**FCC 47 CFR Part 15 Subpart E:**

| Mode | Channel/ Frequency (MHz) | Maximum conducted output power (dBm) | | Total Power MIMO_ Chain 0+1 (dBm) | Limit (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | SISO | | | | |
| | | Chain 0 | Chain 1 | | | |
| IEEE 802.11a | 36 (5180) | 13.27 | 13.56 | 16.43 | 29.74 | Pass |
| | 44 (5220) | 13.15 | 13.37 | 16.27 | 29.74 | Pass |
| | 48 (5240) | 14.00 | 14.03 | 17.03 | 29.74 | Pass |
| IEEE 802.11n-HT20 | 36 (5180) | 12.71 | 13.08 | 15.91 | 29.74 | Pass |
| | 44 (5220) | 12.43 | 12.81 | 15.64 | 29.74 | Pass |
| | 48 (5240) | 14.25 | 14.29 | 17.28 | 29.74 | Pass |
| IEEE 802.11n-HT40 | 38 (5190) | 12.12 | 12.82 | 15.49 | 29.74 | Pass |
| | 46 (5230) | 14.70 | 14.90 | 17.81 | 29.74 | Pass |
| IEEE 802.11ac-VHT20 | 36 (5180) | 12.52 | 13.04 | 15.80 | 29.74 | Pass |
| | 44 (5220) | 12.43 | 13.22 | 15.86 | 29.74 | Pass |
| | 48 (5240) | 14.26 | 14.47 | 17.38 | 29.74 | Pass |
| IEEE 802.11ac-VHT40 | 38 (5190) | 12.28 | 12.66 | 15.48 | 29.74 | Pass |
| | 46 (5230) | 14.66 | 14.72 | 17.70 | 29.74 | Pass |
| IEEE 802.11ac-VHT80 | 42 (5210) | 9.33 | 10.16 | 12.78 | 29.74 | Pass |

**Remark:**

1. Maximum conducted output power = Conducted output power + Duty Cycle Factor
2. Total Power (Chain 0+1) = $10*\log[(10^{\text{Chain 0/10}})+(10^{\text{Chain 1/10}})]$

**Frequency band 5725-5850 MHz**

| Mode | Channel/ Frequency (MHz) | Maximum conducted output power (dBm) | | Total Power MIMO_ Chain 0+1 (dBm) | Limit (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | SISO | | | | |
| | | Chain 0 | Chain 1 | | | |
| IEEE 802.11a | 149 (5745) | 18.17 | 18.52 | 21.36 | 29.74 | Pass |
| | 157 (5785) | 18.45 | 18.27 | 21.37 | 29.74 | Pass |
| | 165 (5825) | 18.51 | 17.90 | 21.23 | 29.74 | Pass |
| IEEE 802.11n-HT20 | 149 (5745) | 17.55 | 17.46 | 20.52 | 29.74 | Pass |
| | 157 (5785) | 17.78 | 17.18 | 20.50 | 29.74 | Pass |
| | 165 (5825) | 17.72 | 17.10 | 20.43 | 29.74 | Pass |
| IEEE 802.11n-HT40 | 151 (5755) | 17.01 | 16.77 | 19.90 | 29.74 | Pass |
| | 159 (5795) | 18.09 | 17.91 | 21.01 | 29.74 | Pass |
| IEEE 802.11ac-VHT20 | 149 (5745) | 17.67 | 17.59 | 20.64 | 29.74 | Pass |
| | 157 (5785) | 17.59 | 17.36 | 20.49 | 29.74 | Pass |
| | 165 (5825) | 17.71 | 17.15 | 20.45 | 29.74 | Pass |
| IEEE 802.11ac-VHT40 | 151 (5755) | 16.86 | 16.62 | 19.75 | 29.74 | Pass |
| | 159 (5795) | 17.92 | 17.88 | 20.91 | 29.74 | Pass |
| IEEE 802.11ac-VHT80 | 155 (5775) | 13.91 | 13.72 | 16.83 | 29.74 | Pass |

**Remark:**

1. Maximum conducted output power = Conducted output power + Duty Cycle Factor
2. Total Power(Chain 0+1) = $10*\log[(10^{\text{Chain 0}/10})+(10^{\text{Chain 1}/10})]$

## 5.6 PEAK POWER SPECTRAL DENSITY

**Test Requirement:** FCC 47 CFR Part 15 Subpart E Section 15.407 (a)(1)(3)
RSS-247 Issue 2 Section 6.2.1.1/6.2.4.1

**Test Method:** KDB 789033 D02 v02r01 Section F

**Limits:** FCC 47 CFR Part 15 Subpart E

1. For the band 5.15-5.25 GHz.
(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, 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.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, 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. For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

**Limits:** RSS-247 Issue 2

1. **Frequency band 5150-5250 MHz**
For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or 1.76 + 10 $\log_{10}$B, dBm, whichever is less. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For other devices, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 $\log_{10}$B, dBm, whichever

power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

2. **Frequency band 5725-5850 MHz**

The maximum conducted output power shall not exceed 1 W. The output power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint[3] systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

**Test Procedure:**

The output from the transmitter was connected to an attenuator and then to the input of the RF Spectrum Analyzer.

Spectrum analyzer according to the following Settings:

**1. For U-NII-1, U-NII-2A, U-NII-2C band:**

Using method SA-2

a) Set span to encompass the entire emission bandwidth (EBW) of the signal.
b) Set RBW = 1 MHz, Set VBW ≥ 3 RBW, Detector = RMS
c) Sweep time = auto, trigger set to “free run”.
d) Trace average at least 100 traces in power averaging mode.
e) Record the max value and add 10 log (1/duty cycle)

**2. For U-NII-3 band:**

a) Set span to encompass the entire emission bandwidth (EBW) of the signal.
b) Set RBW = 500 kHz, Set VBW ≥ 3 RBW, Detector = RMS
c) Use the peak marker function to determine the maximum power level in any 500 kHz band segment within the fundamental EBW.
d) Sweep time = auto, trigger set to “free run”.
e) Trace average at least 100 traces in power averaging mode.
f) Record the max value and add 10 log (1/duty cycle)

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

**Test Setup:** Refer to section 4.5.3 for details.
**Instruments Used:** Refer to section 3 for details
**Test Mode:** Transmitter mode
**Test Results:** Pass
**Test Data:**

**Directional gain and the maximum output power limit.**
**RSS-247 Issue 2:**

| Frequency Band | Chain 0 Antenna Gain (dBi) | Chain 1 Antenna Gain (dBi) | Correlated chains directional gain (dBi) | PSD Limits (dBm/MHz or dBm/500kHz) |
|---|---|---|---|---|
| U-NII-1 | 3.50 | 3.00 | 6.26 | 9.74 |
| U-NII-3 | 3.50 | 3.00 | 6.26 | 29.74 |
| Unequal antenna gains, with equal transmit powers. Directional gain is to be computed as follows: | | | | |
| If transmit signals are correlated, then | | | | |
| Directional gain = 10 log[(10^G1 /20 + 10^G2 /20 + … + 10^GN /20)^2 /NANT] dBi [Note the “20”s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.] | | | | |

**FCC 47 CFR Part 15 Subpart E:**

| Frequency Band | Chain 0 Antenna Gain (dBi) | Chain 1 Antenna Gain (dBi) | Correlated chains directional gain (dBi) | PSD Limits (dBm/MHz or dBm/500kHz) |
|---|---|---|---|---|
| U-NII-1 | 3.50 | 3.00 | 6.26 | 16.74 |
| U-NII-3 | 3.50 | 3.00 | 6.26 | 29.74 |
| Unequal antenna gains, with equal transmit powers. Directional gain is to be computed as follows: | | | | |
| If transmit signals are correlated, then | | | | |
| Directional gain = 10 log[(10^G1 /20 + 10^G2 /20 + … + 10^GN /20)^2 /NANT] dBi [Note the “20”s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.] | | | | |

