

Appendix B

RF Test Data for 5.2G WLAN (Conducted Measurement)

Product Name: 1080P IOT CAMERA

Trade Mark: Momentum

Test Model: MOCAM-1080-01

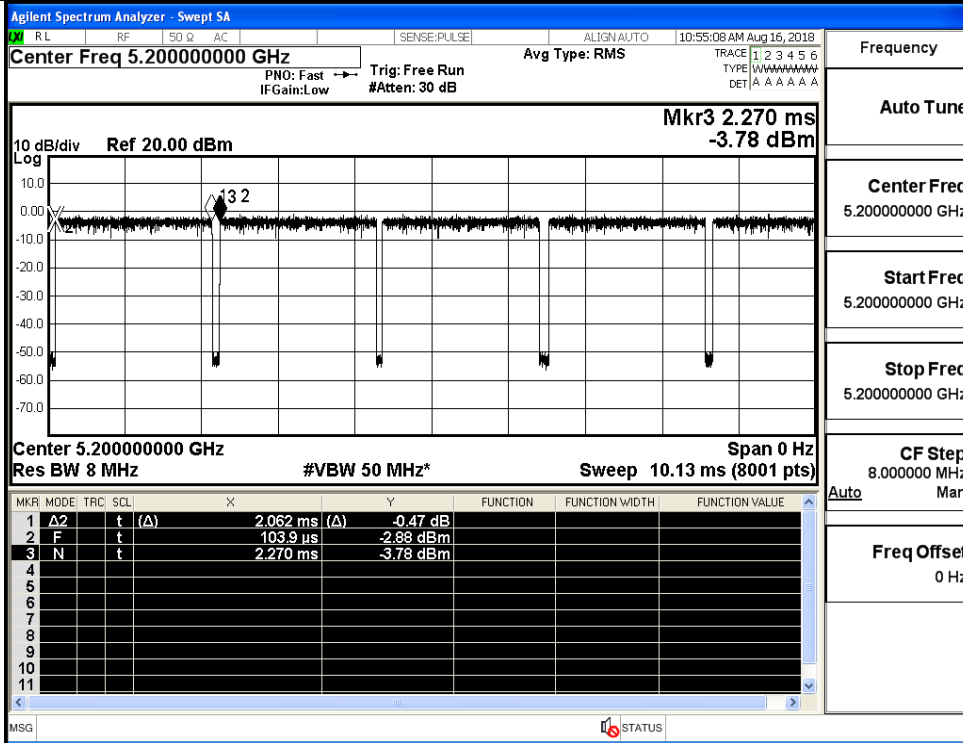
Environmental Conditions

| | |
|--------------------|-------------|
| Temperature: | 23.5 ° C |
| Relative Humidity: | 52.3% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: | Diamond.Lu |
| Supervised by: | Jayden.Zhuo |

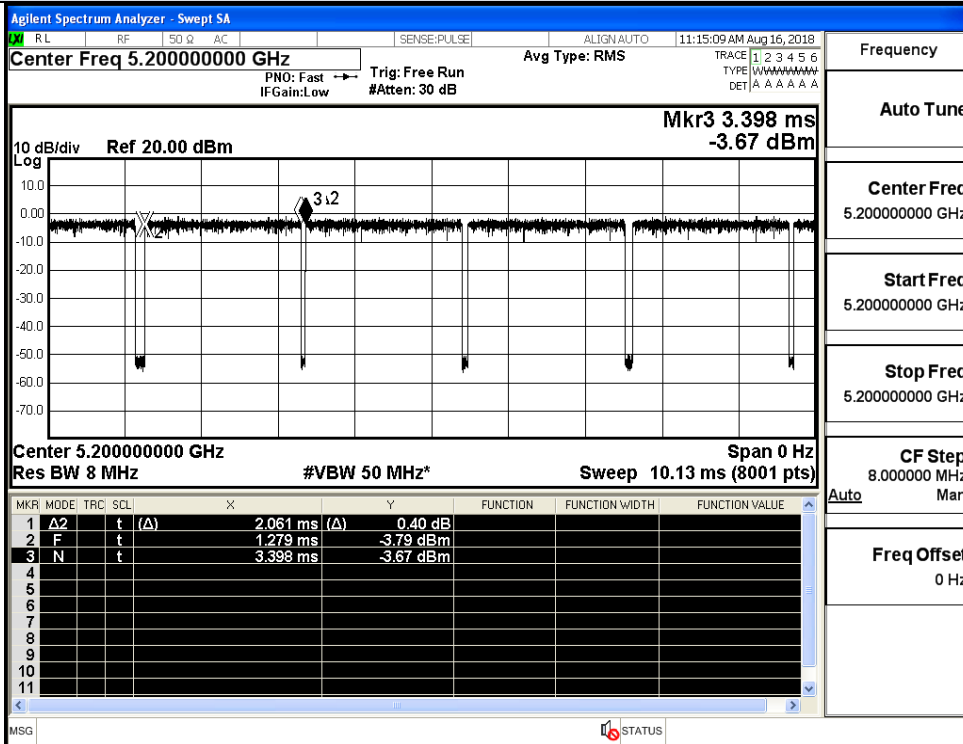
B.1 Duty Cycle

| Test Mode | Test Frequency (MHz) | Duty Cycle (%) | 10log(1/x) Factor (dB) | 1/B Minimum VBW(KHz) |
|-------------|----------------------|----------------|------------------------|----------------------|
| 11A | 5200 | 95.20 | 0.21 | 0.01 |
| 11N20 SISO | 5200 | 97.25 | 0.12 | 0.01 |
| 11N40 SISO | 5190 | 92.55 | 0.34 | 0.01 |
| 11AC20 SISO | 5200 | 95.59 | 0.20 | 0.01 |
| 11AC40 SISO | 5190 | 93.30 | 0.30 | 0.01 |
| 11AC80 SISO | 5210 | 95.60 | 0.20 | 0.01 |

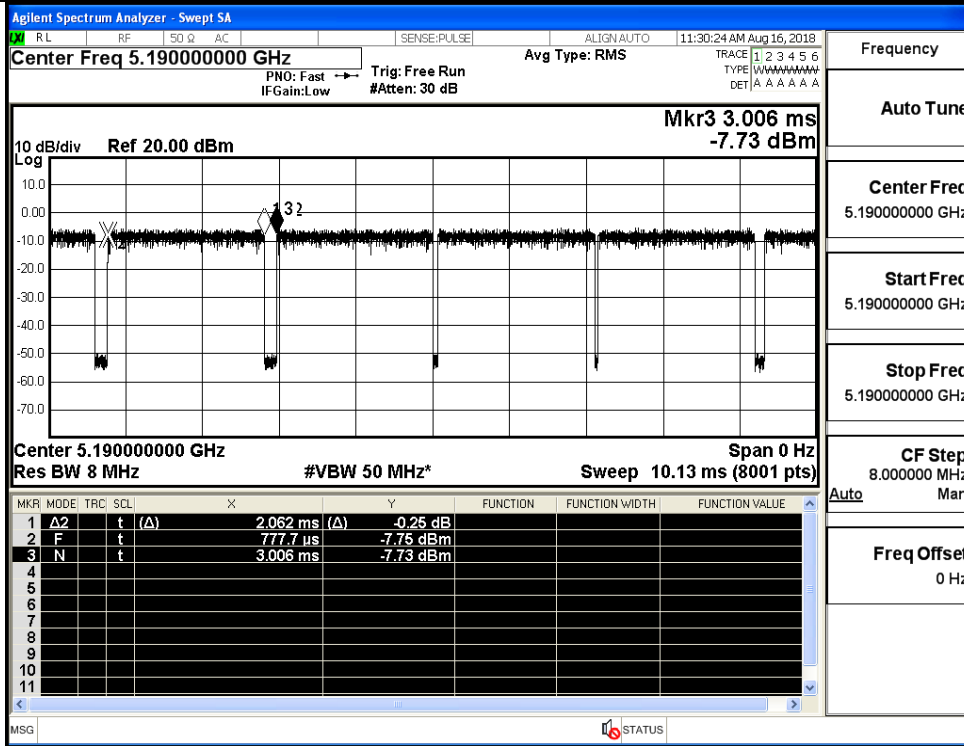
On Time and Duty Cycle



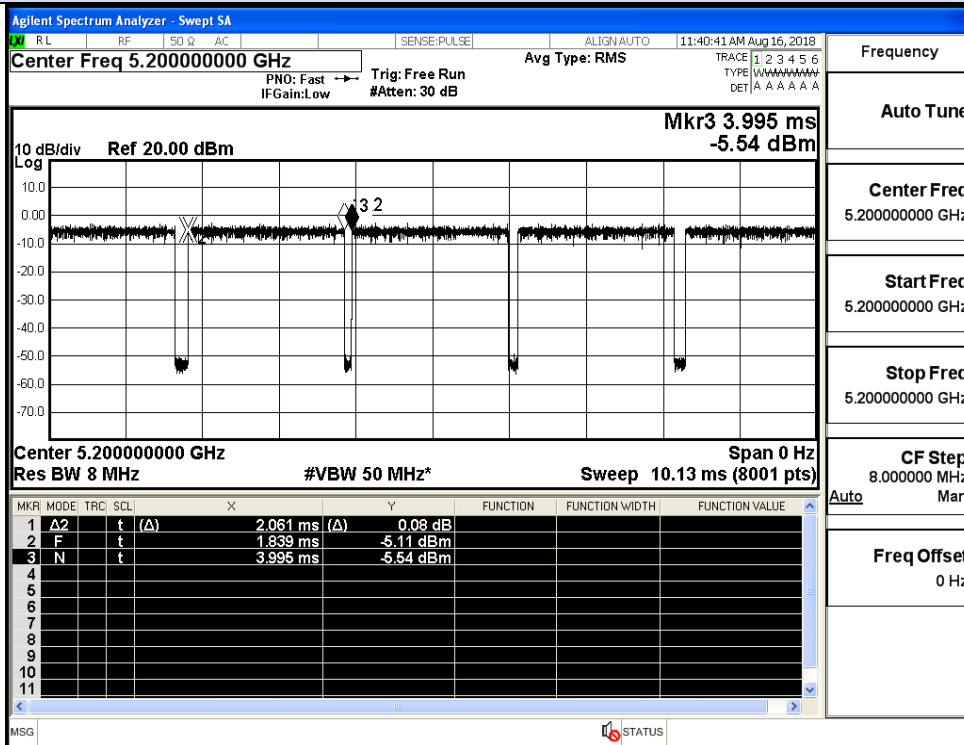
IEEE 802.11a



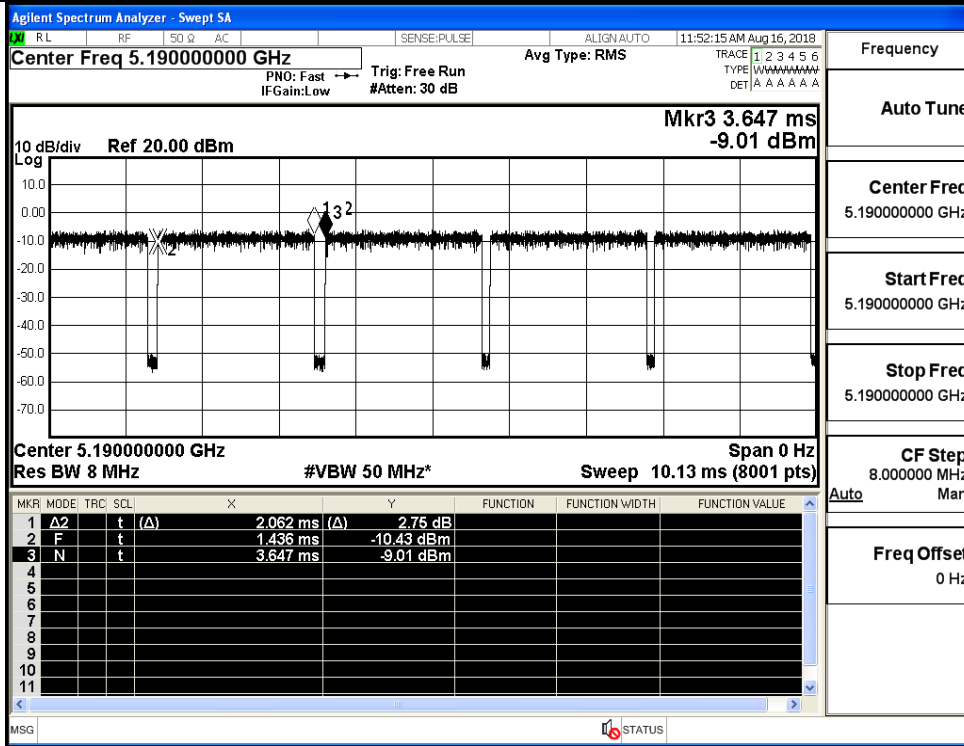
IEEE 802.11n HT20



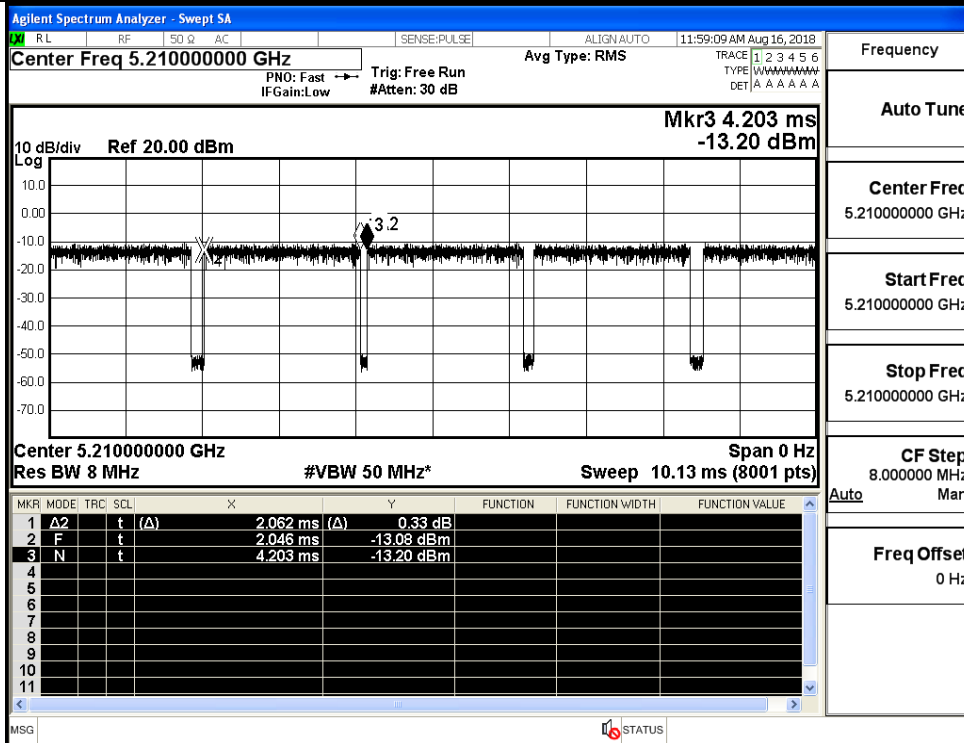
IEEE 802.11n HT40



IEEE 802.11ac VHT20



IEEE 802.11ac VHT40



IEEE 802.11ac VHT80

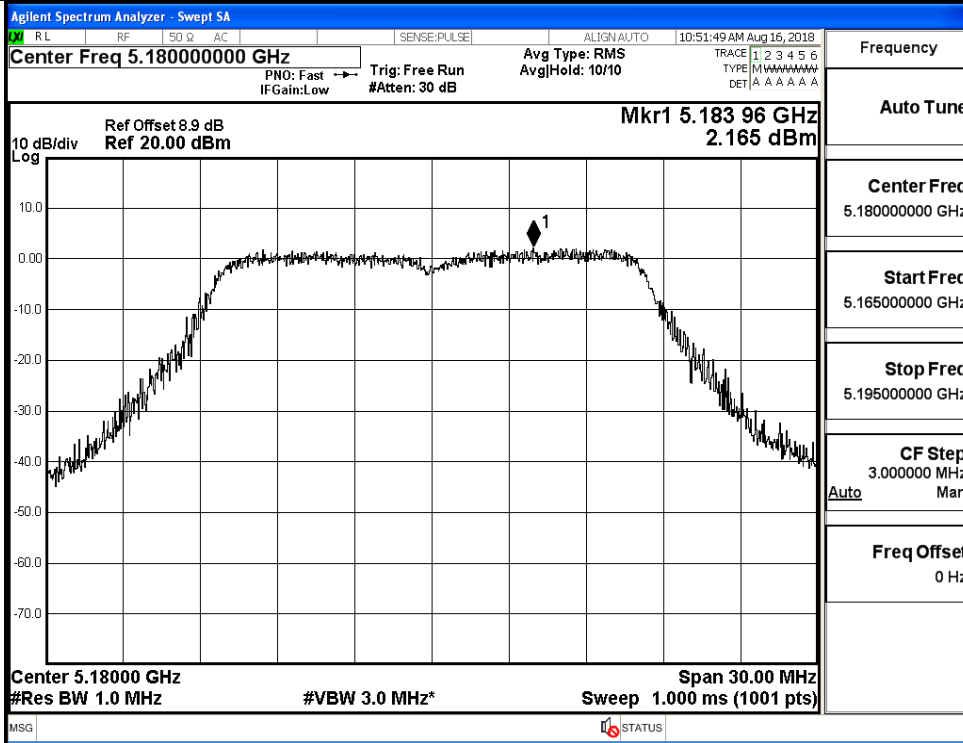
B.2 Maximum Conduct Output Power

| Test Mode | Channel | Frequency (MHz) | AVG Conducted Power (dBm) | Duty Cycle Factor(dB) | Report Conducted Power(dBm) | Limit (dBm) |
|-------------|---------|-----------------|---------------------------|-----------------------|-----------------------------|-------------|
| 11A | 36 | 5180 | 9.73 | 0.21 | 9.94 | 24 |
| | 40 | 5200 | 9.56 | 0.21 | 9.77 | |
| | 48 | 5240 | 9.40 | 0.21 | 9.61 | |
| 11N20 SISO | 36 | 5180 | 9.05 | 0.12 | 9.17 | 24 |
| | 40 | 5200 | 9.54 | 0.12 | 9.66 | |
| | 48 | 5240 | 9.44 | 0.12 | 9.56 | |
| 11N40 SISO | 38 | 5190 | 9.31 | 0.34 | 9.65 | 24 |
| | 46 | 5230 | 9.21 | 0.34 | 9.55 | |
| 11AC20 SISO | 36 | 5180 | 9.02 | 0.20 | 9.22 | 24 |
| | 40 | 5200 | 9.47 | 0.20 | 9.67 | |
| | 48 | 5240 | 9.39 | 0.20 | 9.59 | |
| 11AC40 SISO | 38 | 5190 | 8.22 | 0.30 | 8.52 | 24 |
| | 46 | 5230 | 9.53 | 0.30 | 9.83 | |
| 11AC80 SISO | 42 | 5210 | 9.81 | 0.20 | 10.01 | 24 |

