# APPENDIX A – TEST DATA OF CONDUCTED EMISSION

## Duty Cycle

| Test Mode | Frequency (MHz) | Duty Cycle (%) | Correction Factor(dB) | Plot |
|---|---|---|---|---|
| 802.11a | 5180 | 98.33% | 0 | Fig.1 |
| 802.11a | 5180 | 98.20% | 0 | Fig.2 |
| 802.11n HT20 | 5180 | 98.11% | 0 | Fig.3 |
| 802.11n HT20 | 5180 | 98.22% | 0 | Fig.4 |
| 802.11ac VHT20 | 5180 | 98.09% | 0 | Fig.5 |
| 802.11ac VHT20 | 5180 | 98.15% | 0 | Fig.6 |
| 802.11n HT40 | 5190 | 96.97% | 0.13 | Fig.7 |
| 802.11n HT40 | 5190 | 97.15% | 0.13 | Fig.8 |
| 802.11ac VHT40 | 5190 | 97.15% | 0.13 | Fig.9 |
| 802.11ac VHT40 | 5190 | 97.09% | 0.13 | Fig.10 |
| 802.11ac VHT80 | 5210 | 95.76% | 0.19 | Fig.11 |
| 802.11ac VHT80 | 5210 | 95.86% | 0.18 | Fig.12 |

Note: Correction Factor=10*log (1/Duty Cycle)

