

Appendix A

RF Test Data for BT V4.2 (BDR/EDR) (Conducted Measurement)

Product Name: Android TV BOX

Trade Mark: MECOOL

Test Model: KM8

Environmental Conditions

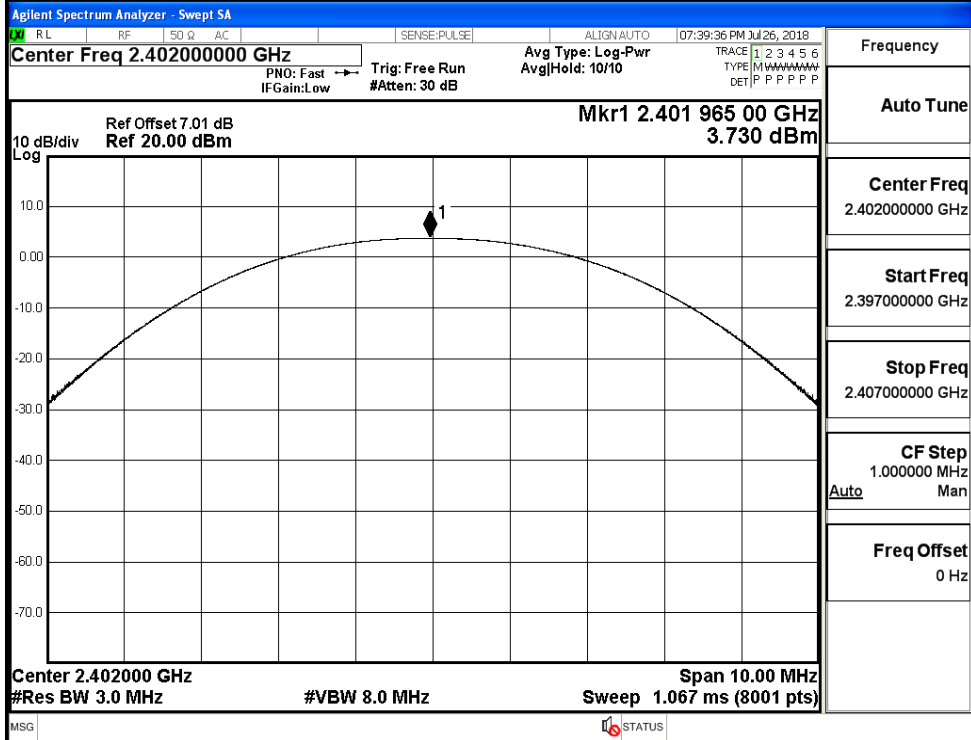
| | |
|--------------------|-------------|
| Temperature: | 23.7 °C |
| Relative Humidity: | 52.1% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: | Wilson.Hong |
| Supervised by: | Jayden.Zhuo |

A.1 Maximum Conducted Peak Output Power

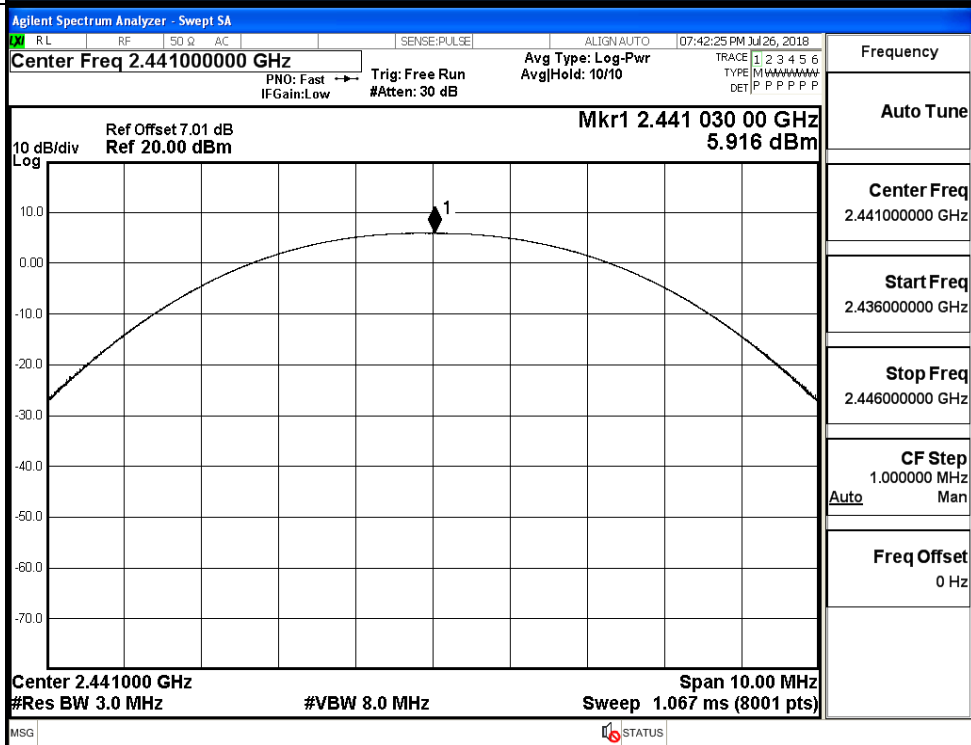
| Mode | Channel. | Maximum Peak Output Power [dBm] | Limit [dBm] | Verdict |
|----------|----------|---------------------------------|-------------|---------|
| GFSK | LCH | 3.730 | 21 | PASS |
| | MCH | 5.916 | 21 | PASS |
| | HCH | 5.794 | 21 | PASS |
| π/4DQPSK | LCH | 3.100 | 21 | PASS |
| | MCH | 5.190 | 21 | PASS |
| | HCH | 4.888 | 21 | PASS |
| 8DPSK | LCH | 3.235 | 21 | PASS |
| | MCH | 5.267 | 21 | PASS |
| | HCH | 5.003 | 21 | PASS |

