

Appendix A

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

Product Name: TABLET PC

Trade Mark: FUSION5

Test Model: FWIN232

Environmental Conditions

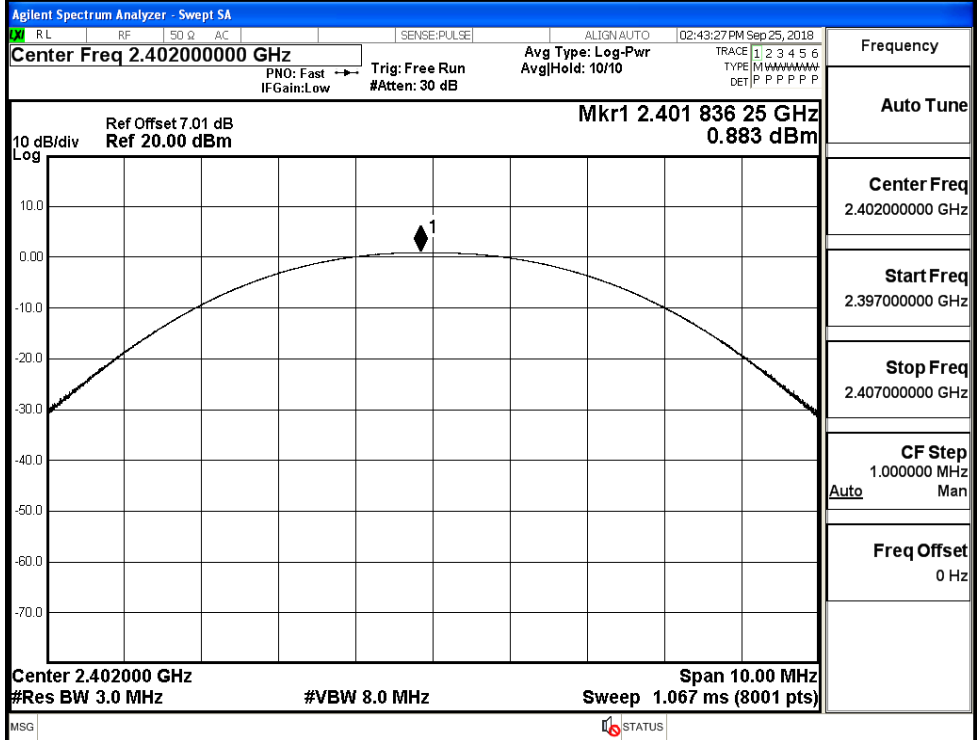
Temperature:	24.3 ° C
Relative Humidity:	53.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom.Liu
Supervised by:	Jayden.Zhuo

A.1 Maxmum Conducted Peak Output Power

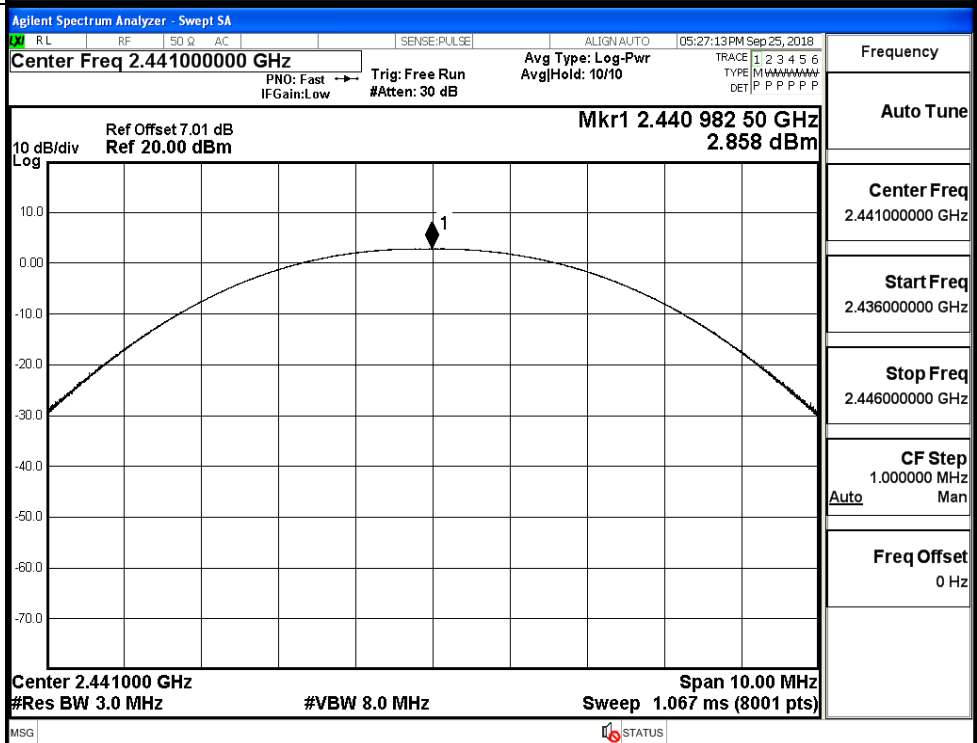
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.883	21	PASS
	MCH	2.858	21	PASS
	HCH	2.548	21	PASS
π/4DQPSK	LCH	0.651	21	PASS
	MCH	1.528	21	PASS
	HCH	1.667	21	PASS
8DPSK	LCH	0.591	21	PASS
	MCH	1.607	21	PASS
	HCH	1.387	21	PASS

