

## Appendix A

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

**Product Name: Tablet PC**

**Trade Mark: Acer**

**Test Model: Acer One 7 4G**

#### Environmental Conditions

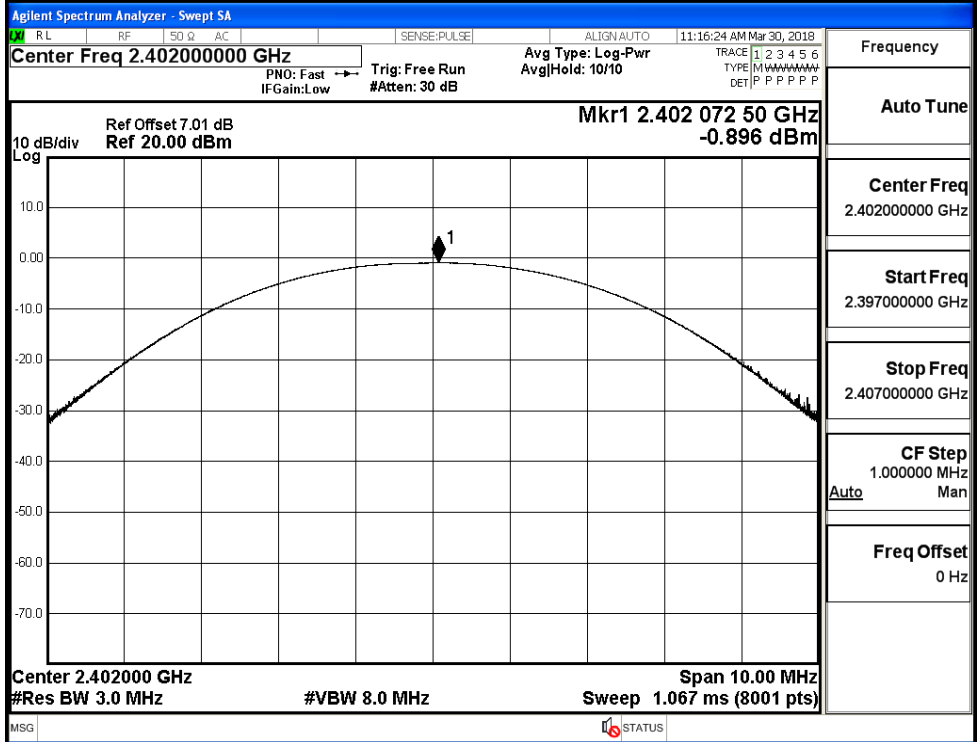
Temperature:	22.3 ° C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	WILSON HONG
Supervised by:	Dick.Su

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

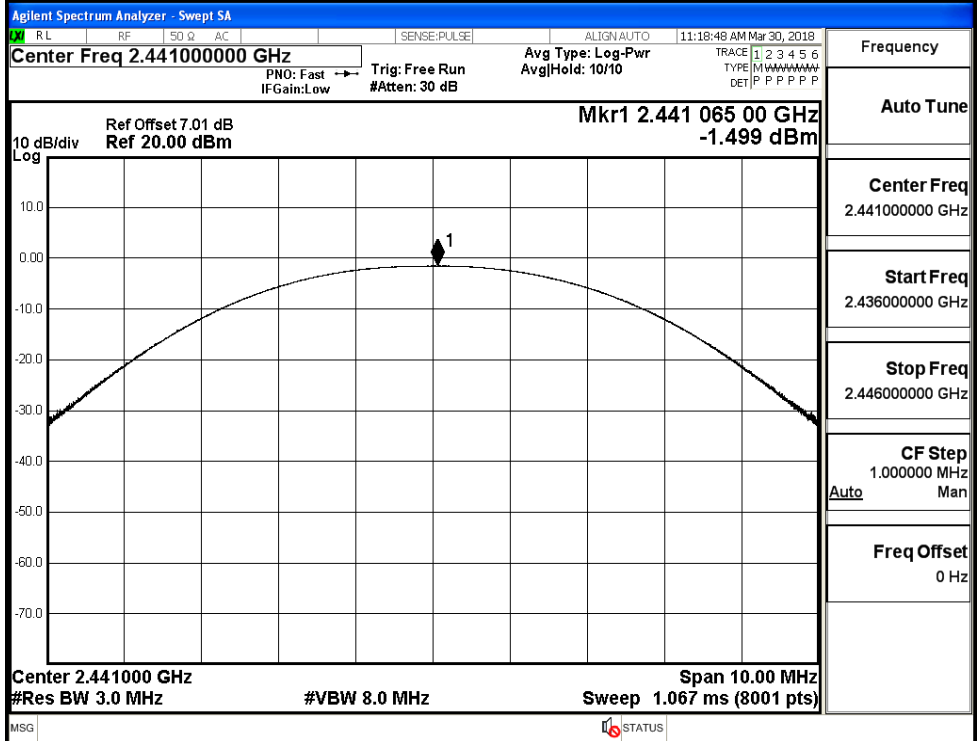
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.896	30	PASS
	MCH	-1.499	30	PASS
	HCH	-3.553	30	PASS
π/4DQPSK	LCH	-1.576	21	PASS
	MCH	-2.092	21	PASS
	HCH	-4.210	21	PASS
8DPSK	LCH	-1.380	21	PASS
	MCH	-1.912	21	PASS
	HCH	-4.006	21	PASS

Test Graphs

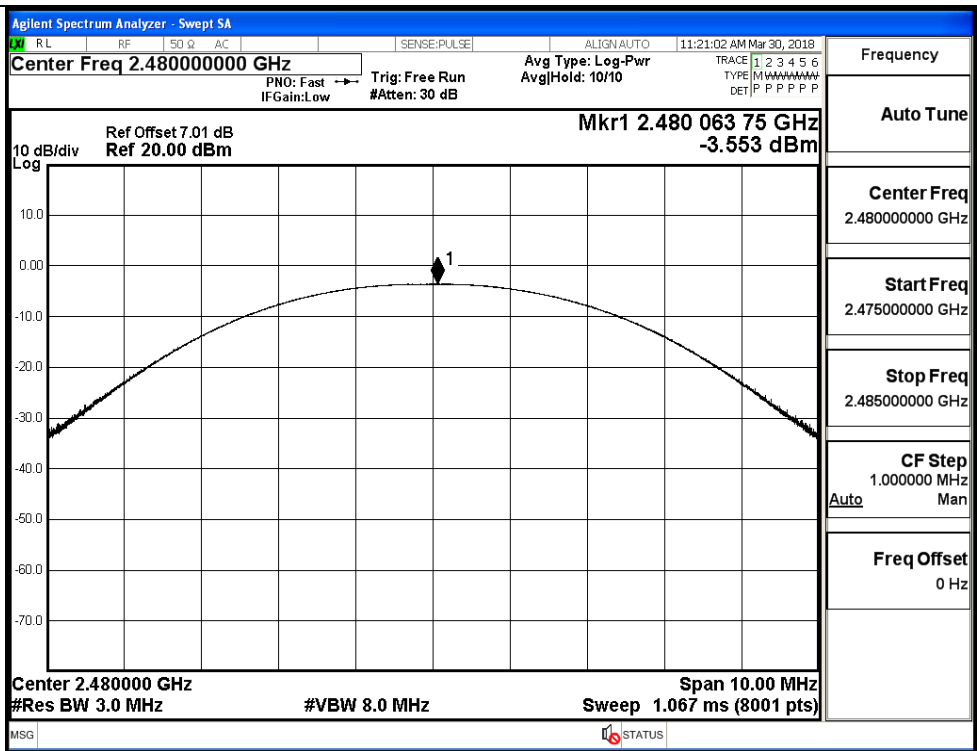
GFSK/LCH



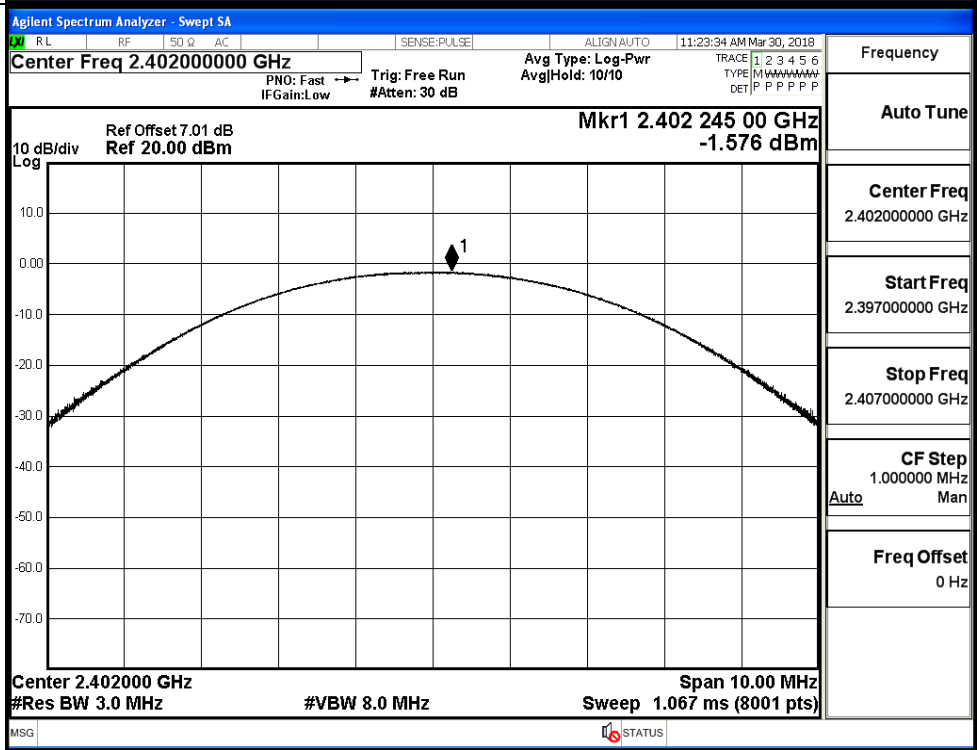
GFSK/MCH



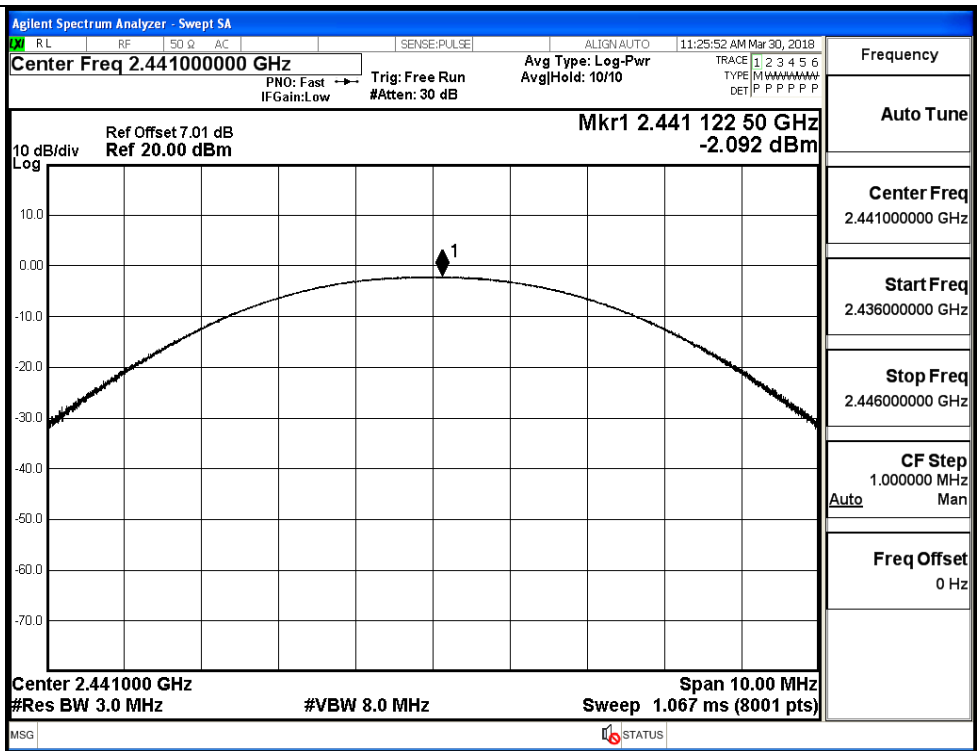
GFSK/HCH



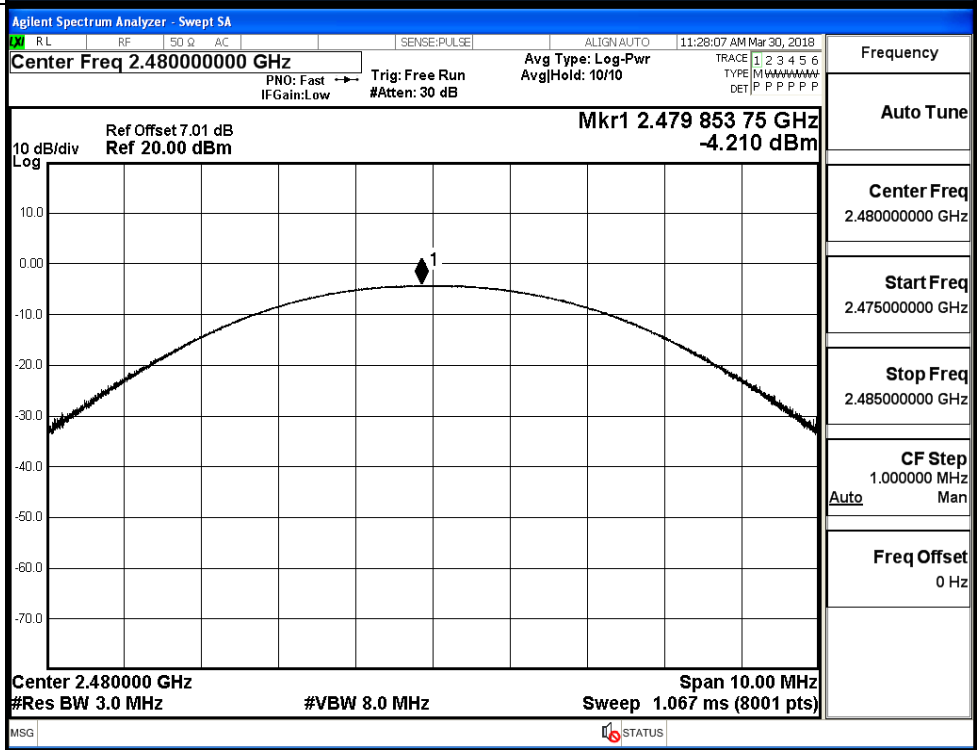
$\pi$ /4DQPSK/LCH



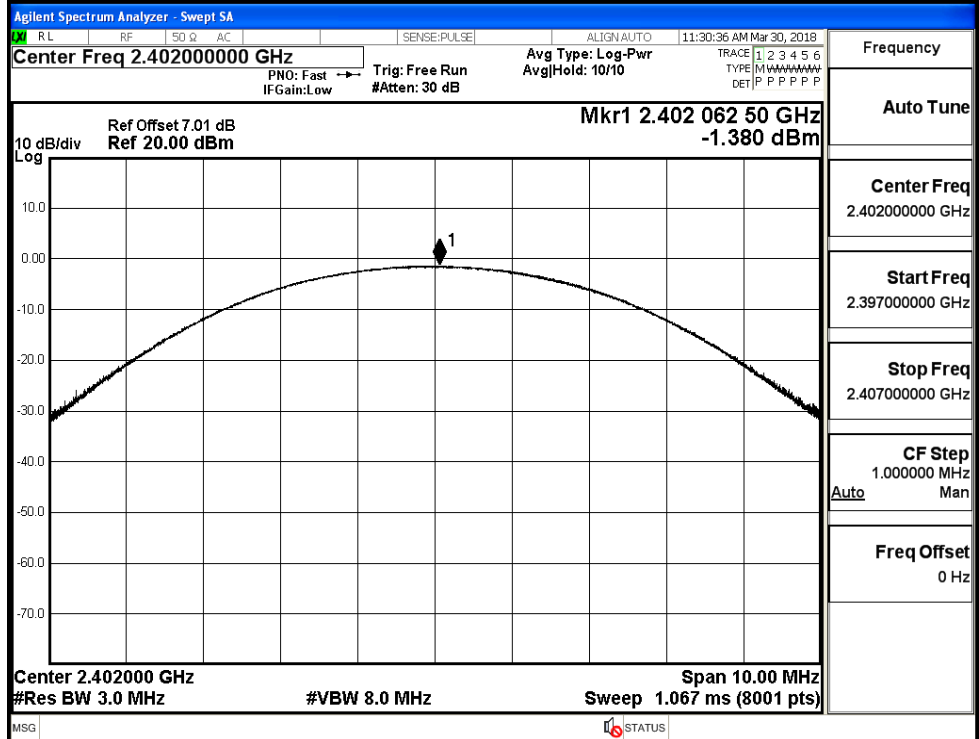
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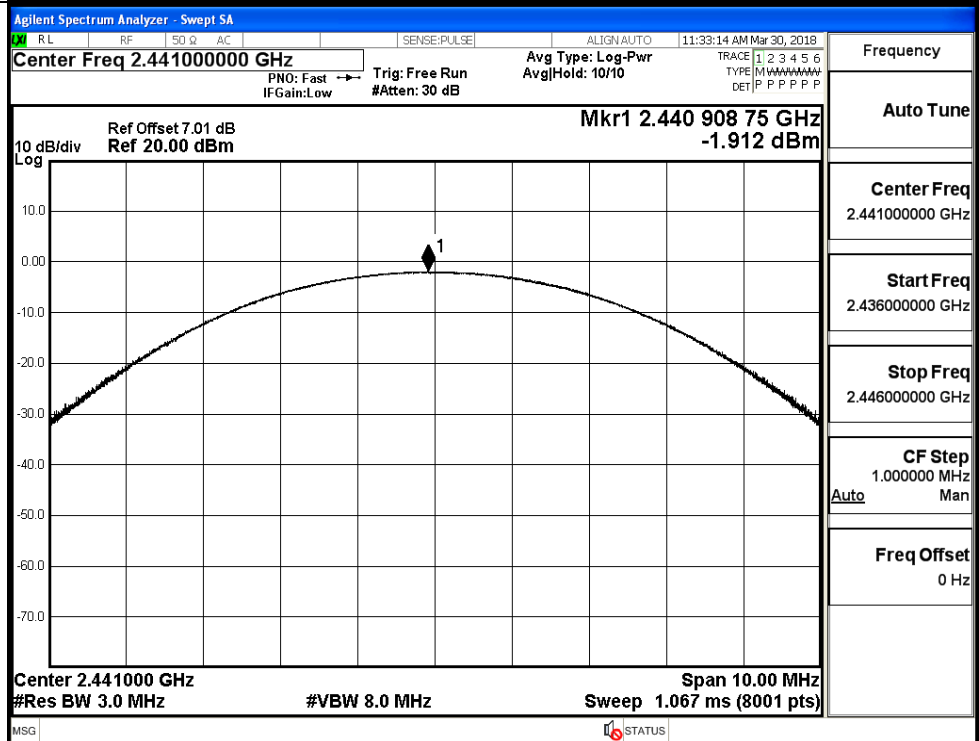
$\pi$ /4DQPSK/HCH



