

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

**FCC ID** : 2BUWA-A19PRO

**Company** : Shenzhen Aoruiwei Technology Co., Ltd.

**EUT** : projector

**Model Number** : A19 Pro

**Report No.** : CTA26012800902

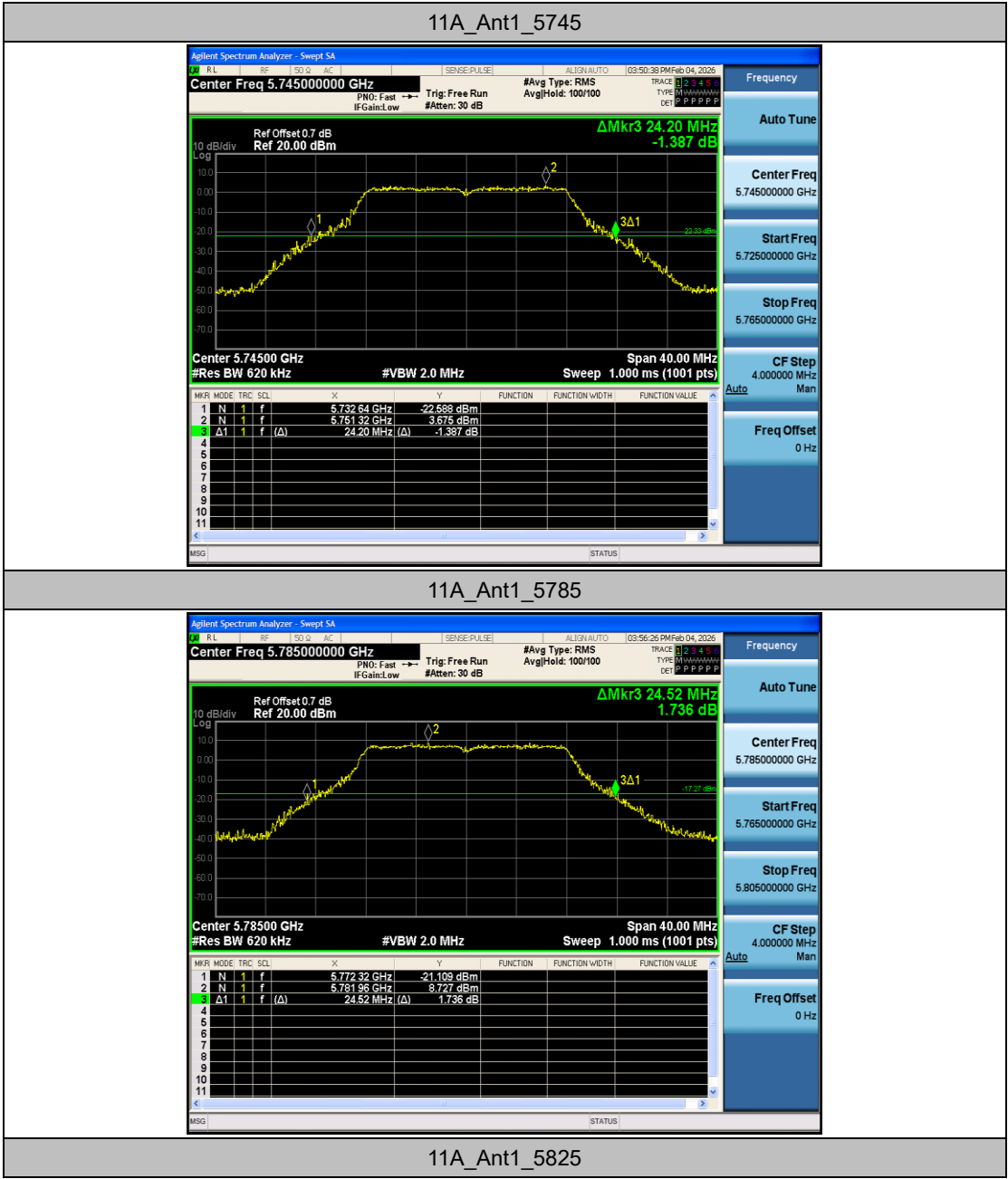
**Reviewed By** : Eric Wang

## Appendix A1: Emission Bandwidth

### Test Result

| TestMode  | Antenna | Freq(MHz) | 26db EBW<br>[MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|-----------|---------|-----------|-------------------|----------|----------|------------|---------|
| 11A       | Ant1    | 5745      | 24.200            | 5732.640 | 5756.840 | ---        | ---     |
|           |         | 5785      | 24.520            | 5772.320 | 5796.840 | ---        | ---     |
|           |         | 5825      | 24.280            | 5812.520 | 5836.800 | ---        | ---     |
| 11N20SISO | Ant1    | 5745      | 24.760            | 5732.480 | 5757.240 | ---        | ---     |
|           |         | 5785      | 23.840            | 5773.080 | 5796.920 | ---        | ---     |
|           |         | 5825      | 25.120            | 5812.440 | 5837.560 | ---        | ---     |

