

## Appendix A

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

Product Name: Smart Socket

Trade Mark: N/A

Test Model: C1

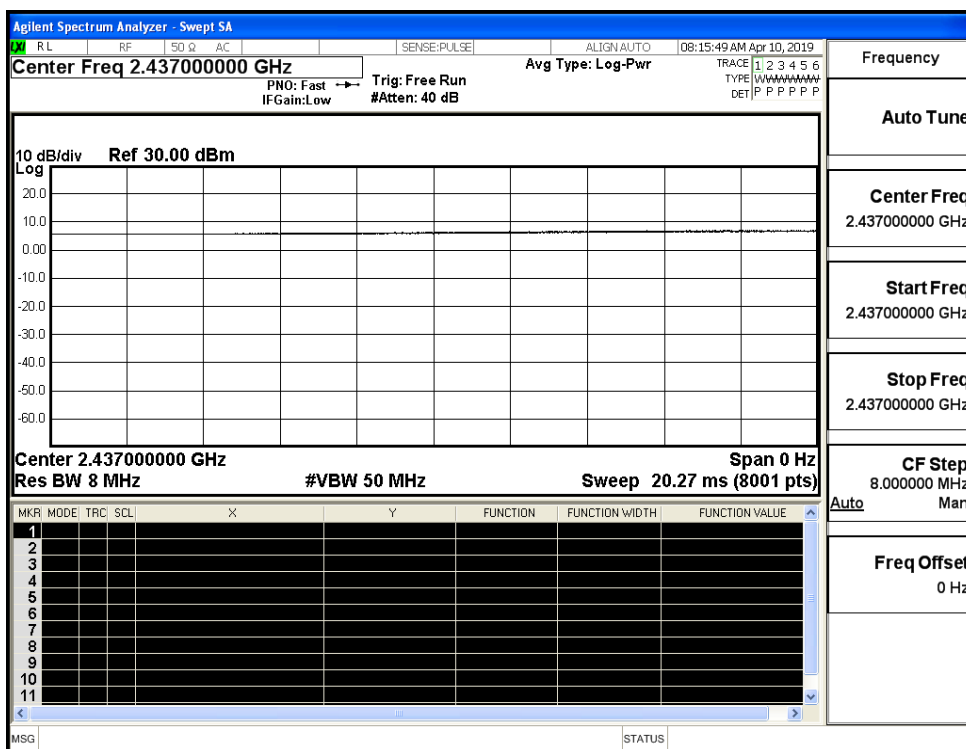
#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 23.9° C   |
| Relative Humidity: | 52.6%     |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Mina.Xu   |
| Supervised by:     | Tom.Liu   |

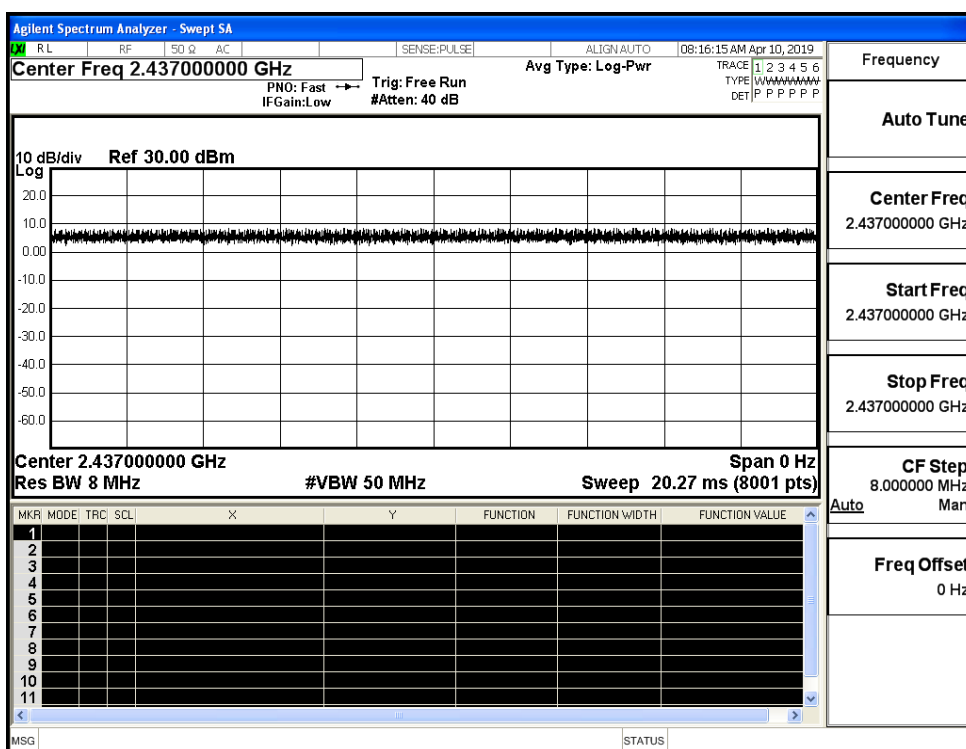
#### A.1 Duty Cycle

| Test Mode | Test Channel | Ant  | Duty Cycle[%] | Verdict |
|-----------|--------------|------|---------------|---------|
| 11B       | 2437         | Ant1 | 100           | PASS    |
| 11G       | 2437         | Ant1 | 100           | PASS    |
| 11N20SISO | 2437         | Ant1 | 100           | PASS    |

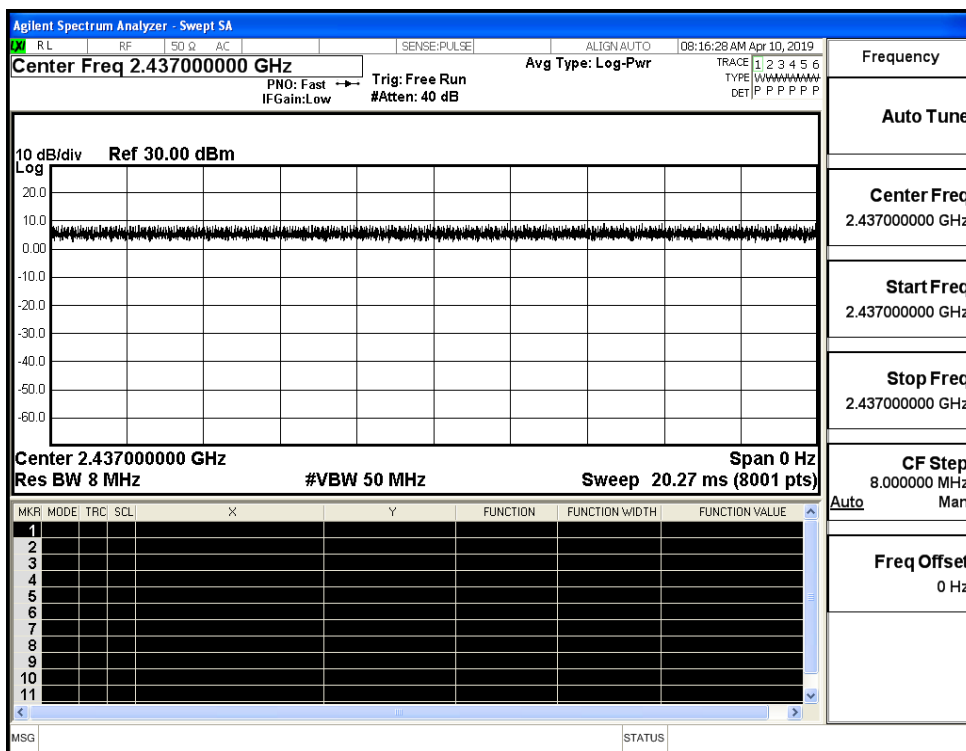
## Duty Cycle\_11B\_2437\_Ant1



## Duty Cycle\_11G\_2437\_Ant1



## Duty Cycle\_11N20SISO\_2437\_Ant1



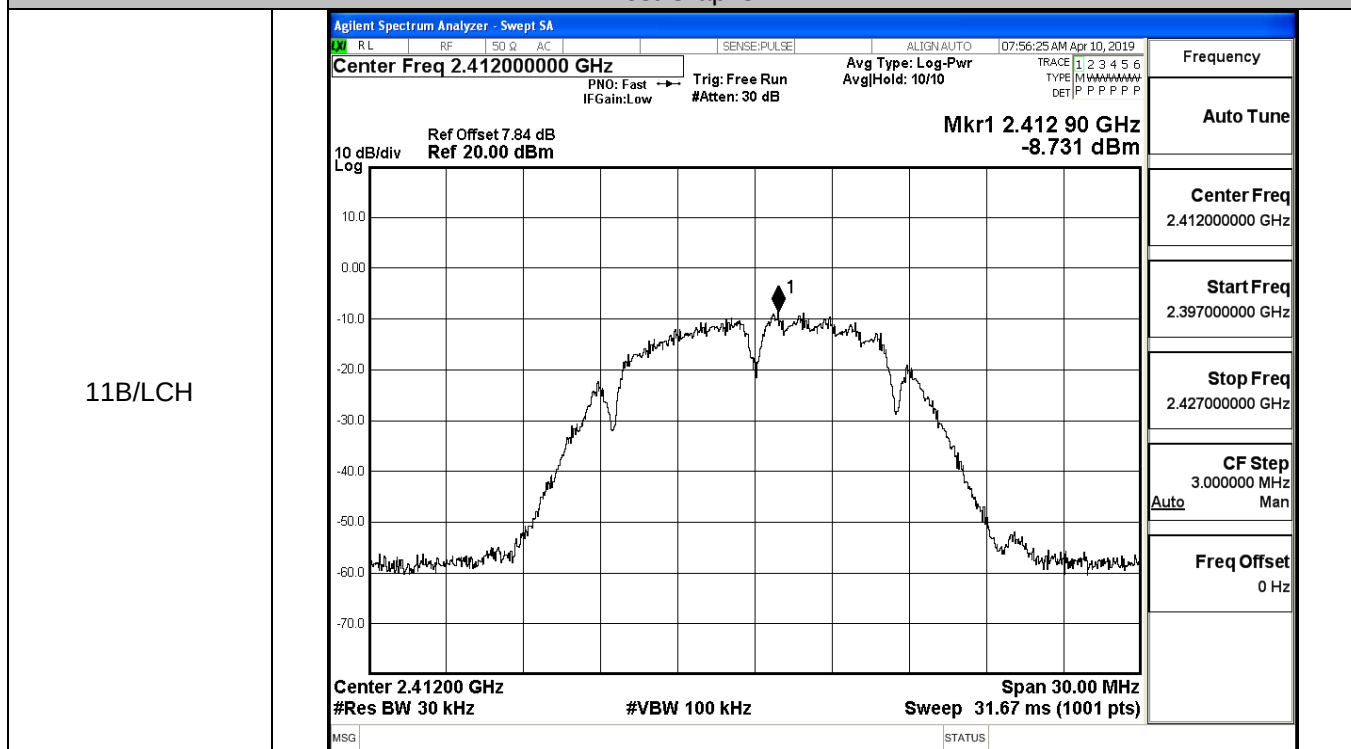
**A.2 Maximum Conducted Output Power**

| Mode      | Channel | Meas.Level [dBm] | Limit [dBm] | Verdict |
|-----------|---------|------------------|-------------|---------|
| 11B       | LCH     | 9.12             | 30          | PASS    |
|           | MCH     | 10.67            | 30          | PASS    |
|           | HCH     | 10.48            | 30          | PASS    |
| 11G       | LCH     | 12.45            | 30          | PASS    |
|           | MCH     | 12.11            | 30          | PASS    |
|           | HCH     | 12.05            | 30          | PASS    |
| 11N20SISO | LCH     | 12.40            | 30          | PASS    |
|           | MCH     | 12.32            | 30          | PASS    |
|           | HCH     | 12.21            | 30          | PASS    |

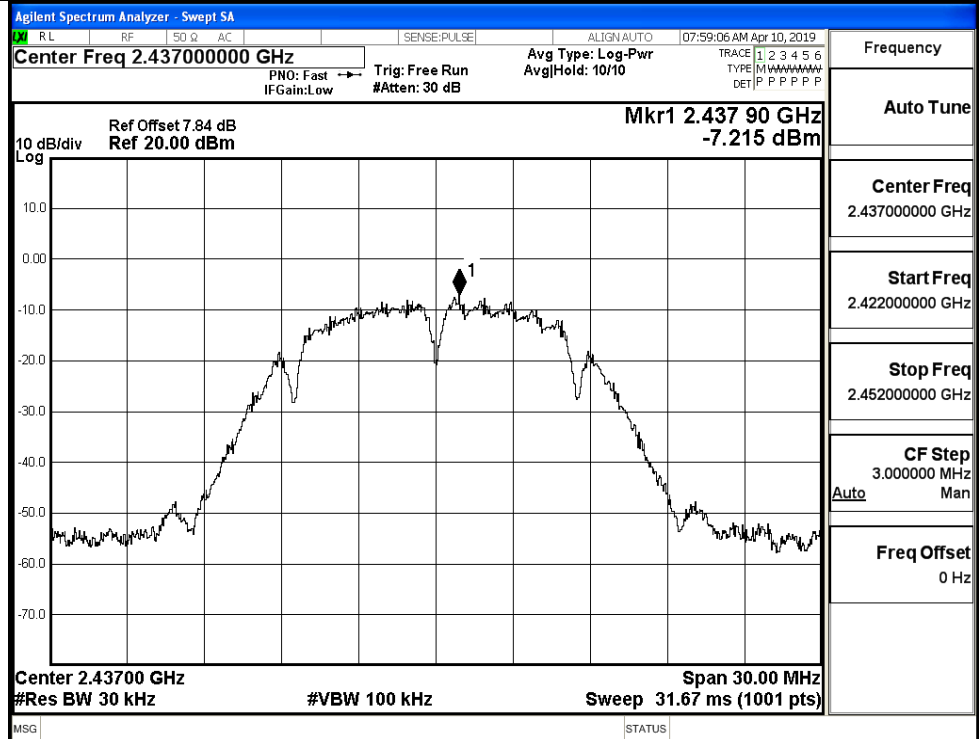
### A.3 Maximum Power Spectral Density

| Mode      | Channel | Meas.Level [dBm/30KHz] | Limit [dBm/3KHz] | Verdict |
|-----------|---------|------------------------|------------------|---------|
| 11B       | LCH     | -8.731                 | 8                | PASS    |
|           | MCH     | -7.215                 | 8                | PASS    |
|           | HCH     | -7.389                 | 8                | PASS    |
| 11G       | LCH     | -11.379                | 8                | PASS    |
|           | MCH     | -12.178                | 8                | PASS    |
|           | HCH     | -10.445                | 8                | PASS    |
| 11N20SISO | LCH     | -11.425                | 8                | PASS    |
|           | MCH     | -12.532                | 8                | PASS    |
|           | HCH     | -11.328                | 8                | PASS    |

