

Appendix A

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

Product Name: Wired Headset

Trade Mark: Linklike

Test Model: Classic 8

Environmental Conditions

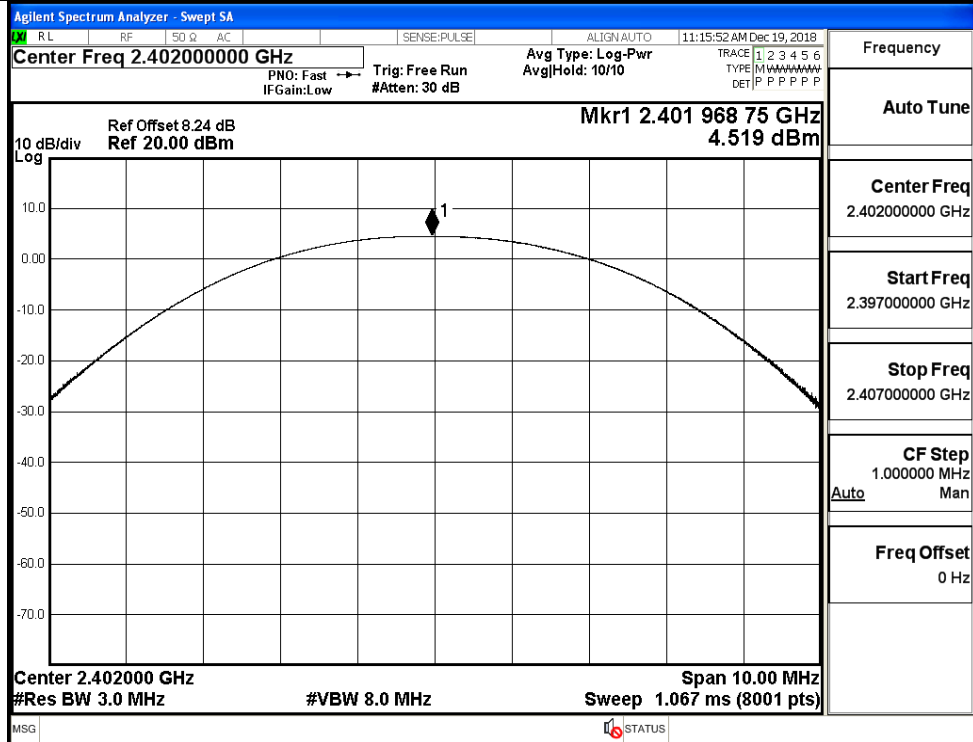
| | |
|--------------------|-------------|
| Temperature: | 23.2 ° C |
| Relative Humidity: | 53.8% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: | Mina Xu |
| Supervised by: | Jayden.Zhuo |

A.1 Maximum Conducted Peak Output Power

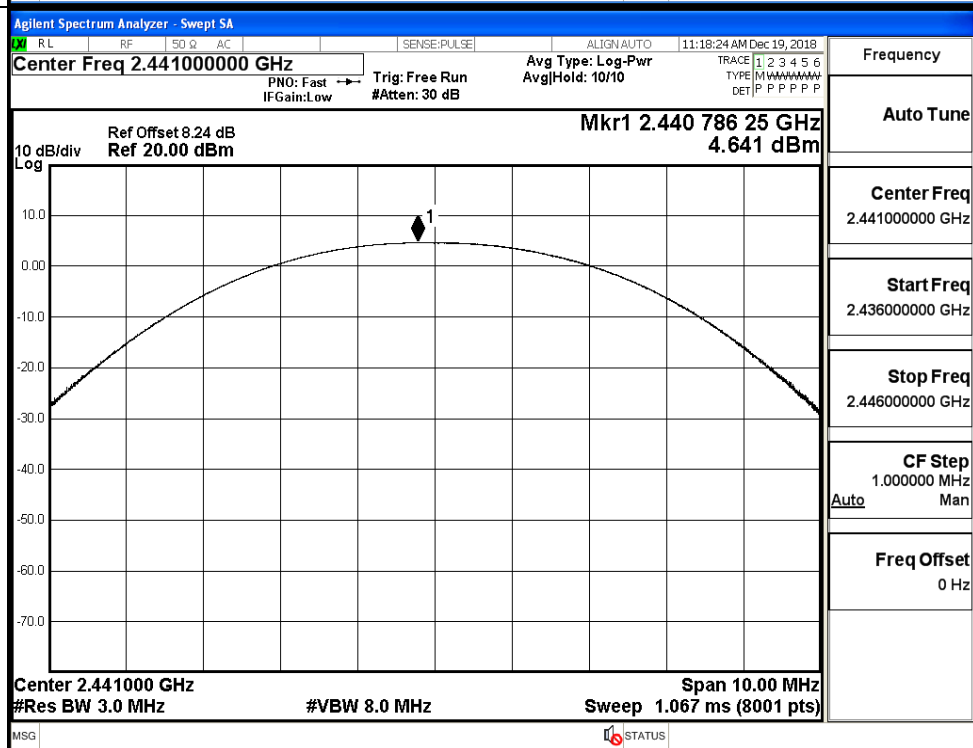
| Mode | Channel. | Maximum Peak Output Power [dBm] | Limit [dBm] | Verdict |
|---------------|----------|---------------------------------|-------------|---------|
| GFSK | LCH | 4.519 | 21 | PASS |
| | MCH | 4.641 | 21 | PASS |
| | HCH | 4.604 | 21 | PASS |
| $\pi/4$ DQPSK | LCH | 3.379 | 21 | PASS |
| | MCH | 3.450 | 21 | PASS |
| | HCH | 3.409 | 21 | PASS |
| 8DPSK | LCH | 3.371 | 21 | PASS |
| | MCH | 3.994 | 21 | PASS |
| | HCH | 3.962 | 21 | PASS |