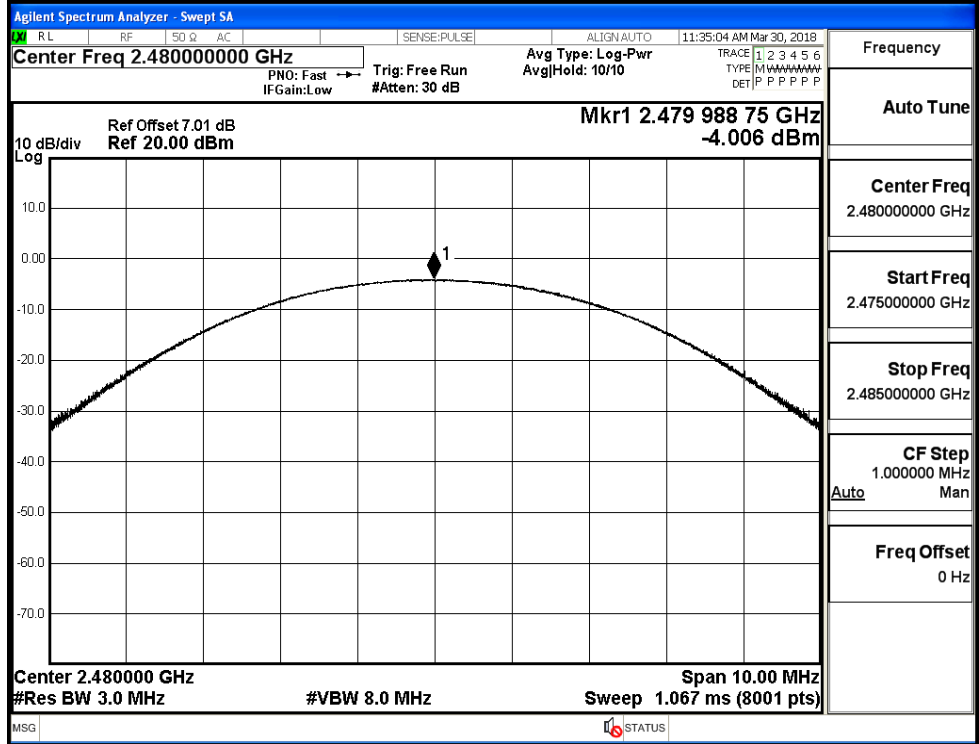
8DPSK/LCH



8DPSK/MCH

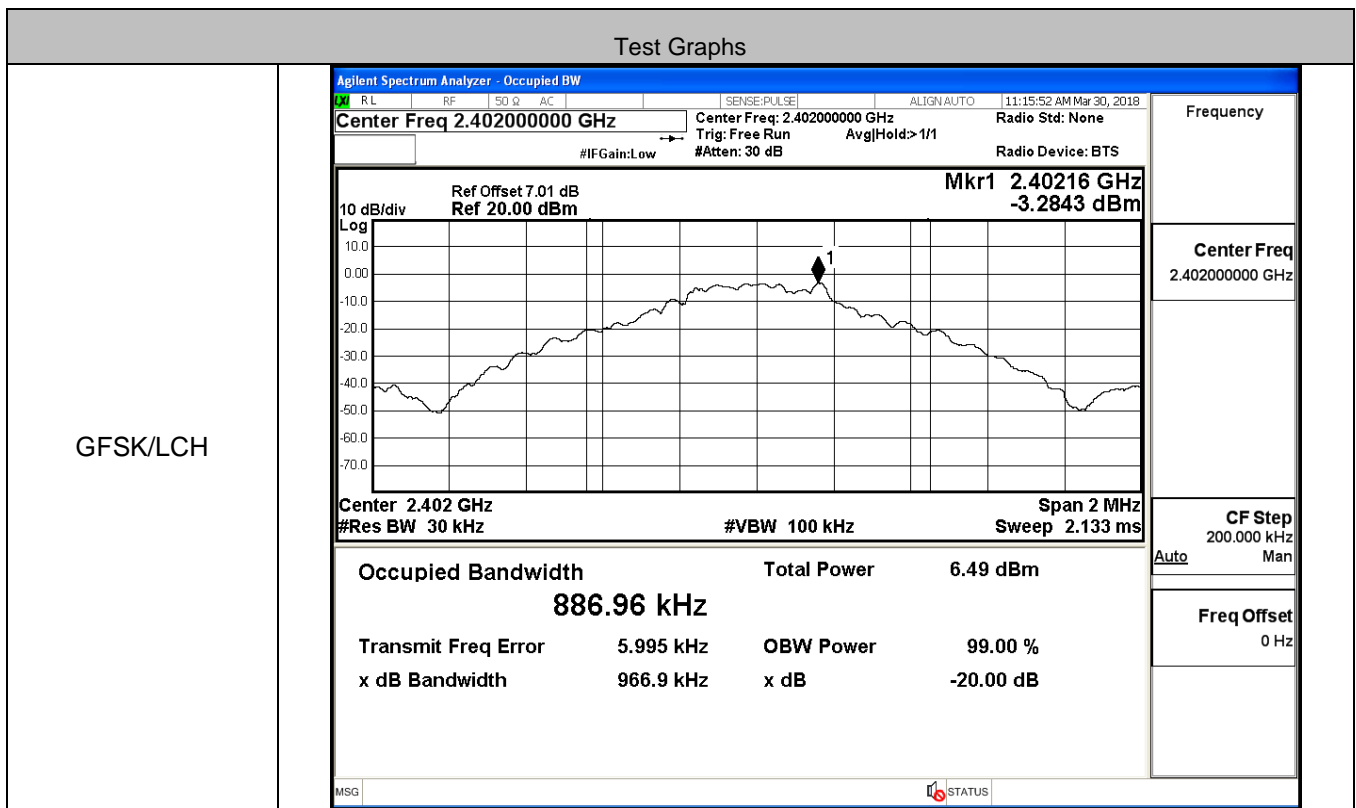


8DPSK/HCH



**A.2 20dB Bandwidth**

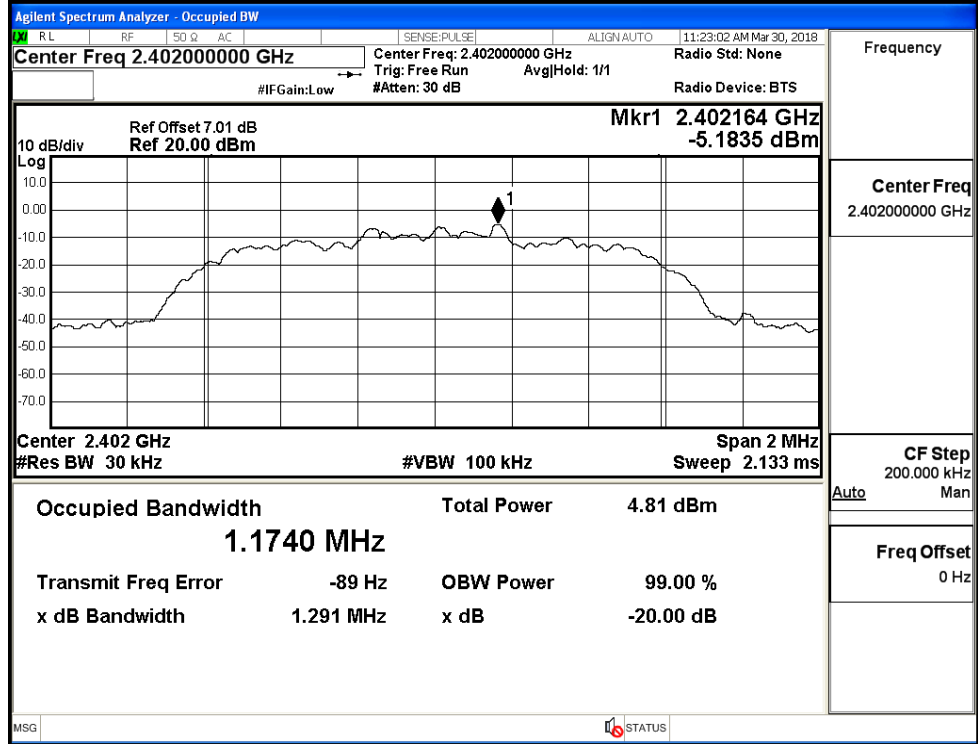
Mode	Channel.	99% Bandwidth [MHz]	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.88696	0.9669	Not Specified	PASS
	MCH	0.88810	0.9655	Not Specified	PASS
	HCH	0.89103	1.034	Not Specified	PASS
π/4DQPSK	LCH	1.1740	1.291	Not Specified	PASS
	MCH	1.1826	1.313	Not Specified	PASS
	HCH	1.1820	1.313	Not Specified	PASS
8DPSK	LCH	1.1822	1.293	Not Specified	PASS
	MCH	1.1918	1.300	Not Specified	PASS
	HCH	1.1919	1.301	Not Specified	PASS



<p style="text-align: center;">GFSK/MCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.44100000 GHz    Center Freq: 2.44100000 GHz    Radio Std: None</p> <p>Trig: Free Run    AvgHold: 1/1    Radio Device: BTS</p> <p>#IFGain: Low    #Atten: 30 dB</p> <p>Ref Offset 7.01 dB    Mkr1 2.441162 GHz</p> <p>Ref 20.00 dBm    -3.7828 dBm</p> <p>10 dB/div    Log</p> <p>Center 2.441 GHz    Span 2 MHz</p> <p>#Res BW 30 kHz    #VBW 100 kHz    Sweep 2.133 ms</p> <p>Occupied Bandwidth    Total Power    5.98 dBm</p> <p style="text-align: center;"><b>888.10 kHz</b></p> <p>Transmit Freq Error    5.608 kHz    OBW Power    99.00 %</p> <p>x dB Bandwidth    965.5 kHz    x dB    -20.00 dB</p>	<p>Frequency</p> <p>Center Freq 2.44100000 GHz</p> <p>CF Step 200.000 kHz</p> <p>Freq Offset 0 Hz</p>
	<p style="text-align: center;">GFSK/HCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.48000000 GHz    Center Freq: 2.48000000 GHz    Radio Std: None</p> <p>Trig: Free Run    AvgHold: &gt;1/1    Radio Device: BTS</p> <p>#IFGain: Low    #Atten: 30 dB</p> <p>Ref Offset 7.01 dB    Mkr1 2.480012 GHz</p> <p>Ref 20.00 dBm    -6.1106 dBm</p> <p>10 dB/div    Log</p> <p>Center 2.48 GHz    Span 2 MHz</p> <p>#Res BW 30 kHz    #VBW 100 kHz    Sweep 2.133 ms</p> <p>Occupied Bandwidth    Total Power    3.87 dBm</p> <p style="text-align: center;"><b>891.03 kHz</b></p> <p>Transmit Freq Error    4.336 kHz    OBW Power    99.00 %</p> <p>x dB Bandwidth    1.034 MHz    x dB    -20.00 dB</p>

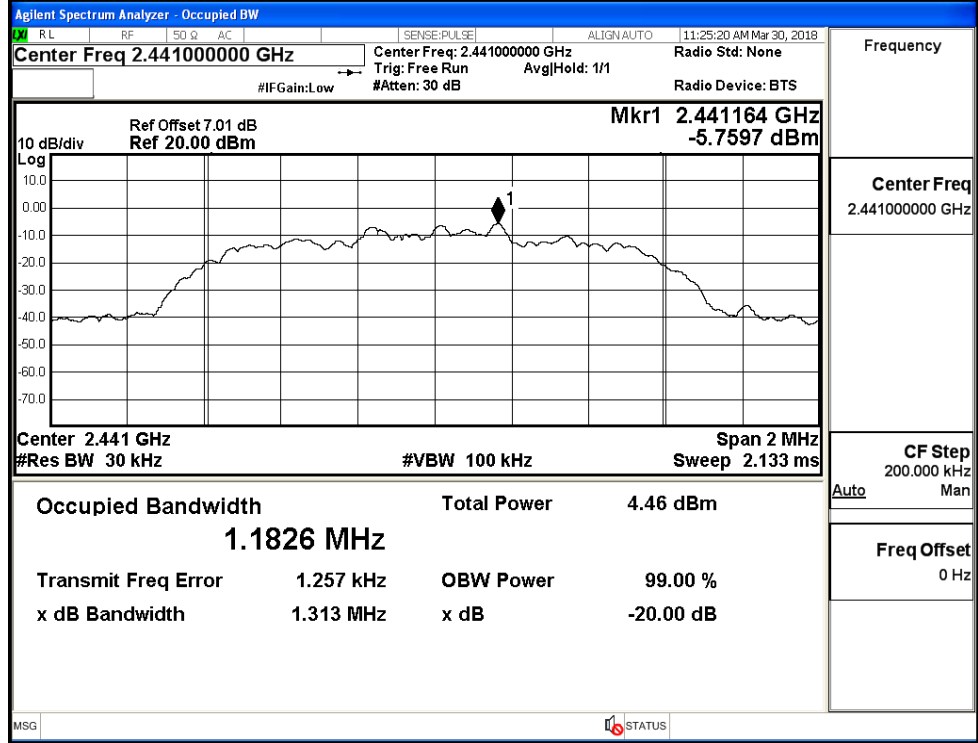


$\pi$ /4DQPSK/LCH



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

$\pi$ /4DQPSK/MCH



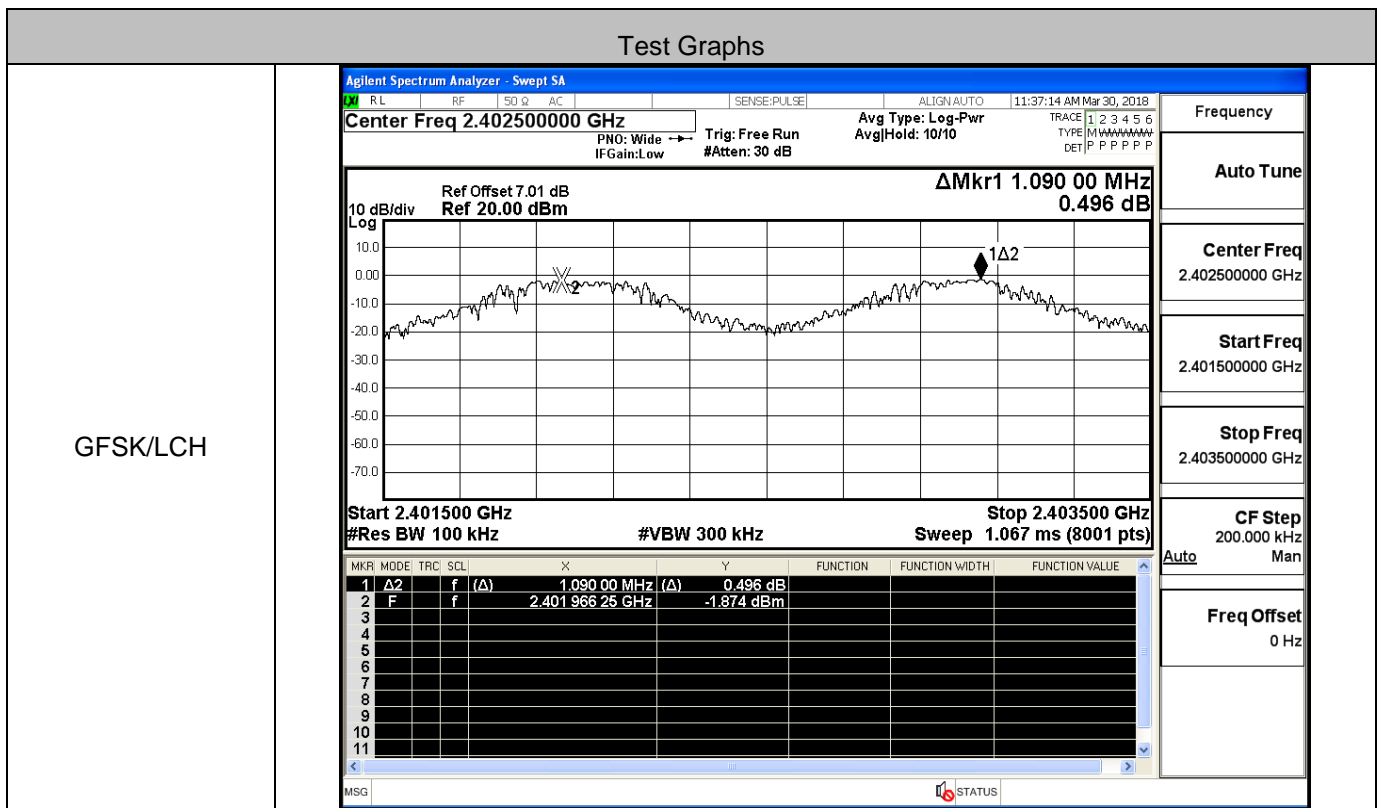
Frequency
Center Freq 2.44100000 GHz
CF Step 200.000 kHz Auto Man
Freq Offset 0 Hz

<p>π/4DQPSK/HCH</p>		<p>Frequency Center Freq 2.48000000 GHz</p> <p>CF Step 200.000 kHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>8DPSK/LCH</p>		<p>Frequency Center Freq 2.40200000 GHz</p> <p>CF Step 200.000 kHz Auto Man</p> <p>Freq Offset 0 Hz</p>

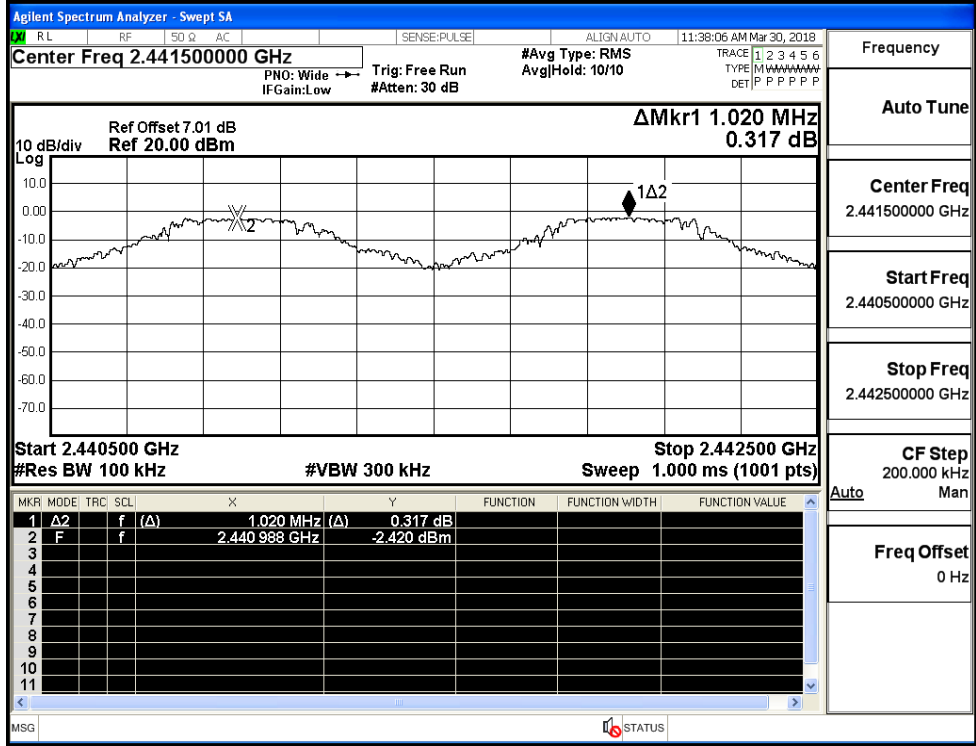
<p>8DPSK/MCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.44100000 GHz Center Freq: 2.44100000 GHz Radio Std: None</p> <p>Mkr1 2.44116 GHz -4.9040 dBm</p> <p>Occupied Bandwidth 1.1918 MHz Total Power 4.44 dBm</p> <p>Transmit Freq Error 2.136 kHz OBW Power 99.00 %</p> <p>x dB Bandwidth 1.300 MHz x dB -20.00 dB</p>	<p>Frequency</p> <p>Center Freq 2.44100000 GHz</p> <p>CF Step 200.000 kHz</p> <p>Freq Offset 0 Hz</p>
<p>8DPSK/HCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.48000000 GHz Center Freq: 2.48000000 GHz Radio Std: None</p> <p>Mkr1 2.480162 GHz -7.0257 dBm</p> <p>Occupied Bandwidth 1.1919 MHz Total Power 2.29 dBm</p> <p>Transmit Freq Error 2.027 kHz OBW Power 99.00 %</p> <p>x dB Bandwidth 1.301 MHz x dB -20.00 dB</p>	<p>Frequency</p> <p>Center Freq 2.48000000 GHz</p> <p>CF Step 200.000 kHz</p> <p>Freq Offset 0 Hz</p>

### A.3 Carrier Frequency Separation

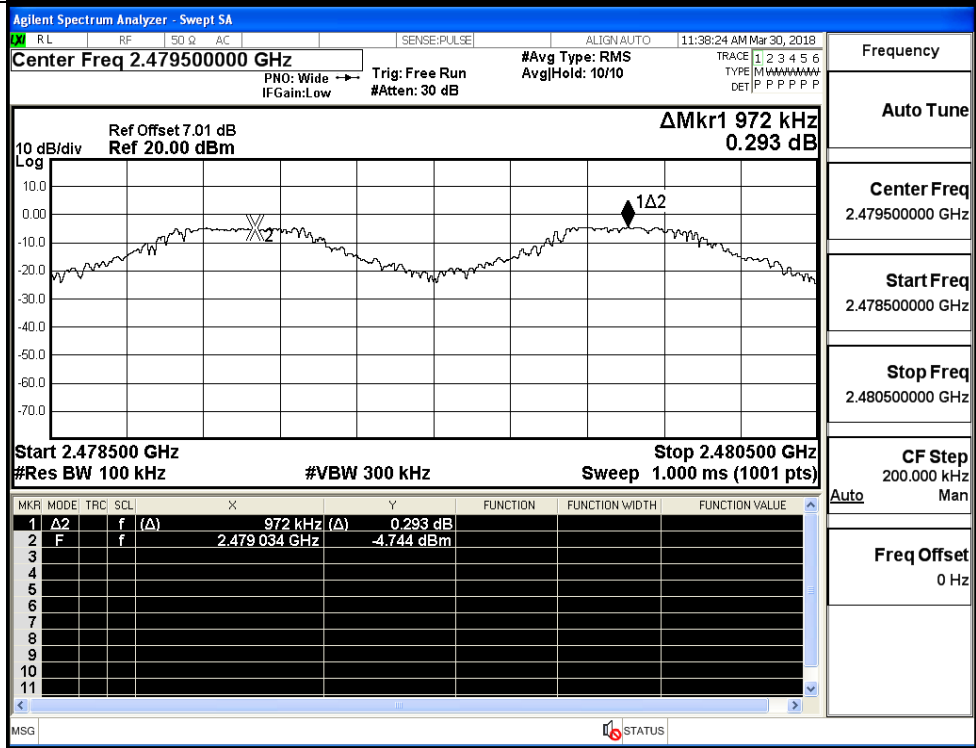
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.090	0.689	PASS
	MCH	1.020	0.689	PASS
	HCH	0.972	0.689	PASS
π/4DQPSK	LCH	1.022	0.875	PASS
	MCH	0.952	0.875	PASS
	HCH	1.018	0.875	PASS
8DPSK	LCH	1.172	0.867	PASS
	MCH	1.016	0.867	PASS
	HCH	1.068	0.867	PASS



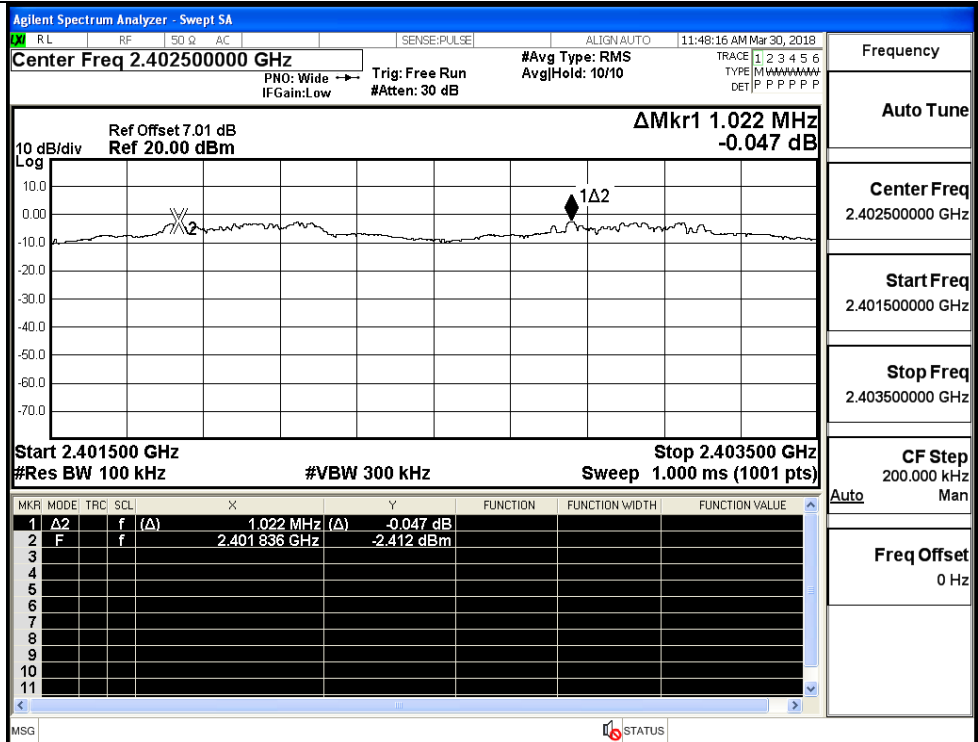
GFSK/MCH



GFSK/HCH

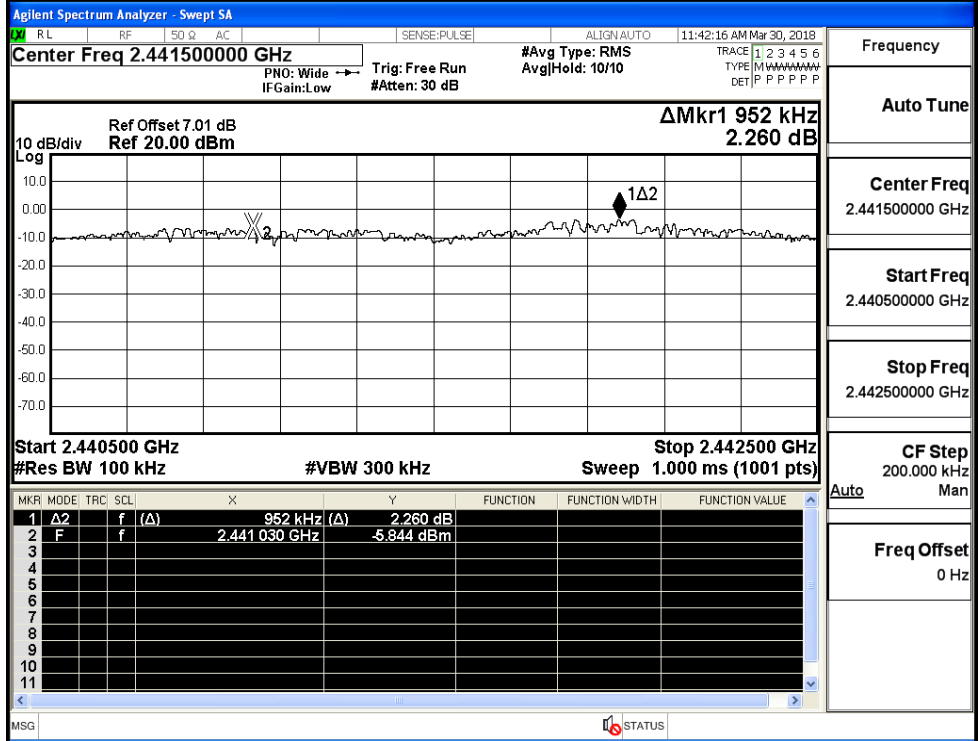


$\pi/4$ DQPSK/LCH



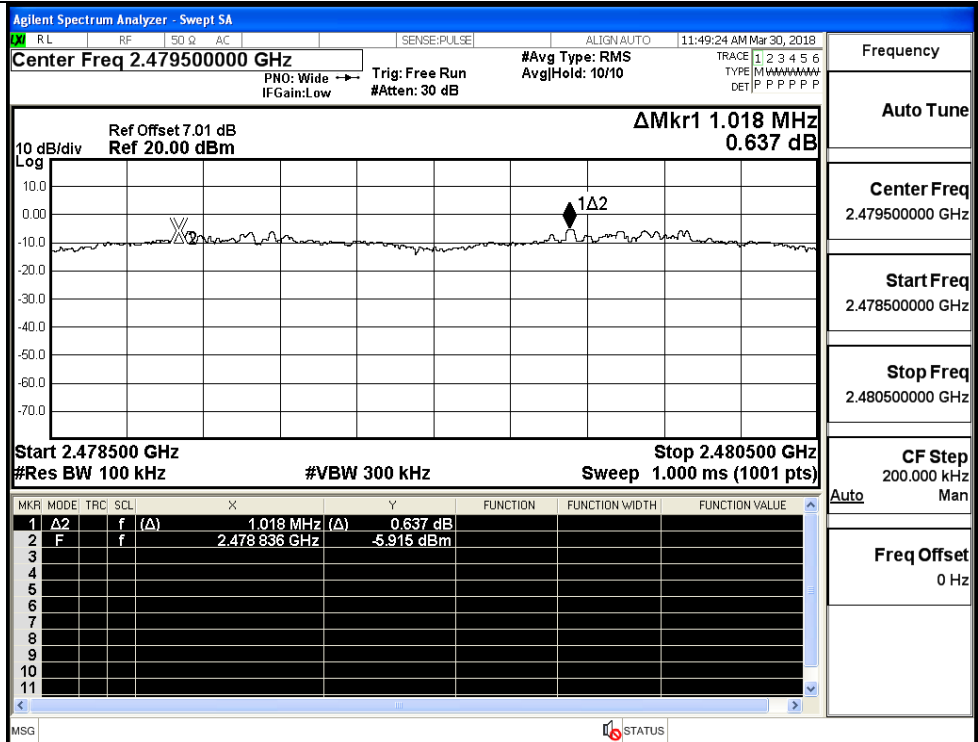
Frequency
Auto Tune
Center Freq 2.402500000 GHz
Start Freq 2.401500000 GHz
Stop Freq 2.403500000 GHz
CF Step 200.000 kHz
Auto
Freq Offset 0 Hz

