

## Appendix A

### RF Test Data for BT V5.0(BDR/EDR) (Conducted Measurement)

Product Name: Wall Mountable Bluetooth CD Player

Trade Mark: N/A

Test Model: YR-Q200

#### Environmental Conditions

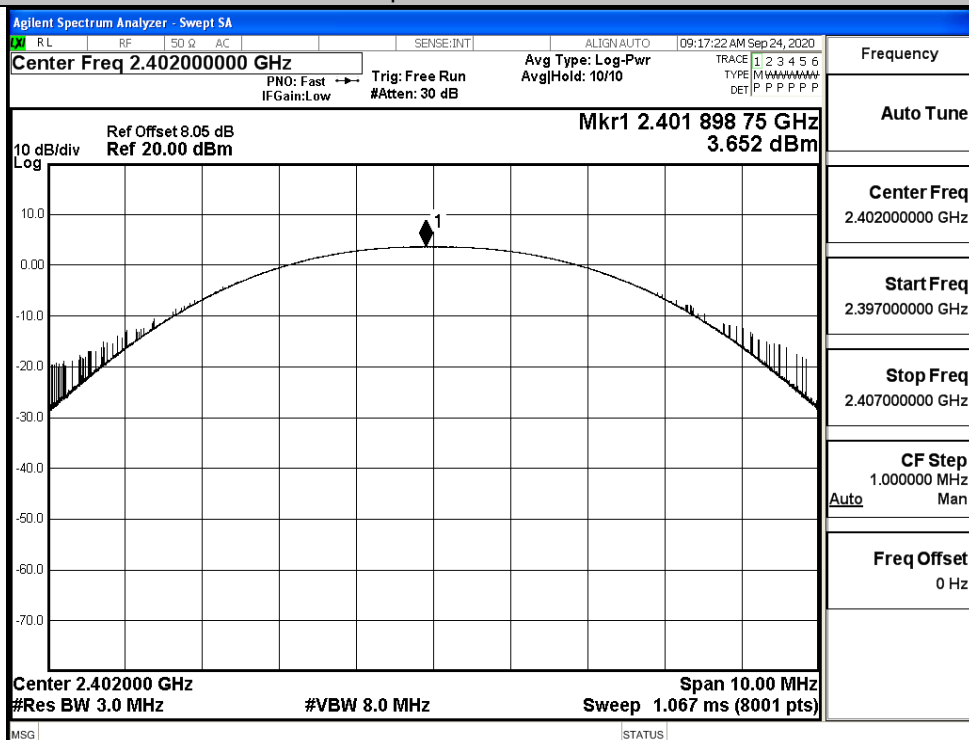
|                    |           |
|--------------------|-----------|
| Temperature:       | 22.8 ° C  |
| Relative Humidity: | 53.2%     |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Jay Li    |
| Supervised by:     | Li Huan   |

#### A.1 Maximum Conducted Peak Output Power

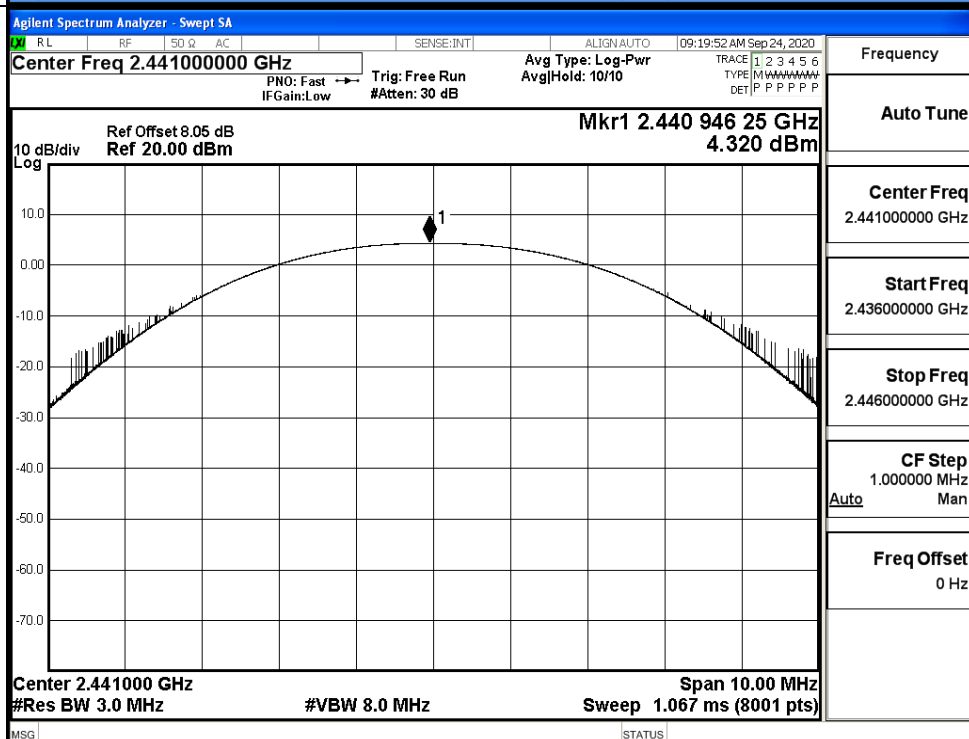
| Mode          | Channel. | Maximum Peak Output Power [dBm] | Limit [dBm] | Verdict |
|---------------|----------|---------------------------------|-------------|---------|
| GFSK          | LCH      | 3.652                           | 21          | PASS    |
|               | MCH      | 4.320                           | 21          | PASS    |
|               | HCH      | 5.010                           | 21          | PASS    |
| $\pi/4$ DQPSK | LCH      | 4.708                           | 21          | PASS    |
|               | MCH      | 5.392                           | 21          | PASS    |
|               | HCH      | 6.082                           | 21          | PASS    |
| 8DPSK         | LCH      | 4.952                           | 21          | PASS    |
|               | MCH      | 5.647                           | 21          | PASS    |
|               | HCH      | 6.327                           | 21          | PASS    |

## Test Graphs

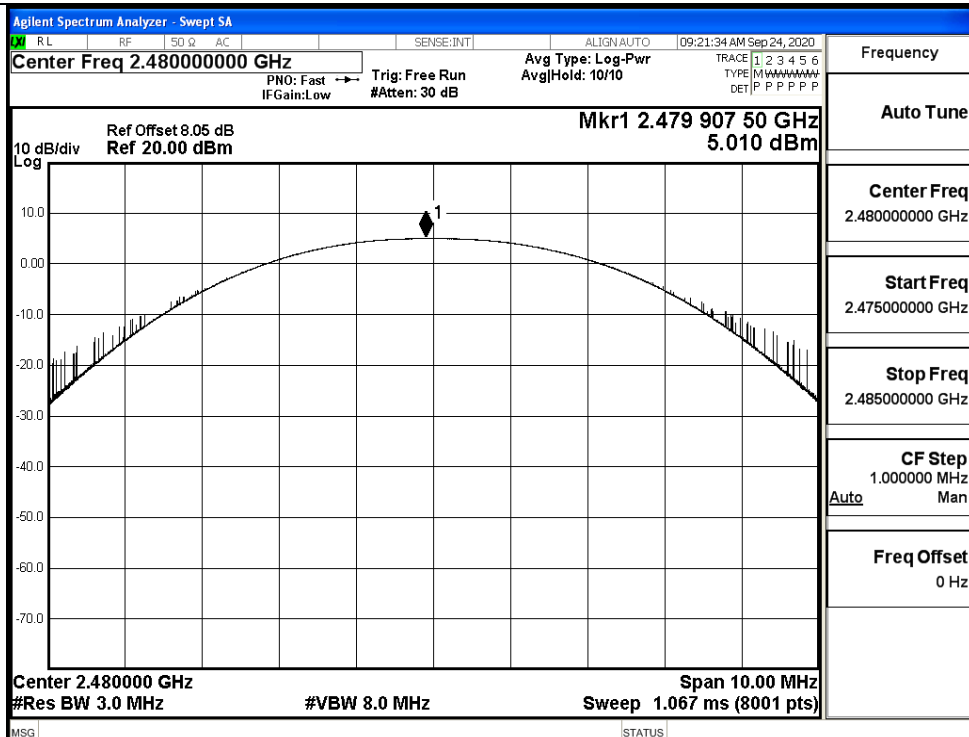
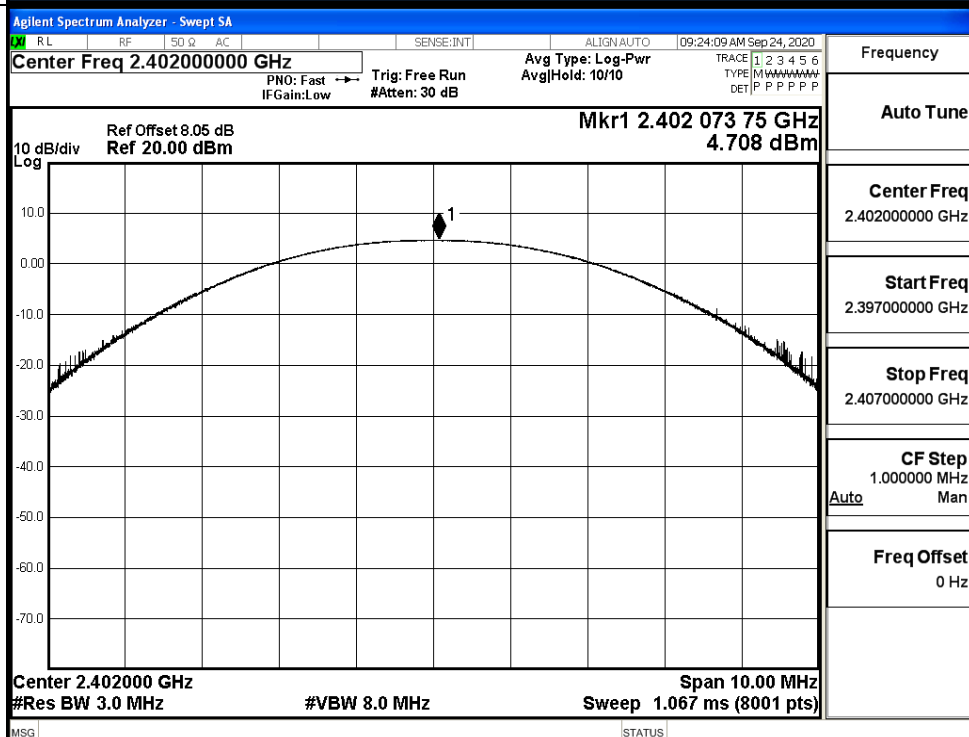
GFSK/LCH

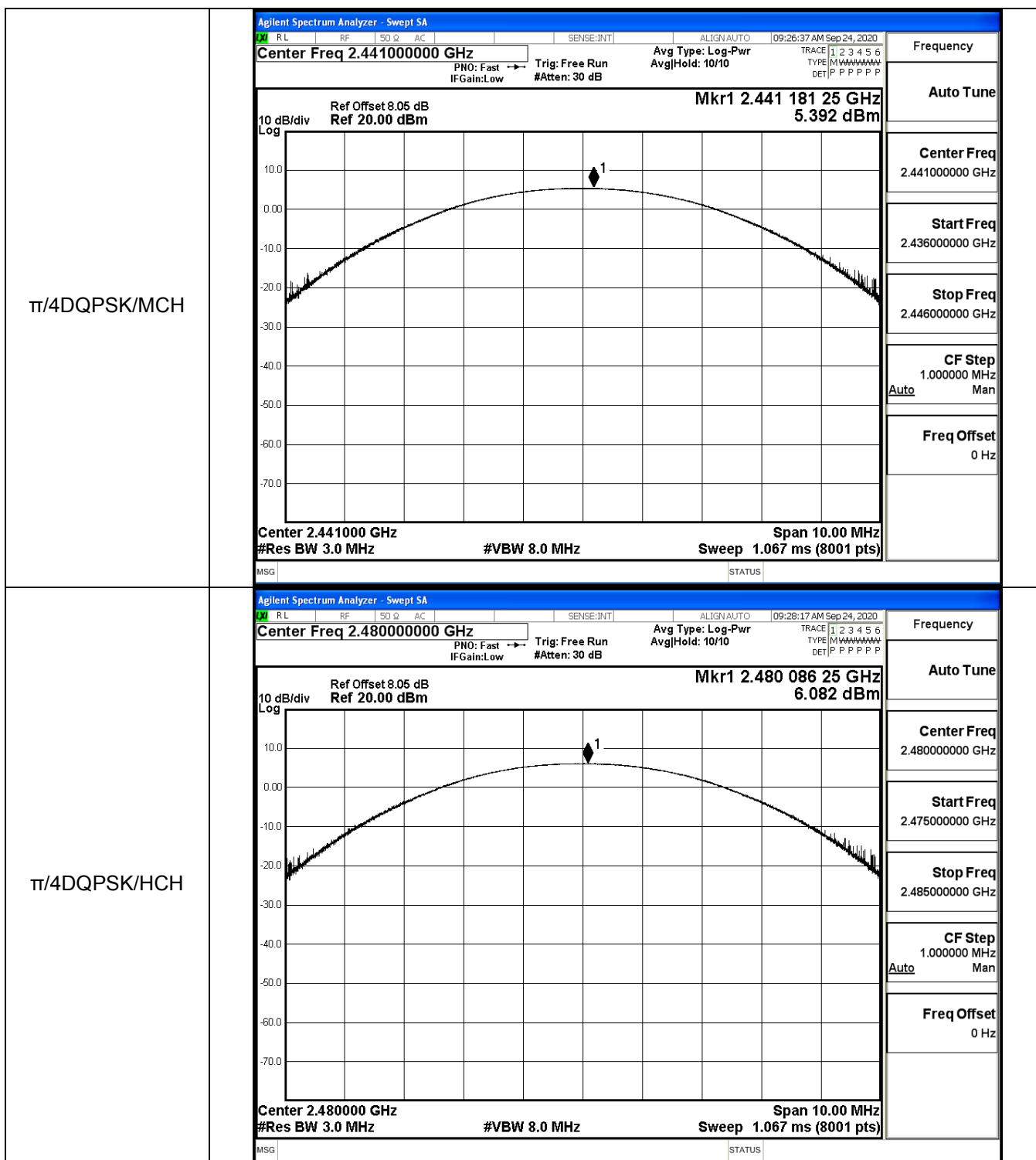


GFSK/MCH

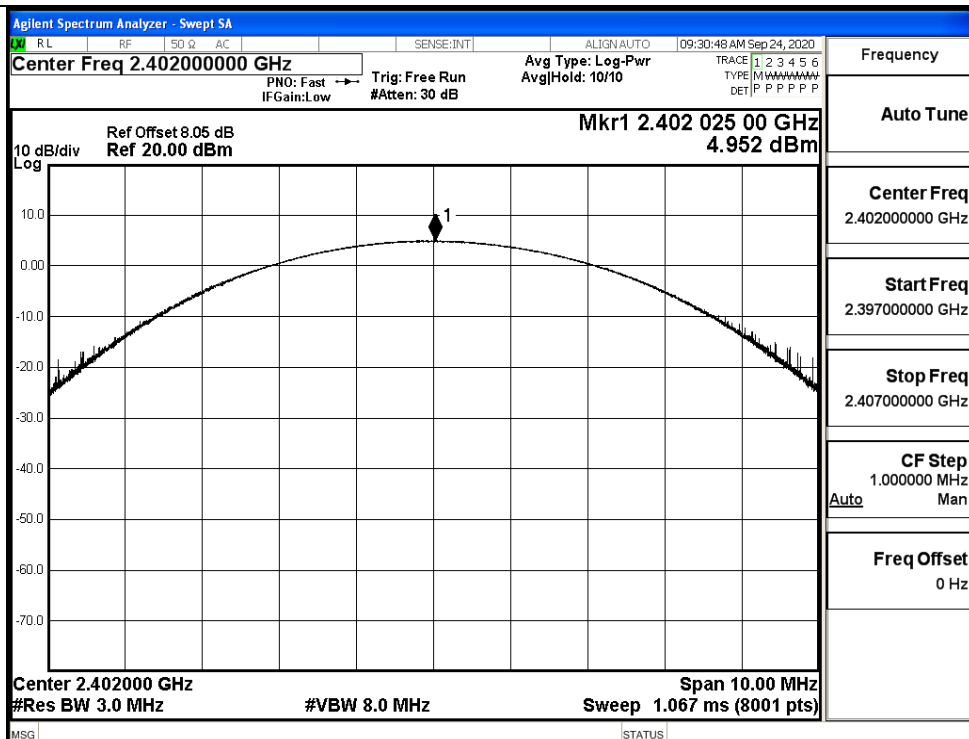


GFSK/HCH

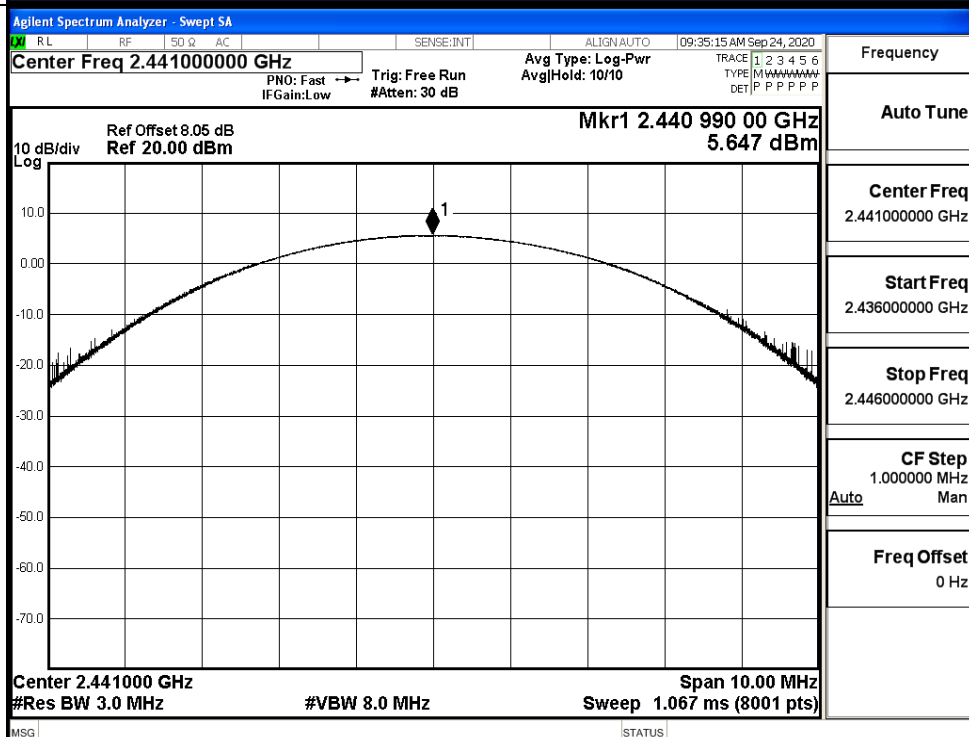
 $\pi$ /4DQPSK/LCH



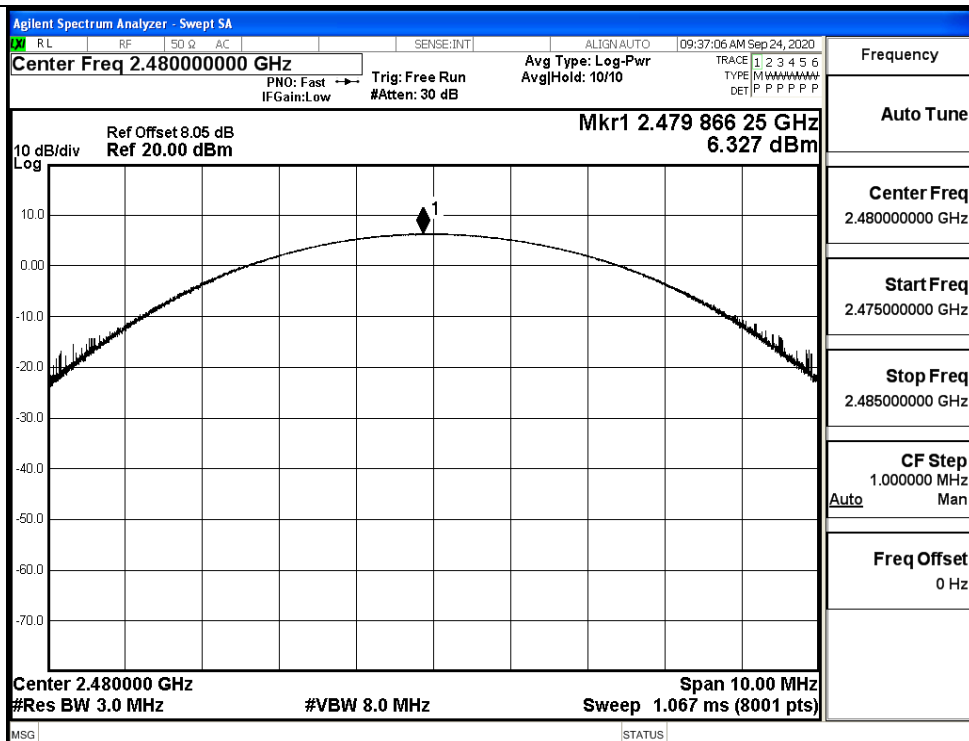
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

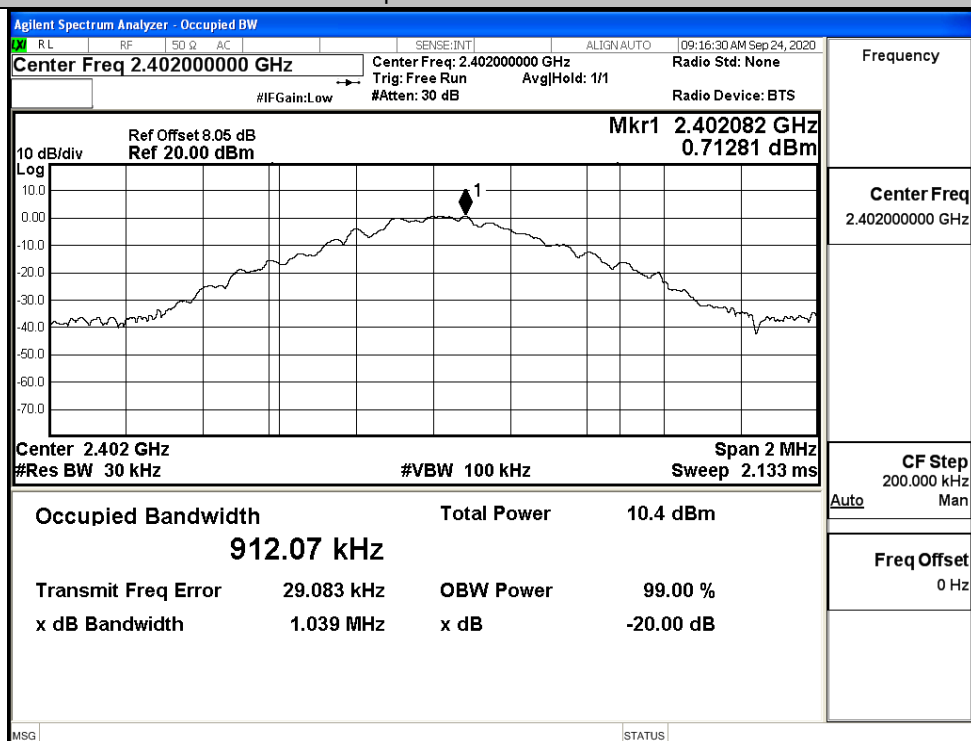


## A.2 20dB Bandwidth

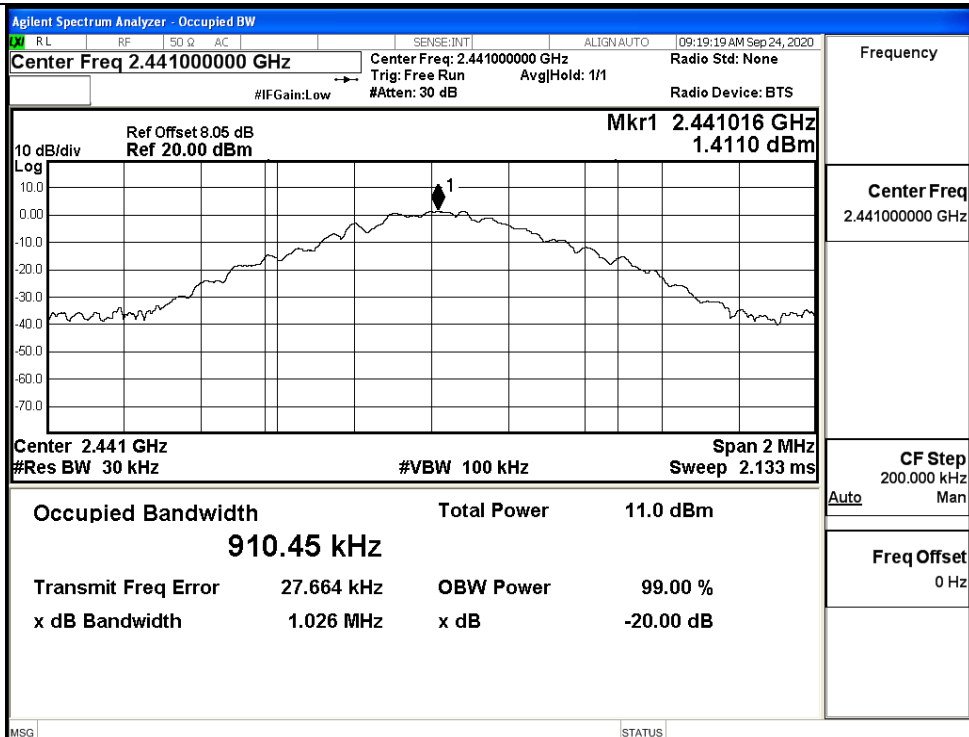
| Mode          | Channel. | 20dB Bandwidth [MHz] | Limit [MHz]   | Verdict |
|---------------|----------|----------------------|---------------|---------|
| GFSK          | LCH      | 1.039                | Not Specified | PASS    |
|               | MCH      | 1.026                | Not Specified | PASS    |
|               | HCH      | 1.032                | Not Specified | PASS    |
| $\pi/4$ DQPSK | LCH      | 1.394                | Not Specified | PASS    |
|               | MCH      | 1.397                | Not Specified | PASS    |
|               | HCH      | 1.399                | Not Specified | PASS    |
| 8DPSK         | LCH      | 1.376                | Not Specified | PASS    |
|               | MCH      | 1.380                | Not Specified | PASS    |
|               | HCH      | 1.379                | Not Specified | PASS    |