**Frequency band 5150-5250 MHz**
**RSS-247 Issue 2**

| Mode | Channel/ Frequency (MHz) | e.i.r.p. spectral density (dBm/MHz) | | Total e.i.r.p. spectral density MIMO_ Chain 0+1 (dBm/MHz) | Limit (dBm/MHz) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | SISO | | | | |
| | | Chain 0 | Chain 1 | | | |
| IEEE 802.11a | 36 (5180) | 6.45 | 5.42 | 8.98 | 9.74 | Pass |
| | 44 (5220) | 5.86 | 5.13 | 8.52 | 9.74 | Pass |
| | 48 (5240) | 6.97 | 5.92 | 9.49 | 9.74 | Pass |
| IEEE 802.11n-HT20 | 36 (5180) | 5.04 | 4.49 | 7.78 | 9.74 | Pass |
| | 44 (5220) | 4.36 | 4.19 | 7.29 | 9.74 | Pass |
| | 48 (5240) | 6.56 | 6.23 | 9.41 | 9.74 | Pass |
| IEEE 802.11n-HT40 | 38 (5190) | 1.58 | 4.03 | 5.98 | 9.74 | Pass |
| | 46 (5230) | 3.40 | 3.40 | 6.41 | 9.74 | Pass |
| IEEE 802.11ac-VHT20 | 36 (5180) | 4.47 | 4.54 | 7.51 | 9.74 | Pass |
| | 44 (5220) | 4.10 | 4.01 | 7.07 | 9.74 | Pass |
| | 48 (5240) | 6.10 | 6.28 | 9.20 | 9.74 | Pass |
| IEEE 802.11ac-VHT40 | 38 (5190) | 0.63 | 0.95 | 3.81 | 9.74 | Pass |
| | 46 (5230) | 3.63 | 3.24 | 6.45 | 9.74 | Pass |
| IEEE 802.11ac-VHT80 | 42 (5210) | -6.01 | -6.23 | -3.11 | 9.74 | Pass |

**Remark:**

1. e.i.r.p. spectral density = Power spectral density + Duty Cycle Factor + Antenna Gain
2. Total e.i.r.p. spectral density (Chain 0+1) = $10*\log[(10^{\text{Chain 0}/10})+(10^{\text{Chain 1}/10})]$ + Directional gain

**FCC 47 CFR Part 15 Subpart E**

| Mode | Channel/ Frequency (MHz) | Power spectral density (dBm/MHz) | | Total power spectral density MIMO_ Chain 0+1 (dBm/MHz) | Limit (dBm/MHz) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | SISO | | | | |
| | | Chain 0 | Chain 1 | | | |
| IEEE 802.11a | 36 (5180) | 2.95 | 2.42 | 5.70 | 16.74 | Pass |
| | 44 (5220) | 2.36 | 2.13 | 5.26 | 16.74 | Pass |
| | 48 (5240) | 3.47 | 2.92 | 6.21 | 16.74 | Pass |
| IEEE 802.11n-HT20 | 36 (5180) | 1.54 | 1.49 | 4.52 | 16.74 | Pass |
| | 44 (5220) | 0.86 | 1.19 | 4.04 | 16.74 | Pass |
| | 48 (5240) | 3.06 | 3.23 | 6.16 | 16.74 | Pass |
| IEEE 802.11n-HT40 | 38 (5190) | -1.92 | 1.03 | 2.81 | 16.74 | Pass |
| | 46 (5230) | -0.10 | 0.40 | 3.17 | 16.74 | Pass |
| IEEE 802.11ac-VHT20 | 36 (5180) | 0.97 | 1.54 | 4.27 | 16.74 | Pass |
| | 44 (5220) | 0.60 | 1.01 | 3.82 | 16.74 | Pass |
| | 48 (5240) | 2.60 | 3.28 | 5.96 | 16.74 | Pass |
| IEEE 802.11ac-VHT40 | 38 (5190) | -2.87 | -2.05 | 0.57 | 16.74 | Pass |
| | 46 (5230) | 0.13 | 0.24 | 3.20 | 16.74 | Pass |
| IEEE 802.11ac-VHT80 | 42 (5210) | -9.51 | -9.23 | -6.36 | 16.74 | Pass |

**Remark:**

1. Power spectral density = Conducted power spectral density + Duty Cycle Factor
2. Total Power (Chain 0+1) = $10*\log[(10^{\text{Chain 0}/10})+(10^{\text{Chain 1}/10})]$

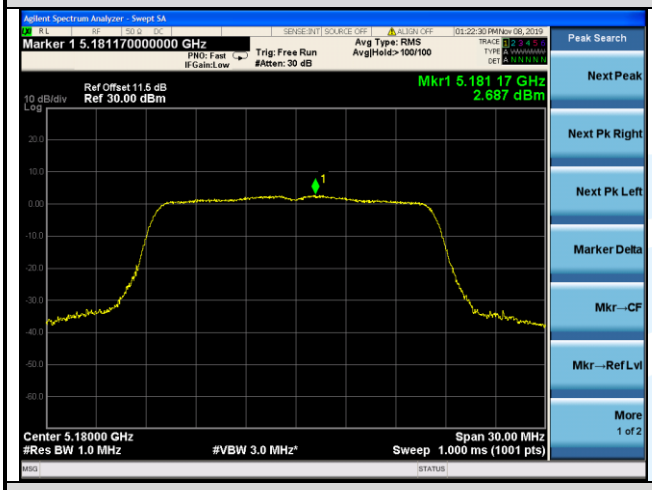
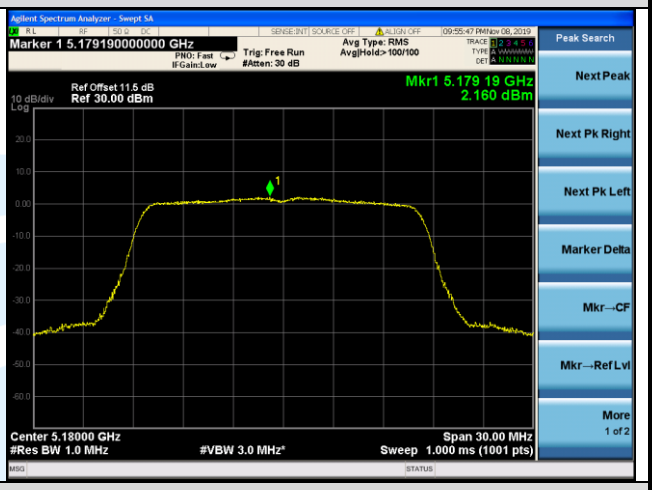
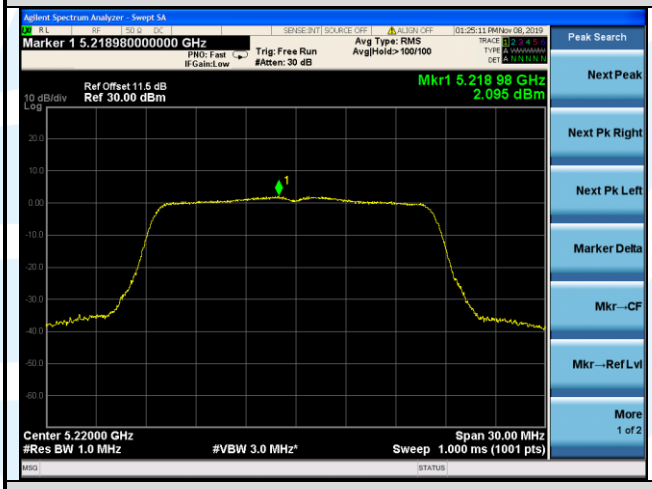
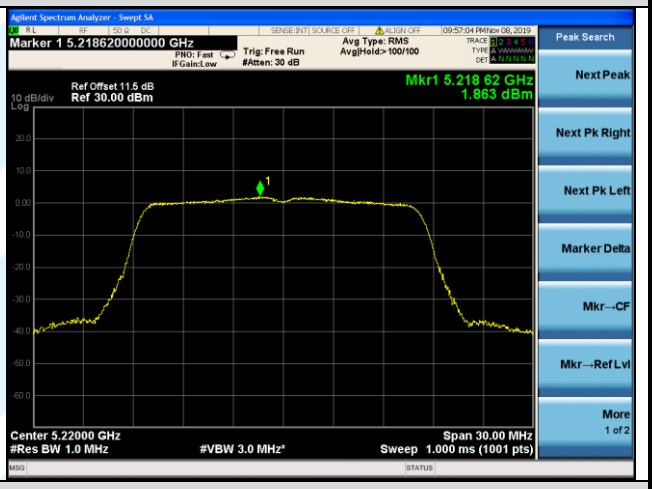
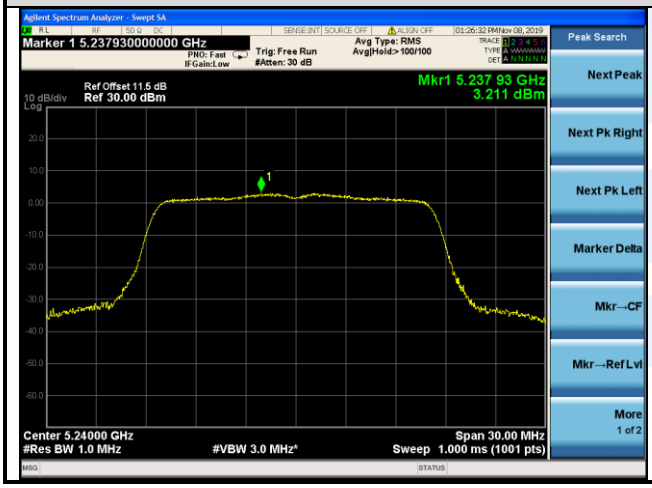
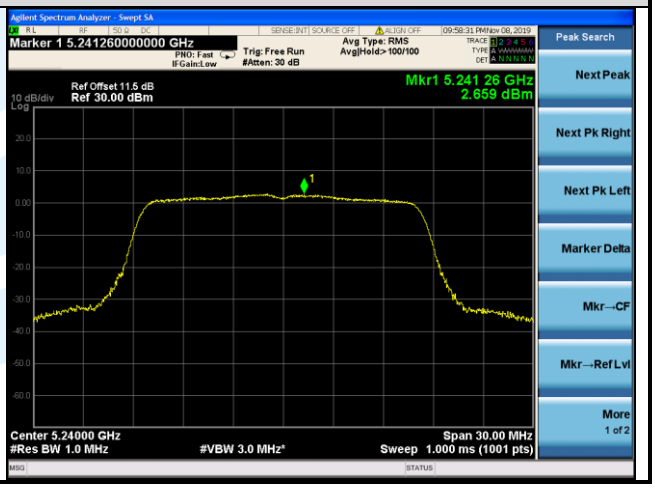
**Frequency band 5725-5850 MHz**

