# Appendix C

# RF Test Data for 5.3G WLAN (Conducted Measurement)

**Product Name: Zettle Terminal**
**Trade Mark: Zettle Terminal**
**Test Model: Zettle Terminal**

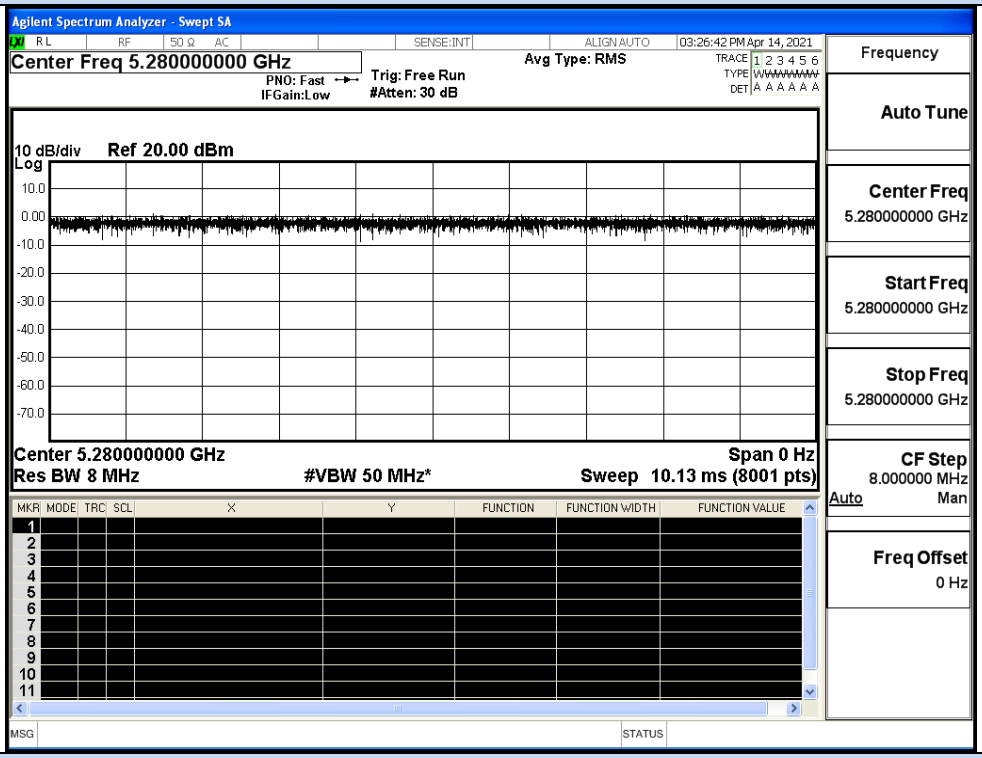
**Environmental Conditions**

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

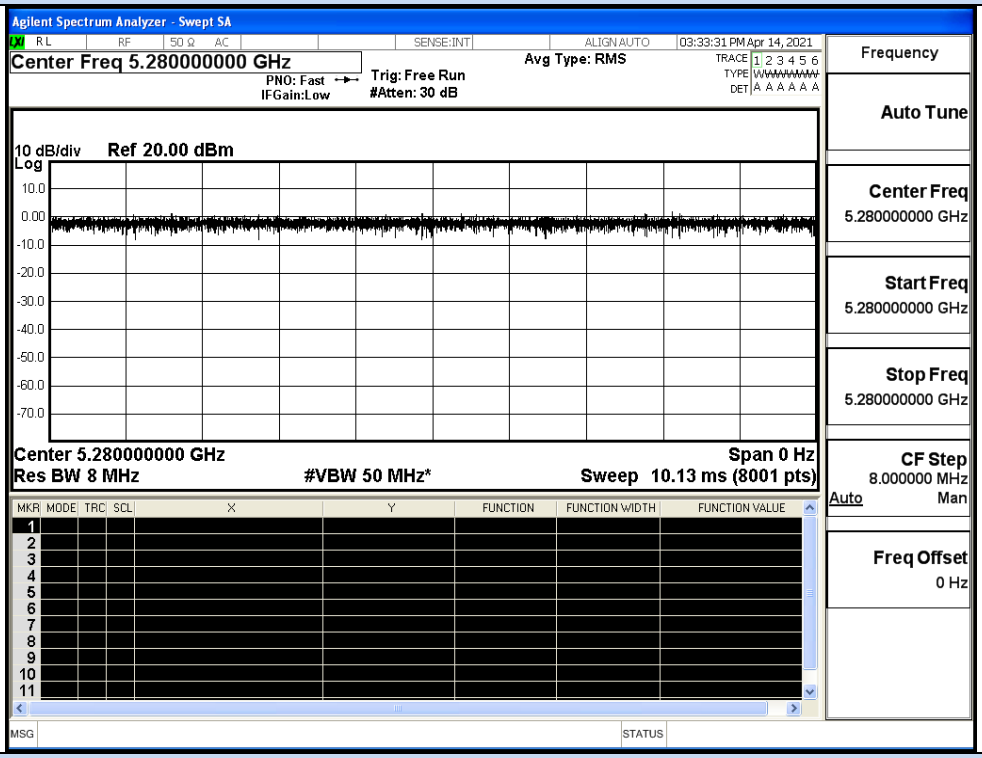
## C.1 Duty Cycle

| Test Mode | Test Frequency (MHz) | Duty Cycle (%) | 10log(1/x) Factor (dB) | 1/B Minimum VBW(KHz) |
|---|---|---|---|---|
| 11A | 5280 | 100 | 0.00 | 0.01 |
| 11N20 SISO | 5280 | 100 | 0.00 | 0.01 |
| 11N40 SISO | 5270 | 100 | 0.00 | 0.01 |
| 11AC20 SISO | 5280 | 100 | 0.00 | 0.01 |
| 11AC40 SISO | 5270 | 100 | 0.00 | 0.01 |
| 11AC80 SISO | 5290 | 100 | 0.00 | 0.01 |

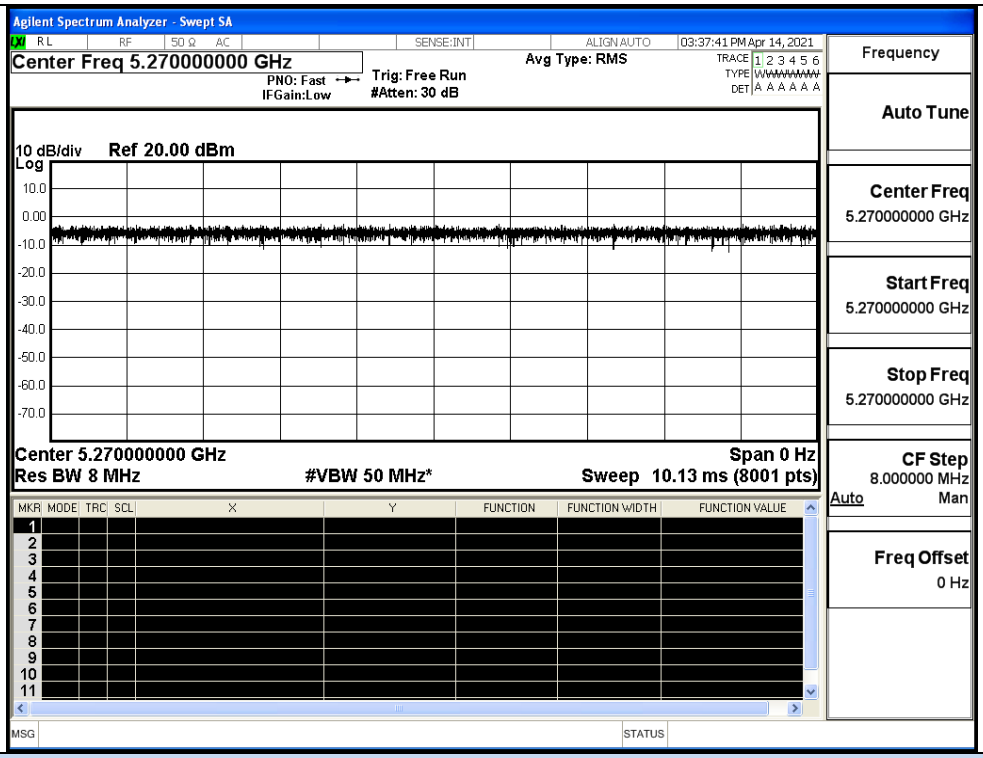
## On Time and Duty Cycle



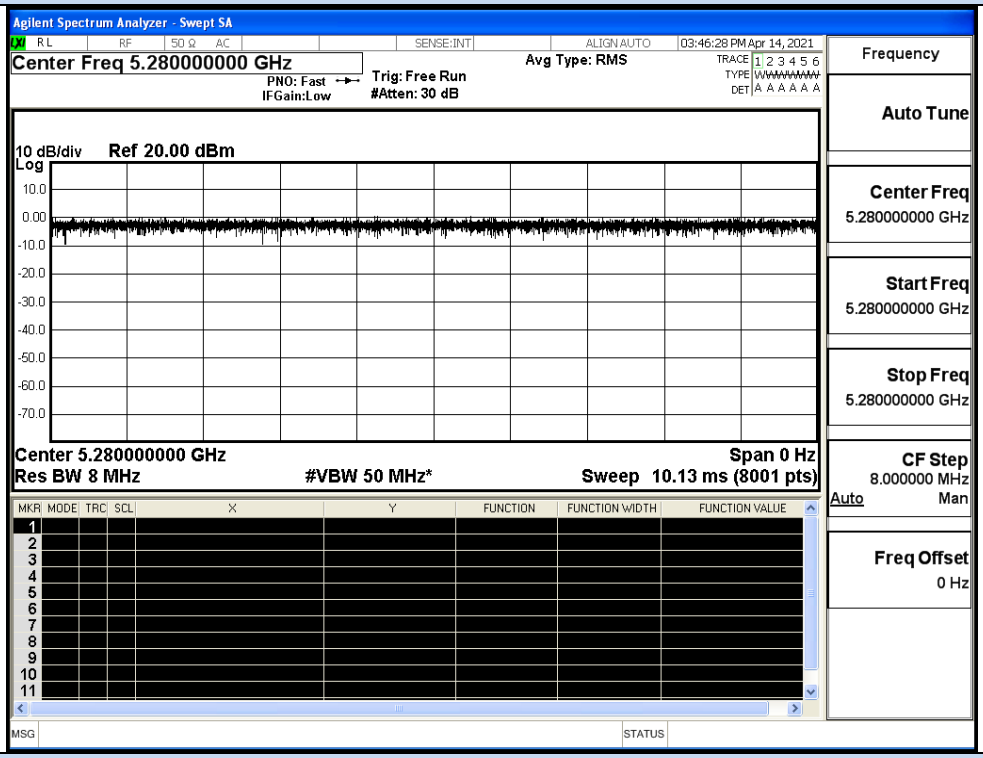

IEEE 802.11a



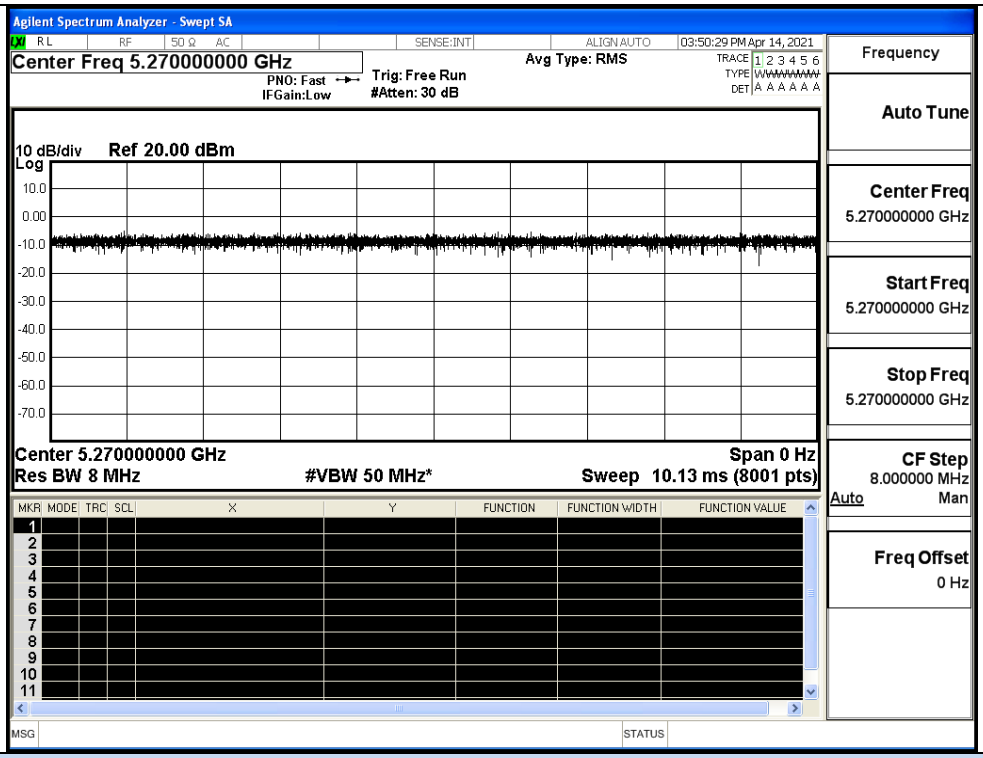

IEEE 802.11n HT20



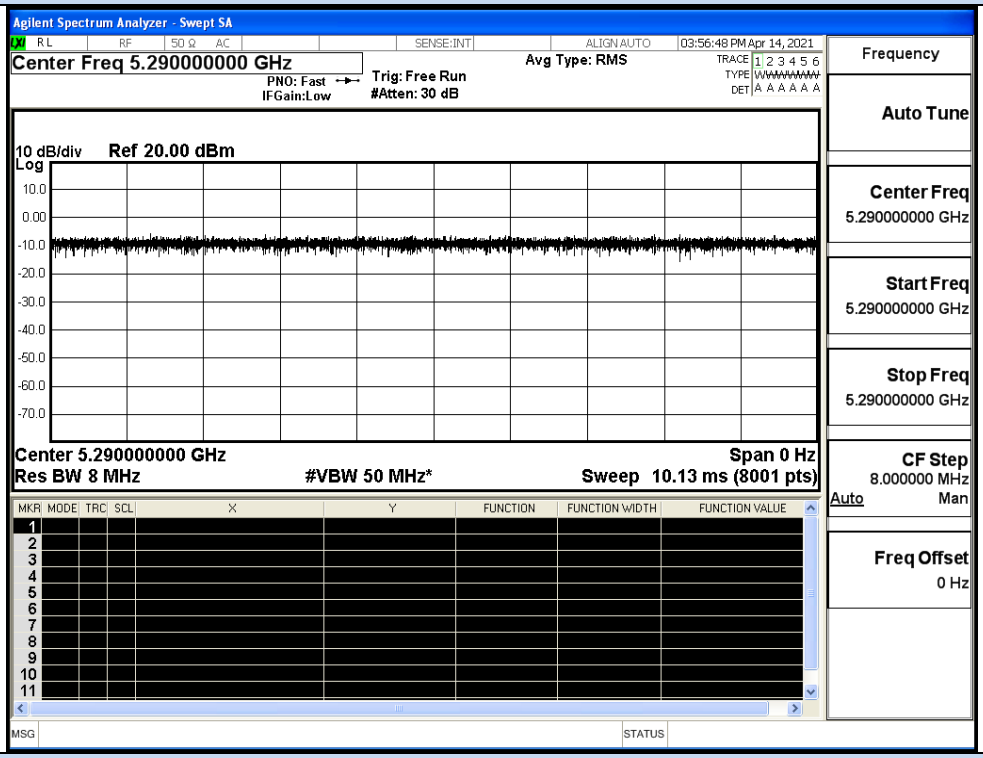

IEEE 802.11n HT40




IEEE 802.11AC20




IEEE 802.11 AC40

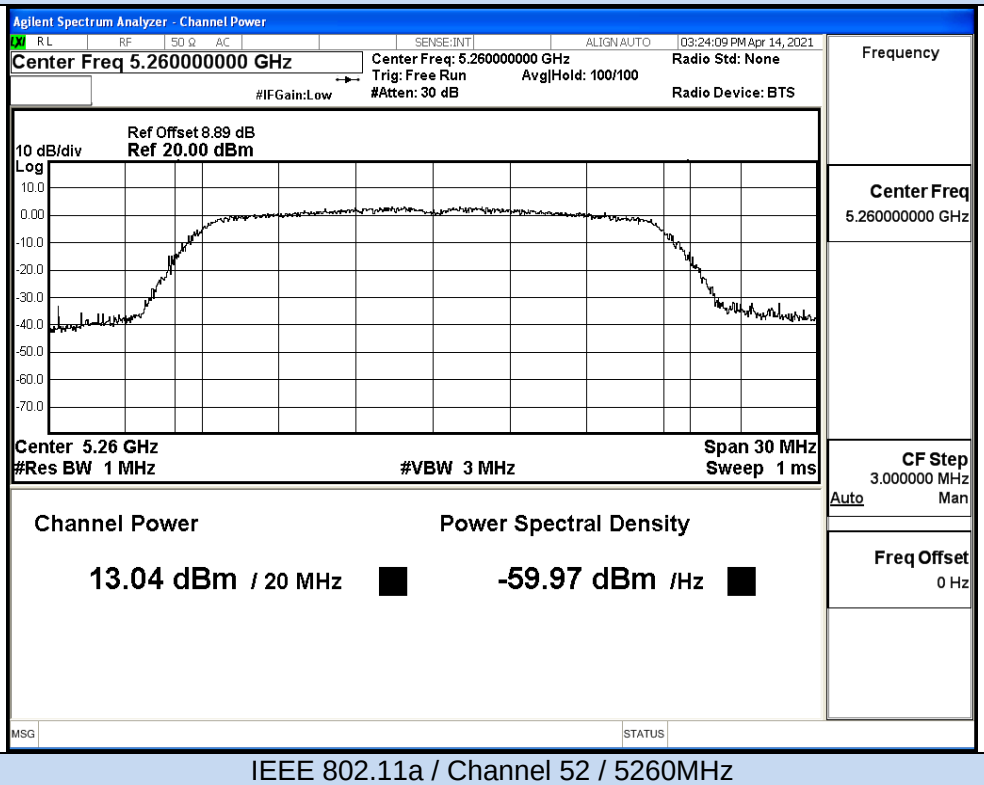



IEEE 802.11AC80

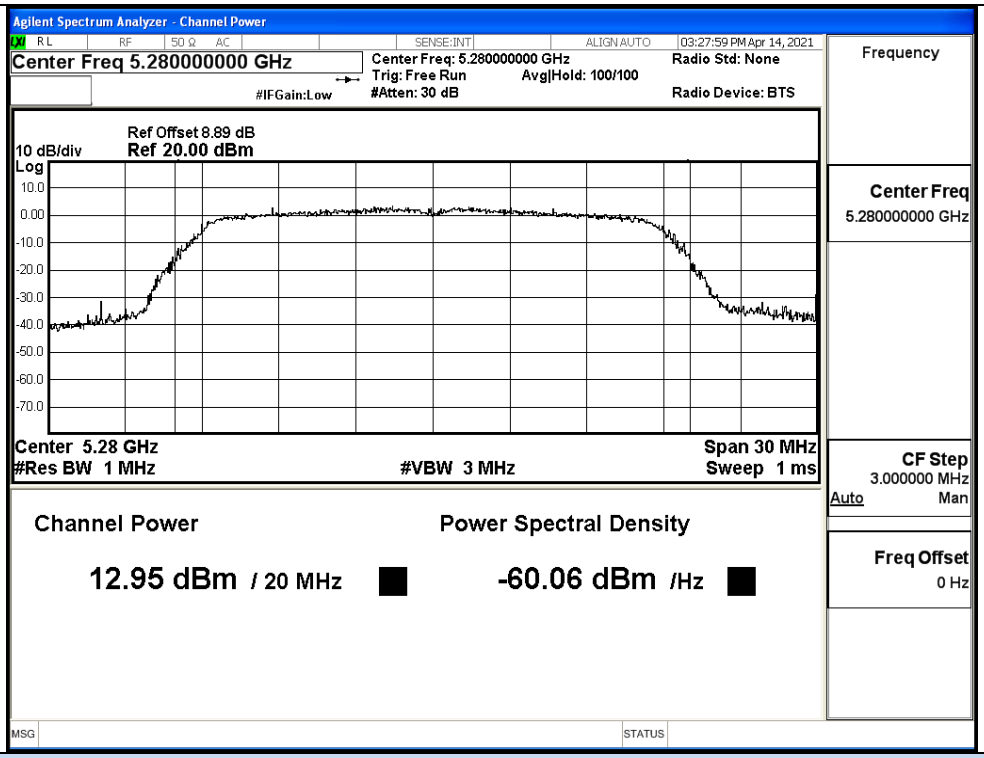
## C.2 Maximum Conduct Output Power

| Test Mode | Channel | Frequency (MHz) | AVG Conducted Power (dBm) | Duty Cycle Factor( dB) | Report Conducted Power(dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|---|
| 11A | 52 | 5260 | 13.04 | 0 | 13.04 | 24 | Pass |
| | 56 | 5280 | 12.95 | 0 | 12.95 | | Pass |
| | 64 | 5320 | 12.86 | 0 | 12.86 | | Pass |
| 11N20 SISO | 52 | 5260 | 14.36 | 0 | 14.36 | 24 | Pass |
| | 56 | 5280 | 13.94 | 0 | 13.94 | | Pass |
| | 64 | 5320 | 13.63 | 0 | 13.63 | | Pass |
| 11N40 SISO | 54 | 5270 | 13.61 | 0 | 13.61 | 24 | Pass |
| | 62 | 5310 | 13.6 | 0 | 13.6 | | Pass |
| 11AC20 SISO | 52 | 5260 | 13.66 | 0 | 13.66 | 24 | Pass |
| | 56 | 5280 | 13.52 | 0 | 13.52 | | Pass |
| | 64 | 5320 | 13.55 | 0 | 13.55 | | Pass |
| 11AC40 SISO | 54 | 5270 | 10.66 | 0 | 10.66 | 24 | Pass |
| | 62 | 5310 | 10.52 | 0 | 10.52 | | Pass |
| 11AC80 SISO | 58 | 5290 | 13.61 | 0 | 13.61 | 24 | Pass |

