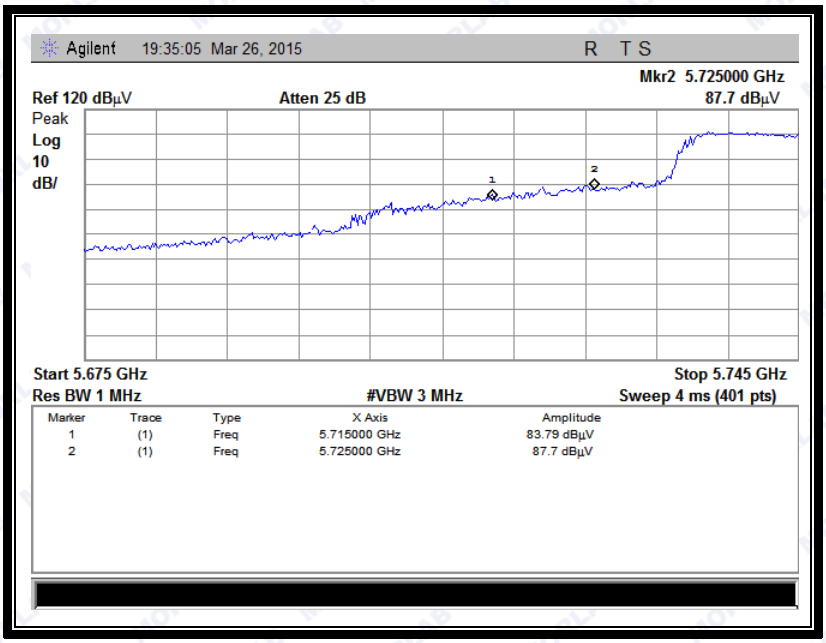
(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 151

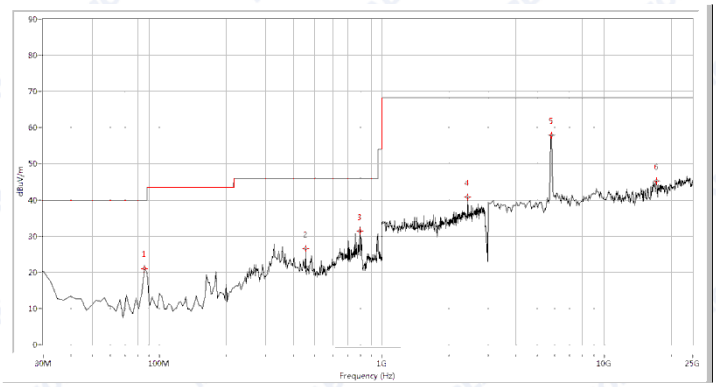
| Channel | Frequency (MHz) | Antenna Horiz./ Vert. | Receiver Reading $U_R$ (dBuV) | $A_T$ (dB) | $A_{Factor}$ (dB@3m) | Max. Emission E (dBμV/m) | Limit (dBμV/m) | Verdict |
|---|---|---|---|---|---|---|---|---|
| 151 | 5725.00 | Horizontal | 74.06 | -50.65 | 32.11 | 55.52 | 78.2 | Pass |
| 151 | 5725.00 | Vertical | 87.70 | -50.65 | 32.11 | 69.16 | 78.2 | Pass |



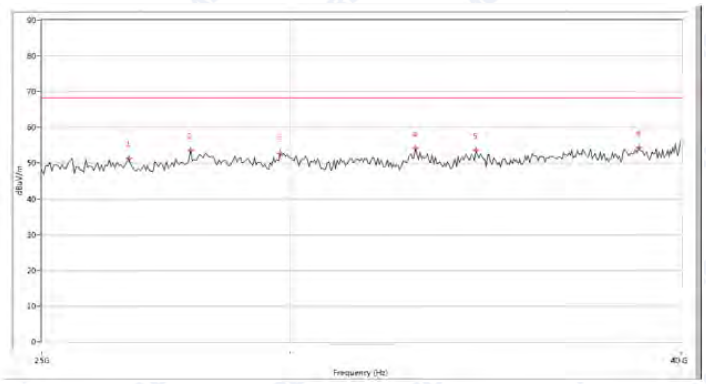

(Channel = 151 Horizontal @ 802.11ac)




(Channel = 151 Vertical @ 802.11ac)

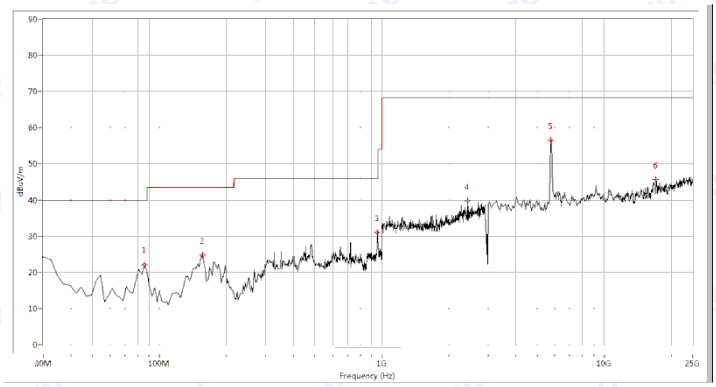


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 21.07 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 453.317 | 26.57 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 799.227 | 31.40 | N.A | N.A | N.A | 46.0 | 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 |

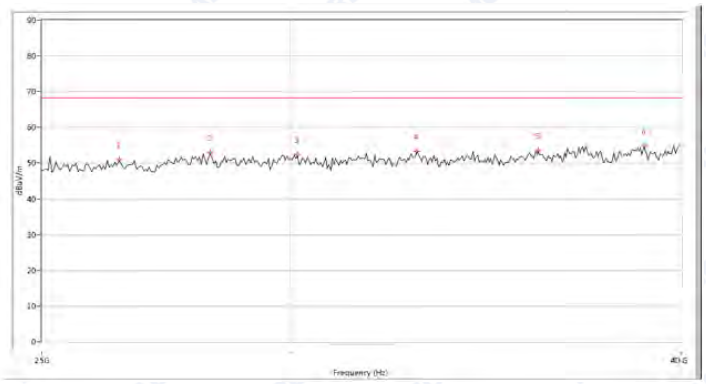


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26642.589 | 51.35 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 27885.030 | 53.58 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 29787.803 | 52.72 | N.A | N.A | 68.2 | 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 | QP | AV | Limit-PK | Limit-QP | Limit-AV | 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 |

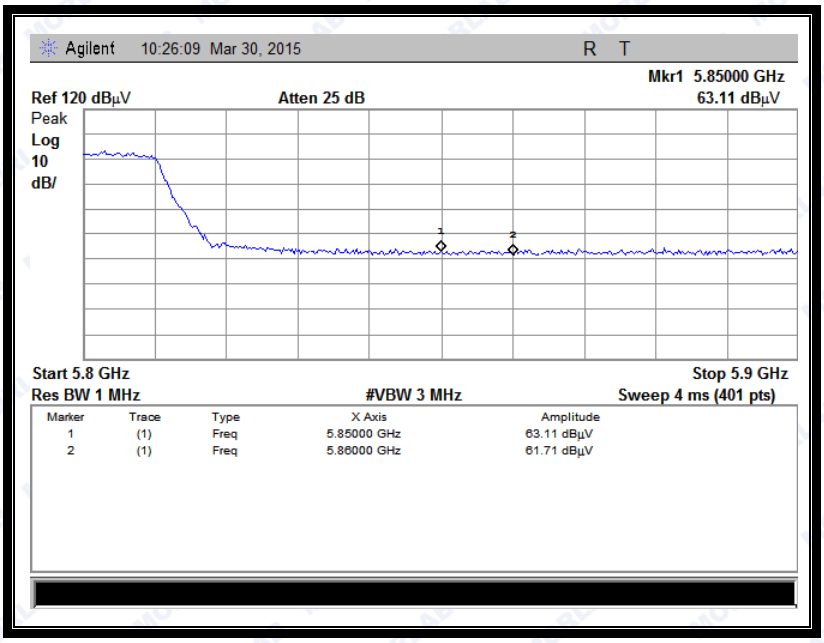


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26452.885 | 50.96 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 28219.177 | 52.95 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 30160.209 | 52.36 | N.A | N.A | 68.2 | 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 |