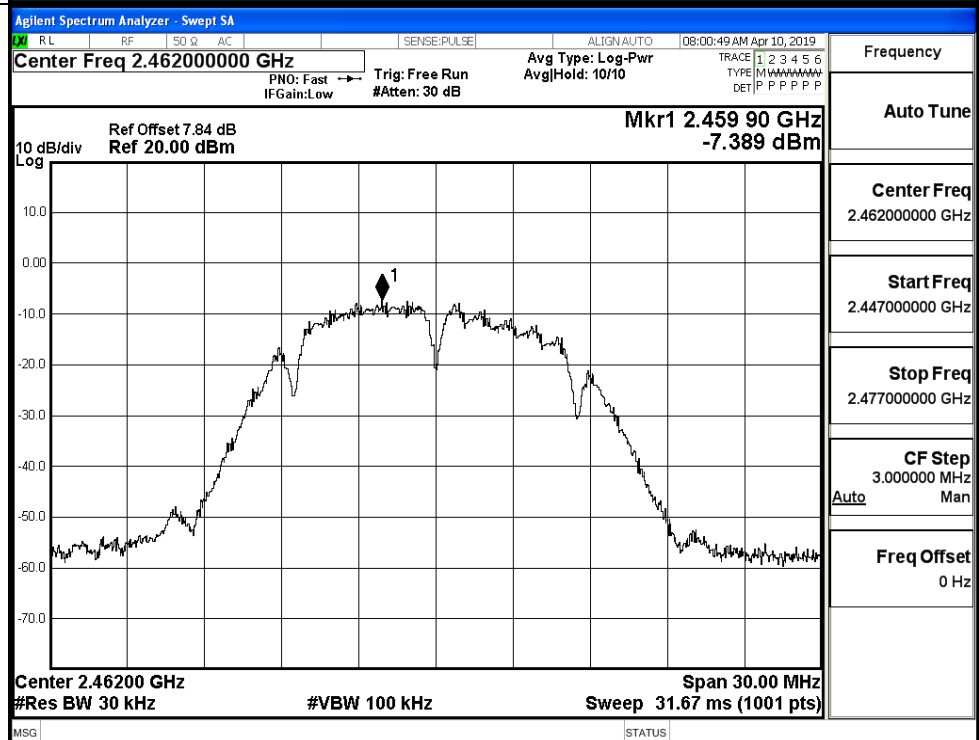
#### Test Graphs



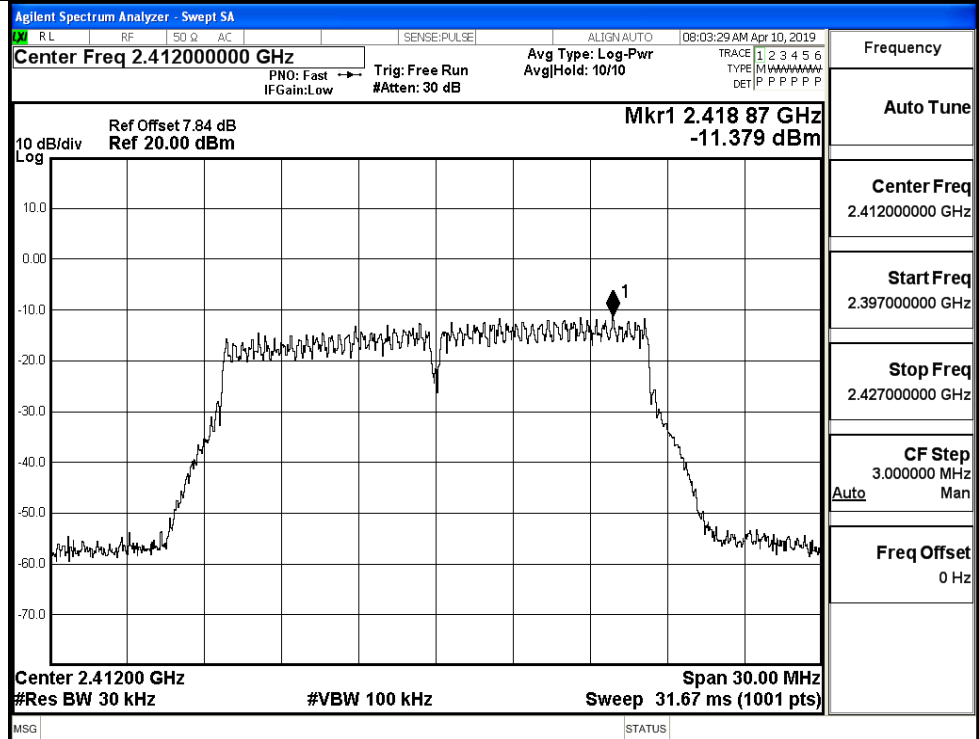
11B/MCH



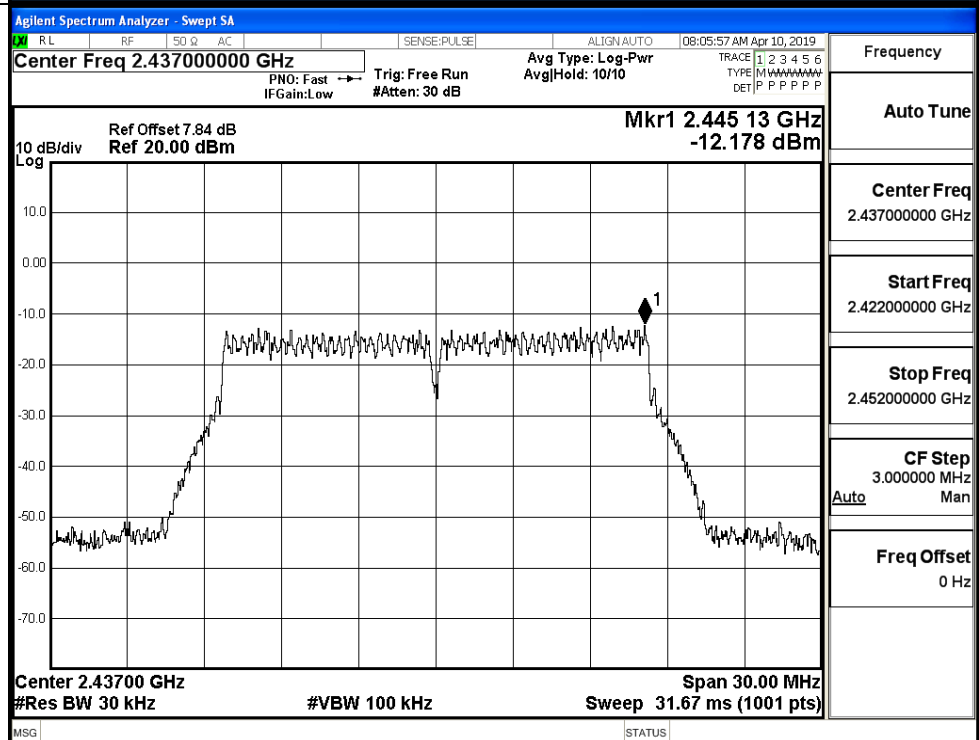
11B/HCH



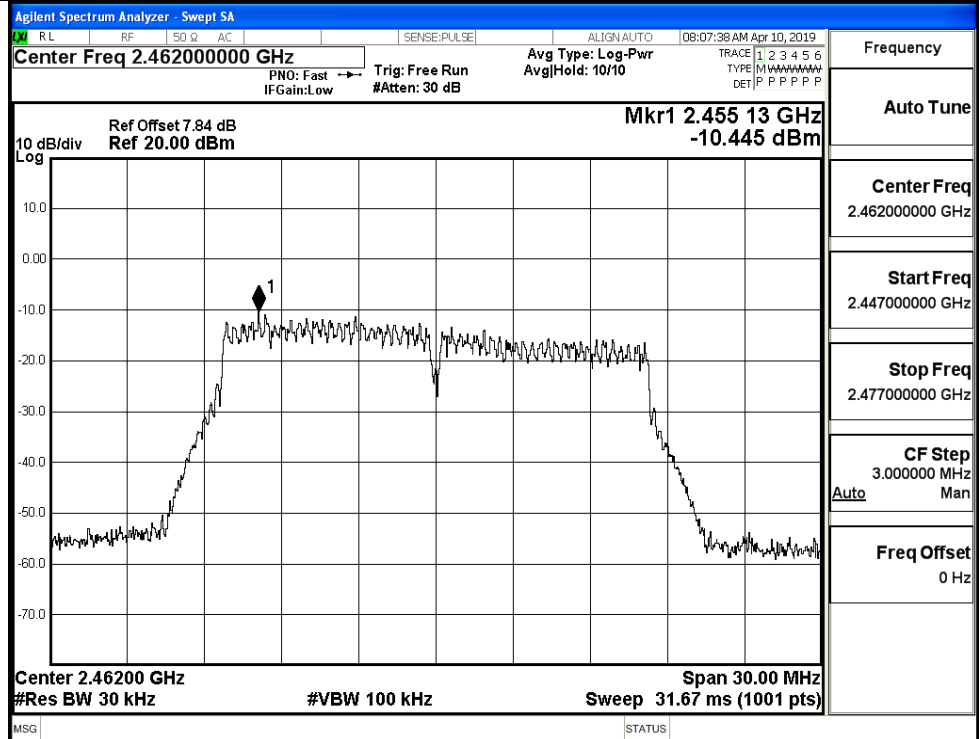
11G/LCH



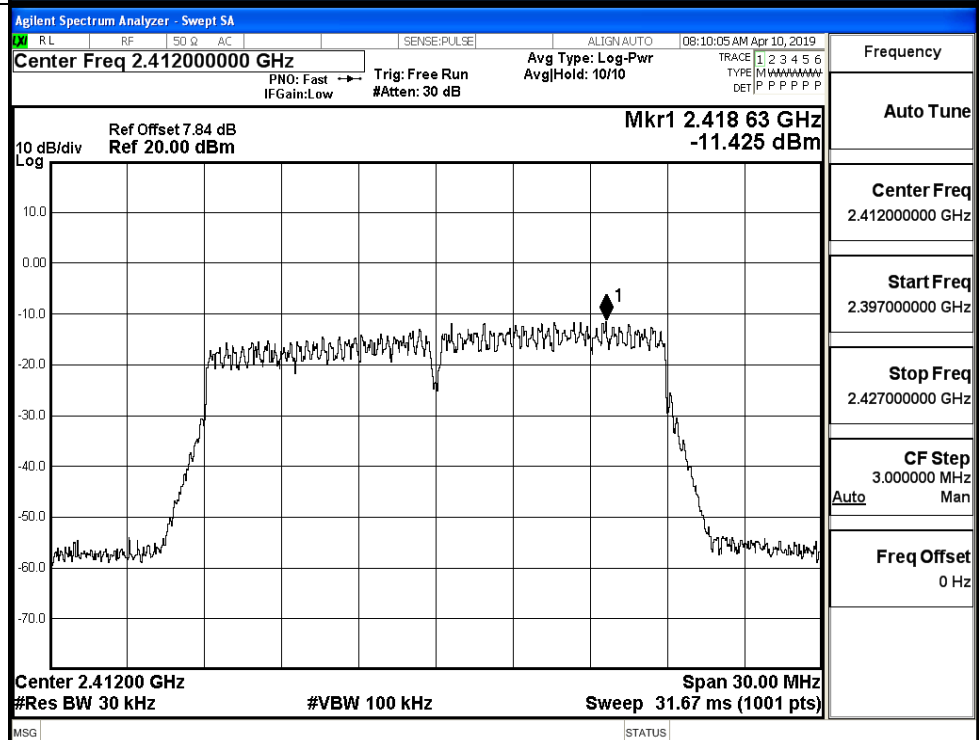
11G/MCH



11G/HCH

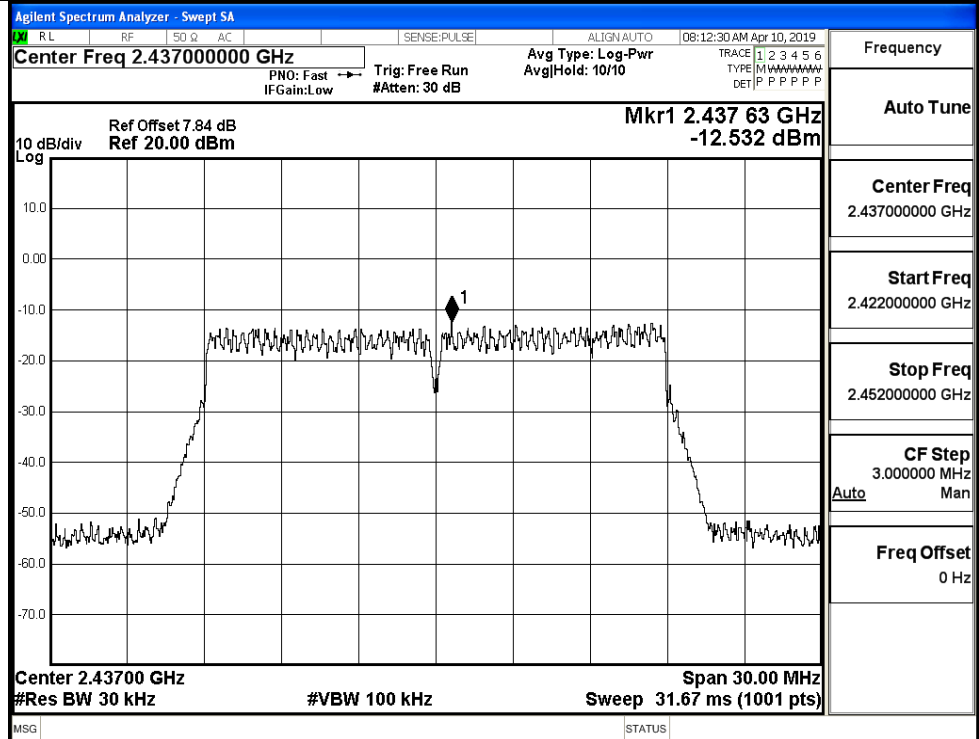


11N20SISO/LCH

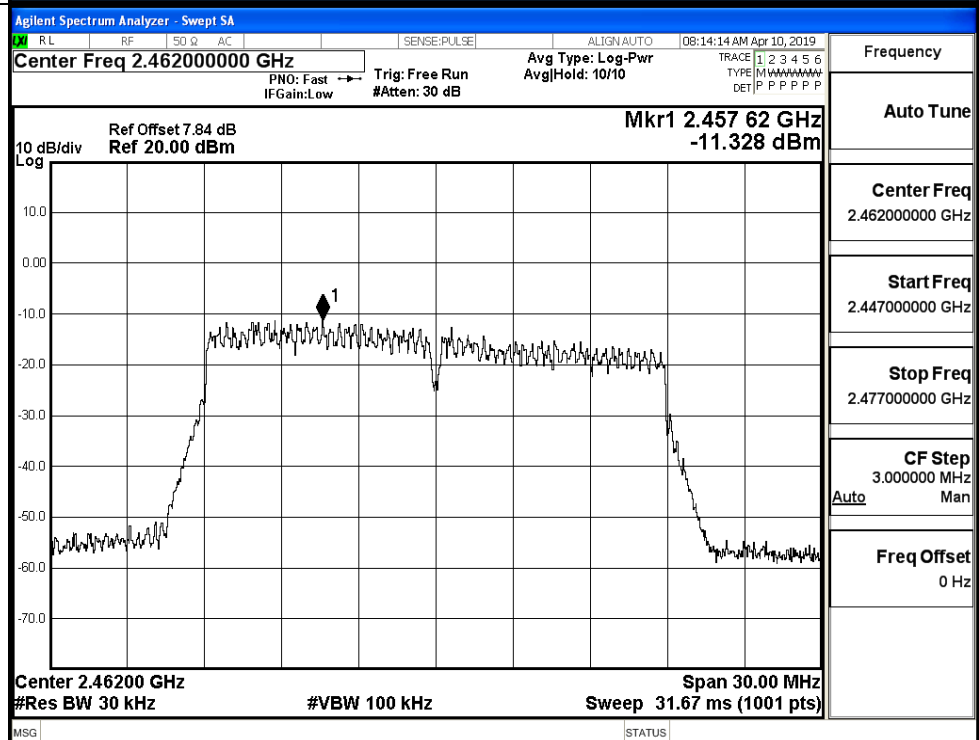




11N20SISO/MCH



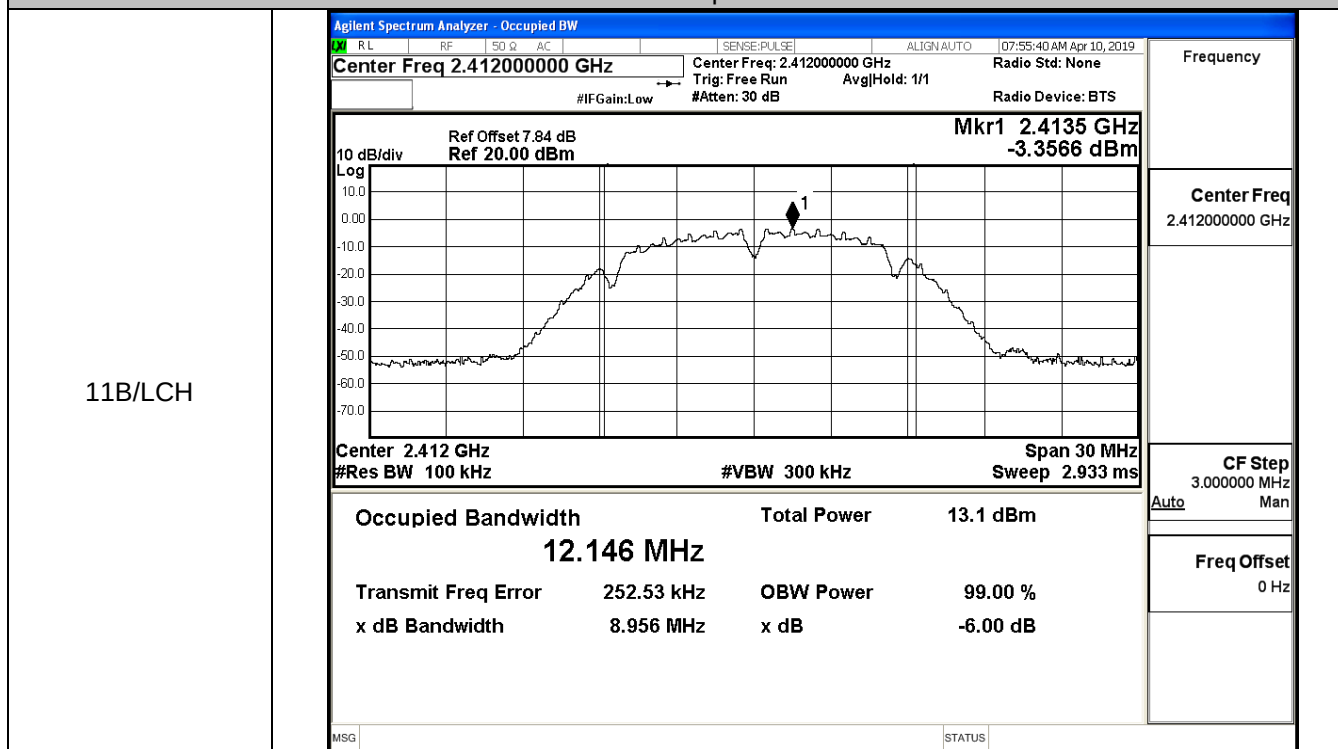
11N20SISO/HCH



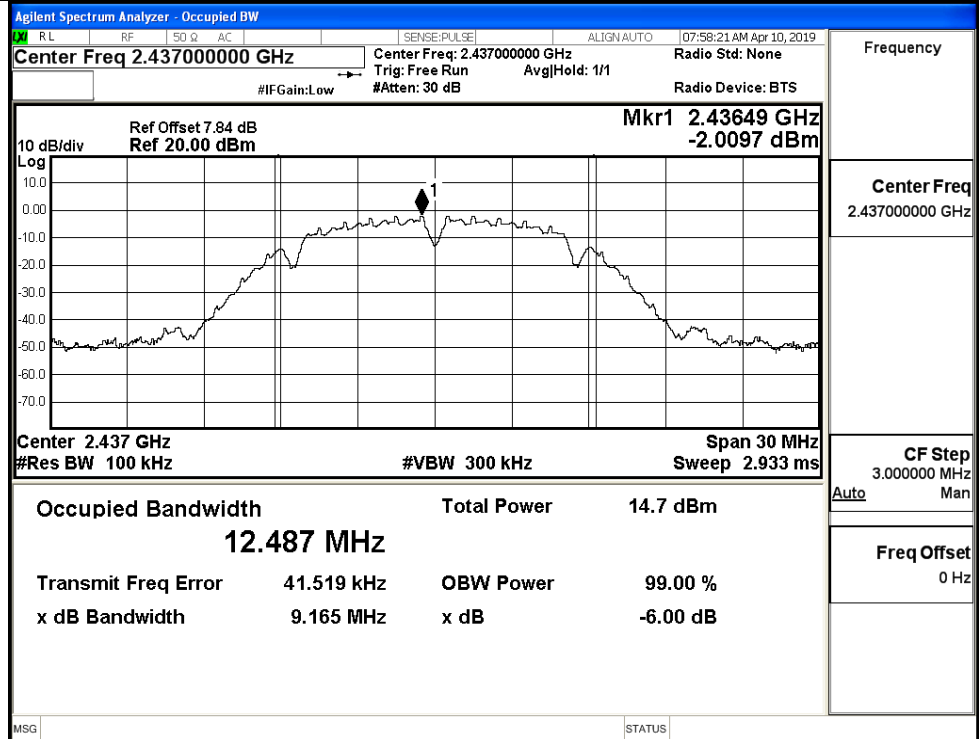
## A.4 6dB Bandwidth

| Mode      | Channel | 6dB Bandwidth [MHz] | Limit [MHz] | Verdict |
|-----------|---------|---------------------|-------------|---------|
| 11B       | LCH     | 8.956               | $\geq 0.5$  | PASS    |
|           | MCH     | 9.165               | $\geq 0.5$  | PASS    |
|           | HCH     | 8.581               | $\geq 0.5$  | PASS    |
| 11G       | LCH     | 16.47               | $\geq 0.5$  | PASS    |
|           | MCH     | 16.63               | $\geq 0.5$  | PASS    |
|           | HCH     | 16.22               | $\geq 0.5$  | PASS    |
| 11N20SISO | LCH     | 17.71               | $\geq 0.5$  | PASS    |
|           | MCH     | 17.84               | $\geq 0.5$  | PASS    |
|           | HCH     | 17.31               | $\geq 0.5$  | PASS    |

