

## Appendix A

### RF Test Data for BT V4.1 (BDR/EDR) (Conducted Measurement)

Product Name: TURNTABLE

Trade Mark: N/A

Test Model: RTB-01

#### Environmental Conditions

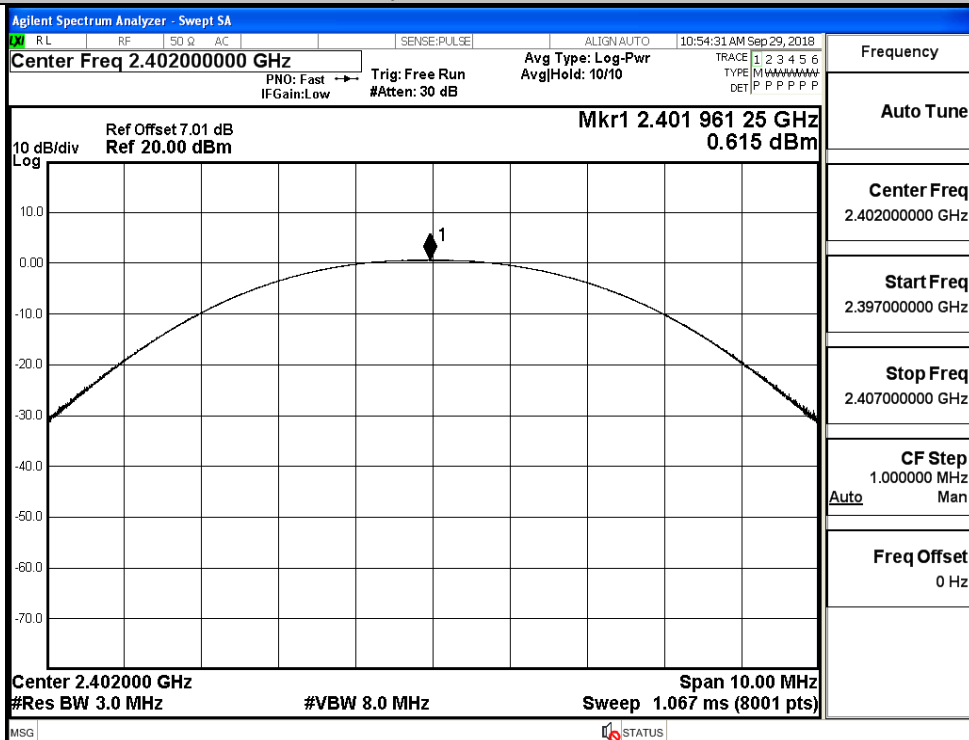
|                    |             |
|--------------------|-------------|
| Temperature:       | 24.3 ° C    |
| Relative Humidity: | 53.6%       |
| ATM Pressure:      | 100.0 kPa   |
| Test Engineer:     | WANGCHUANG  |
| Supervised by:     | Jayden.Zhuo |

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

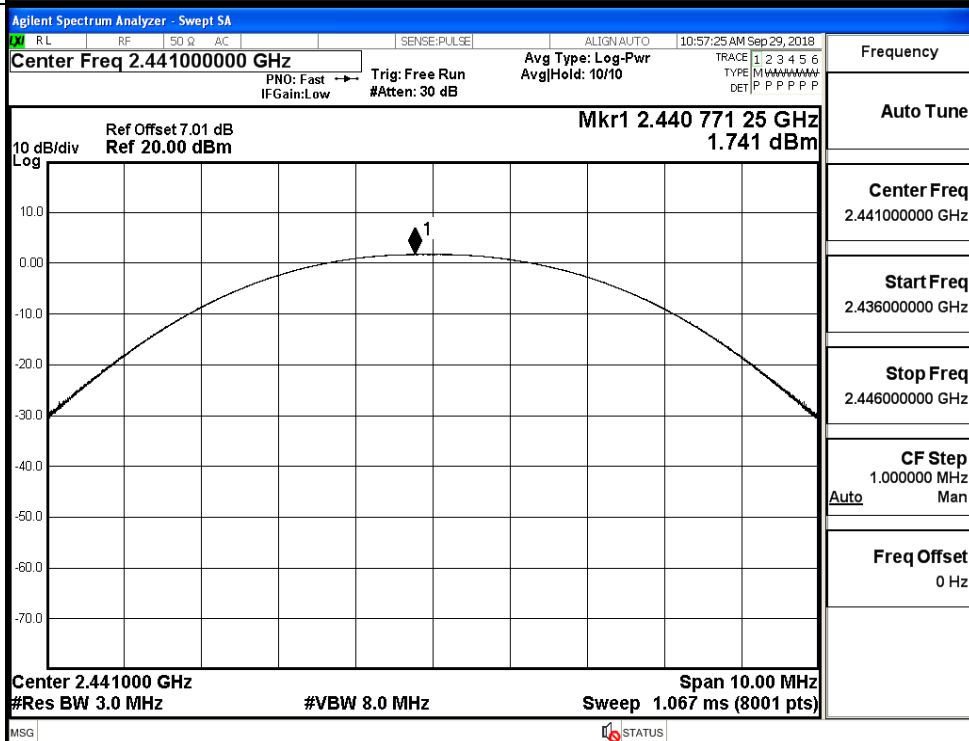
| Mode          | Channel. | Maximum Peak Output Power [dBm] | Limit [dBm] | Verdict |
|---------------|----------|---------------------------------|-------------|---------|
| GFSK          | LCH      | 0.615                           | 21          | PASS    |
|               | MCH      | 1.741                           | 21          | PASS    |
|               | HCH      | 2.636                           | 21          | PASS    |
| $\pi/4$ DQPSK | LCH      | 0.063                           | 21          | PASS    |
|               | MCH      | 1.107                           | 21          | PASS    |
|               | HCH      | 1.956                           | 21          | PASS    |

## Test Graphs

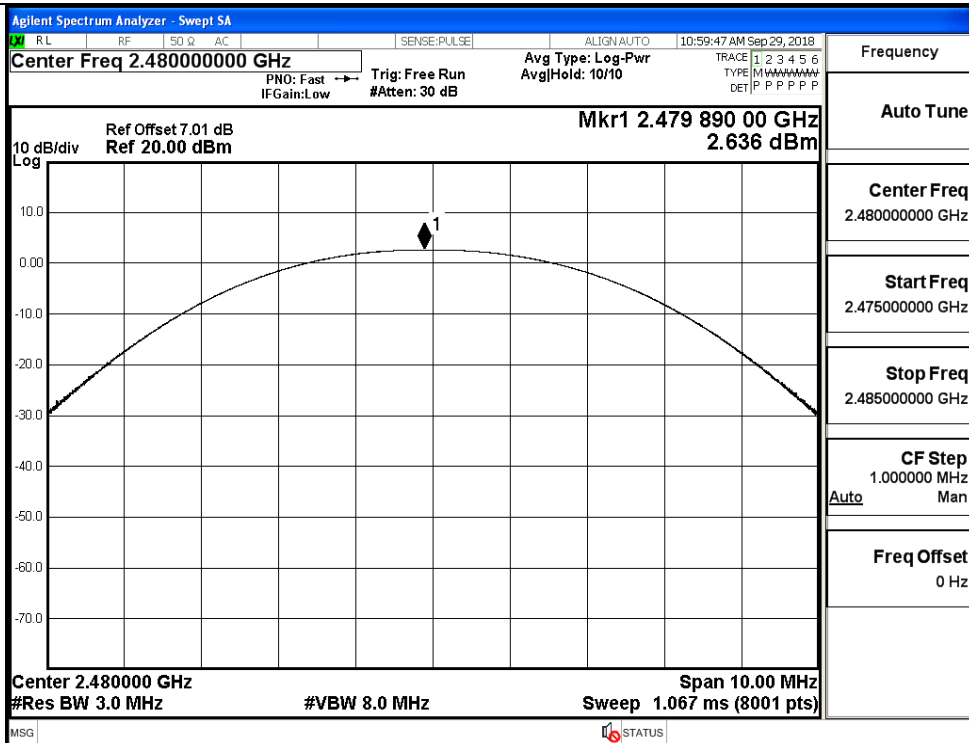
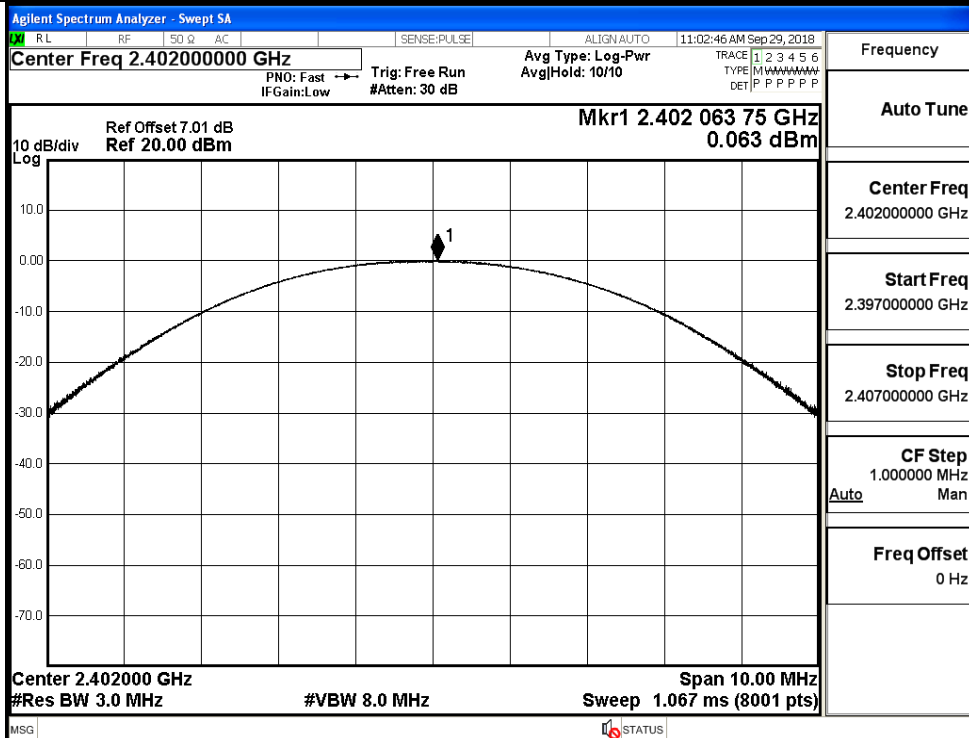
GFSK/LCH

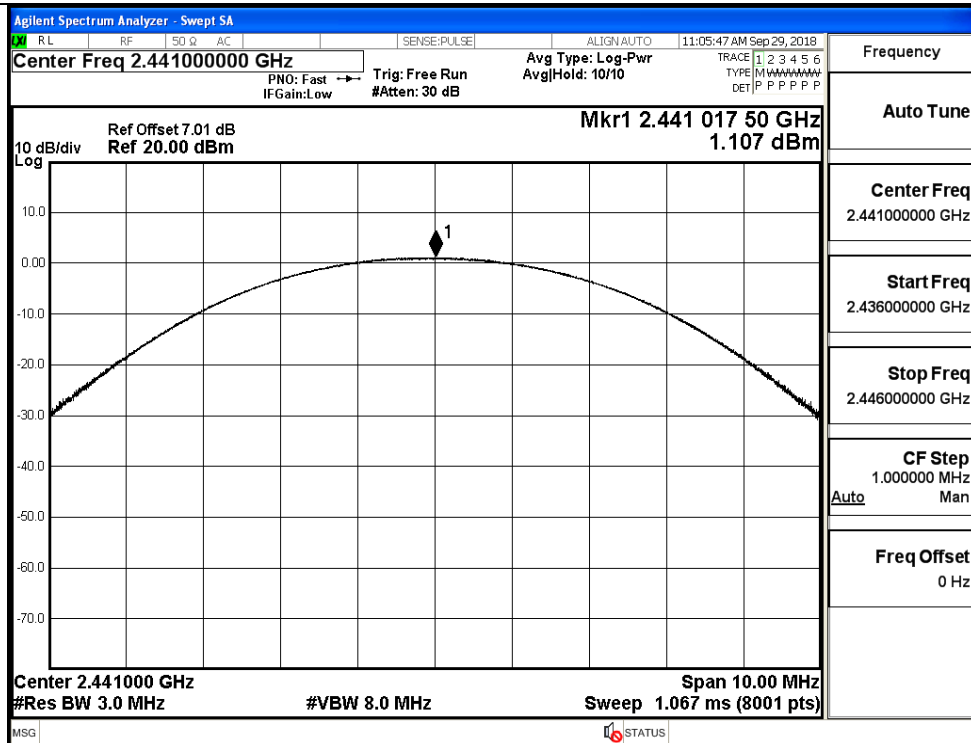
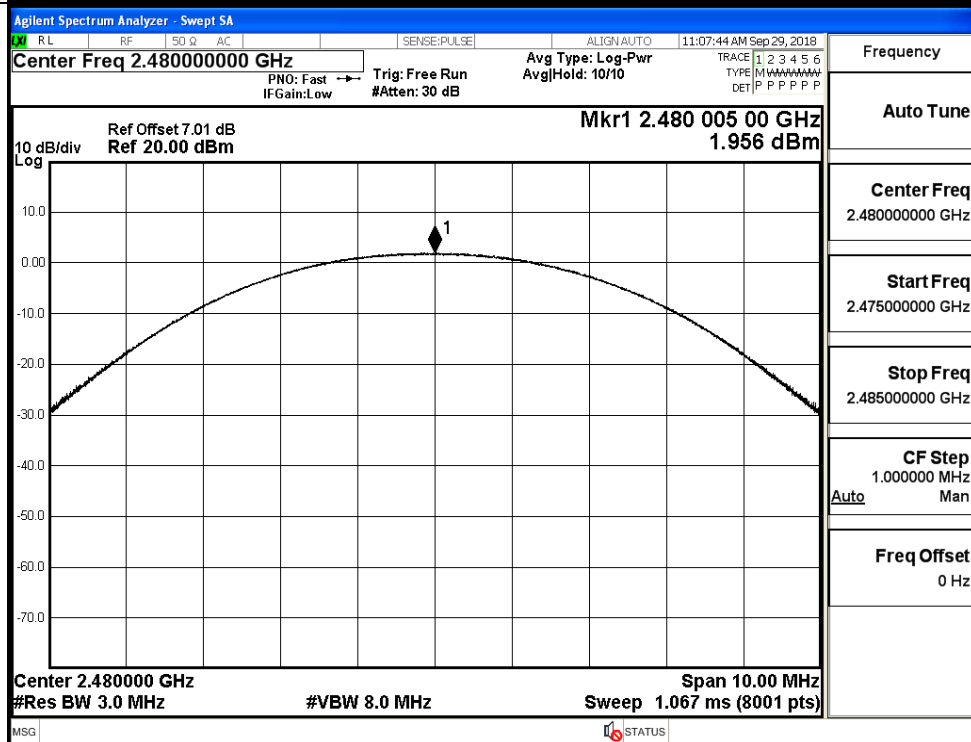