$\pi/4$ DQPSK/MCH

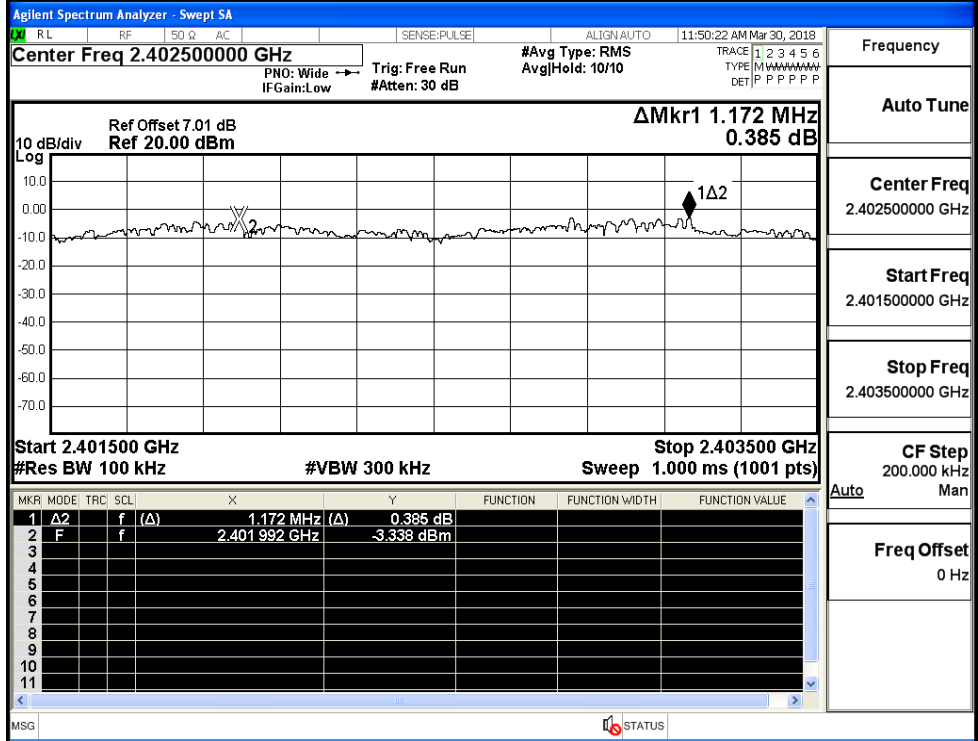


Frequency
Auto Tune
Center Freq 2.441500000 GHz
Start Freq 2.440500000 GHz
Stop Freq 2.442500000 GHz
CF Step 200.000 kHz
Auto
Freq Offset 0 Hz

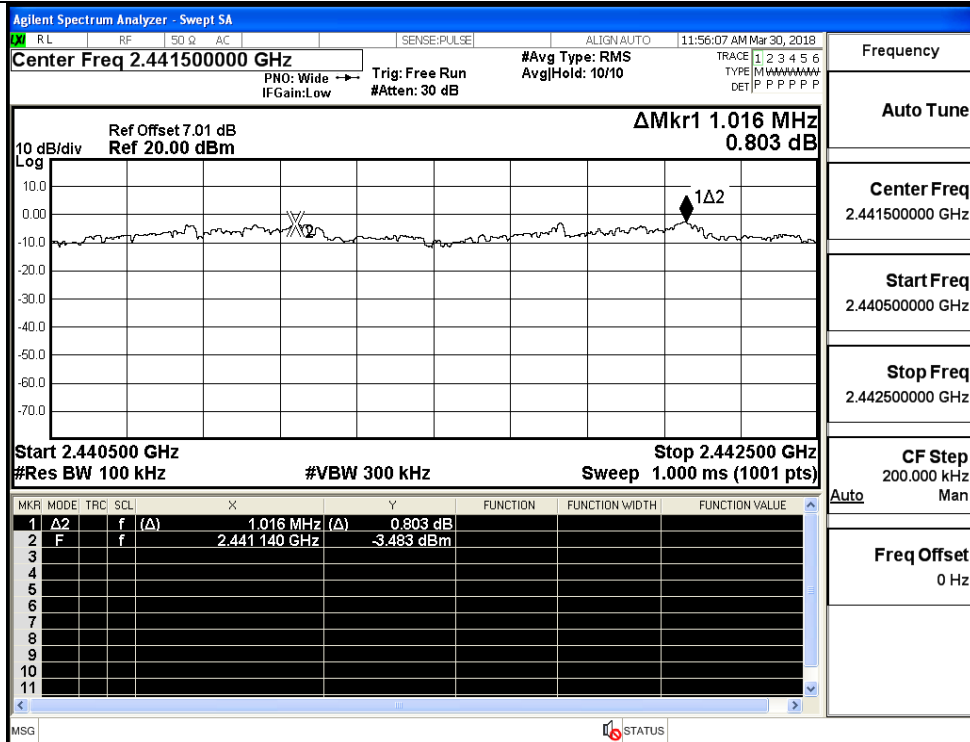
π/4DQPSK/HCH



8DPSK/LCH

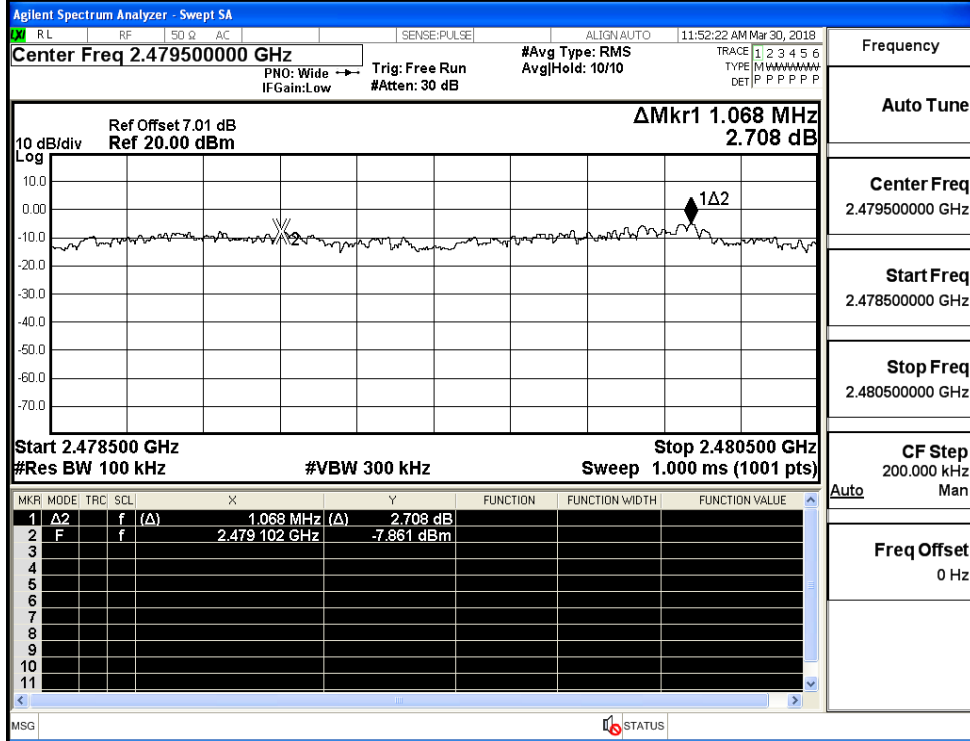


8DPSK/MCH



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



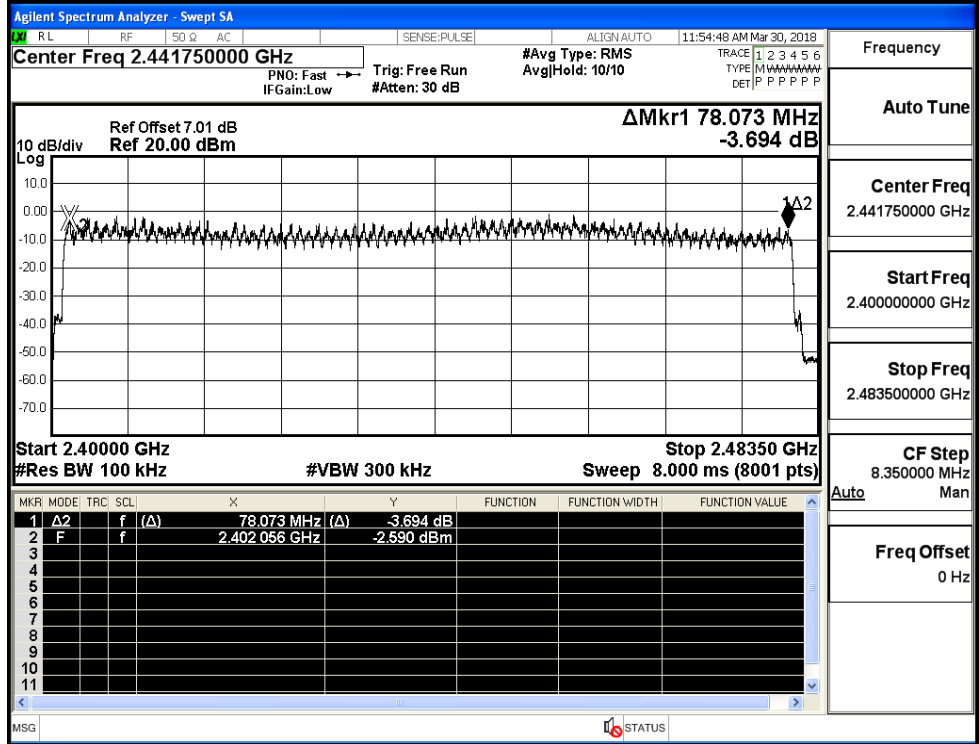
### A.4 Hopping Channel Number

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

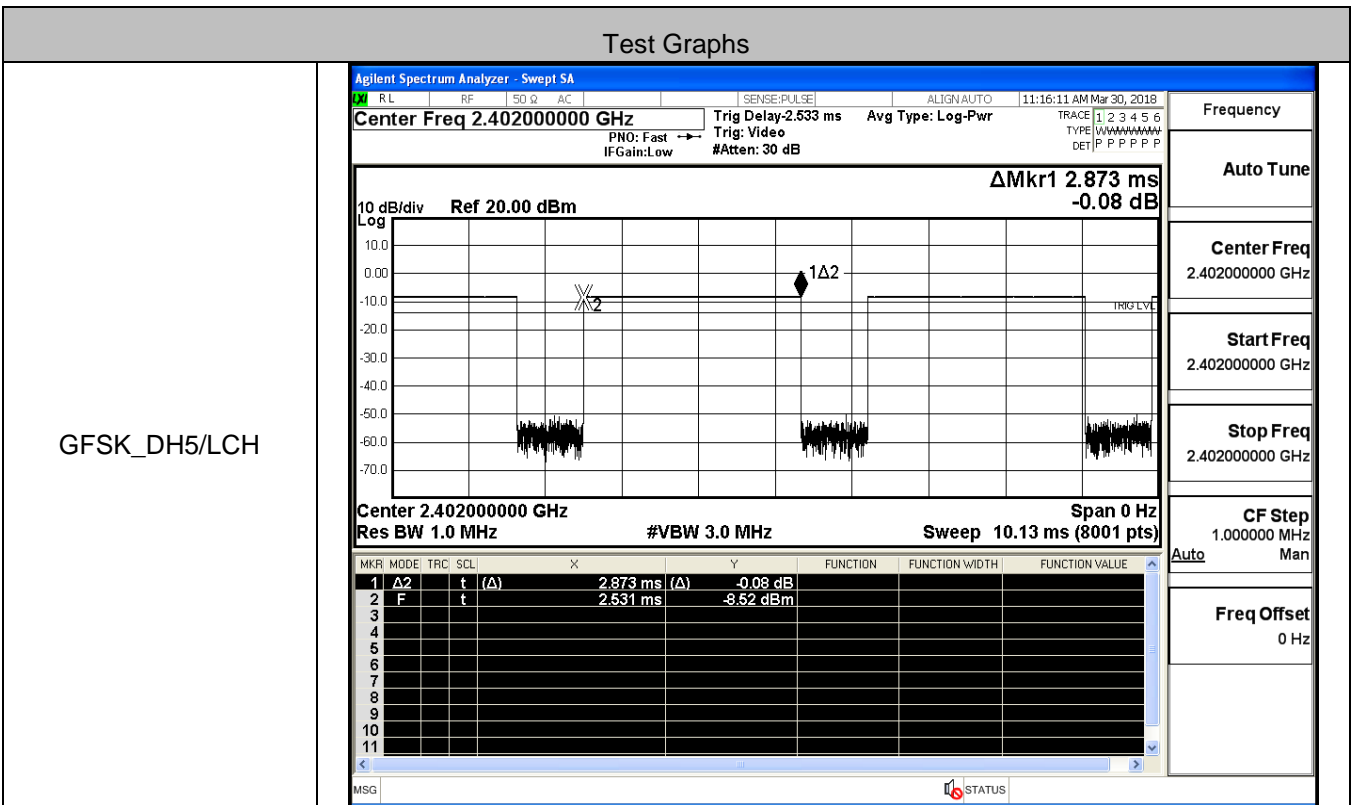
GFSK/Hop	<p>Agilent Spectrum Analyzer - Swept SA                  Center Freq 2.441750000 GHz                  Ref Offset 7.01 dB                  Ref 20.00 dBm                  ΔMkr1 78.031 MHz                  -2.613 dB                  Start 2.40000 GHz                  Stop 2.48350 GHz                  #Res BW 100 kHz                  #VBW 300 kHz                  Sweep 8.000 ms (8001 pts)</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>78.031 MHz (Δ)</td> <td>-2.613 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>-1.470 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	Δ2	f	(Δ)	78.031 MHz (Δ)	-2.613 dB				2	F	f		2.401983 GHz	-1.470 dBm				Frequency Auto Tune Center Freq 2.441750000 GHz Start Freq 2.400000000 GHz Stop Freq 2.483500000 GHz CF Step 8.350000 MHz Auto Man Freq Offset 0 Hz
	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	Δ2	f	(Δ)	78.031 MHz (Δ)	-2.613 dB																								
2	F	f		2.401983 GHz	-1.470 dBm																								
$\pi/4$ DQPSK/Hop	<p>Agilent Spectrum Analyzer - Swept SA                  Center Freq 2.441750000 GHz                  Ref Offset 7.01 dB                  Ref 20.00 dBm                  ΔMkr1 78.020 MHz                  -3.341 dB                  Start 2.40000 GHz                  Stop 2.48350 GHz                  #Res BW 100 kHz                  #VBW 300 kHz                  Sweep 8.000 ms (8001 pts)</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>78.020 MHz (Δ)</td> <td>-3.341 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td></td> <td>2.402025 GHz</td> <td>-3.607 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	Δ2	f	(Δ)	78.020 MHz (Δ)	-3.341 dB				2	F	f		2.402025 GHz	-3.607 dBm				Frequency Auto Tune Center Freq 2.441750000 GHz Start Freq 2.400000000 GHz Stop Freq 2.483500000 GHz CF Step 8.350000 MHz Auto Man Freq Offset 0 Hz
	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	Δ2	f	(Δ)	78.020 MHz (Δ)	-3.341 dB																								
2	F	f		2.402025 GHz	-3.607 dBm																								

8DPSK/Hop

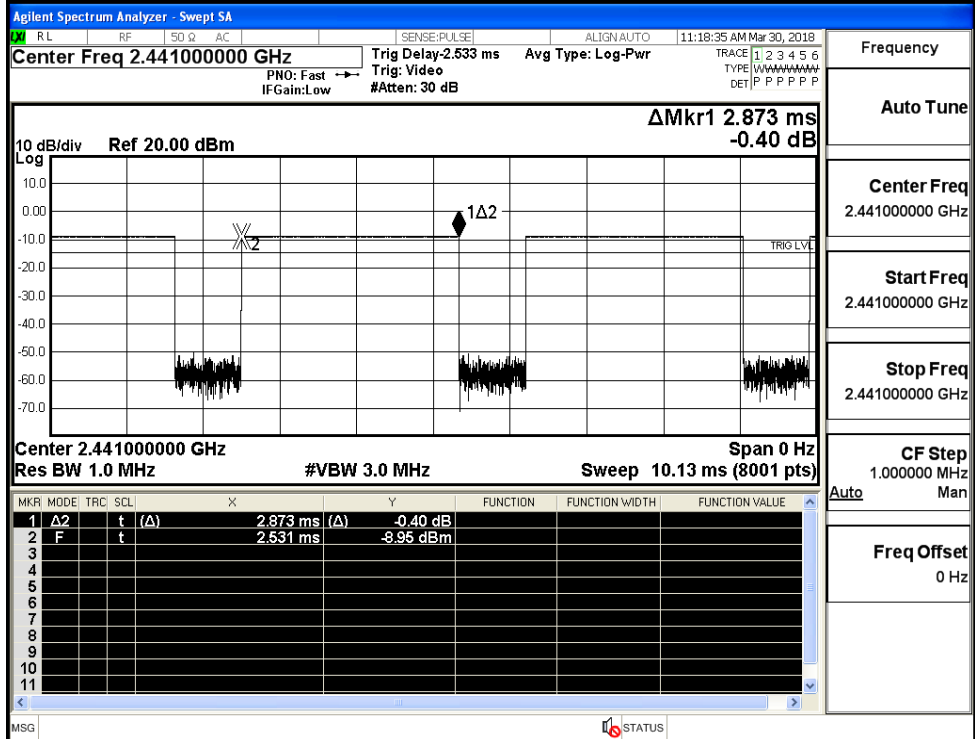


### A.5 Dwell Time

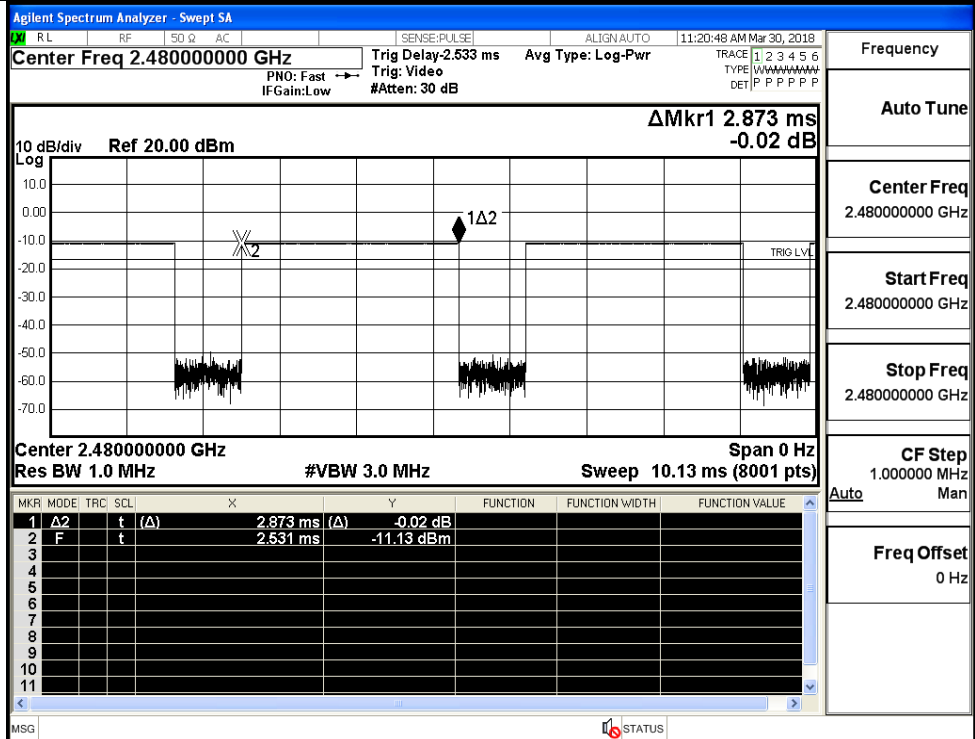
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.873	106.7	0.306	0.4	PASS
	DH5	MCH	2.873	106.7	0.306	0.4	PASS
	DH5	HCH	2.873	106.7	0.306	0.4	PASS
π/4DQPSK	2DH5	LCH	2.877	106.7	0.307	0.4	PASS
	2DH5	MCH	2.877	106.7	0.307	0.4	PASS
	2DH5	HCH	2.877	106.7	0.307	0.4	PASS
8DPSK	3DH5	LCH	2.878	106.7	0.307	0.4	PASS
	3DH5	MCH	2.878	106.7	0.307	0.4	PASS
	3DH5	HCH	2.879	106.7	0.307	0.4	PASS