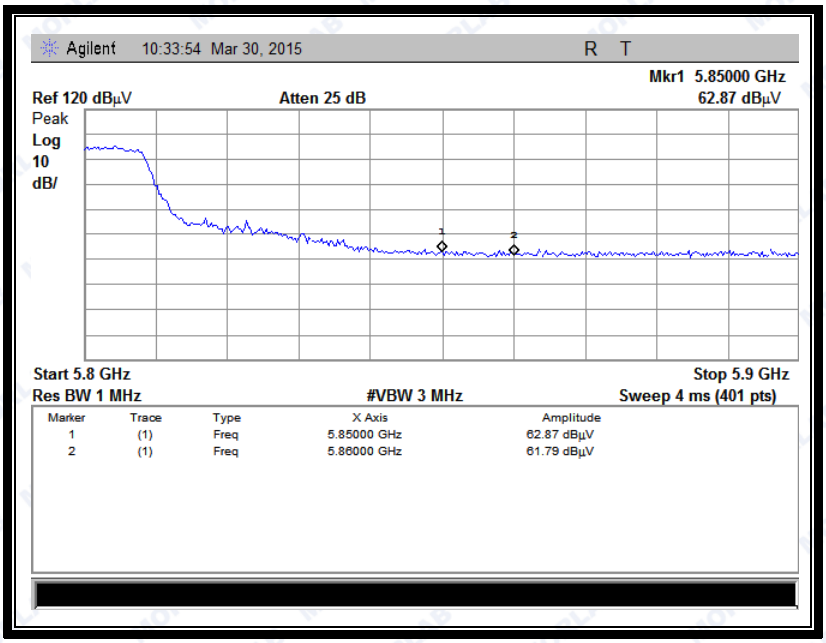
(Antenna Vertical, 30MHz to 40GHz)

Plots for Channel = 159

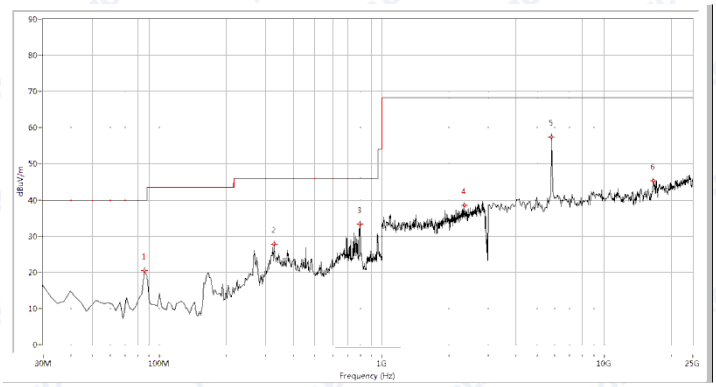
| Channel | Frequency (MHz) | Antenna Horiz./ Vert. | Receiver Reading $U_R$ (dBuV) | $A_T$ (dB) | $A_{Factor}$ (dB@3m) | Max. Emission E (dBμV/m) | Limit (dBμV/m) | Verdict |
|---|---|---|---|---|---|---|---|---|
| 159 | 5850.00 | Horizontal | 63.11 | -50.65 | 32.11 | 44.57 | 78.2 | Pass |
| 159 | 5850.00 | Vertical | 62.87 | -50.65 | 32.11 | 44.33 | 78.2 | Pass |



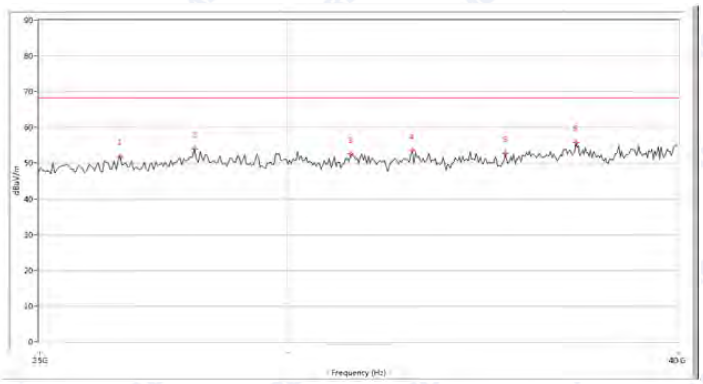

(Channel = 159 Horizontal @ 802.11ac)




(Channel = 159 Vertical @ 802.11ac)

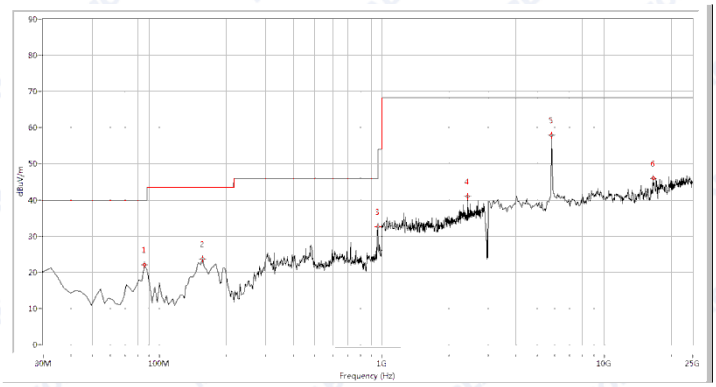


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 20.54 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 327.531 | 27.84 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 794.389 | 33.26 | N.A | N.A | N.A | 46.0 | 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 |

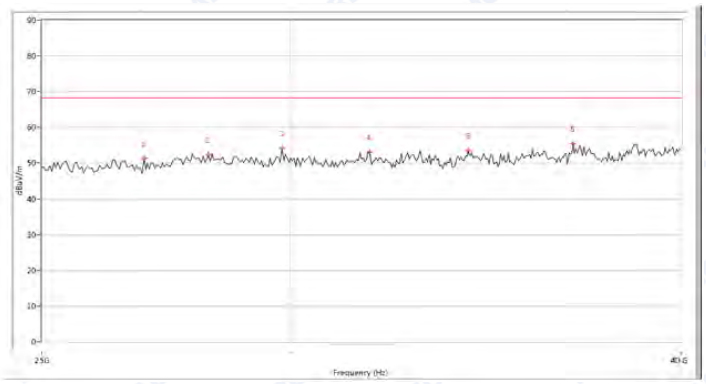


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26533.367 | 51.78 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28028.993 | 53.93 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 31435.392 | 52.58 | N.A | N.A | 68.2 | 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 | QP | AV | Limit-PK | Limit-QP | Limit-AV | 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 |



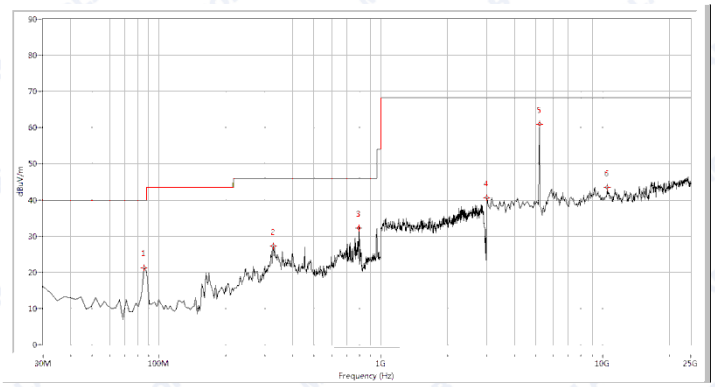
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26943.514 | 51.30 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 28252.436 | 52.37 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 29829.544 | 54.10 | N.A | N.A | 68.2 | 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)

