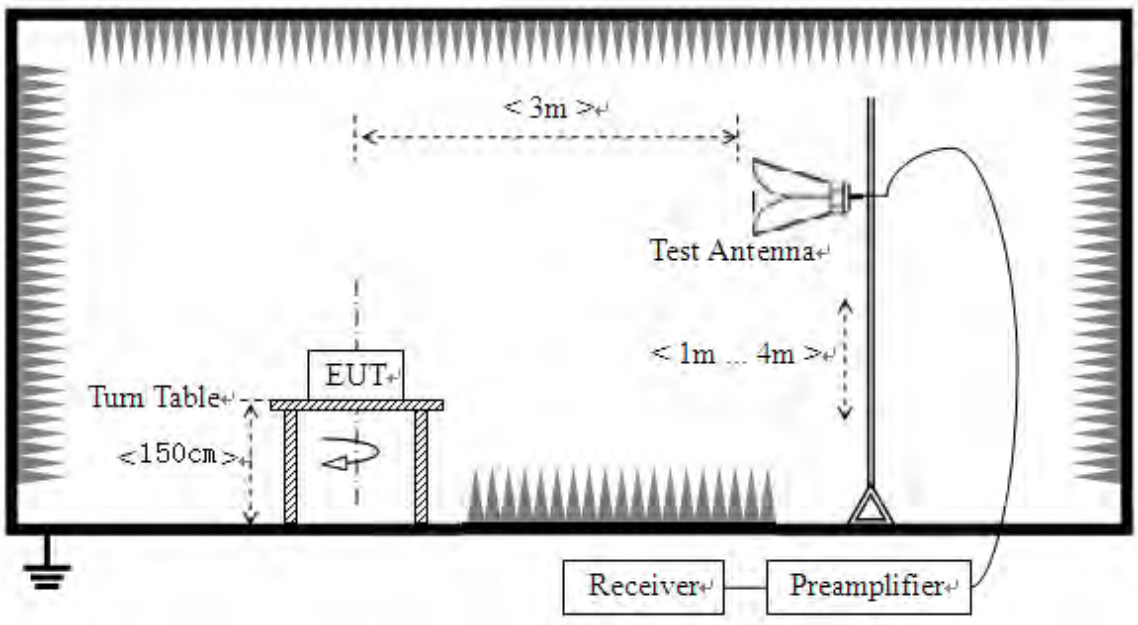
# 2.8. Restricted Frequency Bands

### 2.8.1. 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).

### 2.8.2. 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.

### 2.8.3. Test Result

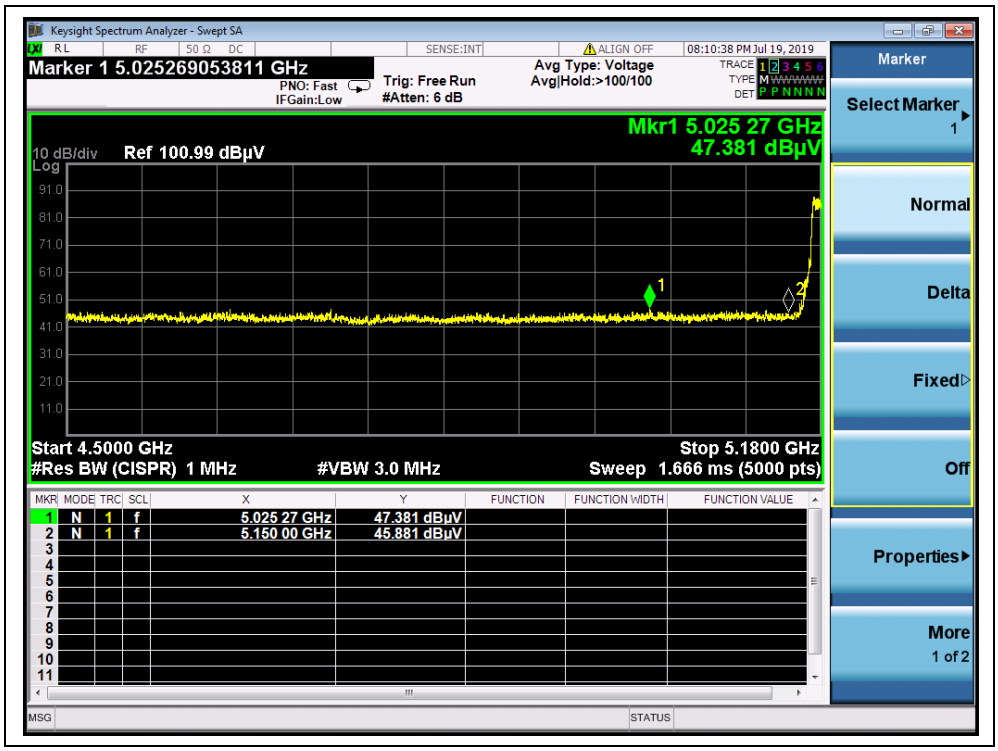
The lowest and highest channels are tested to verify Restricted Frequency Bands.
The measurement results are obtained as below:
E [dBμV/m] =$U_R$ + $A_T$ + $A_{Factor}$ [dB]; $A_T$ =$L_{Cable\ loss}$ [dB]-$G_{preamp}$ [dB]
$A_T$: Total correction Factor except Antenna; $U_R$: Receiver Reading
$G_{preamp}$: 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.

**802.11a Test mode**

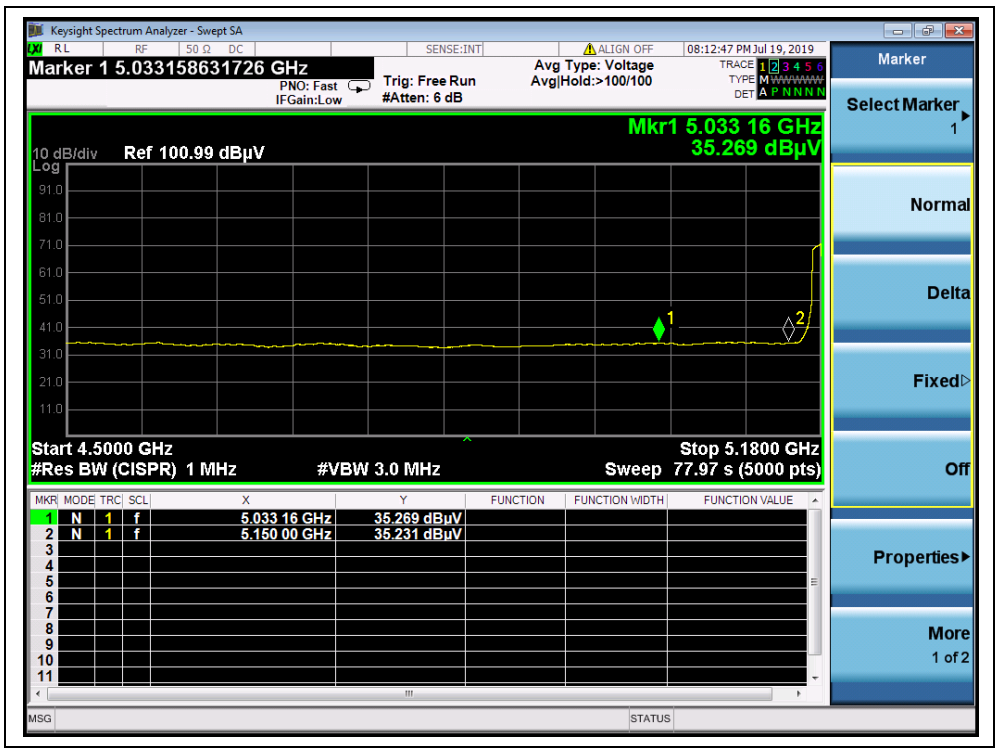
**A. Test Verdict:**

| Channel | Frequency (MHz) | Detector PK/ AV | Receiver Reading $U_R$ (dBuV) | $A_T$ (dB) | $A_{Factor}$ (dB@3m) | Max. Emission E (dBμV/m) | Limit (dBμV/m) | Verdict |
|---|---|---|---|---|---|---|---|---|
| 36 | 5025.27 | PK | 47.38 | -26.92 | 32.20 | 52.66 | 74 | PASS |
| 36 | 5033.16 | AV | 35.27 | -26.92 | 32.20 | 40.55 | 54 | PASS |
| 48 | 5414.22 | PK | 45.84 | -26.92 | 32.20 | 51.12 | 74 | PASS |
| 48 | 5399.48 | AV | 33.68 | -26.92 | 32.20 | 38.96 | 54 | PASS |
| 149 | 5725.00 | PK | 52.33 | -26.23 | 32.20 | 58.30 | 122.23 | PASS |
| 149 | 5725.00 | AV | 36.55 | -26.23 | 32.20 | 42.52 | 54 | PASS |
| 165 | 5851.62 | PK | 45.88 | -26.23 | 32.20 | 51.85 | 118.54 | PASS |
| 165 | 5851.62 | AV | 34.79 | -26.23 | 32.20 | 40.76 | 54 | PASS |

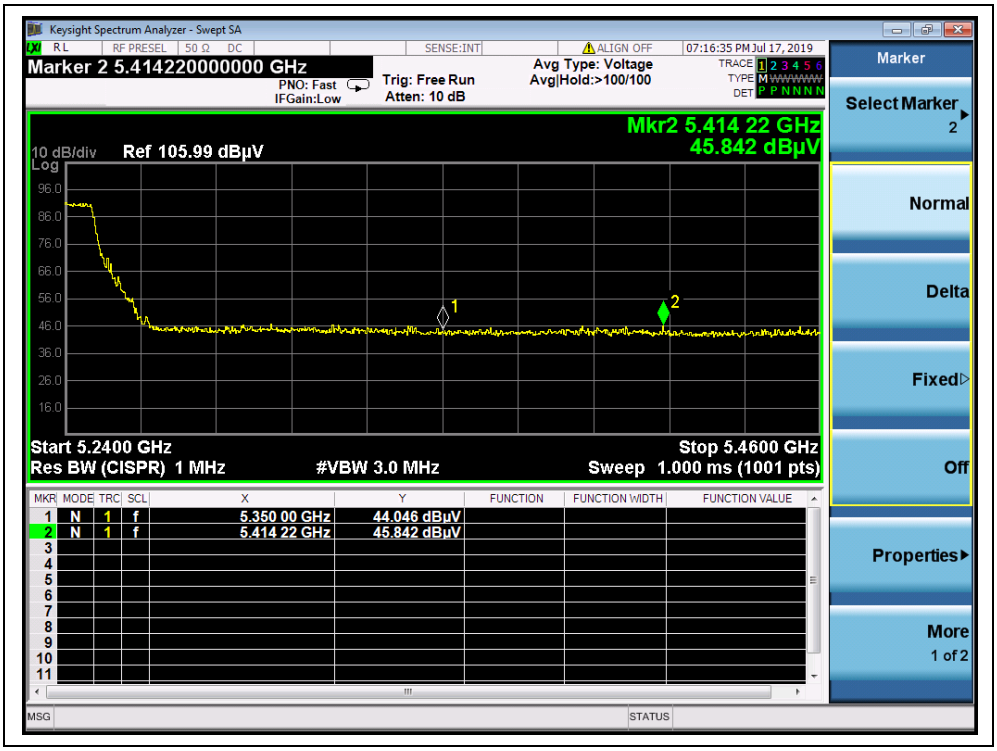
## B. Test Plots:



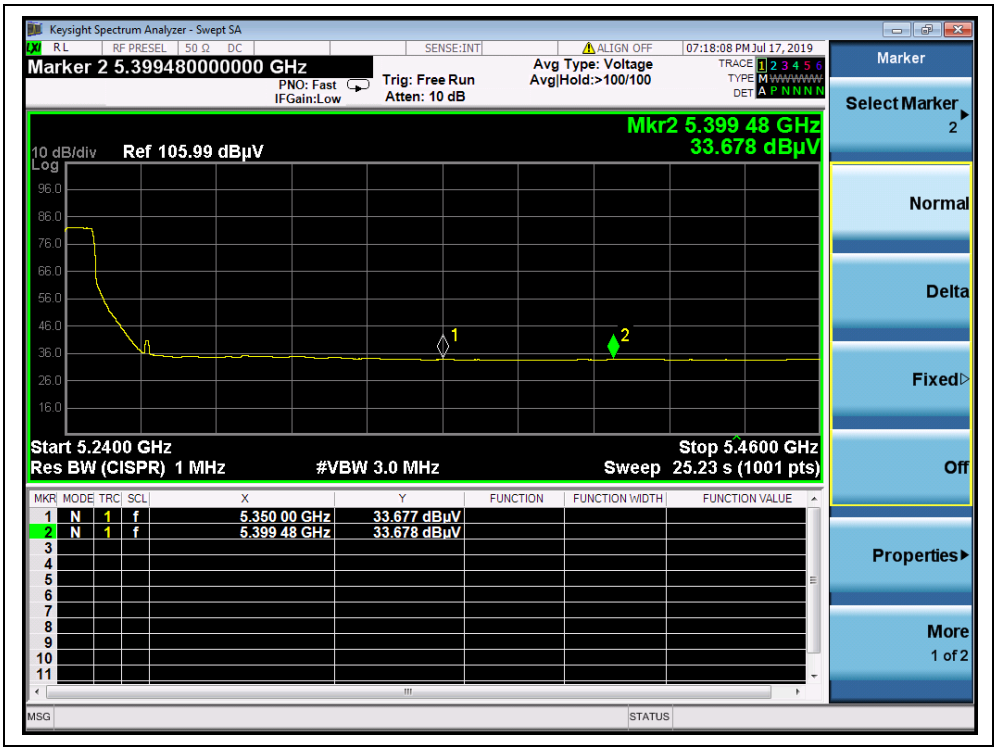

(Channel 36, PEAK, 802.11a)




(Channel 36, AVG, 802.11a)

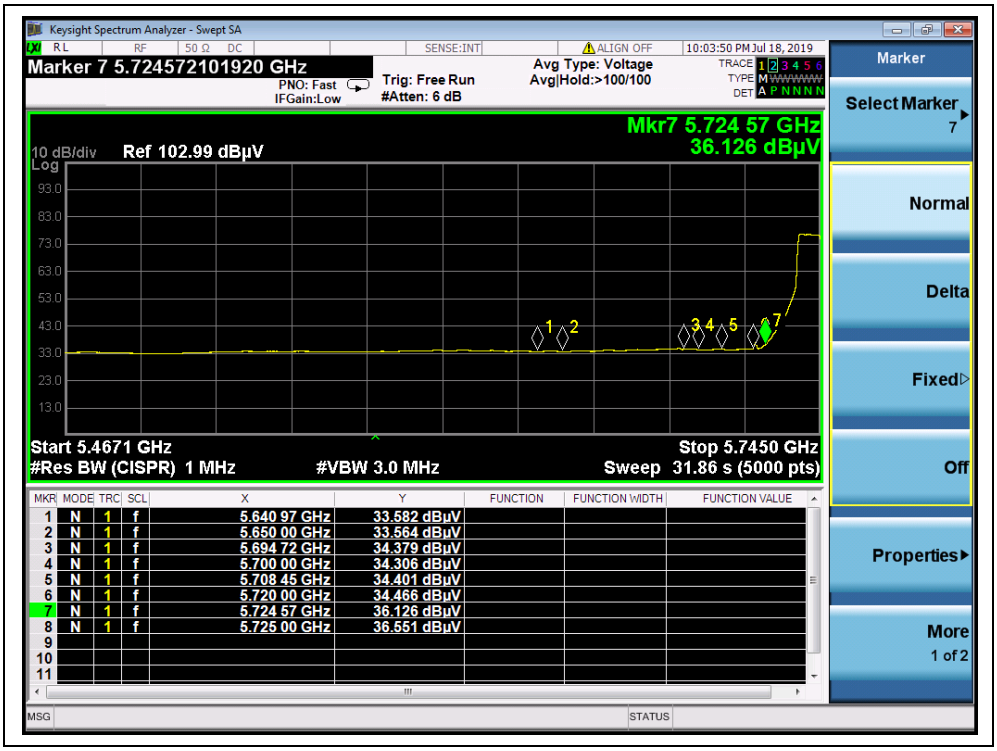



(Channel 48, PEAK, 802.11a)

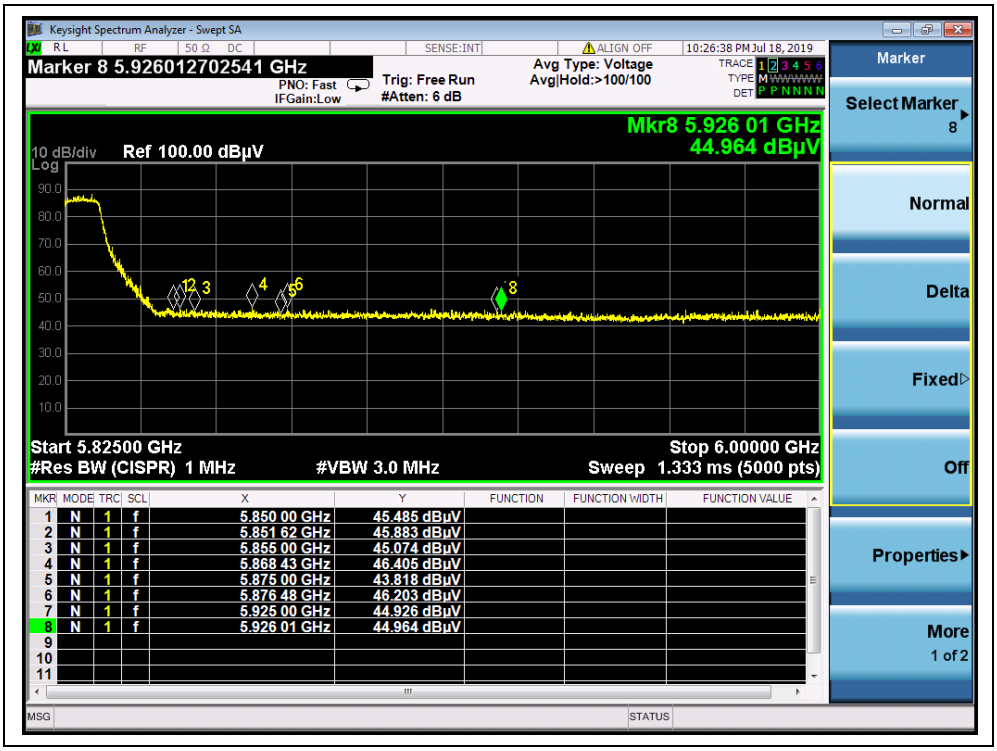



(Channel 48, AVG, 802.11a)

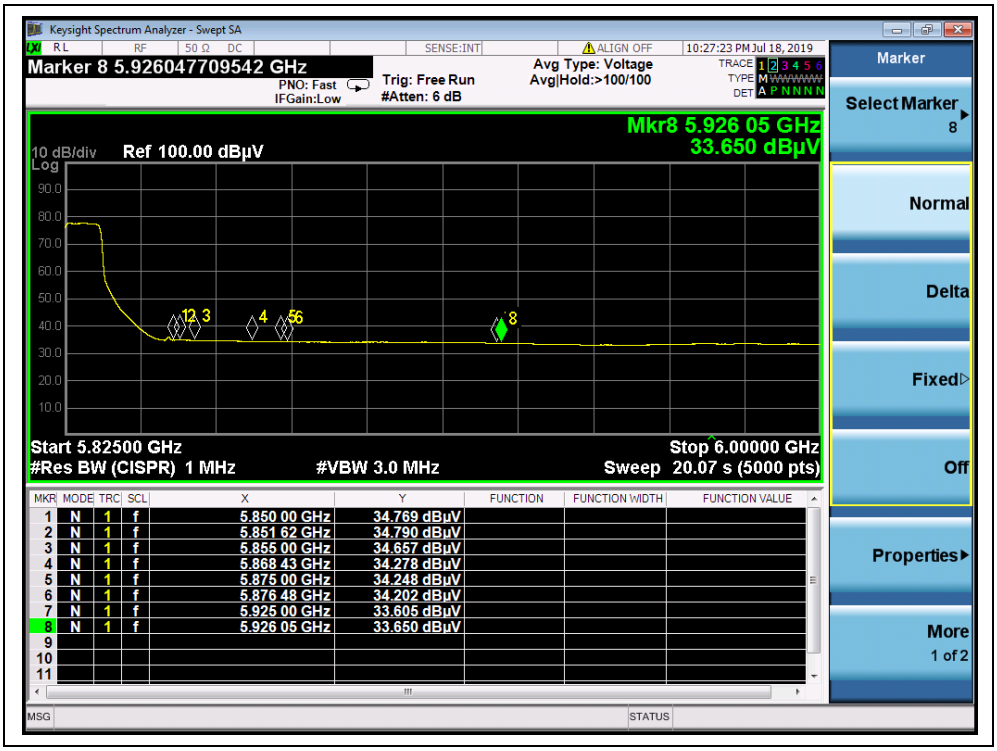

(Channel 149, PEAK, 802.11a)




(Channel 149, AVG, 802.11a)




(Channel 165, PEAK, 802.11a)



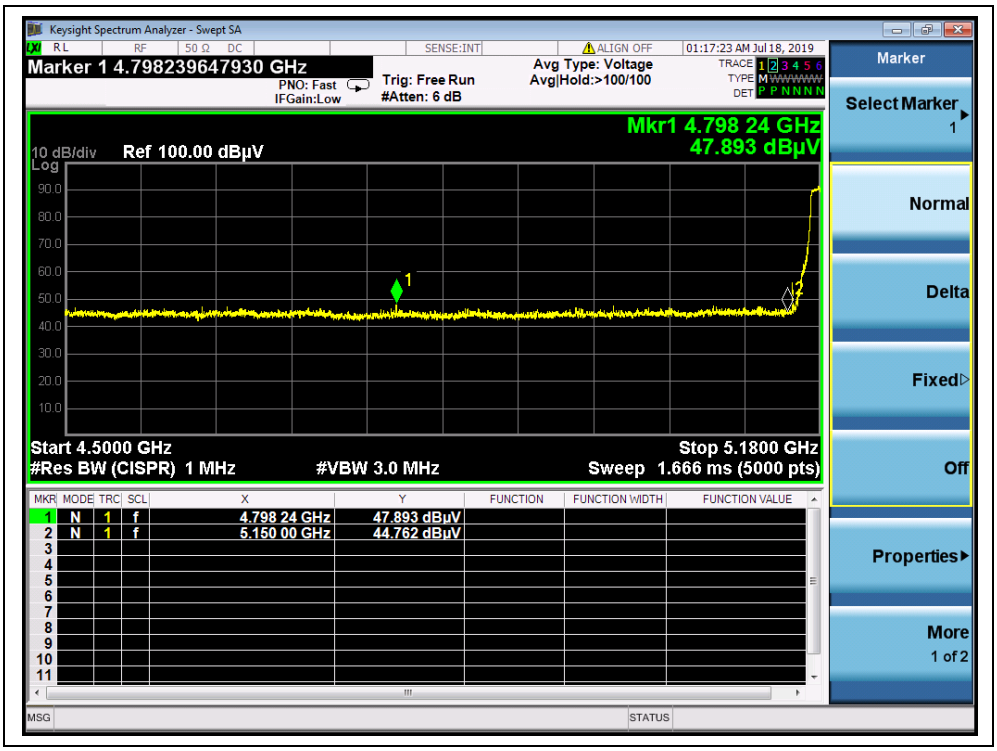

(Channel 165, AVG, 802.11a)

**802.11n (HT20) Test mode**

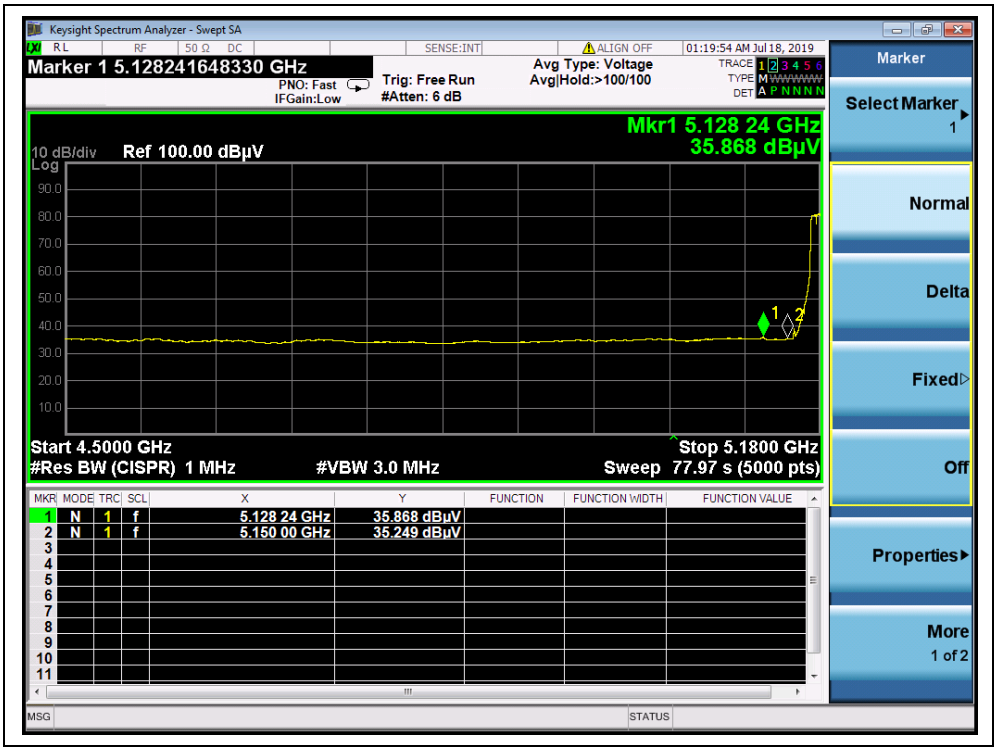
**A. Test Verdict:**

| 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 | 4798.24 | PK | 47.89 | -26.92 | 32.20 | 53.17 | 74 | PASS |
| 36 | 5128.24 | AV | 35.87 | -26.92 | 32.20 | 41.15 | 54 | PASS |
| 48 | 5407.78 | PK | 45.42 | -26.92 | 32.20 | 50.70 | 74 | PASS |
| 48 | 5411.57 | AV | 33.42 | -26.92 | 32.20 | 38.70 | 54 | PASS |
| 149 | 5717.64 | PK | 53.90 | -26.23 | 32.20 | 59.87 | 110.17 | PASS |
| 149 | 5720.96 | AV | 38.71 | -26.23 | 32.20 | 44.68 | 54 | PASS |
| 165 | 5861.01 | PK | 45.58 | -26.23 | 32.20 | 51.55 | 94.00 | PASS |
| 165 | 5850.00 | AV | 34.81 | -26.23 | 32.20 | 40.78 | 54 | PASS |

