

## Appendix A

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

Product Name: Vigil Pro

Trade Mark: netvue

Test Model: NI-1930

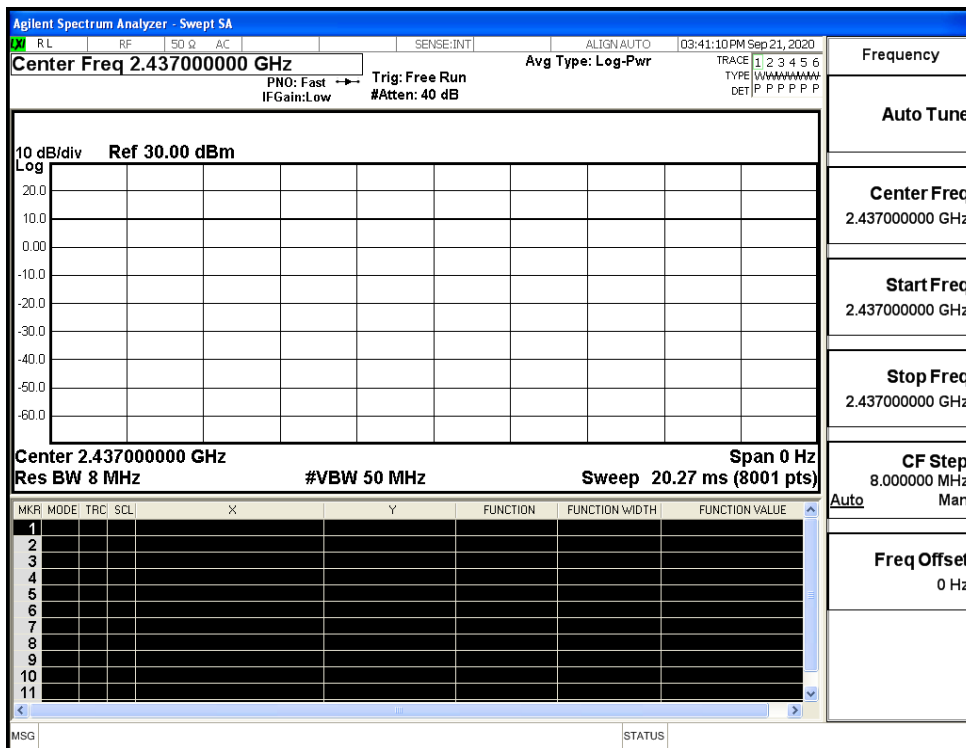
#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 23.5°C    |
| Relative Humidity: | 54.6%     |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Jam Zheng |
| Supervised by:     | Li Huan   |

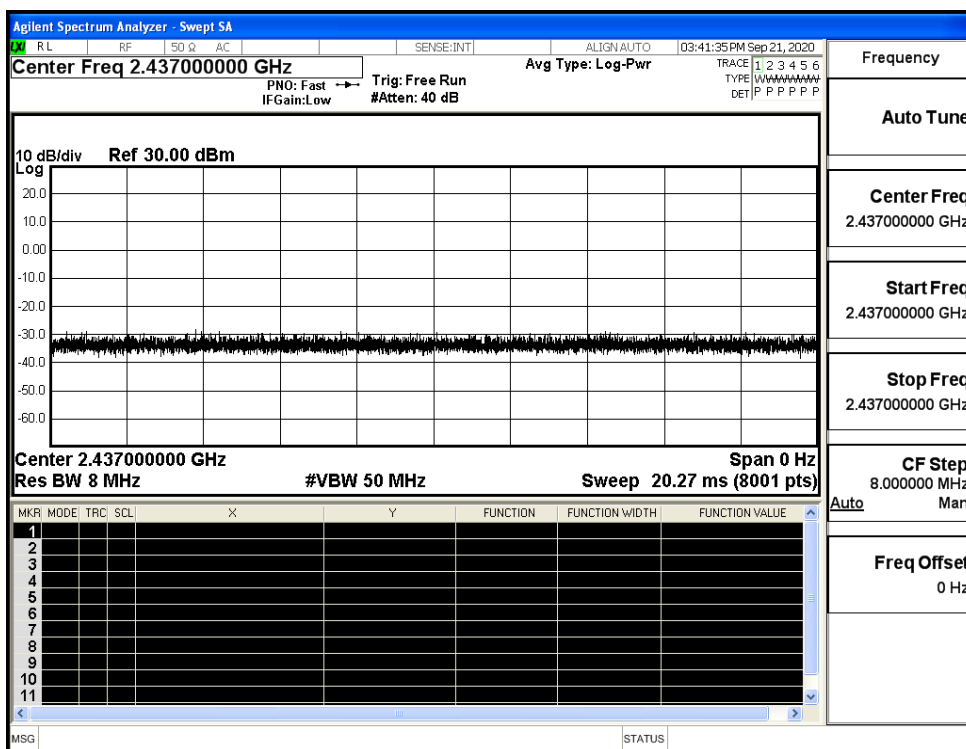
#### A.1 Duty Cycle

| Test Mode | Test Channel | Ant  | Duty Cycle[%] | Verdict |
|-----------|--------------|------|---------------|---------|
| 11B       | 2437         | Ant1 | 100           | PASS    |
| 11G       | 2437         | Ant1 | 100           | PASS    |
| 11N20SISO | 2437         | Ant1 | 100           | PASS    |
| 11N40SISO | 2437         | Ant1 | 100           | PASS    |

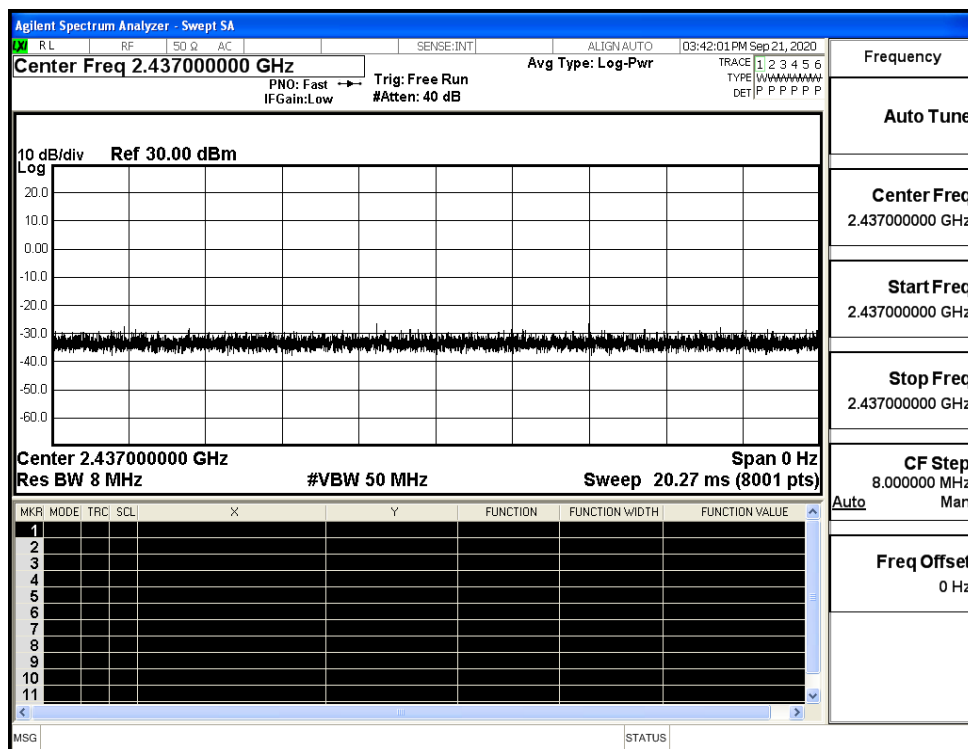
## Duty Cycle\_11B\_2437\_Ant1



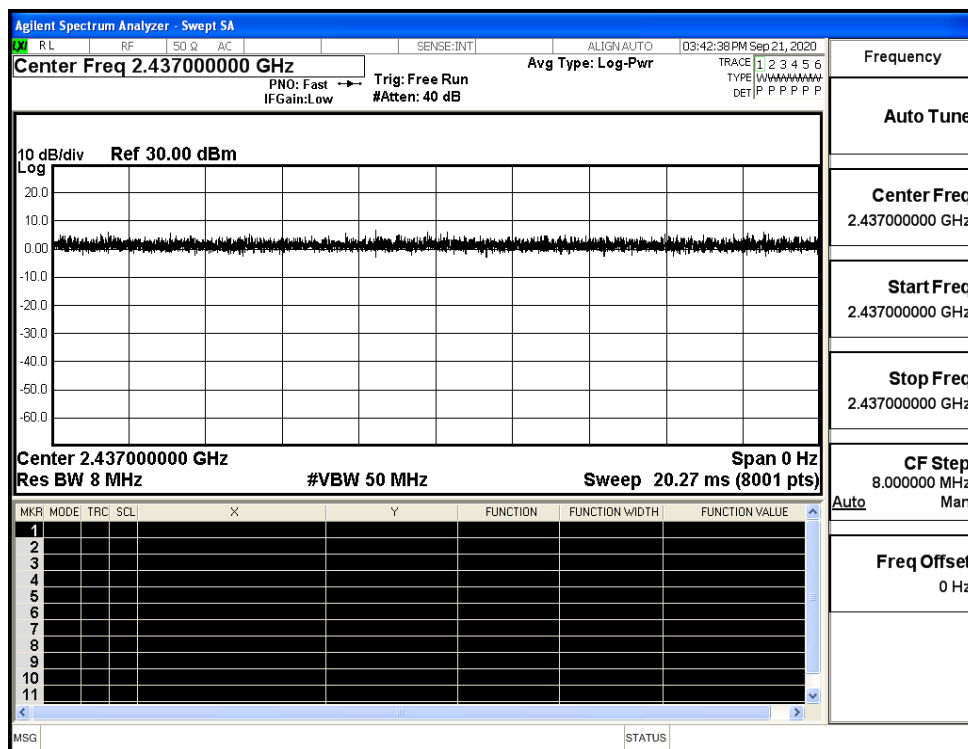
## Duty Cycle\_11G\_2437\_Ant1



## Duty Cycle\_11N20SISO\_2437\_Ant1



## Duty Cycle\_11N40SISO\_2437\_Ant1



**A.2 Maximum Conducted Output Power**

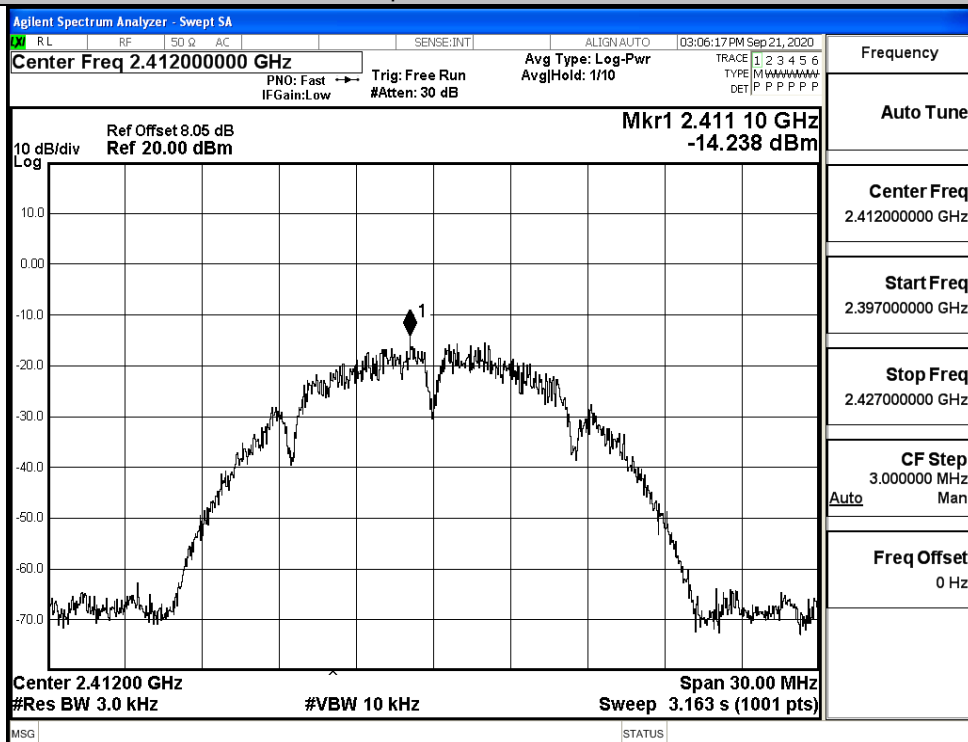
| Mode      | Channel | Meas.Level [dBm] | Limit [dBm] | Verdict |
|-----------|---------|------------------|-------------|---------|
| 11B       | LCH     | 10.87            | 30          | PASS    |
|           | MCH     | 10.91            | 30          | PASS    |
|           | HCH     | 11.03            | 30          | PASS    |
| 11G       | LCH     | 10.97            | 30          | PASS    |
|           | MCH     | 11.18            | 30          | PASS    |
|           | HCH     | 11.01            | 30          | PASS    |
| 11N20SISO | LCH     | 11.21            | 30          | PASS    |
|           | MCH     | 11.32            | 30          | PASS    |
|           | HCH     | 11.2             | 30          | PASS    |
| 11N40SISO | LCH     | 10.97            | 30          | PASS    |
|           | MCH     | 11.14            | 30          | PASS    |
|           | HCH     | 11.04            | 30          | PASS    |

### A.3 Maximum Power Spectral Density

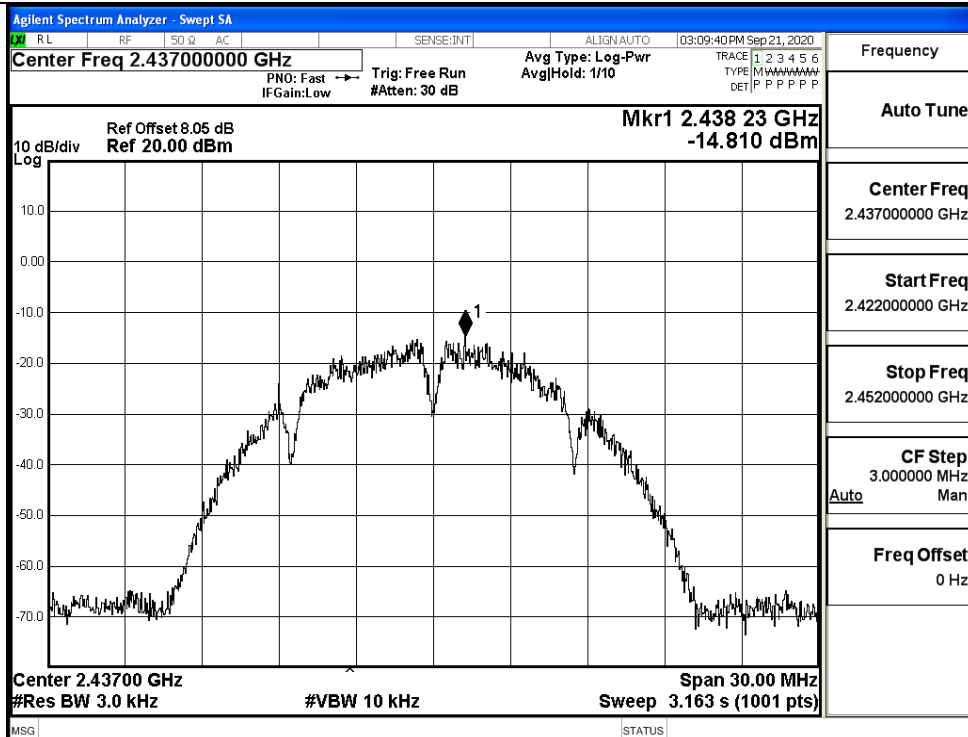
| Mode      | Channel | Meas.Level [dBm/3KHz] | Limit [dBm/3KHz] | Verdict |
|-----------|---------|-----------------------|------------------|---------|
| 11B       | LCH     | -14.238               | 8                | PASS    |
|           | MCH     | -14.810               | 8                | PASS    |
|           | HCH     | -15.224               | 8                | PASS    |
| 11G       | LCH     | -22.084               | 8                | PASS    |
|           | MCH     | -22.865               | 8                | PASS    |
|           | HCH     | -22.526               | 8                | PASS    |
| 11N20SISO | LCH     | -22.367               | 8                | PASS    |
|           | MCH     | -20.310               | 8                | PASS    |
|           | HCH     | -22.130               | 8                | PASS    |
| 11N40SISO | LCH     | -25.421               | 8                | PASS    |
|           | MCH     | -23.370               | 8                | PASS    |
|           | HCH     | -25.221               | 8                | PASS    |

