

## **FCC Appendix RF Test Data for RLAN**

**Company:** : **Promaster Electronic LLC**

**EUT** : **Wireless CPAA adaptor**

**FCC ID** : **2A6P9-KPAIB01**

**Model Number** : **KPWCA-101**

**Report No.** : **CTA25052700604**

**Reviewed By** : **Eric Wang**

## Appendix A1: Emission Bandwidth

### Test Result

| TestMode  | Antenna | Freq(MHz) | 26db EBW<br>[MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|-----------|---------|-----------|-------------------|----------|----------|------------|---------|
| 11A       | Ant1    | 5180      | 19.440            | 5170.280 | 5189.720 | ---        | ---     |
|           |         | 5220      | 23.000            | 5209.120 | 5232.120 | ---        | ---     |
|           |         | 5240      | 20.320            | 5229.840 | 5250.160 | ---        | ---     |
|           |         | 5745      | 24.160            | 5732.800 | 5756.960 | ---        | ---     |
|           |         | 5785      | 27.400            | 5773.160 | 5800.560 | ---        | ---     |
|           |         | 5825      | 24.280            | 5813.880 | 5838.160 | ---        | ---     |
| 11N20SISO | Ant1    | 5180      | 25.080            | 5167.680 | 5192.760 | ---        | ---     |
|           |         | 5220      | 25.880            | 5207.320 | 5233.200 | ---        | ---     |
|           |         | 5240      | 25.880            | 5227.320 | 5253.200 | ---        | ---     |
|           |         | 5745      | 28.080            | 5731.480 | 5759.560 | ---        | ---     |
|           |         | 5785      | 26.640            | 5770.760 | 5797.400 | ---        | ---     |
|           |         | 5825      | 25.720            | 5812.800 | 5838.520 | ---        | ---     |
| 11N40SISO | Ant1    | 5190      | 43.760            | 5168.720 | 5212.480 | ---        | ---     |
|           |         | 5230      | 43.760            | 5208.640 | 5252.400 | ---        | ---     |
|           |         | 5755      | 51.360            | 5725.720 | 5777.080 | ---        | ---     |
|           |         | 5795      | 48.160            | 5768.760 | 5816.920 | ---        | ---     |

## Test Graphs

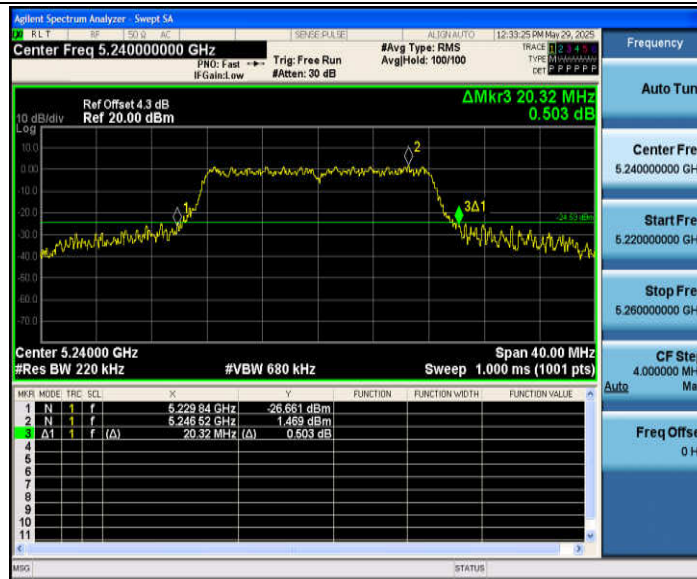
11A\_Ant1\_5180



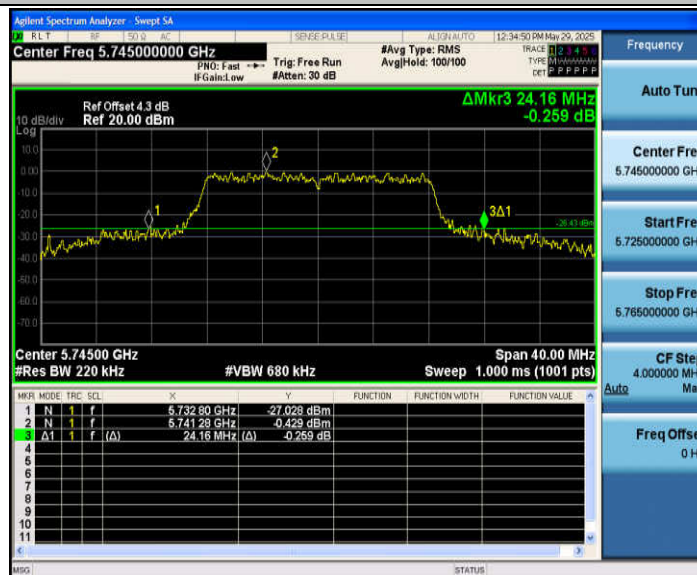
11A\_Ant1\_5220



11A\_Ant1\_5240



11A\_Ant1\_5745



11A\_Ant1\_5785



# 11A\_Ant1\_5825



# 11N20SISO\_Ant1\_5180



# 11N20SISO\_Ant1\_5220



11N20SISO\_Ant1\_5240



11N20SISO\_Ant1\_5745



# 11N20SISO\_Ant1\_5785



# 11N20SISO\_Ant1\_5825



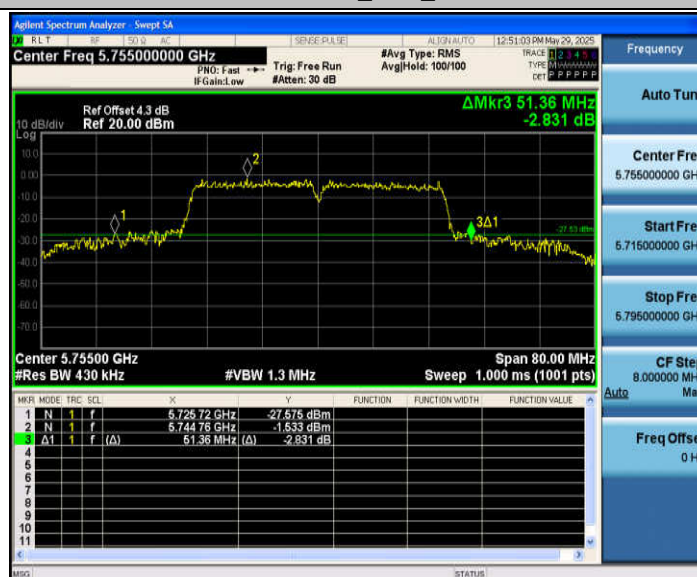
# 11N40SISO\_Ant1\_5190



11N40SISO\_Ant1\_5230



11N40SISO\_Ant1\_5755



# 11N40SISO\_Ant1\_5795



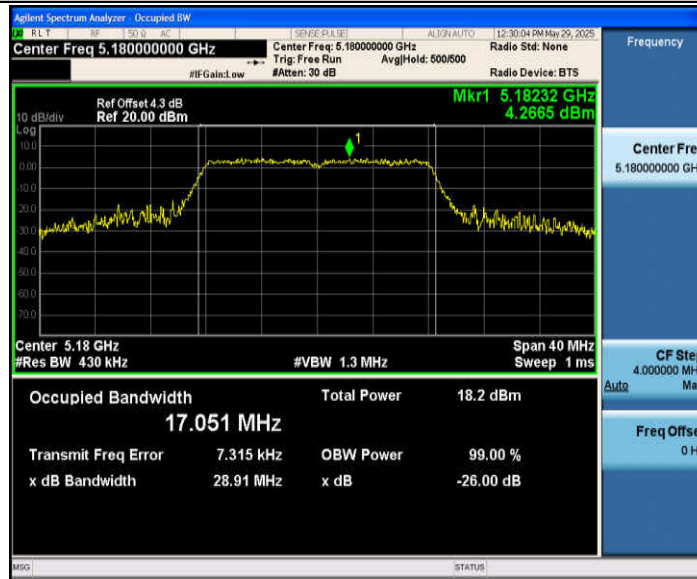
## Appendix A2: Occupied channel bandwidth