GFSK/MCH



GFSK/HCH

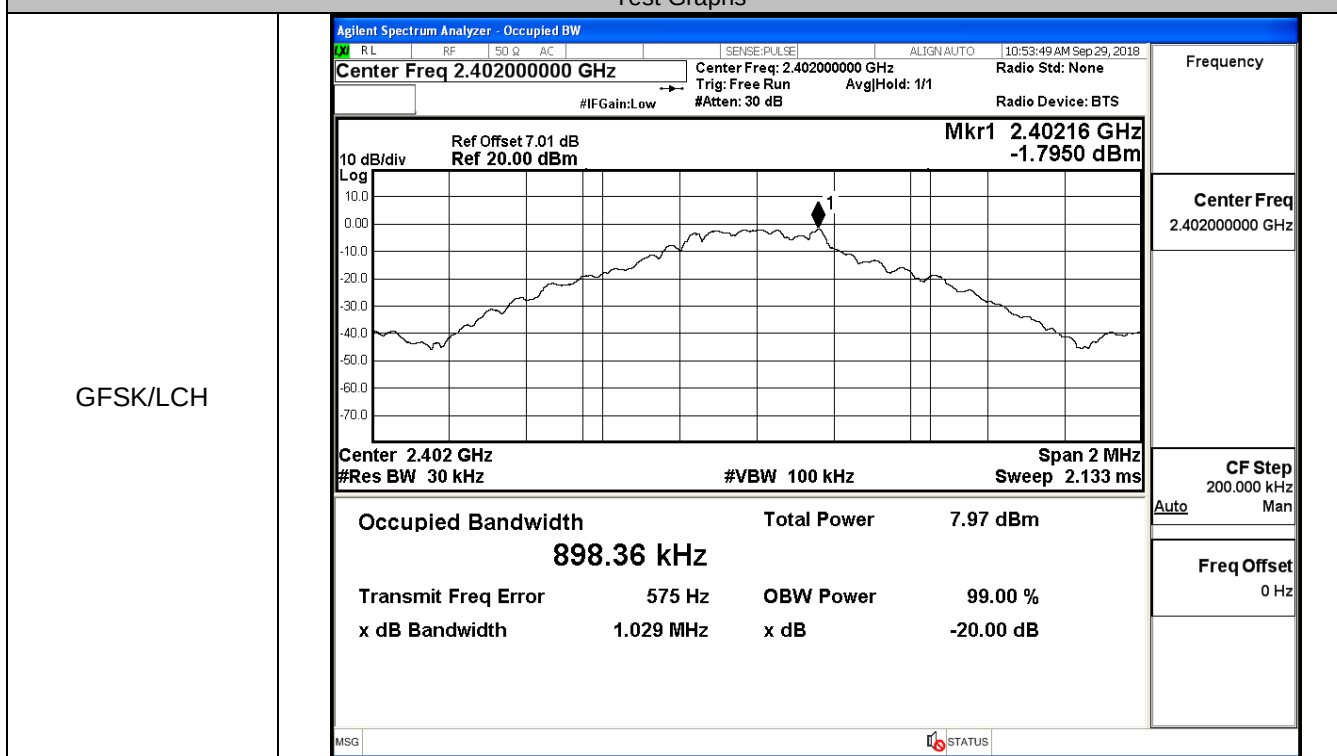
 $\pi$ /4DQPSK/LCH

$\pi/4$ DQPSK/MCH $\pi/4$ DQPSK/HCH

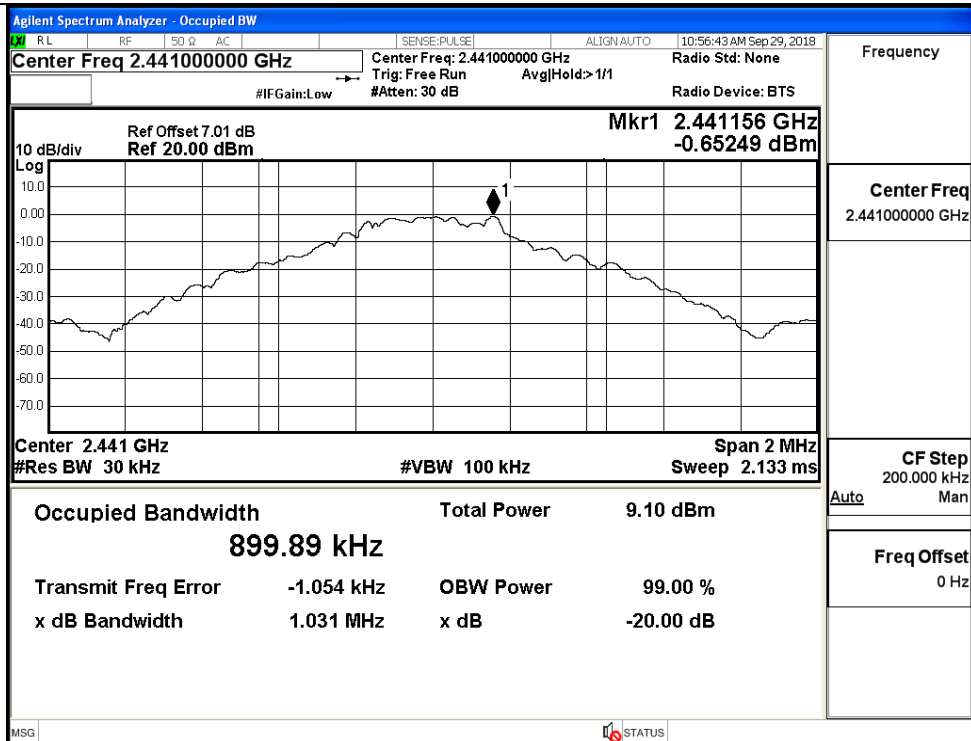
## A.2 99% and 20dB Bandwidth

| Mode          | Channel. | 99% Bandwidth [MHz] | 20dB Bandwidth [MHz] | Limit [MHz]   | Verdict |
|---------------|----------|---------------------|----------------------|---------------|---------|
| GFSK          | LCH      | 0.89836             | 1.029                | Not Specified | PASS    |
|               | MCH      | 0.89989             | 1.031                | Not Specified | PASS    |
|               | HCH      | 0.89985             | 1.036                | Not Specified | PASS    |
| $\pi$ /4DQPSK | LCH      | 1.1768              | 1.308                | Not Specified | PASS    |
|               | MCH      | 1.1736              | 1.291                | Not Specified | PASS    |
|               | HCH      | 1.1722              | 1.292                | Not Specified | PASS    |

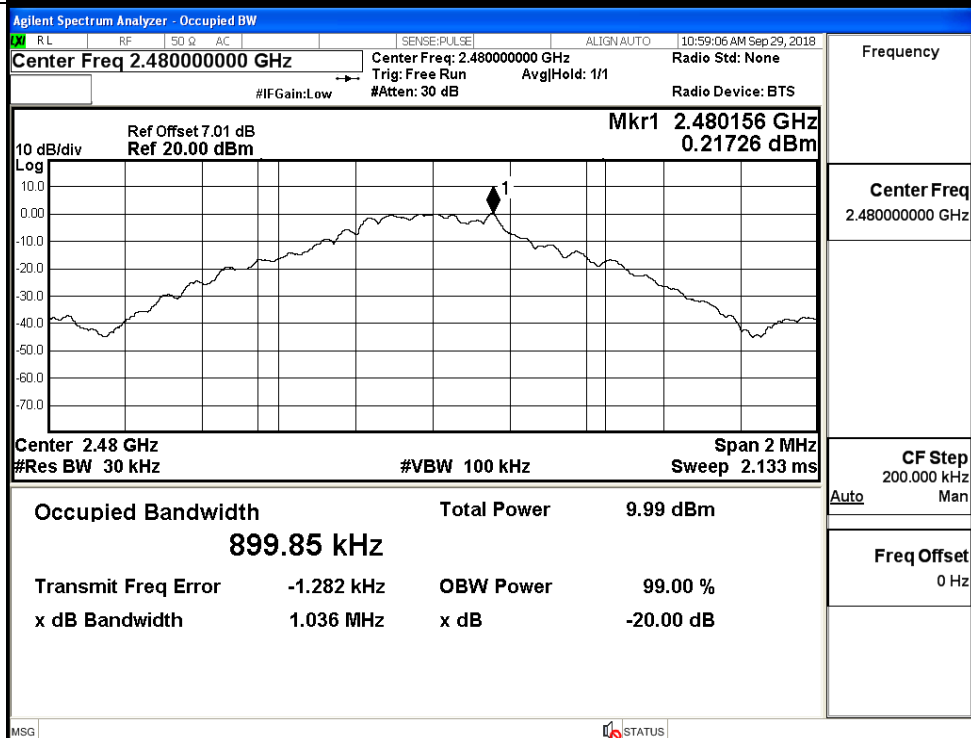
Test Graphs

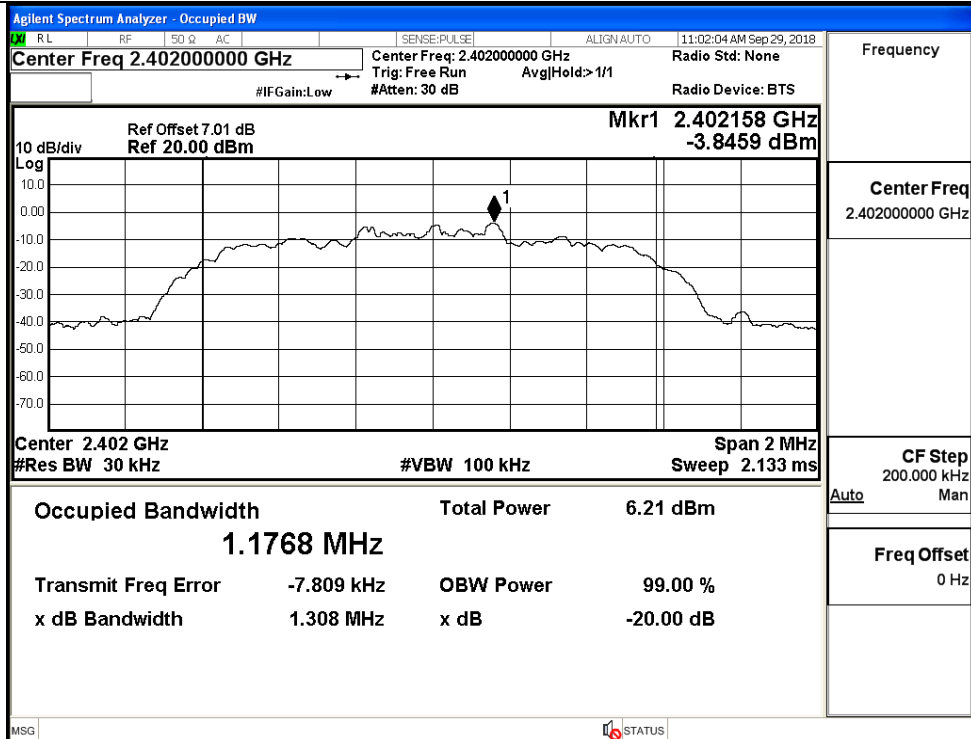
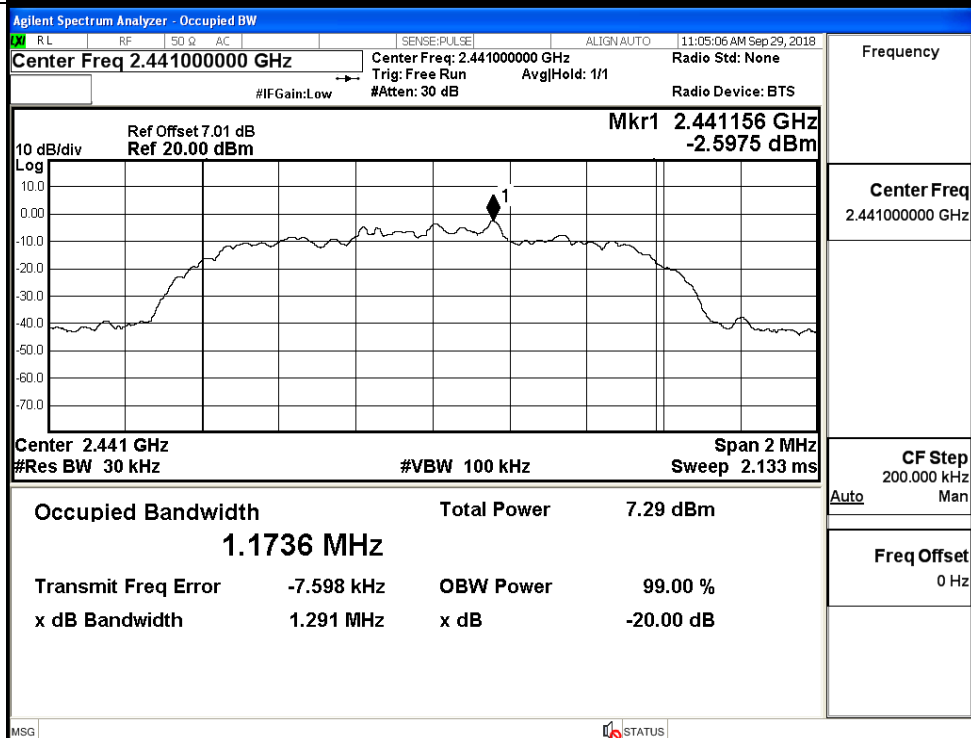


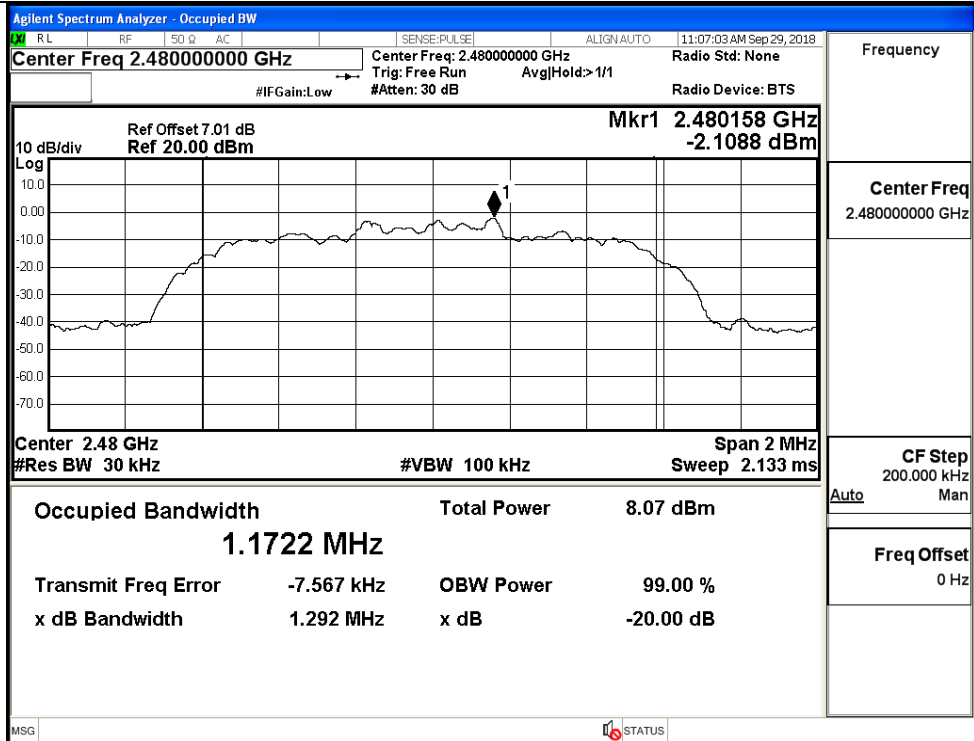
GFSK/MCH



GFSK/HCH



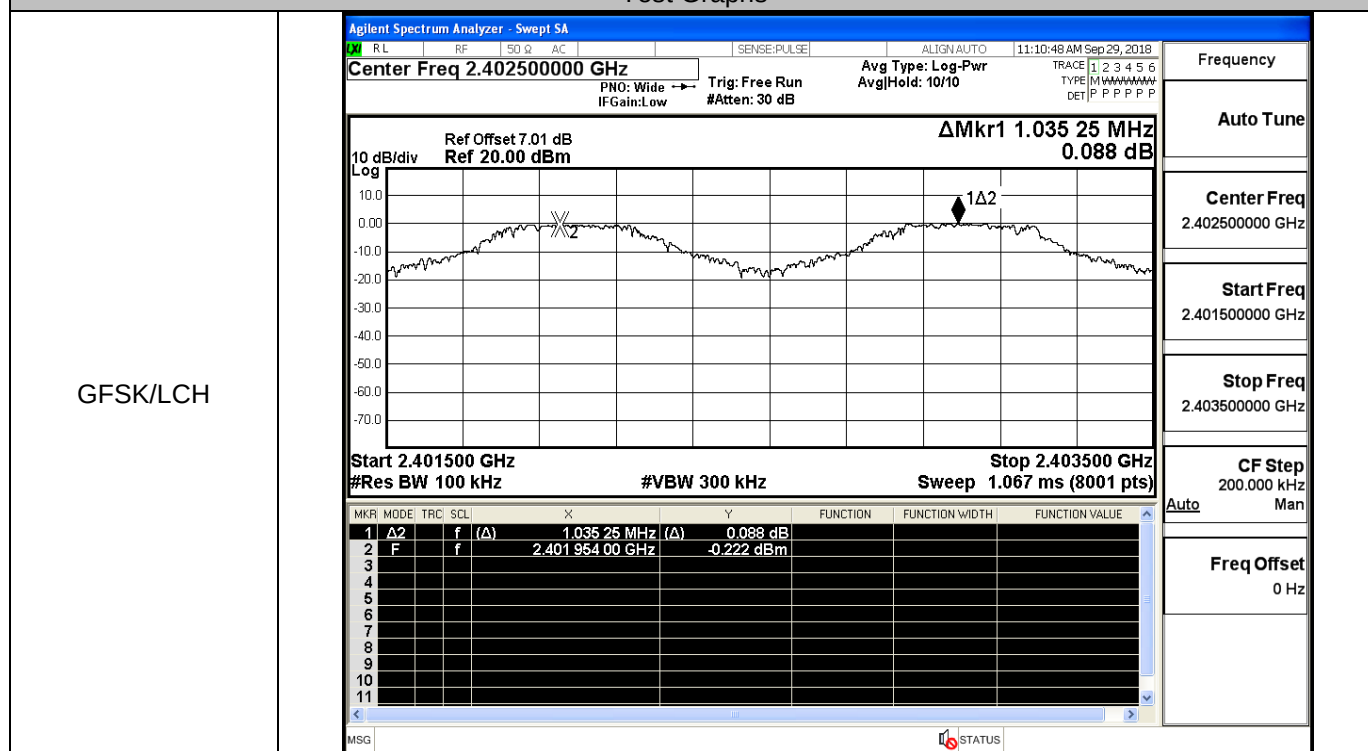
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

