

## Appendix A

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

Product Name: Camera Flash

Trade Mark: NEEWER

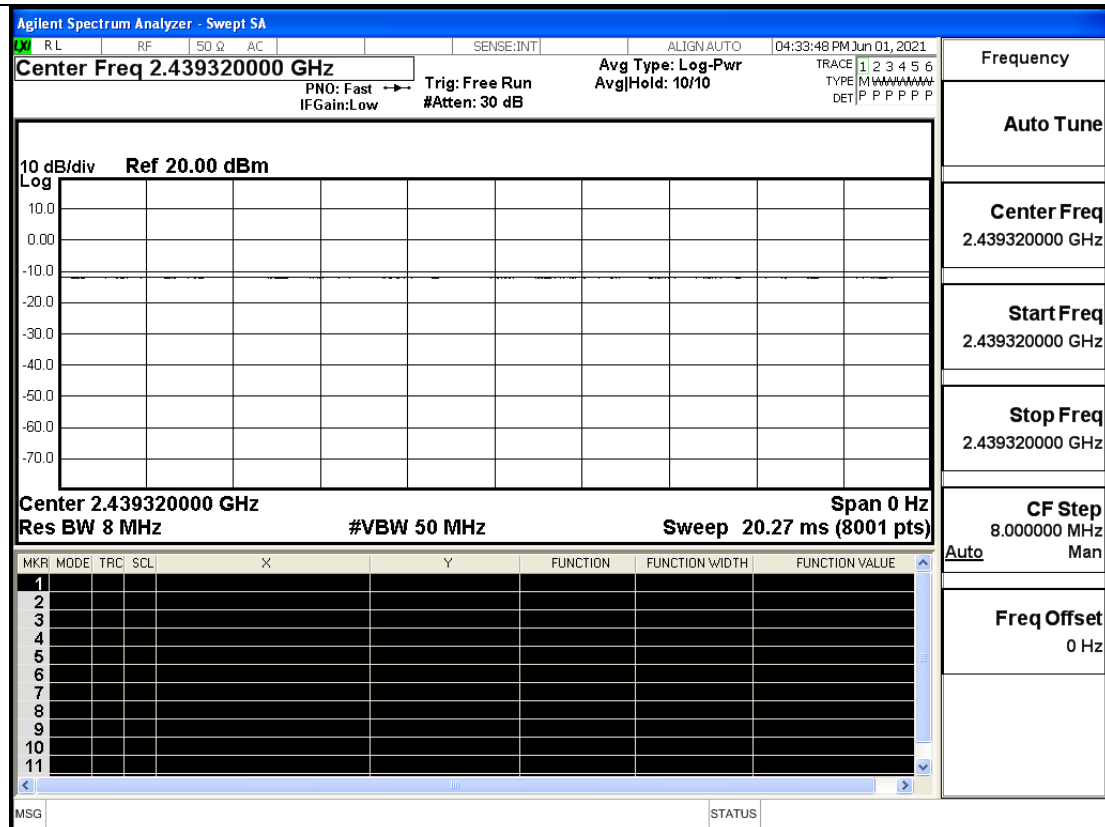
Test Model: NW420-N

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 24.6 ° C  |
| Relative Humidity: | 54.1%     |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Kay Hu    |
| Supervised by:     | Li Huan   |

#### A.1 Duty Cycle

| Test Mode | Test Channel | Ant  | Duty Cycle[%] | Verdict |
|-----------|--------------|------|---------------|---------|
| MSK       | 2439.32      | Ant1 | 100           | PASS    |

