

## **Appendix RF Test Data for 2.4GWIFI**

**FCC ID** : 2BRMD-S200

**Company** : Guangzhou Lotson International Trading Co., Ltd.

**EUT** : Scent Diffuser

**Model Number** : S200

**Report No.** : CTA25062100502

**Reviewed By** : Eric Wang

## Appendix A: DTS Bandwidth

### Test Result

| TestMode  | Antenna | Frequency[MHz] | DTS BW [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|-----------|---------|----------------|--------------|----------|----------|------------|---------|
| 11B       | Ant1    | 2412           | 9.560        | 2407.440 | 2417.000 | 0.5        | PASS    |
|           |         | 2437           | 9.040        | 2432.000 | 2441.040 | 0.5        | PASS    |
|           |         | 2462           | 10.040       | 2457.000 | 2467.040 | 0.5        | PASS    |
| 11G       | Ant1    | 2412           | 15.720       | 2404.440 | 2420.160 | 0.5        | PASS    |
|           |         | 2437           | 15.680       | 2429.480 | 2445.160 | 0.5        | PASS    |
|           |         | 2462           | 16.080       | 2454.120 | 2470.200 | 0.5        | PASS    |
| 11N20SISO | Ant1    | 2412           | 16.320       | 2404.440 | 2420.760 | 0.5        | PASS    |
|           |         | 2437           | 15.920       | 2429.480 | 2445.400 | 0.5        | PASS    |
|           |         | 2462           | 16.920       | 2453.720 | 2470.640 | 0.5        | PASS    |
| 11N40SISO | Ant1    | 2422           | 35.360       | 2404.480 | 2439.840 | 0.5        | PASS    |
|           |         | 2437           | 35.120       | 2419.480 | 2454.600 | 0.5        | PASS    |
|           |         | 2452           | 35.280       | 2434.320 | 2469.600 | 0.5        | PASS    |

## Test Graphs

11B\_Ant1\_2412



11B\_Ant1\_2437



11B\_Ant1\_2462



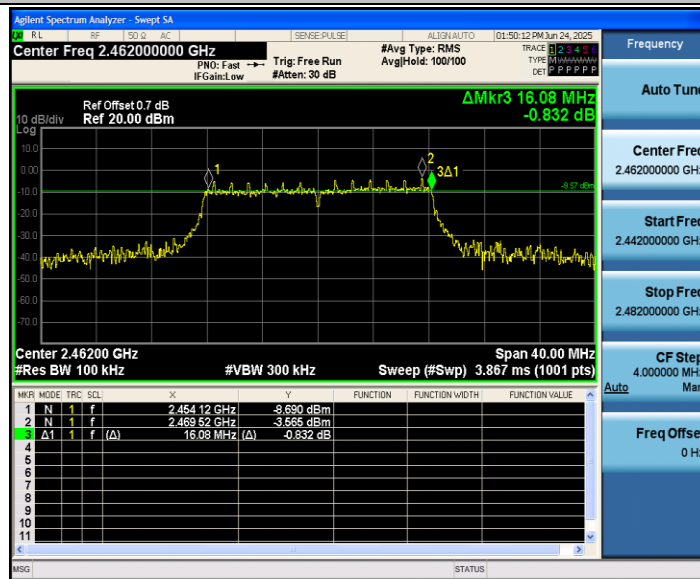
11G\_Ant1\_2412



11G\_Ant1\_2437



# 11G\_Ant1\_2462



# 11N20SISO\_Ant1\_2412



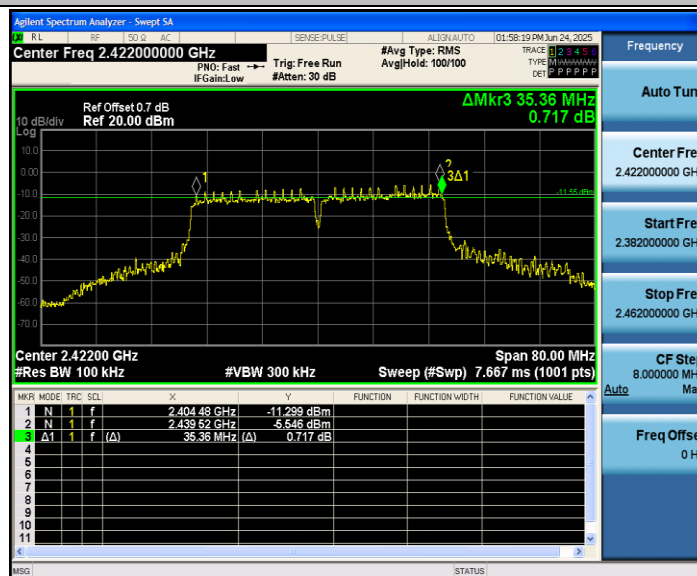
# 11N20SISO\_Ant1\_2437



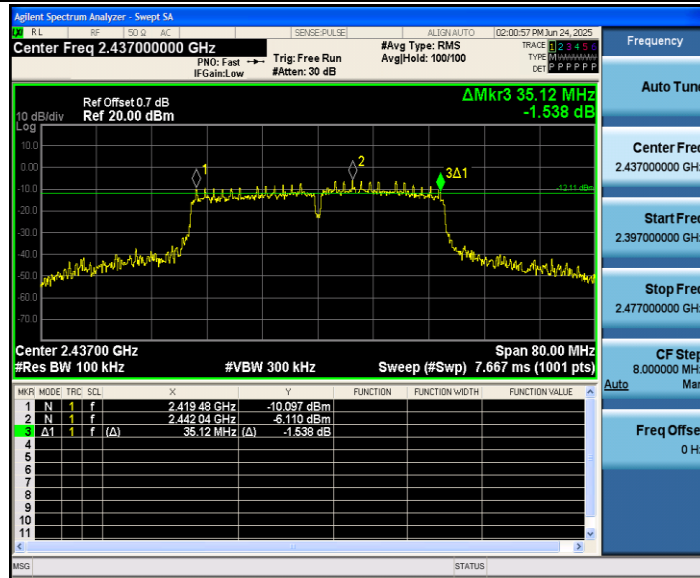
11N20SISO\_Ant1\_2462



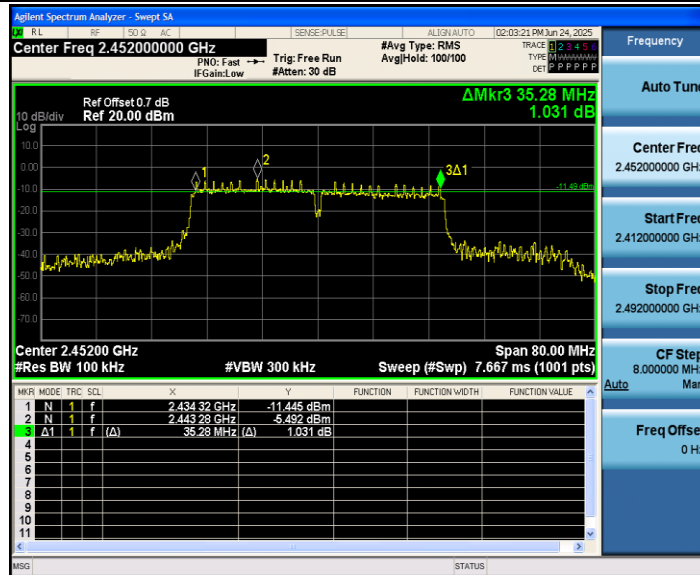
11N40SISO\_Ant1\_2422



# 11N40SISO\_Ant1\_2437



# 11N40SISO\_Ant1\_2452



## Appendix B: Occupied Channel Bandwidth

### Test Result

| TestMode  | Antenna | Channel<br>Frequency[MHz] | OCB<br>[MHz] | FL[MHz]   | FH[MHz]   | Limit[MHz] | Verdict |
|-----------|---------|---------------------------|--------------|-----------|-----------|------------|---------|
| 11B       | Ant1    | 2412                      | 12.361       | 2405.7577 | 2418.1187 | ---        | ---     |
|           |         | 2437                      | 11.542       | 2431.0010 | 2442.5430 | ---        | ---     |
|           |         | 2462                      | 12.709       | 2455.4534 | 2468.1624 | ---        | ---     |
| 11G       | Ant1    | 2412                      | 16.805       | 2403.7621 | 2420.5671 | ---        | ---     |
|           |         | 2437                      | 16.661       | 2428.8238 | 2445.4848 | ---        | ---     |
|           |         | 2462                      | 16.964       | 2453.6366 | 2470.6006 | ---        | ---     |
| 11N20SISO | Ant1    | 2412                      | 17.935       | 2403.2446 | 2421.1796 | ---        | ---     |
|           |         | 2437                      | 17.655       | 2428.3112 | 2445.9662 | ---        | ---     |
|           |         | 2462                      | 18.045       | 2453.1169 | 2471.1619 | ---        | ---     |
| 11N40SISO | Ant1    | 2422                      | 36.305       | 2404.2206 | 2440.5256 | ---        | ---     |
|           |         | 2437                      | 36.057       | 2419.0376 | 2455.0946 | ---        | ---     |
|           |         | 2452                      | 36.457       | 2433.8310 | 2470.2880 | ---        | ---     |