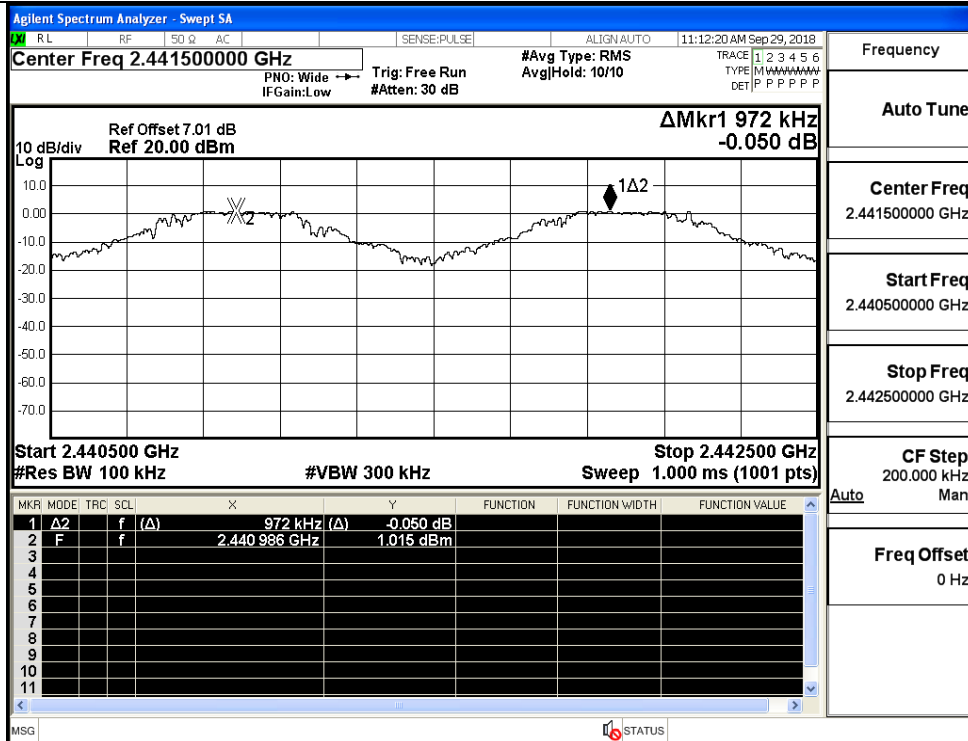
### A.3 Carrier Frequency Separation

| Mode          | Channel. | Carrier Frequency Separation [MHz] | Limit [MHz] | Verdict |
|---------------|----------|------------------------------------|-------------|---------|
| GFSK          | LCH      | 1.035                              | 0.691       | PASS    |
|               | MCH      | 0.972                              | 0.691       | PASS    |
|               | HCH      | 1.122                              | 0.691       | PASS    |
| $\pi$ /4DQPSK | LCH      | 1.310                              | 0.872       | PASS    |
|               | MCH      | 1.230                              | 0.872       | PASS    |
|               | HCH      | 1.006                              | 0.872       | PASS    |

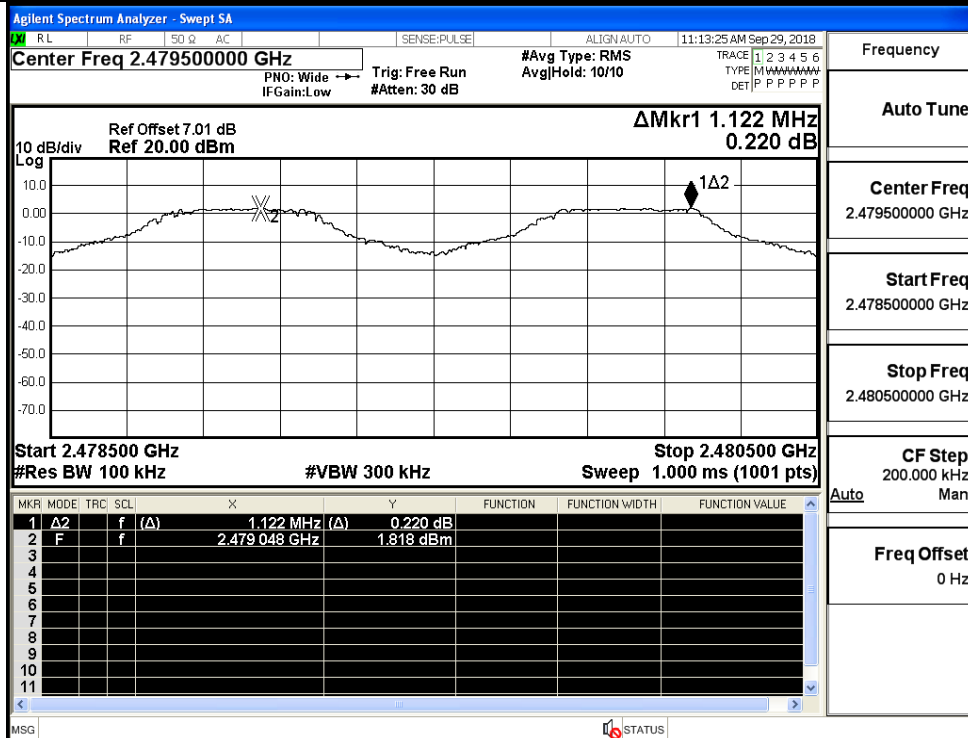
Test Graphs

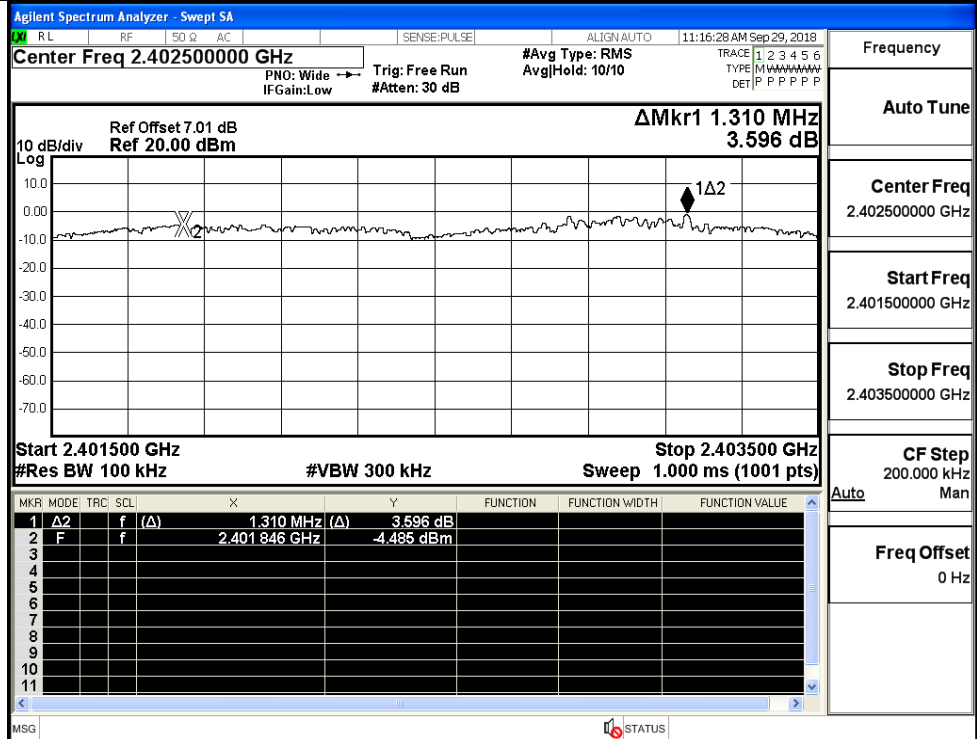
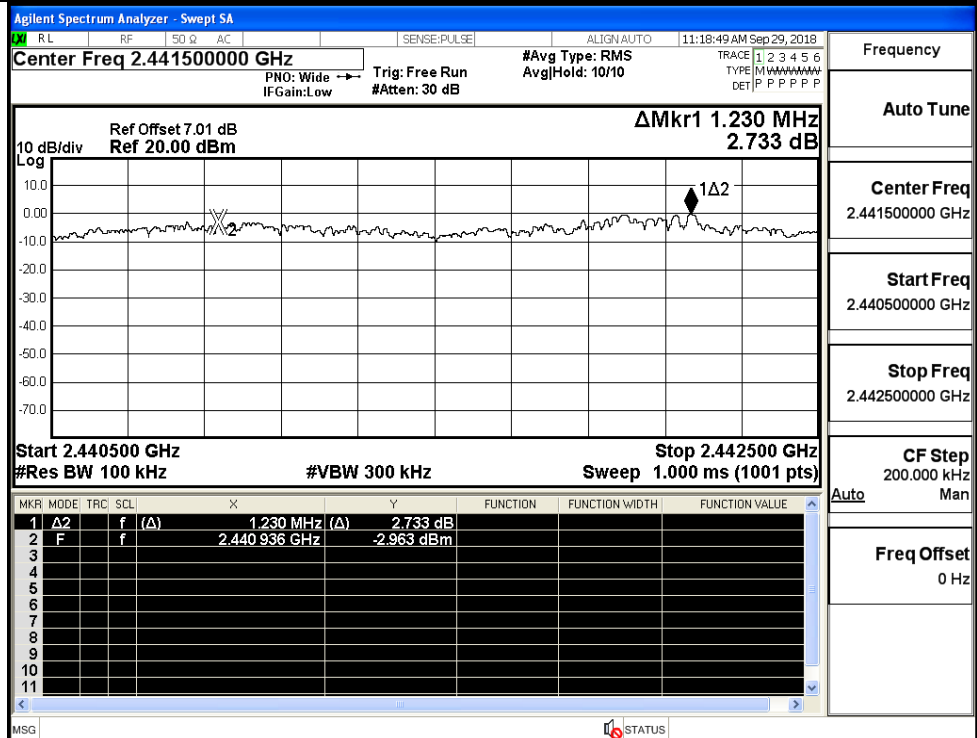


