



## Appendix A

### RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Trail camera

Test Model: REVEAL XB

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 21.6° C   |
| Relative Humidity: | 52.7%     |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Jay Li    |
| Supervised by:     | Li Huan   |

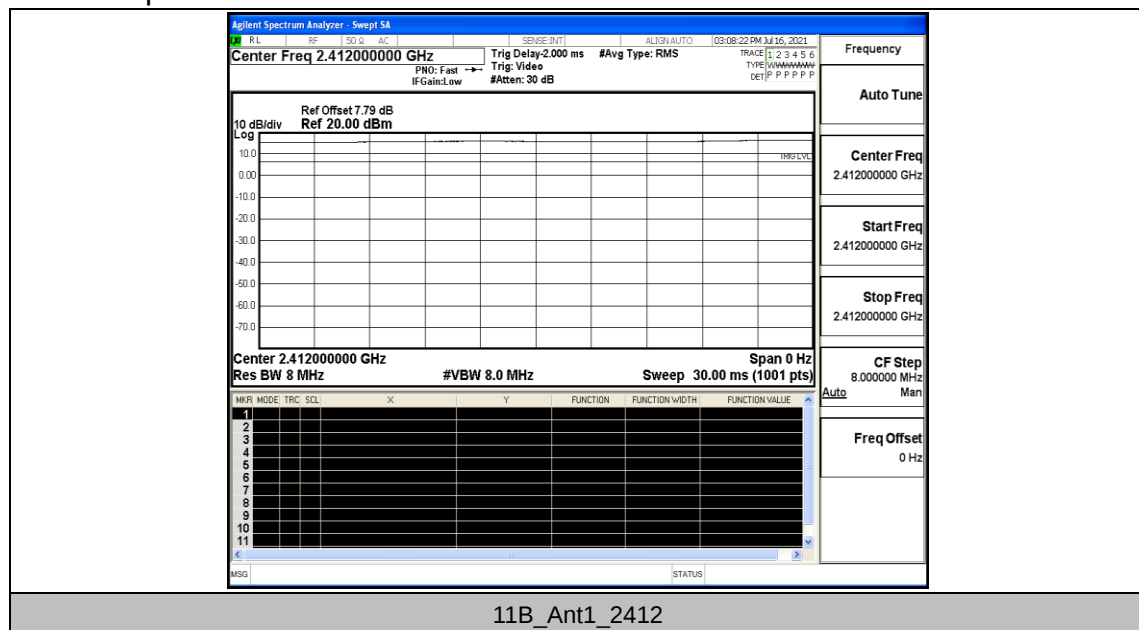


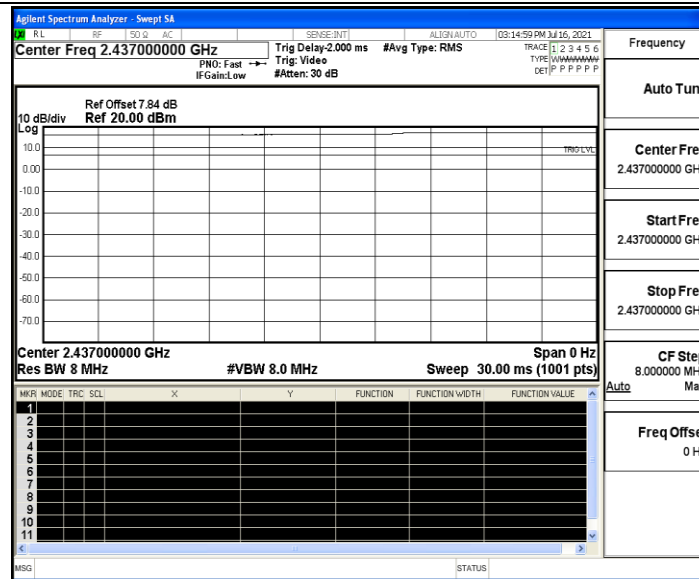
## A.1 Duty Cycle

### Test Result

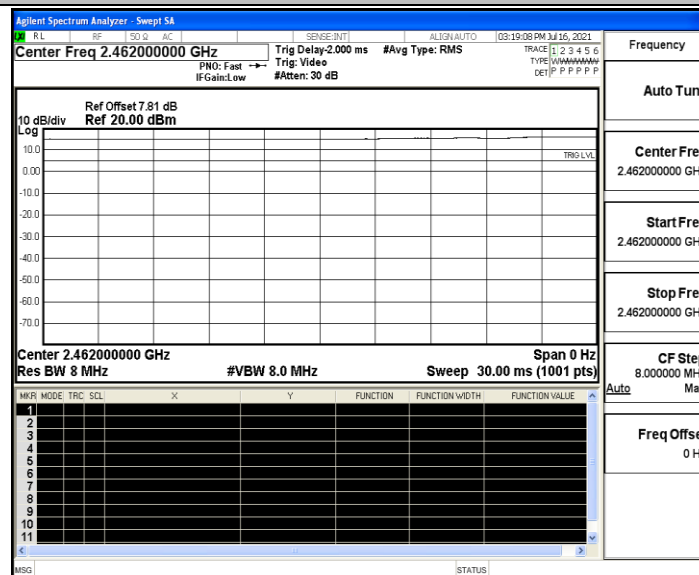
| TestMode  | Antenna | Channel | Transmission Duration [ms] | Transmission Period [ms] | Duty Cycle [%] | Limit | Verdict |
|-----------|---------|---------|----------------------------|--------------------------|----------------|-------|---------|
| 11B       | Ant1    | 2412    | 30.00                      | 30.00                    | 100.00         | ---   | PASS    |
|           |         | 2437    | 30.00                      | 30.00                    | 100.00         | ---   | PASS    |
|           |         | 2462    | 30.00                      | 30.00                    | 100.00         | ---   | PASS    |
| 11G       | Ant1    | 2412    | 30.00                      | 30.00                    | 100.00         | ---   | PASS    |
|           |         | 2437    | 30.00                      | 30.00                    | 100.00         | ---   | PASS    |
|           |         | 2462    | 30.00                      | 30.00                    | 100.00         | ---   | PASS    |
| 11N20SISO | Ant1    | 2412    | 30.00                      | 30.00                    | 100.00         | ---   | PASS    |
|           |         | 2437    | 30.00                      | 30.00                    | 100.00         | ---   | PASS    |
|           |         | 2462    | 30.00                      | 30.00                    | 100.00         | ---   | PASS    |