### Test Result

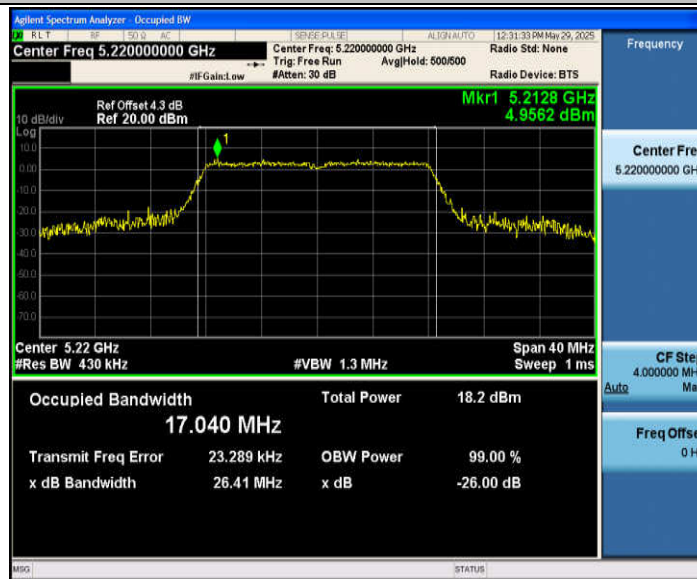
| TestMode  | Antenna | Freq(MHz) | OCB [MHz] | FL[MHz]   | FH[MHz]   | Limit[MHz] | Verdict |
|-----------|---------|-----------|-----------|-----------|-----------|------------|---------|
| 11A       | Ant1    | 5180      | 17.051    | 5171.4818 | 5188.5328 | ---        | ---     |
|           |         | 5220      | 17.040    | 5211.5033 | 5228.5433 | ---        | ---     |
|           |         | 5240      | 17.087    | 5231.4775 | 5248.5645 | ---        | ---     |
|           |         | 5745      | 17.259    | 5736.3550 | 5753.6140 | ---        | ---     |
|           |         | 5785      | 17.184    | 5776.3971 | 5793.5811 | ---        | ---     |
|           |         | 5825      | 17.132    | 5816.4815 | 5833.6135 | ---        | ---     |
| 11N20SISO | Ant1    | 5180      | 18.096    | 5170.9802 | 5189.0762 | ---        | ---     |
|           |         | 5220      | 18.167    | 5210.9597 | 5229.1267 | ---        | ---     |
|           |         | 5240      | 18.097    | 5231.0051 | 5249.1021 | ---        | ---     |
|           |         | 5745      | 18.180    | 5735.9197 | 5754.0997 | ---        | ---     |
|           |         | 5785      | 18.136    | 5775.9474 | 5794.0834 | ---        | ---     |
|           |         | 5825      | 18.133    | 5815.9934 | 5834.1264 | ---        | ---     |
| 11N40SISO | Ant1    | 5190      | 36.487    | 5171.7590 | 5208.2460 | ---        | ---     |
|           |         | 5230      | 36.388    | 5211.8895 | 5248.2775 | ---        | ---     |
|           |         | 5755      | 36.790    | 5736.6029 | 5773.3929 | ---        | ---     |
|           |         | 5795      | 36.568    | 5776.7294 | 5813.2974 | ---        | ---     |