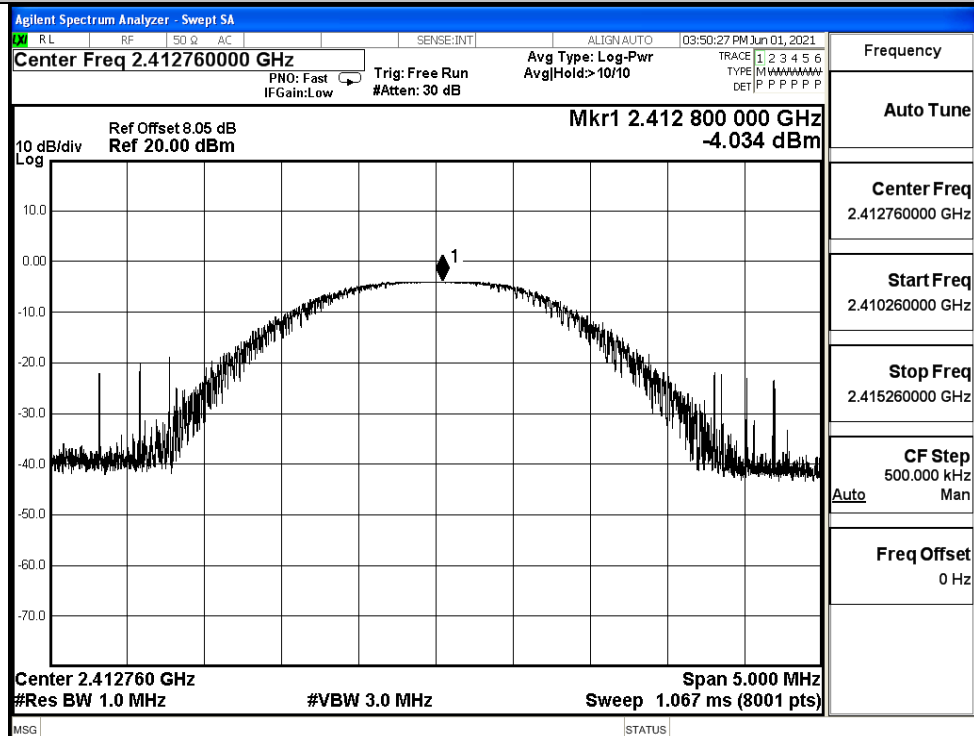


## A.2 Maximum Conducted Peak Output Power

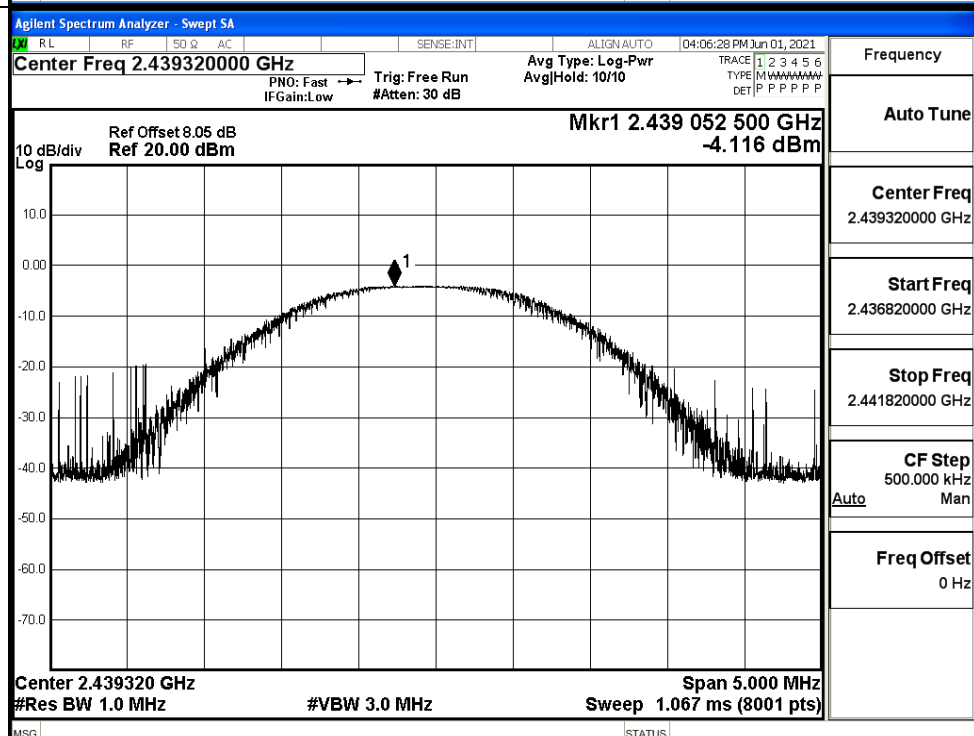
| Mode | Channel | Conduct Peak Power[dBm] | Limit [dBm] | Verdict |
|------|---------|-------------------------|-------------|---------|
| MSK  | LCH     | -4.034                  | 30          | PASS    |
| MSK  | MCH     | -4.116                  | 30          | PASS    |
| MSK  | HCH     | -4.315                  | 30          | PASS    |