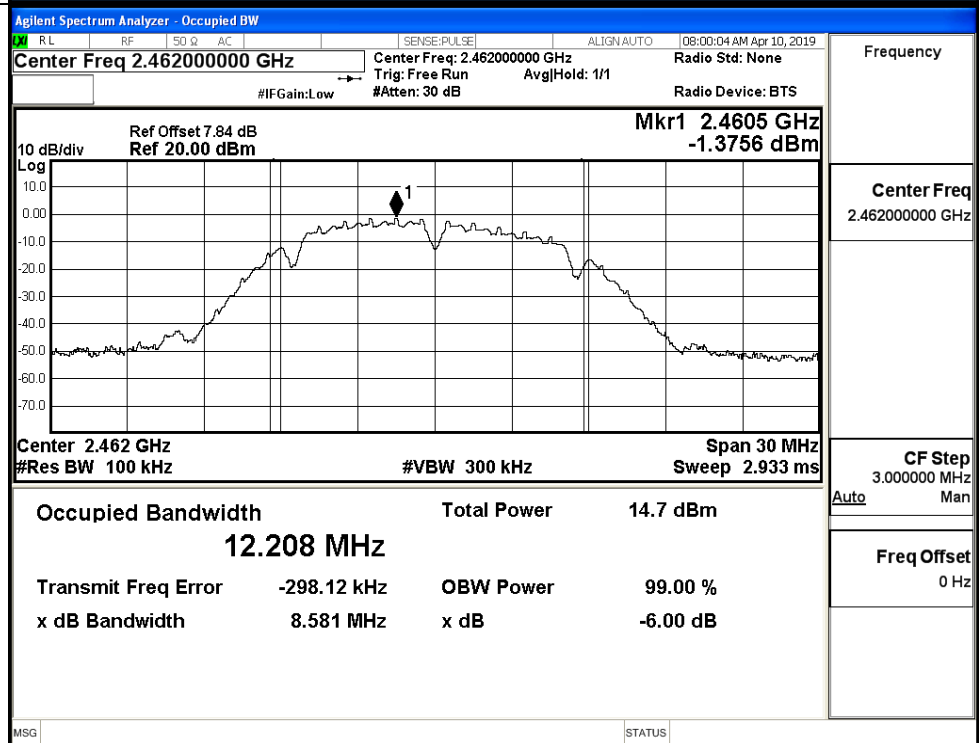
## Test Graphs



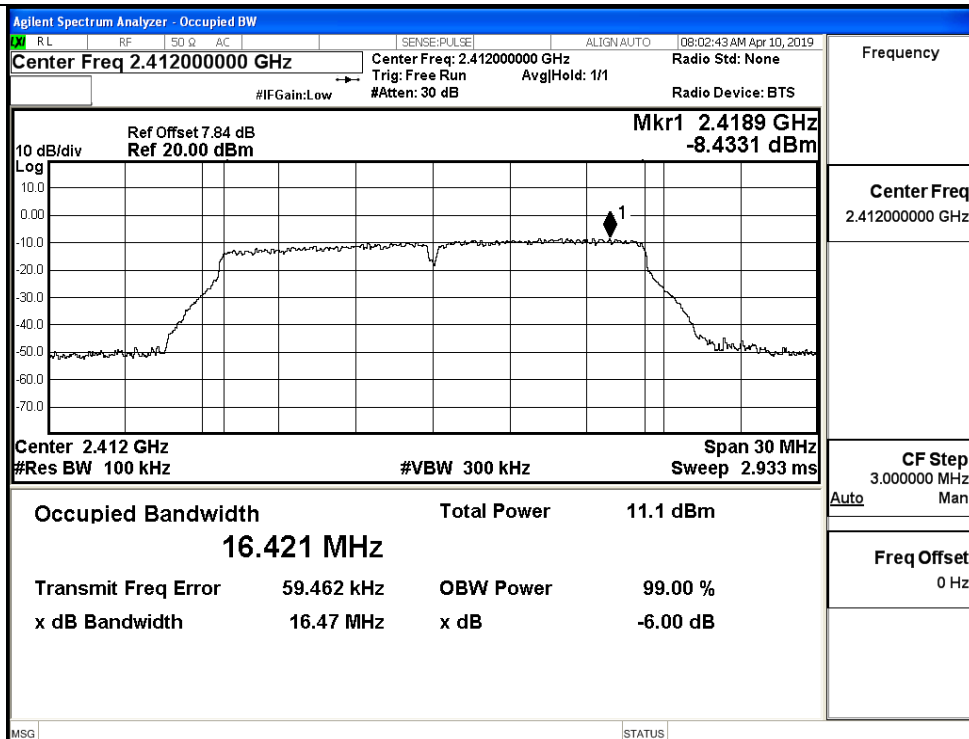
11B/MCH



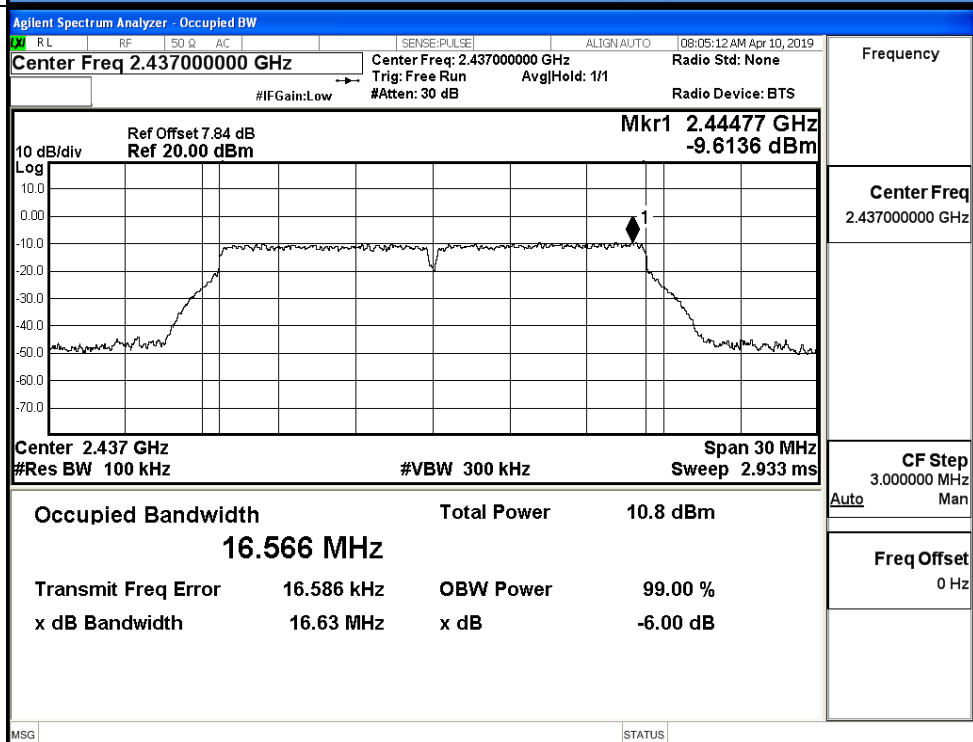
11B/HCH



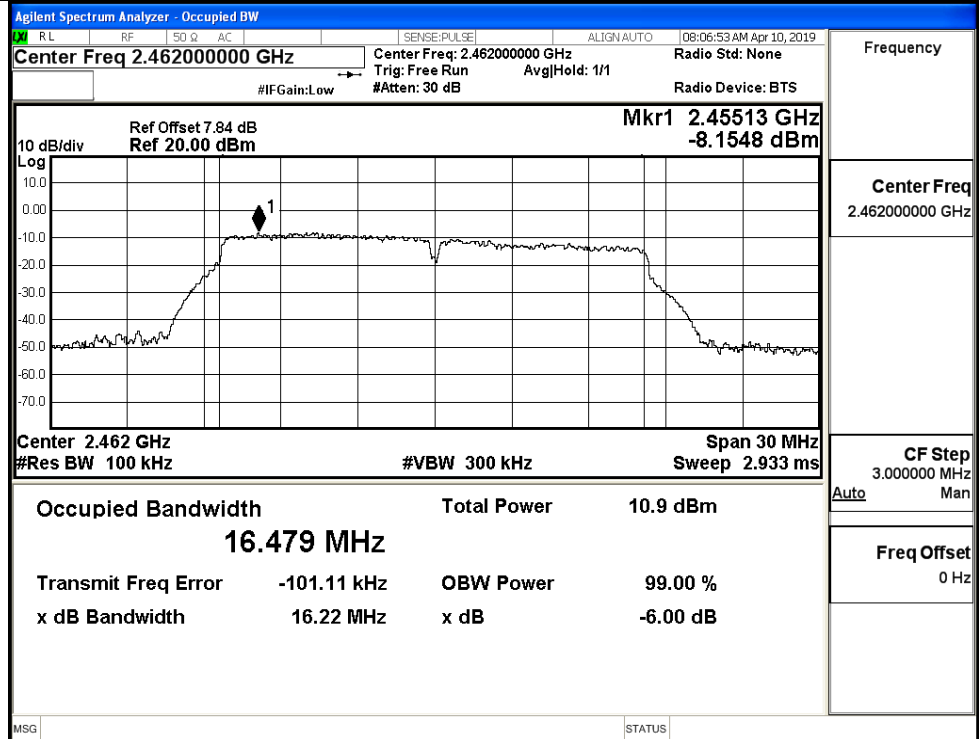
11G/LCH



11G/MCH



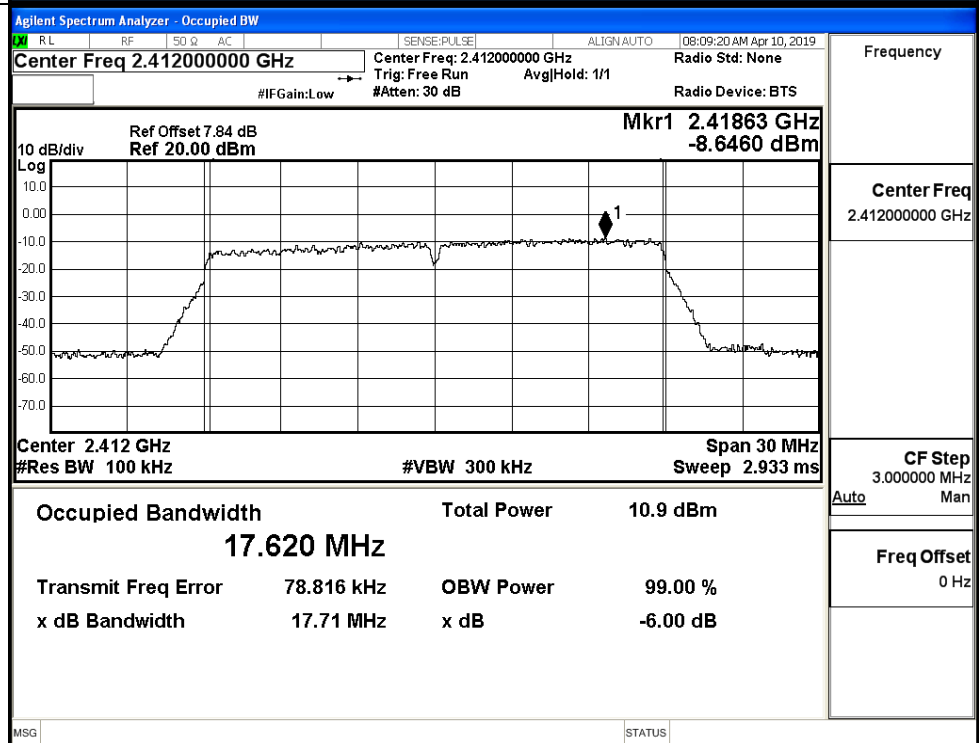
11G/HCH



Frequency

Center Freq  
2.462000000 GHzCF Step  
3.000000 MHz  
Auto ManFreq Offset  
0 Hz

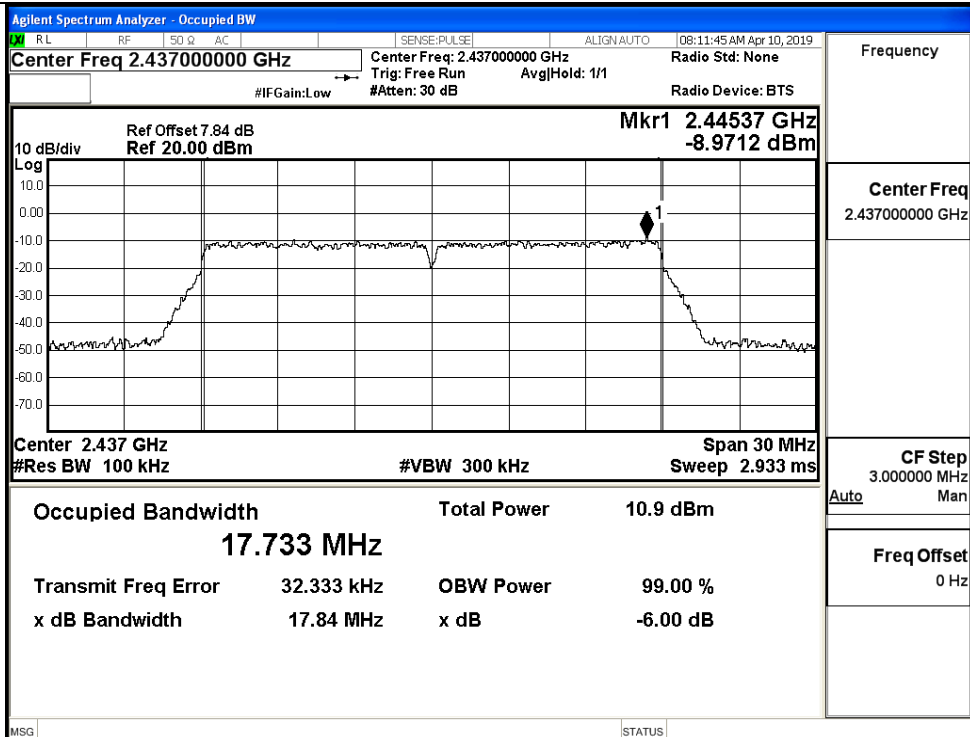
11N20SISO/LCH



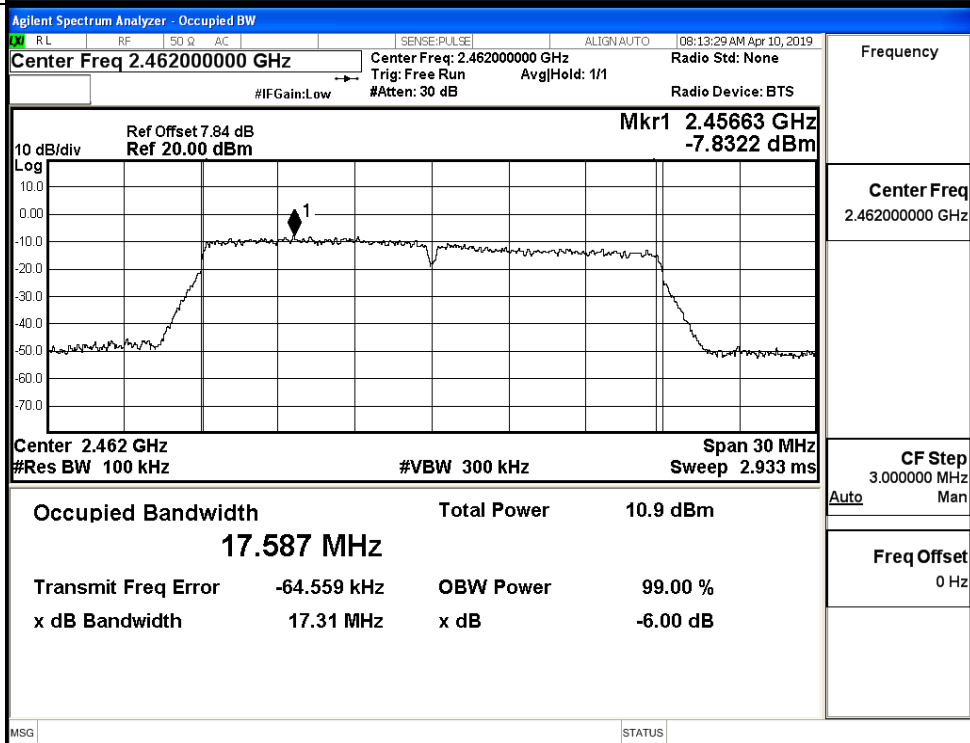
Frequency

Center Freq  
2.412000000 GHzCF Step  
3.000000 MHz  
Auto ManFreq Offset  
0 Hz

11N20SISO/MCH



11N20SISO/HCH

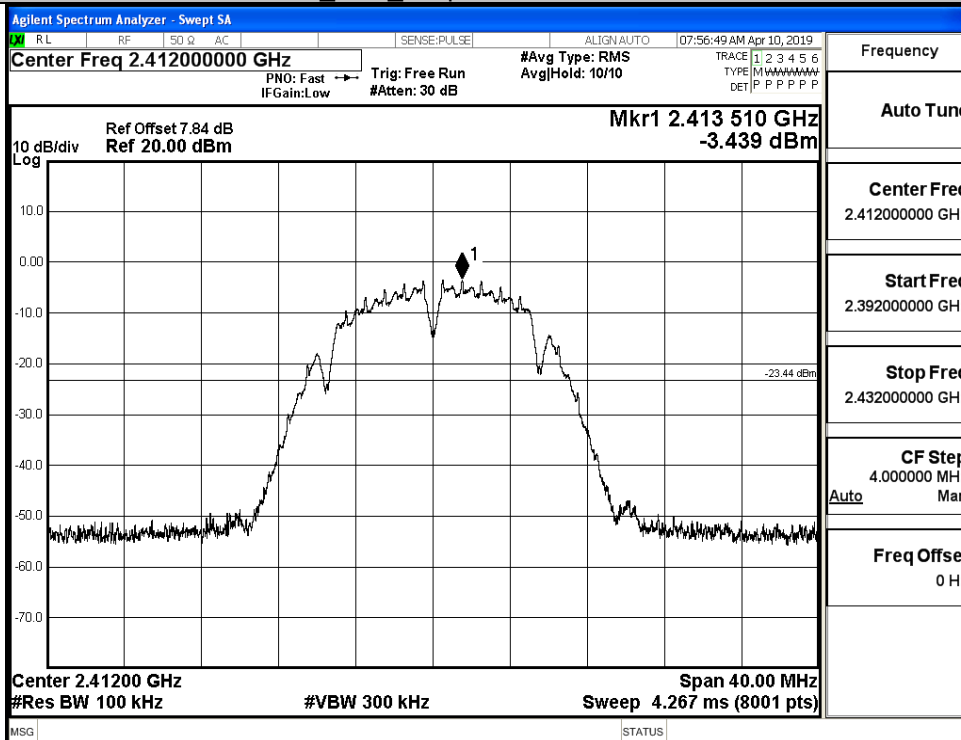


**A.5 RF Conducted Spurious Emissions**

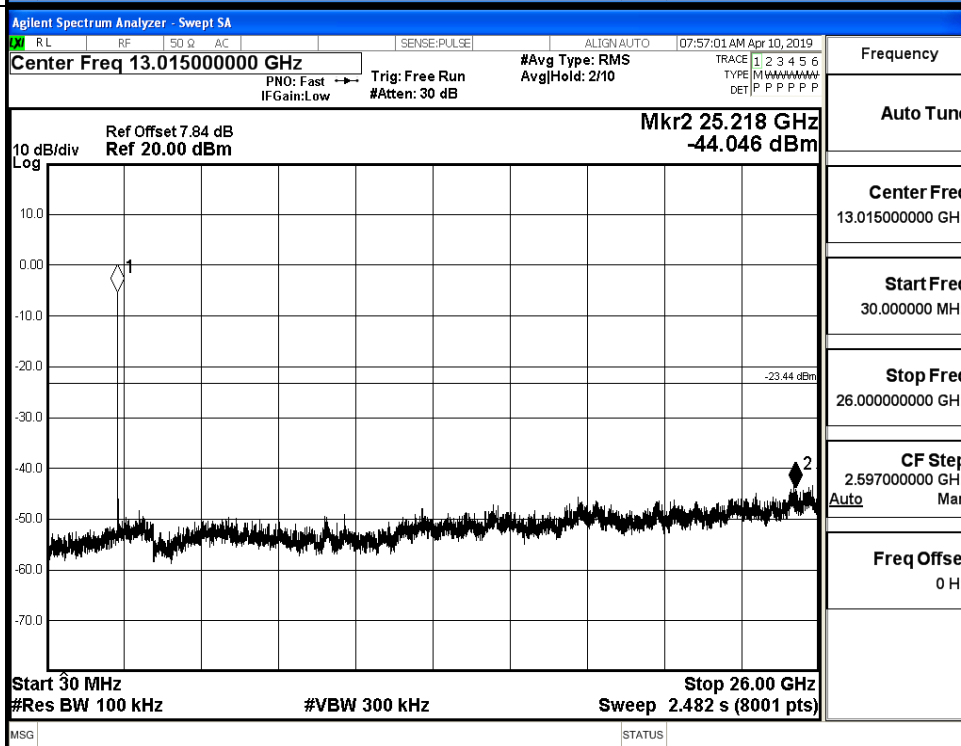
| Mode          | Channel | Pref [dBm] | Max. Level [dBm] | Limit [dBm] | Verdict |
|---------------|---------|------------|------------------|-------------|---------|
| 11B           | LCH     | -3.439     | -44.046          | -23.439     | PASS    |
|               | MCH     | -2.136     | -43.650          | -22.136     | PASS    |
|               | HCH     | -1.512     | -43.745          | -21.512     | PASS    |
| 11G           | LCH     | -8.527     | -44.285          | -28.527     | PASS    |
|               | MCH     | -9.659     | -43.775          | -29.659     | PASS    |
|               | HCH     | -8.405     | -44.511          | -28.405     | PASS    |
| 11N20<br>SISO | LCH     | -8.794     | -44.204          | -28.794     | PASS    |
|               | MCH     | -9.014     | -44.124          | -29.014     | PASS    |
|               | HCH     | -8.025     | -44.177          | -28.025     | PASS    |