## Test Graphs

11A\_Ant1\_5180



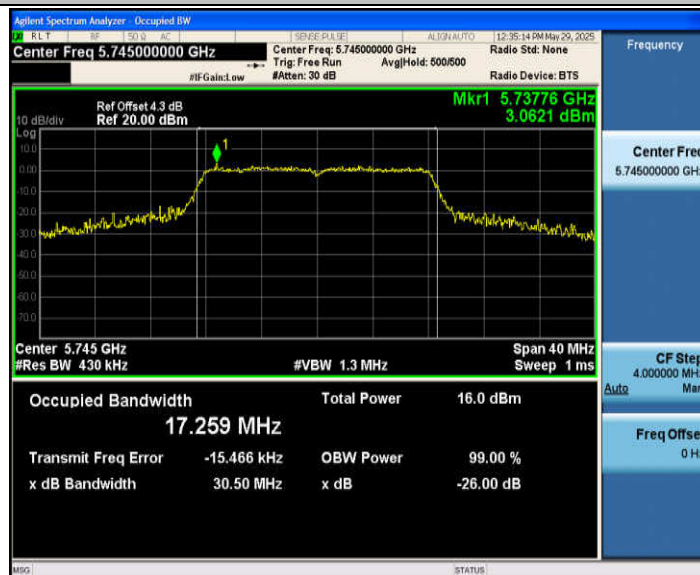
11A\_Ant1\_5220



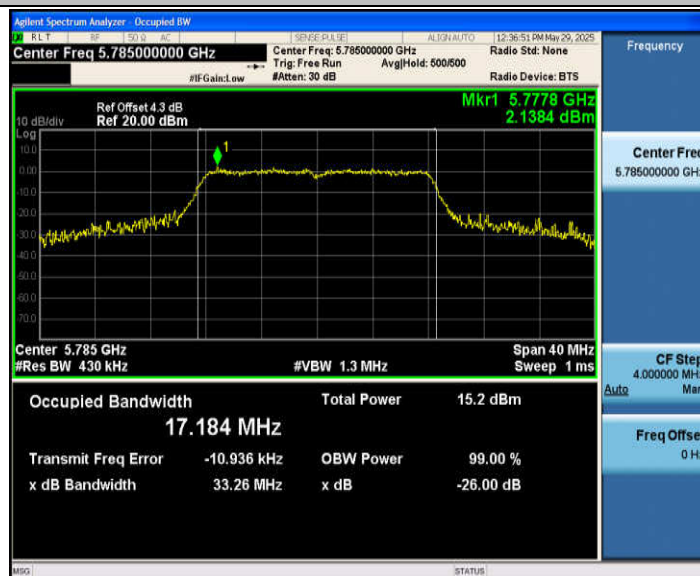
11A\_Ant1\_5240



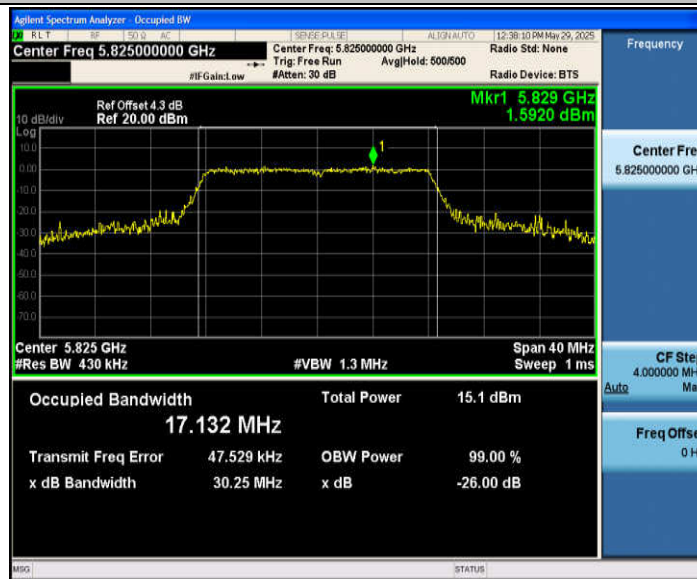
11A\_Ant1\_5745



11A\_Ant1\_5785



# 11A\_Ant1\_5825



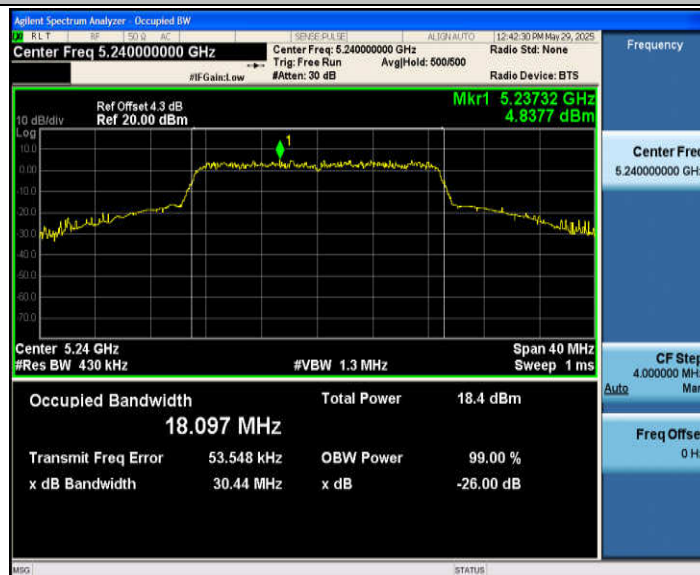
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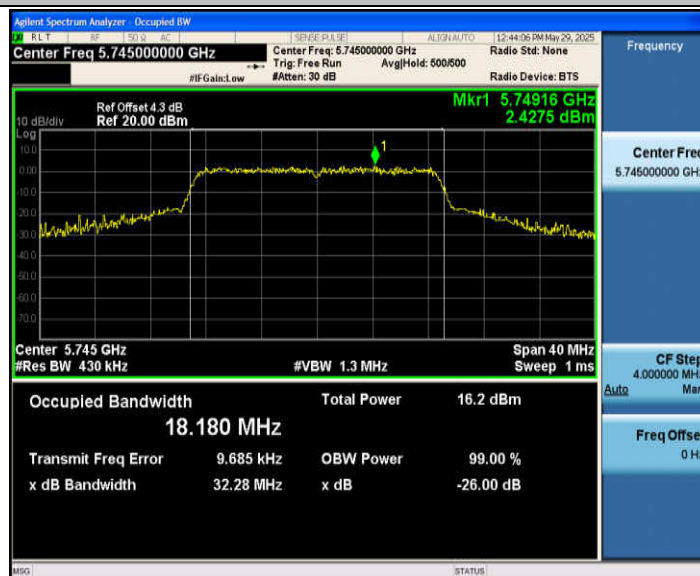
# 11N20SISO\_Ant1\_5220