Test Graphs

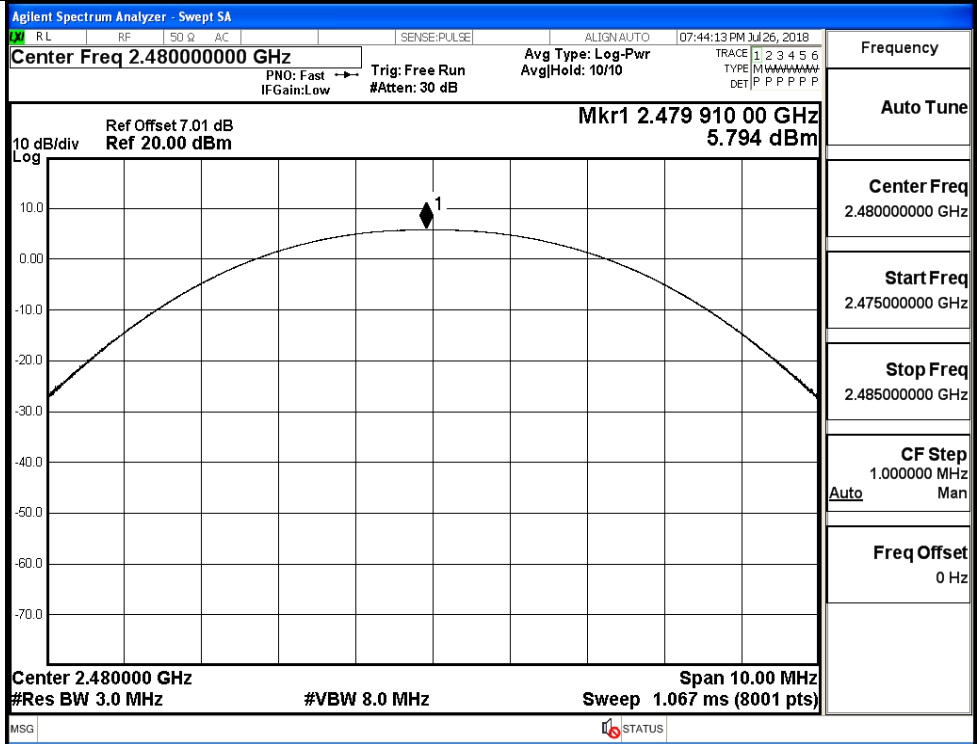
GFSK/LCH



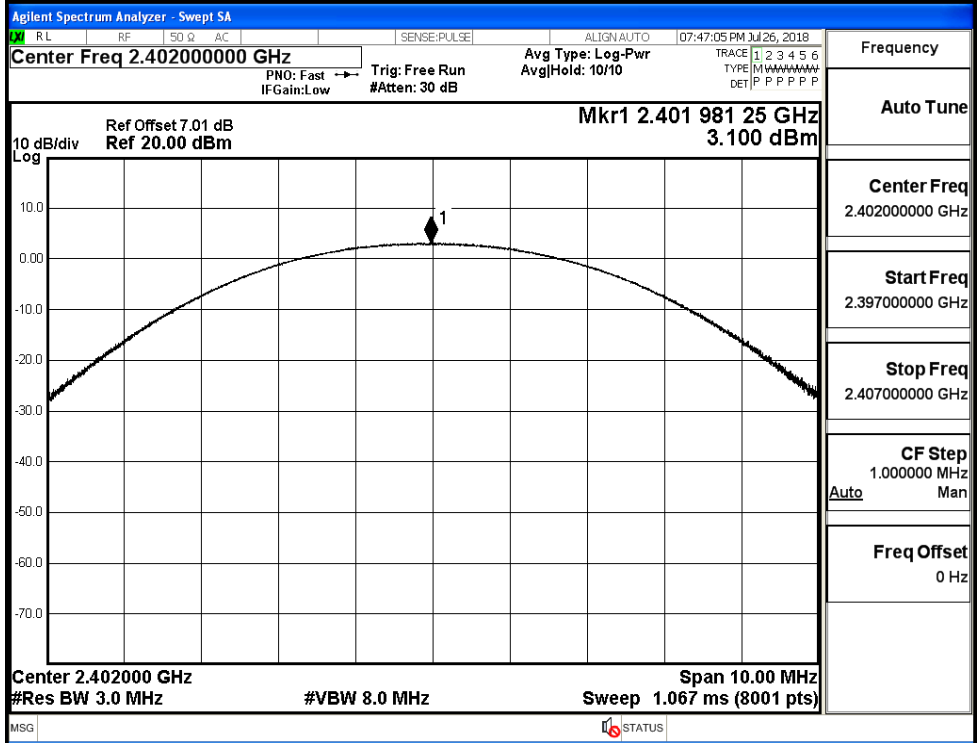
GFSK/MCH



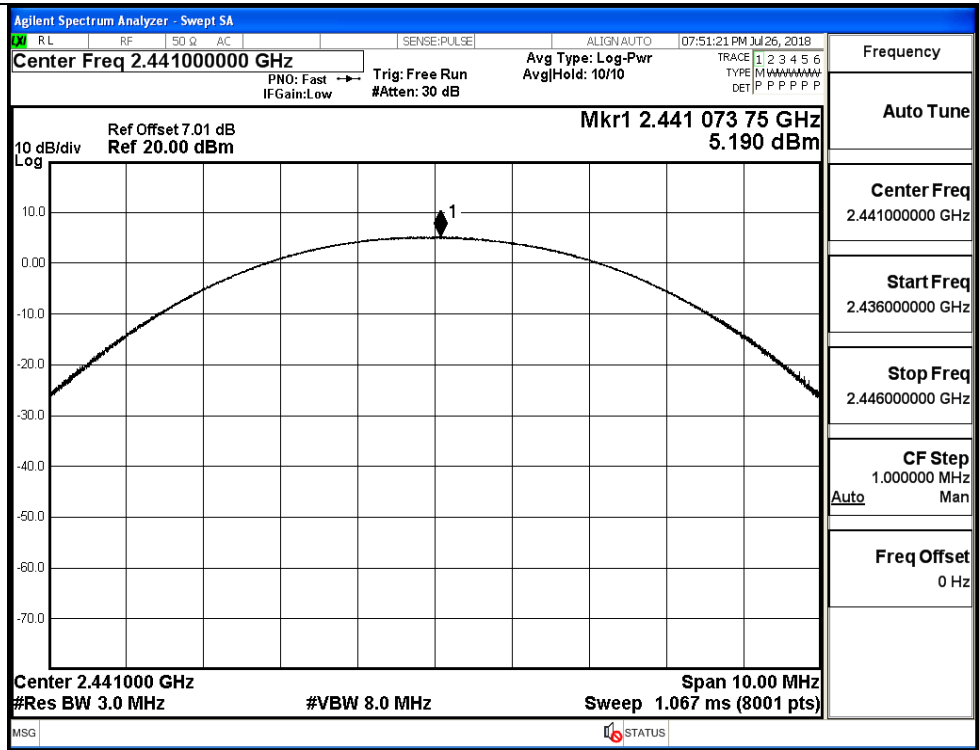
GFSK/HCH



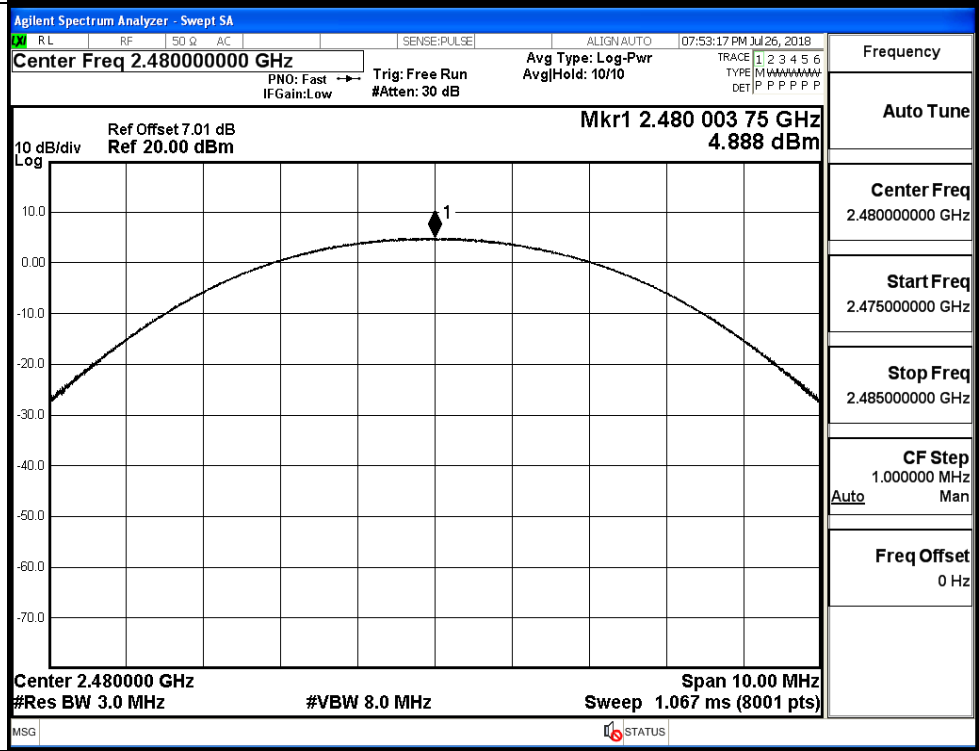
π /4DQPSK/LCH



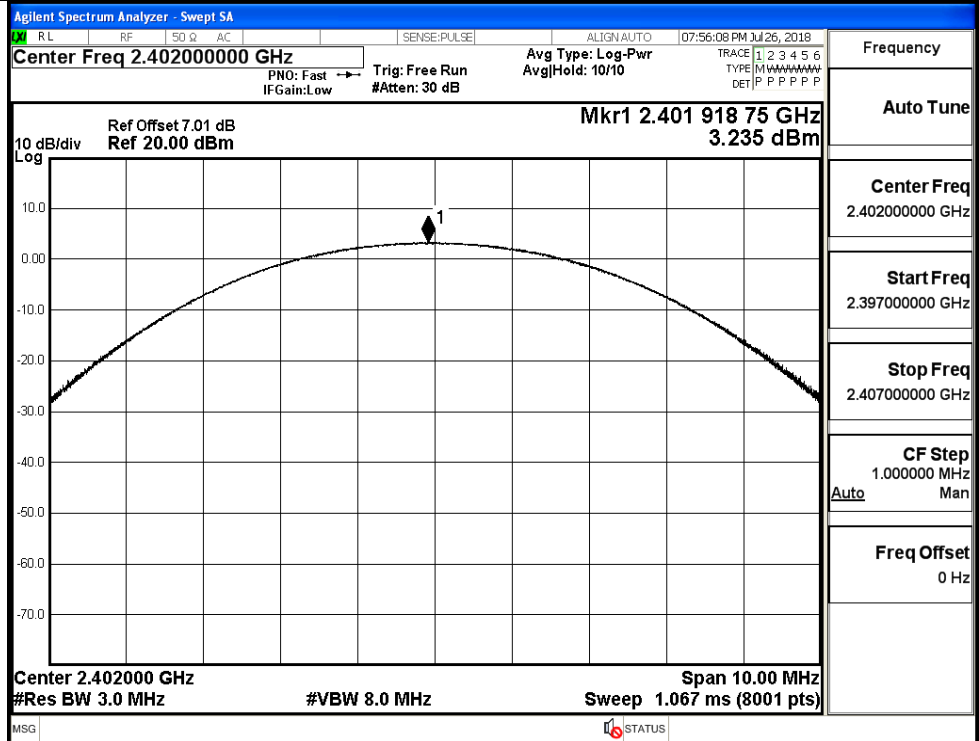
π /4DQPSK/MCH



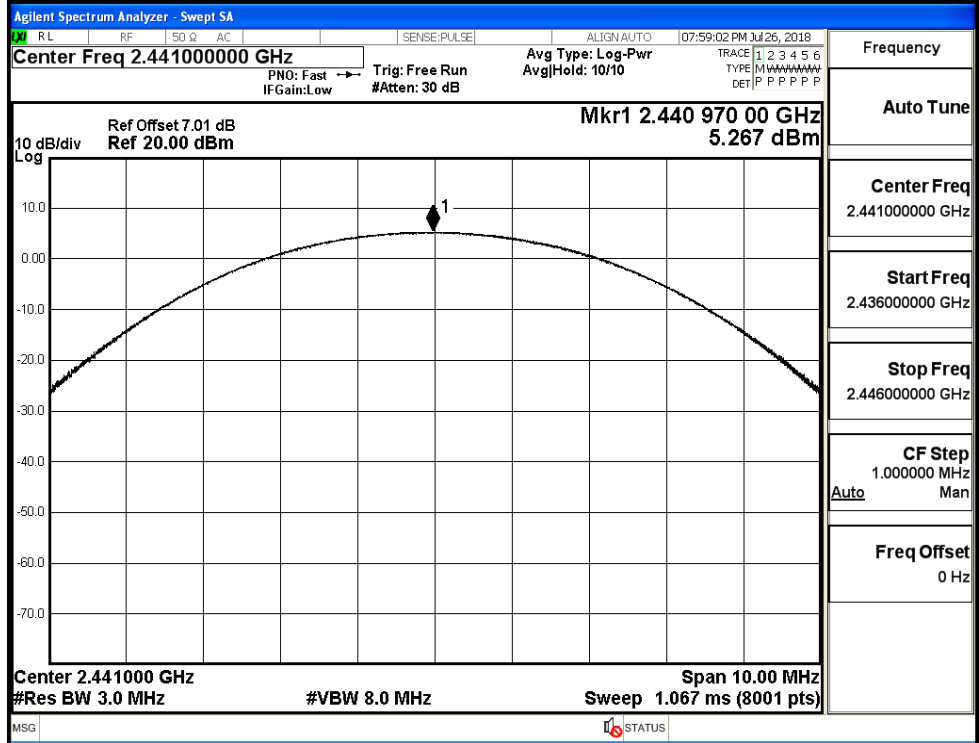
π /4DQPSK/HCH



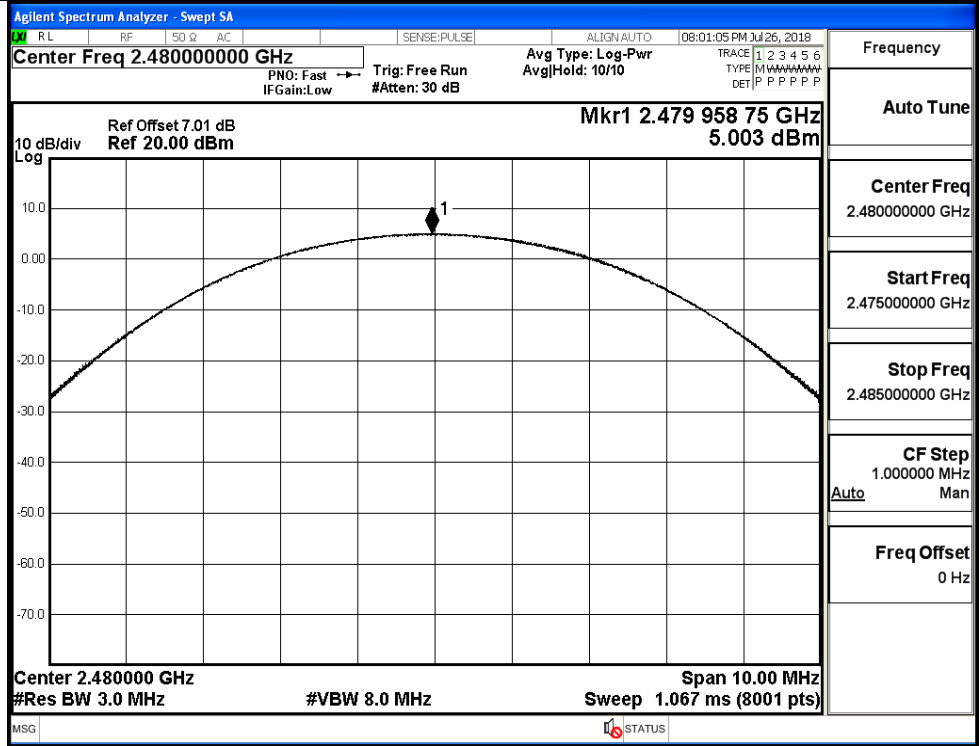
8DPSK/LCH



8DPSK/MCH

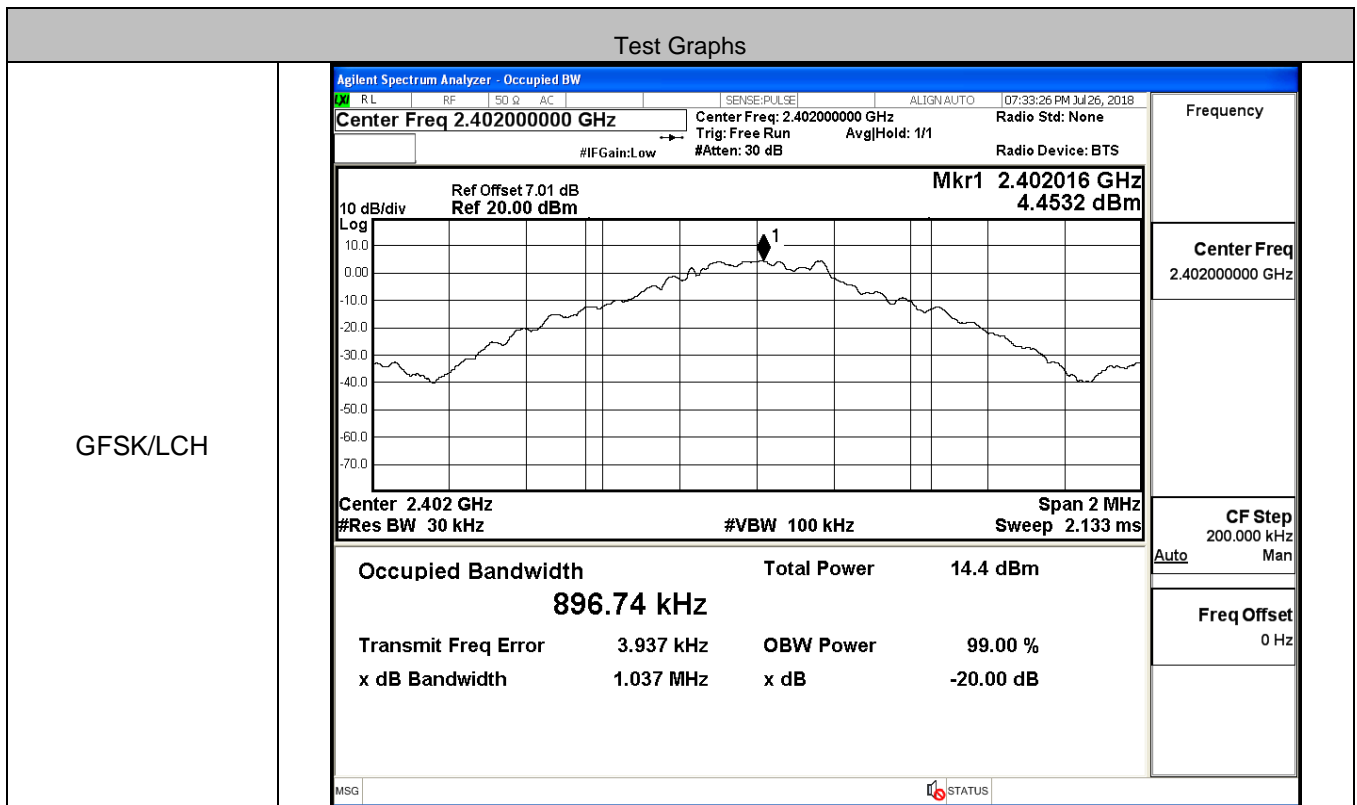


8DPSK/HCH

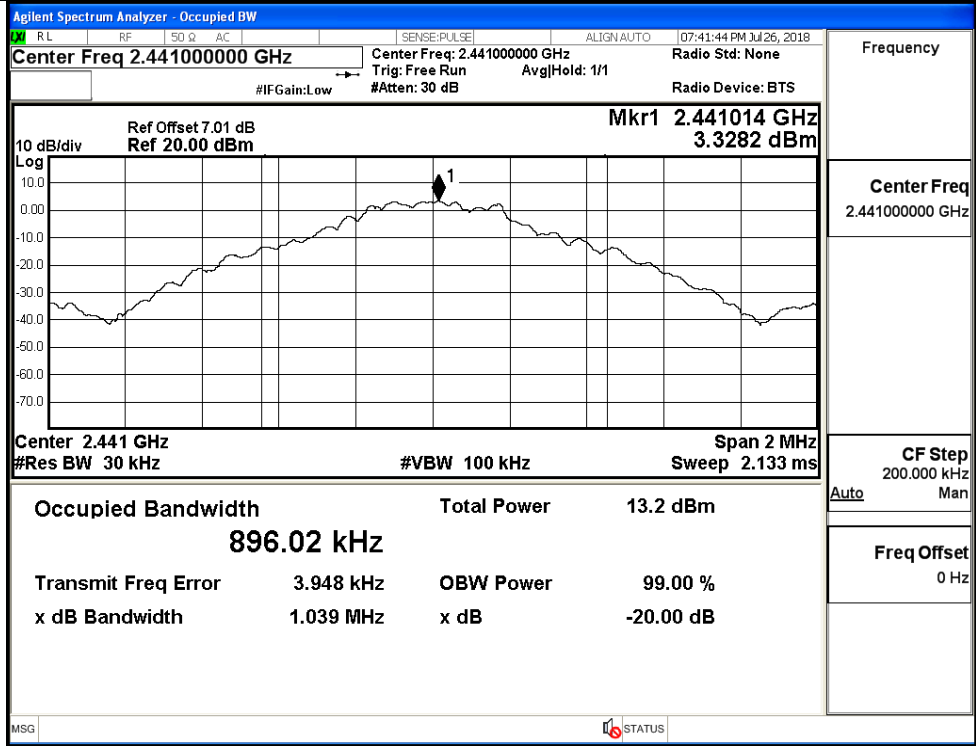


A.2 99% and 20dB Bandwidth

| Mode | Channel. | 99% Bandwidth [MHz] | 20dB Bandwidth [MHz] | Limit [MHz] | Verdict |
|----------|----------|---------------------|----------------------|---------------|---------|
| GFSK | LCH | 0.89674 | 1.037 | Not Specified | PASS |
| | MCH | 0.89602 | 1.039 | Not Specified | PASS |
| | HCH | 0.90360 | 1.043 | Not Specified | PASS |
| π/4DQPSK | LCH | 1.1764 | 1.292 | Not Specified | PASS |
| | MCH | 1.1747 | 1.291 | Not Specified | PASS |
| | HCH | 1.1697 | 1.289 | Not Specified | PASS |
| 8DPSK | LCH | 1.1852 | 1.301 | Not Specified | PASS |
| | MCH | 1.1825 | 1.293 | Not Specified | PASS |
| | HCH | 1.1765 | 1.291 | Not Specified | PASS |

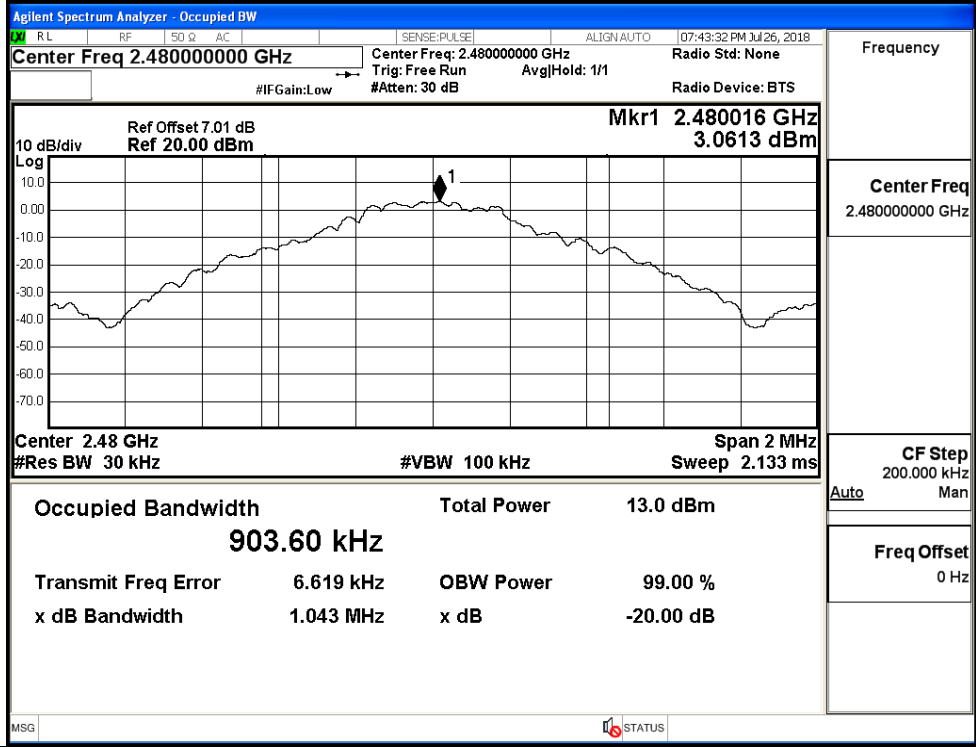


GFSK/MCH



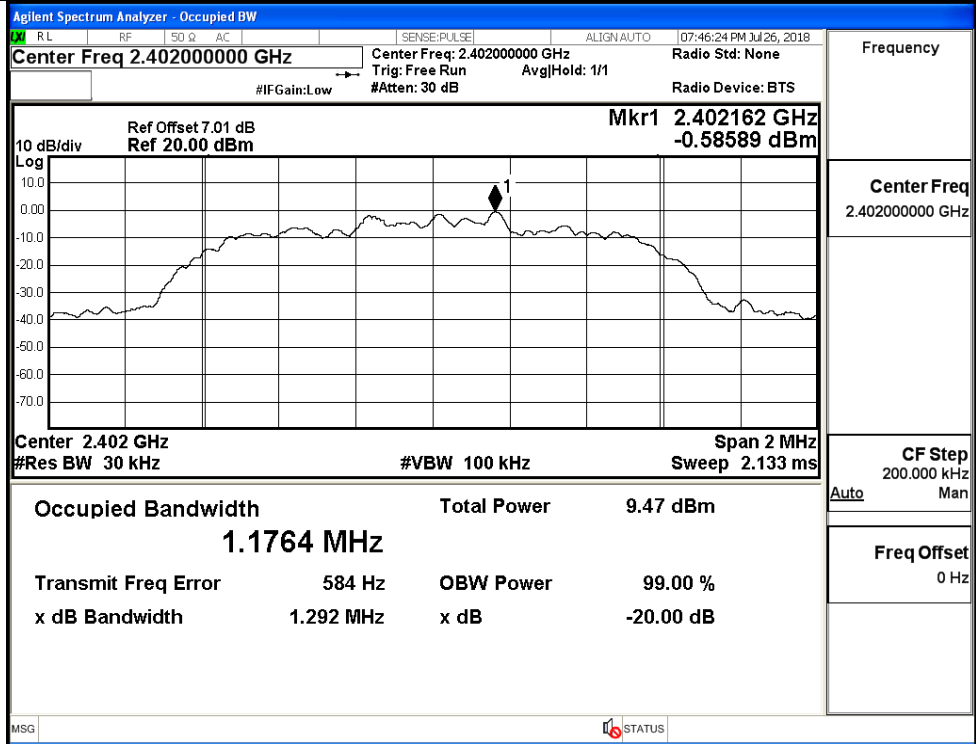
| | |
|-------------|----------------|
| Frequency | 2.44100000 GHz |
| Center Freq | 2.44100000 GHz |
| CF Step | 200.000 kHz |
| Auto | Man |
| Freq Offset | 0 Hz |

GFSK/HCH



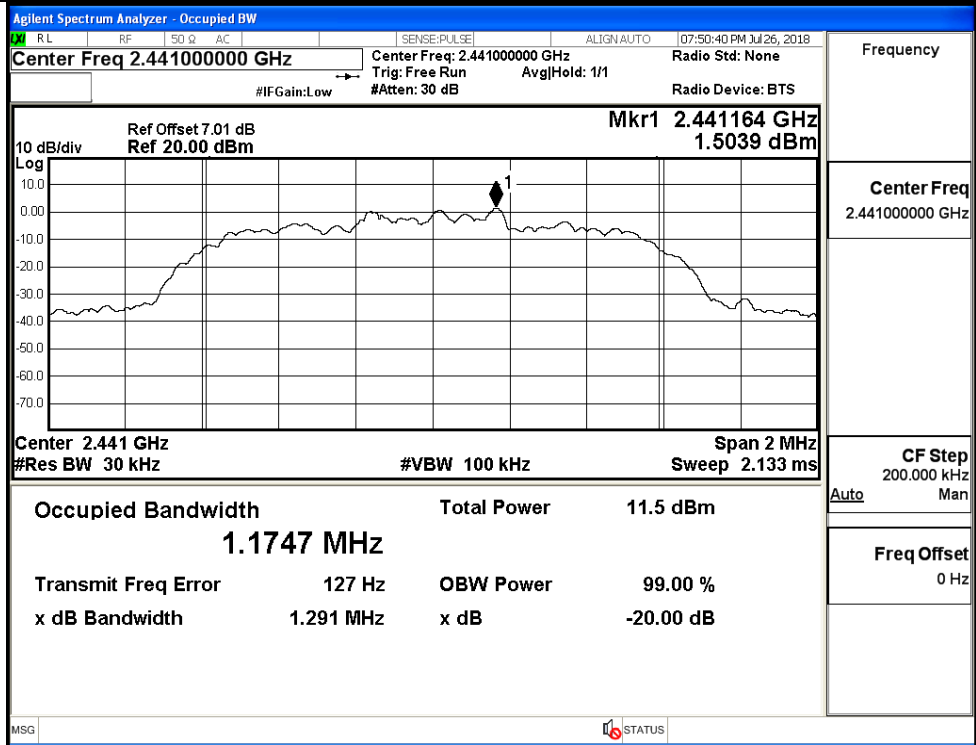
| | |
|-------------|----------------|
| Frequency | 2.48000000 GHz |
| Center Freq | 2.48000000 GHz |
| CF Step | 200.000 kHz |
| Auto | Man |
| Freq Offset | 0 Hz |

$\pi/4$ DQPSK/LCH



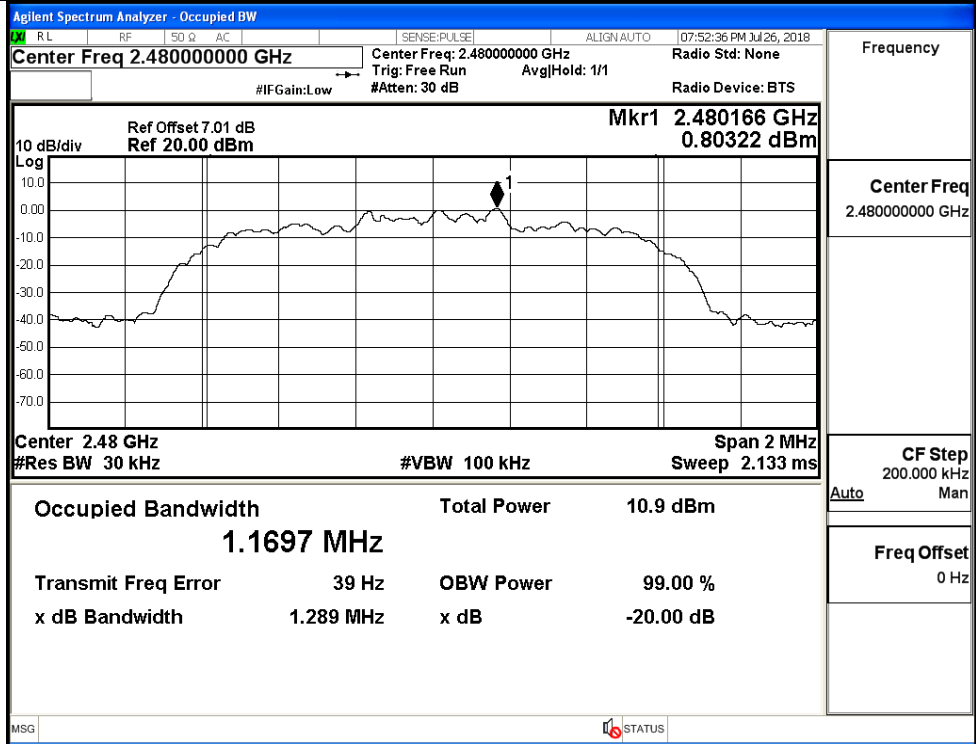
| | |
|-------------|----------------|
| Frequency | 2.40200000 GHz |
| Center Freq | 2.40200000 GHz |
| CF Step | 200.000 kHz |
| Auto | Man |
| Freq Offset | 0 Hz |

$\pi/4$ DQPSK/MCH



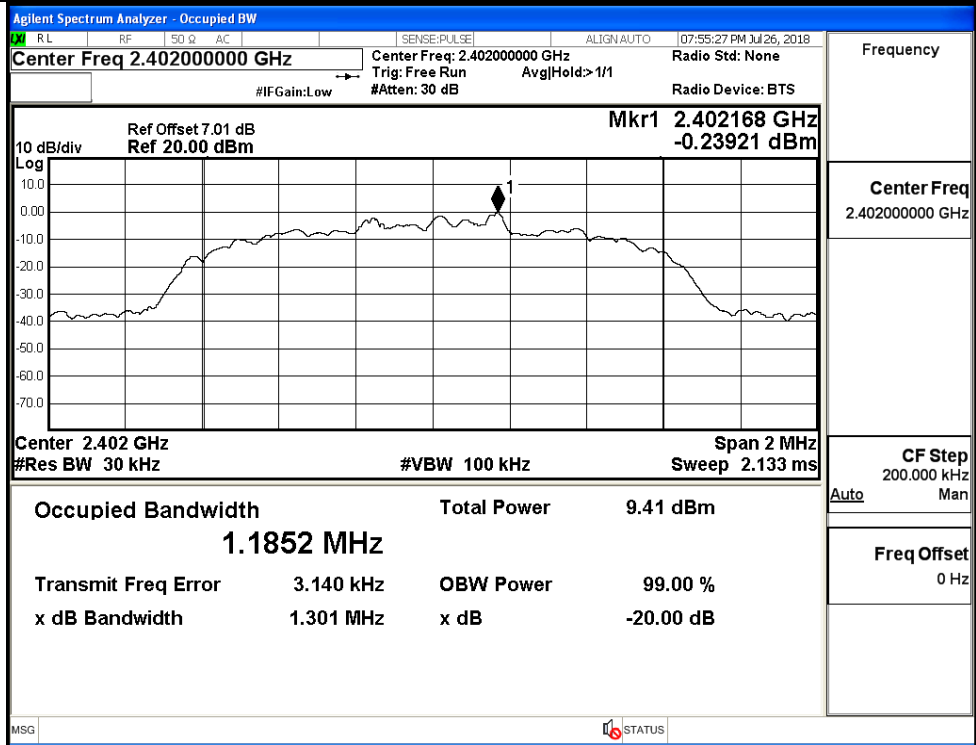
| | |
|-------------|----------------|
| Frequency | 2.44100000 GHz |
| Center Freq | 2.44100000 GHz |
| CF Step | 200.000 kHz |
| Auto | Man |
| Freq Offset | 0 Hz |

$\pi/4$ DQPSK/HCH



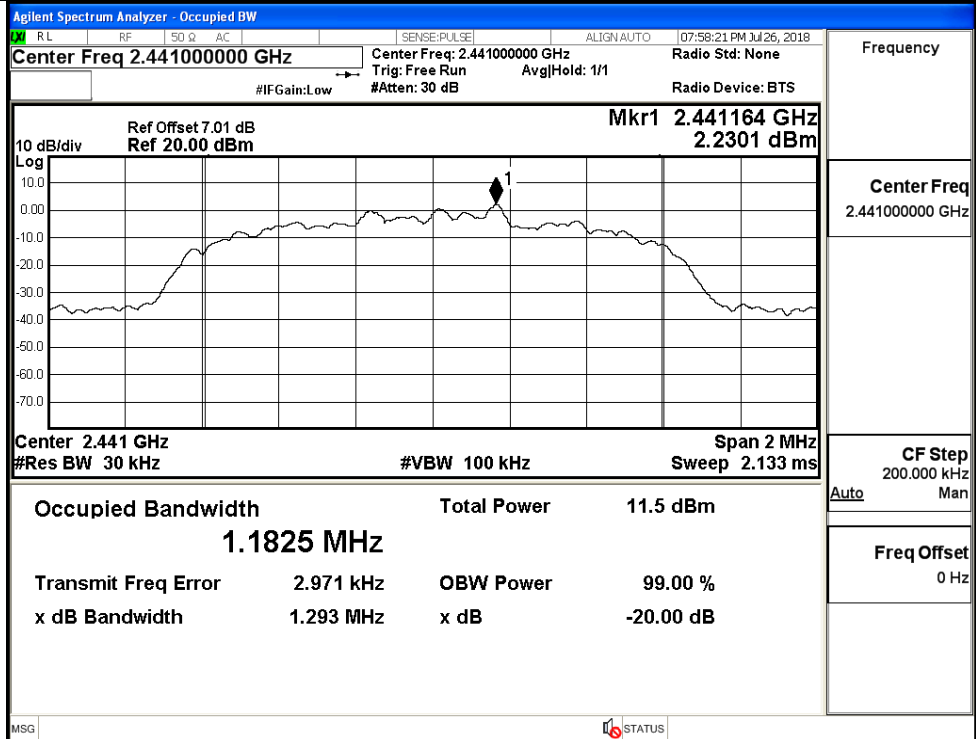
| | |
|-------------|----------------|
| Frequency | 2.48000000 GHz |
| Center Freq | 2.48000000 GHz |
| CF Step | 200.000 kHz |
| Auto | Man |
| Freq Offset | 0 Hz |

8DPSK/LCH



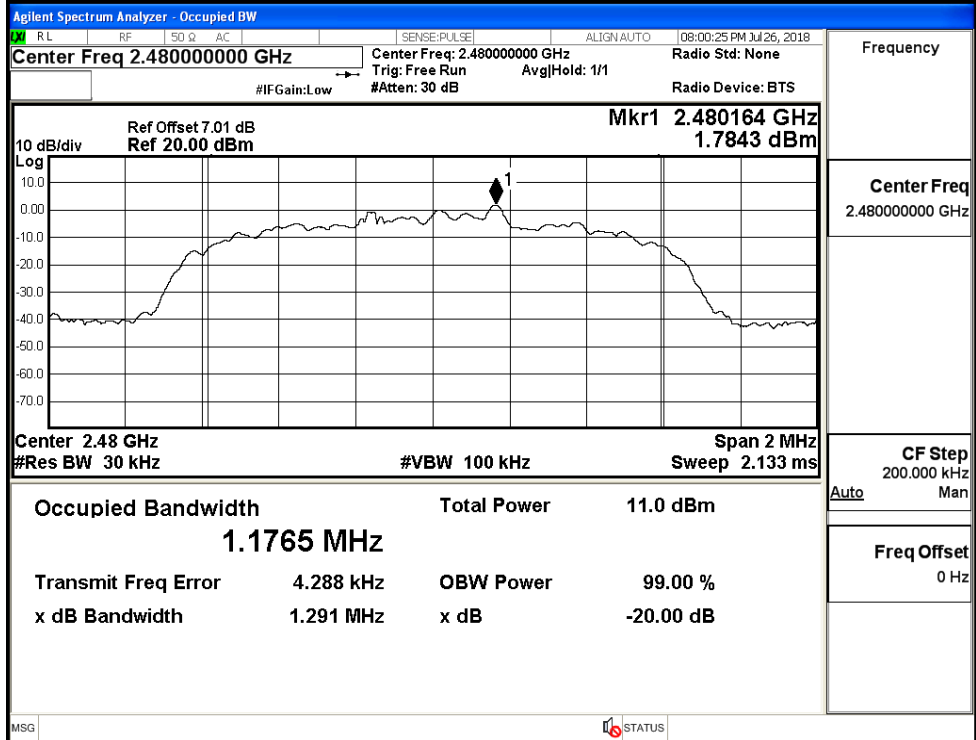
| | |
|-------------|----------------|
| Frequency | 2.40200000 GHz |
| Center Freq | 2.40200000 GHz |
| CF Step | 200.000 kHz |
| Auto | Man |
| Freq Offset | 0 Hz |

8DPSK/MCH



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

8DPSK/HCH



| | |
|-------------|----------------|
| Frequency | 2.48000000 GHz |
| Center Freq | 2.48000000 GHz |
| CF Step | 200.000 kHz |
| Auto | Man |
| Freq Offset | 0 Hz |

A.3 Carrier Frequency Separation

| Mode | Channel. | Carrier Frequency Separation [MHz] | Limit [MHz] | Verdict |
|----------|----------|------------------------------------|-------------|---------|
| GFSK | LCH | 1.255 | 0.695 | PASS |
| | MCH | 1.024 | 0.695 | PASS |
| | HCH | 1.042 | 0.695 | PASS |
| π/4DQPSK | LCH | 0.988 | 0.861 | PASS |
| | MCH | 0.880 | 0.861 | PASS |
| | HCH | 1.290 | 0.861 | PASS |
| 8DPSK | LCH | 1.192 | 0.867 | PASS |
| | MCH | 1.288 | 0.867 | PASS |
| | HCH | 1.352 | 0.867 | PASS |

Test Graphs

GFSK/LCH

| MKR# | MODE | TRC | SCL | X | Y | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |
|------|------|-----|-----|------------------|-----------|----------|----------------|----------------|
| 1 | Δ2 | 1 | f | 1.254 50 MHz (Δ) | 0.684 dB | | | |
| 2 | F | 1 | f | 2.401 916 00 GHz | 2.340 dBm | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |

