# Appendix B

## RF Test Data for 5.5G WLAN (Conducted Measurement)

**Product Name: IPTV Set-Top Box**
**Trade Mark: N/A**
**Test Model: SML-5041W**

**Environmental Conditions**

| | |
|---|---|
| Temperature: | 22.3° C |
| Relative Humidity: | 53.6% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: | Diamond Lu |
| Supervised by: | Li Huan |

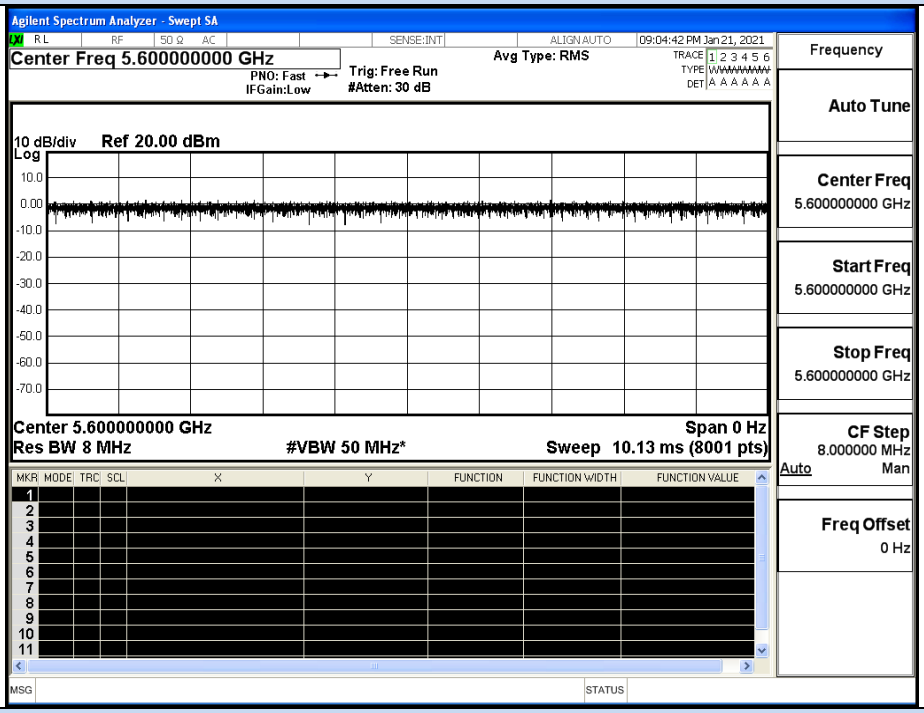
### B.1 Duty Cycle

**ANT0:**

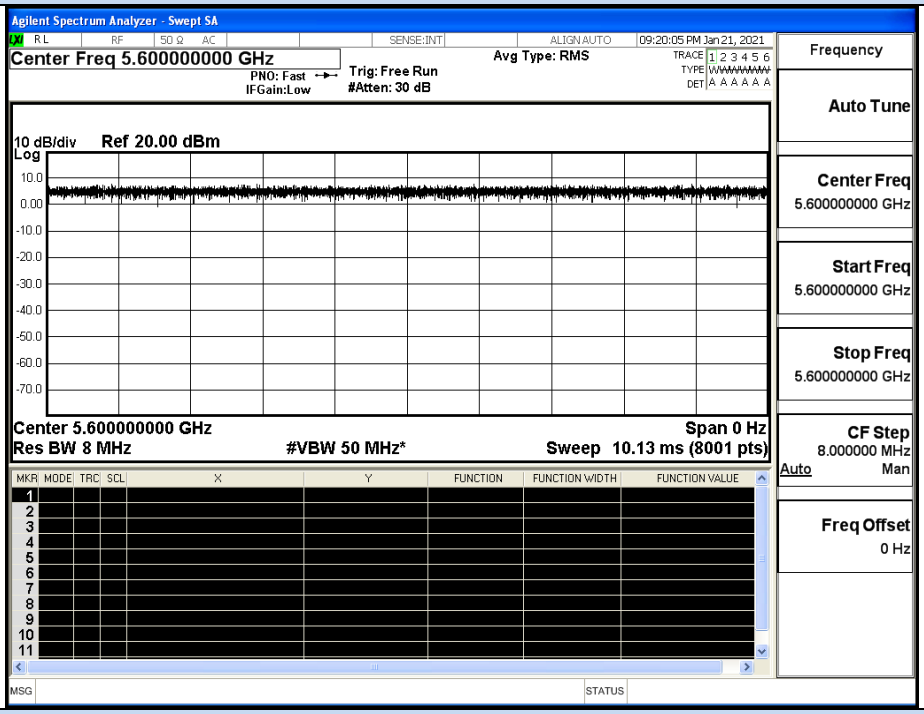
| Test Mode | Test Frequency (MHz) | Duty Cycle (%) | 10log(1/x) Factor (dB) | 1/B Minimum VBW(KHz) |
|---|---|---|---|---|
| 11A | 5600 | 100 | 0.00 | 0.01 |
| 11N20 SISO | 5600 | 100 | 0.00 | 0.01 |
| 11N40 SISO | 5590 | 100 | 0.00 | 0.01 |
| 11AC20 SISO | 5600 | 100 | 0.00 | 0.01 |
| 11AC40 SISO | 5590 | 100 | 0.00 | 0.01 |
| 11AC80 SISO | 5610 | 100 | 0.00 | 0.01 |

Note: The frequency 5590&5610MHz data is only applicable to FCC, not applicable to ISED.

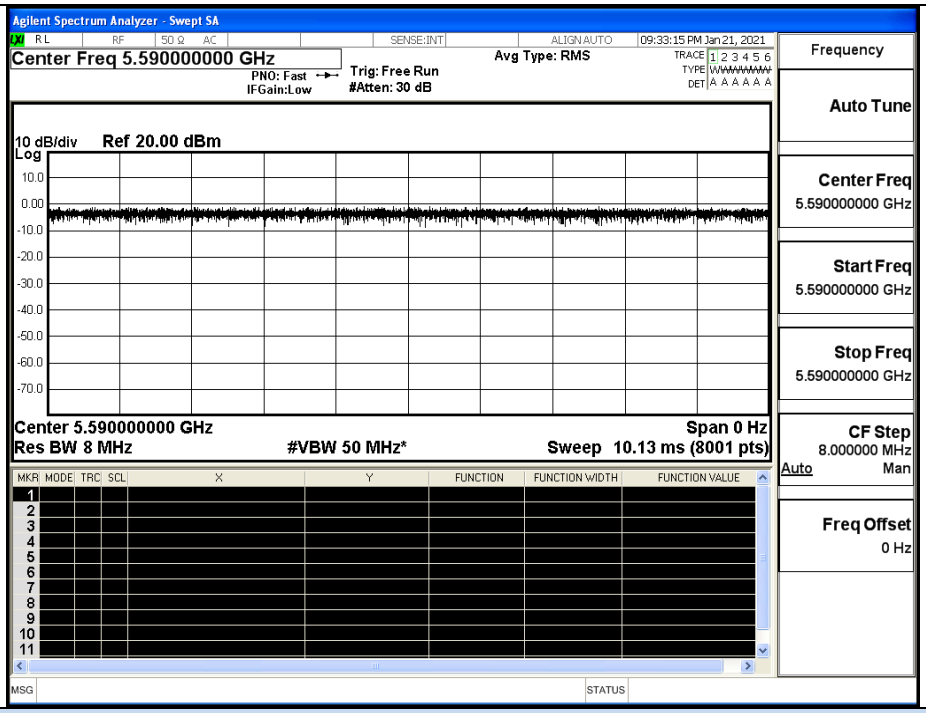
On Time and Duty Cycle



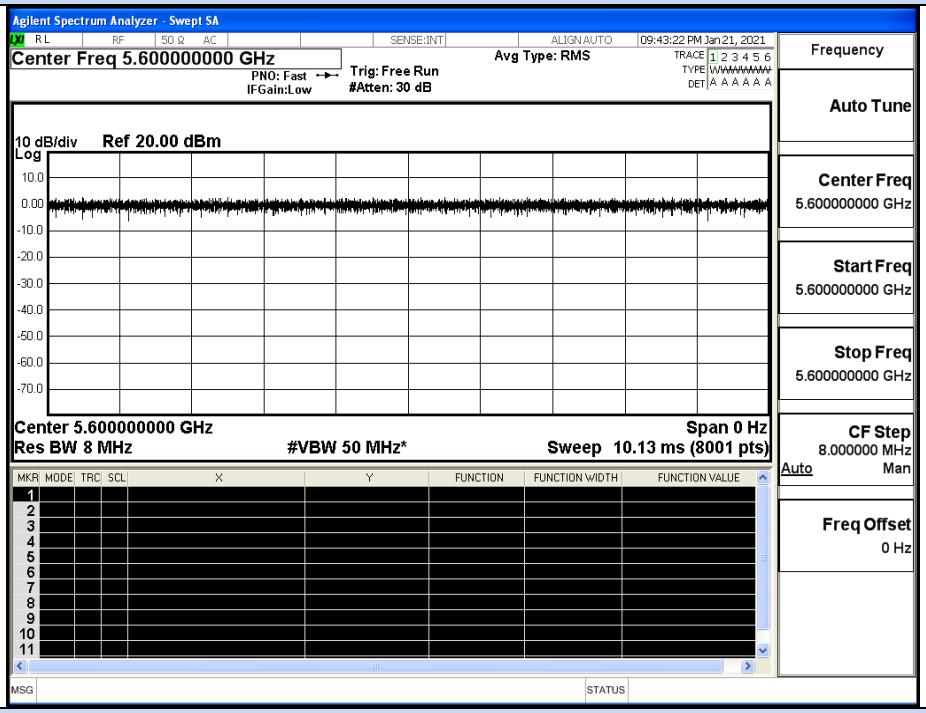

IEEE 802.11a



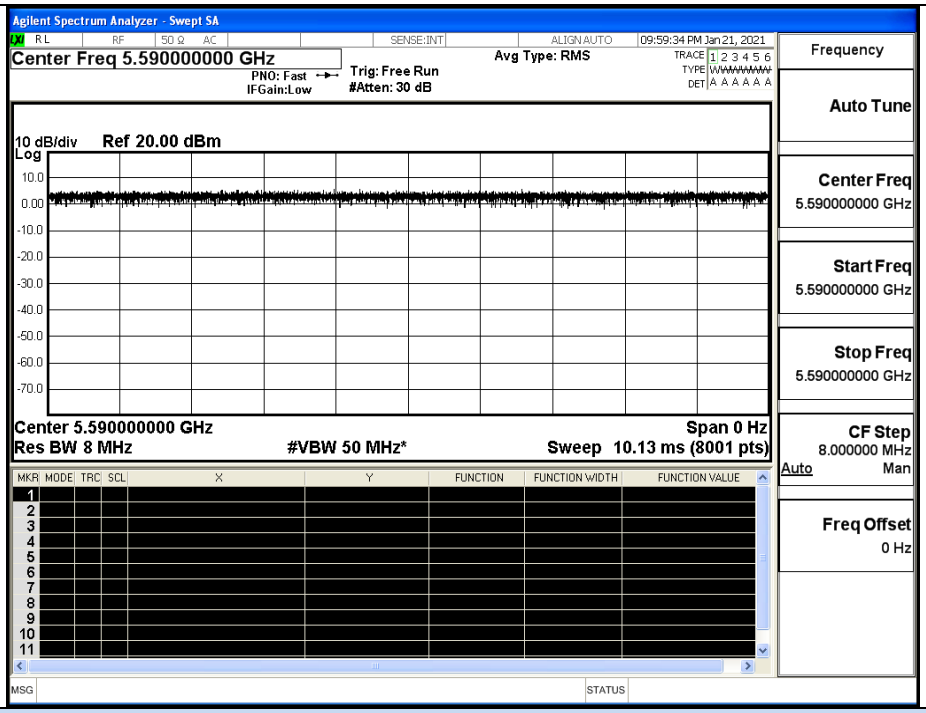

IEEE 802.11n HT20



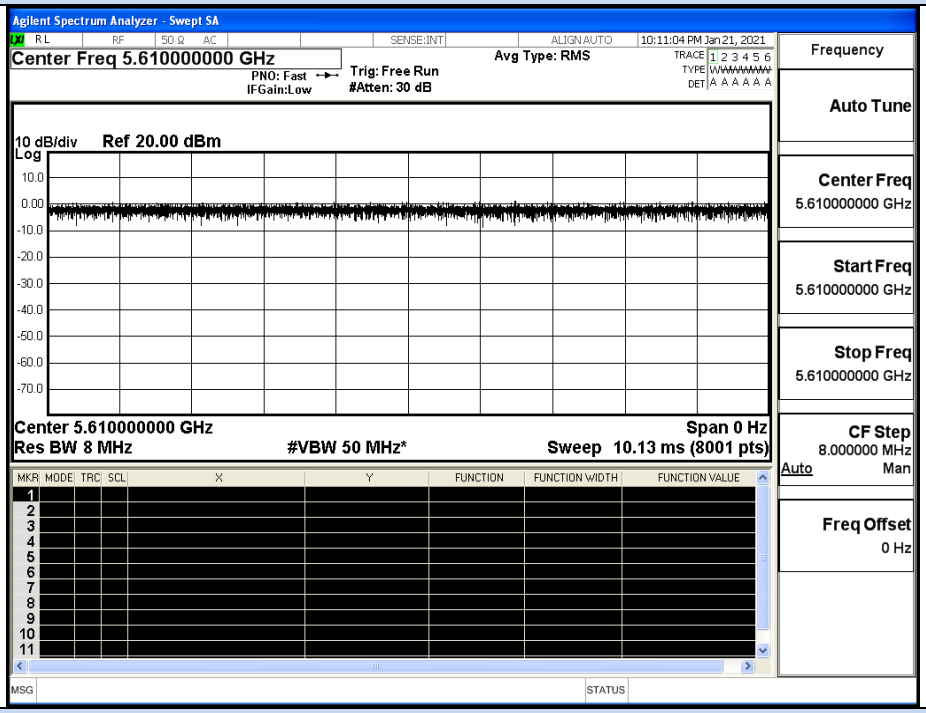

IEEE 802.11n HT40




IEEE 802.11AC20




IEEE 802.11AC40



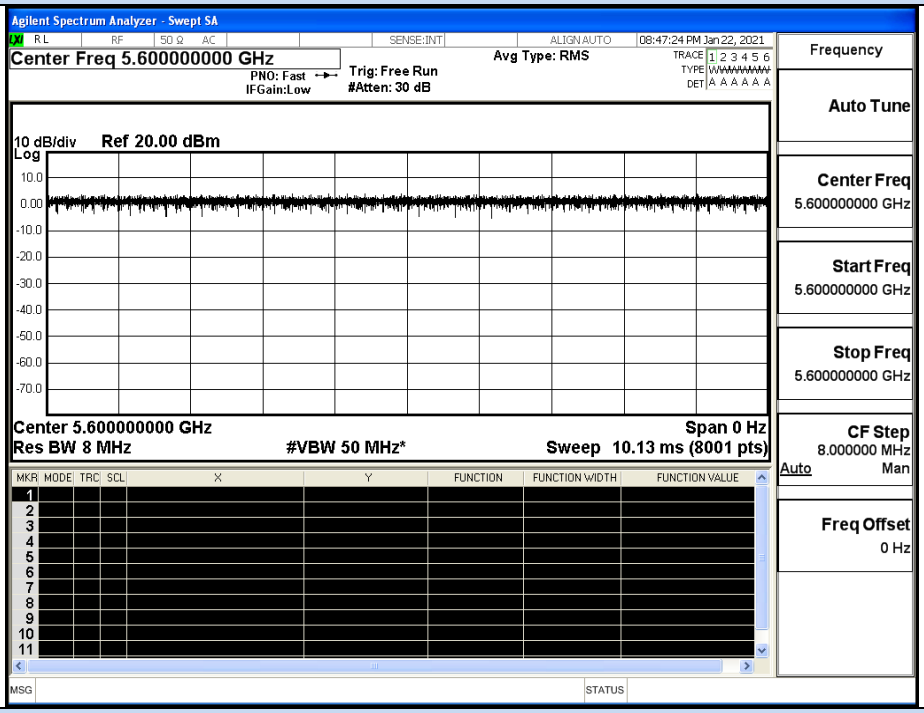

IEEE 802.11AC80

**ANT1:**

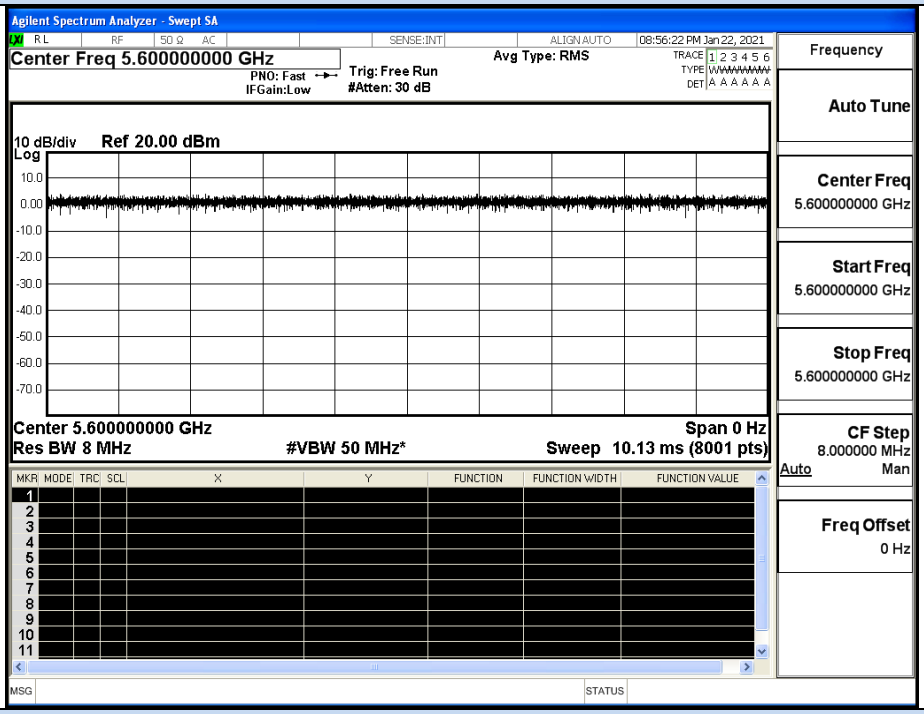
| Test Mode | Test Frequency (MHz) | Duty Cycle (%) | 10log(1/x) Factor (dB) | 1/B Minimum VBW(KHz) |
|---|---|---|---|---|
| 11A | 5600 | 100 | 0.00 | 0.01 |
| 11N20 SISO | 5600 | 100 | 0.00 | 0.01 |
| 11N40 SISO | 5590 | 100 | 0.00 | 0.01 |
| 11AC20 SISO | 5600 | 100 | 0.00 | 0.01 |
| 11AC40 SISO | 5590 | 100 | 0.00 | 0.01 |
| 11AC80 SISO | 5610 | 100 | 0.00 | 0.01 |

Note: The frequency 5590&5610MHz data is only applicable to FCC, not applicable to ISED.

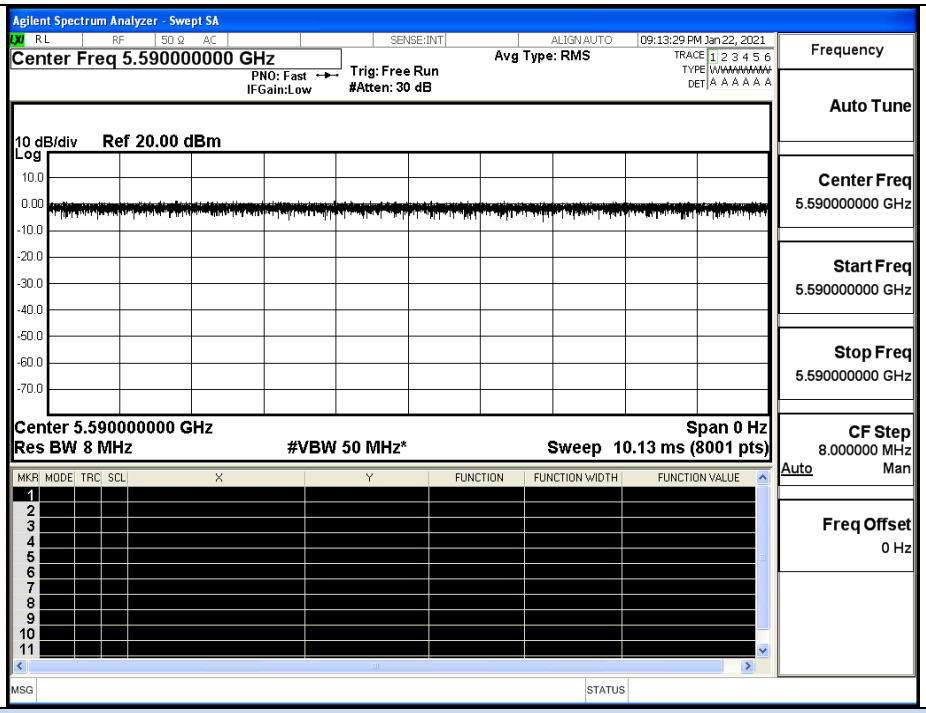
On Time and Duty Cycle



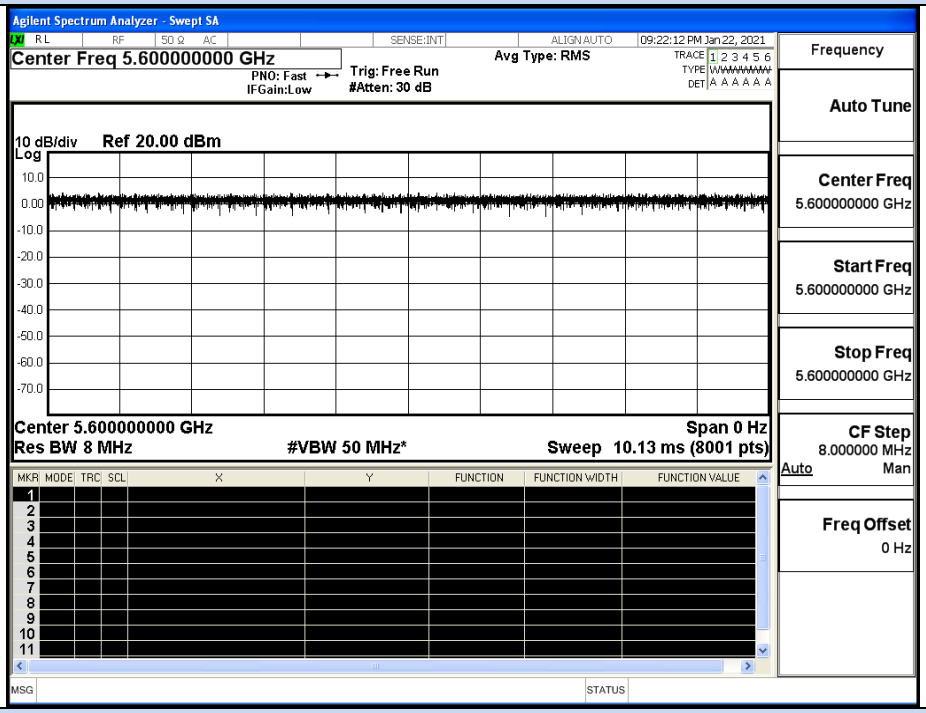

IEEE 802.11a



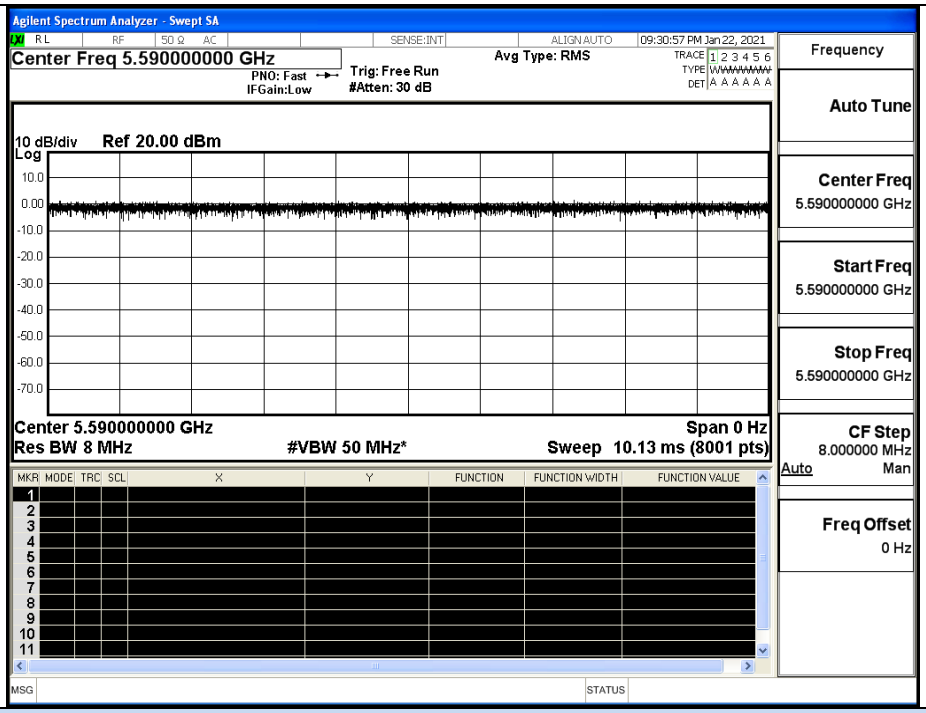

IEEE 802.11n HT20



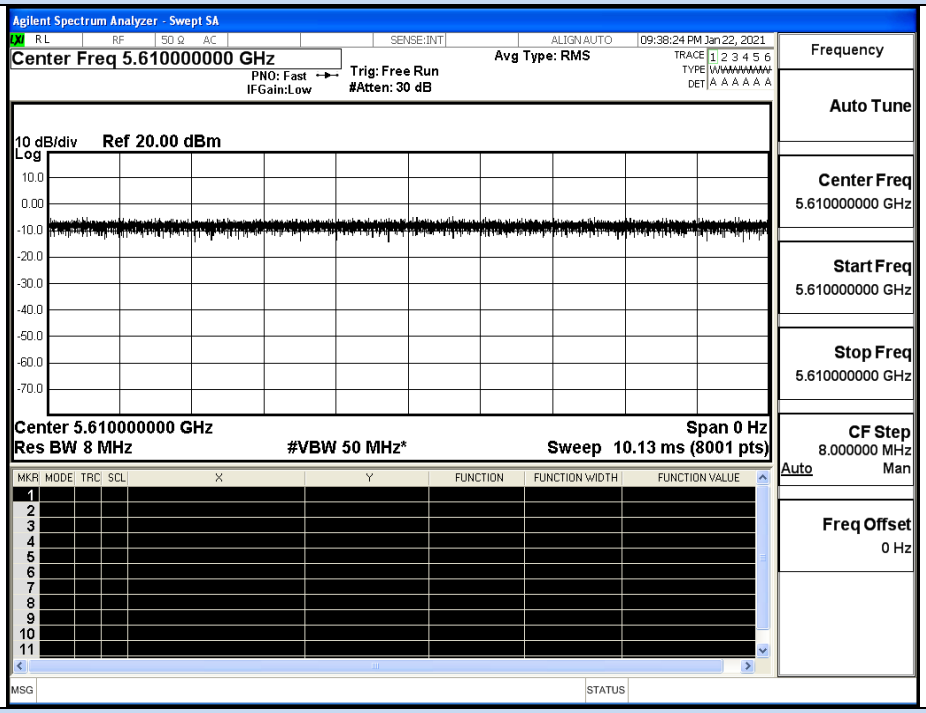

IEEE 802.11n HT40




IEEE 802.11AC20




IEEE 802.11AC40




IEEE 802.11AC80

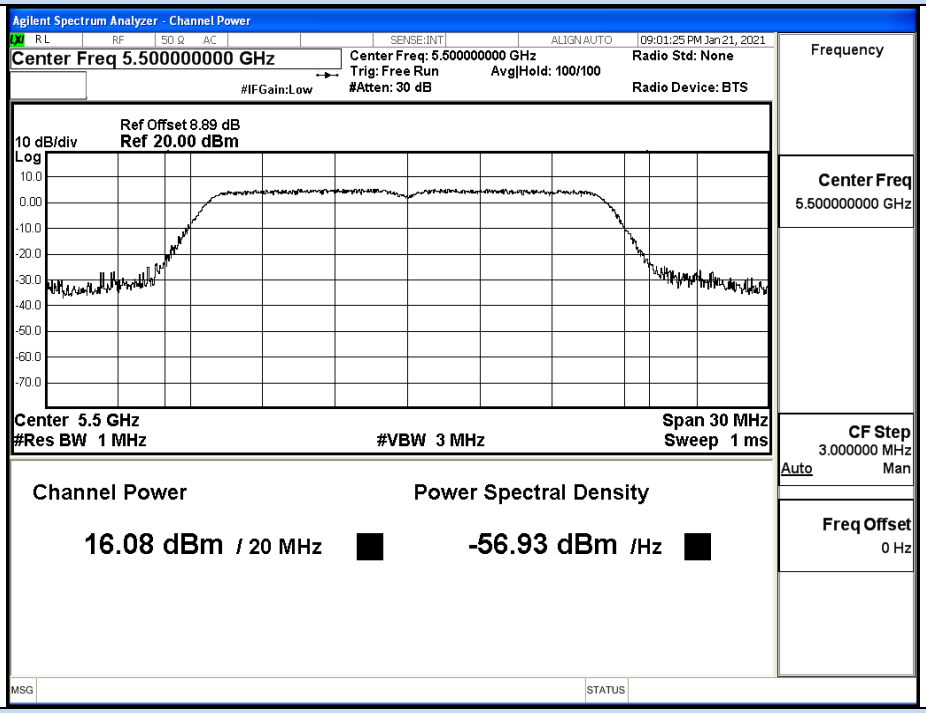
## B.2 Maximum Conduct Output Power

**ANT0:**

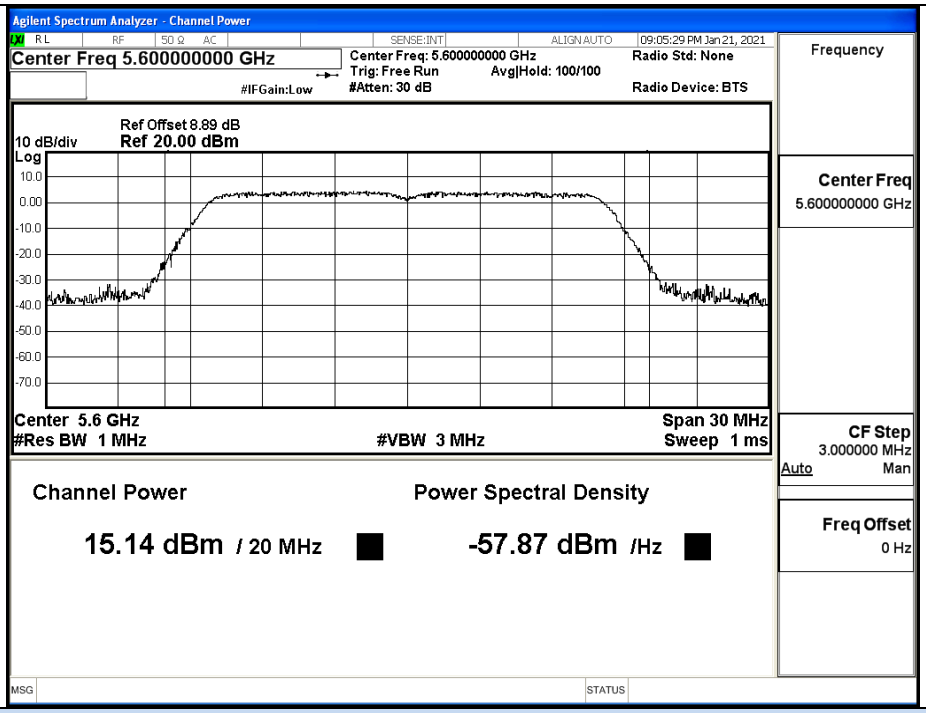
| Test Mode | Channel | Frequency (MHz) | AVG Conducted Power (dBm) | Duty Cycle Factor(dB) | Report Conducted Power(dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|---|
| 11A | 100 | 5500 | 16.08 | 0 | 16.08 | 24 | Pass |
| | 120 | 5600 | 15.14 | 0 | 15.14 | | Pass |
| | 140 | 5700 | 13.39 | 0 | 13.39 | | Pass |
| 11N20 SISO | 100 | 5500 | 16.38 | 0 | 16.38 | 24 | Pass |
| | 120 | 5600 | 15.62 | 0 | 15.62 | | Pass |
| | 140 | 5700 | 13.76 | 0 | 13.76 | | Pass |
| 11N40 SISO | 102 | 5510 | 16.8 | 0 | 16.8 | 24 | Pass |
| | 118 | 5590 | 16.39 | 0 | 16.39 | | Pass |
| | 134 | 5670 | 14.24 | 0 | 14.24 | | Pass |
| 11ac20 SISO | 100 | 5500 | 17.32 | 0 | 17.32 | 24 | Pass |
| | 120 | 5600 | 16.73 | 0 | 16.73 | | Pass |
| | 140 | 5700 | 13.52 | 0 | 13.52 | | Pass |
| 11ac40 SISO | 102 | 5510 | 16.98 | 0 | 16.98 | 24 | Pass |
| | 118 | 5590 | 16.03 | 0 | 16.03 | | Pass |
| | 134 | 5670 | 13.99 | 0 | 13.99 | | Pass |
| 11ac80 SISO | 106 | 5530 | 17.68 | 0 | 17.68 | 24 | Pass |
| | 122 | 5610 | 14.97 | 0 | 14.97 | | Pass |

Note: The frequency 5590&5610MHz data is only applicable to FCC, not applicable to ISED.

