

## **FCC Appendix RF Test Data**

**FCC ID : S29-MINISE**

**Company: : GuangZhou Walkera Technology Co., Ltd**

**EUT : Aircraft**

**Model Number : MINI SE**

**Report No. : CTA25051000601**

**Reviewed By : Eric Wang**

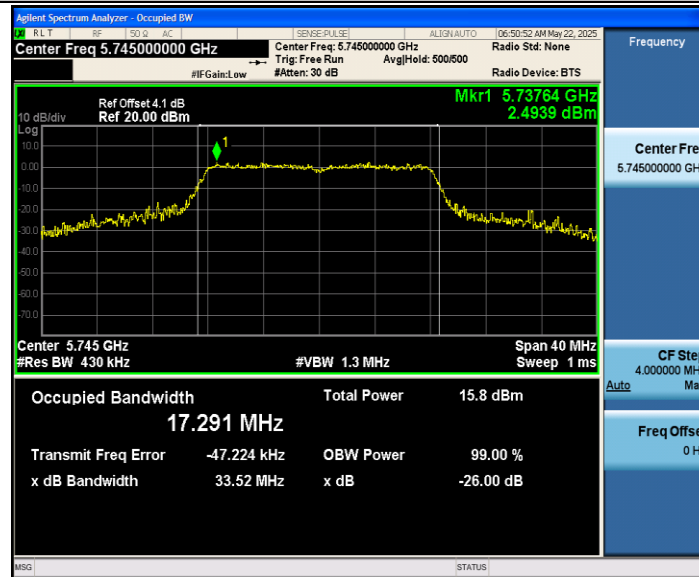
## Appendix A1: Occupied channel bandwidth

### Test Result

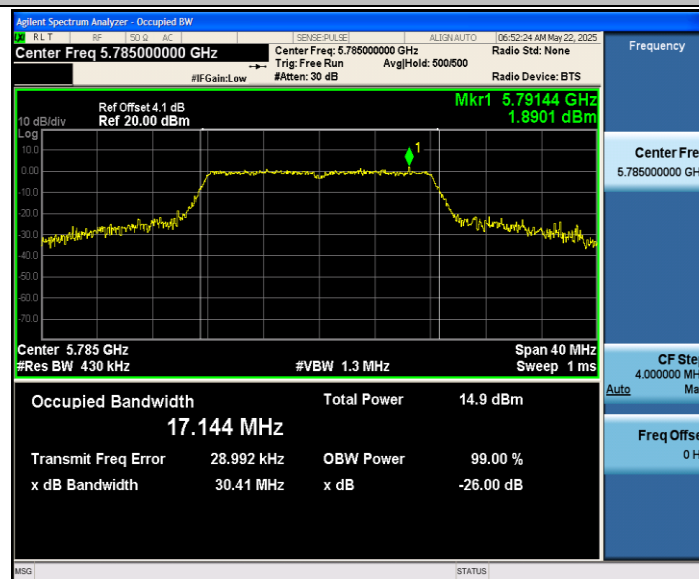
| TestMode   | Antenna | Freq(MHz) | OCB<br>[MHz] | FL[MHz]   | FH[MHz]   | Limit[MHz] | Verdict |
|------------|---------|-----------|--------------|-----------|-----------|------------|---------|
| 11A        | Ant1    | 5745      | 17.291       | 5736.3073 | 5753.5983 | ---        | ---     |
|            |         | 5785      | 17.144       | 5776.4570 | 5793.6010 | ---        | ---     |
|            |         | 5825      | 17.076       | 5816.4870 | 5833.5630 | ---        | ---     |
| 11N20SISO  | Ant1    | 5745      | 18.175       | 5735.8997 | 5754.0747 | ---        | ---     |
|            |         | 5785      | 18.181       | 5775.9261 | 5794.1071 | ---        | ---     |
|            |         | 5825      | 18.060       | 5816.0467 | 5834.1067 | ---        | ---     |
| 11N40SISO  | Ant1    | 5755      | 36.631       | 5736.6912 | 5773.3222 | ---        | ---     |
|            |         | 5795      | 36.489       | 5776.8206 | 5813.3096 | ---        | ---     |
| 11AC20SISO | Ant1    | 5745      | 17.922       | 5736.0299 | 5753.9519 | ---        | ---     |
|            |         | 5785      | 17.897       | 5776.0679 | 5793.9649 | ---        | ---     |
|            |         | 5825      | 17.906       | 5816.0742 | 5833.9802 | ---        | ---     |
| 11AC40SISO | Ant1    | 5755      | 36.448       | 5736.7595 | 5773.2075 | ---        | ---     |
|            |         | 5795      | 36.514       | 5776.8244 | 5813.3384 | ---        | ---     |
| 11AC80SISO | Ant1    | 5775      | 76.085       | 5736.9675 | 5813.0525 | ---        | ---     |