Test Graphs

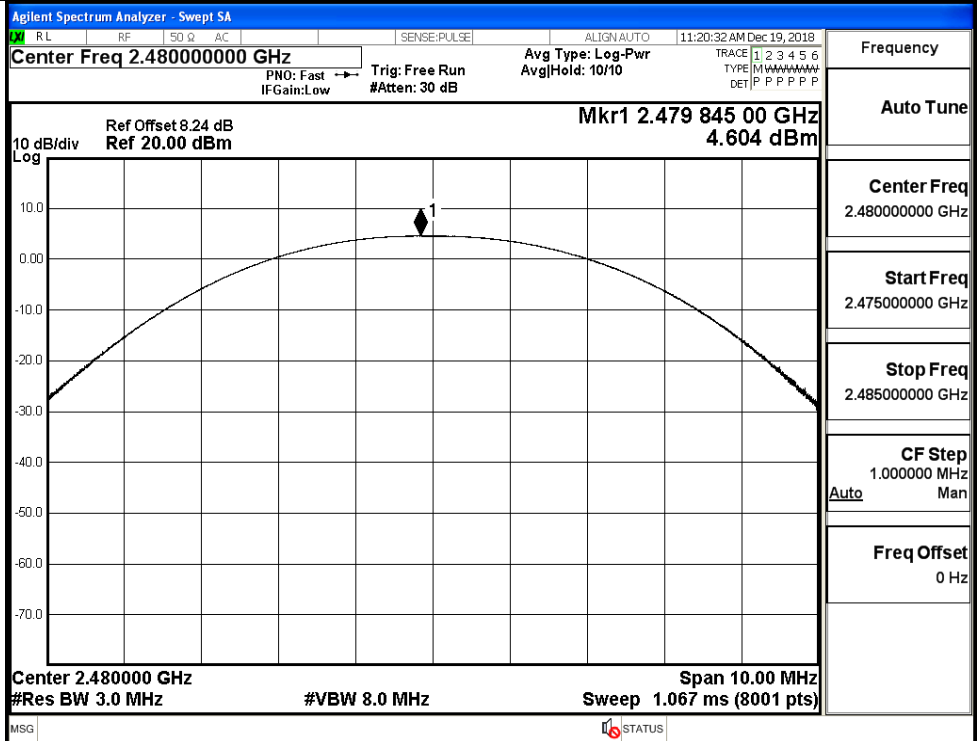
GFSK/LCH



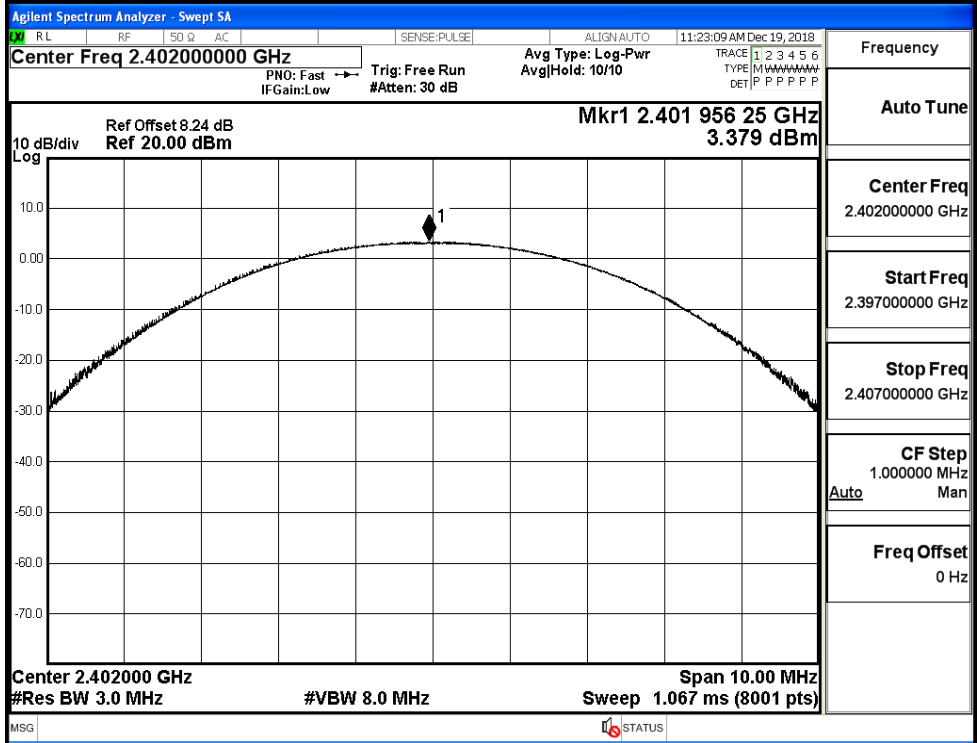
GFSK/MCH



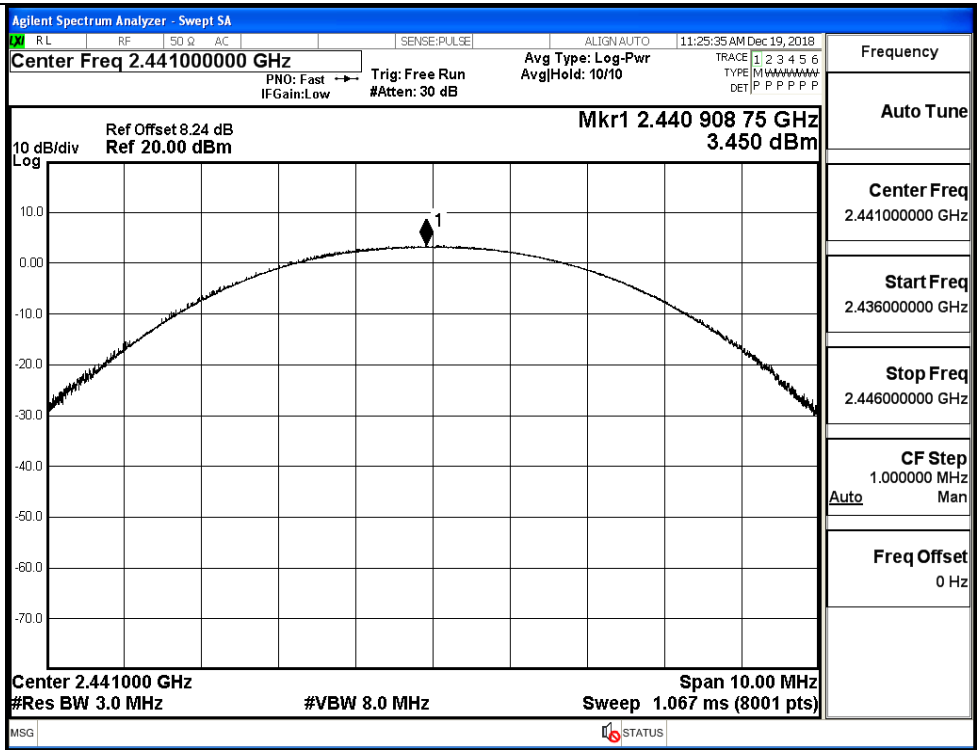
GFSK/HCH



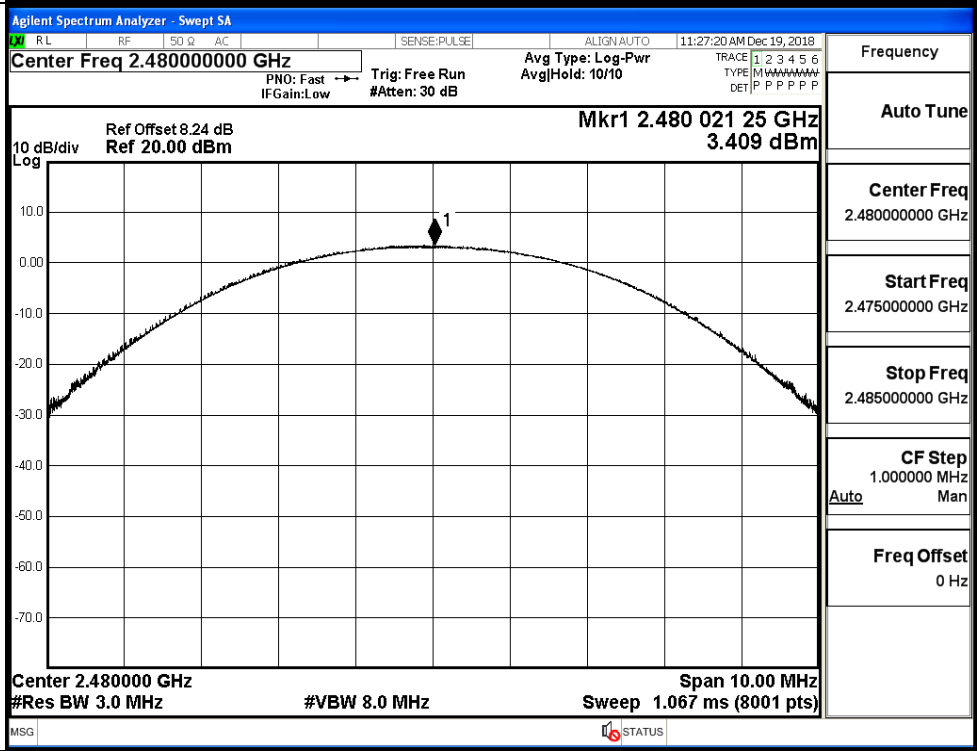
π /4DQPSK/LCH



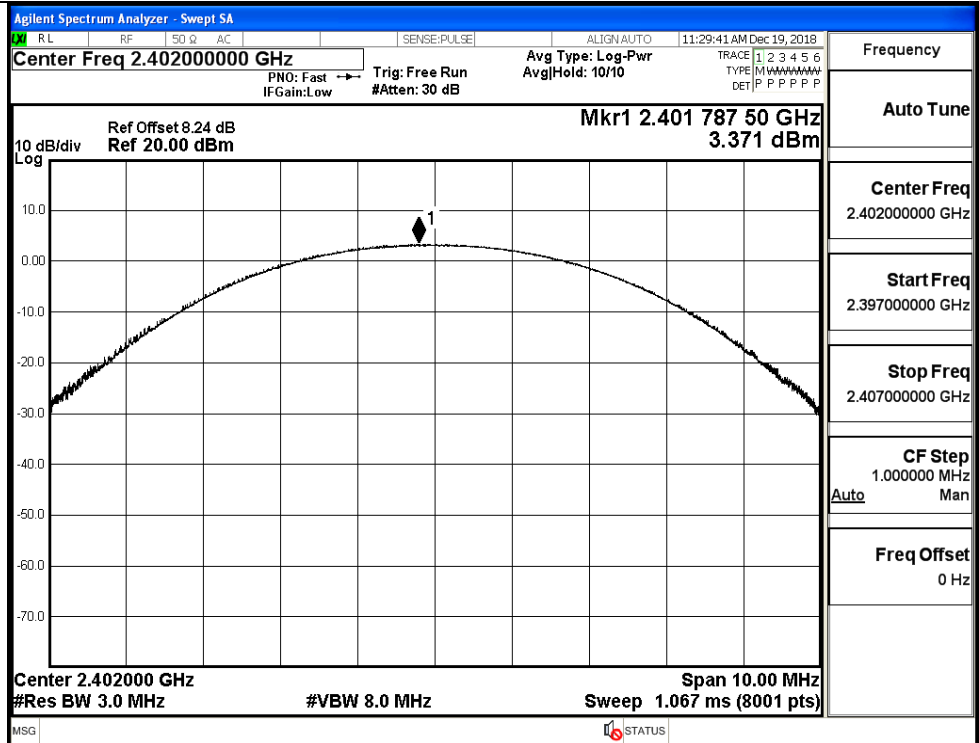
π /4DQPSK/MCH



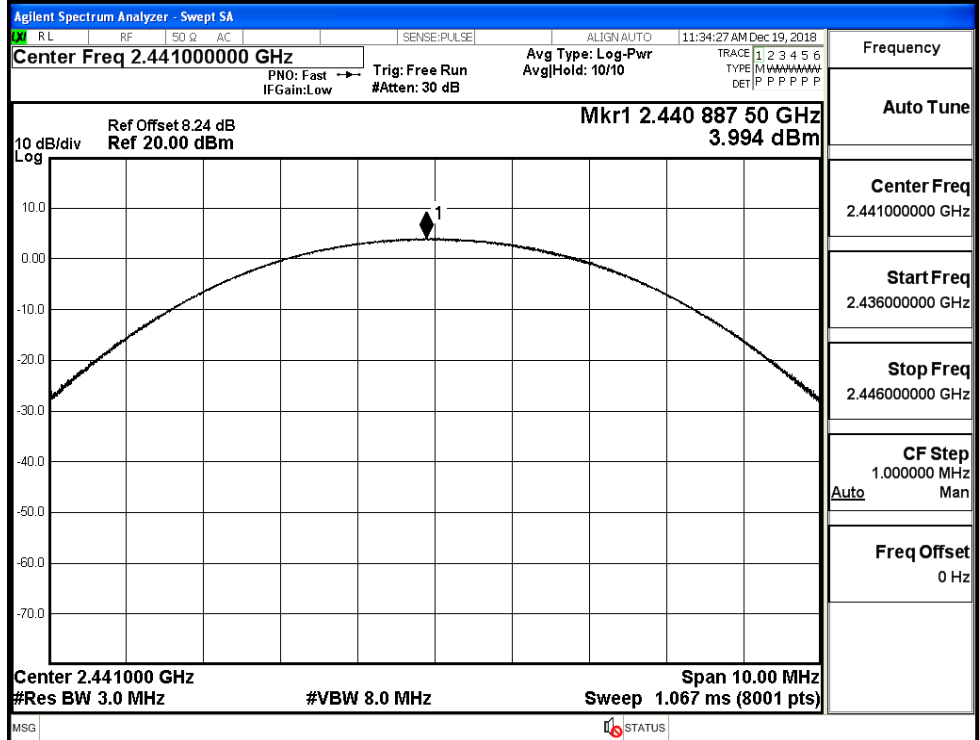
π /4DQPSK/HCH



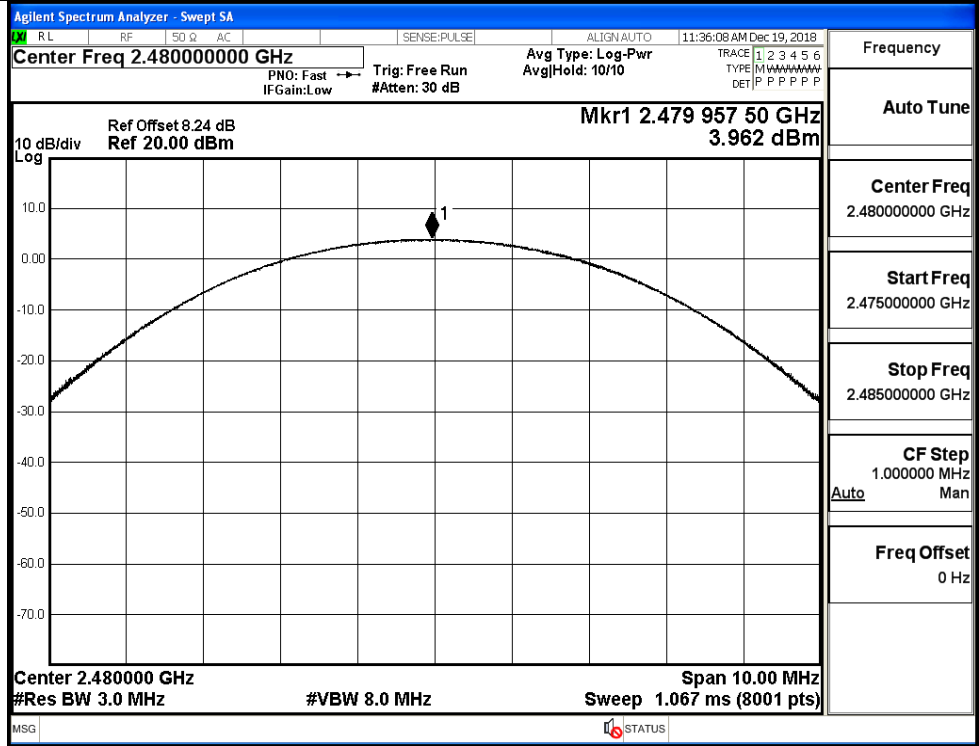
8DPSK/LCH



8DPSK/MCH

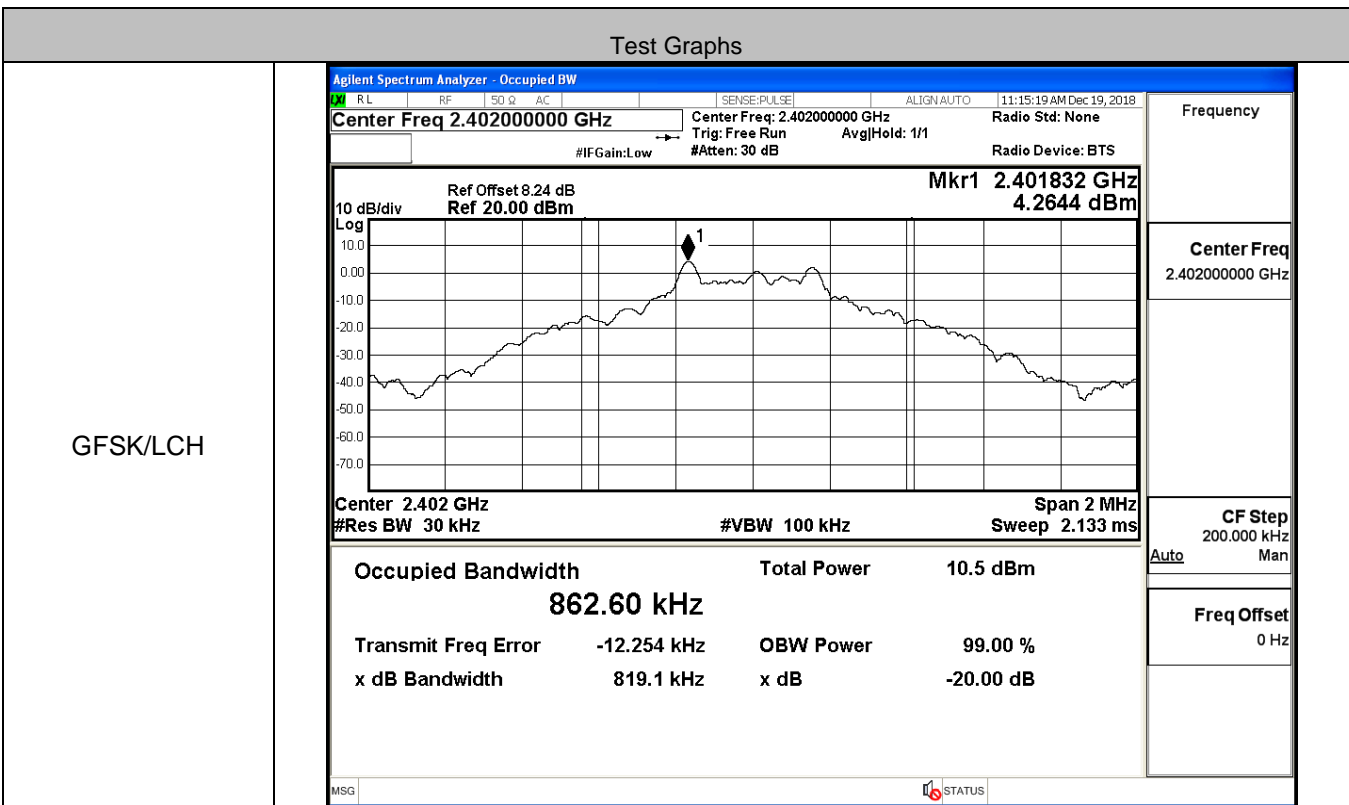


8DPSK/HCH

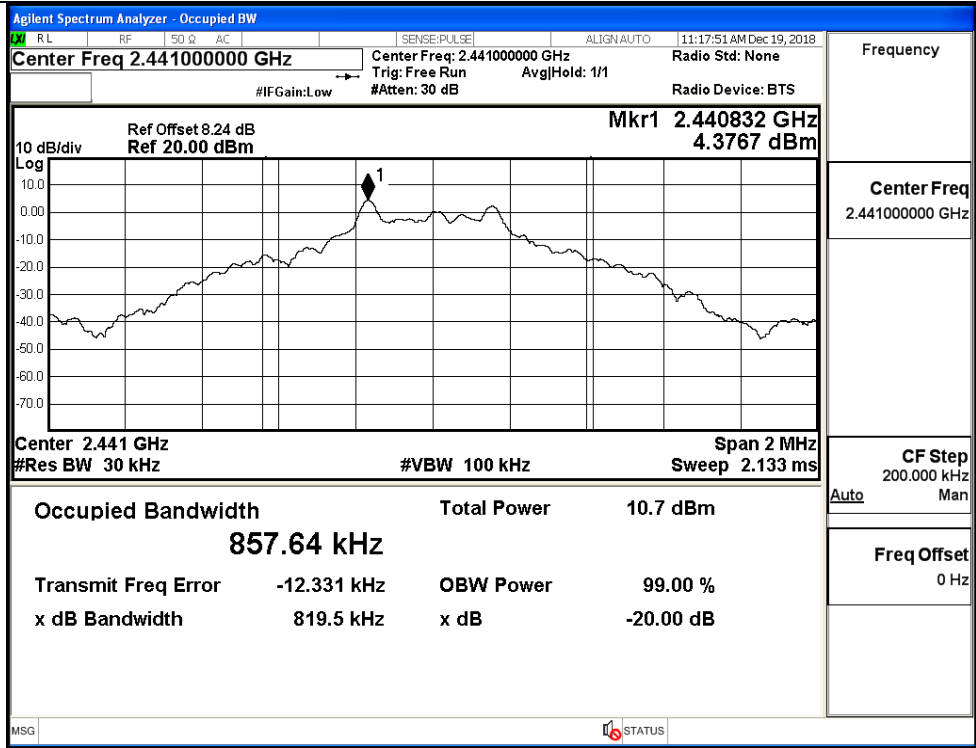


A.2 99% and 20dB Bandwidth

| Mode | Channel. | 99% Bandwidth [MHz] | 20dB Bandwidth [MHz] | Limit [MHz] | Verdict |
|----------|----------|---------------------|----------------------|---------------|---------|
| GFSK | LCH | 0.86260 | 0.8191 | Not Specified | PASS |
| | MCH | 0.85764 | 0.8195 | Not Specified | PASS |
| | HCH | 0.85884 | 0.8277 | Not Specified | PASS |
| π/4DQPSK | LCH | 1.0733 | 1.148 | Not Specified | PASS |
| | MCH | 1.0739 | 1.145 | Not Specified | PASS |
| | HCH | 1.0720 | 1.134 | Not Specified | PASS |
| 8DPSK | LCH | 1.1798 | 1.298 | Not Specified | PASS |
| | MCH | 1.1807 | 1.303 | Not Specified | PASS |
| | HCH | 1.1796 | 1.295 | Not Specified | PASS |

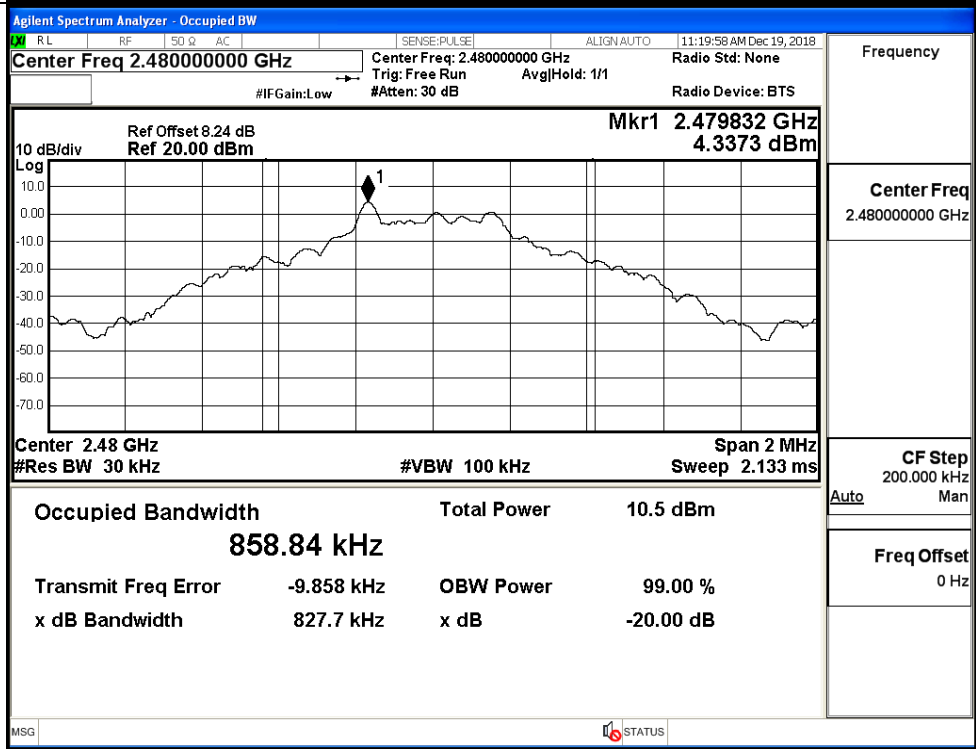


GFSK/MCH



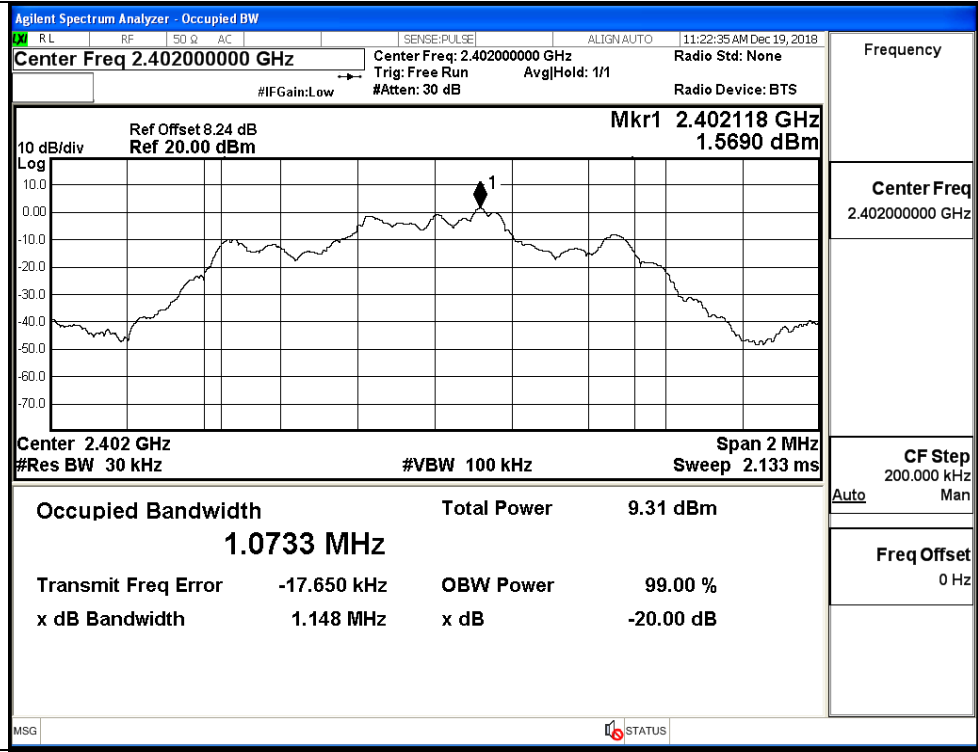
| | |
|-------------|-----------------|
| Frequency | 2.441000000 GHz |
| Center Freq | 2.441000000 GHz |
| CF Step | 200.000 kHz |
| Auto | Man |
| Freq Offset | 0 Hz |

GFSK/HCH



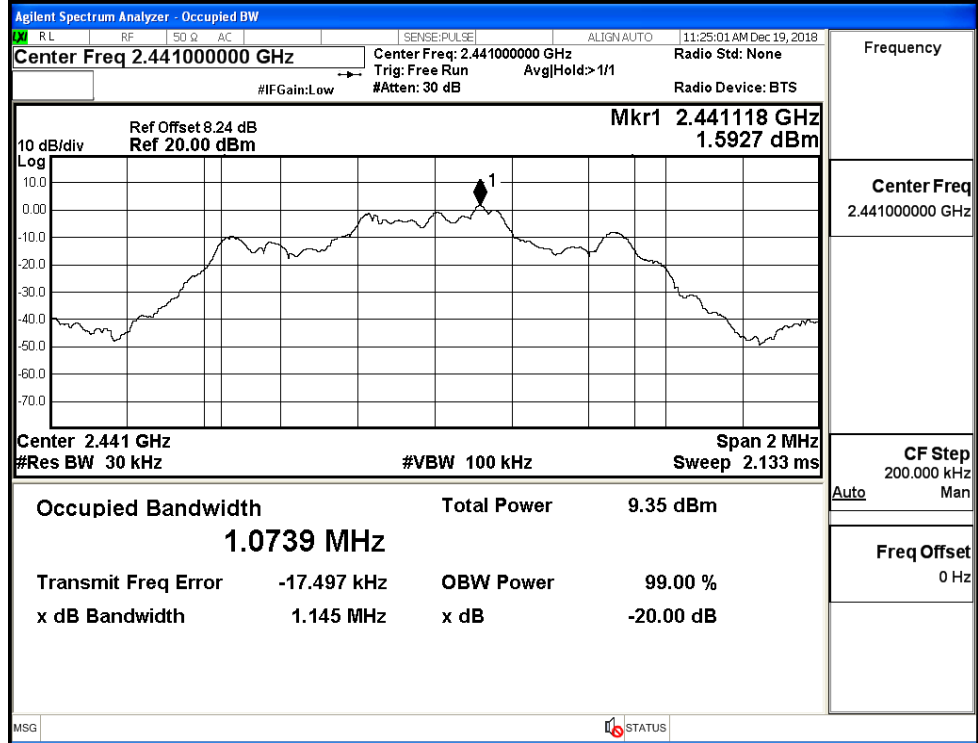
| | |
|-------------|-----------------|
| Frequency | 2.480000000 GHz |
| Center Freq | 2.480000000 GHz |
| CF Step | 200.000 kHz |
| Auto | Man |
| Freq Offset | 0 Hz |

$\pi/4$ DQPSK/LCH



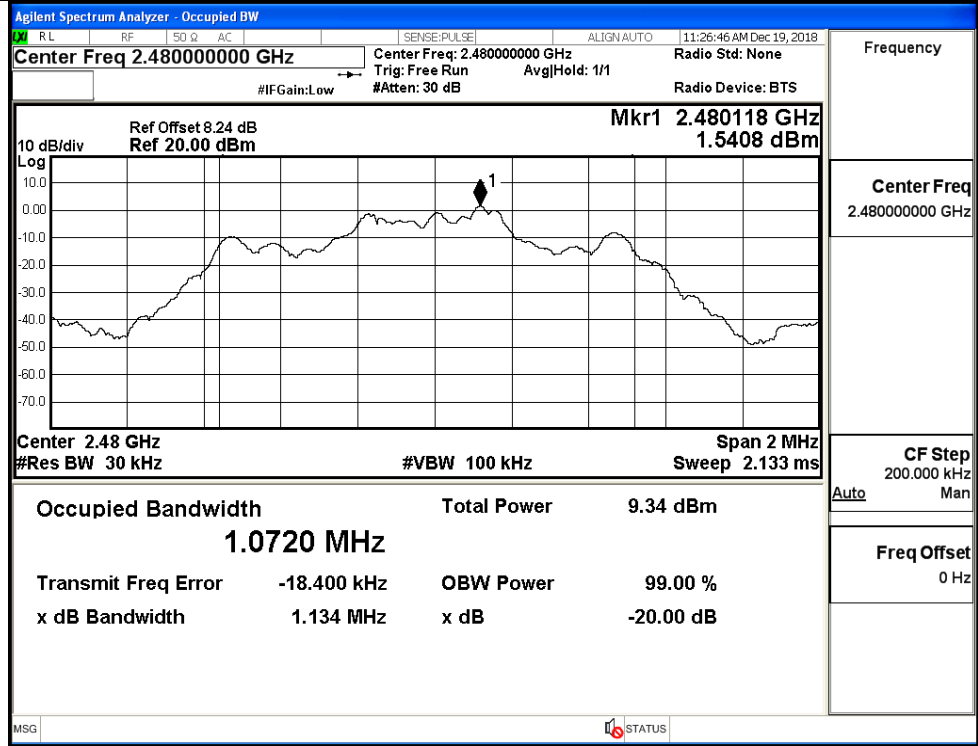
| | |
|-------------|----------------|
| Frequency | 2.40200000 GHz |
| Center Freq | 2.40200000 GHz |
| CF Step | 200.000 kHz |
| Auto | Man |
| Freq Offset | 0 Hz |

$\pi/4$ DQPSK/MCH

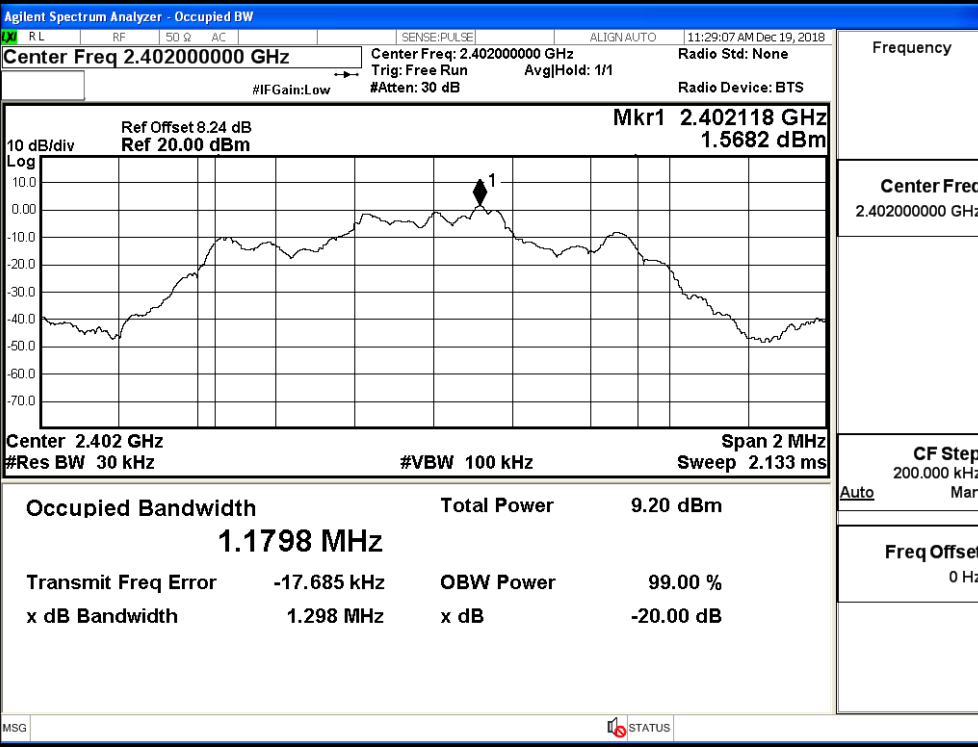


| | |
|-------------|----------------|
| Frequency | 2.44100000 GHz |
| Center Freq | 2.44100000 GHz |
| CF Step | 200.000 kHz |
| Auto | Man |
| Freq Offset | 0 Hz |