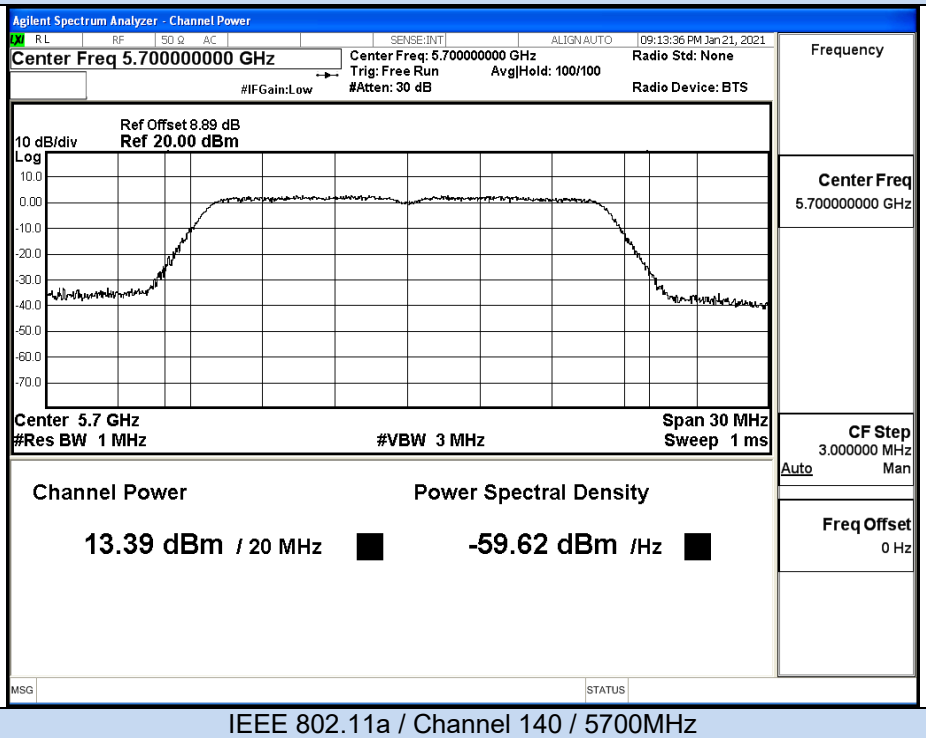
Maximum Conducted Output Power




IEEE 802.11a / Channel 100 / 5500MHz

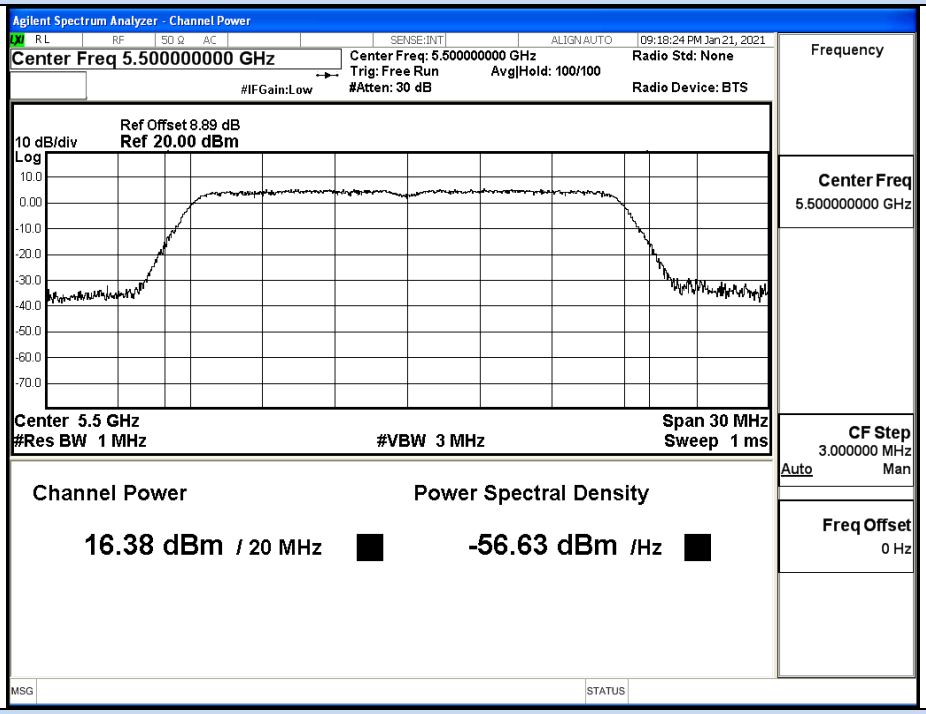



IEEE 802.11a / Channel 120 / 5600MHz

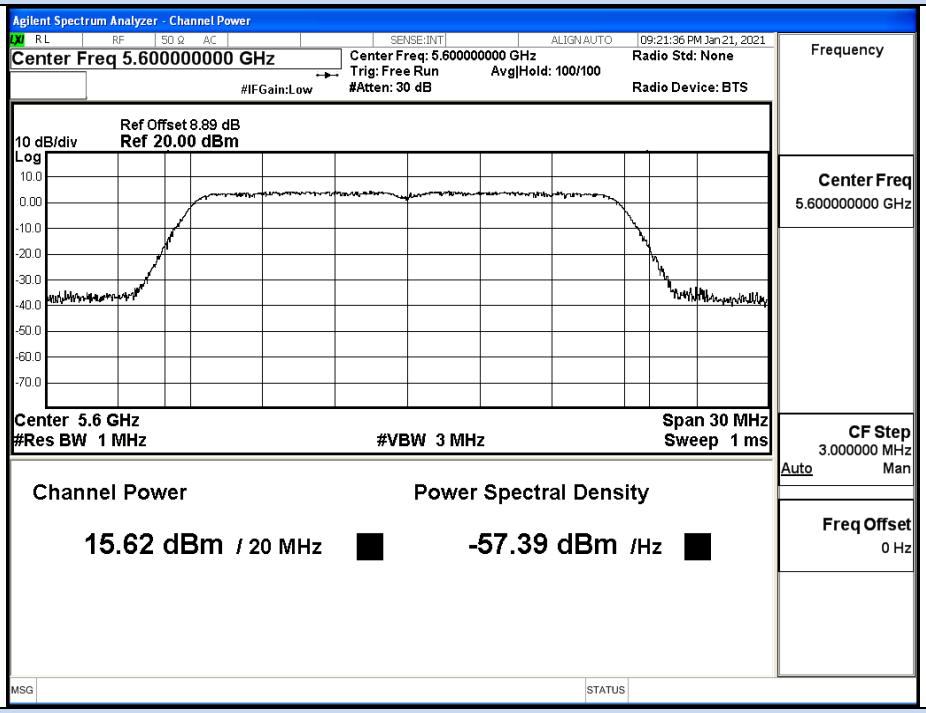



IEEE 802.11a / Channel 140 / 5700MHz

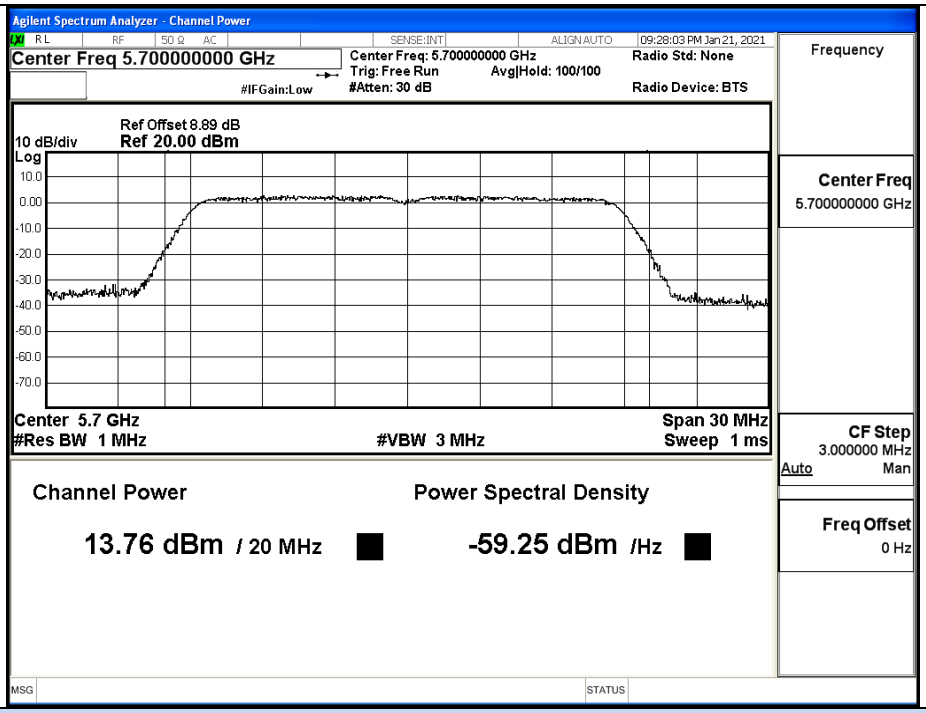
Maximum Conducted Output Power




IEEE 802.11n20 / Channel 100 / 5500MHz

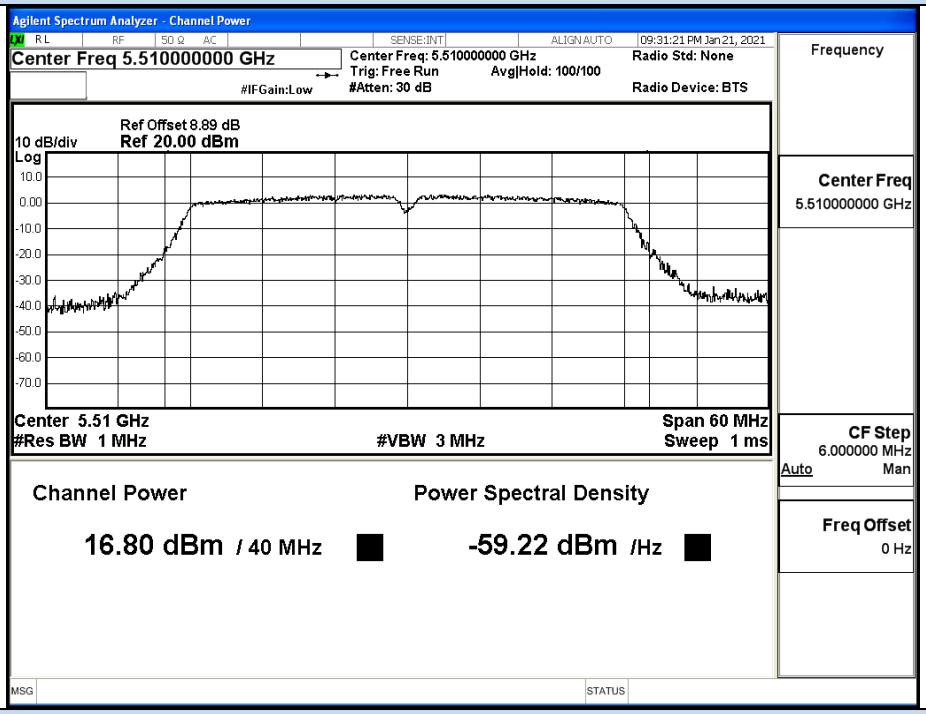



IEEE 802.11n20 / Channel 120 / 5600MHz

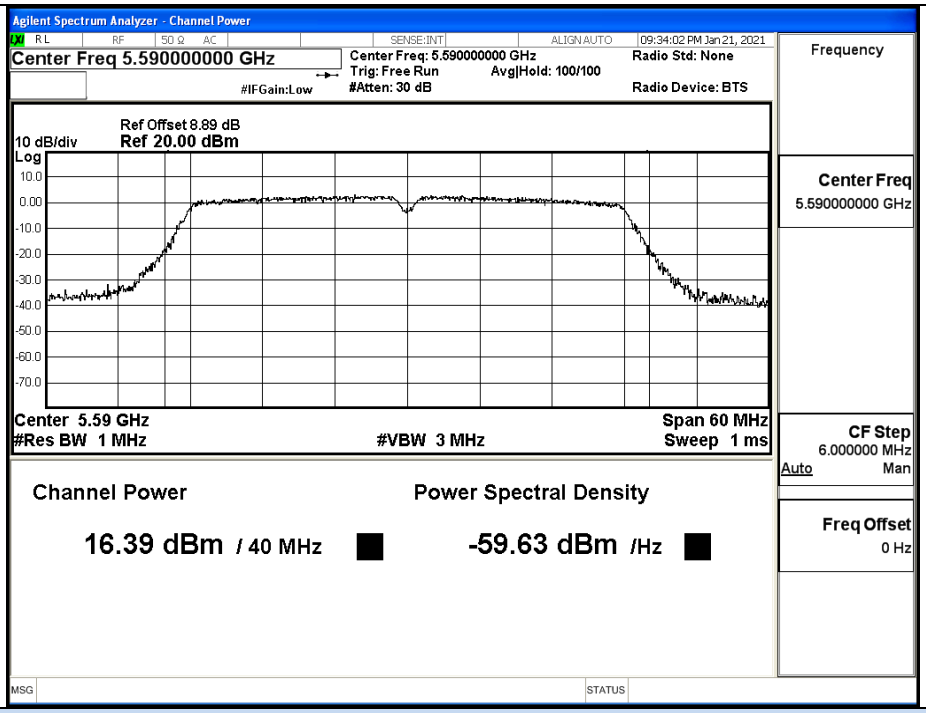



IEEE 802.11n20 / Channel 140 / 5700MHz

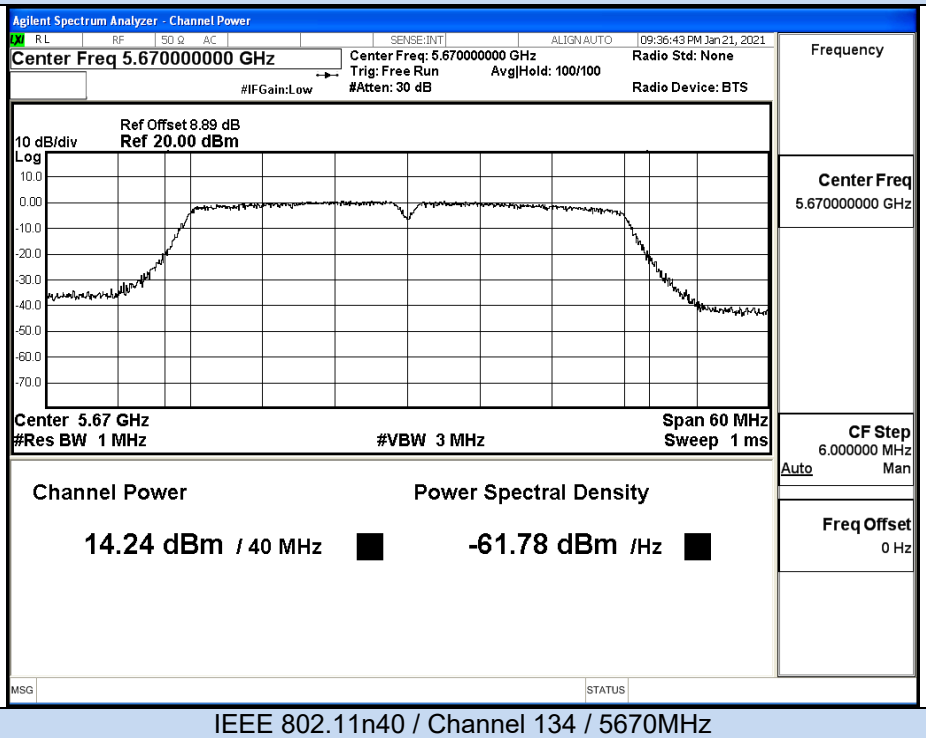
Maximum Conducted Output Power



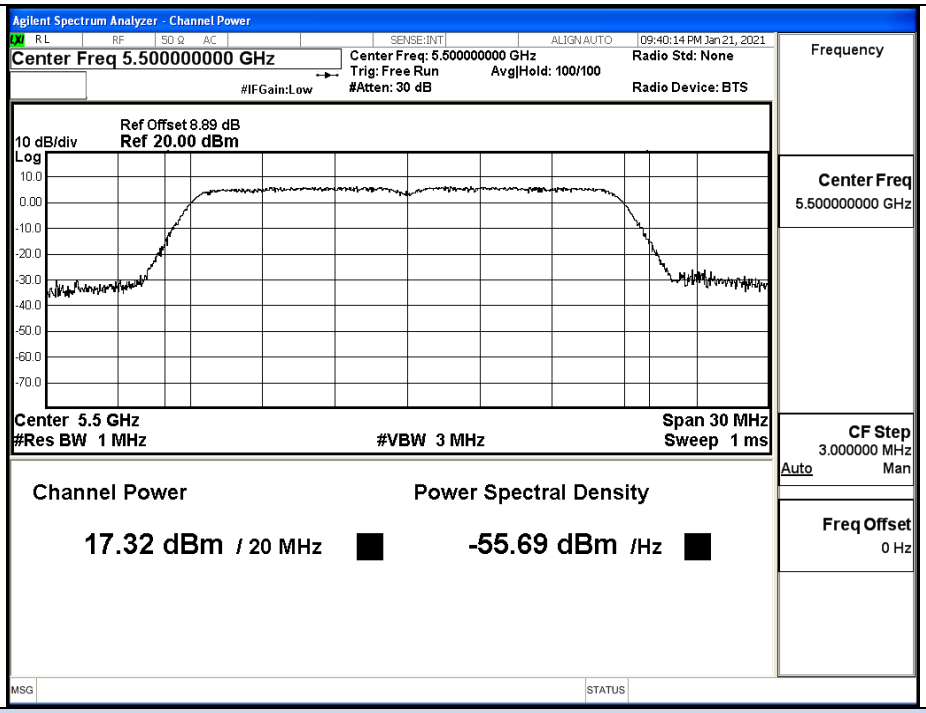

IEEE 802.11n40 / Channel 102 / 5510MHz



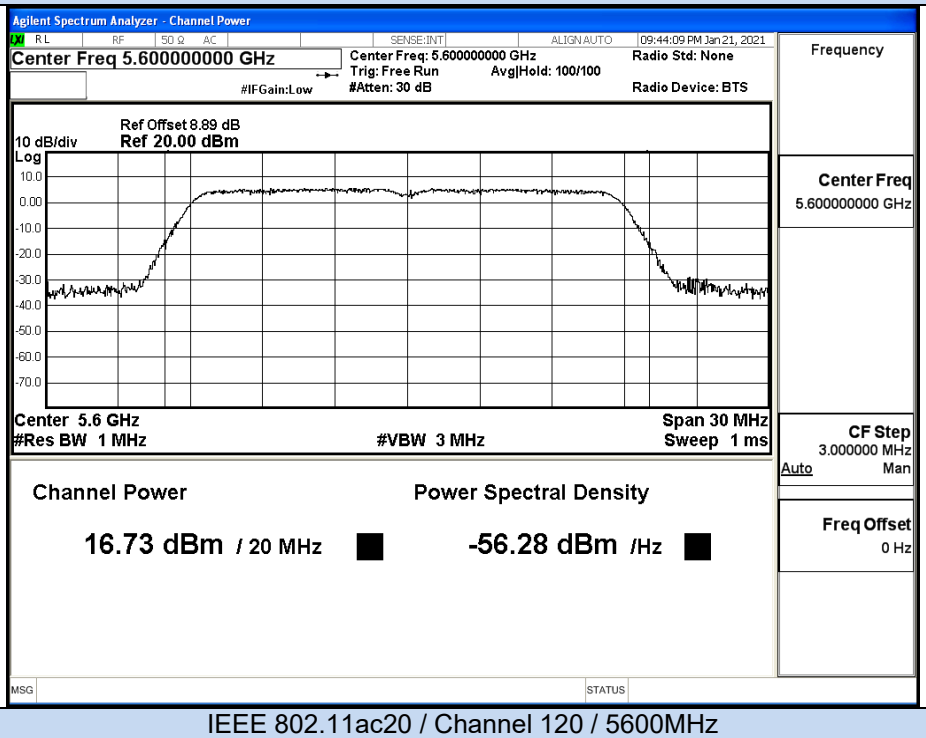

IEEE 802.11n40 / Channel 118 / 5590MHz



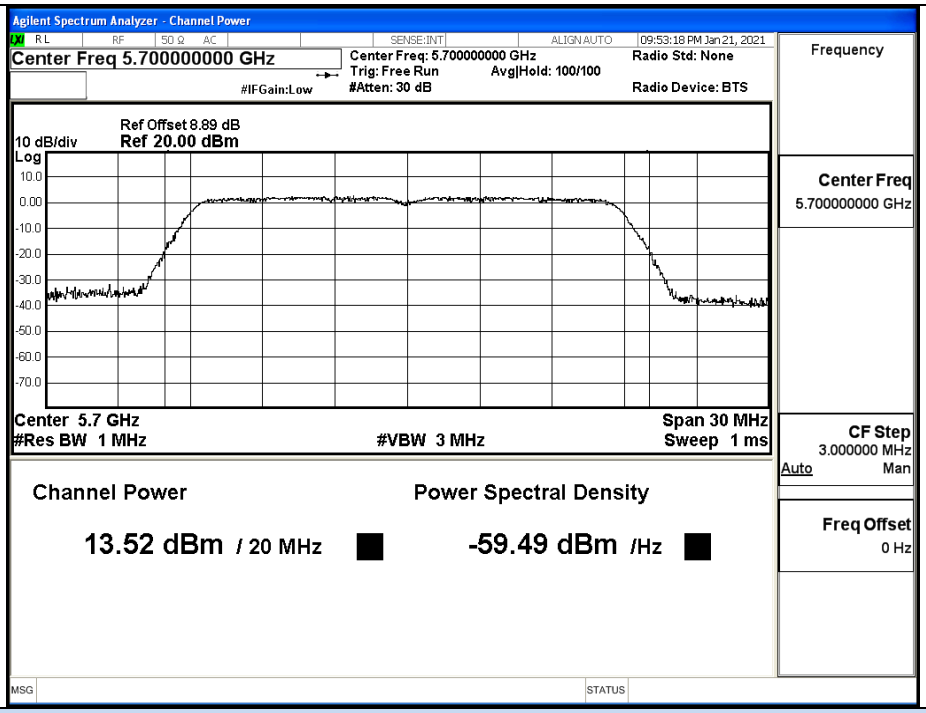

IEEE 802.11n40 / Channel 134 / 5670MHz




IEEE 802.11ac20 / Channel 100 / 5500MHz

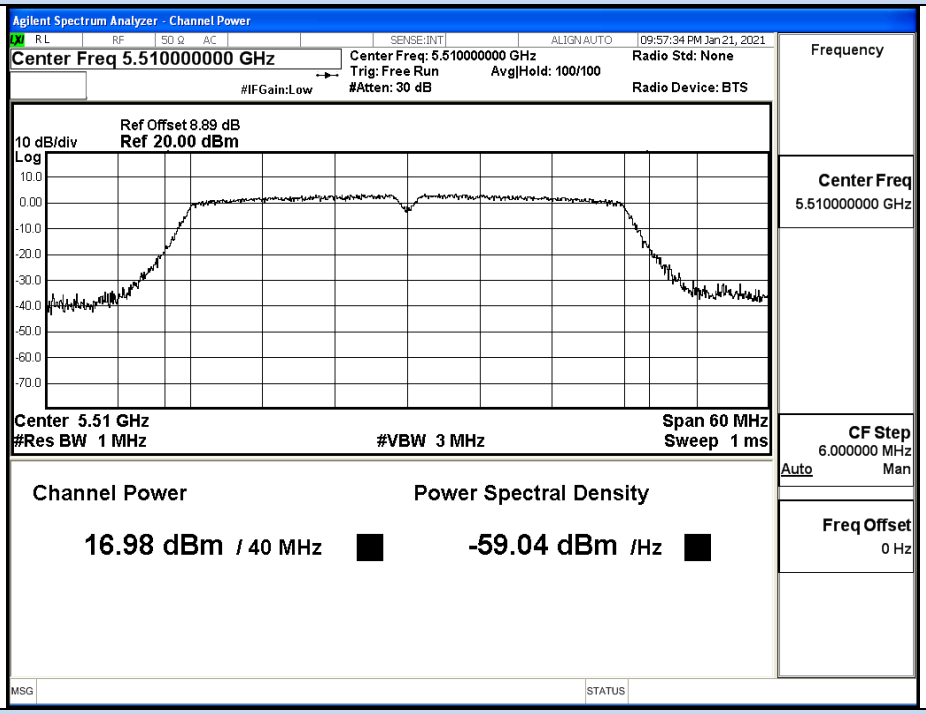



IEEE 802.11ac20 / Channel 120 / 5600MHz

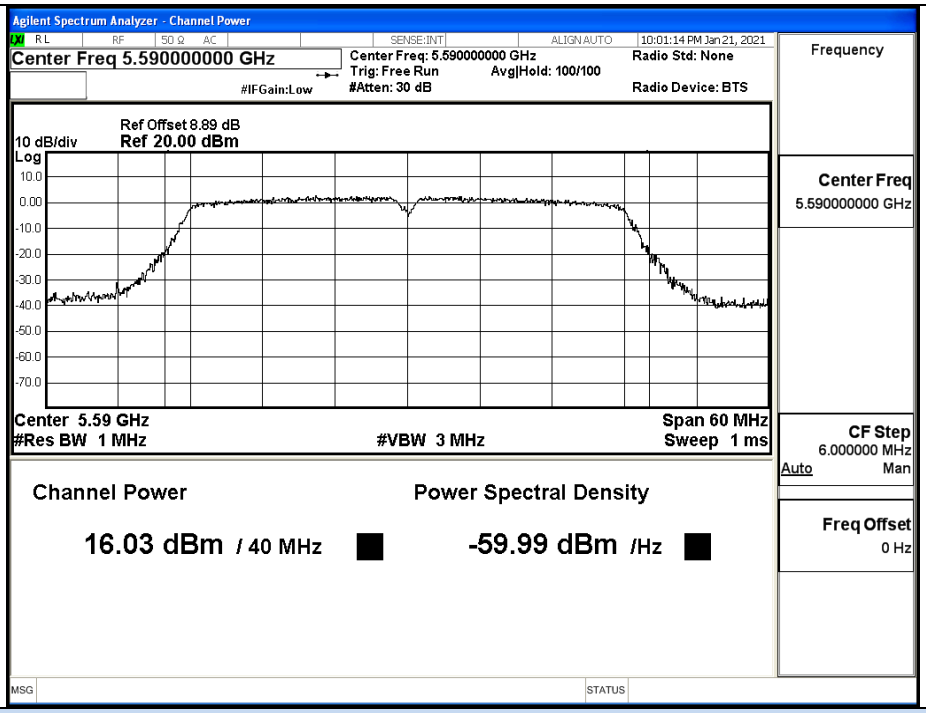



IEEE 802.11ac20 / Channel 140 / 5700MHz

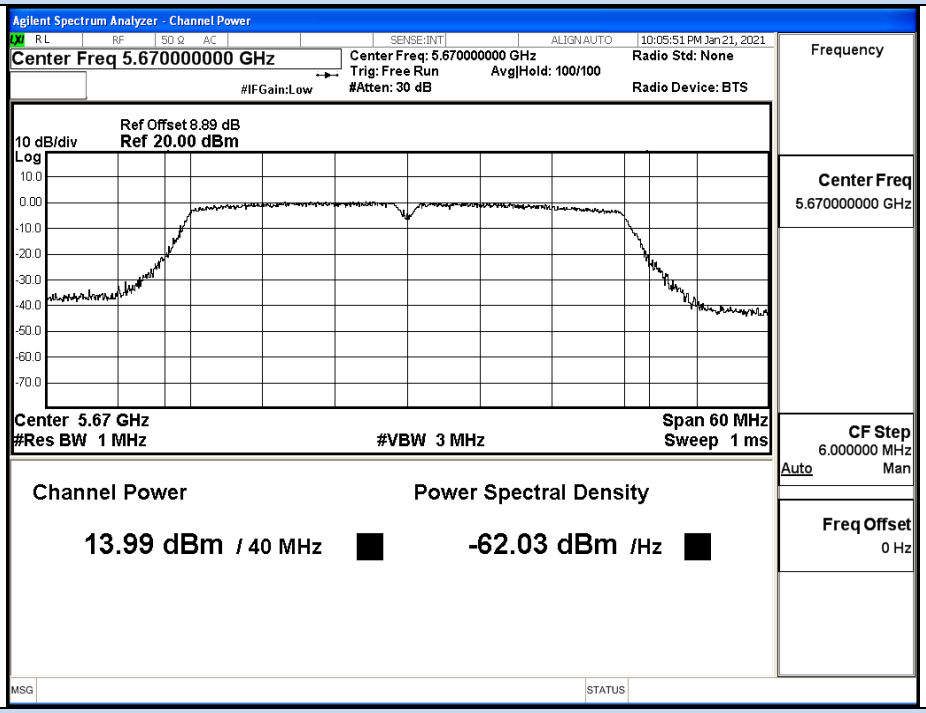
Maximum Conducted Output Power



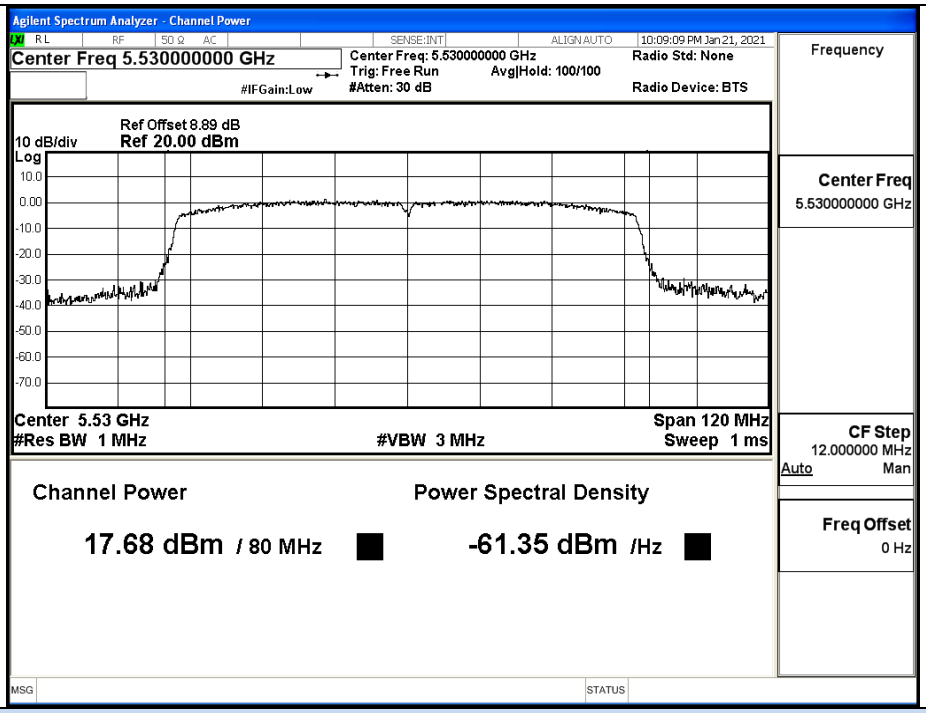

IEEE 802.11ac40 / Channel 102 / 5510MHz



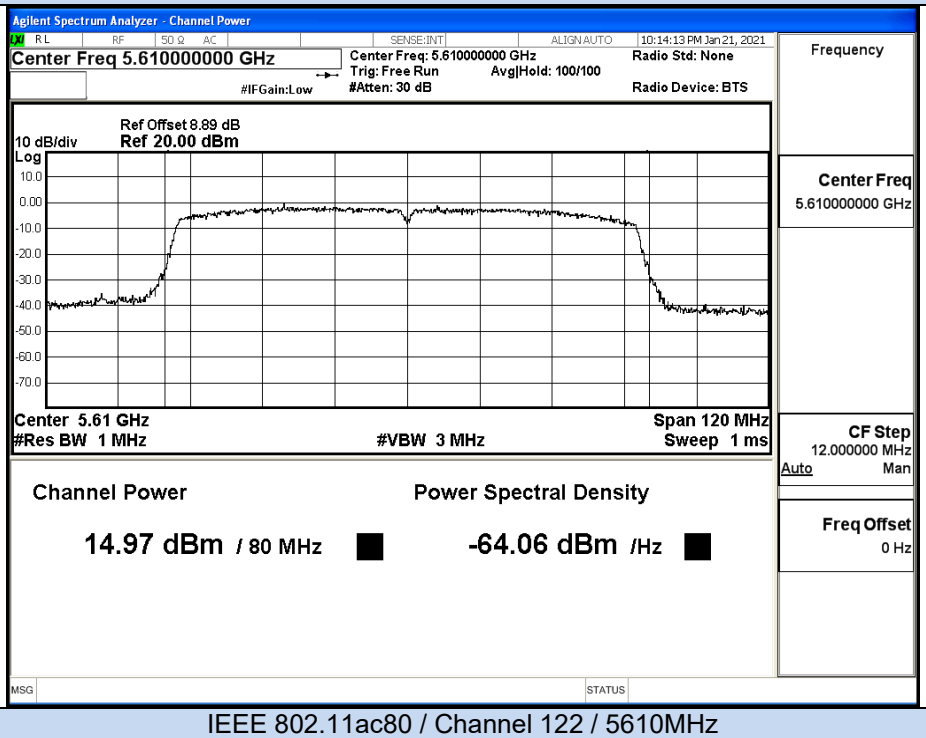

IEEE 802.11ac40 / Channel 118 / 5590MHz




IEEE 802.11ac40 / Channel 134 / 5670MHz




IEEE 802.11ac80 / Channel 106 / 5530MHz



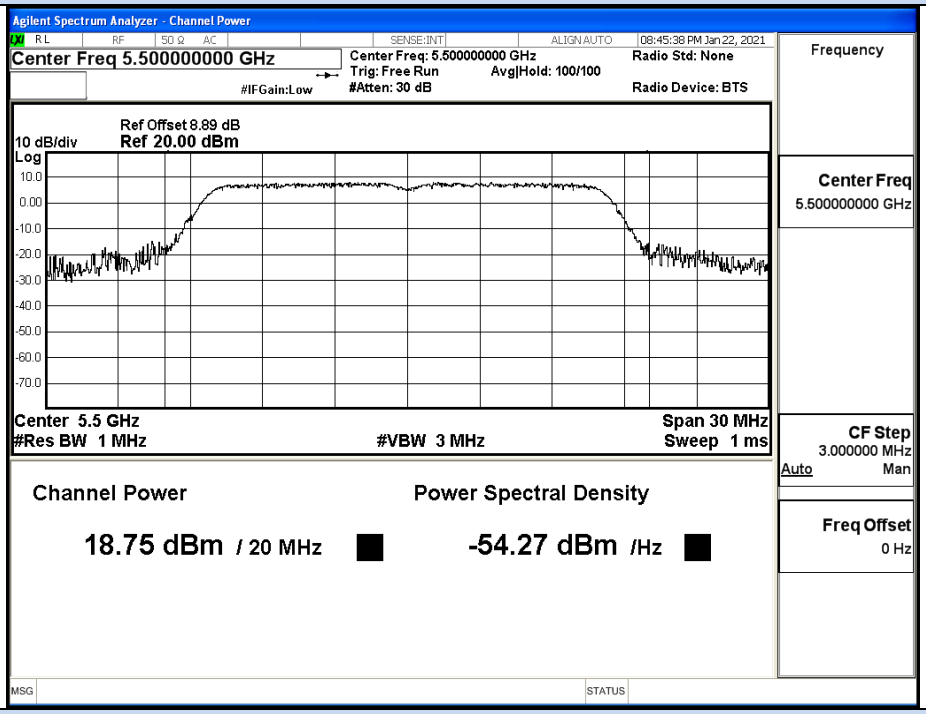

IEEE 802.11ac80 / Channel 122 / 5610MHz

**ANT1:**

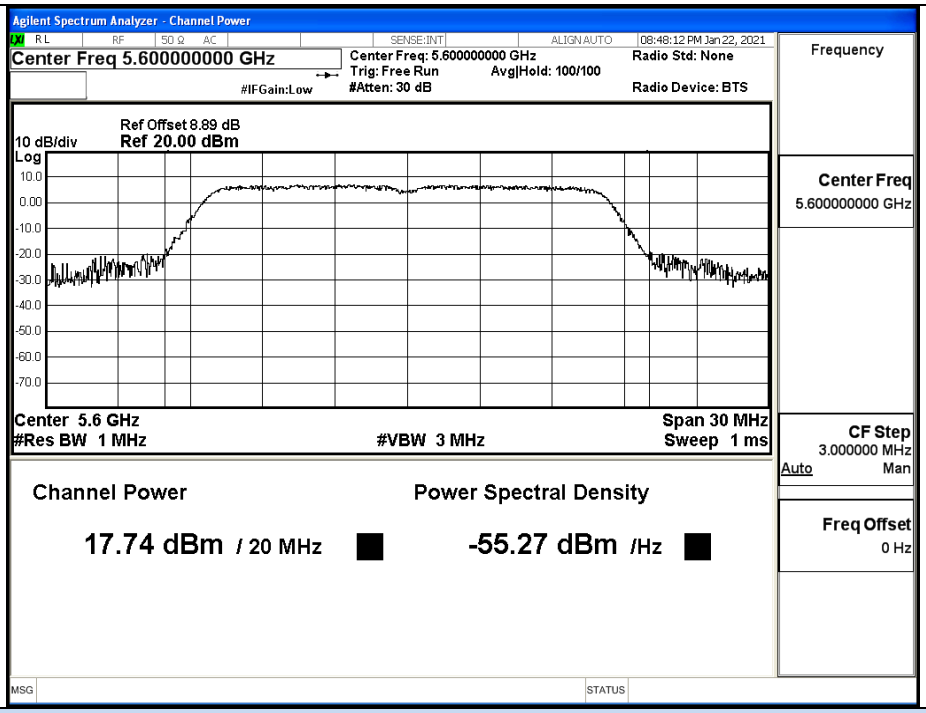
| Test Mode | Channel | Frequency (MHz) | AVG Conducted Power (dBm) | Duty Cycle Factor(dB) | Report Conducted Power(dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|---|
| 11A | 100 | 5500 | 18.75 | 0 | 18.75 | 24 | Pass |
| | 120 | 5600 | 17.74 | 0 | 17.74 | | Pass |
| | 140 | 5700 | 14.74 | 0 | 14.74 | | Pass |
| 11N20 SISO | 100 | 5500 | 18.26 | 0 | 18.26 | 24 | Pass |
| | 120 | 5600 | 18.12 | 0 | 18.12 | | Pass |
| | 140 | 5700 | 15.07 | 0 | 15.07 | | Pass |
| 11N40 SISO | 102 | 5510 | 18.75 | 0 | 18.75 | 24 | Pass |
| | 118 | 5590 | 18.61 | 0 | 18.61 | | Pass |
| | 134 | 5670 | 14.85 | 0 | 14.85 | | Pass |
| 11ac20 SISO | 100 | 5500 | 18.77 | 0 | 18.77 | 24 | Pass |
| | 120 | 5600 | 18.21 | 0 | 18.21 | | Pass |
| | 140 | 5700 | 14.73 | 0 | 14.73 | | Pass |
| 11ac40 SISO | 102 | 5510 | 15.79 | 0 | 15.79 | 24 | Pass |
| | 118 | 5590 | 18.57 | 0 | 18.57 | | Pass |
| | 134 | 5670 | 15.68 | 0 | 15.68 | | Pass |
| 11ac80 SISO | 106 | 5530 | 16.68 | 0 | 16.68 | 24 | Pass |
| | 122 | 5610 | 15.39 | 0 | 15.39 | | Pass |

Note: The frequency 5590&5610MHz data is only applicable to FCC, not applicable to ISED.