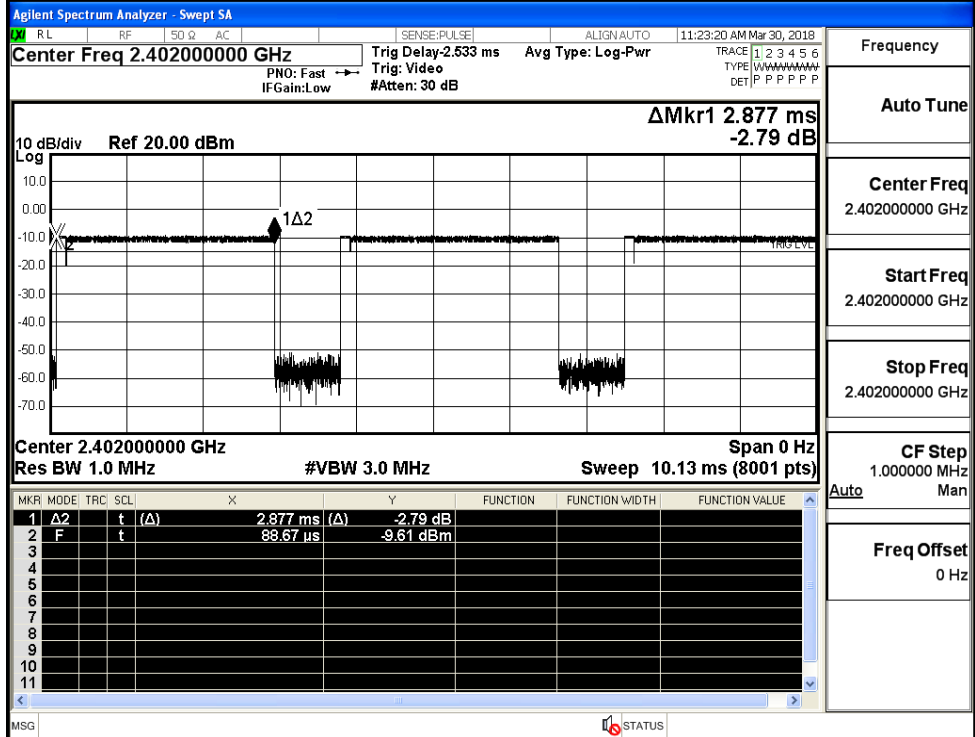
GFSK\_DH5/MCH



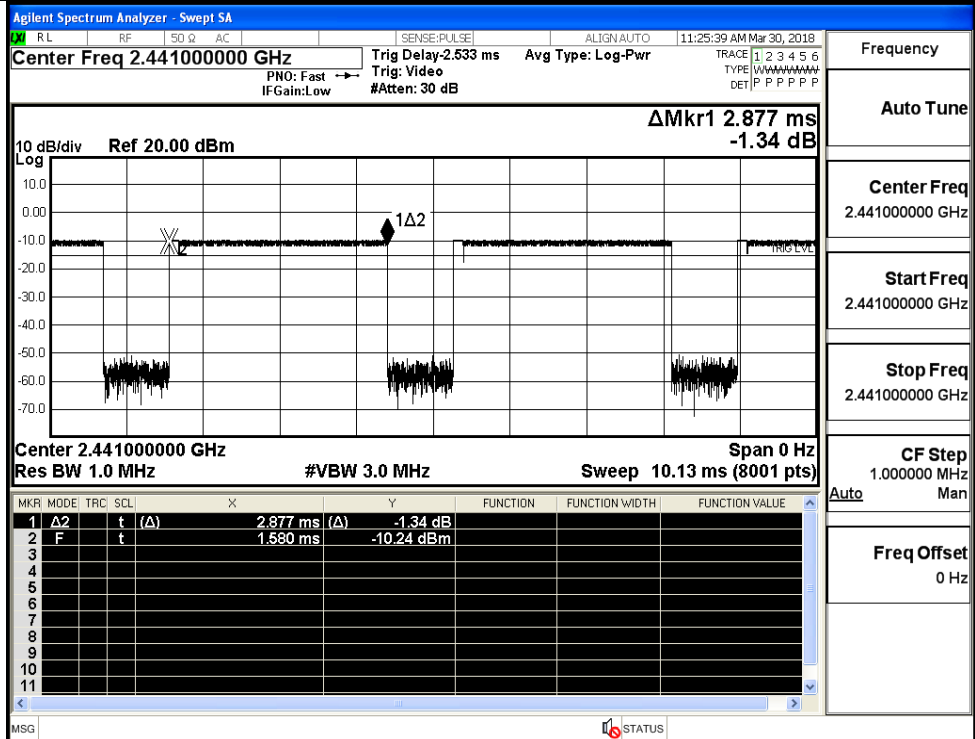
GFSK\_DH5/HCH



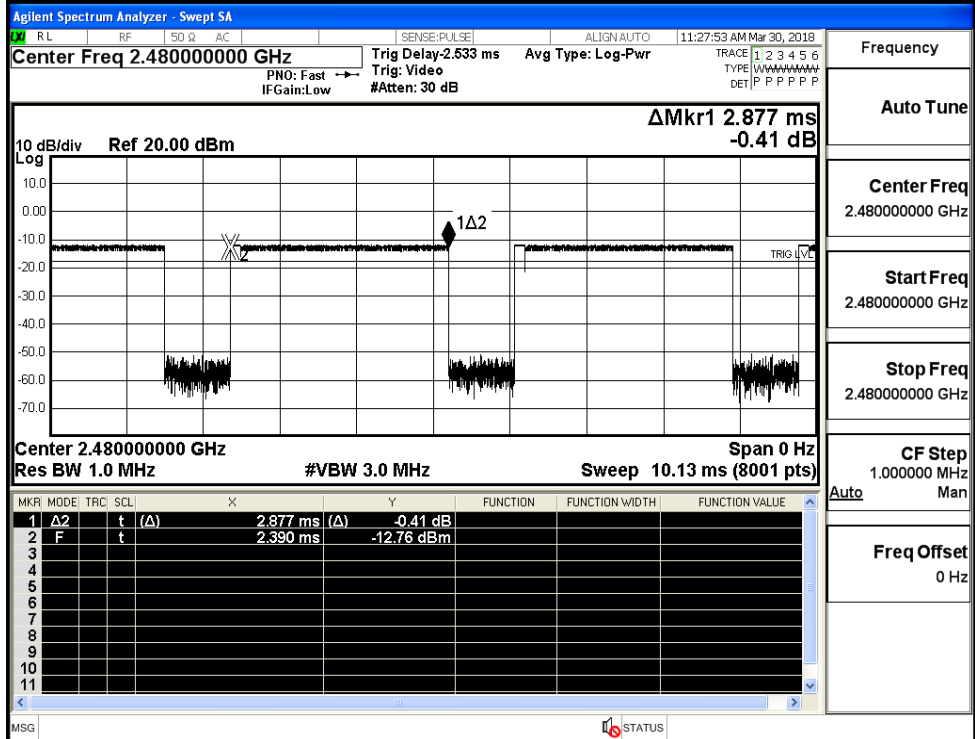
$\pi/4$ DQPSK  
\_2DH5/LCH



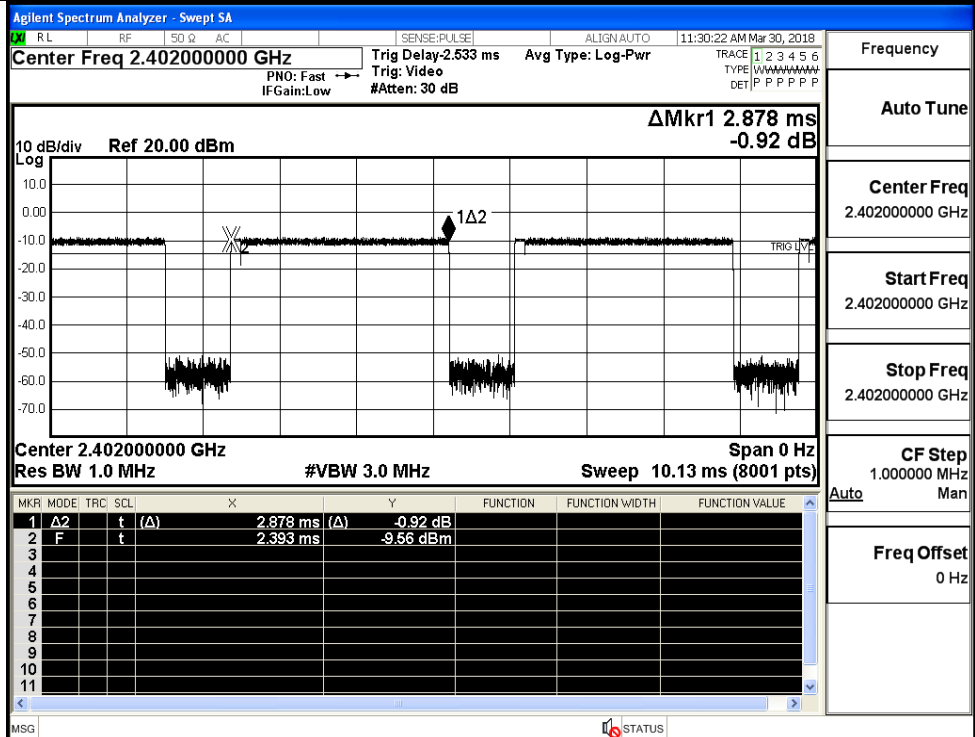
$\pi/4$ DQPSK  
\_2DH5/MCH



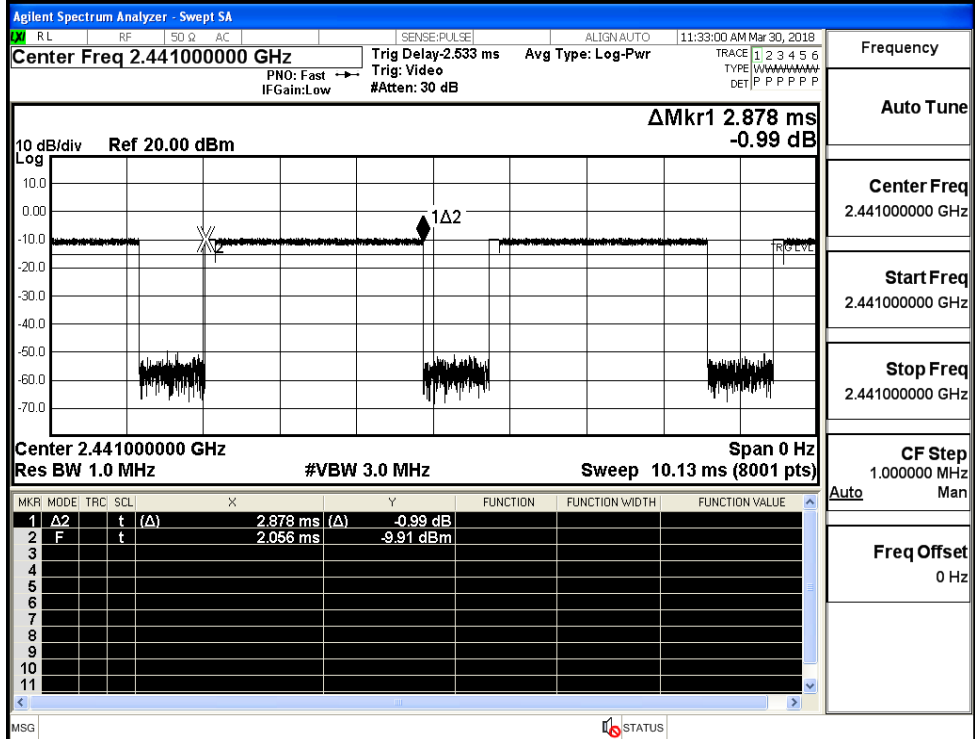
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\_2DH5/HCH



8DPSK\_3DH5/LCH

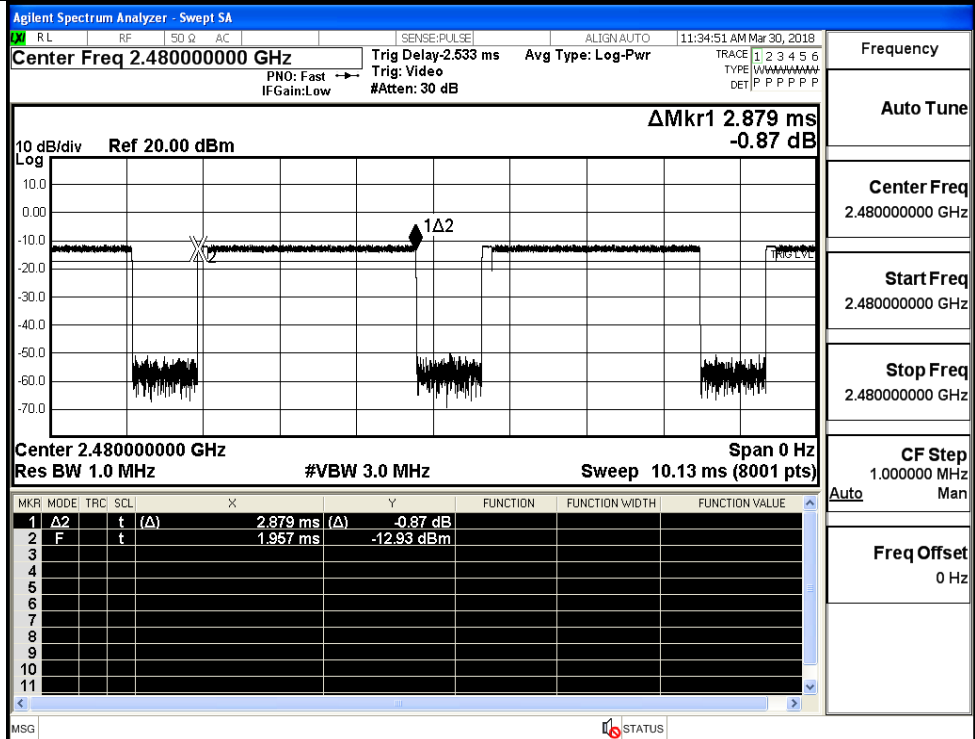


8DPSK\_3DH5/MCH



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

8DPSK\_3DH5/HCH

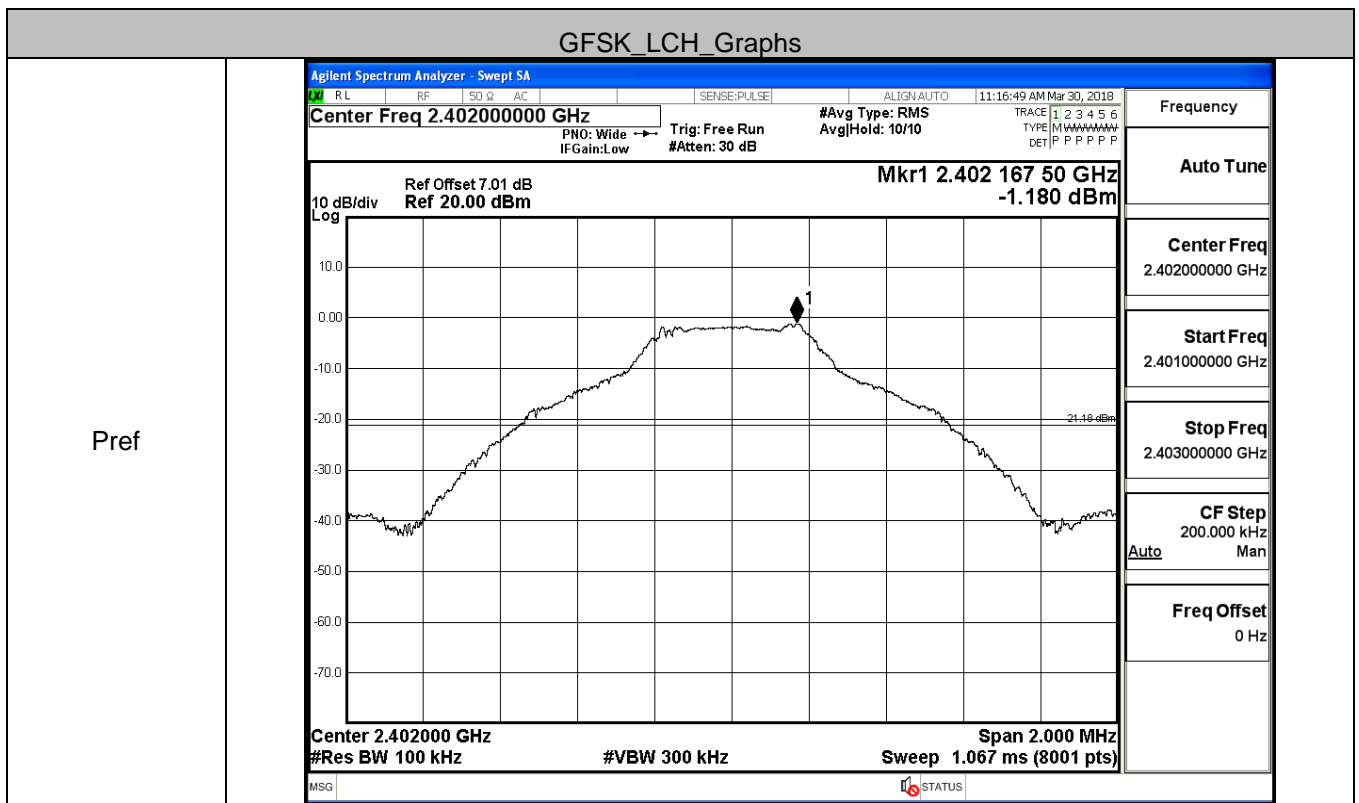


Frequency	
Auto Tune	
Center Freq	2.480000000 GHz
Start Freq	2.480000000 GHz
Stop Freq	2.480000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

### A.6 RF Conducted Spurious Emissions

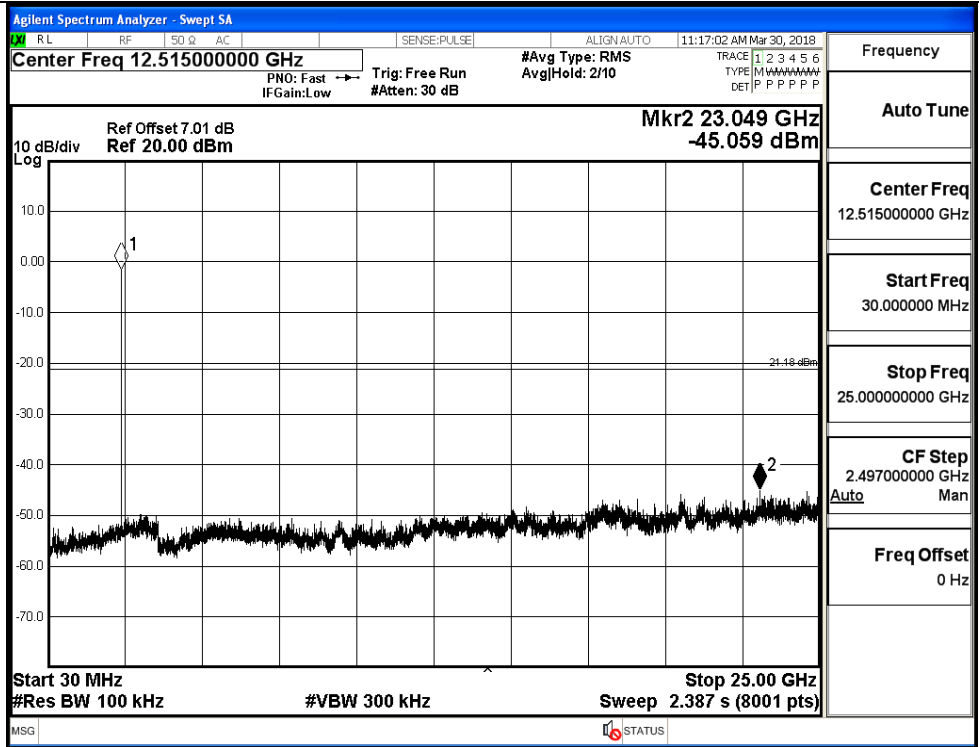
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-1.18	-45.059	-21.180	PASS
	MCH	-1.72	-45.806	-21.720	PASS
	HCH	-3.984	-45.692	-23.984	PASS
π/4DQPSK	LCH	-2.499	-45.556	-22.499	PASS
	MCH	-2.872	-45.153	-22.872	PASS
	HCH	-5.053	-45.517	-25.053	PASS
8DPSK	LCH	-2.347	-45.109	-22.347	PASS
	MCH	-2.768	-44.110	-22.768	PASS
	HCH	-5.079	-32.810	-25.079	PASS