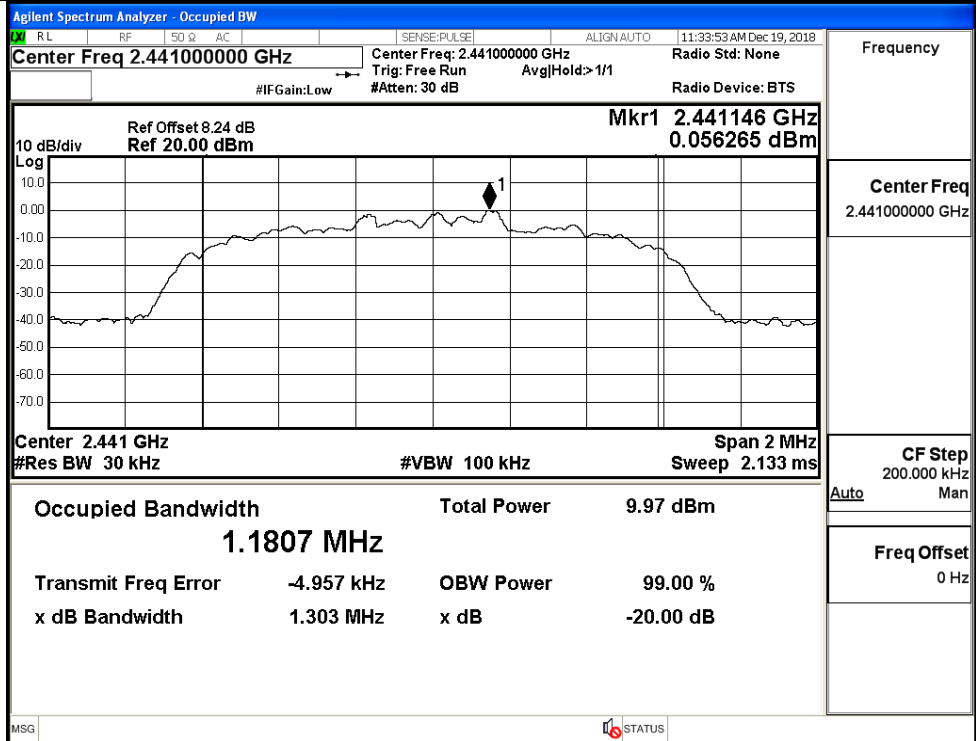
π/4DQPSK/HCH



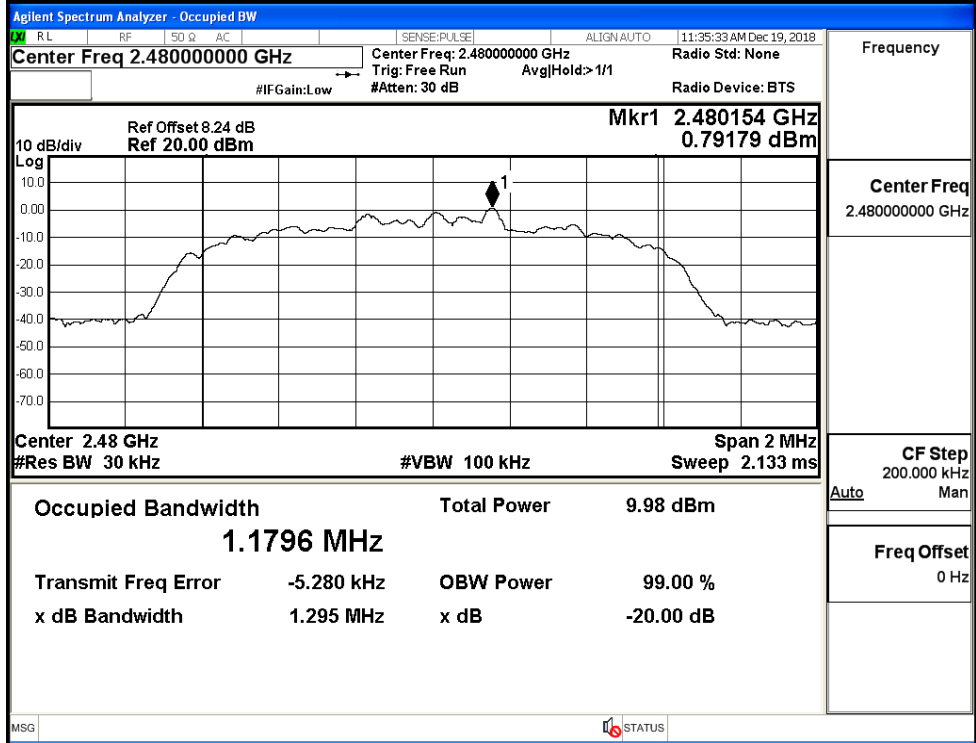
8DPSK/LCH



8DPSK/MCH

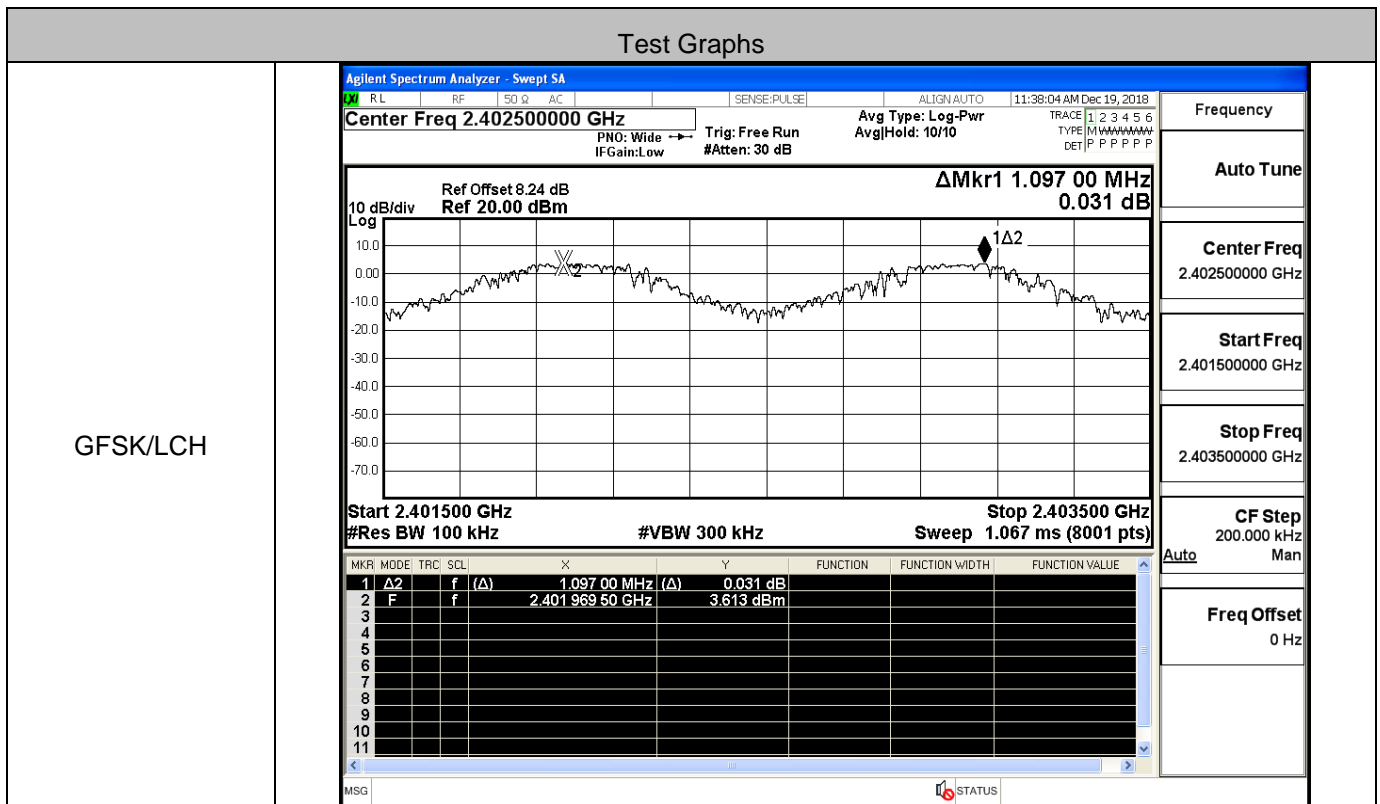


8DPSK/HCH

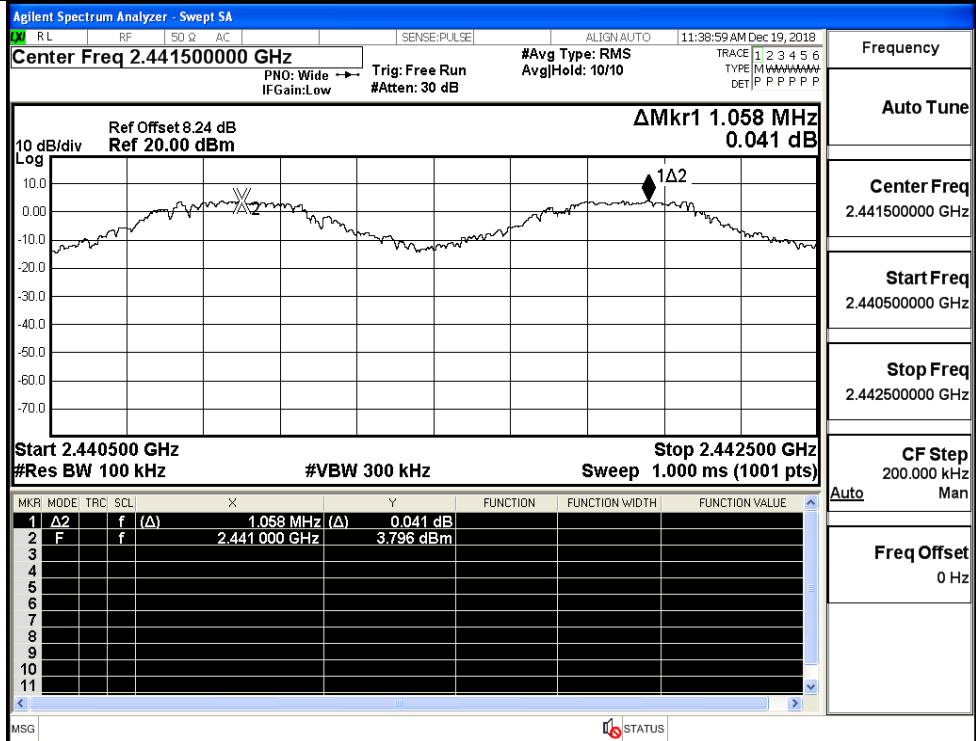


A.3 Carrier Frequency Separation

| Mode | Channel | Carrier Frequency Separation [MHz] | Limit [MHz] | Verdict |
|----------|---------|------------------------------------|-------------|---------|
| GFSK | LCH | 1.097 | 0.552 | PASS |
| | MCH | 1.058 | 0.552 | PASS |
| | HCH | 1.102 | 0.552 | PASS |
| π/4DQPSK | LCH | 1.016 | 0.765 | PASS |
| | MCH | 1.118 | 0.765 | PASS |
| | HCH | 1.082 | 0.765 | PASS |
| 8DPSK | LCH | 1.148 | 0.869 | PASS |
| | MCH | 0.998 | 0.869 | PASS |
| | HCH | 0.824 | 0.869 | PASS |

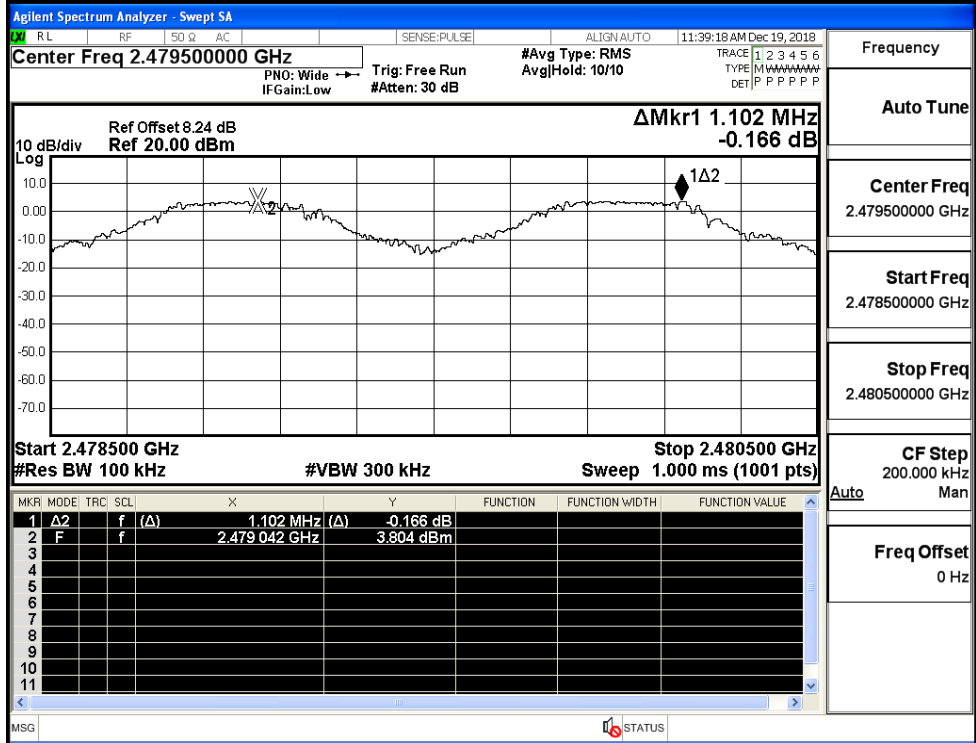


GFSK/MCH



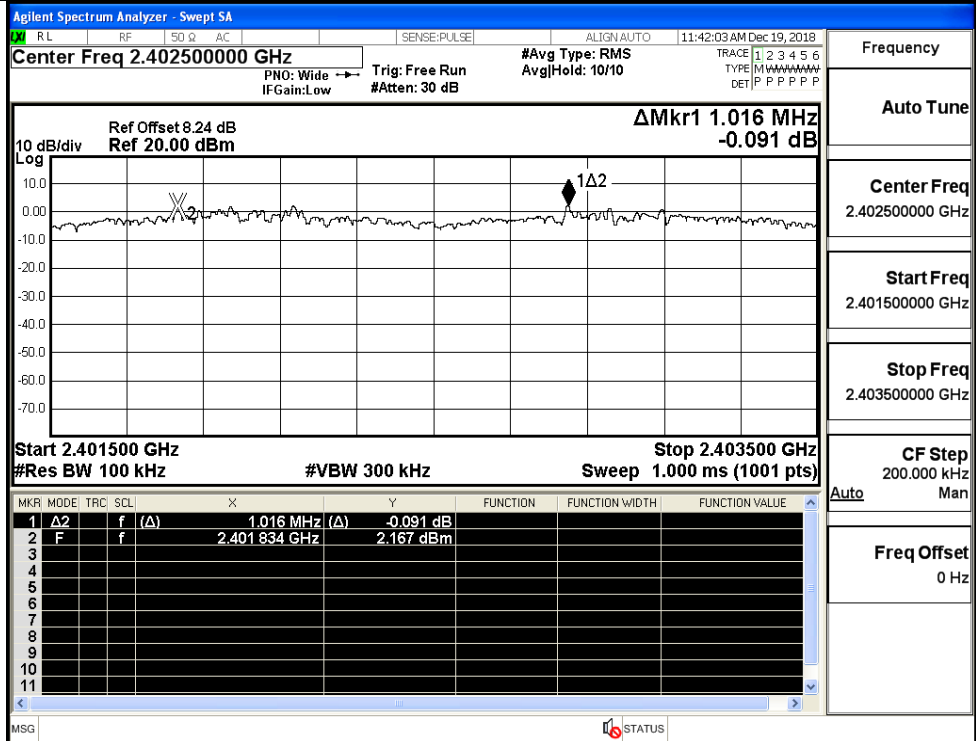
Frequency
Auto Tune
Center Freq
2.441500000 GHz
Start Freq
2.440500000 GHz
Stop Freq
2.442500000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

GFSK/HCH



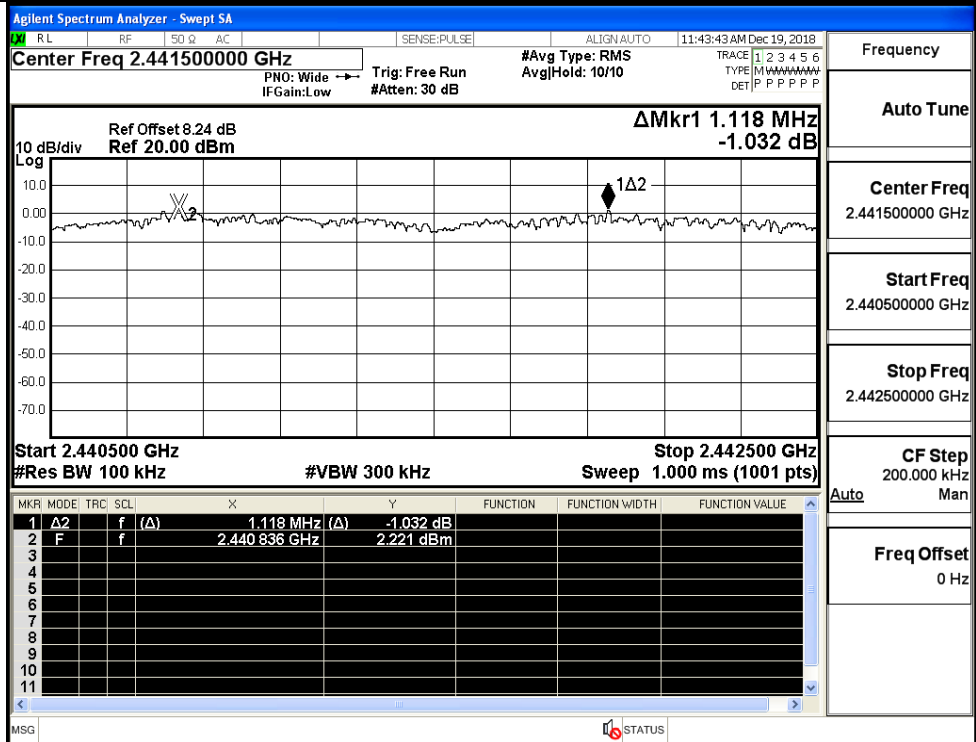
Frequency
Auto Tune
Center Freq
2.479500000 GHz
Start Freq
2.478500000 GHz
Stop Freq
2.480500000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

π /4DQPSK/LCH



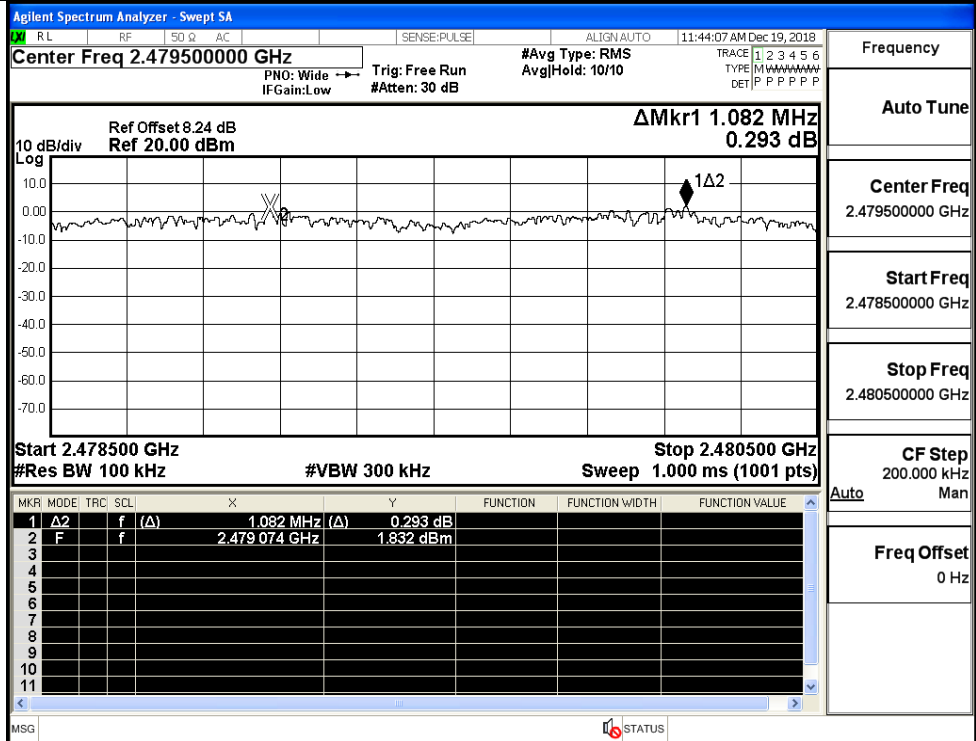
Frequency
Auto Tune
Center Freq
2.402500000 GHz
Start Freq
2.401500000 GHz
Stop Freq
2.403500000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

π /4DQPSK/MCH



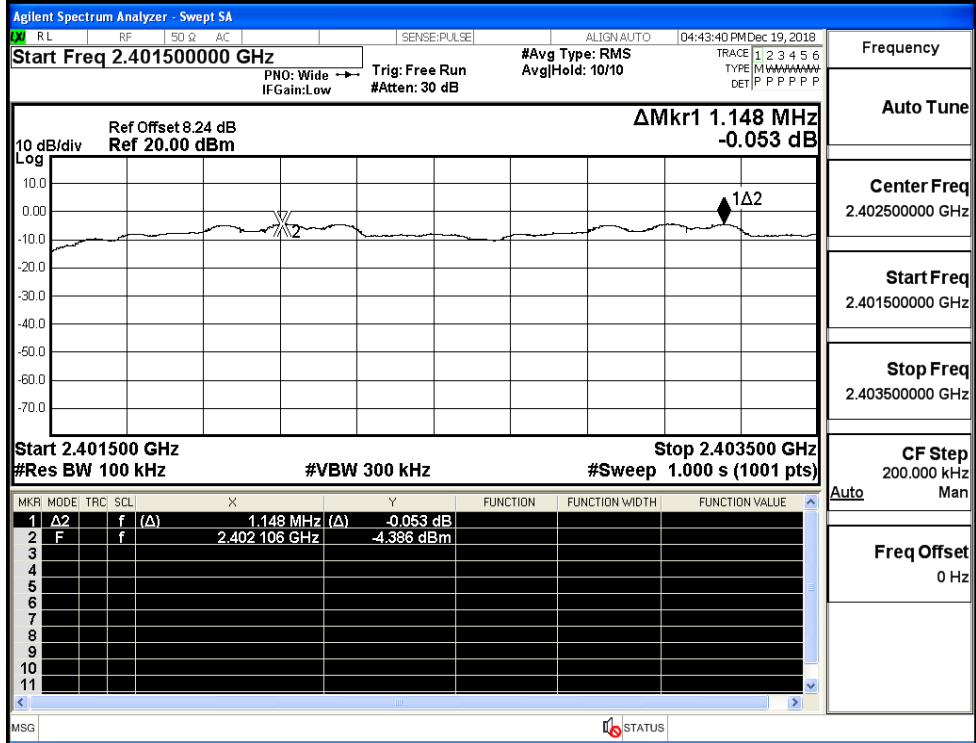
Frequency
Auto Tune
Center Freq
2.441500000 GHz
Start Freq
2.440500000 GHz
Stop Freq
2.442500000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

π/4DQPSK/HCH



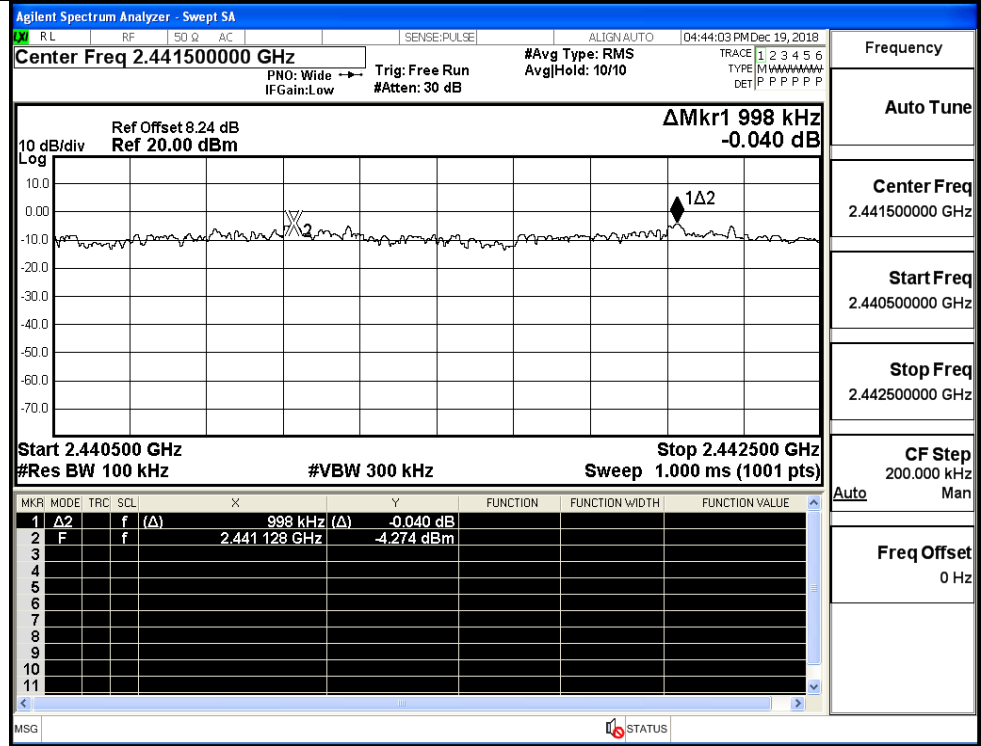
Frequency
Auto Tune
Center Freq
2.479500000 GHz
Start Freq
2.478500000 GHz
Stop Freq
2.480500000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

8DPSK/LCH

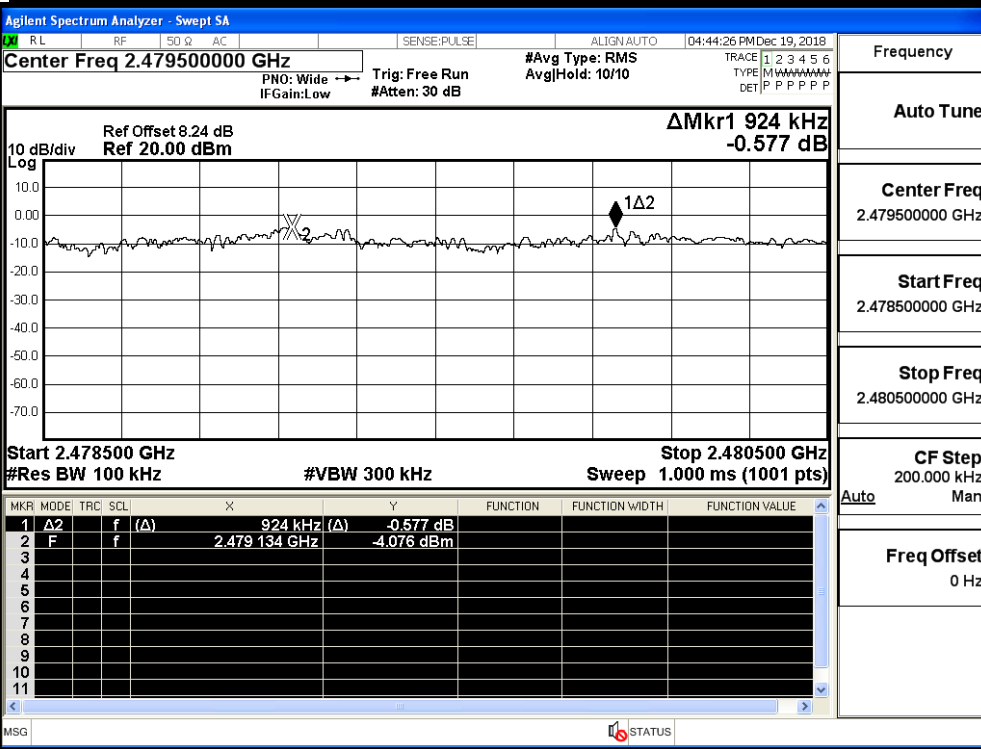


Frequency
Auto Tune
Center Freq
2.402500000 GHz
Start Freq
2.401500000 GHz
Stop Freq
2.403500000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

