

Appendix A

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

Product Name: AIO PC

Trade Mark: Fusion5

Test Model: A7

Environmental Conditions

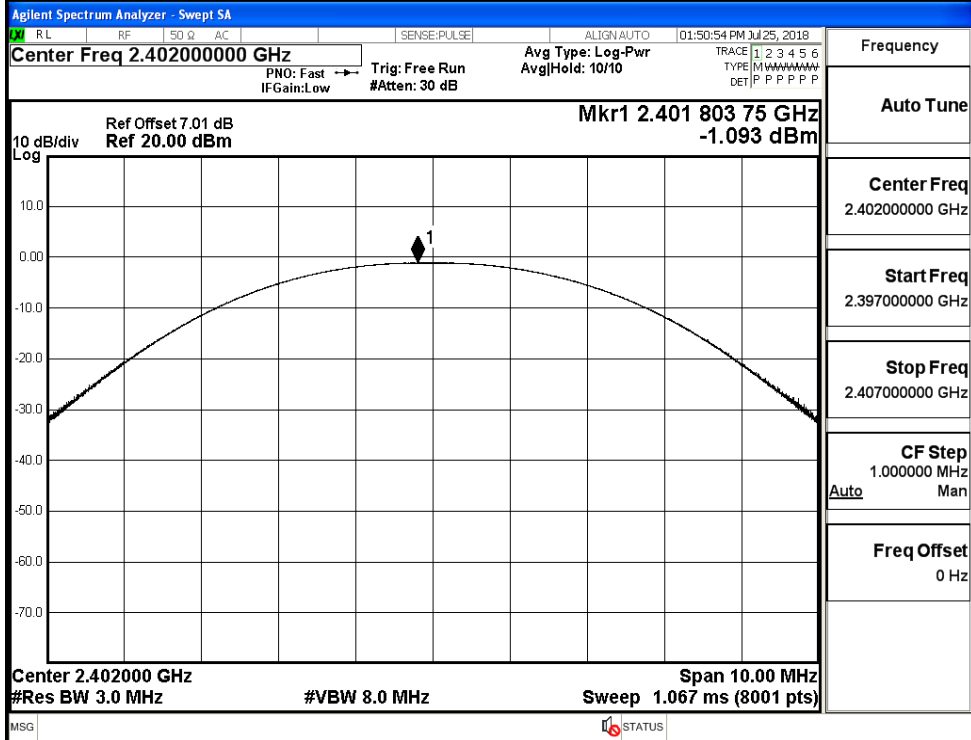
Temperature:	22.6 ° C
Relative Humidity:	53.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom Liu
Supervised by:	Jayden Zhuo

A.1 Maximum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-1.093	21	PASS
	MCH	-0.382	21	PASS
	HCH	1.963	21	PASS
$\pi/4$ DQPSK	LCH	-1.736	21	PASS
	MCH	-0.926	21	PASS
	HCH	1.197	21	PASS
8DPSK	LCH	-1.588	21	PASS
	MCH	-0.807	21	PASS
	HCH	1.335	21	PASS

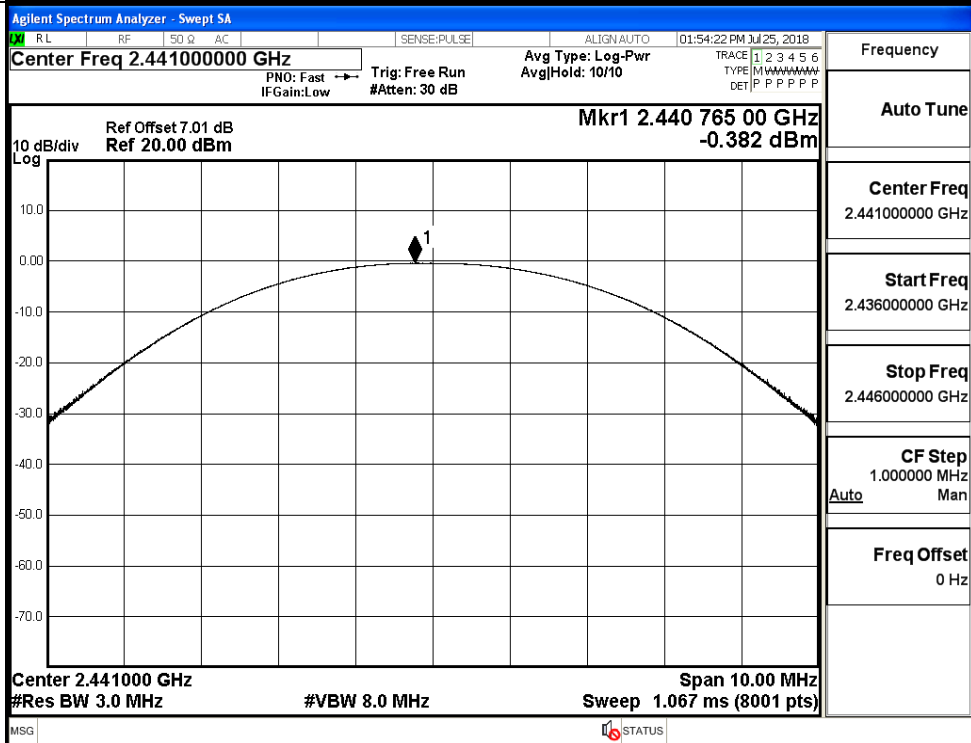
Test Graphs

GFSK/LCH



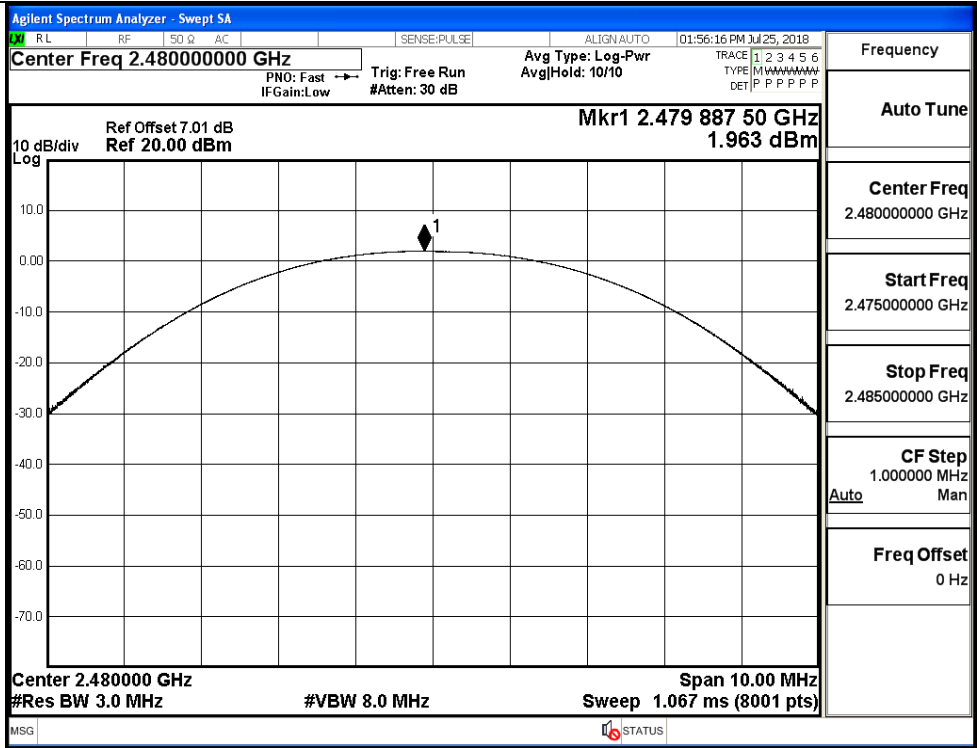
Frequency	2.402000000 GHz
Auto Tune	
Center Freq	2.402000000 GHz
Start Freq	2.397000000 GHz
Stop Freq	2.407000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

GFSK/MCH

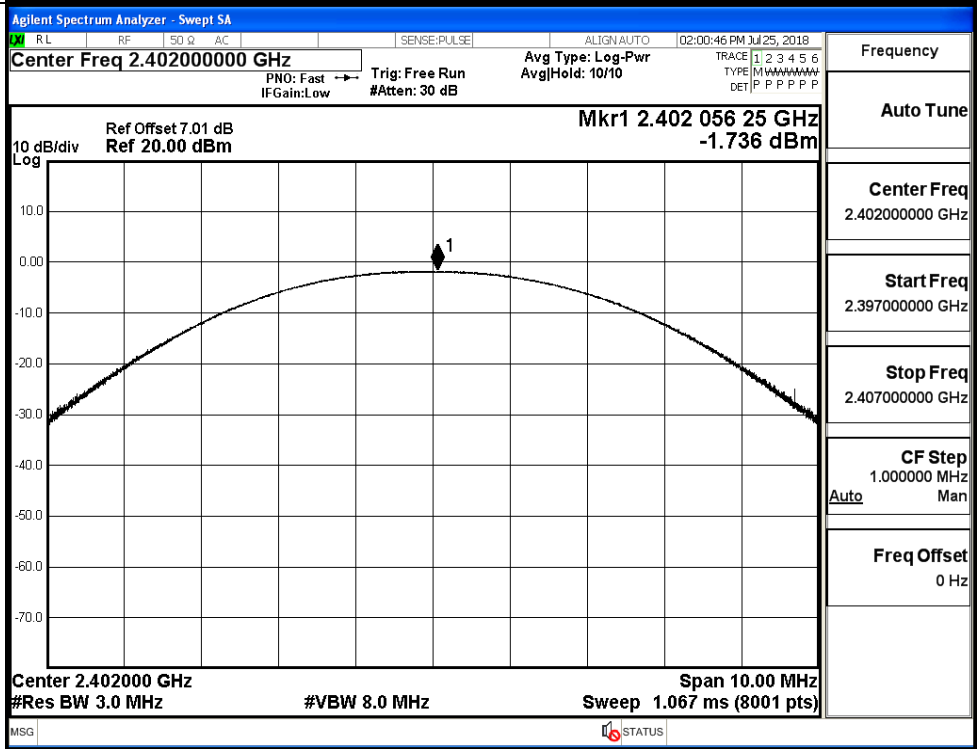


Frequency	2.441000000 GHz
Auto Tune	
Center Freq	2.441000000 GHz
Start Freq	2.436000000 GHz
Stop Freq	2.446000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

