

## **FCC Appendix RF Test Data for 5GWIFI**

**FCC ID : 2BA4J-D3102**

**Company : Pangao Photoelectric**

**EUT : ThermNight 4K Thermal & Night Vision Multispectral Scope**

**Model Number : D3102**

**Report No. : CTA26051400702**

**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      | 23.320            | 5168.480 | 5191.800 | ---        | ---     |
|            |         | 5220      | 24.800            | 5207.320 | 5232.120 | ---        | ---     |
|            |         | 5240      | 22.760            | 5228.560 | 5251.320 | ---        | ---     |
|            |         | 5745      | 23.840            | 5733.120 | 5756.960 | ---        | ---     |
|            |         | 5785      | 24.520            | 5772.600 | 5797.120 | ---        | ---     |
|            |         | 5825      | 24.400            | 5812.480 | 5836.880 | ---        | ---     |
| 11N20SISO  | Ant1    | 5180      | 23.800            | 5167.920 | 5191.720 | ---        | ---     |
|            |         | 5220      | 24.200            | 5207.920 | 5232.120 | ---        | ---     |
|            |         | 5240      | 22.800            | 5228.560 | 5251.360 | ---        | ---     |
|            |         | 5745      | 24.000            | 5733.040 | 5757.040 | ---        | ---     |
|            |         | 5785      | 24.200            | 5772.800 | 5797.000 | ---        | ---     |
|            |         | 5825      | 24.600            | 5812.960 | 5837.560 | ---        | ---     |
| 11N40SISO  | Ant1    | 5190      | 43.520            | 5168.400 | 5211.920 | ---        | ---     |
|            |         | 5230      | 43.200            | 5209.200 | 5252.400 | ---        | ---     |
|            |         | 5755      | 45.840            | 5732.360 | 5778.200 | ---        | ---     |
|            |         | 5795      | 43.920            | 5773.480 | 5817.400 | ---        | ---     |
| 11AC20SISO | Ant1    | 5180      | 22.840            | 5168.720 | 5191.560 | ---        | ---     |
|            |         | 5220      | 23.240            | 5208.640 | 5231.880 | ---        | ---     |
|            |         | 5240      | 23.960            | 5228.240 | 5252.200 | ---        | ---     |
|            |         | 5745      | 23.680            | 5733.320 | 5757.000 | ---        | ---     |
|            |         | 5785      | 23.800            | 5773.000 | 5796.800 | ---        | ---     |
|            |         | 5825      | 23.560            | 5813.200 | 5836.760 | ---        | ---     |
| 11AC40SISO | Ant1    | 5190      | 42.160            | 5169.120 | 5211.280 | ---        | ---     |
|            |         | 5230      | 43.520            | 5208.720 | 5252.240 | ---        | ---     |
|            |         | 5755      | 44.880            | 5732.920 | 5777.800 | ---        | ---     |
|            |         | 5795      | 44.720            | 5773.400 | 5818.120 | ---        | ---     |
| 11AC80SISO | Ant1    | 5210      | 85.760            | 5167.440 | 5253.200 | ---        | ---     |
|            |         | 5775      | 85.600            | 5732.600 | 5818.200 | ---        | ---     |

**11A\_Ant1\_5180**

Agilent Spectrum Analyzer - Sweep SA

Center Freq 5.180000000 GHz

Ref Offset 0.7 dB  
Ref 20.00 dBm

ΔMkr3 23.32 MHz  
0.912 dB

Center 5.18000 GHz  
#Res BW 620 kHz  
#VBW 2.0 MHz  
Sweep 1.000 ms (1001 pts)

| MNR | MODE | TRC | SCL   | X             | Y           | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |
|-----|------|-----|-------|---------------|-------------|----------|----------------|----------------|
| 1   | N    | 1   | f     | 5.169 48 GHz  | -25.803 dBm |          |                |                |
| 2   | N    | 1   | f     | 5.177 94 GHz  | 1.892 dBm   |          |                |                |
| 3   | Δ1   | 1   | f (Δ) | 23.32 MHz (Δ) | 0.912 dB    |          |                |                |

**11A\_Ant1\_5220**

Agilent Spectrum Analyzer - Sweep SA

Center Freq 5.220000000 GHz

Ref Offset 0.7 dB  
Ref 20.00 dBm

ΔMkr3 24.80 MHz  
4.471 dB

Center 5.22000 GHz  
#Res BW 620 kHz  
#VBW 2.0 MHz  
Sweep 1.000 ms (1001 pts)

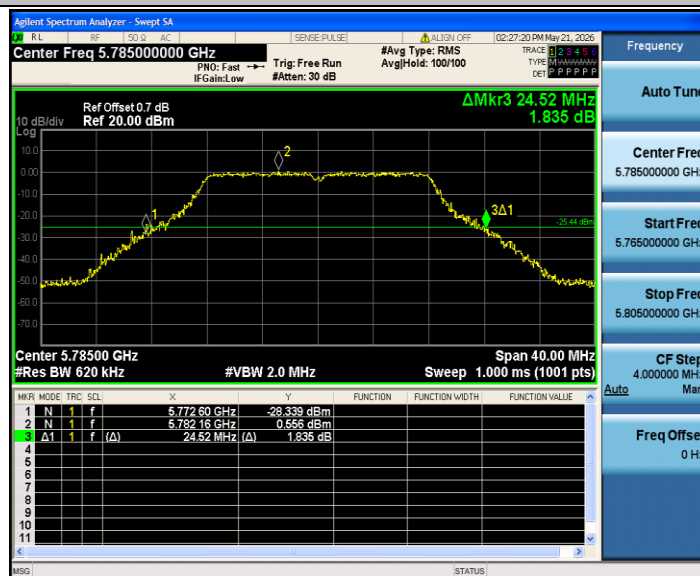
| MNR | MODE | TRC | SCL   | X             | Y           | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |
|-----|------|-----|-------|---------------|-------------|----------|----------------|----------------|
| 1   | N    | 1   | f     | 5.207 32 GHz  | -29.662 dBm |          |                |                |
| 2   | N    | 1   | f     | 5.223 32 GHz  | 1.740 dBm   |          |                |                |
| 3   | Δ1   | 1   | f (Δ) | 24.80 MHz (Δ) | 4.471 dB    |          |                |                |