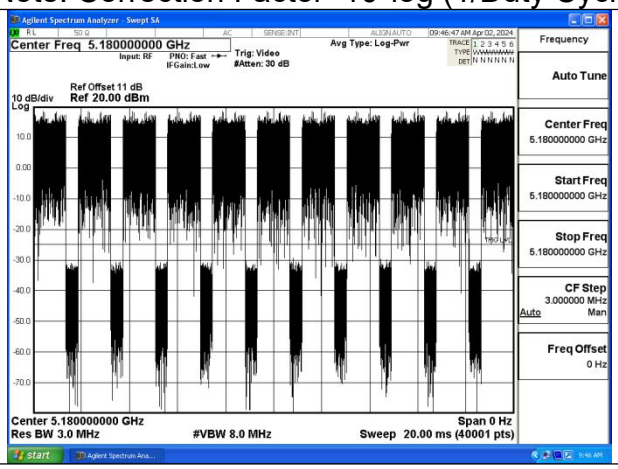



Fig.1

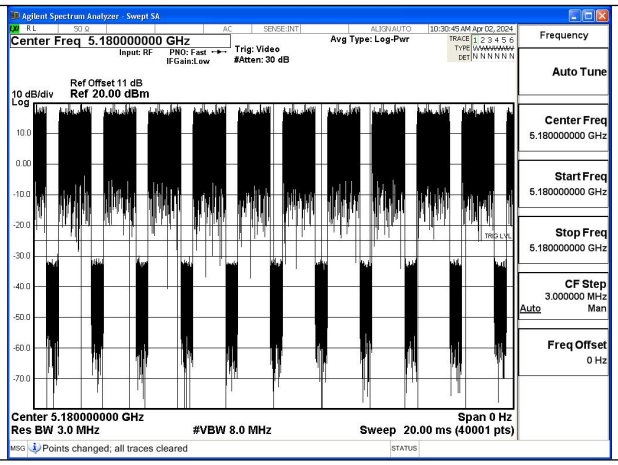



Fig.2

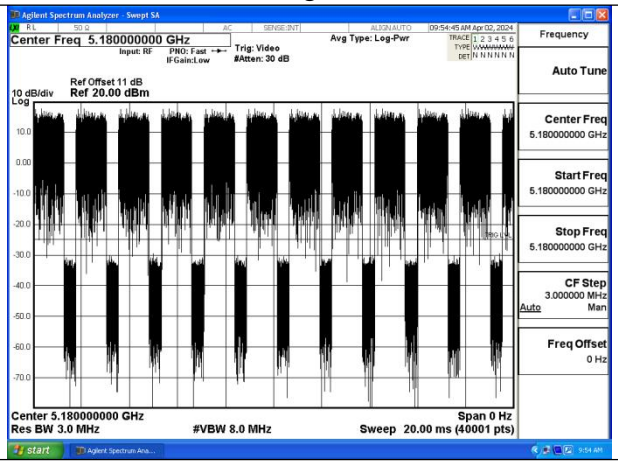



Fig.3

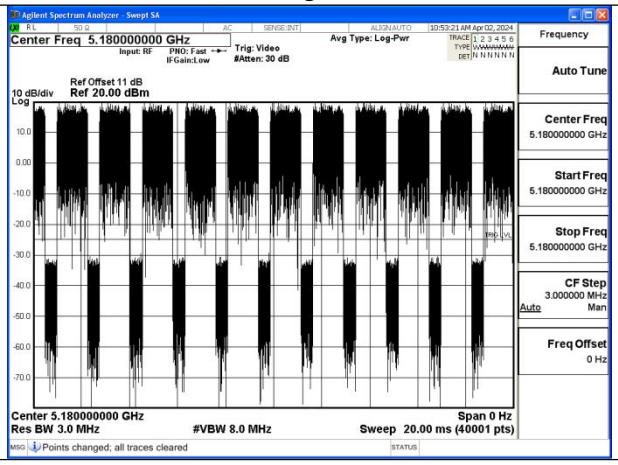



Fig.4

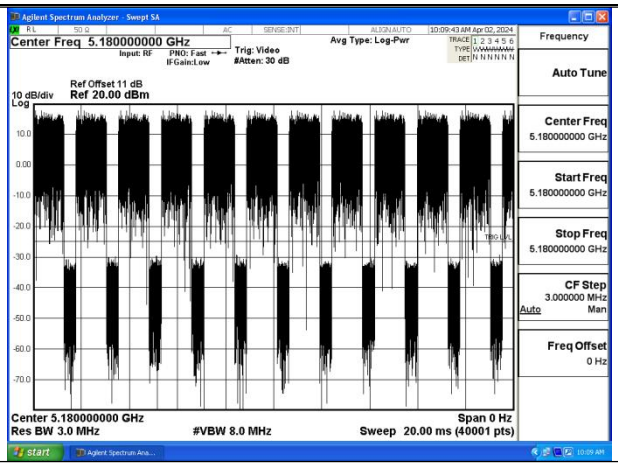



Fig.5

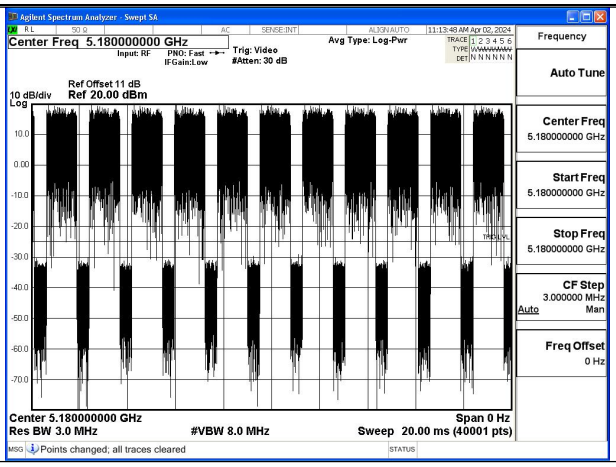



Fig.6

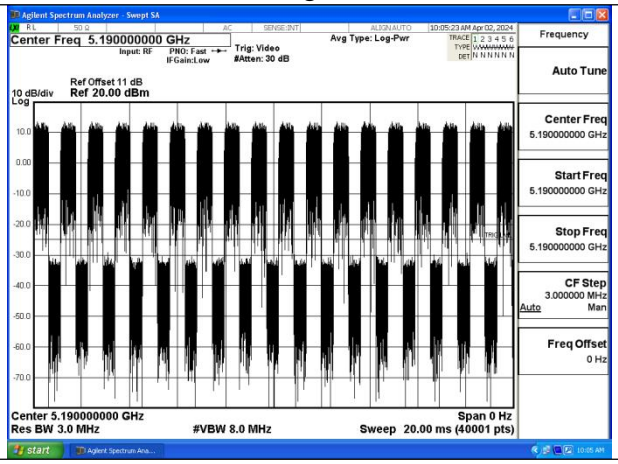



Fig.7

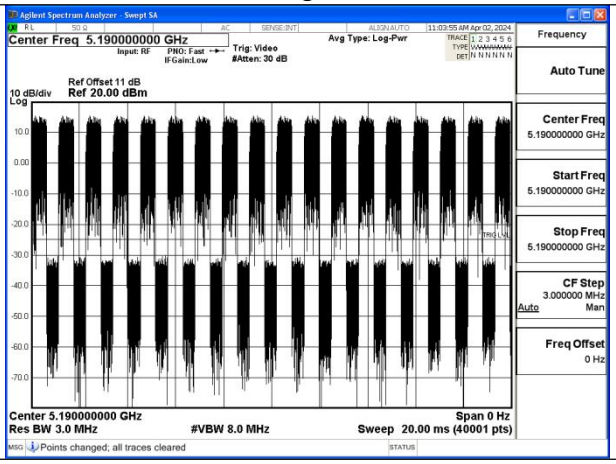



Fig.8

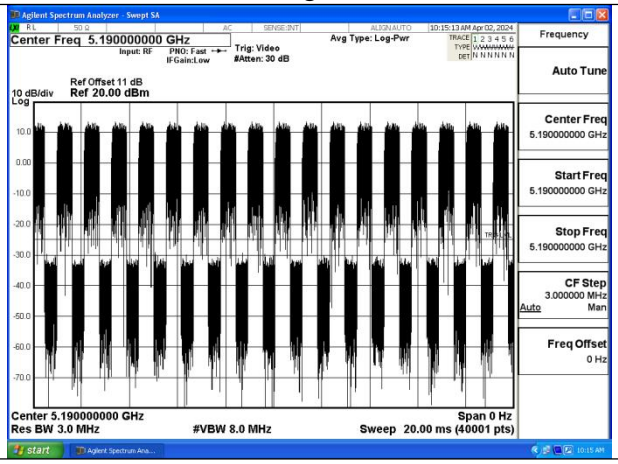



Fig.9

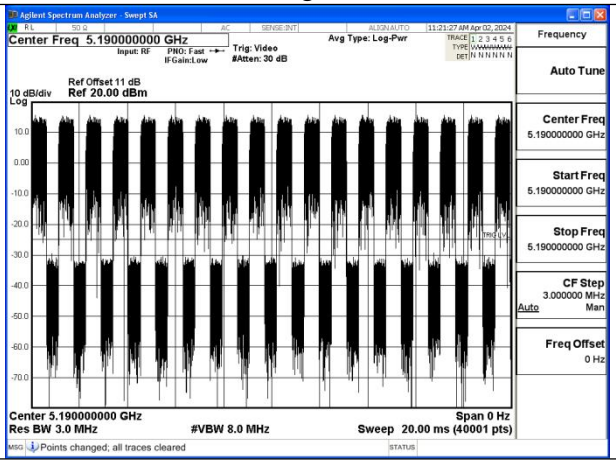



Fig.10

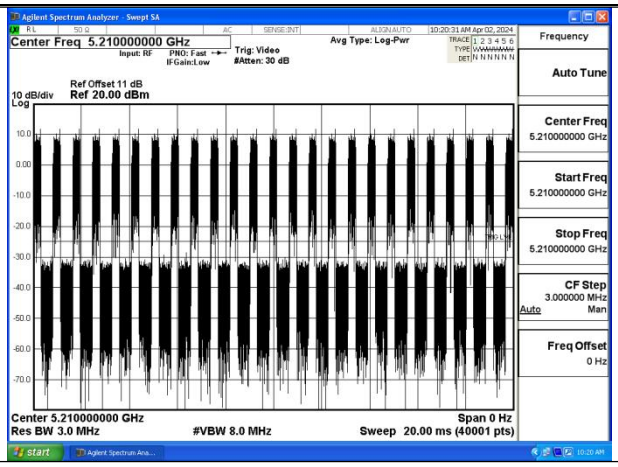

Agilent Spectrum Analyzer - Swept SA
Center Freq 5.210000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Video
#Atten: 30 dB
Avg Type: Log-Pwr
Ref Offset 11 dB
10 dB/div Ref 20.00 dBm
Log
Frequency
Auto Tune
Center Freq
5.210000000 GHz
Start Freq
5.210000000 GHz
Stop Freq
5.210000000 GHz
CF Step
3.000000 MHz
Auto Man
Freq Offset
0 Hz
Center 5.210000000 GHz
Span 0 Hz
Res BW 3.0 MHz
#VBW 8.0 MHz
Sweep 20.00 ms (40001 pts)