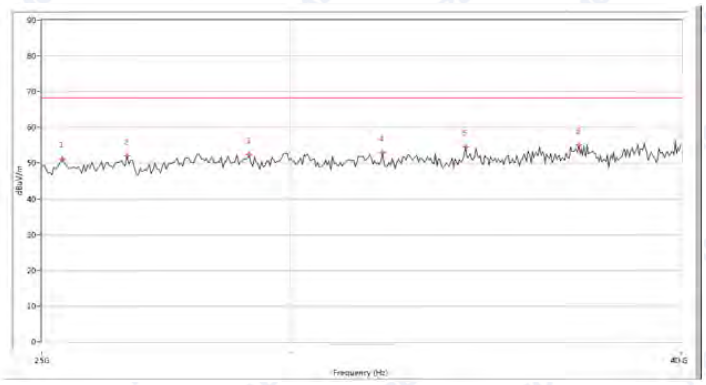
### 2.8.3.4 802.11n-40MHz Test mode

### A. Test Plots for the Whole Measurement Frequency Range:

Plots for Channel = 38

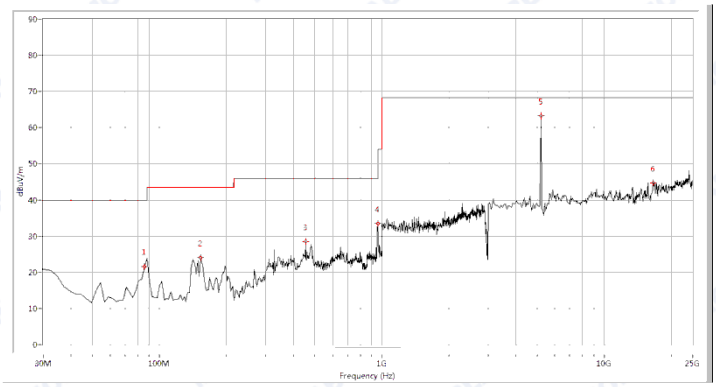


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 21.12 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 327.531 | 27.24 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 799.227 | 32.23 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 3000.000 | 40.60 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 5190.000 | 60.92 | N.A | N.A | N.A | N.A | N.A | Horizontal | N.A |
| 10516.209 | 43.45 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

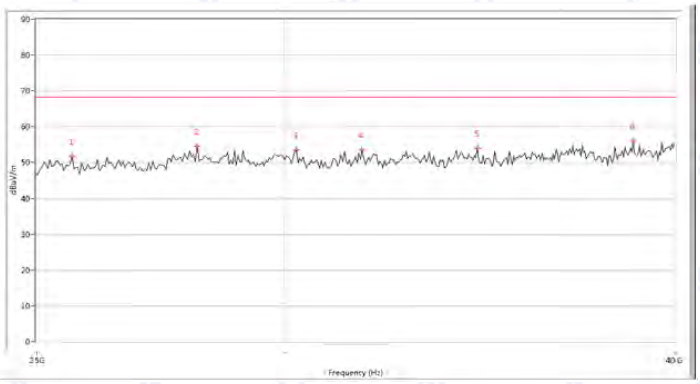


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 25373.406 | 51.14 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 26605.848 | 52.06 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 29112.471 | 52.38 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 32106.723 | 52.91 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 34122.718 | 54.54 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 37085.229 | 55.15 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 40GHz)



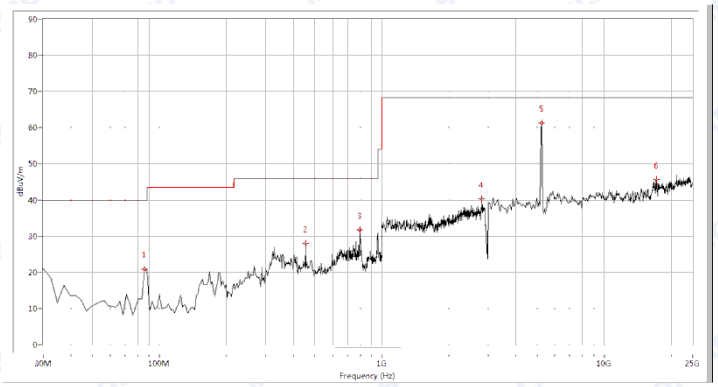
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 21.53 | N.A | N.A | N.A | 40.0 | N.A | Vertical | PASS |
| 153.367 | 24.06 | N.A | N.A | N.A | 43.5 | N.A | Vertical | PASS |
| 453.317 | 28.52 | N.A | N.A | N.A | 46.0 | 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 |



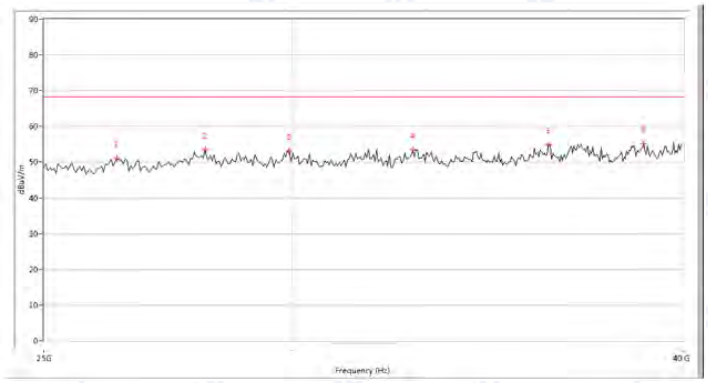
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 25673.332 | 51.69 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 28142.214 | 54.61 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 30278.431 | 53.45 | N.A | N.A | 68.2 | 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

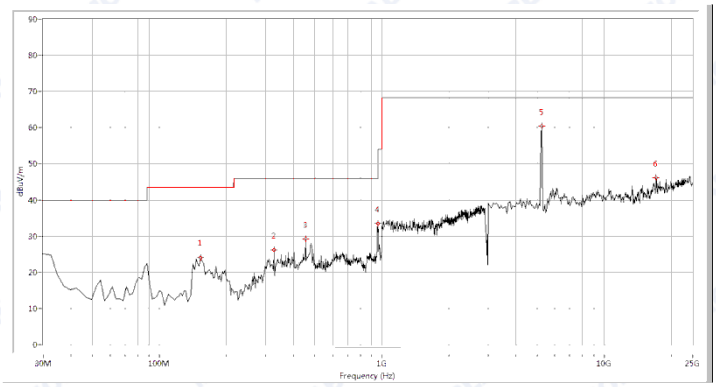


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 20.91 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 453.317 | 28.01 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 799.227 | 31.67 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 2820.449 | 40.36 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 5230.000 | 61.23 | N.A | N.A | N.A | N.A | N.A | Horizontal | N.A |
| 17154.613 | 45.56 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

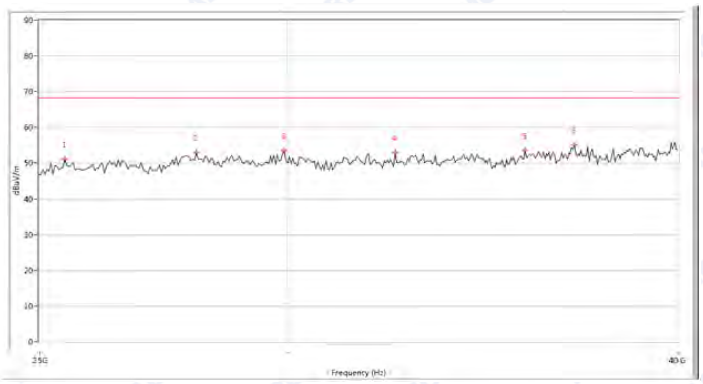


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26383.404 | 51.05 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28145.214 | 53.41 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 29930.766 | 53.12 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 32789.055 | 53.51 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 36222.195 | 54.82 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 38845.040 | 55.16 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 25GHz)



| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | 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 |