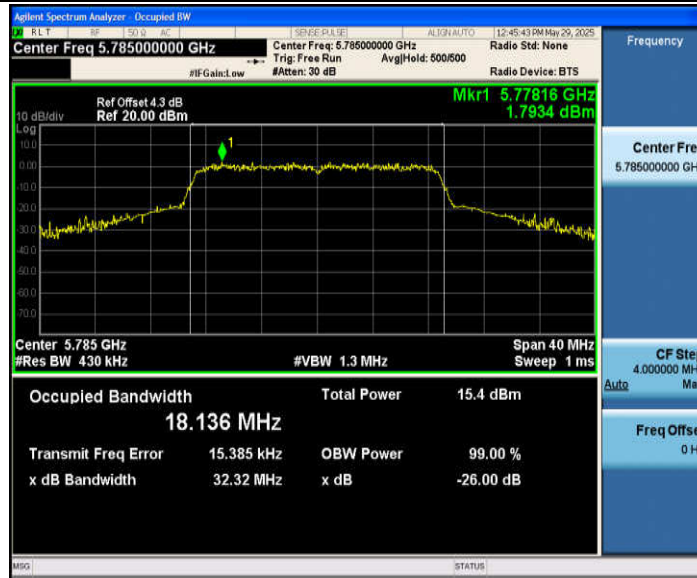
11N20SISO\_Ant1\_5240



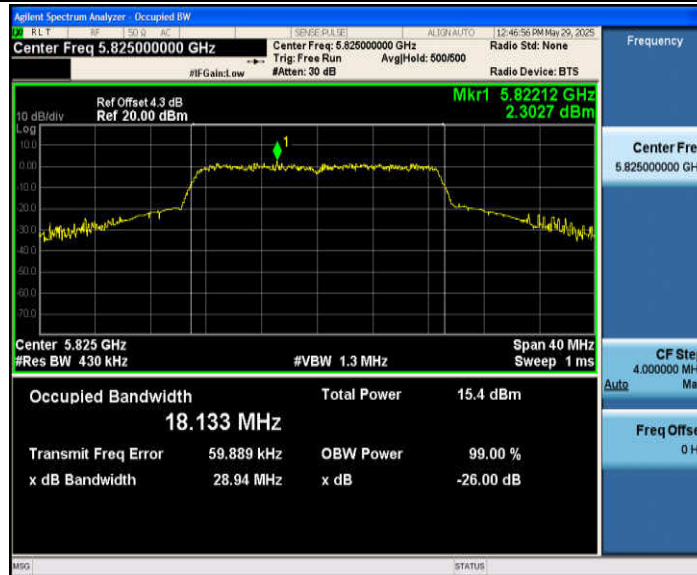
11N20SISO\_Ant1\_5745



# 11N20SISO\_Ant1\_5785



# 11N20SISO\_Ant1\_5825



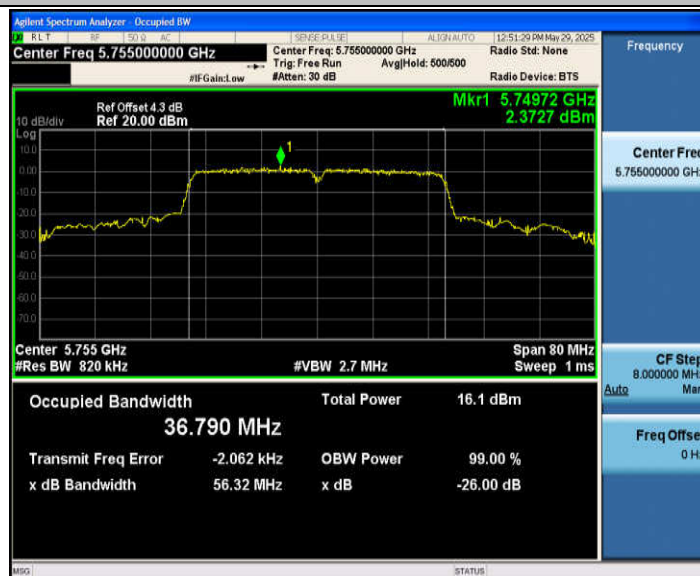
# 11N40SISO\_Ant1\_5190



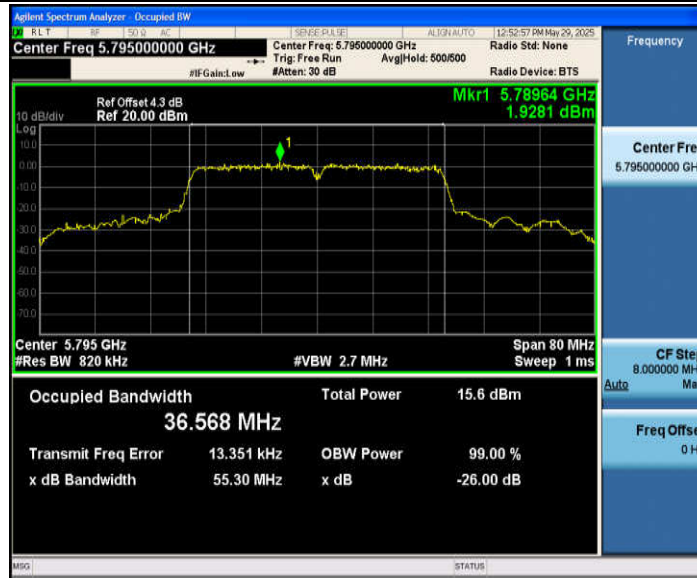
11N40SISO\_Ant1\_5230



11N40SISO\_Ant1\_5755



# 11N40SISO\_Ant1\_5795



## Appendix A3: Min emission bandwidth

### Test Result B4

| TestMode  | Antenna | Freq(MHz) | 6db EBW<br>[MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|-----------|---------|-----------|------------------|----------|----------|------------|---------|
| 11A       | Ant1    | 5745      | 16.320           | 5736.840 | 5753.160 | 0.5        | PASS    |
|           |         | 5785      | 16.320           | 5776.840 | 5793.160 | 0.5        | PASS    |
|           |         | 5825      | 16.320           | 5816.840 | 5833.160 | 0.5        | PASS    |
| 11N20SISO | Ant1    | 5745      | 16.520           | 5736.560 | 5753.080 | 0.5        | PASS    |
|           |         | 5785      | 17.120           | 5776.480 | 5793.600 | 0.5        | PASS    |
|           |         | 5825      | 16.680           | 5816.680 | 5833.360 | 0.5        | PASS    |
| 11N40SISO | Ant1    | 5755      | 35.200           | 5737.400 | 5772.600 | 0.5        | PASS    |
|           |         | 5795      | 35.200           | 5777.400 | 5812.600 | 0.5        | PASS    |