#### Test Graphs

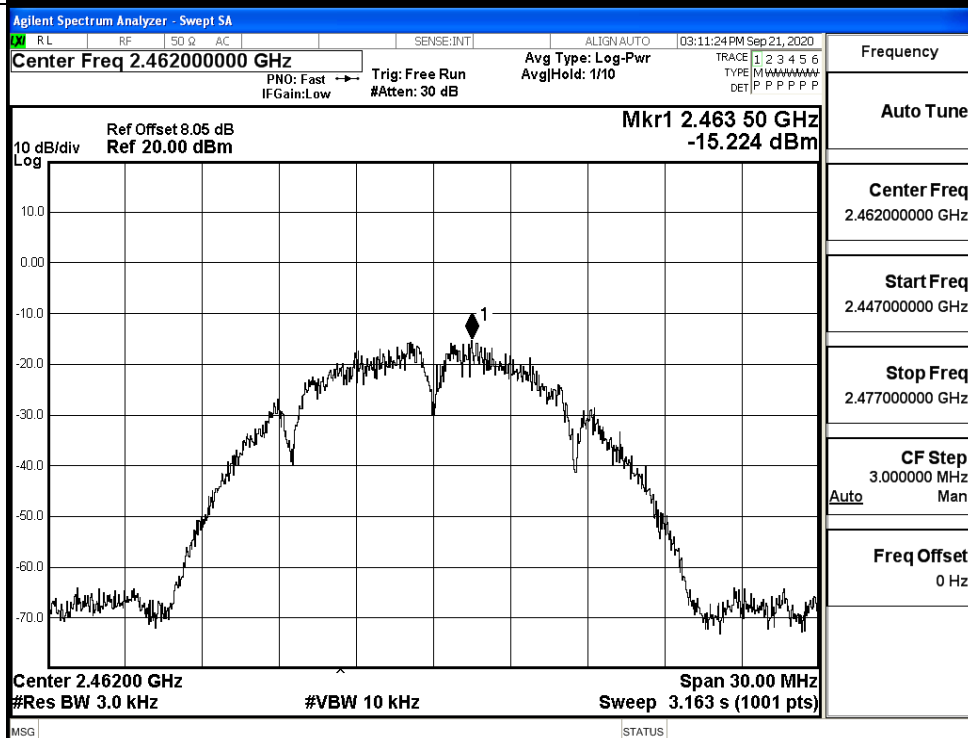
11B/LCH



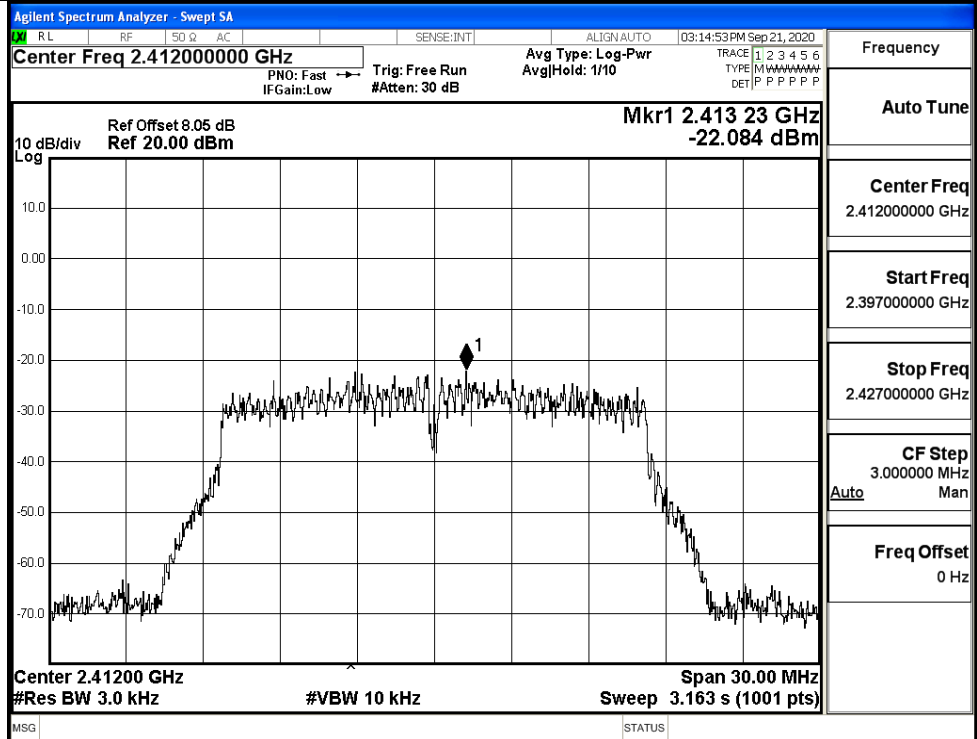
11B/MCH



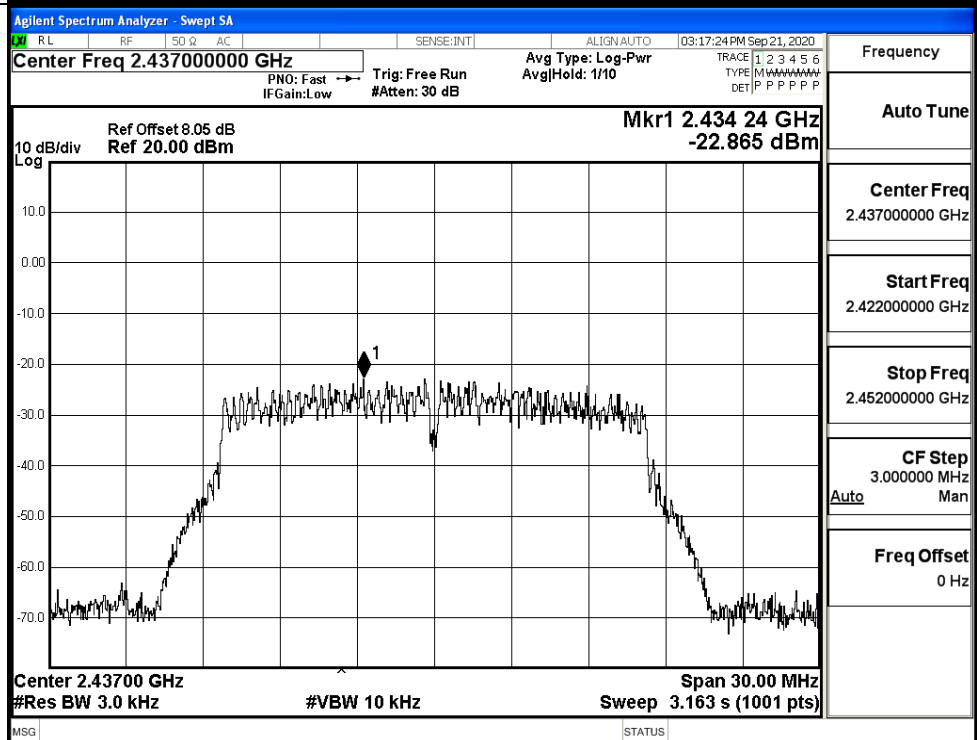
11B/HCH



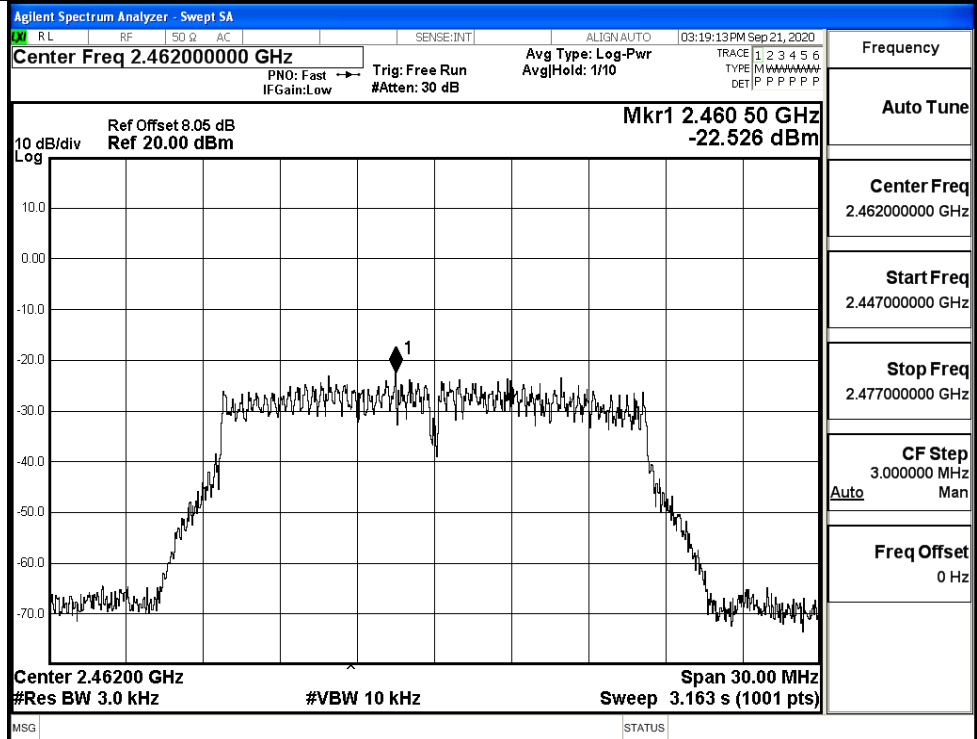
11G/LCH



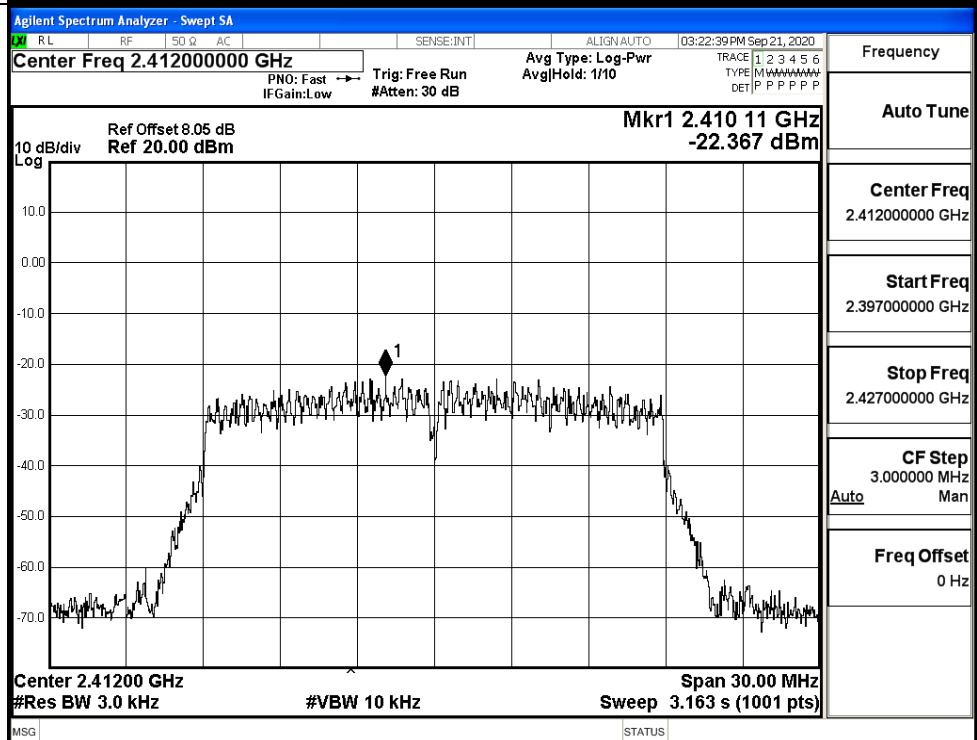
11G/MCH



11G/HCH

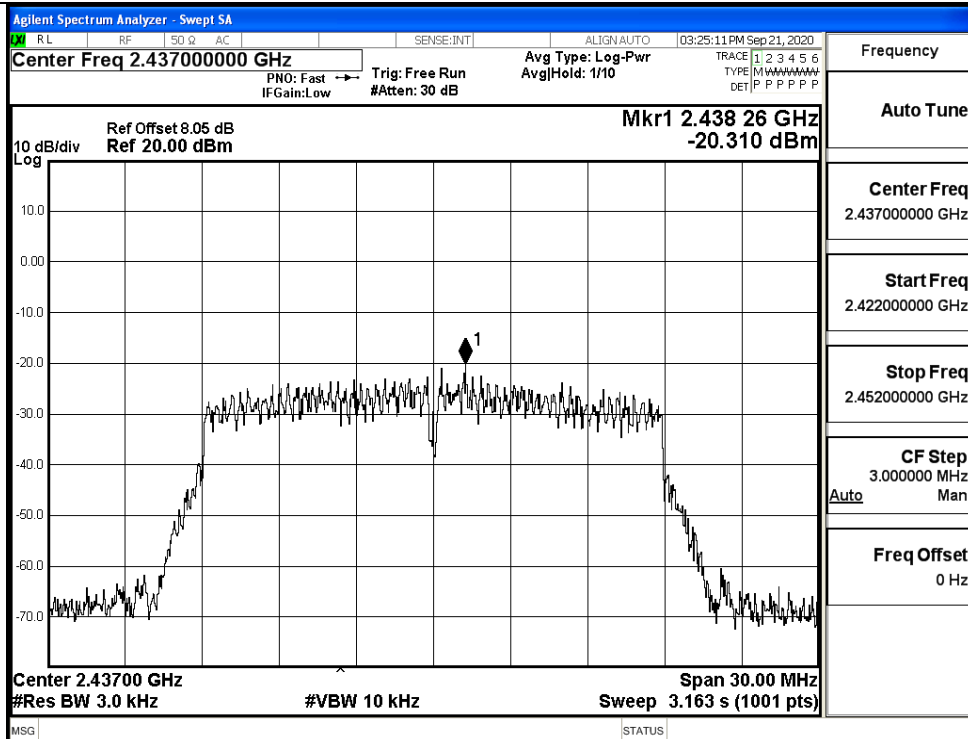


11N20SISO/LCH

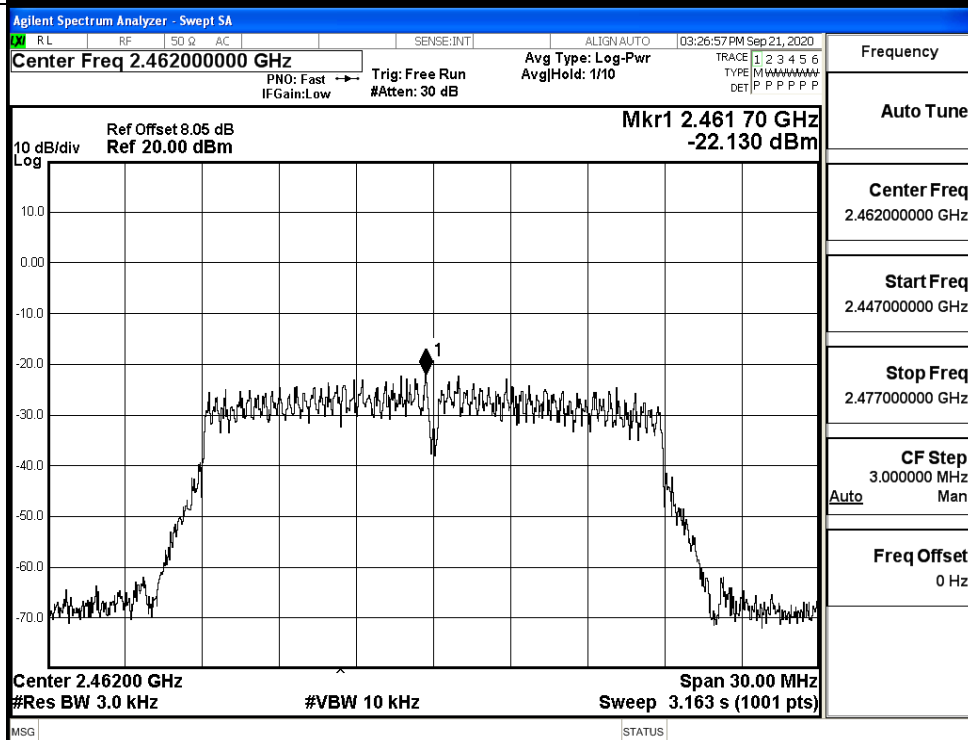




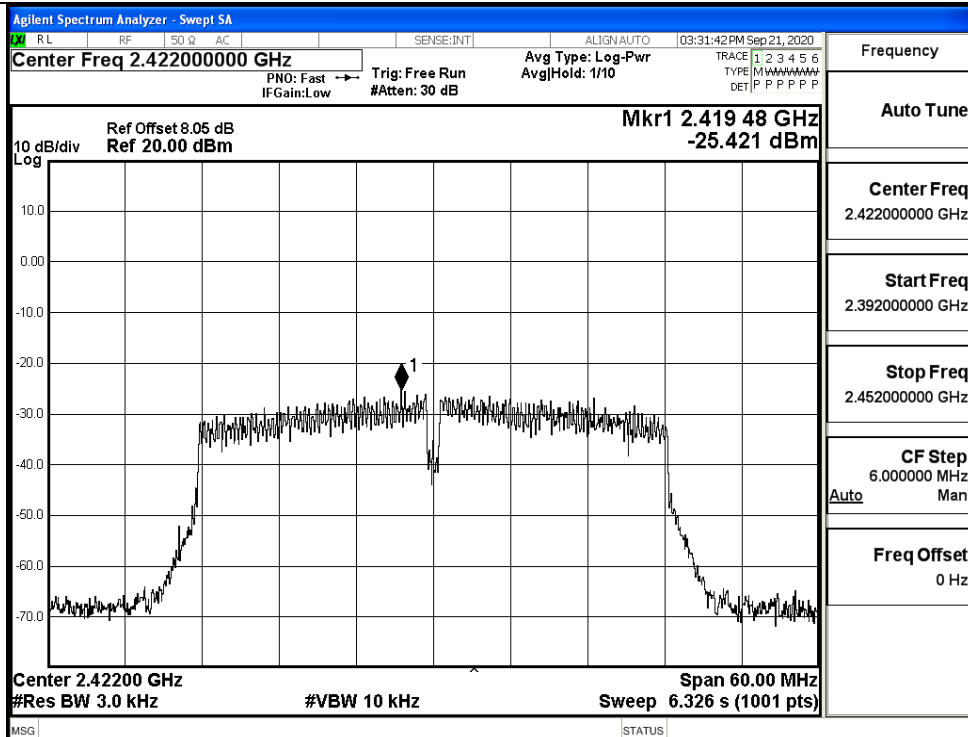
11N20SISO/MCH



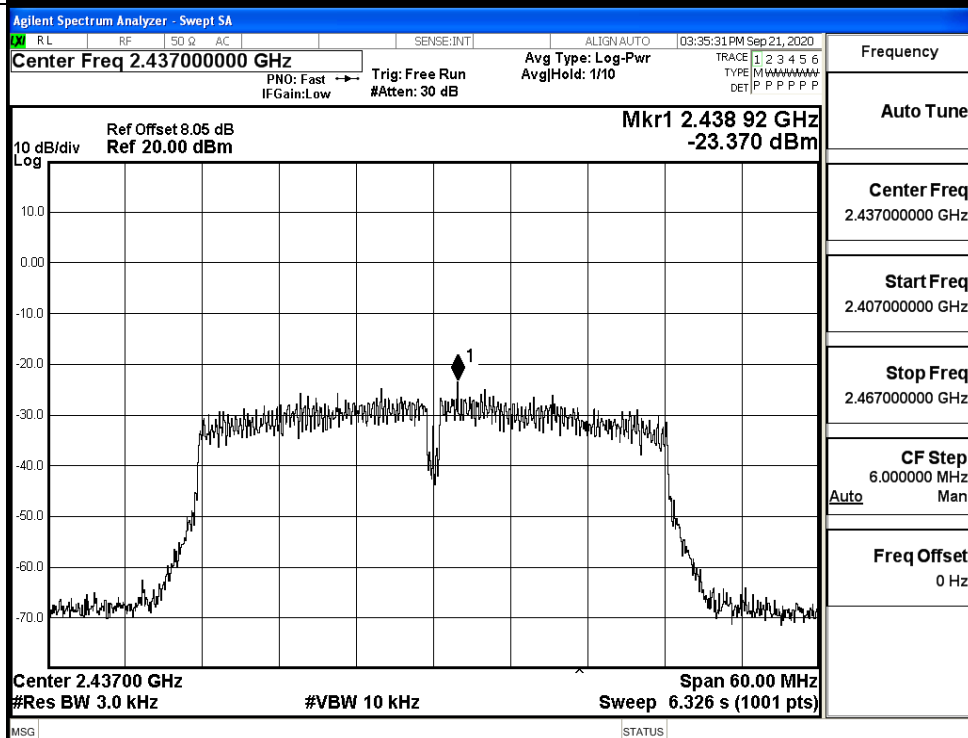
11N20SISO/HCH



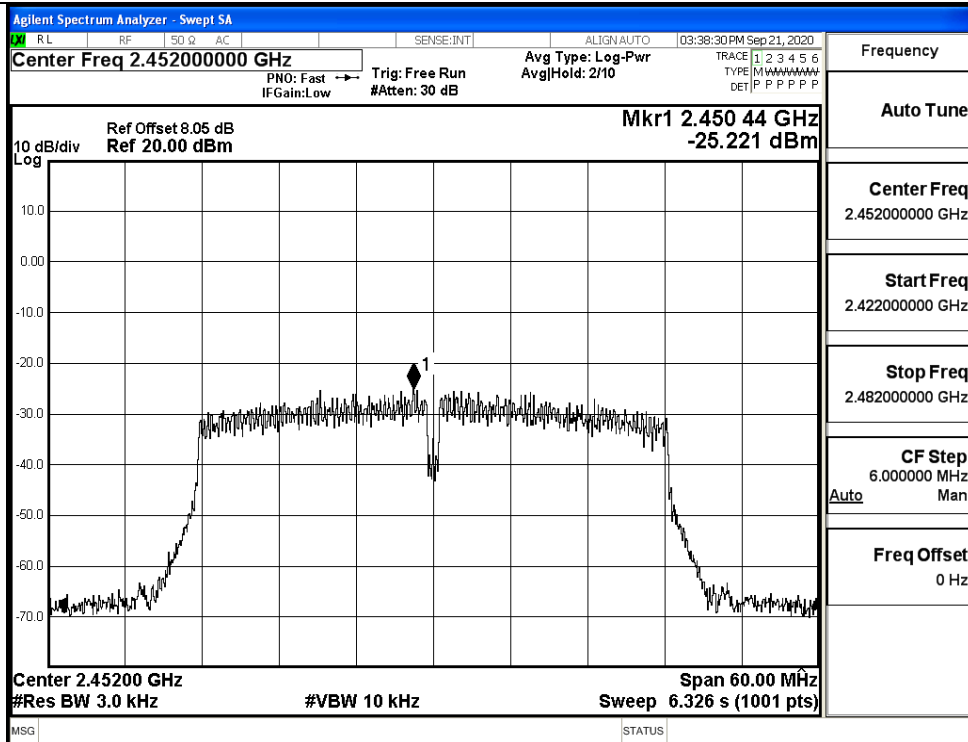
11N40SISO/LCH



11N40SISO/MCH



11N40SISO/HCH

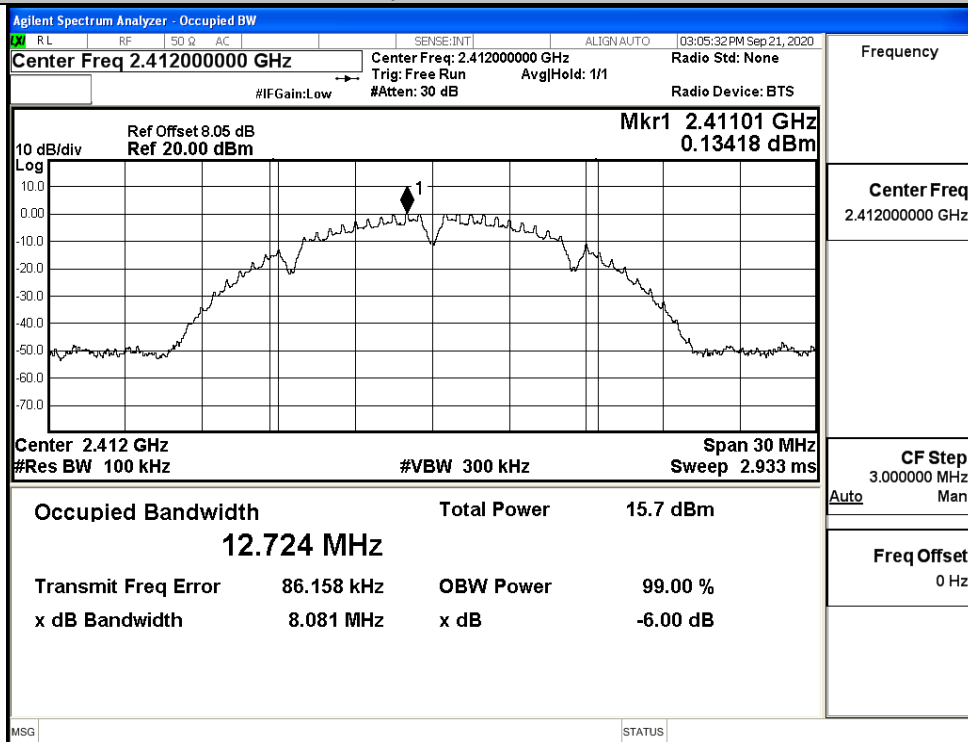


## A.4 6dB Bandwidth

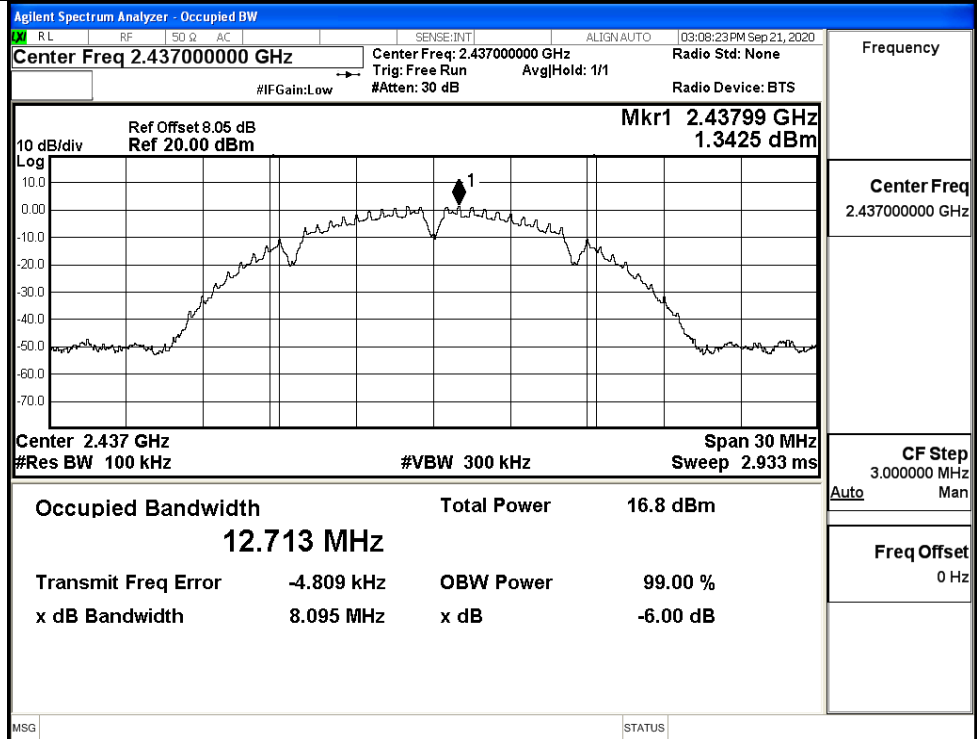
| Mode      | Channel | 6dB Bandwidth [MHz] | Limit [MHz] | Verdict |
|-----------|---------|---------------------|-------------|---------|
| 11B       | LCH     | 8.081               | $\geq 0.5$  | PASS    |
|           | MCH     | 8.095               | $\geq 0.5$  | PASS    |
|           | HCH     | 8.097               | $\geq 0.5$  | PASS    |
| 11G       | LCH     | 15.32               | $\geq 0.5$  | PASS    |
|           | MCH     | 15.71               | $\geq 0.5$  | PASS    |
|           | HCH     | 15.15               | $\geq 0.5$  | PASS    |
| 11N20SISO | LCH     | 15.15               | $\geq 0.5$  | PASS    |
|           | MCH     | 15.16               | $\geq 0.5$  | PASS    |
|           | HCH     | 15.13               | $\geq 0.5$  | PASS    |
| 11N40SISO | LCH     | 35.14               | $\geq 0.5$  | PASS    |
|           | MCH     | 35.17               | $\geq 0.5$  | PASS    |
|           | HCH     | 35.14               | $\geq 0.5$  | PASS    |

