

## Appendix B

### RF Test Data for BT V4.0 (BDR/EDR) (Conducted Measurement)

Product Name: Notebook computer

Trade Mark: THOMSON

Test Model: WWNEO10A-2BK32

#### Environmental Conditions

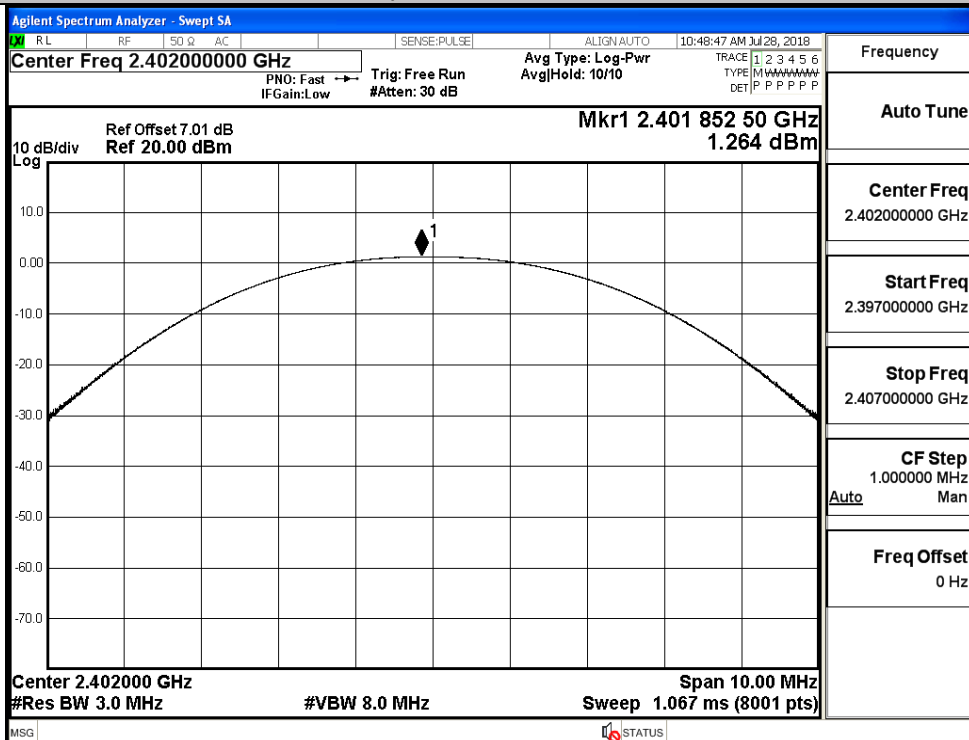
|                    |             |
|--------------------|-------------|
| Temperature:       | 22.7° C     |
| Relative Humidity: | 53.5%       |
| ATM Pressure:      | 100.0 kPa   |
| Test Engineer:     | WangChuang  |
| Supervised by:     | Jayden.Zhuo |

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

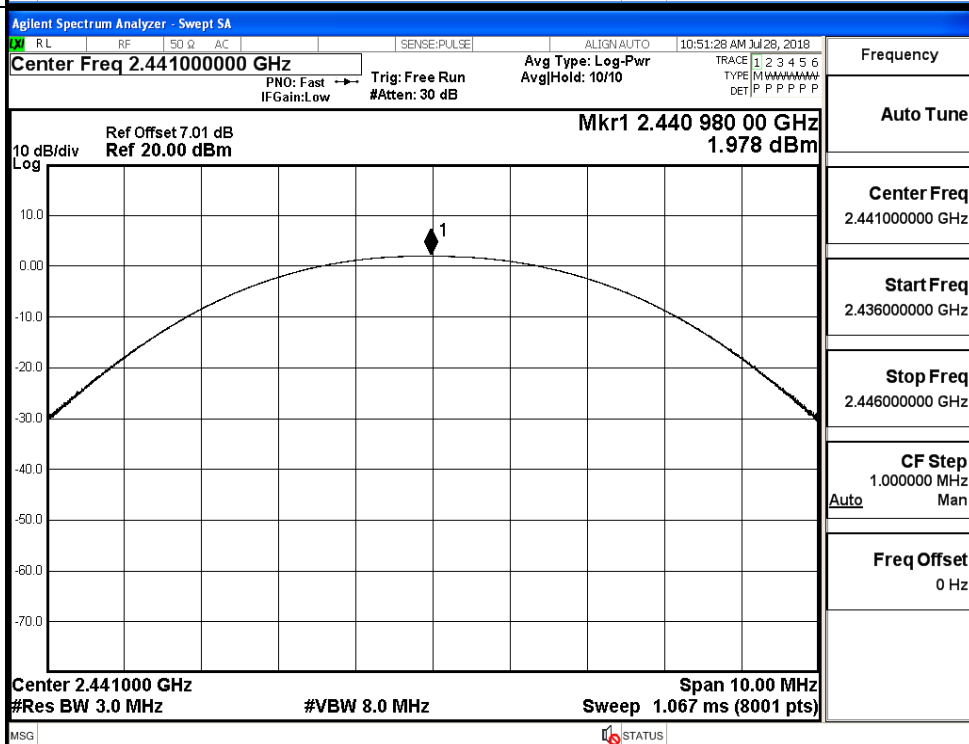
| Mode          | Channel. | Maximum Peak Output Power [dBm] | Limit [dBm] | Verdict |
|---------------|----------|---------------------------------|-------------|---------|
| GFSK          | LCH      | 1.264                           | 21          | PASS    |
|               | MCH      | 1.978                           | 21          | PASS    |
|               | HCH      | 2.271                           | 21          | PASS    |
| $\pi/4$ DQPSK | LCH      | 0.692                           | 21          | PASS    |
|               | MCH      | 1.367                           | 21          | PASS    |
|               | HCH      | 1.357                           | 21          | PASS    |
| 8DPSK         | LCH      | 0.760                           | 21          | PASS    |
|               | MCH      | 1.445                           | 21          | PASS    |
|               | HCH      | 1.406                           | 21          | PASS    |

## Test Graphs

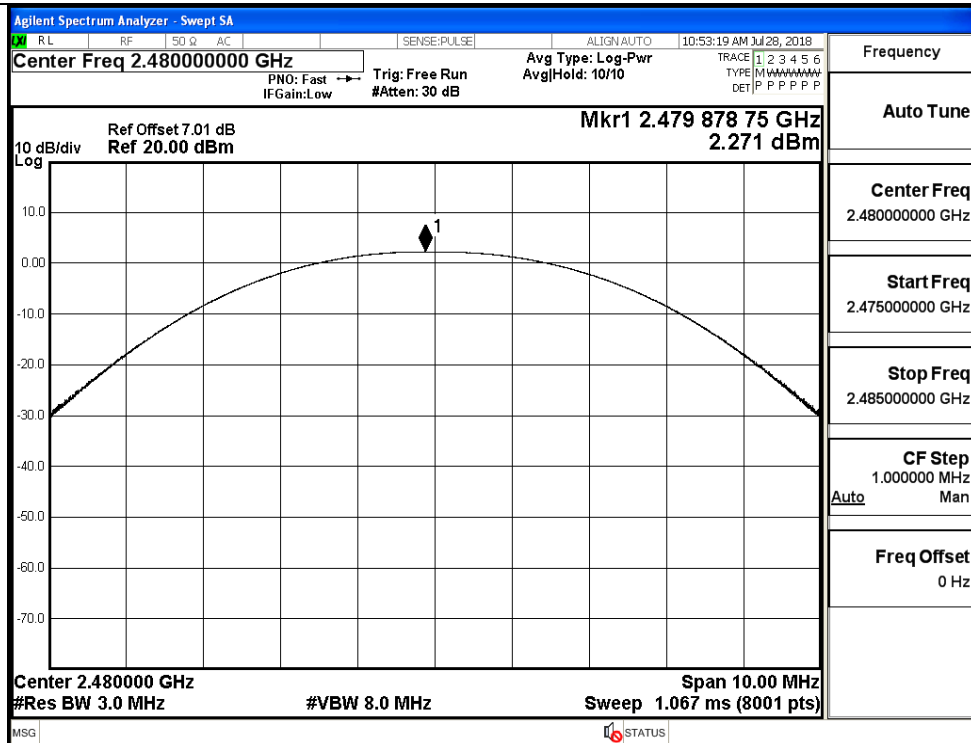
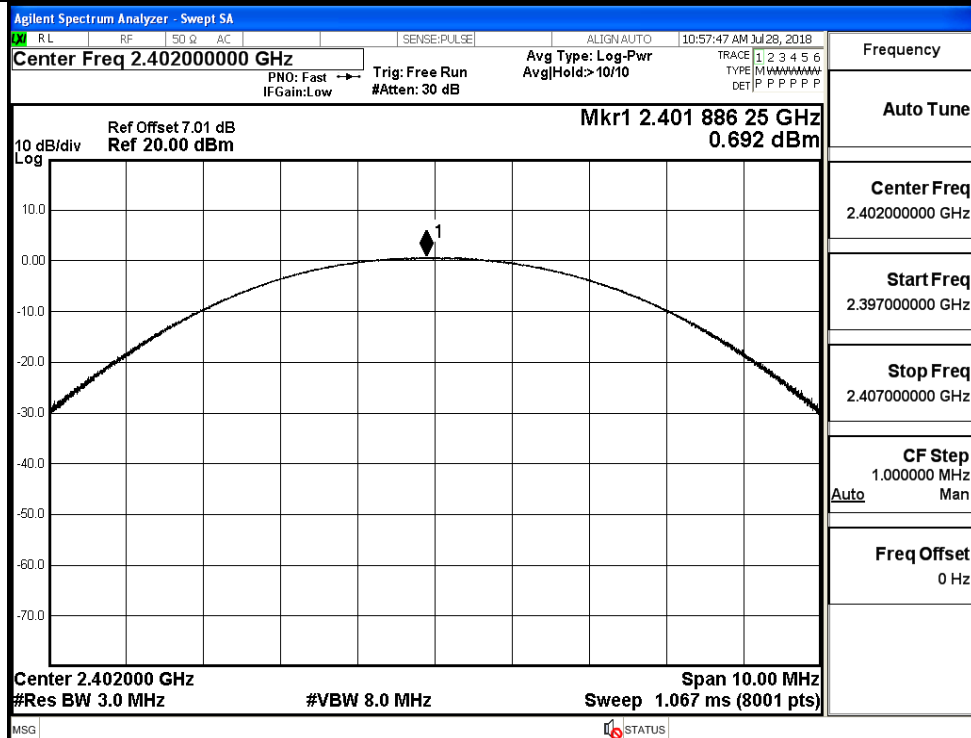
GFSK/LCH

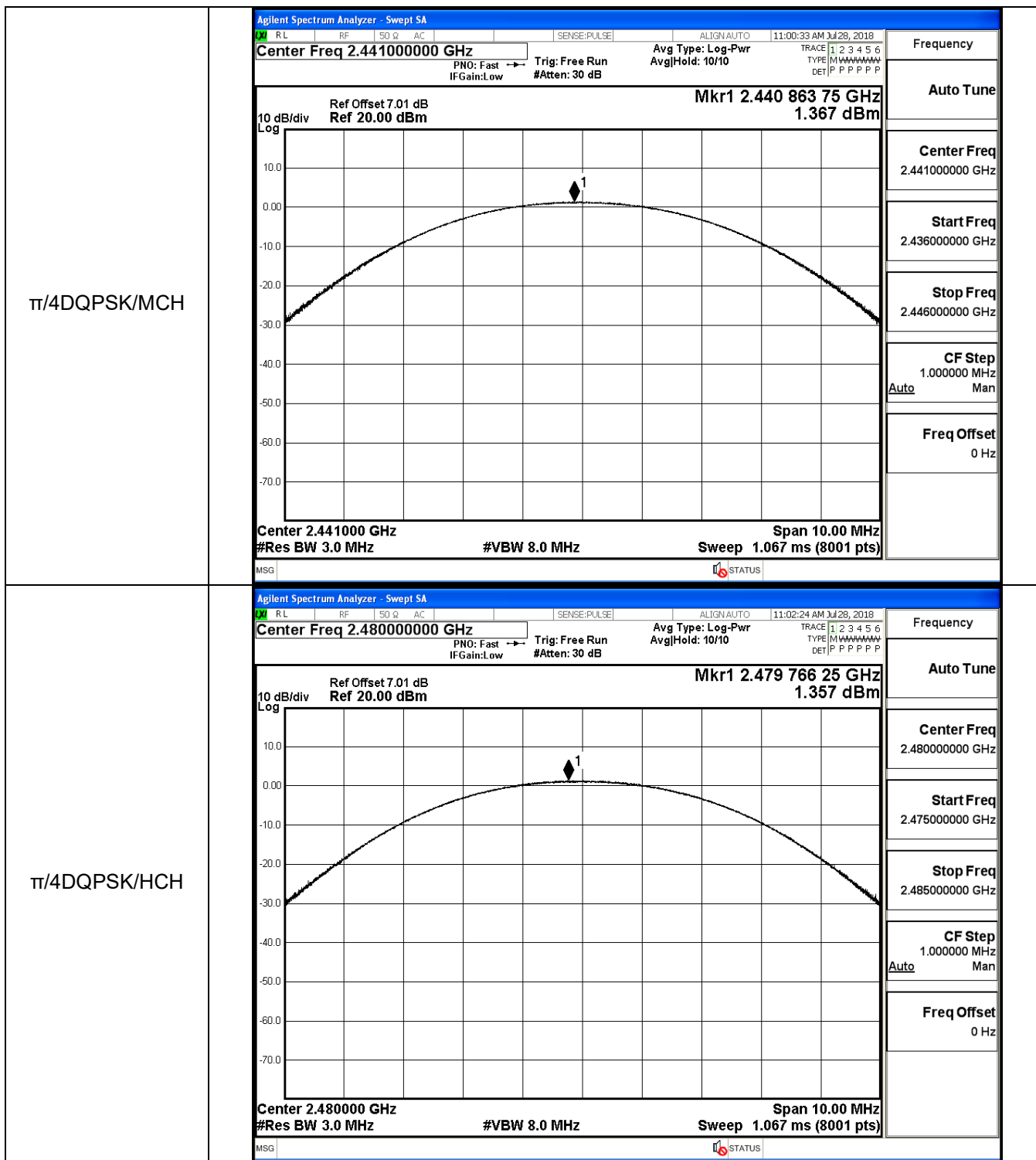


GFSK/MCH

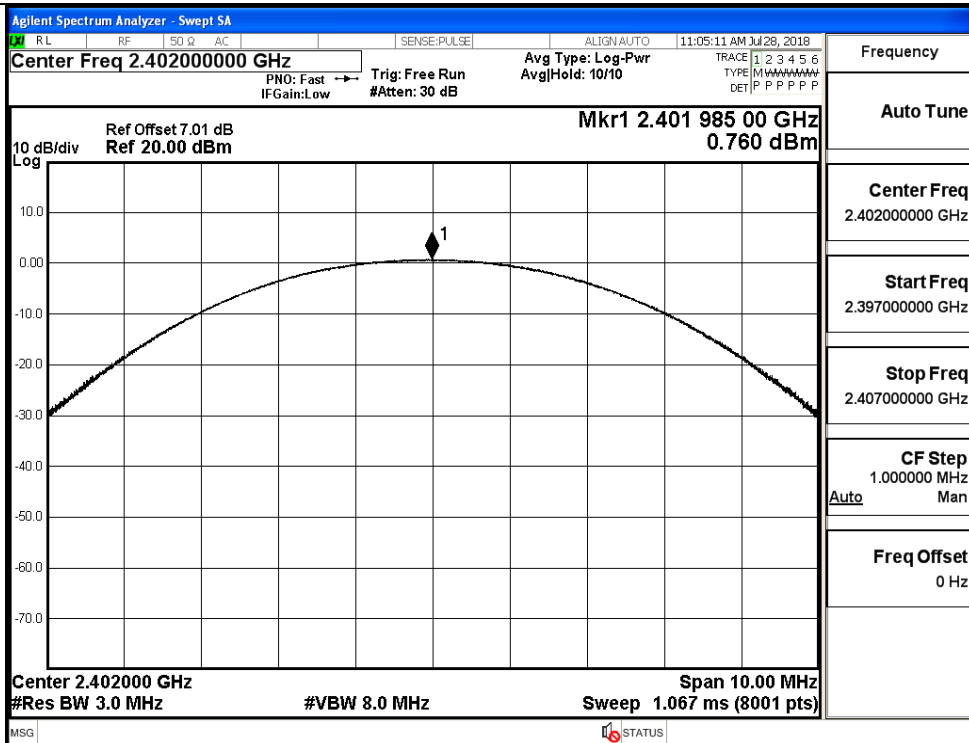


GFSK/HCH

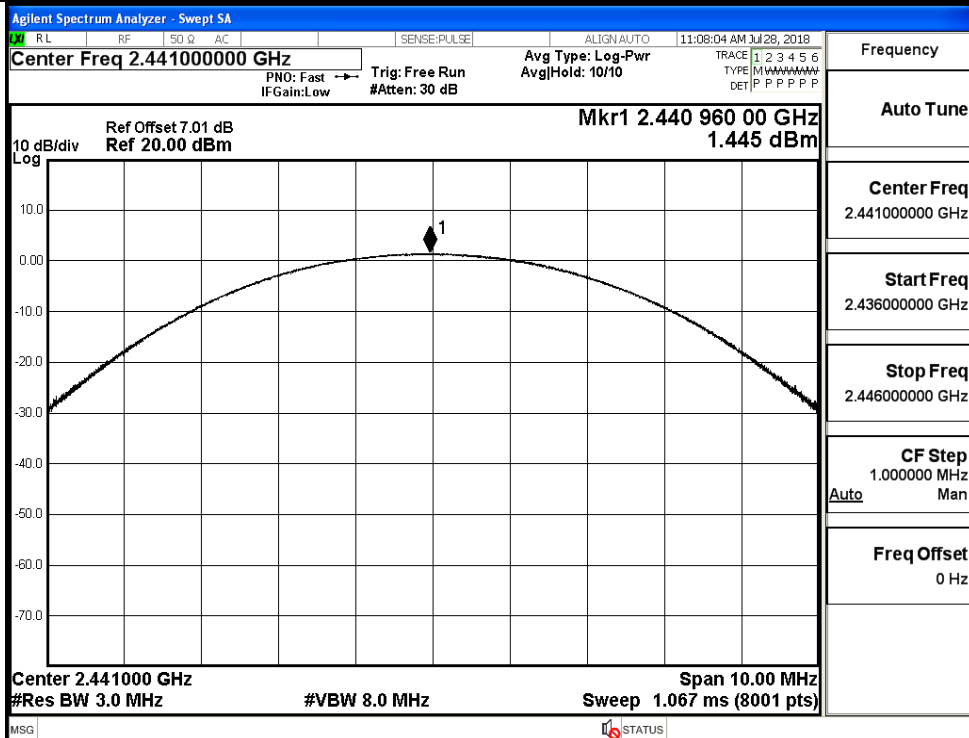
 $\pi$ /4DQPSK/LCH



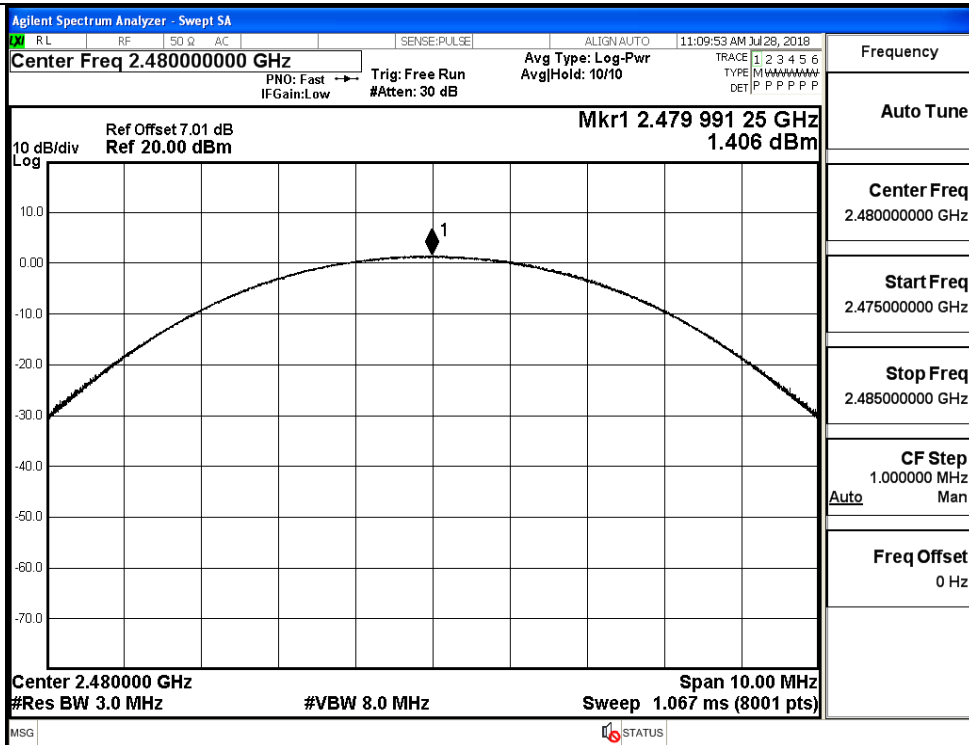
8DPSK/LCH



8DPSK/MCH



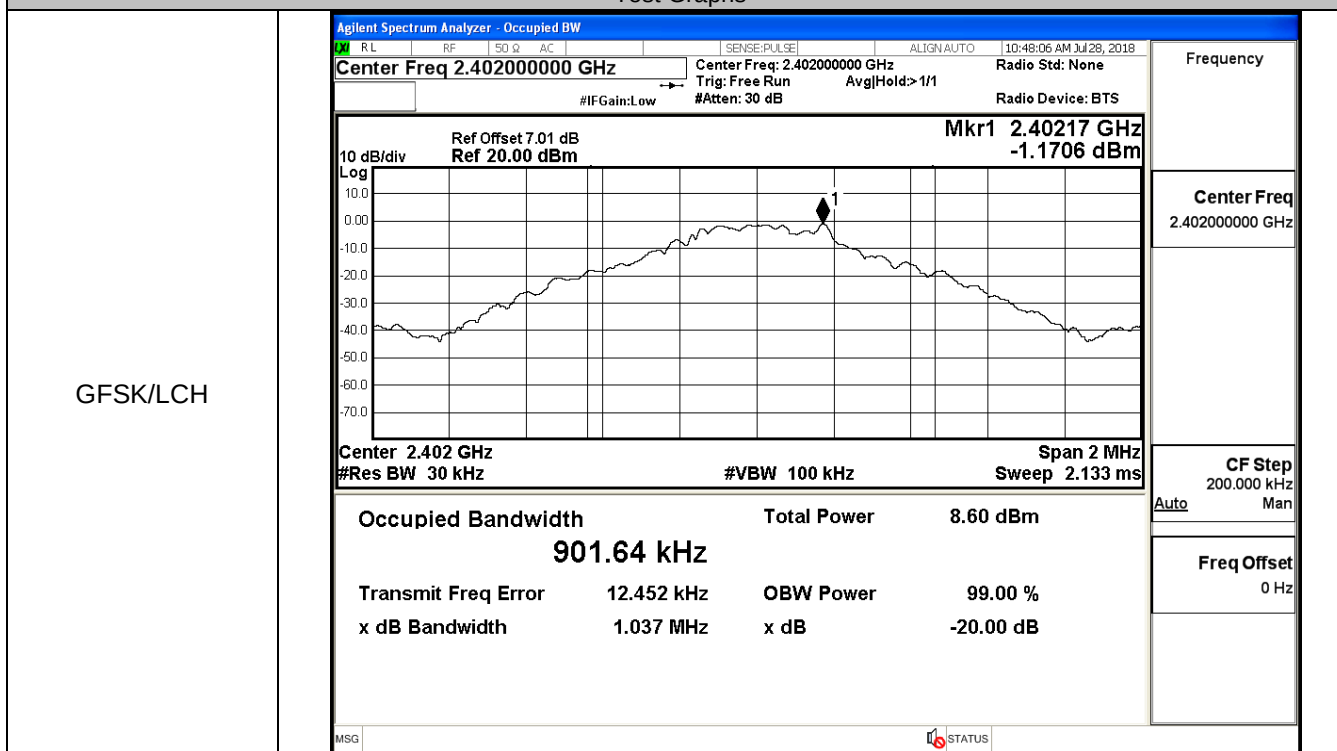
8DPSK/HCH



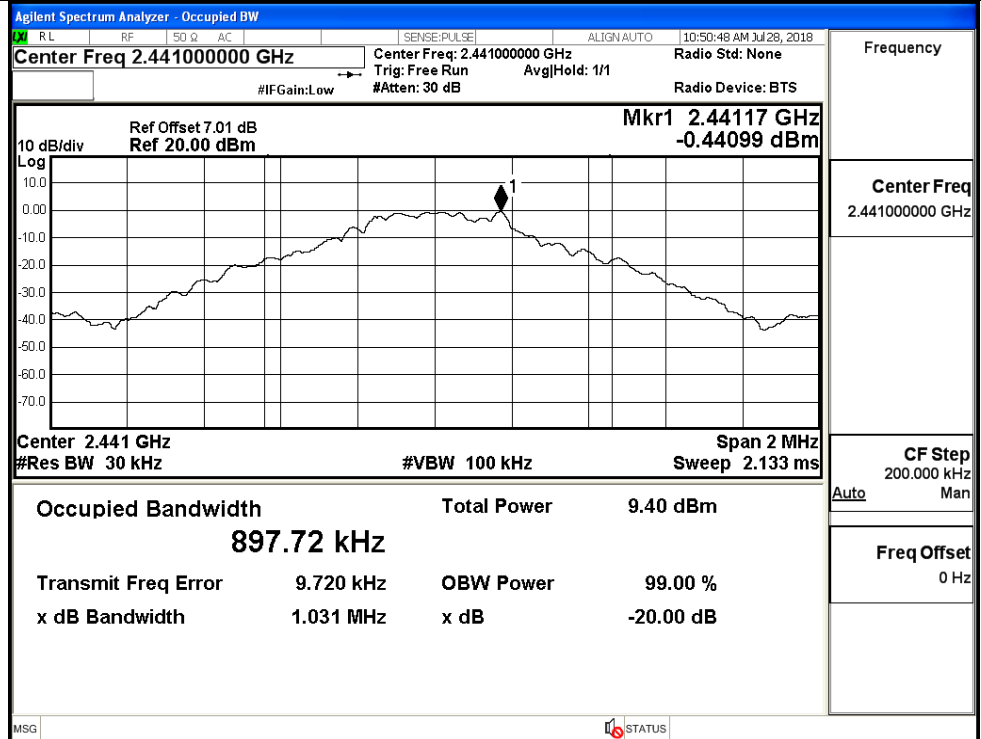
## B.2 20dB Bandwidth

| Mode          | Channel. | 99% Bandwidth [MHz] | 20dB Bandwidth [MHz] | Limit [MHz]   | Verdict |
|---------------|----------|---------------------|----------------------|---------------|---------|
| GFSK          | LCH      | 0.90164             | 1.037                | Not Specified | PASS    |
|               | MCH      | 0.89772             | 1.031                | Not Specified | PASS    |
|               | HCH      | 0.90472             | 1.041                | Not Specified | PASS    |
| $\pi$ /4DQPSK | LCH      | 1.1806              | 1.310                | Not Specified | PASS    |
|               | MCH      | 1.1778              | 1.294                | Not Specified | PASS    |
|               | HCH      | 1.1686              | 1.289                | Not Specified | PASS    |
| 8DPSK         | LCH      | 1.1912              | 1.297                | Not Specified | PASS    |
|               | MCH      | 1.1877              | 1.297                | Not Specified | PASS    |
|               | HCH      | 1.1799              | 1.294                | Not Specified | PASS    |

