

## Appendix A

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

Product Name: Bluetooth Sport Headset

Trade Mark: AWEI

Test Model: A825BL

#### Environmental Conditions

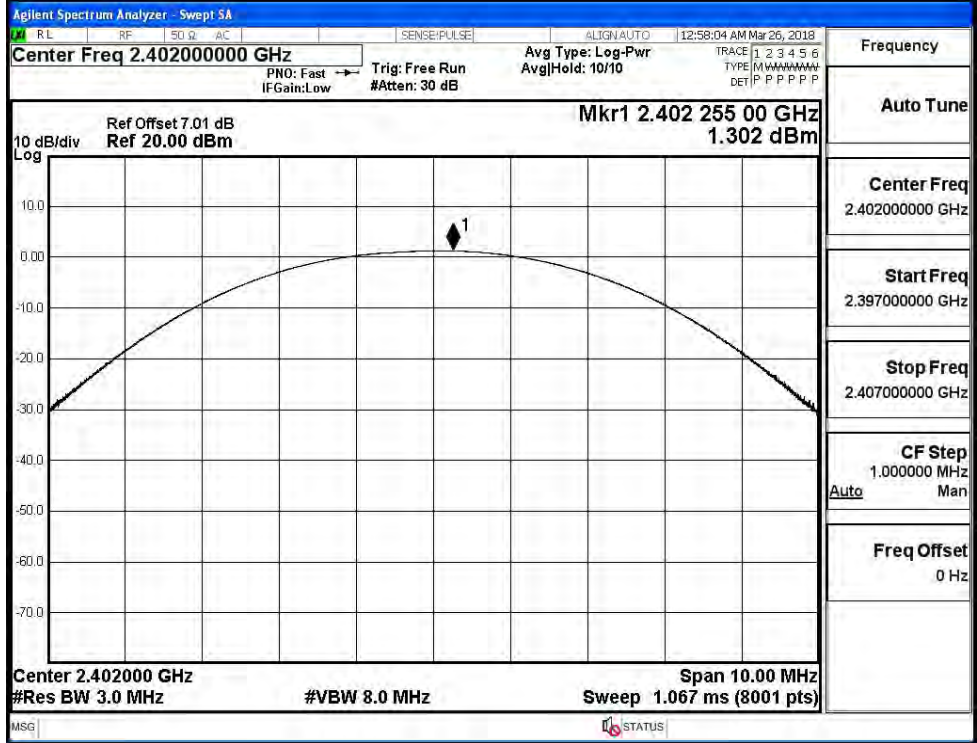
Temperature:	20.8 ° C
Relative Humidity:	50.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Jayden.Zhuo
Supervised by:	Dick.Su

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

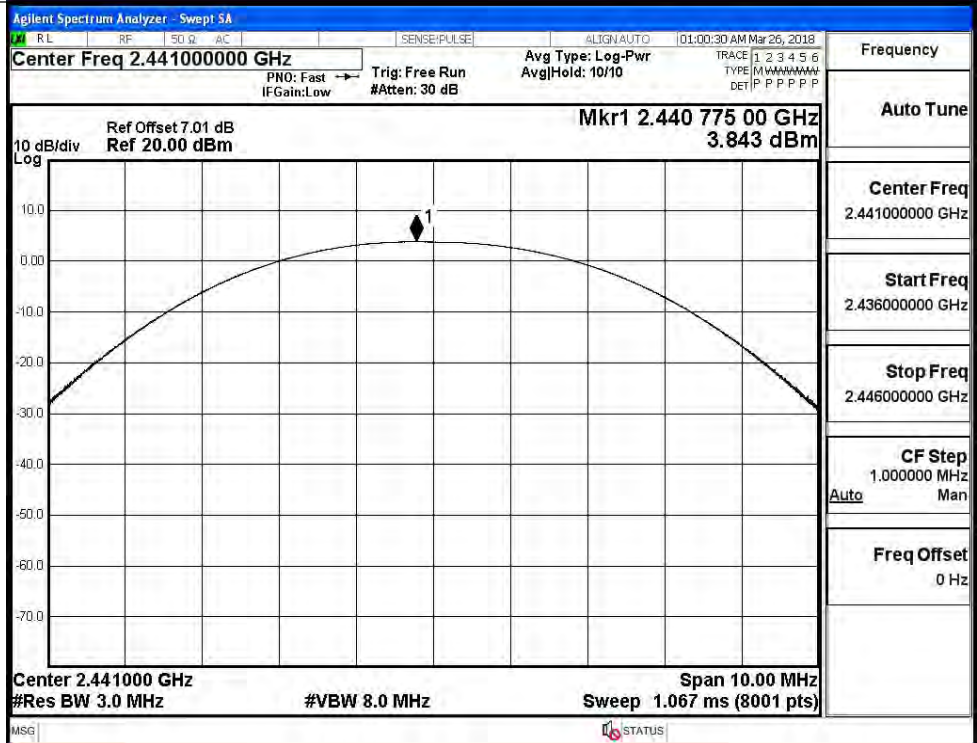
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.302	30	PASS
	MCH	3.843	30	PASS
	HCH	4.716	30	PASS
$\pi/4$ DQPSK	LCH	-0.969	21	PASS
	MCH	2.475	21	PASS
	HCH	3.509	21	PASS
8DPSK	LCH	-0.565	21	PASS
	MCH	2.834	21	PASS
	HCH	3.770	21	PASS