## 11B LCH Graphs

Pref/11B/LCH



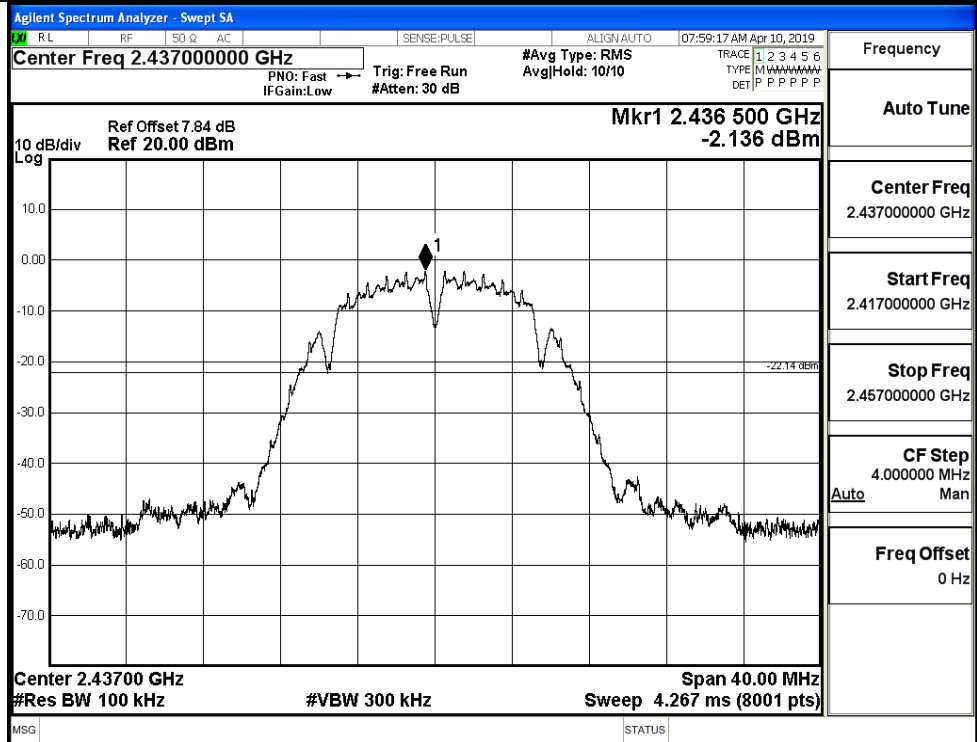
Puw/11B/LCH



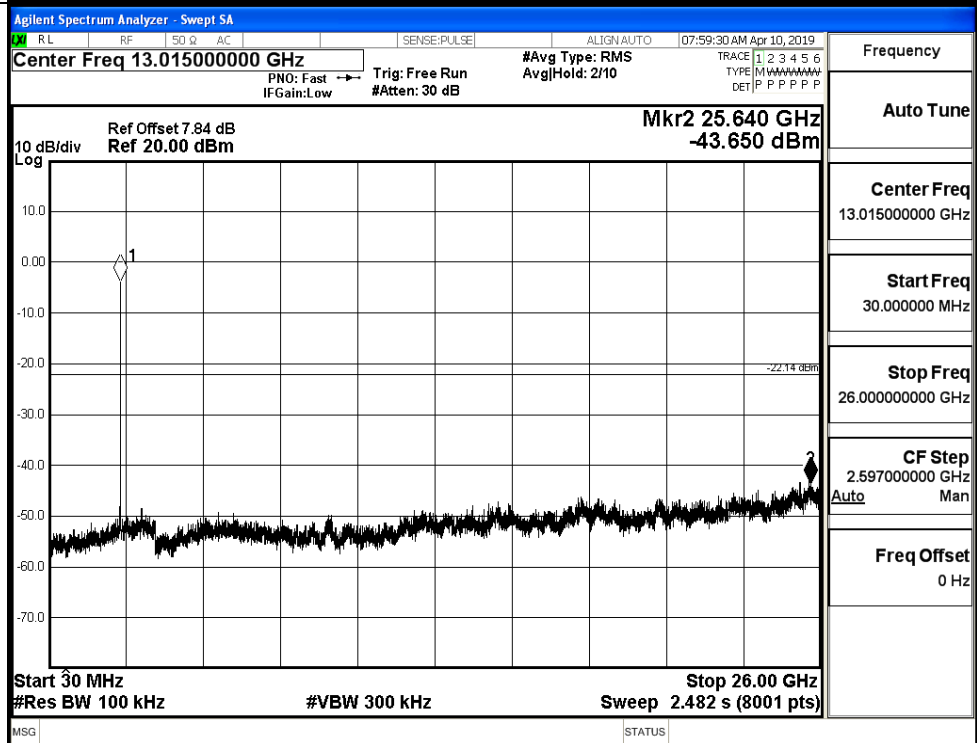


## 11B MCH Graphs

Pref/11B/MCH

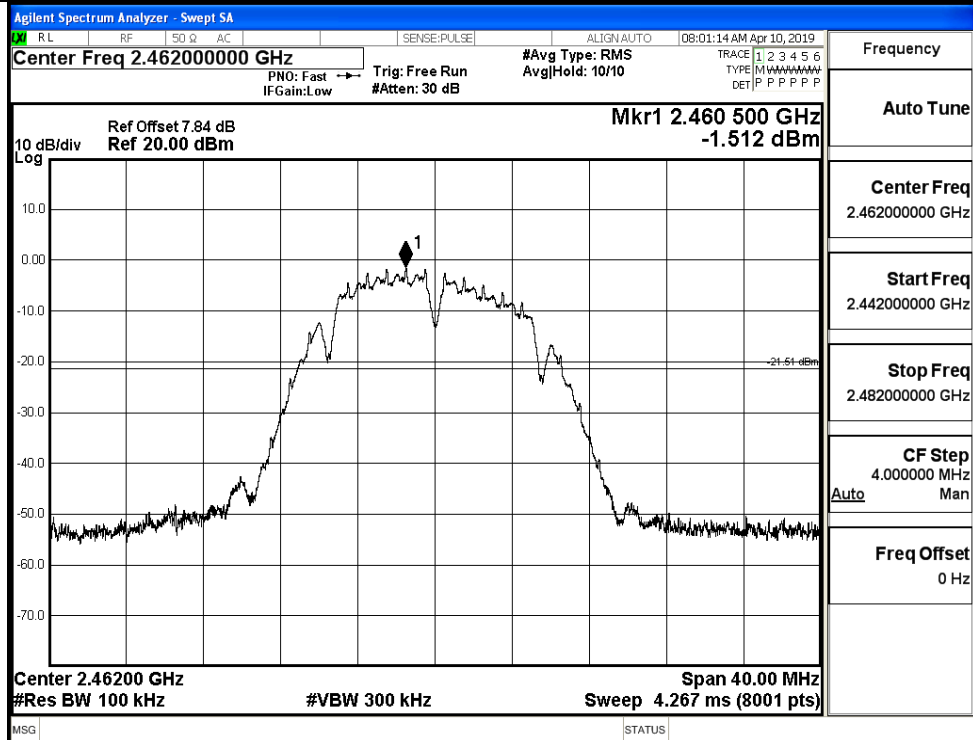


Puw/11B/MCH

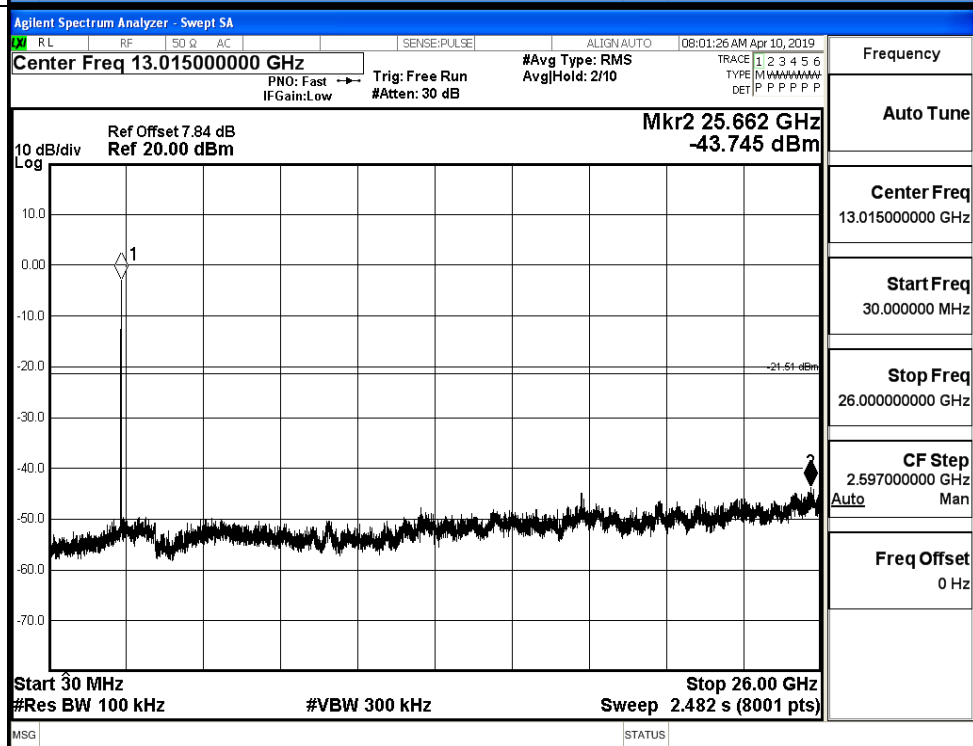


## 11B HCH Graphs

Pref/11B/HCH

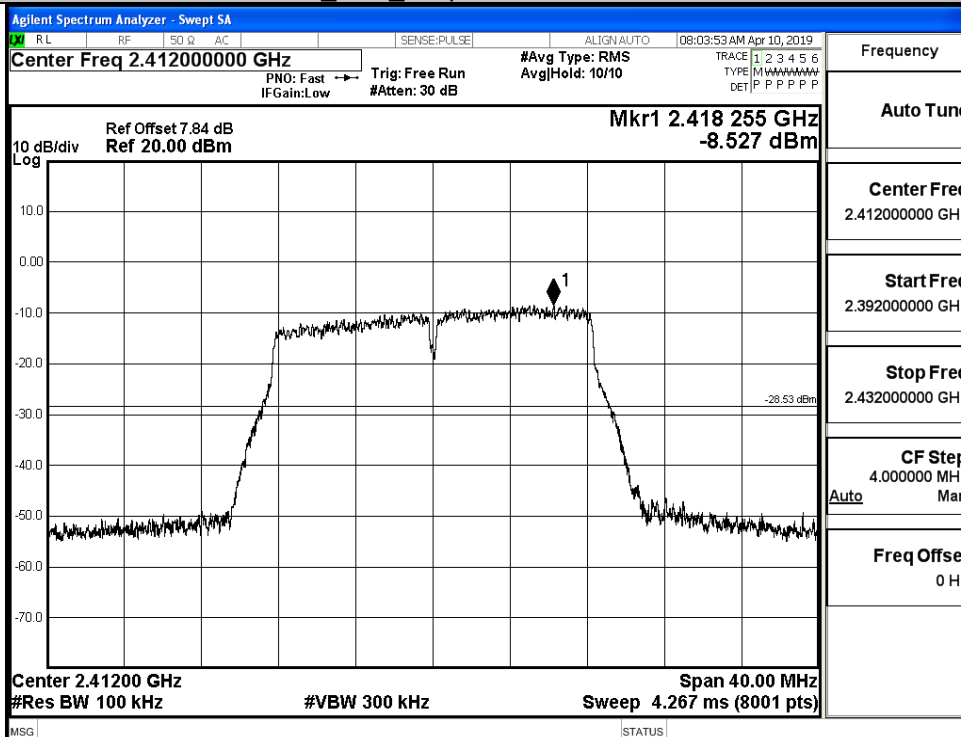


Puw/11B/HCH

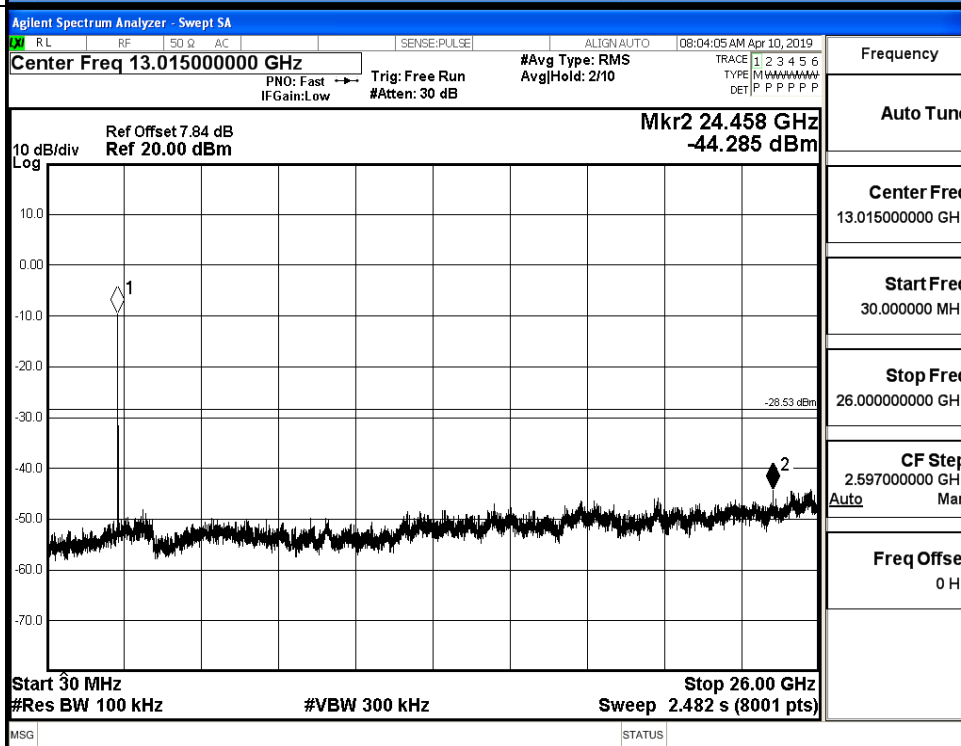