11A\_Ant1\_5745



11A\_Ant1\_5785



# 11A\_Ant1\_5825



# 11N20SISO\_Ant1\_5180



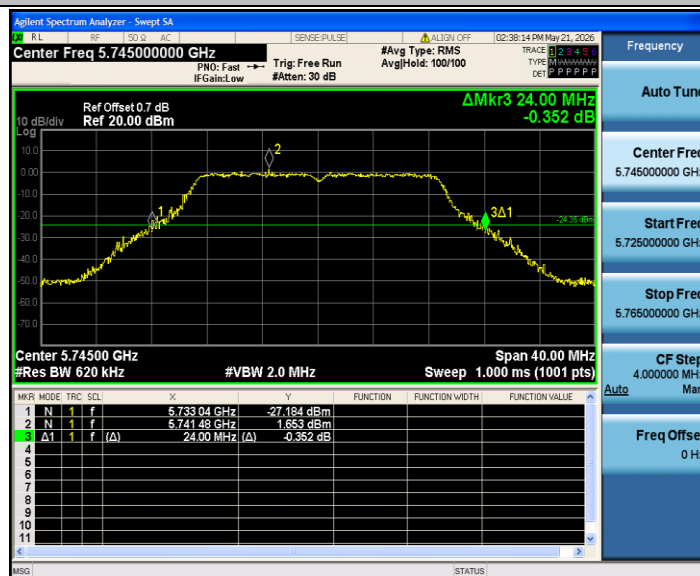
# 11N20SISO\_Ant1\_5220



11N20SISO\_Ant1\_5240



11N20SISO\_Ant1\_5745



# 11N20SISO\_Ant1\_5785



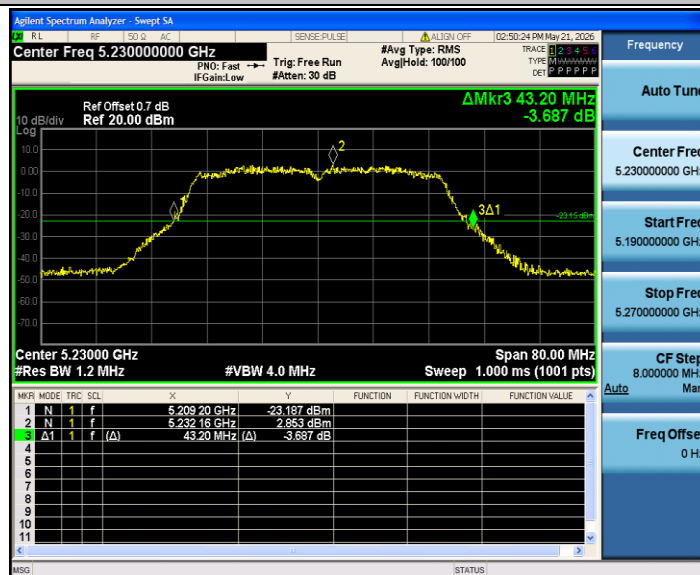
# 11N20SISO\_Ant1\_5825



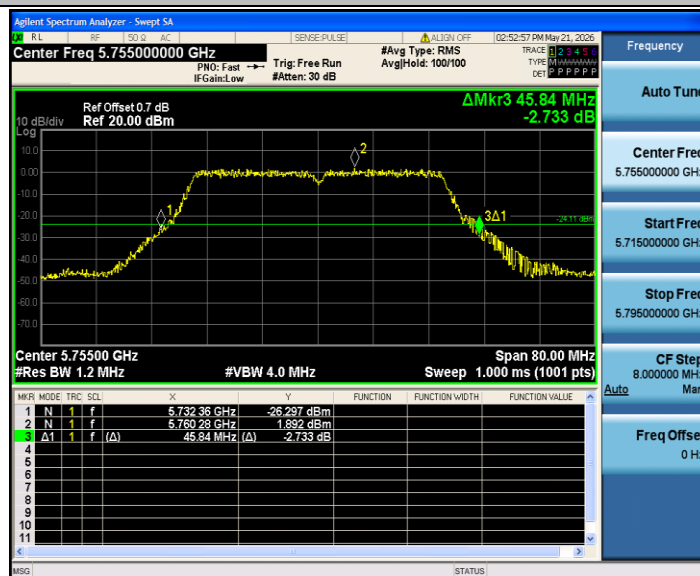
# 11N40SISO\_Ant1\_5190



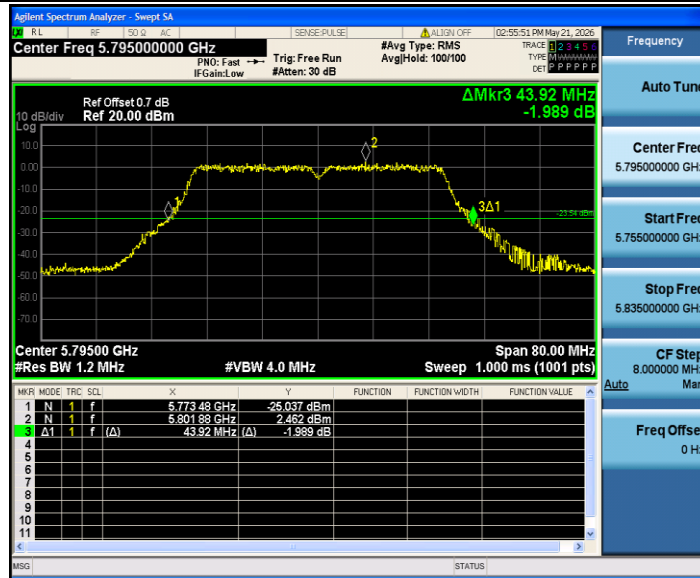
11N40SISO\_Ant1\_5230



11N40SISO\_Ant1\_5755



# 11N40SISO\_Ant1\_5795



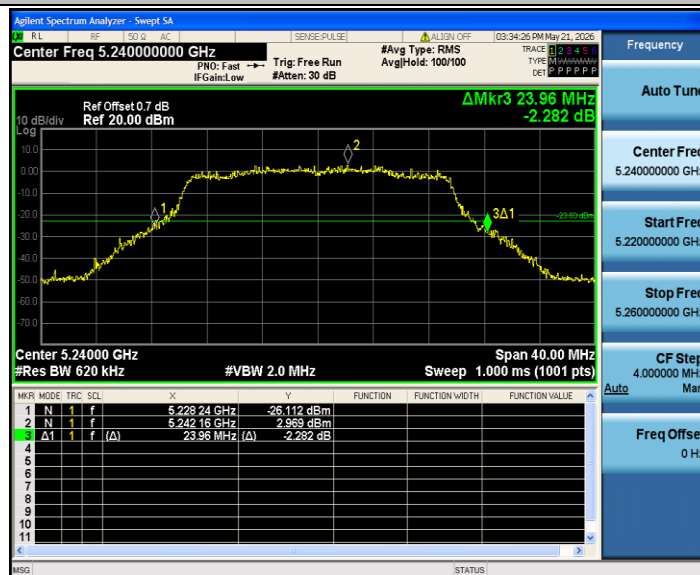
# 11AC20SISO\_Ant1\_5180



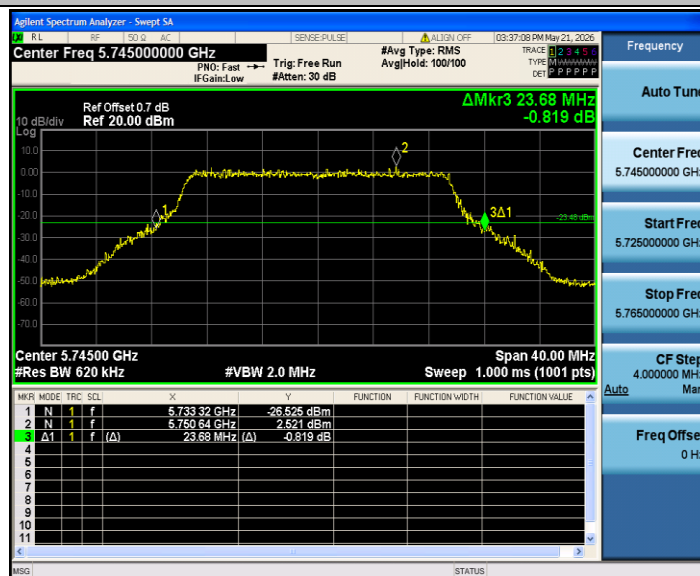