Frequency

Auto Tune

Center Freq
2.402500000 GHz

Start Freq
2.401500000 GHz

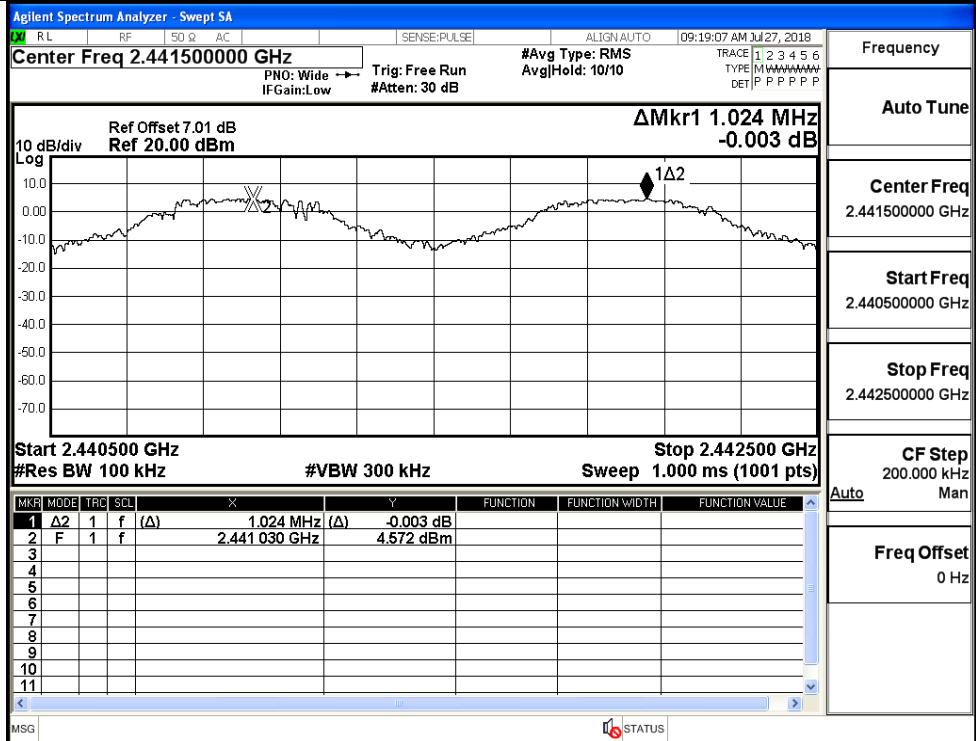
Stop Freq
2.403500000 GHz

CF Step
200.000 kHz

Auto Man

Freq Offset
0 Hz

GFSK/MCH



Frequency

Auto Tune

Center Freq
2.44150000 GHz

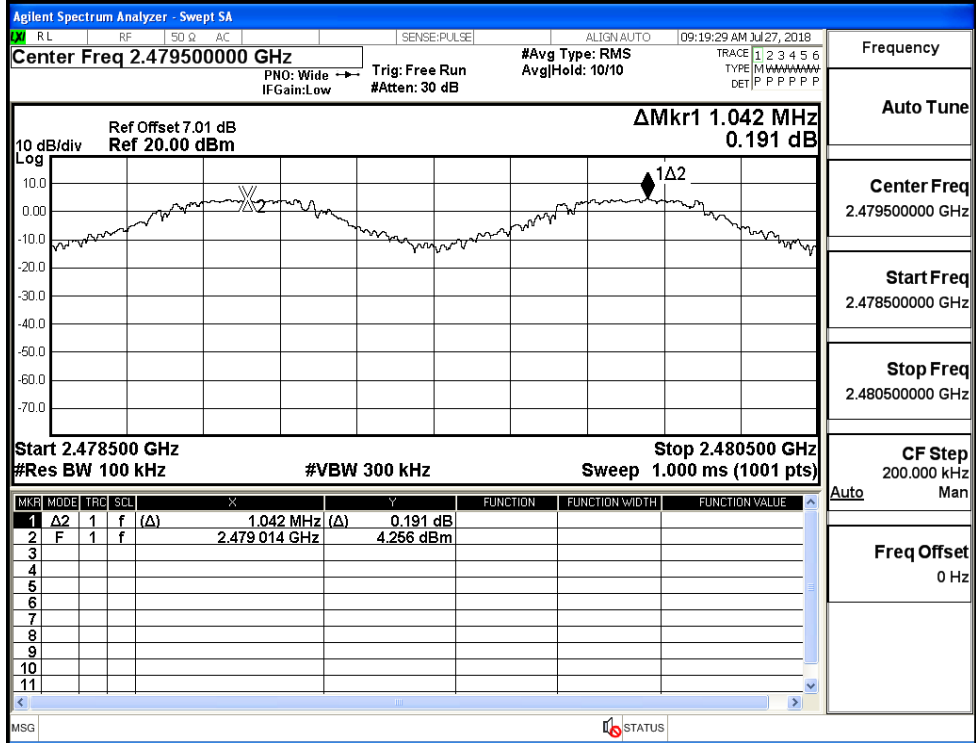
Start Freq
2.44050000 GHz

Stop Freq
2.44250000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

GFSK/HCH



Frequency

Auto Tune

Center Freq
2.47950000 GHz

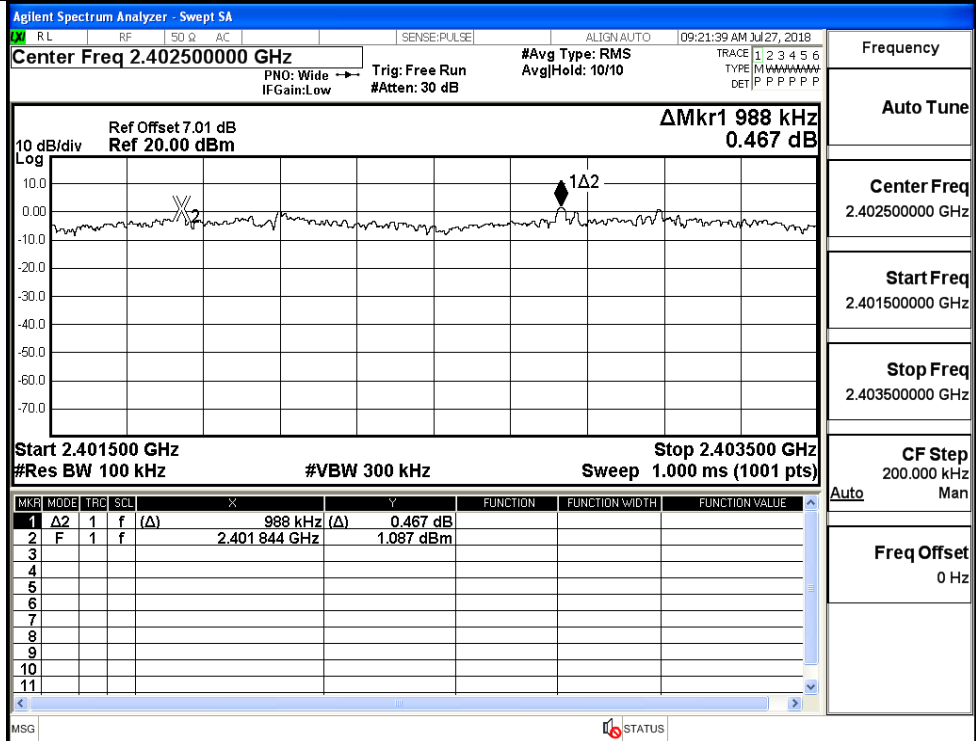
Start Freq
2.47850000 GHz

Stop Freq
2.48050000 GHz

CF Step
200.000 kHz
Auto Man

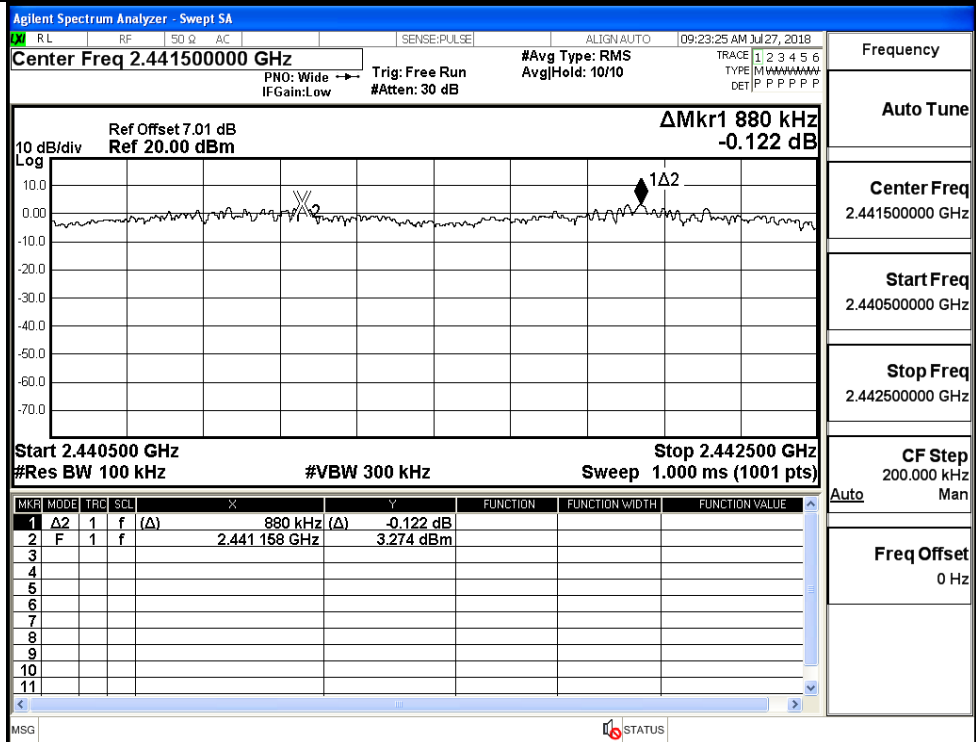
Freq Offset
0 Hz

$\pi/4$ DQPSK/LCH



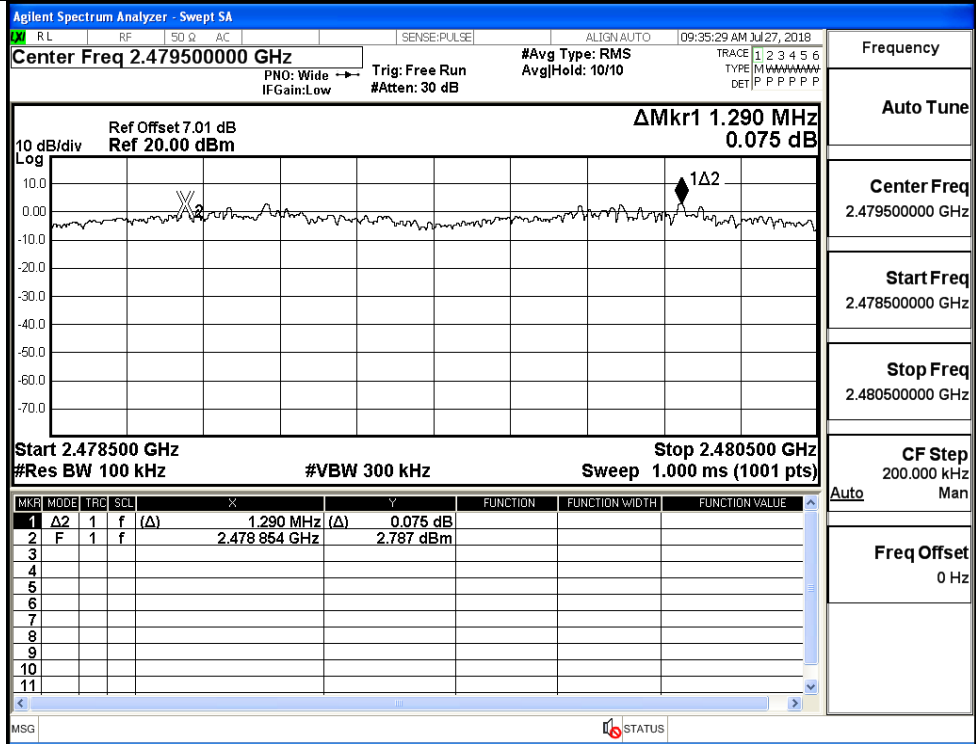
| | |
|-------------|-----------------|
| Frequency | 2.402500000 GHz |
| Auto Tune | |
| Center Freq | 2.402500000 GHz |
| Start Freq | 2.401500000 GHz |
| Stop Freq | 2.403500000 GHz |
| CF Step | 200.000 kHz |
| Auto | Man |
| Freq Offset | 0 Hz |

$\pi/4$ DQPSK/MCH



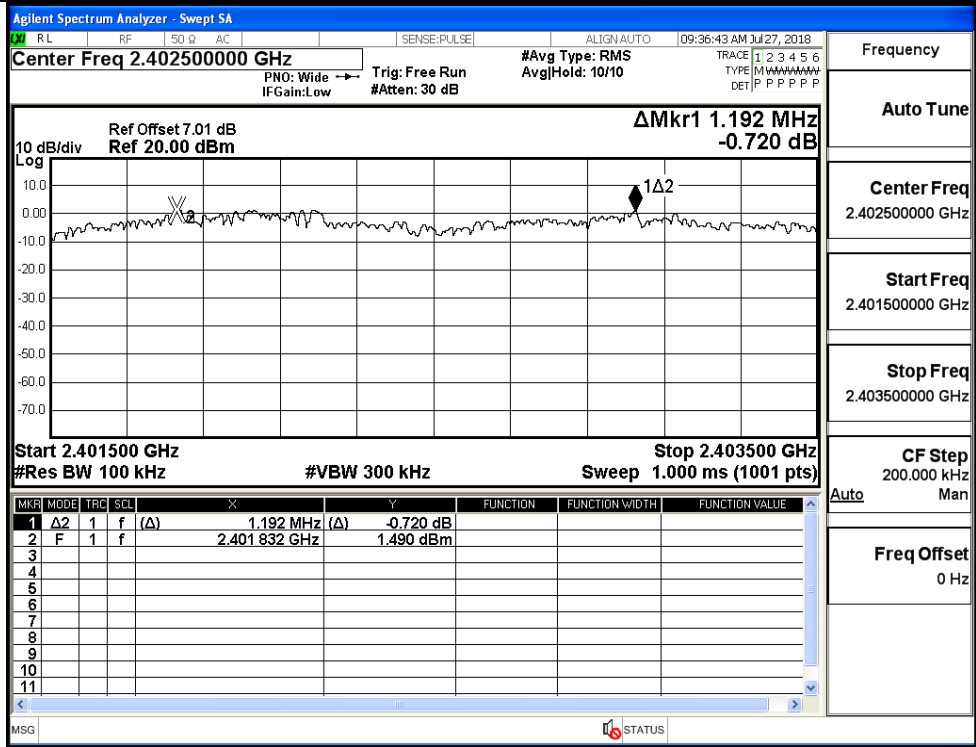
| | |
|-------------|-----------------|
| Frequency | 2.441500000 GHz |
| Auto Tune | |
| Center Freq | 2.441500000 GHz |
| Start Freq | 2.440500000 GHz |
| Stop Freq | 2.442500000 GHz |
| CF Step | 200.000 kHz |
| Auto | Man |
| Freq Offset | 0 Hz |

π/4DQPSK/HCH



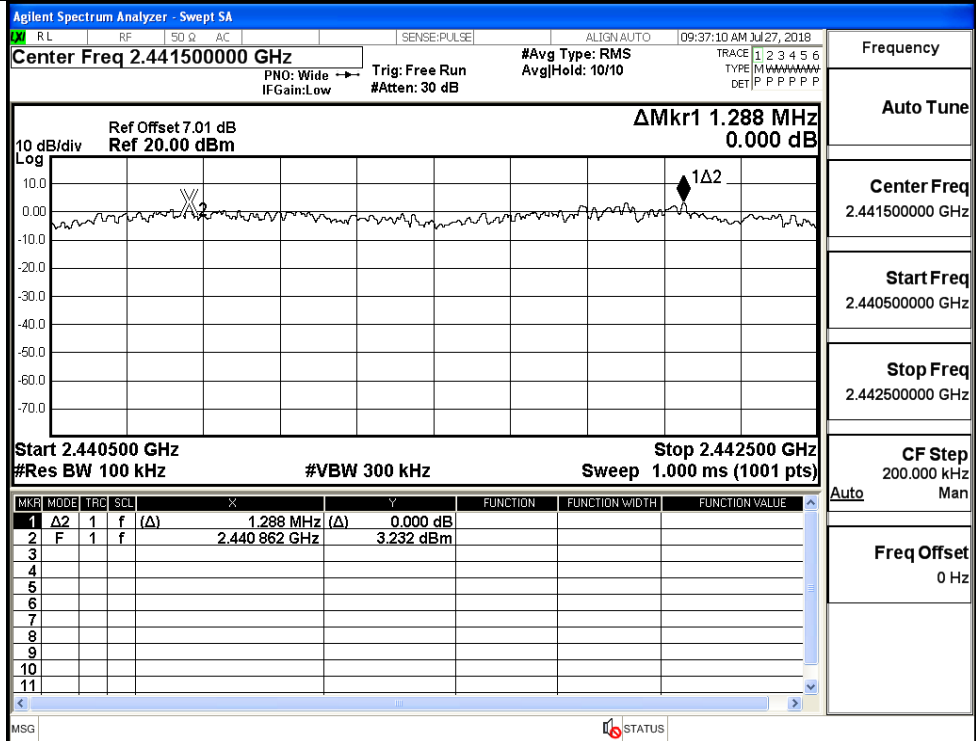
| | |
|-------------|-----------------|
| Frequency | 2.479500000 GHz |
| Auto Tune | |
| Center Freq | 2.479500000 GHz |
| Start Freq | 2.478500000 GHz |
| Stop Freq | 2.480500000 GHz |
| CF Step | 200.000 kHz |
| Auto | Man |
| Freq Offset | 0 Hz |

8DPSK/LCH



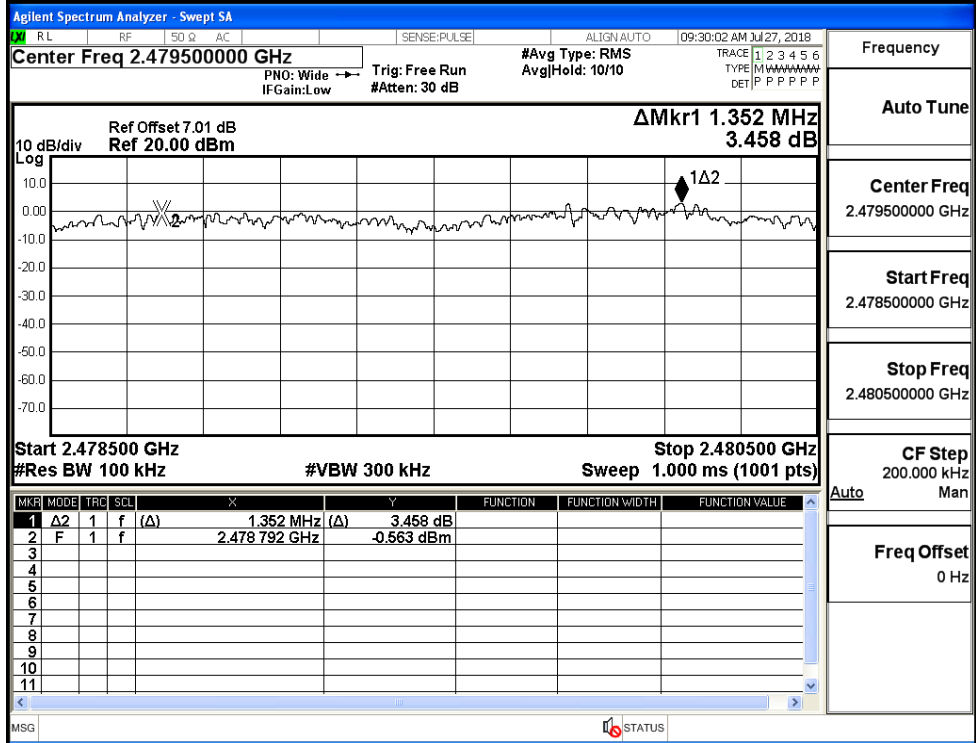
| | |
|-------------|-----------------|
| Frequency | 2.402500000 GHz |
| Auto Tune | |
| Center Freq | 2.402500000 GHz |
| Start Freq | 2.401500000 GHz |
| Stop Freq | 2.403500000 GHz |
| CF Step | 200.000 kHz |
| Auto | Man |
| Freq Offset | 0 Hz |

8DPSK/MCH



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

8DPSK/HCH



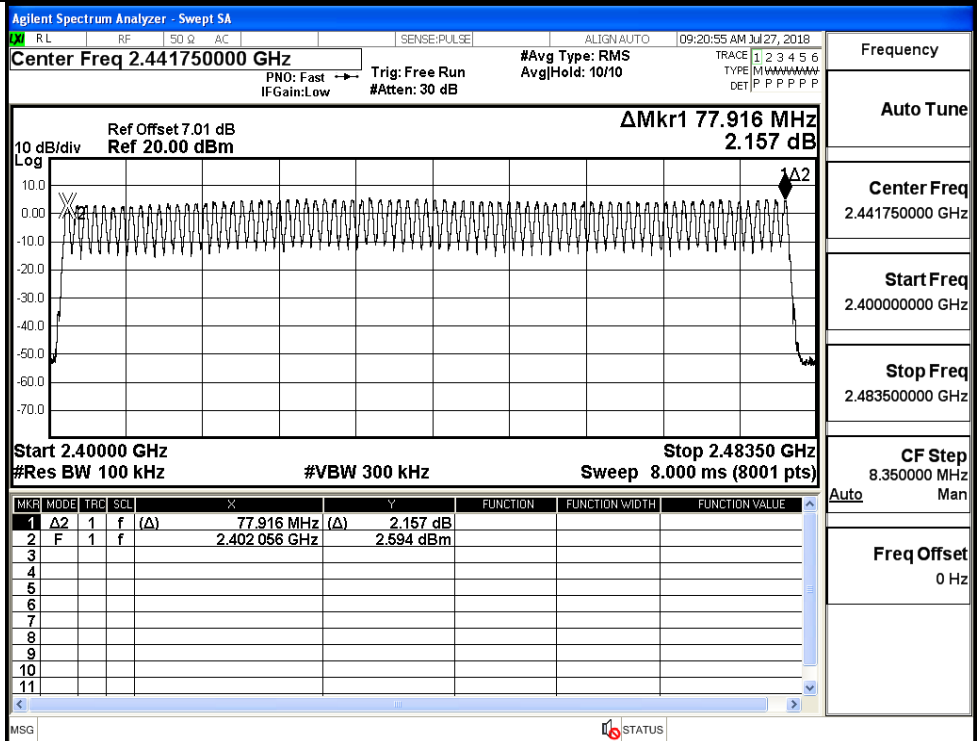
Frequency
Auto Tune
Center Freq
2.479500000 GHz
Start Freq
2.478500000 GHz
Stop Freq
2.480500000 GHz
CF Step
200.000 kHz
Auto Man
Freq Offset
0 Hz

A.4 Hopping Channel Number

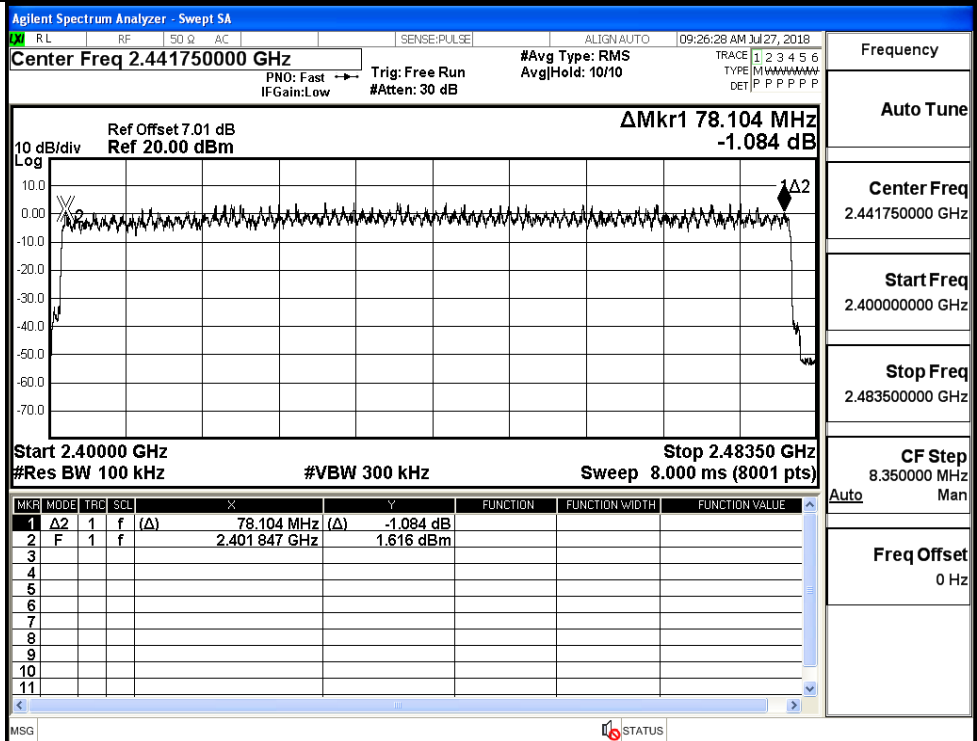
| Mode | Channel. | Number of Hopping Channel [N] | Limit [N] | Verdict |
|---------------|----------|-------------------------------|-----------|---------|
| GFSK | Hop | 79 | >=15 | PASS |
| $\pi/4$ DQPSK | Hop | 79 | >=15 | PASS |
| 8DPSK | Hop | 79 | >=15 | PASS |