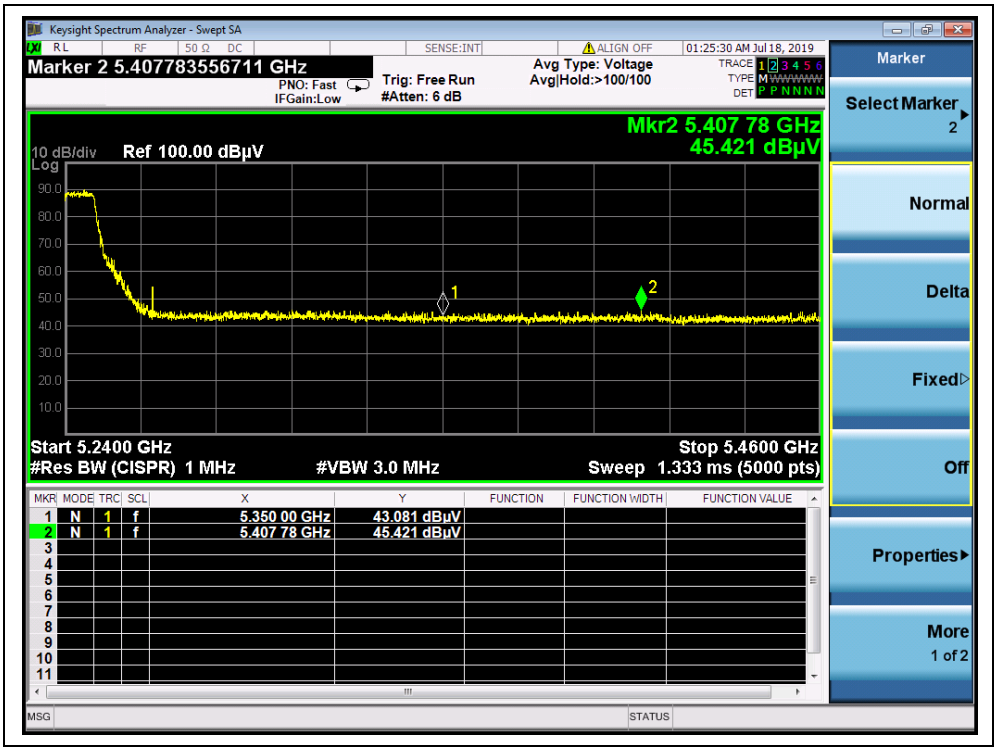
**B. Test Plots:**



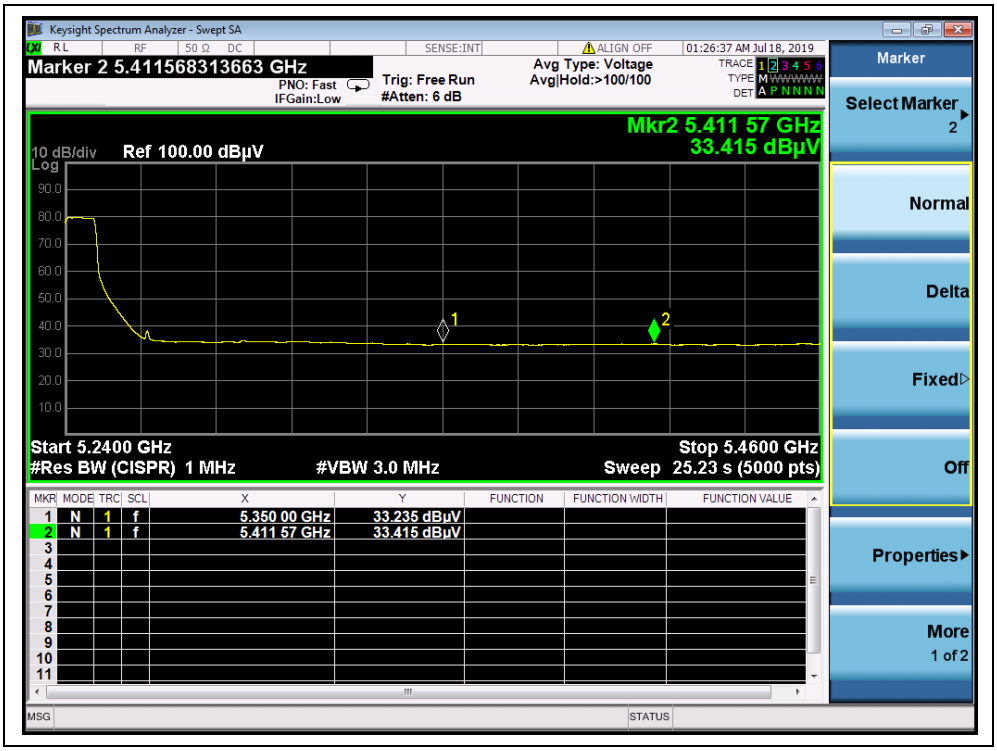

(Channel 36, PEAK, 802.11n (HT20))



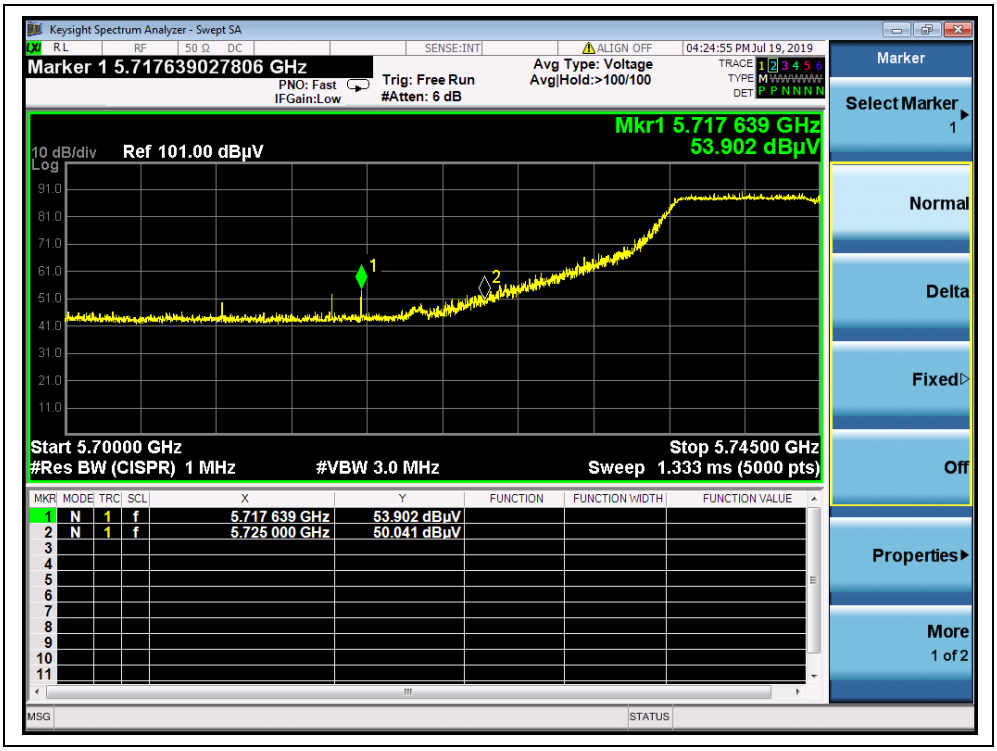

(Channel 36, AVG, 802.11 n (HT20))



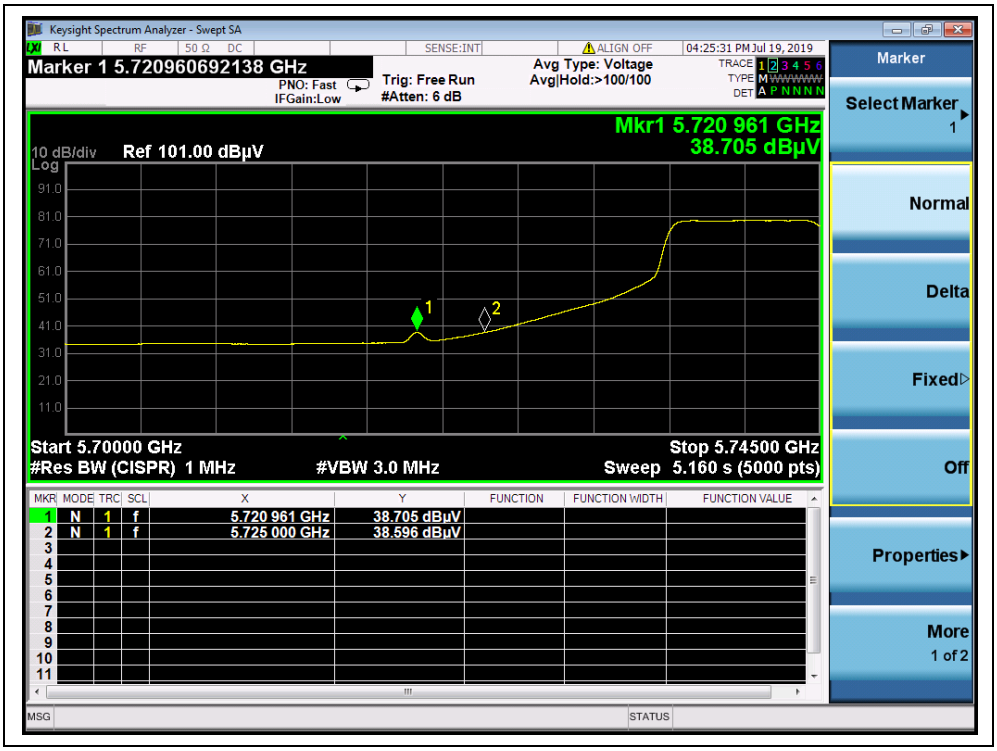

(Channel 48, PEAK, 802.11 n (HT20))



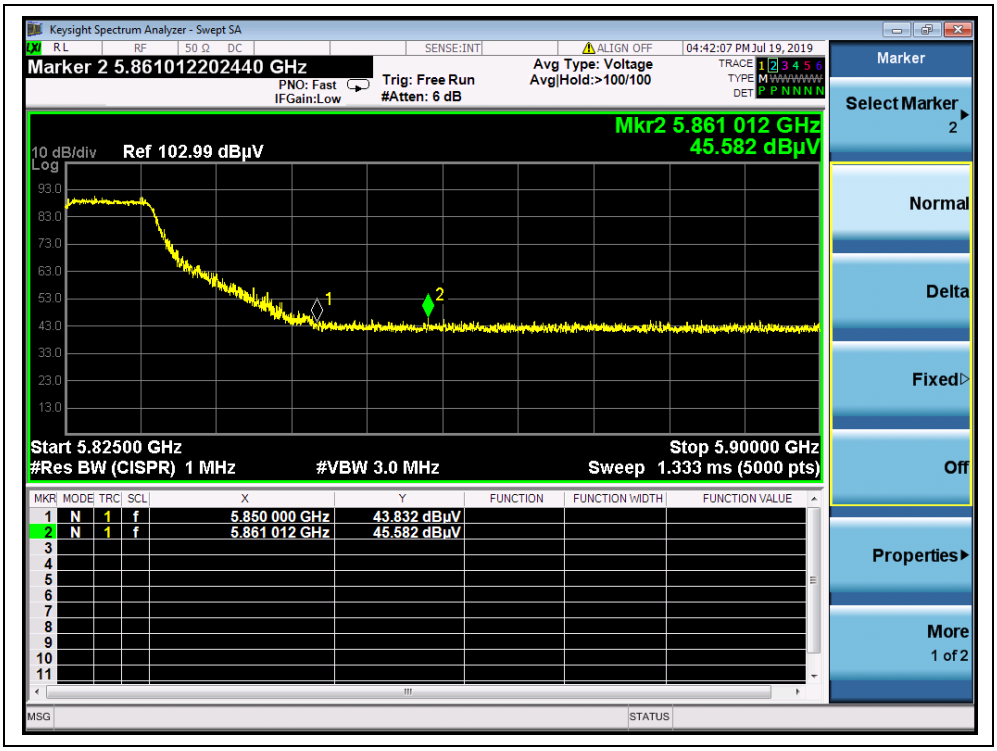

(Channel 48, AVG, 802.11n (HT20))



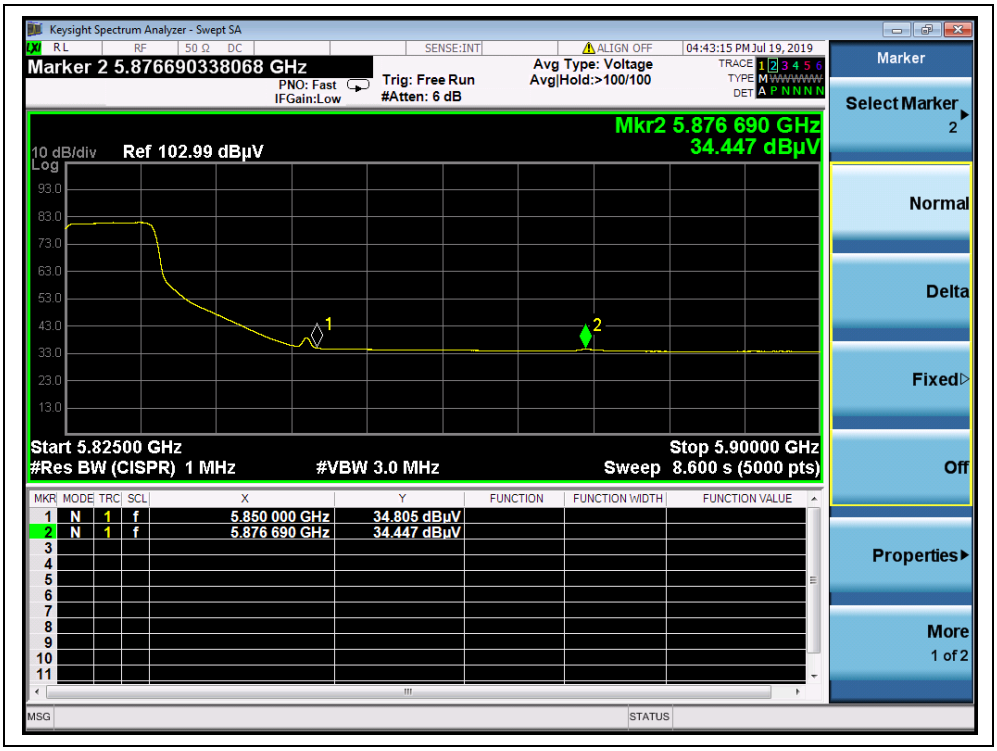

(Channel 149, PEAK, 802.11 n (HT20))




(Channel 149, AVG, 802.11n (HT20))




(Channel 165, PEAK, 802.11 n (HT20))



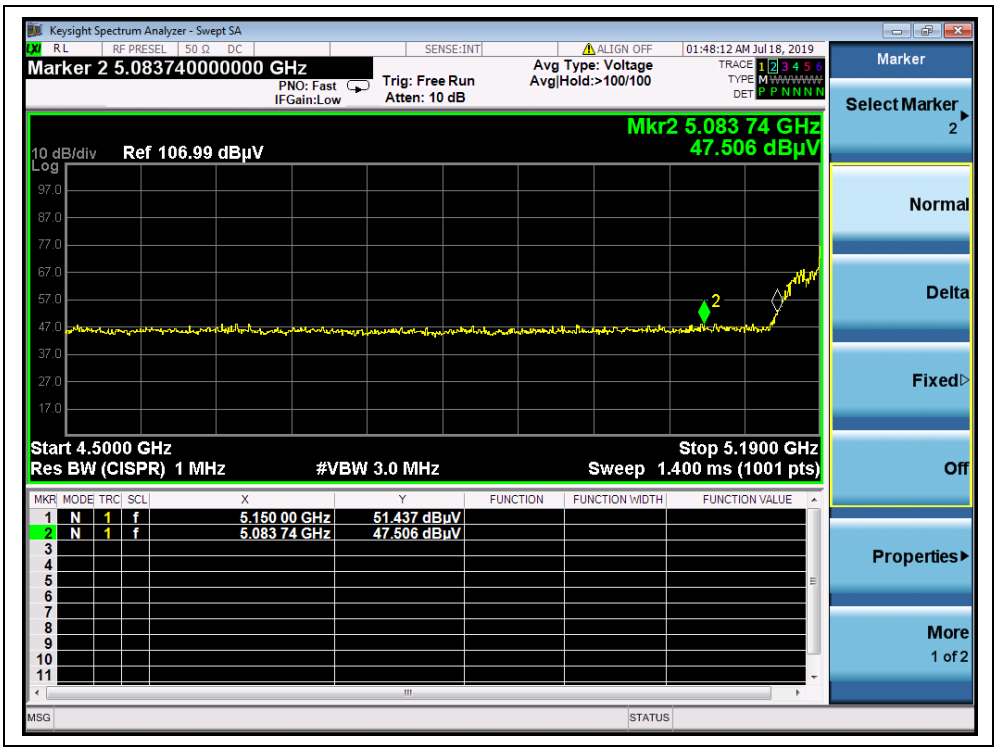

(Channel 165, AVG, 802.11n (HT20))

**802.11n (HT40) Test mode**

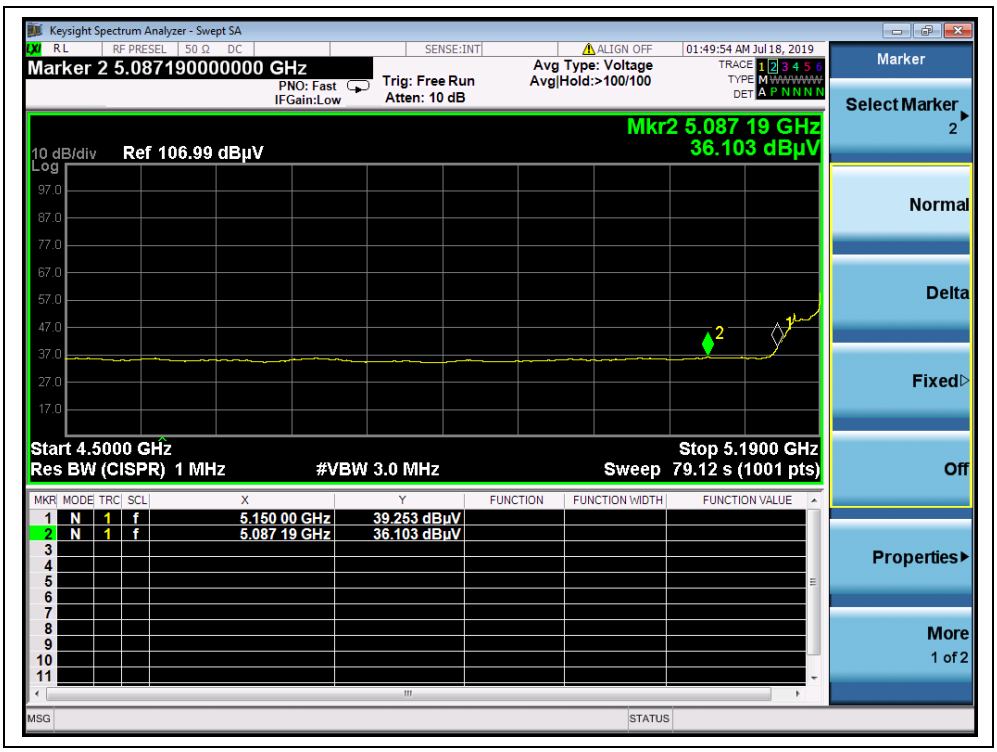
**A. Test Verdict:**

| 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 | 5150.00 | PK | 51.44 | -26.92 | 32.20 | 56.72 | 74 | PASS |
| 38 | 5150.00 | AV | 39.25 | -26.92 | 32.20 | 44.53 | 54 | PASS |
| 46 | 5389.98 | PK | 46.13 | -26.92 | 32.20 | 51.41 | 74 | PASS |
| 46 | 5400.10 | AV | 33.24 | -26.92 | 32.20 | 38.52 | 54 | PASS |
| 151 | 5724.34 | PK | 56.48 | -26.23 | 32.20 | 62.45 | 120.72 | PASS |
| 151 | 5725.00 | AV | 43.84 | -26.23 | 32.20 | 49.81 | 54 | PASS |
| 159 | 5859.99 | PK | 47.51 | -26.23 | 32.20 | 53.48 | 96.86 | PASS |
| 159 | 5850.00 | AV | 35.85 | -26.23 | 32.20 | 41.82 | 54 | PASS |

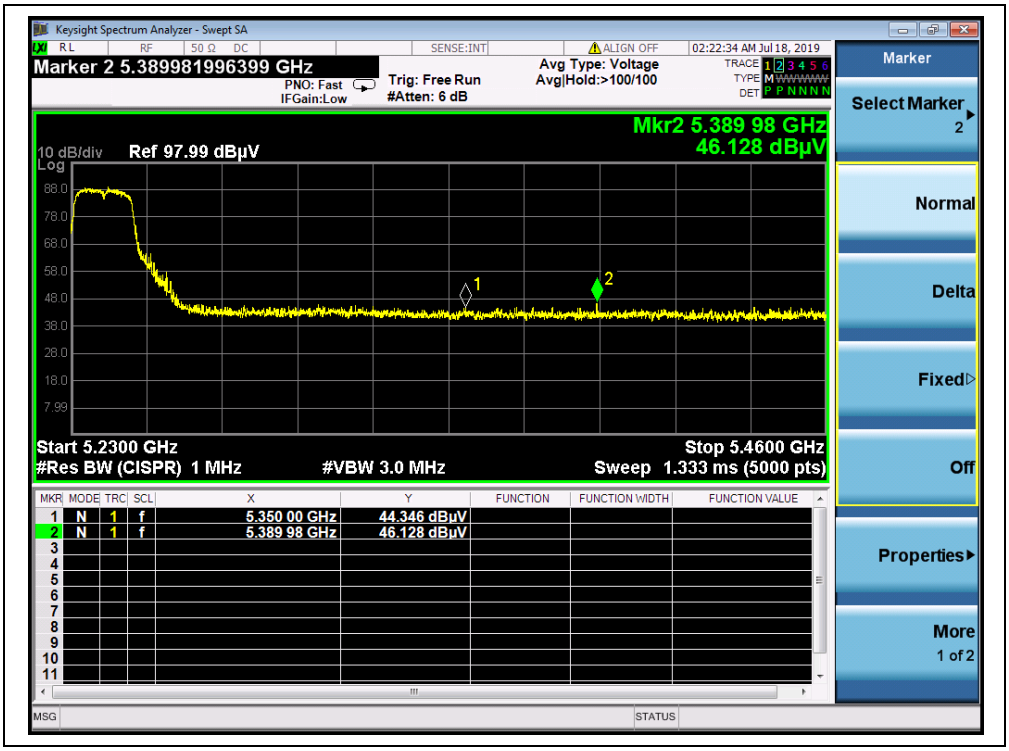
## B. Test Plots:



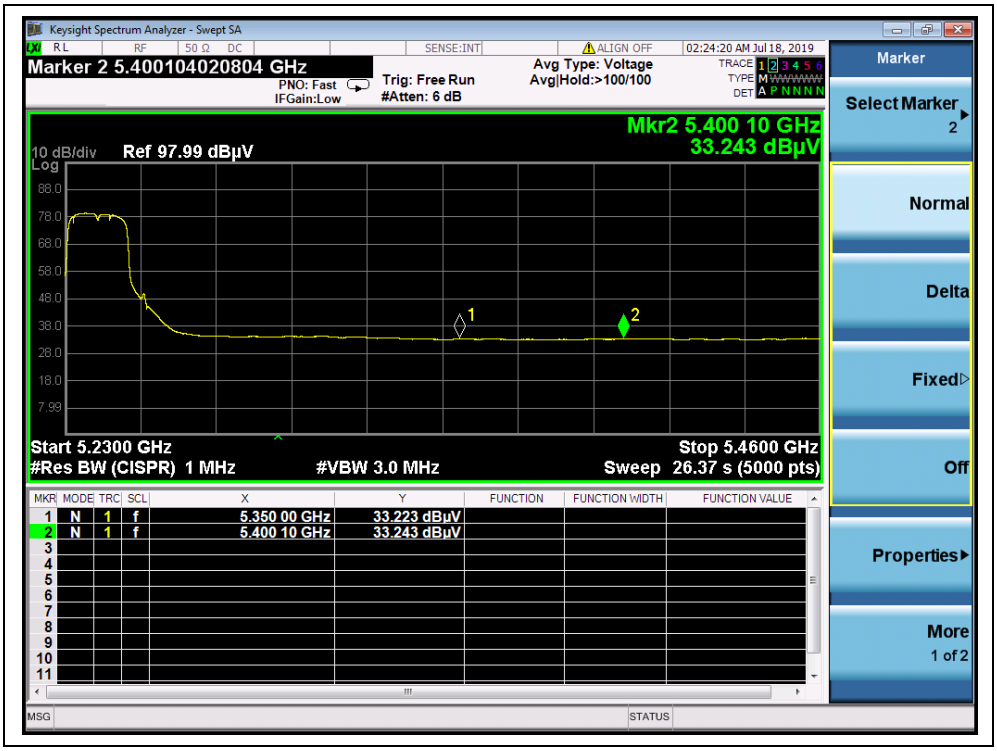

(Channel 38, PEAK, 802.11n (HT40))