Fig.11

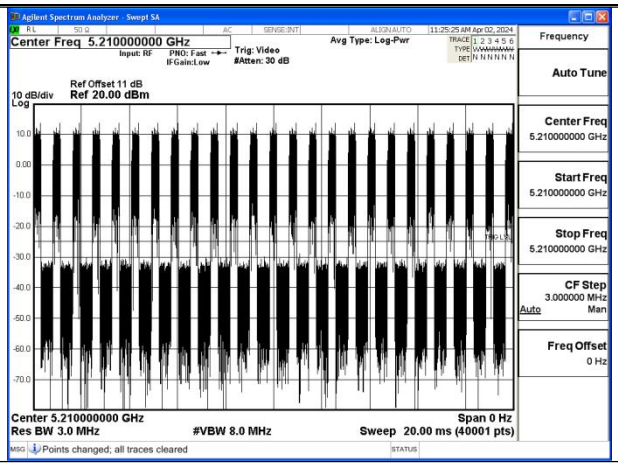

Agilent Spectrum Analyzer - Swept SA
Center Freq 5.210000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Video
#Atten: 30 dB
Avg Type: Log-Pwr
Ref Offset 11 dB
10 dB/div Ref 20.00 dBm
Log
Frequency
Auto Tune
Center Freq
5.210000000 GHz
Start Freq
5.210000000 GHz
Stop Freq
5.210000000 GHz
CF Step
3.000000 MHz
Auto Man
Freq Offset
0 Hz
Center 5.210000000 GHz
Span 0 Hz
Res BW 3.0 MHz
#VBW 8.0 MHz
Sweep 20.00 ms (40001 pts)
Points changed; all traces cleared

Fig.12

# Output Power

| Mode | Tones/ RUIndex | Frequency (MHz) | Antenna | Conductedaverage power output(dBm) | EIRP (dBm) |
|---|---|---|---|---|---|
| 802.11a | NA | 5180 | Chain0 | 13.41 | 15.22 |
| 802.11a | NA | 5180 | Chain1 | 15.32 | 17.13 |
| 802.11a | NA | 5220 | Chain0 | 13.41 | 15.22 |
| 802.11a | NA | 5220 | Chain1 | 15.39 | 17.20 |
| 802.11a | NA | 5240 | Chain0 | 13.59 | 15.40 |
| 802.11a | NA | 5240 | Chain1 | 15.55 | 17.36 |
| 802.11n HT20 | NA | 5180 | Chain0 | 13.21 | 15.02 |
| 802.11n HT20 | NA | 5180 | Chain1 | 15.56 | 17.37 |
| 802.11n HT20 | NA | 5180 | MIMO | 17.55 | 19.36 |
| 802.11n HT20 | NA | 5220 | Chain0 | 13.09 | 14.90 |
| 802.11n HT20 | NA | 5220 | Chain1 | 15.44 | 17.25 |
| 802.11n HT20 | NA | 5220 | MIMO | 17.43 | 19.24 |
| 802.11n HT20 | NA | 5240 | Chain0 | 13.46 | 15.27 |
| 802.11n HT20 | NA | 5240 | Chain1 | 14.70 | 16.51 |
| 802.11n HT20 | NA | 5240 | MIMO | 17.13 | 18.94 |
| 802.11ac VHT20 | NA | 5180 | Chain0 | 13.43 | 15.24 |
| 802.11ac VHT20 | NA | 5180 | Chain1 | 15.18 | 16.99 |
| 802.11ac VHT20 | NA | 5180 | MIMO | 17.40 | 19.21 |
| 802.11ac VHT20 | NA | 5220 | Chain0 | 13.61 | 15.42 |
| 802.11ac VHT20 | NA | 5220 | Chain1 | 14.46 | 16.27 |
| 802.11ac VHT20 | NA | 5220 | MIMO | 17.07 | 18.88 |
| 802.11ac VHT20 | NA | 5240 | Chain0 | 13.65 | 15.46 |
| 802.11ac VHT20 | NA | 5240 | Chain1 | 15.13 | 16.94 |
| 802.11ac VHT20 | NA | 5240 | MIMO | 17.46 | 19.27 |
| 802.11n HT40 | NA | 5190 | Chain0 | 12.31 | 14.12 |
| 802.11n HT40 | NA | 5190 | Chain1 | 13.92 | 15.73 |
| 802.11n HT40 | NA | 5190 | MIMO | 16.20 | 18.01 |
| 802.11n HT40 | NA | 5230 | Chain0 | 12.82 | 14.63 |
| 802.11n HT40 | NA | 5230 | Chain1 | 14.51 | 16.32 |
| 802.11n HT40 | NA | 5230 | MIMO | 16.76 | 18.57 |
| 802.11ac VHT40 | NA | 5190 | Chain0 | 12.57 | 14.38 |
| 802.11ac VHT40 | NA | 5190 | Chain1 | 13.87 | 15.68 |
| 802.11ac VHT40 | NA | 5190 | MIMO | 16.28 | 18.09 |
| 802.11ac VHT40 | NA | 5230 | Chain0 | 12.56 | 14.37 |
| 802.11ac VHT40 | NA | 5230 | Chain1 | 14.23 | 16.04 |
| 802.11ac VHT40 | NA | 5230 | MIMO | 16.49 | 18.30 |
| 802.11ac VHT80 | NA | 5210 | Chain0 | 12.98 | 14.79 |
| 802.11ac VHT80 | NA | 5210 | Chain1 | 12.73 | 14.54 |
| 802.11ac VHT80 | NA | 5210 | MIMO | 15.87 | 17.68 |

# Emission Bandwidth

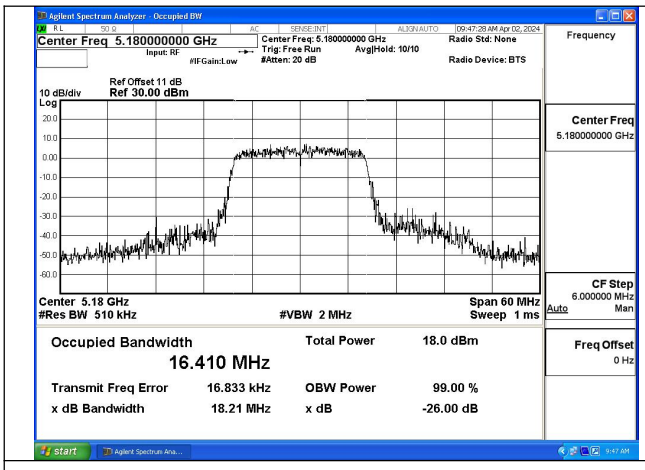
Offset 21dB = Attenuator + Temporary antenna connector loss + Cable loss

| Test Mode | Antenna | 26dB Bandwidth (MHz) | | |
|---|---|---|---|---|
| | | 5180MHz | 5220MHz | 5240MHz |
| 802.11a | Chain0 | 18.21 | 18.33 | 18.20 |
| 802.11a | Chain1 | 18.30 | 18.01 | 18.72 |
| 802.11n HT20 | Chain0 | 19.04 | 19.11 | 19.48 |
| 802.11n HT20 | Chain1 | 19.28 | 19.60 | 19.68 |
| 802.11ac VHT20 | Chain0 | 19.60 | 19.21 | 19.31 |
| 802.11ac VHT20 | Chain1 | 19.99 | 19.73 | 19.43 |