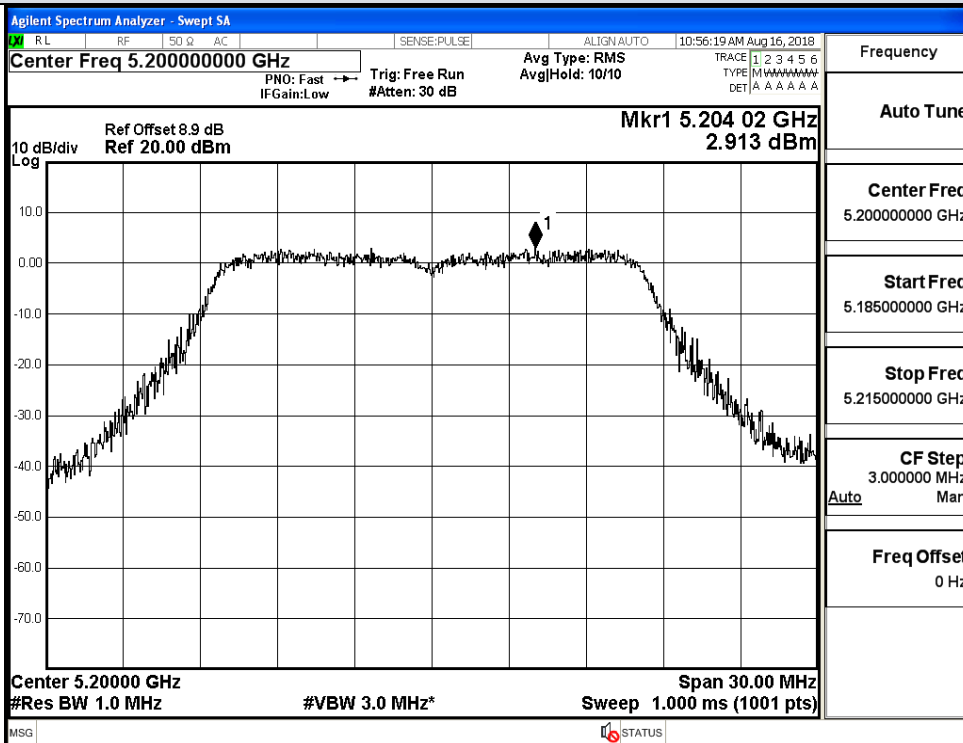
B.3 Power Spectral Density

| Test Mode | Channel | Frequency (MHz) | Power Density (dBm/MHz) | Duty Cycle Factor(dB) | Report Power Density (dBm/MHz) | Limit (dBm/MHz) |
|-------------|---------|-----------------|-------------------------|-----------------------|--------------------------------|-----------------|
| 11A | 36 | 5180 | 2.17 | 0.21 | 2.35 | 11 |
| | 40 | 5200 | 2.91 | 0.21 | 3.12 | |
| | 48 | 5240 | 3.42 | 0.21 | 3.90 | |
| 11N20 SISO | 36 | 5180 | 2.15 | 0.12 | 2.23 | 11 |
| | 40 | 5200 | 3.10 | 0.12 | 3.22 | |
| | 48 | 5240 | 3.65 | 0.12 | 3.97 | |
| 11N40 SISO | 38 | 5190 | 0.10 | 0.34 | 0.44 | 11 |
| | 46 | 5230 | -0.08 | 0.34 | 0.06 | |
| 11AC20 SISO | 36 | 5180 | 2.01 | 0.20 | 2.21 | 11 |
| | 40 | 5200 | 1.67 | 0.20 | 1.87 | |
| | 48 | 5240 | 2.13 | 0.20 | 2.22 | |
| 11AC40 SISO | 38 | 5190 | -0.12 | 0.30 | 0.18 | 11 |
| | 46 | 5230 | -0.83 | 0.30 | -0.62 | |
| 11AC80 SISO | 42 | 5210 | -4.00 | 0.20 | -3.80 | 11 |