## Test Graphs

GFSK/LCH



GFSK/MCH



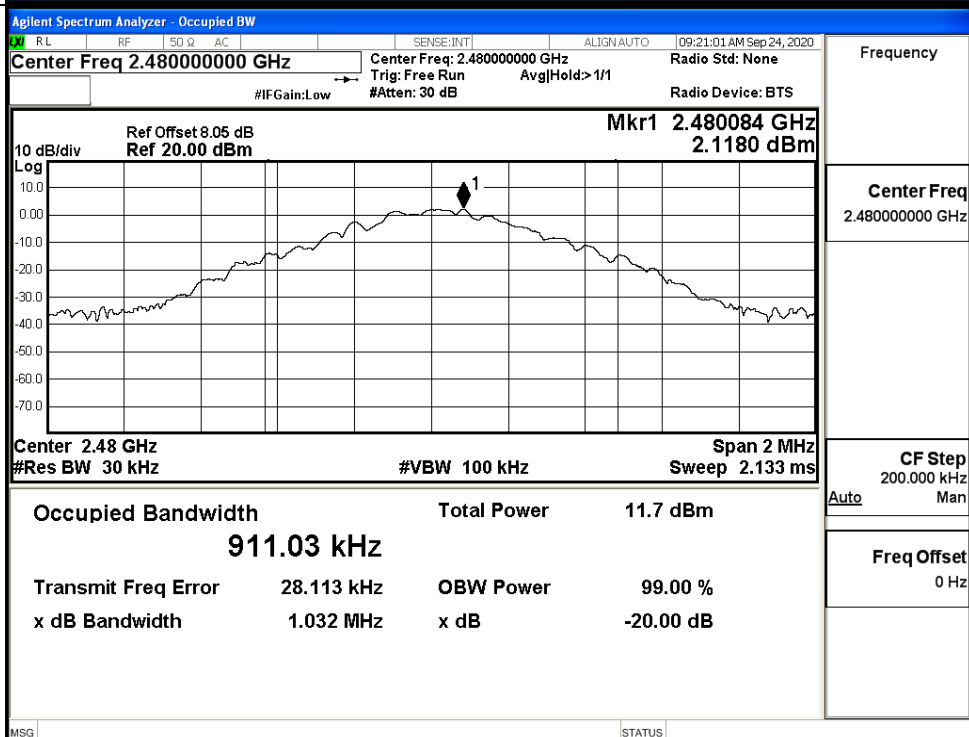
Frequency

Center Freq  
2.441000000 GHzCF Step  
200.000 kHz  
Man

Auto

Freq Offset  
0 Hz

GFSK/HCH

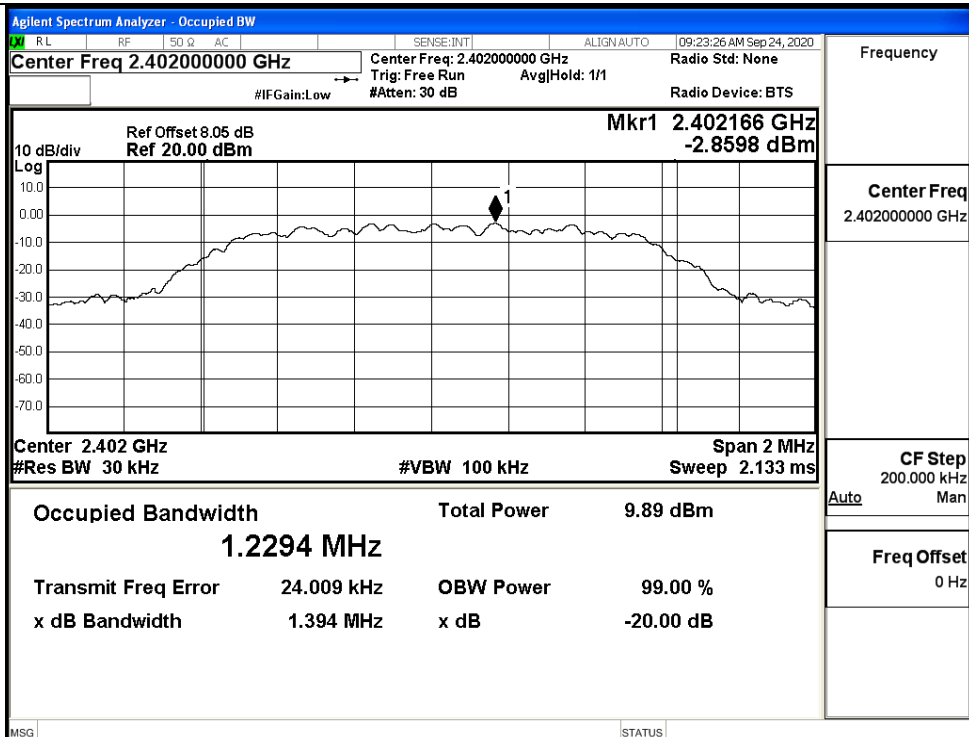


Frequency

Center Freq  
2.480000000 GHzCF Step  
200.000 kHz  
Man

Auto

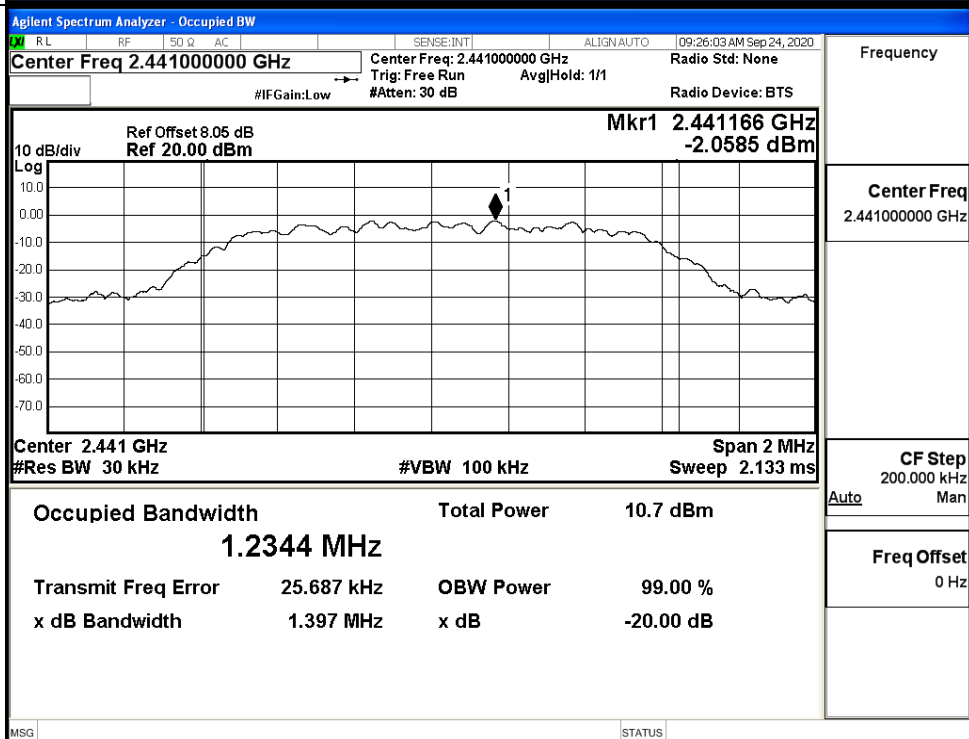
Freq Offset  
0 Hz

$\pi/4$ DQPSK/LCH

Frequency

Center Freq  
2.402000000 GHzCF Step  
200.000 kHz  
Man

Auto

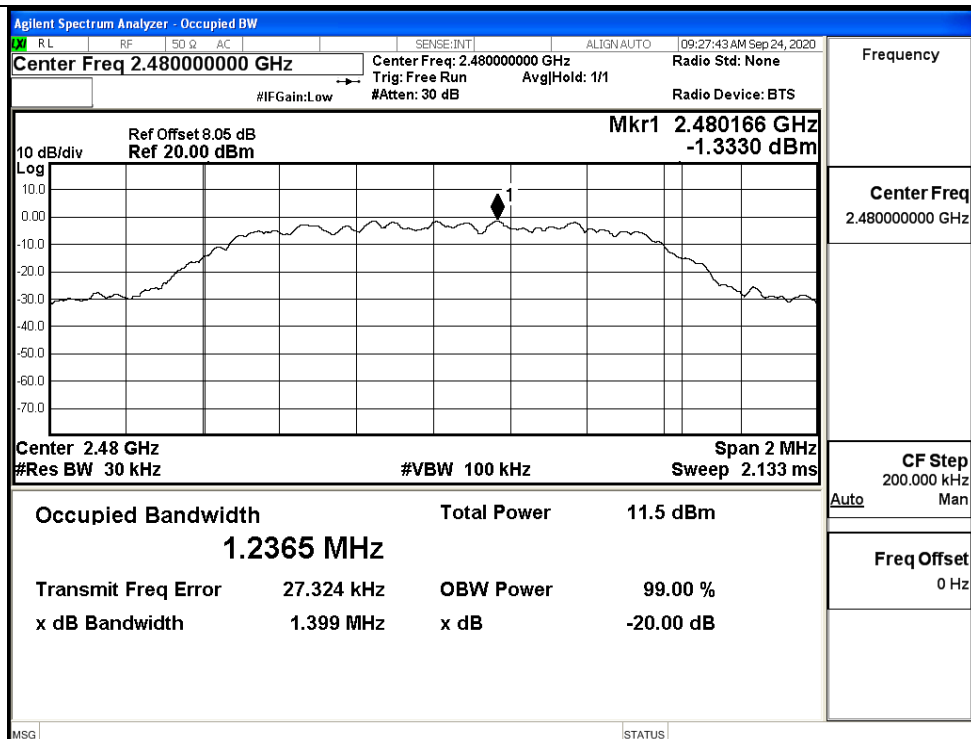
Freq Offset  
0 Hz $\pi/4$ DQPSK/MCH

Frequency

Center Freq  
2.441000000 GHzCF Step  
200.000 kHz  
Man

Auto

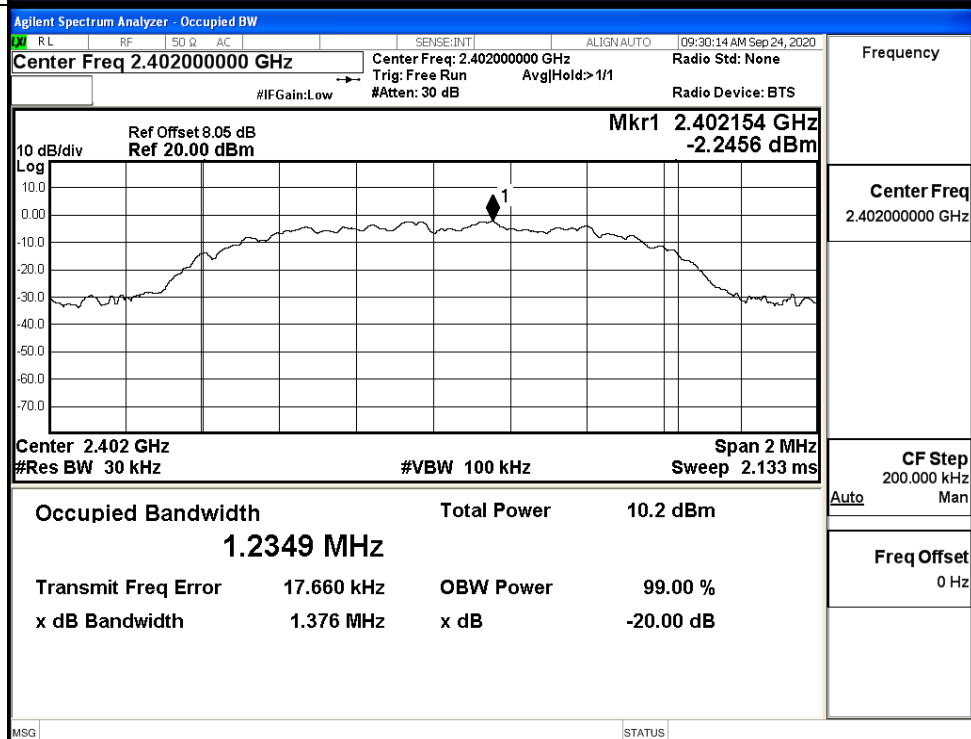
Freq Offset  
0 Hz

$\pi/4$ DQPSK/HCH

Frequency

Center Freq  
2.480000000 GHzCF Step  
200.000 kHz  
Auto ManFreq Offset  
0 Hz

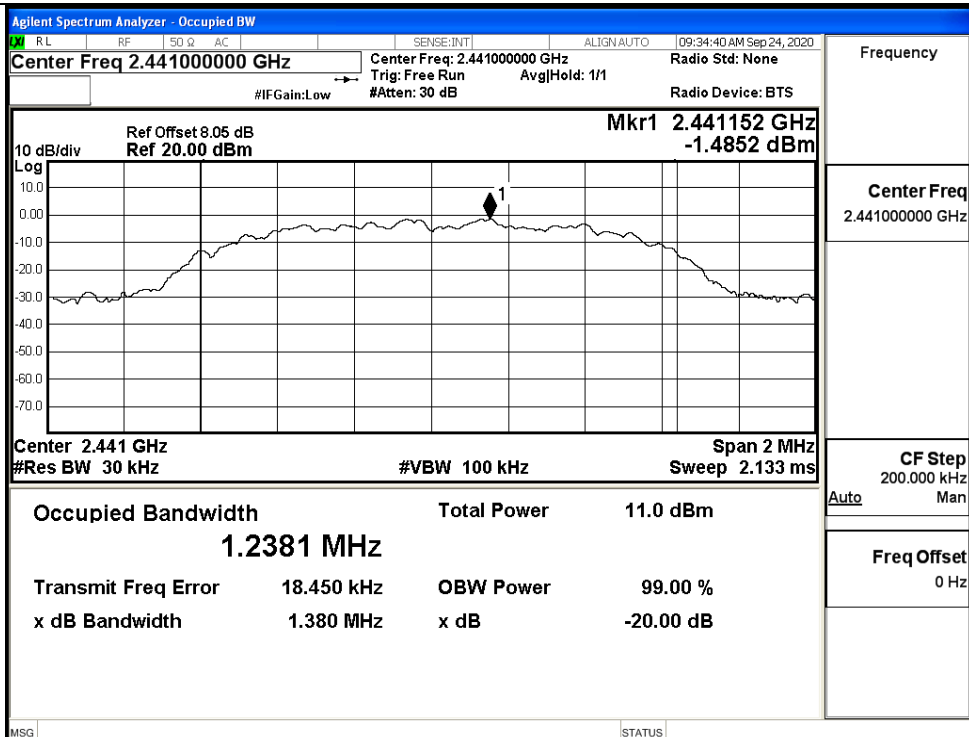
8DPSK/LCH



Frequency

Center Freq  
2.402000000 GHzCF Step  
200.000 kHz  
Auto ManFreq Offset  
0 Hz

8DPSK/MCH



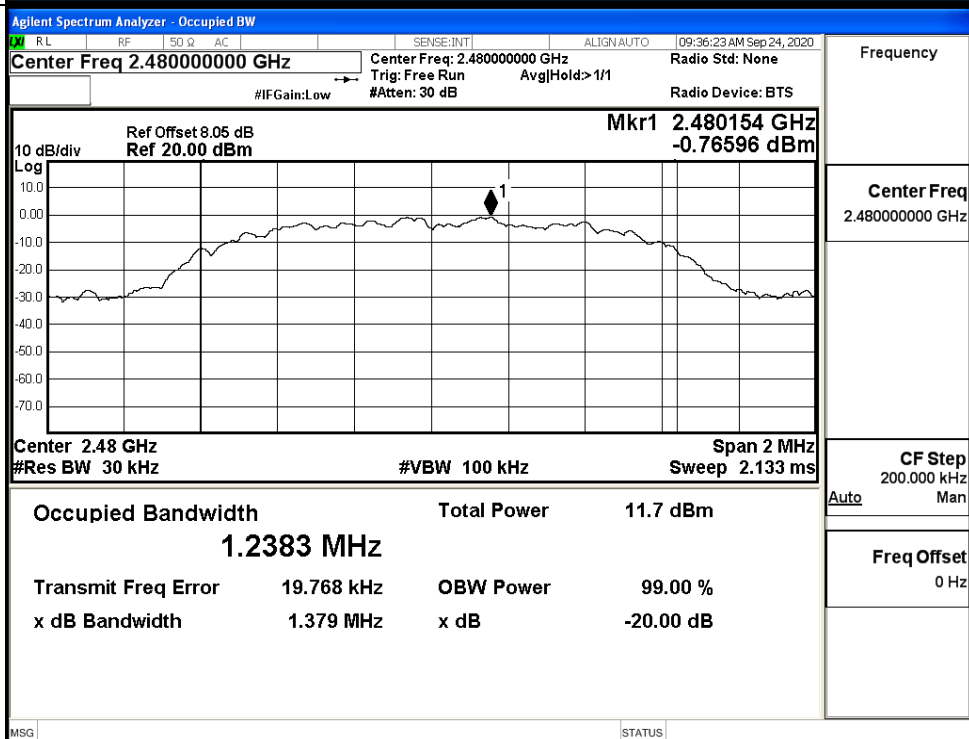
Frequency

Center Freq  
2.441000000 GHzCF Step  
200.000 kHz  
Man

Auto

Freq Offset  
0 Hz

8DPSK/HCH



Frequency

Center Freq  
2.480000000 GHzCF Step  
200.000 kHz  
Man

Auto

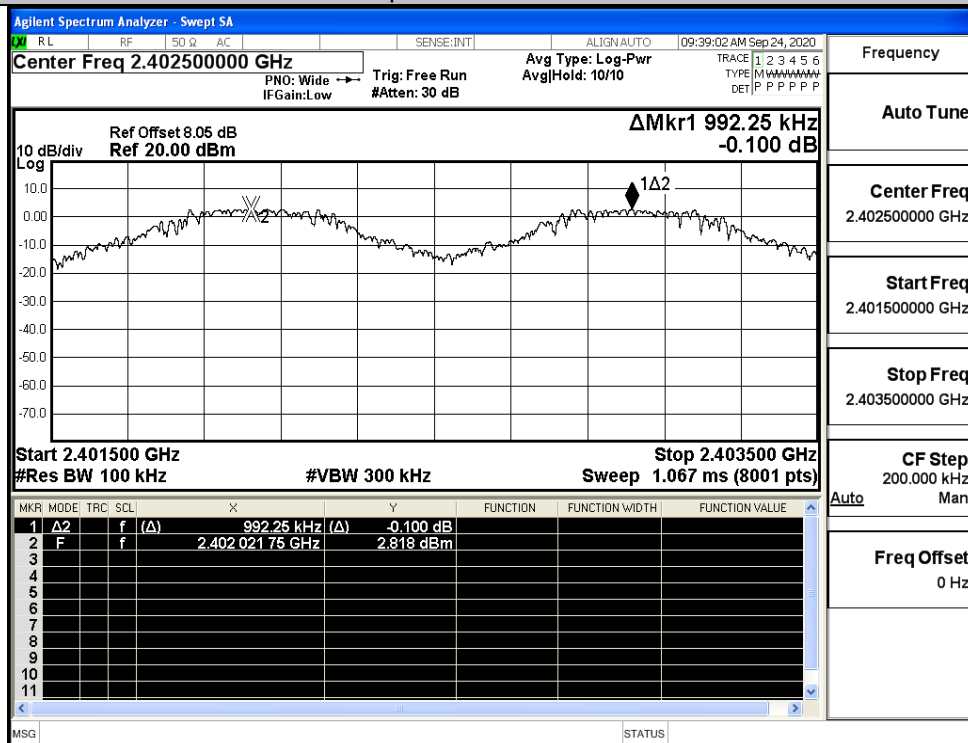
Freq Offset  
0 Hz

### A.3 Carrier Frequency Separation

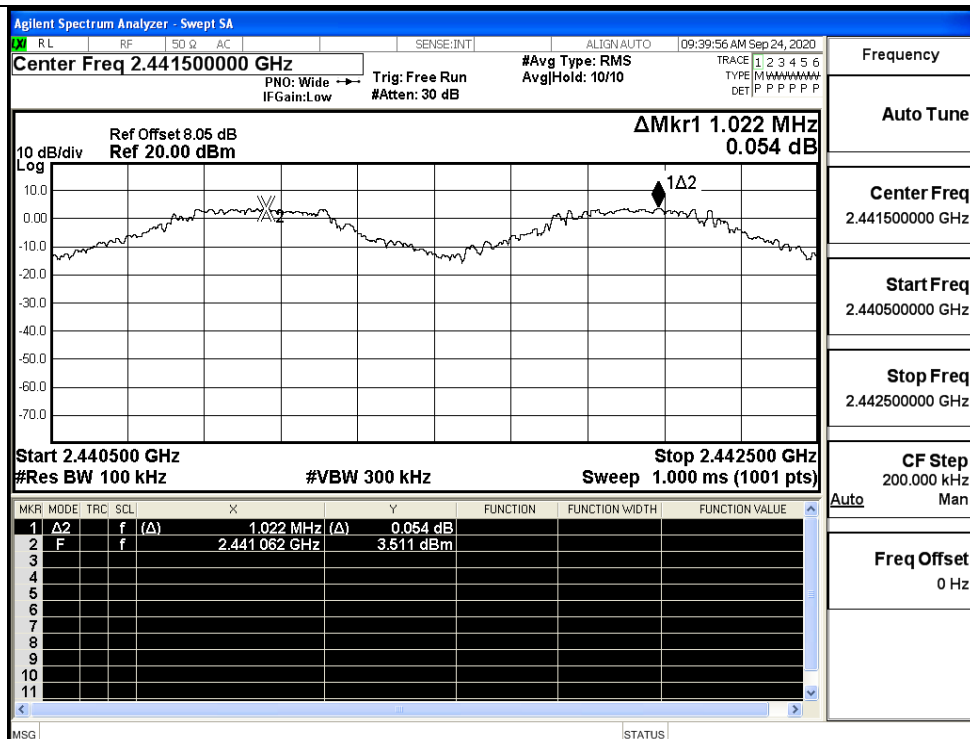
| Mode          | Channel. | Carrier Frequency Separation [MHz] | Limit [MHz] | Verdict |
|---------------|----------|------------------------------------|-------------|---------|
| GFSK          | LCH      | 0.992                              | 0.693       | PASS    |
|               | MCH      | 1.022                              | 0.693       | PASS    |
|               | HCH      | 1.074                              | 0.693       | PASS    |
| $\pi/4$ DQPSK | LCH      | 0.968                              | 0.933       | PASS    |
|               | MCH      | 0.984                              | 0.933       | PASS    |
|               | HCH      | 1.010                              | 0.933       | PASS    |
| 8DPSK         | LCH      | 1.124                              | 0.920       | PASS    |
|               | MCH      | 0.982                              | 0.920       | PASS    |
|               | HCH      | 1.128                              | 0.920       | PASS    |