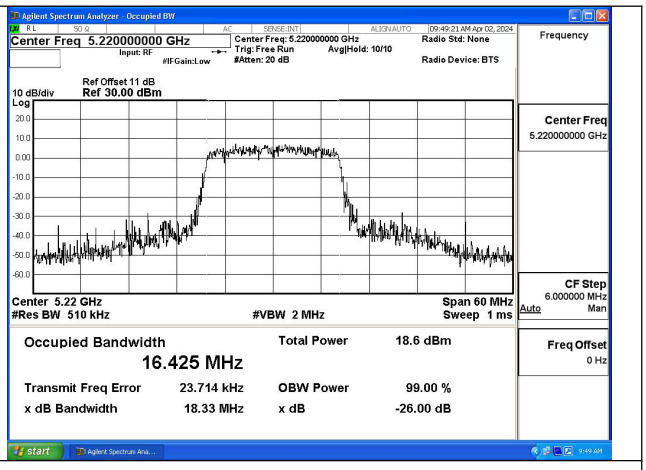
| Test Mode | Antenna | 26dB Bandwidth (MHz) | | |
|---|---|---|---|---|
| | | 5190MHz | --- | 5230MHz |
| 802.11n HT40 | Chain0 | 38.43 | --- | 38.83 |
| 802.11n HT40 | Chain1 | 47.56 | --- | 38.90 |
| 802.11ac VHT40 | Chain0 | 38.35 | --- | 38.29 |
| 802.11ac VHT40 | Chain1 | 42.63 | --- | 38.99 |

| Test Mode | Antenna | 26dB Bandwidth (MHz) | | |
|---|---|---|---|---|
| | | 5210MHz | --- | --- |
| 802.11ac VHT80 | Chain0 | 80.50 | --- | --- |
| 802.11ac VHT80 | Chain1 | 80.74 | --- | --- |

