

## RF Test Data for RLAN(5.2G) (Conducted Measurement)

Product Name: NucBox5

Trade Mark: GMKtec

Test Model: KB5

FCC ID: 2AXUD-KB5

### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 25.5°C    |
| Relative Humidity: | 55%       |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Anna Hu   |
| Supervised by:     | Hugo Chen |
| NOTE               | N/A       |

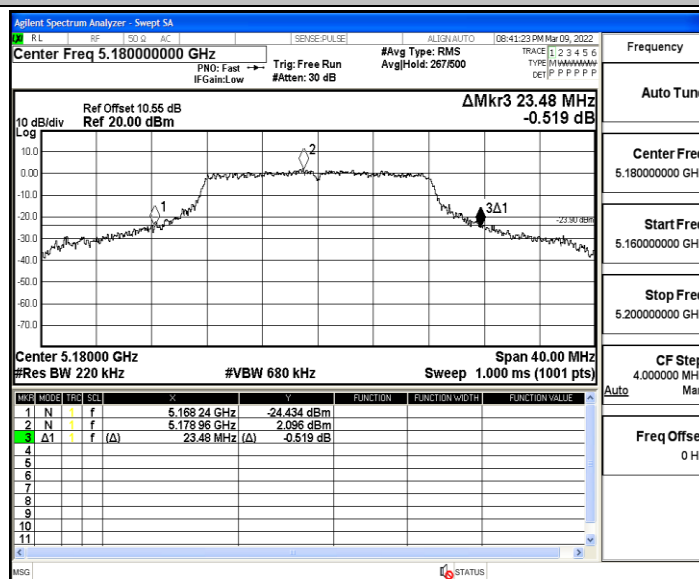
## Appendix A1: Emission Bandwidth

### Test Result

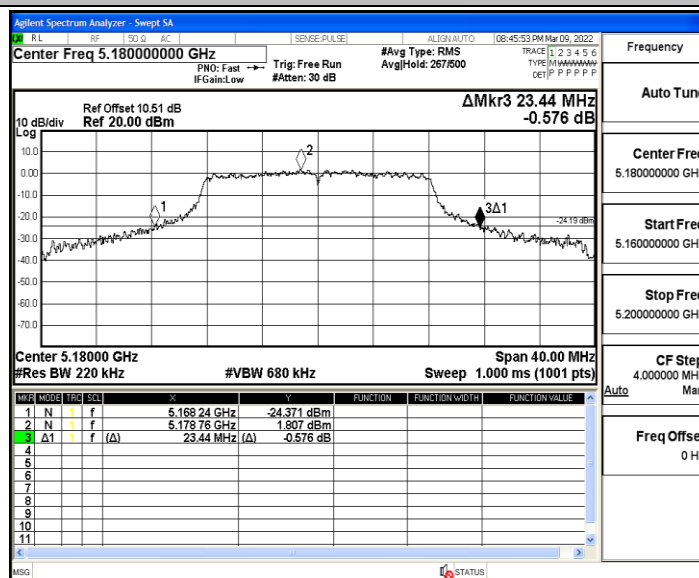
| TestMode   | Antenna | Channel | 26db EBW [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|------------|---------|---------|----------------|----------|----------|------------|---------|
| 11A        | Ant1    | 5180    | 23.480         | 5168.240 | 5191.720 | ---        | PASS    |
|            | Ant2    | 5180    | 23.440         | 5168.240 | 5191.680 | ---        | PASS    |
|            | Ant1    | 5200    | 25.280         | 5187.040 | 5212.320 | ---        | PASS    |
|            | Ant2    | 5200    | 24.800         | 5187.360 | 5212.160 | ---        | PASS    |
|            | Ant1    | 5240    | 19.920         | 5229.960 | 5249.880 | ---        | PASS    |
|            | Ant2    | 5240    | 19.600         | 5230.160 | 5249.760 | ---        | PASS    |
| 11N20MIMO  | Ant1    | 5180    | 25.320         | 5167.440 | 5192.760 | ---        | PASS    |
|            | Ant2    | 5180    | 24.640         | 5167.520 | 5192.160 | ---        | PASS    |
|            | Ant1    | 5200    | 25.400         | 5187.760 | 5213.160 | ---        | PASS    |
|            | Ant2    | 5200    | 26.280         | 5186.640 | 5212.920 | ---        | PASS    |
|            | Ant1    | 5240    | 20.320         | 5229.760 | 5250.080 | ---        | PASS    |
|            | Ant2    | 5240    | 20.120         | 5229.920 | 5250.040 | ---        | PASS    |
| 11N40MIMO  | Ant1    | 5190    | 39.920         | 5170.240 | 5210.160 | ---        | PASS    |
|            | Ant2    | 5190    | 39.680         | 5170.400 | 5210.080 | ---        | PASS    |
|            | Ant1    | 5230    | 39.600         | 5210.240 | 5249.840 | ---        | PASS    |
|            | Ant2    | 5230    | 39.600         | 5210.400 | 5250.000 | ---        | PASS    |
| 11AC20MIMO | Ant1    | 5180    | 25.280         | 5167.640 | 5192.920 | ---        | PASS    |
|            | Ant2    | 5180    | 24.680         | 5168.600 | 5193.280 | ---        | PASS    |
|            | Ant1    | 5200    | 24.600         | 5187.840 | 5212.440 | ---        | PASS    |
|            | Ant2    | 5200    | 24.240         | 5188.440 | 5212.680 | ---        | PASS    |
|            | Ant1    | 5240    | 20.280         | 5229.840 | 5250.120 | ---        | PASS    |
|            | Ant2    | 5240    | 20.120         | 5229.840 | 5249.960 | ---        | PASS    |
| 11AC40MIMO | Ant1    | 5190    | 40.240         | 5170.080 | 5210.320 | ---        | PASS    |
|            | Ant2    | 5190    | 39.040         | 5170.480 | 5209.520 | ---        | PASS    |
|            | Ant1    | 5230    | 39.680         | 5210.240 | 5249.920 | ---        | PASS    |
|            | Ant2    | 5230    | 39.200         | 5210.560 | 5249.760 | ---        | PASS    |
| 11AC80MIMO | Ant1    | 5210    | 79.520         | 5170.480 | 5250.000 | ---        | PASS    |
|            | Ant2    | 5210    | 79.520         | 5170.480 | 5250.000 | ---        | PASS    |