## Test Graphs

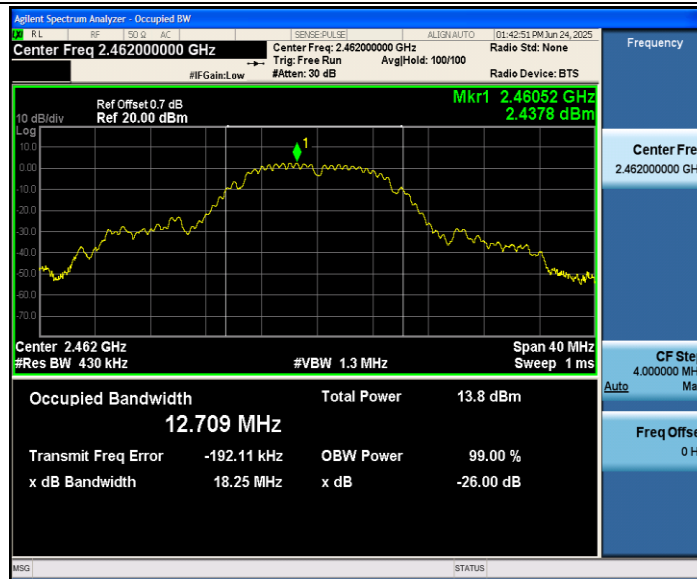
11B\_Ant1\_2412



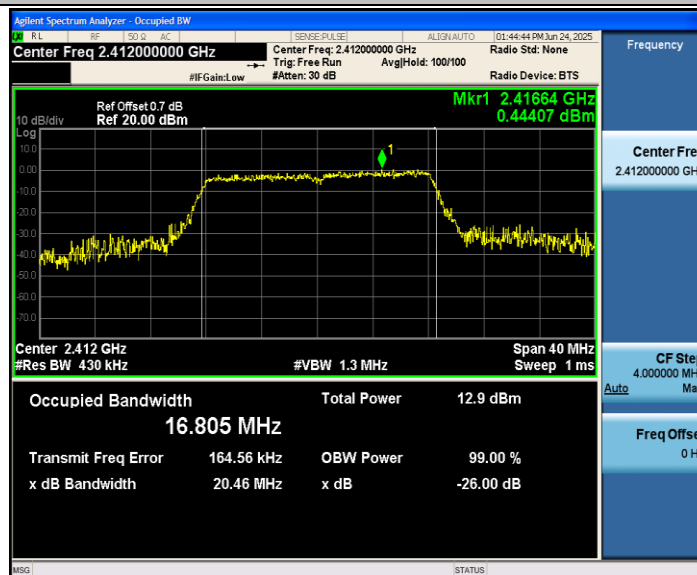
11B\_Ant1\_2437



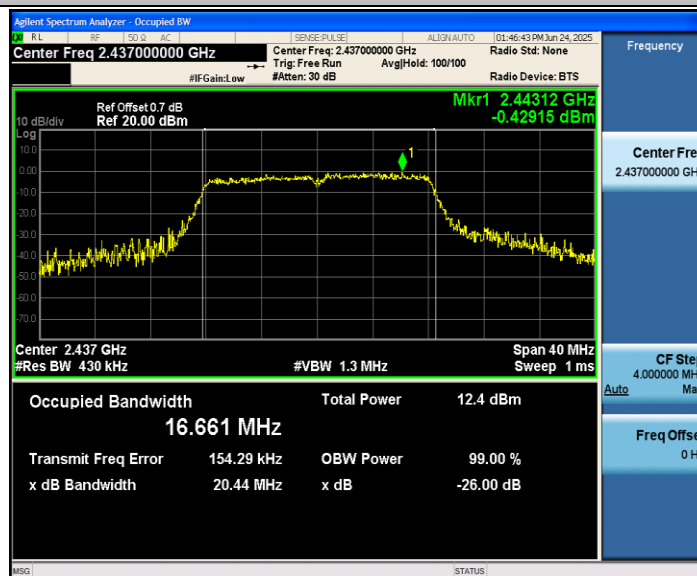
11B\_Ant1\_2462



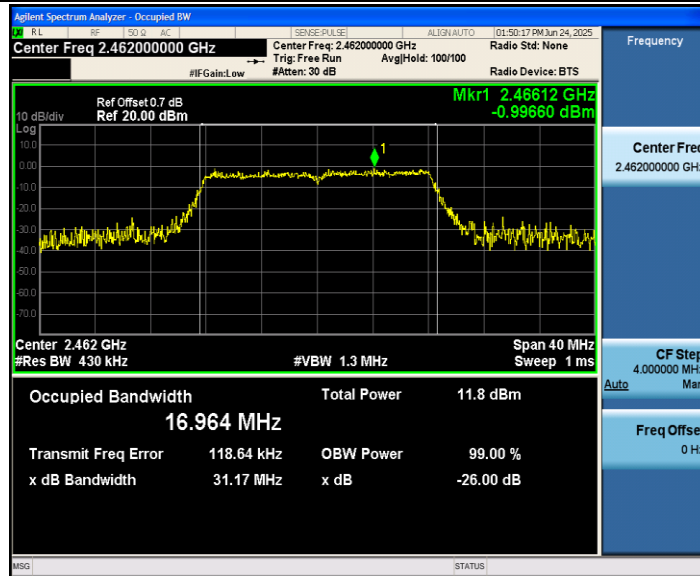
11G\_Ant1\_2412



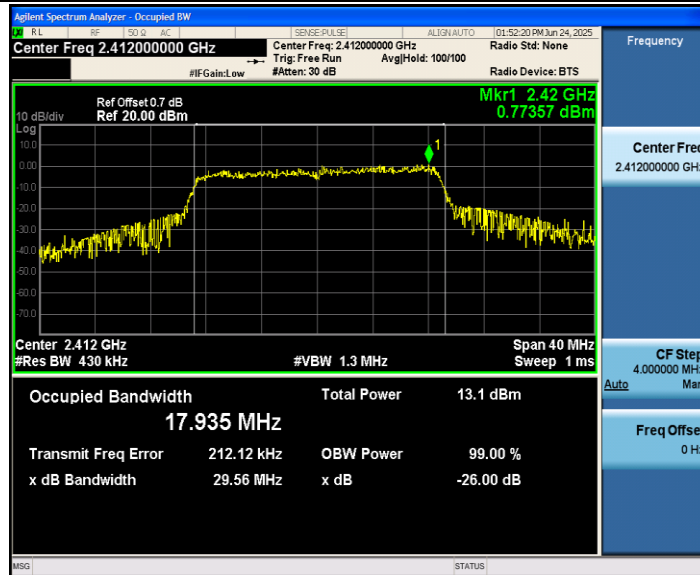
11G\_Ant1\_2437



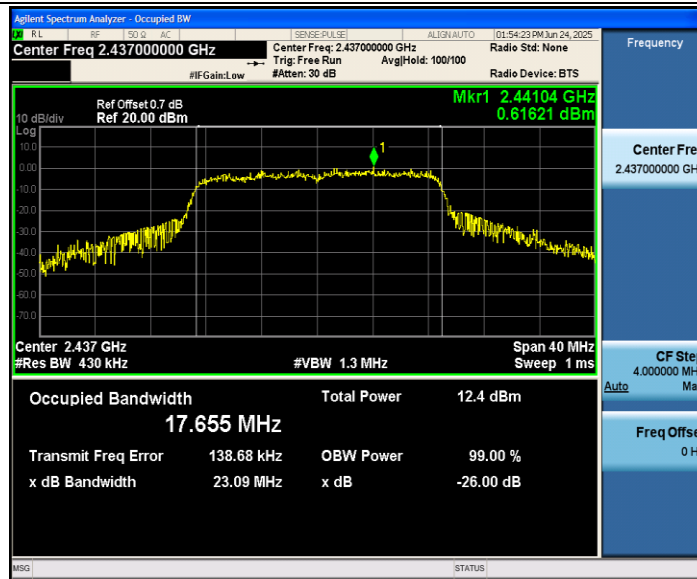
# 11G\_Ant1\_2462



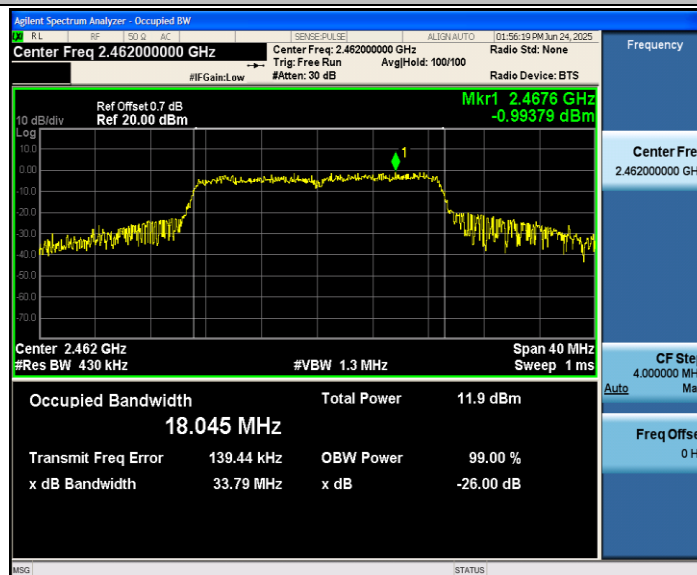
# 11N20SISO\_Ant1\_2412



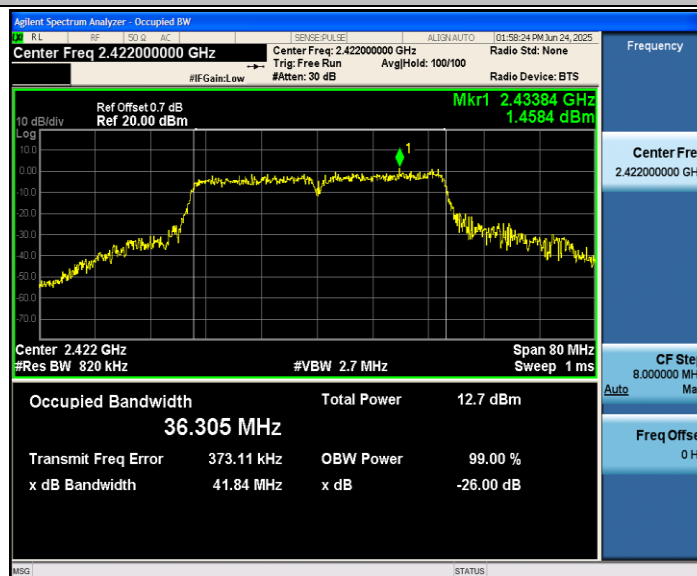
# 11N20SISO\_Ant1\_2437



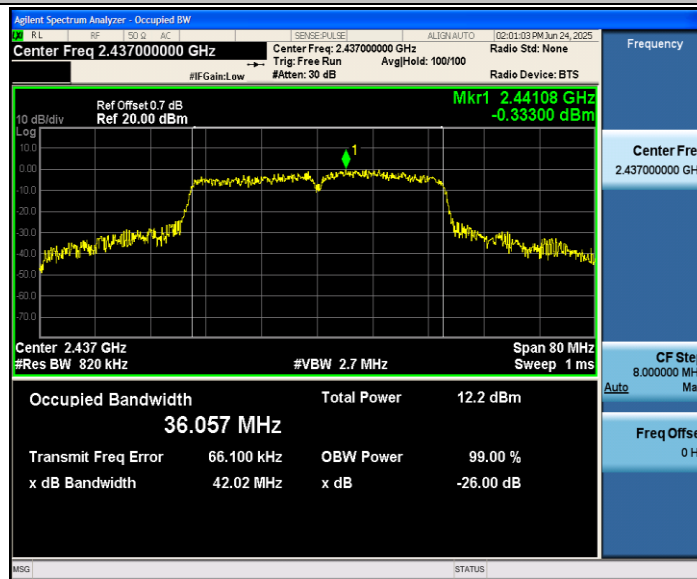
11N20SISO\_Ant1\_2462



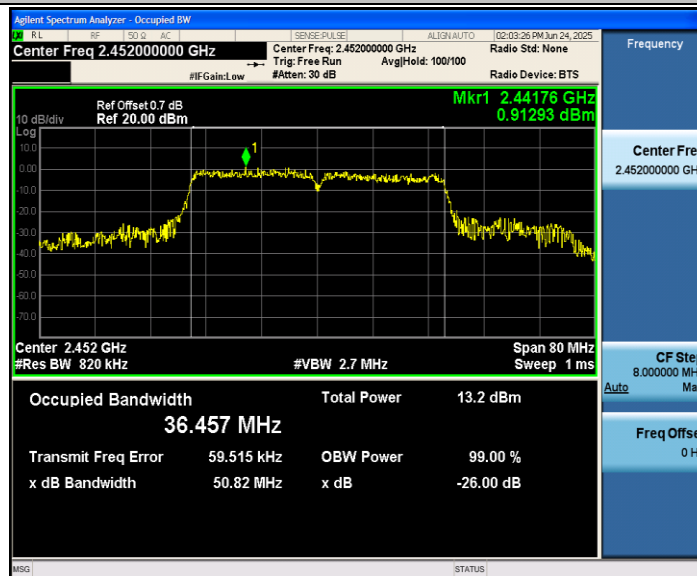
11N40SISO\_Ant1\_2422



# 11N40SISO\_Ant1\_2437



# 11N40SISO\_Ant1\_2452



## Appendix C: Maximum conducted output power

### Test Result Peak

| Test Mode | Antenna | Frequency[MHz] | Peak power [dBm] | Limit [dBm] | Verdict |
|-----------|---------|----------------|------------------|-------------|---------|
| 11B       | Ant1    | 2412           | 14.69            | ≤30.00      | PASS    |
|           |         | 2437           | 13.57            | ≤30.00      | PASS    |
|           |         | 2462           | 13.73            | ≤30.00      | PASS    |
| 11G       | Ant1    | 2412           | 13.64            | ≤30.00      | PASS    |
|           |         | 2437           | 13.01            | ≤30.00      | PASS    |
|           |         | 2462           | 12.58            | ≤30.00      | PASS    |
| 11N20SISO | Ant1    | 2412           | 13.77            | ≤30.00      | PASS    |
|           |         | 2437           | 12.82            | ≤30.00      | PASS    |