Test Graphs





11N20SISO\_Ant1\_5745



11N20SISO\_Ant1\_5785



# 11N20SISO\_Ant1\_5825

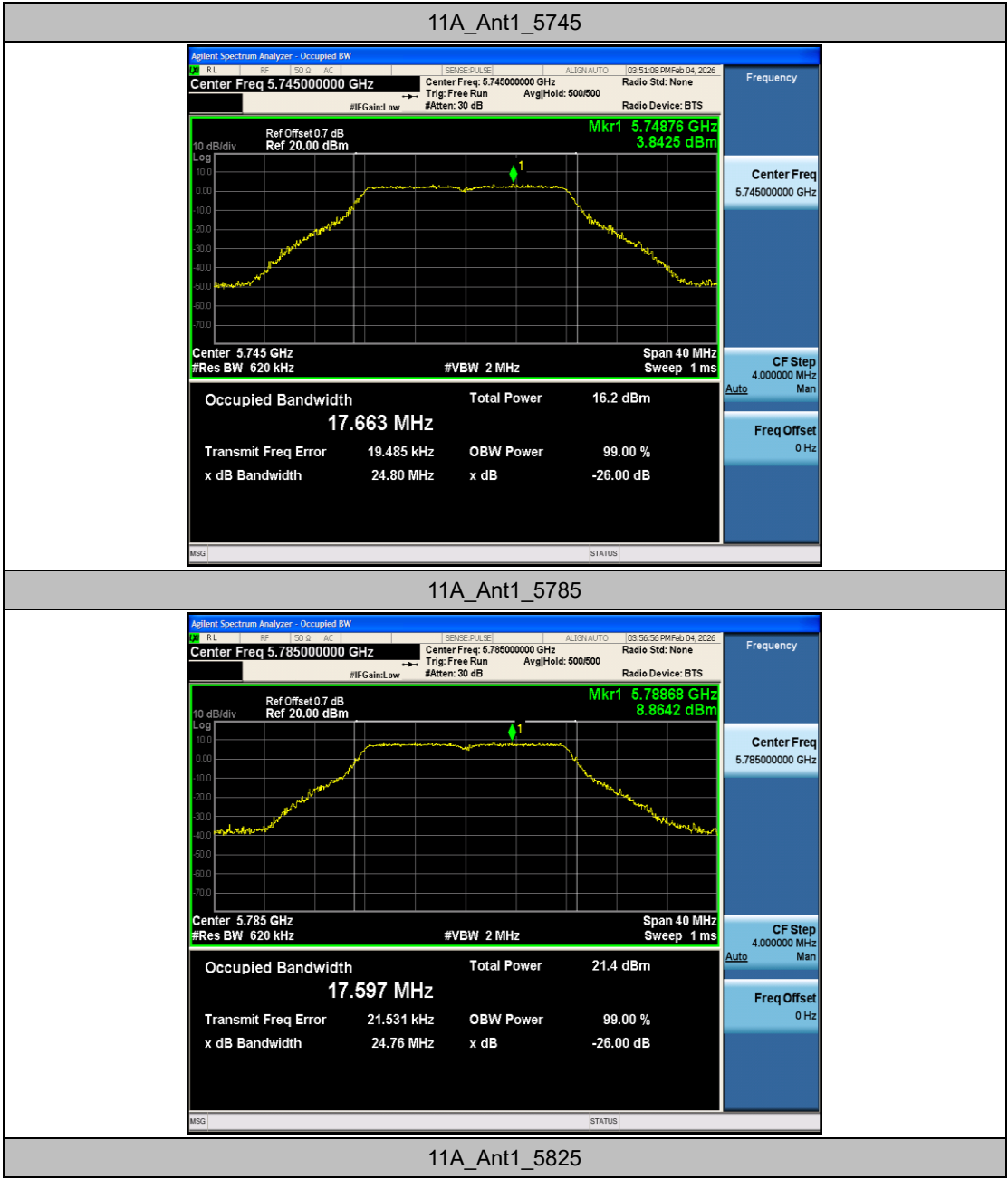


## Appendix A2: Occupied channel bandwidth

### Test Result

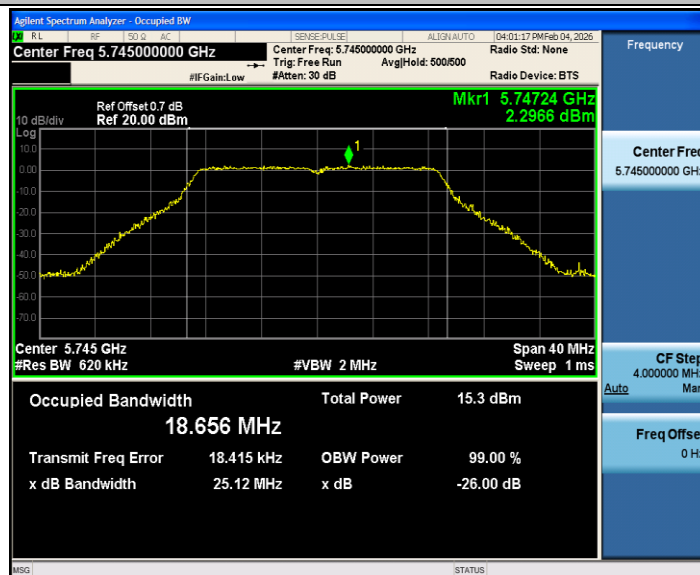
| TestMode  | Antenna | Freq(MHz) | OCB [MHz] | FL[MHz]   | FH[MHz]   | Limit[MHz] | Verdict |
|-----------|---------|-----------|-----------|-----------|-----------|------------|---------|
| 11A       | Ant1    | 5745      | 17.663    | 5736.1880 | 5753.8510 | ---        | ---     |
|           |         | 5785      | 17.597    | 5776.2230 | 5793.8200 | ---        | ---     |
|           |         | 5825      | 17.637    | 5816.1763 | 5833.8133 | ---        | ---     |
| 11N20SISO | Ant1    | 5745      | 18.656    | 5735.6904 | 5754.3464 | ---        | ---     |
|           |         | 5785      | 18.655    | 5775.6750 | 5794.3300 | ---        | ---     |
|           |         | 5825      | 18.618    | 5815.6714 | 5834.2894 | ---        | ---     |

Test Graphs

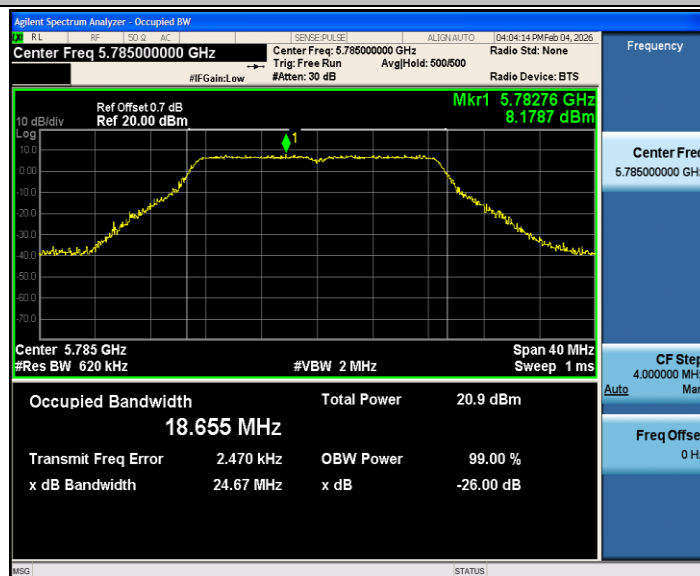




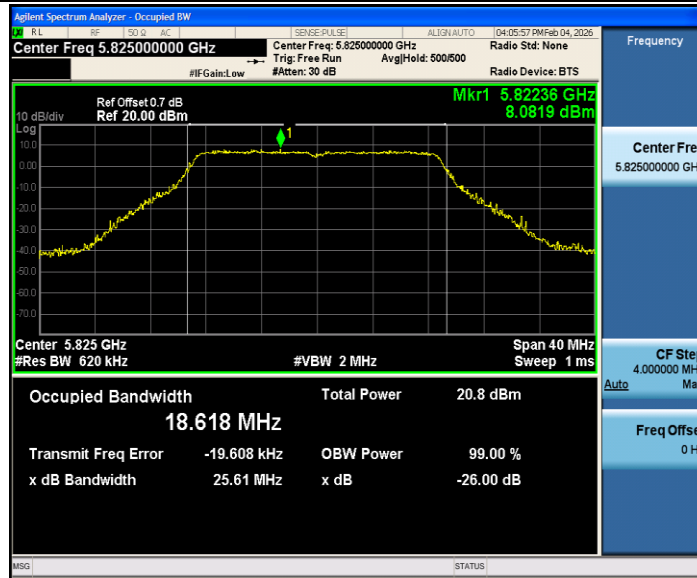
11N20SISO\_Ant1\_5745



11N20SISO\_Ant1\_5785



# 11N20SISO\_Ant1\_5825



## Appendix A3: Min emission bandwidth

### Test Result B4

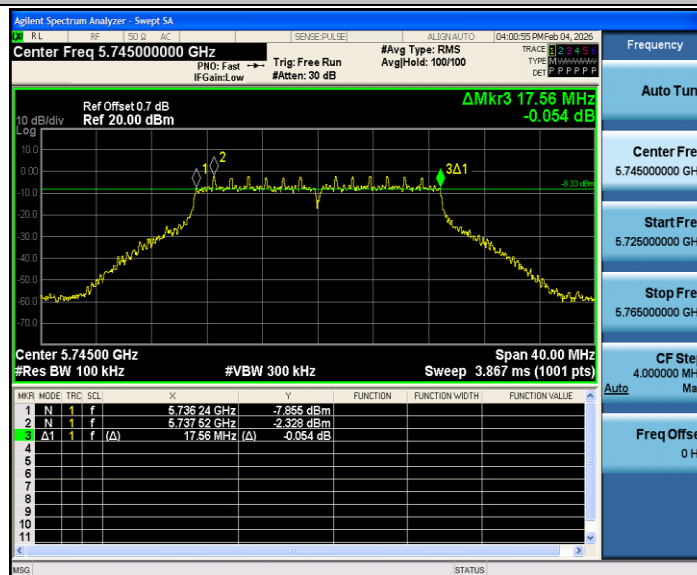
| TestMode  | Antenna | Freq(MHz) | 6db EBW<br>[MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|-----------|---------|-----------|------------------|----------|----------|------------|---------|
| 11A       | Ant1    | 5745      | 16.320           | 5736.840 | 5753.160 | 0.5        | PASS    |
|           |         | 5785      | 16.320           | 5776.840 | 5793.160 | 0.5        | PASS    |
|           |         | 5825      | 16.320           | 5816.840 | 5833.160 | 0.5        | PASS    |
| 11N20SISO | Ant1    | 5745      | 17.560           | 5736.240 | 5753.800 | 0.5        | PASS    |
|           |         | 5785      | 17.560           | 5776.200 | 5793.760 | 0.5        | PASS    |
|           |         | 5825      | 17.520           | 5816.240 | 5833.760 | 0.5        | PASS    |