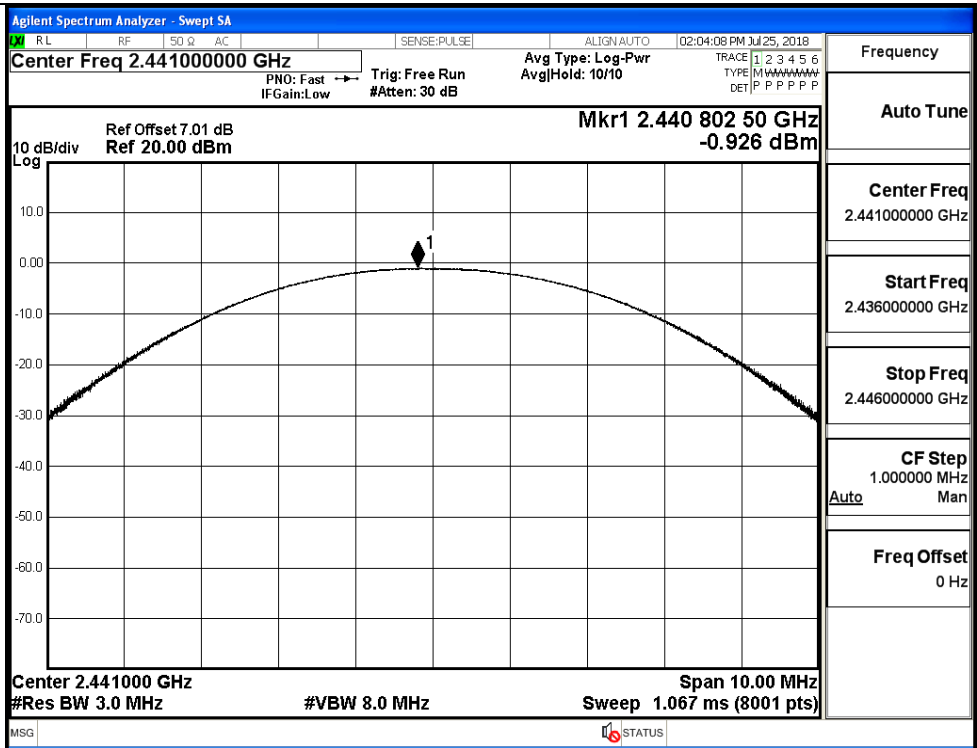
GFSK/HCH



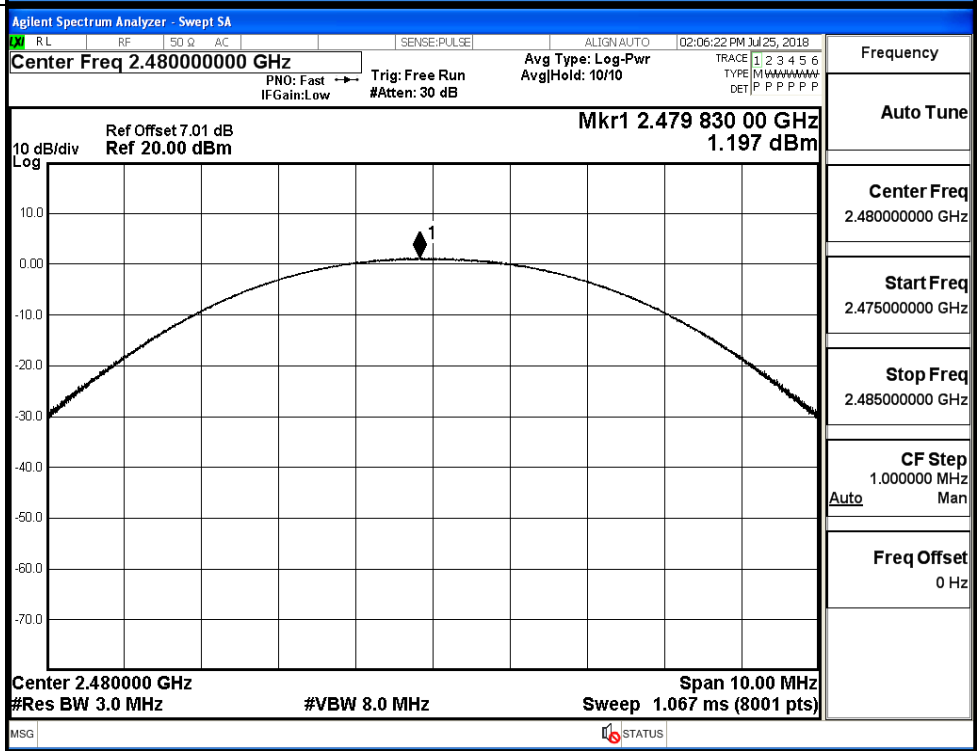
π /4DQPSK/LCH



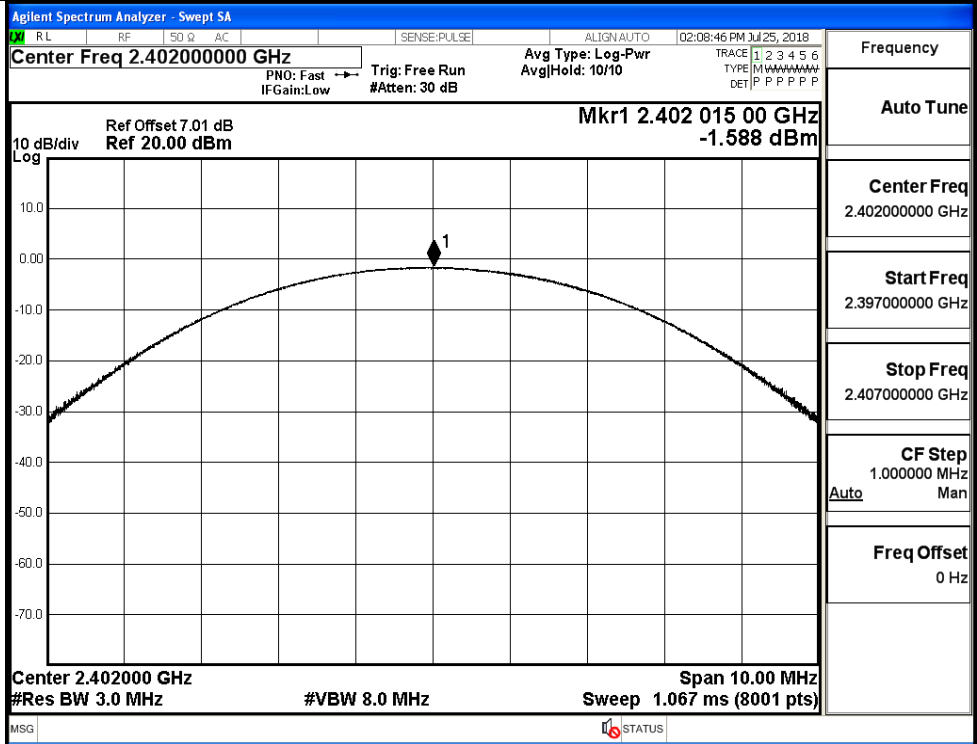
π /4DQPSK/MCH



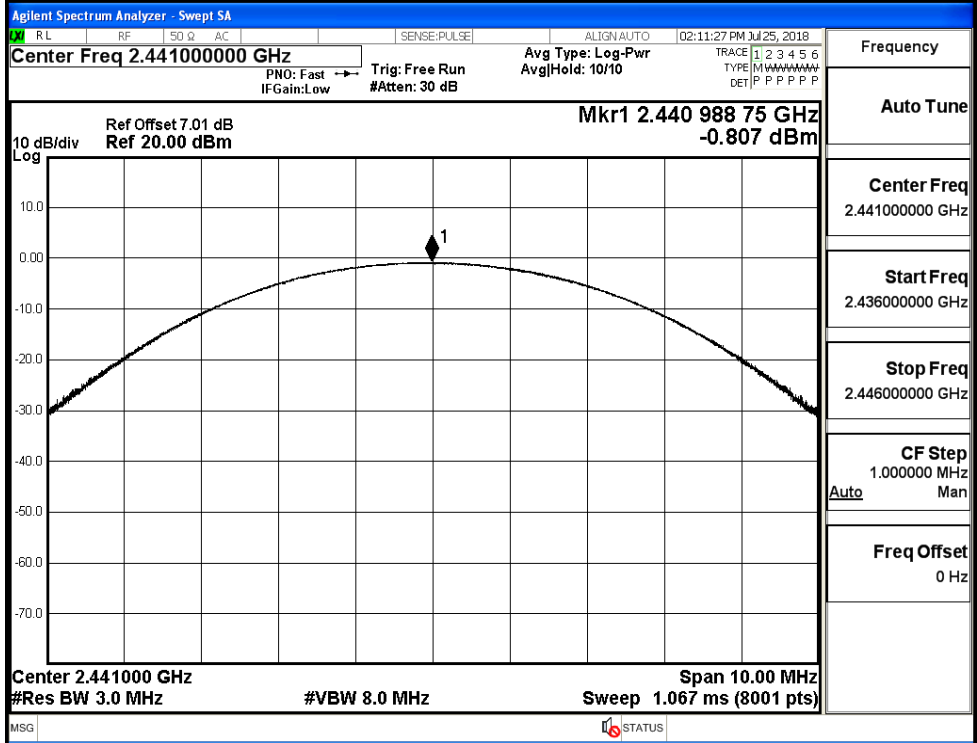
π /4DQPSK/HCH



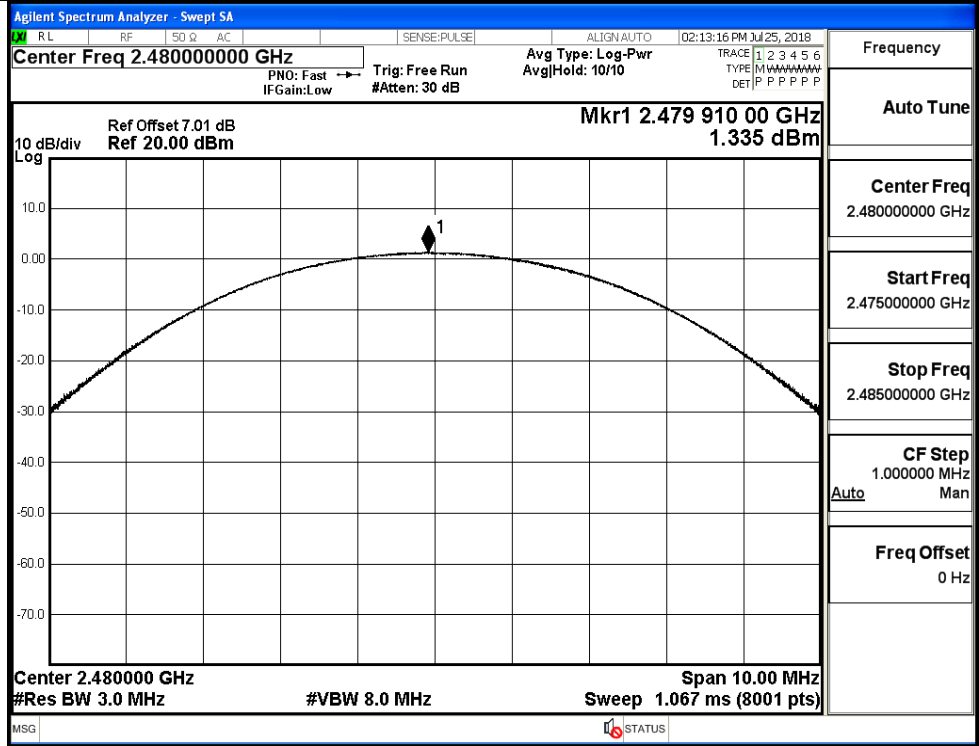
8DPSK/LCH



8DPSK/MCH

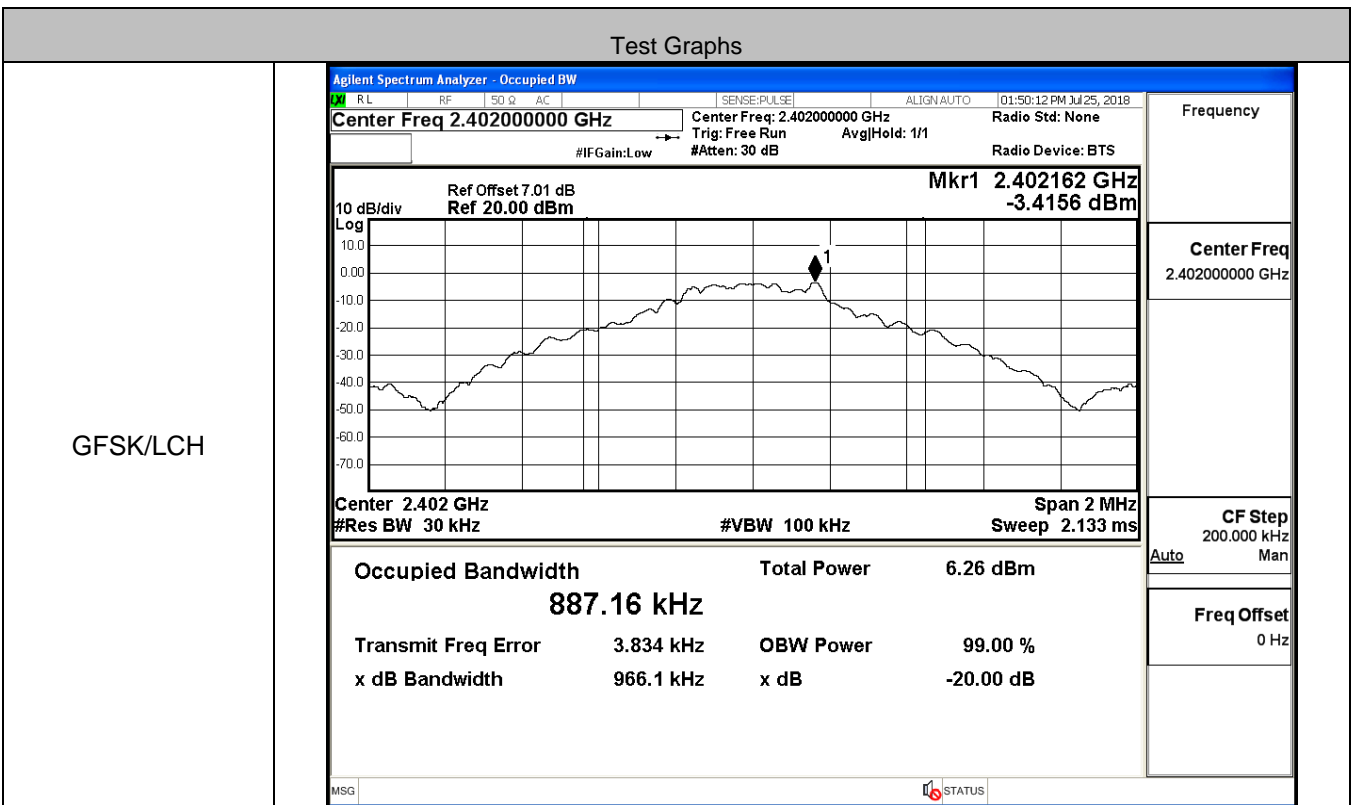


8DPSK/HCH

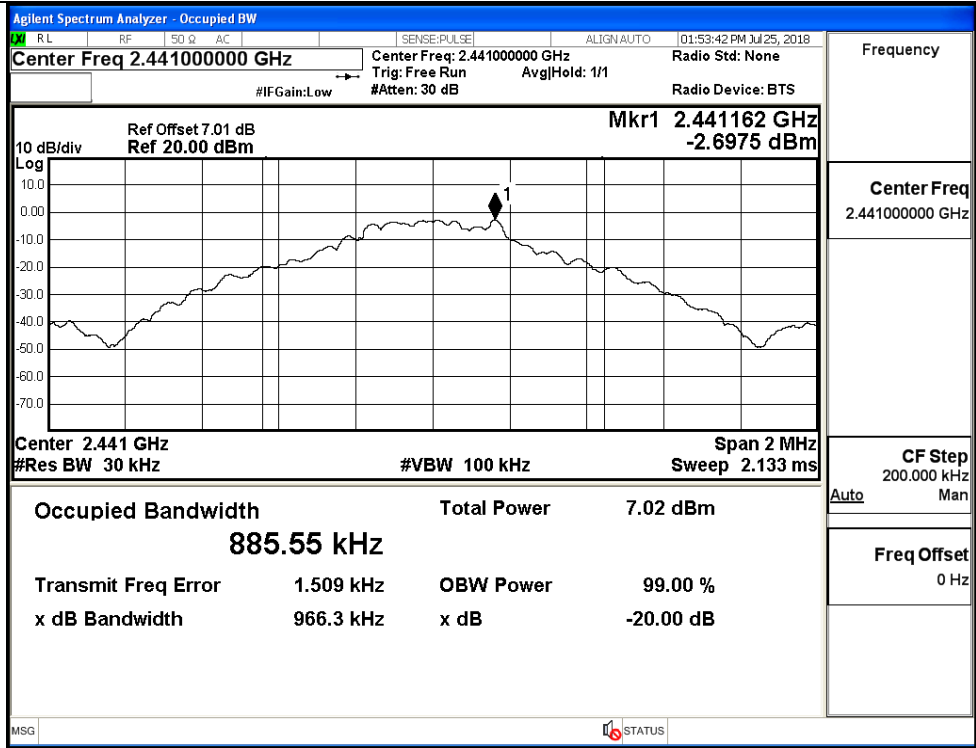


A.2 99% and 20dB Bandwidth

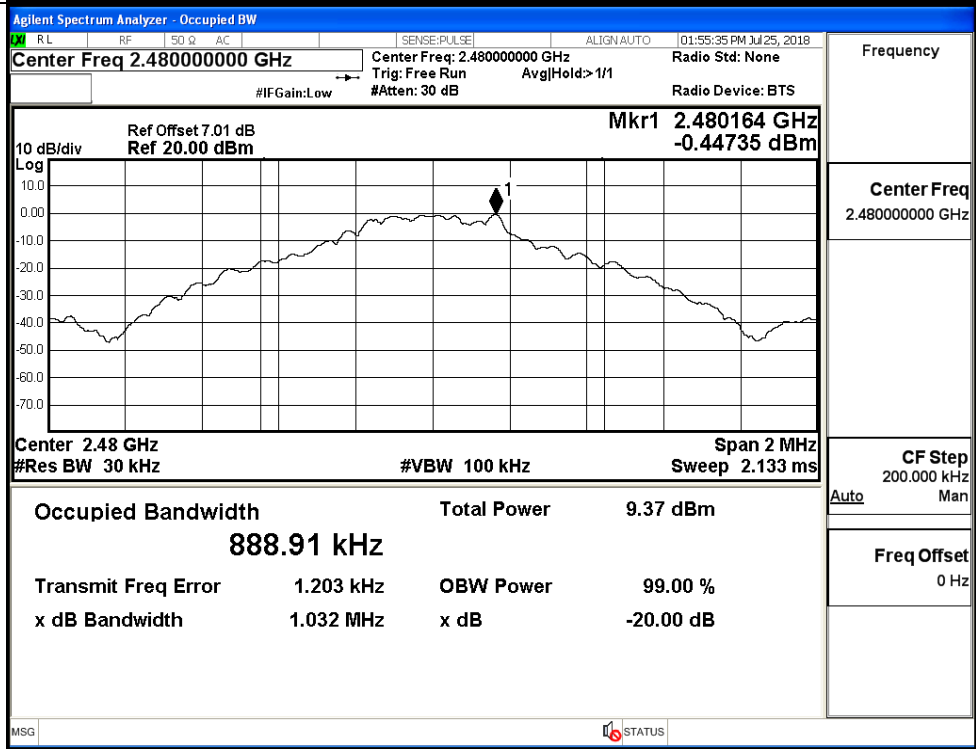
Mode	Channel.	99% Bandwidth [MHz]	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.88716	0.9661	Not Specified	PASS
	MCH	0.88555	0.9663	Not Specified	PASS
	HCH	0.88891	1.032	Not Specified	PASS
π/4DQPSK	LCH	1.1750	1.313	Not Specified	PASS
	MCH	1.1811	1.315	Not Specified	PASS
	HCH	1.1703	1.291	Not Specified	PASS
8DPSK	LCH	1.1904	1.297	Not Specified	PASS
	MCH	1.1933	1.298	Not Specified	PASS
	HCH	1.1785	1.292	Not Specified	PASS



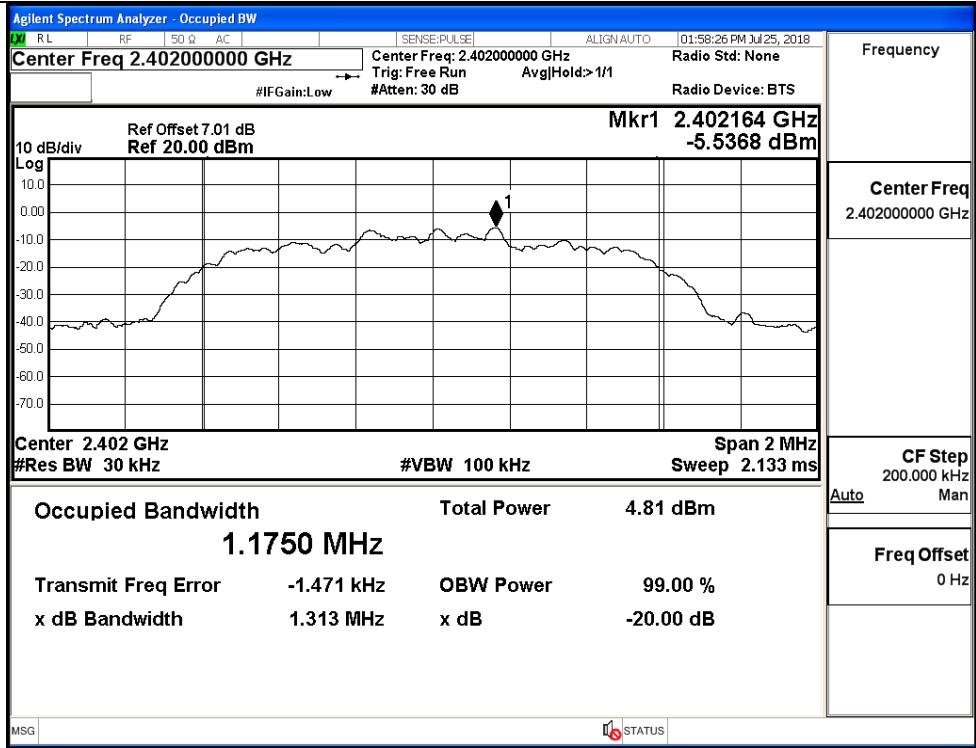
GFSK/MCH



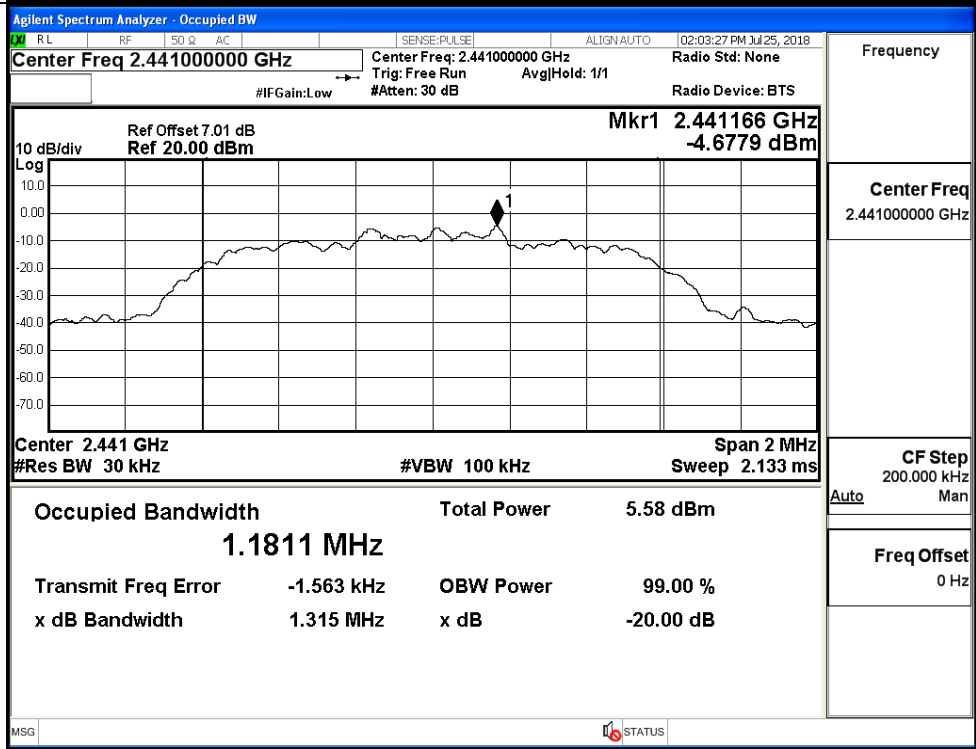
GFSK/HCH



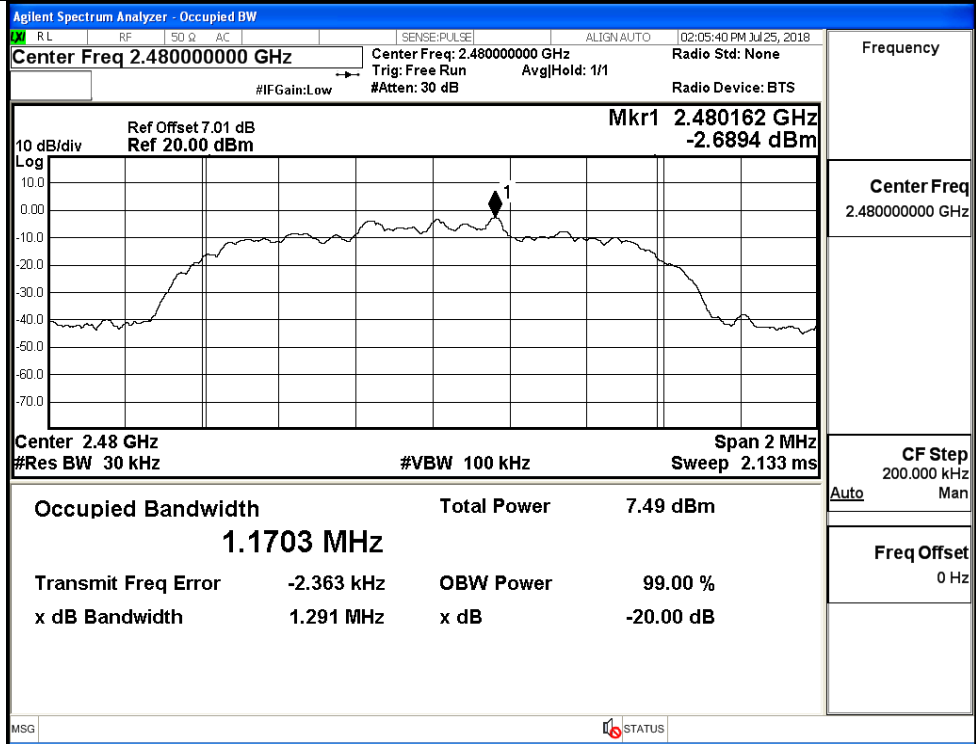
$\pi/4$ DQPSK/LCH



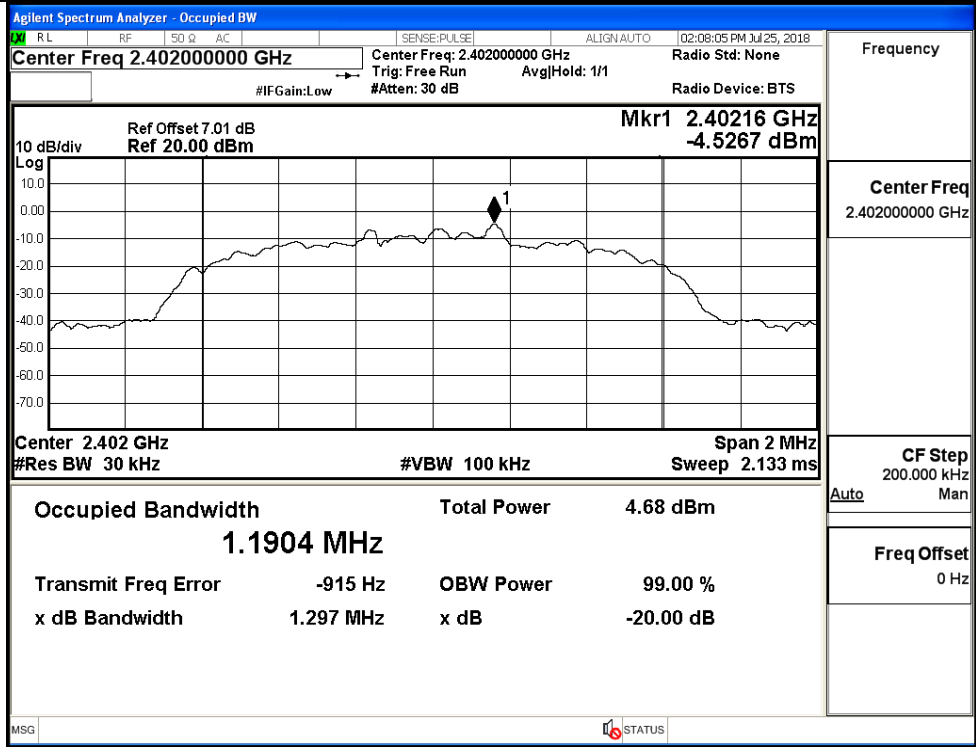
$\pi/4$ DQPSK/MCH



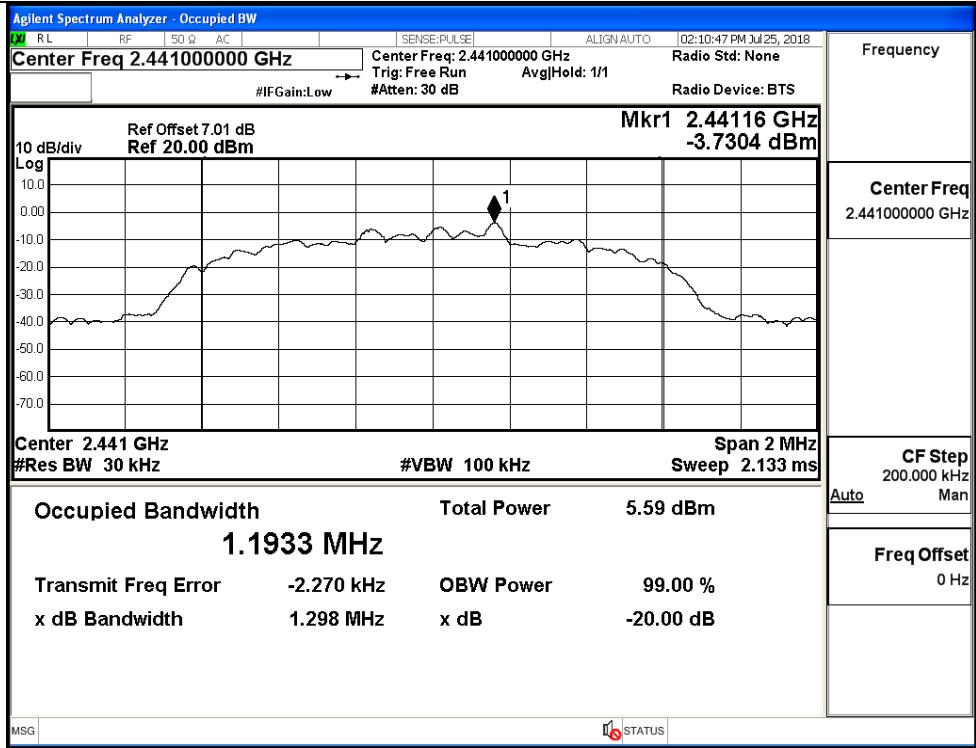
$\pi/4$ DQPSK/HCH



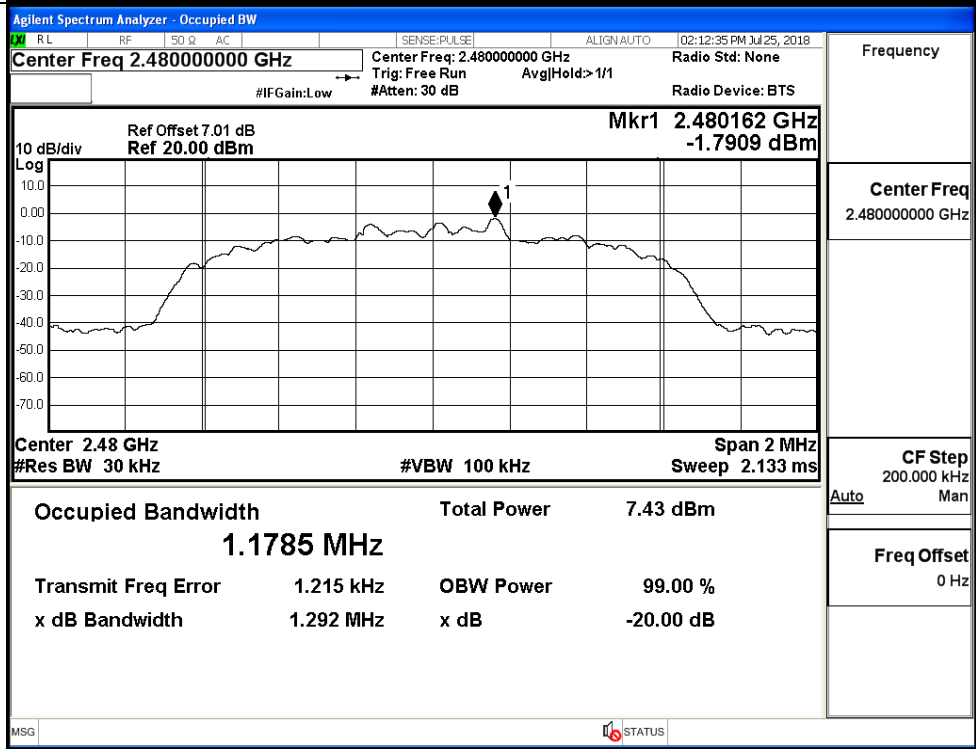
8DPSK/LCH



8DPSK/MCH

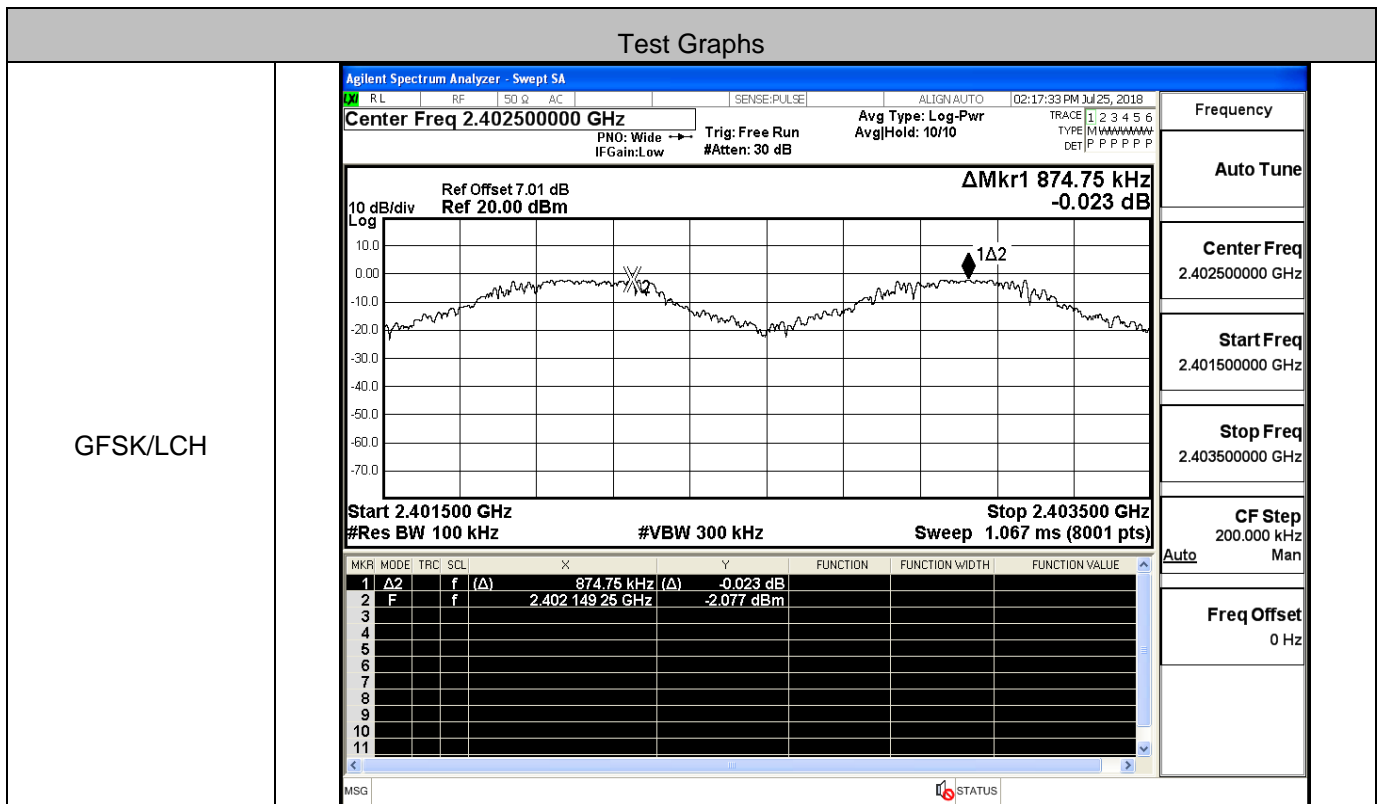


8DPSK/HCH

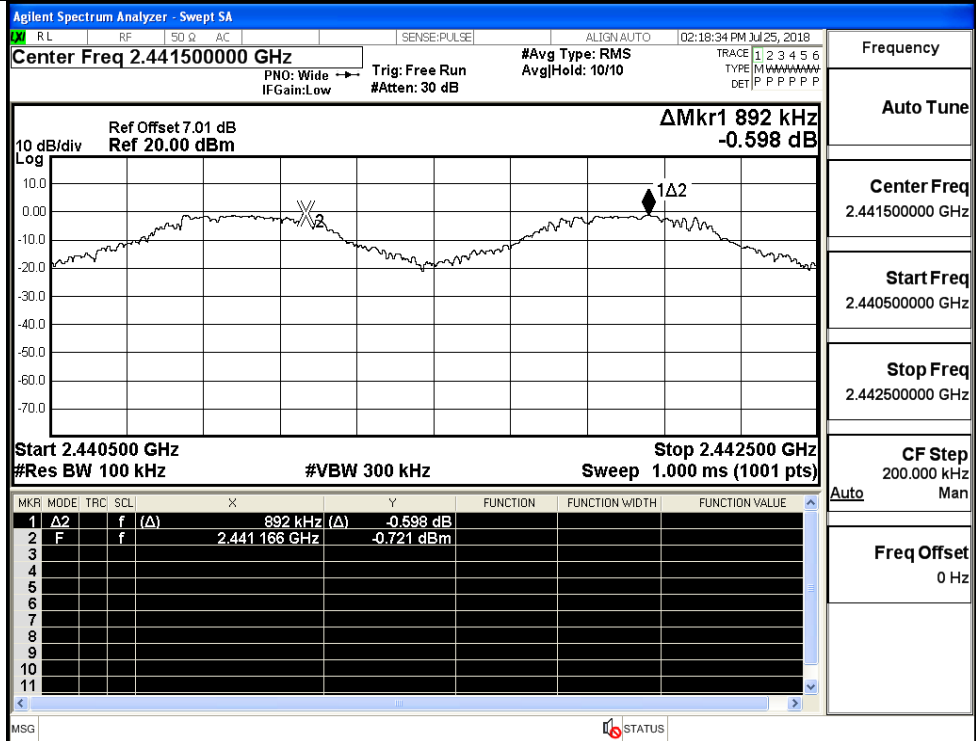


A.3 Carrier Frequency Separation

Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.875	0.688	PASS
	MCH	0.892	0.688	PASS
	HCH	0.946	0.688	PASS
π/4DQPSK	LCH	1.120	0.877	PASS
	MCH	1.194	0.877	PASS
	HCH	0.950	0.877	PASS
8DPSK	LCH	0.900	0.865	PASS
	MCH	1.174	0.865	PASS
	HCH	1.324	0.865	PASS