GFSK\_LCH\_Graphs



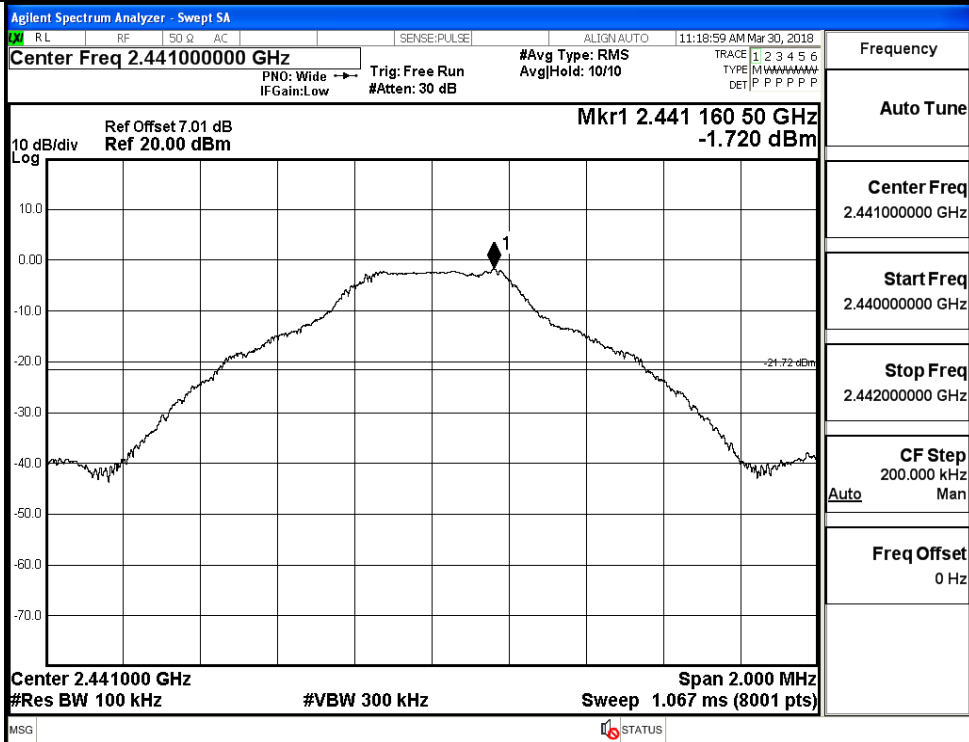


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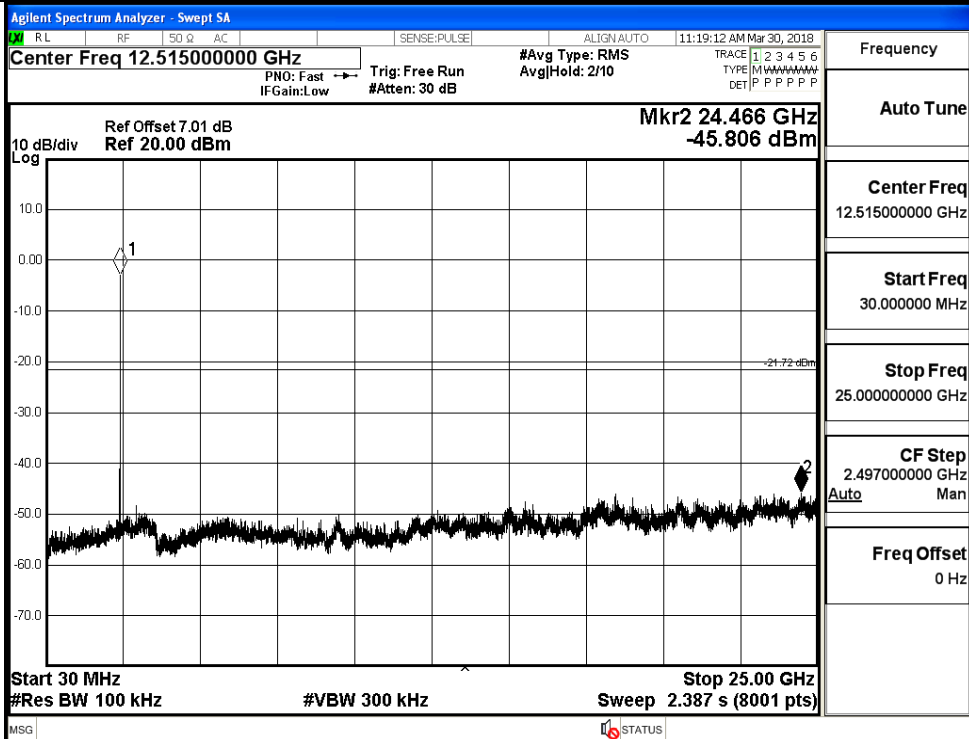


GFSK\_MCH\_Graphs

Pref

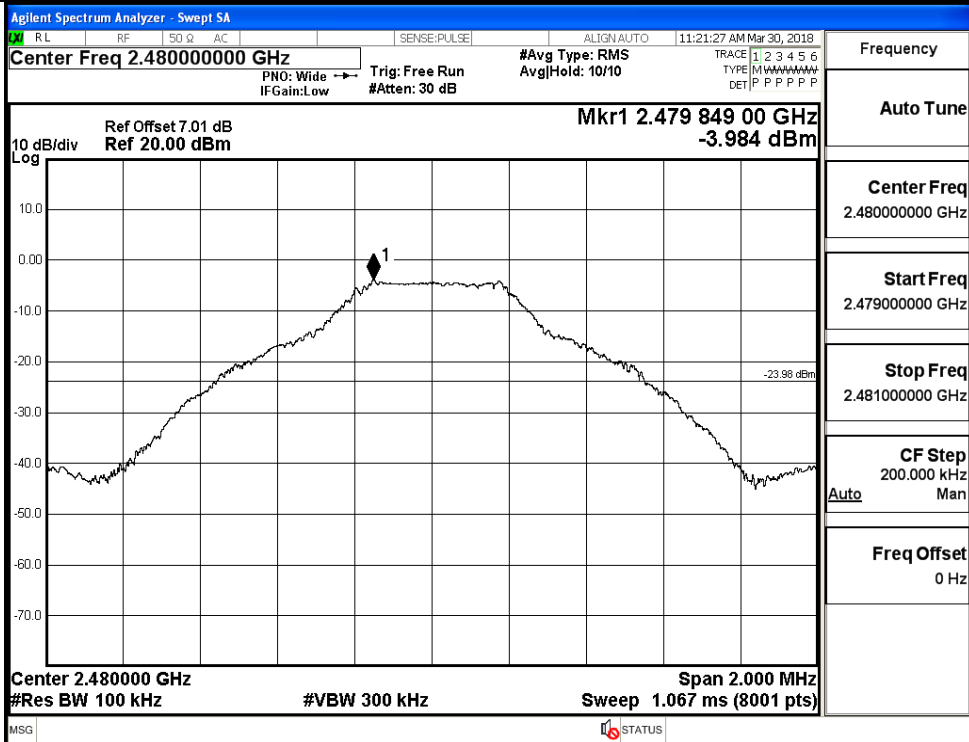


Puw

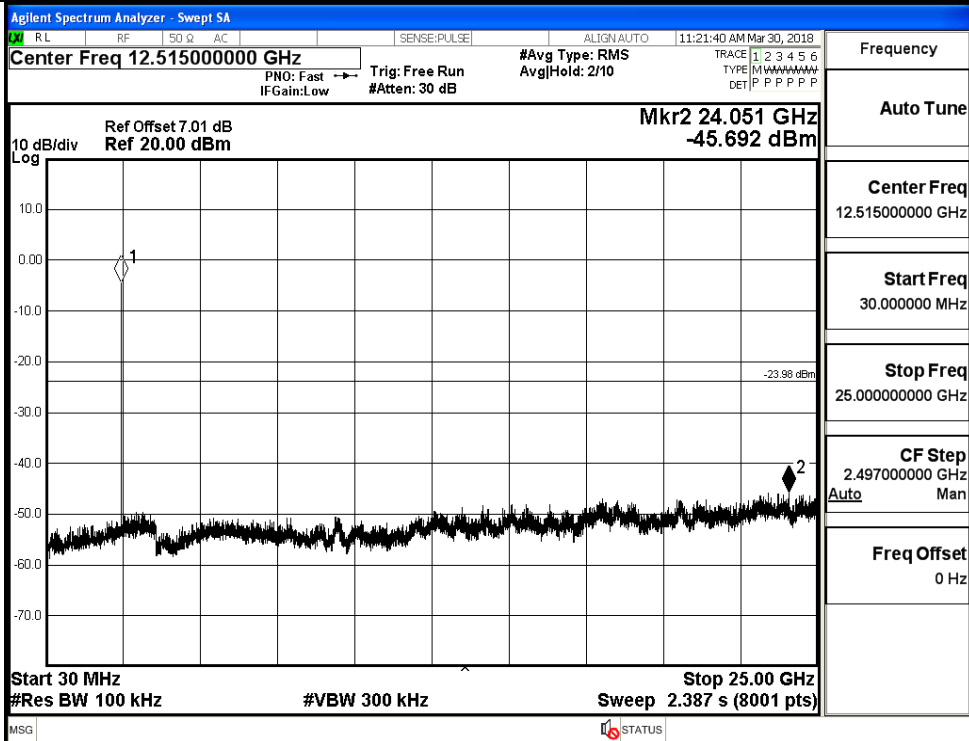


GFSK\_HCH\_Graphs

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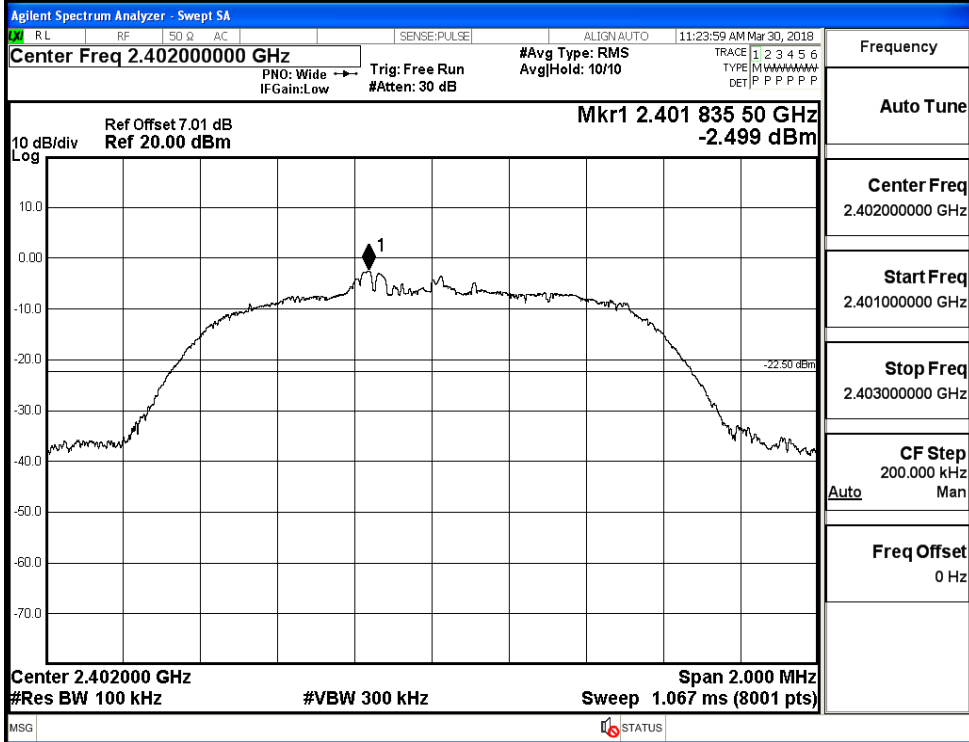