## Test Graphs

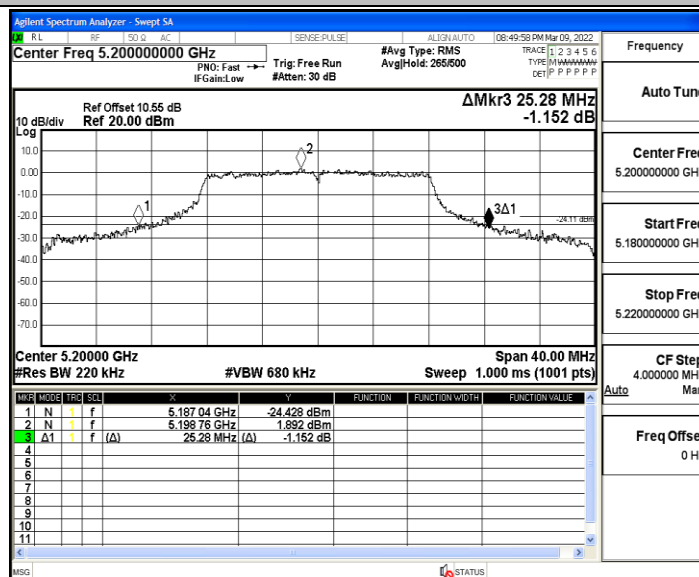
11A\_Ant1\_5180



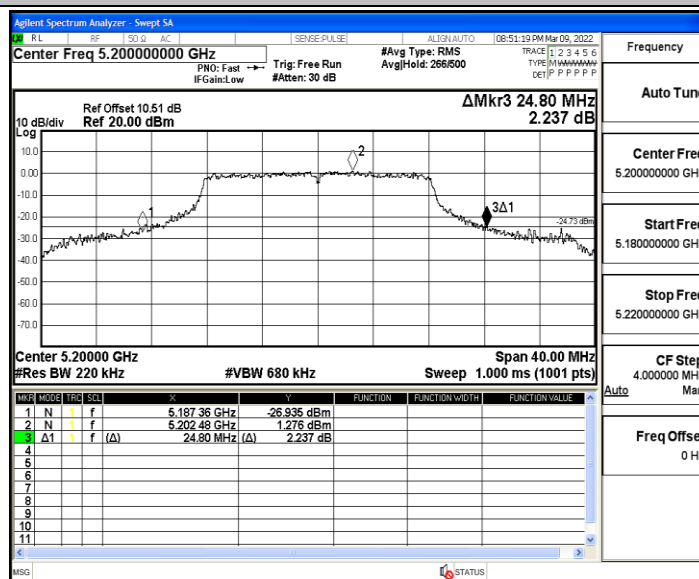
11A\_Ant2\_5180



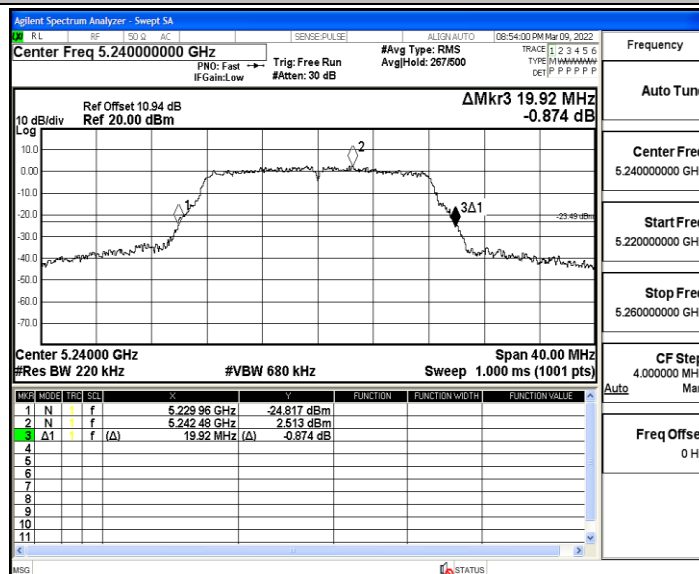
11A\_Ant1\_5200



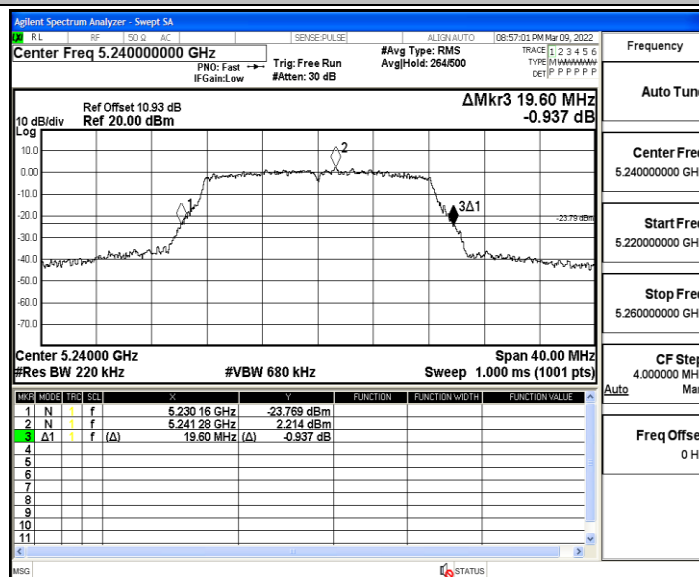
## 11A\_Ant2\_5200



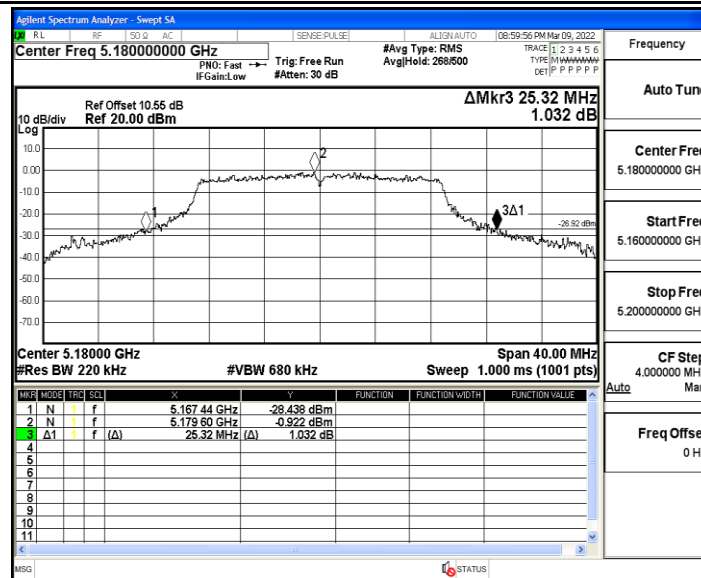
## 11A\_Ant1\_5240



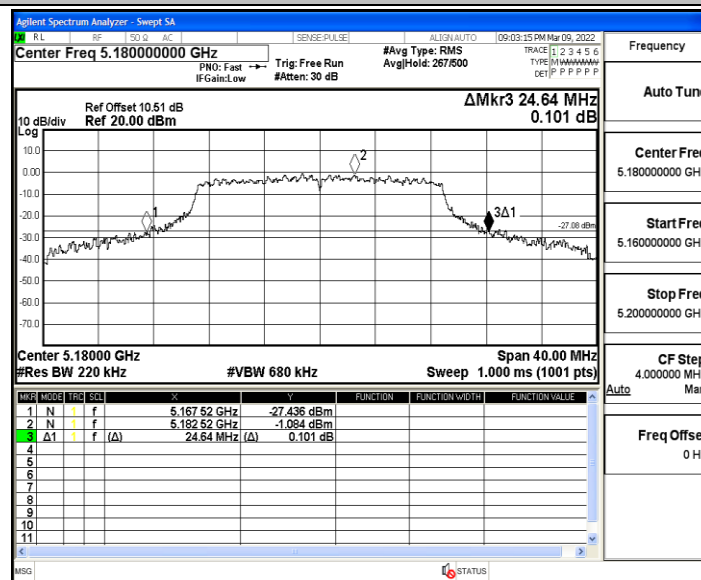
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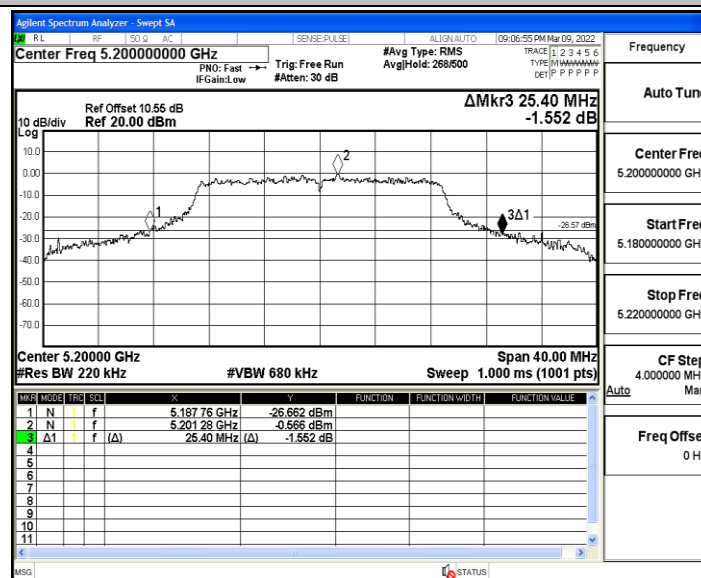
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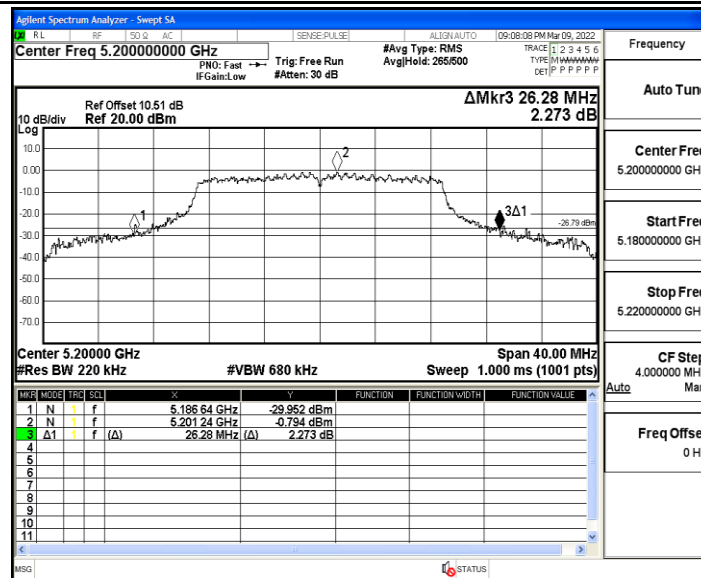
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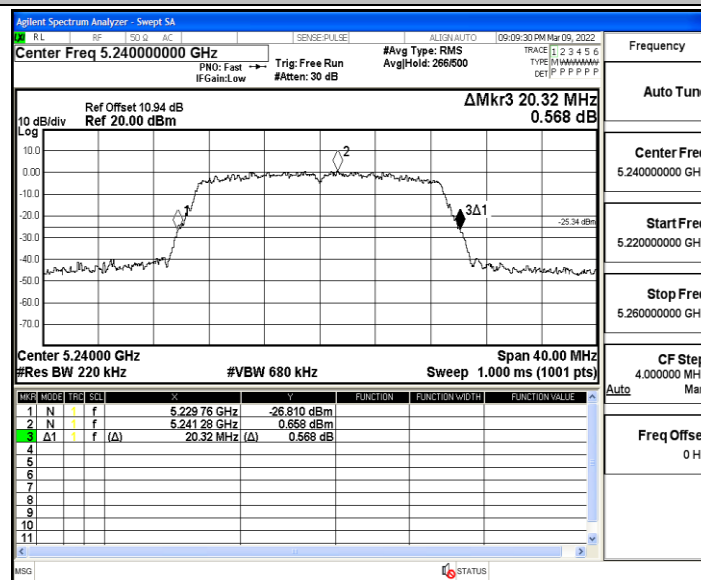
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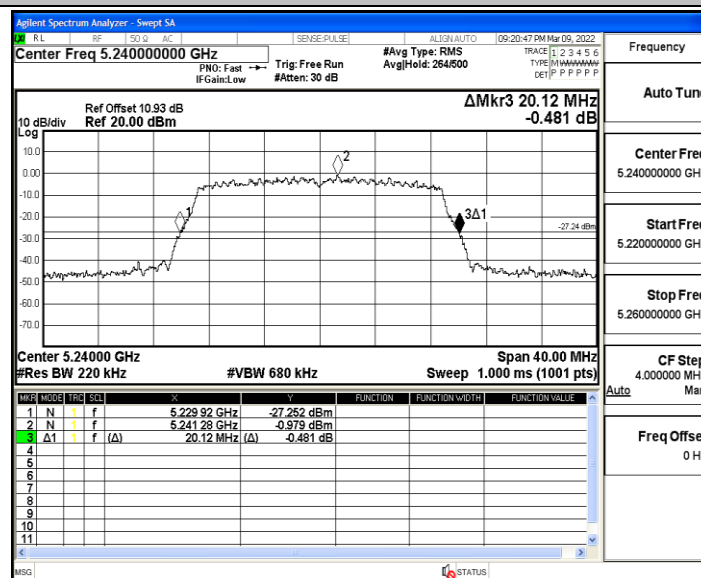
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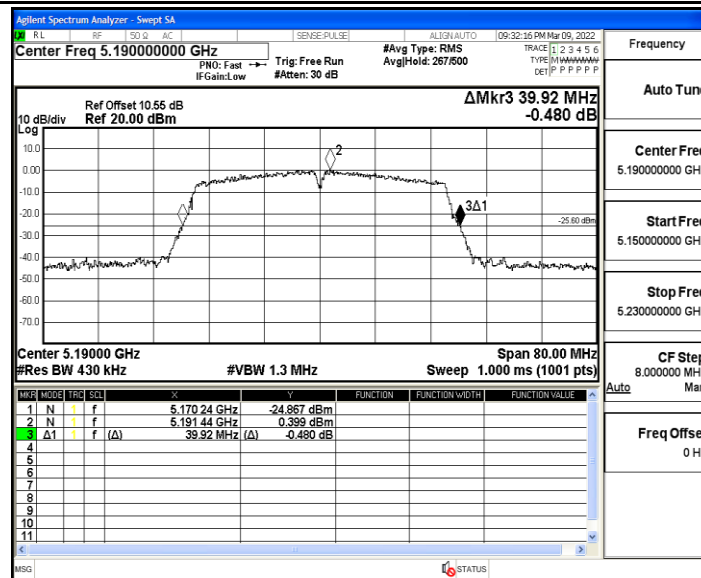
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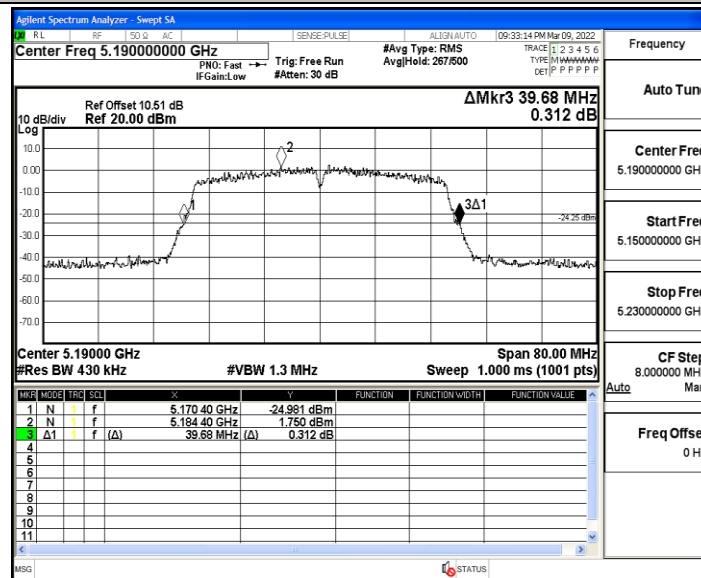
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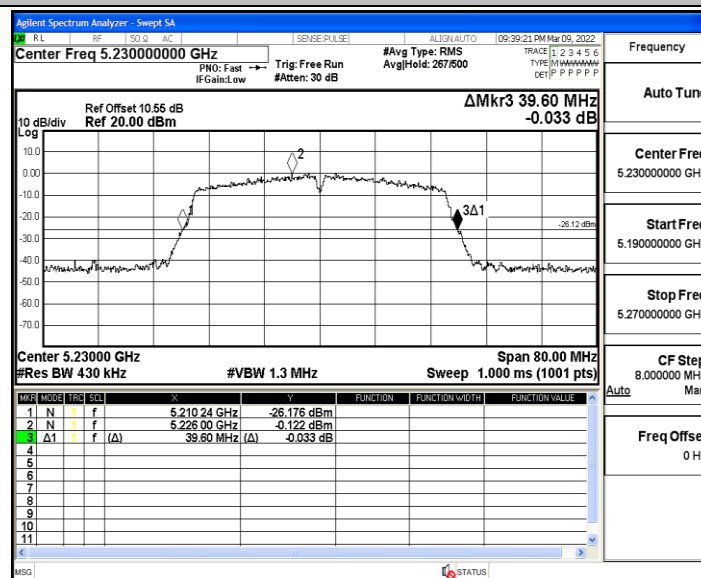
11N40MIMO\_Ant1\_5190