(Channel 38, AVG, 802.11n (HT40))

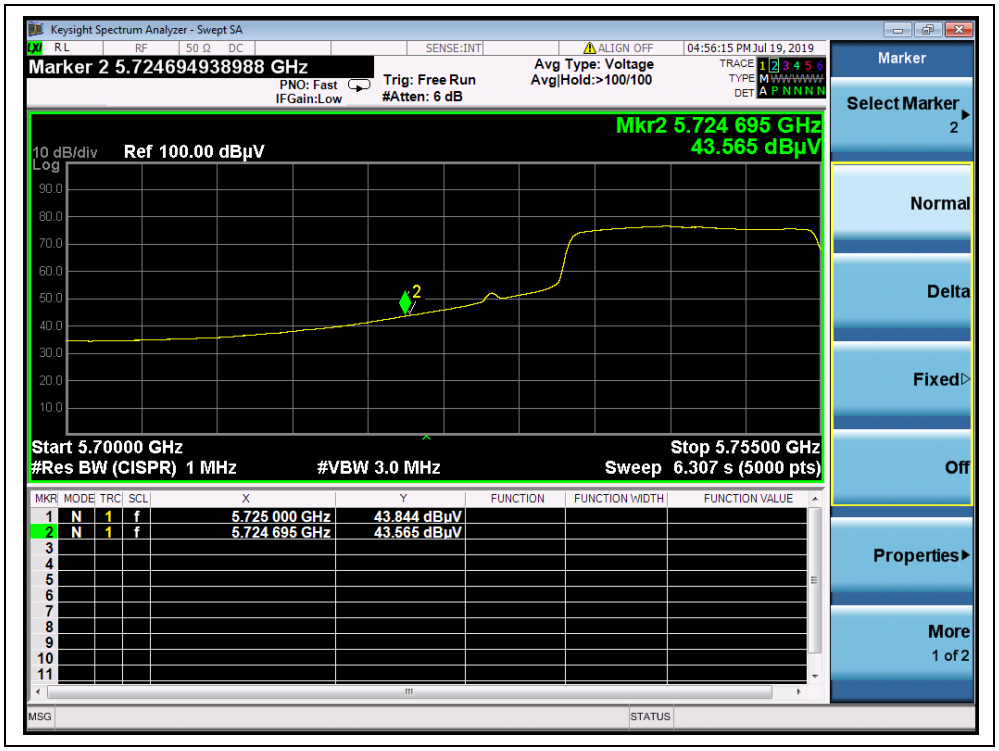



(Channel 46, PEAK, 802.11n (HT40))

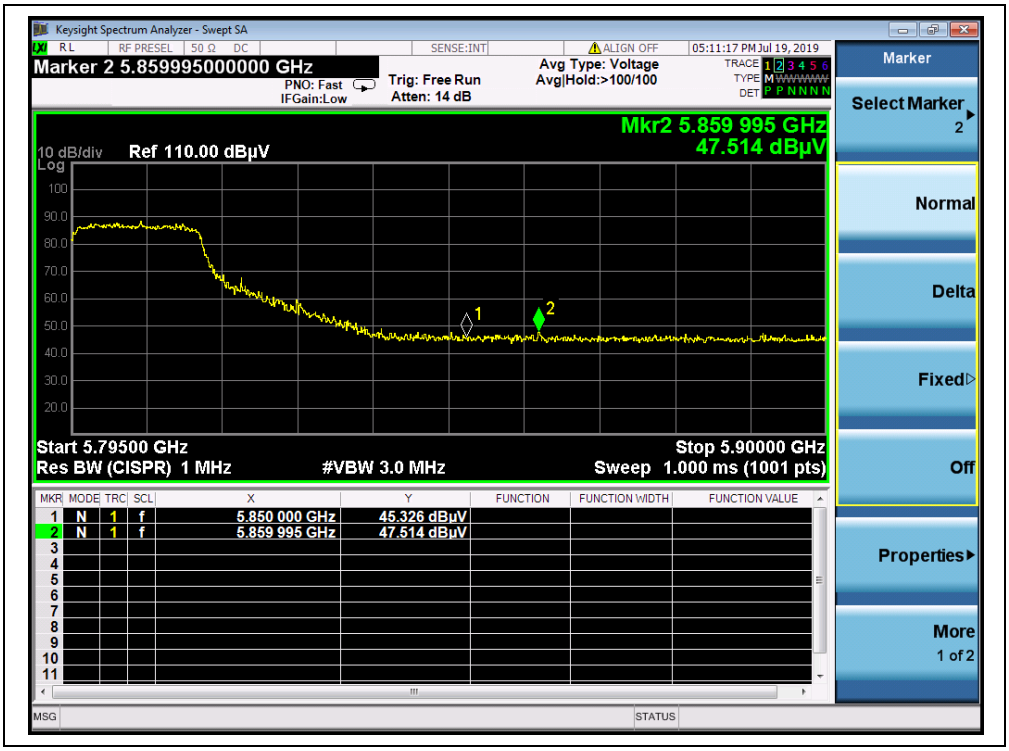



(Channel 46, AVG, 802.11n (HT40))

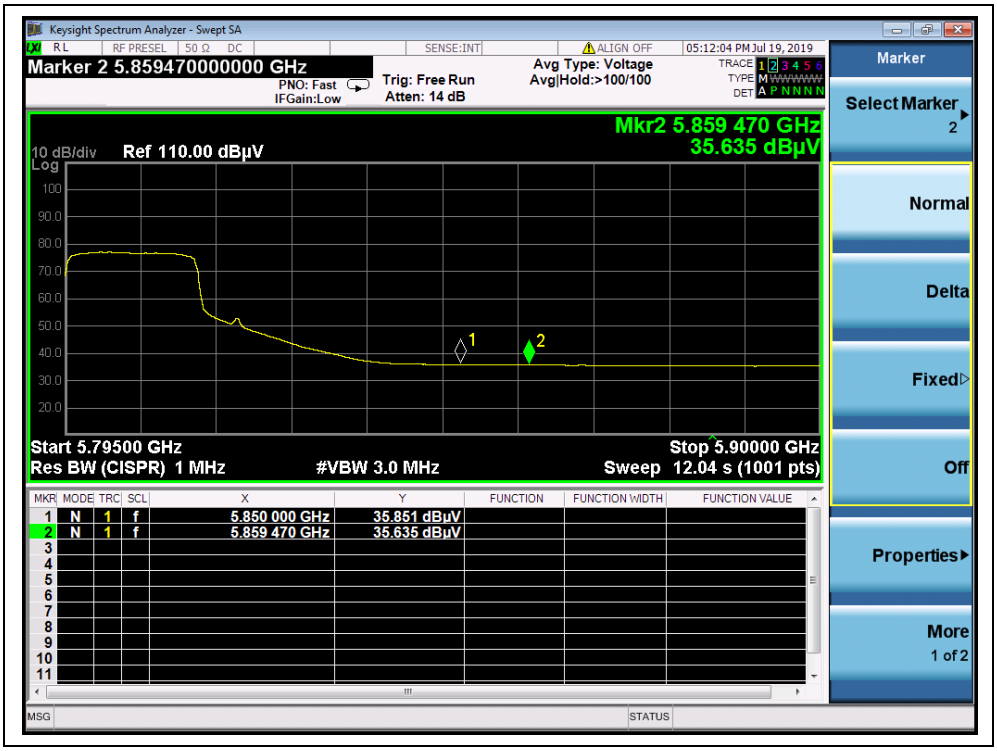

(Channel 151, PEAK, 802.11n (HT40))




(Channel 151, AVG, 802.11n (HT40))




(Channel 159, PEAK, 802.11n (HT40))



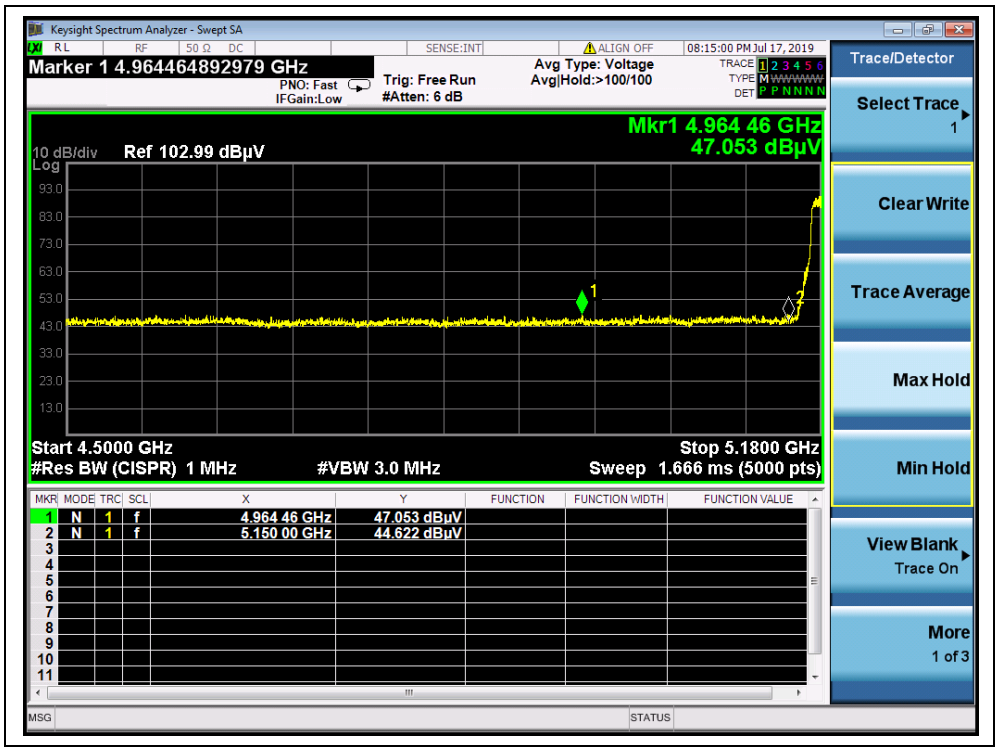

(Channel 159, AVG, 802.11n (HT40))

## 802.11 ac (VHT20) Test mode

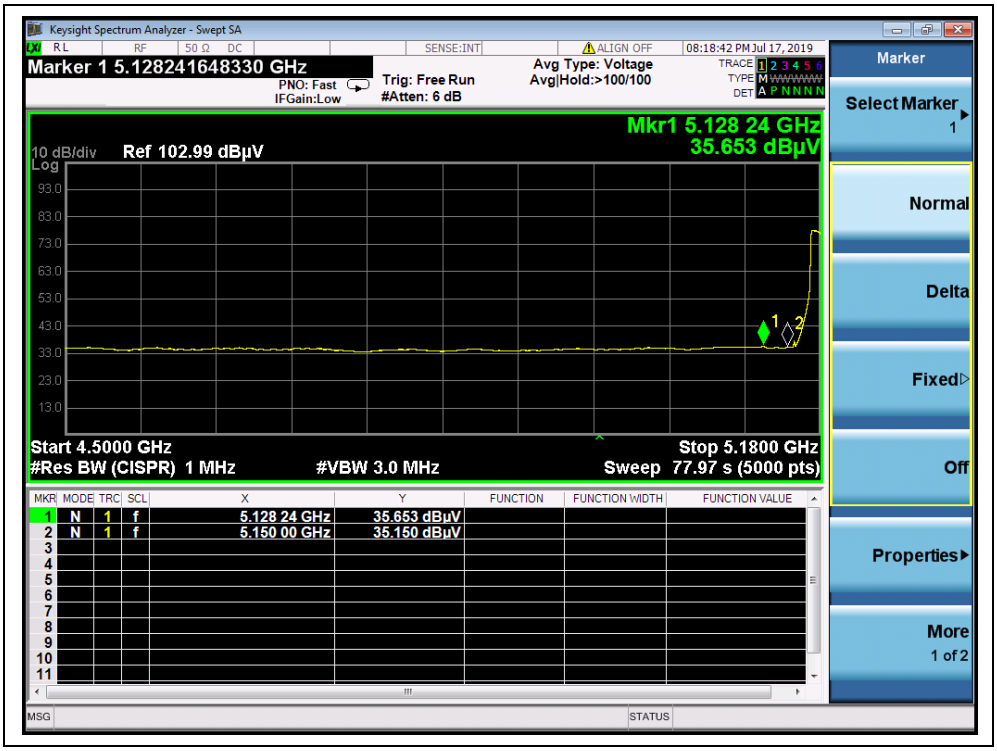
### A. Test Verdict:

| 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 | 4964.46 | PK | 47.05 | -26.92 | 32.20 | 52.33 | 74 | PASS |
| 36 | 5128.24 | AV | 35.65 | -26.92 | 32.20 | 40.93 | 54 | PASS |
| 48 | 5454.94 | PK | 45.23 | -26.92 | 32.20 | 50.51 | 74 | PASS |
| 48 | 5452.966 | AV | 33.84 | -26.92 | 32.20 | 39.12 | 54 | PASS |
| 149 | 5725.00 | PK | 54.65 | -26.23 | 32.20 | 60.62 | 122.23 | PASS |
| 149 | 5725.00 | AV | 40.24 | -26.23 | 32.20 | 46.21 | 54 | PASS |
| 165 | 5912.63 | PK | 49.48 | -26.23 | 32.20 | 55.45 | 77.38 | PASS |
| 165 | 5850.00 | AV | 35.73 | -26.23 | 32.20 | 41.70 | 54 | PASS |

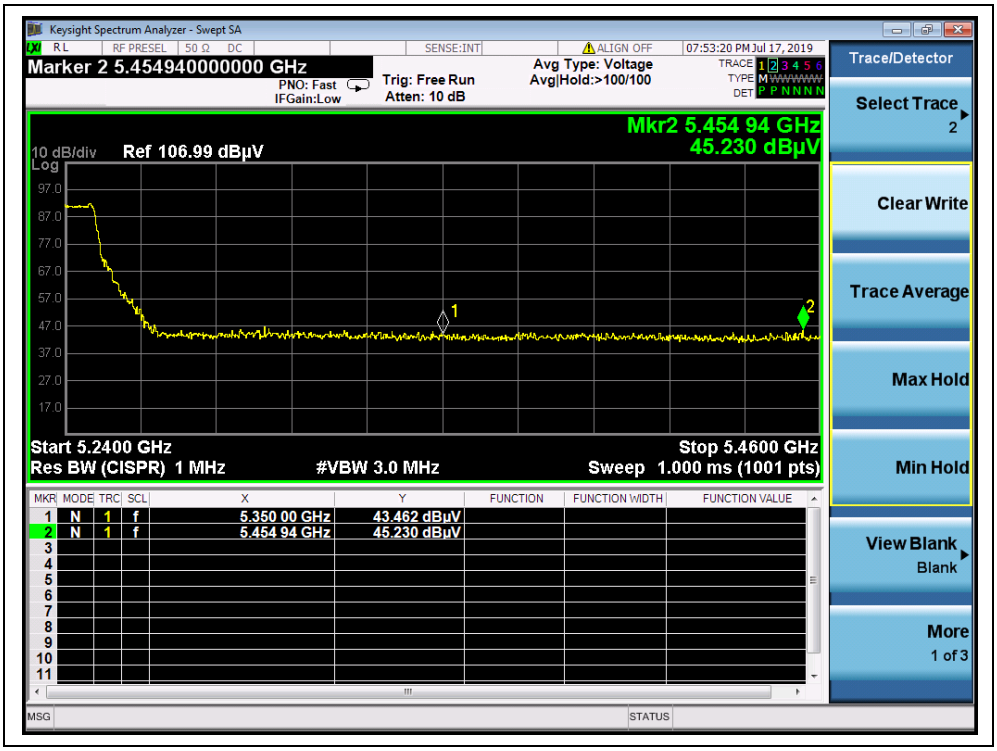
### B. Test Plots:



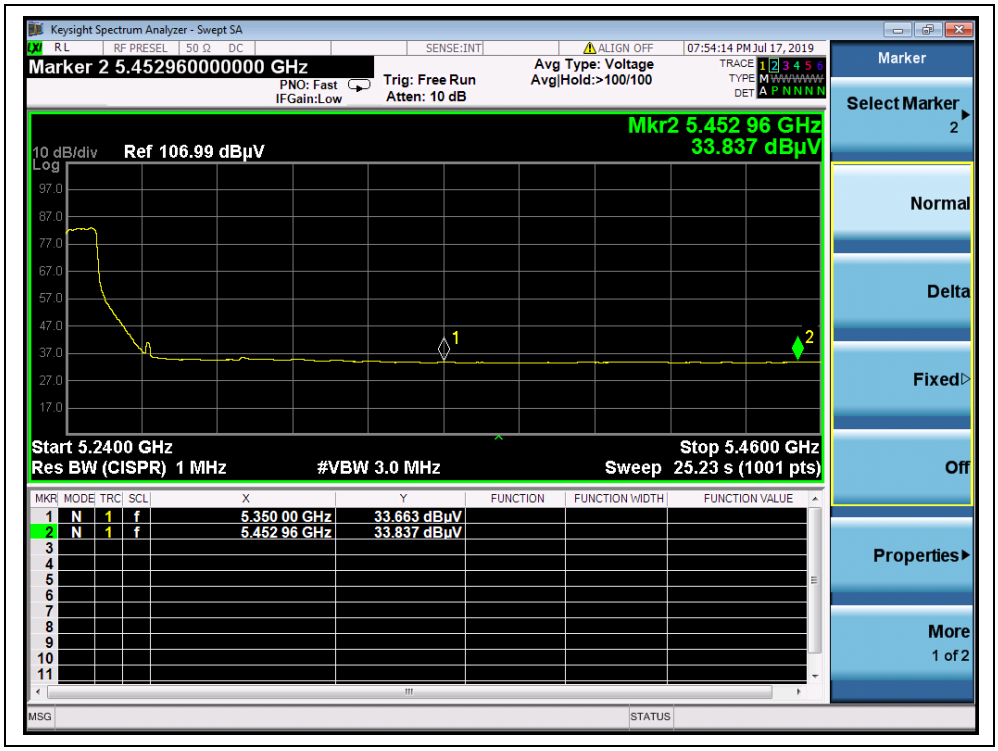

(Channel 36, PEAK, 802.11 ac (VHT20))



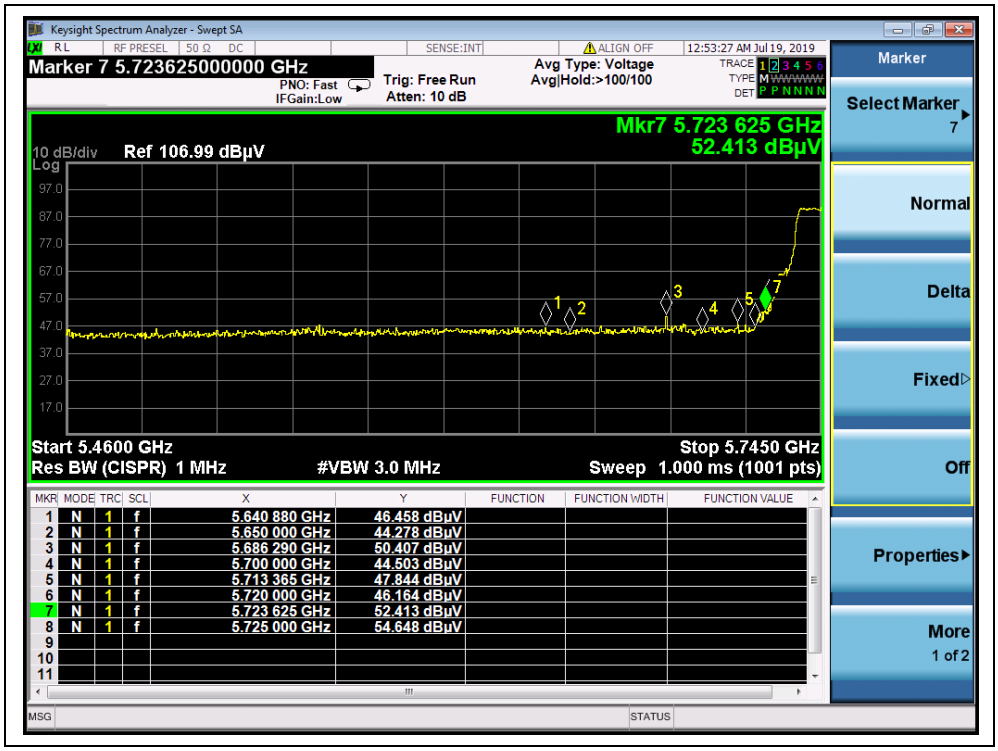

(Channel 36, AVG, 802.11 ac (VHT20))



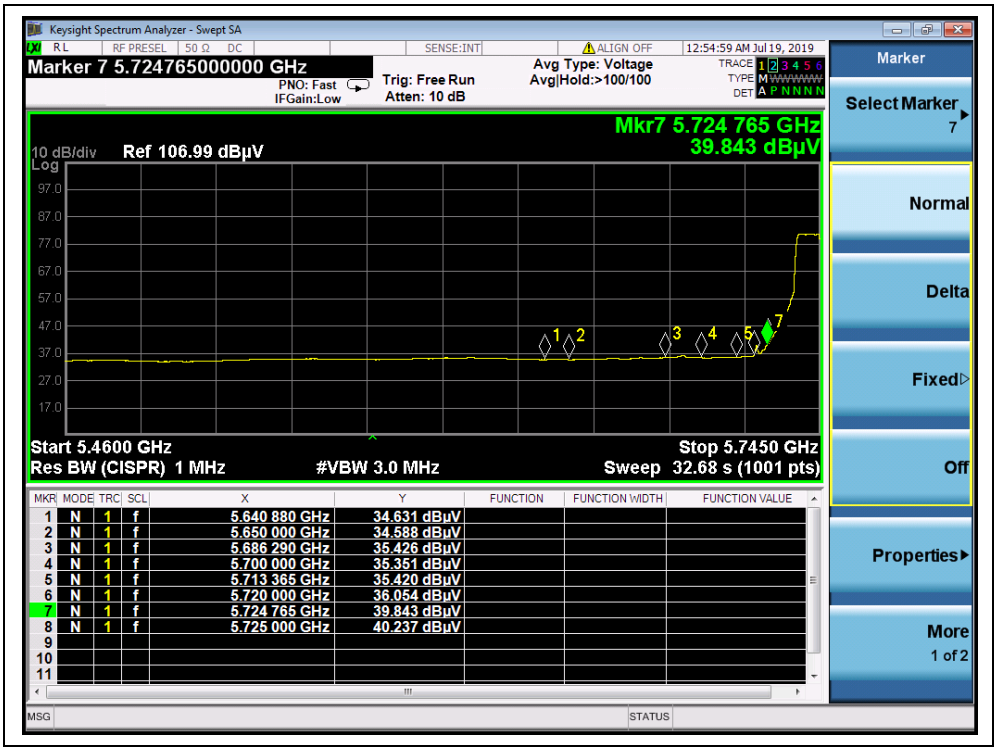

(Channel 48, PEAK, 802.11 ac (VHT20))



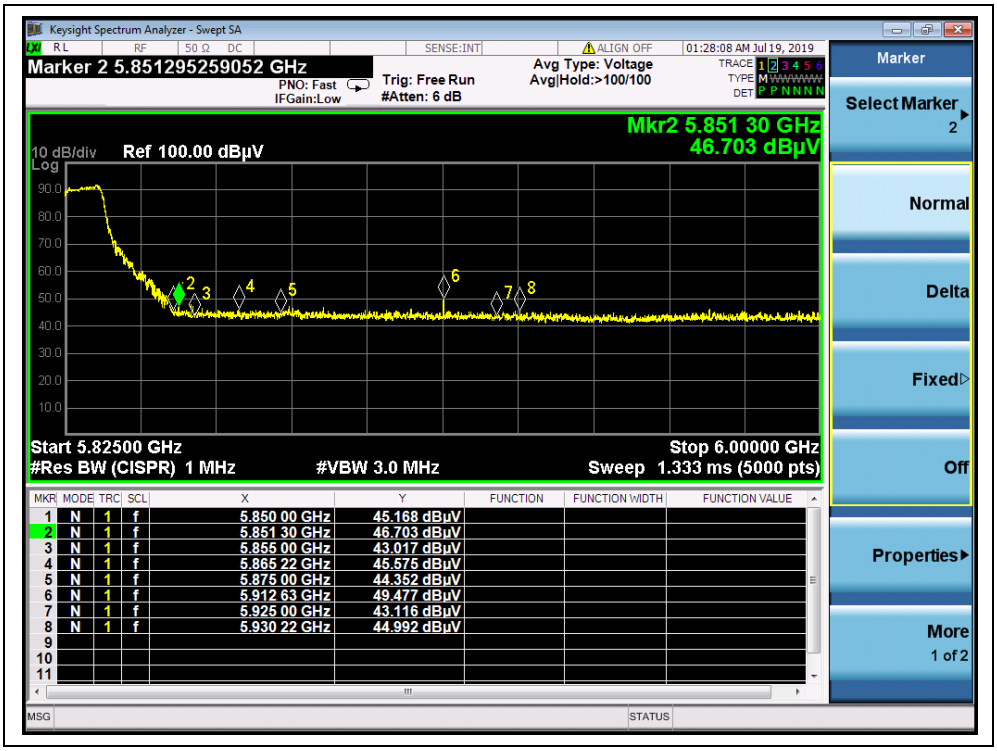

(Channel 48, AVG, 802.11 ac (VHT20))