GFSK/MCH



Frequency

Auto Tune

Center Freq
2.441500000 GHz

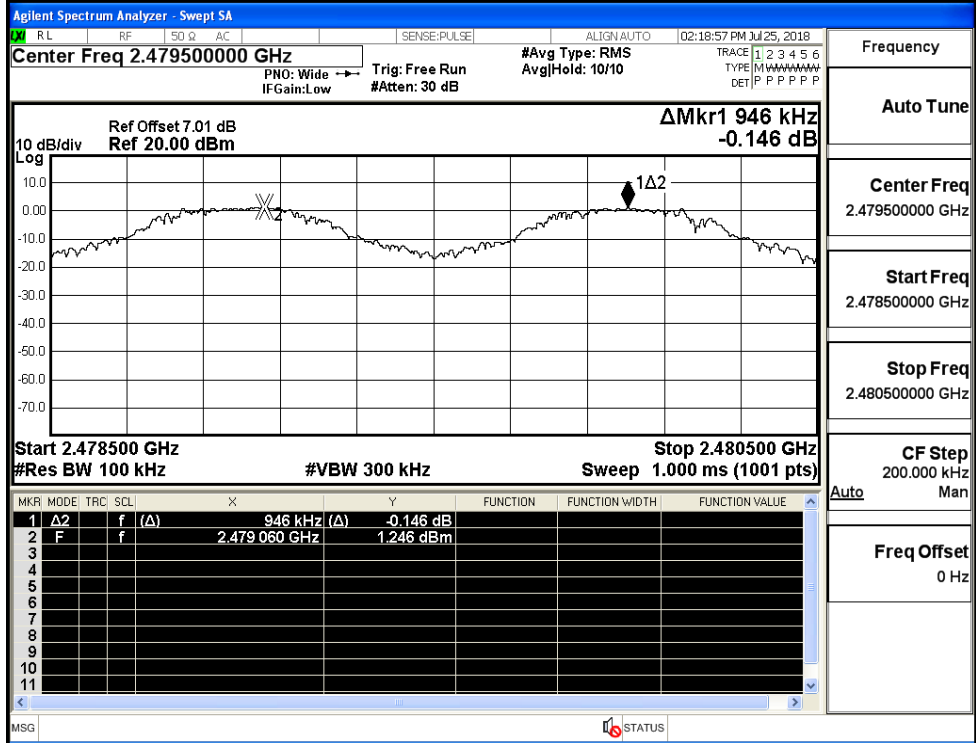
Start Freq
2.440500000 GHz

Stop Freq
2.442500000 GHz

CF Step
200.000 kHz
Man

Freq Offset
0 Hz

GFSK/HCH



Frequency

Auto Tune

Center Freq
2.479500000 GHz

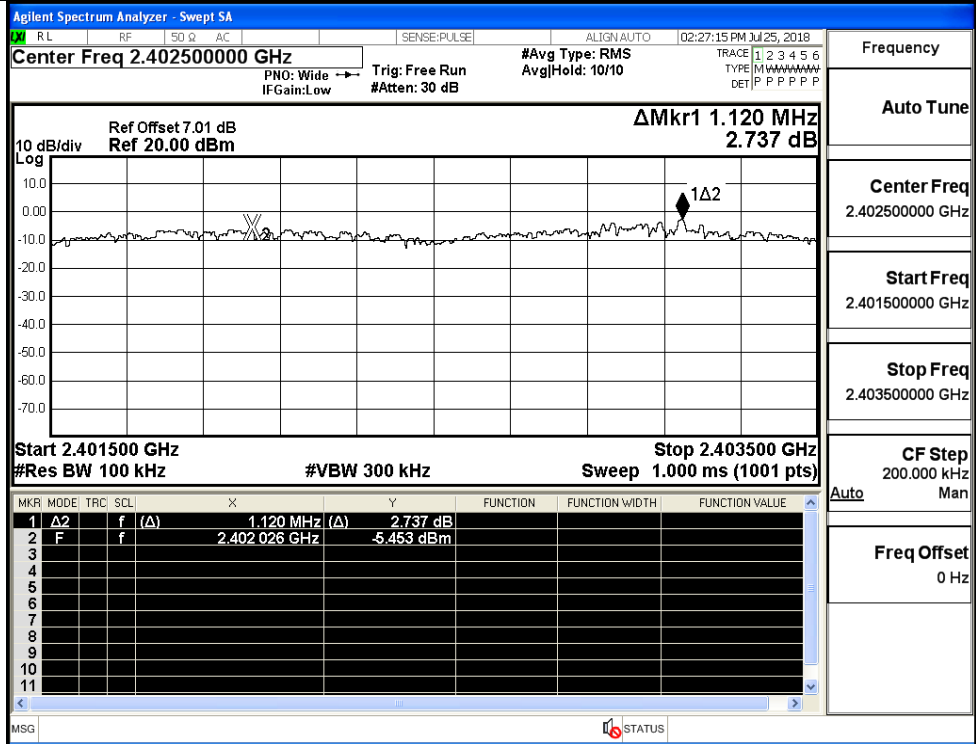
Start Freq
2.478500000 GHz

Stop Freq
2.480500000 GHz

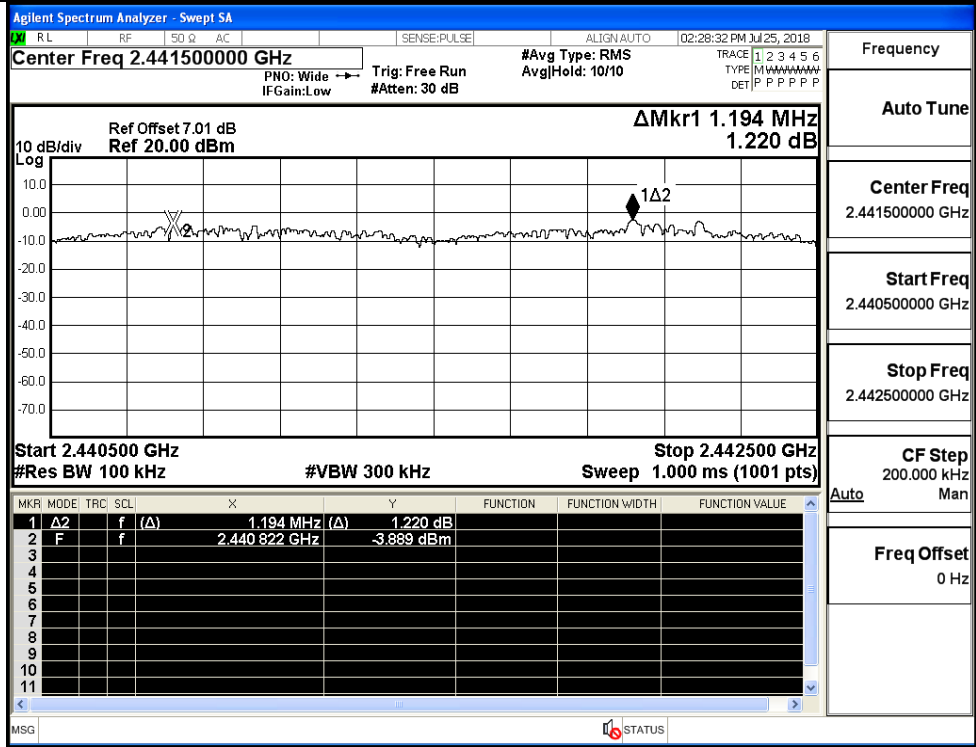
CF Step
200.000 kHz
Man

Freq Offset
0 Hz

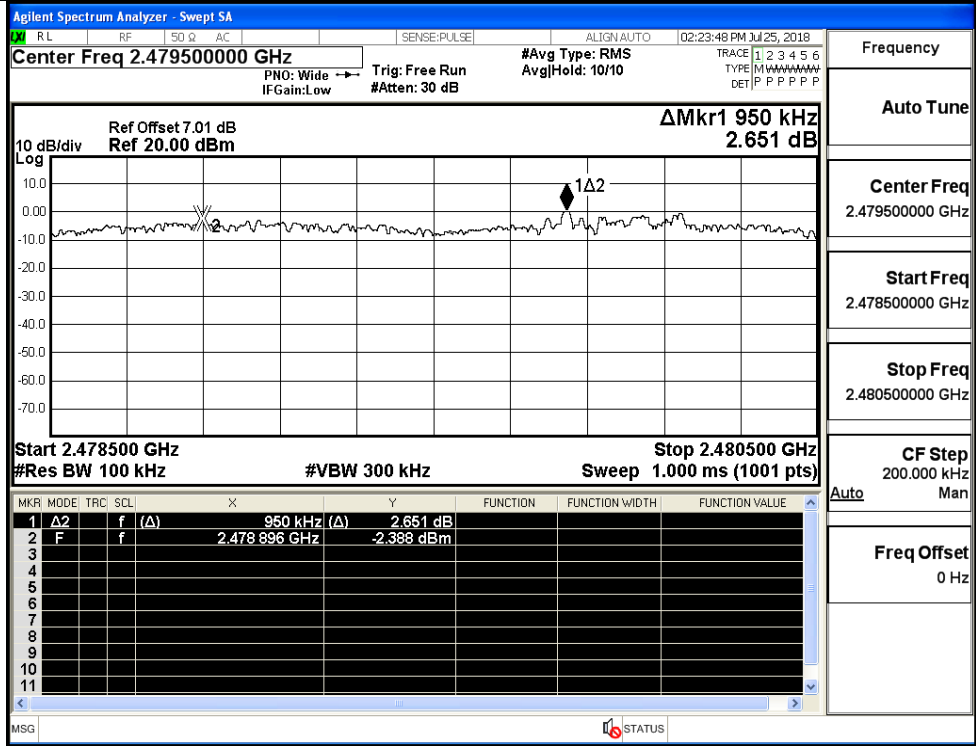
$\pi/4$ DQPSK/LCH



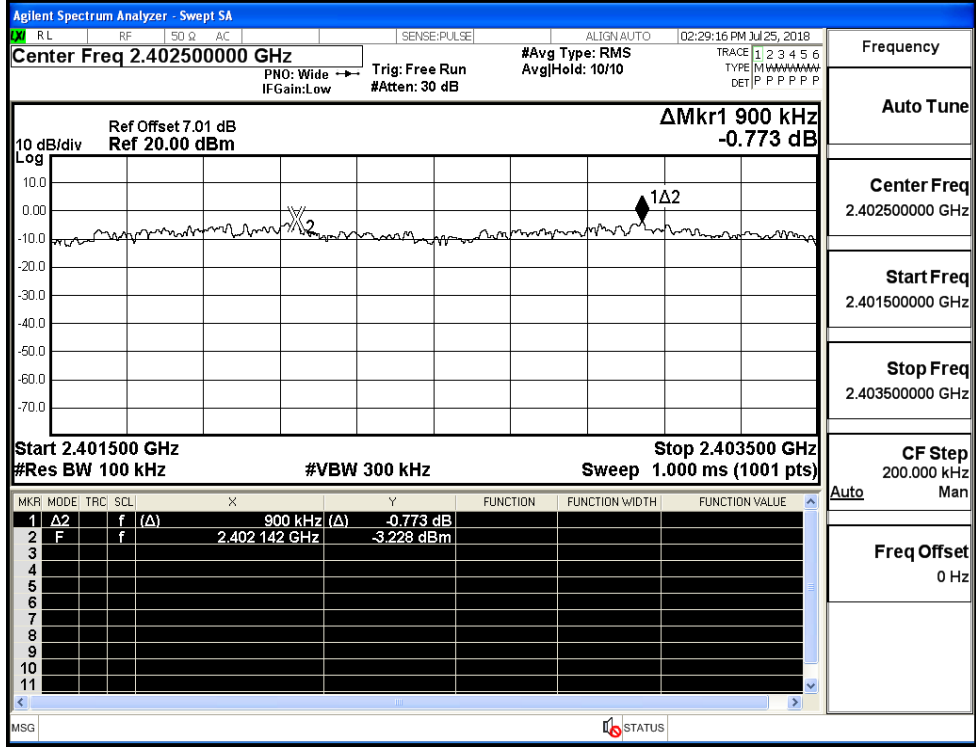
$\pi/4$ DQPSK/MCH



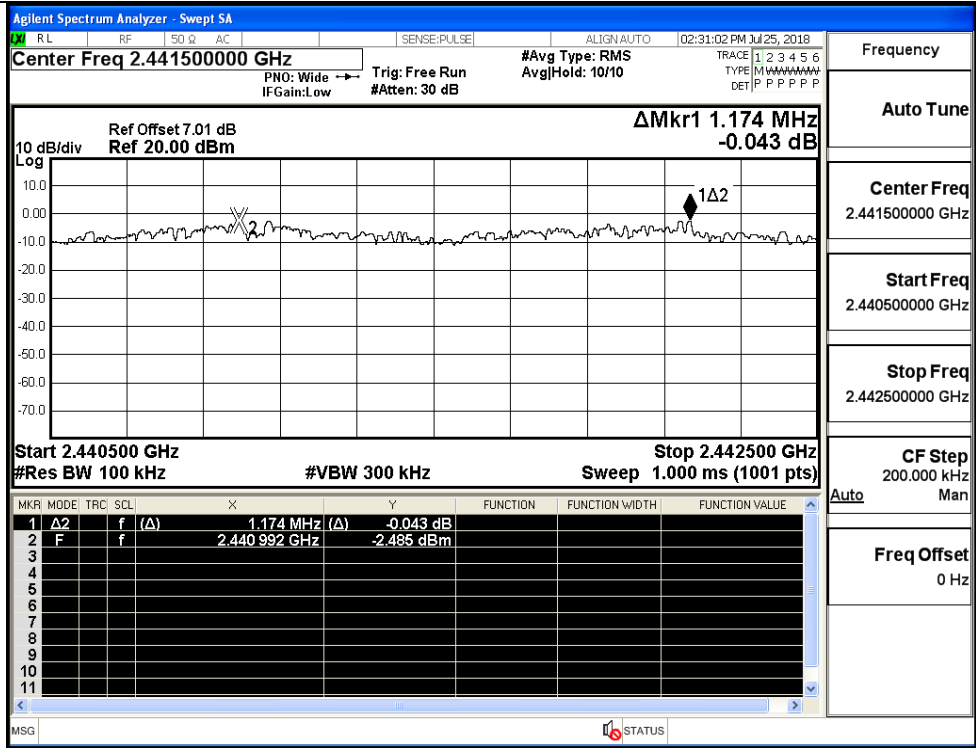
π/4DQPSK/HCH



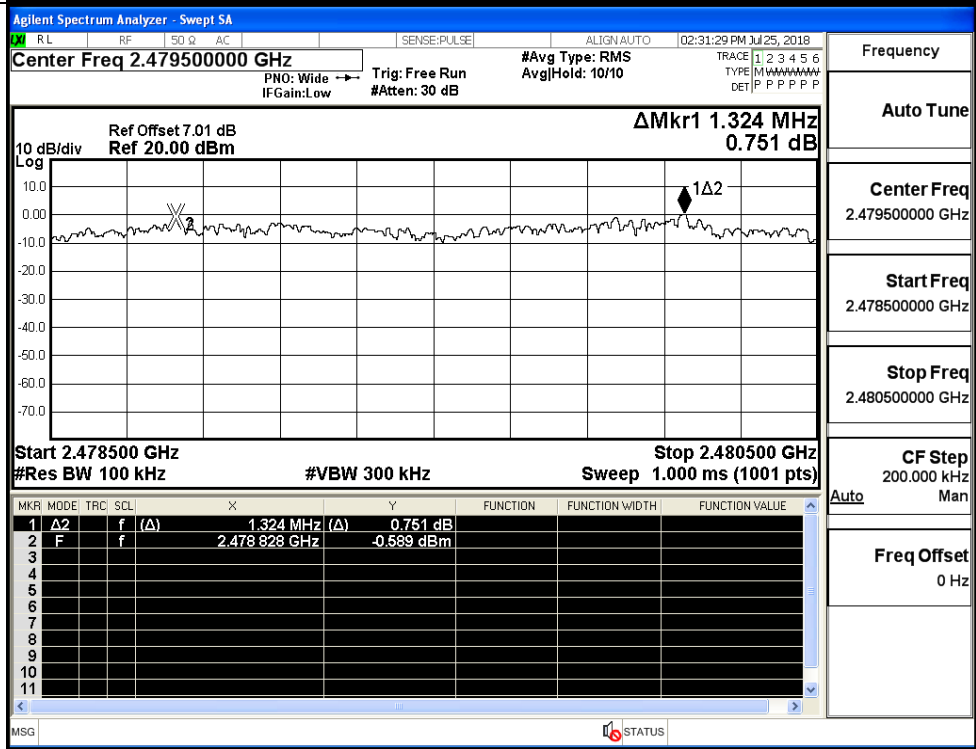
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH



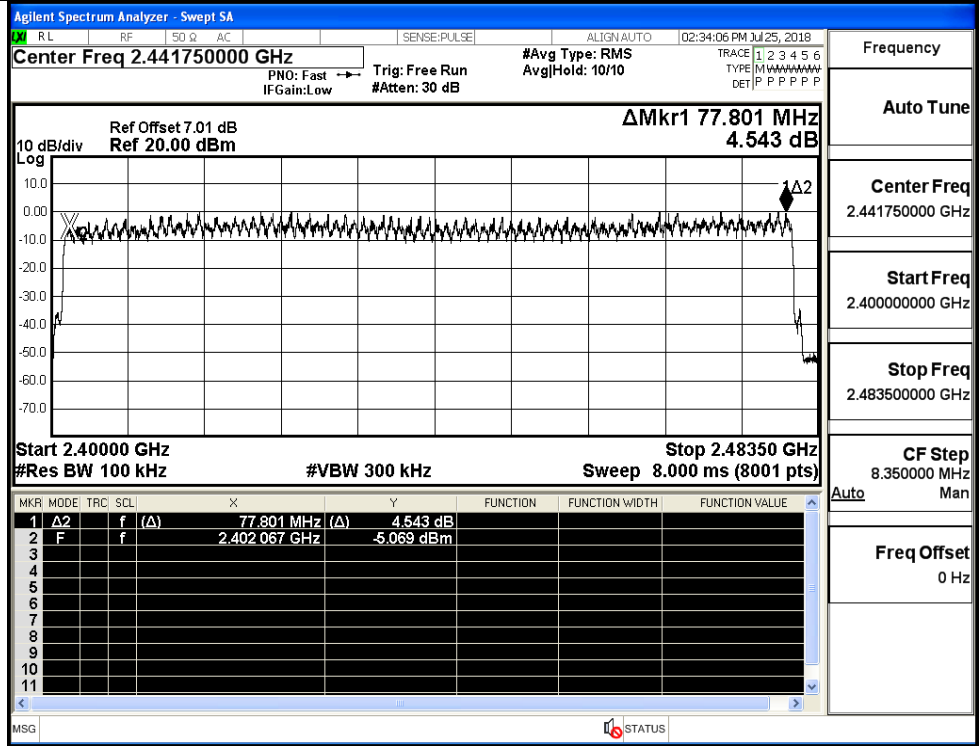
A.4 Hopping Channel Number

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

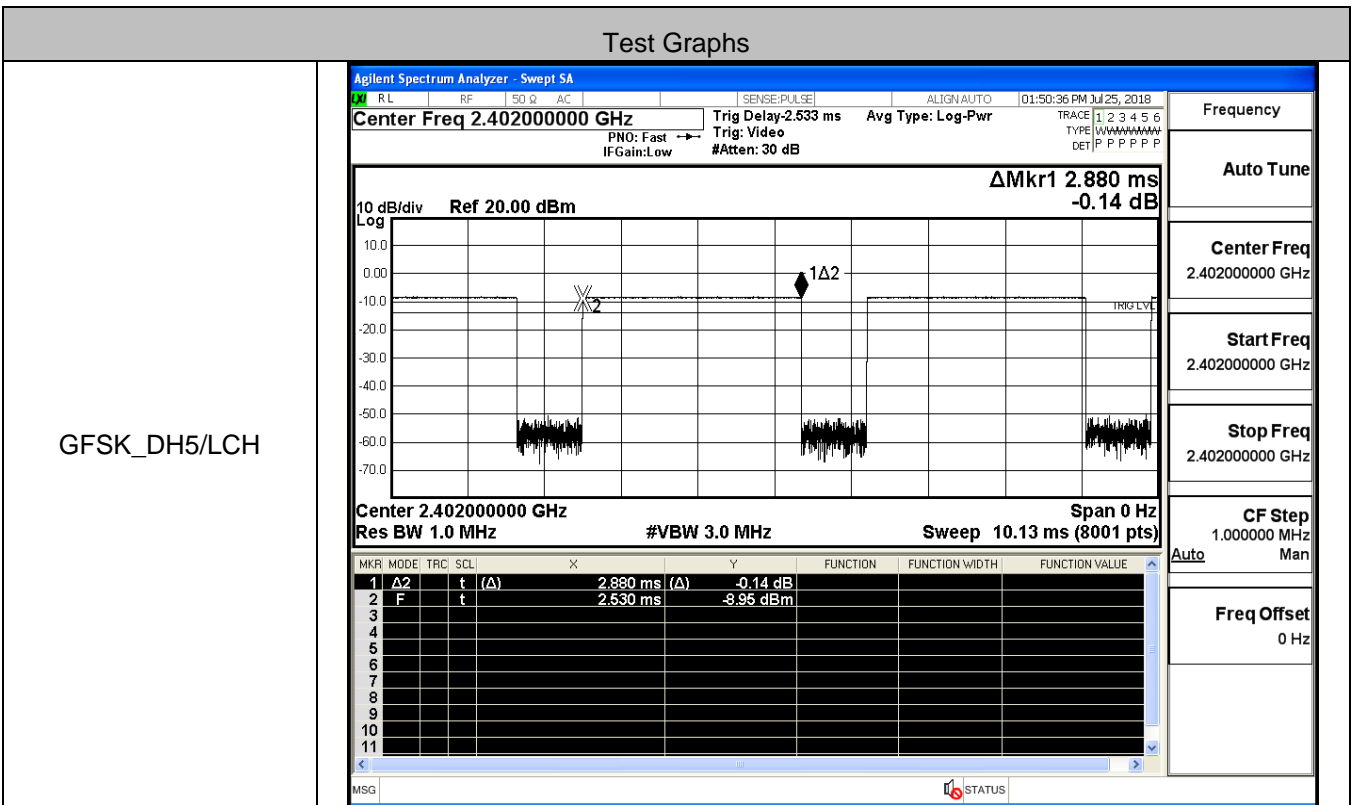
<p>GFSK/Hop</p>	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.441750000 GHz</p> <p>Ref Offset 7.01 dB Ref 20.00 dBm</p> <p>ΔMkr1 77.999 MHz 3.219 dB</p> <p>Start 2.40000 GHz #Res BW 100 kHz</p> <p>Stop 2.48350 GHz #VBW 300 kHz Sweep 8.000 ms (8001 pts)</p> <table border="1"> <thead> <tr> <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>77.999 MHz (Δ)</td> <td>3.219 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td></td> <td>2.402014 GHz</td> <td>-1.858 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)	77.999 MHz (Δ)	3.219 dB				2	F	f		2.402014 GHz	-1.858 dBm				<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.441750000 GHz</p> <p>Start Freq 2.400000000 GHz</p> <p>Stop Freq 2.483500000 GHz</p> <p>CF Step 8.350000 MHz Man</p> <p>Freq Offset 0 Hz</p>
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																					
1	Δ 2	f	(Δ)	77.999 MHz (Δ)	3.219 dB																								
2	F	f		2.402014 GHz	-1.858 dBm																								
<p>$\pi/4$DQPSK/Hop</p>	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.441750000 GHz</p> <p>Ref Offset 7.01 dB Ref 20.00 dBm</p> <p>ΔMkr1 78.146 MHz 2.307 dB</p> <p>Start 2.40000 GHz #Res BW 100 kHz</p> <p>Stop 2.48350 GHz #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>78.146 MHz (Δ)</td> <td>2.307 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td></td> <td>2.401827 GHz</td> <td>-3.580 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)	78.146 MHz (Δ)	2.307 dB				2	F	f		2.401827 GHz	-3.580 dBm				<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.441750000 GHz</p> <p>Start Freq 2.400000000 GHz</p> <p>Stop Freq 2.483500000 GHz</p> <p>CF Step 8.350000 MHz Man</p> <p>Freq Offset 0 Hz</p>
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																					
1	Δ 2	f	(Δ)	78.146 MHz (Δ)	2.307 dB																								
2	F	f		2.401827 GHz	-3.580 dBm																								