#### Test Graphs

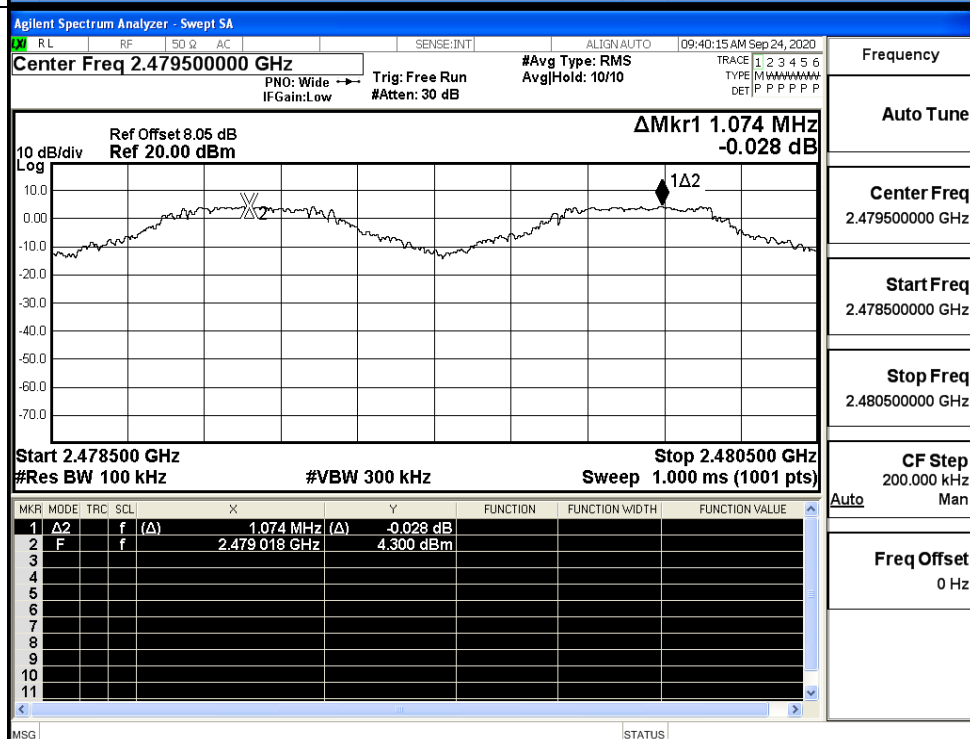
GFSK/LCH

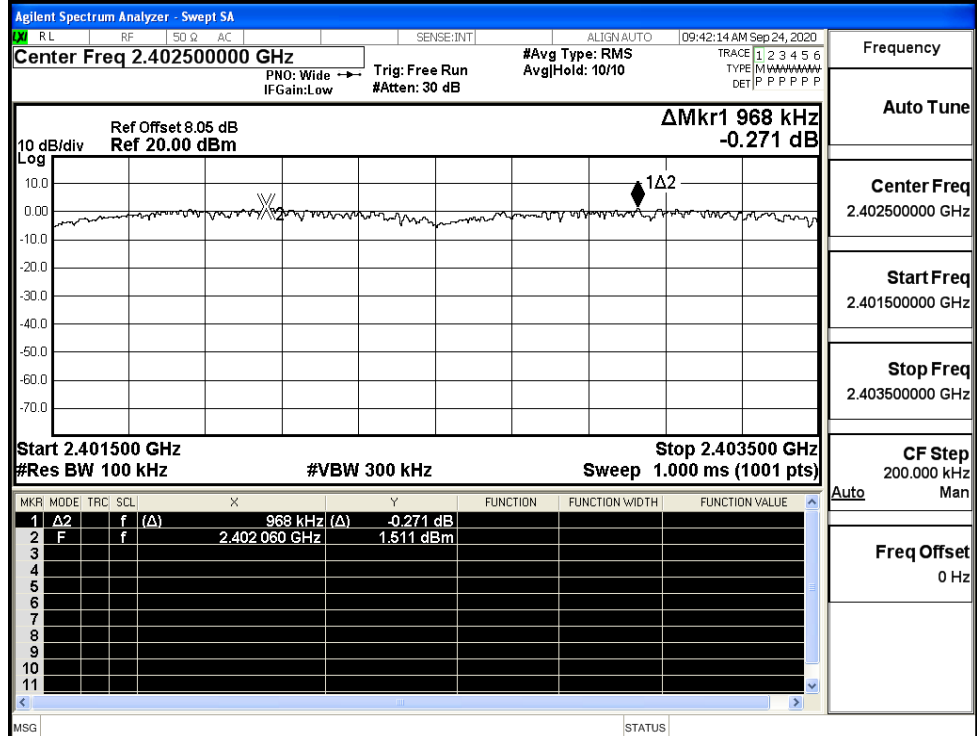
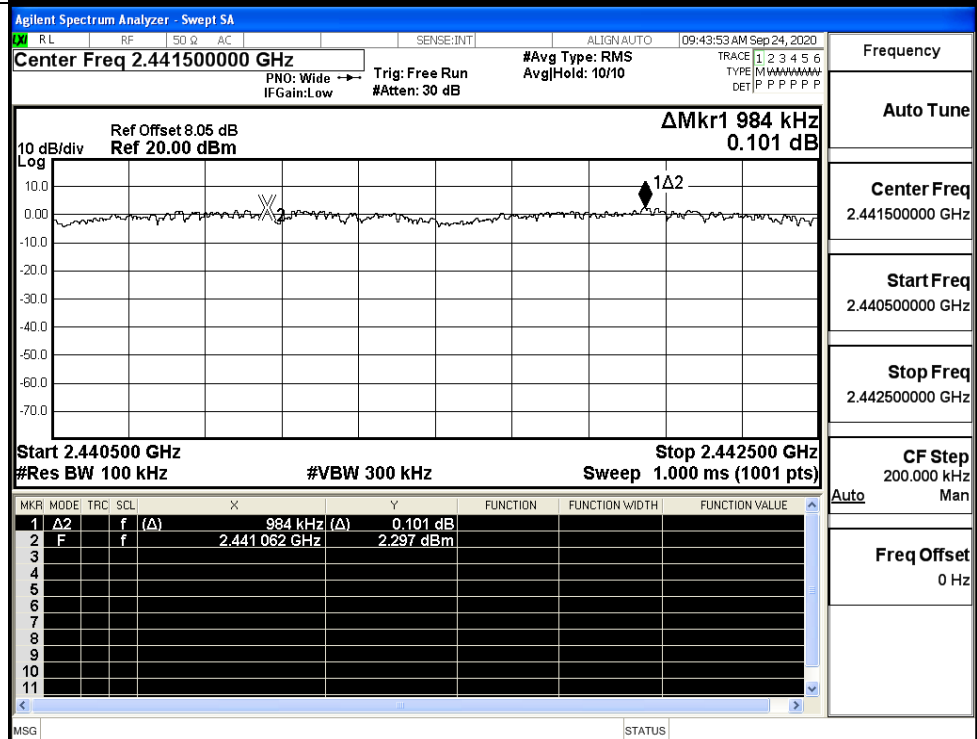


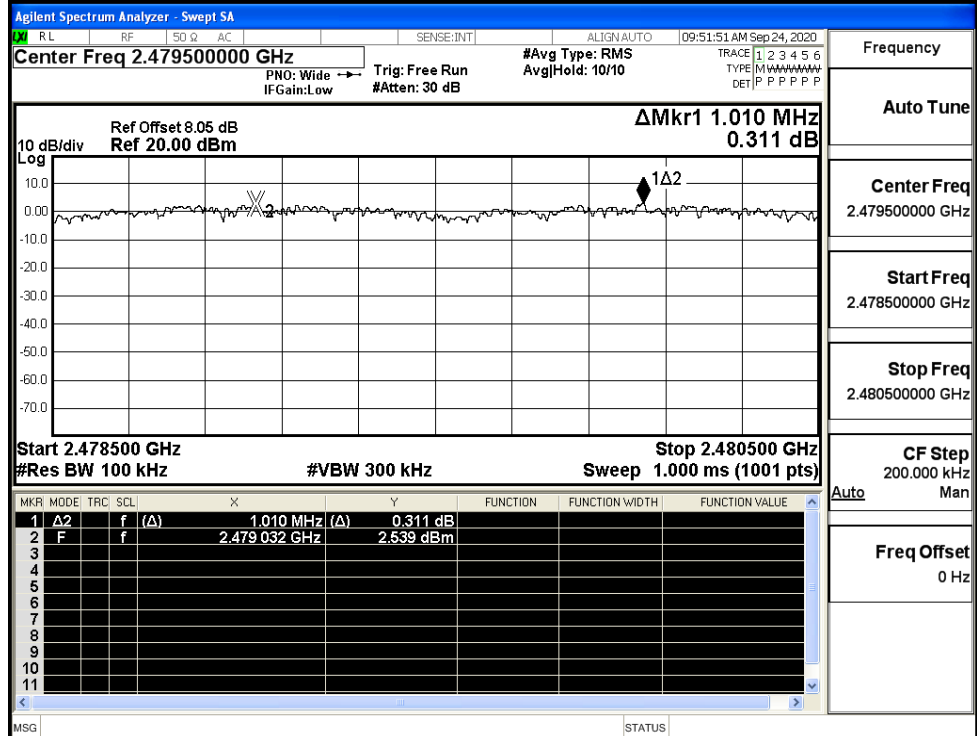
GFSK/MCH



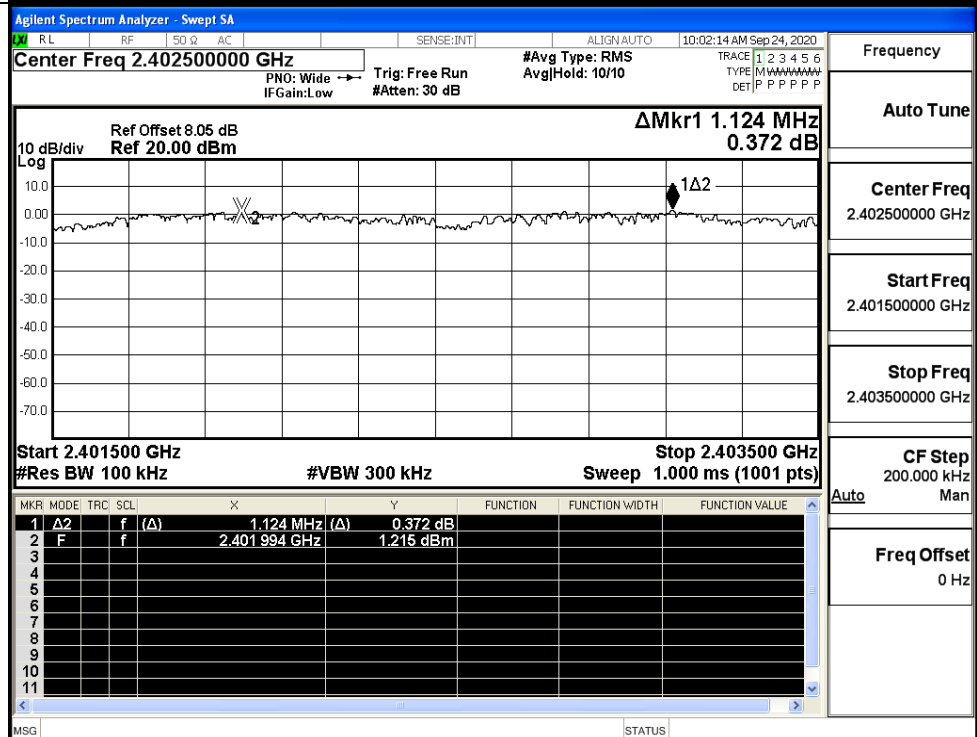
GFSK/HCH



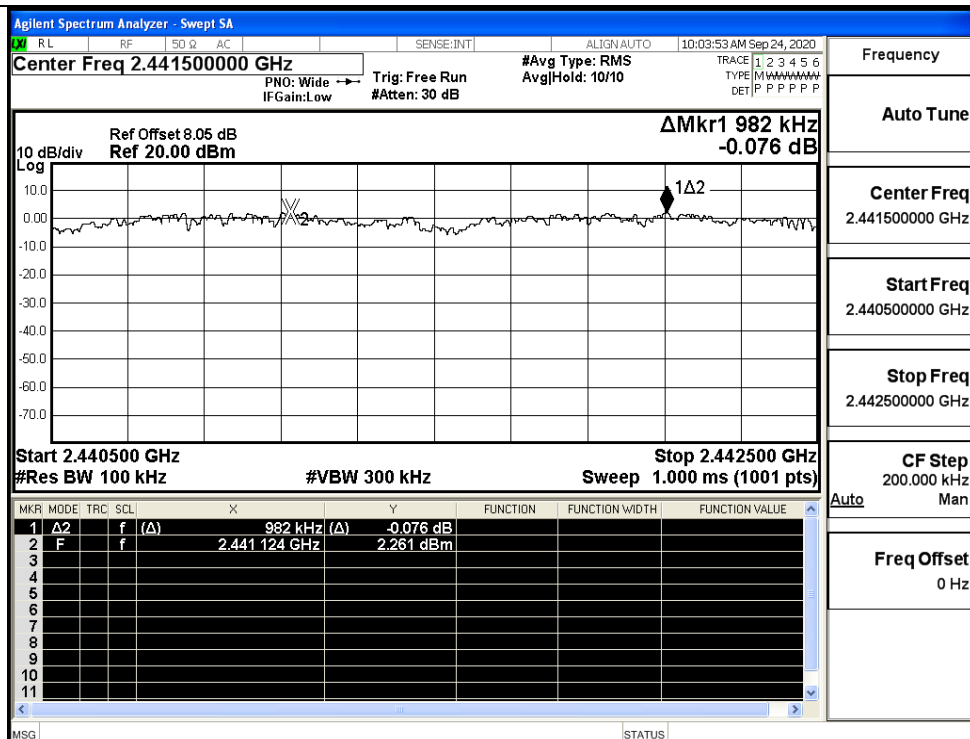
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi$ /4DQPSK/HCH

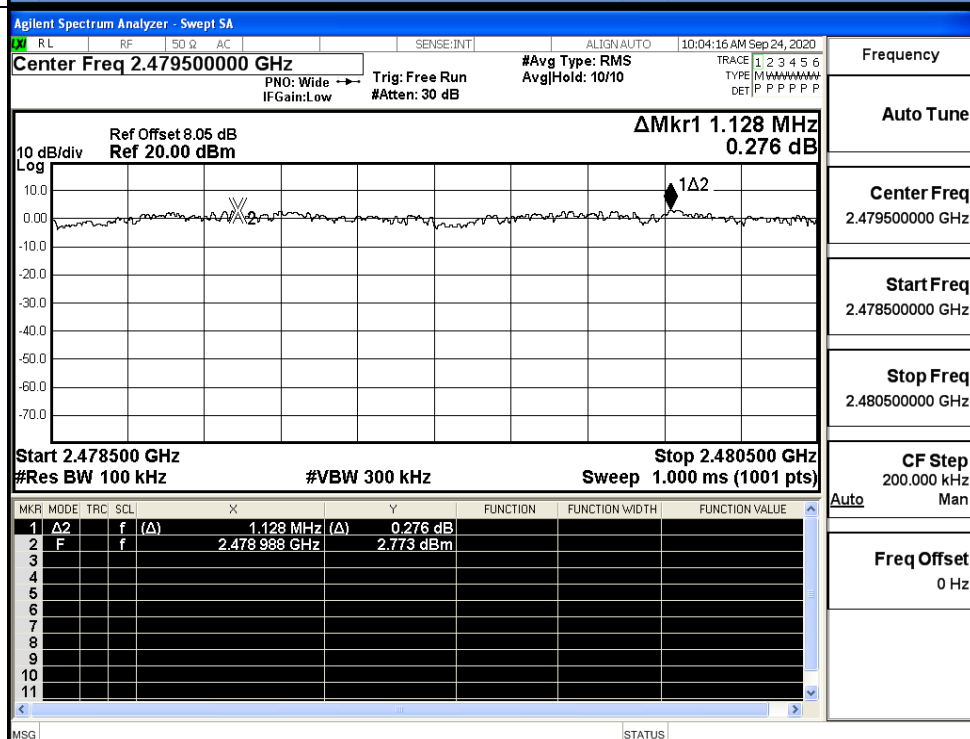
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

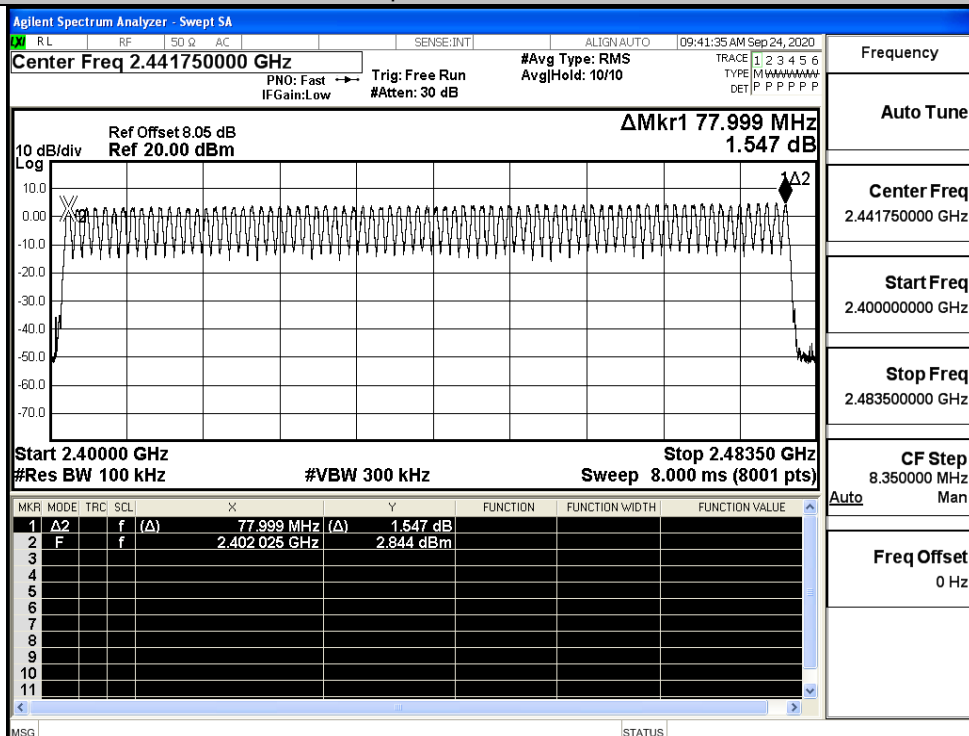


## A.4 Hopping Channel Number

| Mode          | Channel. | Number of Hopping Channel [N] | Limit [N] | Verdict |
|---------------|----------|-------------------------------|-----------|---------|
| GFSK          | Hop      | 79                            | $\geq 15$ | PASS    |
| $\pi/4$ DQPSK | Hop      | 79                            | $\geq 15$ | PASS    |
| 8DPSK         | Hop      | 79                            | $\geq 15$ | PASS    |

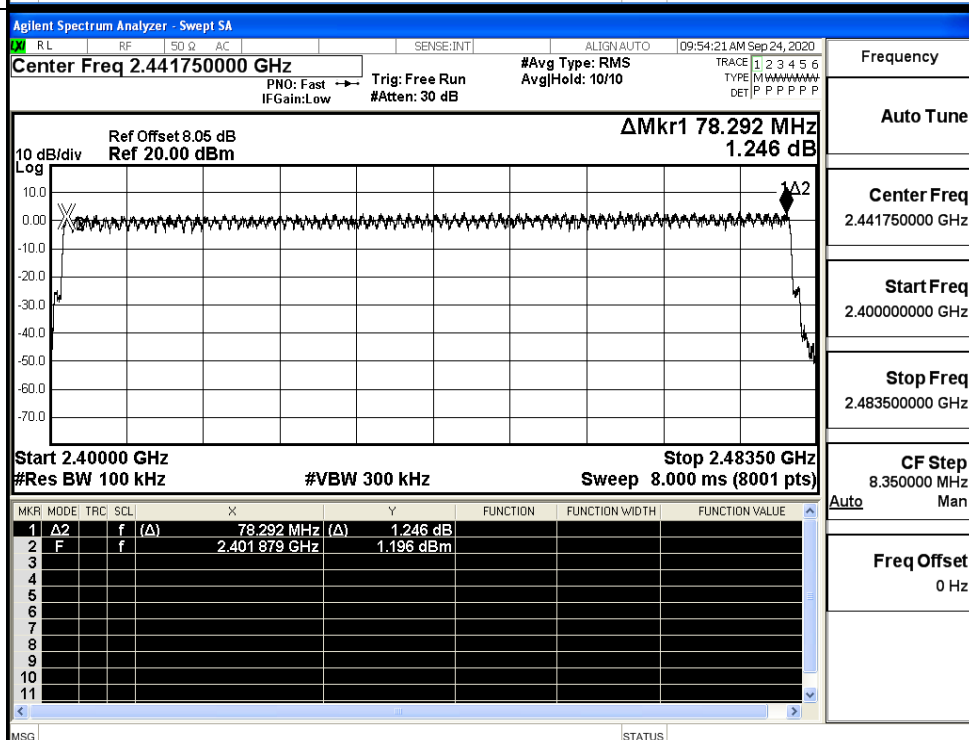
### Test Graphs

GFSK/Hop



Frequency

Auto Tune

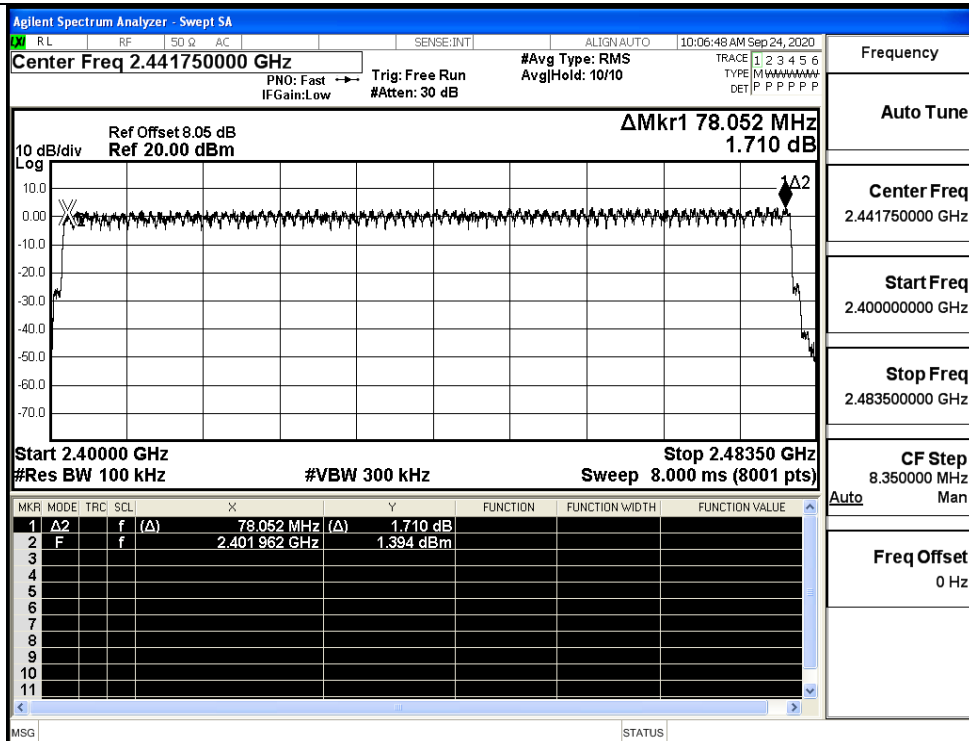
Center Freq  
2.441750000 GHzStart Freq  
2.400000000 GHzStop Freq  
2.483500000 GHzCF Step  
8.350000 MHz  
ManFreq Offset  
0 Hz $\pi/4$ DQPSK/Hop

Frequency

Auto Tune

Center Freq  
2.441750000 GHzStart Freq  
2.400000000 GHzStop Freq  
2.483500000 GHzCF Step  
8.350000 MHz  
ManFreq Offset  
0 Hz