## Test Graphs

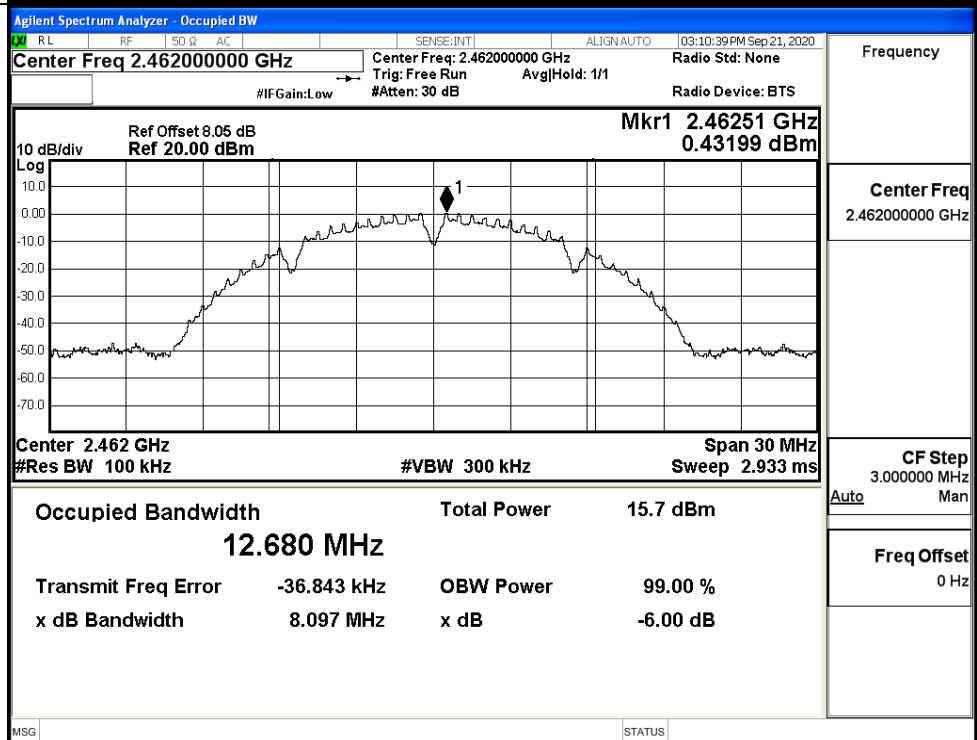
11B/LCH



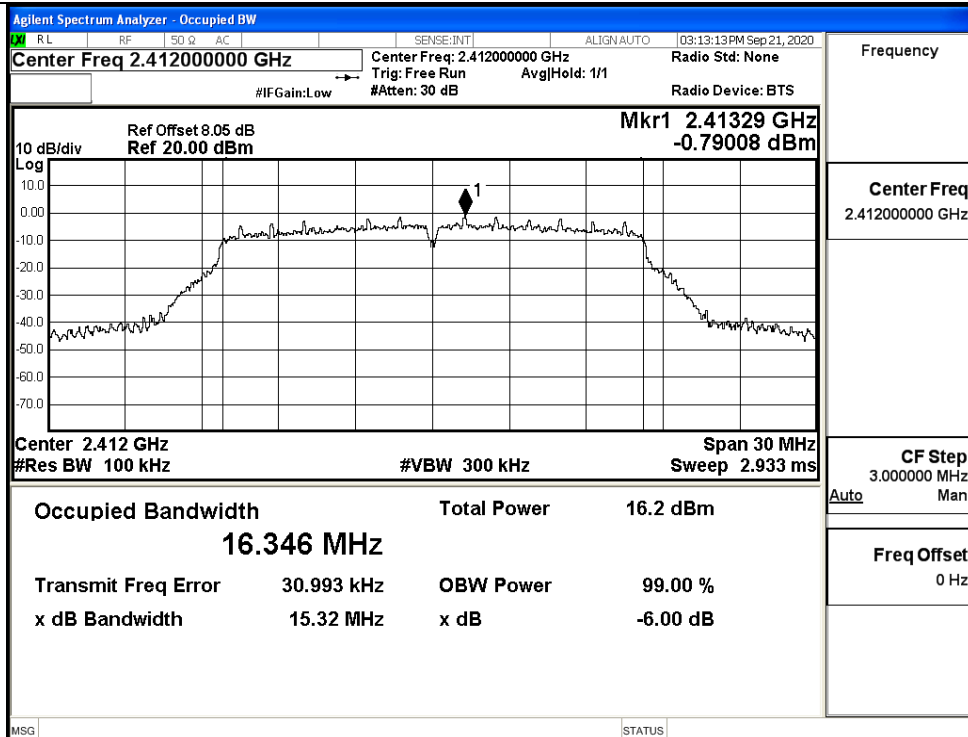
11B/MCH



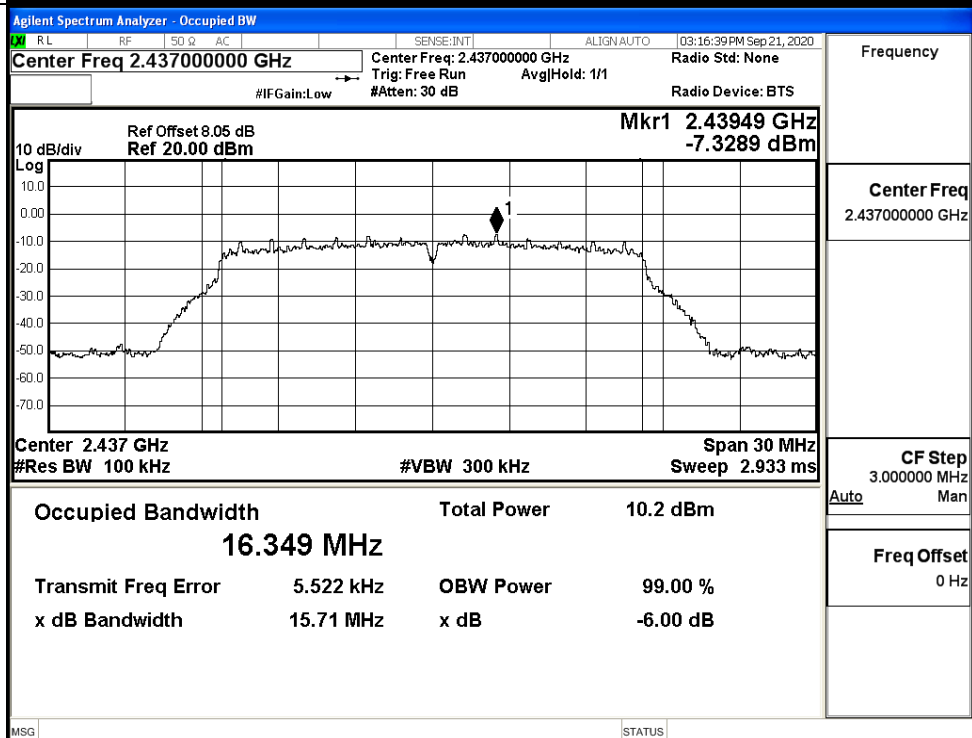
11B/HCH



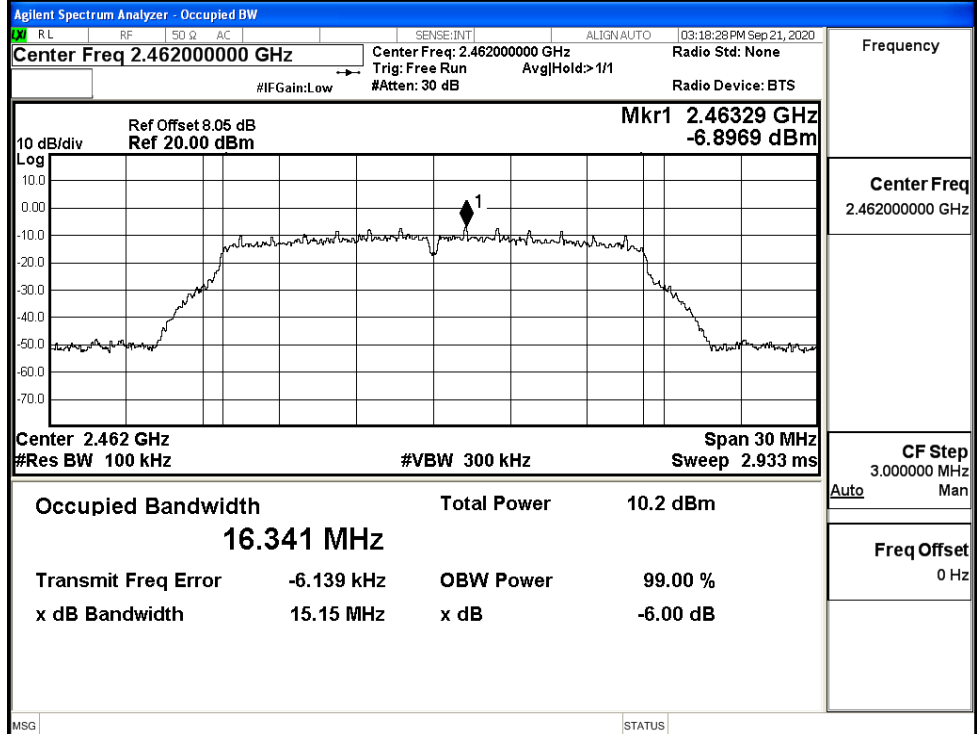
11G/LCH



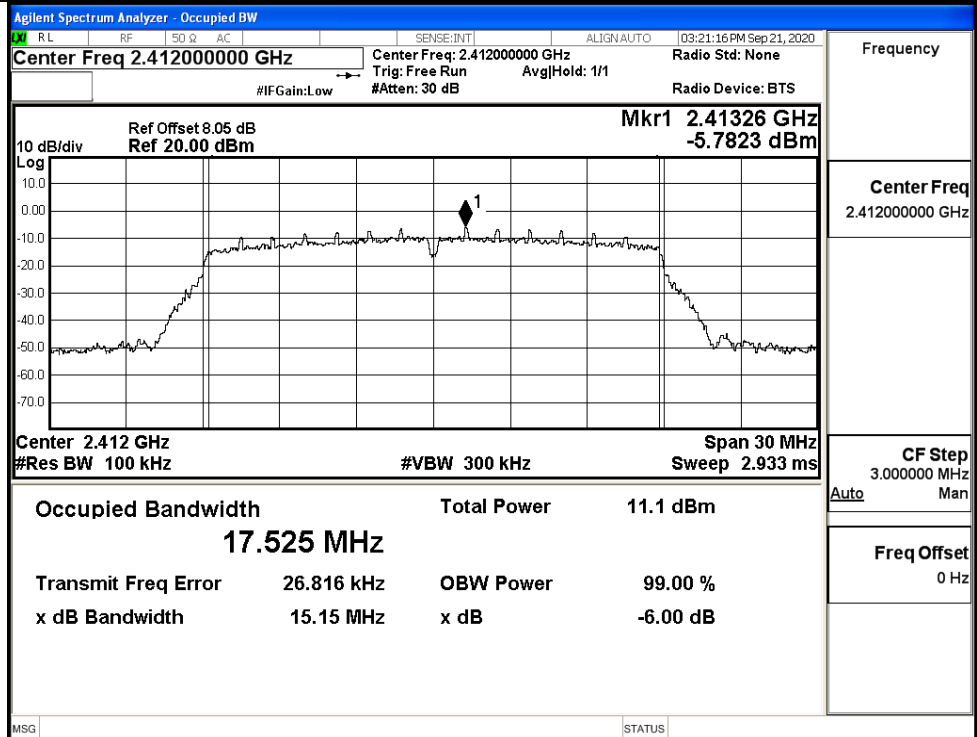
11G/MCH



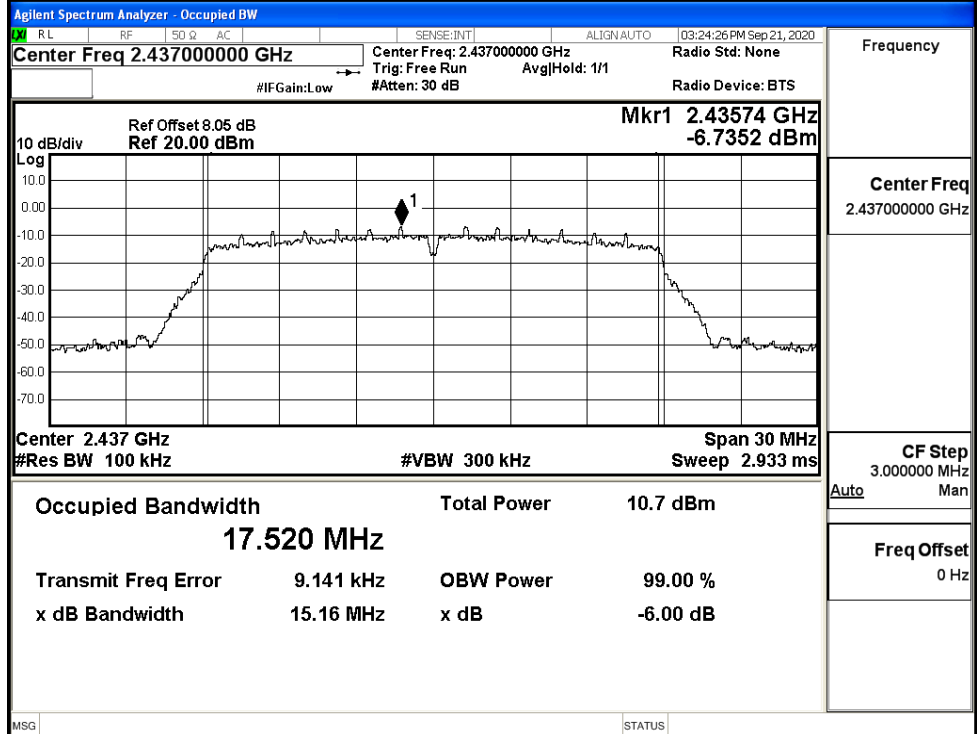
11G/HCH



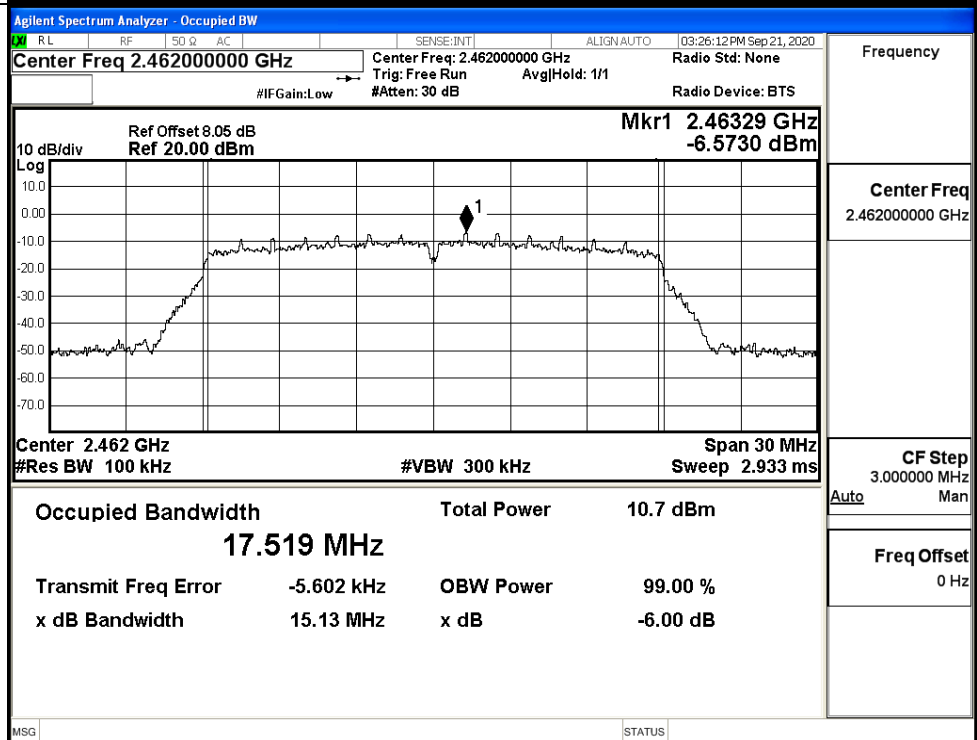
11N20SISO/LCH



11N20SISO/MCH

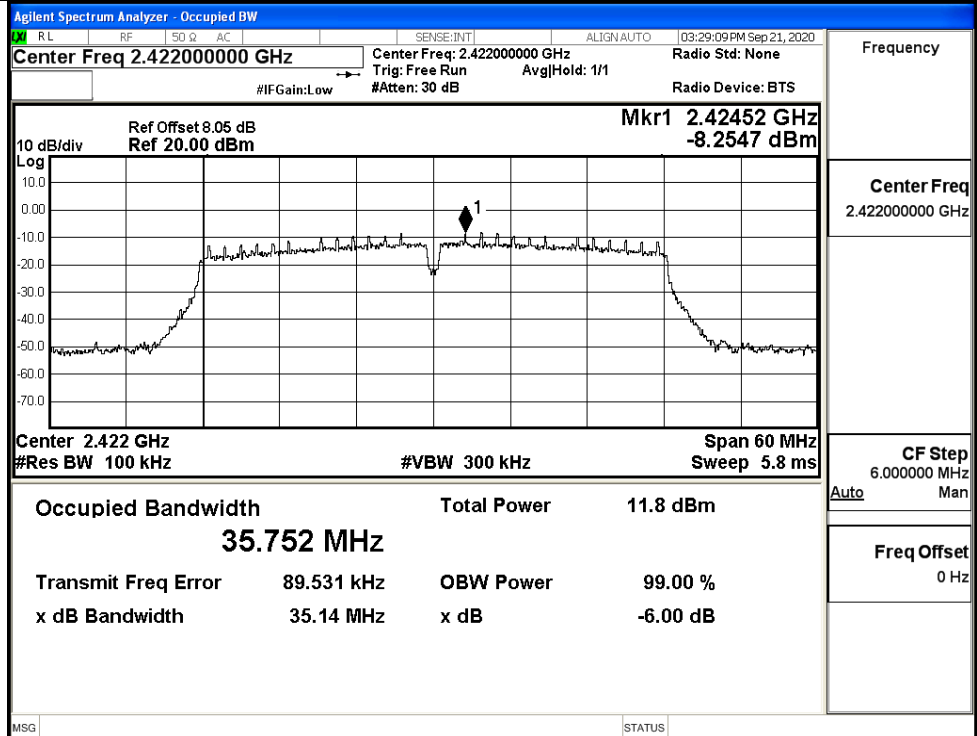


11N20SISO/HCH

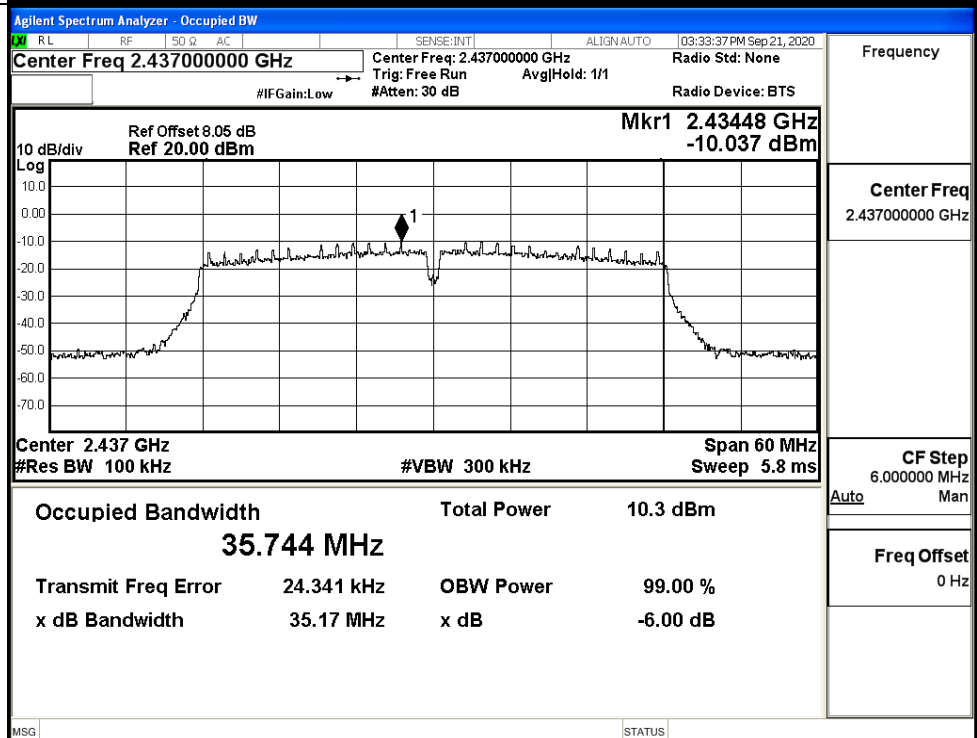




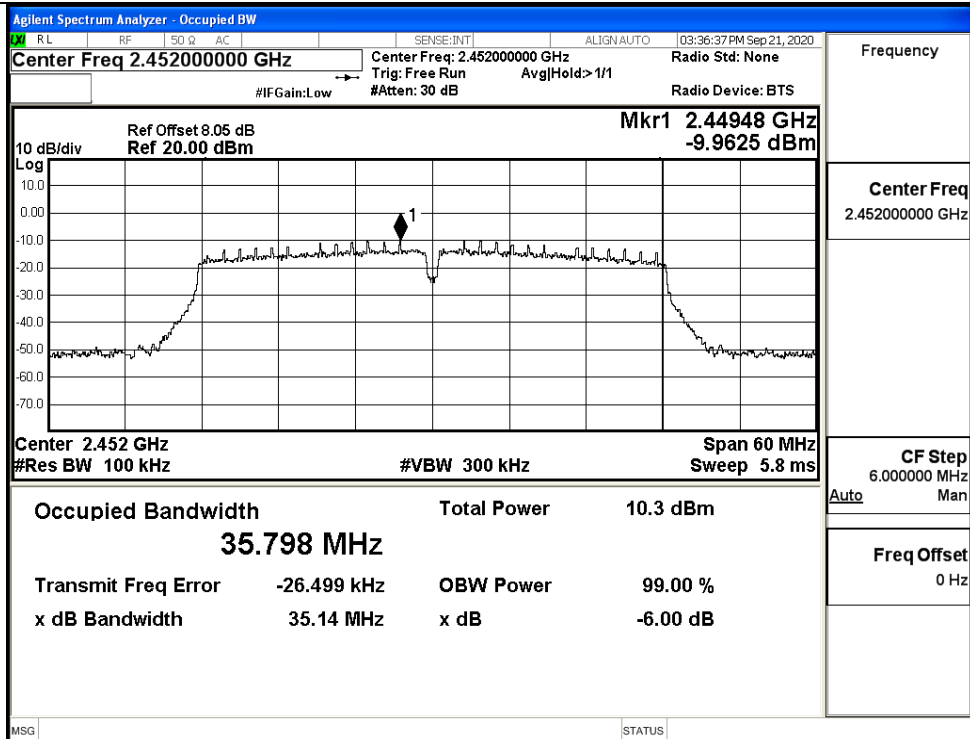
11N40SISO/LCH



11N40SISO/MCH



11N40SISO/HCH

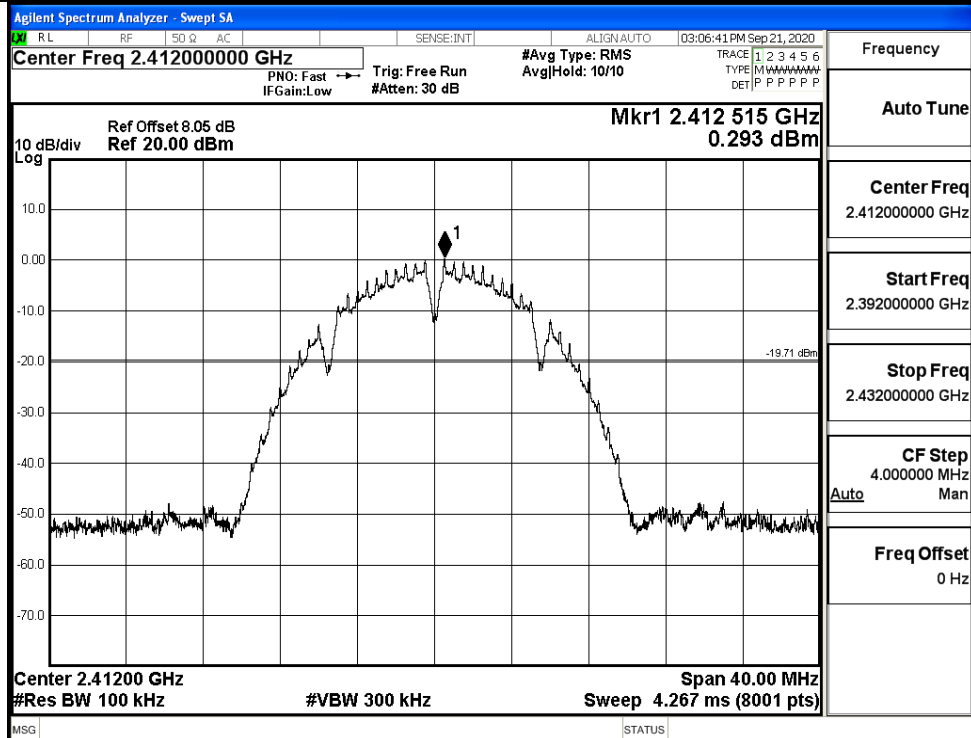


## A.5 RF Conducted Spurious Emissions

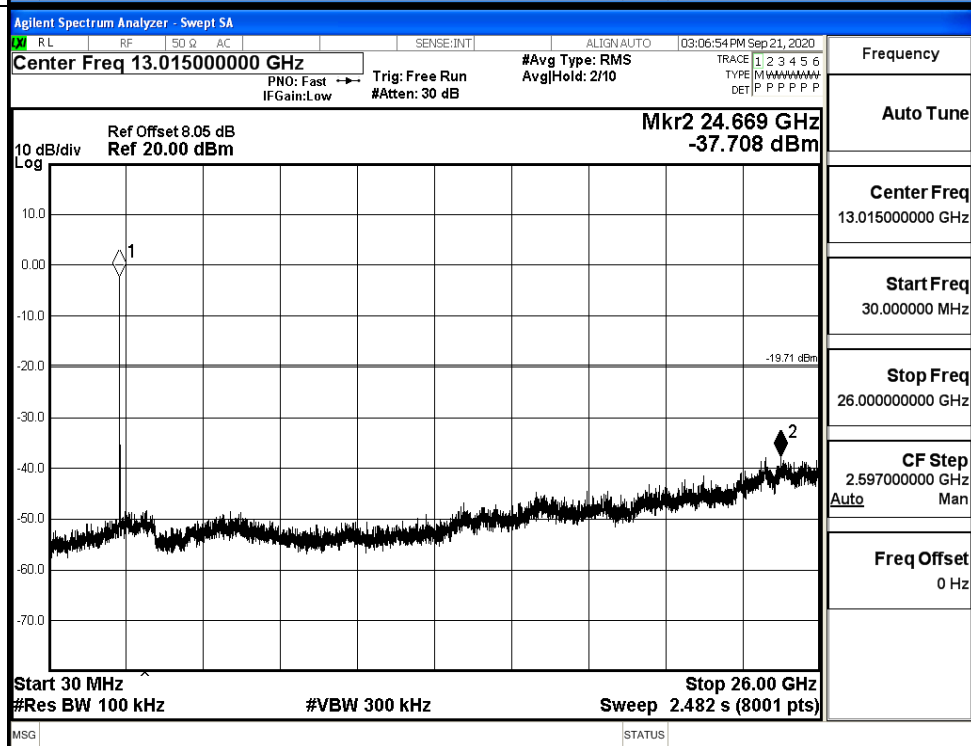
| Mode          | Channel | Pref [dBm] | Max. Level [dBm] | Limit [dBm] | Verdict |
|---------------|---------|------------|------------------|-------------|---------|
| 11B           | LCH     | 0.293      | -37.708          | -19.707     | PASS    |
|               | MCH     | 0.548      | -37.354          | -19.452     | PASS    |
|               | HCH     | 0.498      | -37.984          | -19.502     | PASS    |
| 11G           | LCH     | -7.067     | -37.944          | -27.067     | PASS    |
|               | MCH     | -7.067     | -38.443          | -27.067     | PASS    |
|               | HCH     | -7.547     | -38.411          | -27.547     | PASS    |
| 11N20<br>SISO | LCH     | -6.439     | -37.648          | -26.439     | PASS    |
|               | MCH     | -6.833     | -37.797          | -26.833     | PASS    |
|               | HCH     | -6.996     | -37.637          | -26.996     | PASS    |
| 11N40<br>SISO | LCH     | -10.233    | -37.217          | -30.233     | PASS    |
|               | MCH     | -9.885     | -37.014          | -29.885     | PASS    |
|               | HCH     | -10.293    | -38.758          | -30.293     | PASS    |