|           |         | 2462           | 12.47            | ≤30.00      | PASS    |
| 11N40SISO | Ant1    | 2422           | 12.97            | ≤30.00      | PASS    |
|           |         | 2437           | 12.25            | ≤30.00      | PASS    |
|           |         | 2452           | 13.42            | ≤30.00      | PASS    |

## Appendix D: Maximum power spectral density

### Test Result

| TestMode  | Antenna | Frequency[MHz] | Result[dBm/3-100kHz] | Limit[dBm/3kHz] | Verdict |
|-----------|---------|----------------|----------------------|-----------------|---------|
| 11B       | Ant1    | 2412           | -10.78               | ≤8.00           | PASS    |
|           |         | 2437           | -11.58               | ≤8.00           | PASS    |
|           |         | 2462           | -12.05               | ≤8.00           | PASS    |
| 11G       | Ant1    | 2412           | -17.67               | ≤8.00           | PASS    |
|           |         | 2437           | -18.03               | ≤8.00           | PASS    |
|           |         | 2462           | -19.81               | ≤8.00           | PASS    |
| 11N20SISO | Ant1    | 2412           | -18.38               | ≤8.00           | PASS    |
|           |         | 2437           | -18.54               | ≤8.00           | PASS    |
|           |         | 2462           | -19.06               | ≤8.00           | PASS    |
| 11N40SISO | Ant1    | 2422           | -19.92               | ≤8.00           | PASS    |
|           |         | 2437           | -21.03               | ≤8.00           | PASS    |
|           |         | 2452           | -20.70               | ≤8.00           | PASS    |