Test Graphs

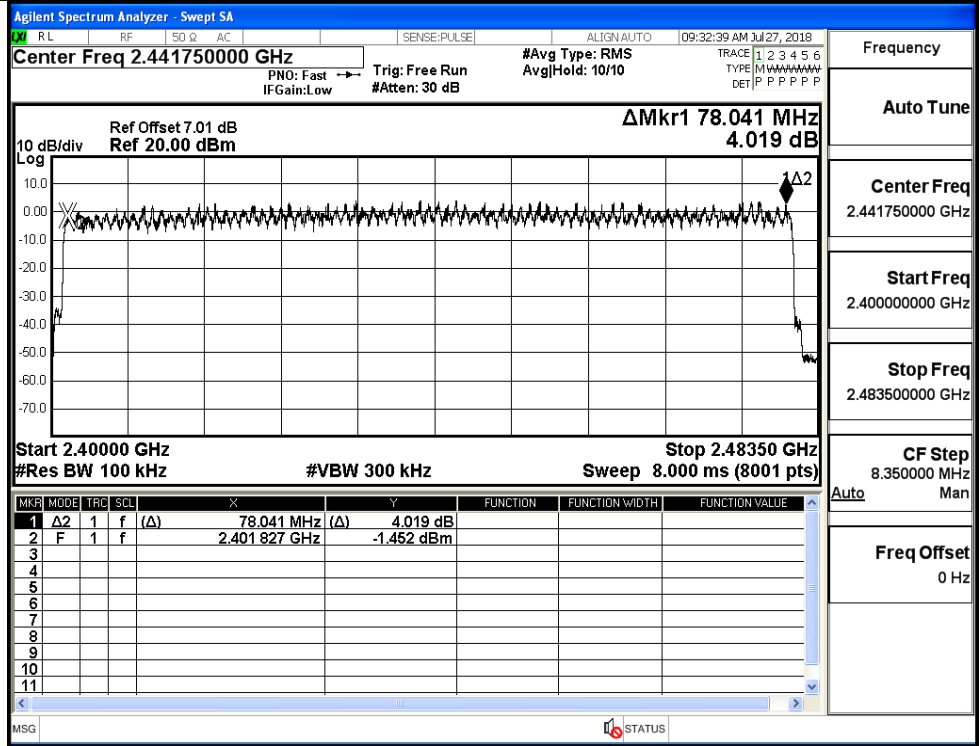
GFSK/Hop



$\pi/4$ DQPSK/Hop

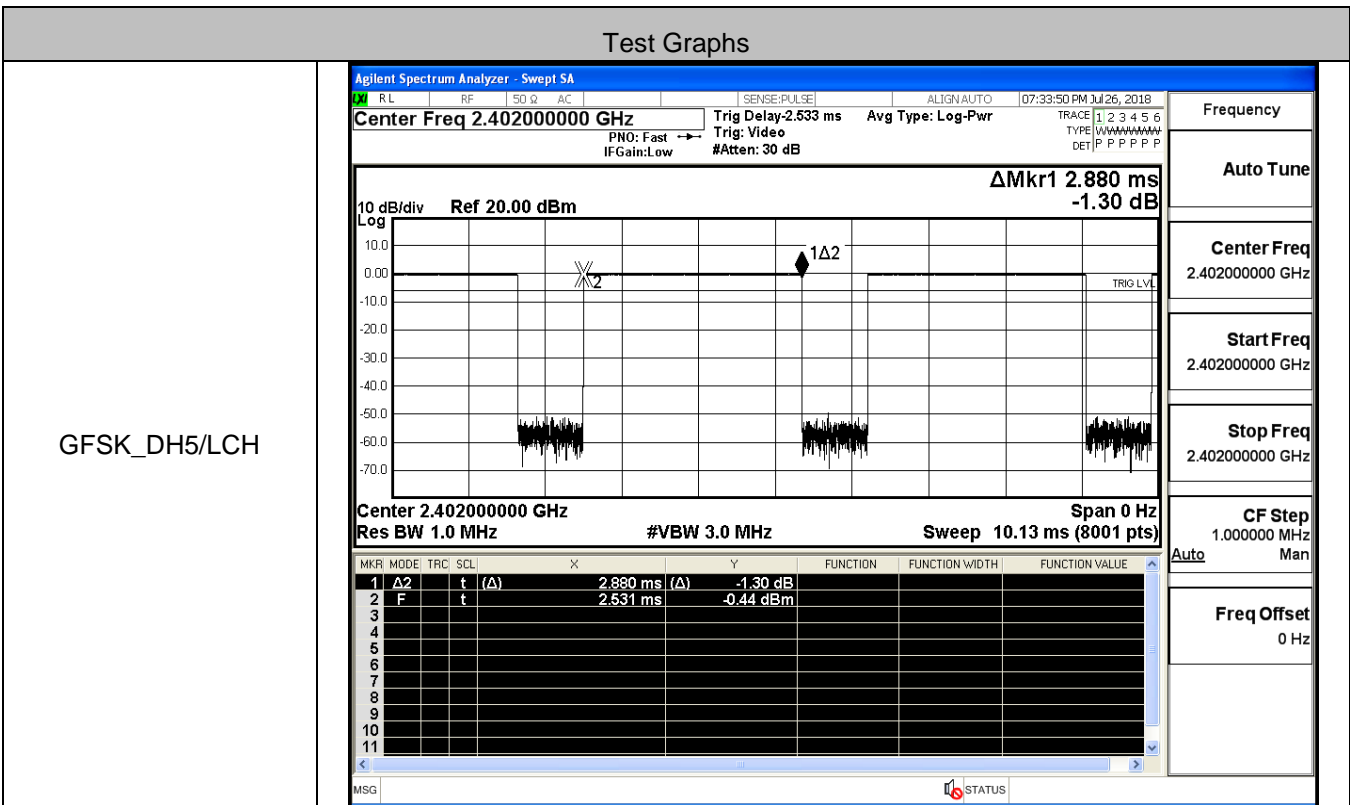


8DPSK/Hop

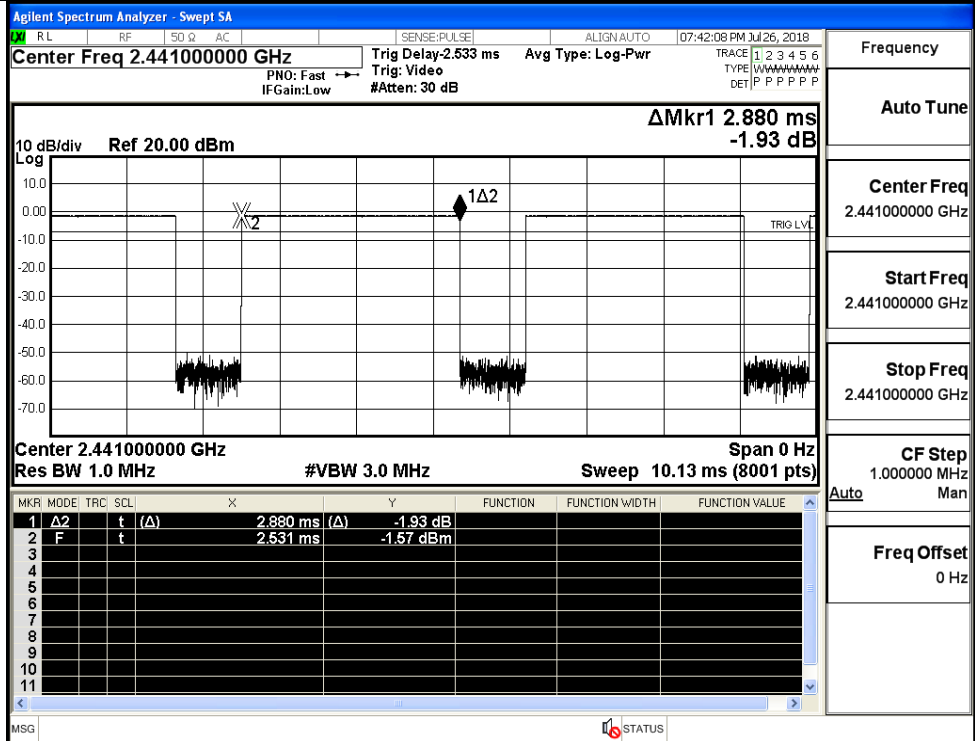


A.5 Dwell Time

| 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 |

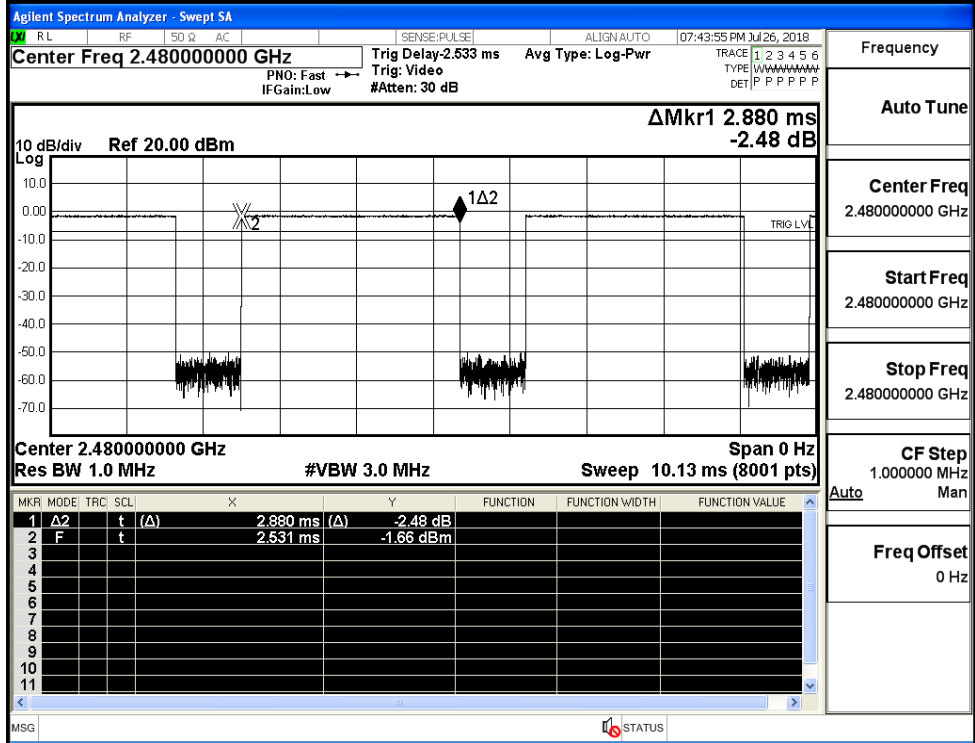


GFSK_DH5/MCH



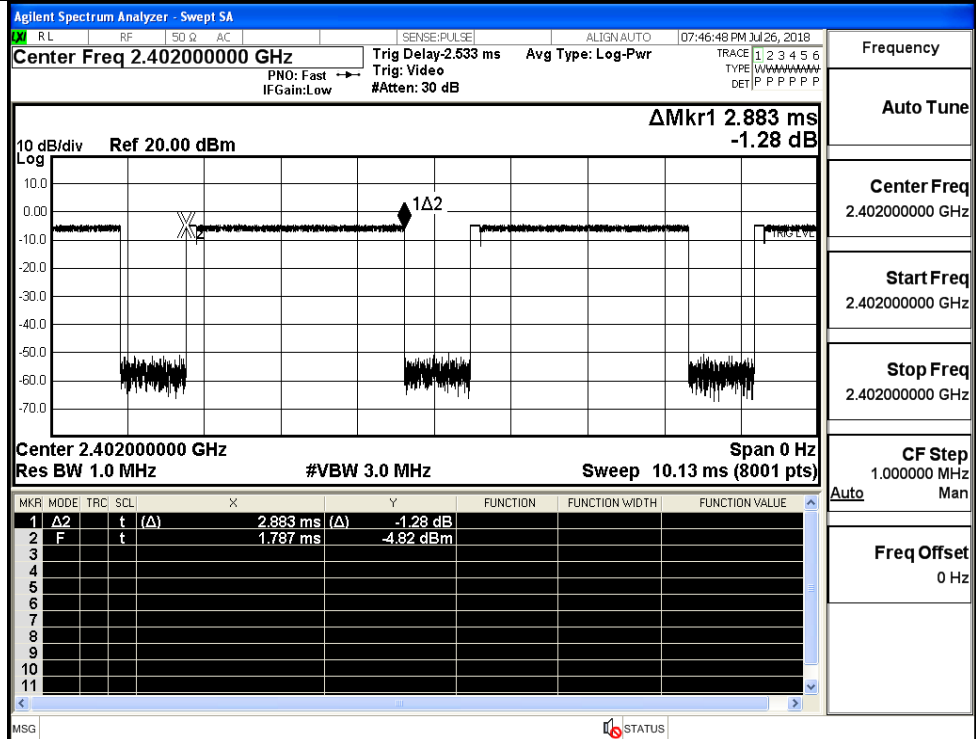
| | |
|-------------|-----------------|
| Frequency | |
| Auto Tune | |
| Center Freq | 2.441000000 GHz |
| Start Freq | 2.441000000 GHz |
| Stop Freq | 2.441000000 GHz |
| CF Step | 1.000000 MHz |
| Auto | Man |
| Freq Offset | 0 Hz |

GFSK_DH5/HCH

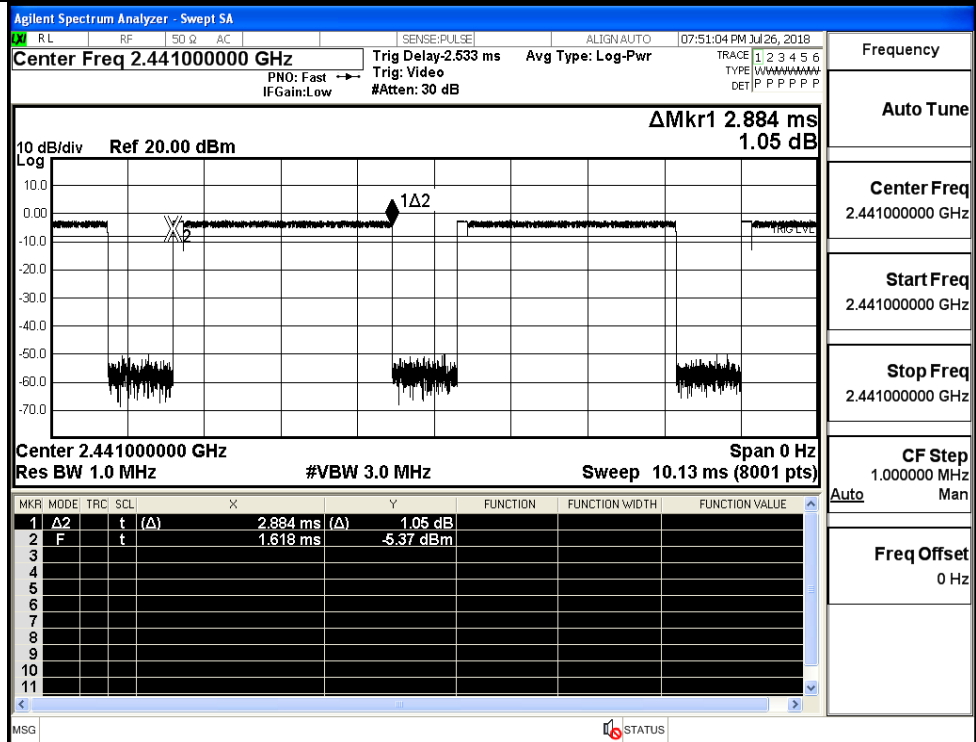


| | |
|-------------|-----------------|
| Frequency | |
| Auto Tune | |
| Center Freq | 2.480000000 GHz |
| Start Freq | 2.480000000 GHz |
| Stop Freq | 2.480000000 GHz |
| CF Step | 1.000000 MHz |
| Auto | Man |
| Freq Offset | 0 Hz |