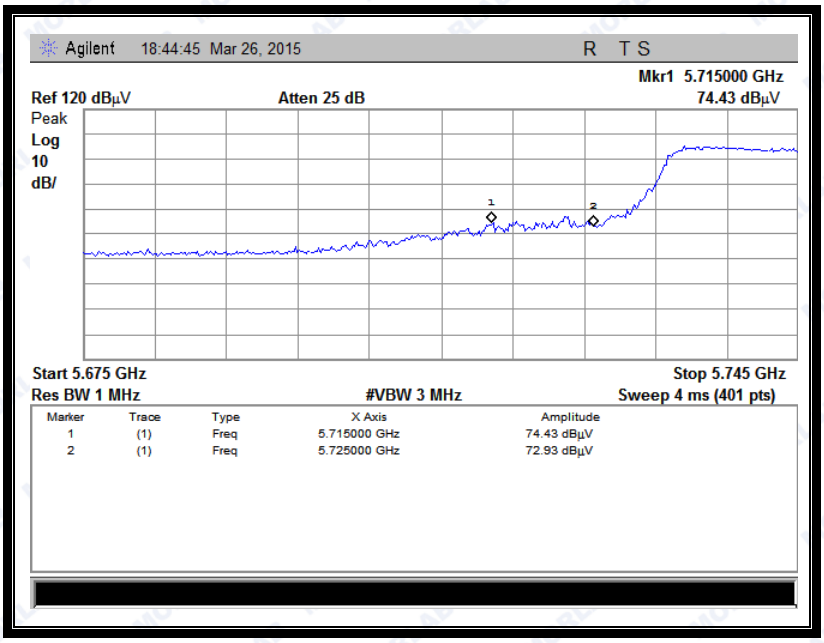


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 25483.628 | 51.19 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 28061.733 | 52.95 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 29935.766 | 53.52 | N.A | N.A | 68.2 | 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 |

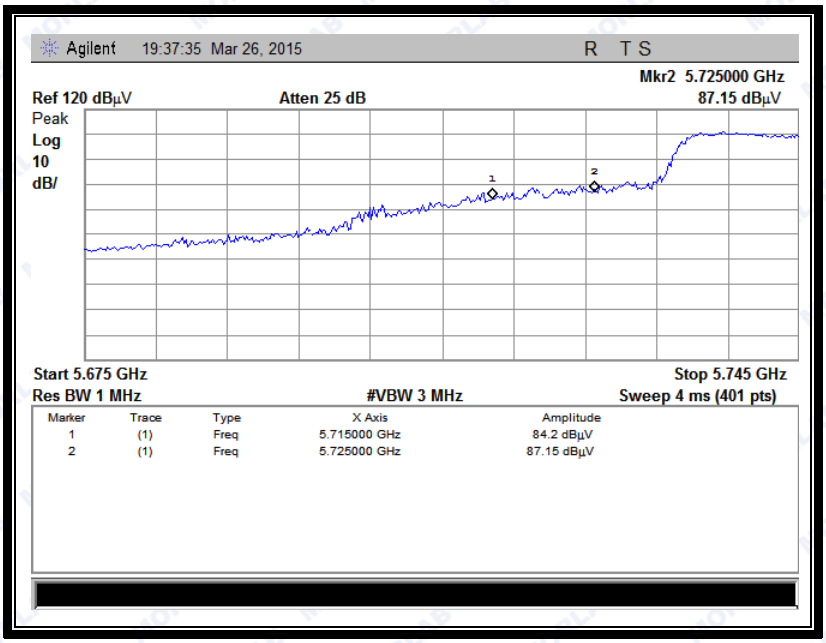
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 151

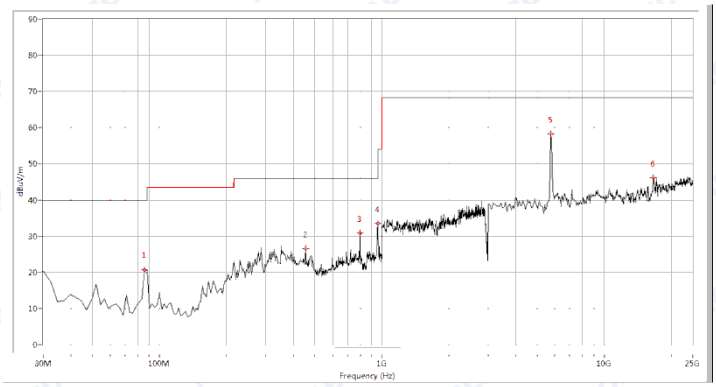
| Channel | Frequency (MHz) | Antenna Horiz./ Vert. | Receiver Reading $U_R$ (dBuV) | $A_T$ (dB) | $A_{Factor}$ (dB@3m) | Max. Emission E (dBμV/m) | Limit (dBμV/m) | Verdict |
|---|---|---|---|---|---|---|---|---|
| 151 | 5715.00 | Horizontal | 74.43 | -50.65 | 32.11 | 55.89 | 78.2 | Pass |
| 151 | 5725.00 | Vertical | 87.15 | -50.65 | 32.11 | 68.61 | 78.2 | Pass |



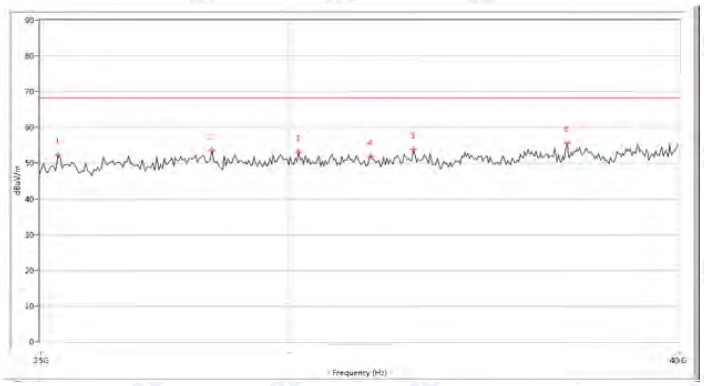

(Channel = 151 Horizontal @ 802.11n)




(Channel = 151 Vertical @ 802.11n)

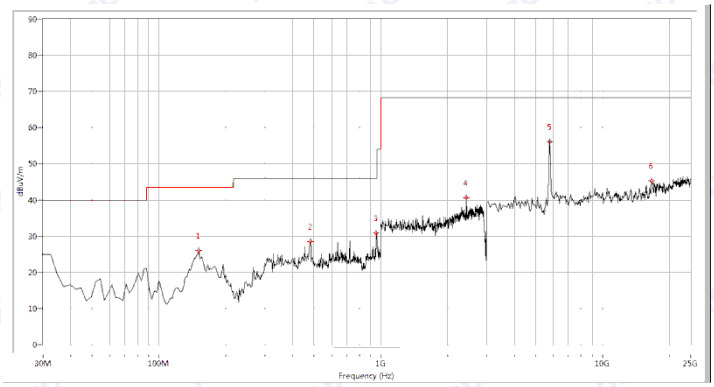


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 20.73 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 453.317 | 26.52 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 796.808 | 30.89 | N.A | N.A | N.A | 46.0 | 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 |