### Test Graphs

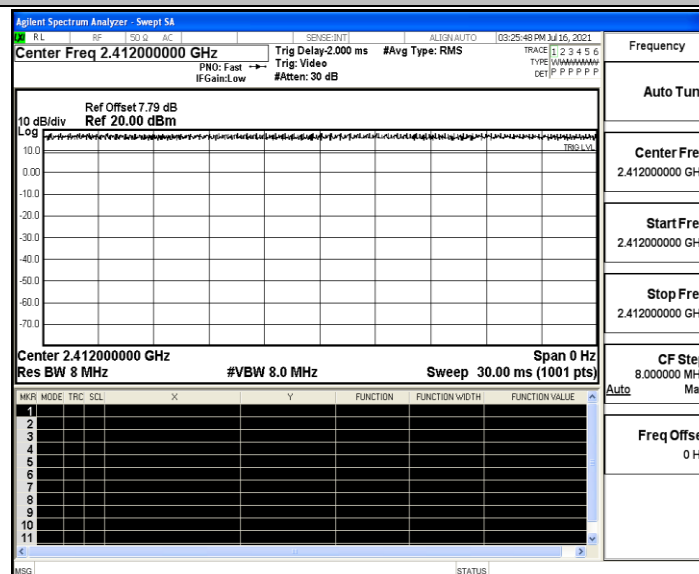




11B\_Ant1\_2437

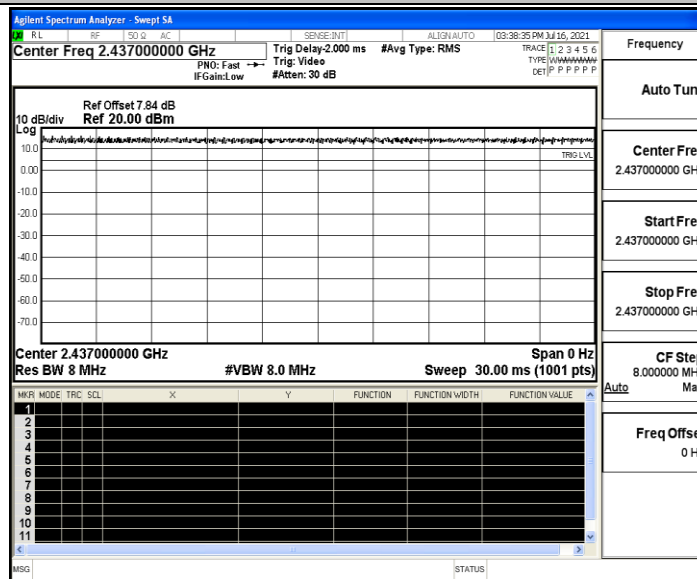


11B\_Ant1\_2462

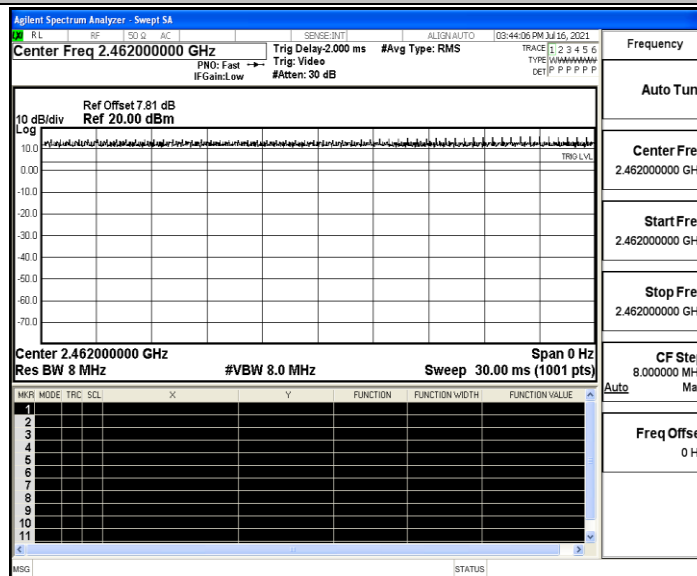




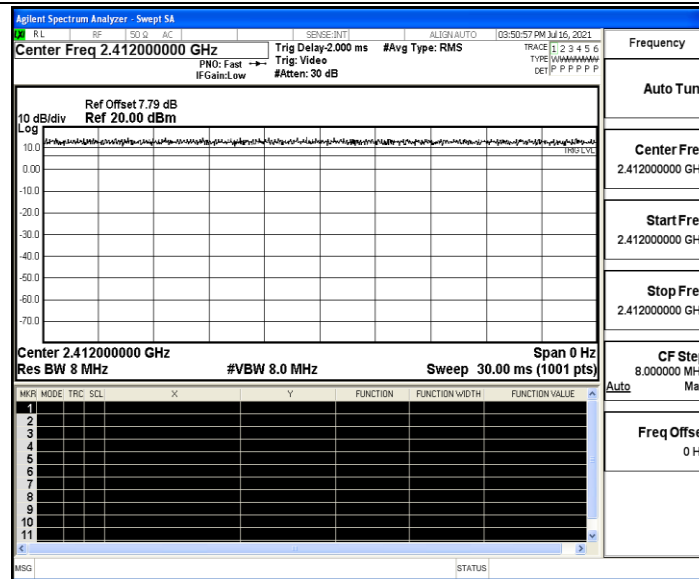
## 11G\_Ant1\_2412



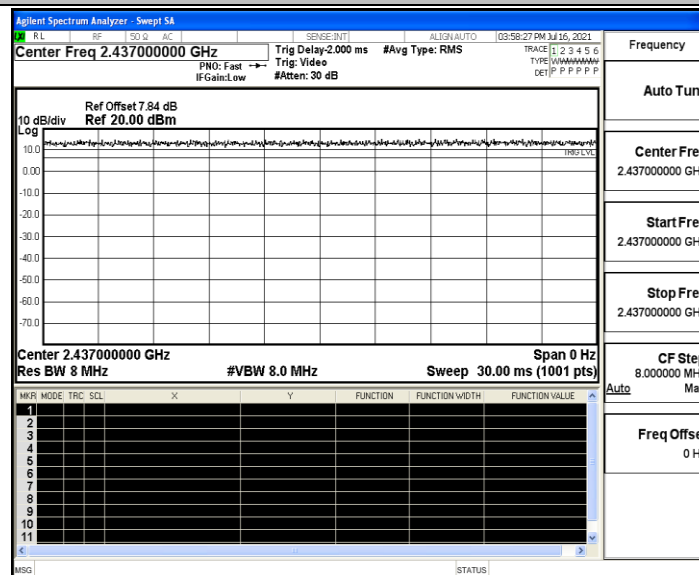
## 11G\_Ant1\_2437



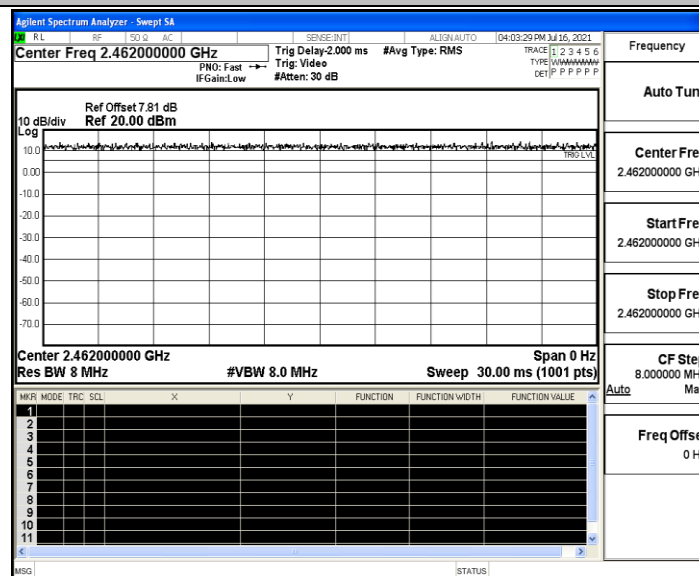
## 11G\_Ant1\_2462

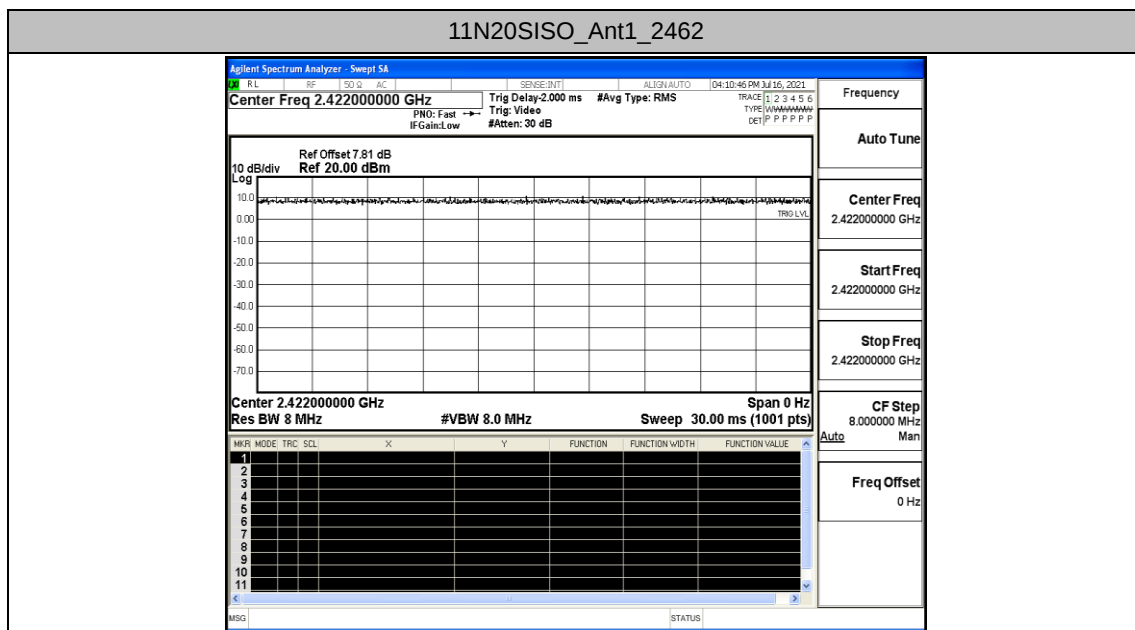


11N20SISO\_Ant1\_2412



11N20SISO\_Ant1\_2437







## A.2 Maximum conducted output power

### Test Result

| TestMode  | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|-----------|---------|---------|-------------|------------|---------|
| 11B       | Ant1    | 2412    | 14.76       | ≤30        | PASS    |
|           |         | 2437    | 14.65       | ≤30        | PASS    |
|           |         | 2462    | 14.57       | ≤30        | PASS    |
| 11G       | Ant1    | 2412    | 14.77       | ≤30        | PASS    |
|           |         | 2437    | 14.90       | ≤30        | PASS    |
|           |         | 2462    | 14.46       | ≤30        | PASS    |
| 11N20SISO | Ant1    | 2412    | 14.94       | ≤30        | PASS    |
|           |         | 2437    | 14.57       | ≤30        | PASS    |
|           |         | 2462    | 14.12       | ≤30        | PASS    |



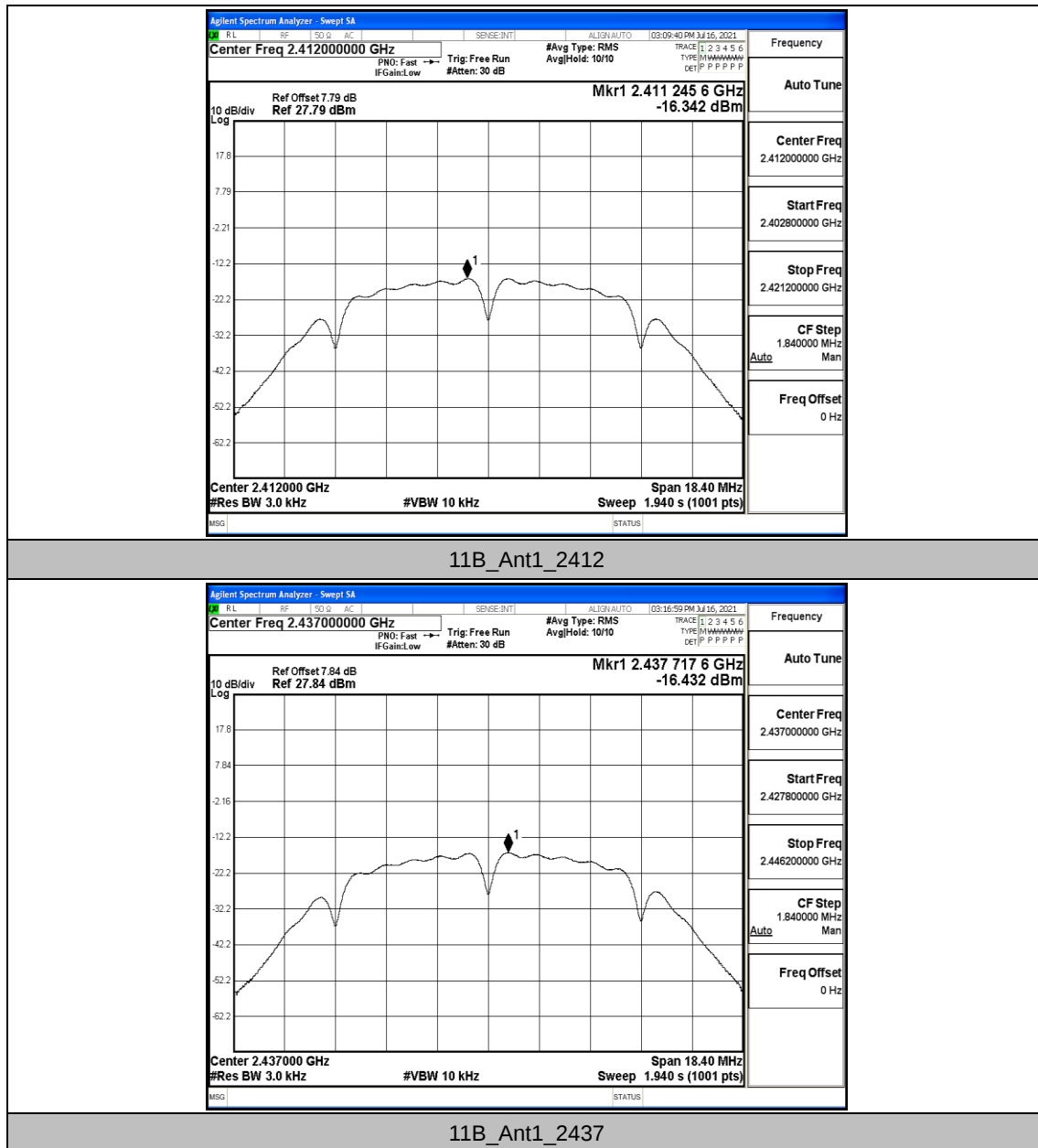
### A.3 Maximum power spectral density

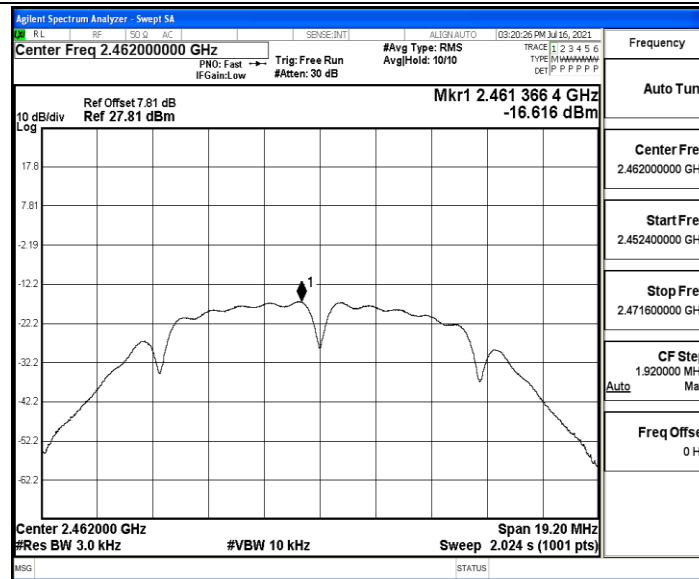
#### Test Result

| TestMode  | Antenna | Channel | Result[dBm/3kHz] | Limit[dBm/3kHz] | Verdict |
|-----------|---------|---------|------------------|-----------------|---------|
| 11B       | Ant1    | 2412    | -16.34           | ≤8              | PASS    |
|           |         | 2437    | -16.43           | ≤8              | PASS    |
|           |         | 2462    | -16.62           | ≤8              | PASS    |
| 11G       | Ant1    | 2412    | -19.31           | ≤8              | PASS    |
|           |         | 2437    | -19.12           | ≤8              | PASS    |
|           |         | 2462    | -19.5            | ≤8              | PASS    |
| 11N20SISO | Ant1    | 2412    | -19.71           | ≤8              | PASS    |
|           |         | 2437    | -19.81           | ≤8              | PASS    |
|           |         | 2462    | -20              | ≤8              | PASS    |