(Channel 149, PEAK, 802.11 ac (VHT20))




(Channel 149, AVG, 802.11 ac (VHT20))




(Channel 165, PEAK, 802.11 ac (VHT20))

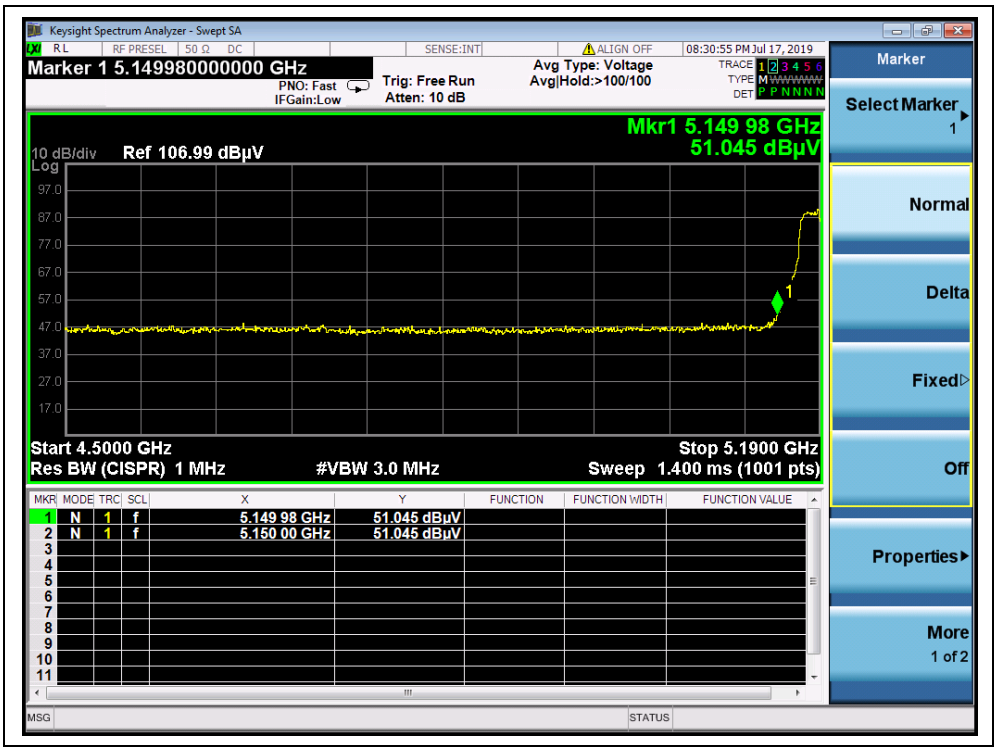

(Channel 165, AVG, 802.11ac (VHT20))

**802.11 ac (VHT40) Test mode**

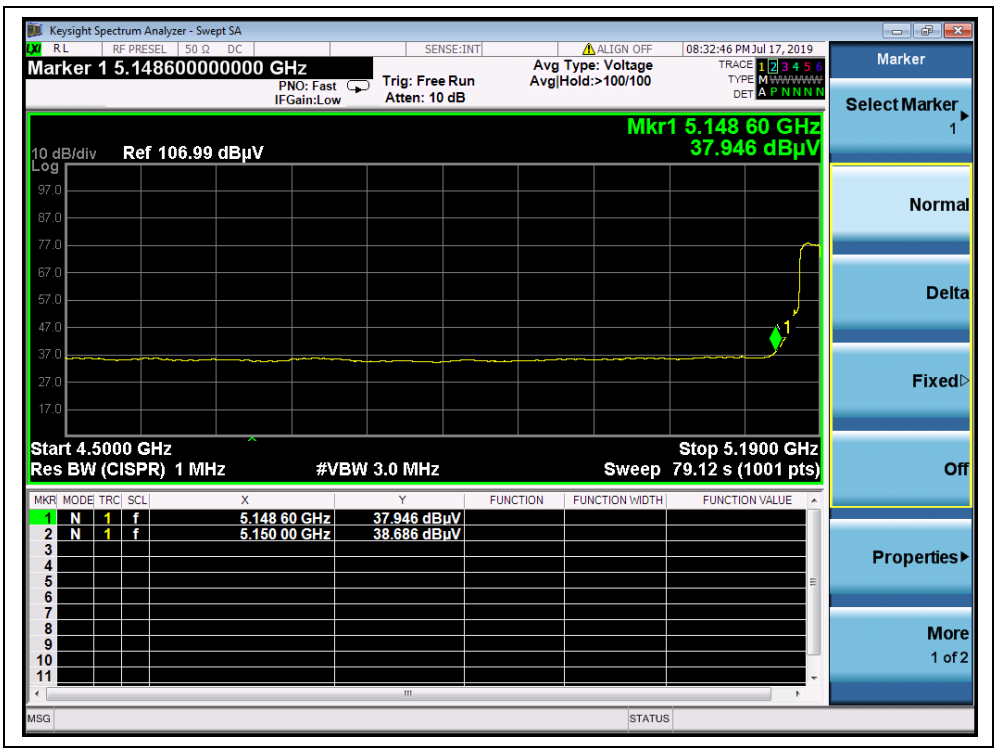
**A. Test Verdict:**

| 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 | 5150.00 | PK | 51.05 | -26.92 | 32.20 | 56.33 | 74 | PASS |
| 38 | 5150.00 | AV | 38.69 | -26.92 | 32.20 | 43.97 | 54 | PASS |
| 46 | 5355.11 | PK | 45.62 | -26.92 | 32.20 | 50.90 | 74 | PASS |
| 46 | 5350.00 | AV | 33.51 | -26.92 | 32.20 | 38.79 | 54 | PASS |
| 151 | 5724.78 | PK | 59.37 | -26.23 | 32.20 | 65.34 | 121.73 | PASS |
| 151 | 5725.00 | AV | 44.28 | -26.23 | 32.20 | 50.25 | 54 | PASS |
| 159 | 5864.41 | PK | 45.93 | -26.23 | 32.20 | 51.90 | 84.48 | PASS |
| 159 | 5853.70 | AV | 34.82 | -26.23 | 32.20 | 40.79 | 54 | PASS |

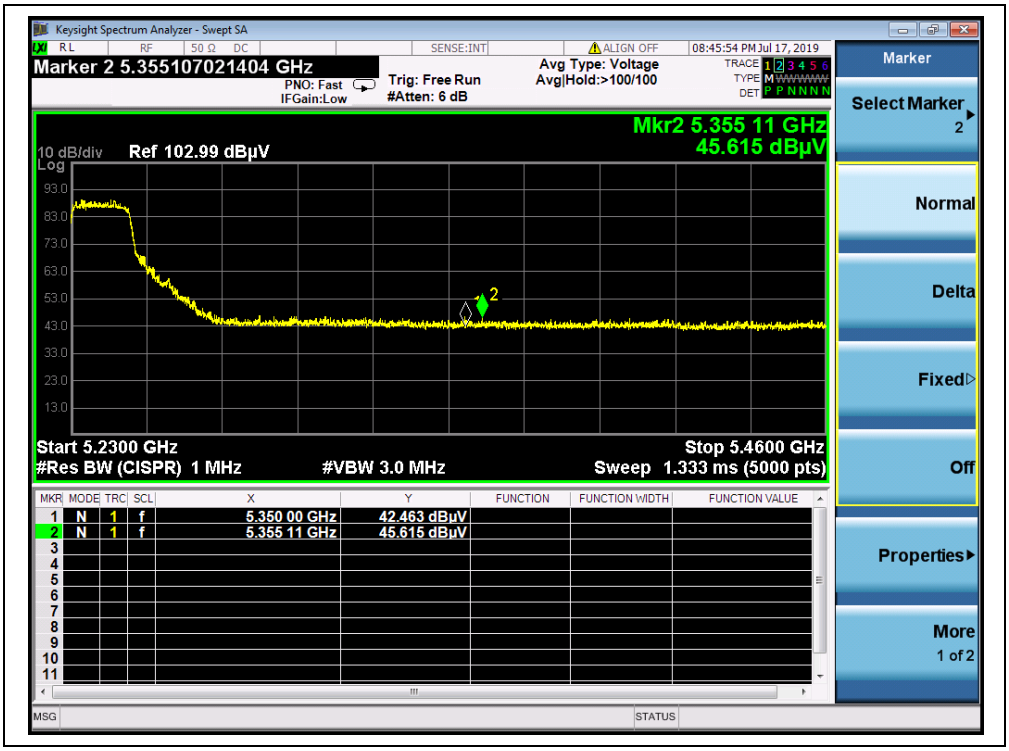
## B. Test Plots:



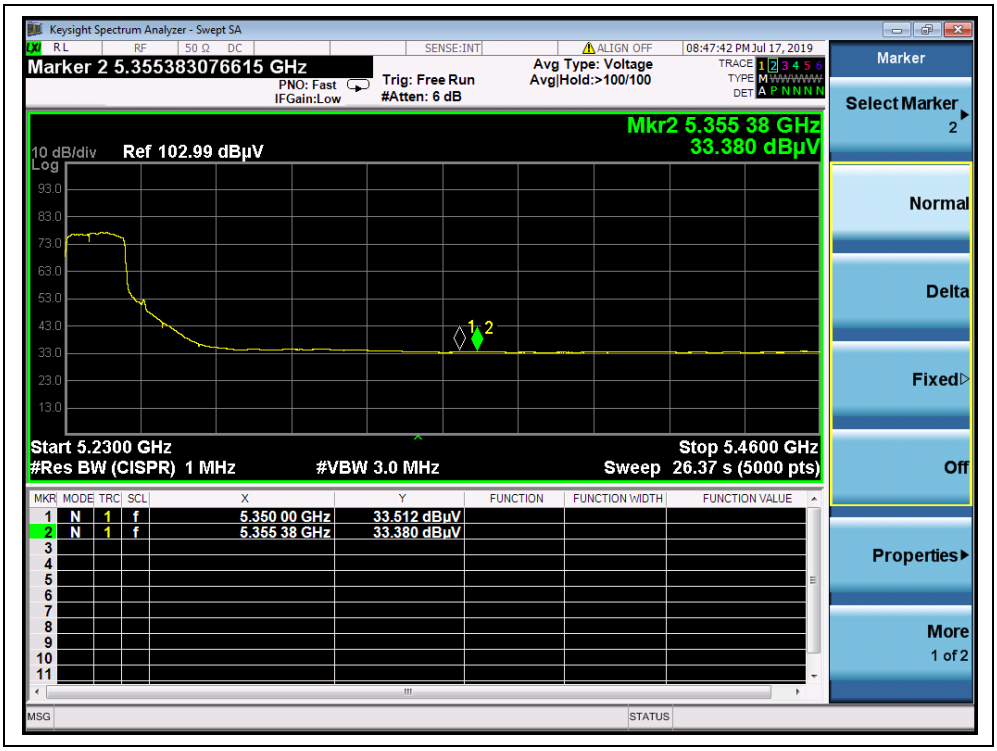

(Channel 38, PEAK, 802.11 ac (VHT40))



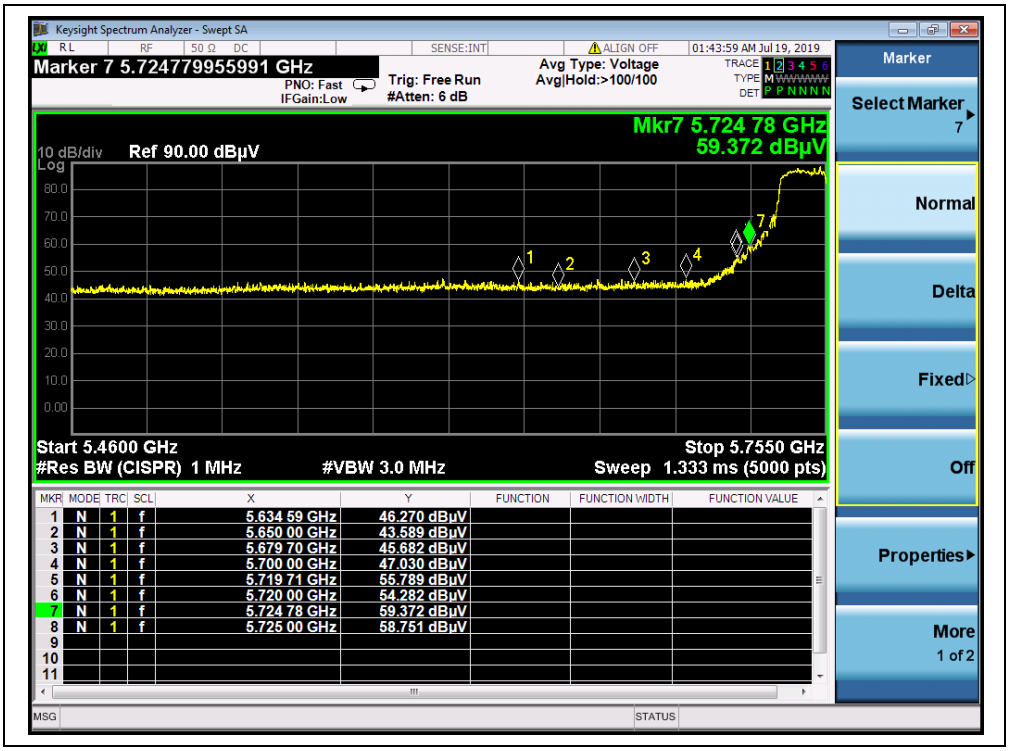

(Channel 38, AVG, 802.11 ac (VHT40))




(Channel 46, PEAK, 802.11 ac (VHT40))

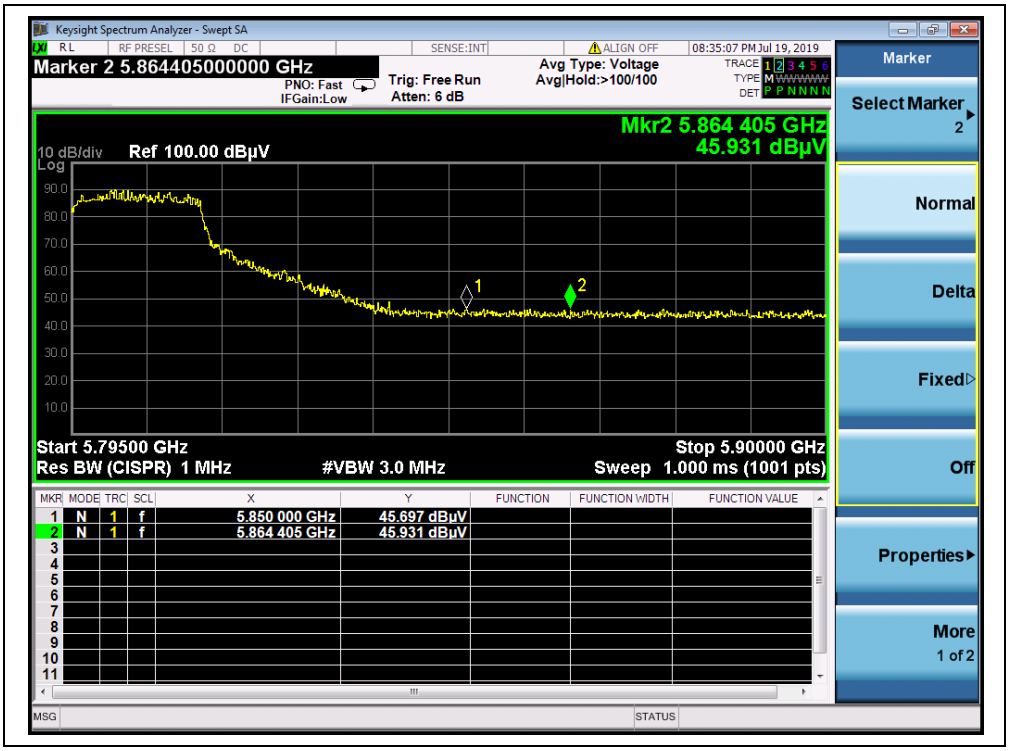



(Channel 46, AVG, 802.11 ac (VHT40))

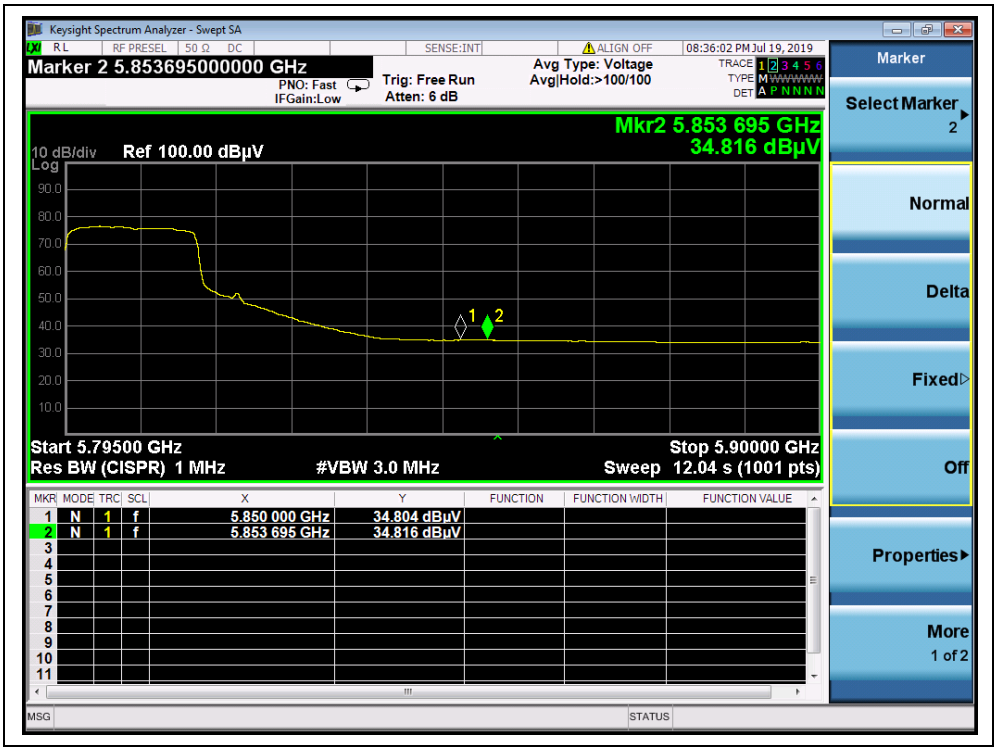



(Channel 151, PEAK, 802.11 ac (VHT40))


(Channel 151, AVG, 802.11 ac (VHT40))




(Channel 159, PEAK, 802.11 ac (VHT40))



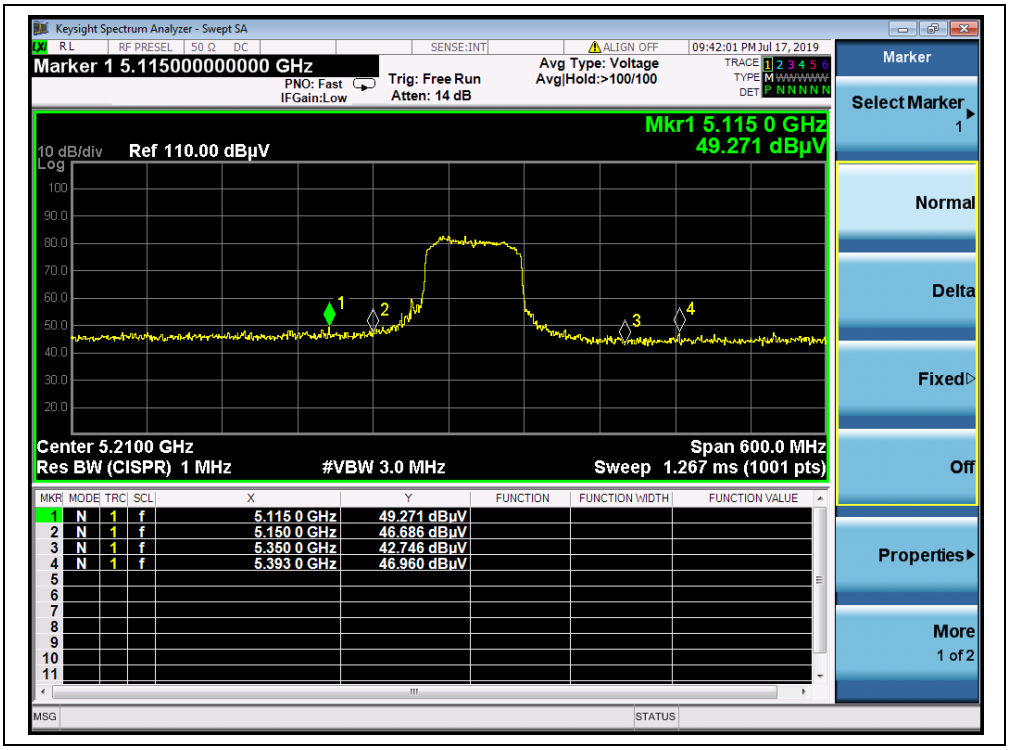

(Channel 159, AVG, 802.11ac (VHT40))

**802.11 ac (VHT80) Test mode**

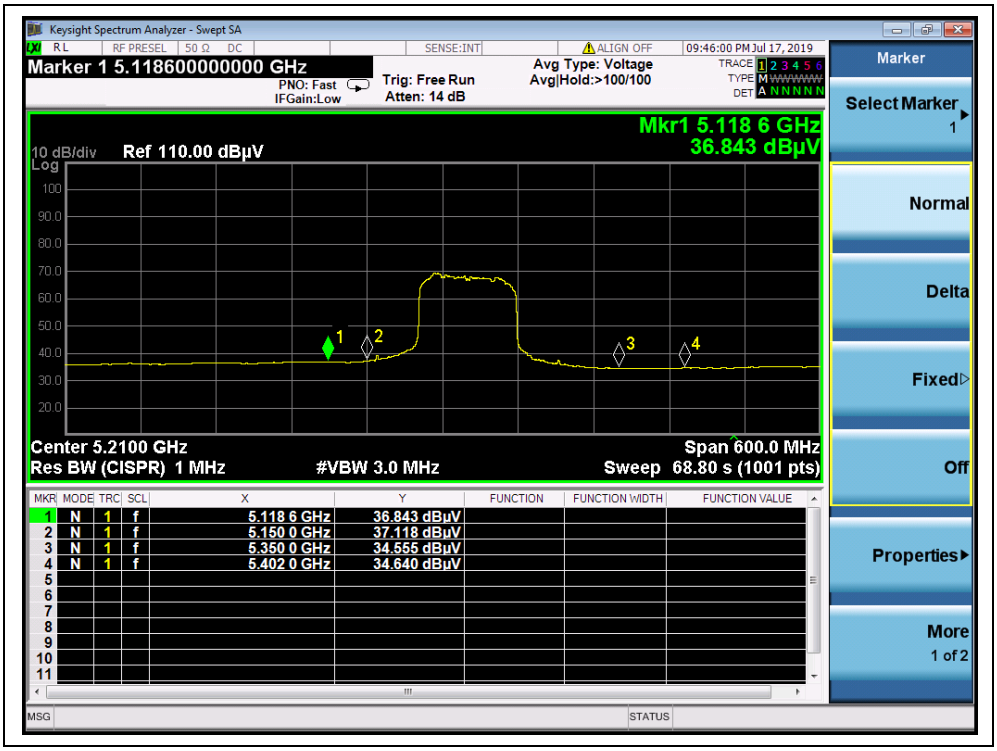
**A. Test Verdict:**

| 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 | 5115.00 | PK | 49.27 | -26.92 | 32.20 | 54.55 | 74 | PASS |
| 42 | 5150.00 | AV | 37.12 | -26.92 | 32.20 | 42.40 | 54 | PASS |
| 42 | 5393.00 | PK | 46.96 | -26.92 | 32.20 | 52.24 | 74 | PASS |
| 42 | 5402.00 | AV | 34.64 | -26.92 | 32.20 | 39.92 | 54 | PASS |
| 155 | 5725.00 | PK | 60.16 | -26.23 | 32.20 | 66.13 | 122.23 | PASS |
| 155 | 5725.00 | AV | 40.92 | -26.23 | 32.20 | 46.89 | 54 | PASS |
| 155 | 5852.76 | PK | 47.47 | -26.23 | 32.20 | 53.44 | 115.94 | PASS |
| 155 | 5851.80 | AV | 35.67 | -26.23 | 32.20 | 41.64 | 54 | PASS |