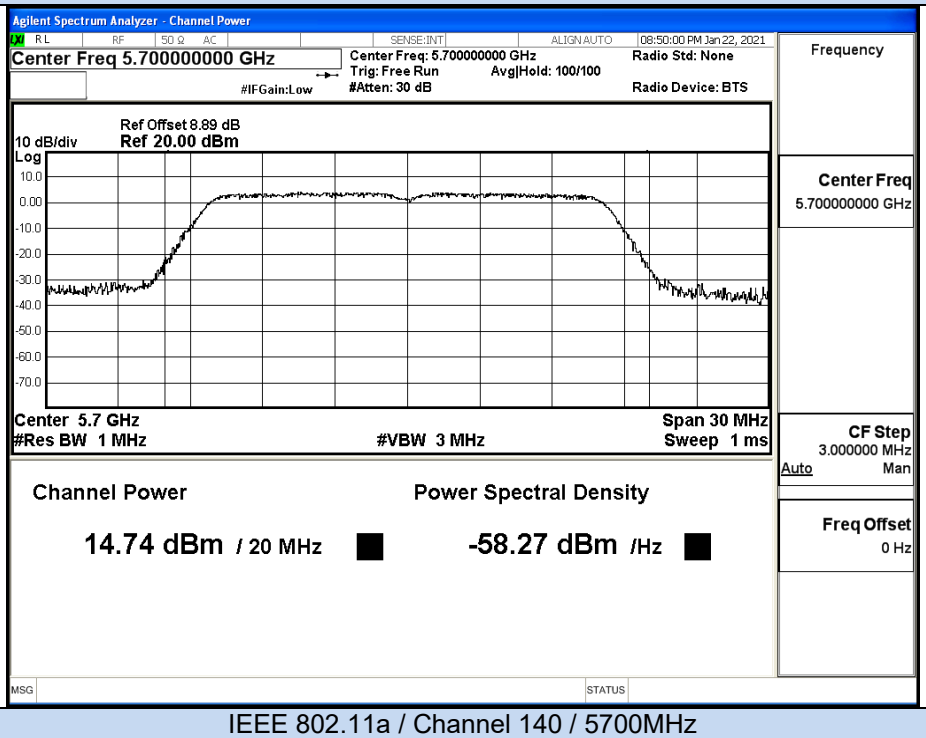
Maximum Conducted Output Power




IEEE 802.11a / Channel 100 / 5500MHz

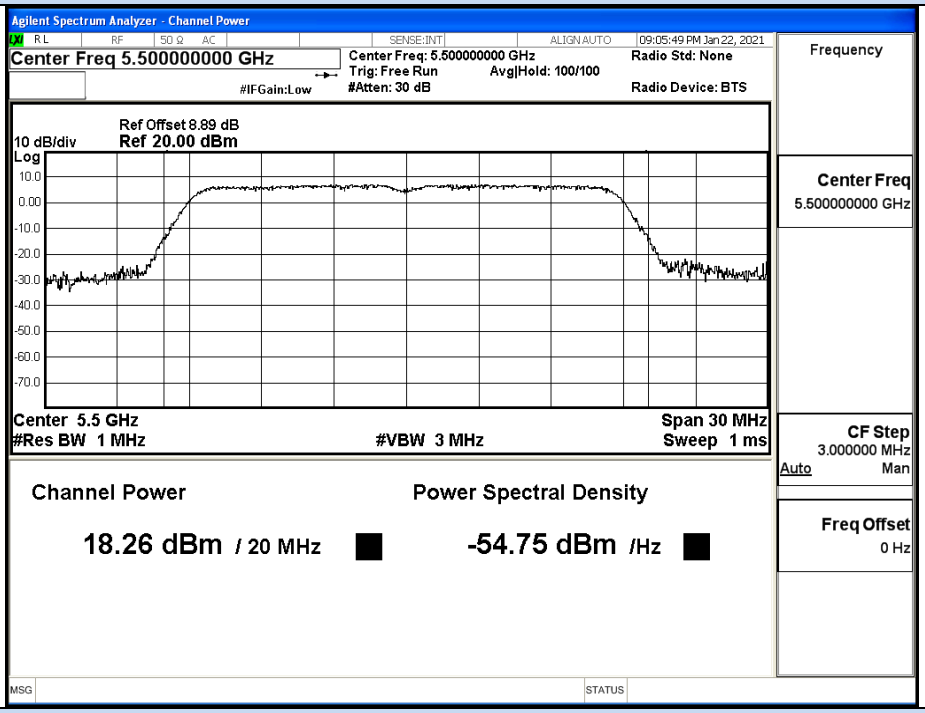



IEEE 802.11a / Channel 120 / 5600MHz

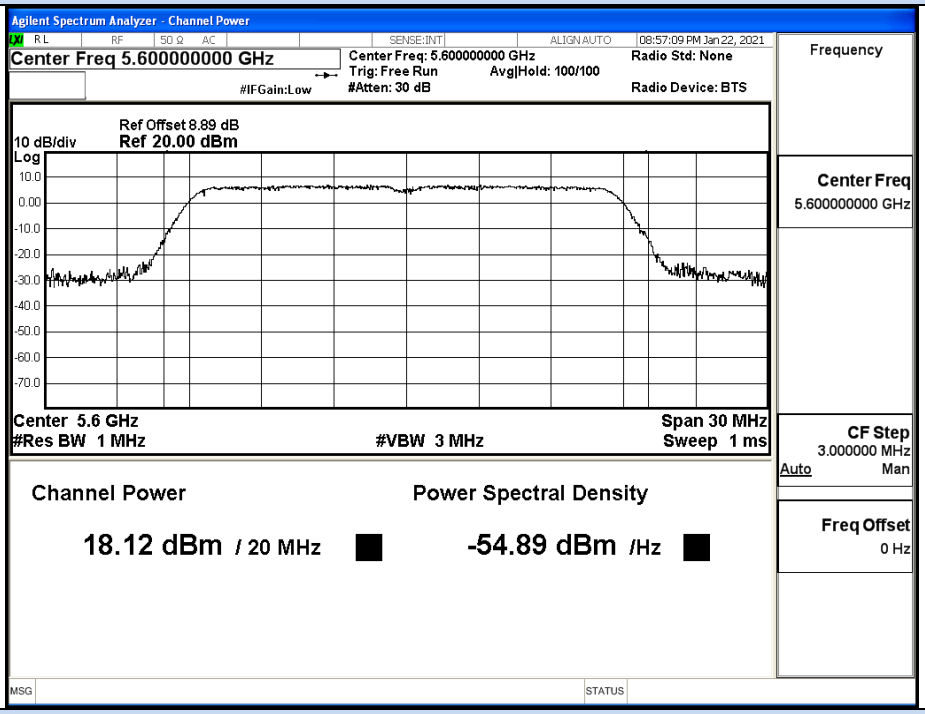



IEEE 802.11a / Channel 140 / 5700MHz

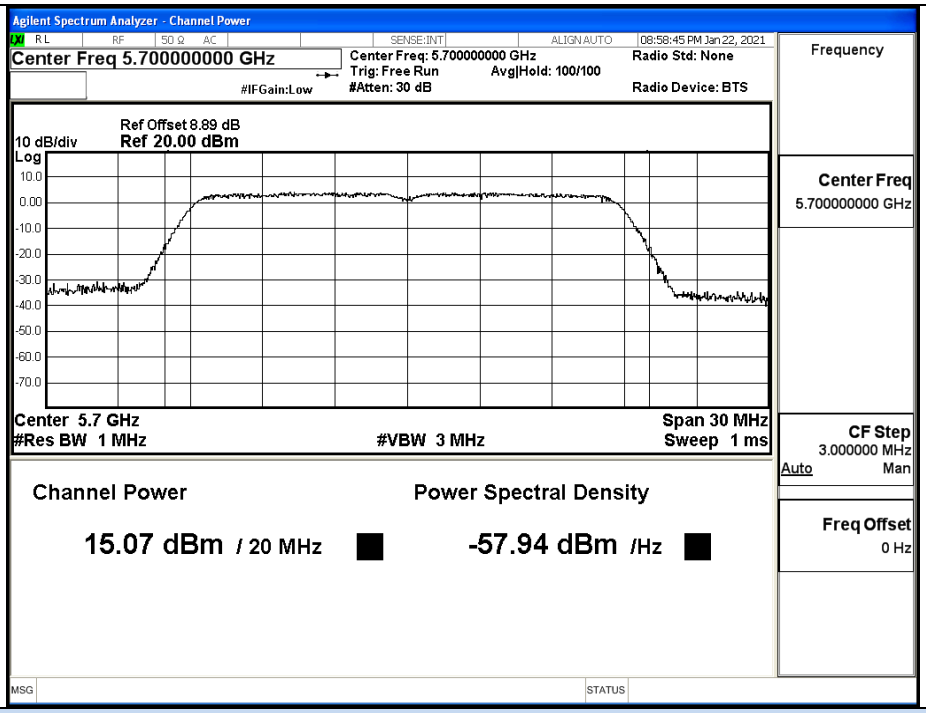
## Maximum Conducted Output Power




IEEE 802.11n20 / Channel 100 / 5500MHz

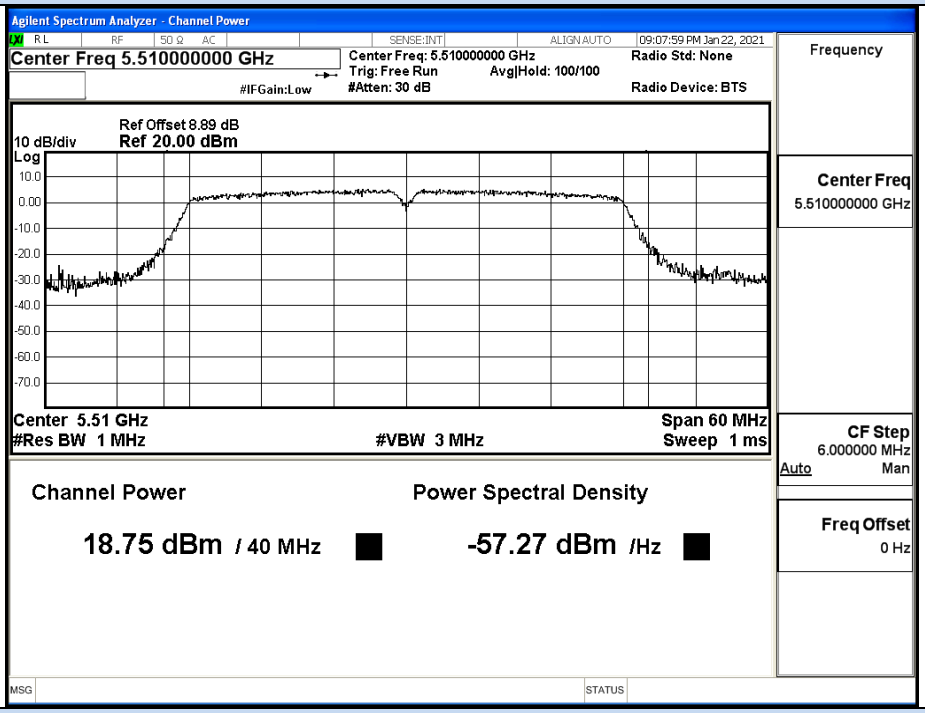



IEEE 802.11n20 / Channel 120 / 5600MHz

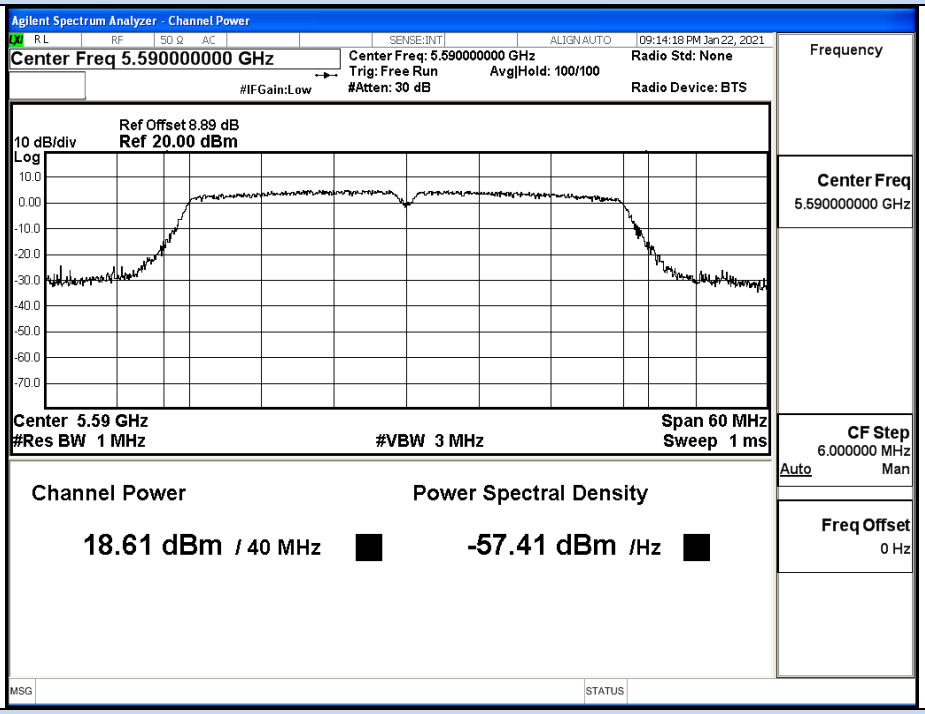



IEEE 802.11n20 / Channel 140 / 5700MHz

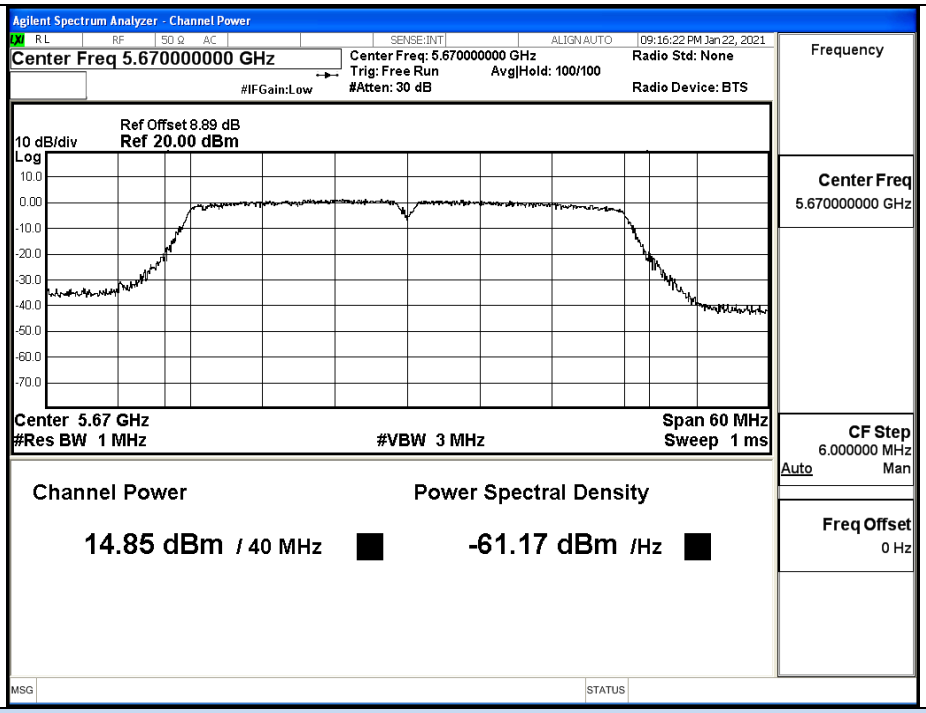
## Maximum Conducted Output Power



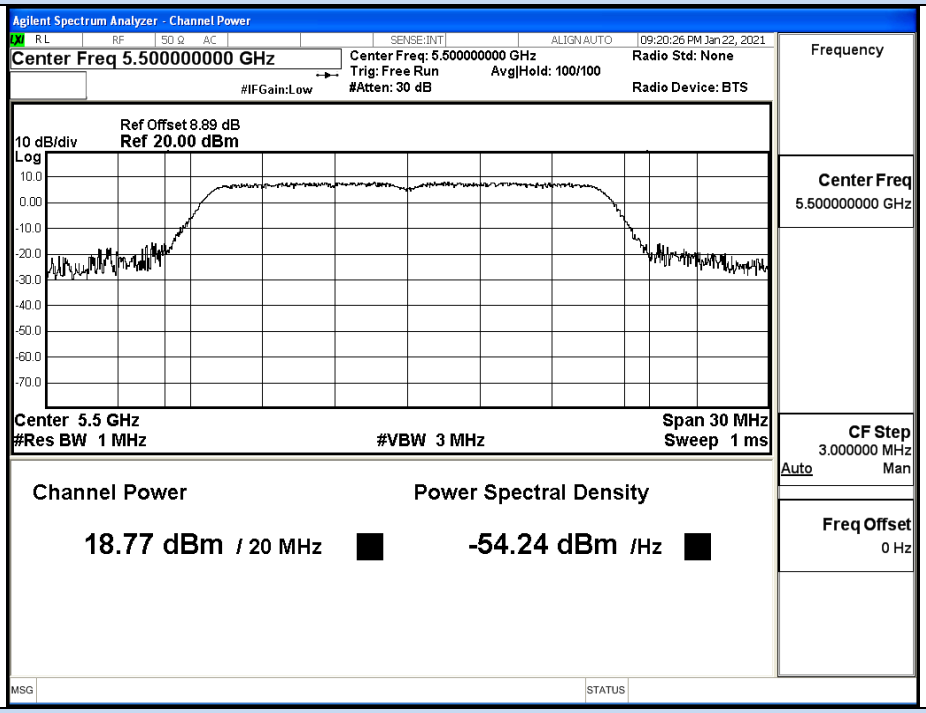

IEEE 802.11n40 / Channel 102 / 5510MHz



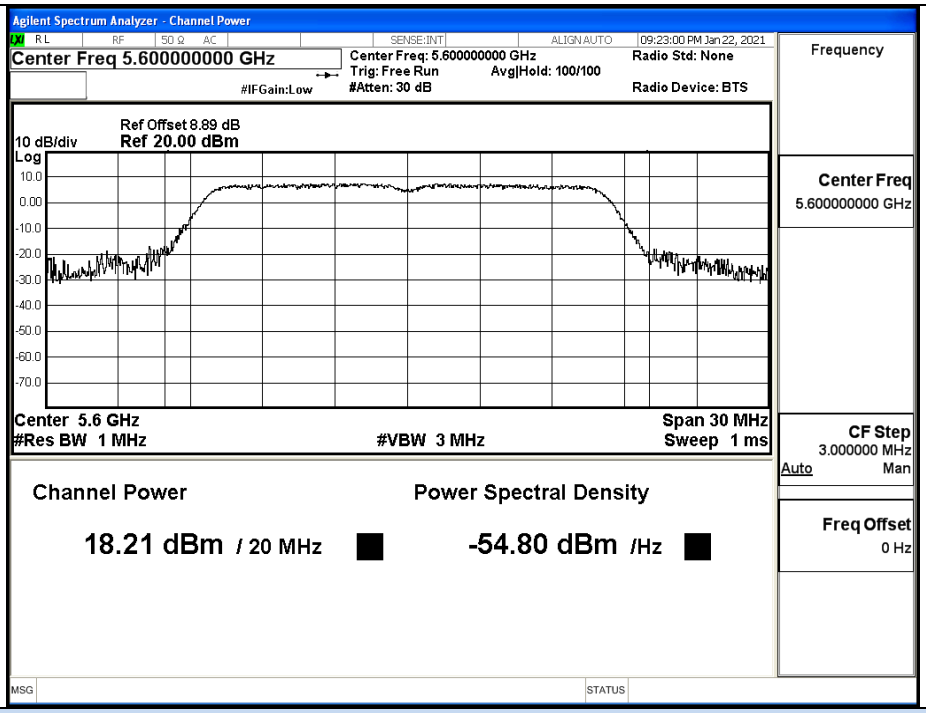

IEEE 802.11n40 / Channel 118 / 5590MHz



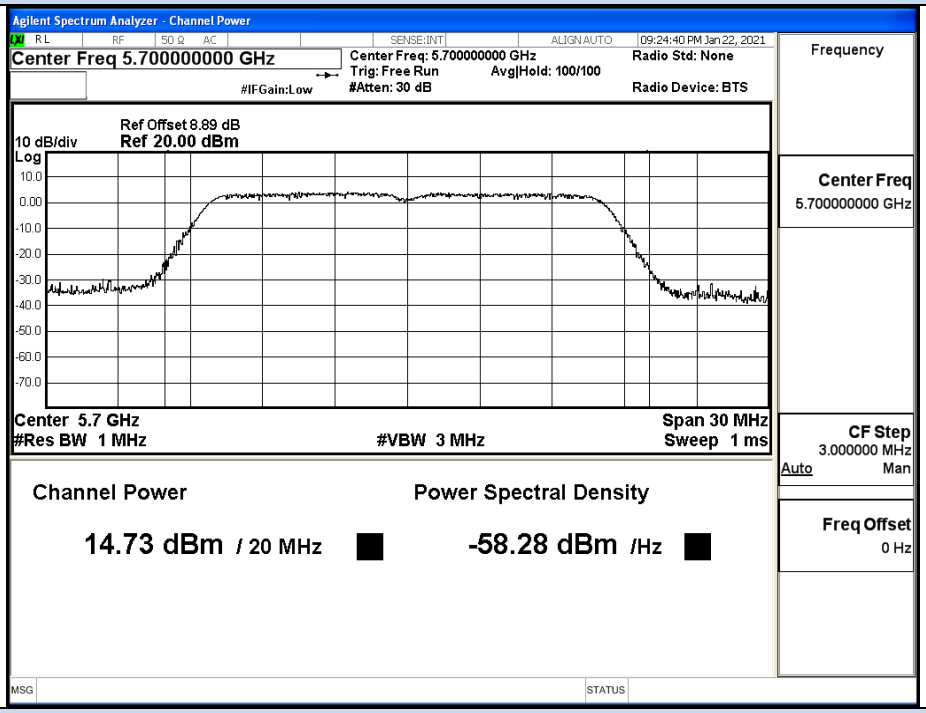

IEEE 802.11n40 / Channel 134 / 5670MHz




IEEE 802.11ac20 / Channel 100 / 5500MHz

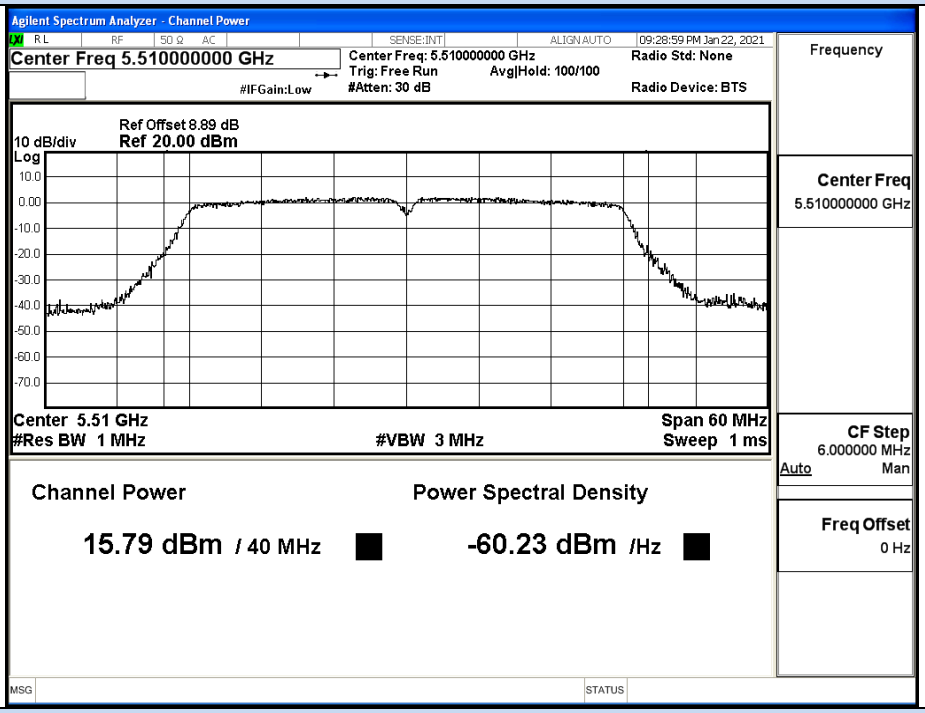



IEEE 802.11ac20 / Channel 120 / 5600MHz

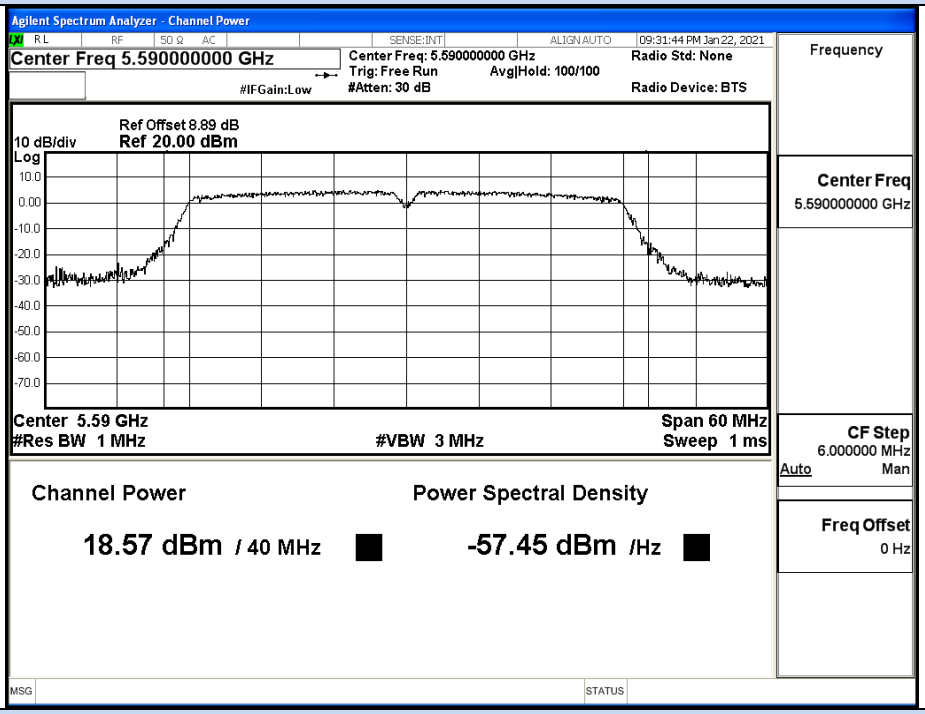



IEEE 802.11ac20 / Channel 140 / 5700MHz

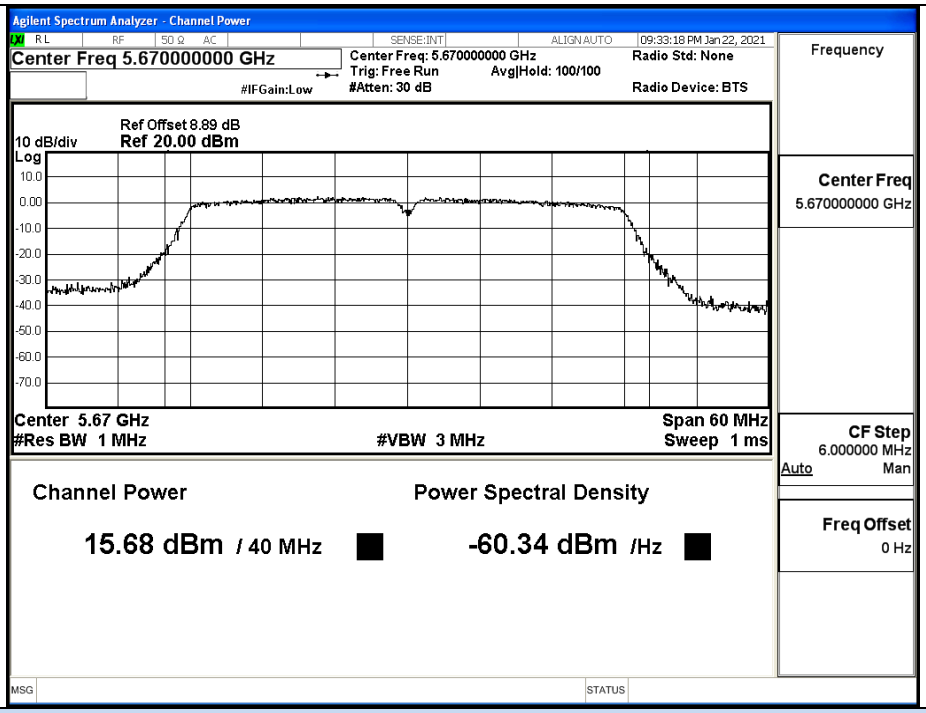
## Maximum Conducted Output Power



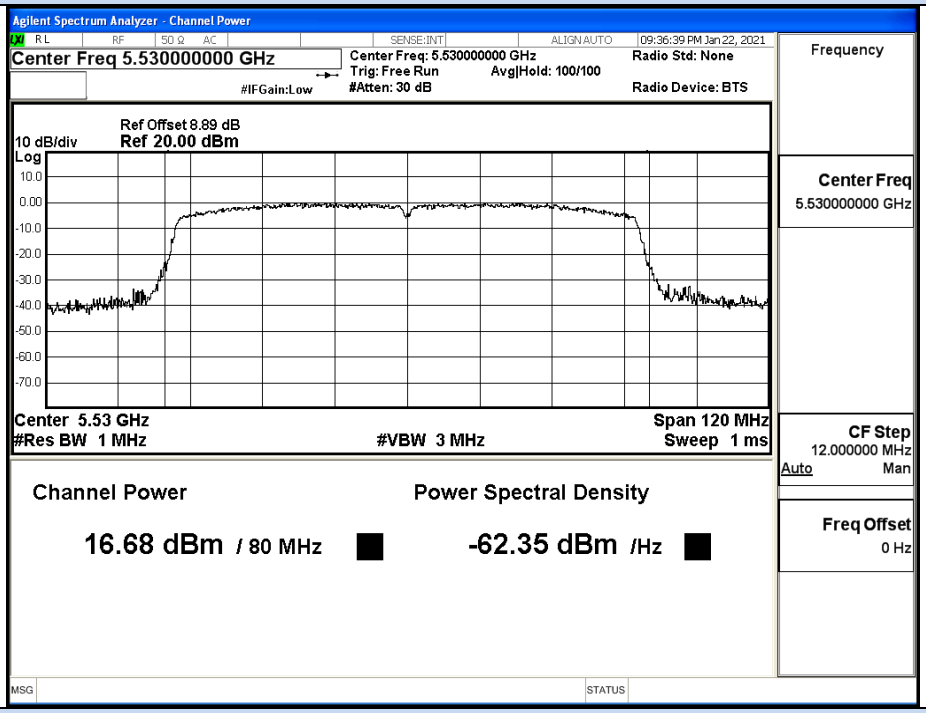

IEEE 802.11ac40 / Channel 102 / 5510MHz



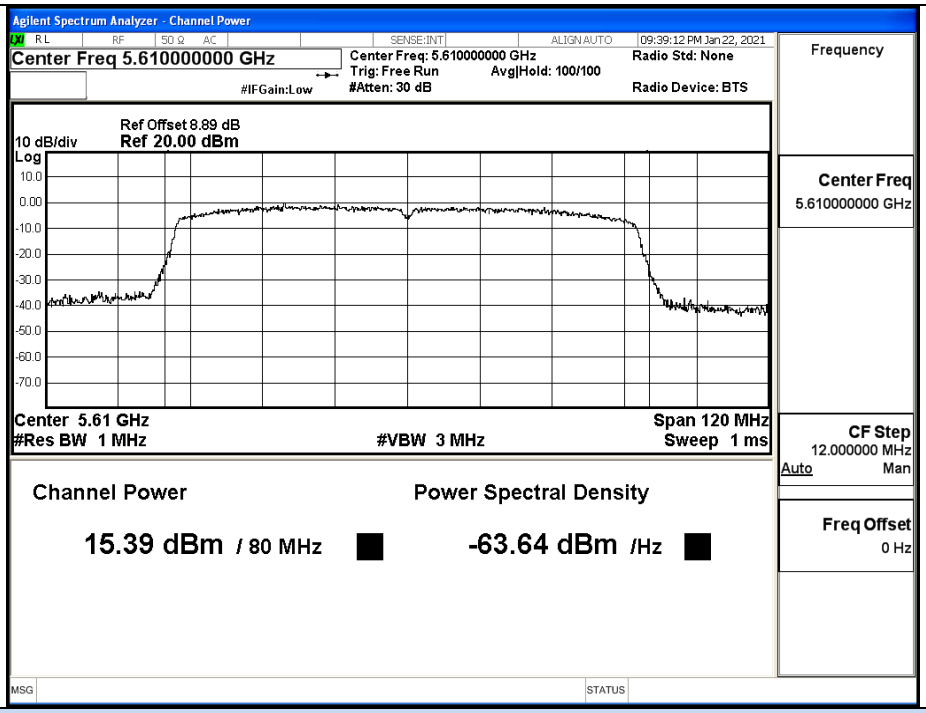

IEEE 802.11ac40 / Channel 118 / 5590MHz




IEEE 802.11ac40 / Channel 134 / 5670MHz




IEEE 802.11ac80 / Channel 106 / 5530MHz




IEEE 802.11ac80 / Channel 122 / 5610MHz

MIMO

| Test Mode | Channel | Frequency (MHz) | ANT 0 AVG Conducted Power (dBm) | ANT 1 AVG Conducted Power (dBm) | MIMO AVG Conducted Power (dBm) | Duty Cycle Factor(dB) | Report Conducted Power(dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|---|---|---|
| 11N20 SISO | 100 | 5500 | 16.38 | 18.26 | 20.43 | 0 | 20.43 | 23.99 | Pass |
| | 120 | 5600 | 15.62 | 18.12 | 20.06 | 0 | 20.06 | | Pass |
| | 140 | 5700 | 13.76 | 15.07 | 17.47 | 0 | 17.47 | | Pass |
| 11N40 SISO | 102 | 5510 | 16.8 | 18.75 | 20.89 | 0 | 20.89 | 23.99 | Pass |
| | 118 | 5590 | 16.39 | 18.61 | 20.65 | 0 | 20.65 | | Pass |
| | 134 | 5670 | 14.24 | 14.85 | 17.57 | 0 | 17.57 | | Pass |
| 11ac20 SISO | 100 | 5500 | 17.32 | 18.77 | 21.12 | 0 | 21.12 | 23.99 | Pass |
| | 120 | 5600 | 16.73 | 18.21 | 20.54 | 0 | 20.54 | | Pass |
| | 140 | 5700 | 13.52 | 14.73 | 17.18 | 0 | 17.18 | | Pass |
| 11ac40 SISO | 102 | 5510 | 16.98 | 15.79 | 19.44 | 0 | 19.44 | 23.99 | Pass |
| | 118 | 5590 | 16.03 | 18.57 | 20.49 | 0 | 20.49 | | Pass |
| | 134 | 5670 | 13.99 | 15.68 | 17.93 | 0 | 17.93 | | Pass |
| 11ac80 SISO | 106 | 5530 | 17.68 | 16.68 | 20.22 | 0 | 20.22 | 23.99 | Pass |
| | 122 | 5610 | 14.97 | 15.39 | 18.20 | 0 | 18.20 | | Pass |

Note: The frequency 5590&5610MHz data is only applicable to FCC, not applicable to ISED.

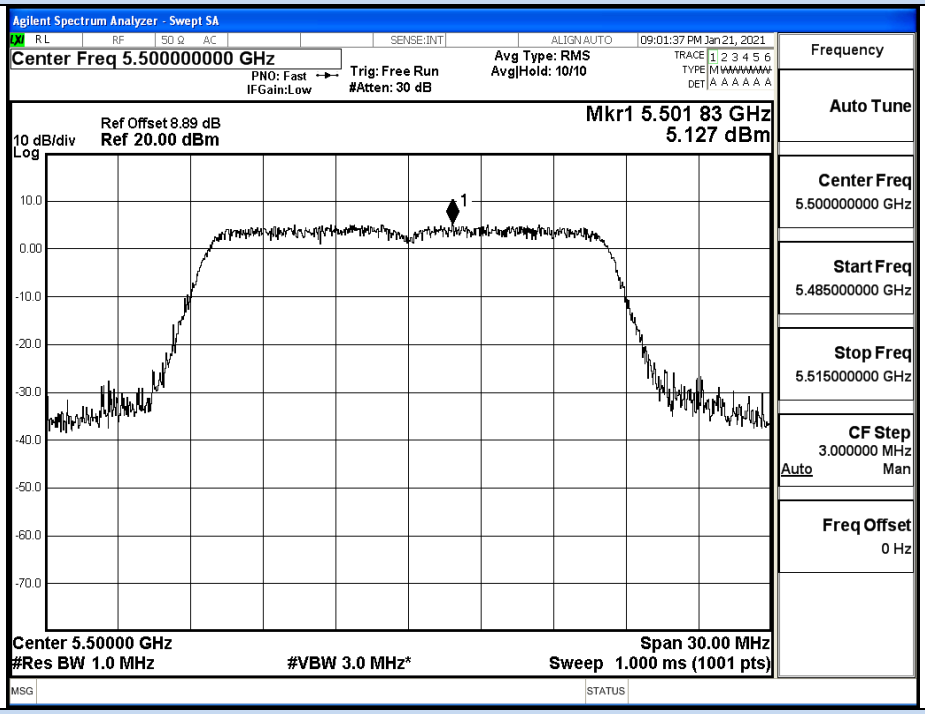
## B.3 Power Spectral Density

**ANT0:**

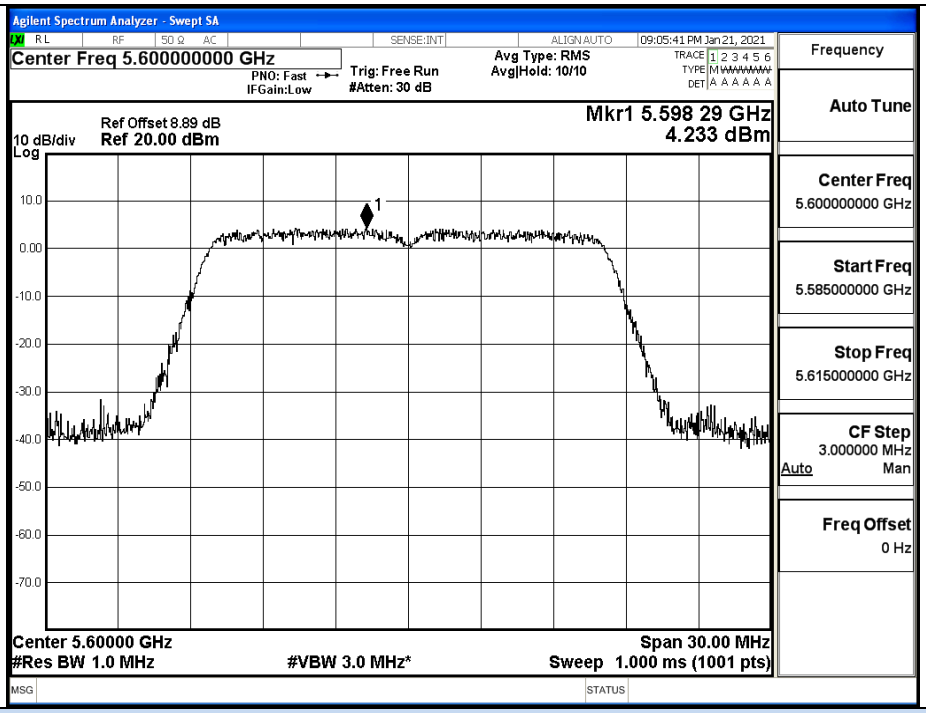
| Test Mode | Channel | Frequency (MHz) | Power Density (dBm/MHz) | Duty Cycle Factor(dB) | Report Power Density (dBm/MHz) | Limit (dBm/MHz) | Verdict |
|---|---|---|---|---|---|---|---|
| 11A | 100 | 5500 | 5.13 | 0 | 5.13 | 11 | Pass |
| | 120 | 5600 | 4.23 | 0 | 4.23 | | Pass |
| | 140 | 5700 | 2.47 | 0 | 2.47 | | Pass |
| 11N20 SISO | 100 | 5500 | 5.19 | 0 | 5.19 | 11 | Pass |
| | 120 | 5600 | 4.22 | 0 | 4.22 | | Pass |
| | 140 | 5700 | 2.73 | 0 | 2.73 | | Pass |
| 11N40 SISO | 102 | 5510 | 3.28 | 0 | 3.28 | 11 | Pass |
| | 118 | 5590 | 2.60 | 0 | 2.60 | | Pass |
| | 134 | 5670 | 0.22 | 0 | 0.22 | | Pass |
| 11AC20 SISO | 100 | 5500 | 6.19 | 0 | 6.19 | 11 | Pass |
| | 120 | 5600 | 5.88 | 0 | 5.88 | | Pass |
| | 140 | 5700 | 2.62 | 0 | 2.62 | | Pass |
| 11AC40 SISO | 102 | 5510 | 3.22 | 0 | 3.22 | 11 | Pass |
| | 118 | 5590 | 2.28 | 0 | 2.28 | | Pass |
| | 134 | 5670 | 0.37 | 0 | 0.37 | | Pass |
| 11AC80 SISO | 106 | 5530 | 1.54 | 0 | 1.54 | 11 | Pass |
| | 122 | 5610 | -1.17 | 0 | -1.17 | | Pass |

Note: The frequency 5590&5610MHz data is only applicable to FCC, not applicable to ISED.