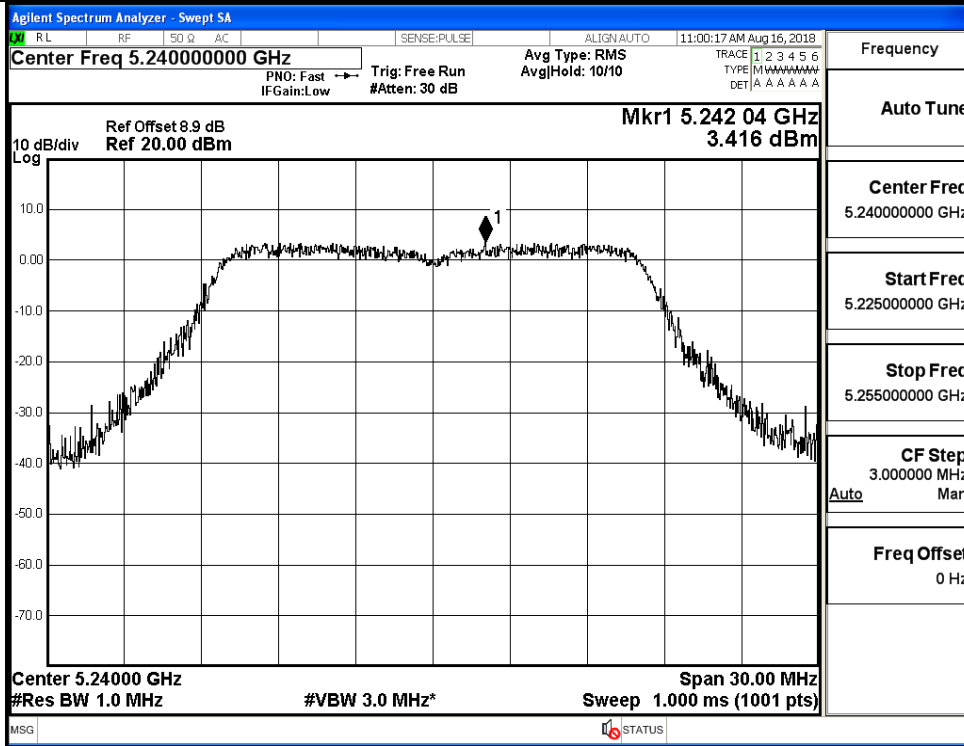
Power Spectral Density



IEEE 802.11a / Channel 36 / 5180 MHz

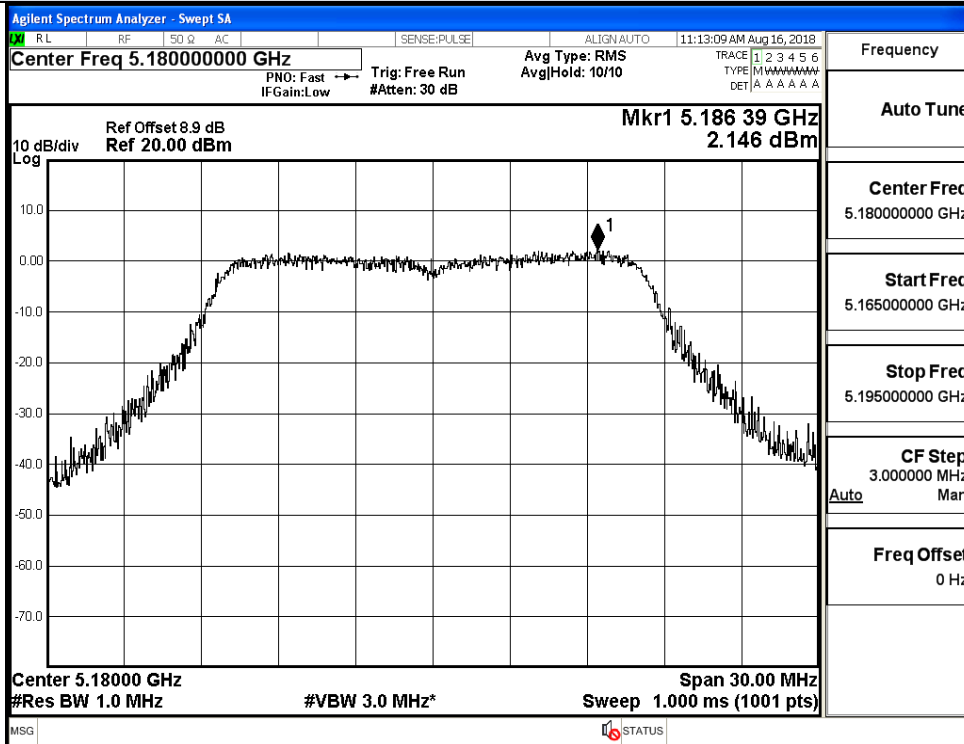


IEEE 802.11a / Channel 40 / 5200 MHz

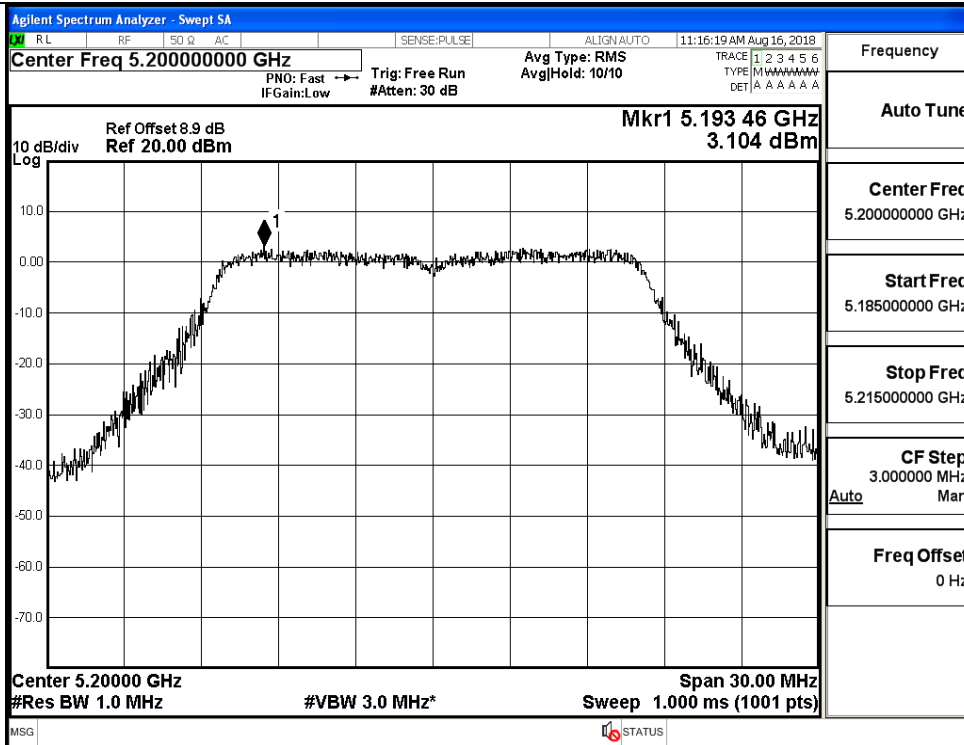


IEEE 802.11a / Channel 48 / 5240 MHz

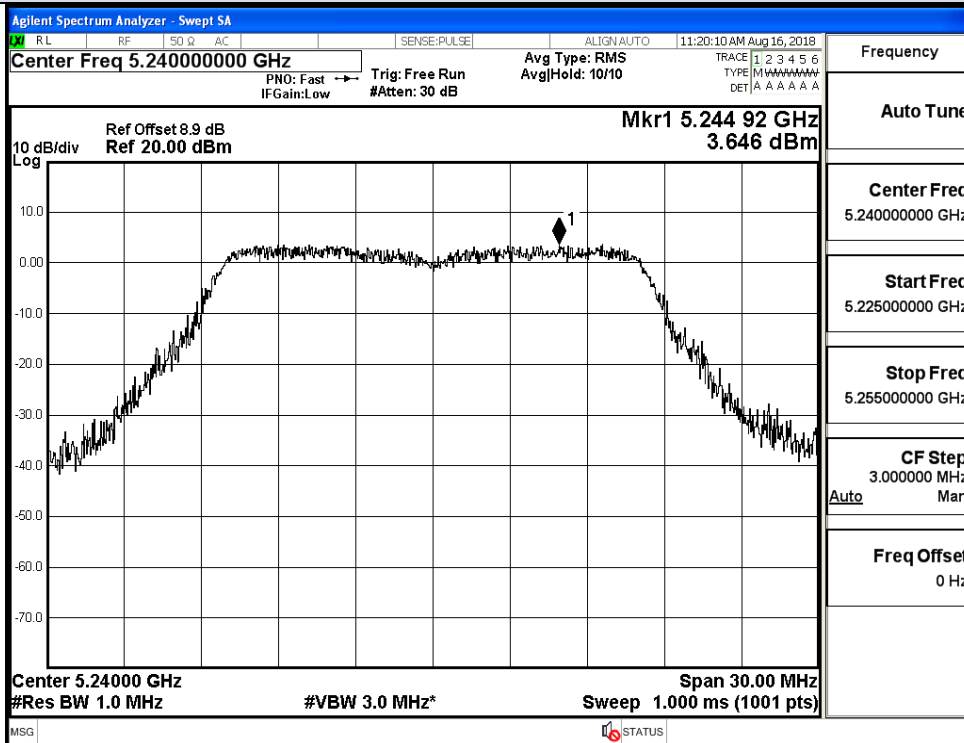
Power Spectral Density



IEEE 802.11n HT20 / Channel 36 / 5180 MHz

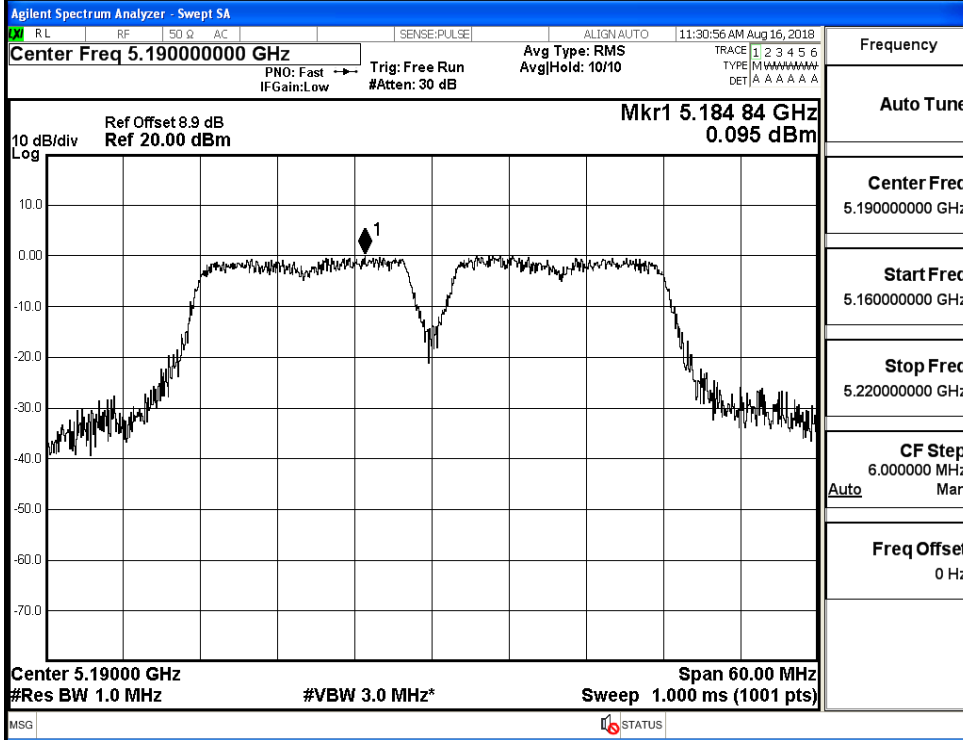


IEEE 802.11n HT20 / Channel 40 / 5200 MHz

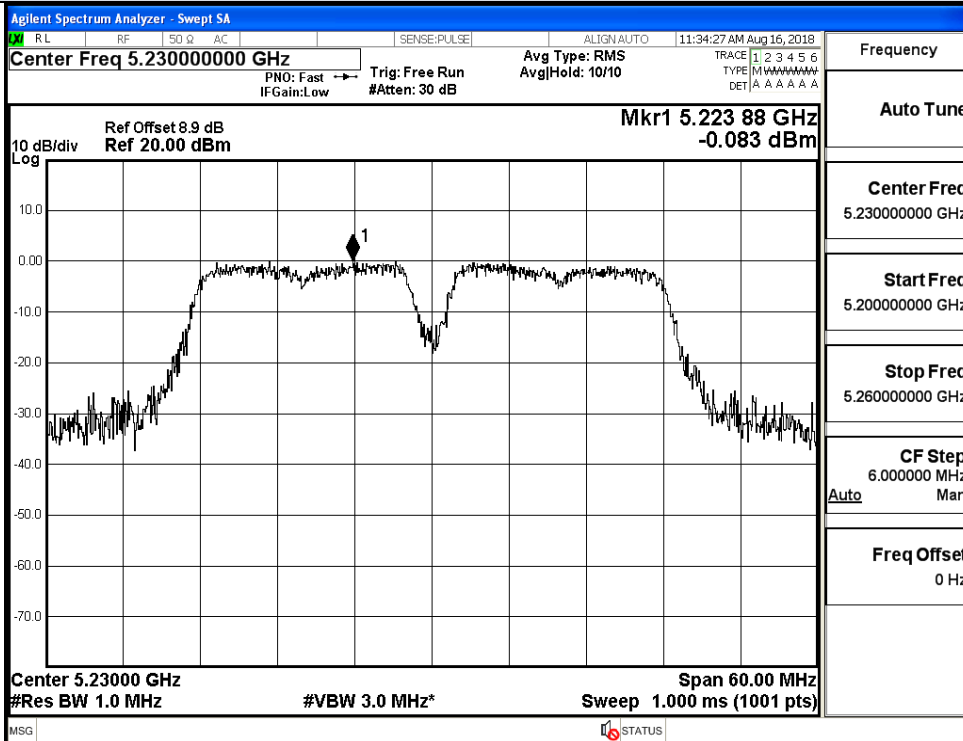


IEEE 802.11n HT20 / Channel 48 / 5240 MHz

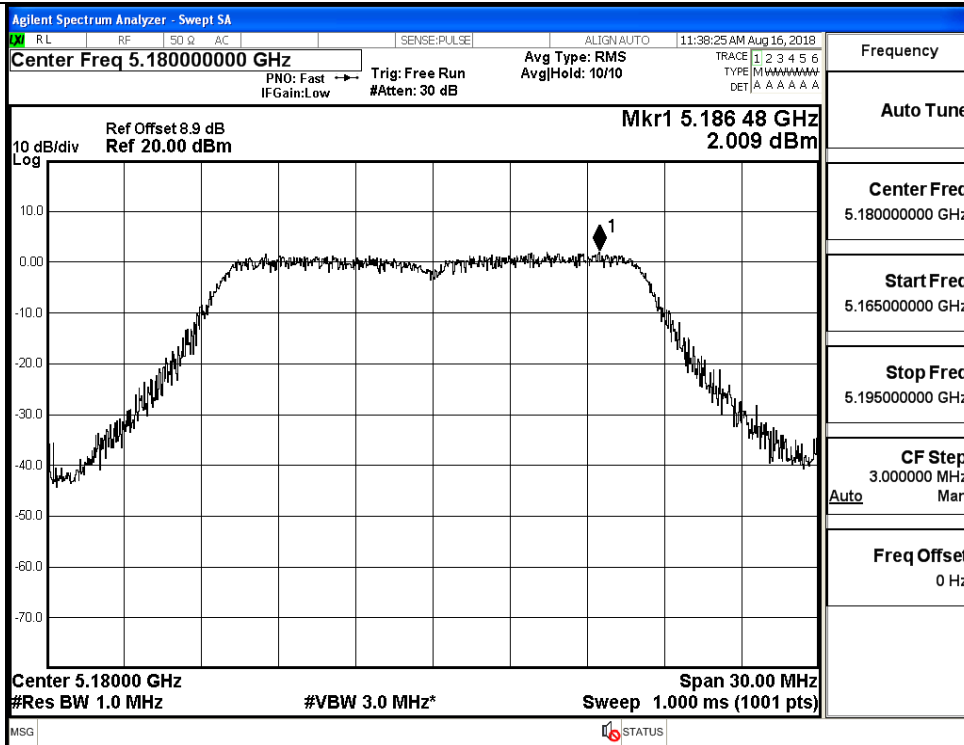
Power Spectral Density



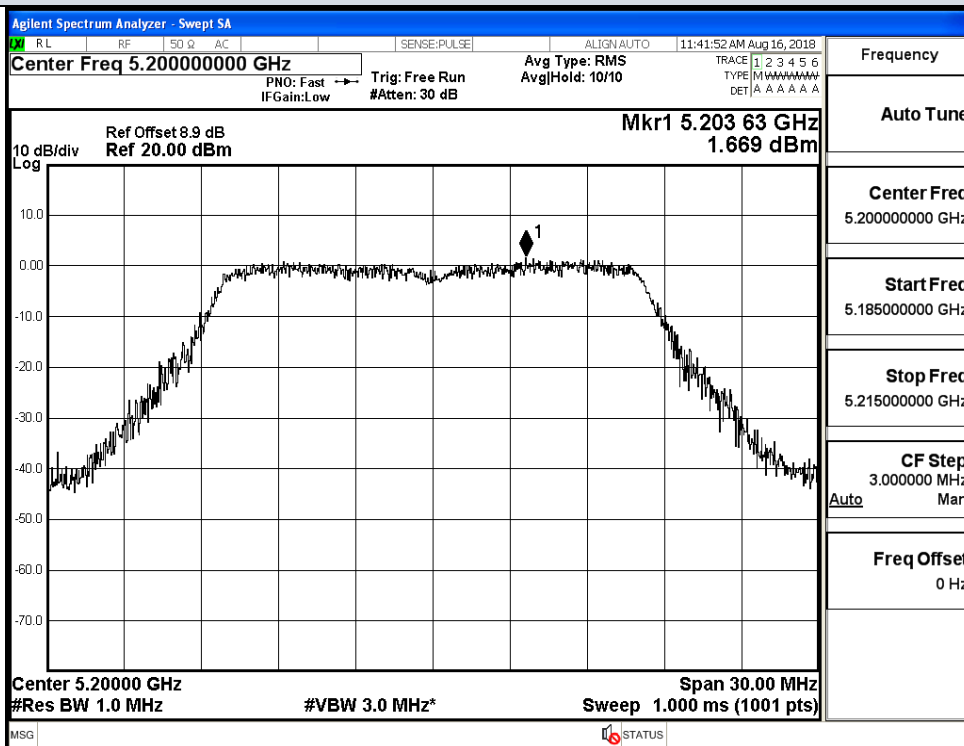
IEEE 802.11n HT40 / Channel 38 / 5190 MHz



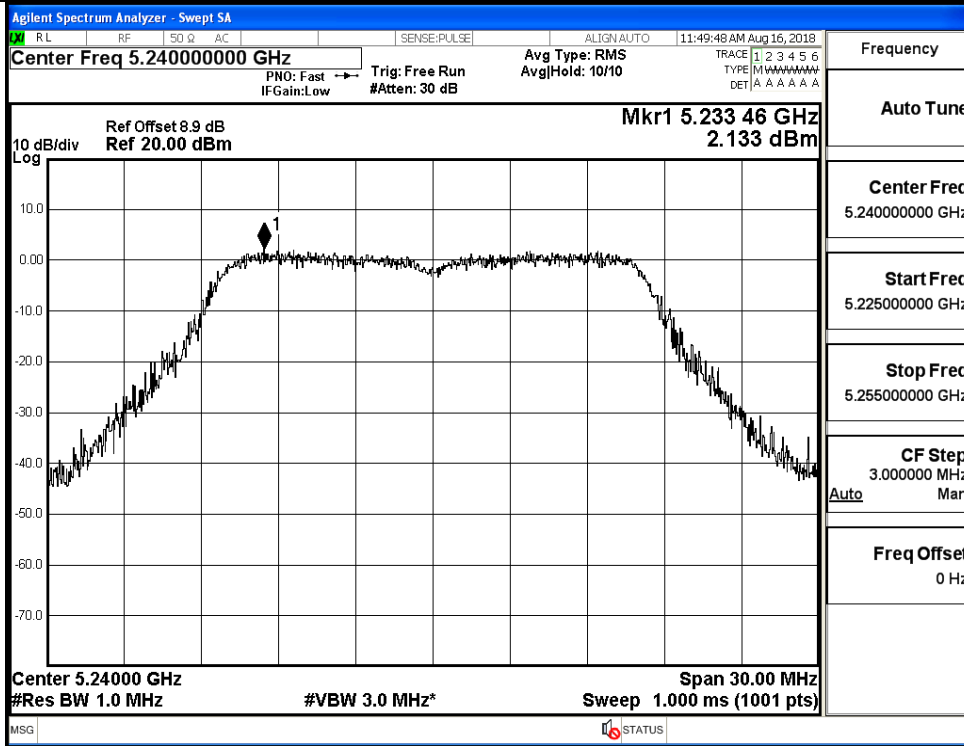
IEEE 802.11n HT40 / Channel 46 / 5230 MHz



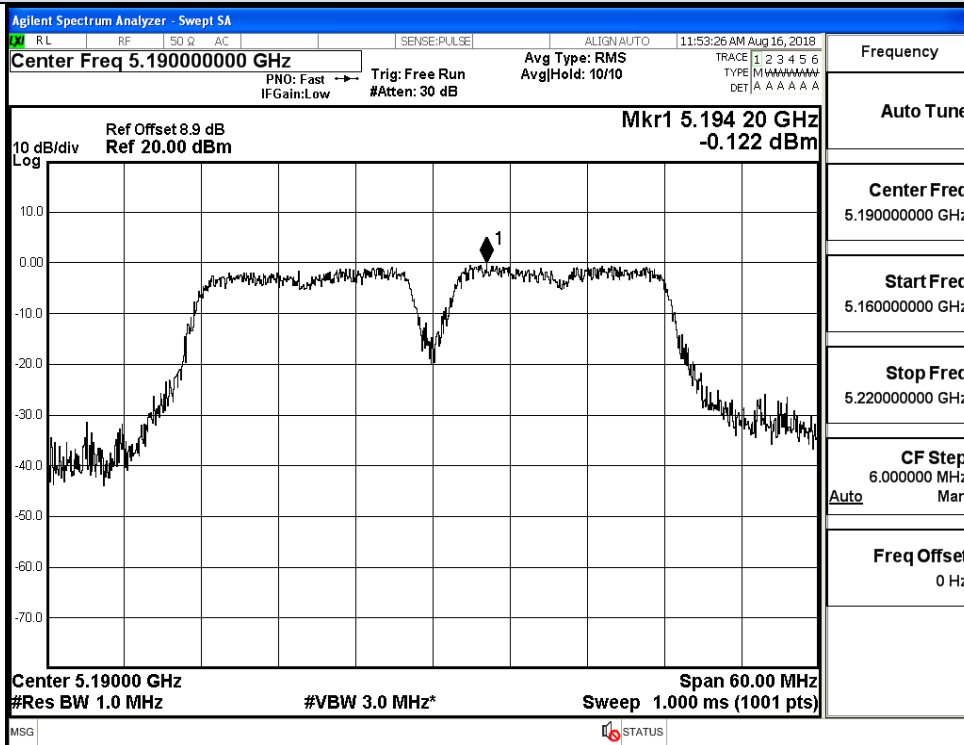
IEEE 802.11ac VHT20 / Channel 36 / 5180 MHz



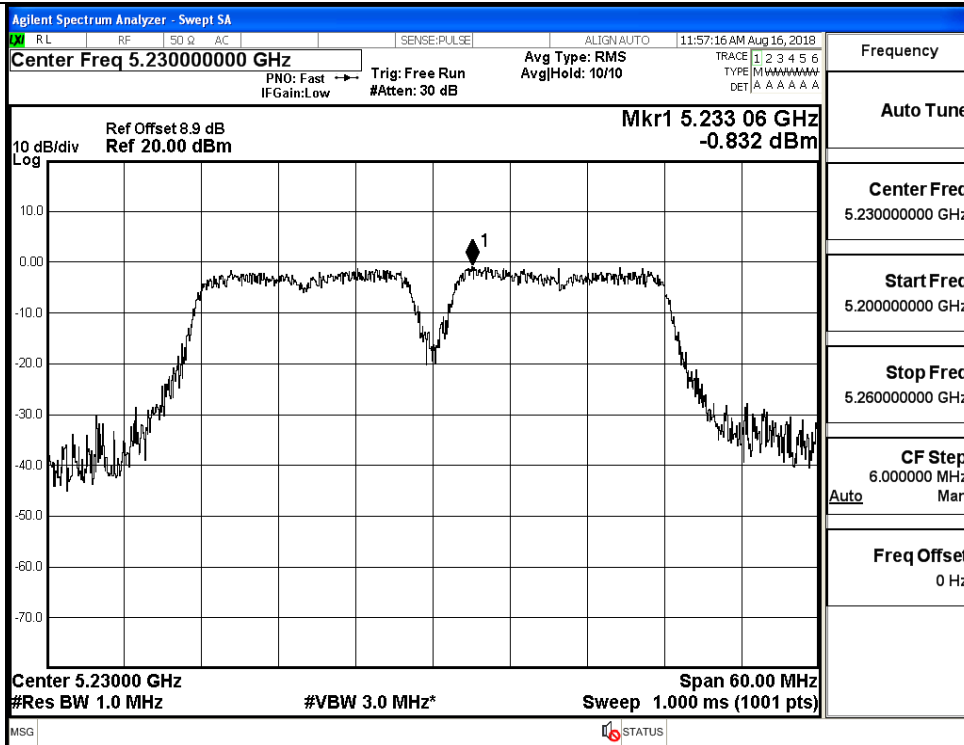
IEEE 802.11ac VHT20 / Channel 40 / 5200 MHz



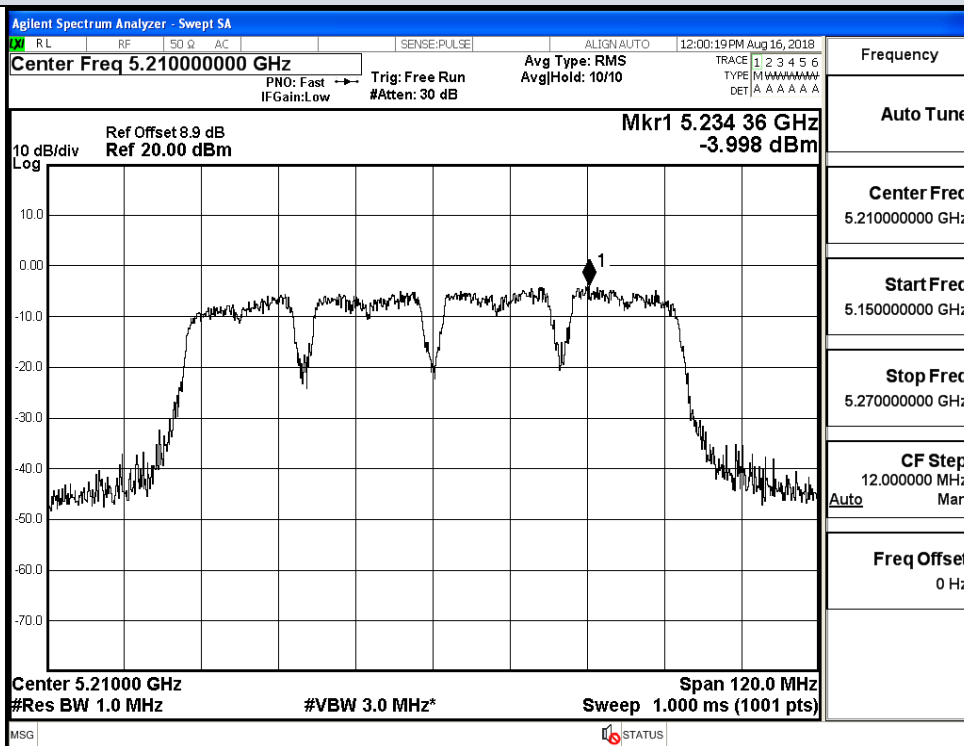
IEEE 802.11ac VHT20 / Channel 48 / 5240 MHz



IEEE 802.11ac VHT40 / Channel 38 / 5190 MHz



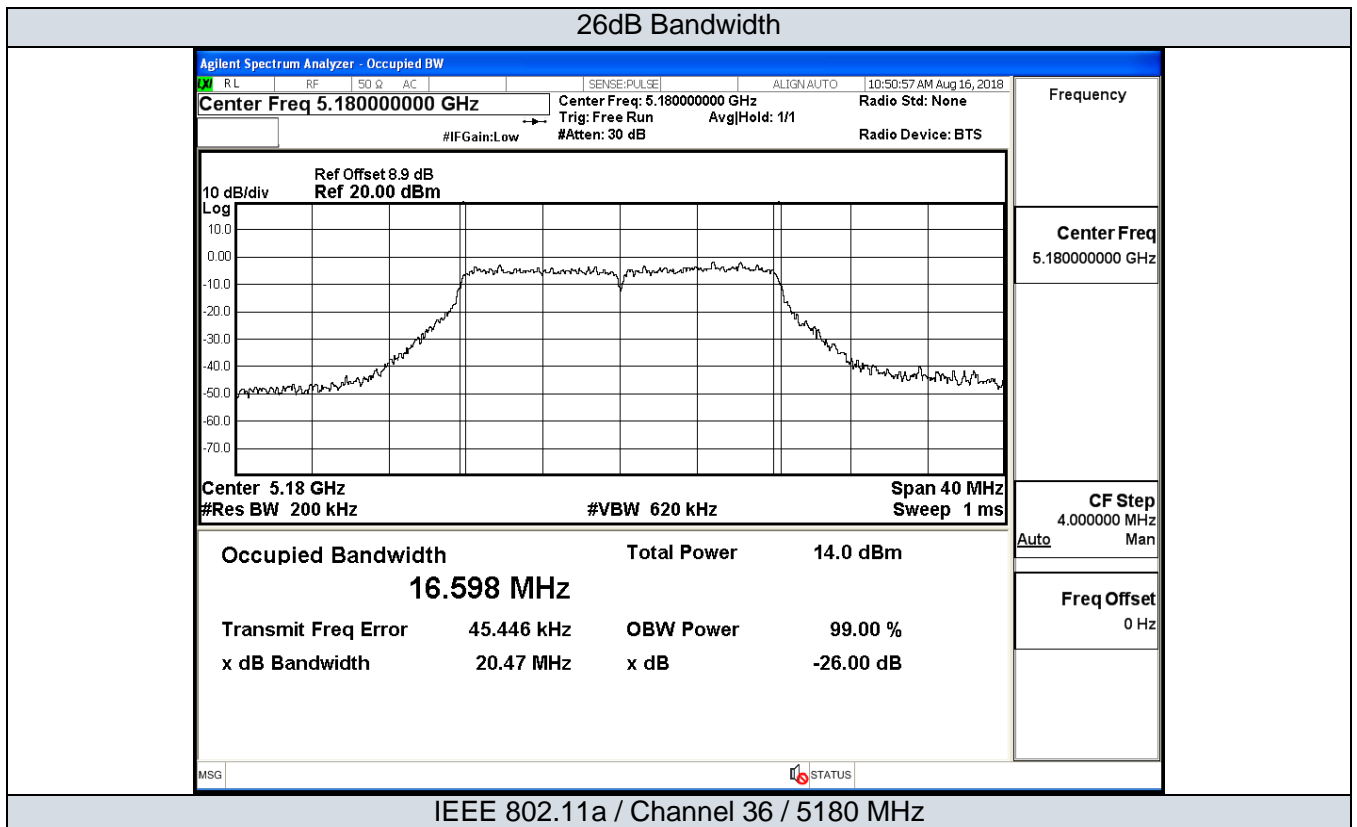
IEEE 802.11ac VHT40 / Channel 46 / 5230 MHz