## 11G LCH Graphs

Pref/11G/LCH

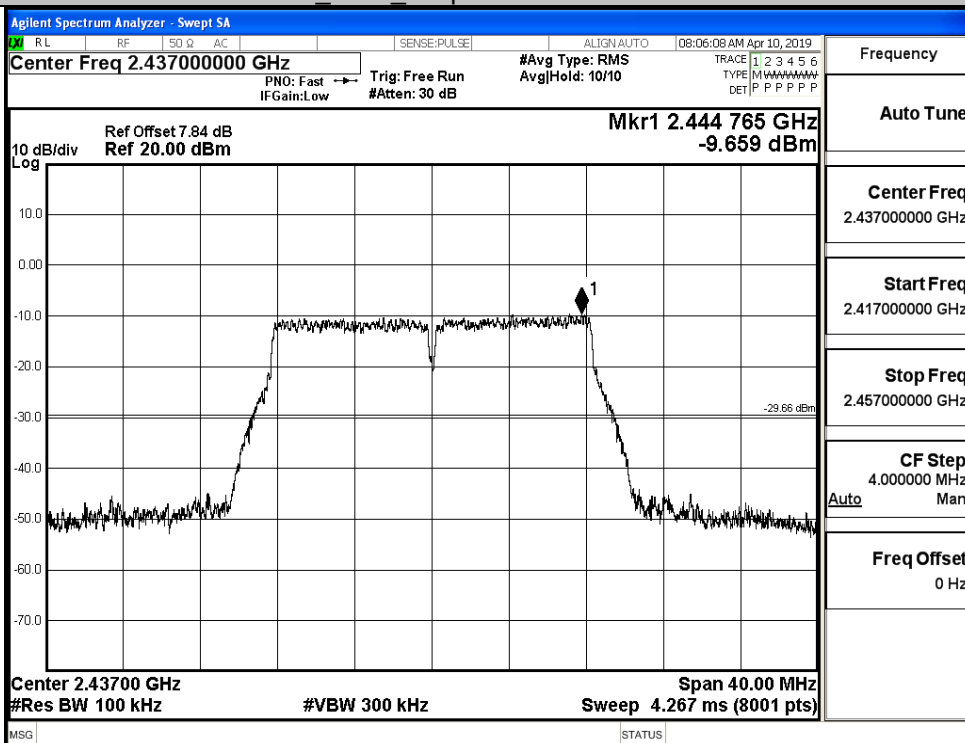


Puw/11G/LCH

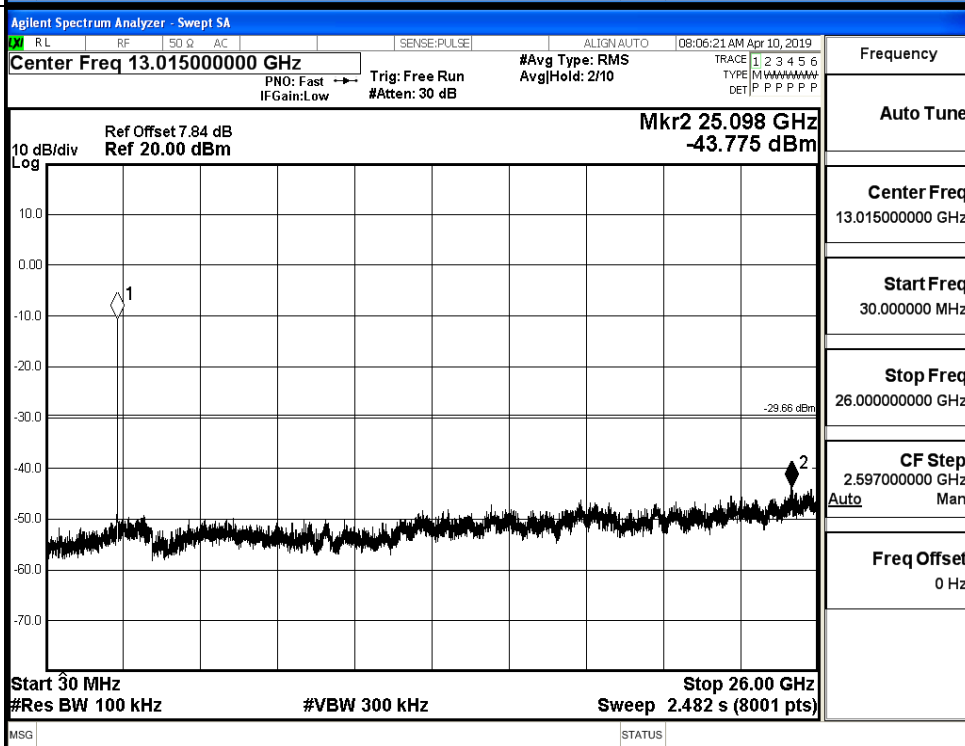


## 11G MCH Graphs

Pref/11G/MCH

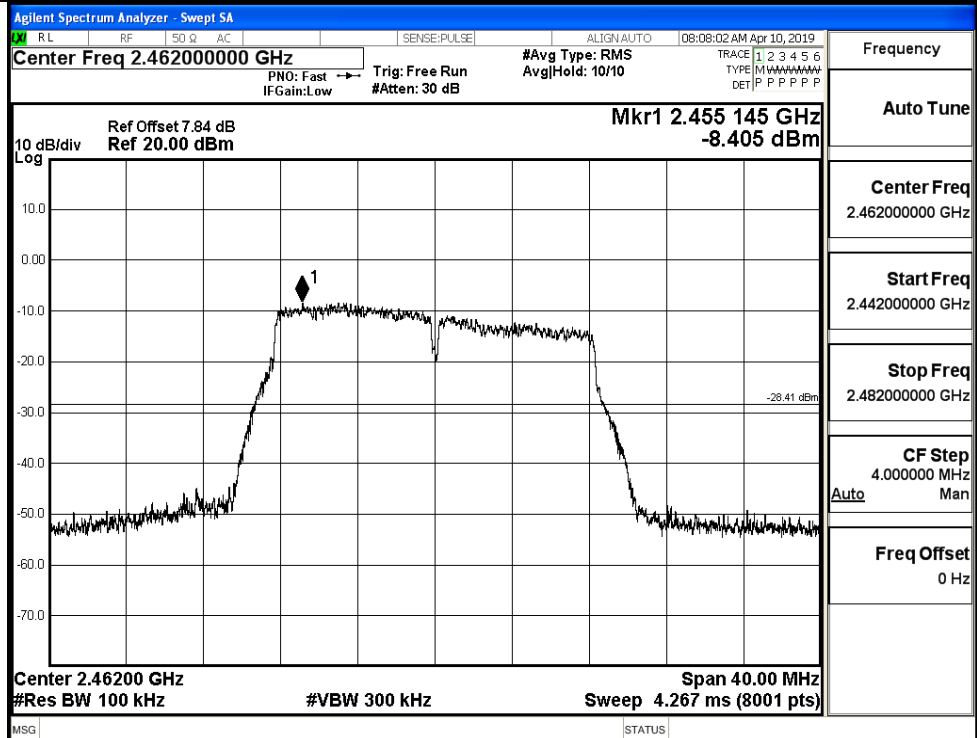


Puw/11G/MCH

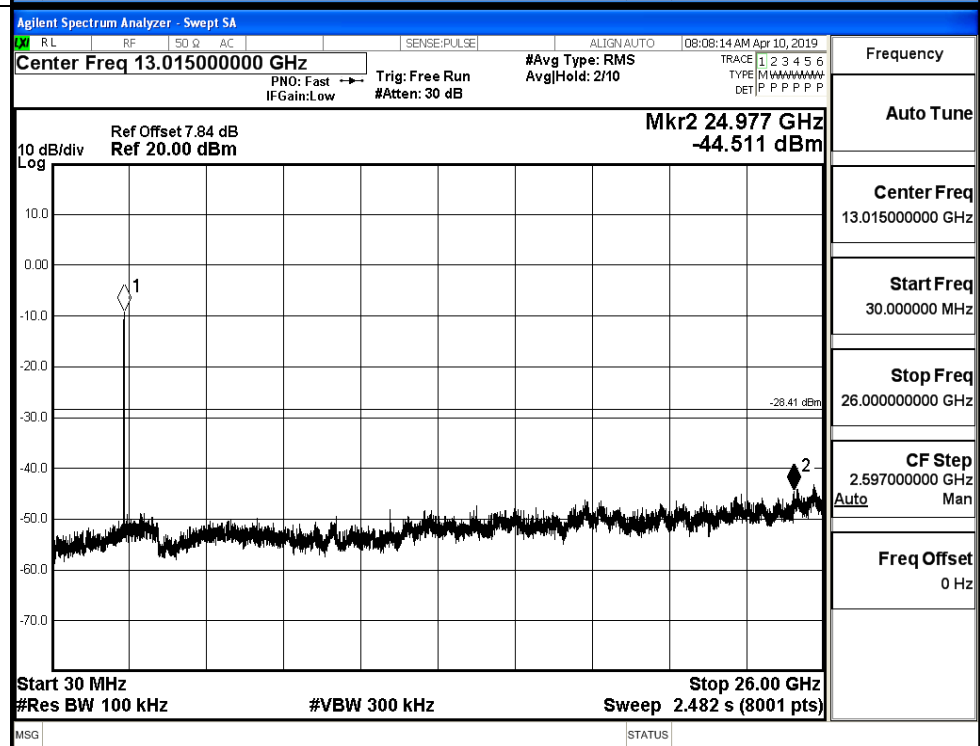


## 11G HCH Graphs

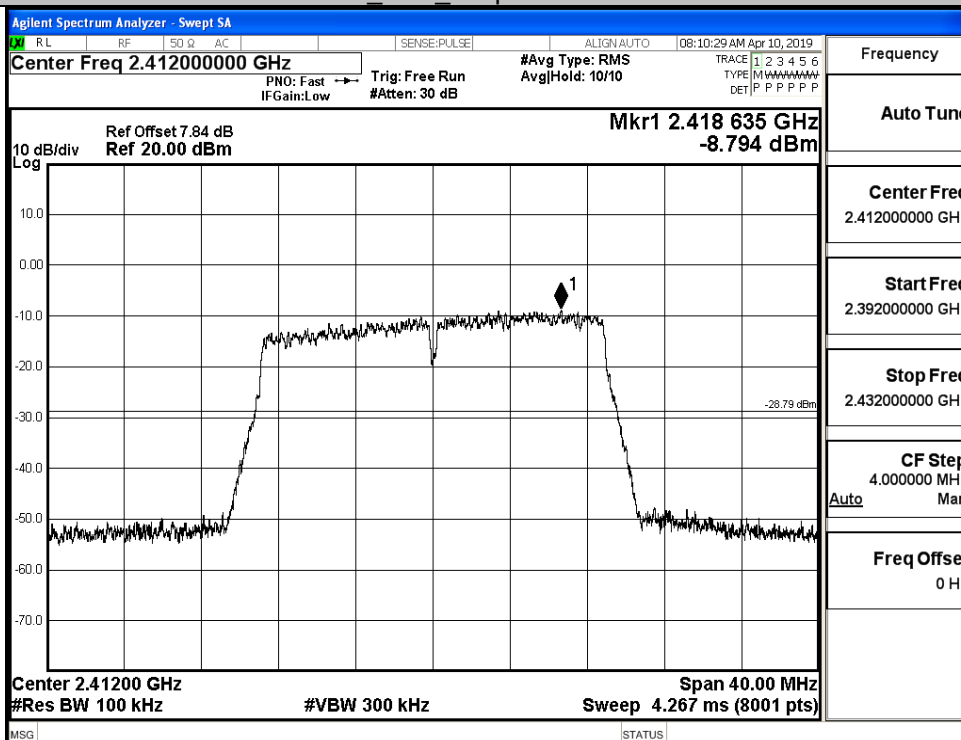
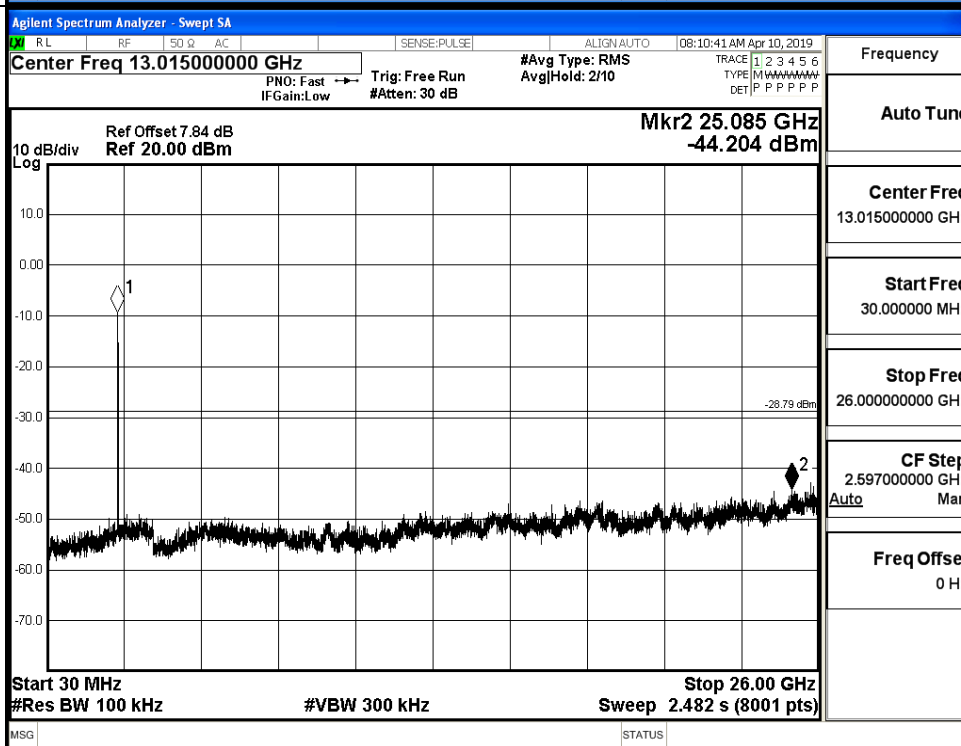
Pref/11G/HCH