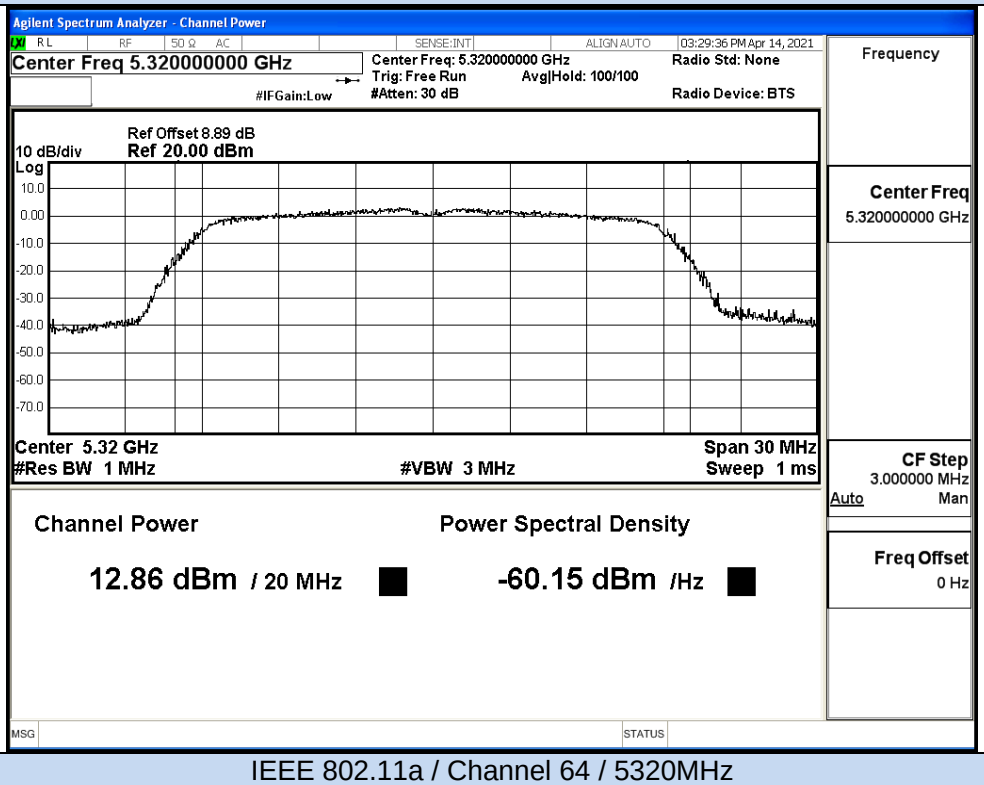
Maximum Conducted Output Power




IEEE 802.11a / Channel 52 / 5260MHz

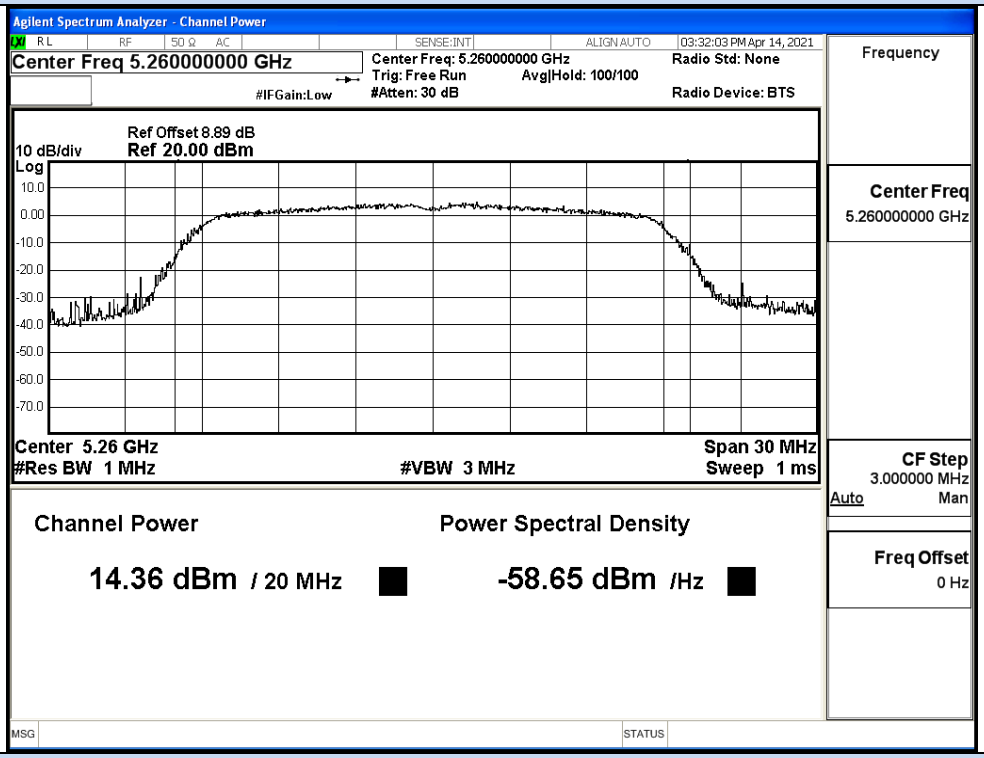



IEEE 802.11a / Channel 56 / 5280MHz

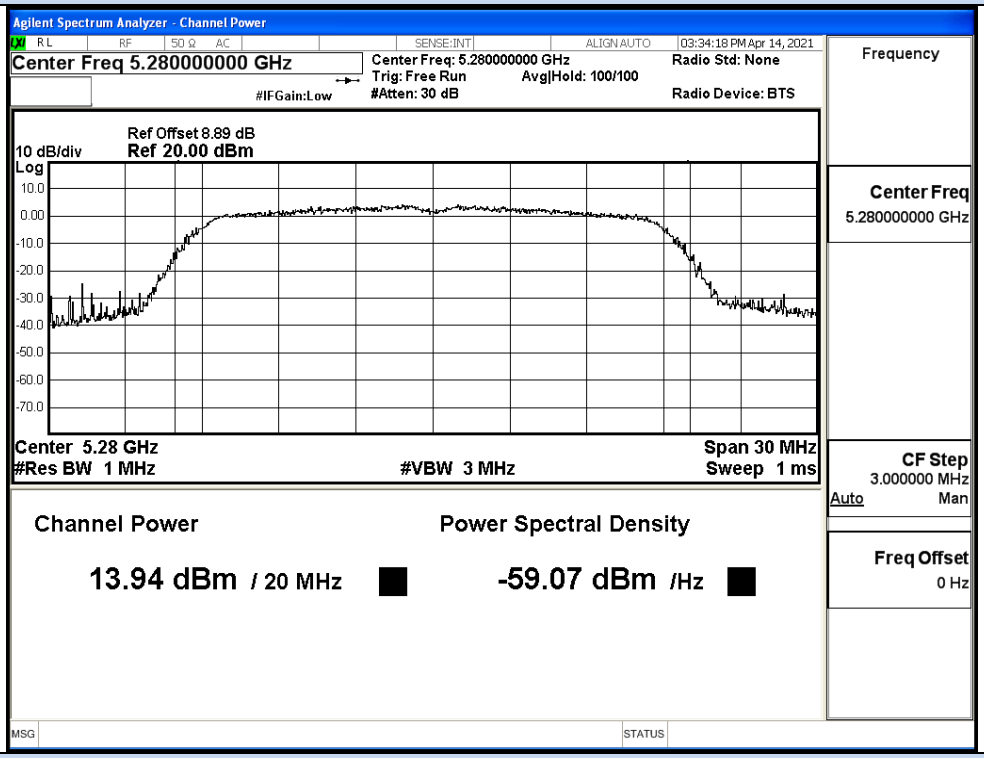



IEEE 802.11a / Channel 64 / 5320MHz

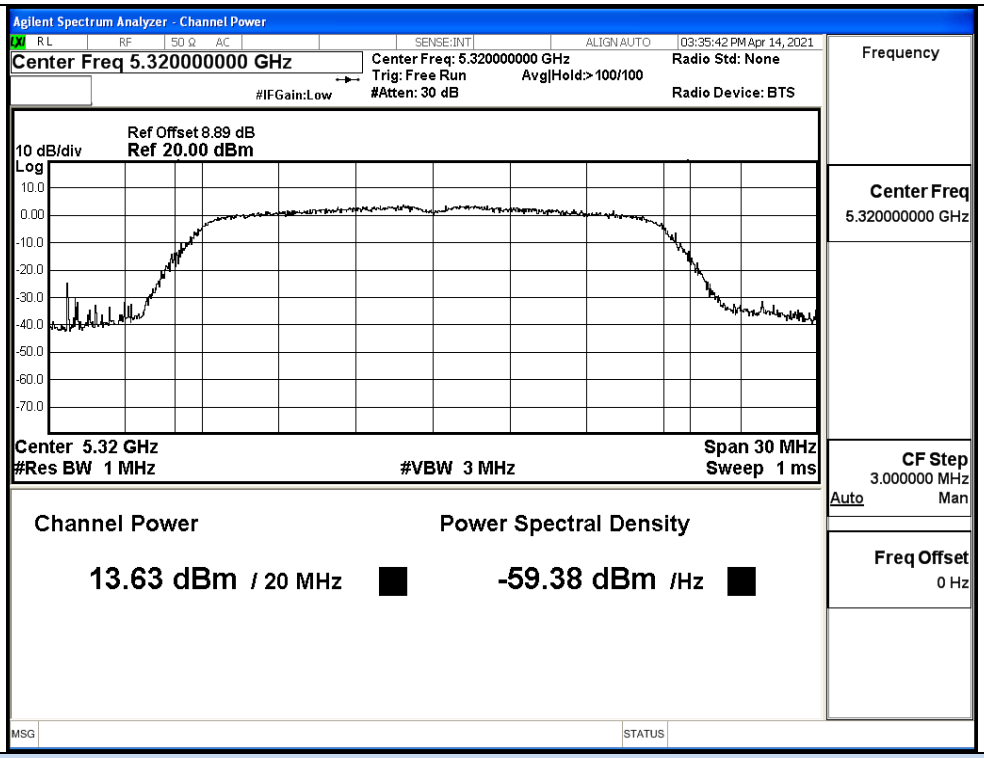
## Maximum Conducted Output Power




IEEE 802.11n20 / Channel 52 / 5260MHz

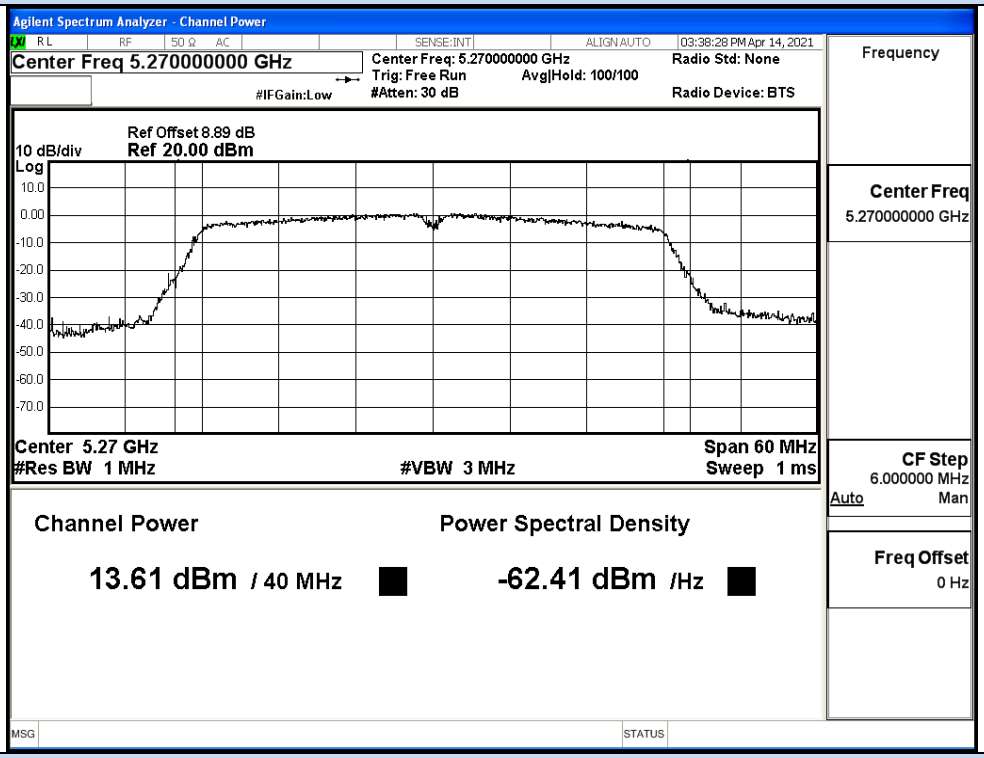



IEEE 802.11n20 / Channel 56 / 5280MHz

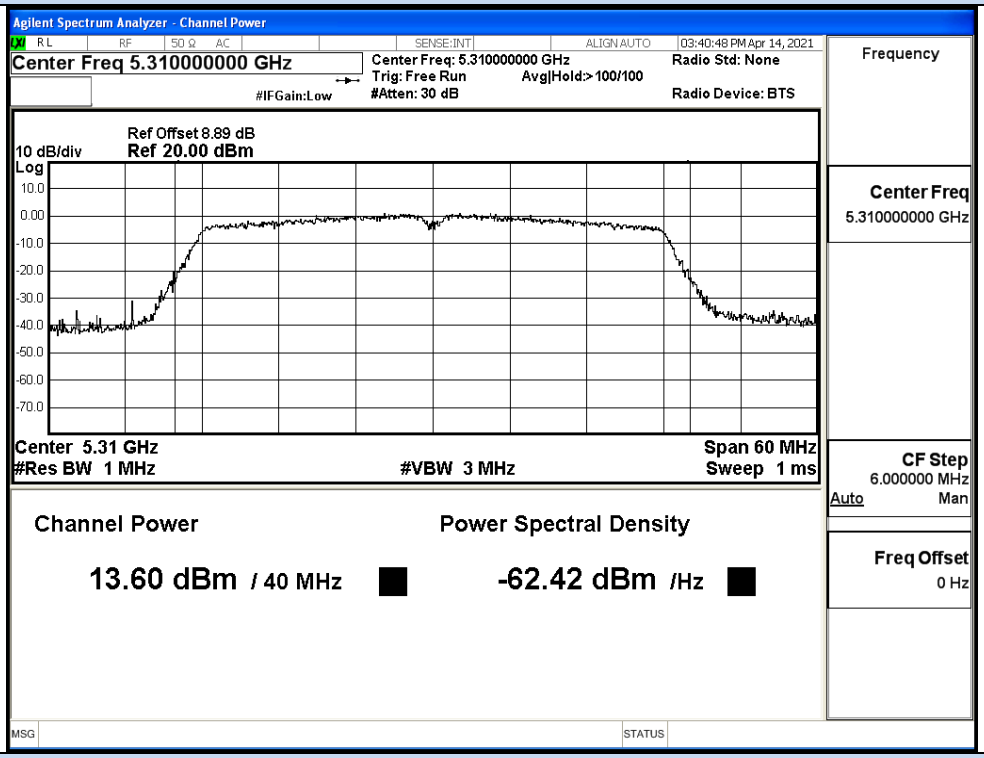



IEEE 802.11n20 / Channel 64 / 5320MHz

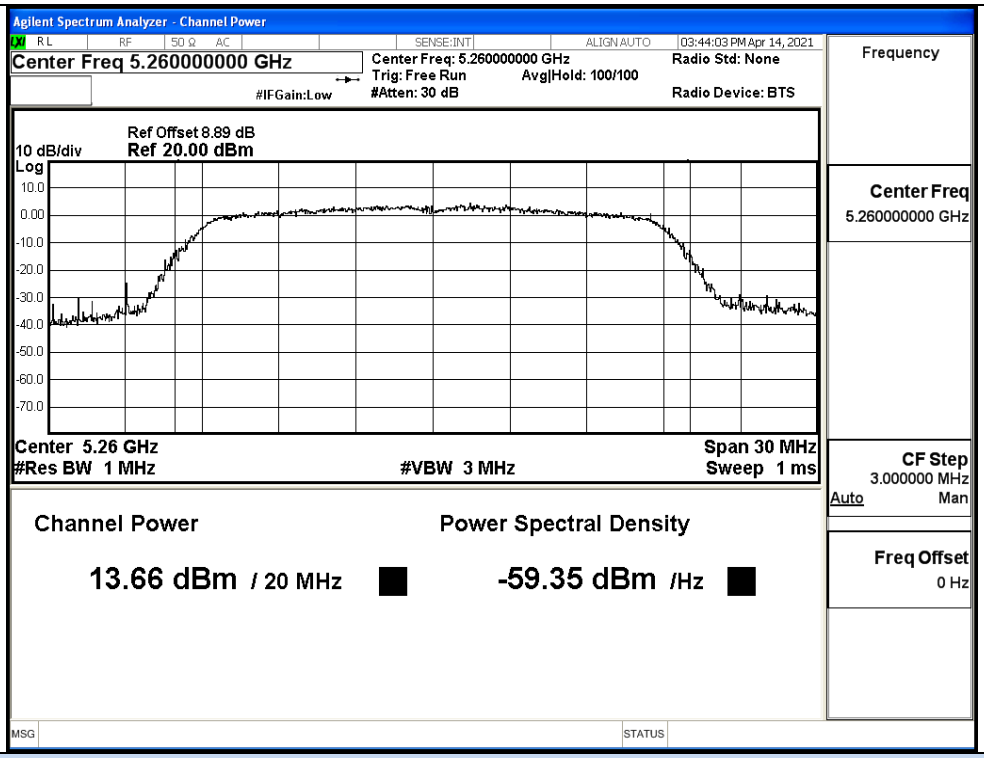
## Maximum Conducted Output Power



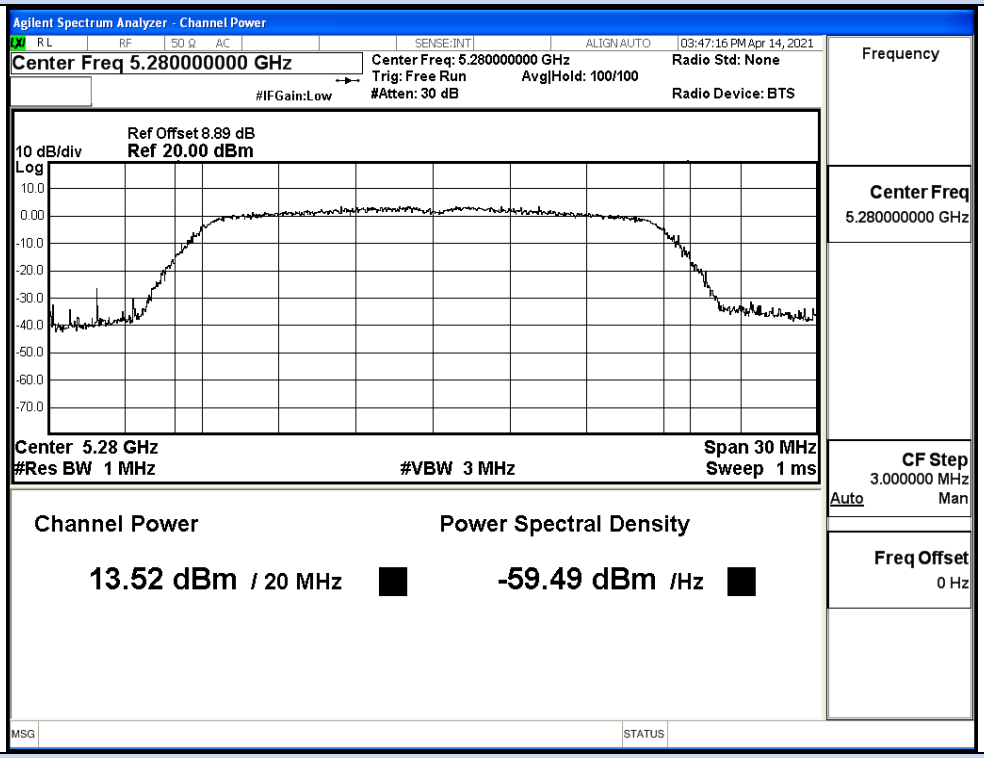

IEEE 802.11n40 / Channel 54 / 5270MHz



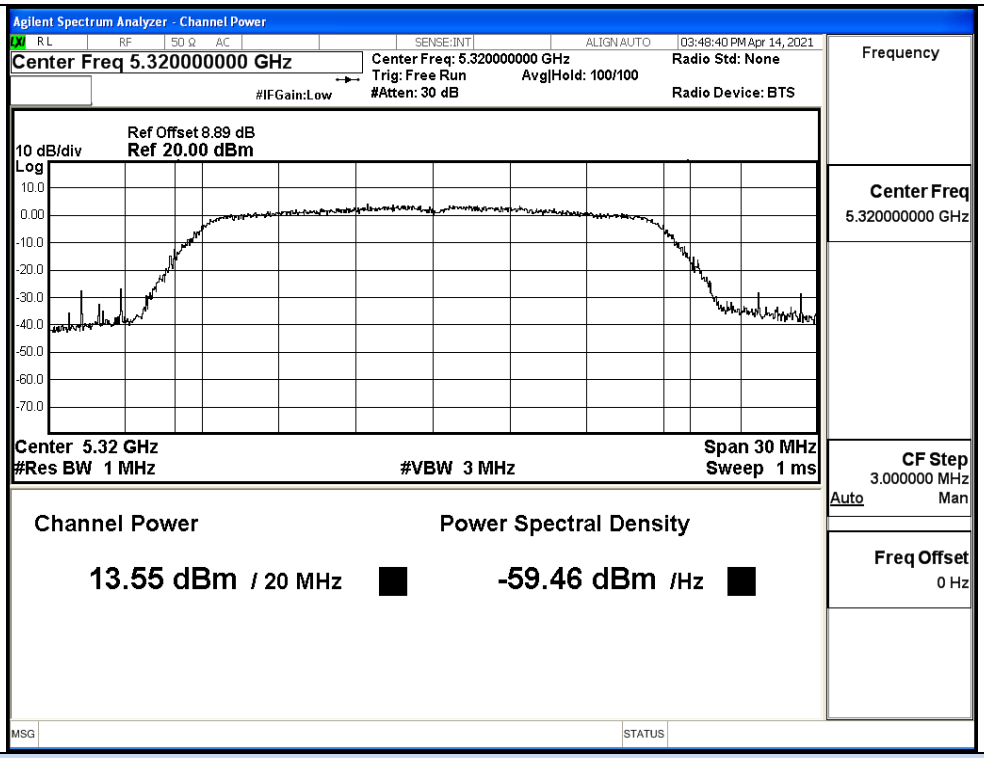

IEEE 802.11n40 / Channel 62 / 5310MHz



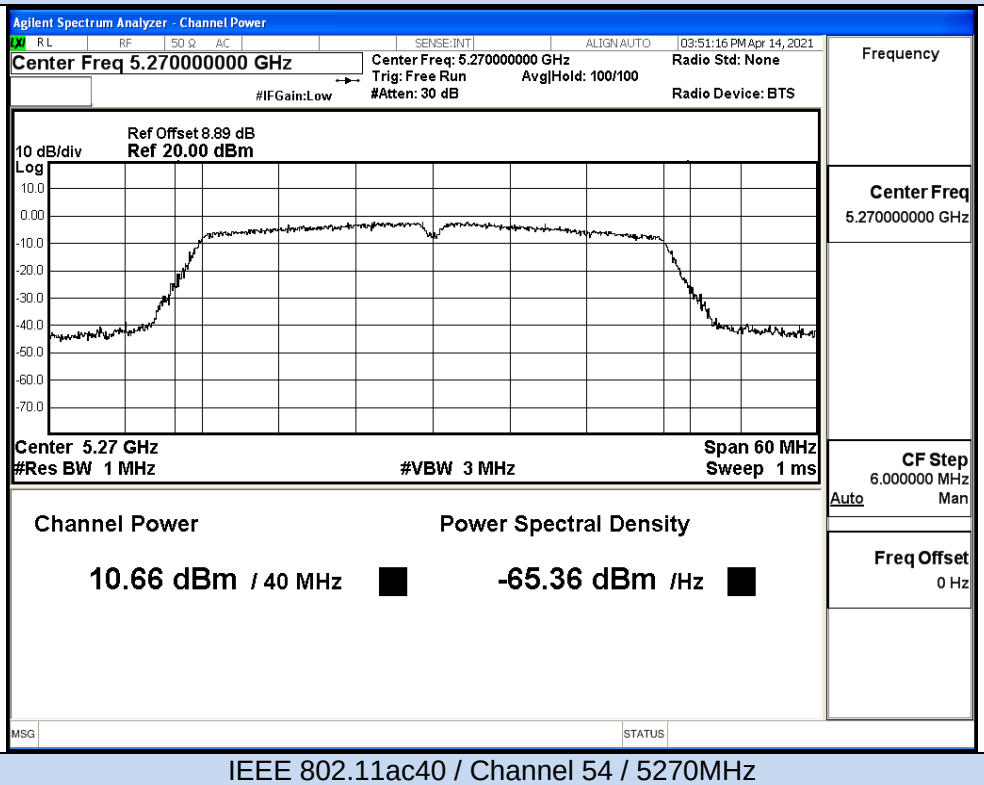

IEEE 802.11ac20 / Channel 52 / 5260MHz



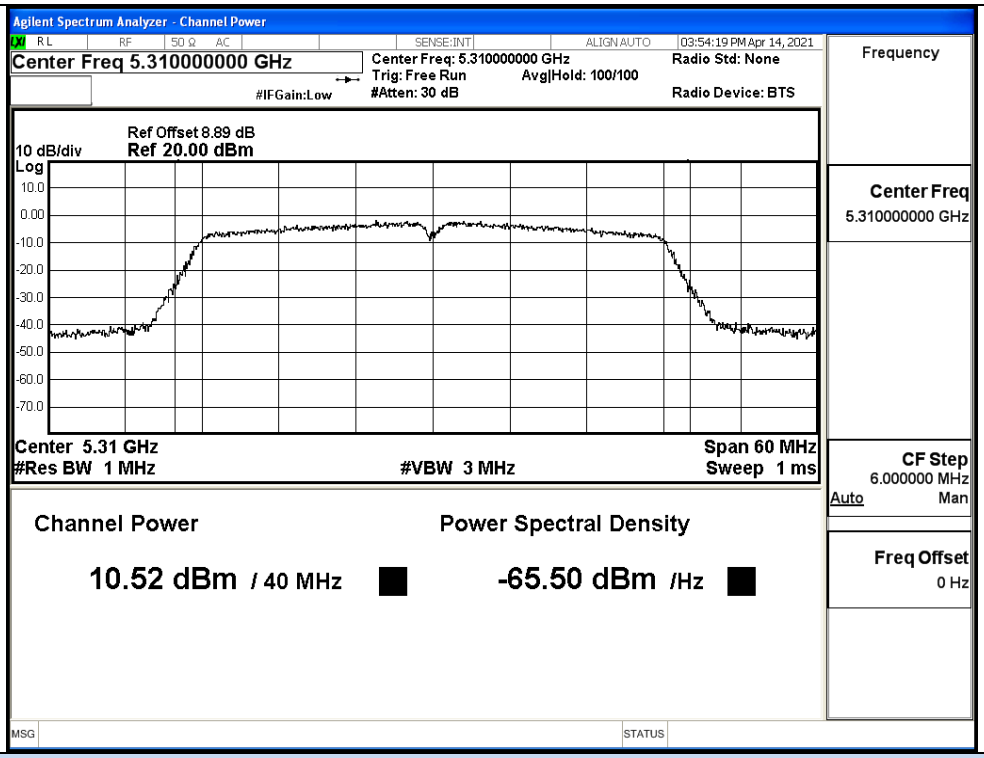

IEEE 802.11ac20 / Channel 56 / 5280MHz



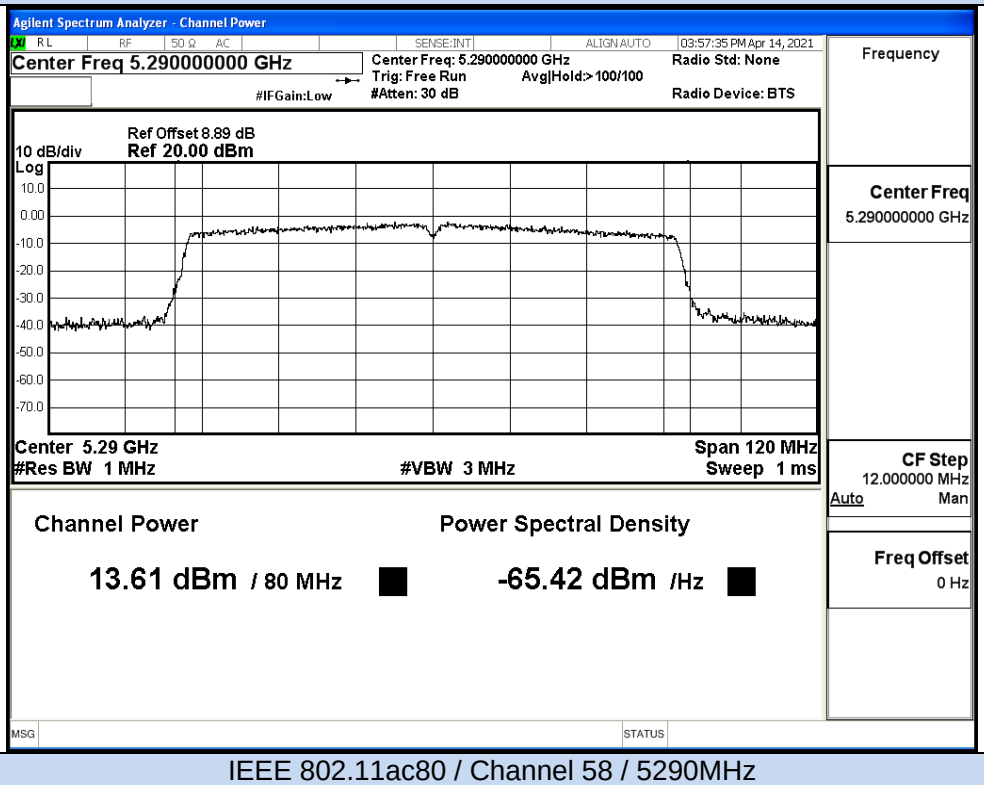

IEEE 802.11ac20 / Channel 64 / 5320MHz




IEEE 802.11ac40 / Channel 54 / 5270MHz




IEEE 802.11ac40 / Channel 62 / 5310MHz

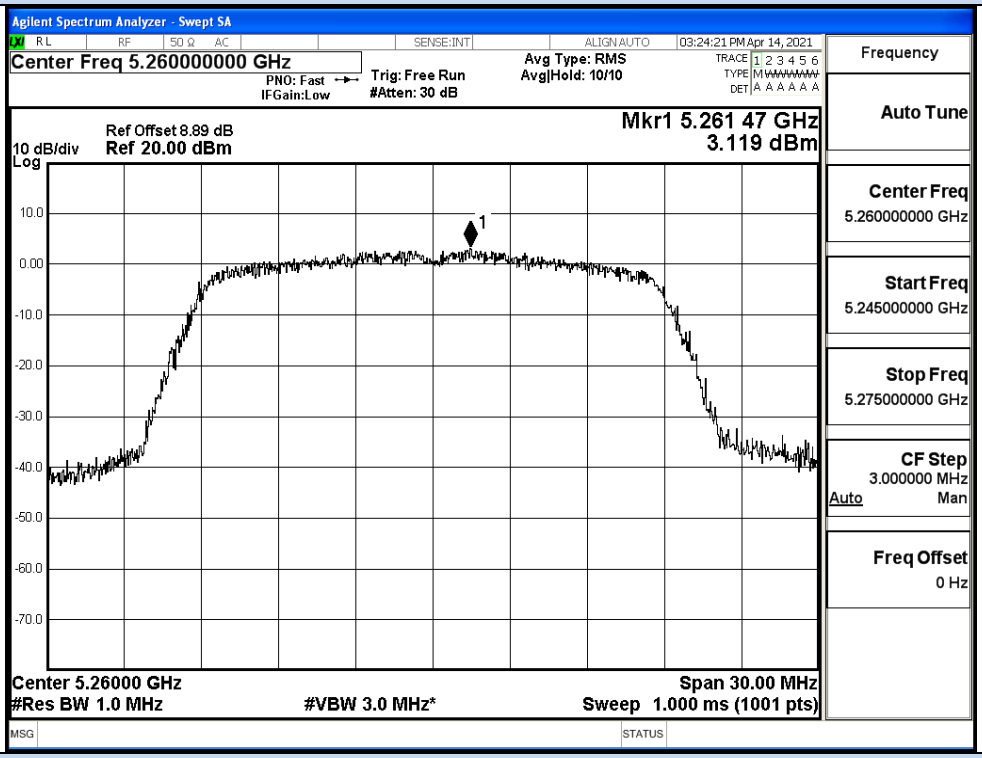



IEEE 802.11ac80 / Channel 58 / 5290MHz

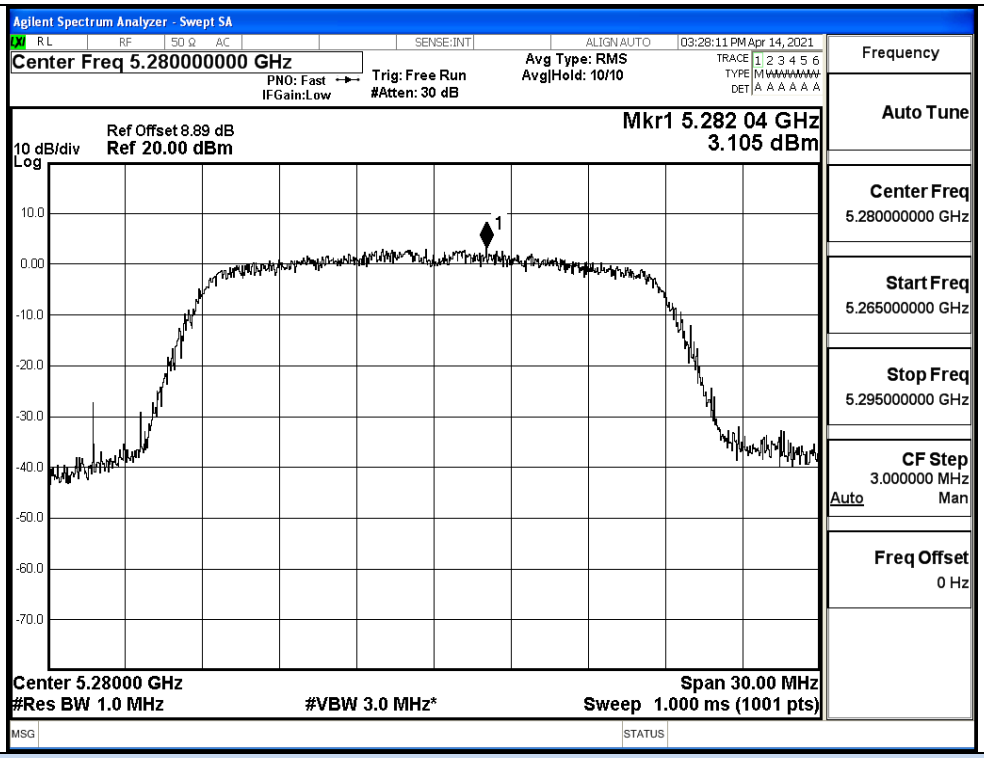