Test Graphs

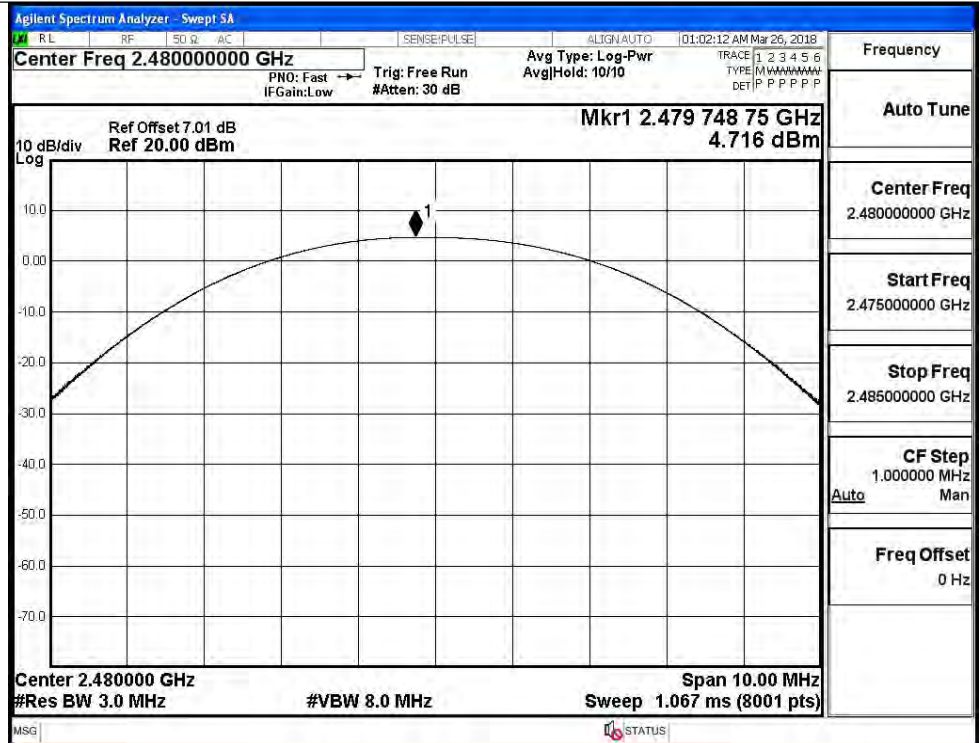
GFSK/LCH



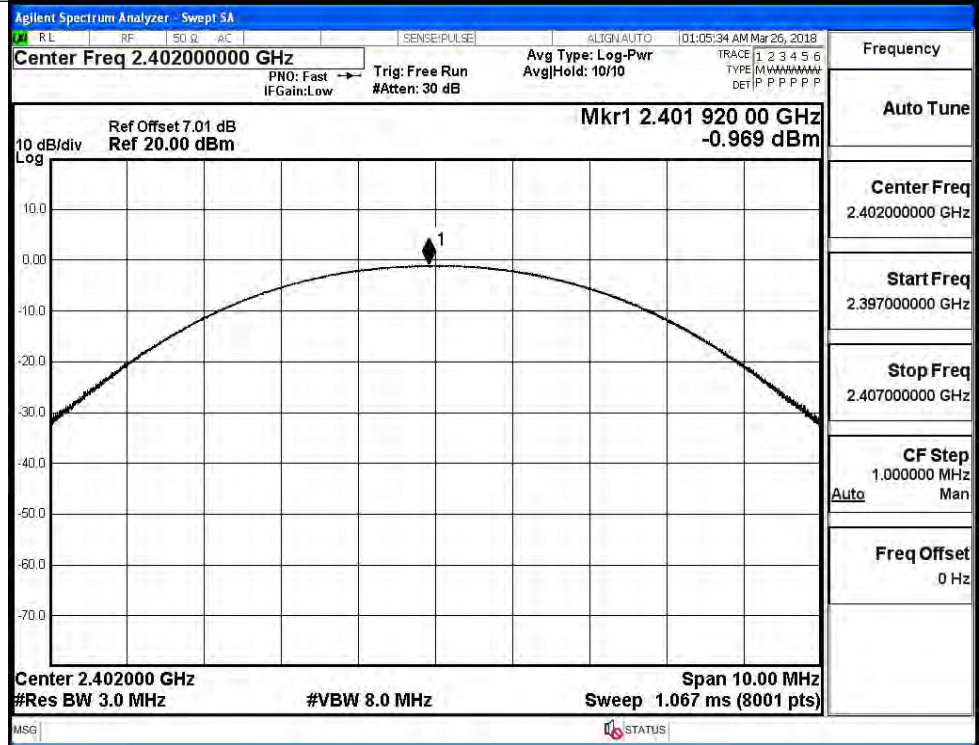
GFSK/MCH



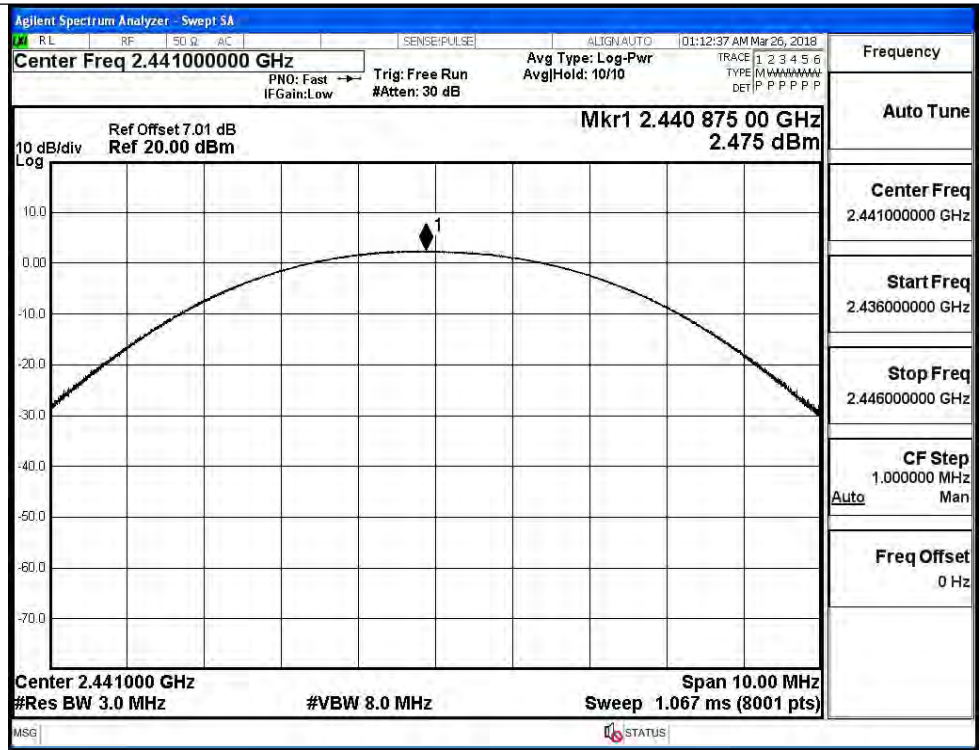
GFSK/HCH