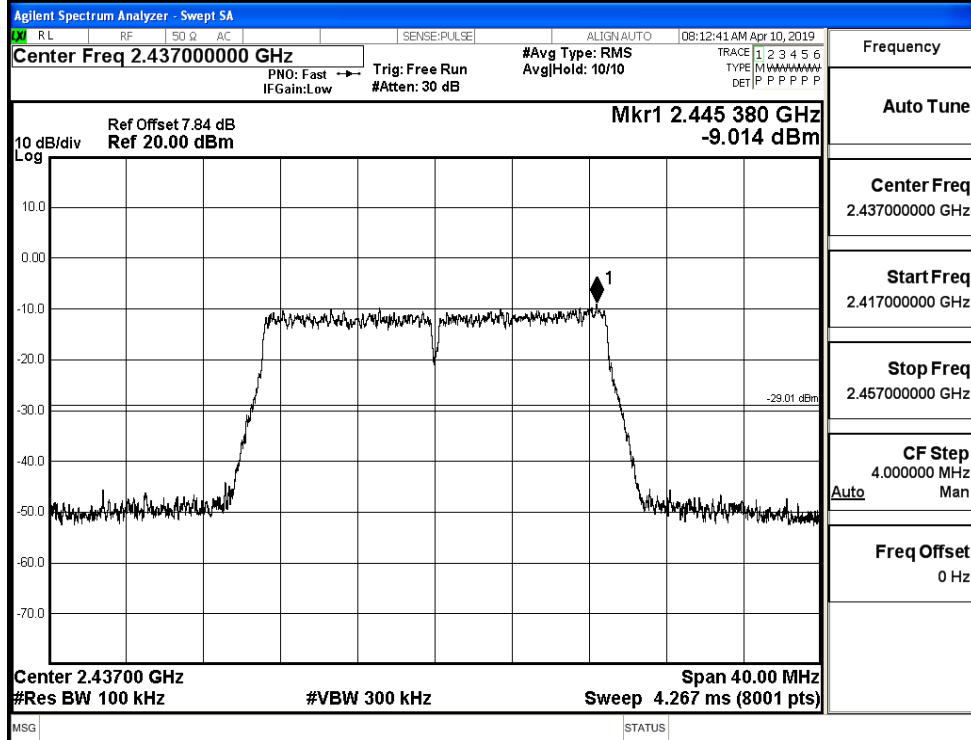
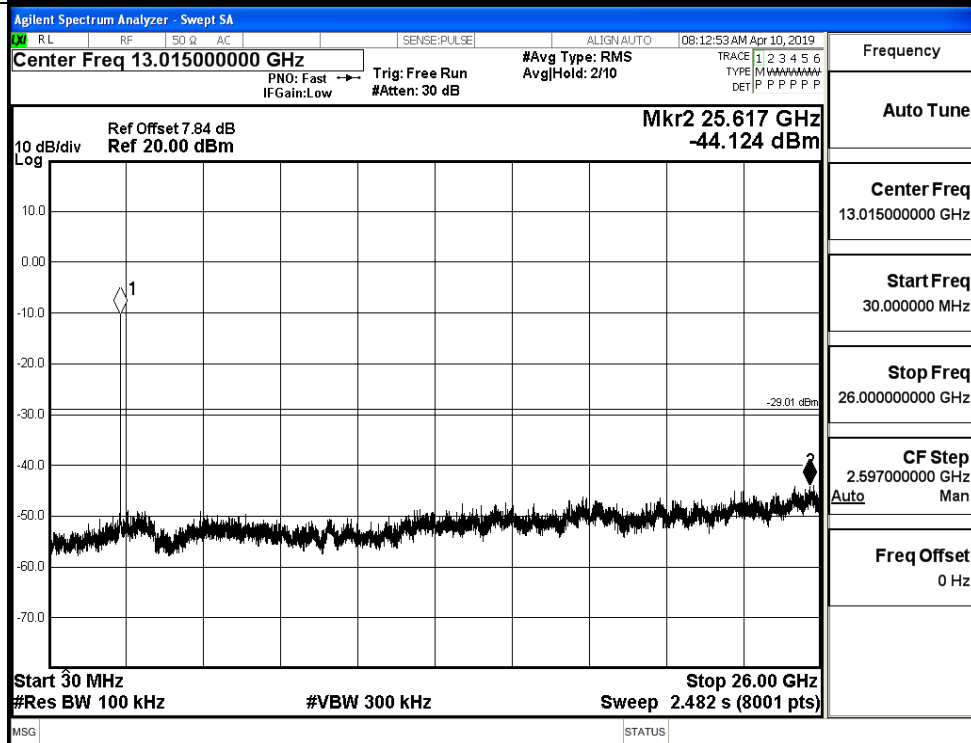
Puw/11G/HCH



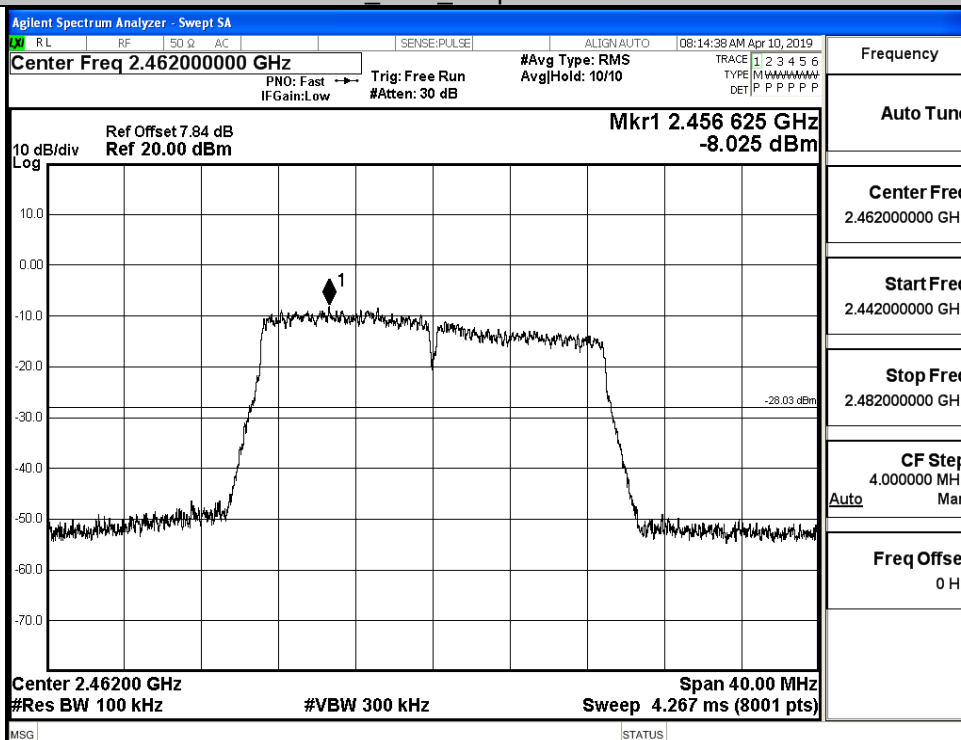
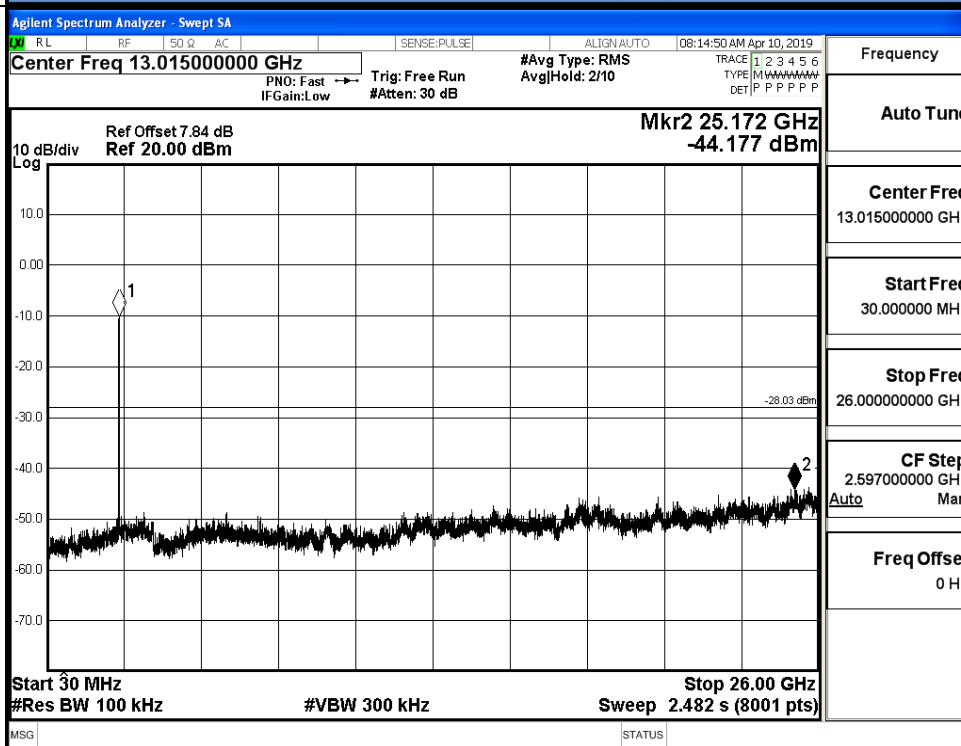
## 11N20SISO LCH Graphs

Pref/11N20SIS  
O/LCHPuw/11N20  
SISO/LCH

## 11N20SISO MCH Graphs

Pref/11N20  
SISO/MCHPuw/11N20  
SISO/MCH

## 11N20SISO HCH Graphs

Pref/11N20  
SISO/HCHPuw/11N20  
SISO/HCH

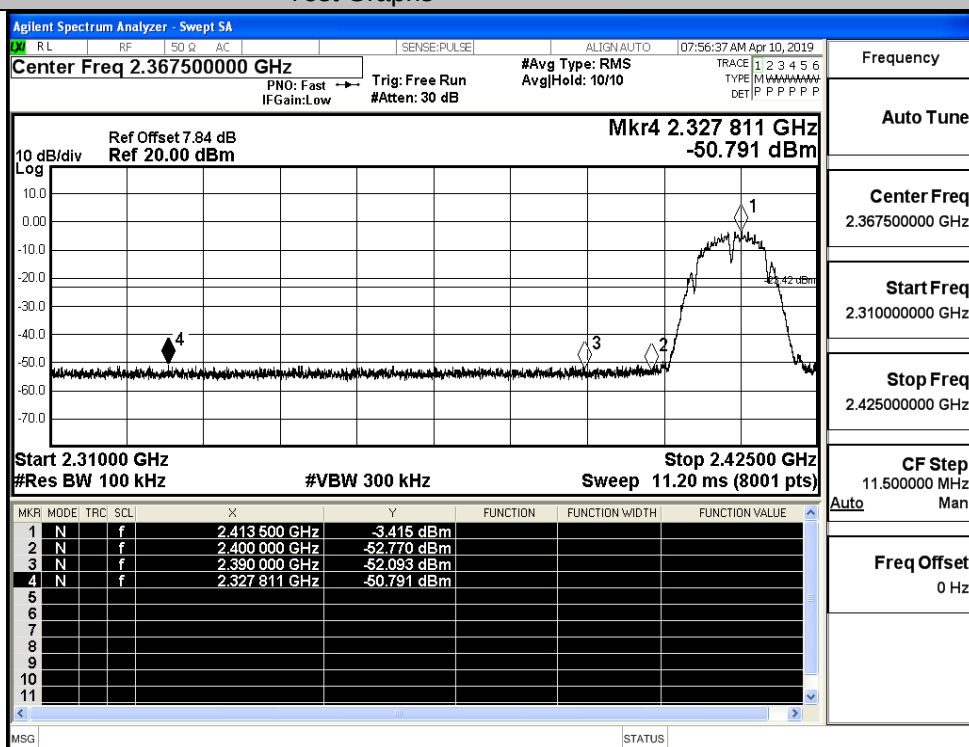


## A.6 Band-edge for RF Conducted Emissions

| Mode      | Channel | Carrier Power[dBm] | Max.Spurious Level [dBm] | Limit [dBm] | Verdict |
|-----------|---------|--------------------|--------------------------|-------------|---------|
| 11B       | LCH     | -3.415             | -50.791                  | -23.42      | PASS    |
|           | HCH     | -1.480             | -50.387                  | -21.48      | PASS    |
| 11G       | LCH     | -8.478             | -50.223                  | -28.48      | PASS    |
|           | HCH     | -8.202             | -50.493                  | -28.2       | PASS    |
| 11N20SISO | LCH     | -9.048             | -50.303                  | -29.05      | PASS    |
|           | HCH     | -8.038             | -49.914                  | -28.04      | PASS    |

## Test Graphs

11B/LCH

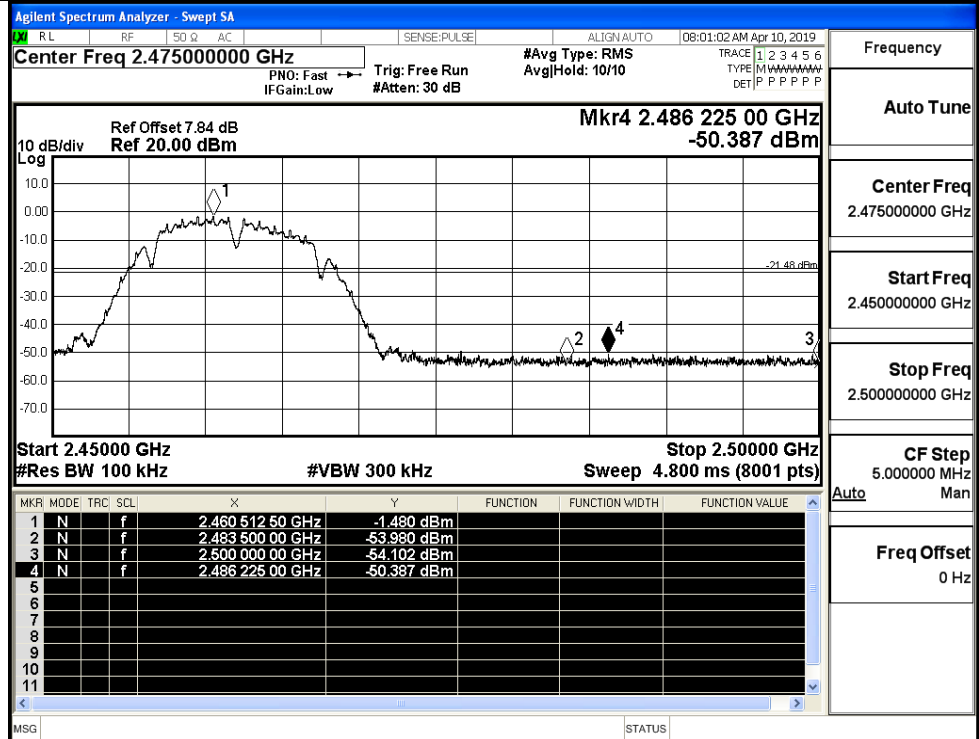


Frequency

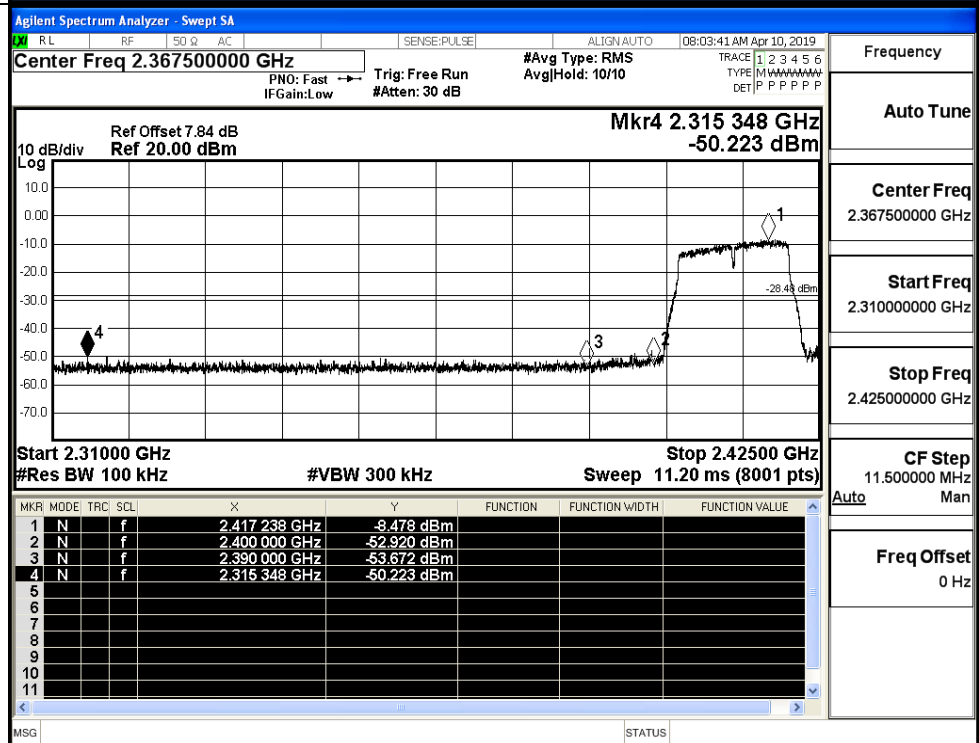
Auto Tune

Center Freq  
2.367500000 GHzStart Freq  
2.310000000 GHzStop Freq  
2.425000000 GHzCF Step  
11.500000 MHz  
Auto ManFreq Offset  
0 Hz