| Mode | Channel/ Frequency (MHz) | Power spectral density (dBm/MHz) | | Total power spectral density MIMO_ Chain 0+1 (dBm/MHz) | Limit (dBm/500KHz) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | SISO | | | | |
| | | Chain 0 | Chain 1 | | | |
| IEEE 802.11a | 149 (5745) | 4.80 | 5.15 | 7.99 | 29.74 | Pass |
| | 157 (5785) | 5.27 | 5.35 | 8.32 | 29.74 | Pass |
| | 165 (5825) | 5.37 | 4.89 | 8.15 | 29.74 | Pass |
| IEEE 802.11n-HT20 | 149 (5745) | 4.27 | 3.91 | 7.10 | 29.74 | Pass |
| | 157 (5785) | 4.39 | 4.15 | 7.28 | 29.74 | Pass |
| | 165 (5825) | 4.35 | 3.46 | 6.94 | 29.74 | Pass |
| IEEE 802.11n-HT40 | 151 (5755) | 0.76 | 0.36 | 3.57 | 29.74 | Pass |
| | 159 (5795) | 1.37 | 0.95 | 4.18 | 29.74 | Pass |
| IEEE 802.11ac-VHT20 | 149 (5745) | 4.12 | 4.01 | 7.07 | 29.74 | Pass |
| | 157 (5785) | 4.41 | 4.15 | 7.29 | 29.74 | Pass |
| | 165 (5825) | 4.36 | 3.56 | 6.99 | 29.74 | Pass |
| IEEE 802.11ac-VHT40 | 151 (5755) | 0.05 | -0.14 | 2.96 | 29.74 | Pass |
| | 159 (5795) | 1.61 | 0.62 | 4.15 | 29.74 | Pass |
| IEEE 802.11ac-VHT80 | 155 (5775) | -5.08 | -5.18 | -2.12 | 29.74 | Pass |

**Remark:**

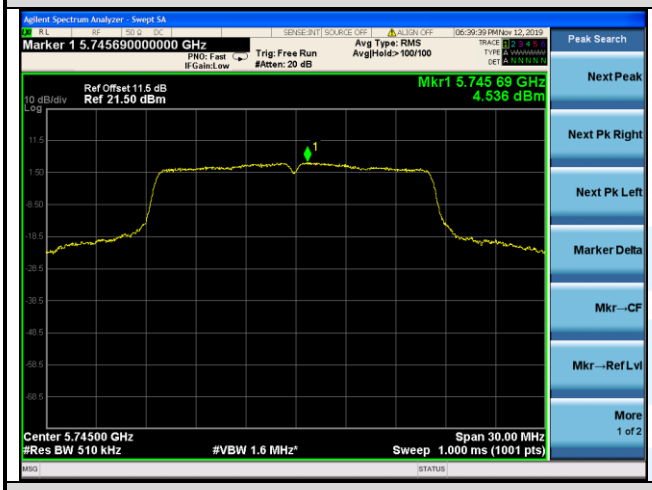
1. Power spectral density = Conducted power spectral density + Duty Cycle Factor
2. Total Power (Chain 0+1) = $10*\log[(10^{\text{Chain 0}/10})+(10^{\text{Chain 1}/10})]$

**The test plots as follows:**

| IEEE 802.11a | |
|---|---|
| Chain 0 | Chain 1 |
| Channel 36 | |
|  |  |
| Channel 44 | |
|  |  |
| Channel 48 | |
|  |  |