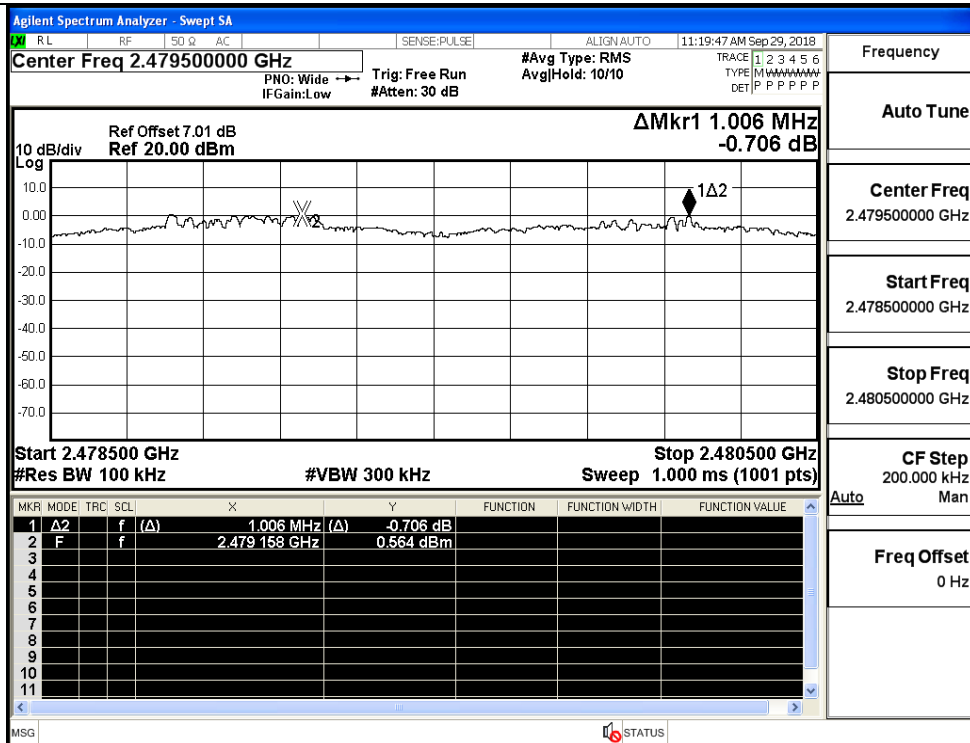
GFSK/MCH



GFSK/HCH



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

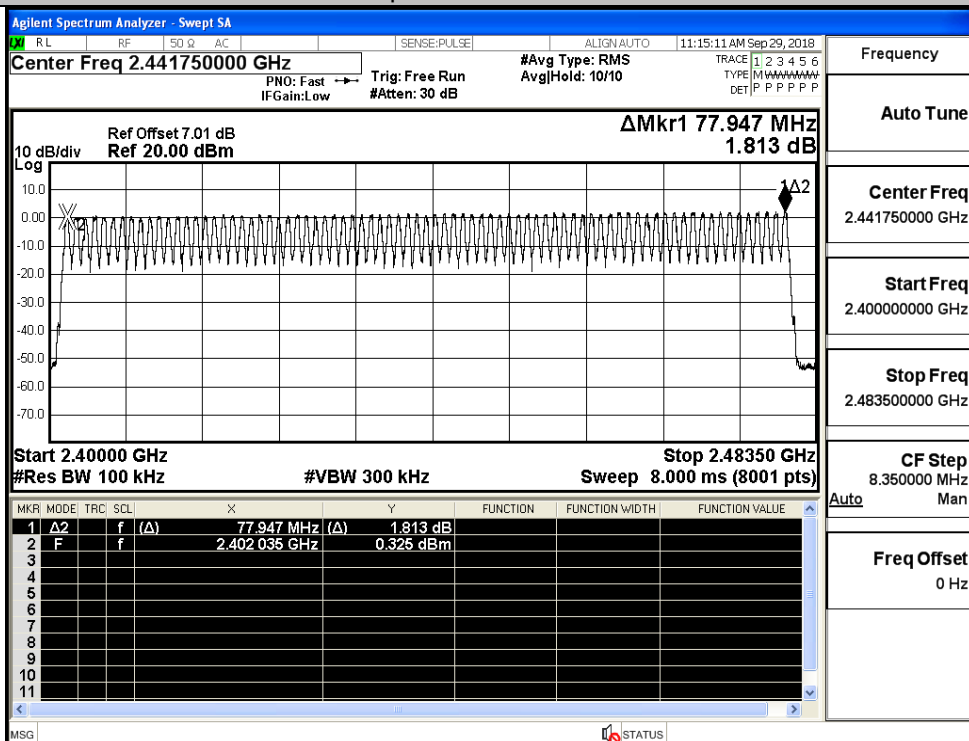
$\pi/4$ DQPSK/HCH

## 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    |

## Test Graphs

GFSK/Hop



Frequency

Auto Tune

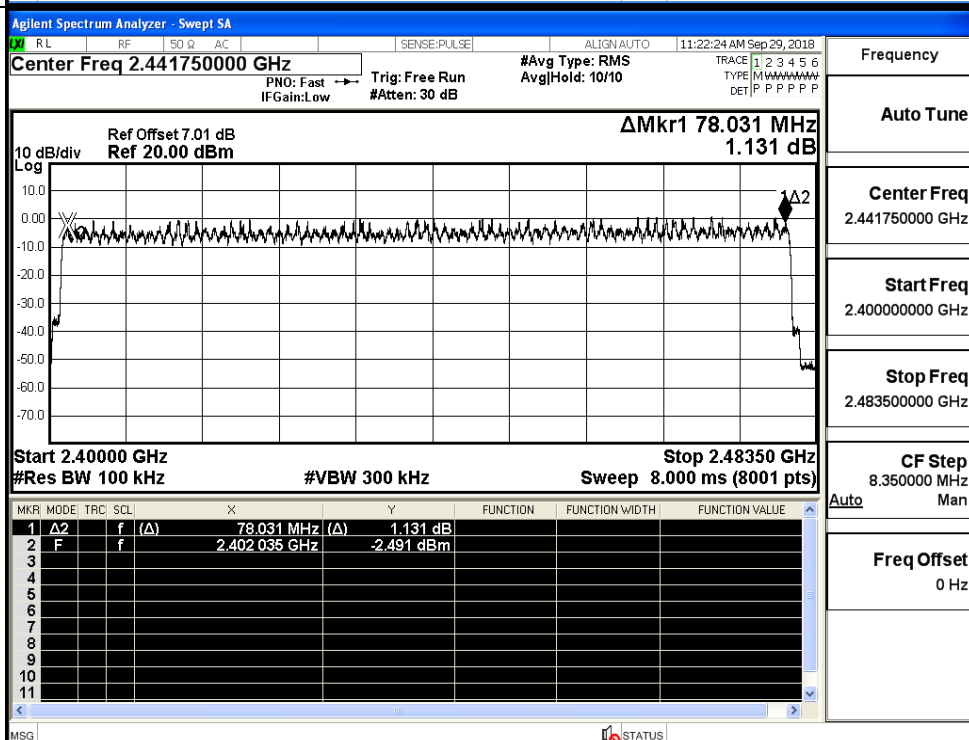
Center Freq  
2.441750000 GHz

Start Freq  
2.400000000 GHz

Stop Freq  
2.483500000 GHz

CF Step  
8.350000 MHz  
Man

Freq Offset  
0 Hz

 $\pi/4$ DQPSK/Hop

Frequency

Auto Tune

Center Freq  
2.441750000 GHz

Start Freq  
2.400000000 GHz

Stop Freq  
2.483500000 GHz

CF Step  
8.350000 MHz  
Man

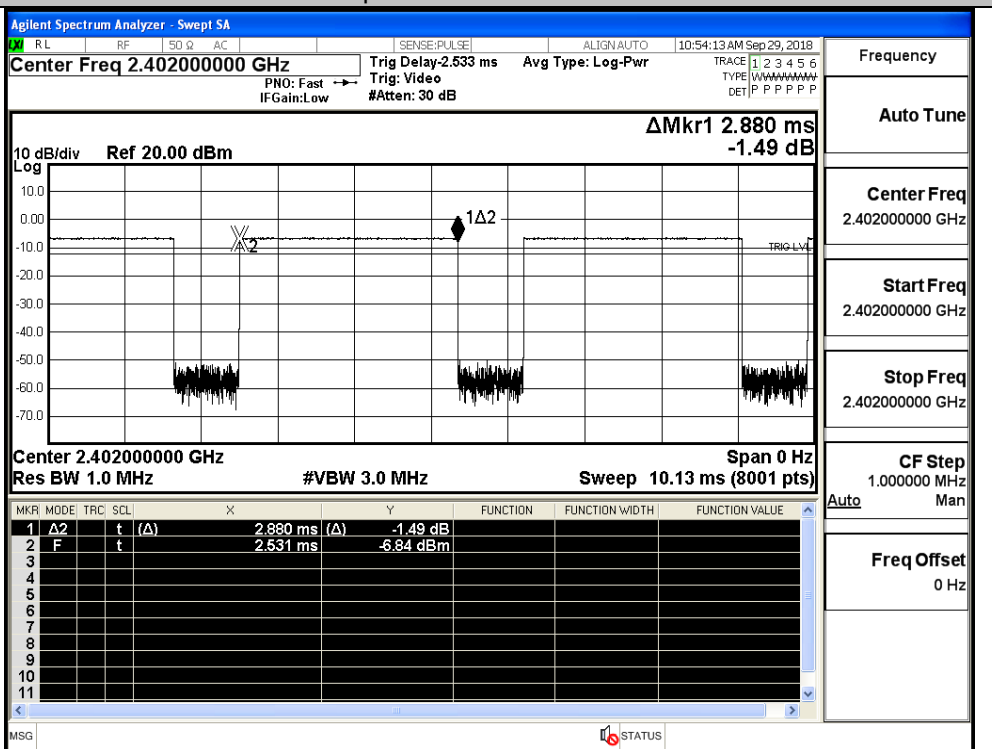
Freq Offset  
0 Hz

## A.5 Dwell Time

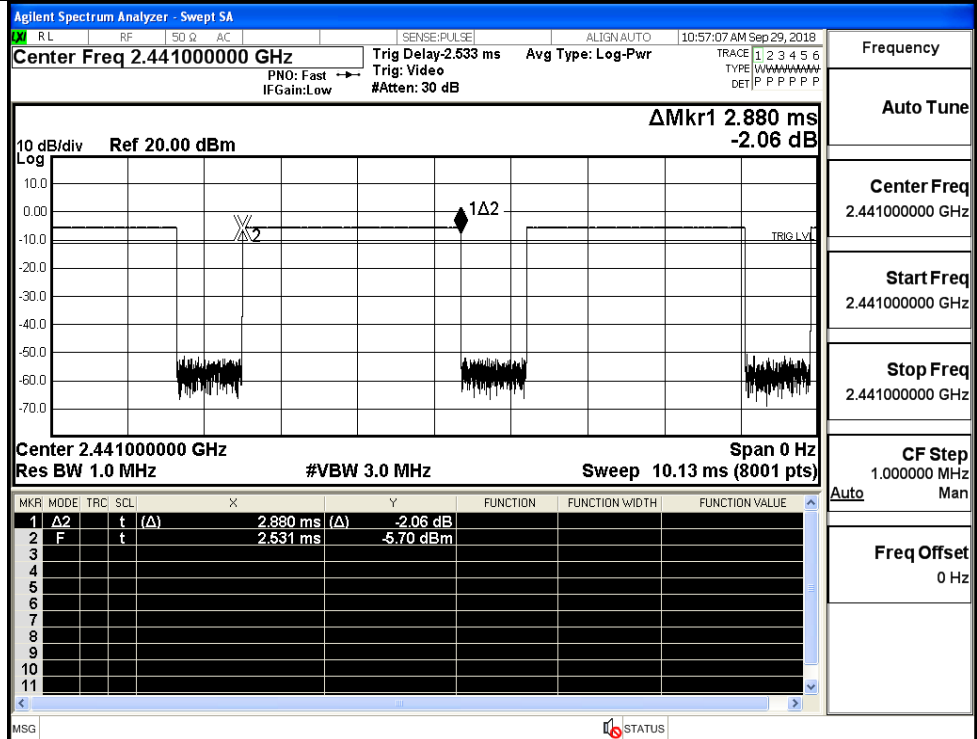
| Mode          | Packet | Channel | Burst Width<br>[ms/hop/ch] | Total<br>Hops[hop*ch] | Dwell Time[s] | Limit [s] | Verdict |
|---------------|--------|---------|----------------------------|-----------------------|---------------|-----------|---------|
| GFSK          | DH5    | LCH     | 2.88                       | 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    |