Test Graphs

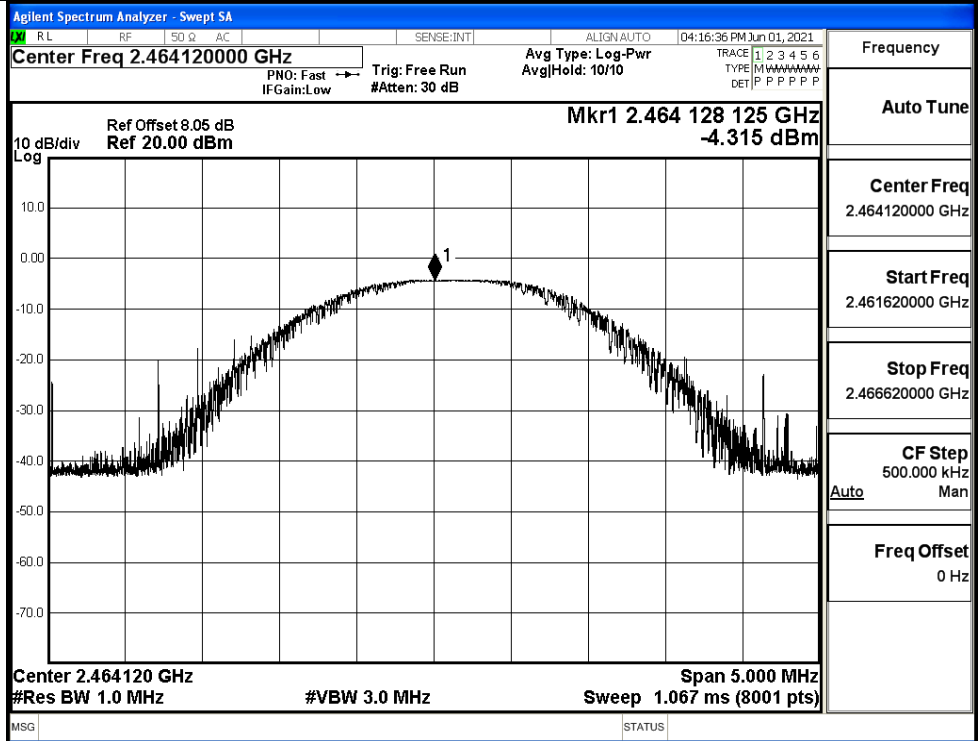
LCH



MCH



HCH

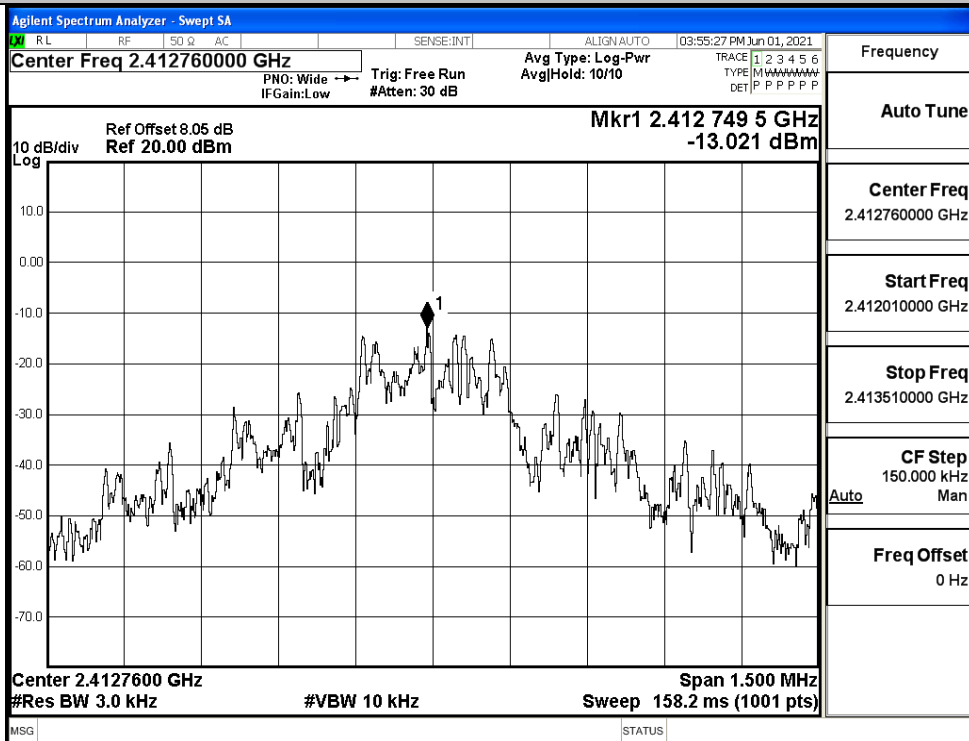


## A.3 Maximum Power Spectral Density

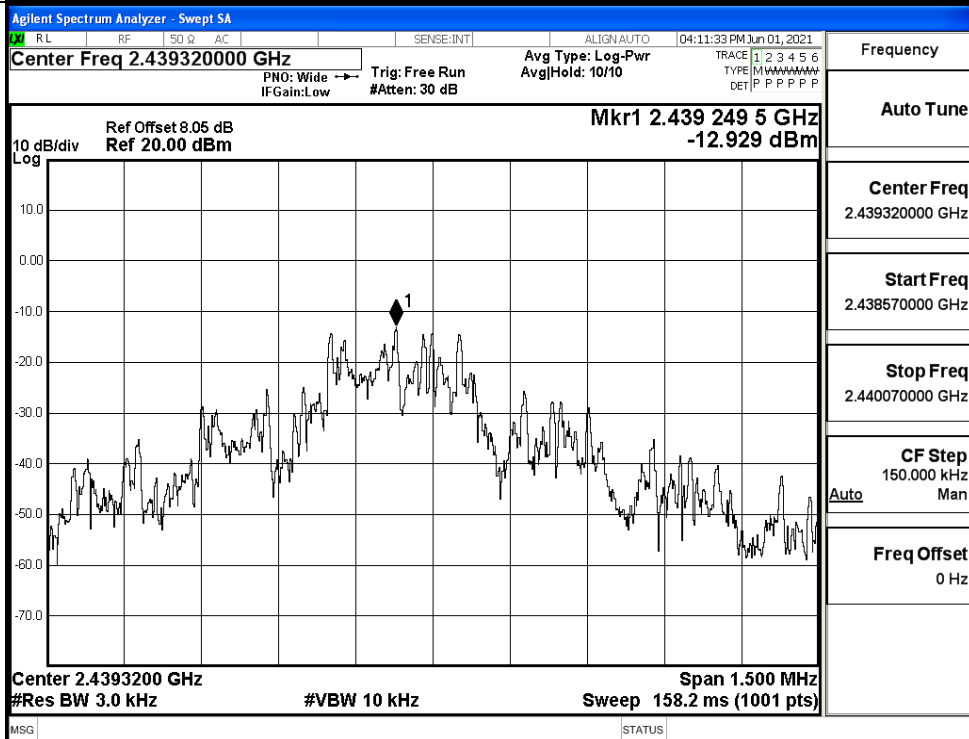
| Mode | Channel | PSD [dBm/3KHz] | Limit [dBm/3KHz] | Verdict |
|------|---------|----------------|------------------|---------|
| MSK  | LCH     | -13.021        | 8                | PASS    |
| MSK  | MCH     | -12.929        | 8                | PASS    |
| MSK  | HCH     | -12.873        | 8                | PASS    |