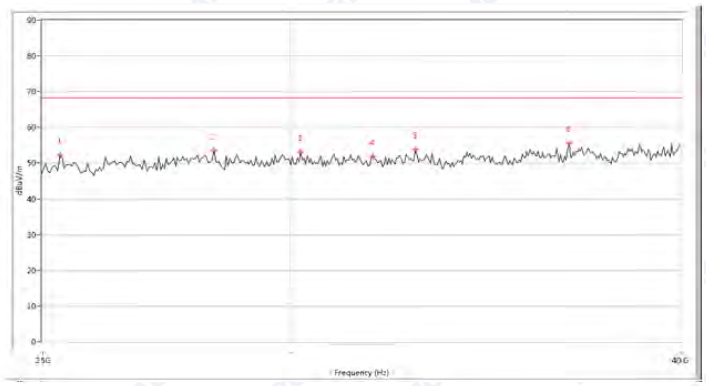


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 25332.666 | 52.14 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28365.658 | 53.49 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 30230.691 | 53.07 | N.A | N.A | 68.2 | 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 | QP | AV | Limit-PK | Limit-QP | Limit-AV | 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 |

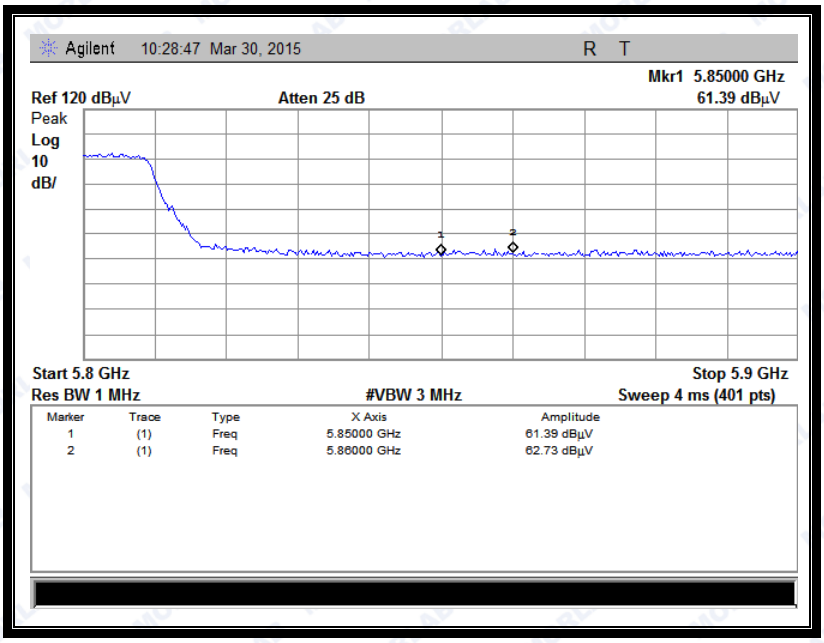


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 27093.476 | 51.12 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 28665.584 | 53.63 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 30790.800 | 52.36 | N.A | N.A | 68.2 | 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 |

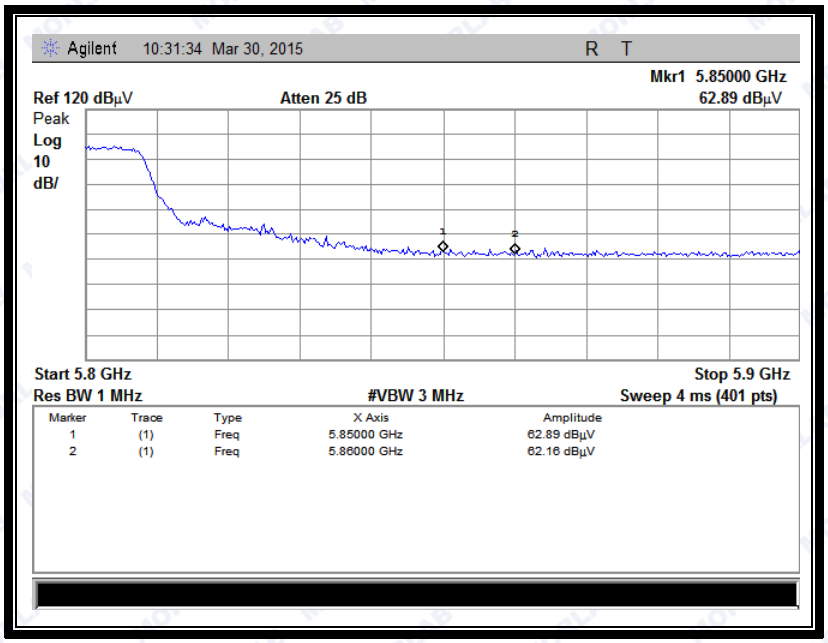
(Antenna Vertical, 30MHz to 40GHz)

Plots for Channel = 159

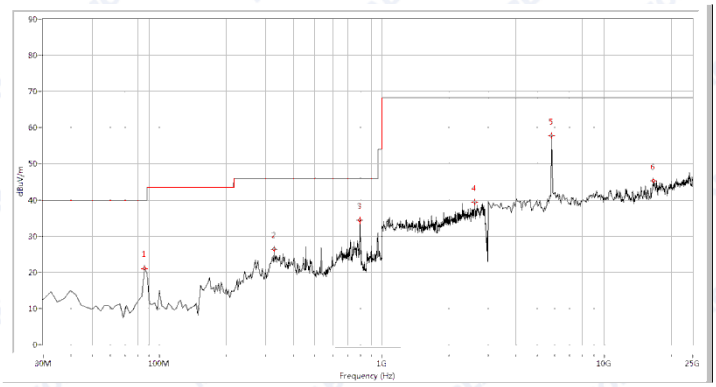
| Channel | Frequency (MHz) | Antenna Horiz./ Vert. | Receiver Reading $U_R$ (dBuV) | $A_T$ (dB) | $A_{Factor}$ (dB@3m) | Max. Emission E (dBμV/m) | Limit (dBμV/m) | Verdict |
|---|---|---|---|---|---|---|---|---|
| 159 | 5860.00 | Horizontal | 62.73 | -50.65 | 32.11 | 44.19 | 78.2 | Pass |
| 159 | 5850.00 | Vertical | 62.89 | -50.65 | 32.11 | 44.35 | 78.2 | Pass |



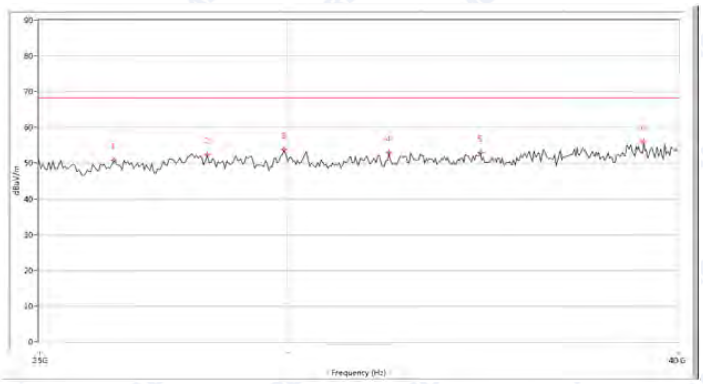

(Channel = 149 Horizontal @ 802.11n)




(Channel = 149 Vertical @ 802.11n)

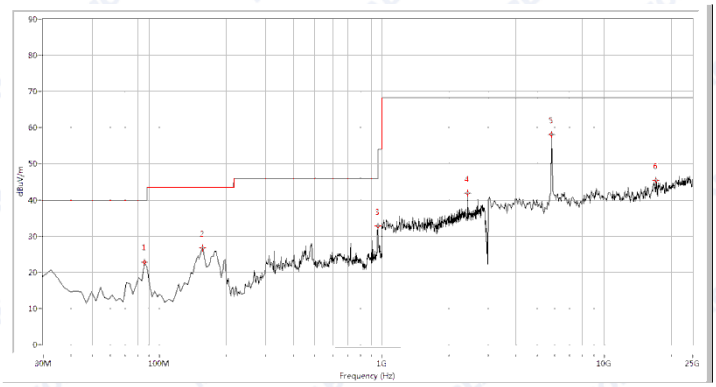


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 20.96 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 327.531 | 26.38 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 799.227 | 34.39 | N.A | N.A | N.A | 46.0 | 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 |