Test Graphs B4

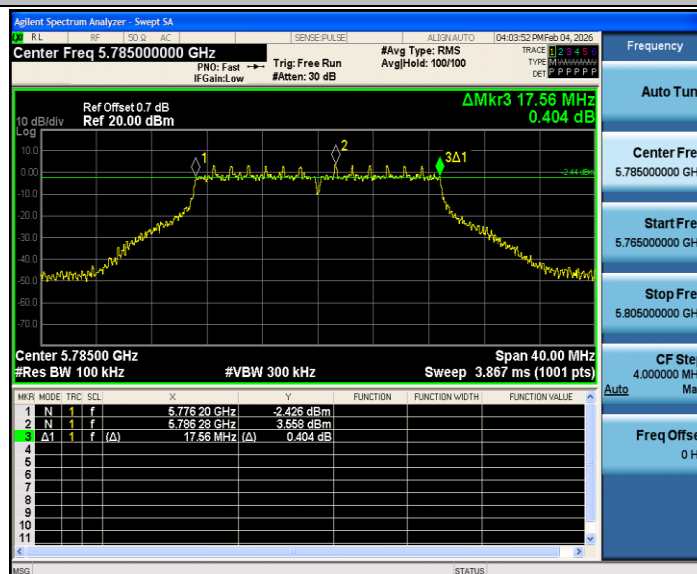




11N20SISO\_Ant1\_5745



11N20SISO\_Ant1\_5785



# 11N20SISO\_Ant1\_5825

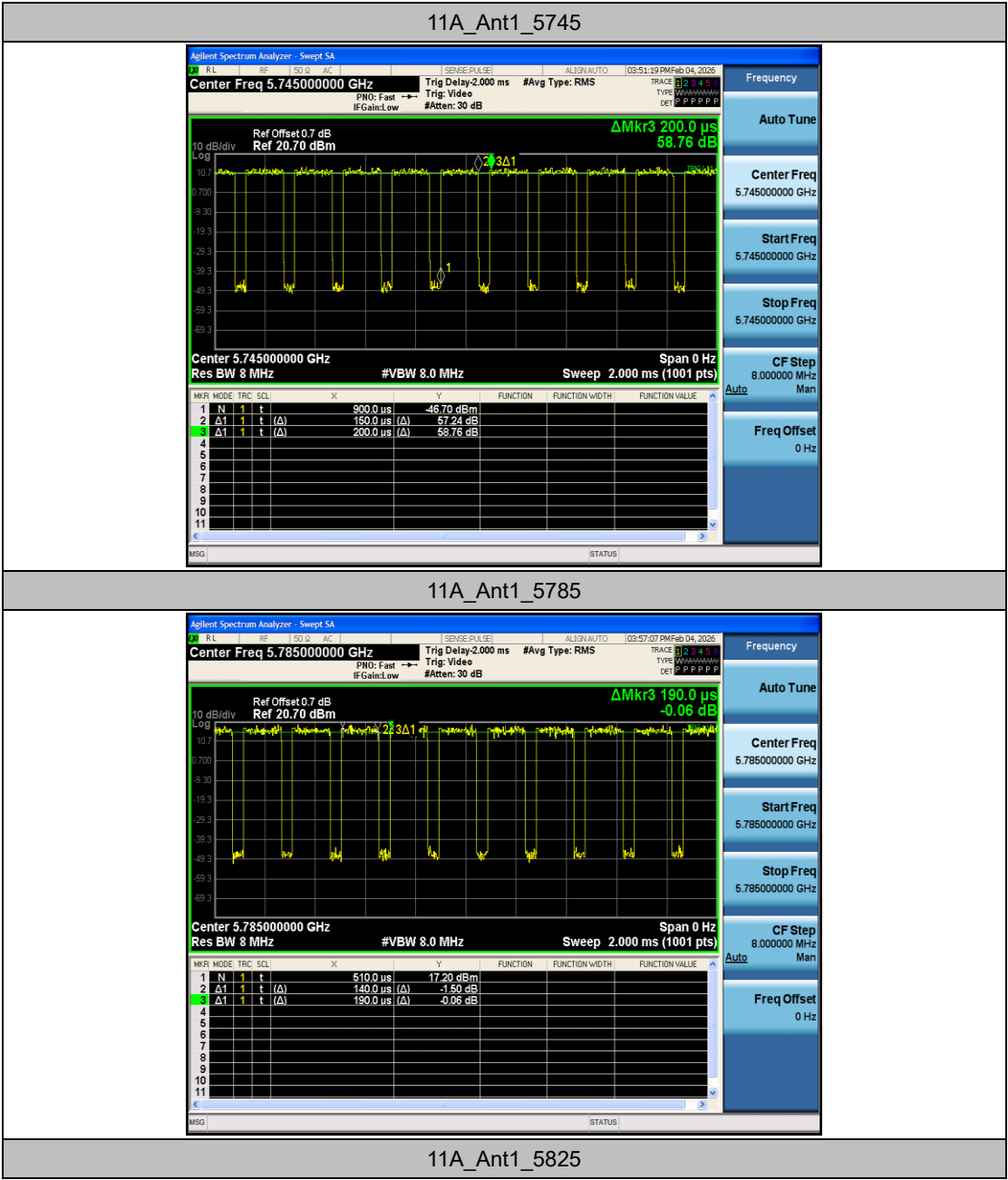


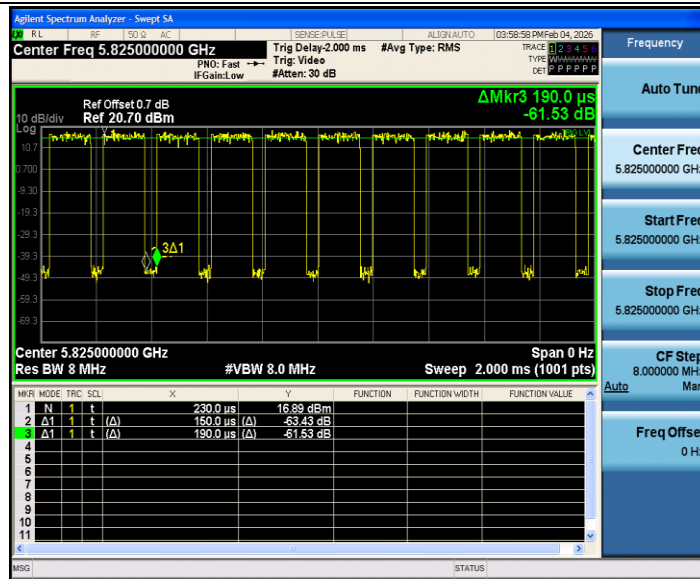
## Appendix B: Duty Cycle

### Test Result

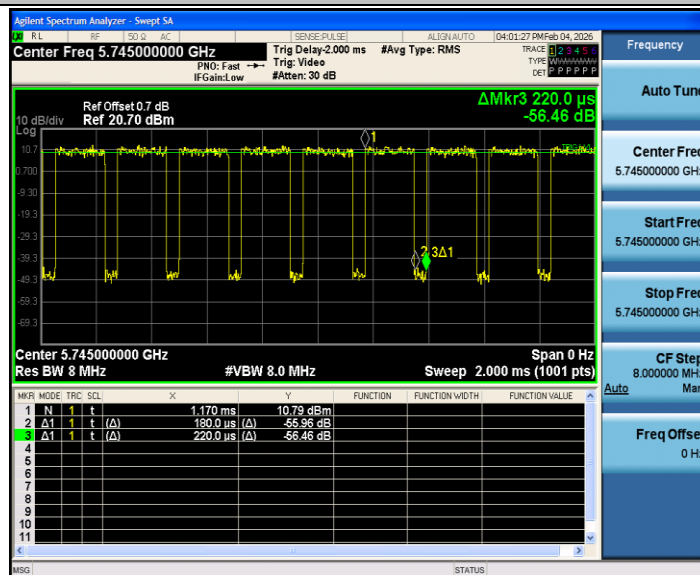
| TestMode  | Antenna | Freq(MHz) | Transmission<br>Duration [ms] | Transmission<br>Period [ms] | Duty<br>Cycle [%] | DC<br>Factor<br>[dB] | Limit | Verdict |
|-----------|---------|-----------|-------------------------------|-----------------------------|-------------------|----------------------|-------|---------|
| 11A       | Ant1    | 5745      | 0.15                          | 0.20                        | 75.00             | 1.25                 | ---   | ---     |
|           |         | 5785      | 0.14                          | 0.19                        | 73.68             | 1.33                 | ---   | ---     |
|           |         | 5825      | 0.15                          | 0.19                        | 78.95             | 1.03                 | ---   | ---     |
| 11N20SISO | Ant1    | 5745      | 0.18                          | 0.22                        | 81.82             | 0.87                 | ---   | ---     |
|           |         | 5785      | 0.18                          | 0.23                        | 78.26             | 1.06                 | ---   | ---     |
|           |         | 5825      | 0.17                          | 0.22                        | 77.27             | 1.12                 | ---   | ---     |