8DPSK/Hop

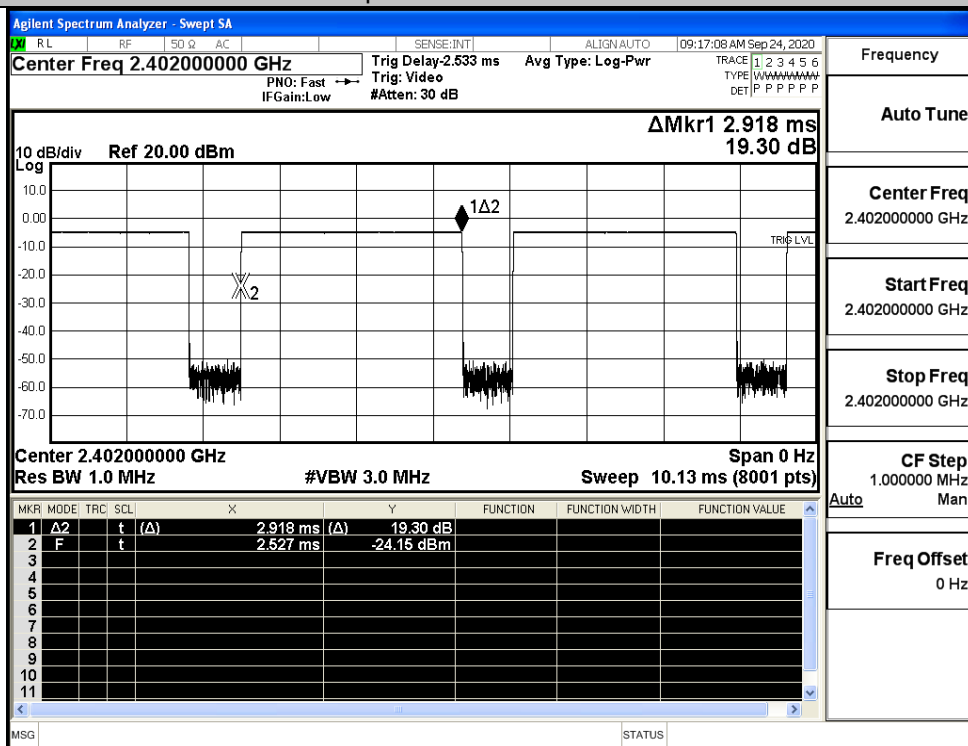


## A.5 Dwell Time

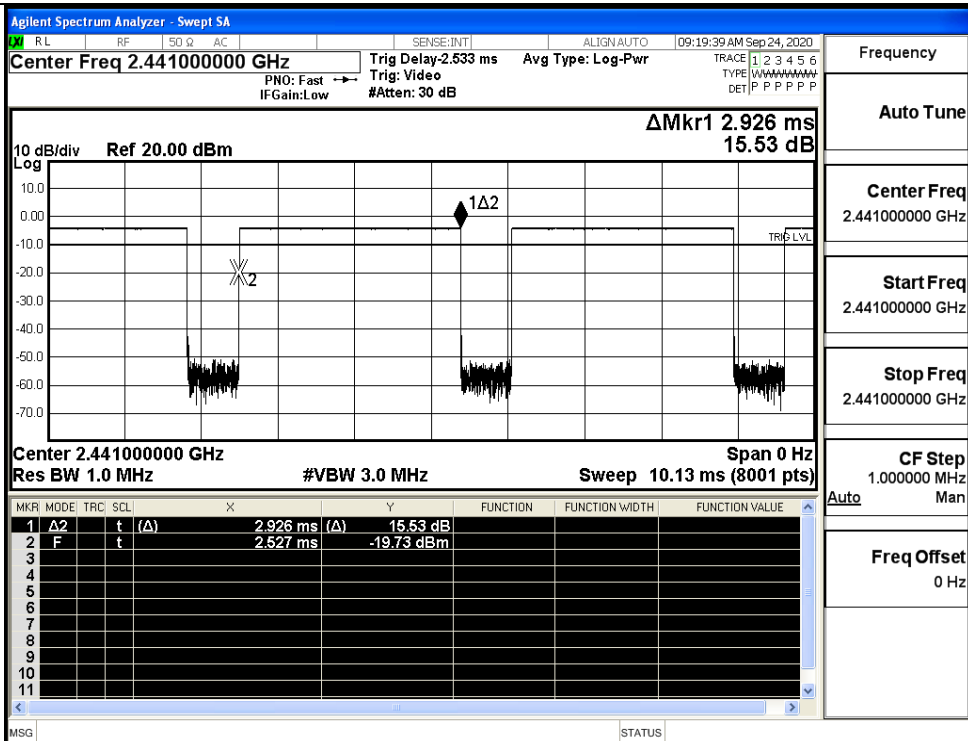
| Mode          | Packet | Channel | Burst Width<br>[ms/hop/ch] | Total<br>Hops[hop*ch] | Dwell Time[s] | Limit [s] | Verdict |
|---------------|--------|---------|----------------------------|-----------------------|---------------|-----------|---------|
| GFSK          | DH5    | LCH     | 2.92                       | 106.7                 | 0.312         | 0.4       | PASS    |
|               | DH5    | MCH     | 2.93                       | 106.7                 | 0.313         | 0.4       | PASS    |
|               | DH5    | HCH     | 2.93                       | 106.7                 | 0.313         | 0.4       | PASS    |
| $\pi/4$ DQPSK | 2DH5   | LCH     | 2.94                       | 106.7                 | 0.314         | 0.4       | PASS    |
|               | 2DH5   | MCH     | 2.93                       | 106.7                 | 0.313         | 0.4       | PASS    |
|               | 2DH5   | HCH     | 2.93                       | 106.7                 | 0.313         | 0.4       | PASS    |
| 8DPSK         | 3DH5   | LCH     | 2.92                       | 106.7                 | 0.312         | 0.4       | PASS    |
|               | 3DH5   | MCH     | 2.93                       | 106.7                 | 0.313         | 0.4       | PASS    |
|               | 3DH5   | HCH     | 2.93                       | 106.7                 | 0.313         | 0.4       | PASS    |

### Test Graphs

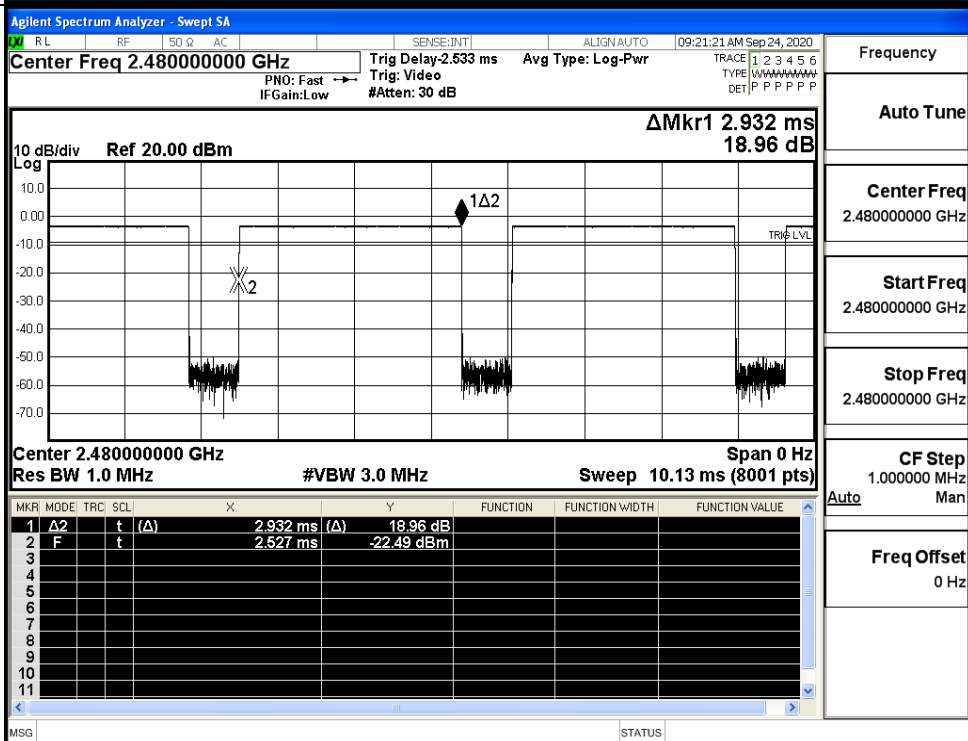
GFSK\_DH5/LCH

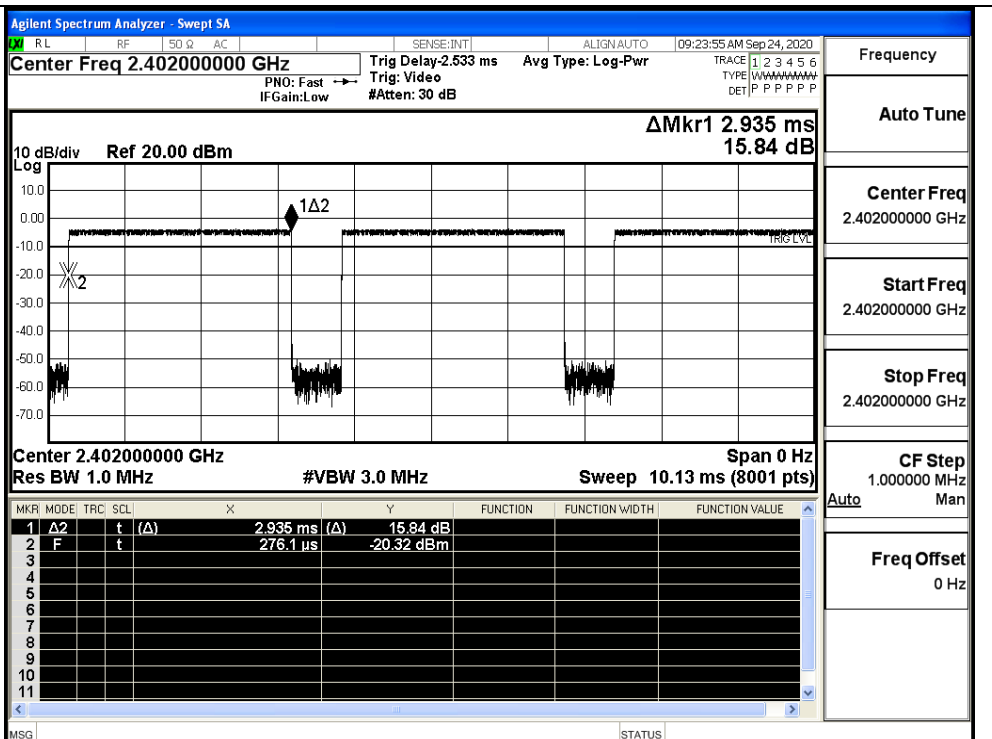
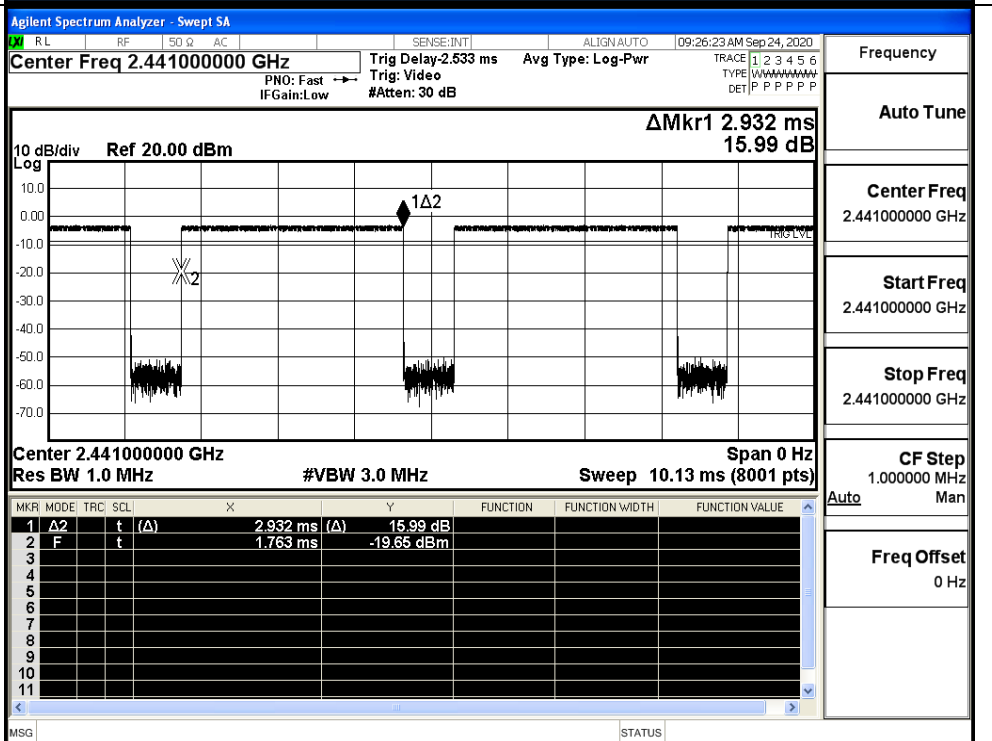


GFSK\_DH5/MCH

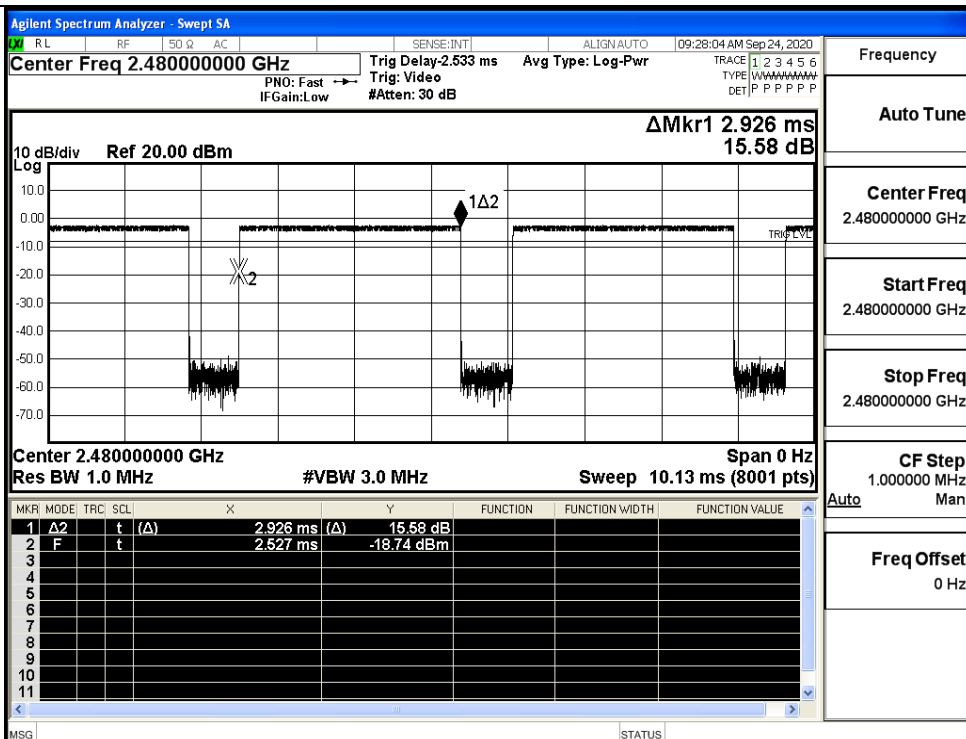


GFSK\_DH5/HCH

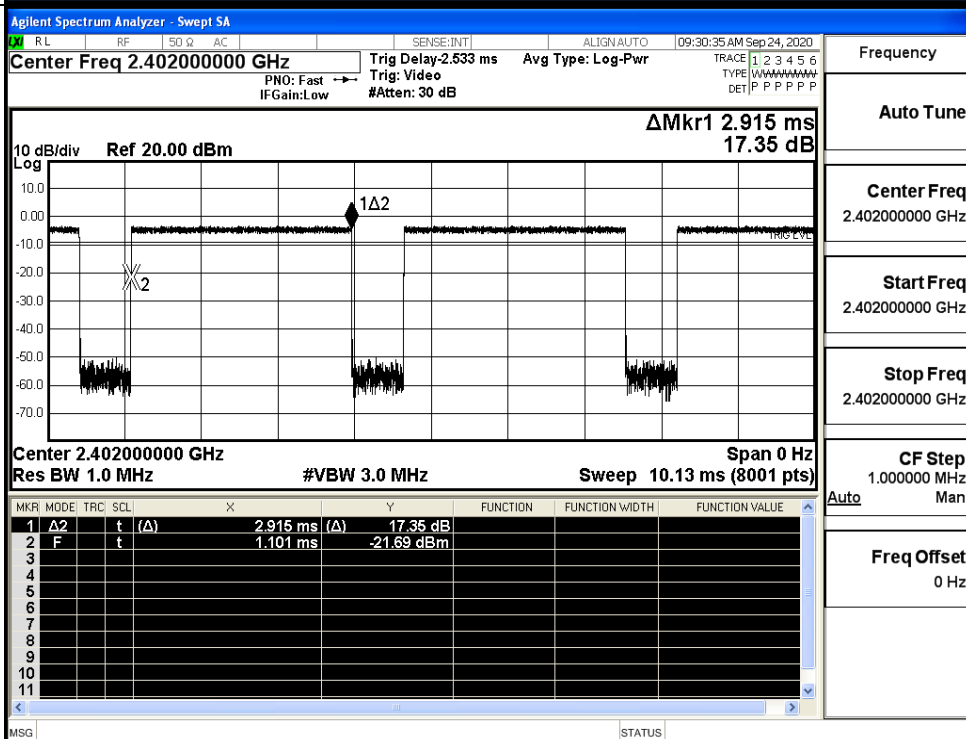


$\pi/4$ DQPSK  
\_2DH5/LCH $\pi/4$ DQPSK  
\_2DH5/MCH

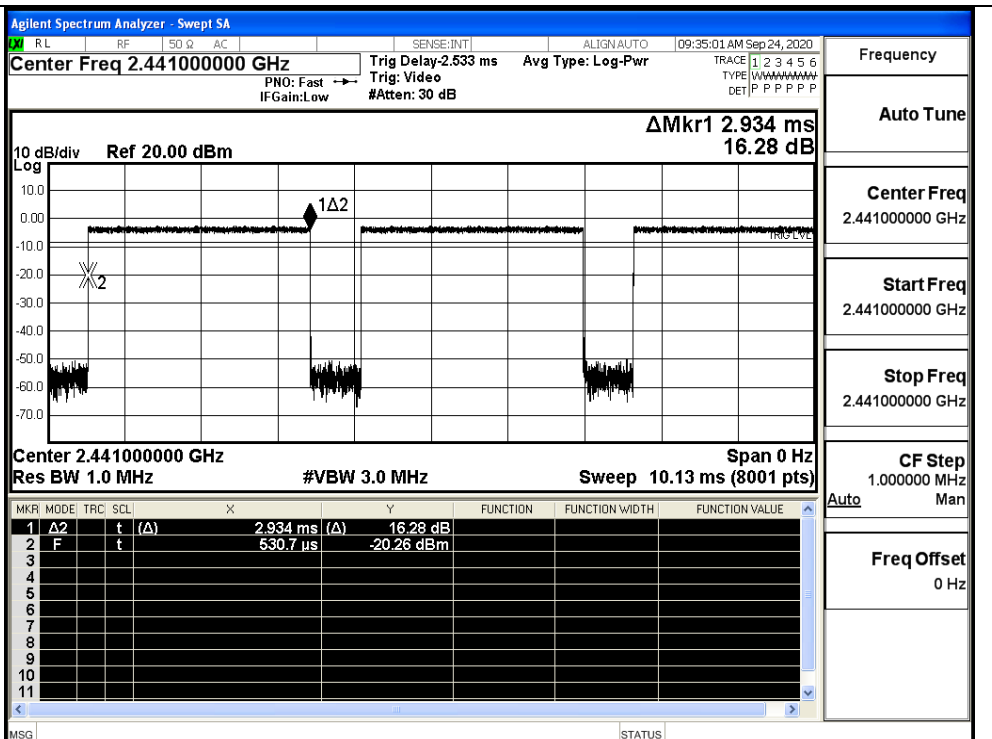
$\pi/4$ DQPSK  
\_2DH5/HCH



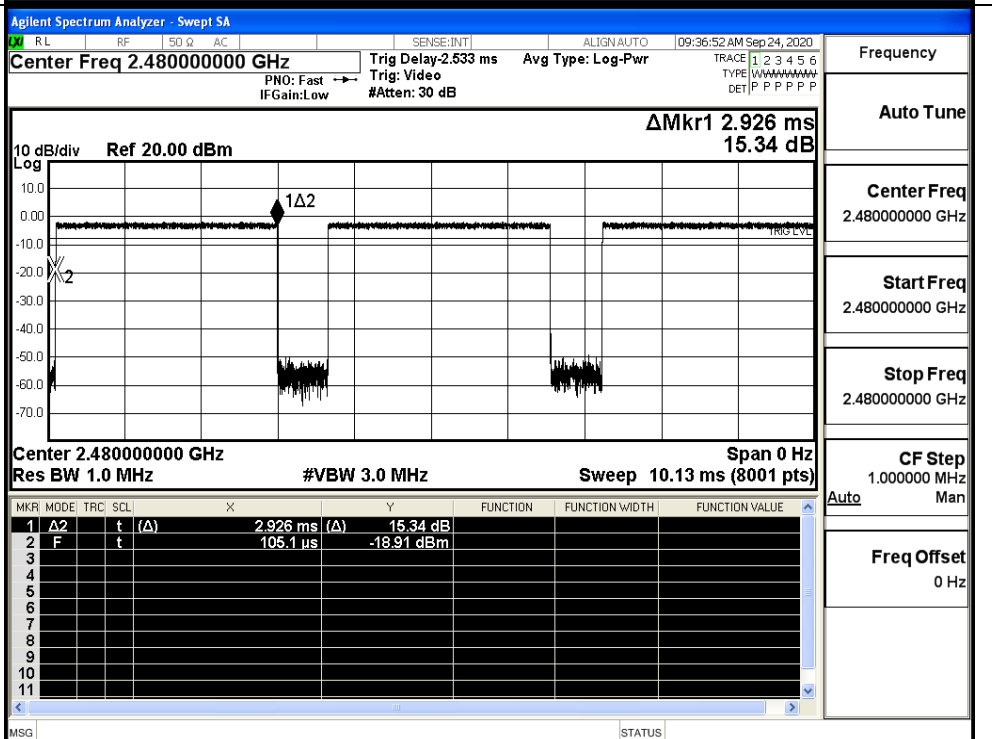
8DPSK \_3DH5/LCH



8DPSK\_3DH5/MCH



8DPSK\_3DH5/HCH

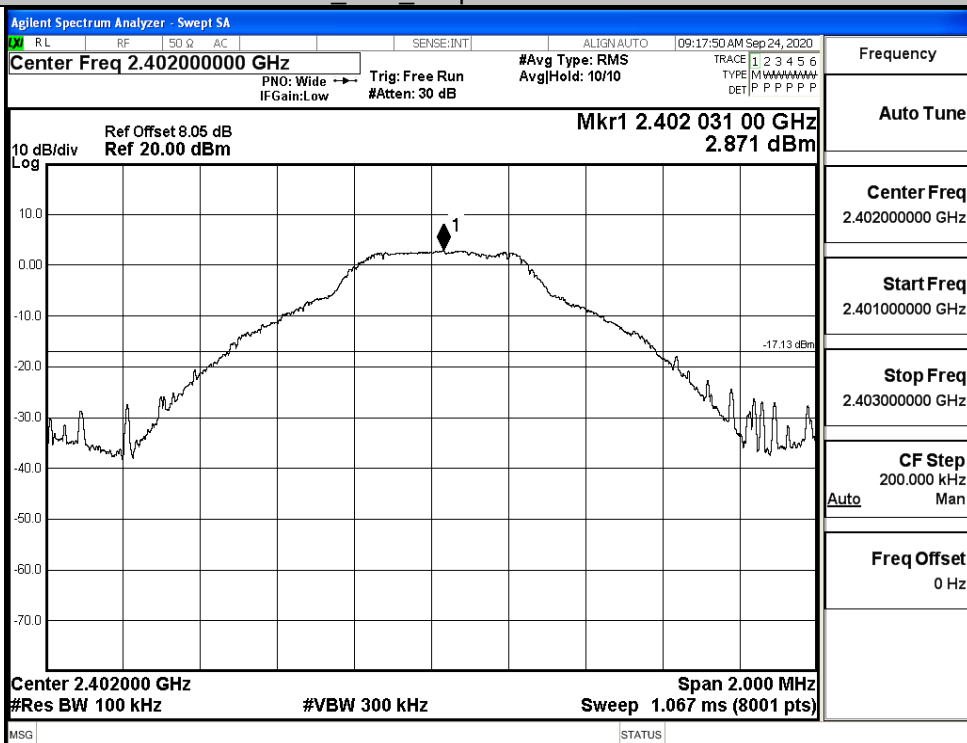


**A.6 RF Conducted Spurious Emissions**

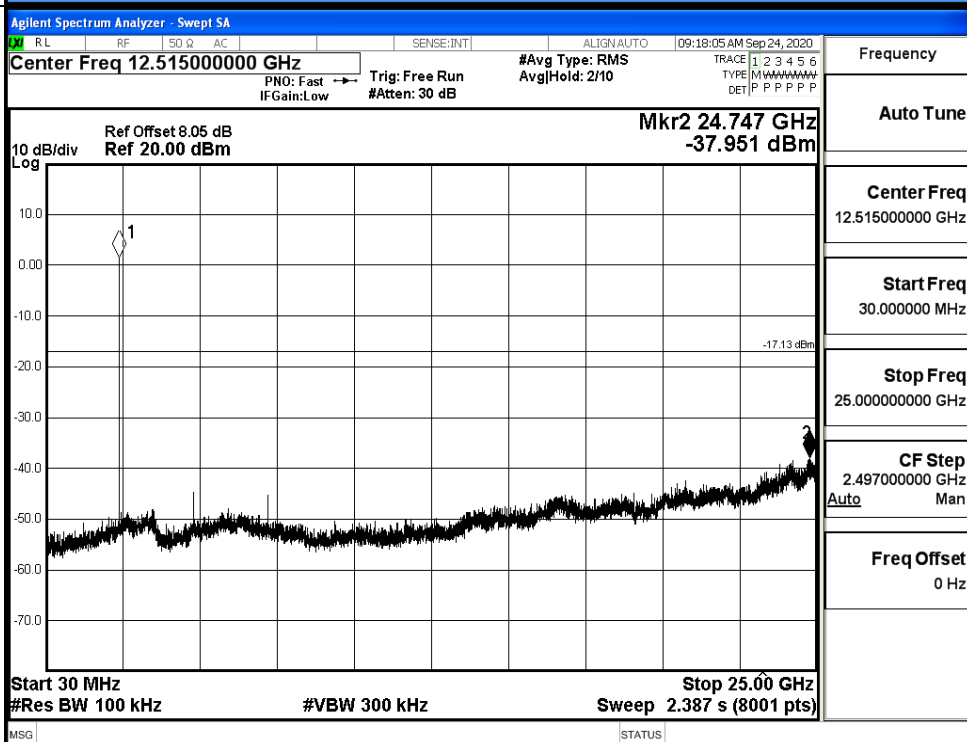
| Mode          | Channel | Pref [dBm] | Max. Level [dBm] | Limit [dBm] | Verdict |
|---------------|---------|------------|------------------|-------------|---------|
| GFSK          | LCH     | 2.871      | -37.951          | -17.129     | PASS    |
|               | MCH     | 3.571      | -37.969          | -16.429     | PASS    |
|               | HCH     | 4.176      | -37.542          | -15.824     | PASS    |
| $\pi/4$ DQPSK | LCH     | 1.641      | -37.283          | -18.359     | PASS    |
|               | MCH     | 2.387      | -38.495          | -17.613     | PASS    |
|               | HCH     | 3.089      | -38.772          | -16.911     | PASS    |
| 8DPSK         | LCH     | 1.713      | -37.717          | -18.287     | PASS    |
|               | MCH     | 2.47       | -38.216          | -17.530     | PASS    |
|               | HCH     | 3.233      | -37.399          | -16.767     | PASS    |