Test Graphs

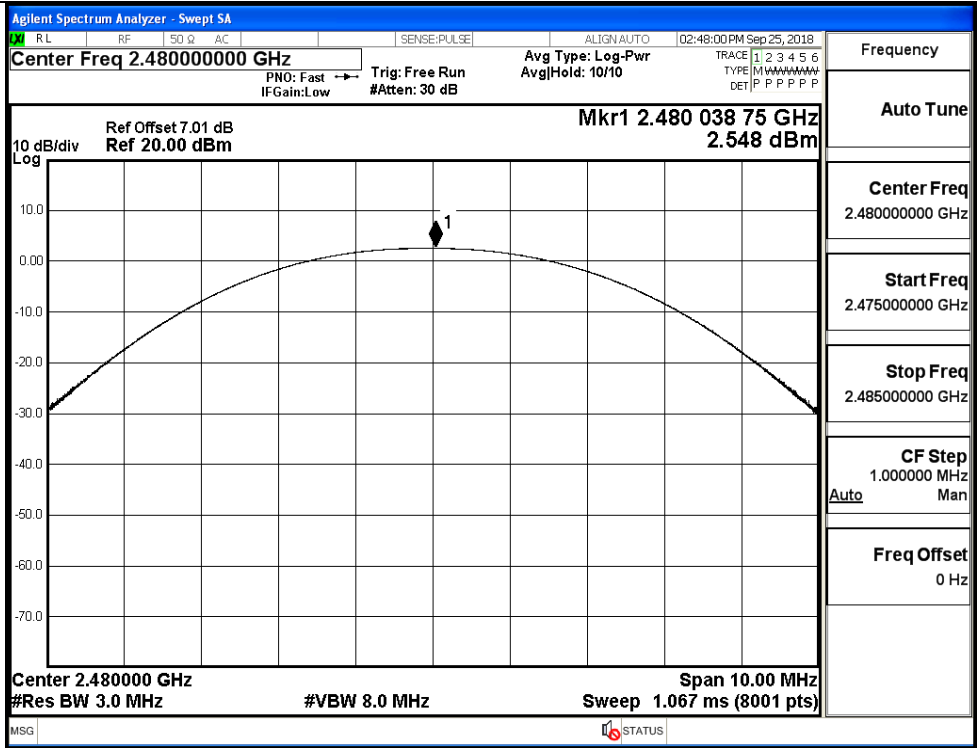
GFSK/LCH



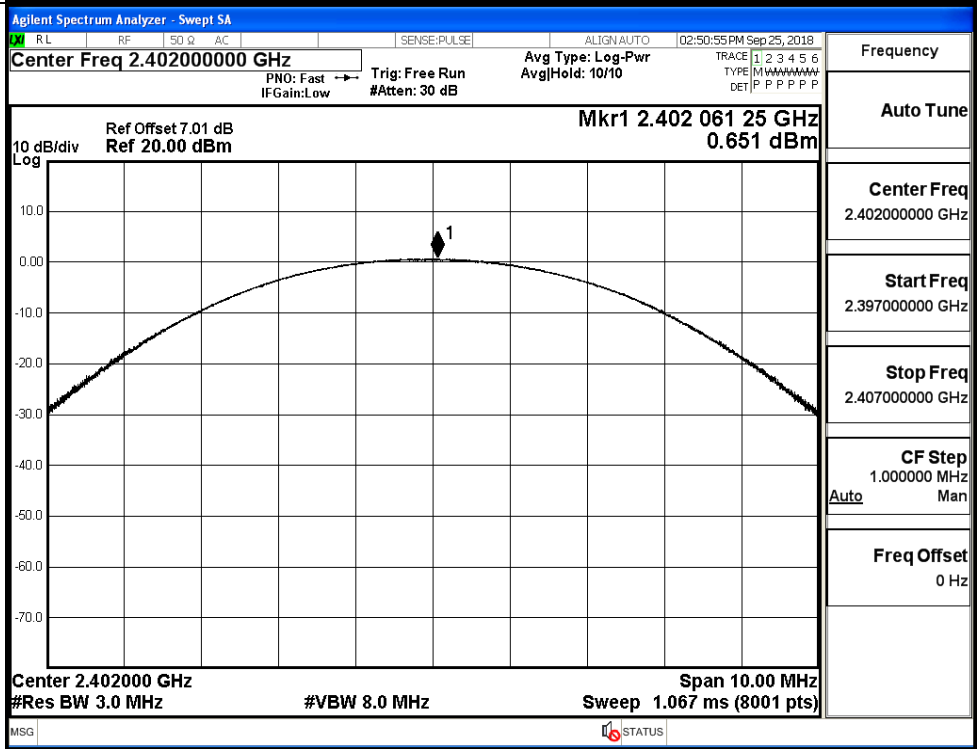
GFSK/MCH



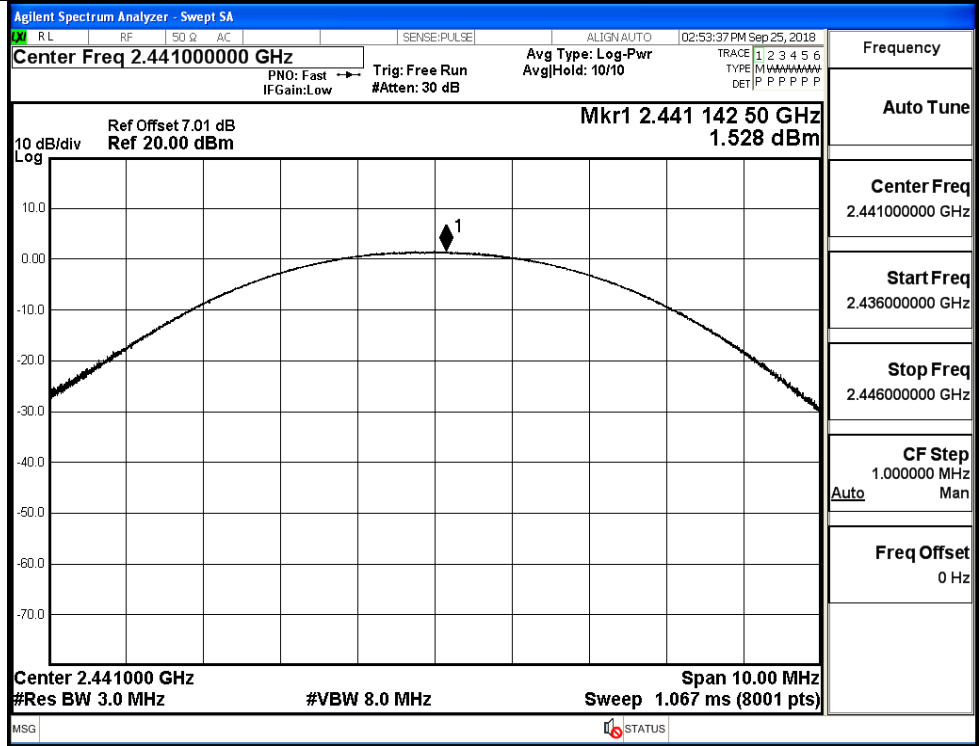
GFSK/HCH



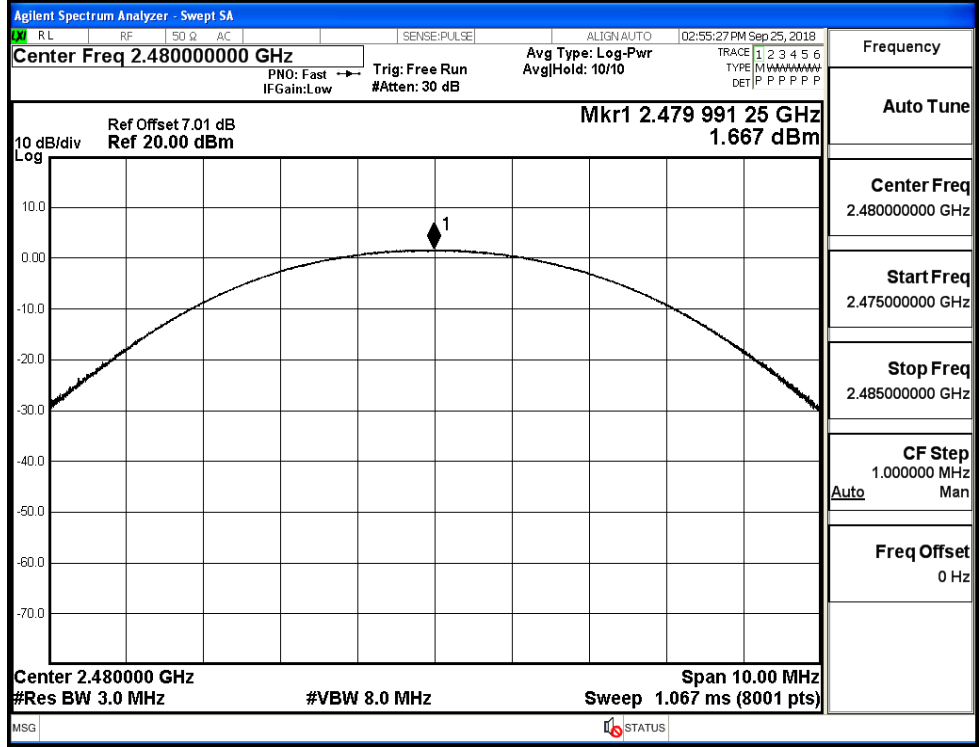
π /4DQPSK/LCH



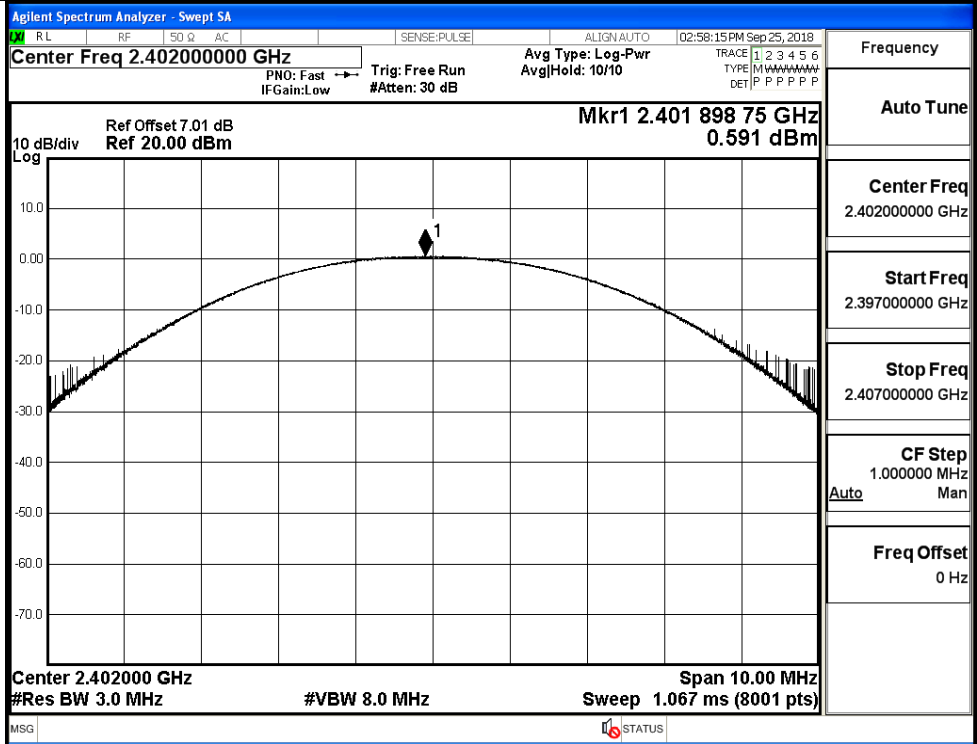
π /4DQPSK/MCH



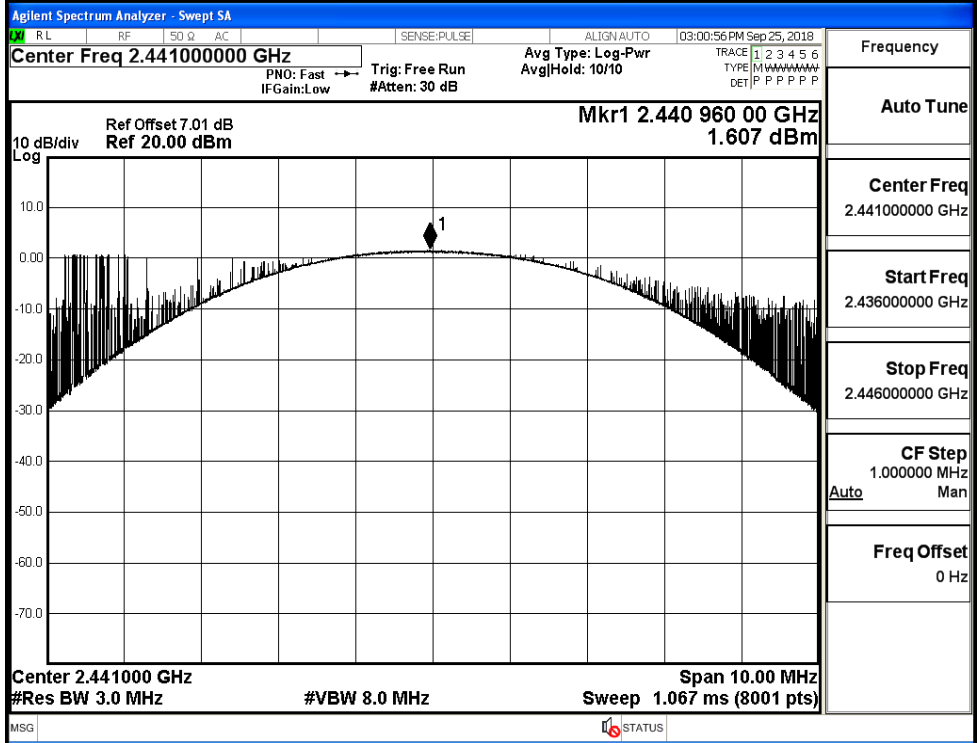
π /4DQPSK/HCH



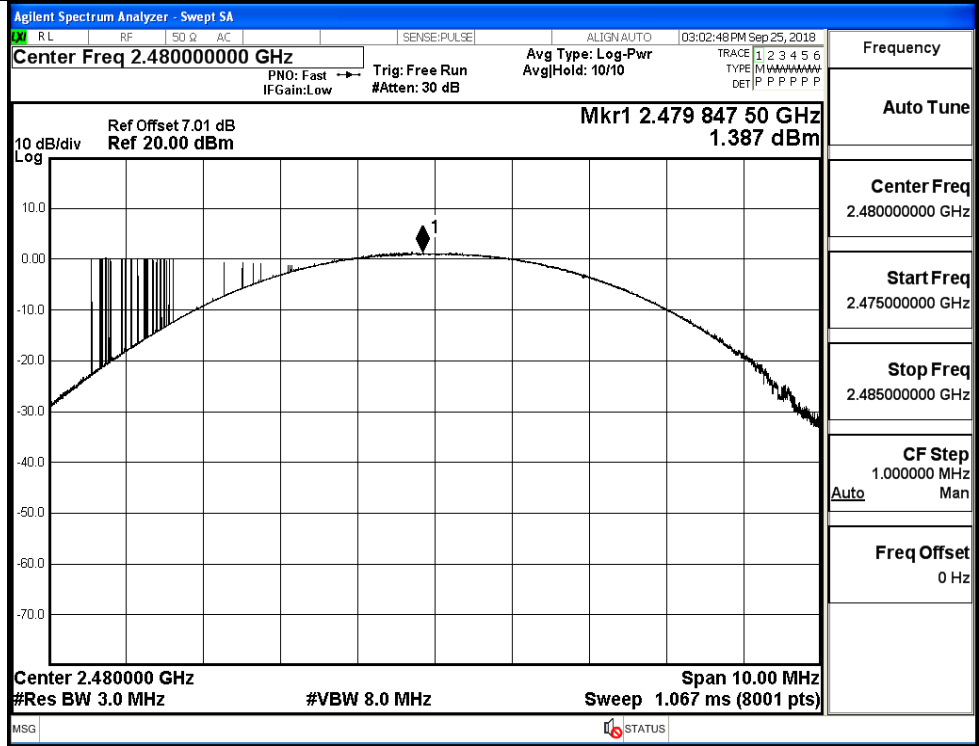
8DPSK/LCH



8DPSK/MCH

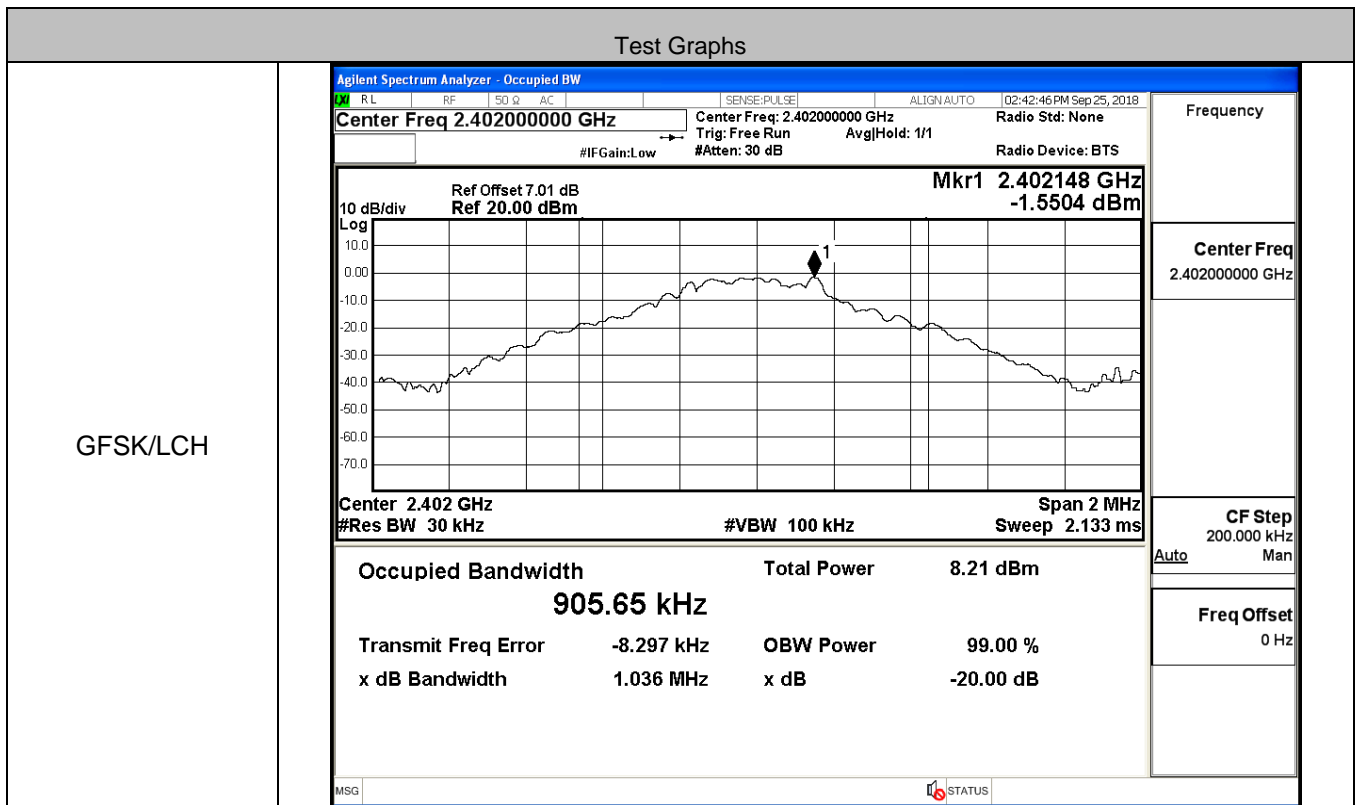


8DPSK/HCH

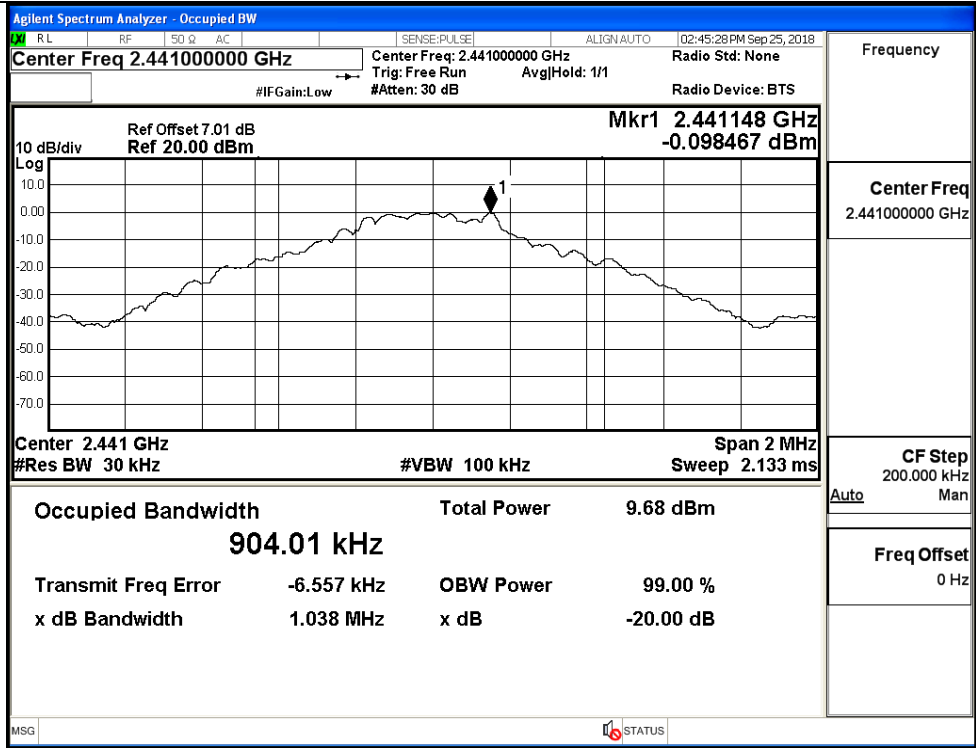


A.2 20dB Bandwidth

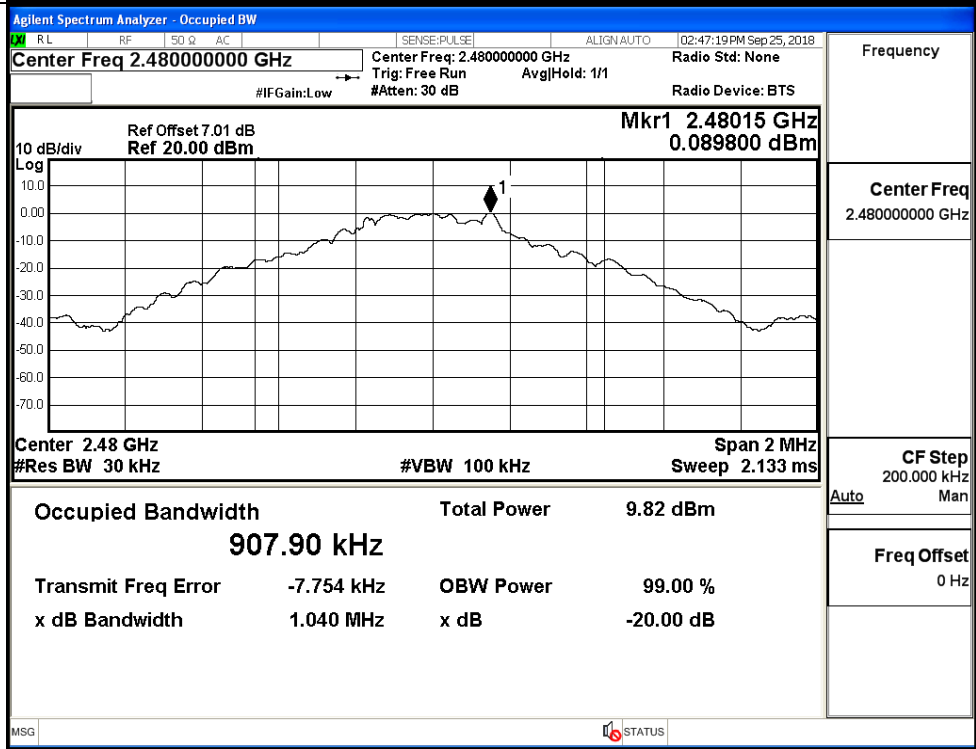
Mode	Channel.	99% Bandwidth [MHz]	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.90565	1.036	Not Specified	PASS
	MCH	0.90401	1.038	Not Specified	PASS
	HCH	0.90790	1.040	Not Specified	PASS
π/4DQPSK	LCH	1.1782	1.313	Not Specified	PASS
	MCH	1.1747	1.307	Not Specified	PASS
	HCH	1.1713	1.291	Not Specified	PASS
8DPSK	LCH	1.1850	1.313	Not Specified	PASS
	MCH	1.1904	1.327	Not Specified	PASS
	HCH	1.1667	1.211	Not Specified	PASS



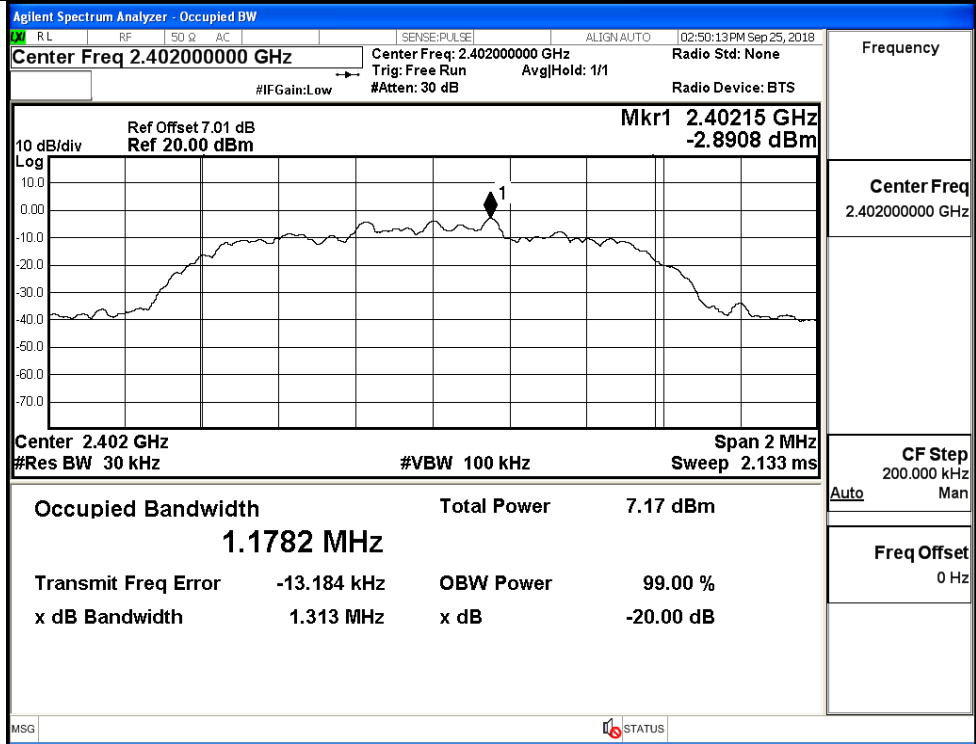
GFSK/MCH



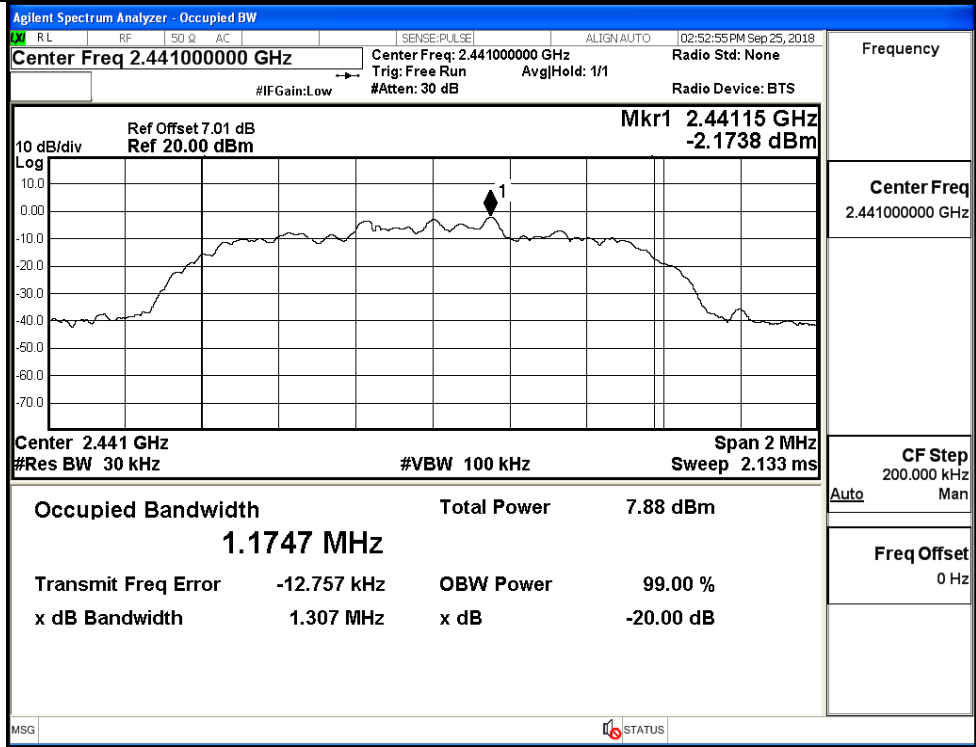
GFSK/HCH



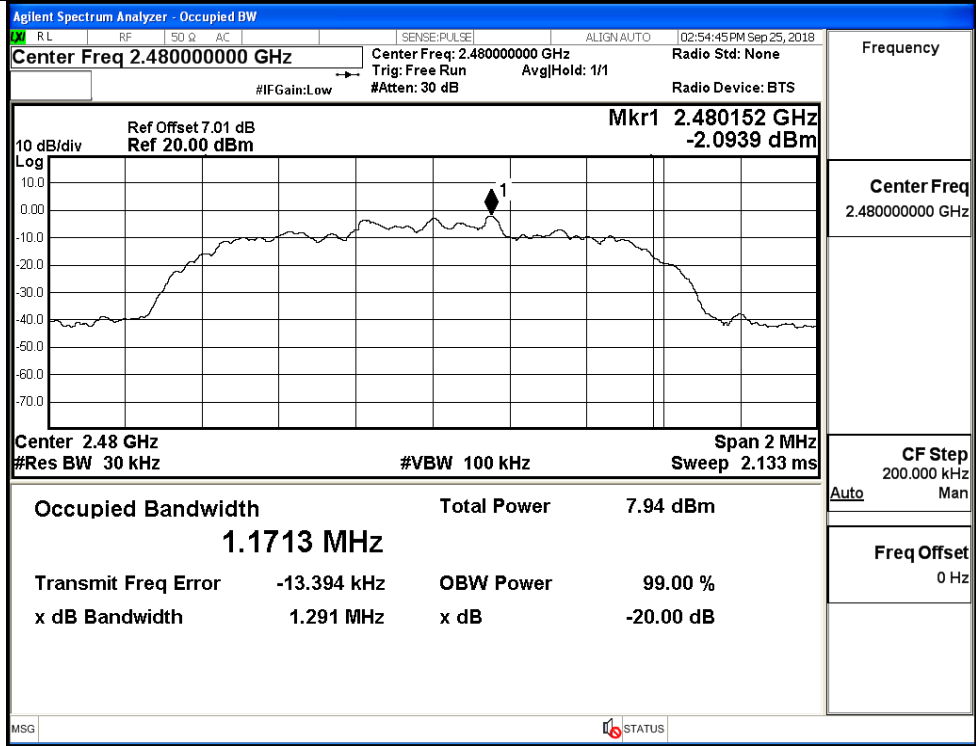
$\pi/4$ DQPSK/LCH



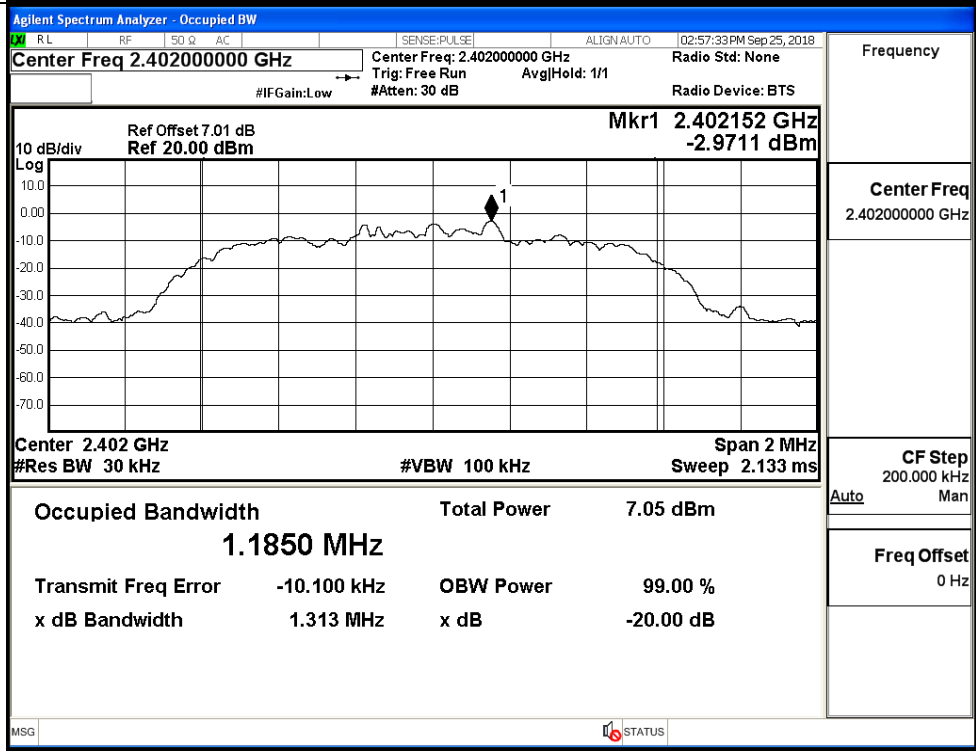
$\pi/4$ DQPSK/MCH



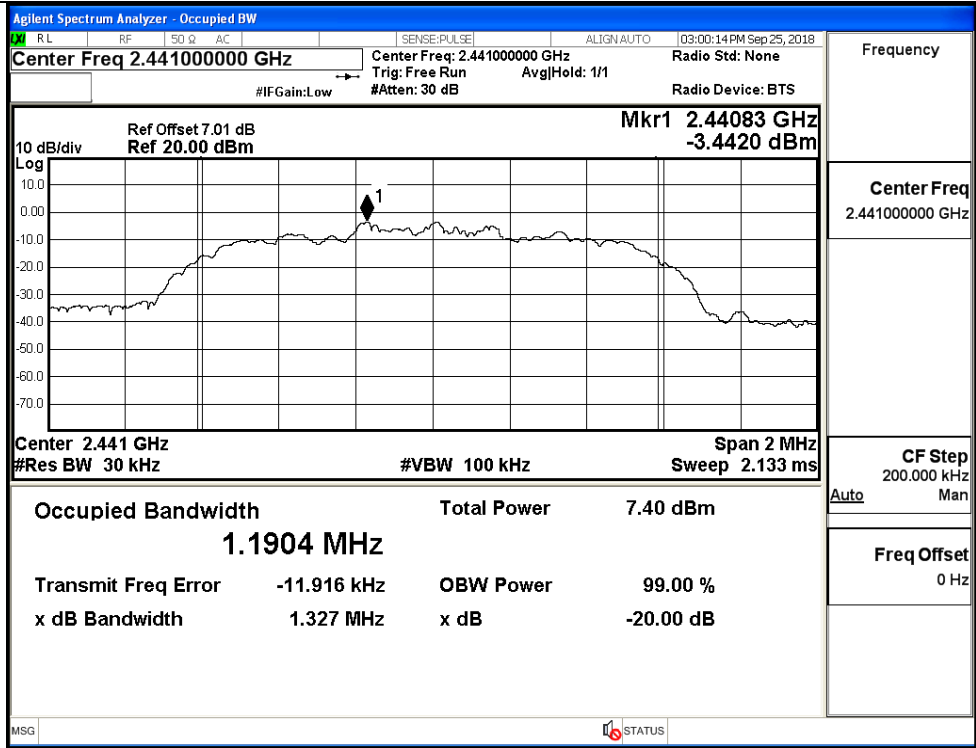
$\pi/4$ DQPSK/HCH



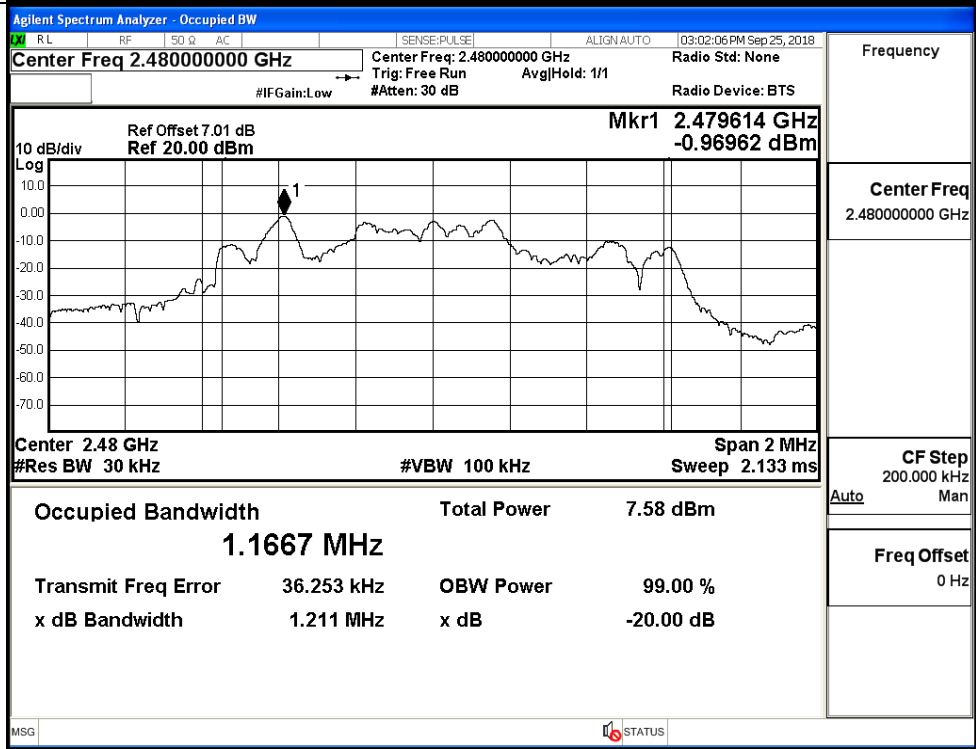
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH



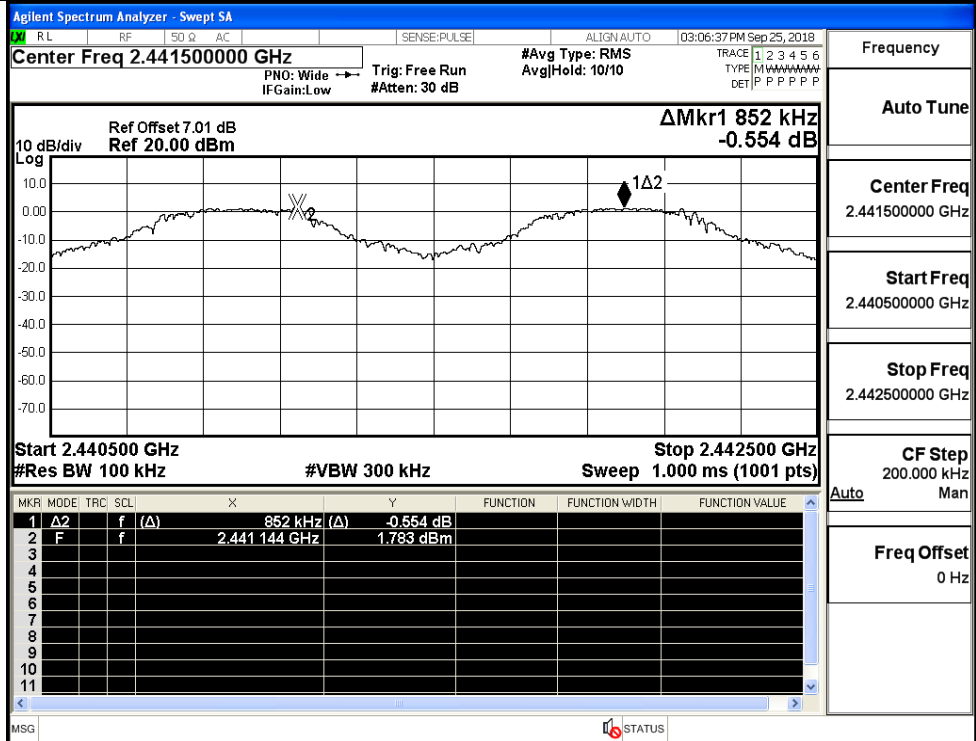
A.3 Carrier Frequency Separation

Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.025	0.693	PASS
	MCH	0.852	0.693	PASS
	HCH	1.186	0.693	PASS
π/4DQPSK	LCH	0.978	0.875	PASS
	MCH	1.134	0.875	PASS
	HCH	1.134	0.875	PASS
8DPSK	LCH	1.026	0.885	PASS
	MCH	1.008	0.885	PASS
	HCH	1.138	0.885	PASS