## Test Graphs

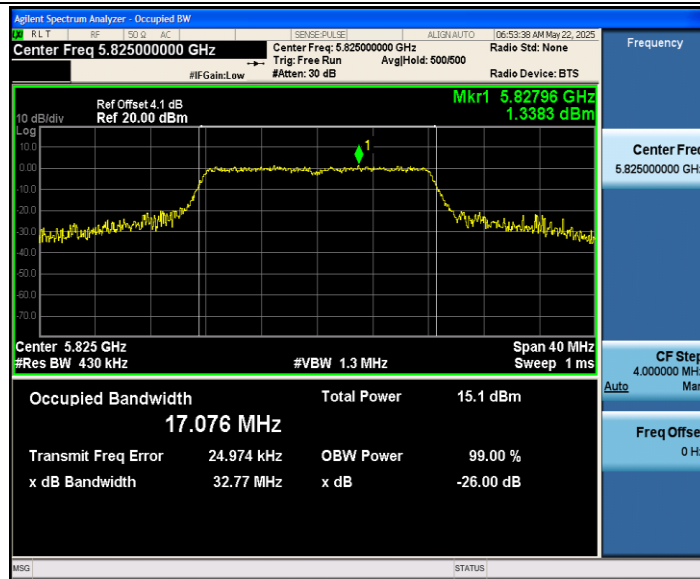
11A\_Ant1\_5745



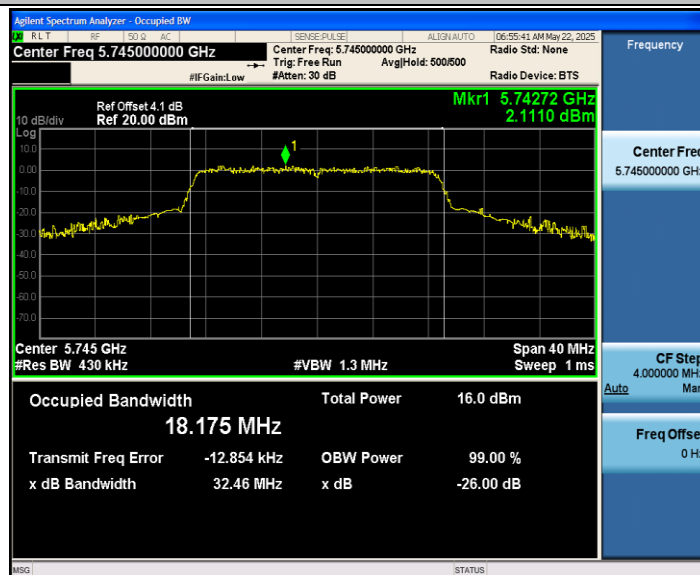
11A\_Ant1\_5785



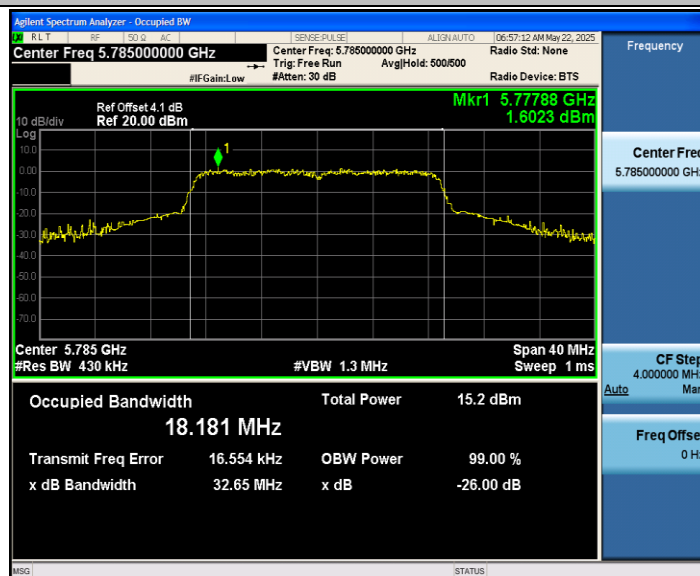
11A\_Ant1\_5825



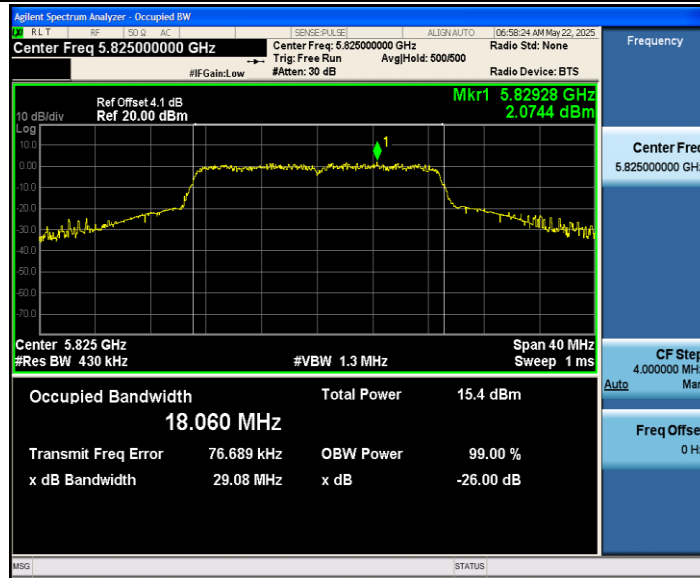
11N20SISO\_Ant1\_5745



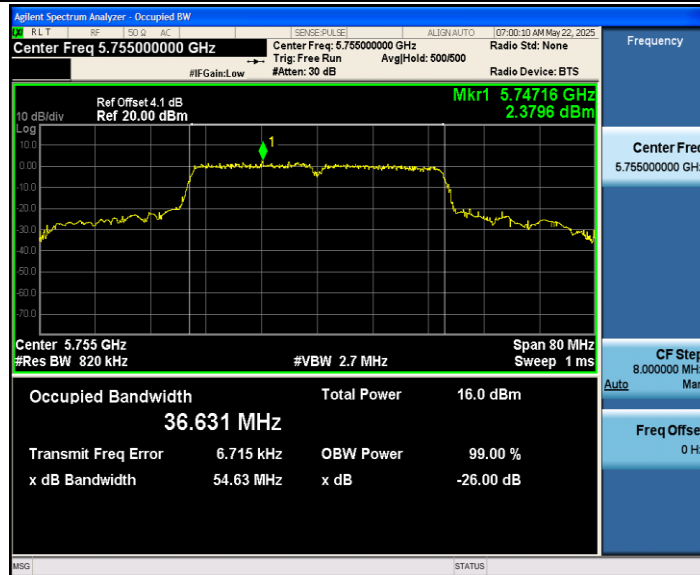
11N20SISO\_Ant1\_5785



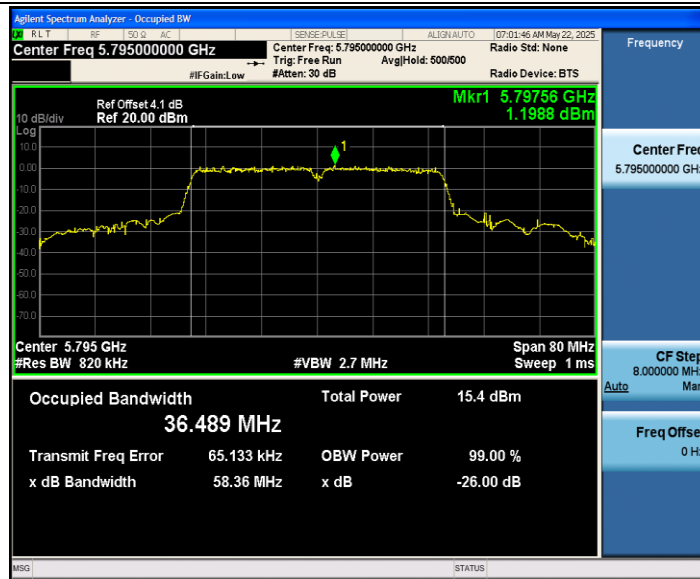
### 11N20SISO\_Ant1\_5825



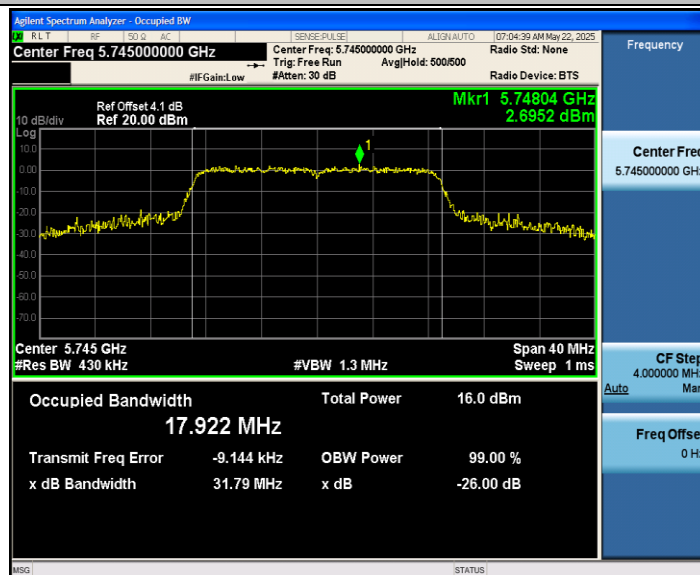
### 11N40SISO\_Ant1\_5755



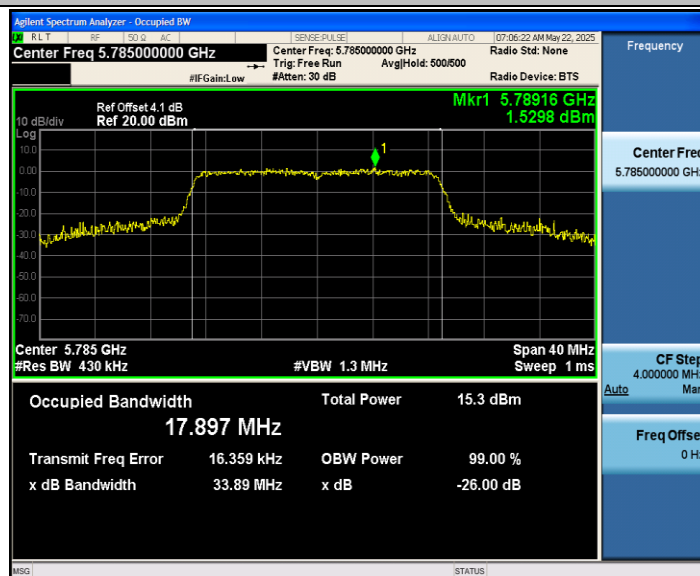
### 11N40SISO\_Ant1\_5795



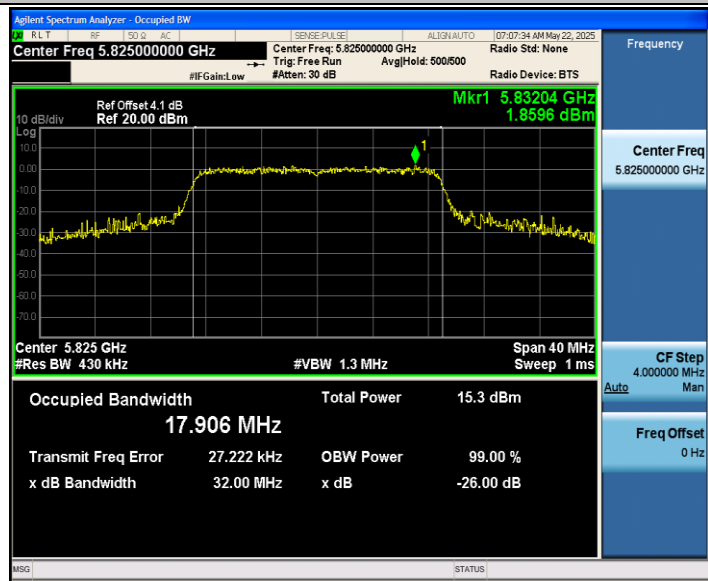
11AC20SISO\_Ant1\_5745



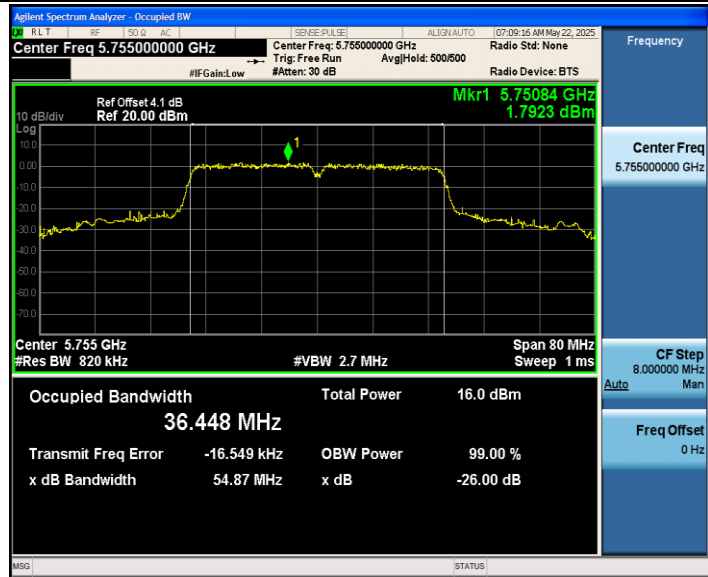
11AC20SISO\_Ant1\_5785



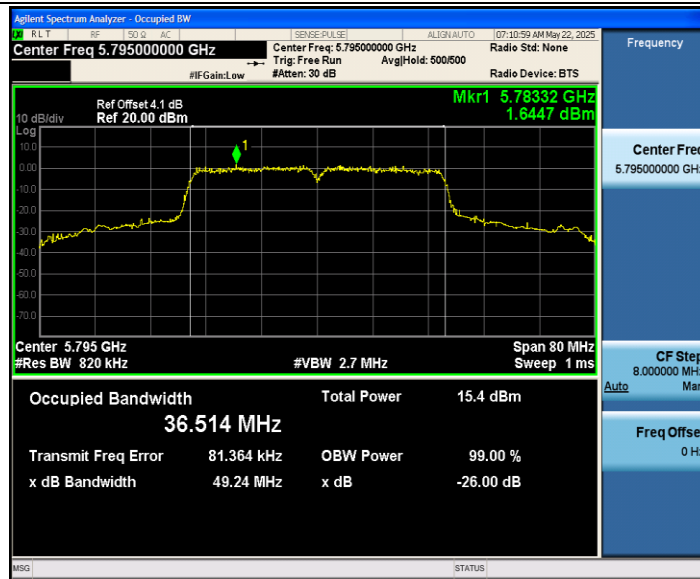
11AC20SISO\_Ant1\_5825



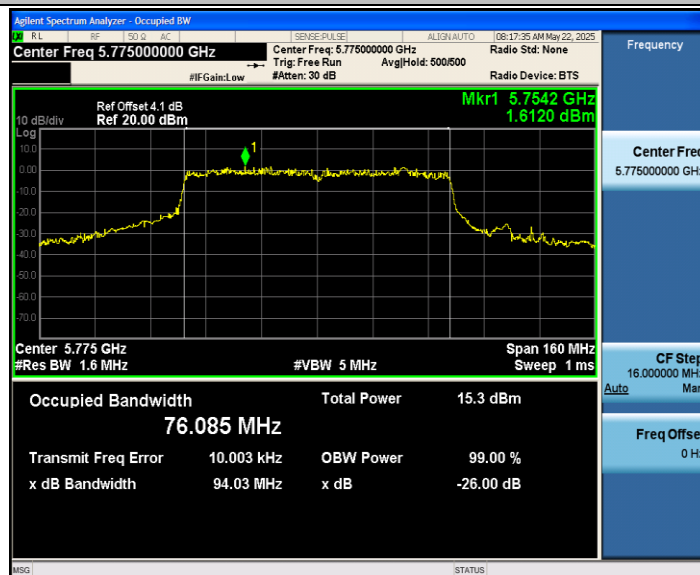
11AC40SISO\_Ant1\_5755



11AC40SISO\_Ant1\_5795



11AC80SISO\_Ant1\_5775



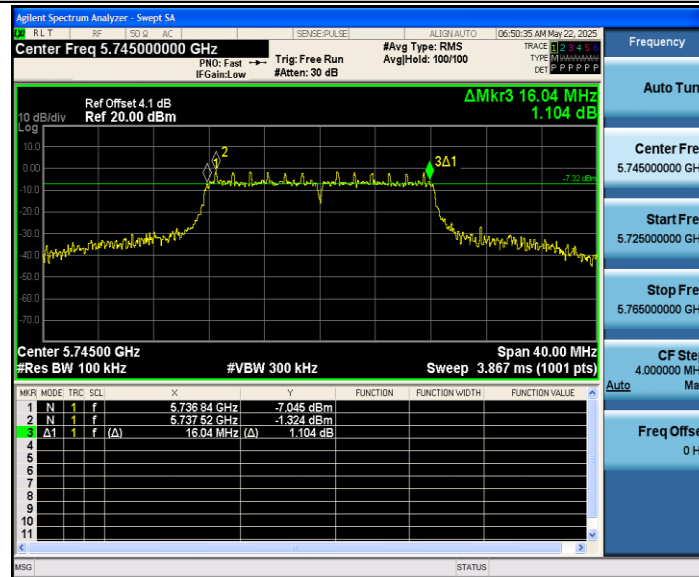
## Appendix A2: Min emission bandwidth

### Test Result B4

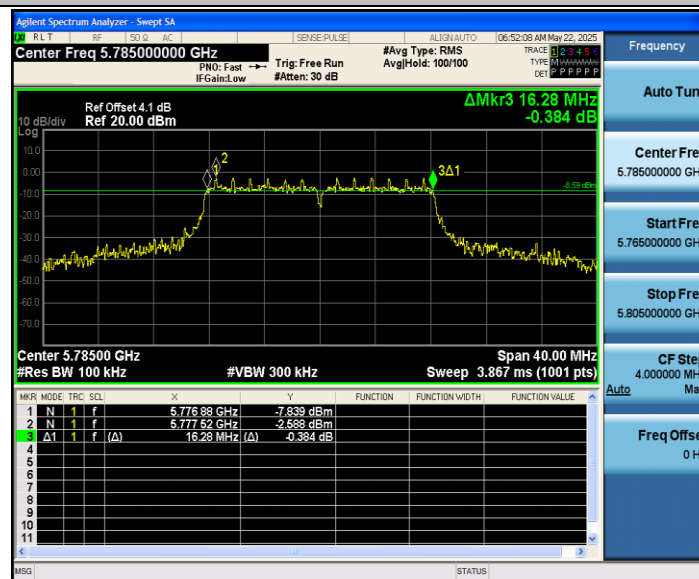
| TestMode   | Antenna | Freq(MHz) | 6db EBW [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|------------|---------|-----------|---------------|----------|----------|------------|---------|