8DPSK/MCH



8DPSK/HCH



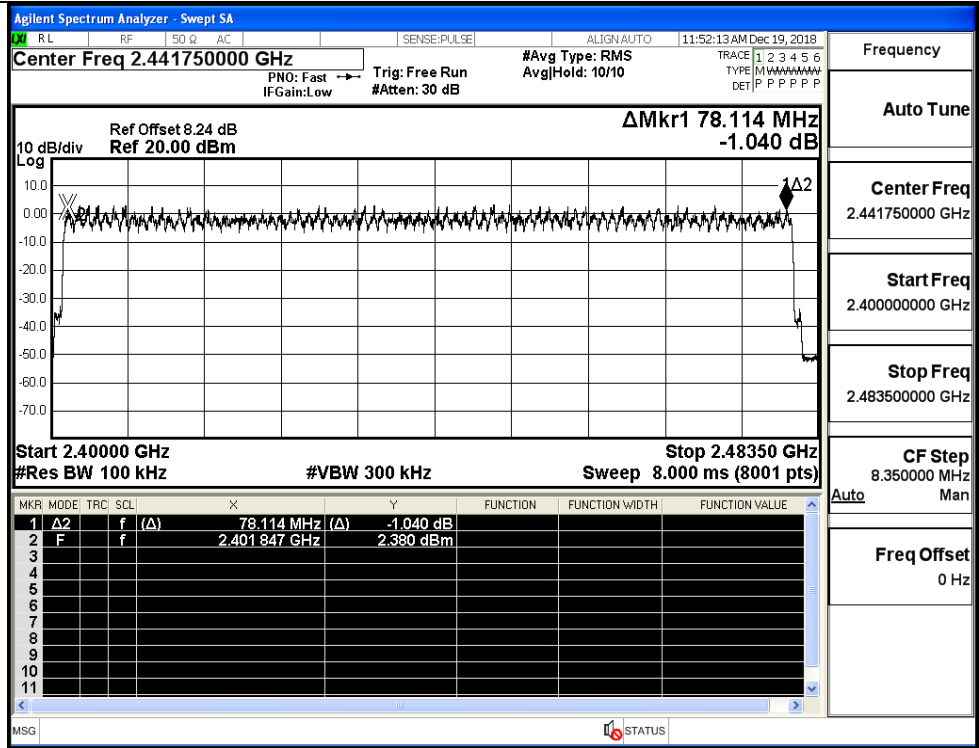
A.4 Hopping Channel Number

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

Test Graphs

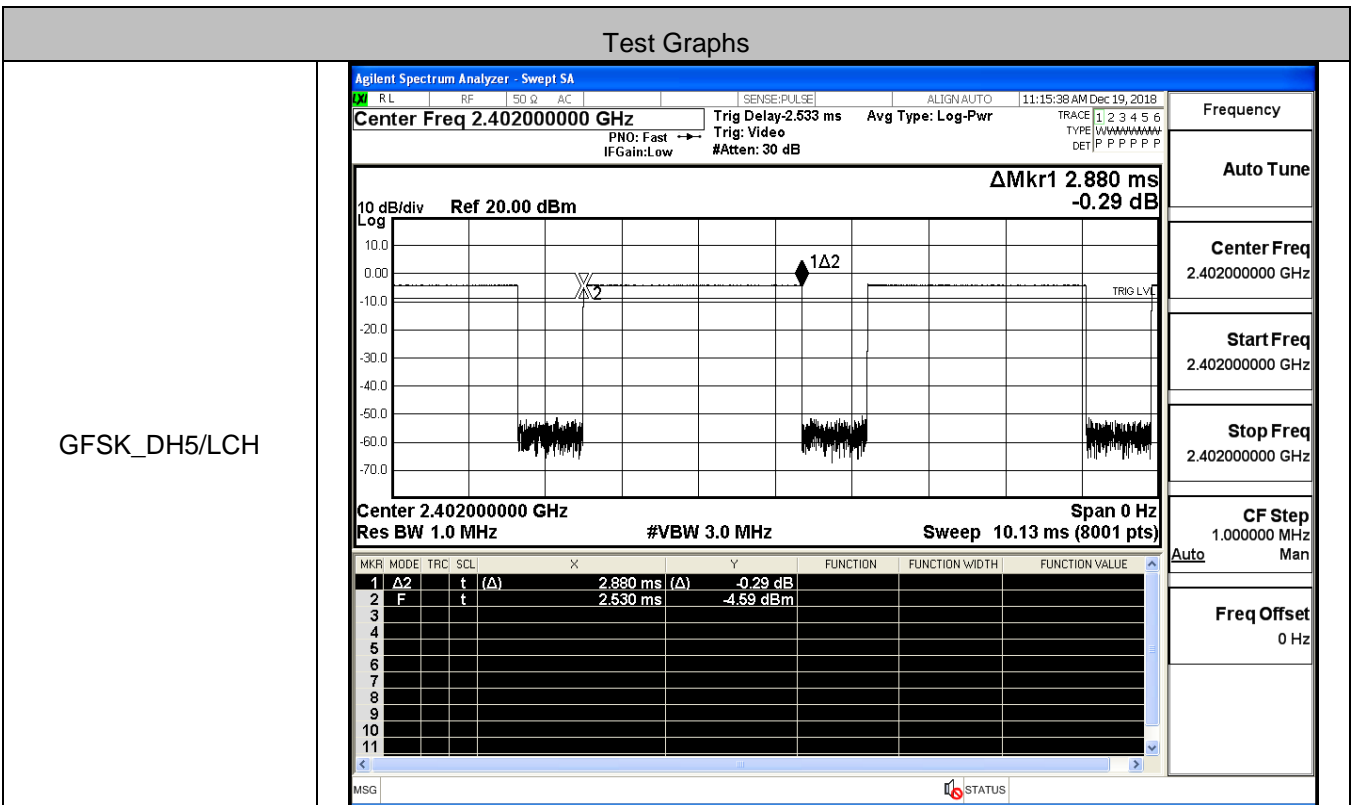
| <p>GFSK/Hop</p> | <table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</th> <th>X</th> <th>Y</th> <th>FUNCTION</th> <th>FUNCTION WIDTH</th> <th>FUNCTION VALUE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Δ2</td> <td>f</td> <td>(Δ)</td> <td>78.093 MHz (Δ)</td> <td>0.347 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td></td> <td>2.401962 GHz</td> <td>3.769 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | MKR | MODE | TRC | SCL | X | Y | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE | 1 | Δ 2 | f | (Δ) | 78.093 MHz (Δ) | 0.347 dB | | | | 2 | F | f | | 2.401962 GHz | 3.769 dBm | | | | <p>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</p> |
|------------------------------------|--|-----|--------------|-------------------------|-----------|----------|----------------|----------------|----------------|----------------|---|------------|---|--------------|-------------------------|----------|--|--|--|---|---|---|--|--------------|-----------|--|--|--|---|
| MKR | MODE | TRC | SCL | X | Y | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE | | | | | | | | | | | | | | | | | | | | | |
| 1 | Δ 2 | f | (Δ) | 78.093 MHz (Δ) | 0.347 dB | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | F | f | | 2.401962 GHz | 3.769 dBm | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>$\pi/4$DQPSK/Hop</p> | <table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</th> <th>X</th> <th>Y</th> <th>FUNCTION</th> <th>FUNCTION WIDTH</th> <th>FUNCTION VALUE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Δ2</td> <td>f</td> <td>(Δ)</td> <td>77.853 MHz (Δ)</td> <td>1.294 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td></td> <td>2.401983 GHz</td> <td>1.606 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | MKR | MODE | TRC | SCL | X | Y | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE | 1 | Δ 2 | f | (Δ) | 77.853 MHz (Δ) | 1.294 dB | | | | 2 | F | f | | 2.401983 GHz | 1.606 dBm | | | | <p>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</p> |
| MKR | MODE | TRC | SCL | X | Y | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE | | | | | | | | | | | | | | | | | | | | | |
| 1 | Δ 2 | f | (Δ) | 77.853 MHz (Δ) | 1.294 dB | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | F | f | | 2.401983 GHz | 1.606 dBm | | | | | | | | | | | | | | | | | | | | | | | | |

8DPSK/Hop

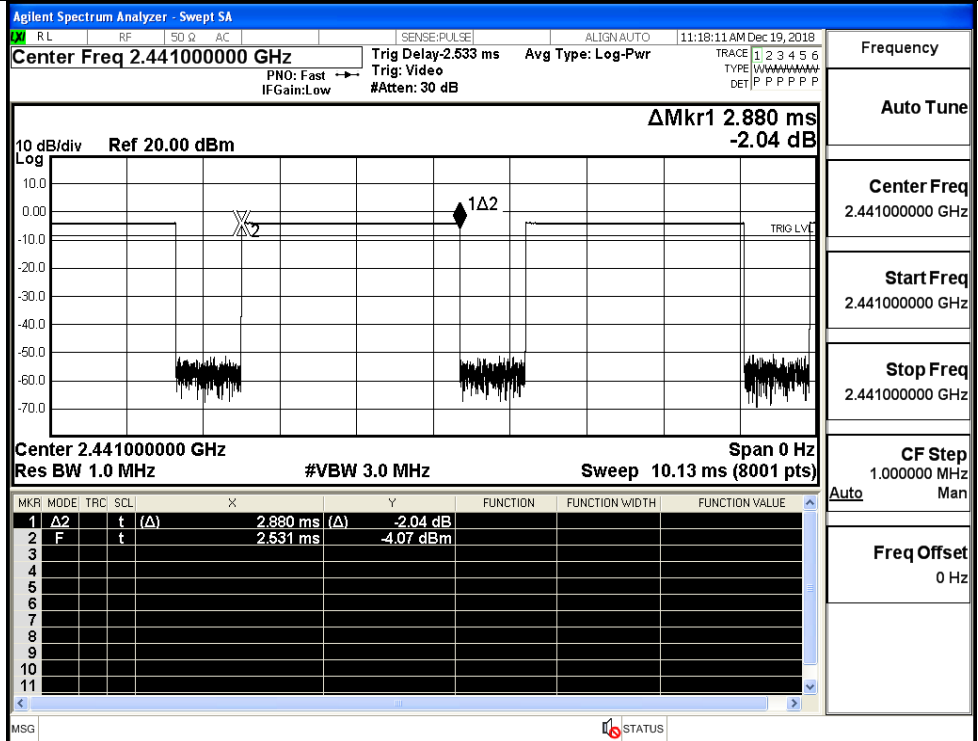


A.5 Dwell Time

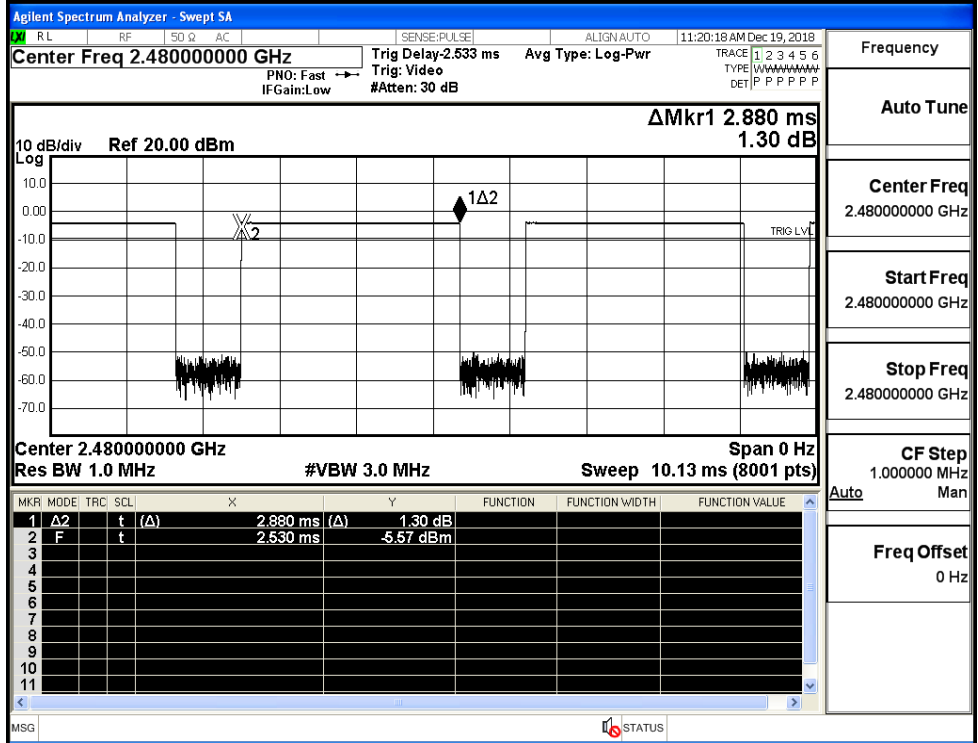
| Mode | Packet | Channel | Burst Width [ms/hop/ch] | Total Hops[hop*ch] | Dwell Time[s] | Limit [s] | Verdict |
|----------|--------|---------|-------------------------|--------------------|---------------|-----------|---------|
| GFSK | DH5 | LCH | 2.88 | 106.7 | 0.307 | 0.4 | PASS |
| | DH5 | MCH | 2.88 | 106.7 | 0.307 | 0.4 | PASS |
| | DH5 | HCH | 2.88 | 106.7 | 0.307 | 0.4 | PASS |
| π/4DQPSK | 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 | 2.89 | 106.7 | 0.308 | 0.4 | PASS |
| | 3DH5 | MCH | 2.89 | 106.7 | 0.308 | 0.4 | PASS |
| | 3DH5 | HCH | 2.89 | 106.7 | 0.308 | 0.4 | PASS |