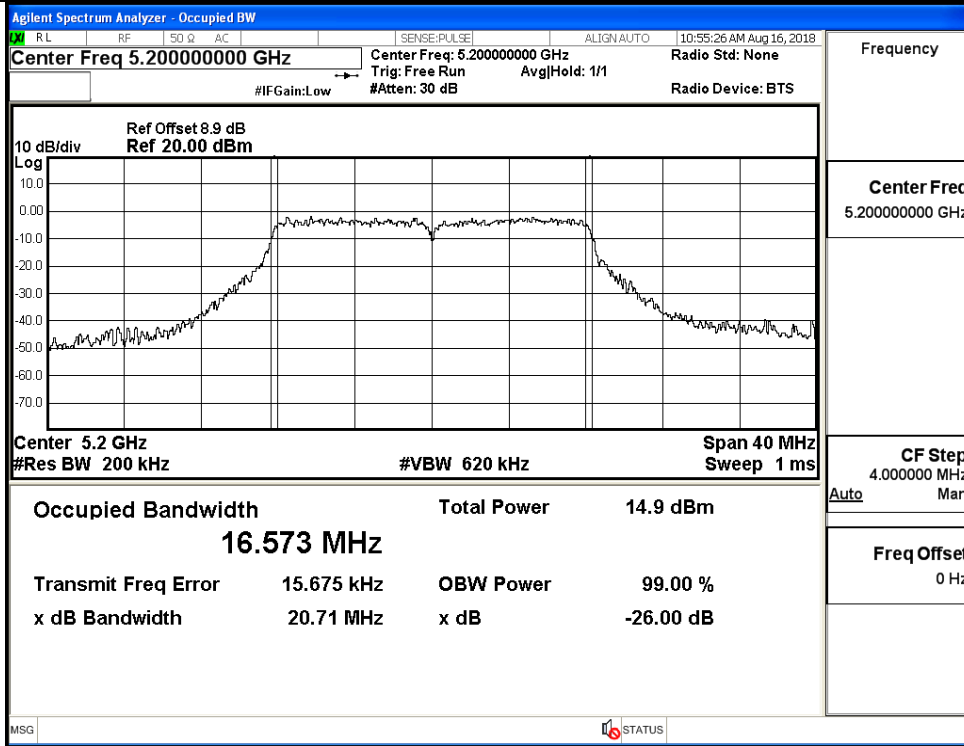


IEEE 802.11ac VHT80 / Channel 42 / 5210 MHz

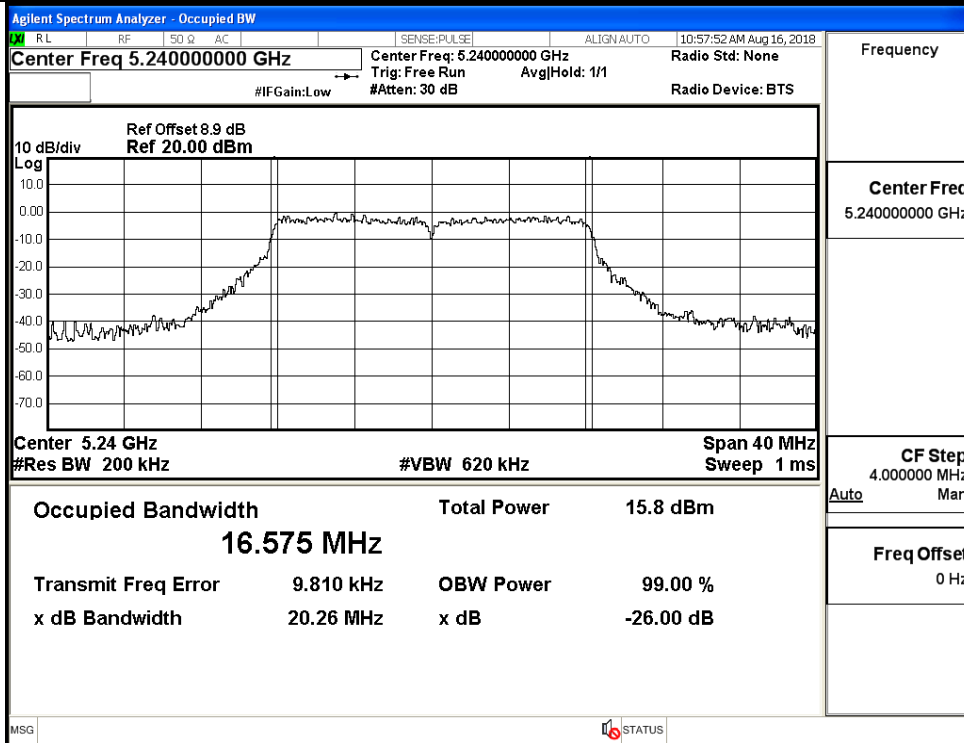
B.4 Emission Bandwidth

| Test Mode | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) | Limit (MHz) |
|-------------|---------|-----------------|----------------------|-------------|
| 11A | 36 | 5180 | 20.47 | No Limit |
| | 40 | 5200 | 20.71 | |
| | 48 | 5240 | 20.26 | |
| 11N20 SISO | 36 | 5180 | 20.64 | No Limit |
| | 40 | 5200 | 20.54 | |
| | 48 | 5240 | 20.74 | |
| 11N40 SISO | 38 | 5190 | 41.55 | No Limit |
| | 46 | 5230 | 42.28 | |
| 11AC20 SISO | 36 | 5180 | 20.55 | No Limit |
| | 40 | 5200 | 20.47 | |
| | 48 | 5240 | 20.50 | |
| 11AC40 SISO | 38 | 5190 | 41.57 | No Limit |
| | 46 | 5230 | 41.59 | |
| 11AC80 SISO | 42 | 5210 | 81.94 | No Limit |





IEEE 802.11a / Channel 40 / 5200 MHz



IEEE 802.11a / Channel 48 / 5240 MHz

26dB Bandwidth

Agilent Spectrum Analyzer - Occupied BW

Center Freq 5.18000000 GHz

Center Freq: 5.18000000 GHz
Trig: Free Run Avg|Hold: 1/1

Radio Std: None
Radio Device: BTS

#IFGain:Low #Atten: 30 dB

10 dB/div Ref Offset 8.9 dB
Log Ref 20.00 dBm

Center 5.18 GHz Span 40 MHz
#Res BW 200 kHz #VBW 620 kHz Sweep 1 ms

| | | |
|---------------------|-------------|-------------------|
| Occupied Bandwidth | Total Power | 13.8 dBm |
| 16.585 MHz | | |
| Transmit Freq Error | 31.974 kHz | OBW Power 99.00 % |
| x dB Bandwidth | 20.64 MHz | x dB -26.00 dB |

Frequency: 5.18000000 GHz

CF Step: 4.000000 MHz (Auto)

Freq Offset: 0 Hz

MSG STATUS

IEEE 802.11n HT20 / Channel 36 / 5180 MHz

Agilent Spectrum Analyzer - Occupied BW

Center Freq 5.20000000 GHz

Center Freq: 5.20000000 GHz
Trig: Free Run Avg|Hold: 1/1

Radio Std: None
Radio Device: BTS

#IFGain:Low #Atten: 30 dB

10 dB/div Ref Offset 8.9 dB
Log Ref 20.00 dBm

Center 5.2 GHz Span 40 MHz
#Res BW 200 kHz #VBW 620 kHz Sweep 1 ms

| | | |
|---------------------|-------------|-------------------|
| Occupied Bandwidth | Total Power | 14.7 dBm |
| 16.593 MHz | | |
| Transmit Freq Error | 23.165 kHz | OBW Power 99.00 % |
| x dB Bandwidth | 20.54 MHz | x dB -26.00 dB |

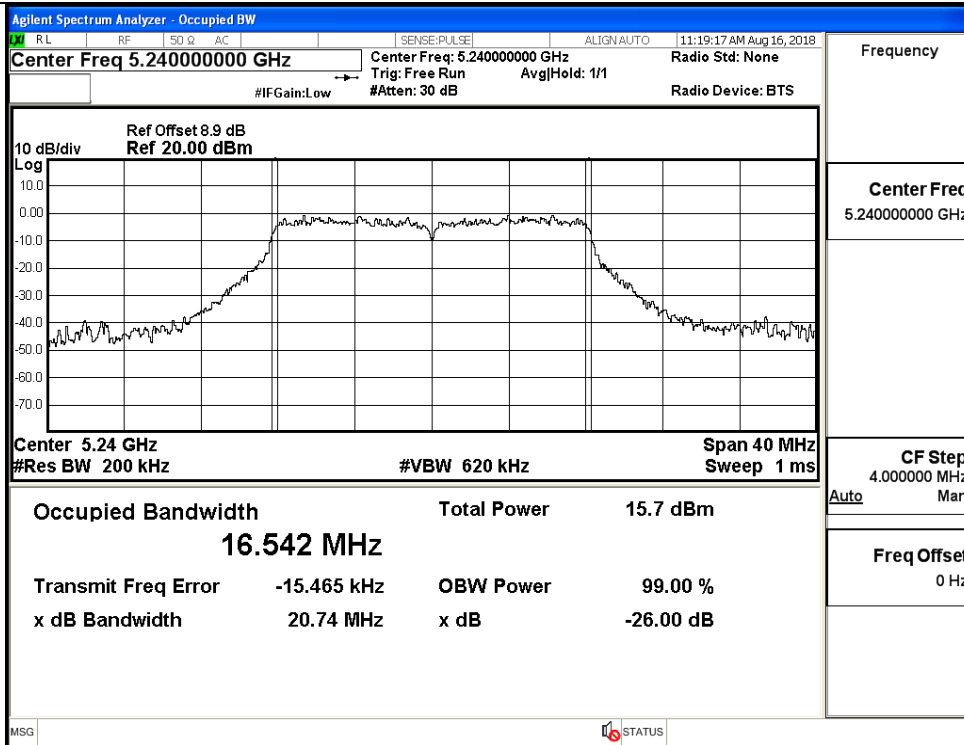
Frequency: 5.20000000 GHz

CF Step: 4.000000 MHz (Auto)

Freq Offset: 0 Hz

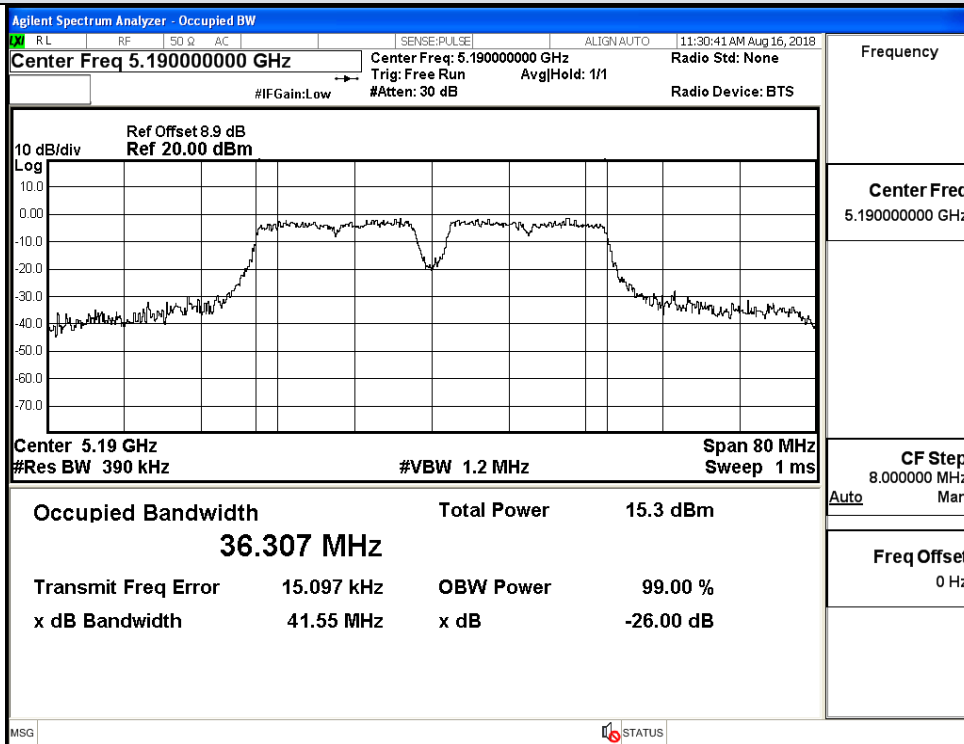
MSG STATUS

IEEE 802.11n HT20 / Channel 40 / 5200 MHz

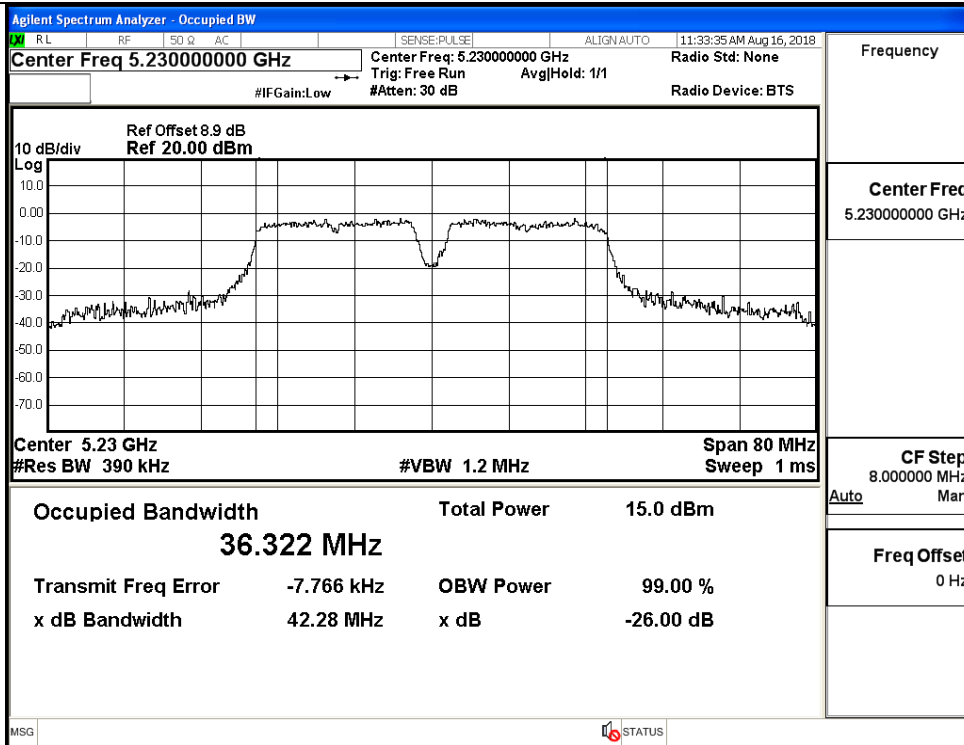


IEEE 802.11n HT20 / Channel 48 / 5240 MHz

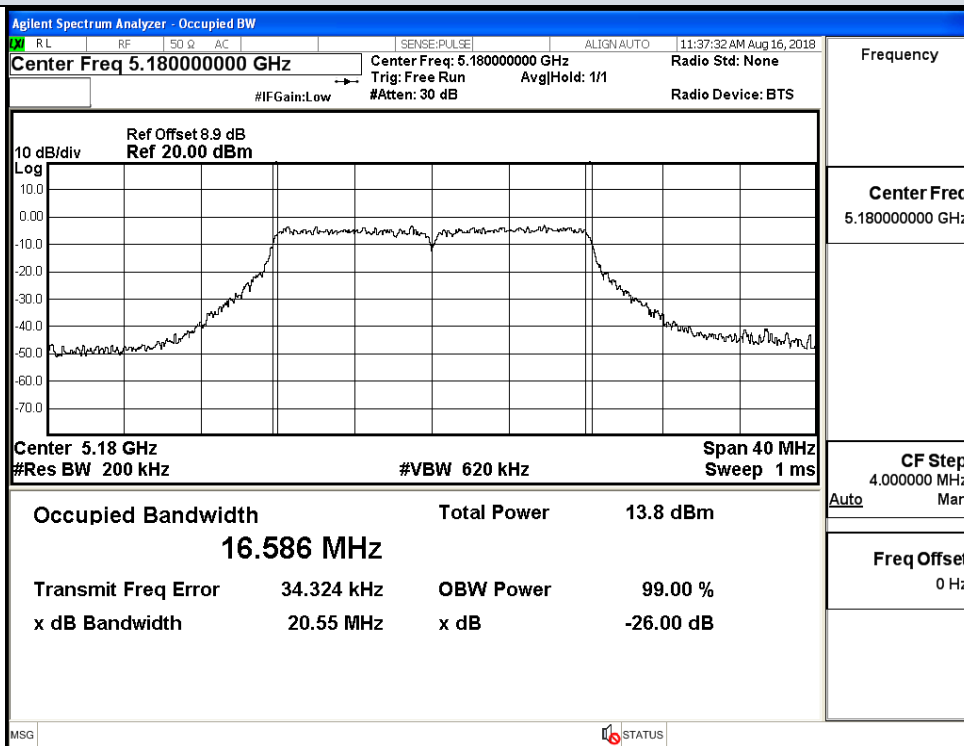
26dB Bandwidth



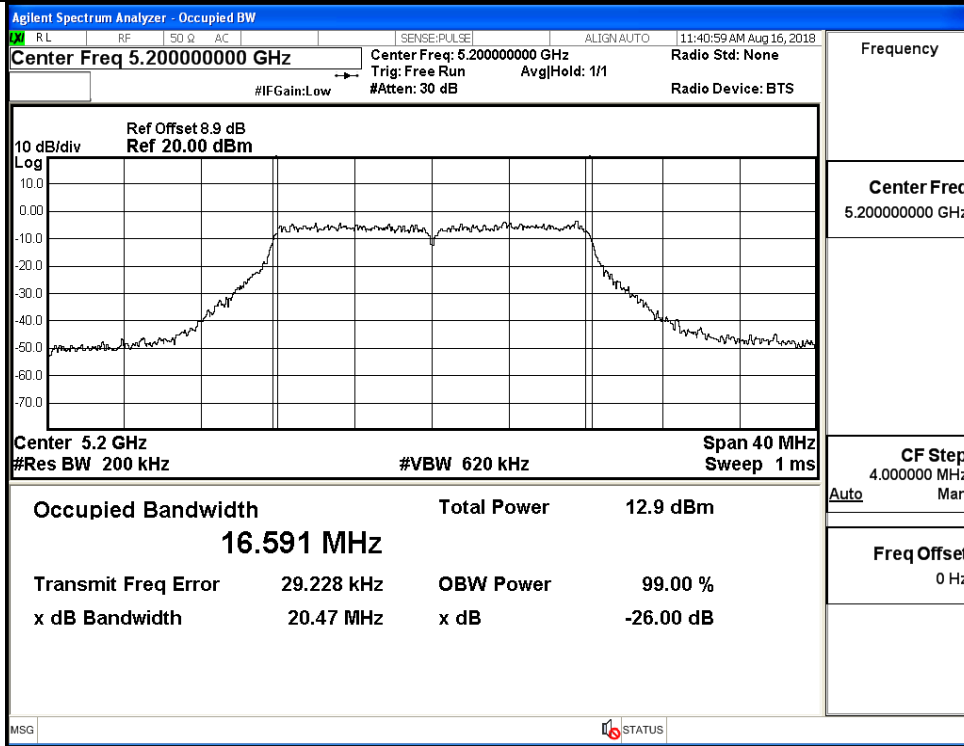
IEEE 802.11n HT40 / Channel 38 / 5190 MHz