| 11A        | Ant1    | 5745      | 16.040        | 5736.840 | 5752.880 | 0.5        | PASS    |
|            |         | 5785      | 16.280        | 5776.880 | 5793.160 | 0.5        | PASS    |
|            |         | 5825      | 16.280        | 5816.880 | 5833.160 | 0.5        | PASS    |
| 11N20SISO  | Ant1    | 5745      | 17.160        | 5736.440 | 5753.600 | 0.5        | PASS    |
|            |         | 5785      | 16.840        | 5776.640 | 5793.480 | 0.5        | PASS    |
|            |         | 5825      | 17.280        | 5816.480 | 5833.760 | 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    |
| 11AC20SISO | Ant1    | 5745      | 16.960        | 5736.400 | 5753.360 | 0.5        | PASS    |
|            |         | 5785      | 17.000        | 5776.480 | 5793.480 | 0.5        | PASS    |
|            |         | 5825      | 16.840        | 5816.640 | 5833.480 | 0.5        | PASS    |
| 11AC40SISO | Ant1    | 5755      | 35.360        | 5737.240 | 5772.600 | 0.5        | PASS    |
|            |         | 5795      | 35.360        | 5777.240 | 5812.600 | 0.5        | PASS    |
| 11AC80SISO | Ant1    | 5775      | 75.200        | 5737.400 | 5812.600 | 0.5        | PASS    |