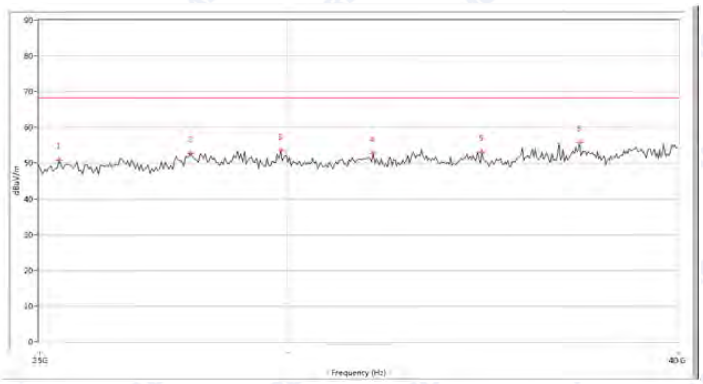


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26423.145 | 50.72 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28295.177 | 52.31 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 29938.766 | 53.79 | N.A | N.A | 68.2 | 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 | QP | AV | Limit-PK | Limit-QP | Limit-AV | 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 |



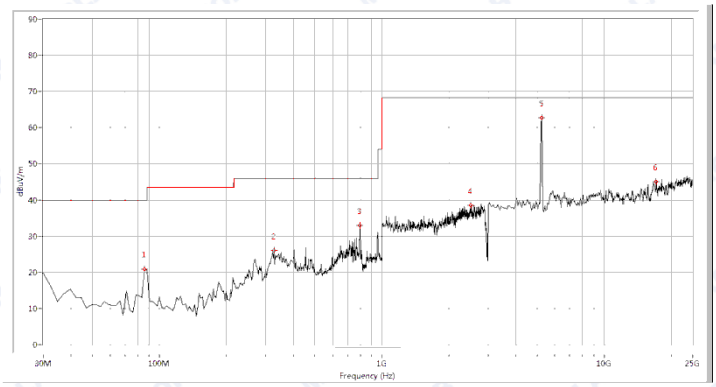
| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 25373.406 | 50.86 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 27958.511 | 52.84 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 29864.284 | 53.45 | N.A | N.A | 68.2 | 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)

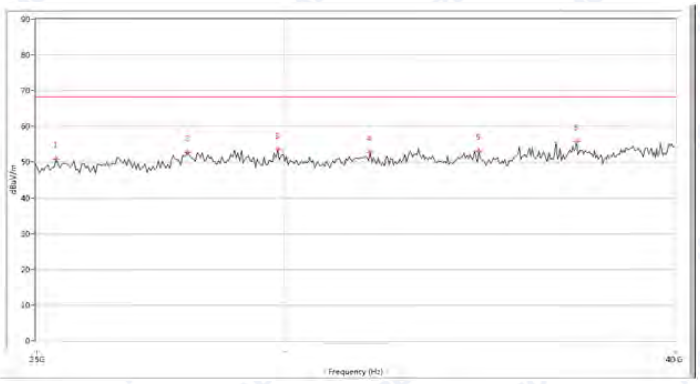
### 2.8.3.5 802.11ac-80MHz Test mode

### A. Test Plots for the Whole Measurement Frequency Range:

Plots for Channel = 42

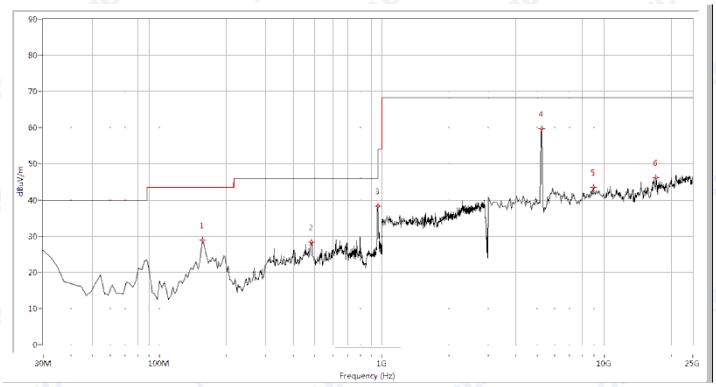


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 85.636 | 20.88 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 327.531 | 25.95 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 799.227 | 33.05 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 2516.209 | 38.46 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 5210.000 | 62.77 | N.A | N.A | N.A | N.A | N.A | Horizontal | N.A |
| 17099.751 | 45.11 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

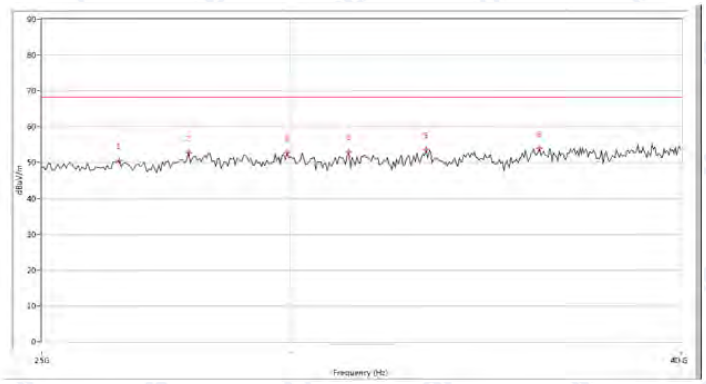


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26493.626 | 51.37 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28855.287 | 53.07 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 31246.688 | 53.00 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 33861.534 | 52.89 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 35888.529 | 53.21 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 37300.673 | 54.81 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 40GHz)



| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | 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 |

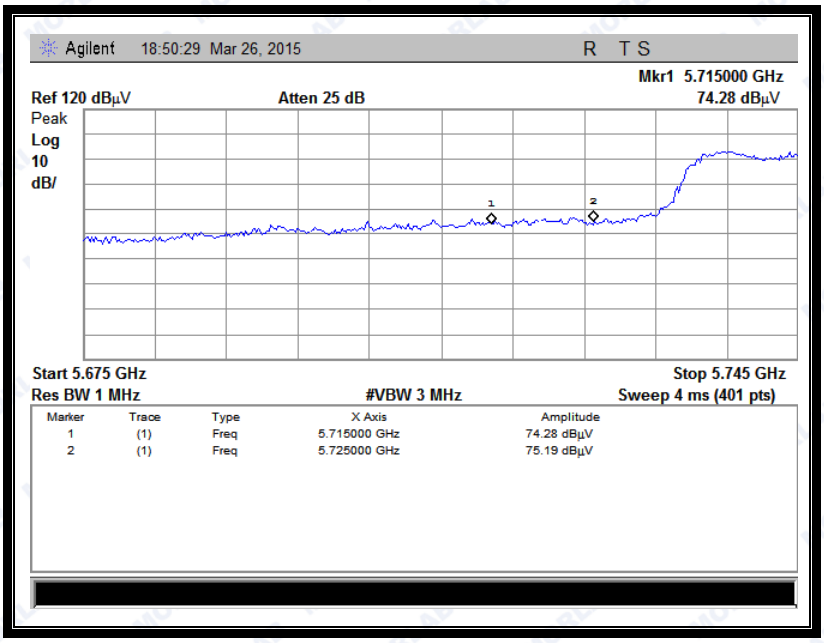


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26456.885 | 50.55 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 27845.289 | 52.67 | N.A | N.A | 68.2 | N.A | N.A | Vertical | PASS |
| 29930.766 | 52.83 | N.A | N.A | 68.2 | 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 |