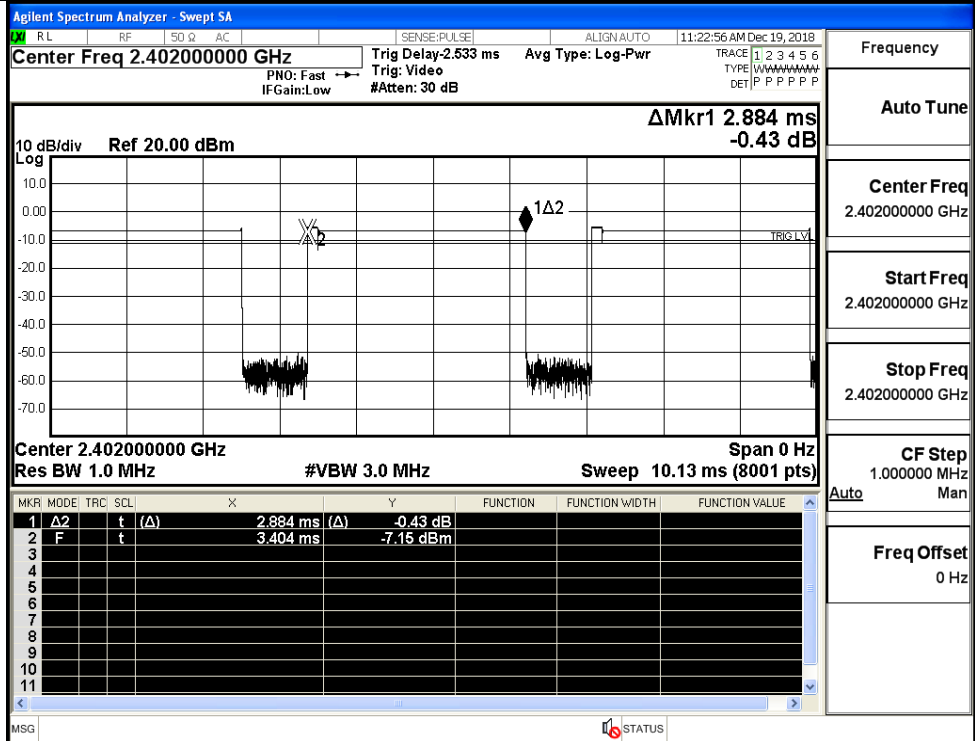
GFSK_DH5/MCH



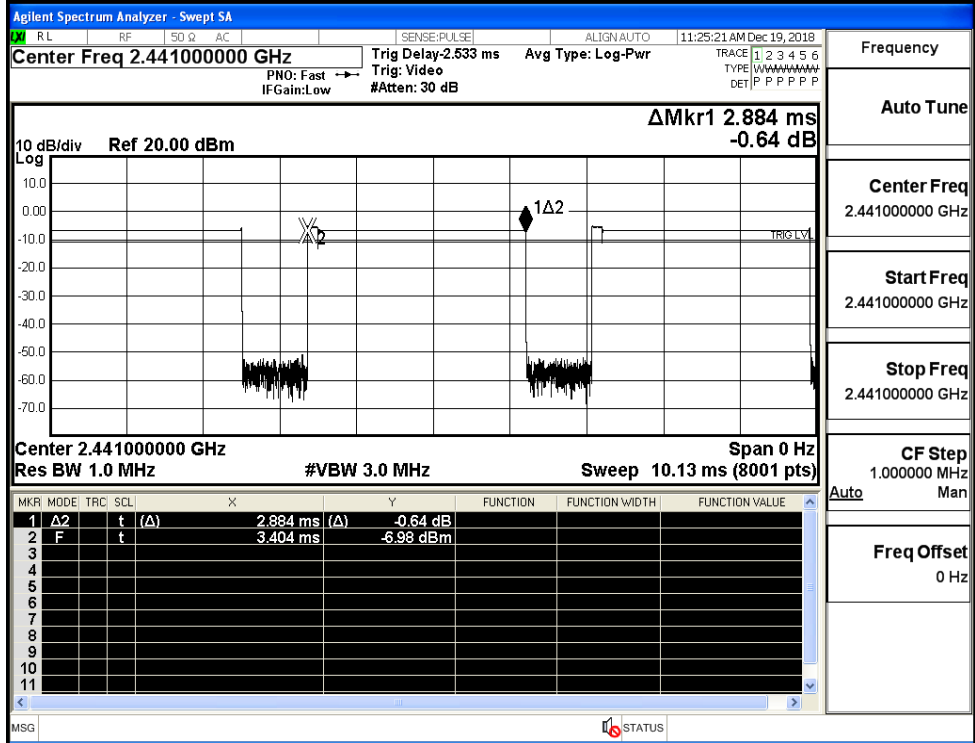
GFSK_DH5/HCH



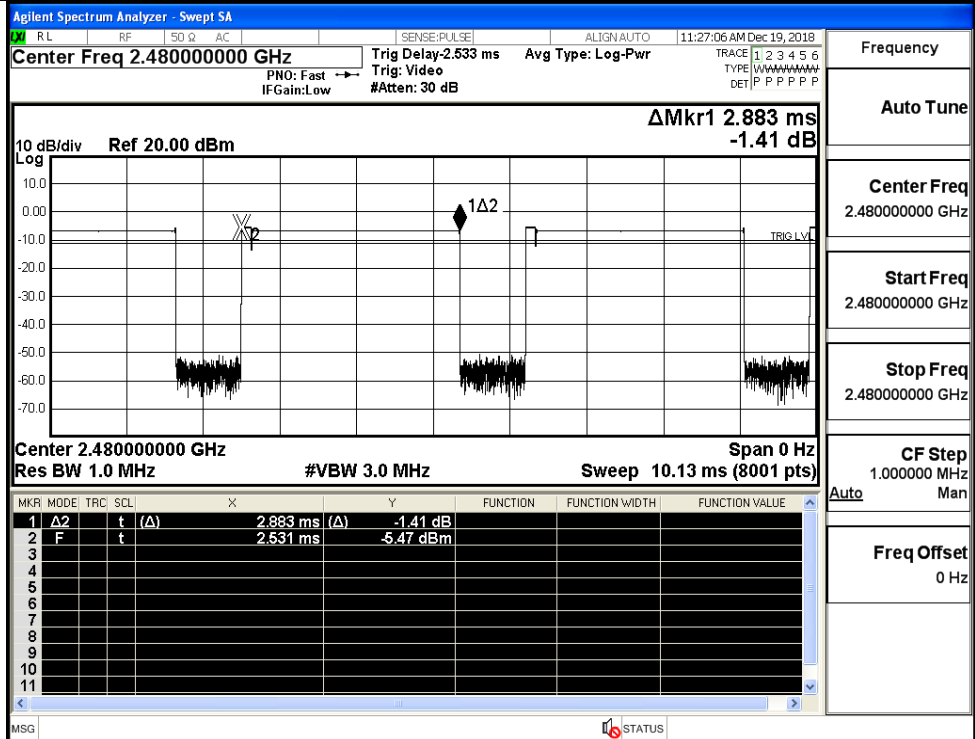
$\pi/4$ DQPSK
_2DH5/LCH



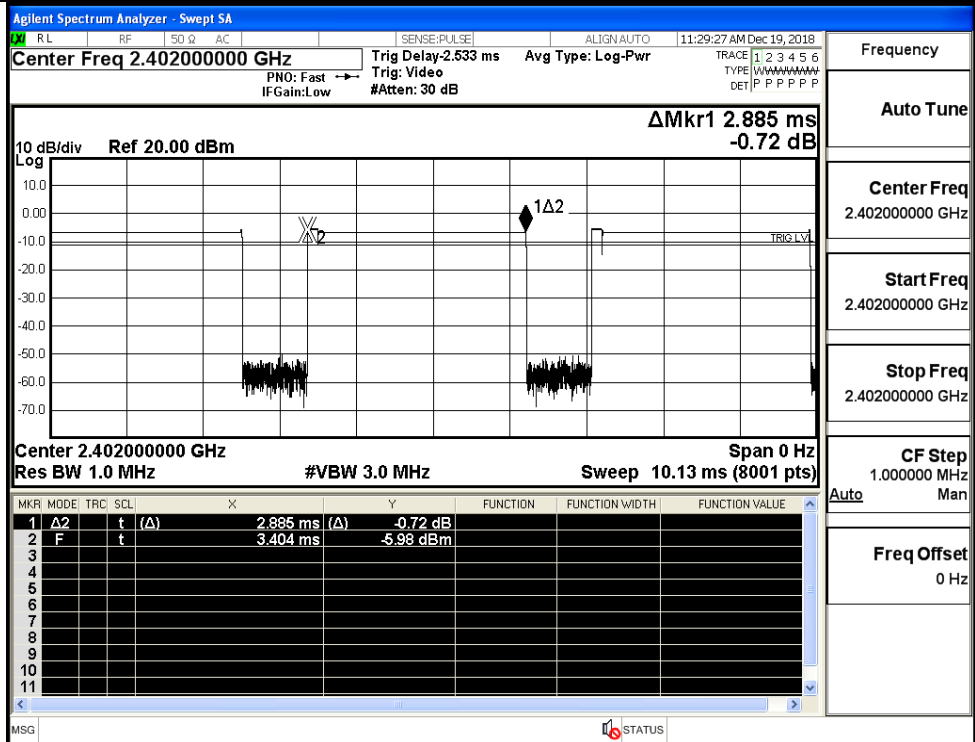
$\pi/4$ DQPSK
_2DH5/MCH



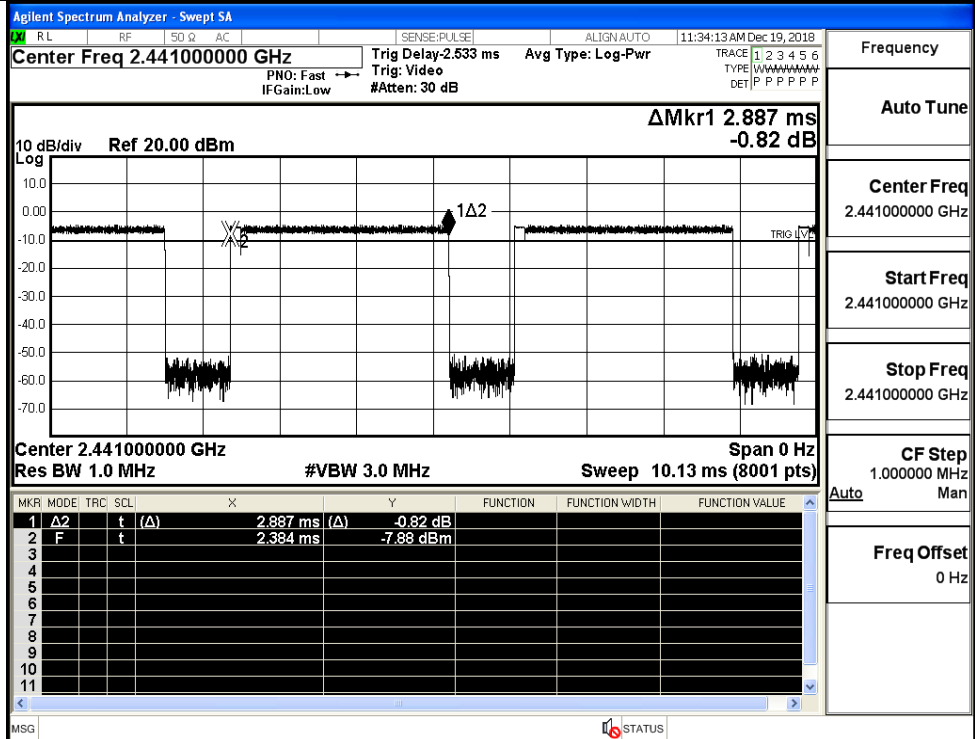
$\pi/4$ DQPSK
_2DH5/HCH



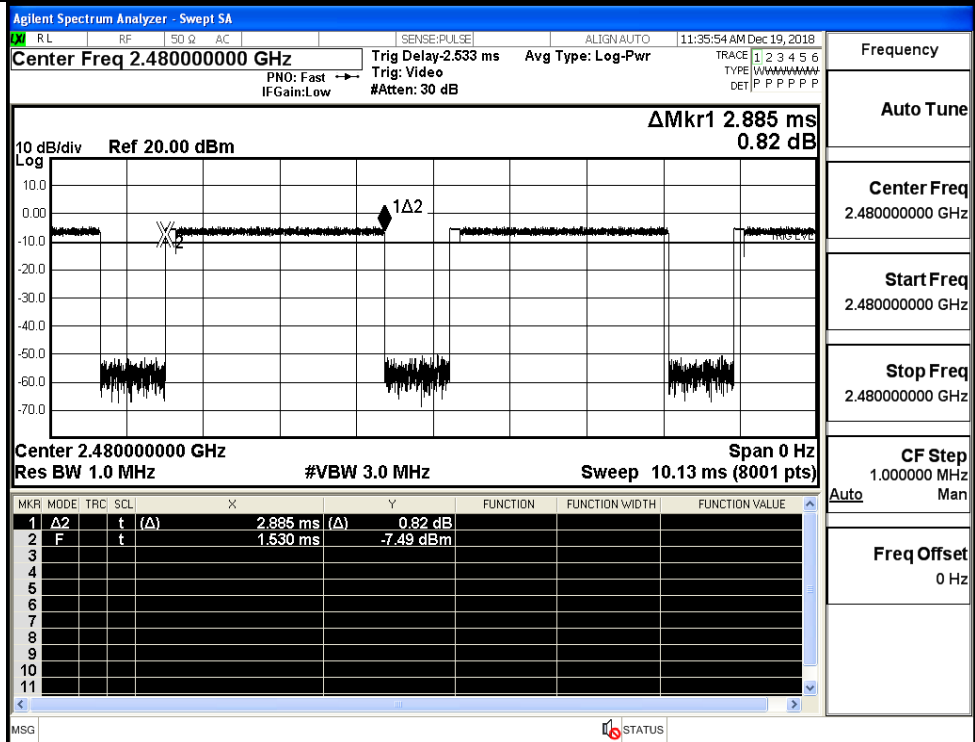
8DPSK_3DH5/LCH



8DPSK_3DH5/MCH



8DPSK_3DH5/HCH

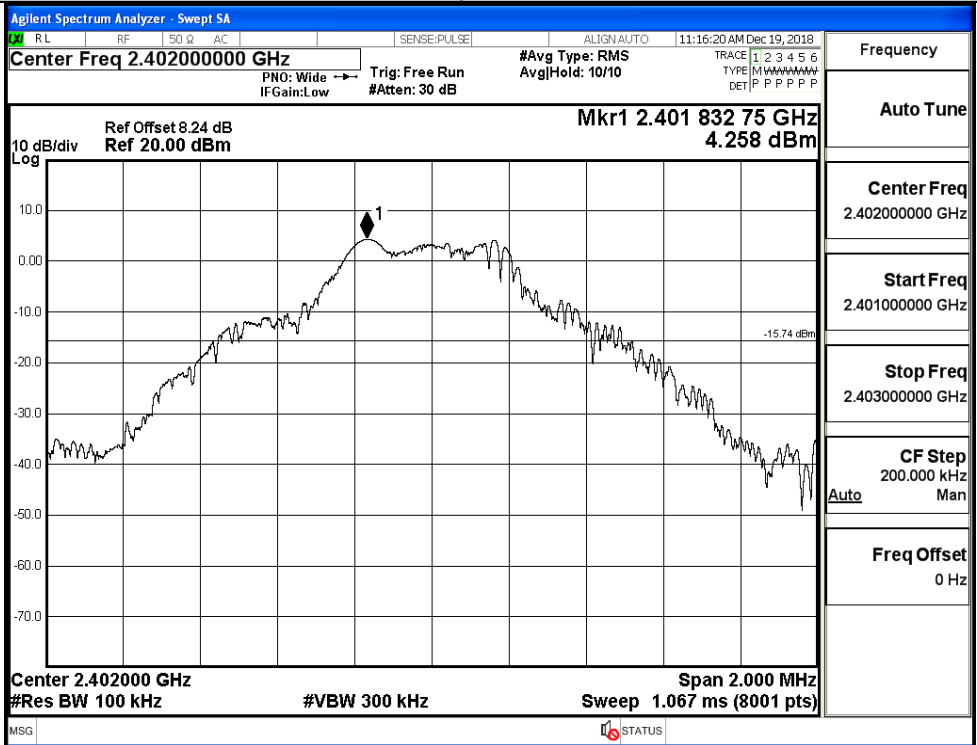


A.6 RF Conducted Spurious Emissions

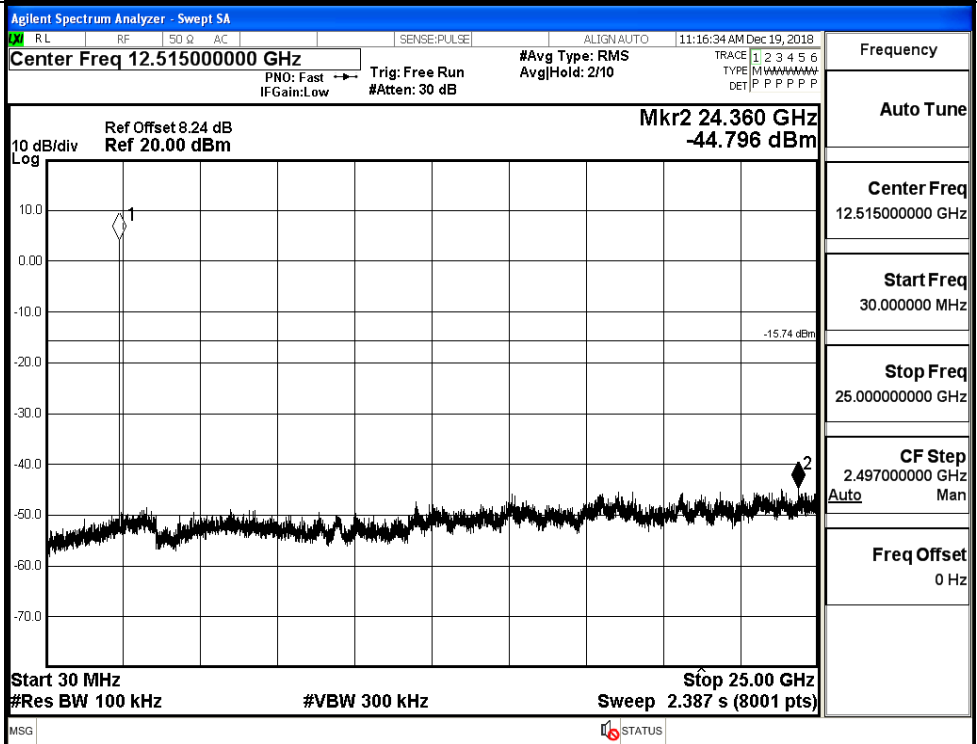
| Mode | Channel | Pref [dBm] | Max. Level [dBm] | Limit [dBm] | Verdict |
|---------------|---------|------------|------------------|-------------|---------|
| GFSK | LCH | 4.258 | -44.796 | -15.742 | PASS |
| | MCH | 4.371 | -45.326 | -15.629 | PASS |
| | HCH | 4.339 | -44.935 | -15.661 | PASS |
| $\pi/4$ DQPSK | LCH | 2.765 | -44.367 | -17.235 | PASS |
| | MCH | 2.822 | -44.666 | -17.178 | PASS |
| | HCH | 2.718 | -44.195 | -17.282 | PASS |
| 8DPSK | LCH | 2.743 | -45.122 | -17.257 | PASS |
| | MCH | 2.908 | -44.475 | -17.092 | PASS |
| | HCH | 2.872 | -43.773 | -17.128 | PASS |