## Test Graphs B4

11A\_Ant1\_5745



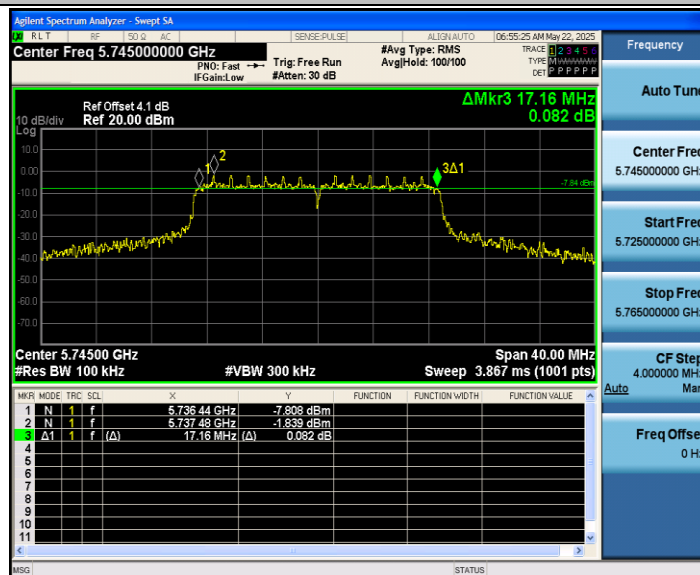
11A\_Ant1\_5785



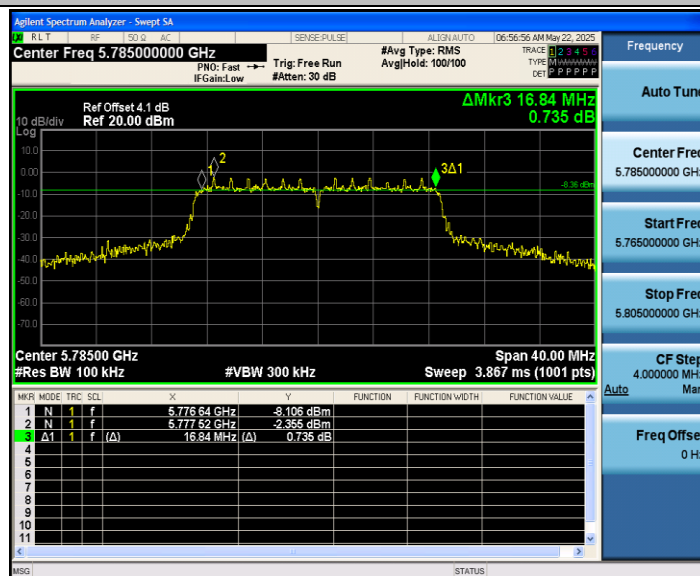
11A\_Ant1\_5825



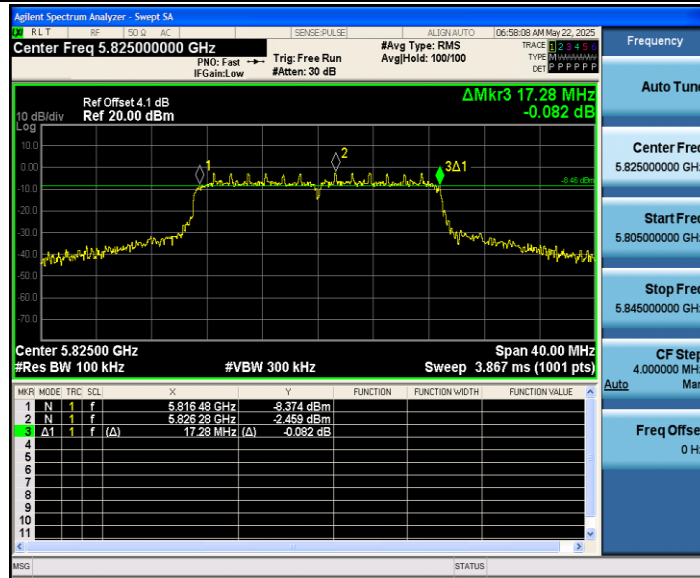
11N20SISO\_Ant1\_5745



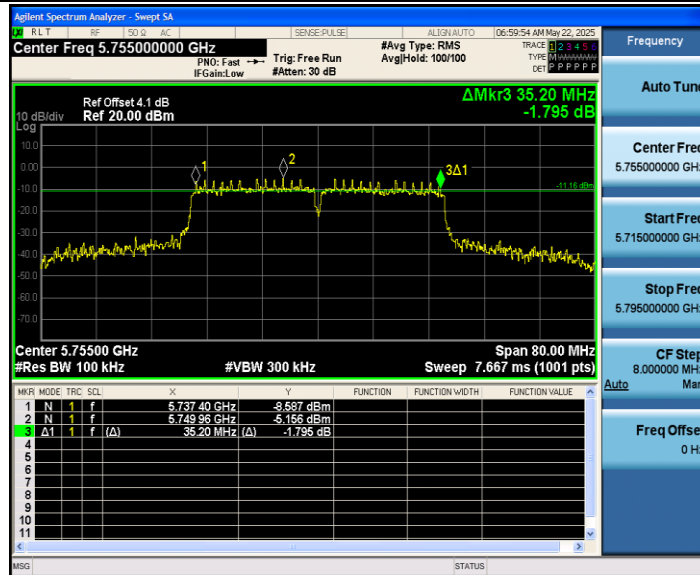
11N20SISO\_Ant1\_5785



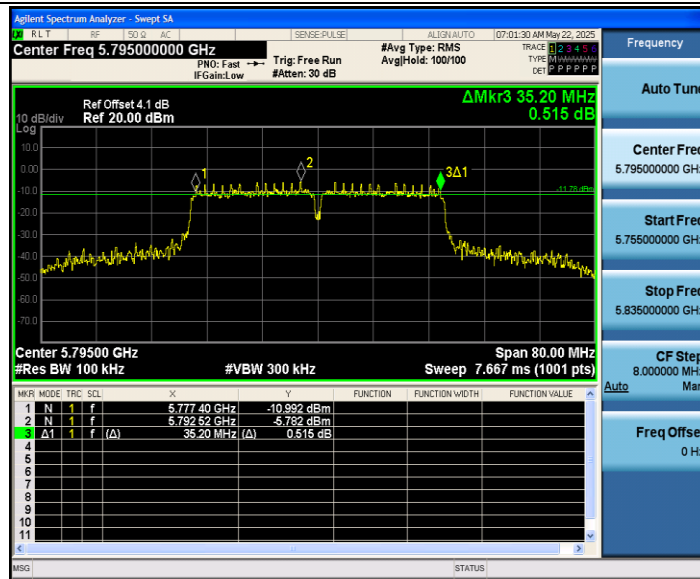
# 11N20SISO\_Ant1\_5825



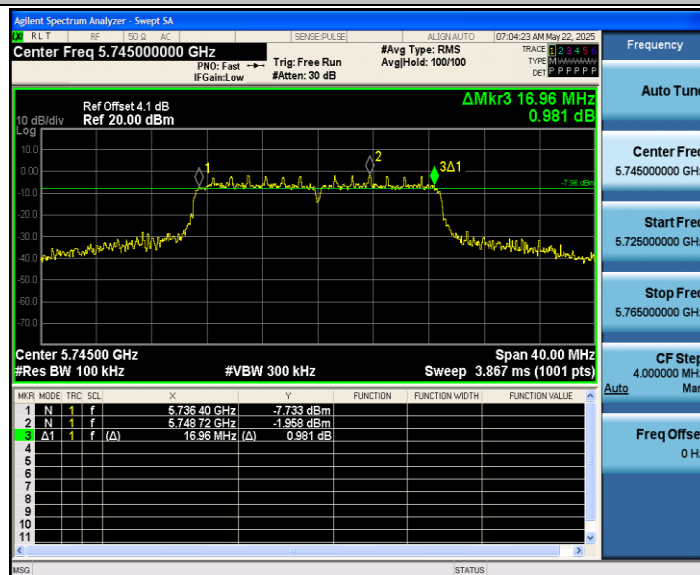
# 11N40SISO\_Ant1\_5755



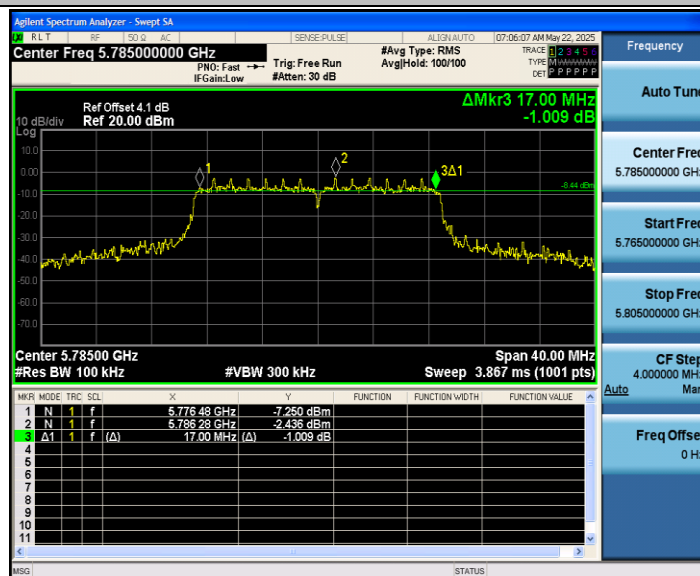
# 11N40SISO\_Ant1\_5795



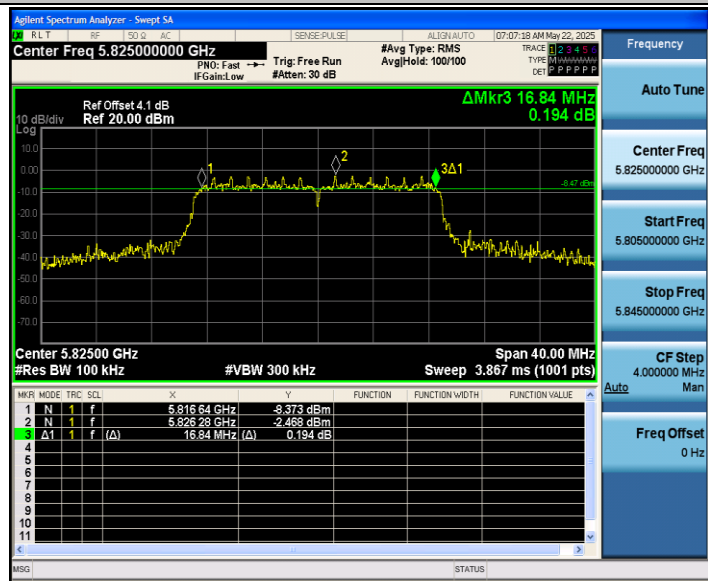
11AC20SISO\_Ant1\_5745



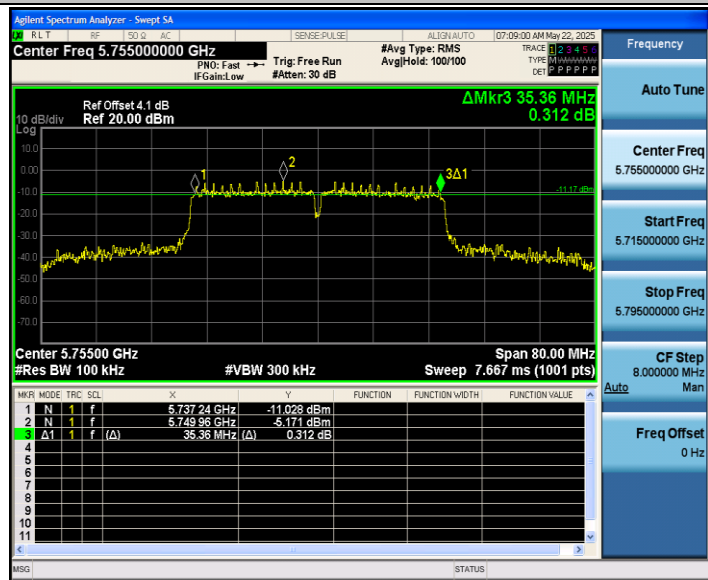
11AC20SISO\_Ant1\_5785



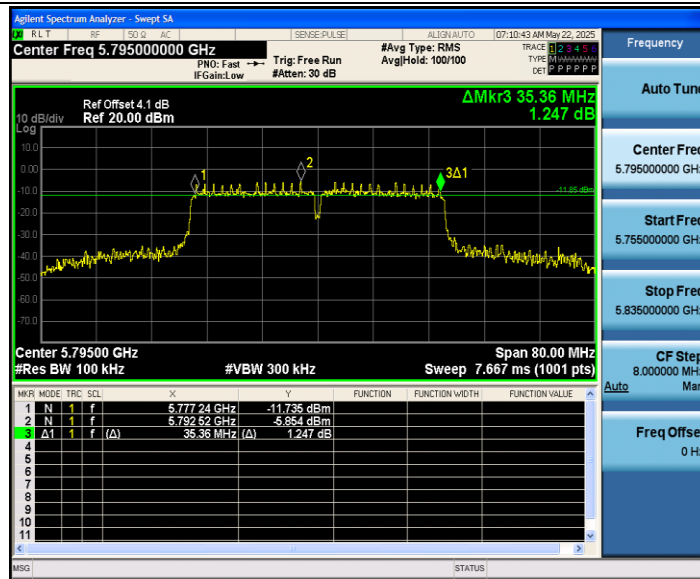
11AC20SISO\_Ant1\_5825



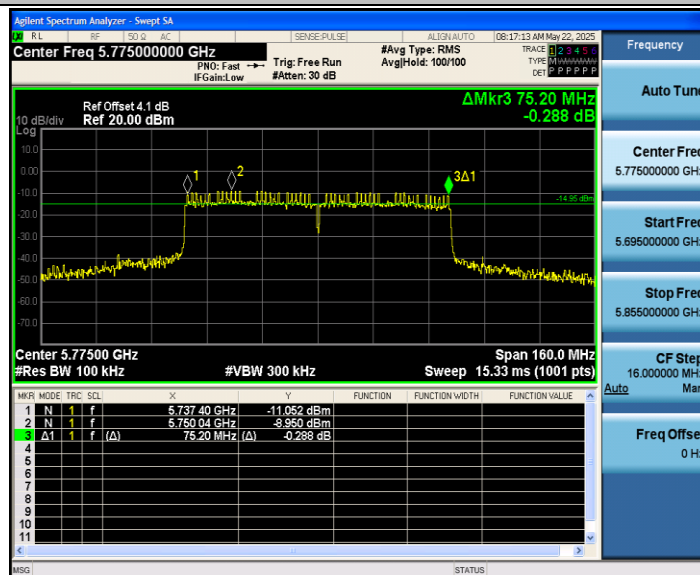
11AC40SISO\_Ant1\_5755



11AC40SISO\_Ant1\_5795



11AC80SISO\_Ant1\_5775

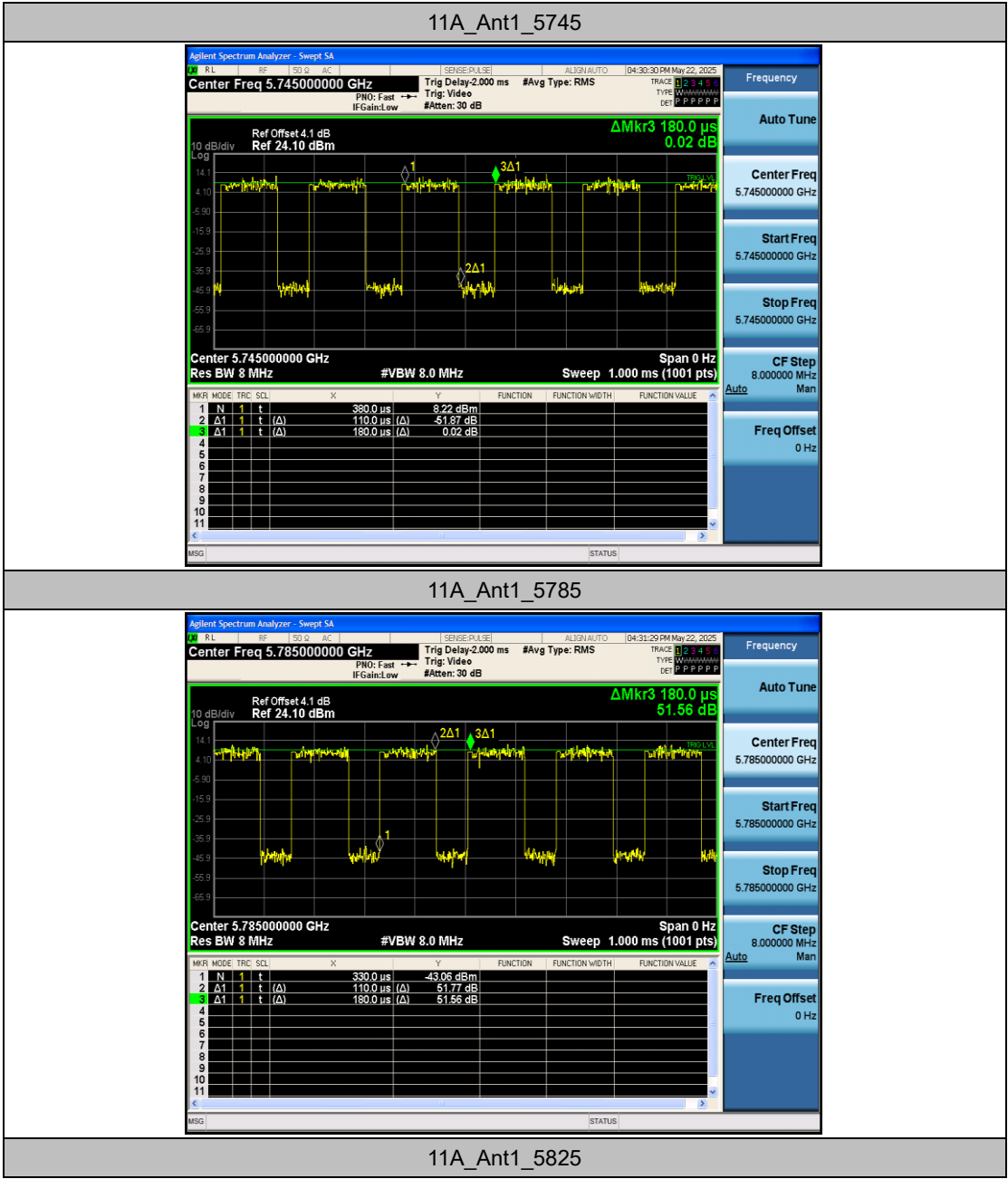


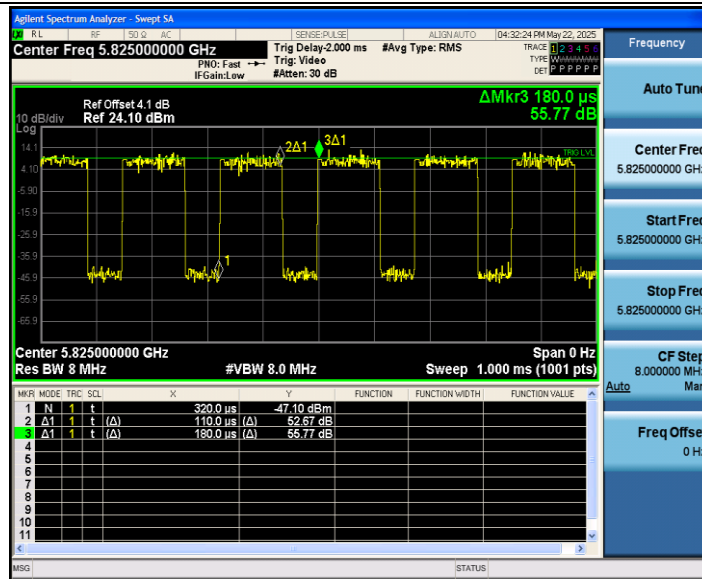
## Appendix B: Duty Cycle

### Test Result

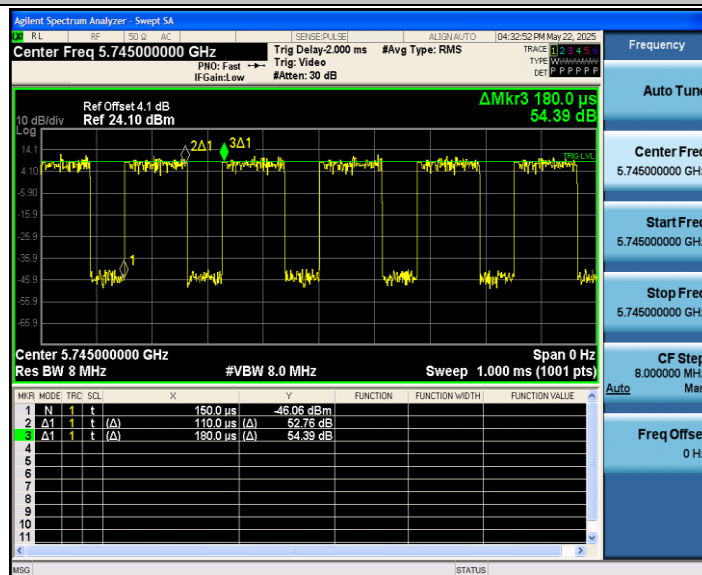
| TestMode   | Antenna | Freq(MHz) | Transmission<br>Duration [ms] | Transmission<br>Period [ms] | Duty<br>Cycle<br>[%] | Duty<br>factor(dB) | Limit | Verdict |
|------------|---------|-----------|-------------------------------|-----------------------------|----------------------|--------------------|-------|---------|
| 11A        | Ant1    | 5745      | 0.11                          | 0.18                        | 61.11                | 2.14               | ---   | ---     |
|            |         | 5785      | 0.11                          | 0.18                        | 61.11                | 2.14               | ---   | ---     |
|            |         | 5825      | 0.11                          | 0.18                        | 61.11                | 2.14               | ---   | ---     |