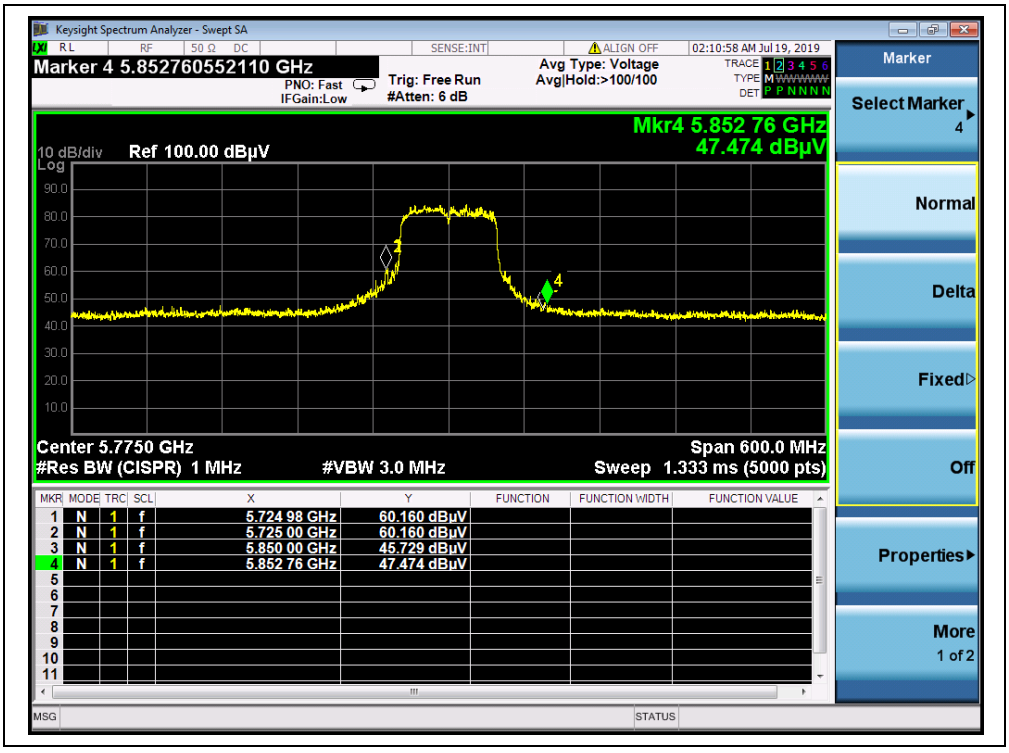
**B. Test Plots:**



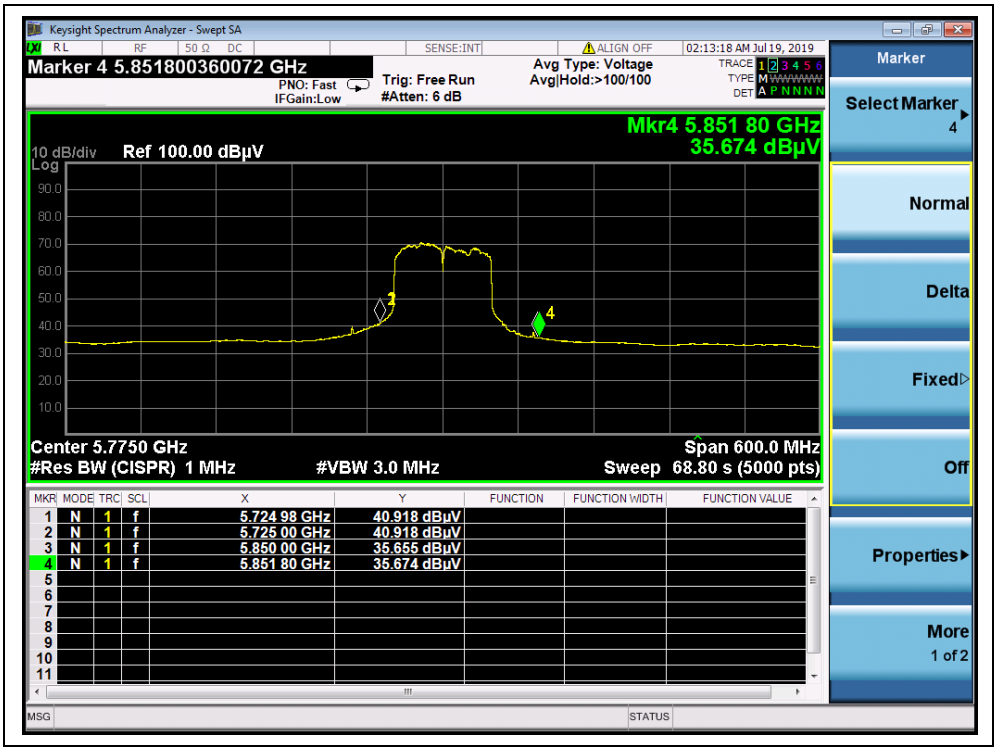

(Channel 42, PEAK, 802.11 ac (VHT80))




(Channel 42, AVG, 802.11 ac (VHT80))




(Channel 155, PEAK, 802.11 ac (VHT80))




(Channel 155, AVG, 802.11ac (VHT80))

# 2.9. Radiated Emission

### 2.9.1. 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:**

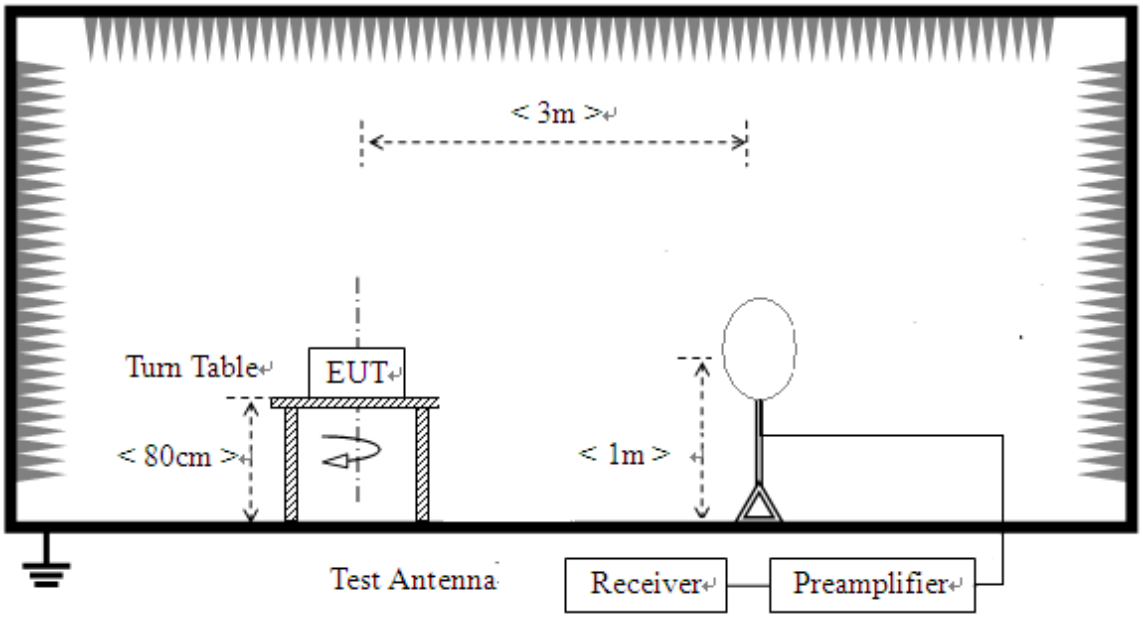
For Above 1000MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.

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)

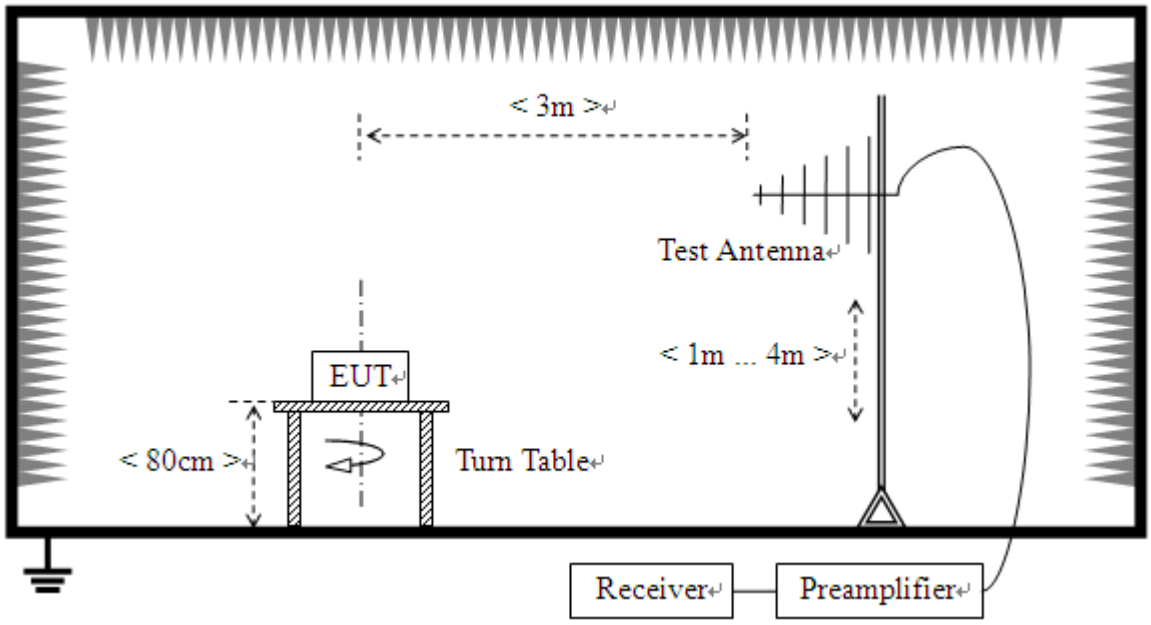
### 2.9.2. Test Description

**A. Test Setup:**

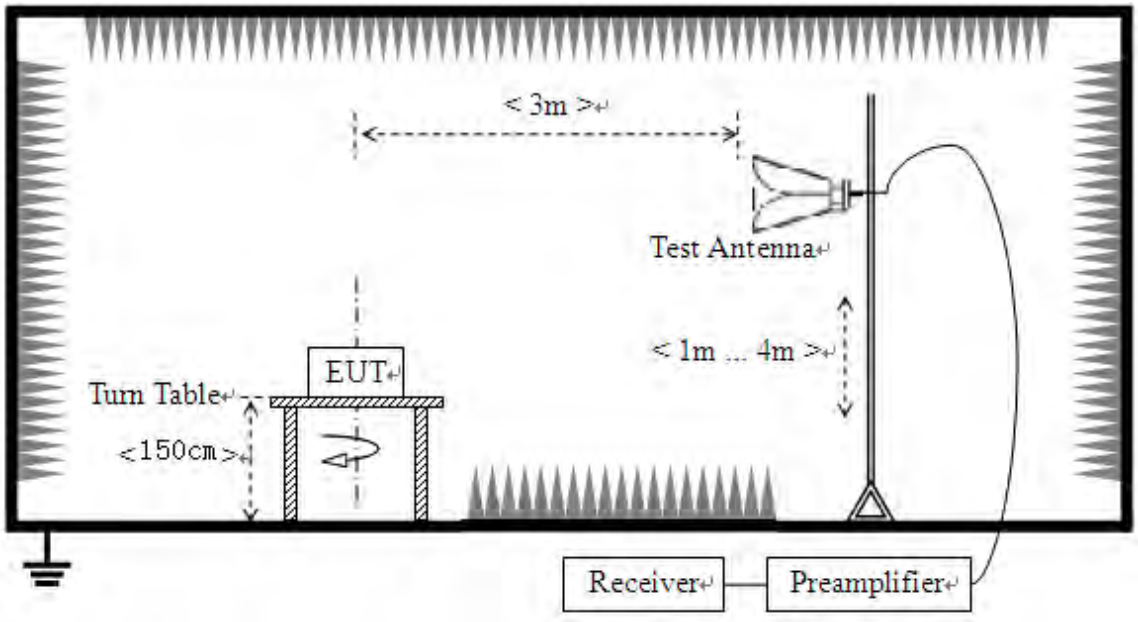
1) For radiated emissions from 9kHz to 30MHz



2) For radiated emissions from 30MHz to1GHz




3) For radiated emissions above 1GHz




The RF absorbing material used on the reference ground plane and on the turntable have a maximum height (thickness) of 30 cm (12 in) and have a minimum-rated attenuation of 20 dB at all frequencies from 1 GHz to 18 GHz.

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

was set-up on insulator 150cm above the Ground Plane. The set-up and test methods were according to ANSI C63.10

For the radiated emission test above 1GHz:

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

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

For the Test Antenna:

(a) In the frequency range of 9kHz to 30MHz, magnetic field is measured with Loop Test Antenna. The Test Antenna is positioned with its plane vertical at 1m distance from the EUT. The center of the Loop Test Antenna is 1m above the ground. During the measurement the Loop Test Antenna rotates about its vertical axis for maximum response at each azimuth about the EUT.
(b) In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Place the test antenna at 3m away from area of the EUT, while keeping the test antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The test antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final test antenna elevation shall be that which maximizes the emissions. The test antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane. The emission levels at both horizontal and vertical polarizations should be tested.

### 2.9.3. 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.

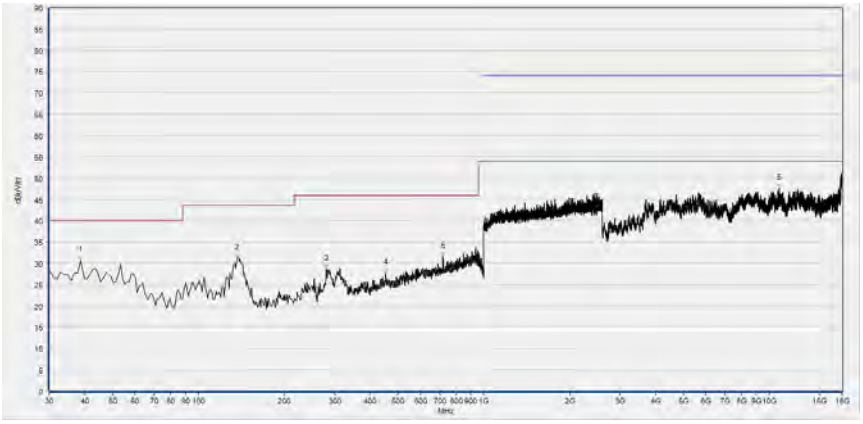
**Note1:** All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

**Note2:** For the frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

**Note3:** For the frequency, which started from 25GHz to 40GHz, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

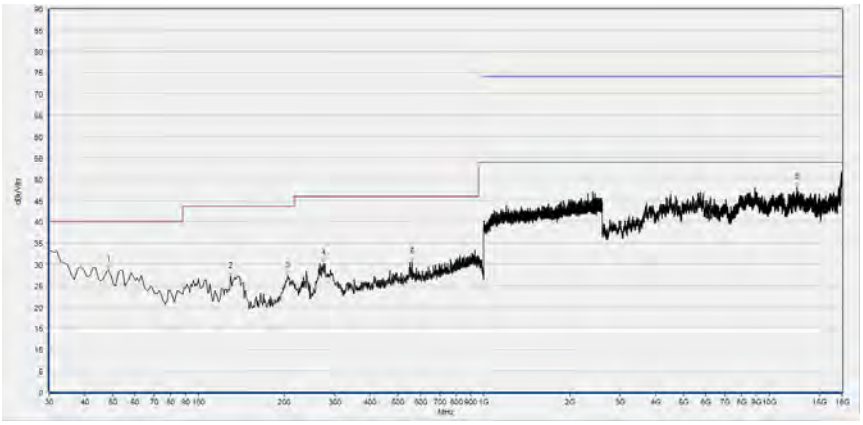
**802.11a Test mode**

Plots for Channel = 36



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 38.739 | 30.73 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 136.807 | 31.13 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 280.511 | 28.69 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 452.372 | 27.66 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 718.418 | 31.54 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 10837.568 | 47.53 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

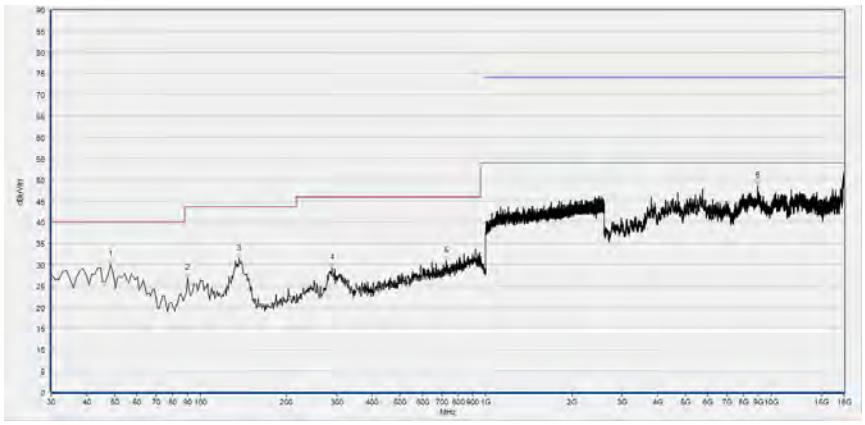
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 48.448 | 28.70 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 130.010 | 27.19 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 205.746 | 27.40 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 274.685 | 30.11 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 562.092 | 30.48 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 12488.778 | 48.12 | N/A | N/A | 74.00 | N/A | 54.00 | Vertical | PASS |

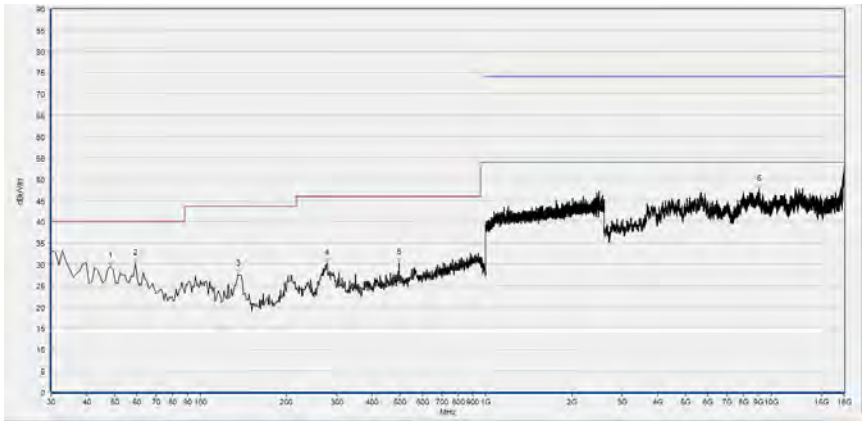
(Antenna Vertical, 30MHz to 25GHz)

Plots for Channel = 44



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 48.448 | 29.97 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 90.200 | 26.77 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 136.807 | 31.42 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 289.249 | 29.20 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 725.215 | 30.85 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 8976.875 | 48.46 | N/A | N/A | 68.32 | N/A | 54.00 | Horizontal | PASS |

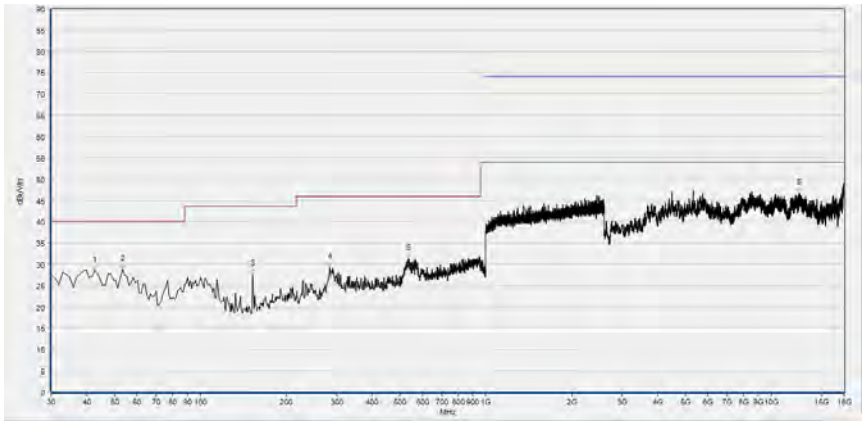
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 48.448 | 29.48 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 59.129 | 30.19 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 135.836 | 27.67 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 277.598 | 30.09 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 498.008 | 30.26 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 9072.374 | 47.54 | N/A | N/A | 74.00 | N/A | 54.00 | Vertical | PASS |

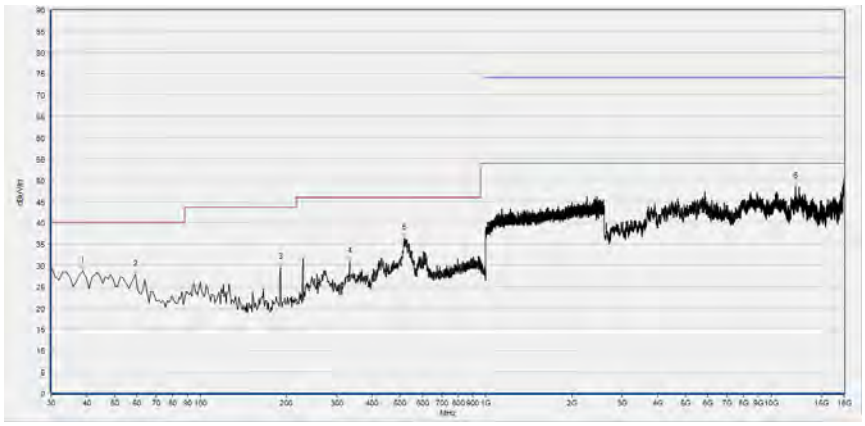
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 48



| Fre. (MHz) | Pk (dBµV/m) | QP (dBµV/m) | AV (dBµV/m) | Limit-PK (dBµV/m) | Limit-QP (dBµV/m) | Limit-AV (dBµV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 42.623 | 28.47 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 53.303 | 28.78 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 152.342 | 27.63 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 283.423 | 29.27 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 534.905 | 31.42 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 12516.503 | 46.75 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

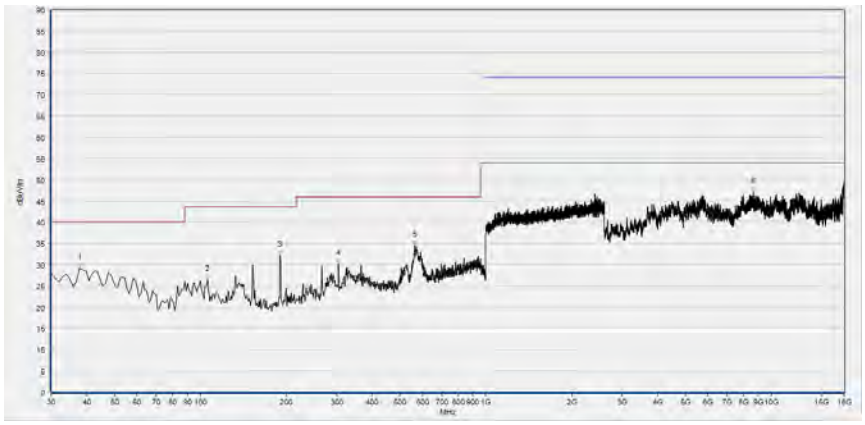
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBµV/m) | QP (dBµV/m) | AV (dBµV/m) | Limit-PK (dBµV/m) | Limit-QP (dBµV/m) | Limit-AV (dBµV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 38.739 | 28.72 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 59.129 | 27.79 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 191.181 | 29.55 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 332.943 | 30.76 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 516.456 | 36.39 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 12159.152 | 48.36 | N/A | N/A | 74.00 | N/A | 54.00 | Vertical | PASS |

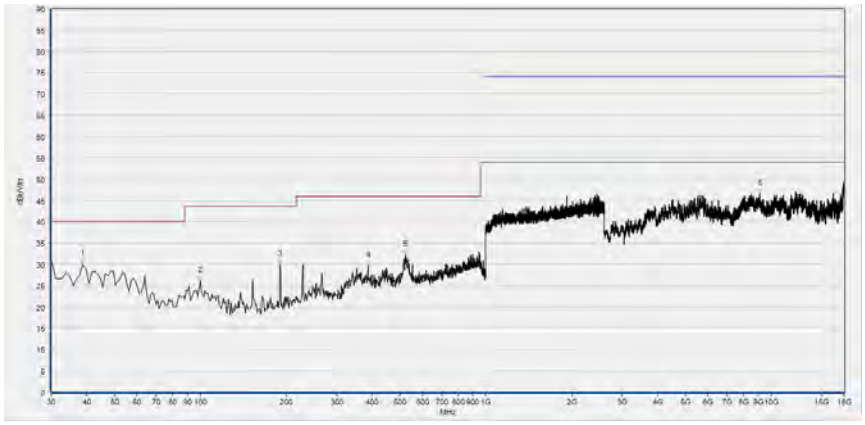
(Antenna Vertical, 30MHz to 25GHz)

Plots for Channel = 149



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 37.768 | 29.20 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 105.736 | 26.52 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 190.210 | 32.16 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 304.785 | 30.21 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 563.063 | 34.48 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 8668.814 | 47.17 | N/A | N/A | 68.23 | N/A | 54.00 | Horizontal | PASS |

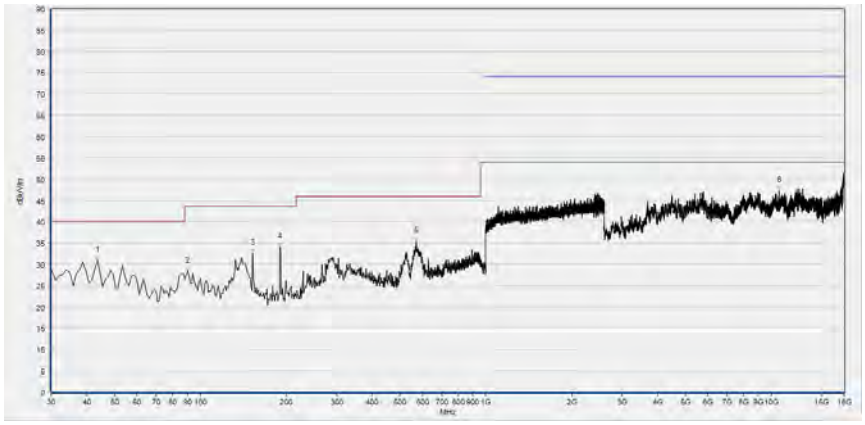
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 38.739 | 30.00 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 99.910 | 26.10 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 190.210 | 29.93 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 387.317 | 29.74 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 522.282 | 32.11 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 9112.422 | 46.60 | N/A | N/A | 74.00 | N/A | 54.00 | Vertical | PASS |