8DPSK/Hop

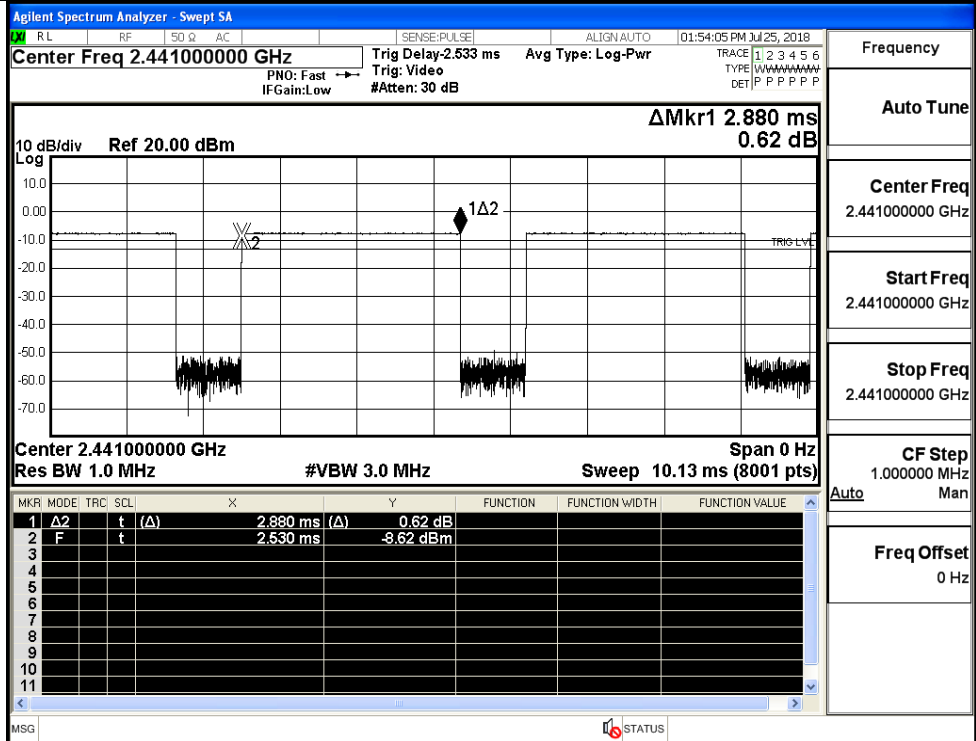


A.5 Dwell Time

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



Frequency

Auto Tune

Center Freq 2.441000000 GHz

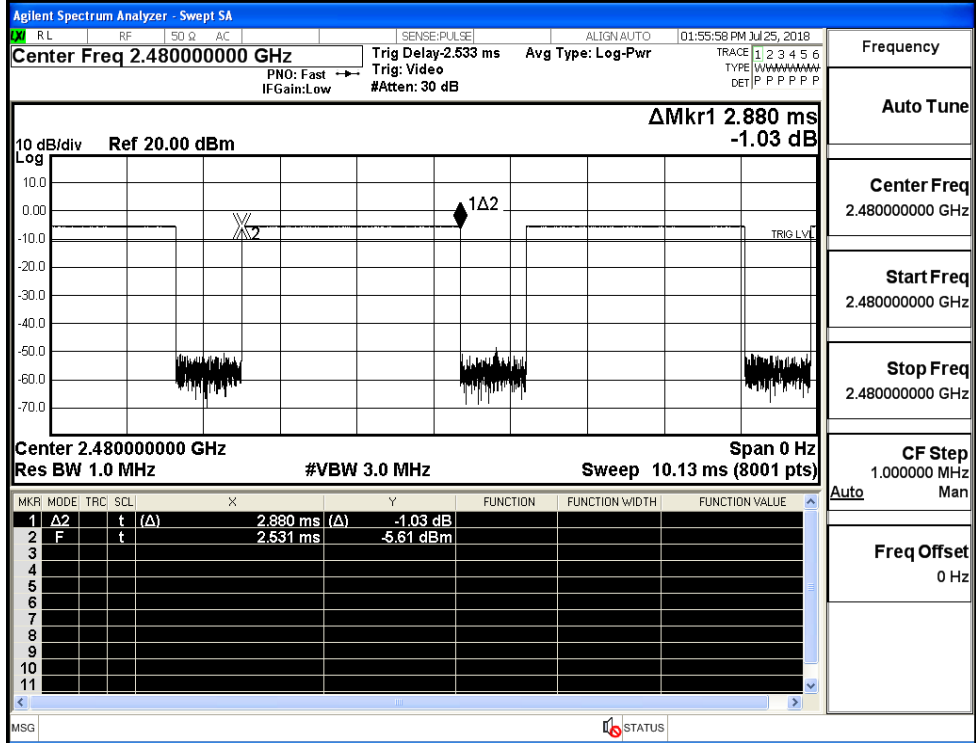
Start Freq 2.441000000 GHz

Stop Freq 2.441000000 GHz

CF Step 1.000000 MHz

Freq Offset 0 Hz

GFSK_DH5/HCH



Frequency

Auto Tune

Center Freq 2.480000000 GHz

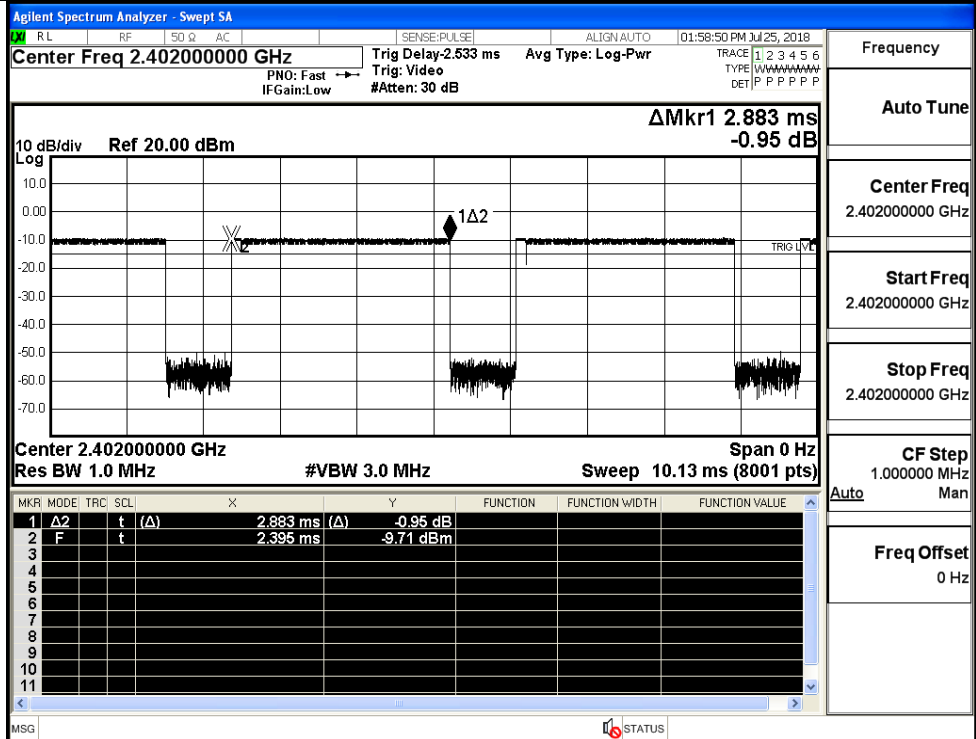
Start Freq 2.480000000 GHz

Stop Freq 2.480000000 GHz

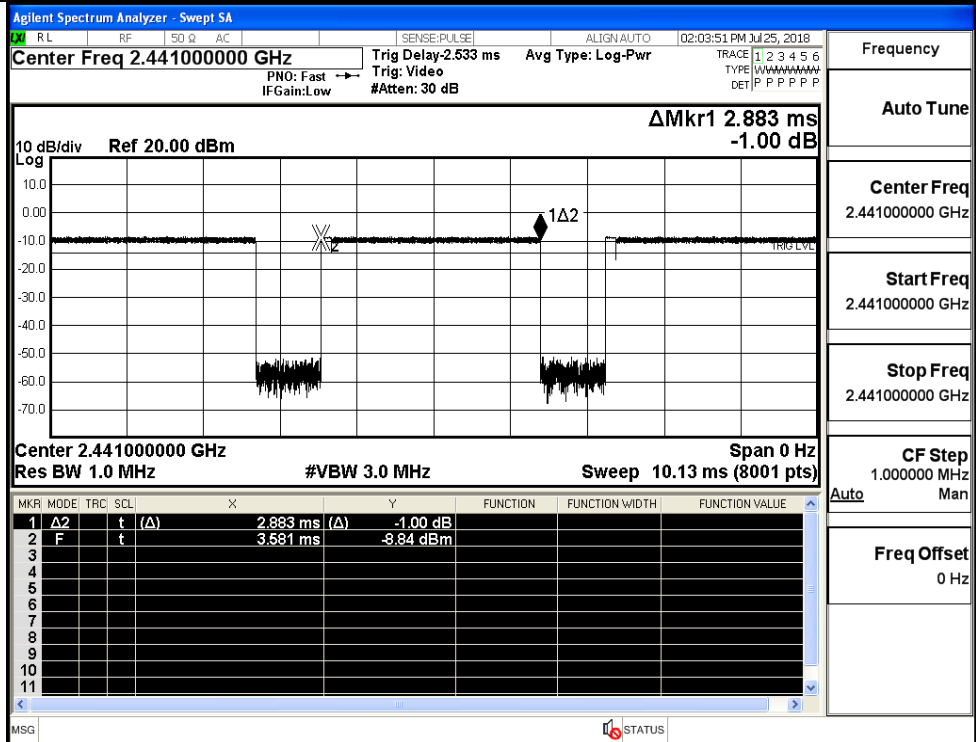
CF Step 1.000000 MHz

Freq Offset 0 Hz

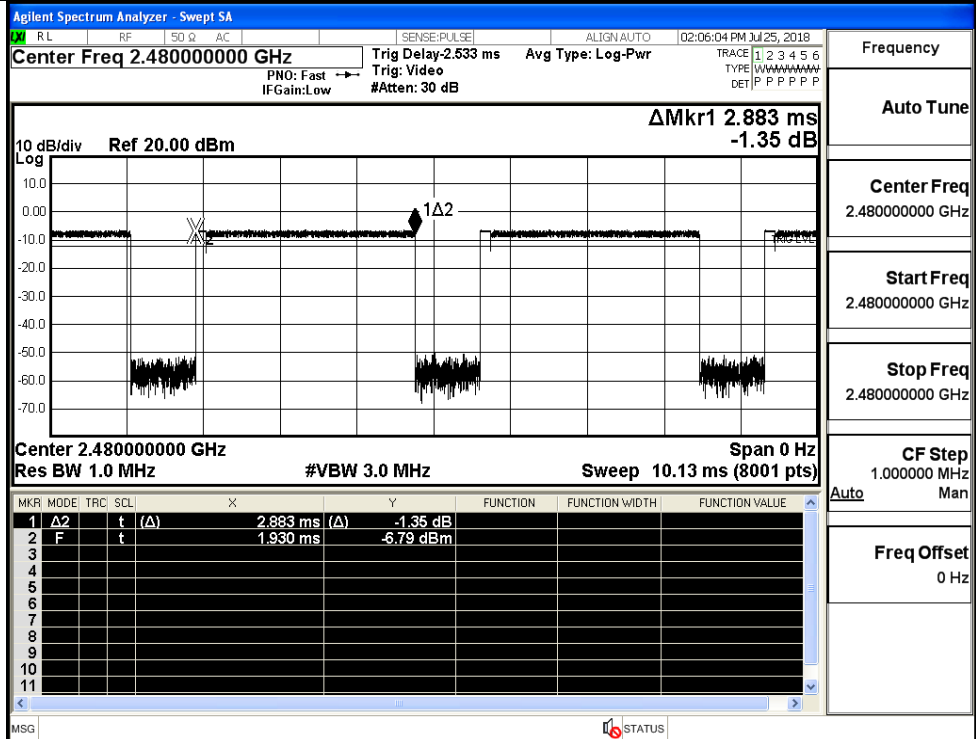
$\pi/4$ DQPSK
_2DH5/LCH



$\pi/4$ DQPSK
_2DH5/MCH

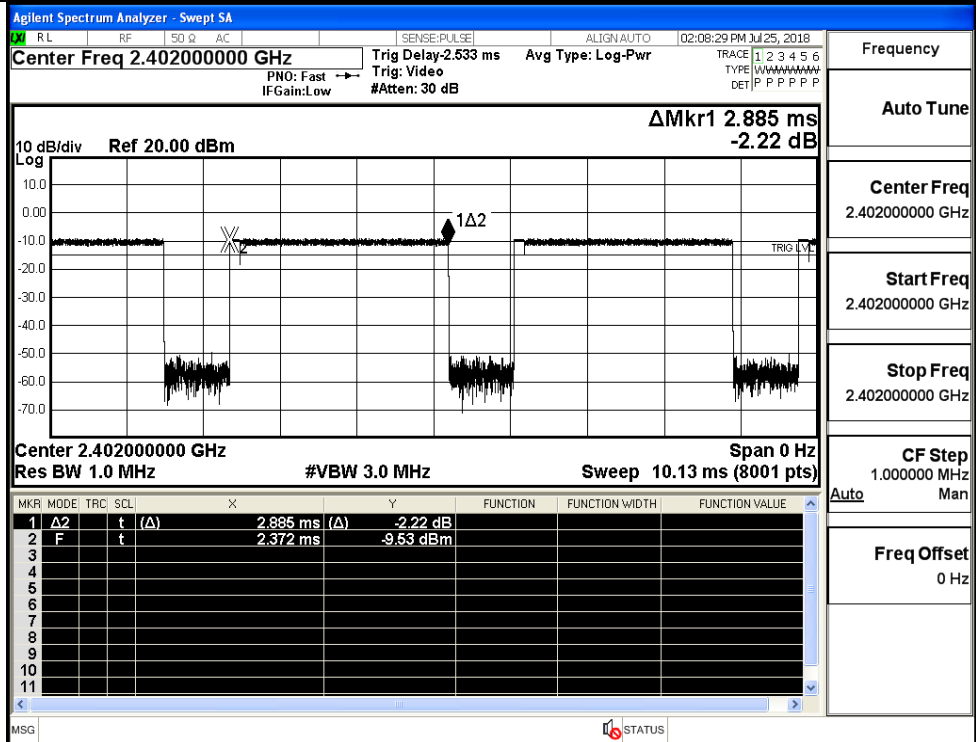


$\pi/4$ DQPSK
_2DH5/HCH



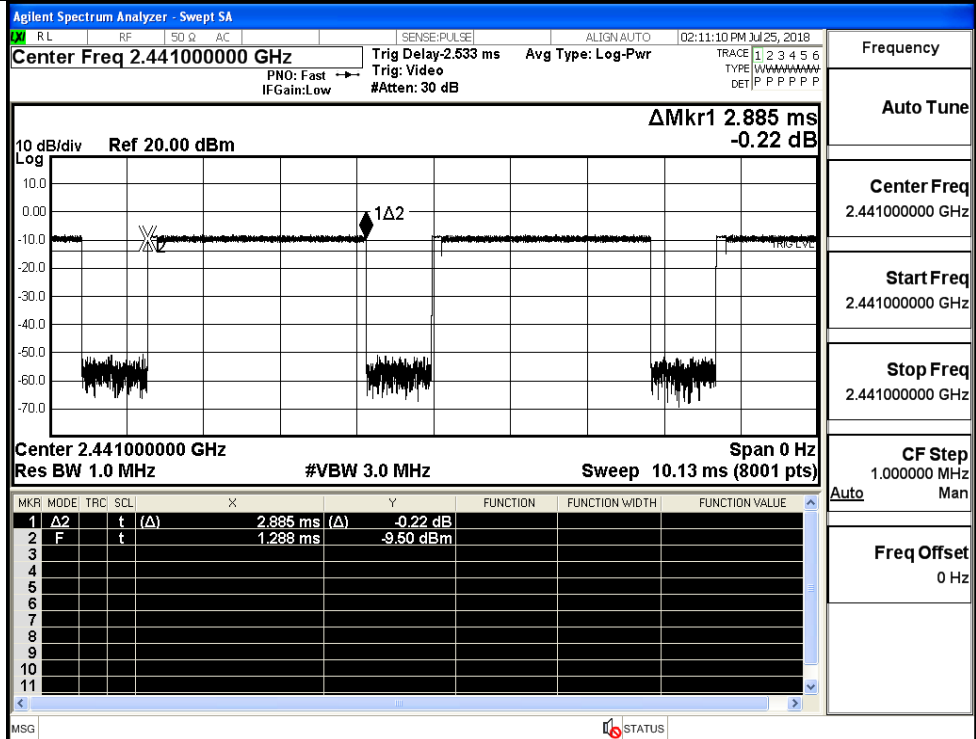
Frequency	2.480000000 GHz
Auto Tune	
Center Freq	2.480000000 GHz
Start Freq	2.480000000 GHz
Stop Freq	2.480000000 GHz
CF Step	1.000000 MHz
Freq Offset	0 Hz

8DPSK_3DH5/LCH



Frequency	2.402000000 GHz
Auto Tune	
Center Freq	2.402000000 GHz
Start Freq	2.402000000 GHz
Stop Freq	2.402000000 GHz
CF Step	1.000000 MHz
Freq Offset	0 Hz