## Test Graphs

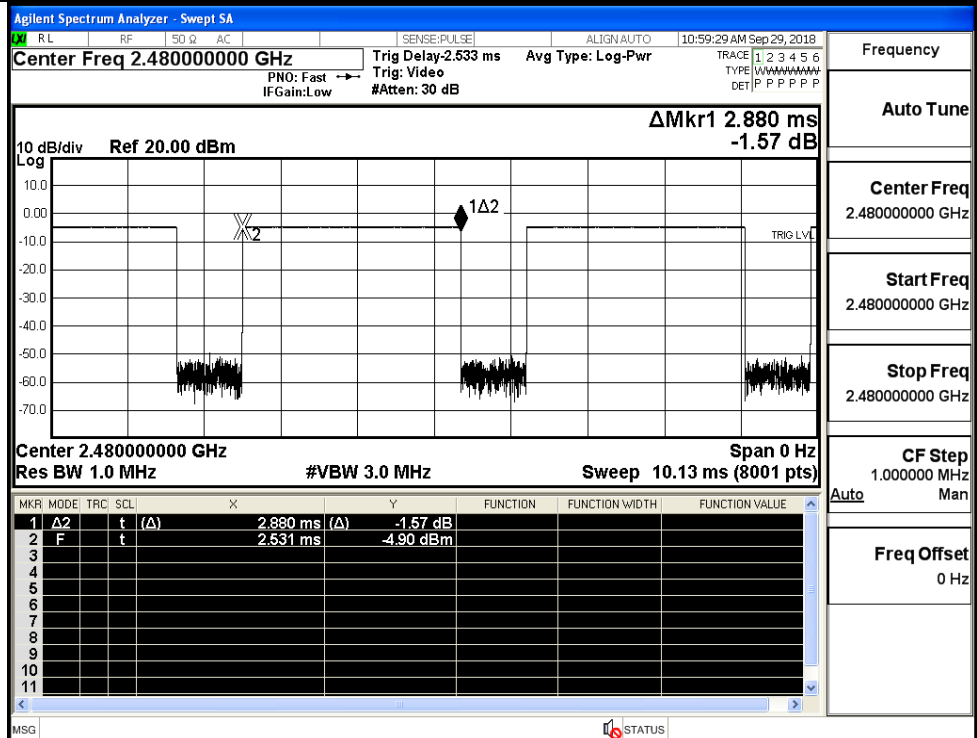
GFSK\_DH5/LCH



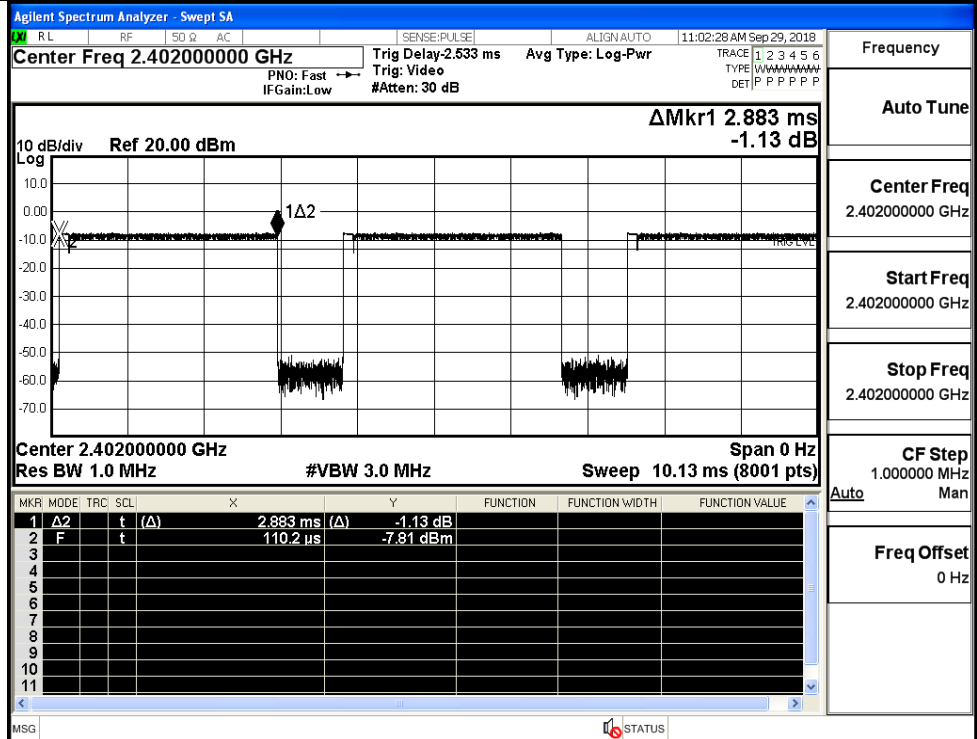
GFSK\_DH5/MCH



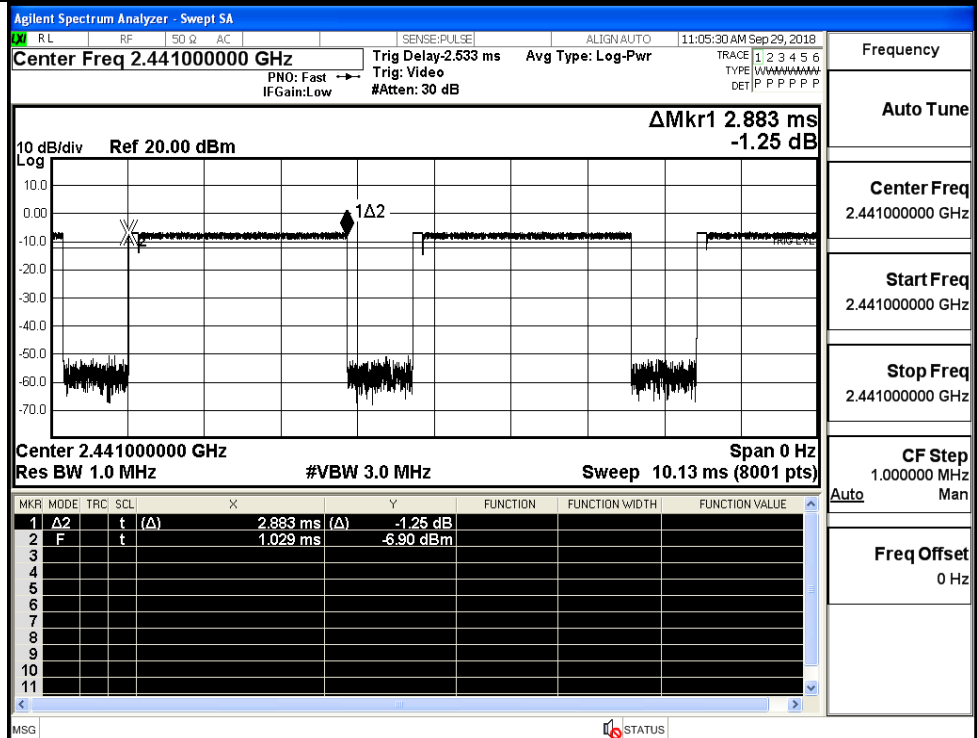
GFSK\_DH5/HCH



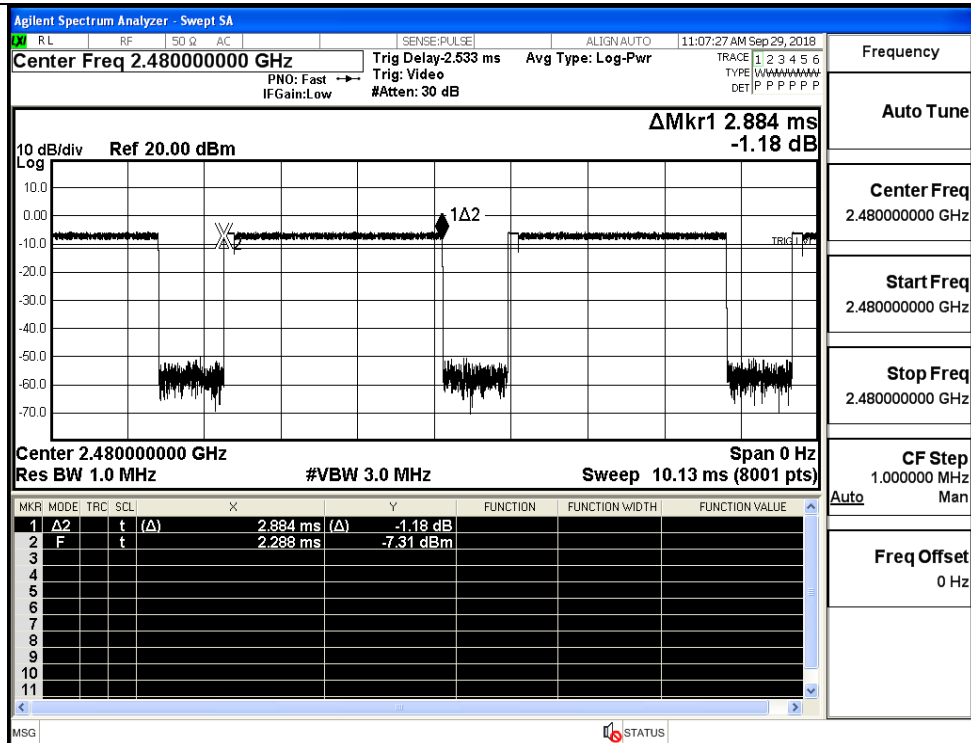
$\pi/4$ DQPSK  
\_2DH5/LCH



$\pi/4$ DQPSK  
\_2DH5/MCH



π/4DQPSK  
\_2DH5/HCH

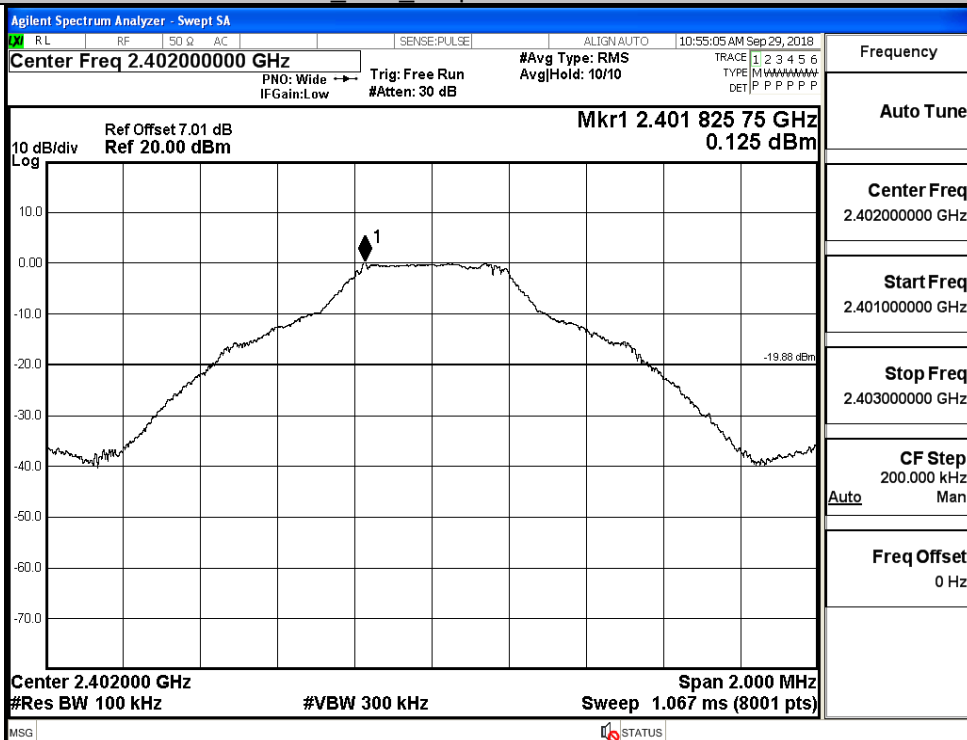


**A.6 RF Conducted Spurious Emissions**

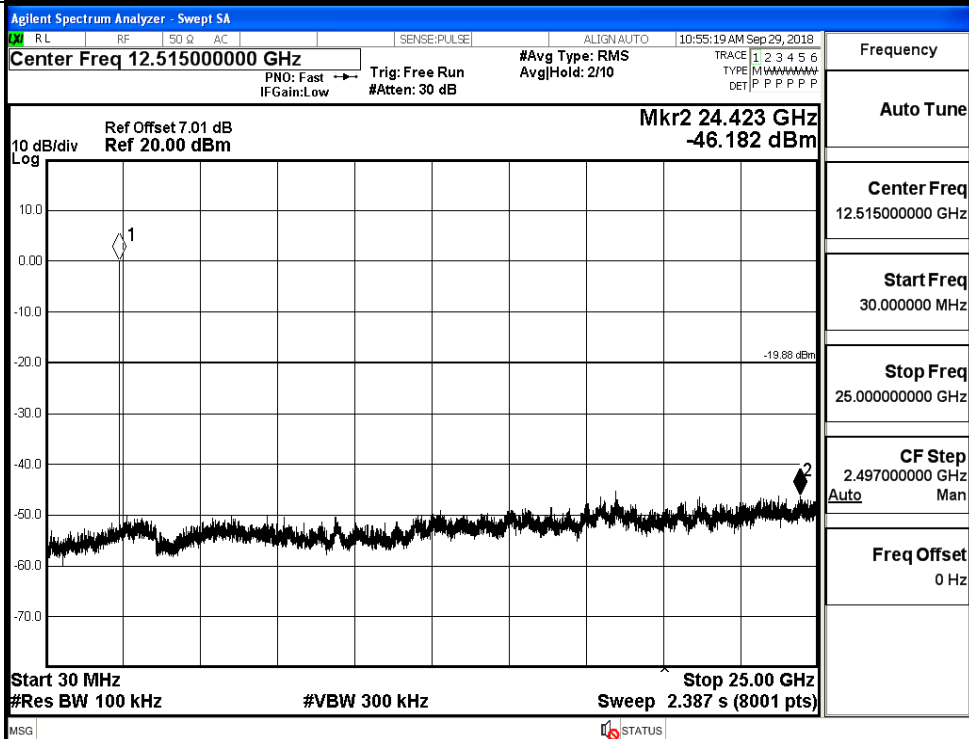
| Mode          | Channel | Pref [dBm] | Max. Level [dBm] | Limit [dBm] | Verdict |
|---------------|---------|------------|------------------|-------------|---------|
| GFSK          | LCH     | 0.125      | -46.182          | -19.875     | PASS    |
|               | MCH     | 1.48       | -45.532          | -18.520     | PASS    |
|               | HCH     | 2.277      | -44.976          | -17.723     | PASS    |
| $\pi/4$ DQPSK | LCH     | -1.464     | -31.809          | -21.464     | PASS    |
|               | MCH     | -0.478     | -43.890          | -20.478     | PASS    |
|               | HCH     | 0.766      | -45.603          | -19.234     | PASS    |