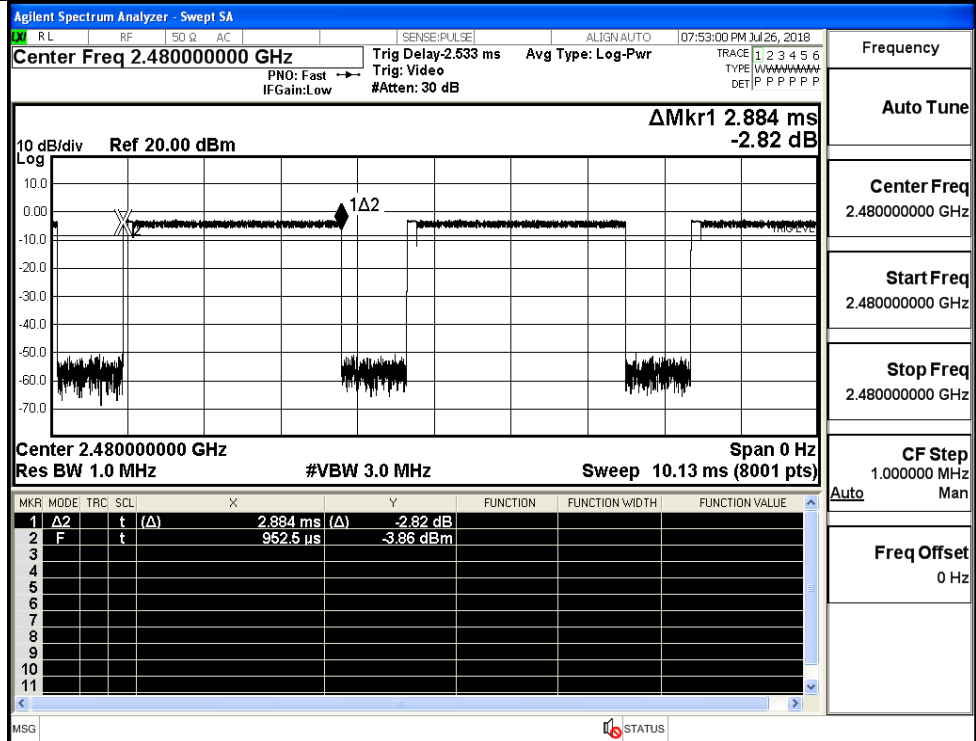
$\pi/4$ DQPSK
_2DH5/LCH



$\pi/4$ DQPSK
_2DH5/MCH



$\pi/4$ DQPSK
_2DH5/HCH



Frequency

Auto Tune

Center Freq
2.480000000 GHz

Start Freq
2.480000000 GHz

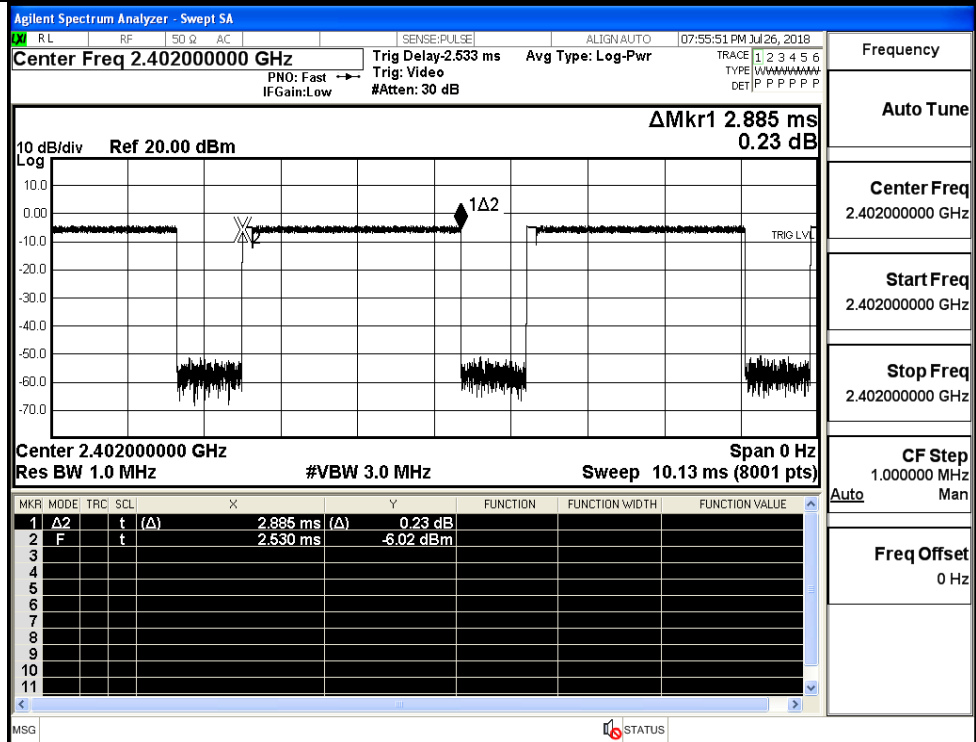
Stop Freq
2.480000000 GHz

CF Step
1.000000 MHz

Auto

Freq Offset
0 Hz

8DPSK_3DH5/LCH



Frequency

Auto Tune

Center Freq
2.402000000 GHz

Start Freq
2.402000000 GHz

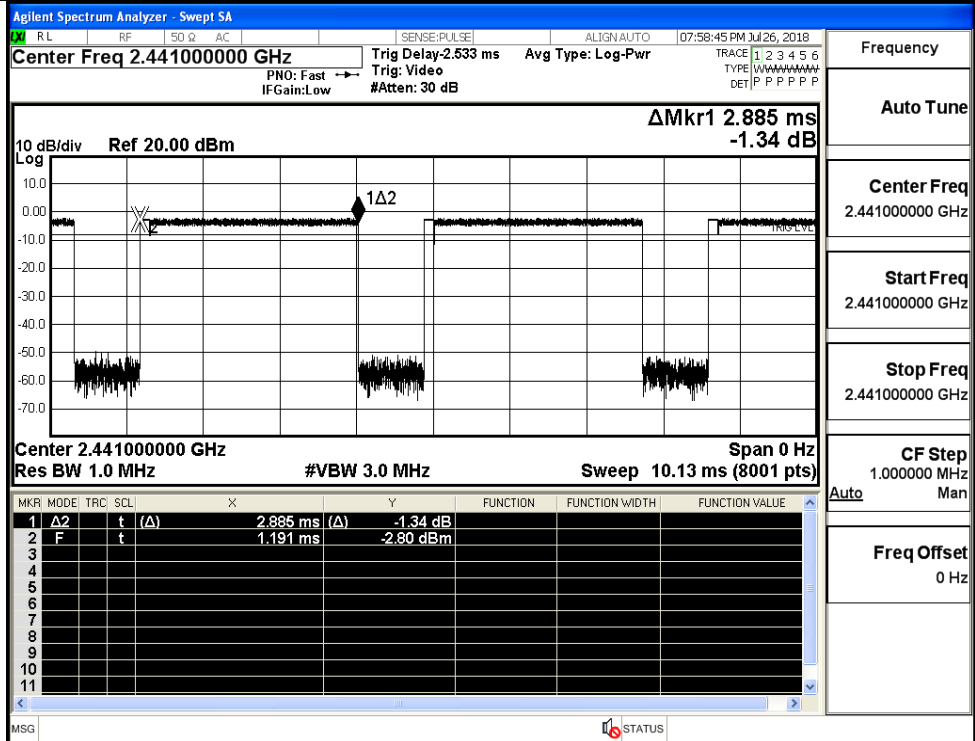
Stop Freq
2.402000000 GHz

CF Step
1.000000 MHz

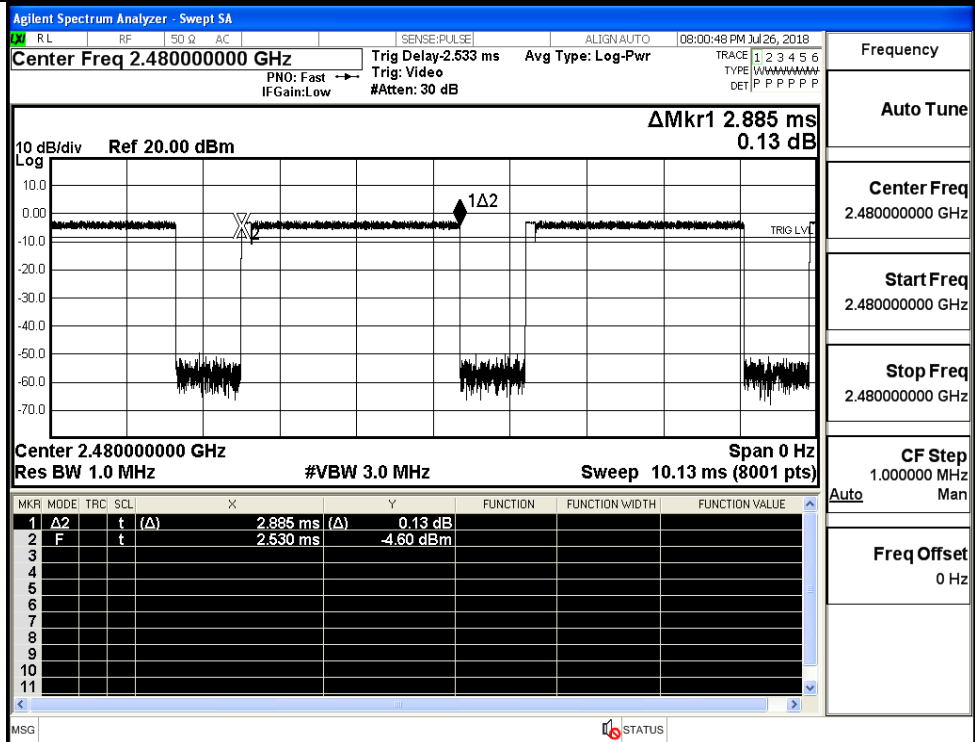
Auto

Freq Offset
0 Hz

8DPSK_3DH5/MCH



8DPSK_3DH5/HCH

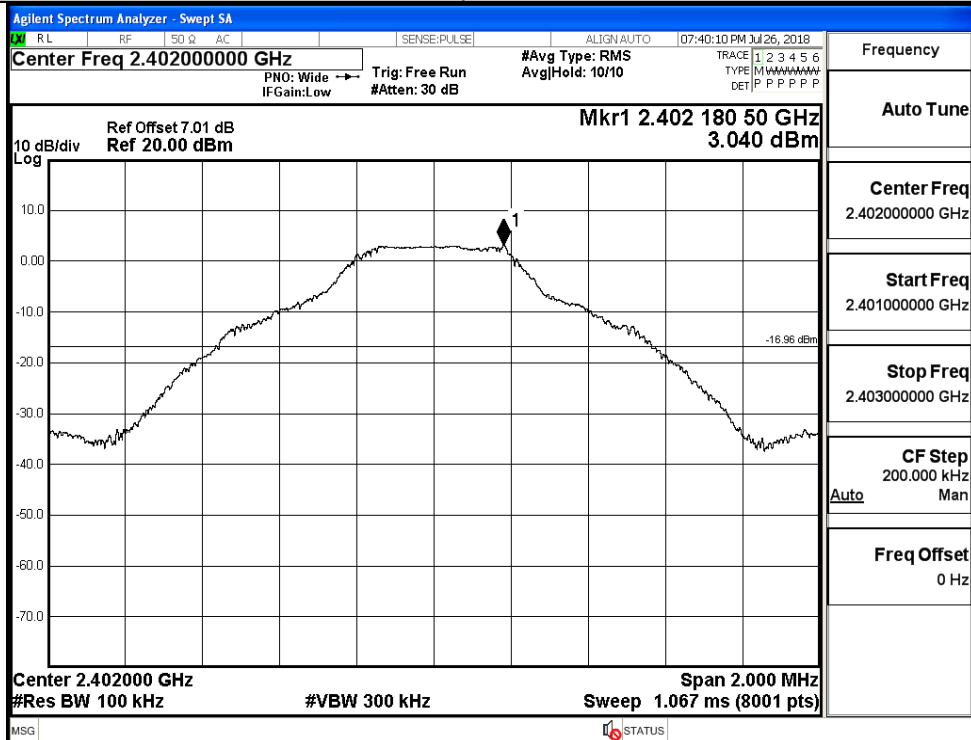


A.6 RF Conducted Spurious Emissions

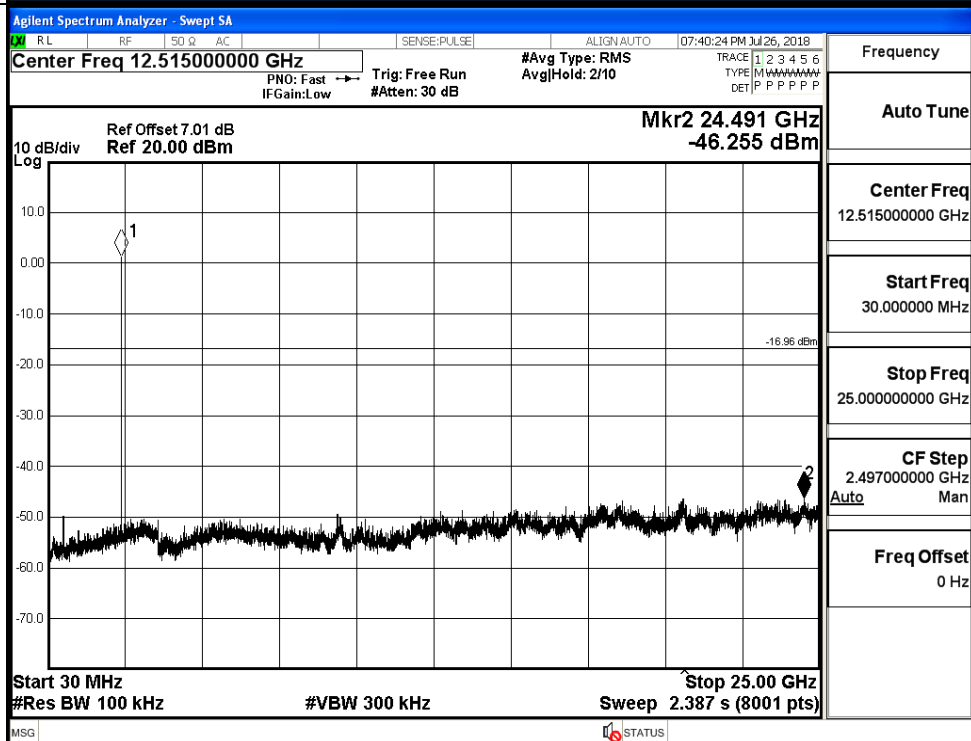
| Mode | Channel | Pref [dBm] | Max. Level [dBm] | Limit [dBm] | Verdict |
|---------------|---------|------------|------------------|-------------|---------|
| GFSK | LCH | 3.040 | -46.255 | -16.960 | PASS |
| | MCH | 5.574 | -45.035 | -14.426 | PASS |
| | HCH | 5.349 | -46.151 | -14.651 | PASS |
| $\pi/4$ DQPSK | LCH | 2.119 | -45.886 | -17.881 | PASS |
| | MCH | 4.118 | -46.033 | -15.882 | PASS |
| | HCH | 3.800 | -46.053 | -16.200 | PASS |
| 8DPSK | LCH | 2.194 | -45.543 | -17.806 | PASS |
| | MCH | 4.252 | -45.833 | -15.748 | PASS |
| | HCH | 3.769 | -45.529 | -16.231 | PASS |