8DPSK_3DH5/MCH



Frequency

Auto Tune

Center Freq 2.441000000 GHz

Start Freq 2.441000000 GHz

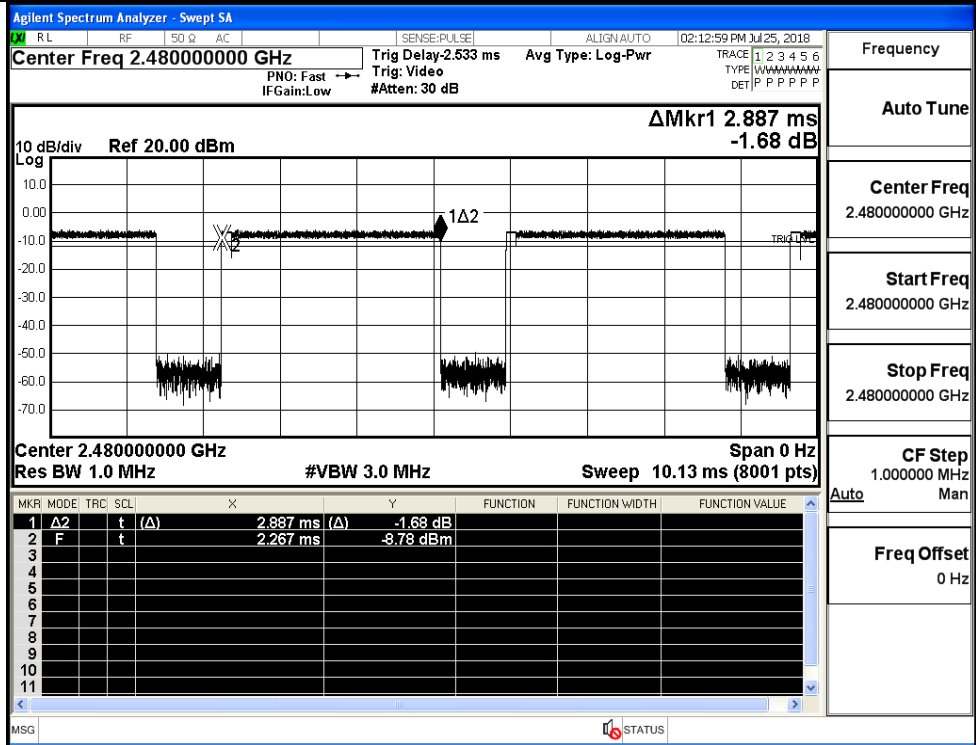
Stop Freq 2.441000000 GHz

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

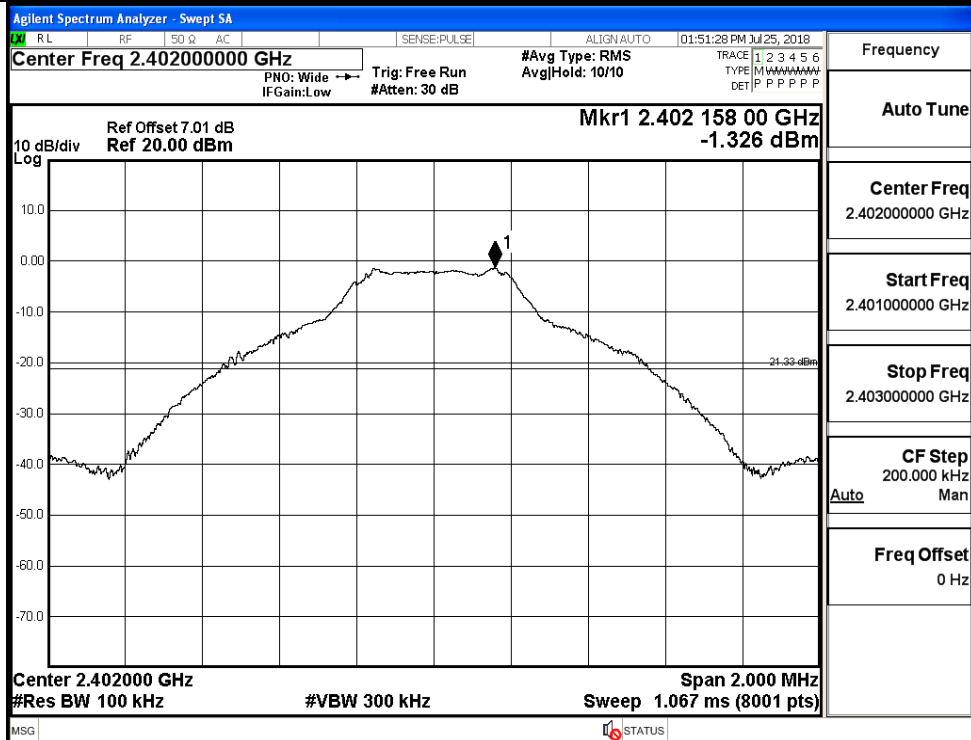
Freq Offset 0 Hz

A.6 RF Conducted Spurious Emissions

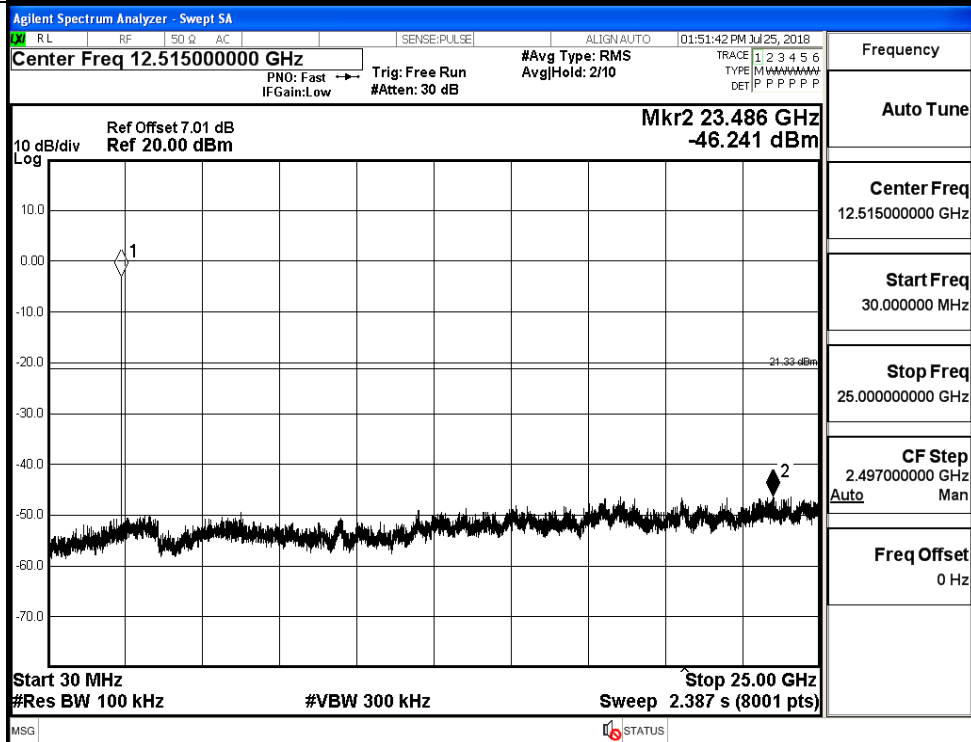
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-1.326	-46.241	-21.326	PASS
	MCH	-0.833	-45.612	-20.833	PASS
	HCH	1.363	-45.485	-18.637	PASS
$\pi/4$ DQPSK	LCH	-2.682	-45.440	-22.682	PASS
	MCH	-2.285	-45.850	-22.285	PASS
	HCH	0.152	-45.341	-19.848	PASS
8DPSK	LCH	-2.712	-45.870	-22.712	PASS
	MCH	-1.687	-45.358	-21.687	PASS
	HCH	-0.536	-46.256	-20.536	PASS