# 11AC20SISO\_Ant1\_5220



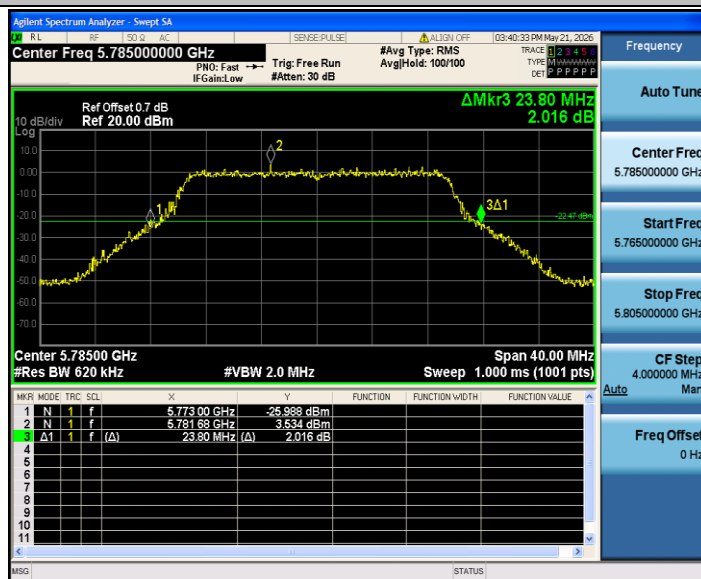
11AC20SISO\_Ant1\_5240



11AC20SISO\_Ant1\_5745



# 11AC20SISO\_Ant1\_5785



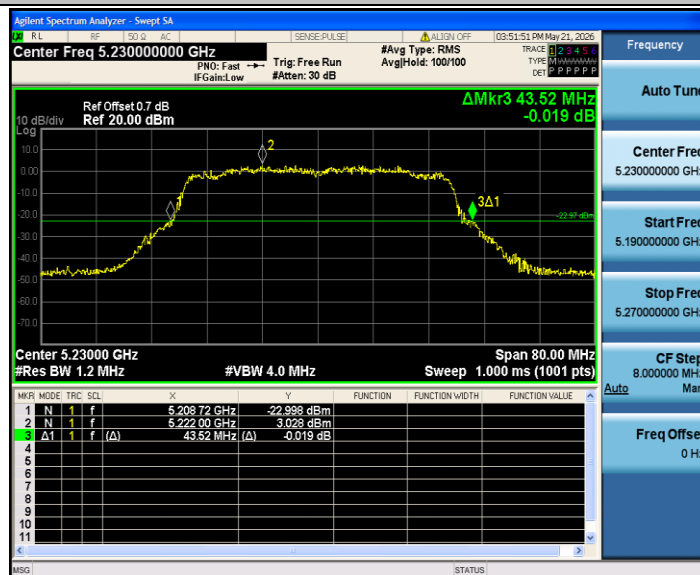
# 11AC20SISO\_Ant1\_5825



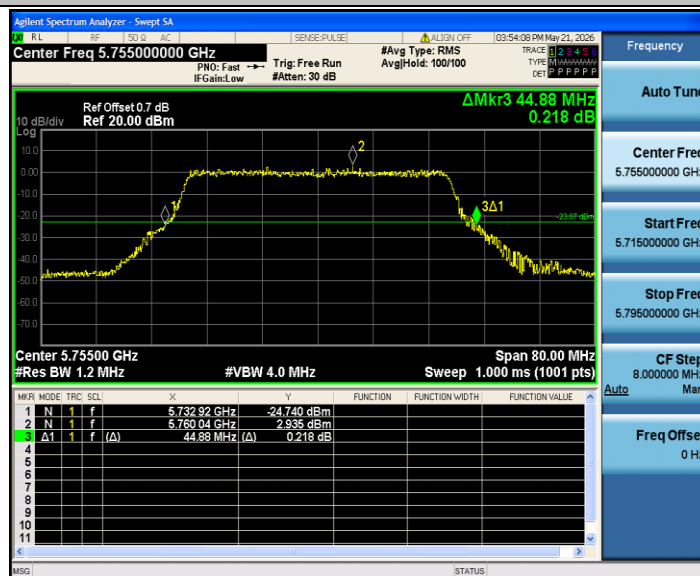
# 11AC40SISO\_Ant1\_5190



11AC40SISO\_Ant1\_5230



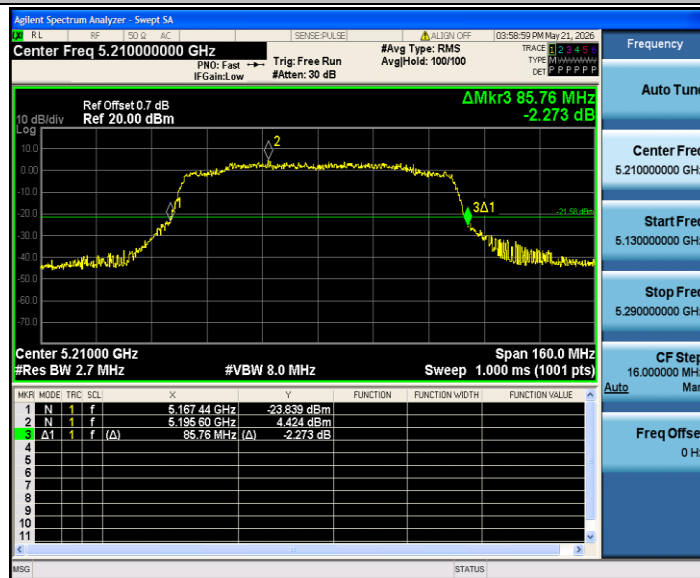
11AC40SISO\_Ant1\_5755



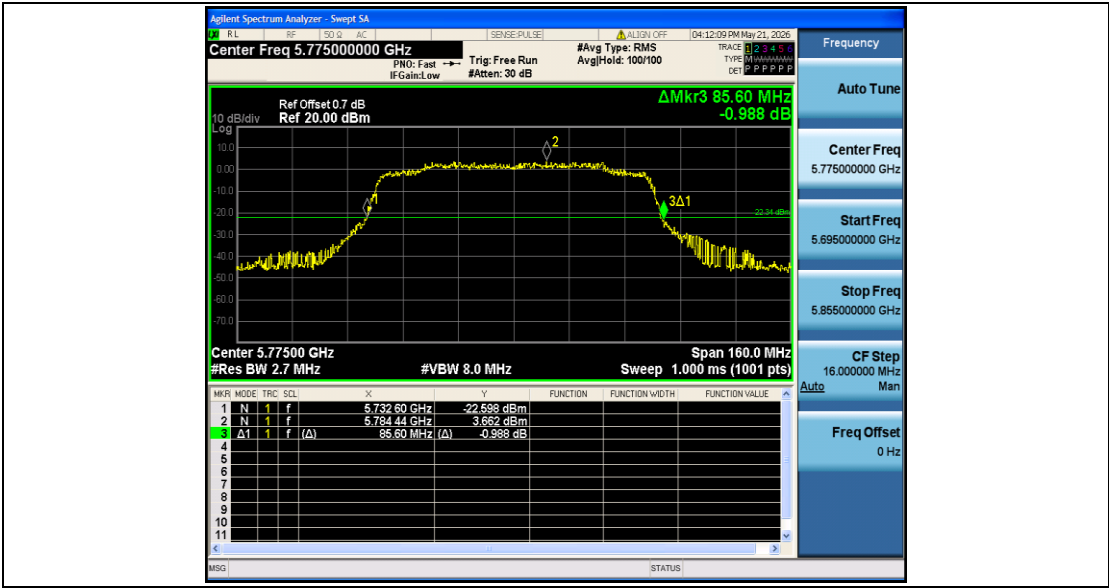
# 11AC40SISO\_Ant1\_5795



# 11AC80SISO\_Ant1\_5210



# 11AC80SISO\_Ant1\_5775



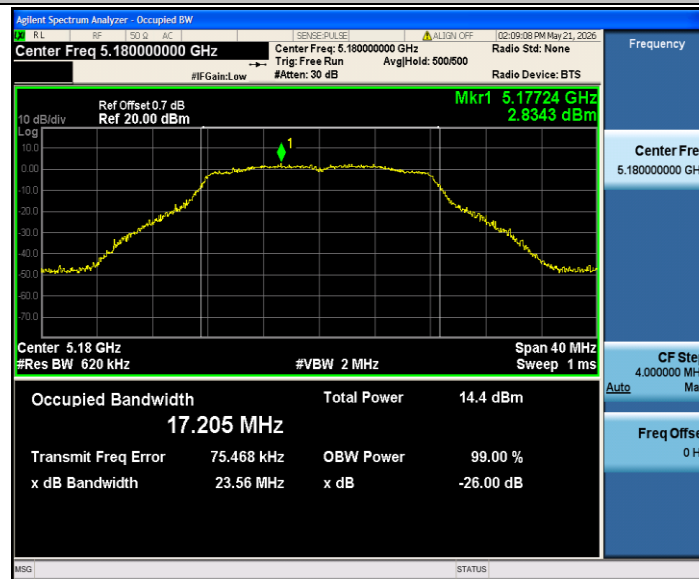
## Appendix A2: Occupied channel bandwidth