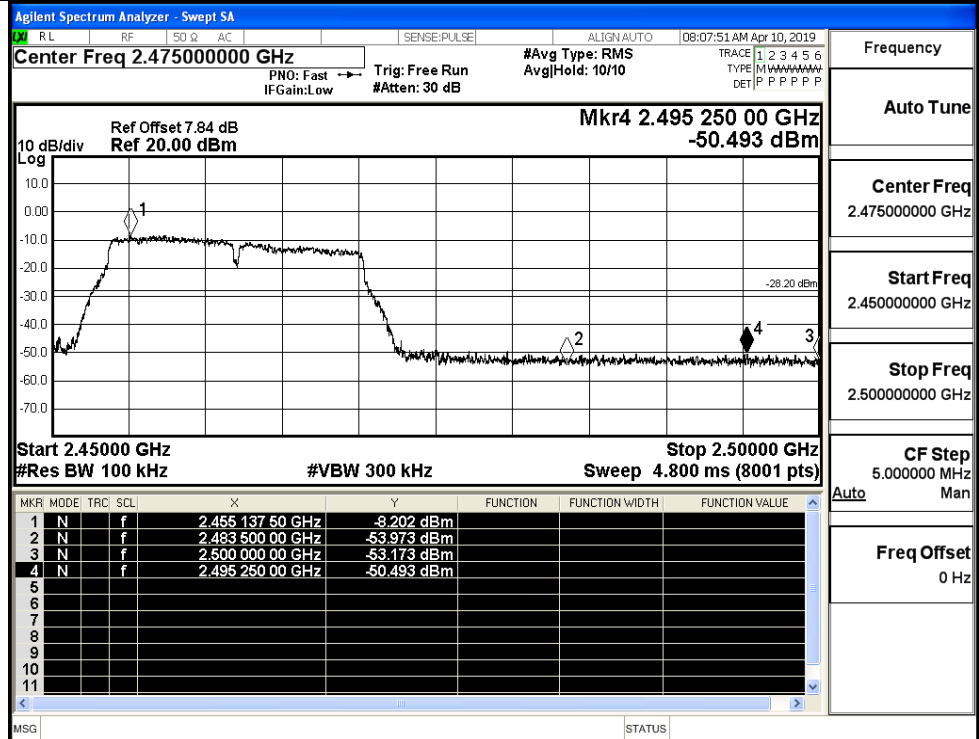
11B/HCH



11G/LCH



11G/HCH



Frequency

Auto Tune

Center Freq

2.475000000 GHz

Start Freq

2.450000000 GHz

Stop Freq

2.500000000 GHz

CF Step

5.000000 MHz

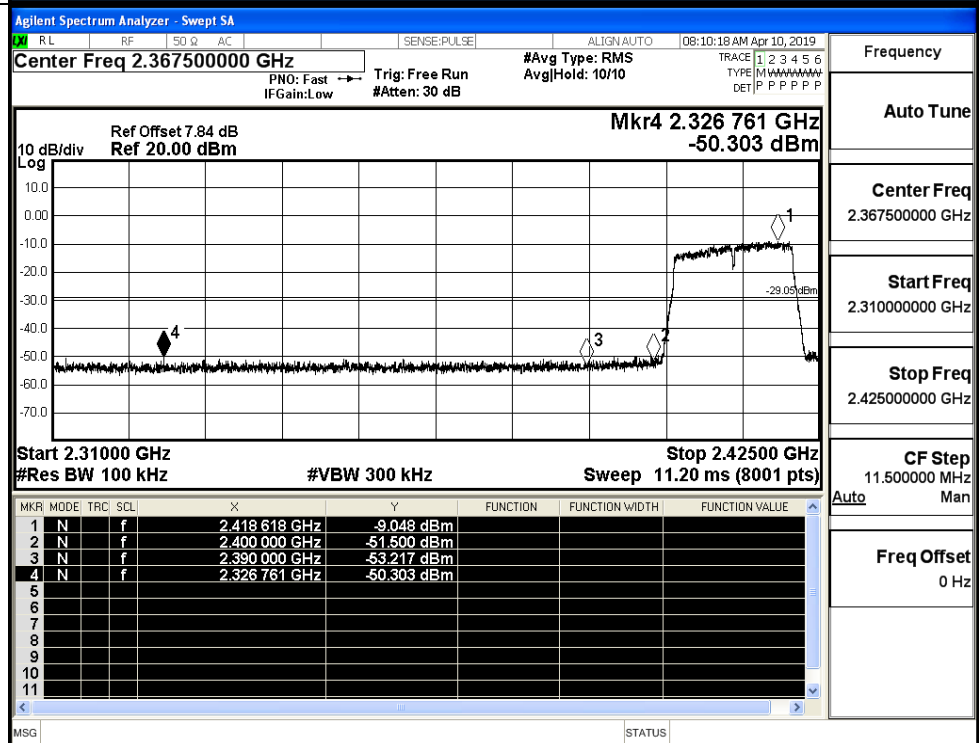
Auto

Man

Freq Offset

0 Hz

11N20SISO/LCH



Frequency

Auto Tune

Center Freq

2.367500000 GHz

Start Freq

2.310000000 GHz

Stop Freq

2.425000000 GHz

CF Step

11.500000 MHz

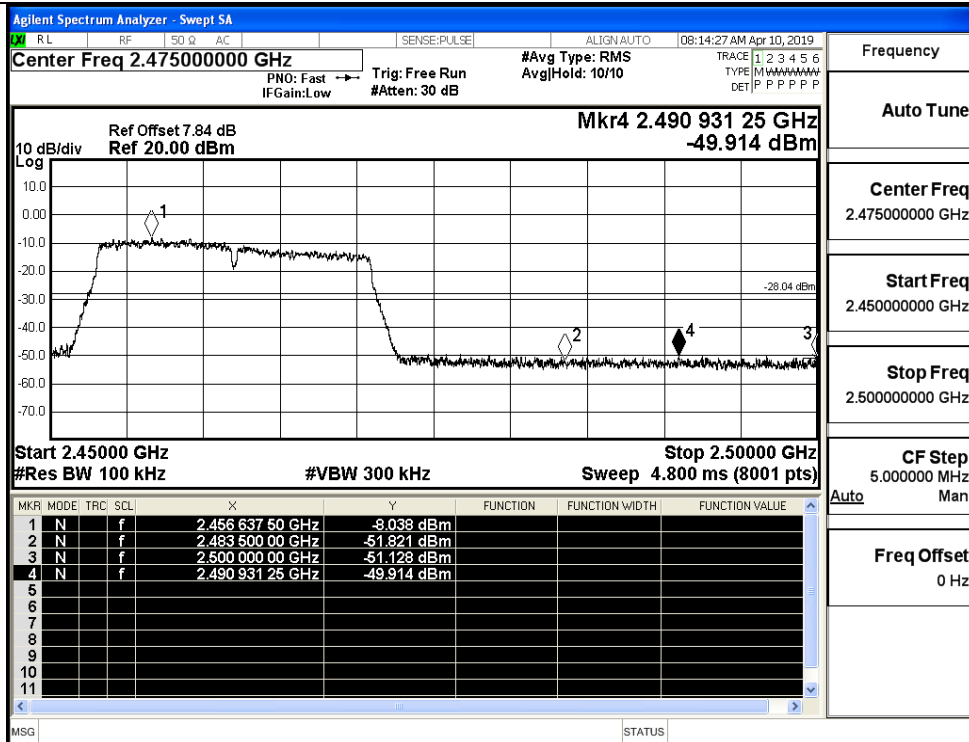
Auto

Man

Freq Offset

0 Hz

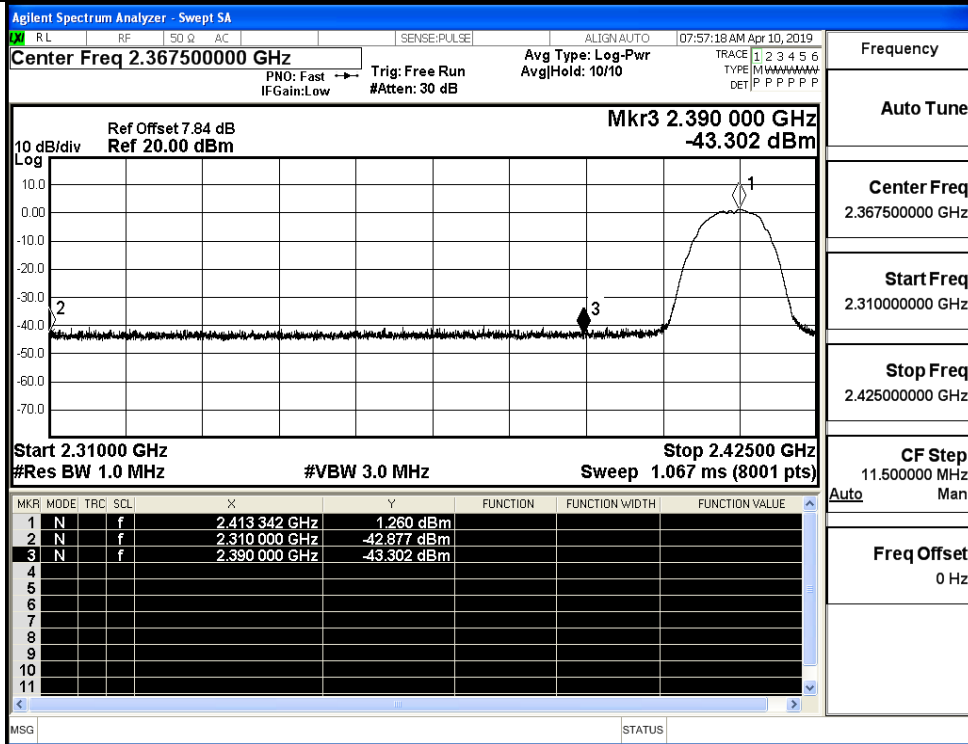
11N20SISO/HCH



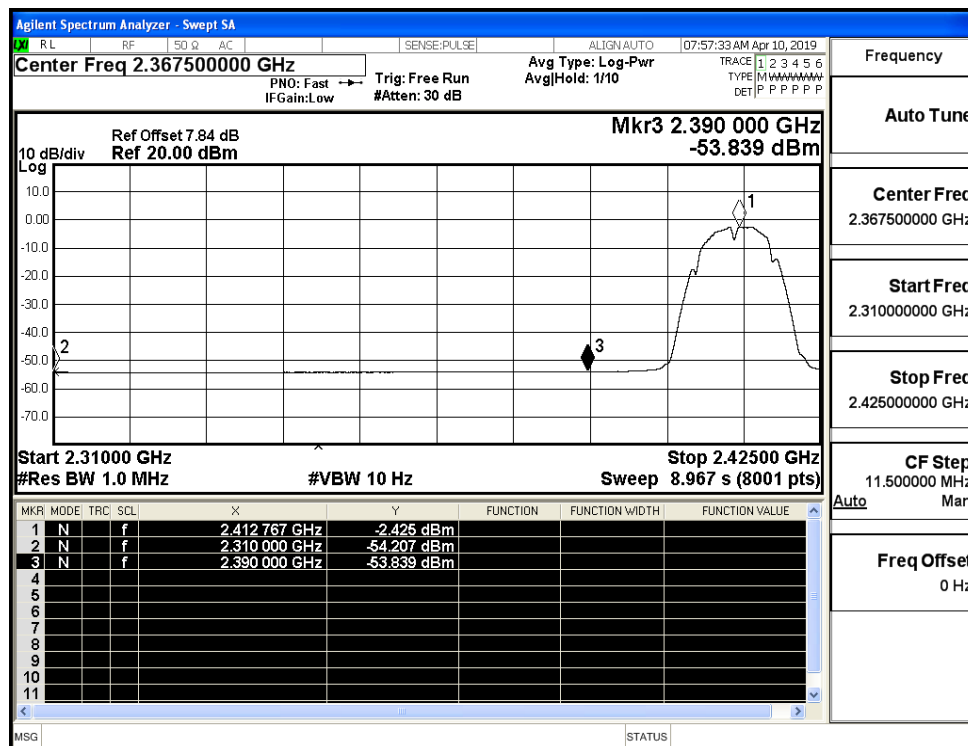
## A.7 Restrict-band band-edge measurements

| Test Mode  | Test Channel | Ant  | Freq.  | Power [dBm] | Gain | Ground Factor | E [dBuV/m] | Detector | Limit [dBuV/m] | Verdict |
|------------|--------------|------|--------|-------------|------|---------------|------------|----------|----------------|---------|
| 11B        | 2412         | Ant1 | 2310.0 | -42.88      | 2.5  | 0             | 54.88      | PEAK     | 74             | PASS    |
|            | 2412         | Ant1 | 2310.0 | -54.21      | 2.5  | 0             | 43.55      | AV       | 54             | PASS    |
|            | 2412         | Ant1 | 2390.0 | -43.30      | 2.5  | 0             | 54.46      | PEAK     | 74             | PASS    |
|            | 2412         | Ant1 | 2390.0 | -53.84      | 2.5  | 0             | 43.92      | AV       | 54             | PASS    |
|            | 2462         | Ant1 | 2483.5 | -43.70      | 2.5  | 0             | 54.06      | PEAK     | 74             | PASS    |
|            | 2462         | Ant1 | 2483.5 | -53.57      | 2.5  | 0             | 44.19      | AV       | 54             | PASS    |
|            | 2462         | Ant1 | 2500.0 | -43.63      | 2.5  | 0             | 54.13      | PEAK     | 74             | PASS    |
|            | 2462         | Ant1 | 2500.0 | -53.52      | 2.5  | 0             | 44.24      | AV       | 54             | PASS    |
| 11G        | 2412         | Ant1 | 2310.0 | -43.83      | 2.5  | 0             | 53.93      | PEAK     | 74             | PASS    |
|            | 2412         | Ant1 | 2310.0 | -54.17      | 2.5  | 0             | 43.59      | AV       | 54             | PASS    |
|            | 2412         | Ant1 | 2390.0 | -44.14      | 2.5  | 0             | 53.62      | PEAK     | 74             | PASS    |
|            | 2412         | Ant1 | 2390.0 | -53.67      | 2.5  | 0             | 44.09      | AV       | 54             | PASS    |
|            | 2462         | Ant1 | 2483.5 | -40.02      | 2.5  | 0             | 57.74      | PEAK     | 74             | PASS    |
|            | 2462         | Ant1 | 2483.5 | -53.17      | 2.5  | 0             | 44.59      | AV       | 54             | PASS    |
|            | 2462         | Ant1 | 2500.0 | -43.20      | 2.5  | 0             | 54.56      | PEAK     | 74             | PASS    |
|            | 2462         | Ant1 | 2500.0 | -53.42      | 2.5  | 0             | 44.34      | AV       | 54             | PASS    |
| 11N20 SISO | 2412         | Ant1 | 2310.0 | -43.83      | 2.5  | 0             | 53.93      | PEAK     | 74             | PASS    |
|            | 2412         | Ant1 | 2310.0 | -54.16      | 2.5  | 0             | 43.6       | AV       | 54             | PASS    |
|            | 2412         | Ant1 | 2390.0 | -42.67      | 2.5  | 0             | 55.09      | PEAK     | 74             | PASS    |
|            | 2412         | Ant1 | 2390.0 | -53.61      | 2.5  | 0             | 44.15      | AV       | 54             | PASS    |
|            | 2462         | Ant1 | 2483.5 | -42.19      | 2.5  | 0             | 55.57      | PEAK     | 74             | PASS    |
|            | 2462         | Ant1 | 2483.5 | -53.14      | 2.5  | 0             | 44.62      | AV       | 54             | PASS    |
|            | 2462         | Ant1 | 2500.0 | -43.08      | 2.5  | 0             | 54.68      | PEAK     | 74             | PASS    |
|            | 2462         | Ant1 | 2500.0 | -53.40      | 2.5  | 0             | 44.36      | AV       | 54             | PASS    |

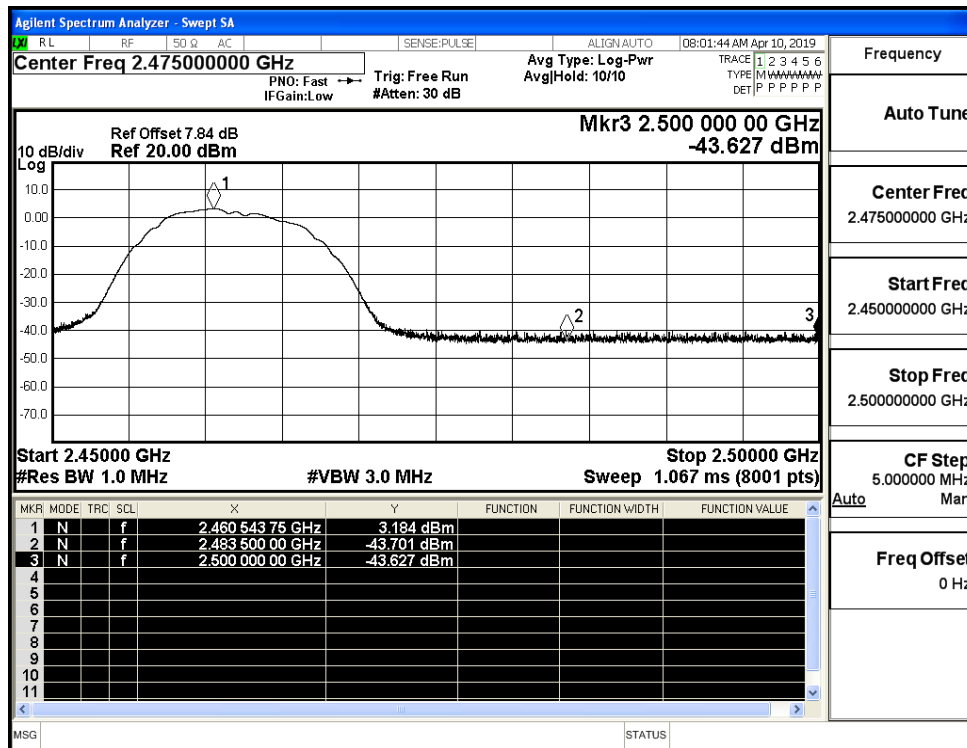
## Restrict-band band-edge measurements\_11B\_2412\_Ant1\_PEAK



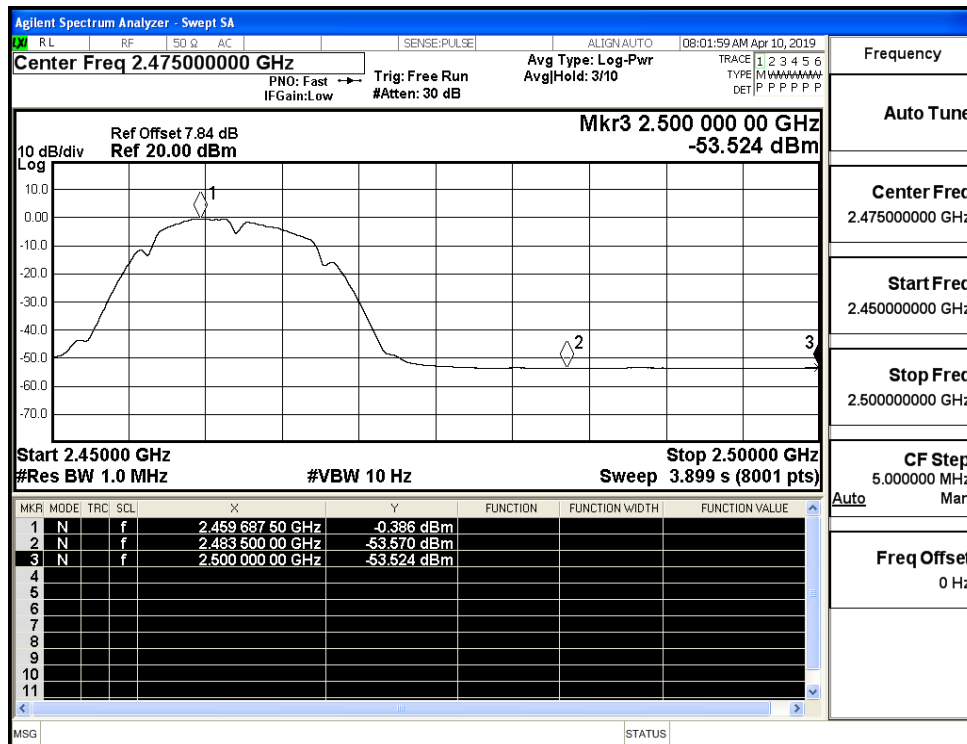
## Restrict-band band-edge measurements\_11B\_2412\_Ant1\_AV