## C.3 Power Spectral Density

| Test Mode | Channel | Frequency (MHz) | Power Density (dBm/MHz) | Duty Cycle Factor(dB) | Report Power Density (dBm/MHz) | Limit (dBm/MHz) | Verdict |
|---|---|---|---|---|---|---|---|
| 11A | 52 | 5260 | 3.12 | 0 | 3.12 | 11 | Pass |
| | 56 | 5280 | 3.11 | 0 | 3.11 | | Pass |
| | 64 | 5320 | 2.81 | 0 | 2.81 | | Pass |
| 11N20 SISO | 52 | 5260 | 4.38 | 0 | 4.38 | 11 | Pass |
| | 56 | 5280 | 3.71 | 0 | 3.71 | | Pass |
| | 64 | 5320 | 4.18 | 0 | 4.18 | | Pass |
| 11N40 SISO | 54 | 5270 | 0.74 | 0 | 0.74 | 11 | Pass |
| | 62 | 5310 | 1.37 | 0 | 1.37 | | Pass |
| 11AC20 SISO | 52 | 5260 | 4.31 | 0 | 4.31 | 11 | Pass |
| | 56 | 5280 | 3.58 | 0 | 3.58 | | Pass |
| | 64 | 5320 | 3.71 | 0 | 3.71 | | Pass |
| 11AC40 SISO | 54 | 5270 | -2.21 | 0 | -2.21 | 11 | Pass |
| | 62 | 5310 | -2.56 | 0 | -2.56 | | Pass |
| 11AC80 SISO | 58 | 5290 | -1.68 | 0 | -1.68 | 11 | Pass |

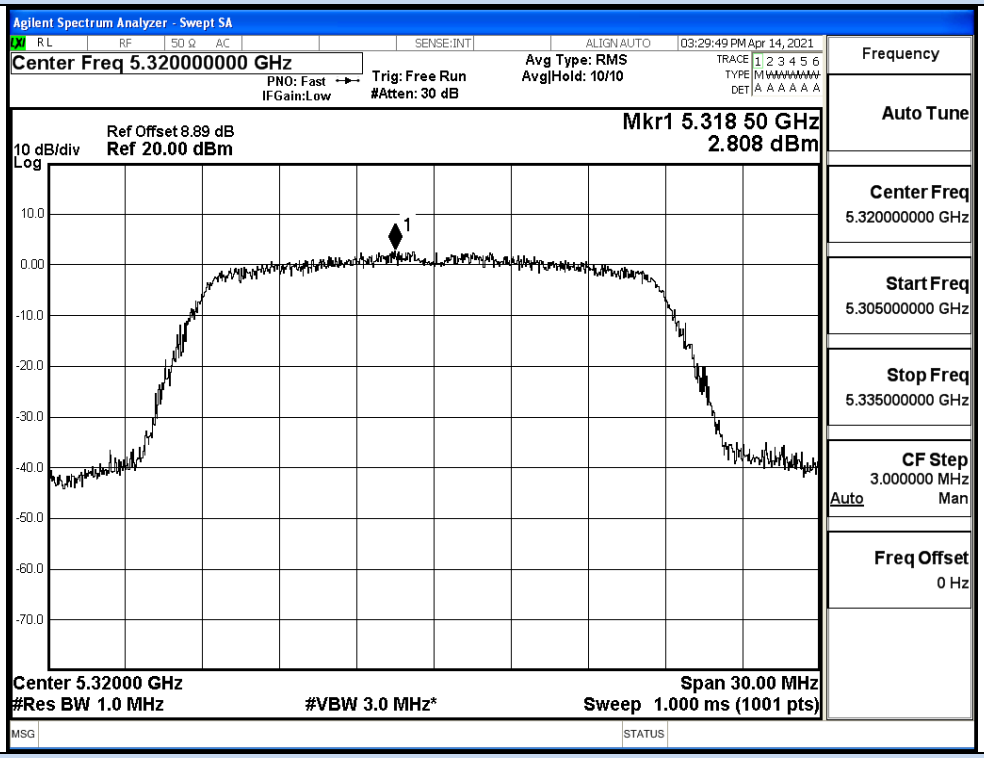
Power Spectral Density



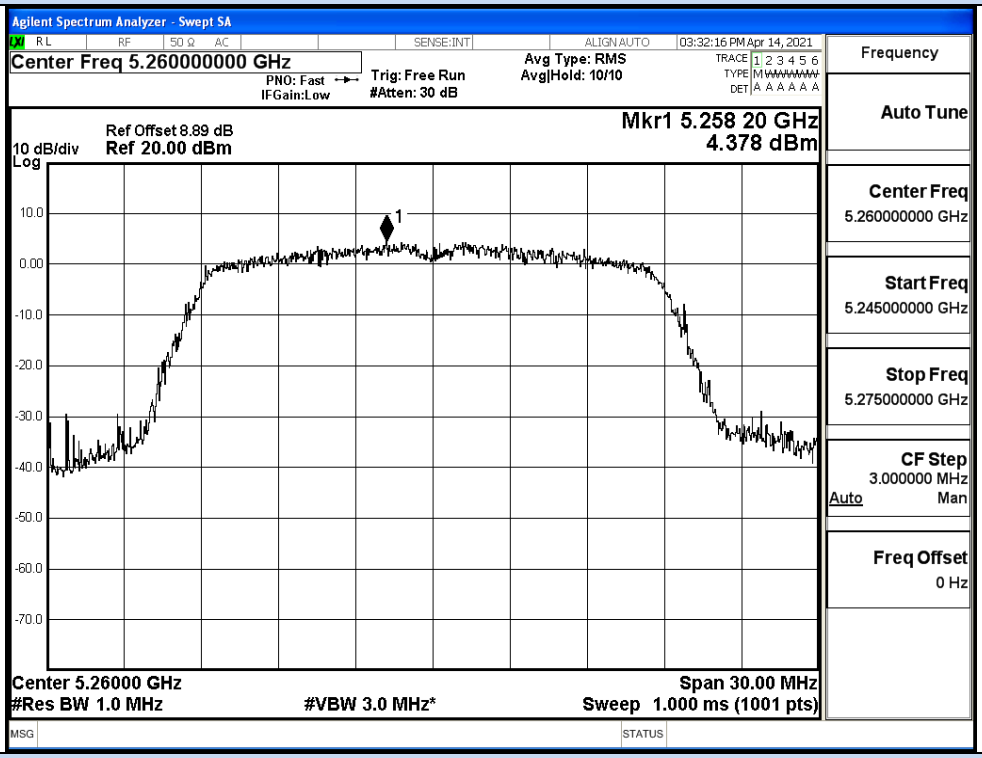
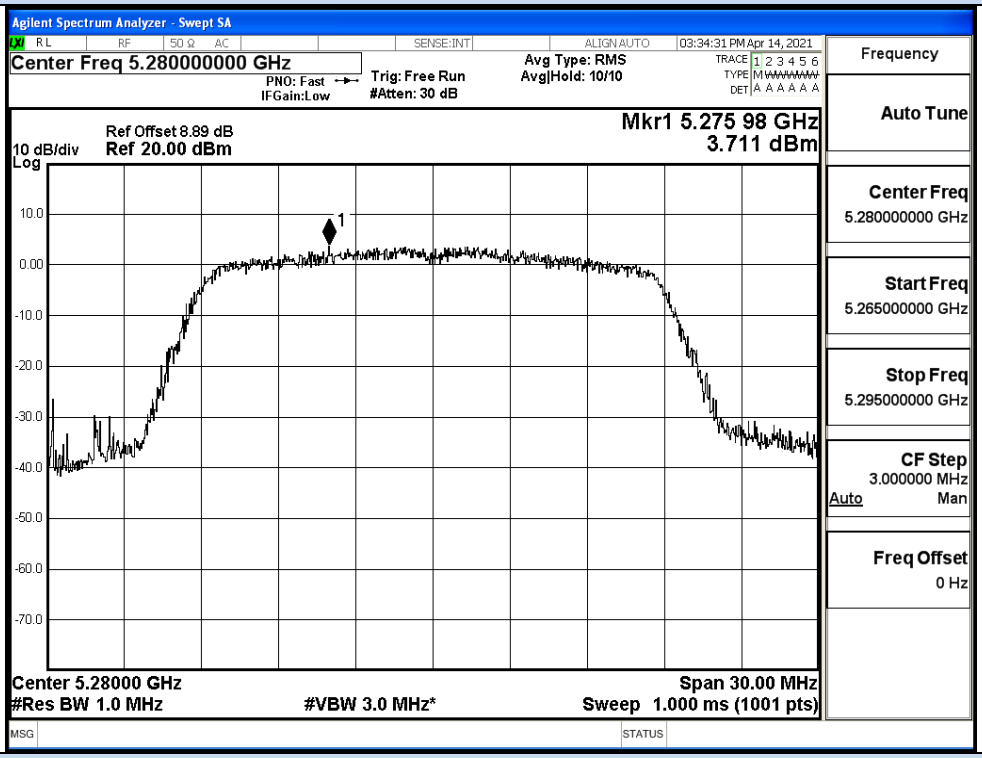

IEEE 802.11a / Channel 52 / 5260MHz

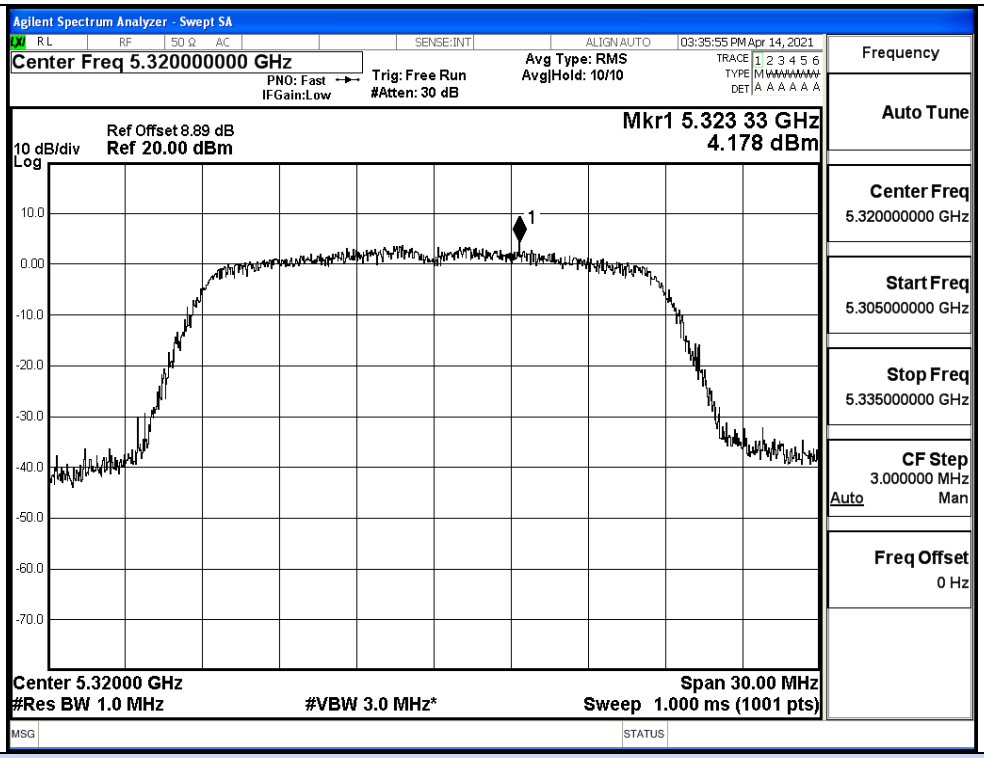



IEEE 802.11na / Channel 56 / 5280MHz

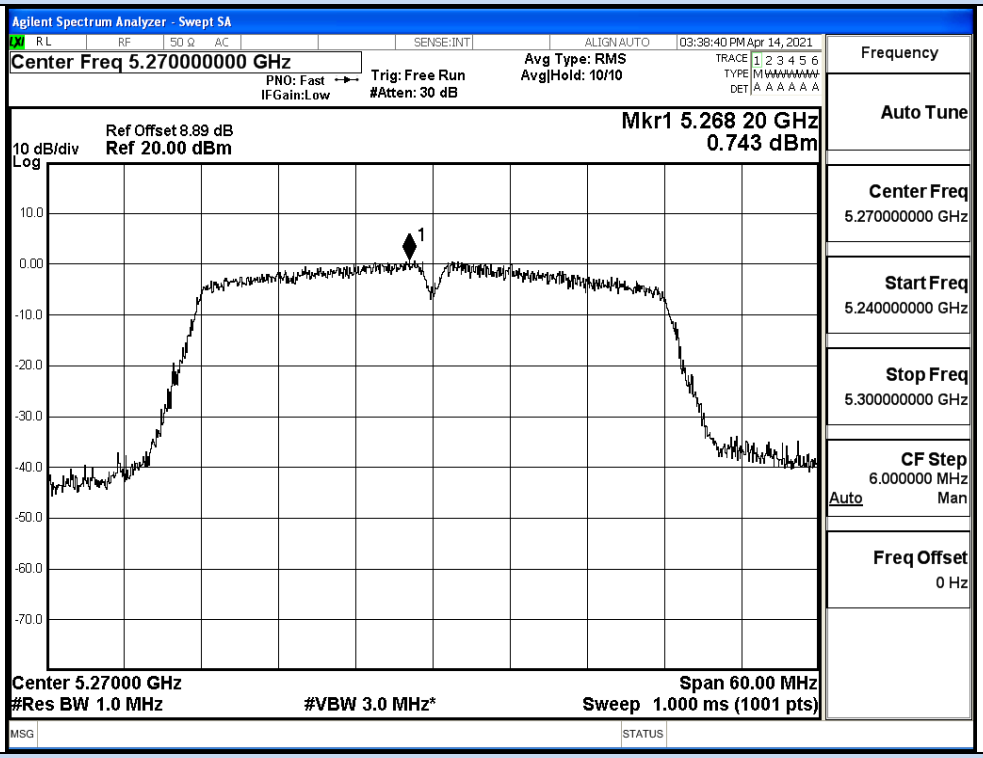
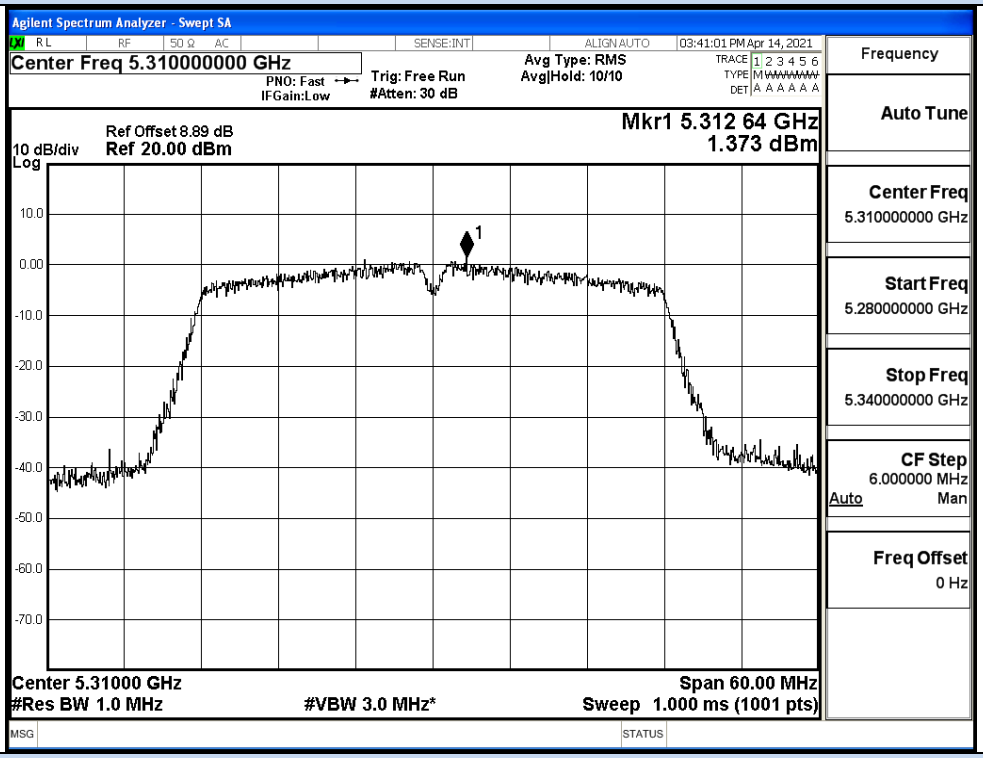