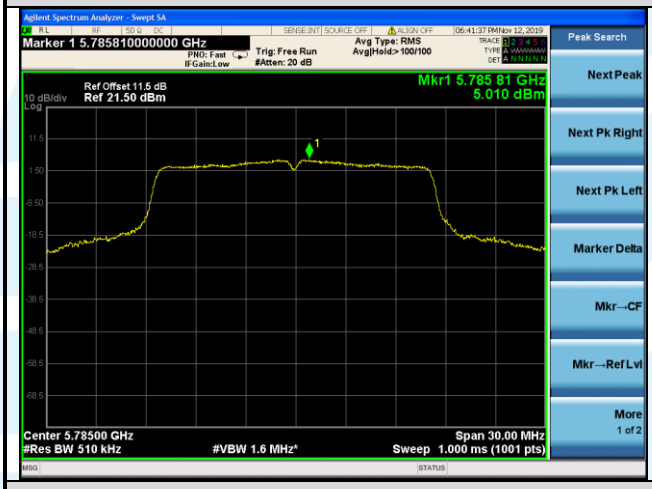
## IEEE 802.11a

### Channel 149



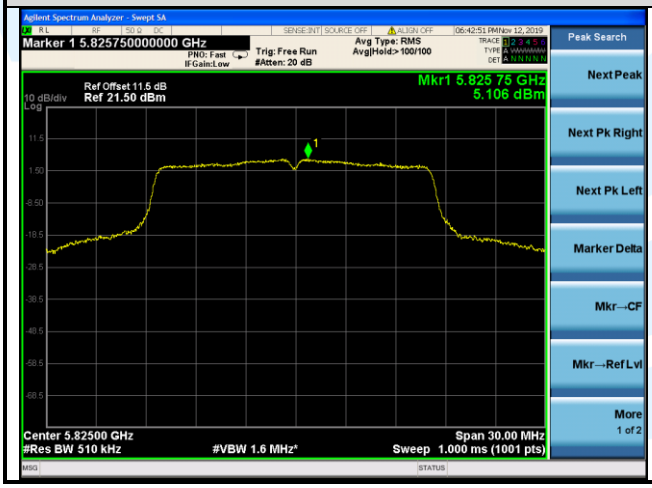


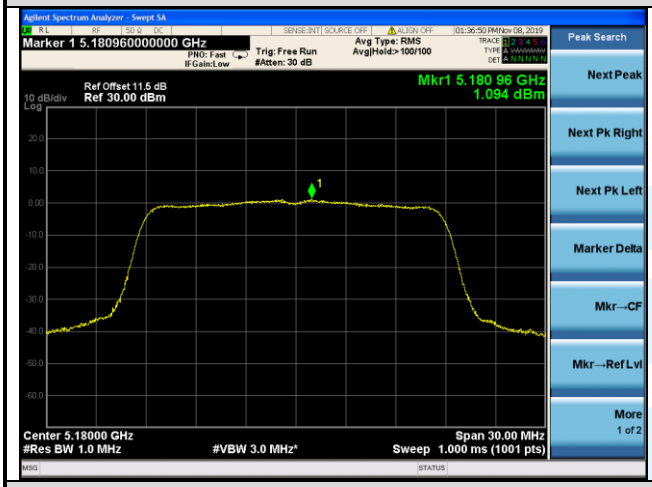
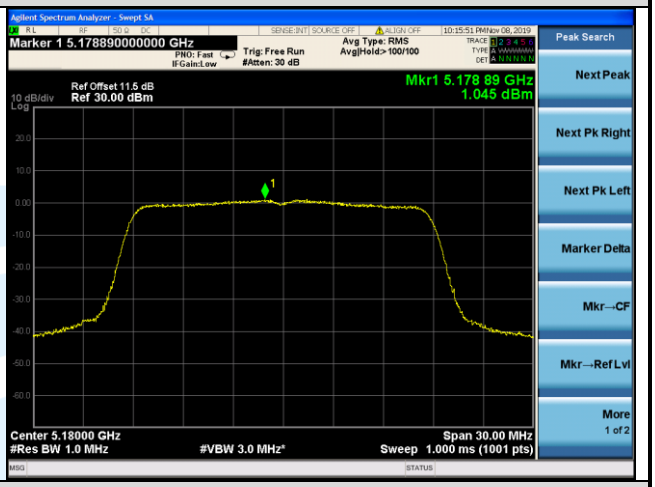
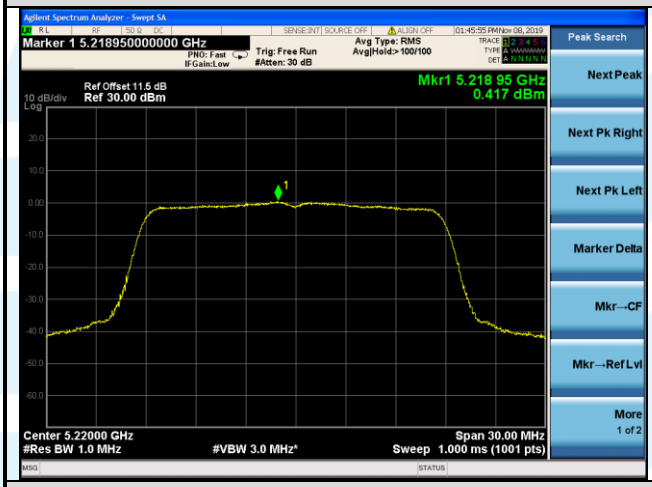
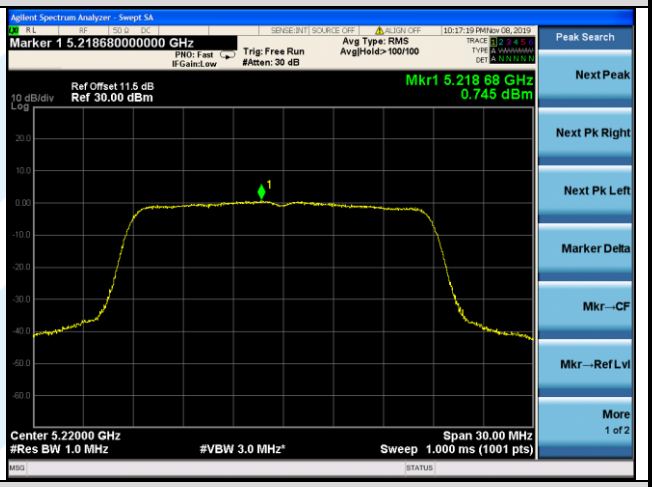
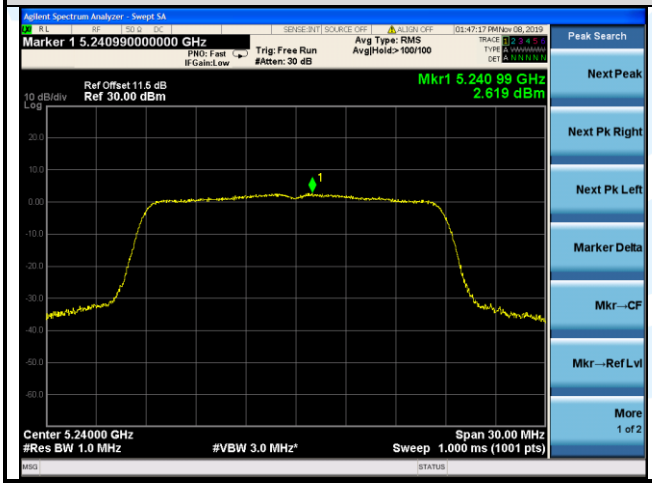
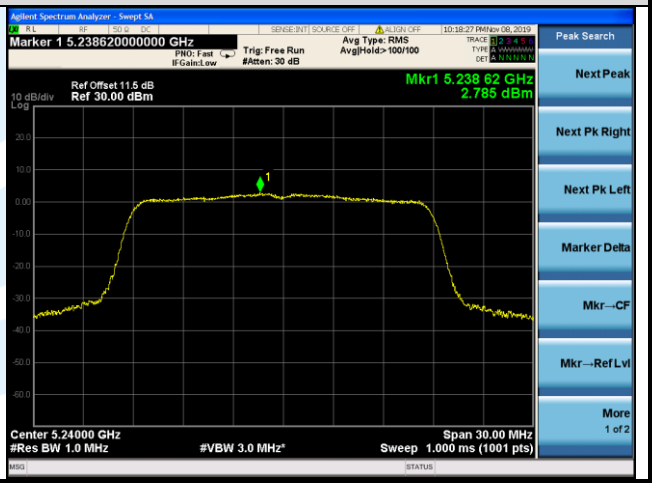
### Channel 157

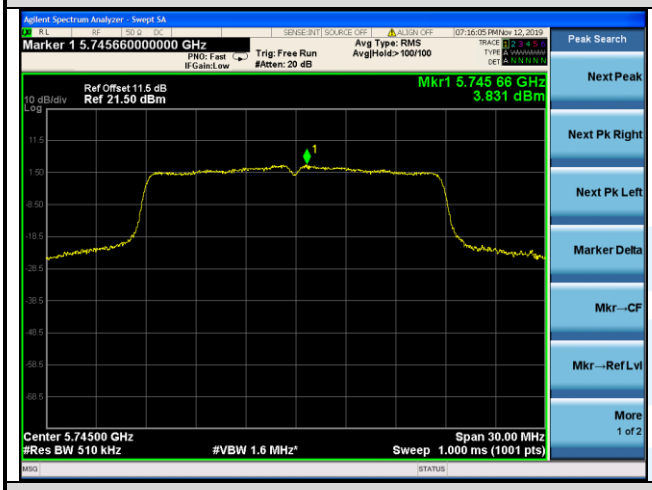
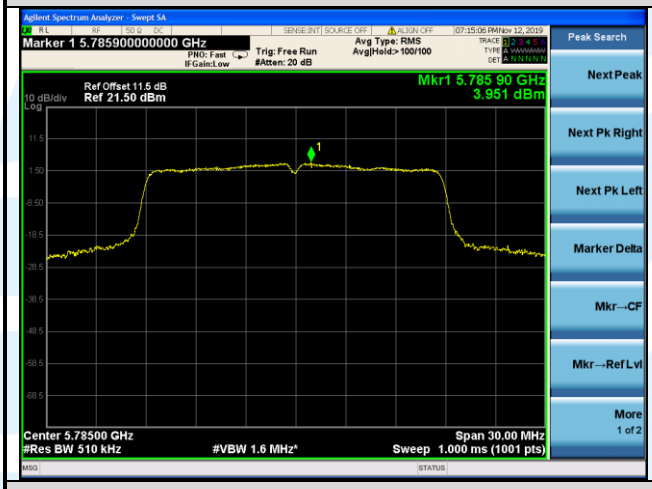
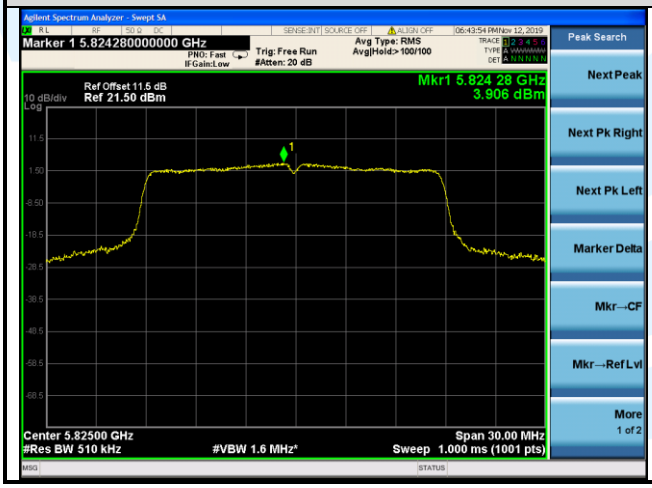