## GFSK LCH Graphs

Pref

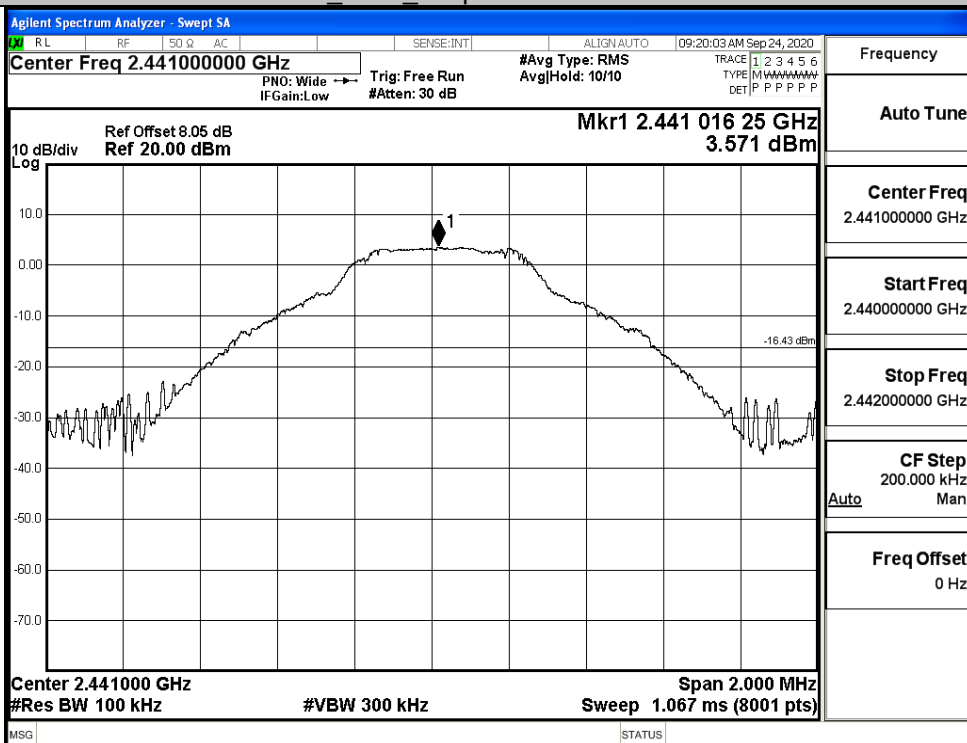


Puw

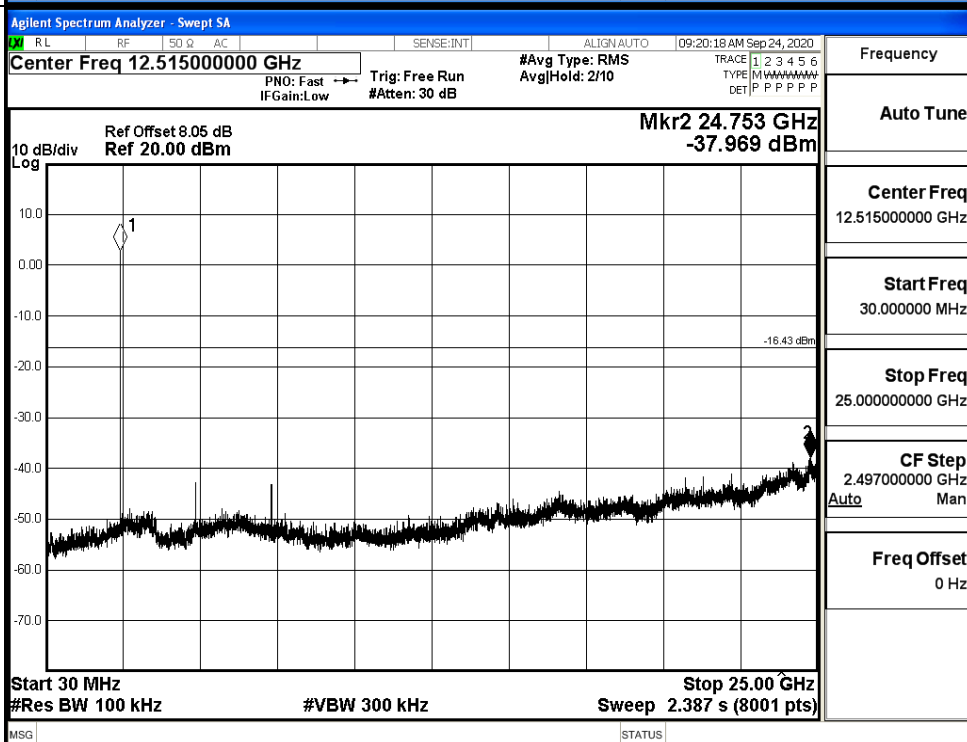


## GFSK MCH\_Graphs

Pref

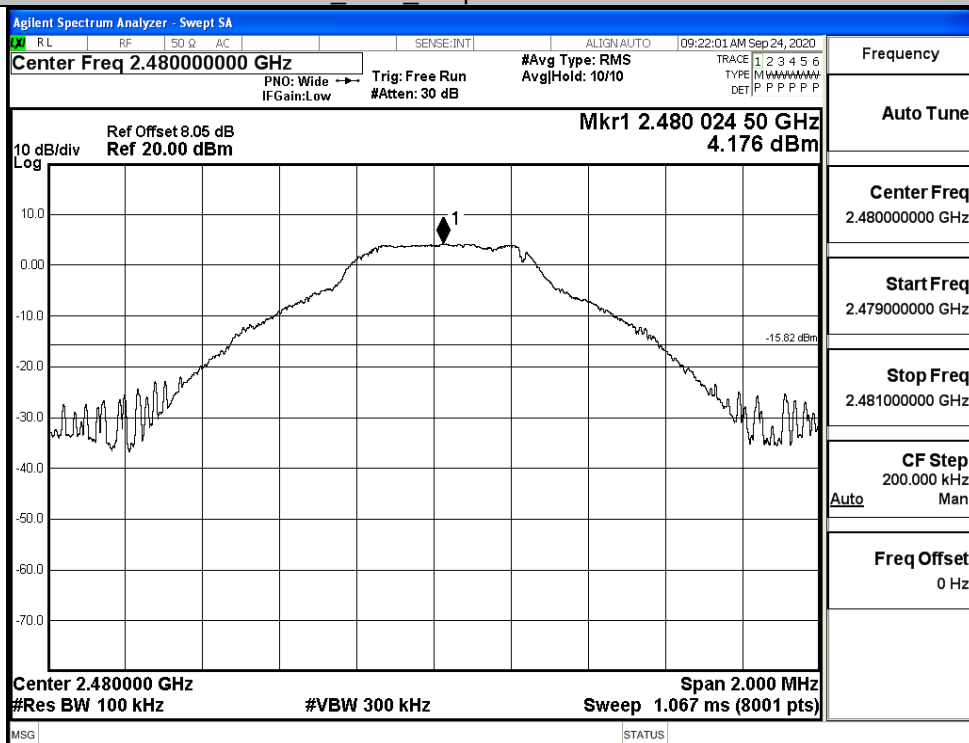


Puw

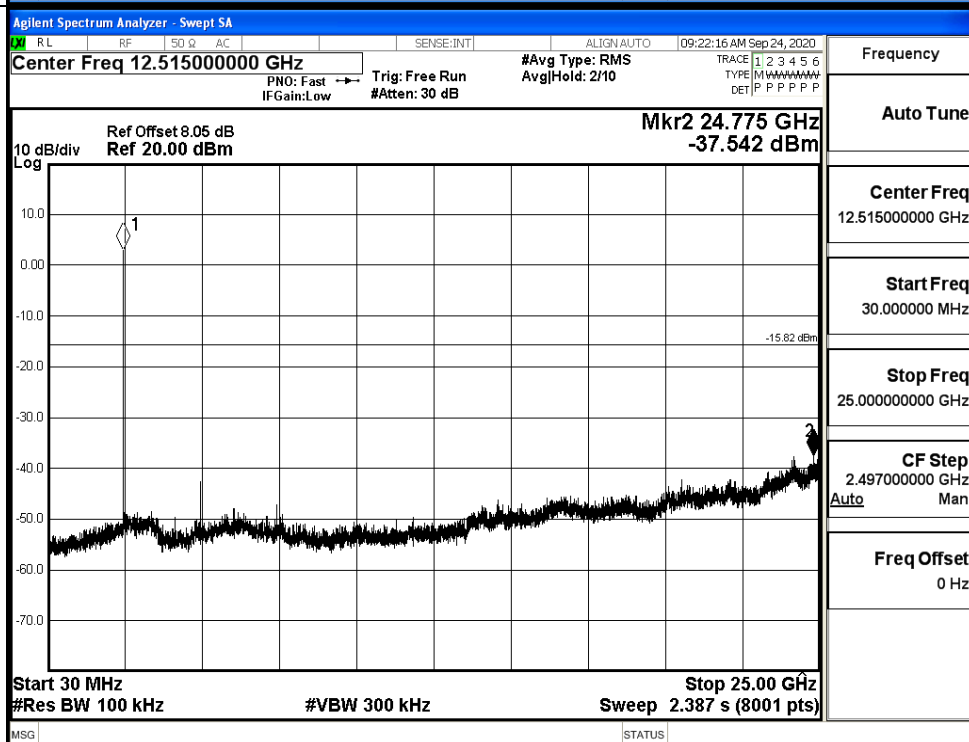


## GFSK HCH Graphs

Pref

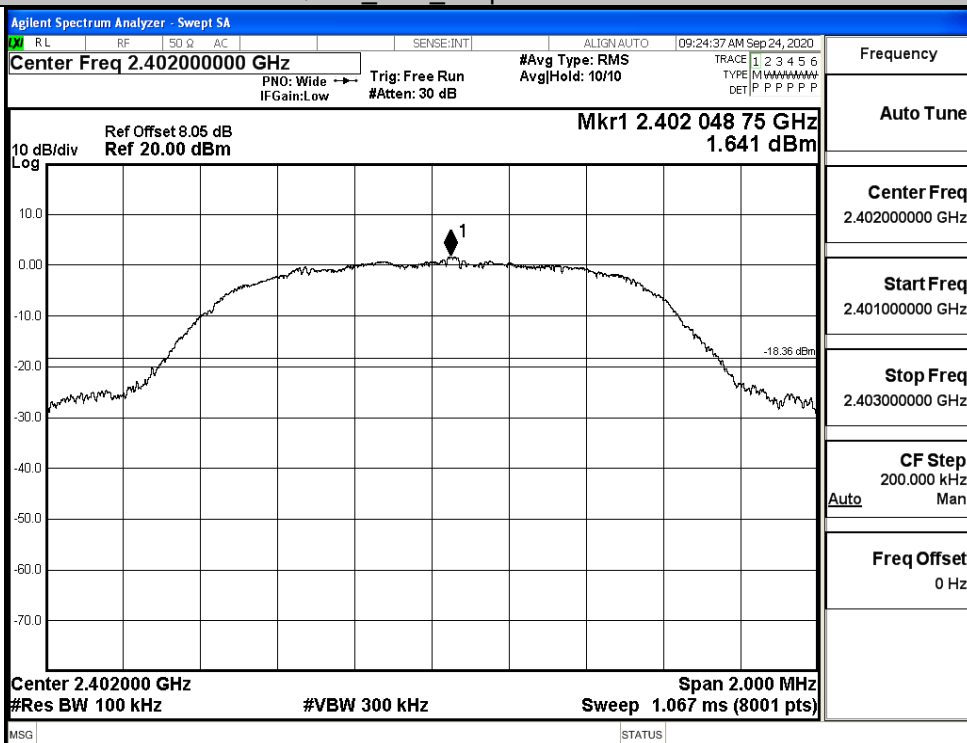


Puw

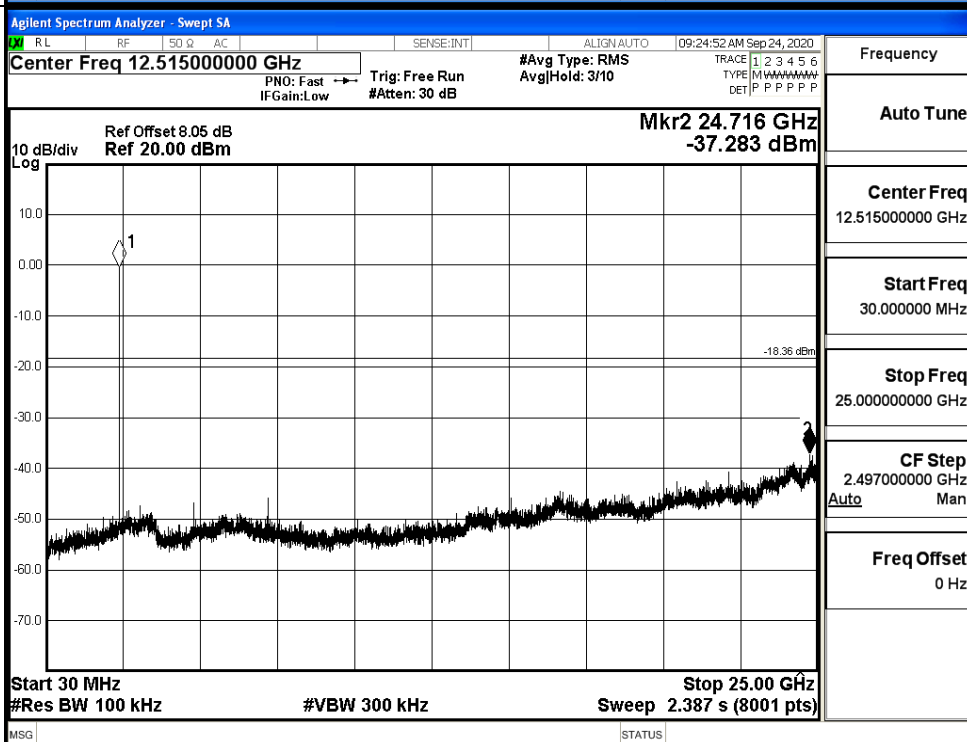


$\pi/4$ DQPSK LCH\_Graphs

Pref

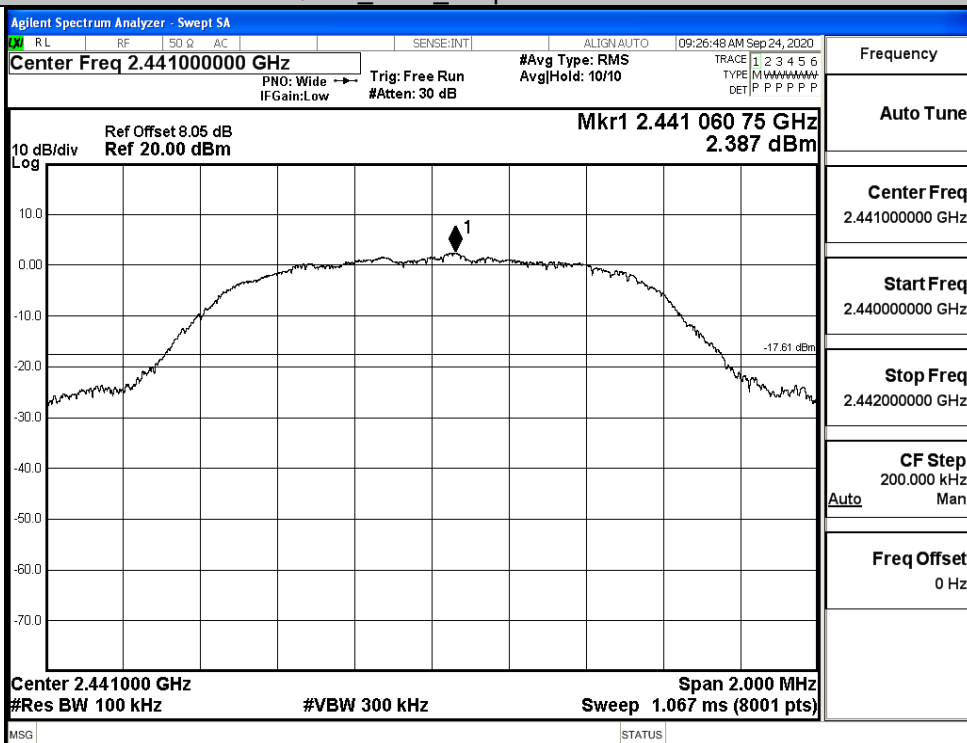


Puw

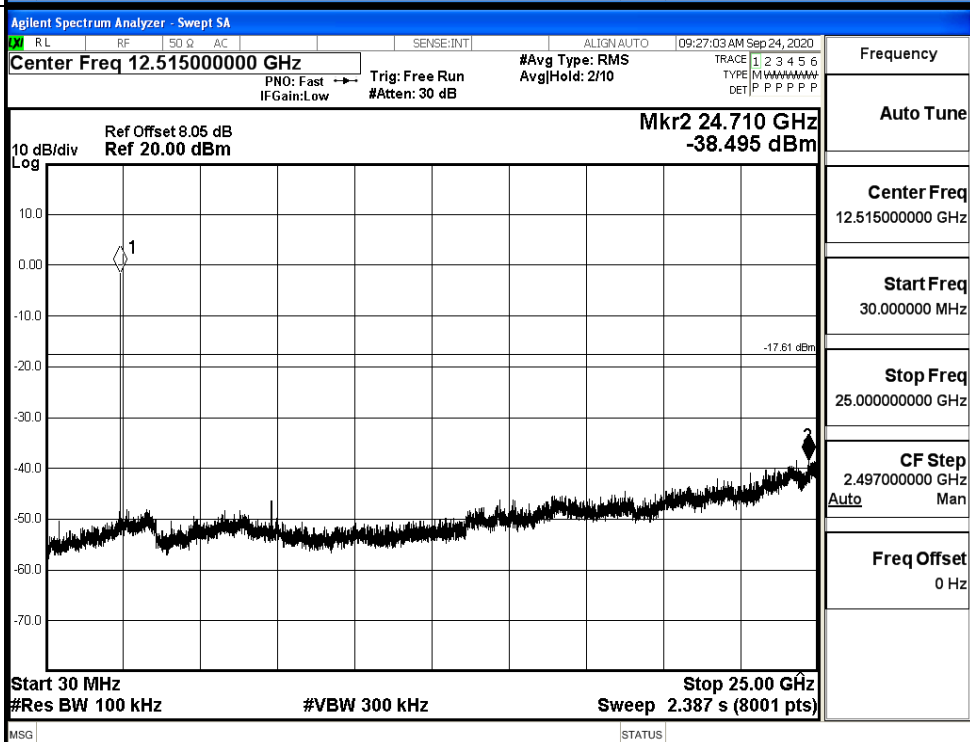


$\pi/4$ DQPSK\_MCH\_Graphs

Pref

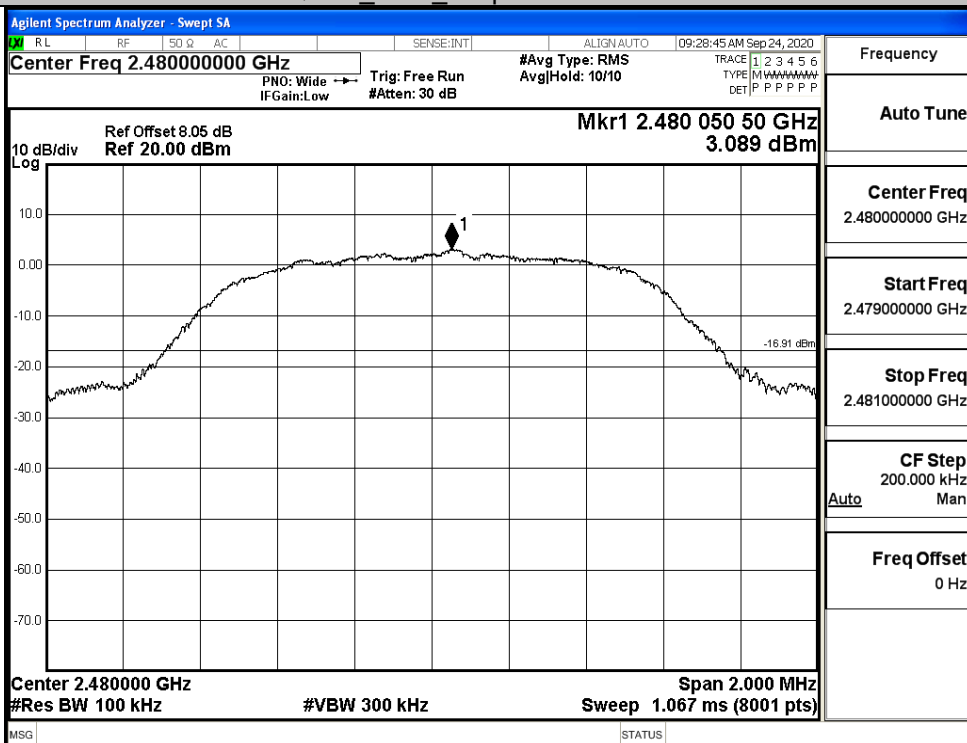


Puw

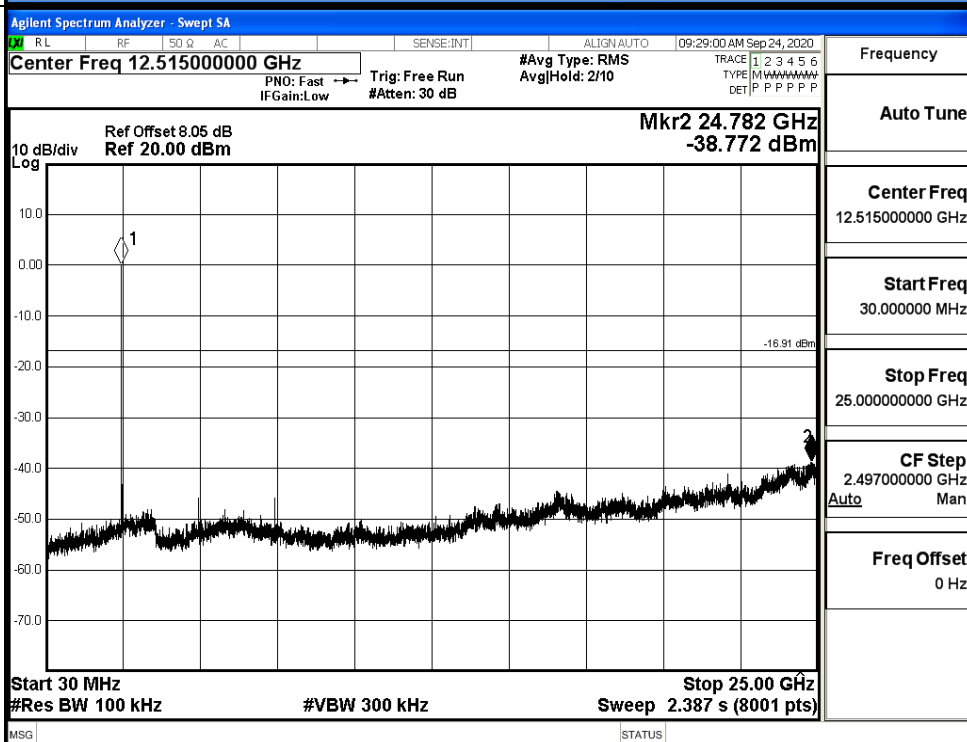


$\pi/4$ DQPSK\_HCH\_Graphs

Pref

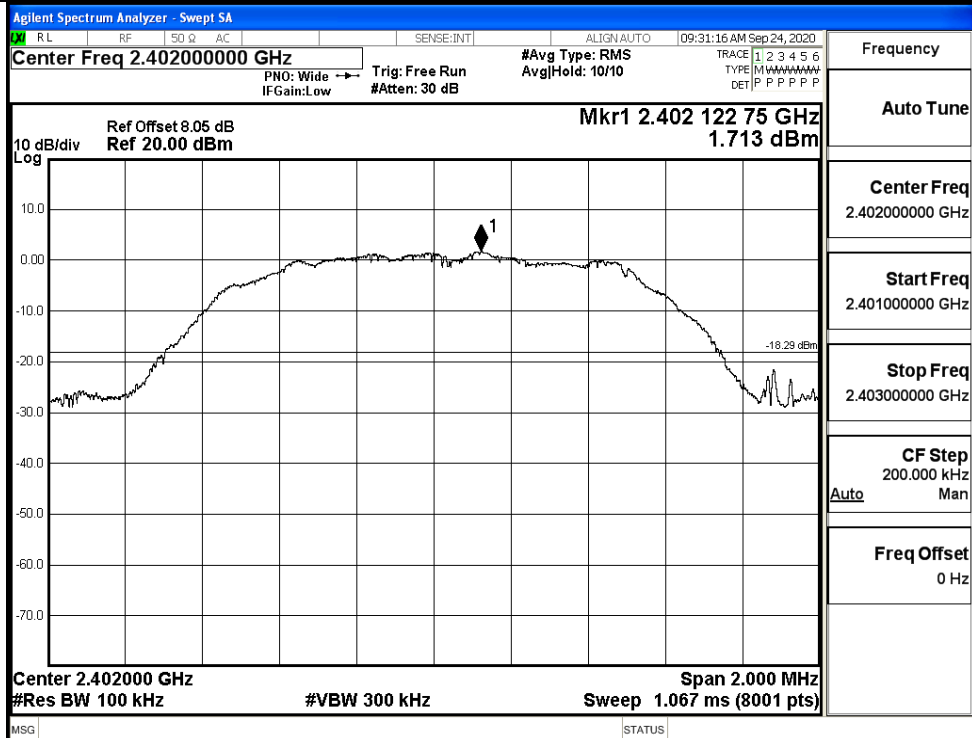


Puw

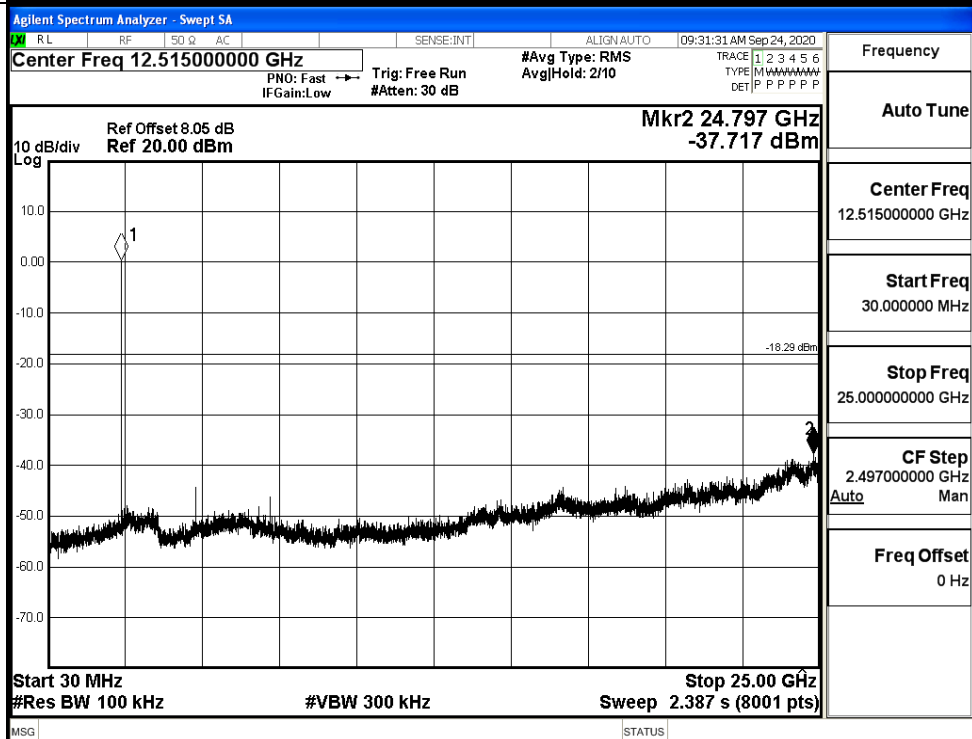


## 8DPSK\_LCH\_Graphs

Pref

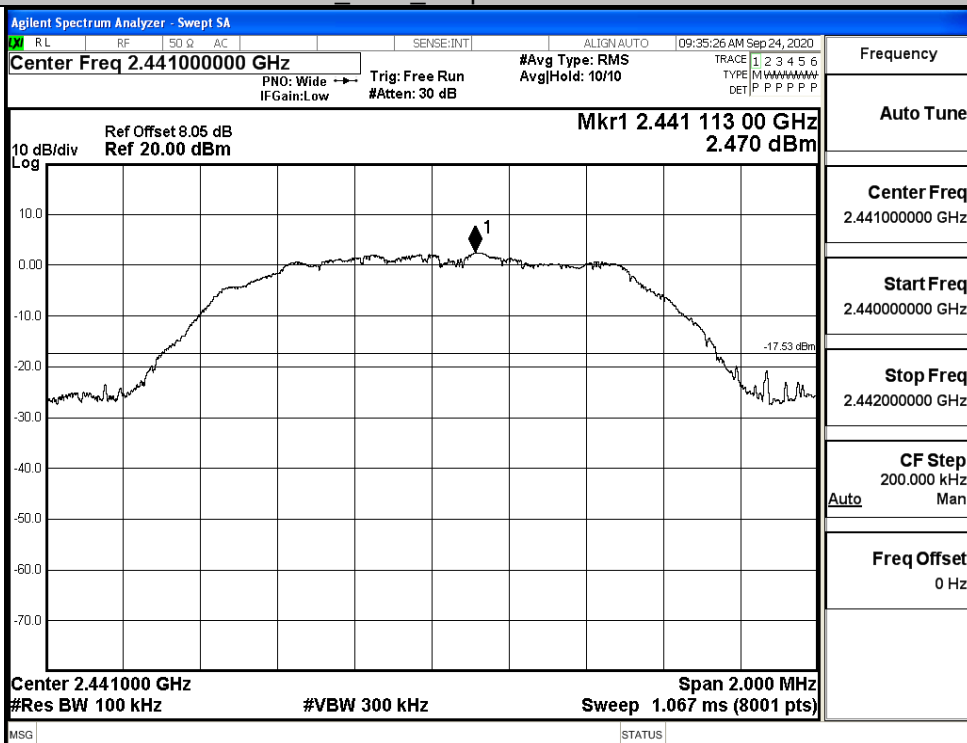


Puw

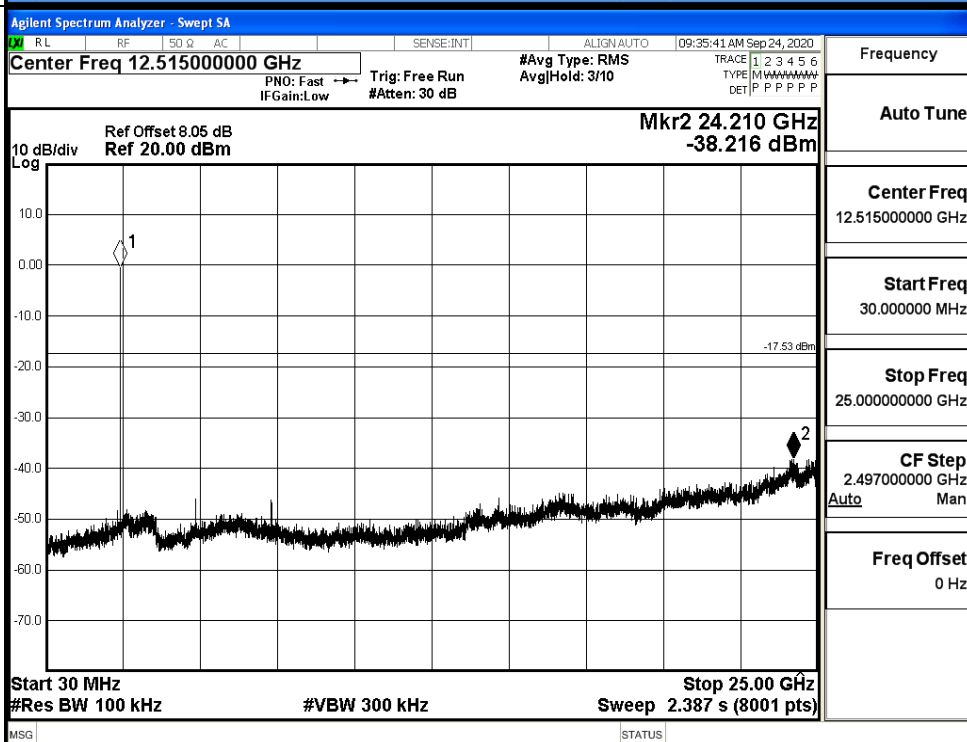


## 8DPSK MCH\_Graphs

Pref

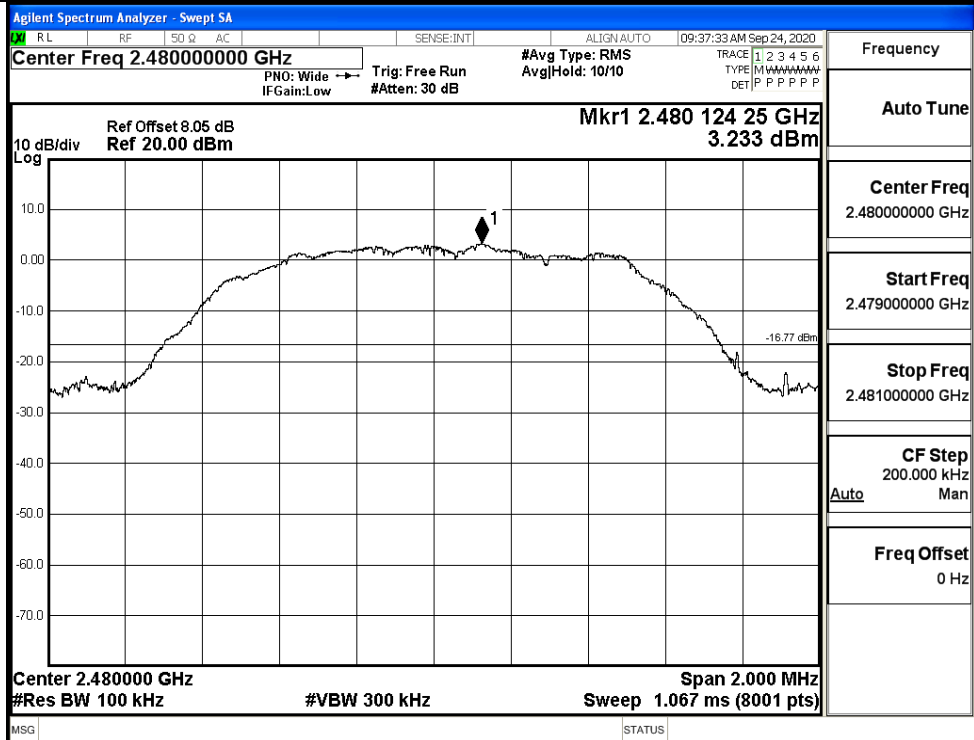


Puw

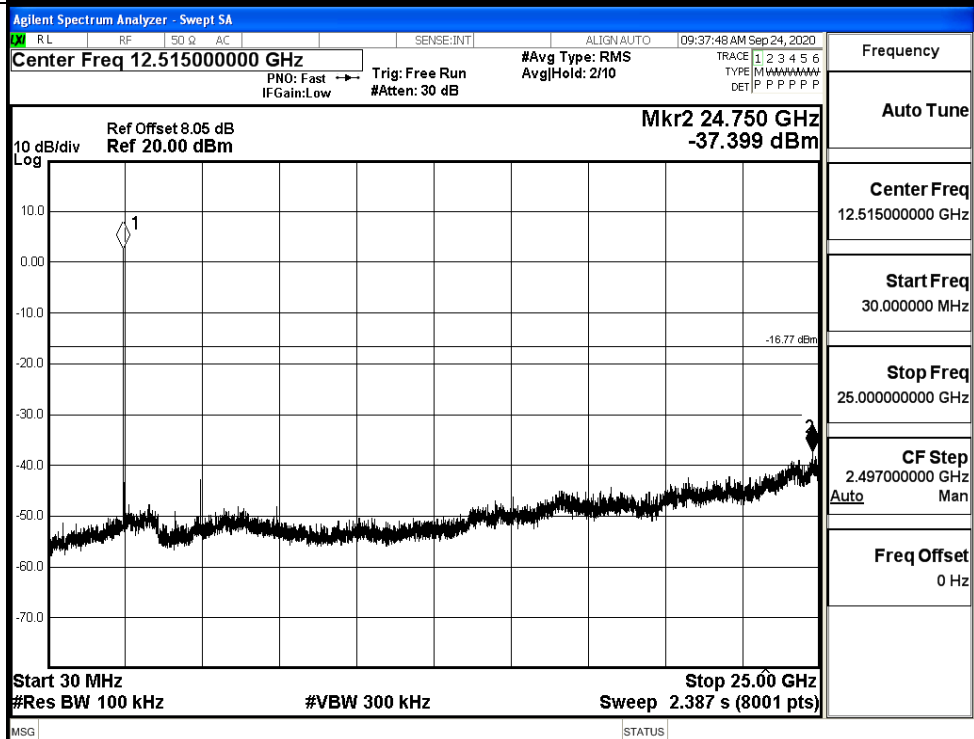


## 8DPSK\_HCH\_Graphs

Pref



Puw

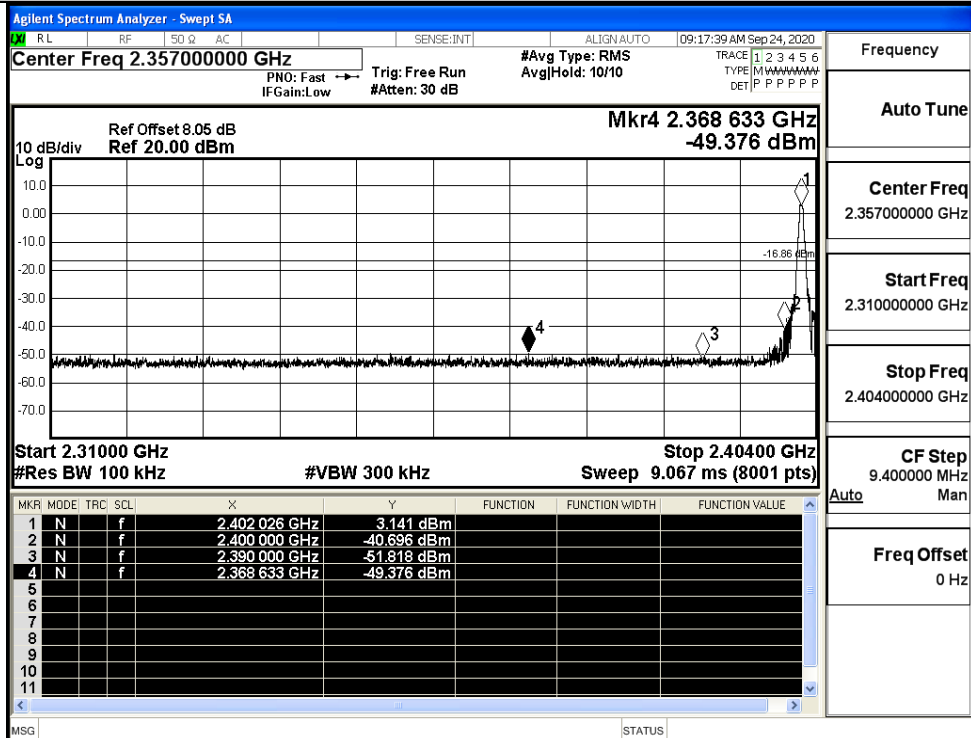


## A.7 Band-edge for RF Conducted Emissions

| Mode          | Channel | Carrier Frequency [MHz] | Carrier Power [dBm] | Frequency Hopping | Max Spurious Level [dBm] | Limit [dBm] | Verdict |
|---------------|---------|-------------------------|---------------------|-------------------|--------------------------|-------------|---------|
| GFSK          | LCH     | 2402                    | 3.141               | Off               | -49.376                  | -16.86      | PASS    |
|               |         |                         | 3.831               | On                | -47.884                  | -16.17      | PASS    |
|               | HCH     | 2480                    | 4.595               | Off               | -43.961                  | -15.41      | PASS    |