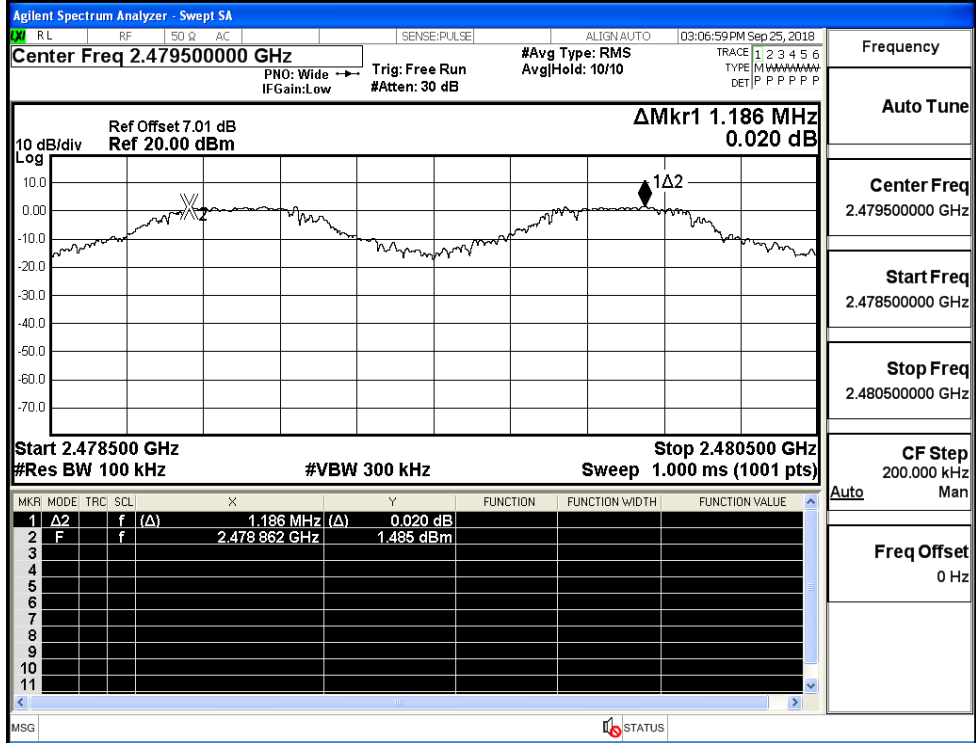
Test Graphs

GFSK/LCH	Agilent Spectrum Analyzer - Swept SA	03:05:36 PM Sep 25, 2018																																																																																																												
	Center Freq 2.402500000 GHz	Avg Type: Log-Pwr AvgHold: 10/10																																																																																																												
	Ref Offset 7.01 dB Ref 20.00 dBm	ΔMkr1 1.025 50 MHz 0.108 dB																																																																																																												
	10 dB/div Log	1Δ2																																																																																																												
	Start 2.401500 GHz #Res BW 100 kHz	Stop 2.403500 GHz Sweep 1.067 ms (8001 pts)																																																																																																												
	#VBW 300 kHz	CF Step 200.000 kHz Auto Man																																																																																																												
	<table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <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>1.025 50 MHz (Δ)</td> <td>0.108 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td></td> <td>2.401 964 50 GHz</td> <td>0.135 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>7</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>9</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>11</td> <td></td> <td></td> <td></td> <td></td> <td></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)	1.025 50 MHz (Δ)	0.108 dB				2	F	f		2.401 964 50 GHz	0.135 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 Freq Offset 0 Hz
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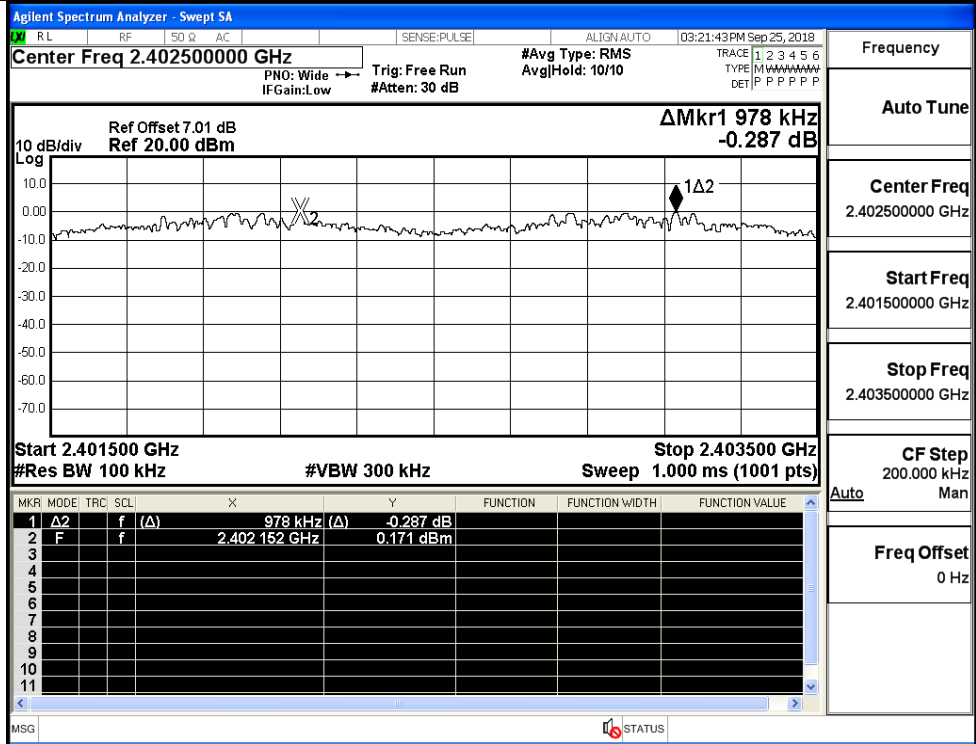
GFSK/MCH



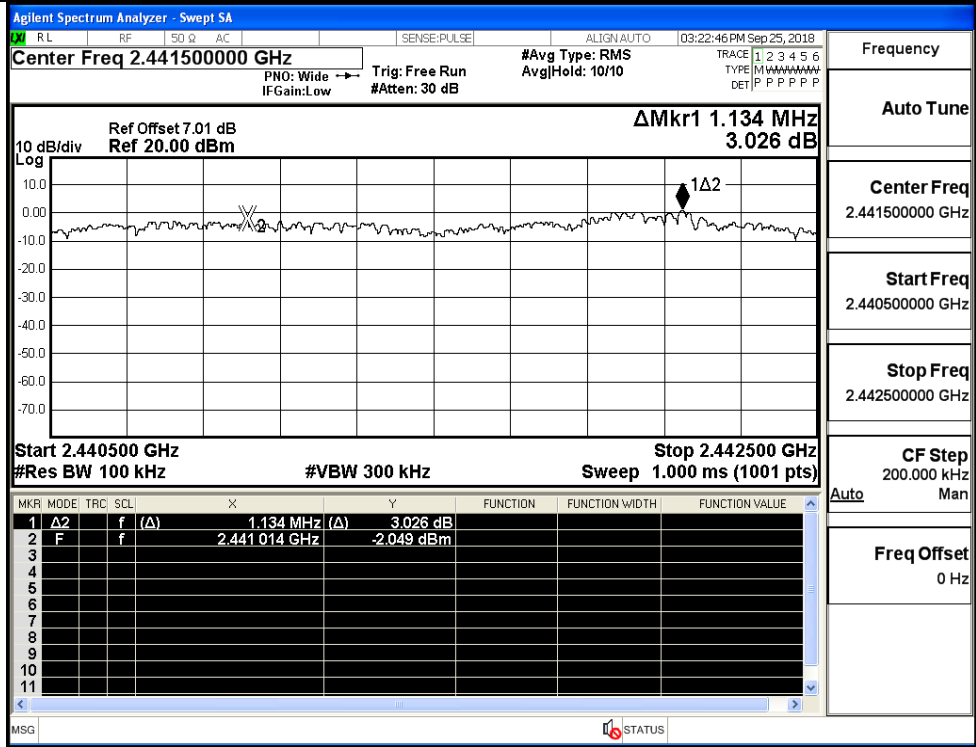
GFSK/HCH



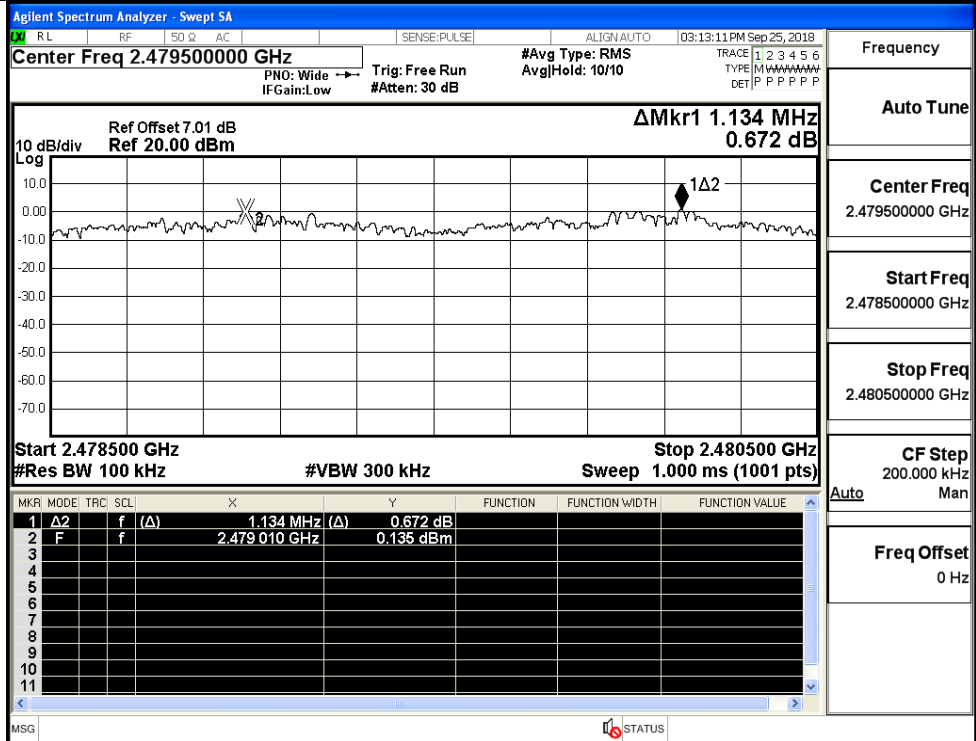
$\pi/4$ DQPSK/LCH



$\pi/4$ DQPSK/MCH

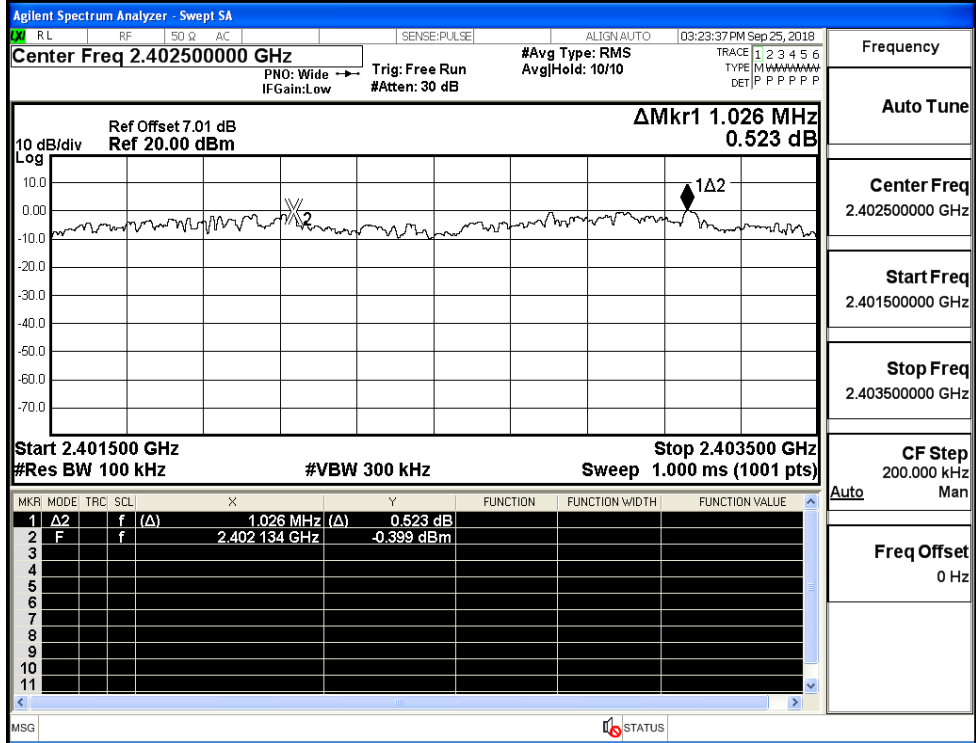


π/4DQPSK/HCH



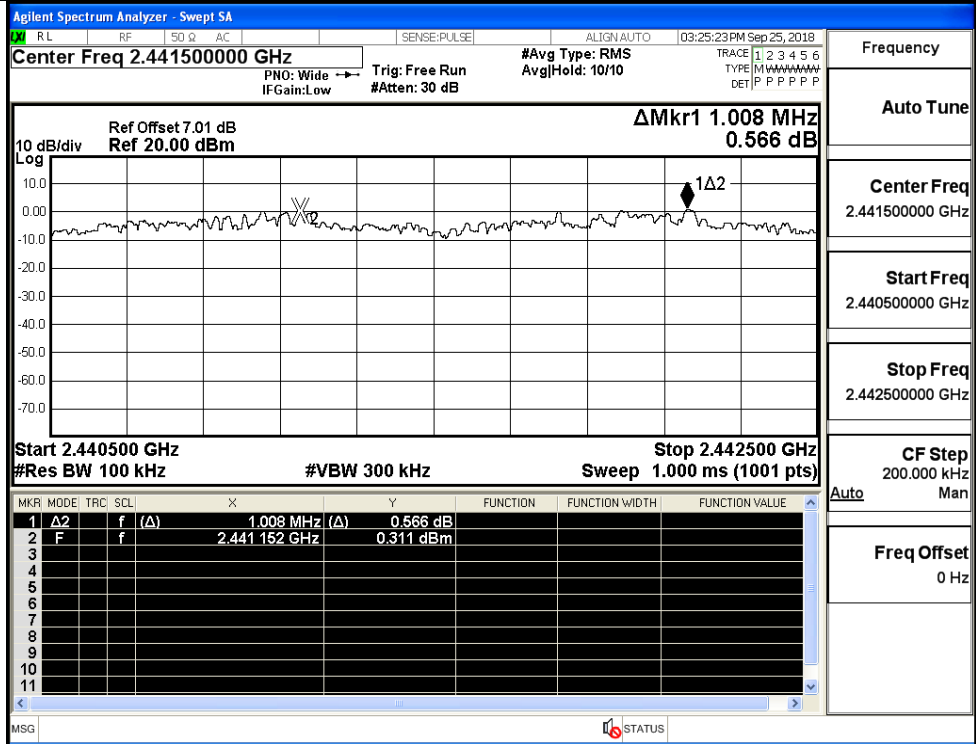
Frequency
Auto Tune
Center Freq
2.479500000 GHz
Start Freq
2.478500000 GHz
Stop Freq
2.480500000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

8DPSK/LCH

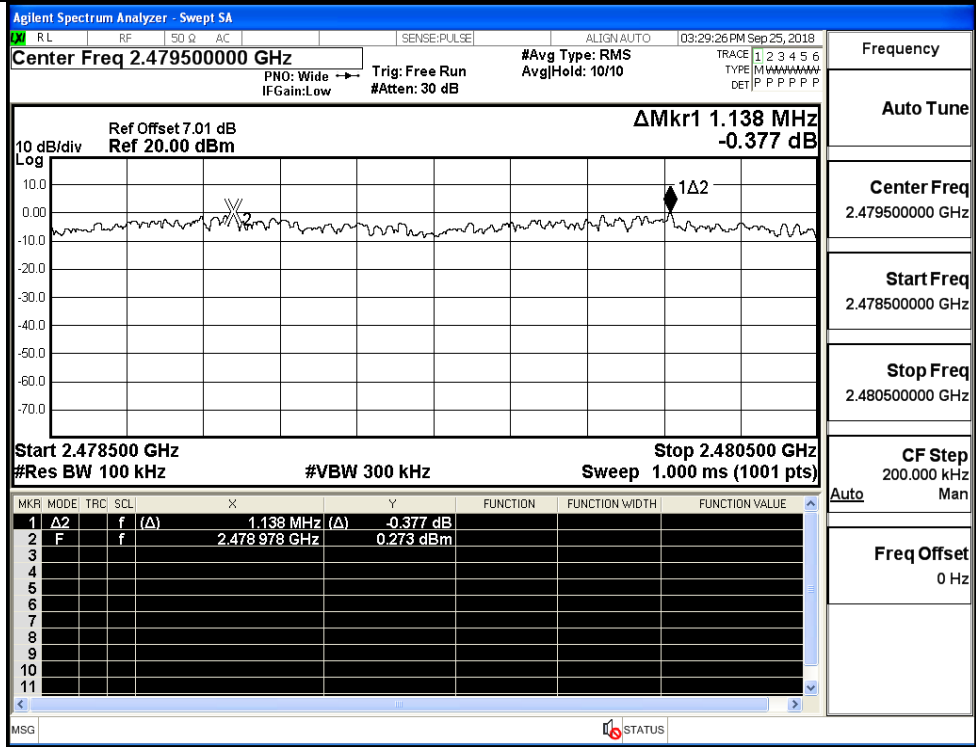


Frequency
Auto Tune
Center Freq
2.402500000 GHz
Start Freq
2.401500000 GHz
Stop Freq
2.403500000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

8DPSK/MCH



8DPSK/HCH

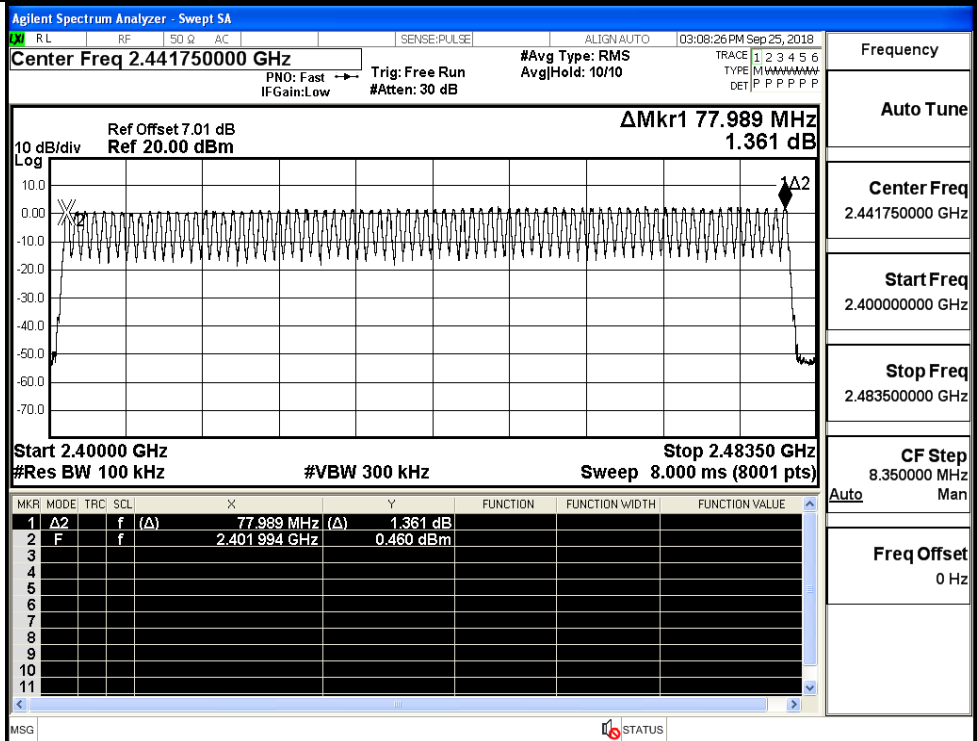


A.4 Hopping Channel Number

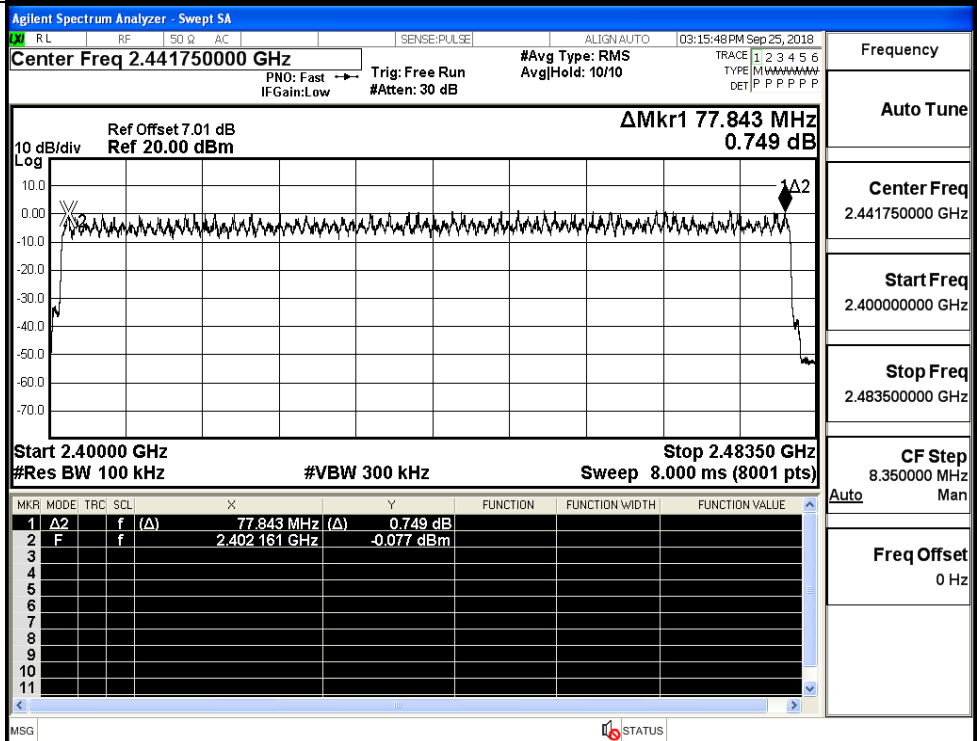
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