### Test Result

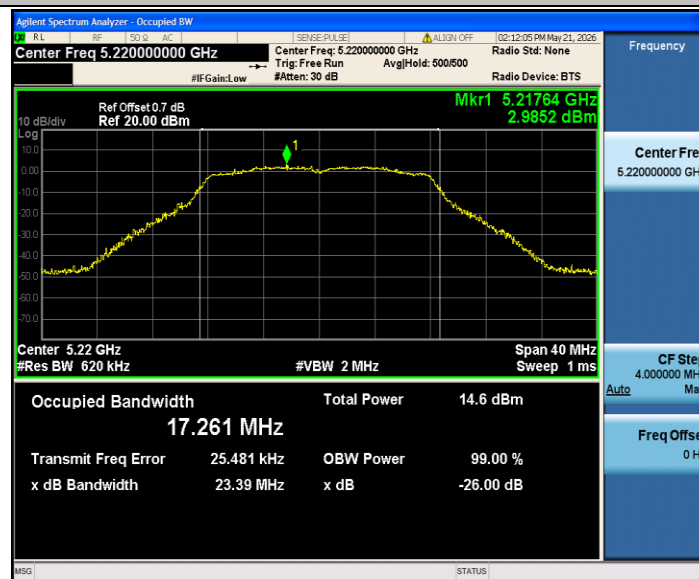
| TestMode   | Antenna | Freq(MHz) | OCB [MHz] | FL[MHz]   | FH[MHz]   | Limit[MHz] | Verdict |
|------------|---------|-----------|-----------|-----------|-----------|------------|---------|
| 11A        | Ant1    | 5180      | 17.205    | 5171.4730 | 5188.6780 | ---        | ---     |
|            |         | 5220      | 17.261    | 5211.3950 | 5228.6560 | ---        | ---     |
|            |         | 5240      | 17.282    | 5231.3869 | 5248.6689 | ---        | ---     |
|            |         | 5745      | 17.667    | 5736.1646 | 5753.8316 | ---        | ---     |
|            |         | 5785      | 17.671    | 5776.1874 | 5793.8584 | ---        | ---     |
|            |         | 5825      | 17.624    | 5816.2319 | 5833.8559 | ---        | ---     |
| 11N20SISO  | Ant1    | 5180      | 18.256    | 5170.9057 | 5189.1617 | ---        | ---     |
|            |         | 5220      | 18.287    | 5210.8930 | 5229.1800 | ---        | ---     |
|            |         | 5240      | 18.283    | 5230.8701 | 5249.1531 | ---        | ---     |
|            |         | 5745      | 18.677    | 5735.6619 | 5754.3389 | ---        | ---     |
|            |         | 5785      | 18.654    | 5775.6848 | 5794.3388 | ---        | ---     |
|            |         | 5825      | 18.633    | 5815.7108 | 5834.3438 | ---        | ---     |
| 11N40SISO  | Ant1    | 5190      | 36.274    | 5171.8967 | 5208.1707 | ---        | ---     |
|            |         | 5230      | 36.348    | 5211.9376 | 5248.2856 | ---        | ---     |
|            |         | 5755      | 36.997    | 5736.5997 | 5773.5967 | ---        | ---     |
|            |         | 5795      | 36.935    | 5776.6449 | 5813.5799 | ---        | ---     |
| 11AC20SISO | Ant1    | 5180      | 19.103    | 5170.4639 | 5189.5669 | ---        | ---     |
|            |         | 5220      | 19.091    | 5210.4957 | 5229.5867 | ---        | ---     |
|            |         | 5240      | 19.125    | 5230.4852 | 5249.6102 | ---        | ---     |
|            |         | 5745      | 19.458    | 5735.2403 | 5754.6983 | ---        | ---     |
|            |         | 5785      | 19.366    | 5775.3397 | 5794.7057 | ---        | ---     |
|            |         | 5825      | 19.391    | 5815.3743 | 5834.7653 | ---        | ---     |
| 11AC40SISO | Ant1    | 5190      | 37.802    | 5171.1847 | 5208.9867 | ---        | ---     |
|            |         | 5230      | 37.873    | 5211.1368 | 5249.0098 | ---        | ---     |
|            |         | 5755      | 38.272    | 5735.9761 | 5774.2481 | ---        | ---     |
|            |         | 5795      | 38.252    | 5775.9660 | 5814.2180 | ---        | ---     |
| 11AC80SISO | Ant1    | 5210      | 77.045    | 5171.5906 | 5248.6356 | ---        | ---     |
|            |         | 5775      | 77.383    | 5736.4812 | 5813.8642 | ---        | ---     |