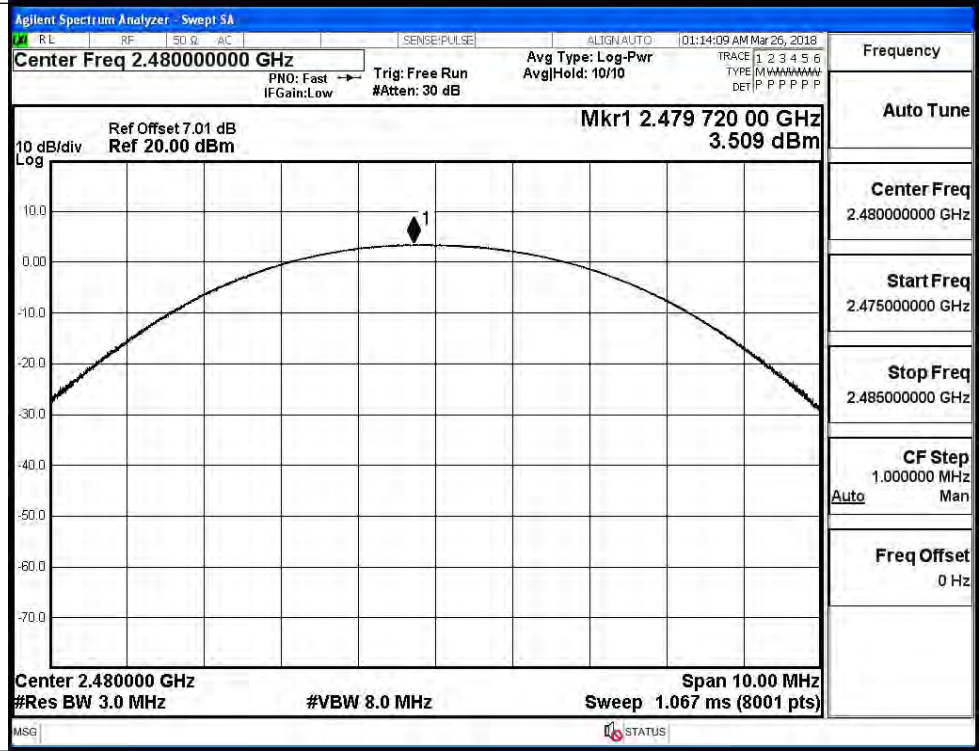
$\pi/4$ DQPSK/LCH



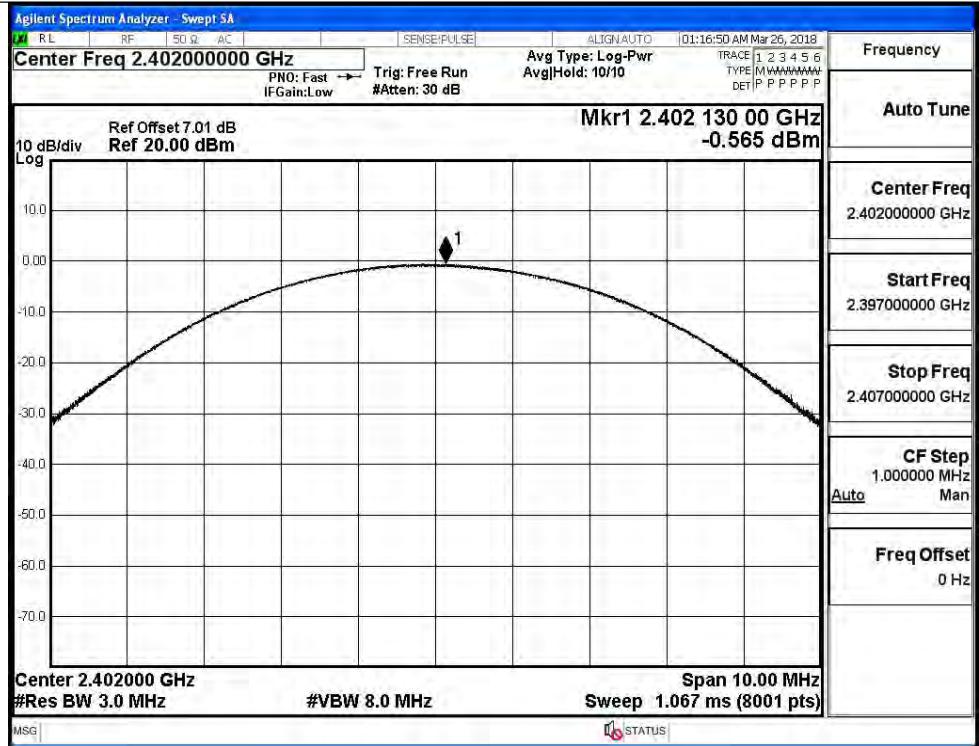
$\pi$ /4DQPSK/MCH



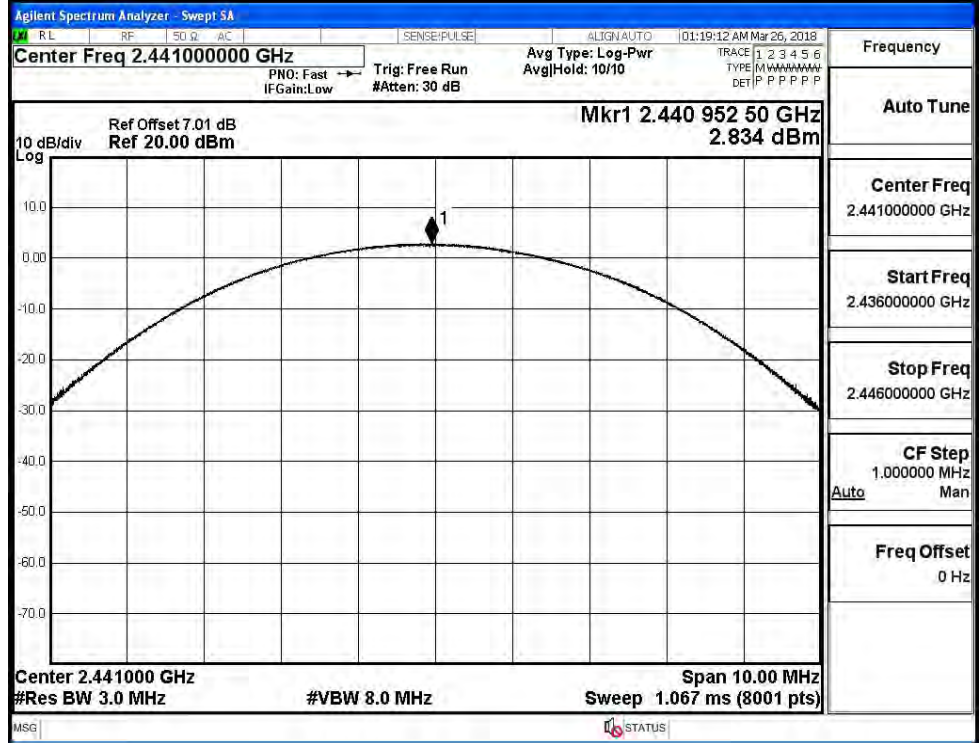
$\pi$ /4DQPSK/HCH