GFSK_LCH_Graphs

Pref

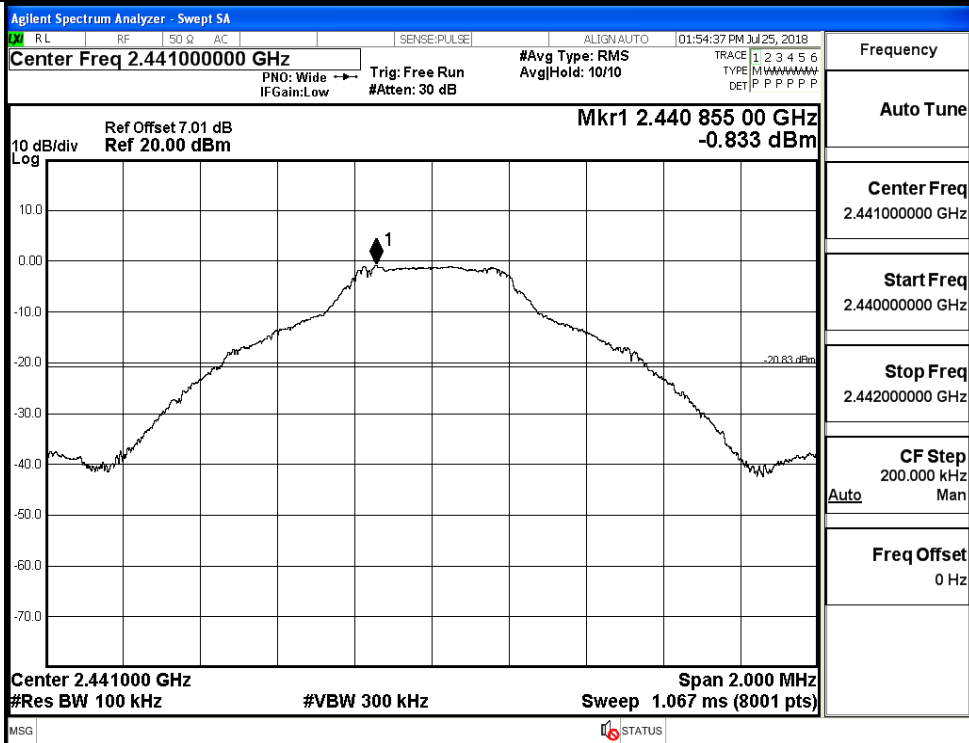


Puw

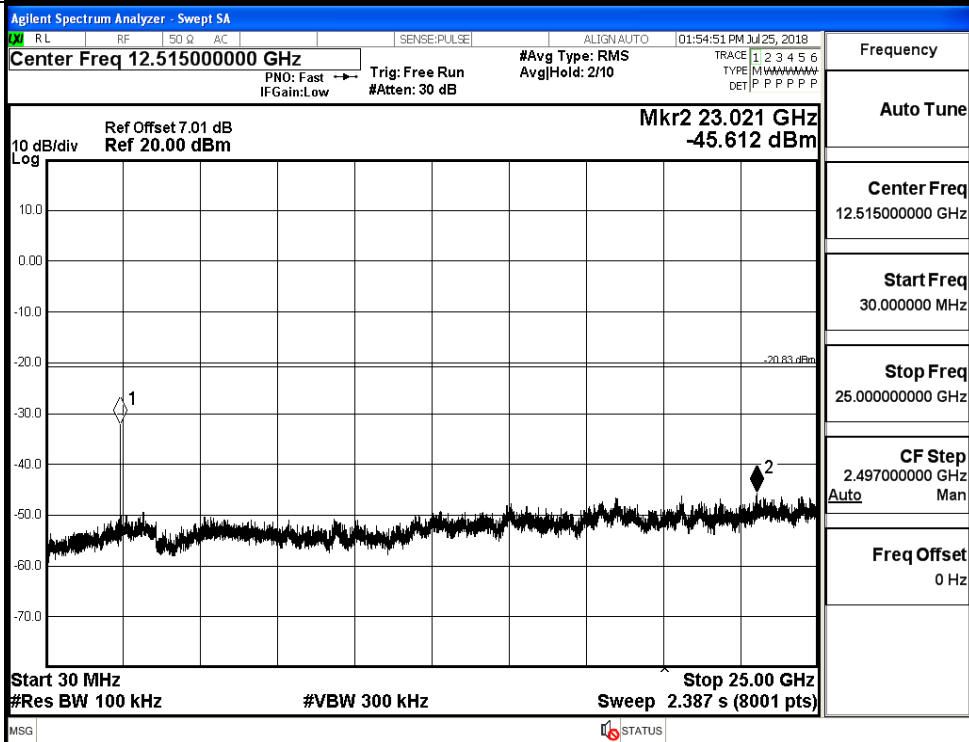


GFSK_MCH_Graphs

Pref

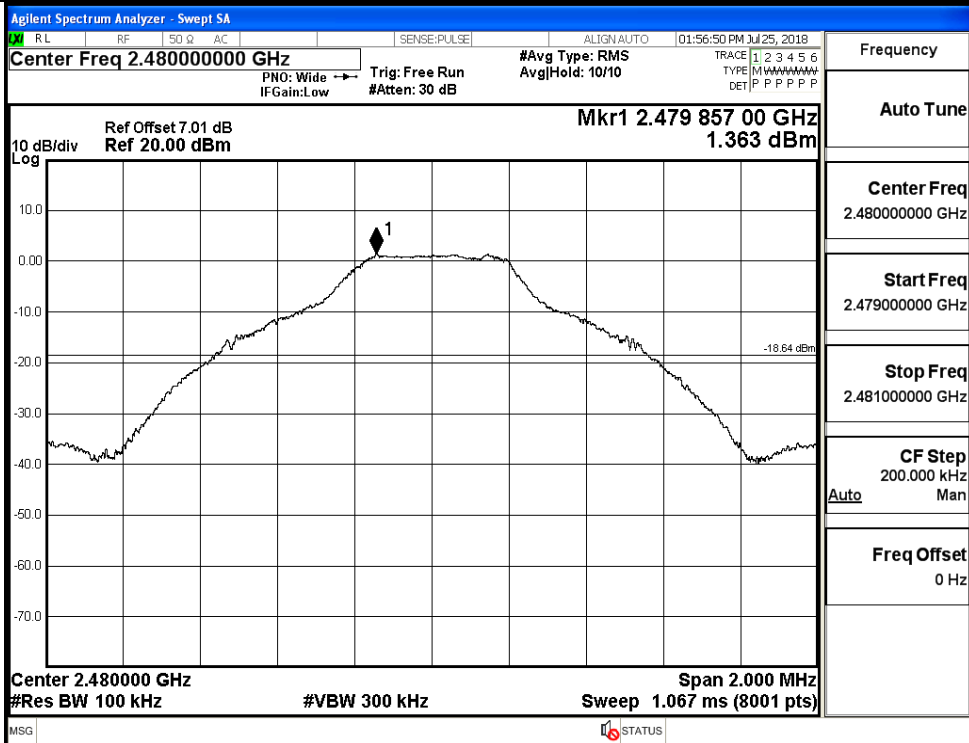


Puw

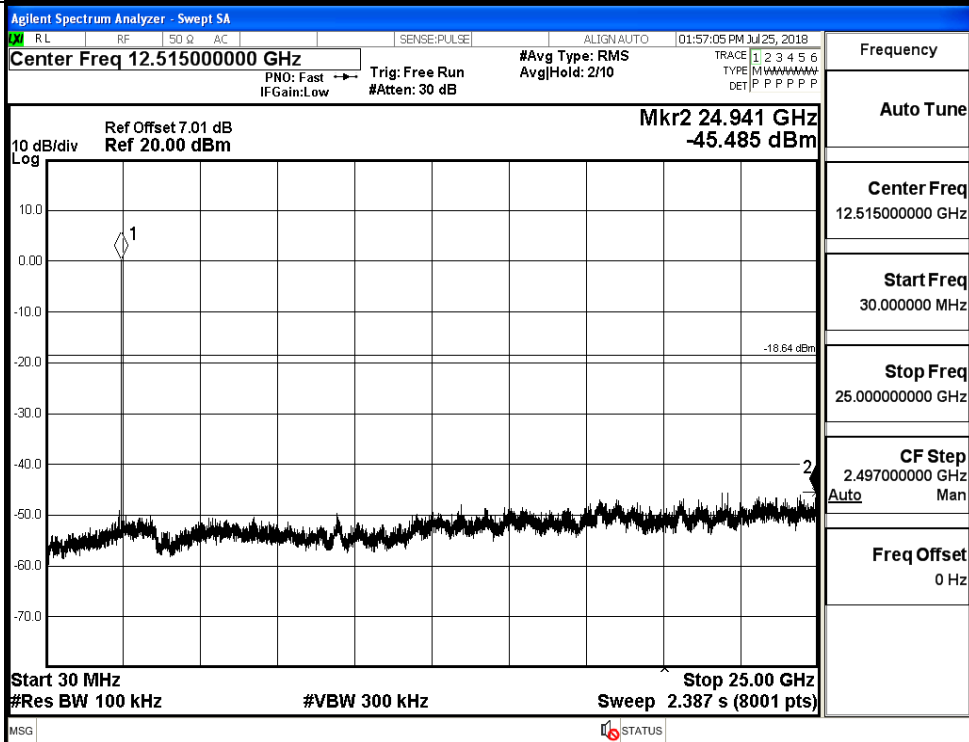


GFSK_HCH_Graphs

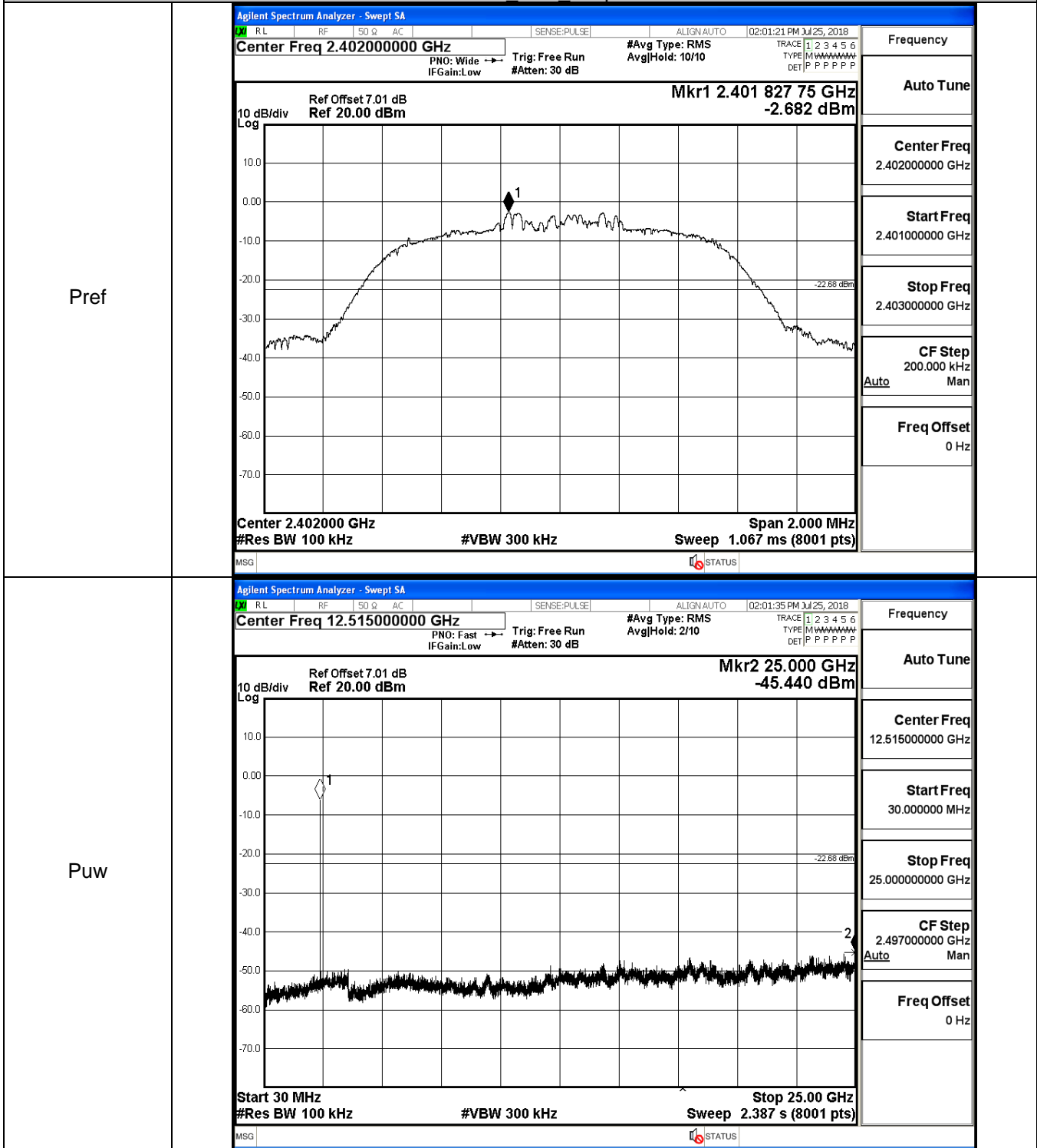
Pref



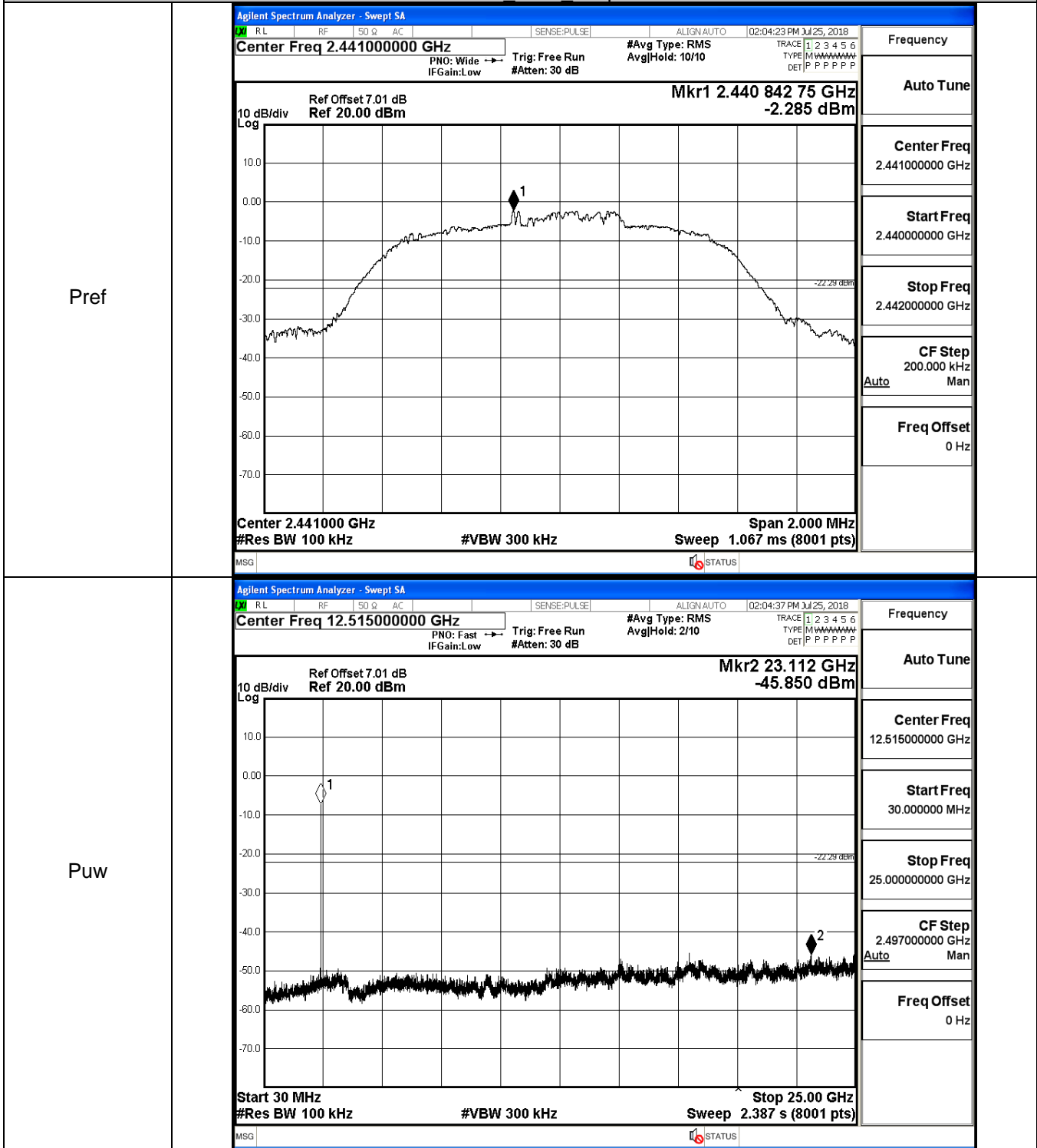
Puw



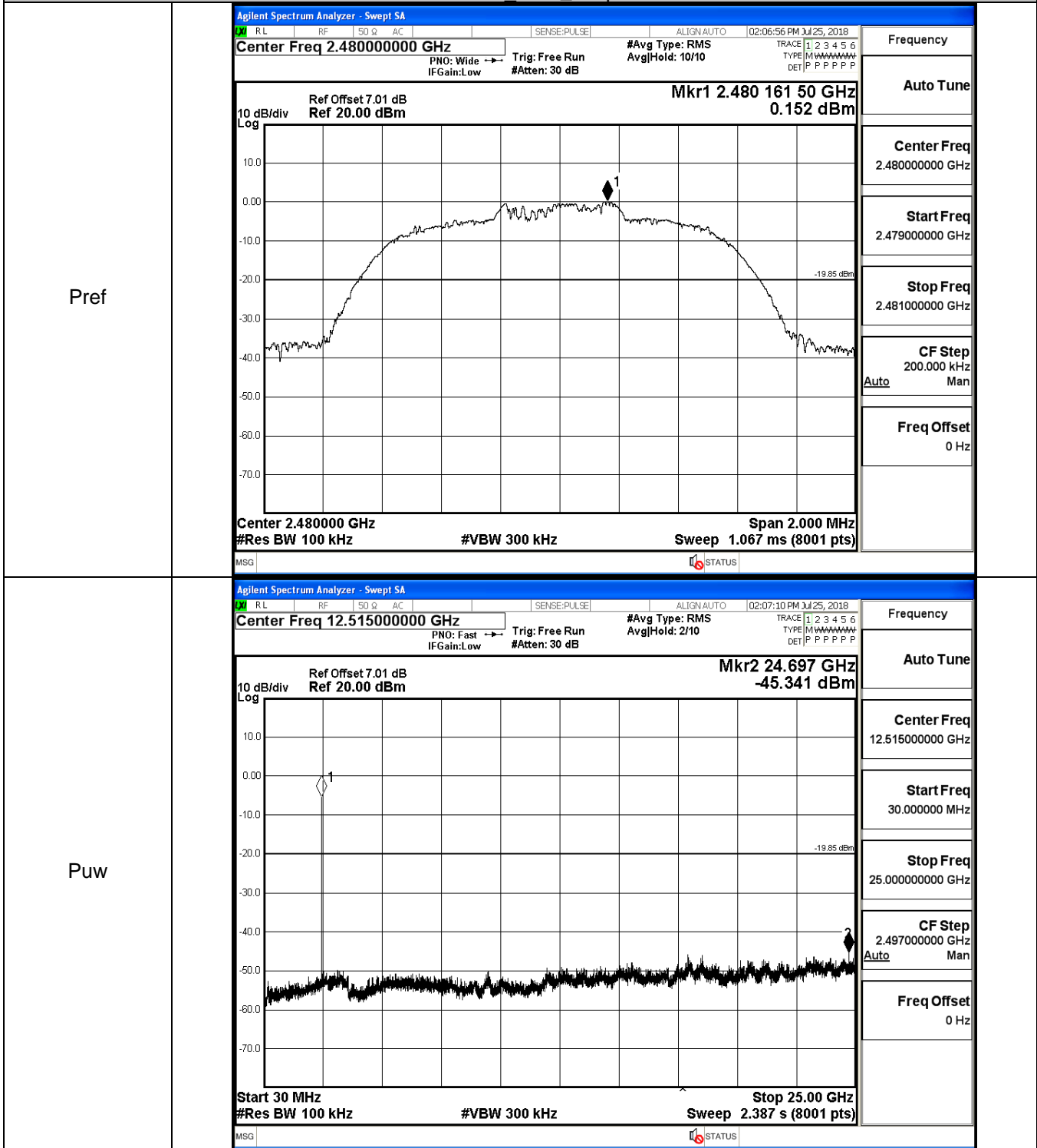
$\pi/4$ DQPSK LCH Graphs



$\pi/4$ DQPSK MCH Graphs

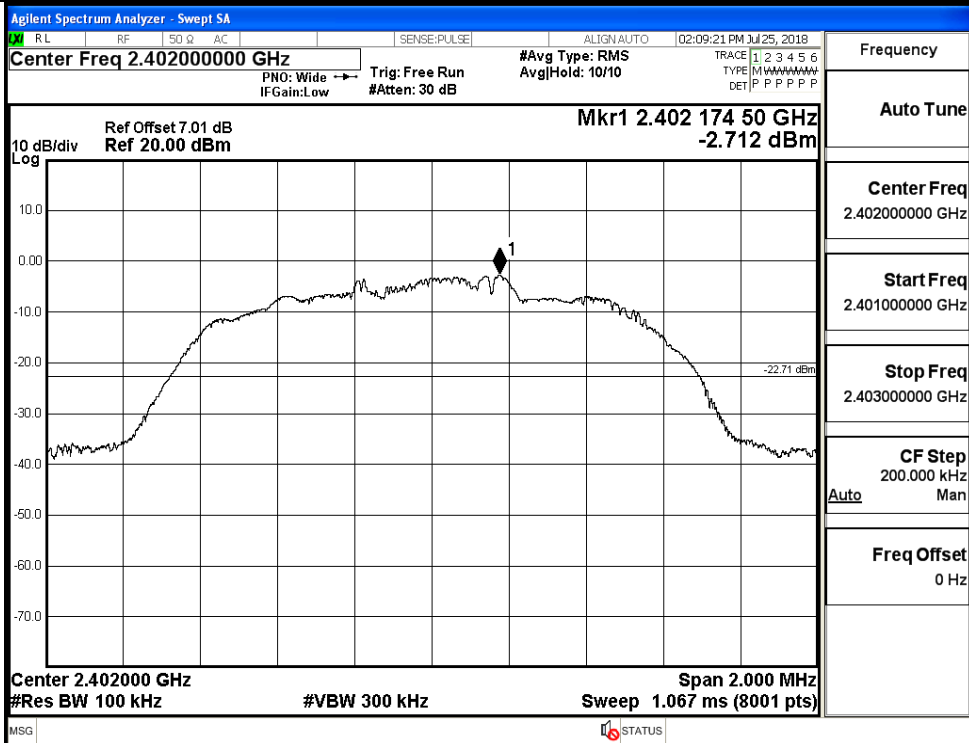


$\pi/4$ DQPSK HCH_Graphs

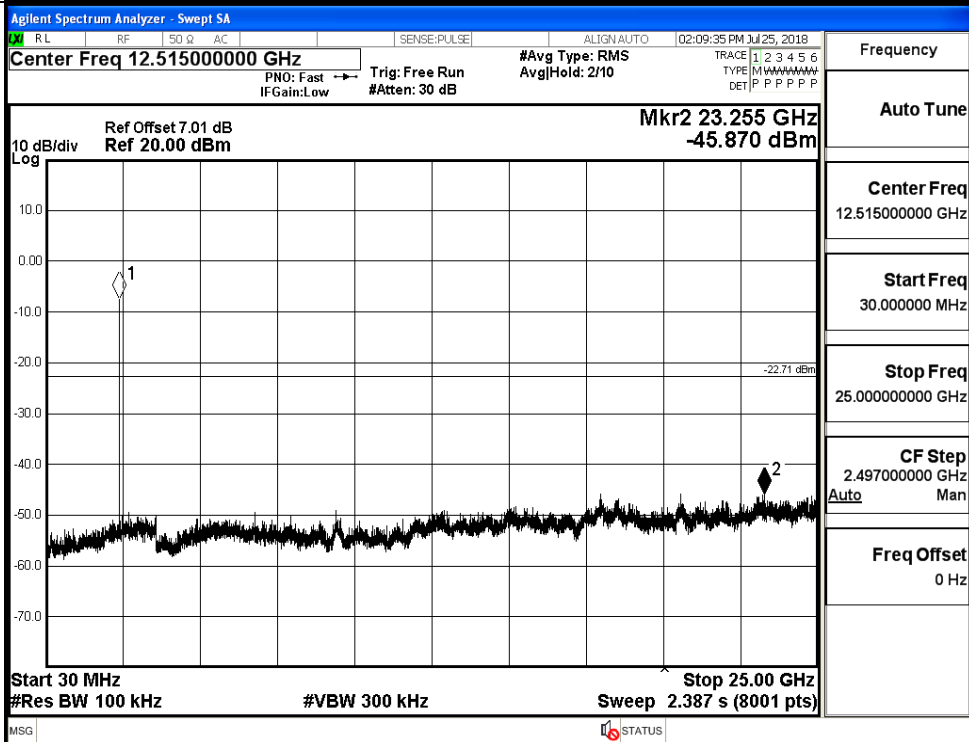


8DPSK_LCH_Graphs

Pref

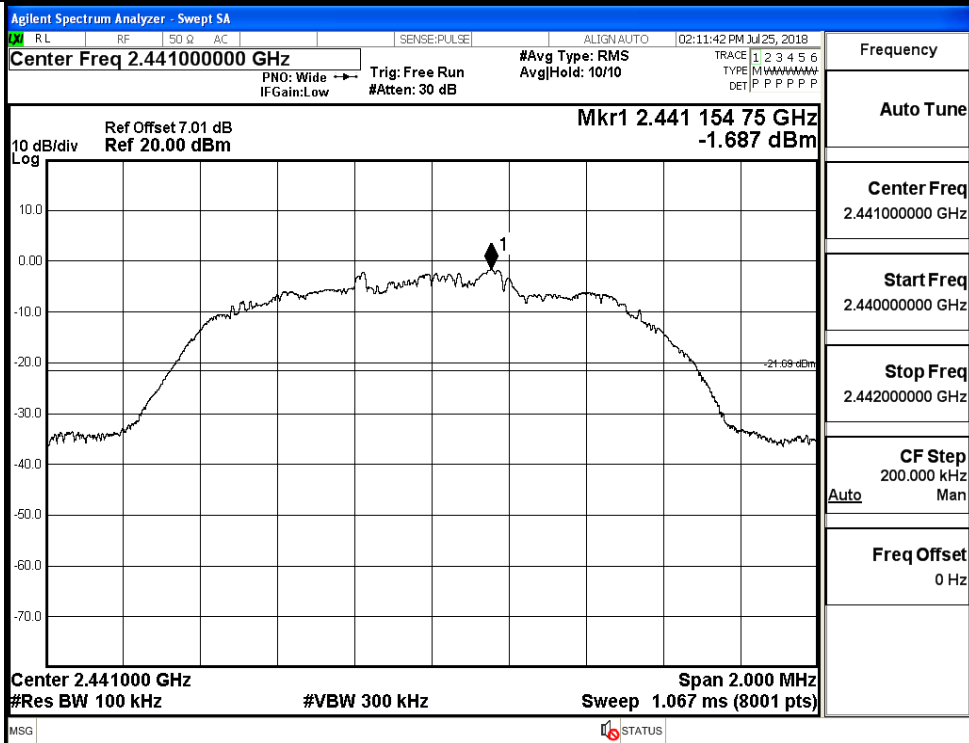


Puw

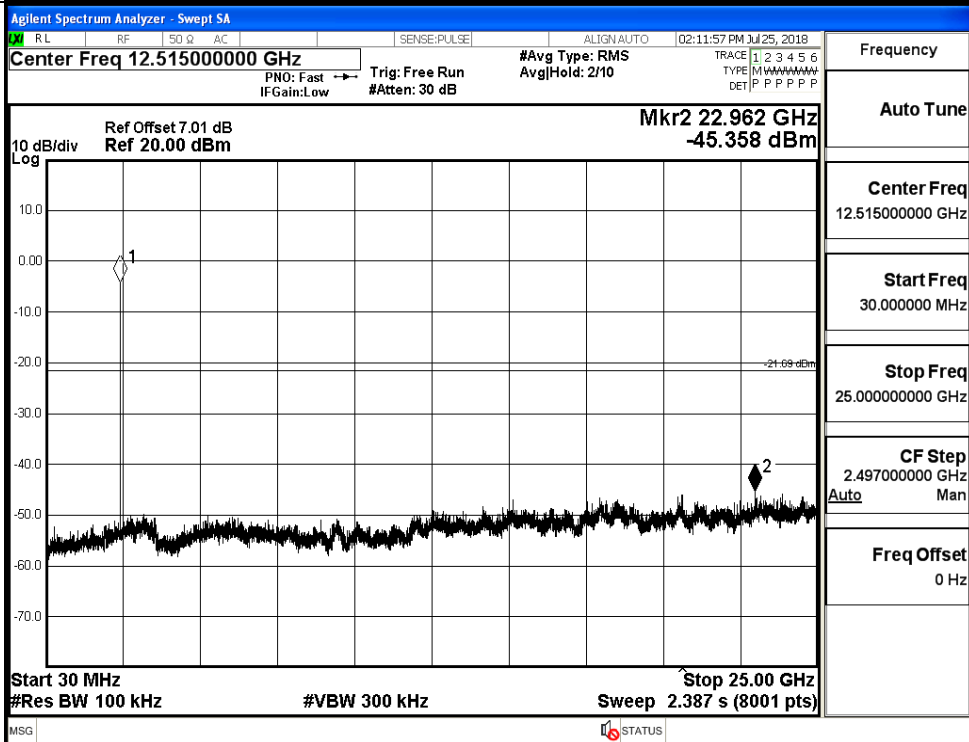


8DPSK_MCH_Graphs

Pref

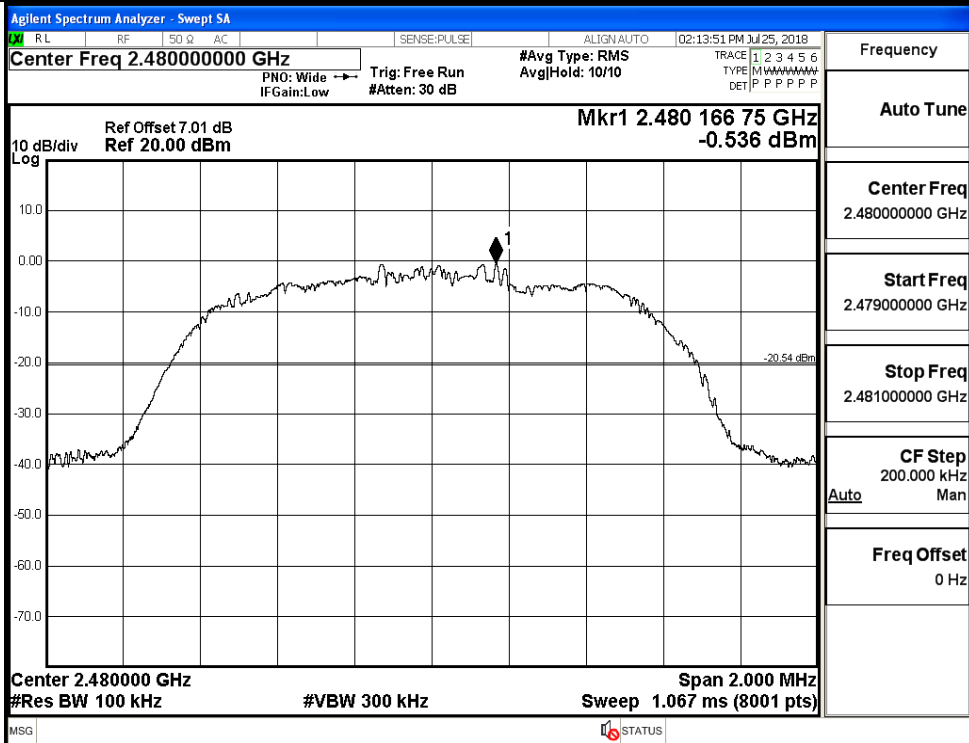


Puw

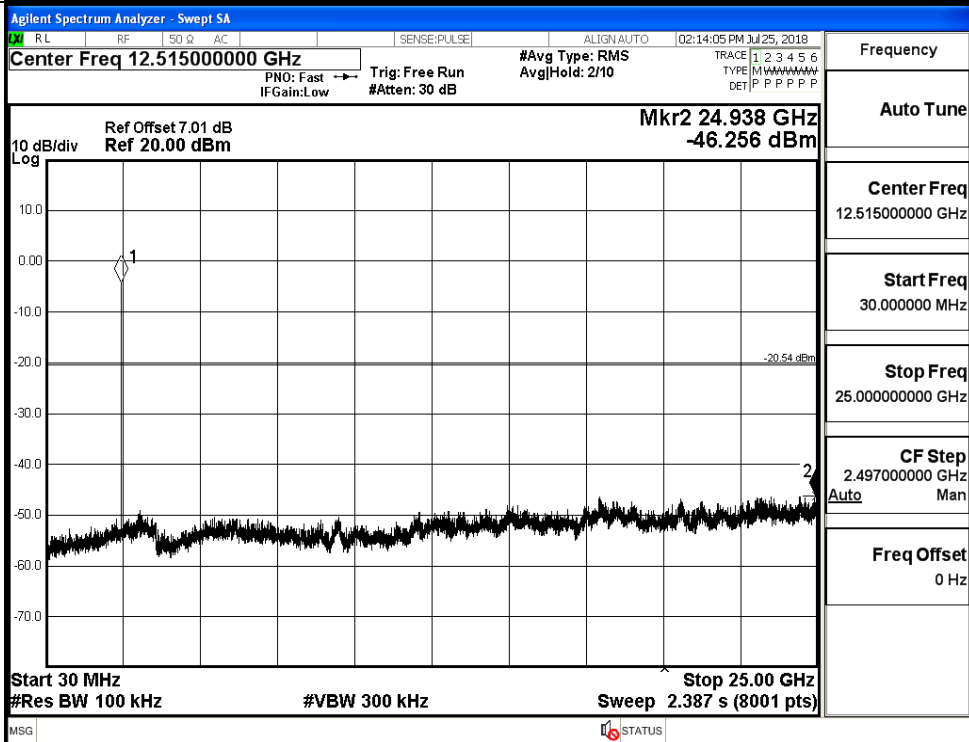


8DPSK_HCH_Graphs

Pref



Puw

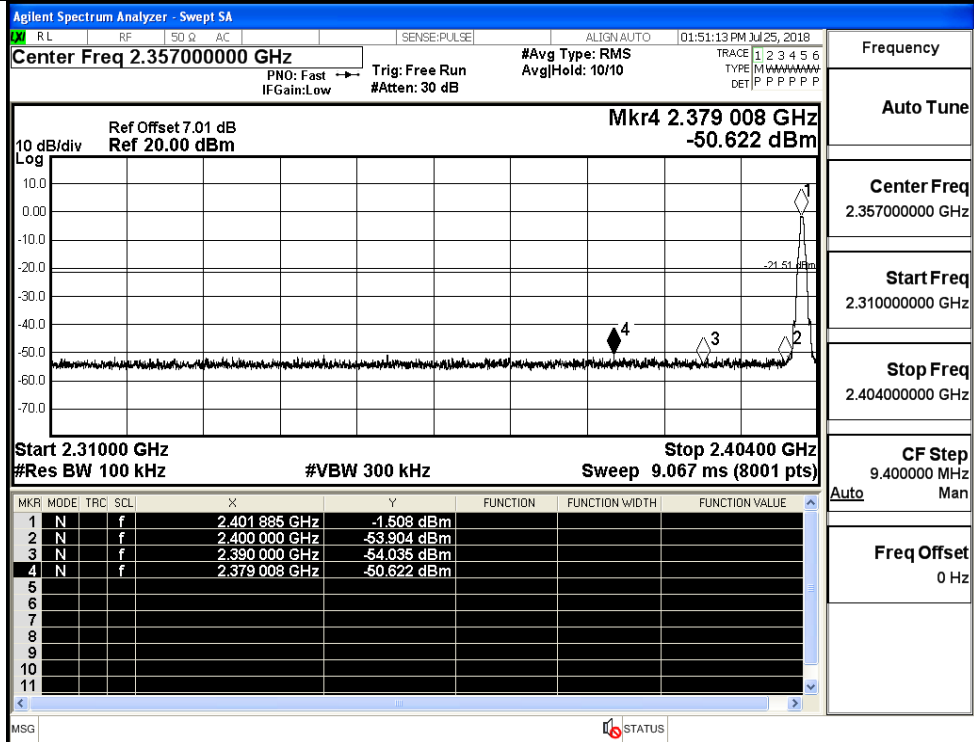


A.7 Band-edge for RF Conducted Emissions

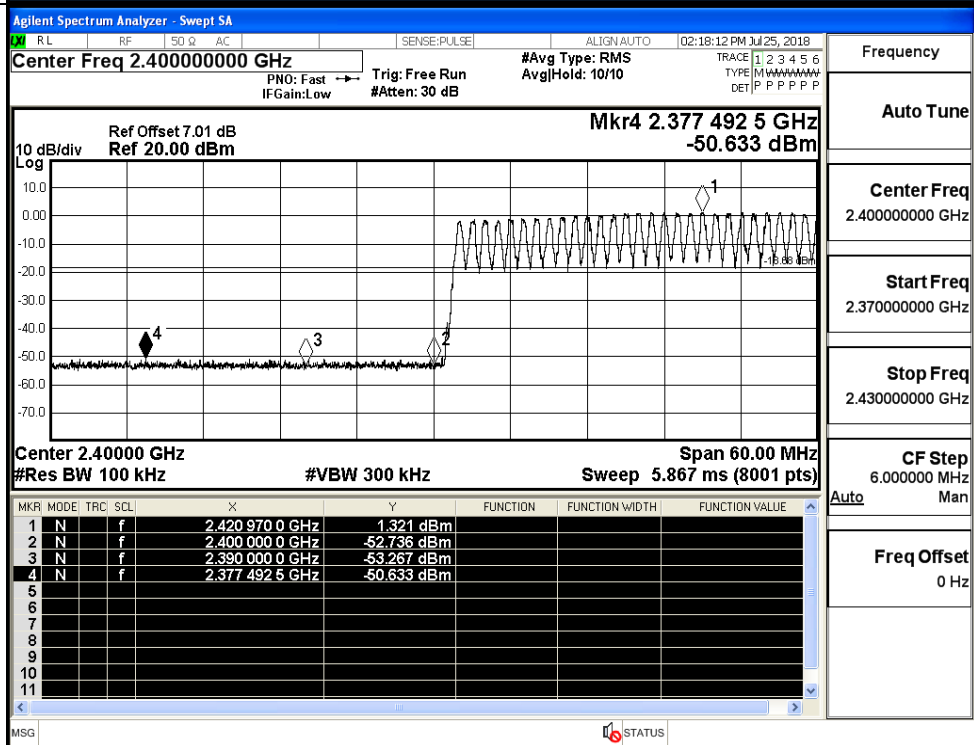
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-1.508	Off	-50.622	-21.51	PASS
			1.321	On	-50.633	-18.68	PASS
	HCH	2480	1.611	Off	-50.913	-18.39	PASS
			1.961	On	-50.066	-18.04	PASS
$\pi/4$ DQPSK	LCH	2402	-2.439	Off	-51.131	-22.44	PASS
			-0.135	On	-50.280	-20.14	PASS
	HCH	2480	-0.041	Off	-50.209	-20.04	PASS
			0.464	On	-50.344	-19.54	PASS
8DPSK	LCH	2402	-2.521	Off	-50.595	-22.52	PASS
			-0.028	On	-50.356	-20.03	PASS
	HCH	2480	0.267	Off	-50.618	-19.73	PASS
			0.308	On	-49.918	-19.69	PASS