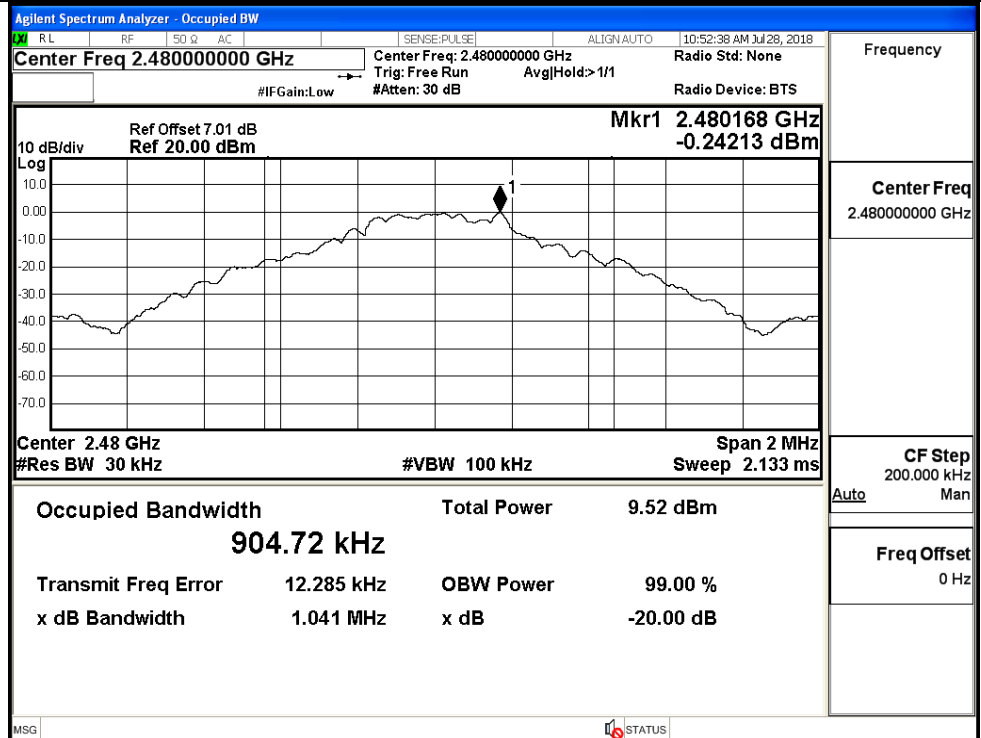
Test Graphs

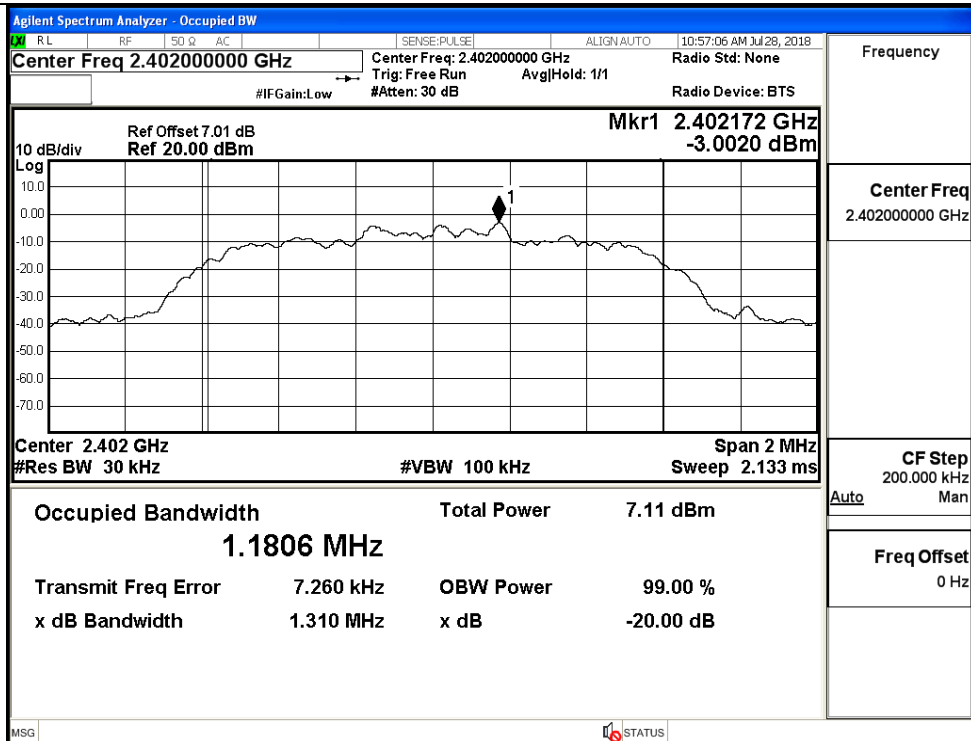
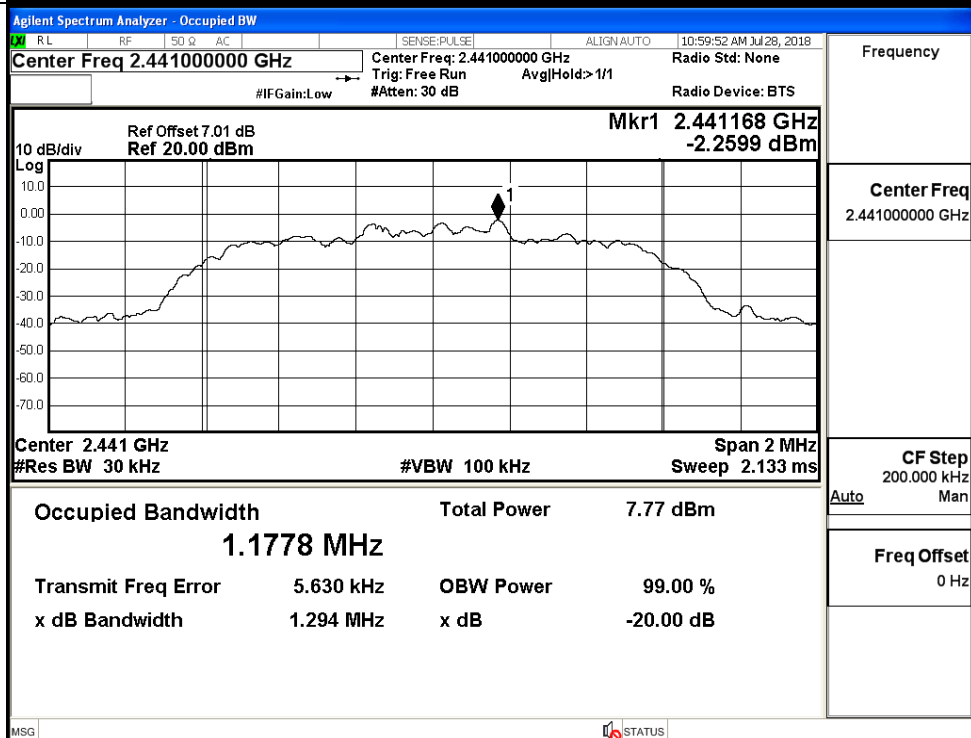


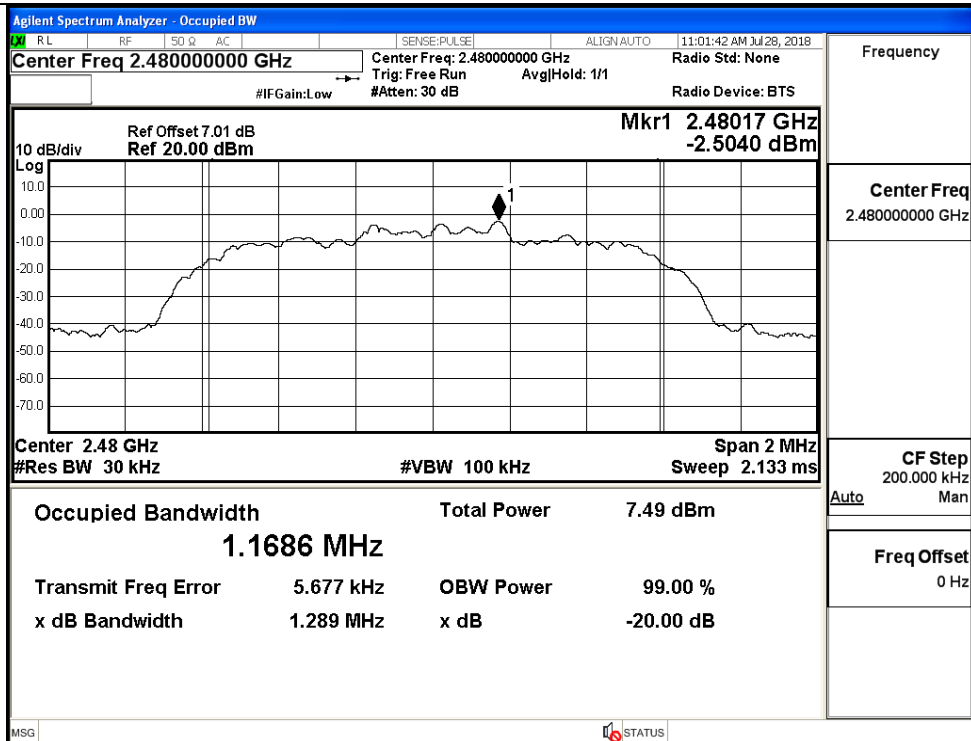
GFSK/MCH



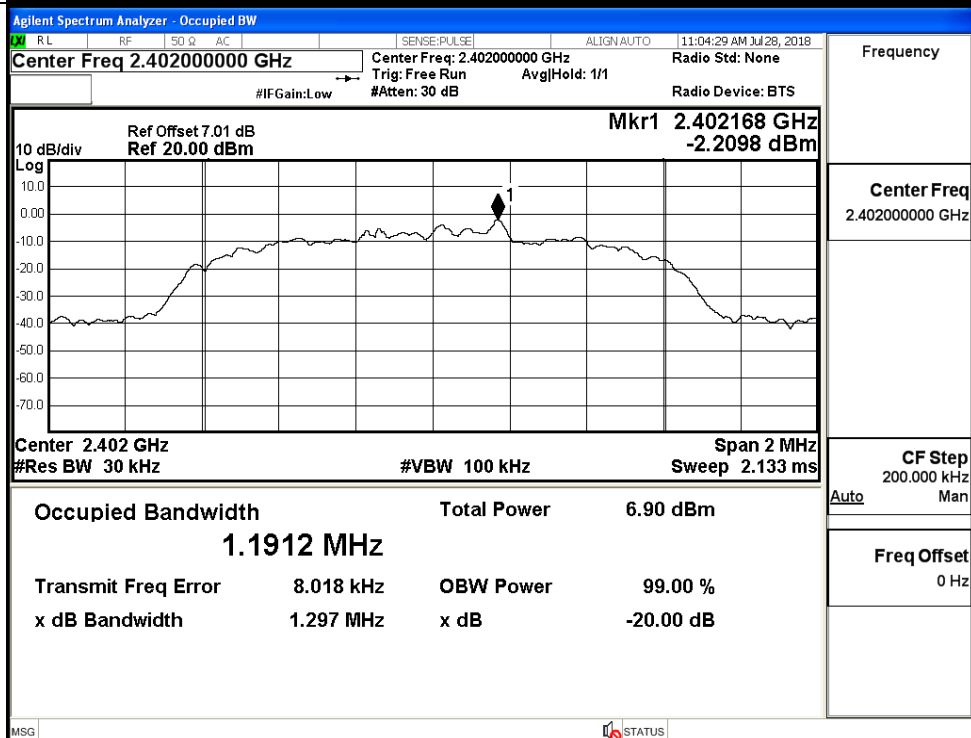
GFSK/HCH



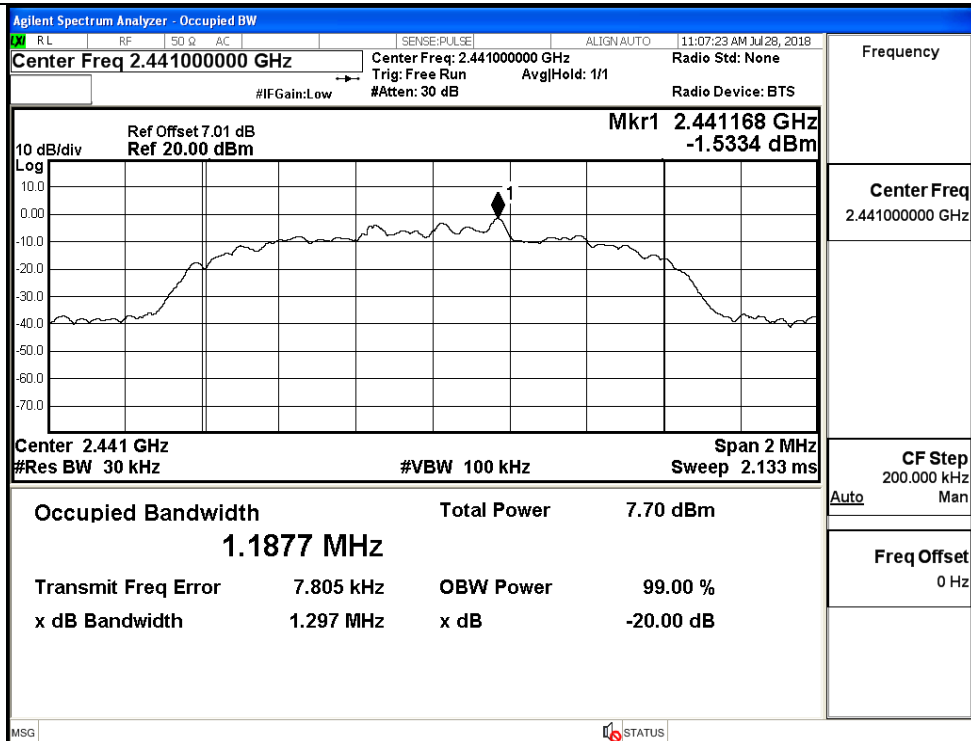
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

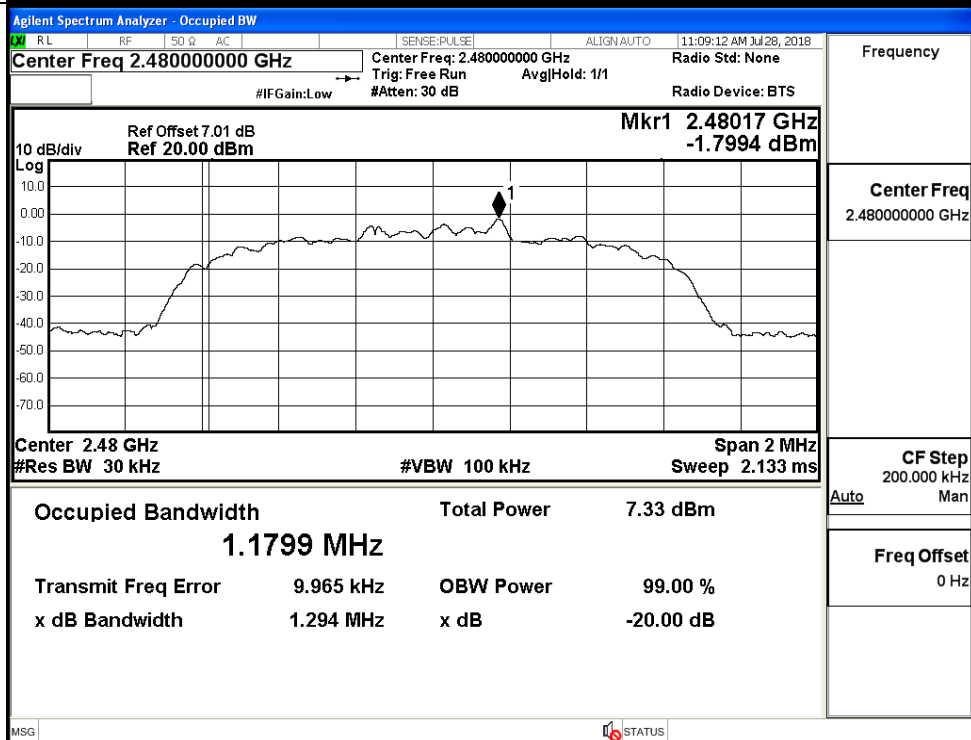
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

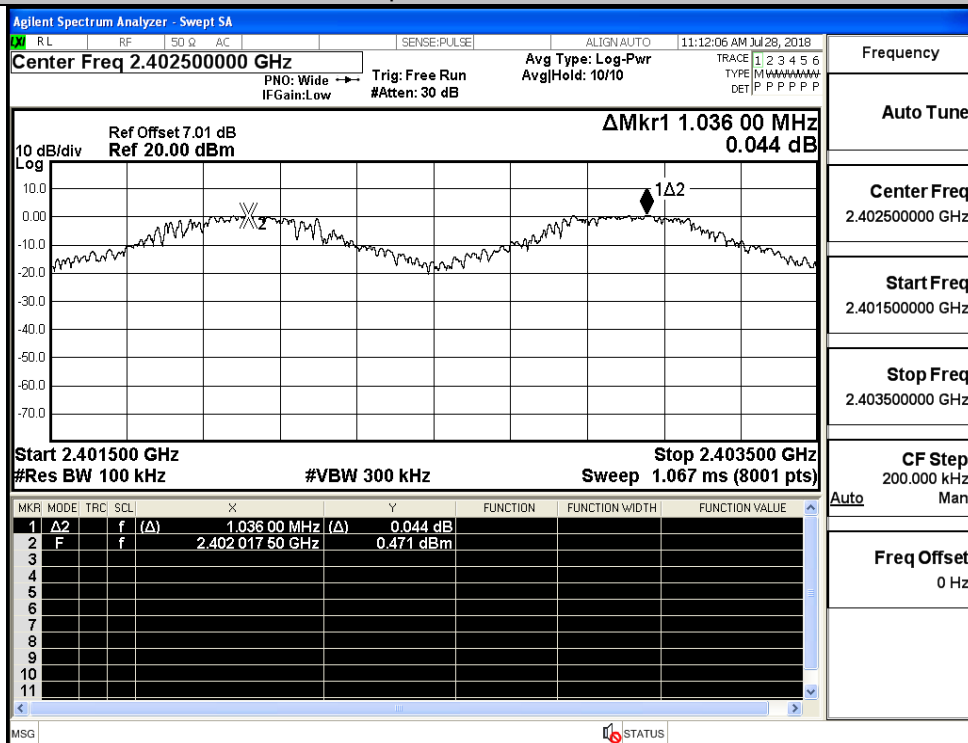


### B.3 Carrier Frequency Separation

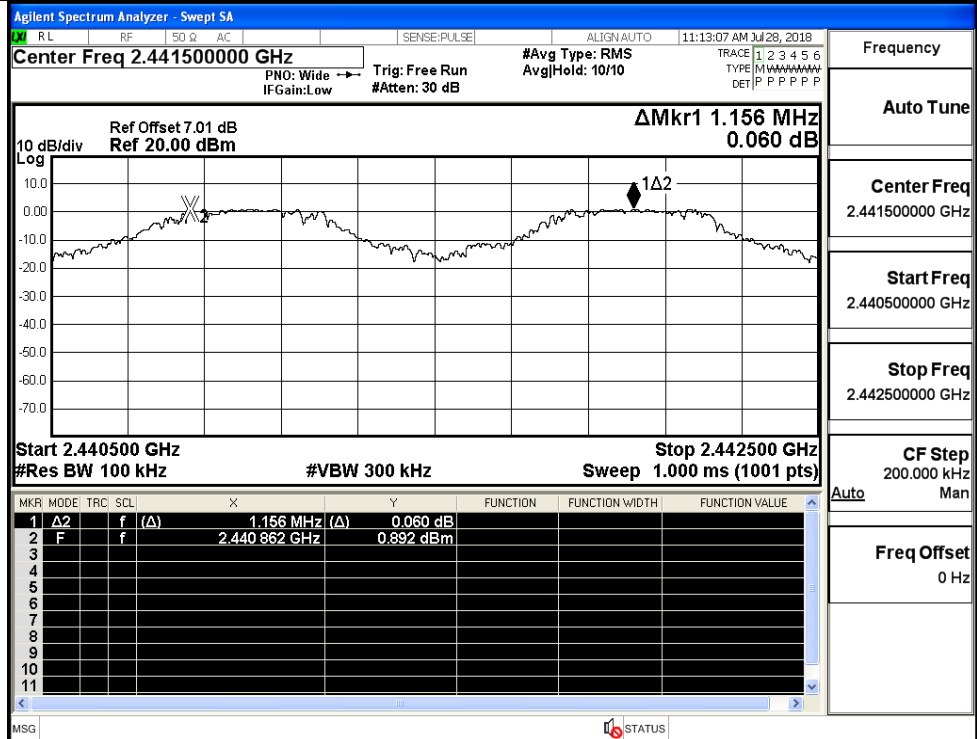
| Mode          | Channel. | Carrier Frequency Separation [MHz] | Limit [MHz] | Verdict |
|---------------|----------|------------------------------------|-------------|---------|
| GFSK          | LCH      | 1.036                              | 0.694       | PASS    |
|               | MCH      | 1.156                              | 0.694       | PASS    |
|               | HCH      | 0.844                              | 0.694       | PASS    |
| $\pi/4$ DQPSK | LCH      | 1.104                              | 0.873       | PASS    |
|               | MCH      | 1.028                              | 0.873       | PASS    |
|               | HCH      | 0.904                              | 0.873       | PASS    |
| 8DPSK         | LCH      | 1.008                              | 0.865       | PASS    |
|               | MCH      | 1.052                              | 0.865       | PASS    |
|               | HCH      | 0.942                              | 0.865       | PASS    |