Test Graphs

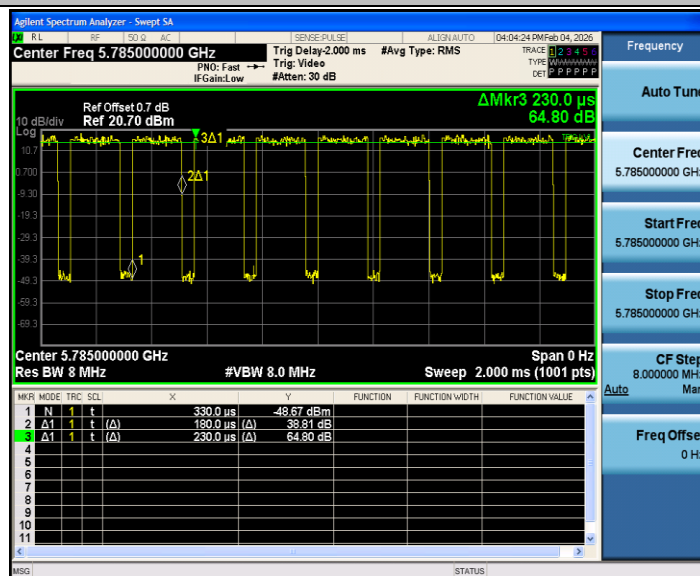




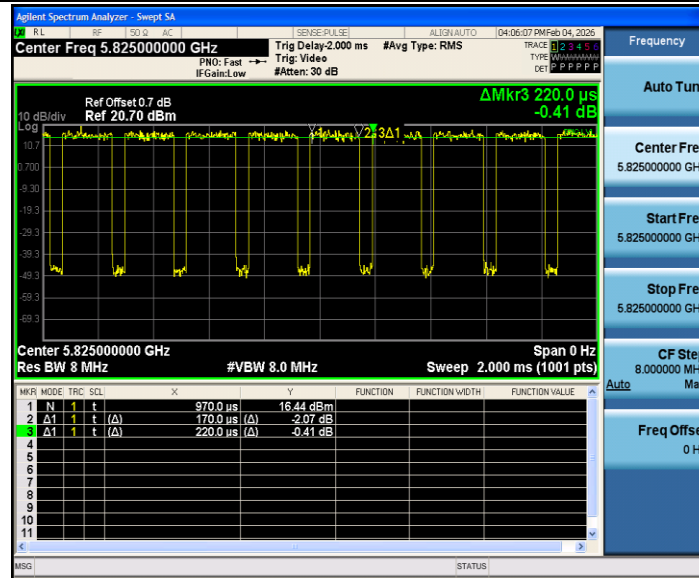
11N20SISO\_Ant1\_5745



11N20SISO\_Ant1\_5785



# 11N20SISO\_Ant1\_5825



## Appendix C: Maximum conducted output power

### Test Result Channel Power

| Test Mode | Antenna | Freq(MHz ) | Channel Power [dBm] | Duty Cycle [%] | DC Factor [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|-----------|---------|------------|---------------------|----------------|-----------------|--------------|-------------|---------|
| 11A       | Ant1    | 5745       | 13.14               | 75.00          | 1.25            | 14.39        | ≤30.00      | PASS    |
|           |         | 5785       | 13.42               | 73.68          | 1.33            | 14.75        | ≤30.00      | PASS    |
|           |         | 5825       | 13.24               | 78.95          | 1.03            | 14.27        | ≤30.00      | PASS    |
| 11N20SISO | Ant1    | 5745       | 12.78               | 81.82          | 0.87            | 13.65        | ≤30.00      | PASS    |
|           |         | 5785       | 13.07               | 78.26          | 1.06            | 14.13        | ≤30.00      | PASS    |
|           |         | 5825       | 12.95               | 77.27          | 1.12            | 14.07        | ≤30.00      | PASS    |

Note: The Duty Cycle Factor is compensated in the graph.

## Appendix D: Maximum power spectral density

### Test Result

| TestMode  | Antenna | Freq(MHz) | Result<br>[dBm/300KHz] | Duty<br>factor<br>(dB) | RBW<br>Factor<br>(dB) | Result<br>[dBm/500KHz] | Limit<br>[dBm/500KHz] | Verdict |
|-----------|---------|-----------|------------------------|------------------------|-----------------------|------------------------|-----------------------|---------|
| 11A       | Ant1    | 5745      | -2.25                  | 1.25                   | 2.22                  | 1.22                   | ≤30.00                | PASS    |
|           |         | 5785      | -2.26                  | 1.33                   | 2.22                  | 1.29                   | ≤30.00                | PASS    |
|           |         | 5825      | -1.99                  | 1.03                   | 2.22                  | 1.26                   | ≤30.00                | PASS    |
| 11N20SISO | Ant1    | 5745      | -2.73                  | 0.87                   | 2.22                  | 0.36                   | ≤30.00                | PASS    |
|           |         | 5785      | -2.36                  | 1.06                   | 2.22                  | 0.92                   | ≤30.00                | PASS    |
|           |         | 5825      | -2.47                  | 1.12                   | 2.22                  | 0.87                   | ≤30.00                | PASS    |

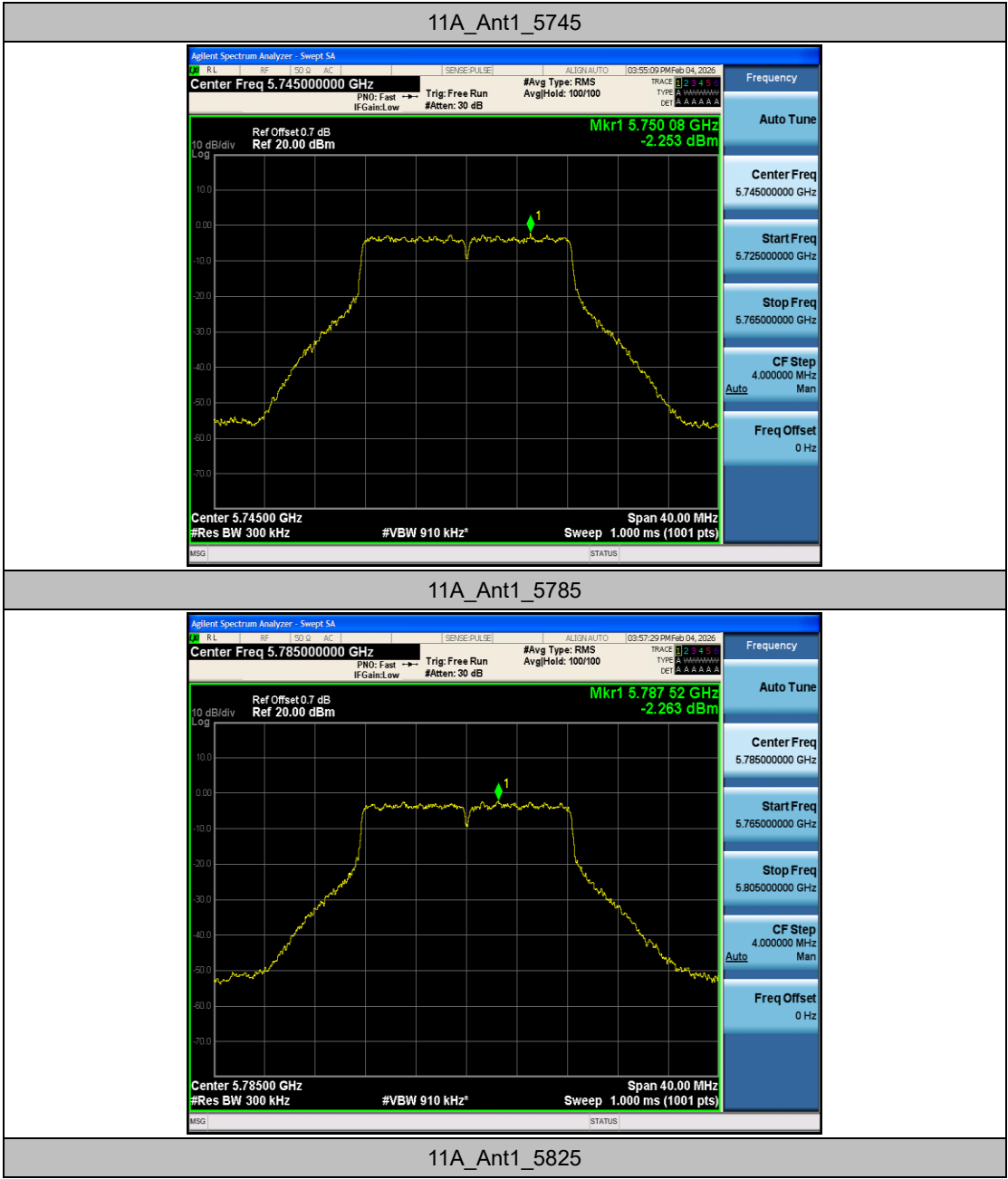
Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.