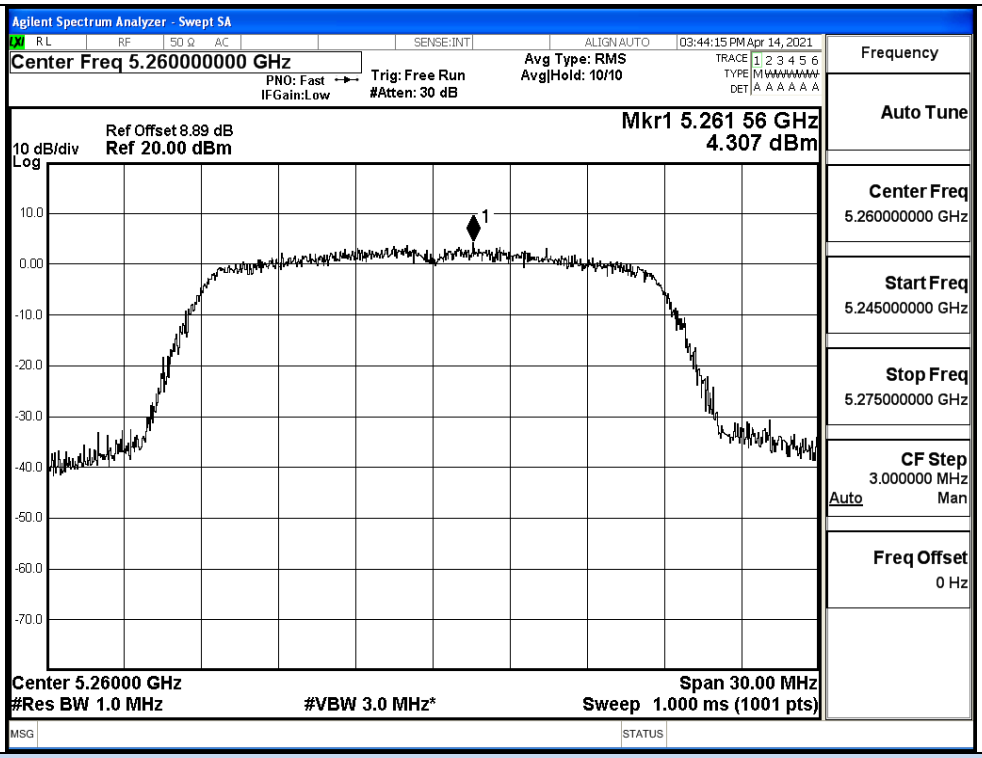

IEEE 802.11na / Channel 64 / 5320MHz

| Power Spectral Density |
|---|
|  |
| IEEE 802.11n20 / Channel 52 / 5260MHz |
|  |
| IEEE 802.11n20 / Channel 56 / 5280MHz |

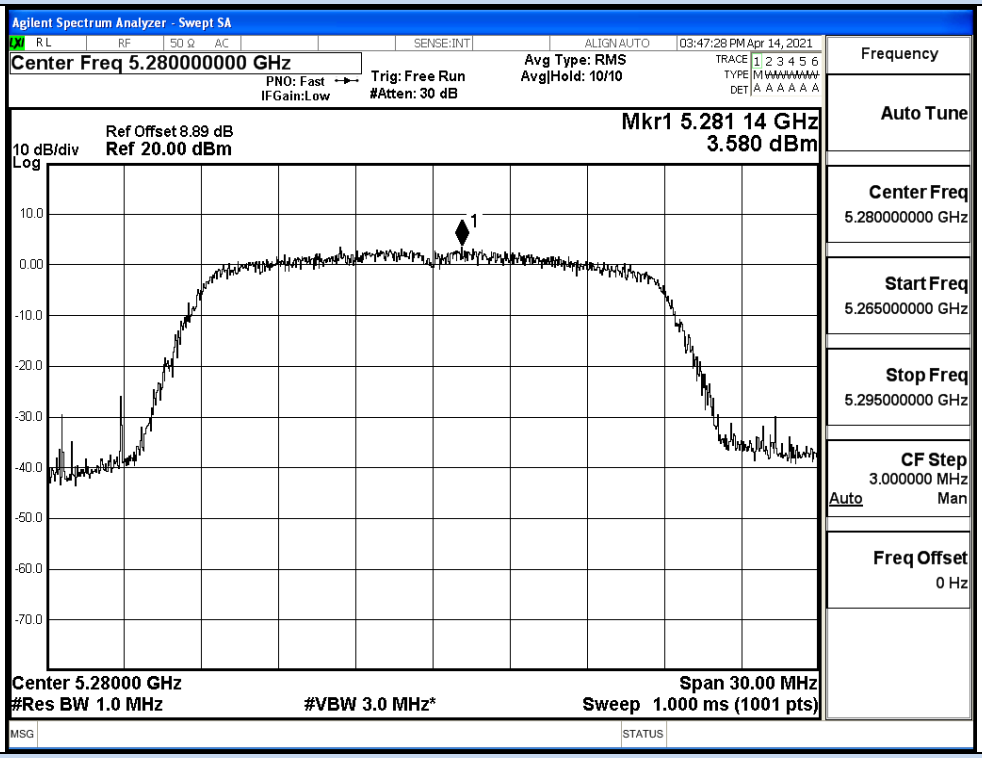



IEEE 802.11n20 / Channel 64 / 5320MHz

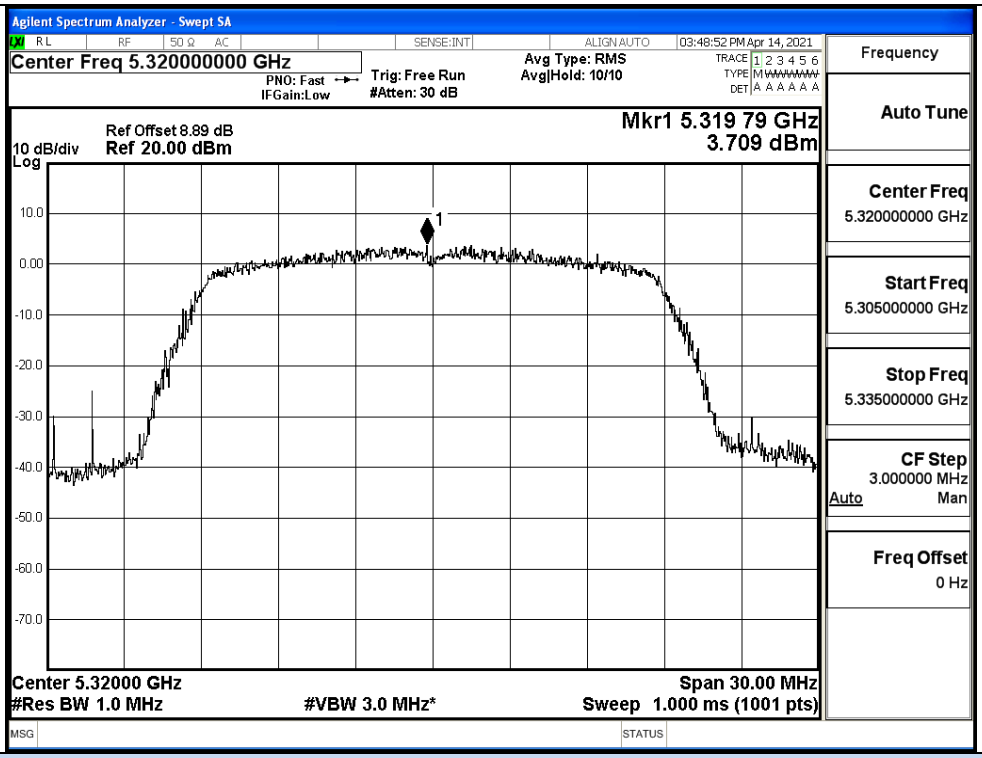
| Power Spectral Density |
|---|
|  |
| IEEE 802.11n40 / Channel 54 / 5270MHz |
|  |
| IEEE 802.11n40 / Channel 62 / 5310MHz |



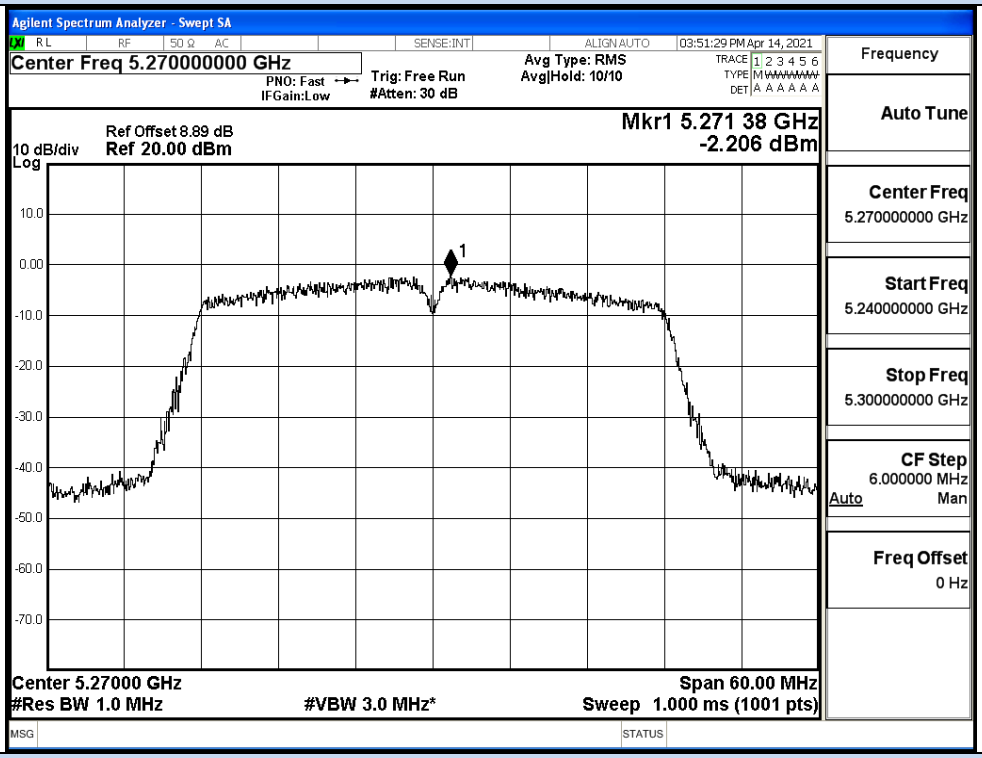

IEEE 802.11ac20 / Channel 52 / 5260MHz



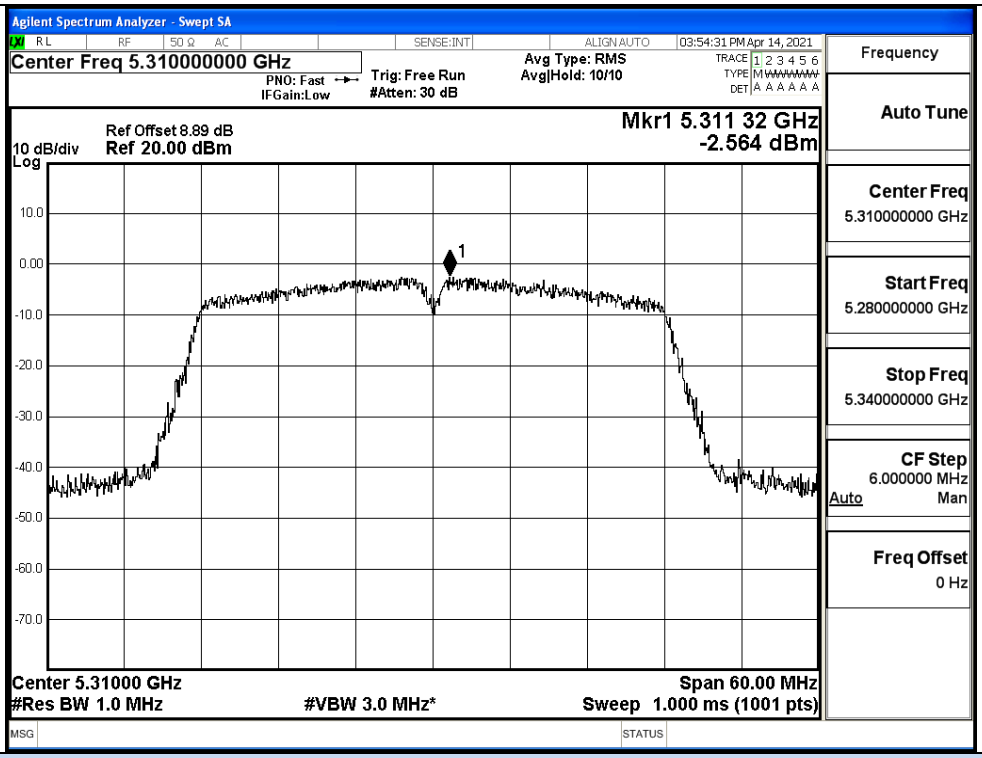

IEEE 802.11ac20 / Channel 56 / 5280MHz



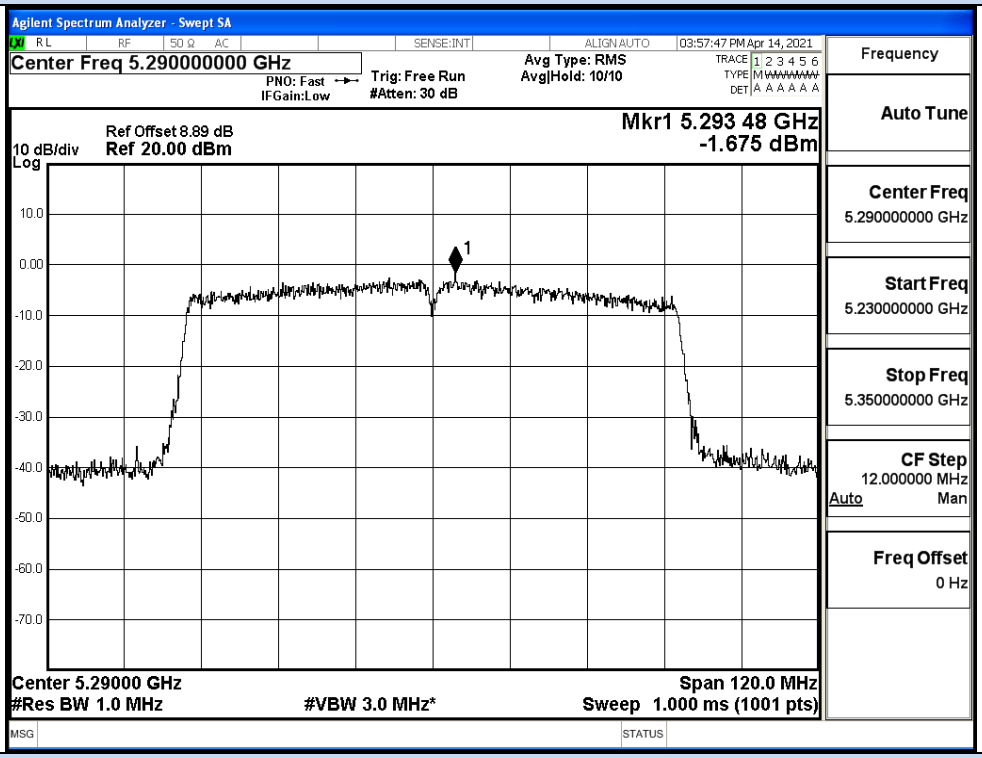

IEEE 802.11ac20 / Channel 64 / 5320MHz




IEEE 802.11ac40 / Channel 54 / 5270MHz




IEEE 802.11ac40 / Channel 62 / 5310MHz

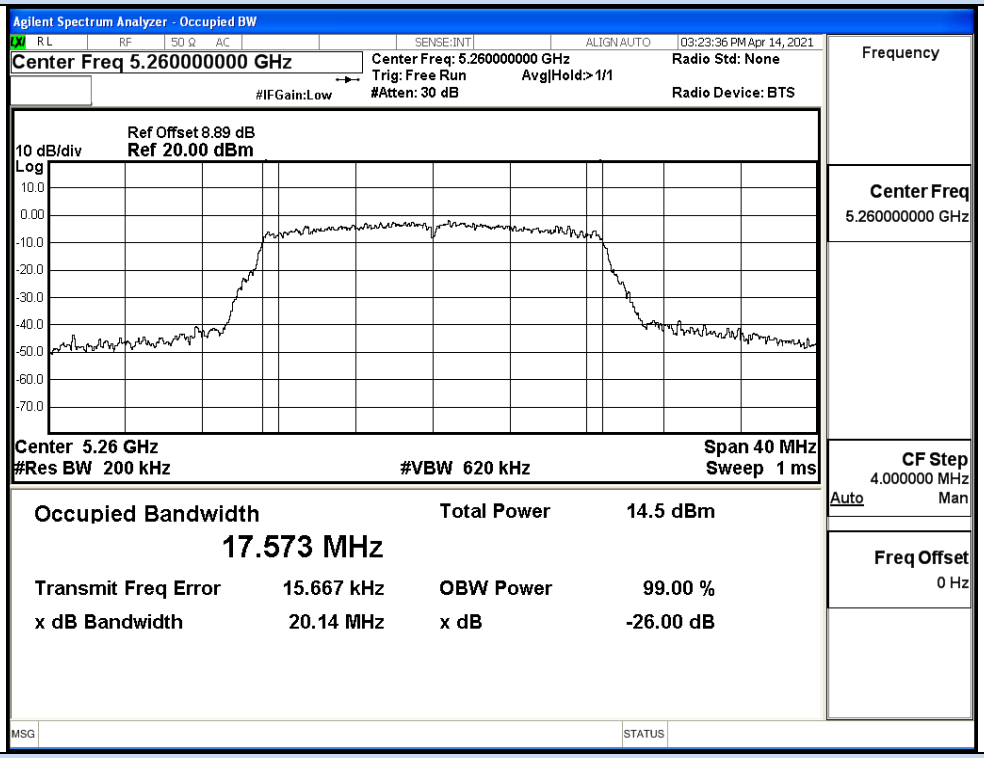



IEEE 802.11ac80 / Channel 58 / 5290MHz

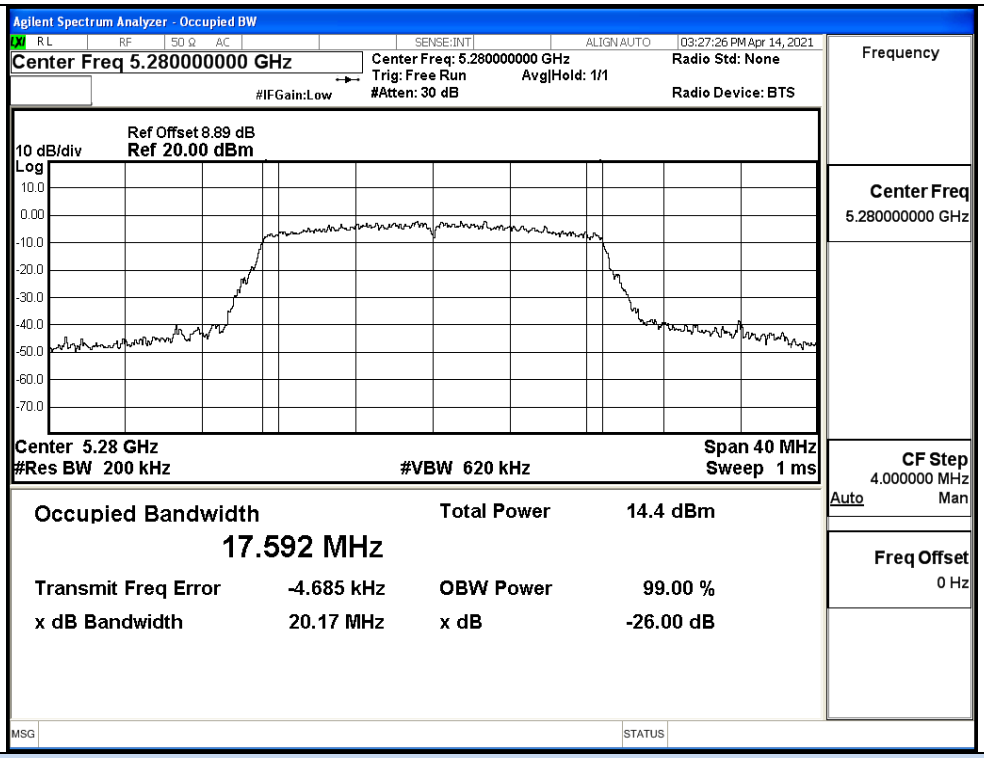
## C.4 Emission Bandwidth

| Test Mode | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) | Limit (MHz) | Verdict |
|---|---|---|---|---|---|
| 11A | 52 | 5260 | 20.14 | No Limit | Pass |
| | 56 | 5280 | 20.17 | | Pass |
| | 64 | 5320 | 19.99 | | Pass |
| 11N20 SISO | 52 | 5260 | 20.20 | No Limit | Pass |
| | 56 | 5280 | 19.96 | | Pass |
| | 64 | 5320 | 20.16 | | Pass |
| 11N40 SISO | 54 | 5270 | 39.91 | No Limit | Pass |
| | 62 | 5310 | 40.20 | | Pass |
| 11AC20 SISO | 52 | 5260 | 20.29 | No Limi | Pass |
| | 56 | 5280 | 20.30 | | Pass |
| | 64 | 5320 | 20.25 | | Pass |
| 11AC40 SISO | 54 | 5270 | 40.03 | No Limi | Pass |
| | 62 | 5310 | 39.88 | | Pass |
| 11AC80 SISO | 58 | 5290 | 80.70 | No Limi | Pass |