Test Graphs

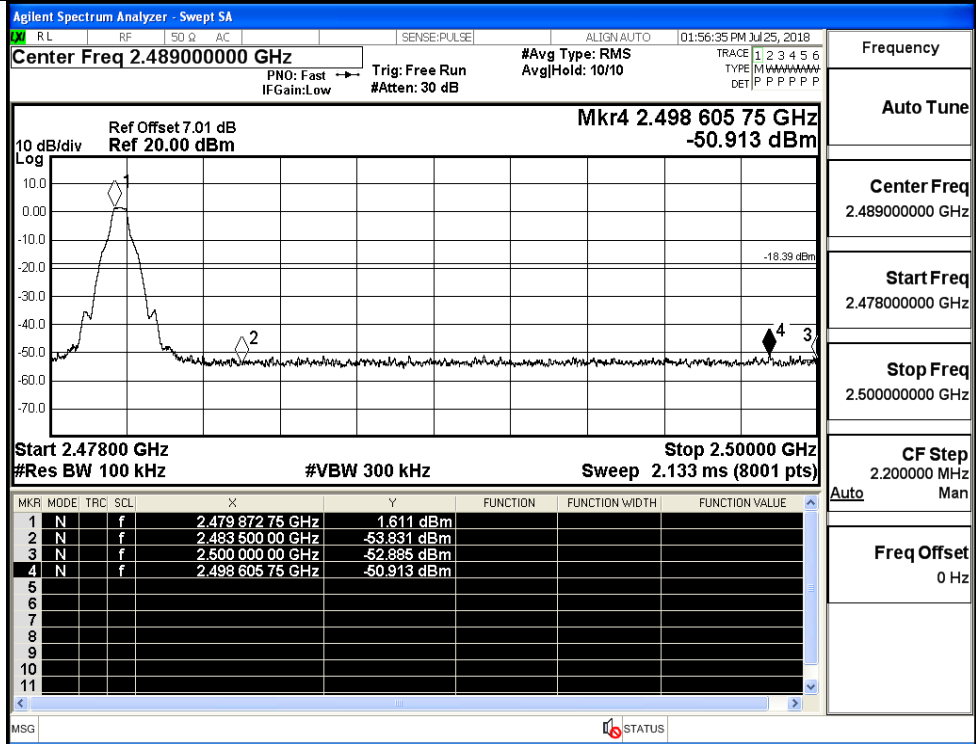
GFSK/LCH/No Hop



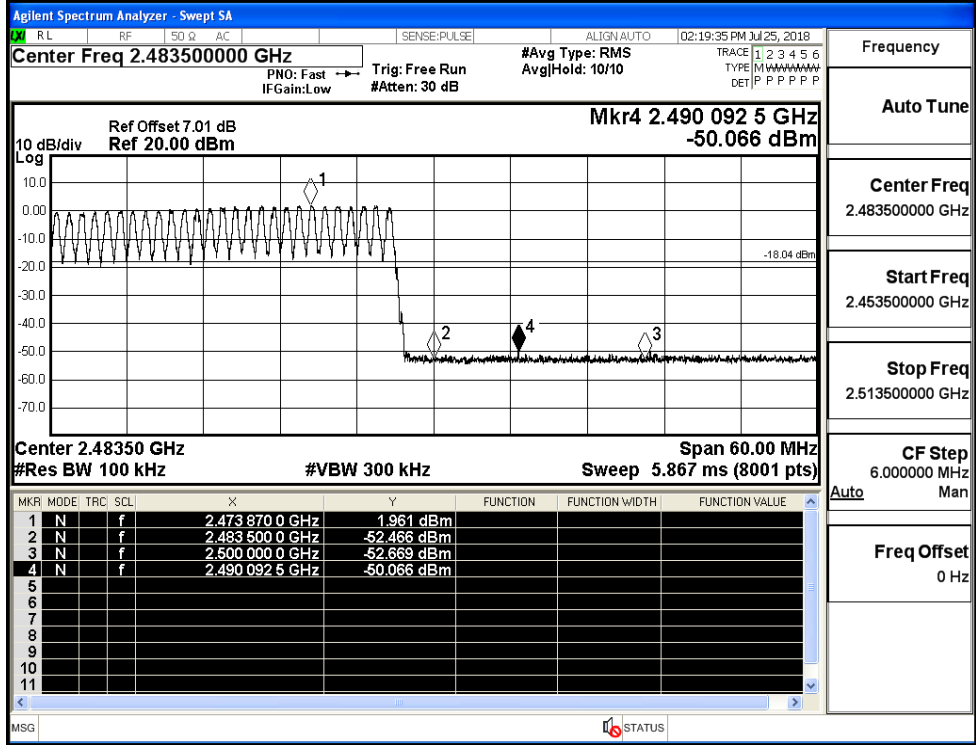
GFSK/LCH/Hop



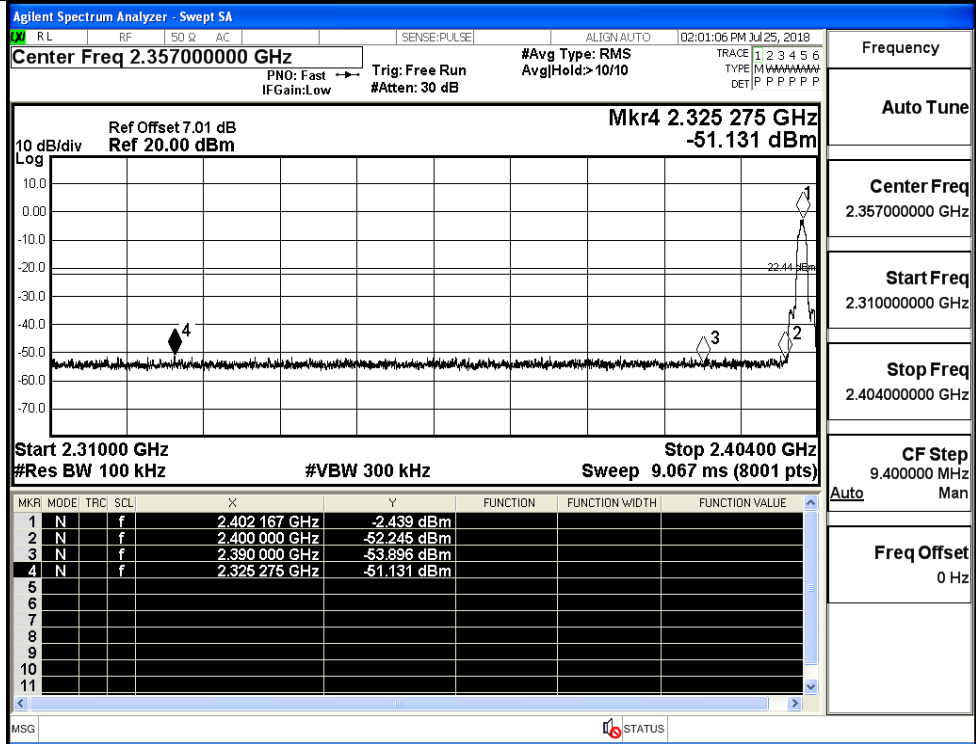
GFSK/HCH/No Hop



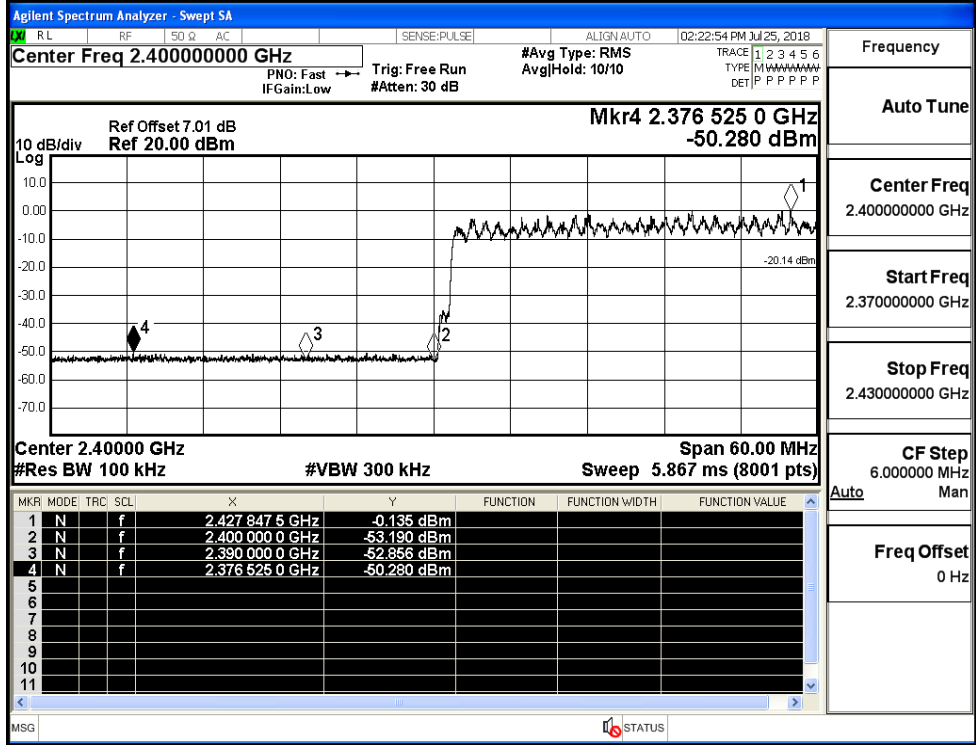
GFSK/HCH/Hop



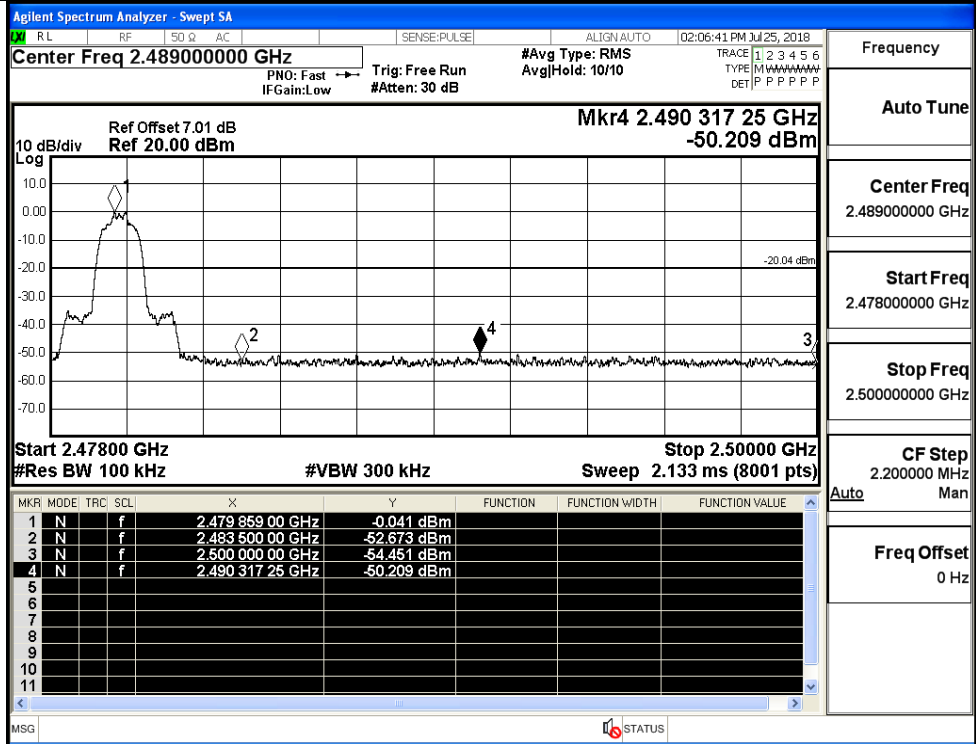
$\pi/4$ DQPSK/LCH/No Hop



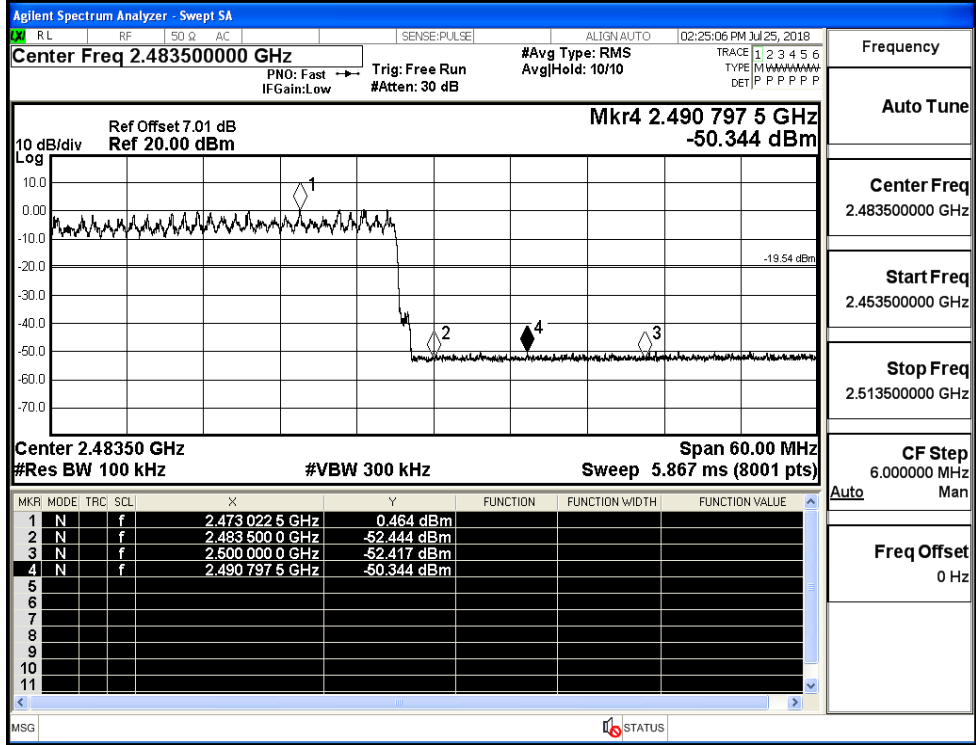
$\pi/4$ DQPSK/LCH/Hop



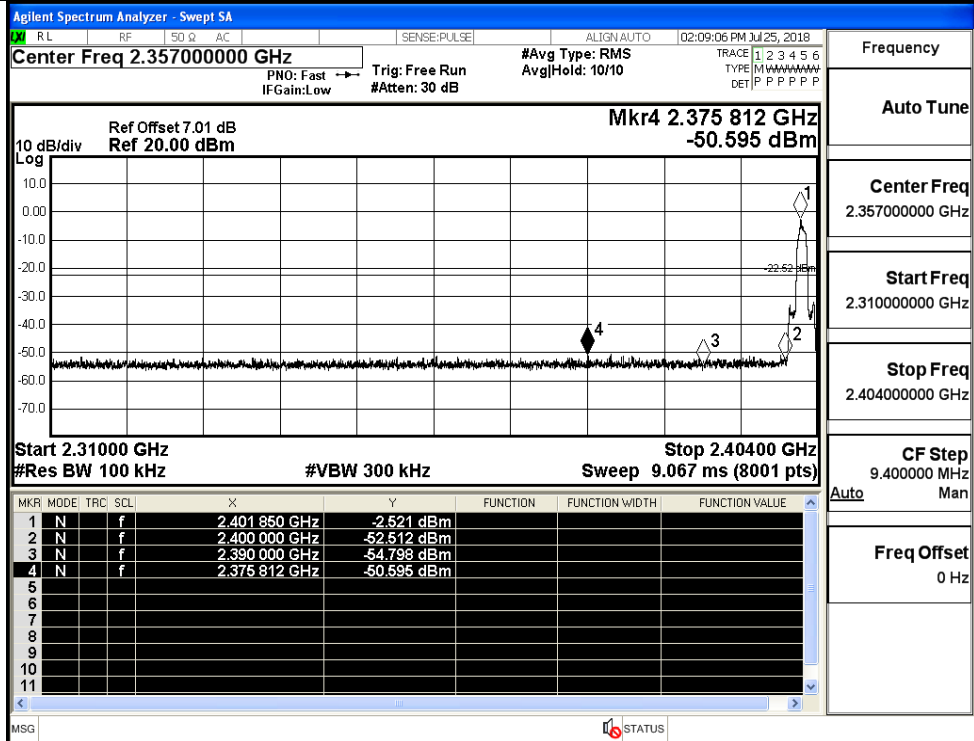
$\pi/4$ DQPSK/HCH/No Hop



$\pi/4$ DQPSK/HCH/Hop

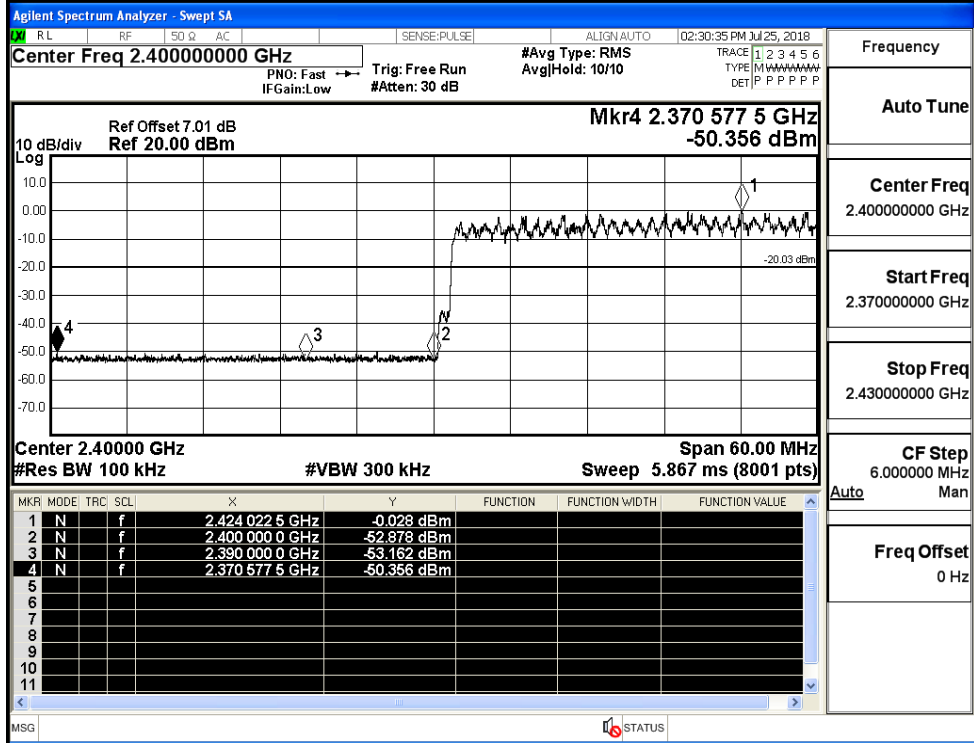


8DPSK/LCH/No Hop



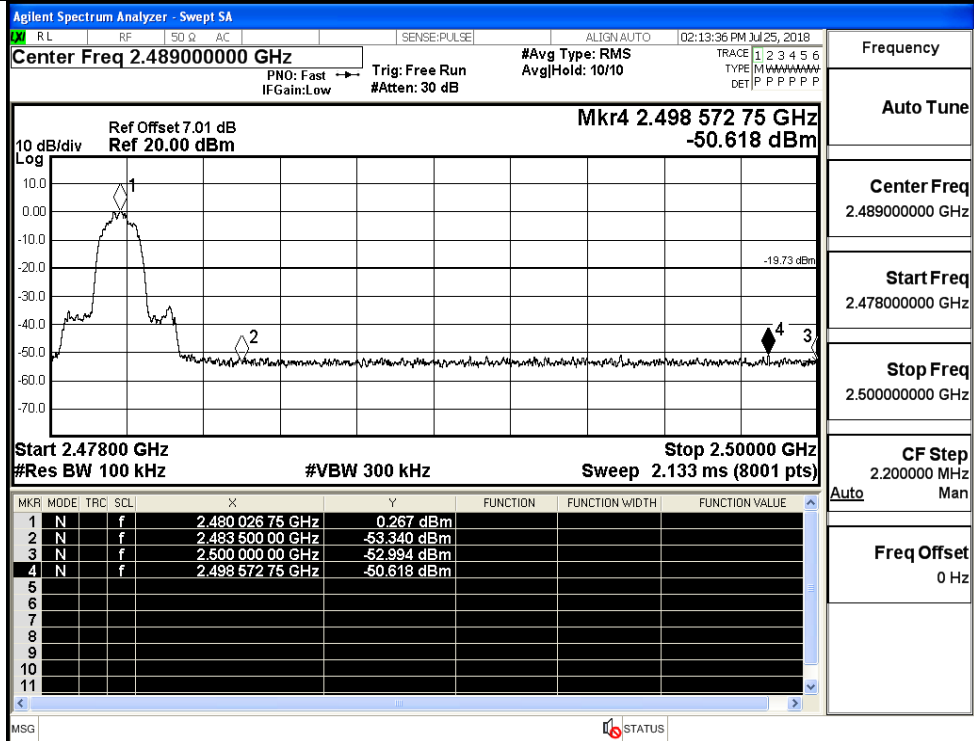
Frequency
Auto Tune
Center Freq
2.357000000 GHz
Start Freq
2.310000000 GHz
Stop Freq
2.404000000 GHz
CF Step
9.400000 MHz
Auto Man
Freq Offset
0 Hz

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

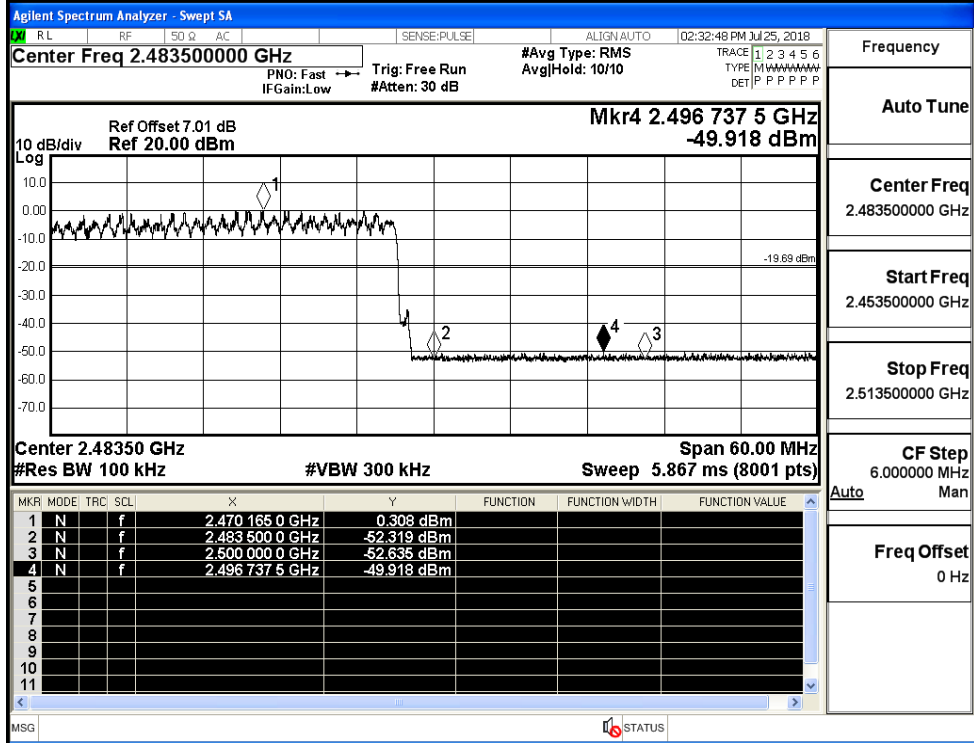
Start Freq
2.478000000 GHz

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

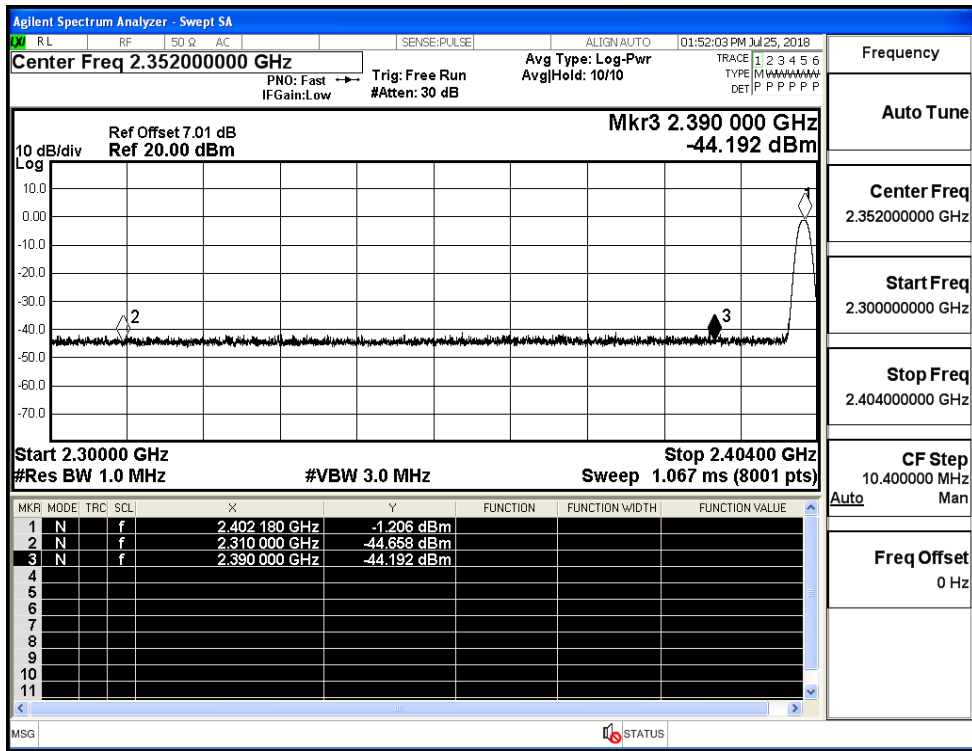
CF Step
6.000000 MHz

Freq Offset
0 Hz

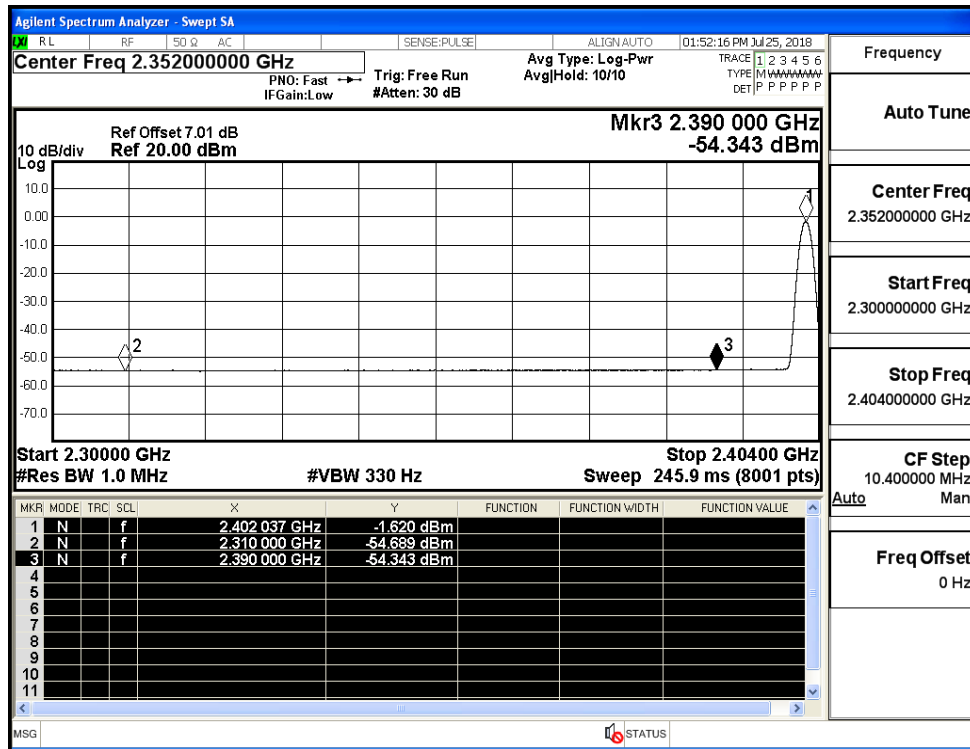
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-44.658	2.50	0	53.070	PEAK	74	PASS
	Off	2310.0	-54.699	2.50	0	43.029	AV	54	PASS
	Off	2390.0	-44.192	2.50	0	53.536	PEAK	74	PASS
	Off	2390.0	-54.343	2.50	0	43.385	AV	54	PASS
	Off	2483.5	-43.998	2.50	0	53.730	PEAK	74	PASS
	Off	2483.5	-53.655	2.50	0	44.073	AV	54	PASS
	Off	2500.0	-43.632	2.50	0	54.096	PEAK	74	PASS
	Off	2500.0	-54.069	2.50	0	43.659	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-44.174	2.50	0	53.554	PEAK	74	PASS
	Off	2310.0	-54.696	2.50	0	43.032	AV	54	PASS
	Off	2390.0	-44.394	2.50	0	53.334	PEAK	74	PASS
	Off	2390.0	-54.404	2.50	0	43.324	AV	54	PASS
	Off	2483.5	-43.849	2.50	0	53.879	PEAK	74	PASS
	Off	2483.5	-54.028	2.50	0	43.700	AV	54	PASS
	Off	2500.0	-44.040	2.50	0	53.688	PEAK	74	PASS
	Off	2500.0	-53.892	2.50	0	43.836	AV	54	PASS
8DPSK	Off	2310.0	-44.336	2.50	0	53.392	PEAK	74	PASS
	Off	2310.0	-54.671	2.50	0	43.057	AV	54	PASS
	Off	2390.0	-43.079	2.50	0	54.649	PEAK	74	PASS
	Off	2390.0	-54.435	2.50	0	43.293	AV	54	PASS
	Off	2483.5	-43.687	2.50	0	54.041	PEAK	74	PASS
	Off	2483.5	-53.956	2.50	0	43.772	AV	54	PASS
	Off	2500.0	-43.346	2.50	0	54.382	PEAK	74	PASS
	Off	2500.0	-53.904	2.50	0	43.824	AV	54	PASS