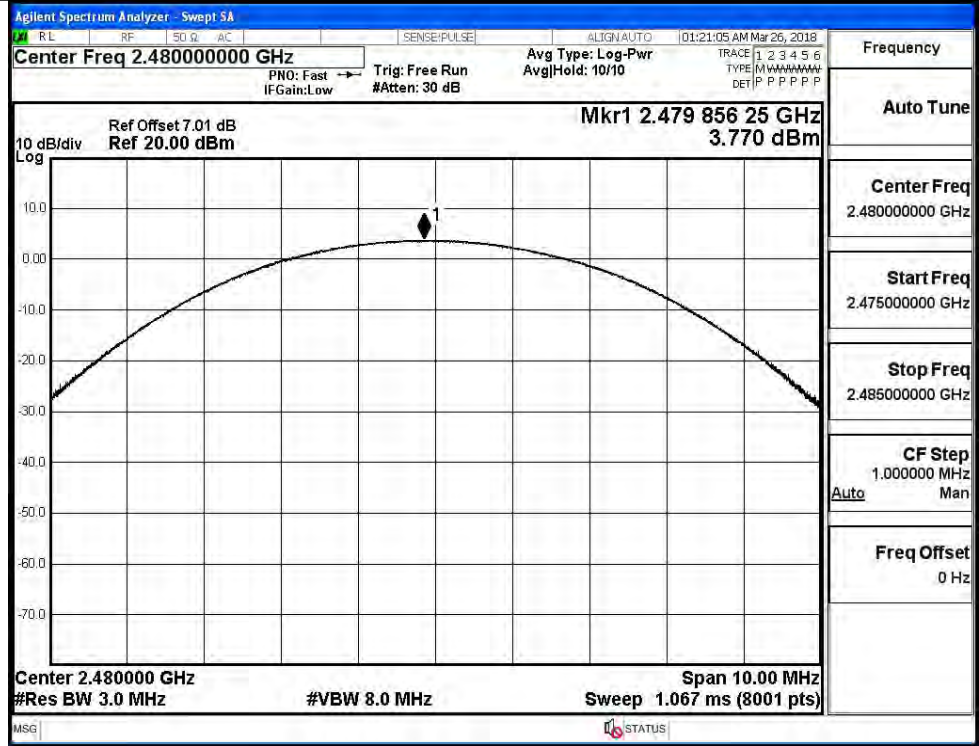
8DPSK/LCH



8DPSK/MCH

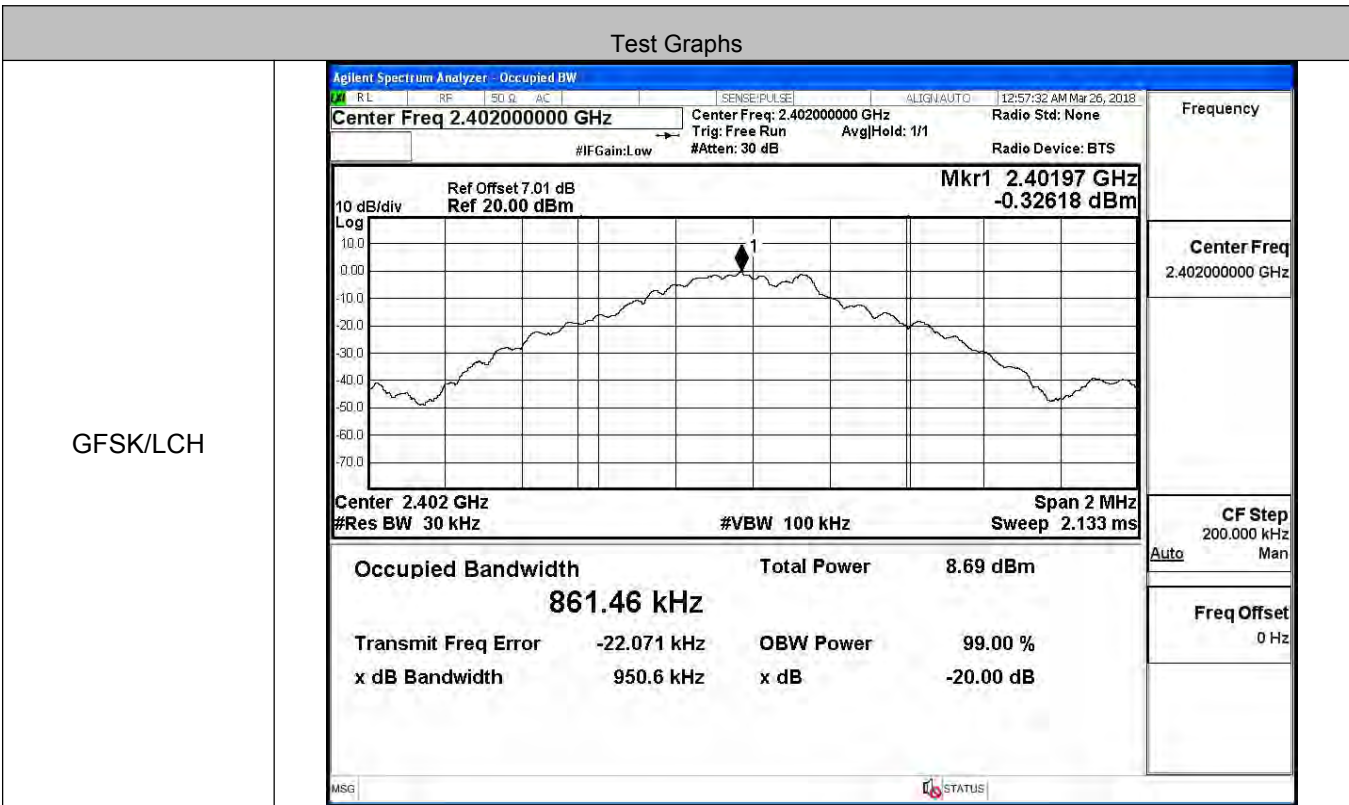


8DPSK/HCH

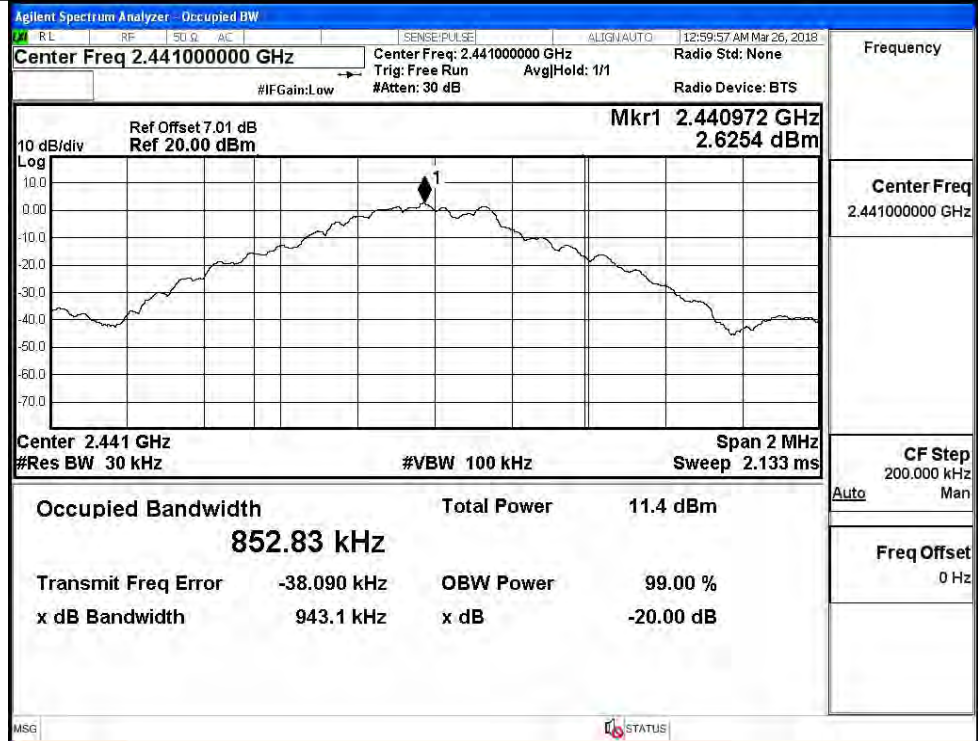


**A.2 20dB Bandwidth**

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9506	Not Specified	PASS
	MCH	0.9431	Not Specified	PASS
	HCH	0.9429	Not Specified	PASS
π/4DQPSK	LCH	1.259	Not Specified	PASS
	MCH	1.229	Not Specified	PASS
	HCH	1.229	Not Specified	PASS
8DPSK	LCH	1.275	Not Specified	PASS
	MCH	1.259	Not Specified	PASS
	HCH	1.260	Not Specified	PASS