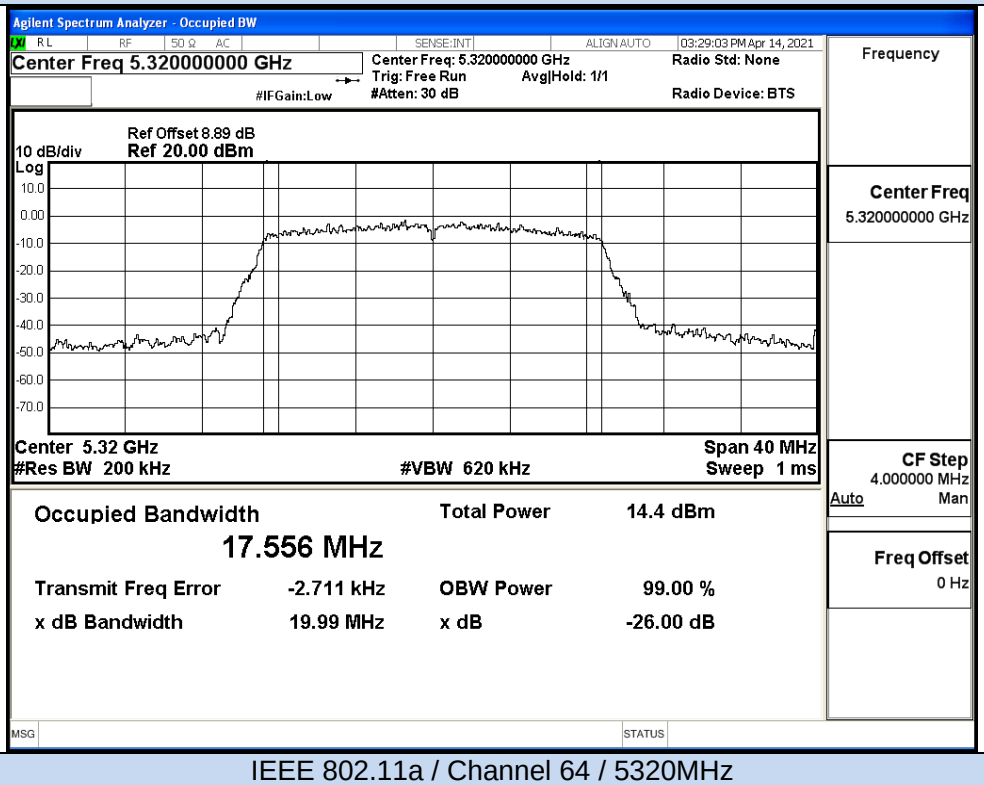
26dB Bandwidth




IEEE 802.11a / Channel 52 / 5260MHz

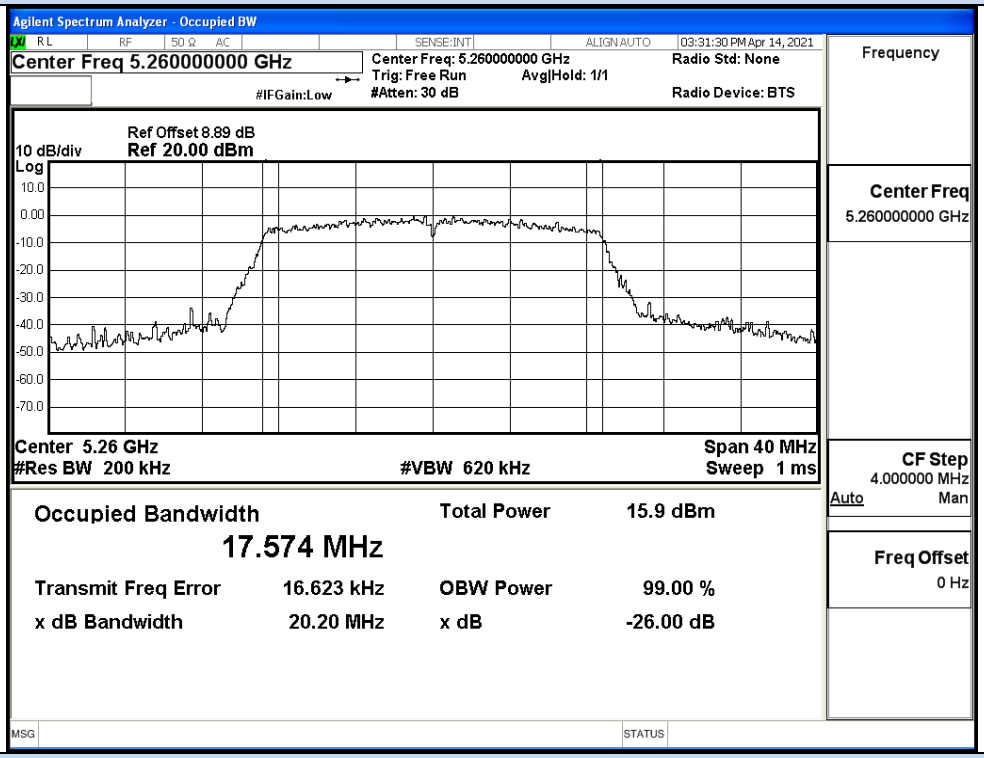



IEEE 802.11a / Channel 56 / 5280MHz

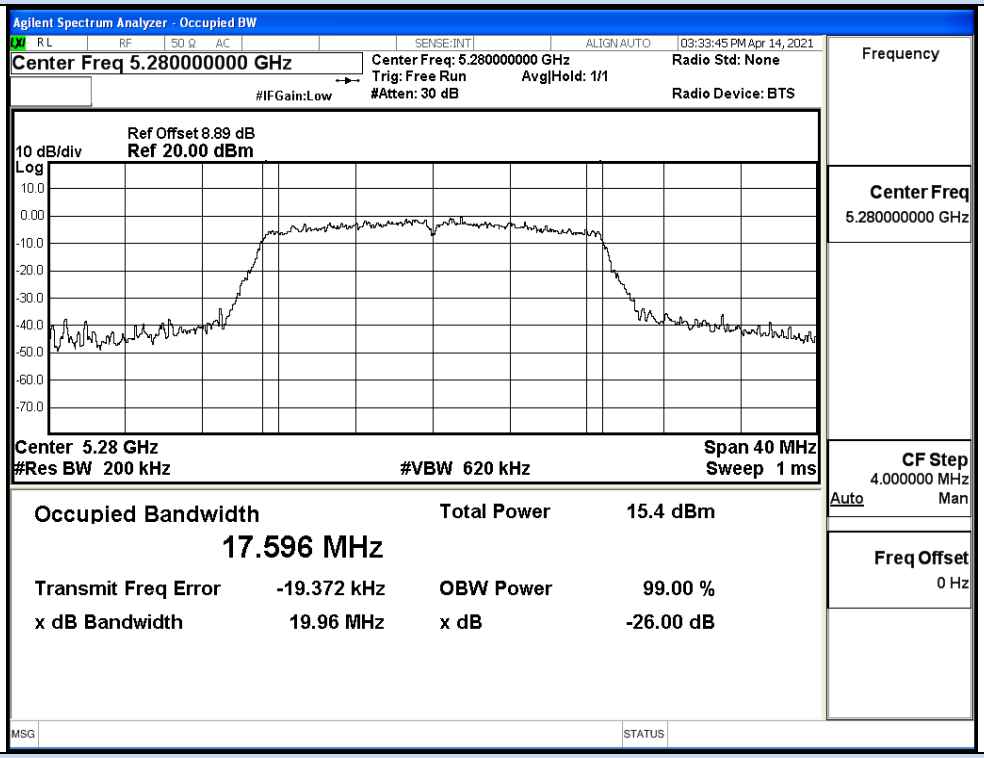



IEEE 802.11a / Channel 64 / 5320MHz

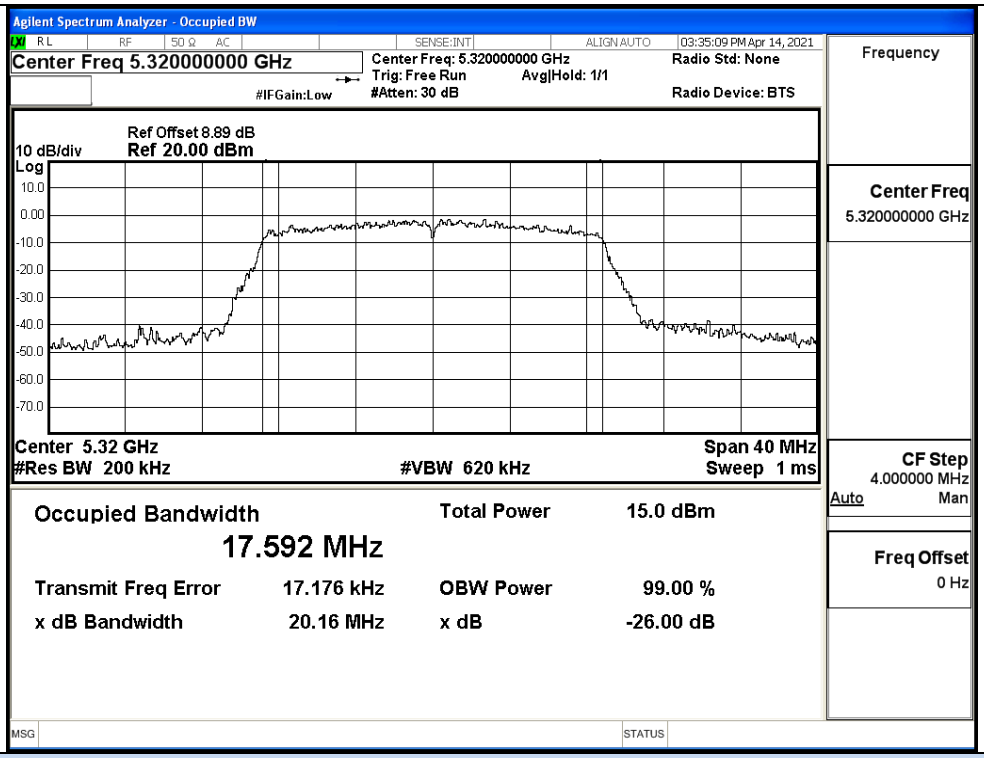
26dB Bandwidth




IEEE 802.11n20 / Channel 52 / 5260MHz

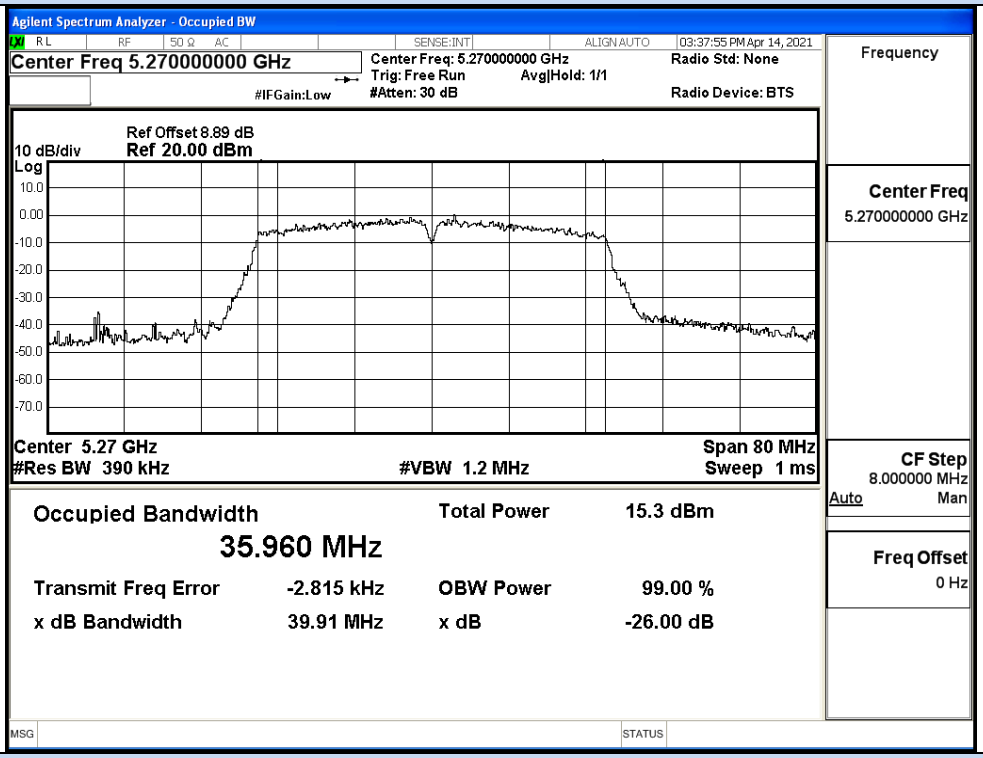



IEEE 802.11n20 / Channel 56 / 5280MHz

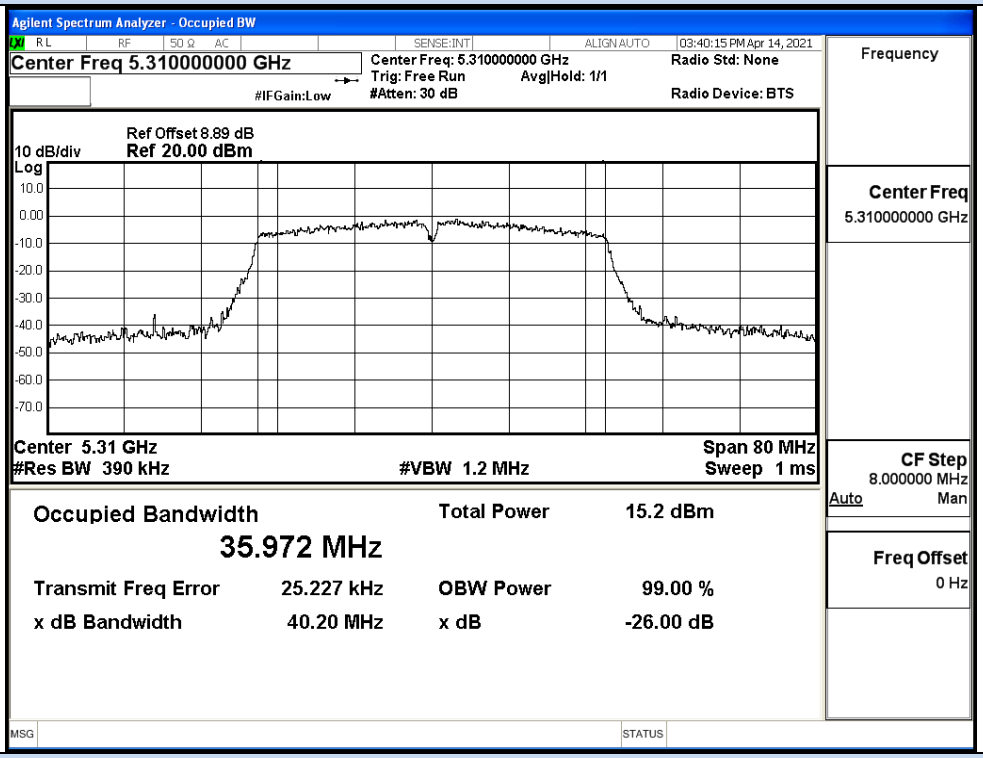



IEEE 802.11n20 / Channel 64 / 5320MHz

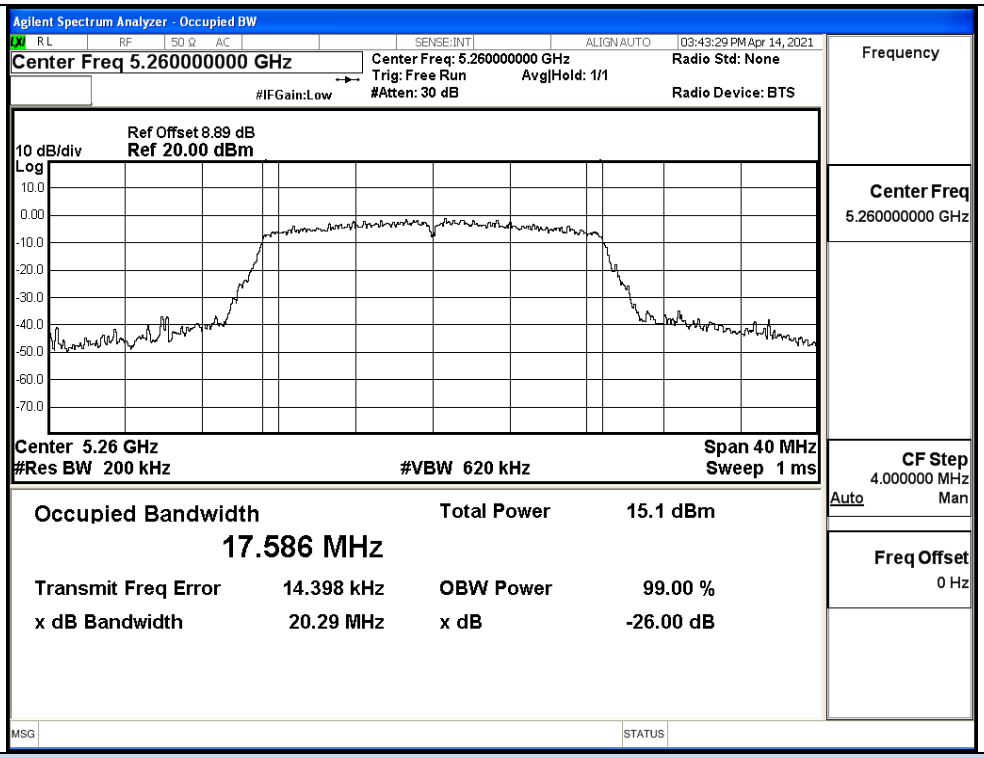
26dB Bandwidth



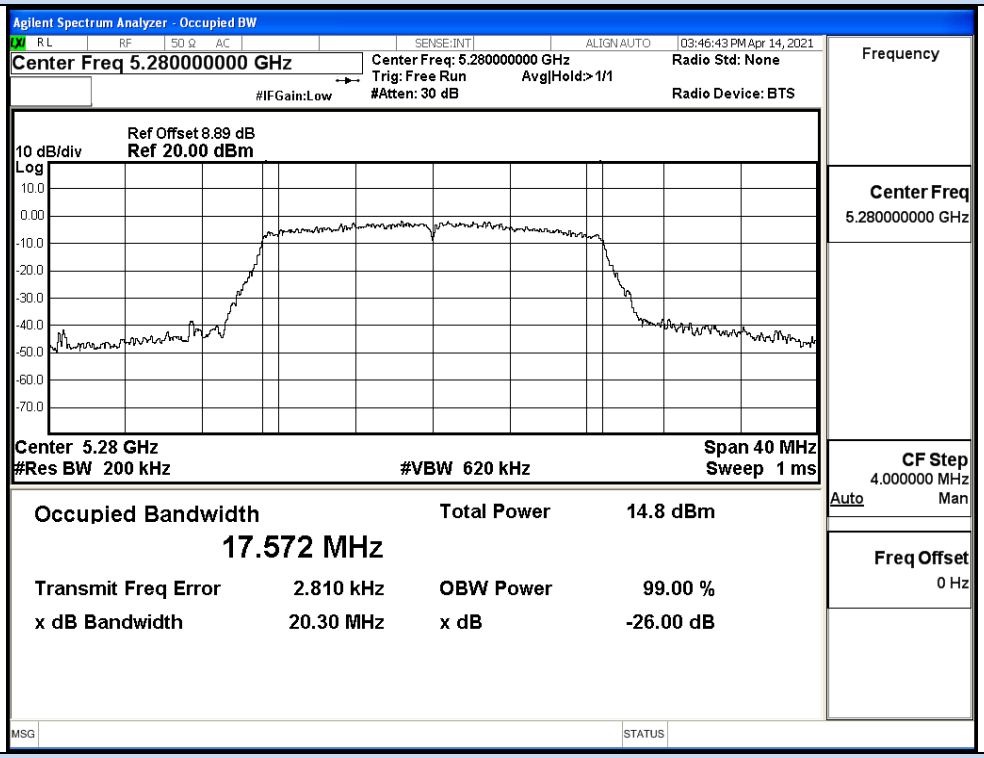

IEEE 802.11n40 / Channel 54 / 5270MHz



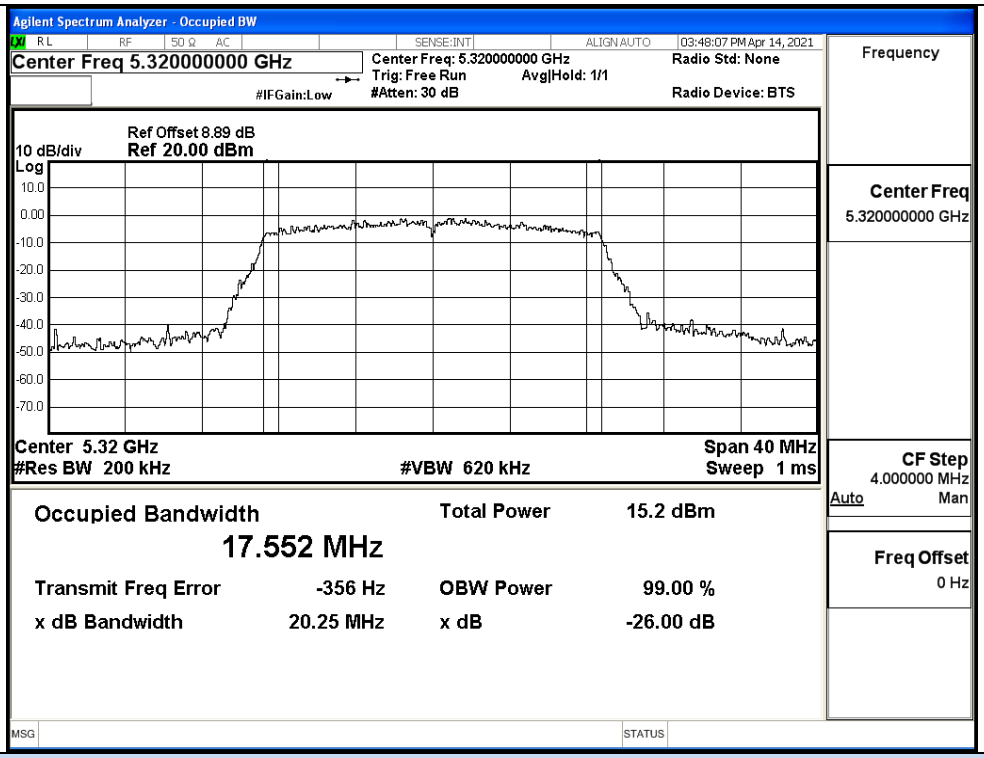

IEEE 802.11n40 / Channel 62 / 5310MHz



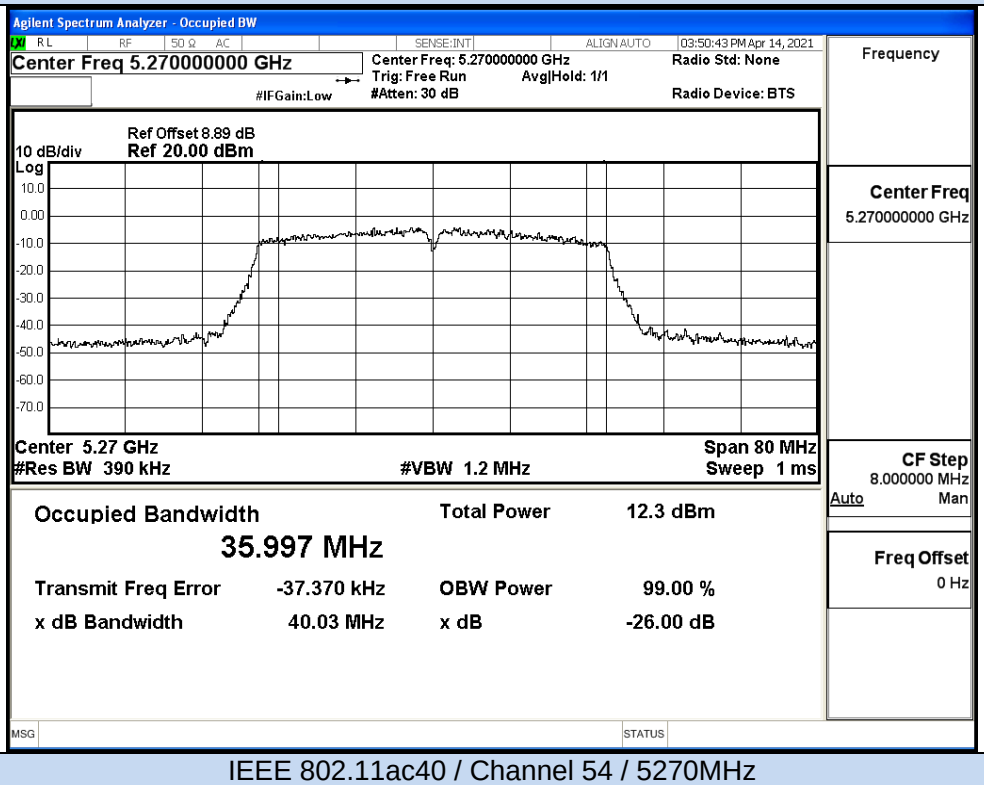

IEEE 802.11ac20 / Channel 52 / 5260MHz



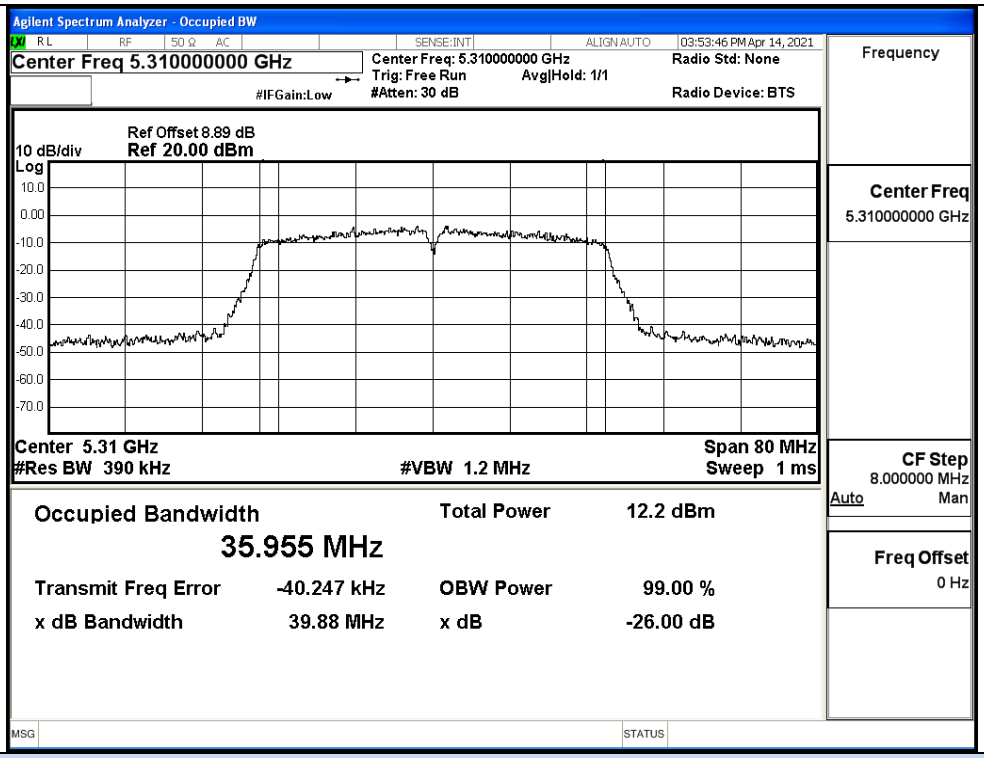

IEEE 802.11ac20 / Channel 56 / 5280MHz



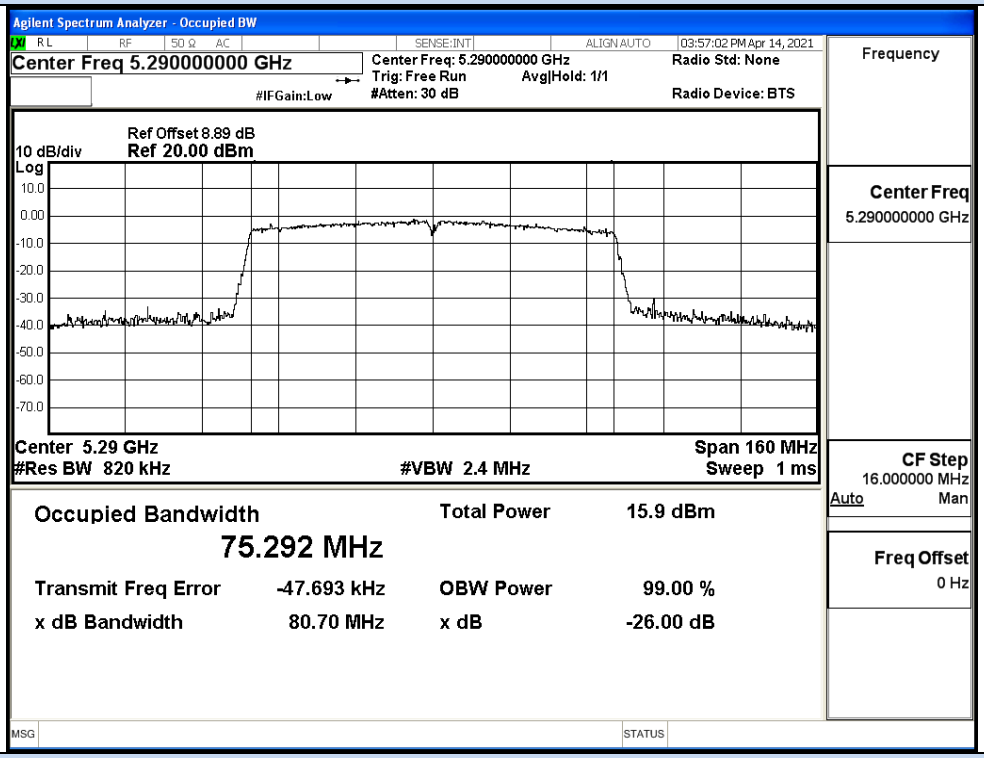

IEEE 802.11ac20 / Channel 64 / 5320MHz




IEEE 802.11ac40 / Channel 54 / 5270MHz




IEEE 802.11ac40 / Channel 62 / 5310MHz

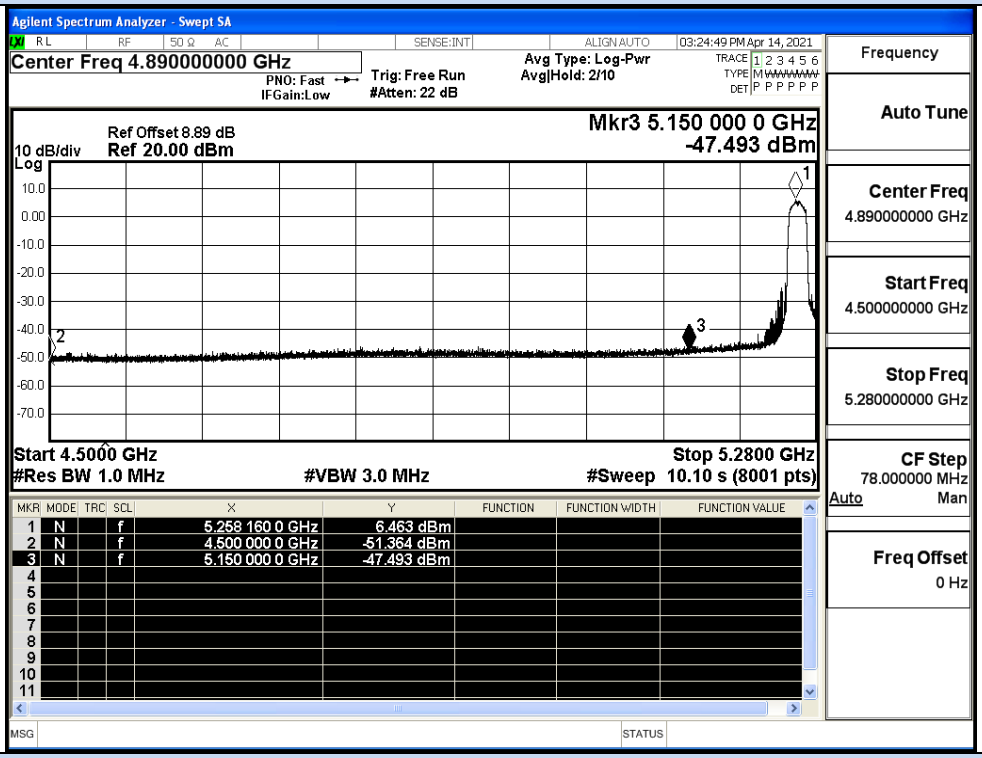



IEEE 802.11ac80 / Channel 58 / 5290MHz

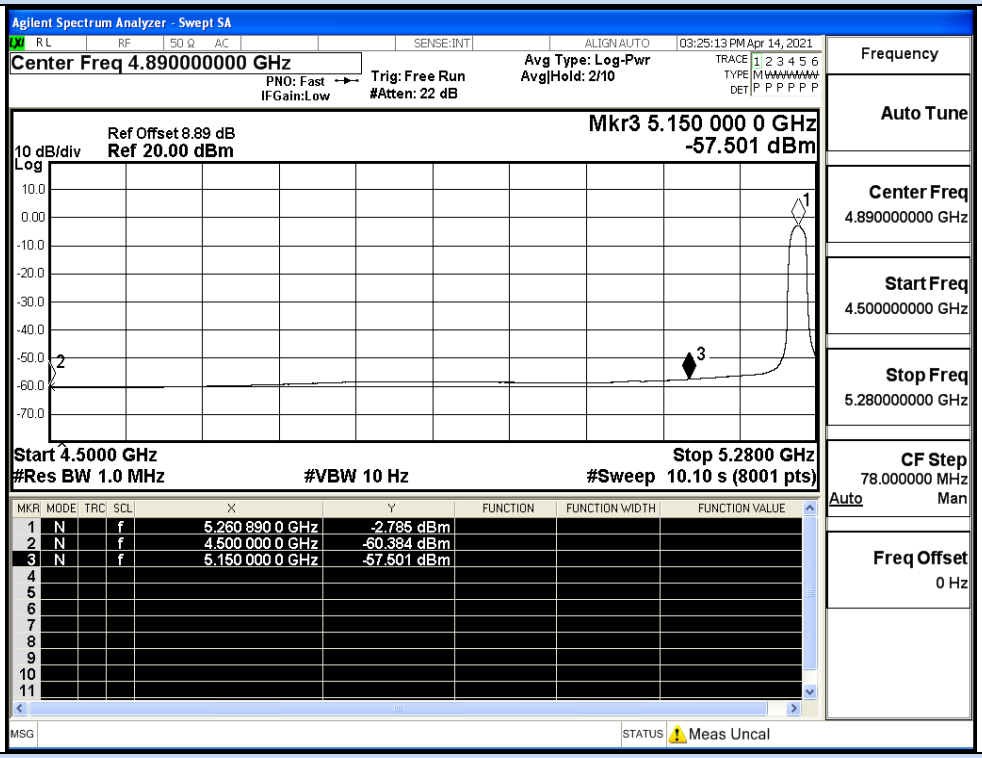
## C.5 Undesirable Emissions Measurement

| 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) | Verdict |
|---|---|---|---|---|---|---|---|---|---|
| 11A | 52 | 4500.0 | -51.36 | 2.81 | 0 | 46.68 | Peak | 68.20 | Pass |
| | | 4500.0 | -60.38 | 2.81 | 0 | 37.66 | Average | 54.00 | Pass |
| | | 5150.0 | -47.49 | 2.81 | 0 | 50.55 | Peak | 68.20 | Pass |
| | | 5150.0 | -57.50 | 2.81 | 0 | 40.54 | Average | 54.00 | Pass |
| | 64 | 5350.0 | -45.68 | 2.81 | 0 | 52.36 | Peak | 68.20 | Pass |
| | | 5350.0 | -57.08 | 2.81 | 0 | 40.96 | Average | 54.00 | Pass |
| | | 5460.0 | -48.52 | 2.81 | 0 | 49.52 | Peak | 68.20 | Pass |
| | | 5460.0 | -59.84 | 2.81 | 0 | 38.20 | Average | 54.00 | Pass |
| 11N20 SISO | 52 | 4500.0 | -49.23 | 2.81 | 0 | 48.81 | Peak | 68.20 | Pass |
| | | 4500.0 | -60.42 | 2.81 | 0 | 37.62 | Average | 54.00 | Pass |
| | | 5150.0 | -47.54 | 2.81 | 0 | 50.50 | Peak | 68.20 | Pass |
| | | 5150.0 | -57.51 | 2.81 | 0 | 40.53 | Average | 54.00 | Pass |
| | 64 | 5350.0 | -40.33 | 2.81 | 0 | 57.71 | Peak | 68.20 | Pass |
| | | 5350.0 | -57.00 | 2.81 | 0 | 41.04 | Average | 54.00 | Pass |