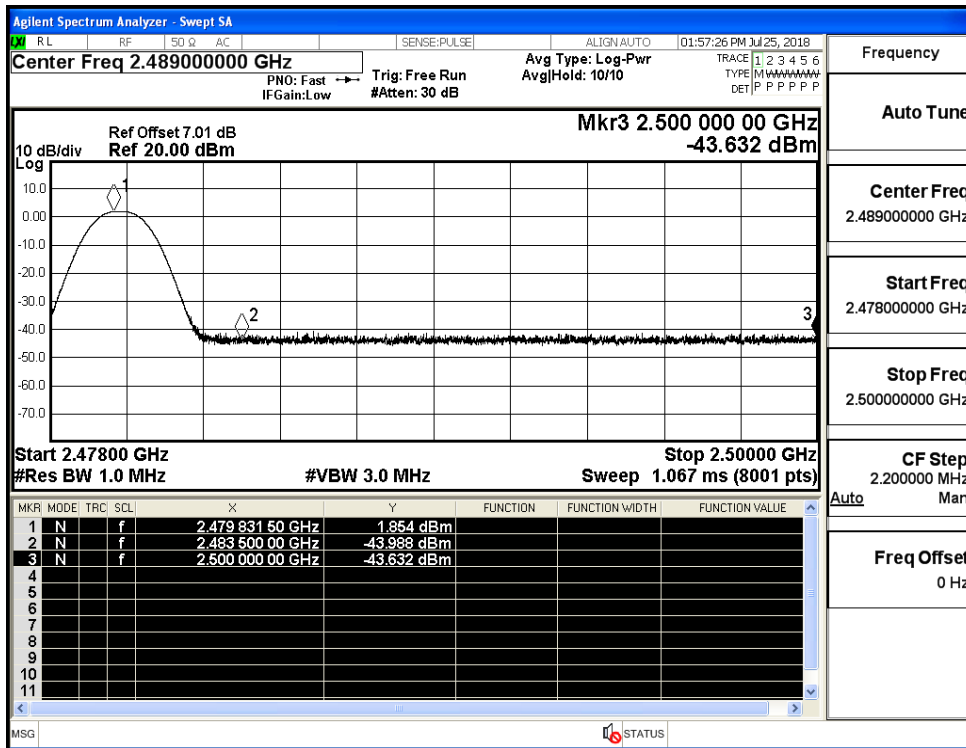
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



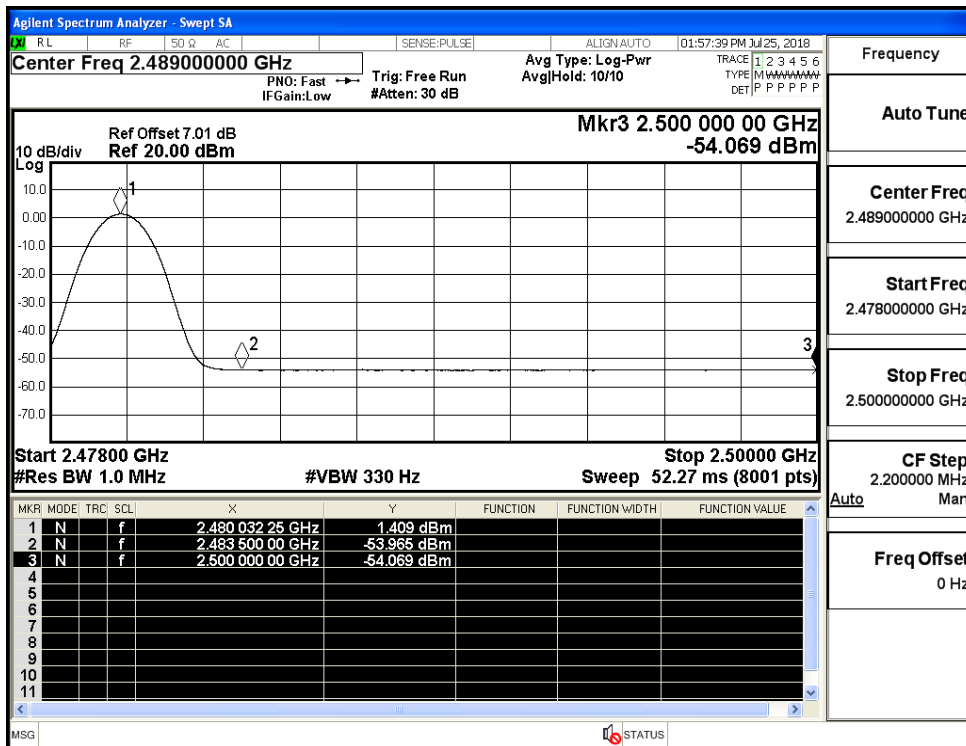
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



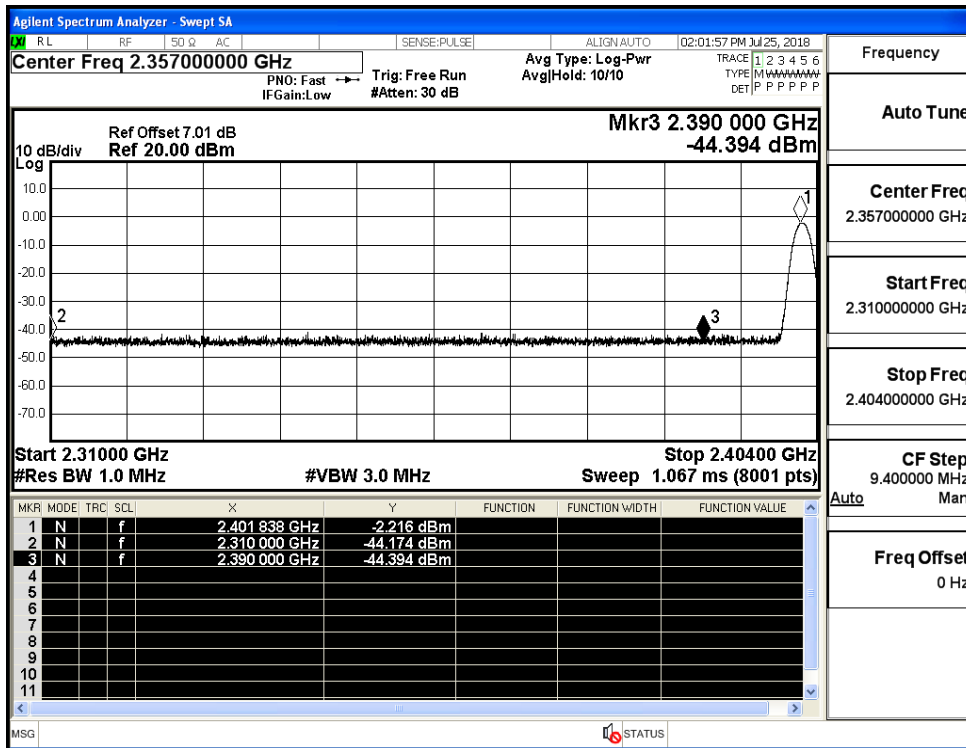
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



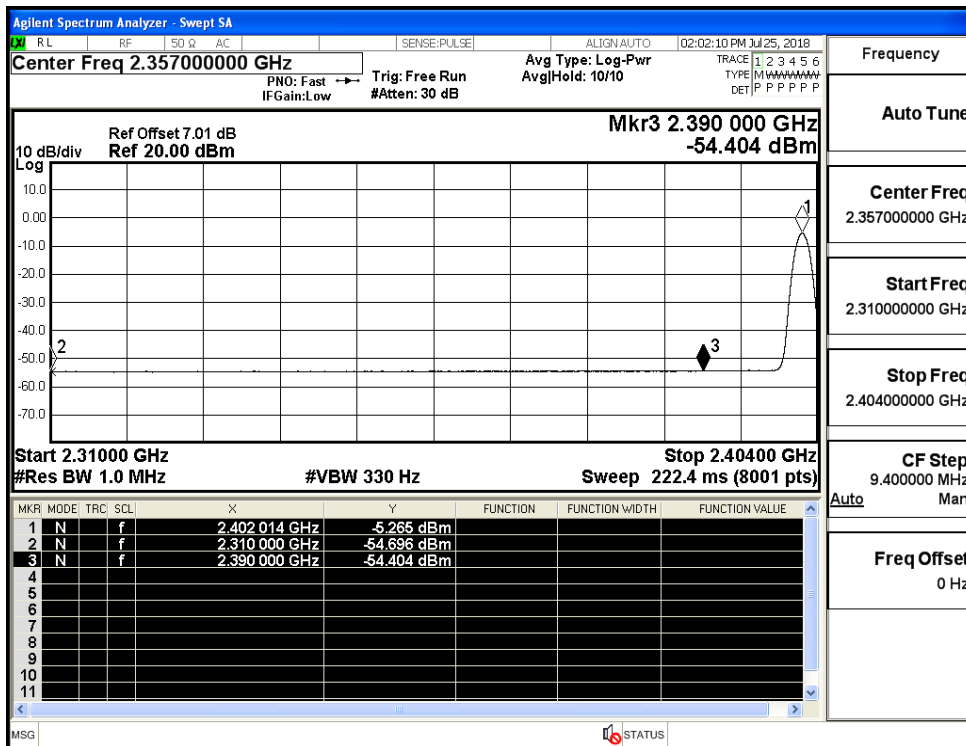
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



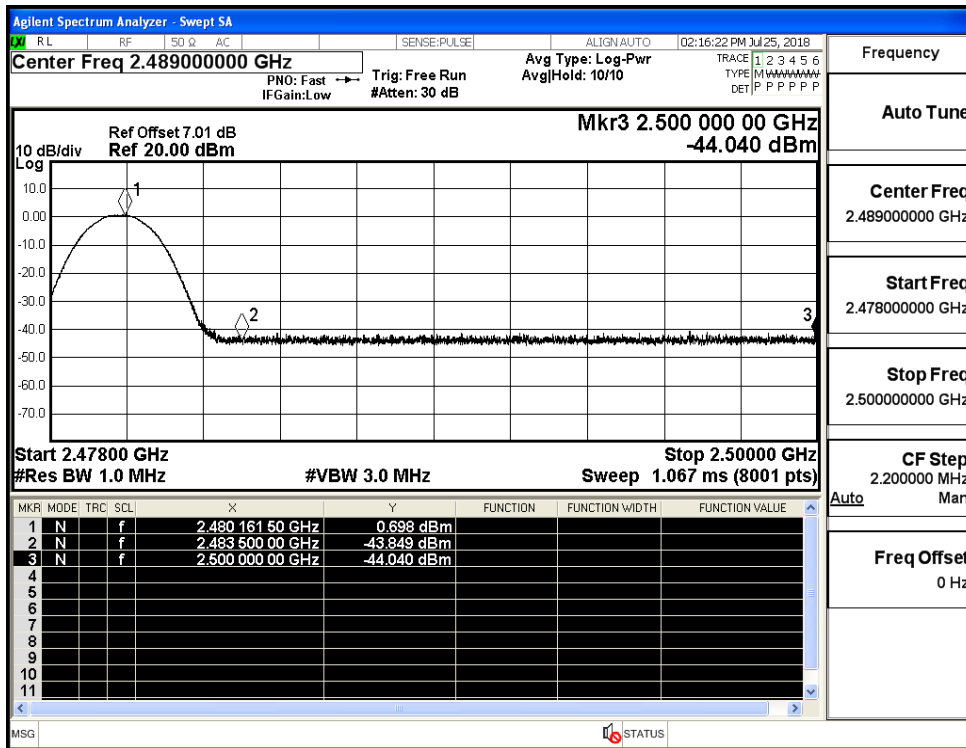
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)



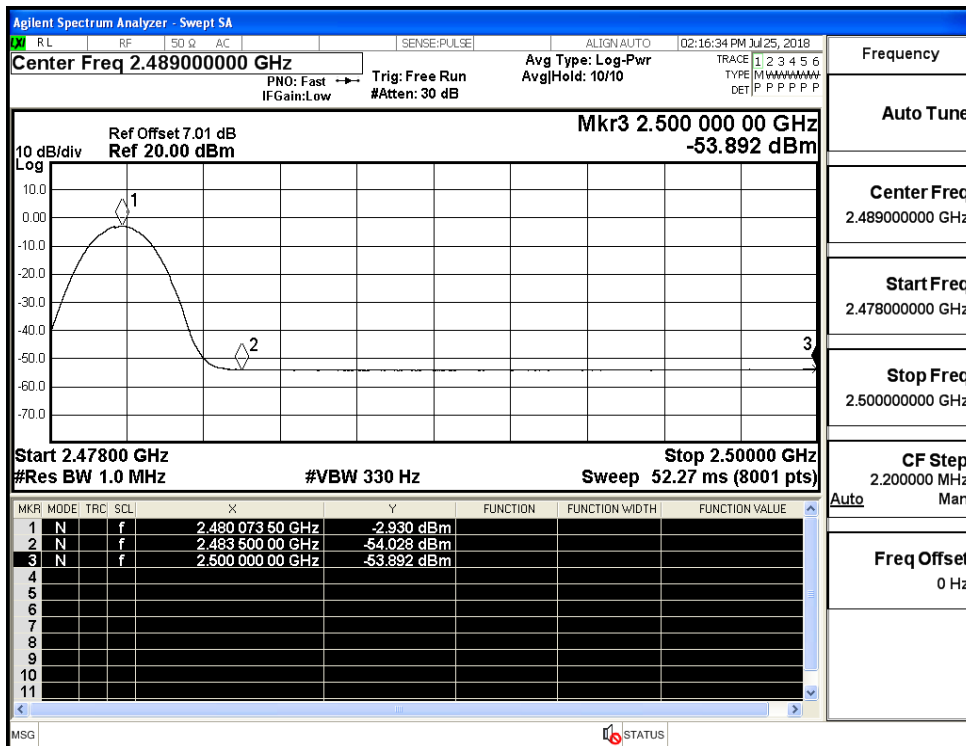
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)



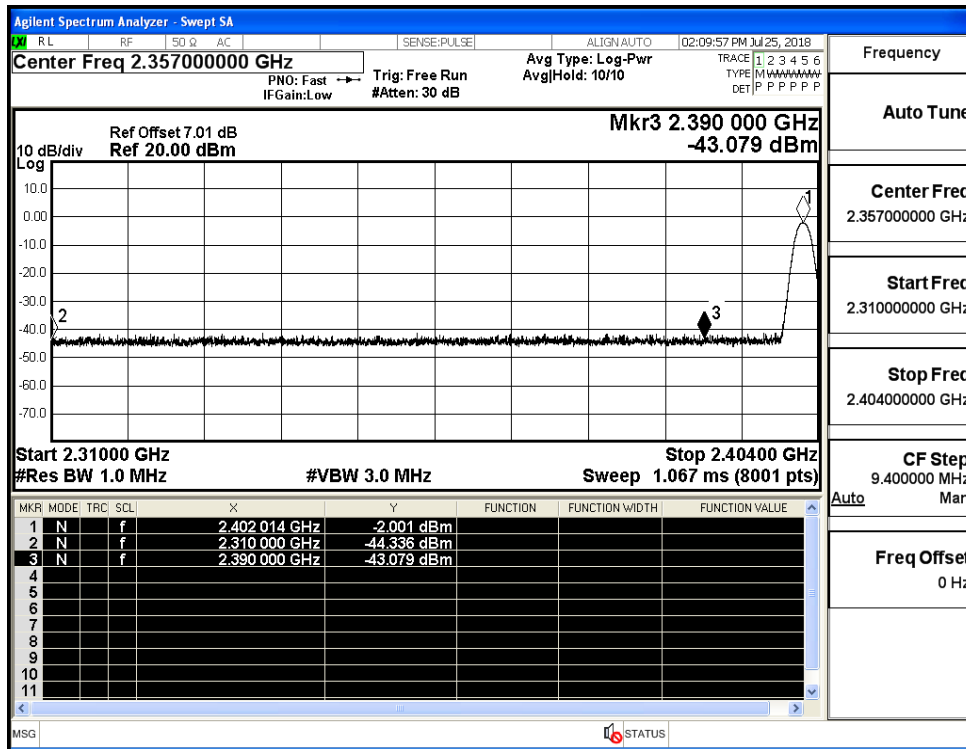
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (High Channel)



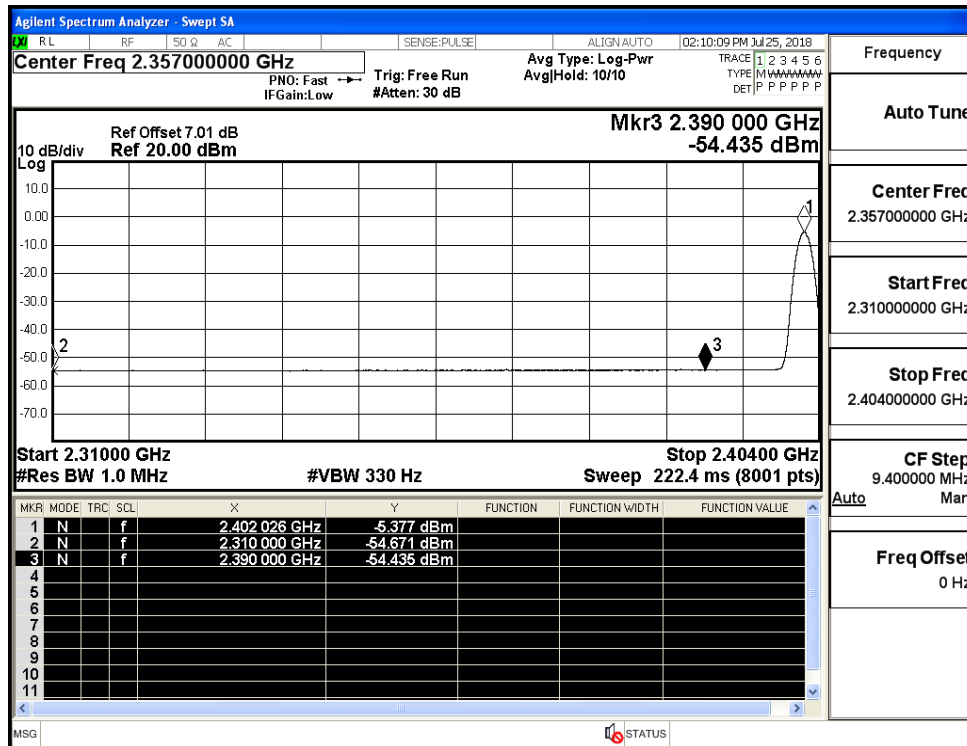
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (High Channel)



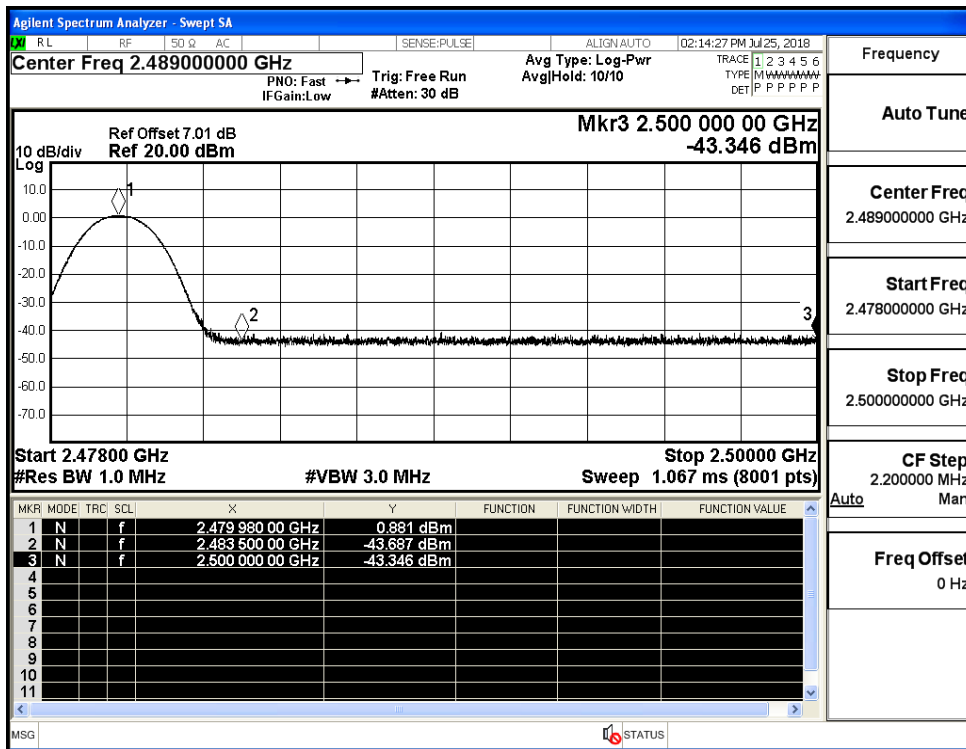
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