#### Test Graphs

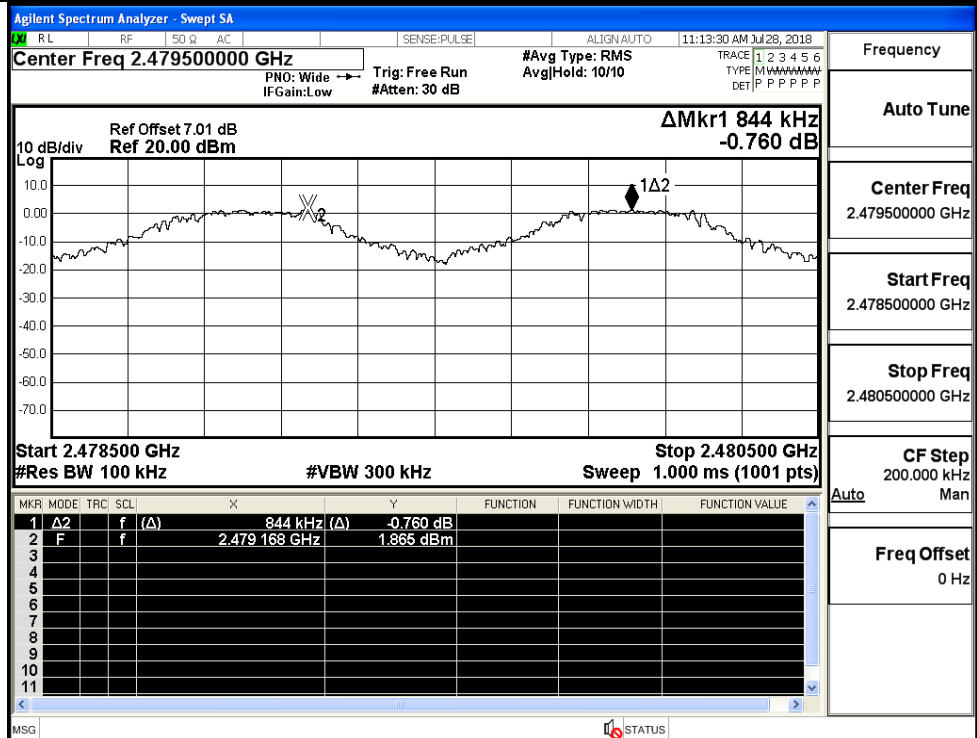
GFSK/LCH

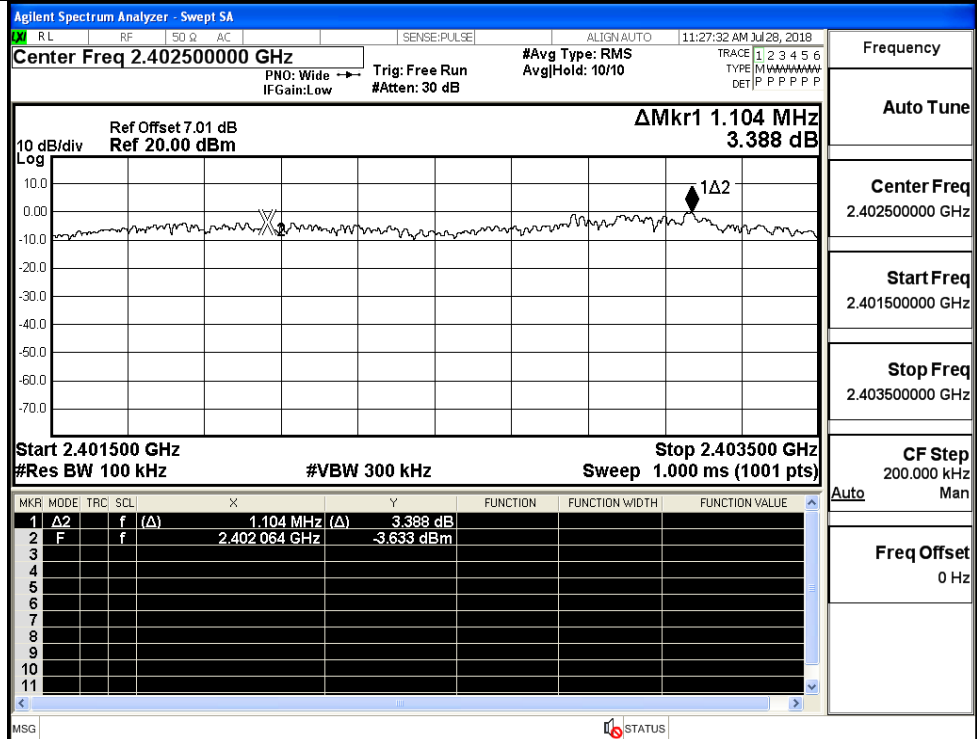
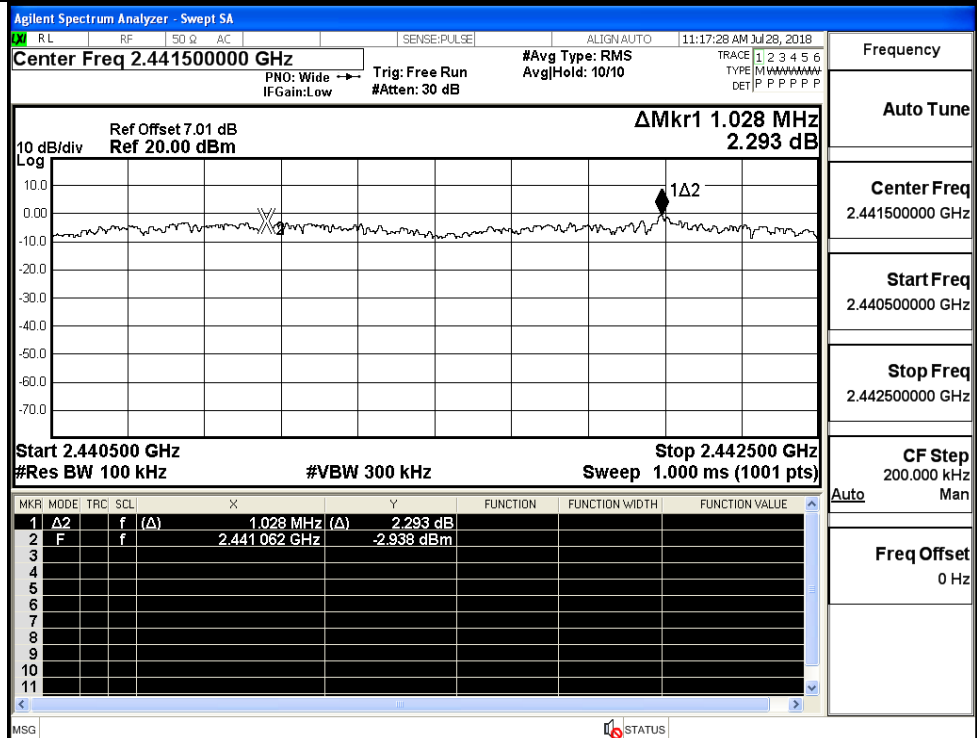


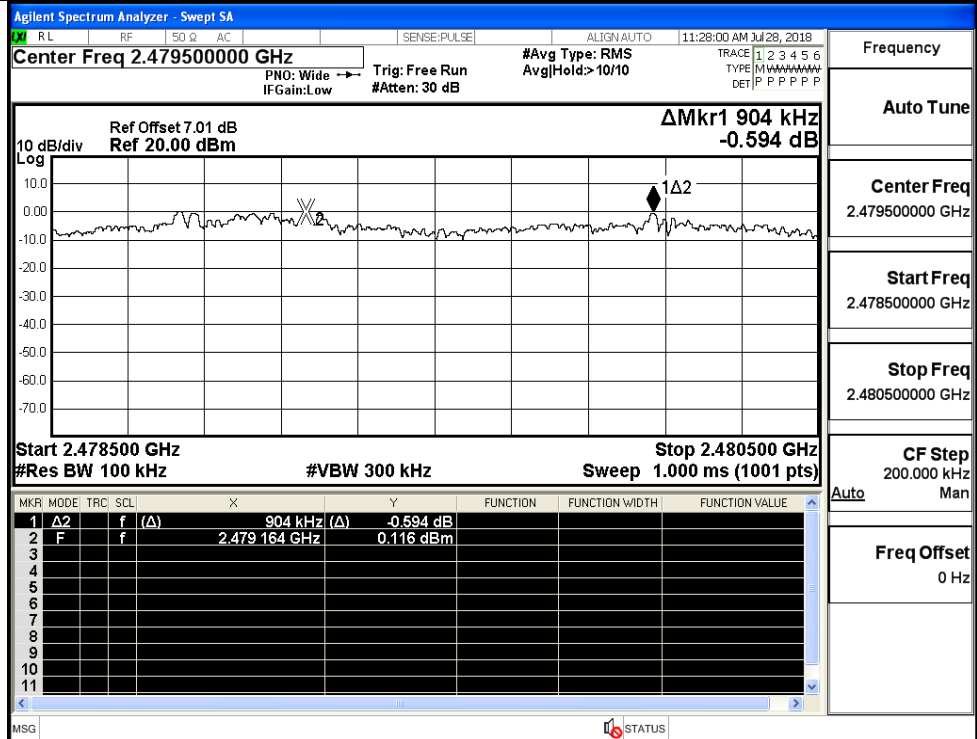
GFSK/MCH



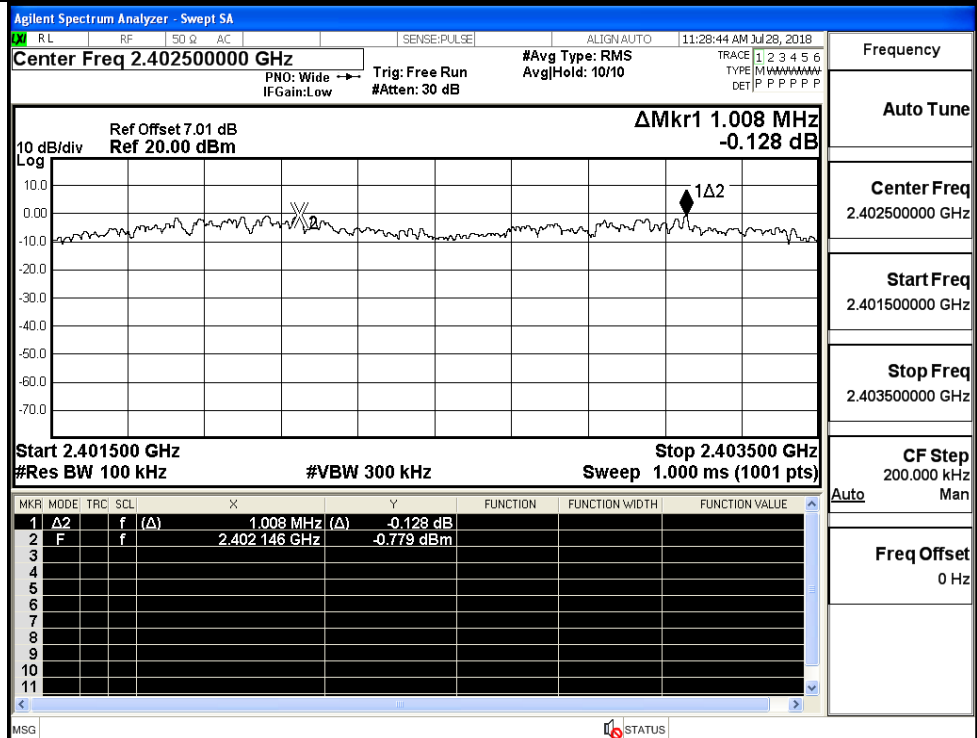
GFSK/HCH



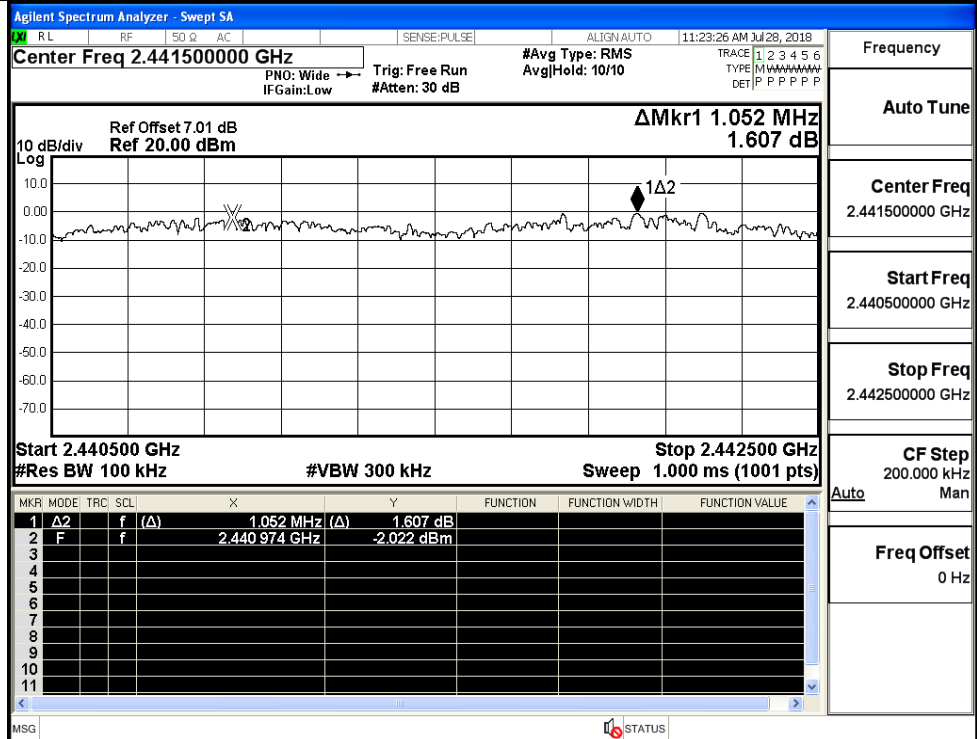
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

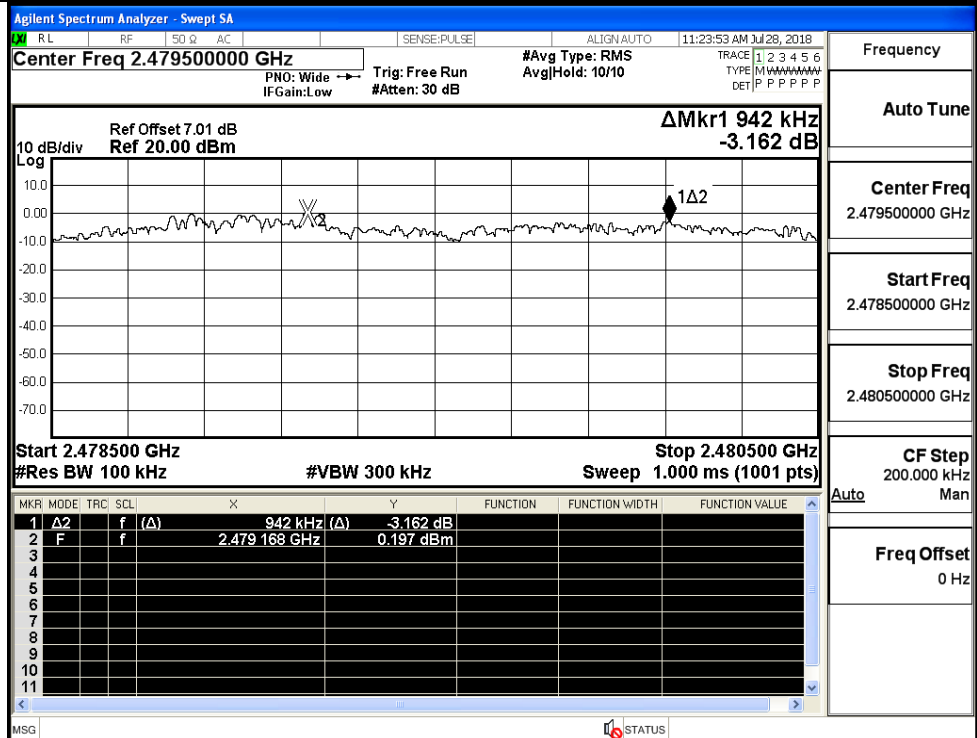
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

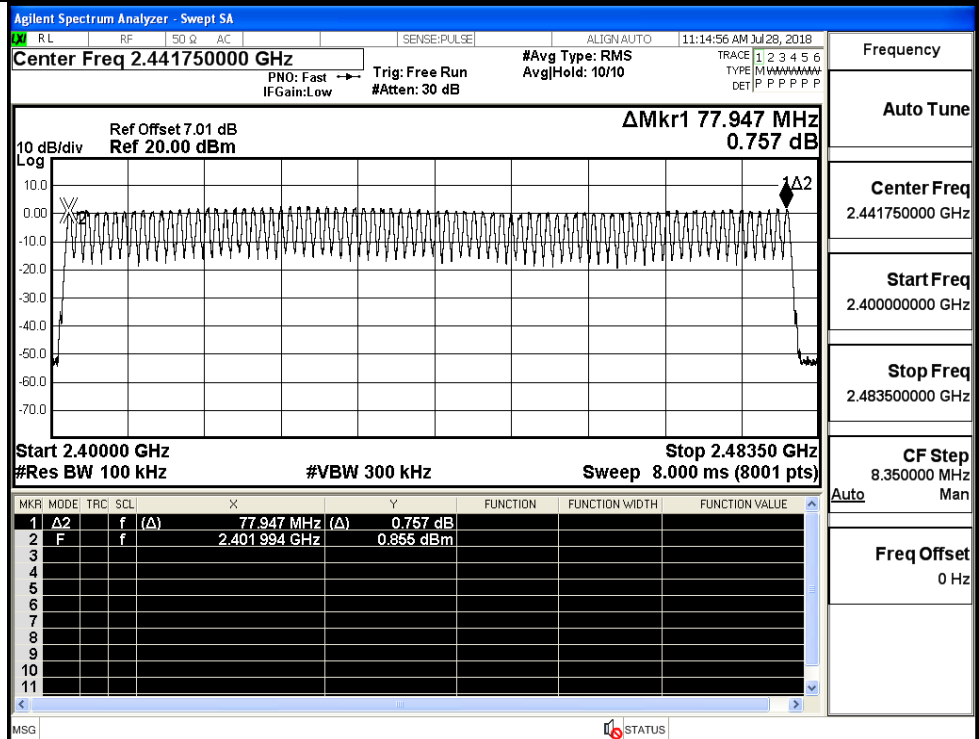
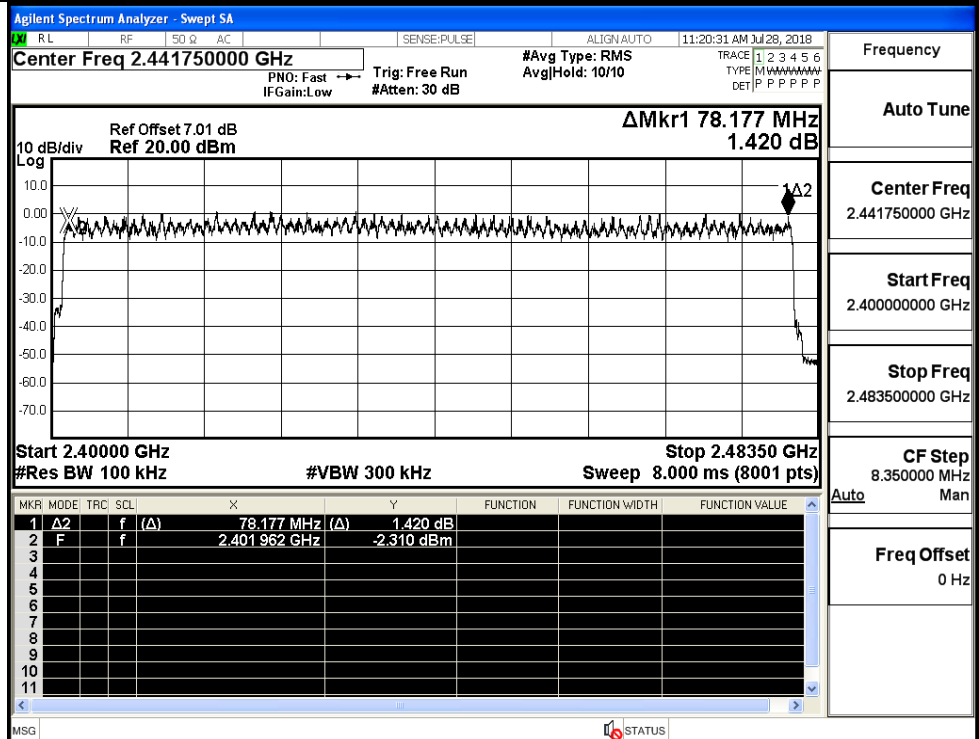


## B.4 Hopping Channel Number

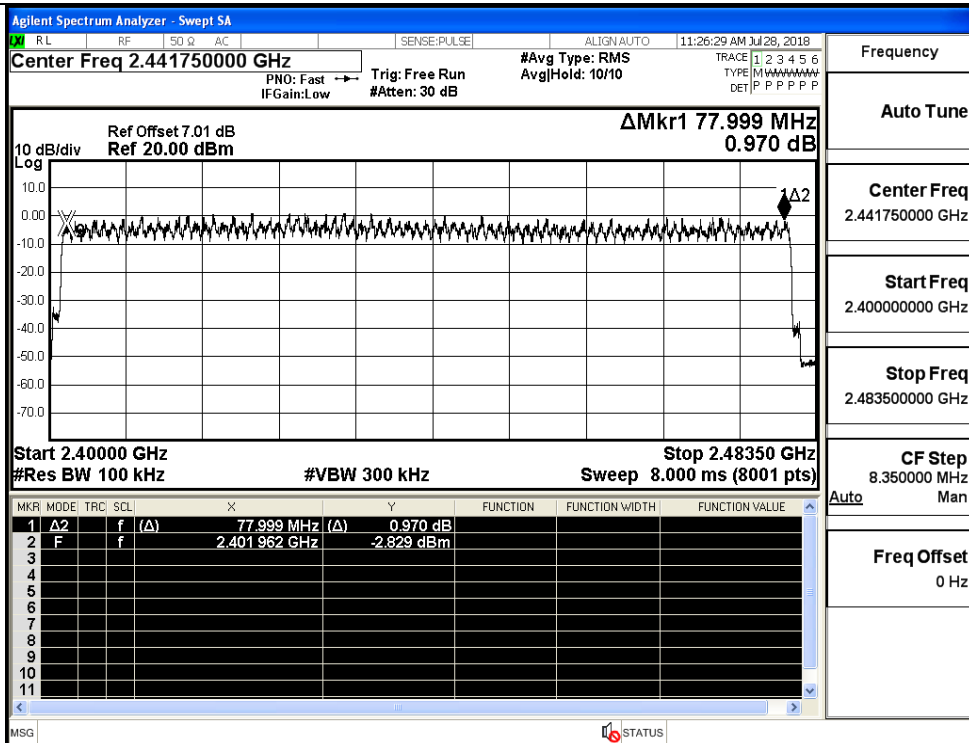
| Mode          | Channel. | Number of Hopping Channel [N] | Limit [N] | Verdict |
|---------------|----------|-------------------------------|-----------|---------|
| GFSK          | Hop      | 79                            | $\geq 15$ | PASS    |
| $\pi/4$ DQPSK | Hop      | 79                    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

## Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

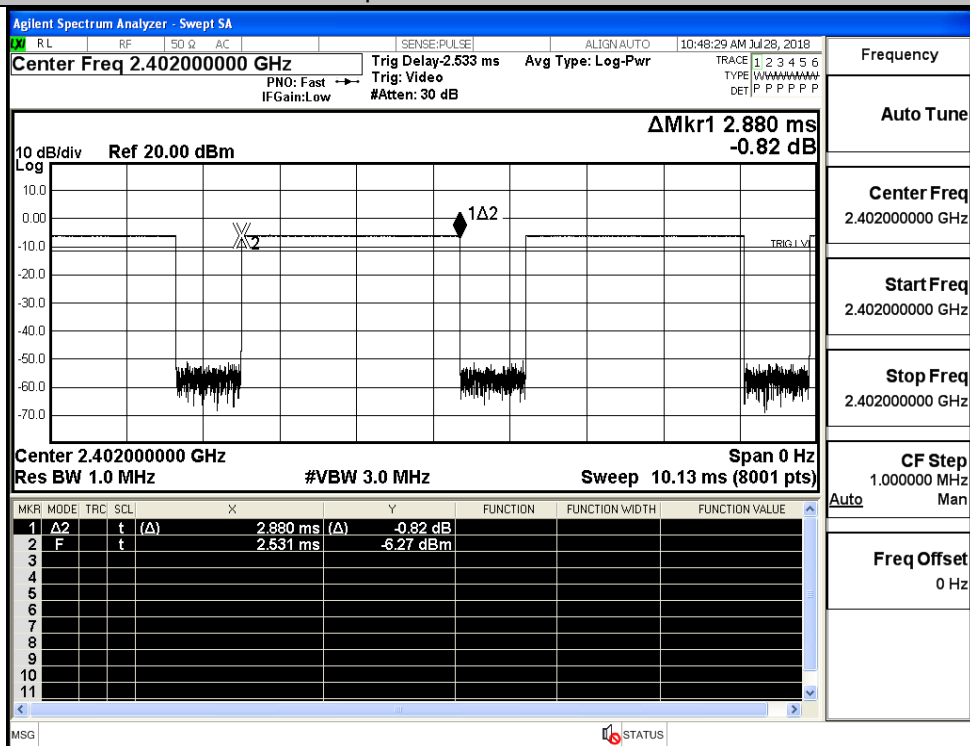


## B.5 Dwell Time

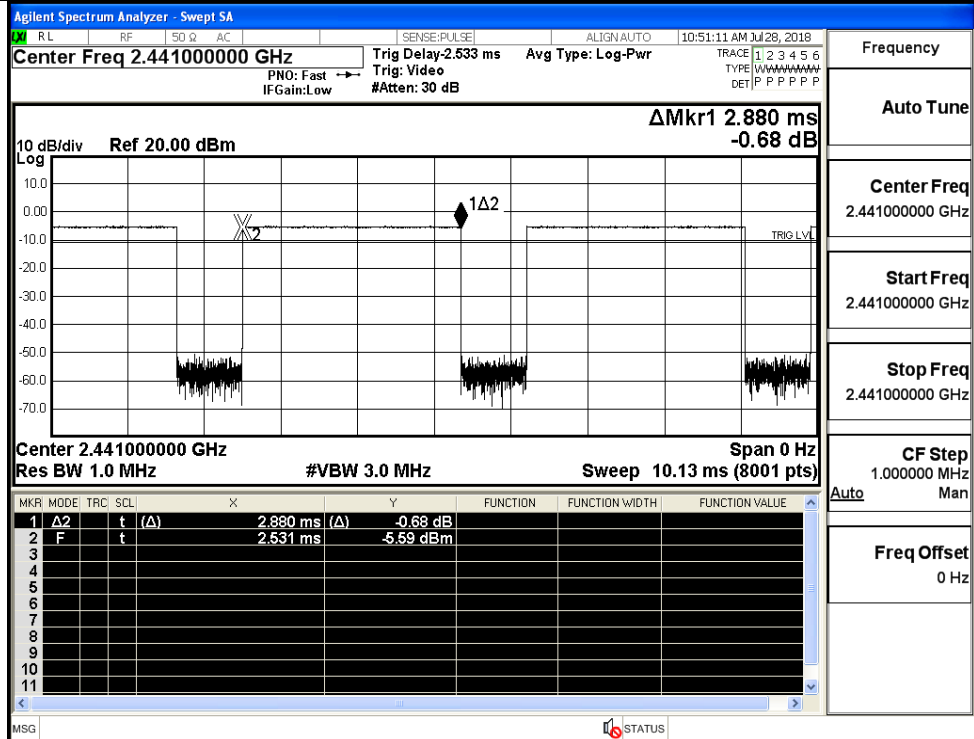
| Mode          | Packet | Channel | Burst Width<br>[ms/hop/ch] | Total<br>Hops[hop*ch] | Dwell Time[s] | Limit [s] | Verdict |
|---------------|--------|---------|----------------------------|-----------------------|---------------|-----------|---------|
| GFSK          | DH5    | LCH     | 2.88                       | 106.7                 | 0.307         | 0.4       | PASS    |
|               | DH5    | MCH     | 2.88                       | 106.7                 | 0.307         | 0.4       | PASS    |
|               | DH5    | HCH     | 2.88                       | 106.7                 | 0.307         | 0.4       | PASS    |
| $\pi/4$ DQPSK | 2DH5   | LCH     | 2.88                       | 106.7                 | 0.307         | 0.4       | PASS    |
|               | 2DH5   | MCH     | 2.88                       | 106.7                 | 0.307         | 0.4       | PASS    |
|               | 2DH5   | HCH     | 2.88                       | 106.7                 | 0.307         | 0.4       | PASS    |
| 8DPSK         | 3DH5   | LCH     | 2.88                       | 106.7                 | 0.308         | 0.4       | PASS    |
|               | 3DH5   | MCH     | 2.88                       | 106.7                 | 0.308         | 0.4       | PASS    |
|               | 3DH5   | HCH     | 2.88                       | 106.7                 | 0.308         | 0.4       | PASS    |

## Test Graphs

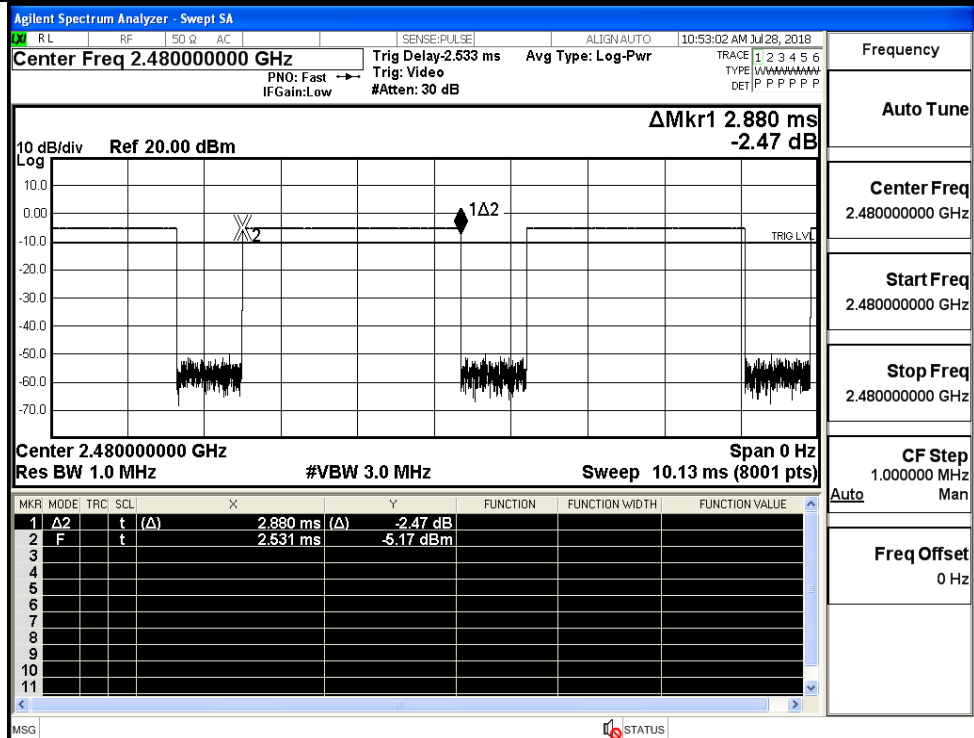
GFSK\_DH5/LCH



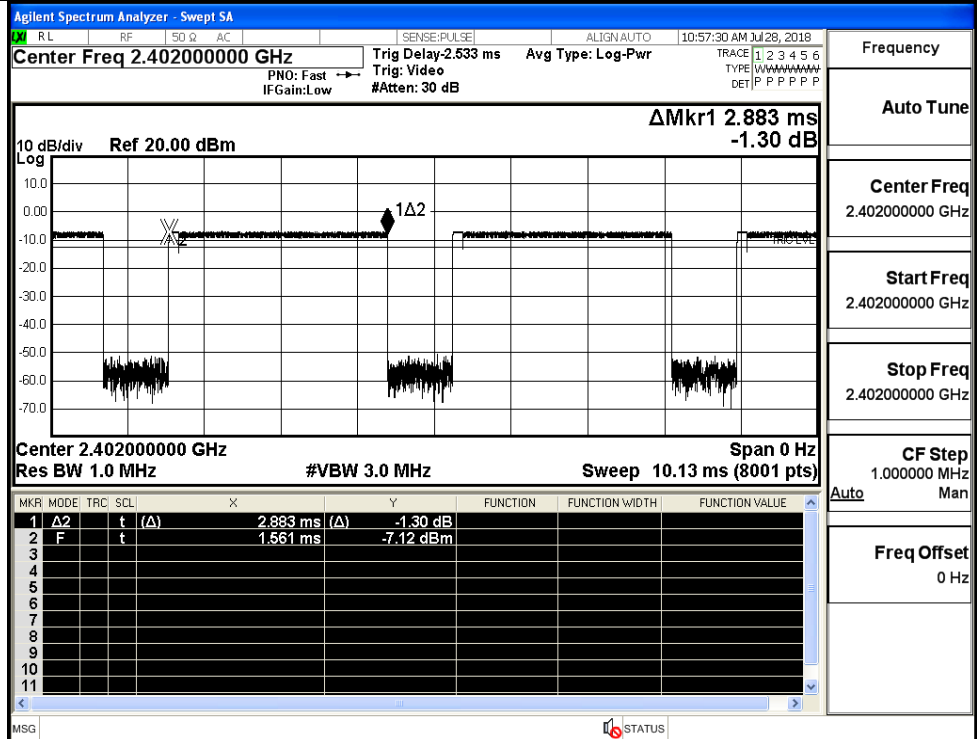
GFSK\_DH5/MCH



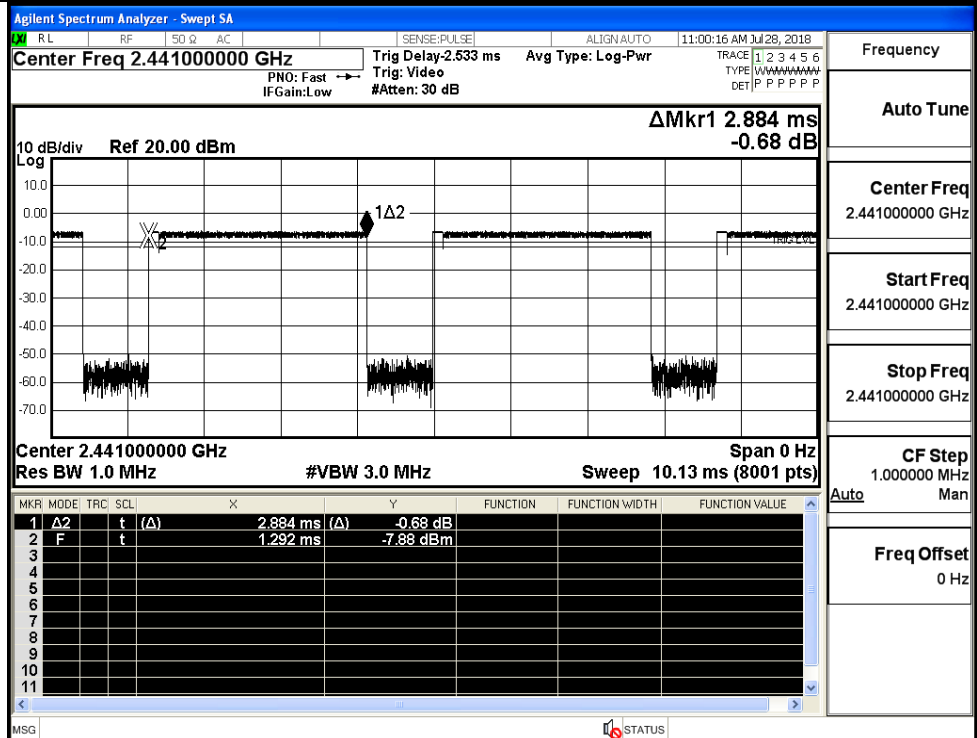
GFSK\_DH5/HCH



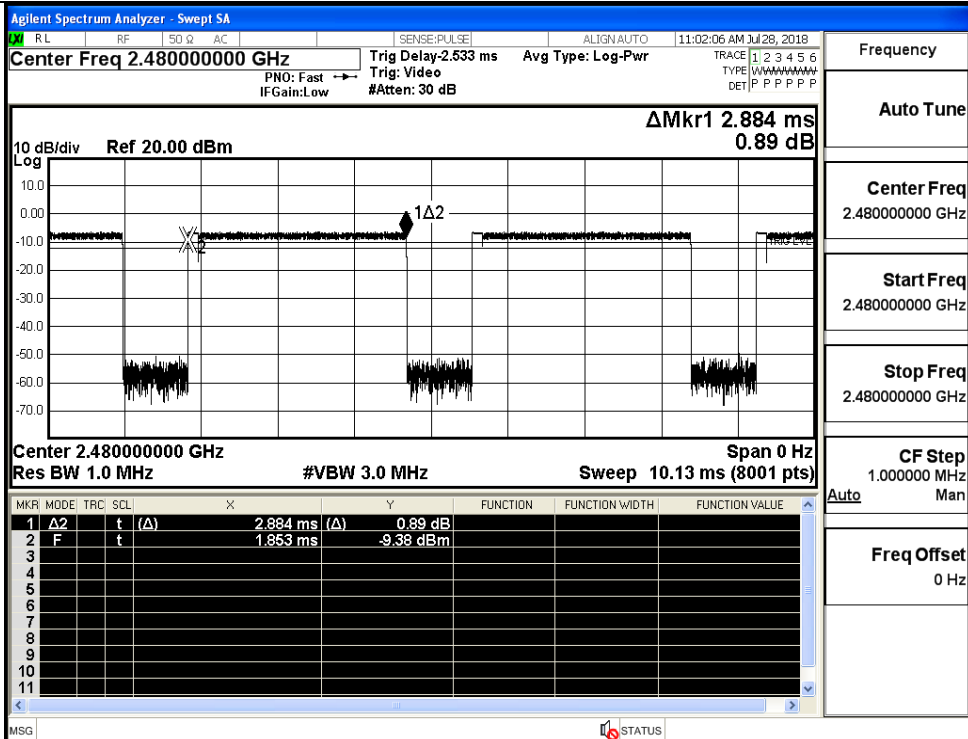
$\pi/4$ DQPSK  
\_2DH5/LCH



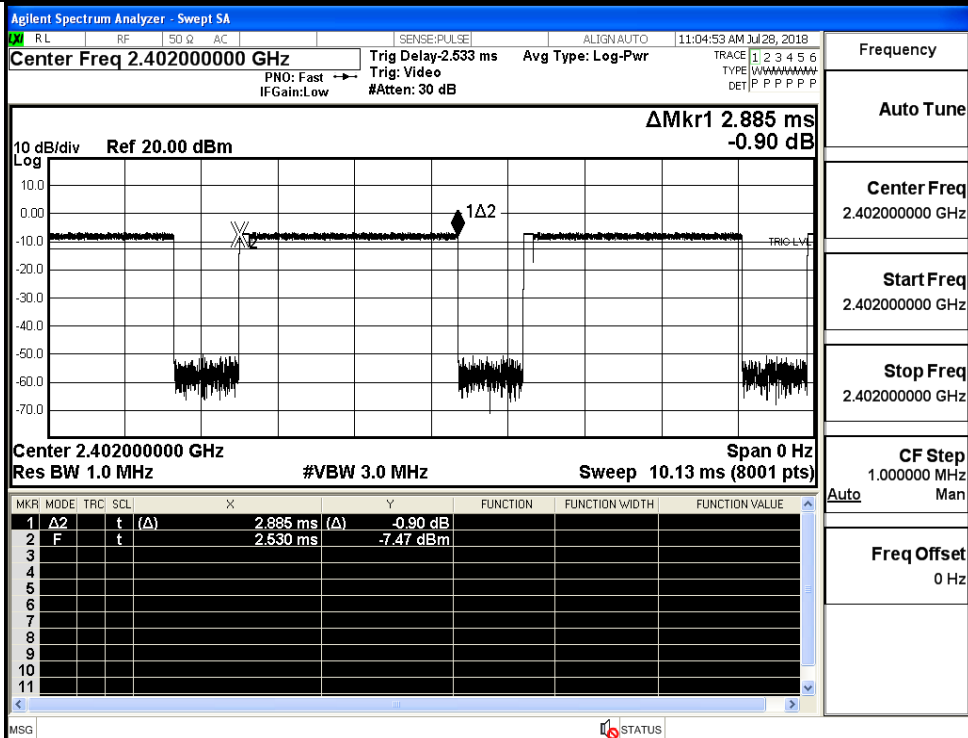
$\pi/4$ DQPSK  
\_2DH5/MCH



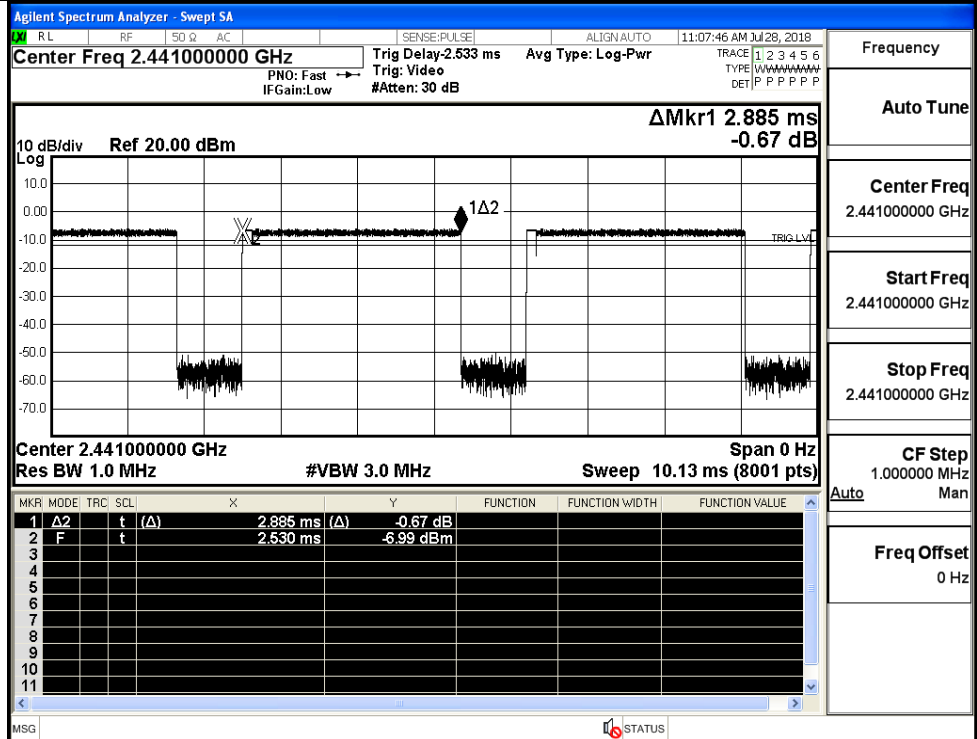
$\pi/4$ DQPSK  
\_2DH5/HCH



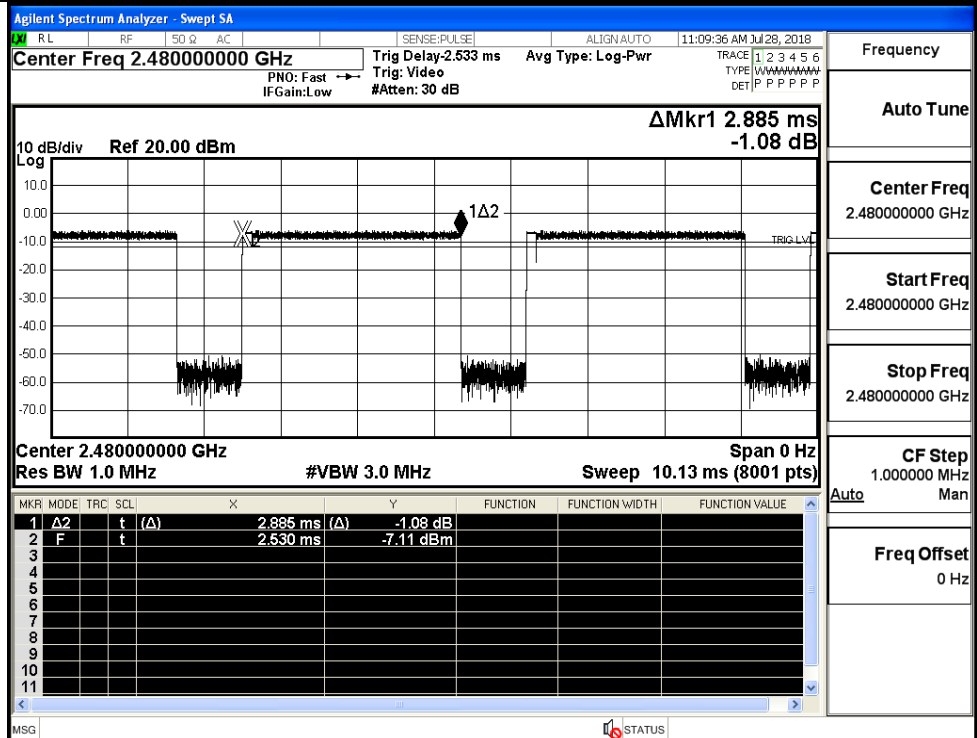
8DPSK \_3DH5/LCH



8DPSK\_3DH5/MCH



8DPSK\_3DH5/HCH

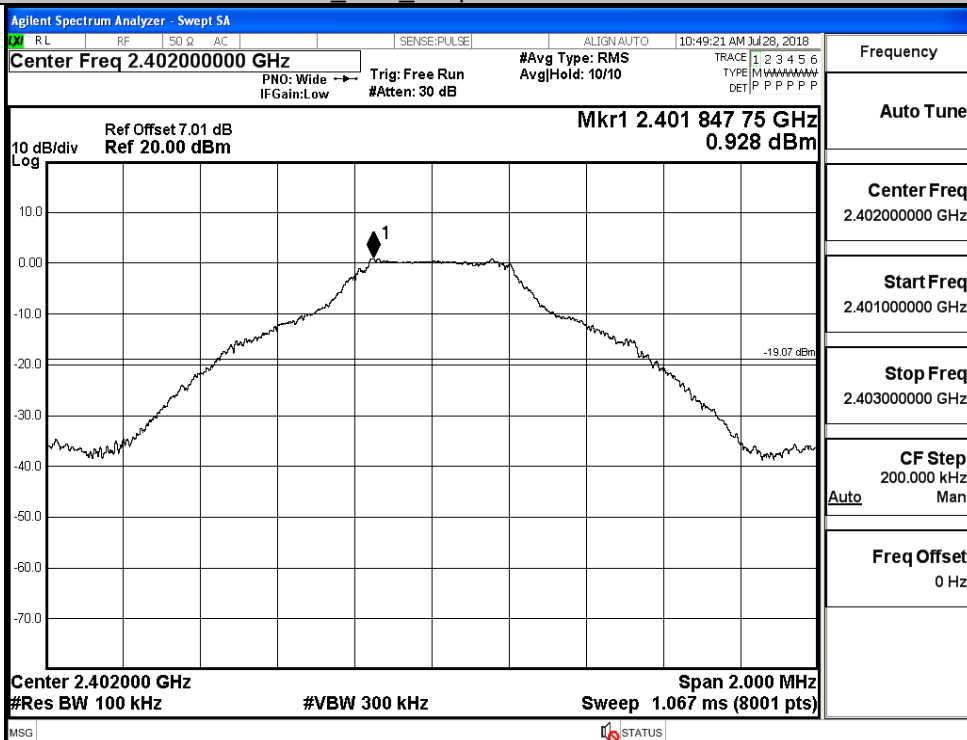


**B.6 RF Conducted Spurious Emissions**

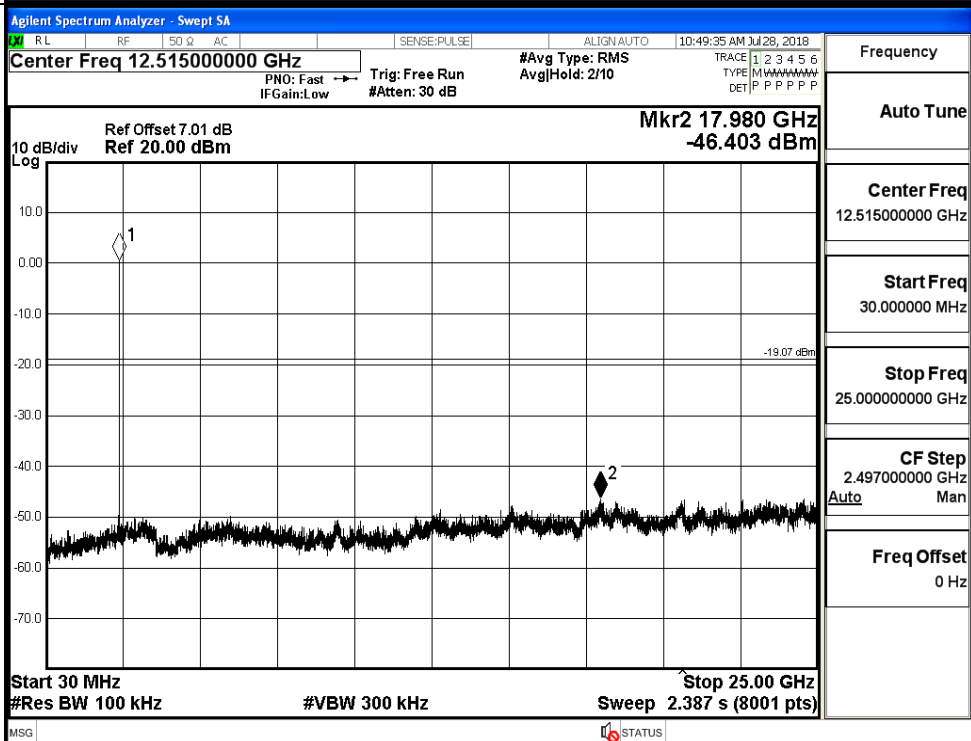
| Mode          | Channel | Pref [dBm] | Max. Level [dBm] | Limit [dBm] | Verdict |
|---------------|---------|------------|------------------|-------------|---------|
| GFSK          | LCH     | 0.928      | -46.403          | -19.072     | PASS    |
|               | MCH     | 1.662      | -46.048          | -18.338     | PASS    |
|               | HCH     | 1.604      | -45.114          | -18.396     | PASS    |
| $\pi/4$ DQPSK | LCH     | -0.224     | -46.254          | -20.224     | PASS    |
|               | MCH     | 0.458      | -45.940          | -19.542     | PASS    |
|               | HCH     | 0.217      | -45.400          | -19.783     | PASS    |
| 8DPSK         | LCH     | -0.352     | -45.894          | -20.352     | PASS    |
|               | MCH     | 0.506      | -45.873          | -19.494     | PASS    |
|               | HCH     | 0.182      | -45.850          | -19.818     | PASS    |