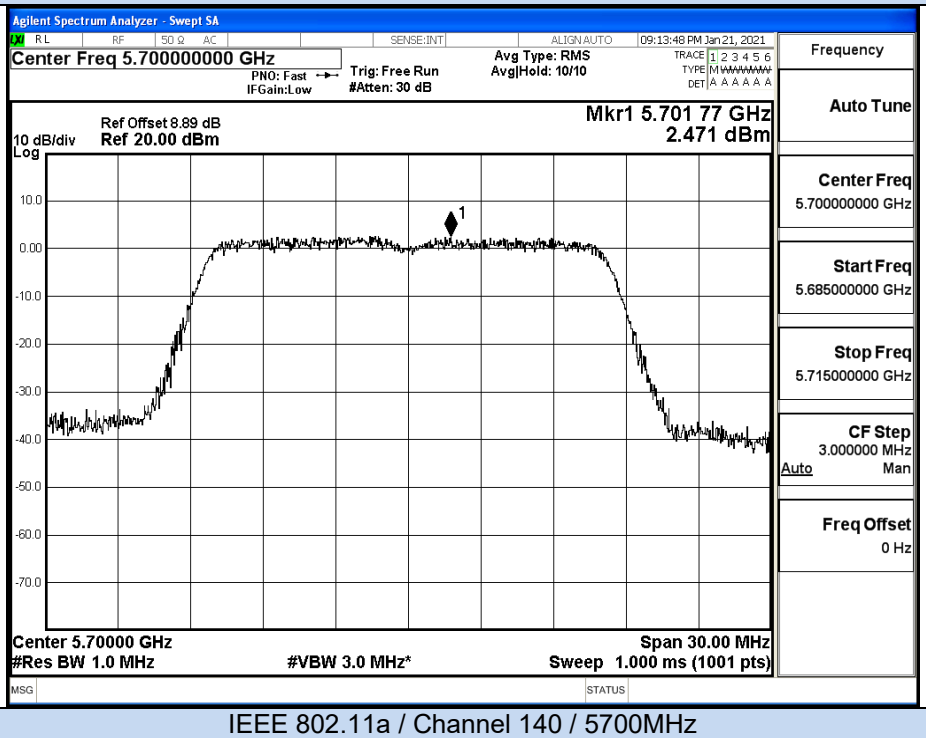
Power Spectral Density




IEEE 802.11a / Channel 100 / 5500MHz

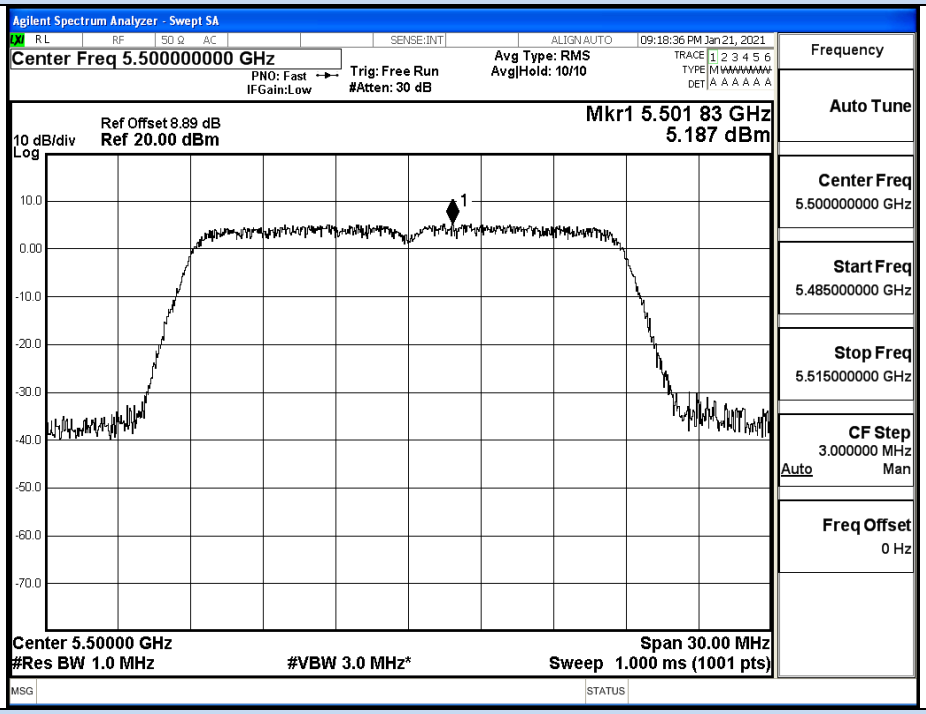



IEEE 802.11a / Channel 120 / 5600MHz

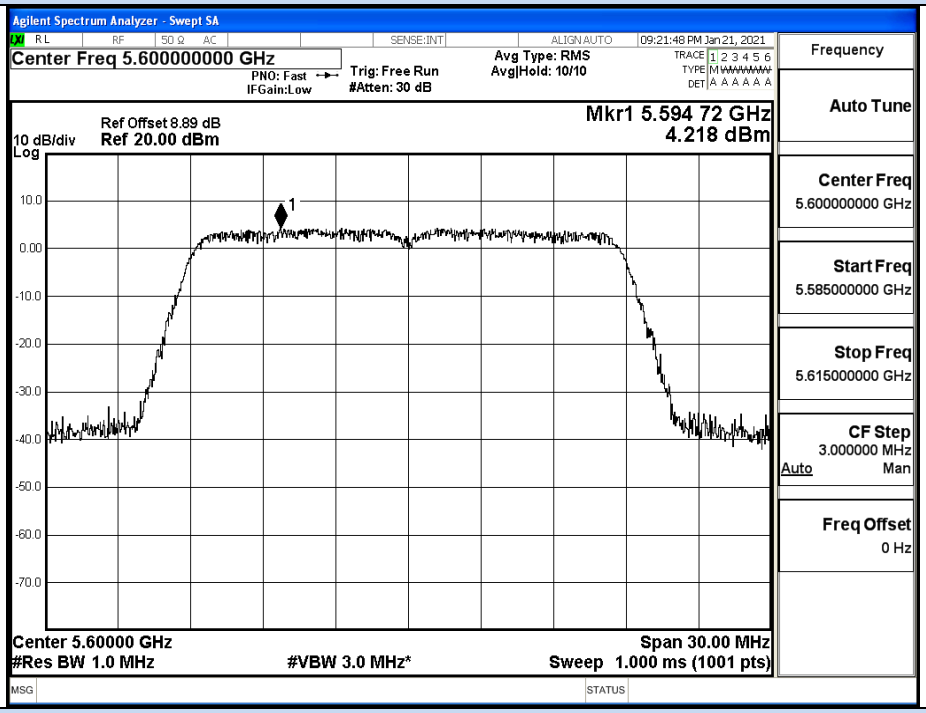



IEEE 802.11a / Channel 140 / 5700MHz

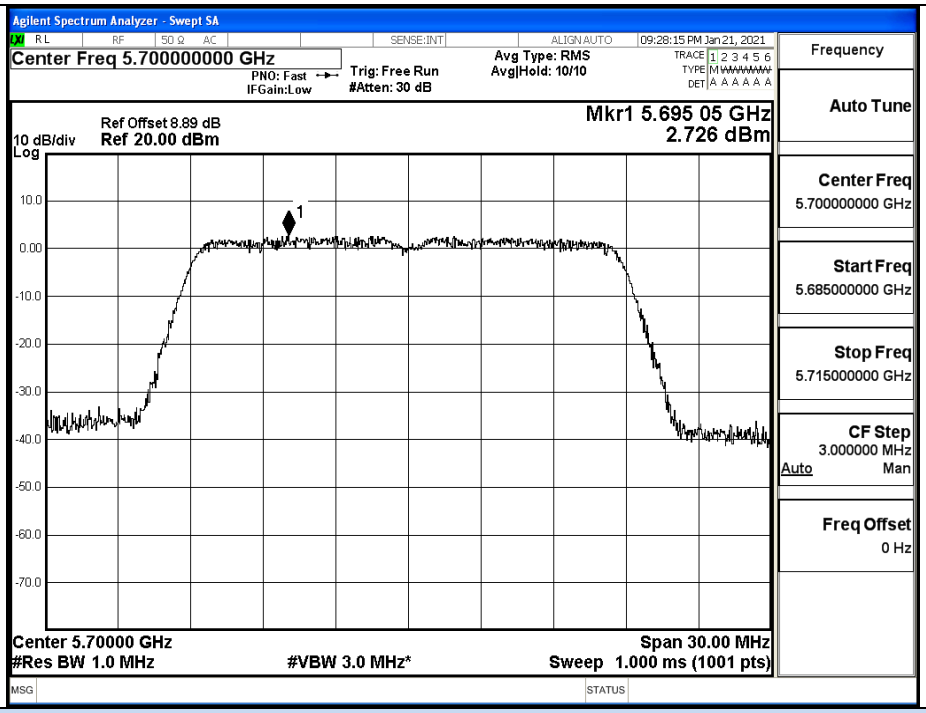
Power Spectral Density



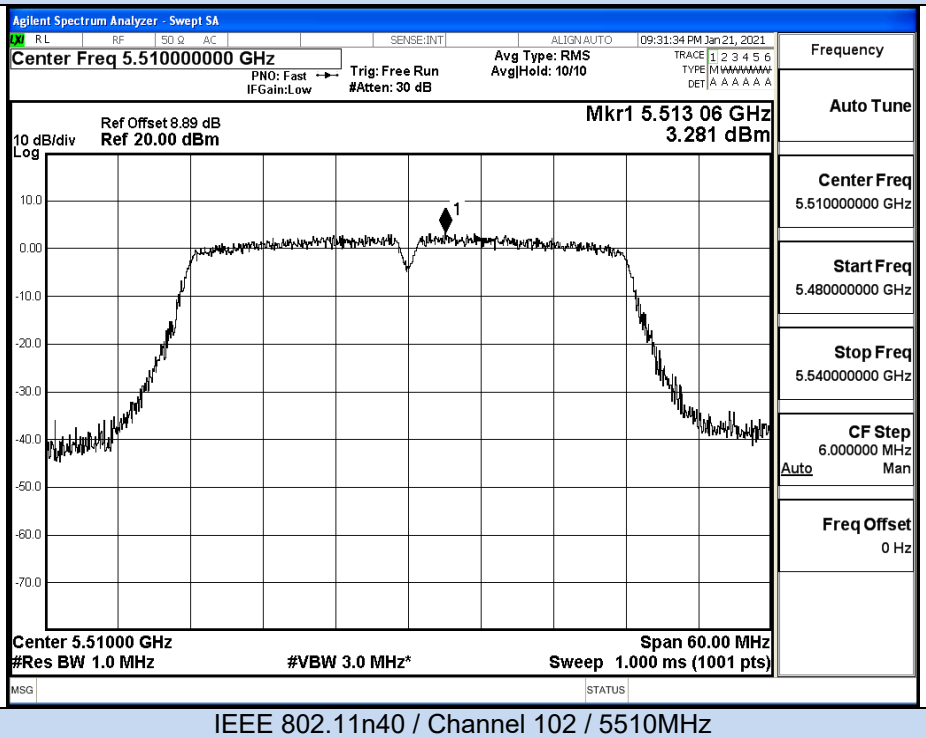

IEEE 802.11n20 / Channel 100 / 5500MHz



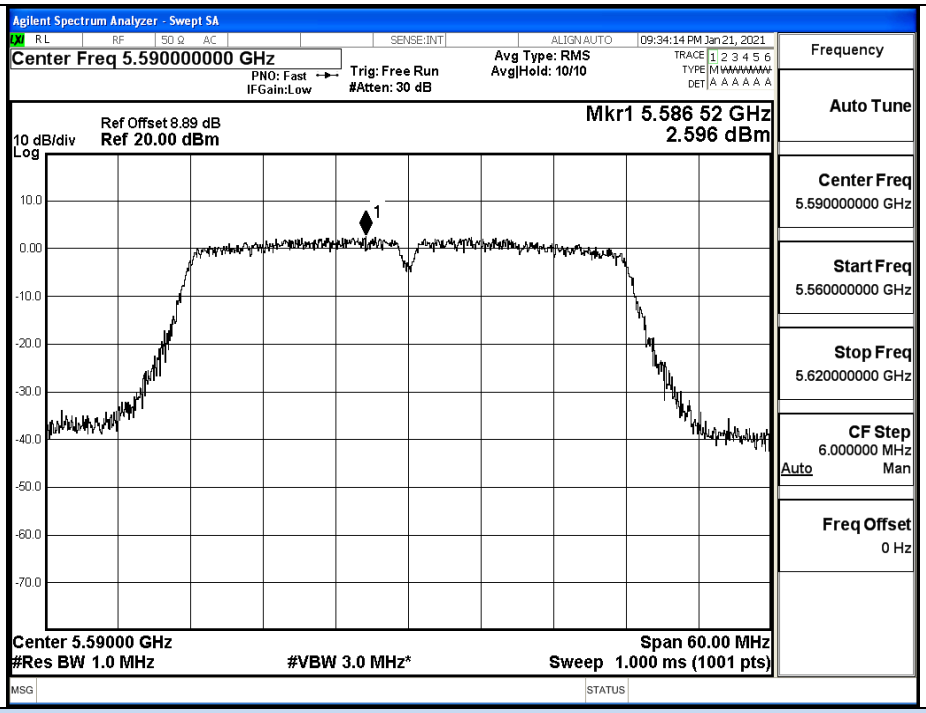

IEEE 802.11n20 / Channel 120 / 5600MHz



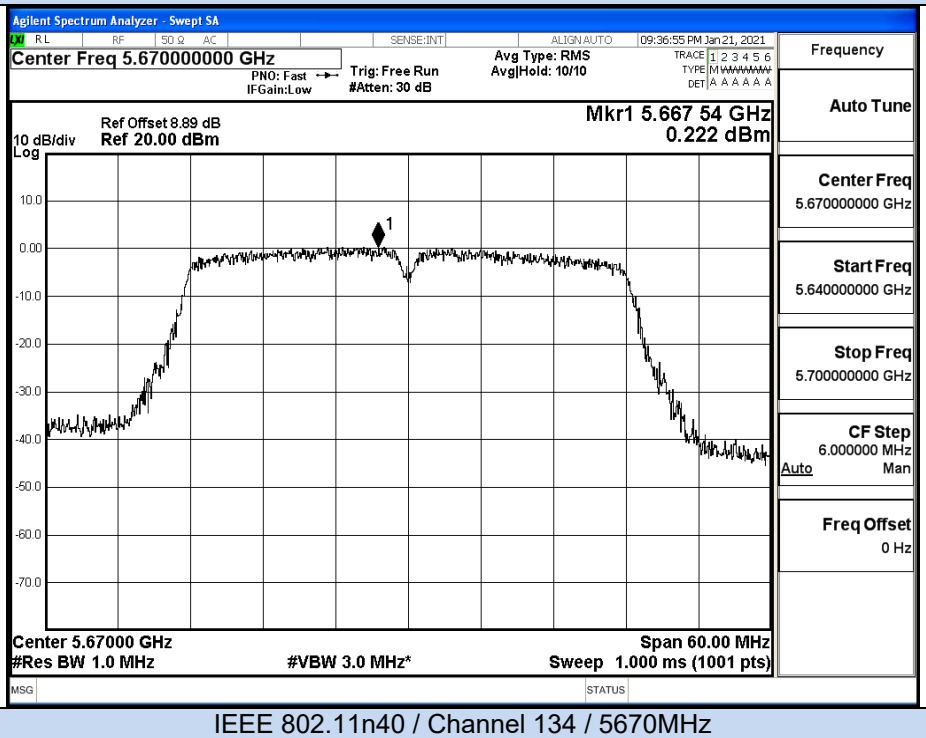

IEEE 802.11n20 / Channel 140 / 5700MHz




IEEE 802.11n40 / Channel 102 / 5510MHz

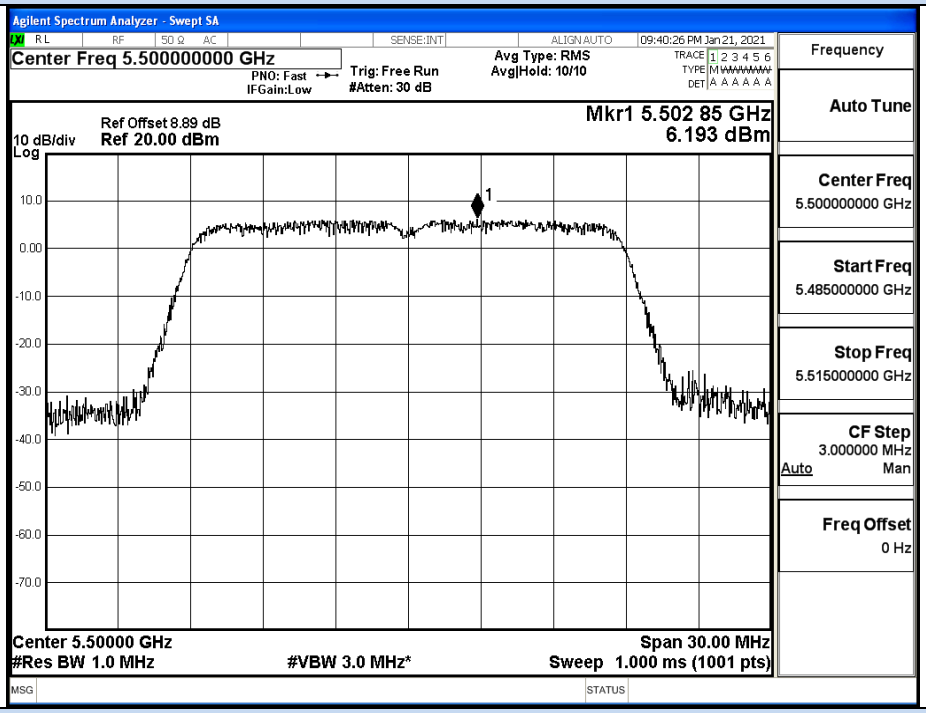



IEEE 802.11n40 / Channel 118 / 5590MHz

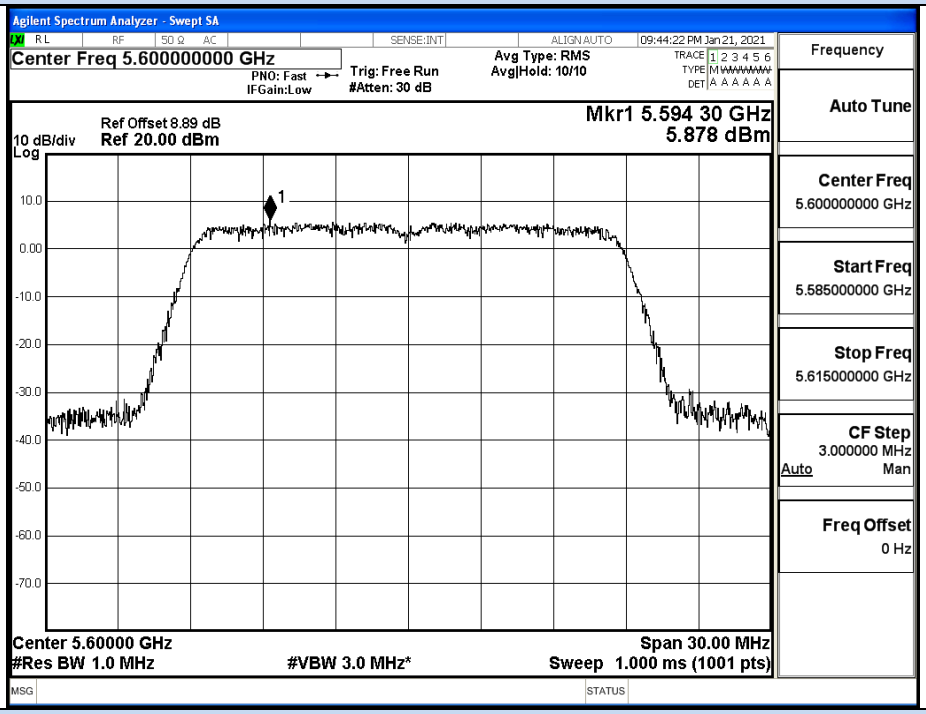



IEEE 802.11n40 / Channel 134 / 5670MHz

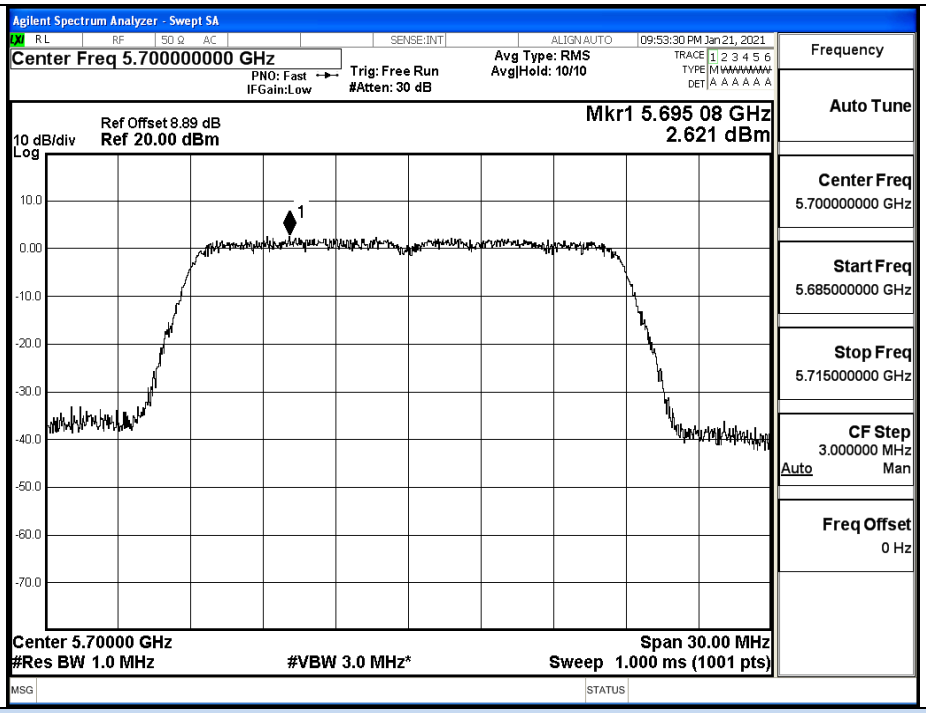
Power Spectral Density



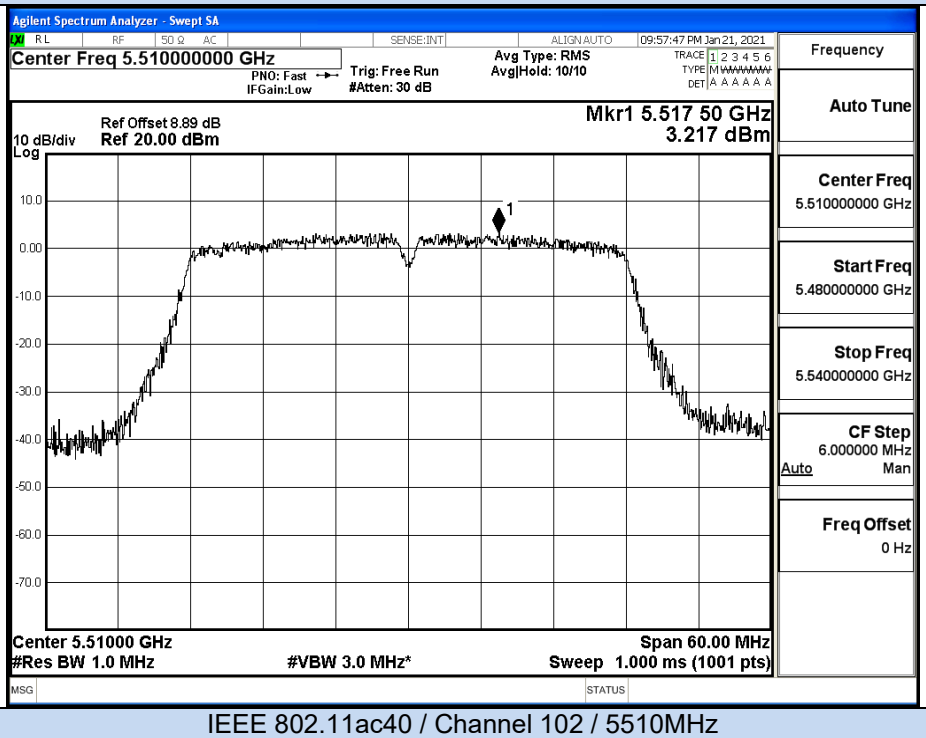

IEEE 802.11ac20 / Channel 100 / 5500MHz



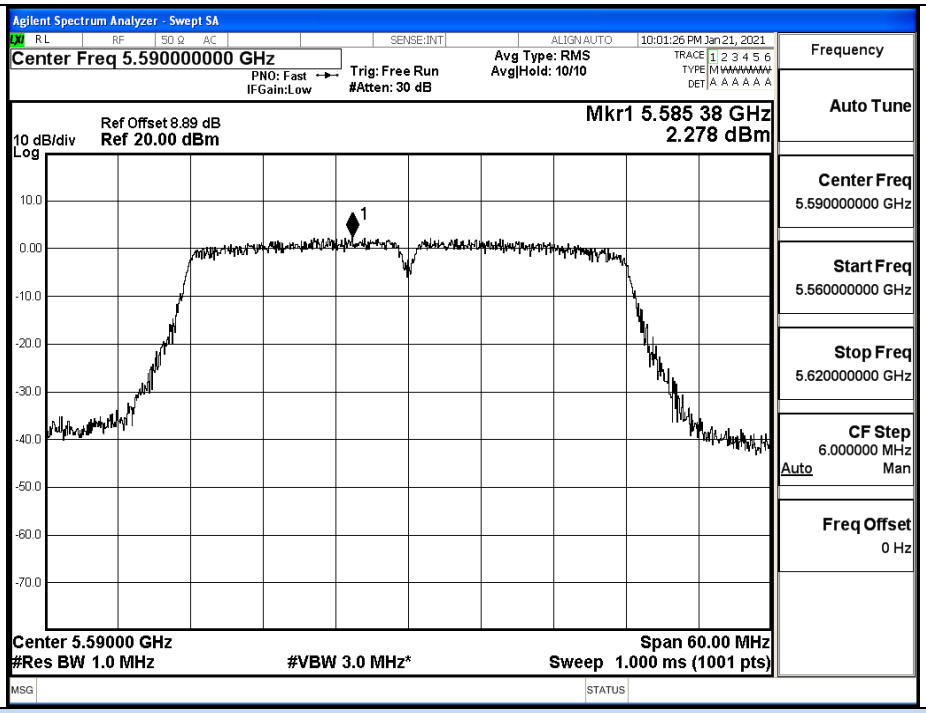

IEEE 802.11ac20 / Channel 120 / 5600MHz



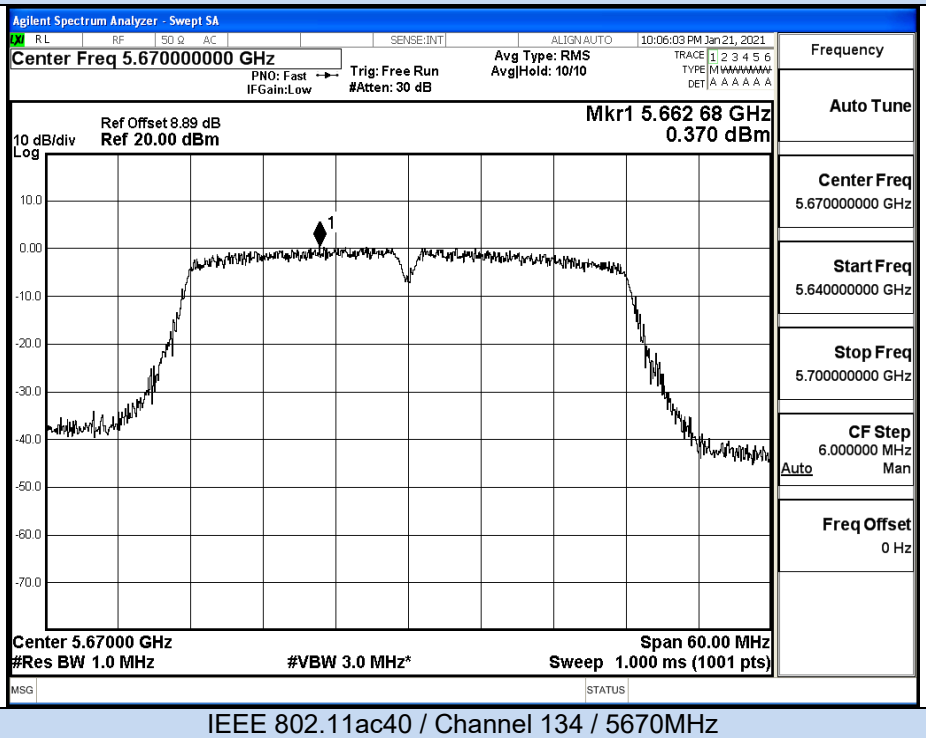

IEEE 802.11ac20 / Channel 140 / 5700MHz



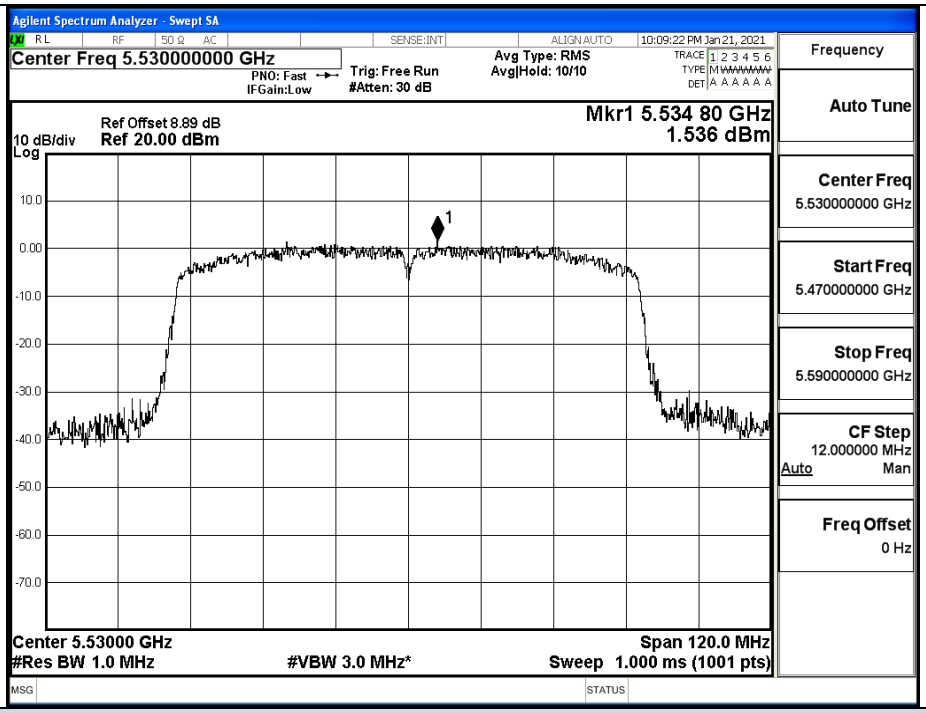

IEEE 802.11ac40 / Channel 102 / 5510MHz



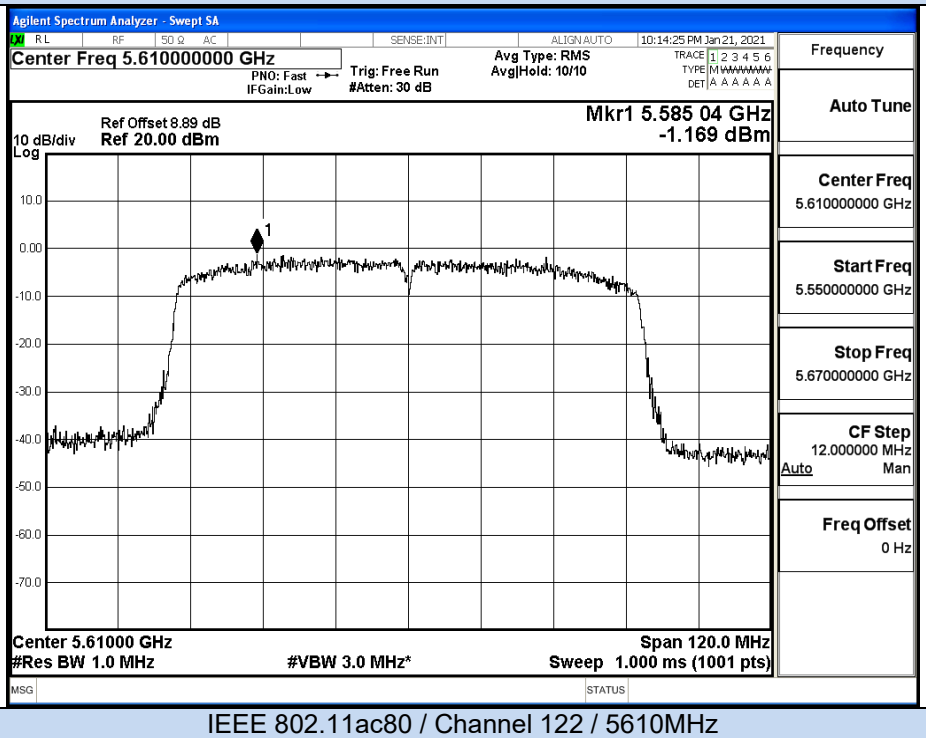

IEEE 802.11ac40 / Channel 118 / 5590MHz




IEEE 802.11ac40 / Channel 134 / 5670MHz




IEEE 802.11ac80 / Channel 106 / 5530MHz



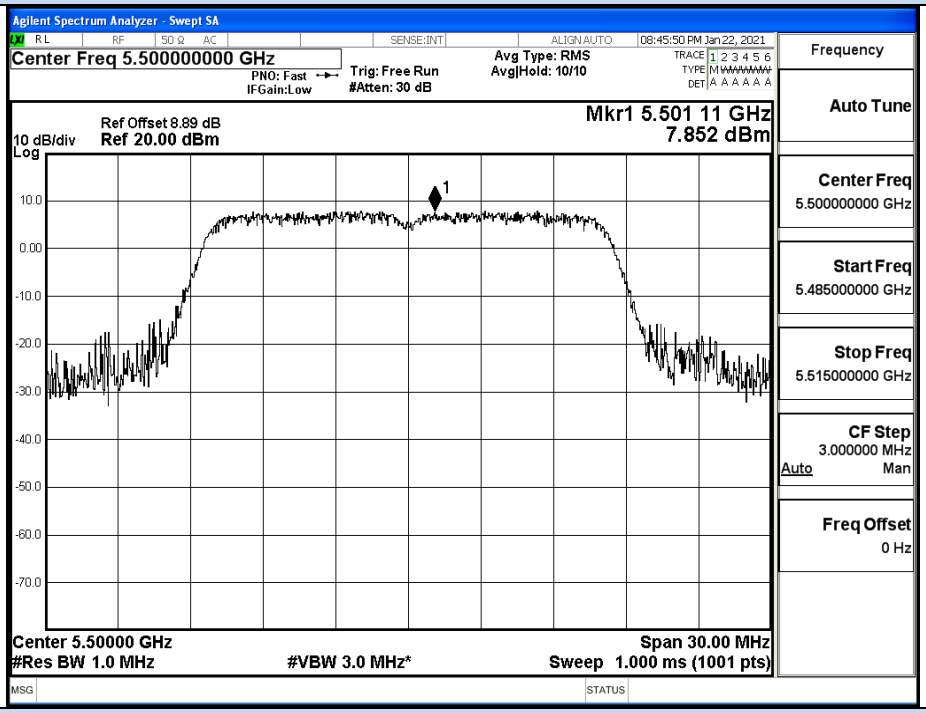

IEEE 802.11ac80 / Channel 122 / 5610MHz

**ANT1:**

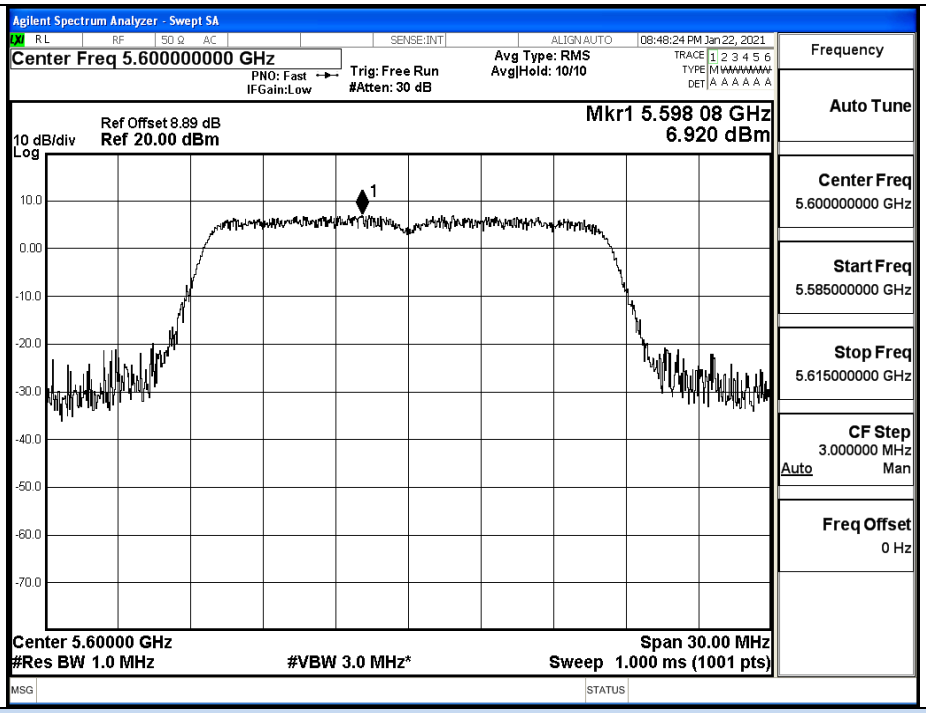
| Test Mode | Channel | Frequency (MHz) | Power Density (dBm/MHz) | Duty Cycle Factor(dB) | Report Power Density (dBm/MHz) | Limit (dBm/MHz) | Verdict |
|---|---|---|---|---|---|---|---|
| 11A | 100 | 5500 | 7.85 | 0 | 7.85 | 11 | Pass |
| | 120 | 5600 | 6.92 | 0 | 6.92 | | Pass |
| | 140 | 5700 | 4.04 | 0 | 4.04 | | Pass |
| 11N20 SISO | 100 | 5500 | 7.71 | 0 | 7.71 | 11 | Pass |
| | 120 | 5600 | 6.84 | 0 | 6.84 | | Pass |
| | 140 | 5700 | 3.91 | 0 | 3.91 | | Pass |
| 11N40 SISO | 102 | 5510 | 5.17 | 0 | 5.17 | 11 | Pass |
| | 118 | 5590 | 4.88 | 0 | 4.88 | | Pass |
| | 134 | 5670 | 1.26 | 0 | 1.26 | | Pass |
| 11AC20 SISO | 100 | 5500 | 7.82 | 0 | 7.82 | 11 | Pass |
| | 120 | 5600 | 7.34 | 0 | 7.34 | | Pass |
| | 140 | 5700 | 3.91 | 0 | 3.91 | | Pass |
| 11AC40 SISO | 102 | 5510 | 2.17 | 0 | 2.17 | 11 | Pass |
| | 118 | 5590 | 4.99 | 0 | 4.99 | | Pass |
| | 134 | 5670 | 1.93 | 0 | 1.93 | | Pass |
| 11AC80 SISO | 106 | 5530 | -0.09 | 0 | -0.09 | 11 | Pass |
| | 122 | 5610 | -0.65 | 0 | -0.65 | | Pass |

Note: The frequency 5590&5610MHz data is only applicable to FCC, not applicable to ISED.