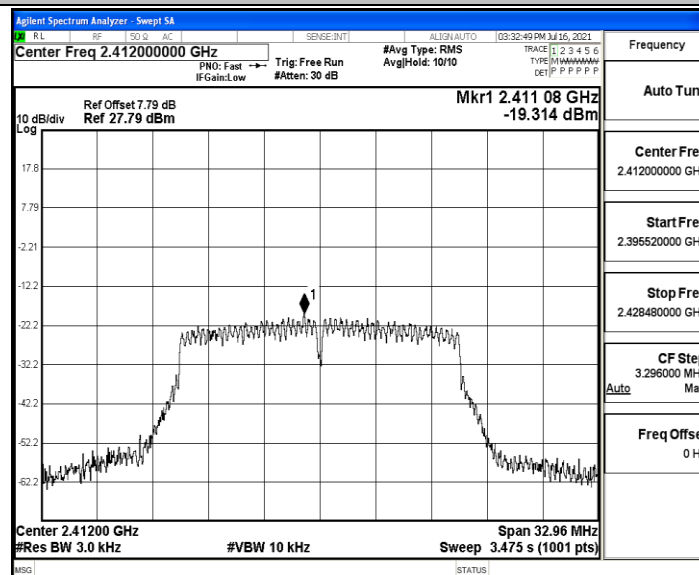


## Test Graphs

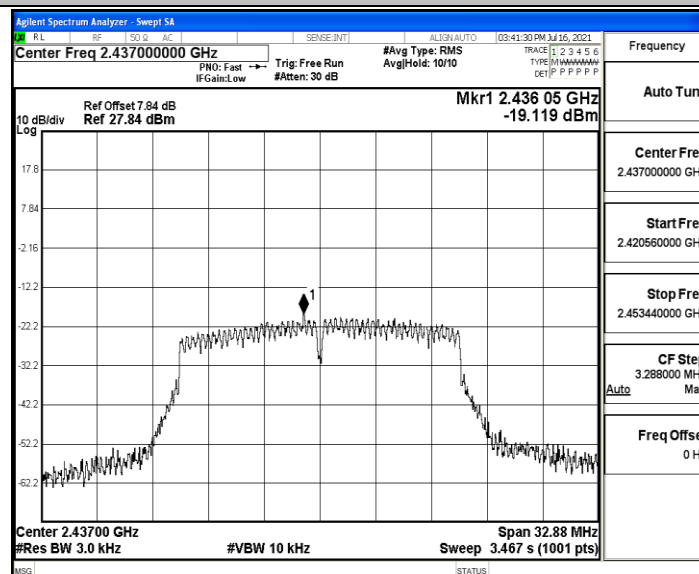




11B\_Ant1\_2462

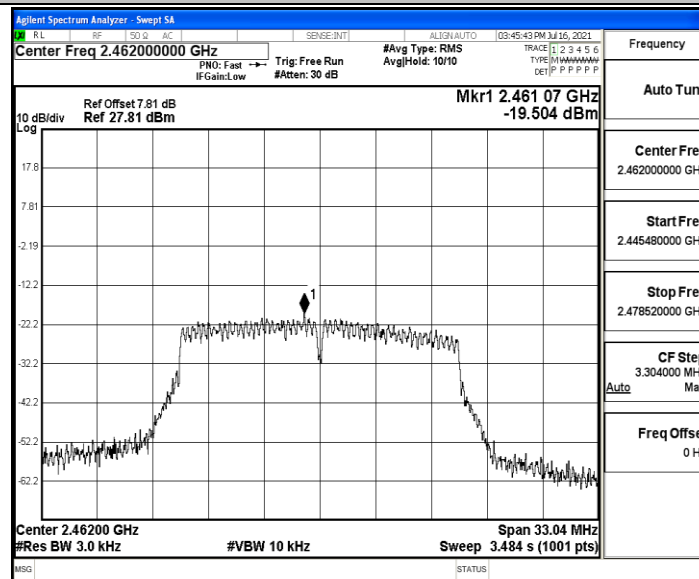


11G\_Ant1\_2412

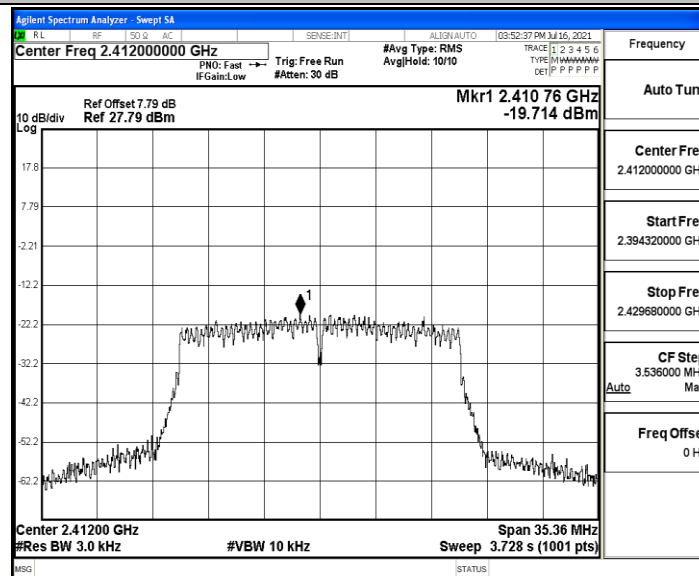




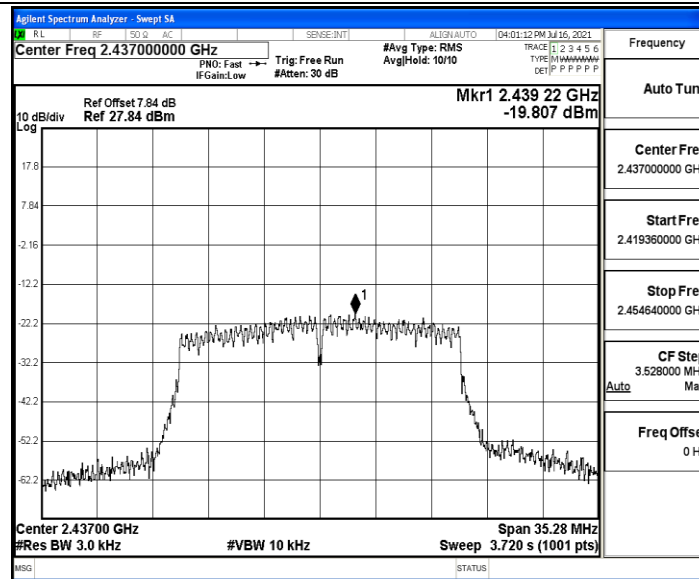
### 11G\_Ant1\_2437



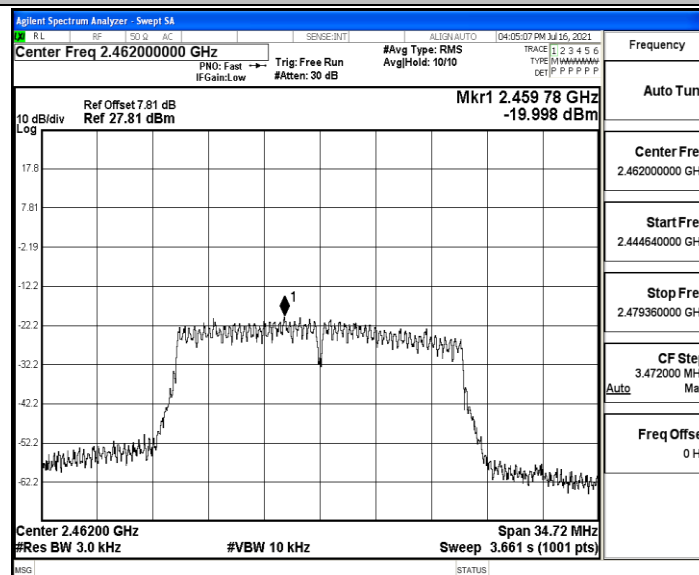
### 11G\_Ant1\_2462



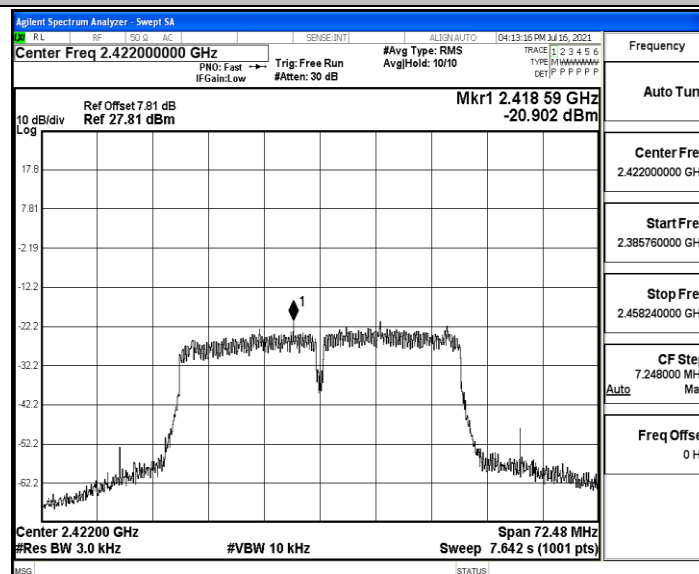
### 11N20SISO\_Ant1\_2412



11N20SISO\_Ant1\_2437



11N20SISO\_Ant1\_2462

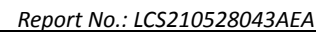




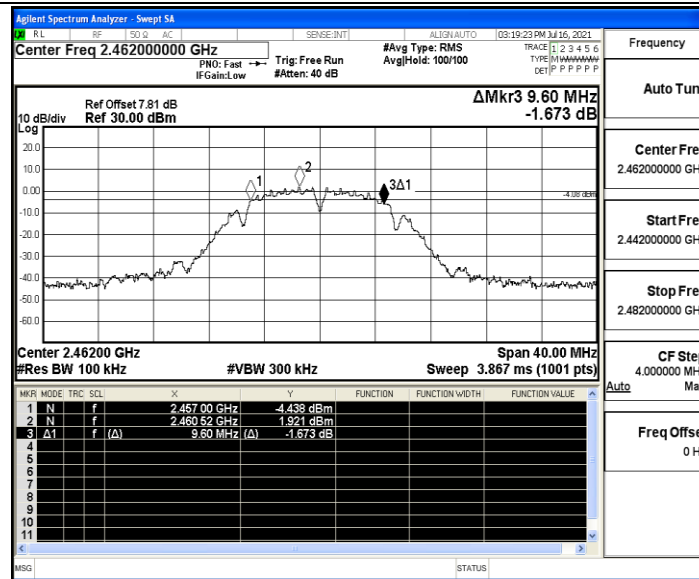
## A.4 6dB Bandwidth

### Test Result

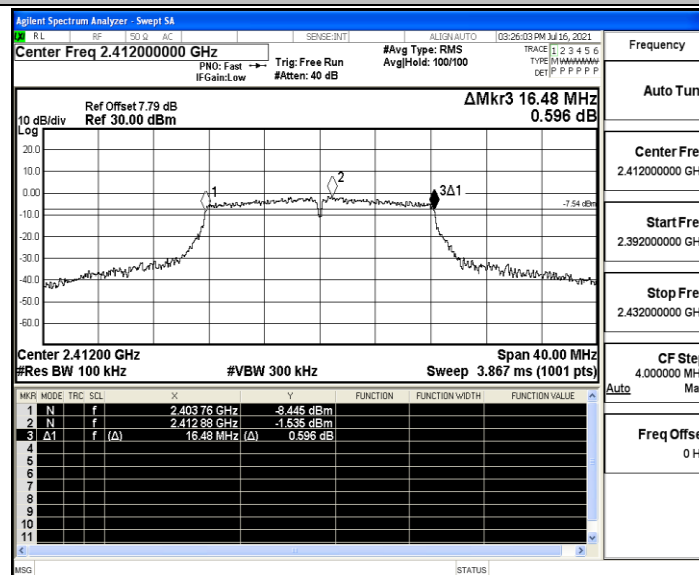
| TestMode  | Antenna | Channel | DTS BW<br>[MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|-----------|---------|---------|-----------------|----------|----------|------------|---------|
| 11B       | Ant1    | 2412    | 9.200           | 2407.400 | 2416.600 | 0.5        | PASS    |
|           |         | 2437    | 9.200           | 2432.400 | 2441.600 | 0.5        | PASS    |
|           |         | 2462    | 9.600           | 2457.000 | 2466.600 | 0.5        | PASS    |
| 11G       | Ant1    | 2412    | 16.480          | 2403.760 | 2420.240 | 0.5        | PASS    |
|           |         | 2437    | 16.440          | 2428.800 | 2445.240 | 0.5        | PASS    |
|           |         | 2462    | 16.520          | 2453.680 | 2470.200 | 0.5        | PASS    |
| 11N20SISO | Ant1    | 2412    | 17.680          | 2403.160 | 2420.840 | 0.5        | PASS    |
|           |         | 2437    | 17.640          | 2428.200 | 2445.840 | 0.5        | PASS    |
|           |         | 2462    | 17.360          | 2453.120 | 2470.480 | 0.5        | PASS    |