Puw

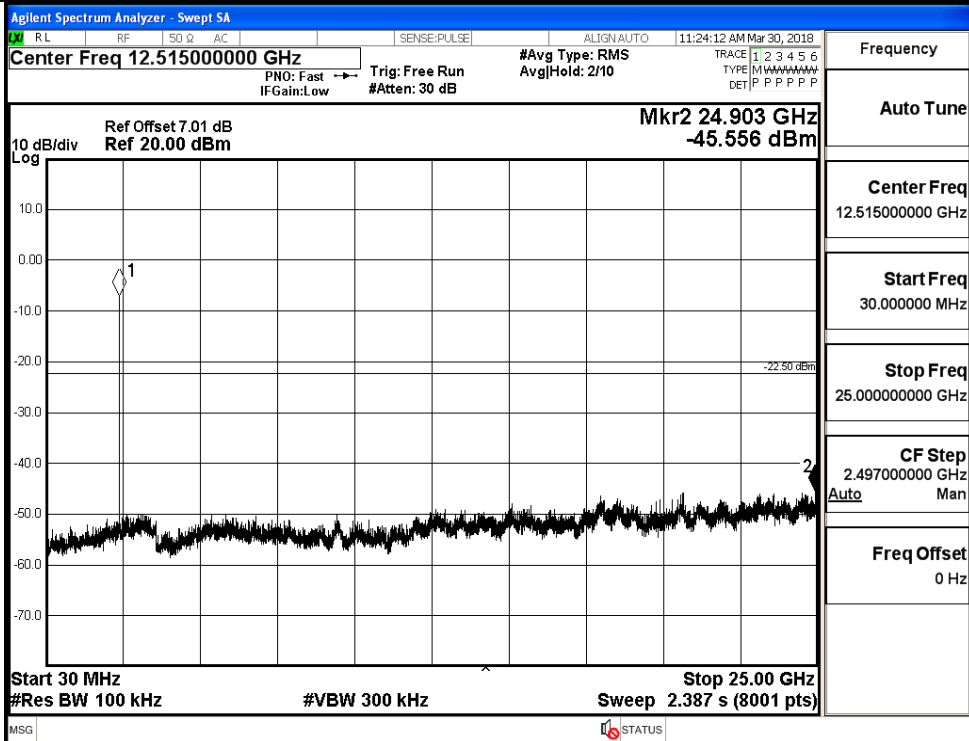


$\pi/4$ DQPSK LCH Graphs

Pref

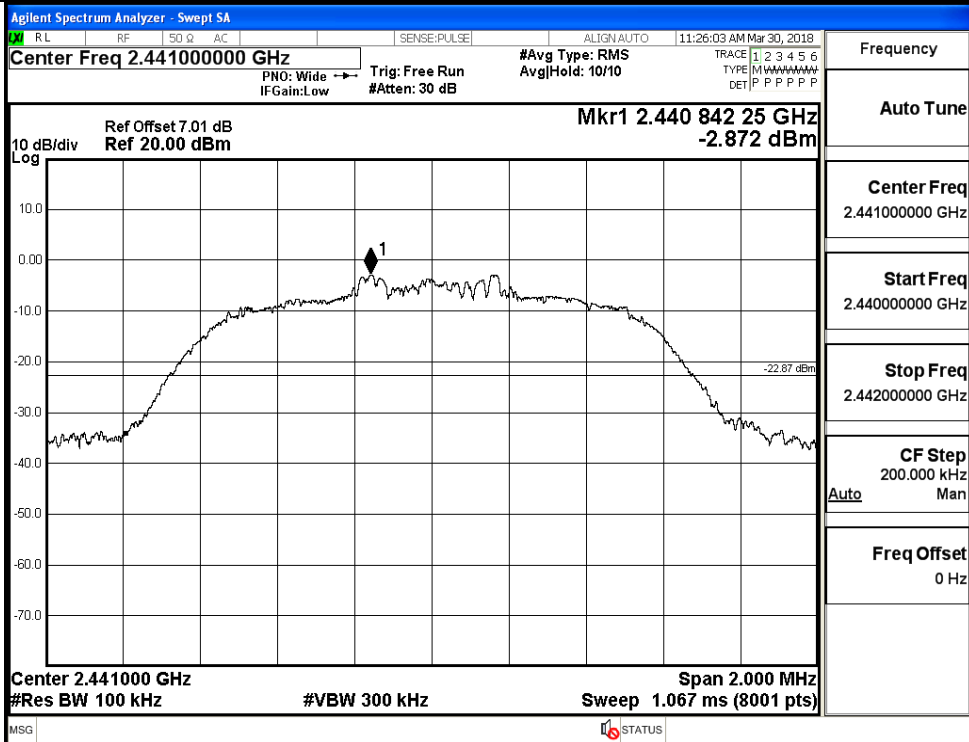


Puw

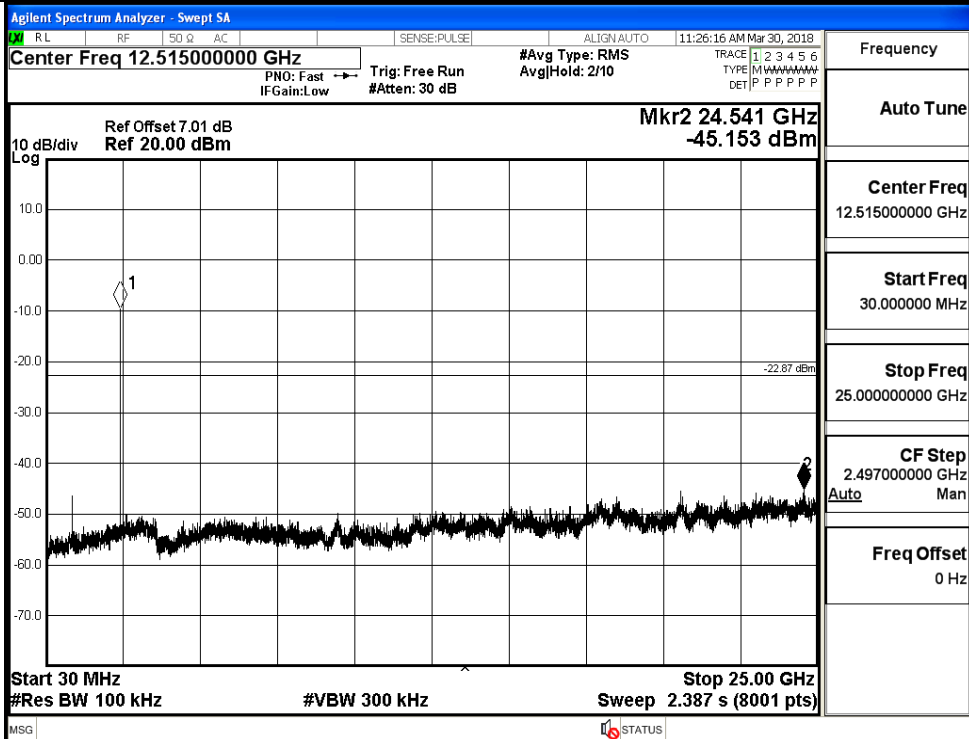


π/4DQPSK MCH Graphs

Pref

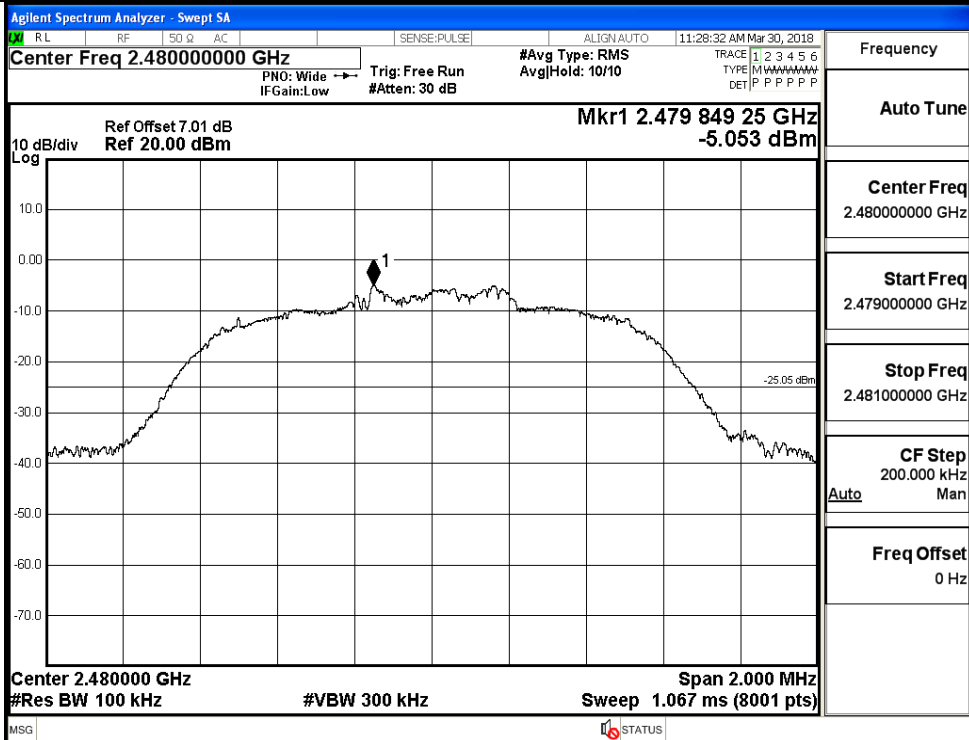


Puw

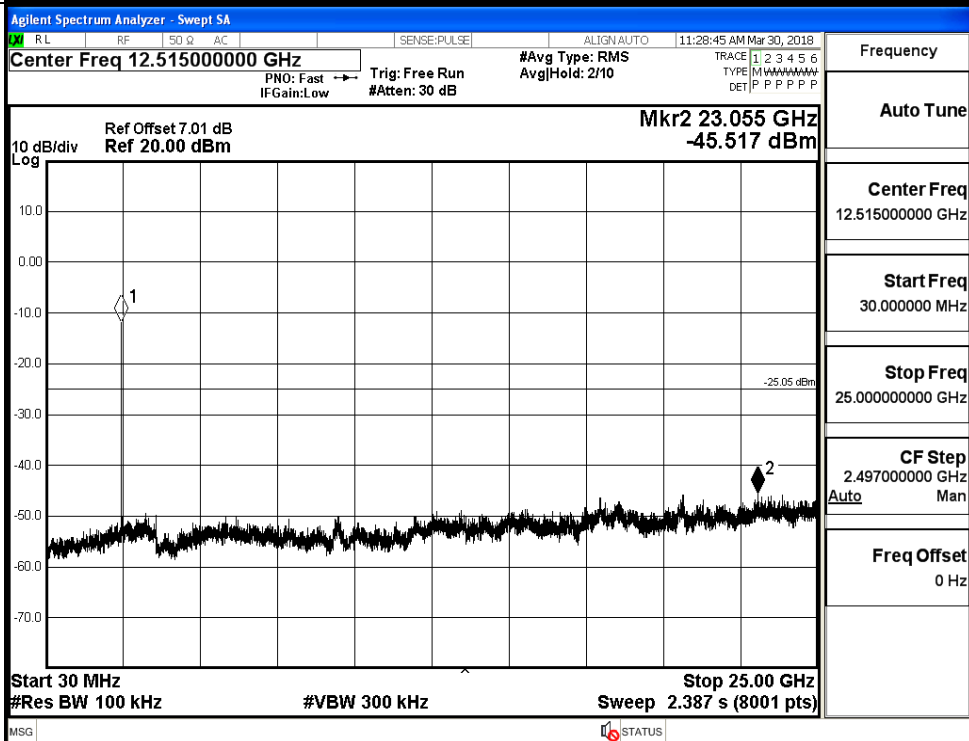


$\pi/4$ DQPSK HCH Graphs

Pref

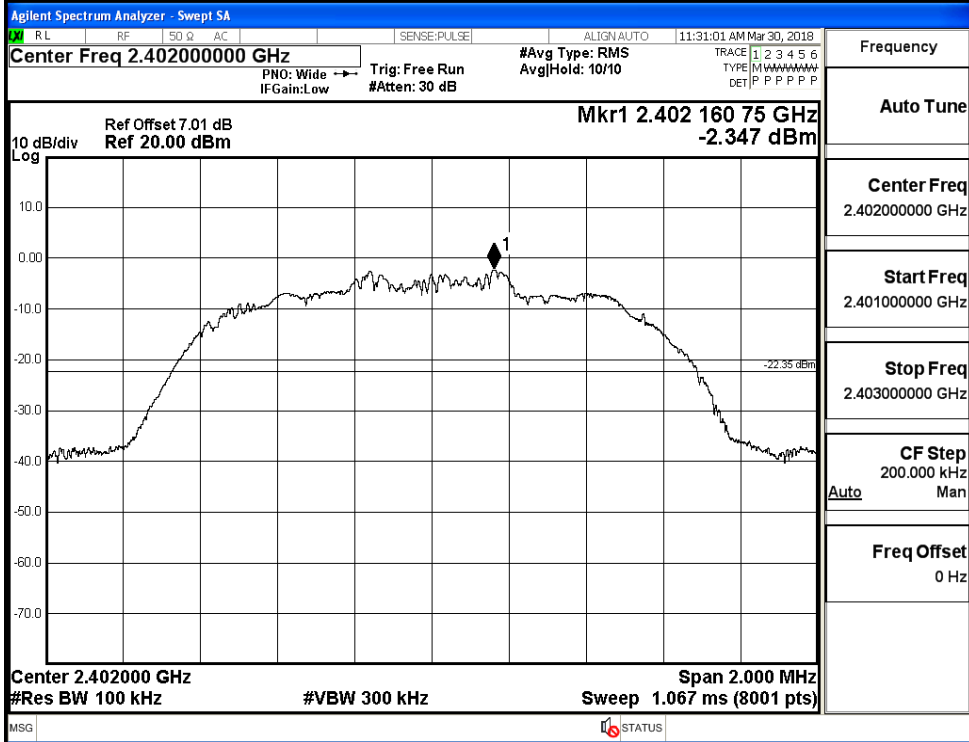


Puw

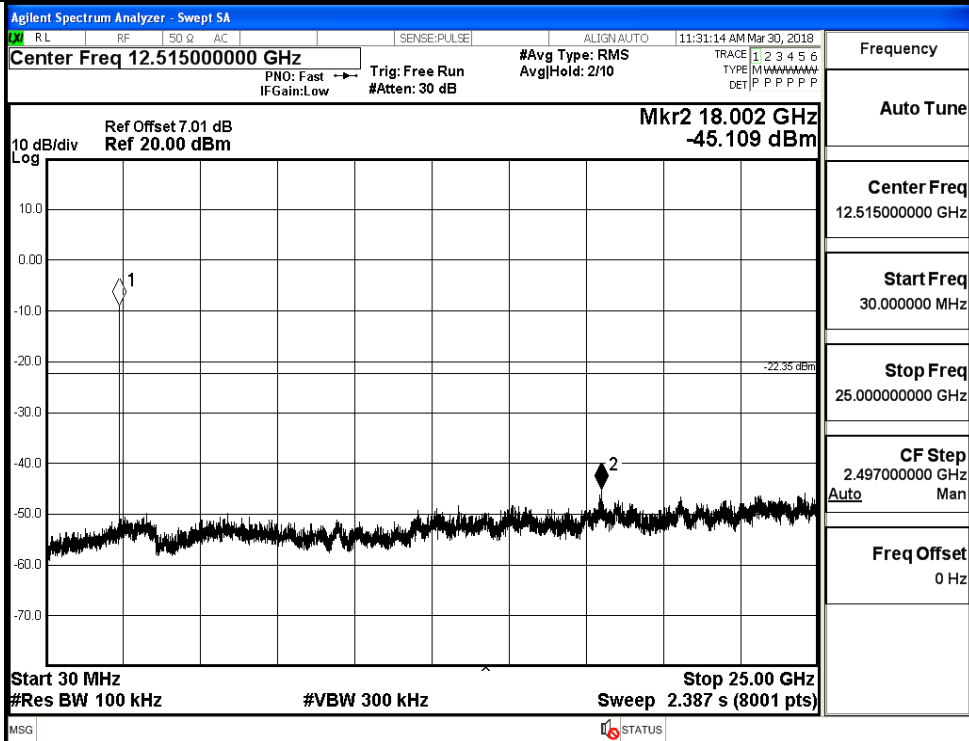


8DPSK\_LCH\_Graphs

Pref

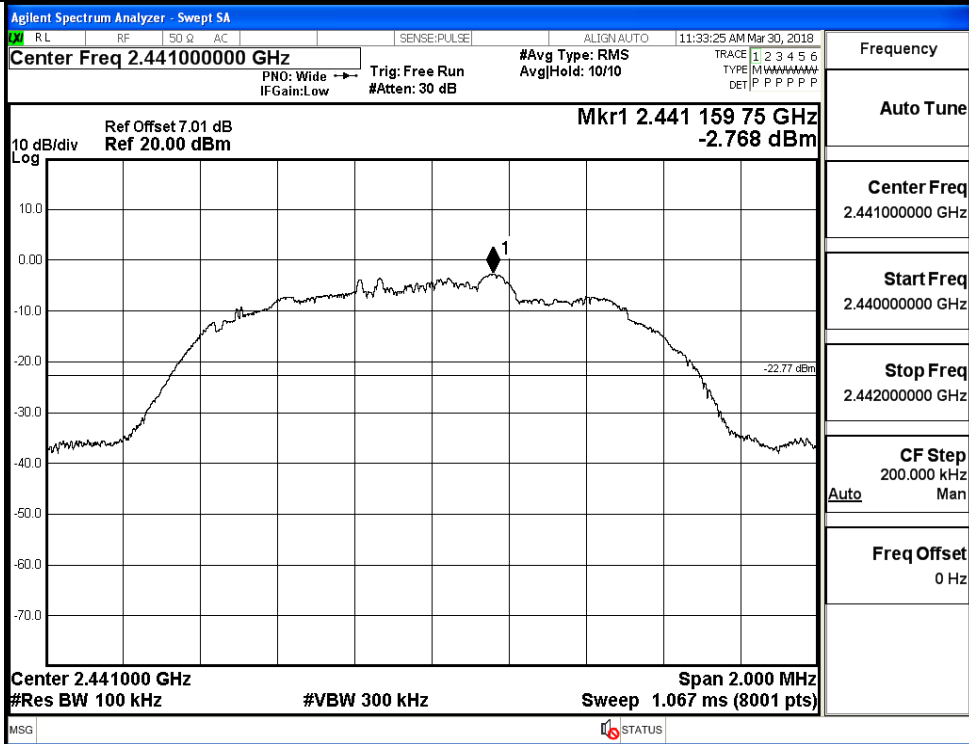


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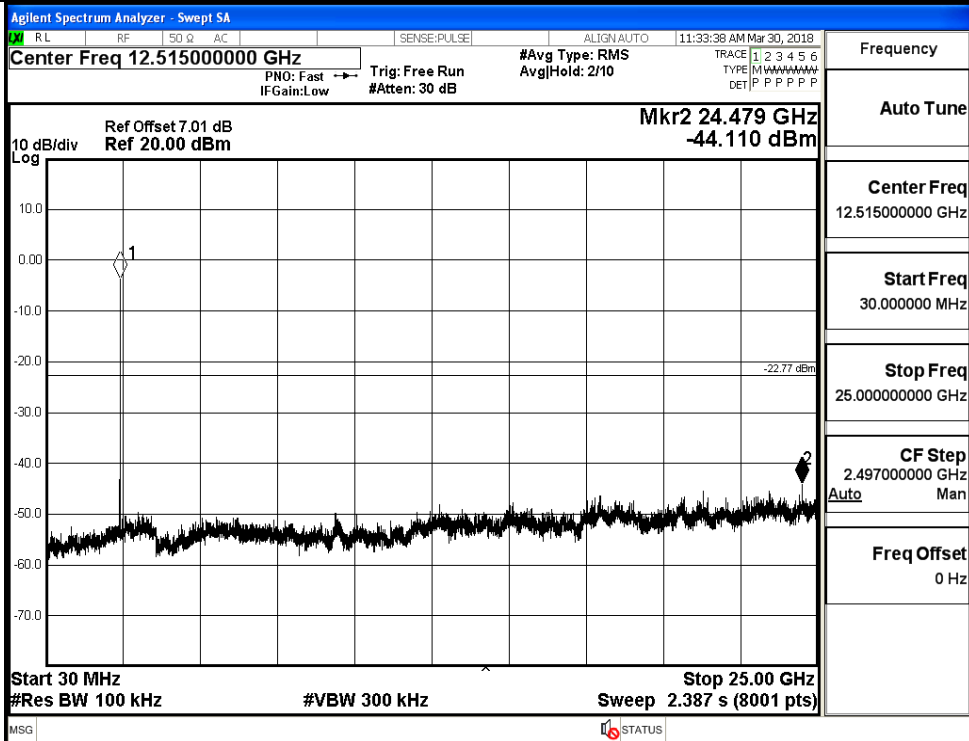


8DPSK\_MCH\_Graphs

Pref



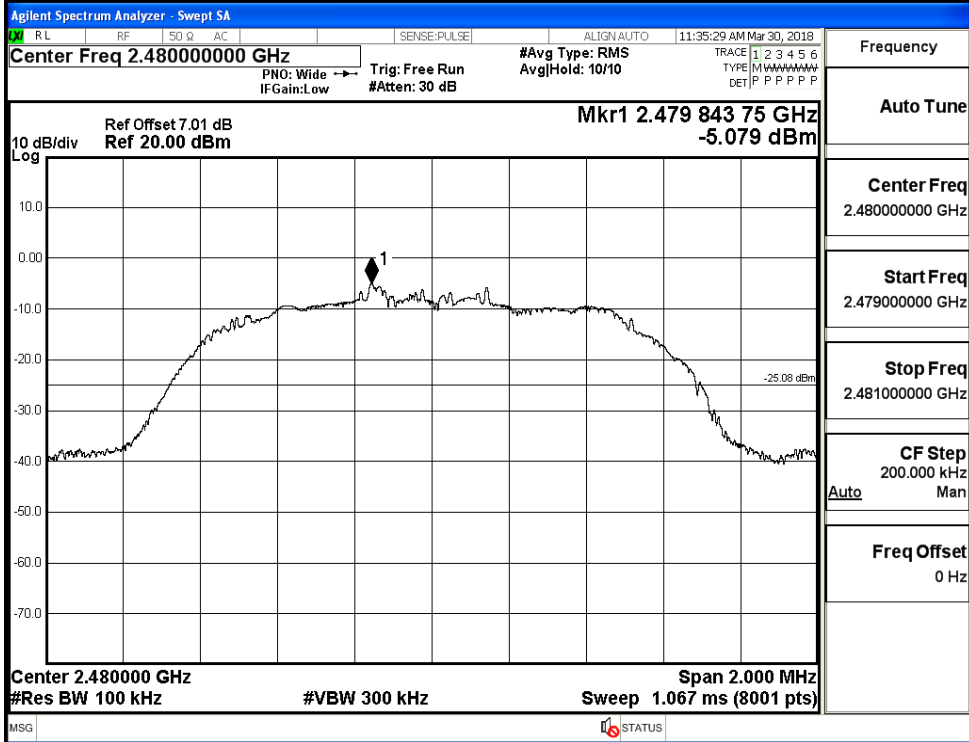
Puw



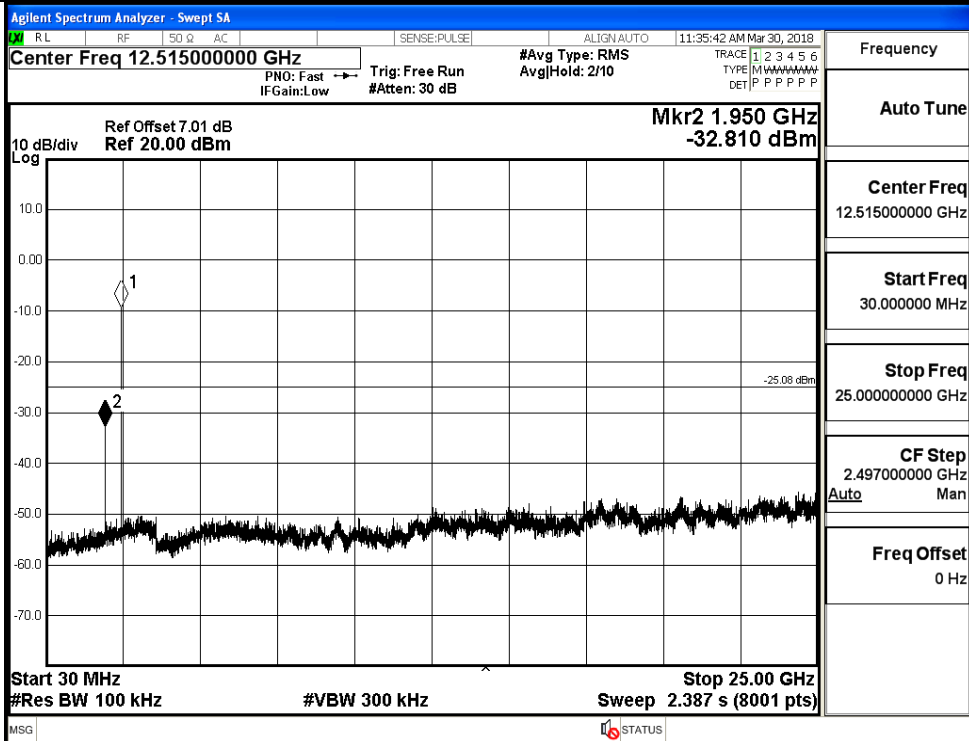


8DPSK\_HCH\_Graphs

Pref



Puw

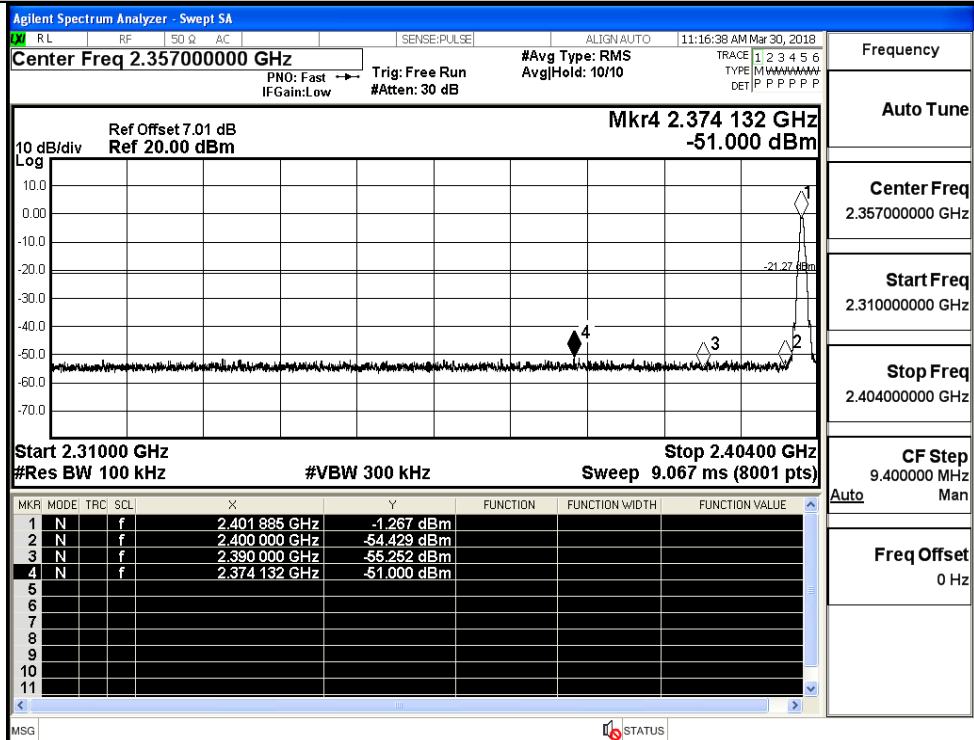


### A.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-1.267	Off	-51.000	-21.27	PASS
			-0.558	On	-50.833	-20.56	PASS
	HCH	2480	-3.878	Off	-50.138	-23.88	PASS
			0.863	On	-50.251	-19.14	PASS
π/4DQPSK	LCH	2402	-2.644	Off	-50.869	-22.64	PASS
			-2.120	On	-50.685	-22.12	PASS
	HCH	2480	-4.822	Off	-51.196	-24.82	PASS
			-0.803	On	-50.549	-20.8	PASS
8DPSK	LCH	2402	-2.619	Off	-51.225	-22.62	PASS
			-1.642	On	-50.665	-21.64	PASS
	HCH	2480	-4.900	Off	-50.796	-24.9	PASS
			-0.635	On	-49.862	-20.64	PASS

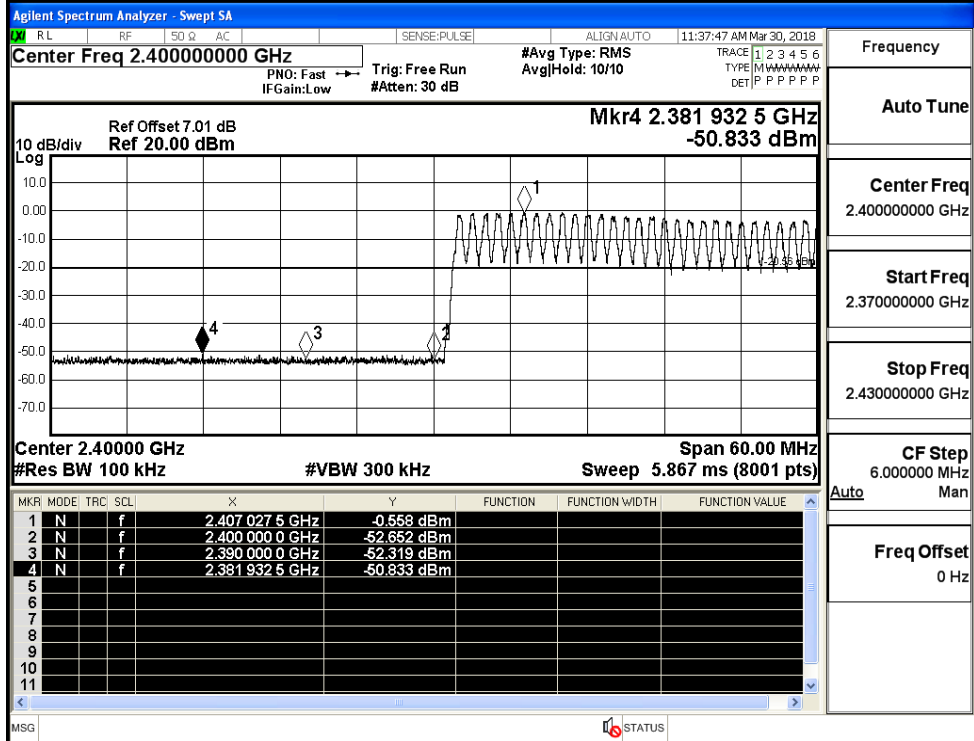
Test Graphs

GFSK/LCH/No Hop



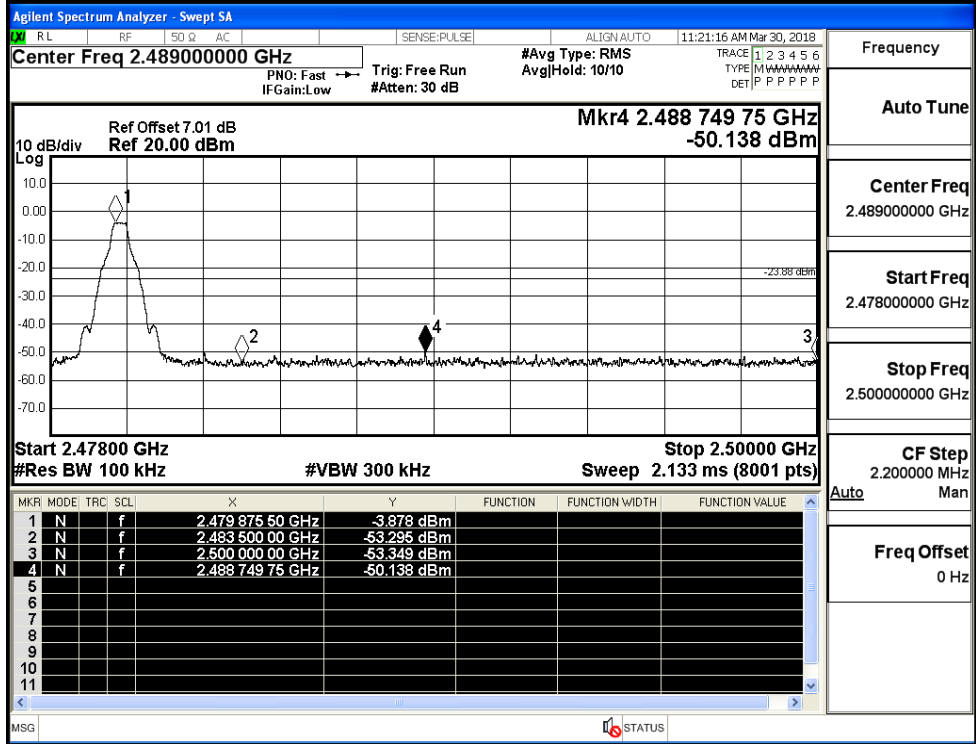
Frequency	Auto Tune
Center Freq	2.357000000 GHz
Start Freq	2.310000000 GHz
Stop Freq	2.404000000 GHz
CF Step	9.400000 MHz
Freq Offset	0 Hz

GFSK/LCH/Hop

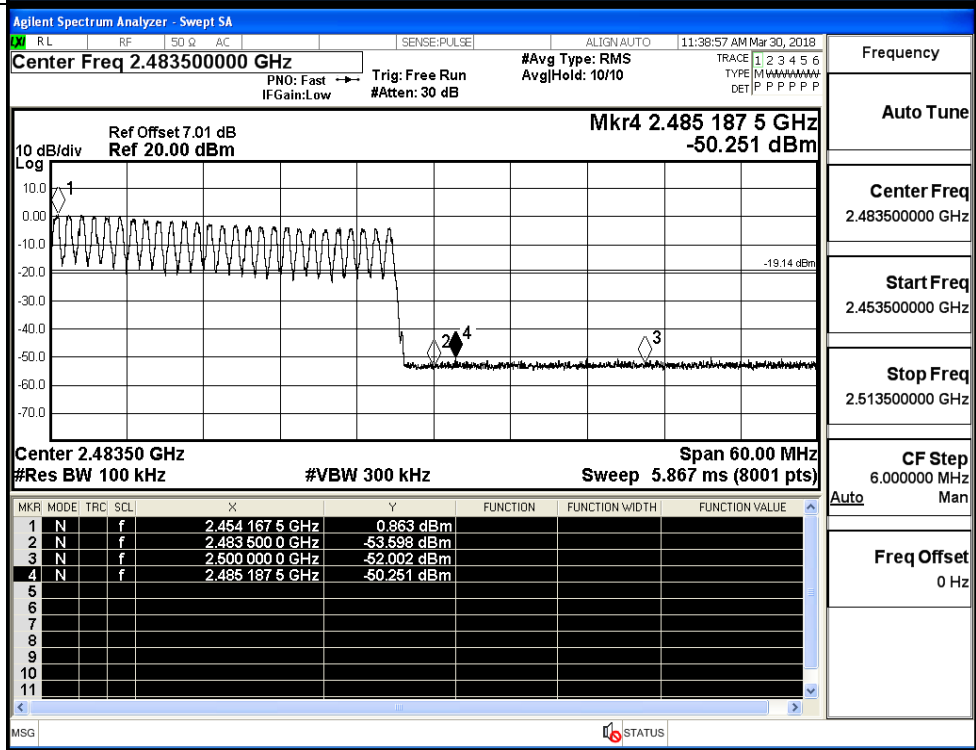


Frequency	Auto Tune
Center Freq	2.400000000 GHz
Start Freq	2.370000000 GHz
Stop Freq	2.430000000 GHz
CF Step	6.000000 MHz
Freq Offset	0 Hz