## 11B LCH Graphs

Pref/11B/LCH

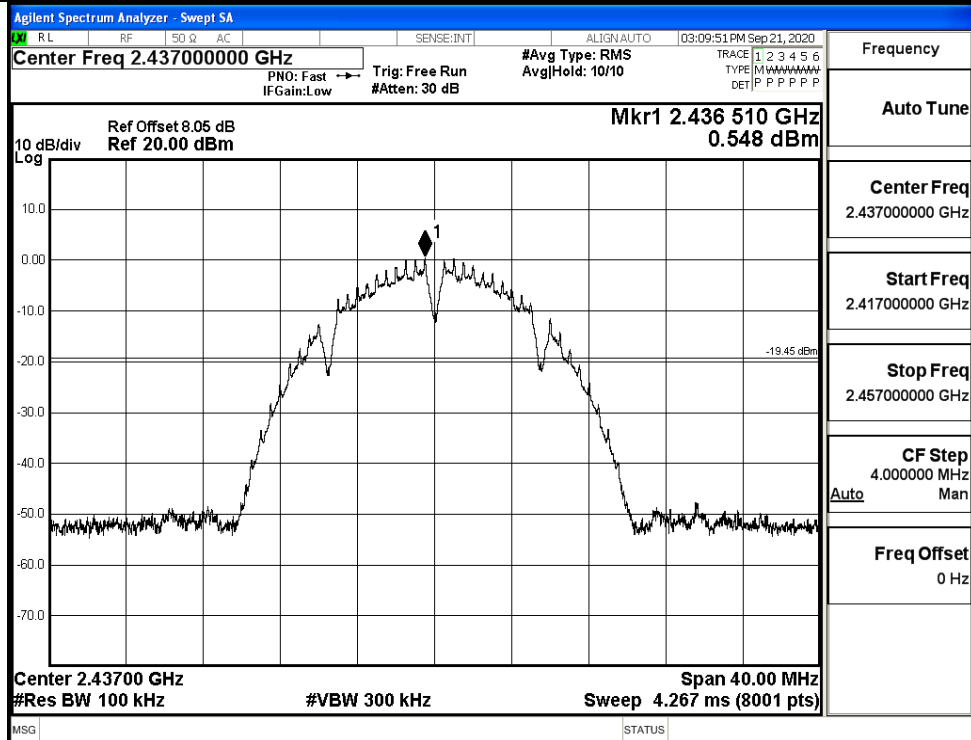


Puw/11B/LCH

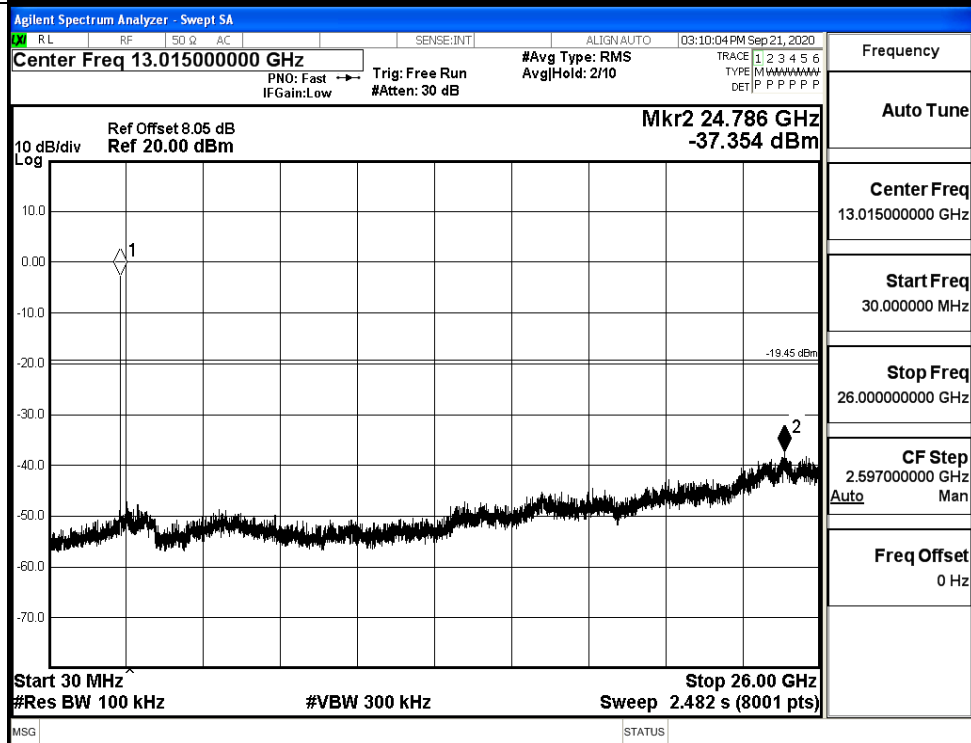


## 11B MCH Graphs

Pref/11B/MCH

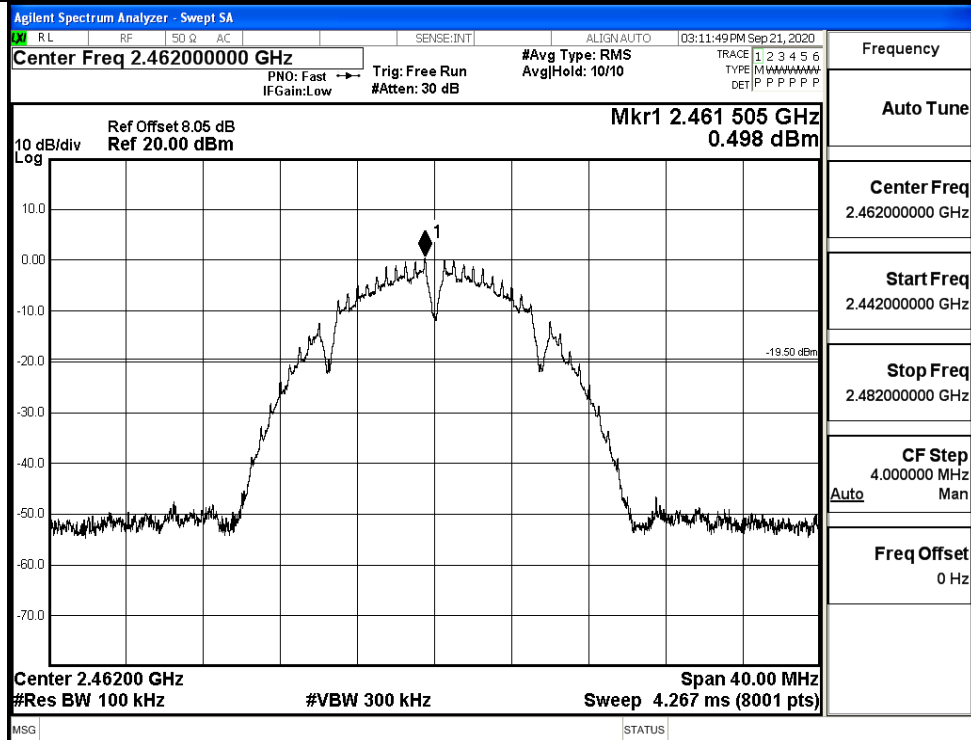


Puw/11B/MCH

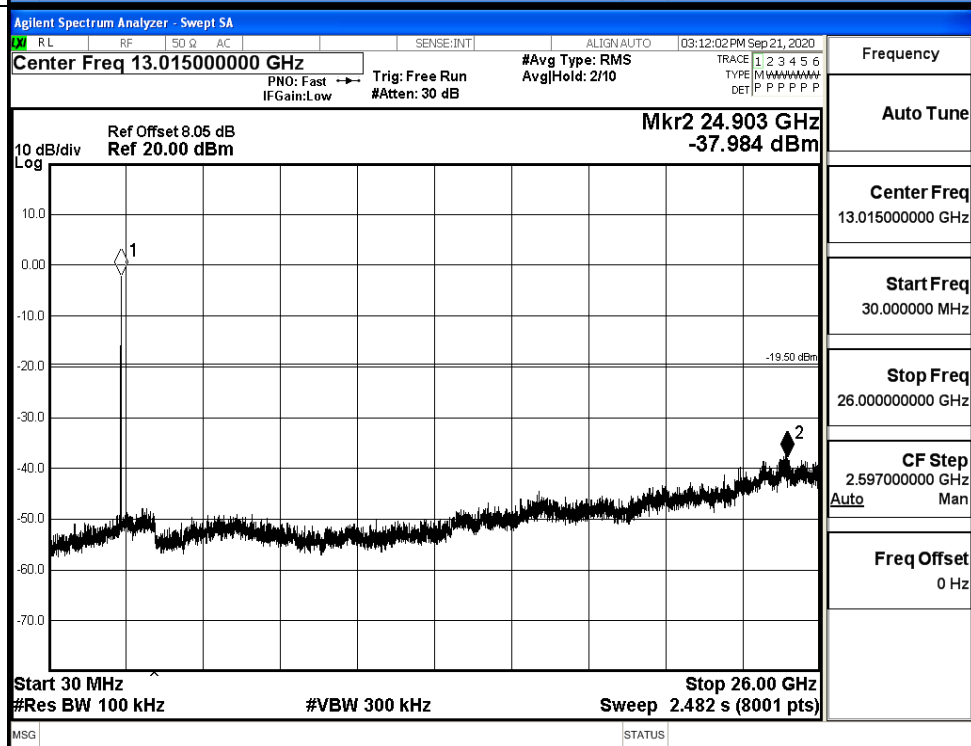


## 11B HCH Graphs

Pref/11B/HCH

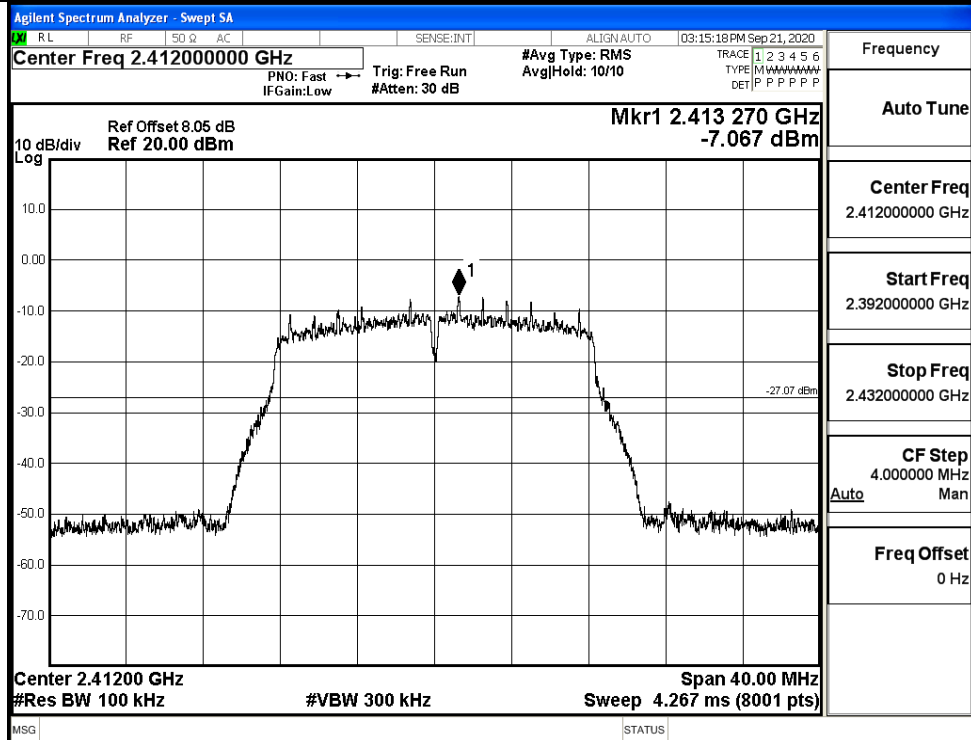


Puw/11B/HCH

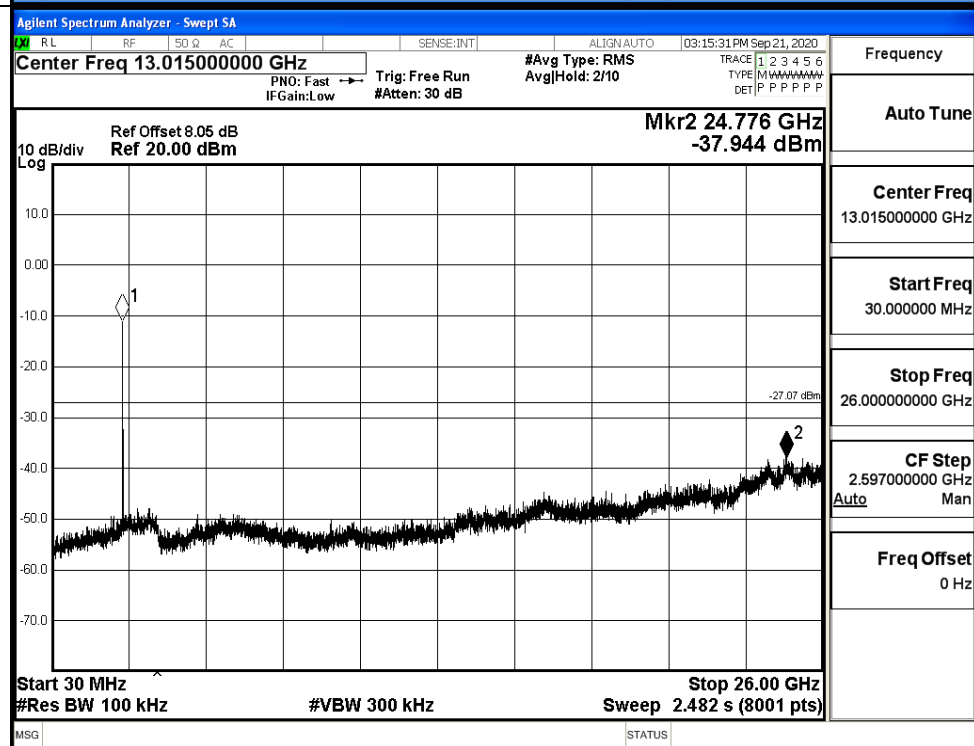


## 11G LCH Graphs

Pref/11G/LCH

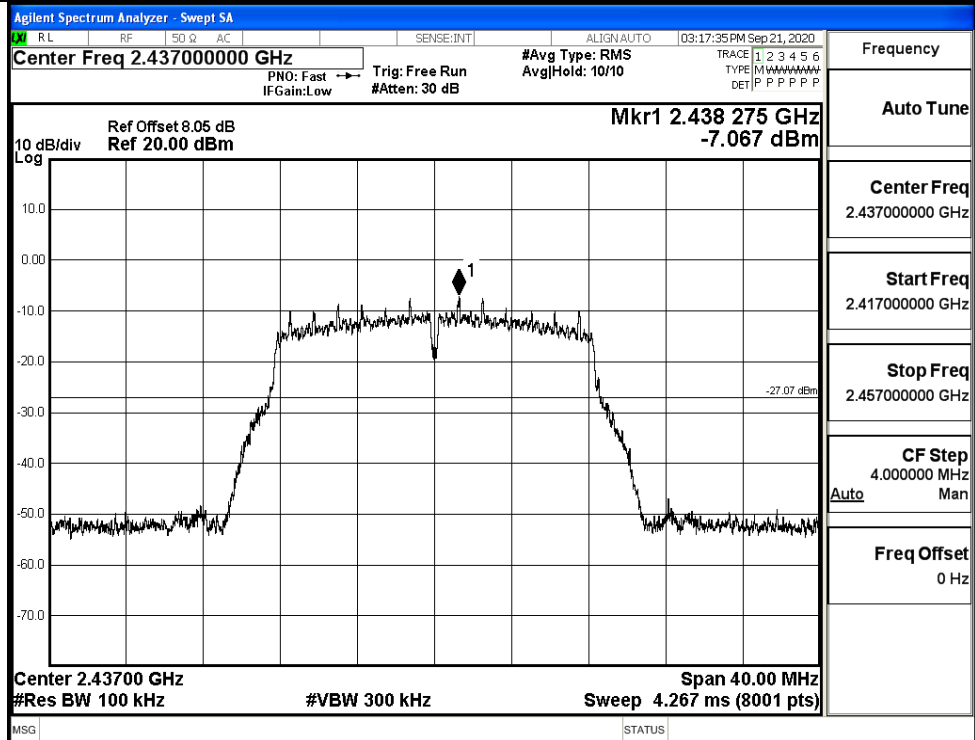


Puw/11G/LCH



## 11G MCH Graphs

Pref/11G/MCH



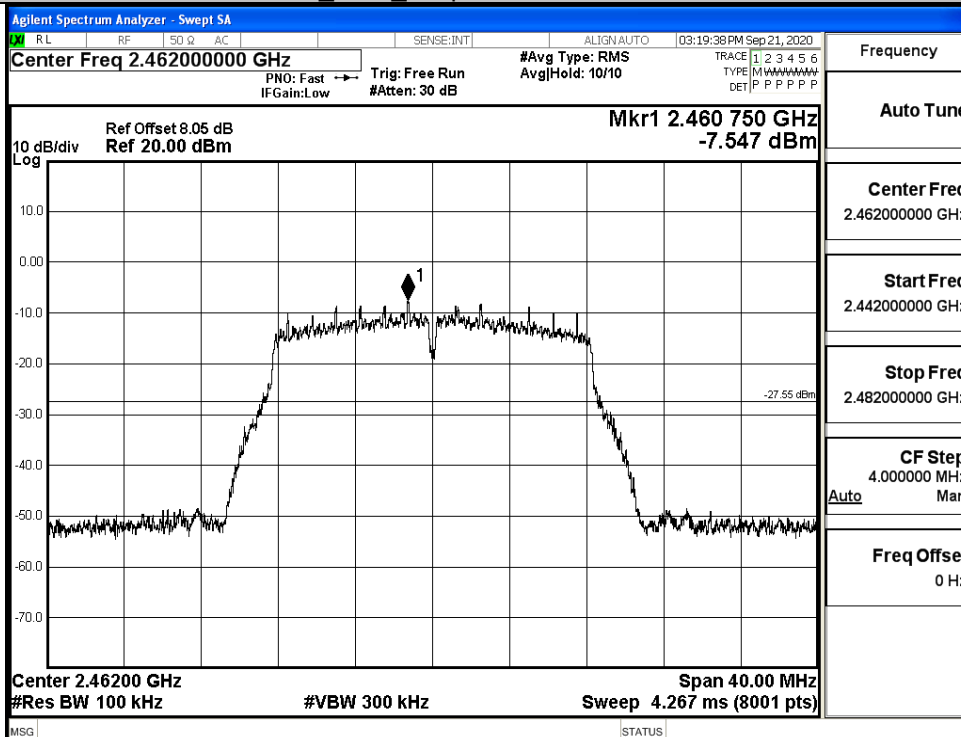