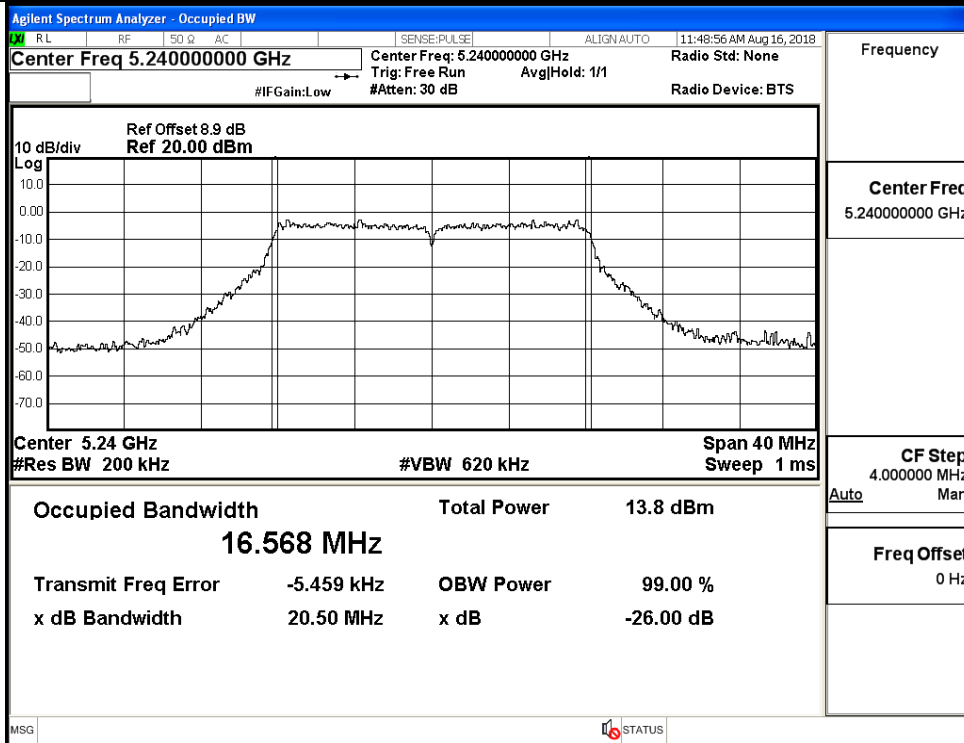
IEEE 802.11n HT40 / Channel 46 / 5230 MHz



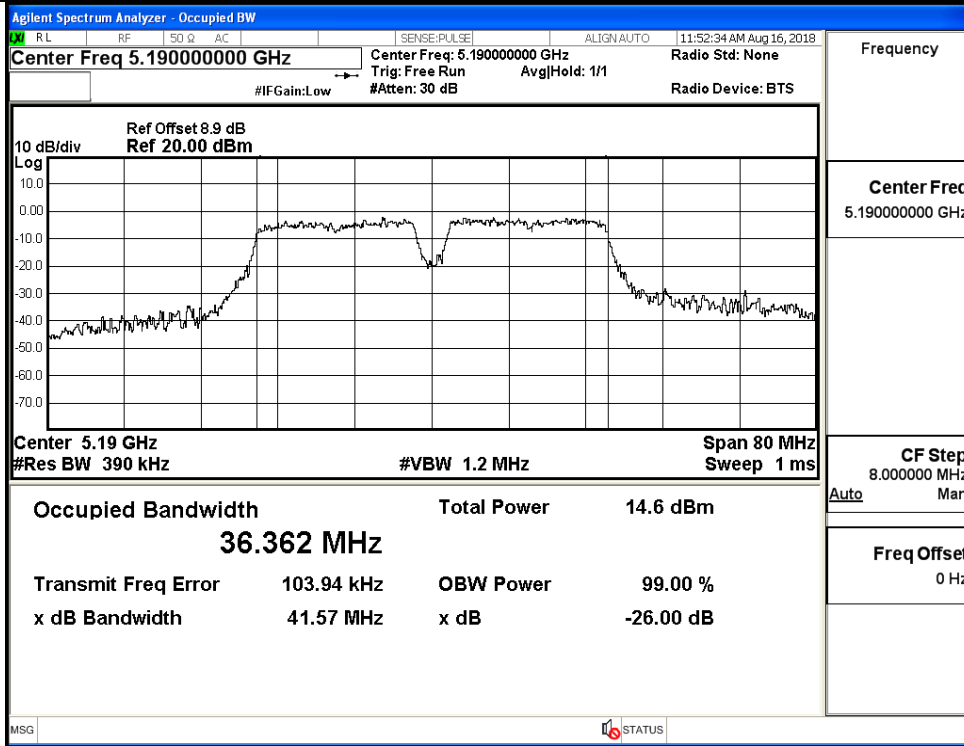
IEEE 802.11ac VHT20 / Channel 36 / 5180 MHz



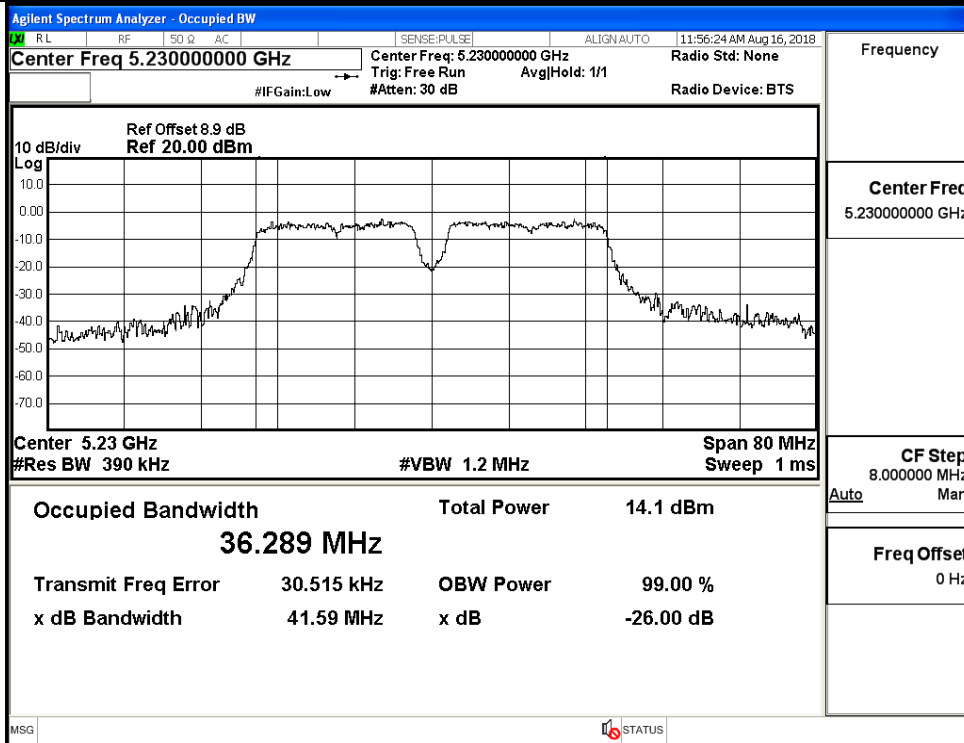
IEEE 802.11ac VHT20 / Channel 40 / 5200 MHz



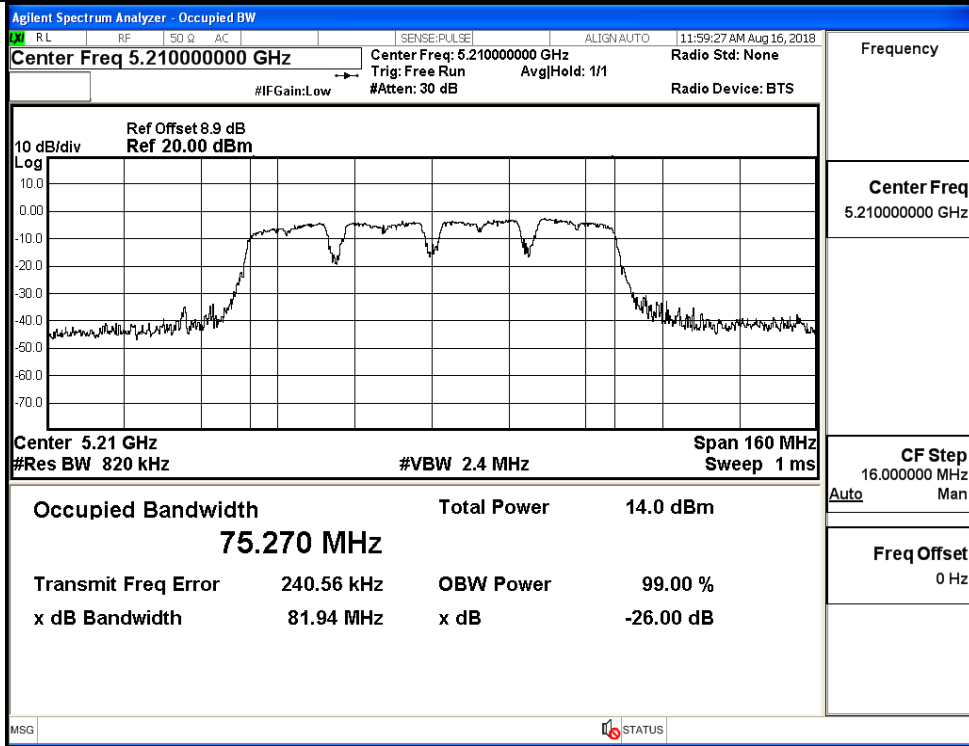
IEEE 802.11ac VHT20 / Channel 48 / 5240 MHz



IEEE 802.11ac VHT40 / Channel 38 / 5190 MHz



IEEE 802.11ac VHT40 / Channel 46 / 5230 MHz



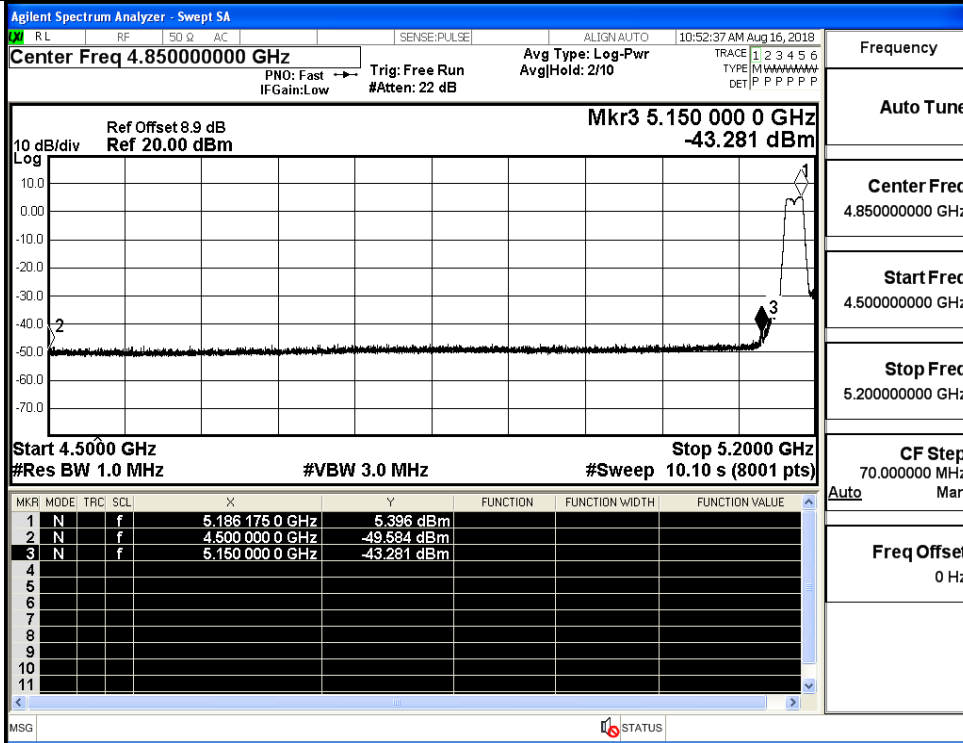
IEEE 802.11ac VHT80 / Channel 42 / 5210 MHz

B.5 Undesirable Emissions Measurement

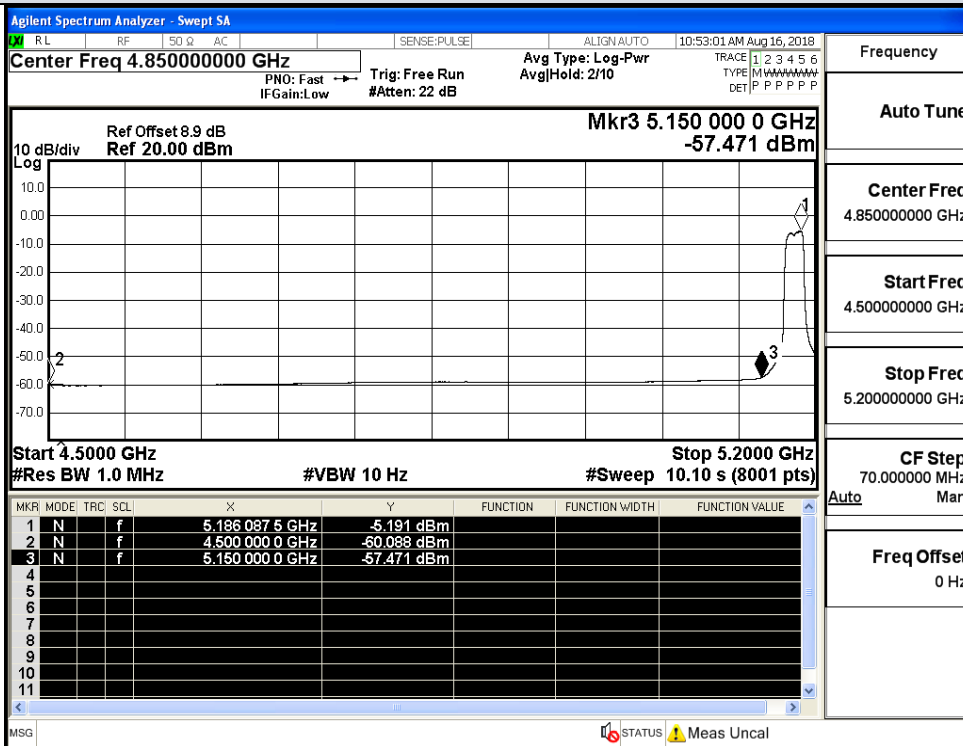
| Test Mode | Channel | Frequency (MHz) | Conducted Power (dBm) | Antenna Gain (dBi) | Ground Reflection Factor (dB) | Covert Radiated E Level At 3m (dBuV/m) | Detector | Limit (dBuV/m) |
|-------------|---------|-----------------|-----------------------|--------------------|-------------------------------|--|----------|----------------|
| 11A | 36 | 4500.0 | -49.594 | 3.00 | 0 | 48.634 | Peak | 68.20 |
| | | 4500.0 | -60.088 | 3.00 | 0 | 38.140 | Average | 54.00 |
| | | 5150.0 | -43.281 | 3.00 | 0 | 54.947 | Peak | 68.20 |
| | | 5150.0 | -57.471 | 3.00 | 0 | 40.757 | Average | 54.00 |
| | 48 | 5350.0 | -49.344 | 3.00 | 0 | 48.884 | Peak | 68.20 |
| | | 5350.0 | -59.175 | 3.00 | 0 | 39.053 | Average | 54.00 |
| | | 5460.0 | -48.315 | 3.00 | 0 | 49.913 | Peak | 68.20 |
| | | 5460.0 | -60.195 | 3.00 | 0 | 38.033 | Average | 54.00 |
| 11N20 SISO | 36 | 4500.0 | -50.839 | 3.00 | 0 | 47.389 | Peak | 68.20 |
| | | 4500.0 | -60.085 | 3.00 | 0 | 38.143 | Average | 54.00 |
| | | 5150.0 | -44.207 | 3.00 | 0 | 54.021 | Peak | 68.20 |
| | | 5150.0 | -57.530 | 3.00 | 0 | 40.698 | Average | 54.00 |
| | 48 | 5350.0 | -49.886 | 3.00 | 0 | 48.342 | Peak | 68.20 |
| | | 5350.0 | -59.721 | 3.00 | 0 | 38.507 | Average | 54.00 |
| | | 5460.0 | -49.519 | 3.00 | 0 | 48.709 | Peak | 68.20 |
| | | 5460.0 | -60.179 | 3.00 | 0 | 38.049 | Average | 54.00 |
| 11N40 SISO | 38 | 4500.0 | -49.912 | 3.00 | 0 | 48.316 | Peak | 68.20 |
| | | 4500.0 | -60.134 | 3.00 | 0 | 38.094 | Average | 54.00 |
| | | 5150.0 | -34.446 | 3.00 | 0 | 63.782 | Peak | 68.20 |
| | | 5150.0 | -50.620 | 3.00 | 0 | 47.608 | Average | 54.00 |
| | 46 | 5350.0 | -47.849 | 3.00 | 0 | 50.379 | Peak | 68.20 |
| | | 5350.0 | -59.435 | 3.00 | 0 | 38.793 | Average | 54.00 |
| | | 5460.0 | -49.463 | 3.00 | 0 | 48.765 | Peak | 68.20 |
| | | 5460.0 | -59.930 | 3.00 | 0 | 38.298 | Average | 54.00 |
| 11AC20 SISO | 36 | 4500.0 | -49.332 | 3.00 | 0 | 48.896 | Peak | 68.20 |
| | | 4500.0 | -60.107 | 3.00 | 0 | 38.121 | Average | 54.00 |
| | | 5150.0 | -44.649 | 3.00 | 0 | 53.579 | Peak | 68.20 |
| | | 5150.0 | -57.573 | 3.00 | 0 | 40.655 | Average | 54.00 |
| | 48 | 4500.0 | -49.709 | 3.00 | 0 | 48.519 | Peak | 68.20 |
| | | 4500.0 | -59.732 | 3.00 | 0 | 38.496 | Average | 54.00 |
| | | 5150.0 | -50.276 | 3.00 | 0 | 47.952 | Peak | 68.20 |
| | | 5150.0 | -60.214 | 3.00 | 0 | 38.014 | Average | 54.00 |
| 11AC40 SISO | 38 | 4500.0 | -50.723 | 3.00 | 0 | 47.505 | Peak | 68.20 |
| | | 4500.0 | -60.117 | 3.00 | 0 | 38.111 | Average | 54.00 |
| | | 5150.0 | -37.456 | 3.00 | 0 | 60.772 | Peak | 68.20 |