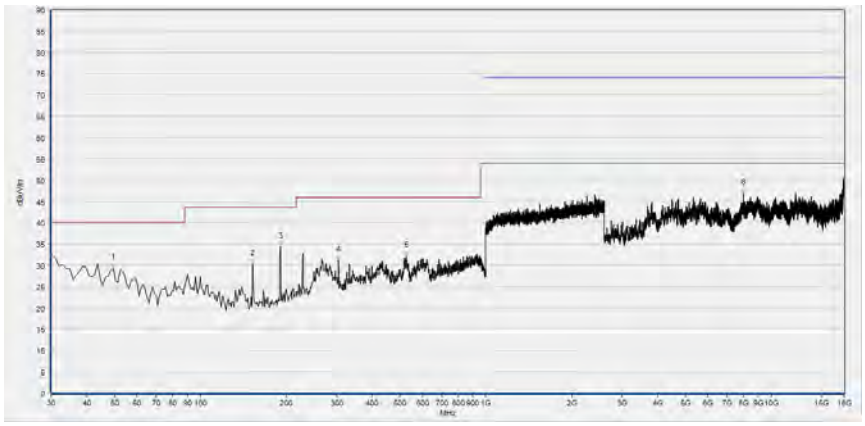
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 157



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 43.594 | 30.92 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 90.200 | 28.35 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 152.342 | 32.57 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 190.210 | 33.98 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 571.802 | 35.29 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 10668.134 | 47.34 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

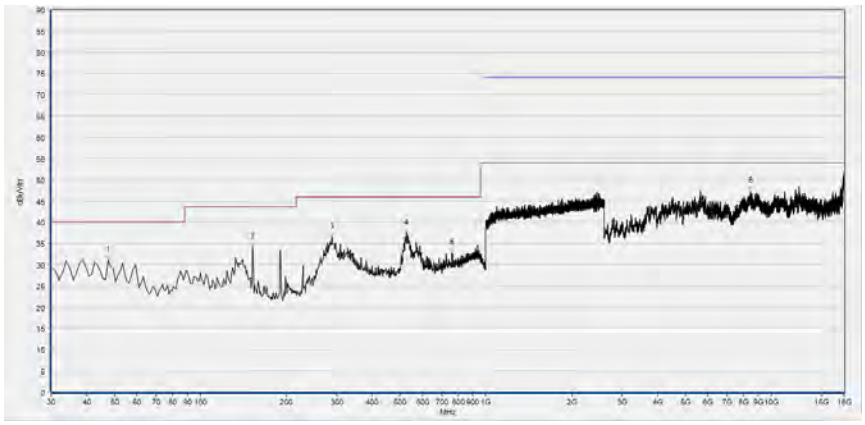
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 49.419 | 29.41 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 152.342 | 30.36 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 191.181 | 34.39 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 304.785 | 31.12 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 525.195 | 32.12 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 7987.998 | 46.94 | N/A | N/A | 68.32 | N/A | 54.00 | Vertical | PASS |

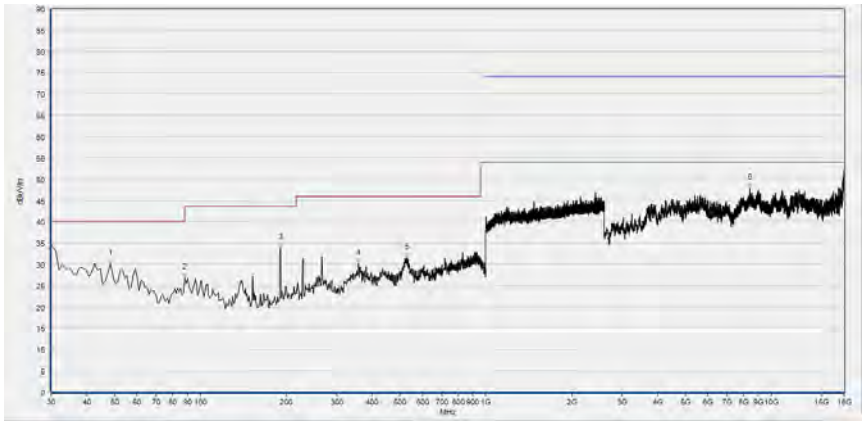
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 165



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 47.477 | 31.06 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 152.342 | 34.27 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 289.249 | 36.55 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 527.137 | 37.43 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 761.141 | 32.76 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 8437.768 | 47.26 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 25GHz)

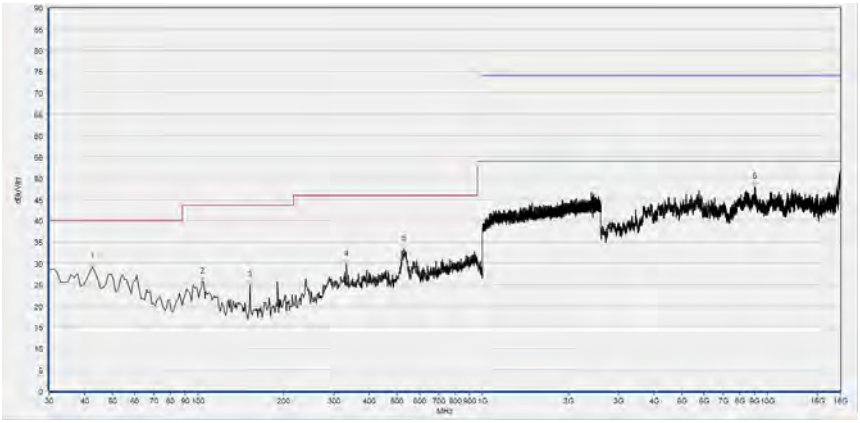


| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 48.448 | 30.20 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 88.258 | 26.75 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 191.181 | 33.82 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 358.188 | 30.20 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 528.108 | 31.50 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 8400.800 | 47.92 | N/A | N/A | 74.00 | N/A | 54.00 | Vertical | PASS |

(Antenna Vertical, 30MHz to 25GHz)

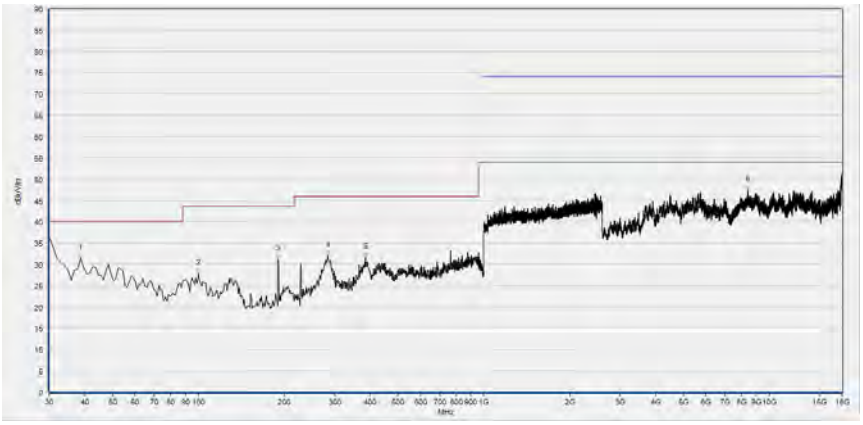
**802.11n (HT20) Test mode**

Plots for Channel = 36



| Fre. (MHz) | Pk (dBµV/m) | QP (dBµV/m) | AV (dBµV/m) | Limit-PK (dBµV/m) | Limit-QP (dBµV/m) | Limit-AV (dBµV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 42.623 | 29.08 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 103.794 | 25.65 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 152.342 | 24.86 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 331.972 | 29.61 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 530.050 | 33.40 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 9004.601 | 47.86 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

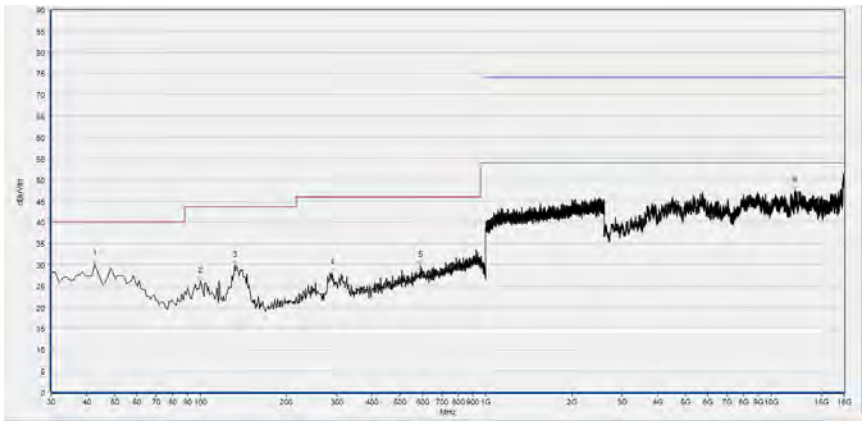
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBµV/m) | QP (dBµV/m) | AV (dBµV/m) | Limit-PK (dBµV/m) | Limit-QP (dBµV/m) | Limit-AV (dBµV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 38.739 | 31.30 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 99.910 | 27.86 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 190.210 | 31.10 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 283.423 | 32.06 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 384.404 | 31.65 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 8425.445 | 47.36 | N/A | N/A | 74.00 | N/A | 54.00 | Vertical | PASS |

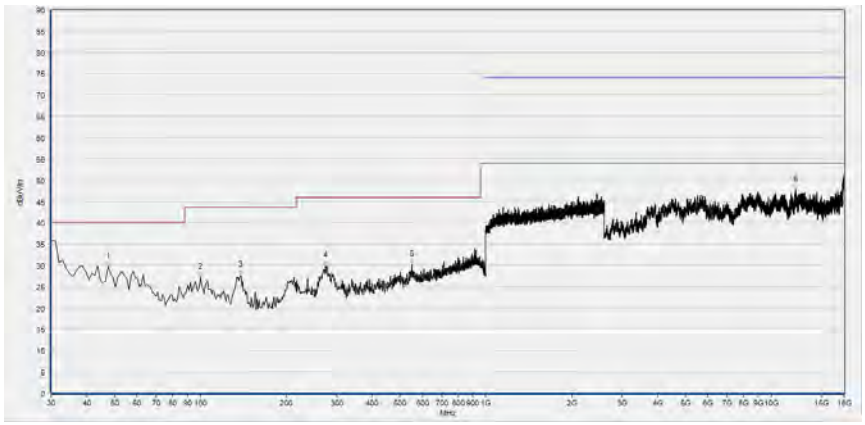
(Antenna Vertical, 30MHz to 25GHz)

Plots for Channel = 44



| Fre. (MHz) | Pk (dBµV/m) | QP (dBµV/m) | AV (dBµV/m) | Limit-PK (dBµV/m) | Limit-QP (dBµV/m) | Limit-AV (dBµV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 42.623 | 30.19 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 99.910 | 26.11 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 131.952 | 29.83 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 288.278 | 28.04 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 590.250 | 29.77 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 12060.572 | 47.45 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

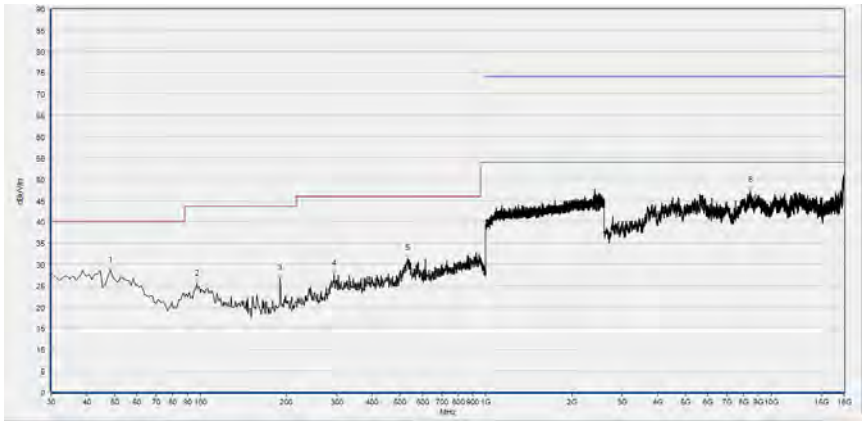
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBµV/m) | QP (dBµV/m) | AV (dBµV/m) | Limit-PK (dBµV/m) | Limit-QP (dBµV/m) | Limit-AV (dBµV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 47.477 | 29.73 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 99.910 | 27.11 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 137.778 | 27.72 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 274.685 | 29.75 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 550.440 | 30.15 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 12196.119 | 47.71 | N/A | N/A | 74.00 | N/A | 54.00 | Vertical | PASS |

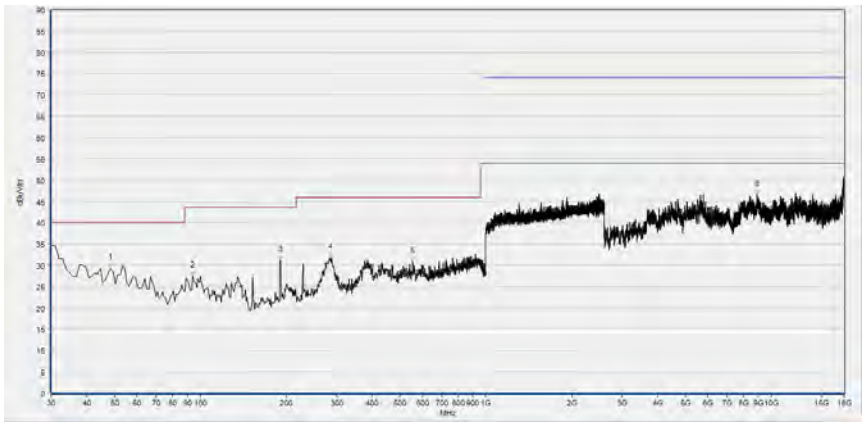
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 48



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 48.448 | 28.47 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 96.997 | 25.38 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 190.210 | 26.71 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 294.104 | 27.71 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 531.992 | 31.26 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 8459.332 | 47.32 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

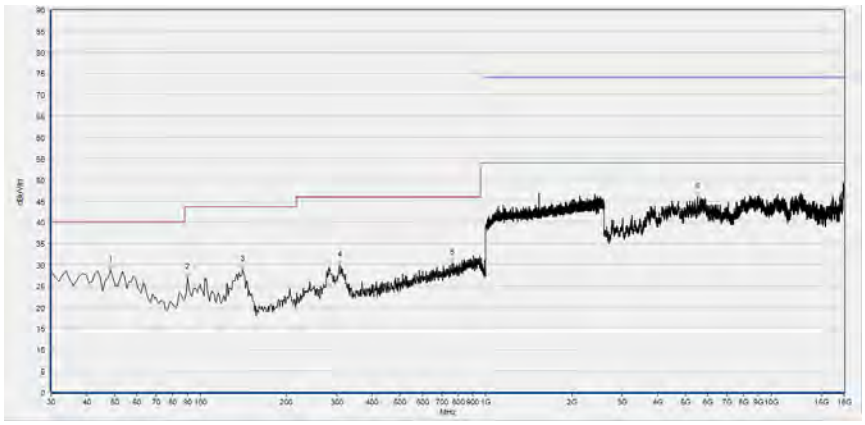
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 48.448 | 29.30 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 94.084 | 27.53 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 191.181 | 31.19 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 285.365 | 31.91 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 554.324 | 30.88 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 8924.505 | 46.55 | N/A | N/A | 68.23 | N/A | 54.00 | Vertical | PASS |

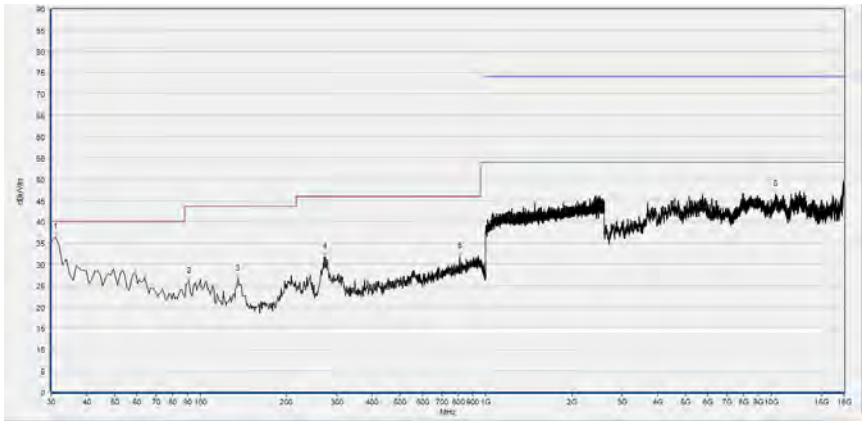
(Antenna Vertical, 30MHz to 25GHz)

Plots for Channel = 149



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 48.448 | 28.67 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 90.200 | 26.99 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 140.691 | 28.90 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 307.698 | 29.91 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 761.141 | 30.35 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 5523.505 | 45.85 | N/A | N/A | 68.23 | N/A | 54.00 | Horizontal | PASS |

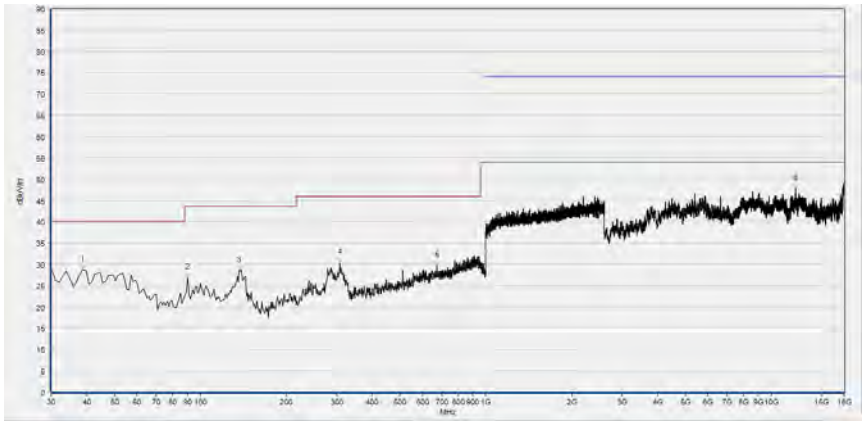
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 30.971 | 36.43 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 91.171 | 25.97 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 134.865 | 26.40 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 272.743 | 31.63 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 809.690 | 31.77 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 10350.830 | 46.48 | N/A | N/A | 68.23 | N/A | 54.00 | Vertical | PASS |

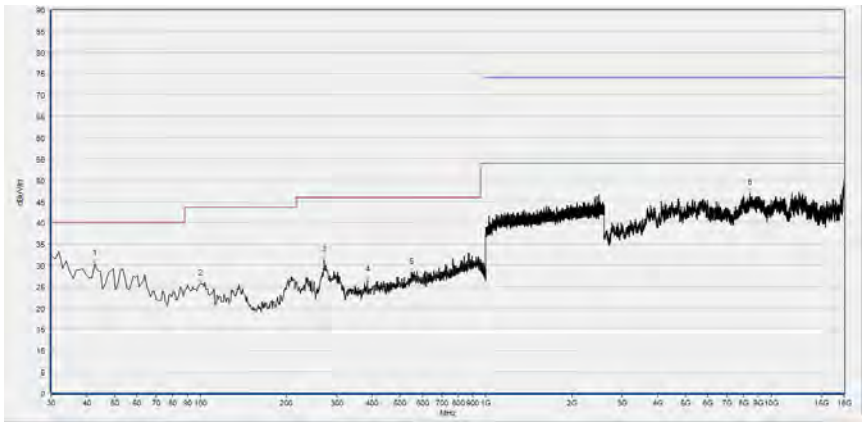
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 157



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 38.739 | 28.67 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 90.200 | 26.80 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 136.807 | 28.46 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 308.669 | 30.30 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 674.725 | 29.73 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 12162.232 | 47.75 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

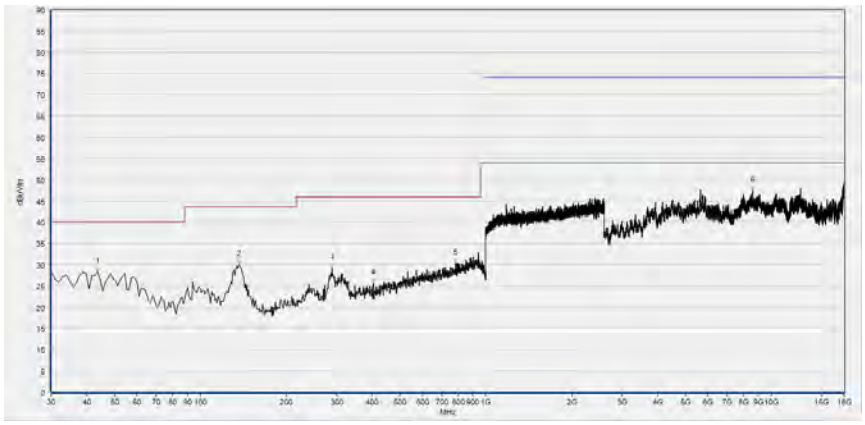
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 42.623 | 30.41 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 99.910 | 25.68 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 271.772 | 31.12 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 384.404 | 26.43 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 548.498 | 28.27 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 8428.526 | 46.95 | N/A | N/A | 74.00 | N/A | 54.00 | Vertical | PASS |

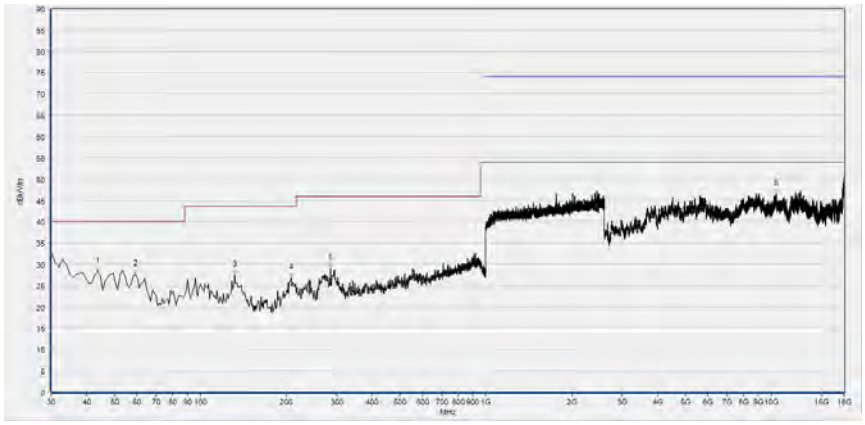
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 165



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 43.594 | 28.28 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 136.807 | 30.04 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 289.249 | 29.27 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 403.824 | 25.70 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 784.444 | 30.26 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 8588.718 | 47.36 | N/A | N/A | 68.32 | N/A | 54.00 | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 25GHz)

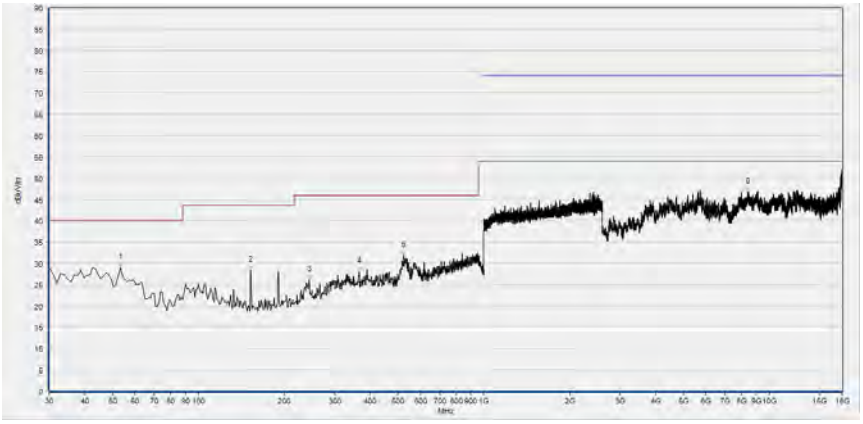


| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 43.594 | 28.32 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 59.129 | 27.68 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 131.952 | 27.55 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 207.688 | 26.88 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 286.336 | 28.98 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 10421.684 | 46.55 | N/A | N/A | 68.23 | N/A | 54.00 | Vertical | PASS |

(Antenna Vertical, 30MHz to 25GHz)

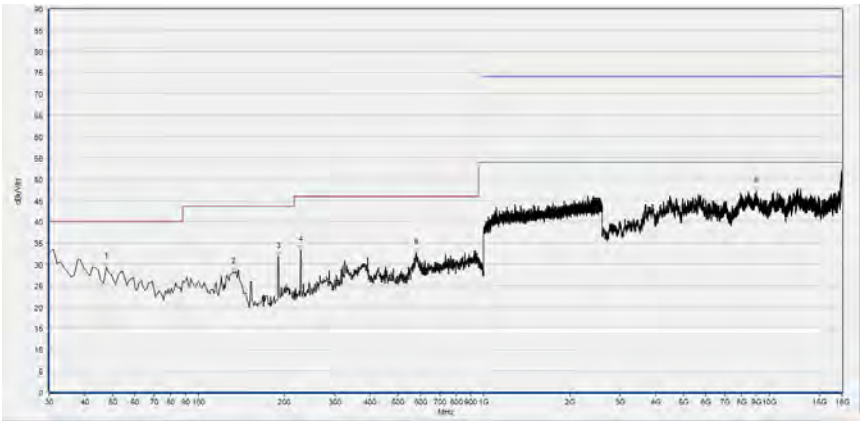
**802.11n (HT40) Test mode**

Plots for Channel = 38



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 53.303 | 28.99 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 152.342 | 28.38 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 244.585 | 26.07 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 365.956 | 27.95 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 524.224 | 31.83 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 8416.203 | 46.84 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