## Test Graphs B4

11A\_Ant1\_5745



11A\_Ant1\_5785



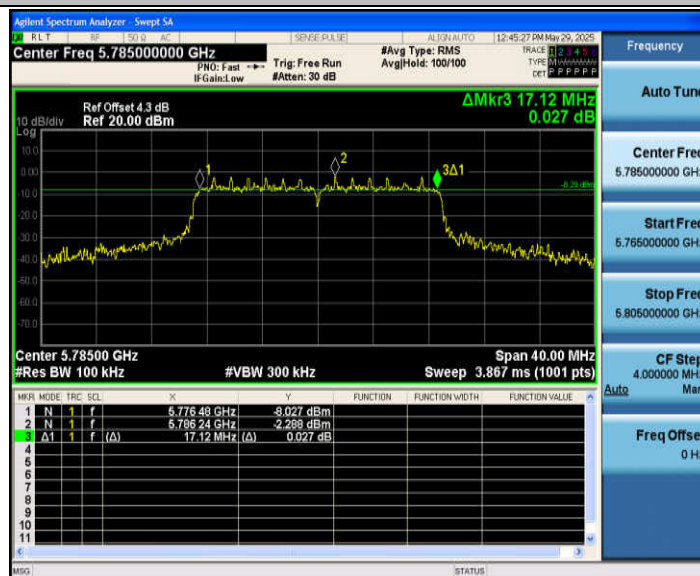
11A\_Ant1\_5825



11N20SISO\_Ant1\_5745



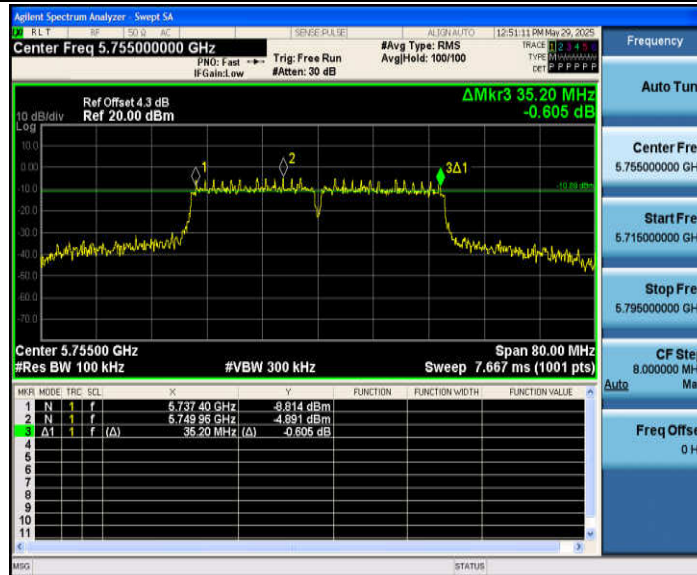
11N20SISO\_Ant1\_5785



# 11N20SISO\_Ant1\_5825



# 11N40SISO\_Ant1\_5755



# 11N40SISO\_Ant1\_5795

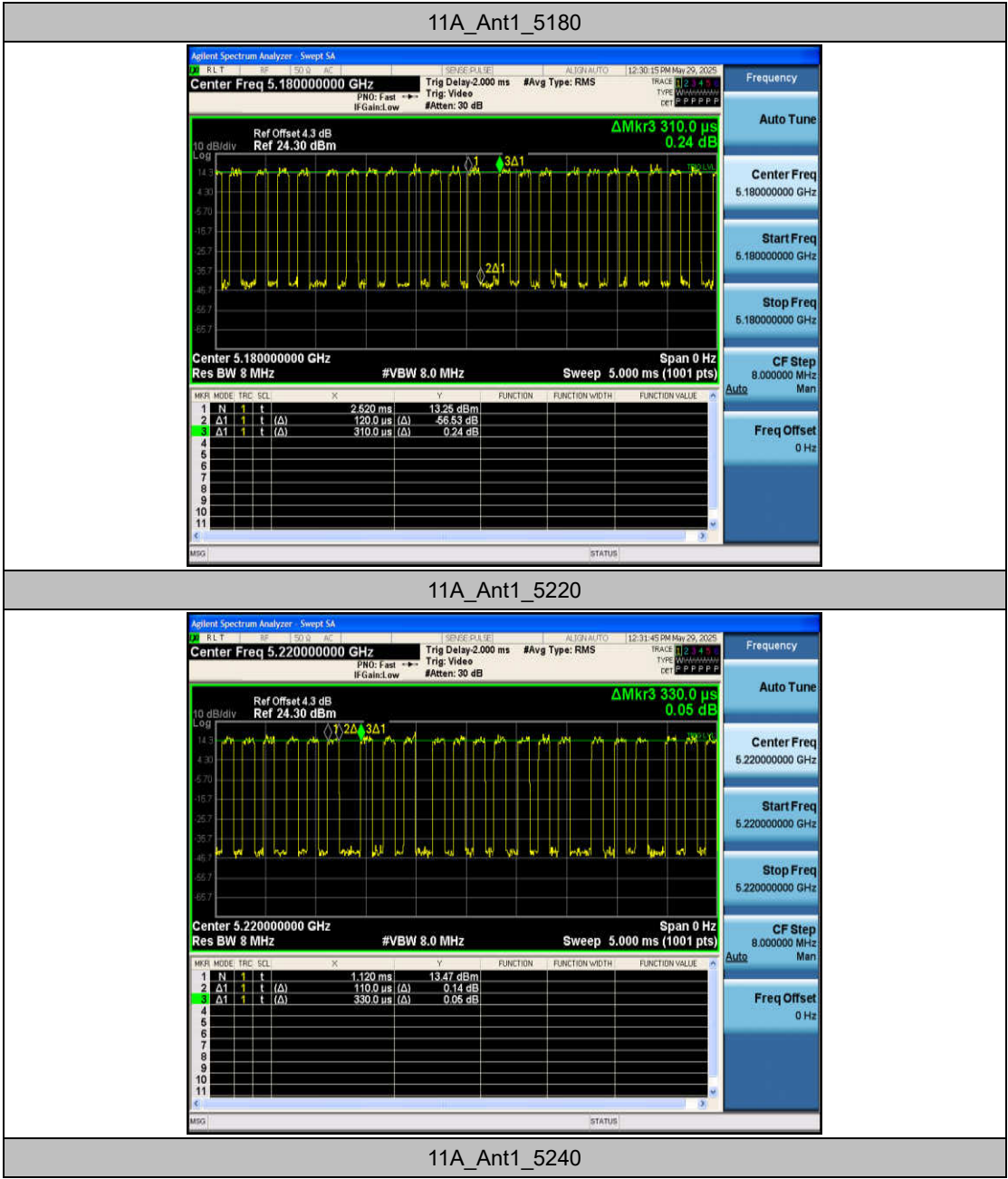


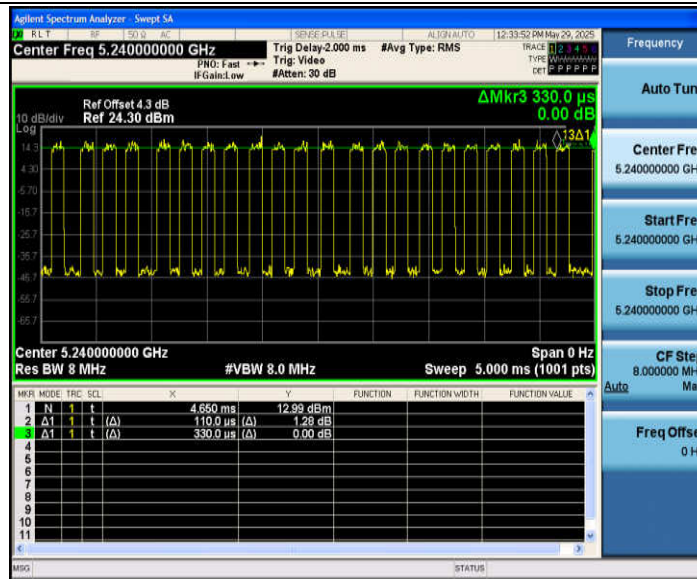
## Appendix B: Duty Cycle

### Test Result

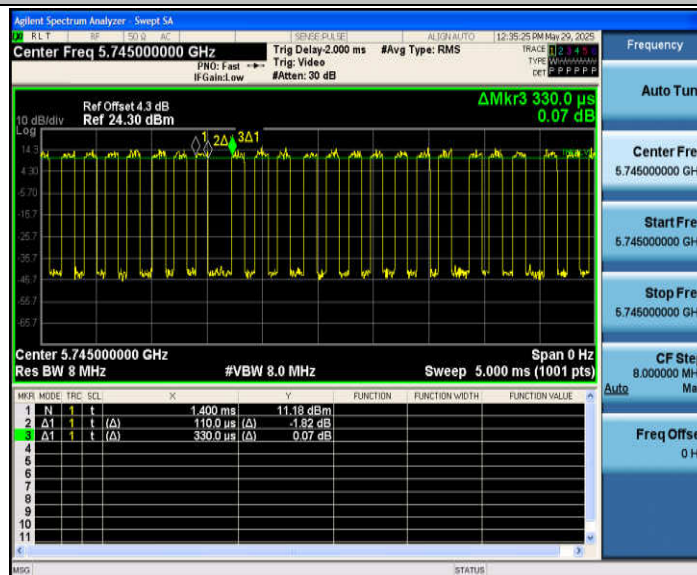
| TestMode  | Antenna | Freq(MHz) | Transmission Duration [ms] | Transmission Period [ms] | Duty Cycle [%] | Duty factor (dB) | Limit | Verdict |
|-----------|---------|-----------|----------------------------|--------------------------|----------------|------------------|-------|---------|
| 11A       | Ant1    | 5180      | 0.12                       | 0.31                     | 38.71          | 4.12             | ---   | ---     |
|           |         | 5220      | 0.11                       | 0.33                     | 33.33          | 4.77             | ---   | ---     |
|           |         | 5240      | 0.11                       | 0.33                     | 33.33          | 4.77             | ---   | ---     |
|           |         | 5745      | 0.11                       | 0.33                     | 33.33          | 4.77             | ---   | ---     |
|           |         | 5785      | 0.11                       | 0.31                     | 35.48          | 4.50             | ---   | ---     |
|           |         | 5825      | 0.11                       | 0.30                     | 36.67          | 4.36             | ---   | ---     |
| 11N20SISO | Ant1    | 5180      | 0.11                       | 0.32                     | 34.38          | 4.64             | ---   | ---     |
|           |         | 5220      | 0.11                       | 0.33                     | 33.33          | 4.77             | ---   | ---     |
|           |         | 5240      | 0.11                       | 0.29                     | 37.93          | 4.21             | ---   | ---     |
|           |         | 5745      | 0.11                       | 0.28                     | 39.29          | 4.06             | ---   | ---     |
|           |         | 5785      | 0.11                       | 0.28                     | 39.29          | 4.06             | ---   | ---     |
|           |         | 5825      | 0.11                       | 0.32                     | 34.38          | 4.64             | ---   | ---     |
| 11N40SISO | Ant1    | 5190      | 0.07                       | 0.28                     | 25.00          | 6.02             | ---   | ---     |
|           |         | 5230      | 0.08                       | 0.20                     | 40.00          | 3.98             | ---   | ---     |
|           |         | 5755      | 0.07                       | 0.26                     | 26.92          | 5.70             | ---   | ---     |
|           |         | 5795      | 0.07                       | 0.26                     | 26.92          | 5.70             | ---   | ---     |