## GFSK LCH Graphs

Pref

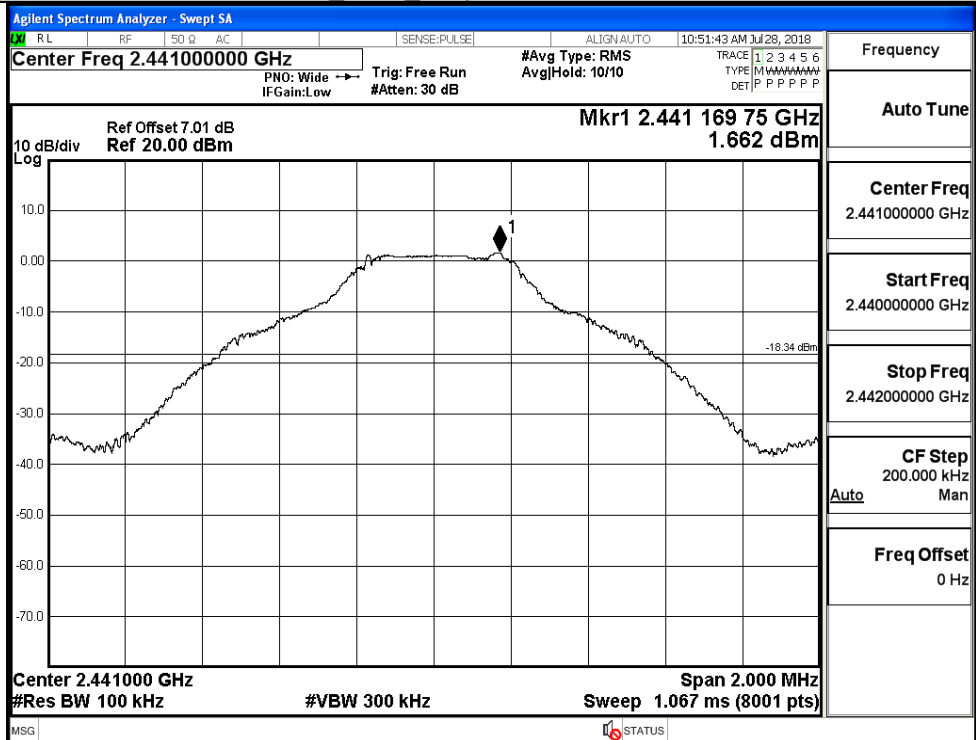


Puw

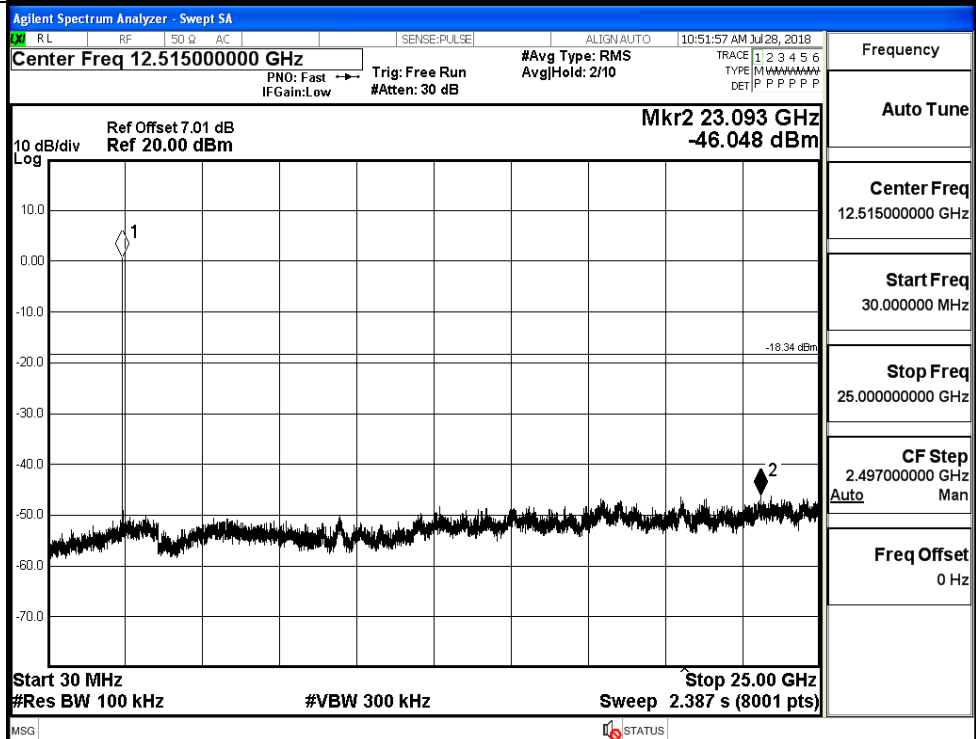


## GFSK\_MCH\_Graphs

Pref

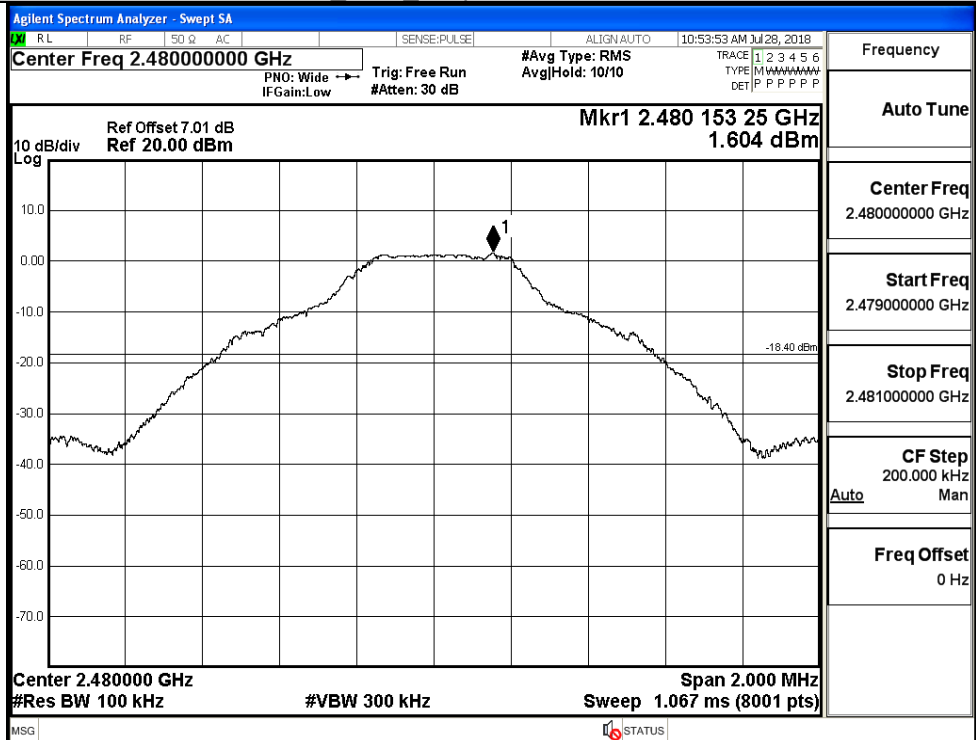


Puw

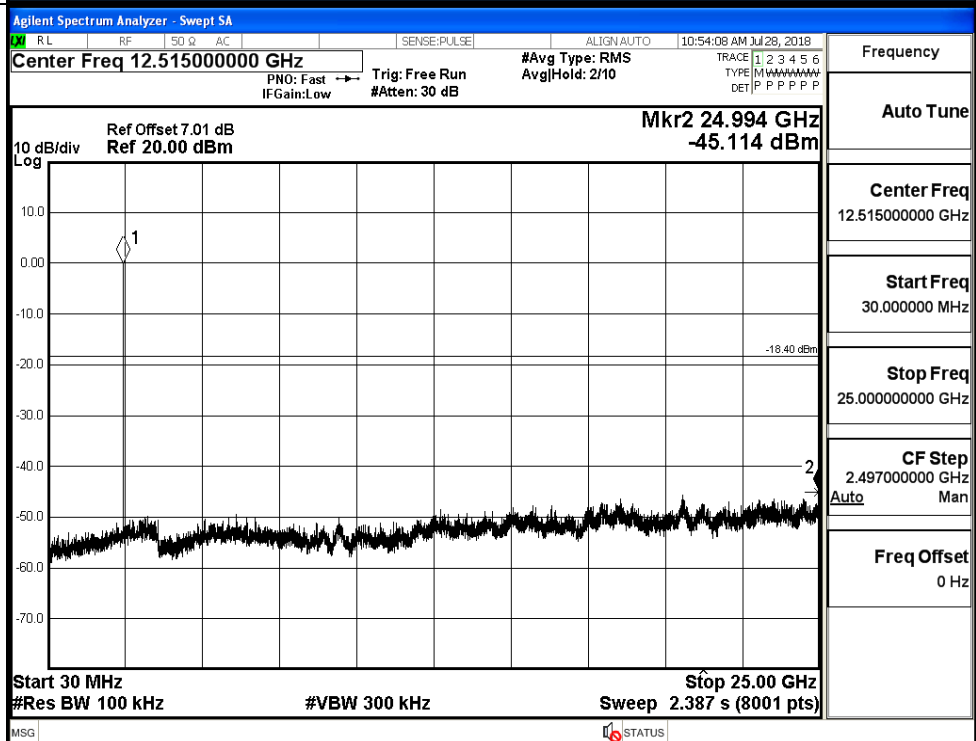


## GFSK\_HCH\_Graphs

Pref

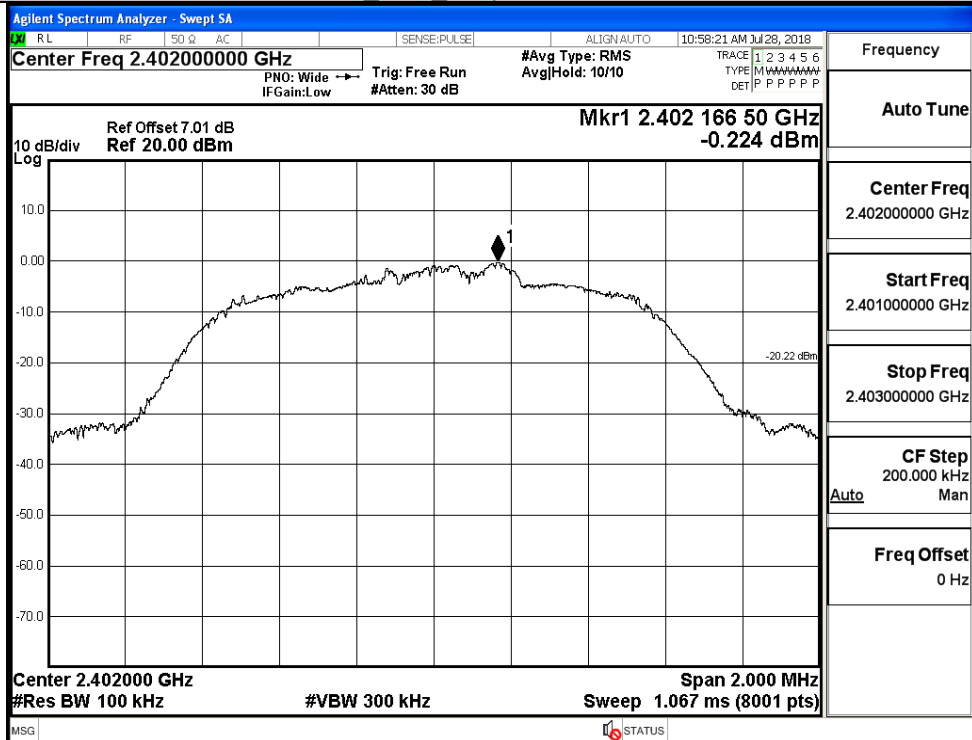


Puw

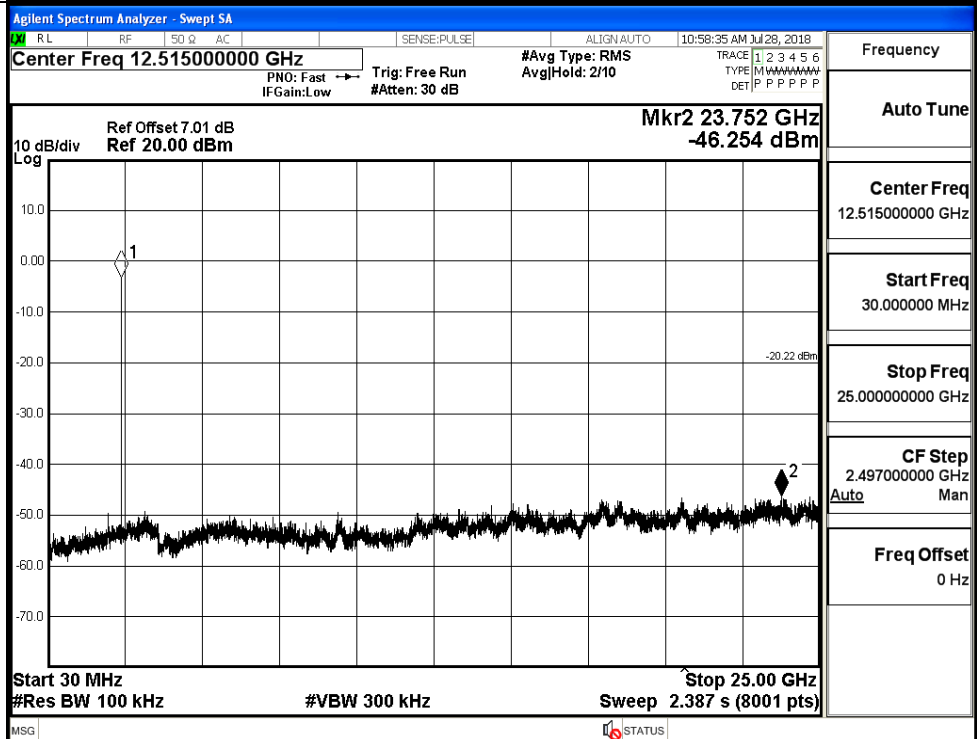


$\pi/4$ DQPSK LCH\_Graphs

Pref

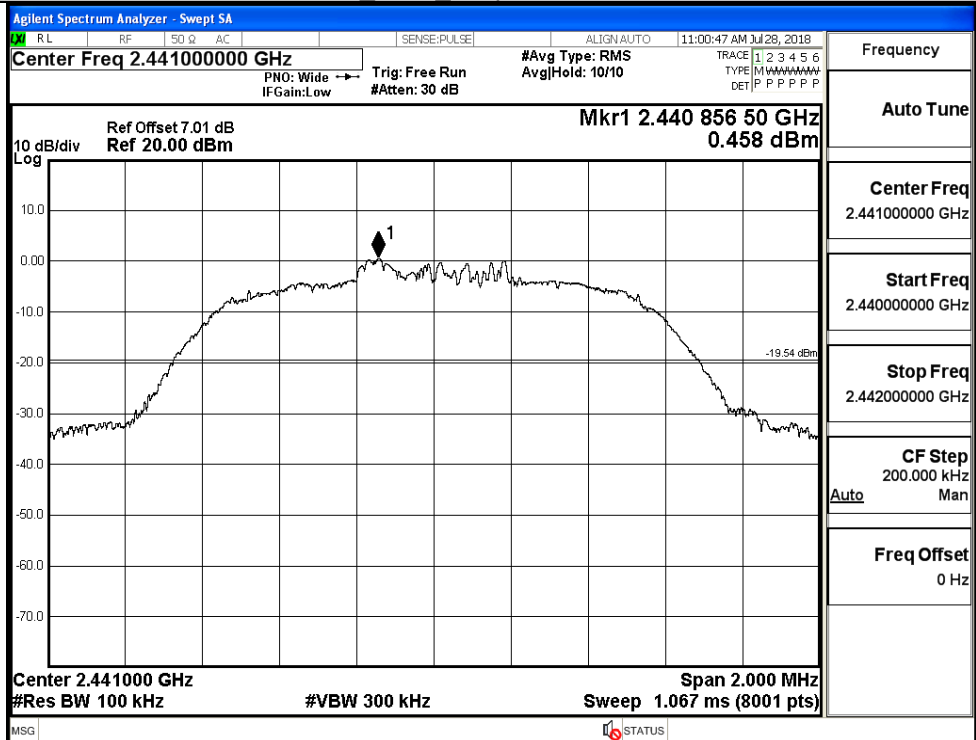


Puw

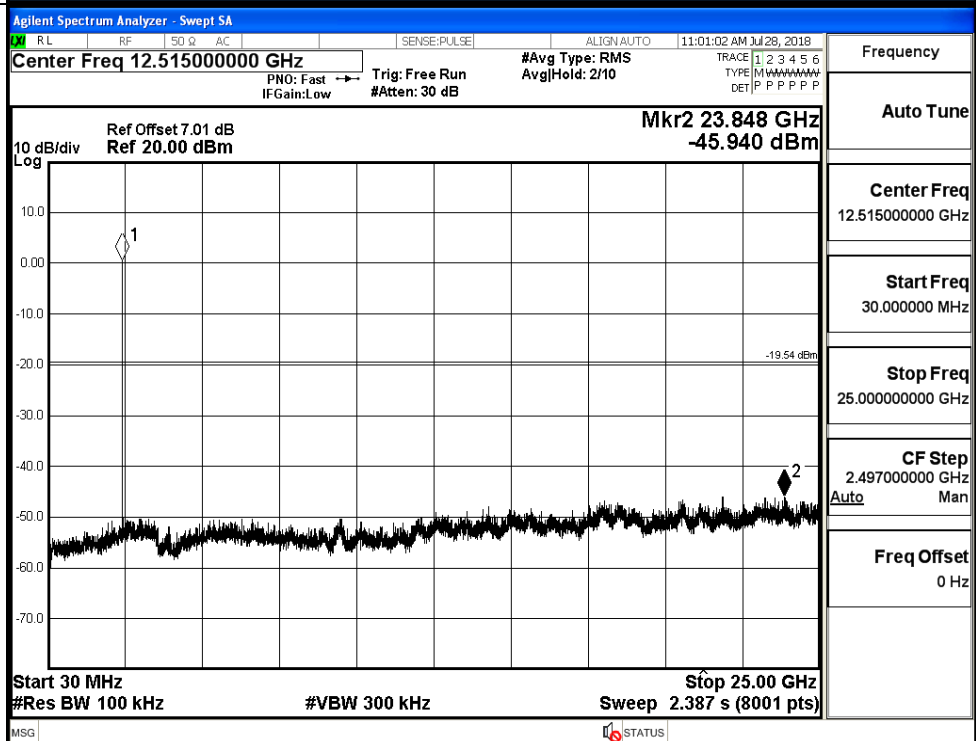


$\pi$ /4DQPSK\_MCH\_Graphs

Pref

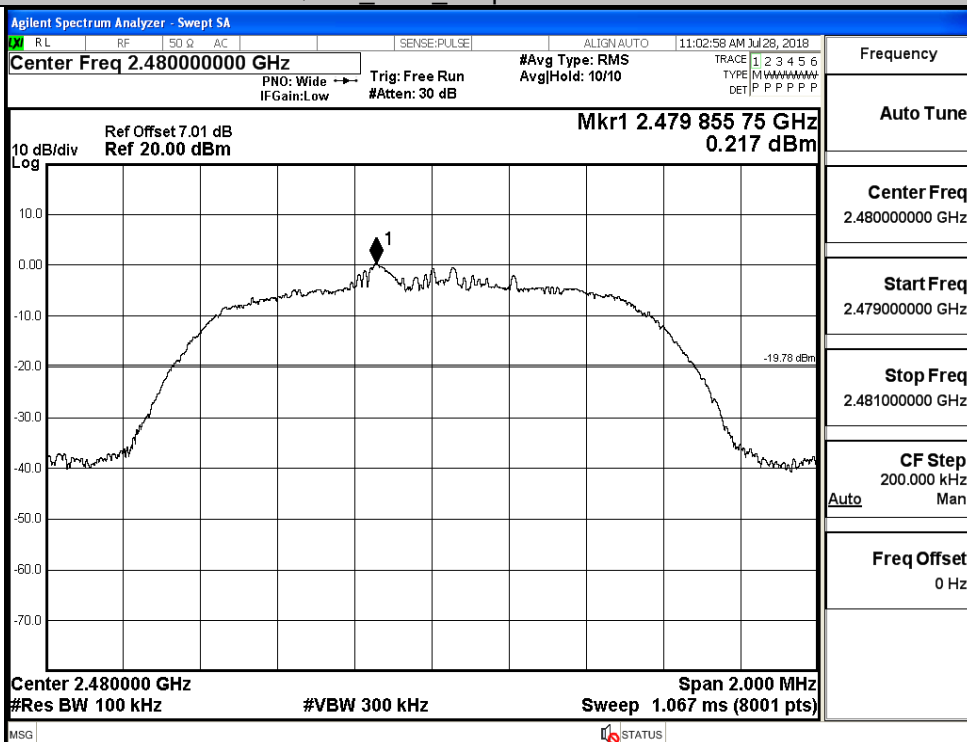


Puw

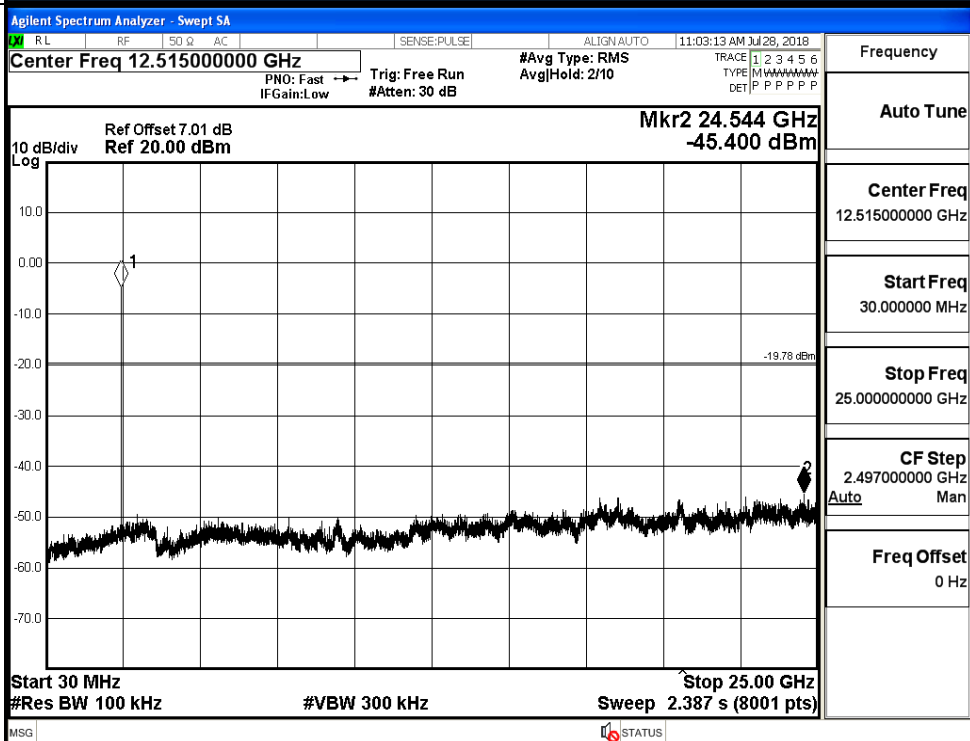


$\pi/4$ DQPSK\_HCH\_Graphs

Pref

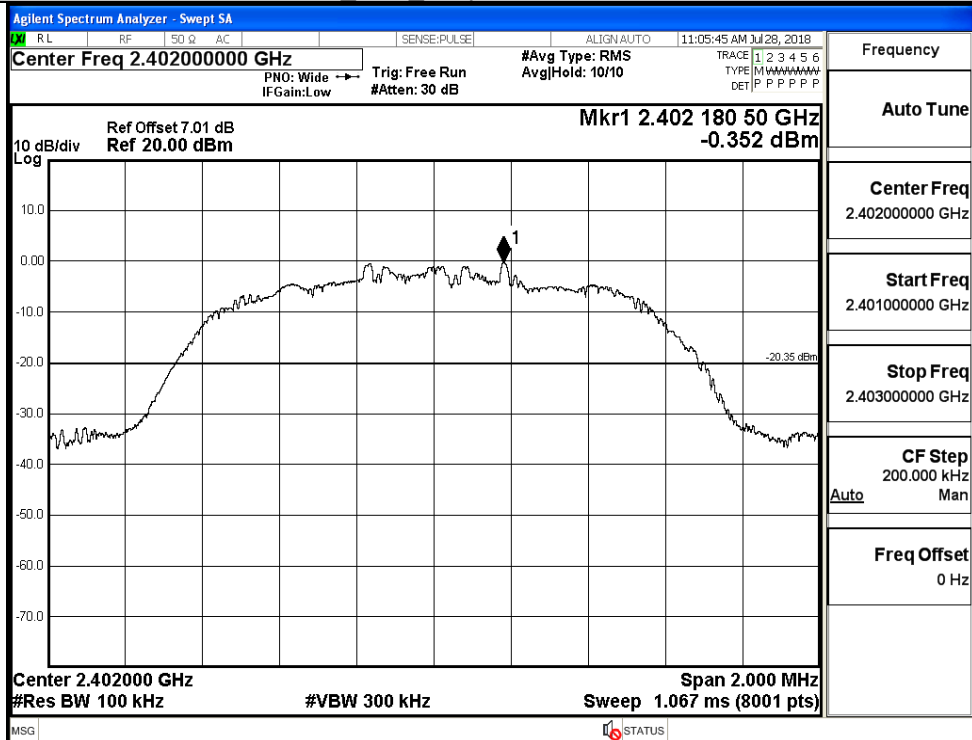


Puw

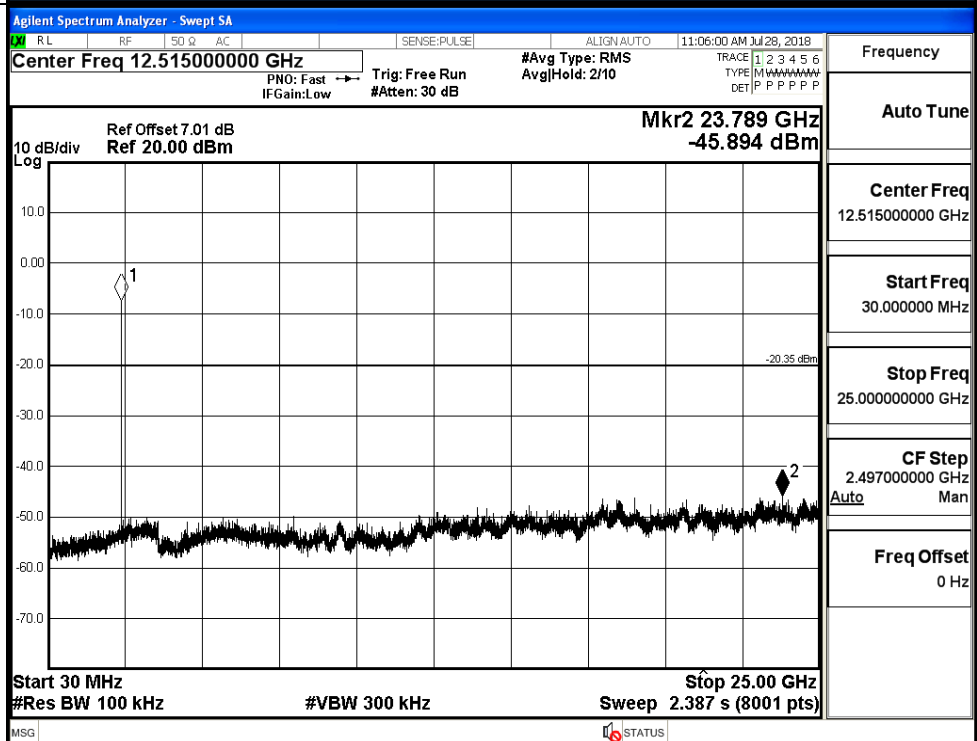


## 8DPSK\_LCH\_Graphs

Pref

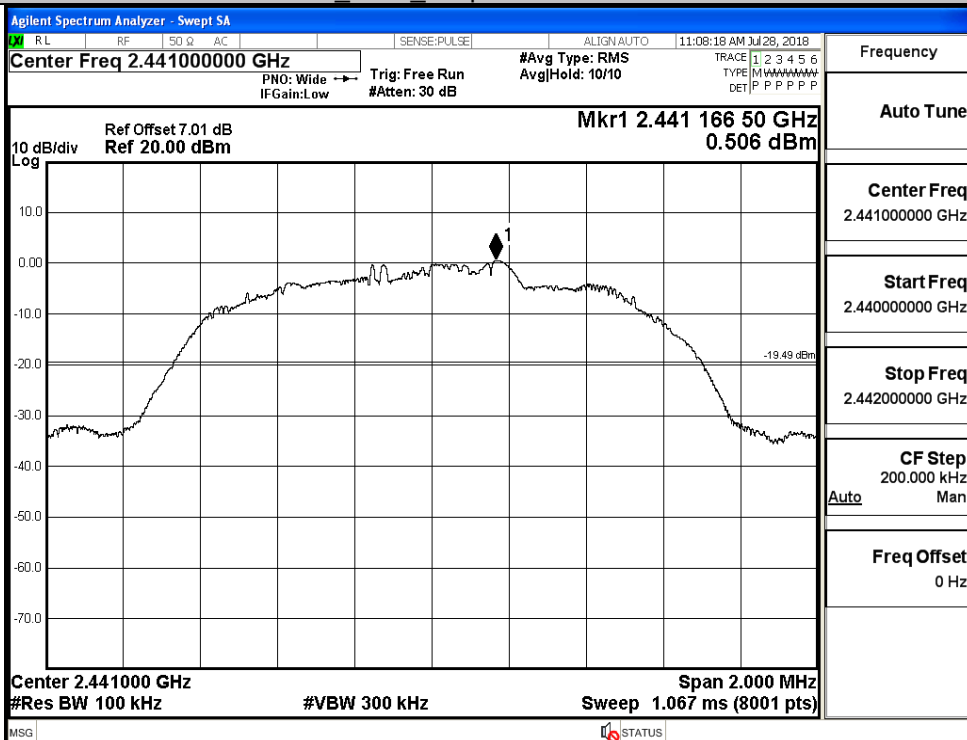


Puw

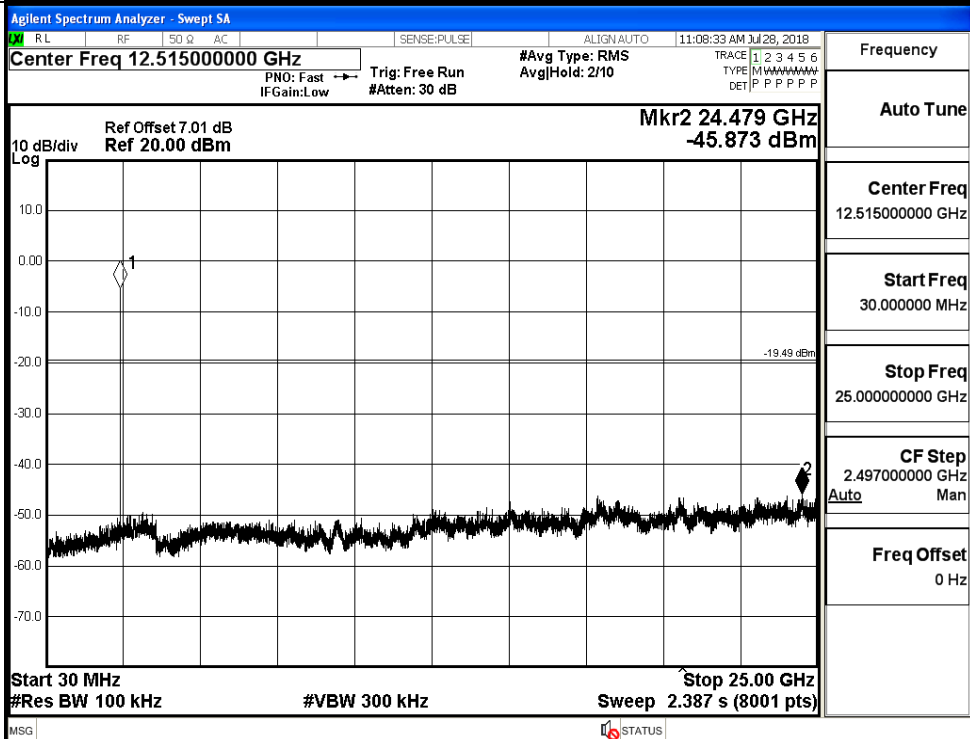


## 8DPSK\_MCH\_Graphs

Pref

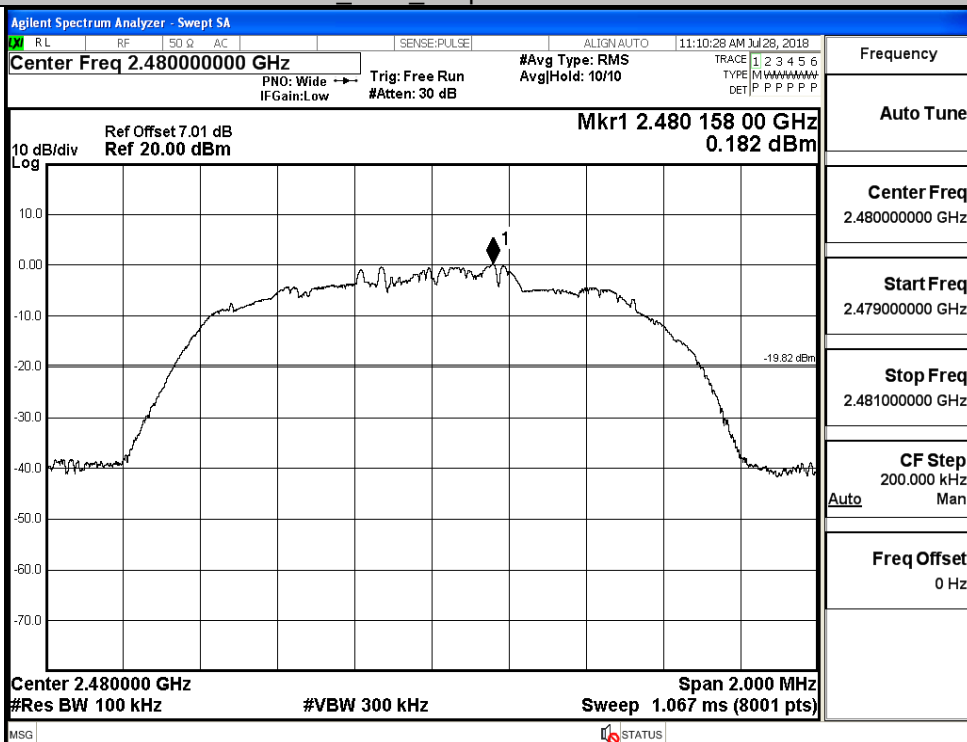


Puw

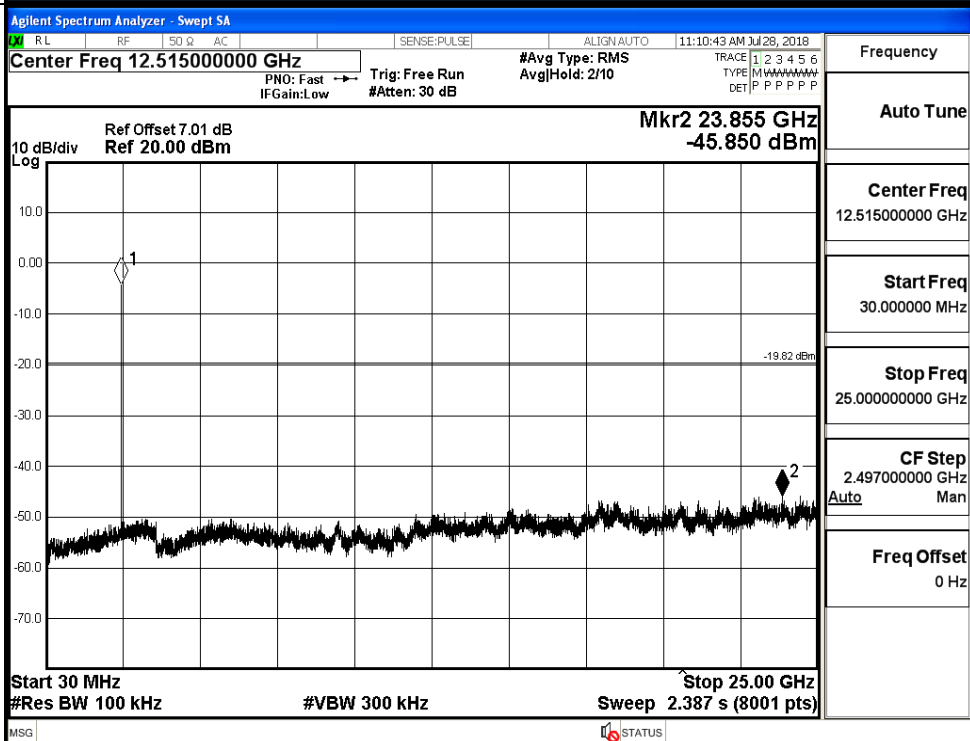


## 8DPSK\_HCH\_Graphs

Pref



Puw

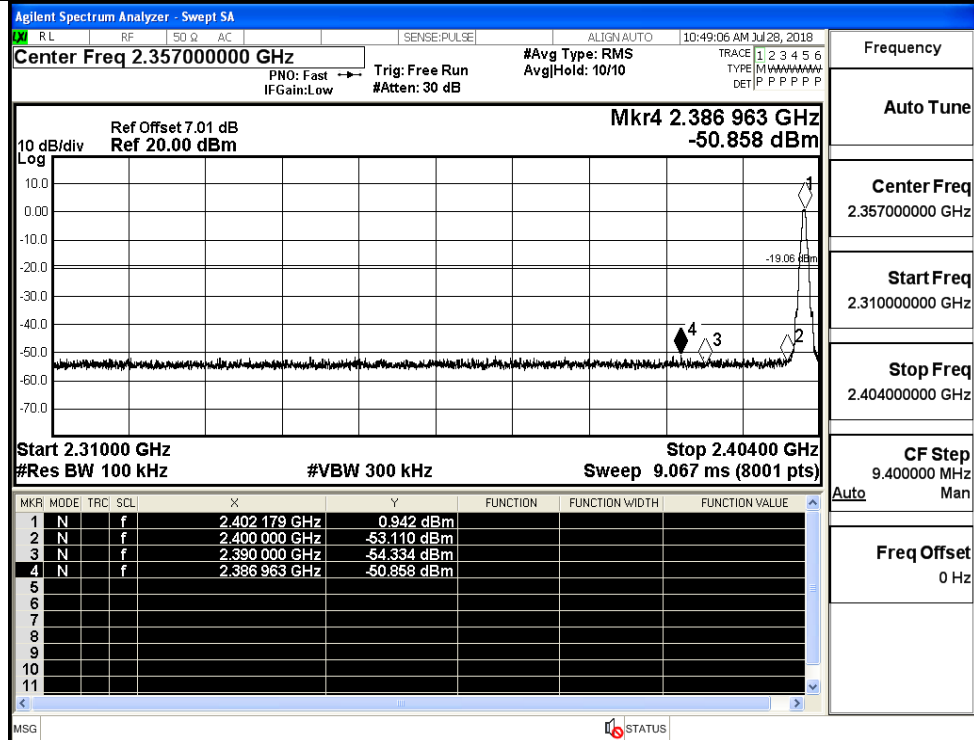


**B.7 Band-edge for RF Conducted Emissions**

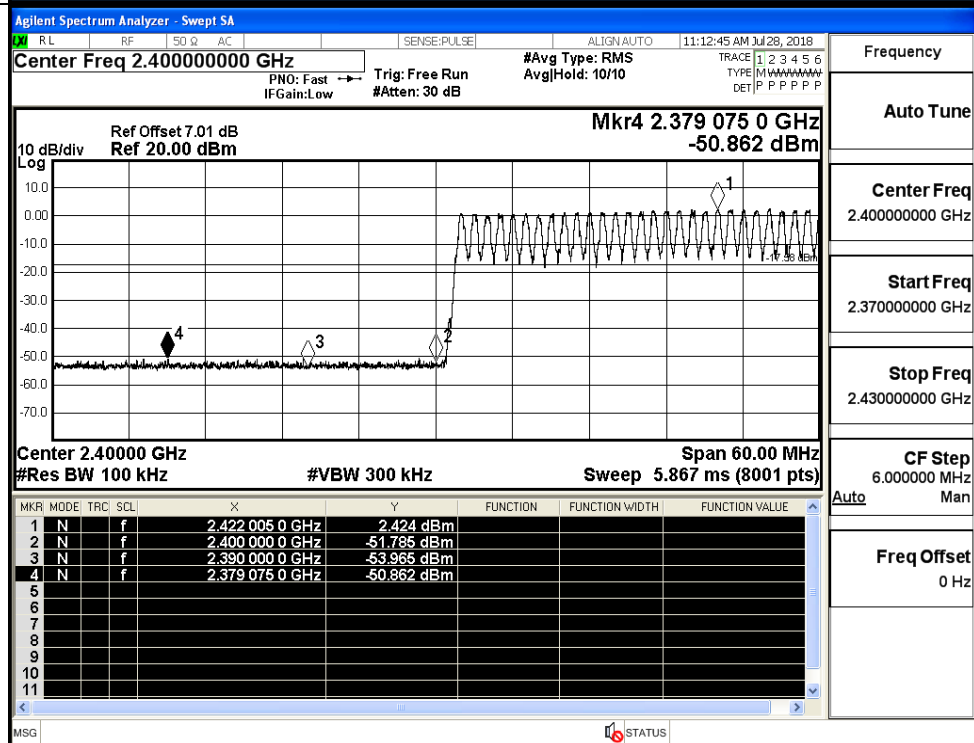
| Mode          | Channel | Carrier Frequency [MHz] | Carrier Power [dBm] | Frequency Hopping | Max Spurious Level [dBm] | Limit [dBm] | Verdict |
|---------------|---------|-------------------------|---------------------|-------------------|--------------------------|-------------|---------|
| GFSK          | LCH     | 2402                    | 0.942               | Off               | -50.858                  | -19.06      | PASS    |
|               |         |                         | 2.424               | On                | -50.862                  | -17.58      | PASS    |