## Test Graphs

11B\_Ant1\_2412



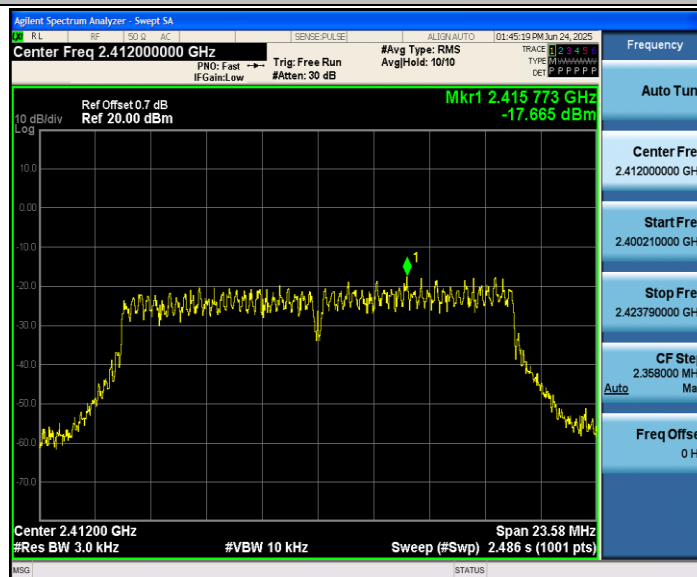
11B\_Ant1\_2437



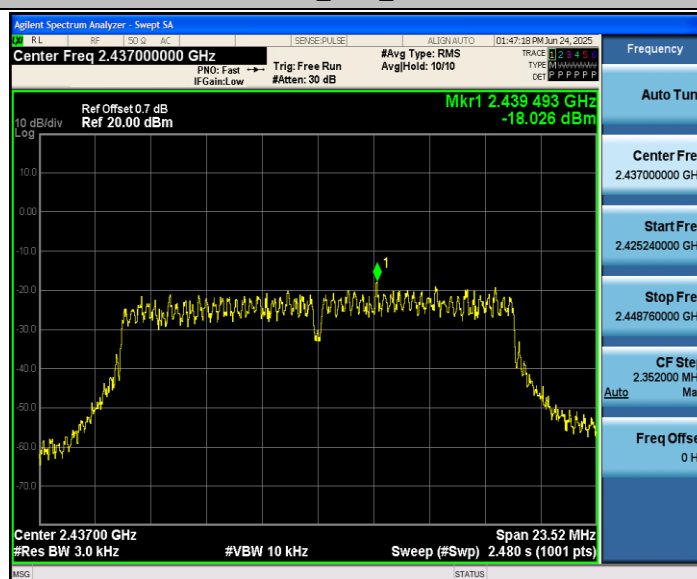
11B\_Ant1\_2462



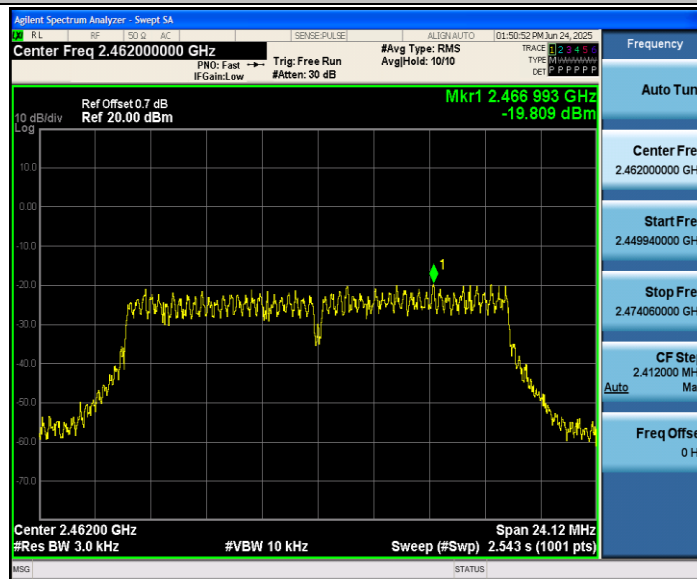
11G\_Ant1\_2412



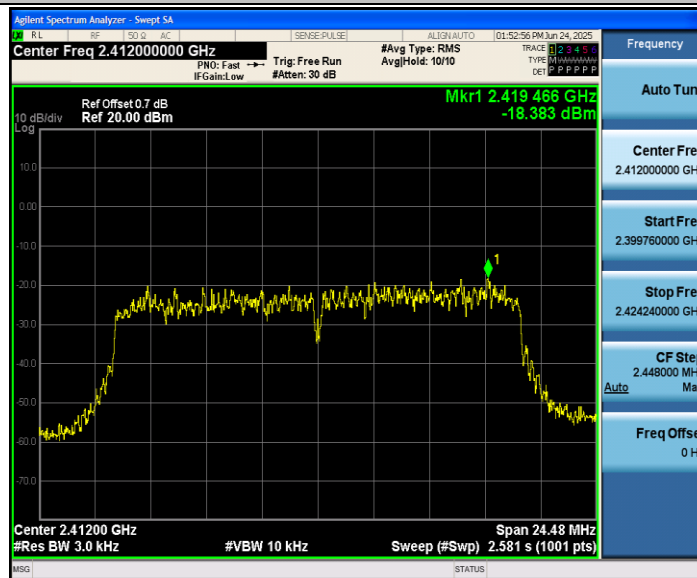
11G\_Ant1\_2437



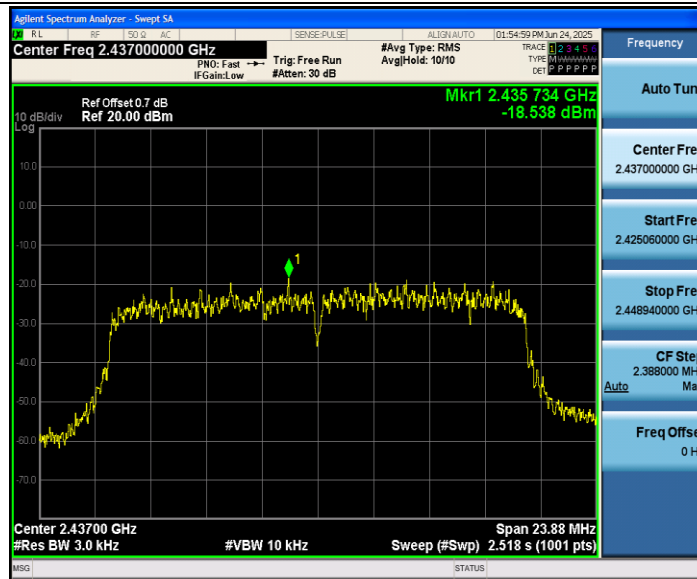
# 11G\_Ant1\_2462



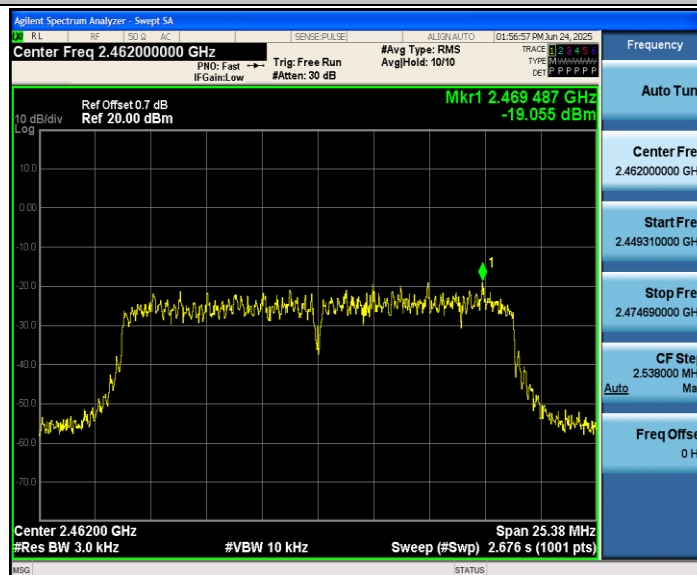
# 11N20SISO\_Ant1\_2412



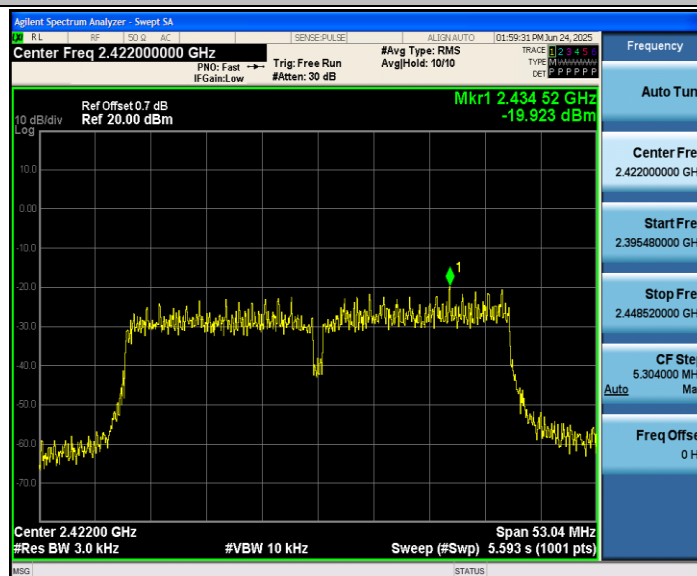
# 11N20SISO\_Ant1\_2437



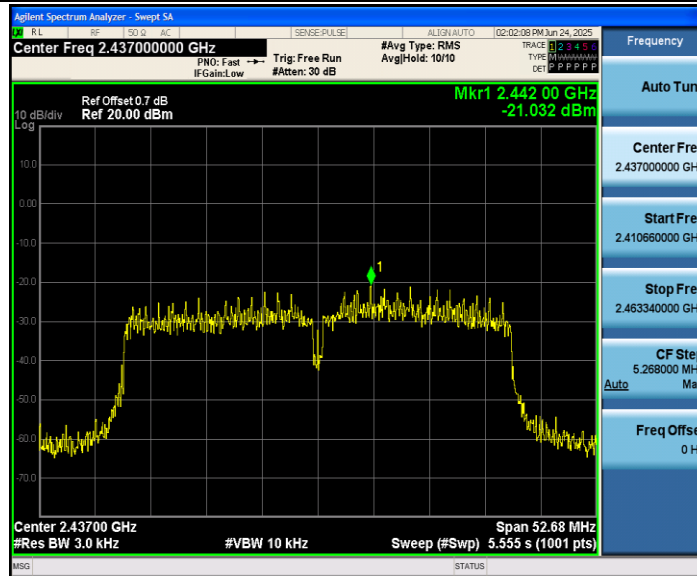
11N20SISO\_Ant1\_2462



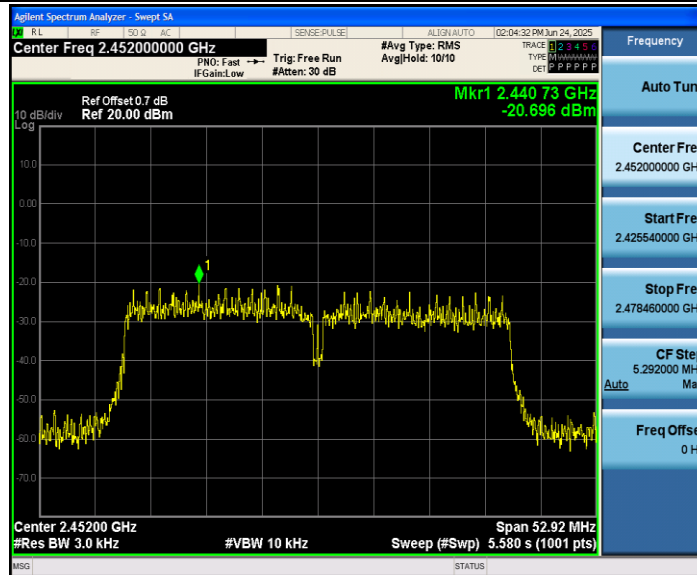
11N40SISO\_Ant1\_2422



# 11N40SISO\_Ant1\_2437



# 11N40SISO\_Ant1\_2452



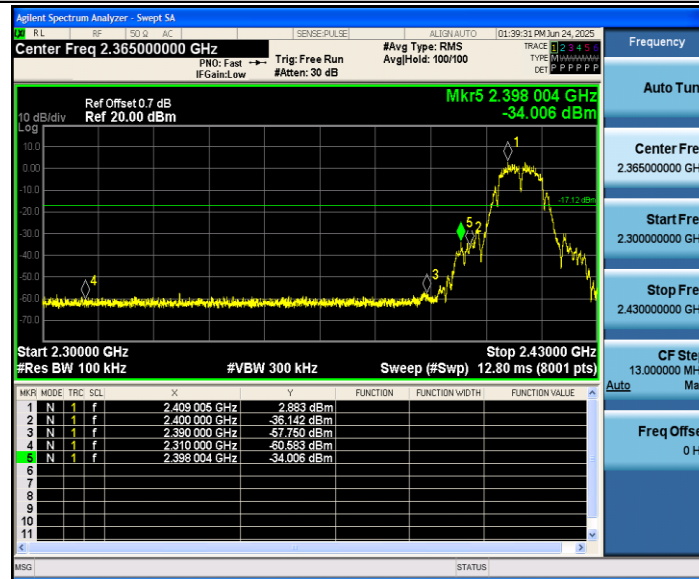
## Appendix E: Band edge measurements

### Test Result

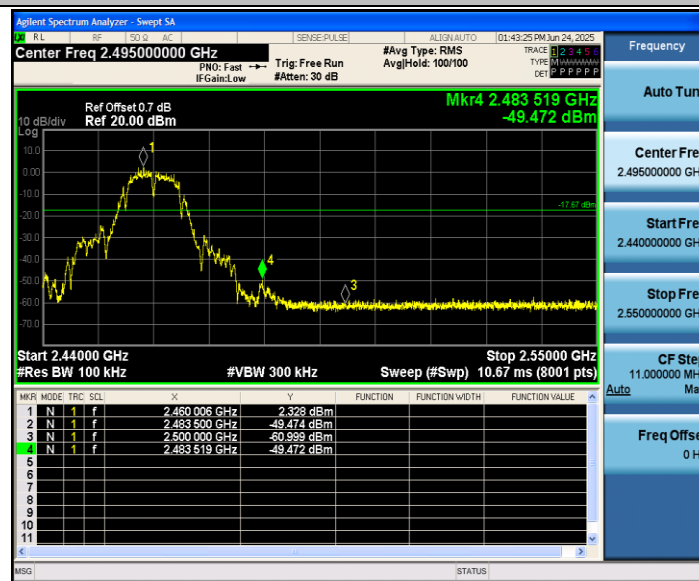
| TestMode  | Antenna | Channel Name | Frequency[MHz] | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|-----------|---------|--------------|----------------|---------------|-------------|------------|---------|
| 11B       | Ant1    | Low          | 2412           | 2.88          | -34.01      | ≤-17.12    | PASS    |
|           |         | High         | 2462           | 2.33          | -49.47      | ≤-17.67    | PASS    |
| 11G       | Ant1    | Low          | 2412           | -2.16         | -35.47      | ≤-22.16    | PASS    |
|           |         | High         | 2462           | -3.61         | -38.64      | ≤-23.61    | PASS    |
| 11N20SISO | Ant1    | Low          | 2412           | -2.06         | -35.69      | ≤-22.06    | PASS    |
|           |         | High         | 2462           | -3.64         | -40.91      | ≤-23.64    | PASS    |
| 11N40SISO | Ant1    | Low          | 2422           | -5.53         | -39.46      | ≤-25.53    | PASS    |
|           |         | High         | 2452           | -5.59         | -35.94      | ≤-25.59    | PASS    |