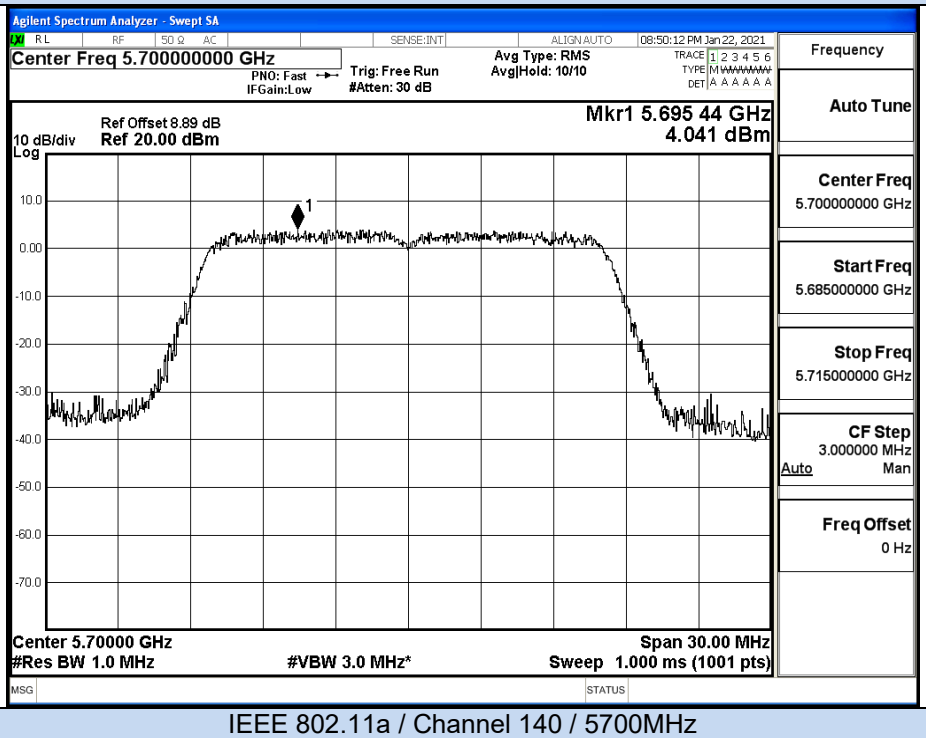
Power Spectral Density




IEEE 802.11a / Channel 100 / 5500MHz

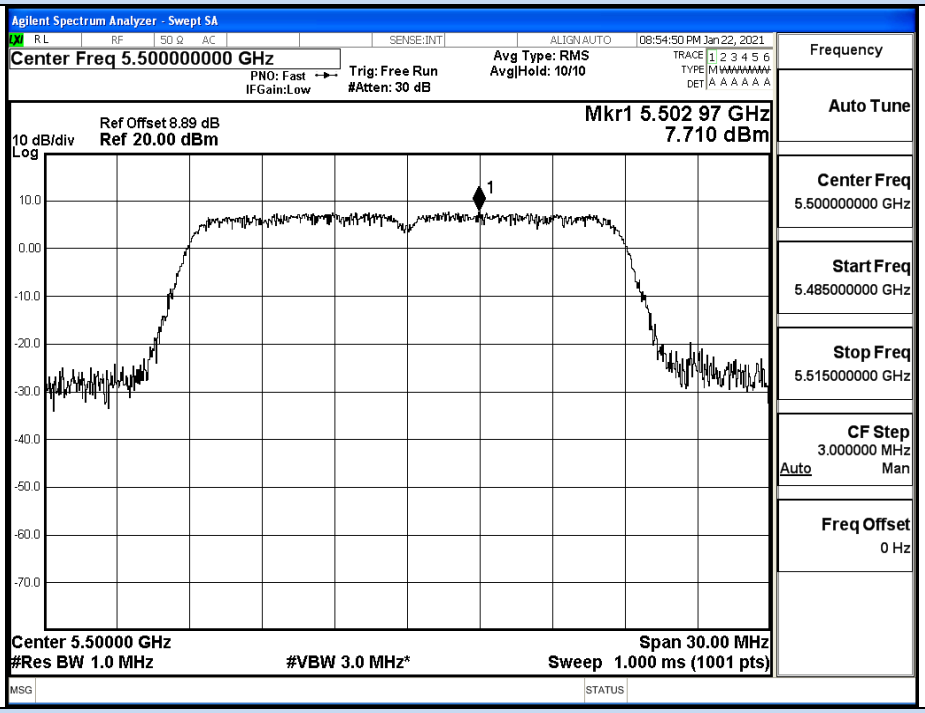



IEEE 802.11a / Channel 120 / 5600MHz

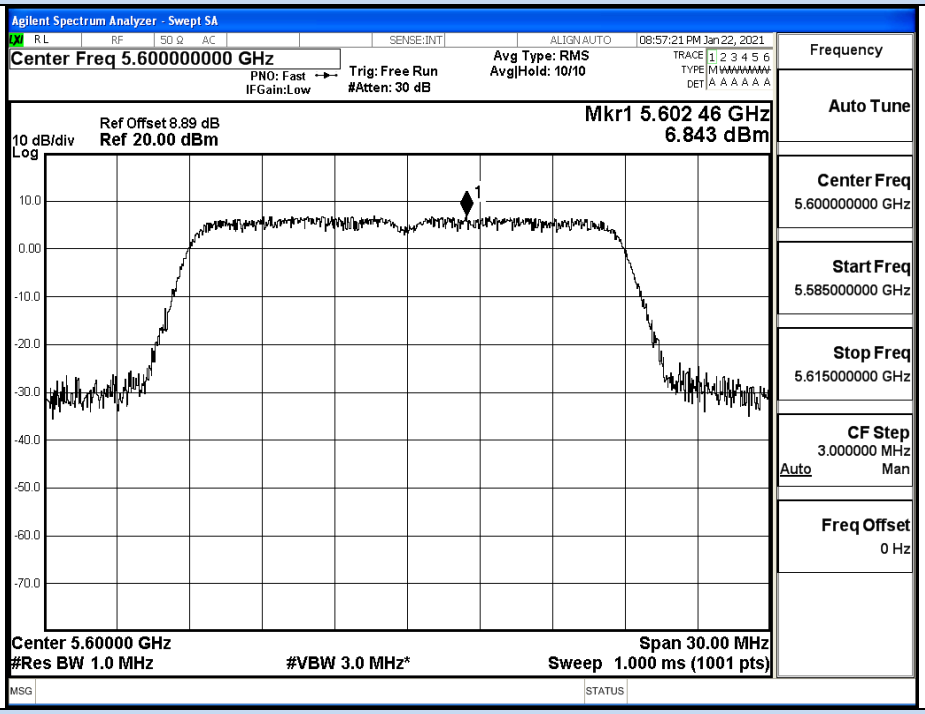



IEEE 802.11a / Channel 140 / 5700MHz

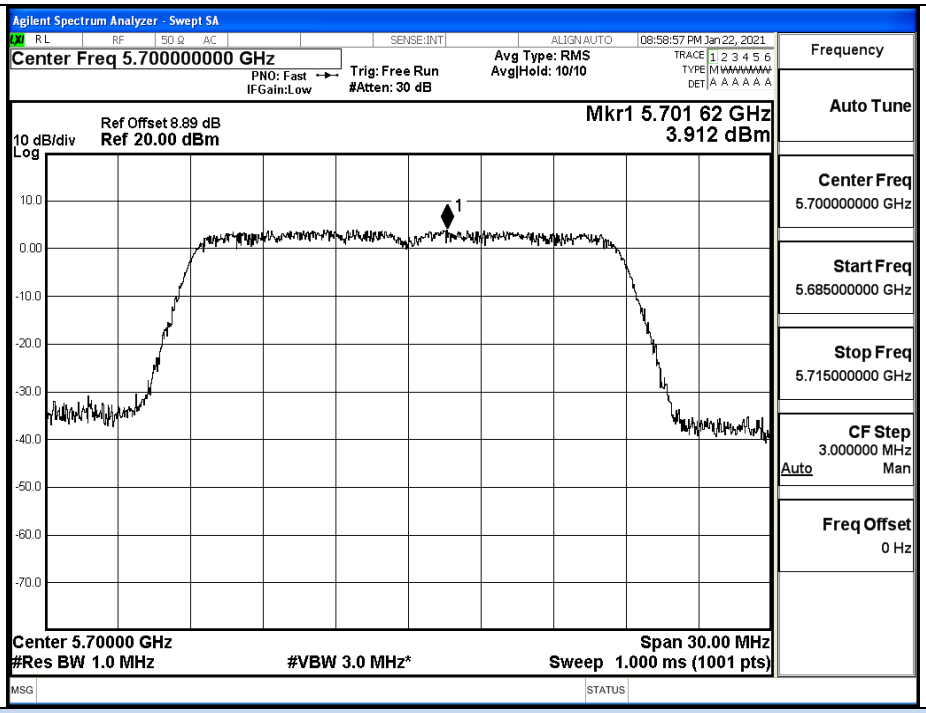
## Power Spectral Density



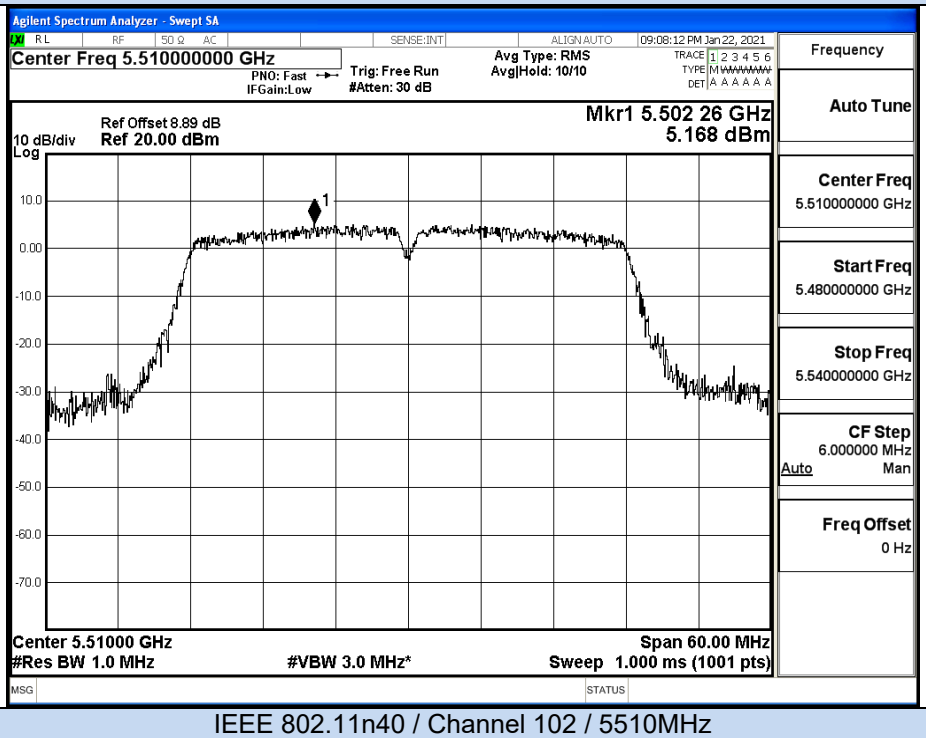

IEEE 802.11n20 / Channel 100 / 5500MHz



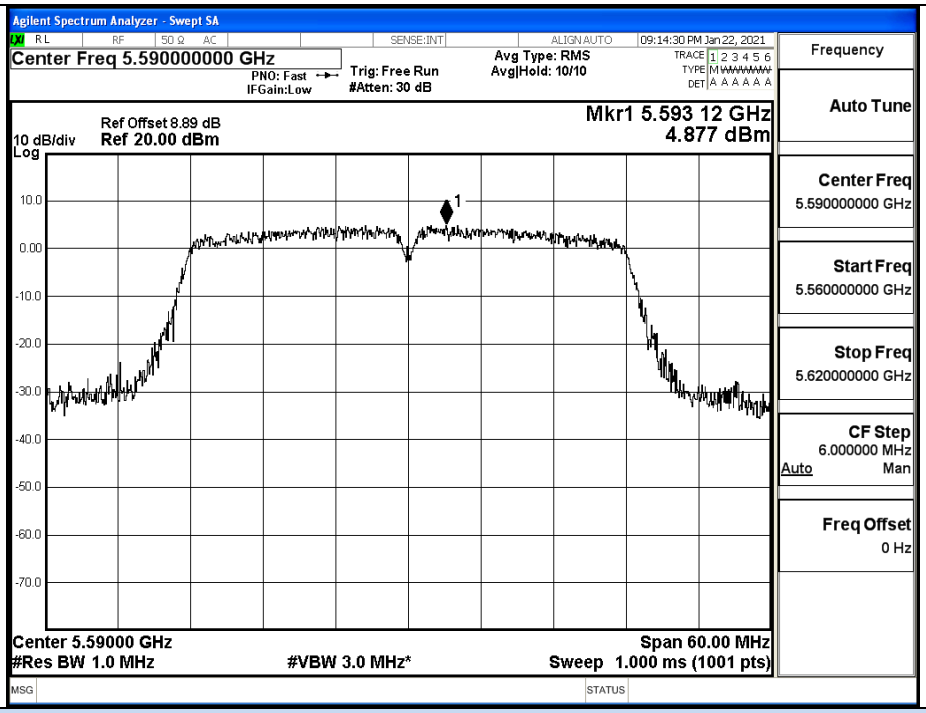

IEEE 802.11n20 / Channel 120 / 5600MHz



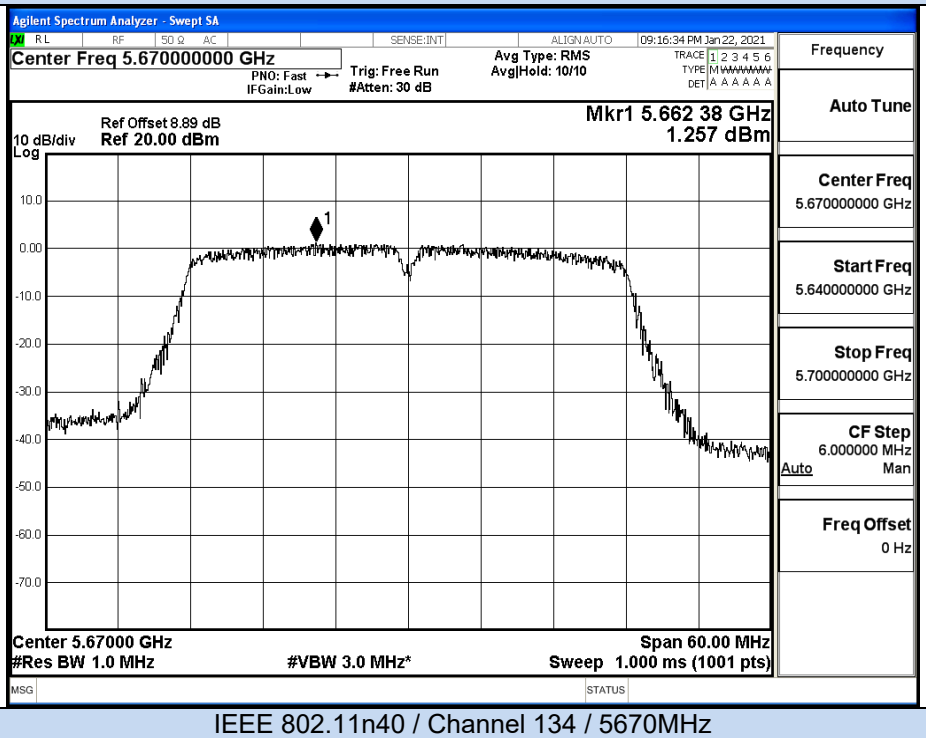

IEEE 802.11n20 / Channel 140 / 5700MHz




IEEE 802.11n40 / Channel 102 / 5510MHz

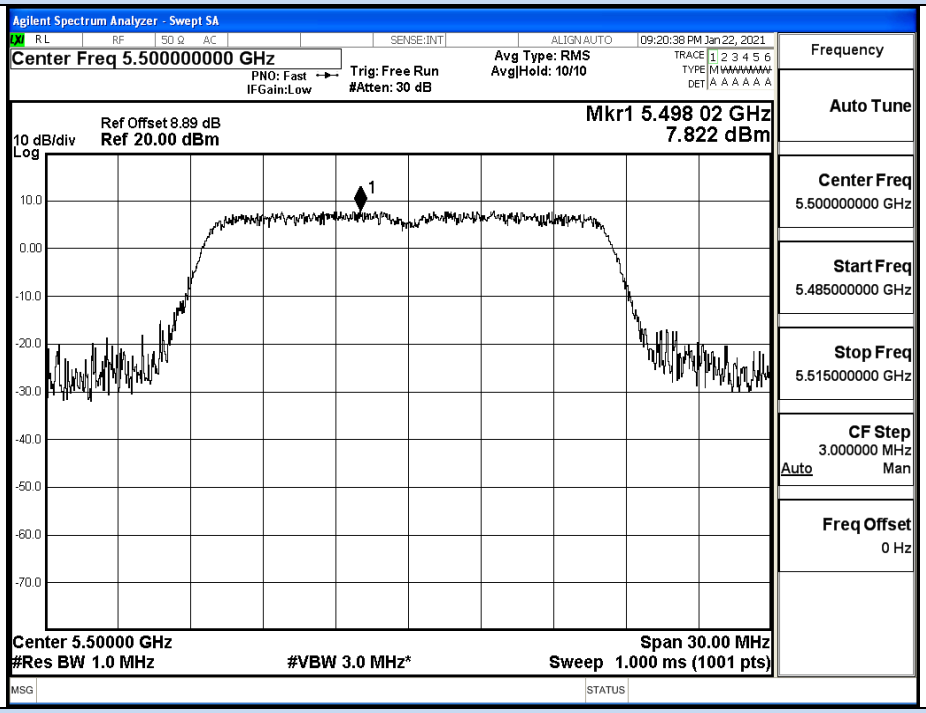



IEEE 802.11n40 / Channel 118 / 5590MHz

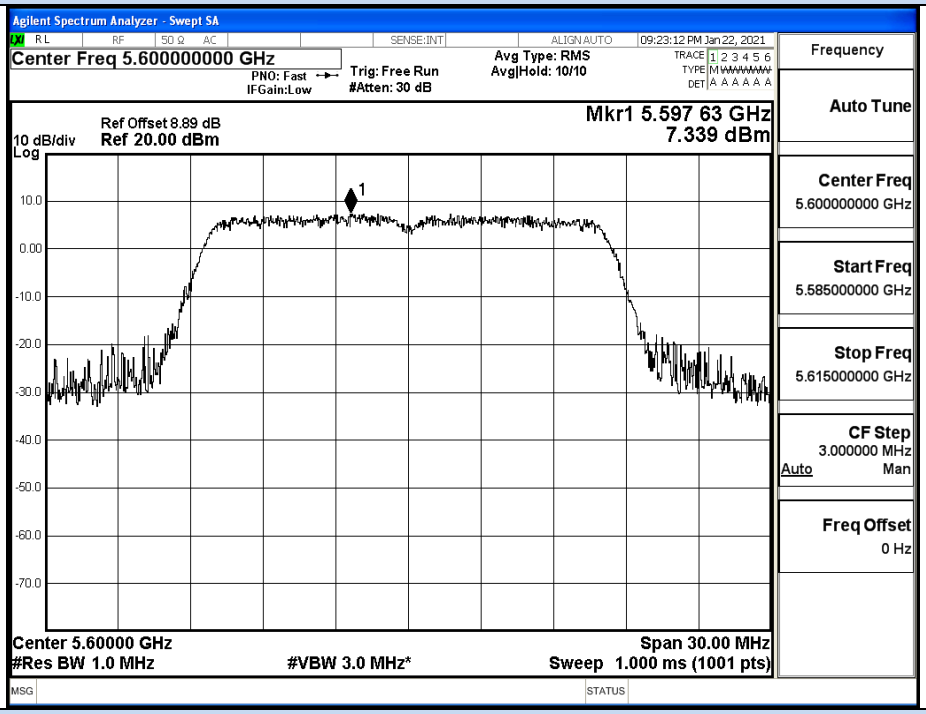



IEEE 802.11n40 / Channel 134 / 5670MHz

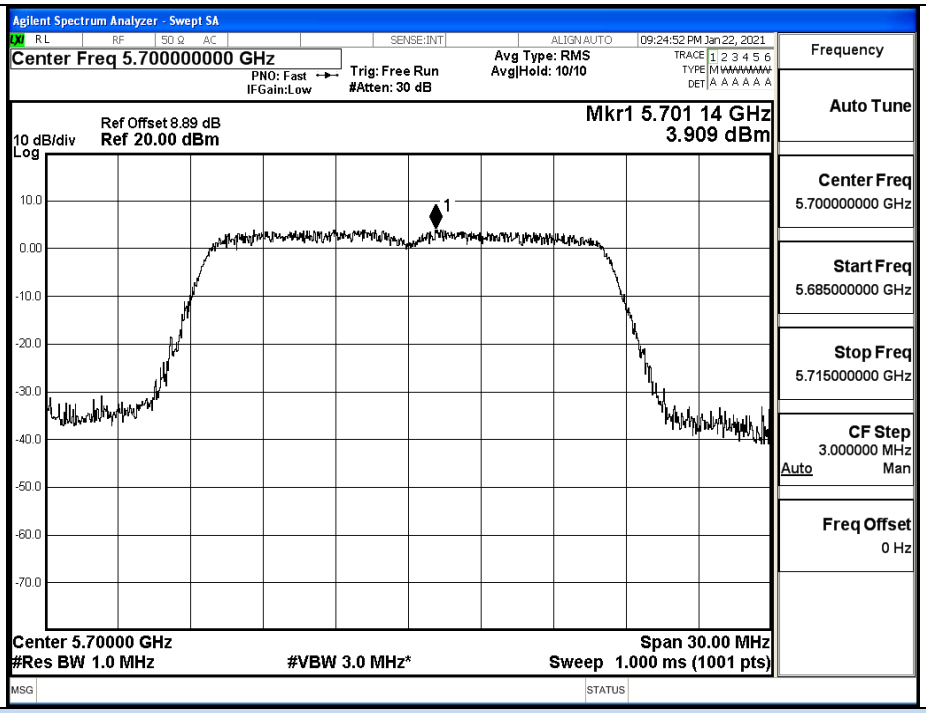
Power Spectral Density



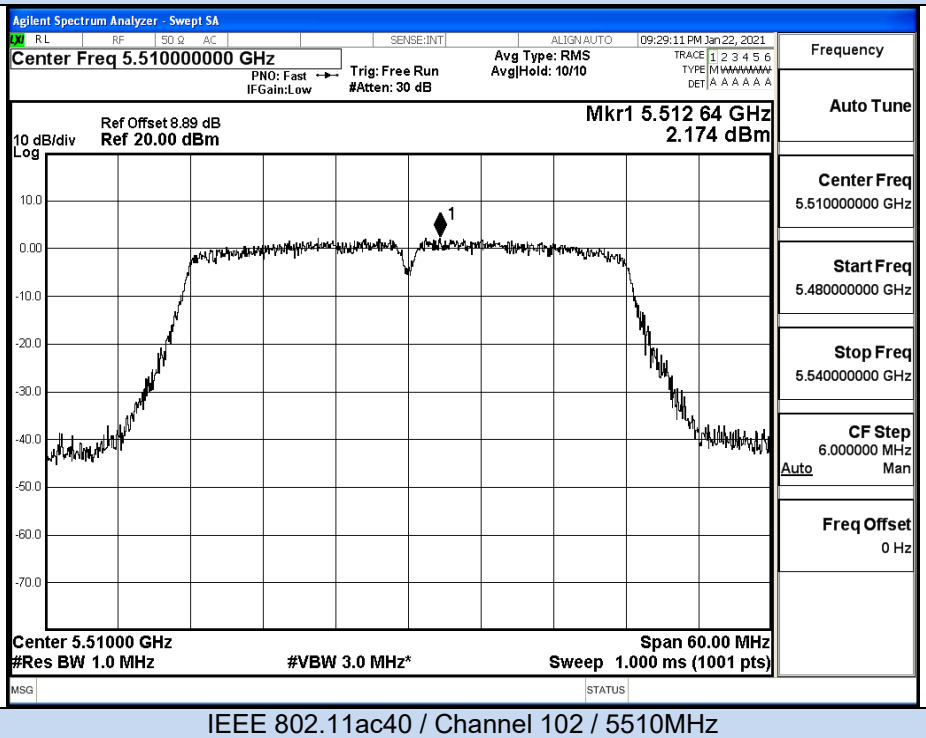

IEEE 802.11ac20 / Channel 100 / 5500MHz



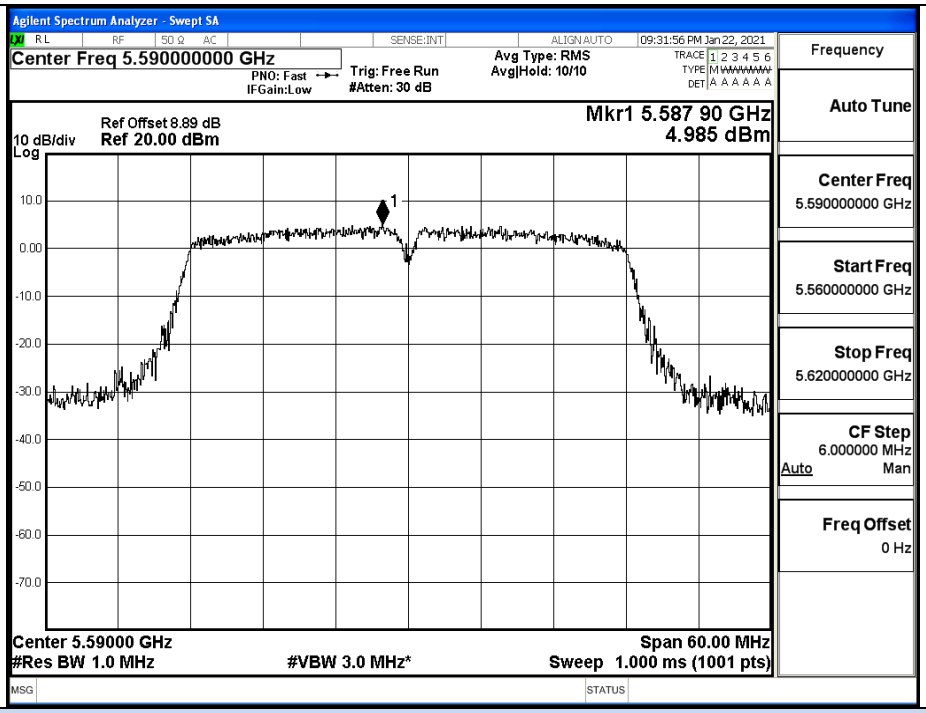

IEEE 802.11ac20 / Channel 120 / 5600MHz



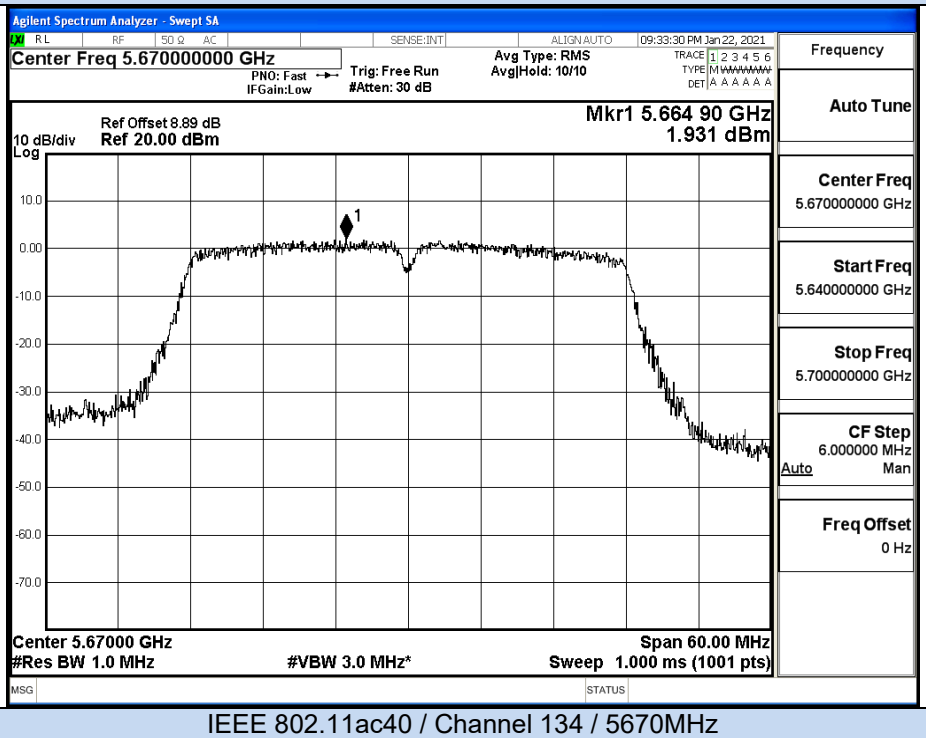

IEEE 802.11ac20 / Channel 140 / 5700MHz



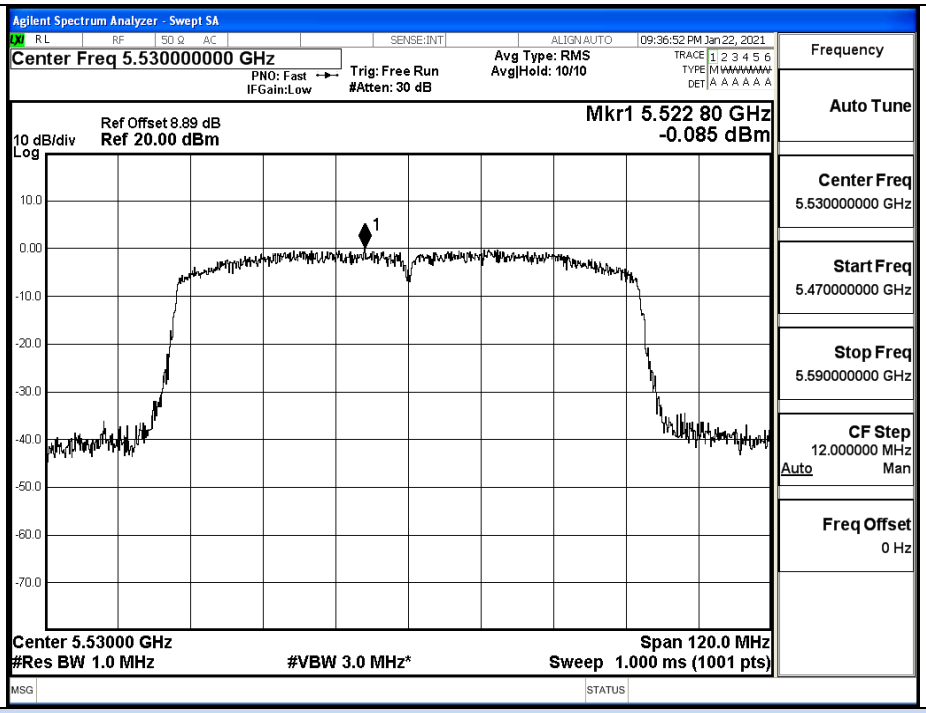

IEEE 802.11ac40 / Channel 102 / 5510MHz



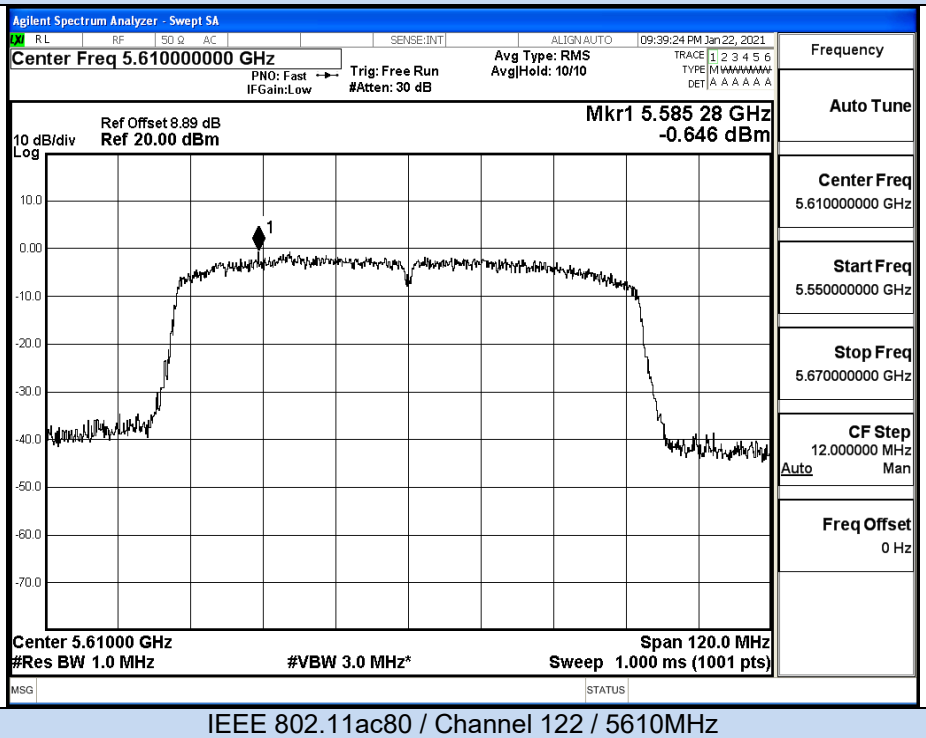

IEEE 802.11ac40 / Channel 118 / 5590MHz




IEEE 802.11ac40 / Channel 134 / 5670MHz




IEEE 802.11ac80 / Channel 106 / 5530MHz




IEEE 802.11ac80 / Channel 122 / 5610MHz

MIMO

| Test Mode | Channel | Frequency (MHz) | ANT 0 AVG Conducted Power (dBm) | ANT 1 AVG Conducted Power (dBm) | MIMO AVG Conducted Power (dBm) | Duty Cycle Factor(dB) | Report Power Density (dBm/MHz) | Limit (dBm/MHz) | Verdict |
|---|---|---|---|---|---|---|---|---|---|
| 11N20 SISO | 100 | 5500 | 5.19 | 7.71 | 9.64 | 0 | 9.64 | 11 | Pass |
| | 120 | 5600 | 4.22 | 6.84 | 8.73 | 0 | 8.73 | | Pass |
| | 140 | 5700 | 2.73 | 3.91 | 6.37 | 0 | 6.37 | | Pass |
| 11N40 SISO | 102 | 5510 | 3.28 | 5.17 | 7.34 | 0 | 7.34 | 11 | Pass |