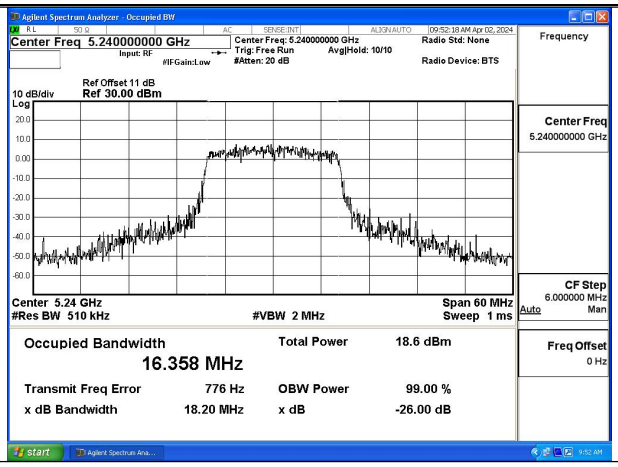
Test Mode: 802.11a



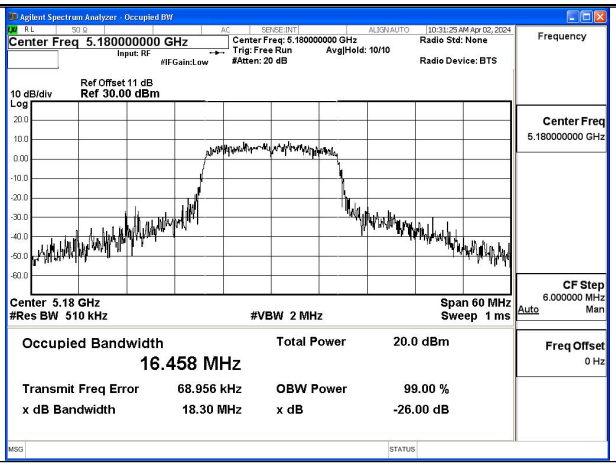

Mode:802.11a Frequency:5180MHz Ant:Chain0



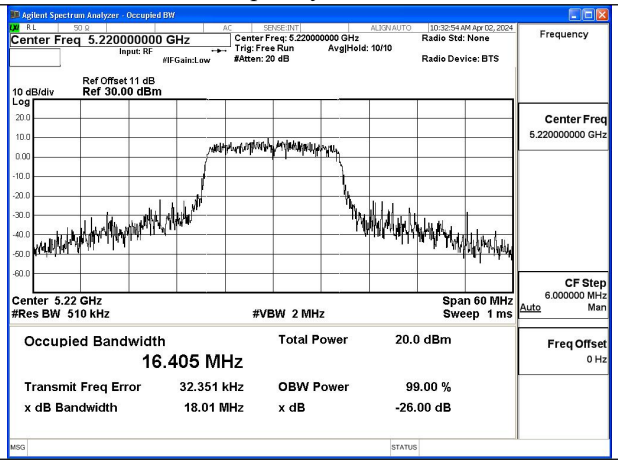

Mode:802.11a Frequency:5220MHz Ant:Chain0



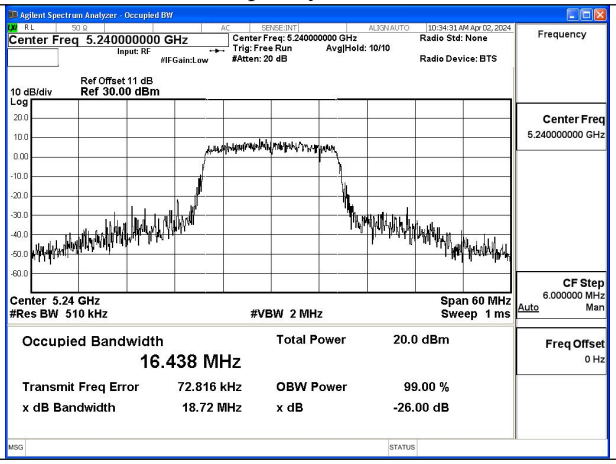

Mode:802.11a Frequency:5240MHz Ant:Chain0




Mode:802.11a Frequency:5180MHz Ant:Chain1

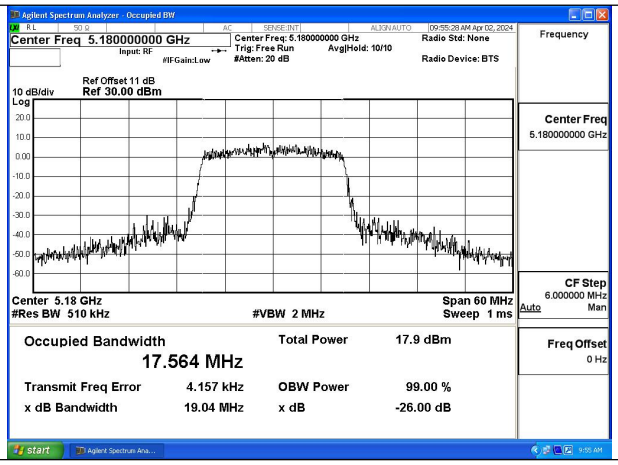



Mode:802.11a Frequency:5220MHz Ant:Chain1

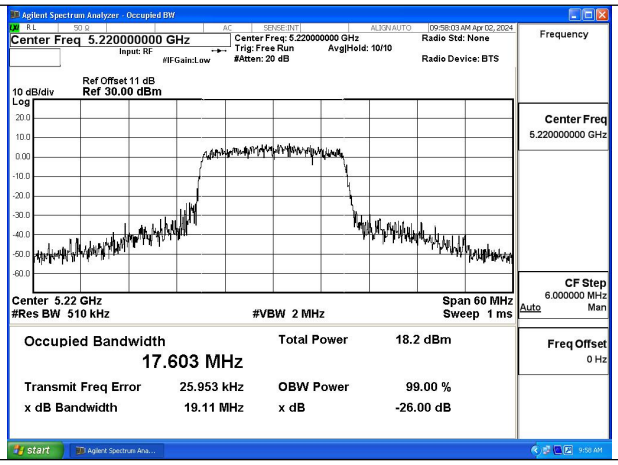



Mode:802.11a Frequency:5240MHz Ant:Chain1

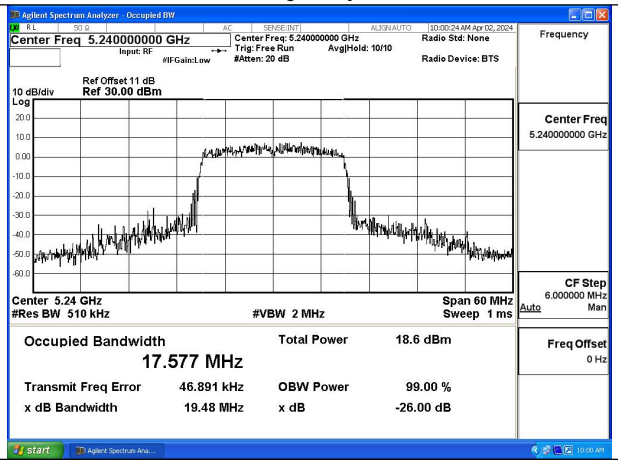
Test Mode: 802.11n HT20



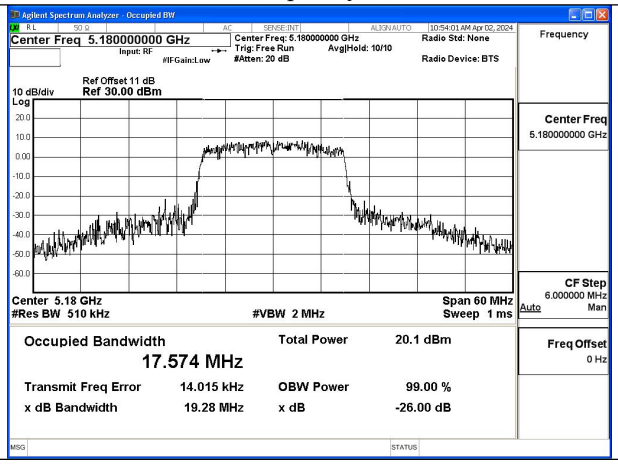

Mode:802.11n HT20 Frequency:5180MHz Ant:Chain0



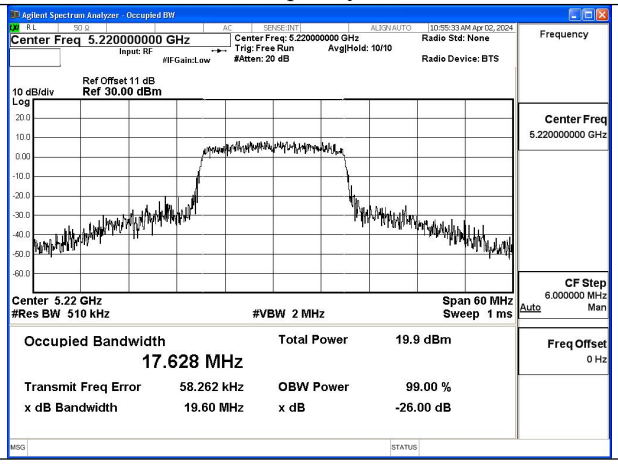

Mode:802.11n HT20 Frequency:5220MHz Ant:Chain0



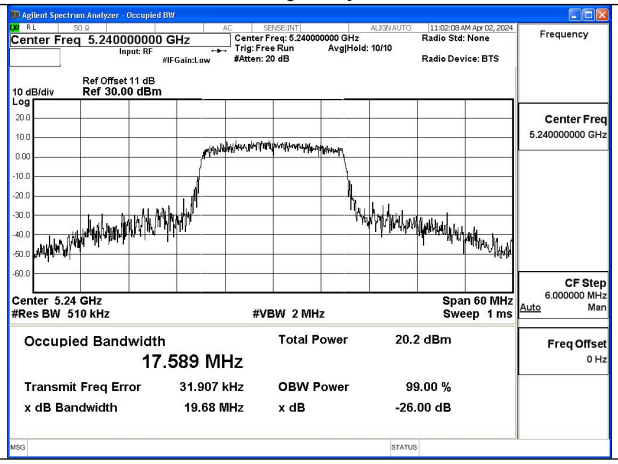

Mode:802.11n HT20 Frequency:5240MHz Ant:Chain0




Mode:802.11n HT20 Frequency:5180MHz Ant:Chain1

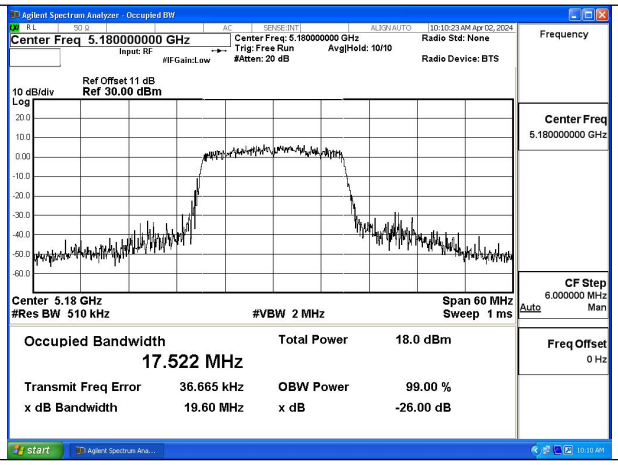