## Test Graphs

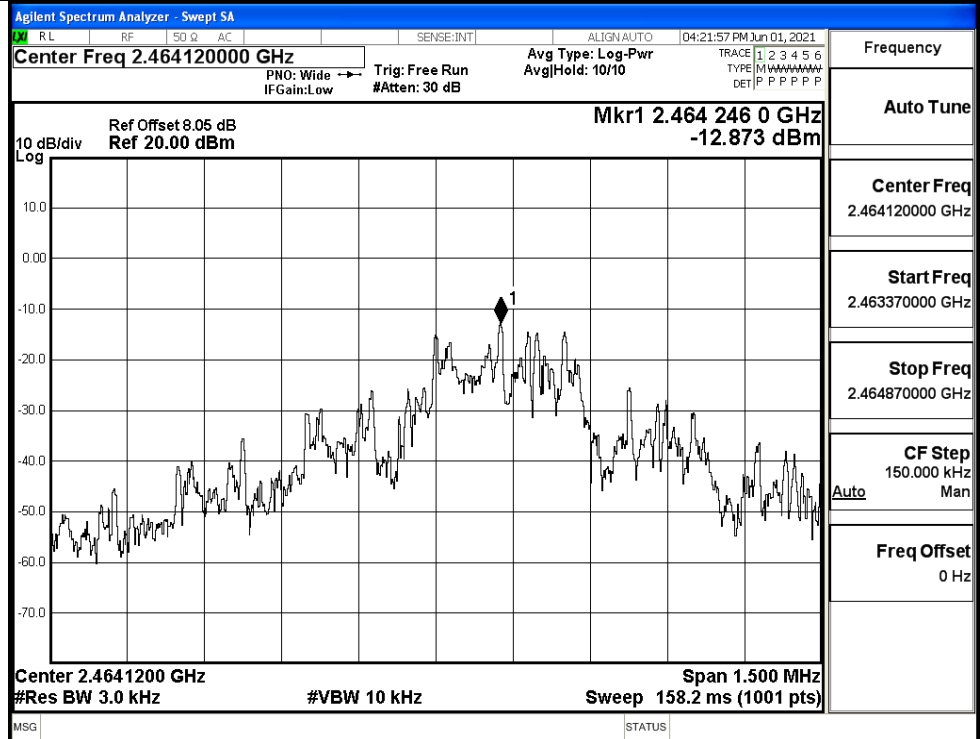
LCH



MCH



HCH

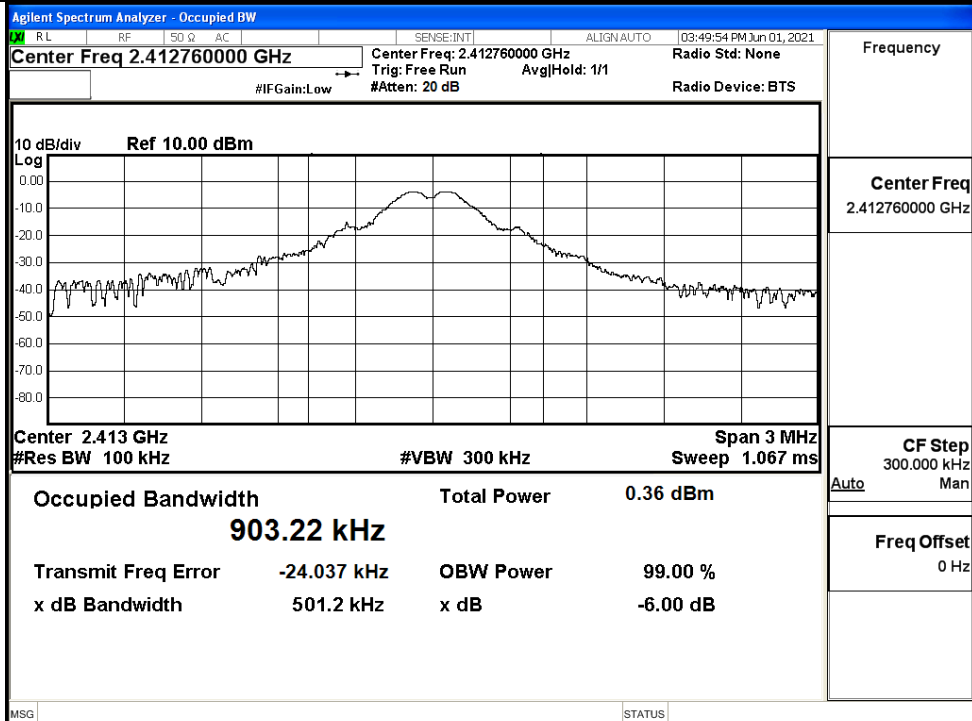


## A.4 6dB Bandwidth

| Mode | Channel | 6dB Bandwidth [MHz] | Limit [MHz] | Verdict |
|------|---------|---------------------|-------------|---------|
| MSK  | LCH     | 501.2               | $\geq 0.5$  | PASS    |
| MSK  | MCH     | 504.4               | $\geq 0.5$  | PASS    |
| MSK  | HCH     | 500.8               | $\geq 0.5$  | PASS    |