| 11N20SISO  | Ant1    | 5745      | 0.11                          | 0.18                        | 61.11                | 2.14               | ---   | ---     |
|            |         | 5785      | 0.11                          | 0.18                        | 61.11                | 2.14               | ---   | ---     |
|            |         | 5825      | 0.11                          | 0.18                        | 61.11                | 2.14               | ---   | ---     |
| 11N40SISO  | Ant1    | 5755      | 0.07                          | 0.13                        | 53.85                | 2.69               | ---   | ---     |
|            |         | 5795      | 0.07                          | 0.13                        | 53.85                | 2.69               | ---   | ---     |
| 11AC20SISO | Ant1    | 5745      | 0.12                          | 0.19                        | 63.16                | 2.00               | ---   | ---     |
|            |         | 5785      | 0.12                          | 0.19                        | 63.16                | 2.00               | ---   | ---     |
|            |         | 5825      | 0.12                          | 0.19                        | 63.16                | 2.00               | ---   | ---     |
| 11AC40SISO | Ant1    | 5755      | 0.08                          | 0.15                        | 53.33                | 2.73               | ---   | ---     |
|            |         | 5795      | 0.08                          | 0.15                        | 53.33                | 2.73               | ---   | ---     |
| 11AC80SISO | Ant1    | 5775      | 0.06                          | 0.13                        | 46.15                | 3.36               | ---   | ---     |