Mode:802.11n HT20 Frequency:5220MHz Ant:Chain1

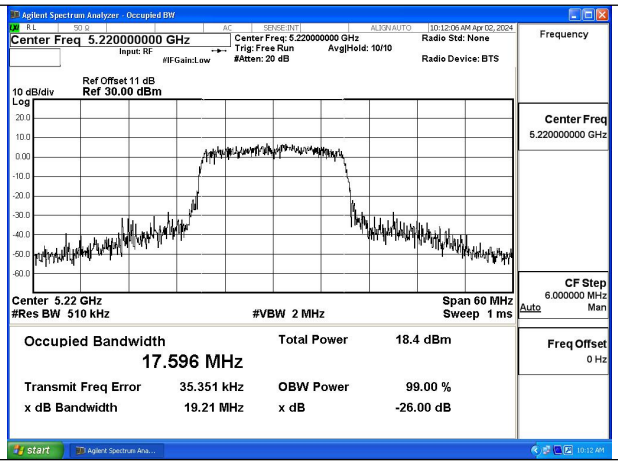



Mode:802.11n HT20 Frequency:5240MHz Ant:Chain1

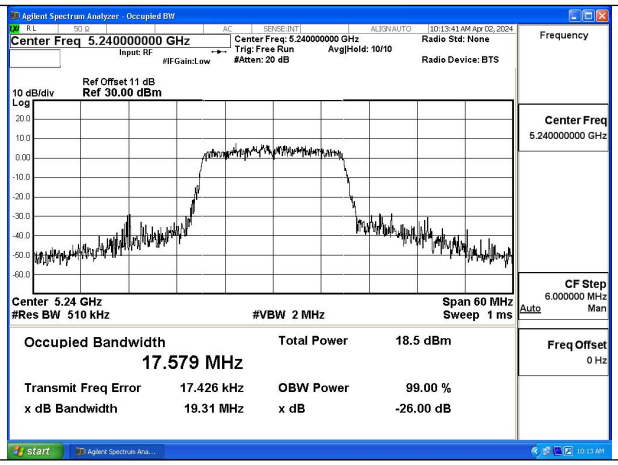
Test Mode: 802.11ac VHT20



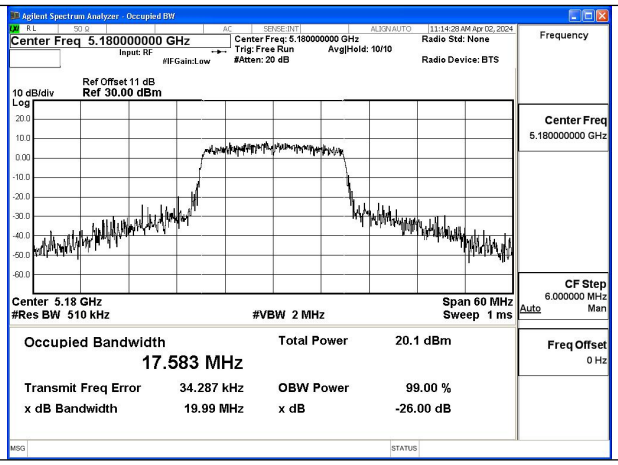

Mode:802.11ac VHT20 Frequency:5180MHz
Ant:Chain0



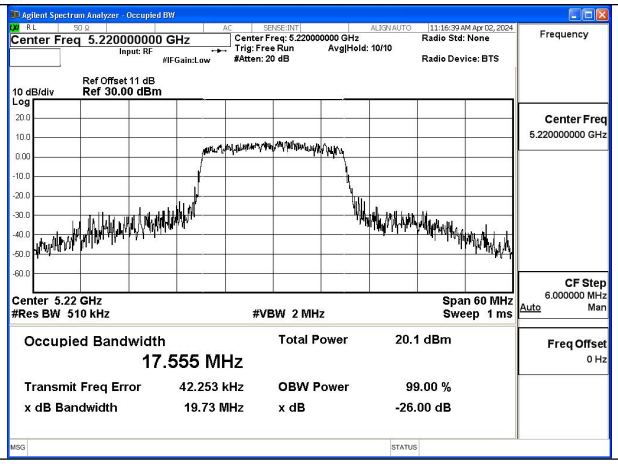

Mode:802.11ac VHT20 Frequency:5220MHz
Ant:Chain0



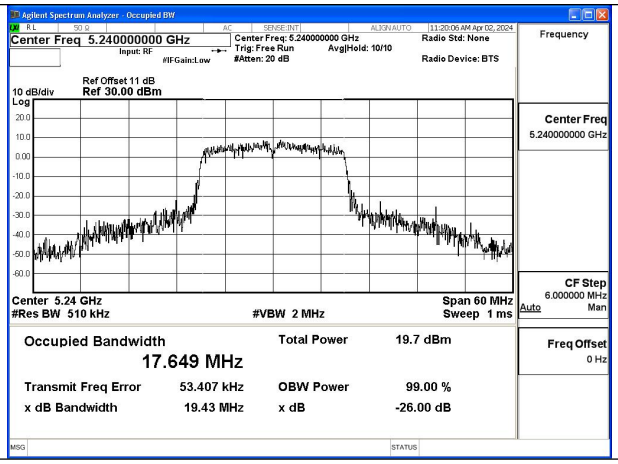

Mode:802.11ac VHT20 Frequency:5240MHz
Ant:Chain0




Mode:802.11ac VHT20 Frequency:5180MHz
Ant:Chain1

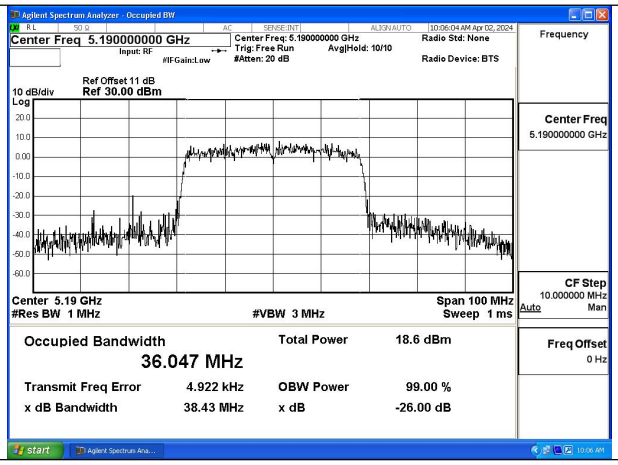



Mode:802.11ac VHT20 Frequency:5220MHz
Ant:Chain1

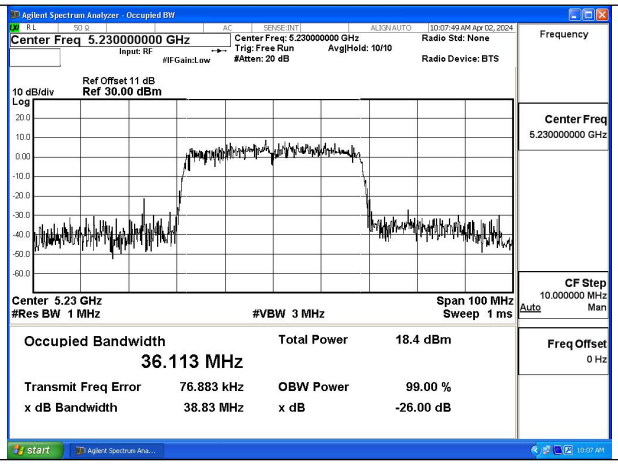



Mode:802.11ac VHT20 Frequency:5240MHz
Ant:Chain1

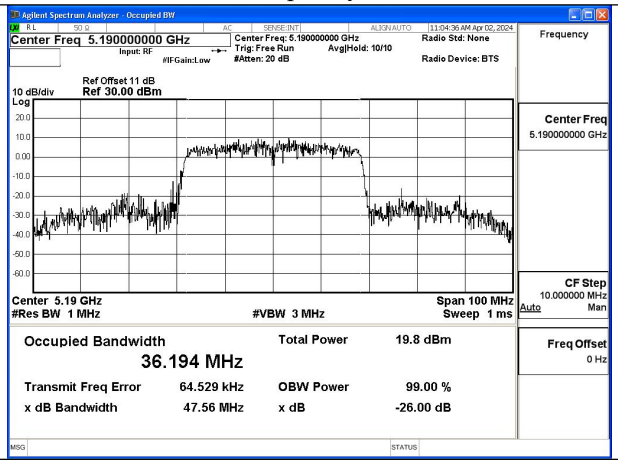
Test Mode: 802.11n HT40



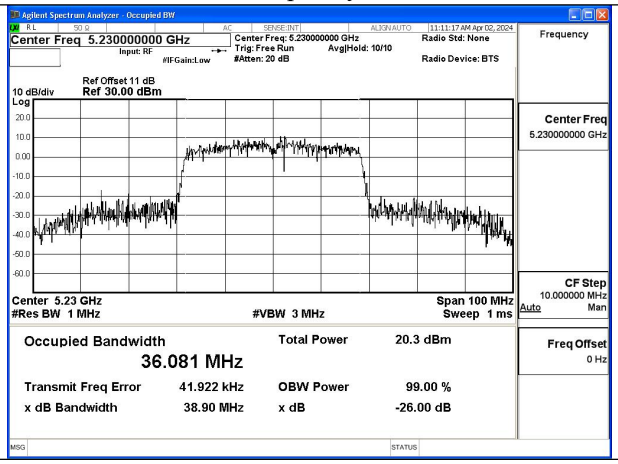

Mode:802.11n HT40 Frequency:5190MHz Ant:Chain0




Mode:802.11n HT40 Frequency:5230MHz Ant:Chain0

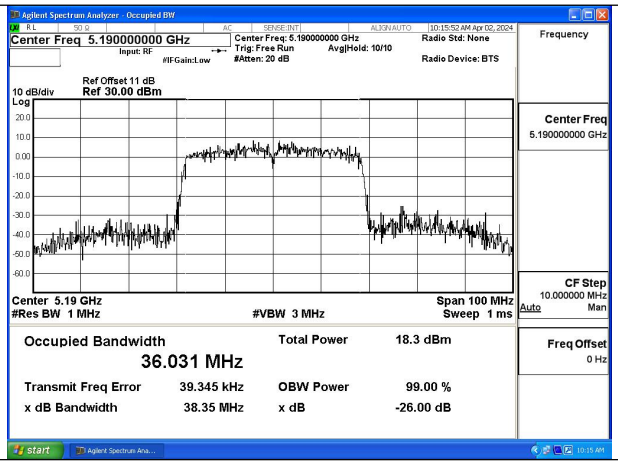