## Test Graphs

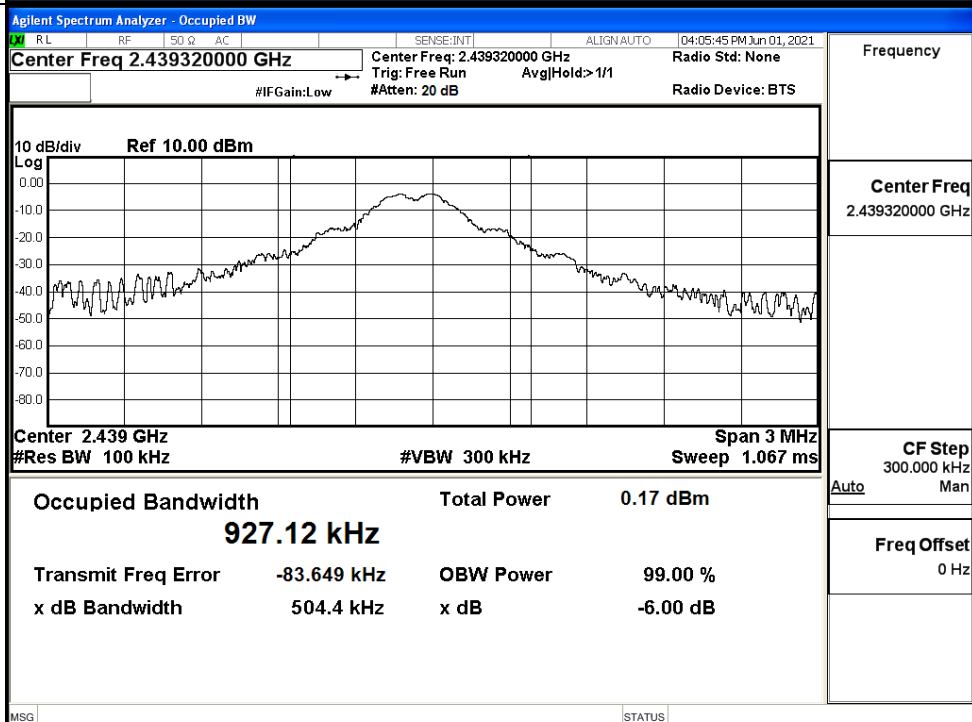
LCH



Frequency

Center Freq  
2.412760000 GHzCF Step  
300.000 kHz  
Auto ManFreq Offset  
0 Hz

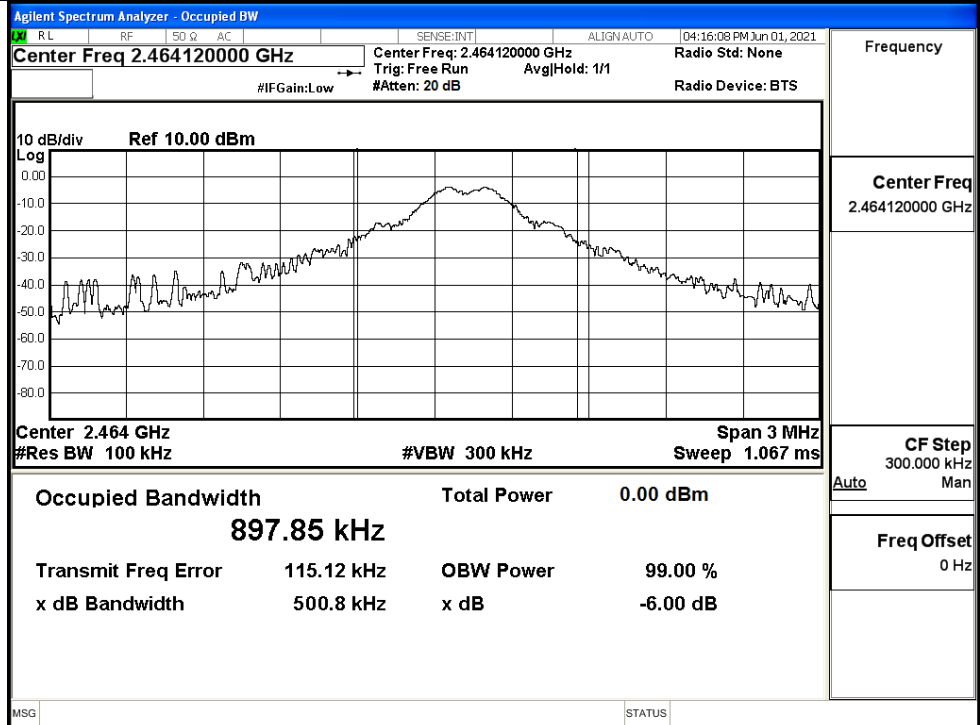
MCH



Frequency

Center Freq  
2.439320000 GHzCF Step  
300.000 kHz  
Auto ManFreq Offset  
0 Hz

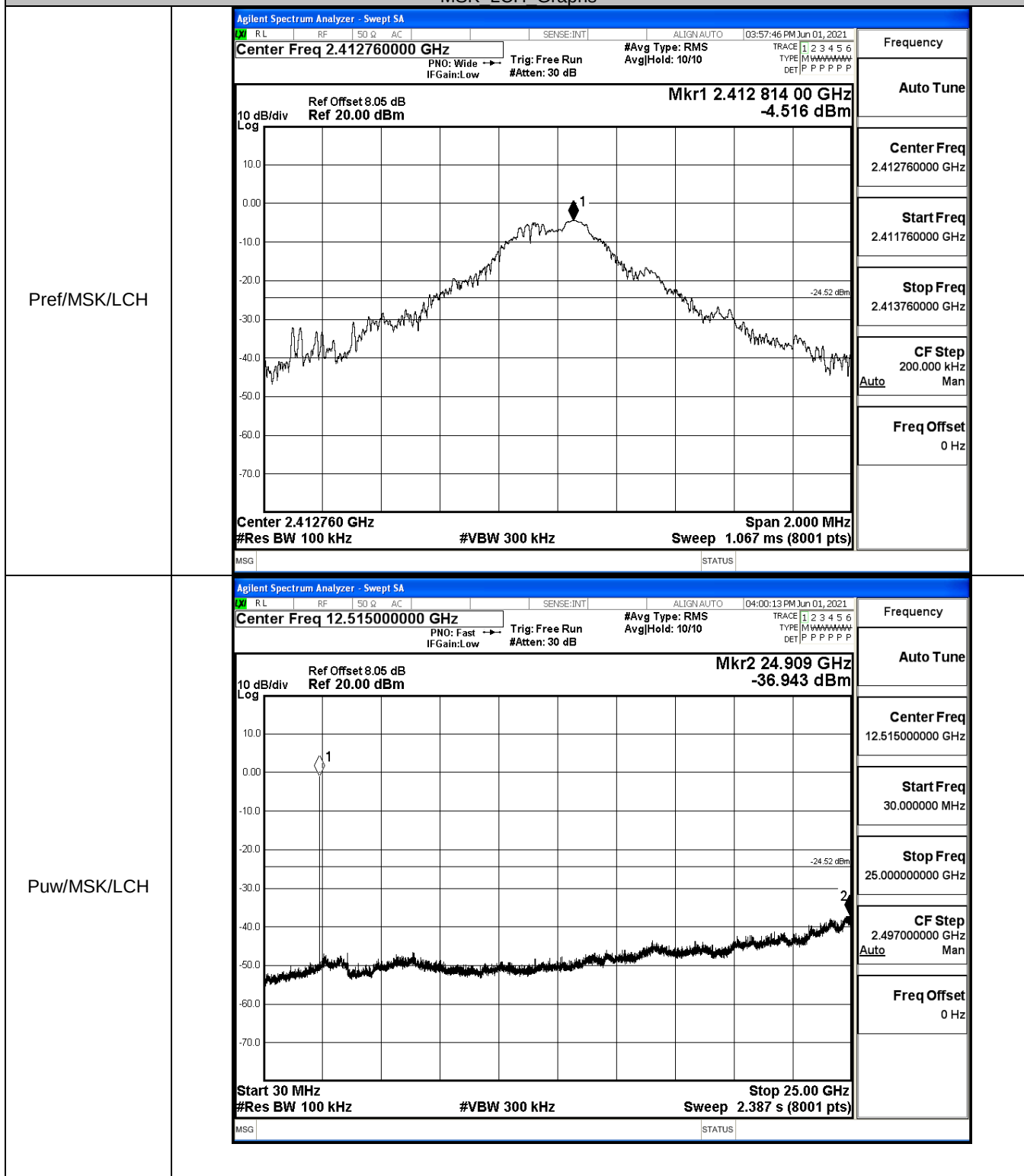
HCH



## A.5 RF Conducted Spurious Emissions

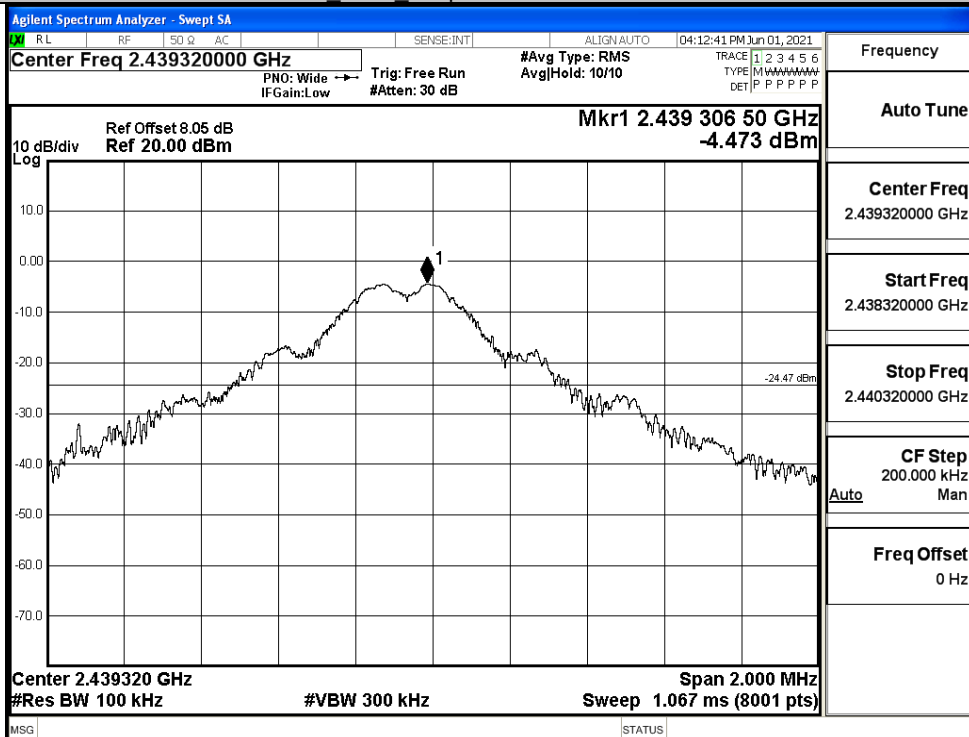
| Mode | Channel | Pref [dBm] | Max. Level [dBm] | Limit [dBm] | Verdict |
|------|---------|------------|------------------|-------------|---------|
| MSK  | LCH     | -4.516     | -36.943          | -24.516     | PASS    |
| MSK  | MCH     | -4.473     | -30.183          | -24.473     | PASS    |
| MSK  | HCH     | -4.746     | -35.893          | -24.746     | PASS    |