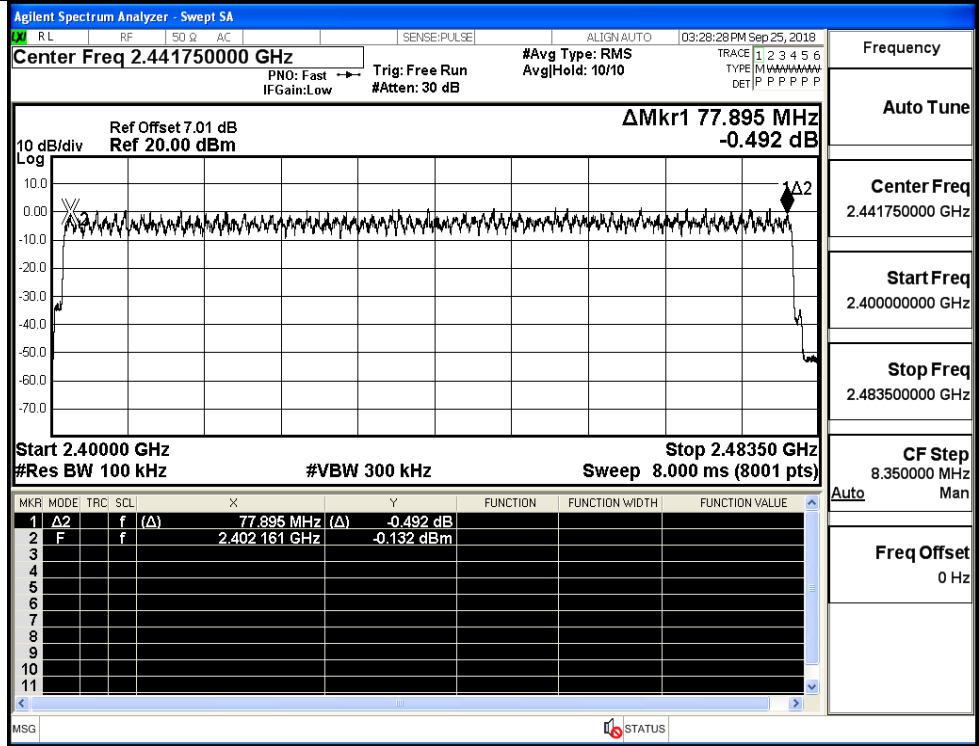
GFSK/Hop



$\pi/4$ DQPSK/Hop

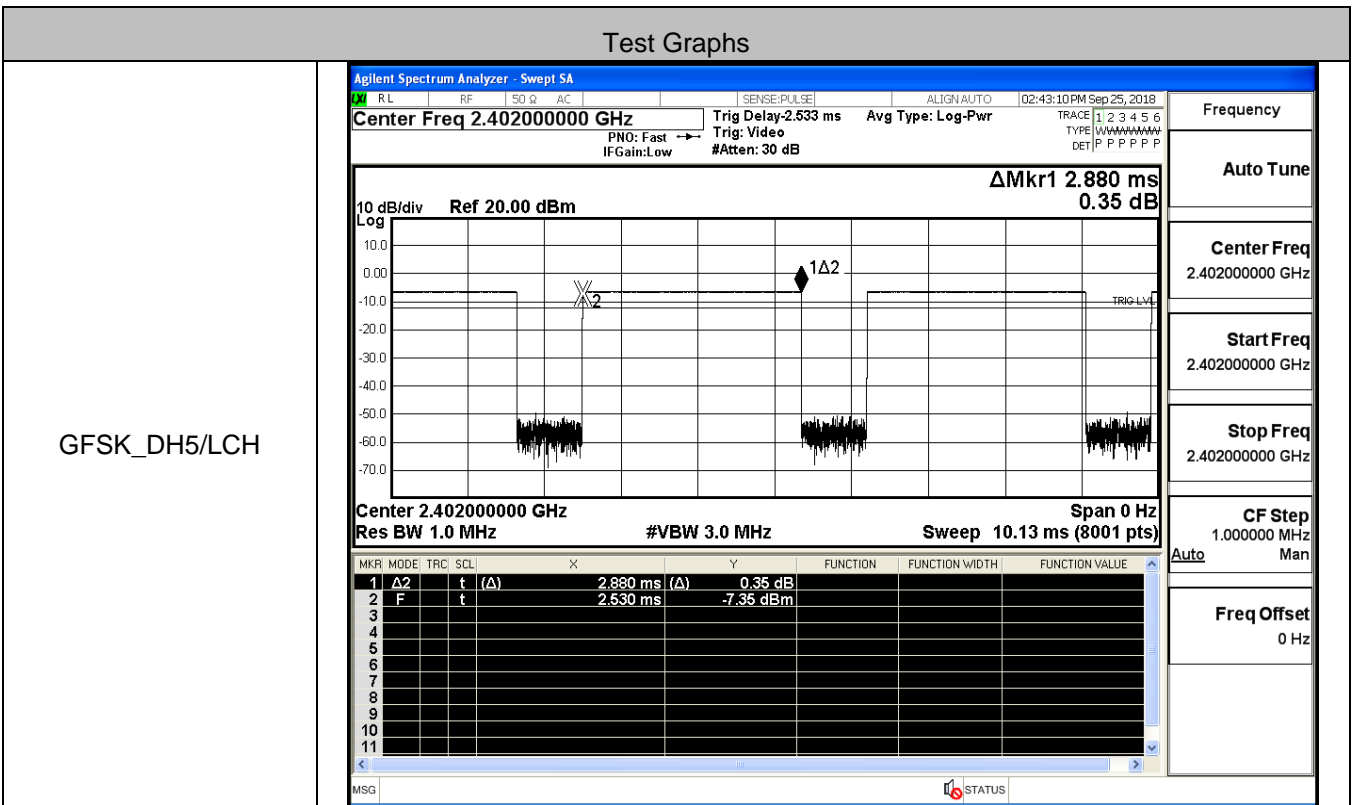


8DPSK/Hop

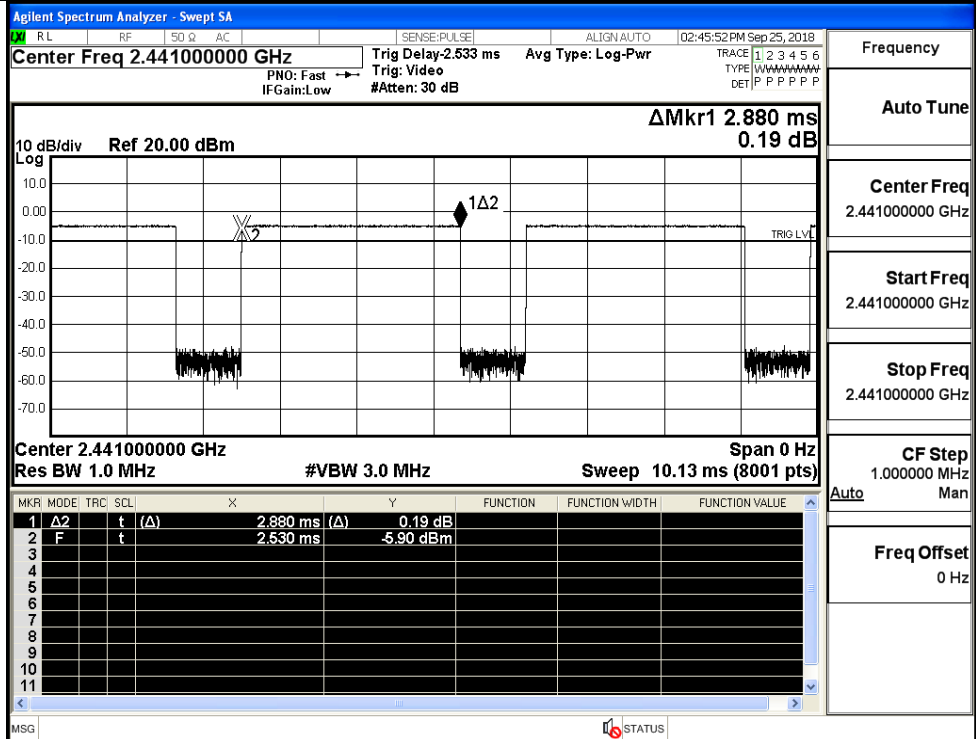


A.5 Dwell Time

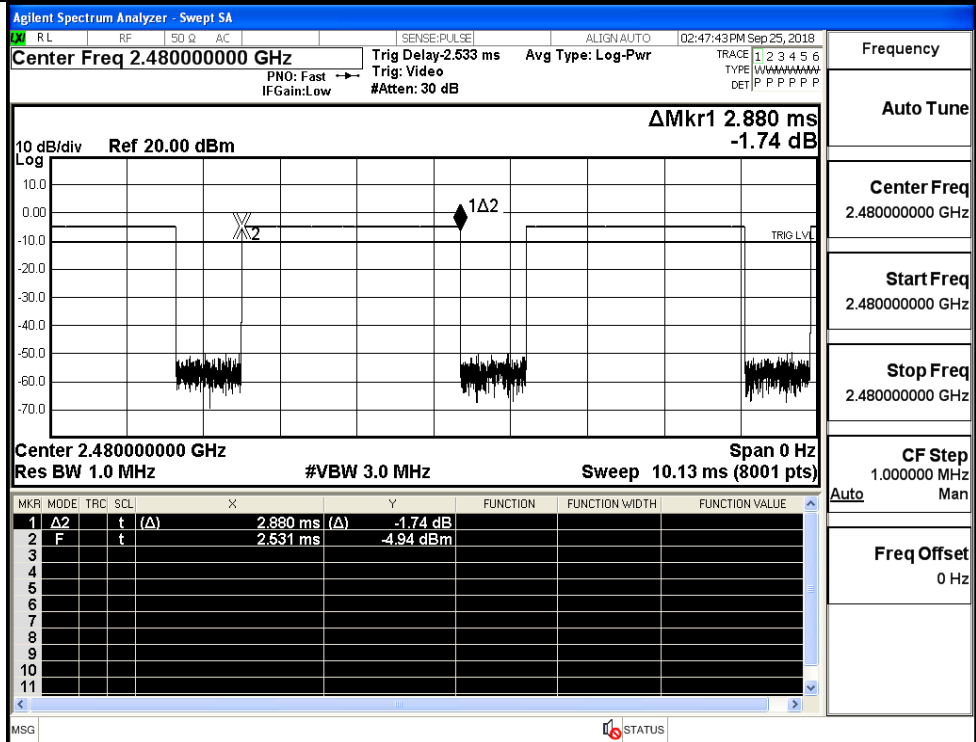
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
π/4DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7	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



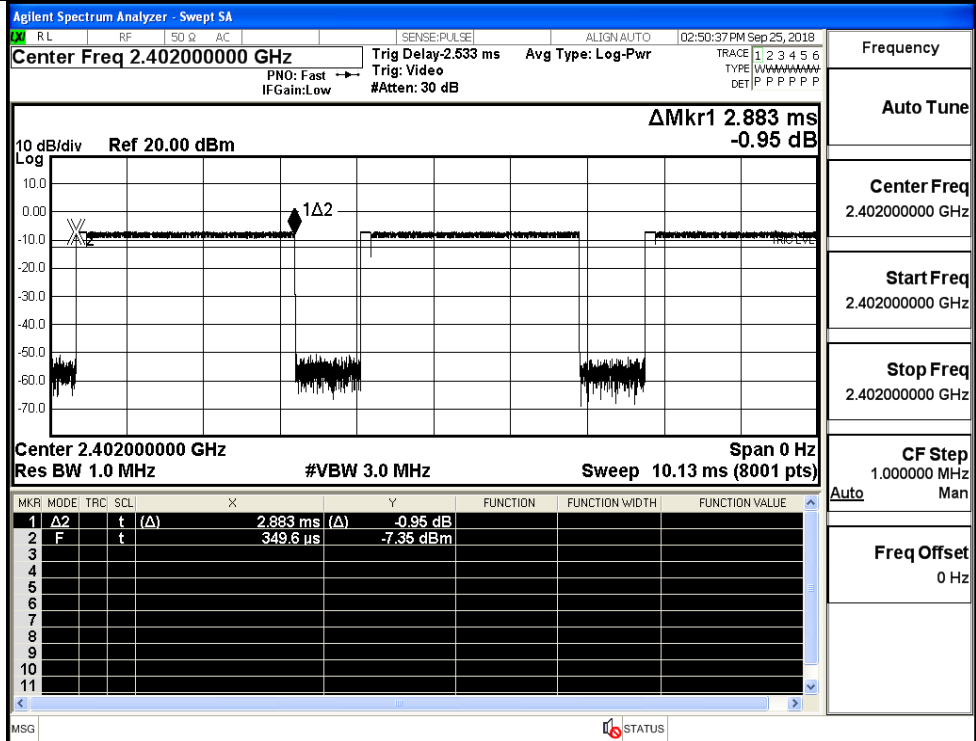
GFSK_DH5/MCH



GFSK_DH5/HCH

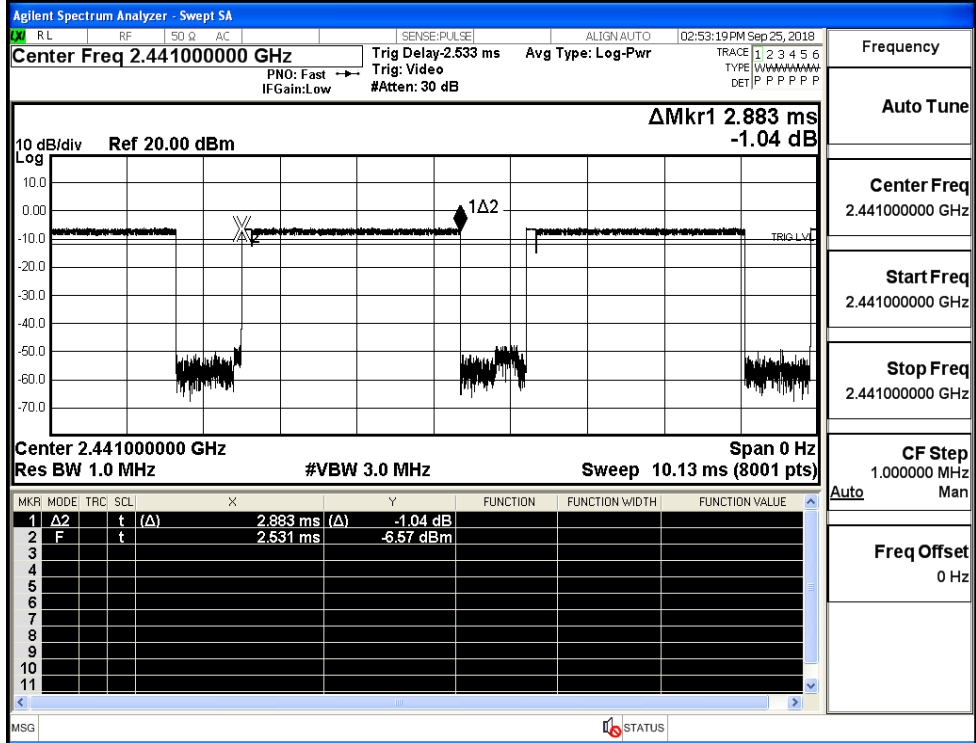


$\pi/4$ DQPSK
_2DH5/LCH



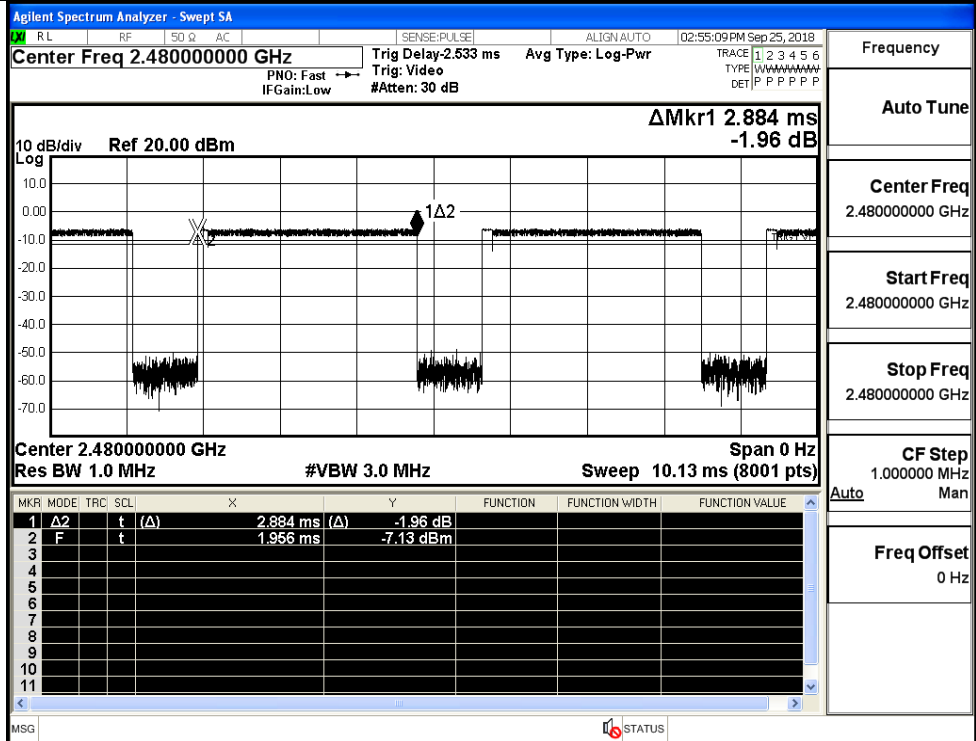
Frequency	2.402000000 GHz
Auto Tune	
Center Freq	2.402000000 GHz
Start Freq	2.402000000 GHz
Stop Freq	2.402000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

$\pi/4$ DQPSK
_2DH5/MCH



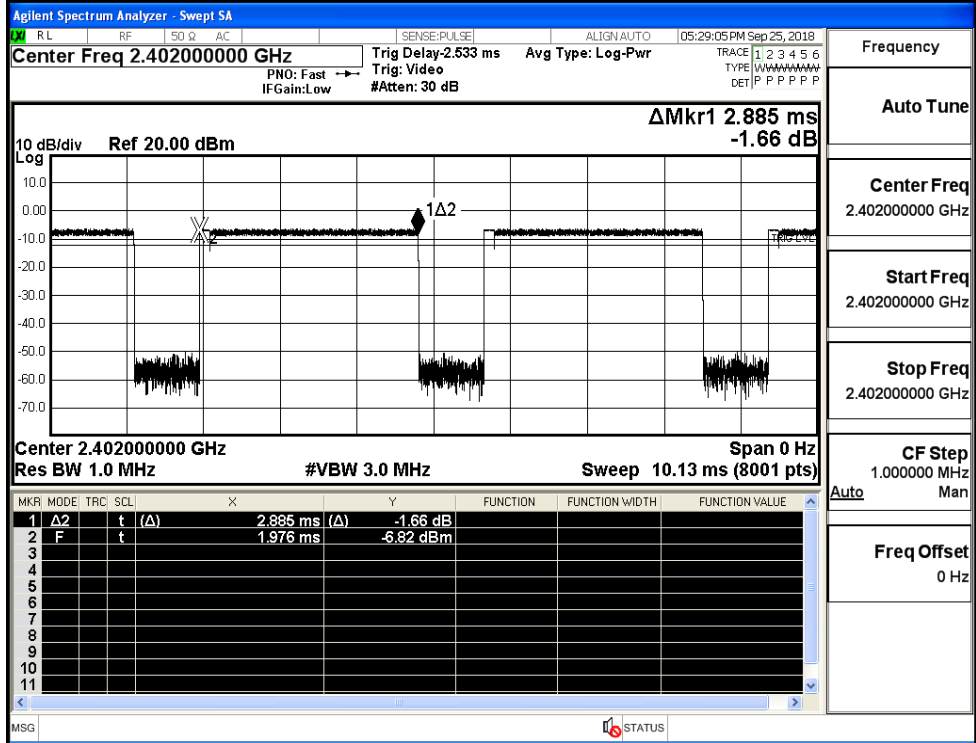
Frequency	2.441000000 GHz
Auto Tune	
Center Freq	2.441000000 GHz
Start Freq	2.441000000 GHz
Stop Freq	2.441000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

$\pi/4$ DQPSK
_2DH5/HCH



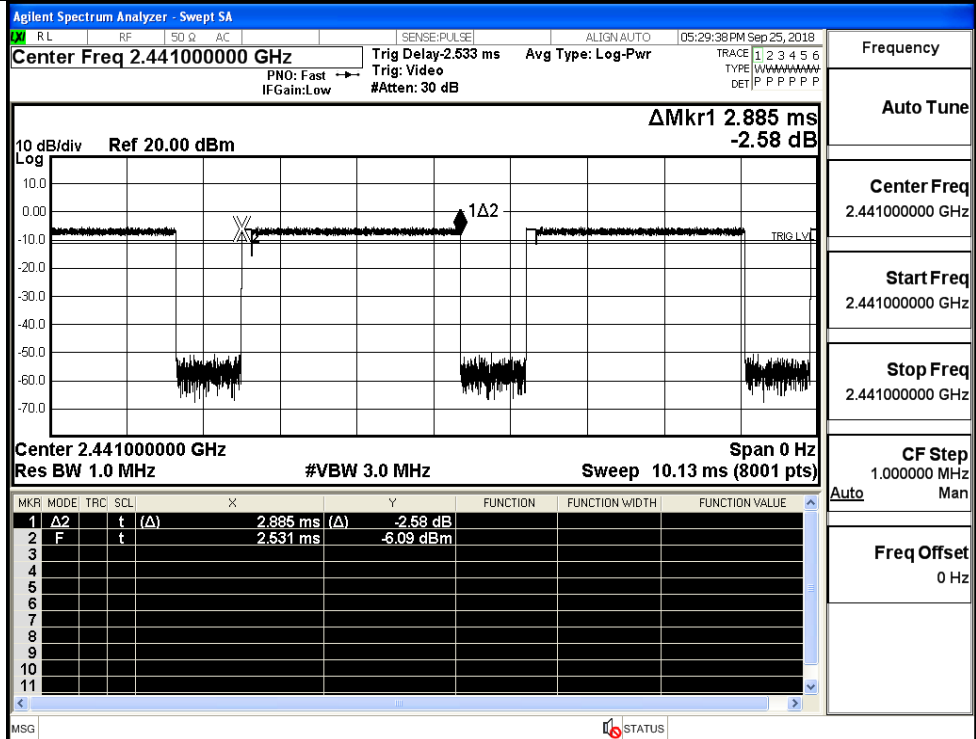
Frequency	
Auto Tune	
Center Freq	2.480000000 GHz
Start Freq	2.480000000 GHz
Stop Freq	2.480000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

8DPSK_3DH5/LCH

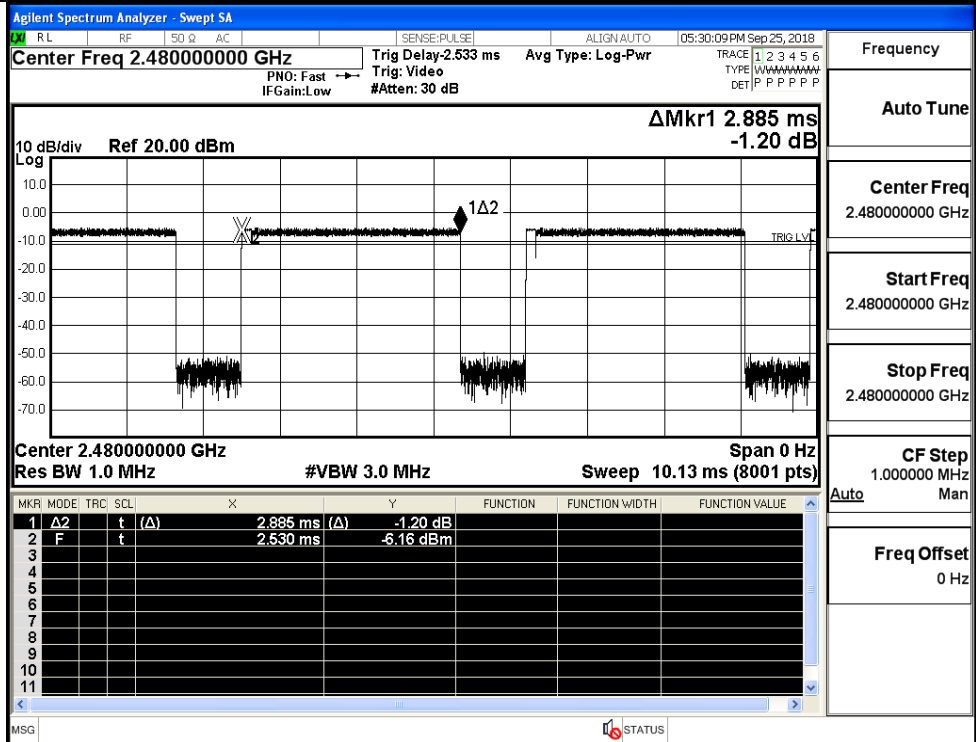


Frequency	
Auto Tune	
Center Freq	2.402000000 GHz
Start Freq	2.402000000 GHz
Stop Freq	2.402000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