## Test Graphs

11A\_Ant1\_5180



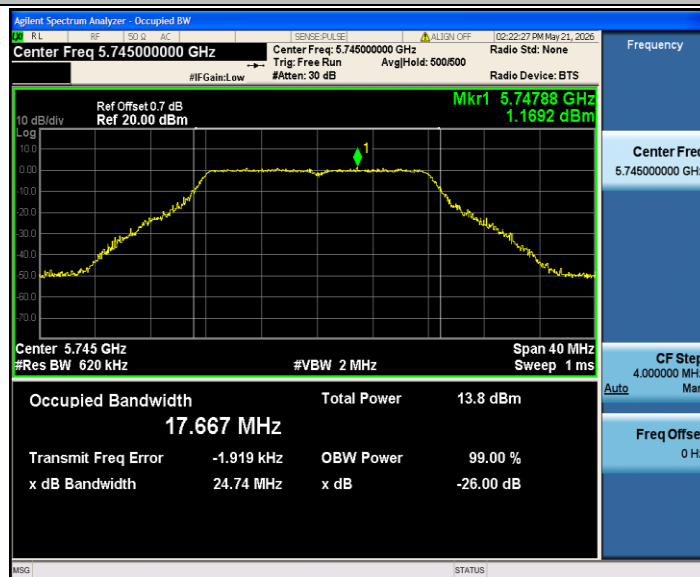
11A\_Ant1\_5220



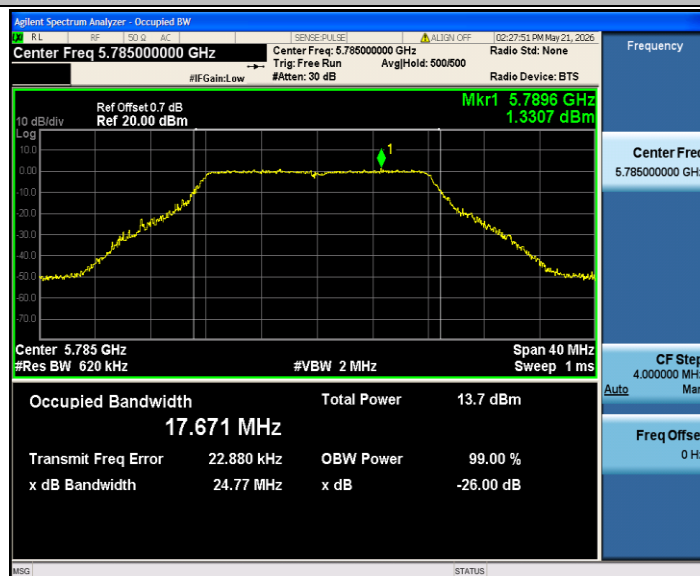
11A\_Ant1\_5240



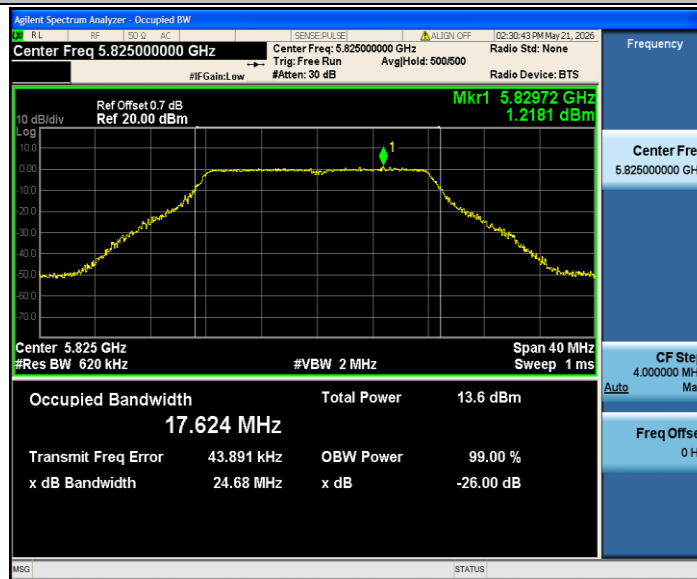
11A\_Ant1\_5745



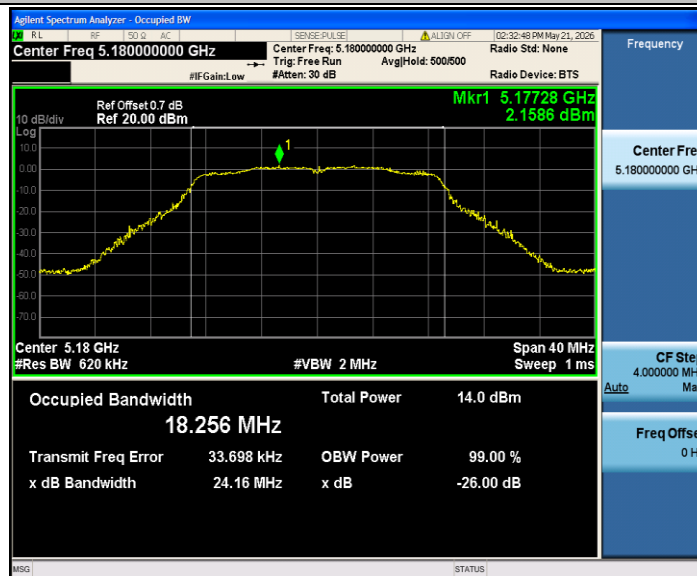
11A\_Ant1\_5785



# 11A\_Ant1\_5825



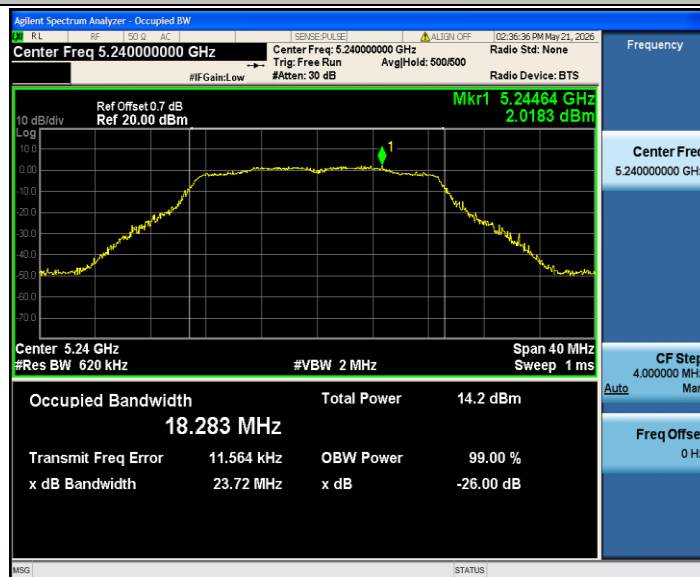
# 11N20SISO\_Ant1\_5180



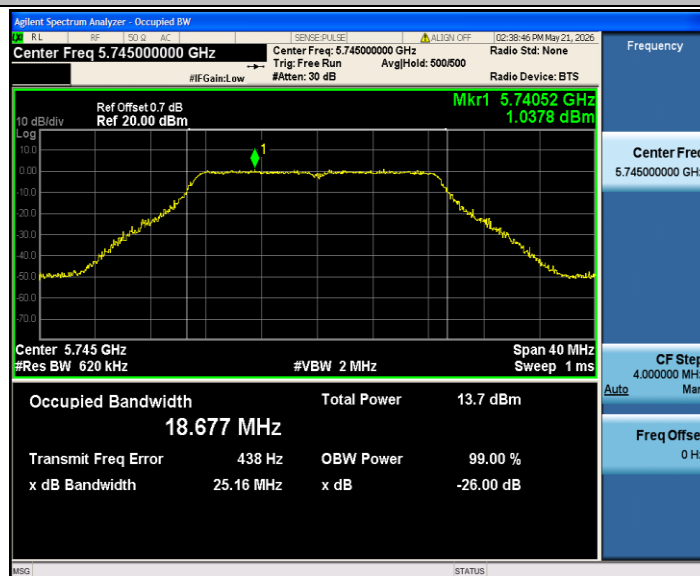
# 11N20SISO\_Ant1\_5220



11N20SISO\_Ant1\_5240



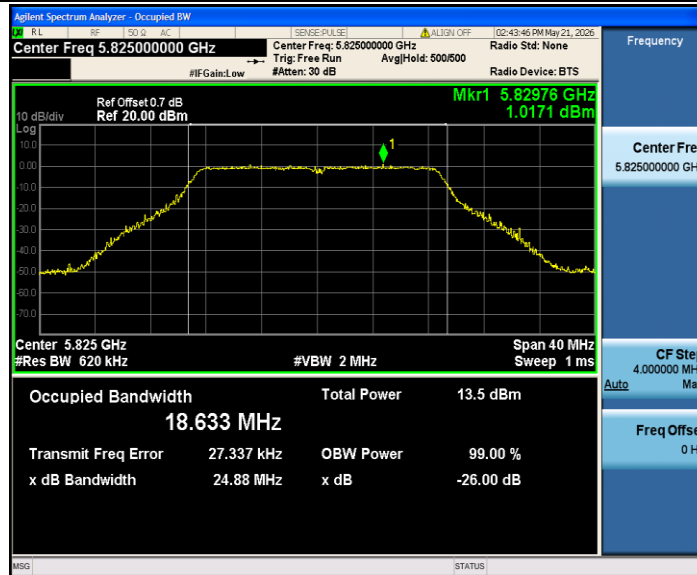
11N20SISO\_Ant1\_5745



# 11N20SISO\_Ant1\_5785



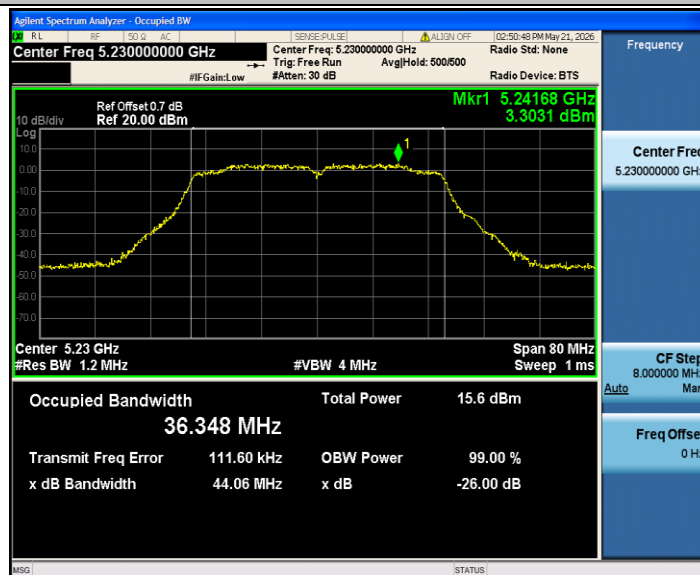
# 11N20SISO\_Ant1\_5825



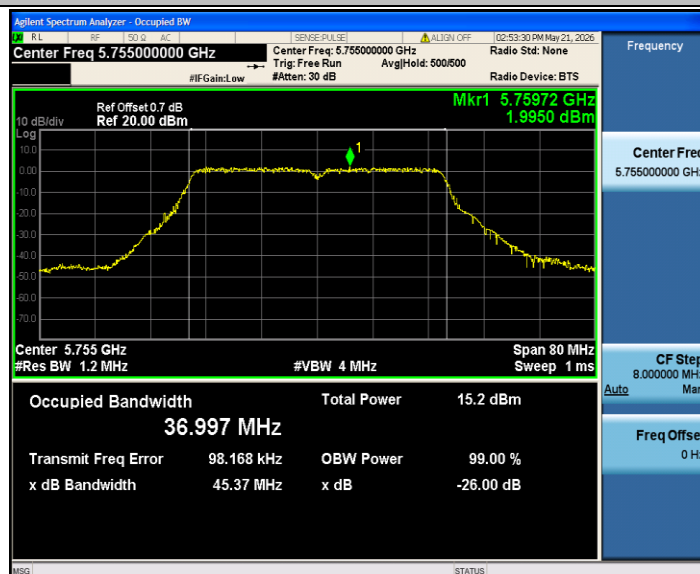
# 11N40SISO\_Ant1\_5190



11N40SISO\_Ant1\_5230



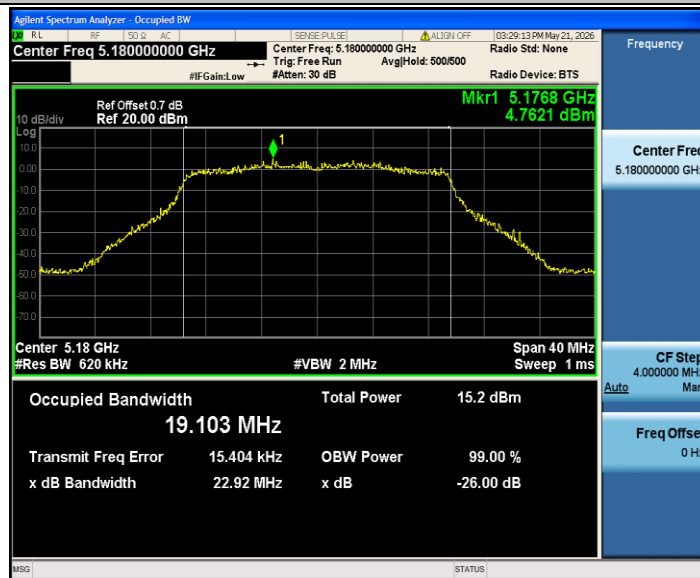
11N40SISO\_Ant1\_5755



### 11N40SISO\_Ant1\_5795



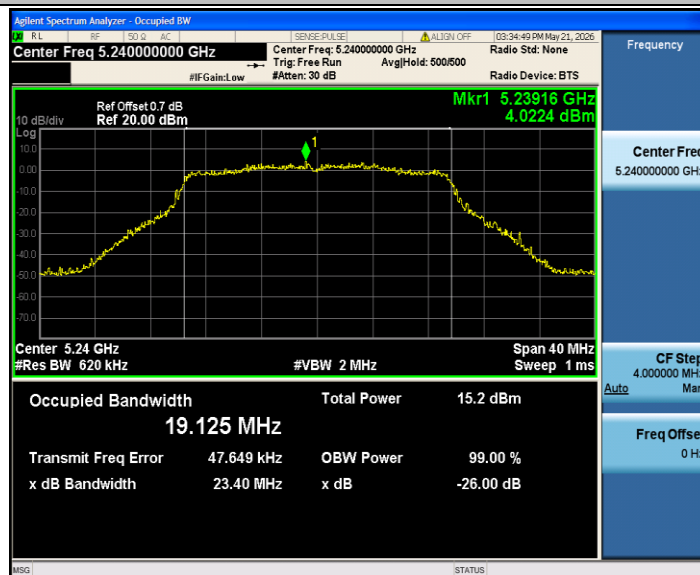
### 11AC20SISO\_Ant1\_5180



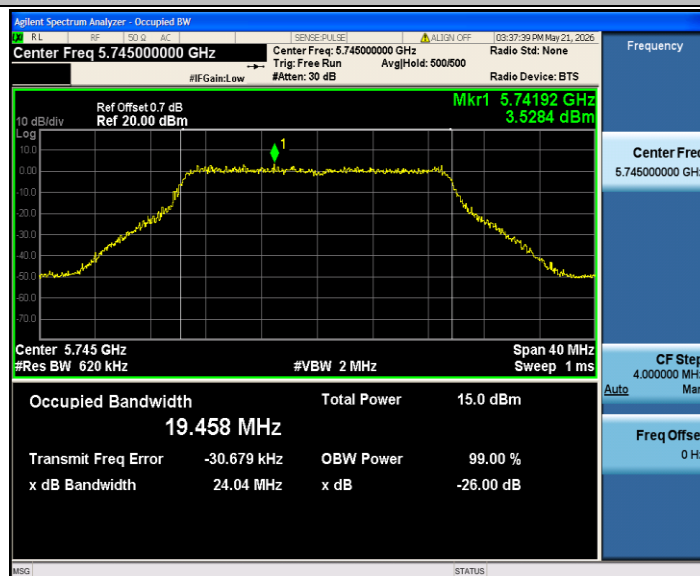
### 11AC20SISO\_Ant1\_5220



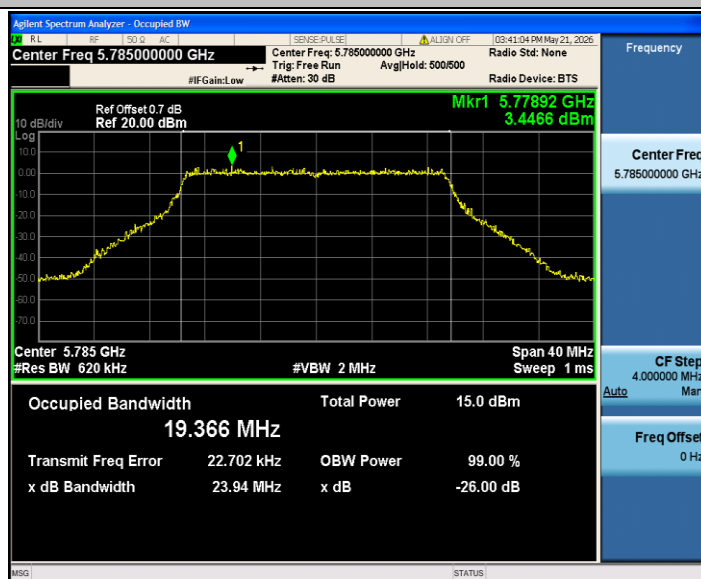
11AC20SISO\_Ant1\_5240