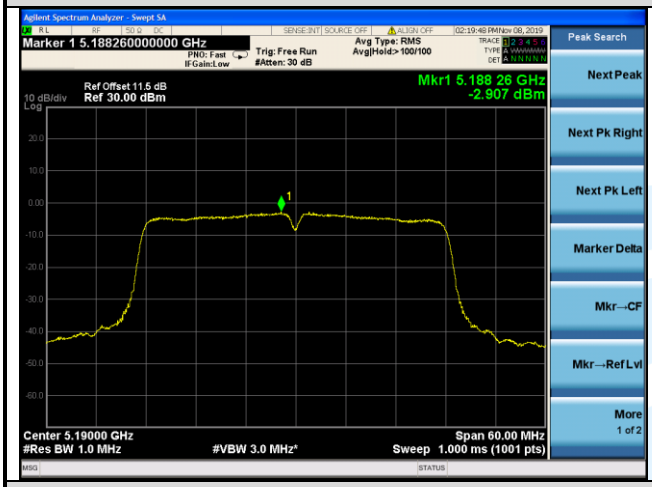
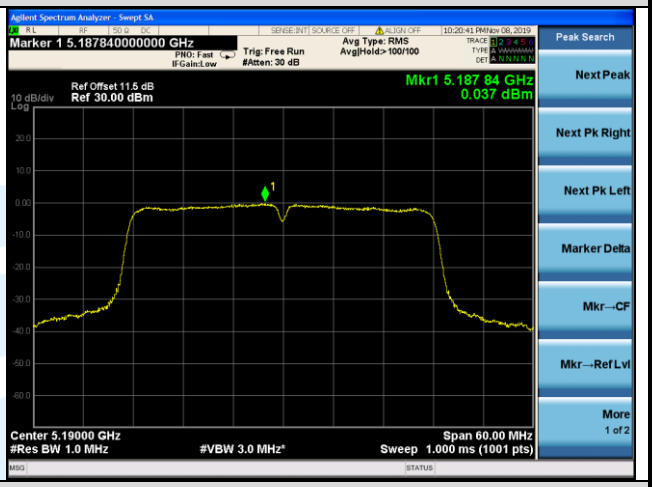
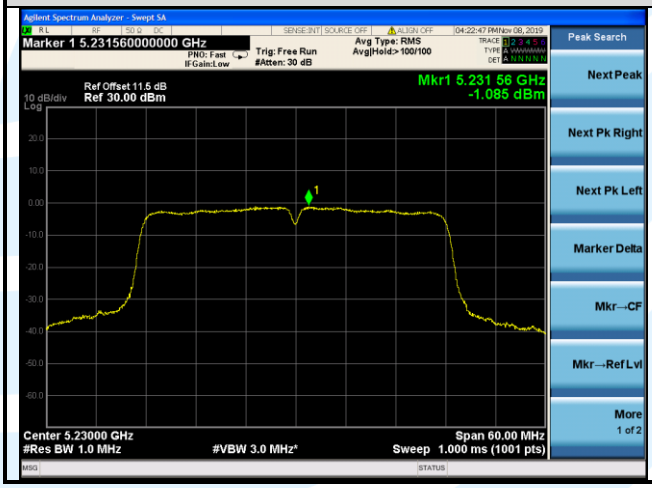
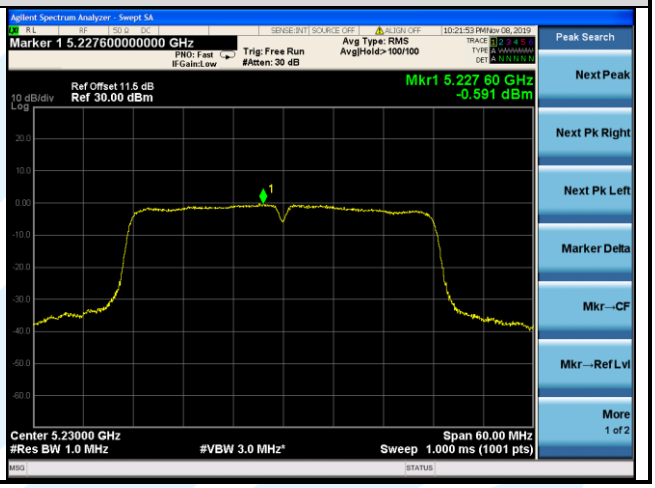


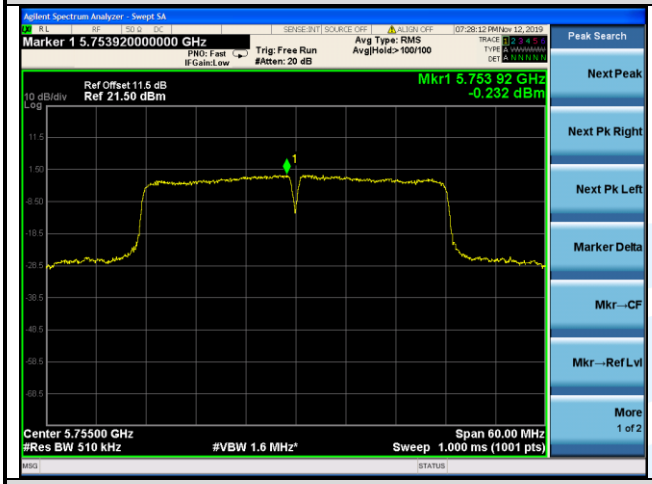
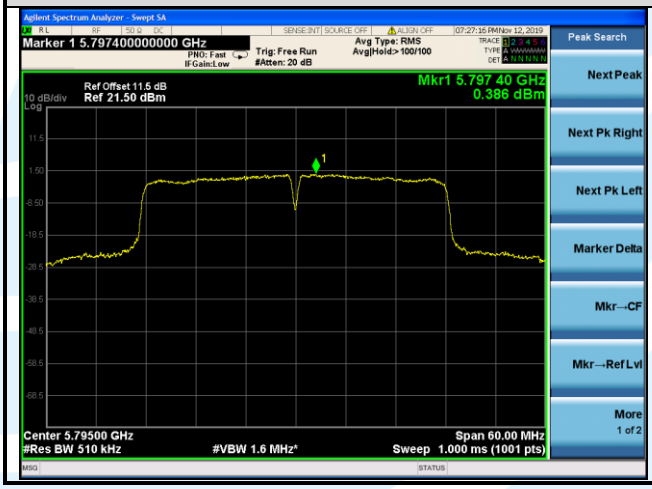
### Channel 165

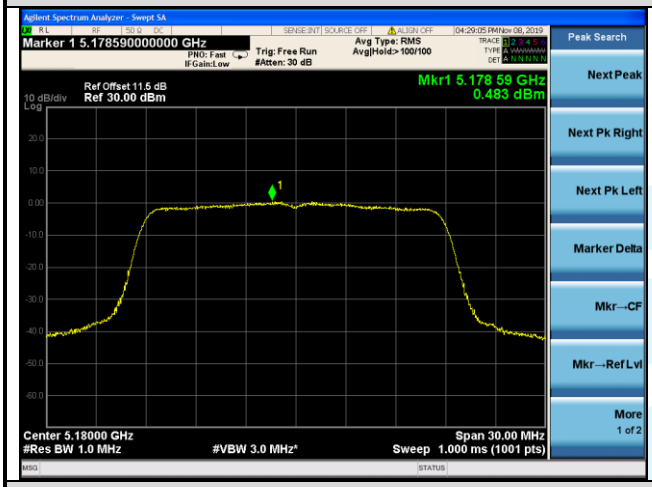
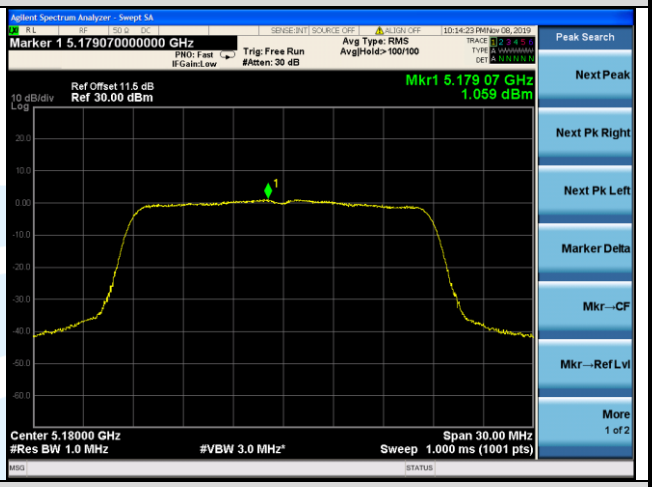
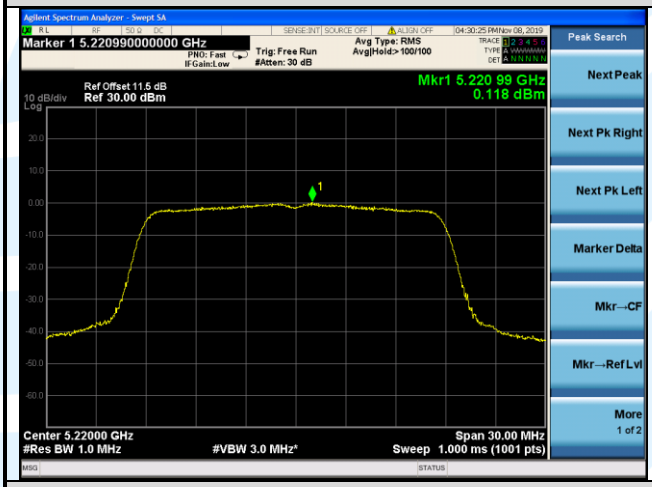
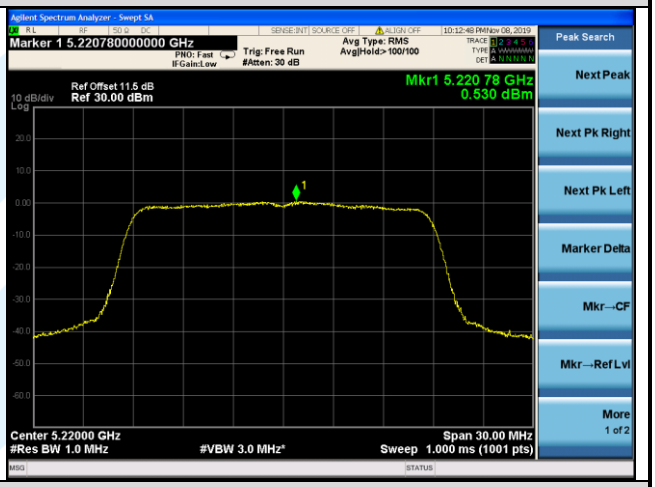
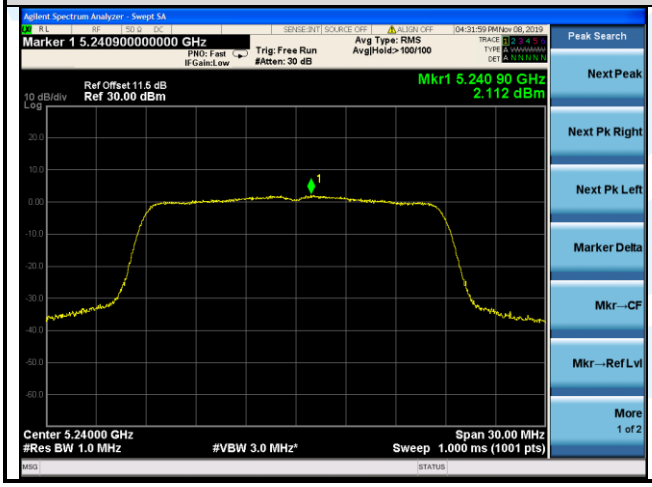
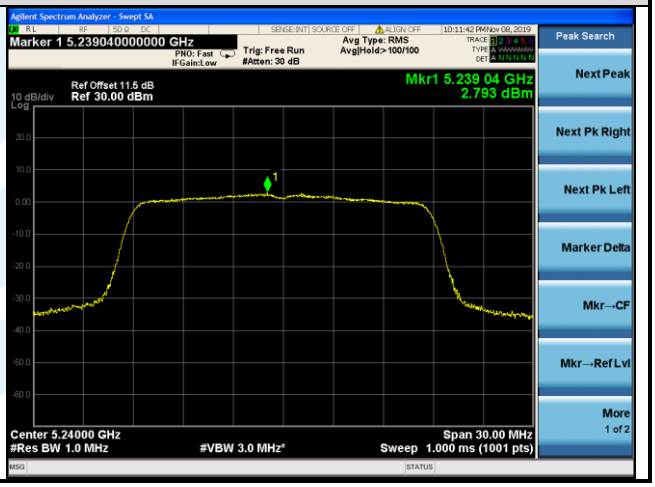