Test Graphs

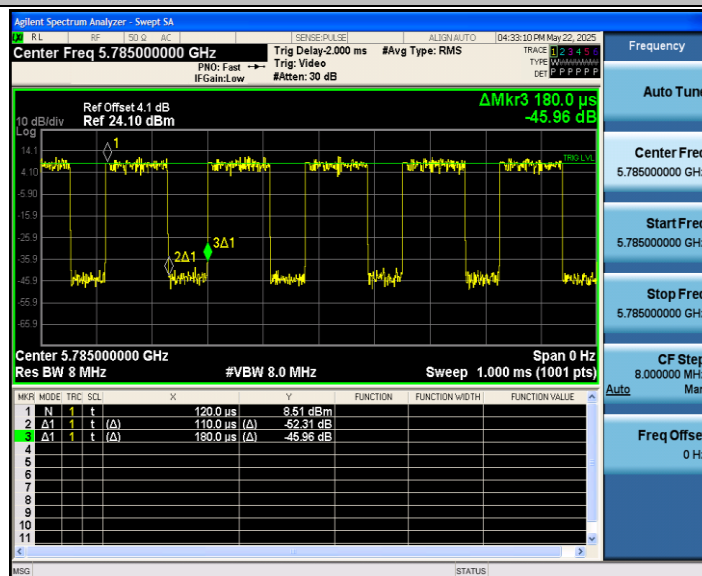




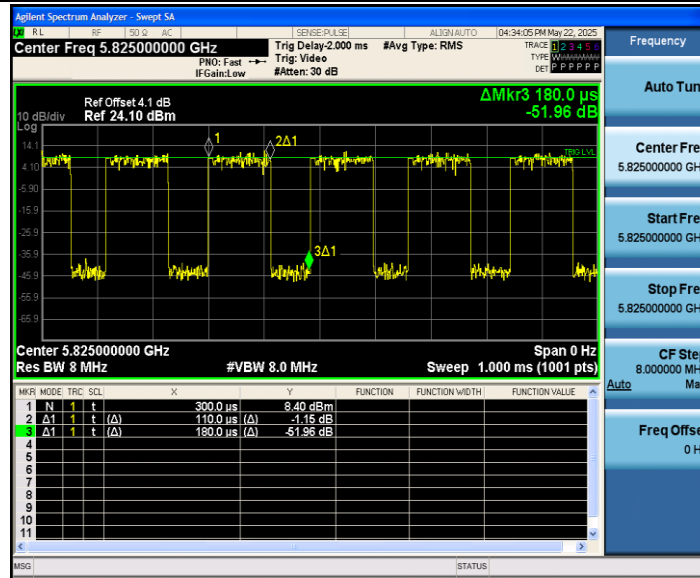
11N20SISO\_Ant1\_5745



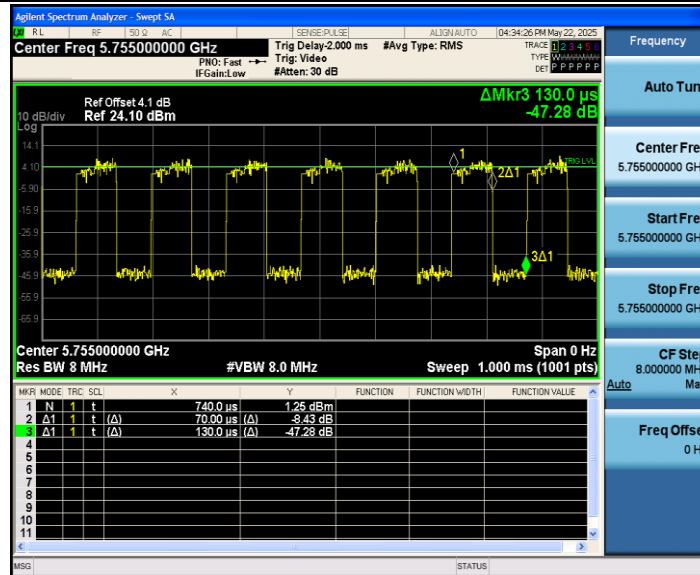
11N20SISO\_Ant1\_5785



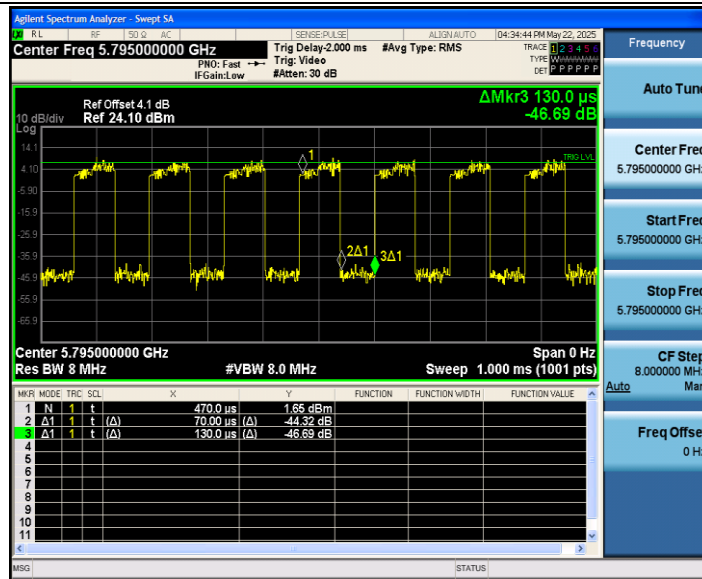
# 11N20SISO\_Ant1\_5825



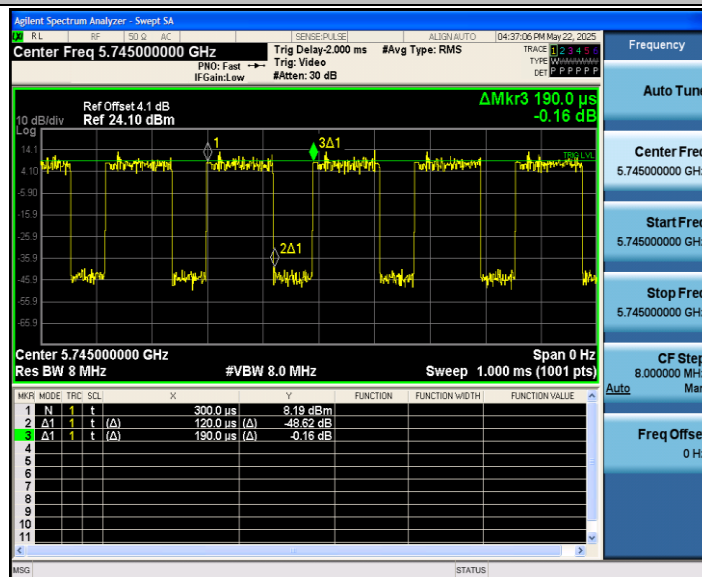
# 11N40SISO\_Ant1\_5755



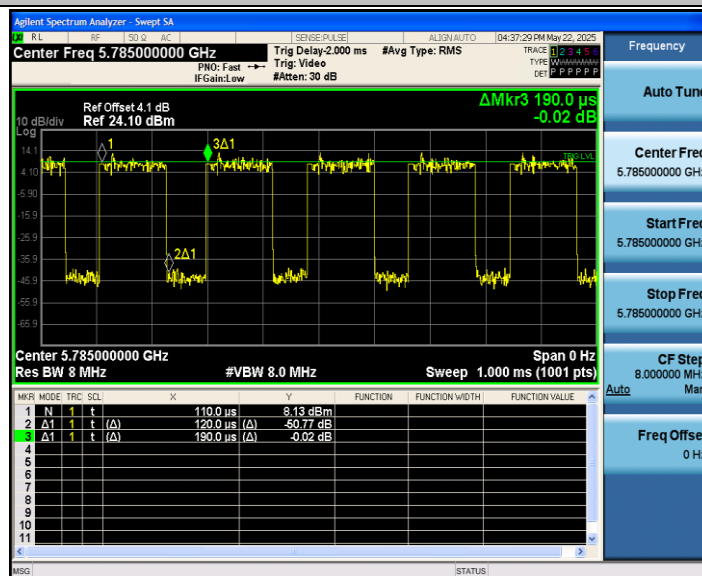
# 11N40SISO\_Ant1\_5795



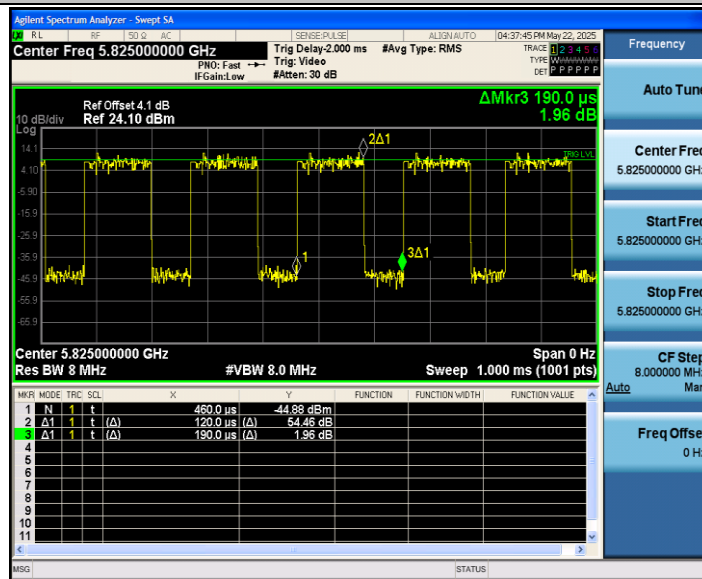
11AC20SISO\_Ant1\_5745



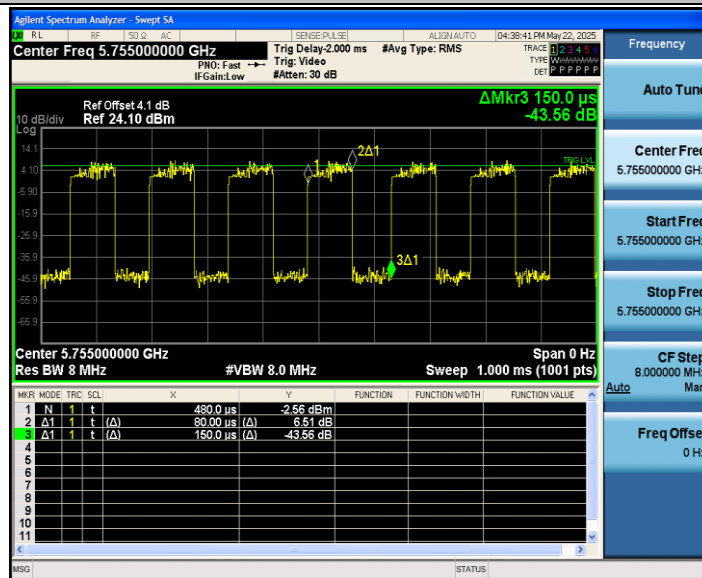
11AC20SISO\_Ant1\_5785



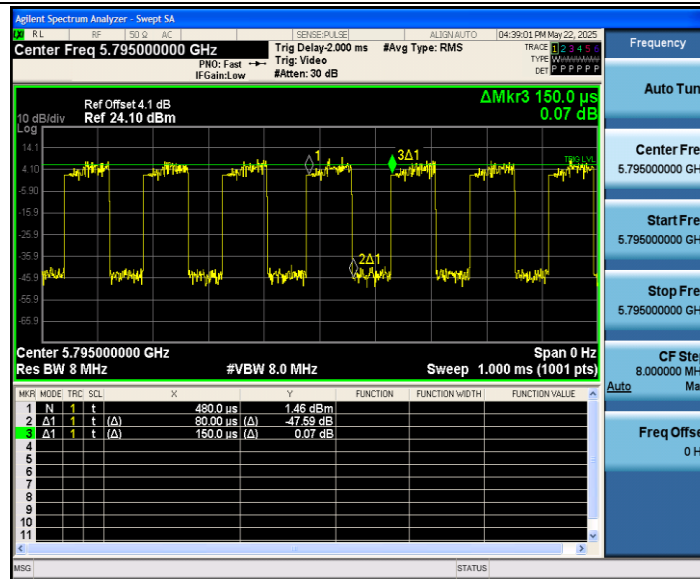
# 11AC20SISO\_Ant1\_5825



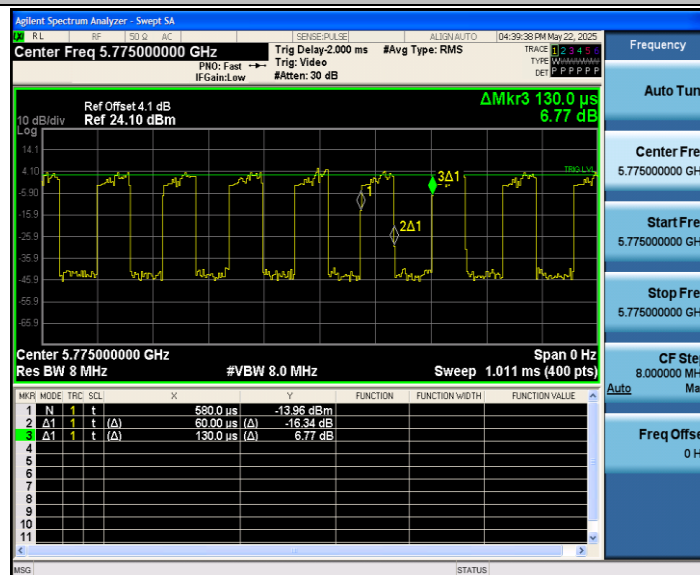
# 11AC40SISO\_Ant1\_5755



# 11AC40SISO\_Ant1\_5795



11AC80SISO\_Ant1\_5775



## Appendix C: Maximum conducted output power

| Test Mode  | Antenna | Freq(MHz) | Channel Power [dBm] | DC Factor [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|------------|---------|-----------|---------------------|-----------------|--------------|-------------|---------|
| 11A        | Ant1    | 5745      | 12.13               | 2.14            | 14.27        | ≤30.00      | PASS    |
|            |         | 5785      | 11.38               | 2.14            | 13.52        | ≤30.00      | PASS    |
|            |         | 5825      | 11.45               | 2.14            | 13.59        | ≤30.00      | PASS    |
| 11N20SISO  | Ant1    | 5745      | 12.09               | 2.14            | 14.23        | ≤30.00      | PASS    |
|            |         | 5785      | 11.3                | 2.14            | 13.44        | ≤30.00      | PASS    |
|            |         | 5825      | 11.77               | 2.14            | 13.91        | ≤30.00      | PASS    |
| 11N40SISO  | Ant1    | 5755      | 11.6                | 2.69            | 14.29        | ≤30.00      | PASS    |
|            |         | 5795      | 10.73               | 2.69            | 13.42        | ≤30.00      | PASS    |
| 11AC20SISO | Ant1    | 5745      | 12.18               | 2.00            | 14.18        | ≤30.00      | PASS    |
|            |         | 5785      | 11.16               | 2.00            | 13.16        | ≤30.00      | PASS    |
|            |         | 5825      | 11.74               | 2.00            | 13.74        | ≤30.00      | PASS    |
| 11AC40SISO | Ant1    | 5755      | 11.12               | 2.73            | 13.85        | ≤30.00      | PASS    |
|            |         | 5795      | 9.98                | 2.73            | 12.71        | ≤30.00      | PASS    |
| 11AC80SISO | Ant1    | 5775      | 9.7                 | 3.36            | 13.06        | ≤30.00      | PASS    |