|               | HCH     | 2480                    | 1.859               | Off               | -50.426                  | -18.14      | PASS    |
|               |         |                         | 1.722               | On                | -50.019                  | -18.28      | PASS    |
| $\pi/4$ DQPSK | LCH     | 2402                    | -0.609              | Off               | -50.624                  | -20.61      | PASS    |
|               |         |                         | 0.942               | On                | -50.699                  | -19.06      | PASS    |
|               | HCH     | 2480                    | 0.380               | Off               | -50.328                  | -19.62      | PASS    |
|               |         |                         | 0.189               | On                | -50.015                  | -19.81      | PASS    |
| 8DPSK         | LCH     | 2402                    | -2.060              | Off               | -51.304                  | -22.06      | PASS    |
|               |         |                         | 0.957               | On                | -50.519                  | -19.04      | PASS    |
|               | HCH     | 2480                    | 0.274               | Off               | -51.163                  | -19.73      | PASS    |
|               |         |                         | -0.239              | On                | -49.610                  | -20.24      | PASS    |

## Test Graphs

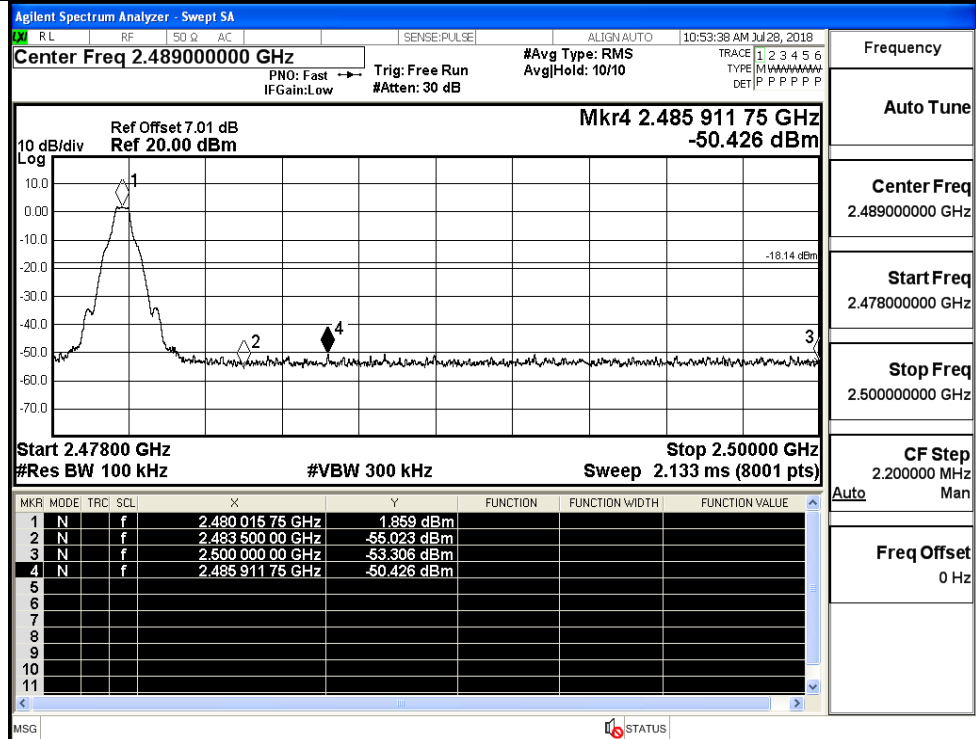
GFSK/LCH/No Hop



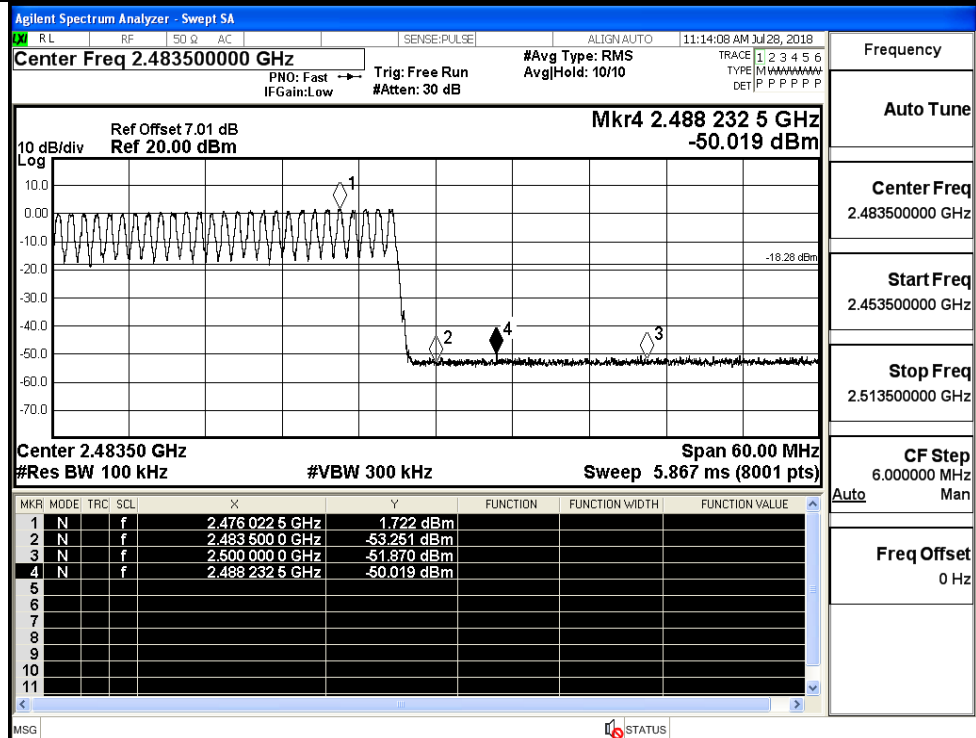
GFSK/LCH/Hop



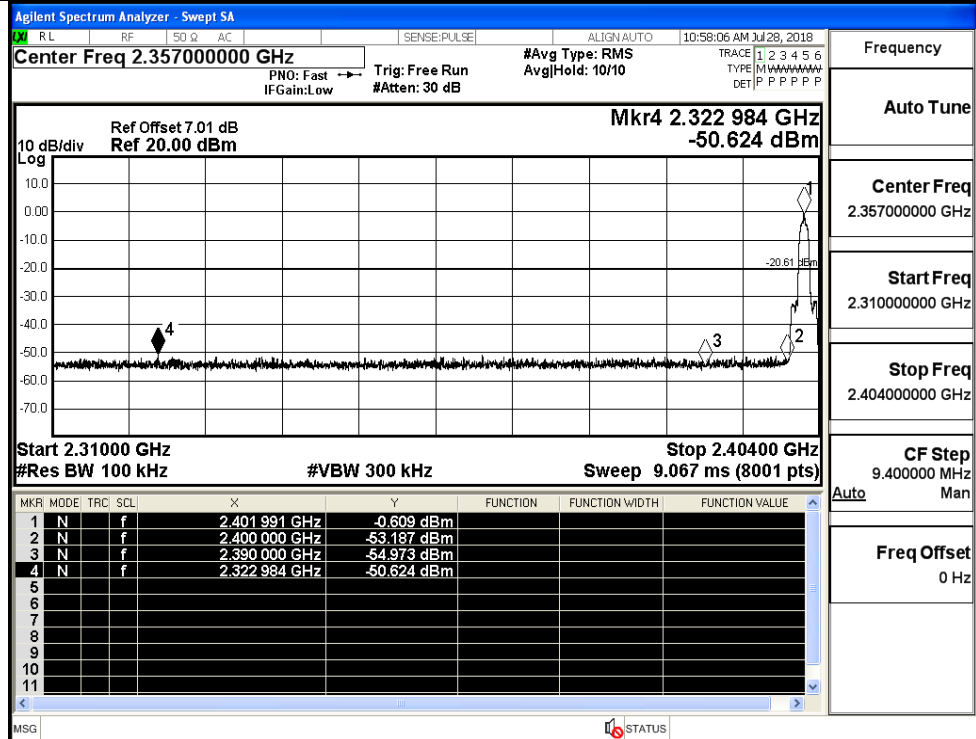
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq  
2.357000000 GHz