## GFSK LCH Graphs

Pref

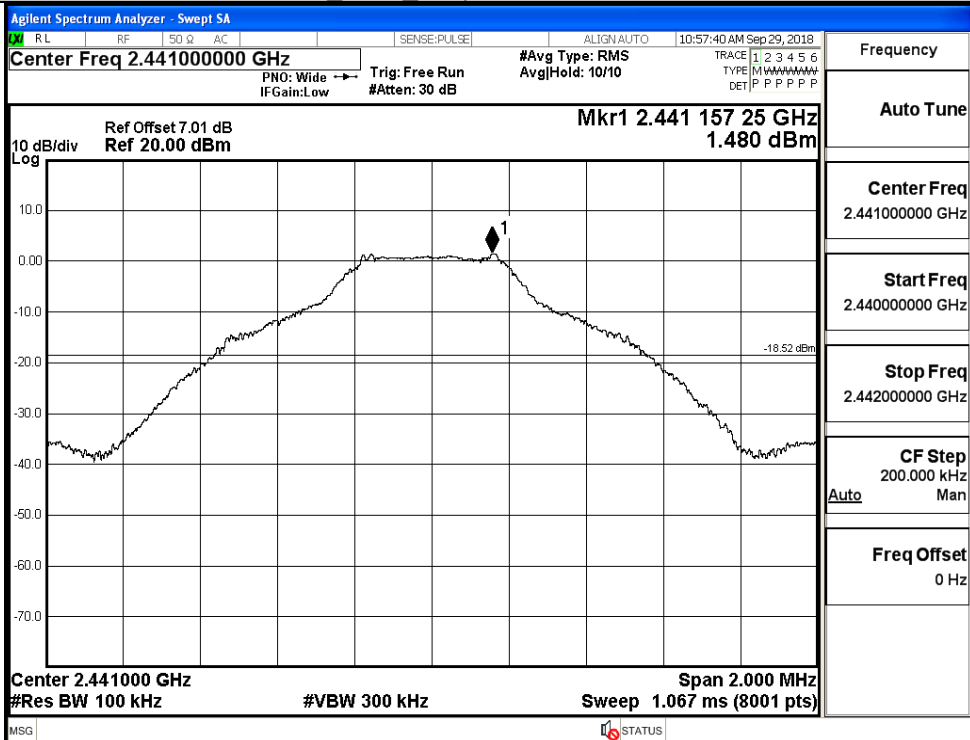


Puw

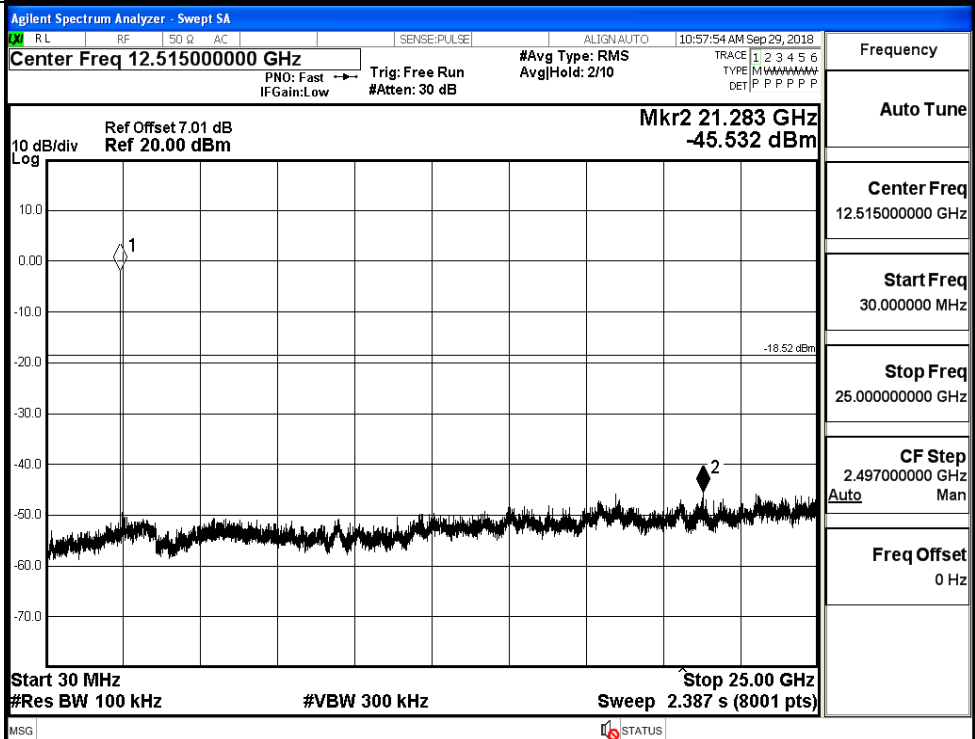


## GFSK\_MCH\_Graphs

Pref

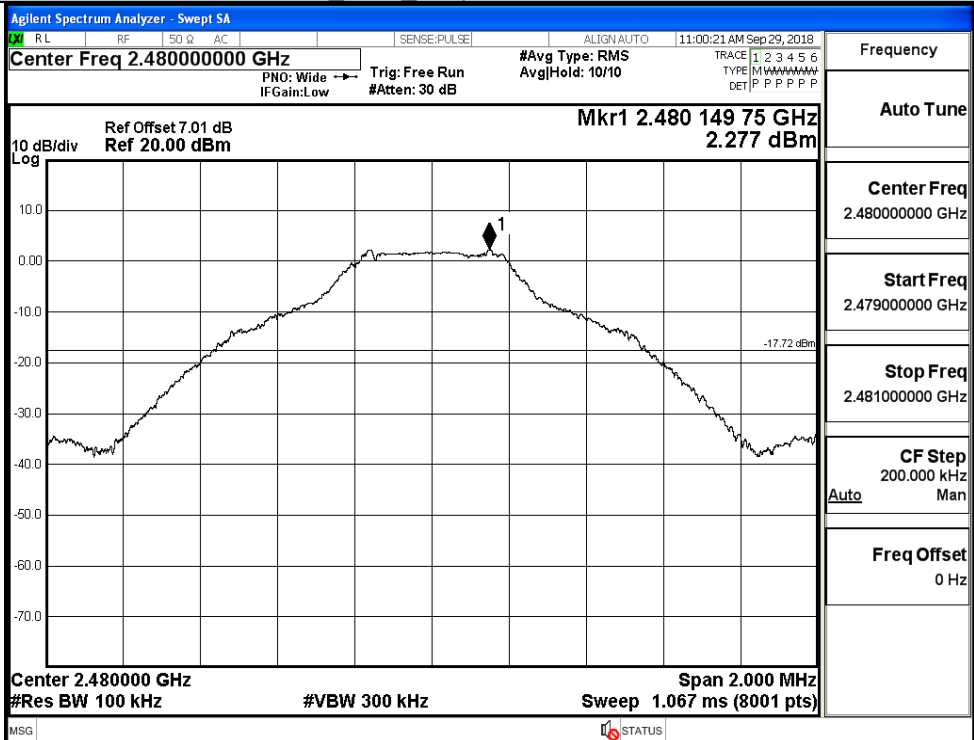


Puw

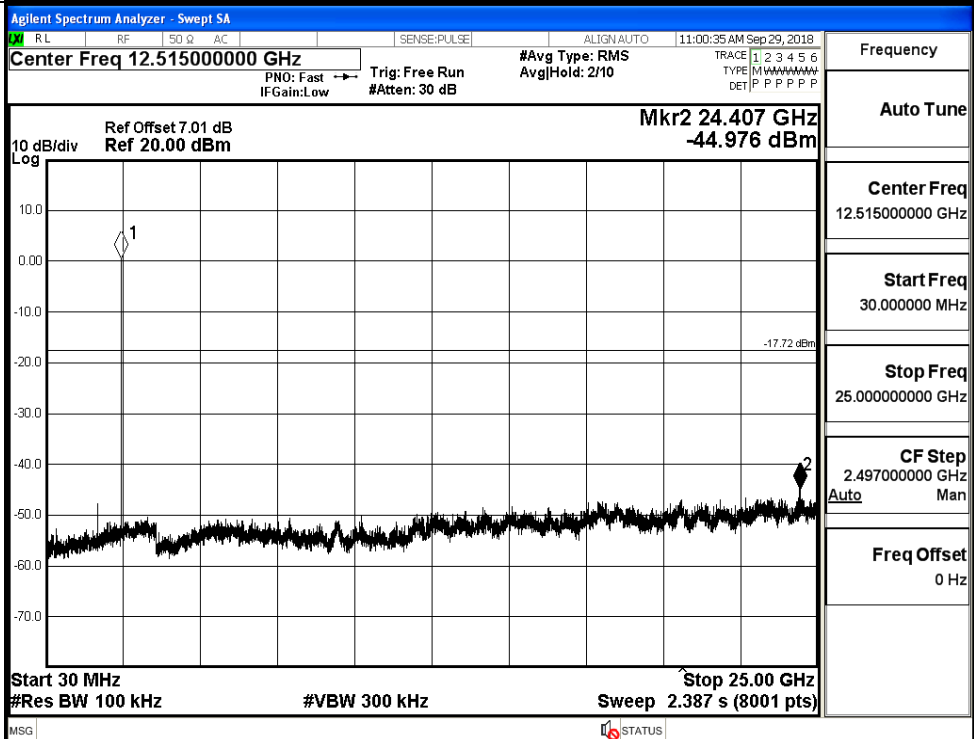


## GFSK\_HCH\_Graphs

Pref

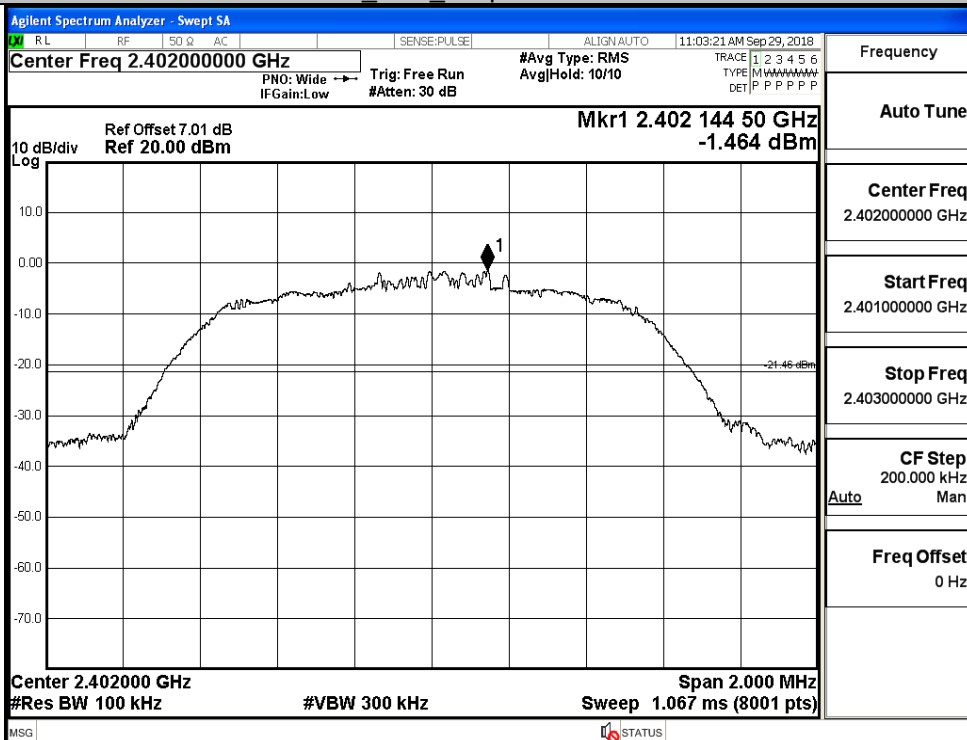


Puw

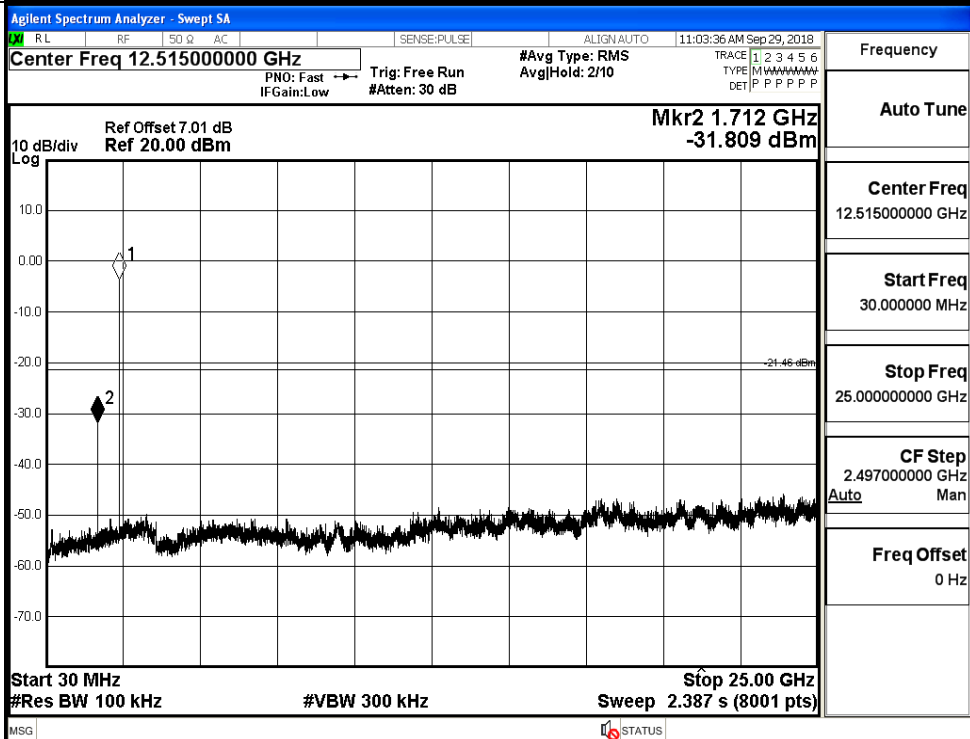


$\pi/4$ DQPSK LCH\_Graphs

Pref

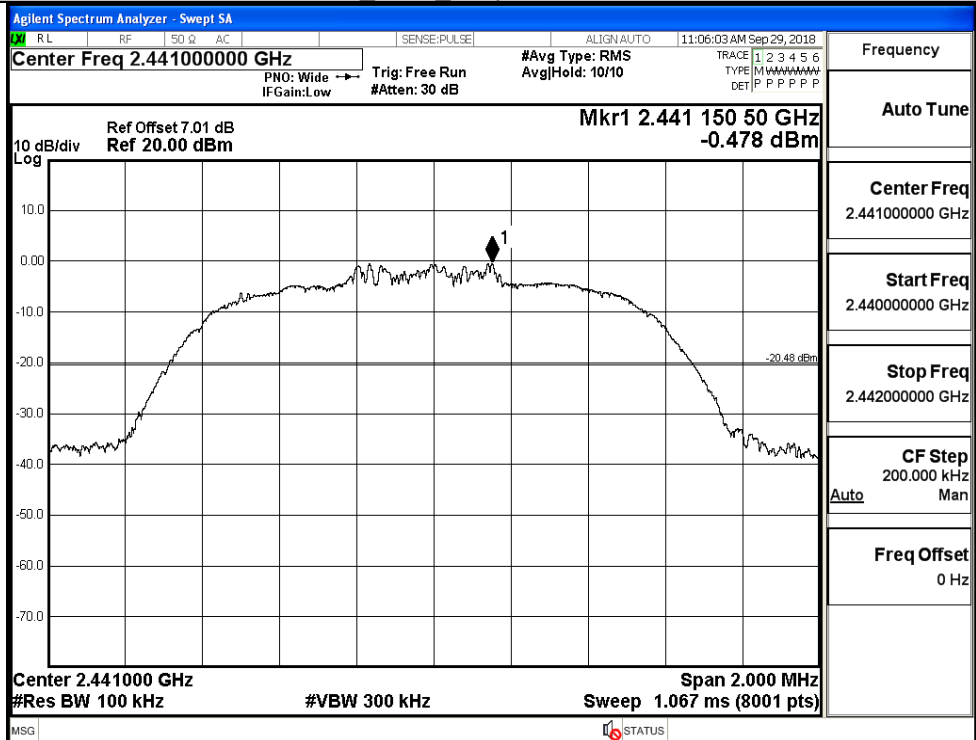


Puw

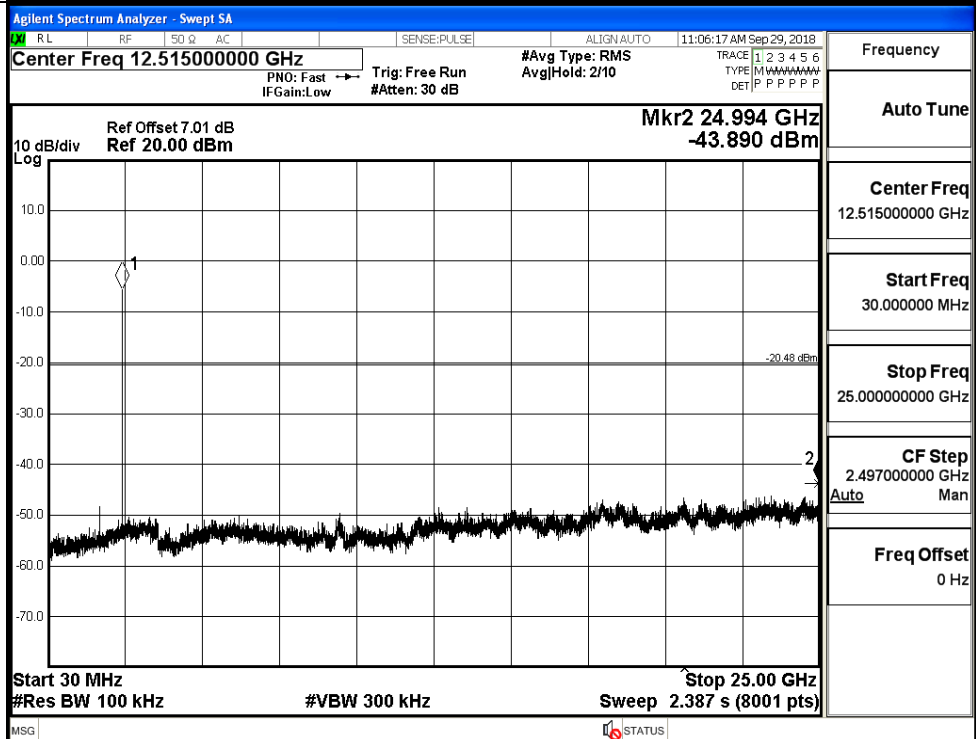


$\pi$ /4DQPSK\_MCH\_Graphs

Pref

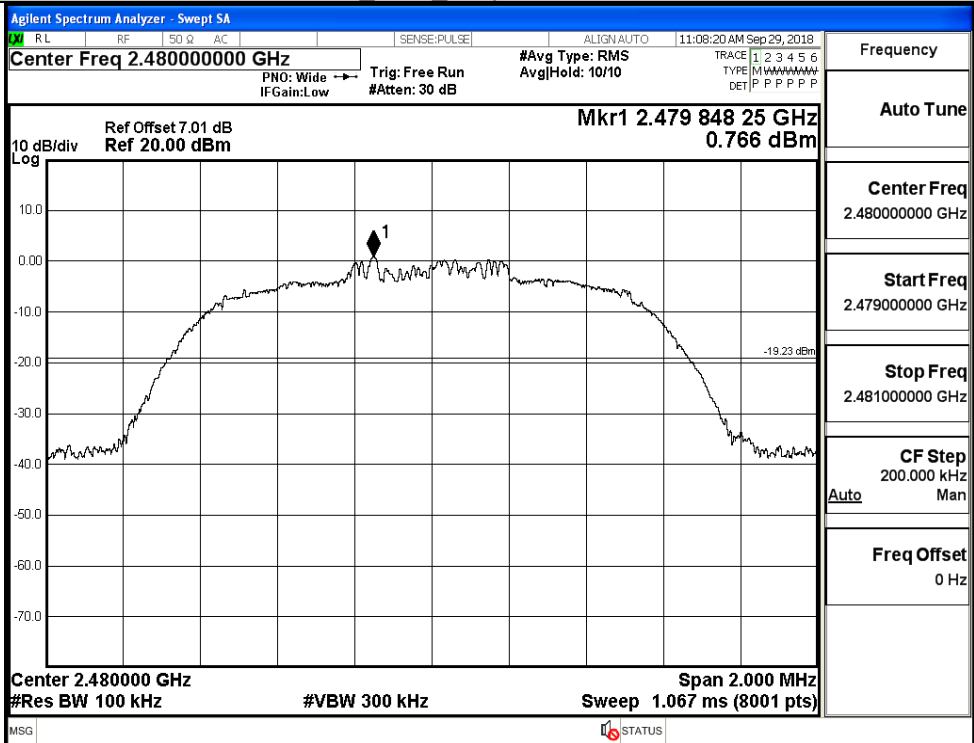


Puw

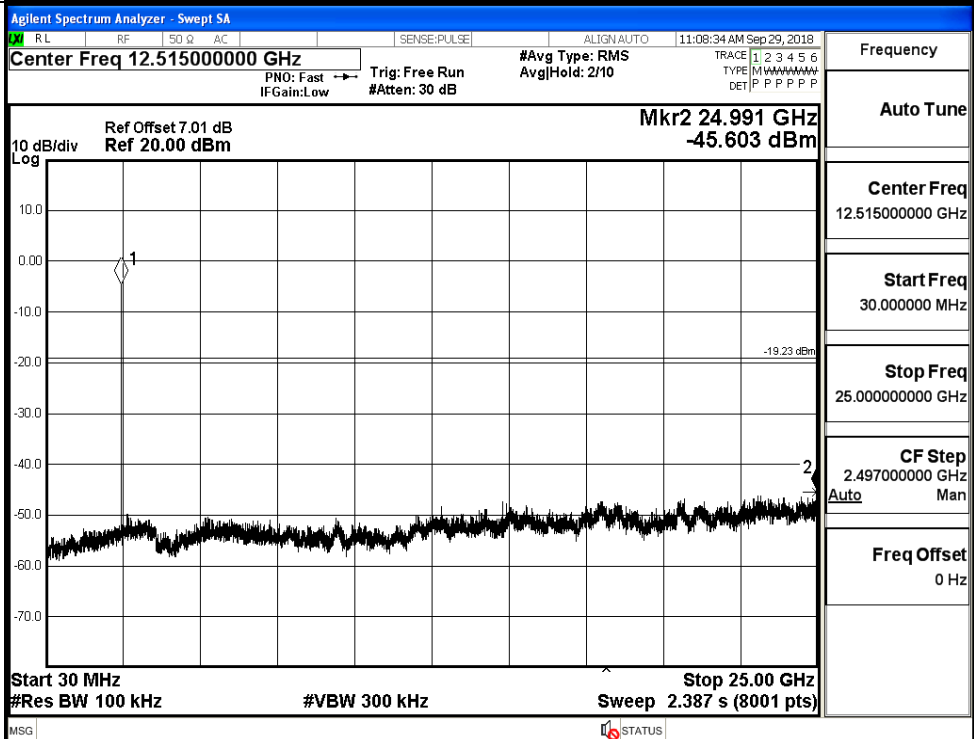


$\pi/4$ DQPSK\_HCH\_Graphs

Pref



Puw

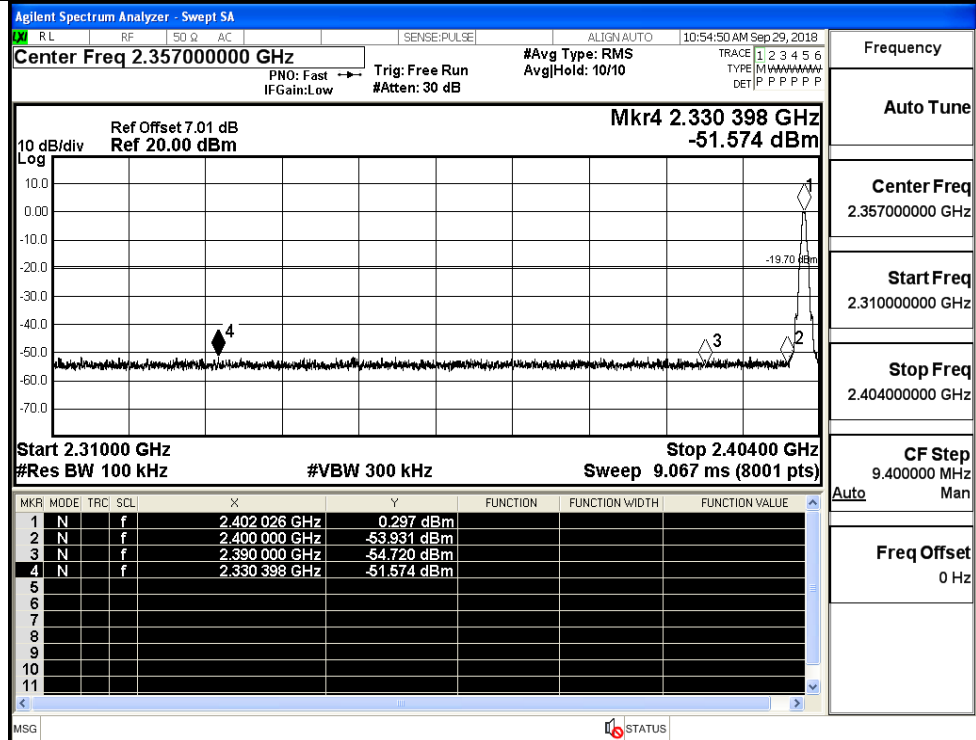


**A.7 Band-edge for RF Conducted Emissions**

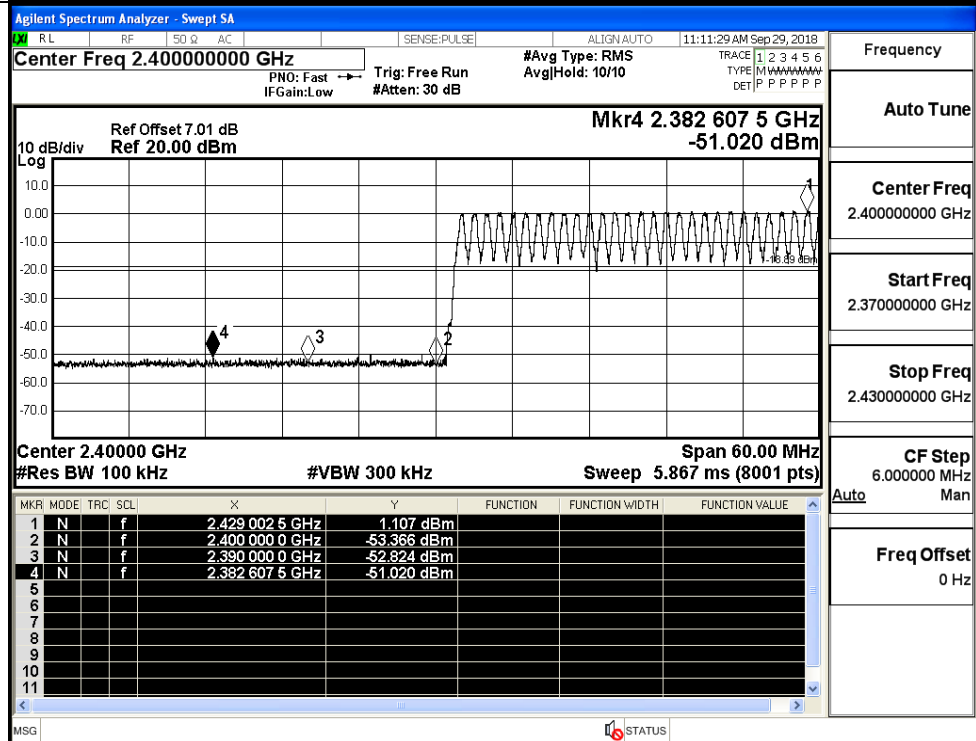
| Mode          | Channel | Carrier Frequency [MHz] | Carrier Power [dBm] | Frequency Hopping | Max Spurious Level [dBm] | Limit [dBm] | Verdict |
|---------------|---------|-------------------------|---------------------|-------------------|--------------------------|-------------|---------|
| GFSK          | LCH     | 2402                    | 0.297               | Off               | -51.574                  | -19.7       | PASS    |
|               |         |                         | 1.107               | On                | -51.020                  | -18.89      | PASS    |
|               | HCH     | 2480                    | 2.223               | Off               | -50.539                  | -17.78      | PASS    |
|               |         |                         | 2.373               | On                | -49.971                  | -17.63      | PASS    |
| $\pi/4$ DQPSK | LCH     | 2402                    | -1.506              | Off               | -51.146                  | -21.51      | PASS    |
|               |         |                         | -0.255              | On                | -49.637                  | -20.26      | PASS    |
|               | HCH     | 2480                    | 1.021               | Off               | -51.286                  | -18.98      | PASS    |
|               |         |                         | 0.774               | On                | -50.153                  | -19.23      | PASS    |