| IEEE 802.11n-HT20 | |
|---|---|
| Chain 0 | Chain 1 |
| **Channel 36** | |
|  |  |
| **Channel 44** | |
|  |  |
| **Channel 48** | |
|  |  |

| IEEE 802.11n-HT20 | |
|---|---|
| Channel 149 | |
|  |  |
| Channel 157 | |
|  |  |
| Channel 165 | |
|  |  |

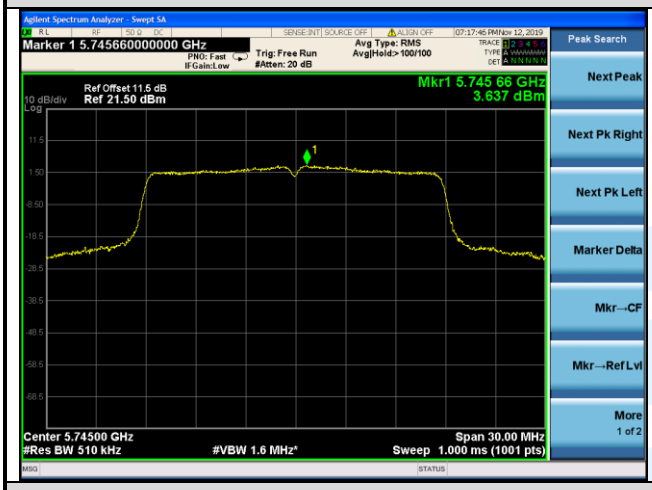
| IEEE 802.11n-HT40 | |
|---|---|
| Chain 0 | Chain 1 |
| Channel 38 | |
|  |  |
| Channel 46 | |
|  |  |

| IEEE 802.11n-HT40 | |
|---|---|
| Channel 151 | |
|  |  |
| Channel 159 | |
|  |  |

| IEEE 802.11ac-VHT20 | |
|---|---|
| Chain 0 | Chain 1 |
| **Channel 36** | |
|  |  |
| **Channel 44** | |
|  |  |
| **Channel 48** | |
|  |  |