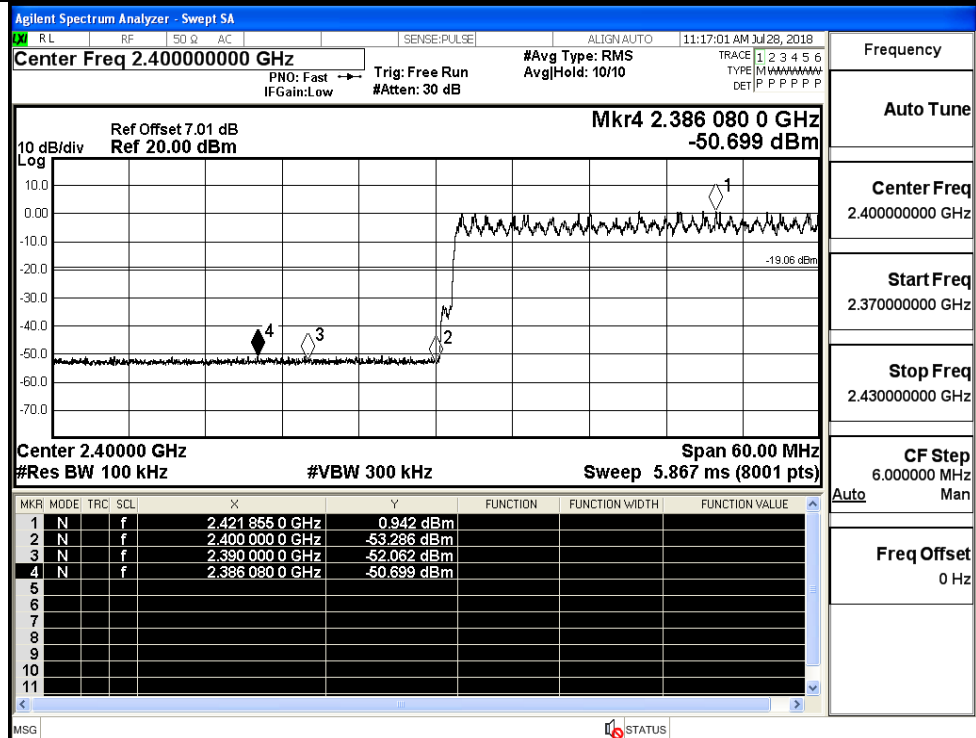
Start Freq  
2.310000000 GHz

Stop Freq  
2.404000000 GHz

CF Step  
9.400000 MHz  
Auto Man

Freq Offset  
0 Hz

$\pi/4$ DQPSK/LCH/Hop



Frequency

Auto Tune

Center Freq  
2.400000000 GHz

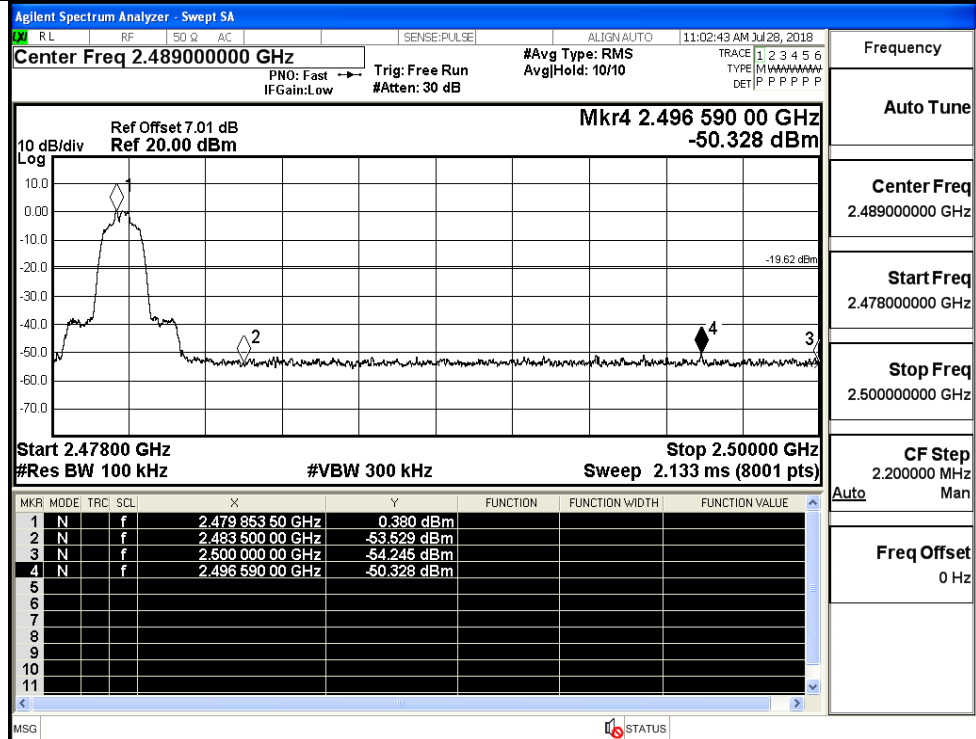
Start Freq  
2.370000000 GHz

Stop Freq  
2.430000000 GHz

CF Step  
6.000000 MHz  
Auto Man

Freq Offset  
0 Hz

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



Frequency

Auto Tune

Center Freq  
2.489000000 GHz

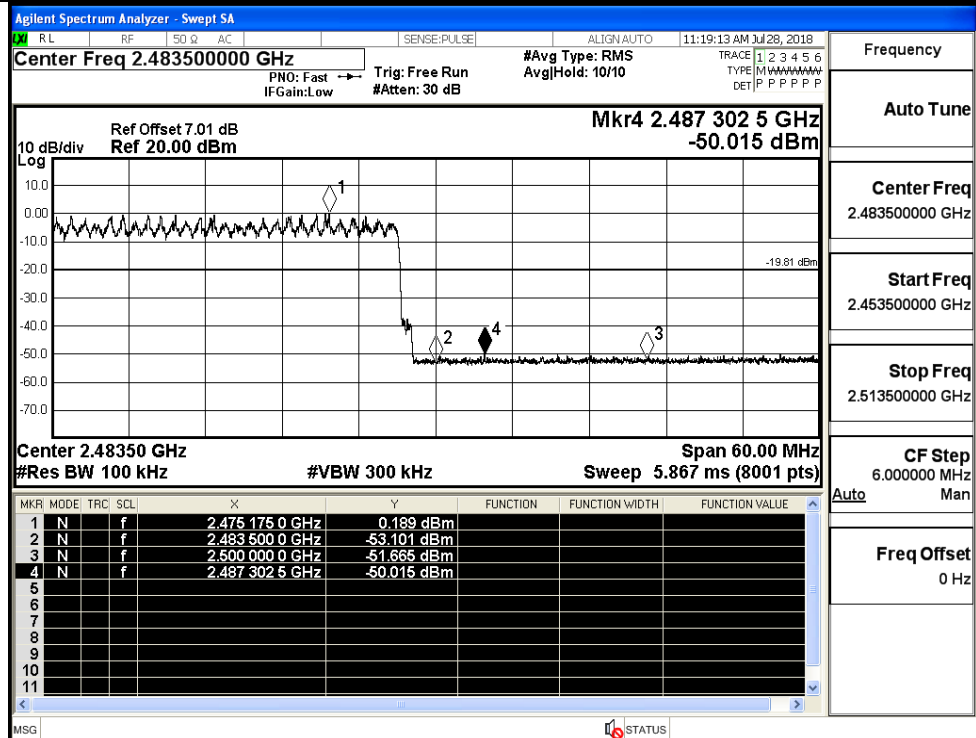
Start Freq  
2.478000000 GHz

Stop Freq  
2.500000000 GHz

CF Step  
2.200000 MHz

Freq Offset  
0 Hz

$\pi/4$ DQPSK/HCH/Hop



Frequency

Auto Tune

Center Freq  
2.483500000 GHz

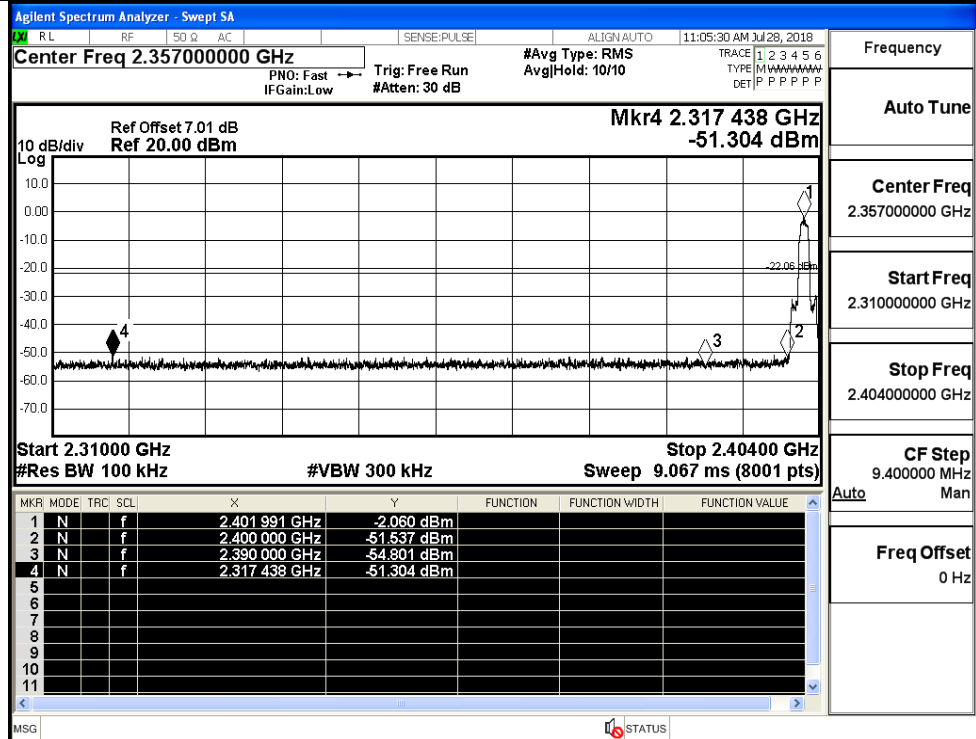
Start Freq  
2.453500000 GHz

Stop Freq  
2.513500000 GHz

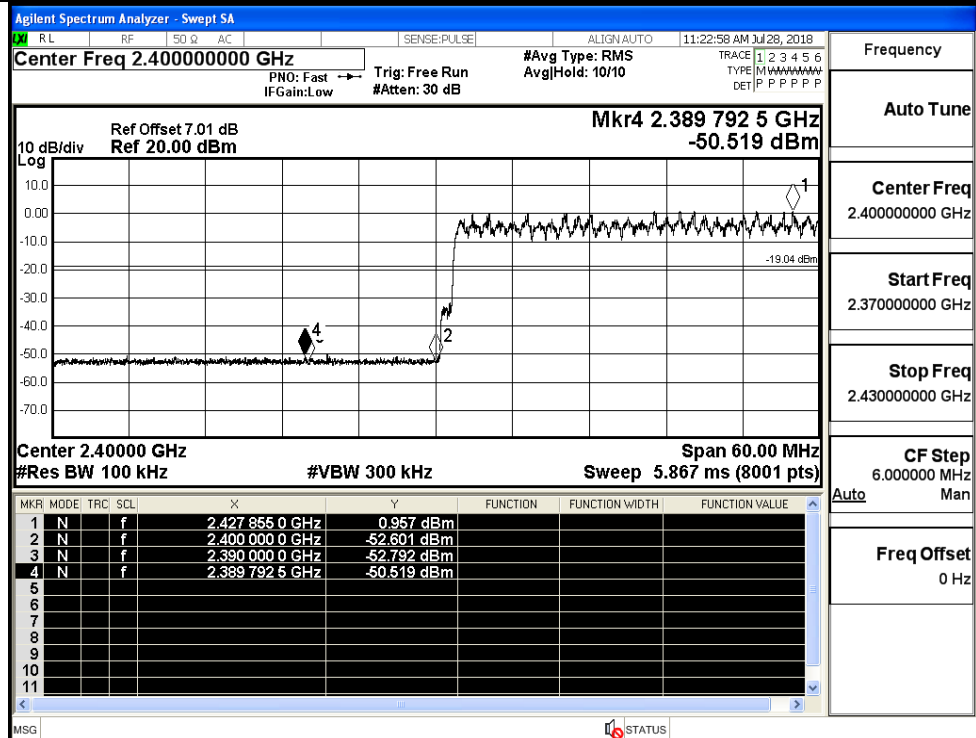
CF Step  
6.000000 MHz

Freq Offset  
0 Hz

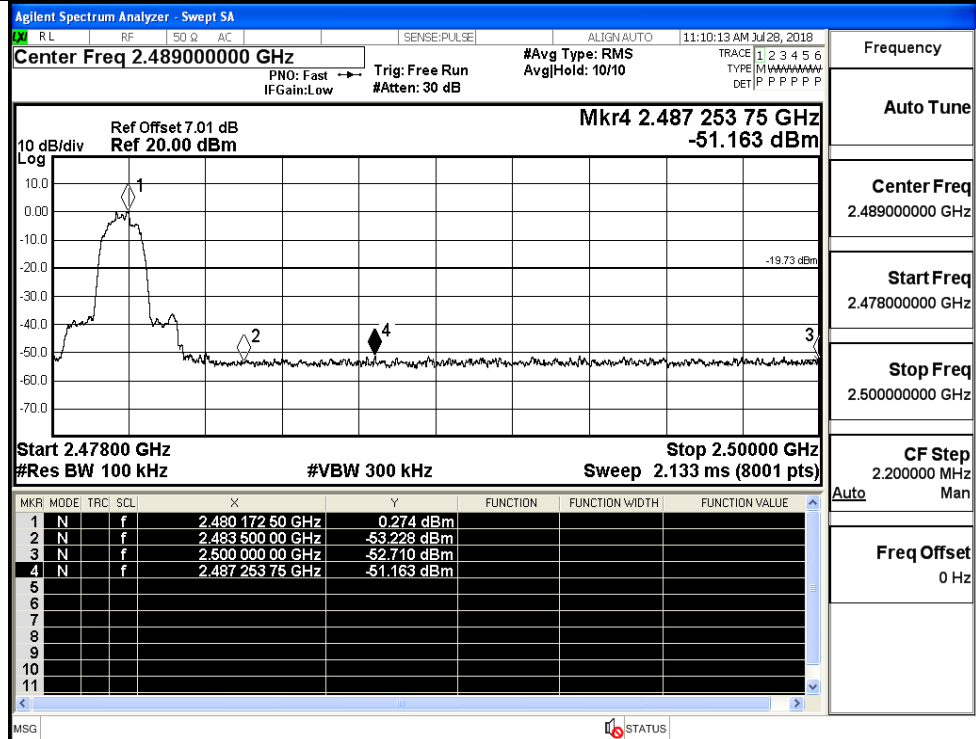
8DPSK/LCH/No Hop



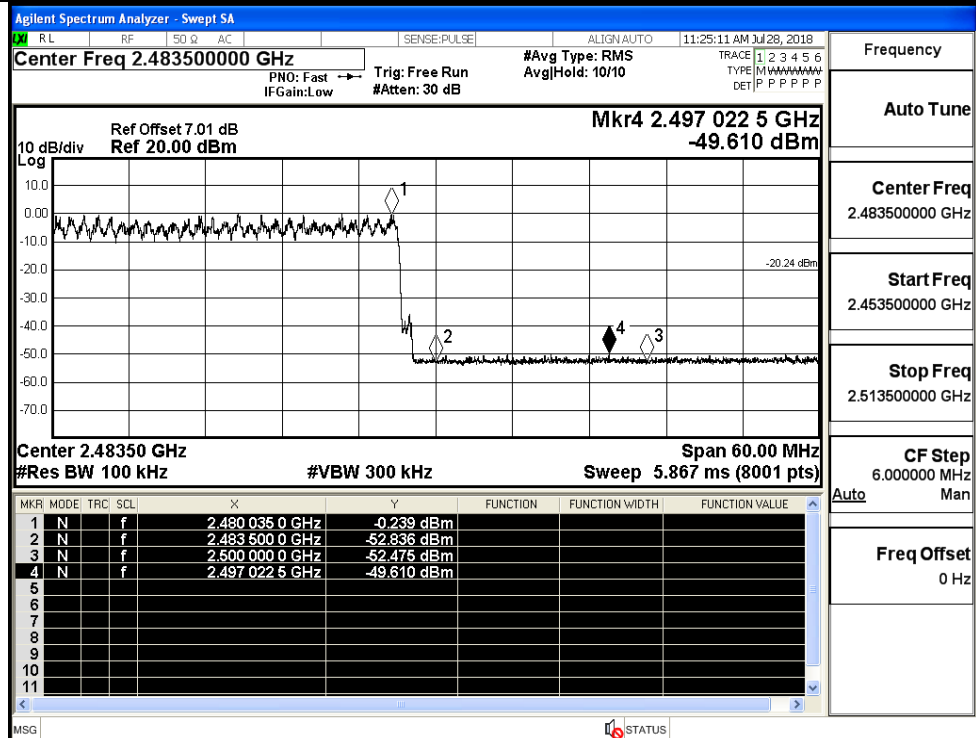
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



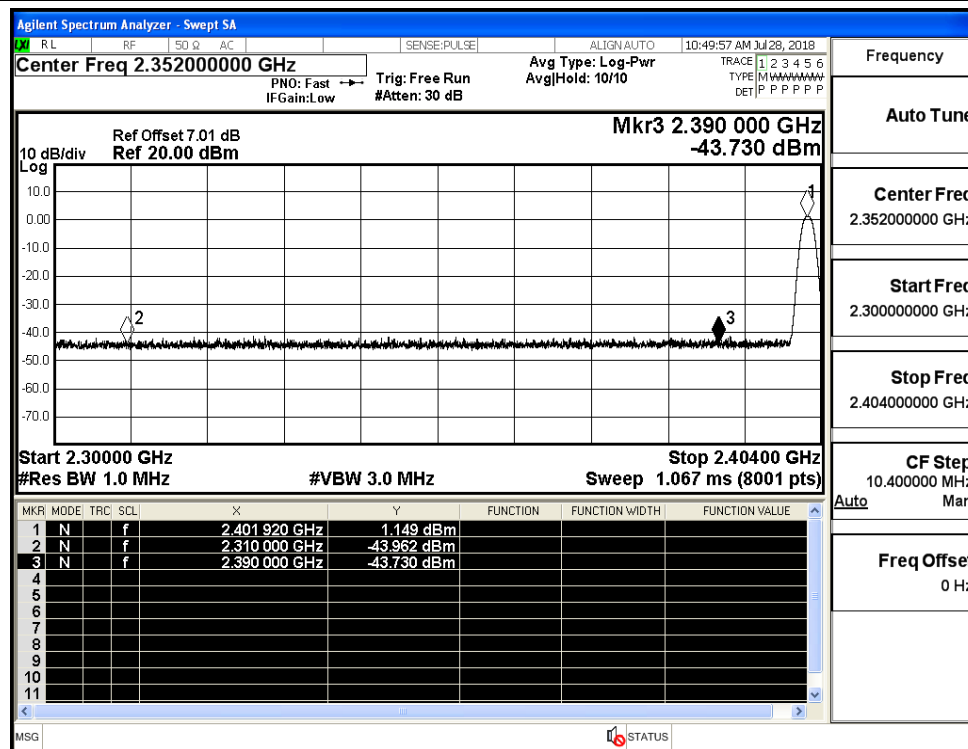
8DPSK/HCH/Hop



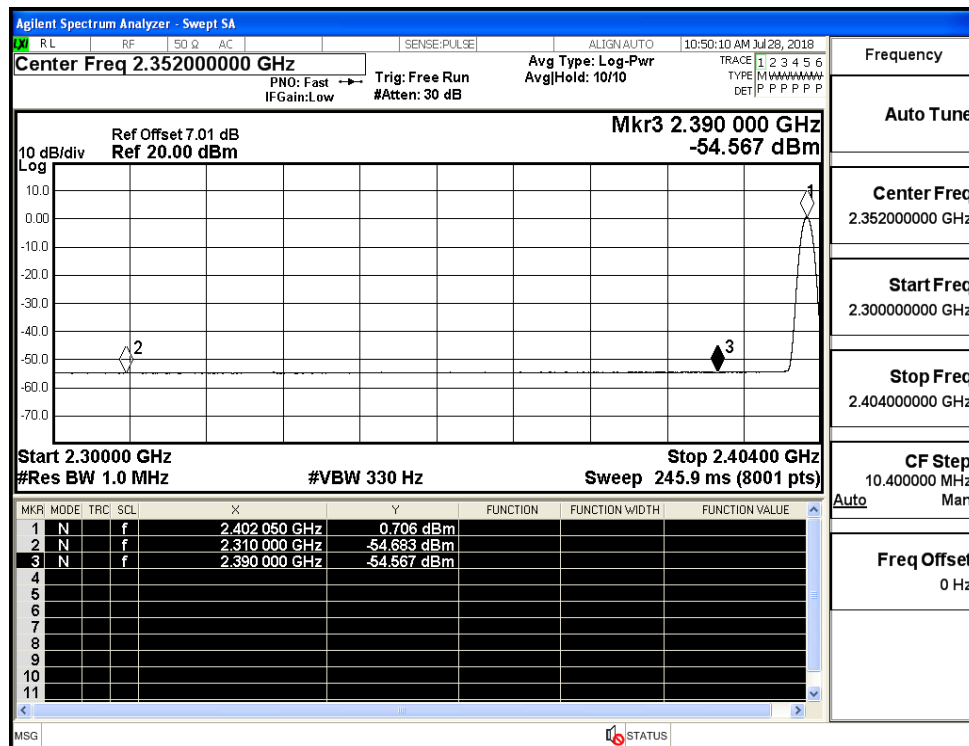
**B.8 Restrict-band band-edge measurements**

| Test Mode     | Hopping | Freq.  | Power [dBm] | Gain | Ground Factor | E [dBuV/m] | Detector | Limit [dBuV/m] | Verdict |
|---------------|---------|--------|-------------|------|---------------|------------|----------|----------------|---------|
| GFSK          | Off     | 2310.0 | -43.96      | 2.0  | 0             | 51.30      | PEAK     | 74             | PASS    |
|               | Off     | 2310.0 | -54.68      | 2.0  | 0             | 40.57      | AV       | 54             | PASS    |
|               | Off     | 2390.0 | -43.73      | 2.0  | 0             | 51.53      | PEAK     | 74             | PASS    |
|               | Off     | 2390.0 | -54.57      | 2.0  | 0             | 40.69      | AV       | 54             | PASS    |
|               | Off     | 2483.5 | -43.03      | 2.0  | 0             | 52.23      | PEAK     | 74             | PASS    |
|               | Off     | 2483.5 | -54.01      | 2.0  | 0             | 41.25      | AV       | 54             | PASS    |
|               | Off     | 2500.0 | -42.33      | 2.0  | 0             | 52.93      | PEAK     | 74             | PASS    |
|               | Off     | 2500.0 | -54.13      | 2.0  | 0             | 41.13      | AV       | 54             | PASS    |
| $\pi/4$ DQPSK | Off     | 2310.0 | -43.42      | 2.0  | 0             | 51.84      | PEAK     | 74             | PASS    |
|               | Off     | 2310.0 | -54.75      | 2.0  | 0             | 40.51      | AV       | 54             | PASS    |
|               | Off     | 2390.0 | -43.05      | 2.0  | 0             | 52.21      | PEAK     | 74             | PASS    |
|               | Off     | 2390.0 | -54.51      | 2.0  | 0             | 40.75      | AV       | 54             | PASS    |
|               | Off     | 2483.5 | -43.91      | 2.0  | 0             | 51.35      | PEAK     | 74             | PASS    |
|               | Off     | 2483.5 | -54.08      | 2.0  | 0             | 41.18      | AV       | 54             | PASS    |
|               | Off     | 2500.0 | -45.49      | 2.0  | 0             | 49.77      | PEAK     | 74             | PASS    |
|               | Off     | 2500.0 | -53.94      | 2.0  | 0             | 41.32      | AV       | 54             | PASS    |
| 8DPSK         | Off     | 2310.0 | -43.91      | 2.0  | 0             | 51.35      | PEAK     | 74             | PASS    |
|               | Off     | 2310.0 | -54.73      | 2.0  | 0             | 40.52      | AV       | 54             | PASS    |
|               | Off     | 2390.0 | -43.32      | 2.0  | 0             | 51.93      | PEAK     | 74             | PASS    |
|               | Off     | 2390.0 | -54.41      | 2.0  | 0             | 40.84      | AV       | 54             | PASS    |
|               | Off     | 2483.5 | -44.48      | 2.0  | 0             | 50.78      | PEAK     | 74             | PASS    |
|               | Off     | 2483.5 | -53.91      | 2.0  | 0             | 41.35      | AV       | 54             | PASS    |
|               | Off     | 2500.0 | -43.93      | 2.0  | 0             | 51.32      | PEAK     | 74             | PASS    |
|               | Off     | 2500.0 | -54.07      | 2.0  | 0             | 41.19      | AV       | 54             | PASS    |