P.S.D(dBm/500KHz)= P.S.D(dBm/300KHz)+10 log (500 kHz/300KHz).

2. RBW factor= 10 log (500 KHz /300 KHz) = 2.22 dB and The RBW Factor is compensated in the data graph.

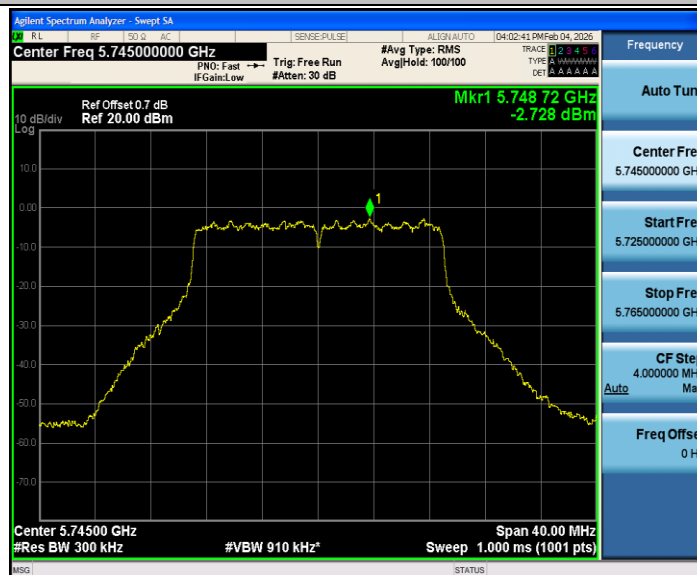
3. The Duty Cycle Factor is compensated in the graph.

