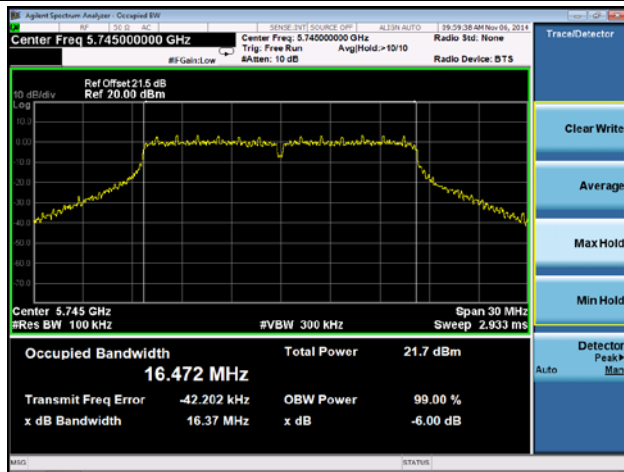
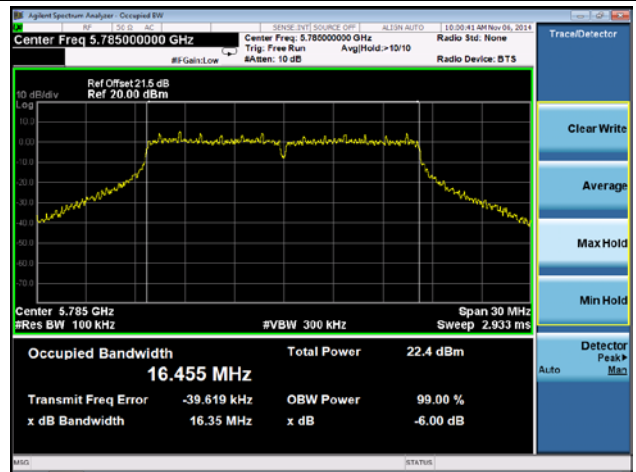


802.11a 6dB Bandwidth - Ant 1 / Ant 0 + 1

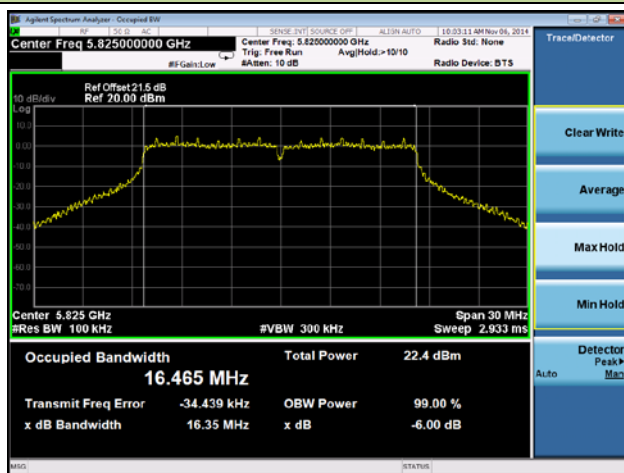
Channel 149 (5745MHz)



Channel 157 (5785MHz)

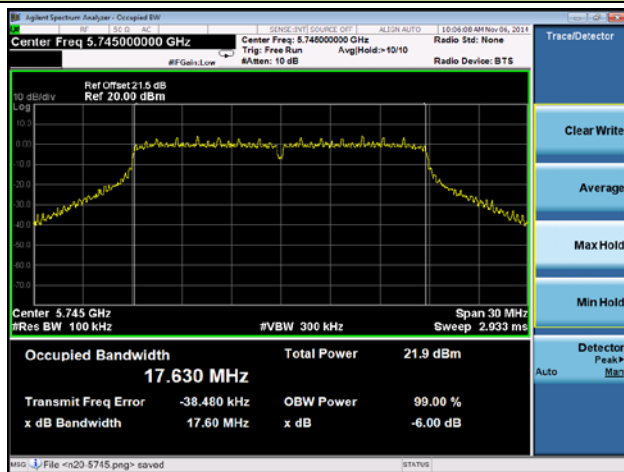


Channel 165 (5825MHz)

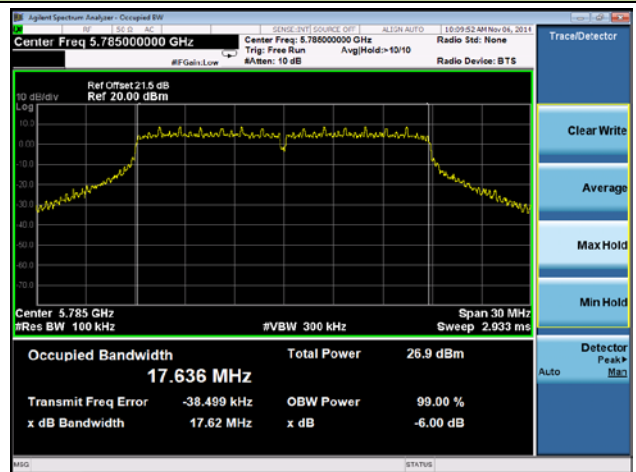


802.11n-HT20 6dB Bandwidth - Ant 1 / Ant 0 + 1

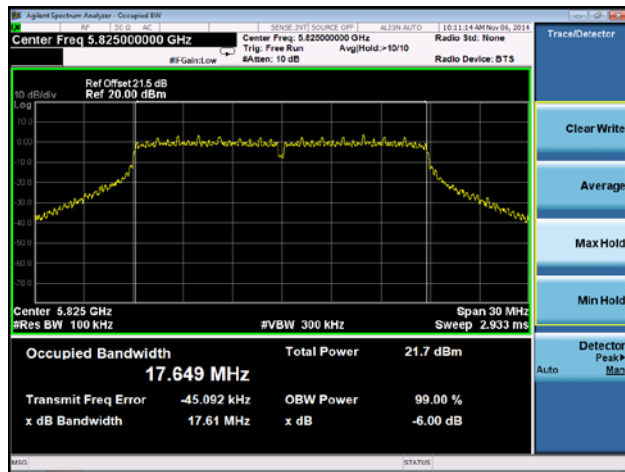
Channel 149 (5745MHz)



Channel 157 (5785MHz)

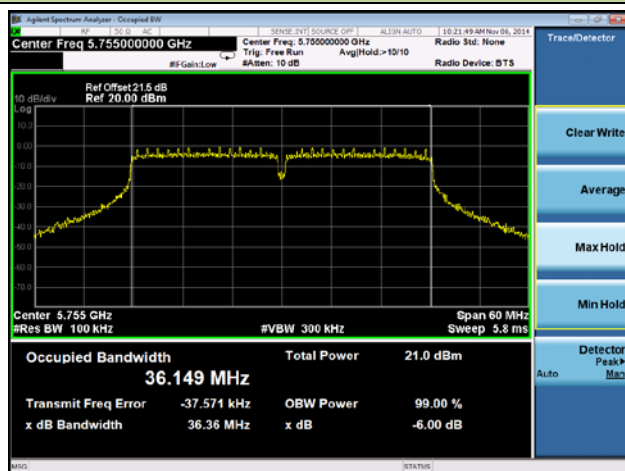


Channel 165 (5825MHz)

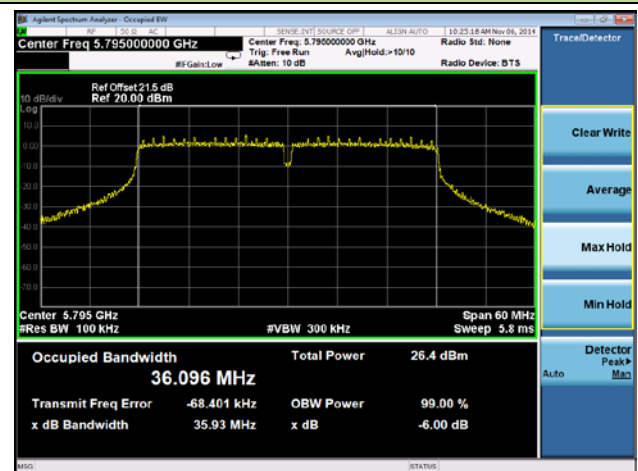


802.11n-HT40 6dB Bandwidth - Ant 1 / Ant 0 + 1

Channel 151 (5755MHz)

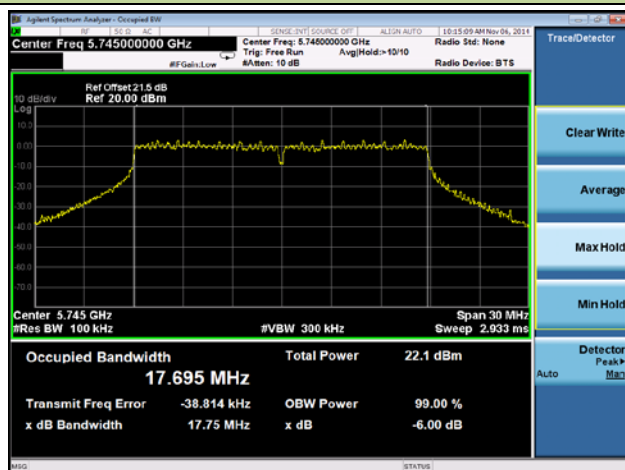


Channel 159 (5795MHz)

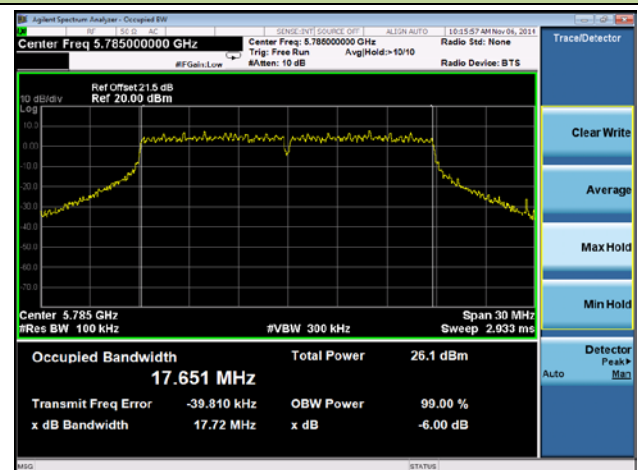


802.11ac-VHT20 6dB Bandwidth - Ant 1 / Ant 0 + 1

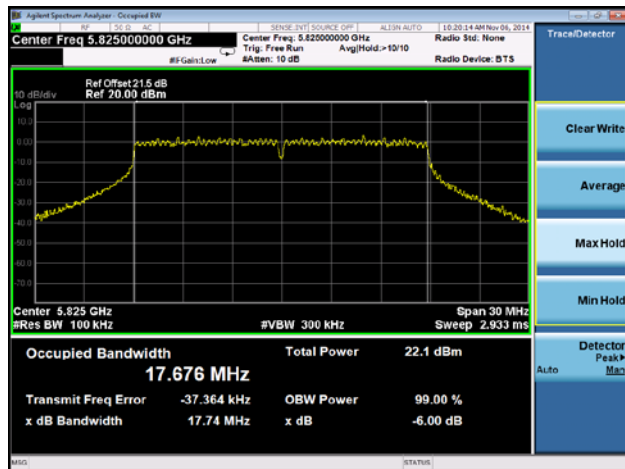
Channel 149 (5745MHz)



Channel 157 (5785MHz)

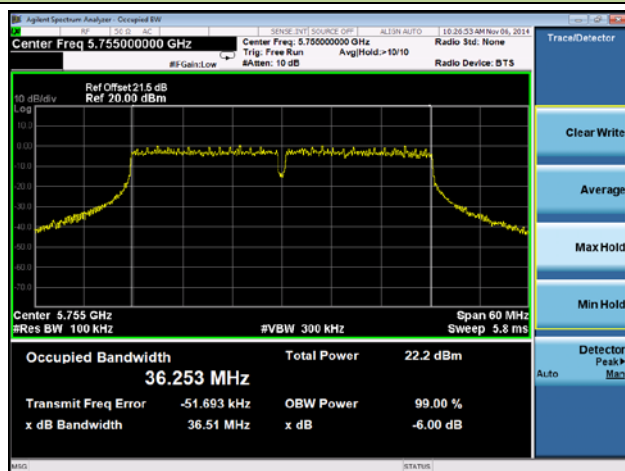


Channel 165 (5825MHz)

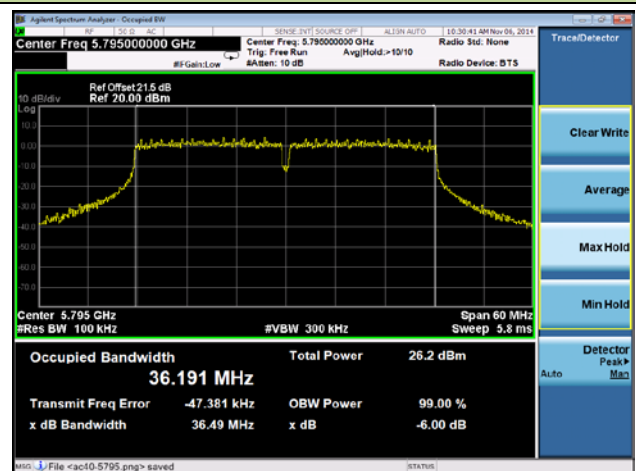


802.11ac-VHT40 6dB Bandwidth - Ant 1 / Ant 0 + 1

Channel 151 (5755MHz)

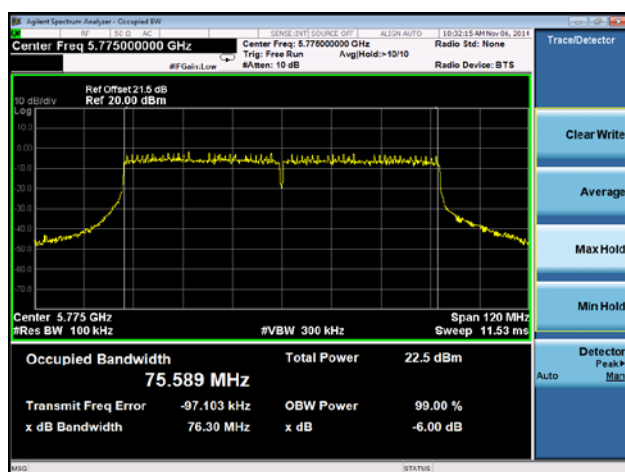


Channel 159 (5795MHz)



802.11ac-VHT80 6dB Bandwidth - Ant 1 / Ant 0 + 1

Channel 155 (5775MHz)



7.4. Output Power Measurement

7.4.1. Test Limit

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 (30dBm).

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm).

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

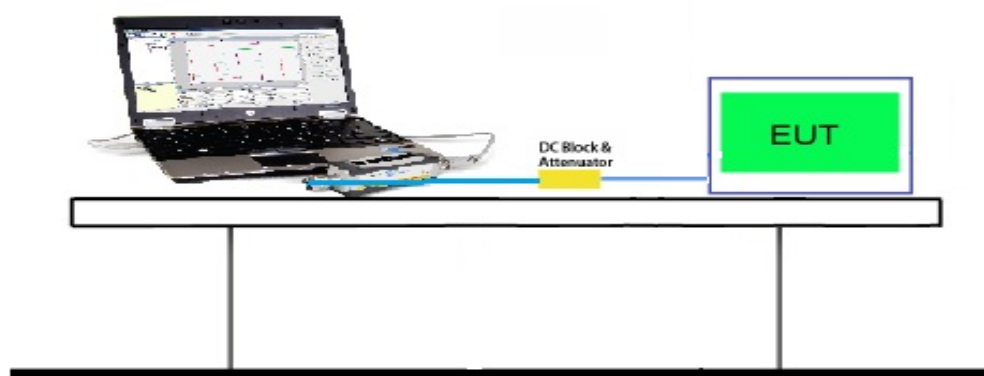
7.4.2. Test Procedure Used

KDB 789033 D02v01 - Section E) 3) b) Method PM-G

7.4.3. Test Setting

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

7.4.4. Test Setup



7.4.5. Test Result

Power output test was verified over all data rates of each mode shown as below, and then choose the maximum power output (yellow marker) for final test of each channel.

| N _{Tx} | a | MCS Index for 802.11n | Data Rate (Mbps) | | | |
|-----------------|----|-----------------------|------------------|----------|-----------------|----------|
| | | | 20MHz Bandwidth | | 40MHz Bandwidth | |
| | | | 800ns GI | 400ns GI | 800ns GI | 400ns GI |
| 2 | 6 | 8 | 13.0 | 14.4 | 27.0 | 30.0 |
| 2 | 9 | 9 | 26.0 | 28.9 | 54.0 | 60.0 |
| 2 | 12 | 10 | 39.0 | 43.3 | 81.0 | 90.0 |
| 2 | 18 | 11 | 52.0 | 57.8 | 108.0 | 120.0 |
| 2 | 24 | 12 | 78.0 | 86.7 | 162.0 | 180.0 |
| 2 | 36 | 13 | 104.0 | 115.6 | 216.0 | 240.0 |
| 2 | 48 | 14 | 117.0 | 130.0 | 243.0 | 270.0 |
| 2 | 54 | 15 | 130.0 | 144.0 | 270.0 | 300.0 |

| N _{Tx} | MCS Index for 802.11ac | Data Rate (Mbps) | | | | | |
|-----------------|------------------------|------------------|----------|-----------------|----------|-----------------|----------|
| | | 20MHz Bandwidth | | 40MHz Bandwidth | | 80MHz Bandwidth | |
| | | 800ns GI | 400ns GI | 800ns GI | 400ns GI | 800ns GI | 400ns GI |
| 2 | 10 | 13.0 | 14.4 | 27.0 | 30.0 | 58.6 | 65.0 |
| 2 | 11 | 26.0 | 28.8 | 54.0 | 60.0 | 117.0 | 130.0 |
| 2 | 12 | 39.0 | 43.4 | 81.0 | 90.0 | 175.6 | 195.0 |
| 2 | 13 | 52.0 | 57.8 | 108.0 | 120.0 | 234.0 | 260.0 |
| 2 | 14 | 78.0 | 86.6 | 162.0 | 180.0 | 351.0 | 390.0 |
| 2 | 15 | 104.0 | 115.6 | 216.0 | 240.0 | 468.0 | 520.0 |
| 2 | 16 | 117.0 | 130.0 | 243.0 | 270.0 | 526.6 | 585.0 |
| 2 | 17 | 130.0 | 144.4 | 270.0 | 300.0 | 585.0 | 650.0 |
| 2 | 18 | 156.0 | 173.4 | 324.0 | 360.0 | 702.0 | 780.0 |
| 2 | 19 | -- | -- | 360.0 | 400.0 | 780.0 | 866.6 |

Note: Power output test was verified over all data rates of each mode shown as above, and then choose the maximum power output (yellow marker) for final test of each channel.