| | | 5460.0 | -48.59 | 2.81 | 0 | 49.45 | Peak | 68.20 | Pass |
| | | 5460.0 | -59.81 | 2.81 | 0 | 38.23 | Average | 54.00 | Pass |
| 11N40 SISO | 54 | 4500.0 | -51.10 | 2.81 | 0 | 46.94 | Peak | 68.20 | Pass |
| | | 4500.0 | -60.39 | 2.81 | 0 | 37.65 | Average | 54.00 | Pass |
| | | 5150.0 | -48.11 | 2.81 | 0 | 49.93 | Peak | 68.20 | Pass |
| | | 5150.0 | -57.65 | 2.81 | 0 | 40.39 | Average | 54.00 | Pass |
| | 62 | 5350.0 | -39.75 | 2.81 | 0 | 58.29 | Peak | 68.20 | Pass |
| | | 5350.0 | -53.25 | 2.81 | 0 | 44.79 | Average | 54.00 | Pass |
| | | 5460.0 | -48.80 | 2.81 | 0 | 49.24 | Peak | 68.20 | Pass |
| | | 5460.0 | -59.55 | 2.81 | 0 | 38.49 | Average | 54.00 | Pass |
| 11AC20 SISO | 52 | 4500.0 | -50.62 | 2.81 | 0 | 47.42 | Peak | 68.20 | Pass |
| | | 4500.0 | -60.38 | 2.81 | 0 | 37.66 | Average | 54.00 | Pass |
| | | 5150.0 | -47.78 | 2.81 | 0 | 50.26 | Peak | 68.20 | Pass |
| | | 5150.0 | -57.55 | 2.81 | 0 | 40.49 | Average | 54.00 | Pass |
| | 64 | 4500.0 | -50.62 | 2.81 | 0 | 47.42 | Peak | 68.20 | Pass |
| | | 4500.0 | -60.38 | 2.81 | 0 | 37.66 | Average | 54.00 | Pass |
| | | 5150.0 | -47.78 | 2.81 | 0 | 50.26 | Peak | 68.20 | Pass |
| | | 5150.0 | -57.55 | 2.81 | 0 | 40.49 | Average | 54.00 | Pass |
| 11AC40 SISO | 54 | 4500.0 | -51.29 | 2.81 | 0 | 46.75 | Peak | 68.20 | Pass |
| | | 4500.0 | -60.40 | 2.81 | 0 | 37.64 | Average | 54.00 | Pass |
| | | 5150.0 | -47.85 | 2.81 | 0 | 50.19 | Peak | 68.20 | Pass |
| | | 5150.0 | -57.90 | 2.81 | 0 | 40.14 | Average | 54.00 | Pass |
| | 62 | 5350.0 | -44.89 | 2.81 | 0 | 53.15 | Peak | 68.20 | Pass |
| | | 5350.0 | -57.07 | 2.81 | 0 | 40.97 | Average | 54.00 | Pass |
| | | 5460.0 | -48.38 | 2.81 | 0 | 49.66 | Peak | 68.20 | Pass |
| | | 5460.0 | -59.81 | 2.81 | 0 | 38.23 | Average | 54.00 | Pass |
| 11AC80 SISO | 58 | 4500.0 | -35.92 | 2.81 | 0 | 62.12 | Peak | 68.20 | Pass |
| | | 5150.0 | -48.36 | 2.81 | 0 | 49.68 | Average | 54.00 | Pass |
| | | 4500.0 | -48.24 | 2.81 | 0 | 49.80 | Peak | 68.20 | Pass |
| | | 5150.0 | -59.20 | 2.81 | 0 | 38.84 | Average | 54.00 | Pass |
| | | 5350.0 | -35.92 | 2.81 | 0 | 62.12 | Peak | 68.20 | Pass |
| | | 5460.0 | -48.36 | 2.81 | 0 | 49.68 | Average | 54.00 | Pass |
| | | 5350.0 | -48.24 | 2.81 | 0 | 49.80 | Peak | 68.20 | Pass |
| | | 5460.0 | -59.20 | 2.81 | 0 | 38.84 | Average | 54.00 | Pass |