Test Graphs

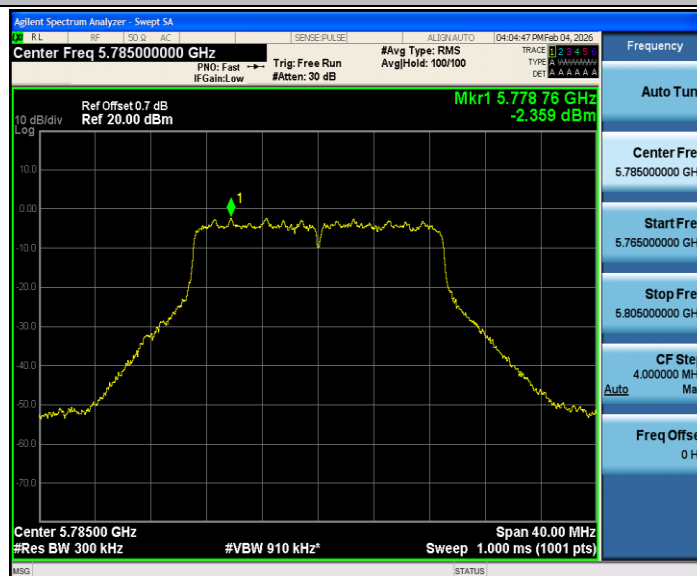




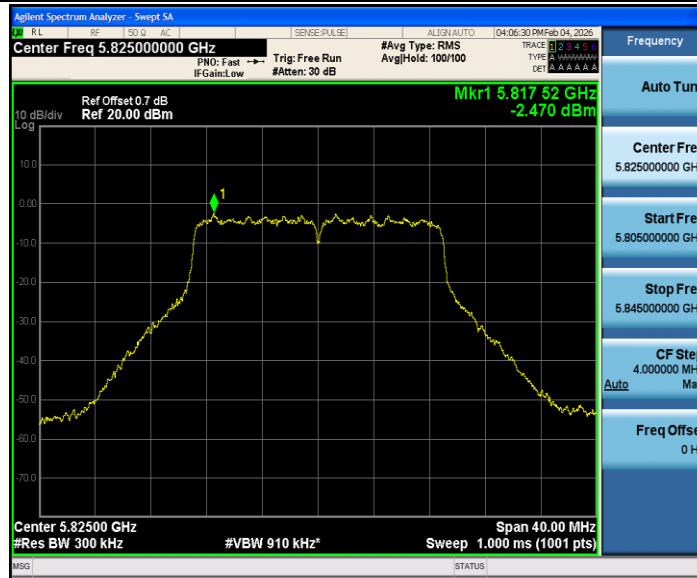
11N20SISO\_Ant1\_5745



11N20SISO\_Ant1\_5785



# 11N20SISO\_Ant1\_5825

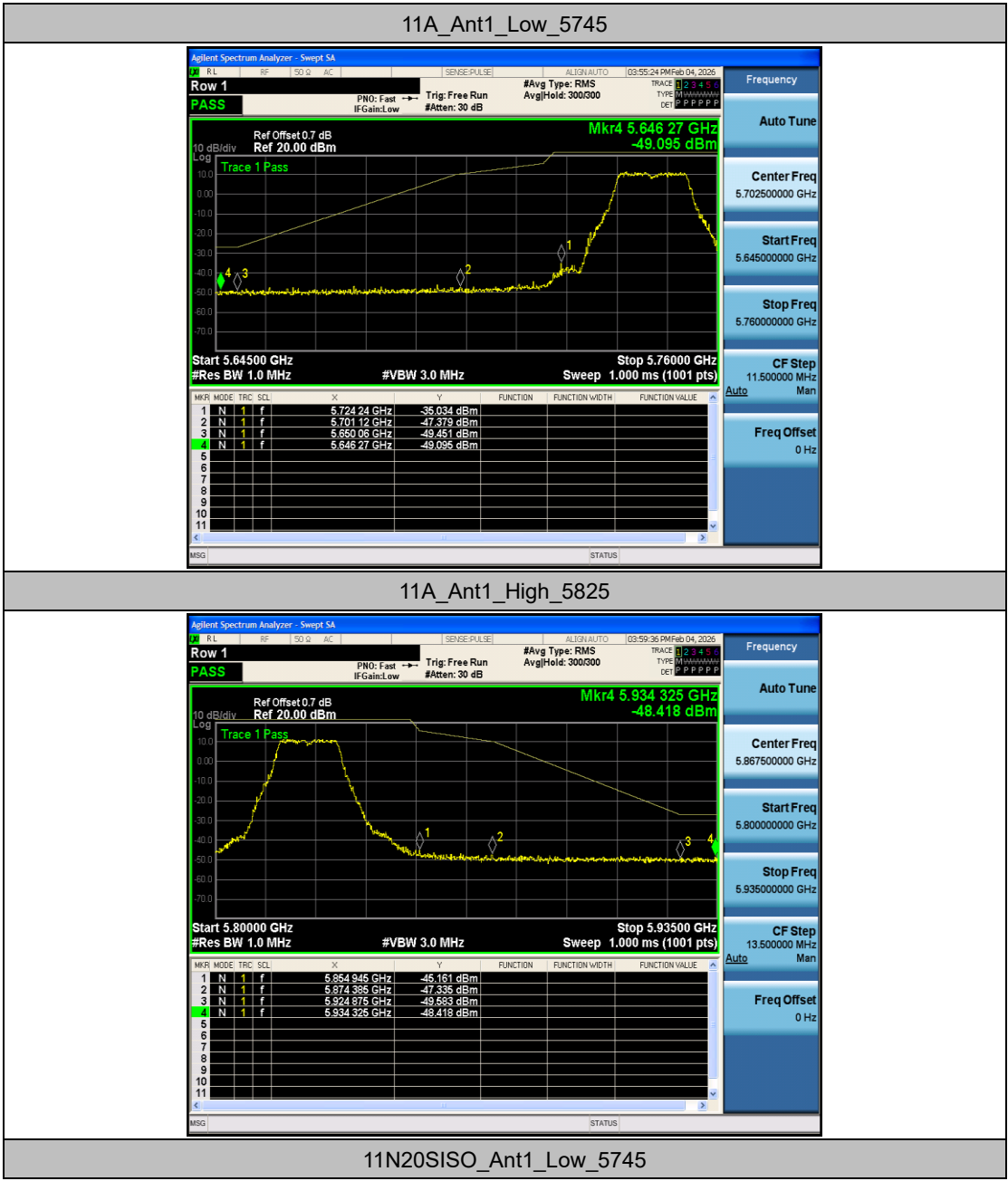


## Appendix E: Band edge measurements

### Test Result B4

| TestMode      | Antenna | ChName | Freq(MHz) | FreqRange [MHz] | Result [dBm] | Limit [dBm] | Verdict |
|---------------|---------|--------|-----------|-----------------|--------------|-------------|---------|
| 11A           | Ant1    | Low    | 5745      | 5645~5650       | -49.1        | ≤-27        | PASS    |
|               |         |        |           | 5650~5700       | -49.45       | ≤-26.96     | PASS    |
|               |         |        |           | 5700~5720       | -47.38       | ≤10.31      | PASS    |
|               |         |        |           | 5720~5725       | -35.03       | ≤25.26      | PASS    |
|               |         | High   | 5825      | 5850~5855       | -45.16       | ≤15.73      | PASS    |
|               |         |        |           | 5855~5875       | -47.34       | ≤10.17      | PASS    |
|               |         |        |           | 5875~5925       | -49.58       | ≤-26.91     | PASS    |
|               |         |        |           | 5925~5935       | -48.42       | ≤-27        | PASS    |
| 11N20SI<br>SO | Ant1    | Low    | 5745      | 5645~5650       | -48.61       | ≤-27        | PASS    |
|               |         |        |           | 5650~5700       | -49.35       | ≤-26.96     | PASS    |
|               |         |        |           | 5700~5720       | -47.56       | ≤10.41      | PASS    |
|               |         |        |           | 5720~5725       | -42.41       | ≤16.87      | PASS    |
|               |         | High   | 5825      | 5850~5855       | -47.95       | ≤15.73      | PASS    |
|               |         |        |           | 5855~5875       | -47.43       | ≤11.23      | PASS    |
|               |         |        |           | 5875~5925       | -48.87       | ≤-26.71     | PASS    |
|               |         |        |           | 5925~5935       | -48.07       | ≤-27        | PASS    |

Test Graphs B4





11N20SISO\_Ant1\_High\_5825



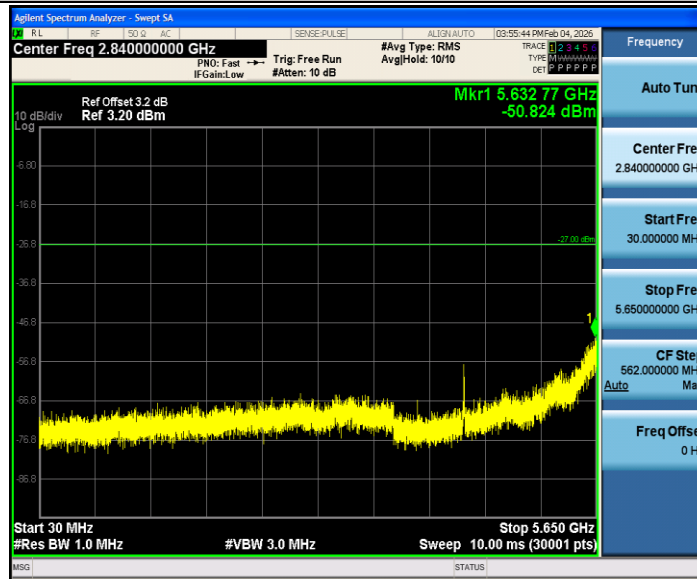
## Appendix F: Conducted Spurious Emission

### Test Result

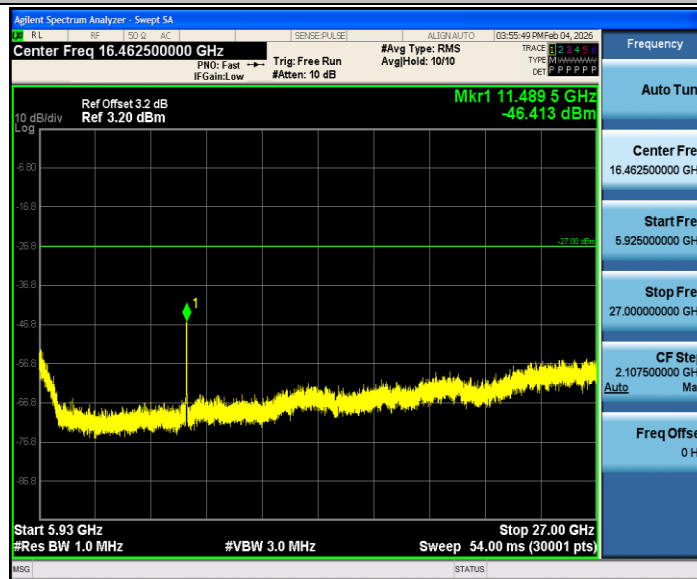
| TestMode  | Antenna | Freq(MHz) | FreqRange [MHz] | Max. Fre [MHz] | Max. Level [dBm] | Limit [dBm] | Verdict |
|-----------|---------|-----------|-----------------|----------------|------------------|-------------|---------|
| 11A       | Ant1    | 5745      | 30~5650         | 5632.77        | -50.82           | ≤-27        | PASS    |
|           |         |           | 5925~40000      | 11489.5        | -46.41           | ≤-27        | PASS    |
|           |         | 5785      | 30~5650         | 5637.45        | -51.41           | ≤-27        | PASS    |
|           |         |           | 5925~40000      | 11568.18       | -46.38           | ≤-27        | PASS    |
|           |         | 5825      | 30~5650         | 5644.01        | -52.74           | ≤-27        | PASS    |
|           |         |           | 5925~40000      | 11646.16       | -50.06           | ≤-27        | PASS    |
| 11N20SISO | Ant1    | 5745      | 30~5650         | 5629.21        | -51.75           | ≤-27        | PASS    |
|           |         |           | 5925~40000      | 11488.8        | -47.45           | ≤-27        | PASS    |
|           |         | 5785      | 30~5650         | 5647.94        | -50.23           | ≤-27        | PASS    |
|           |         |           | 5925~40000      | 11575.91       | -48.9            | ≤-27        | PASS    |
|           |         | 5825      | 30~5650         | 5642.32        | -52.75           | ≤-27        | PASS    |
|           |         |           | 5925~40000      | 11646.86       | -50.5            | ≤-27        | PASS    |