Output power at various data rates for Ant 0 /Ant 0 + 1:

| Test Mode | Bandwidth | Channel | Frequency (MHz) | Data Rate (Mbps) | RMS Power (dBm) |
|-----------|-----------|---------|-----------------|------------------|-----------------|
| 802.11a | 20 | 60 | 5180 | 6 | 12.37 |
| | | | | 24 | 12.12 |
| | | | | 54 | 11.89 |
| 802.11n | 20 | 60 | 5180 | 13 | 12.37 |
| | | | | 78 | 11.74 |
| | | | | 130 | 11.45 |
| 802.11n | 40 | 62 | 5190 | 27 | 9.75 |
| | | | | 162 | 9.23 |
| | | | | 270 | 8.78 |
| 802.11ac | 20 | 60 | 5180 | 13 | 10.38 |
| | | | | 78 | 9.96 |
| | | | | 156 | 9.17 |
| 802.11ac | 40 | 62 | 5190 | 27 | 7.75 |
| | | | | 162 | 7.22 |
| | | | | 360 | 6.81 |
| 802.11ac | 80 | 58 | 5210 | 58.6 | 6.50 |
| | | | | 351 | 6.02 |
| | | | | 780 | 5.73 |

| Test Mode | N _{Tx} | Data Rate (Mbps) | Channel No. | Freq. (MHz) | Ant 0 Average Power (dBm) | Ant 1 Average Power (dBm) | Total Average Power (dBm) | Limit (dBm) | Result |
|------------|-----------------|------------------|-------------|-------------|---------------------------|---------------------------|---------------------------|-------------|--------|
| 11a | 2 | 6 | 36 | 5180 | 12.37 | 13.64 | 16.06 | ≤30.00 | Pass |
| 11a | 2 | 6 | 44 | 5220 | 14.36 | 15.57 | 18.02 | ≤30.00 | Pass |
| 11a | 2 | 6 | 48 | 5240 | 13.79 | 15.70 | 17.86 | ≤30.00 | Pass |
| 11a | 2 | 6 | 149 | 5745 | 13.45 | 14.73 | 17.15 | ≤30.00 | Pass |
| 11a | 2 | 6 | 157 | 5785 | 14.77 | 14.65 | 17.72 | ≤30.00 | Pass |
| 11a | 2 | 6 | 165 | 5825 | 15.35 | 14.99 | 18.18 | ≤30.00 | Pass |
| 11n-HT20 | 2 | 13 | 36 | 5180 | 12.37 | 13.39 | 15.92 | ≤30.00 | Pass |
| 11n-HT20 | 2 | 13 | 44 | 5220 | 14.06 | 15.74 | 17.99 | ≤30.00 | Pass |
| 11n-HT20 | 2 | 13 | 48 | 5240 | 13.59 | 15.71 | 17.79 | ≤30.00 | Pass |
| 11n-HT20 | 2 | 13 | 149 | 5745 | 14.44 | 15.42 | 17.97 | ≤30.00 | Pass |
| 11n-HT20 | 2 | 13 | 157 | 5785 | 15.30 | 15.53 | 18.43 | ≤30.00 | Pass |
| 11n-HT20 | 2 | 13 | 165 | 5825 | 15.41 | 15.62 | 18.53 | ≤30.00 | Pass |
| 11n-HT40 | 2 | 27 | 38 | 5190 | 9.75 | 10.69 | 13.26 | ≤30.00 | Pass |
| 11n-HT40 | 2 | 27 | 46 | 5230 | 12.84 | 14.68 | 16.87 | ≤30.00 | Pass |
| 11n-HT40 | 2 | 27 | 151 | 5755 | 13.88 | 14.02 | 16.96 | ≤30.00 | Pass |
| 11n-HT40 | 2 | 27 | 159 | 5795 | 14.62 | 14.65 | 17.65 | ≤30.00 | Pass |
| 11ac-VHT20 | 2 | 13 | 36 | 5180 | 10.38 | 11.60 | 14.04 | ≤30.00 | Pass |
| 11ac-VHT20 | 2 | 13 | 44 | 5220 | 13.03 | 13.97 | 16.54 | ≤30.00 | Pass |
| 11ac-VHT20 | 2 | 13 | 48 | 5240 | 12.27 | 13.73 | 16.07 | ≤30.00 | Pass |
| 11ac-VHT20 | 2 | 13 | 149 | 5745 | 13.45 | 13.73 | 16.60 | ≤30.00 | Pass |
| 11ac-VHT20 | 2 | 13 | 157 | 5785 | 14.08 | 14.15 | 17.13 | ≤30.00 | Pass |
| 11ac-VHT20 | 2 | 13 | 165 | 5825 | 14.12 | 14.26 | 17.20 | ≤30.00 | Pass |
| 11ac-VHT40 | 2 | 27 | 38 | 5190 | 7.75 | 8.49 | 11.15 | ≤30.00 | Pass |
| 11ac-VHT40 | 2 | 27 | 46 | 5230 | 11.34 | 13.14 | 15.34 | ≤30.00 | Pass |
| 11ac-VHT40 | 2 | 27 | 151 | 5755 | 12.99 | 13.20 | 16.11 | ≤30.00 | Pass |
| 11ac-VHT40 | 2 | 27 | 159 | 5795 | 13.12 | 13.31 | 16.23 | ≤30.00 | Pass |
| 11ac-VHT80 | 2 | 58.6 | 42 | 5210 | 6.50 | 7.45 | 10.01 | ≤30.00 | Pass |
| 11ac-VHT80 | 2 | 58.6 | 155 | 5775 | 12.74 | 12.46 | 15.61 | ≤30.00 | Pass |

Note: The Total Average Power (dBm) = $10 \cdot \log\{10^{(\text{Ant 0 Average Power} / 10)} + 10^{(\text{Ant 1 Average Power} / 10)}\}$.

7.5. Transmit Power Control

7.5.1. Test Limit

The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm.

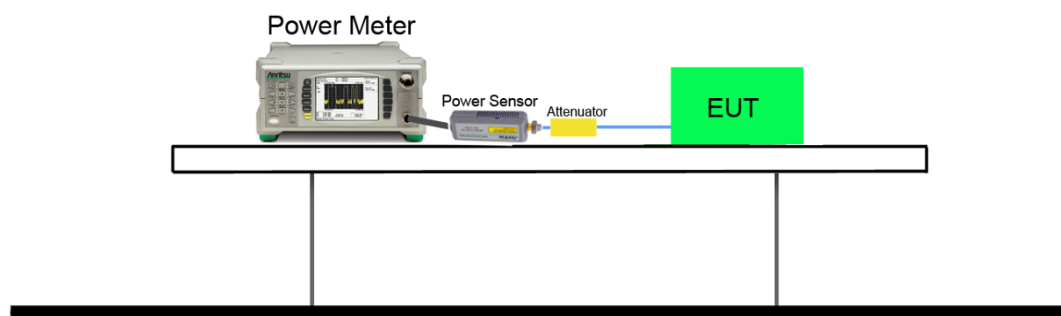
7.5.2. Test Procedure Used

KDB 789033 D02v01 - Section E) 3) b) Method PM-G

7.5.3. Test Setting

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

7.5.4. Test Setup



7.5.5. Test Result

The device operating in the 5150 ~ 5250MHz & 5725 ~ 5850MHz band shall not employ the TPC mechanism, so not assessed this test.

7.6. Power Spectral Density Measurement

7.6.1. Test Limit

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

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

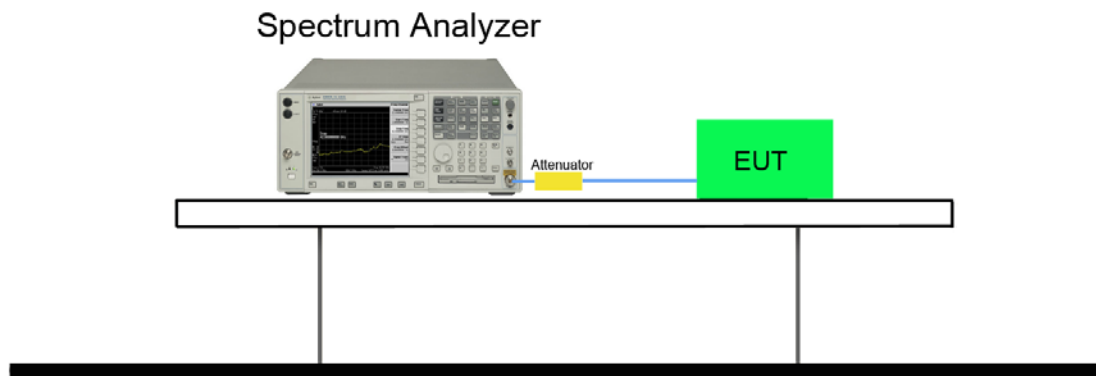
7.6.2. Test Procedure Used

KDB 789033 D02v01 - Section F

7.6.3. Test Setting

1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Span was set to encompass the entire 26dB EBW of the signal.
3. RBW = 1MHz, if measurement bandwidth of Maximum PSD is specified in 500 kHz,
RBW = 100 kHz
4. VBW = 3MHz
5. Number of sweep points $\geq 2 \times (\text{span} / \text{RBW})$
6. Detector = power averaging (RMS)
7. Sweep time = auto
8. Trigger = free run
9. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
10. Add $10 \cdot \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add $10 \cdot \log(1/0.25) = 6$ dB if the duty cycle is 25 percent.
11. When the measurement bandwidth of Maximum PSD is specified in 500 kHz, add a constant factor $10 \cdot \log(500\text{kHz}/100\text{kHz}) = 7$ dB to the measured result

7.6.4. Test Setup



7.6.5. Test Result

| Test Mode | N _{Tx} | Data Rate (Mbps) | Channel No. | Freq. (MHz) | Ant 0 PSD (dBm) | Ant 1 PSD (dBm) | Duty Cycle (%) | Total PSD (dBm) | Limit (dBm /MHz) | Result |
|------------|-----------------|---------------------|----------------|----------------|-----------------------|-----------------------|----------------------|-----------------------|---------------------|--------|
| 11a | 2 | 6 | 36 | 5180 | 2.127 | 3.811 | 93.3 | 6.362 | ≤17.00 | Pass |
| 11a | 2 | 6 | 44 | 5220 | 1.725 | 2.901 | 93.3 | 5.664 | ≤17.00 | Pass |
| 11a | 2 | 6 | 48 | 5240 | 1.590 | 3.232 | 93.3 | 5.800 | ≤17.00 | Pass |
| 11n-HT20 | 2 | 13 | 36 | 5180 | 1.379 | 2.949 | 89.5 | 5.727 | ≤17.00 | Pass |
| 11n-HT20 | 2 | 13 | 44 | 5220 | 1.094 | 2.485 | 89.5 | 5.337 | ≤17.00 | Pass |
| 11n-HT20 | 2 | 13 | 48 | 5240 | 0.716 | 2.674 | 89.5 | 5.296 | ≤17.00 | Pass |
| 11n-HT40 | 2 | 27 | 38 | 5190 | -5.827 | -4.881 | 84.8 | -1.602 | ≤17.00 | Pass |
| 11n-HT40 | 2 | 27 | 46 | 5230 | -2.539 | -1.315 | 84.8 | 1.842 | ≤17.00 | Pass |
| 11ac-VHT20 | 2 | 13 | 36 | 5180 | -2.352 | -0.297 | 84.8 | 2.522 | ≤17.00 | Pass |
| 11ac-VHT20 | 2 | 13 | 44 | 5220 | 0.480 | 1.263 | 84.8 | 4.615 | ≤17.00 | Pass |
| 11ac-VHT20 | 2 | 13 | 48 | 5240 | -0.115 | 1.360 | 84.8 | 4.411 | ≤17.00 | Pass |
| 11ac-VHT40 | 2 | 27 | 38 | 5190 | -7.552 | -6.223 | 78.6 | -2.781 | ≤17.00 | Pass |
| 11ac-VHT40 | 2 | 27 | 46 | 5230 | -3.567 | -2.262 | 78.6 | 1.190 | ≤17.00 | Pass |
| 11ac-VHT80 | 2 | 58.6 | 42 | 5210 | -12.222 | -10.366 | 74.5 | -6.907 | ≤17.00 | Pass |

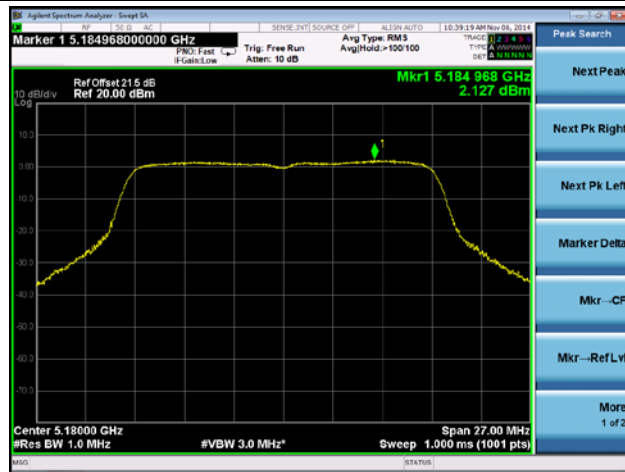
Note: When EUT duty cycle < 98%, the total PSD = $10 \cdot \log\{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)}\} + 10 \cdot \log(1/\text{duty cycle})$

| Test Mode | N _{Tx} | Data Rate (Mbps) | Channel No. | Freq. (MHz) | Ant 0 PSD (dBm) | Ant 1 PSD (dBm) | Duty Cycle (%) | Constant Factor | Total PSD (dBm) | Limit (dBm/ 500kHz) | Result |
|------------|-----------------|---------------------|----------------|----------------|-----------------------|-----------------------|----------------------|--------------------|-----------------------|---------------------------|--------|
| 11a | 2 | 6 | 149 | 5745 | -7.007 | -6.154 | 93.3 | 7 | 3.752 | ≤30.00 | Pass |
| 11a | 2 | 6 | 157 | 5785 | -3.188 | -6.472 | 93.3 | 7 | 5.785 | ≤30.00 | Pass |
| 11a | 2 | 6 | 165 | 5825 | -3.141 | -4.494 | 93.3 | 7 | 6.546 | ≤30.00 | Pass |
| 11n-HT20 | 2 | 13 | 149 | 5745 | -5.259 | -5.550 | 89.5 | 7 | 5.090 | ≤30.00 | Pass |
| 11n-HT20 | 2 | 13 | 157 | 5785 | -3.937 | -5.157 | 89.5 | 7 | 5.988 | ≤30.00 | Pass |
| 11n-HT20 | 2 | 13 | 165 | 5825 | -3.773 | -5.190 | 89.5 | 7 | 6.068 | ≤30.00 | Pass |
| 11n-HT40 | 2 | 27 | 151 | 5755 | -8.555 | -11.873 | 84.8 | 7 | 0.822 | ≤30.00 | Pass |
| 11n-HT40 | 2 | 27 | 159 | 5795 | -7.110 | -8.725 | 84.8 | 7 | 2.883 | ≤30.00 | Pass |
| 11ac-VHT20 | 2 | 13 | 149 | 5745 | -4.494 | -5.096 | 84.8 | 7 | 5.942 | ≤30.00 | Pass |
| 11ac-VHT20 | 2 | 13 | 157 | 5785 | -3.587 | -4.990 | 84.8 | 7 | 6.494 | ≤30.00 | Pass |
| 11ac-VHT20 | 2 | 13 | 165 | 5825 | -2.858 | -7.845 | 84.8 | 7 | 6.054 | ≤30.00 | Pass |
| 11ac-VHT40 | 2 | 27 | 151 | 5755 | -7.645 | -8.343 | 78.6 | 7 | 3.076 | ≤30.00 | Pass |
| 11ac-VHT40 | 2 | 27 | 159 | 5795 | -6.584 | -4.142 | 78.6 | 7 | 5.862 | ≤30.00 | Pass |
| 11ac-VHT80 | 2 | 58.6 | 155 | 5775 | -9.363 | -10.776 | 74.5 | 7 | 1.276 | ≤30.00 | Pass |

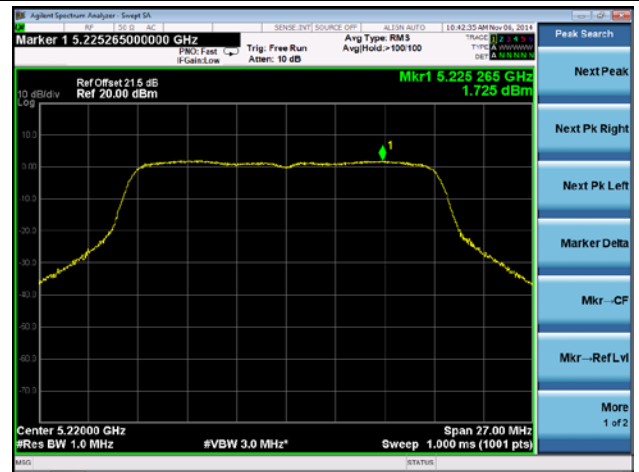
Note: When EUT duty cycle < 98%, the total PSD = $10 \cdot \log\{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)}\} + 10 \cdot \log(1/\text{duty cycle}) + \text{Constant Factor}$.