GFSK_LCH_Graphs

Pref

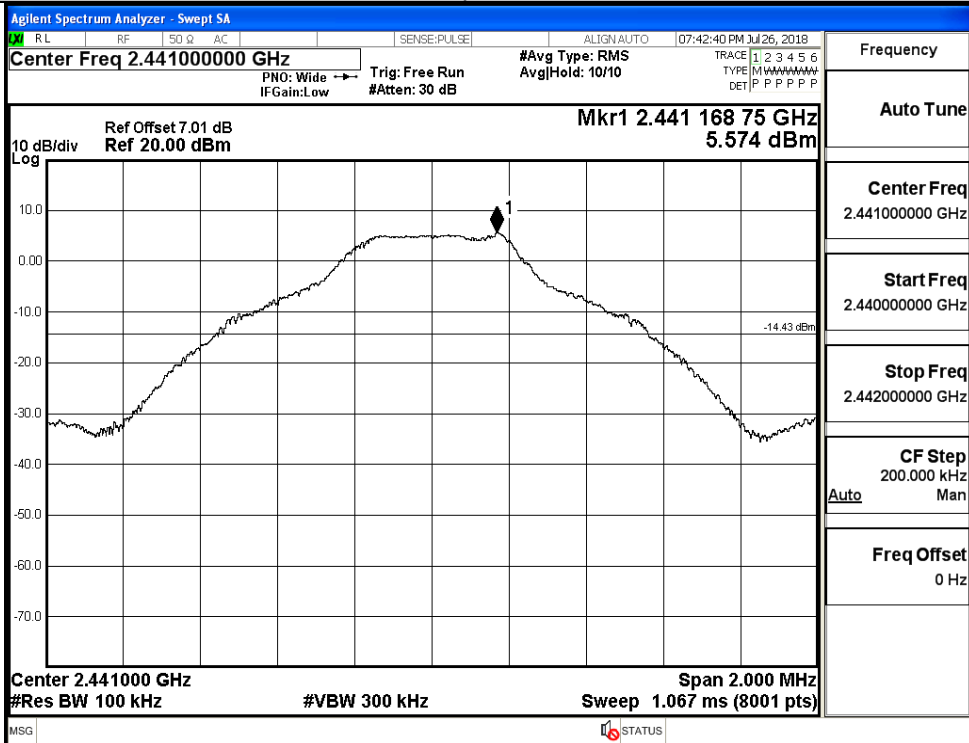


Puw

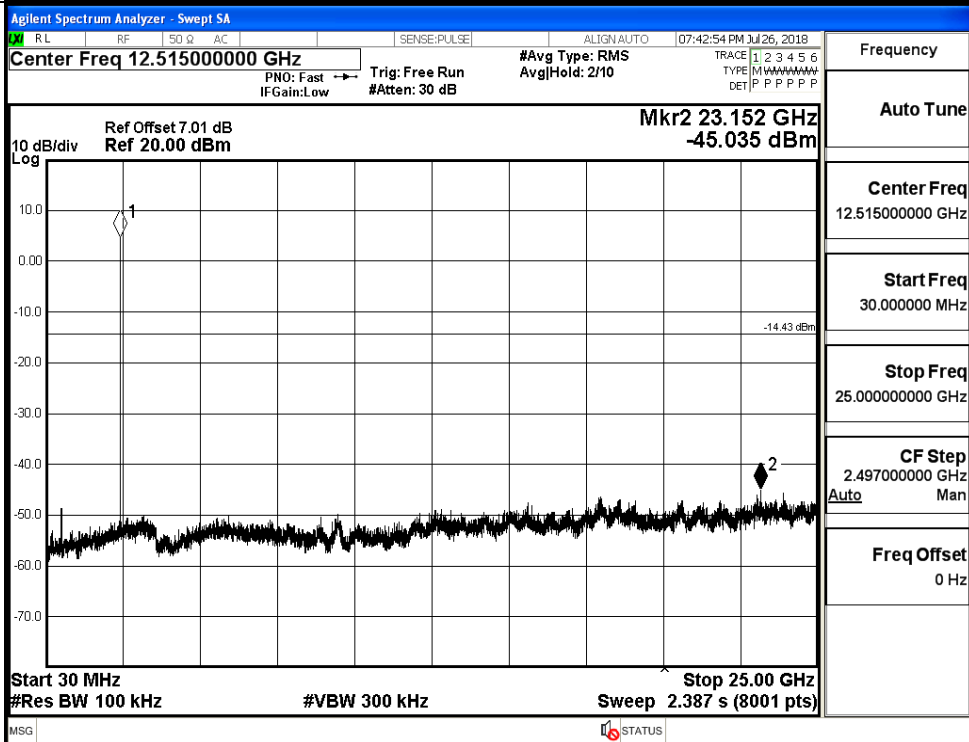


GFSK_MCH_Graphs

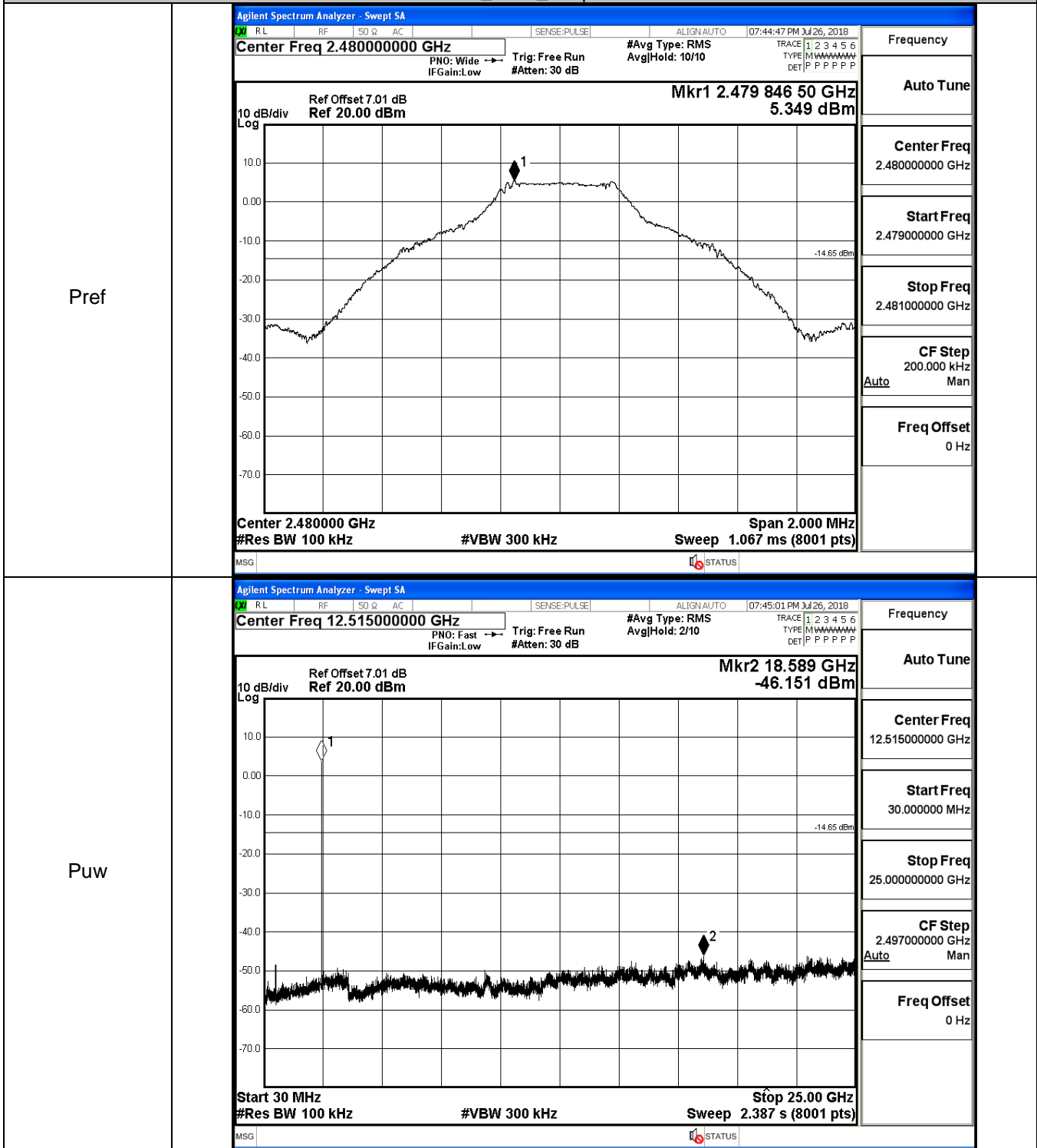
Pref



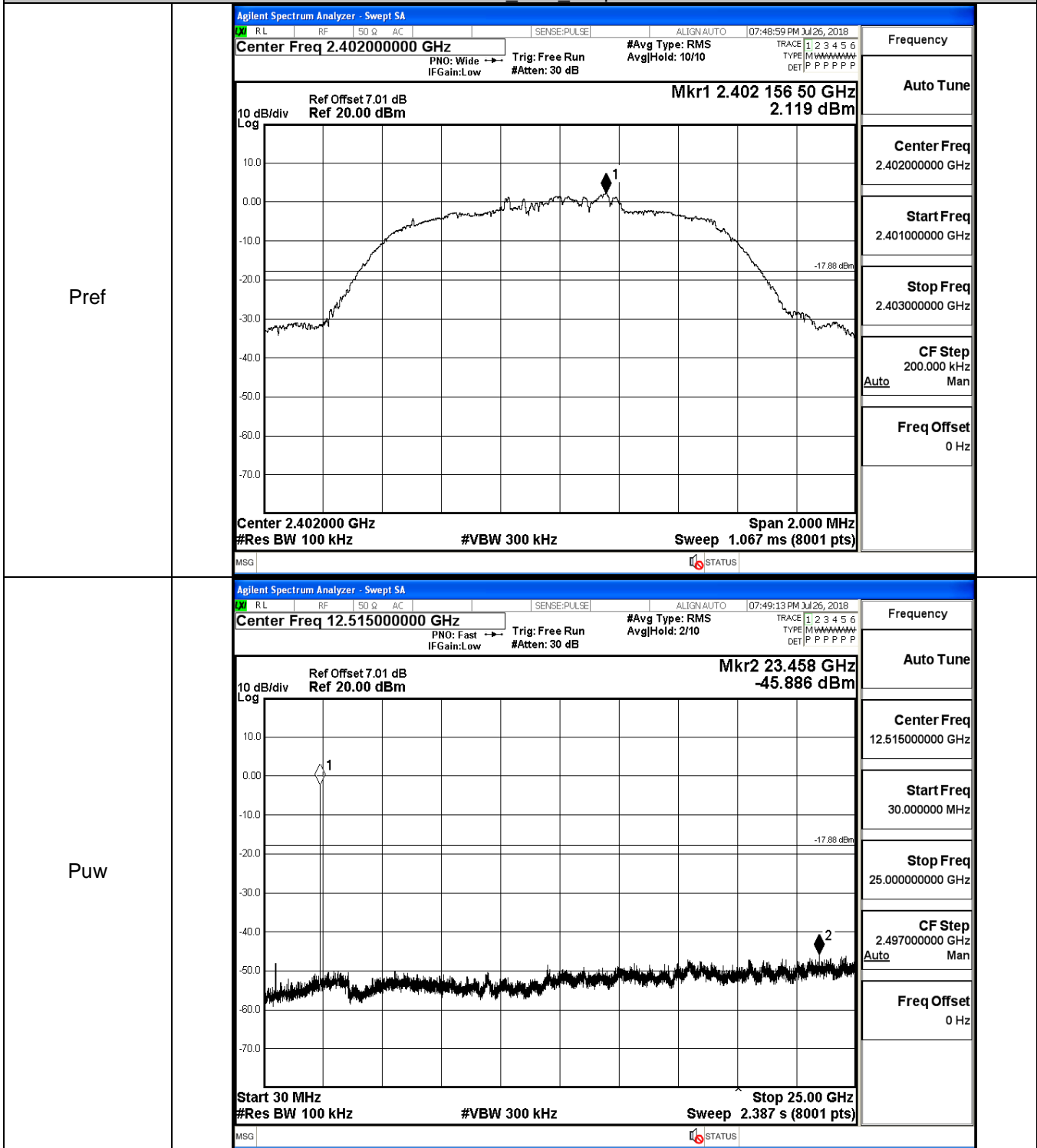
Puw



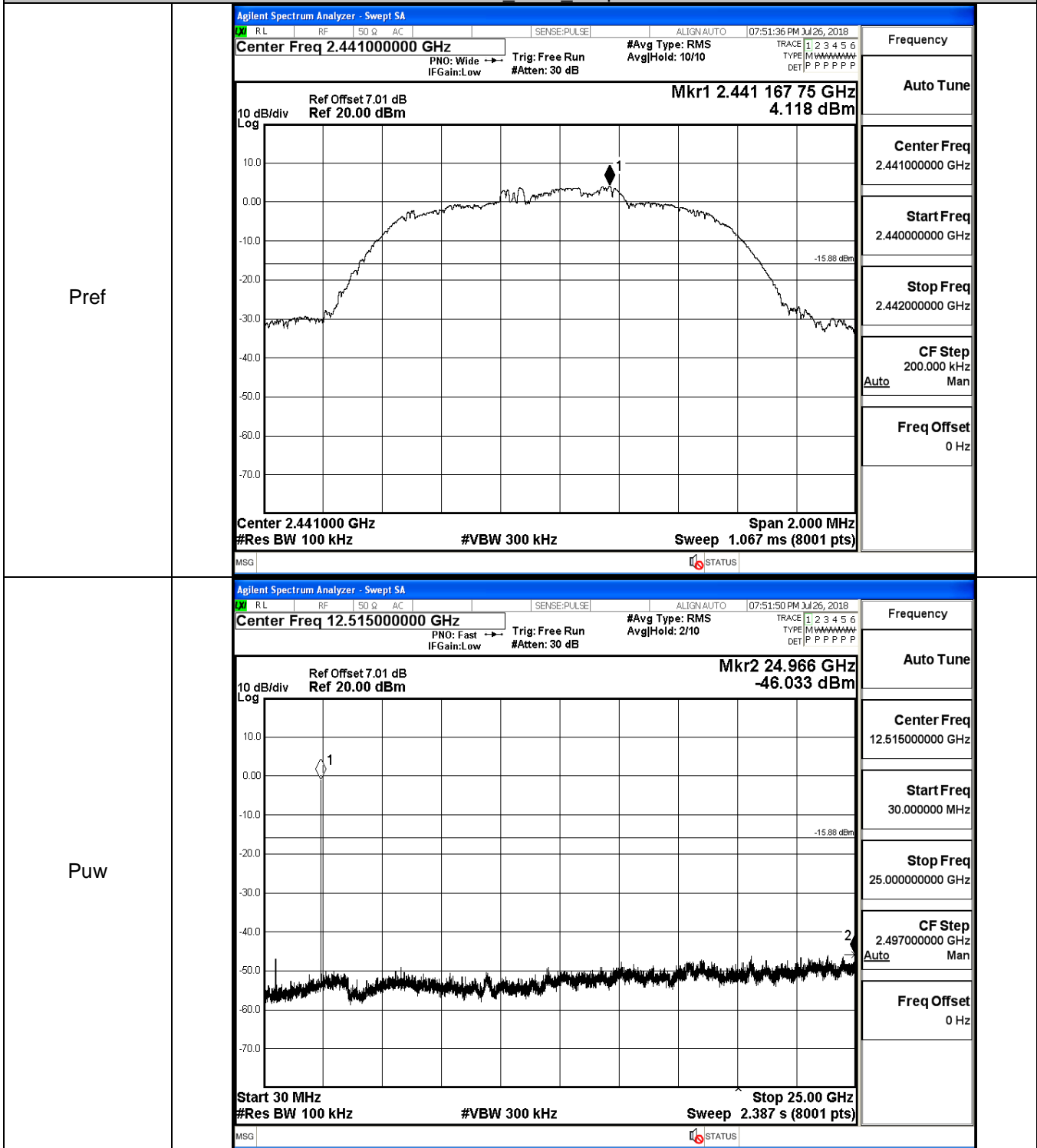
GFSK_HCH_Graphs



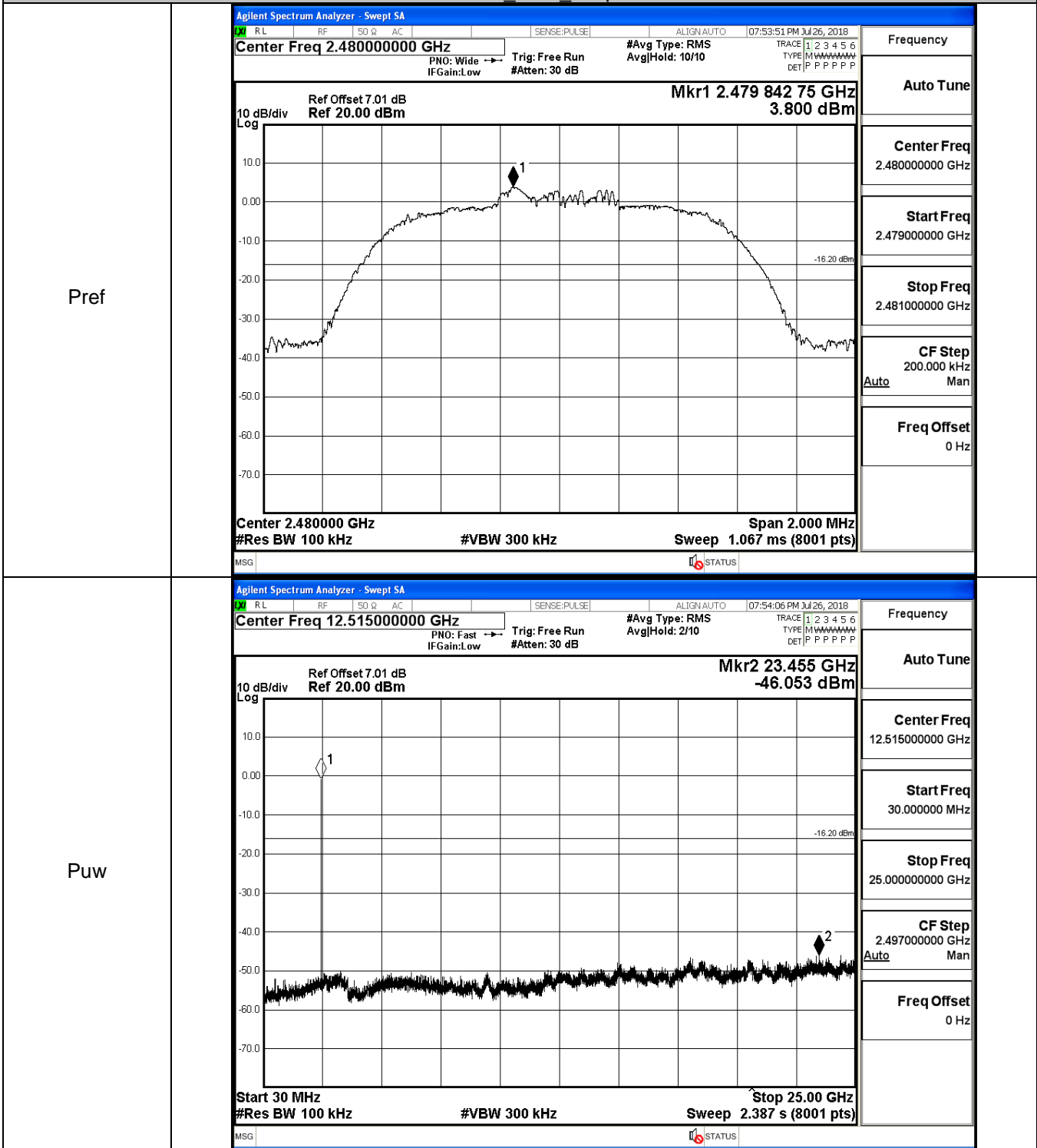
$\pi/4$ DQPSK LCH_Graphs



π /4DQPSK_MCH_Graphs

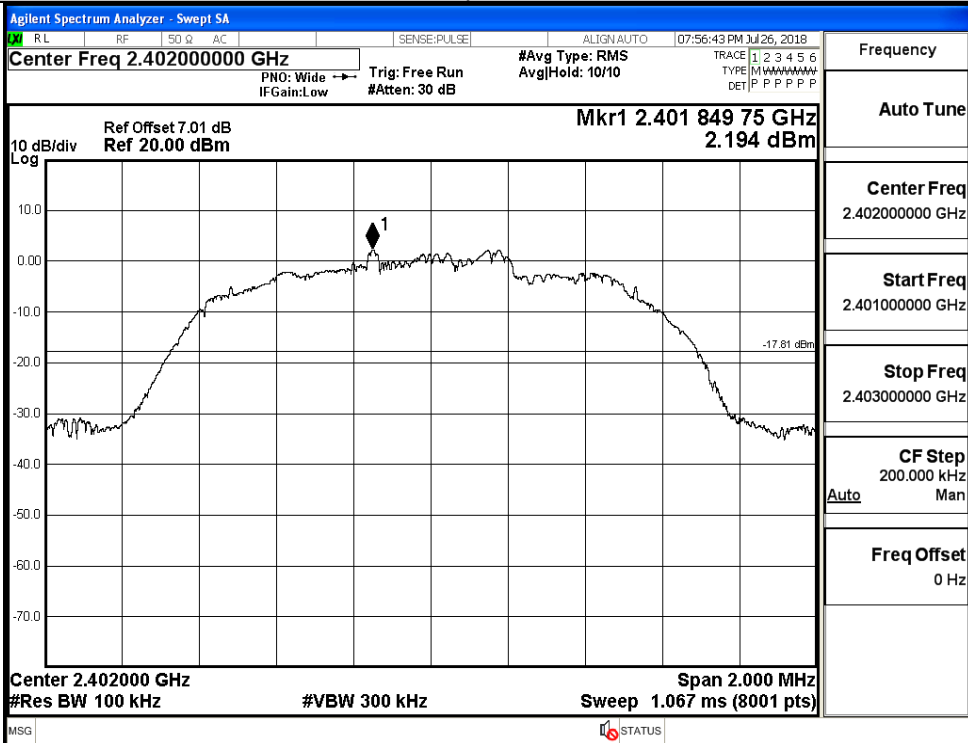


$\pi/4$ DQPSK_HCH_Graphs

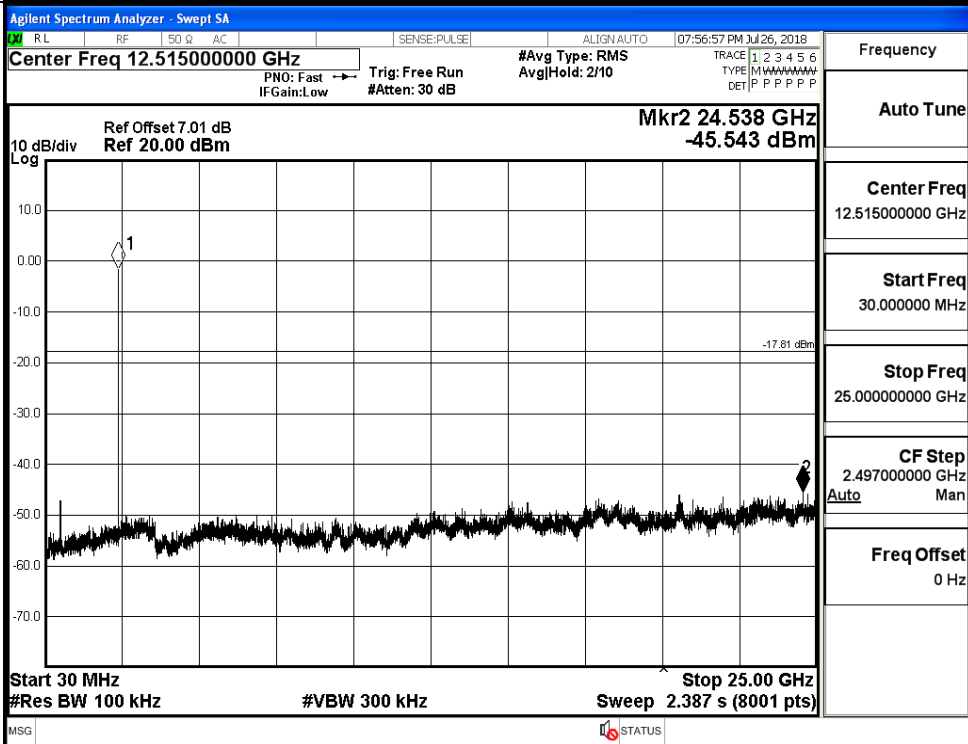


8DPSK_LCH_Graphs

Pref

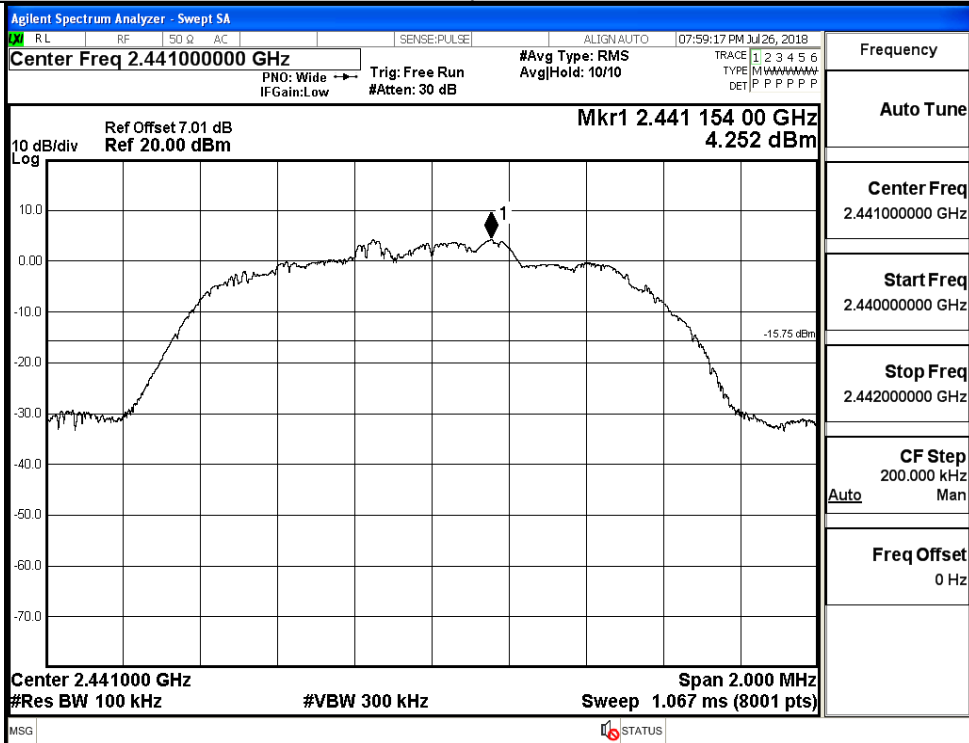


Puw

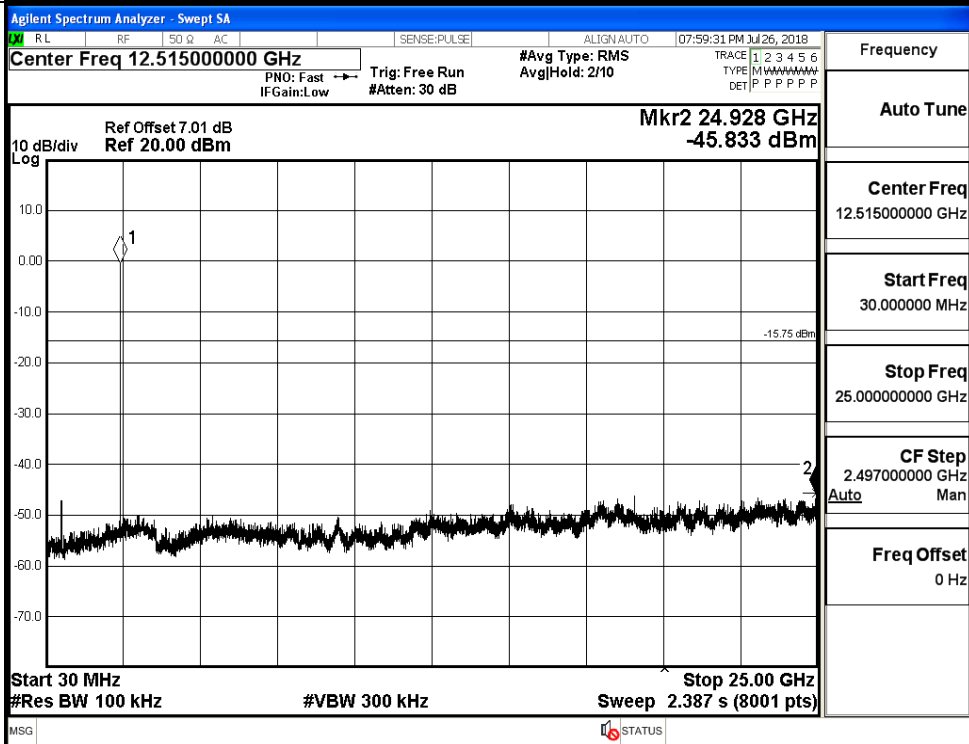


8DPSK_MCH_Graphs

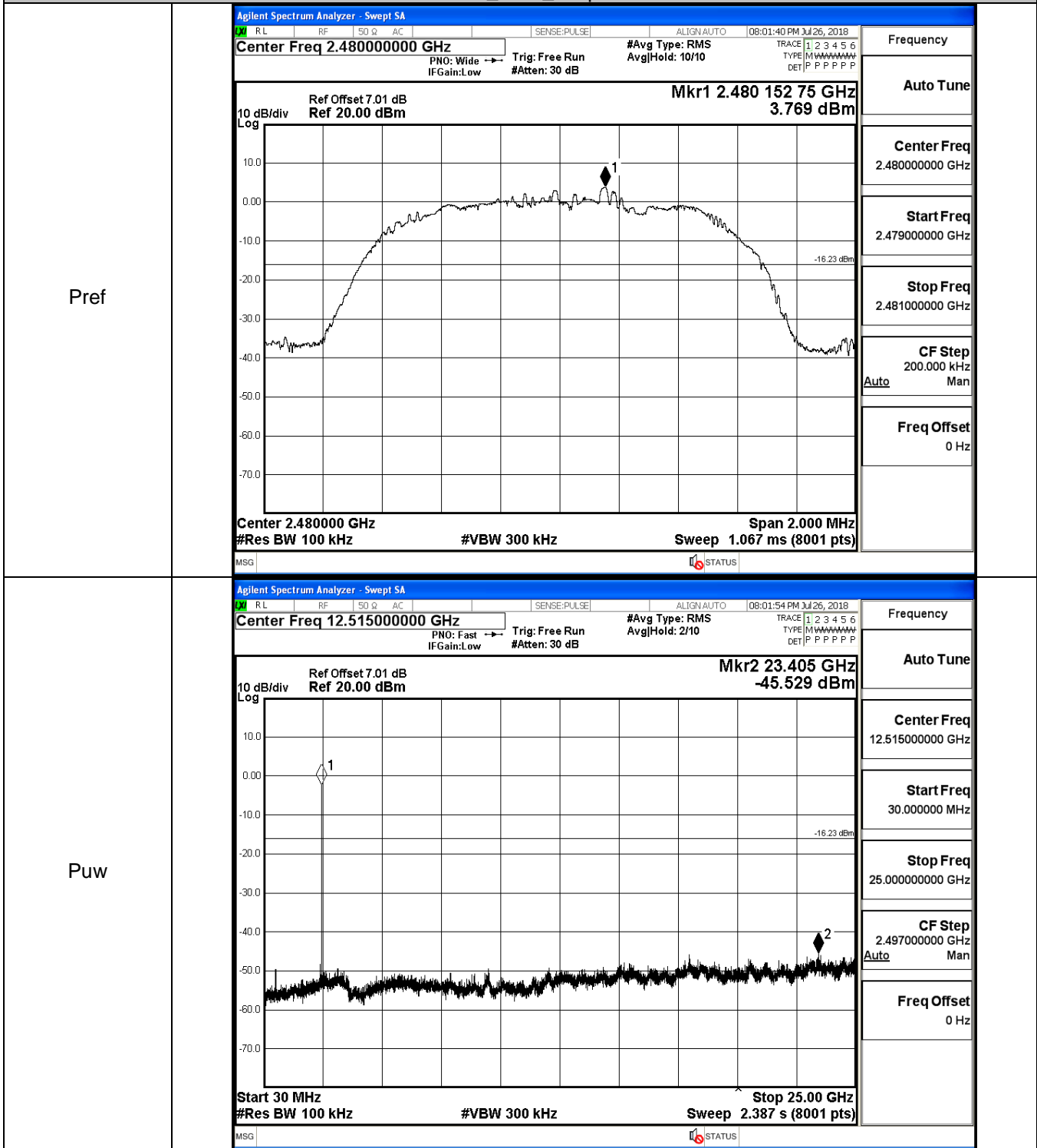
Pref



Puw



8DPSK_HCH_Graphs

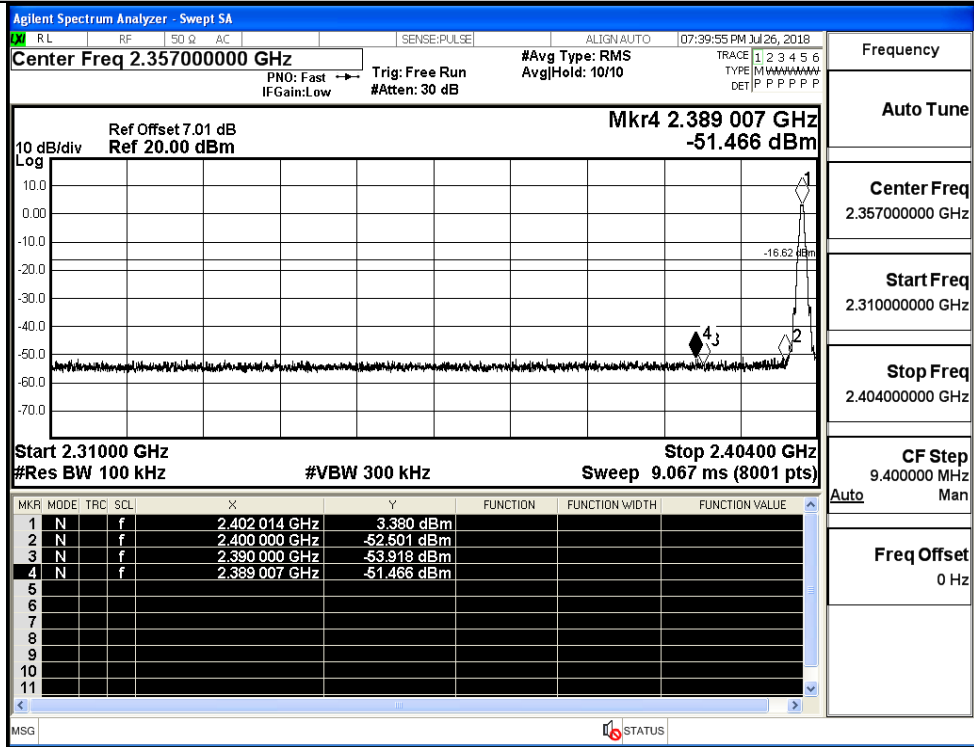


A.7 Band-edge for RF Conducted Emissions

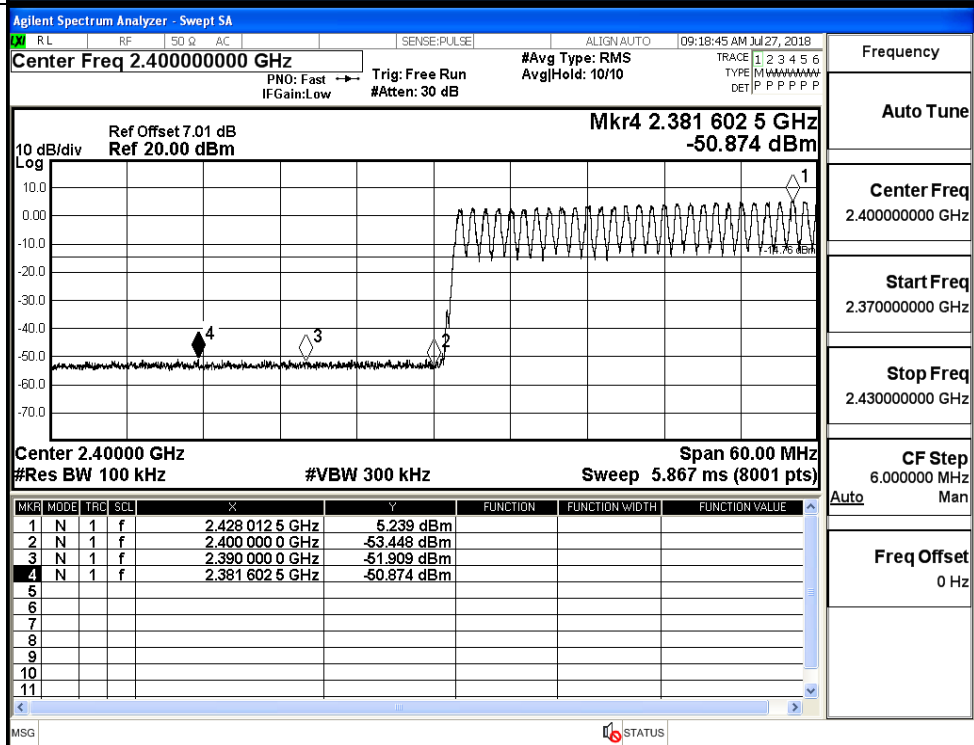
| Mode | Channel | Carrier Frequency [MHz] | Carrier Power [dBm] | Frequency Hopping | Max Spurious Level [dBm] | Limit [dBm] | Verdict |
|---------------|---------|-------------------------|---------------------|-------------------|--------------------------|-------------|---------|
| GFSK | LCH | 2402 | 3.380 | Off | -51.466 | -16.62 | PASS |
| | | | 5.239 | On | -50.874 | -14.76 | PASS |
| | HCH | 2480 | 5.367 | Off | -50.422 | -14.63 | PASS |
| | | | 5.025 | On | -50.735 | -14.98 | PASS |
| $\pi/4$ DQPSK | LCH | 2402 | 2.247 | Off | -51.229 | -17.75 | PASS |
| | | | 3.602 | On | -50.481 | -16.4 | PASS |
| | HCH | 2480 | 3.817 | Off | -50.518 | -16.18 | PASS |
| | | | 3.495 | On | -50.038 | -16.51 | PASS |
| 8DPSK | LCH | 2402 | 1.815 | Off | -50.719 | -18.19 | PASS |
| | | | 3.879 | On | -49.983 | -16.12 | PASS |
| | HCH | 2480 | 3.816 | Off | -51.177 | -16.18 | PASS |
| | | | 3.522 | On | -50.150 | -16.48 | PASS |