## Test Graphs

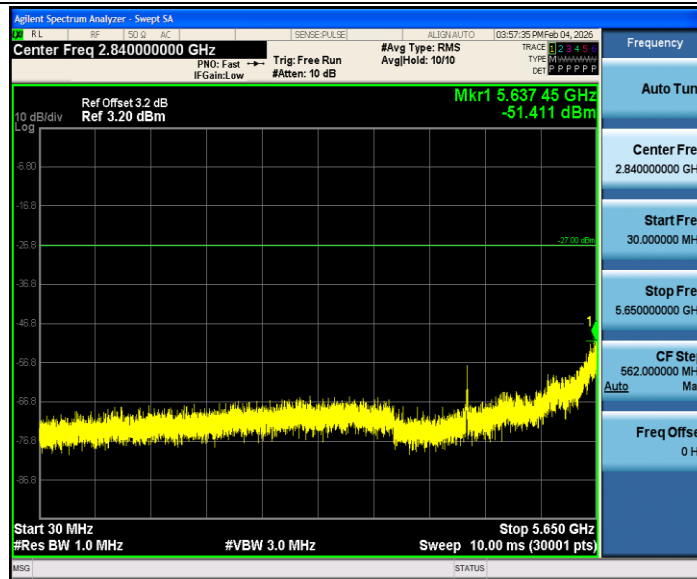
11A\_Ant1\_5745\_30~5650



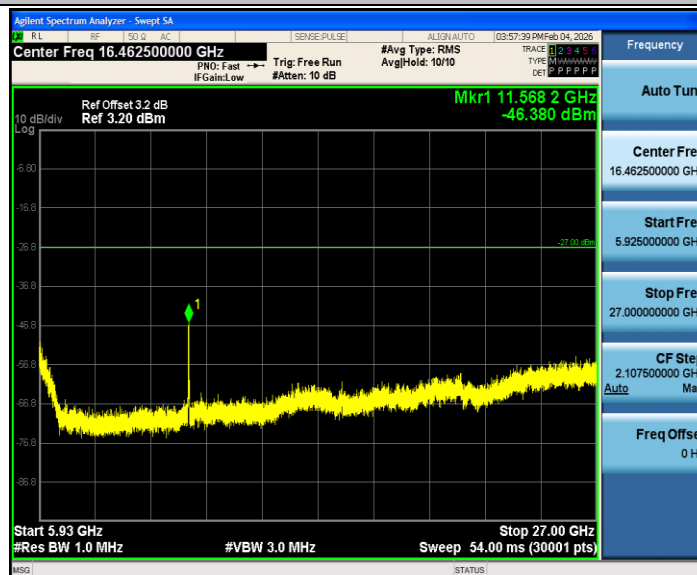
11A\_Ant1\_5745\_5925~40000



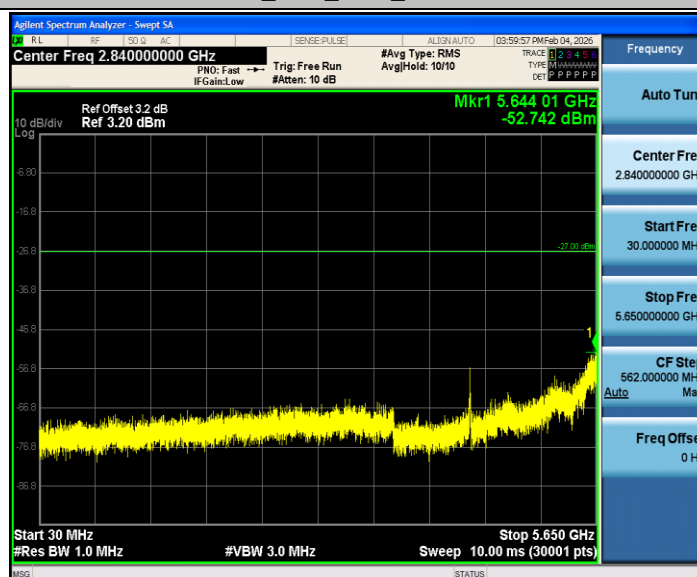
11A\_Ant1\_5785\_30~5650



11A\_Ant1\_5785\_5925~40000



11A\_Ant1\_5825\_30~5650



# 11A\_Ant1\_5825\_5925~40000



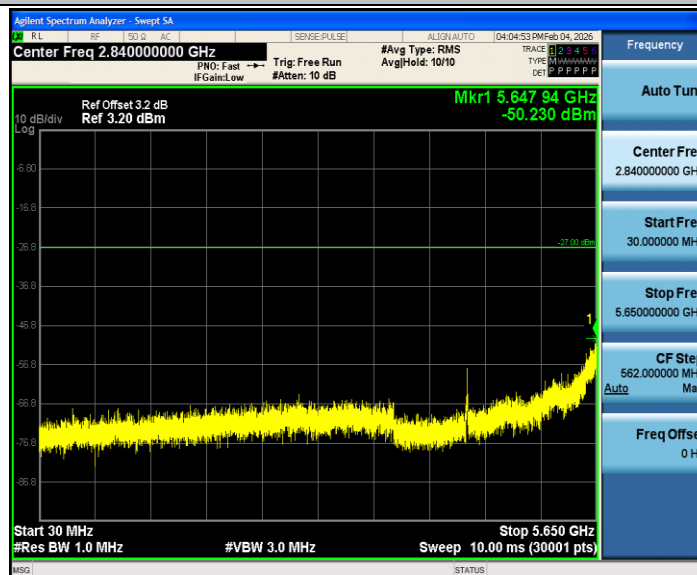
# 11N20SISO\_Ant1\_5745\_30~5650



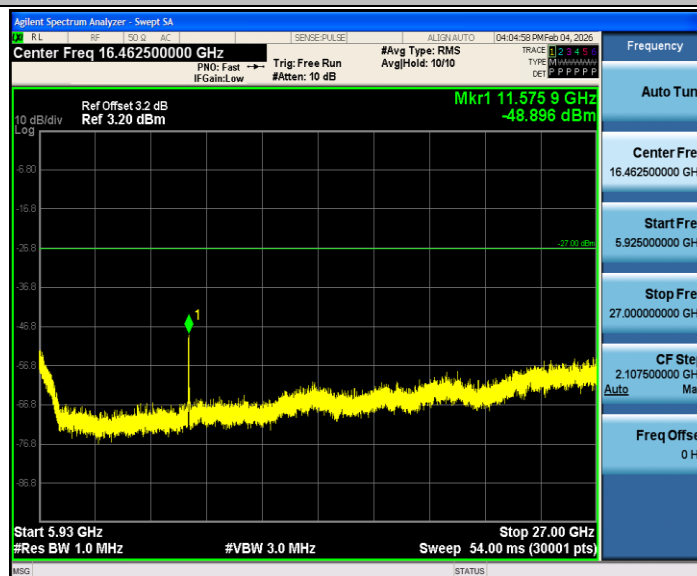
# 11N20SISO\_Ant1\_5745\_5925~40000



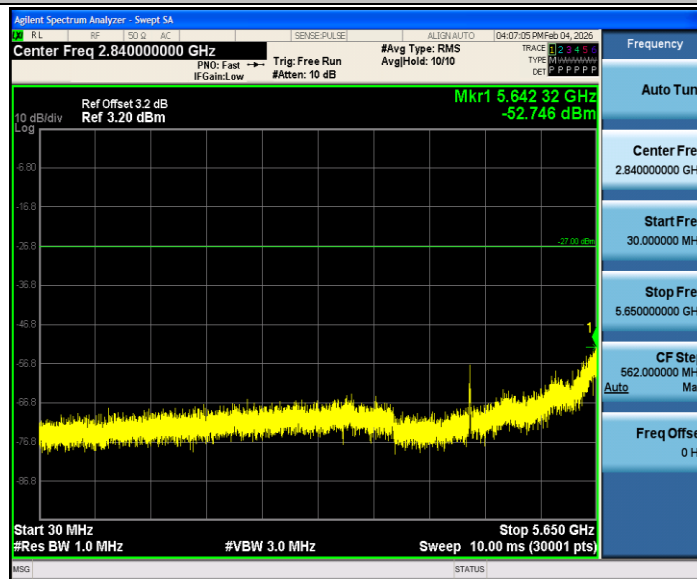
11N20SISO\_Ant1\_5785\_30~5650



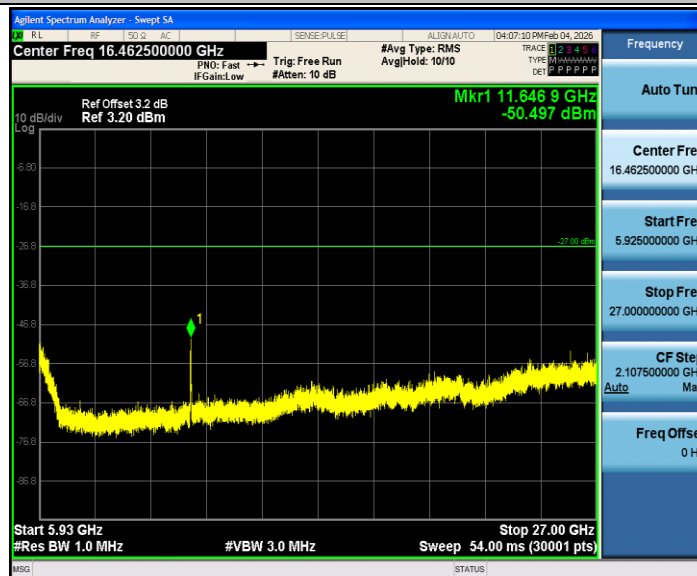
11N20SISO\_Ant1\_5785\_5925~40000



# 11N20SISO\_Ant1\_5825\_30~5650



# 11N20SISO\_Ant1\_5825\_5925~40000



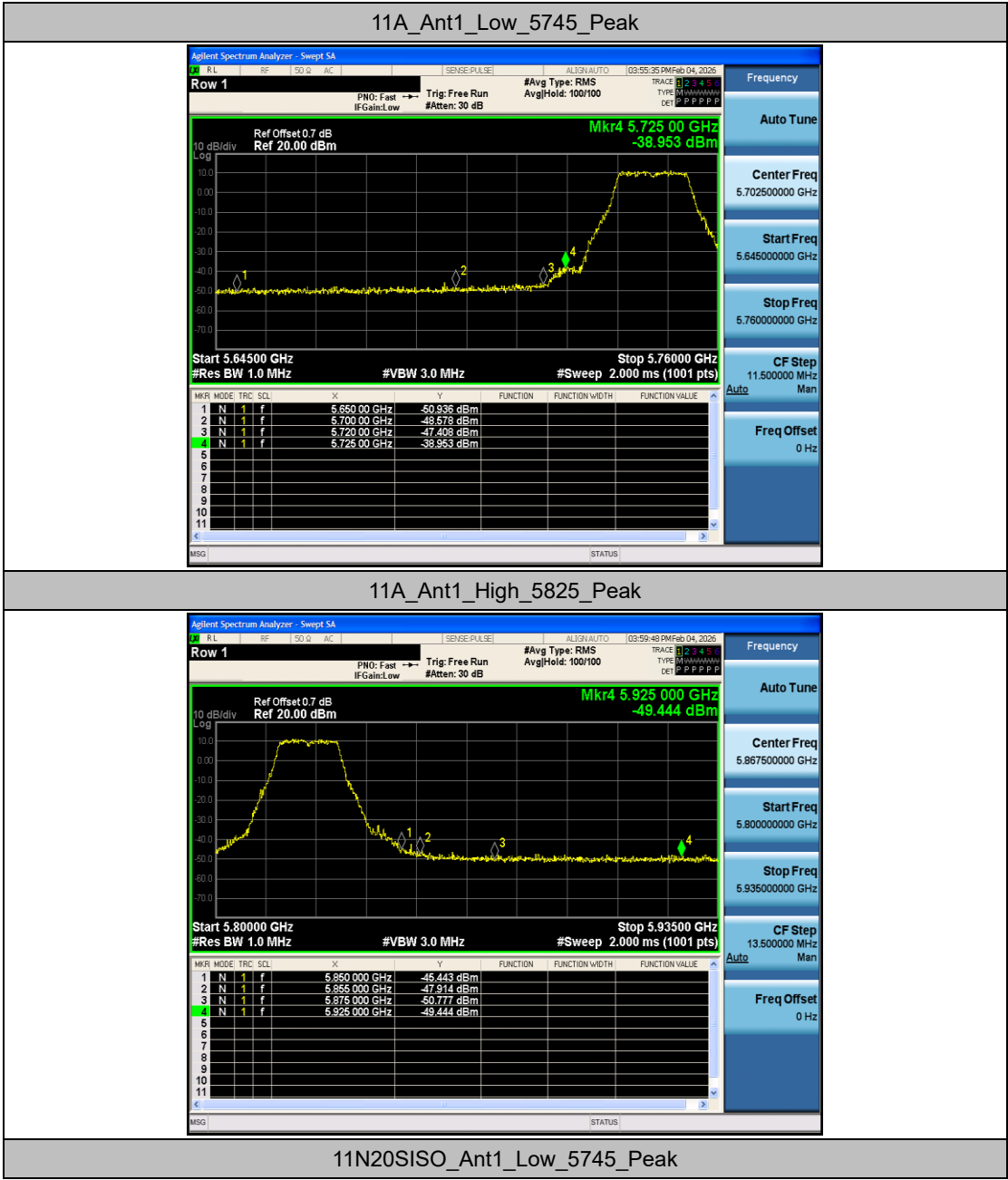
## Appendix G: Emissions in Restricted Bands

### Test Result

| TestMode  | ChName | Freq(MHz) | Detector | Freq [MHz] | Result [dBm] | Gain [dB] | EIRP [dBm] | Limit [dBm] | Verdict |
|-----------|--------|-----------|----------|------------|--------------|-----------|------------|-------------|---------|
| 11A       | Low    | 5745      | Peak     | 5650.000   | -50.936      | 2.00      | -48.936    | ≤-27.00     | PASS    |
|           |        |           | Peak     | 5700.000   | -48.58       | 2.00      | -46.58     | ≤10.00      | PASS    |
|           |        |           | Peak     | 5720.000   | -47.41       | 2.00      | -45.41     | ≤15.60      | PASS    |
|           |        |           | Peak     | 5725.000   | -38.95       | 2.00      | -36.95     | ≤27.00      | PASS    |