| | 118 | 5590 | 2.60 | 4.88 | 6.90 | 0 | 6.90 | | Pass |
| | 134 | 5670 | 0.22 | 1.26 | 3.78 | 0 | 3.78 | | Pass |
| 11AC20 SISO | 100 | 5500 | 6.19 | 7.82 | 10.09 | 0 | 10.09 | 11 | Pass |
| | 120 | 5600 | 5.88 | 7.34 | 9.68 | 0 | 9.68 | | Pass |
| | 140 | 5700 | 2.62 | 3.91 | 6.32 | 0 | 6.32 | | Pass |
| 11AC40 SISO | 102 | 5510 | 3.22 | 2.17 | 5.74 | 0 | 5.74 | 11 | Pass |
| | 118 | 5590 | 2.28 | 4.99 | 6.85 | 0 | 6.85 | | Pass |
| | 134 | 5670 | 0.37 | 1.93 | 4.23 | 0 | 4.23 | | Pass |
| 11AC80 SISO | 106 | 5530 | 1.54 | -0.09 | 3.81 | 0 | 3.81 | 11 | Pass |
| | 122 | 5610 | -1.17 | -0.65 | 2.11 | 0 | 2.11 | | Pass |

Note: The frequency 5590&5610MHz data is only applicable to FCC, not applicable to ISED.

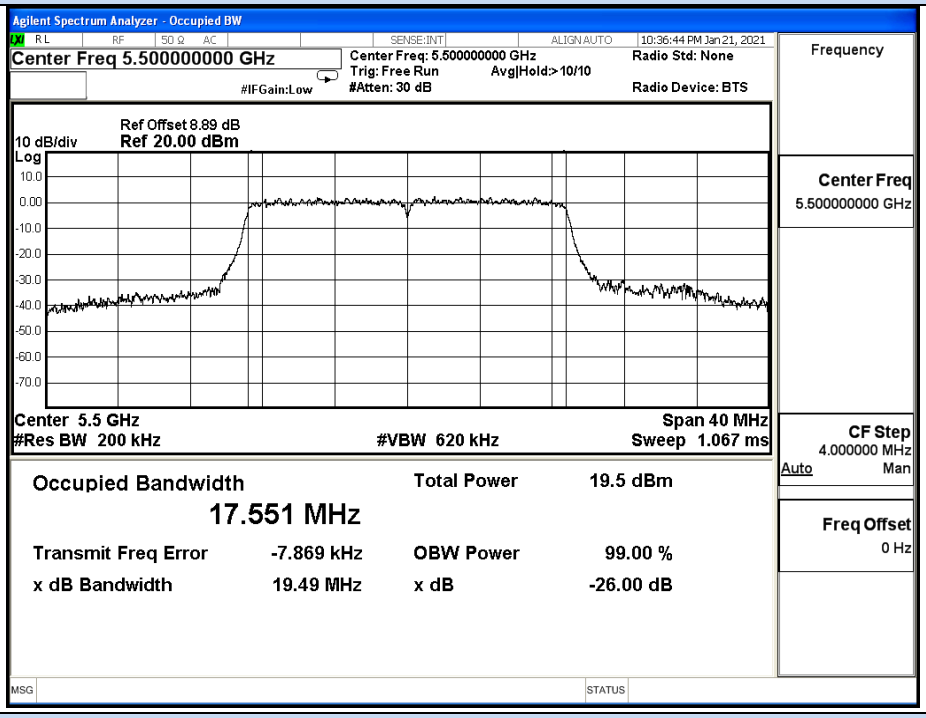
## B.4 Emission Bandwidth

**ANT0:**

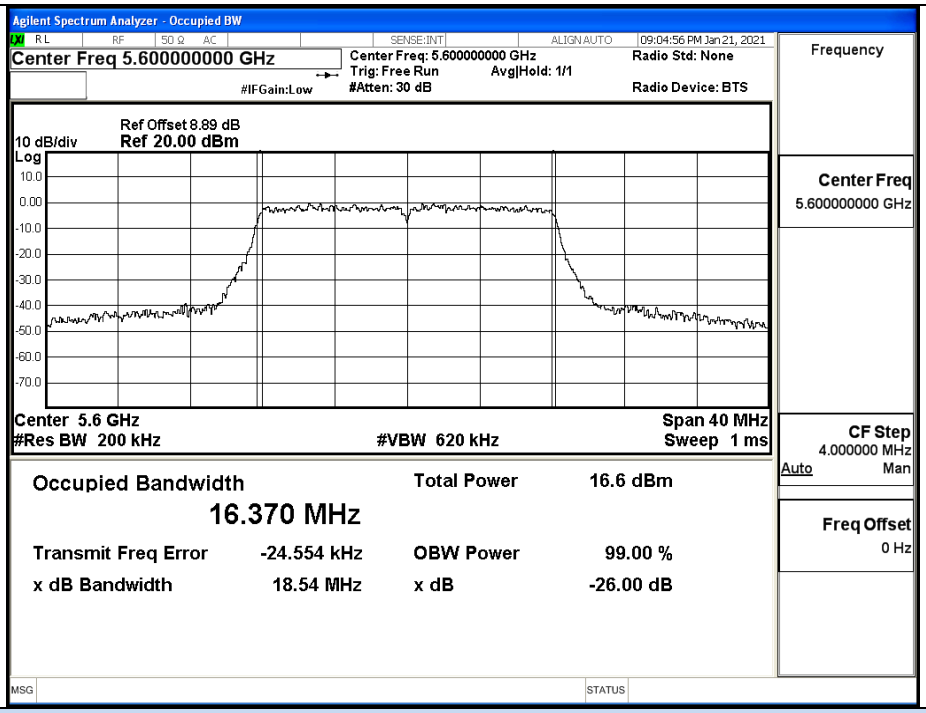
| Test Mode | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) | Limit (MHz) | Verdict |
|---|---|---|---|---|---|---|
| 11A | 100 | 5500 | 19.49 | 17.551 | No Limit | Pass |
| | 120 | 5600 | 18.54 | 16.370 | | Pass |
| | 140 | 5700 | 18.54 | 16.375 | | Pass |
| 11N20 SISO | 100 | 5500 | 19.45 | 17.511 | No Limit | Pass |
| | 120 | 5600 | 28.02 | 17.543 | | Pass |
| | 140 | 5700 | 19.67 | 17.547 | | Pass |
| 11N40 SISO | 102 | 5510 | 41.05 | 36.001 | No Limit | Pass |
| | 118 | 5590 | 40.61 | 36.007 | | Pass |
| | 134 | 5670 | 40.61 | 36.028 | | Pass |
| 11AC20 SISO | 100 | 5500 | 19.43 | 17.543 | No Limit | Pass |
| | 120 | 5600 | 19.51 | 17.544 | | Pass |
| | 140 | 5700 | 19.45 | 17.544 | | Pass |
| 11AC40 SISO | 102 | 5510 | 40.79 | 36.011 | No Limit | Pass |
| | 118 | 5590 | 40.81 | 36.001 | | Pass |
| | 134 | 5670 | 40.86 | 36.001 | | Pass |
| 11AC80 SISO | 106 | 5530 | 80.45 | 74.623 | No Limit | Pass |
| | 122 | 5610 | 80.53 | 74.632 | | Pass |

Note: The frequency 5590&5610MHz data is only applicable to FCC, not applicable to ISED.