GFSK_LCH_Graphs

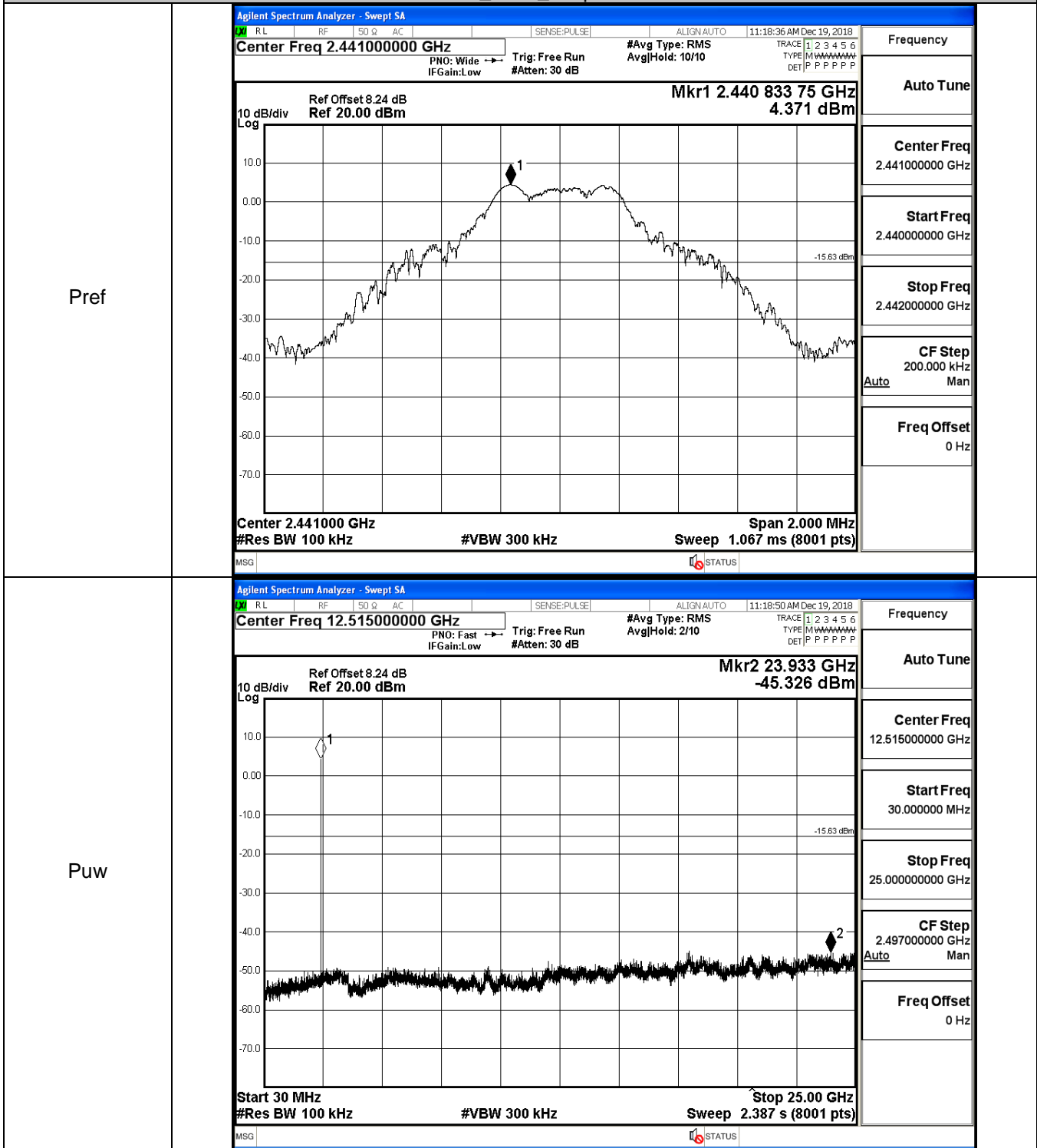
Pref



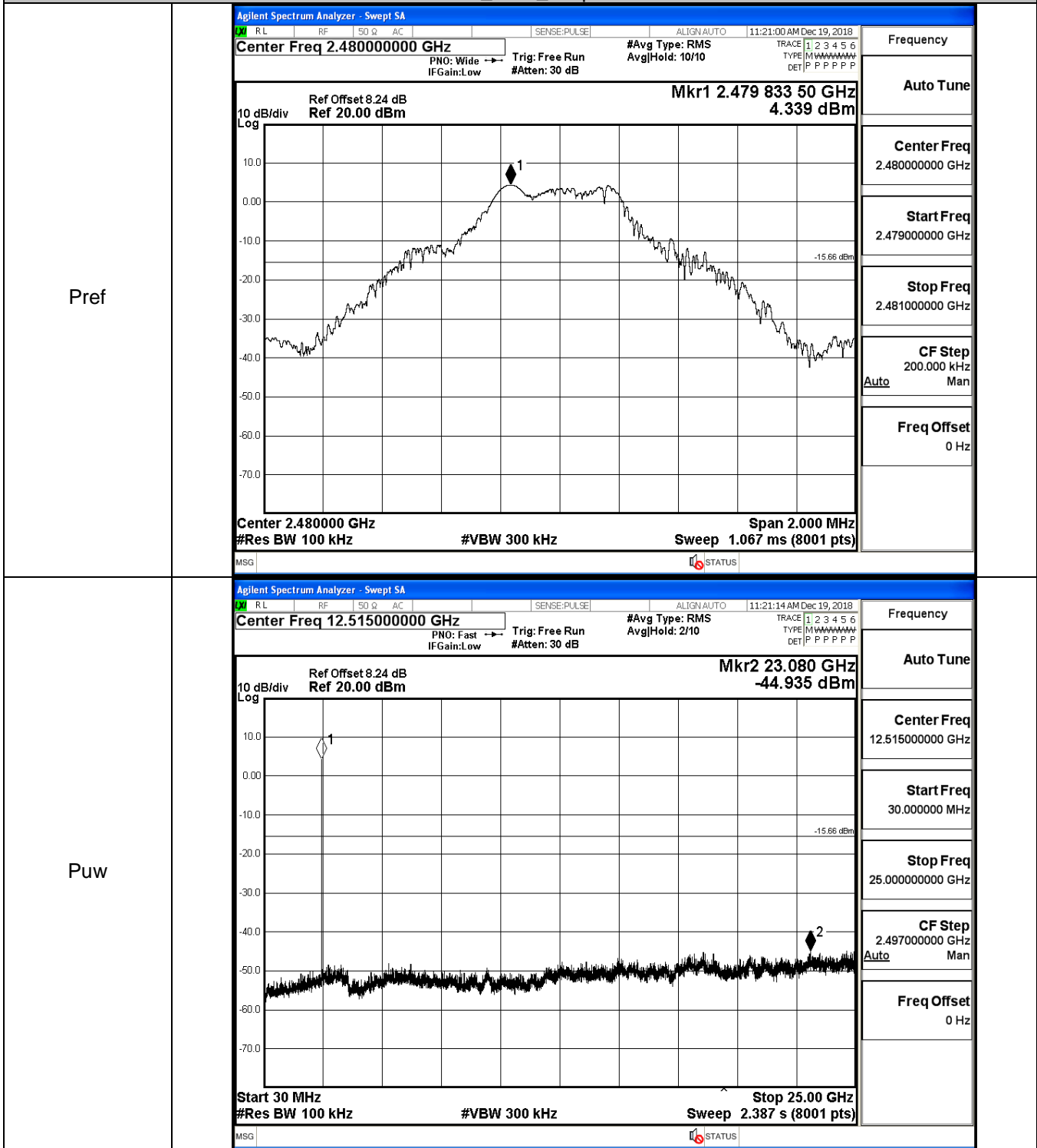
Puw



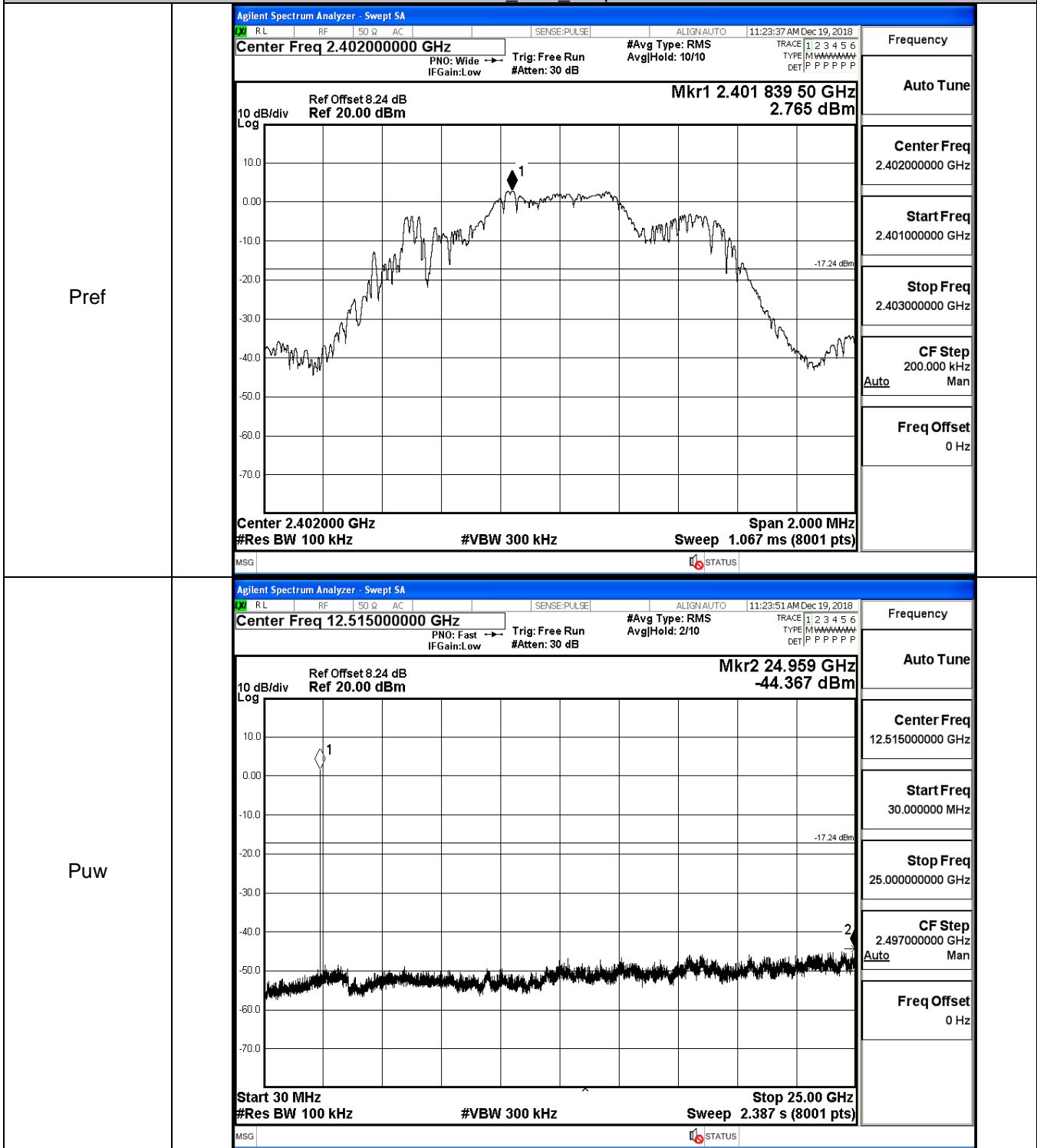
GFSK_MCH_Graphs



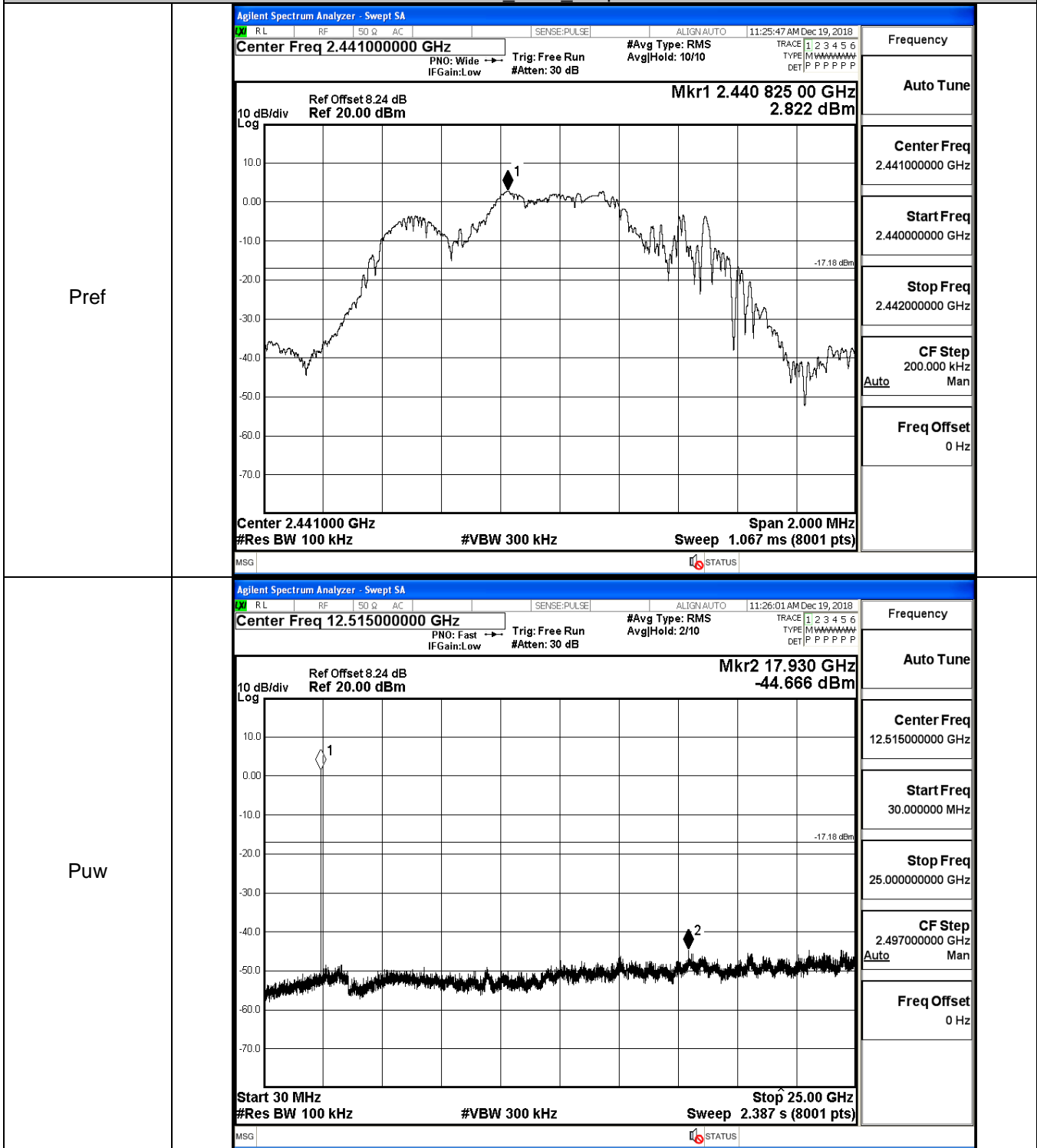
GFSK_HCH_Graphs



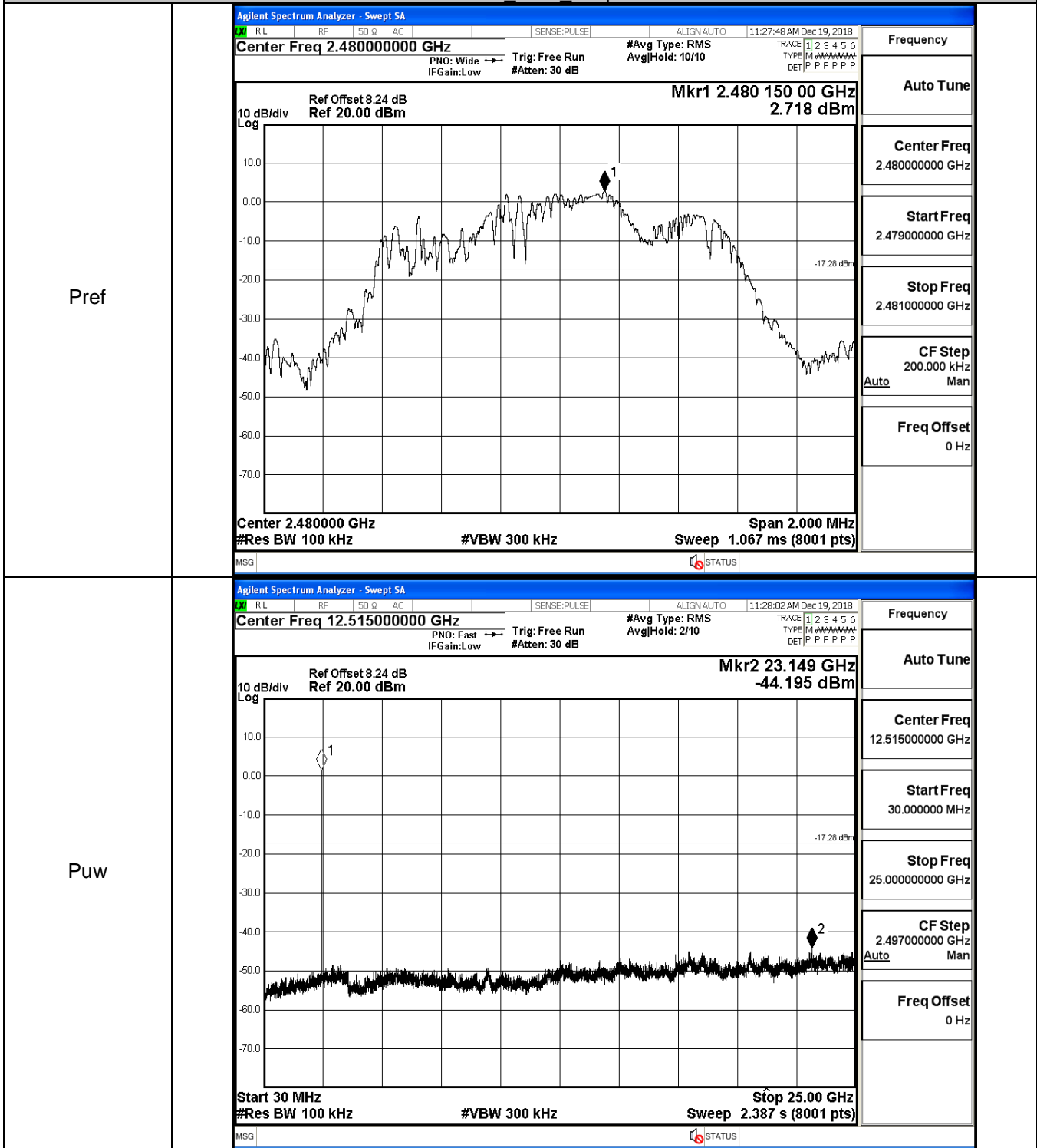
$\pi/4$ DQPSK LCH_Graphs



$\pi/4$ DQPSK_MCH_Graphs

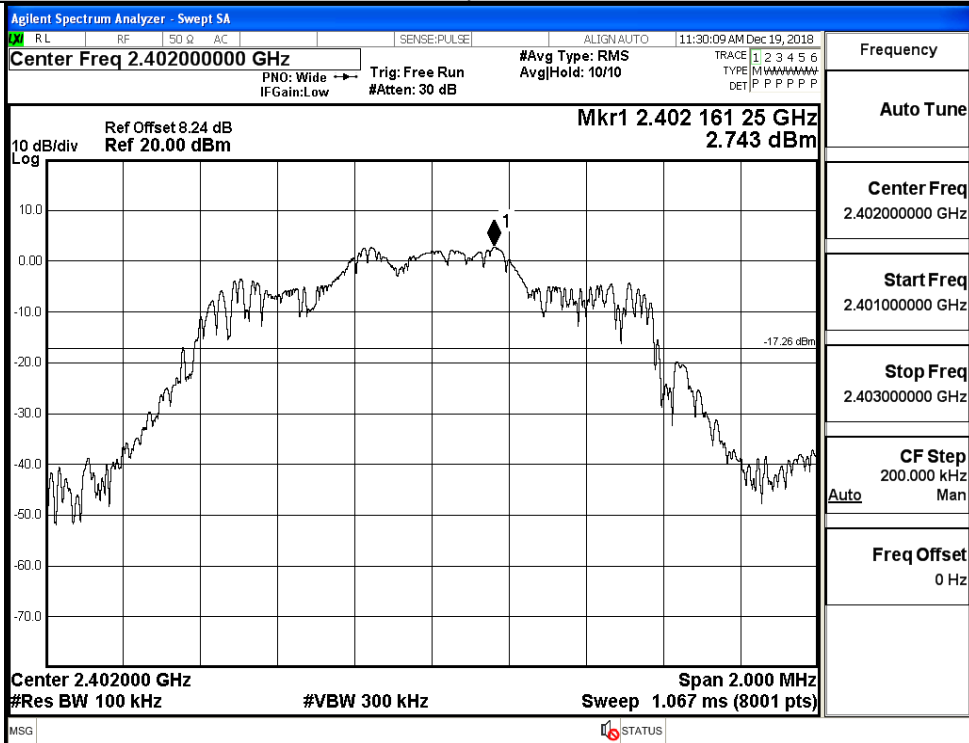


$\pi/4$ DQPSK_HCH_Graphs

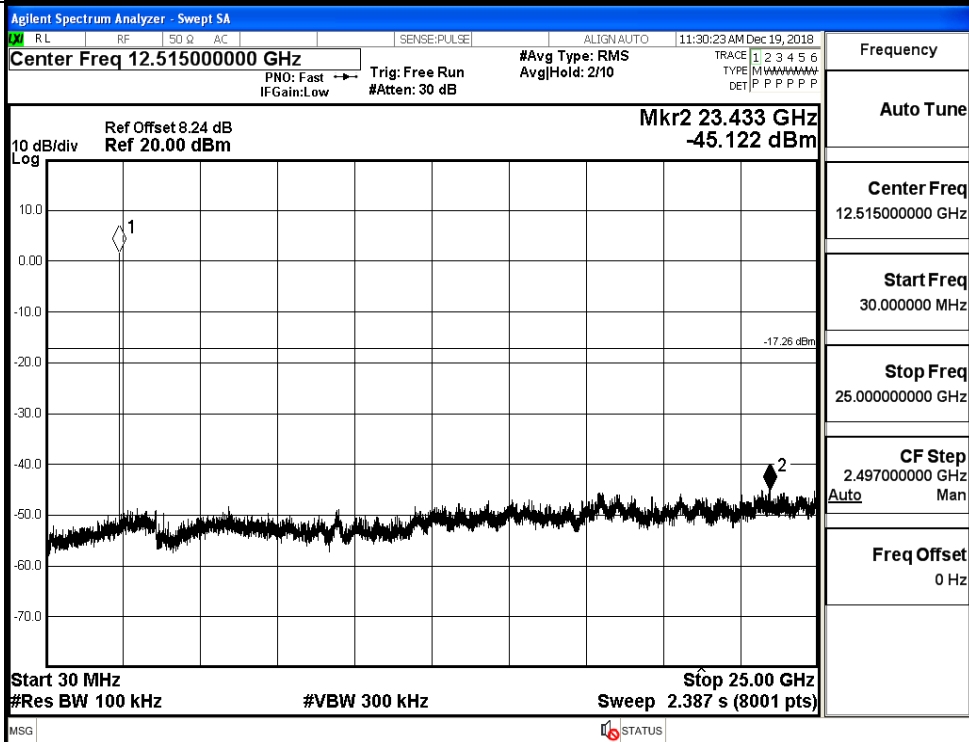


8DPSK_LCH_Graphs

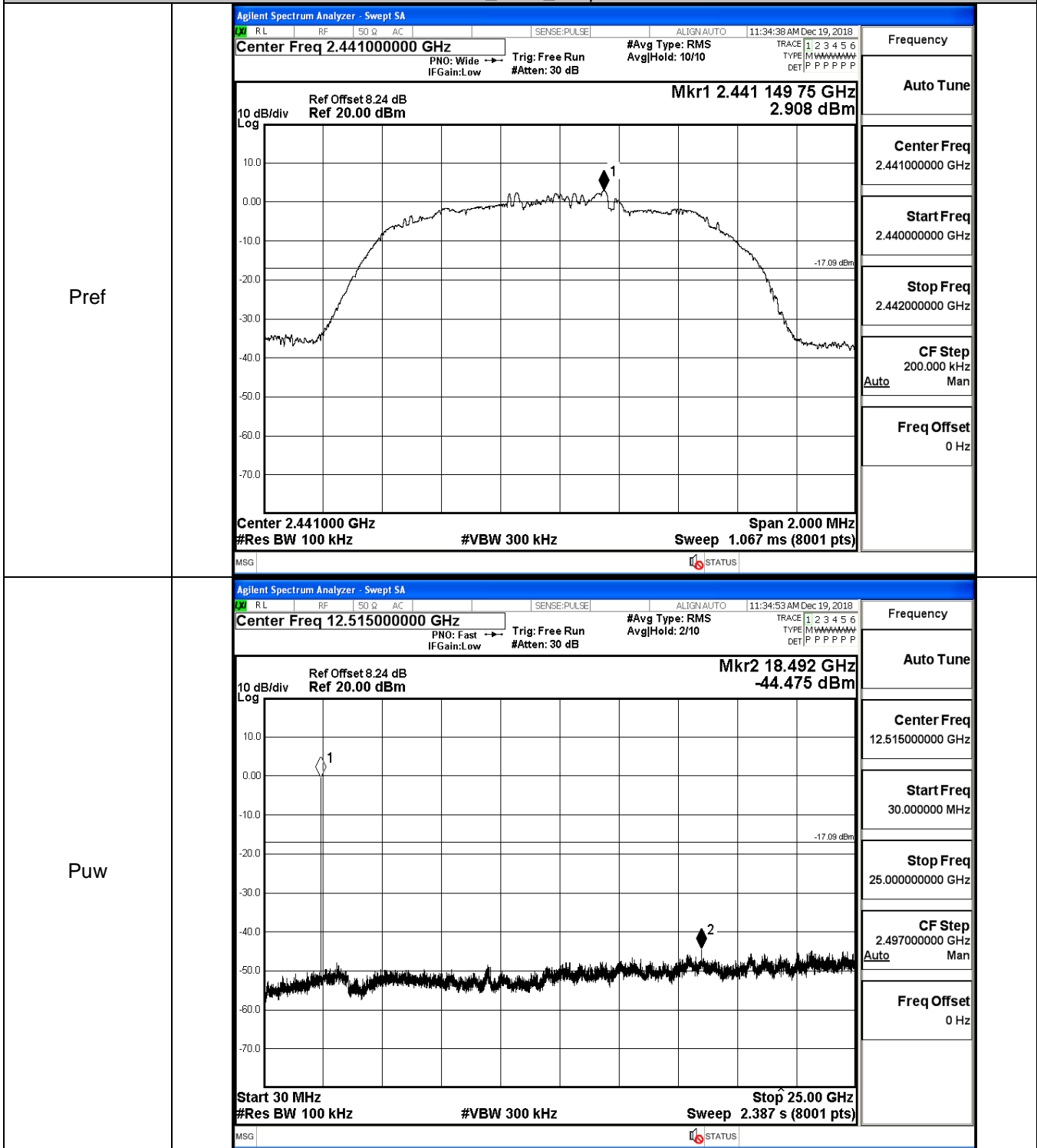
Pref



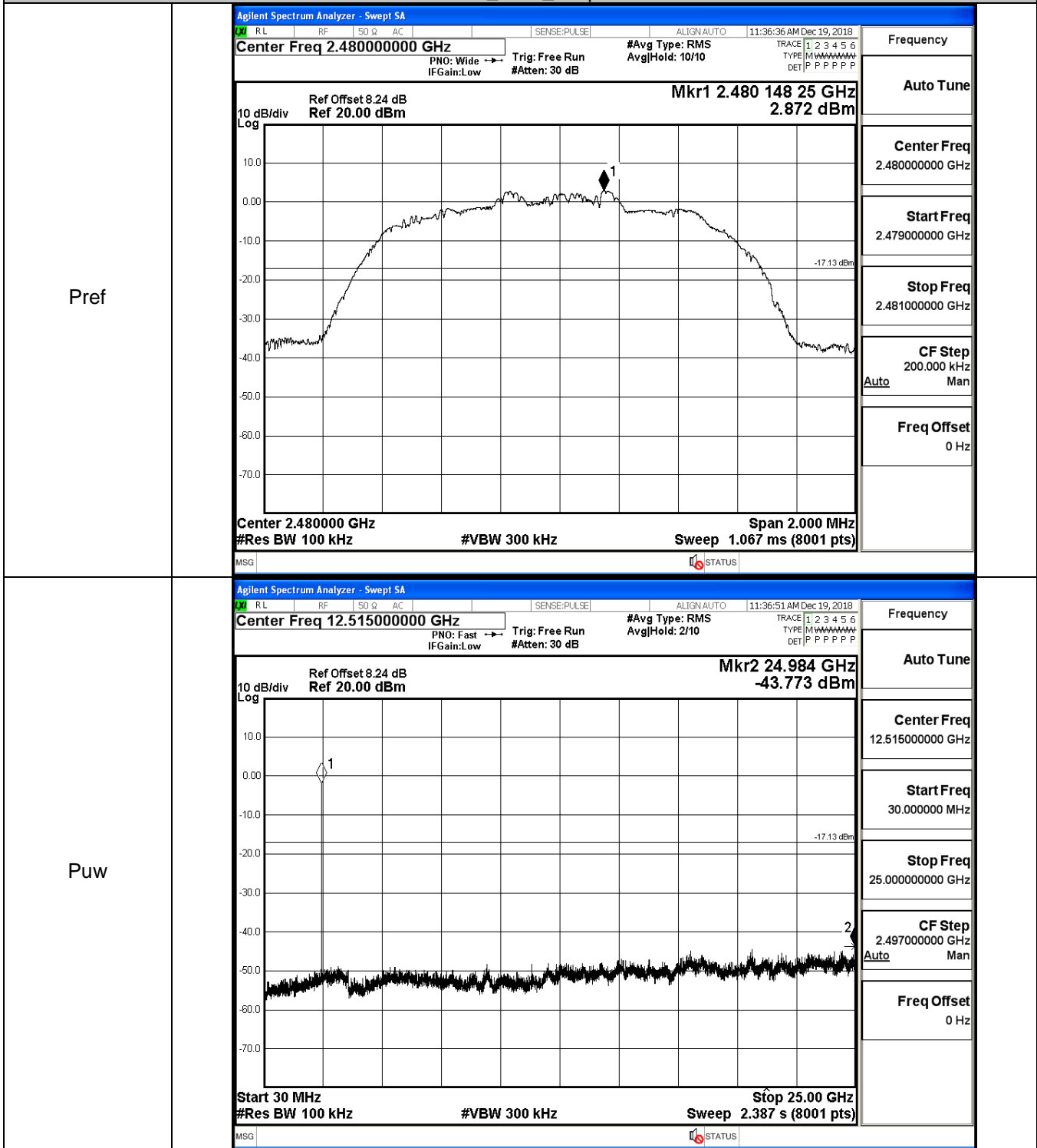
Puw



8DPSK_MCH_Graphs



8DPSK_HCH_Graphs

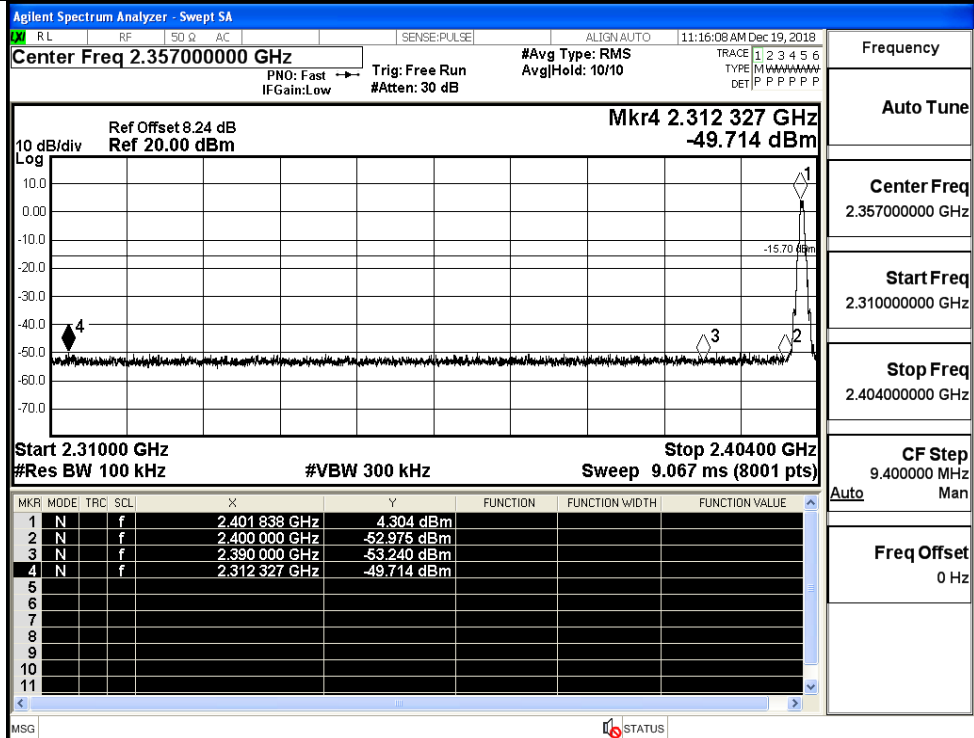


A.7 Band-edge for RF Conducted Emissions

| Mode | Channel | Carrier Frequency [MHz] | Carrier Power [dBm] | Frequency Hopping | Max Spurious Level [dBm] | Limit [dBm] | Verdict |
|---------------|---------|-------------------------|---------------------|-------------------|--------------------------|-------------|---------|
| GFSK | LCH | 2402 | 4.304 | Off | -49.714 | -15.7 | PASS |
| | | | 4.296 | On | -49.239 | -15.7 | PASS |
| | HCH | 2480 | 4.386 | Off | -49.674 | -15.61 | PASS |
| | | | 4.387 | On | -48.977 | -15.61 | PASS |
| $\pi/4$ DQPSK | LCH | 2402 | 2.771 | Off | -49.794 | -17.23 | PASS |
| | | | 2.862 | On | -49.319 | -17.14 | PASS |
| | HCH | 2480 | 2.898 | Off | -49.862 | -17.1 | PASS |
| | | | 3.069 | On | -49.116 | -16.93 | PASS |
| 8DPSK | LCH | 2402 | 1.802 | Off | -49.729 | -18.2 | PASS |
| | | | 2.950 | On | -49.036 | -17.05 | PASS |
| | HCH | 2480 | 2.804 | Off | -49.419 | -17.2 | PASS |
| | | | 2.917 | On | -49.127 | -17.08 | PASS |

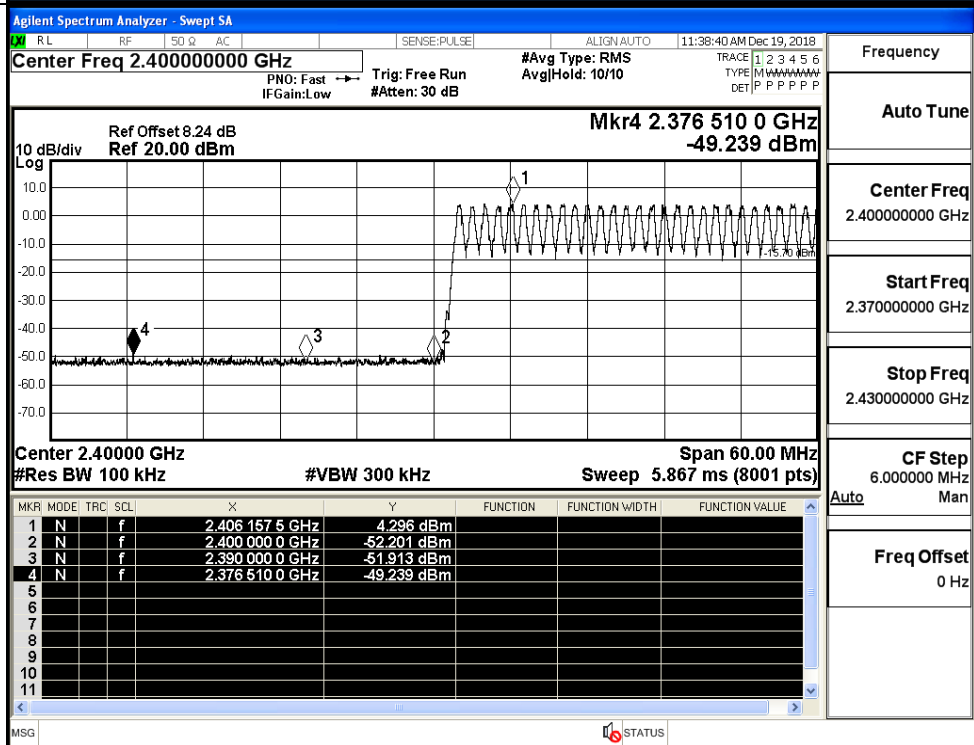
Test Graphs

GFSK/LCH/No Hop



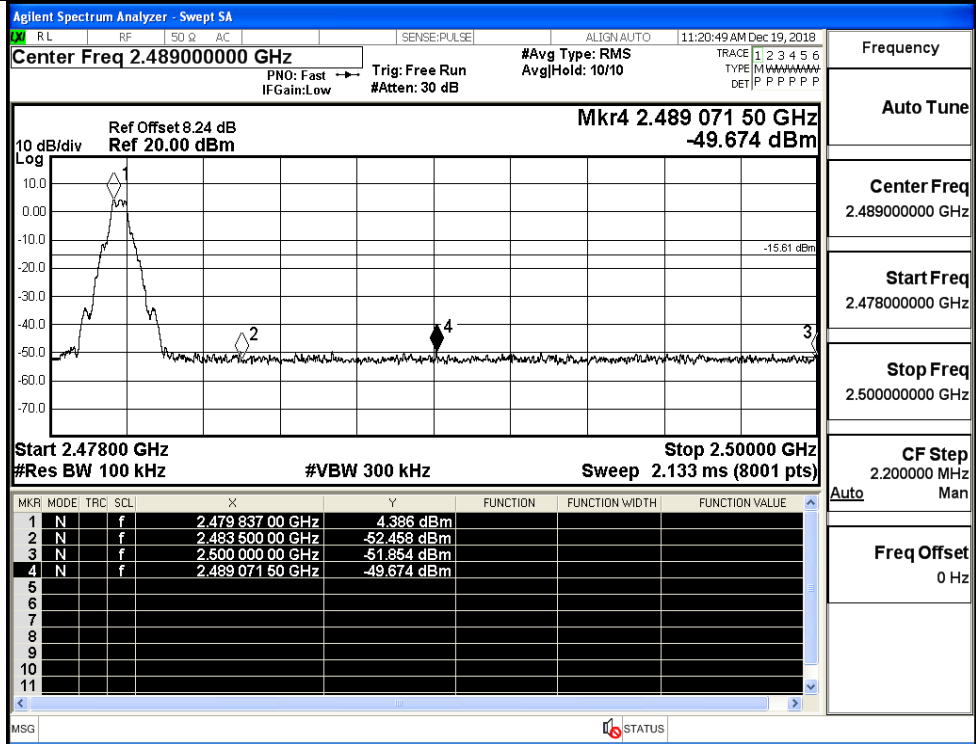
| | |
|-------------|-----------------|
| Frequency | Auto Tune |
| Center Freq | 2.357000000 GHz |
| Start Freq | 2.310000000 GHz |
| Stop Freq | 2.404000000 GHz |
| CF Step | 9.400000 MHz |
| Auto | Man |
| Freq Offset | 0 Hz |

GFSK/LCH/Hop

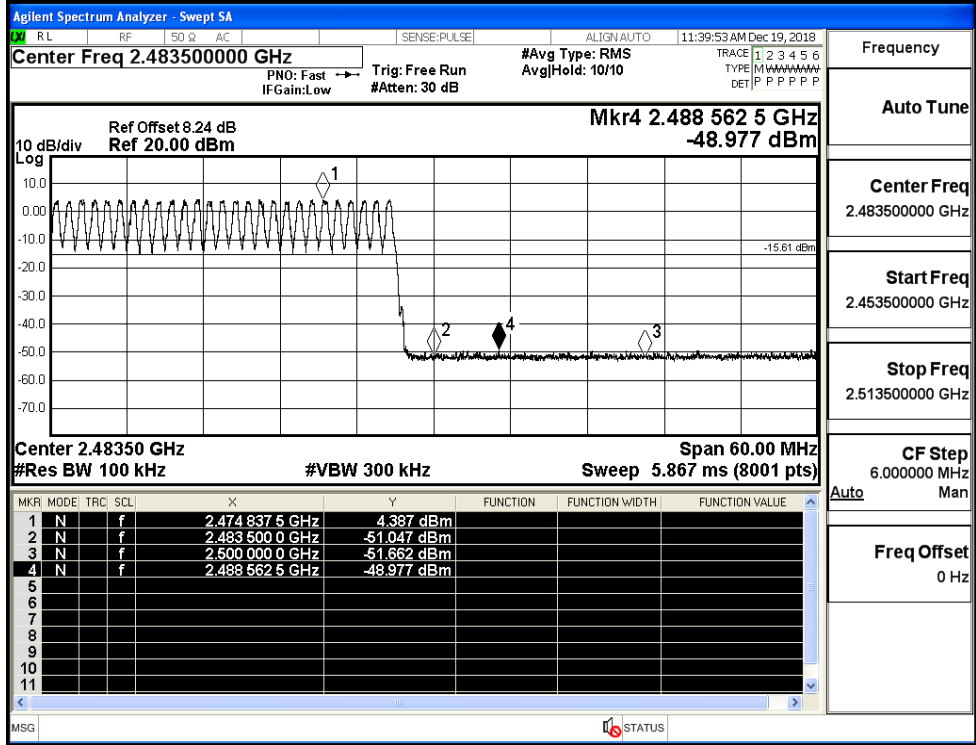


| | |
|-------------|-----------------|
| Frequency | Auto Tune |
| Center Freq | 2.400000000 GHz |
| Start Freq | 2.370000000 GHz |
| Stop Freq | 2.430000000 GHz |
| CF Step | 6.000000 MHz |
| Auto | Man |
| Freq Offset | 0 Hz |