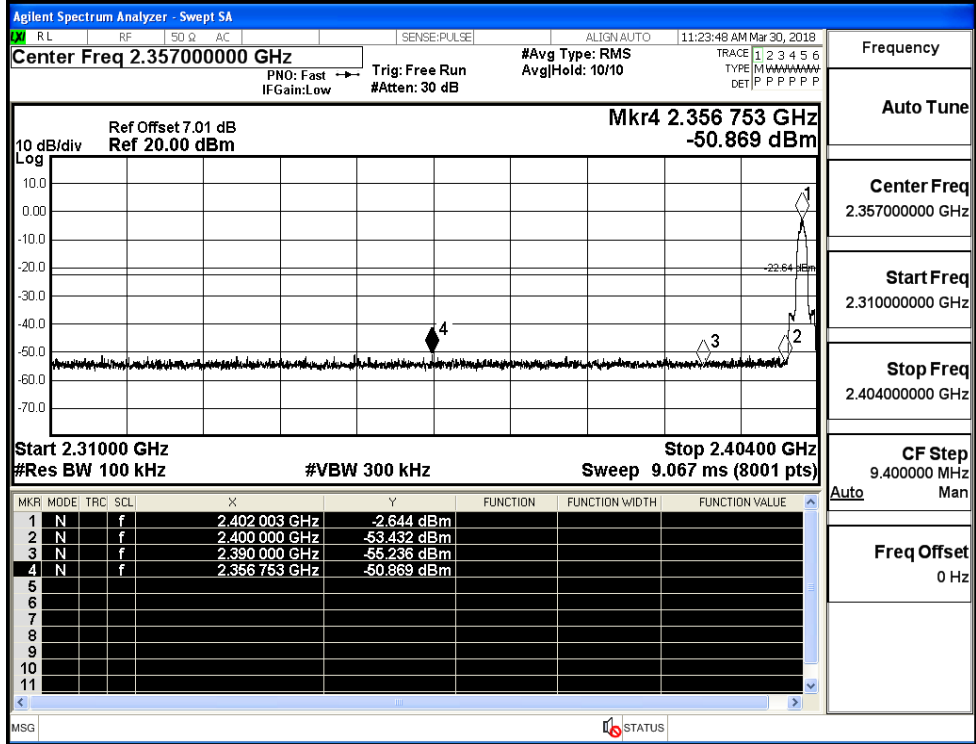
GFSK/HCH/No Hop



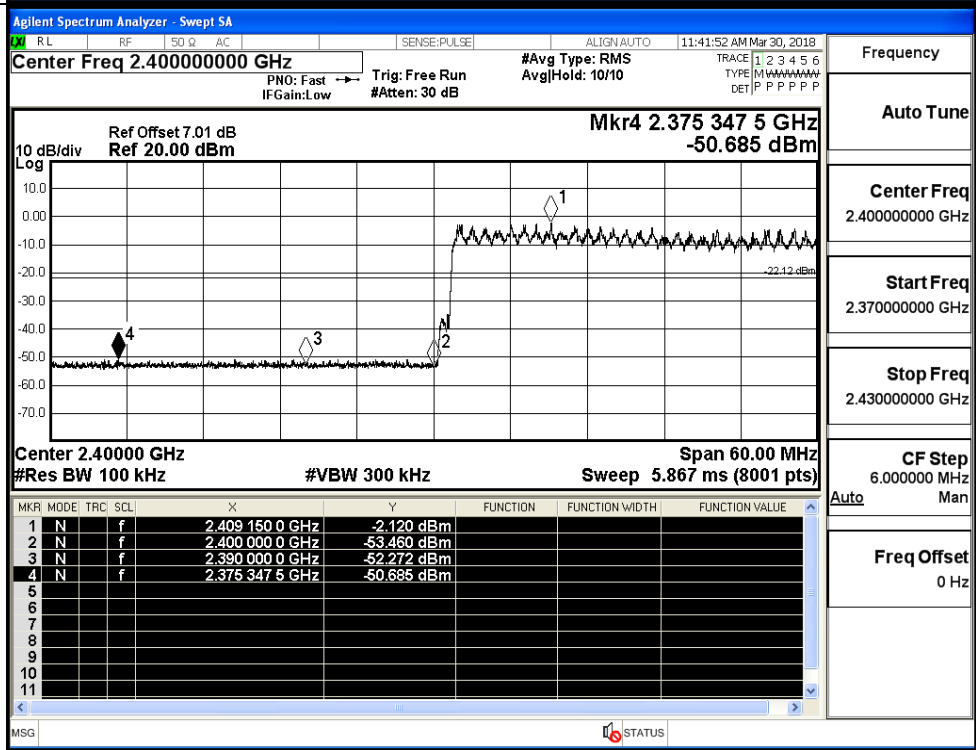
GFSK/HCH/Hop



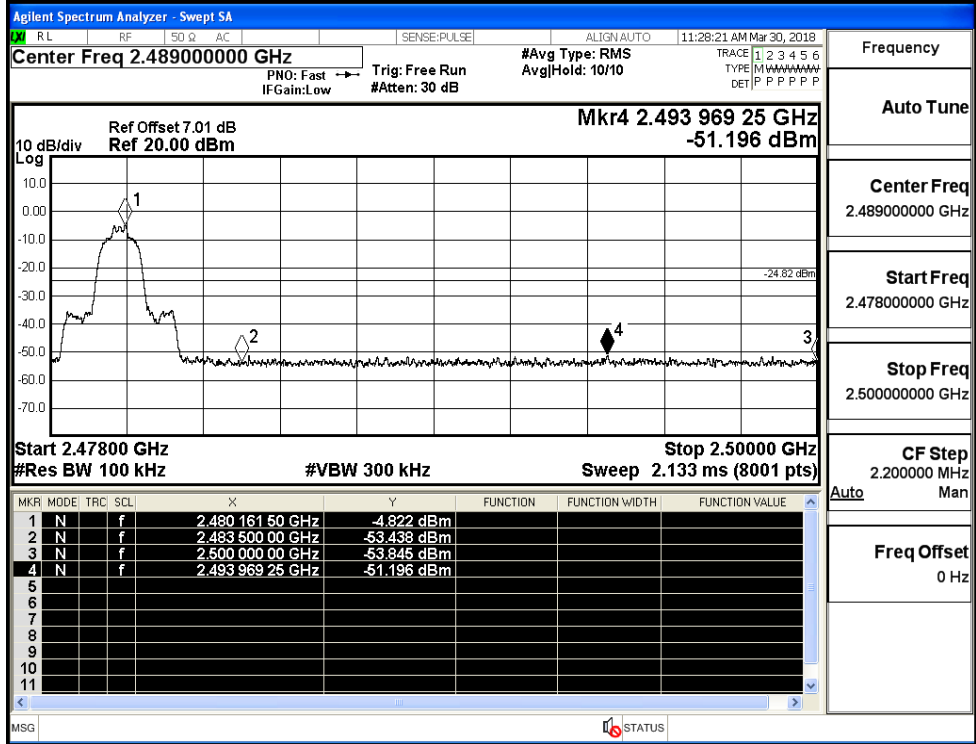
$\pi/4$ DQPSK/LCH/No  
Hop



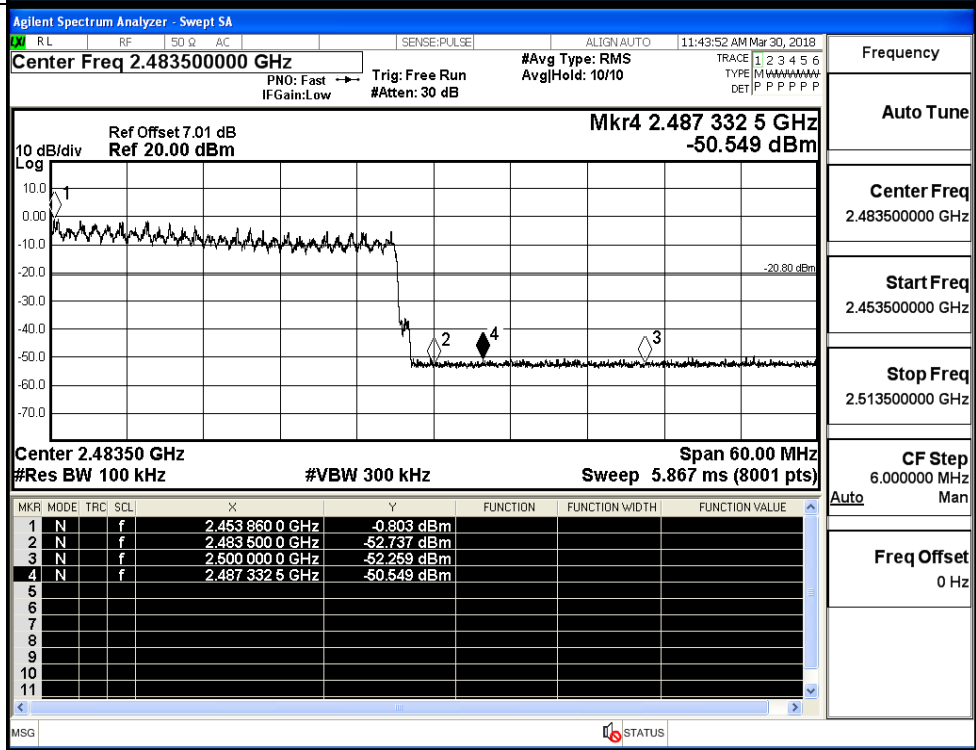
$\pi/4$ DQPSK/LCH/Hop



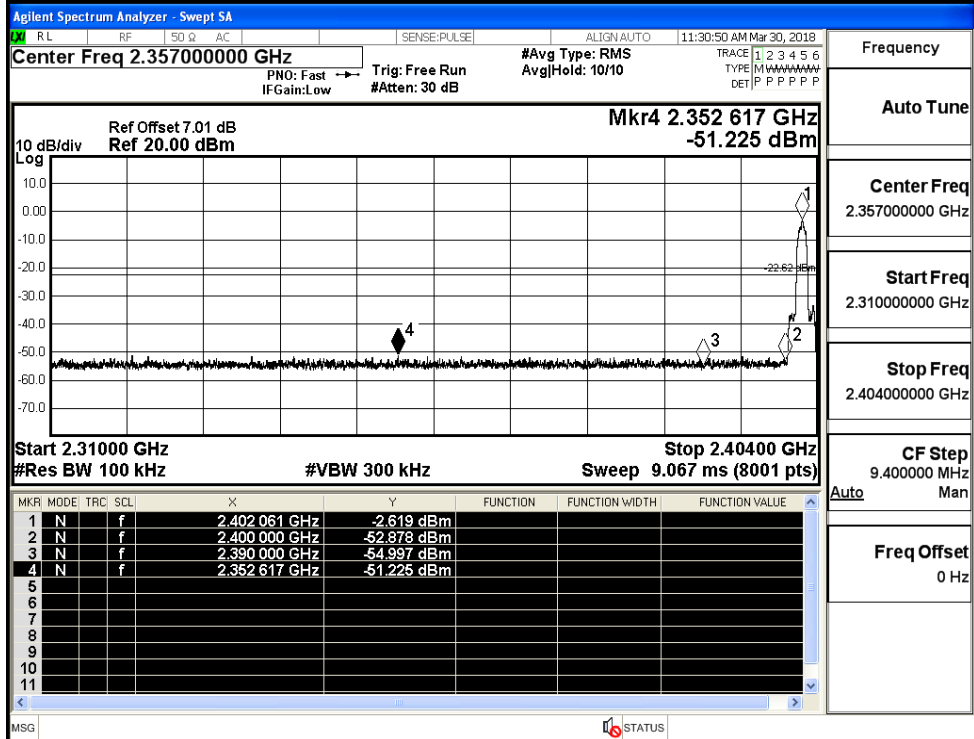
$\pi/4$ DQPSK/HCH/No  
Hop



$\pi/4$ DQPSK/HCH/Hop

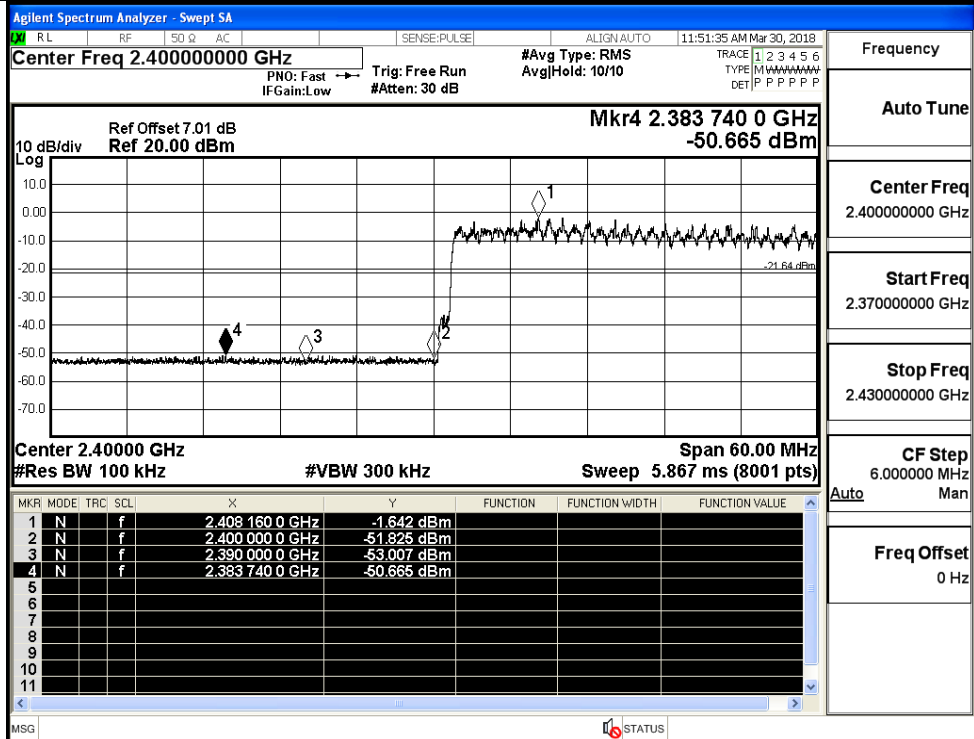


8DPSK/LCH/No Hop



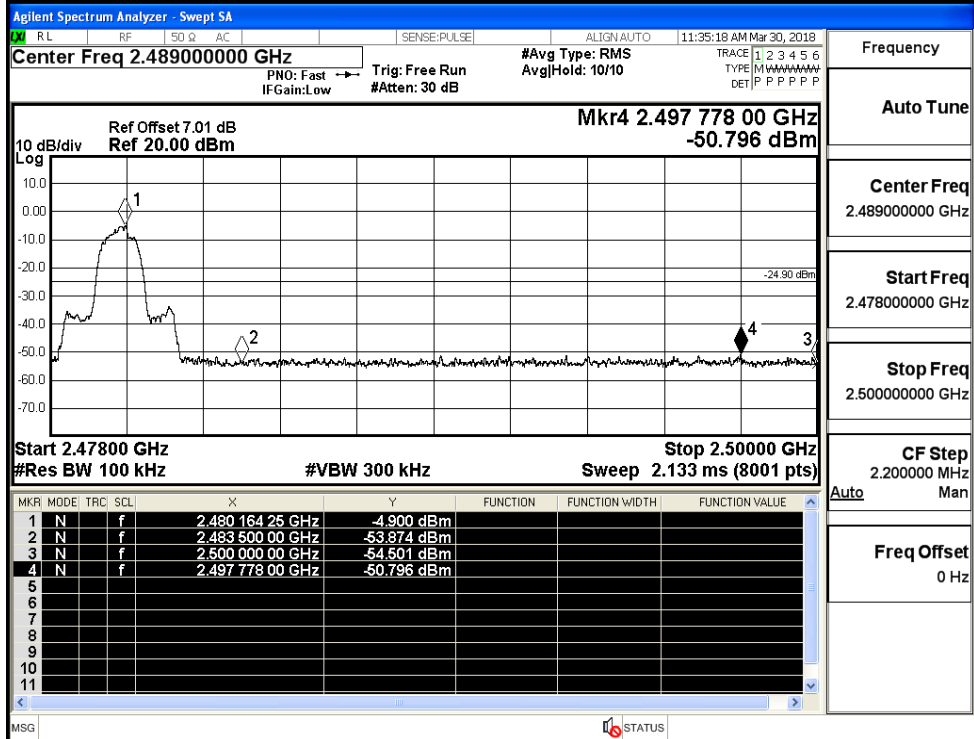
Frequency	
Auto Tune	
Center Freq	2.357000000 GHz
Start Freq	2.310000000 GHz
Stop Freq	2.404000000 GHz
CF Step	9.400000 MHz
Auto	Man
Freq Offset	0 Hz

8DPSK/LCH/Hop



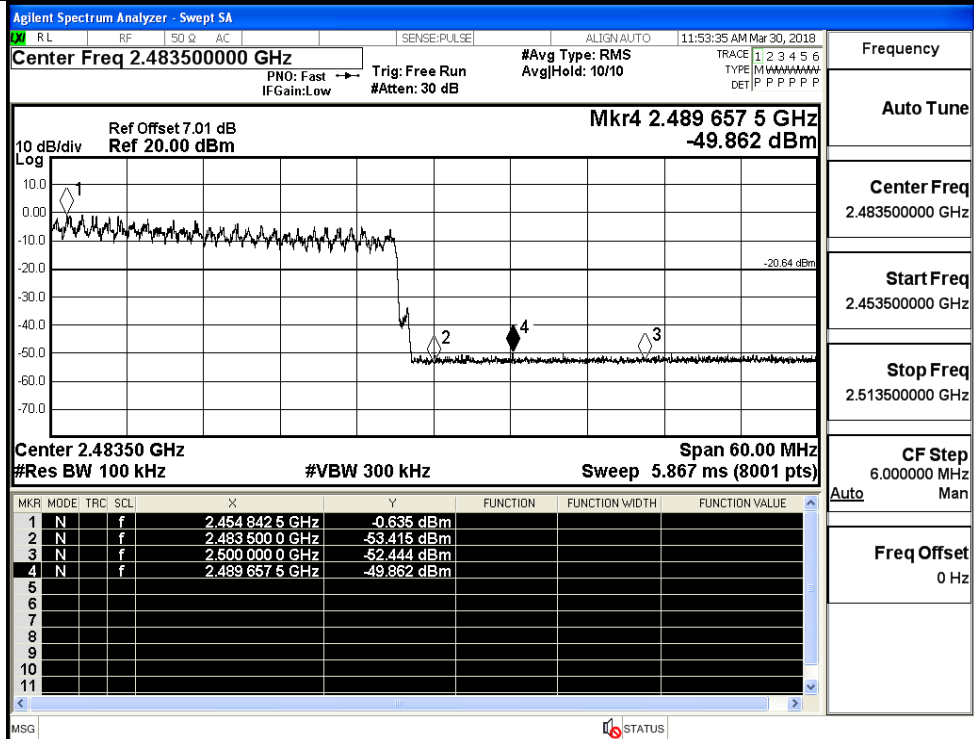
Frequency	
Auto Tune	
Center Freq	2.400000000 GHz
Start Freq	2.370000000 GHz
Stop Freq	2.430000000 GHz
CF Step	6.000000 MHz
Auto	Man
Freq Offset	0 Hz

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
Auto	Man
Freq Offset	0 Hz

8DPSK/HCH/Hop



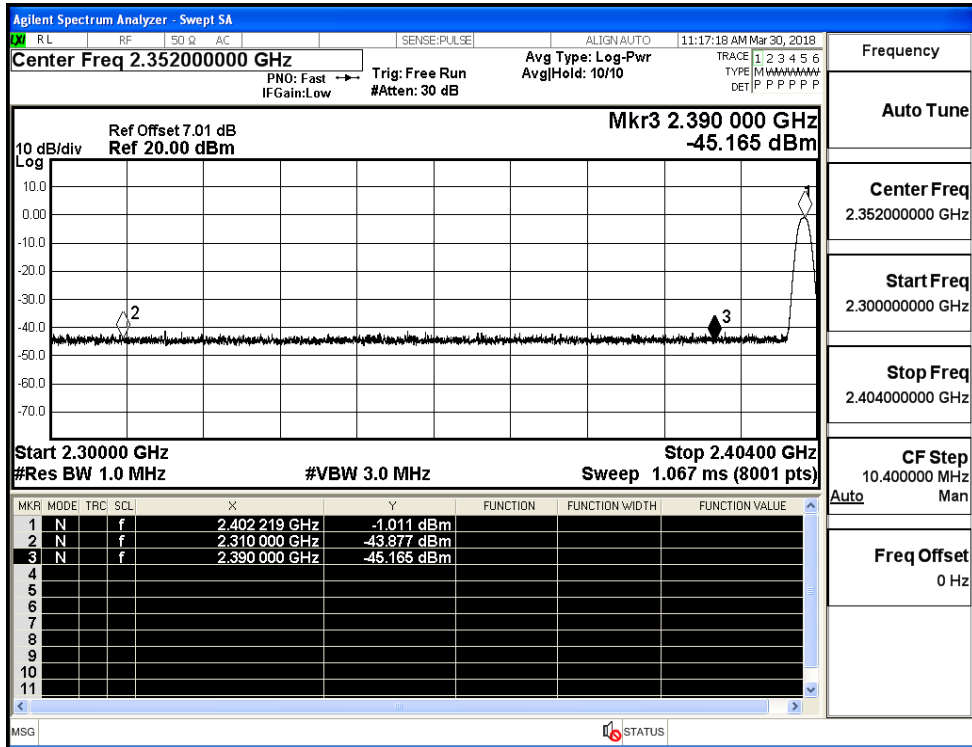
Frequency	
Auto Tune	
Center Freq	2.483500000 GHz
Start Freq	2.453500000 GHz
Stop Freq	2.513500000 GHz
CF Step	6.000000 MHz
Auto	Man
Freq Offset	0 Hz



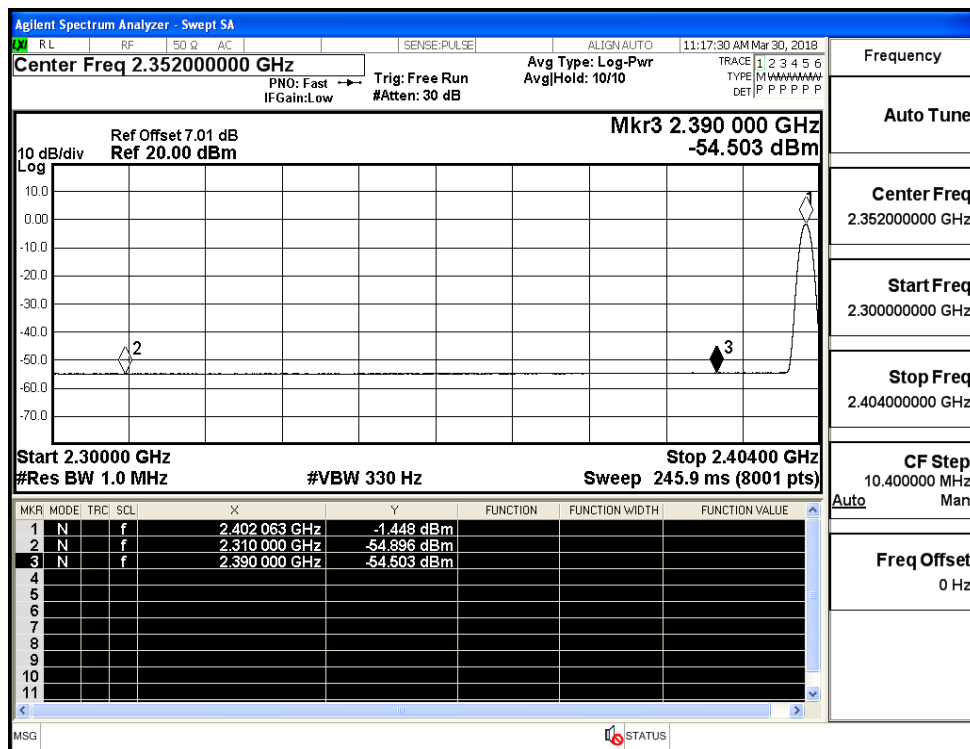
### A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.88	2.0	0	53.32	PEAK	74	PASS
	Off	2310.0	-54.90	2.0	0	42.30	AV	54	PASS
	Off	2390.0	-45.17	2.0	0	52.03	PEAK	74	PASS
	Off	2390.0	-54.50	2.0	0	42.70	AV	54	PASS
	Off	2483.5	-45.51	2.0	0	51.69	PEAK	74	PASS
	Off	2483.5	-54.37	2.0	0	42.83	AV	54	PASS
	Off	2500.0	-44.25	2.0	0	52.95	PEAK	74	PASS
	Off	2500.0	-54.29	2.0	0	42.91	AV	54	PASS
π/4DQPSK	Off	2310.0	-44.22	2.0	0	52.98	PEAK	74	PASS
	Off	2310.0	-54.93	2.0	0	42.27	AV	54	PASS
	Off	2390.0	-44.55	2.0	0	52.65	PEAK	74	PASS
	Off	2390.0	-54.60	2.0	0	42.60	AV	54	PASS
	Off	2483.5	-43.33	2.0	0	53.87	PEAK	74	PASS
	Off	2483.5	-54.31	2.0	0	42.89	AV	54	PASS
	Off	2500.0	-44.97	2.0	0	52.23	PEAK	74	PASS
	Off	2500.0	-54.16	2.0	0	43.04	AV	54	PASS
8DPSK	Off	2310.0	-45.78	2.0	0	51.42	PEAK	74	PASS
	Off	2310.0	-54.91	2.0	0	42.29	AV	54	PASS
	Off	2390.0	-43.69	2.0	0	53.51	PEAK	74	PASS
	Off	2390.0	-54.60	2.0	0	42.60	AV	54	PASS
	Off	2483.5	-44.13	2.0	0	53.07	PEAK	74	PASS
	Off	2483.5	-54.27	2.0	0	42.93	AV	54	PASS
	Off	2500.0	-44.35	2.0	0	52.85	PEAK	74	PASS
	Off	2500.0	-54.26	2.0	0	42.94	AV	54	PASS