802.11a Power Spectral Density - Ant 0 / Ant 0 + 1

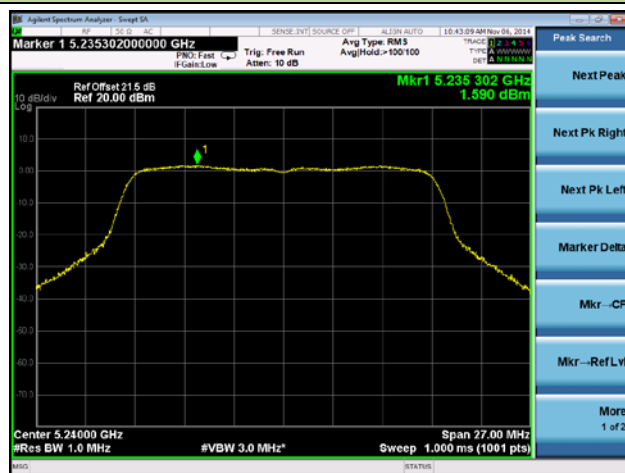
Channel 36 (5180MHz)



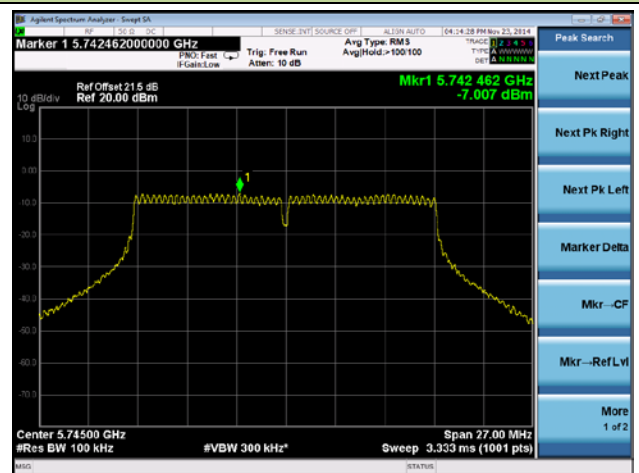
Channel 44 (5220MHz)



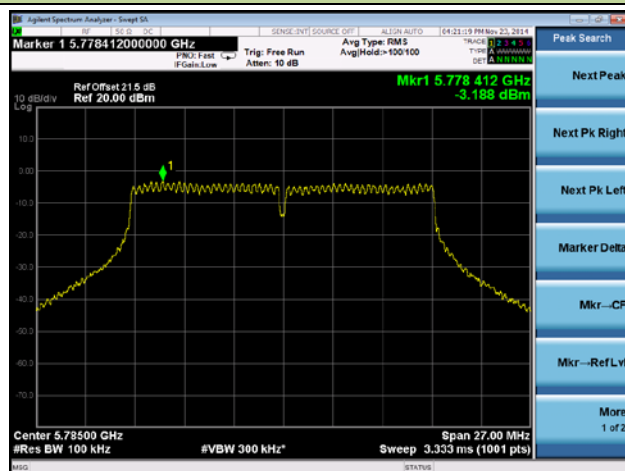
Channel 48 (5240MHz)



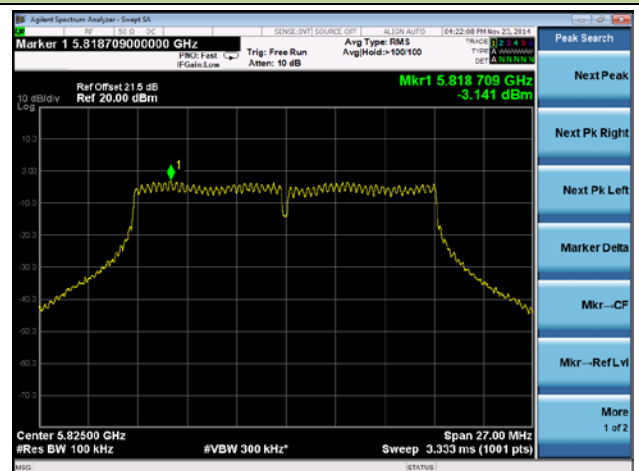
Channel 149 (5745MHz)



Channel 157 (5785MHz)



Channel 165 (5825MHz)

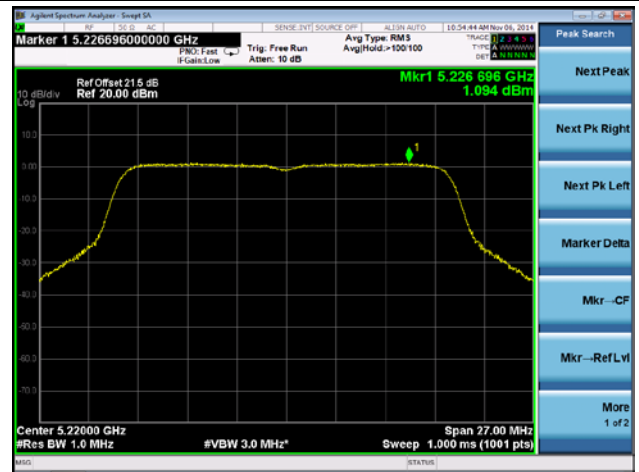


802.11n-HT20 Power Spectral Density - Ant 0 / Ant 0 + 1

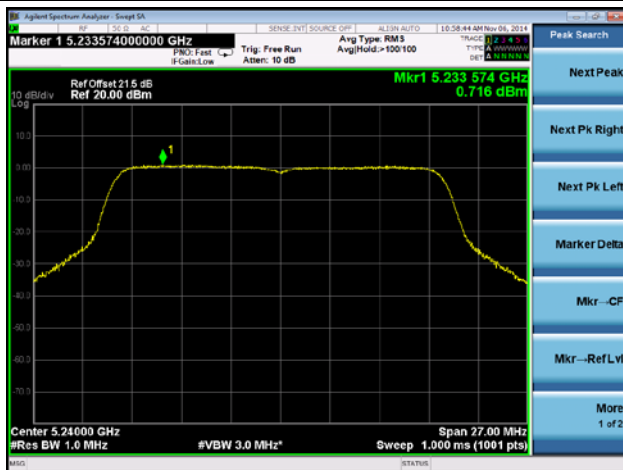
Channel 36 (5180MHz)



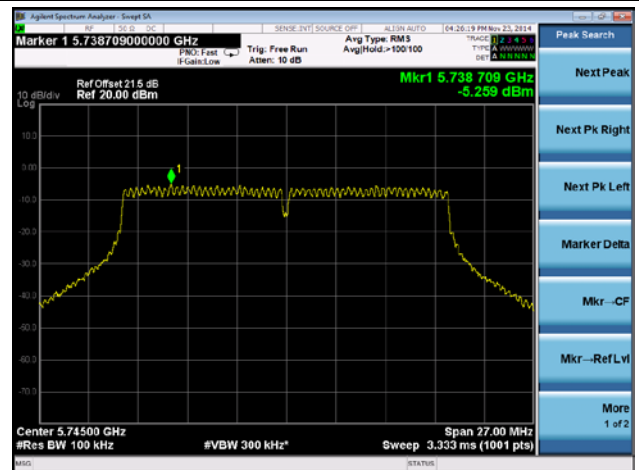
Channel 44 (5220MHz)



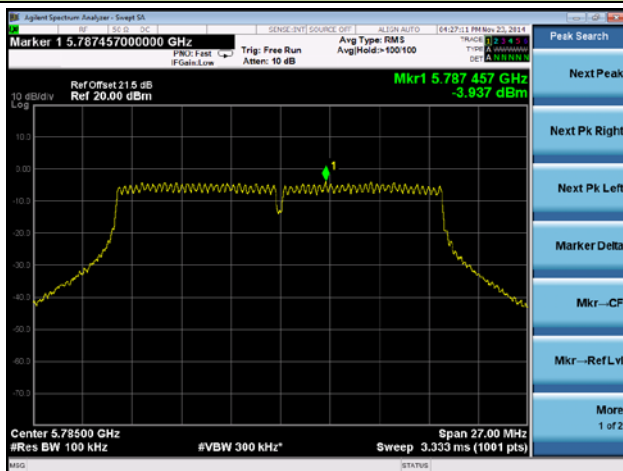
Channel 48 (5240MHz)



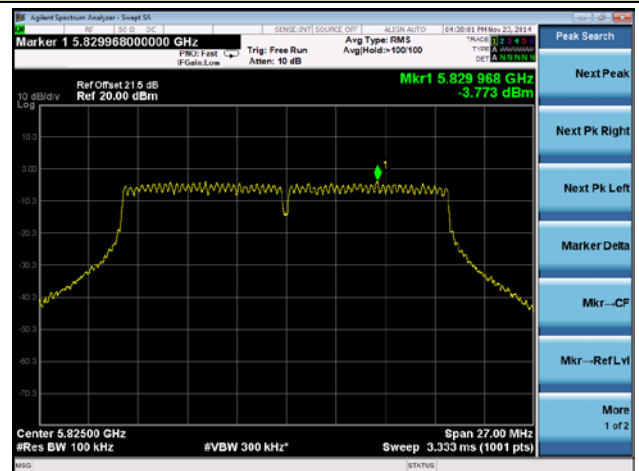
Channel 149 (5745MHz)



Channel 157 (5785MHz)

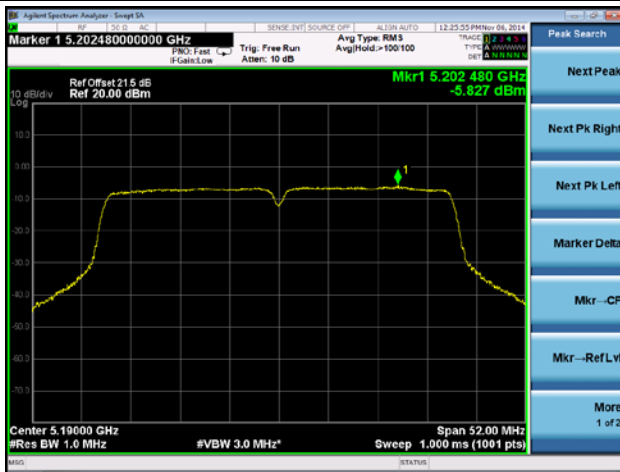


Channel 165 (5825MHz)

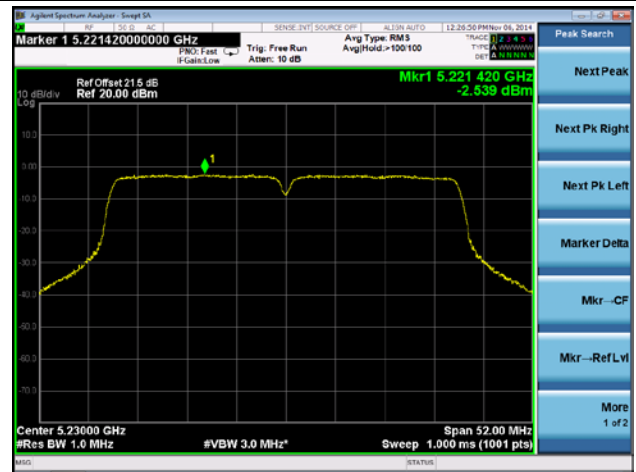


802.11n-HT40 Power Spectral Density - Ant 0 / Ant 0 + 1

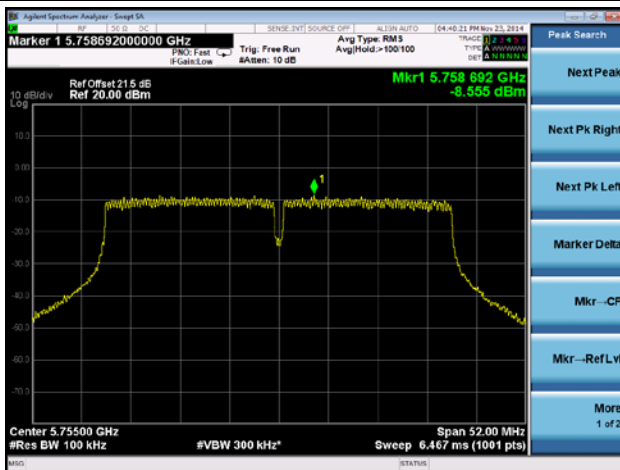
Channel 38 (5190MHz)



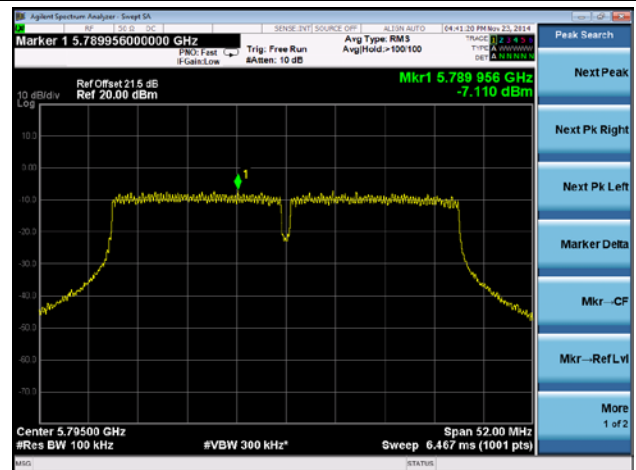
Channel 46 (5230MHz)



Channel 151 (5755MHz)

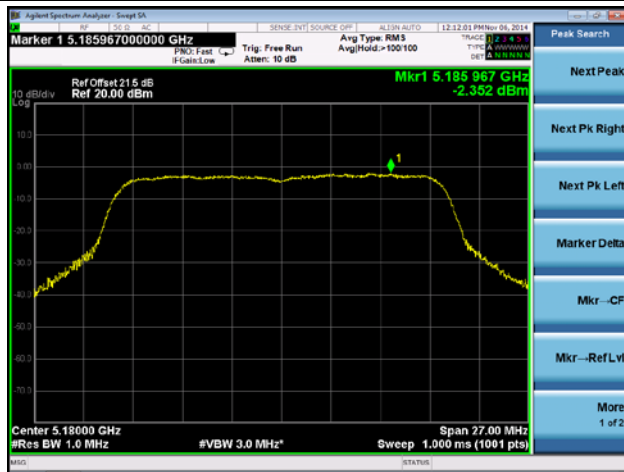


Channel 159 (5795MHz)



802.11ac-VHT20 Power Spectral Density - Ant 0 / Ant 0 + 1

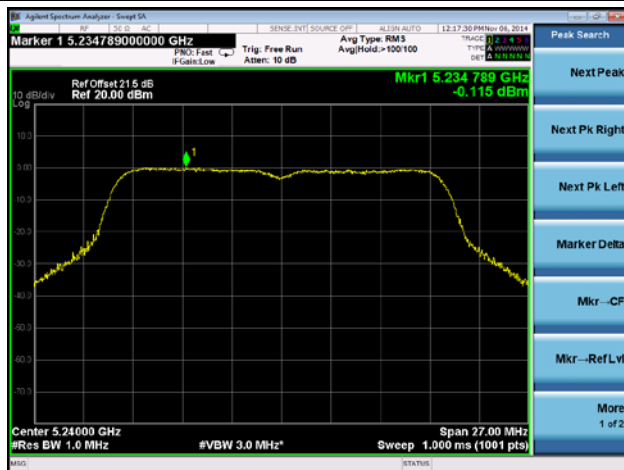
Channel 36 (5180MHz)



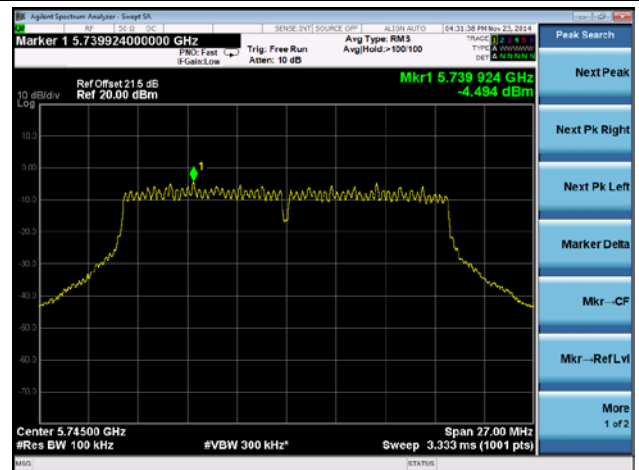
Channel 44 (5220MHz)



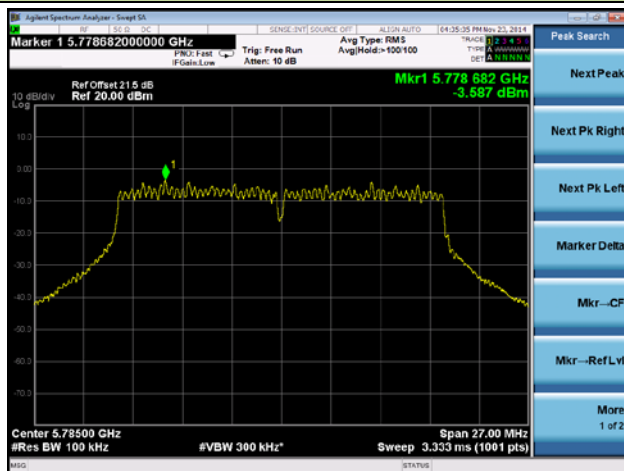
Channel 48 (5240MHz)



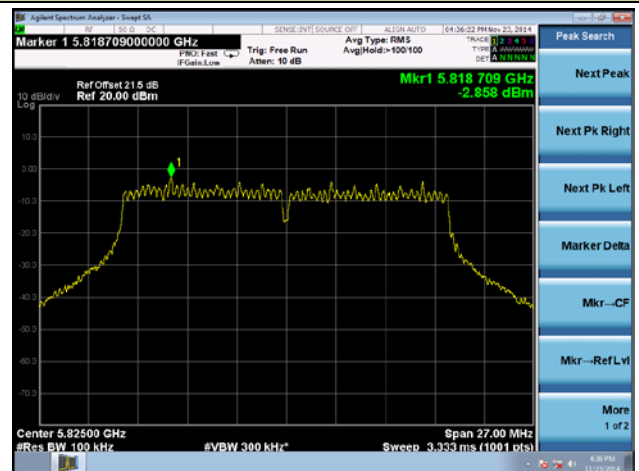
Channel 149 (5745MHz)



Channel 157 (5785MHz)



Channel 165 (5825MHz)