8DPSK_3DH5/MCH



8DPSK_3DH5/HCH

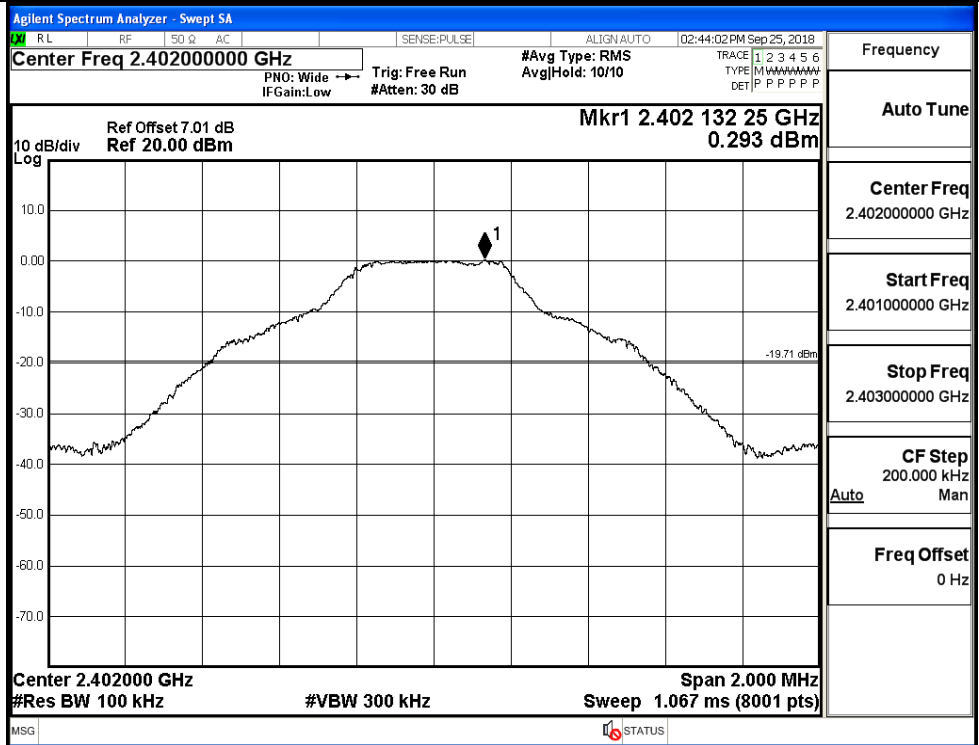


A.6 RF Conducted Spurious Emissions

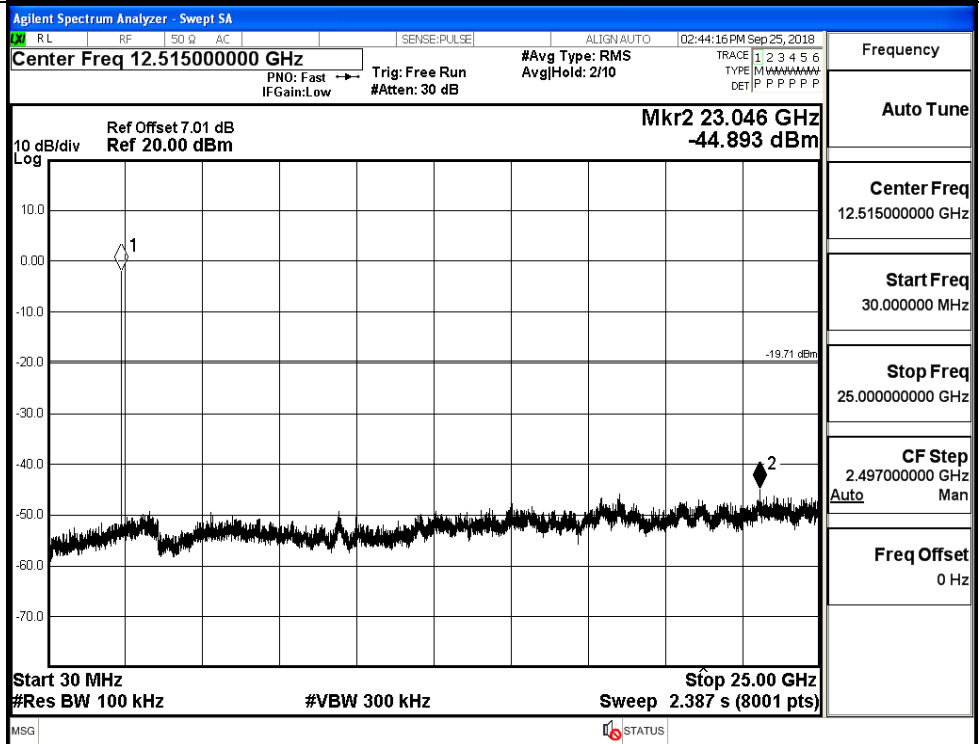
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.293	-44.893	-19.707	PASS
	MCH	1.929	-45.980	-18.071	PASS
	HCH	2.18	-46.047	-17.820	PASS
$\pi/4$ DQPSK	LCH	-0.149	-45.592	-20.149	PASS
	MCH	1.236	-45.373	-18.764	PASS
	HCH	0.069	-45.958	-19.931	PASS
8DPSK	LCH	-0.752	-45.514	-20.752	PASS
	MCH	-0.004	-45.115	-20.004	PASS
	HCH	0.729	-45.445	-19.271	PASS