| | | | | | | | | |
|----------------|----|--------|---------|------|---|--------|---------|-------|
| | 46 | 5150.0 | -53.079 | 3.00 | 0 | 45.149 | Average | 54.00 |
| | | 5350.0 | -48.729 | 3.00 | 0 | 49.499 | Peak | 68.20 |
| | | 5350.0 | -59.441 | 3.00 | 0 | 38.787 | Average | 54.00 |
| | | 5460.0 | -50.732 | 3.00 | 0 | 47.496 | Peak | 68.20 |
| | | 5460.0 | -59.923 | 3.00 | 0 | 38.305 | Average | 54.00 |
| 11AC80 SISO | 42 | 4500.0 | -50.557 | 3.00 | 0 | 47.671 | Peak | 68.20 |
| | | 5150.0 | -60.113 | 3.00 | 0 | 38.115 | Average | 54.00 |
| | | 4500.0 | -41.019 | 3.00 | 0 | 57.209 | Peak | 68.20 |
| | | 5150.0 | -56.188 | 3.00 | 0 | 42.040 | Average | 54.00 |
| | | 5350.0 | -47.102 | 3.00 | 0 | 51.126 | Peak | 68.20 |
| | | 5460.0 | -58.890 | 3.00 | 0 | 39.338 | Average | 54.00 |
| | | 5350.0 | -49.897 | 3.00 | 0 | 48.331 | Peak | 68.20 |
| | | 5460.0 | -59.417 | 3.00 | 0 | 38.811 | Average | 54.00 |