Puw/11G/MCH



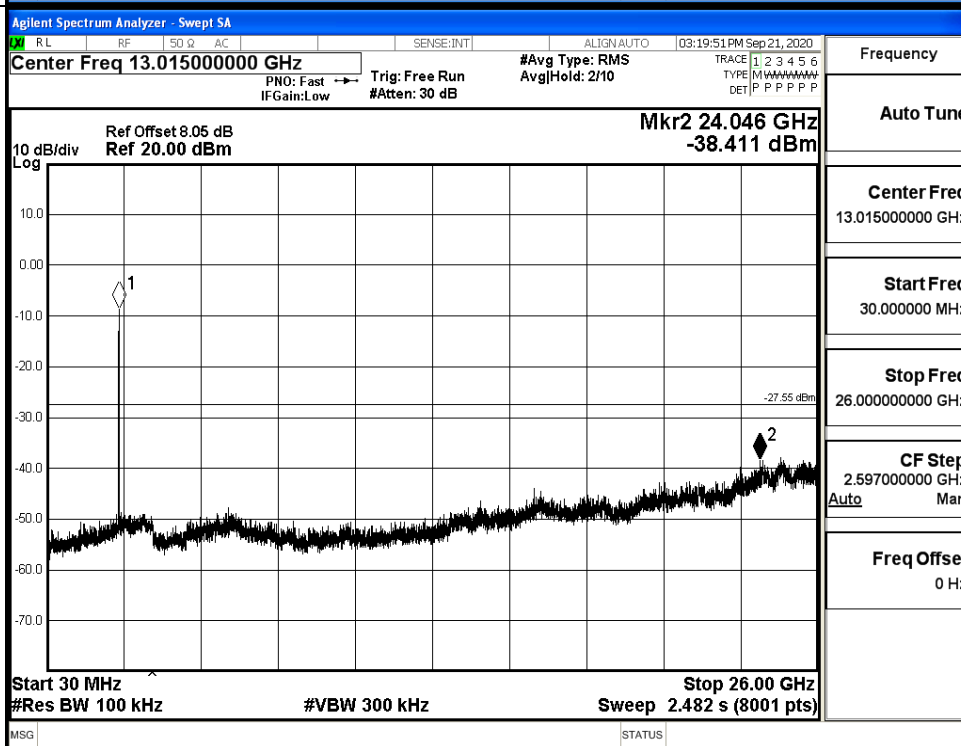


## 11G HCH Graphs

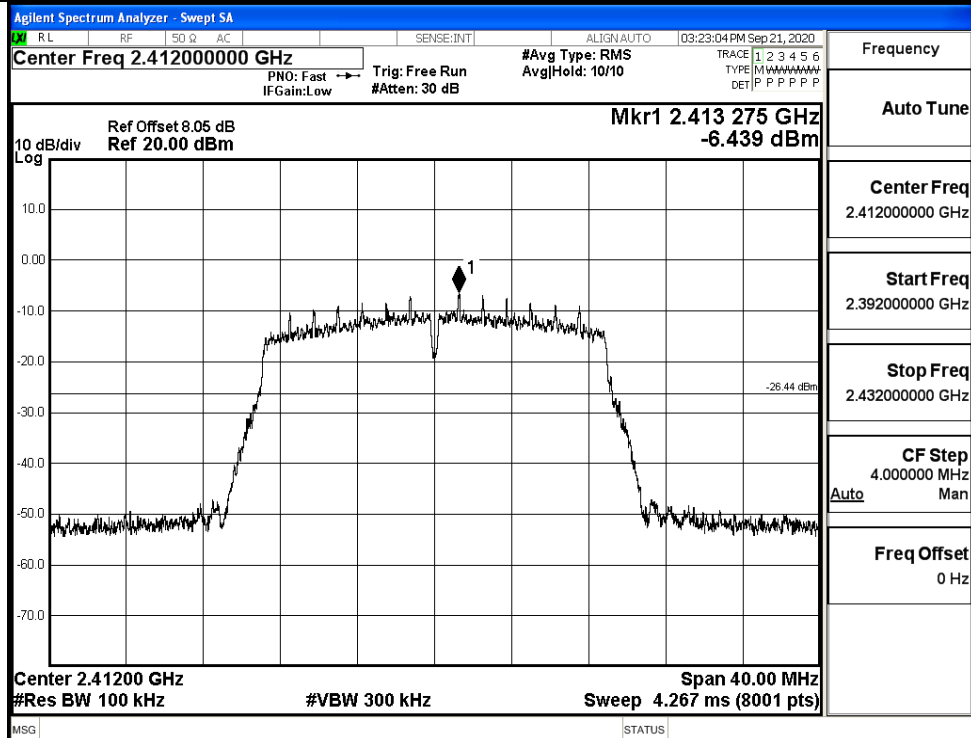
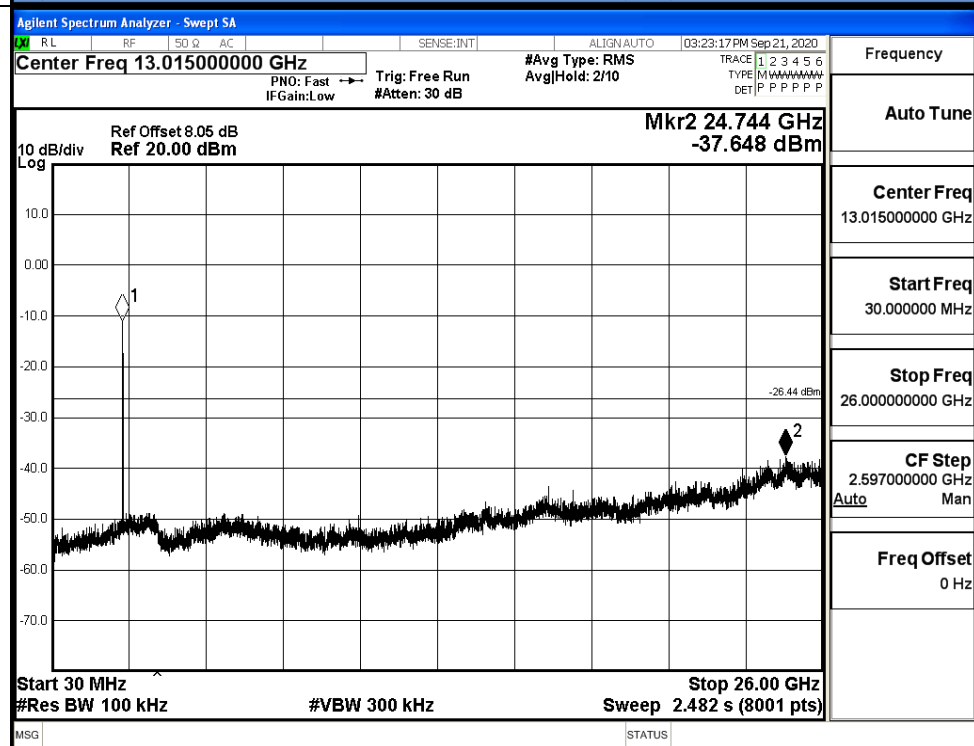
Pref/11G/HCH



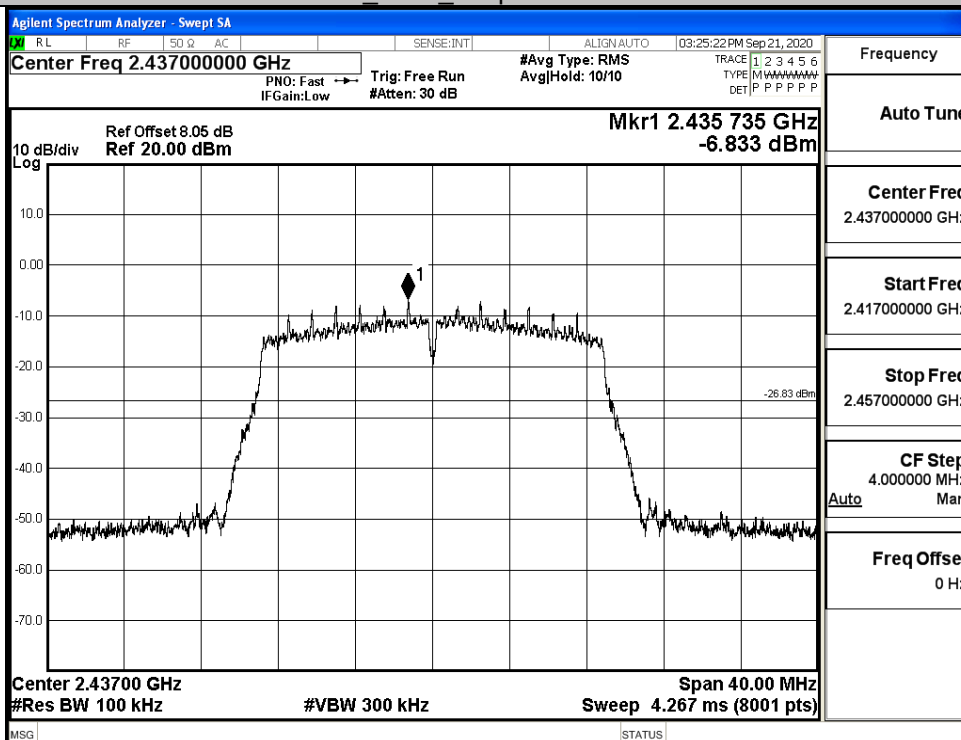
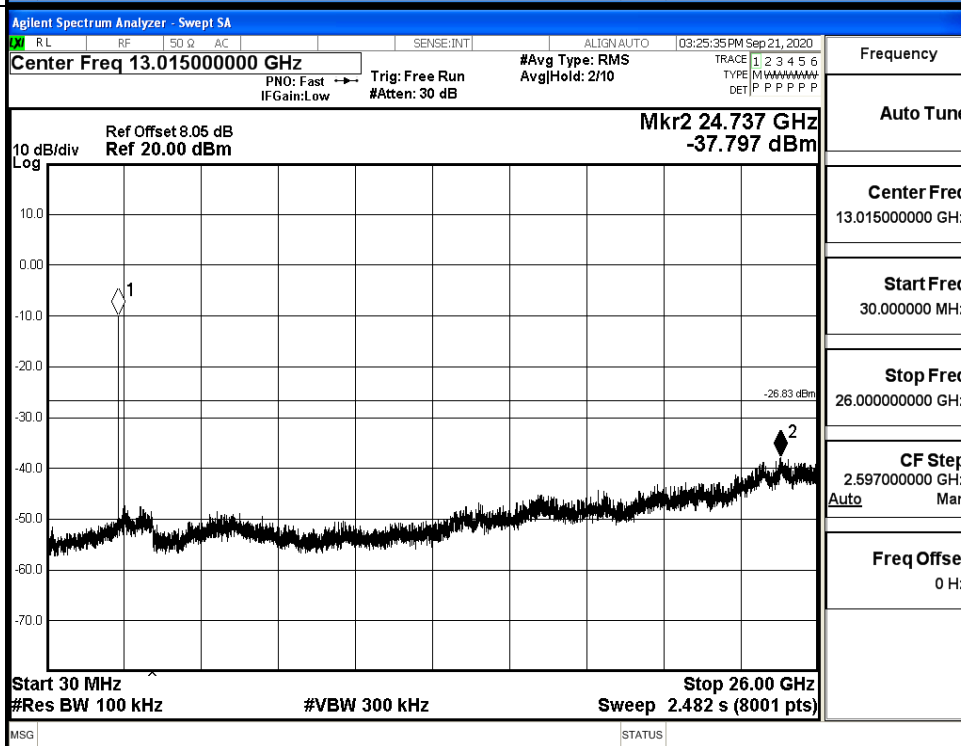
Puw/11G/HCH



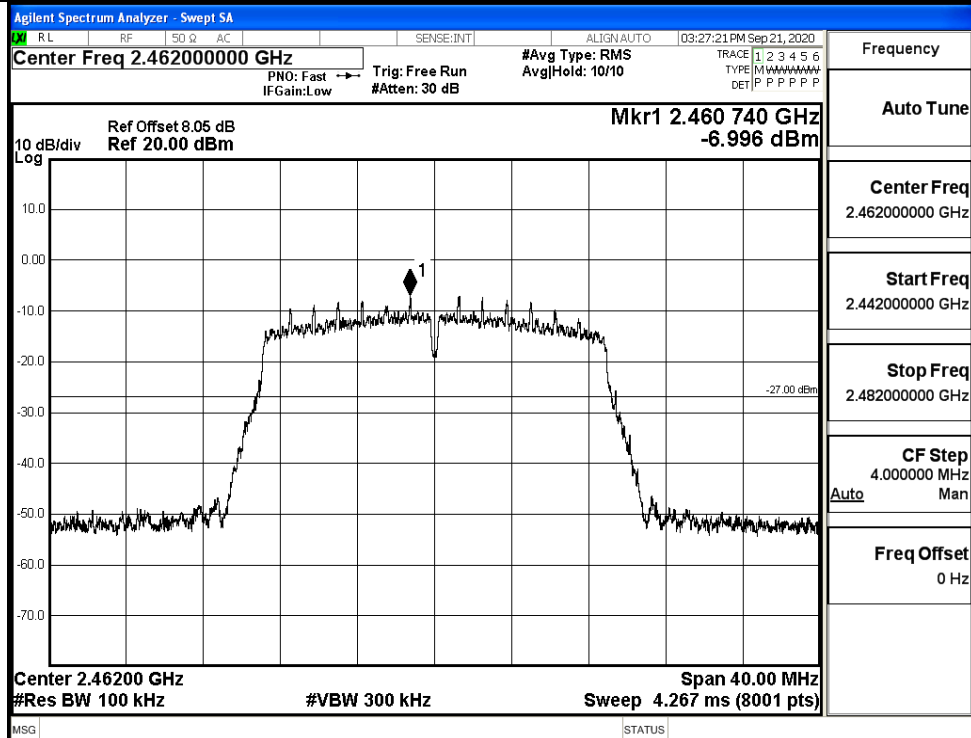
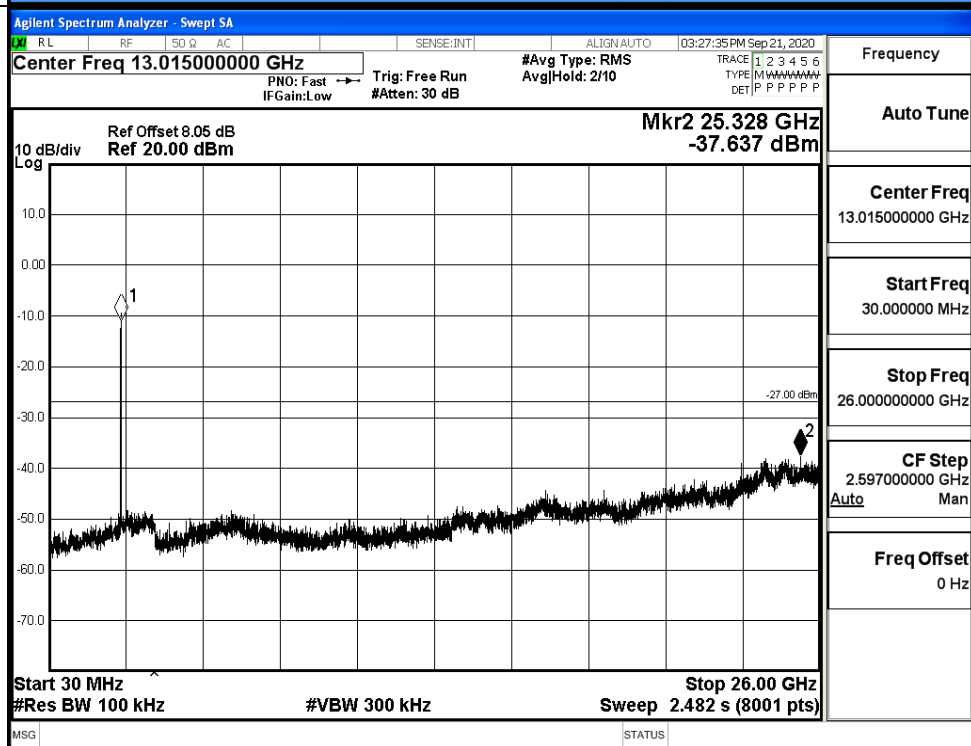
## 11N20SISO LCH Graphs

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

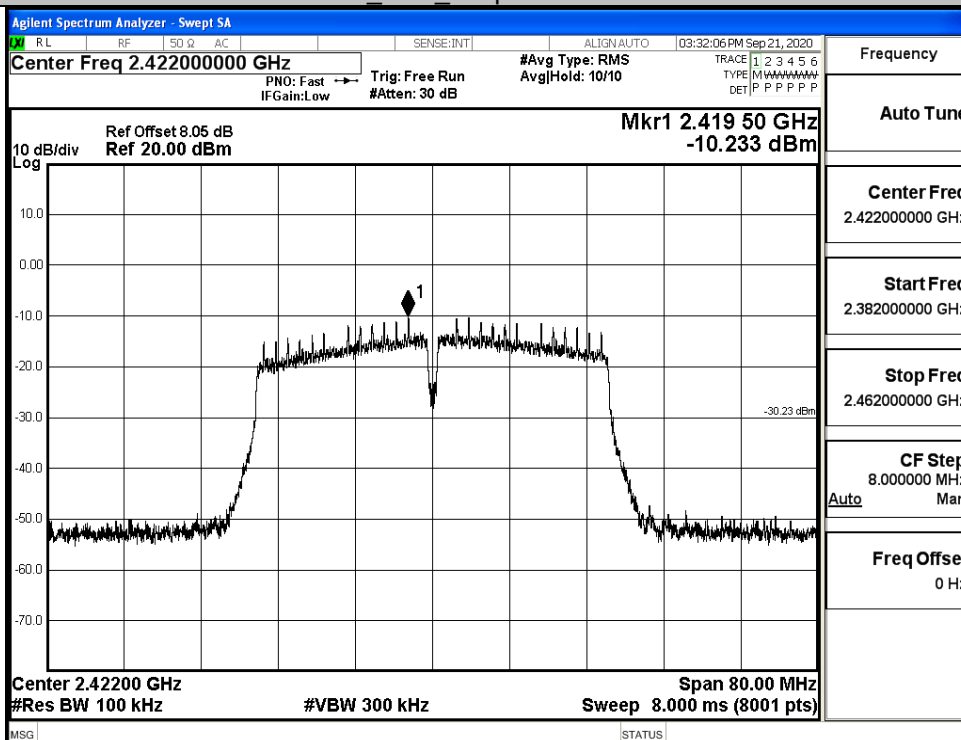
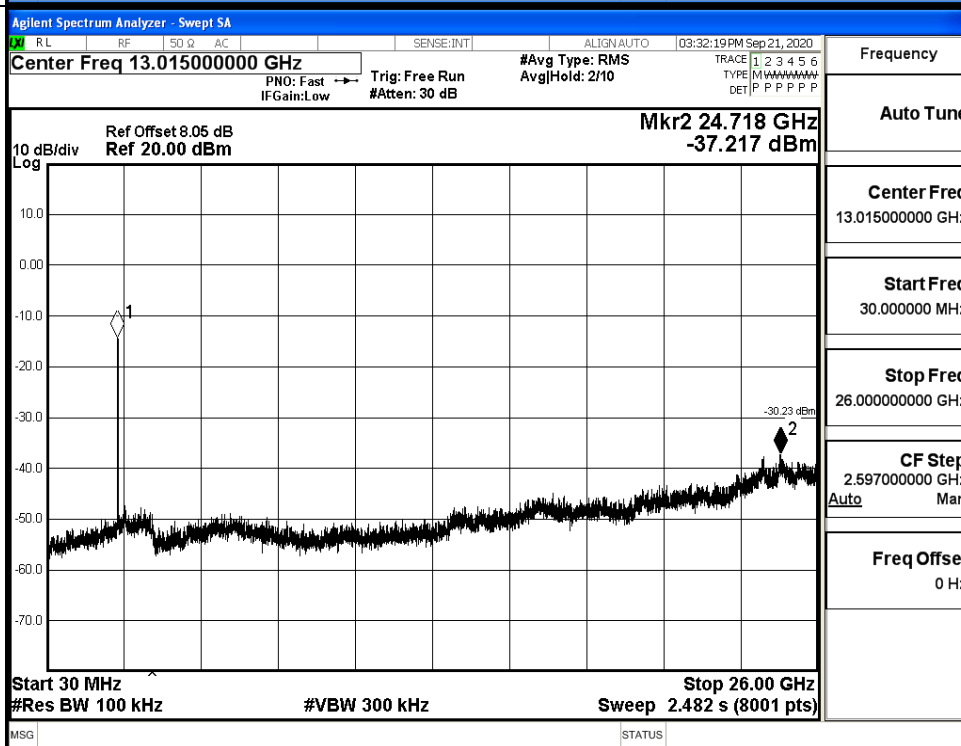
## 11N20SISO\_MCH\_Graphs