MSK LCH Graphs

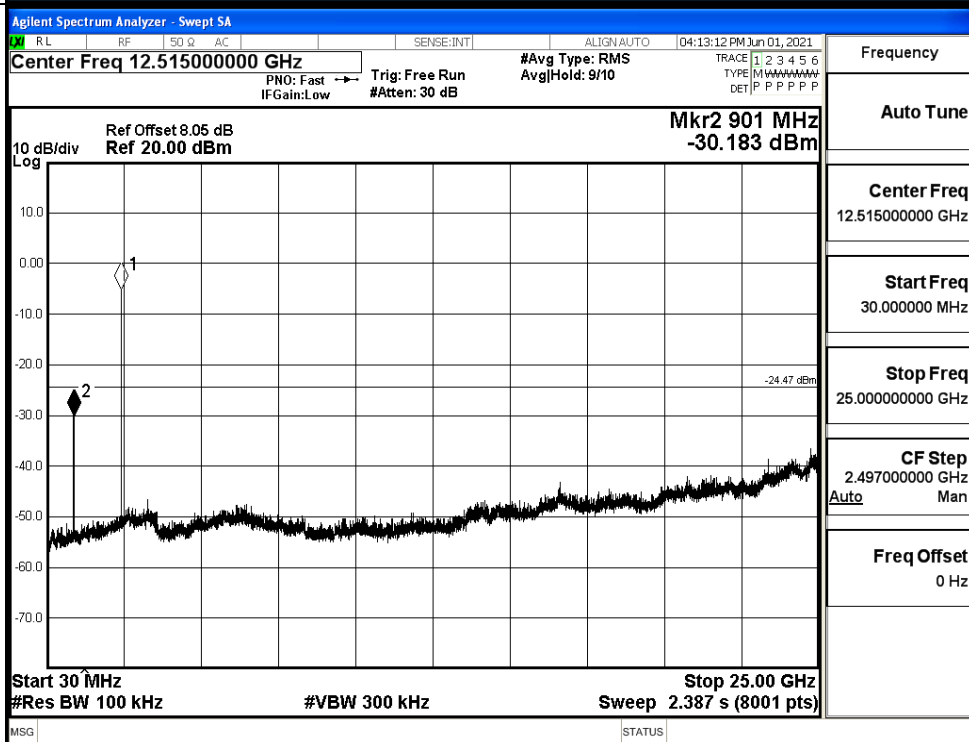


## MSK MCH Graphs

Pref/MSK/MCH

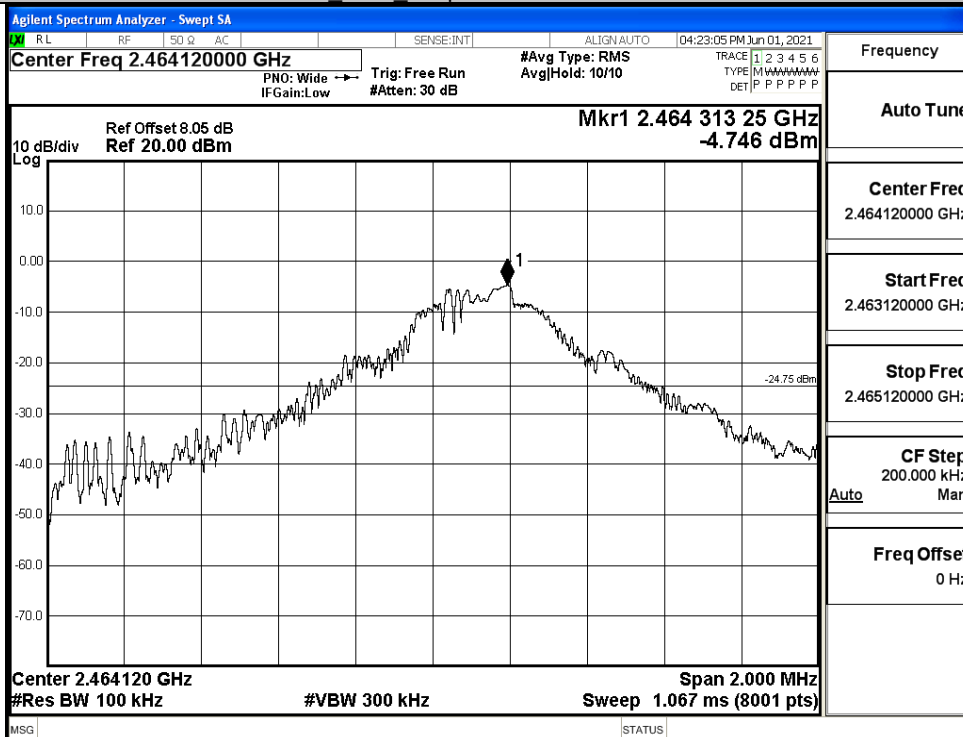


Puw/MSK/MCH

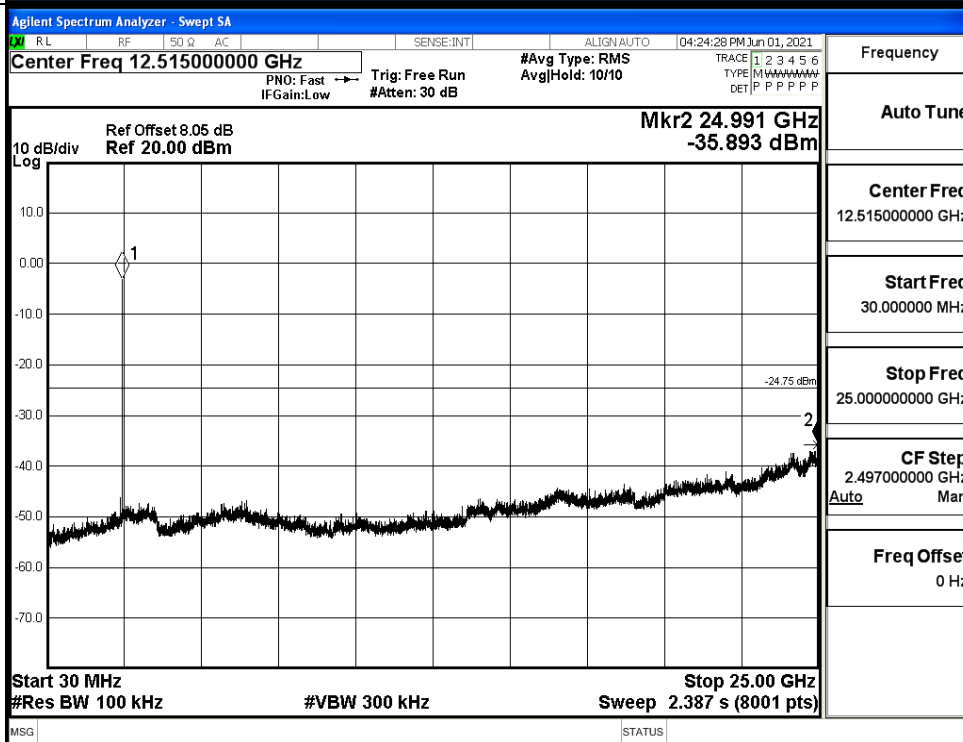


## MSK\_HCH\_Graphs

Pref/MSK/HCH



Puw/MSK/HCH

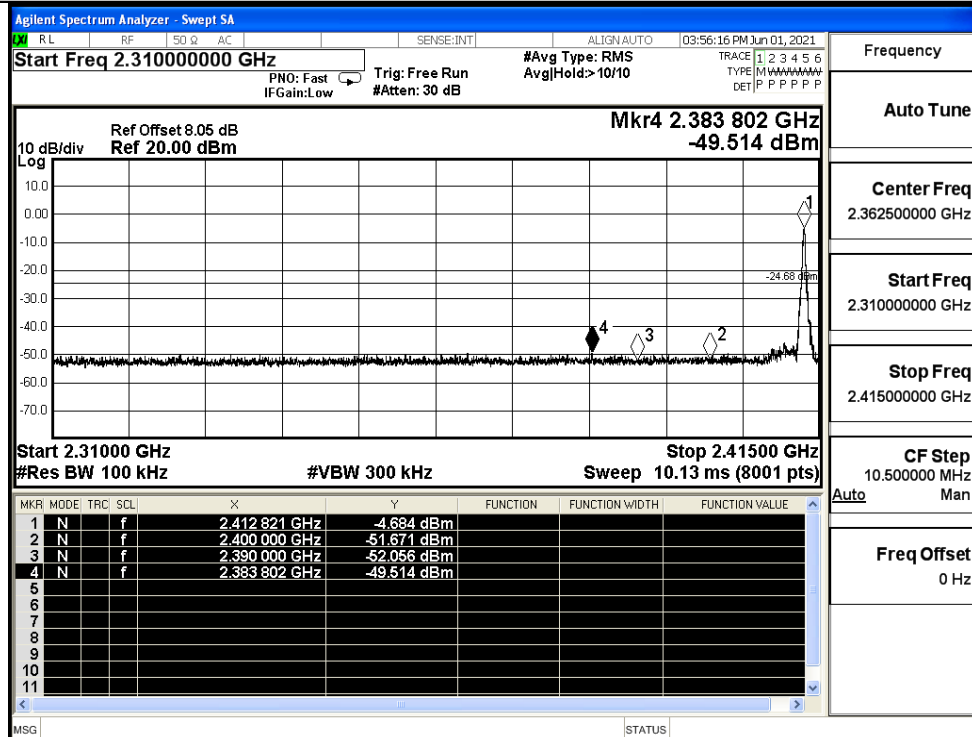


## A.6 Band-edge for RF Conducted Emissions

| Mode | Channel | Carrier Power[dBm] | Max.Spurious Level [dBm] | Limit [dBm] | Verdict |
|------|---------|--------------------|--------------------------|-------------|---------|
| MSK  | LCH     | -4.684             | -49.514                  | -24.68      | PASS    |
| MSK  | HCH     | -4.617             | -49.206                  | -24.62      | PASS    |