GFSK_LCH_Graphs

Pref

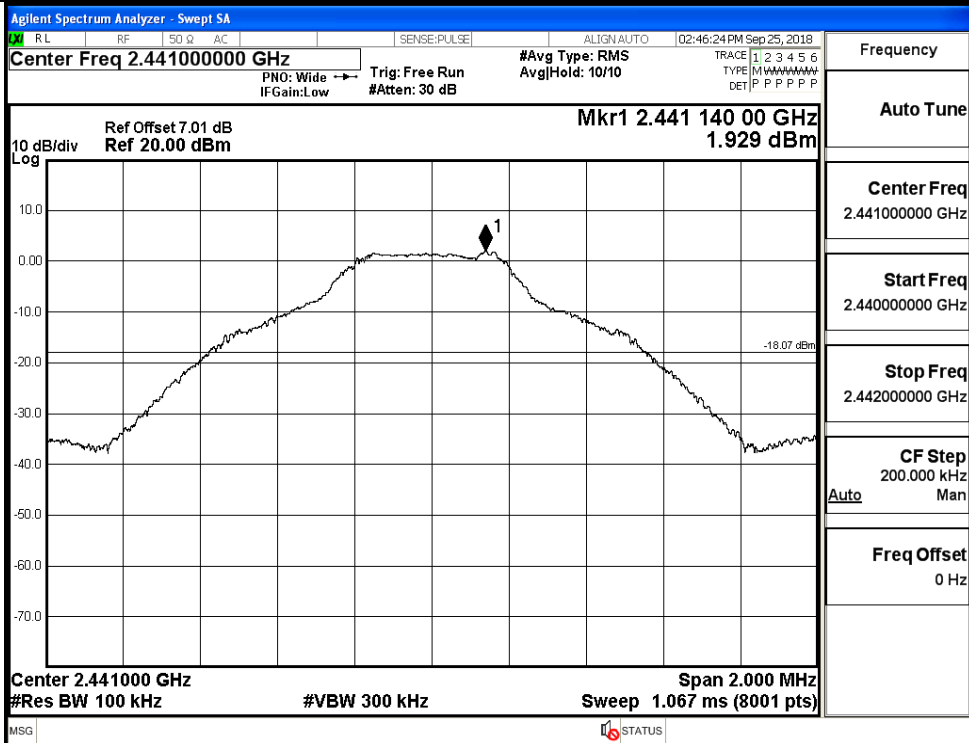


Puw

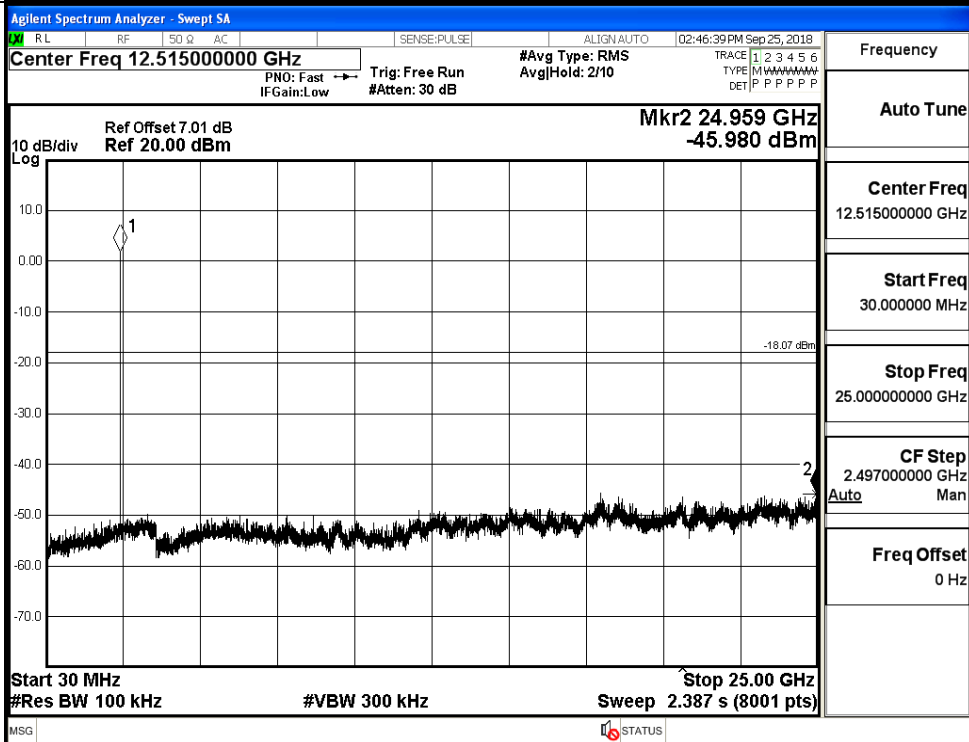


GFSK_MCH_Graphs

Pref

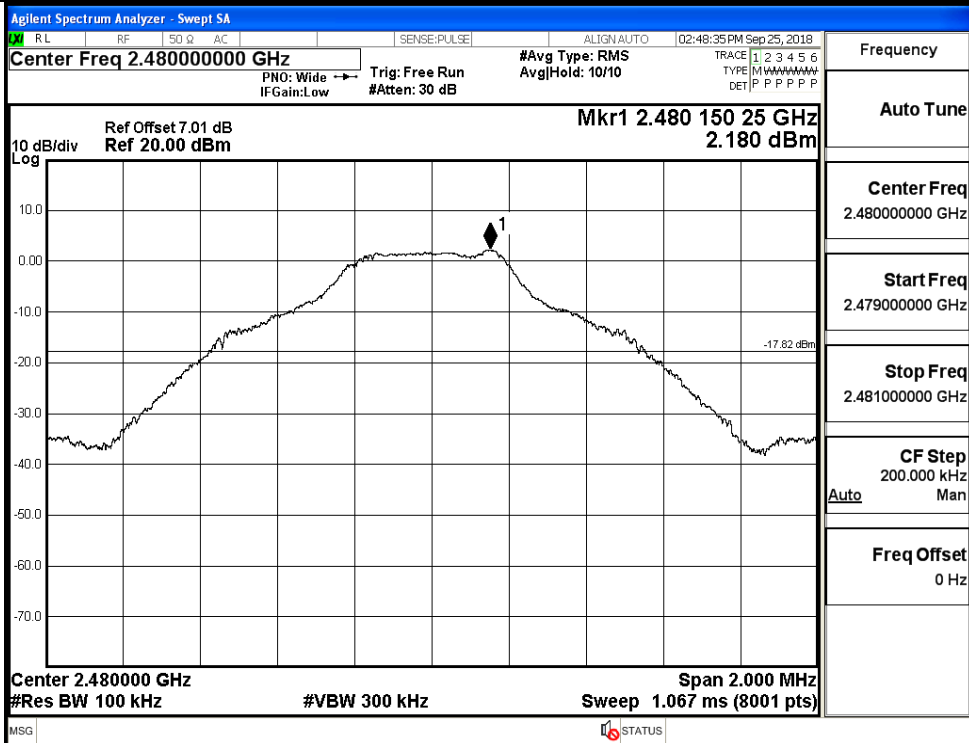


Puw

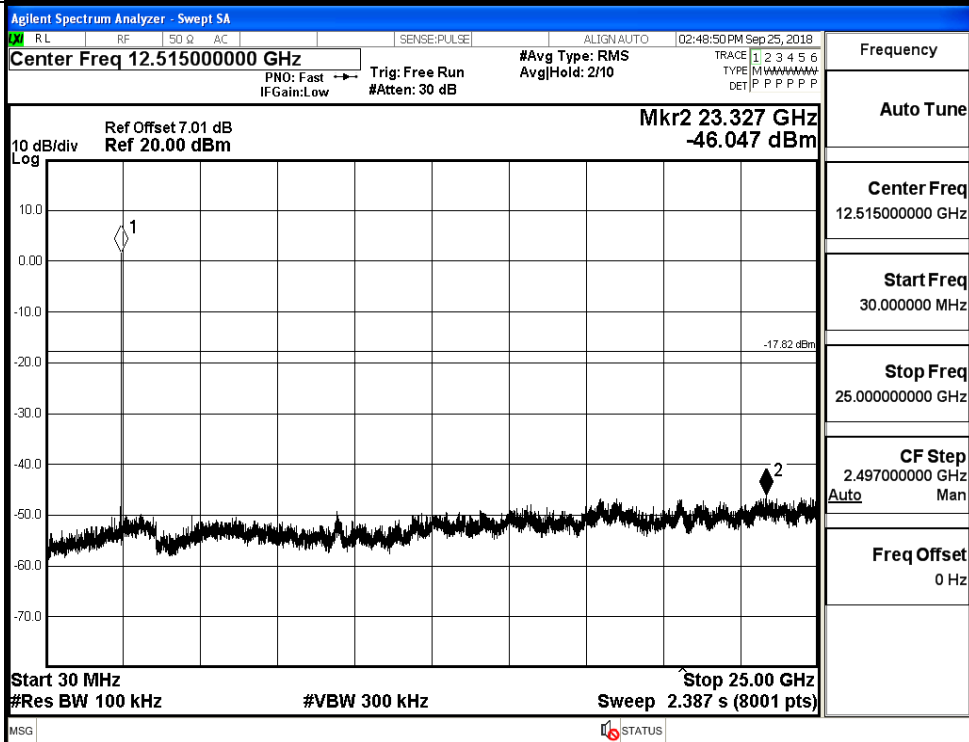


GFSK_HCH_Graphs

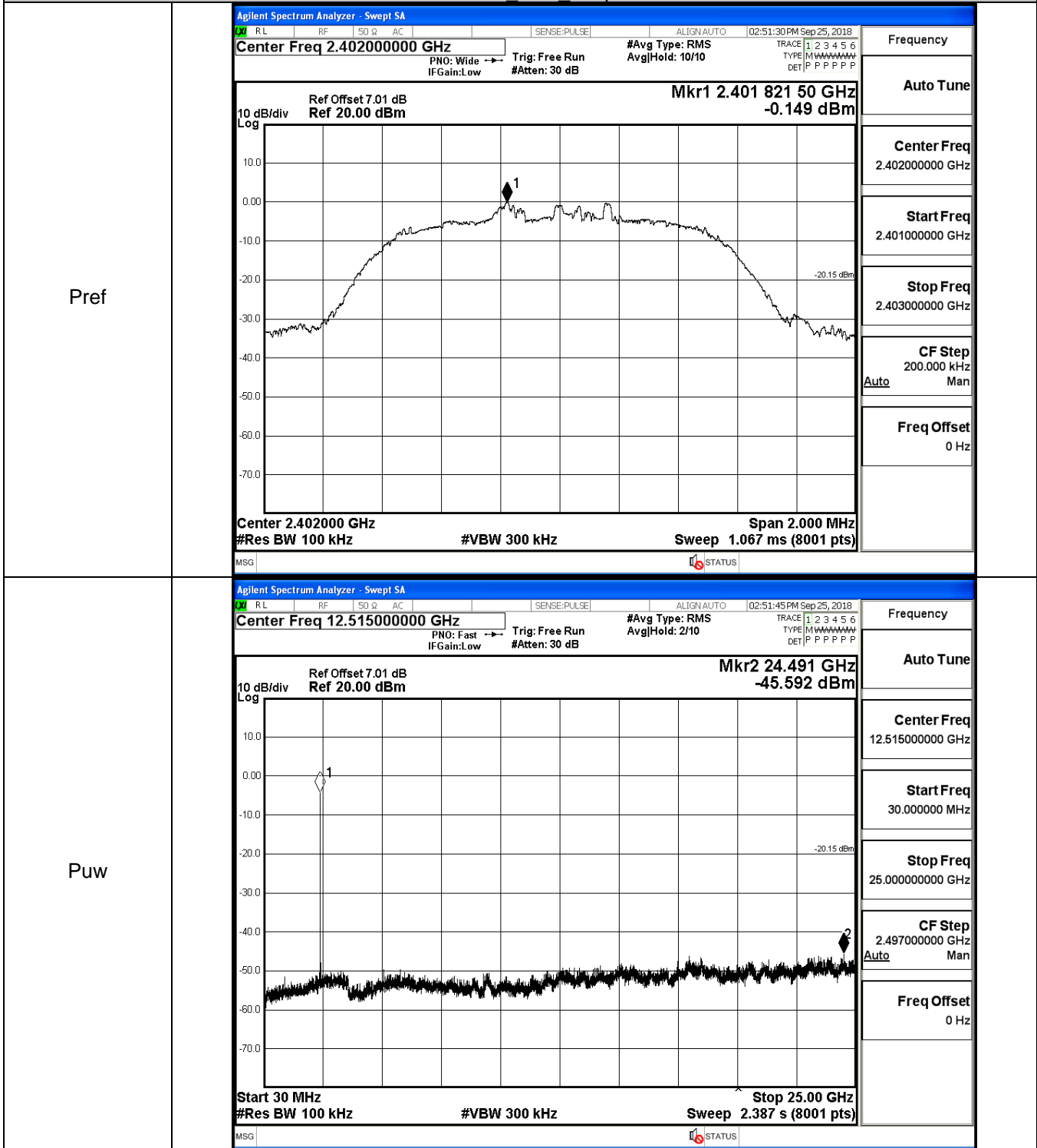
Pref



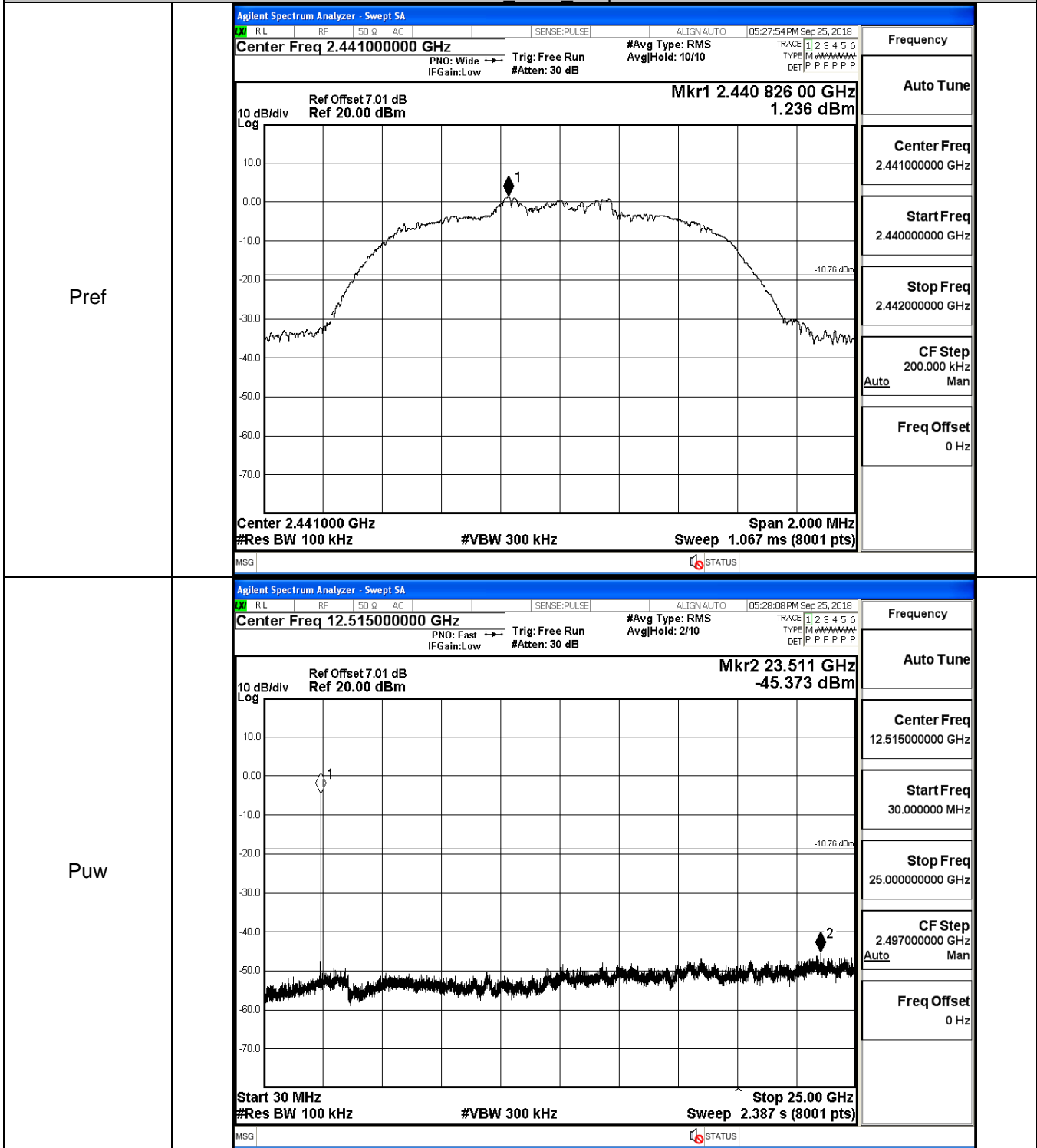
Puw



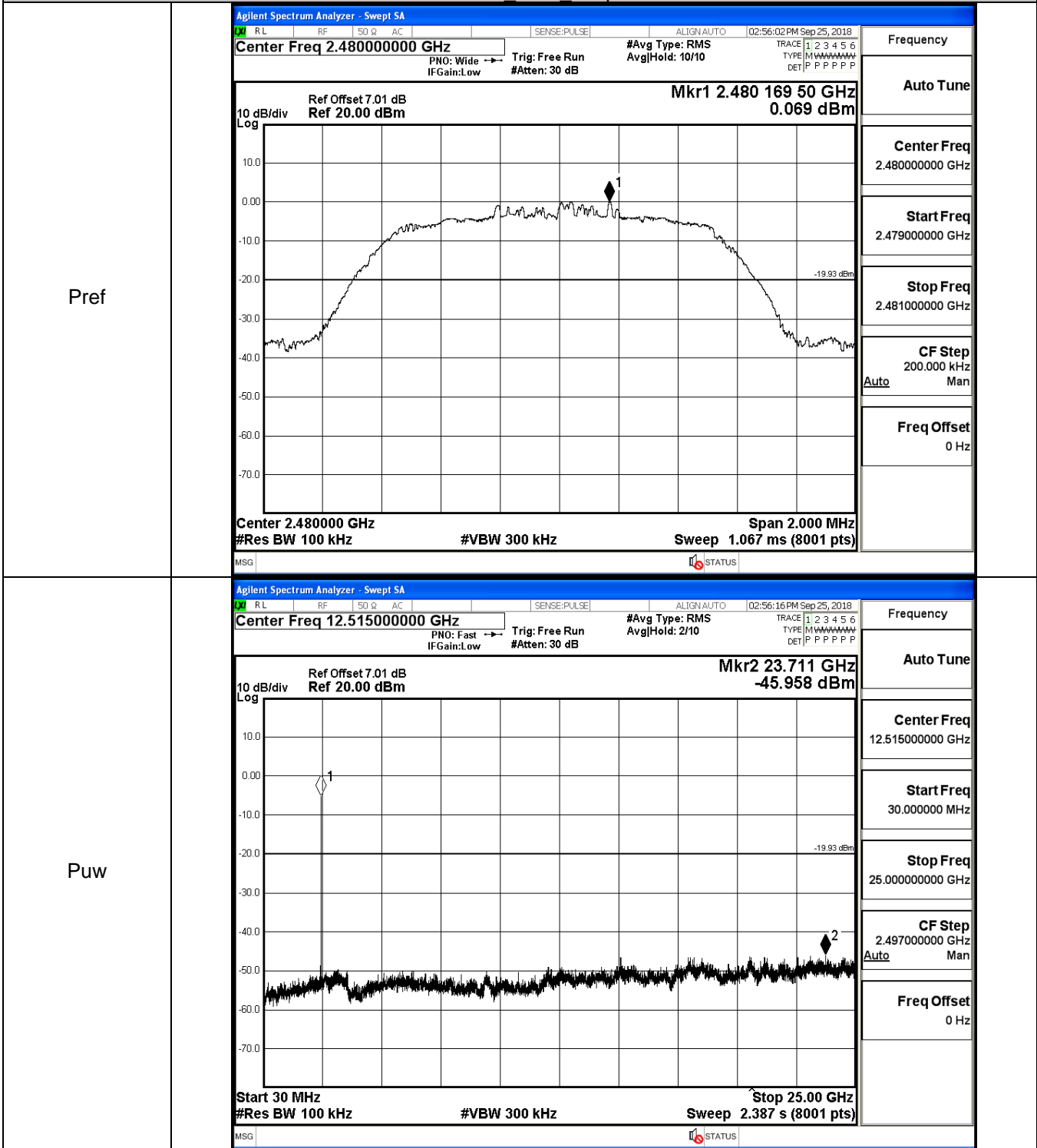
$\pi/4$ DQPSK LCH Graphs



$\pi/4$ DQPSK MCH Graphs

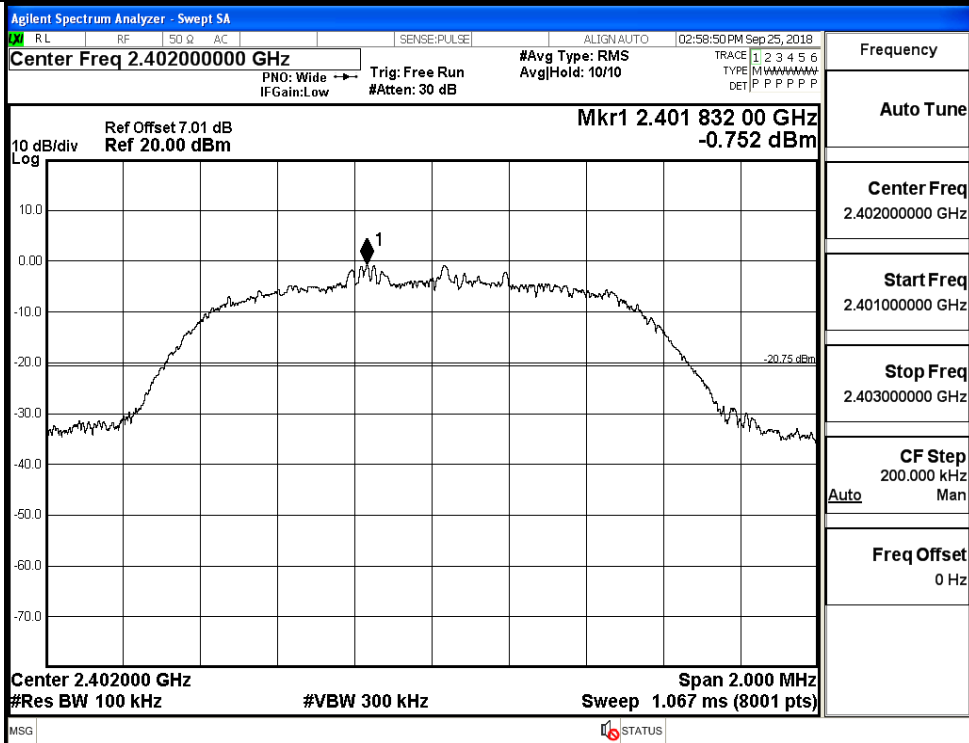


$\pi/4$ DQPSK HCH Graphs

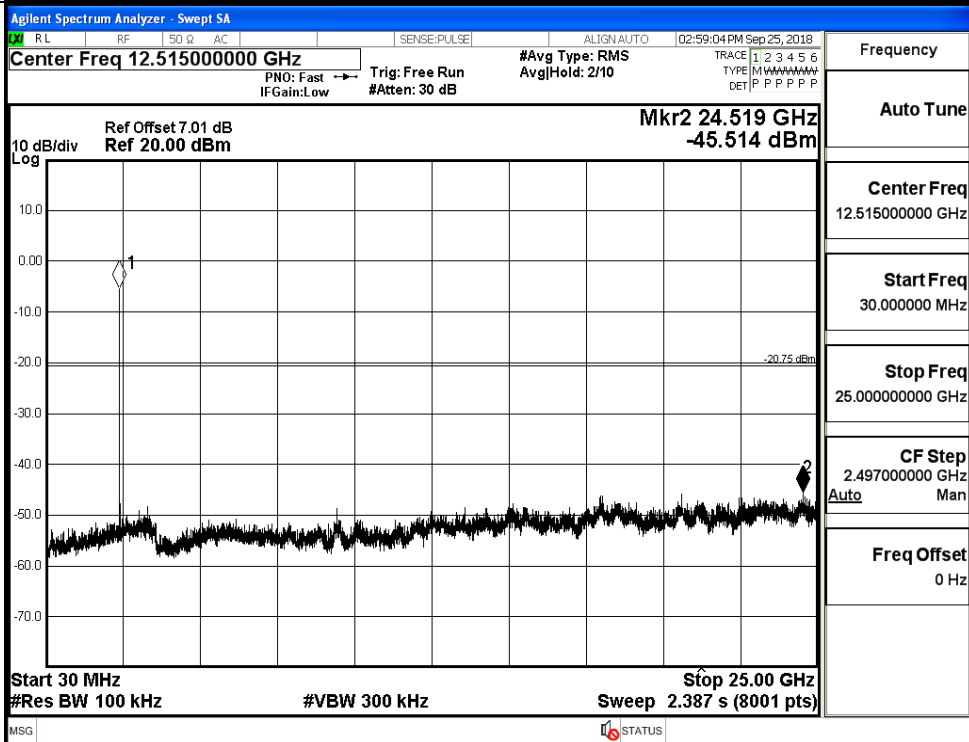


8DPSK_LCH_Graphs

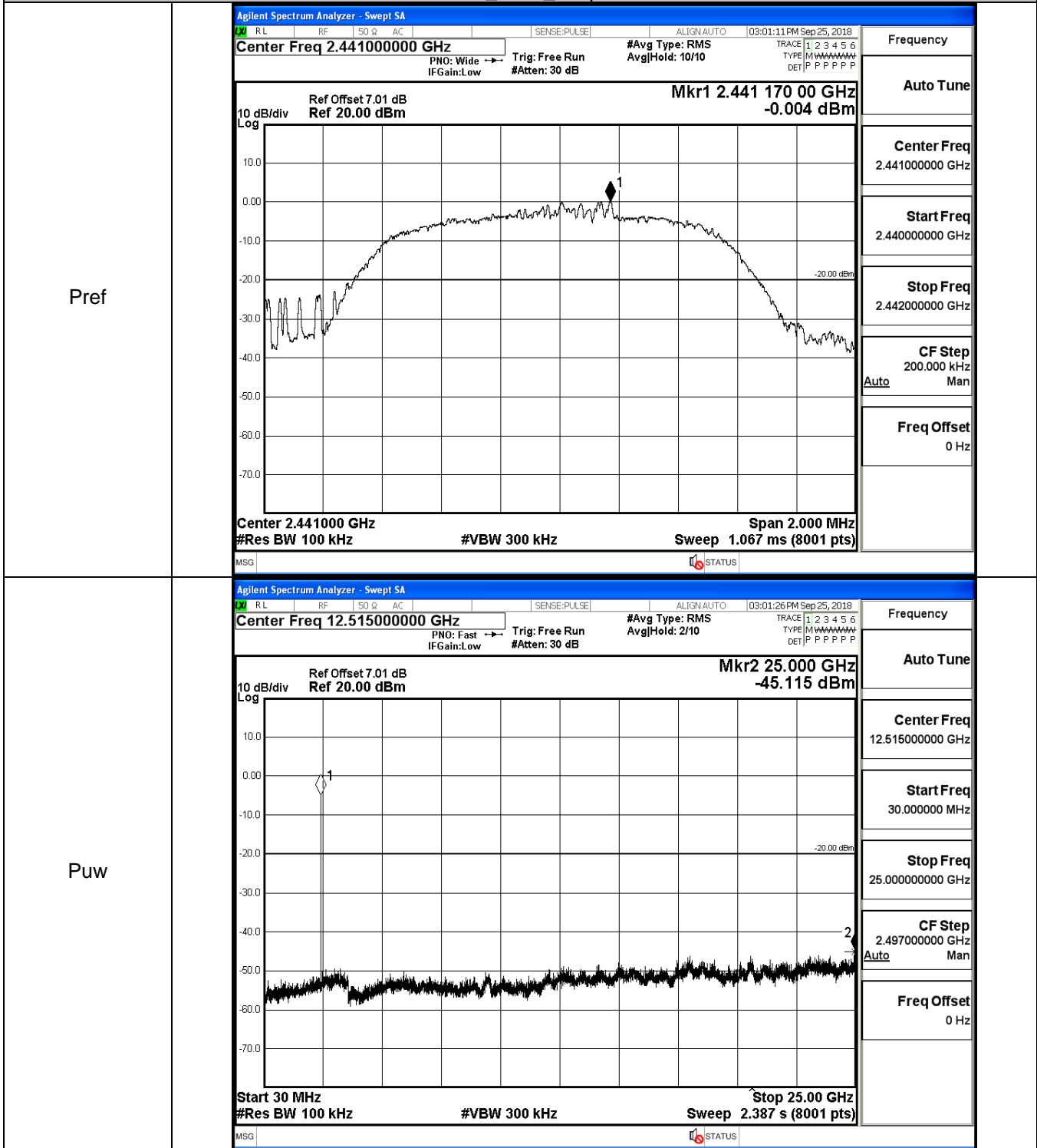
Pref



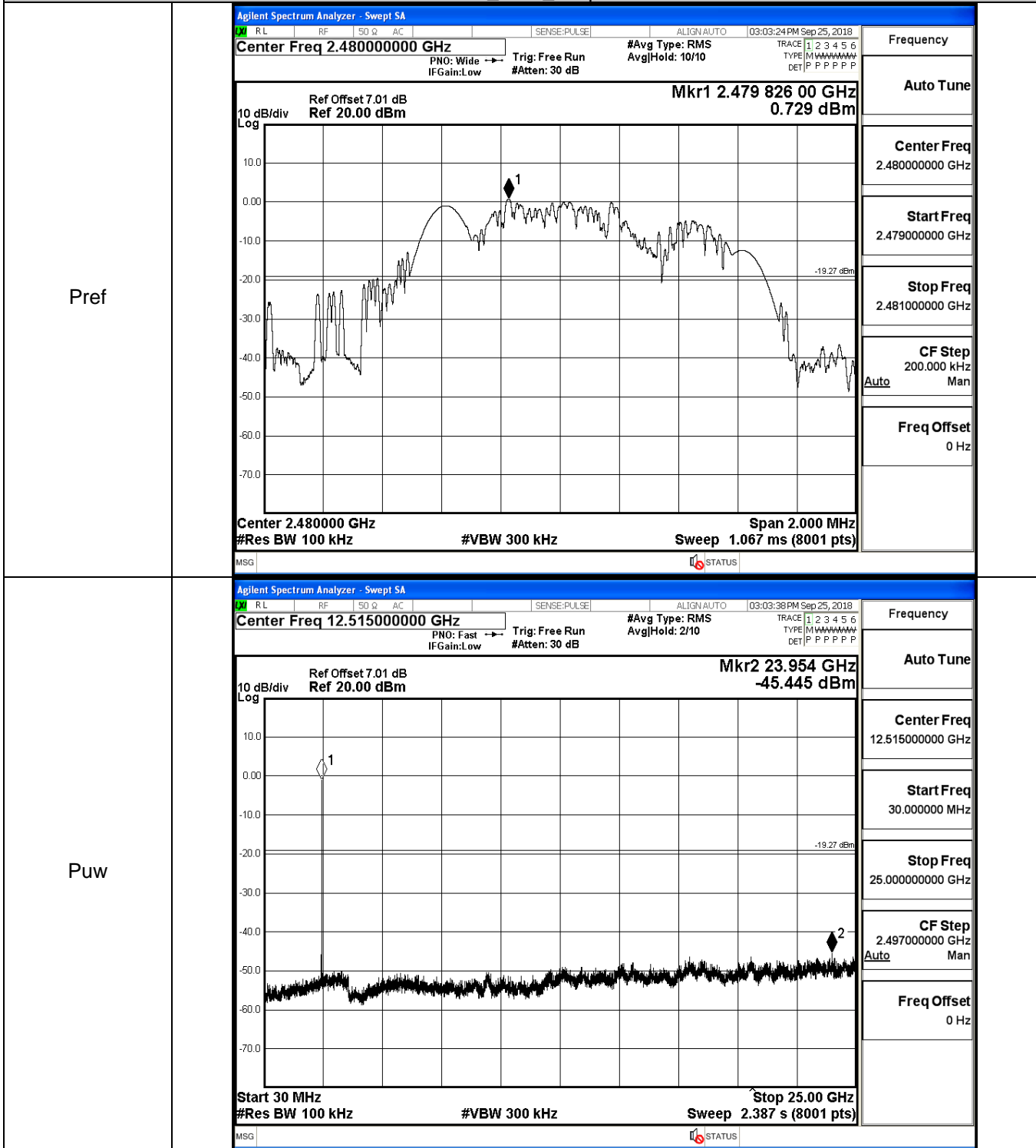
Puw



8DPSK_MCH_Graphs



8DPSK_HCH_Graphs

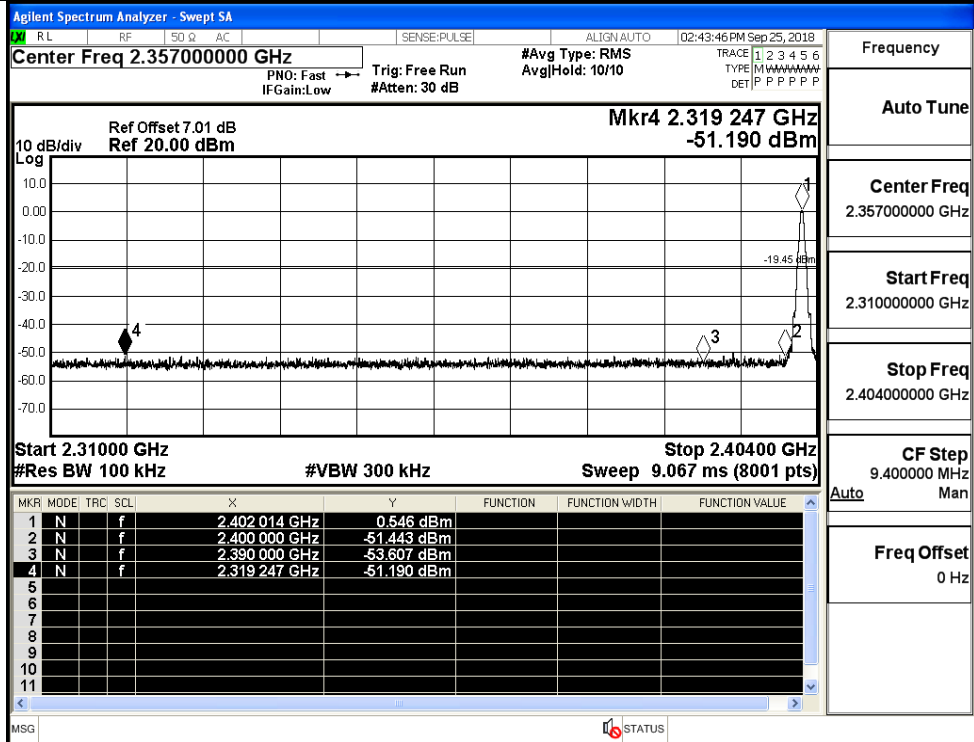


A.7 Band-edge for RF Conducted Emissions

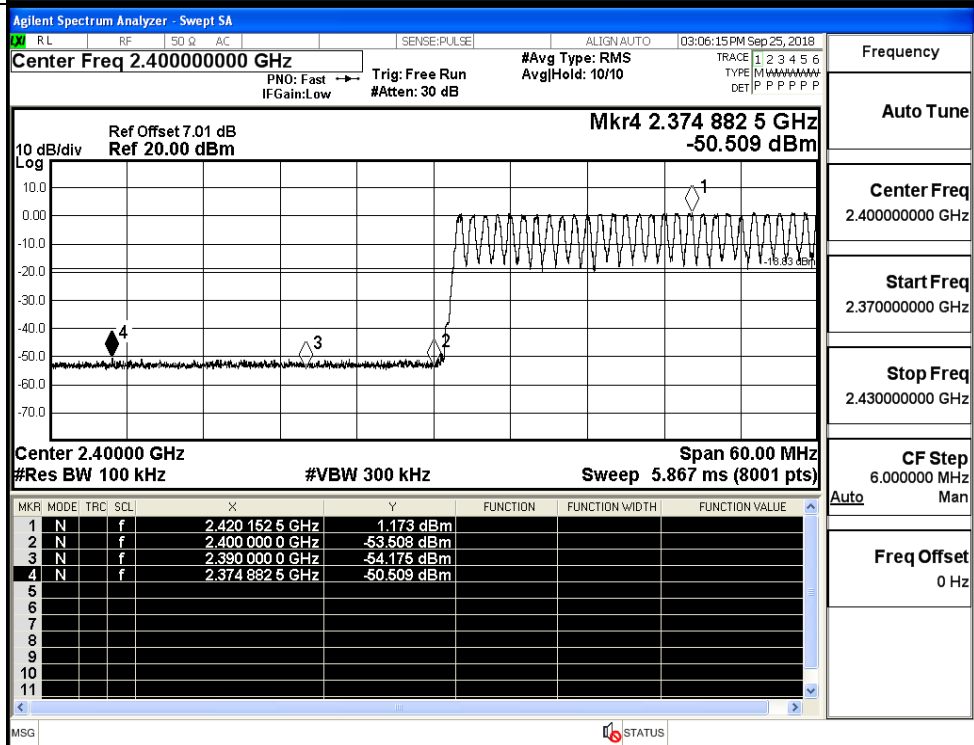
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.546	Off	-51.190	-19.45	PASS
			1.173	On	-50.509	-18.83	PASS
	HCH	2480	2.292	Off	-50.087	-17.71	PASS
			2.131	On	-50.179	-17.87	PASS
$\pi/4$ DQPSK	LCH	2402	-0.150	Off	-37.325	-20.15	PASS
			0.412	On	-50.361	-19.59	PASS
	HCH	2480	0.748	Off	-30.423	-19.25	PASS
			1.124	On	-50.314	-18.88	PASS
8DPSK	LCH	2402	-0.685	Off	-50.357	-20.69	PASS
			0.580	On	-50.263	-19.42	PASS
	HCH	2480	0.808	Off	-50.491	-19.19	PASS
			1.265	On	-50.190	-18.74	PASS