11AC20SISO\_Ant1\_5745



# 11AC20SISO\_Ant1\_5785



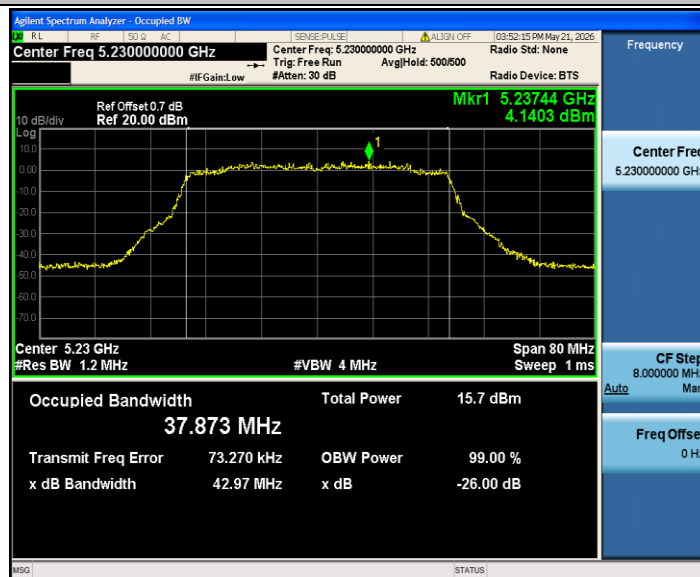
# 11AC20SISO\_Ant1\_5825



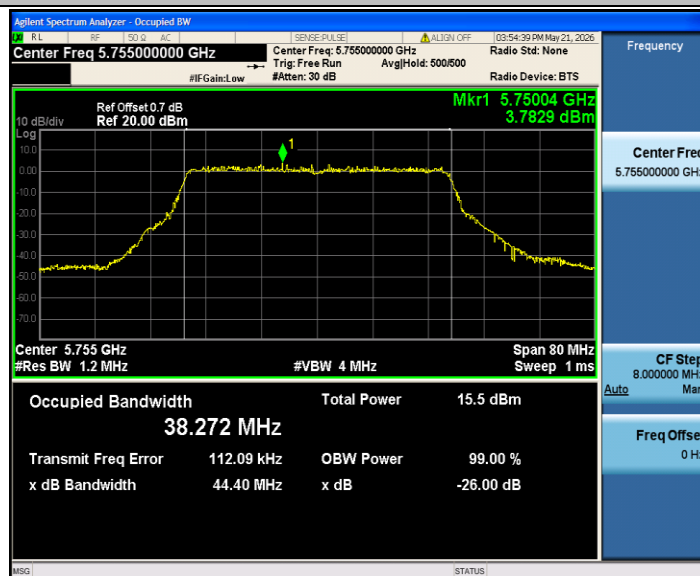
# 11AC40SISO\_Ant1\_5190



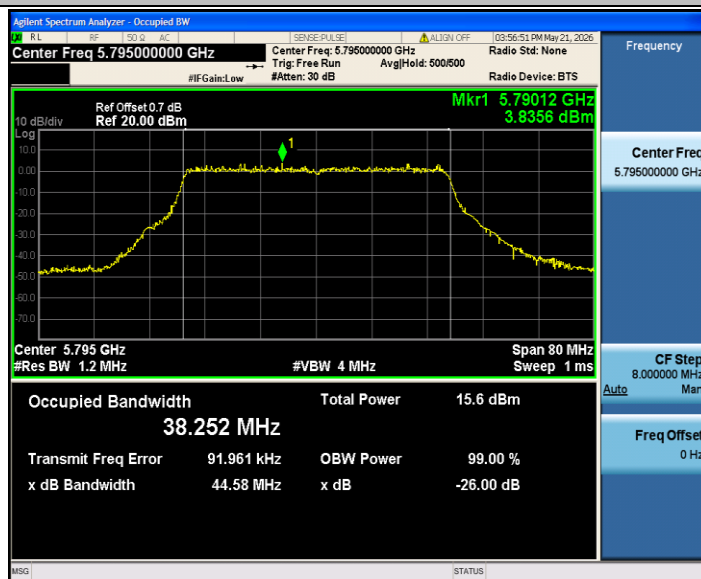
11AC40SISO\_Ant1\_5230



11AC40SISO\_Ant1\_5755



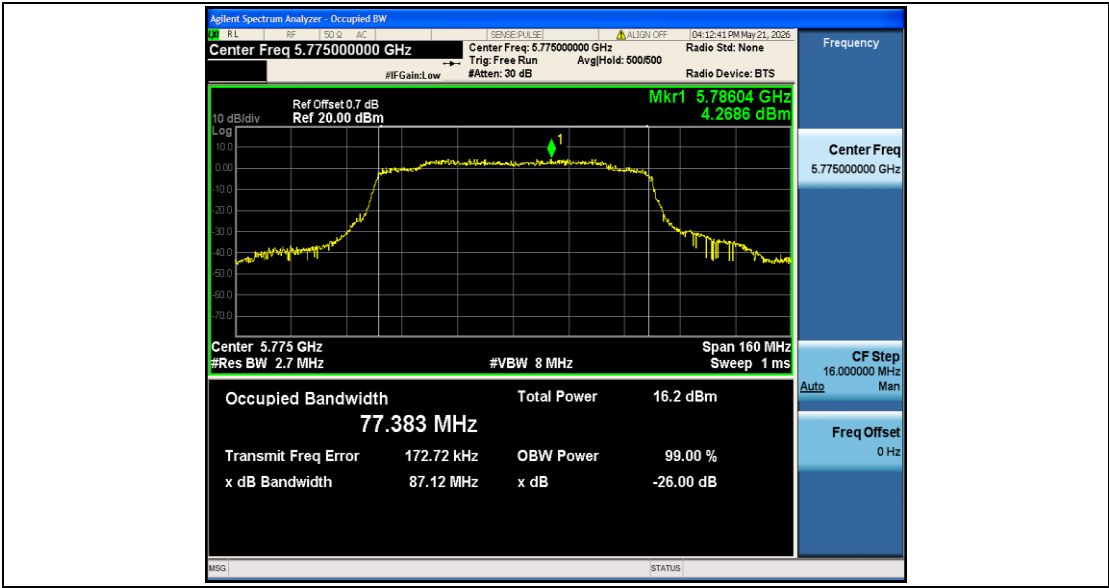
# 11AC40SISO\_Ant1\_5795



# 11AC80SISO\_Ant1\_5210



# 11AC80SISO\_Ant1\_5775



## Appendix A3: Min emission bandwidth

### Test Result B4

| TestMode   | Antenna | Freq(MHz) | 6db EBW [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|------------|---------|-----------|---------------|----------|----------|------------|---------|
| 11A        | Ant1    | 5745      | 16.320        | 5736.840 | 5753.160 | 0.5        | PASS    |
|            |         | 5785      | 16.280        | 5776.880 | 5793.160 | 0.5        | PASS    |
|            |         | 5825      | 16.320        | 5816.840 | 5833.160 | 0.5        | PASS    |
| 11N20SISO  | Ant1    | 5745      | 17.560        | 5736.200 | 5753.760 | 0.5        | PASS    |
|            |         | 5785      | 17.520        | 5776.240 | 5793.760 | 0.5        | PASS    |
|            |         | 5825      | 17.600        | 5816.200 | 5833.800 | 0.5        | PASS    |
| 11N40SISO  | Ant1    | 5755      | 36.320        | 5736.840 | 5773.160 | 0.5        | PASS    |
|            |         | 5795      | 36.320        | 5776.840 | 5813.160 | 0.5        | PASS    |
| 11AC20SISO | Ant1    | 5745      | 18.400        | 5735.800 | 5754.200 | 0.5        | PASS    |
|            |         | 5785      | 18.400        | 5775.880 | 5794.280 | 0.5        | PASS    |
|            |         | 5825      | 18.200        | 5815.800 | 5834.000 | 0.5        | PASS    |
| 11AC40SISO | Ant1    | 5755      | 37.840        | 5736.120 | 5773.960 | 0.5        | PASS    |
|            |         | 5795      | 37.680        | 5776.280 | 5813.960 | 0.5        | PASS    |
| 11AC80SISO | Ant1    | 5775      | 75.040        | 5737.560 | 5812.600 | 0.5        | PASS    |