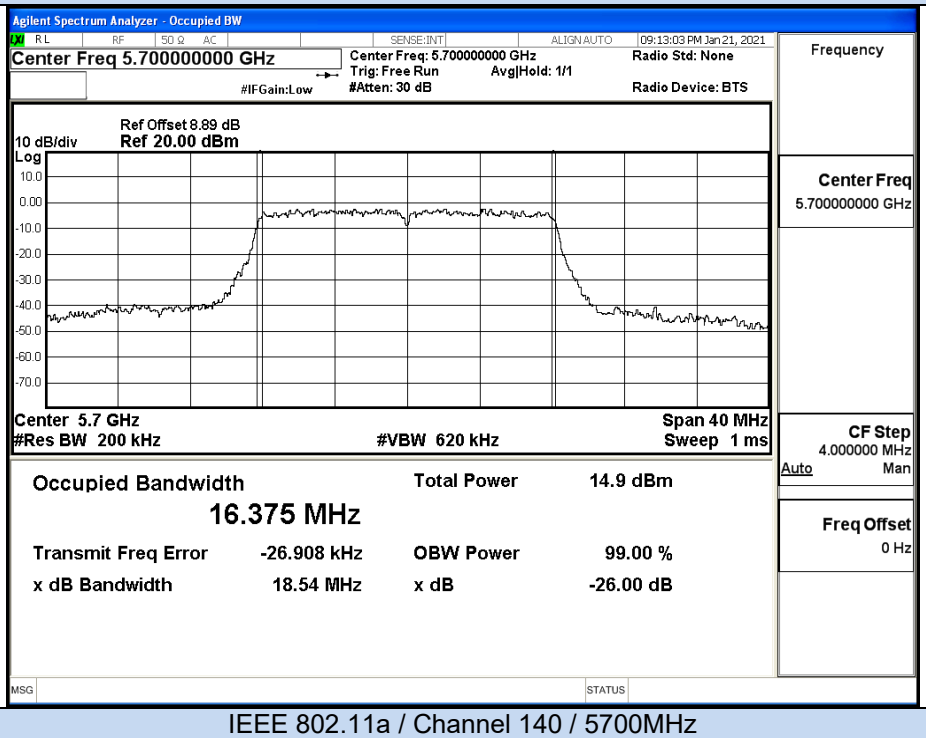
26dB Bandwidth




IEEE 802.11a / Channel 100 / 5500MHz

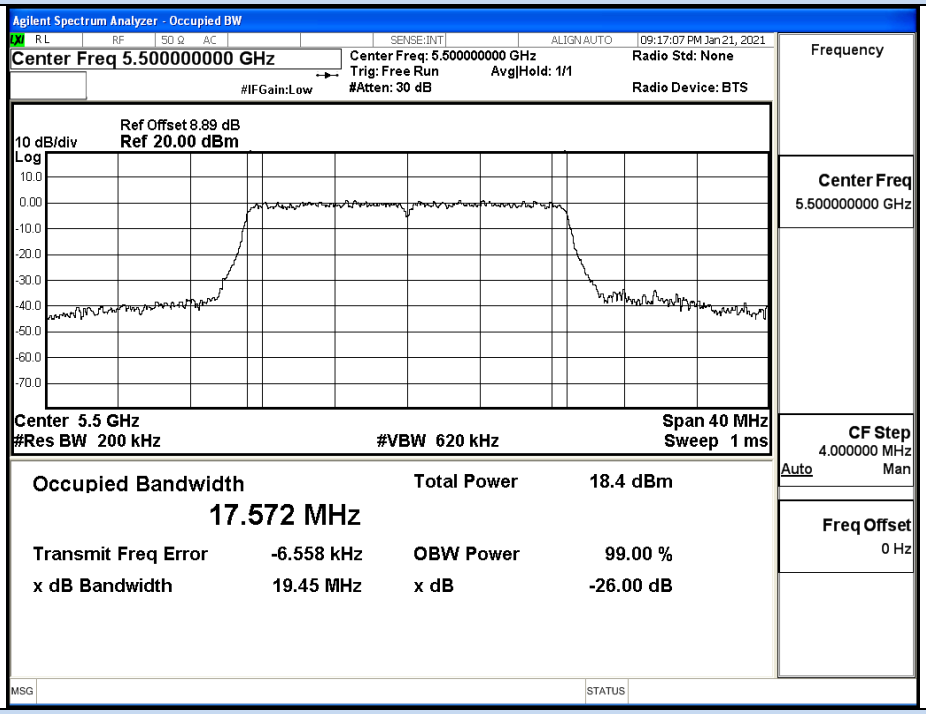



IEEE 802.11a / Channel 120 / 5600MHz

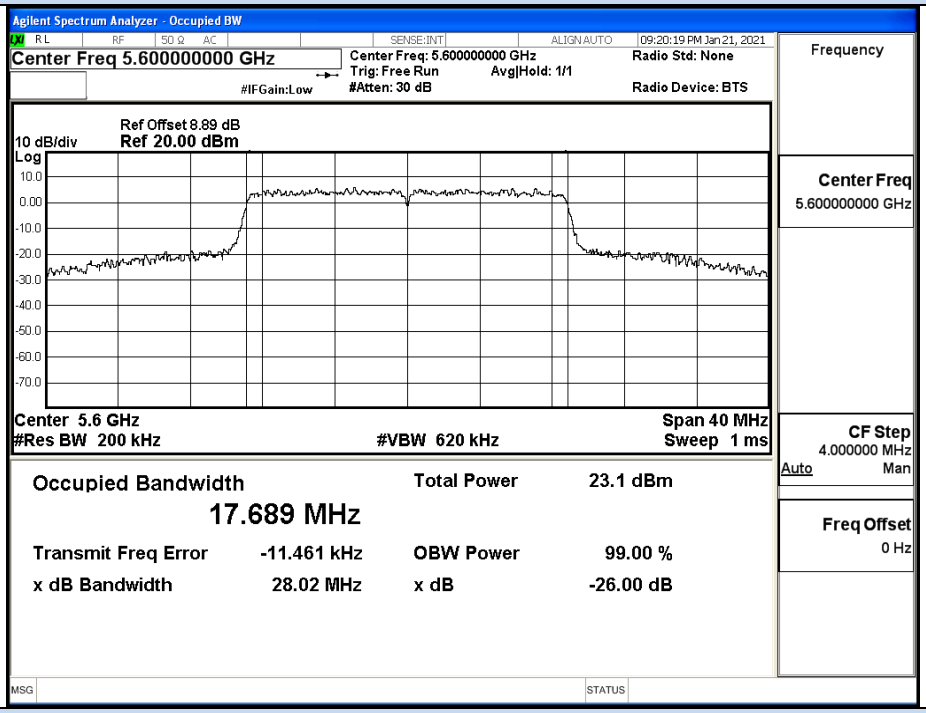



IEEE 802.11a / Channel 140 / 5700MHz

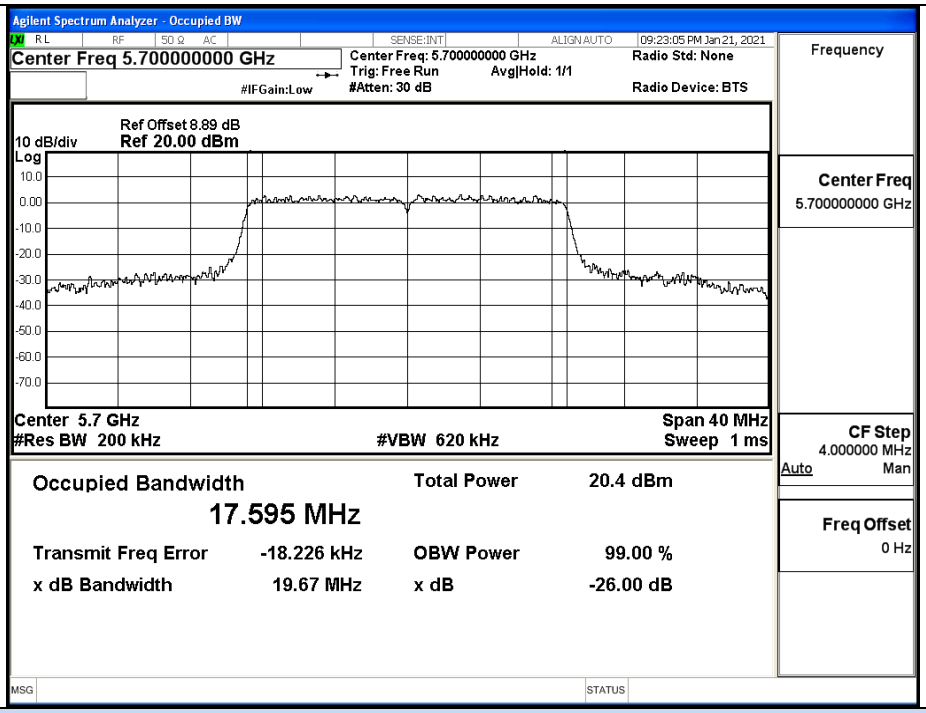
26dB Bandwidth



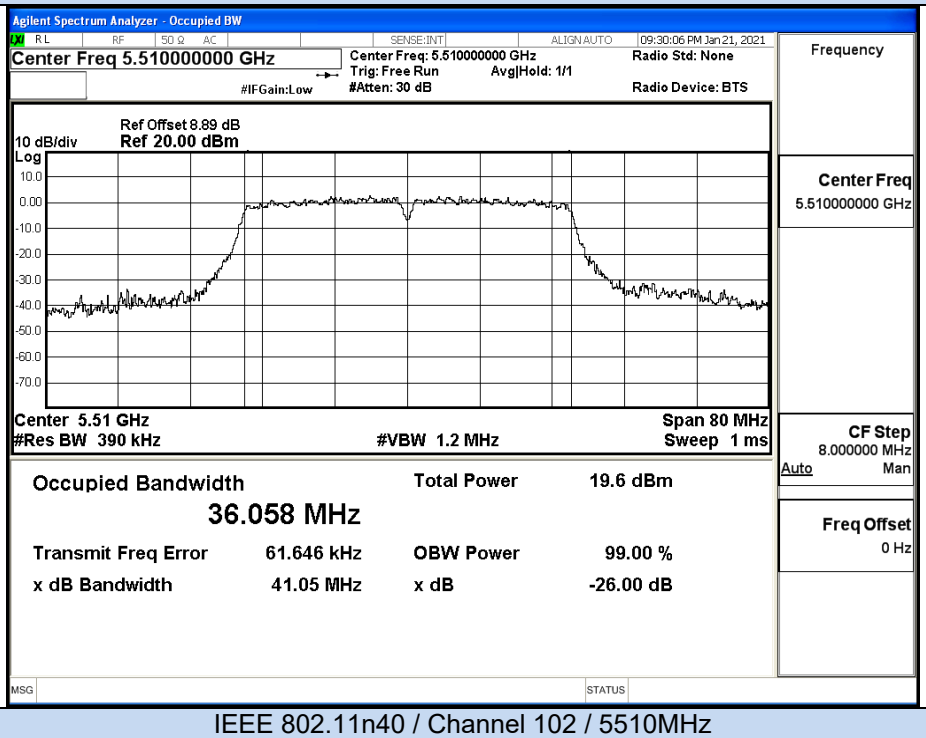

IEEE 802.11n20 / Channel 100 / 5500MHz



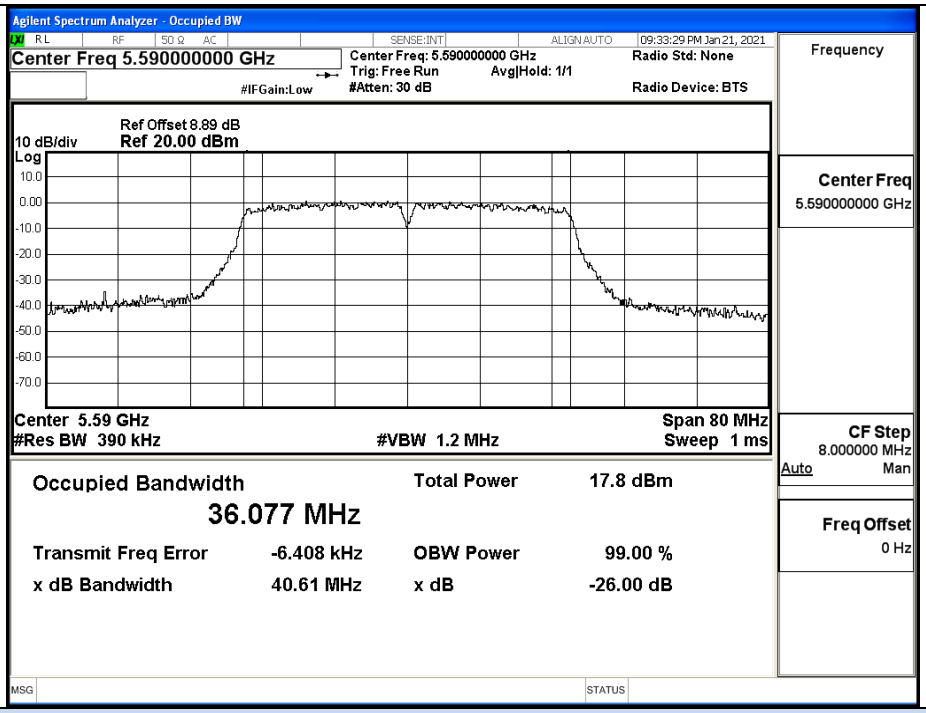

IEEE 802.11n20 / Channel 120 / 5600MHz



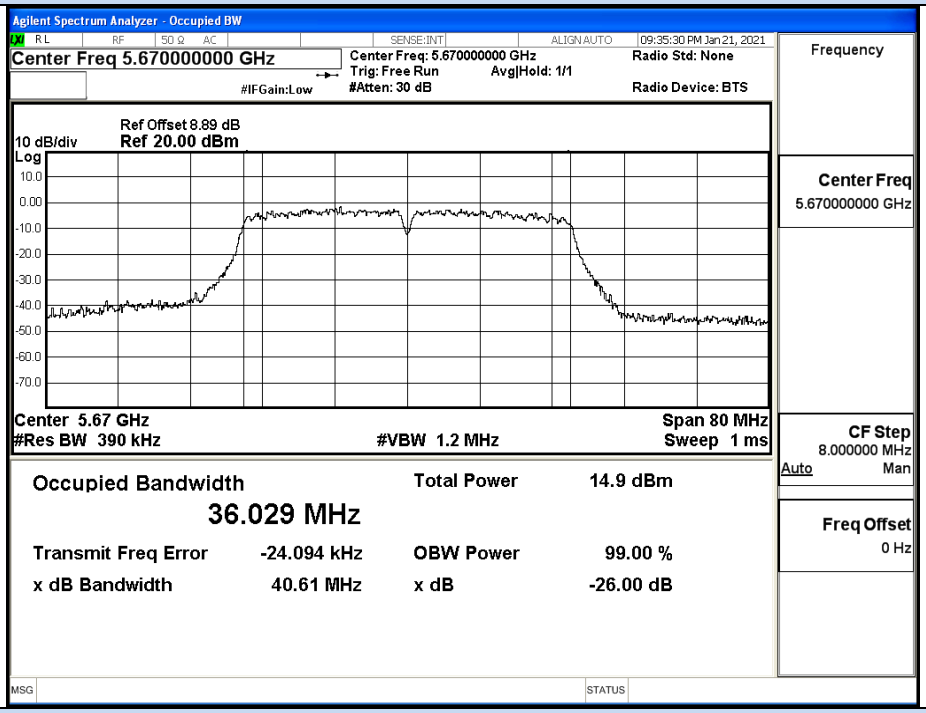

IEEE 802.11n20 / Channel 140 / 5700MHz



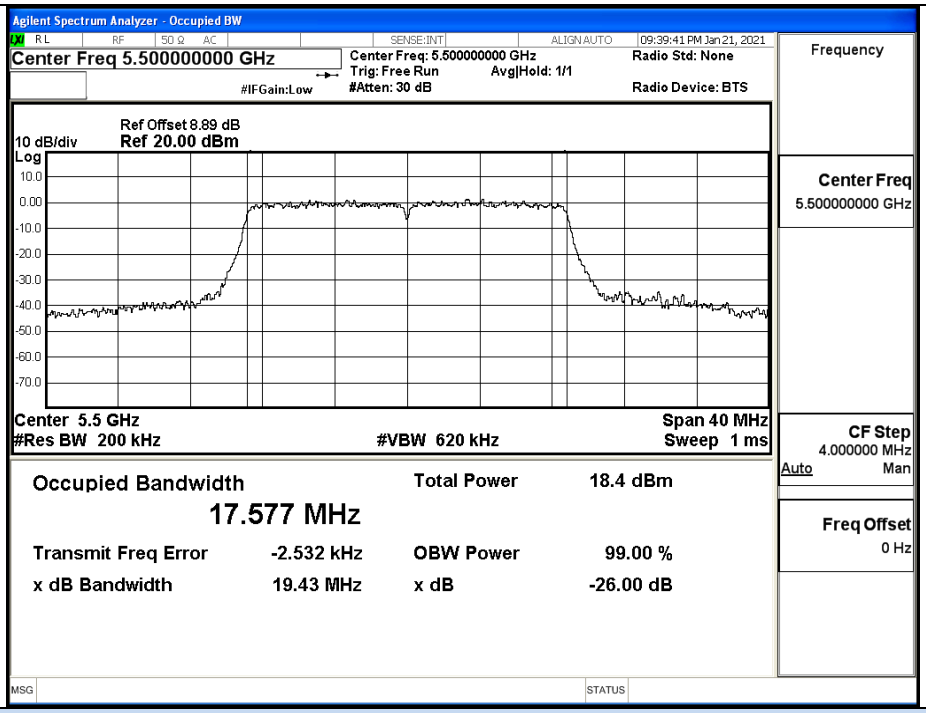

IEEE 802.11n40 / Channel 102 / 5510MHz



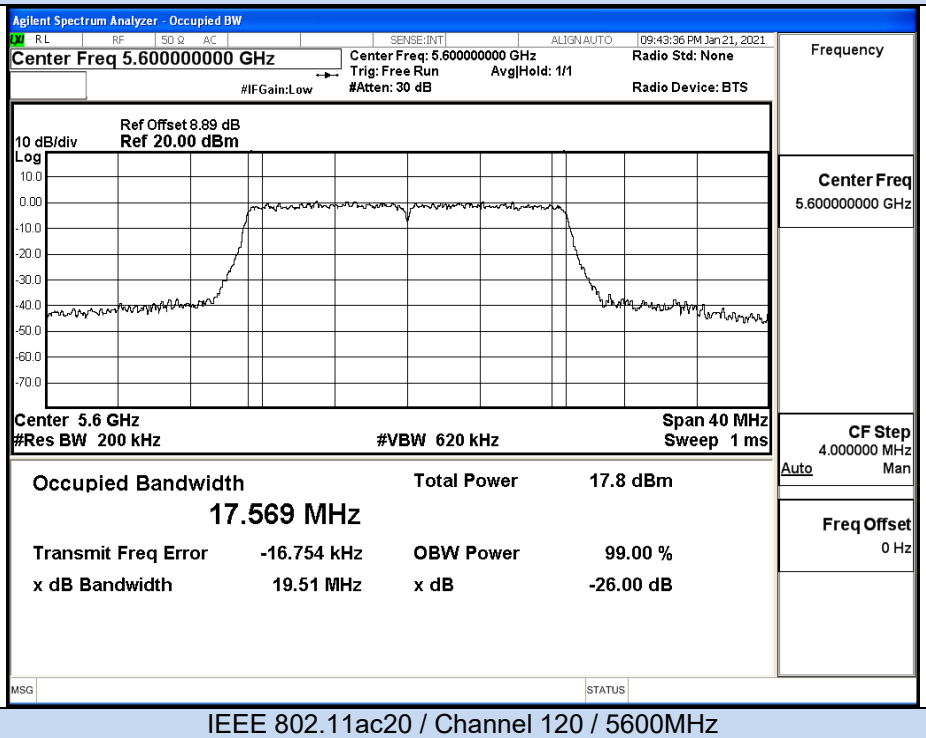

IEEE 802.11n40 / Channel 118 / 5590MHz



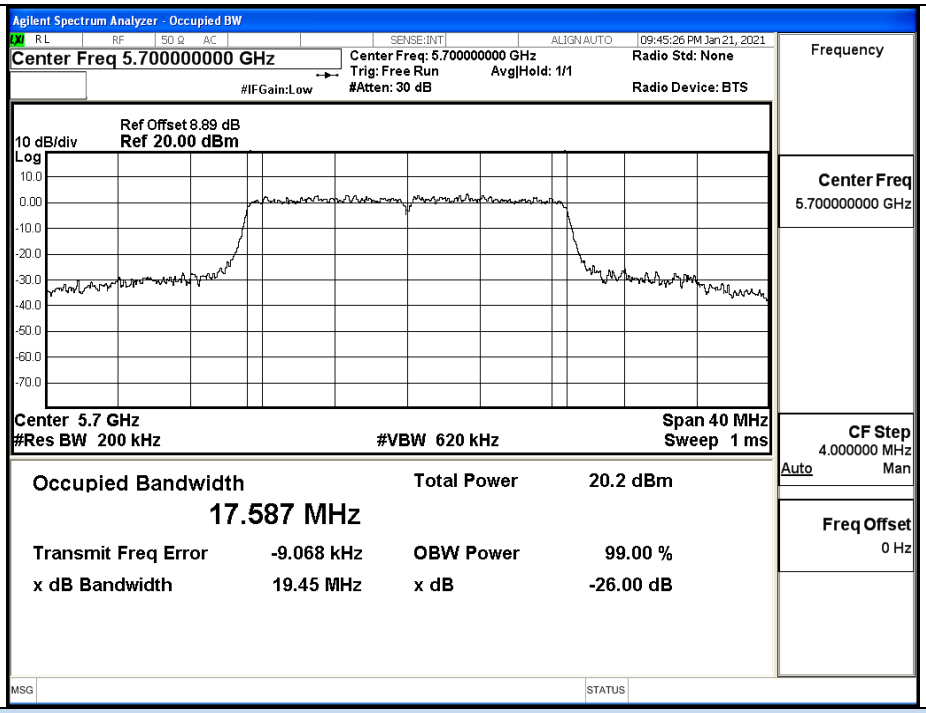

IEEE 802.11n40 / Channel 134 / 5670MHz



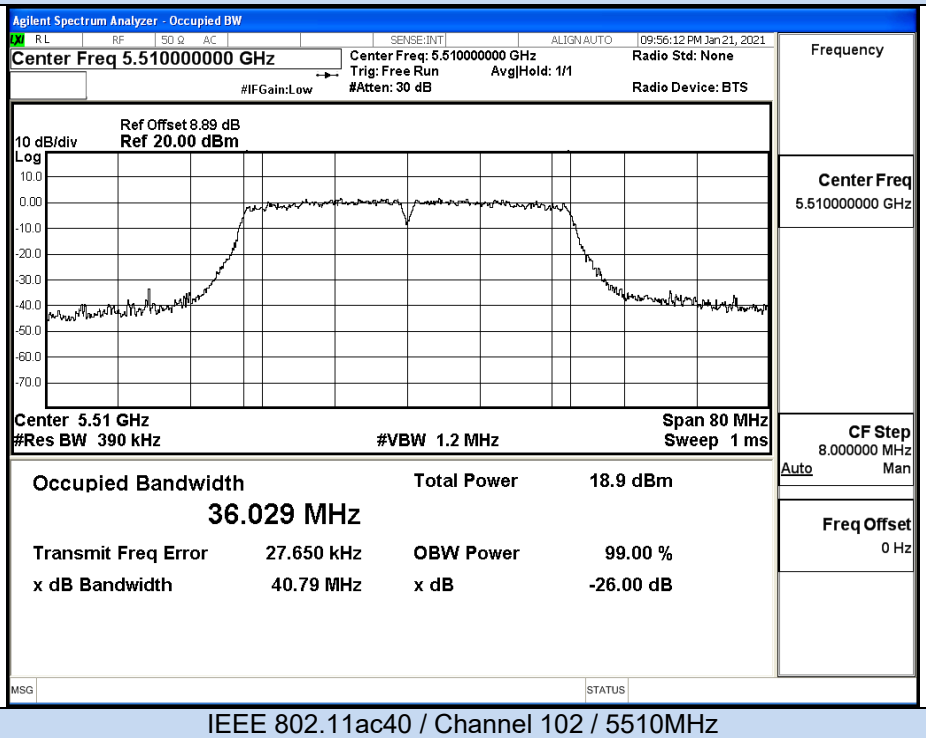

IEEE 802.11ac20 / Channel 100 / 5500MHz



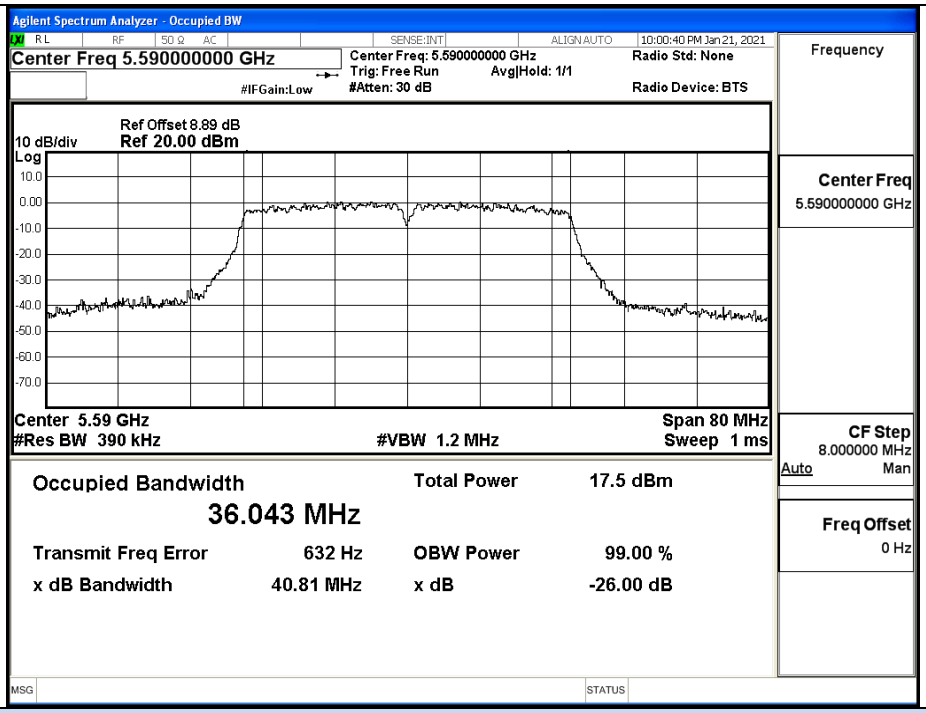

IEEE 802.11ac20 / Channel 120 / 5600MHz



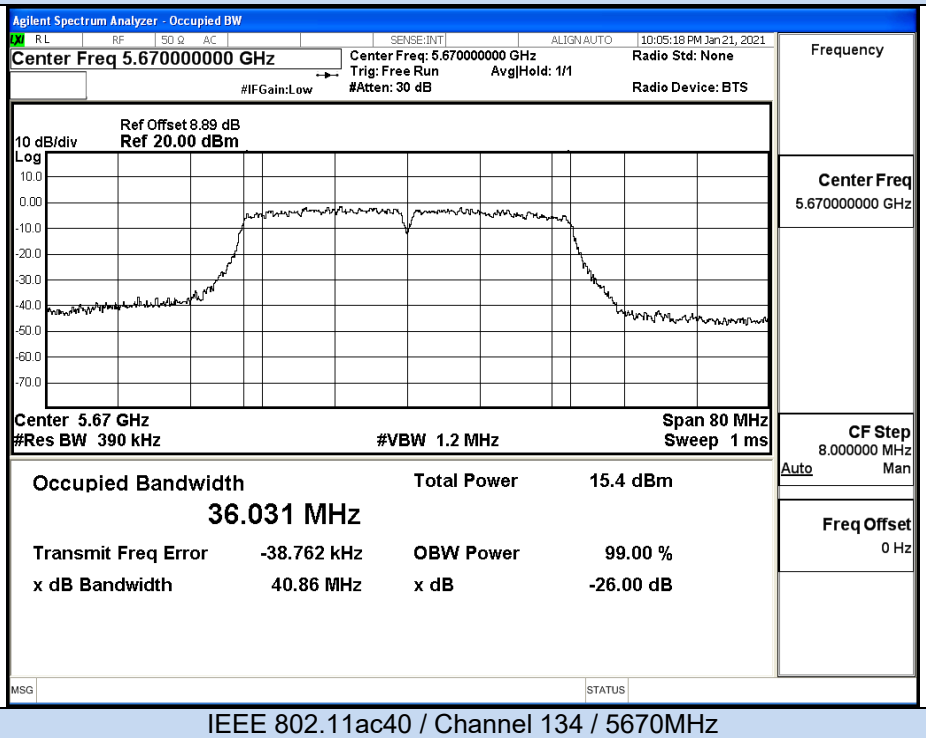

IEEE 802.11ac20 / Channel 140 / 5700MHz



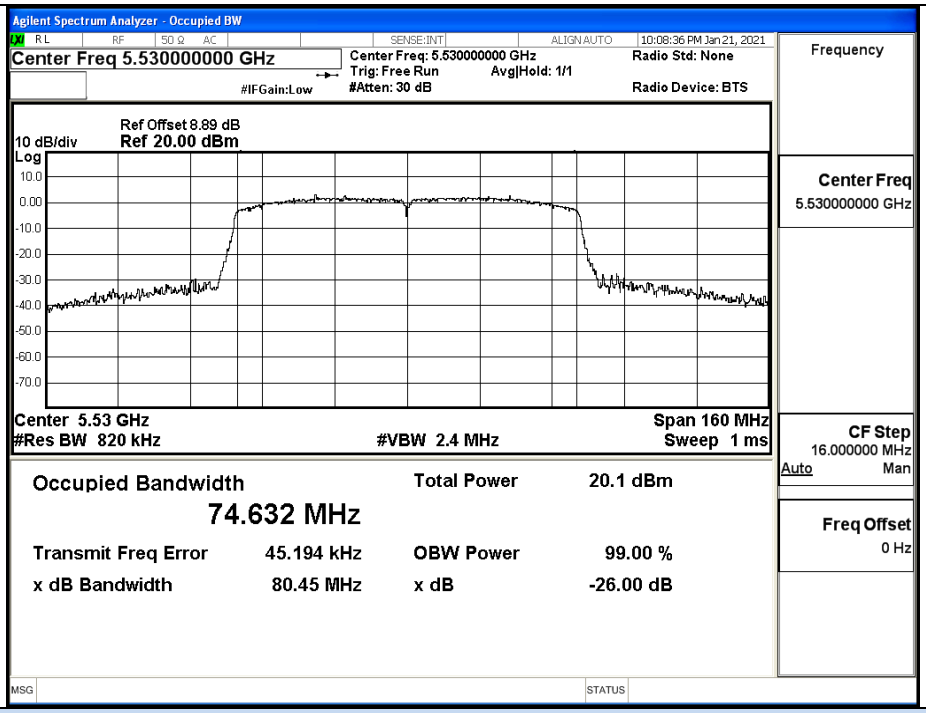

IEEE 802.11ac40 / Channel 102 / 5510MHz



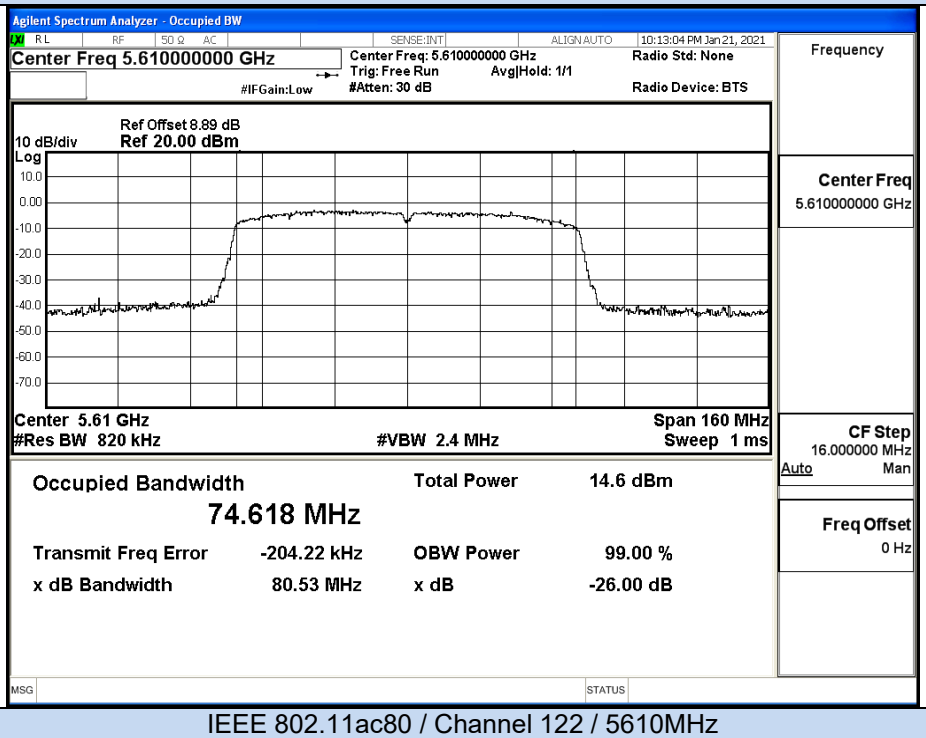

IEEE 802.11ac40 / Channel 118 / 5590MHz




IEEE 802.11ac40 / Channel 134 / 5670MHz

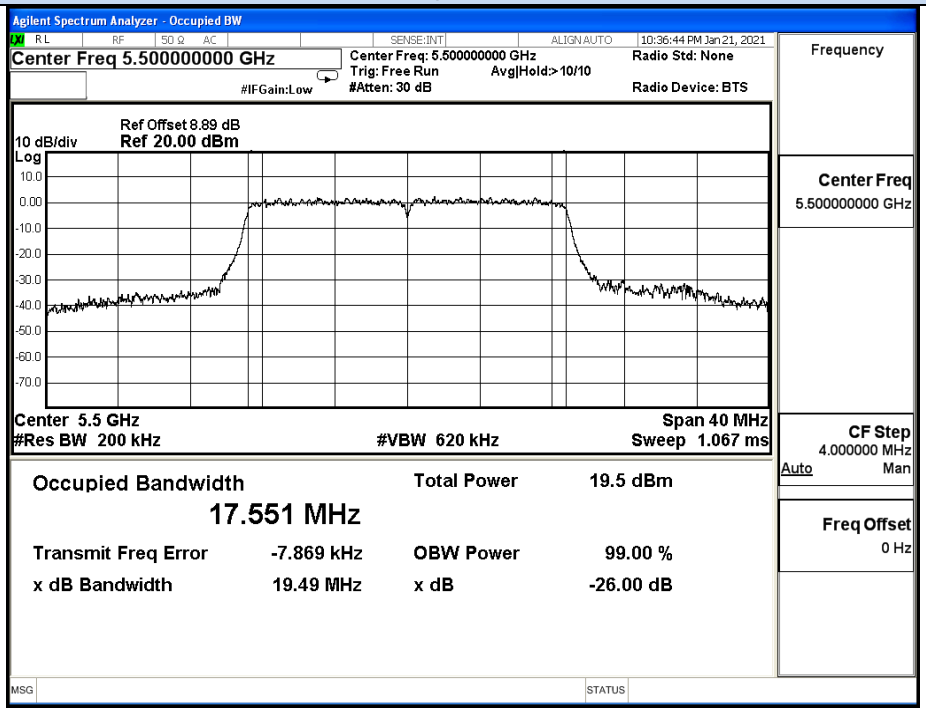



IEEE 802.11ac80 / Channel 106 / 5530MHz

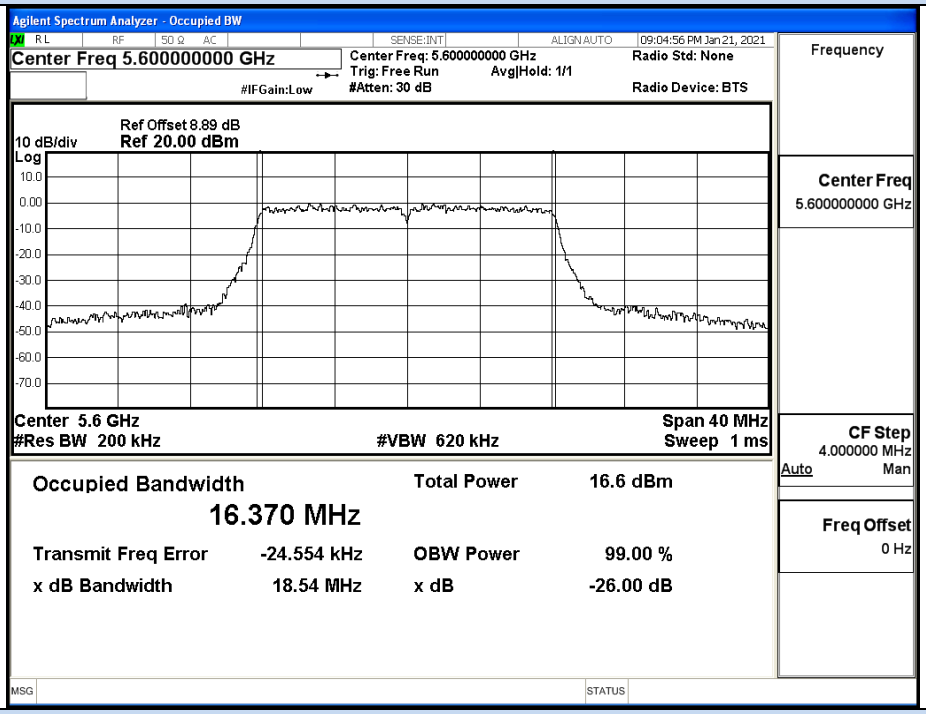