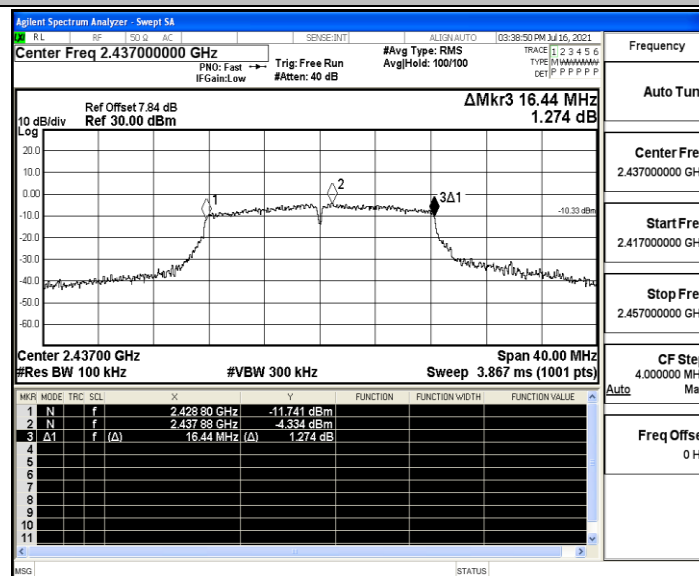
11B\_Ant1\_2437



11B\_Ant1\_2462

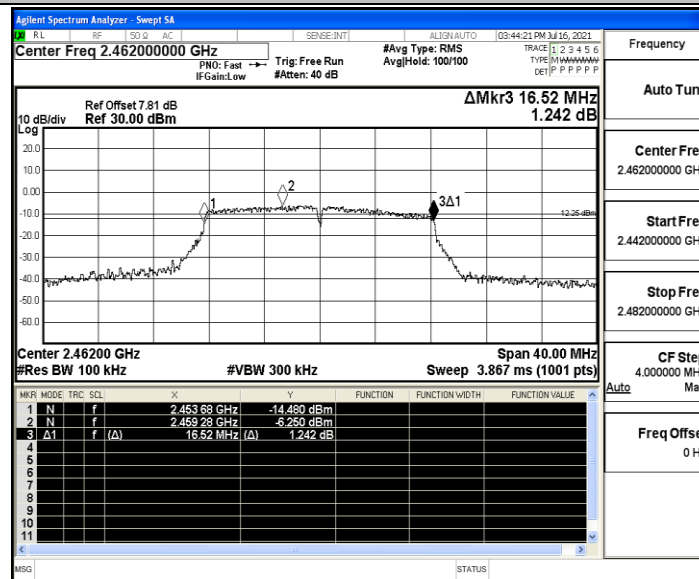


11G\_Ant1\_2412

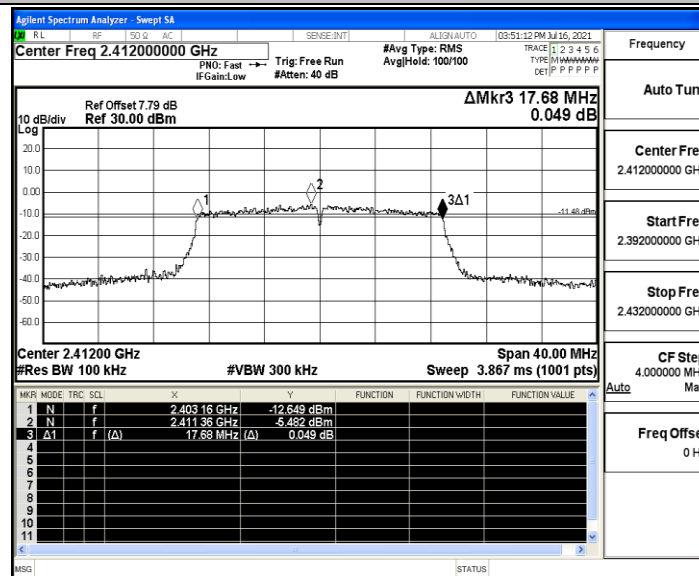




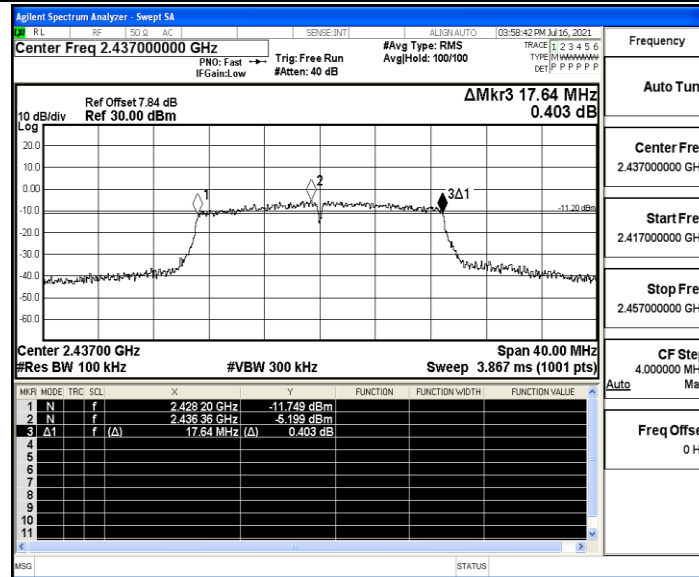
## 11G\_Ant1\_2437



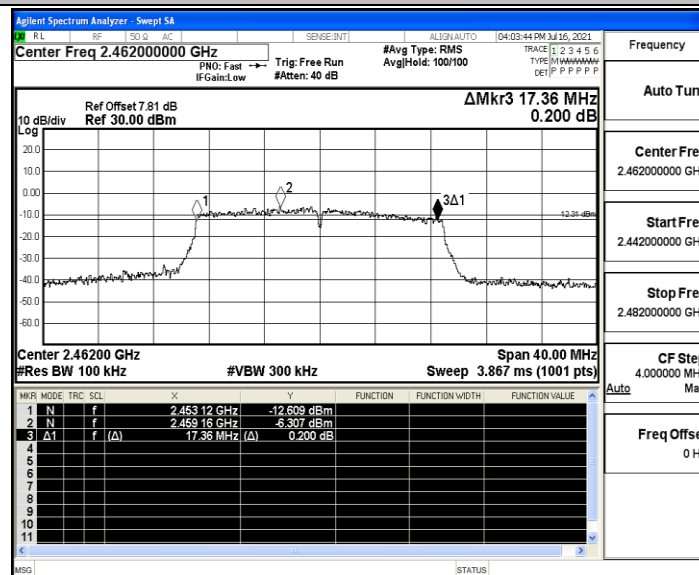
## 11G\_Ant1\_2462



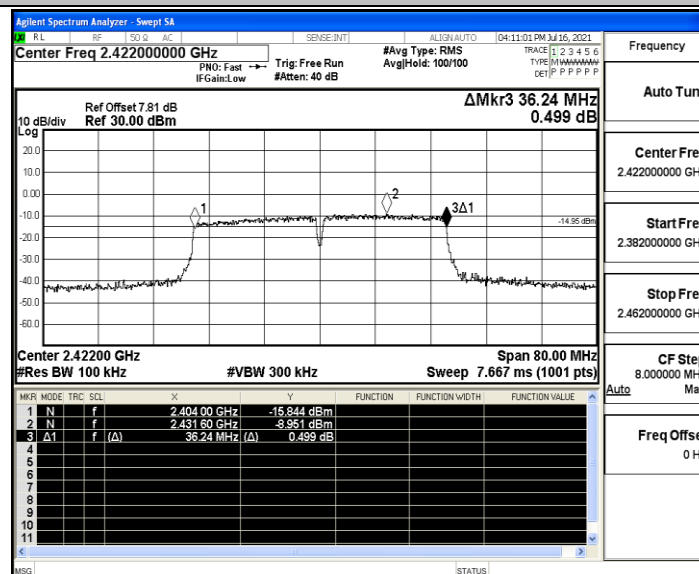
## 11N20SISO\_Ant1\_2412



11N20SISO\_Ant1\_2437



11N20SISO\_Ant1\_2462





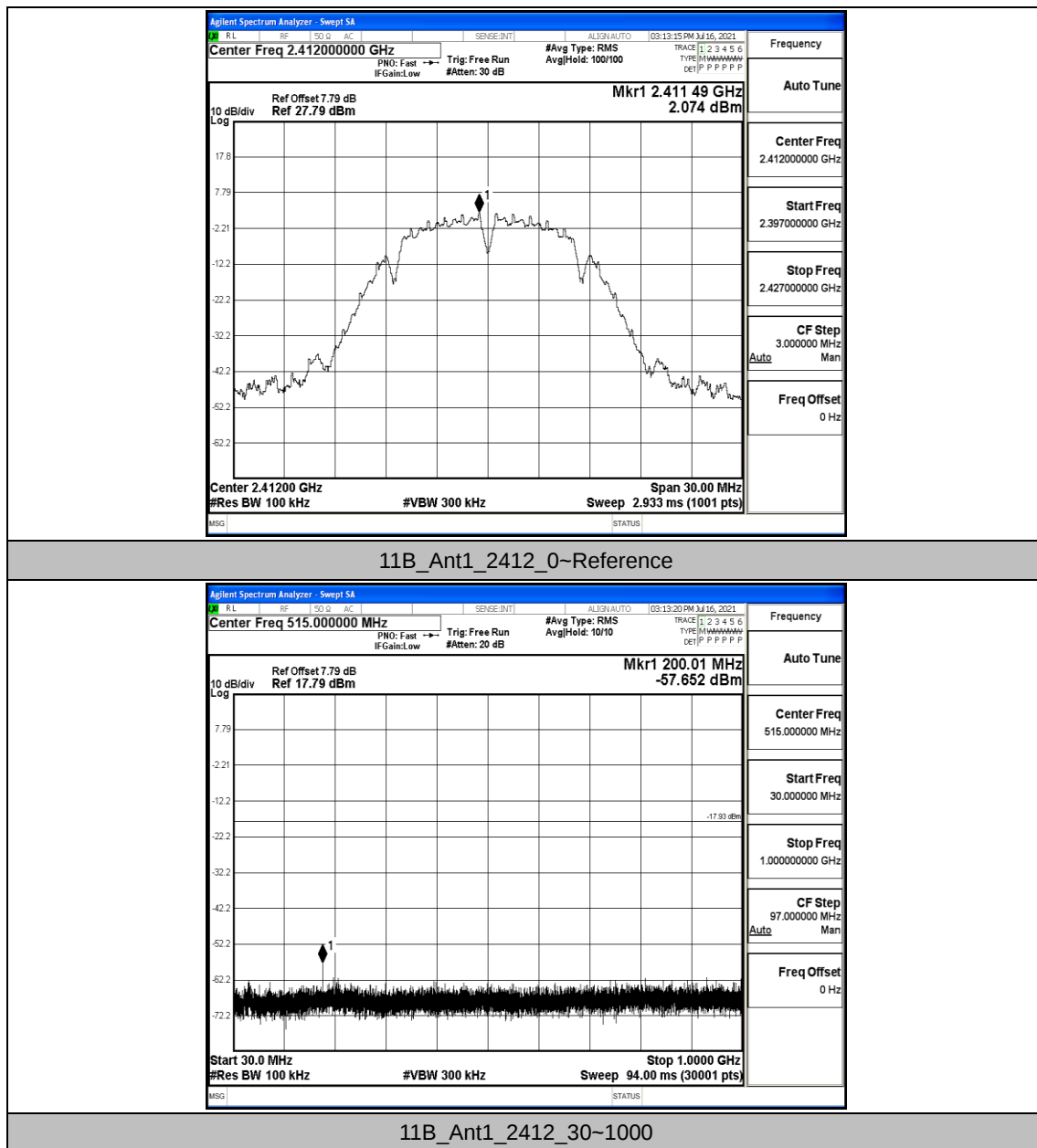
## A.5 Conducted Spurious Emission

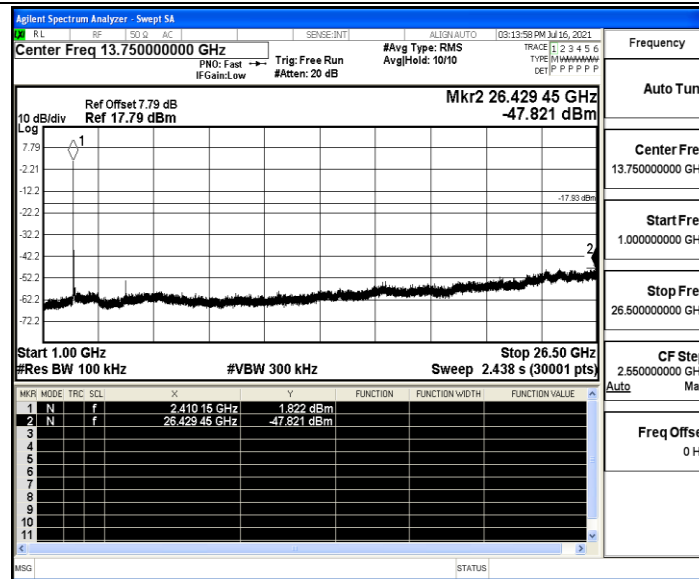
### Test Result

| TestMode  | Antenna | Channel | FreqRange<br>[Mhz] | RefLevel<br>[dBm] | Result<br>[dBm] | Limit<br>[dBm] | Verdict |
|-----------|---------|---------|--------------------|-------------------|-----------------|----------------|---------|
| 11B       | Ant1    | 2412    | Reference          | 2.07              | 2.07            | ---            | PASS    |
|           |         |         | 30~1000            | 2.07              | -57.65          | ≤-17.93        | PASS    |
|           |         |         | 1000~26500         | 2.07              | -47.82          | ≤-17.93        | PASS    |
|           |         | 2437    | Reference          | 1.95              | 1.95            | ---            | PASS    |
|           |         |         | 30~1000            | 1.95              | -58.1           | ≤-18.05        | PASS    |
|           |         |         | 1000~26500         | 1.95              | -47.33          | ≤-18.05        | PASS    |
|           |         | 2462    | Reference          | 1.94              | 1.94            | ---            | PASS    |
|           |         |         | 30~1000            | 1.94              | -57.99          | ≤-18.06        | PASS    |
|           |         |         | 1000~26500         | 1.94              | -47.72          | ≤-18.06        | PASS    |
| 11G       | Ant1    | 2412    | Reference          | -5.80             | -5.80           | ---            | PASS    |
|           |         |         | 30~1000            | -5.80             | -61.87          | ≤-25.8         | PASS    |
|           |         |         | 1000~26500         | -5.80             | -47.84          | ≤-25.8         | PASS    |
|           |         | 2437    | Reference          | -5.27             | -5.27           | ---            | PASS    |
|           |         |         | 30~1000            | -5.27             | -61.68          | ≤-25.27        | PASS    |
|           |         |         | 1000~26500         | -5.27             | -47.66          | ≤-25.27        | PASS    |
|           |         | 2462    | Reference          | -5.99             | -5.99           | ---            | PASS    |
|           |         |         | 30~1000            | -5.99             | -62.26          | ≤-25.99        | PASS    |
|           |         |         | 1000~26500         | -5.99             | -47.84          | ≤-25.99        | PASS    |
| 11N20SISO | Ant1    | 2412    | Reference          | -5.84             | -5.84           | ---            | PASS    |
|           |         |         | 30~1000            | -5.84             | -60.96          | ≤-25.84        | PASS    |
|           |         |         | 1000~26500         | -5.84             | -47.33          | ≤-25.84        | PASS    |
|           |         | 2437    | Reference          | -6.16             | -6.16           | ---            | PASS    |
|           |         |         | 30~1000            | -6.16             | -61.16          | ≤-26.16        | PASS    |
|           |         |         | 1000~26500         | -6.16             | -47.17          | ≤-26.16        | PASS    |
|           |         | 2462    | Reference          | -6.03             | -6.03           | ---            | PASS    |
|           |         |         | 30~1000            | -6.03             | -61.71          | ≤-26.03        | PASS    |
|           |         |         | 1000~26500         | -6.03             | -47.72          | ≤-26.03        | PASS    |