## Test Graphs

11B\_Ant1\_Low\_2412



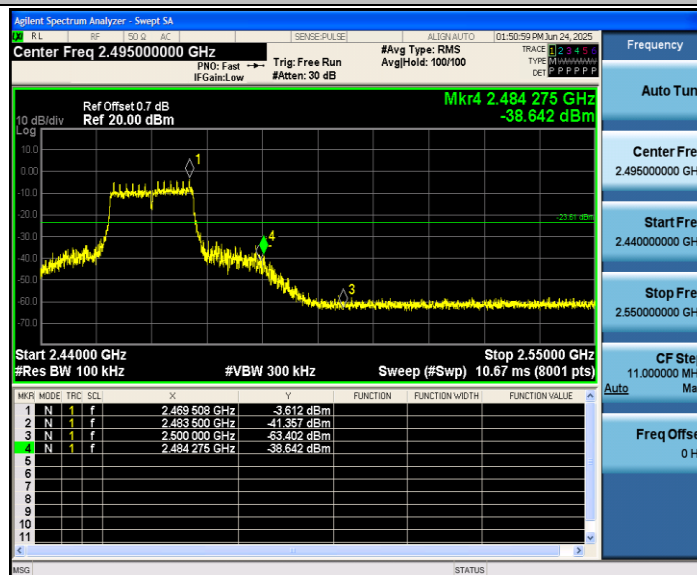
11B\_Ant1\_High\_2462



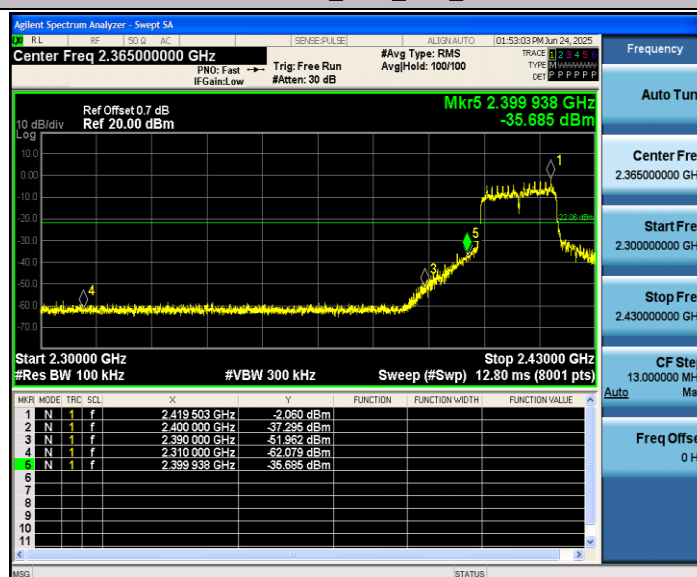
11G\_Ant1\_Low\_2412



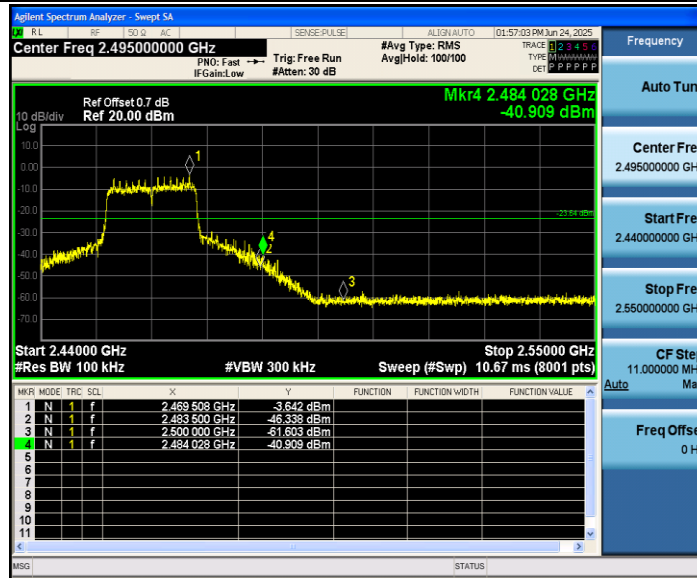
11G\_Ant1\_High\_2462



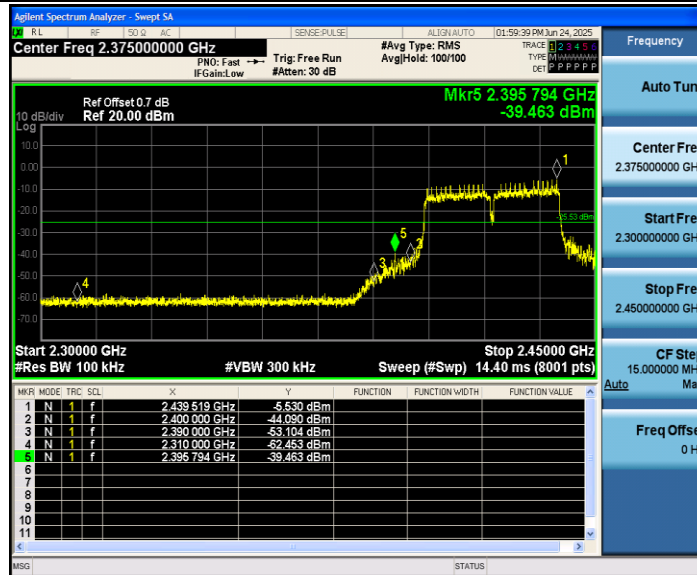
11N20SISO\_Ant1\_Low\_2412



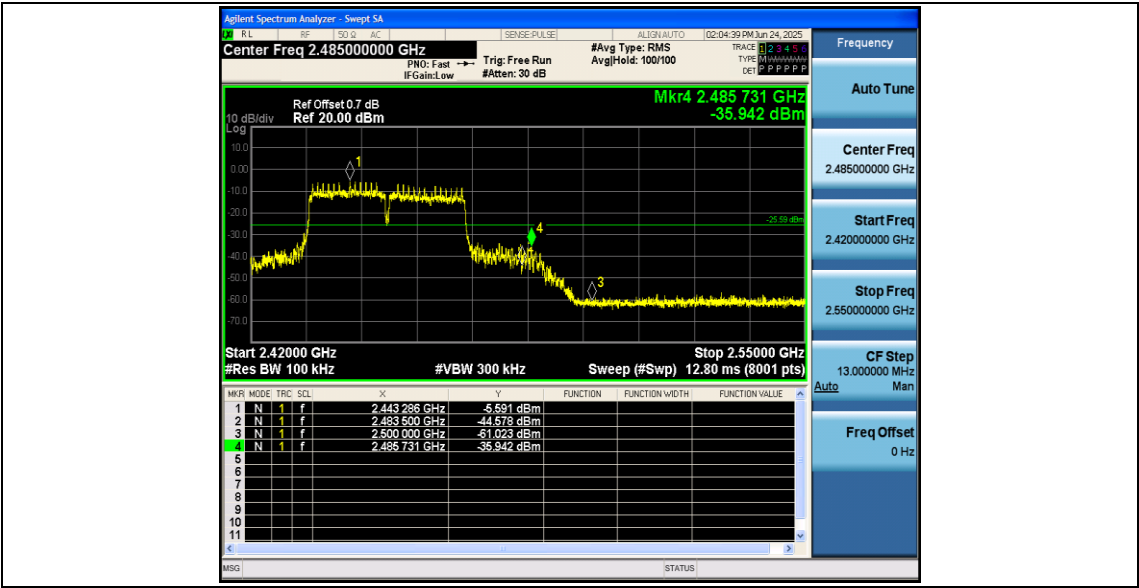
# 11N20SISO\_Ant1\_High\_2462



# 11N40SISO\_Ant1\_Low\_2422



# 11N40SISO\_Ant1\_High\_2452



## Appendix F: Conducted Spurious Emission

### Test Result

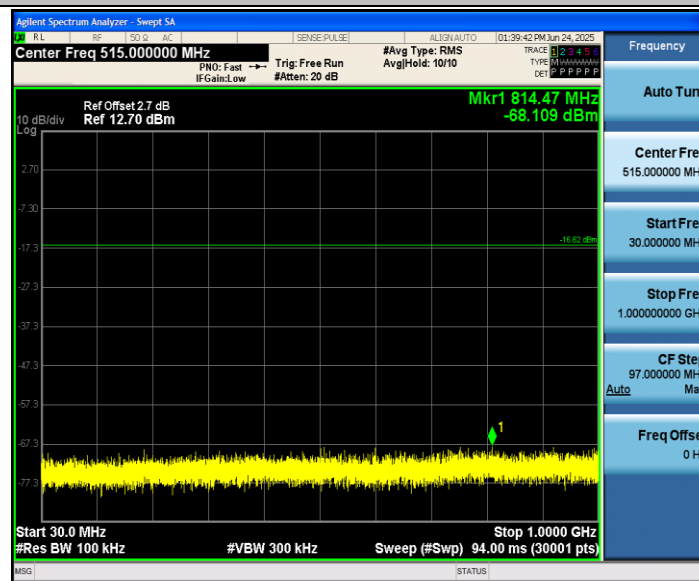
| TestMode  | Antenna | Frequency[MHz] | FreqRange [Mhz] | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|-----------|---------|----------------|-----------------|----------------|--------------|-------------|---------|
| 11B       | Ant1    | 2412           | Reference       | 3.38           | 3.38         | ---         | PASS    |
|           |         |                | 30~1000         | 3.38           | -68.11       | ≤-16.62     | PASS    |
|           |         |                | 1000~26500      | 3.38           | -39.15       | ≤-16.62     | PASS    |
|           |         | 2437           | Reference       | 0.57           | 0.57         | ---         | PASS    |
|           |         |                | 30~1000         | 0.57           | -66.96       | ≤-19.43     | PASS    |
|           |         |                | 1000~26500      | 0.57           | -37.31       | ≤-19.43     | PASS    |
|           |         | 2462           | Reference       | 1.36           | 1.36         | ---         | PASS    |
|           |         |                | 30~1000         | 1.36           | -67.64       | ≤-18.64     | PASS    |
|           |         |                | 1000~26500      | 1.36           | -30.69       | ≤-18.64     | PASS    |
| 11G       | Ant1    | 2412           | Reference       | -2.84          | -2.84        | ---         | PASS    |
|           |         |                | 30~1000         | -2.84          | -67.9        | ≤-22.84     | PASS    |
|           |         |                | 1000~26500      | -2.84          | -52.48       | ≤-22.84     | PASS    |
|           |         | 2437           | Reference       | -3.59          | -3.59        | ---         | PASS    |
|           |         |                | 30~1000         | -3.59          | -67.49       | ≤-23.59     | PASS    |
|           |         |                | 1000~26500      | -3.59          | -48.69       | ≤-23.59     | PASS    |
|           |         | 2462           | Reference       | -4.13          | -4.13        | ---         | PASS    |
|           |         |                | 30~1000         | -4.13          | -68.44       | ≤-24.13     | PASS    |
|           |         |                | 1000~26500      | -4.13          | -44.25       | ≤-24.13     | PASS    |
| 11N20SISO | Ant1    | 2412           | Reference       | -2.98          | -2.98        | ---         | PASS    |
|           |         |                | 30~1000         | -2.98          | -67.73       | ≤-22.98     | PASS    |
|           |         |                | 1000~26500      | -2.98          | -45.24       | ≤-22.98     | PASS    |
|           |         | 2437           | Reference       | -3.71          | -3.71        | ---         | PASS    |
|           |         |                | 30~1000         | -3.71          | -67.37       | ≤-23.71     | PASS    |
|           |         |                | 1000~26500      | -3.71          | -47.06       | ≤-23.71     | PASS    |
|           |         | 2462           | Reference       | -3.66          | -3.66        | ---         | PASS    |
|           |         |                | 30~1000         | -3.66          | -67.35       | ≤-23.66     | PASS    |
|           |         |                | 1000~26500      | -3.66          | -44.58       | ≤-23.66     | PASS    |
| 11N40SISO | Ant1    | 2422           | Reference       | -6.13          | -6.13        | ---         | PASS    |
|           |         |                | 30~1000         | -6.13          | -67.54       | ≤-26.13     | PASS    |
|           |         |                | 1000~26500      | -6.13          | -51.99       | ≤-26.13     | PASS    |
|           |         | 2437           | Reference       | -6.59          | -6.59        | ---         | PASS    |
|           |         |                | 30~1000         | -6.59          | -66.27       | ≤-26.59     | PASS    |
|           |         |                | 1000~26500      | -6.59          | -52.7        | ≤-26.59     | PASS    |
|           |         | 2452           | Reference       | -5.90          | -5.90        | ---         | PASS    |
|           |         |                | 30~1000         | -5.90          | -67.19       | ≤-25.9      | PASS    |
|           |         |                | 1000~26500      | -5.90          | -49.07       | ≤-25.9      | PASS    |