|               |         |                         | 4.645               | On                | -47.529                  | -15.36      | PASS    |
| $\pi/4$ DQPSK | LCH     | 2402                    | 1.927               | Off               | -49.383                  | -18.07      | PASS    |
|               |         |                         | 2.549               | On                | -49.169                  | -17.45      | PASS    |
|               | HCH     | 2480                    | 3.325               | Off               | -44.792                  | -16.68      | PASS    |
|               |         |                         | 3.131               | On                | -48.302                  | -16.87      | PASS    |
| 8DPSK         | LCH     | 2402                    | 2.034               | Off               | -49.606                  | -17.97      | PASS    |
|               |         |                         | 2.427               | On                | -48.808                  | -17.57      | PASS    |
|               | HCH     | 2480                    | 3.448               | Off               | -44.864                  | -16.55      | PASS    |
|               |         |                         | 3.300               | On                | -46.596                  | -16.7       | PASS    |

## Test Graphs

GFSK/LCH/No Hop

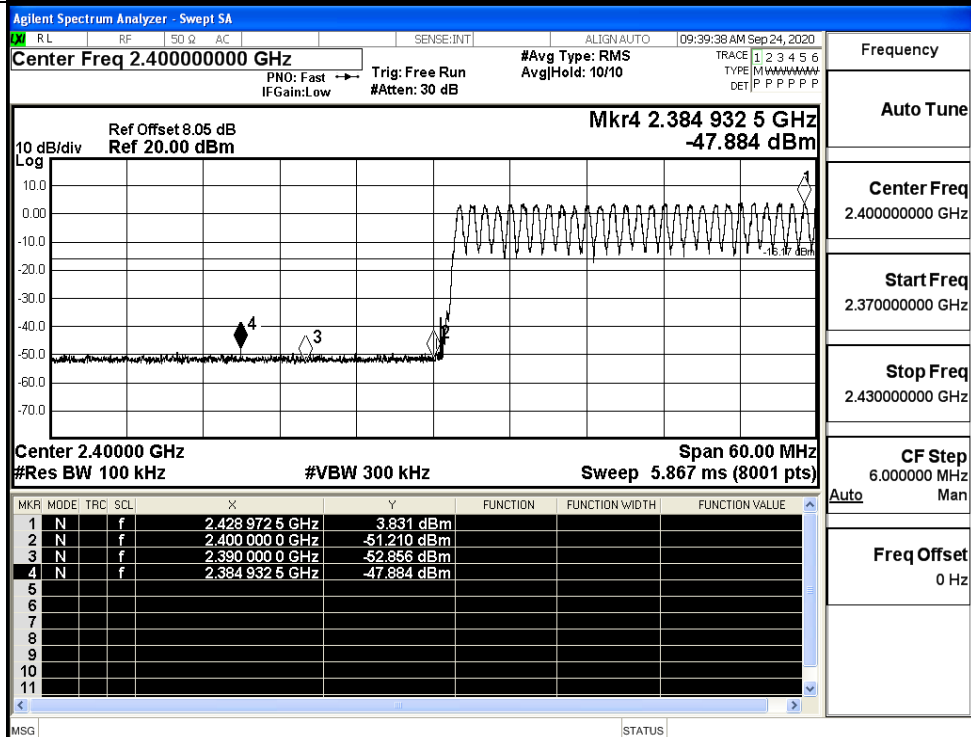


Frequency

Auto Tune

Center Freq  
2.357000000 GHzStart Freq  
2.310000000 GHzStop Freq  
2.404000000 GHzCF Step  
9.400000 MHz  
ManFreq Offset  
0 Hz

GFSK/LCH/Hop

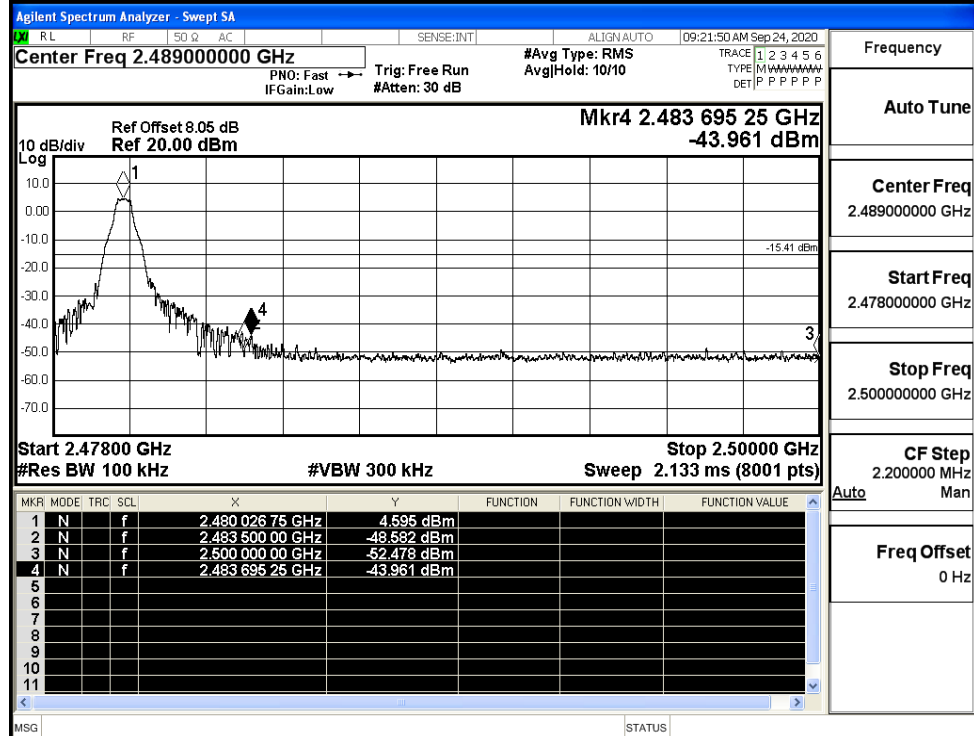


Frequency

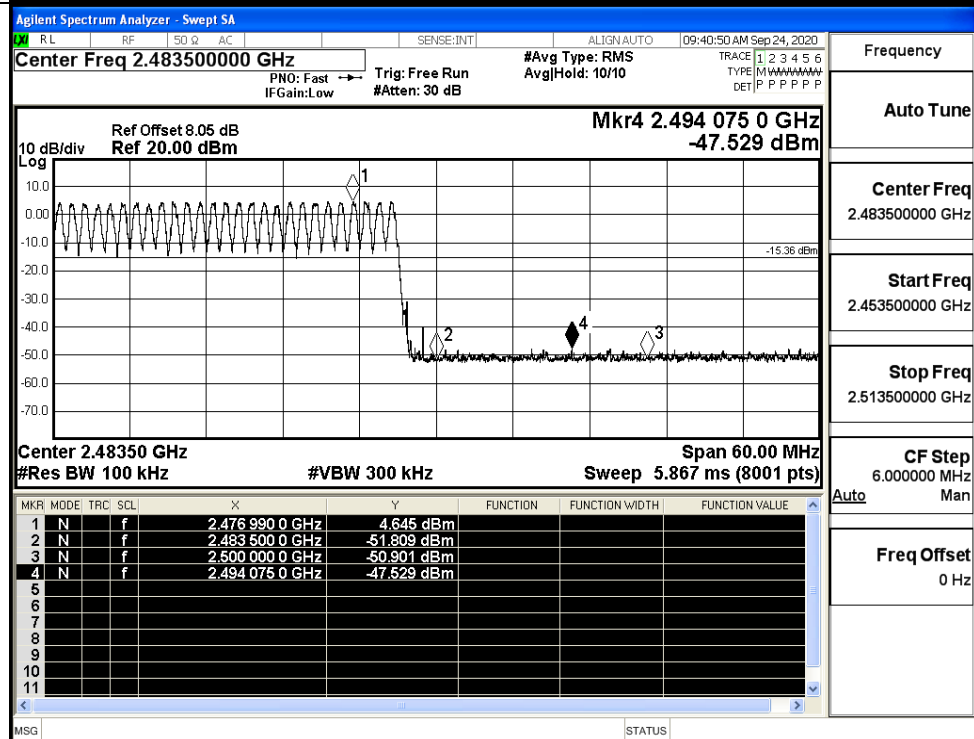
Auto Tune

Center Freq  
2.400000000 GHzStart Freq  
2.370000000 GHzStop Freq  
2.430000000 GHzCF Step  
6.000000 MHz  
ManFreq Offset  
0 Hz