GFSK/MCH



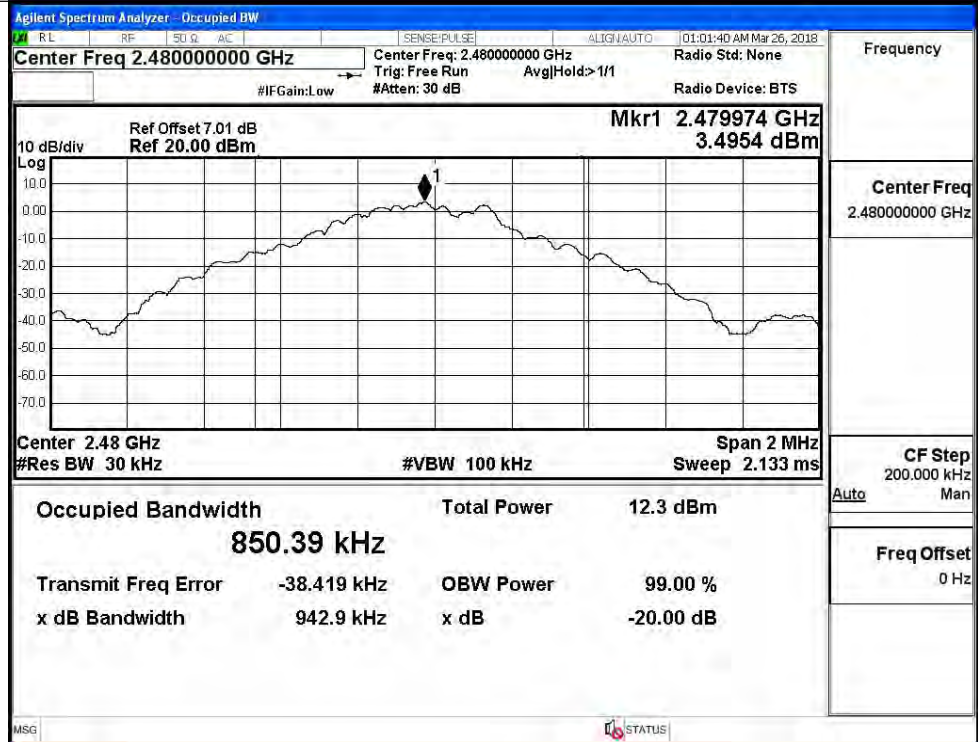
Frequency

Center Freq  
2.441000000 GHz

CF Step  
200.000 kHz  
Auto Man

Freq Offset  
0 Hz

GFSK/HCH



Frequency