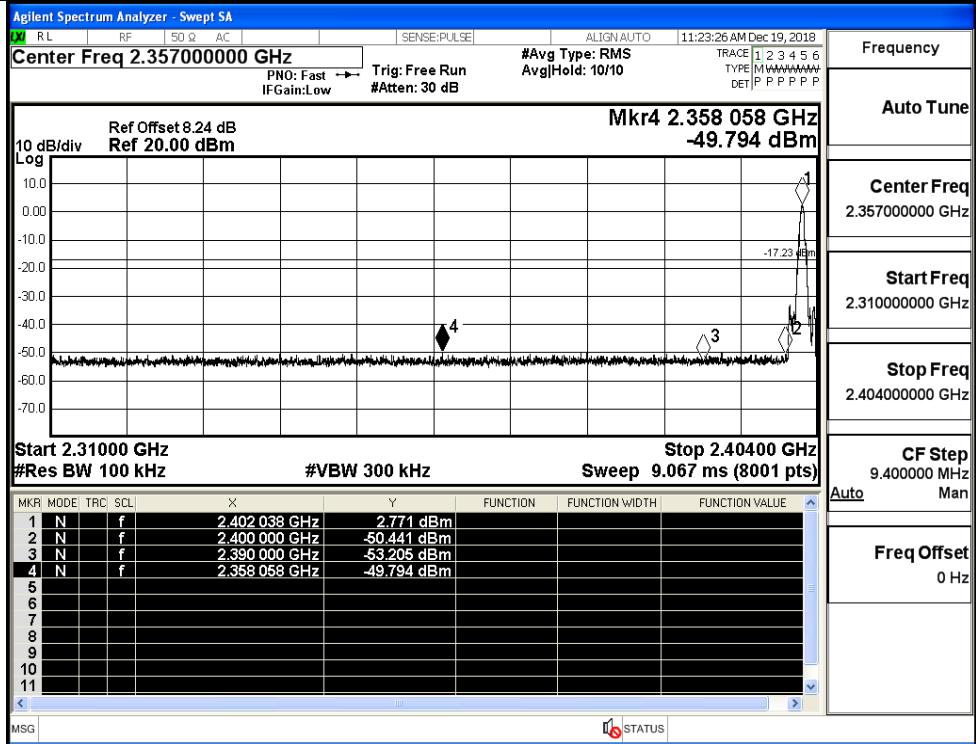
GFSK/HCH/No Hop



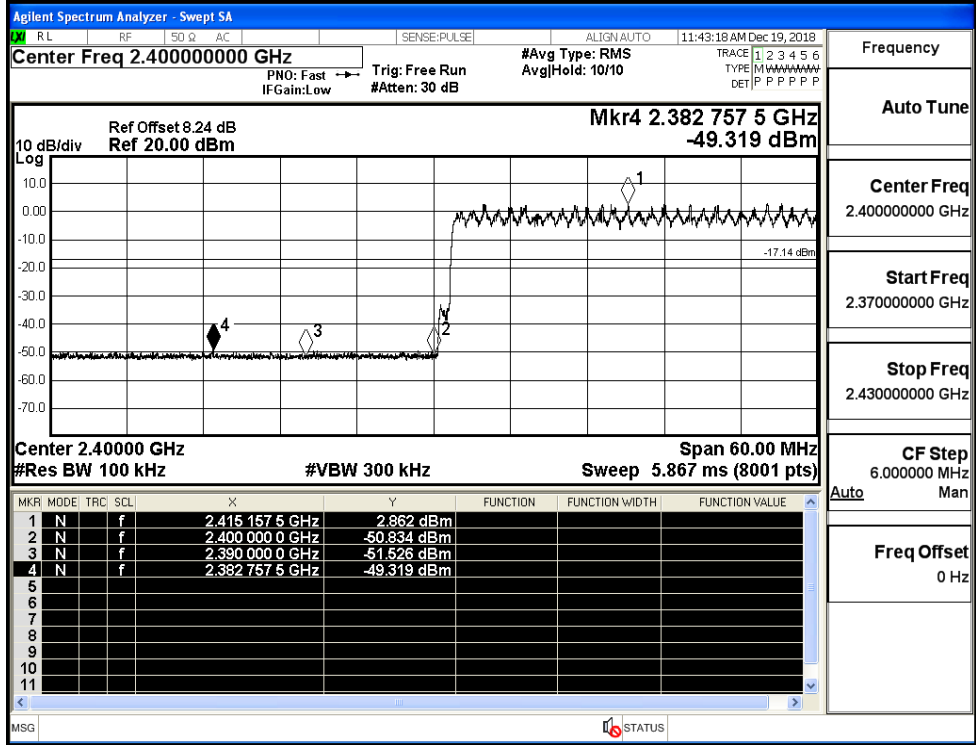
GFSK/HCH/Hop



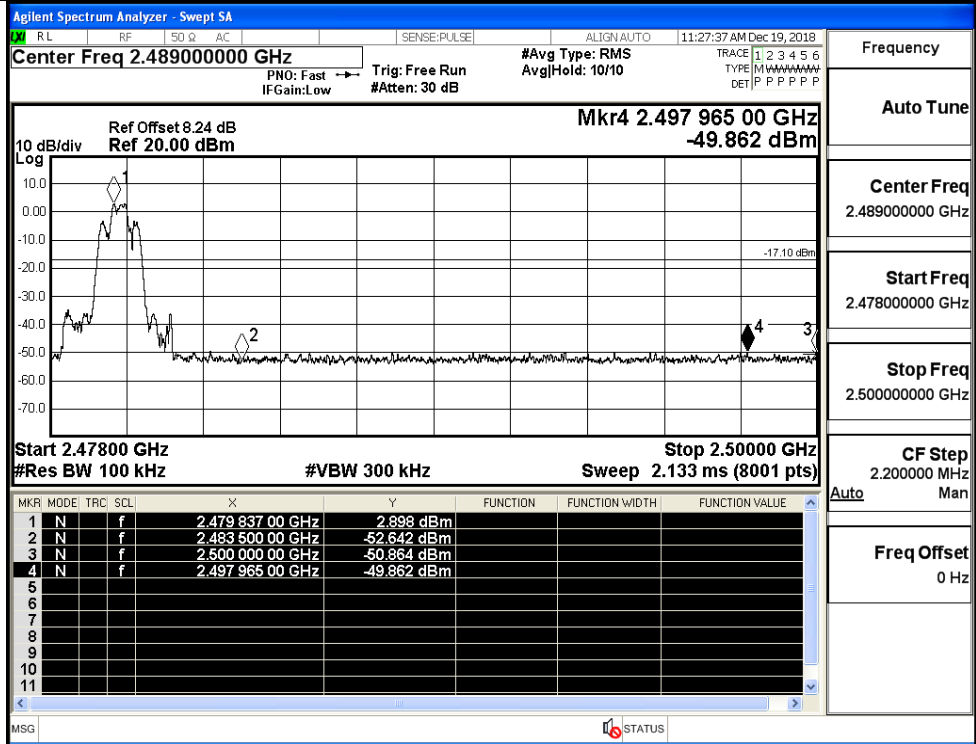
$\pi/4$ DQPSK/LCH/No
Hop



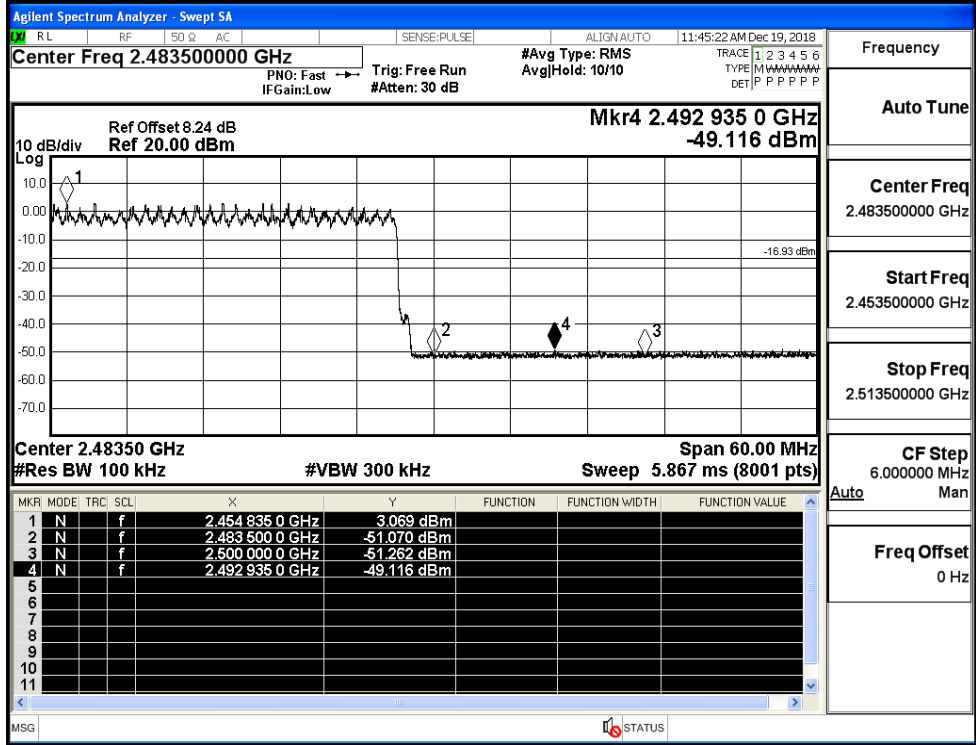
$\pi/4$ DQPSK/LCH/Hop



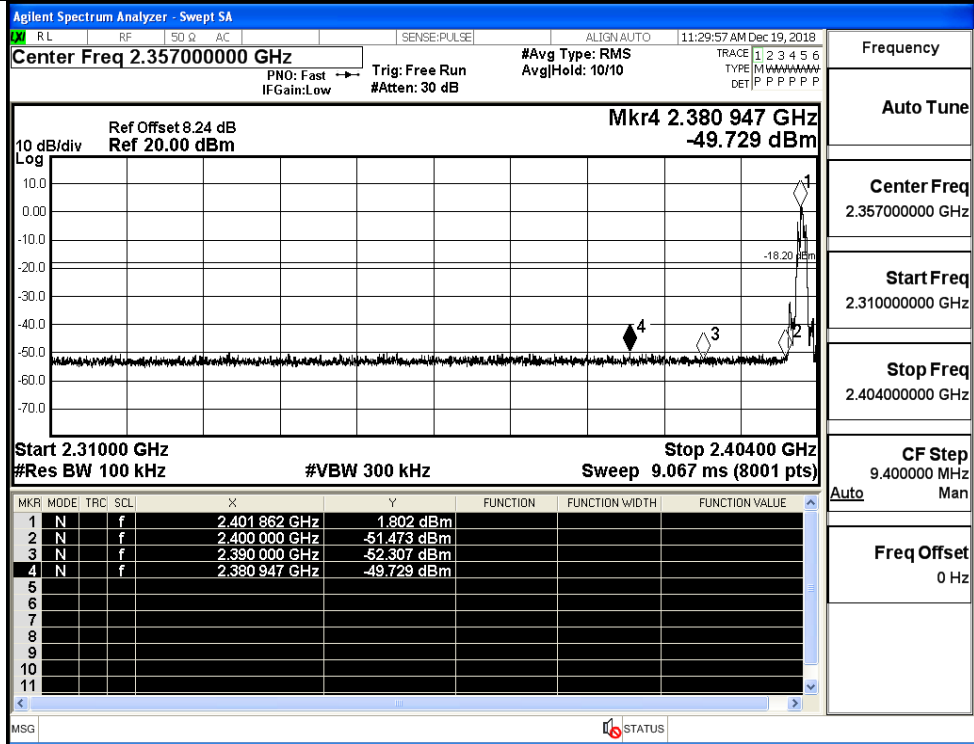
$\pi/4$ DQPSK/HCH/No Hop



$\pi/4$ DQPSK/HCH/Hop

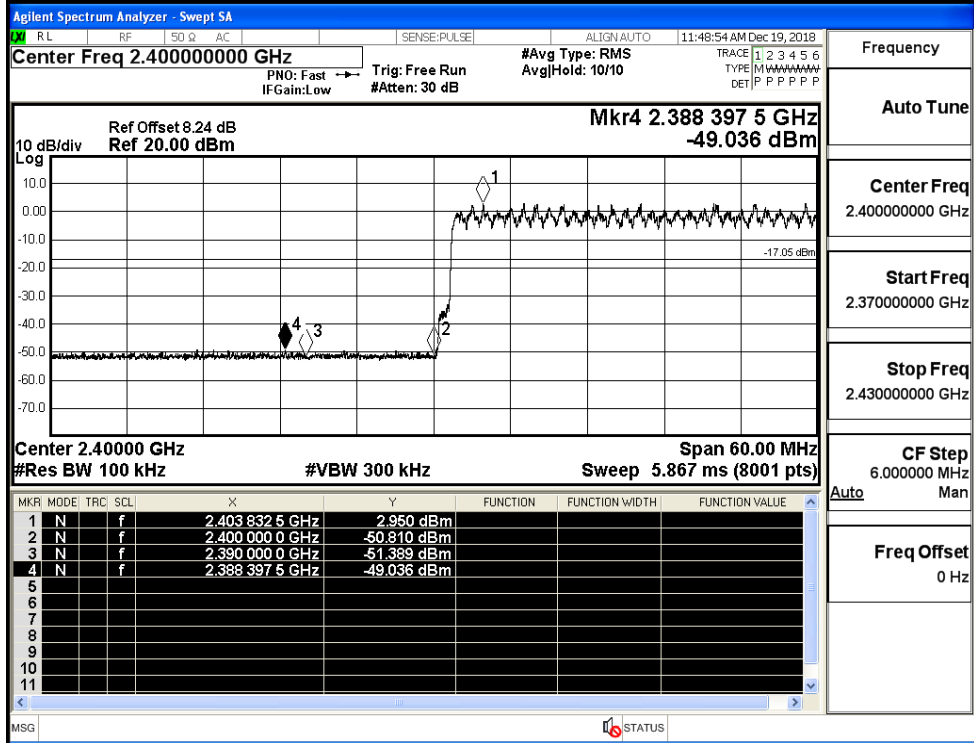


8DPSK/LCH/No Hop



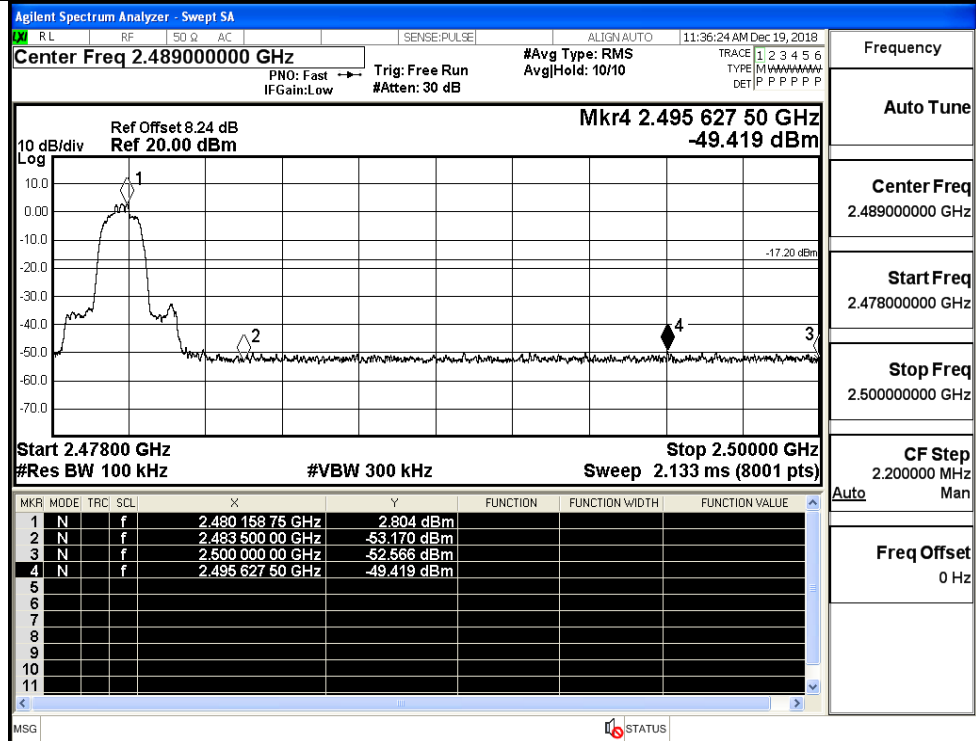
| | |
|-------------|-----------------|
| Frequency | |
| Auto Tune | |
| Center Freq | 2.357000000 GHz |
| Start Freq | 2.310000000 GHz |
| Stop Freq | 2.404000000 GHz |
| CF Step | 9.400000 MHz |
| Auto | Man |
| Freq Offset | 0 Hz |

8DPSK/LCH/Hop



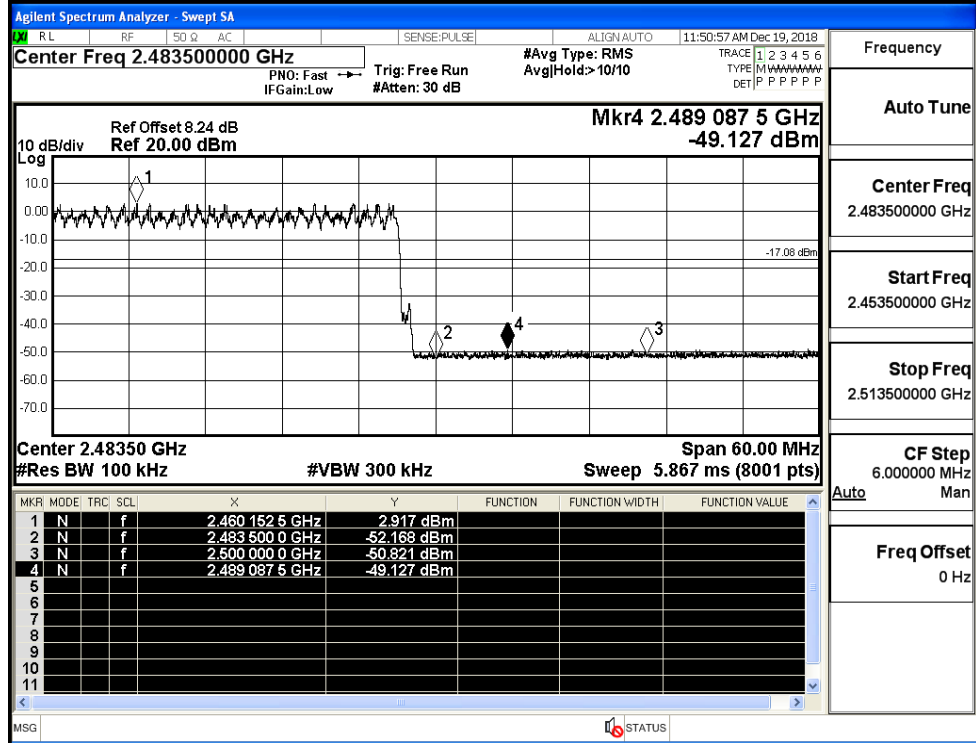
| | |
|-------------|-----------------|
| Frequency | |
| Auto Tune | |
| Center Freq | 2.400000000 GHz |
| Start Freq | 2.370000000 GHz |
| Stop Freq | 2.430000000 GHz |
| CF Step | 6.000000 MHz |
| Auto | Man |
| Freq Offset | 0 Hz |

8DPSK/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 |

8DPSK/HCH/Hop

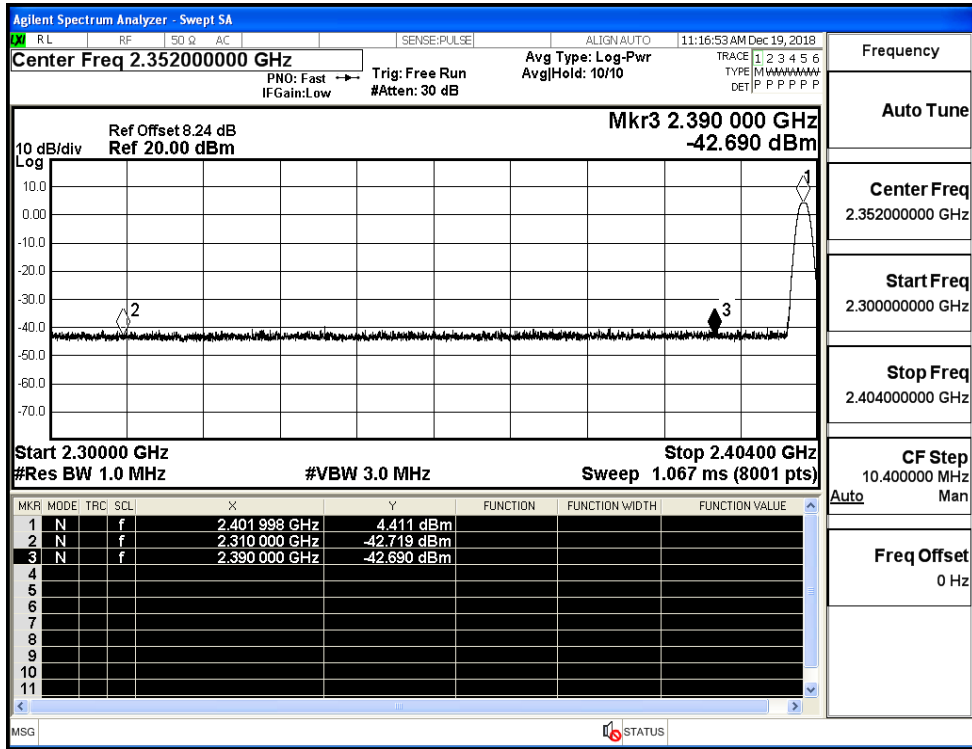


| | |
|-------------|-----------------|
| Frequency | |
| Auto Tune | |
| Center Freq | 2.483500000 GHz |
| Start Freq | 2.453500000 GHz |
| Stop Freq | 2.513500000 GHz |
| CF Step | 6.000000 MHz |
| Freq Offset | 0 Hz |