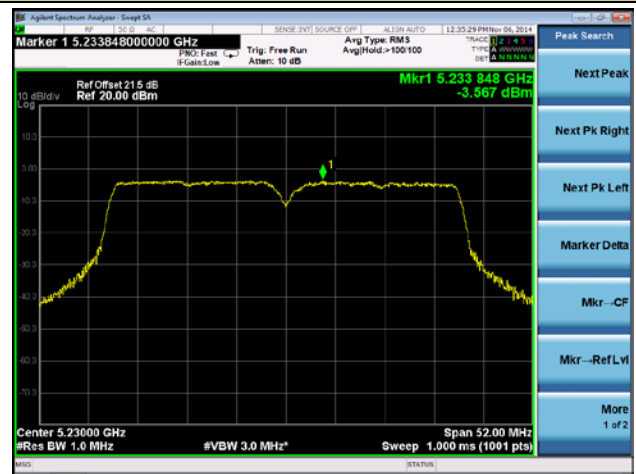


802.11ac-VHT40 Power Spectral Density - Ant 0 / Ant 0 + 1

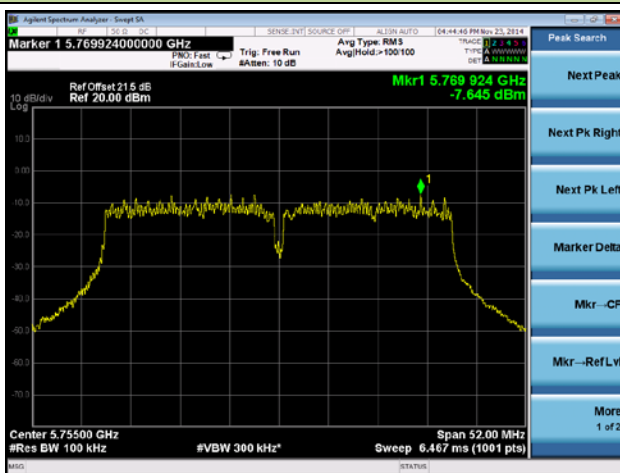
Channel 38 (5190MHz)



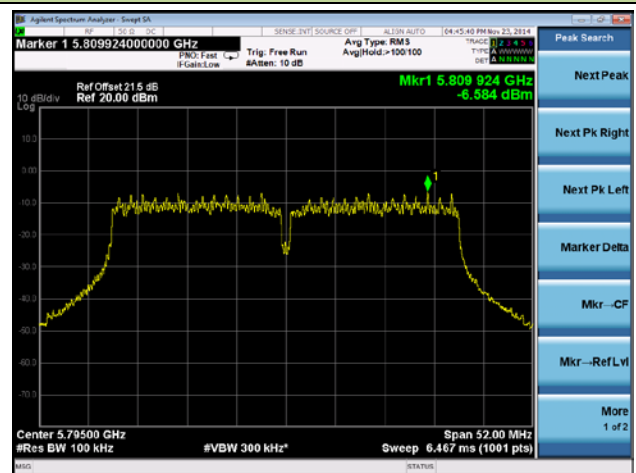
Channel 46 (5230MHz)



Channel 151 (5755MHz)

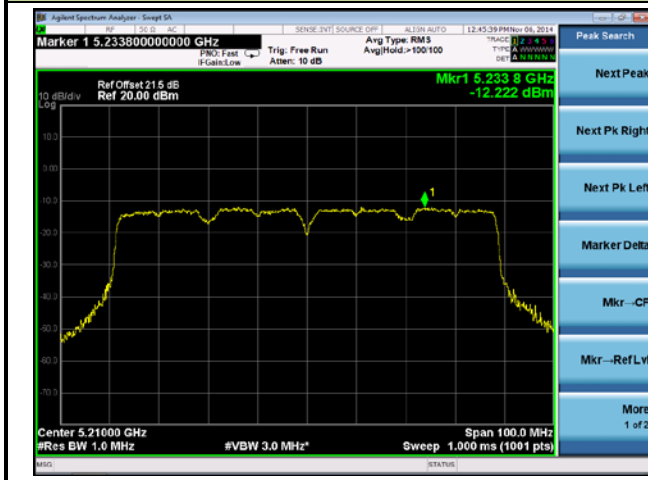


Channel 159 (5795MHz)

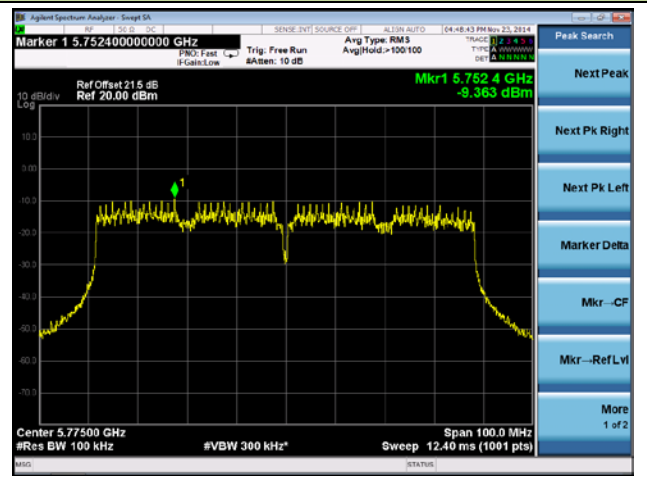


802.11ac-VHT80 Power Spectral Density - Ant 0 / Ant 0 + 1

Channel 42 (5210MHz)

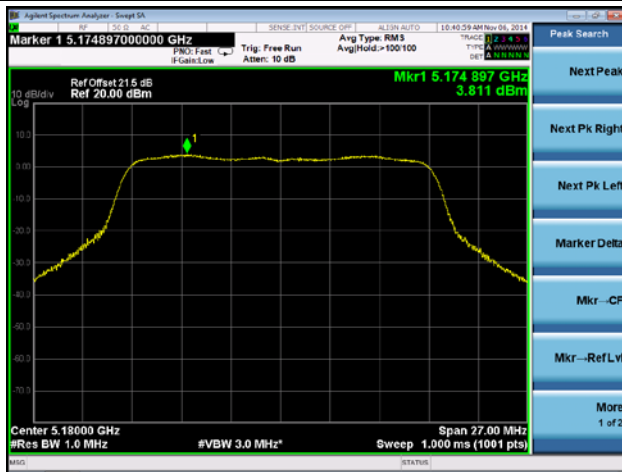


Channel 155 (5775MHz)

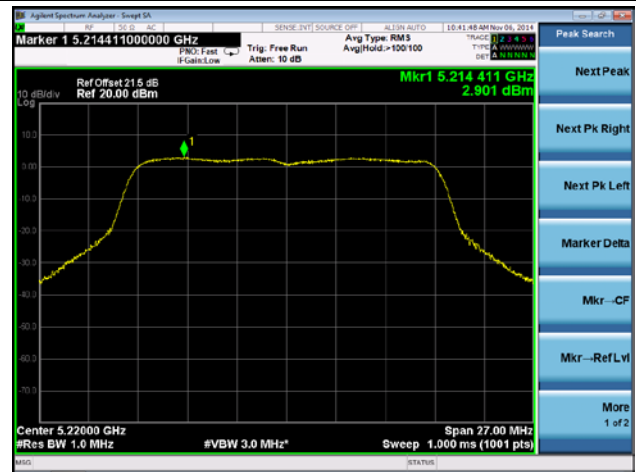


802.11a Power Spectral Density - Ant 1 / Ant 0 + 1

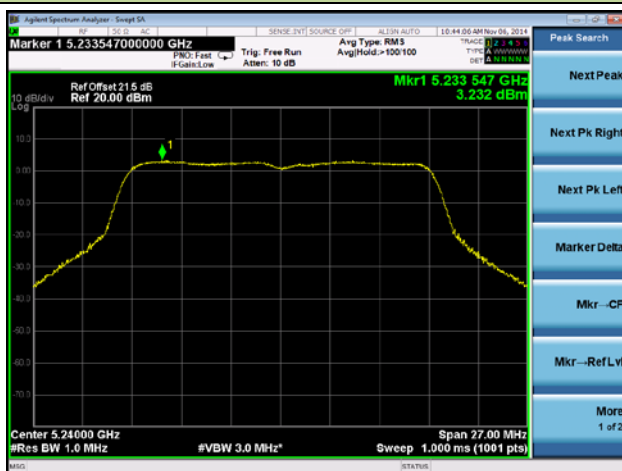
Channel 36 (5180MHz)



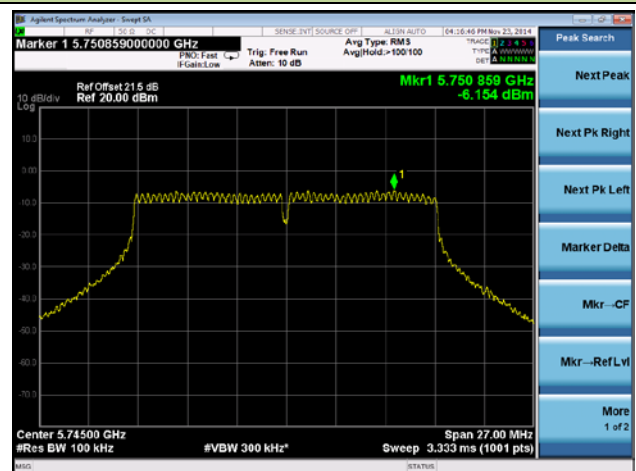
Channel 44 (5220MHz)



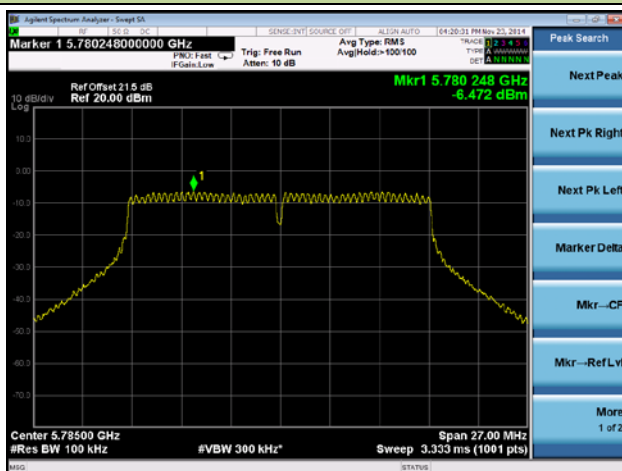
Channel 48 (5240MHz)



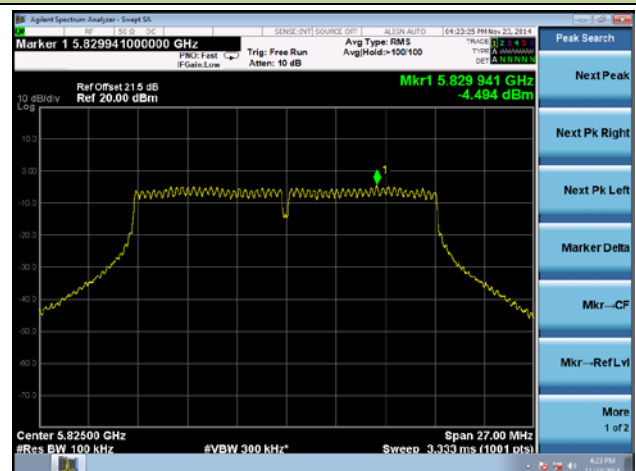
Channel 149 (5745MHz)



Channel 157 (5785MHz)

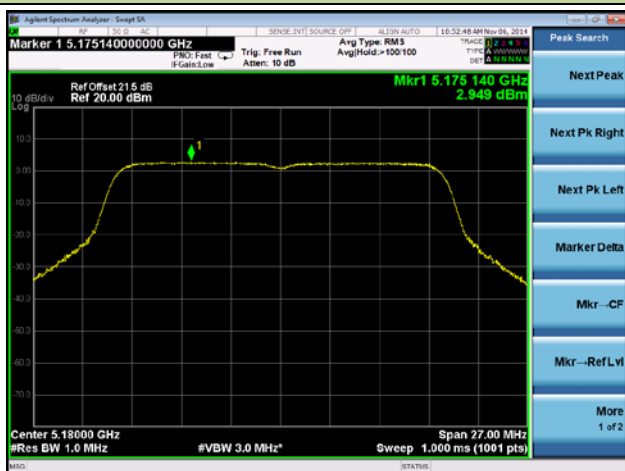


Channel 165 (5825MHz)

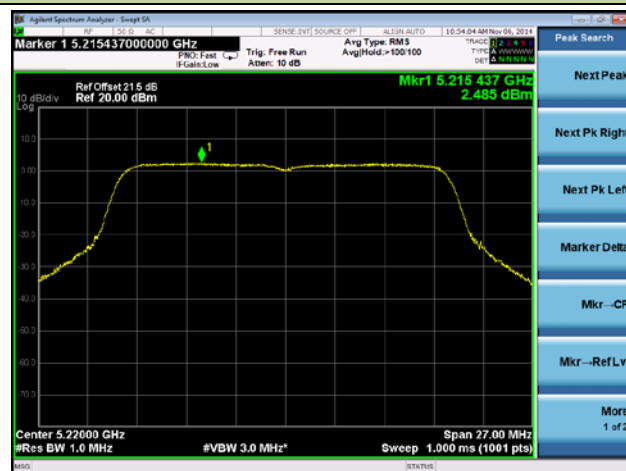


802.11n-HT20 Power Spectral Density - Ant 1 / Ant 0 + 1

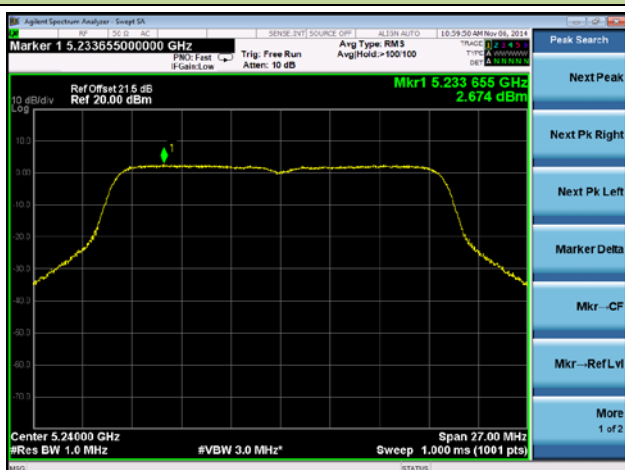
Channel 36 (5180MHz)



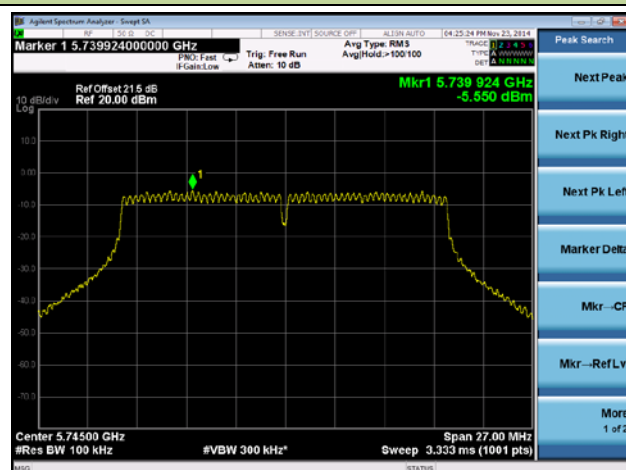
Channel 44 (5220MHz)



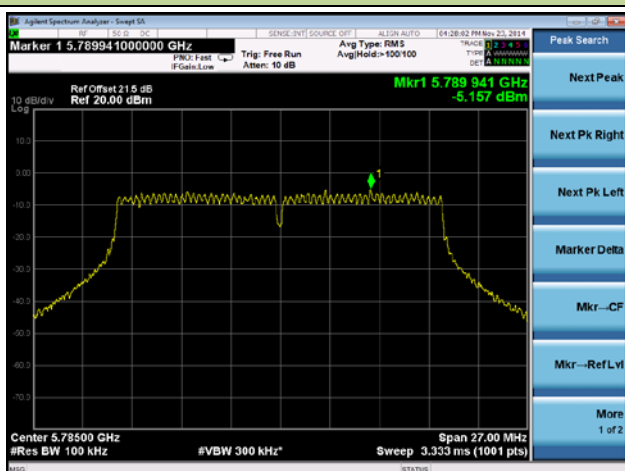
Channel 48 (5240MHz)



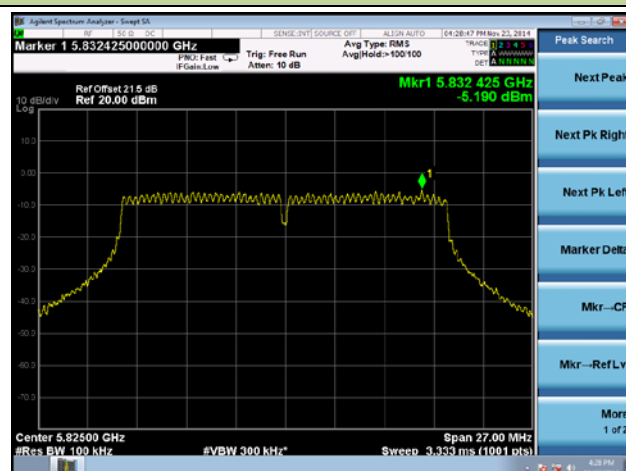
Channel 149 (5745MHz)



Channel 157 (5785MHz)



Channel 165 (5825MHz)

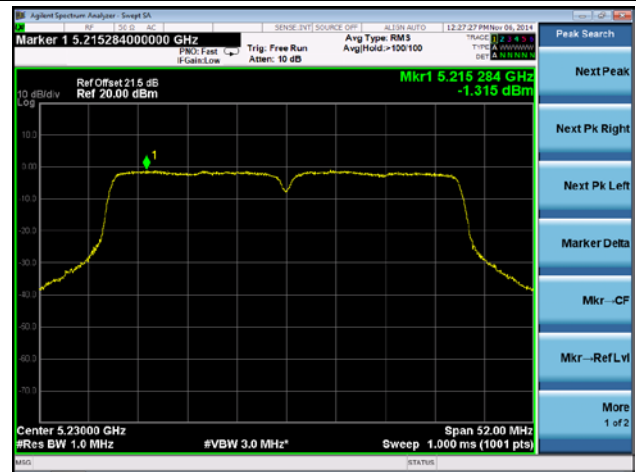


802.11n-HT40 Power Spectral Density - Ant 1 / Ant 0 + 1

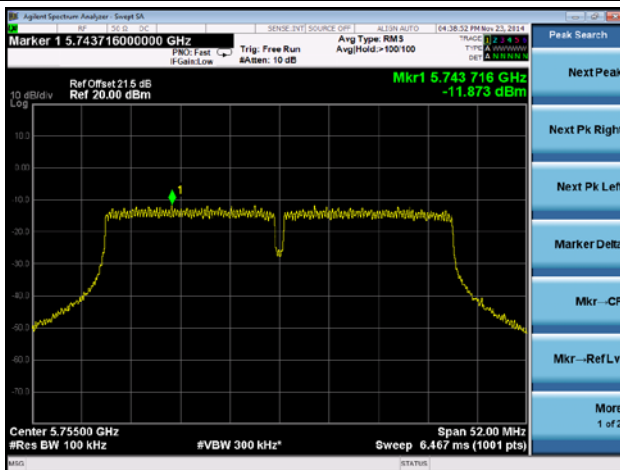
Channel 38 (5190MHz)