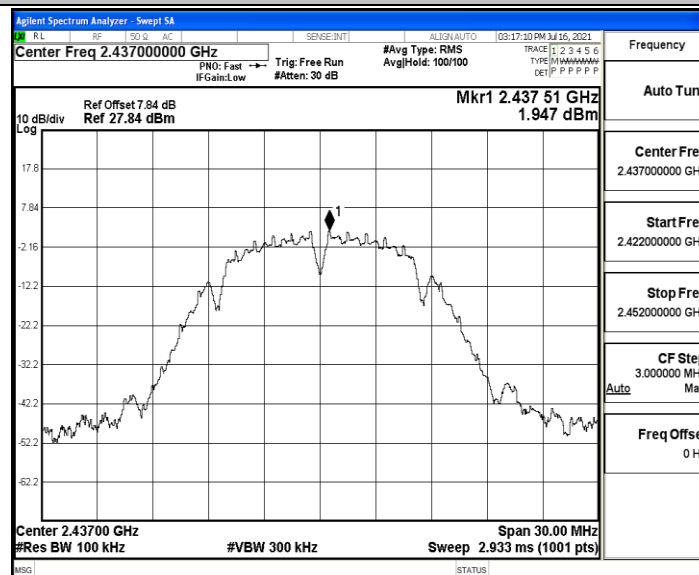


## Test Graphs

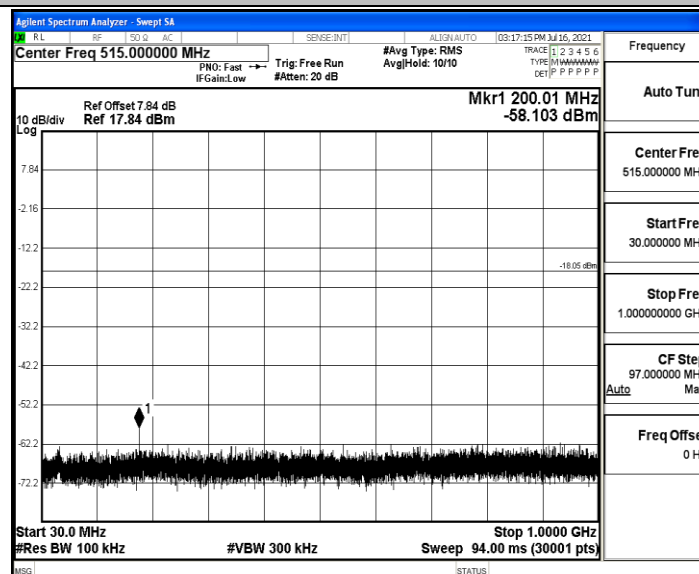




11B\_Ant1\_2412\_1000~26500

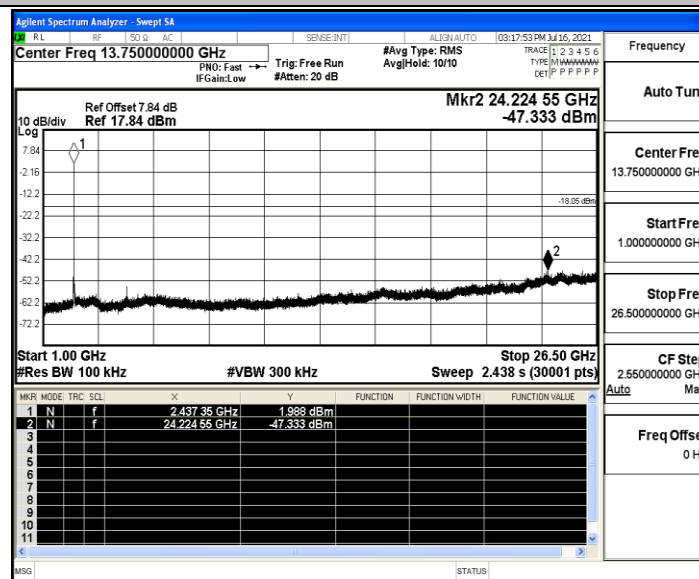


11B\_Ant1\_2437\_0~Reference

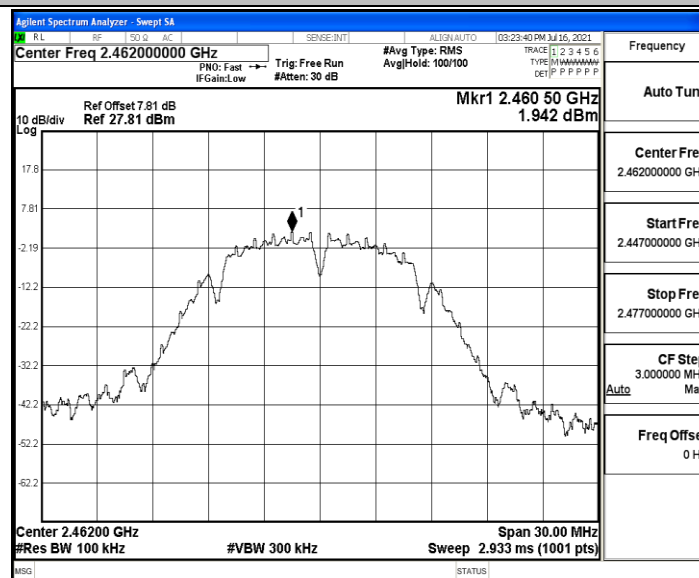




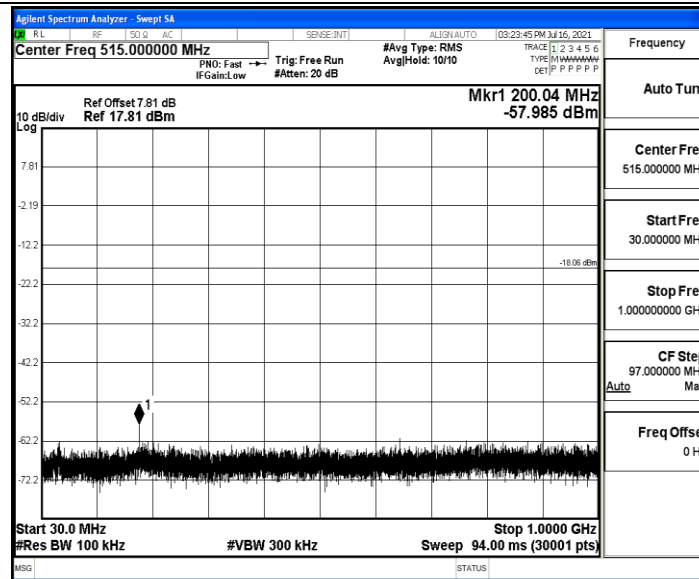
## 11B\_Ant1\_2437\_30~1000



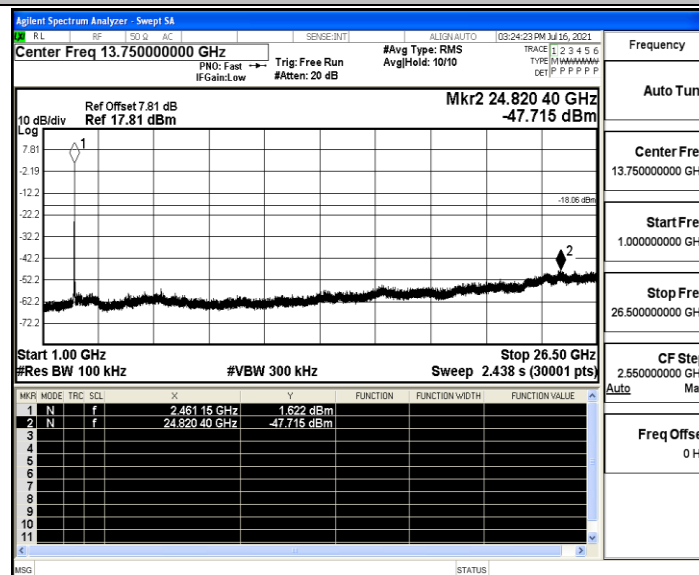
## 11B\_Ant1\_2437\_1000~26500



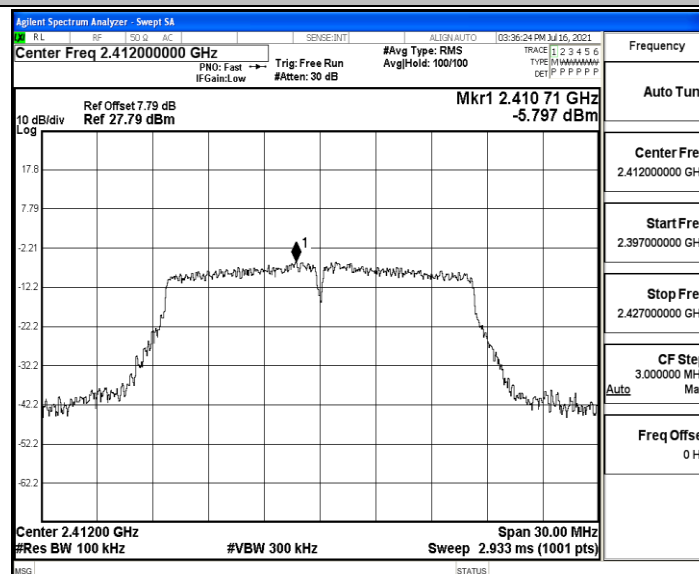
## 11B\_Ant1\_2462\_0~Reference



11B\_Ant1\_2462\_30~1000

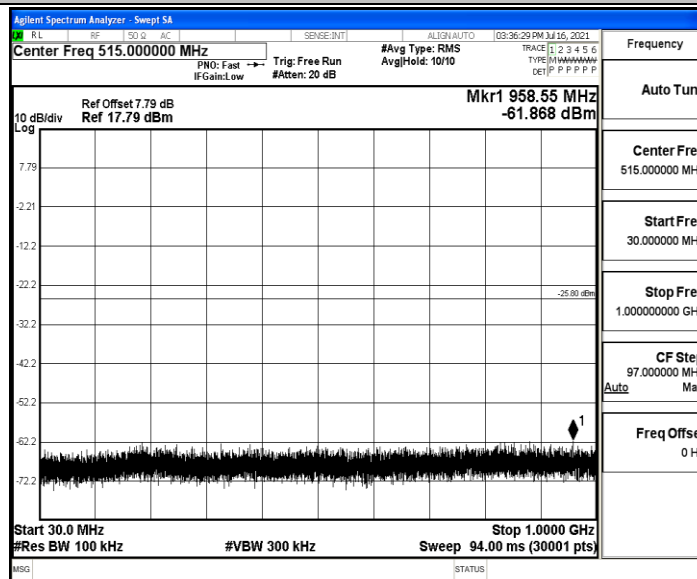


11B\_Ant1\_2462\_1000~26500

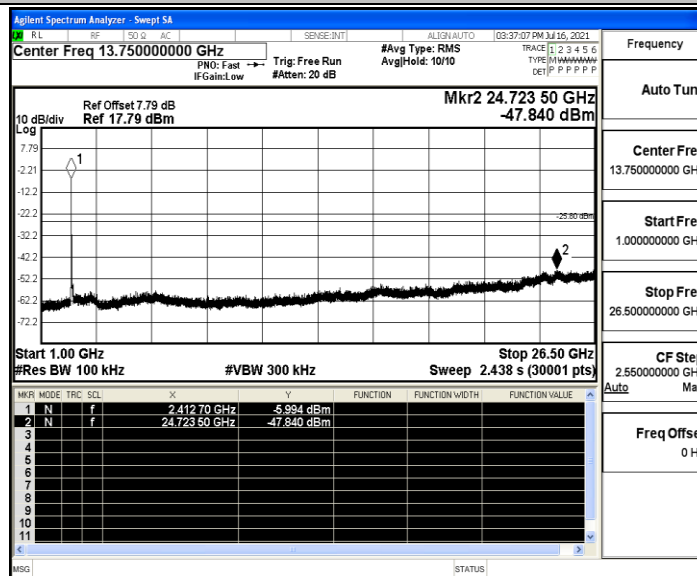




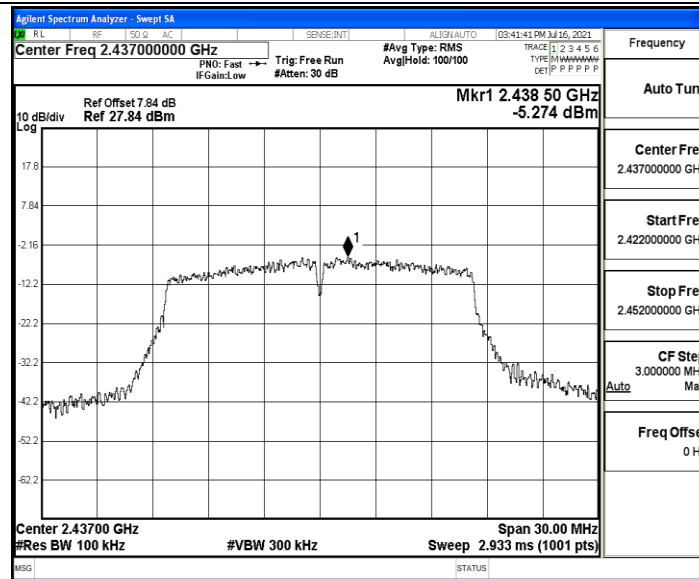
## 11G\_Ant1\_2412\_0~Reference



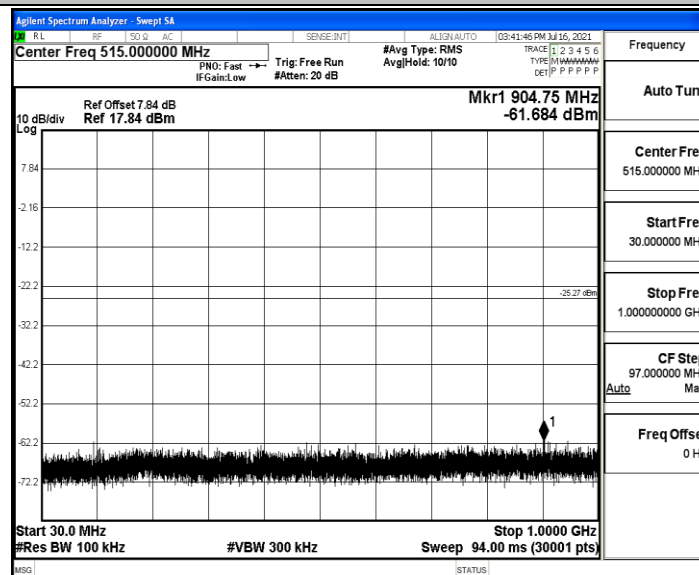
## 11G\_Ant1\_2412\_30~1000



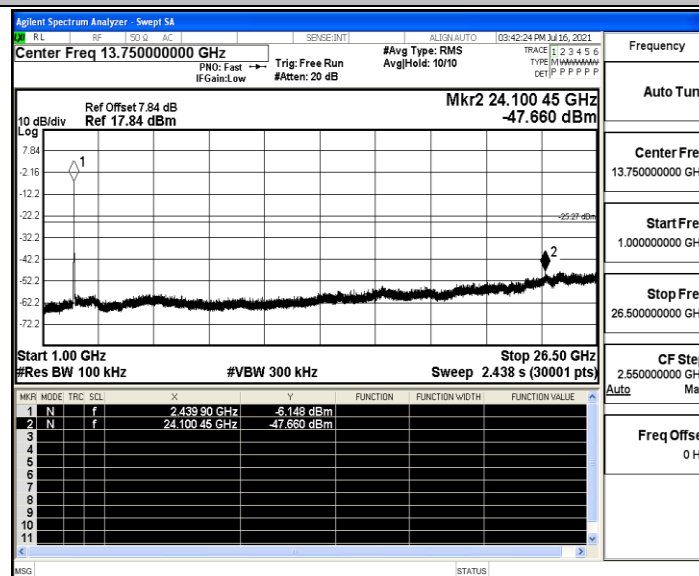
## 11G\_Ant1\_2412\_1000~26500



11G\_Ant1\_2437\_0~Reference

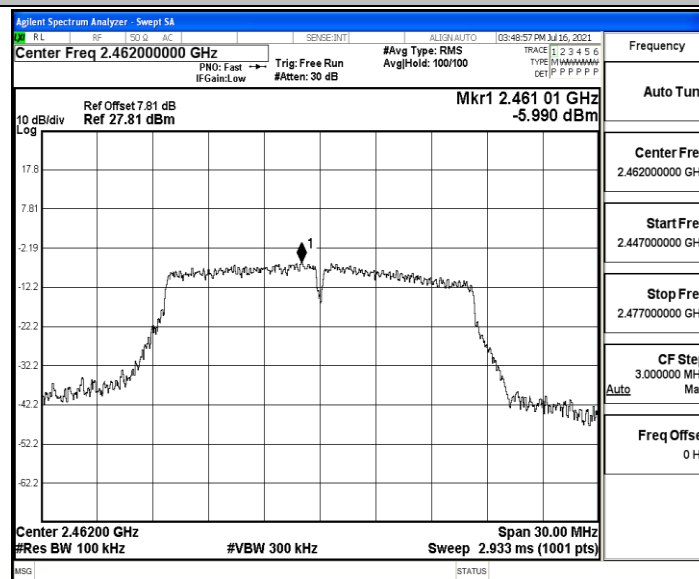


11G\_Ant1\_2437\_30~1000

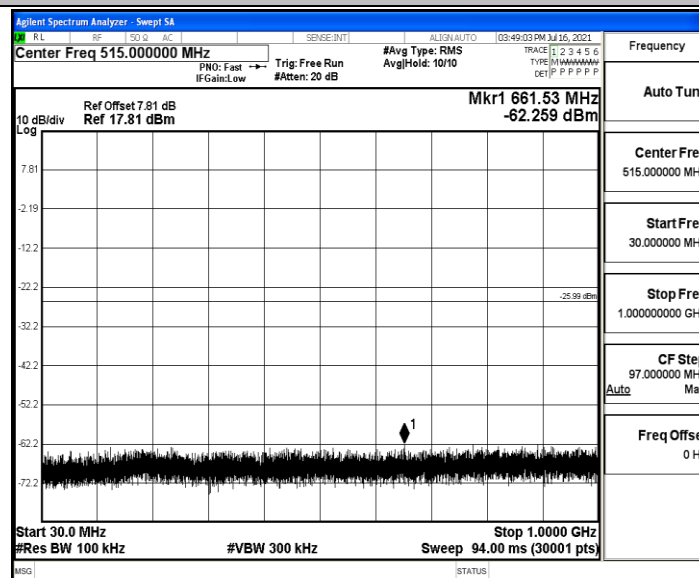




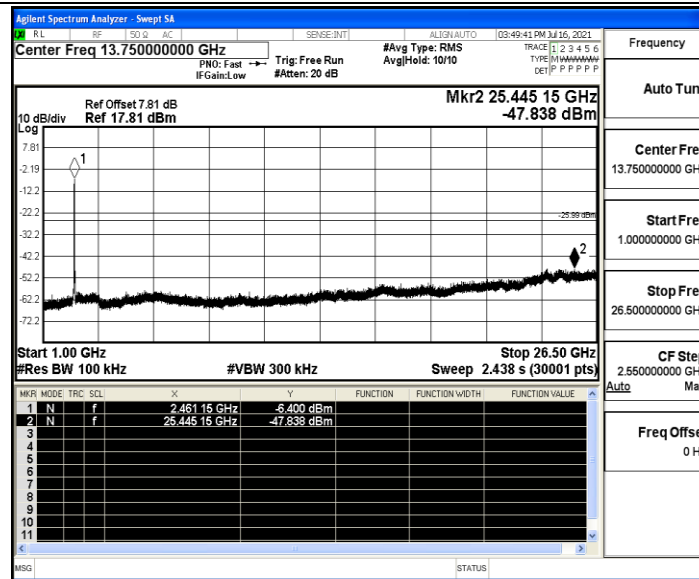
## 11G\_Ant1\_2437\_1000~26500



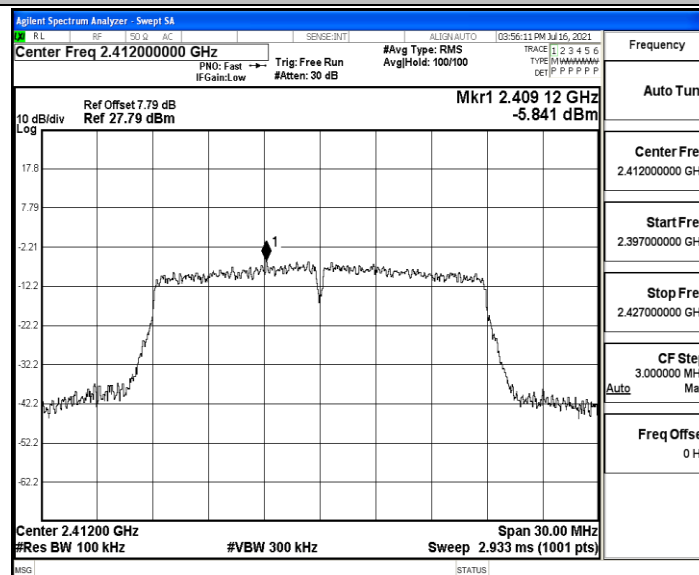
## 11G\_Ant1\_2462\_0~Reference



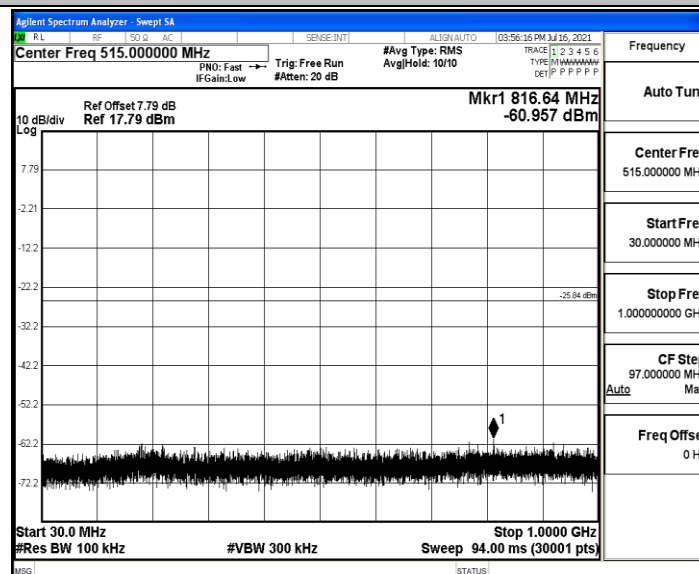
## 11G\_Ant1\_2462\_30~1000



11G\_Ant1\_2462\_1000~26500

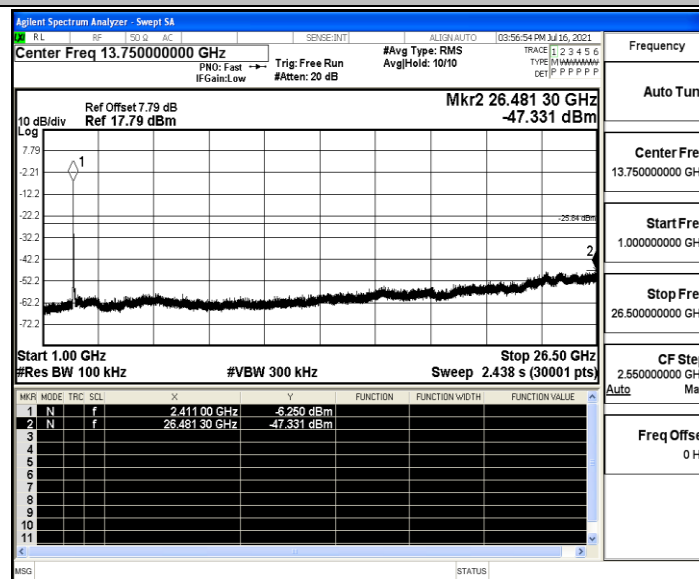


11N20SISO\_Ant1\_2412\_0~Reference

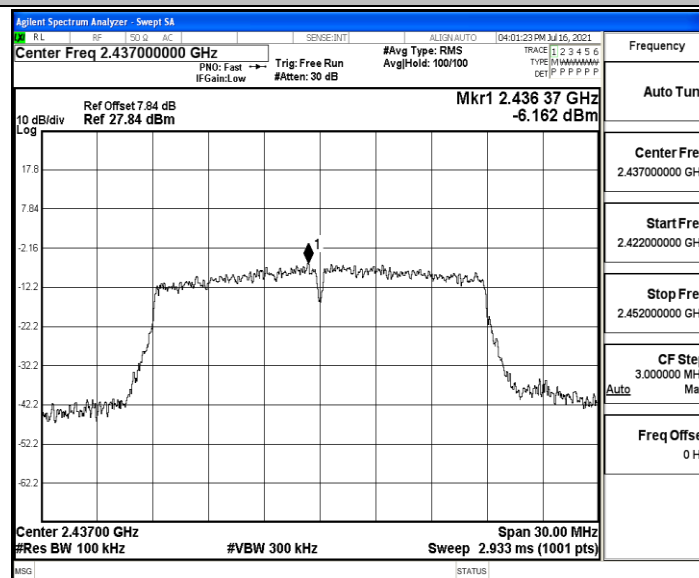




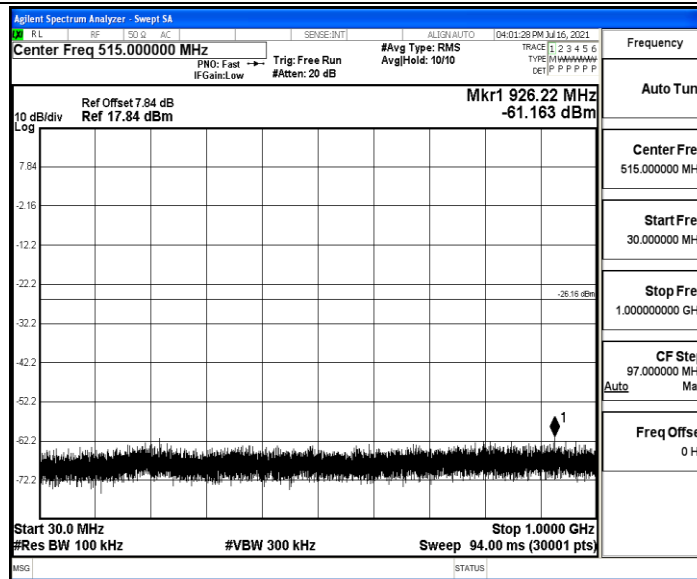
## 11N20SISO\_Ant1\_2412\_30~1000



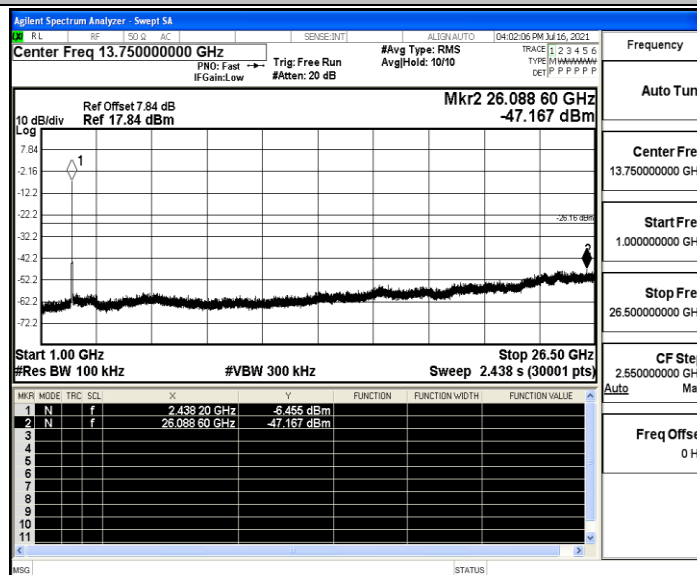
## 11N20SISO\_Ant1\_2412\_1000~26500



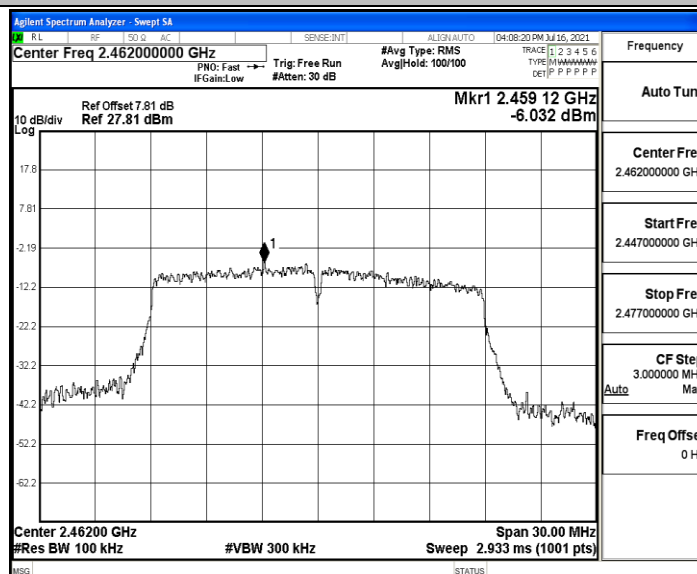
## 11N20SISO\_Ant1\_2437\_0~Reference



11N20SISO\_Ant1\_2437\_30~1000

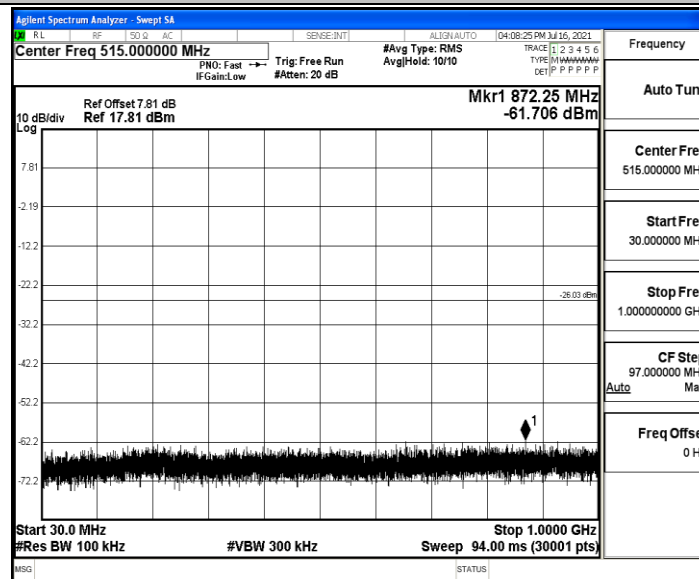


11N20SISO\_Ant1\_2437\_1000~26500

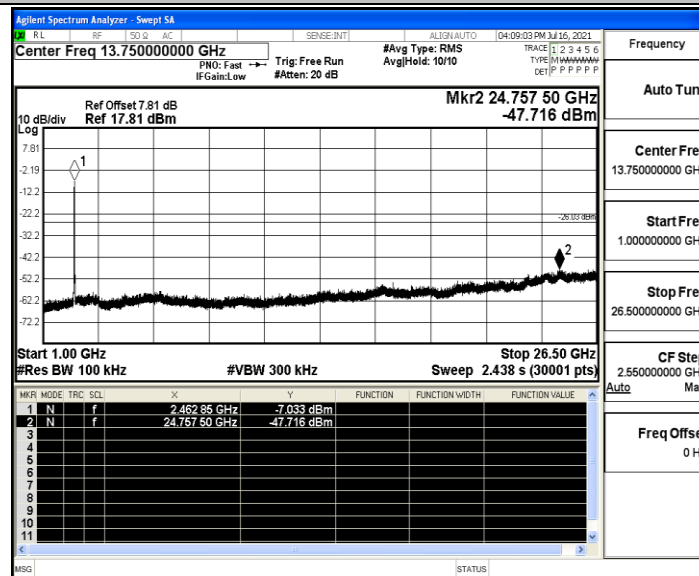




### 11N20SISO\_Ant1\_2462\_0~Reference



### 11N20SISO\_Ant1\_2462\_30~1000



### 11N20SISO\_Ant1\_2462\_1000~26500



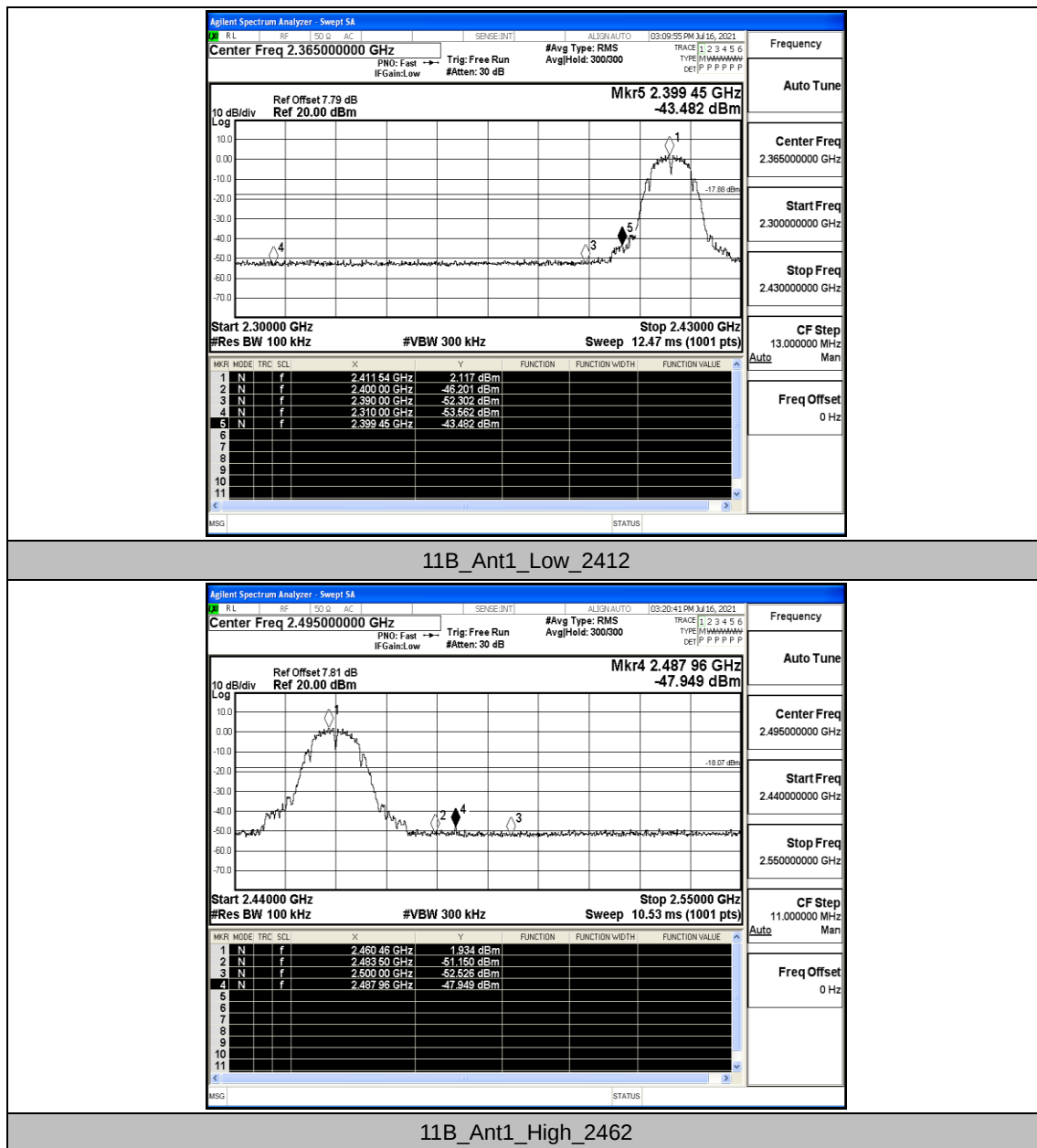
## A.6 Band edge measurements

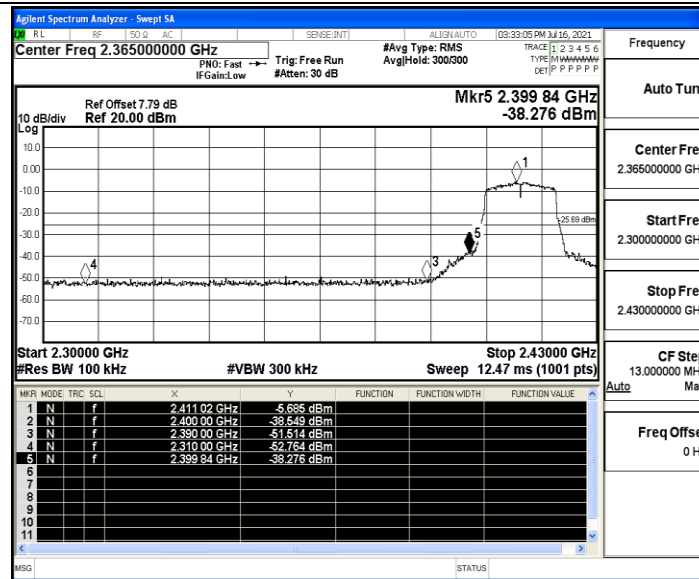
### Test Result

| TestMode  | Antenna | ChName | Channel | RefLevel[dBm] | Result[dBm] | Limit[dBm]    | Verdict |
|-----------|---------|--------|---------|---------------|-------------|---------------|---------|
| 11B       | Ant1    | Low    | 2412    | 2.12          | -43.48      | $\leq -17.88$ | PASS    |
|           |         | High   | 2462    | 1.93          | -47.95      | $\leq -18.07$ | PASS    |
| 11G       | Ant1    | Low    | 2412    | -5.69         | -38.28      | $\leq -25.69$ | PASS    |
|           |         | High   | 2462    | -5.77         | -45.94      | $\leq -25.77$ | PASS    |
| 11N20SISO | Ant1    | Low    | 2412    | -5.58         | -36.79      | $\leq -25.58$ | PASS    |
|           |         | High   | 2462    | -5.92         | -46.04      | $\leq -25.92$ | PASS    |

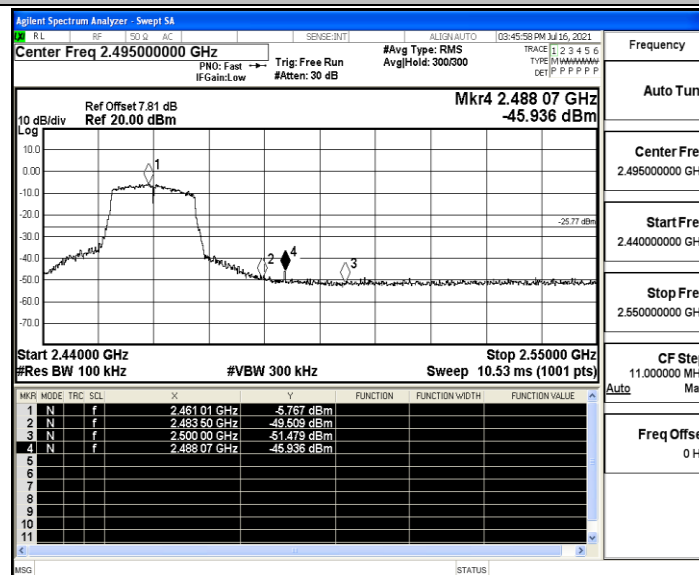