## Undesirable Emissions Measurement

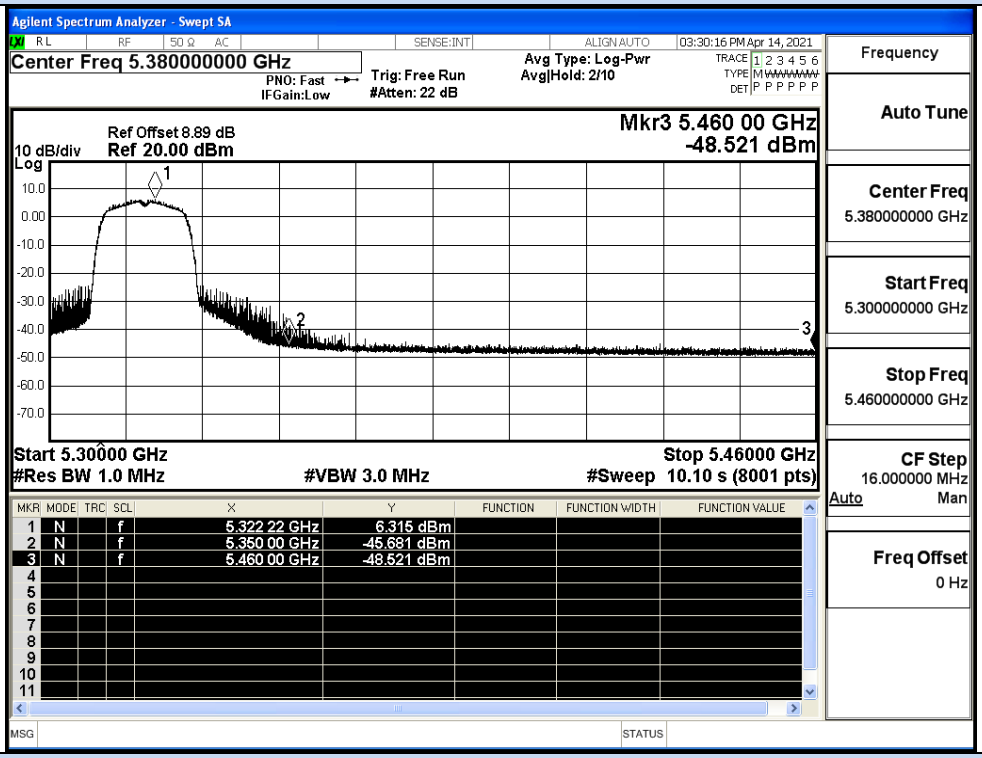



IEEE 802.11a / Channel 36 / 5260MHz / Peak

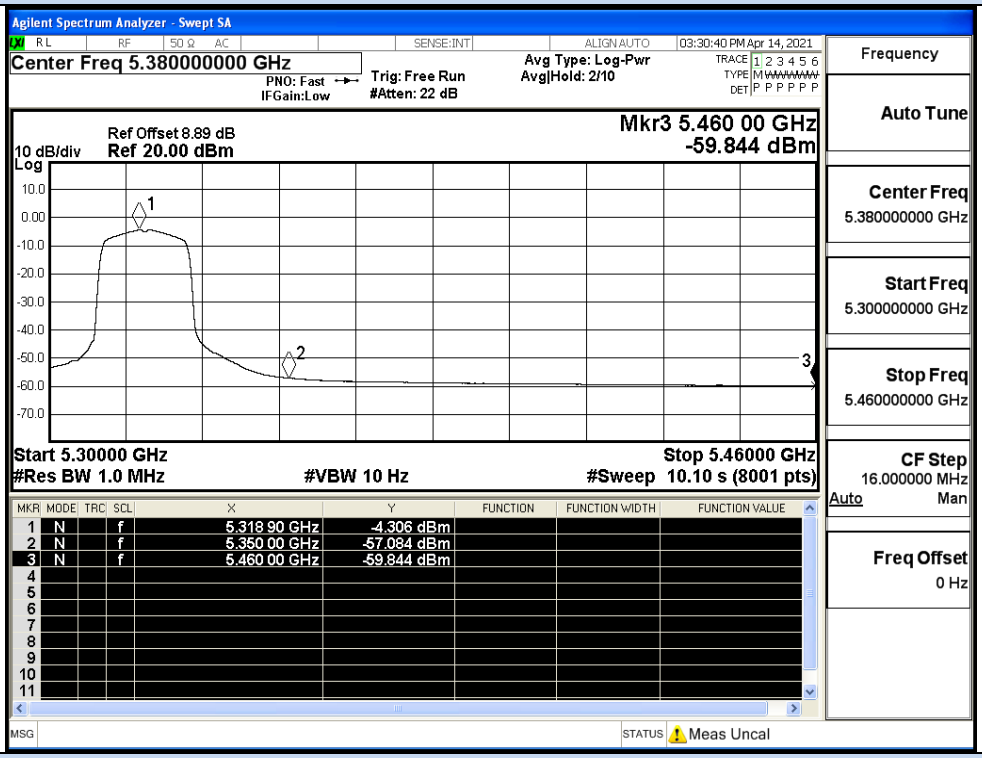



IEEE 802.11a / Channel 36 / 5260MHz / Average

## Undesirable Emissions Measurement

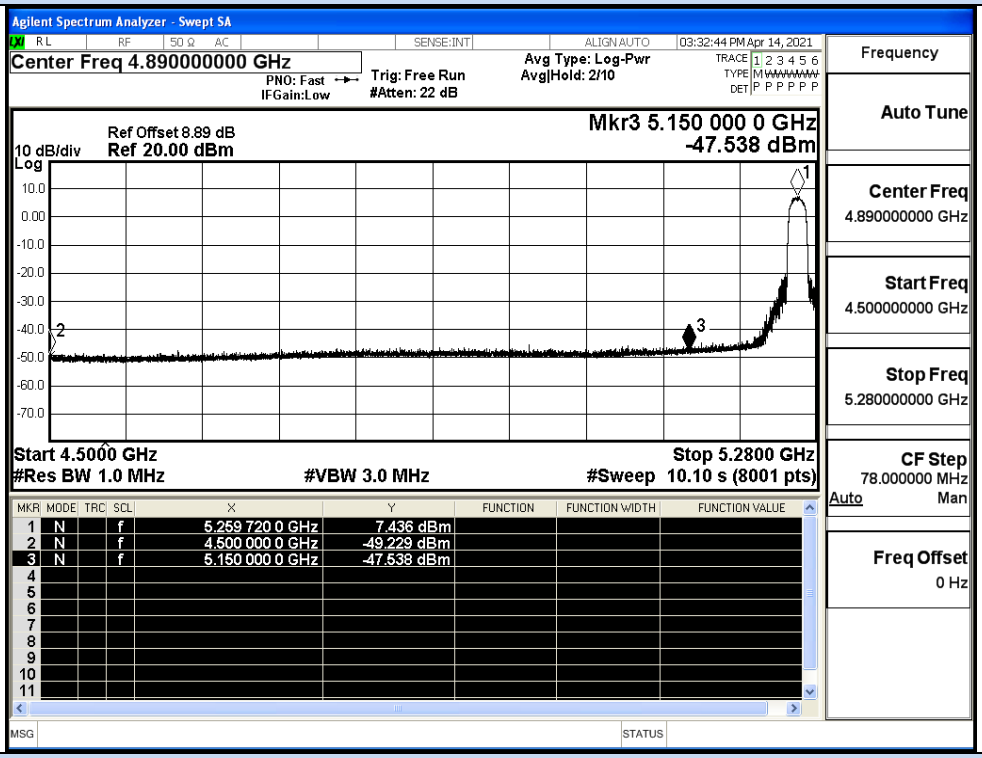



IEEE 802.11a / Channel 48 / 5320MHz / Peak

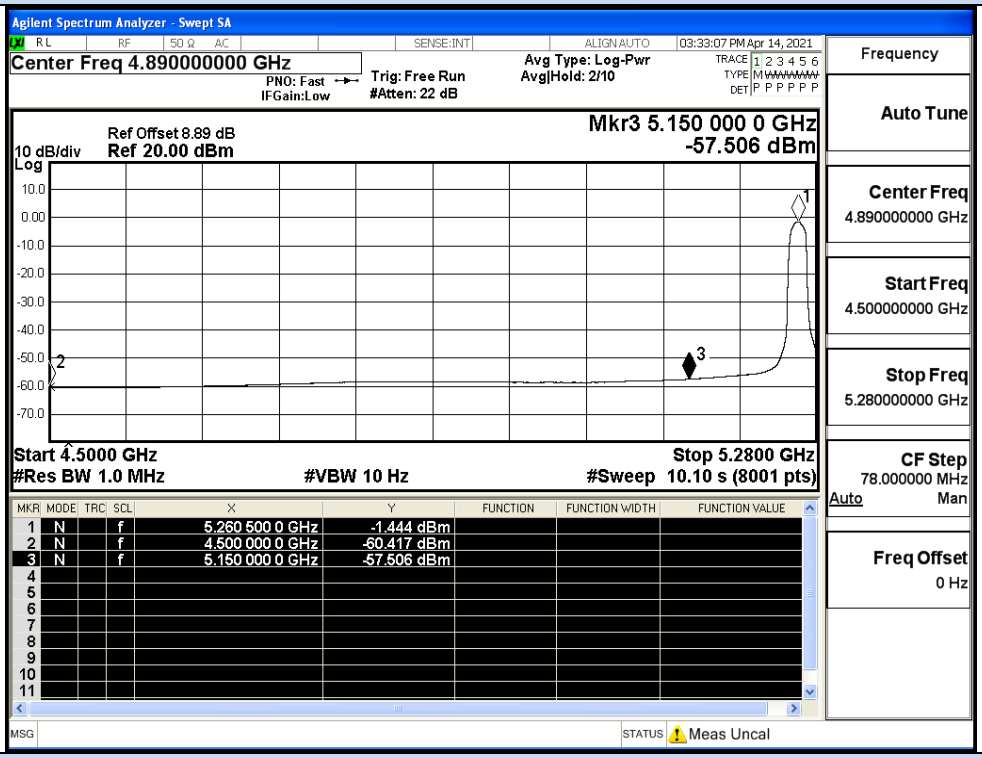



IEEE 802.11a / Channel 48 / 5320MHz / Average

## Undesirable Emissions Measurement

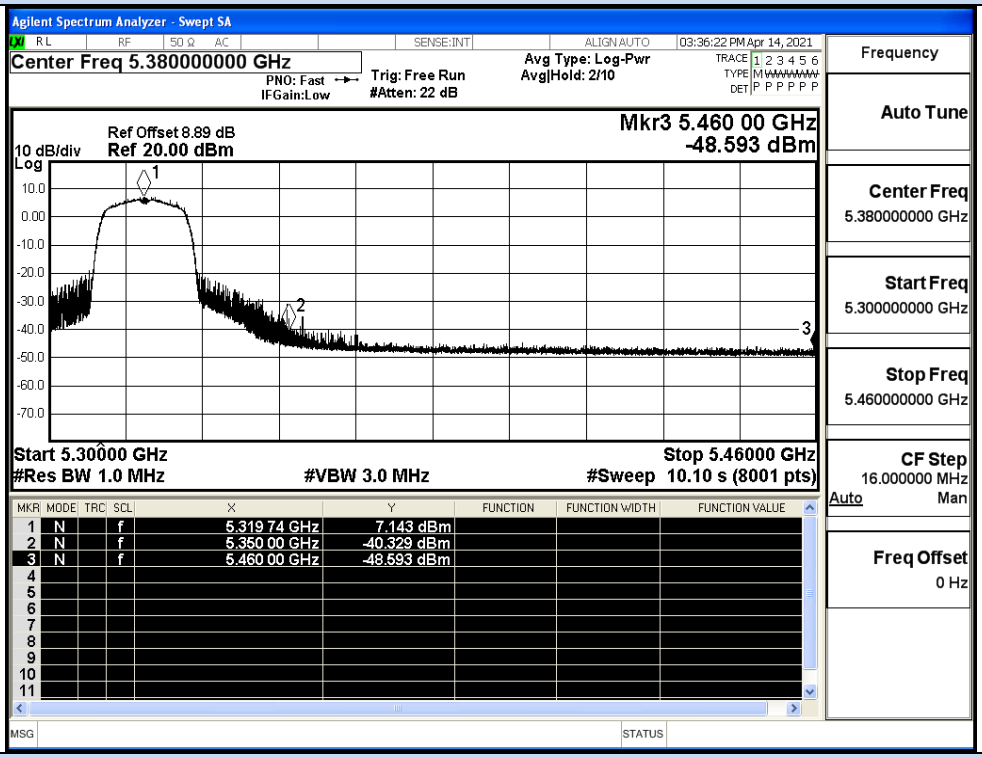



IEEE 802.11n20 / Channel 36 / 5260MHz / Peak

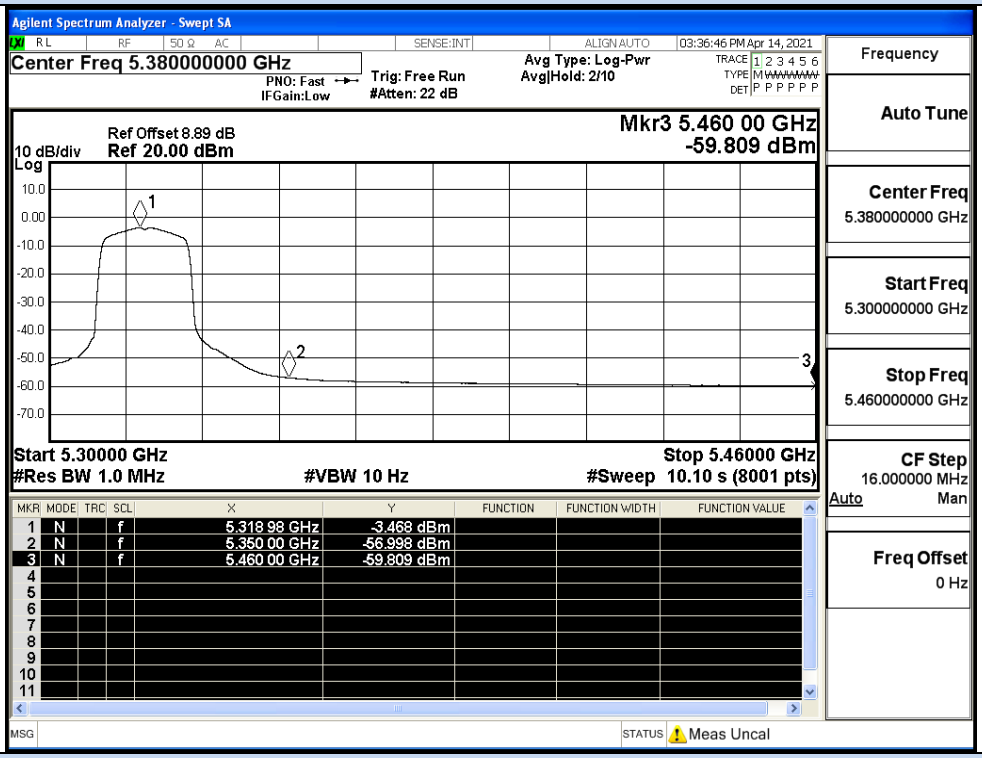



IEEE 802.11n20 / Channel 36 / 5260MHz / Average

## Undesirable Emissions Measurement

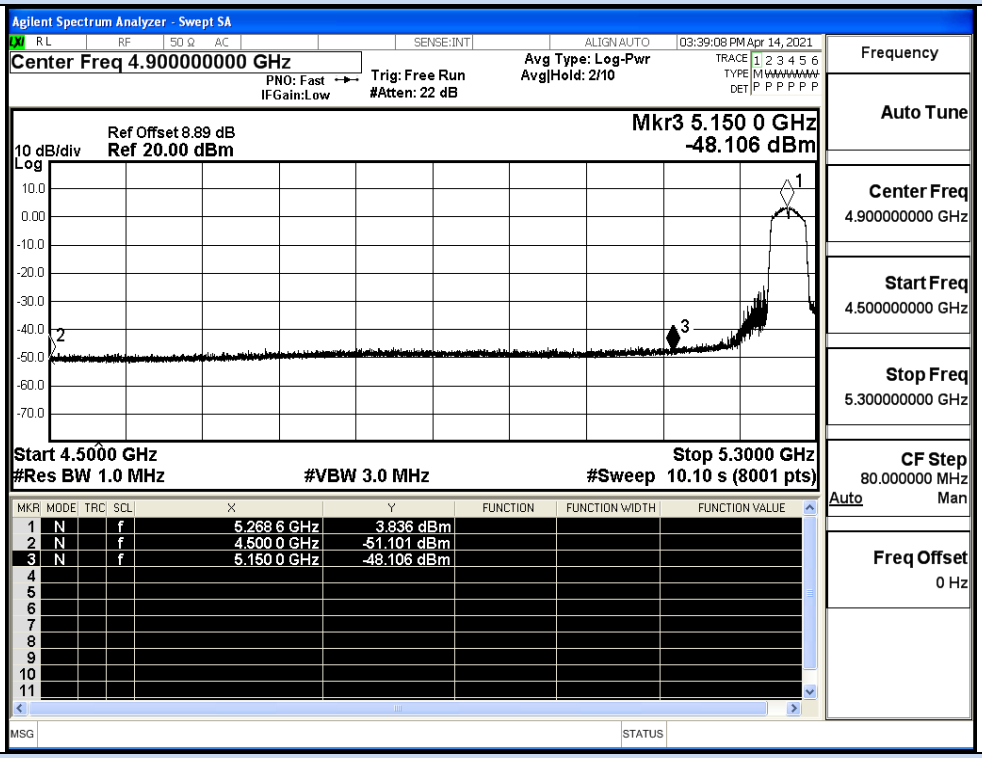



IEEE 802.11n20 / Channel 48 / 5320MHz / Peak

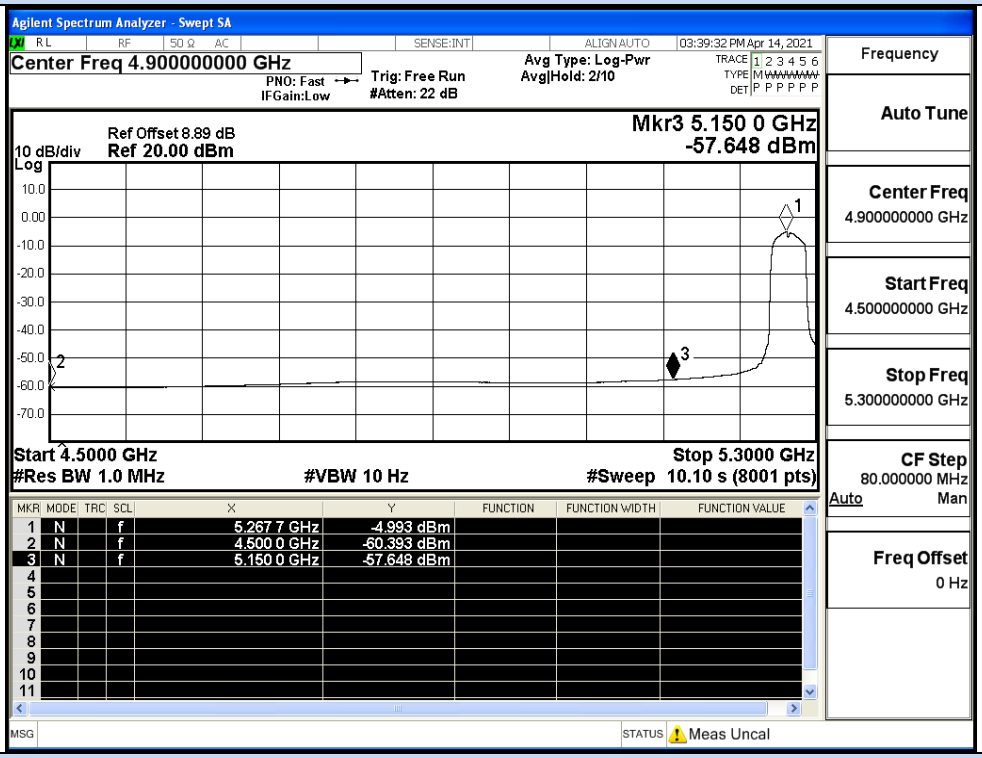



IEEE 802.11n20 / Channel 48 / 5320MHz / Average

## Undesirable Emissions Measurement

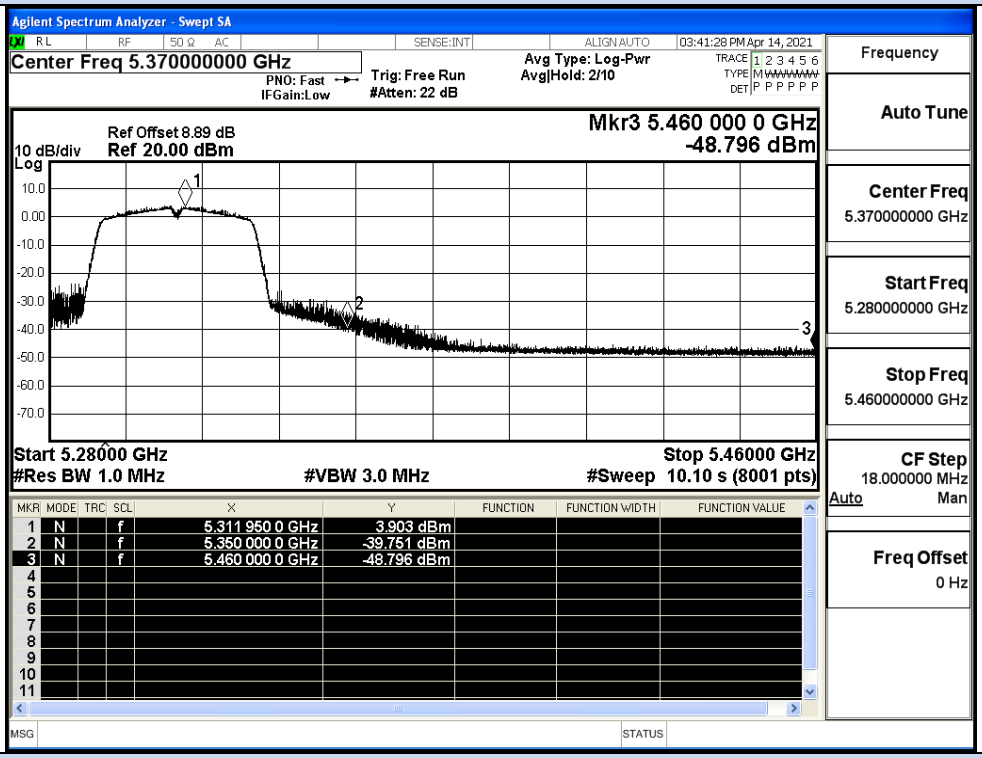



IEEE 802.11n40 / Channel 38 / 5270MHz / Peak

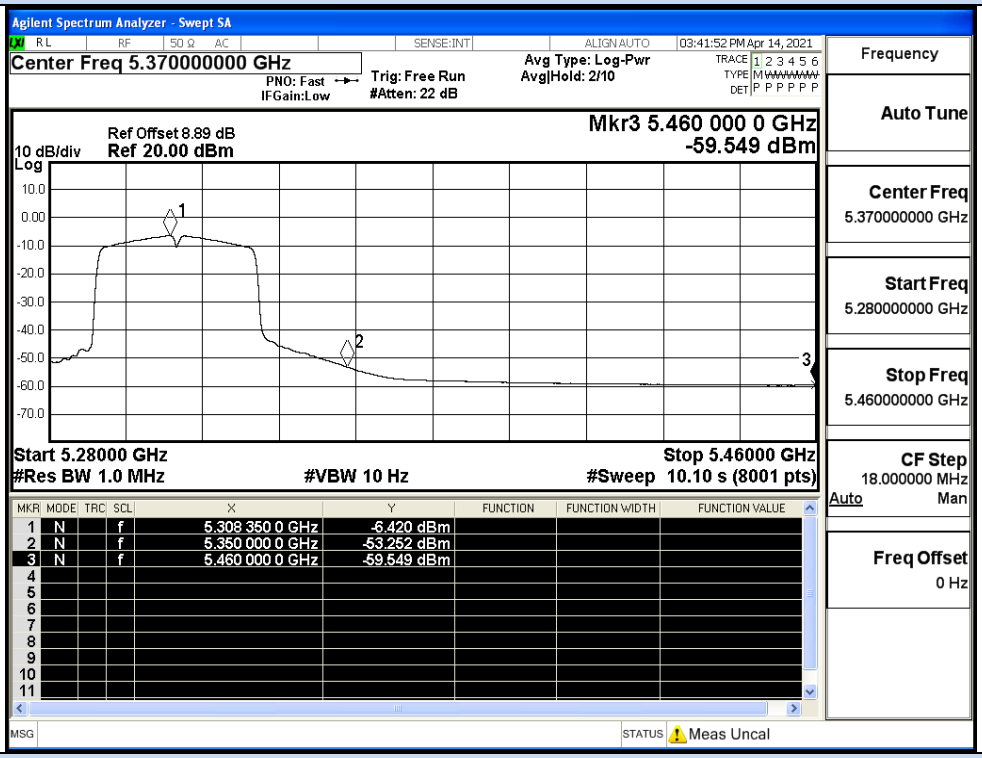



IEEE 802.11n40 / Channel 38 / 5270MHz / Average

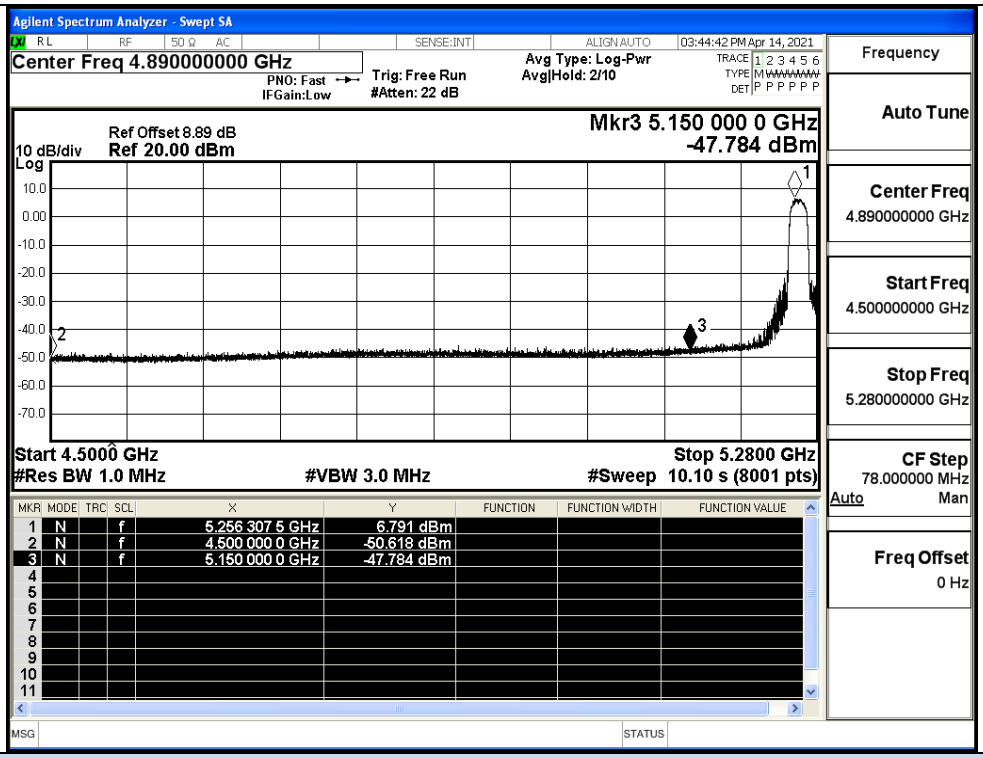