Channel 46 (5230MHz)



Channel 151 (5755MHz)

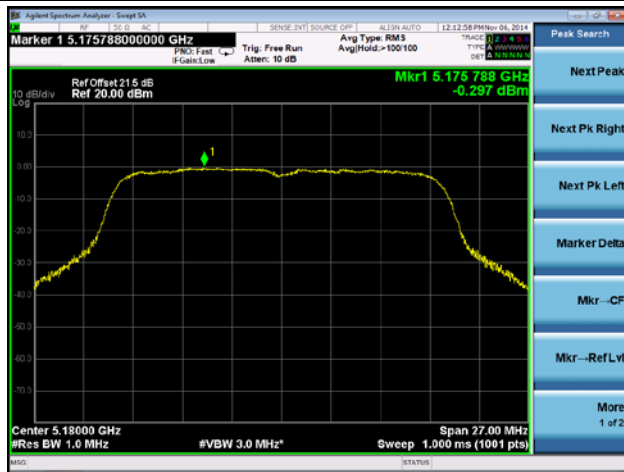


Channel 159 (5795MHz)

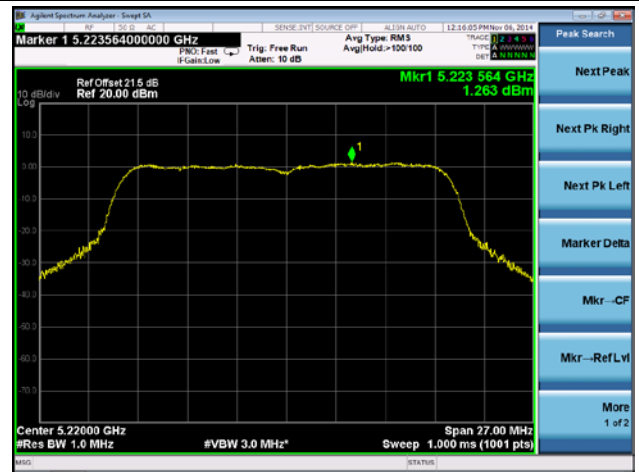


802.11ac-VHT20 Power Spectral Density - Ant 1 / Ant 0 + 1

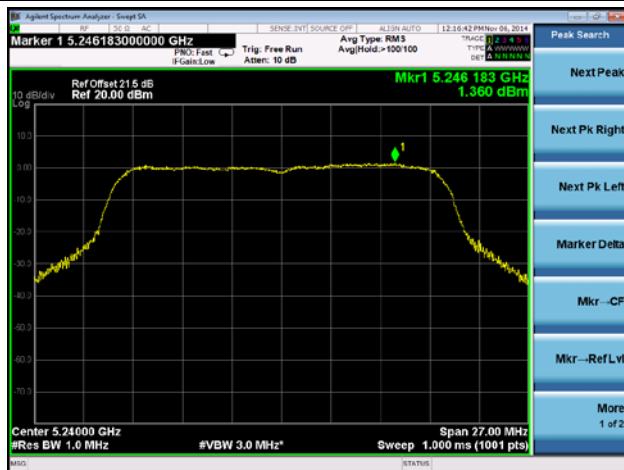
Channel 36 (5180MHz)



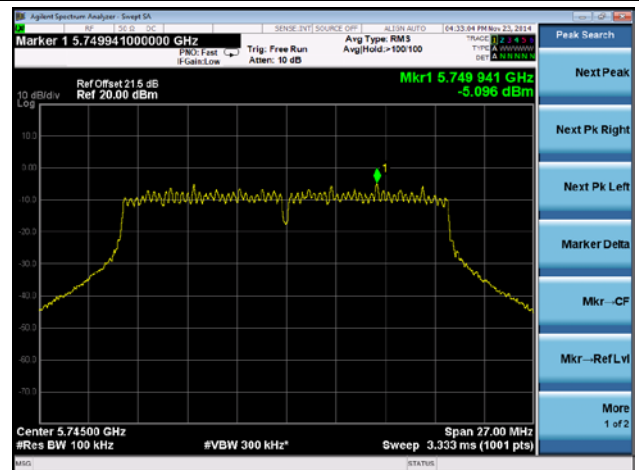
Channel 44 (5220MHz)



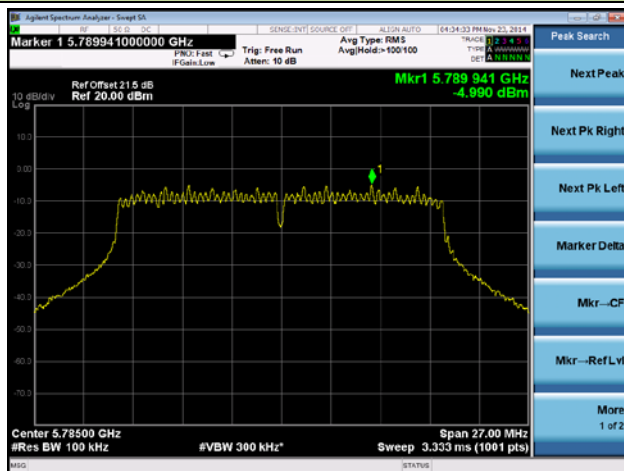
Channel 48 (5240MHz)



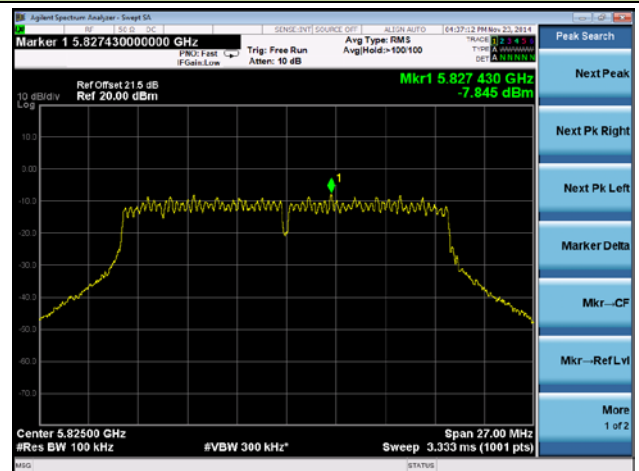
Channel 149 (5745MHz)



Channel 157 (5785MHz)

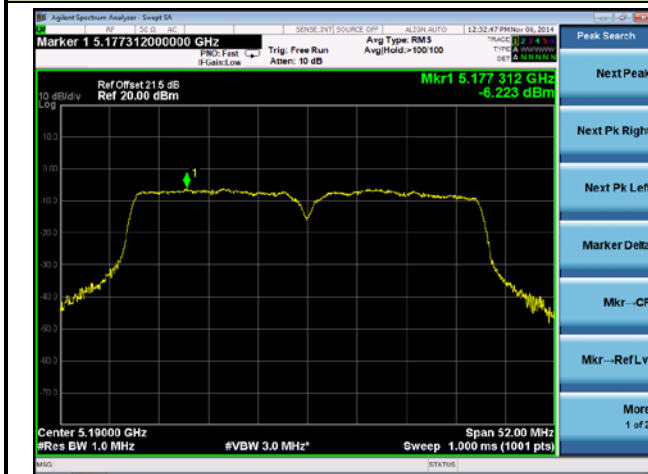


Channel 165 (5825MHz)



802.11ac-VHT40 Power Spectral Density - Ant 1 / Ant 0 + 1

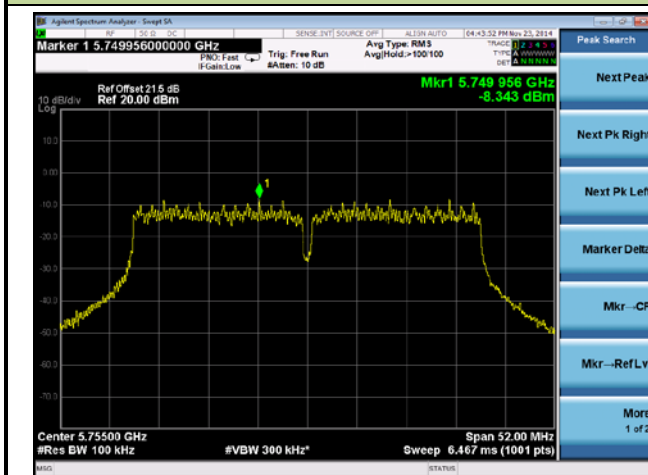
Channel 38 (5190MHz)



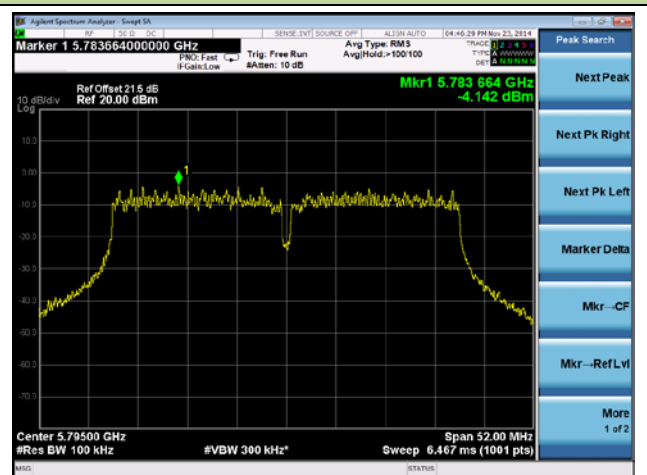
Channel 46 (5230MHz)



Channel 151 (5755MHz)



Channel 159 (5795MHz)

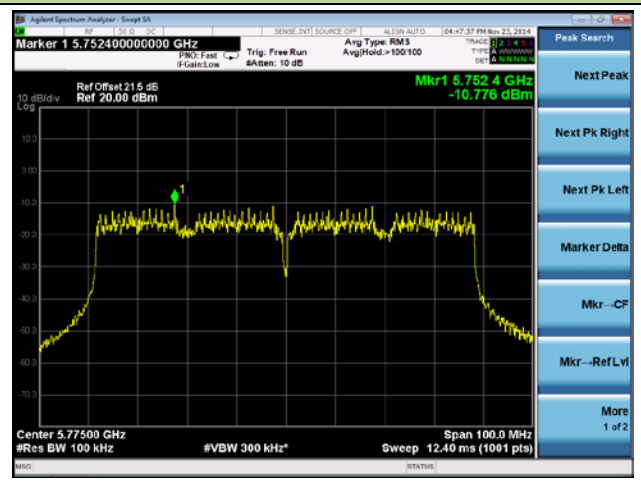


802.11ac-VHT80 Power Spectral Density - Ant 1 / Ant 0 + 1

Channel 42 (5210MHz)



Channel 155 (5755MHz)



7.7. Frequency Stability Measurement

7.7.1. Test Limit

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

7.7.2. Test Procedure Used

Frequency Stability Under Temperature Variations:

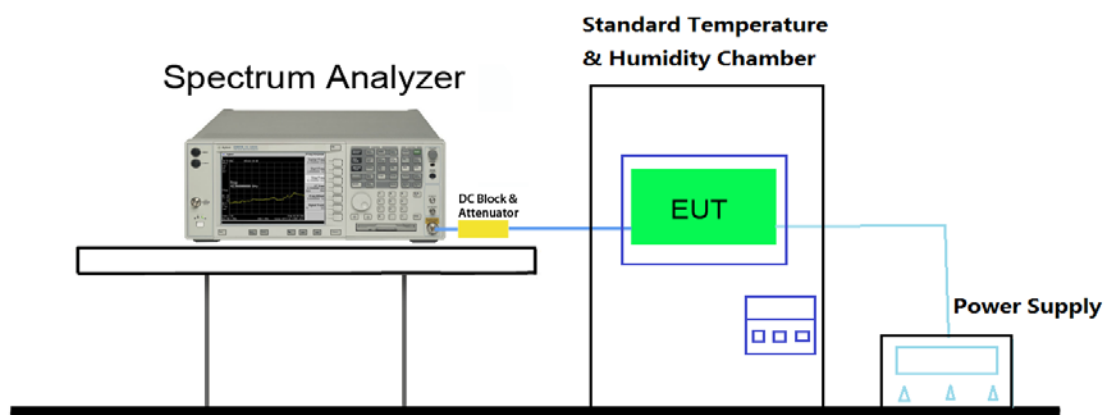
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

7.7.3. Test Setup



7.7.4. Test Result

| Voltage (%) | Power (VAC) | Temp (°C) | Frequency (Hz) | Freq. Dev. (Hz) | Deviation (%) |
|-------------|-------------|------------|----------------|-----------------|---------------|
| 100% | 120 | + 20 (Ref) | 5220024326.326 | 24326.326 | 0.0004660 |
| | | | 5784989329.877 | -10670.123 | -0.0001844 |
| | | - 30 | 5220022123.987 | 22123.987 | 0.0004238 |
| | | | 5785036309.821 | 36309.821 | 0.0006277 |
| | | - 20 | 5220042090.391 | 42090.391 | 0.0008063 |
| | | | 5785027891.323 | 27891.323 | 0.0004821 |
| | | - 10 | 5220098723.275 | 98723.275 | 0.0018913 |
| | | | 5785039802.178 | 39802.178 | 0.0006880 |
| | | 0 | 5220010289.632 | 10289.632 | 0.0001971 |
| | | | 5785039872.281 | 39872.281 | 0.0006892 |
| | | + 10 | 5220007382.732 | 7382.732 | 0.0001414 |
| | | | 5784984621.321 | -15378.679 | -0.0002658 |
| | | + 20 | 5220026943.832 | 26943.832 | 0.0005162 |
| | | | 5784979743.237 | -20256.763 | -0.0003502 |
| | | + 30 | 5219983521.567 | -16478.433 | -0.0003157 |
| | | | 5785019823.597 | 19823.597 | 0.0003427 |
| | | + 40 | 5220001958.941 | 1958.941 | 0.0000375 |
| | | | 5785087372.643 | 87372.643 | 0.0015103 |
| 115% | 138 | + 20 | 5220019054.121 | 19054.121 | 0.0003650 |
| | | | 5784990472.067 | -9527.933 | -0.0001647 |
| 85% | 102 | + 20 | 5219998321.754 | -1678.246 | -0.0000322 |
| | | | 5784990261.025 | -9738.975 | -0.0001683 |

7.8. Radiated Spurious Emission Measurement

7.8.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

| FCC Part 15 Subpart C Paragraph 15.209 | | |
|--|-------------------------|-------------------------------|
| Frequency [MHz] | Field Strength [V/m] | Measured Distance [Meters] |
| 0.009 - 0.490 | 2400/F (kHz) | 300 |
| 0.490 - 1.705 | 24000/F (kHz) | 30 |
| 1.705 - 30 | 30 | 30 |
| 30 - 88 | 100 | 3 |
| 88 - 216 | 150 | 3 |
| 216 - 960 | 200 | 3 |
| Above 960 | 500 | 3 |

7.8.2. Test Procedure Used

KDB 789033 D02v01 - Section G

7.8.3. Test Setting

Peak Measurements above 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Quasi-Peak Measurements below 1GHz

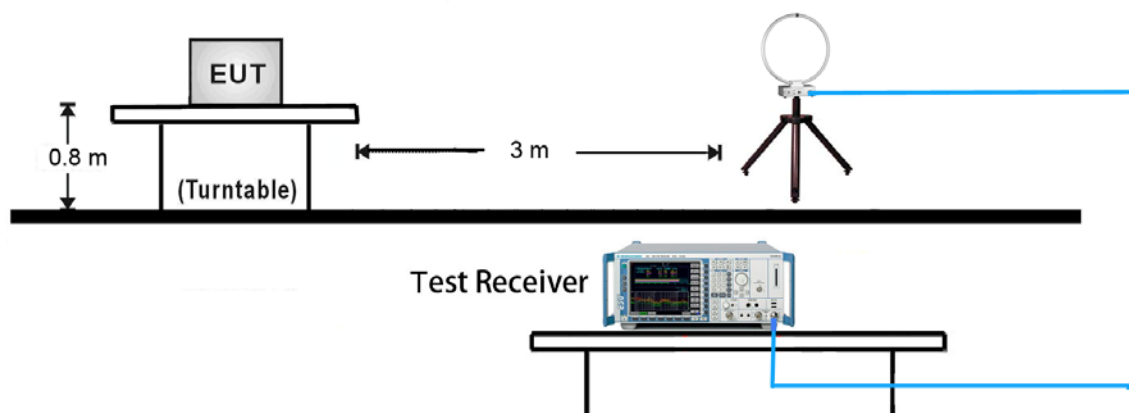
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = 120 kHz
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Average Measurements above 1GHz (Method AD)

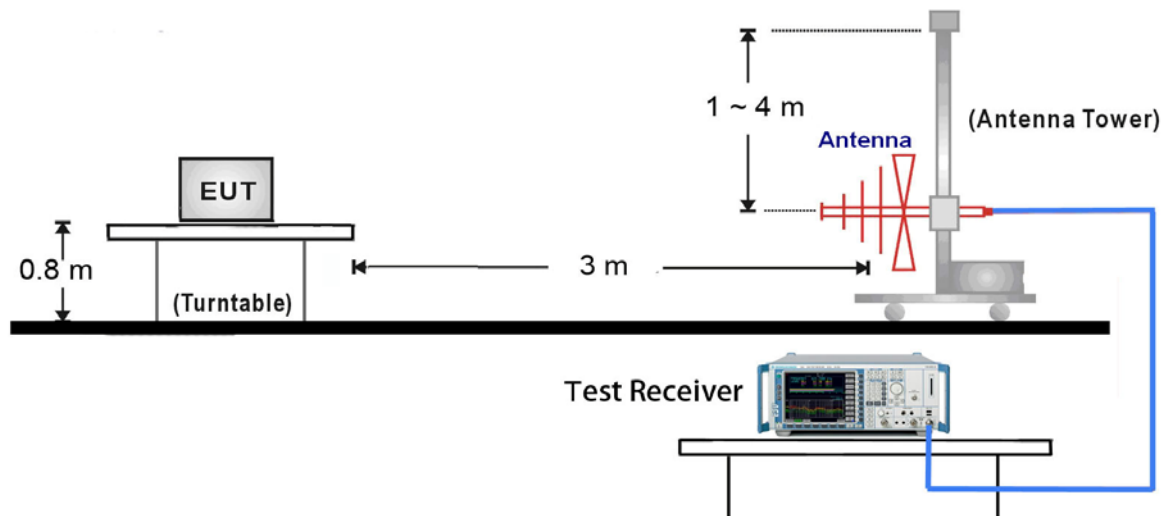
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be $> 2 \times \text{span}/\text{RBW}$)
6. Sweep time = auto
7. Trace was averaged over at 100 sweeps