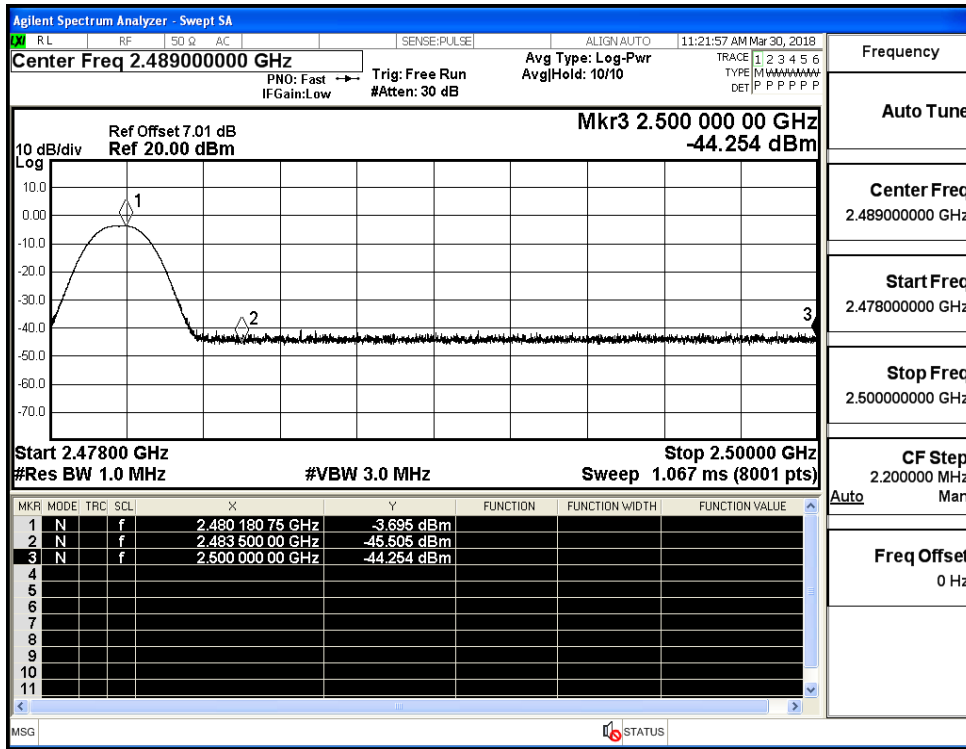
Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (Low Channel)



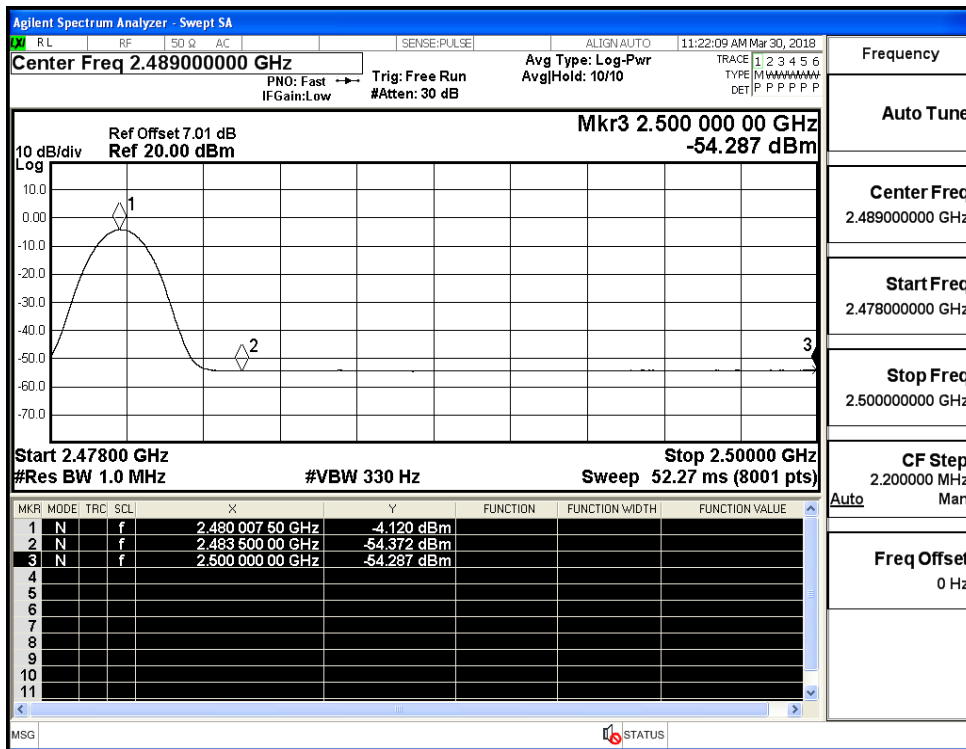
Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (Low Channel)



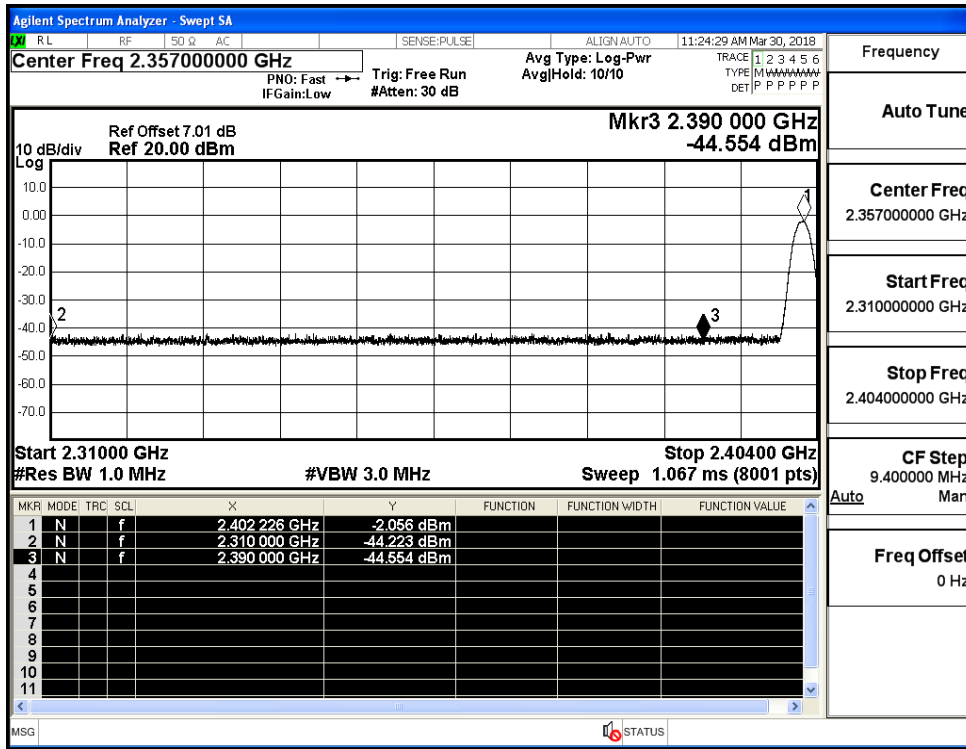
Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (High Channel)



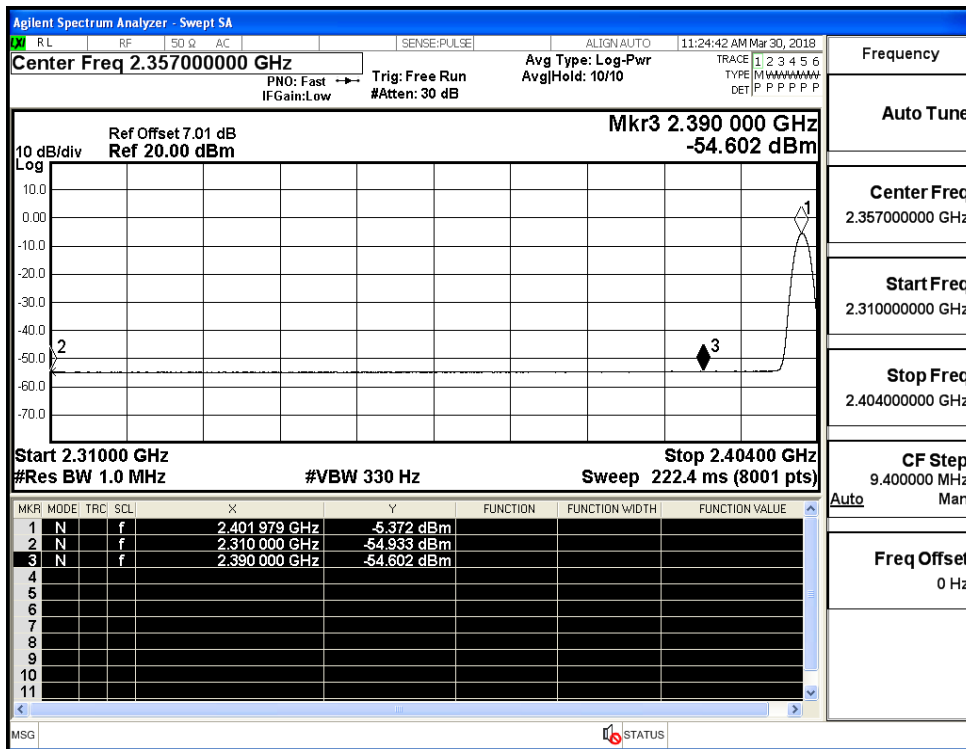
Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (High Channel)



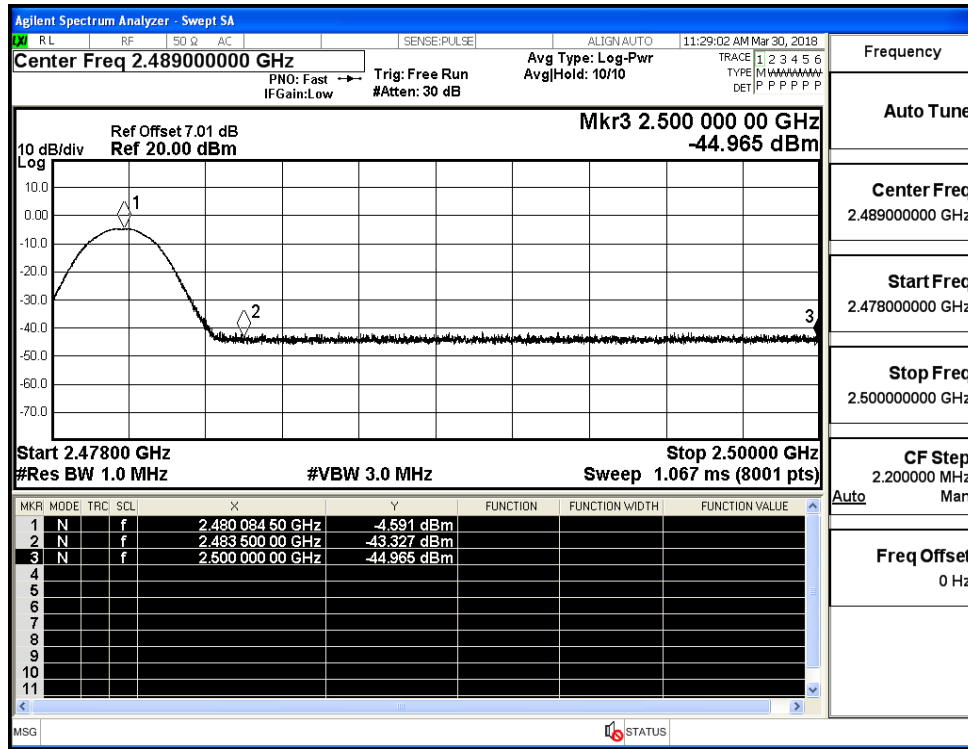
Restrict-band band-edge measurements\_Hopping Off  $\pi/4$ -DQPSK\_PEAK (Low Channel)



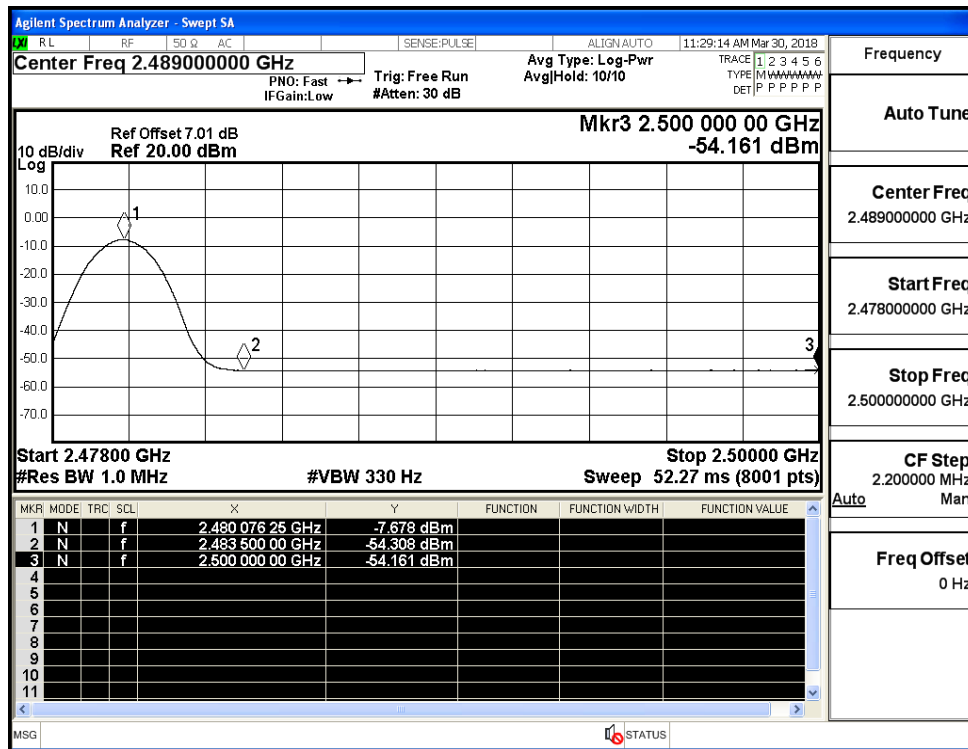
Restrict-band band-edge measurements\_Hopping Off  $\pi/4$ -DQPSK\_Average (Low Channel)



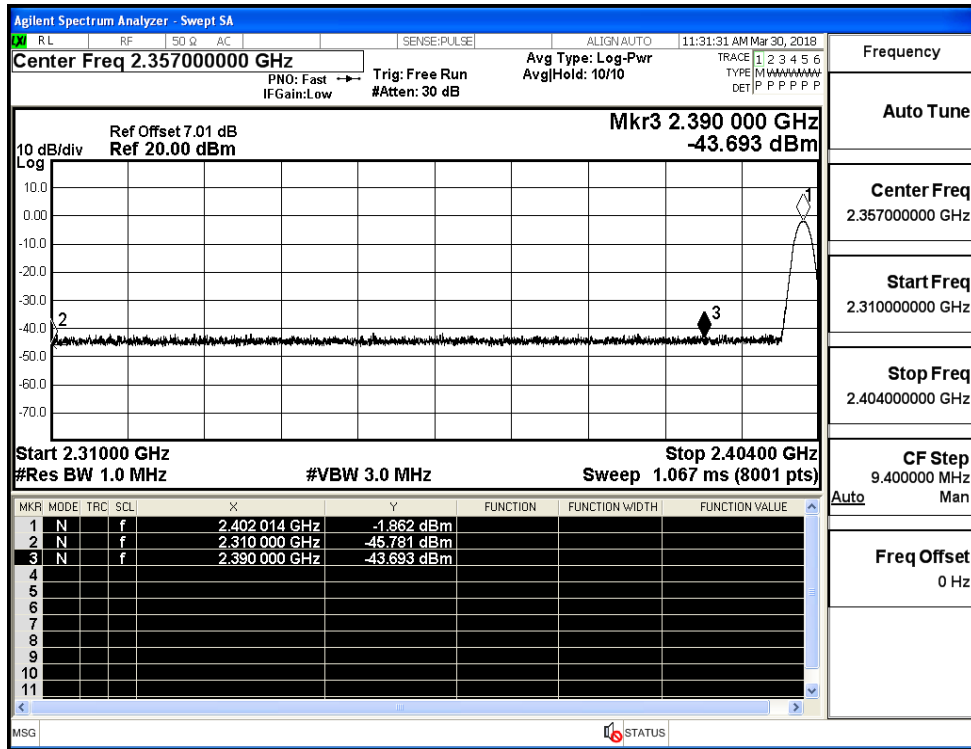
Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_PEAK (High Channel)



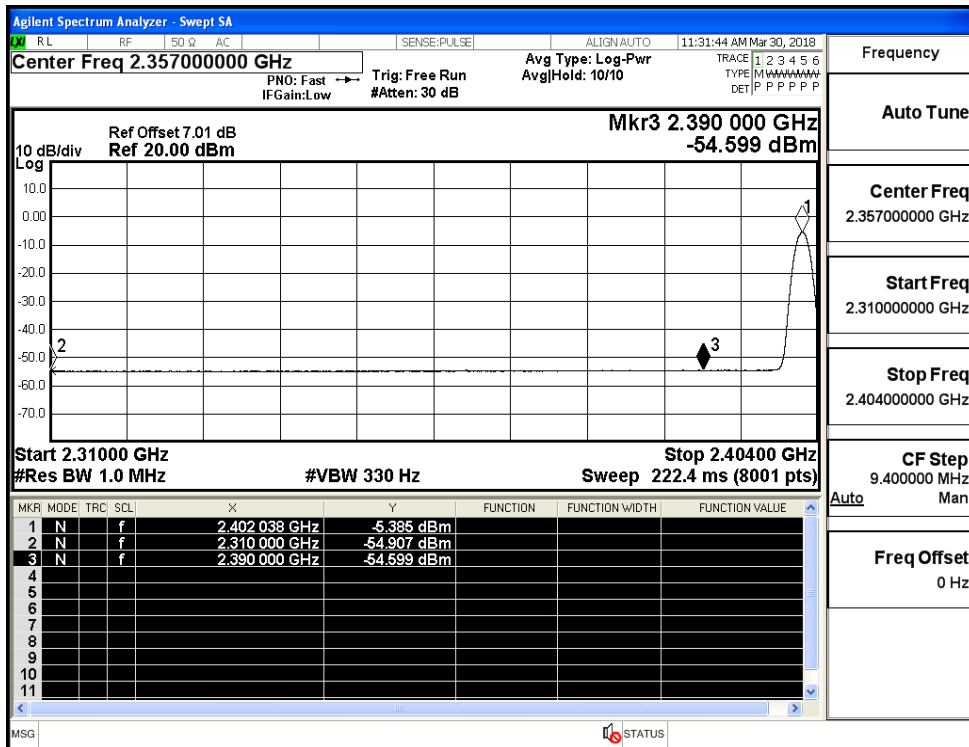
Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_Average (High Channel)



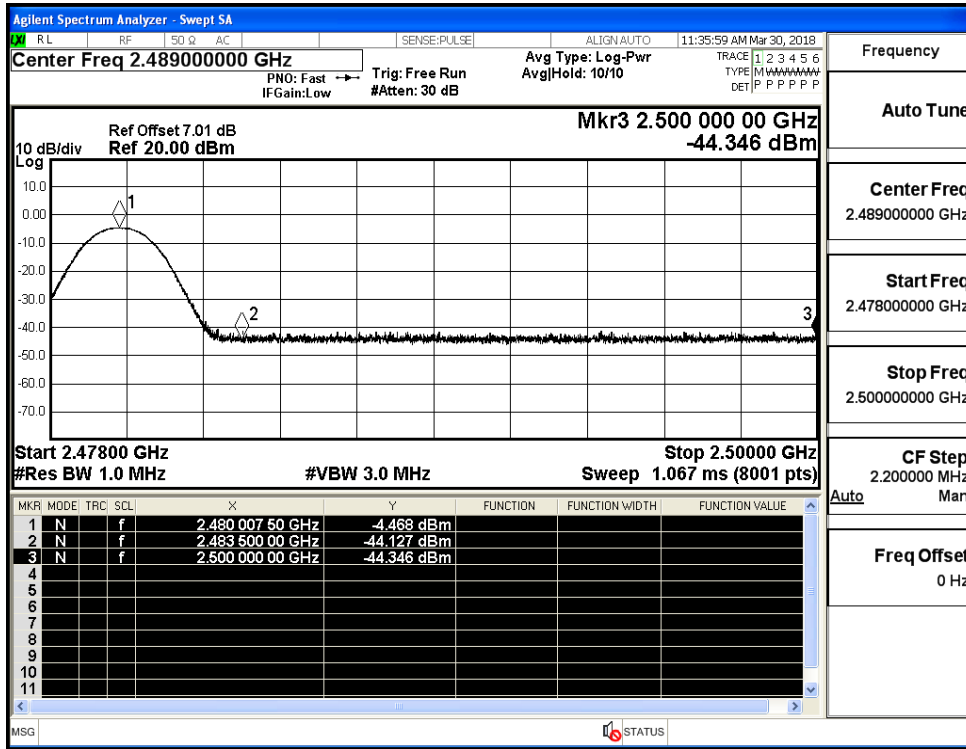
Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_PEAK (Low Channel)



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



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



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