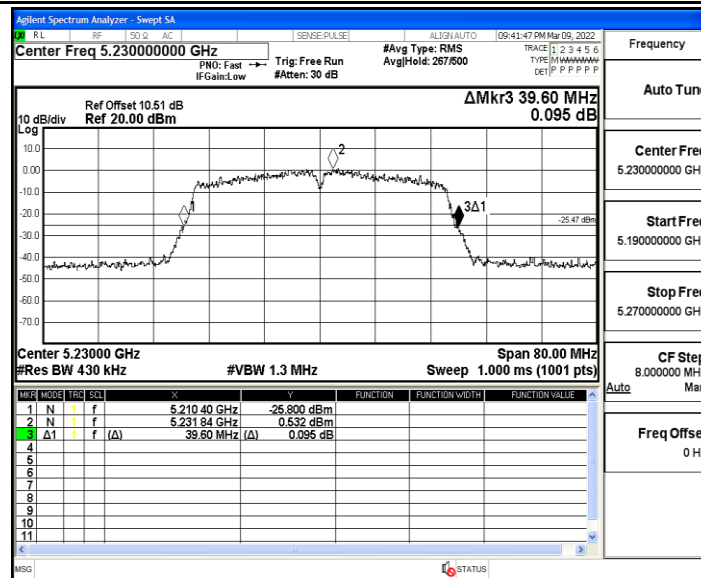
11N40MIMO\_Ant2\_5190



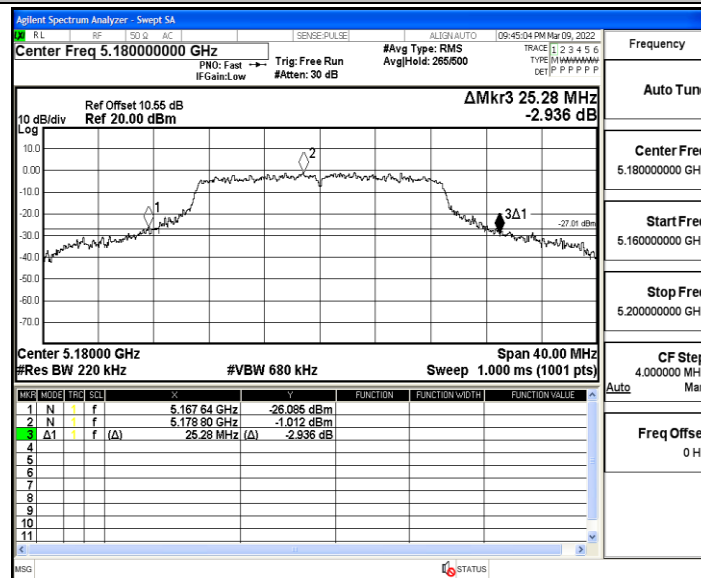
11N40MIMO\_Ant1\_5230



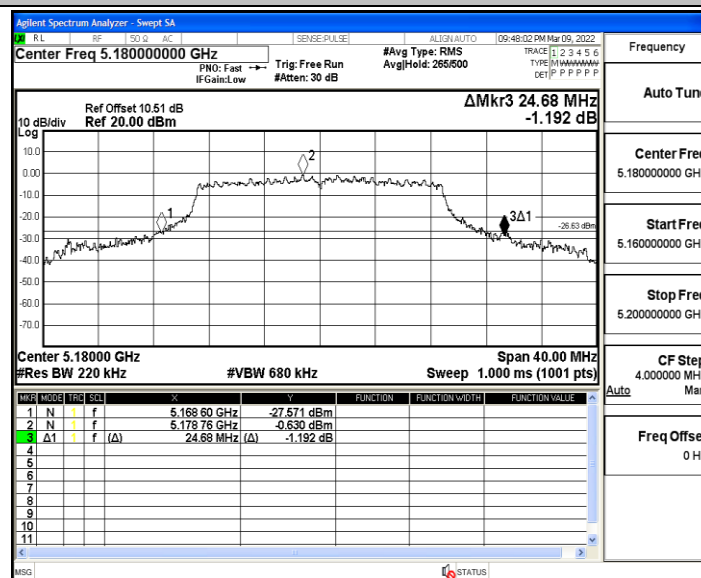
11N40MIMO\_Ant2\_5230



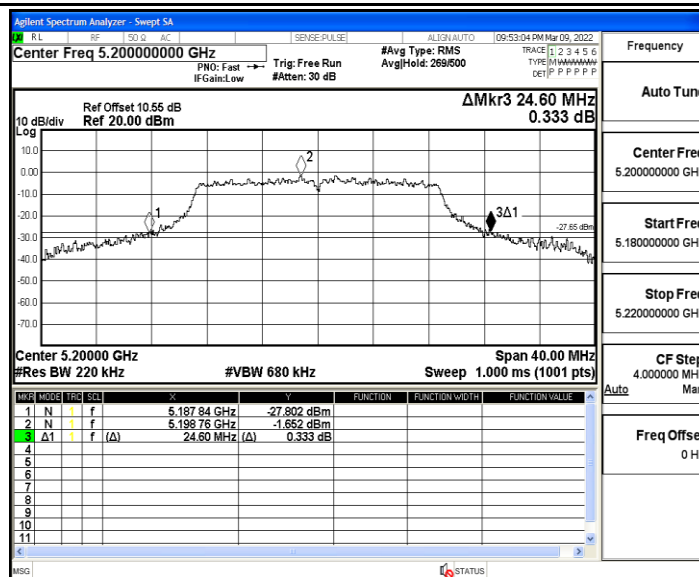
11AC20MIMO\_Ant1\_5180



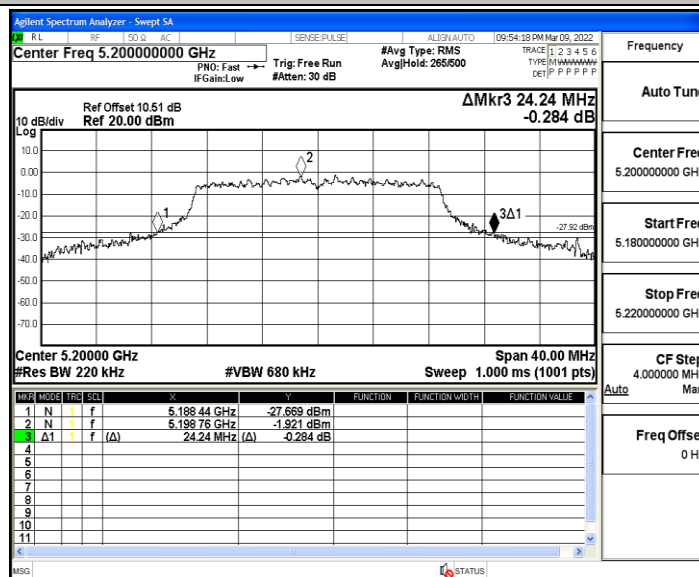
11AC20MIMO\_Ant2\_5180



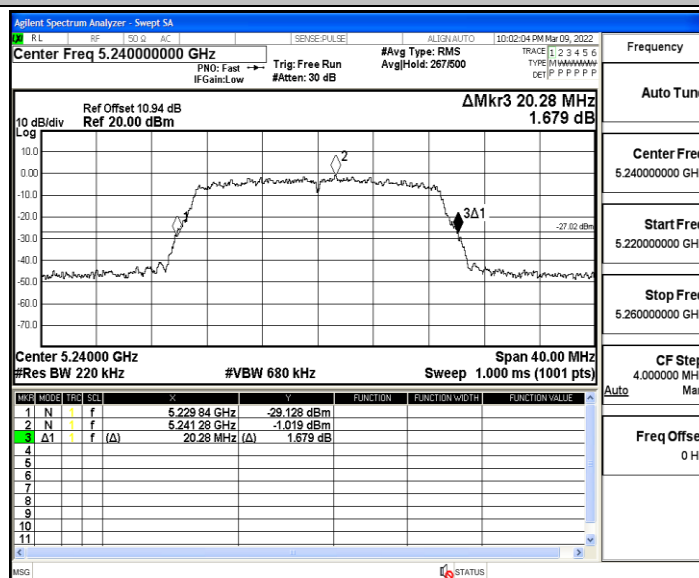
11AC20MIMO\_Ant1\_5200



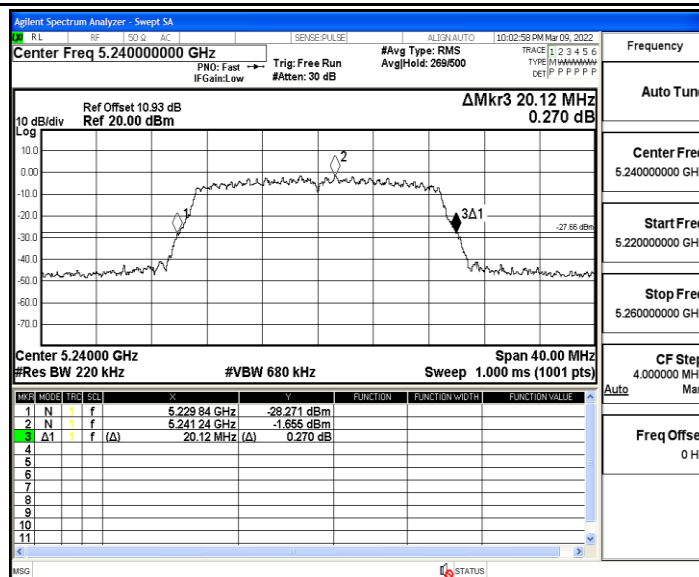
11AC20MIMO\_Ant2\_5200



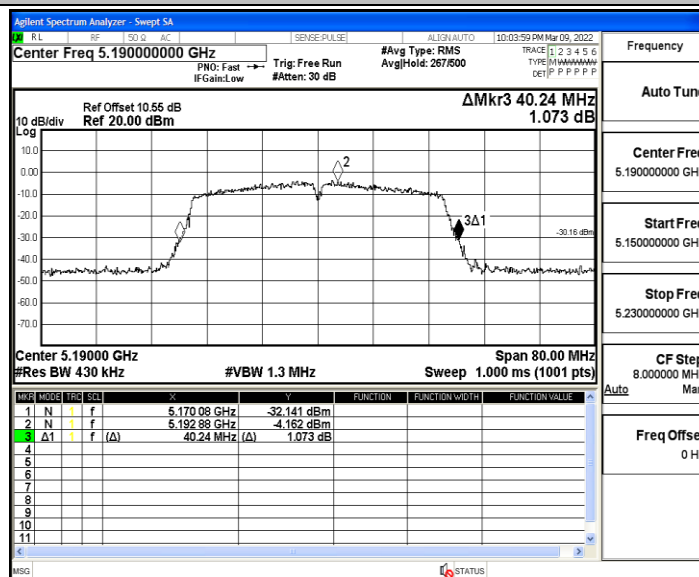
11AC20MIMO\_Ant1\_5240



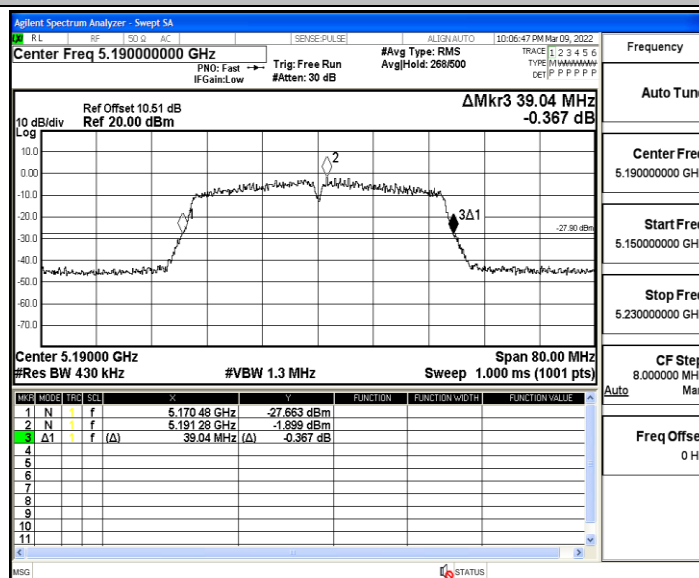
11AC20MIMO\_Ant2\_5240



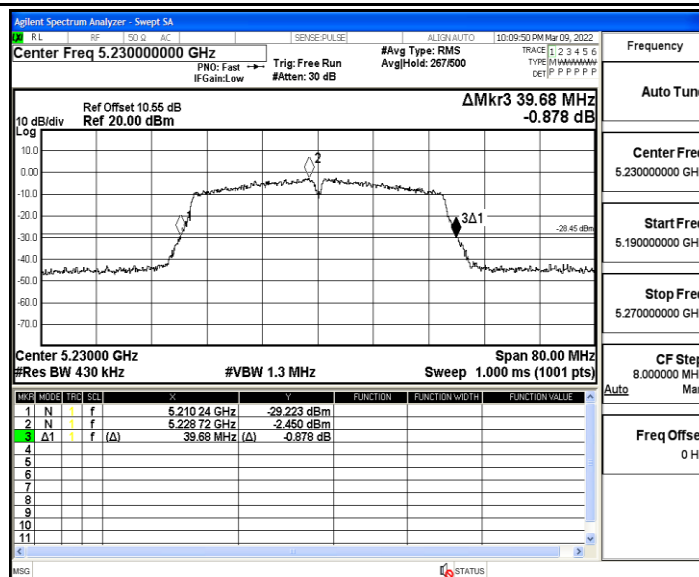
11AC40MIMO\_Ant1\_5190



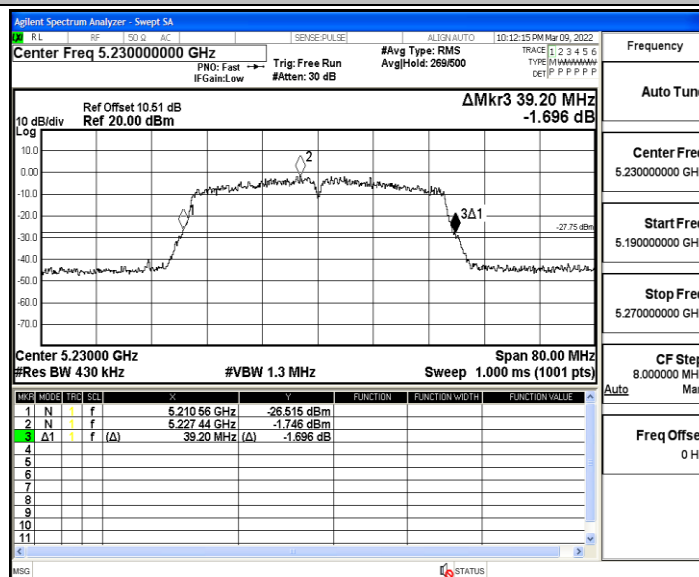
11AC40MIMO\_Ant2\_5190



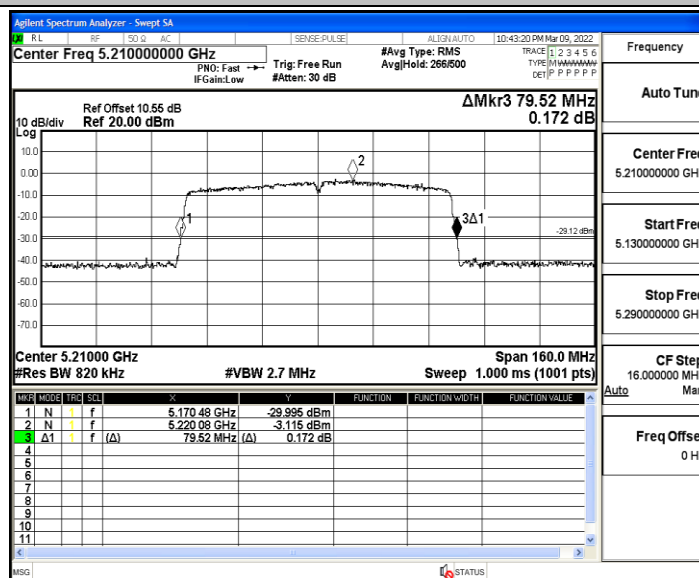
11AC40MIMO\_Ant1\_5230



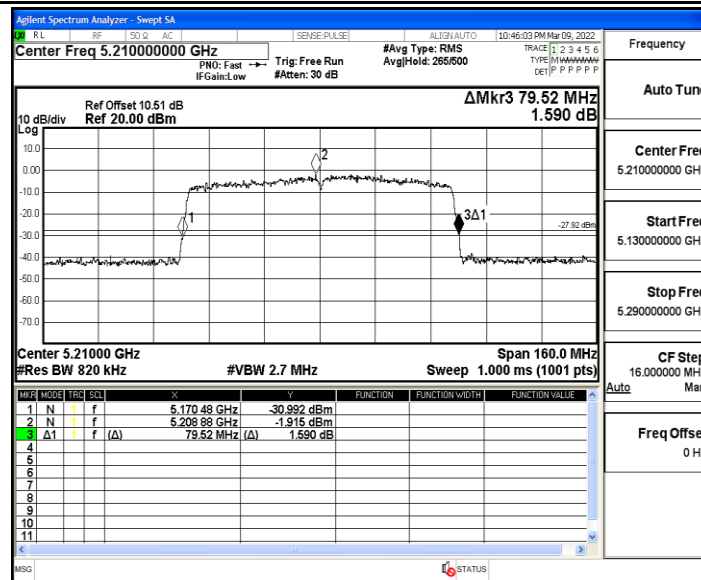
11AC40MIMO\_Ant2\_5230



11AC80MIMO\_Ant1\_5210



11AC80MIMO\_Ant2\_5210



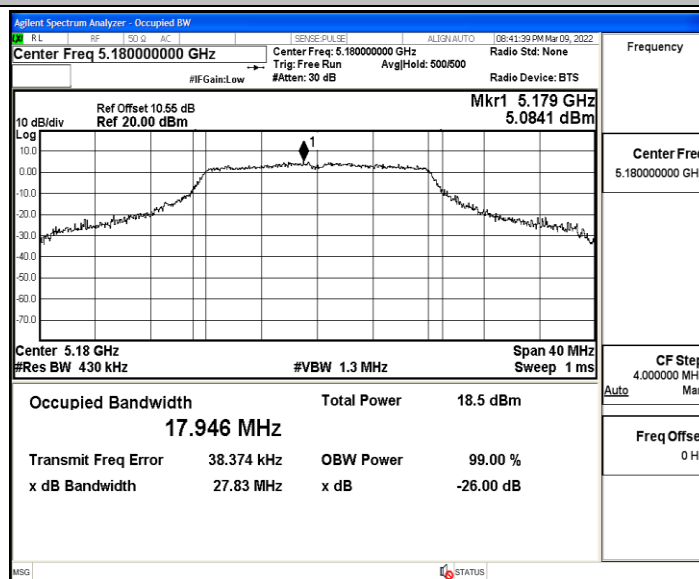
## Appendix A2: Occupied channel bandwidth

### Test Result

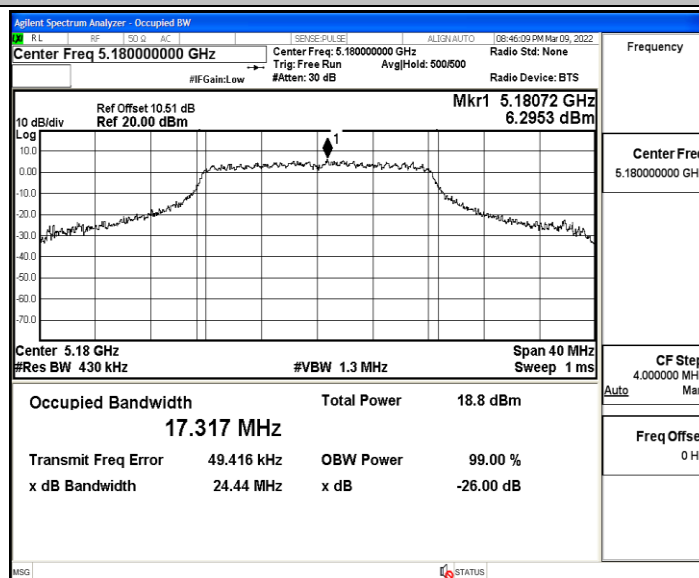
| TestMode   | Antenna | Channel | OCB [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|------------|---------|---------|-----------|----------|----------|------------|---------|
| 11A        | Ant1    | 5180    | 17.946    | 5171.065 | 5189.011 | ---        | PASS    |
|            | Ant2    | 5180    | 17.317    | 5171.391 | 5188.708 | ---        | PASS    |
|            | Ant1    | 5200    | 18.322    | 5190.793 | 5209.115 | ---        | PASS    |
|            | Ant2    | 5200    | 17.534    | 5191.288 | 5208.822 | ---        | PASS    |
|            | Ant1    | 5240    | 16.923    | 5231.533 | 5248.456 | ---        | PASS    |
|            | Ant2    | 5240    | 16.645    | 5231.668 | 5248.313 | ---        | PASS    |
| 11N20MIMO  | Ant1    | 5180    | 18.913    | 5170.576 | 5189.489 | ---        | PASS    |
|            | Ant2    | 5180    | 18.371    | 5170.832 | 5189.203 | ---        | PASS    |
|            | Ant1    | 5200    | 19.305    | 5190.378 | 5209.683 | ---        | PASS    |
|            | Ant2    | 5200    | 18.445    | 5190.794 | 5209.239 | ---        | PASS    |
|            | Ant1    | 5240    | 17.886    | 5231.025 | 5248.911 | ---        | PASS    |
|            | Ant2    | 5240    | 17.708    | 5231.144 | 5248.852 | ---        | PASS    |
| 11N40MIMO  | Ant1    | 5190    | 36.042    | 5172.114 | 5208.156 | ---        | PASS    |
|            | Ant2    | 5190    | 35.927    | 5172.150 | 5208.077 | ---        | PASS    |
|            | Ant1    | 5230    | 35.863    | 5212.116 | 5247.979 | ---        | PASS    |
|            | Ant2    | 5230    | 35.799    | 5212.194 | 5247.993 | ---        | PASS    |
| 11AC20MIMO | Ant1    | 5180    | 18.853    | 5170.640 | 5189.493 | ---        | PASS    |
|            | Ant2    | 5180    | 18.347    | 5170.900 | 5189.247 | ---        | PASS    |
|            | Ant1    | 5200    | 19.126    | 5190.516 | 5209.642 | ---        | PASS    |
|            | Ant2    | 5200    | 18.461    | 5190.815 | 5209.276 | ---        | PASS    |
|            | Ant1    | 5240    | 17.826    | 5231.064 | 5248.890 | ---        | PASS    |
|            | Ant2    | 5240    | 17.705    | 5231.133 | 5248.838 | ---        | PASS    |
| 11AC40MIMO | Ant1    | 5190    | 35.928    | 5172.080 | 5208.008 | ---        | PASS    |
|            | Ant2    | 5190    | 35.892    | 5172.157 | 5208.049 | ---        | PASS    |
|            | Ant1    | 5230    | 35.819    | 5212.150 | 5247.969 | ---        | PASS    |
|            | Ant2    | 5230    | 35.778    | 5212.153 | 5247.931 | ---        | PASS    |
| 11AC80MIMO | Ant1    | 5210    | 74.989    | 5172.710 | 5247.699 | ---        | PASS    |
|            | Ant2    | 5210    | 74.930    | 5172.776 | 5247.706 | ---        | PASS    |