Mode:802.11n HT40 Frequency:5190MHz Ant:Chain1

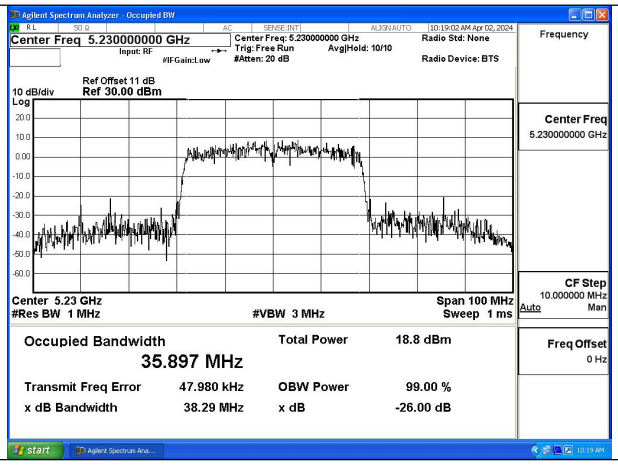



Mode:802.11n HT40 Frequency:5230MHz Ant:Chain1

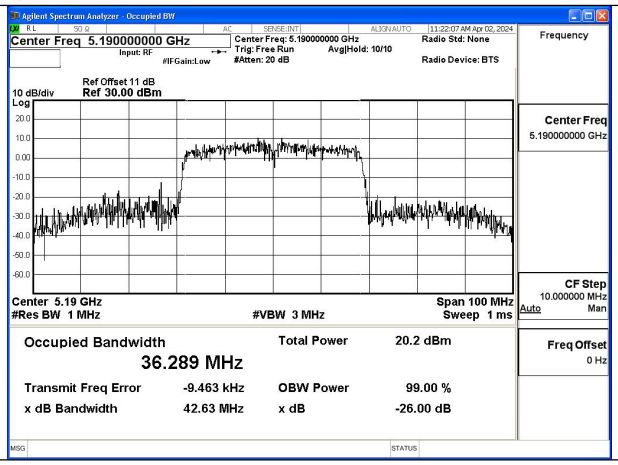
Test Mode: 802.11ac VHT40



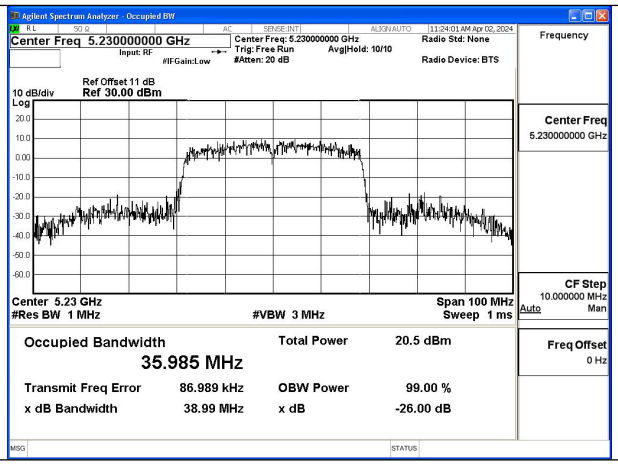

Mode:802.11ac VHT40 Frequency:5190MHz
Ant:Chain0




Mode:802.11ac VHT40 Frequency:5230MHz
Ant:Chain0

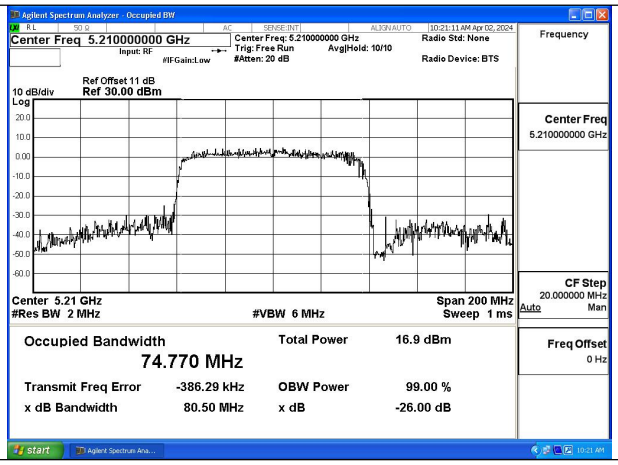
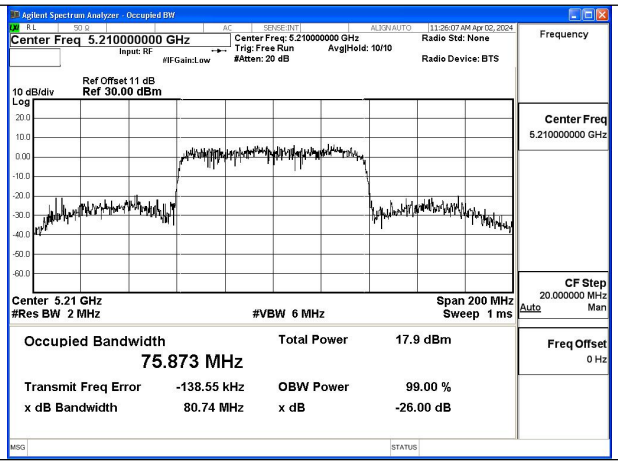



Mode:802.11ac VHT40 Frequency:5190MHz
Ant:Chain1




Mode:802.11ac VHT40 Frequency:5230MHz
Ant:Chain1

Test Mode: 802.11ac VHT80

| | |
|---|---|
|   |   |
| Mode:802.11ac VHT80 Frequency:5210MHz<br>Ant:Chain0 | Mode:802.11ac VHT80 Frequency:5210MHz<br>Ant:Chain1 |

# Occupied Bandwidth

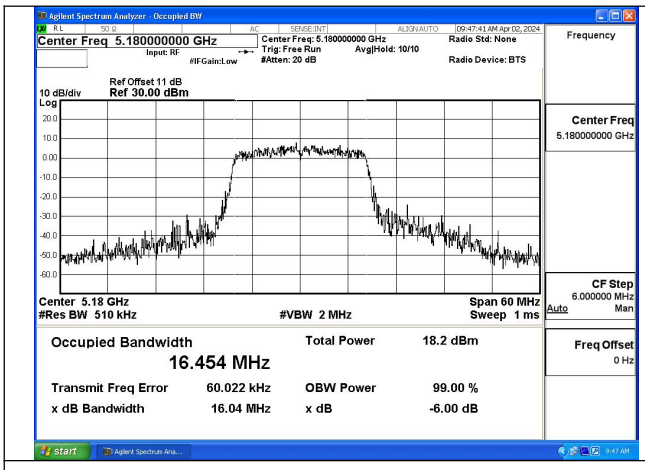
Offset 21dB = Attenuator + Temporary antenna connector loss + Cable loss

| Test Mode | Antenna | Occupied Bandwidth (MHz) | | |
|---|---|---|---|---|
| | | 5180MHz | 5220MHz | 5240MHz |