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

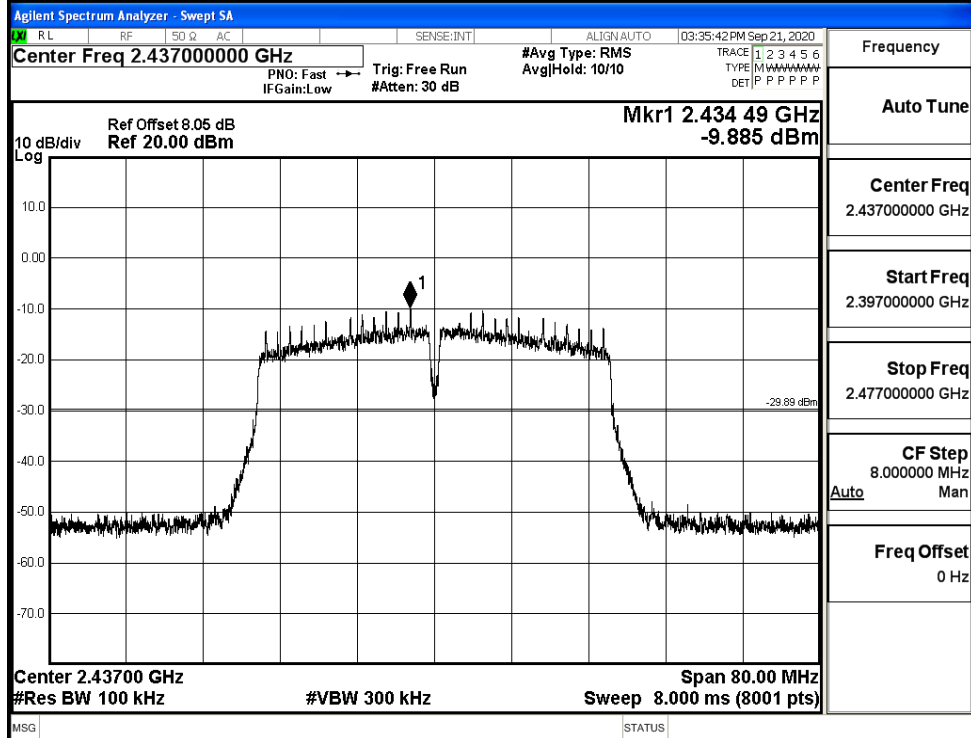
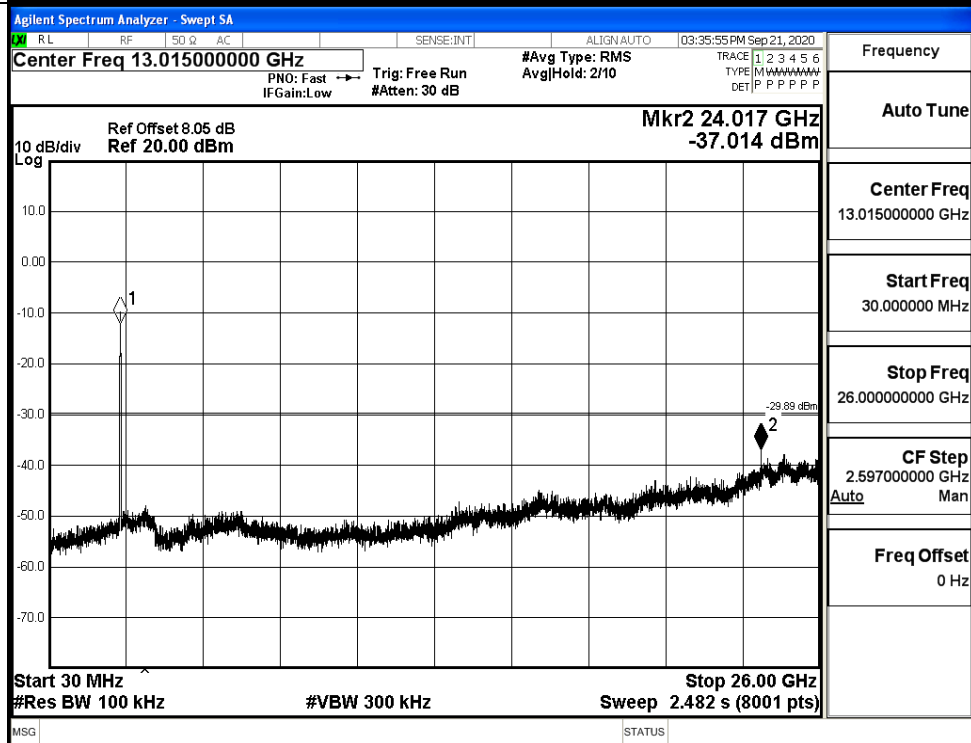
## 11N20SISO HCH Graphs

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

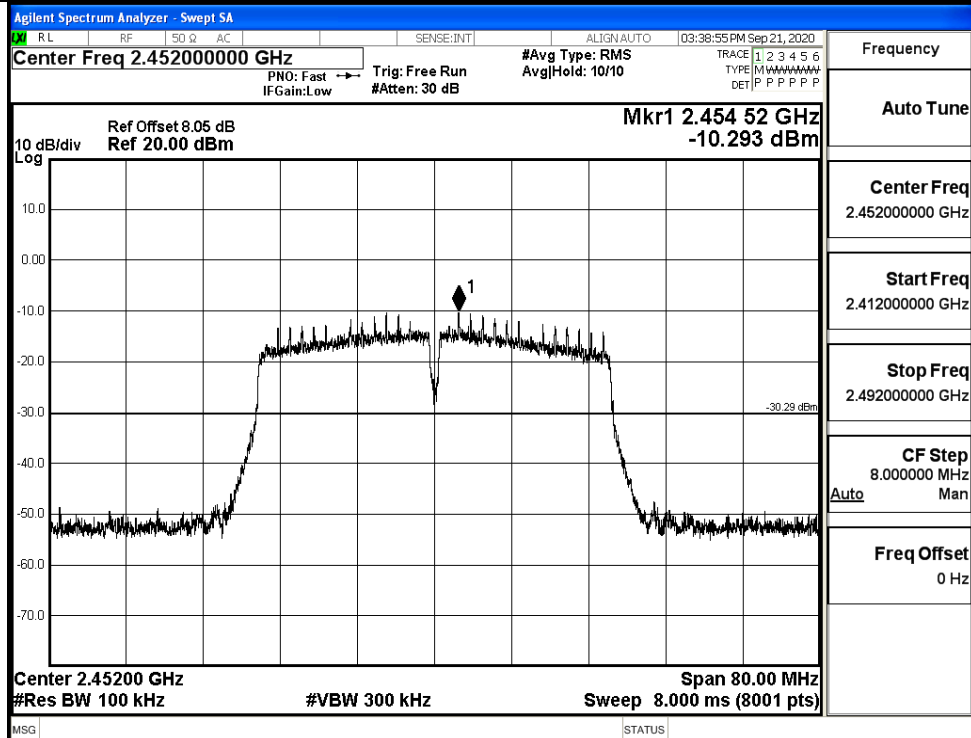
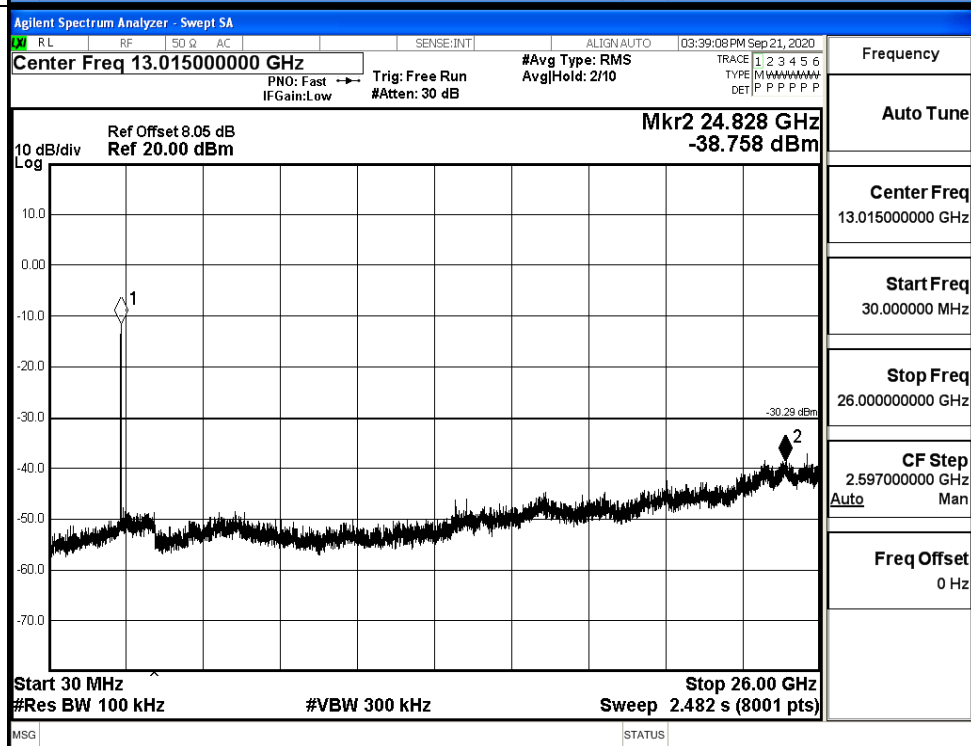
## 11N40SISO LCH Graphs

Pref/11N40  
SISO/LCHPuw/11N40  
SISO/LCH

## 11N40SISO\_MCH\_Graphs

Pref/11N40  
SISO/MCHPuw/11N40  
SISO/MCH

## 11N40SISO HCH Graphs

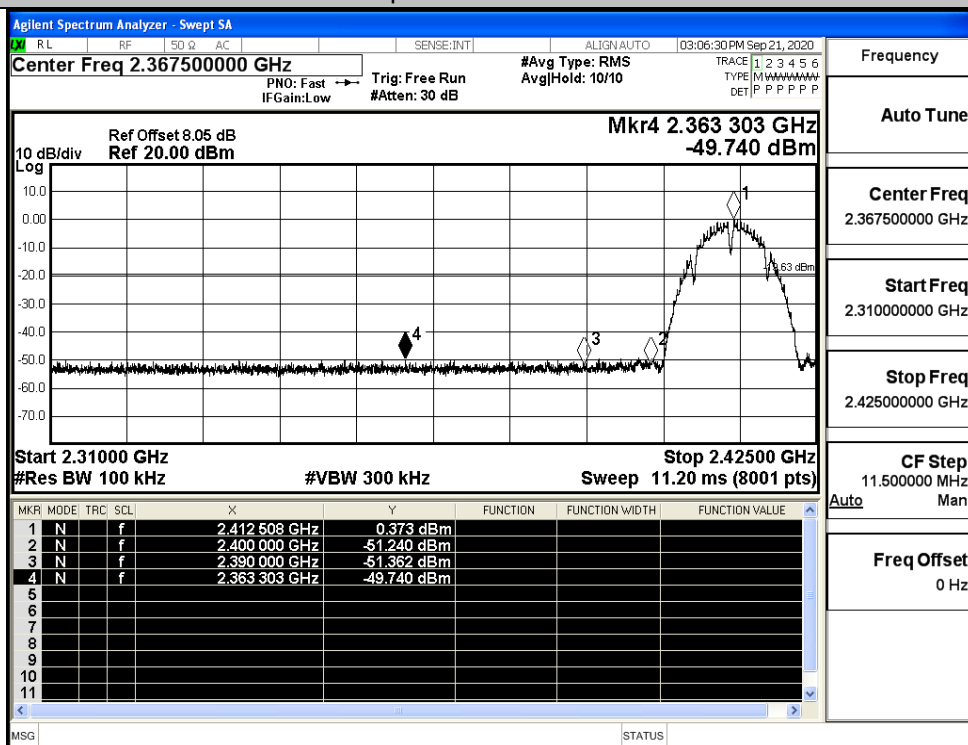
Pref/11N40  
SISO/HCHPuw/11N40  
SISO/HCH

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

| Mode      | Channel | Carrier Power[dBm] | Max.Spurious Level [dBm] | Limit [dBm] | Verdict |
|-----------|---------|--------------------|--------------------------|-------------|---------|
| 11B       | LCH     | 0.373              | -49.740                  | -19.63      | PASS    |
|           | HCH     | 0.536              | -49.250                  | -19.46      | PASS    |
| 11G       | LCH     | -7.778             | -49.353                  | -27.78      | PASS    |
|           | HCH     | -6.920             | -49.530                  | -26.92      | PASS    |
| 11N20SISO | LCH     | -7.932             | -49.793                  | -27.93      | PASS    |
|           | HCH     | -6.406             | -49.452                  | -26.41      | PASS    |
| 11N40SISO | LCH     | -10.330            | -49.690                  | -30.33      | PASS    |
|           | HCH     | -10.049            | -49.207                  | -30.05      | PASS    |