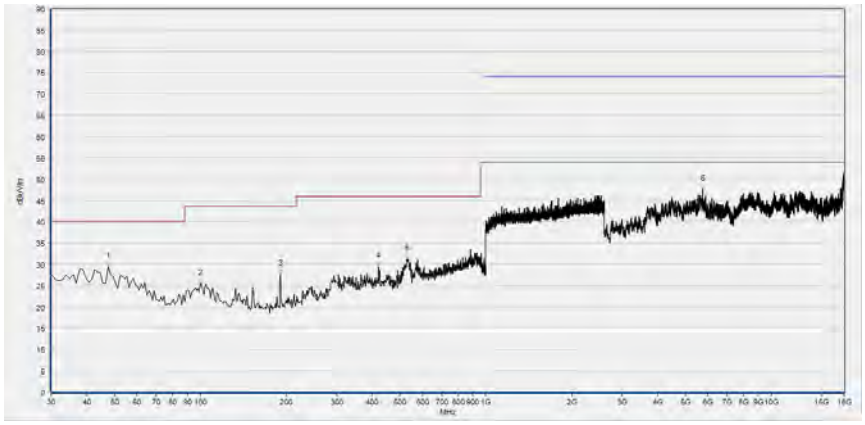
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 47.477 | 29.30 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 132.923 | 28.12 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 191.181 | 31.91 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 228.078 | 33.43 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 581.512 | 32.70 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 8992.278 | 47.10 | N/A | N/A | 68.23 | N/A | 54.00 | Vertical | PASS |

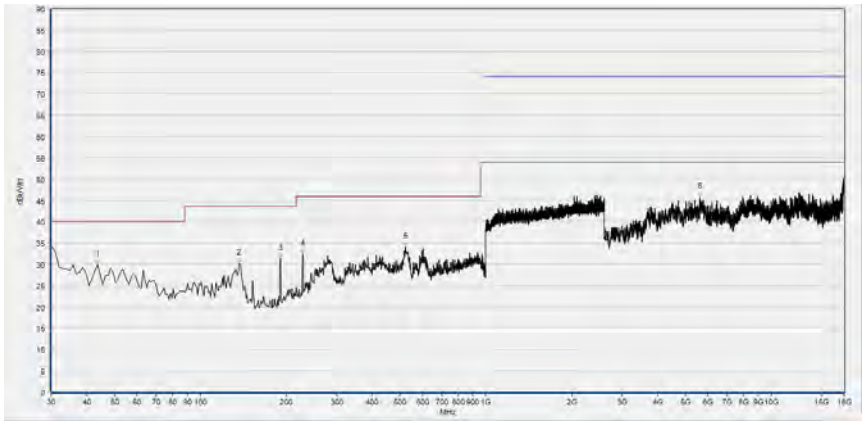
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 46



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 47.477 | 29.45 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 99.910 | 25.51 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 191.181 | 27.62 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 421.301 | 29.45 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 530.050 | 31.18 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 5745.309 | 47.59 | N/A | N/A | 68.32 | N/A | 54.00 | Horizontal | PASS |

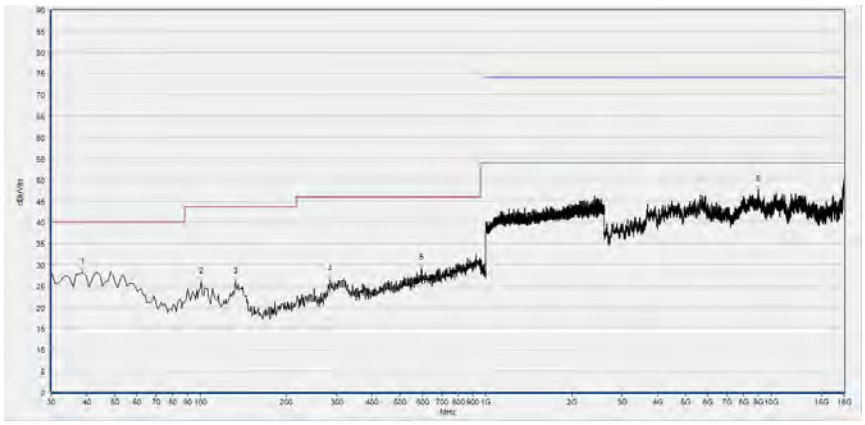
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 43.594 | 29.88 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 136.807 | 30.21 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 191.181 | 31.39 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 228.078 | 32.31 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 522.282 | 33.95 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 5631.326 | 45.83 | N/A | N/A | 68.23 | N/A | 54.00 | Vertical | PASS |

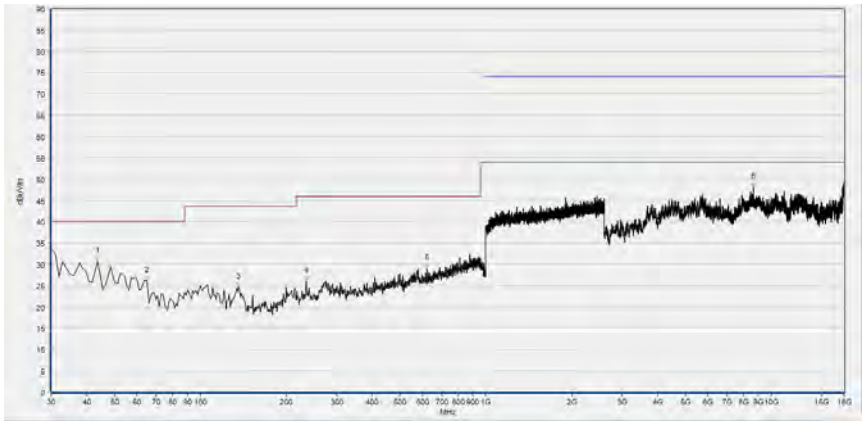
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 151



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 38.739 | 28.13 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 100.881 | 25.92 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 132.923 | 26.06 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 284.394 | 26.40 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 593.163 | 29.16 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 9032.326 | 47.60 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

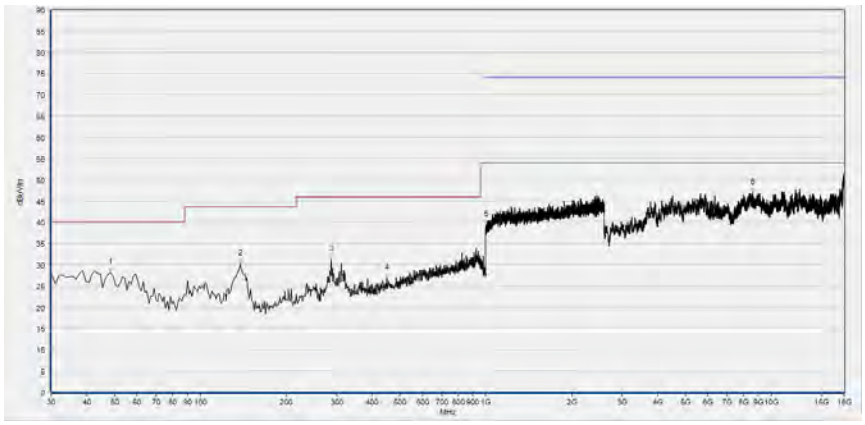
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 43.594 | 30.74 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 64.955 | 26.19 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 135.836 | 24.58 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 234.875 | 25.95 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 621.321 | 28.93 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 8647.249 | 48.12 | N/A | N/A | 68.32 | N/A | 54.00 | Vertical | PASS |

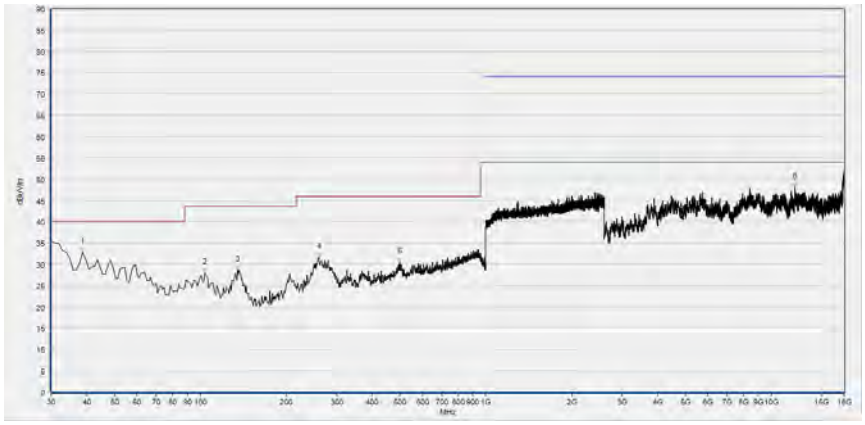
(Antenna Vertical, 30MHz to 25GHz)

Plots for Channel = 159



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 48.448 | 28.14 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 137.778 | 30.23 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 287.307 | 31.20 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 449.459 | 26.82 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 1003.201 | 39.36 | N/A | N/A | N/A | N/A | 54.00 | Horizontal | PASS |
| 8597.960 | 46.98 | N/A | N/A | 68.23 | N/A | 54.00 | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 25GHz)

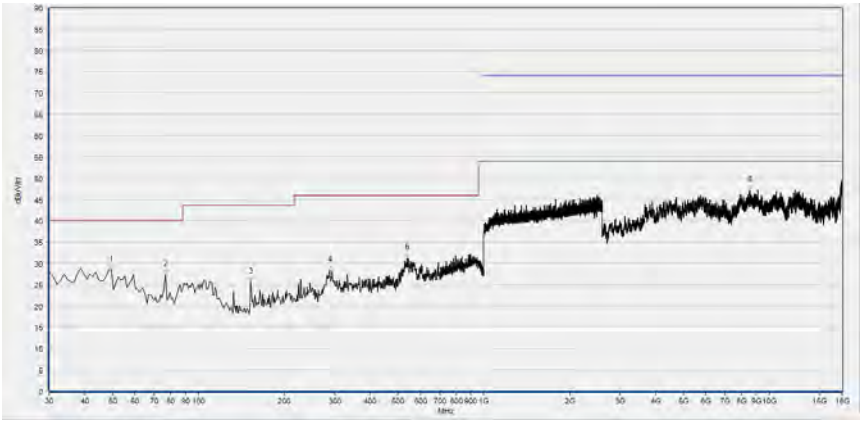


| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 38.739 | 32.84 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 103.794 | 27.99 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 134.865 | 28.72 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 260.120 | 31.63 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 498.979 | 30.43 | N/A | N/A | N/A | 46.40 | N/A | Vertical | PASS |
| 12063.653 | 48.02 | N/A | N/A | 74.00 | N/A | 54.00 | Vertical | PASS |

(Antenna Vertical, 30MHz to 25GHz)

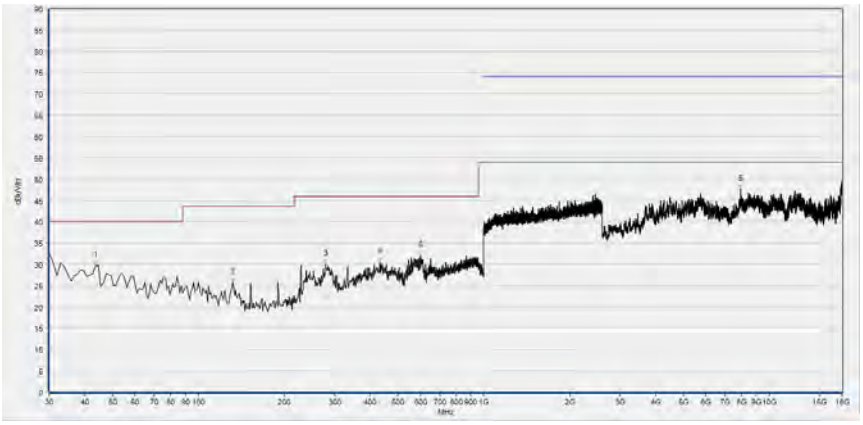
**802.11ac (VHT20) Test mode**

Plots for Channel = 36



| Fre. (MHz) | Pk (dBµV/m) | QP (dBµV/m) | AV (dBµV/m) | Limit-PK (dBµV/m) | Limit-QP (dBµV/m) | Limit-AV (dBµV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 49.419 | 28.50 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 76.607 | 27.38 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 152.342 | 25.72 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 288.278 | 28.25 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 539.760 | 31.10 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 8564.073 | 47.11 | N/A | N/A | 68.23 | N/A | 54.00 | Horizontal | PASS |

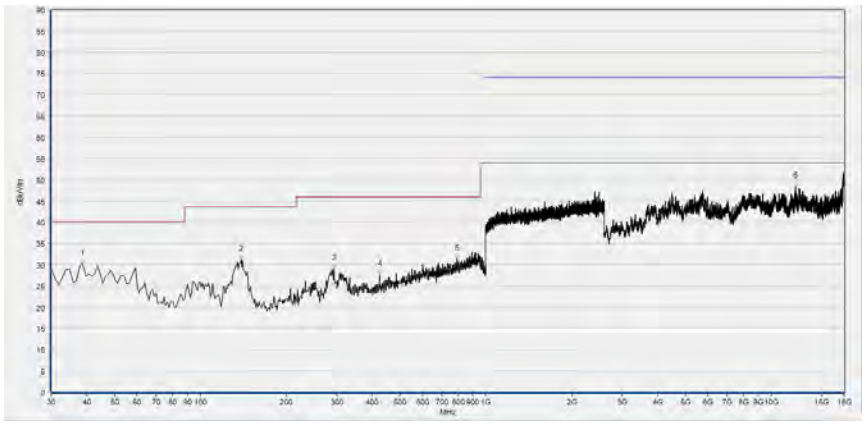
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBµV/m) | QP (dBµV/m) | AV (dBµV/m) | Limit-PK (dBµV/m) | Limit-QP (dBµV/m) | Limit-AV (dBµV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 43.594 | 29.60 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 131.952 | 25.88 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 279.540 | 30.05 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 431.982 | 30.44 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 599.960 | 32.00 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 7932.547 | 47.66 | N/A | N/A | 68.23 | N/A | 54.00 | Vertical | PASS |

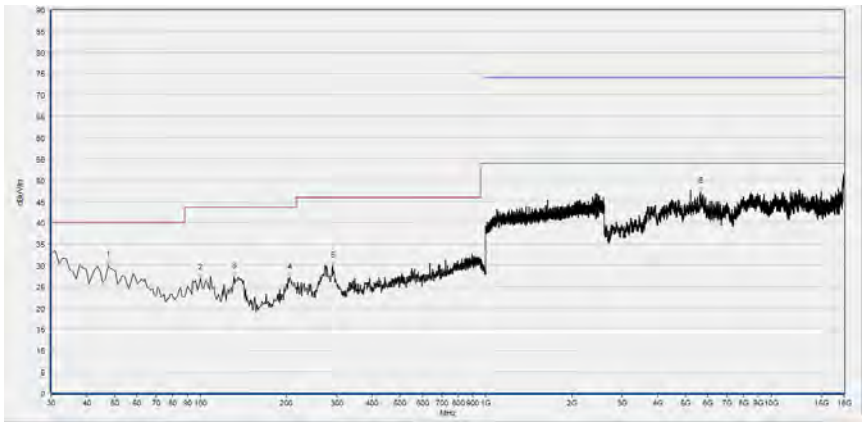
(Antenna Vertical, 30MHz to 25GHz)

Plots for Channel = 44



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 38.739 | 30.12 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 138.749 | 31.13 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 293.133 | 28.97 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 424.214 | 27.65 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 790.270 | 31.29 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 12143.749 | 48.35 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

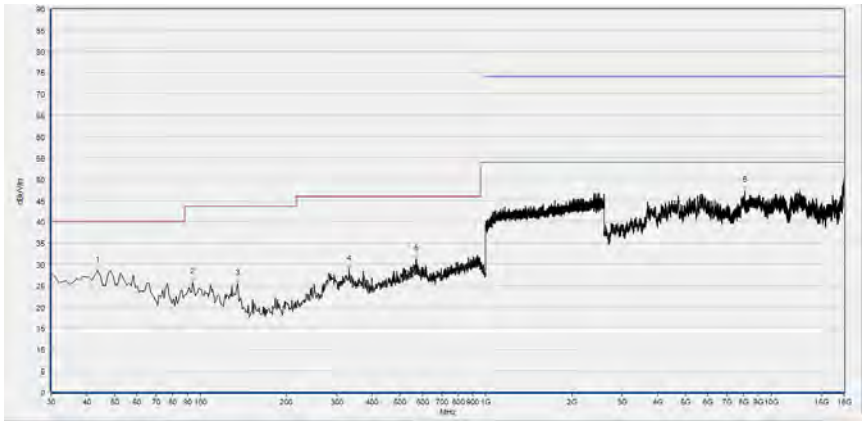
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 47.477 | 29.92 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 99.910 | 27.05 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 130.981 | 27.36 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 205.746 | 27.07 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 291.191 | 29.81 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 5668.294 | 47.31 | N/A | N/A | 68.23 | N/A | 54.00 | Vertical | PASS |

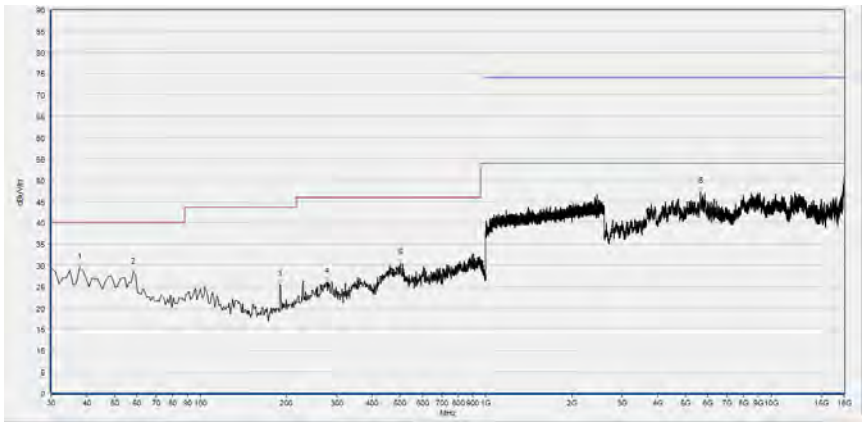
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 48



| Fre. (MHz) | Pk (dBµV/m) | QP (dBµV/m) | AV (dBµV/m) | Limit-PK (dBµV/m) | Limit-QP (dBµV/m) | Limit-AV (dBµV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 43.594 | 28.48 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 94.084 | 25.77 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 134.865 | 25.55 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 331.001 | 28.76 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 569.860 | 31.19 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 8092.739 | 47.20 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

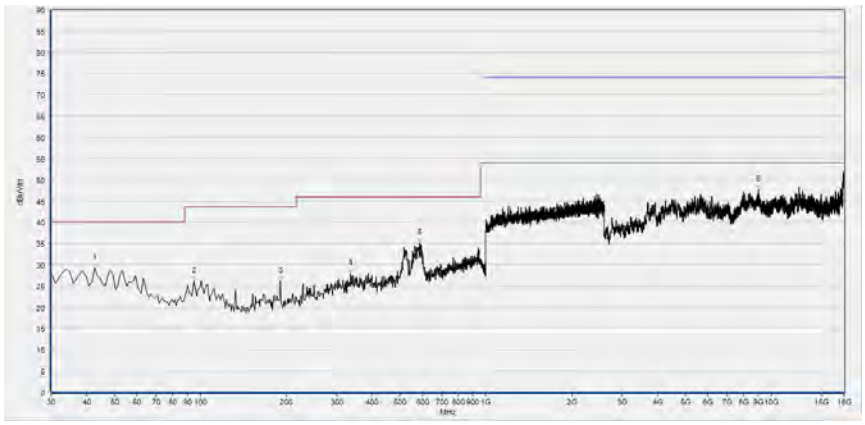
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBµV/m) | QP (dBµV/m) | AV (dBµV/m) | Limit-PK (dBµV/m) | Limit-QP (dBµV/m) | Limit-AV (dBµV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 37.768 | 29.46 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 58.158 | 28.34 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 190.210 | 25.53 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 277.598 | 26.18 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 501.892 | 30.44 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 5652.891 | 47.31 | N/A | N/A | 68.23 | N/A | 54.00 | Vertical | PASS |

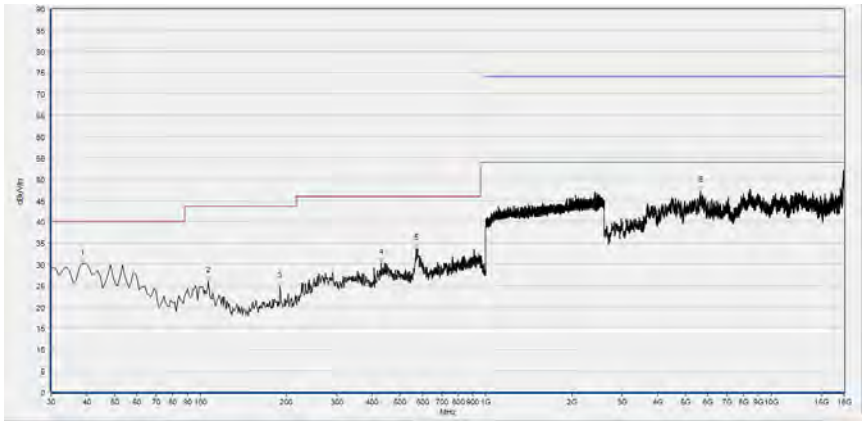
(Antenna Vertical, 30MHz to 25GHz)

Plots for Channel = 149



| Fre. (MHz) | Pk (dBµV/m) | QP (dBµV/m) | AV (dBµV/m) | Limit-PK (dBµV/m) | Limit-QP (dBµV/m) | Limit-AV (dBµV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 42.623 | 29.16 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 95.055 | 26.08 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 191.181 | 26.17 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 335.856 | 27.82 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 587.337 | 35.05 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 9038.488 | 47.55 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

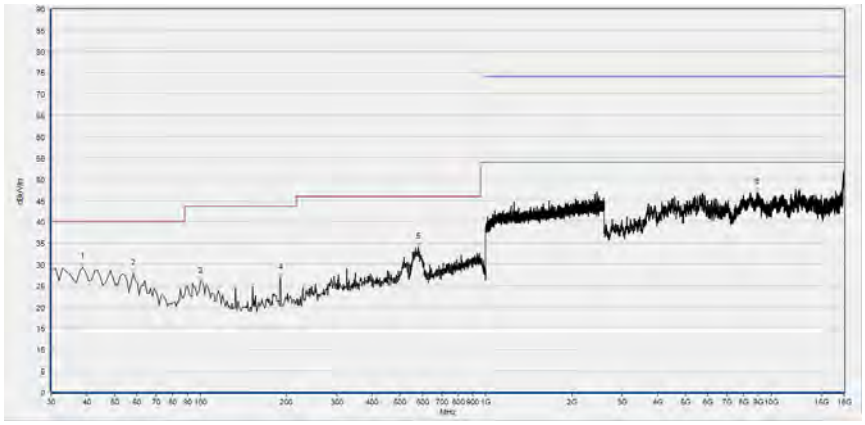
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBµV/m) | QP (dBµV/m) | AV (dBµV/m) | Limit-PK (dBµV/m) | Limit-QP (dBµV/m) | Limit-AV (dBµV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 38.739 | 30.12 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 106.707 | 26.08 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 190.210 | 24.88 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 431.011 | 30.26 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 570.831 | 33.66 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 5665.213 | 47.23 | N/A | N/A | 68.23 | N/A | 54.00 | Vertical | PASS |

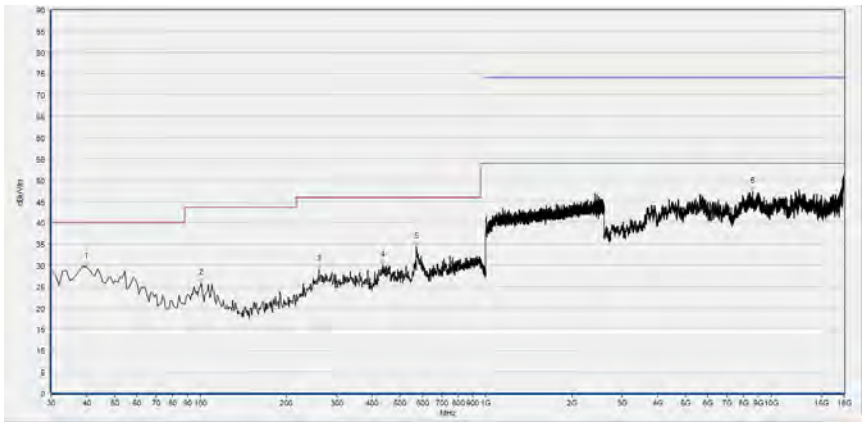
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 157



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 38.739 | 29.31 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 58.158 | 27.74 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 99.910 | 26.05 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 191.181 | 26.83 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 581.512 | 34.00 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 8902.941 | 46.92 | N/A | N/A | 68.23 | N/A | 54.00 | Horizontal | PASS |

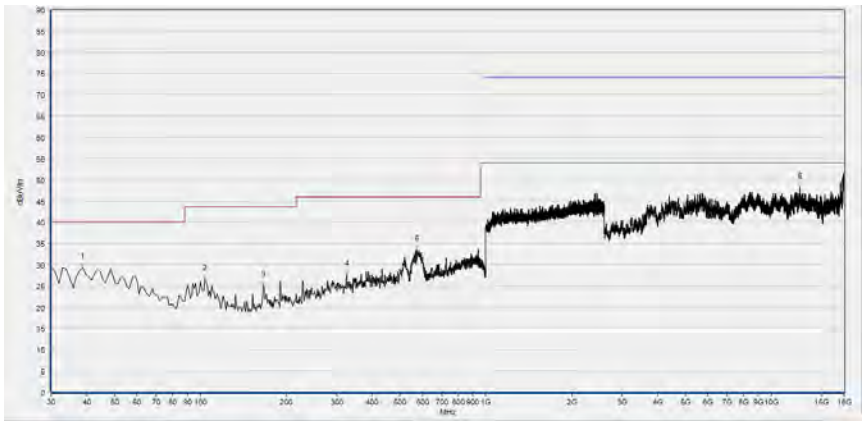
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 39.710 | 29.66 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 100.881 | 25.86 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 260.120 | 28.98 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 433.924 | 30.02 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 571.802 | 34.32 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 8628.766 | 47.23 | N/A | N/A | 68.23 | N/A | 54.00 | Vertical | PASS |