## Test Graphs

LCH



Frequency

Auto Tune

Center Freq

2.36250000 GHz

Start Freq

2.31000000 GHz

Stop Freq

2.41500000 GHz

CF Step

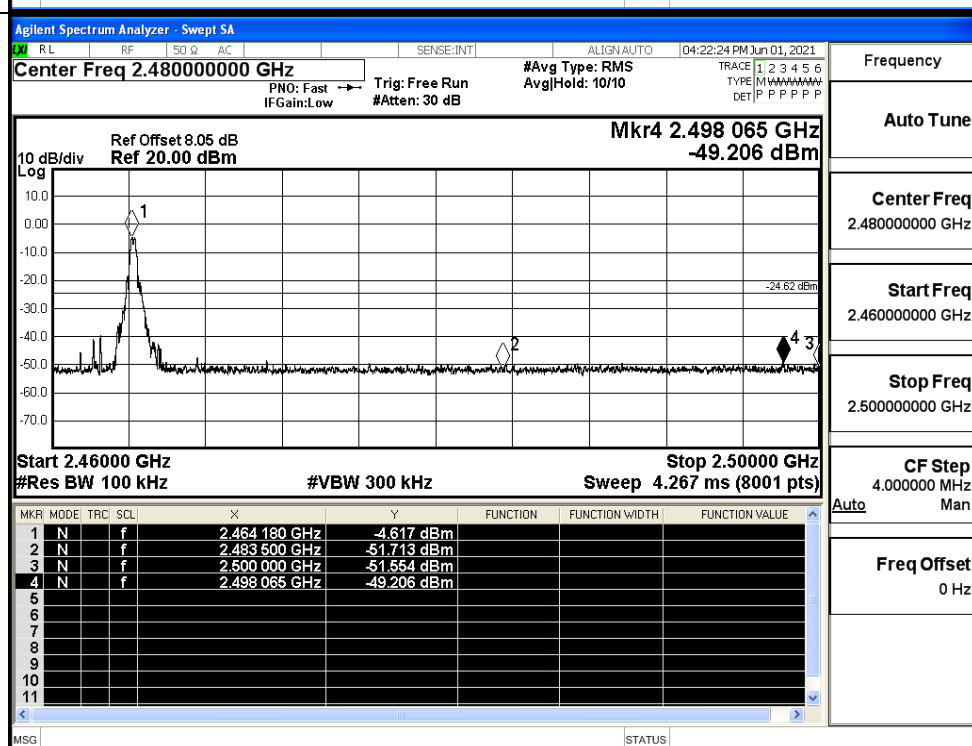
10.500000 MHz

Auto Man

Freq Offset

0 Hz

HCH



Frequency

Auto Tune

Center Freq

2.48000000 GHz

Start Freq

2.46000000 GHz

Stop Freq

2.50000000 GHz

CF Step

4.000000 MHz

Auto Man

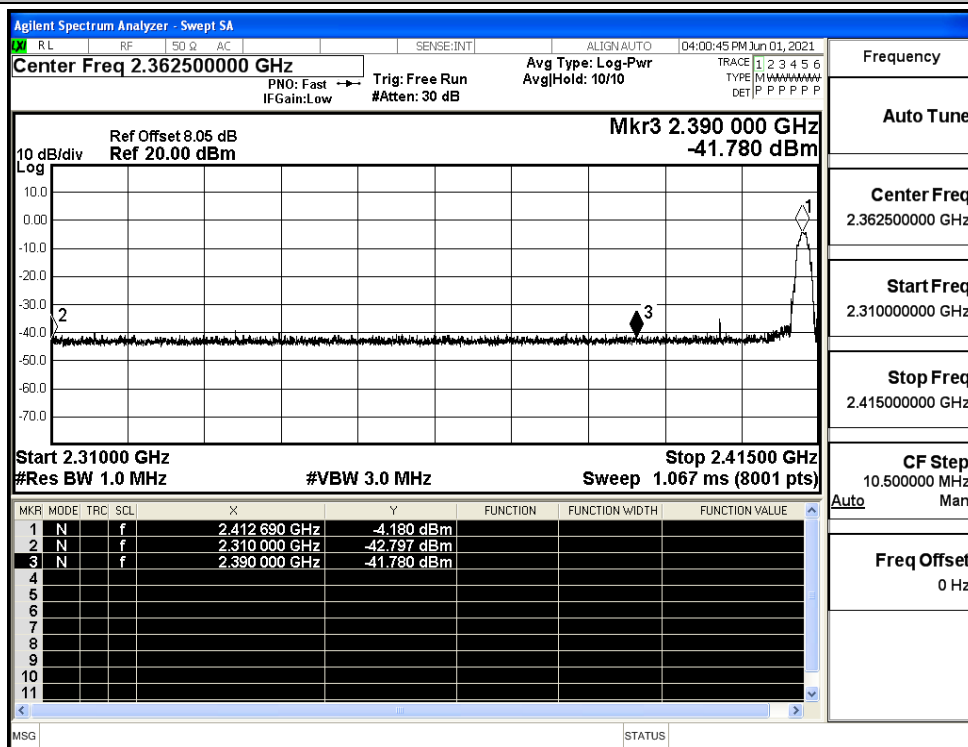
Freq Offset

0 Hz

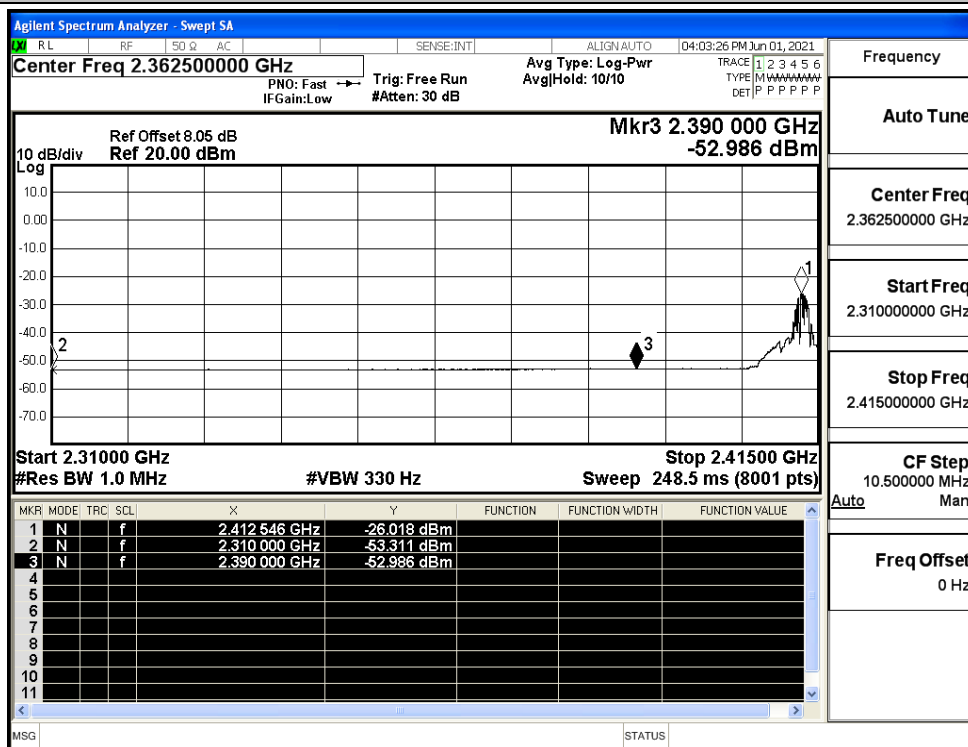
## A.7 Restrict-band band-edge measurements

| Test Mode | Test Channel | Ant  | Freq.  | Power [dBm] | Gain | Ground Factor | E [dBuV/m] | Detector | Limit [dBuV/m] | Verdi |
|-----------|--------------|------|--------|-------------|------|---------------|------------|----------|----------------|-------|
| MSK       | 2412.7<br>5  | Ant1 | 2310.0 | -42.80      | 3.0  | 0             | 55.46      | PEAK     | 74             | PASS  |
|           |              | Ant1 | 2310.0 | -53.31      | 3.0  | 0             | 44.95      | AV       | 54             | PASS  |