## Test Graphs

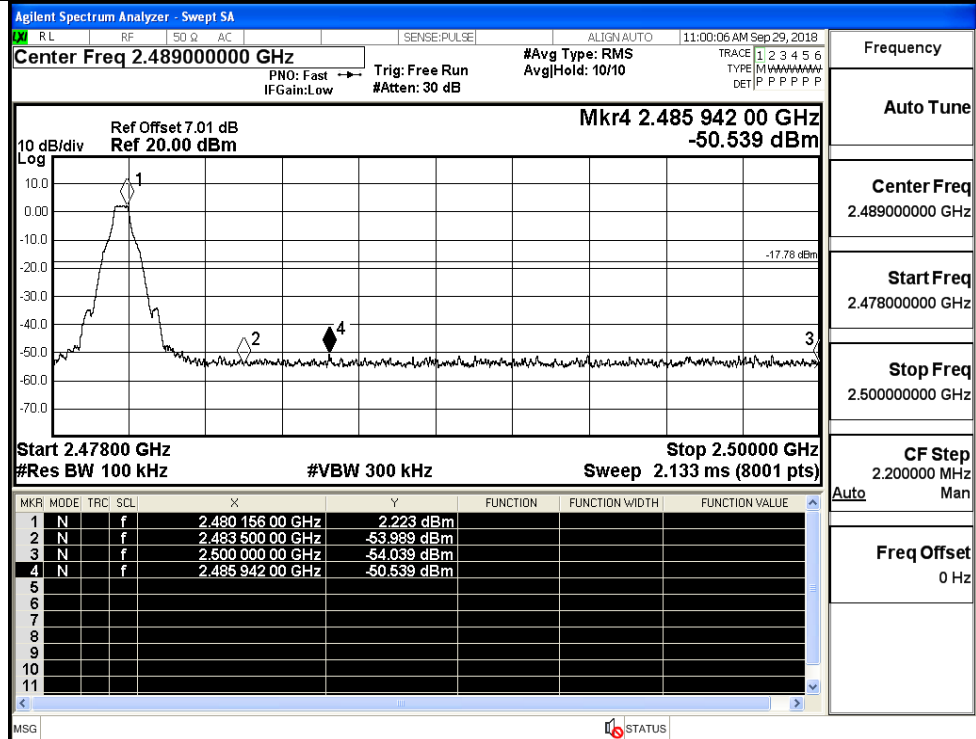
GFSK/LCH/No Hop



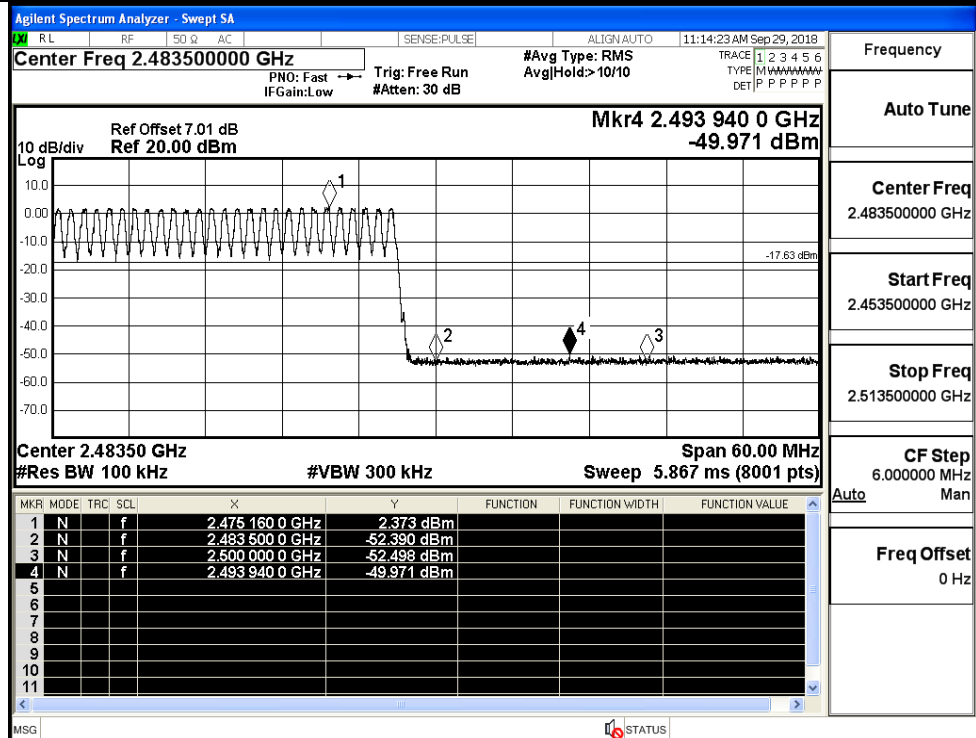
GFSK/LCH/Hop



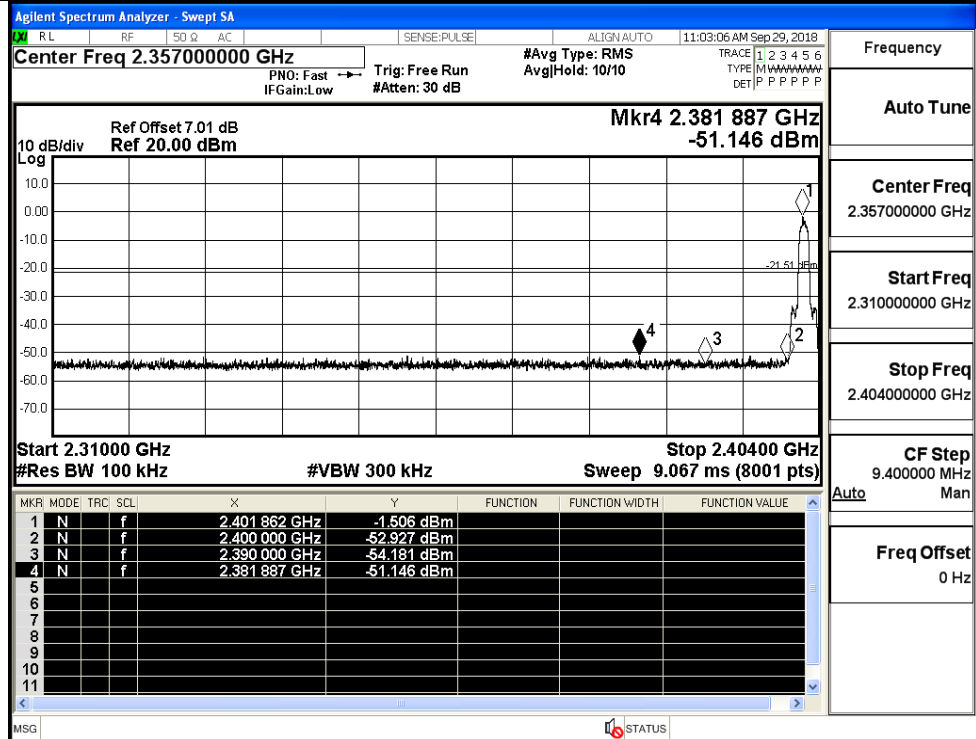
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq  
2.357000000 GHz