7.8.4. Test Setup

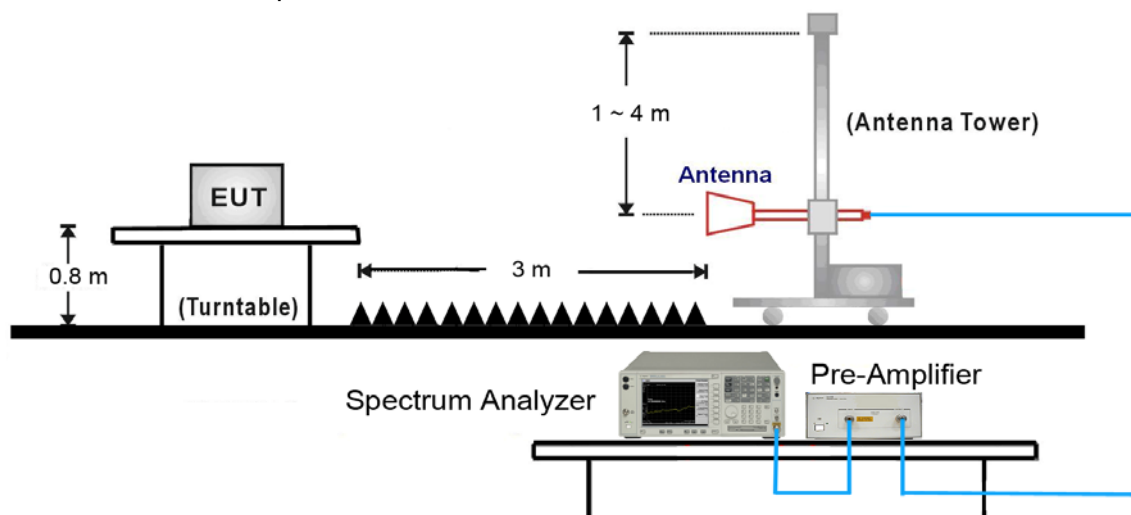
9kHz ~ 30MHz Test Setup:



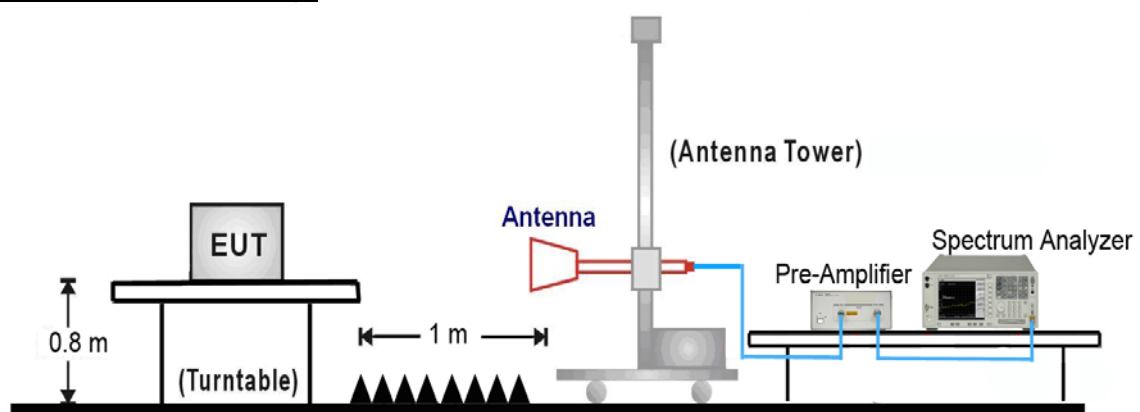
30MHz ~ 1GHz Test Setup:



1GHz ~18GHz Test Setup:



18GHz ~40GHz Test Setup:



7.8.5. Test Result

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11a | Test Site: | AC1 |
| Test Channel: | 36 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7142.6 | 35.1 | 13.5 | 48.6 | 88.2 | -39.6 | Peak | Horizontal |
| * | 7825.6 | 34.8 | 15.1 | 49.8 | 88.2 | -38.4 | Peak | Horizontal |
| | 8314.7 | 34.6 | 14.4 | 49.0 | 74.0 | -25.0 | Peak | Horizontal |
| | 9102.7 | 36.8 | 14.6 | 51.4 | 74.0 | -22.6 | Peak | Horizontal |
| * | 7148.7 | 35.1 | 13.5 | 48.6 | 88.2 | -39.6 | Peak | Vertical |
| * | 7845.7 | 34.2 | 15.1 | 49.2 | 88.2 | -39.0 | Peak | Vertical |
| | 8214.8 | 35.2 | 14.6 | 49.7 | 74.0 | -24.3 | Peak | Vertical |
| | 9142.7 | 36.1 | 15.2 | 51.3 | 74.0 | -22.7 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11a | Test Site: | AC1 |
| Test Channel: | 44 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7147.6 | 35.4 | 13.5 | 48.9 | 88.2 | -39.3 | Peak | Horizontal |
| * | 7842.7 | 34.2 | 15.1 | 49.3 | 88.2 | -38.9 | Peak | Horizontal |
| | 8214.7 | 35.0 | 14.6 | 49.6 | 74.0 | -24.4 | Peak | Horizontal |
| | 9412.0 | 36.7 | 15.5 | 52.1 | 74.0 | -21.9 | Peak | Horizontal |
| * | 7123.0 | 36.0 | 13.5 | 49.4 | 88.2 | -38.8 | Peak | Vertical |
| * | 7841.3 | 34.1 | 15.1 | 49.2 | 88.2 | -39.0 | Peak | Vertical |
| | 8202.3 | 35.0 | 14.6 | 49.7 | 74.0 | -24.3 | Peak | Vertical |
| | 9144.2 | 36.0 | 15.2 | 51.2 | 74.0 | -22.8 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11a | Test Site: | AC1 |
| Test Channel: | 48 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7143.7 | 34.9 | 13.5 | 48.4 | 88.2 | -39.8 | Peak | Horizontal |
| * | 7812.7 | 35.5 | 15.0 | 50.6 | 88.2 | -37.6 | Peak | Horizontal |
| | 8248.0 | 35.2 | 14.5 | 49.7 | 74.0 | -24.3 | Peak | Horizontal |
| | 9143.6 | 36.8 | 15.2 | 52.0 | 74.0 | -22.0 | Peak | Horizontal |
| * | 7149.0 | 35.3 | 13.5 | 48.8 | 88.2 | -39.4 | Peak | Vertical |
| * | 7846.7 | 34.4 | 15.1 | 49.4 | 88.2 | -38.8 | Peak | Vertical |
| | 8253.6 | 35.0 | 14.4 | 49.4 | 74.0 | -24.6 | Peak | Vertical |
| | 9146.4 | 36.6 | 15.3 | 51.8 | 74.0 | -22.2 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11a | Test Site: | AC1 |
| Test Channel: | 149 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7145.7 | 35.1 | 13.5 | 48.6 | 88.2 | -39.6 | Peak | Horizontal |
| * | 7821.2 | 35.3 | 15.0 | 50.3 | 88.2 | -37.9 | Peak | Horizontal |
| | 9173.7 | 35.7 | 15.3 | 51.0 | 74.0 | -23.0 | Peak | Horizontal |
| | 11489.0 | 42.4 | 19.4 | 61.8 | 74.0 | -12.2 | Peak | Horizontal |
| * | 11490.8 | 32.0 | 19.4 | 51.4 | 54.0 | -2.6 | Peak | Vertical |
| * | 7147.9 | 35.3 | 13.5 | 48.8 | 88.2 | -39.4 | Peak | Vertical |
| | 7947.5 | 35.2 | 15.1 | 50.3 | 88.2 | -37.9 | Peak | Vertical |
| | 9147.7 | 36.6 | 15.3 | 51.9 | 74.0 | -22.1 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11a | Test Site: | AC1 |
| Test Channel: | 157 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7172.7 | 36.0 | 13.6 | 49.6 | 88.2 | -38.6 | Peak | Horizontal |
| * | 7842.5 | 35.2 | 15.1 | 50.3 | 88.2 | -37.9 | Peak | Horizontal |
| | 9324.7 | 36.0 | 15.4 | 51.4 | 74.0 | -22.6 | Peak | Horizontal |
| | 11565.5 | 43.0 | 19.4 | 62.4 | 74.0 | -11.6 | Peak | Horizontal |
| * | 11571.1 | 32.7 | 19.4 | 52.1 | 54.0 | -1.9 | Peak | Vertical |
| * | 7142.7 | 35.2 | 13.5 | 48.8 | 88.2 | -39.4 | Peak | Vertical |
| | 7925.2 | 34.6 | 15.1 | 49.7 | 88.2 | -38.5 | Peak | Vertical |
| | 8201.4 | 35.2 | 14.6 | 49.8 | 74.0 | -24.2 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11a | Test Site: | AC1 |
| Test Channel: | 165 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7149.9 | 35.9 | 13.5 | 49.4 | 88.2 | -38.8 | Peak | Horizontal |
| * | 7815.7 | 35.1 | 15.0 | 50.2 | 88.2 | -38.0 | Peak | Horizontal |
| | 9179.0 | 36.1 | 15.3 | 51.4 | 74.0 | -22.6 | Peak | Horizontal |
| | 11642.0 | 43.0 | 19.4 | 62.4 | 74.0 | -11.6 | Peak | Horizontal |
| * | 11650.9 | 32.3 | 19.4 | 51.7 | 54.0 | -2.3 | Peak | Vertical |
| * | 7146.7 | 34.8 | 13.5 | 48.4 | 88.2 | -39.8 | Peak | Vertical |
| | 7855.5 | 34.7 | 15.1 | 49.7 | 88.2 | -38.5 | Peak | Vertical |
| | 8142.7 | 35.6 | 15.0 | 50.6 | 74.0 | -23.4 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11n-HT20 | Test Site: | AC1 |
| Test Channel: | 36 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7145.7 | 36.3 | 13.5 | 49.8 | 88.2 | -38.4 | Peak | Horizontal |
| * | 7846.4 | 34.8 | 15.1 | 49.9 | 88.2 | -38.3 | Peak | Horizontal |
| | 9143.7 | 36.0 | 15.2 | 51.2 | 74.0 | -22.8 | Peak | Horizontal |
| | 9472.5 | 35.9 | 15.4 | 51.3 | 74.0 | -22.7 | Peak | Horizontal |
| * | 7426.4 | 35.5 | 14.2 | 49.7 | 88.2 | -38.5 | Peak | Vertical |
| * | 7842.7 | 34.3 | 15.1 | 49.3 | 88.2 | -38.9 | Peak | Vertical |
| | 9142.5 | 35.1 | 15.2 | 50.3 | 74.0 | -23.7 | Peak | Vertical |
| | 9442.7 | 36.1 | 15.5 | 51.6 | 74.0 | -22.4 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11n-HT20 | Test Site: | AC1 |
| Test Channel: | 44 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7146.6 | 35.7 | 13.5 | 49.2 | 88.2 | -39.0 | Peak | Horizontal |
| * | 7846.4 | 34.8 | 15.1 | 49.9 | 88.2 | -38.3 | Peak | Horizontal |
| | 8426.5 | 35.3 | 14.6 | 49.8 | 74.0 | -24.2 | Peak | Horizontal |
| | 9146.4 | 35.8 | 15.3 | 51.0 | 74.0 | -23.0 | Peak | Horizontal |
| * | 7145.7 | 34.7 | 13.5 | 48.3 | 88.2 | -39.9 | Peak | Vertical |
| * | 7846.4 | 34.1 | 15.1 | 49.2 | 88.2 | -39.0 | Peak | Vertical |
| | 8153.7 | 35.5 | 14.9 | 50.4 | 74.0 | -23.6 | Peak | Vertical |
| | 9452.7 | 35.7 | 15.5 | 51.2 | 74.0 | -22.8 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11n-HT20 | Test Site: | AC1 |
| Test Channel: | 48 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7145.7 | 34.9 | 13.5 | 48.4 | 88.2 | -39.8 | Peak | Horizontal |
| * | 7856.4 | 35.9 | 15.1 | 50.9 | 88.2 | -37.3 | Peak | Horizontal |
| | 8148.0 | 35.0 | 14.9 | 50.0 | 74.0 | -24.0 | Peak | Horizontal |
| | 9472.4 | 35.4 | 15.4 | 50.8 | 74.0 | -23.2 | Peak | Horizontal |
| * | 7145.4 | 35.3 | 13.5 | 48.8 | 88.2 | -39.4 | Peak | Vertical |
| * | 7985.2 | 35.5 | 15.0 | 50.5 | 88.2 | -37.7 | Peak | Vertical |
| | 8147.6 | 35.4 | 15.0 | 50.3 | 74.0 | -23.7 | Peak | Vertical |
| | 9147.6 | 36.4 | 15.3 | 51.6 | 74.0 | -22.4 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11n-HT20 | Test Site: | AC1 |
| Test Channel: | 149 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7146.6 | 35.0 | 13.5 | 48.6 | 88.2 | -39.6 | Peak | Horizontal |
| * | 7842.4 | 34.1 | 15.1 | 49.1 | 88.2 | -39.1 | Peak | Horizontal |
| | 9145.4 | 36.3 | 15.2 | 51.6 | 74.0 | -22.4 | Peak | Horizontal |
| | 11489.0 | 38.7 | 19.4 | 58.1 | 74.0 | -15.9 | Peak | Horizontal |
| * | 11490.9 | 26.9 | 19.4 | 46.3 | 54.0 | -7.7 | Peak | Vertical |
| * | 7145.4 | 35.2 | 13.5 | 48.8 | 88.2 | -39.4 | Peak | Vertical |
| | 7842.4 | 34.5 | 15.1 | 49.6 | 88.2 | -38.6 | Peak | Vertical |
| | 9145.7 | 36.7 | 15.2 | 52.0 | 74.0 | -22.0 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11n-HT20 | Test Site: | AC1 |
| Test Channel: | 157 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7126.5 | 35.9 | 13.5 | 49.4 | 88.2 | -38.8 | Peak | Horizontal |
| * | 7849.4 | 34.4 | 15.1 | 49.5 | 88.2 | -38.7 | Peak | Horizontal |
| | 8654.5 | 35.5 | 14.8 | 50.3 | 74.0 | -23.7 | Peak | Horizontal |
| | 11490.7 | 27.0 | 19.4 | 46.4 | 54.0 | -7.6 | Peak | Horizontal |
| * | 11497.5 | 39.0 | 19.4 | 58.4 | 74.0 | -15.6 | Peak | Vertical |
| * | 7147.7 | 36.3 | 13.5 | 49.8 | 88.2 | -38.4 | Peak | Vertical |
| | 7894.3 | 34.6 | 15.0 | 49.6 | 88.2 | -38.6 | Peak | Vertical |
| | 9153.3 | 35.9 | 15.3 | 51.2 | 74.0 | -22.8 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11n-HT20 | Test Site: | AC1 |
| Test Channel: | 165 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7149.4 | 35.3 | 13.5 | 48.9 | 88.2 | -39.3 | Peak | Horizontal |
| * | 7842.3 | 34.6 | 15.1 | 49.7 | 88.2 | -38.5 | Peak | Horizontal |
| | 9165.4 | 35.9 | 15.3 | 51.2 | 74.0 | -22.8 | Peak | Horizontal |
| | 11650.5 | 42.6 | 19.4 | 62.0 | 74.0 | -12.0 | Peak | Horizontal |
| * | 11651.0 | 28.7 | 19.4 | 48.1 | 54.0 | -5.9 | Peak | Vertical |
| * | 7259.7 | 35.2 | 13.9 | 49.0 | 88.2 | -39.2 | Peak | Vertical |
| | 7825.4 | 34.2 | 15.1 | 49.3 | 88.2 | -38.9 | Peak | Vertical |
| | 8642.7 | 35.3 | 14.8 | 50.2 | 74.0 | -23.8 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11n-HT40 | Test Site: | AC1 |
| Test Channel: | 38 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7148.8 | 36.2 | 13.5 | 49.7 | 88.2 | -38.5 | Peak | Horizontal |
| * | 7852.4 | 34.0 | 15.1 | 49.1 | 88.2 | -39.1 | Peak | Horizontal |
| | 8436.5 | 34.5 | 14.6 | 49.0 | 74.0 | -25.0 | Peak | Horizontal |
| | 9457.6 | 36.4 | 15.4 | 51.9 | 74.0 | -22.1 | Peak | Horizontal |
| * | 7155.7 | 35.0 | 13.6 | 48.5 | 88.2 | -39.7 | Peak | Vertical |
| * | 7842.3 | 33.8 | 15.1 | 48.9 | 88.2 | -39.3 | Peak | Vertical |
| | 9144.6 | 35.2 | 15.2 | 50.5 | 74.0 | -23.5 | Peak | Vertical |
| | 9447.5 | 35.7 | 15.5 | 51.2 | 74.0 | -22.8 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11n-HT40 | Test Site: | AC1 |
| Test Channel: | 46 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7145.5 | 34.2 | 13.5 | 47.7 | 88.2 | -40.5 | Peak | Horizontal |
| * | 7892.4 | 34.7 | 15.0 | 49.7 | 88.2 | -38.5 | Peak | Horizontal |
| | 8321.4 | 35.4 | 14.4 | 49.8 | 74.0 | -24.2 | Peak | Horizontal |
| | 9452.0 | 35.4 | 15.5 | 50.9 | 74.0 | -23.1 | Peak | Horizontal |
| * | 7152.5 | 34.8 | 13.6 | 48.3 | 88.2 | -39.9 | Peak | Vertical |
| * | 7849.5 | 34.5 | 15.1 | 49.5 | 88.2 | -38.7 | Peak | Vertical |
| | 9175.3 | 35.8 | 15.3 | 51.1 | 74.0 | -22.9 | Peak | Vertical |
| | 9482.4 | 35.3 | 15.4 | 50.7 | 74.0 | -23.3 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11n-HT40 | Test Site: | AC1 |
| Test Channel: | 151 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7152.6 | 34.4 | 13.6 | 47.9 | 88.2 | -40.3 | Peak | Horizontal |
| * | 7942.6 | 34.9 | 15.1 | 49.9 | 88.2 | -38.3 | Peak | Horizontal |
| | 8452.7 | 34.4 | 14.5 | 48.9 | 74.0 | -25.1 | Peak | Horizontal |
| | 11510.0 | 26.6 | 19.4 | 46.0 | 54.0 | -8.0 | Peak | Horizontal |
| * | 11514.5 | 40.1 | 19.4 | 59.5 | 74.0 | -14.5 | Peak | Vertical |
| * | 7152.2 | 35.3 | 13.5 | 48.9 | 88.2 | -39.3 | Peak | Vertical |
| | 8647.6 | 35.7 | 14.8 | 50.5 | 88.2 | -37.7 | Peak | Vertical |
| | 9124.7 | 35.6 | 14.9 | 50.5 | 74.0 | -23.5 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11n-HT40 | Test Site: | AC1 |
| Test Channel: | 159 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7145.2 | 34.8 | 13.5 | 48.4 | 88.2 | -39.8 | Peak | Horizontal |
| * | 7921.2 | 34.3 | 15.1 | 49.4 | 88.2 | -38.8 | Peak | Horizontal |
| | 9142.6 | 35.4 | 15.2 | 50.7 | 74.0 | -23.3 | Peak | Horizontal |
| | 11590.0 | 25.4 | 19.5 | 44.8 | 54.0 | -9.2 | Peak | Horizontal |
| * | 11591.0 | 39.2 | 19.5 | 58.7 | 74.0 | -15.3 | Peak | Vertical |
| * | 7142.0 | 35.1 | 13.5 | 48.6 | 88.2 | -39.6 | Peak | Vertical |
| | 7891.4 | 34.1 | 15.0 | 49.1 | 88.2 | -39.1 | Peak | Vertical |
| | 9142.4 | 36.8 | 15.2 | 52.0 | 74.0 | -22.0 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11ac-VHT20 | Test Site: | AC1 |
| Test Channel: | 36 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7146.5 | 35.6 | 13.5 | 49.1 | 88.2 | -39.1 | Peak | Horizontal |
| * | 7824.4 | 34.8 | 15.1 | 49.9 | 88.2 | -38.3 | Peak | Horizontal |
| | 9143.5 | 35.9 | 15.2 | 51.1 | 74.0 | -22.9 | Peak | Horizontal |
| | 9475.7 | 35.5 | 15.4 | 50.9 | 74.0 | -23.1 | Peak | Horizontal |
| * | 7145.4 | 35.7 | 13.5 | 49.2 | 88.2 | -39.0 | Peak | Vertical |
| * | 7846.6 | 34.6 | 15.1 | 49.7 | 88.2 | -38.5 | Peak | Vertical |
| | 9146.4 | 36.7 | 15.3 | 51.9 | 74.0 | -22.1 | Peak | Vertical |
| | 9472.4 | 36.1 | 15.4 | 51.5 | 74.0 | -22.5 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11ac-VHT20 | Test Site: | AC1 |
| Test Channel: | 44 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7156.4 | 35.1 | 13.6 | 48.6 | 88.2 | -39.6 | Peak | Horizontal |
| * | 7894.3 | 34.4 | 15.0 | 49.4 | 88.2 | -38.8 | Peak | Horizontal |
| | 8472.7 | 34.1 | 14.6 | 48.7 | 74.0 | -25.3 | Peak | Horizontal |
| | 9426.0 | 35.5 | 15.5 | 51.0 | 74.0 | -23.0 | Peak | Horizontal |
| * | 7153.7 | 34.8 | 13.6 | 48.3 | 88.2 | -39.9 | Peak | Vertical |
| * | 7892.4 | 34.9 | 15.0 | 49.9 | 88.2 | -38.3 | Peak | Vertical |
| | 8156.4 | 36.3 | 14.9 | 51.2 | 74.0 | -22.8 | Peak | Vertical |
| | 9473.7 | 34.6 | 15.4 | 50.0 | 74.0 | -24.0 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11ac-VHT20 | Test Site: | AC1 |
| Test Channel: | 48 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7145.6 | 35.1 | 13.5 | 48.7 | 88.2 | -39.5 | Peak | Horizontal |
| * | 7914.6 | 33.7 | 15.0 | 48.7 | 88.2 | -39.5 | Peak | Horizontal |
| | 9146.6 | 35.8 | 15.3 | 51.1 | 74.0 | -22.9 | Peak | Horizontal |
| | 9447.2 | 35.9 | 15.5 | 51.3 | 74.0 | -22.7 | Peak | Horizontal |
| * | 7187.4 | 35.2 | 13.6 | 48.8 | 88.2 | -39.4 | Peak | Vertical |
| * | 7947.6 | 35.4 | 15.1 | 50.5 | 88.2 | -37.7 | Peak | Vertical |
| | 9147.4 | 35.3 | 15.3 | 50.5 | 74.0 | -23.5 | Peak | Vertical |
| | 9443.5 | 36.2 | 15.5 | 51.6 | 74.0 | -22.4 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11ac-VHT20 | Test Site: | AC1 |
| Test Channel: | 149 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7153.7 | 35.8 | 13.6 | 49.3 | 88.2 | -38.9 | Peak | Horizontal |
| * | 7846.4 | 34.6 | 15.1 | 49.7 | 88.2 | -38.5 | Peak | Horizontal |
| | 9142.5 | 35.8 | 15.2 | 51.0 | 74.0 | -23.0 | Peak | Horizontal |
| | 11491.0 | 29.1 | 19.4 | 48.5 | 54.0 | -5.5 | Peak | Horizontal |
| * | 11497.5 | 41.4 | 19.4 | 60.8 | 74.0 | -13.2 | Peak | Vertical |
| * | 7201.6 | 36.1 | 13.6 | 49.7 | 88.2 | -38.5 | Peak | Vertical |
| | 7843.6 | 34.5 | 15.1 | 49.6 | 88.2 | -38.6 | Peak | Vertical |
| | 9143.3 | 36.4 | 15.2 | 51.6 | 74.0 | -22.4 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11ac-VHT20 | Test Site: | AC1 |
| Test Channel: | 157 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7025.5 | 35.8 | 12.9 | 48.8 | 88.2 | -39.4 | Peak | Horizontal |
| * | 7841.3 | 34.4 | 15.1 | 49.5 | 88.2 | -38.7 | Peak | Horizontal |
| | 8652.3 | 35.6 | 14.8 | 50.4 | 74.0 | -23.6 | Peak | Horizontal |
| | 11571.2 | 32.6 | 19.4 | 52.1 | 54.0 | -1.9 | Peak | Horizontal |
| * | 11574.0 | 48.4 | 19.5 | 67.9 | 74.0 | -6.1 | Peak | Vertical |
| * | 7153.6 | 35.6 | 13.6 | 49.2 | 88.2 | -39.0 | Peak | Vertical |
| | 7853.7 | 34.3 | 15.1 | 49.4 | 88.2 | -38.8 | Peak | Vertical |
| | 9142.7 | 35.6 | 15.2 | 50.8 | 74.0 | -23.2 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11ac-VHT20 | Test Site: | AC1 |
| Test Channel: | 165 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7144.6 | 35.3 | 13.5 | 48.9 | 88.2 | -39.3 | Peak | Horizontal |
| * | 7842.5 | 34.3 | 15.1 | 49.3 | 88.2 | -38.9 | Peak | Horizontal |
| | 9452.4 | 36.2 | 15.5 | 51.7 | 74.0 | -22.3 | Peak | Horizontal |
| | 11571.5 | 33.2 | 19.4 | 52.7 | 54.0 | -1.3 | Peak | Horizontal |
| * | 11574.0 | 48.8 | 19.5 | 68.2 | 74.0 | -5.8 | Peak | Vertical |
| * | 7143.7 | 35.5 | 13.5 | 49.0 | 88.2 | -39.2 | Peak | Vertical |
| | 7842.7 | 35.6 | 15.1 | 50.7 | 88.2 | -37.5 | Peak | Vertical |
| | 9143.7 | 36.0 | 15.2 | 51.2 | 74.0 | -22.8 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11ac-VHT40 | Test Site: | AC1 |
| Test Channel: | 38 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7145.3 | 36.0 | 13.5 | 49.6 | 88.2 | -38.6 | Peak | Horizontal |
| * | 7842.5 | 34.5 | 15.1 | 49.5 | 88.2 | -38.7 | Peak | Horizontal |
| | 9142.4 | 35.5 | 15.2 | 50.7 | 74.0 | -23.3 | Peak | Horizontal |
| | 9471.5 | 35.9 | 15.4 | 51.4 | 74.0 | -22.6 | Peak | Horizontal |
| * | 7145.2 | 35.1 | 13.5 | 48.6 | 88.2 | -39.6 | Peak | Vertical |
| * | 7941.2 | 34.5 | 15.1 | 49.6 | 88.2 | -38.6 | Peak | Vertical |
| | 9147.4 | 36.4 | 15.3 | 51.6 | 74.0 | -22.4 | Peak | Vertical |
| | 9472.5 | 36.1 | 15.4 | 51.5 | 74.0 | -22.5 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11ac-VHT40 | Test Site: | AC1 |
| Test Channel: | 46 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7147.6 | 35.1 | 13.5 | 48.6 | 88.2 | -39.6 | Peak | Horizontal |
| * | 7847.5 | 33.9 | 15.1 | 49.0 | 88.2 | -39.2 | Peak | Horizontal |
| | 9142.6 | 36.4 | 15.2 | 51.6 | 74.0 | -22.4 | Peak | Horizontal |
| | 9482.3 | 36.5 | 15.4 | 51.9 | 74.0 | -22.1 | Peak | Horizontal |
| * | 7148.7 | 35.0 | 13.5 | 48.5 | 88.2 | -39.7 | Peak | Vertical |
| * | 7846.6 | 35.0 | 15.1 | 50.1 | 88.2 | -38.1 | Peak | Vertical |
| | 9147.4 | 35.8 | 15.3 | 51.1 | 74.0 | -22.9 | Peak | Vertical |
| | 9482.4 | 36.3 | 15.4 | 51.6 | 74.0 | -22.4 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11ac-VHT40 | Test Site: | AC1 |
| Test Channel: | 151 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7155.4 | 36.3 | 13.6 | 49.9 | 88.2 | -38.3 | Peak | Horizontal |
| * | 8514.4 | 35.1 | 14.6 | 49.8 | 88.2 | -38.4 | Peak | Horizontal |
| | 9471.4 | 35.8 | 15.4 | 51.2 | 74.0 | -22.8 | Peak | Horizontal |
| | 11500.3 | 25.4 | 19.4 | 44.8 | 54.0 | -9.2 | Peak | Horizontal |
| * | 11506.0 | 40.0 | 19.4 | 59.4 | 74.0 | -14.6 | Peak | Vertical |
| * | 7142.4 | 35.4 | 13.5 | 48.9 | 88.2 | -39.3 | Peak | Vertical |
| | 7841.3 | 34.6 | 15.1 | 49.7 | 88.2 | -38.5 | Peak | Vertical |
| | 9147.3 | 36.0 | 15.3 | 51.2 | 74.0 | -22.8 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11ac-VHT40 | Test Site: | AC1 |
| Test Channel: | 159 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7144.3 | 34.5 | 13.5 | 48.0 | 88.2 | -40.2 | Peak | Horizontal |
| * | 7941.3 | 34.4 | 15.1 | 49.5 | 88.2 | -38.7 | Peak | Horizontal |
| | 9173.7 | 36.1 | 15.3 | 51.4 | 74.0 | -22.6 | Peak | Horizontal |
| | 11590.5 | 26.9 | 19.5 | 46.4 | 54.0 | -7.6 | Peak | Horizontal |
| * | 11591.0 | 40.2 | 19.5 | 59.7 | 74.0 | -14.3 | Peak | Vertical |
| * | 7152.4 | 35.1 | 13.6 | 48.7 | 88.2 | -39.5 | Peak | Vertical |
| | 7941.6 | 34.3 | 15.1 | 49.3 | 88.2 | -38.9 | Peak | Vertical |
| | 9147.4 | 35.9 | 15.3 | 51.2 | 74.0 | -22.8 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11ac-VHT80 | Test Site: | AC1 |
| Test Channel: | 42 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7248.0 | 35.8 | 13.8 | 49.6 | 88.2 | -38.6 | Peak | Horizontal |
| * | 7891.5 | 34.7 | 15.0 | 49.7 | 88.2 | -38.5 | Peak | Horizontal |
| | 9143.4 | 35.8 | 15.2 | 51.1 | 74.0 | -22.9 | Peak | Horizontal |
| | 9471.4 | 36.0 | 15.4 | 51.4 | 74.0 | -22.6 | Peak | Horizontal |
| * | 7145.3 | 35.0 | 13.5 | 48.5 | 88.2 | -39.7 | Peak | Vertical |
| * | 7954.9 | 34.5 | 15.1 | 49.5 | 88.2 | -38.7 | Peak | Vertical |
| | 9145.4 | 35.8 | 15.2 | 51.0 | 74.0 | -23.0 | Peak | Vertical |
| | 9473.7 | 35.6 | 15.4 | 51.0 | 74.0 | -23.0 | Peak | Vertical |

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

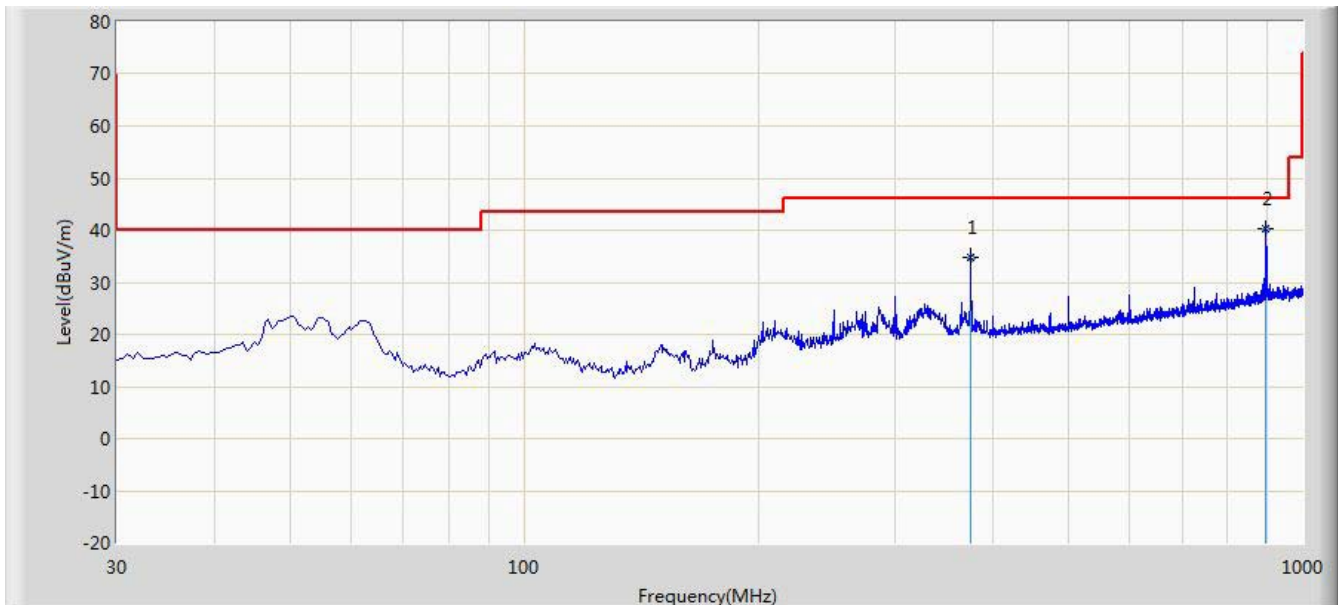
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

| | | | |
|---------------|---|----------------|-----------|
| Test Mode: | 802.11ac-VHT80 | Test Site: | AC1 |
| Test Channel: | 155 | Test Engineer: | Roy Cheng |
| Remark: | 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. | | |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|--|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| * | 7158.7 | 35.8 | 13.6 | 49.4 | 88.2 | -38.8 | Peak | Horizontal |
| * | 8653.6 | 35.3 | 14.8 | 50.2 | 88.2 | -38.0 | Peak | Horizontal |
| | 9473.6 | 36.1 | 15.4 | 51.5 | 74.0 | -22.5 | Peak | Horizontal |
| | 11552.0 | 24.4 | 19.4 | 43.8 | 54.0 | -10.2 | Peak | Horizontal |
| * | 11574.0 | 40.3 | 19.5 | 59.7 | 74.0 | -14.3 | Peak | Vertical |
| * | 7153.7 | 35.3 | 13.6 | 48.9 | 88.2 | -39.3 | Peak | Vertical |
| | 7936.6 | 34.4 | 15.1 | 49.5 | 88.2 | -38.7 | Peak | Vertical |
| | 9144.5 | 35.7 | 15.2 | 50.9 | 74.0 | -23.1 | Peak | Vertical |
| <p>Note 1: “*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.</p> <p>Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)</p> <p>Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)</p> | | | | | | | | |

The worst case of Radiated Emission below 1GHz:

| | |
|--|--------------------------|
| Site: AC1 | Time: 2014/11/23 - 20:30 |
| Limit: FCC_Part15.209_RE(3m) | Engineer: Roy Cheng |
| Probe: VULB9162_0.03-8GHz | Polarity: Horizontal |
| EUT: 2x2 dual band 802.11ac indoor AP | Power: AC 120V/60Hz |
| Test Mode : Transmit at channel 5180MHz by 802.11a | |