## Test Graphs

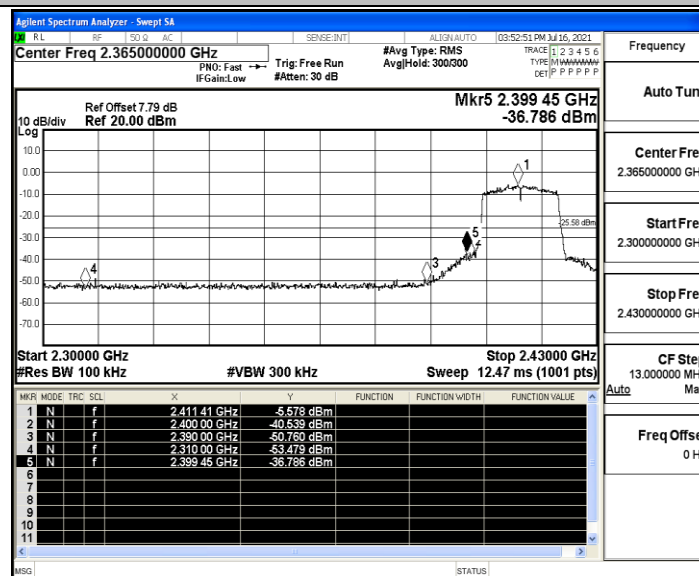




11G\_Ant1\_Low\_2412

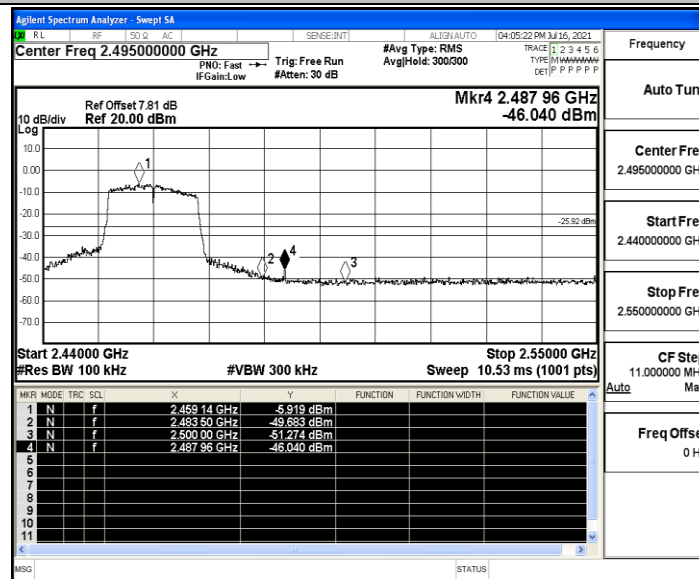


11G\_Ant1\_High\_2462





11N20SISO\_Ant1\_Low\_2412



11N20SISO\_Ant1\_High\_2462



## A.7 Emissions in Restricted Bands

### Test Result

| TestMode      | Channel | Detector | Freq.<br>[MHz] | Result<br>[dBm] | Limit<br>[dBm] | Result<br>[dBuV/m] | Limit<br>[dBuV/m] | Verdict |
|---------------|---------|----------|----------------|-----------------|----------------|--------------------|-------------------|---------|
| 11B           | 2412    | AV       | 2310.000       | -49.44          | ≤-41.20        | 45.76              | ≤54               | PASS    |
|               |         | AV       | 2389.570       | -49.01          | ≤-41.20        | 46.19              | ≤54               | PASS    |
|               |         | AV       | 2390.000       | -49.02          | ≤-41.20        | 46.18              | ≤54               | PASS    |
|               |         | Peak     | 2310.000       | -45.29          | ≤-21.20        | 49.91              | ≤74               | PASS    |
|               |         | Peak     | 2378.910       | -39.15          | ≤-21.20        | 56.05              | ≤74               | PASS    |
|               |         | Peak     | 2390.000       | -44.23          | ≤-21.20        | 50.97              | ≤74               | PASS    |
|               | 2462    | AV       | 2483.500       | -47.56          | ≤-41.20        | 47.64              | ≤54               | PASS    |
|               |         | AV       | 2487.960       | -46.77          | ≤-41.20        | 48.43              | ≤54               | PASS    |
|               |         | AV       | 2500.000       | -48.43          | ≤-41.20        | 46.77              | ≤54               | PASS    |
|               |         | Peak     | 2483.500       | -41.18          | ≤-21.20        | 54.02              | ≤74               | PASS    |
|               |         | Peak     | 2485.430       | -39.2           | ≤-21.20        | 56.00              | ≤74               | PASS    |
|               |         | Peak     | 2500.000       | -46.18          | ≤-21.20        | 49.02              | ≤74               | PASS    |
| 11G           | 2412    | AV       | 2310.000       | -49.41          | ≤-41.20        | 45.79              | ≤54               | PASS    |
|               |         | AV       | 2389.960       | -48.51          | ≤-41.20        | 46.69              | ≤54               | PASS    |
|               |         | AV       | 2390.000       | -48.51          | ≤-41.20        | 46.69              | ≤54               | PASS    |
|               |         | Peak     | 2310.000       | -43.16          | ≤-21.20        | 52.04              | ≤74               | PASS    |