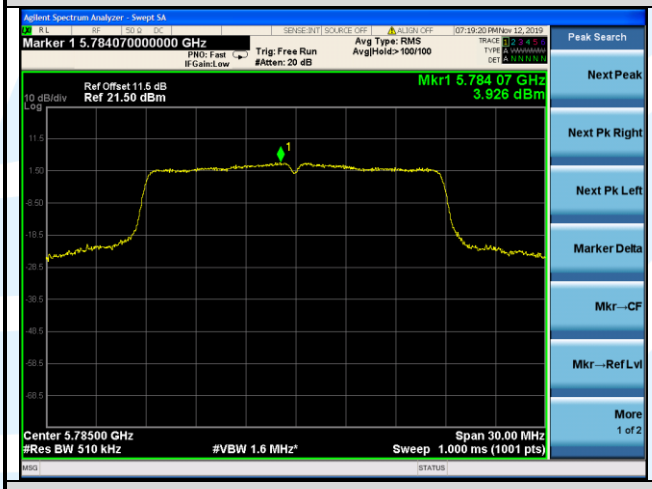
## IEEE 802.11ac-VHT20

### Channel 149



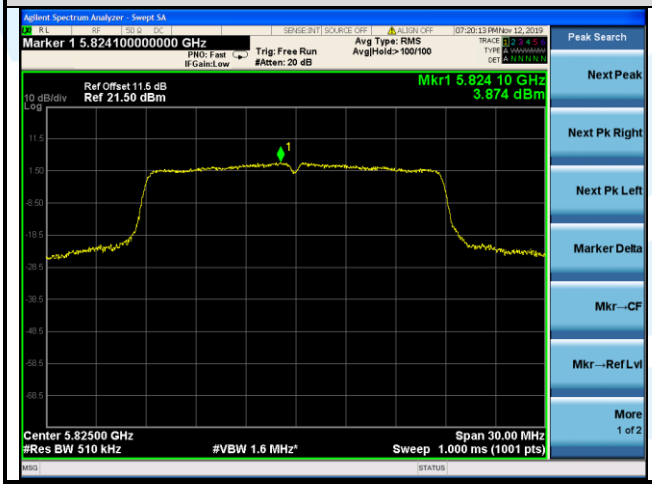


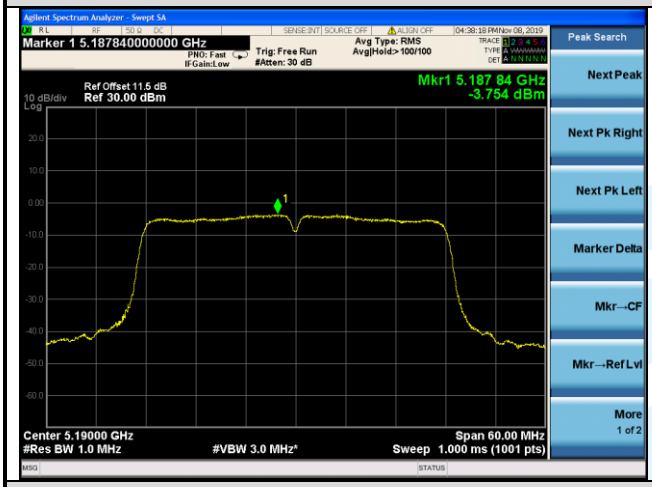
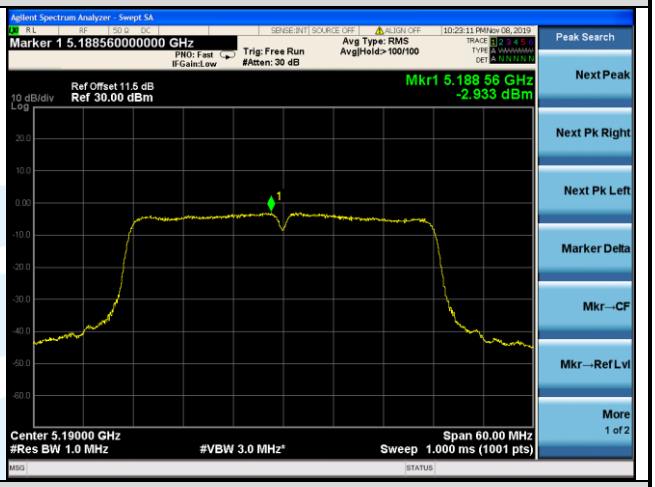
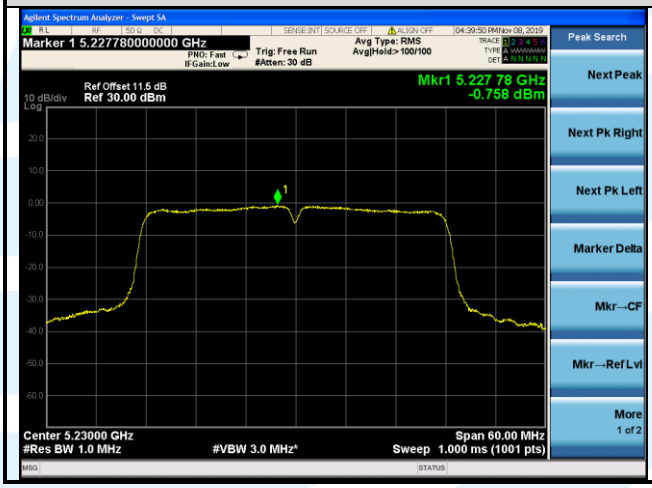
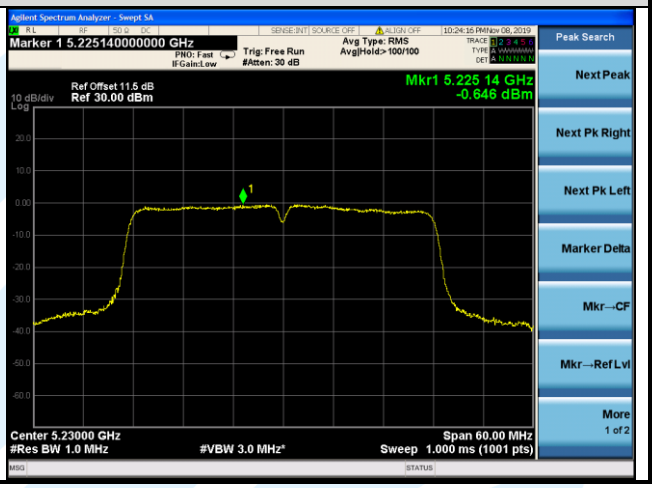
### Channel 157

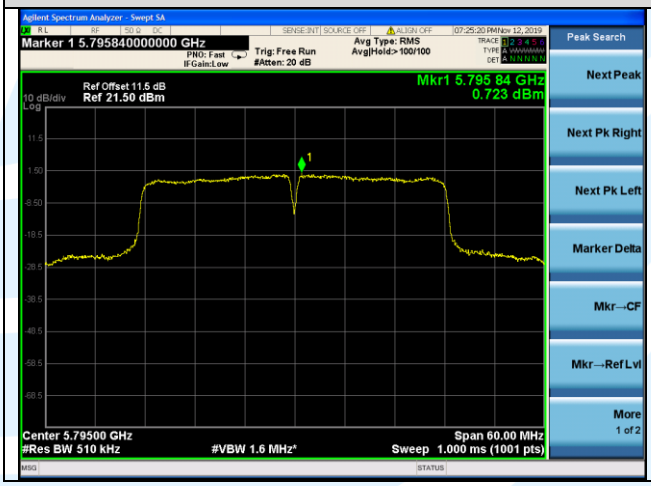


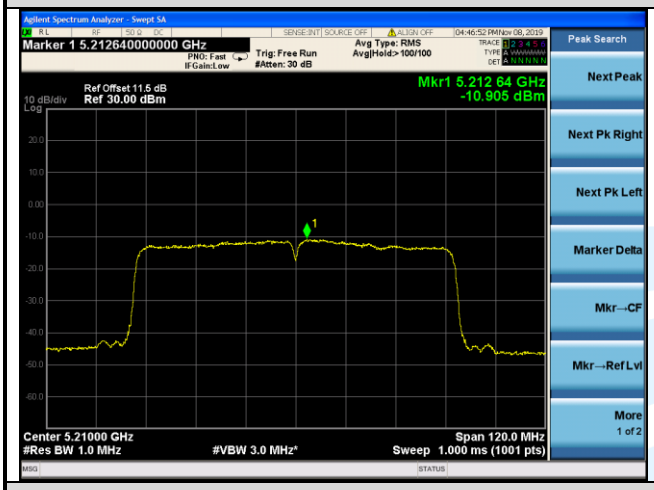
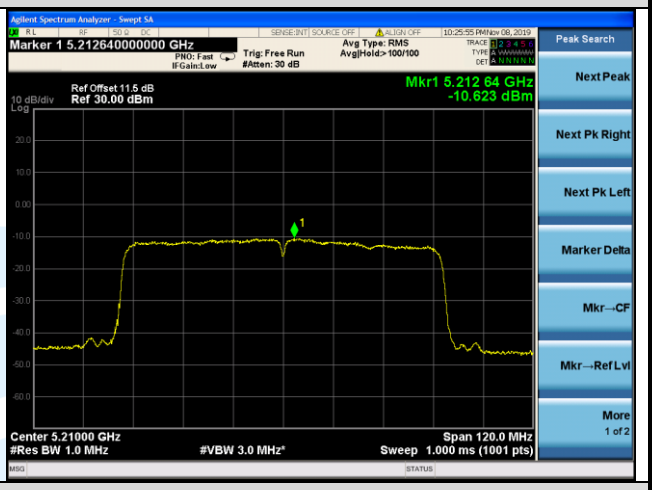


### Channel 165




| IEEE 802.11ac-VHT40 | |
|---|---|
| Chain 0 | Chain 1 |
| Channel 38 | |
|  |  |
| Channel 46 | |
|  |  |

| IEEE 802.11ac-VHT40 | |
|---|---|
| Channel 151 | |
|  |  |
| Channel 159 | |
|  |  |

| IEEE 802.11ac-VHT80 | |
|---|---|
| Channel 42 | |
|  |  |
| Channel 155 | |
|  |  |

## 5.7 RADIATED EMISSIONS AND BAND EDGE MEASUREMENT

**Test Requirement:** FCC 47 CFR Part 15 Subpart E Section 15.407 (b)(1)(4)(6)
FCC 47 CFR Part 15 Subpart C Section 15.209/205
RSS-247 Issue 2 Section 6.2.1.2/6.2.4.2

**Test Method:** KDB 789033 D02 v02r01 Section G.3, G.4, G.5, and G.6

**Receiver Setup:**

| Frequency | RBW |
|---|---|
| 0.009 MHz-0.150 MHz | 200/300 kHz |
| 0.150 MHz -30 MHz | 9/10 kHz |
| 30 MHz-1 GHz | 100/120 kHz |
| Above 1 GHz | 1 MHz |

**Limits:**

**1. Limits of Radiated Emission and Band edge Measurement**

Radiated emissions that fall in the restricted bands must comply with the general emissions limits in 15.209(a) as below table. Other emissions shall be at least 20 dB below the highest level of the desired power.

| Frequency | Field strength (microvolt/meter) | Limit (dBμV/m ) | Remark | Measurement distance (m) |
|---|---|---|---|---|
| 0.009 MHz-0.490 MHz | 2400/F(kHz) | -- | -- | 300 |
| 0.490 MHz-1.705 MHz | 24000/F(kHz) | -- | -- | 30 |
| 1.705 MHz-30 MHz | 30 | -- | -- | 30 |
| 30 MHz-88 MHz | 100 | 40.0 | Quasi-peak | 3 |
| 88 MHz-216 MHz | 150 | 43.5 | Quasi-peak | 3 |
| 216 MHz-960 MHz | 200 | 46.0 | Quasi-peak | 3 |
| 960MHz-1GHz | 500 | 54.0 | Quasi-peak | 3 |
| Above 1 GHz | 500 | 54.0 | Average | 3 |

**Remark:**

a. The lower limit shall apply at the transition frequencies.
b. Emission level (dBuV/m) = 20 log Emission level (uV/m).
c. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