## Test Graphs

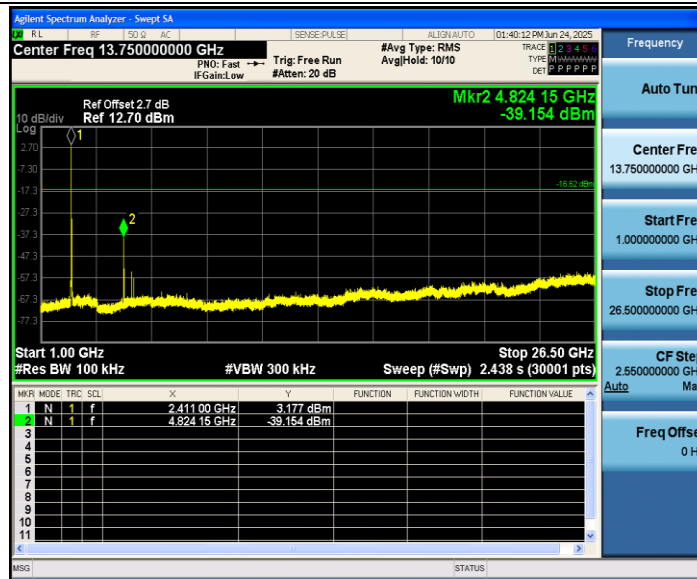
11B\_Ant1\_2412\_0~Reference



11B\_Ant1\_2412\_30~1000



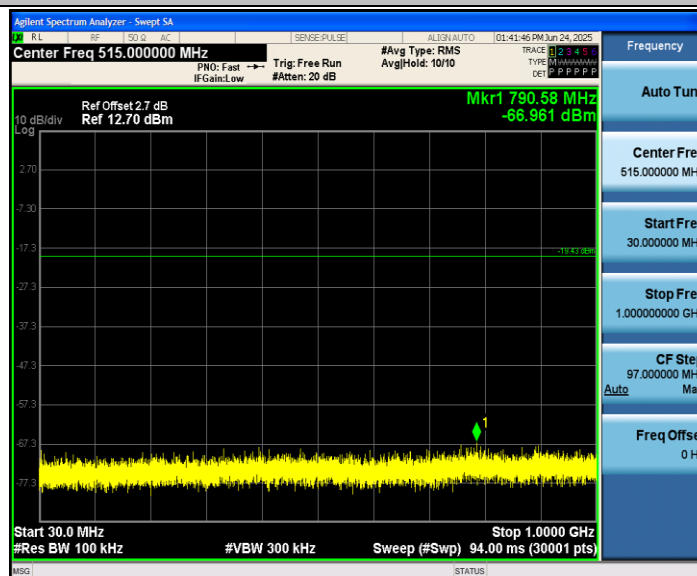
11B\_Ant1\_2412\_1000~26500



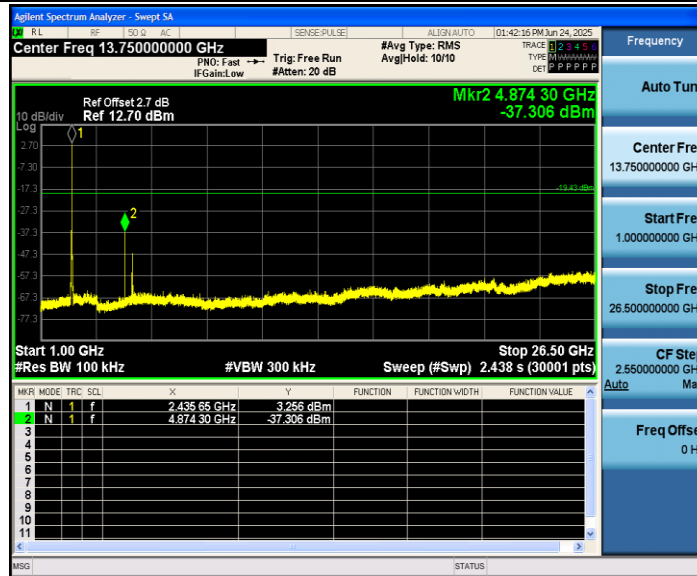
11B\_Ant1\_2437\_0~Reference



11B\_Ant1\_2437\_30~1000



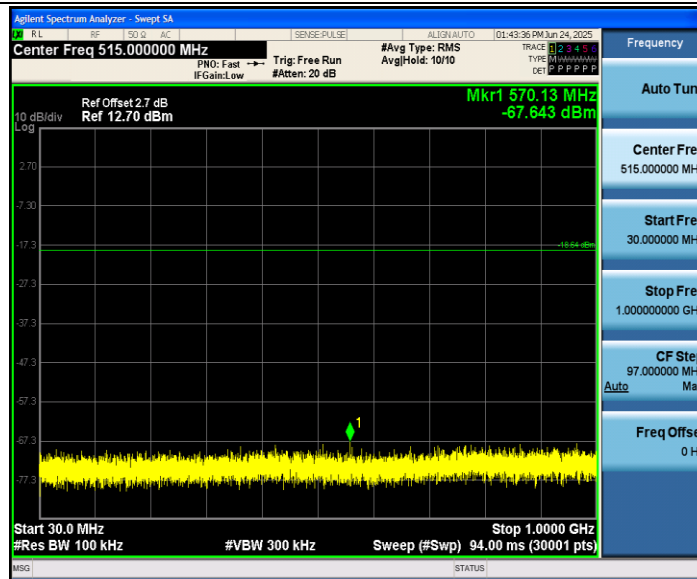
# 11B\_Ant1\_2437\_1000~26500



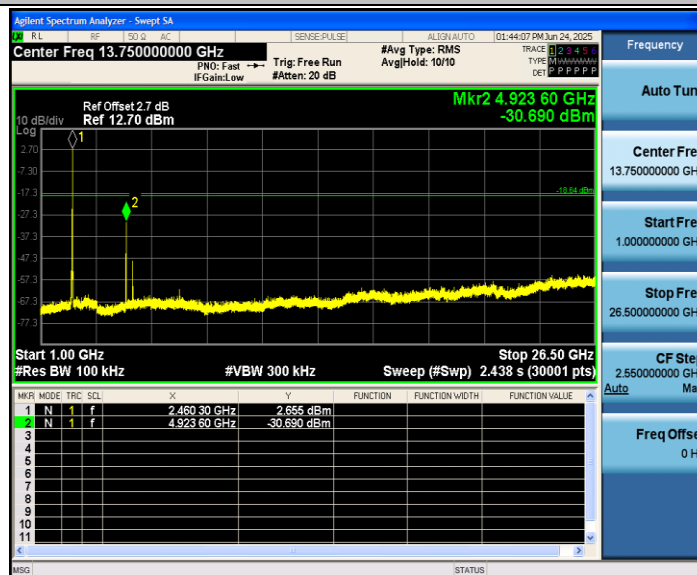
# 11B\_Ant1\_2462\_0~Reference



# 11B\_Ant1\_2462\_30~1000



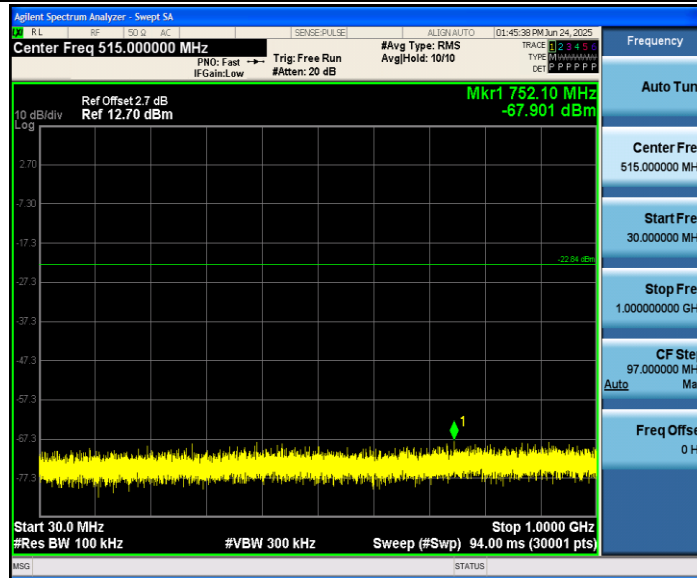
11B\_Ant1\_2462\_1000~26500



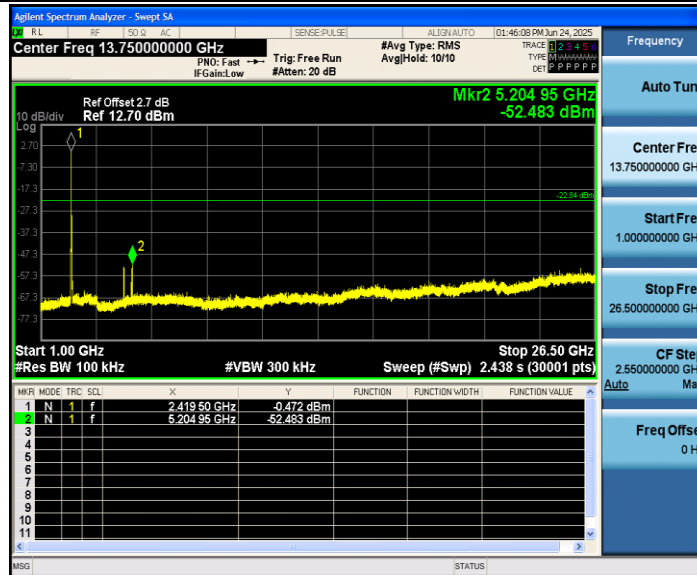