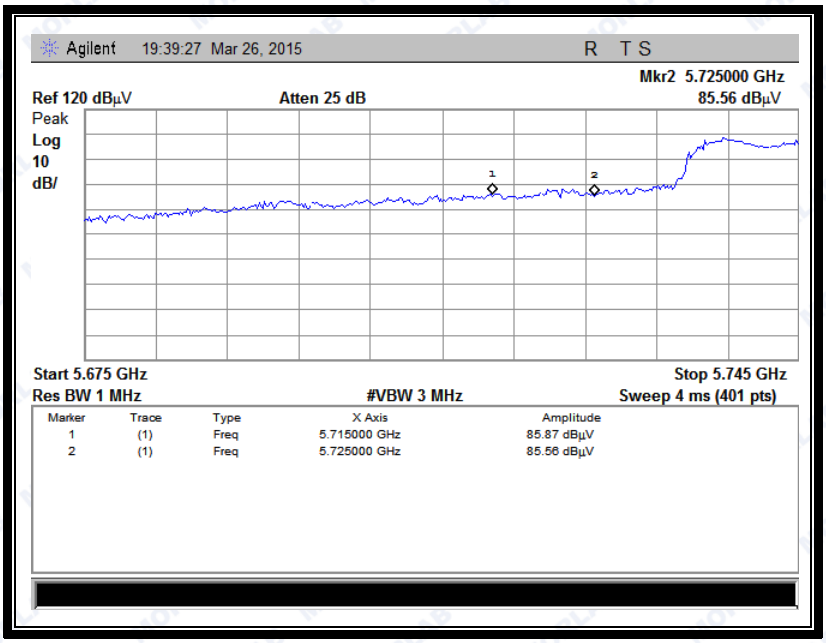
(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 155

| Channel | Frequency (MHz) | Antenna Horiz./ Vert. | Receiver Reading $U_R$ (dBuV) | $A_T$ (dB) | $A_{Factor}$ (dB@3m) | Max. Emission E (dBμV/m) | Limit (dBμV/m) | Verdict |
|---|---|---|---|---|---|---|---|---|
| 155 | 5725.00 | Horizontal | 75.19 | -50.65 | 32.11 | 56.65 | 78.2 | Pass |
| 155 | 5715.00 | Vertical | 85.87 | -50.65 | 32.11 | 67.33 | 78.2 | Pass |

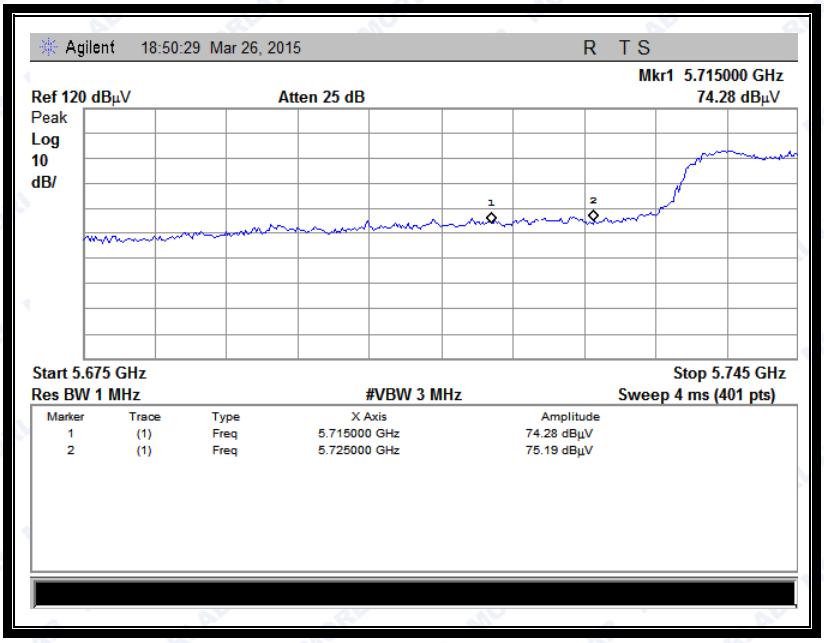



(Channel = 155 Horizontal @ 802.11ac)

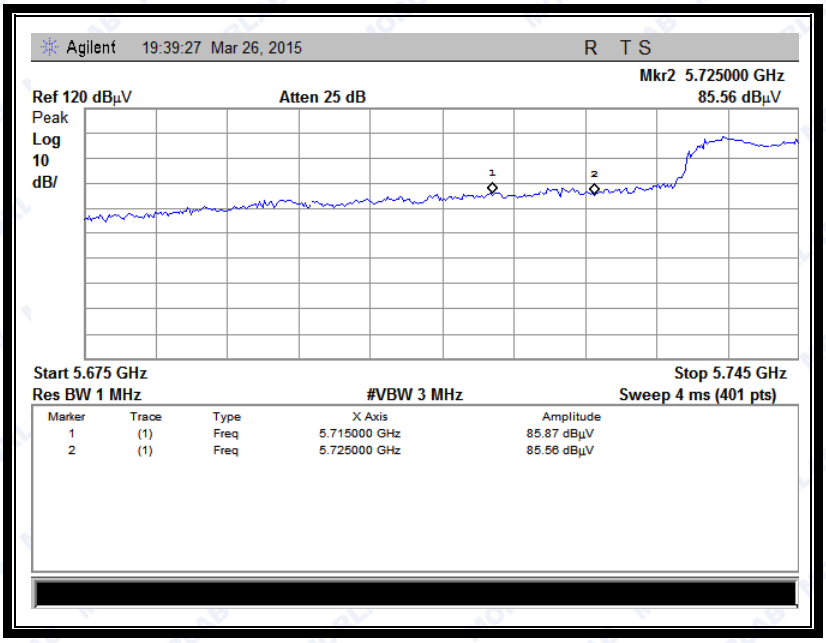



(Channel = 155 Vertical @ 802.11ac)

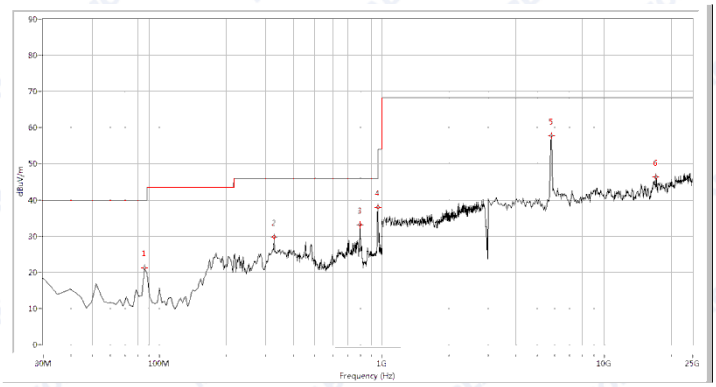
| Channel | Frequency (MHz) | Antenna Horiz./ Vert. | Receiver Reading $U_R$ (dBuV) | $A_T$ (dB) | $A_{Factor}$ (dB@3m) | Max. Emission E (dBμV/m) | Limit (dBμV/m) | Verdict |
|---|---|---|---|---|---|---|---|---|
| 155 | 5850.00 | Horizontal | 64.24 | -50.65 | 32.11 | 45.7 | 78.2 | Pass |
| 155 | 5850.00 | Vertical | 70.51 | -50.65 | 32.11 | 51.97 | 78.2 | Pass |



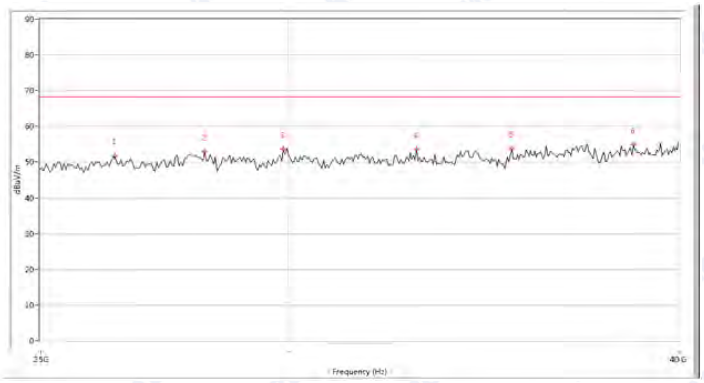

(Channel = 155 Horizontal @ 802.11ac)