Undesirable Emissions Measurement

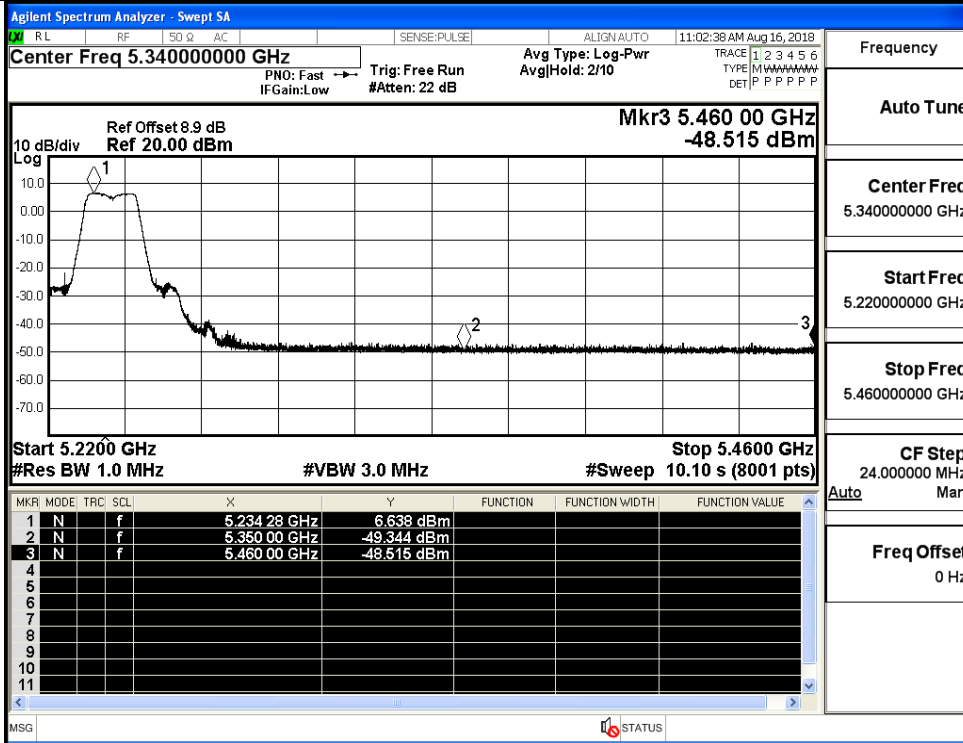


IEEE 802.11a / Channel 36 / 5180 MHz / Peak

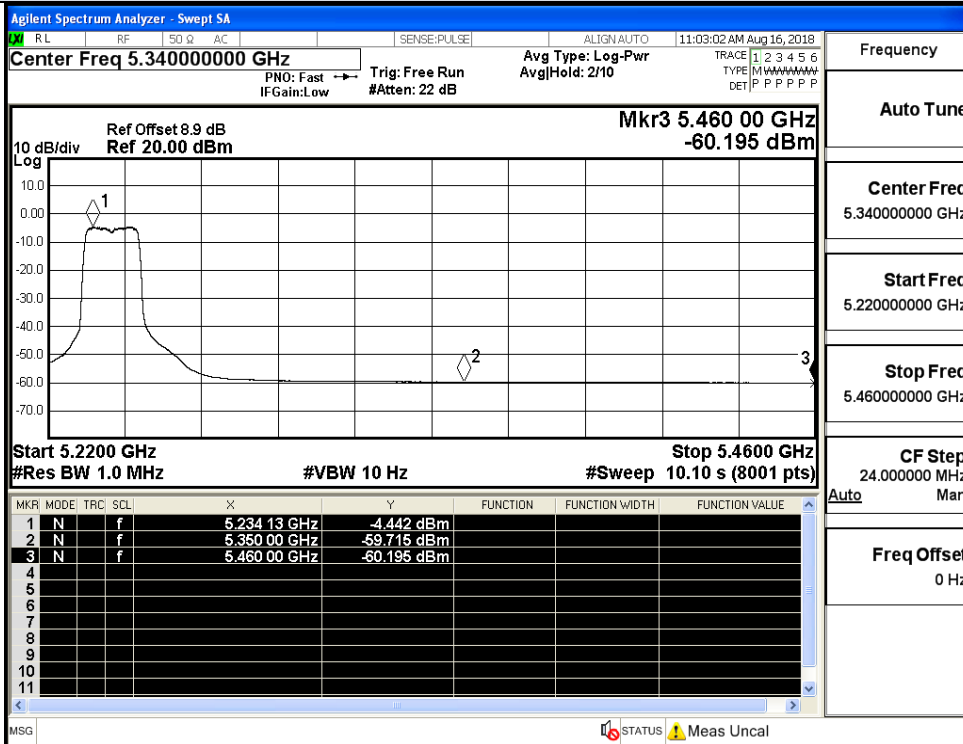


IEEE 802.11a / Channel 36 / 5180 MHz / Average

Undesirable Emissions Measurement

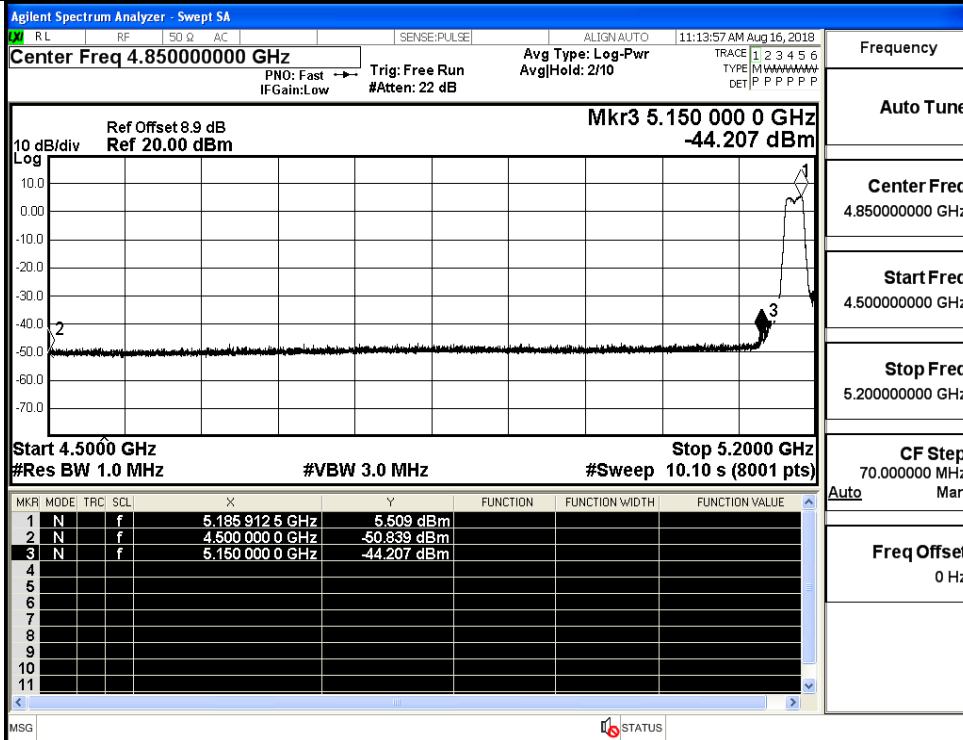


IEEE 802.11a / Channel 48 / 5240 MHz / Peak

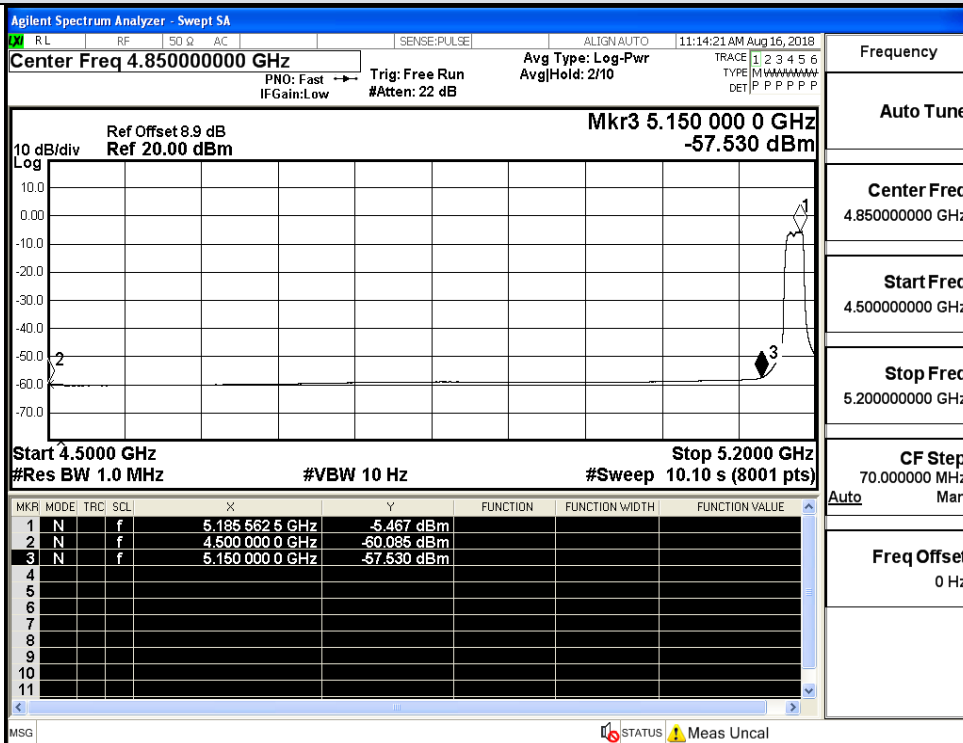


IEEE 802.11a / Channel 48 / 5240 MHz / Average

Undesirable Emissions Measurement

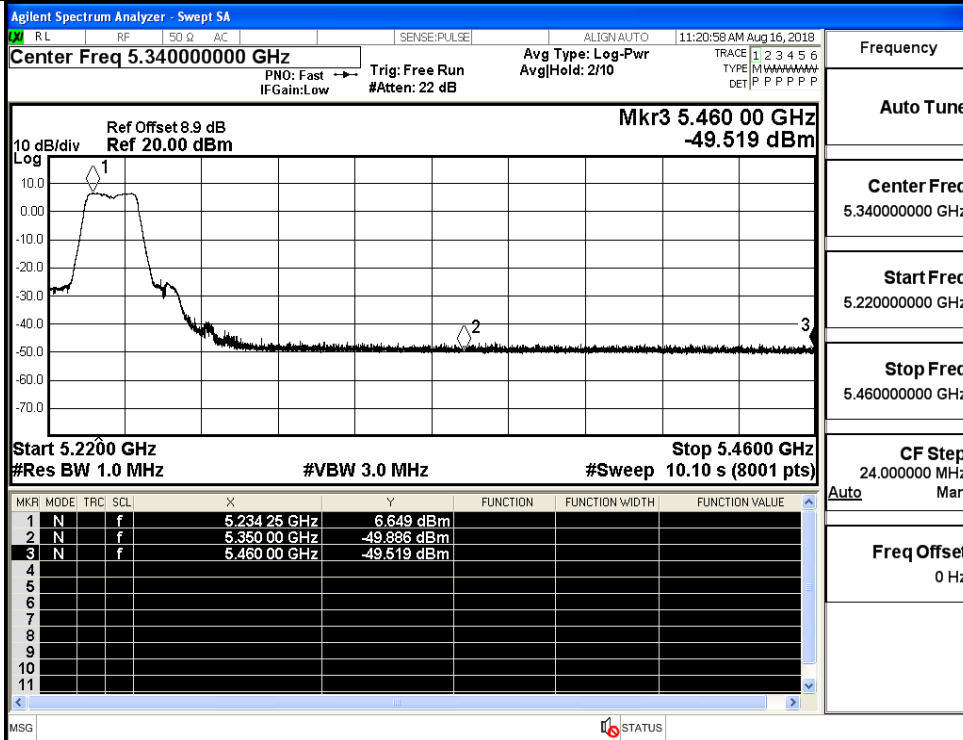


IEEE 802.11n HT20 / Channel 36 / 5180 MHz / Peak

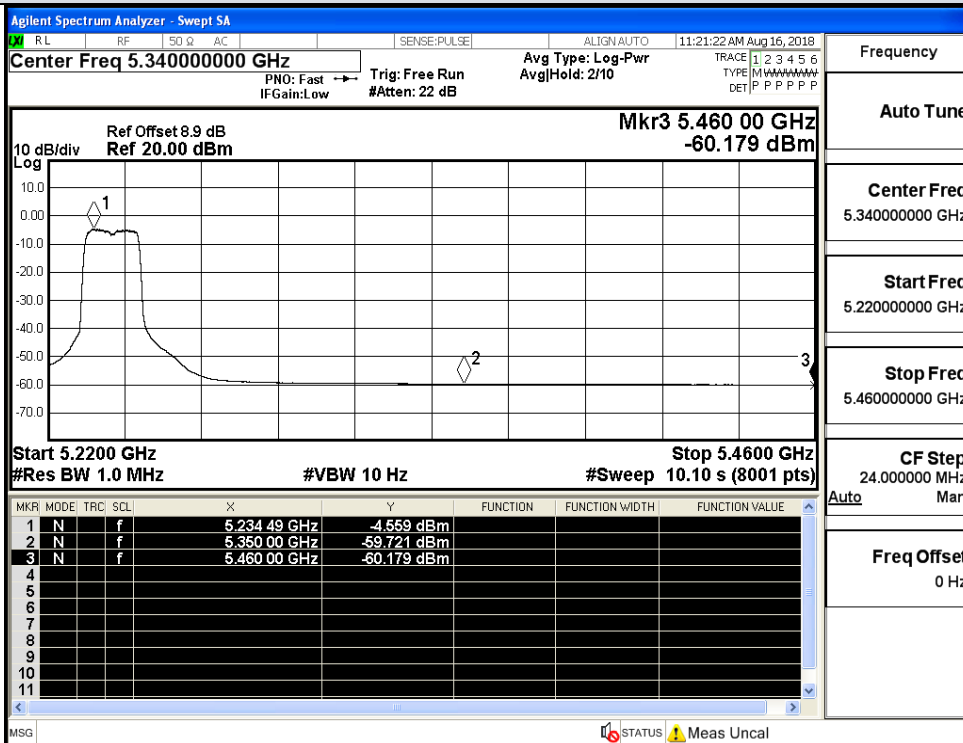


IEEE 802.11n HT20 / Channel 36 / 5180 MHz / Average

Undesirable Emissions Measurement

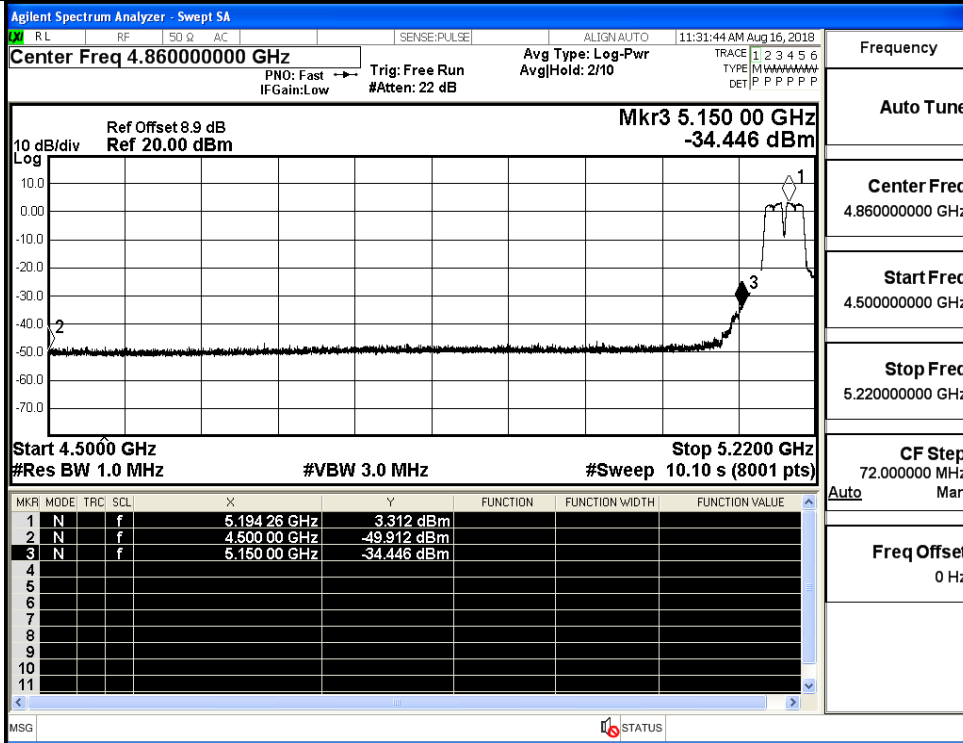


IEEE 802.11n HT20 / Channel 48 / 5240 MHz / Peak

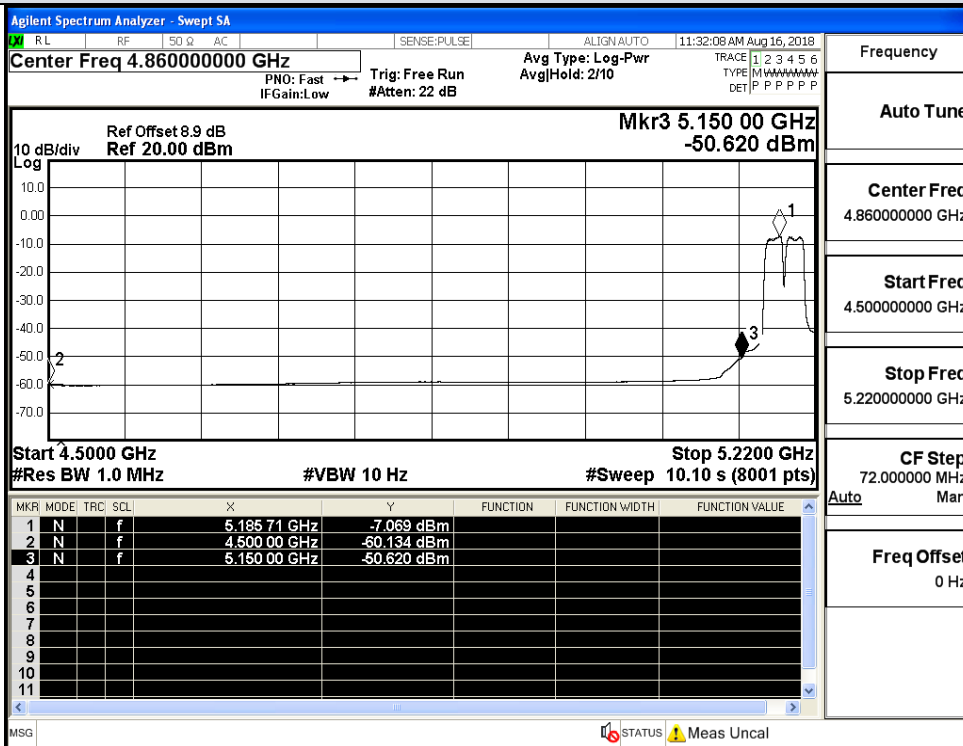


IEEE 802.11n HT20 / Channel 48 / 5240 MHz / Average

Undesirable Emissions Measurement

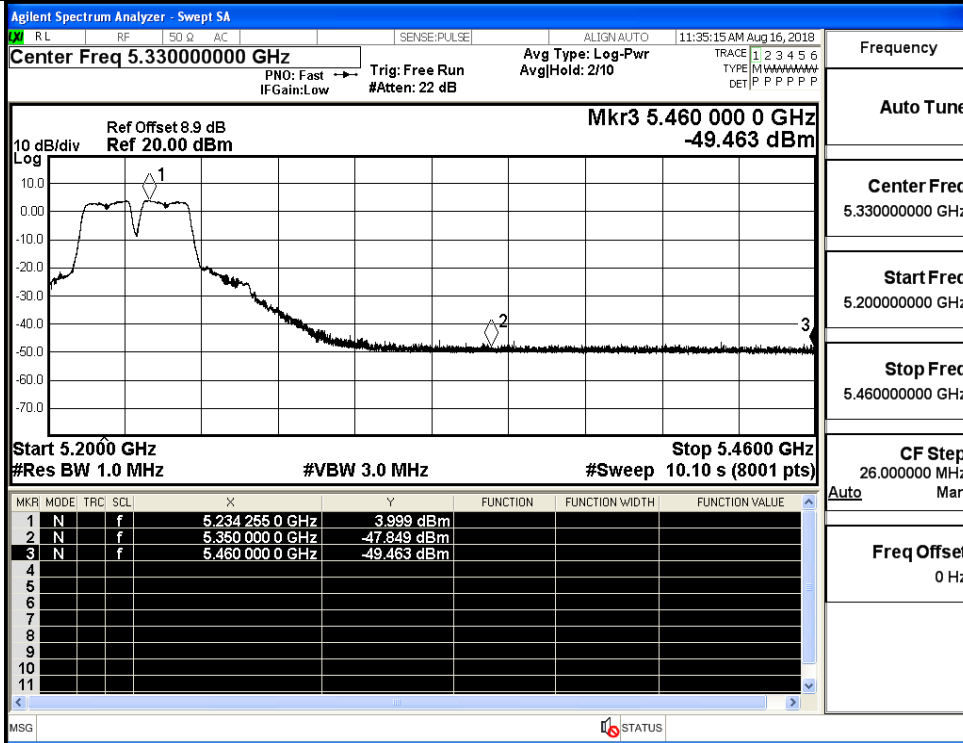


IEEE 802.11n HT40 / Channel 36 / 5180 MHz / Peak

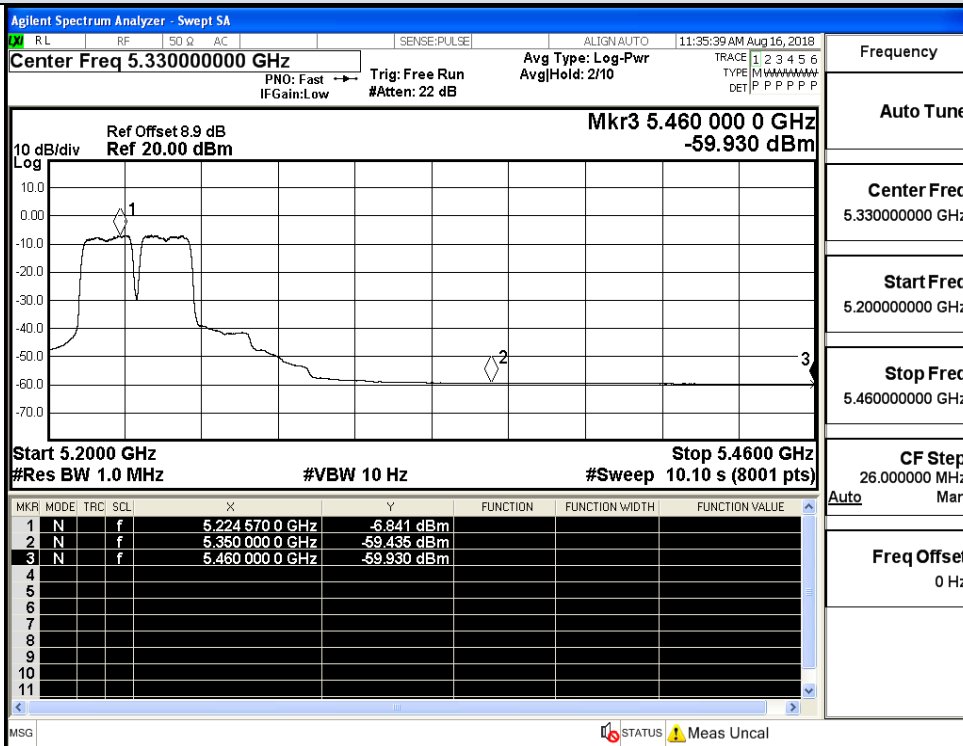


IEEE 802.11n HT40 / Channel 36 / 5180 MHz / Average

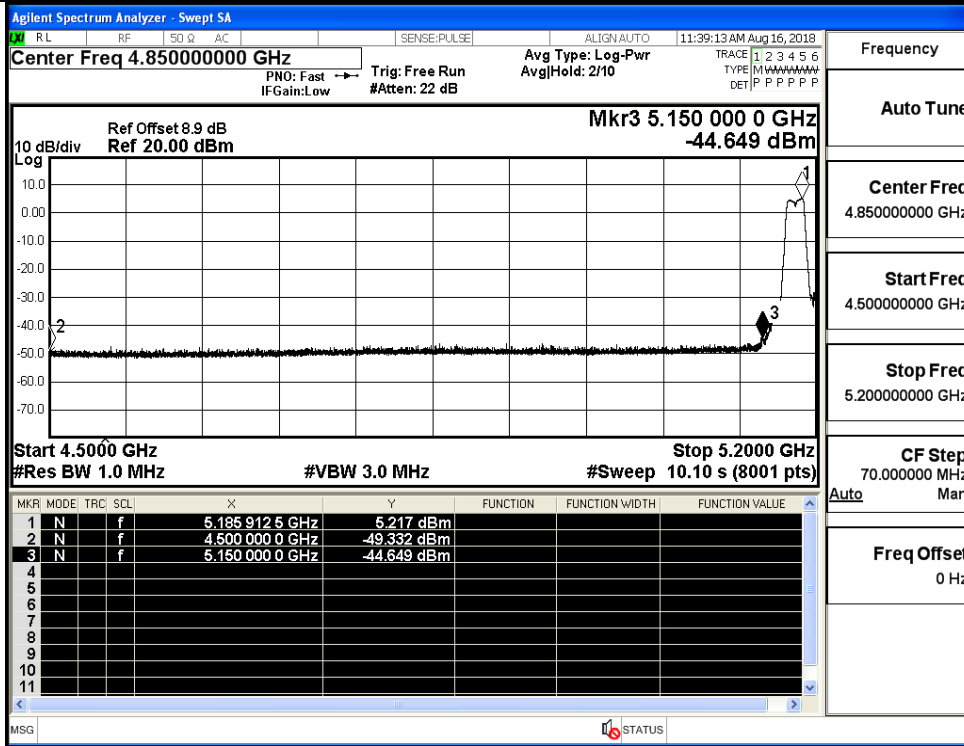
Undesirable Emissions Measurement



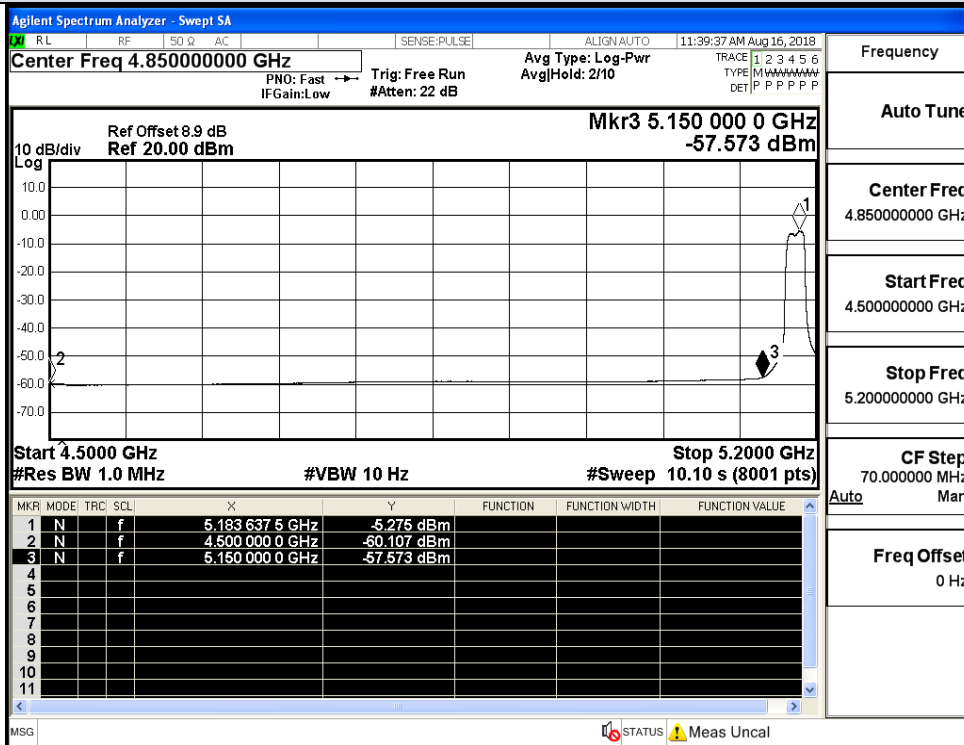
IEEE 802.11n HT40 / Channel 48 / 5230 MHz / Peak



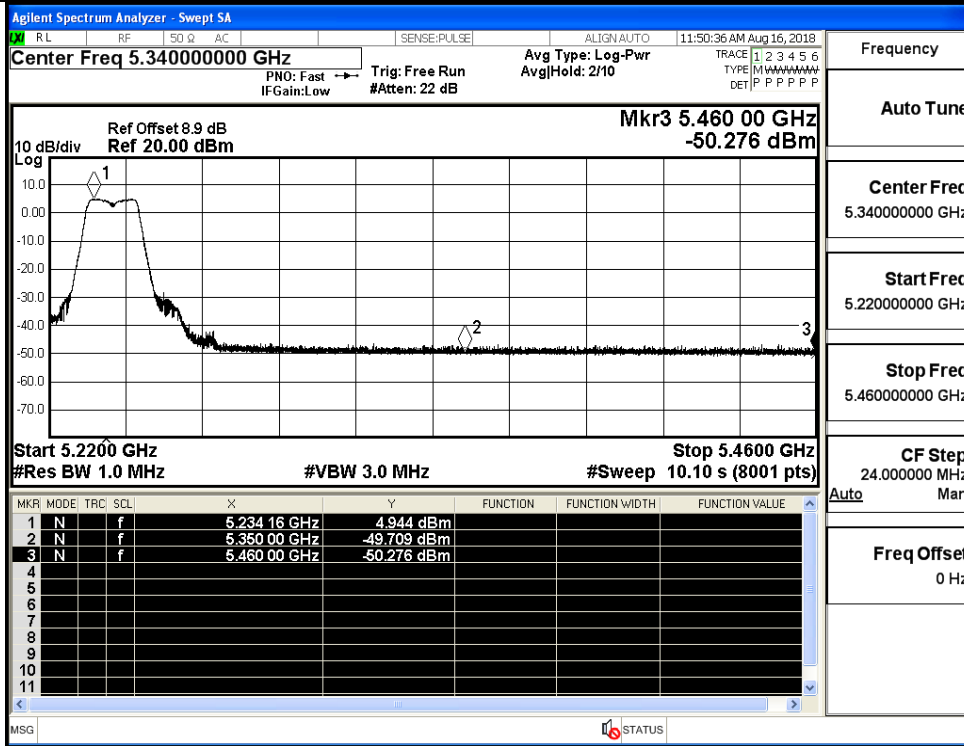
IEEE 802.11n HT40 / Channel 48 / 5230 MHz / Average



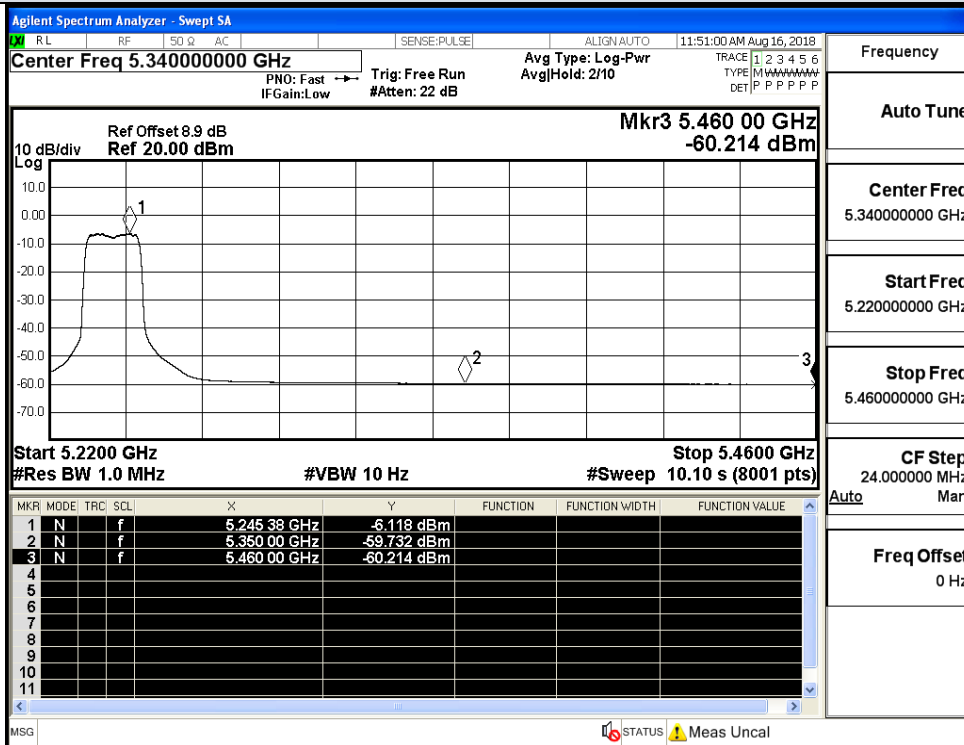
IEEE 802.11ac VHT20 / Channel 36 / 5180 MHz / Peak