Test Graphs

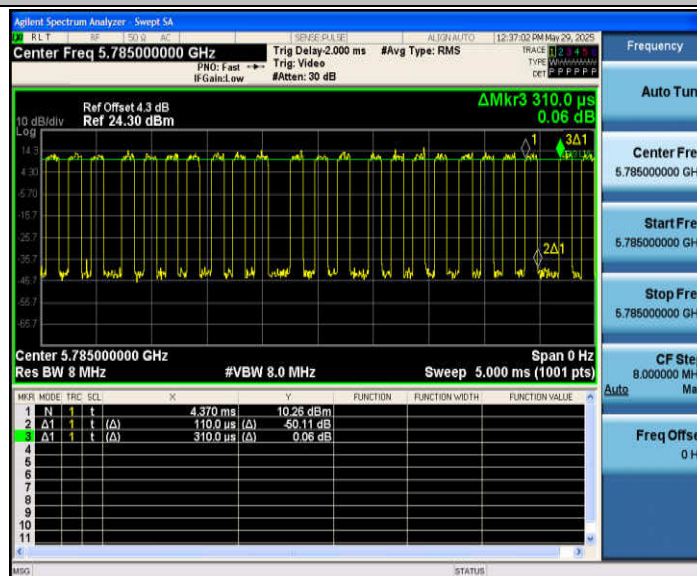




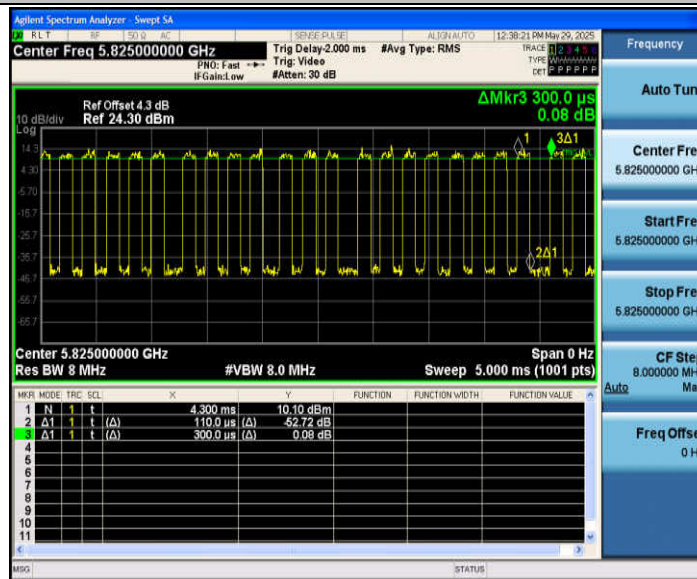
11A\_Ant1\_5745



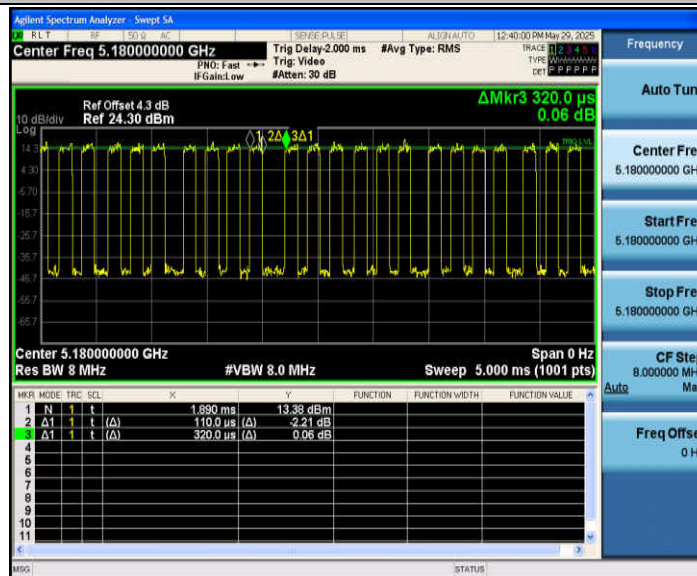
11A\_Ant1\_5785



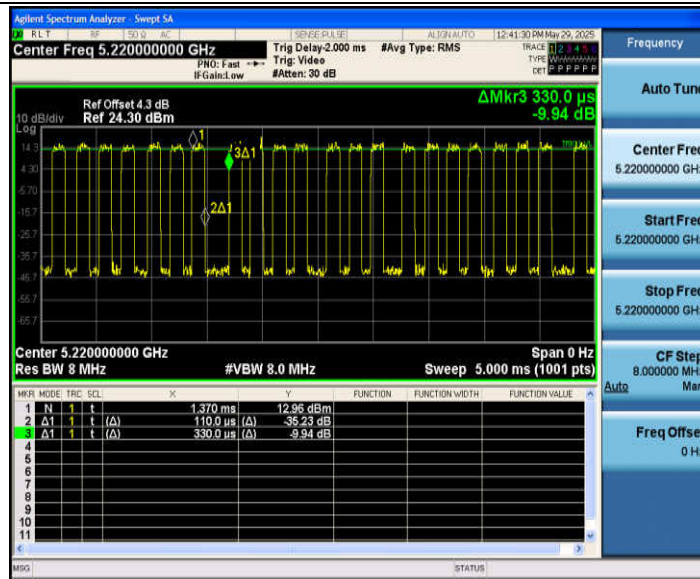
# 11A\_Ant1\_5825



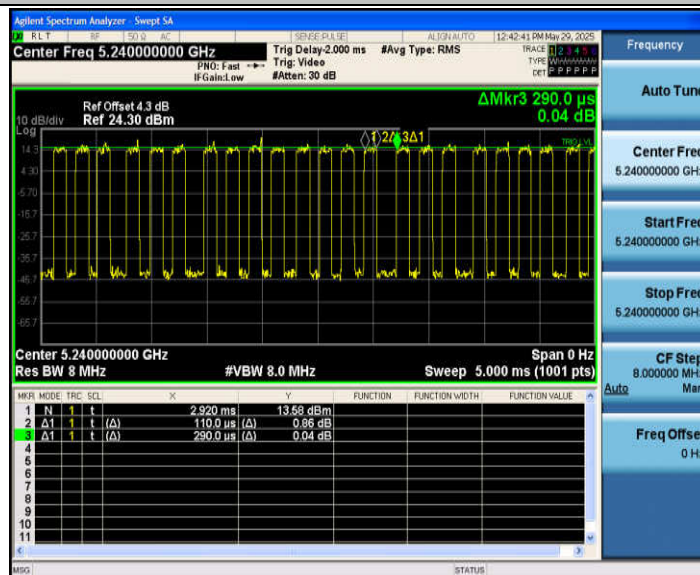
# 11N20SISO\_Ant1\_5180



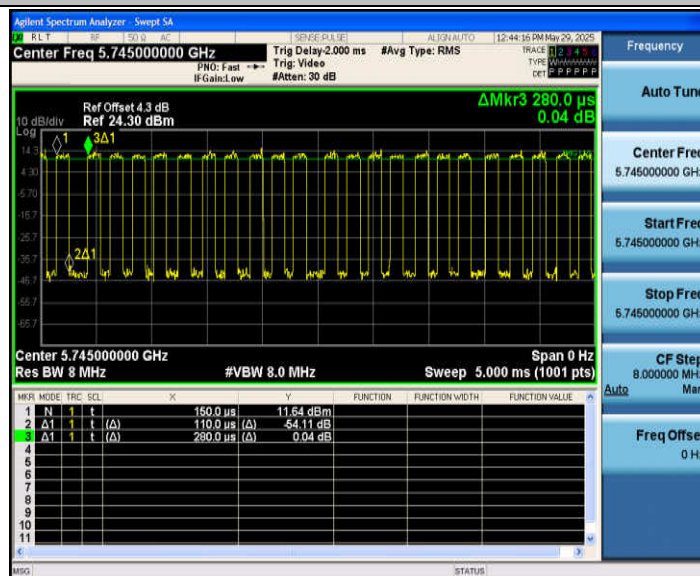
# 11N20SISO\_Ant1\_5220



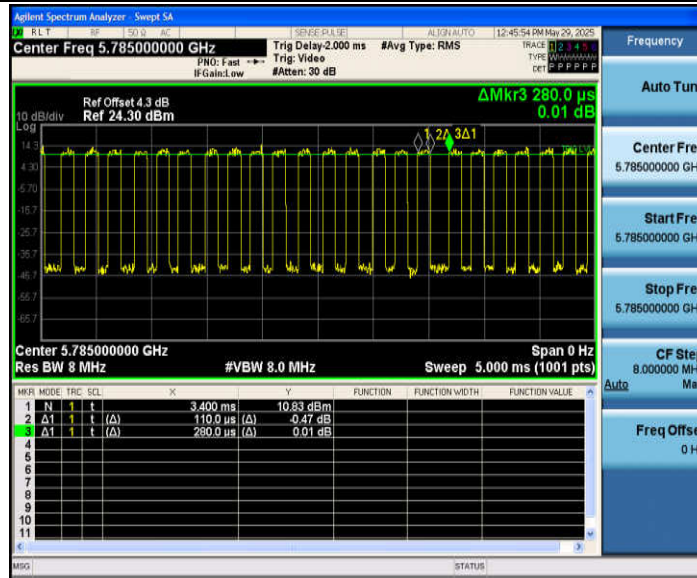
11N20SISO\_Ant1\_5240



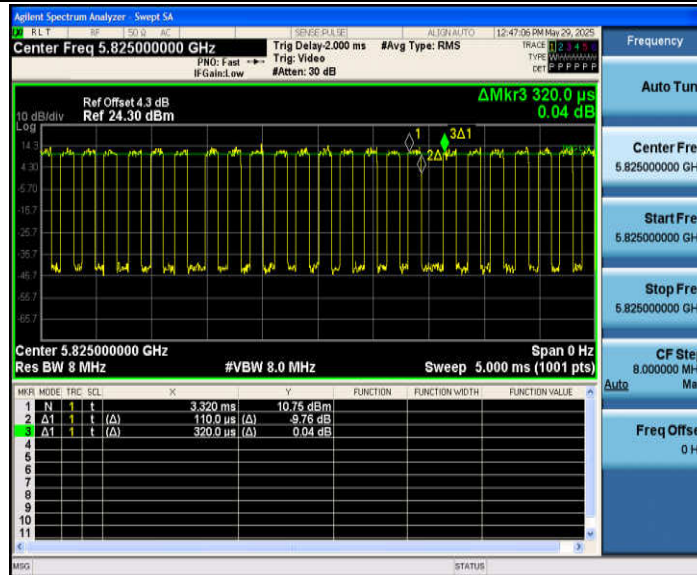
11N20SISO\_Ant1\_5745



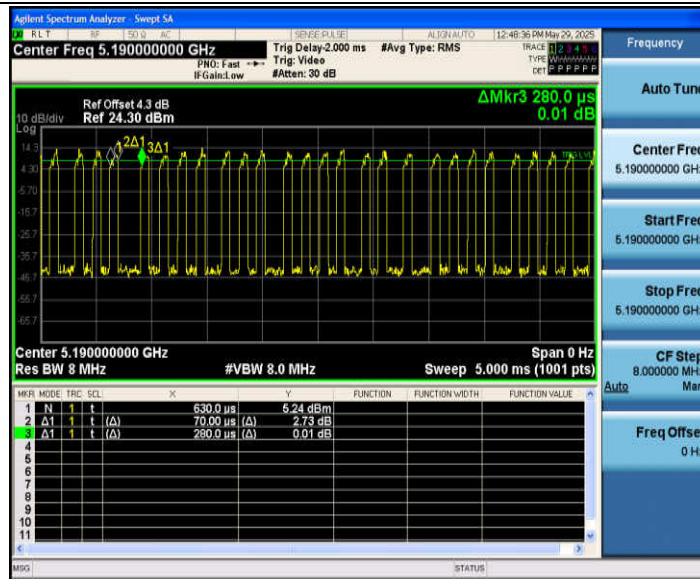
# 11N20SISO\_Ant1\_5785



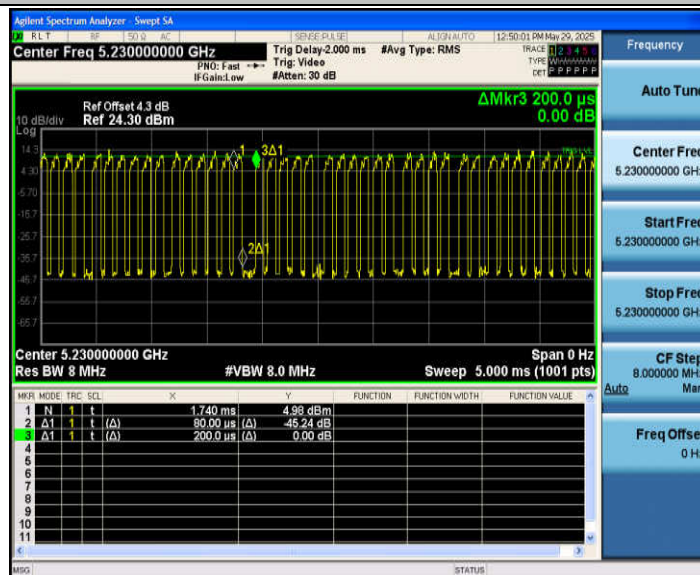
# 11N20SISO\_Ant1\_5825



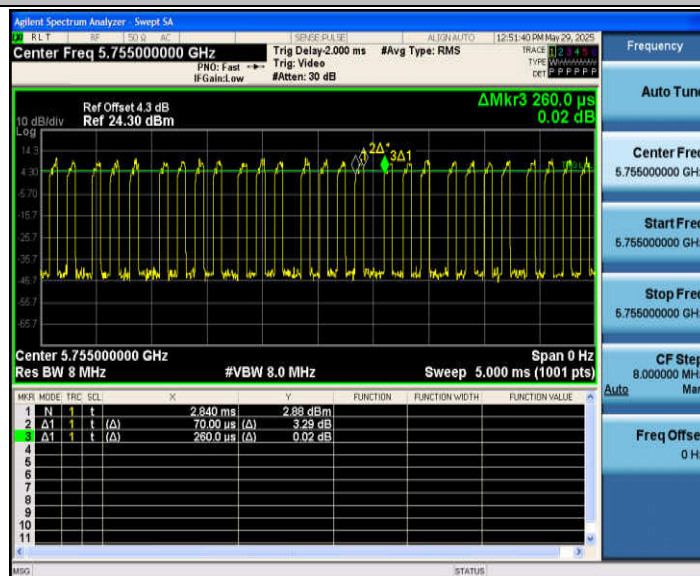
# 11N40SISO\_Ant1\_5190



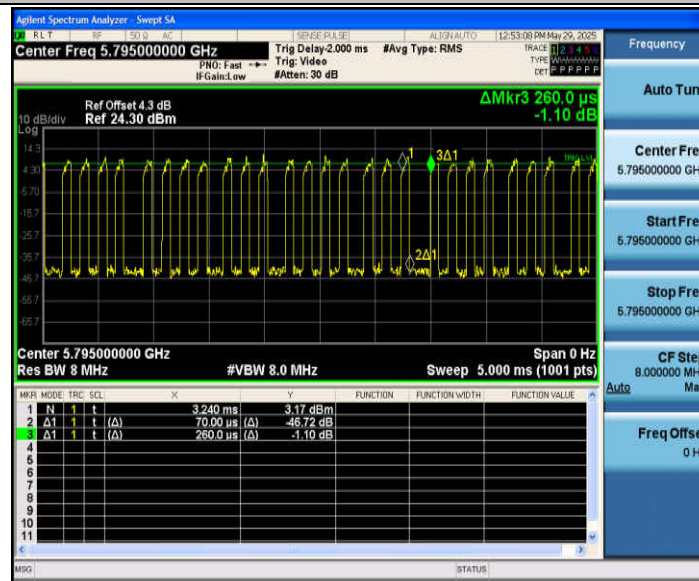
11N40SISO\_Ant1\_5230



11N40SISO\_Ant1\_5755



# 11N40SISO\_Ant1\_5795



## Appendix C: Maximum conducted output power

| Test Mode | Antenna | Freq(MHz) | Channel Power [dBm] | Duty Cycle [%] | DC Factor [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|-----------|---------|-----------|---------------------|----------------|-----------------|--------------|-------------|---------|
| 11A       | Ant1    | 5180      | 8.85                | 38.71          | 4.12            | 12.97        | ≤23.98      | PASS    |
|           |         | 5220      | 8.84                | 33.33          | 4.77            | 13.61        | ≤23.98      | PASS    |
|           |         | 5240      | 8.95                | 33.33          | 4.77            | 13.72        | ≤23.98      | PASS    |
|           |         | 5745      | 6.61                | 33.33          | 4.77            | 11.38        | ≤30.00      | PASS    |
|           |         | 5785      | 5.96                | 35.48          | 4.50            | 10.46        | ≤30.00      | PASS    |