Test Graphs

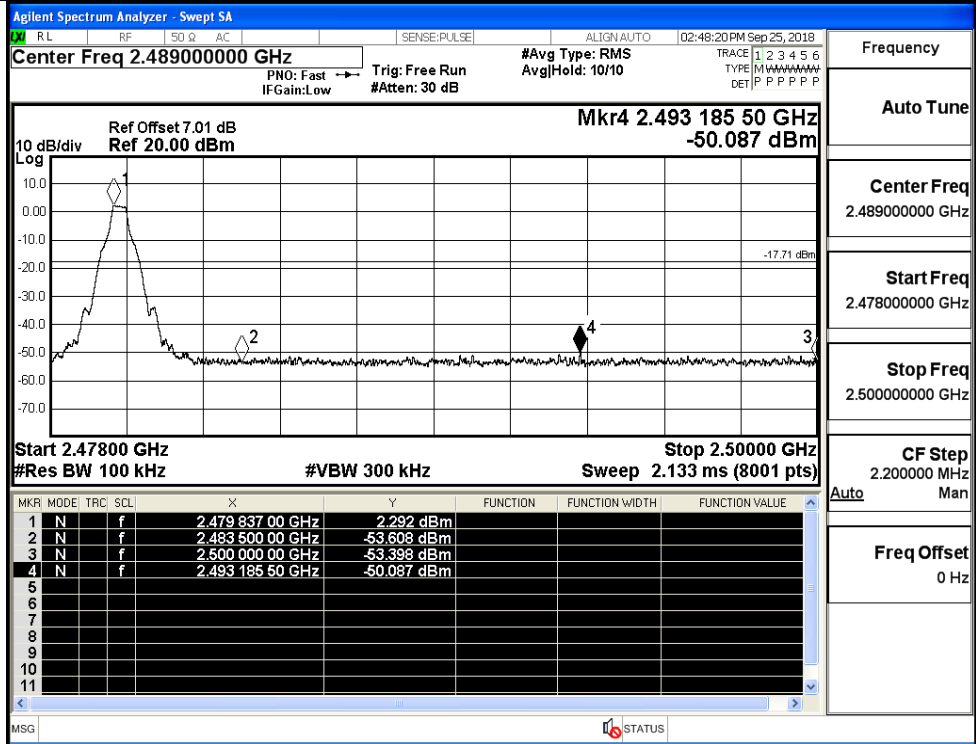
GFSK/LCH/No Hop



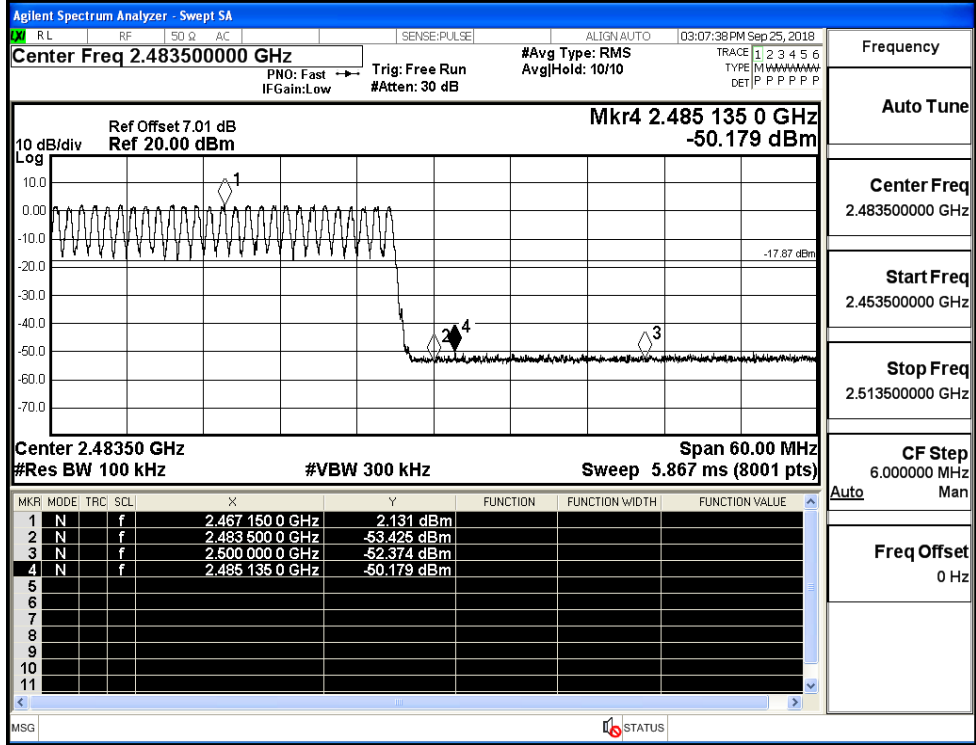
GFSK/LCH/Hop



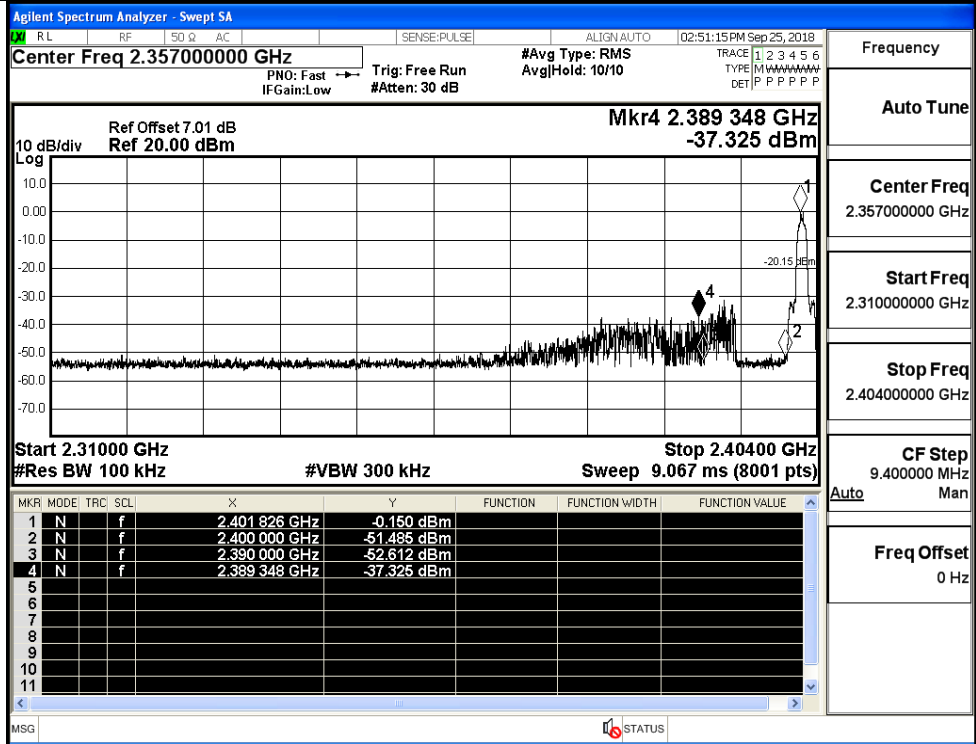
GFSK/HCH/No Hop



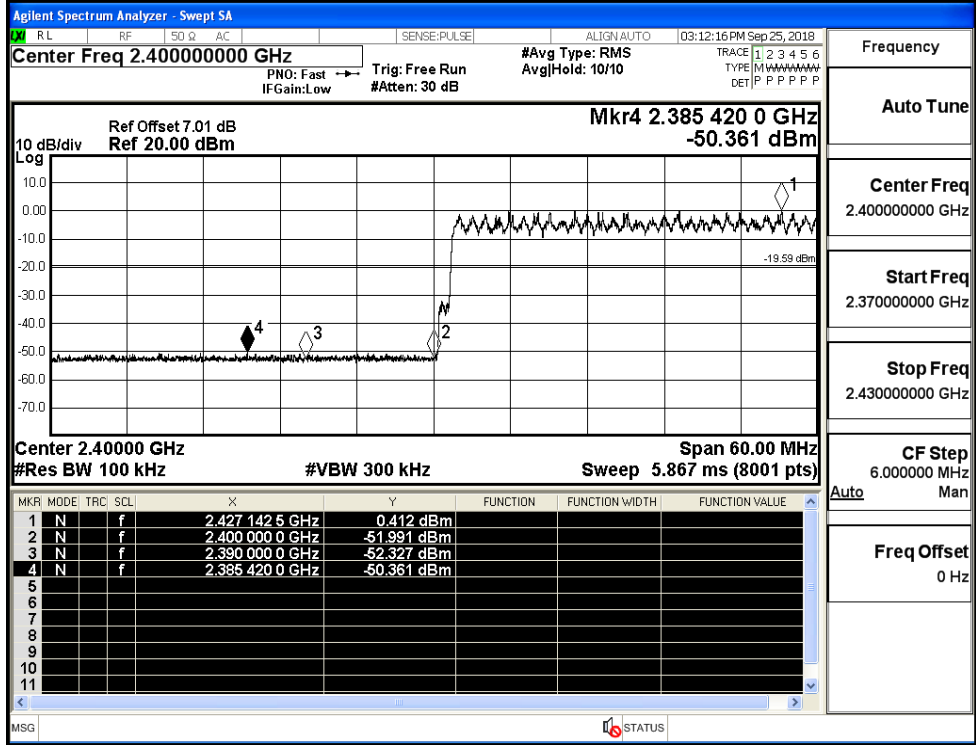
GFSK/HCH/Hop



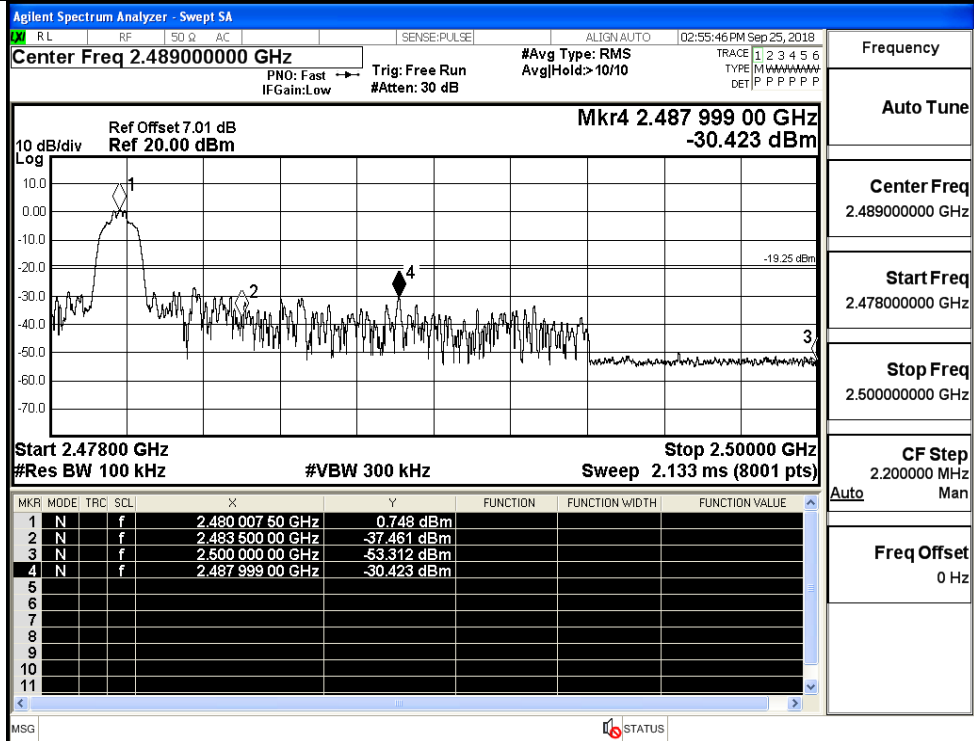
$\pi/4$ DQPSK/LCH/No Hop



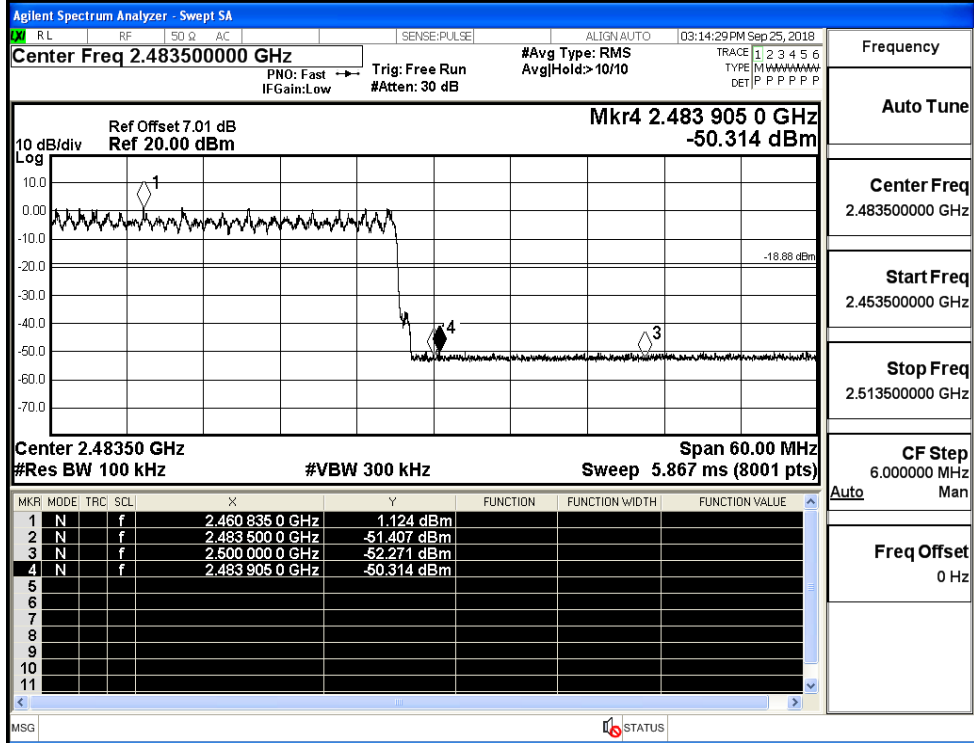
$\pi/4$ DQPSK/LCH/Hop



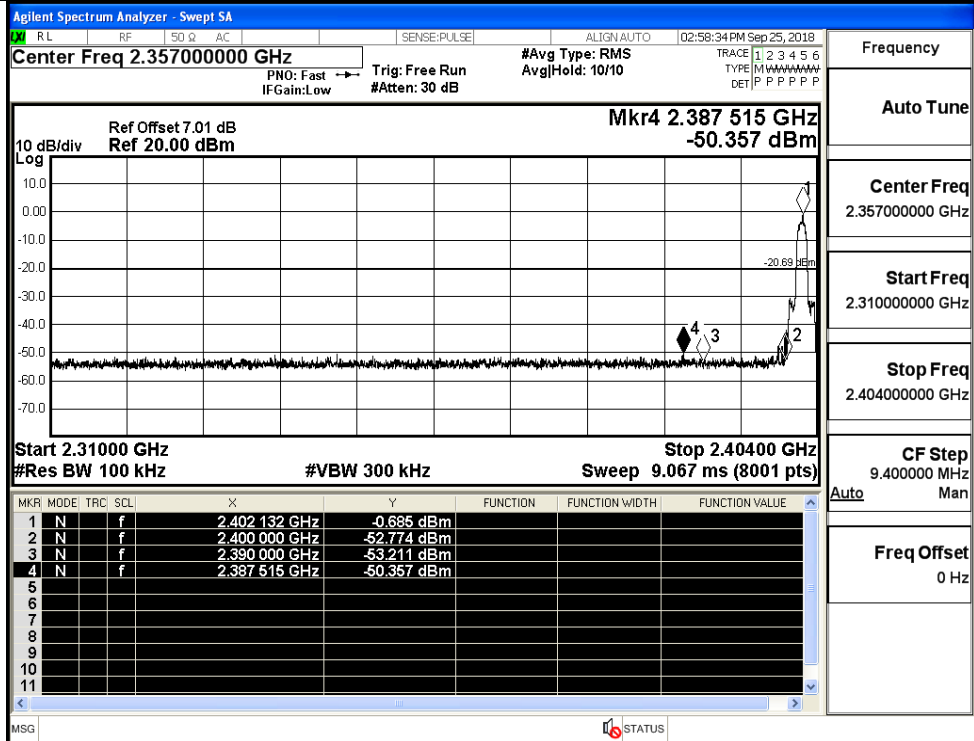
π /4DQPSK/HCH/No Hop



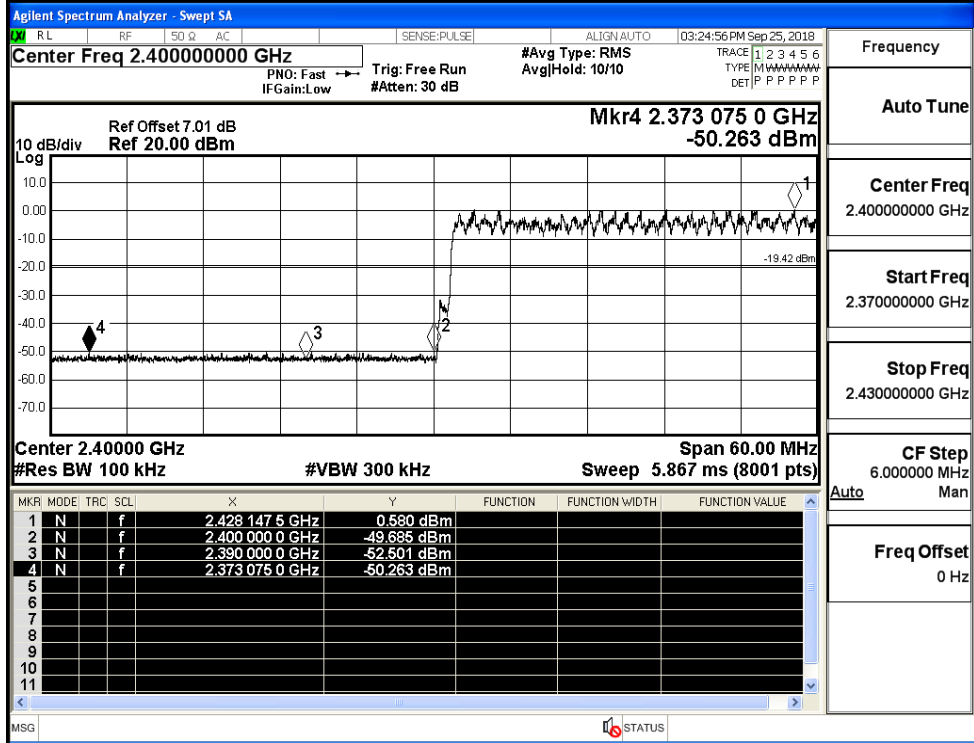
π /4DQPSK/HCH/Hop



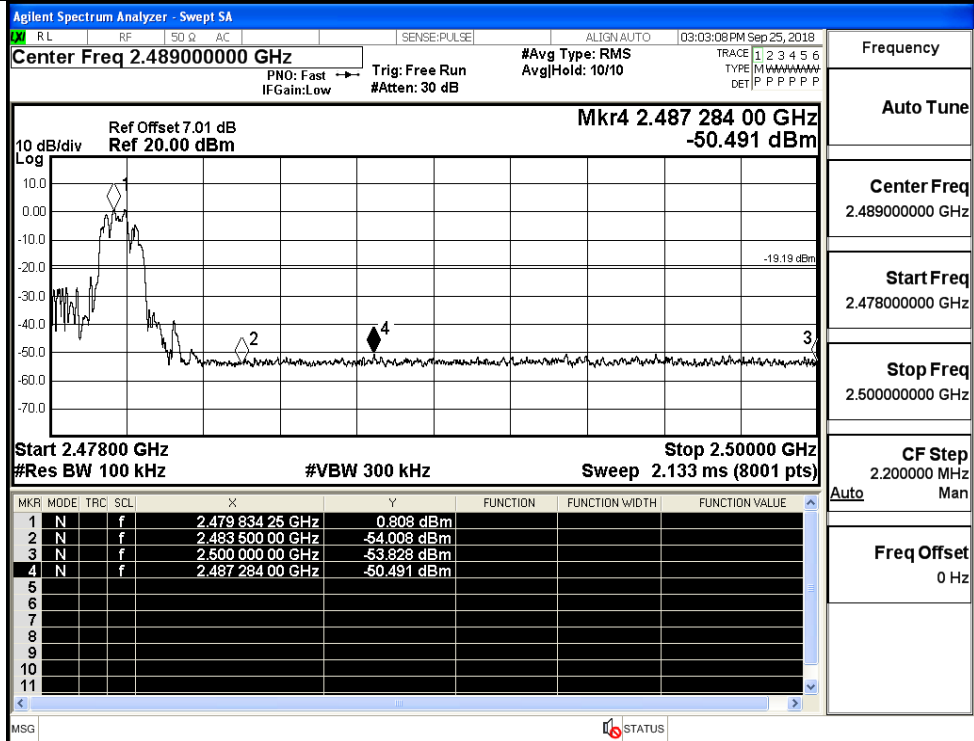
8DPSK/LCH/No Hop



8DPSK/LCH/Hop



8DPSK/HCH/No Hop



Frequency

Auto Tune

Center Freq
2.489000000 GHz

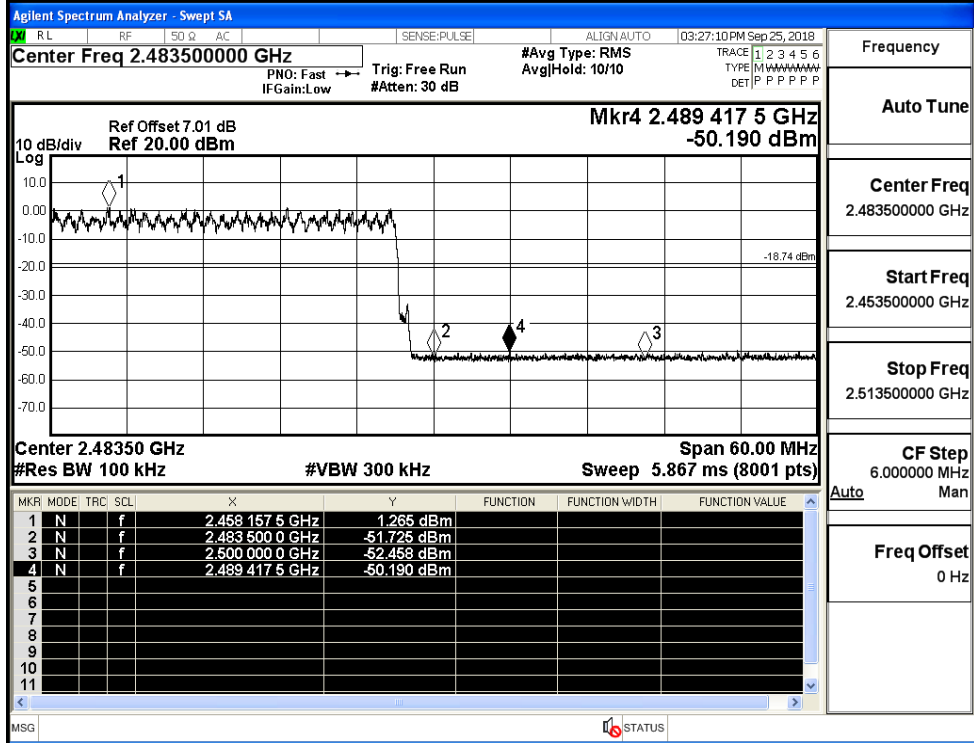
Start Freq
2.478000000 GHz

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

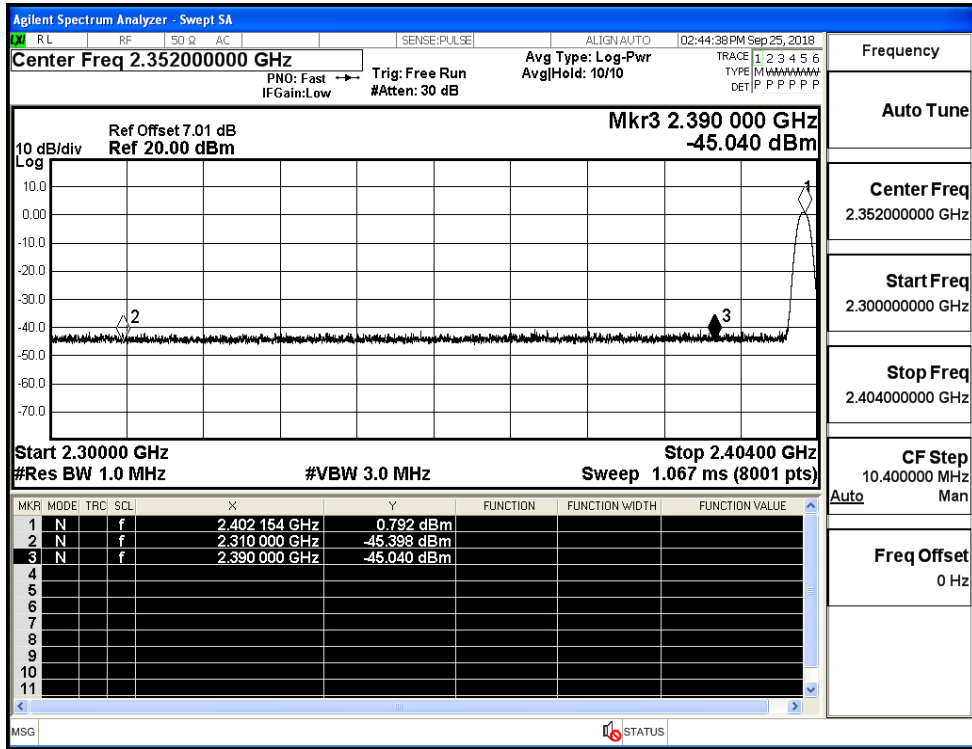
CF Step
6.000000 MHz

Freq Offset
0 Hz

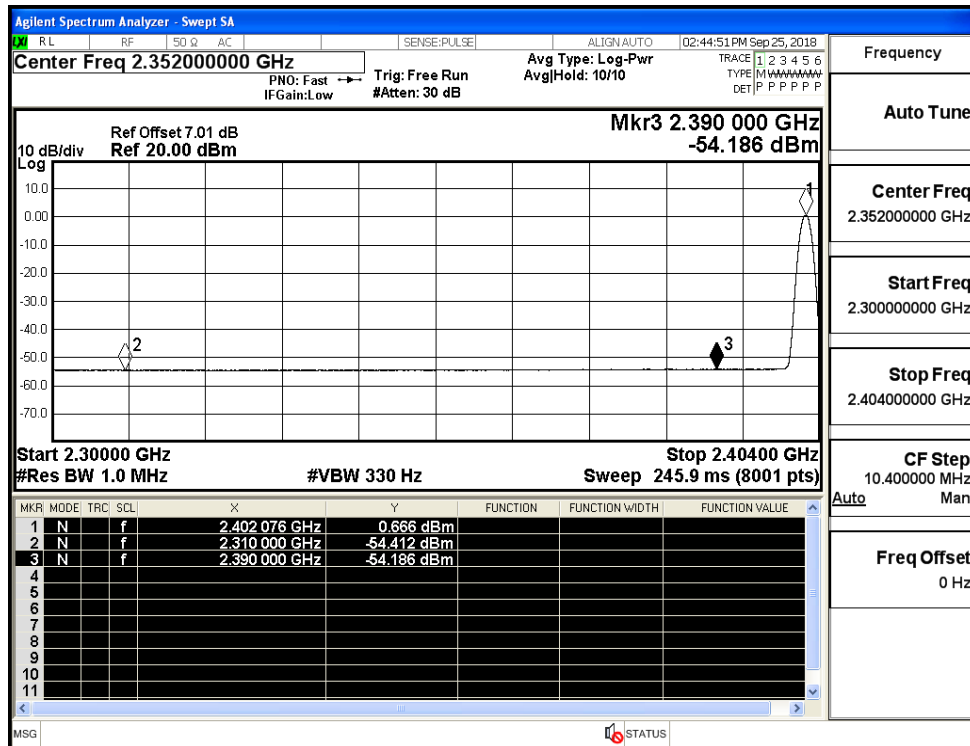
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-45.40	2.5	0	52.36	PEAK	74	PASS
	Off	2310.0	-54.41	2.5	0	43.35	AV	54	PASS
	Off	2390.0	-45.04	2.5	0	52.72	PEAK	74	PASS
	Off	2390.0	-54.19	2.5	0	43.57	AV	54	PASS
	Off	2483.5	-43.24	2.5	0	54.52	PEAK	74	PASS
	Off	2483.5	-53.88	2.5	0	43.88	AV	54	PASS
	Off	2500.0	-43.51	2.5	0	54.25	PEAK	74	PASS
	Off	2500.0	-53.83	2.5	0	43.93	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.41	2.5	0	54.35	PEAK	74	PASS
	Off	2310.0	-54.50	2.5	0	43.26	AV	54	PASS
	Off	2390.0	-43.44	2.5	0	54.32	PEAK	74	PASS
	Off	2390.0	-54.25	2.5	0	43.51	AV	54	PASS
	Off	2483.5	-43.26	2.5	0	54.5	PEAK	74	PASS
	Off	2483.5	-53.72	2.5	0	44.04	AV	54	PASS
	Off	2500.0	-41.80	2.5	0	55.96	PEAK	74	PASS
	Off	2500.0	-53.79	2.5	0	43.97	AV	54	PASS
8DPSK	Off	2310.0	-43.24	2.5	0	54.52	PEAK	74	PASS
	Off	2310.0	-54.41	2.5	0	43.35	AV	54	PASS
	Off	2390.0	-44.23	2.5	0	53.53	PEAK	74	PASS
	Off	2390.0	-54.17	2.5	0	43.59	AV	54	PASS
	Off	2483.5	-43.05	2.5	0	54.71	PEAK	74	PASS
	Off	2483.5	-53.89	2.5	0	43.87	AV	54	PASS
	Off	2500.0	-42.64	2.5	0	55.12	PEAK	74	PASS
	Off	2500.0	-53.81	2.5	0	43.95	AV	54	PASS