## Test Graphs

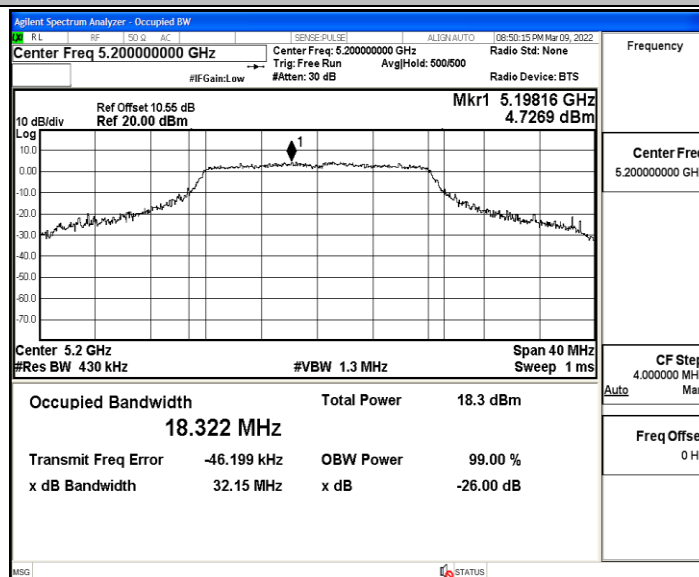
11A\_Ant1\_5180



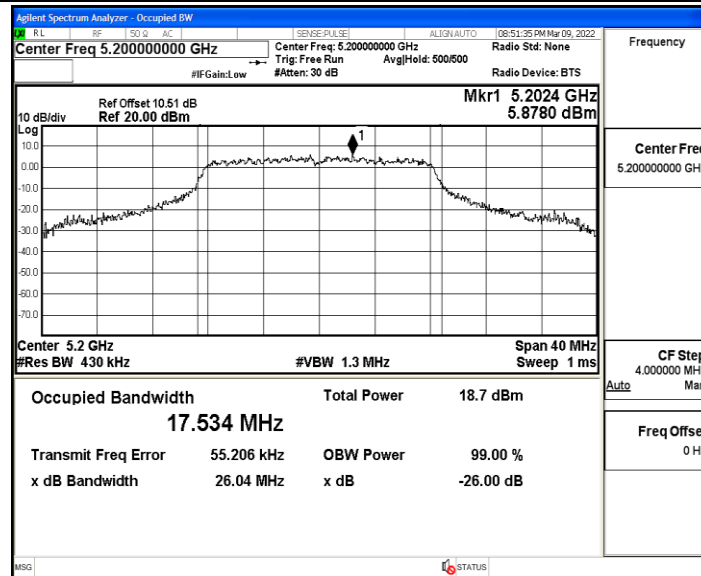
11A\_Ant2\_5180



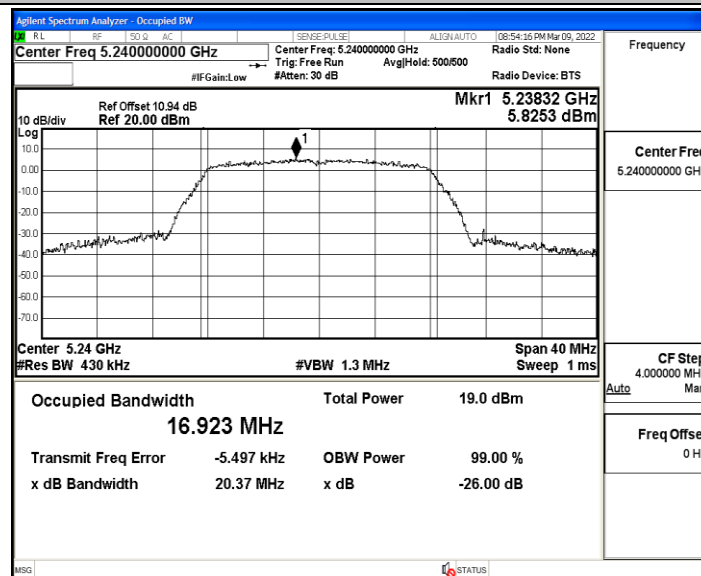
11A\_Ant1\_5200



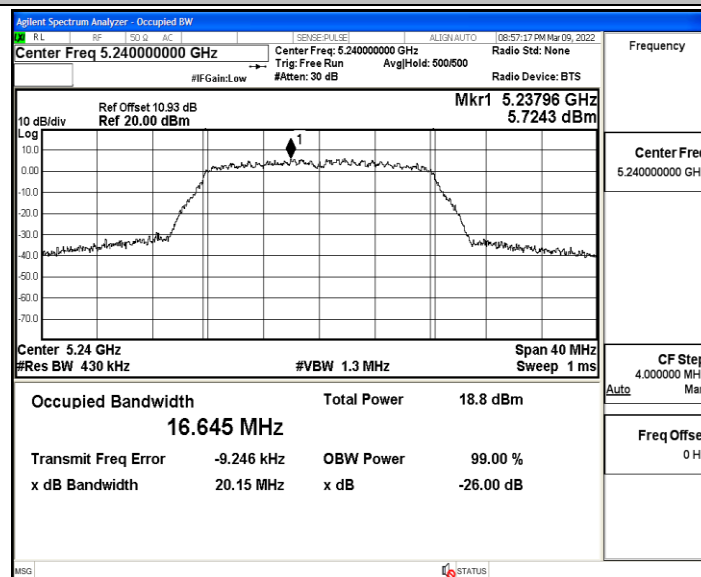
## 11A\_Ant2\_5200



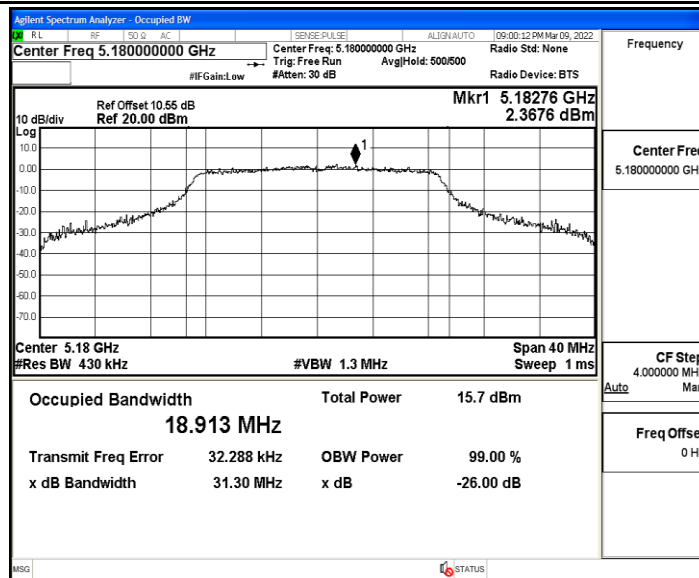
## 11A\_Ant1\_5240



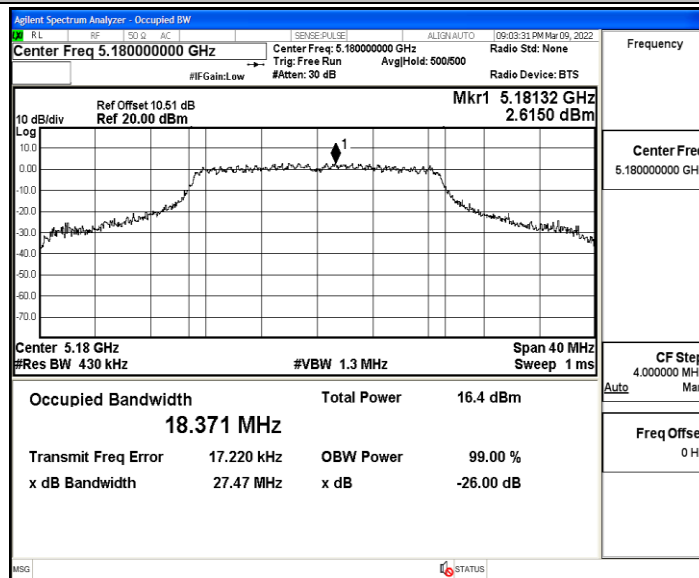
## 11A\_Ant2\_5240



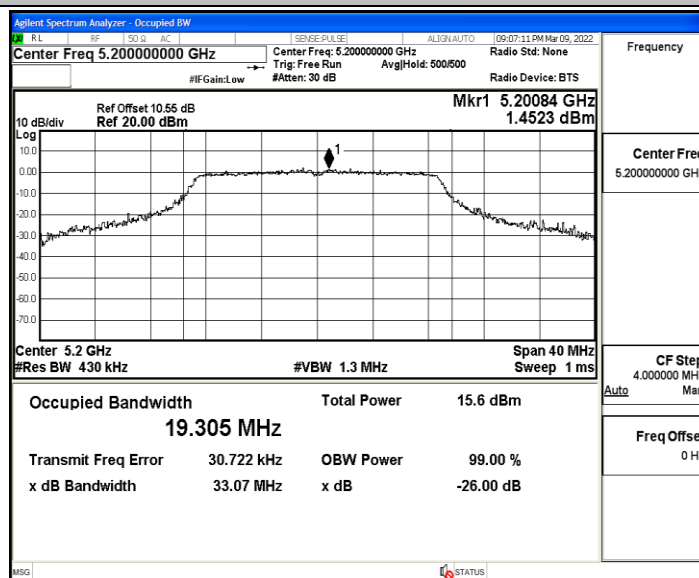
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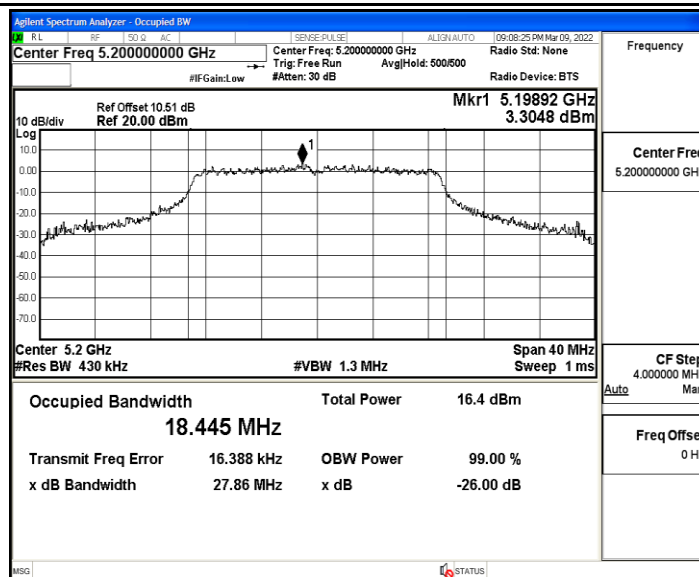
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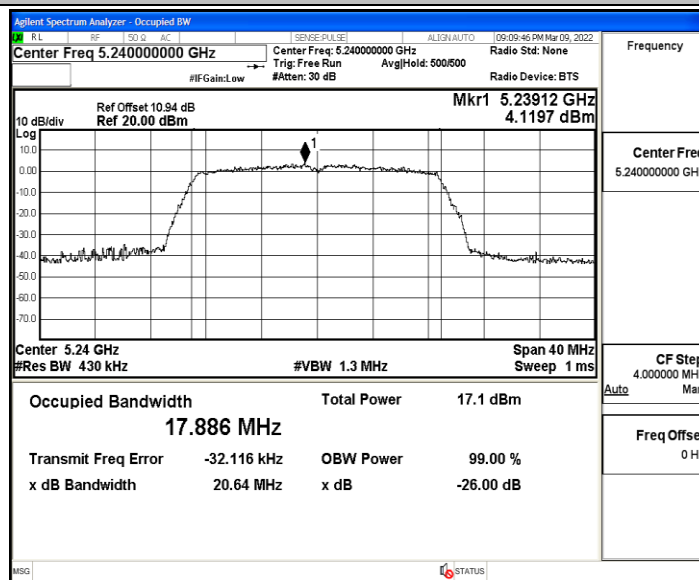
11N20MIMO\_Ant1\_5200