## Undesirable Emissions Measurement



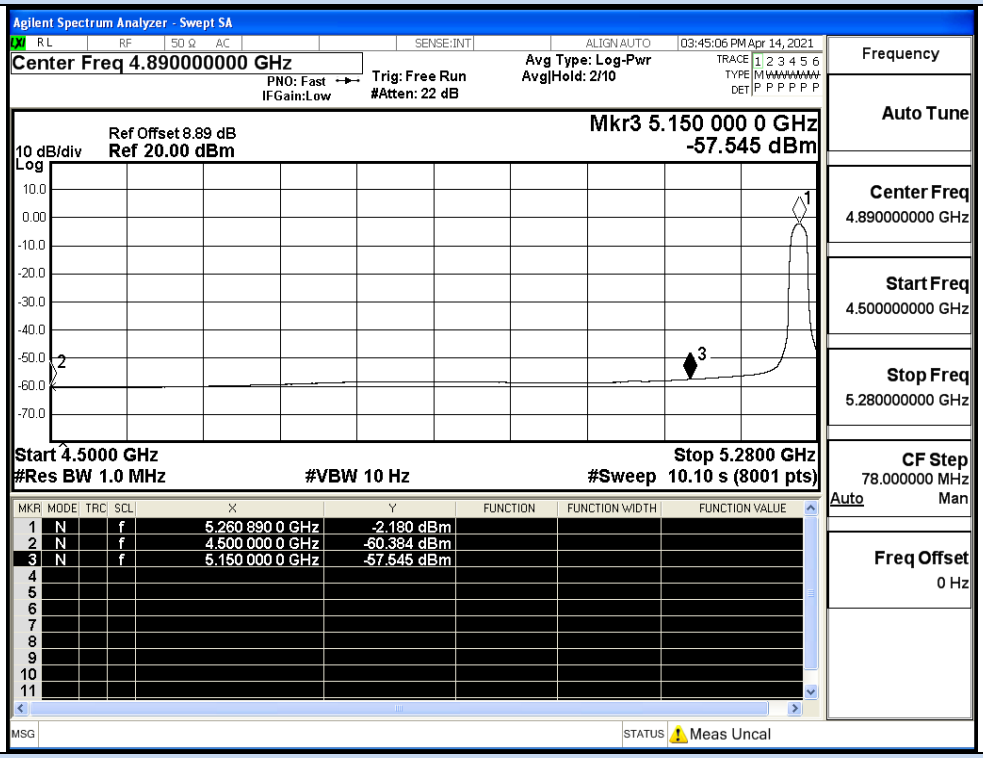

IEEE 802.11n40 / Channel 46 / 5310MHz / Peak



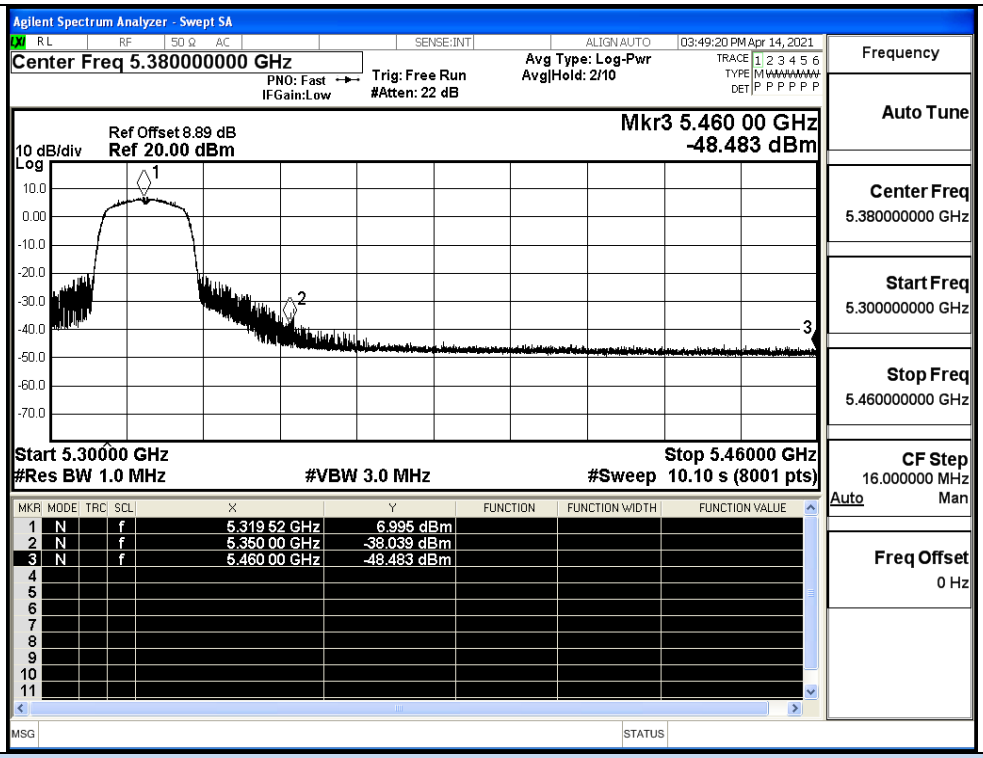

IEEE 802.11n40 / Channel 46 / 5310MHz / Average



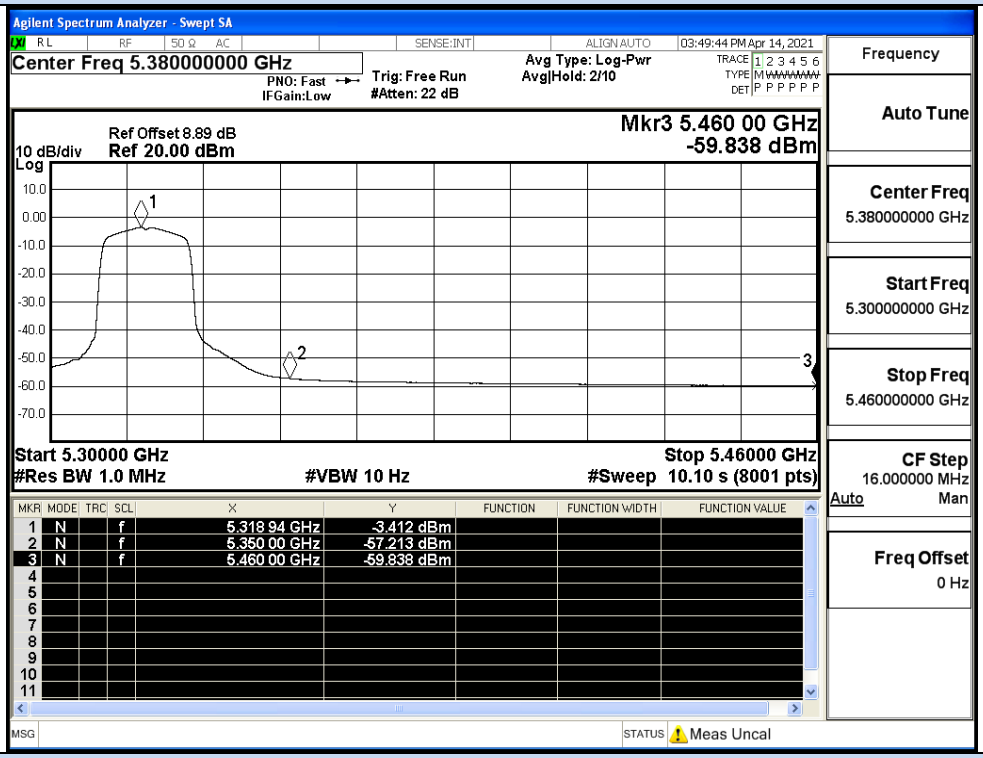

IEEE 802.11ac20 / Channel 36 / 5260MHz / Peak



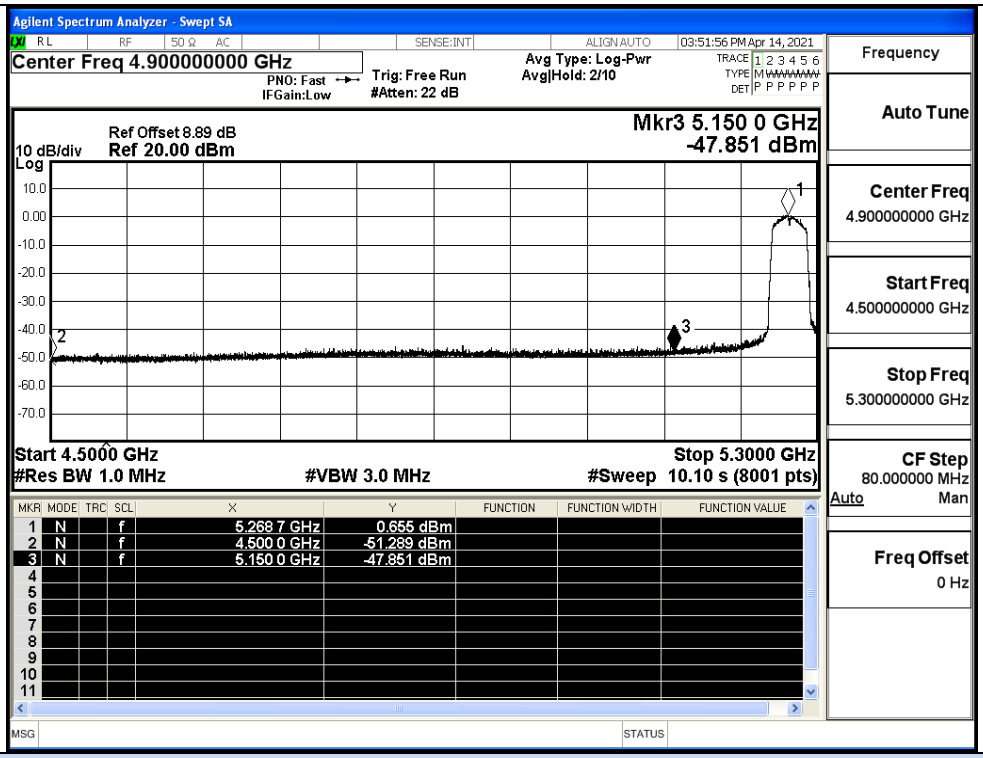

IEEE 802.11ac20 / Channel 36 / 5260MHz / Average



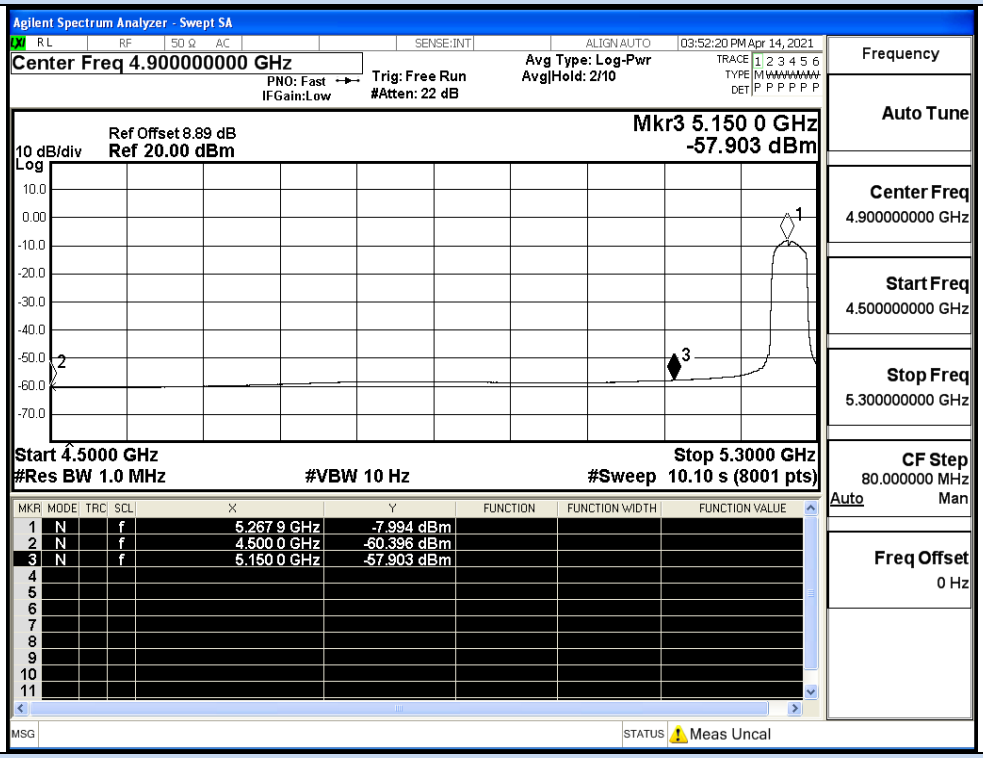

IEEE 802.11ac20 / Channel 48 / 5320MHz / Peak



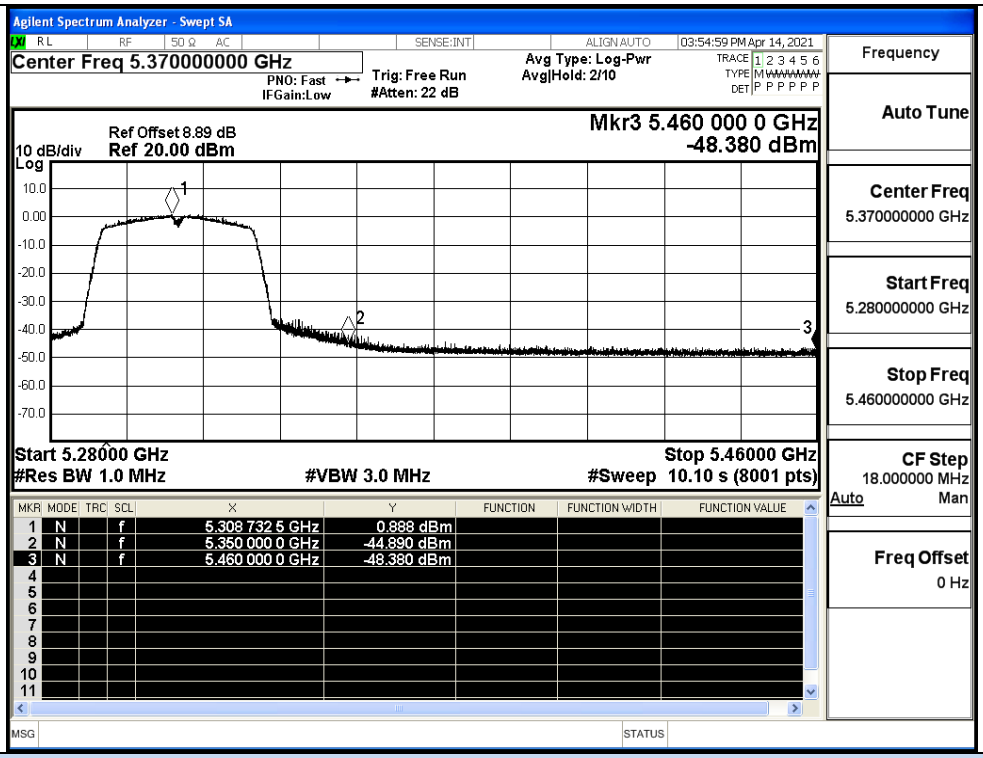

IEEE 802.11ac20 / Channel 48 / 5320MHz / Average



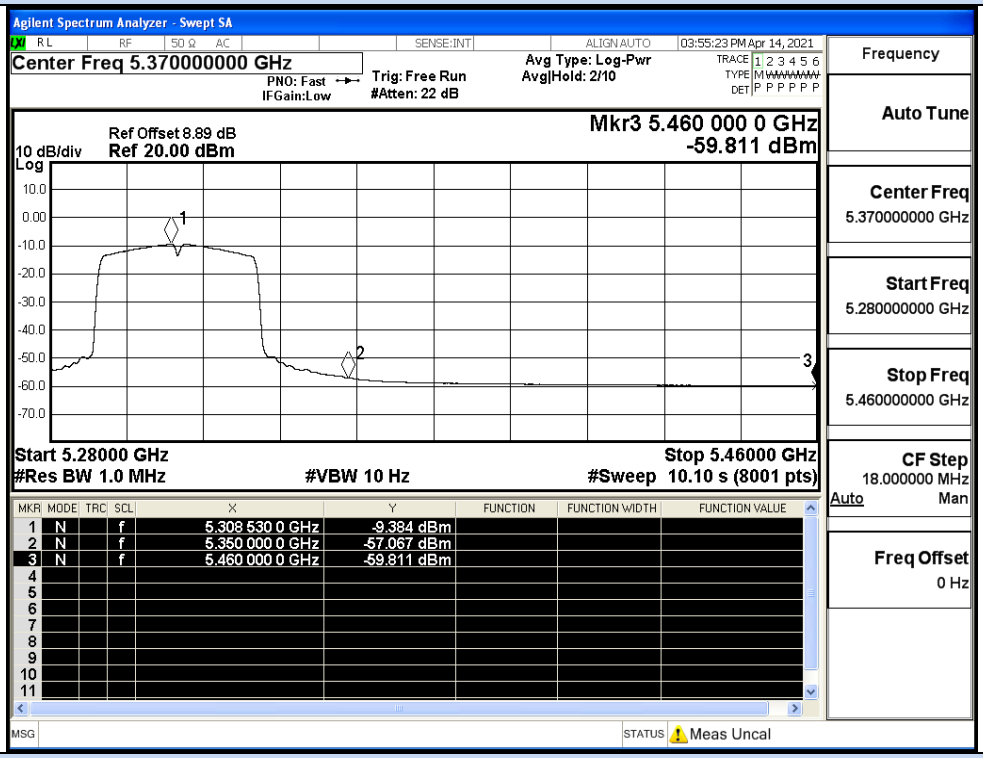

IEEE 802.11ac40 / Channel 38/ 5270MHz / Peak



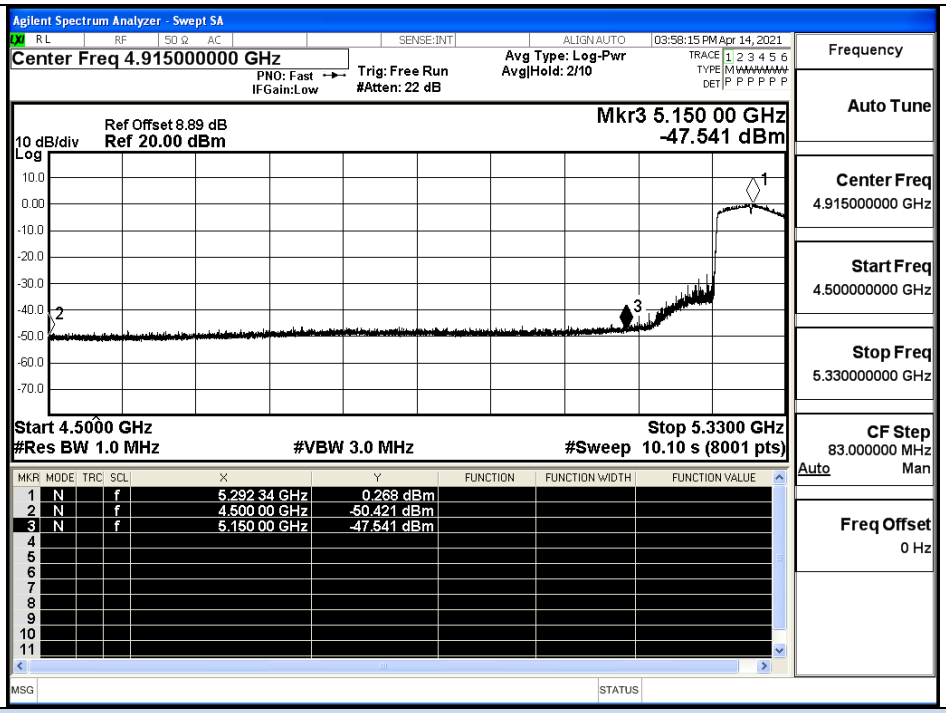

IEEE 802.11ac40 / Channel 38 / 5270MHz / Average



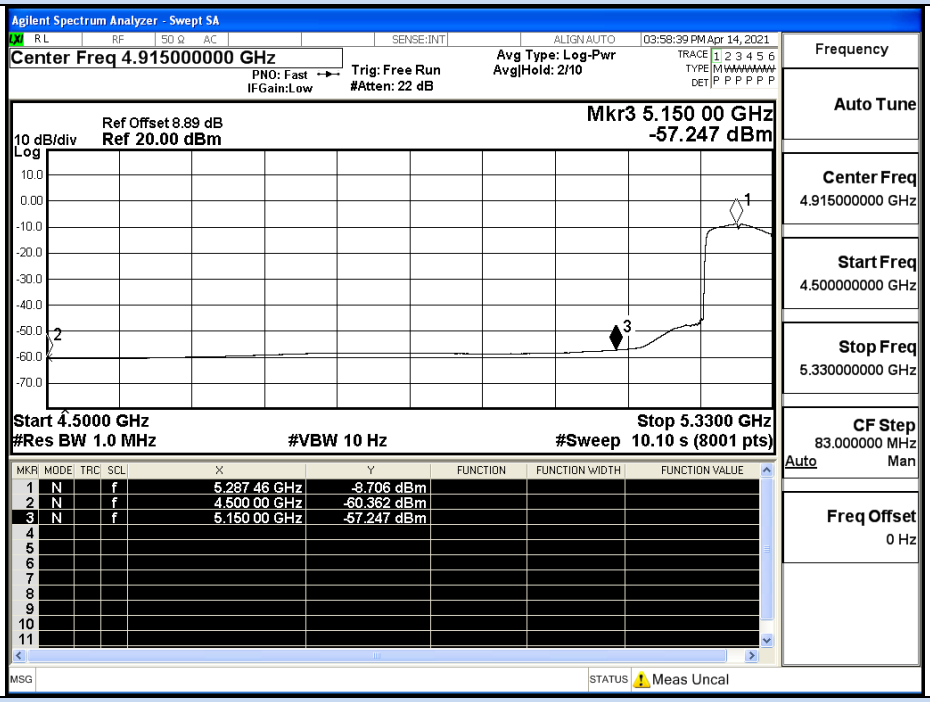

IEEE 802.11ac40 / Channel 46/ 5310MHz / Peak



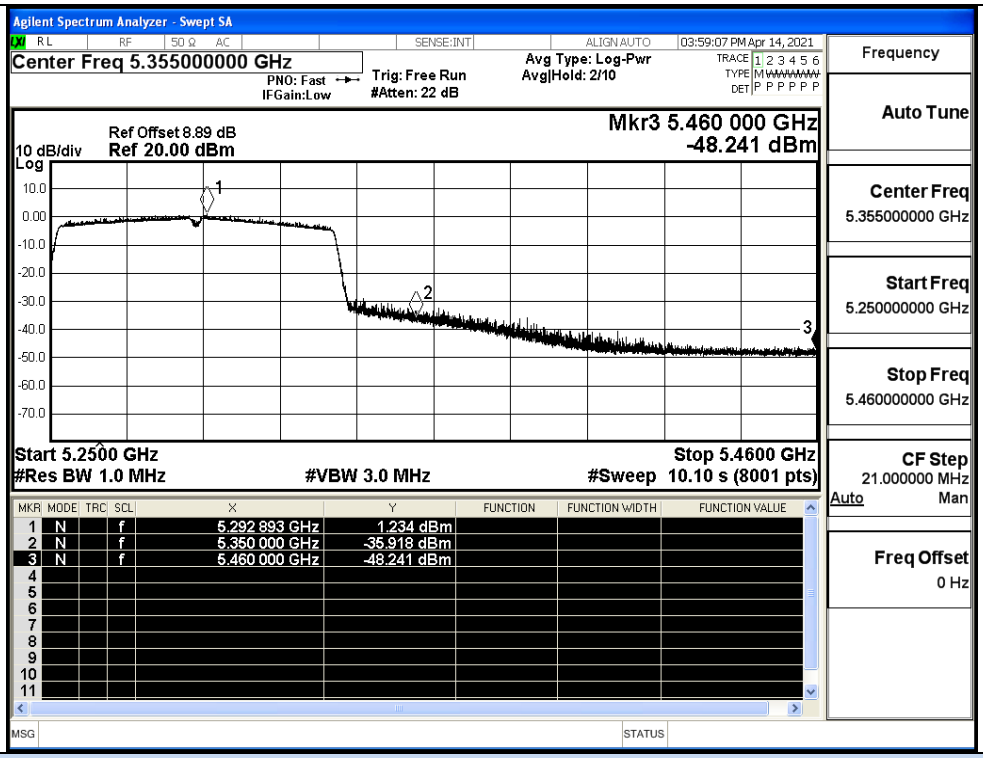

IEEE 802.11ac40 / Channel 46 / 5310MHz / Average



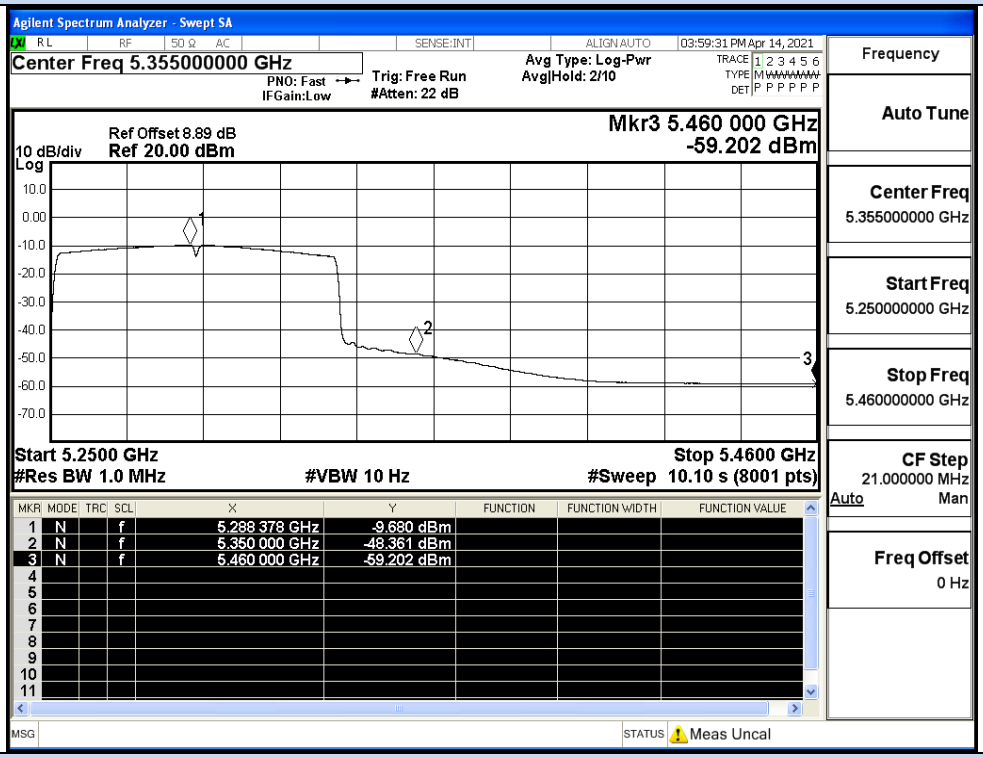

IEEE 802.11ac80 / Channel 42 / 5290MHz / Peak




IEEE 802.11ac80 / Channel 42 / 5290MHz / Average




IEEE 802.11ac80 / Channel 42/ 5290MHz / Peak




IEEE 802.11ac80 / Channel 42 / 5290MHz / Average