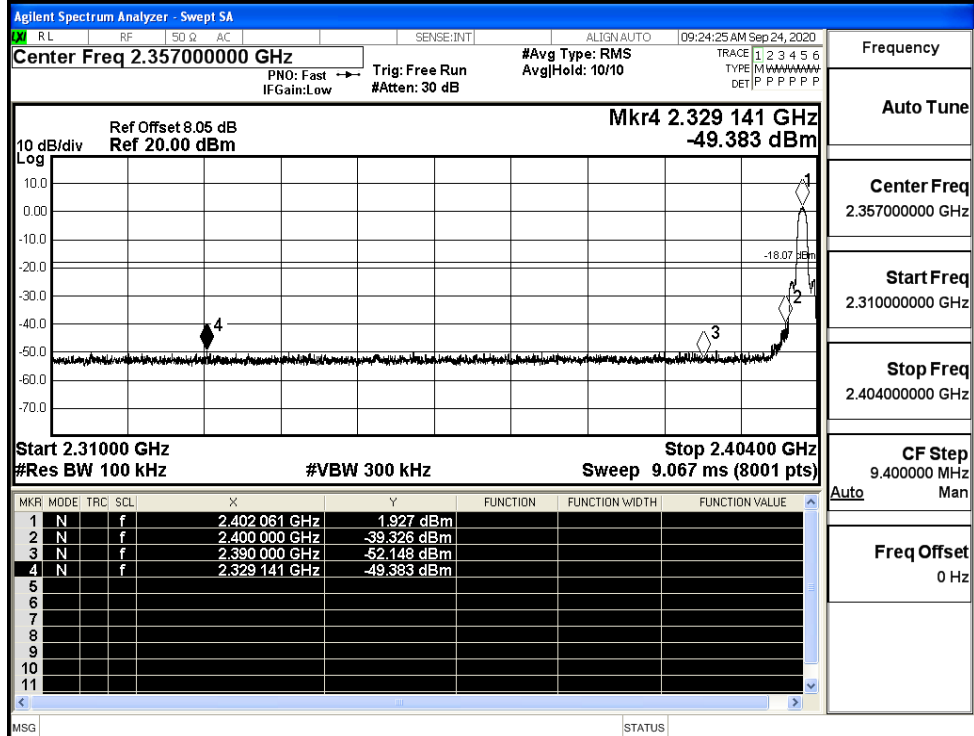
GFSK/HCH/No Hop



GFSK/HCH/Hop



$\pi/4$ DQPSK/LCH/No  
Hop



Frequency

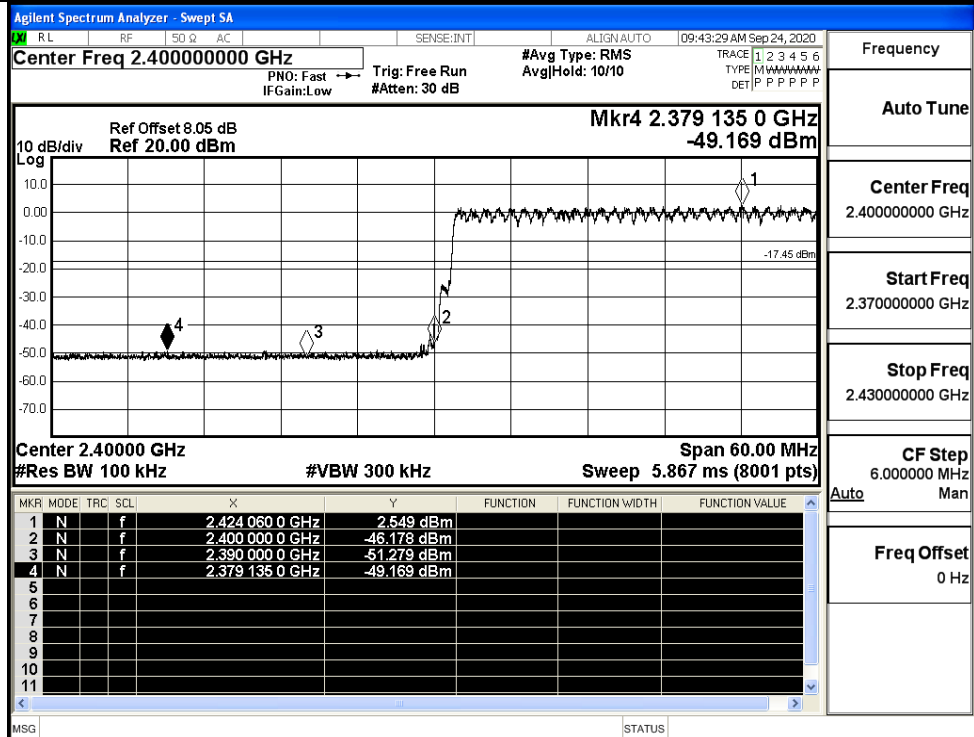
Auto Tune

Center Freq  
2.357000000 GHzStart Freq  
2.310000000 GHzStop Freq  
2.404000000 GHzCF Step  
9.400000 MHz

Auto

Freq Offset  
0 Hz

$\pi/4$ DQPSK/LCH/Hop



Frequency

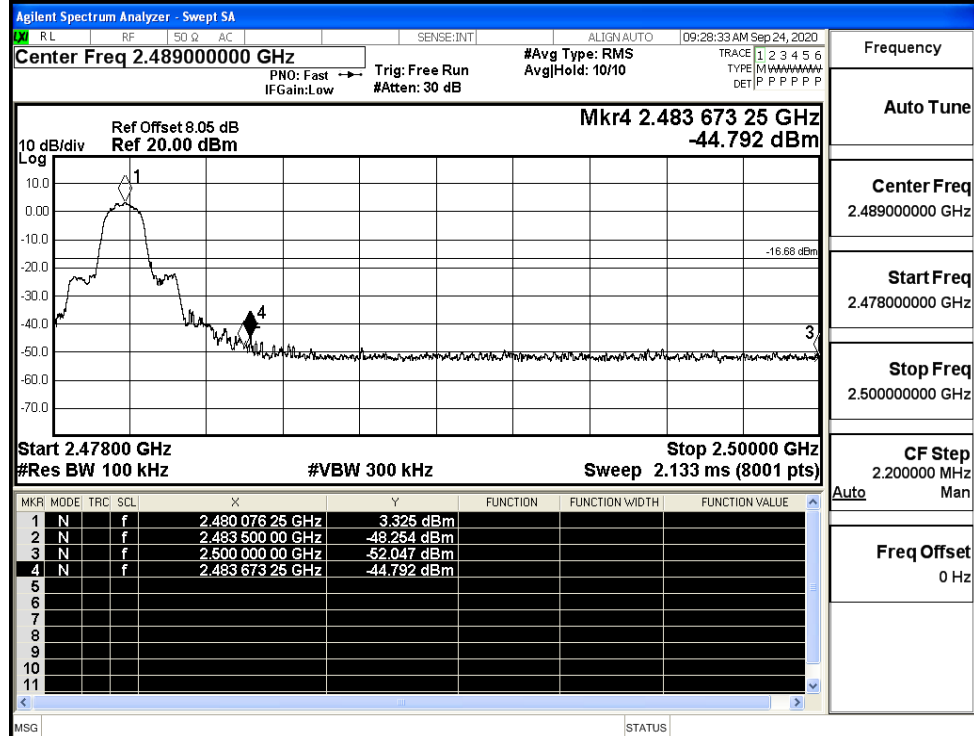
Auto Tune

Center Freq  
2.400000000 GHzStart Freq  
2.370000000 GHzStop Freq  
2.430000000 GHzCF Step  
6.000000 MHz

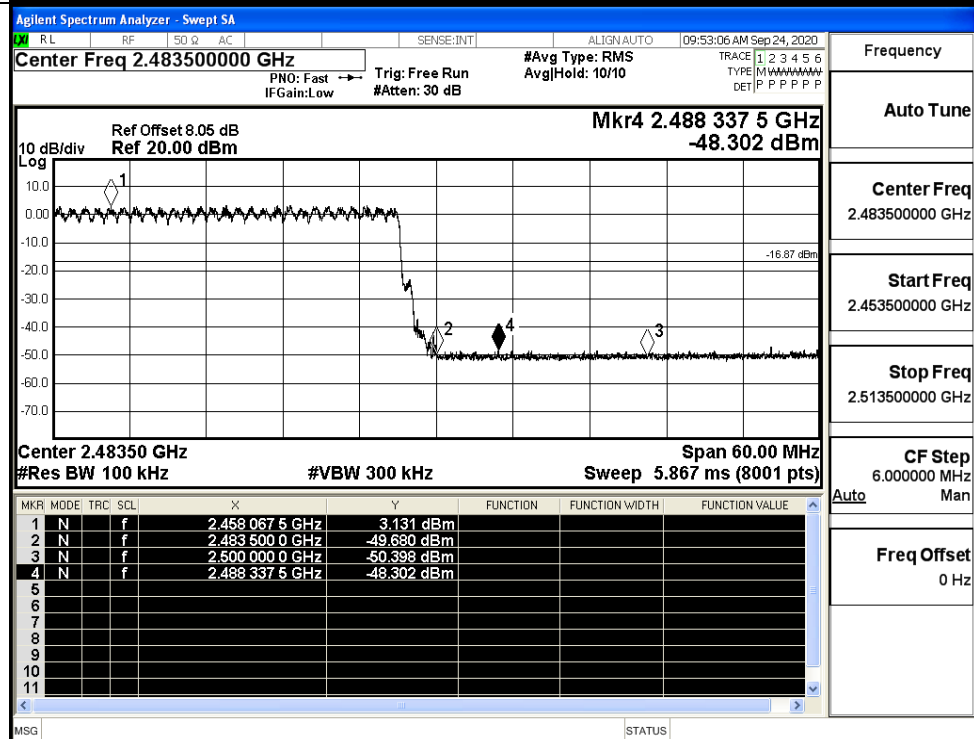
Auto

Freq Offset  
0 Hz

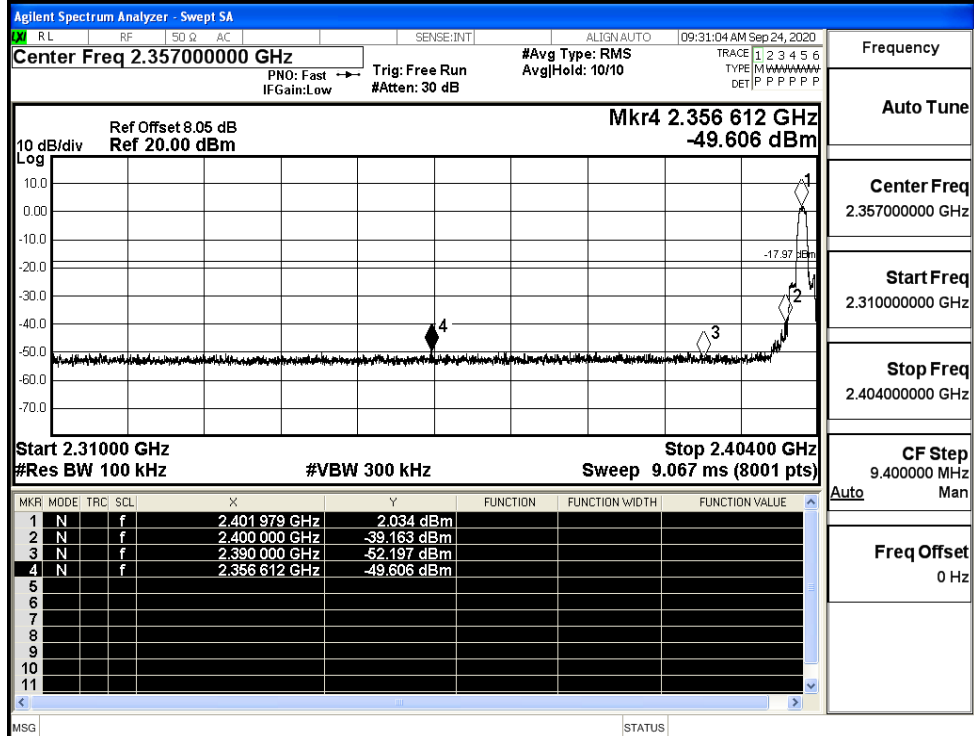
$\pi/4$ DQPSK/HCH/No  
Hop



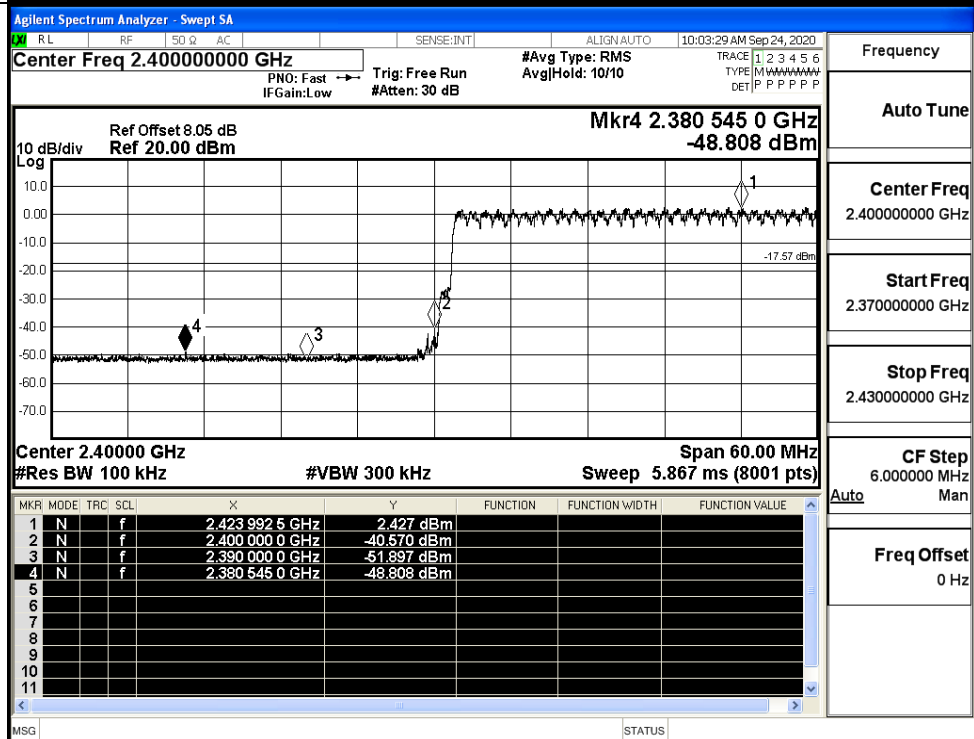
$\pi/4$ DQPSK/HCH/Hop



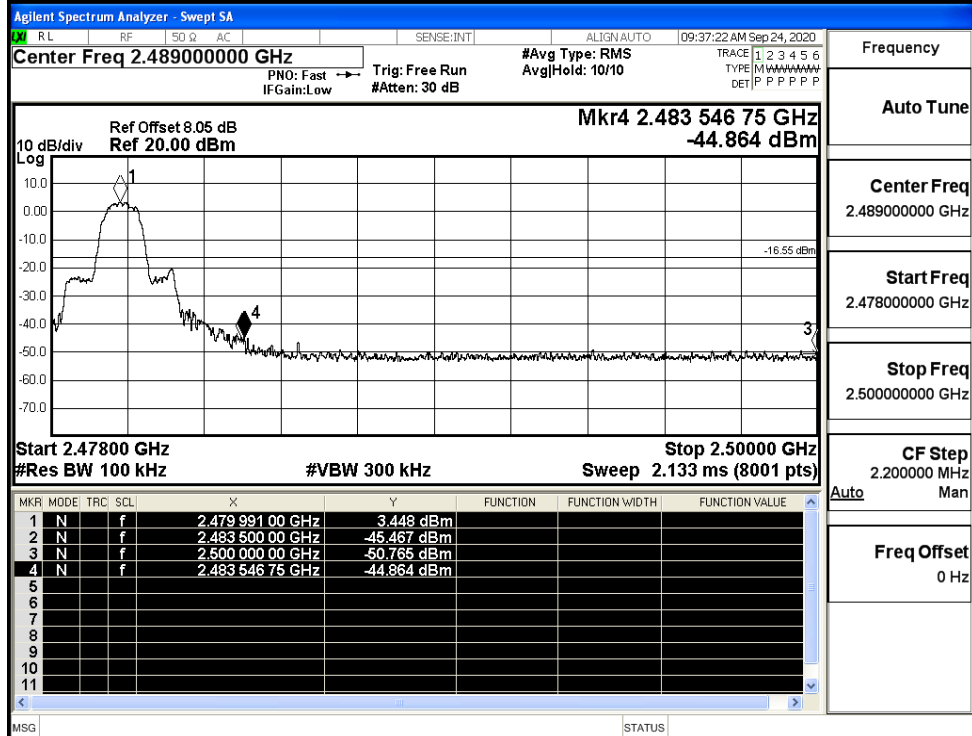
8DPSK/LCH/No Hop



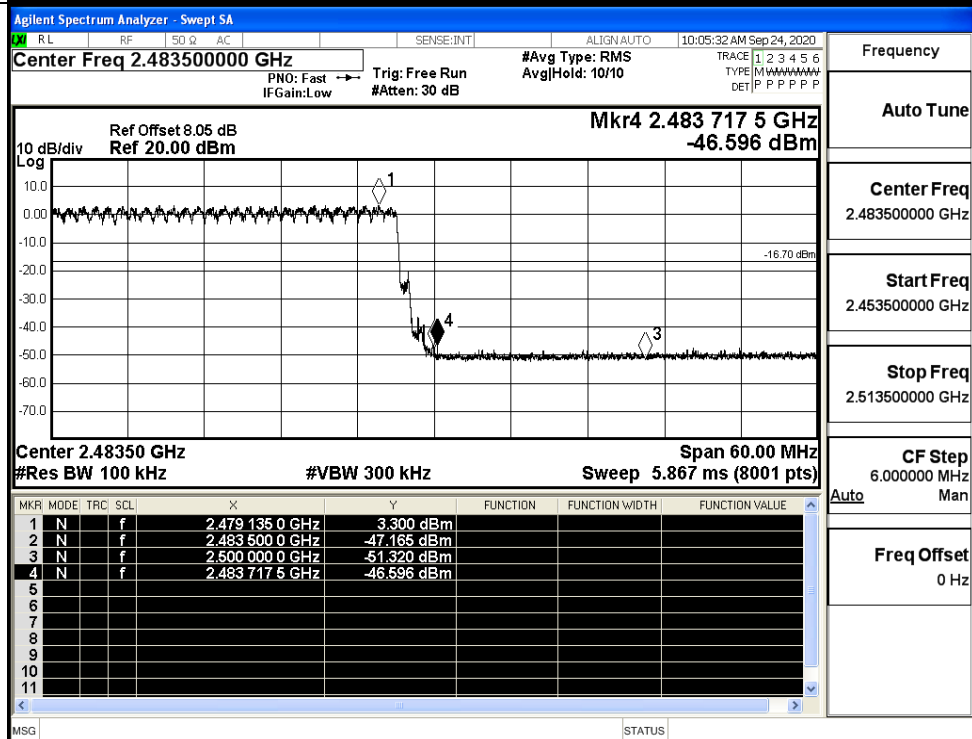
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



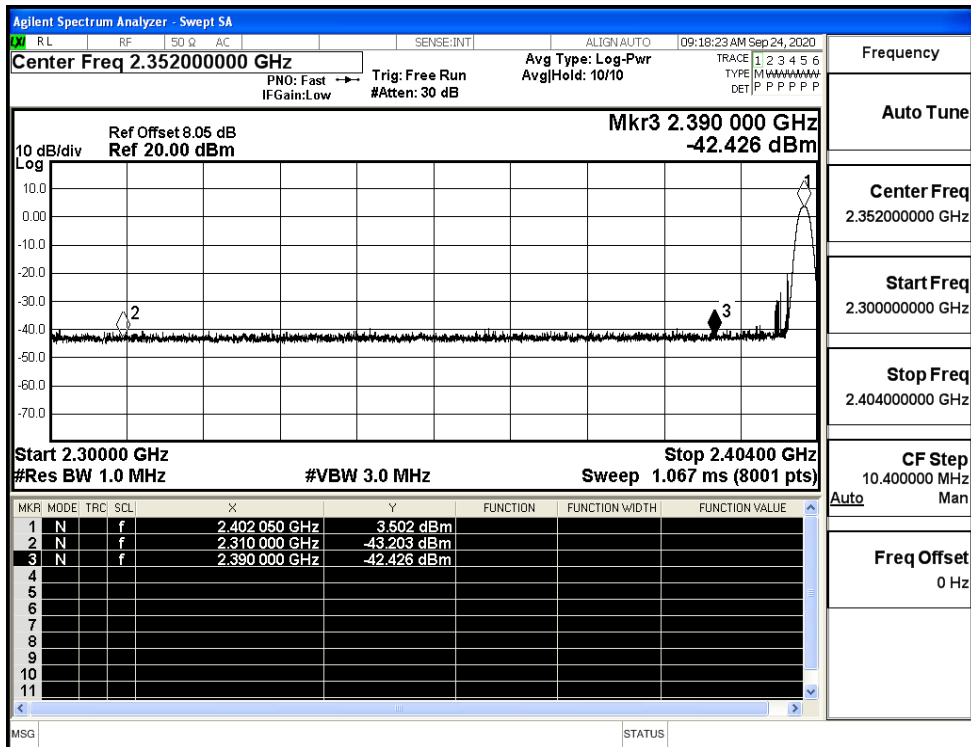
8DPSK/HCH/Hop



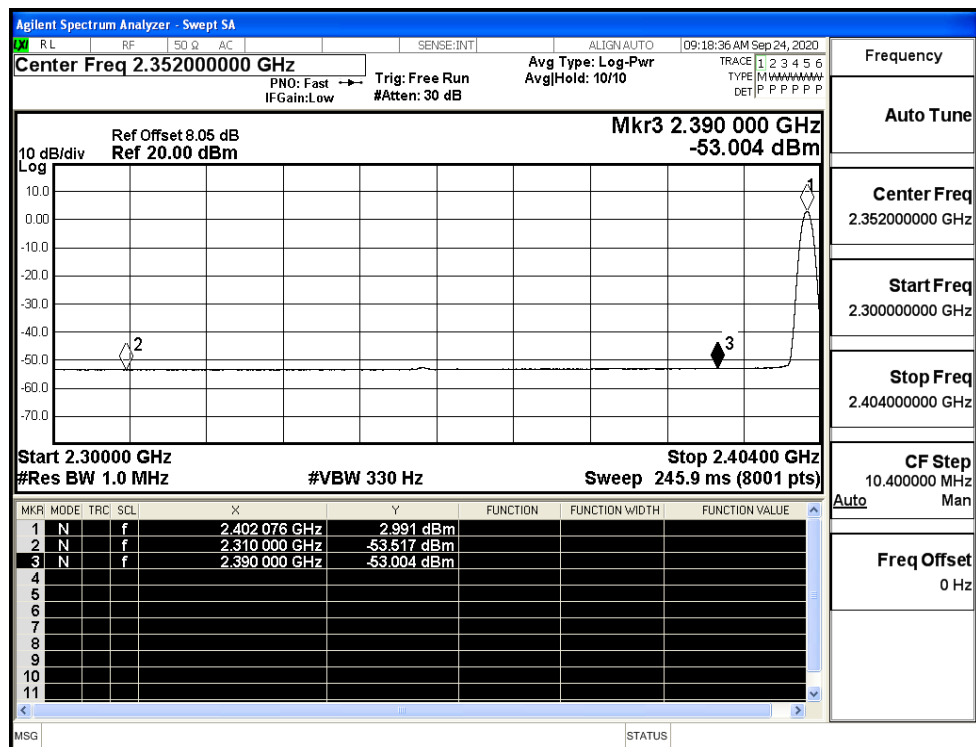
## A.8 Restrict-band band-edge measurements

| Test Mode     | Hopping | Freq.  | Power [dBm] | Gain | Ground Factor | E [dBuV/m] | Detector | Limit [dBuV/m] | Verdict |
|---------------|---------|--------|-------------|------|---------------|------------|----------|----------------|---------|
| GFSK          | Off     | 2310.0 | -43.20      | 2.0  | 0             | 52.05      | PEAK     | 74             | PASS    |
|               | Off     | 2310.0 | -53.52      | 2.0  | 0             | 41.74      | AV       | 54             | PASS    |
|               | Off     | 2390.0 | -42.43      | 2.0  | 0             | 52.83      | PEAK     | 74             | PASS    |
|               | Off     | 2390.0 | -53.00      | 2.0  | 0             | 42.25      | AV       | 54             | PASS    |
|               | Off     | 2483.5 | -42.14      | 2.0  | 0             | 53.12      | PEAK     | 74             | PASS    |
|               | Off     | 2483.5 | -51.75      | 2.0  | 0             | 43.51      | AV       | 54             | PASS    |
|               | Off     | 2500.0 | -41.22      | 2.0  | 0             | 54.04      | PEAK     | 74             | PASS    |
|               | Off     | 2500.0 | -52.38      | 2.0  | 0             | 42.88      | AV       | 54             | PASS    |
| $\pi/4$ DQPSK | Off     | 2310.0 | -43.23      | 2.0  | 0             | 52.03      | PEAK     | 74             | PASS    |
|               | Off     | 2310.0 | -53.33      | 2.0  | 0             | 41.93      | AV       | 54             | PASS    |
|               | Off     | 2390.0 | -43.09      | 2.0  | 0             | 52.17      | PEAK     | 74             | PASS    |
|               | Off     | 2390.0 | -52.92      | 2.0  | 0             | 42.34      | AV       | 54             | PASS    |
|               | Off     | 2483.5 | -36.62      | 2.0  | 0             | 58.64      | PEAK     | 74             | PASS    |
|               | Off     | 2483.5 | -49.47      | 2.0  | 0             | 45.79      | AV       | 54             | PASS    |
|               | Off     | 2500.0 | -42.07      | 2.0  | 0             | 53.18      | PEAK     | 74             | PASS    |
|               | Off     | 2500.0 | -52.28      | 2.0  | 0             | 42.98      | AV       | 54             | PASS    |
| 8DPSK         | Off     | 2310.0 | -43.33      | 2.0  | 0             | 51.93      | PEAK     | 74             | PASS    |
|               | Off     | 2310.0 | -53.26      | 2.0  | 0             | 42.00      | AV       | 54             | PASS    |
|               | Off     | 2390.0 | -40.87      | 2.0  | 0             | 54.39      | PEAK     | 74             | PASS    |
|               | Off     | 2390.0 | -52.92      | 2.0  | 0             | 42.34      | AV       | 54             | PASS    |
|               | Off     | 2483.5 | -36.00      | 2.0  | 0             | 59.26      | PEAK     | 74             | PASS    |
|               | Off     | 2483.5 | -49.52      | 2.0  | 0             | 45.74      | AV       | 54             | PASS    |
|               | Off     | 2500.0 | -41.50      | 2.0  | 0             | 53.76      | PEAK     | 74             | PASS    |
|               | Off     | 2500.0 | -52.10      | 2.0  | 0             | 43.16      | AV       | 54             | PASS    |