## Appendix D: Maximum power spectral density

### Test Result

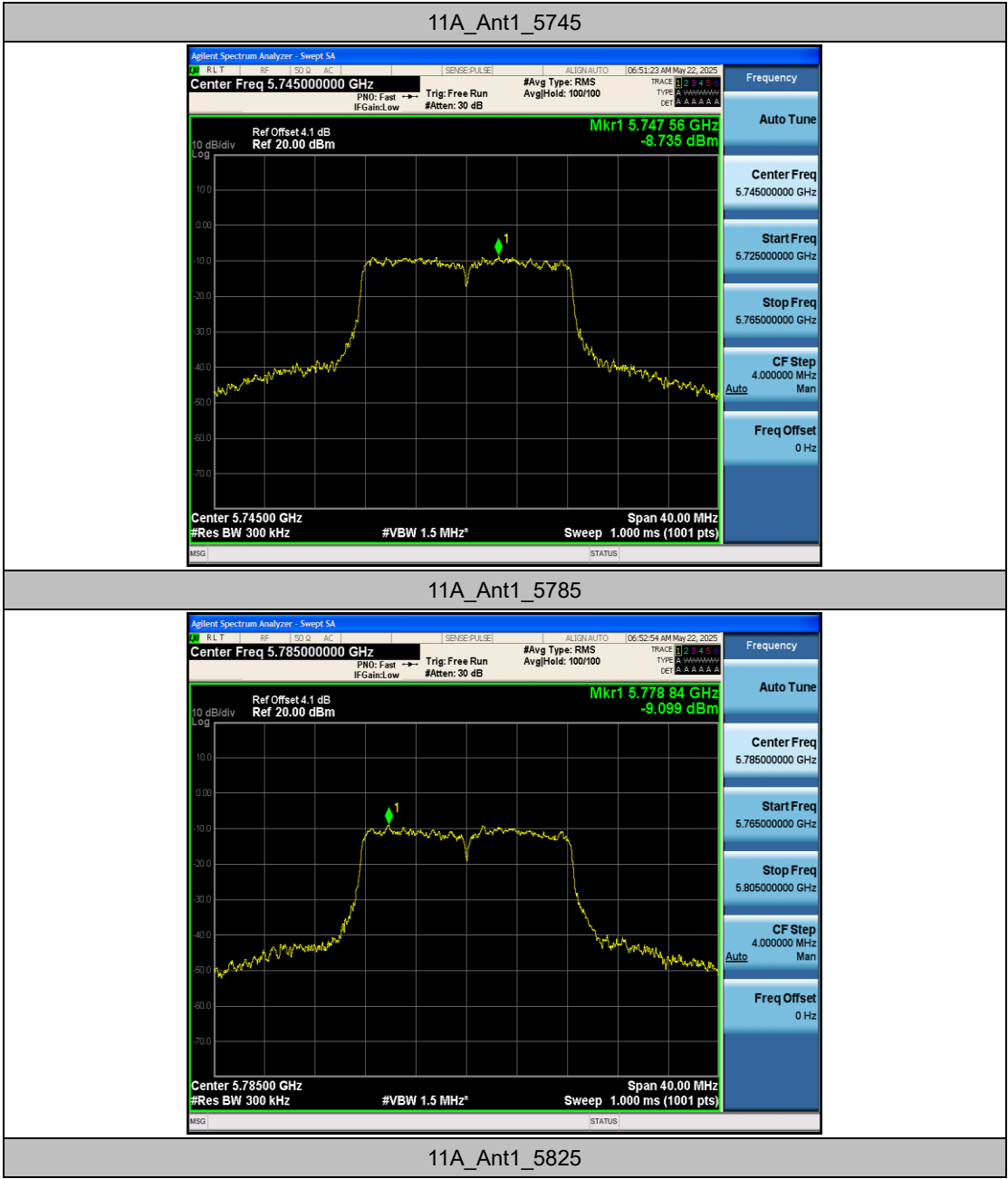
| TestMode   | Antenna | Freq(MHz) | Result<br>[dBm/300KHz] | RBW<br>Factor<br>(dB) | Duty<br>factor<br>(dB) | Result<br>[dBm/500KHz] | Limit<br>[dBm/500KHz] |
|------------|---------|-----------|------------------------|-----------------------|------------------------|------------------------|-----------------------|
| 11A        | Ant1    | 5745      | -8.735                 | 2.22                  | 2.14                   | -4.375                 | ≤30.00                |
|            |         | 5785      | -9.099                 | 2.22                  | 2.14                   | -4.739                 | ≤30.00                |
|            |         | 5825      | -9.689                 | 2.22                  | 2.14                   | -5.329                 | ≤30.00                |
| 11N20SISO  | Ant1    | 5745      | -8.523                 | 2.22                  | 2.14                   | -4.163                 | ≤30.00                |
|            |         | 5785      | -9.244                 | 2.22                  | 2.14                   | -4.884                 | ≤30.00                |
|            |         | 5825      | -9.257                 | 2.22                  | 2.14                   | -4.897                 | ≤30.00                |
| 11N40SISO  | Ant1    | 5755      | -12.358                | 2.22                  | 2.69                   | -7.448                 | ≤30.00                |
|            |         | 5795      | -13.141                | 2.22                  | 2.69                   | -8.231                 | ≤30.00                |
| 11AC20SISO | Ant1    | 5745      | -8.168                 | 2.22                  | 2.00                   | -3.948                 | ≤30.00                |
|            |         | 5785      | -9.366                 | 2.22                  | 2.00                   | -5.146                 | ≤30.00                |
|            |         | 5825      | -9.028                 | 2.22                  | 2.00                   | -4.808                 | ≤30.00                |
| 11AC40SISO | Ant1    | 5755      | -12.389                | 2.22                  | 2.73                   | -7.439                 | ≤30.00                |
|            |         | 5795      | -12.651                | 2.22                  | 2.73                   | -7.701                 | ≤30.00                |
| 11AC80SISO | Ant1    | 5775      | -16.248                | 2.22                  | 3.36                   | -10.668                | ≤30.00                |