(Channel = 155 Vertical @ 802.11ac)

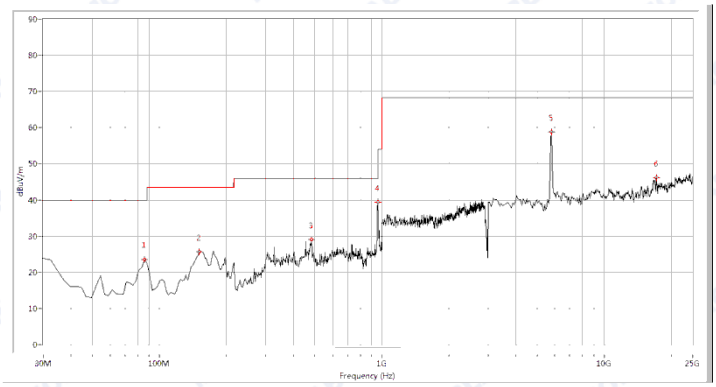


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26423.145 | 51.68 | N.A | N.A | N.A | 40.0 | N.A | Horizontal | PASS |
| 28215.696 | 52.95 | N.A | N.A | N.A | 46.0 | N.A | Horizontal | PASS |
| 29906.025 | 53.73 | N.A | N.A | N.A | 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 |

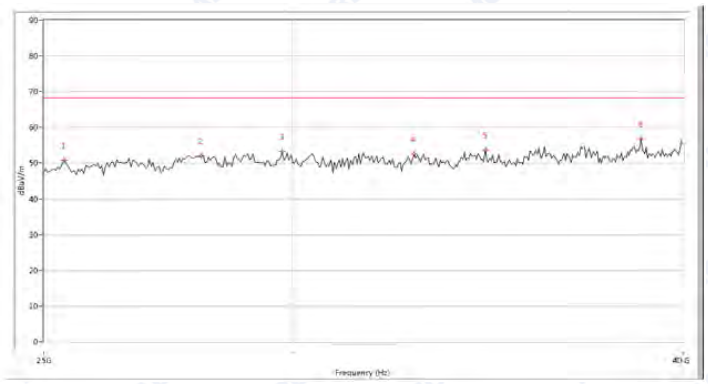


| Fre.(MHz) | Pk | QP | AV | Limit-PK | Limit-QP | Limit-AV | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 26422.145 | 51.68 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 28213.696 | 52.95 | N.A | N.A | 68.2 | N.A | N.A | Horizontal | PASS |
| 29906.025 | 53.73 | N.A | N.A | 68.2 | 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 | QP | AV | Limit-PK | Limit-QP | Limit-AV | 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 | QP | AV | Limit-PK | Limit-QP | Limit-AV | 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 lever 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 2009, ANSI C63.4 2009 and CISPR Publication 22; the FCC registration number is 695796.

## 1.4 Test Equipments Utilized

### 1.4.1 Conducted Test Equipments

| Conducted Test Equipment | | | | | | |
|---|---|---|---|---|---|---|
| **No.** | **Equipment Name** | **Serial No.** | **Type** | **Manufacturer** | **Cal. Date** | **Cal. Due** |
| 1 | Spectrum Analyzer | MY45101810 | E4407B | Agilent | 2015.02.26 | 2016.02.25 |
| 2 | Spectrum Analyzer | MY45101810 | E4407B | Agilent | 2015.02.26 | 2016.02.25 |
| 3 | Power Splitter | NW521 | 1506A | Weinschel | 2015.02.26 | 2016.02.25 |
| 4 | Attenuator 1 | (n.a.) | 10dB | Resnet | 2015.02.26 | 2016.02.25 |
| 5 | Attenuator 2 | (n.a.) | 3dB | Resnet | 2015.02.26 | 2016.02.25 |
| 6 | USB Wideband Power Sensor | MY52280010 | U2021XA | Agilent | 2015.02.26 | 2016.02.25 |
| 7 | EXA Signal Analzyer | MY51440152 | N9010A | Agilent | 2015.02.26 | 2016.02.25 |
| 8 | RF cable | CB01 | RF01 | Morlab | N/A | N/A |
| 9 | Coaxial cable | CB02 | RF02 | Morlab | N/A | N/A |
| 9 | SMA connector | CN01 | RF03 | HUBER-SUHNER | N/A | N/A |

### 1.4.2 Conducted Emission Test Equipments

| Conducted Emission Test Equipments | | | | | | |
|---|---|---|---|---|---|---|
| **No.** | **Equipment Name** | **Serial No.** | **Type** | **Manufacturer** | **Cal. Date** | **Cal. Due** |
| 1 | Receiver | US44210471 | E7405A | Agilent | 2015.02.26 | 2016.02.25 |
| 2 | LISN | 812744 | NSLK 8127 | Schwarzbeck | 2015.02.26 | 2016.02.25 |
| 3 | Service Supplier | 100448 | CMU200 | R&S | 2015.02.26 | 2016.02.25 |
| 4 | Pulse Limiter (20dB) | 9391 | VTSD 9561-D | Schwarzbeck | 2015.02.26 | 2016.02.25 |
| 5 | Coaxial cable(BNC) | CB01 | EMC01 | Morlab | N/A | N/A |

### 1.4.3 Radiated Test Equipments

| Radiated Test Equipments | | | | | | |
|---|---|---|---|---|---|---|
| **No.** | **Equipment Name** | **Serial No.** | **Type** | **Manufacturer** | **Cal. Date** | **Cal.Due Date** |
| 1 | System Simulator | 100448 | CMU200 | R&S | 2015.02.26 | 2016.02.25 |
| 2 | Receiver | US44210471 | E7405A | Agilent | 2015.02.26 | 2016.02.25 |
| 3 | Test Antenna - Bi-Log | 9163-274 | 9m*6m*6m | Albatross | 2015.02.26 | 2016.02.25 |
| 4 | Test Antenna - Horn | 9120D-963 | VULB 9163 | Schwarzbeck | 2015.02.26 | 2016.02.25 |
| 5 | Test Antenna - Horn | 71688 | BBHA 9120D | Schwarzbeck | 2015.02.26 | 2016.02.25 |
| 6 | Test Antenna - Loop | 1519-022 | HL050S7 | R&S | 2015.02.26 | 2016.02.25 |
| 7 | Reject Filter | (n.a.) | BRM50702 | Micro-Tronics | 2015.02.26 | 2016.02.25 |
| 8 | Coaxial cable (N male) | CB02 | EMC02 | Morlab | N/A | N/A |
| 9 | Coaxial cable (N male) | CB03 | EMC03 | Morlab | N/A | N/A |

### 1.4.4 Climate Chamber

| Climate Chamber | | | | | | |
|---|---|---|---|---|---|---|
| **No.** | **Equipment Name** | **Serial No.** | **Type** | **Manufacturer** | **Cal.Date** | **Cal.Due Date** |
| 1 | Climate Chamber | 2004012 | HL4003T | Yinhe | 2015.02.26 | 2016.02.25 |
| 2 | Climate Chamber | 2004012 | HL4003T | Yinhe | 2015.02.26 | 2016.02.25 |

### 1.4.5 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 | 2015.02.26 | 2016.02.25 |
| 2 | Vibration Table | N/A | ACT2000-S015L | CMI-COM | 2015.02.26 | 2016.02.25 |

### 1.4.6 Anechoic Chamber

| Anechoic Chamber | | | | | | |
|---|---|---|---|---|---|---|
| **No.** | **Equipment Name** | **Serial No.** | **Type** | **Manufacturer** | **Cal.Date** | **Cal.Due Date** |
| 1 | Anechoic Chamber | N/A | 9m*6m*6m | Albatross | 2015.02.26 | 2016.02.25 |
| 2 | Anechoic Chamber | N/A | 9m*6m*6m | Albatross | 2015.02.26 | 2016.02.25 |

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