|               |         | Peak     | 2324.310       | -39.18          | ≤-21.20        | 56.02              | ≤74               | PASS    |
|               |         | Peak     | 2390.000       | -40.36          | ≤-21.20        | 54.84              | ≤74               | PASS    |
|               | 2462    | AV       | 2483.500       | -46.21          | ≤-41.20        | 48.99              | ≤54               | PASS    |
|               |         | AV       | 2488.070       | -45.11          | ≤-41.20        | 50.09              | ≤54               | PASS    |
|               |         | AV       | 2500.000       | -48.43          | ≤-41.20        | 46.77              | ≤54               | PASS    |
|               |         | Peak     | 2483.500       | -42.43          | ≤-21.20        | 52.77              | ≤74               | PASS    |
|               |         | Peak     | 2485.540       | -37.36          | ≤-21.20        | 57.84              | ≤74               | PASS    |
|               |         | Peak     | 2500.000       | -43.52          | ≤-21.20        | 51.68              | ≤74               | PASS    |
| 11N20SIS<br>O | 2412    | AV       | 2310.000       | -49.44          | ≤-41.20        | 45.76              | ≤54               | PASS    |
|               |         | AV       | 2389.960       | -48.18          | ≤-41.20        | 47.02              | ≤54               | PASS    |
|               |         | AV       | 2390.000       | -48.18          | ≤-41.20        | 47.02              | ≤54               | PASS    |
|               |         | Peak     | 2310.000       | -46.36          | ≤-21.20        | 48.84              | ≤74               | PASS    |
|               |         | Peak     | 2317.810       | -39.77          | ≤-21.20        | 55.43              | ≤74               | PASS    |
|               |         | Peak     | 2390.000       | -43.69          | ≤-21.20        | 51.51              | ≤74               | PASS    |
|               | 2462    | AV       | 2483.500       | -45.94          | ≤-41.20        | 49.26              | ≤54               | PASS    |
|               |         | AV       | 2487.960       | -45.1           | ≤-41.20        | 50.10              | ≤54               | PASS    |
|               |         | AV       | 2500.000       | -48.45          | ≤-41.20        | 46.75              | ≤54               | PASS    |
|               |         | Peak     | 2483.500       | -40.58          | ≤-21.20        | 54.62              | ≤74               | PASS    |
|               |         | Peak     | 2485.650       | -37.29          | ≤-21.20        | 57.91              | ≤74               | PASS    |
|               |         | Peak     | 2500.000       | -43.05          | ≤-21.20        | 52.15              | ≤74               | PASS    |