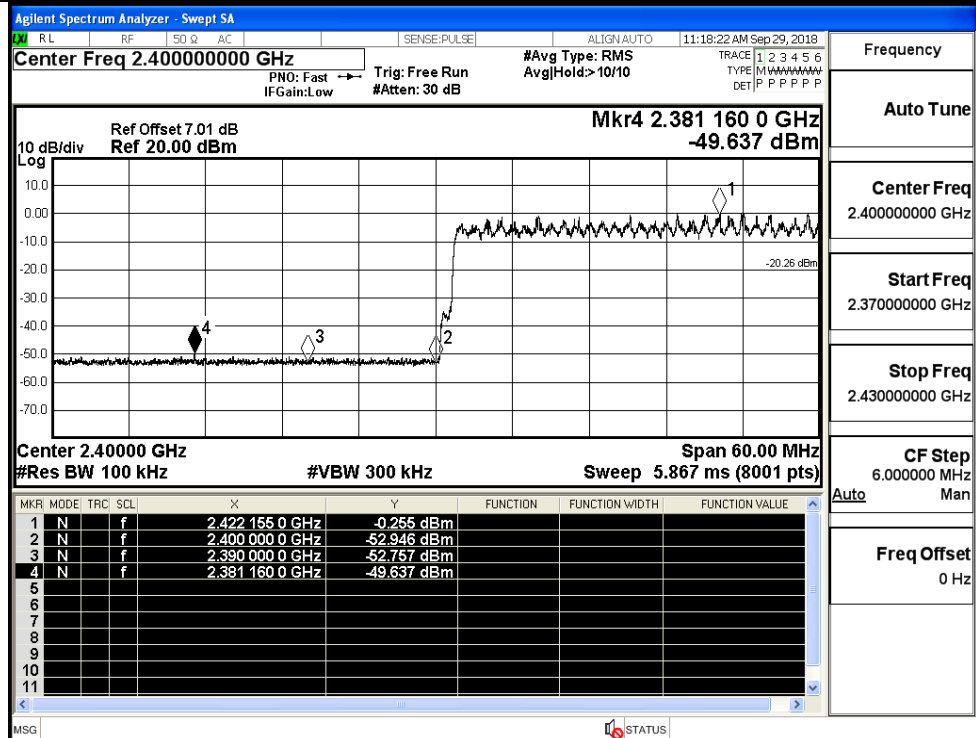
Start Freq  
2.310000000 GHz

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

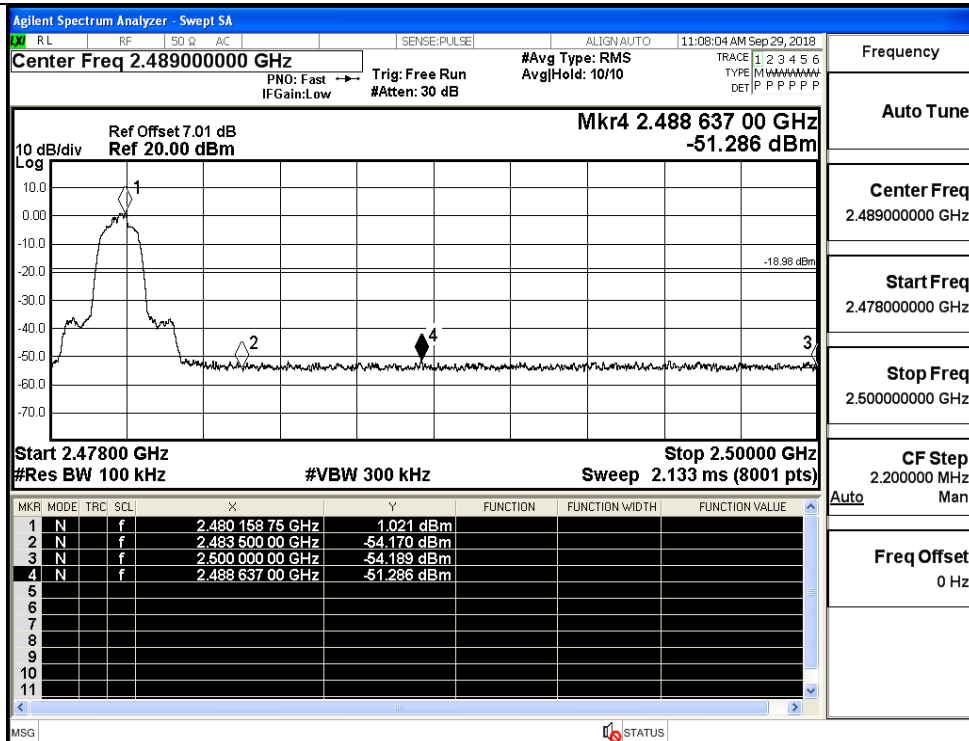
Start Freq  
2.370000000 GHz

Stop Freq  
2.430000000 GHz

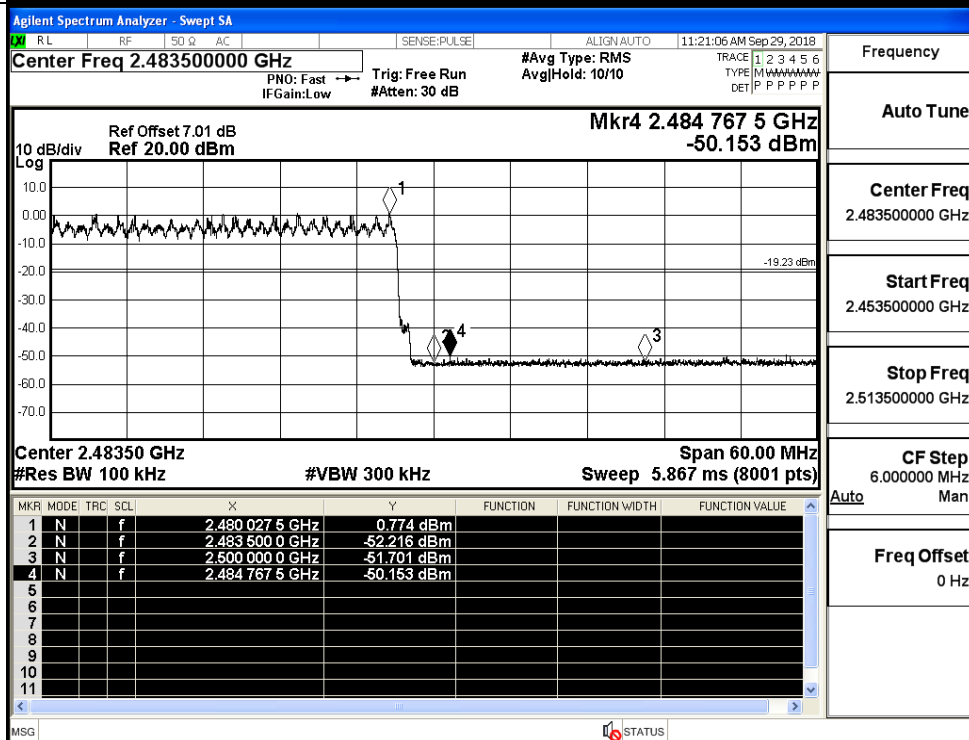
CF Step  
6.000000 MHz  
Auto Man

Freq Offset  
0 Hz

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



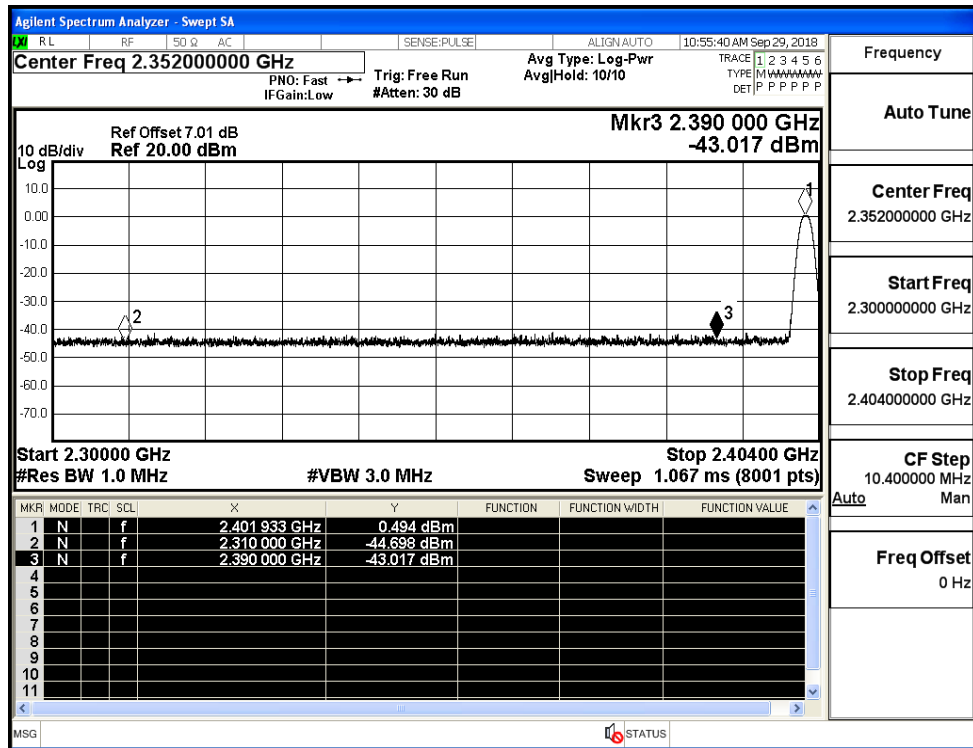
$\pi/4$ DQPSK/HCH/Hop



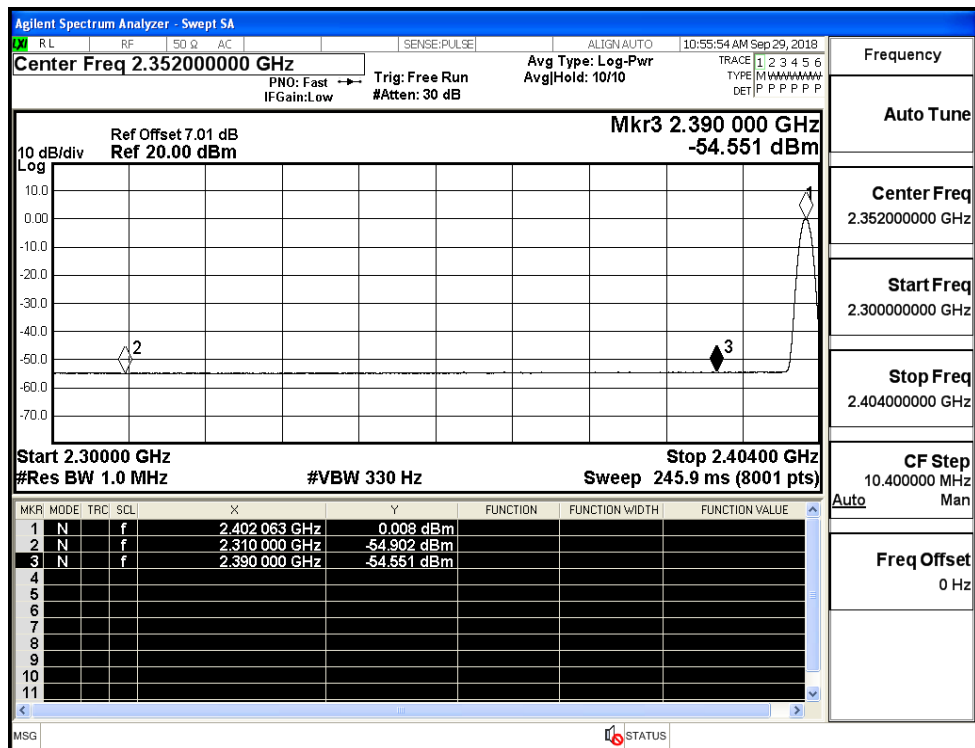
## A.8 Restrict-band band-edge measurements

| Test Mode     | Hopping | Freq.  | Power [dBm] | Gain | Ground Factor | E [dBuV/m] | Detector | Limit [dBuV/m] | Verdict |
|---------------|---------|--------|-------------|------|---------------|------------|----------|----------------|---------|
| GFSK          | Off     | 2310.0 | -44.70      | 2.0  | 0             | 50.56      | PEAK     | 74             | PASS    |
|               | Off     | 2310.0 | -54.90      | 2.0  | 0             | 40.36      | AV       | 54             | PASS    |
|               | Off     | 2390.0 | -43.02      | 2.0  | 0             | 52.24      | PEAK     | 74             | PASS    |
|               | Off     | 2390.0 | -54.55      | 2.0  | 0             | 40.71      | AV       | 54             | PASS    |
|               | Off     | 2483.5 | -44.56      | 2.0  | 0             | 50.70      | PEAK     | 74             | PASS    |
|               | Off     | 2483.5 | -54.14      | 2.0  | 0             | 41.12      | AV       | 54             | PASS    |
|               | Off     | 2500.0 | -43.17      | 2.0  | 0             | 52.08      | PEAK     | 74             | PASS    |
|               | Off     | 2500.0 | -54.16      | 2.0  | 0             | 41.10      | AV       | 54             | PASS    |
| $\pi/4$ DQPSK | Off     | 2310.0 | -44.71      | 2.0  | 0             | 50.54      | PEAK     | 74             | PASS    |
|               | Off     | 2310.0 | -54.86      | 2.0  | 0             | 40.40      | AV       | 54             | PASS    |
|               | Off     | 2390.0 | -44.34      | 2.0  | 0             | 50.92      | PEAK     | 74             | PASS    |
|               | Off     | 2390.0 | -54.55      | 2.0  | 0             | 40.71      | AV       | 54             | PASS    |
|               | Off     | 2483.5 | -45.39      | 2.0  | 0             | 49.86      | PEAK     | 74             | PASS    |
|               | Off     | 2483.5 | -54.03      | 2.0  | 0             | 41.22      | AV       | 54             | PASS    |
|               | Off     | 2500.0 | -45.07      | 2.0  | 0             | 50.19      | PEAK     | 74             | PASS    |
|               | Off     | 2500.0 | -54.17      | 2.0  | 0             | 41.09      | AV       | 54             | PASS    |

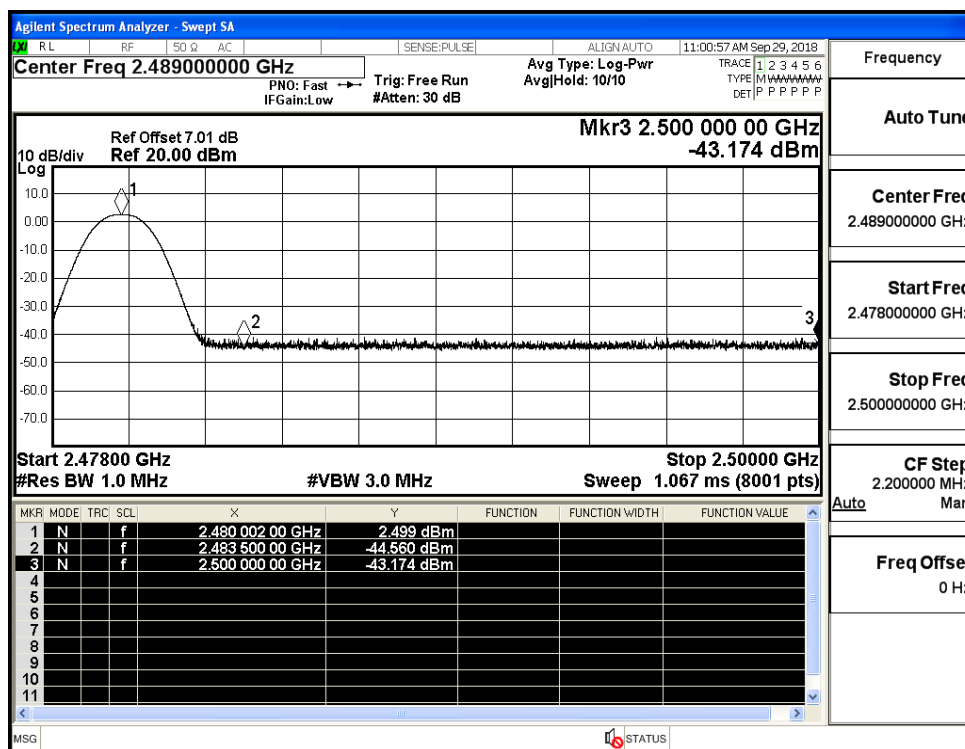
## Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (Low Channel)



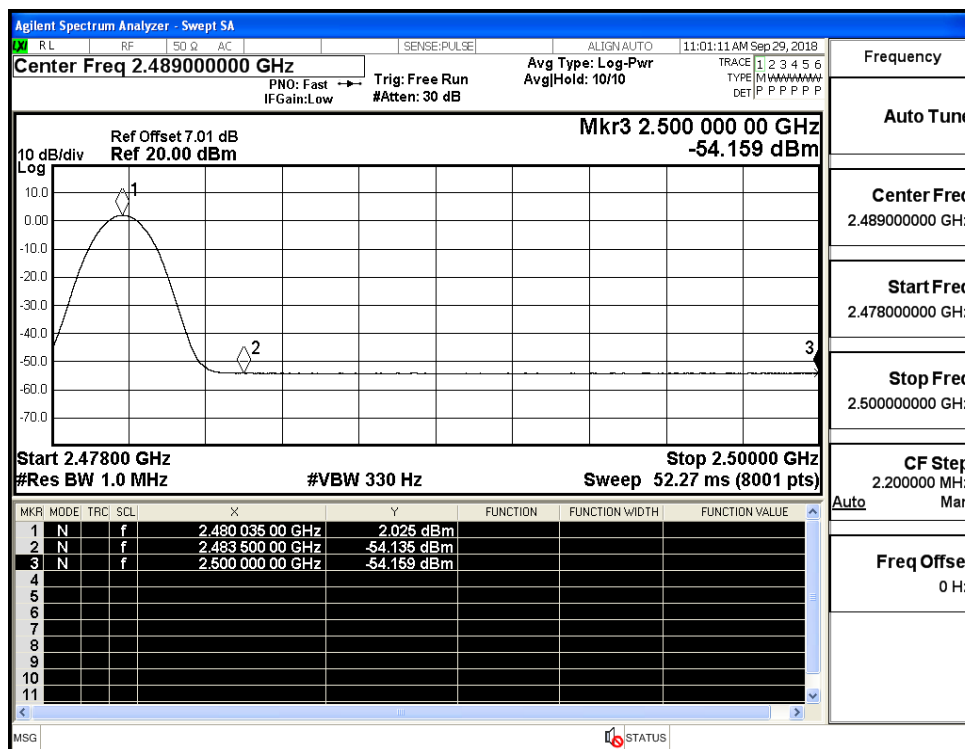
## Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (Low Channel)

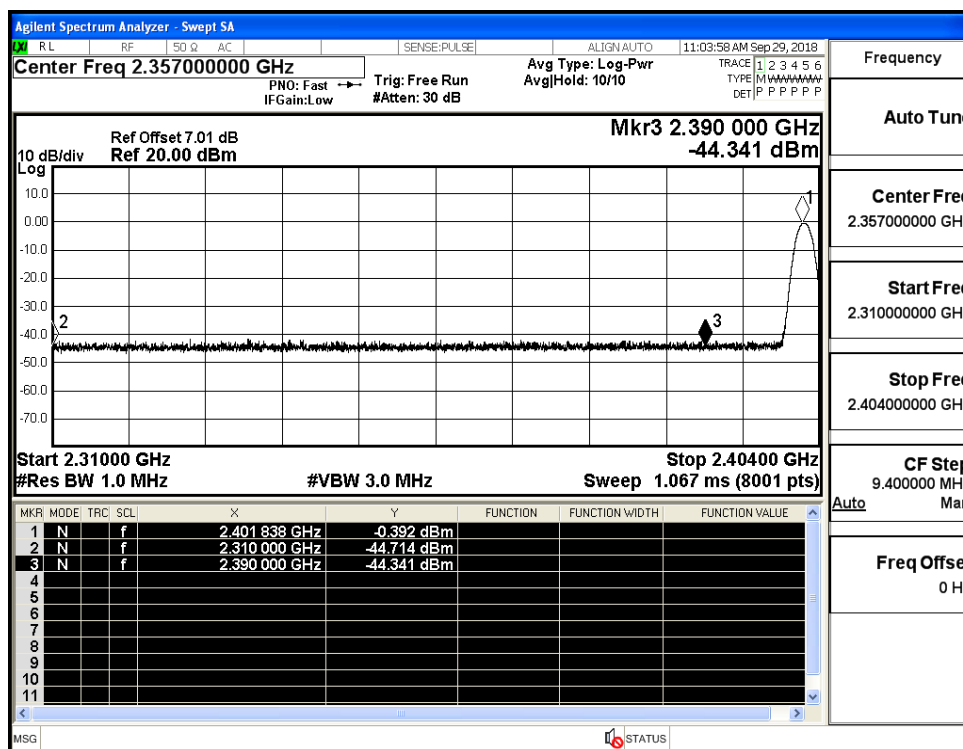
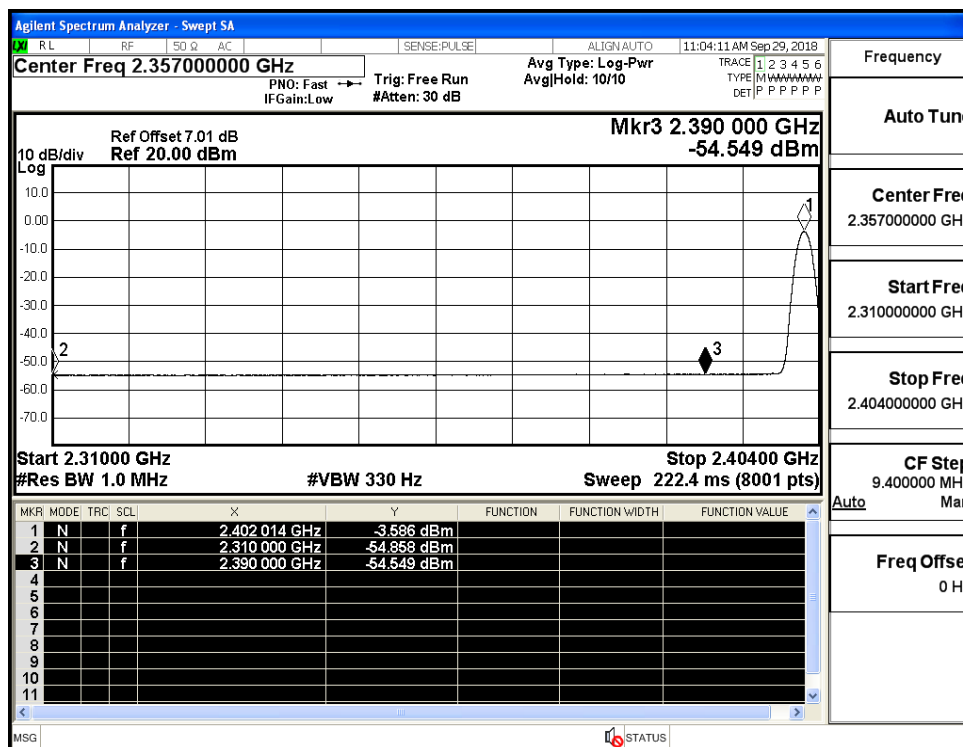


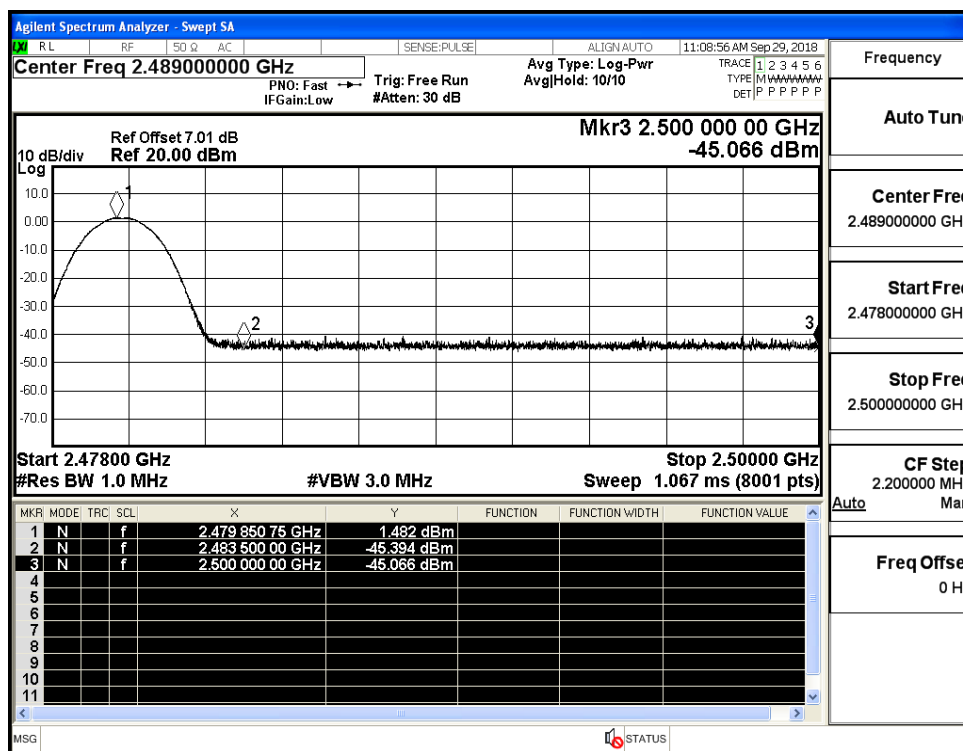
## Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (High Channel)



## 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)