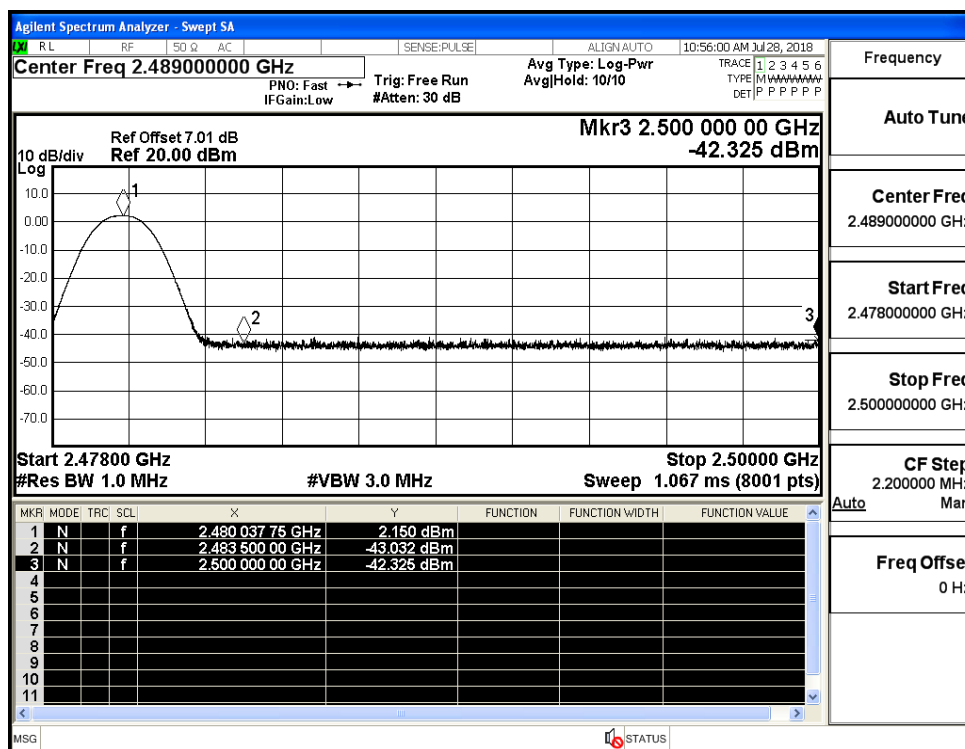
## Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (Low Channel)



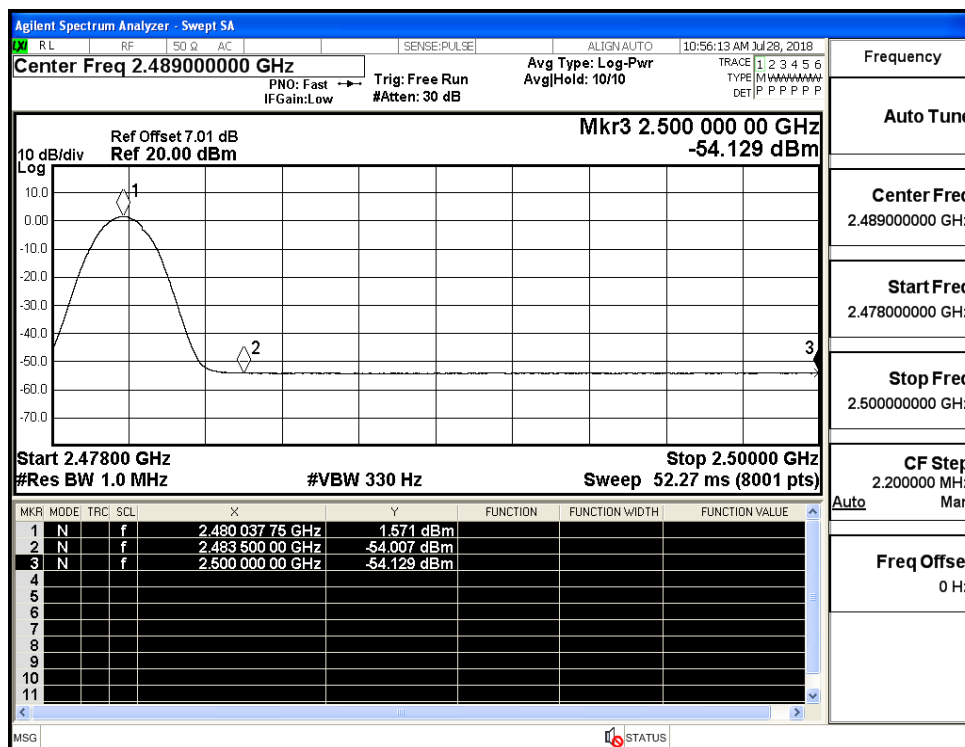
## Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (Low Channel)

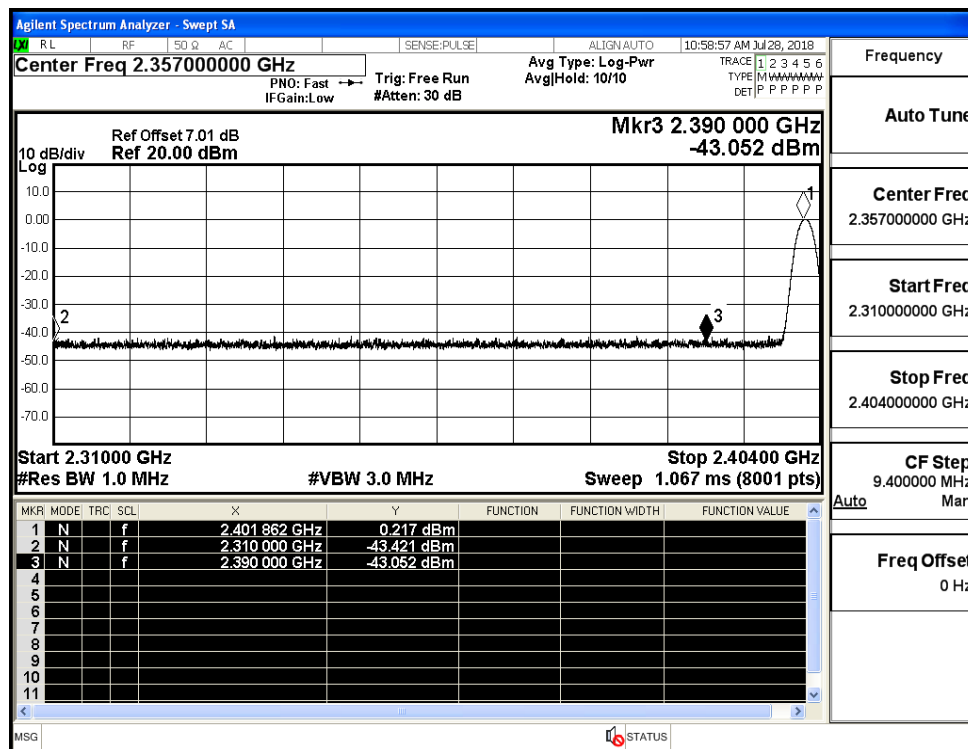
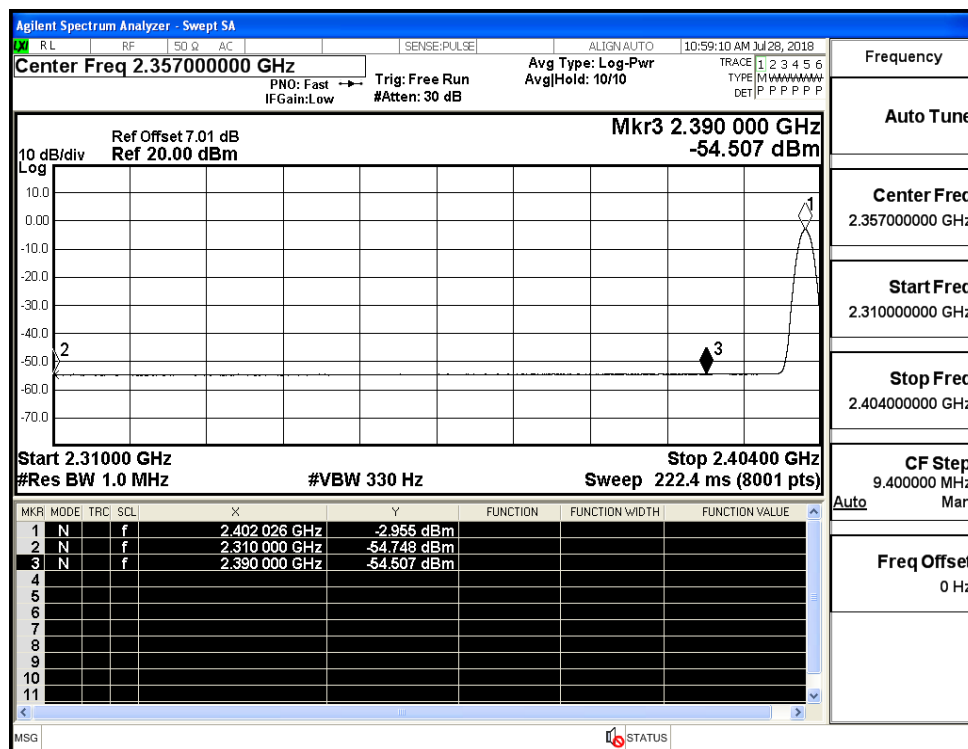


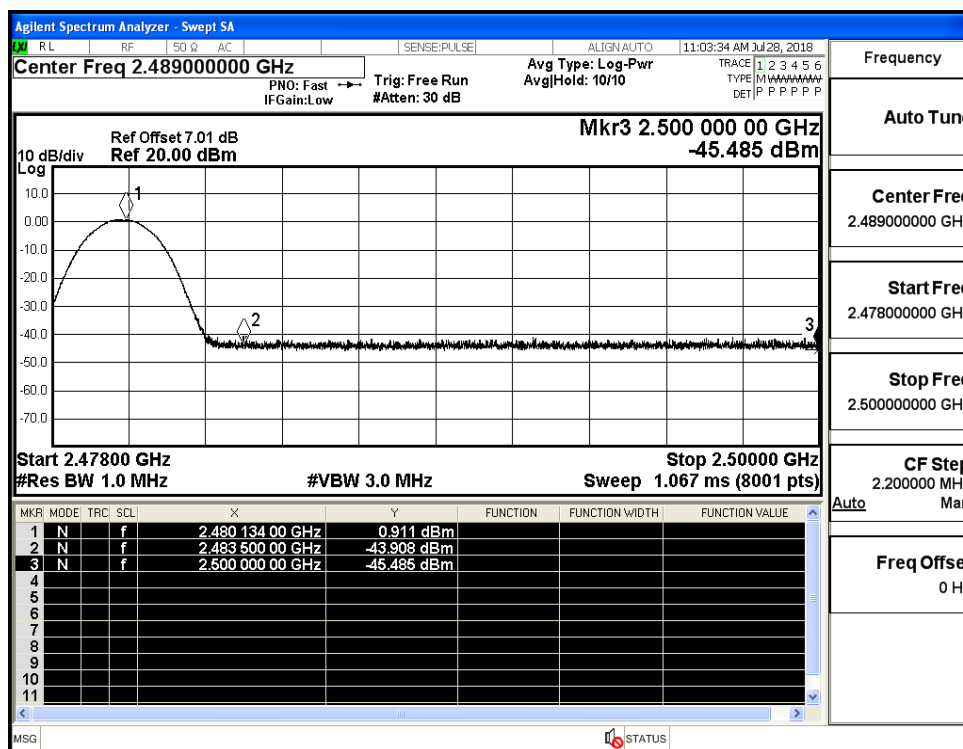
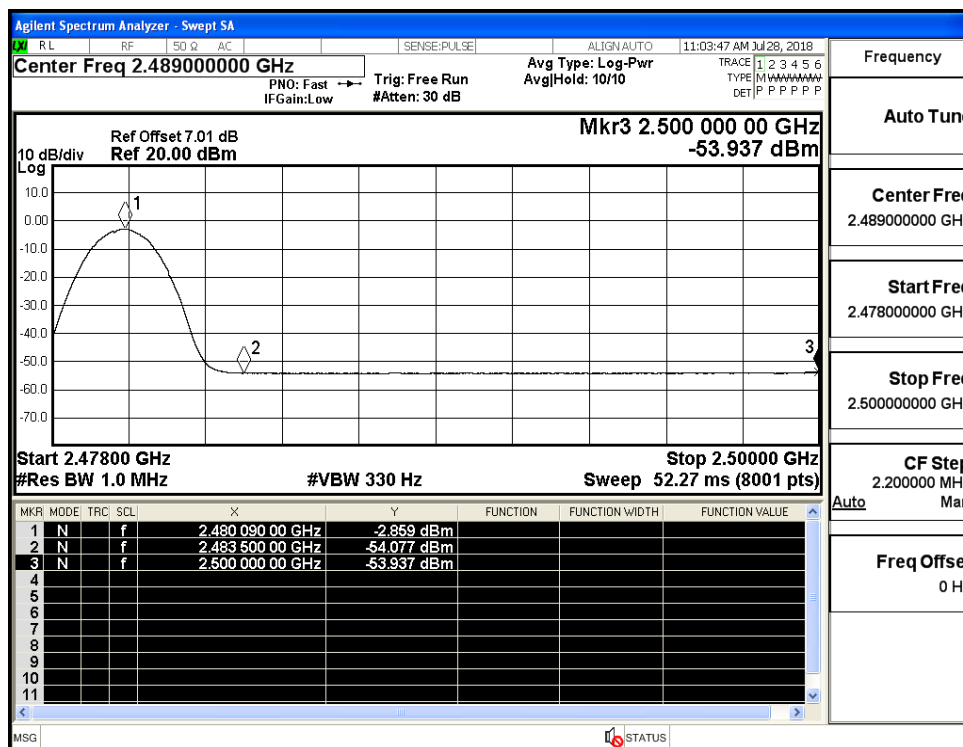
## Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (High Channel)



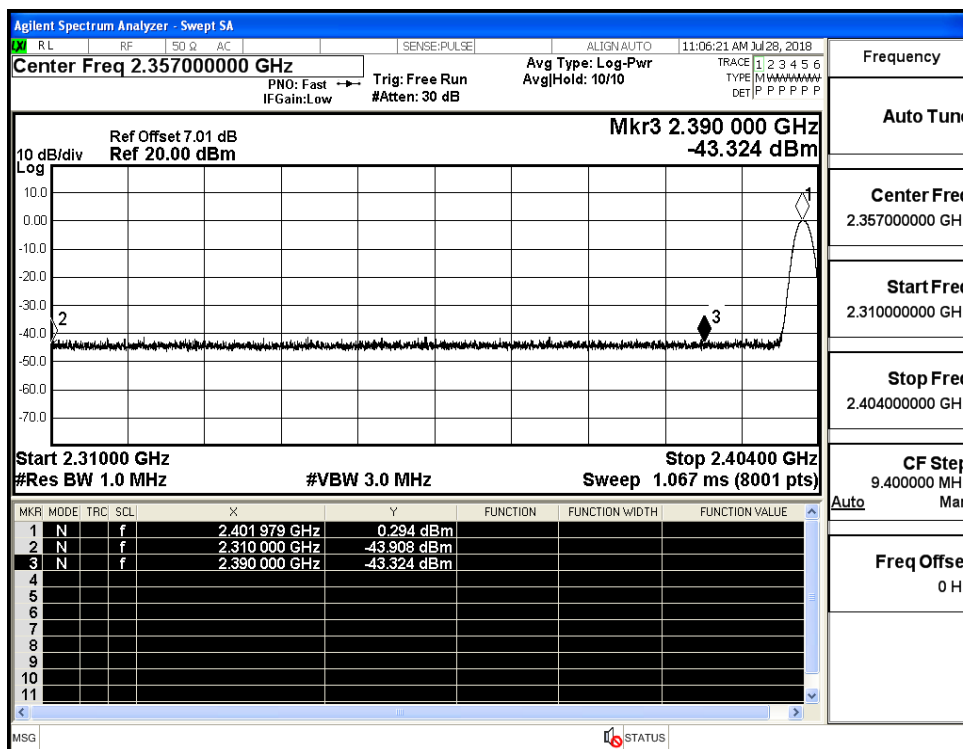
## Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (High Channel)



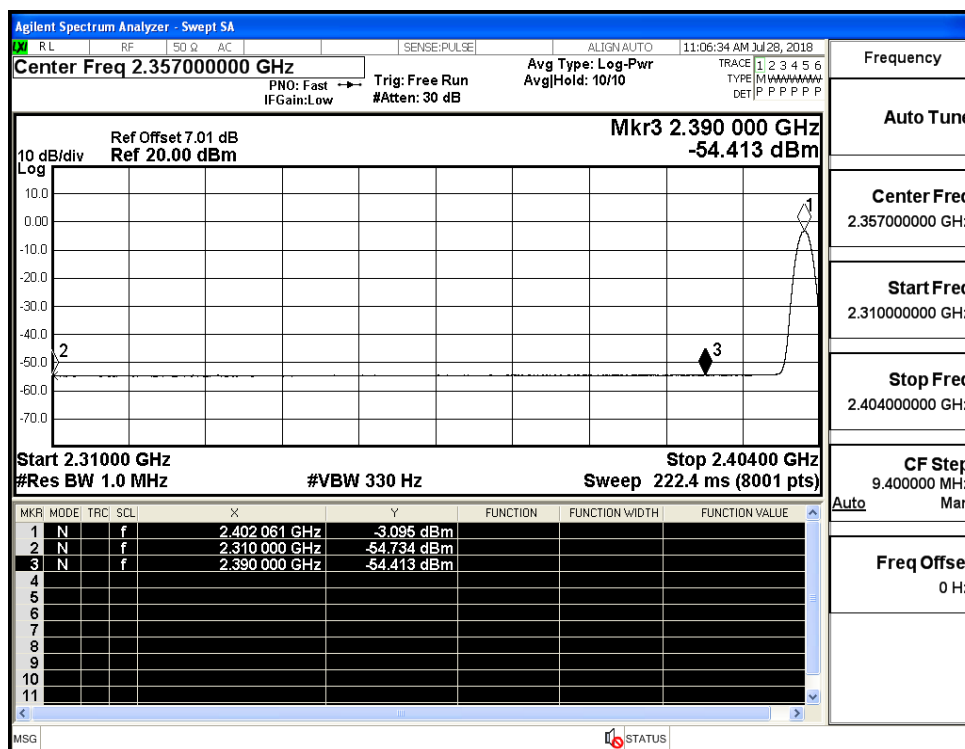
Restrict-band band-edge measurements\_Hopping Off  $\pi/4$ -DQPSK\_PEAK (Low Channel)Restrict-band band-edge measurements\_Hopping Off  $\pi/4$ -DQPSK\_Average (Low Channel)

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

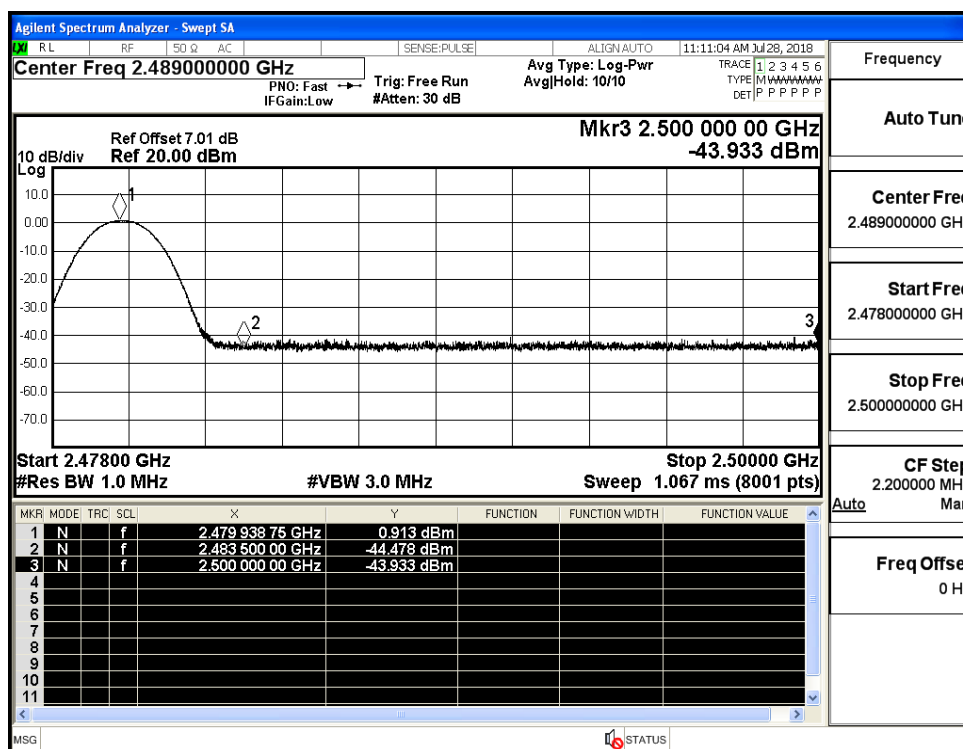
## Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_PEAK (Low Channel)



## 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)