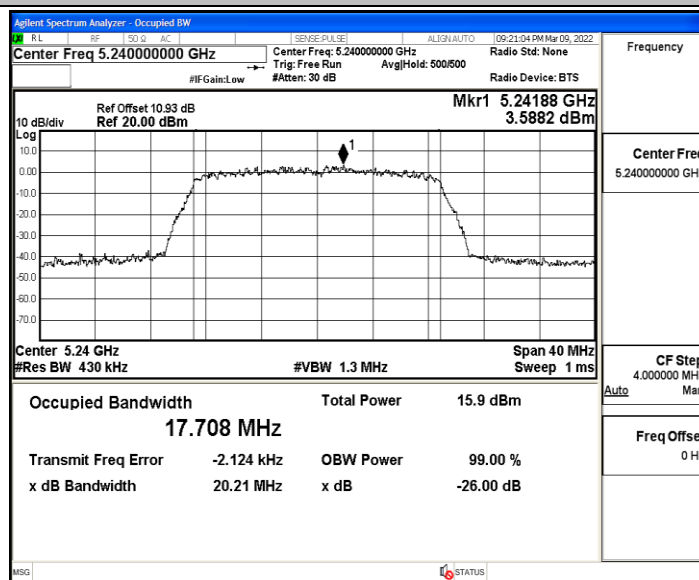
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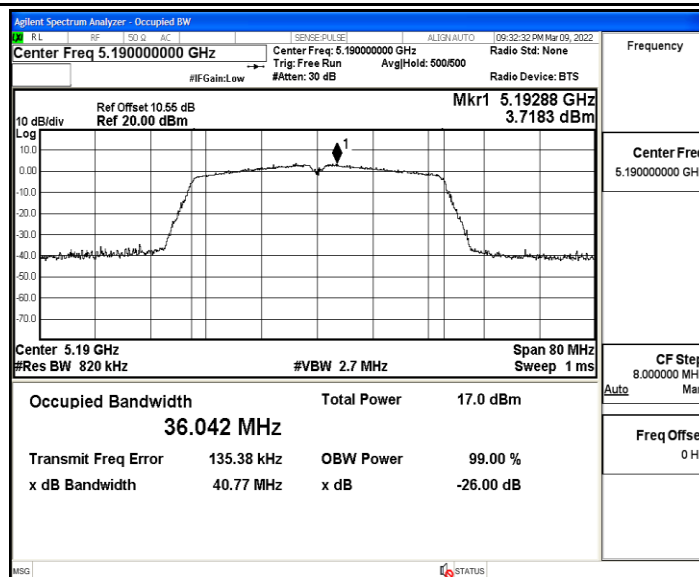
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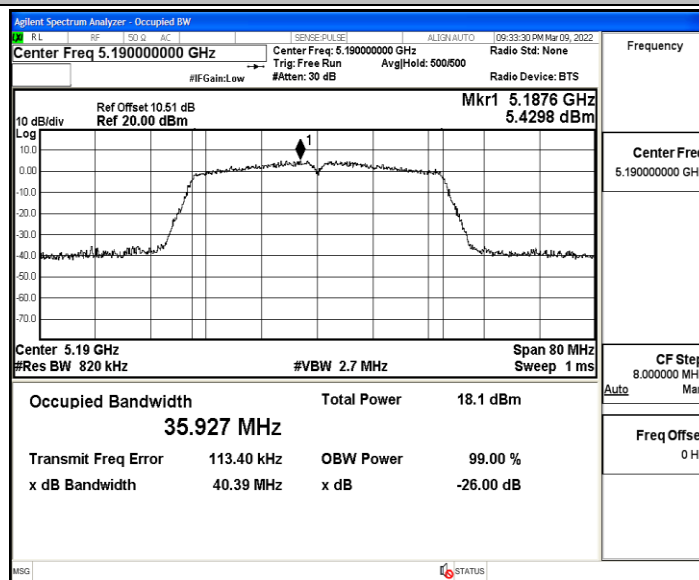
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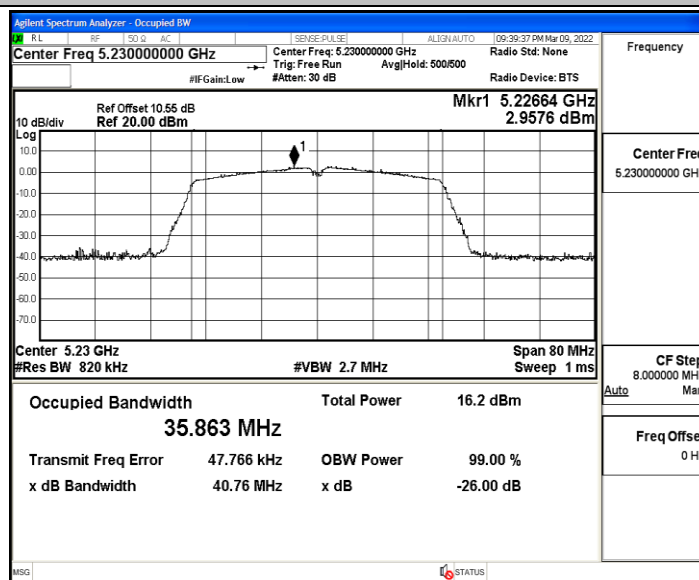
11N40MIMO\_Ant1\_5190



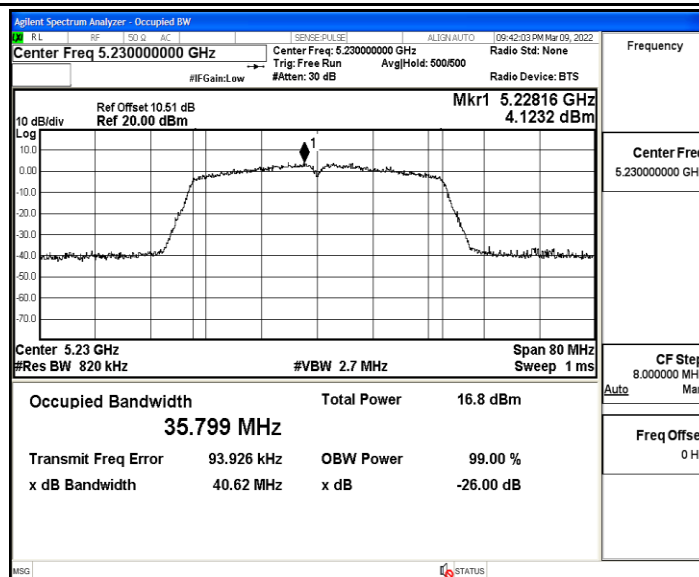
11N40MIMO\_Ant2\_5190



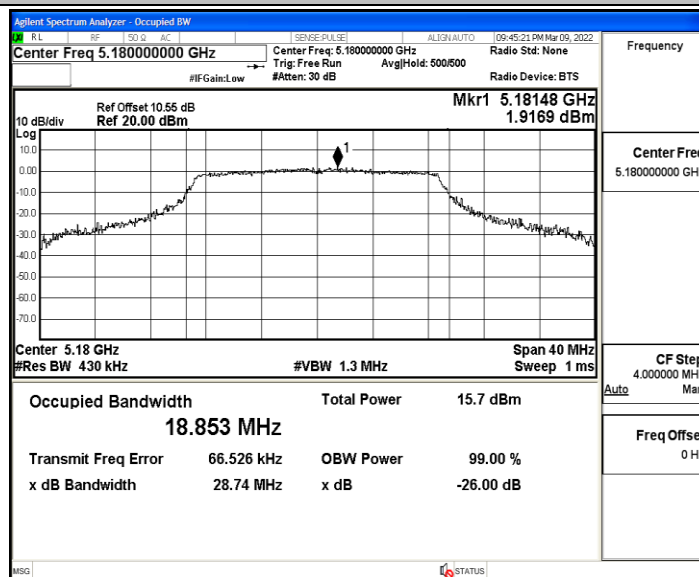
11N40MIMO\_Ant1\_5230



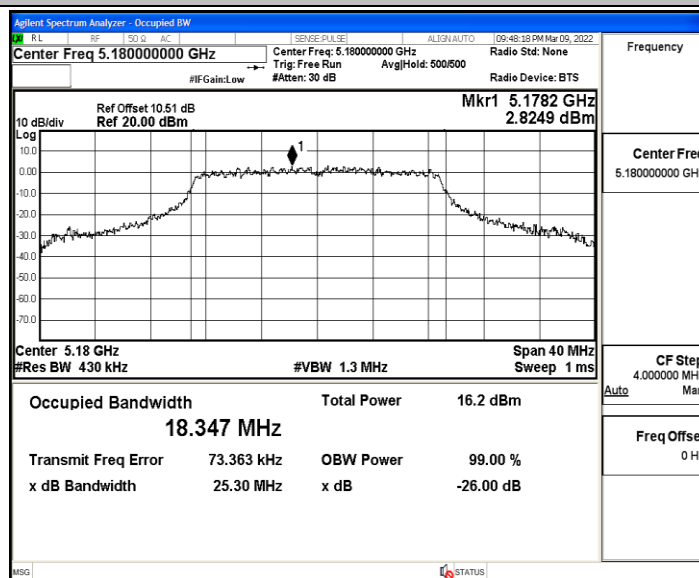
11N40MIMO\_Ant2\_5230



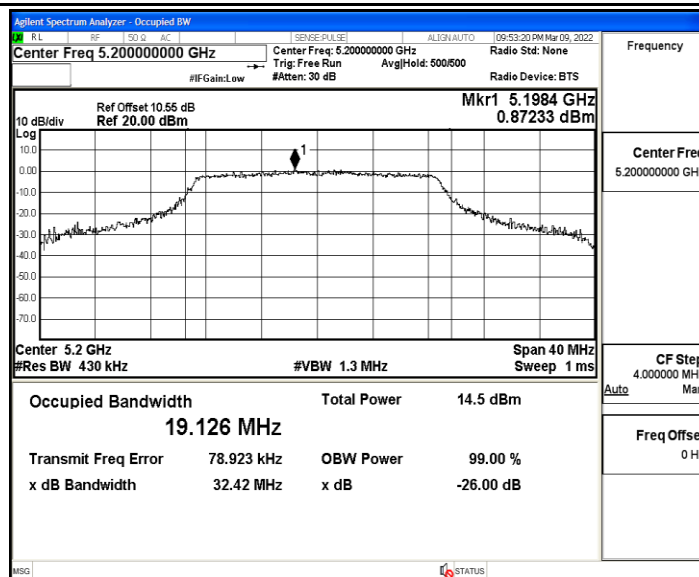
11AC20MIMO\_Ant1\_5180



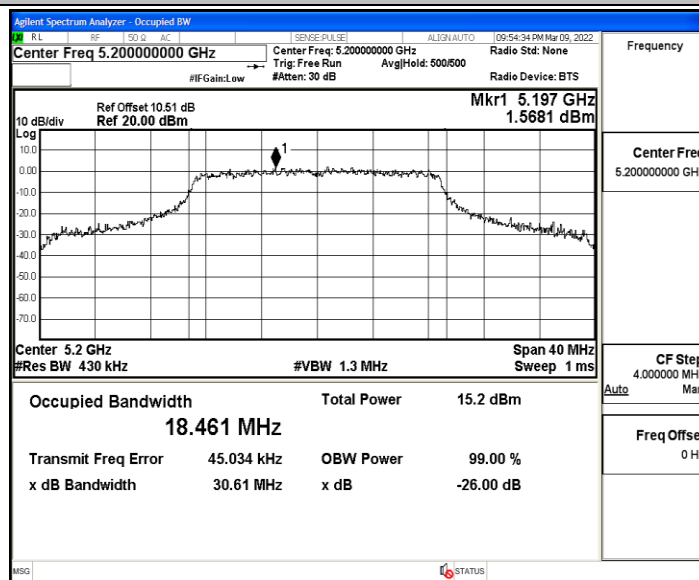
11AC20MIMO\_Ant2\_5180



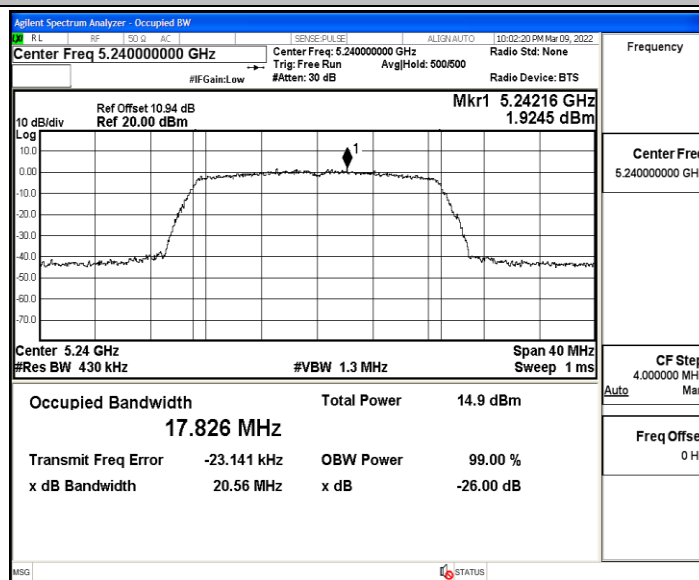
11AC20MIMO\_Ant1\_5200



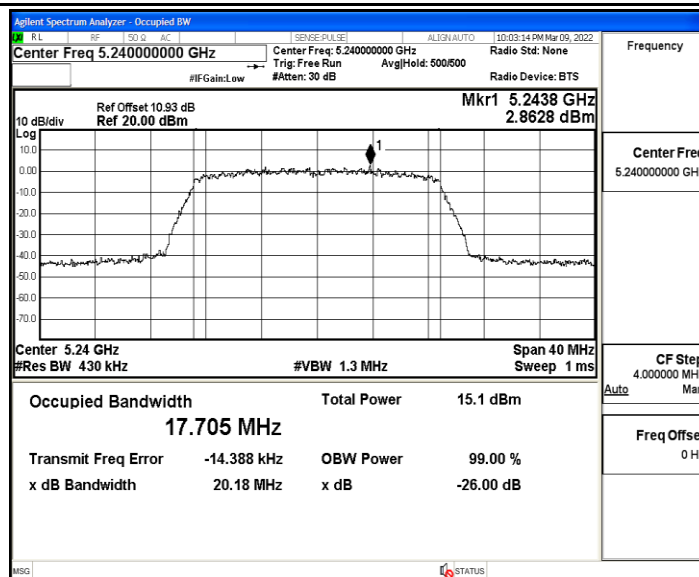
11AC20MIMO\_Ant2\_5200



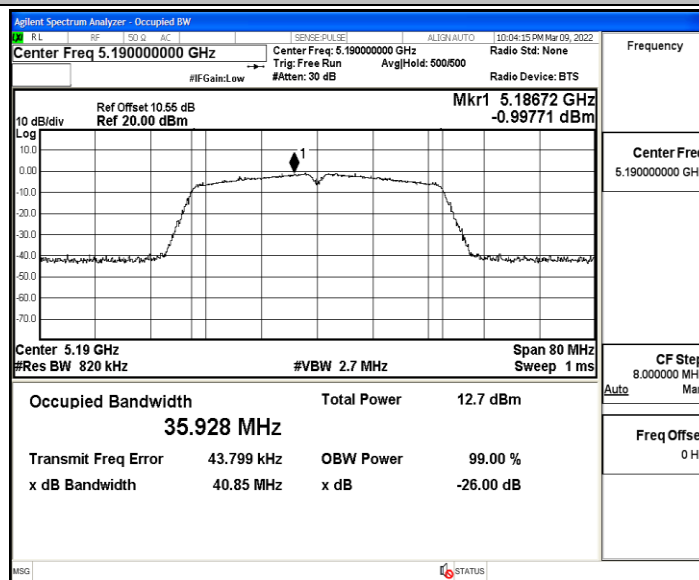
11AC20MIMO\_Ant1\_5240



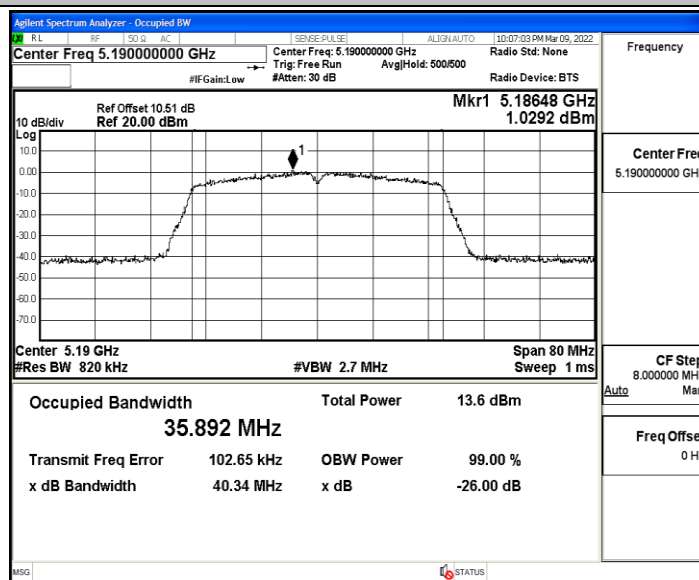
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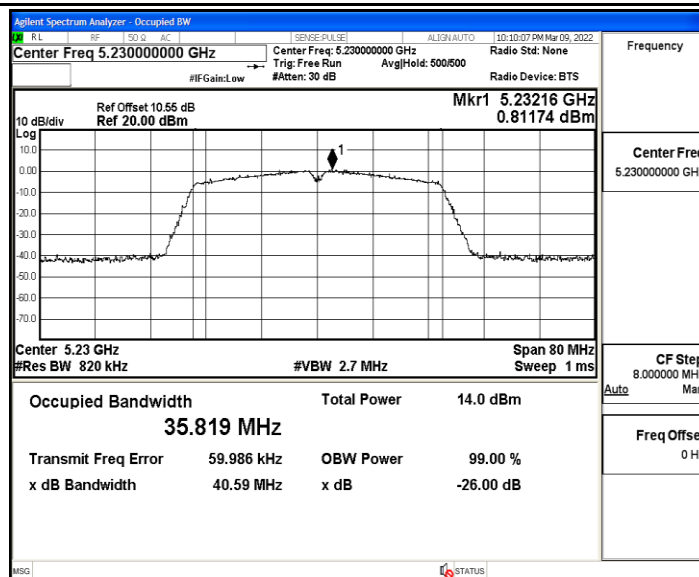
11AC40MIMO\_Ant1\_5190