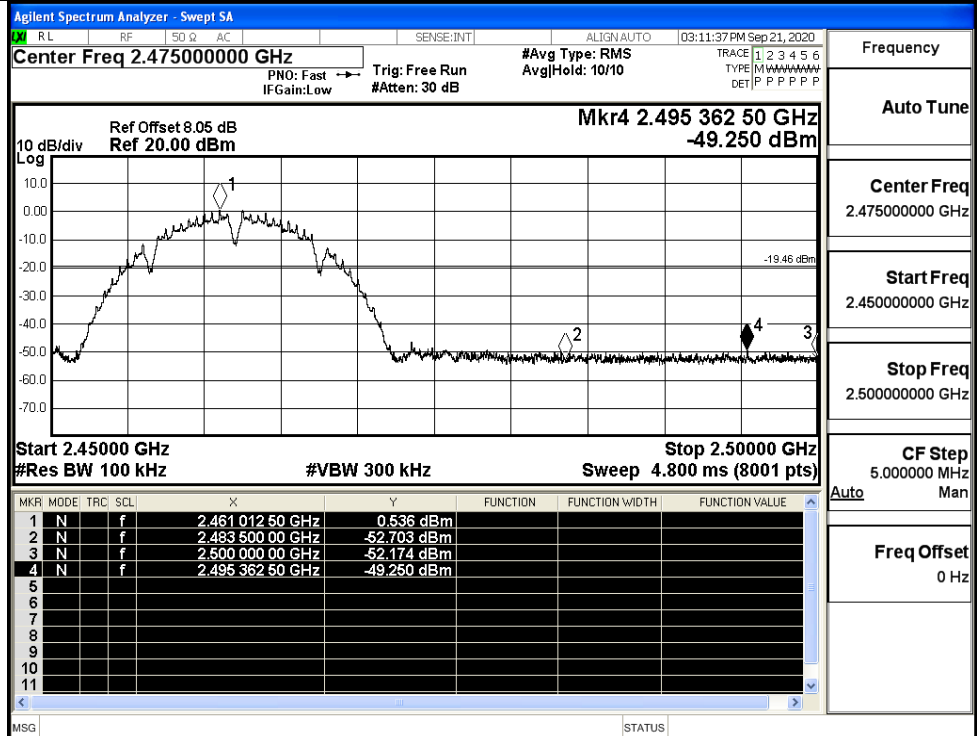
Test Graphs

11B/LCH

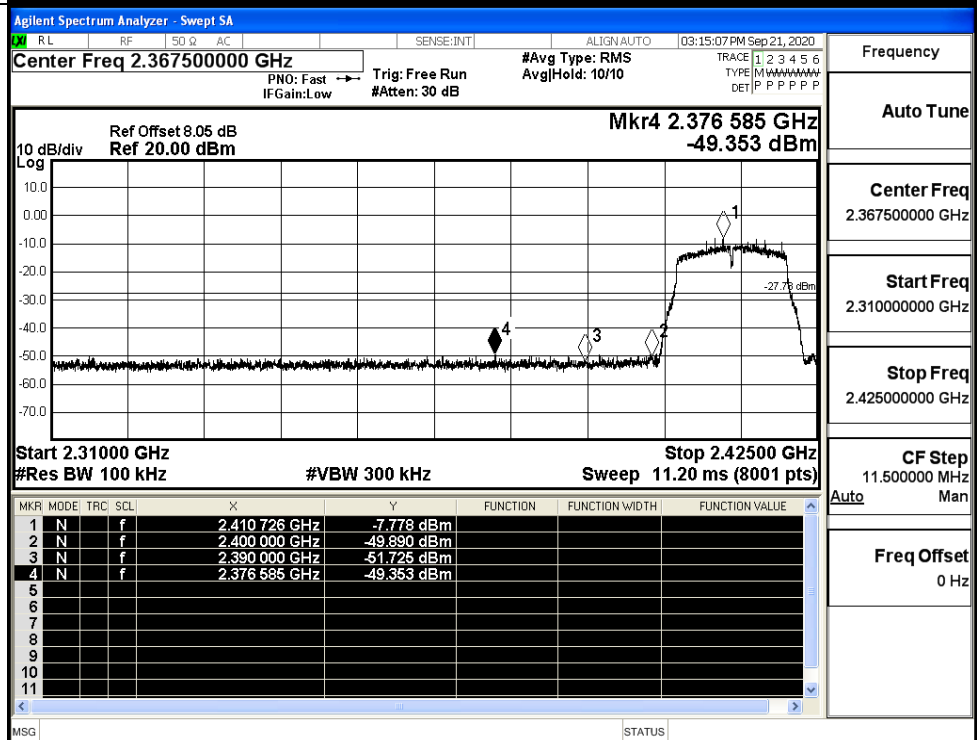




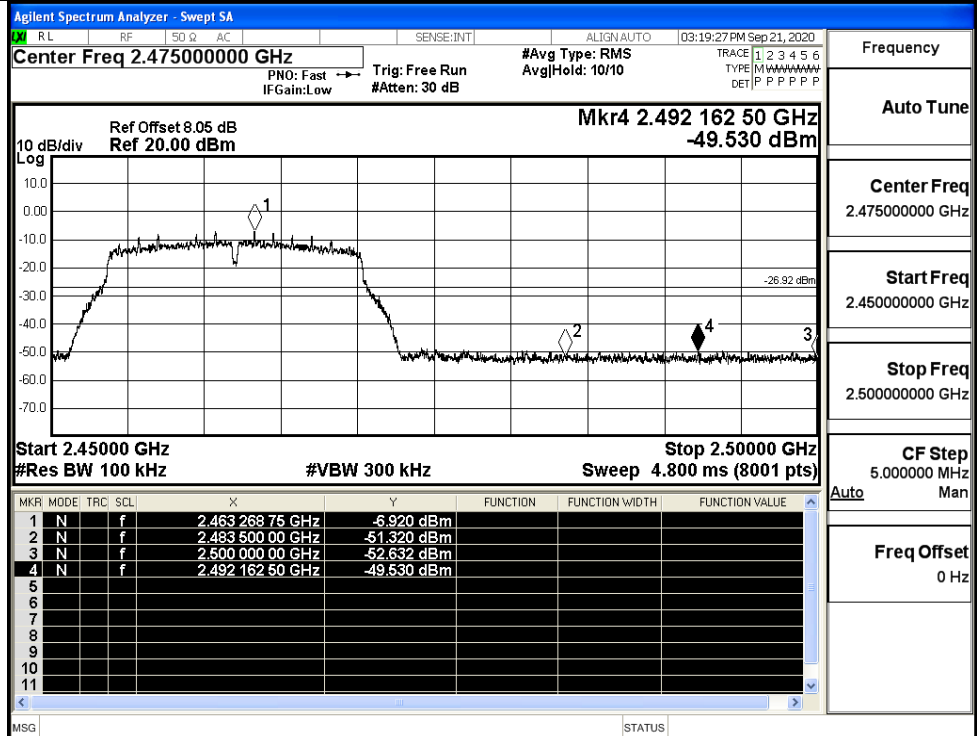
11B/HCH



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

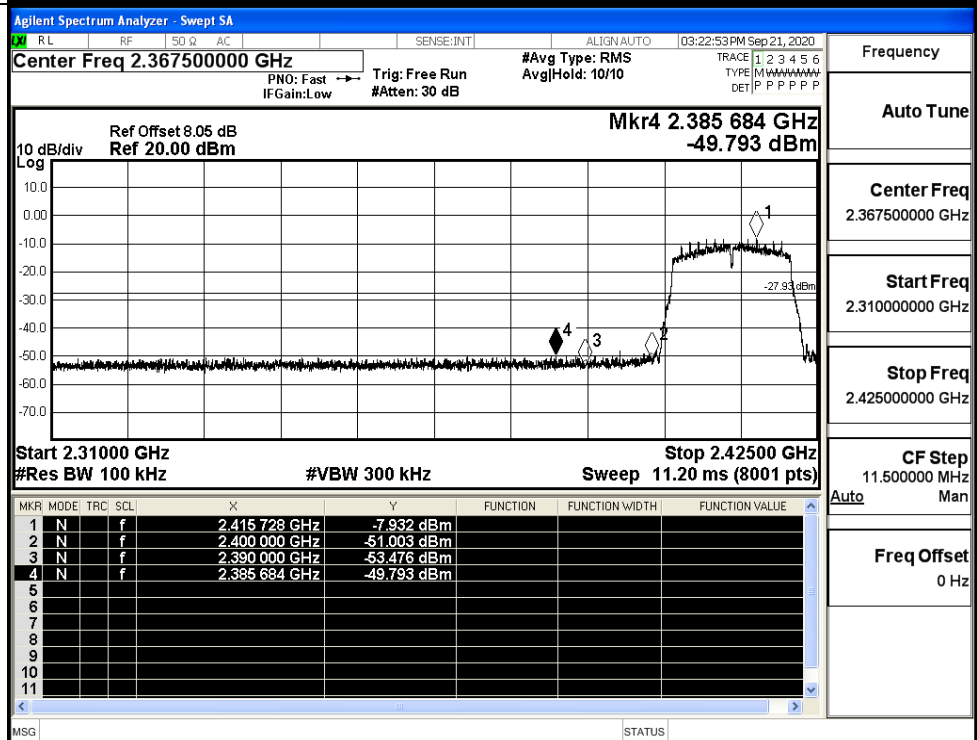
Auto

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

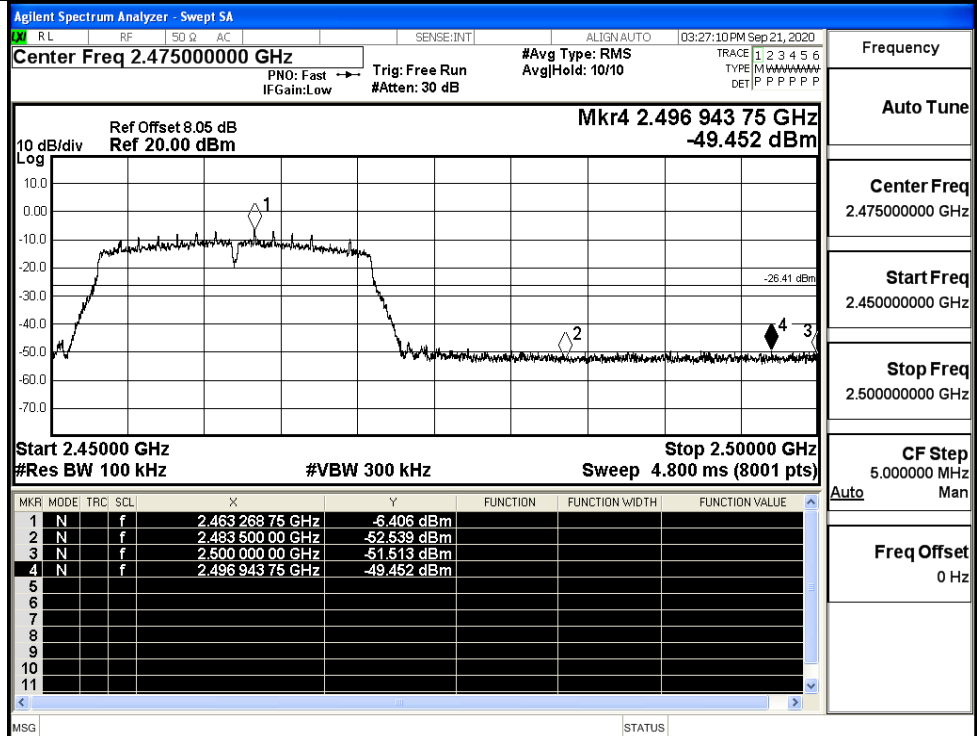
Auto

Man

Freq Offset

0 Hz

11N20SISO/HCH



Frequency

Auto Tune

Center Freq

2.475000000 GHz

Start Freq

2.450000000 GHz

Stop Freq

2.500000000 GHz

CF Step

5.000000 MHz

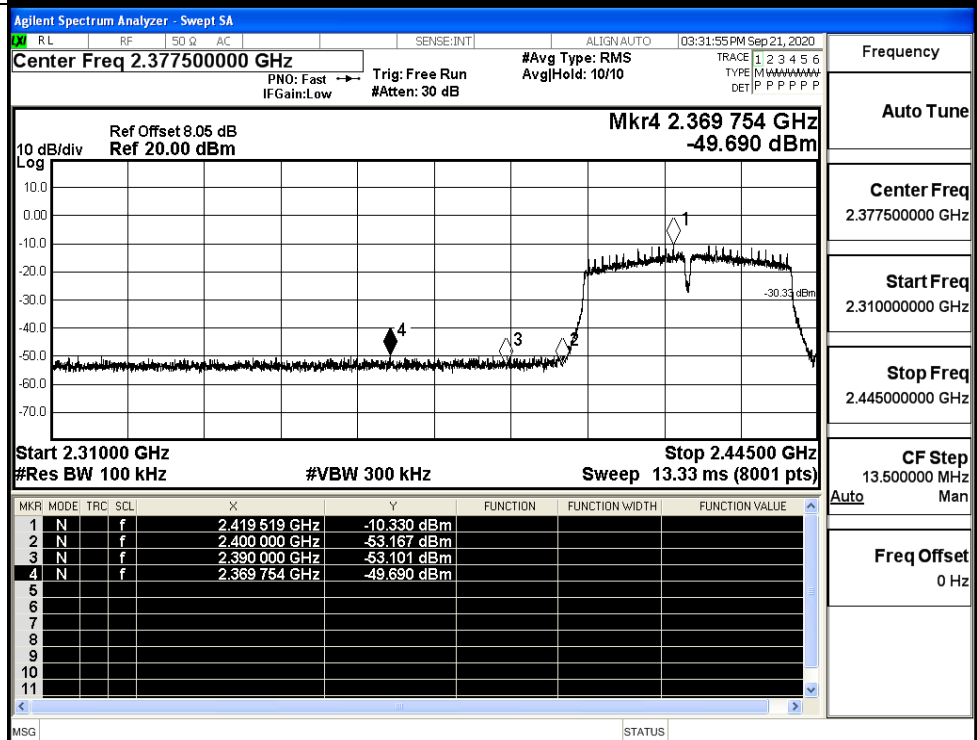
Auto

Man

Freq Offset

0 Hz

11N40SISO/LCH



Frequency

Auto Tune

Center Freq

2.377500000 GHz

Start Freq

2.310000000 GHz

Stop Freq

2.445000000 GHz

CF Step

13.500000 MHz

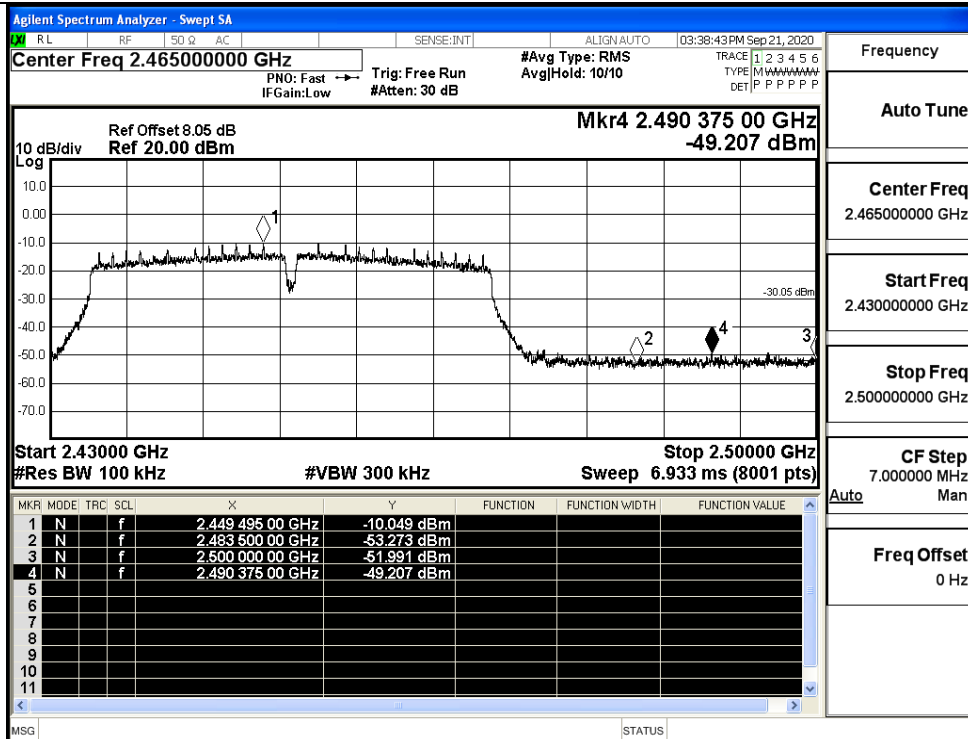
Auto

Man

Freq Offset

0 Hz

11N40SISO/HCH

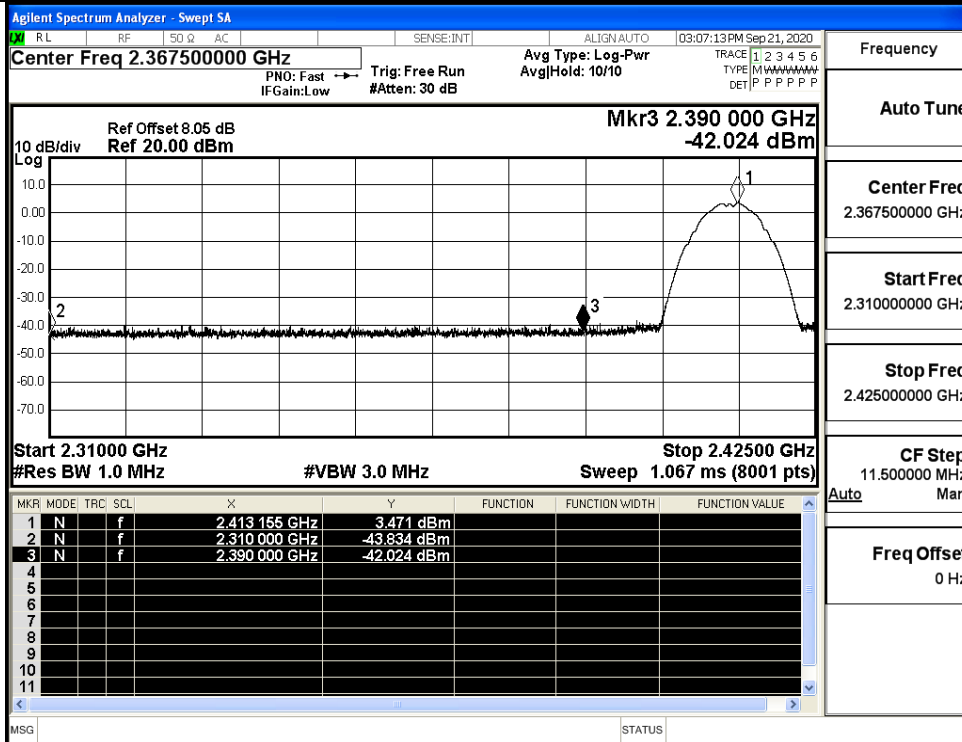


## A.7 Restrict-band band-edge measurements

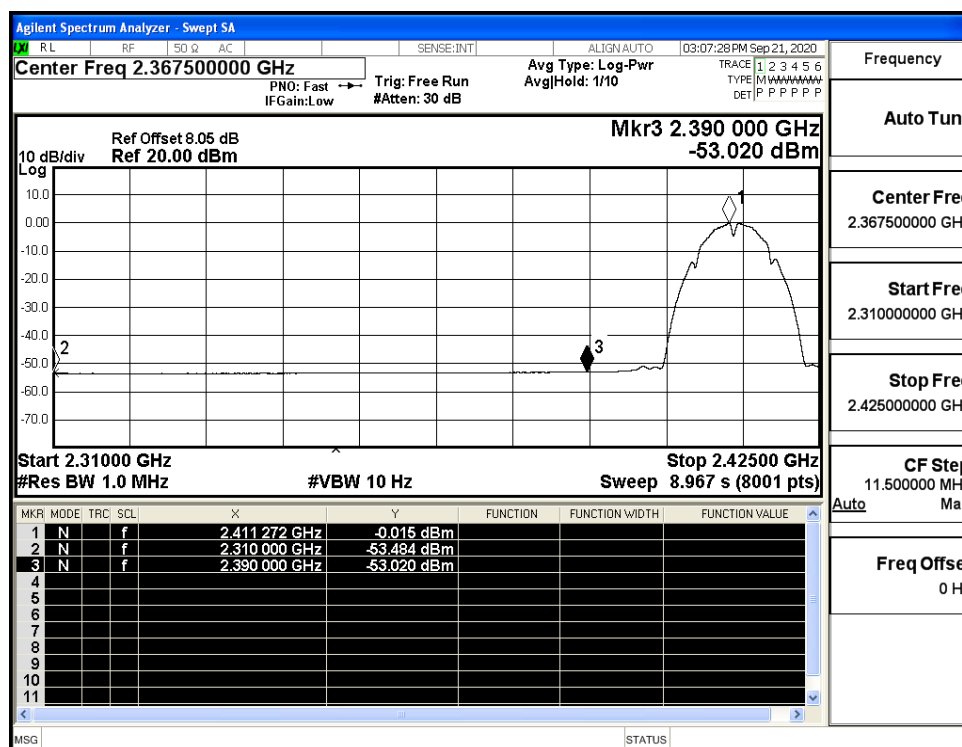
| Test Mode     | Test Channel | Ant  | Freq.  | Power [dBm] | Gain | Ground Factor | E [dBuV/m] | Detector | Limit [dBuV/m] | Verdict |
|---------------|--------------|------|--------|-------------|------|---------------|------------|----------|----------------|---------|
| 11B           | 2412         | Ant1 | 2310.0 | -43.83      | 3.0  | 0             | 54.40      | PEAK     | 74             | PASS    |
|               | 2412         | Ant1 | 2310.0 | -53.48      | 3.0  | 0             | 44.75      | AV       | 54             | PASS    |
|               | 2412         | Ant1 | 2390.0 | -42.02      | 3.0  | 0             | 56.21      | PEAK     | 74             | PASS    |
|               | 2412         | Ant1 | 2390.0 | -53.02      | 3.0  | 0             | 45.21      | AV       | 54             | PASS    |
|               | 2462         | Ant1 | 2483.5 | -42.62      | 3.0  | 0             | 55.61      | PEAK     | 74             | PASS    |
|               | 2462         | Ant1 | 2483.5 | -52.60      | 3.0  | 0             | 45.63      | AV       | 54             | PASS    |
|               | 2462         | Ant1 | 2500.0 | -41.26      | 3.0  | 0             | 56.97      | PEAK     | 74             | PASS    |
|               | 2462         | Ant1 | 2500.0 | -52.51      | 3.0  | 0             | 45.72      | AV       | 54             | PASS    |
| 11G           | 2412         | Ant1 | 2310.0 | -42.54      | 3.0  | 0             | 55.69      | PEAK     | 74             | PASS    |
|               | 2412         | Ant1 | 2310.0 | -53.50      | 3.0  | 0             | 44.73      | AV       | 54             | PASS    |
|               | 2412         | Ant1 | 2390.0 | -42.62      | 3.0  | 0             | 55.61      | PEAK     | 74             | PASS    |
|               | 2412         | Ant1 | 2390.0 | -52.97      | 3.0  | 0             | 45.26      | AV       | 54             | PASS    |
|               | 2462         | Ant1 | 2483.5 | -42.89      | 3.0  | 0             | 55.34      | PEAK     | 74             | PASS    |
|               | 2462         | Ant1 | 2483.5 | -52.56      | 3.0  | 0             | 45.67      | AV       | 54             | PASS    |
|               | 2462         | Ant1 | 2500.0 | -40.69      | 3.0  | 0             | 57.54      | PEAK     | 74             | PASS    |
|               | 2462         | Ant1 | 2500.0 | -52.50      | 3.0  | 0             | 45.73      | AV       | 54             | PASS    |
| 11N20<br>SISO | 2412         | Ant1 | 2310.0 | -43.74      | 3.0  | 0             | 54.49      | PEAK     | 74             | PASS    |
|               | 2412         | Ant1 | 2310.0 | -53.54      | 3.0  | 0             | 44.69      | AV       | 54             | PASS    |
|               | 2412         | Ant1 | 2390.0 | -42.60      | 3.0  | 0             | 55.63      | PEAK     | 74             | PASS    |
|               | 2412         | Ant1 | 2390.0 | -52.99      | 3.0  | 0             | 45.24      | AV       | 54             | PASS    |
|               | 2462         | Ant1 | 2483.5 | -42.19      | 3.0  | 0             | 56.04      | PEAK     | 74             | PASS    |
|               | 2462         | Ant1 | 2483.5 | -52.55      | 3.0  | 0             | 45.68      | AV       | 54             | PASS    |
|               | 2462         | Ant1 | 2500.0 | -42.20      | 3.0  | 0             | 56.03      | PEAK     | 74             | PASS    |
|               | 2462         | Ant1 | 2500.0 | -52.45      | 3.0  | 0             | 45.78      | AV       | 54             | PASS    |
| 11N40<br>SISO | 2422         | Ant1 | 2310.0 | -44.03      | 3.0  | 0             | 54.20      | PEAK     | 74             | PASS    |
|               | 2422         | Ant1 | 2310.0 | -53.51      | 3.0  | 0             | 44.72      | AV       | 54             | PASS    |

|  |      |      |        |        |     |   |       |      |    |      |
|--|------|------|--------|--------|-----|---|-------|------|----|------|
|  | 2422 | Ant1 | 2390.0 | -42.90 | 3.0 | 0 | 55.33 | PEAK | 74 | PASS |
|  | 2422 | Ant1 | 2390.0 | -52.86 | 3.0 | 0 | 45.37 | AV   | 54 | PASS |
|  | 2452 | Ant1 | 2483.5 | -42.96 | 3.0 | 0 | 55.27 | PEAK | 74 | PASS |
|  | 2452 | Ant1 | 2483.5 | -52.57 | 3.0 | 0 | 45.66 | AV   | 54 | PASS |
|  | 2452 | Ant1 | 2500.0 | -42.95 | 3.0 | 0 | 55.28 | PEAK | 74 | PASS |
|  | 2452 | Ant1 | 2500.0 | -52.48 | 3.0 | 0 | 45.75 | AV   | 54 | PASS |

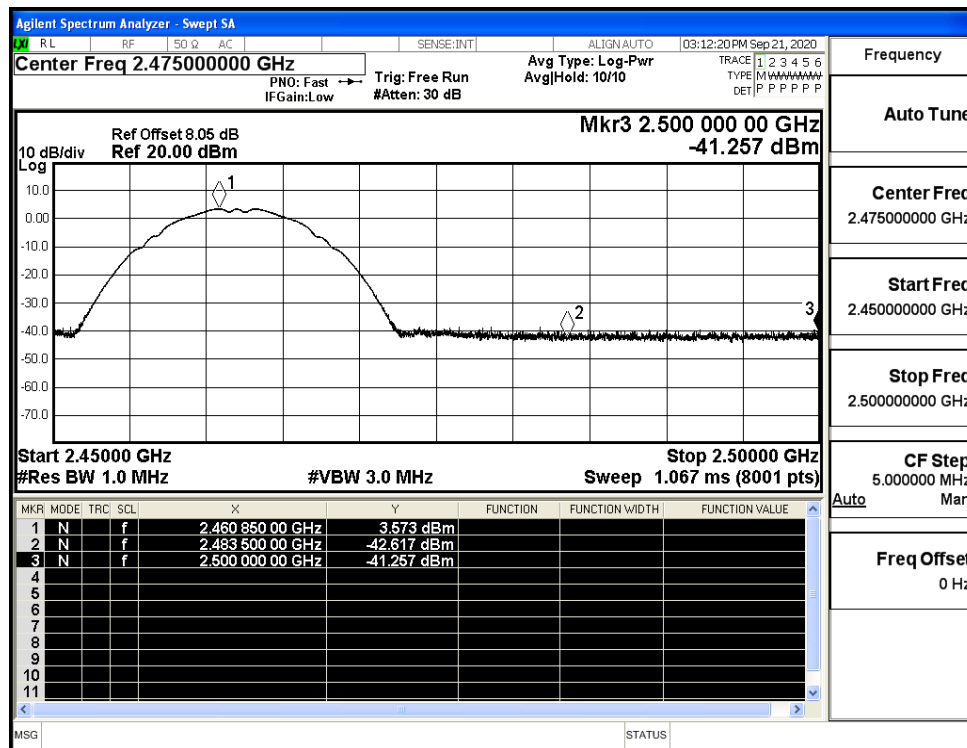
## Restrict-band band-edge measurements\_11B\_2412\_Ant1\_PEAK



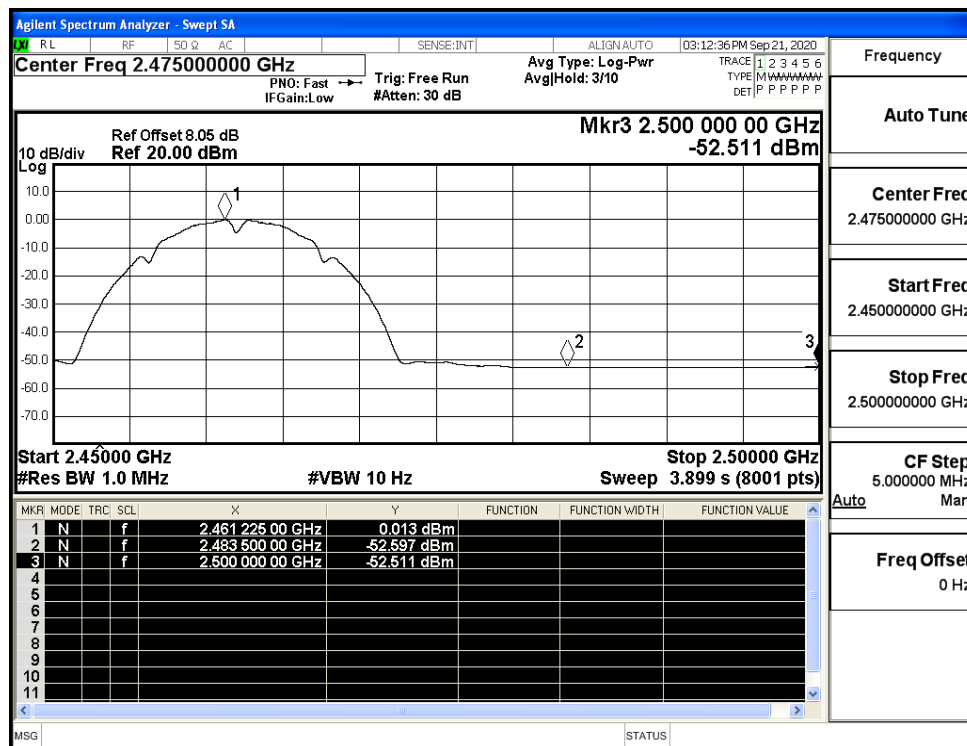
## Restrict-band band-edge measurements\_11B\_2412\_Ant1\_AV