IEEE 802.11ac80 / Channel 122 / 5610MHz

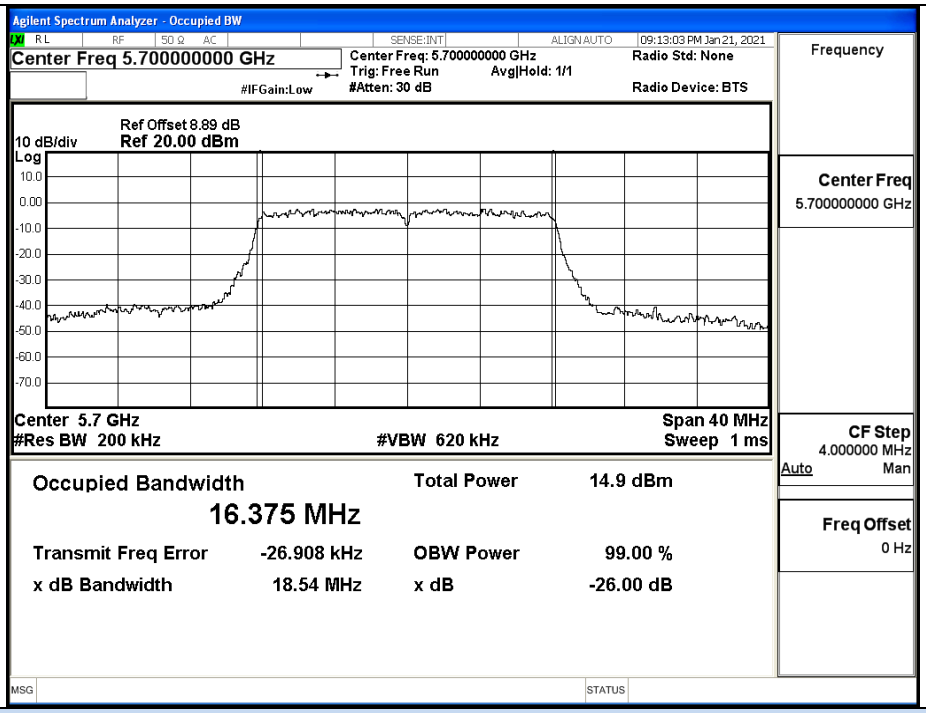
99% Occupied Bandwidth




IEEE 802.11a / Channel 100 / 5500MHz

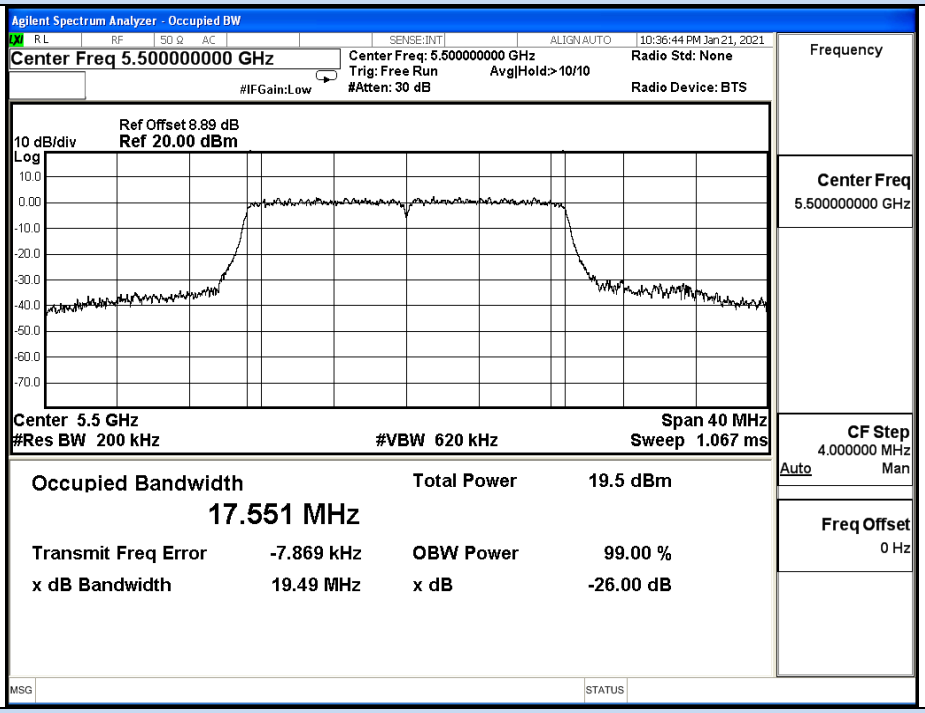



IEEE 802.11a / Channel 120 / 5600MHz

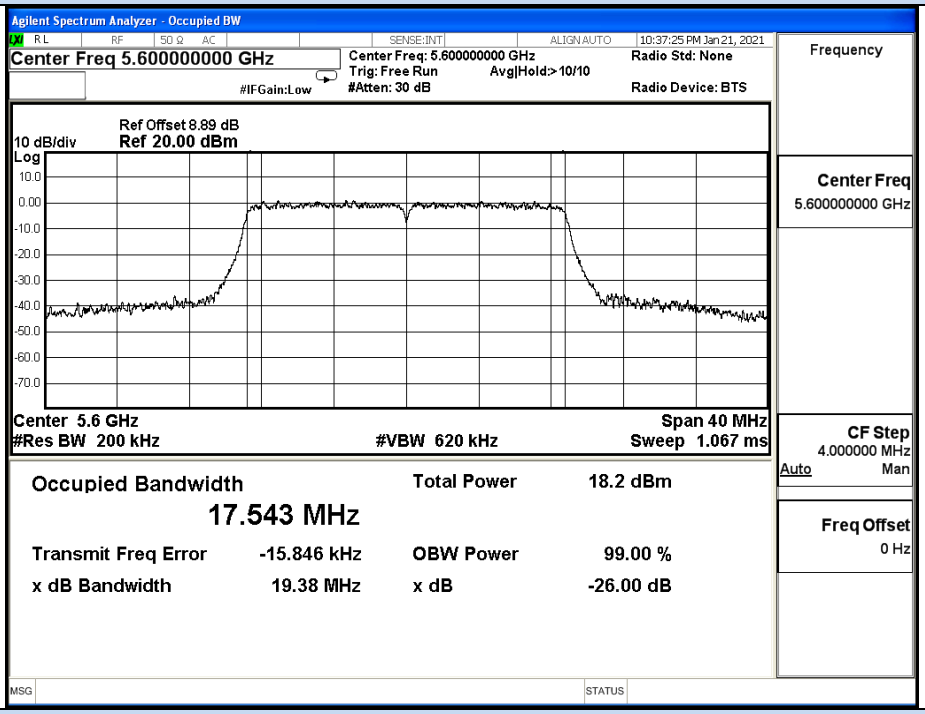



IEEE 802.11a / Channel 140 / 5700MHz

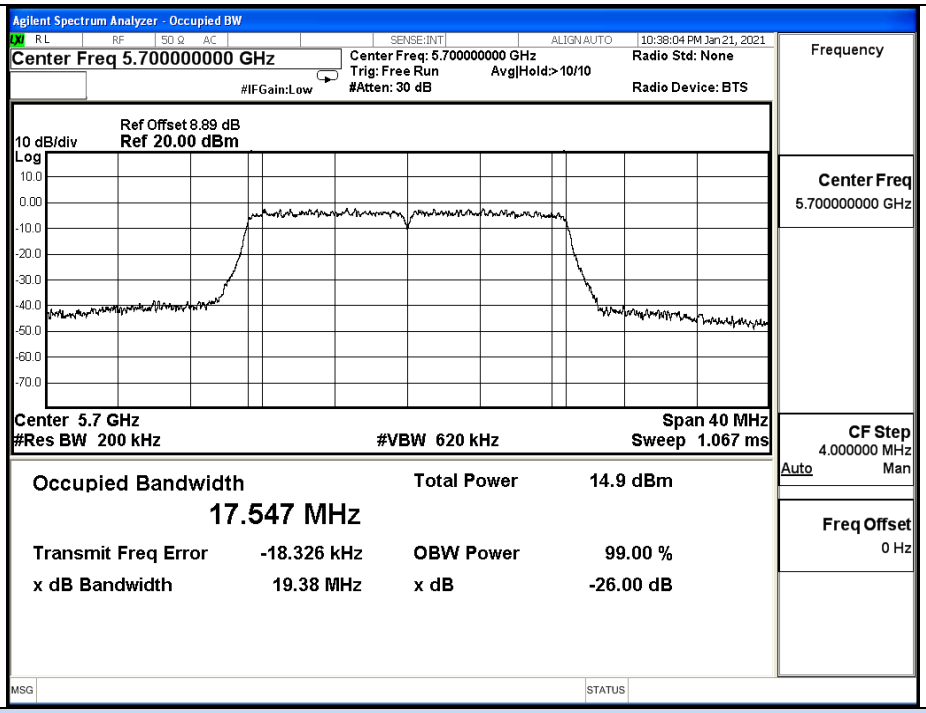
99% Occupied Bandwidth



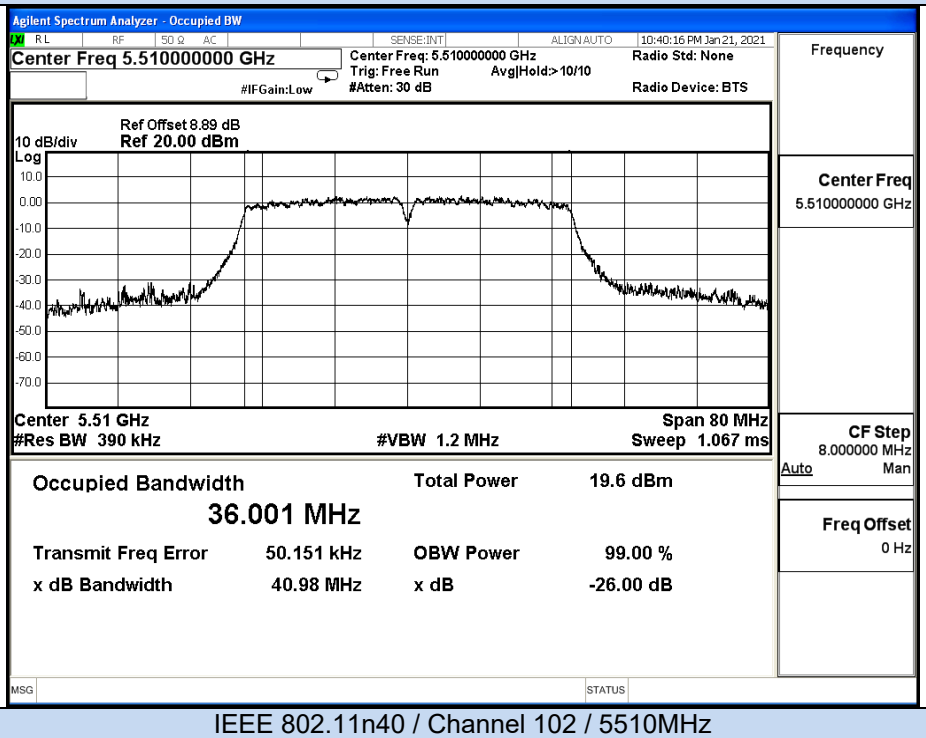

IEEE 802.11n20 / Channel 100 / 5500MHz



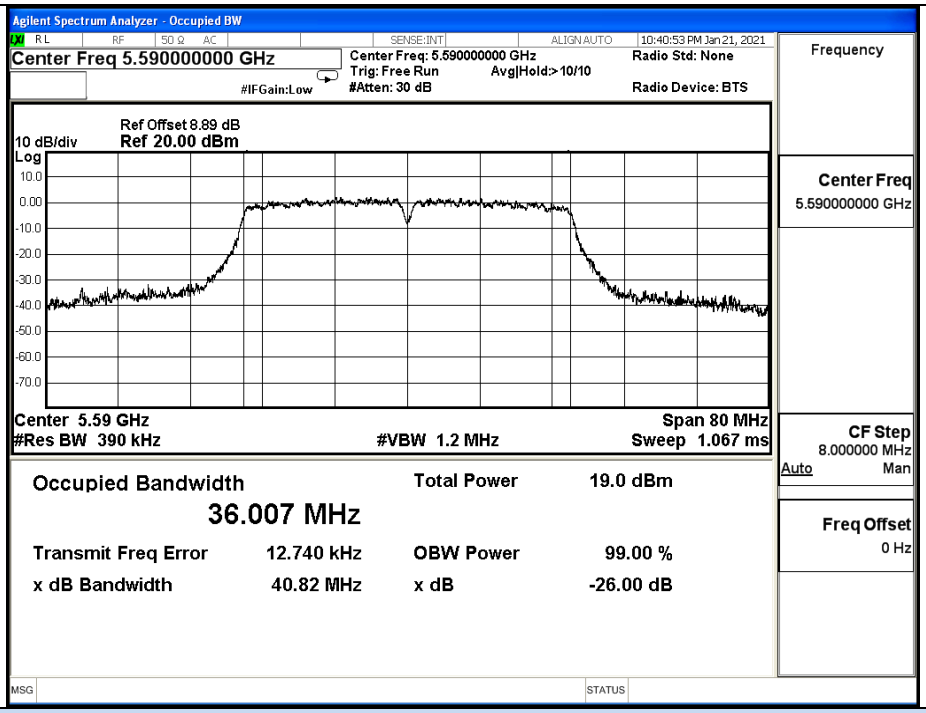

IEEE 802.11n20 / Channel 120 / 5600MHz



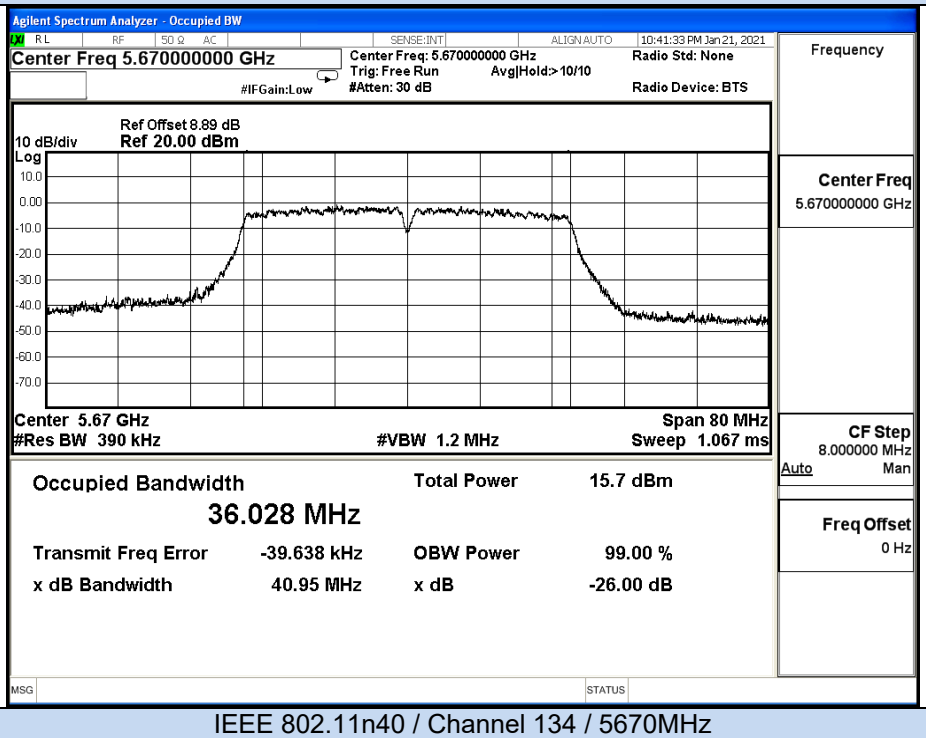

IEEE 802.11n20 / Channel 140 / 5700MHz



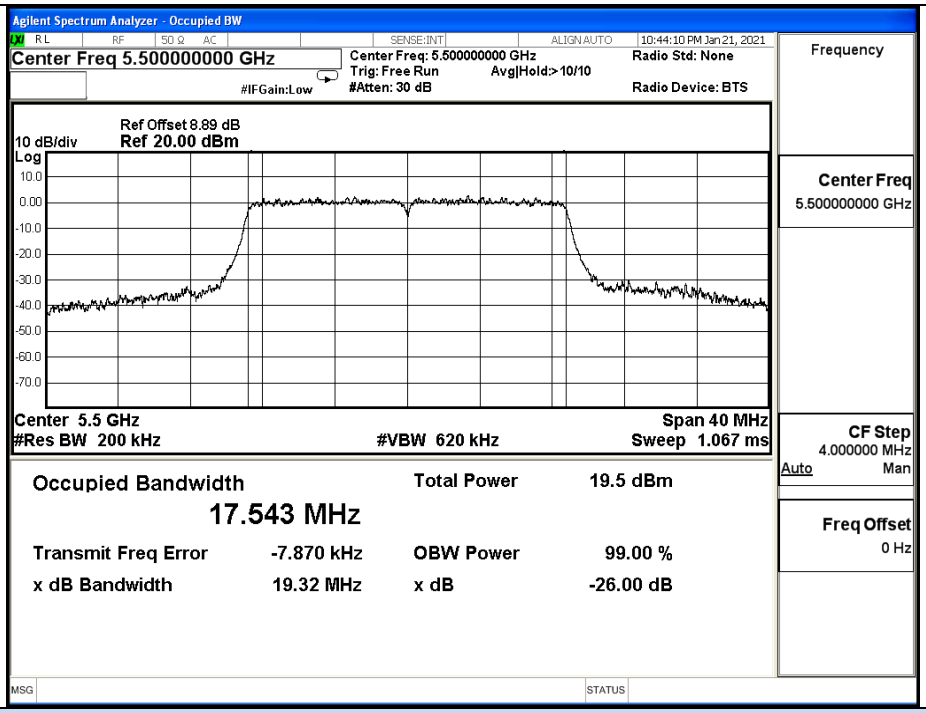

IEEE 802.11n40 / Channel 102 / 5510MHz



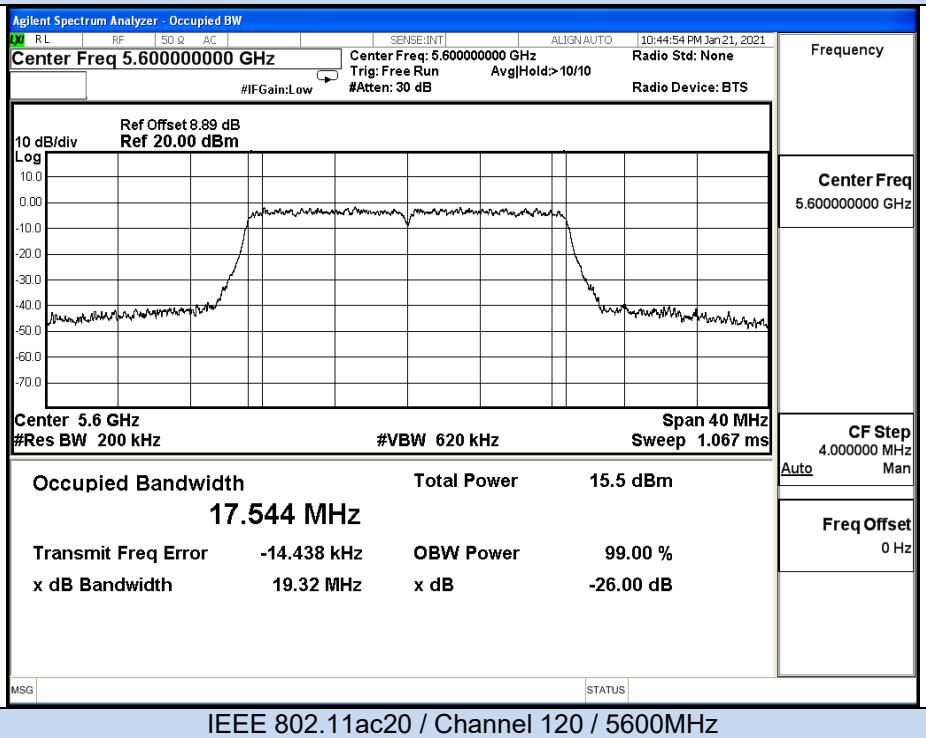

IEEE 802.11n40 / Channel 118 / 5590MHz



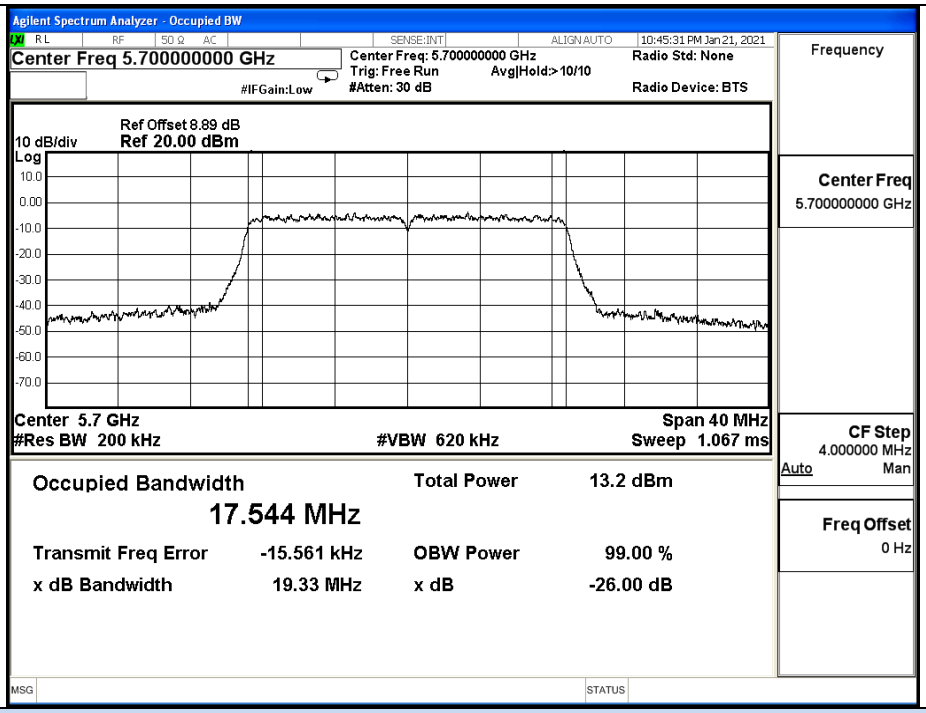

IEEE 802.11n40 / Channel 134 / 5670MHz



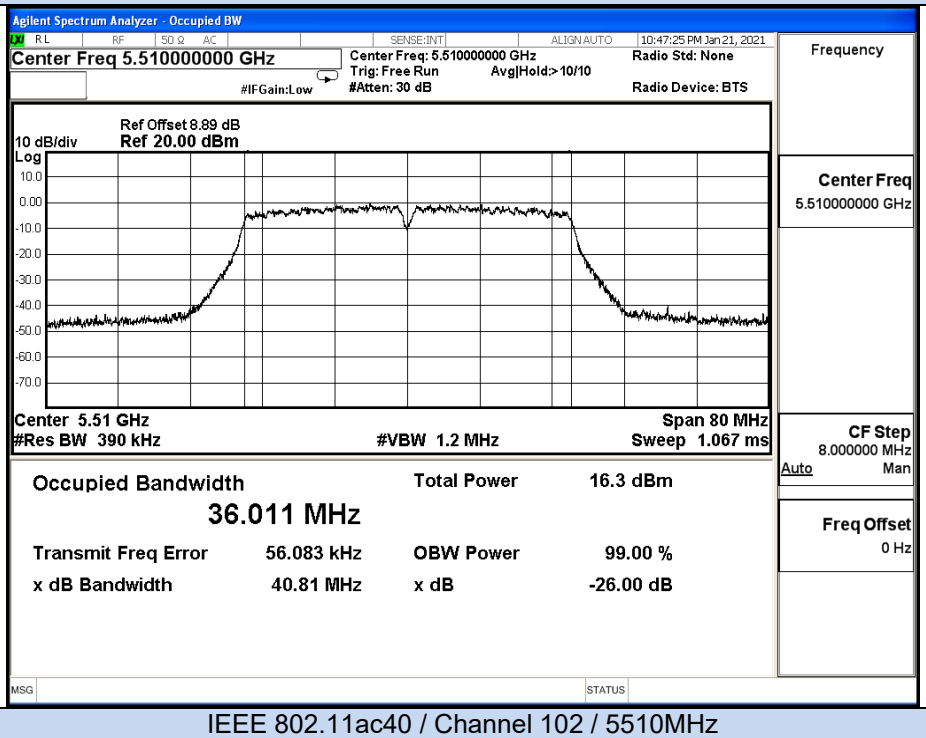

IEEE 802.11ac20 / Channel 100 / 5500MHz



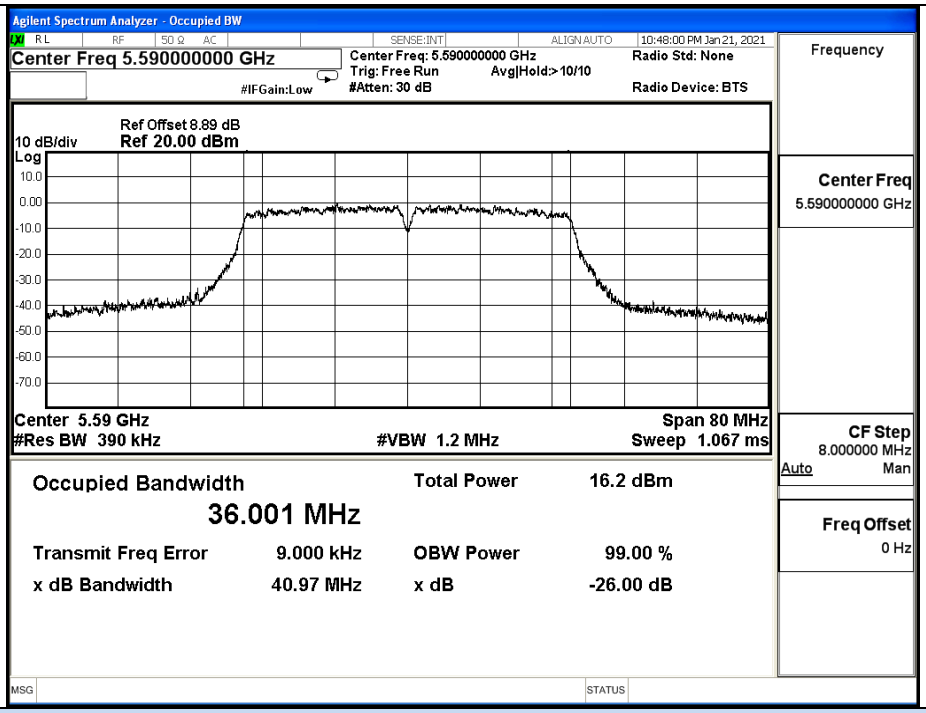

IEEE 802.11ac20 / Channel 120 / 5600MHz



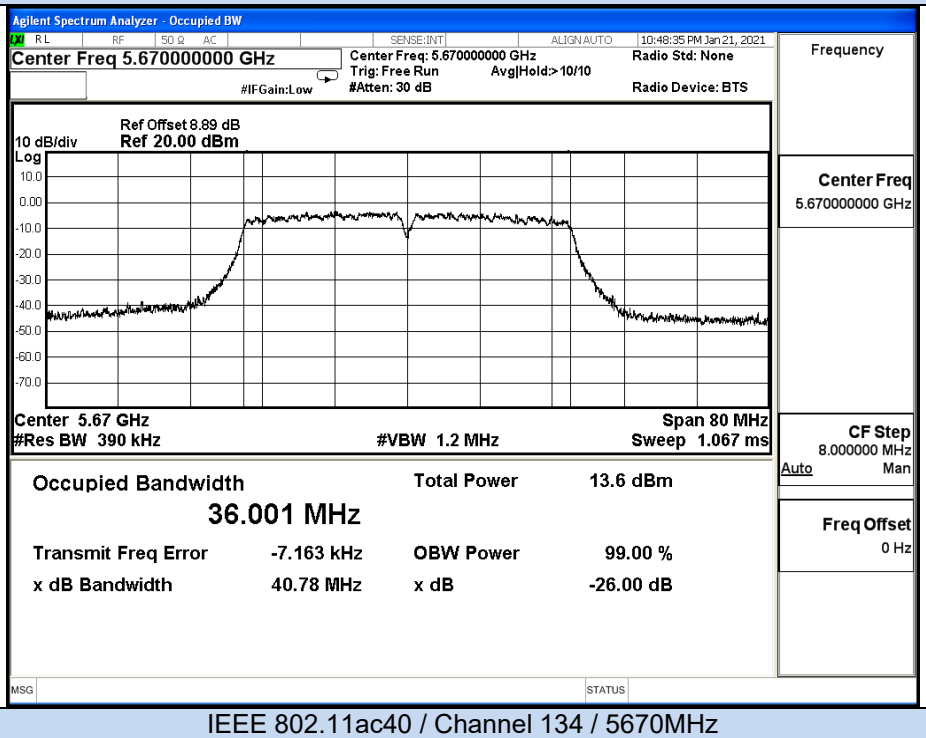

IEEE 802.11ac20 / Channel 140 / 5700MHz



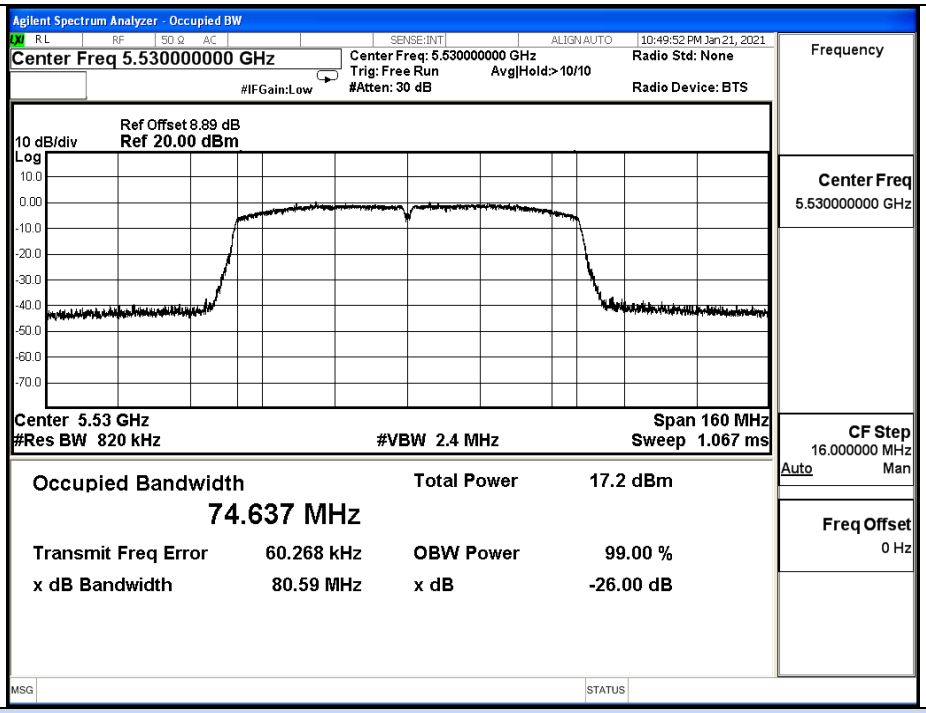

IEEE 802.11ac40 / Channel 102 / 5510MHz



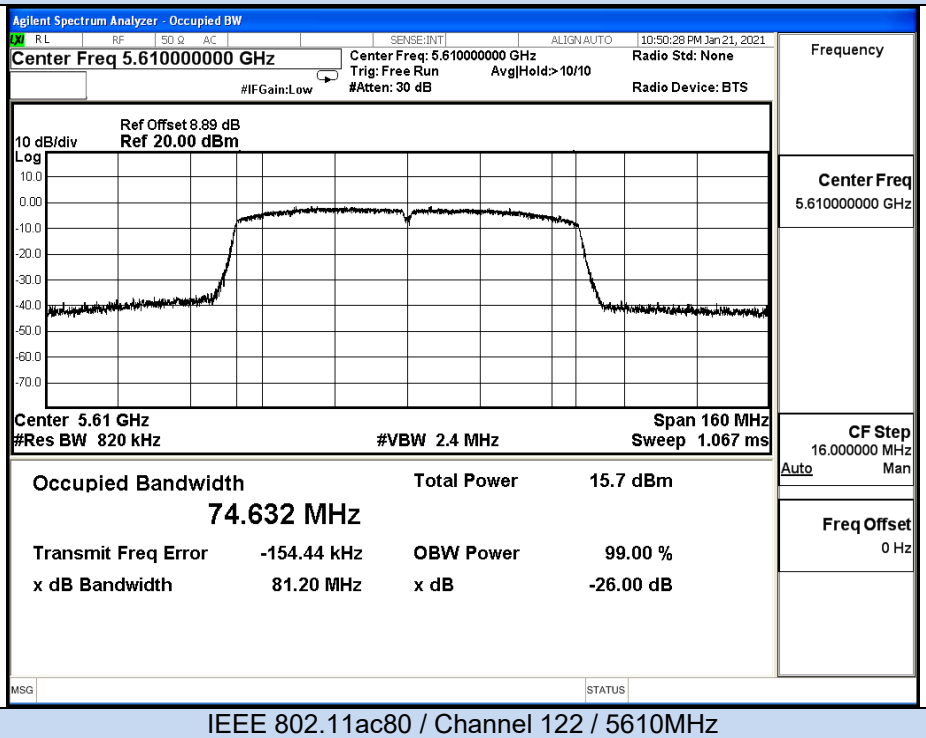

IEEE 802.11ac40 / Channel 118 / 5590MHz




IEEE 802.11ac40 / Channel 134 / 5670MHz




IEEE 802.11ac80 / Channel 106 / 5530MHz




IEEE 802.11ac80 / Channel 122 / 5610MHz