## Test Graphs B4

11A\_Ant1\_5745



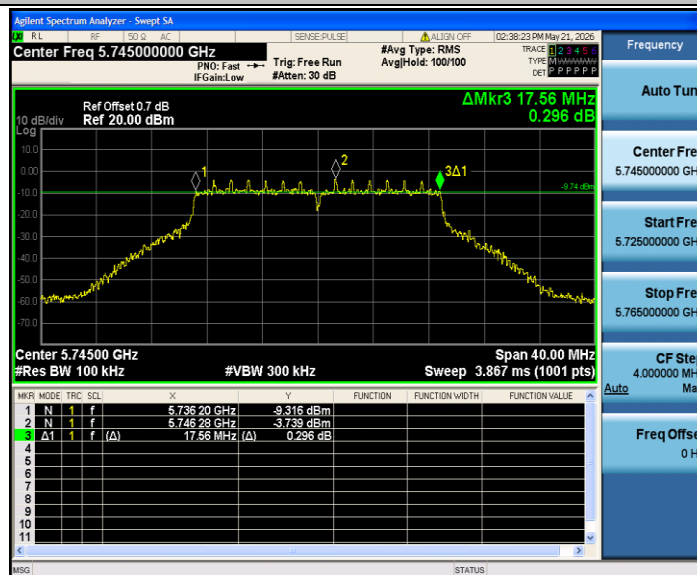
11A\_Ant1\_5785



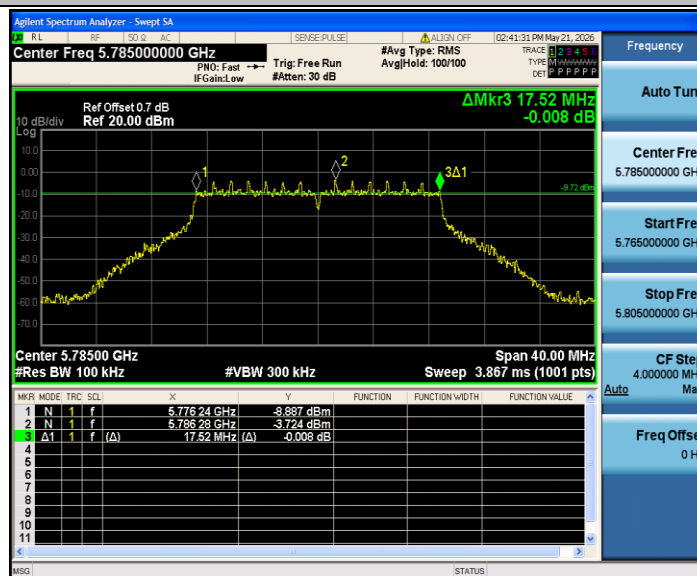
11A\_Ant1\_5825



11N20SISO\_Ant1\_5745



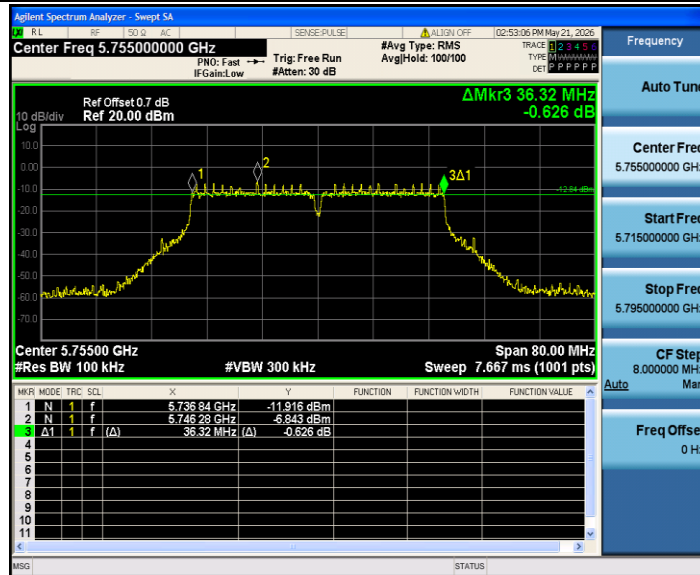
11N20SISO\_Ant1\_5785



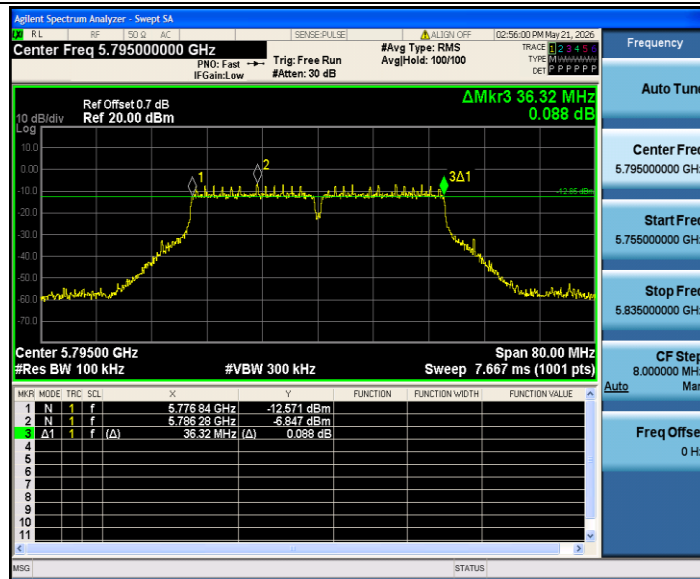
# 11N20SISO\_Ant1\_5825



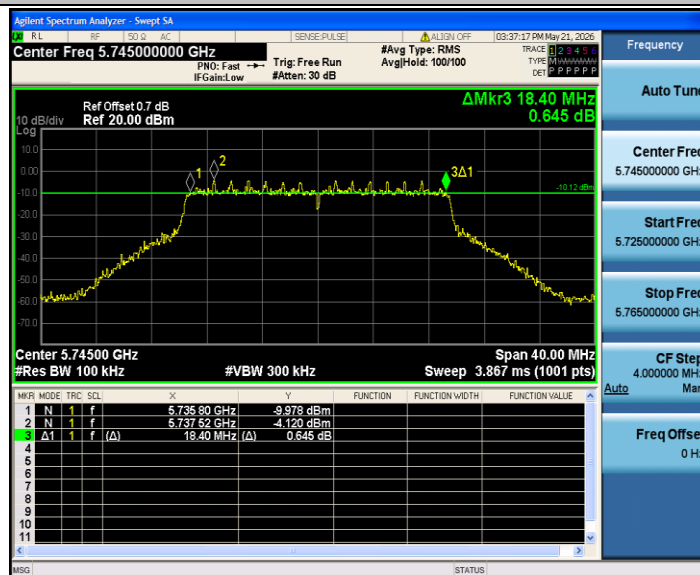
# 11N40SISO\_Ant1\_5755



# 11N40SISO\_Ant1\_5795



11AC20SISO\_Ant1\_5745



11AC20SISO\_Ant1\_5785