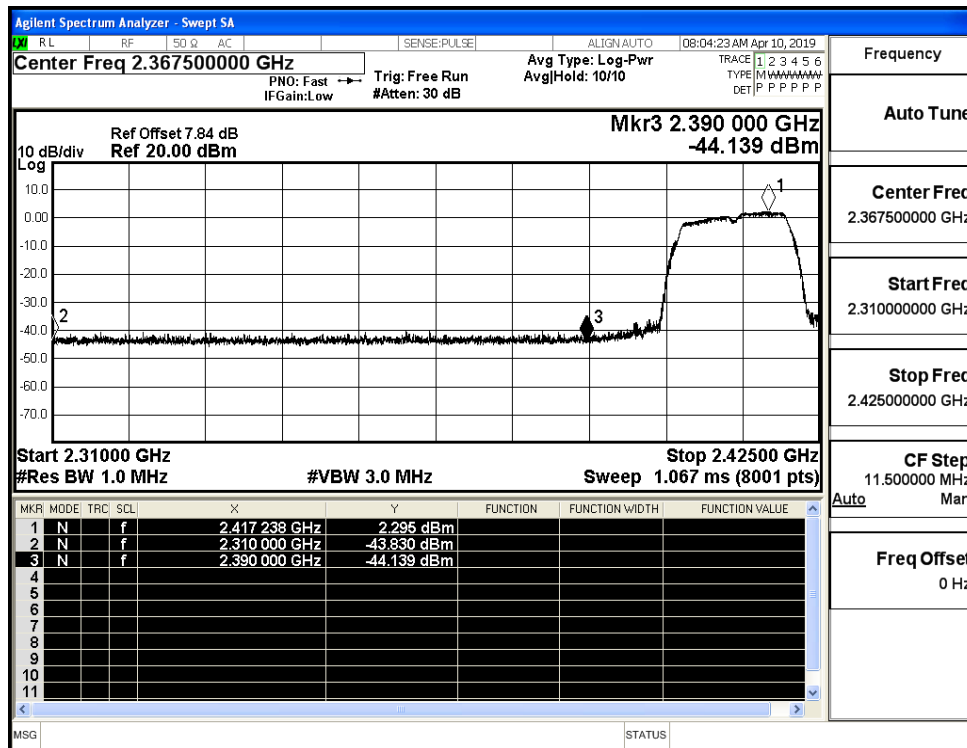
## Restrict-band band-edge measurements\_11B\_2462\_Ant1\_PEAK



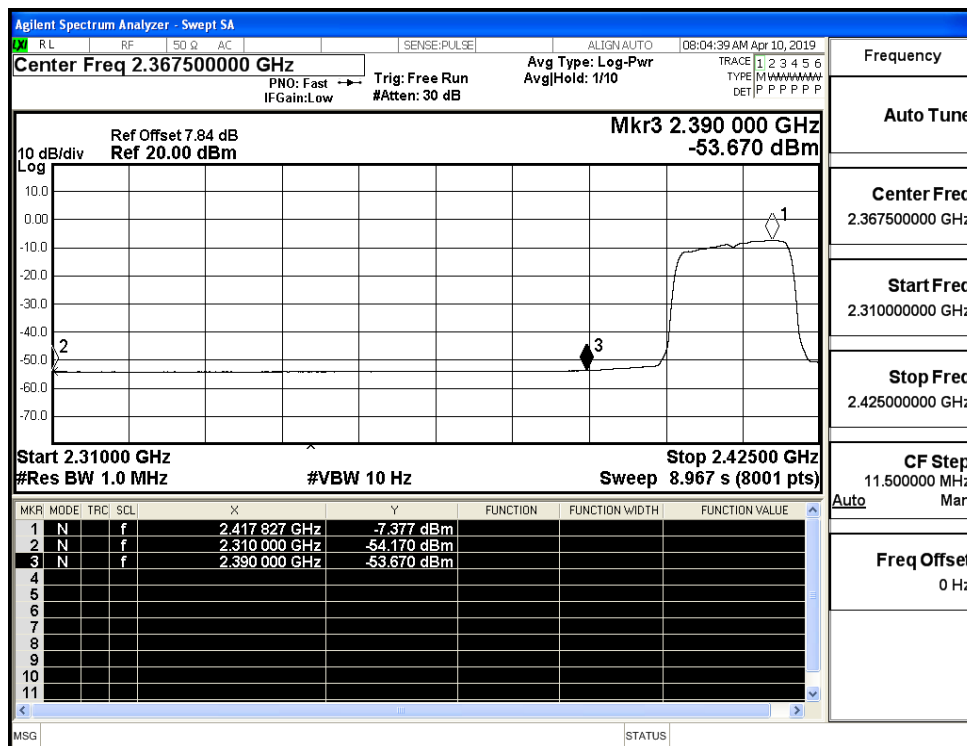
## Restrict-band band-edge measurements\_11B\_2462\_Ant1\_AV



## Restrict-band band-edge measurements\_11G\_2412\_Ant1\_PEAK

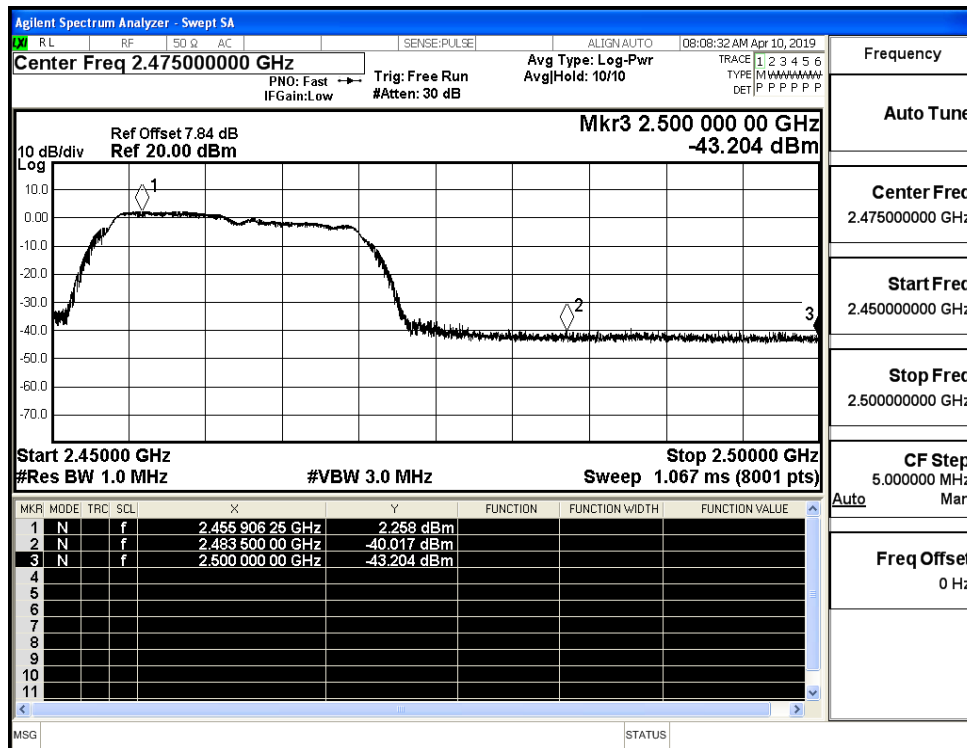


## Restrict-band band-edge measurements\_11G\_2412\_Ant1\_AV

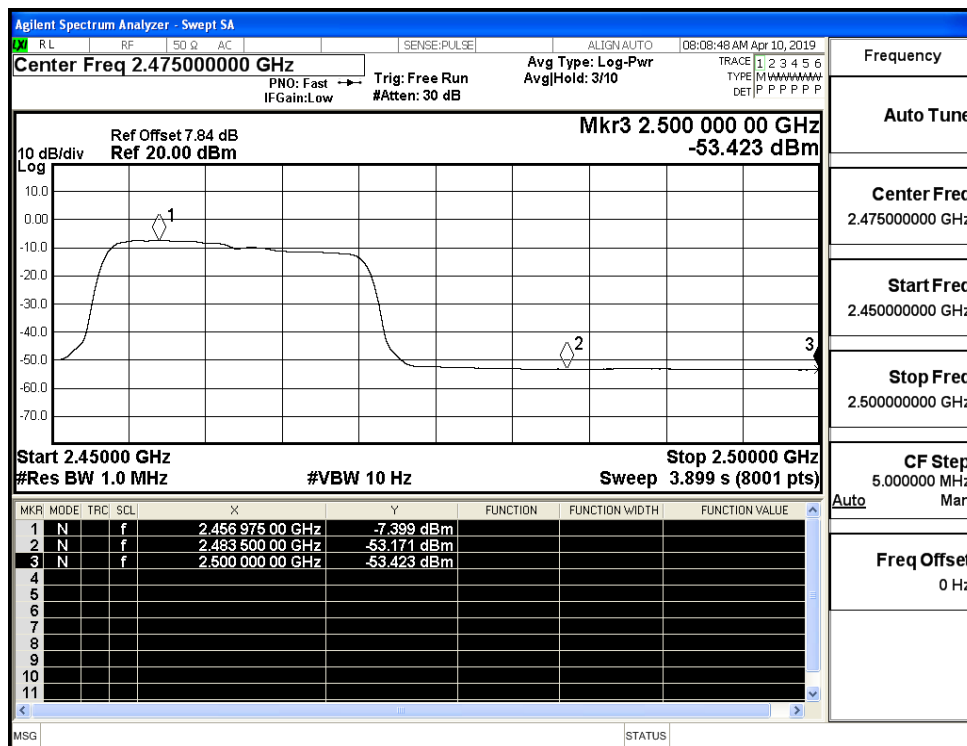




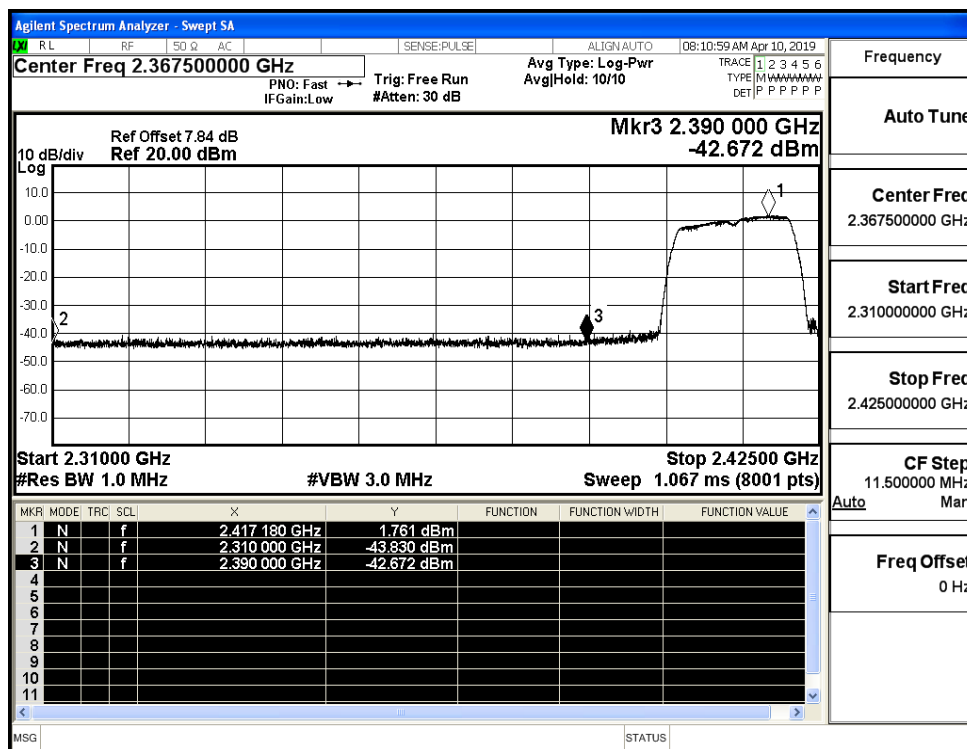
## Restrict-band band-edge measurements\_11G\_2462\_Ant1\_PEAK



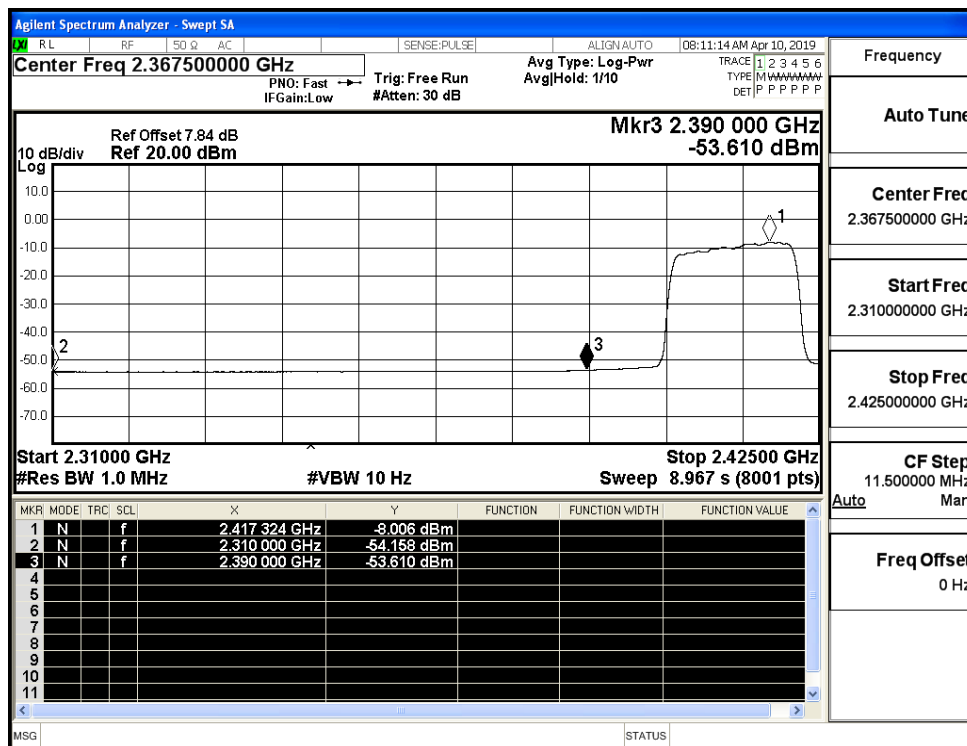
## Restrict-band band-edge measurements\_11G\_2462\_Ant1\_AV



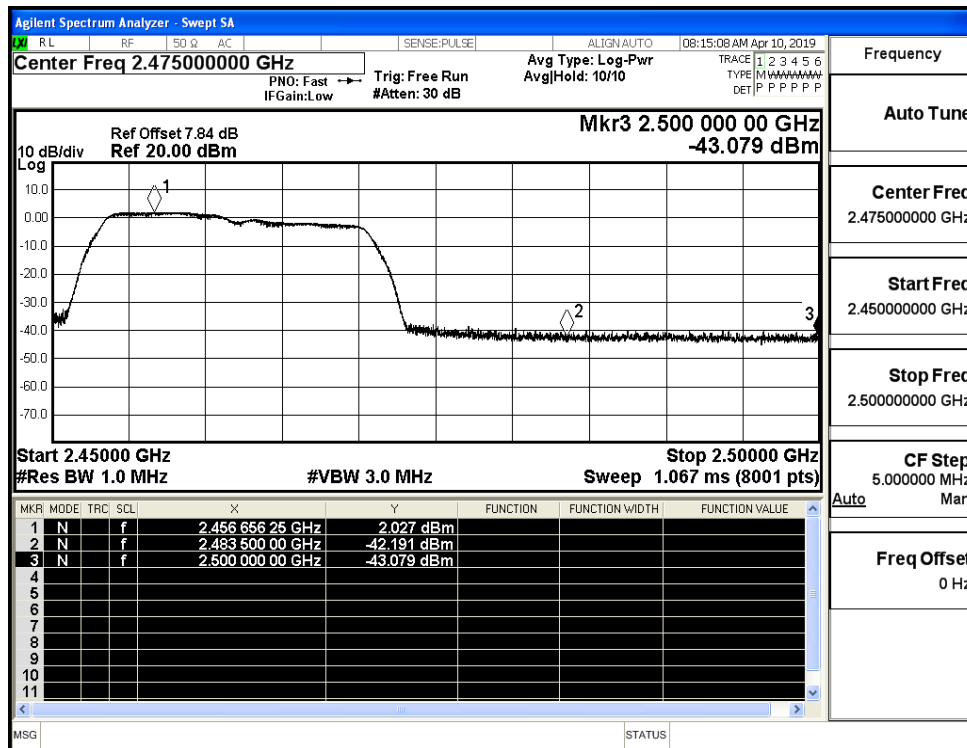
## Restrict-band band-edge measurements\_11N20SISO\_2412\_Ant1\_PEAK



## Restrict-band band-edge measurements\_11N20SISO\_2412\_Ant1\_AV



## Restrict-band band-edge measurements\_11N20SISO\_2462\_Ant1\_PEAK



## Restrict-band band-edge measurements\_11N20SISO\_2462\_Ant1\_AV