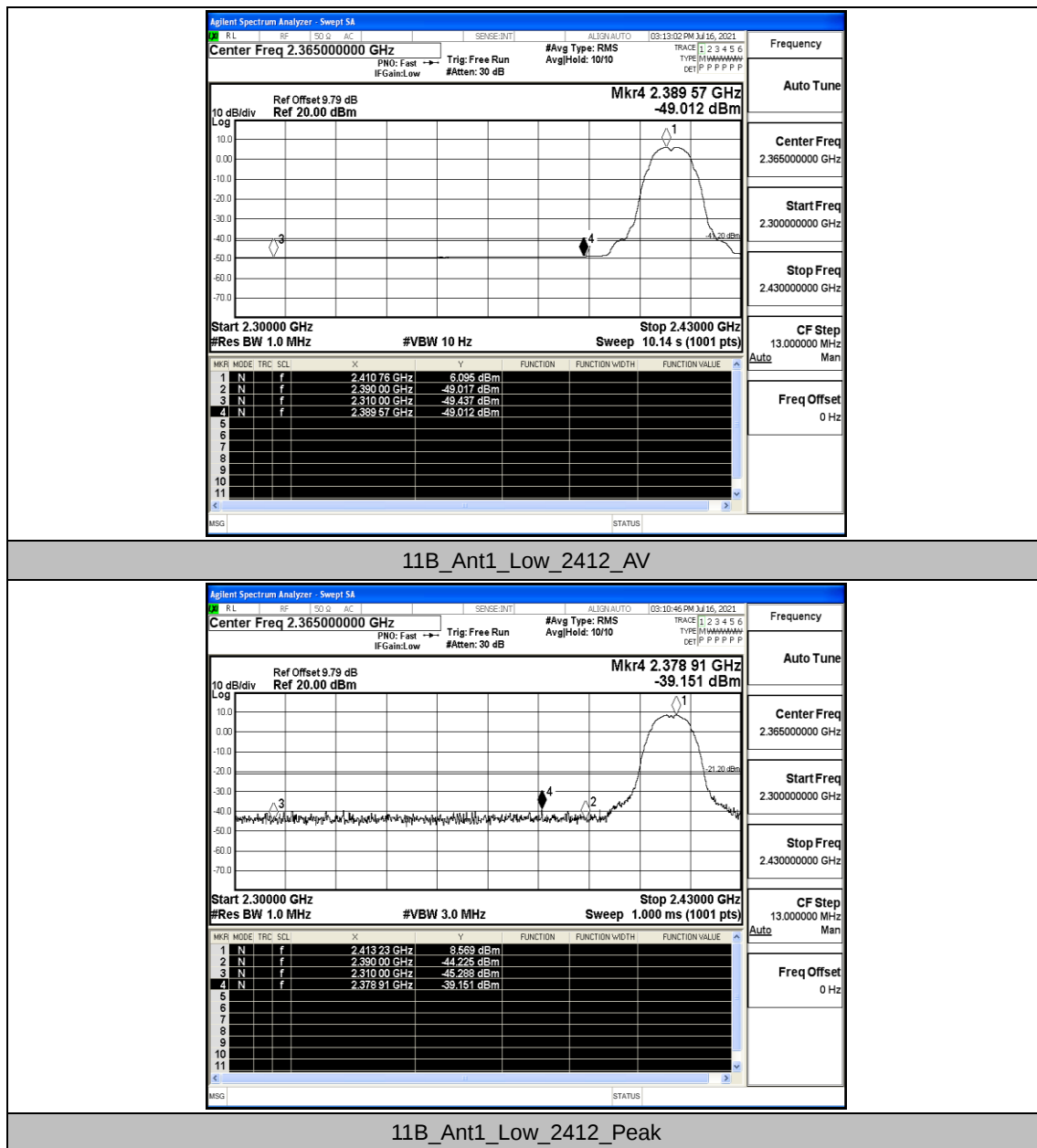


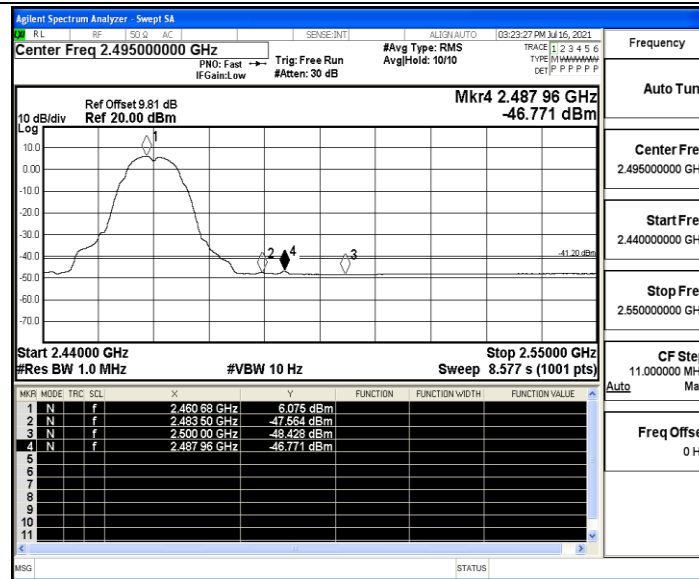
Note:

1. The Antenna Gain is compensated in the graph.
2. 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.

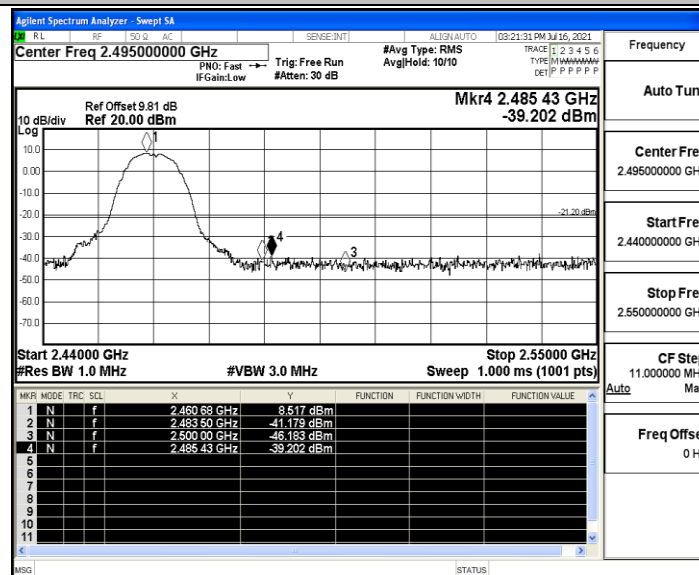


## Test Graphs

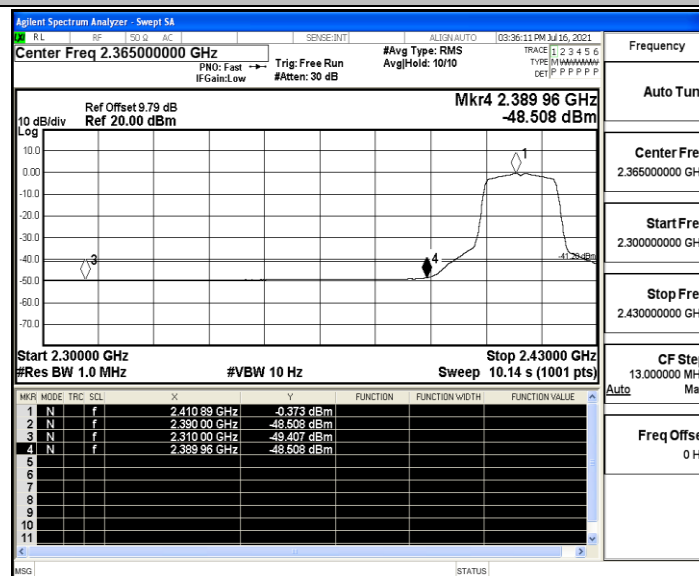




11B\_Ant1\_High\_2462\_AV

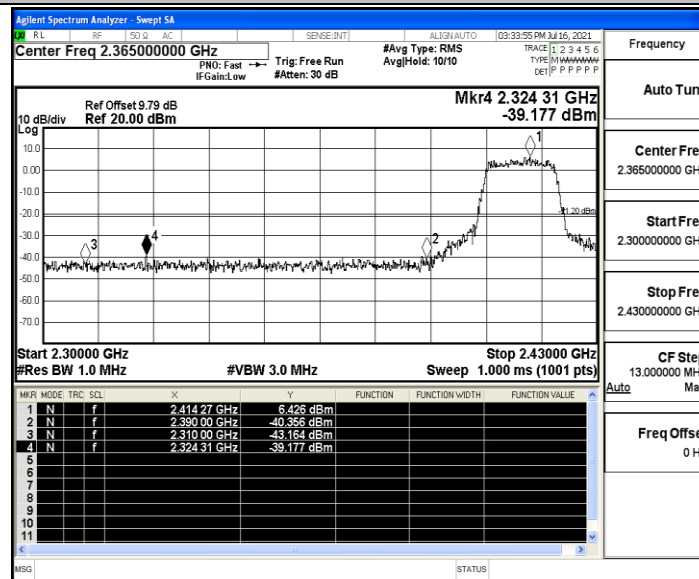


11B\_Ant1\_High\_2462\_Peak

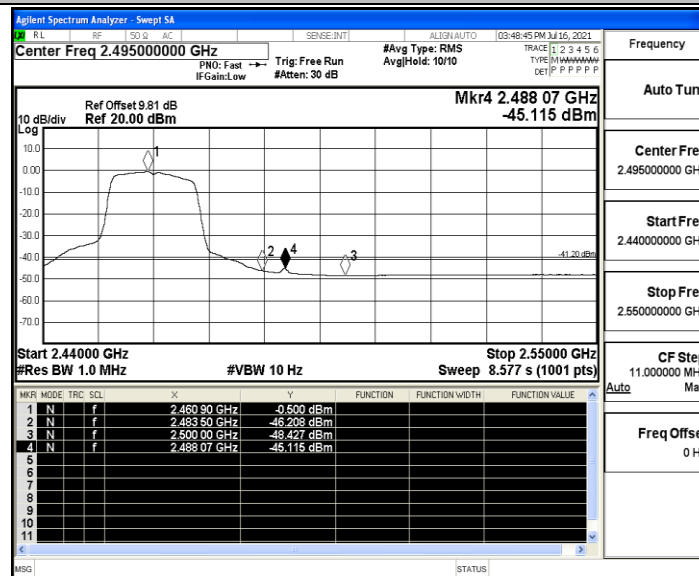




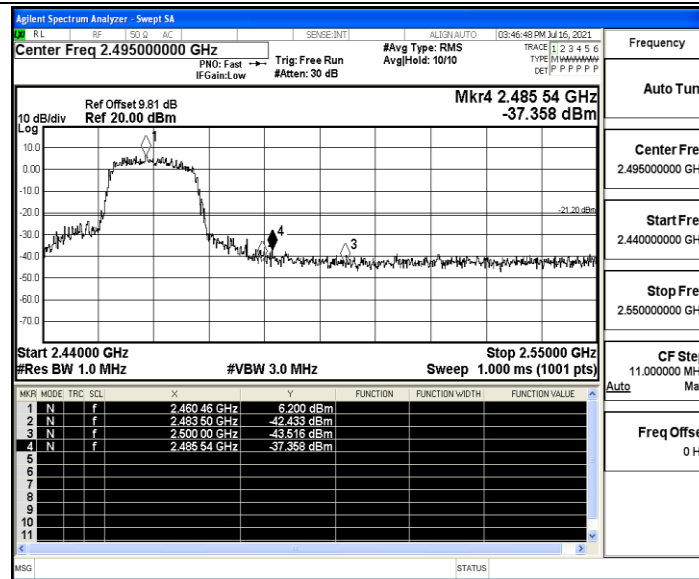
## 11G\_Ant1\_Low\_2412\_AV



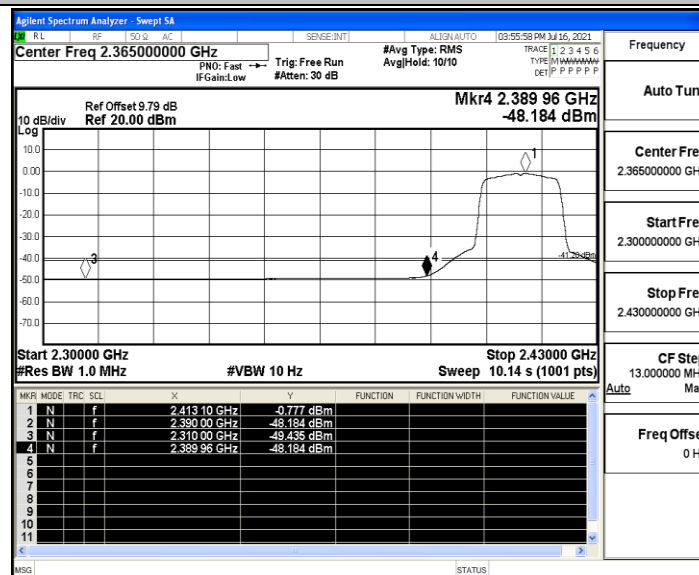
## 11G\_Ant1\_Low\_2412\_Peak



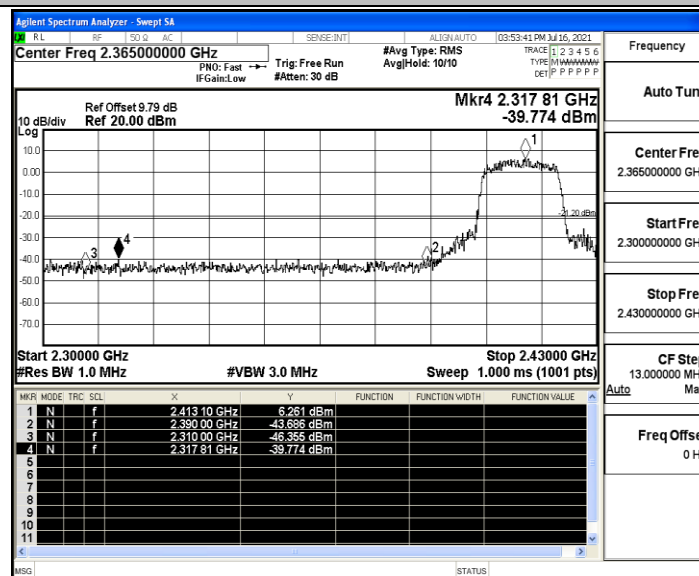
## 11G\_Ant1\_High\_2462\_AV



11G\_Ant1\_High\_2462\_Peak

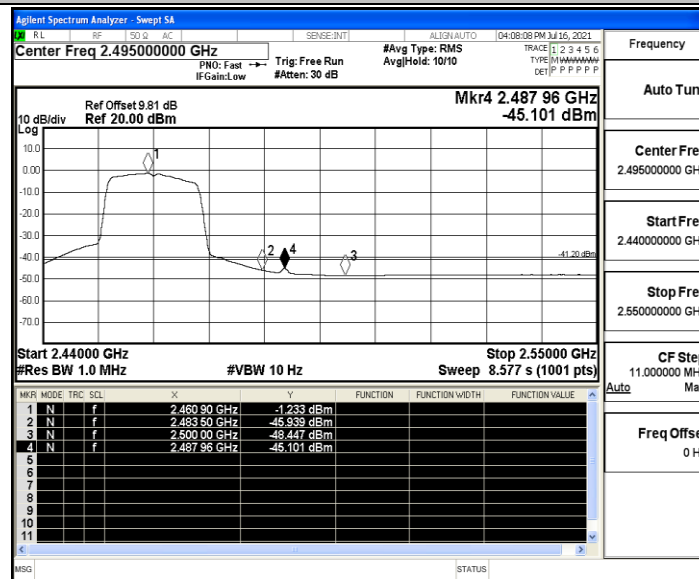


11N20SISO\_Ant1\_Low\_2412\_AV

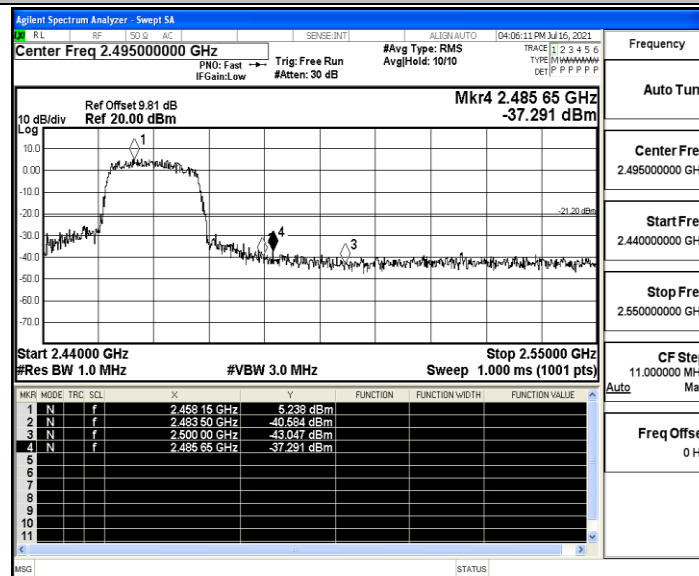




## 11N20SISO\_Ant1\_Low\_2412\_Peak



## 11N20SISO\_Ant1\_High\_2462\_AV



## 11N20SISO\_Ant1\_High\_2462\_Peak