Test Graphs

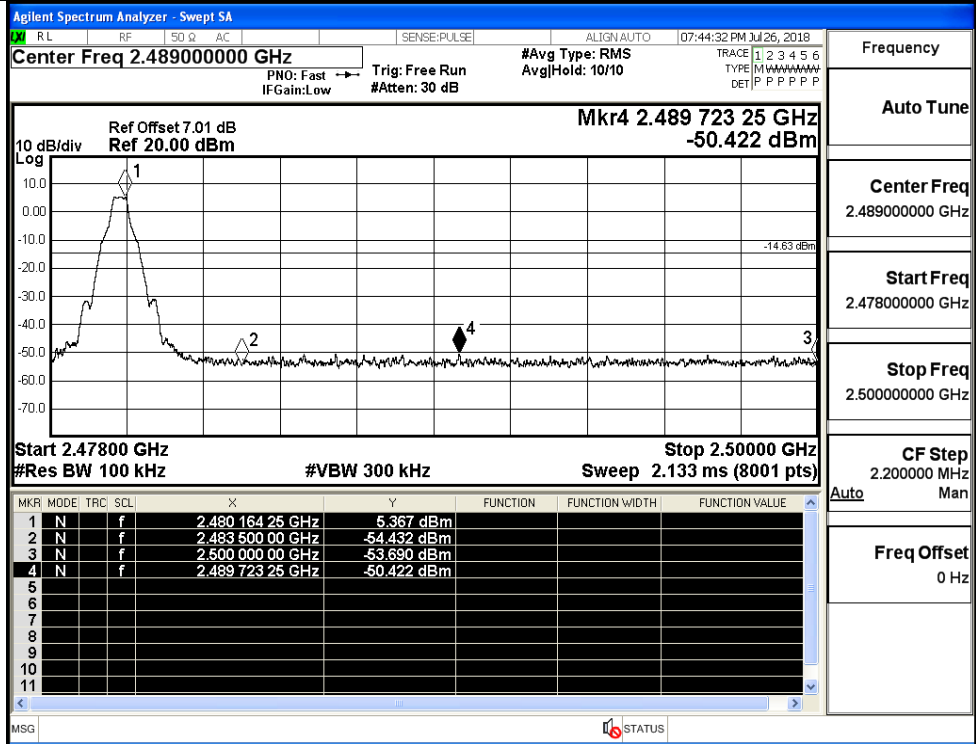
GFSK/LCH/No Hop



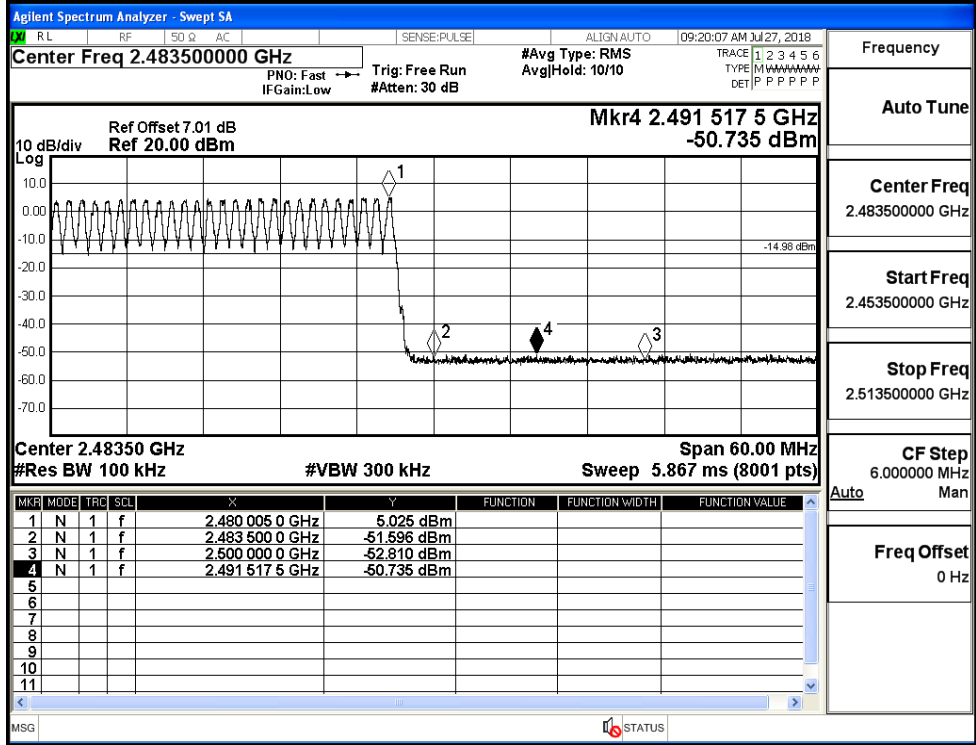
GFSK/LCH/Hop



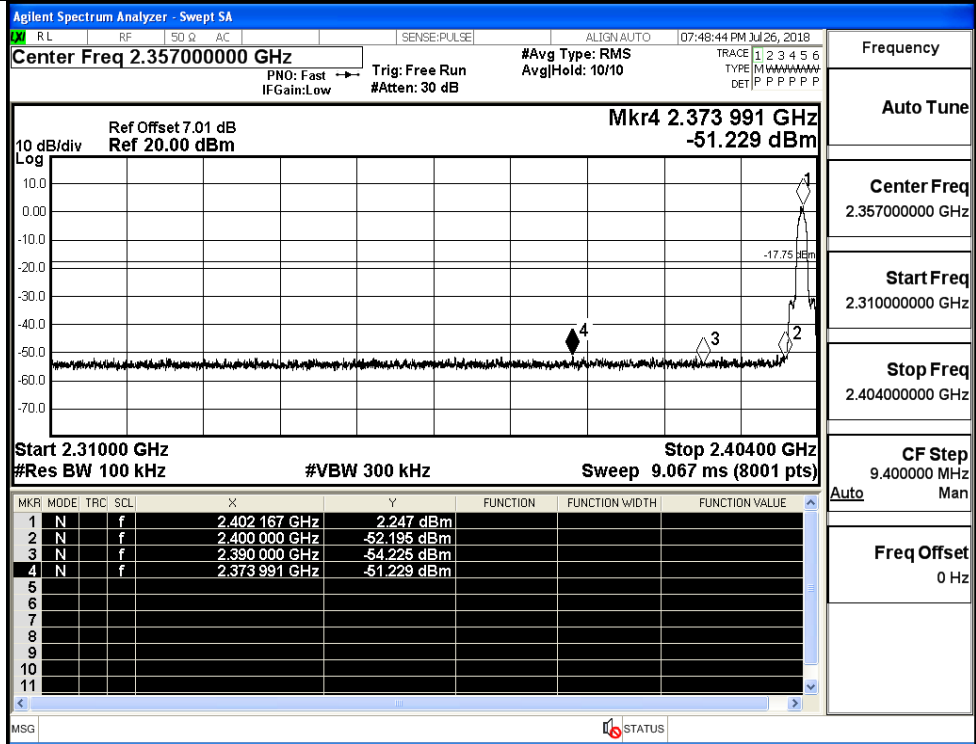
GFSK/HCH/No Hop



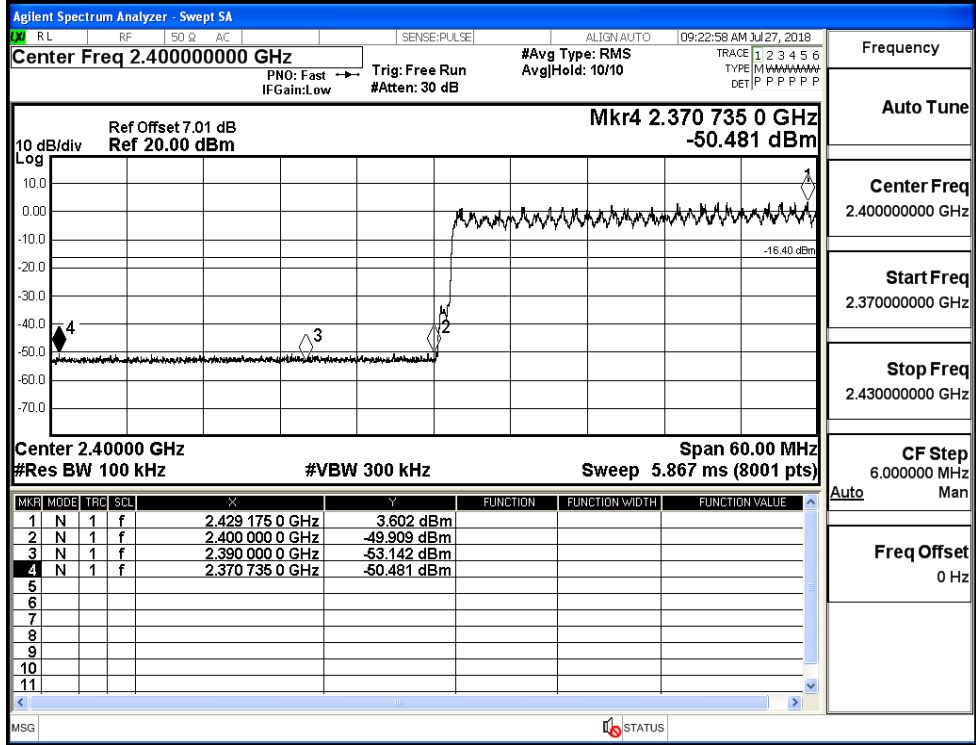
GFSK/HCH/Hop



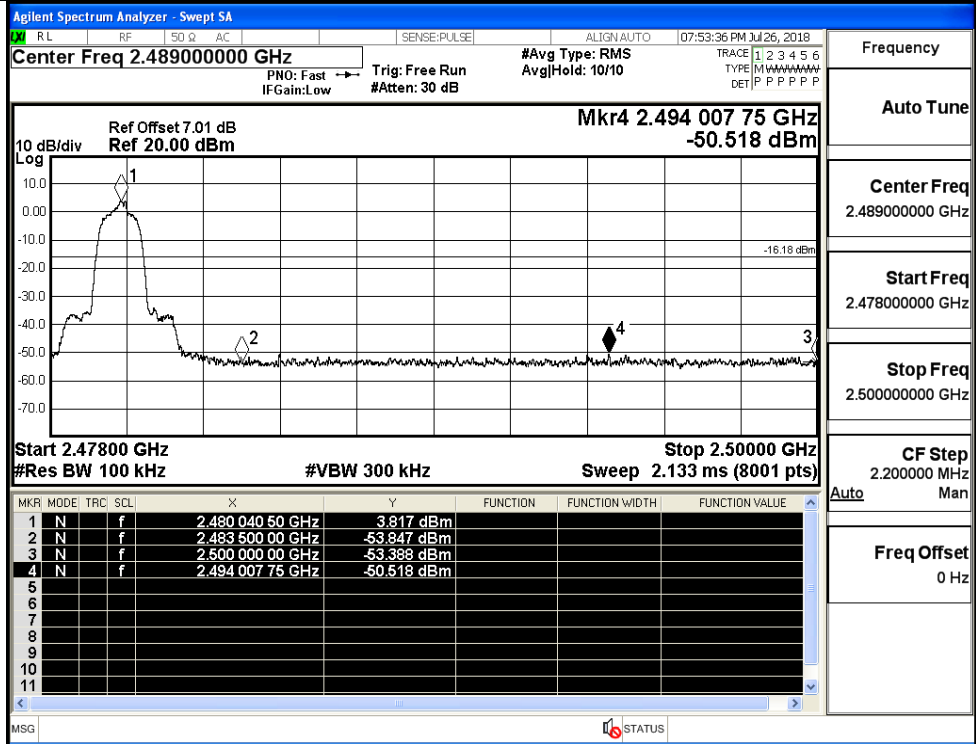
$\pi/4$ DQPSK/LCH/No
Hop



$\pi/4$ DQPSK/LCH/Hop

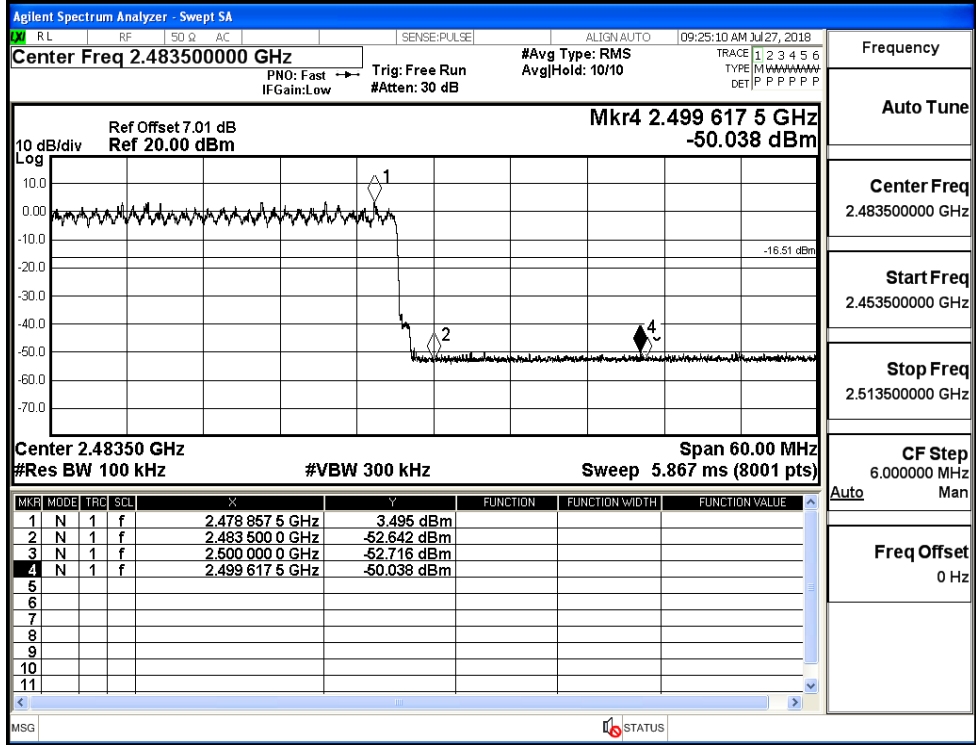


$\pi/4$ DQPSK/HCH/No Hop



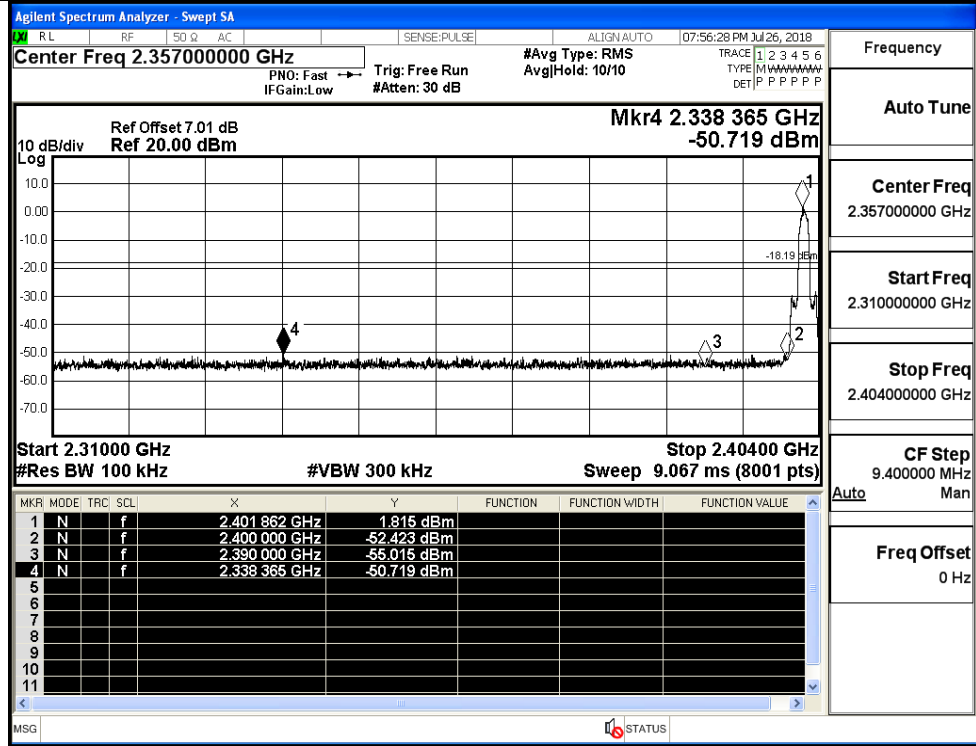
| | |
|-------------|-----------------|
| Frequency | |
| Auto Tune | |
| Center Freq | 2.489000000 GHz |
| Start Freq | 2.478000000 GHz |
| Stop Freq | 2.500000000 GHz |
| CF Step | 2.200000 MHz |
| Auto | Man |
| Freq Offset | 0 Hz |

$\pi/4$ 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 |
| Auto | Man |
| Freq Offset | 0 Hz |

8DPSK/LCH/No Hop



Frequency

Auto Tune

Center Freq
2.357000000 GHz

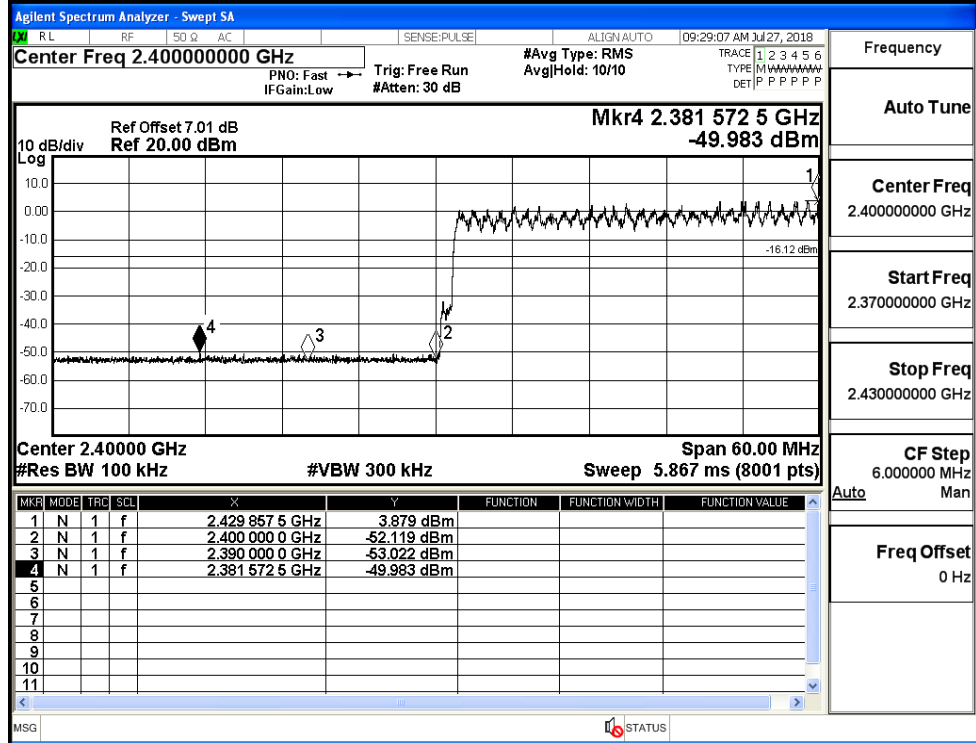
Start Freq
2.310000000 GHz

Stop Freq
2.404000000 GHz

CF Step
9.400000 MHz

Freq Offset
0 Hz

8DPSK/LCH/Hop



Frequency

Auto Tune

Center Freq
2.400000000 GHz

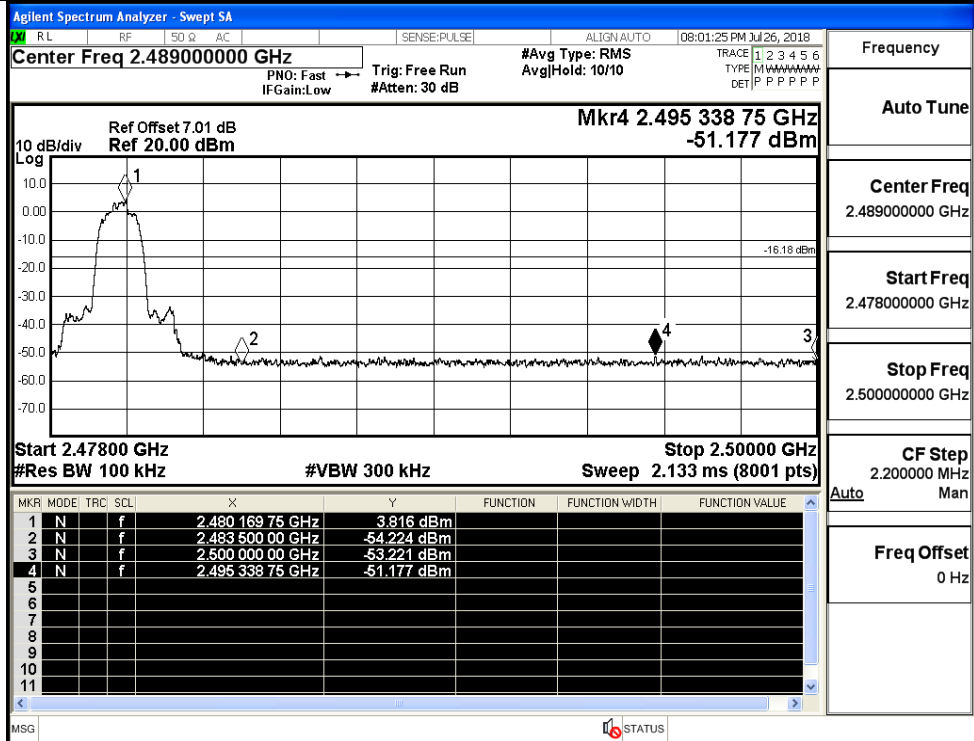
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

CF Step
6.000000 MHz

Freq Offset
0 Hz

8DPSK/HCH/No Hop



Frequency

Auto Tune

Center Freq
2.489000000 GHz

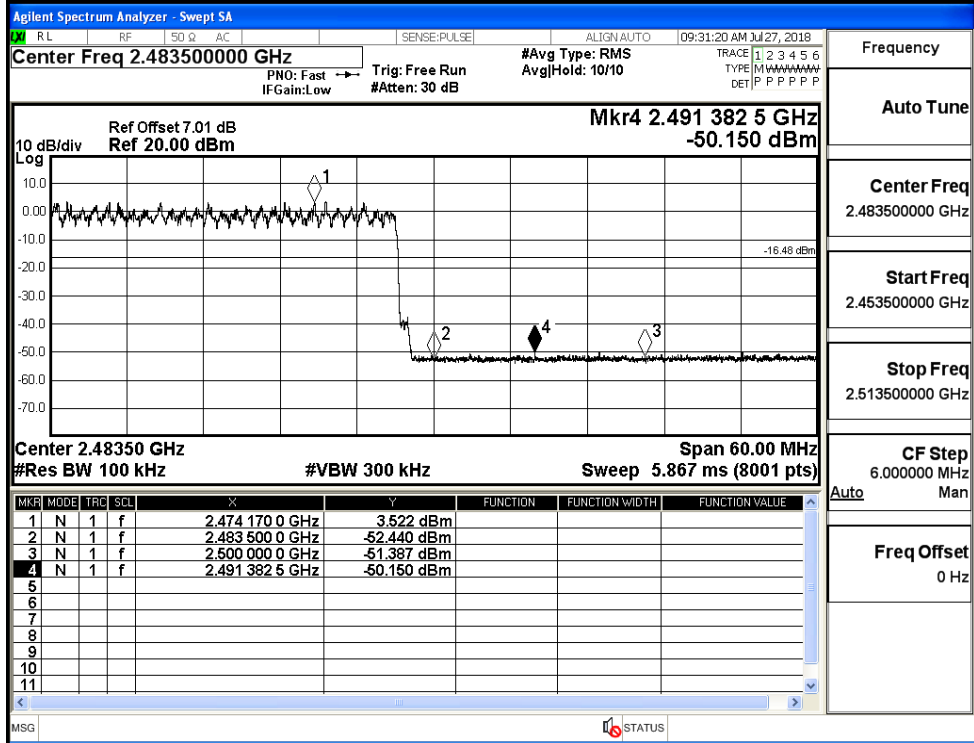
Start Freq
2.478000000 GHz

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

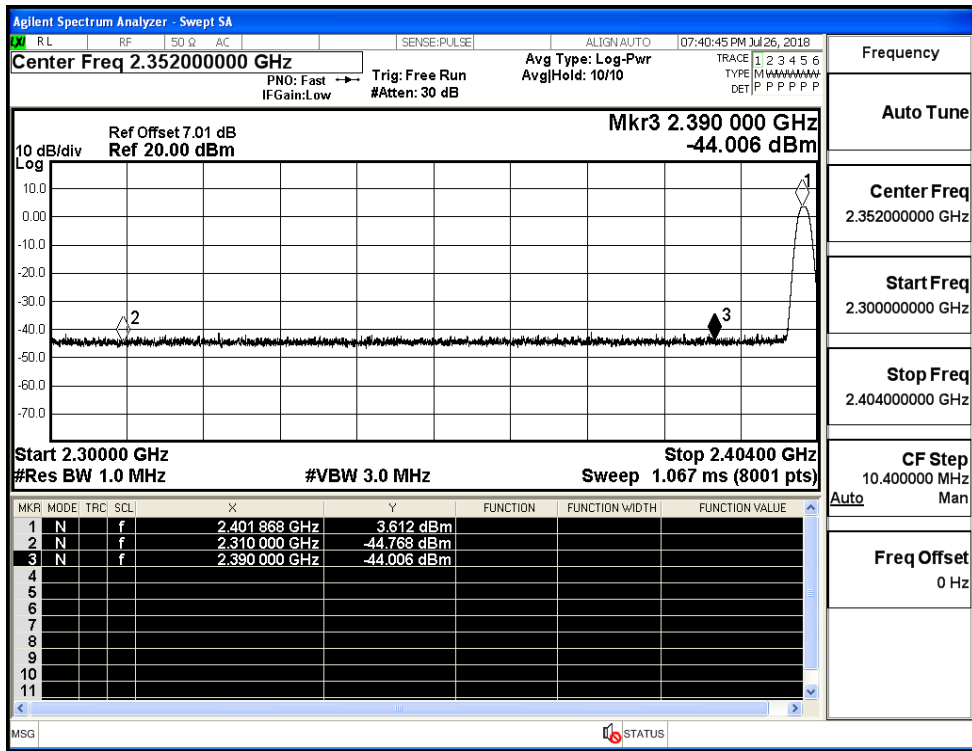
CF Step
6.000000 MHz

Freq Offset
0 Hz

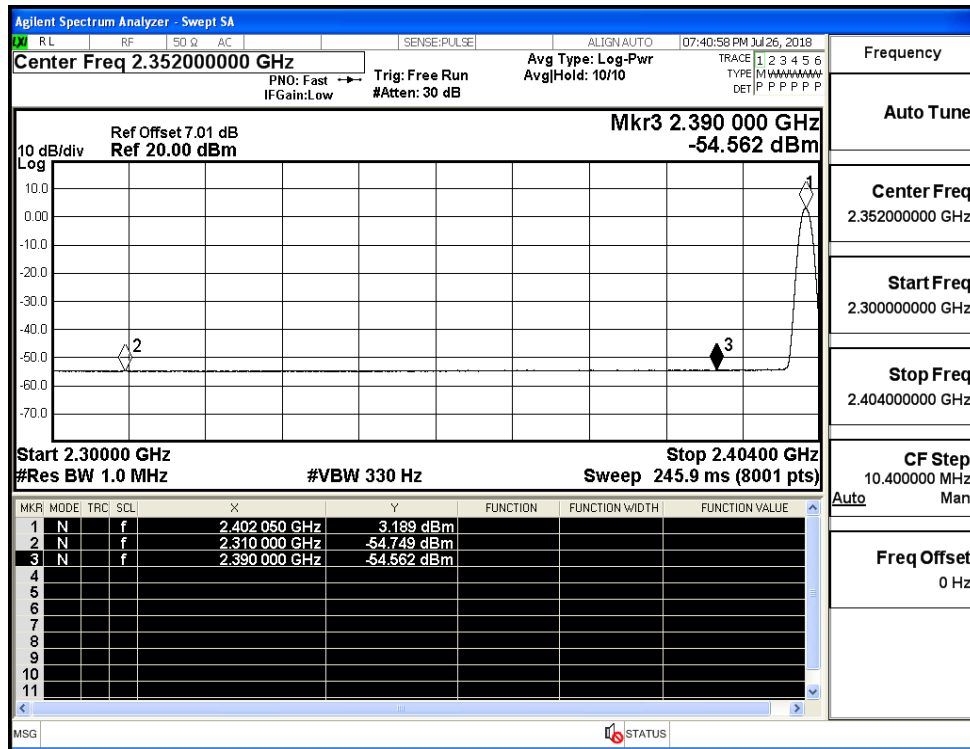
A.8 Restrict-band band-edge measurements