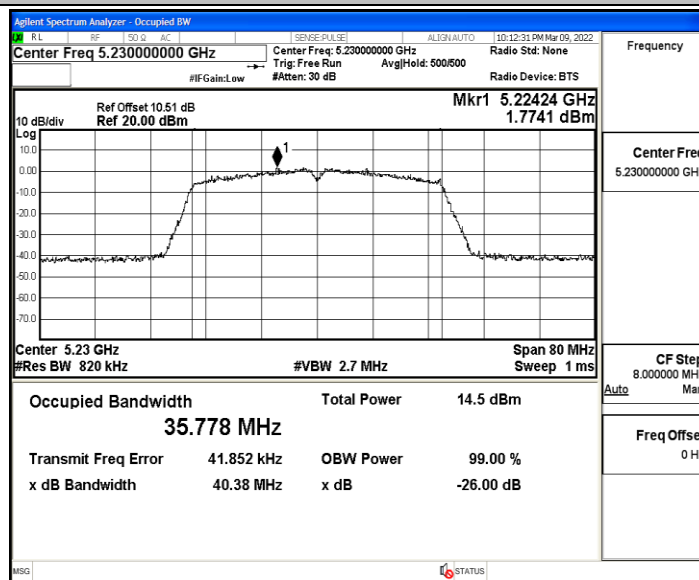
11AC40MIMO\_Ant2\_5190



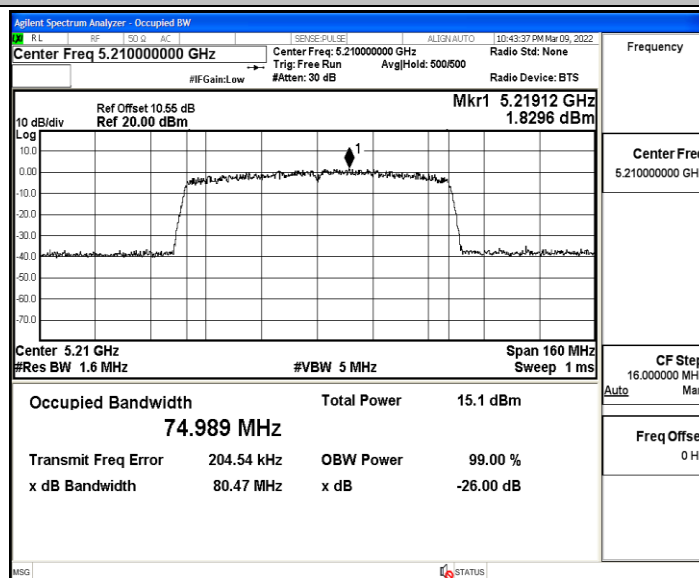
11AC40MIMO\_Ant1\_5230



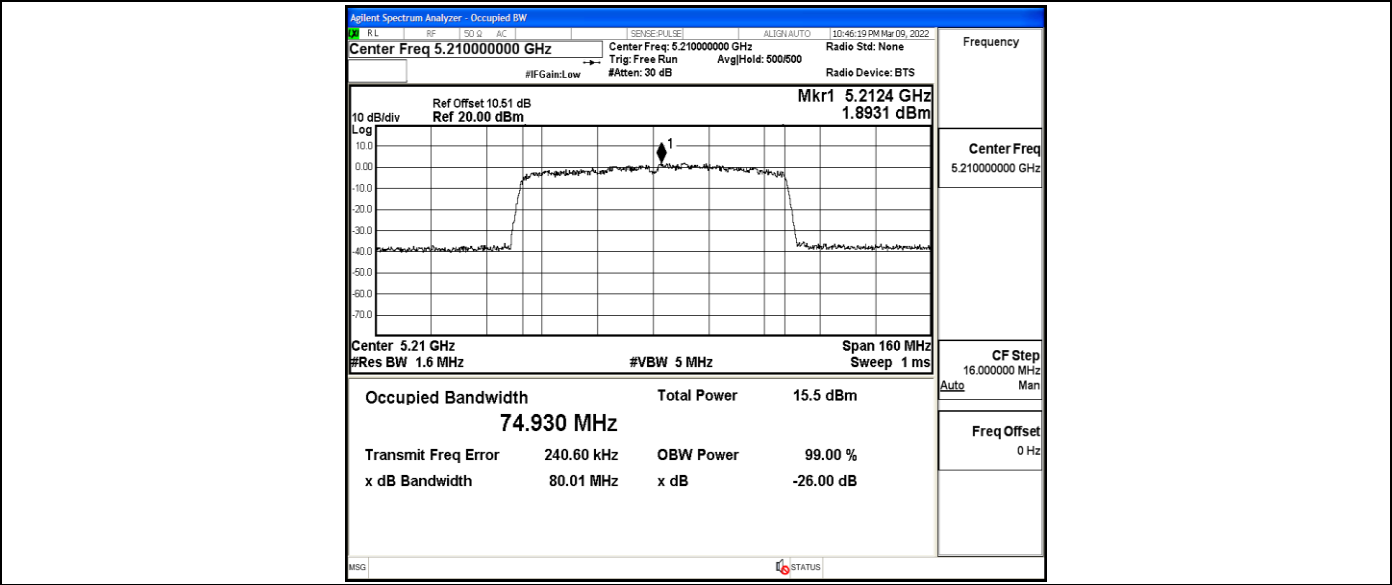
11AC40MIMO\_Ant2\_5230



11AC80MIMO\_Ant1\_5210



11AC80MIMO\_Ant2\_5210



## Appendix B: Maximum conducted output power

### Test Result

| TestMode   | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|------------|---------|---------|-------------|------------|---------|
| 11A        | Ant1    | 5180    | 11.34       | ≤23.98     | PASS    |
|            | Ant2    | 5180    | 11.43       | ≤23.98     | PASS    |
|            | Ant1    | 5200    | 11.70       | ≤23.98     | PASS    |
|            | Ant2    | 5200    | 11.71       | ≤23.98     | PASS    |
|            | Ant1    | 5240    | 12.36       | ≤23.98     | PASS    |
|            | Ant2    | 5240    | 11.73       | ≤23.98     | PASS    |
| 11N20MIMO  | Ant1    | 5180    | 9.17        | ≤23.98     | PASS    |
|            | Ant2    | 5180    | 8.83        | ≤23.98     | PASS    |
|            | total   | 5180    | 12.01       | ≤23.98     | PASS    |
|            | Ant1    | 5200    | 8.92        | ≤23.98     | PASS    |
|            | Ant2    | 5200    | 8.88        | ≤23.98     | PASS    |
|            | total   | 5200    | 11.91       | ≤23.98     | PASS    |
|            | Ant1    | 5240    | 9.00        | ≤23.98     | PASS    |
|            | Ant2    | 5240    | 8.46        | ≤23.98     | PASS    |
|            | total   | 5240    | 11.75       | ≤23.98     | PASS    |
| 11N40MIMO  | Ant1    | 5190    | 9.59        | ≤23.98     | PASS    |
|            | Ant2    | 5190    | 10.11       | ≤23.98     | PASS    |
|            | total   | 5190    | 12.87       | ≤23.98     | PASS    |
|            | Ant1    | 5230    | 9.12        | ≤23.98     | PASS    |
|            | Ant2    | 5230    | 8.97        | ≤23.98     | PASS    |
|            | total   | 5230    | 12.06       | ≤23.98     | PASS    |
| 11AC20MIMO | Ant1    | 5180    | 8.03        | ≤23.98     | PASS    |
|            | Ant2    | 5180    | 8.49        | ≤23.98     | PASS    |
|            | total   | 5180    | 11.71       | ≤23.98     | PASS    |
|            | Ant1    | 5200    | 7.94        | ≤23.98     | PASS    |
|            | Ant2    | 5200    | 7.61        | ≤23.98     | PASS    |
|            | total   | 5200    | 10.79       | ≤23.98     | PASS    |
|            | Ant1    | 5240    | 8.41        | ≤23.98     | PASS    |
|            | Ant2    | 5240    | 7.55        | ≤23.98     | PASS    |
|            | total   | 5240    | 11.01       | ≤23.98     | PASS    |
| 11AC40MIMO | Ant1    | 5190    | 5.53        | ≤23.98     | PASS    |
|            | Ant2    | 5190    | 6.01        | ≤23.98     | PASS    |
|            | total   | 5190    | 8.79        | ≤23.98     | PASS    |
|            | Ant1    | 5230    | 6.88        | ≤23.98     | PASS    |
|            | Ant2    | 5230    | 6.60        | ≤23.98     | PASS    |
|            | total   | 5230    | 9.75        | ≤23.98     | PASS    |
| 11AC80MIMO | Ant1    | 5210    | 6.93        | ≤23.98     | PASS    |
|            | Ant2    | 5210    | 7.29        | ≤23.98     | PASS    |
|            | total   | 5210    | 10.12       | ≤23.98     | PASS    |

## Appendix C: Maximum power spectral density

### Test Result

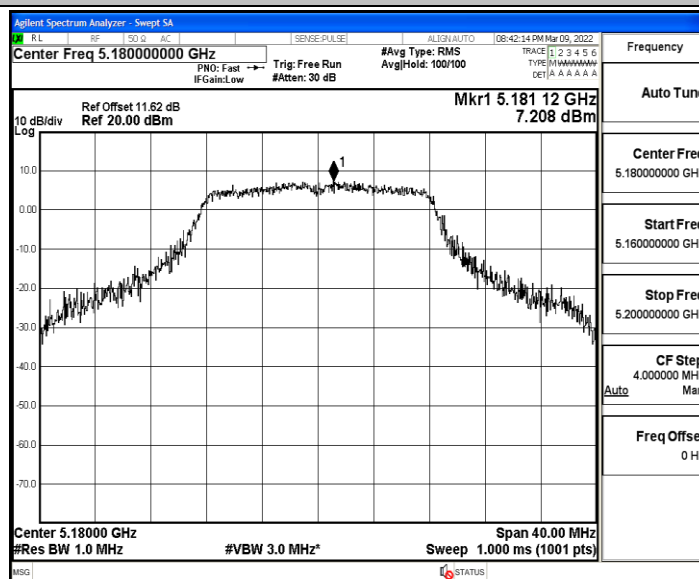
| TestMode   | Antenna | Channel | Result [dBm/MHz] | Limit[dBm/MHz] | Verdict |
|------------|---------|---------|------------------|----------------|---------|
| 11A        | Ant1    | 5180    | 7.21             | ≤11            | PASS    |
|            | Ant2    | 5180    | 8.17             | ≤11            | PASS    |
|            | Ant1    | 5200    | 7.2              | ≤11            | PASS    |
|            | Ant2    | 5200    | 7.62             | ≤11            | PASS    |
|            | Ant1    | 5240    | 7.87             | ≤11            | PASS    |
|            | Ant2    | 5240    | 8.12             | ≤11            | PASS    |
| 11N20MIMO  | Ant1    | 5180    | 4.5              | ≤11            | PASS    |
|            | Ant2    | 5180    | 5.53             | ≤11            | PASS    |
|            | total   | 5180    | 8.06             | ≤11            | PASS    |
|            | Ant1    | 5200    | 4.77             | ≤11            | PASS    |
|            | Ant2    | 5200    | 5.87             | ≤11            | PASS    |
|            | total   | 5200    | 8.37             | ≤11            | PASS    |
|            | Ant1    | 5240    | 5.5              | ≤11            | PASS    |
|            | Ant2    | 5240    | 4.92             | ≤11            | PASS    |
|            | total   | 5240    | 8.23             | ≤11            | PASS    |
| 11N40MIMO  | Ant1    | 5190    | 4.22             | ≤11            | PASS    |
|            | Ant2    | 5190    | 5.66             | ≤11            | PASS    |
|            | total   | 5190    | 8.01             | ≤11            | PASS    |
|            | Ant1    | 5230    | 3.08             | ≤11            | PASS    |
|            | Ant2    | 5230    | 4.17             | ≤11            | PASS    |
|            | total   | 5230    | 6.67             | ≤11            | PASS    |
| 11AC20MIMO | Ant1    | 5180    | 4.04             | ≤11            | PASS    |
|            | Ant2    | 5180    | 5.77             | ≤11            | PASS    |
|            | total   | 5180    | 8.00             | ≤11            | PASS    |
|            | Ant1    | 5200    | 5.37             | ≤11            | PASS    |
|            | Ant2    | 5200    | 5.19             | ≤11            | PASS    |
|            | total   | 5200    | 8.29             | ≤11            | PASS    |
|            | Ant1    | 5240    | 5.11             | ≤11            | PASS    |
|            | Ant2    | 5240    | 6.23             | ≤11            | PASS    |
|            | total   | 5240    | 8.72             | ≤11            | PASS    |
| 11AC40MIMO | Ant1    | 5190    | 0.86             | ≤11            | PASS    |
|            | Ant2    | 5190    | 2.9              | ≤11            | PASS    |
|            | total   | 5190    | 5.01             | ≤11            | PASS    |
|            | Ant1    | 5230    | 1.88             | ≤11            | PASS    |
|            | Ant2    | 5230    | 3.52             | ≤11            | PASS    |
|            | total   | 5230    | 5.79             | ≤11            | PASS    |
| 11AC80MIMO | Ant1    | 5210    | 0.81             | ≤11            | PASS    |
|            | Ant2    | 5210    | 1.13             | ≤11            | PASS    |
|            | total   | 5210    | 3.98             | ≤11            | PASS    |

Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.