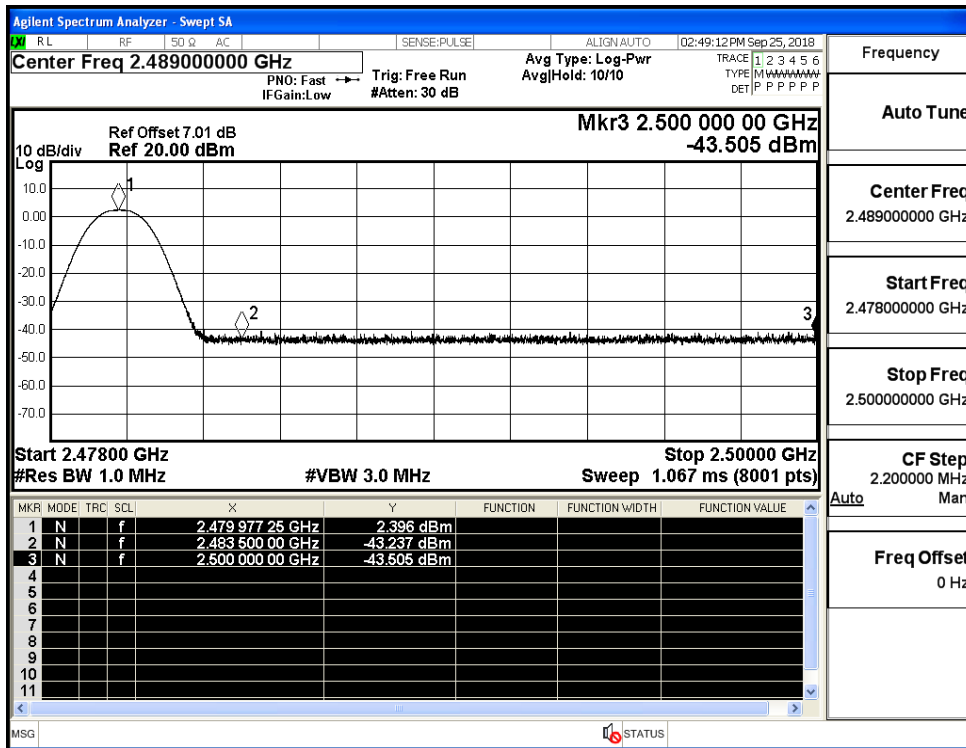
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



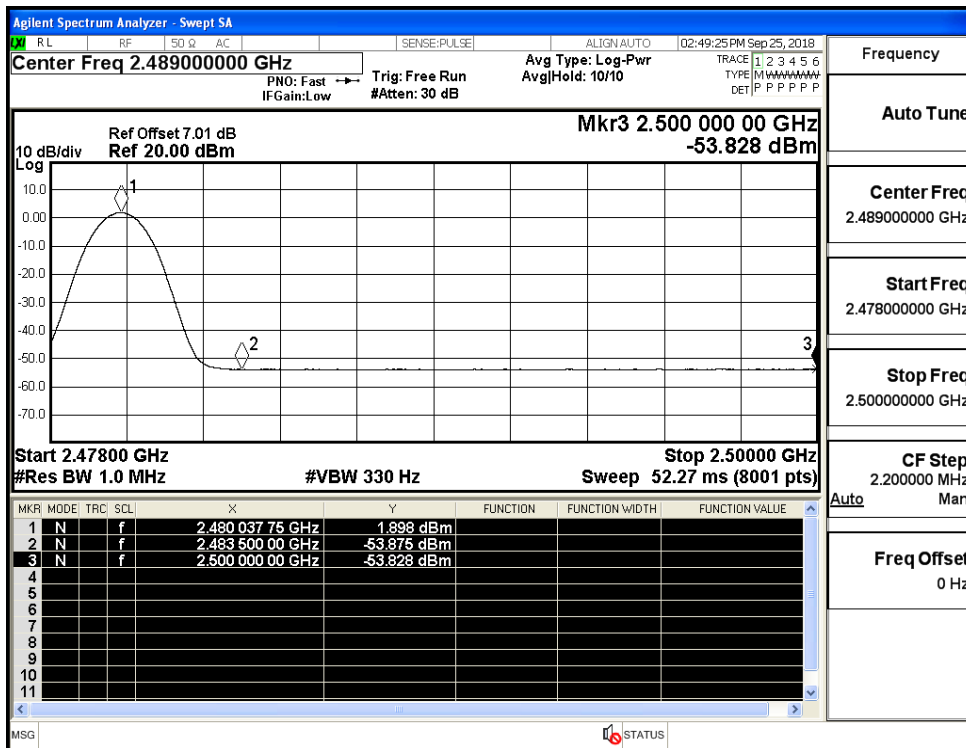
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



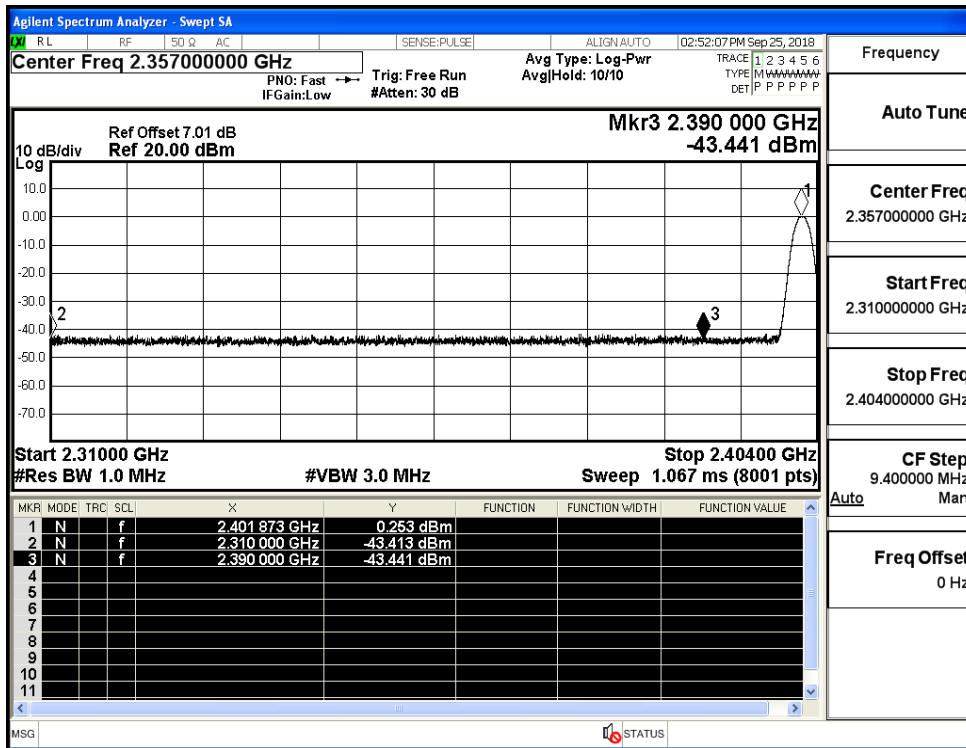
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



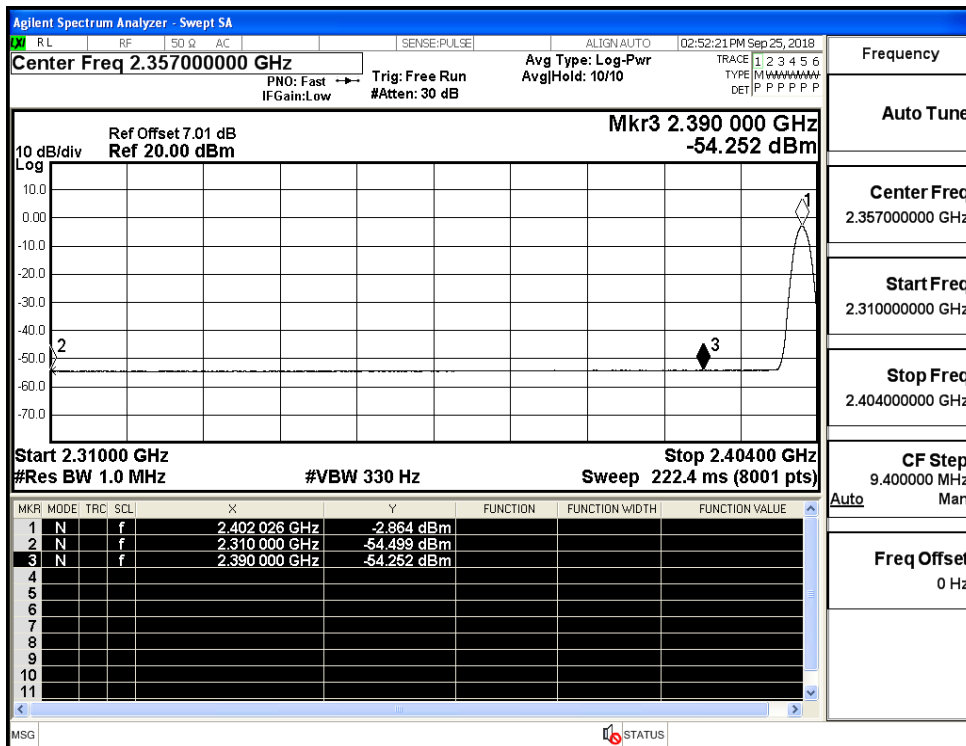
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



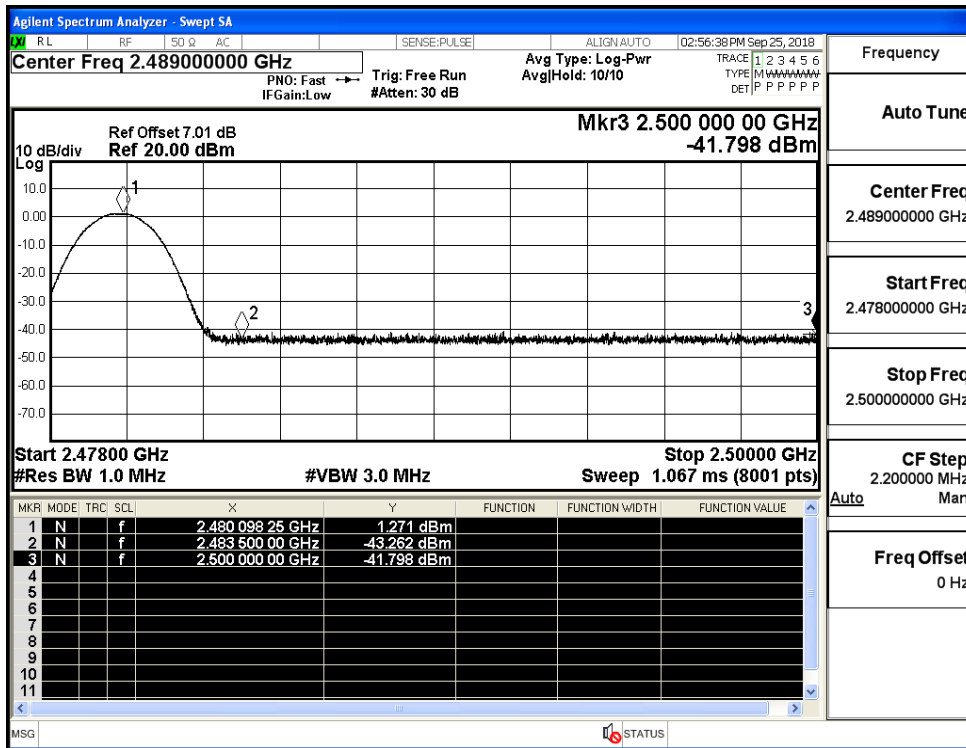
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)



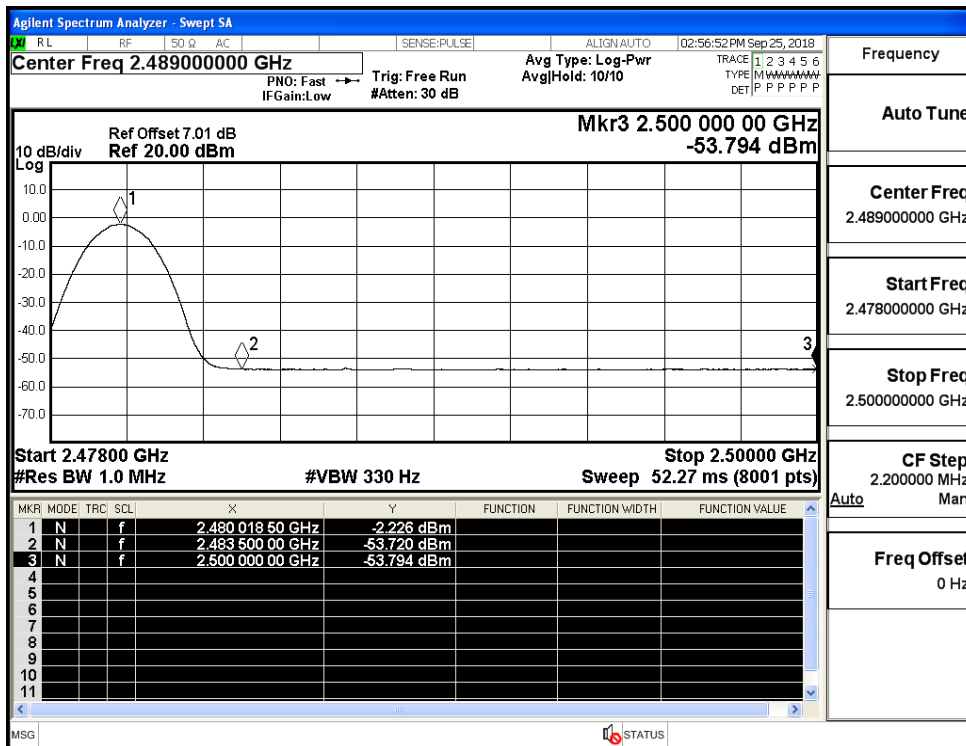
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)



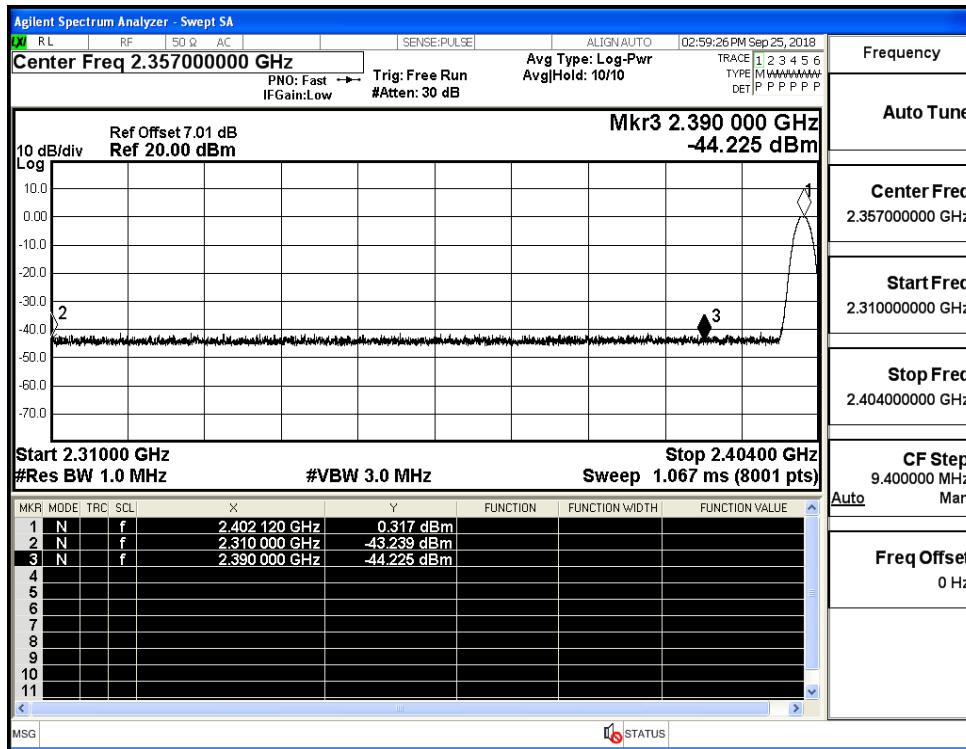
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



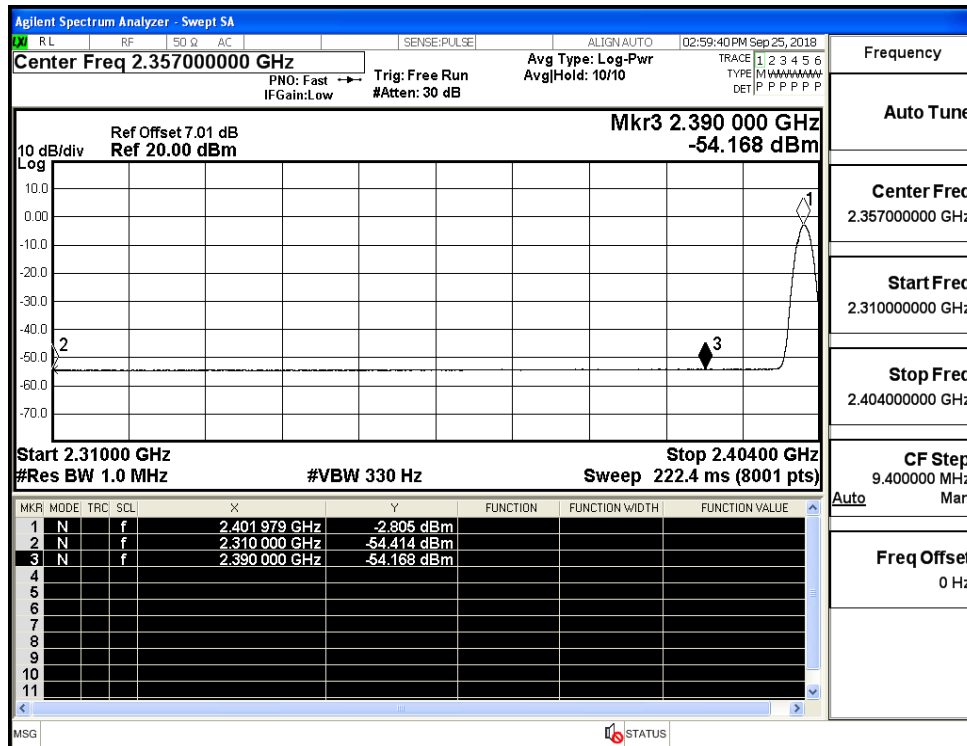
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



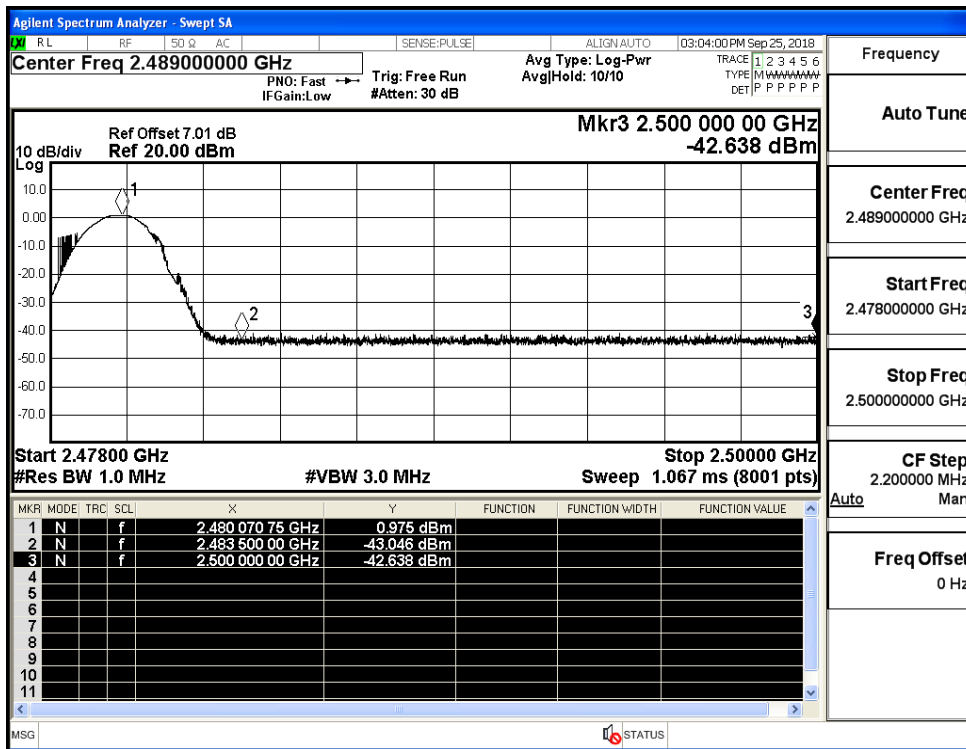
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