| Test Mode | Hopping | Freq. | Power [dBm] | Gain | Ground Factor | E [dBuV/m] | Detector | Limit [dBuV/m] | Verdict |
|---------------|---------|--------|-------------|------|---------------|------------|----------|----------------|---------|
| GFSK | Off | 2310.0 | -44.77 | 2.0 | 0 | 52.49 | PEAK | 74 | PASS |
| | Off | 2310.0 | -54.75 | 2.0 | 0 | 42.51 | AV | 54 | PASS |
| | Off | 2390.0 | -44.01 | 2.0 | 0 | 53.25 | PEAK | 74 | PASS |
| | Off | 2390.0 | -54.56 | 2.0 | 0 | 42.70 | AV | 54 | PASS |
| | Off | 2483.5 | -44.53 | 2.0 | 0 | 52.73 | PEAK | 74 | PASS |
| | Off | 2483.5 | -53.64 | 2.0 | 0 | 43.61 | AV | 54 | PASS |
| | Off | 2500.0 | -43.94 | 2.0 | 0 | 53.32 | PEAK | 74 | PASS |
| | Off | 2500.0 | -54.06 | 2.0 | 0 | 43.20 | AV | 54 | PASS |
| $\pi/4$ DQPSK | Off | 2310.0 | -43.62 | 2.0 | 0 | 53.64 | PEAK | 74 | PASS |
| | Off | 2310.0 | -54.79 | 2.0 | 0 | 42.47 | AV | 54 | PASS |
| | Off | 2390.0 | -43.90 | 2.0 | 0 | 53.36 | PEAK | 74 | PASS |
| | Off | 2390.0 | -54.35 | 2.0 | 0 | 42.91 | AV | 54 | PASS |
| | Off | 2483.5 | -44.16 | 2.0 | 0 | 53.10 | PEAK | 74 | PASS |
| | Off | 2483.5 | -53.74 | 2.0 | 0 | 43.52 | AV | 54 | PASS |
| | Off | 2500.0 | -43.99 | 2.0 | 0 | 53.27 | PEAK | 74 | PASS |
| | Off | 2500.0 | -54.03 | 2.0 | 0 | 43.23 | AV | 54 | PASS |
| 8DPSK | Off | 2310.0 | -43.72 | 2.0 | 0 | 53.54 | PEAK | 74 | PASS |
| | Off | 2310.0 | -54.74 | 2.0 | 0 | 42.52 | AV | 54 | PASS |
| | Off | 2390.0 | -43.38 | 2.0 | 0 | 53.88 | PEAK | 74 | PASS |
| | Off | 2390.0 | -54.43 | 2.0 | 0 | 42.83 | AV | 54 | PASS |
| | Off | 2483.5 | -43.65 | 2.0 | 0 | 53.60 | PEAK | 74 | PASS |
| | Off | 2483.5 | -53.75 | 2.0 | 0 | 43.51 | AV | 54 | PASS |
| | Off | 2500.0 | -44.77 | 2.0 | 0 | 52.49 | PEAK | 74 | PASS |
| | Off | 2500.0 | -54.12 | 2.0 | 0 | 43.14 | AV | 54 | PASS |

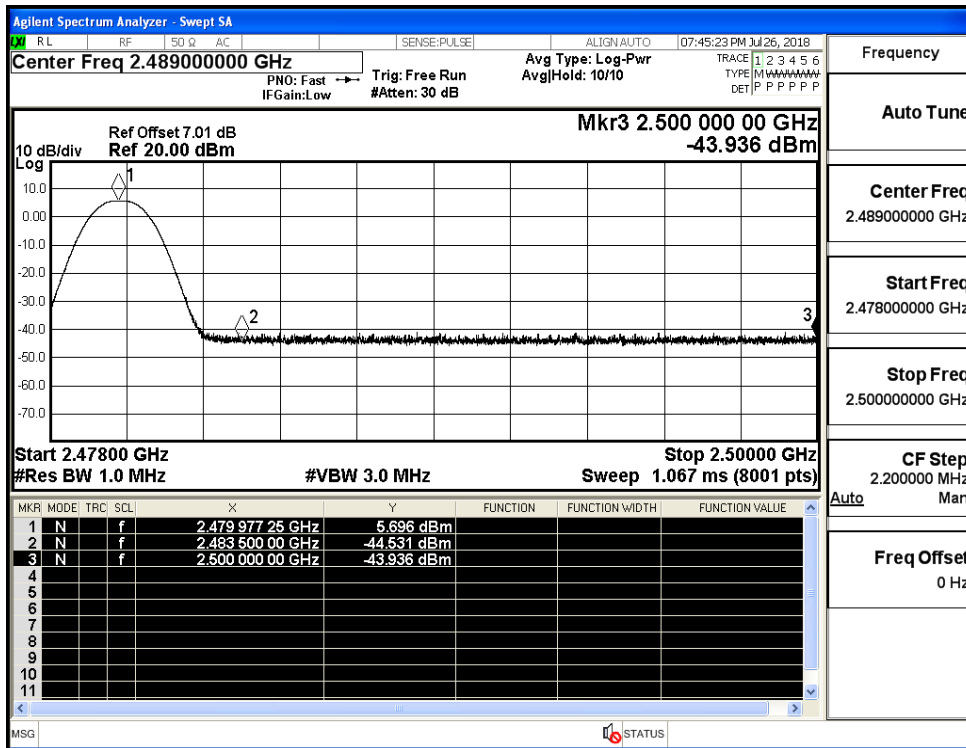
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



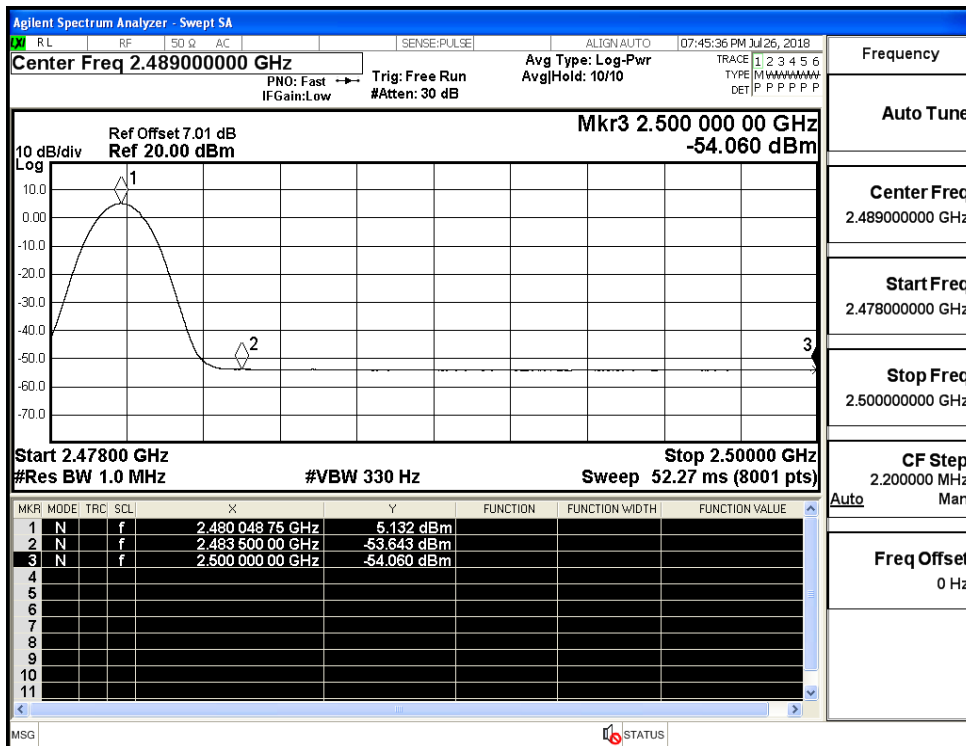
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



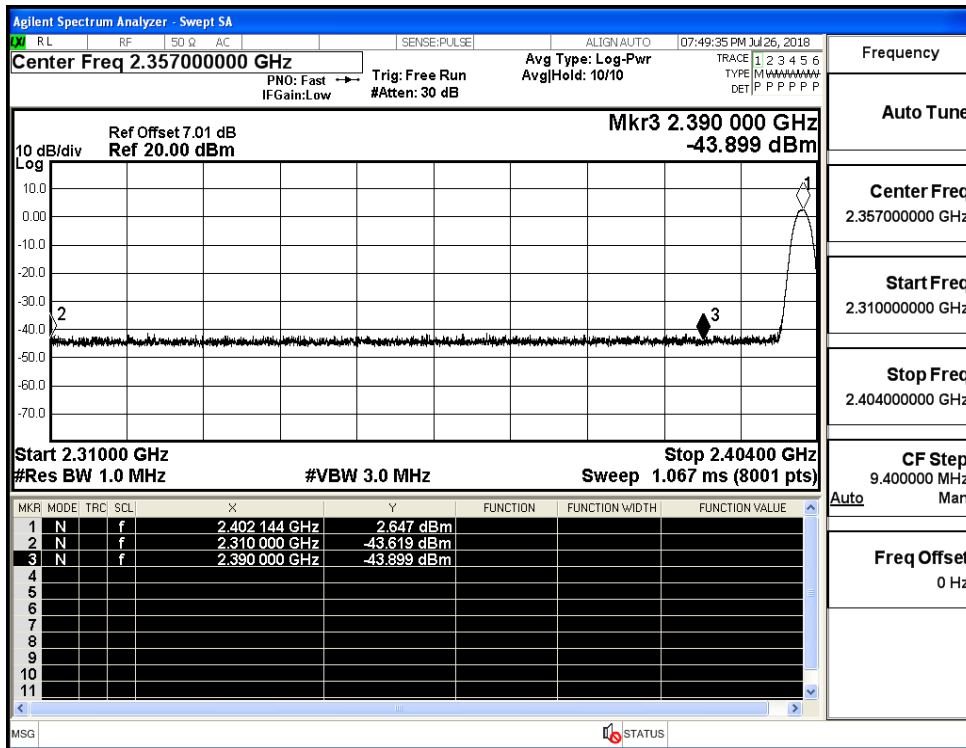
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



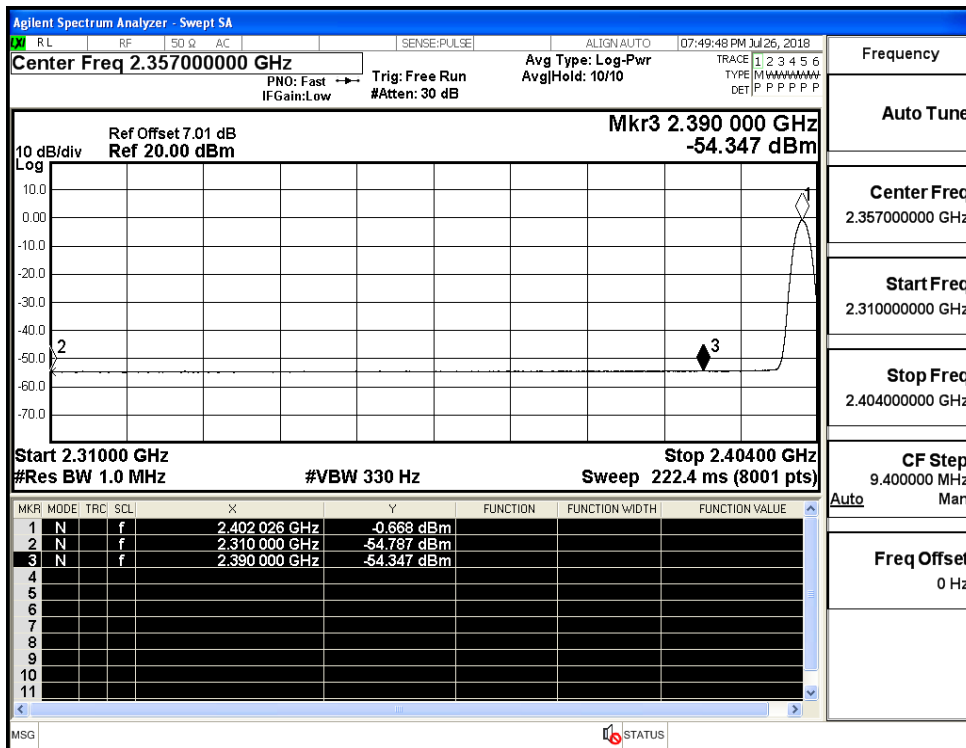
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



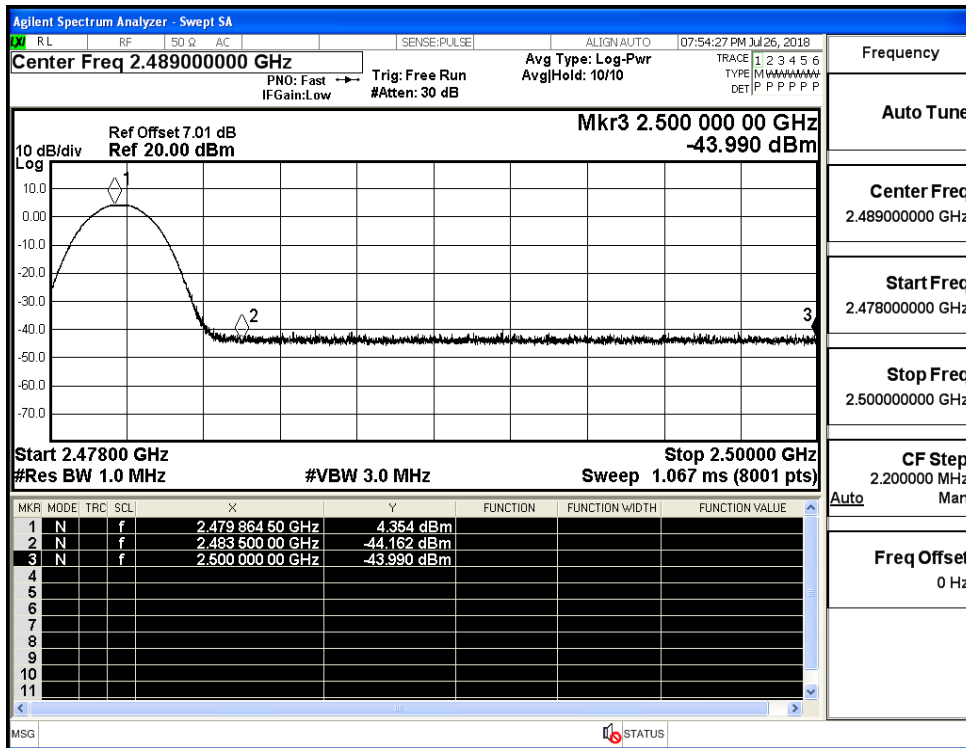
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)



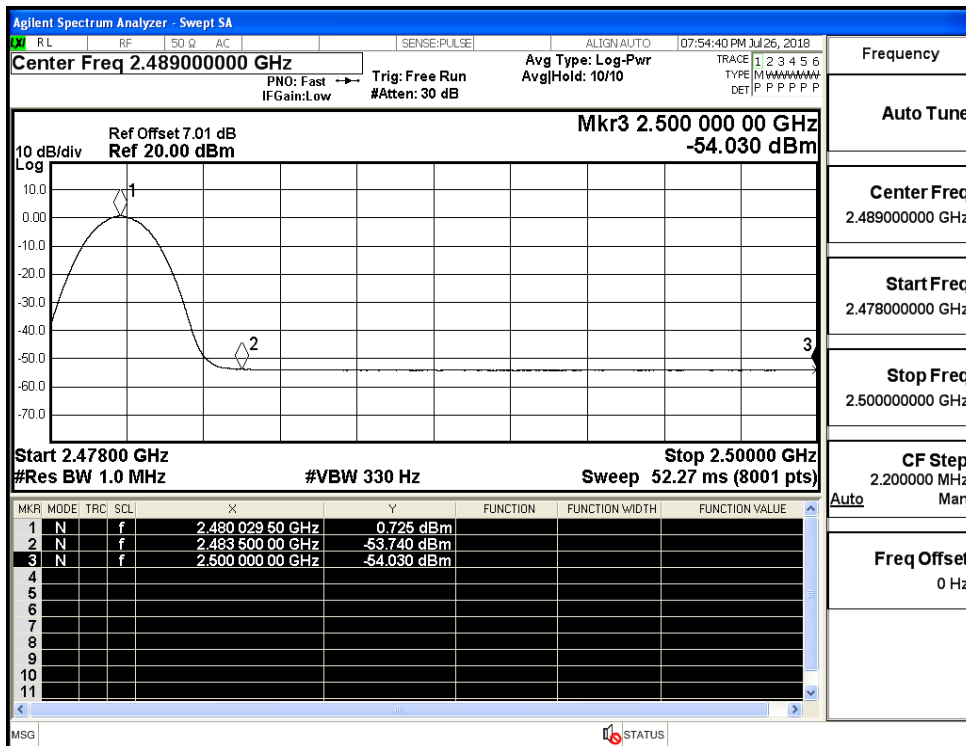
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)



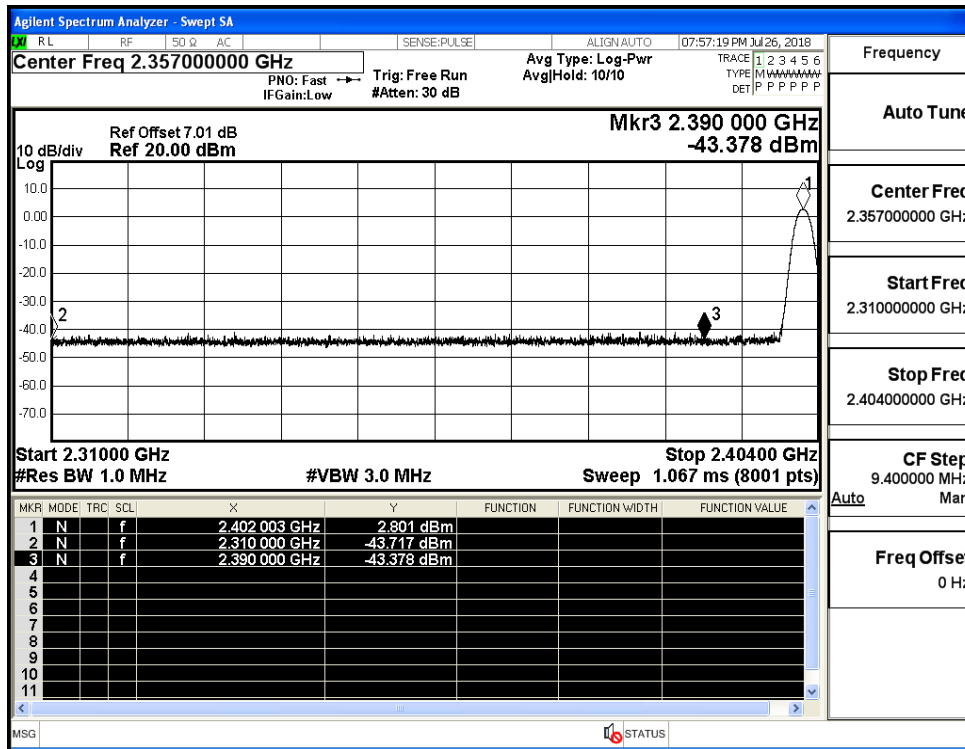
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (High Channel)



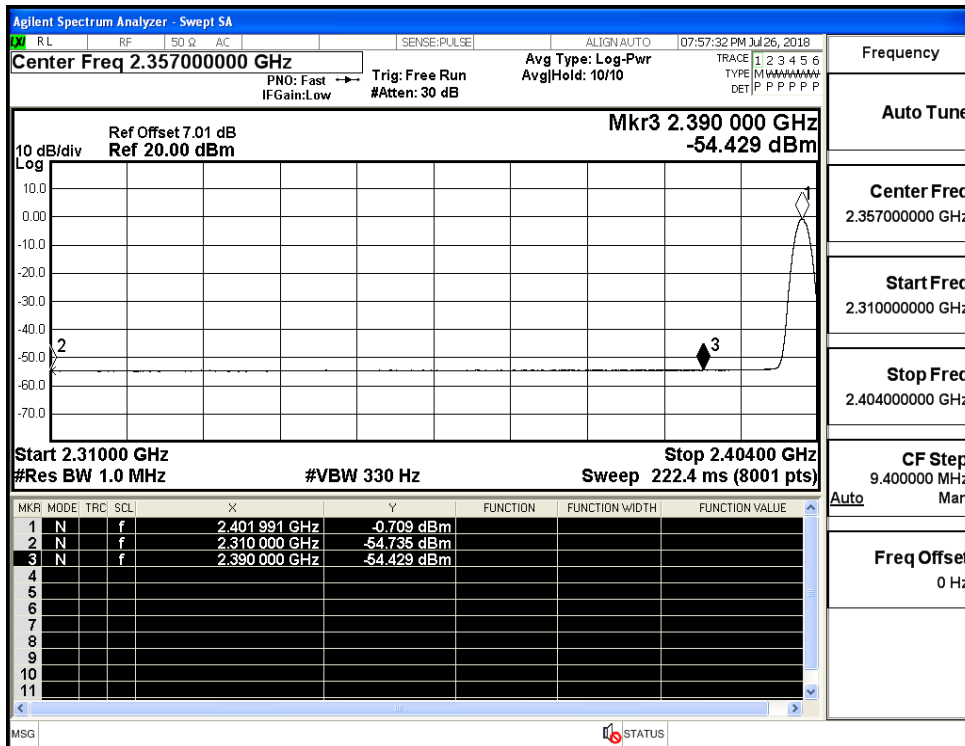
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (High Channel)



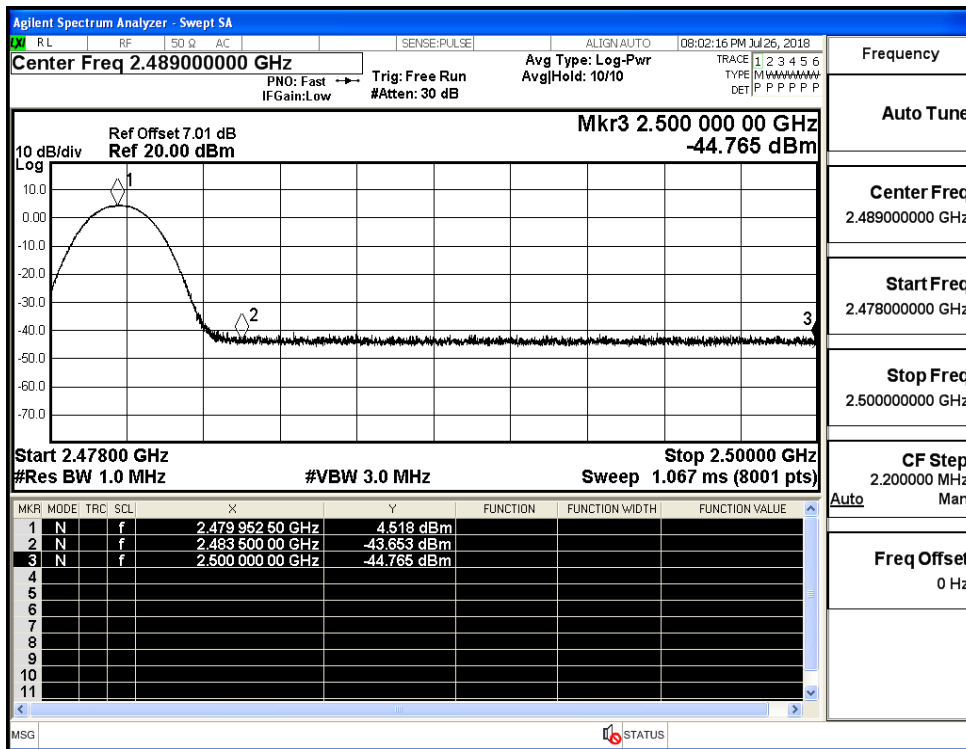
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