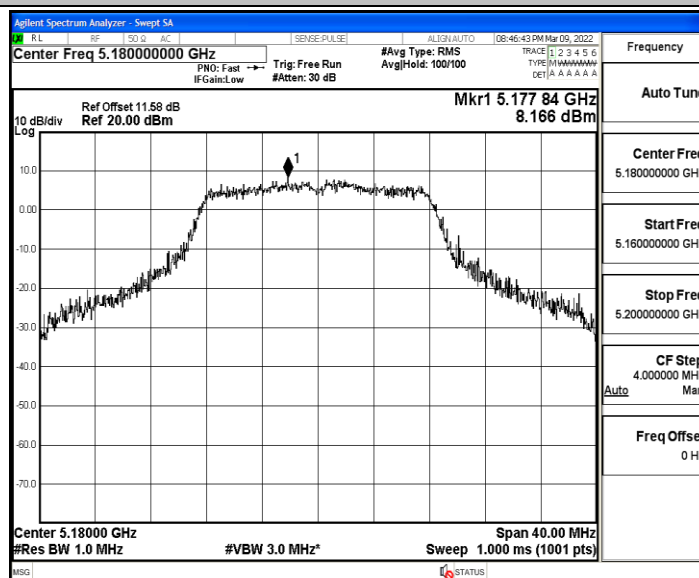
2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