11G\_Ant1\_2412\_0~Reference



# 11G\_Ant1\_2412\_30~1000



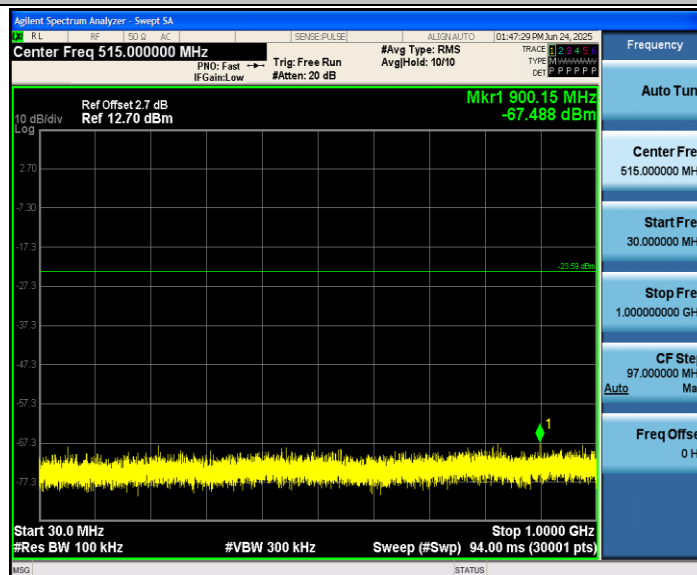
# 11G\_Ant1\_2412\_1000~26500



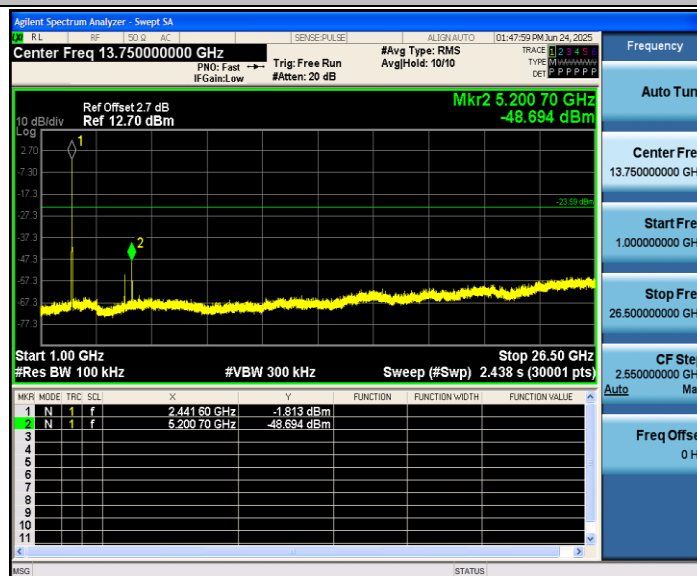
# 11G\_Ant1\_2437\_0~Reference



11G\_Ant1\_2437\_30~1000



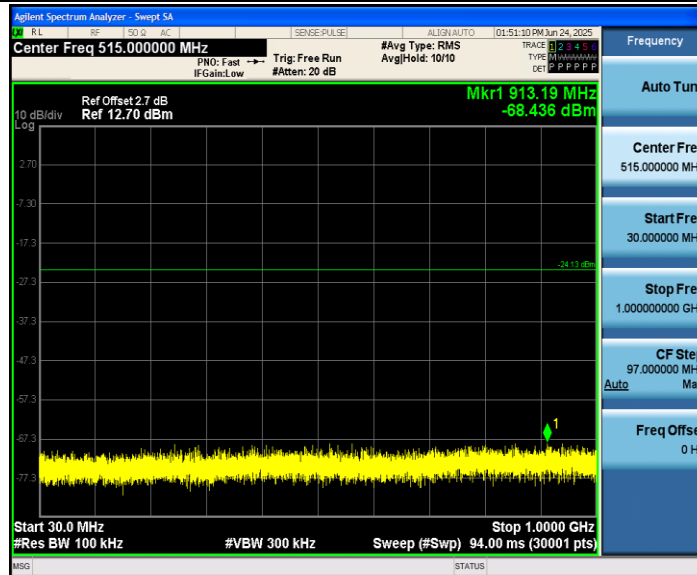
11G\_Ant1\_2437\_1000~26500



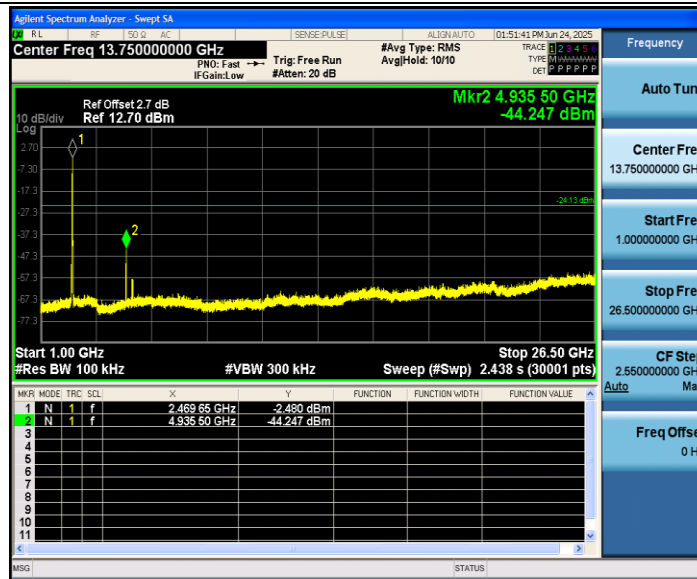
# 11G\_Ant1\_2462\_0~Reference



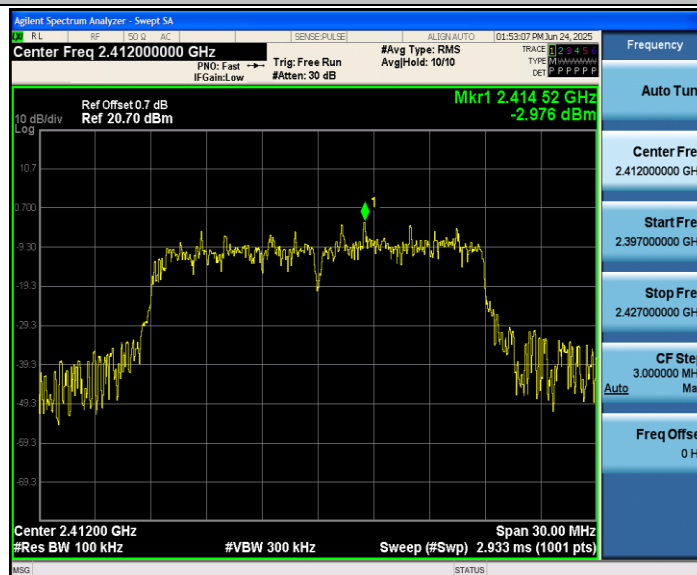
# 11G\_Ant1\_2462\_30~1000



# 11G\_Ant1\_2462\_1000~26500



11N20SISO\_Ant1\_2412\_0~Reference



11N20SISO\_Ant1\_2412\_30~1000