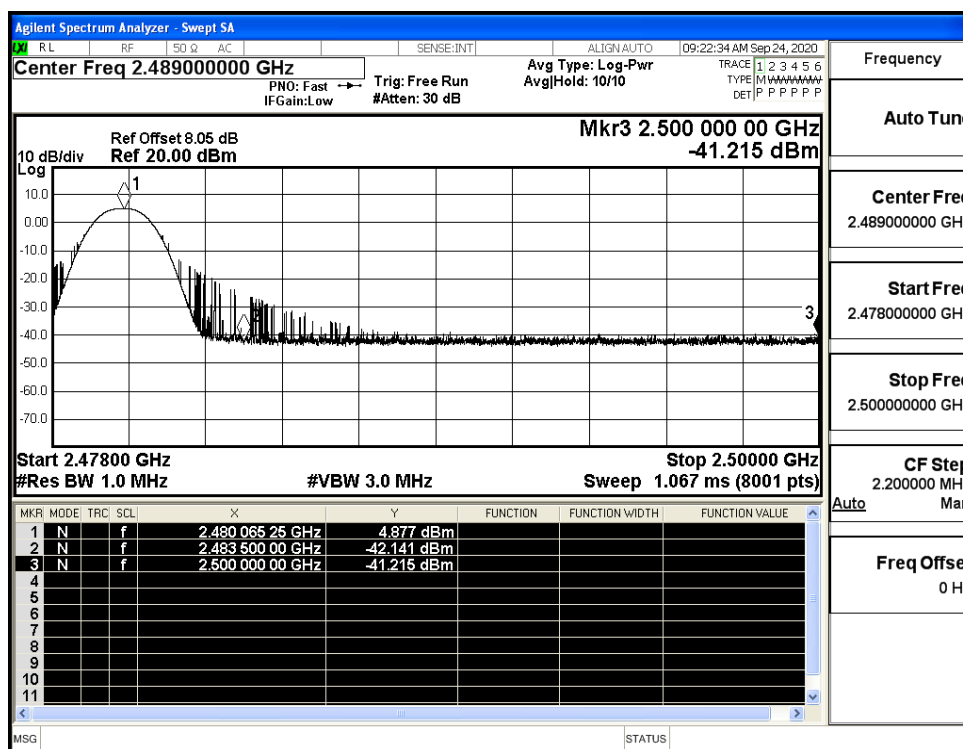
## Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (Low Channel)



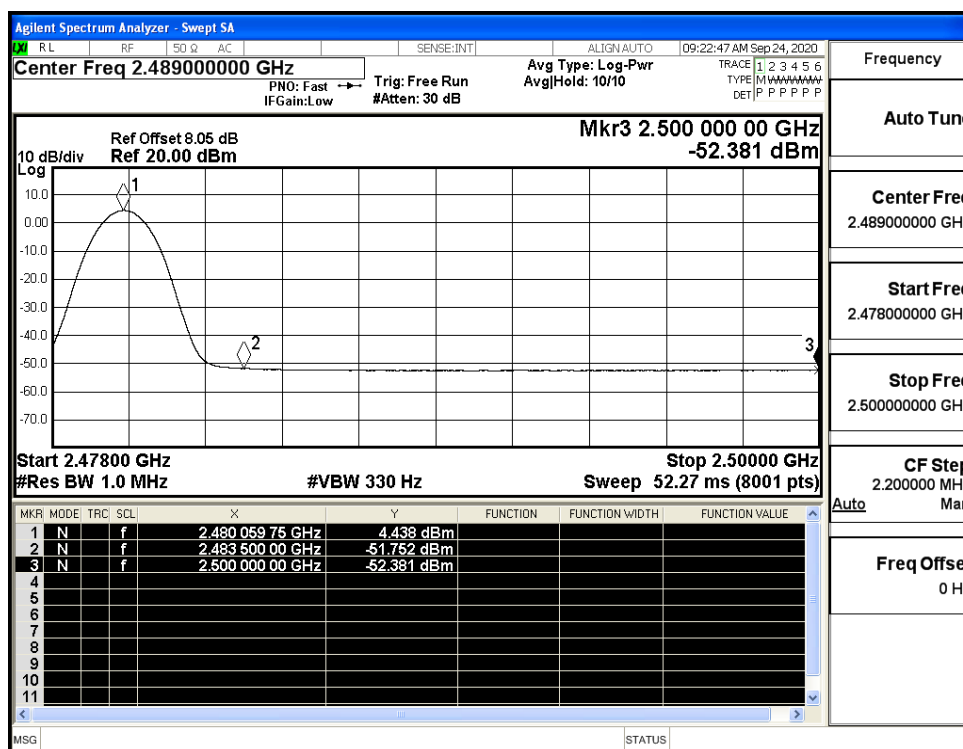
## Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (Low Channel)

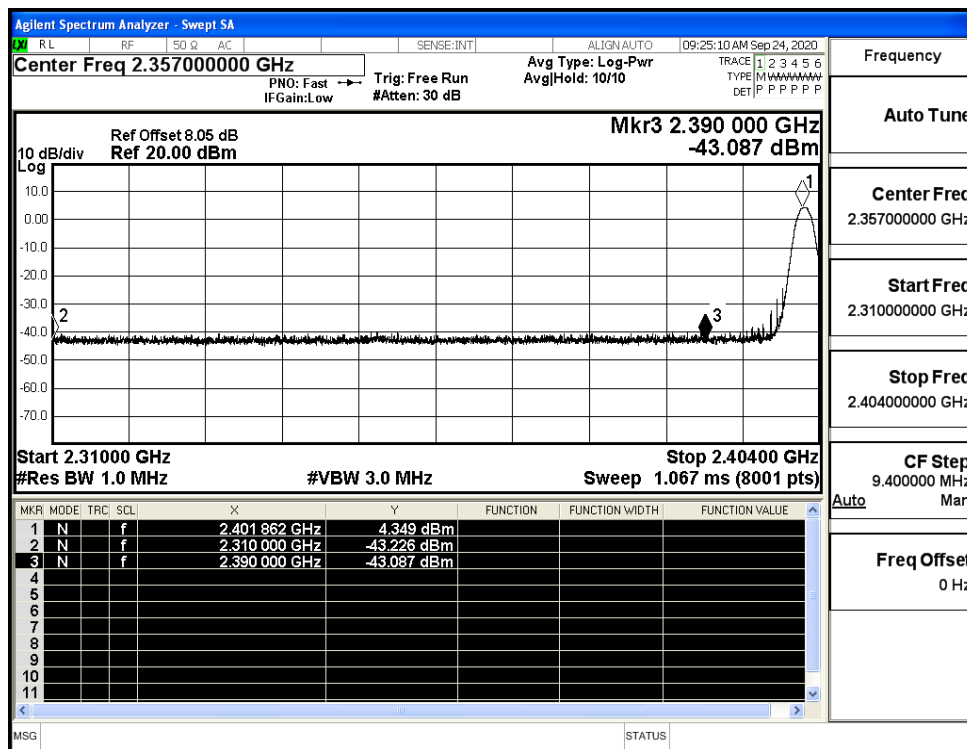
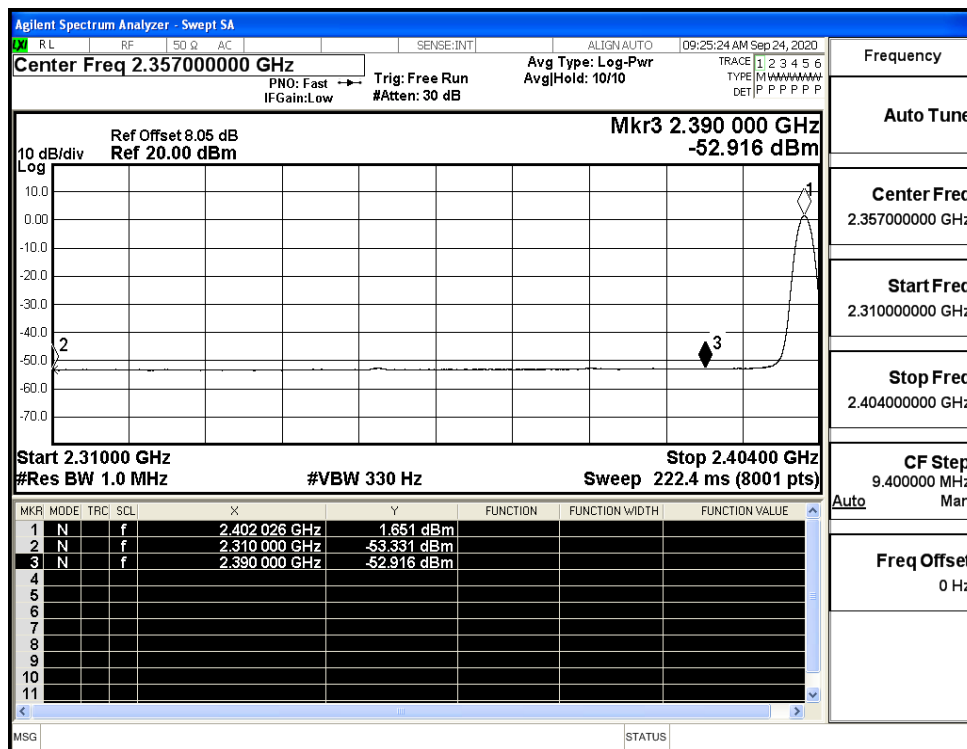


## Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (High Channel)

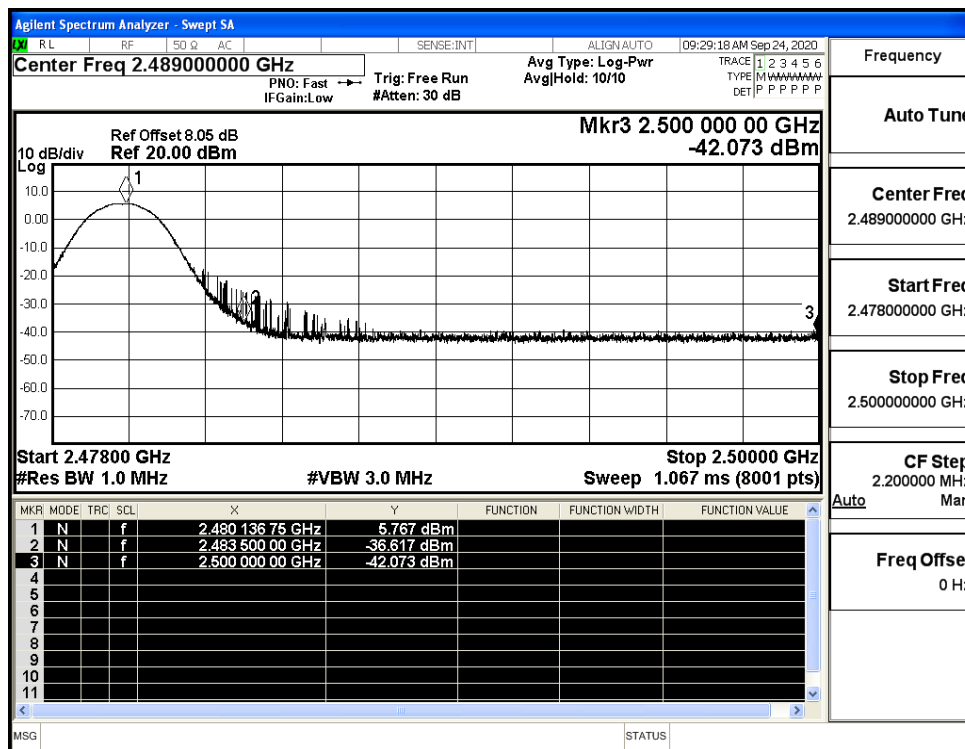


## Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (High Channel)

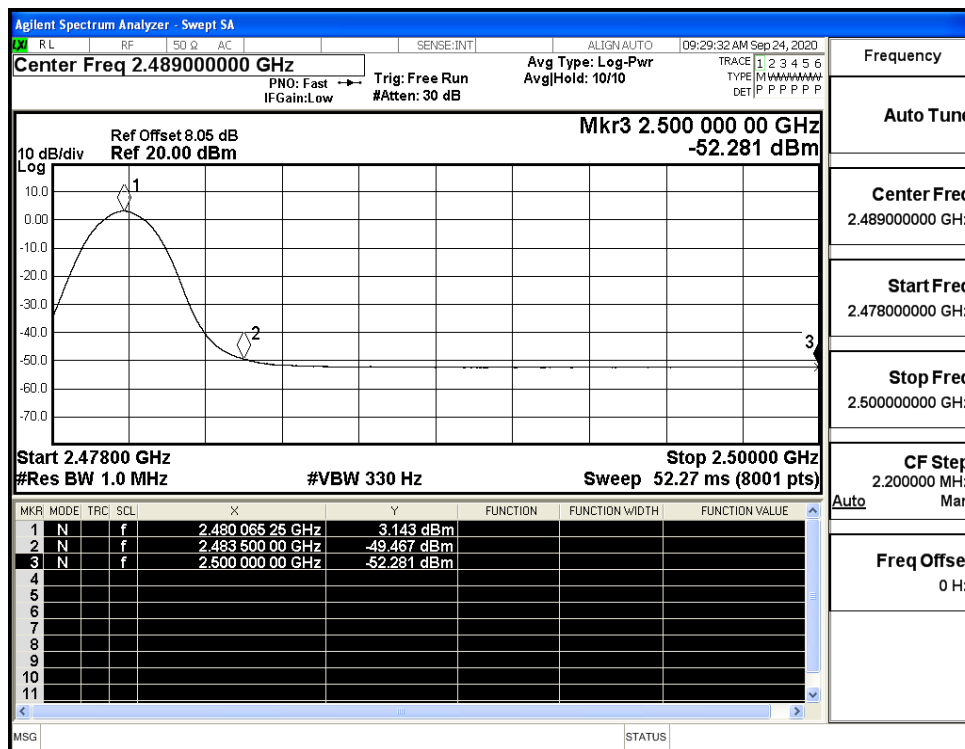


Restrict-band band-edge measurements\_Hopping Off  $\pi/4$ -DQPSK\_PEAK (Low Channel)Restrict-band band-edge measurements\_Hopping Off  $\pi/4$ -DQPSK\_Average (Low Channel)

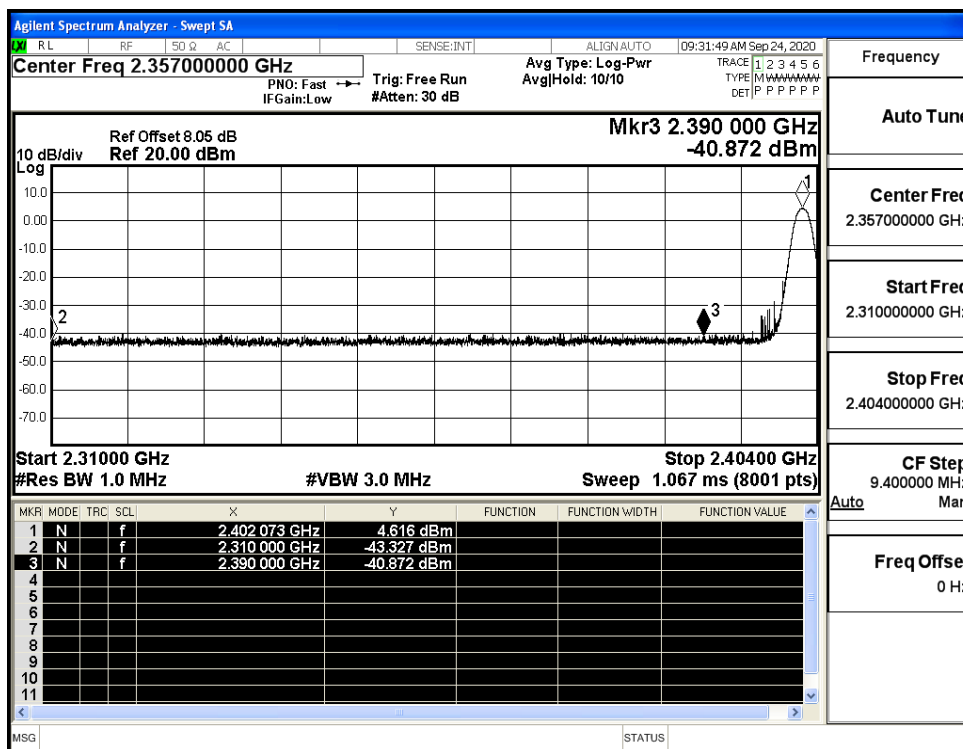
## Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_PEAK (High Channel)



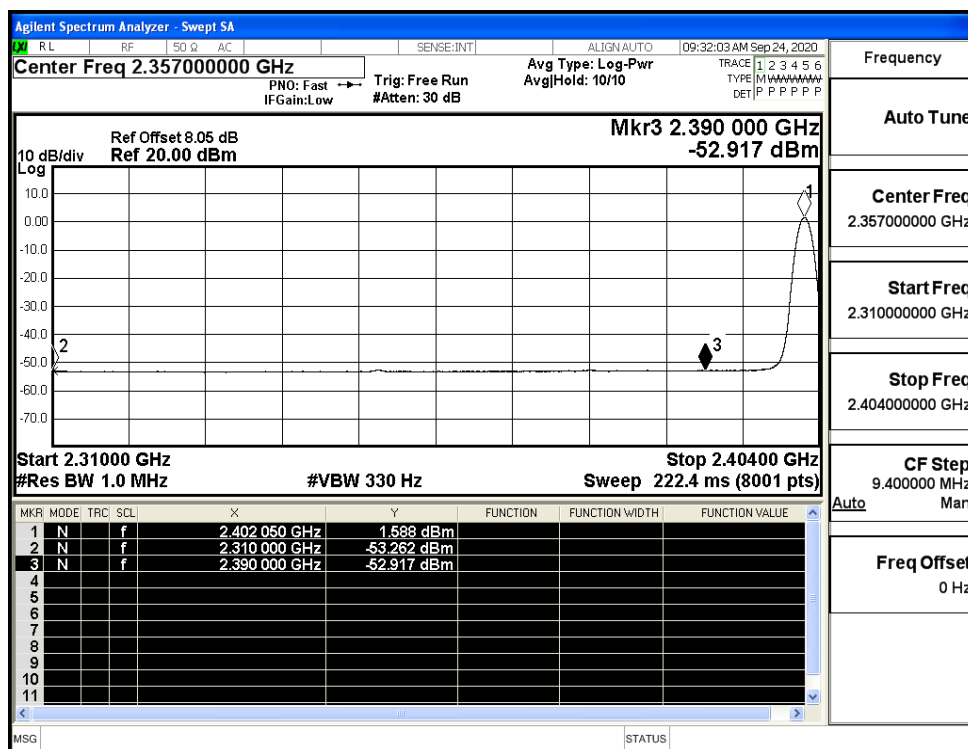
## Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_Average (High Channel)



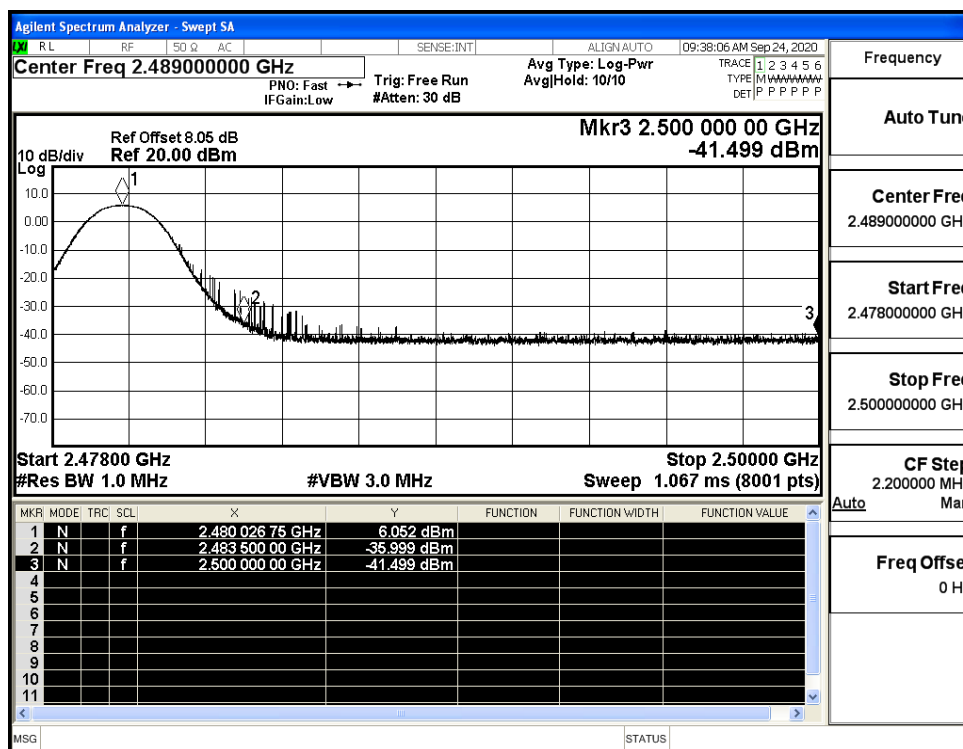
## Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_PEAK (Low Channel)



## Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_Average (Low Channel)



## Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_PEAK (High Channel)



## Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_Average (High Channel)