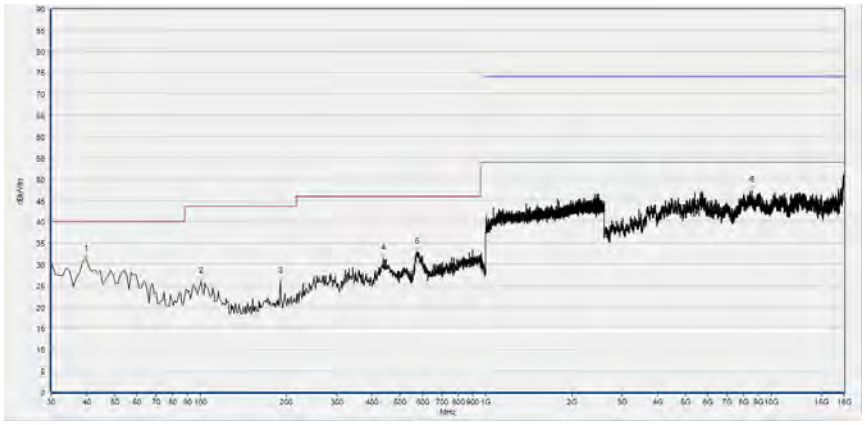
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 165



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 38.739 | 29.41 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 103.794 | 26.61 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 165.936 | 25.16 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 325.175 | 27.60 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 574.715 | 33.57 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 12590.438 | 48.26 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 25GHz)

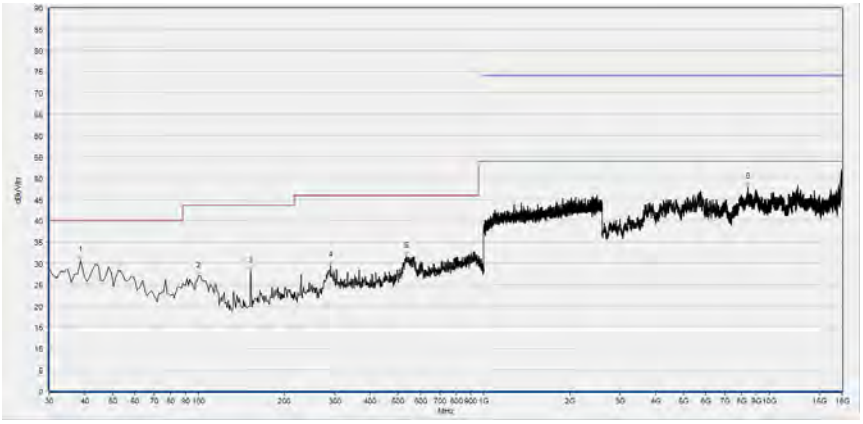


| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 39.710 | 31.23 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 100.881 | 25.90 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 191.181 | 25.94 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 436.837 | 31.31 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 574.715 | 32.91 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 8579.476 | 47.34 | N/A | N/A | 68.23 | N/A | 54.00 | Vertical | PASS |

(Antenna Vertical, 30MHz to 25GHz)

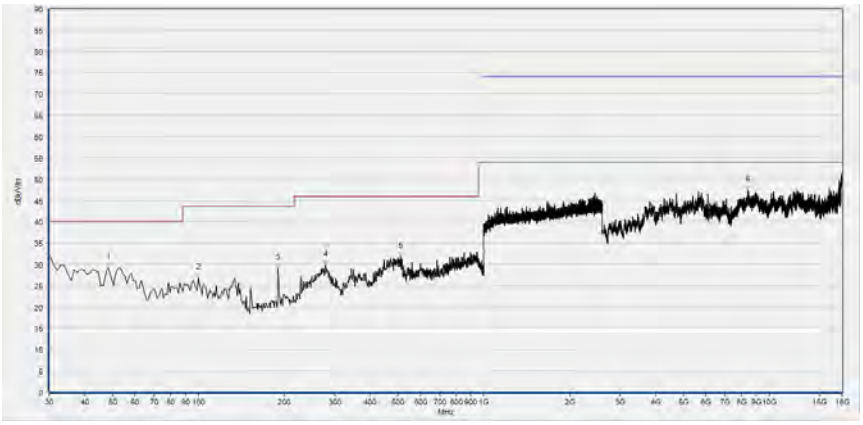
**802.11ac (VHT40) Test mode**

Plots for Channel = 38



| Fre. (MHz) | Pk (dBµV/m) | QP (dBµV/m) | AV (dBµV/m) | Limit-PK (dBµV/m) | Limit-QP (dBµV/m) | Limit-AV (dBµV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 38.739 | 30.71 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 99.910 | 26.98 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 152.342 | 28.13 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 291.191 | 29.42 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 533.934 | 31.62 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 8410.042 | 47.94 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

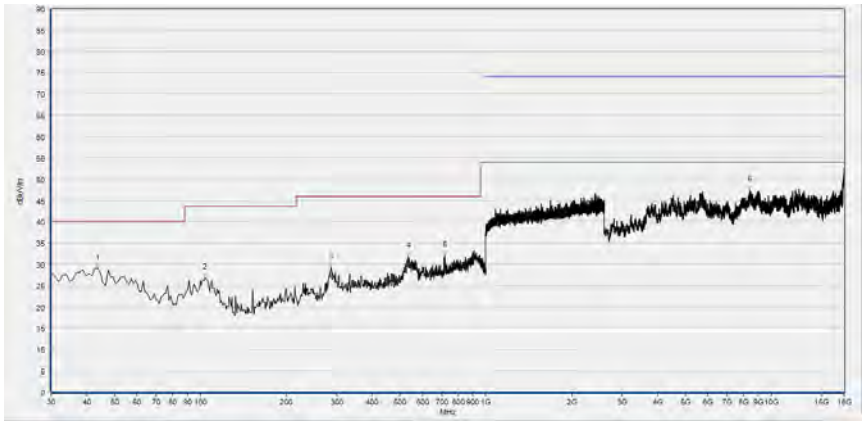
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBµV/m) | QP (dBµV/m) | AV (dBµV/m) | Limit-PK (dBµV/m) | Limit-QP (dBµV/m) | Limit-AV (dBµV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 48.448 | 29.17 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 99.910 | 26.77 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 190.210 | 29.02 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 278.569 | 29.85 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 509.660 | 31.76 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 8403.881 | 47.37 | N/A | N/A | 74.00 | N/A | 54.00 | Vertical | PASS |

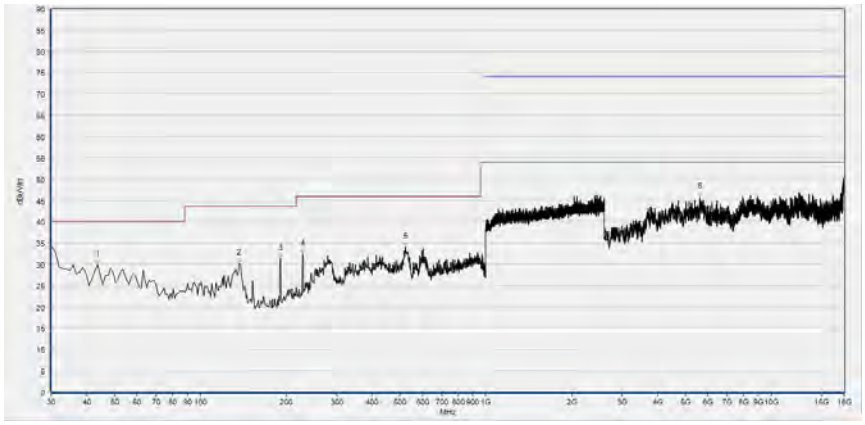
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 46



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 43.594 | 28.97 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 103.794 | 26.88 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 287.307 | 29.32 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 533.934 | 31.80 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 719.389 | 31.93 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 8416.203 | 47.50 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

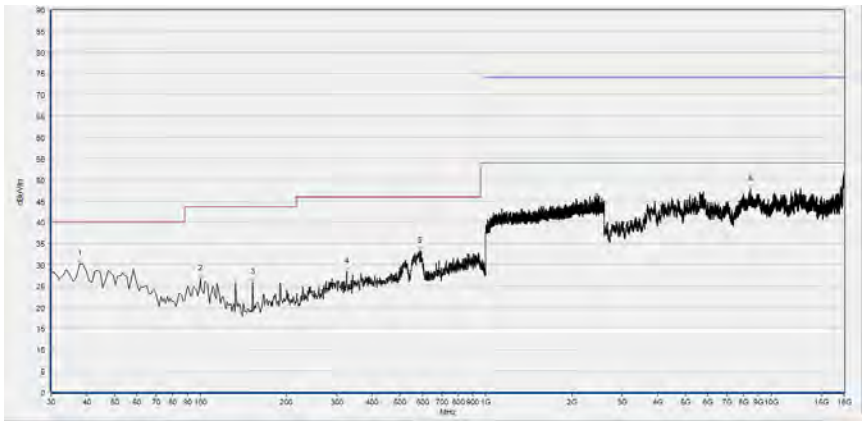
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 43.594 | 29.88 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 136.807 | 30.21 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 191.181 | 31.39 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 228.078 | 32.31 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 522.282 | 33.95 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 5631.326 | 45.83 | N/A | N/A | 68.23 | N/A | 54.00 | Vertical | PASS |

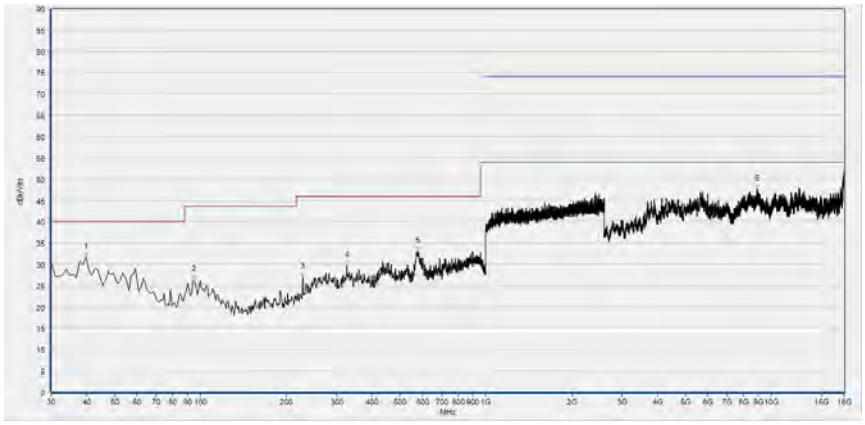
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 151



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 37.768 | 30.11 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 99.910 | 26.58 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 152.342 | 25.85 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 325.175 | 28.35 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 588.308 | 33.19 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 8453.171 | 47.73 | N/A | N/A | 74.00 | N/A | 54.00 | Horizontal | PASS |

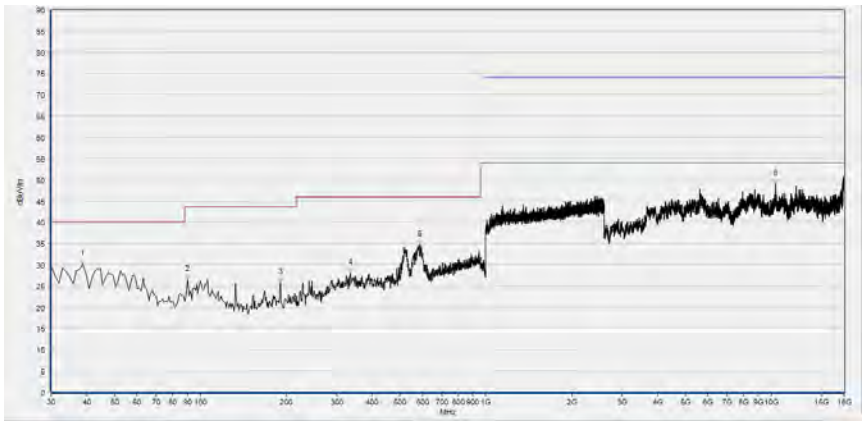
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 39.710 | 31.69 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 95.055 | 26.38 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 228.078 | 26.95 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 325.175 | 29.63 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 576.657 | 33.01 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 8933.747 | 47.59 | N/A | N/A | 68.32 | N/A | 54.00 | Vertical | PASS |

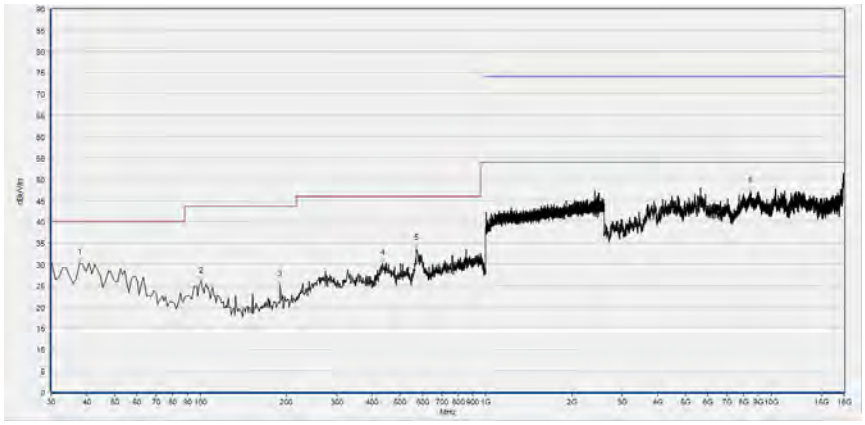
(Antenna Vertical, 30MHz to 25GHz)

Plots for Channel = 159



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 38.739 | 30.24 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 90.200 | 26.42 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 191.181 | 25.85 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 334.885 | 27.95 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 588.308 | 34.65 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 10360.072 | 48.89 | N/A | N/A | 68.23 | N/A | 54.00 | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 25GHz)

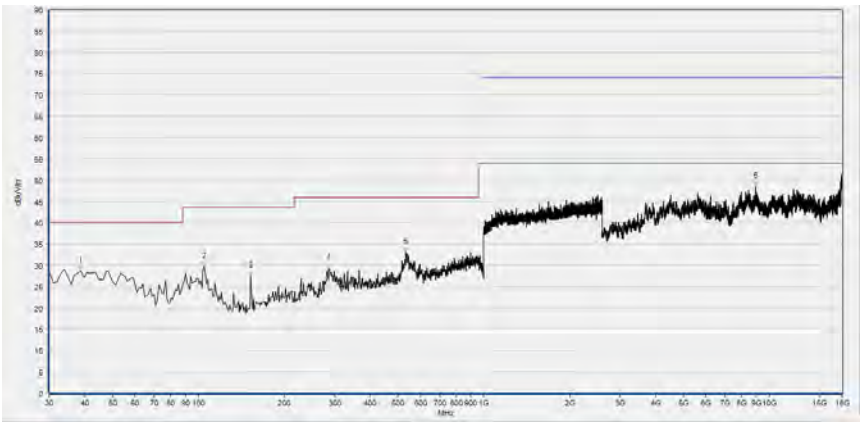


| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 37.768 | 30.37 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 100.881 | 26.01 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 190.210 | 25.15 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 435.866 | 30.15 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 571.802 | 33.63 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 8447.009 | 47.07 | N/A | N/A | 74.00 | N/A | 54.00 | Vertical | PASS |

(Antenna Vertical, 30MHz to 25GHz)

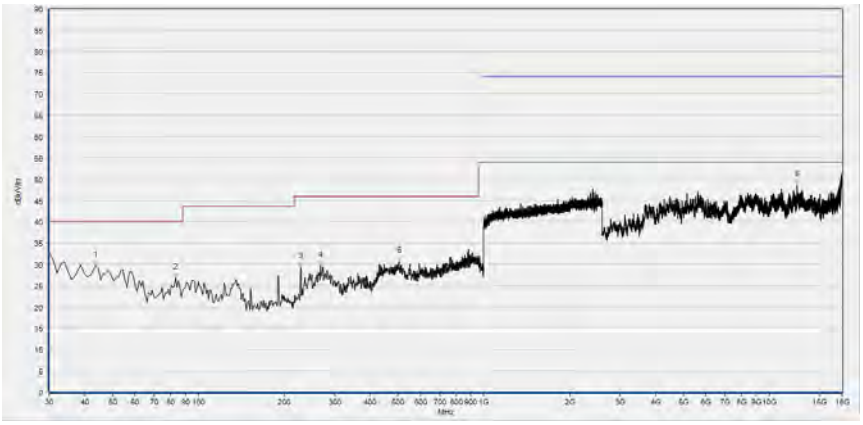
**802.11ac (VHT80) Test mode**

Plot for Channel = 42



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 38.739 | 28.65 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 104.765 | 29.71 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 152.342 | 27.51 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 286.336 | 29.27 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 532.963 | 33.02 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 8979.956 | 48.51 | N/A | N/A | 68.32 | N/A | 54.00 | Horizontal | PASS |

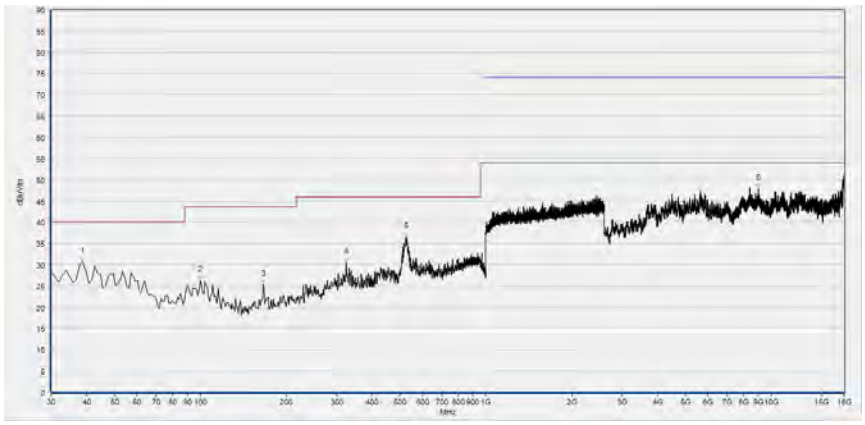
(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 43.594 | 29.72 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 83.403 | 26.75 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 228.078 | 29.27 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 267.888 | 29.64 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 503.834 | 30.73 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 12504.181 | 48.52 | N/A | N/A | 74.00 | N/A | 54.00 | Vertical | PASS |

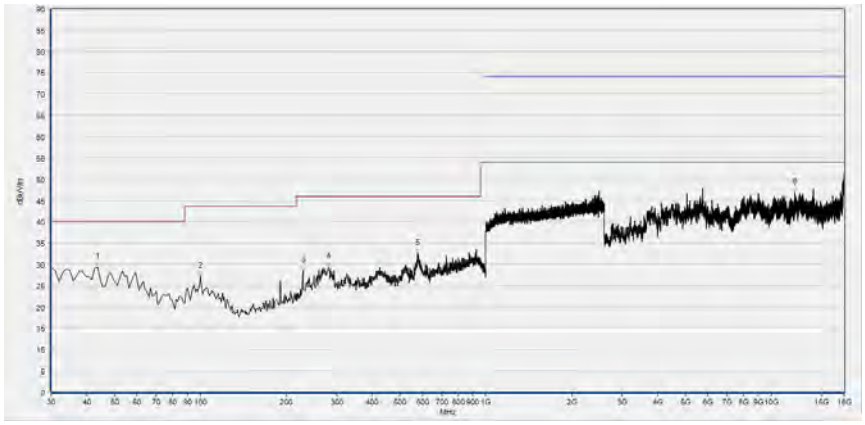
(Antenna Vertical, 30MHz to 25GHz)

Plot for Channel = 155



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 38.739 | 30.63 | N/A | N/A | N/A | 40.00 | N/A | Horizontal | PASS |
| 99.910 | 26.26 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 165.936 | 25.23 | N/A | N/A | N/A | 43.50 | N/A | Horizontal | PASS |
| 324.204 | 30.58 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 525.195 | 36.60 | N/A | N/A | N/A | 46.00 | N/A | Horizontal | PASS |
| 8995.359 | 47.93 | N/A | N/A | 68.23 | N/A | 54.00 | Horizontal | PASS |

(Antenna Horizontal, 30MHz to 25GHz)



| Fre. (MHz) | Pk (dBμV/m) | QP (dBμV/m) | AV (dBμV/m) | Limit-PK (dBμV/m) | Limit-QP (dBμV/m) | Limit-AV (dBμV/m) | Antenna | Verdict |
|---|---|---|---|---|---|---|---|---|
| 43.594 | 29.29 | N/A | N/A | N/A | 40.00 | N/A | Vertical | PASS |
| 99.910 | 27.09 | N/A | N/A | N/A | 43.50 | N/A | Vertical | PASS |
| 229.049 | 28.54 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 280.511 | 29.32 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 575.686 | 32.53 | N/A | N/A | N/A | 46.00 | N/A | Vertical | PASS |
| 12072.895 | 46.97 | N/A | N/A | 74.00 | N/A | 54.00 | Vertical | PASS |

(Antenna Vertical, 30MHz to 25GHz)

# Annex A Test Uncertainty

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

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

This uncertainty represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2

# Annex B Testing Laboratory Information

## 1. Identification of the Responsible Testing Laboratory

| | |
|---|---|
| **Laboratory Name:** | Shenzhen Morlab Communications Technology Co., Ltd.<br>Morlab Laboratory |
| **Laboratory Address:** | FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China |
| **Telephone:** | +86 755 36698555 |
| **Facsimile:** | +86 755 36698525 |

## 2. Identification of the Responsible Testing Location

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

## 3. Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at FL.3, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10-2013 and CISPR Publication 22; the FCC designation number is CN1192, the test firm registration number is 226174.

## 4. Test Equipments Utilized

### 4.1 Conducted Test Equipments

| Equipment | Serial No. | Type | Manufacturer | Cal. Date | Cal. Due |
|---|---|---|---|---|---|
| Attenuator 1 | (N/A) | 10dB | Resnet | N/A | N/A |
| EXA Signal Analzyer | MY53470836 | N9010A | Agilent | 2019.04.09 | 2020.04.08 |
| USB Wideband Power Sensor | MY54210011 | U2021XA | Agilent | 2019.04.16 | 2020.04.15 |
| RF cable (30MHz-26GHz) | CB01 | RF01 | Morlab | N/A | N/A |
| Coaxial cable | CB02 | RF02 | Morlab | N/A | N/A |
| SMA connector | CN01 | RF03 | HUBER-SUHNER | N/A | N/A |
| Temperature Chamber | YOMA | (N/A) | (N/A) | 2019.01.22 | 2020.01.21 |
| Computer | T430i | Think Pad | Lenovo | N/A | N/A |

### 4.2 Conducted Emission Test Equipments

| Equipment Name | Serial No. | Type | Manufacturer | Cal. Date | Cal. Due |
|---|---|---|---|---|---|
| Receiver | MY56400093 | N9038A | KEYSIGHT | 2019.05.08 | 2020.05.09 |
| LISN | 812744 | NSLK 8127 | Schwarzbeck | 2019.05.08 | 2020.05.09 |
| Pulse Limiter (20dB) | 9391 | VTSD 9561-D | Schwarzbeck | 2019.05.08 | 2020.05.09 |
| Coaxial cable(BNC) | CB01 | EMC01 | Morlab | N/A | N/A |

### 4.3 List of Software Used

| Description | Manufacturer | Software Version |
|---|---|---|
| Test system | Tonscend | V2.6 |
| Power Panel | Agilent | V3.8 |
| MORLAB EMCR V1.2 | MORLAB | V 1.0 |

### 4.4 Radiated Test Equipments

| Equipment Name | Serial No. | Type | Manufacturer | Cal. Date | Cal. Due |
|---|---|---|---|---|---|
| Receiver | MY54130016 | N9038A | Agilent | 2018.08.04 | 2019.08.03 |
| Test Antenna - Bi-Log | 9163-519 | VULB 9163 | Schwarzbeck | 2019.05.08 | 2020.05.09 |
| Test Antenna - Horn | 9170C-531 | BBHA9170 | Schwarzbeck | 2019.02.15 | 2020.02.14 |
| Test Antenna - Loop | 1519-022 | FMZB1519 | Schwarzbeck | 2018.08.06 | 2019.08.05 |
| Test Antenna - Horn | 01774 | BBHA 9120D | Schwarzbeck | 2018.08.02 | 2019.08.01 |
| Coaxial cable (N male) (9KHz-30MHz) | CB04 | EMC04 | Morlab | N/A | N/A |
| Coaxial cable (N male) (30MHz-26GHz) | CB02 | EMC02 | Morlab | N/A | N/A |
| Coaxial cable (N male) (30MHz-26GHz) | CB03 | EMC03 | Morlab | N/A | N/A |
| Coaxial cable (N male) (30MHz-40GHz) | CB05 | EMC05 | Morlab | N/A | N/A |
| 1-18GHz pre-Amplifier | MA02 | TS-PR18 | Rohde& Schwarz | 2019.05.08 | 2020.05.09 |
| 18-26.5GHz pre-Amplifier | MA03 | TS-PR18 | Rohde& Schwarz | 2019.05.08 | 2020.05.09 |
| 26GHz -40GHz pre-Amplifier | MA05 | BBV9721 | Rohde& Schwarz | 2019.05.08 | 2020.05.09 |
| Notch Filter | N/A | WRCG-5150-5350 | Wainwright | 2018.12.01 | 2019.11.30 |
| Notch Filter | N/A | WRCG-5470-5725 | Wainwright | 2018.12.01 | 2019.11.30 |
| Notch Filter | N/A | WRCG-5725-5850 | Wainwright | 2018.12.01 | 2019.11.30 |

| Equipment Name | Serial No. | Type | Manufacturer | Cal. Date | Cal. Due |
|---|---|---|---|---|---|
| Anechoic Chamber | N/A | 9m*6m*6m | CRT | 2017.11.19 | 2020.11.18 |

END OF REPORT