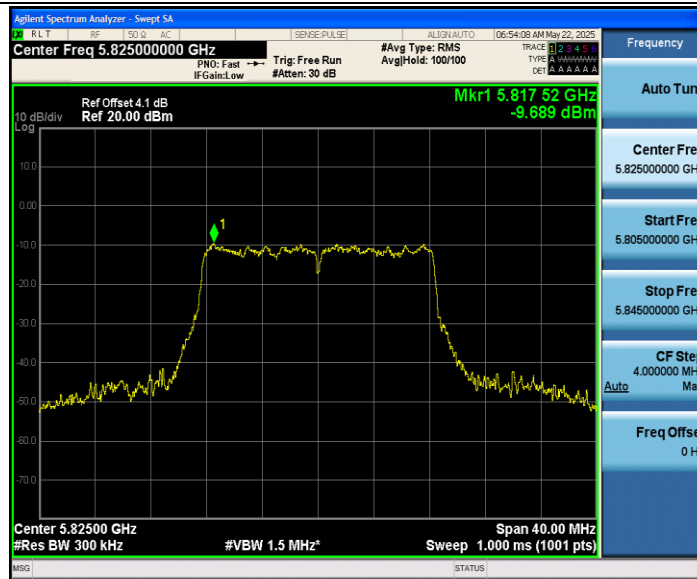
Note: 1. The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.

2. RBW factor=  $10 \log (500 \text{ KHz} / 300 \text{ KHz}) = 2.22 \text{ dB}$

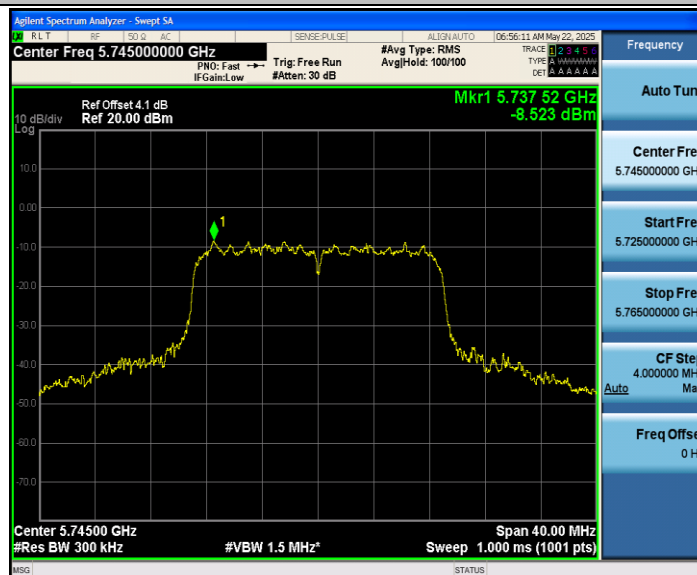
3. P.S.D(dBm/500KHz)= P.S.D(dBm/300KHz)+ $10 \log (500 \text{ kHz}/300\text{KHz})$ +Duty cycle

Test Graphs

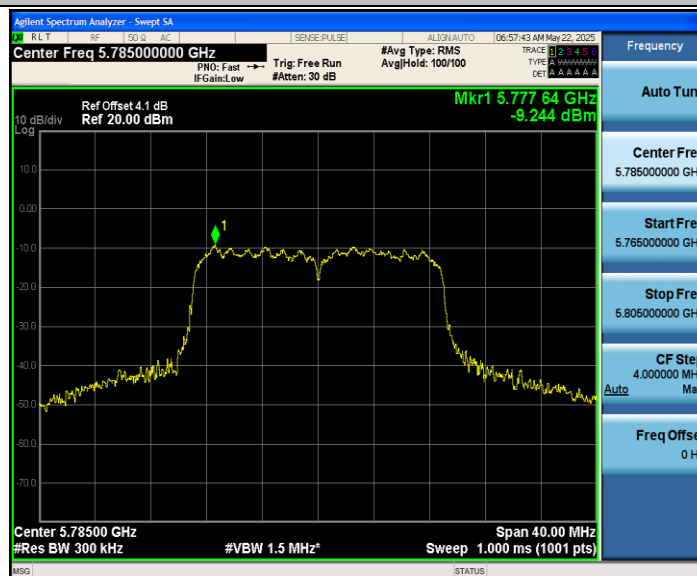




11N20SISO\_Ant1\_5745



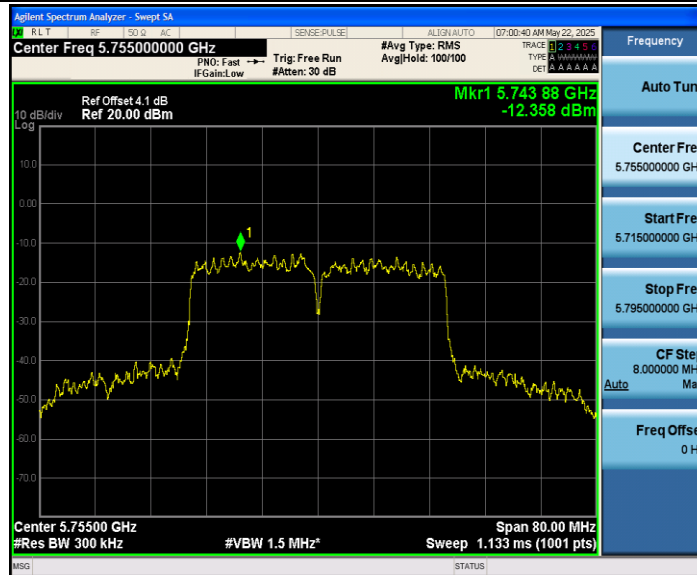
11N20SISO\_Ant1\_5785



# 11N20SISO\_Ant1\_5825



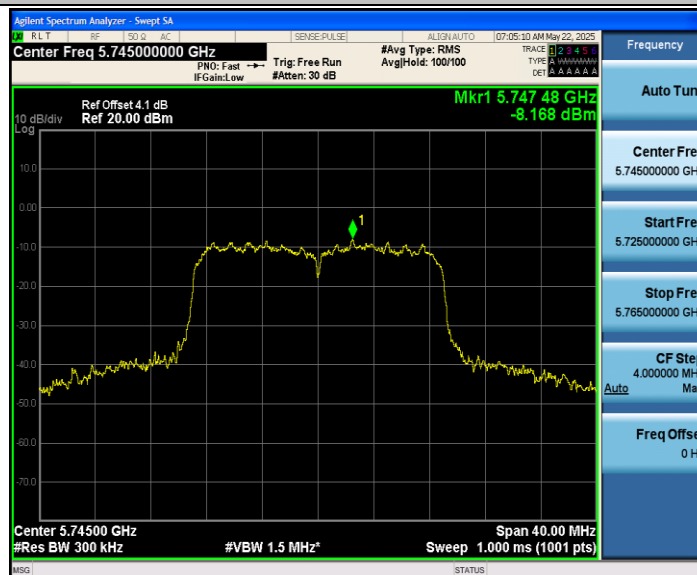
# 11N40SISO\_Ant1\_5755



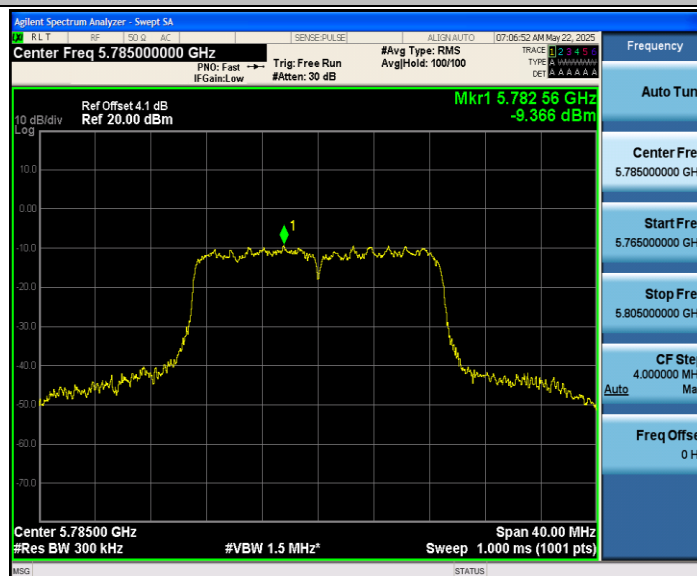
# 11N40SISO\_Ant1\_5795



11AC20SISO\_Ant1\_5745



11AC20SISO\_Ant1\_5785



11AC20SISO\_Ant1\_5825



11AC40SISO\_Ant1\_5755



11AC40SISO\_Ant1\_5795



11AC80SISO\_Ant1\_5775