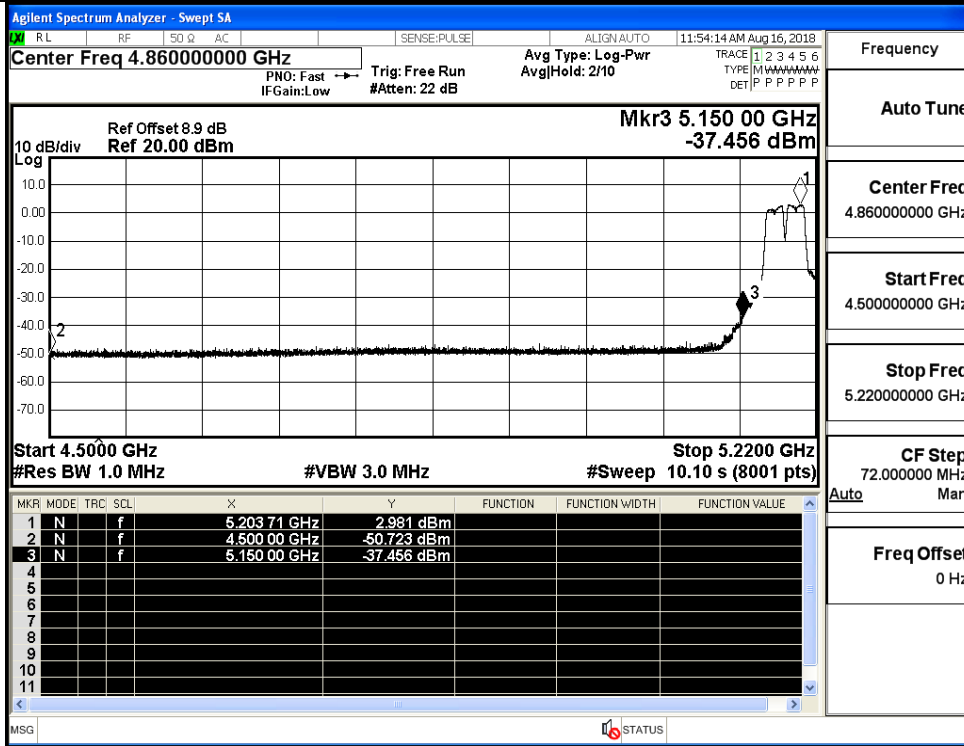
IEEE 802.11ac VHT20 / Channel 36 / 5180 MHz / Average



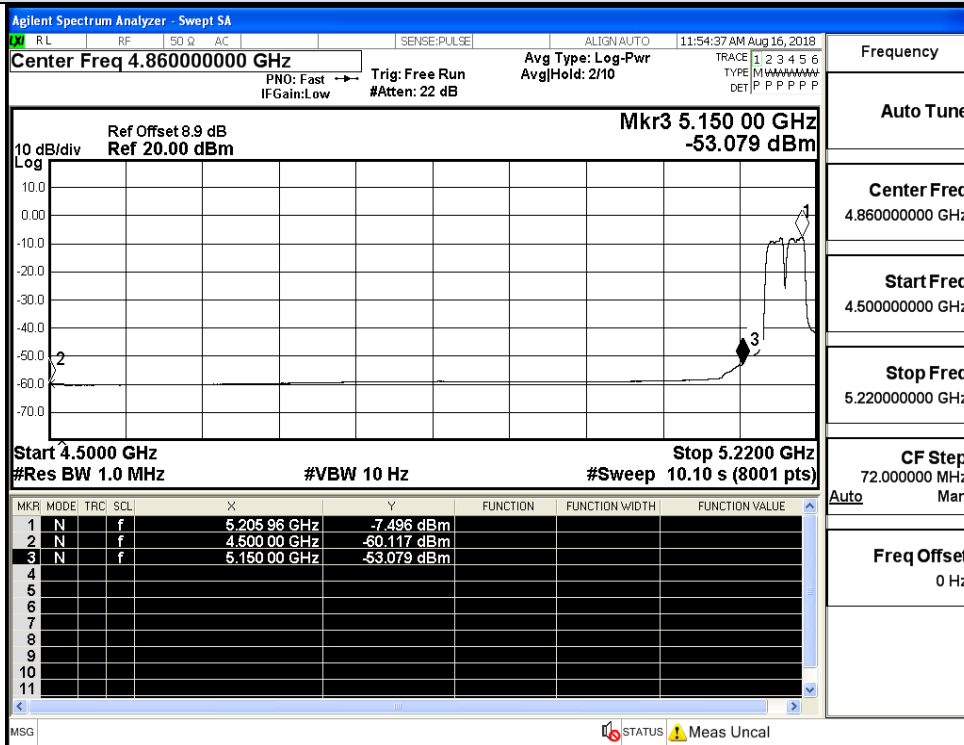
IEEE 802.11ac VHT20 / Channel 48 / 5240 MHz / Peak



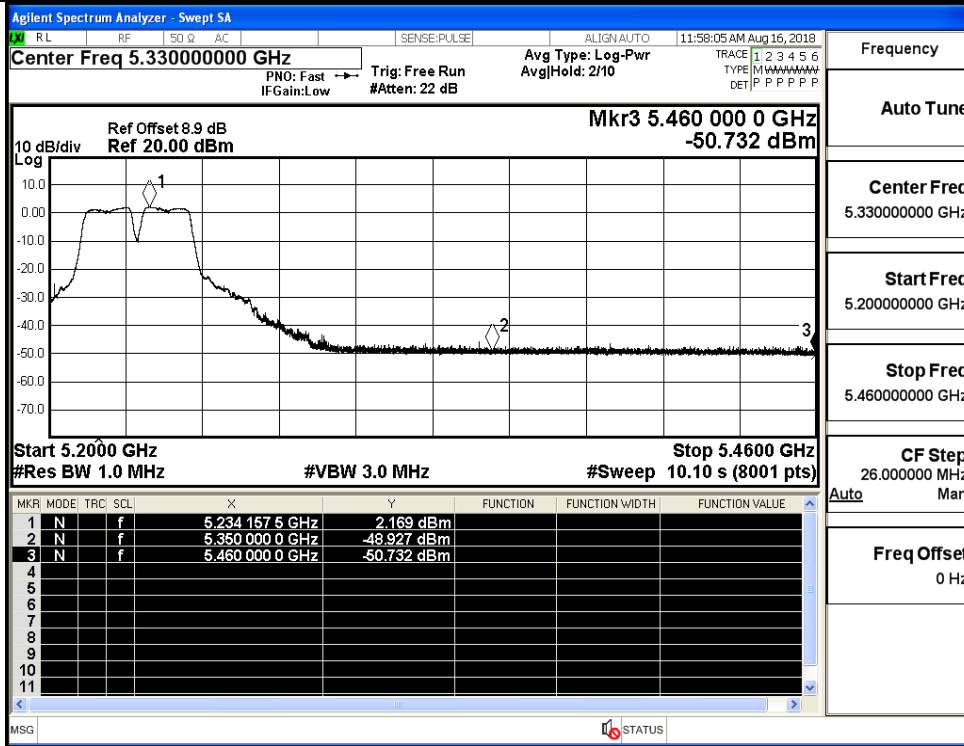
IEEE 802.11ac VHT20 / Channel 48 / 5240 MHz / Average



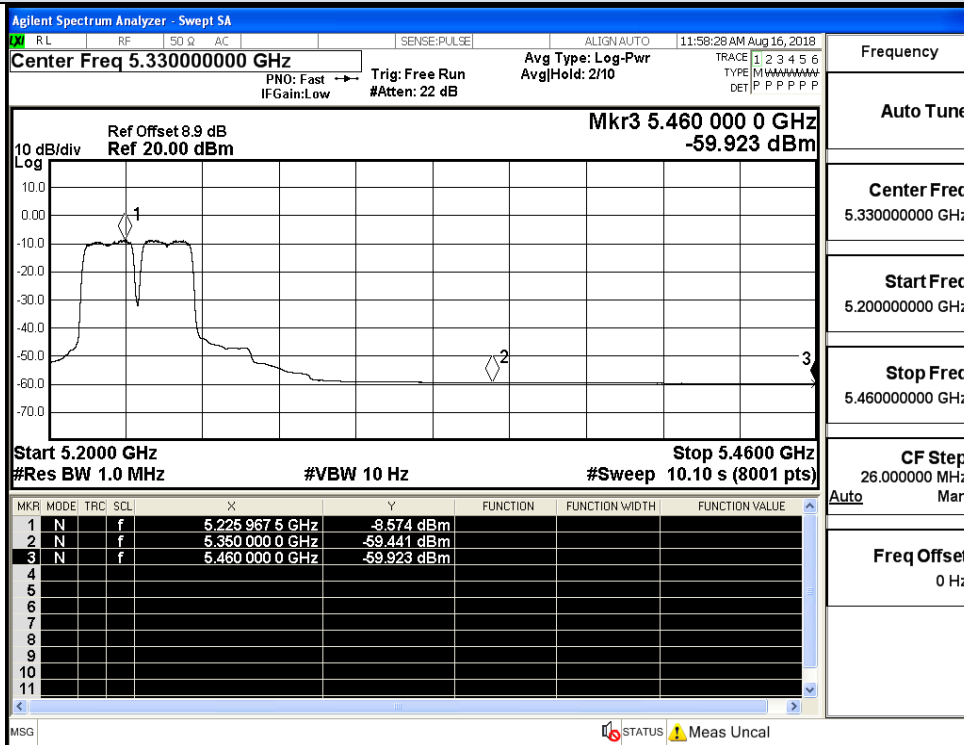
IEEE 802.11ac VHT40 / Channel 36 / 5180 MHz / Peak



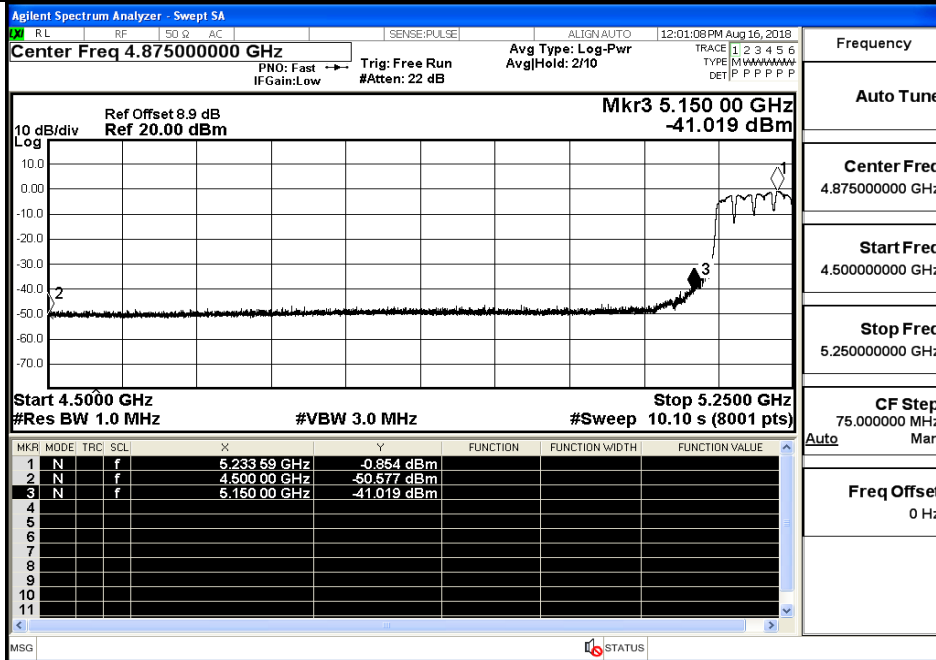
IEEE 802.11ac VHT40 / Channel 36 / 5180 MHz / Average



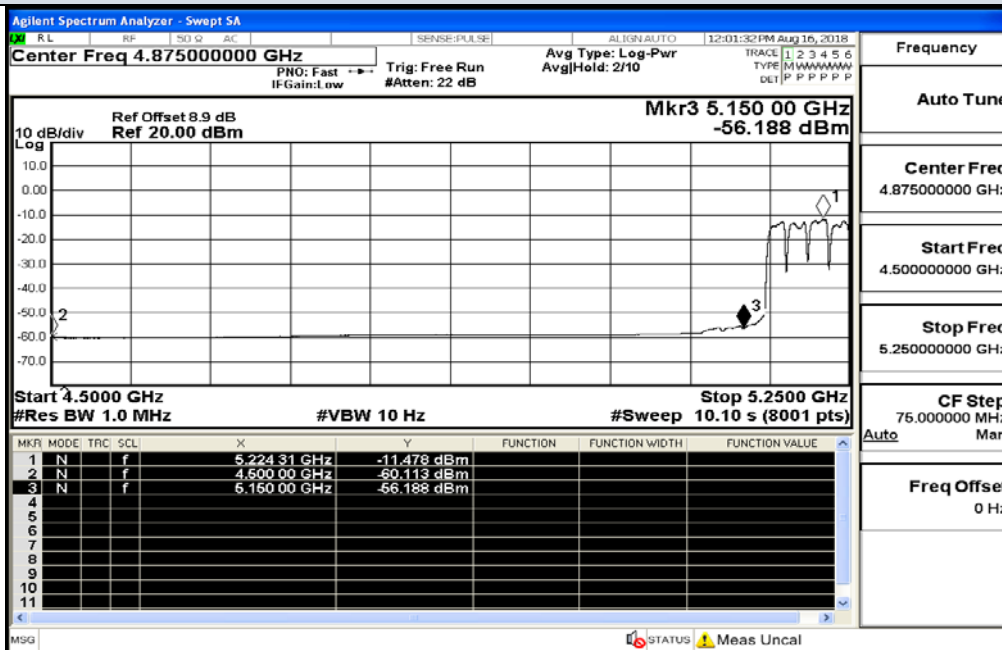
IEEE 802.11ac VHT40 / Channel 48 / 5230 MHz / Peak



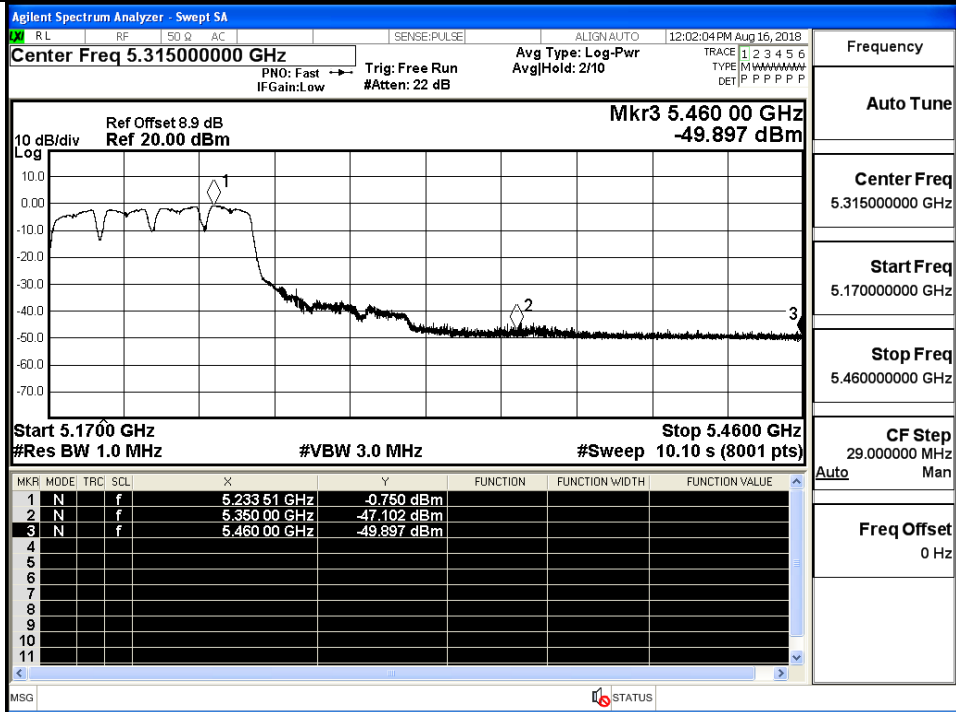
IEEE 802.11ac VHT40 / Channel 48 / 5230 MHz / Average



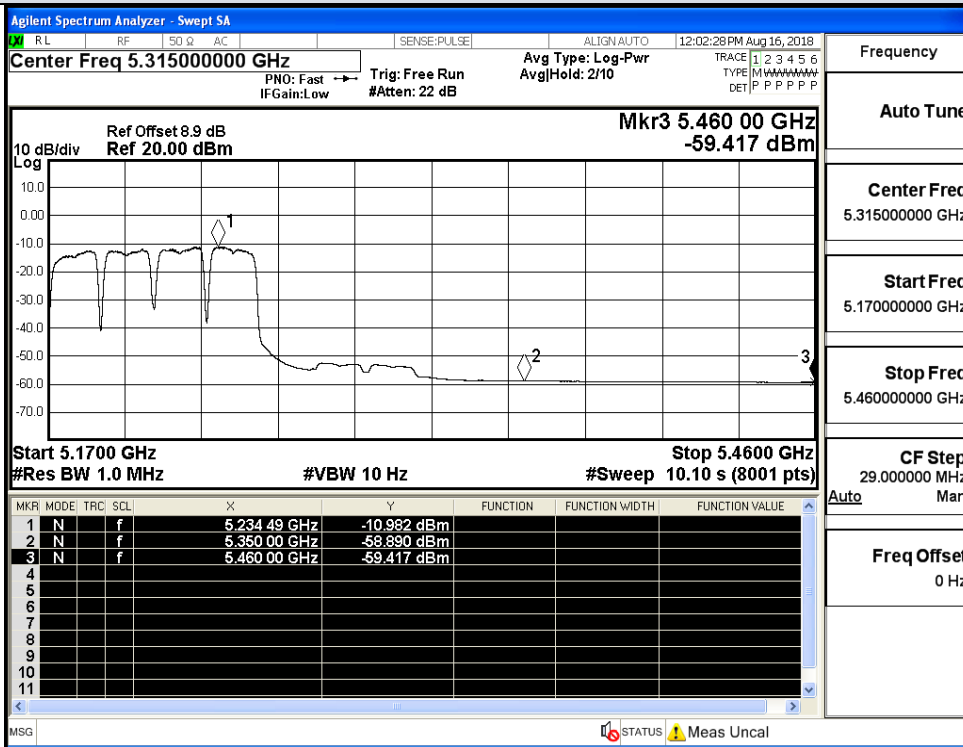
IEEE 802.11ac VHT80 / Channel 42 / 5210 MHz / Peak



IEEE 802.11ac VHT80 / Channel 42 / 5210 MHz / Average



IEEE 802.11ac VHT80 / Channel 42/ 5210 MHz / Peak



IEEE 802.11ac VHT80 / Channel 42 / 5210 MHz / Average