|           |         | 5825      | 5.79                | 36.67          | 4.36            | 10.15        | ≤30.00      | PASS    |
| 11N20SISO | Ant1    | 5180      | 8.78                | 34.38          | 4.64            | 13.42        | ≤23.98      | PASS    |
|           |         | 5220      | 8.78                | 33.33          | 4.77            | 13.55        | ≤23.98      | PASS    |
|           |         | 5240      | 8.93                | 37.93          | 4.21            | 13.14        | ≤23.98      | PASS    |
|           |         | 5745      | 6.72                | 39.29          | 4.06            | 10.78        | ≤30.00      | PASS    |
|           |         | 5785      | 5.99                | 39.29          | 4.06            | 10.05        | ≤30.00      | PASS    |
|           |         | 5825      | 5.82                | 34.38          | 4.64            | 10.46        | ≤30.00      | PASS    |
| 11N40SISO | Ant1    | 5190      | 7.05                | 25.00          | 6.02            | 13.07        | ≤23.98      | PASS    |
|           |         | 5230      | 8.66                | 40.00          | 3.98            | 12.64        | ≤23.98      | PASS    |
|           |         | 5755      | 4.85                | 26.92          | 5.70            | 10.55        | ≤30.00      | PASS    |
|           |         | 5795      | 4.31                | 26.92          | 5.70            | 10.01        | ≤30.00      | PASS    |

## Appendix D: Maximum power spectral density

### Test Result

| TestMode  | Antenna | Freq(MHz) | Result [dBm/MHz] | Limit[dBm/MHz] | Verdict |
|-----------|---------|-----------|------------------|----------------|---------|
| 11A       | Ant1    | 5180      | 2.51             | ≤11.00         | PASS    |
|           |         | 5220      | 2.75             | ≤11.00         | PASS    |