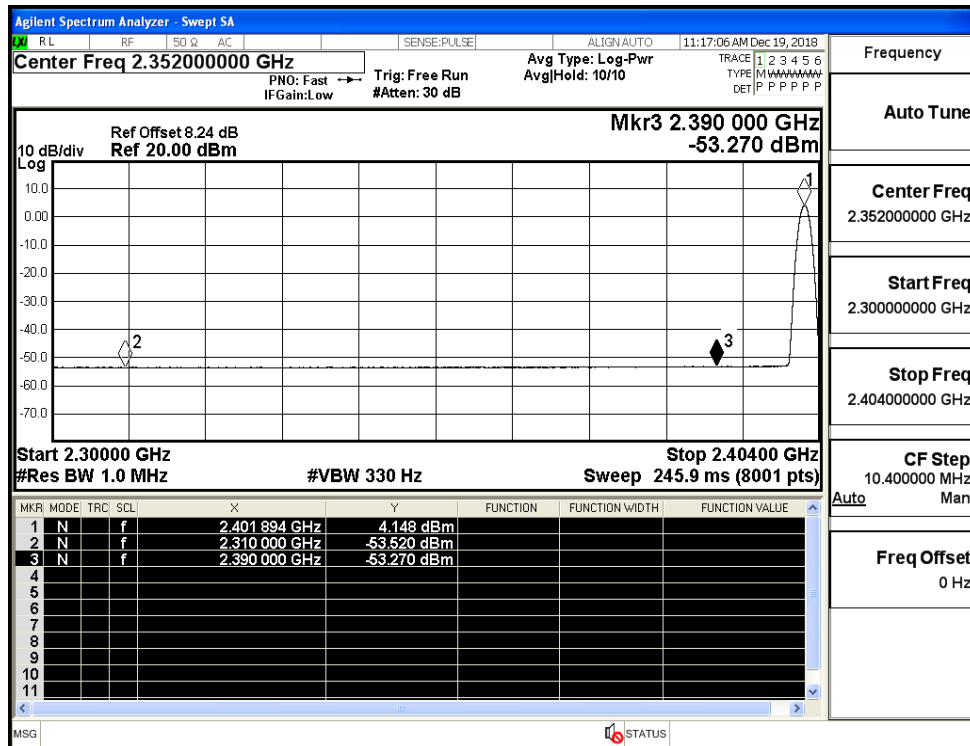
A.8 Restrict-band band-edge measurements

| Test Mode | Hopping | Freq. | Power [dBm] | Gain | Ground Factor | E [dBuV/m] | Detector | Limit [dBuV/m] | Verdict |
|---------------|---------|--------|-------------|------|---------------|------------|----------|----------------|---------|
| GFSK | Off | 2310.0 | -42.72 | 2.0 | 0 | 52.54 | PEAK | 74 | PASS |
| | Off | 2310.0 | -53.52 | 2.0 | 0 | 41.74 | AV | 54 | PASS |
| | Off | 2390.0 | -42.69 | 2.0 | 0 | 52.57 | PEAK | 74 | PASS |
| | Off | 2390.0 | -53.27 | 2.0 | 0 | 41.99 | AV | 54 | PASS |
| | Off | 2483.5 | -42.54 | 2.0 | 0 | 52.72 | PEAK | 74 | PASS |
| | Off | 2483.5 | -52.73 | 2.0 | 0 | 42.52 | AV | 54 | PASS |
| | Off | 2500.0 | -43.72 | 2.0 | 0 | 51.54 | PEAK | 74 | PASS |
| | Off | 2500.0 | -52.87 | 2.0 | 0 | 42.39 | AV | 54 | PASS |
| $\pi/4$ DQPSK | Off | 2310.0 | -42.12 | 2.0 | 0 | 53.14 | PEAK | 74 | PASS |
| | Off | 2310.0 | -53.66 | 2.0 | 0 | 41.60 | AV | 54 | PASS |
| | Off | 2390.0 | -43.22 | 2.0 | 0 | 52.04 | PEAK | 74 | PASS |
| | Off | 2390.0 | -53.31 | 2.0 | 0 | 41.95 | AV | 54 | PASS |
| | Off | 2483.5 | -43.35 | 2.0 | 0 | 51.90 | PEAK | 74 | PASS |
| | Off | 2483.5 | -52.87 | 2.0 | 0 | 42.39 | AV | 54 | PASS |
| | Off | 2500.0 | -42.95 | 2.0 | 0 | 52.31 | PEAK | 74 | PASS |
| | Off | 2500.0 | -52.92 | 2.0 | 0 | 42.34 | AV | 54 | PASS |
| 8DPSK | Off | 2310.0 | -43.45 | 2.0 | 0 | 51.81 | PEAK | 74 | PASS |
| | Off | 2310.0 | -53.47 | 2.0 | 0 | 41.79 | AV | 54 | PASS |
| | Off | 2390.0 | -42.80 | 2.0 | 0 | 52.46 | PEAK | 74 | PASS |
| | Off | 2390.0 | -53.34 | 2.0 | 0 | 41.92 | AV | 54 | PASS |
| | Off | 2483.5 | -41.68 | 2.0 | 0 | 53.58 | PEAK | 74 | PASS |
| | Off | 2483.5 | -52.63 | 2.0 | 0 | 42.63 | AV | 54 | PASS |
| | Off | 2500.0 | -43.28 | 2.0 | 0 | 51.97 | PEAK | 74 | PASS |
| | Off | 2500.0 | -52.92 | 2.0 | 0 | 42.34 | AV | 54 | PASS |

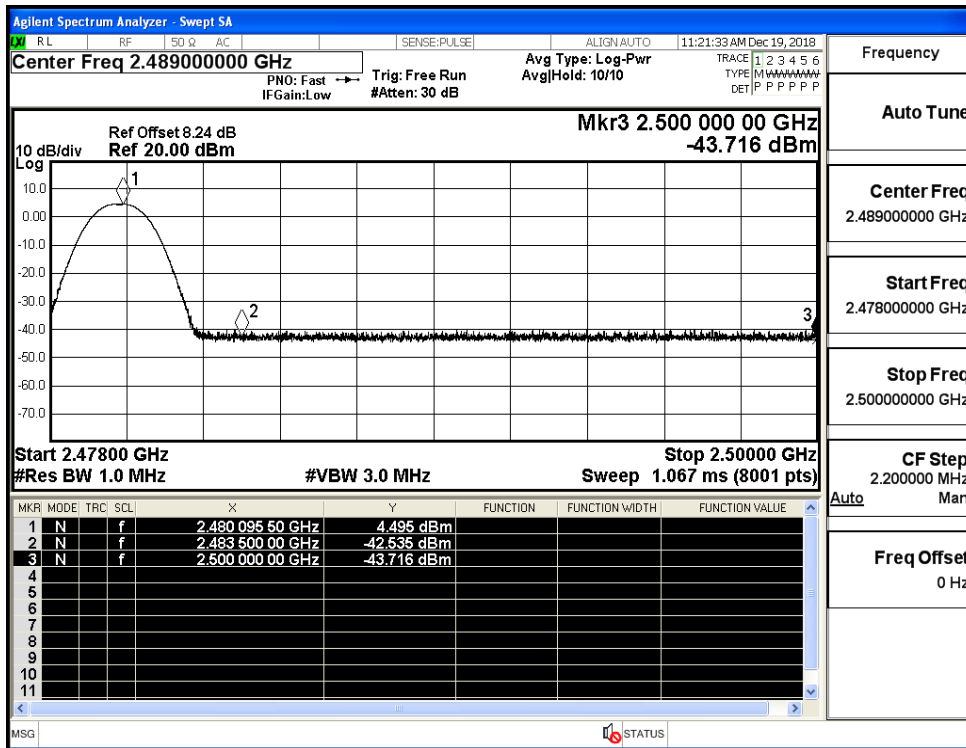
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



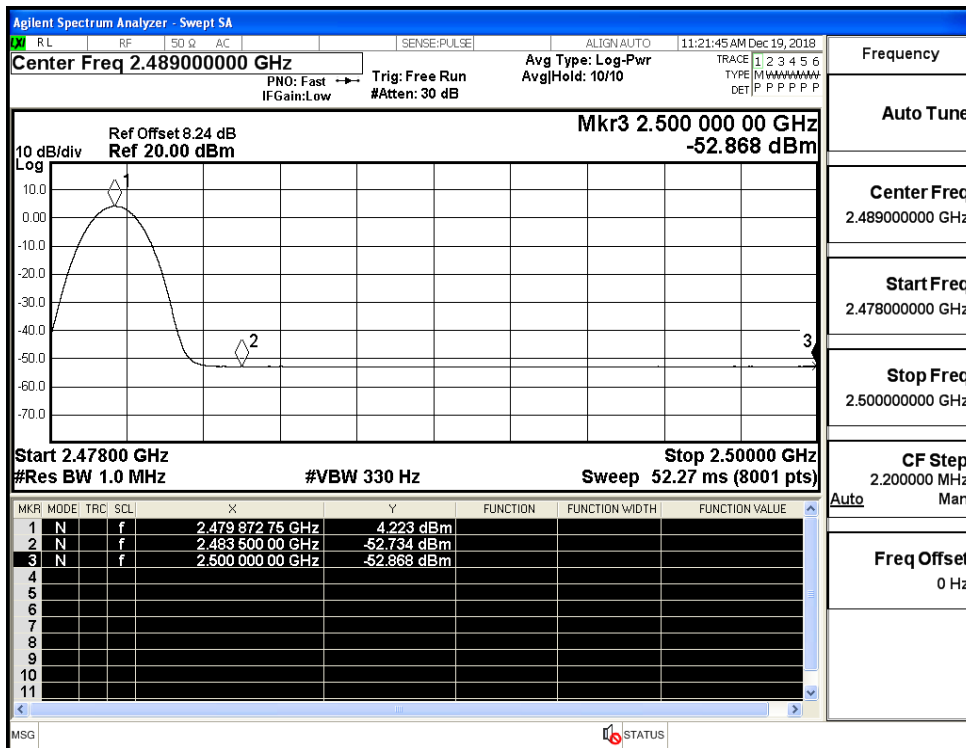
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



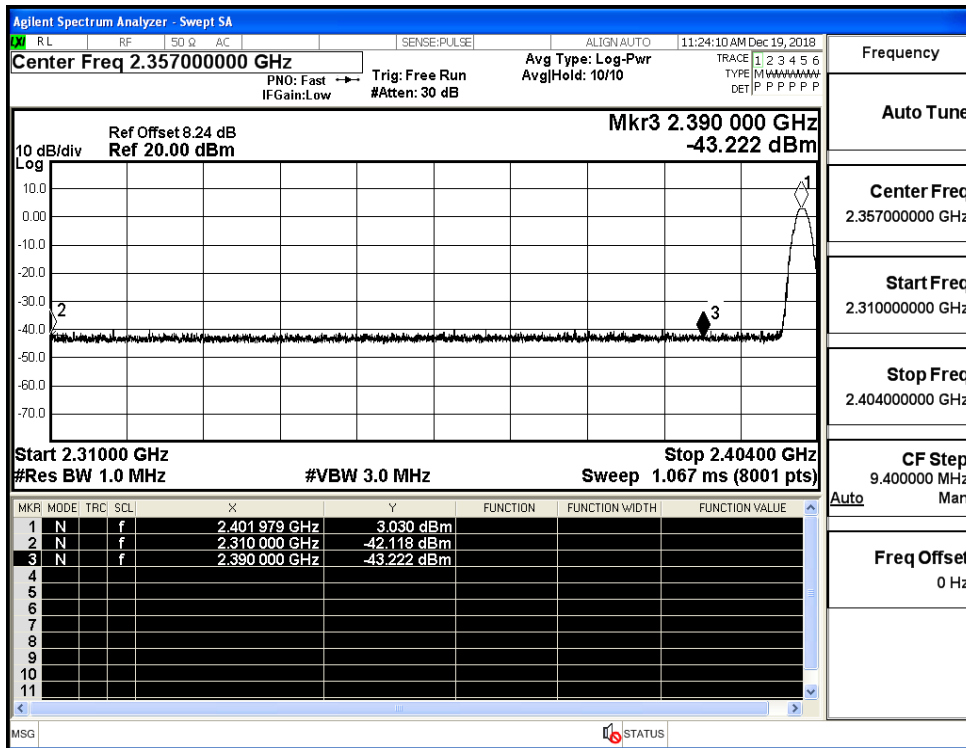
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



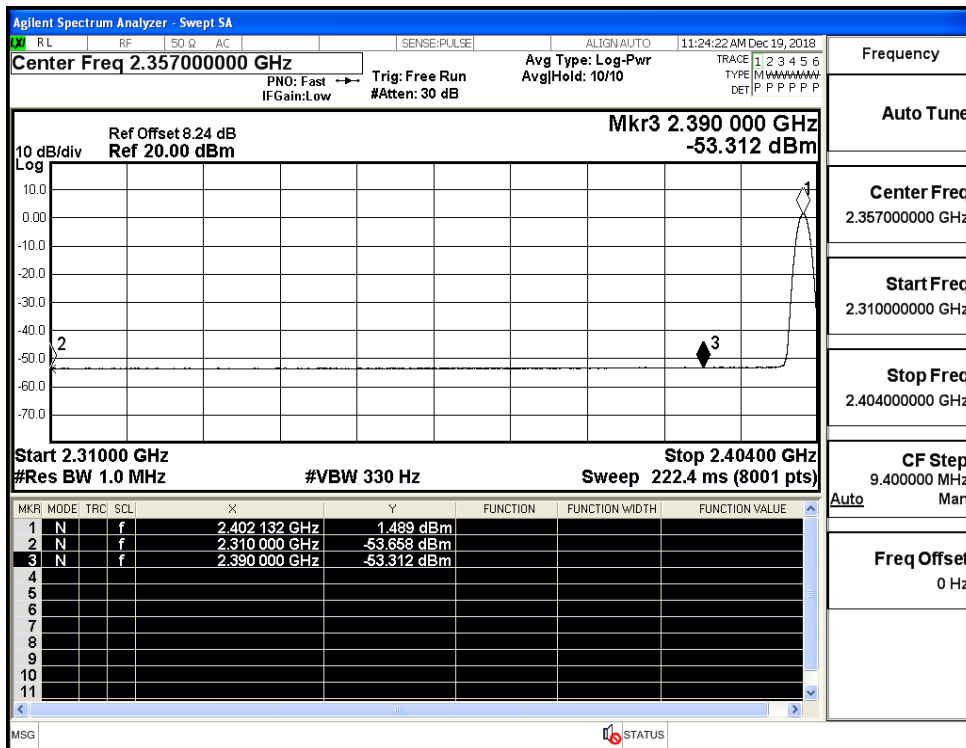
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



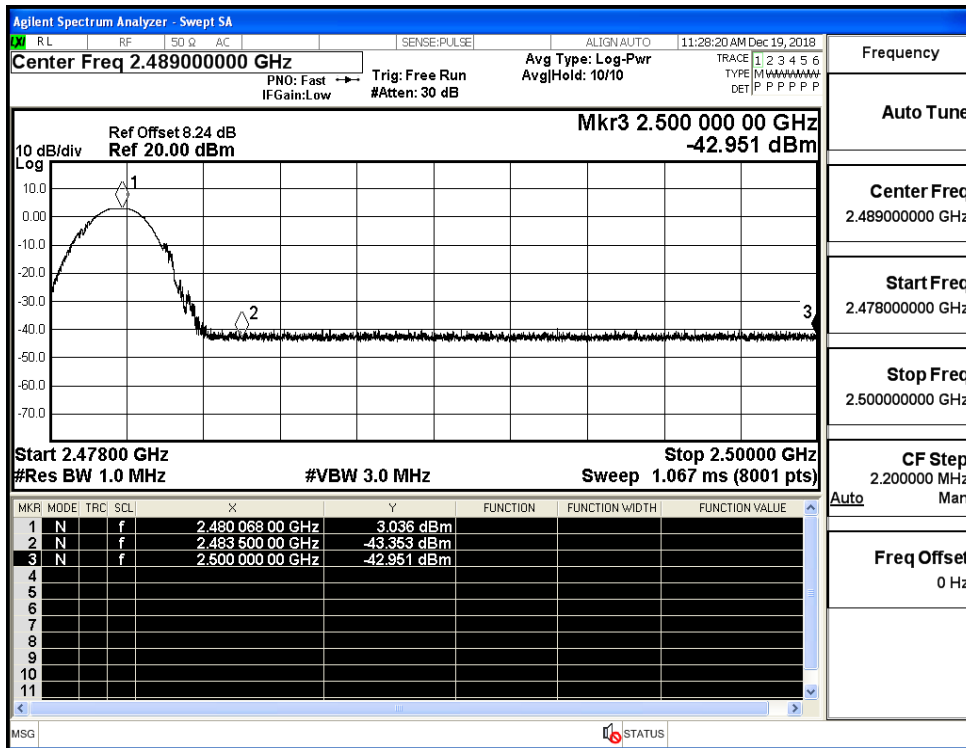
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)



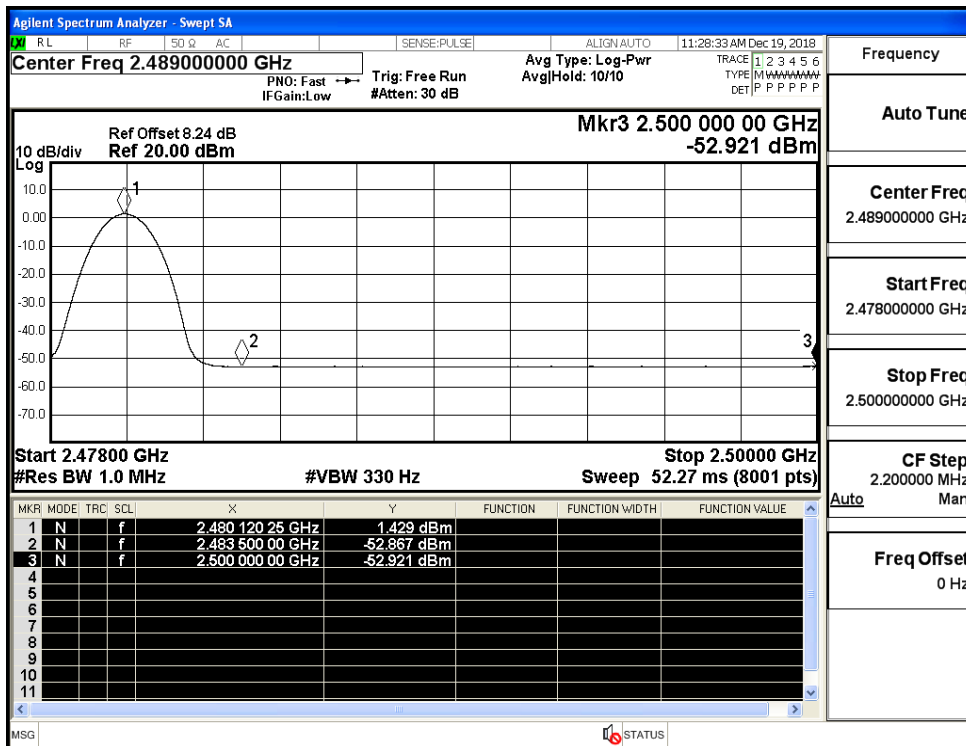
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)



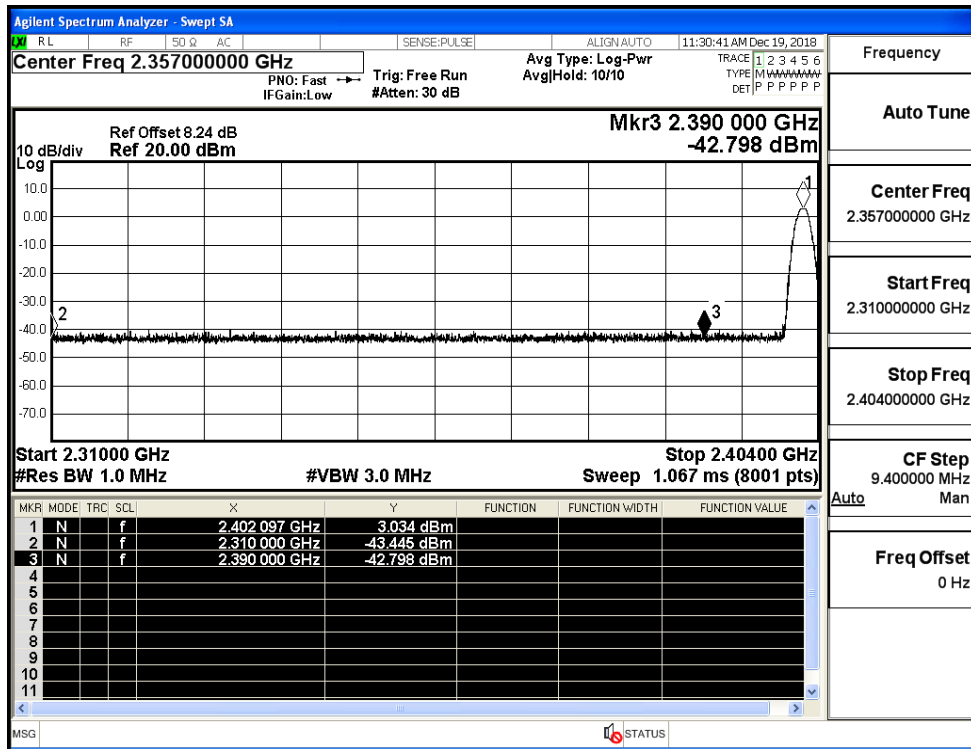
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (High Channel)



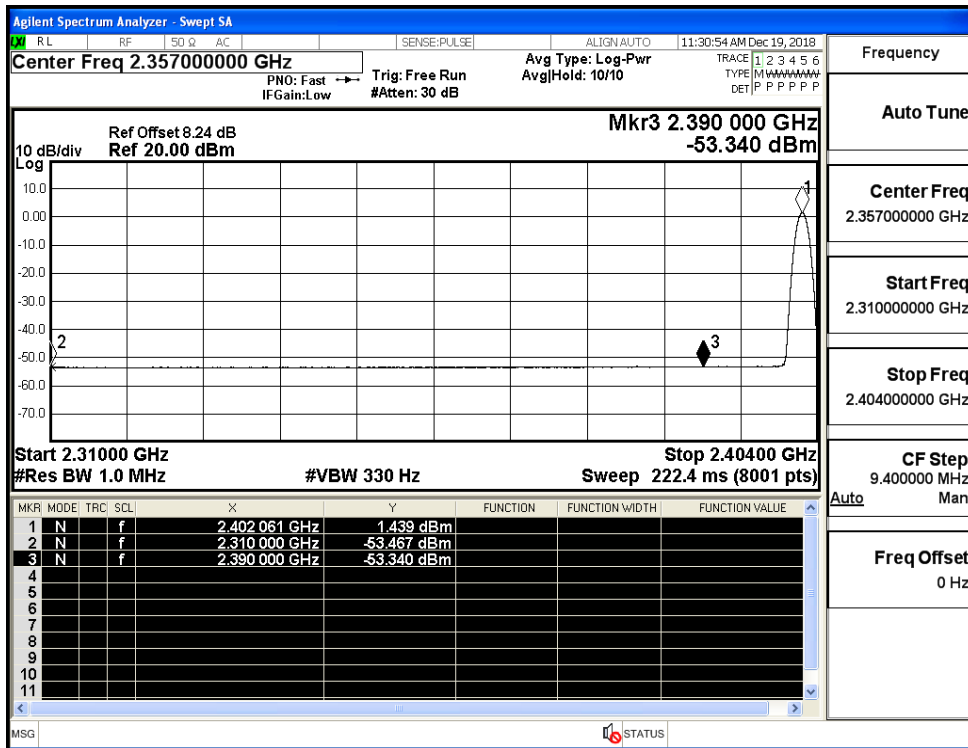
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (High Channel)



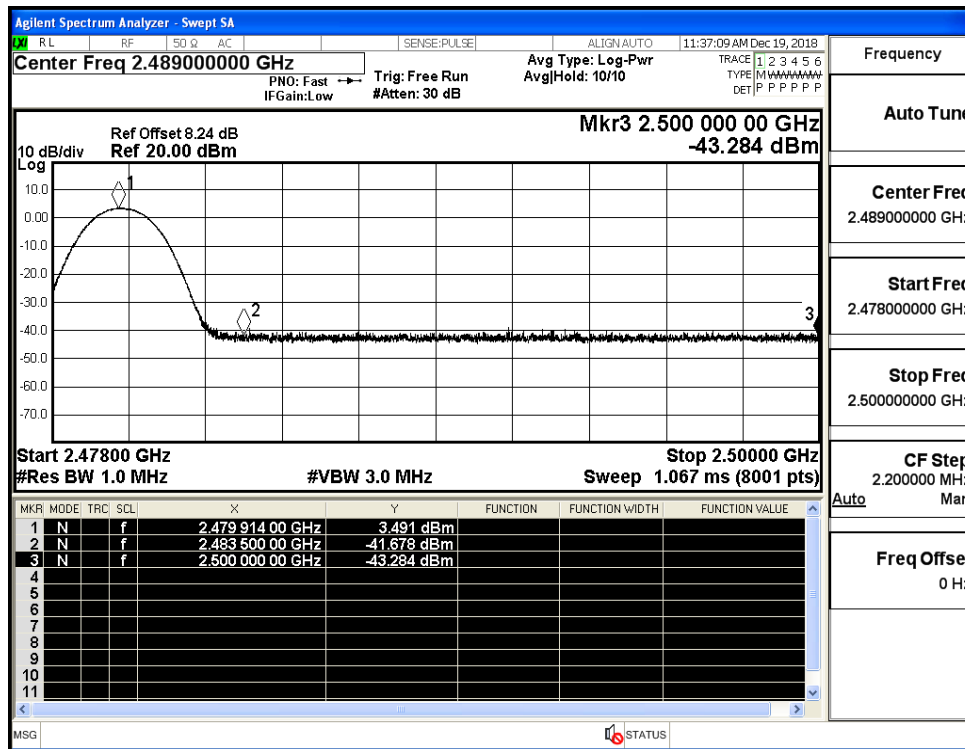
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