|           |              | Ant1 | 2390.0 | -41.78      | 3.0  | 0             | 56.48      | PEAK     | 74             | PASS  |
|           |              | Ant1 | 2390.0 | -52.99      | 3.0  | 0             | 45.27      | AV       | 54             | PASS  |
|           | 2464.2<br>5  | Ant1 | 2483.5 | -43.03      | 3.0  | 0             | 55.23      | PEAK     | 74             | PASS  |
|           |              | Ant1 | 2483.5 | -52.58      | 3.0  | 0             | 45.68      | AV       | 54             | PASS  |
|           |              | Ant1 | 2500.0 | -42.77      | 3.0  | 0             | 55.49      | PEAK     | 74             | PASS  |
|           |              | Ant1 | 2500.0 | -52.36      | 3.0  | 0             | 45.90      | AV       | 54             | PASS  |

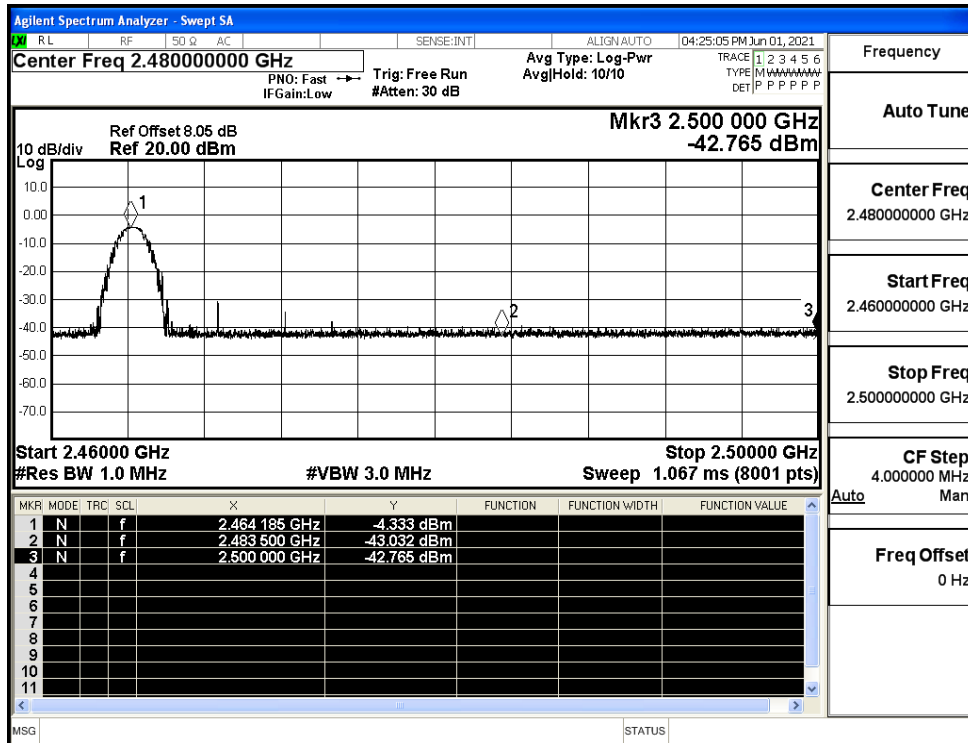
## Restrict-band band-edge measurements\_MSK\_2412.75\_Ant1\_PEAK



## Restrict-band band-edge measurements\_MSK\_2412.75\_Ant1\_AV



## Restrict-band band-edge measurements\_MSK\_2464.25\_Ant1\_PEAK



## Restrict-band band-edge measurements\_MSK\_2464.25\_Ant1\_AV