| 802.11a | Chain0 | 16.454 | 16.342 | 16.406 |
| 802.11a | Chain1 | 16.411 | 16.418 | 16.437 |
| 802.11n HT20 | Chain0 | 17.522 | 17.596 | 17.577 |
| 802.11n HT20 | Chain1 | 17.583 | 17.621 | 17.576 |
| 802.11ac VHT20 | Chain0 | 17.557 | 17.552 | 17.589 |
| 802.11ac VHT20 | Chain1 | 17.600 | 17.542 | 17.599 |

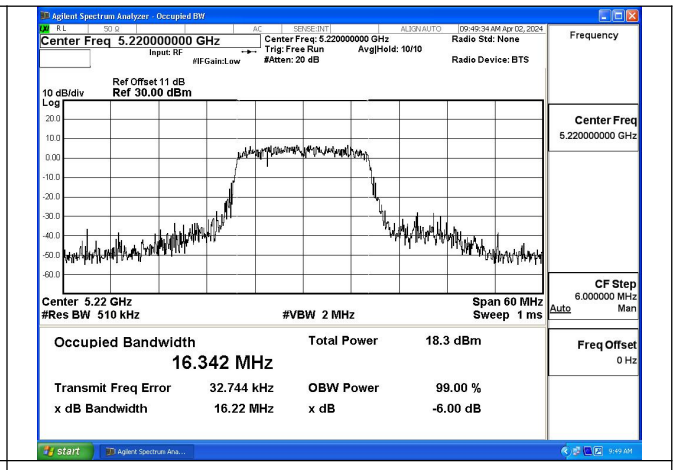
| Test Mode | Antenna | Occupied Bandwidth (MHz) | | |
|---|---|---|---|---|
| | | 5190MHz | --- | 5230MHz |
| 802.11n HT40 | Chain0 | 36.218 | --- | 35.966 |
| 802.11n HT40 | Chain1 | 36.157 | --- | 35.938 |
| 802.11ac VHT40 | Chain0 | 36.120 | --- | 36.116 |
| 802.11ac VHT40 | Chain1 | 35.847 | --- | 36.010 |

| Test Mode | Antenna | Occupied Bandwidth (MHz) | | |
|---|---|---|---|---|
| | | 5210MHz | --- | --- |
| 802.11ac VHT80 | Chain0 | 75.217 | --- | --- |
| 802.11ac VHT80 | Chain1 | 75.367 | --- | --- |

Test Mode: 802.11a




Mode:802.11a Frequency:5180MHz Ant:Chain0




Mode:802.11a Frequency:5220MHz Ant:Chain0