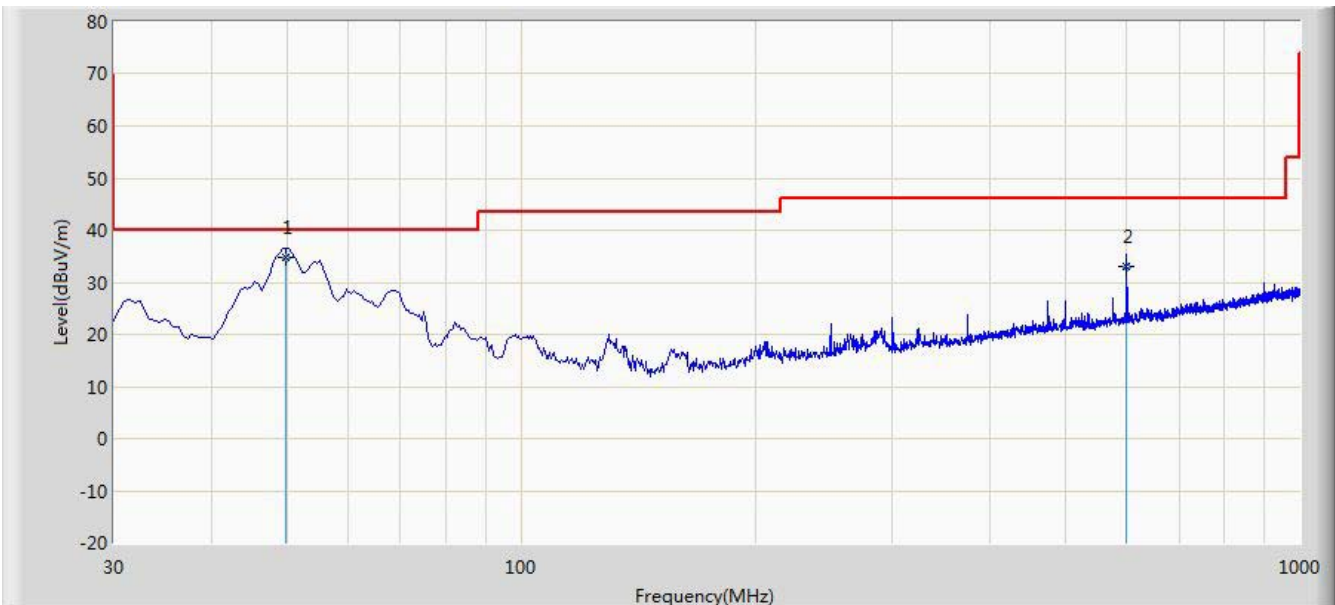


| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | | 375.020 | 34.698 | 18.966 | -11.302 | 46.000 | 15.732 | QP |
| 2 | | * | 897.180 | 40.323 | 17.021 | -5.677 | 46.000 | 23.302 | QP |

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

| | |
|--|--------------------------|
| Site: AC1 | Time: 2014/11/23 - 20:32 |
| Limit: FCC_Part15.209_RE(3m) | Engineer: Roy Cheng |
| Probe: VULB9162_0.03-8GHz | Polarity: Vertical |
| EUT: 2x2 dual band 802.11ac indoor AP | Power: AC 120V/60Hz |
| Test Mode : Transmit at channel 5180MHz by 802.11a | |

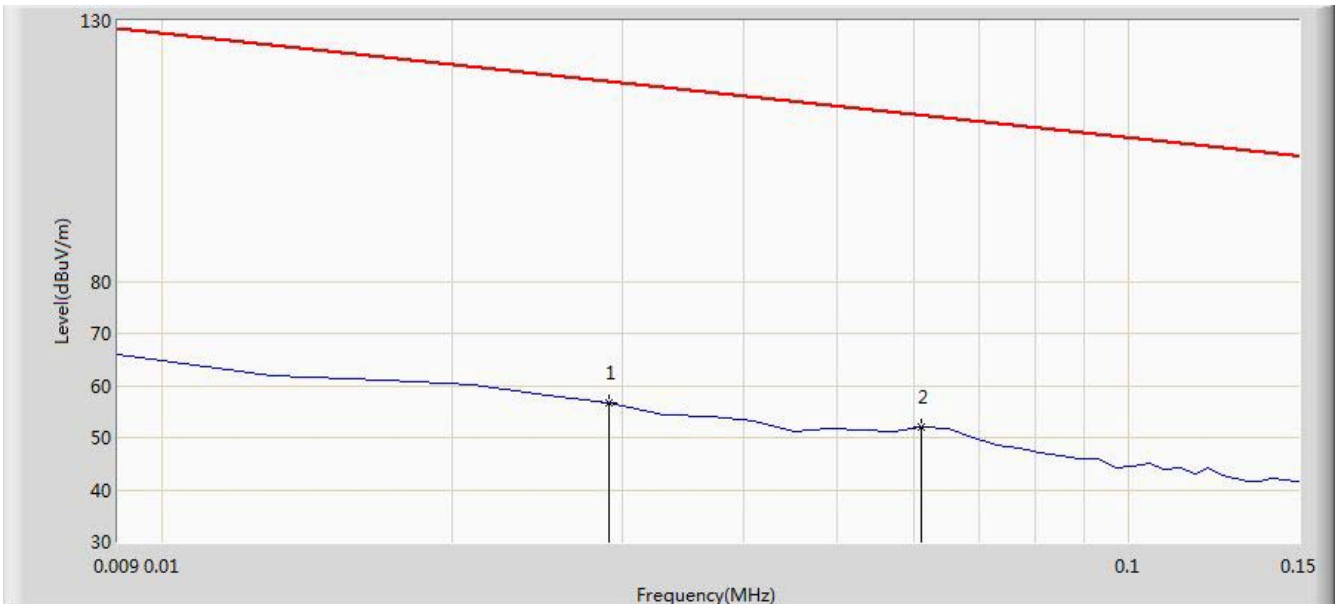


| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | * | 49.885 | 34.746 | 19.988 | -5.254 | 40.000 | 14.759 | QP |
| 2 | | | 599.875 | 32.964 | 13.525 | -13.036 | 46.000 | 19.438 | QP |

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

| | |
|--|--------------------------|
| Site: AC1 | Time: 2014/10/20 - 19:18 |
| Limit: FCC_Part15.209_RE(3m) | Engineer: Roy Cheng |
| Probe: FMZB1519_0.009-30MHz | Polarity: Face on |
| EUT: 2x2 dual band 802.11ac indoor AP | Power: AC 120V/60Hz |
| Worst Case Mode: There is the ambient noise within frequency range 9kHz~30MHz(802.11a 5180MHz). | |

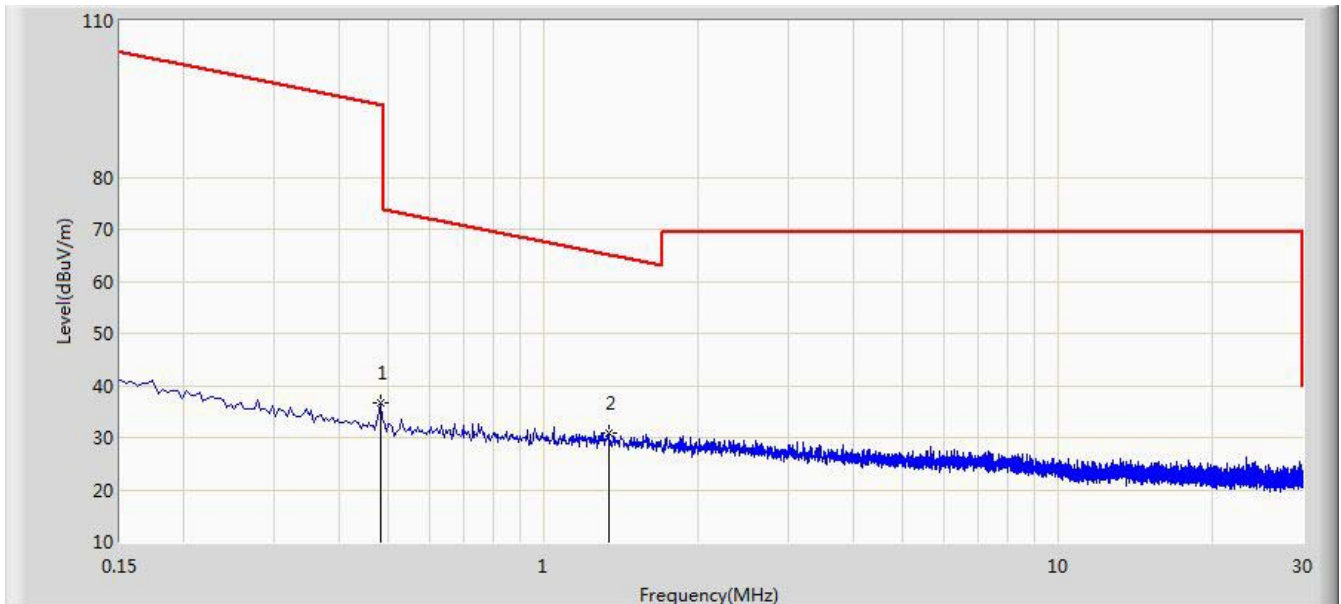


| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | | 0.029 | 56.610 | 35.660 | -61.732 | 118.342 | 21.049 | QP |
| 2 | | * | 0.061 | 51.899 | 31.588 | -59.988 | 111.887 | 20.311 | QP |

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

| | |
|--|--------------------------|
| Site: AC1 | Time: 2014/10/20 - 19:19 |
| Limit: FCC_Part15.209_RE(3m) | Engineer: Roy Cheng |
| Probe: FMZB1519_0.009-30MHz | Polarity: Face on |
| EUT: 2x2 dual band 802.11ac indoor AP | Power: AC 120V/60Hz |
| Worst Case Mode: There is the ambient noise within frequency range 9kHz~30MHz(802.11a 5180MHz). | |

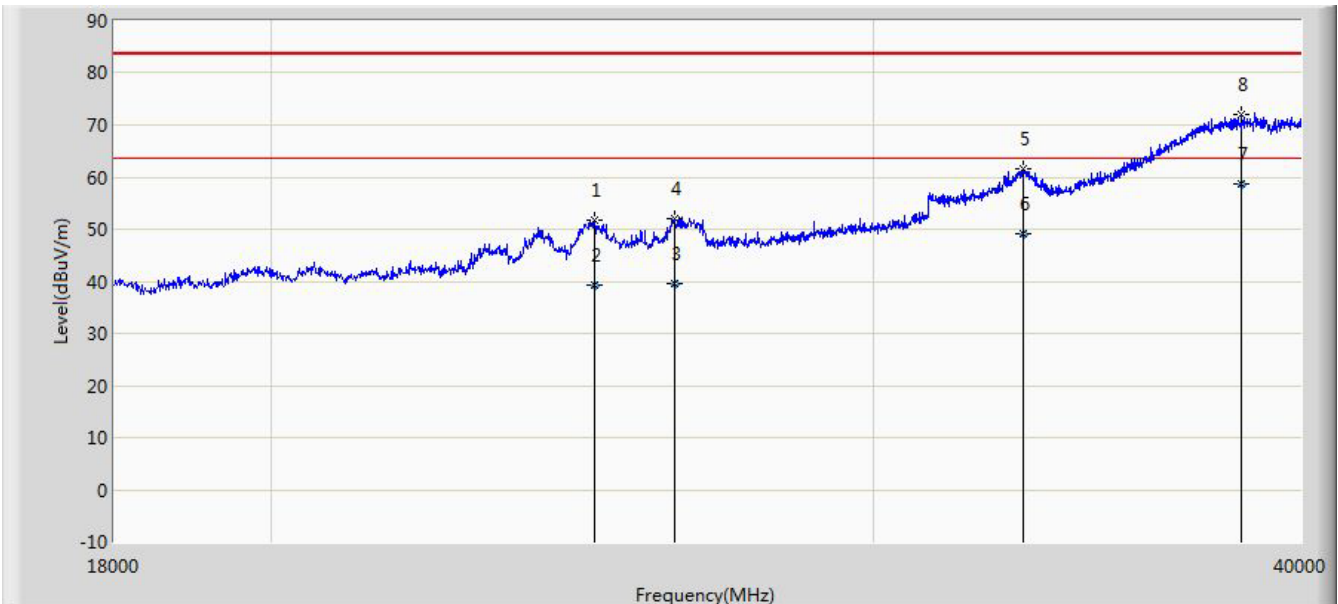


| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | | 0.482 | 36.584 | 16.183 | -57.359 | 93.943 | 20.401 | QP |
| 2 | | * | 1.338 | 31.001 | 10.512 | -34.098 | 65.099 | 20.489 | QP |

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

| | |
|---|--------------------------|
| Site: AC1 | Time: 2014/10/20 - 21:25 |
| Limit: FCC_Part15.209_RE(3m) | Engineer: Roy Cheng |
| Probe: BBHA9170_18-40GHz | Polarity: Horizontal |
| EUT: 2x2 dual band 802.11ac indoor AP | Power: AC 120V/60Hz |
| Worst Case Mode: There is the ambient noise within frequency range 18GHz~40GHz(802.11a 5180MHz). | |



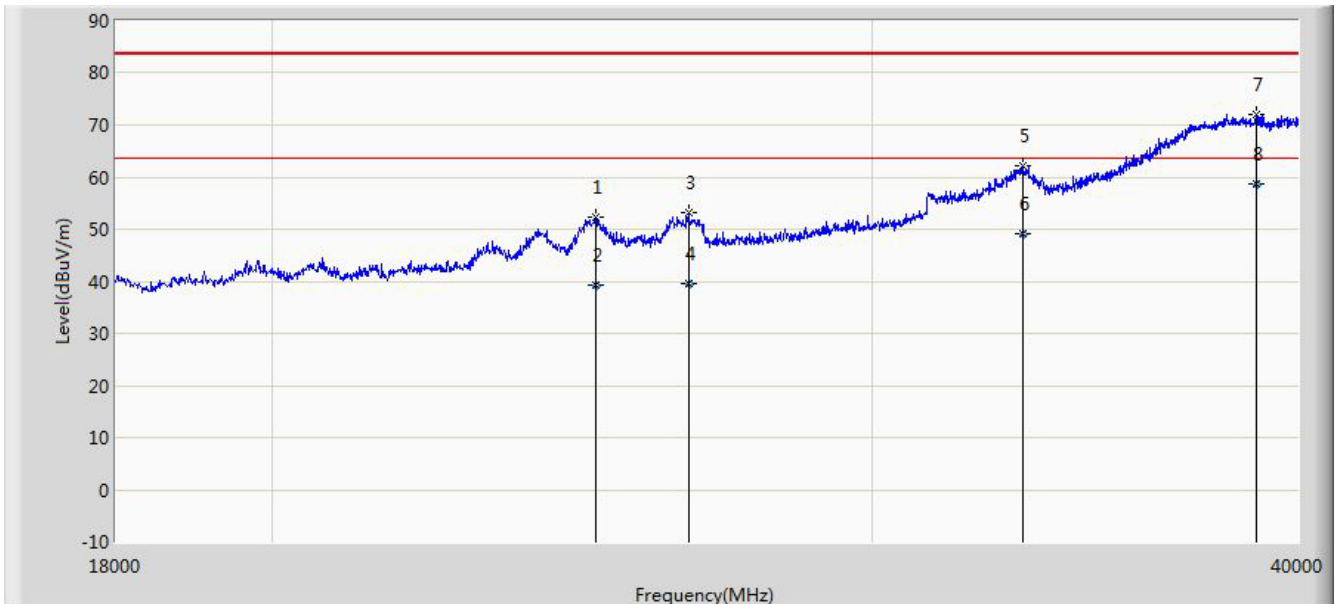
| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | | 24864.000 | 51.836 | 37.061 | -31.664 | 83.500 | 14.775 | PK |
| 2 | | | 24864.088 | 39.225 | 24.450 | -24.275 | 63.500 | 14.775 | AV |
| 3 | | | 26260.988 | 39.469 | 24.050 | -24.031 | 63.500 | 15.419 | AV |
| 4 | | | 26261.000 | 51.956 | 36.537 | -31.544 | 83.500 | 15.419 | PK |
| 5 | | | 33180.000 | 61.461 | 39.940 | -22.039 | 83.500 | 21.521 | PK |
| 6 | | | 33180.361 | 49.061 | 27.540 | -14.439 | 63.500 | 21.521 | AV |
| 7 | | * | 38437.980 | 58.523 | 31.190 | -4.977 | 63.500 | 27.333 | AV |
| 8 | | | 38438.000 | 72.021 | 44.688 | -11.479 | 83.500 | 27.333 | PK |

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Limit (83.5 dBμV/m) = 74 dBμV/m + 20Log(3m/1m)

| | |
|---|--------------------------|
| Site: AC1 | Time: 2014/10/20 - 21:28 |
| Limit: FCC_Part15.209_RE(3m) | Engineer: Roy Cheng |
| Probe: BBHA9170_18-40GHz | Polarity: Vertical |
| EUT: 2x2 dual band 802.11ac indoor AP | Power: AC 120V/60Hz |
| Worst Case Mode: There is the ambient noise within frequency range 18GHz~40GHz(802.11a 5180MHz). | |



| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|----|------|------|-----------------|------------------------|----------------------|-----------------|----------------|-------------|------|
| 1 | | | 24886.000 | 52.313 | 37.528 | -31.187 | 83.500 | 14.785 | PK |
| 2 | | | 24886.970 | 39.234 | 24.449 | -24.266 | 63.500 | 14.785 | AV |
| 3 | | | 26503.000 | 53.227 | 37.207 | -30.273 | 83.500 | 16.020 | PK |
| 4 | | | 26503.872 | 39.572 | 23.550 | -23.928 | 63.500 | 16.022 | AV |
| 5 | | | 33213.000 | 62.110 | 40.572 | -21.390 | 83.500 | 21.538 | PK |
| 6 | | | 33213.984 | 49.098 | 27.560 | -14.402 | 63.500 | 21.538 | AV |
| 7 | | | 38900.000 | 72.096 | 44.211 | -11.404 | 83.500 | 27.885 | PK |
| 8 | | * | 38900.755 | 58.705 | 30.820 | -4.795 | 63.500 | 27.885 | AV |

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Limit (83.5 dBμV/m) = 74 dBμV/m + 20Log(3m/1m)