**2. Limits of Unwanted Emission Out of the Restricted Bands**

| Applicable To | Limit | |
|---|---|---|
| 789033 D02 General U-NII Test Procedures New Rules v01r04 | Field Strength at 3 m | |
| | PK: 74 (dBμV/m) | AV: 54 (dBμV/m) |
| Applicable To | EIRP Limit | Equivalent Field Strength at 3 m |
| RSS-247 Issue 2 Section 6.2.1.2 | PK: -27 (dBm/MHz) | PK: 74 (dBμV/m) |
| RSS-247 Issue 2 Section 6.2.2.2 | PK: -27 (dBm/MHz) | PK: 74 (dBμV/m) |
| RSS-247 Issue 2 Section 6.2.3.2 | PK: -27 (dBm/MHz) | PK: 68.2 (dBμV/m) |
| RSS-247 Issue 2 Section 6.2.4.2 | 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges; | PK: 68.2 (dBμV/m) |
| | 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges; | |
| | 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; | |
| | -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges. | |

**Test Setup:** Refer to section 4.5.1 for details.

**Test Procedures:**

1. The EUT was placed on the top of a rotating table 0.8 meters (for below 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
6. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Remark:

a) The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
b) The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
c) The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for RMS Average (Duty cycle < 98 %) for Average detection (AV) at frequency above 1 GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
d) The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz (Duty cycle ≥ 98 %) or ≥ 1/T(duty cycle is < 98%) for Average detection (AV) at frequency above 1 GHz.
e) All modes of operation were investigated and the worst-case emissions are reported.

**Equipment Used:** Refer to section 3 for details.

**Test Result:** Pass

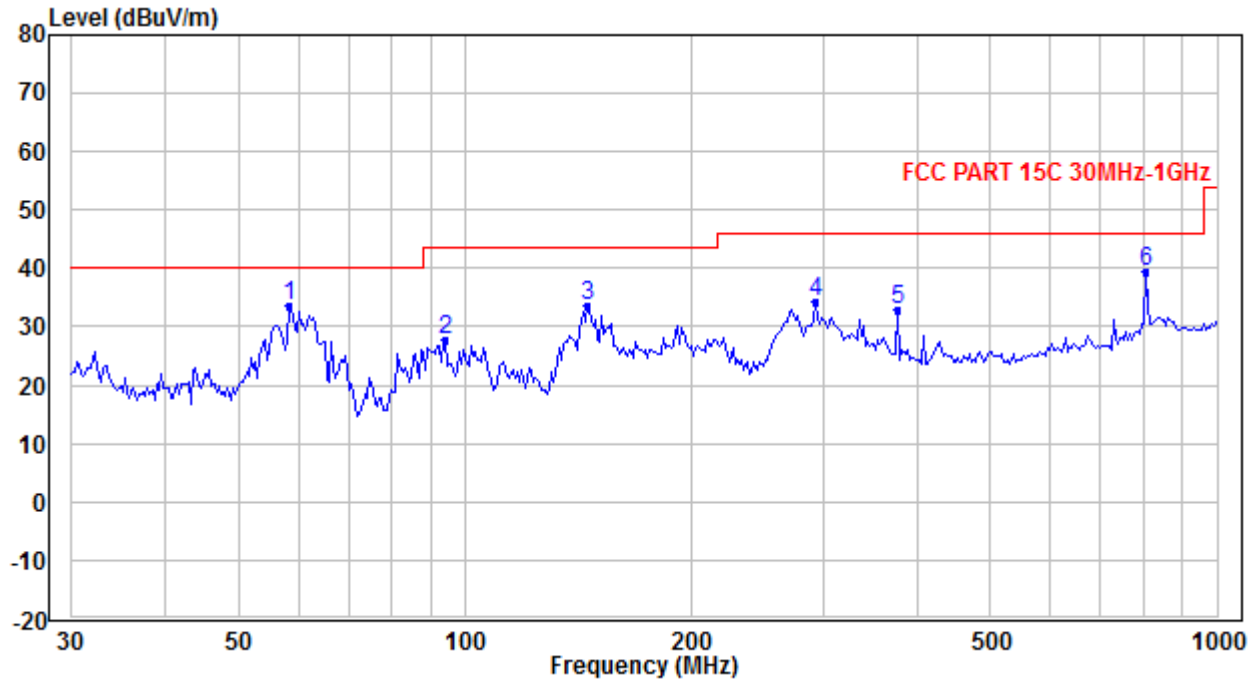
**The measurement data as follows:**

| Radiated Emission Test Data (9 KHz ~ 30 MHz): |
|---|
| The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report. |

**Radiated Emission Test Data (30 MHz ~ 1 GHz Worst Case):**

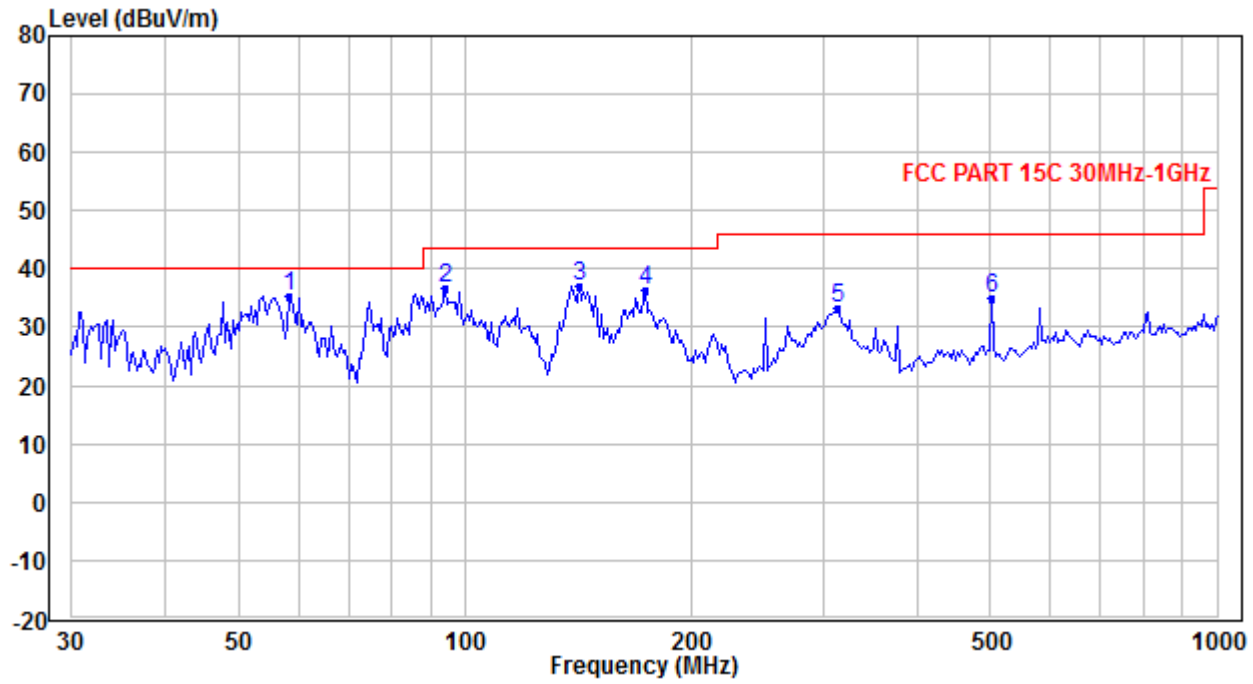
**Worst-Case Configuration**

**Horizontal**




| No. | Frequency (MHz) | Reading (dBuV) | Correction factor (dB/m ) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 58.485 | 47.65 | -14.20 | 33.45 | 40.00 | -6.55 | QP |
| 2 | 94.314 | 39.87 | -12.09 | 27.78 | 43.50 | -15.72 | QP |
| 3 | 145.811 | 44.66 | -11.09 | 33.57 | 43.50 | -9.93 | QP |
| 4 | 292.364 | 41.36 | -7.11 | 34.25 | 46.00 | -11.75 | QP |
| 5 | 376.523 | 38.42 | -5.58 | 32.84 | 46.00 | -13.16 | QP |
| 6 | 804.252 | 37.98 | 1.49 | 39.47 | 46.00 | -6.53 | QP |

**Vertical**




| No. | Frequency (MHz) | Reading (dBuV) | Correction factor (dB/m ) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 58.485 | 49.61 | -14.20 | 35.41 | 40.00 | -4.59 | QP |
| 2 | 94.314 | 48.92 | -12.09 | 36.83 | 43.50 | -6.67 | QP |
| 3 | 141.769 | 48.04 | -11.08 | 36.96 | 43.50 | -6.54 | QP |
| 4 | 173.815 | 46.53 | -10.31 | 36.22 | 43.50 | -7.28 | QP |
| 5 | 313.648 | 40.55 | -7.15 | 33.40 | 46.00 | -12.60 | QP |
| 6 | 502.247 | 38.41 | -3.54 | 34.87 | 46.00 | -11.13 | QP |