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

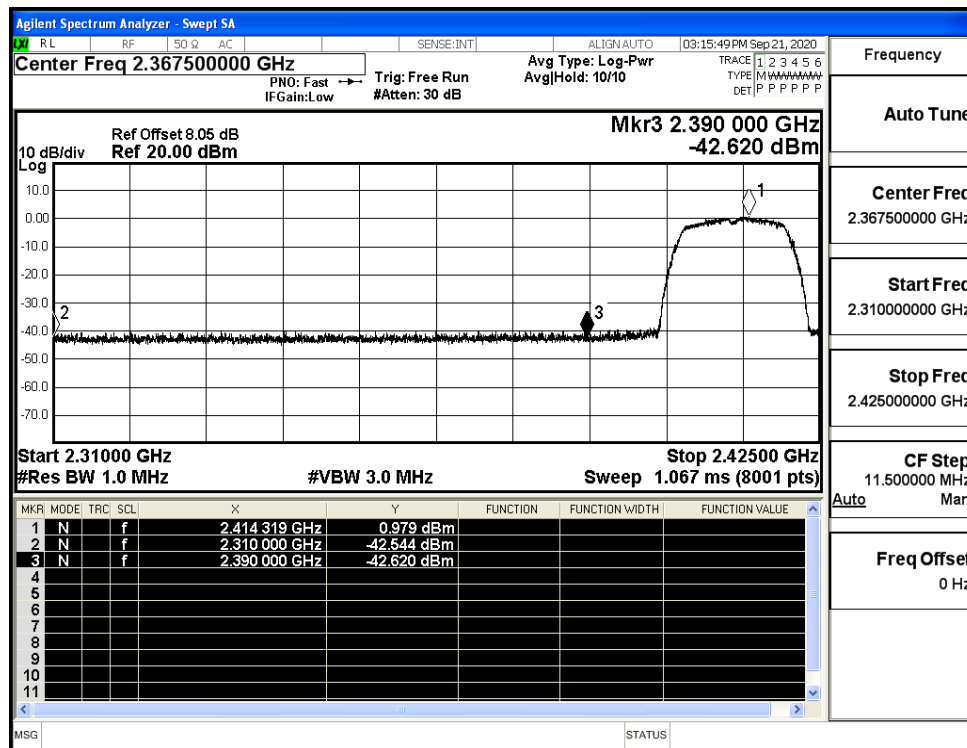


## Restrict-band band-edge measurements\_11B\_2462\_Ant1\_AV

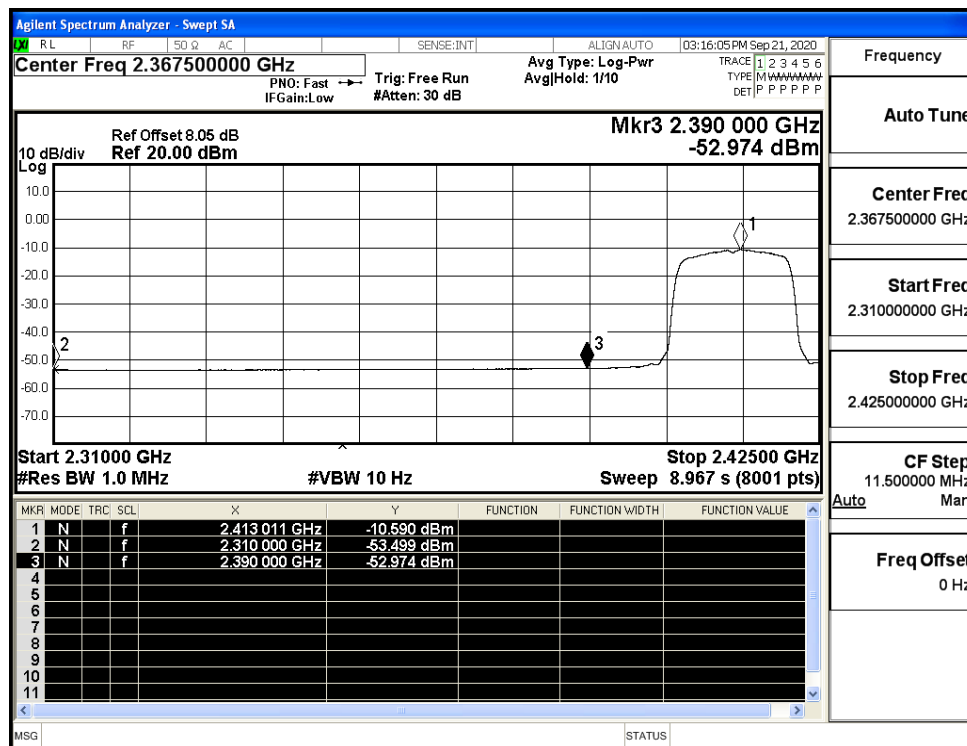




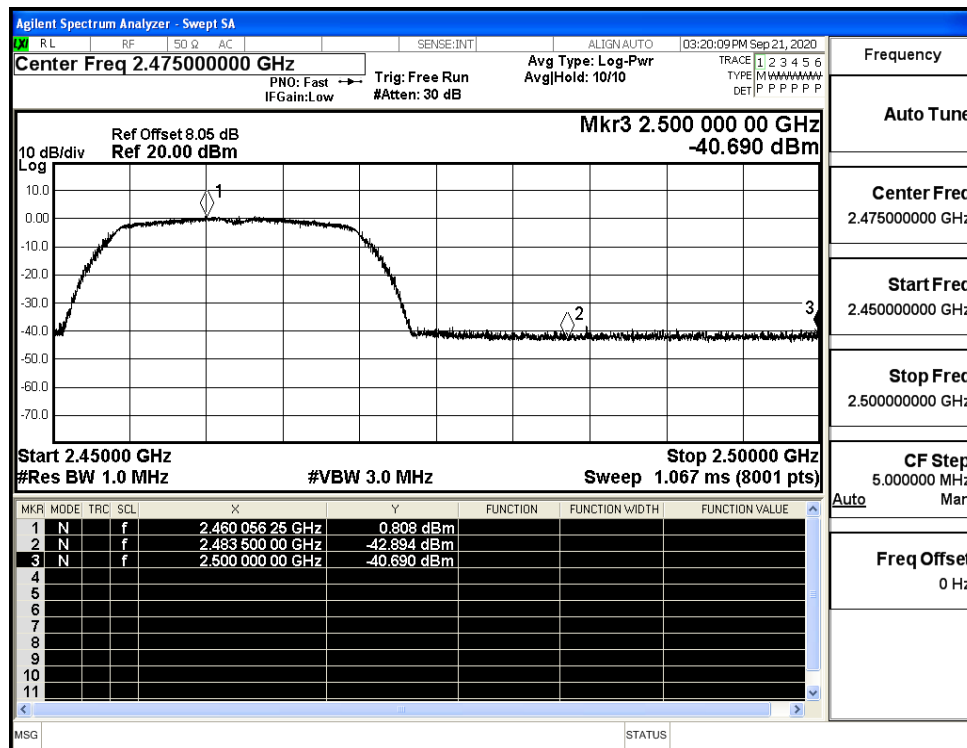
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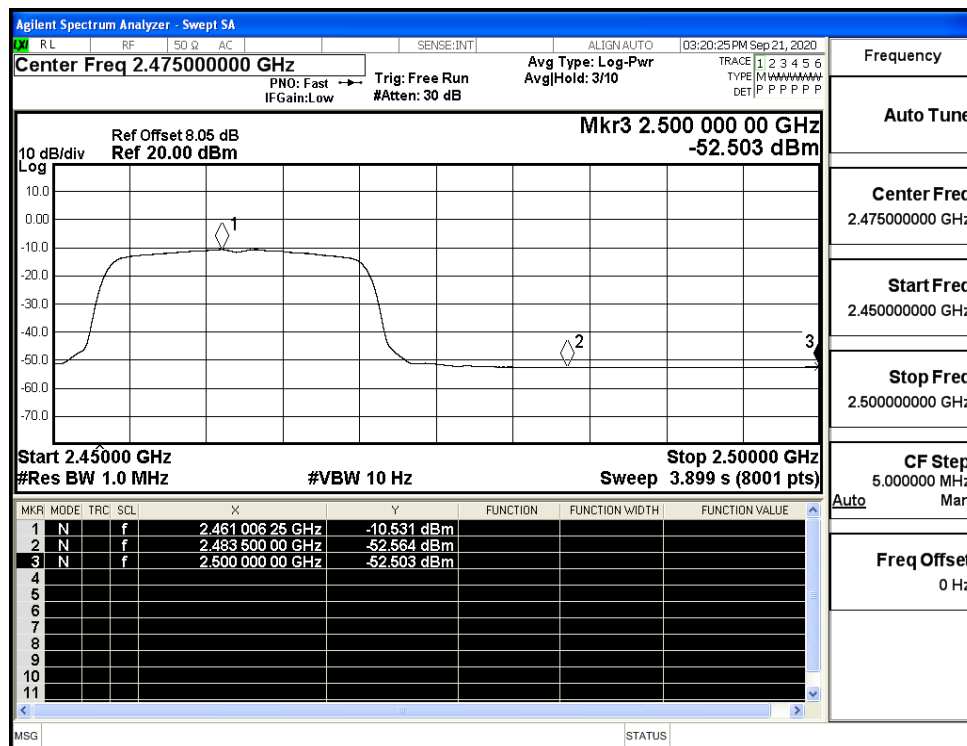
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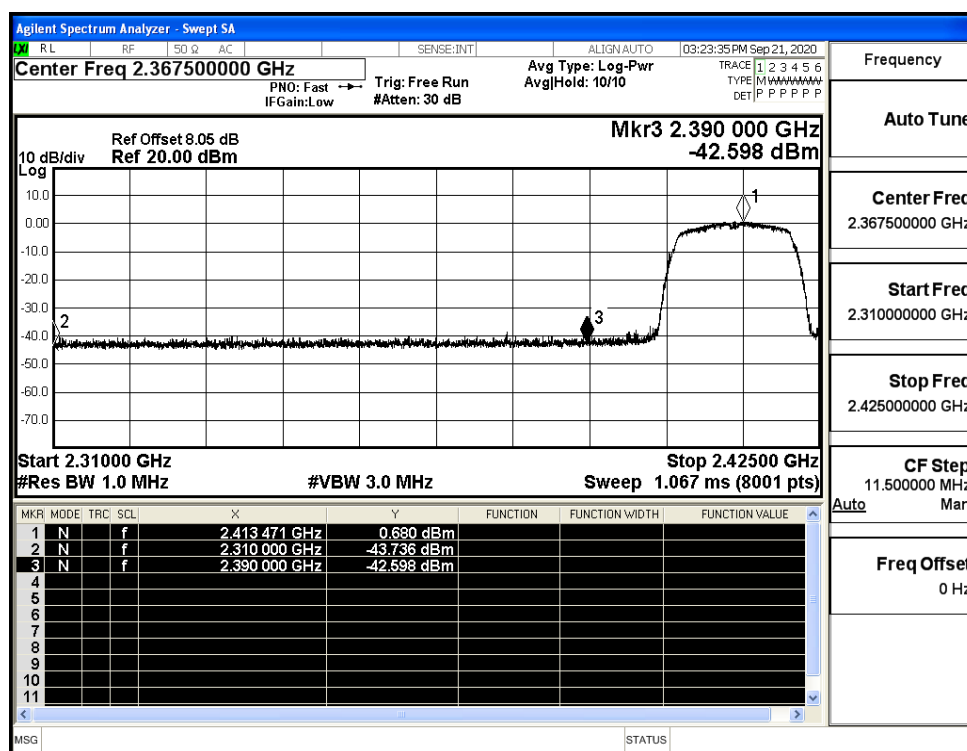
## Restrict-band band-edge measurements\_11G\_2462\_Ant1\_PEAK



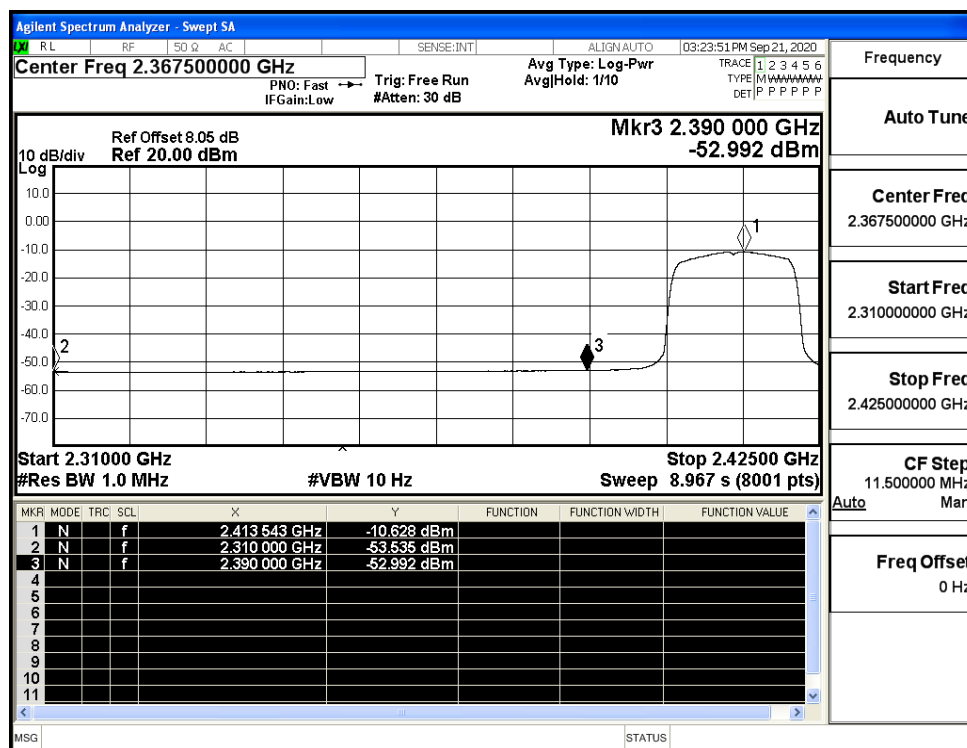
## Restrict-band band-edge measurements\_11G\_2462\_Ant1\_AV



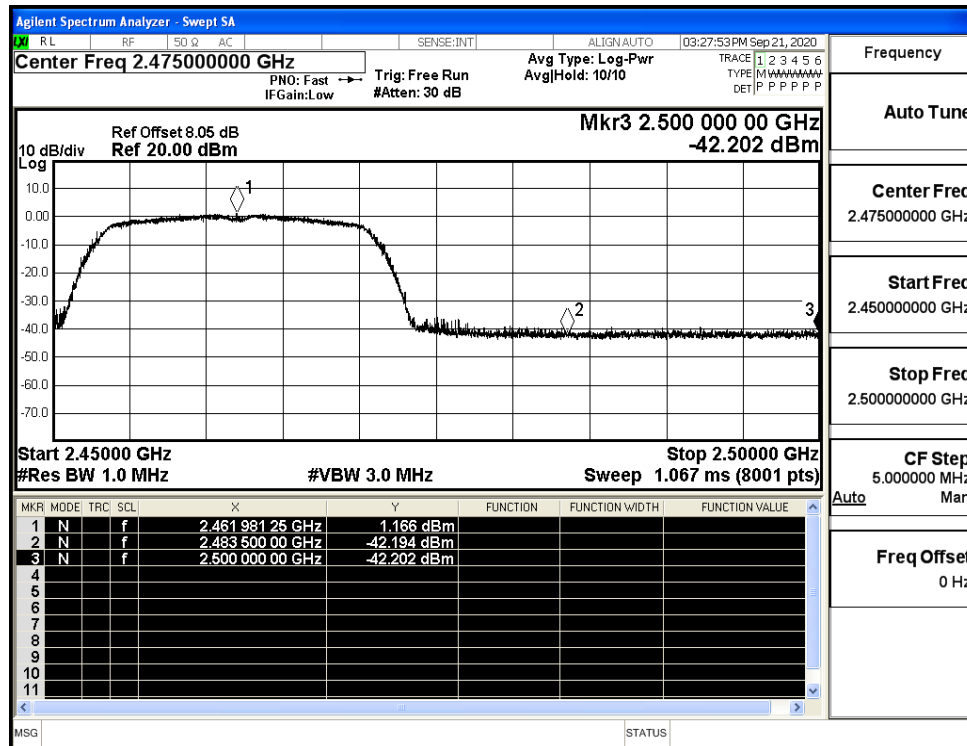
## Restrict-band band-edge measurements\_11N20SISO\_2412\_Ant1\_PEAK



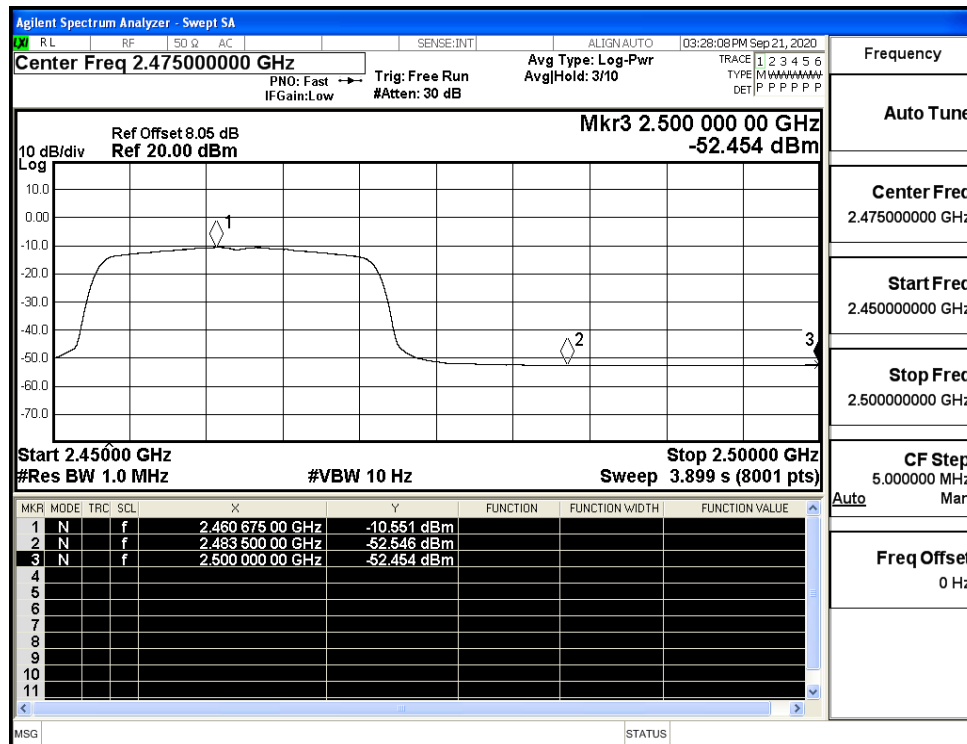
## Restrict-band band-edge measurements\_11N20SISO\_2412\_Ant1\_AV



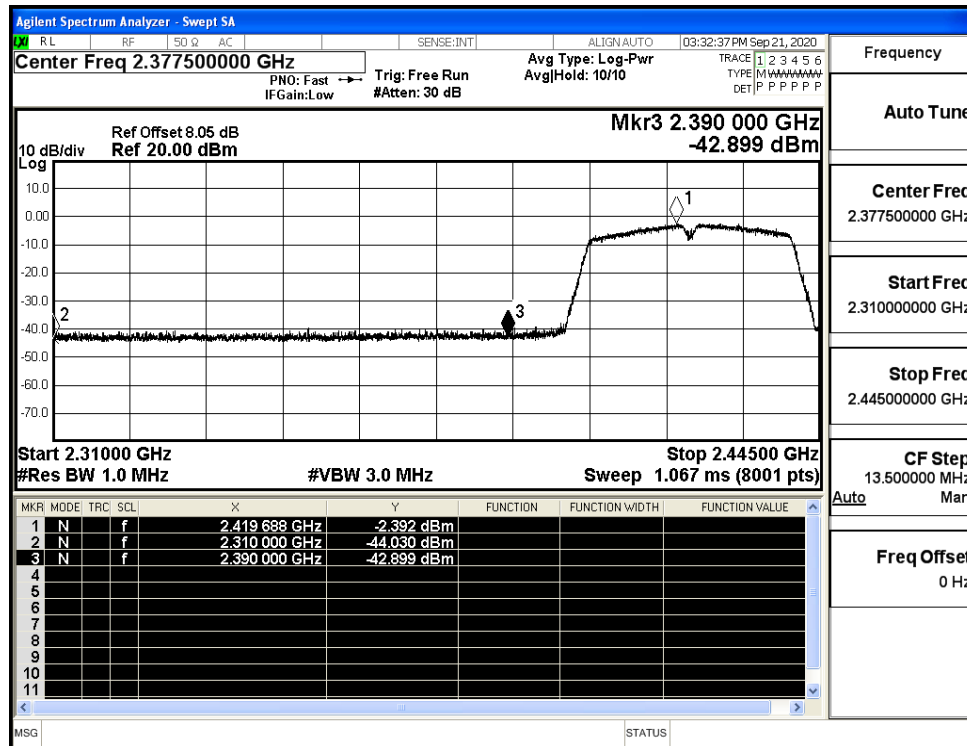
## Restrict-band band-edge measurements\_11N20SISO\_2462\_Ant1\_PEAK



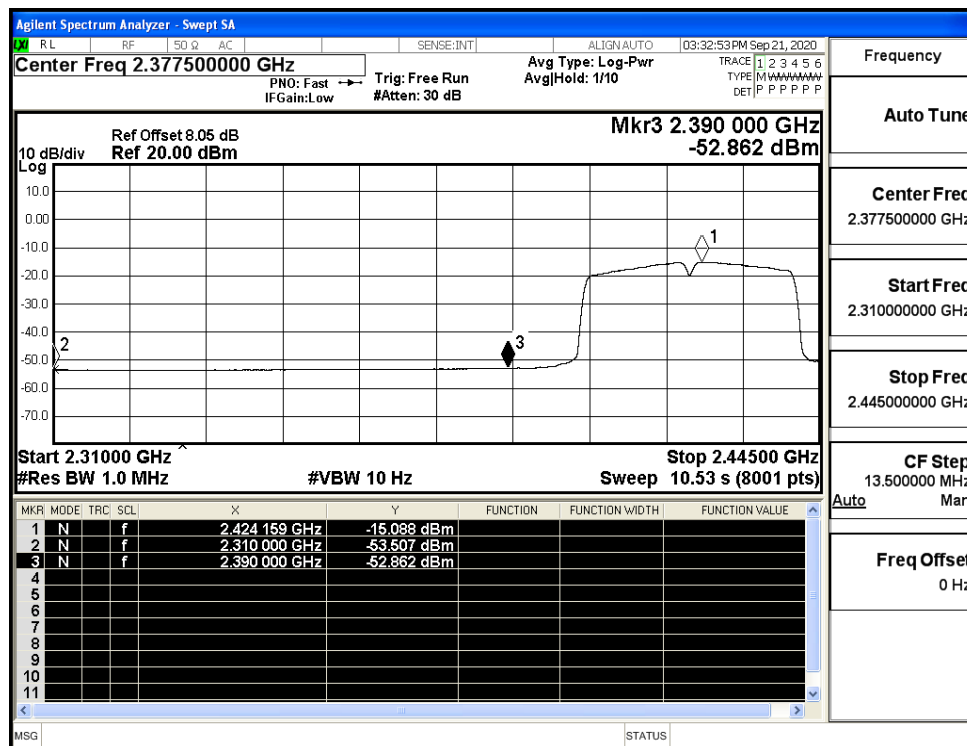
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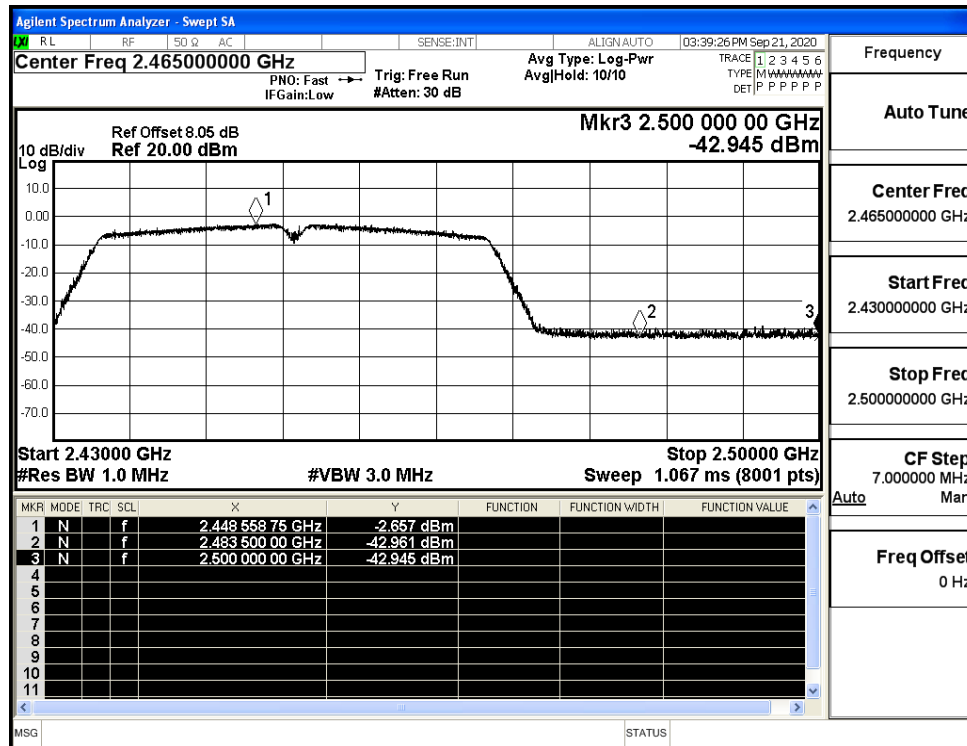
## Restrict-band band-edge measurements\_11N40SISO\_2422\_Ant1\_PEAK



## Restrict-band band-edge measurements\_11N40SISO\_2422\_Ant1\_AV



## Restrict-band band-edge measurements\_11N40SISO\_2452\_Ant1\_PEAK



## Restrict-band band-edge measurements\_11N40SISO\_2452\_Ant1\_AV