## Test Graphs

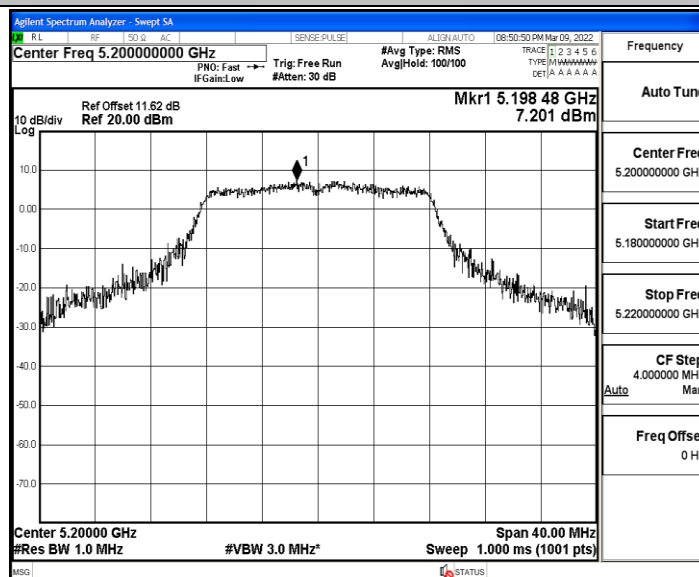
11A\_Ant1\_5180



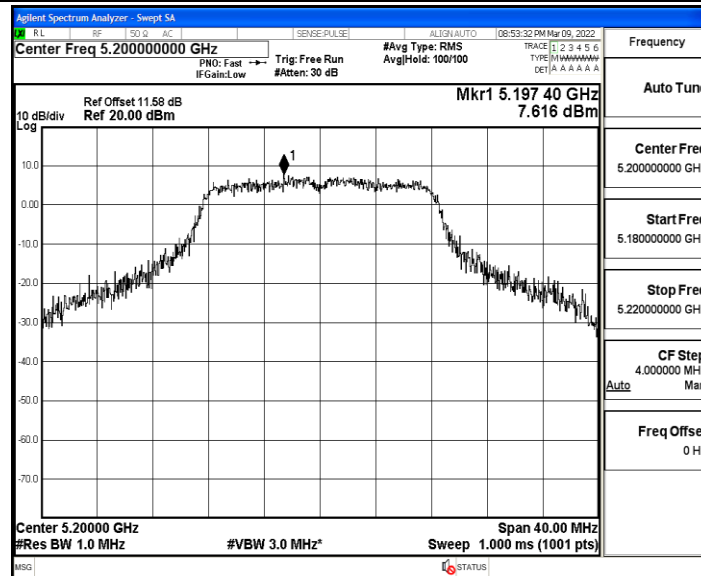
11A\_Ant2\_5180



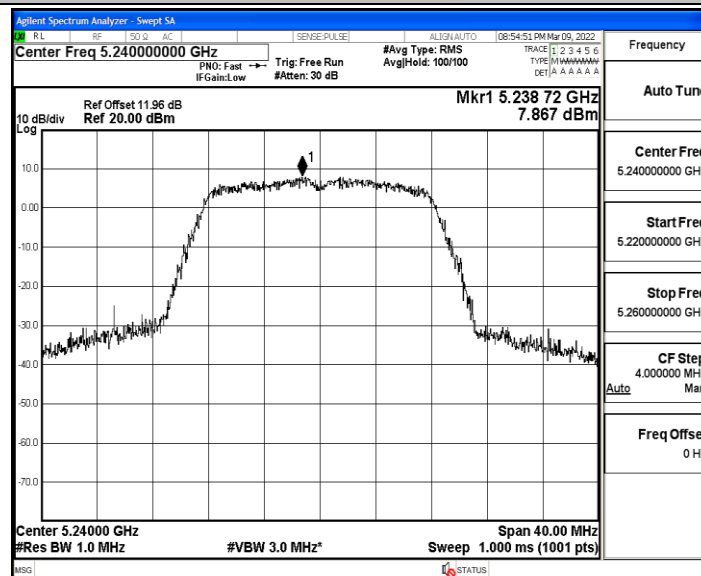
11A\_Ant1\_5200



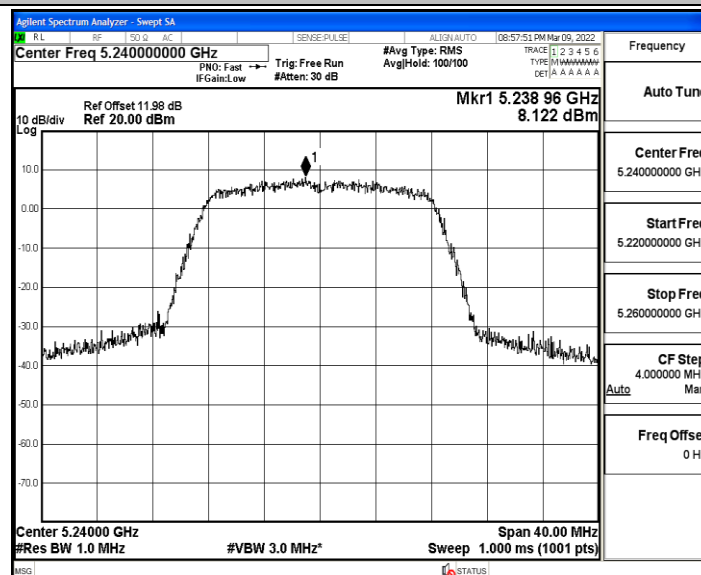
## 11A\_Ant2\_5200



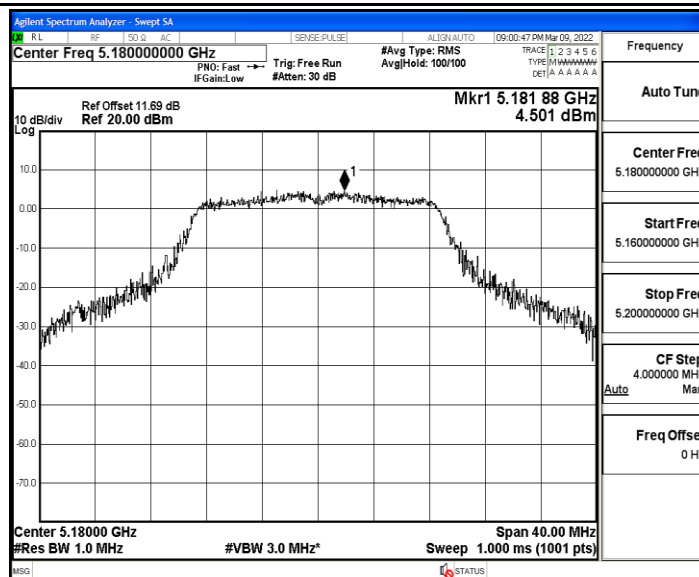
## 11A\_Ant1\_5240



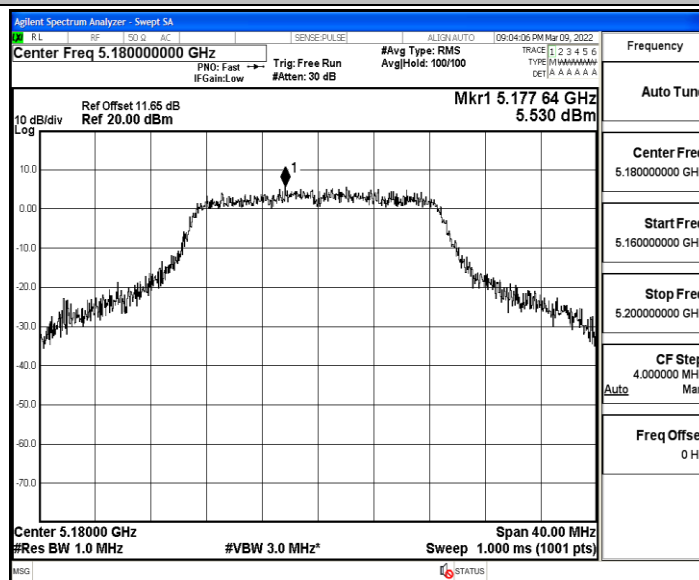
## 11A\_Ant2\_5240



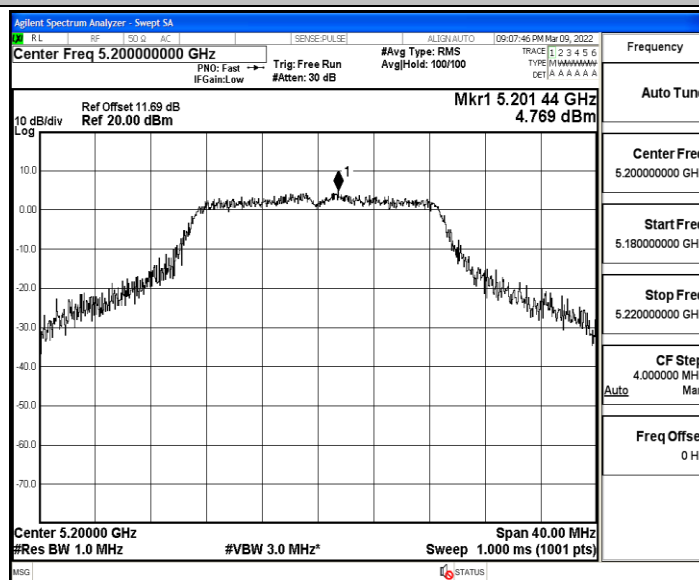
## 11N20MIMO\_Ant1\_5180



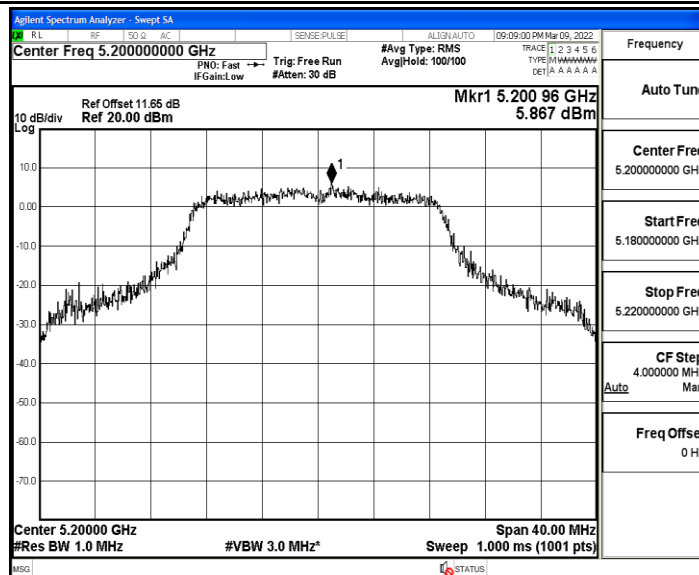
11N20MIMO\_Ant2\_5180



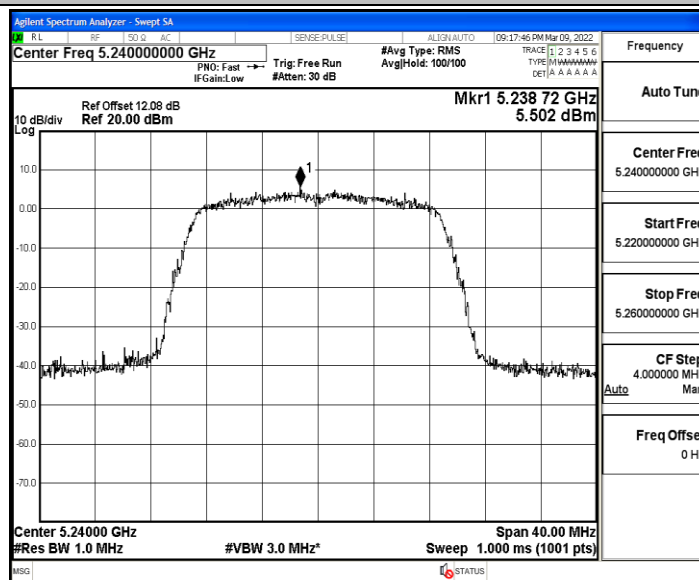
11N20MIMO\_Ant1\_5200



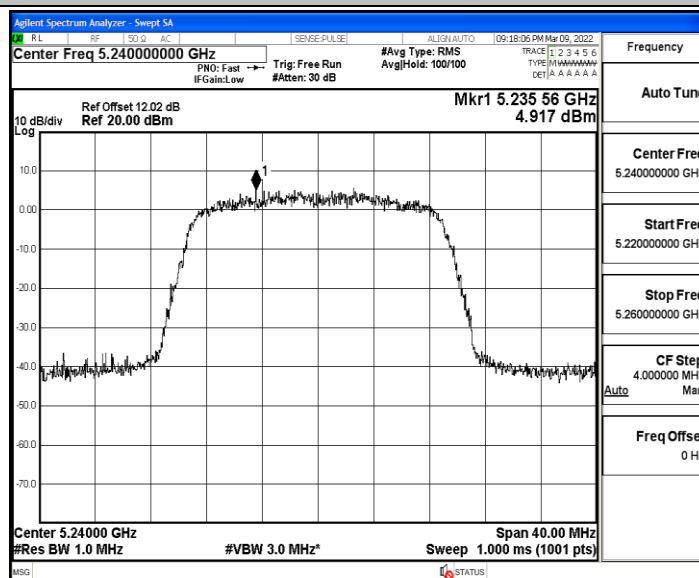
11N20MIMO\_Ant2\_5200



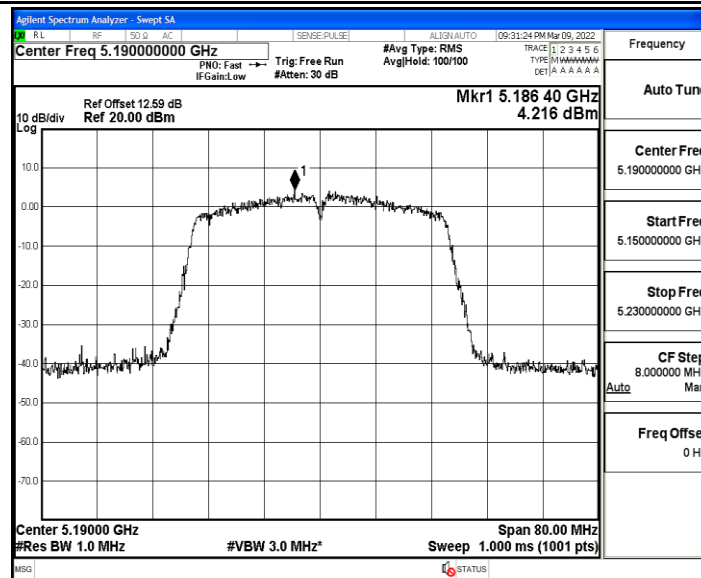
11N20MIMO\_Ant1\_5240



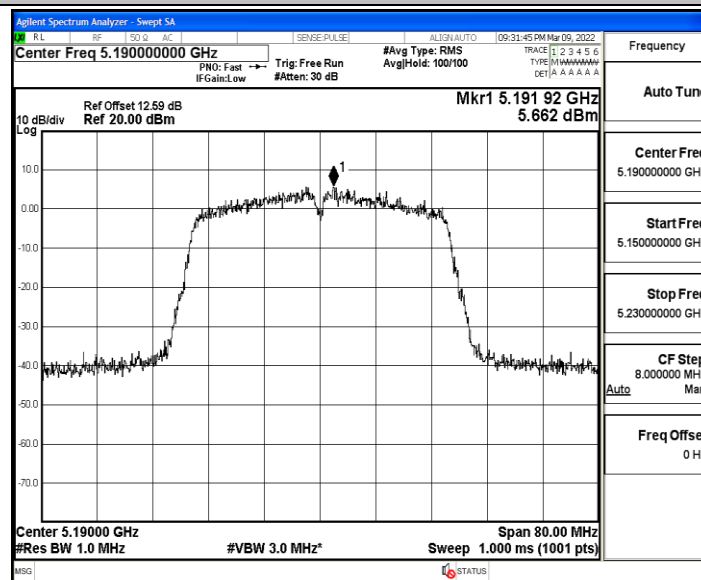
11N20MIMO\_Ant2\_5240



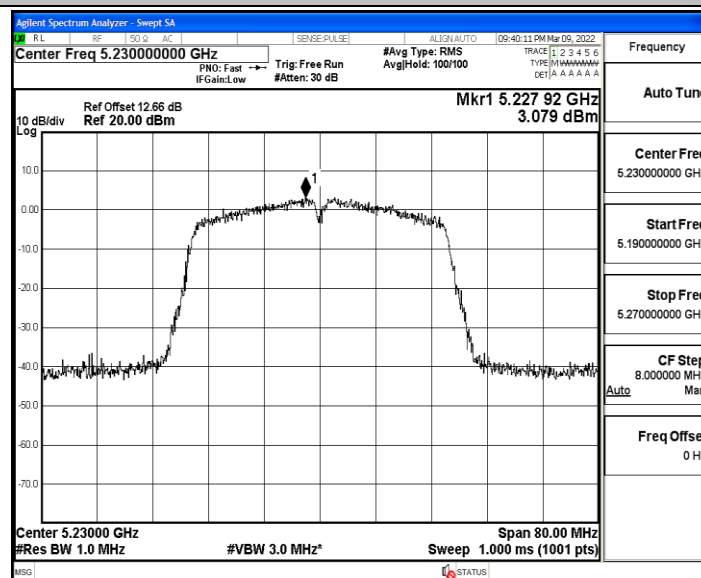
11N40MIMO\_Ant1\_5190



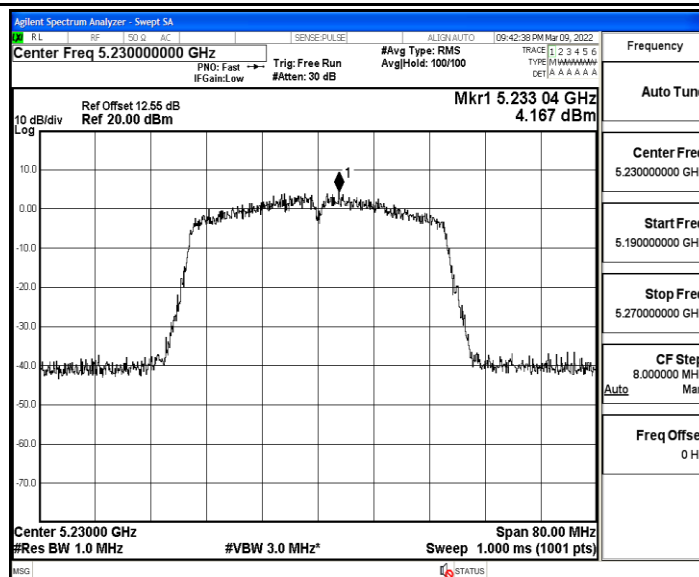
11N40MIMO\_Ant2\_5190



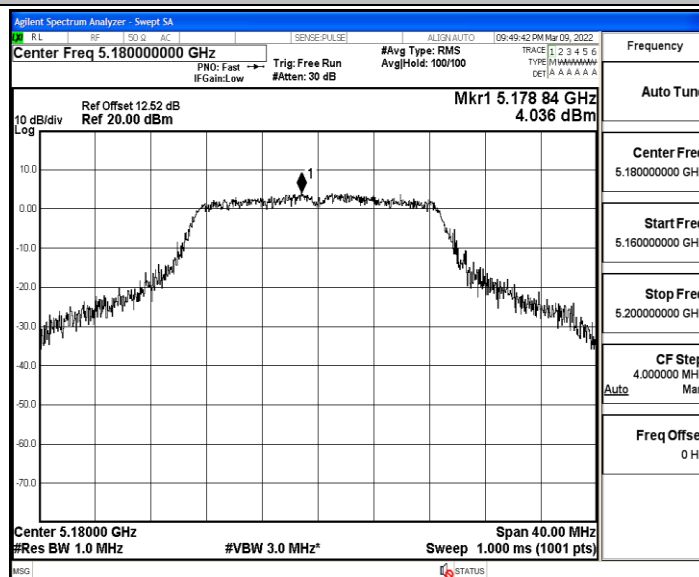
11N40MIMO\_Ant1\_5230



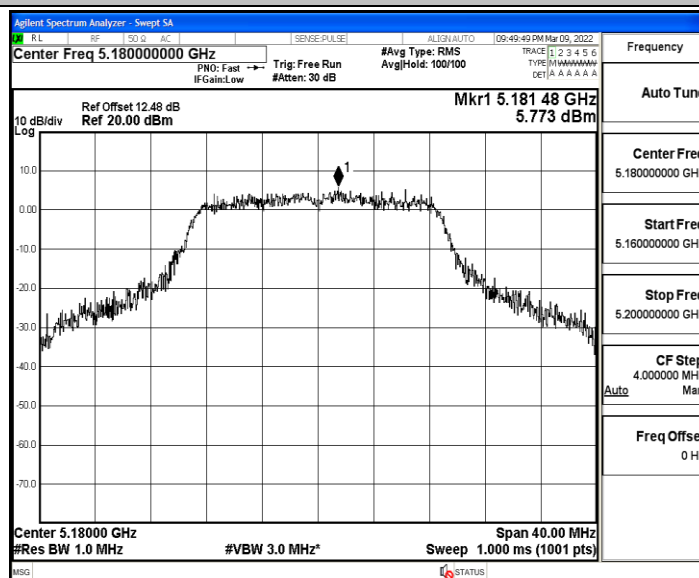
11N40MIMO\_Ant2\_5230



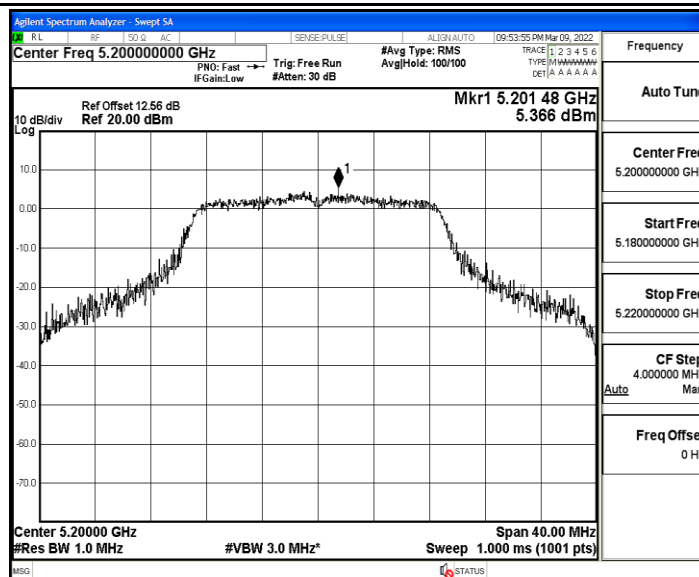
11AC20MIMO\_Ant1\_5180



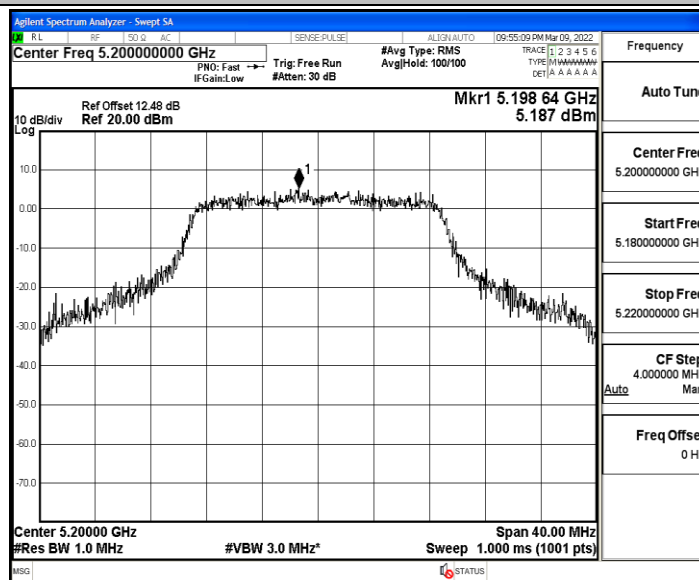
11AC20MIMO\_Ant2\_5180



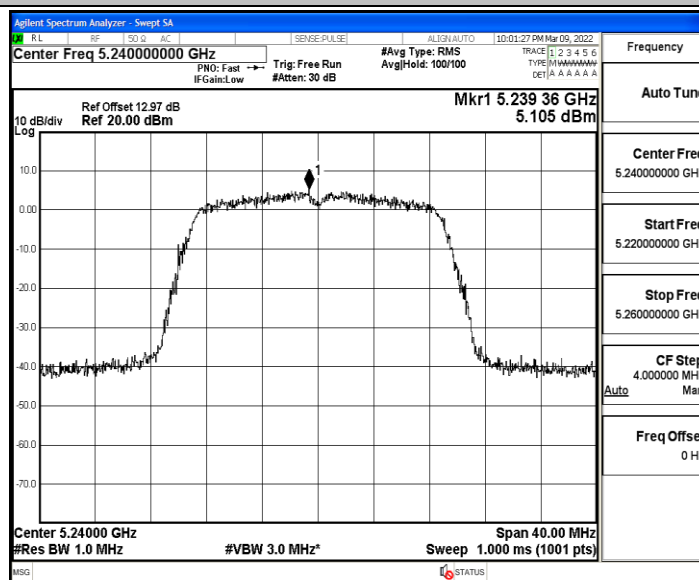
11AC20MIMO\_Ant1\_5200



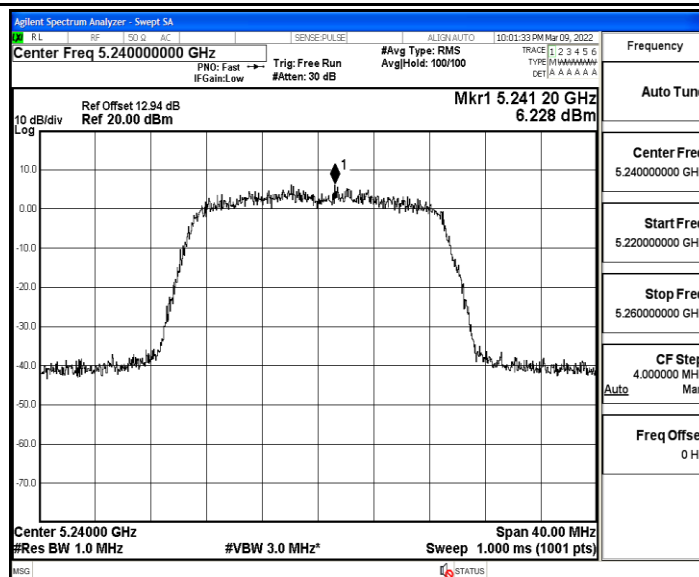
11AC20MIMO\_Ant2\_5200



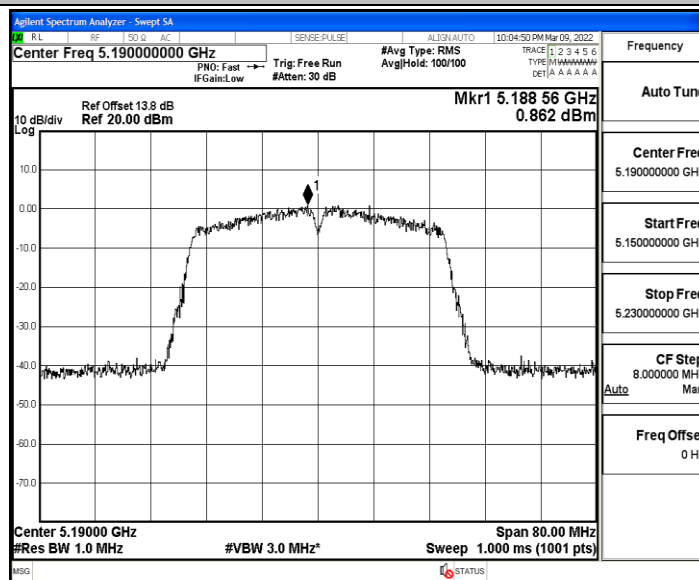
11AC20MIMO\_Ant1\_5240



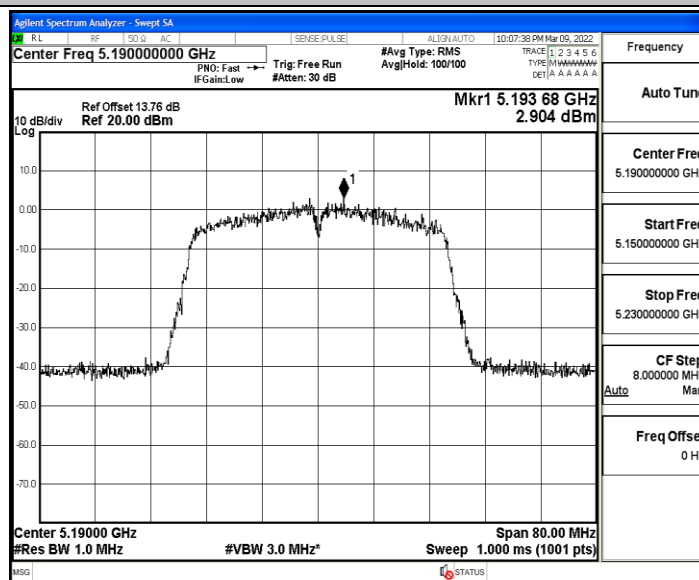
11AC20MIMO\_Ant2\_5240



11AC40MIMO\_Ant1\_5190



11AC40MIMO\_Ant2\_5190



11AC40MIMO\_Ant1\_5230