|           |         | 5240      | 3.10             | ≤11.00         | PASS    |
|           |         | 5745      | -1.13            | ≤30.00         | PASS    |
|           |         | 5785      | -2.74            | ≤30.00         | PASS    |
|           |         | 5825      | -2.84            | ≤30.00         | PASS    |
| 11N20SISO | Ant1    | 5180      | 2.90             | ≤11.00         | PASS    |
|           |         | 5220      | 2.85             | ≤11.00         | PASS    |
|           |         | 5240      | 2.68             | ≤11.00         | PASS    |
|           |         | 5745      | -2.21            | ≤30.00         | PASS    |
|           |         | 5785      | -2.64            | ≤30.00         | PASS    |
|           |         | 5825      | -2.48            | ≤30.00         | PASS    |
| 11N40SISO | Ant1    | 5190      | -0.01            | ≤11.00         | PASS    |
|           |         | 5230      | -0.73            | ≤11.00         | PASS    |
|           |         | 5755      | -4.71            | ≤30.00         | PASS    |
|           |         | 5795      | -5.20            | ≤30.00         | PASS    |

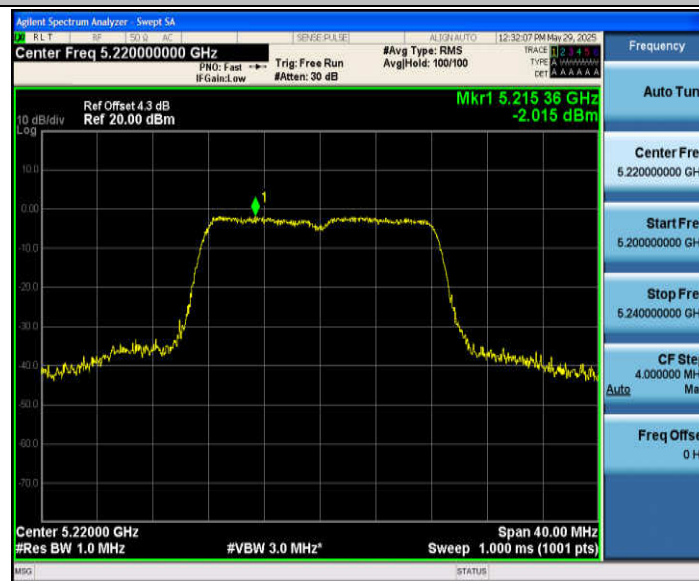
Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.  
2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

## Test Graphs

11A\_Ant1\_5180



11A\_Ant1\_5220



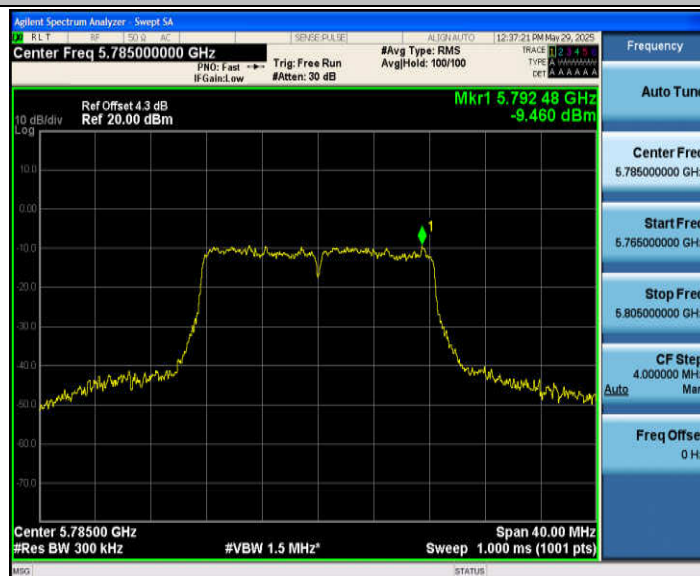
11A\_Ant1\_5240



11A\_Ant1\_5745



11A\_Ant1\_5785



# 11A\_Ant1\_5825



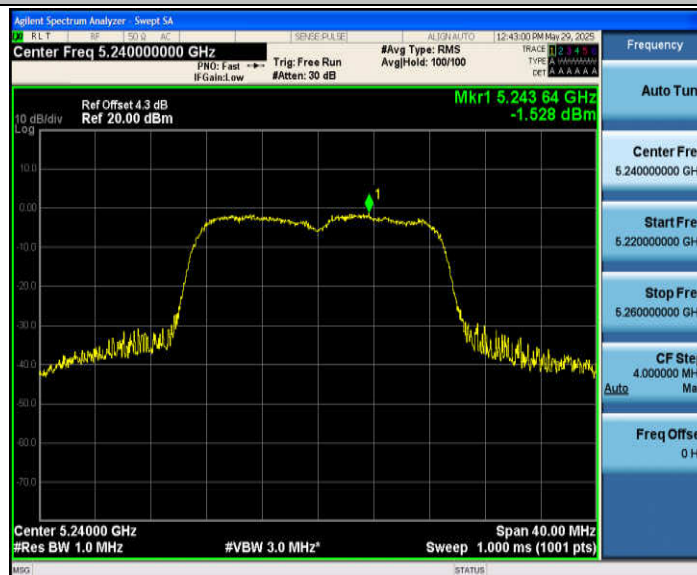
# 11N20SISO\_Ant1\_5180



# 11N20SISO\_Ant1\_5220



11N20SISO\_Ant1\_5240



11N20SISO\_Ant1\_5745



# 11N20SISO\_Ant1\_5785



# 11N20SISO\_Ant1\_5825



# 11N40SISO\_Ant1\_5190



11N40SISO\_Ant1\_5230



11N40SISO\_Ant1\_5755



# 11N40SISO\_Ant1\_5795