|           | High   | 5825      | Peak     | 5850.000   | -45.443      | 2.00      | -43.443    | ≤27.00      | PASS    |
|           |        |           | Peak     | 5855.000   | -47.91       | 2.00      | -45.91     | ≤15.60      | PASS    |
|           |        |           | Peak     | 5875.000   | -50.78       | 2.00      | -48.78     | ≤10.00      | PASS    |
|           |        |           | Peak     | 5925.000   | -49.44       | 2.00      | -47.44     | ≤-27.00     | PASS    |
| 11N20SISO | Low    | 5745      | Peak     | 5650.000   | -51.47       | 2.00      | -49.47     | ≤-27.00     | PASS    |
|           |        |           | Peak     | 5700.000   | -48.96       | 2.00      | -46.96     | ≤10.00      | PASS    |
|           |        |           | Peak     | 5720.000   | -46.65       | 2.00      | -44.65     | ≤15.60      | PASS    |
|           |        |           | Peak     | 5725.000   | -40.87       | 2.00      | -38.87     | ≤27.00      | PASS    |
|           | High   | 5825      | Peak     | 5850.000   | -43.666      | 2.00      | -41.666    | ≤27.00      | PASS    |
|           |        |           | Peak     | 5855.000   | -47.37       | 2.00      | -45.37     | ≤15.60      | PASS    |
|           |        |           | Peak     | 5875.000   | -49.59       | 2.00      | -47.59     | ≤10.00      | PASS    |
|           |        |           | Peak     | 5925.000   | -50.86       | 2.00      | -48.86     | ≤-27.00     | PASS    |

Note: For transmitters operating in 5150-5350 GHz band and 5470-5725 GHz band: The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs





11N20SISO\_Ant1\_High\_5825\_Peak