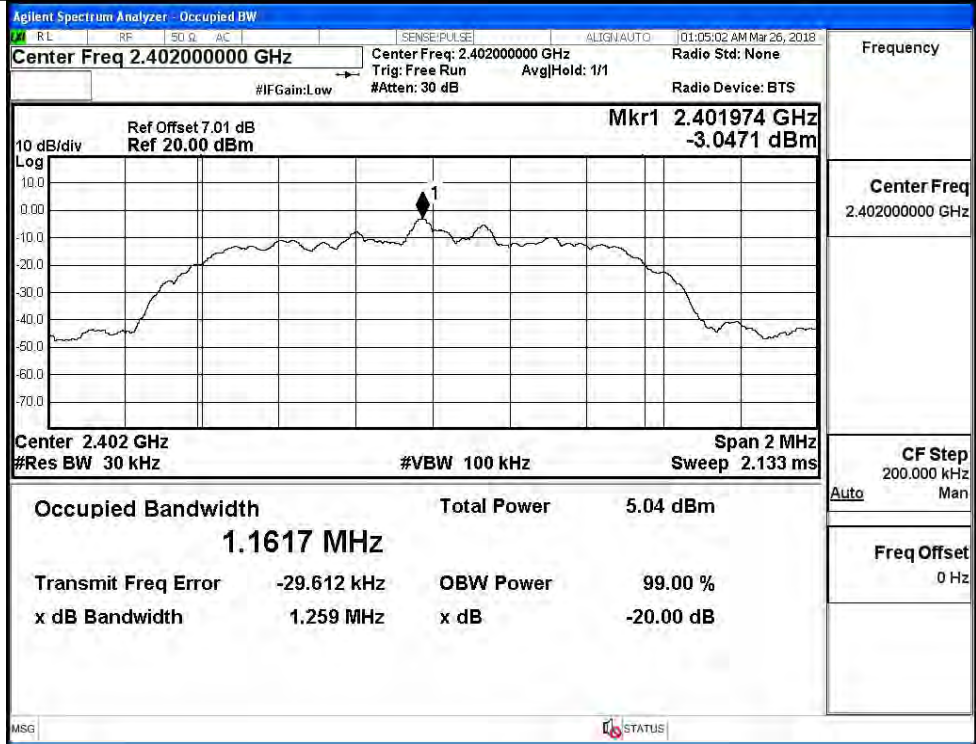
Center Freq  
2.480000000 GHz

CF Step  
200.000 kHz  
Auto Man

Freq Offset  
0 Hz

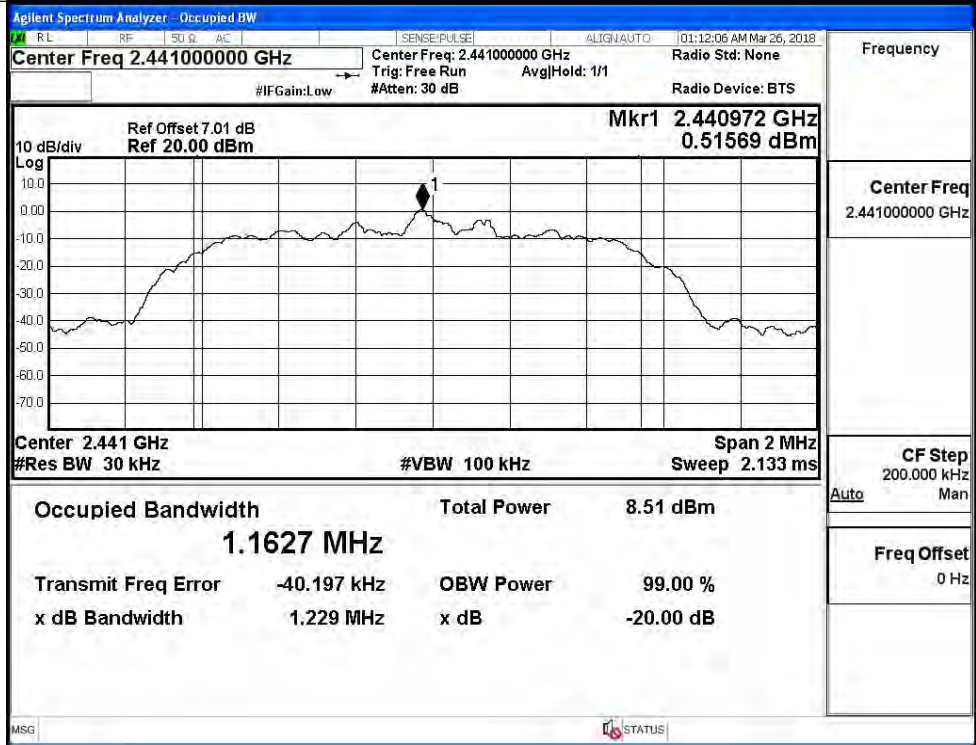


$\pi/4$ DQPSK/LCH



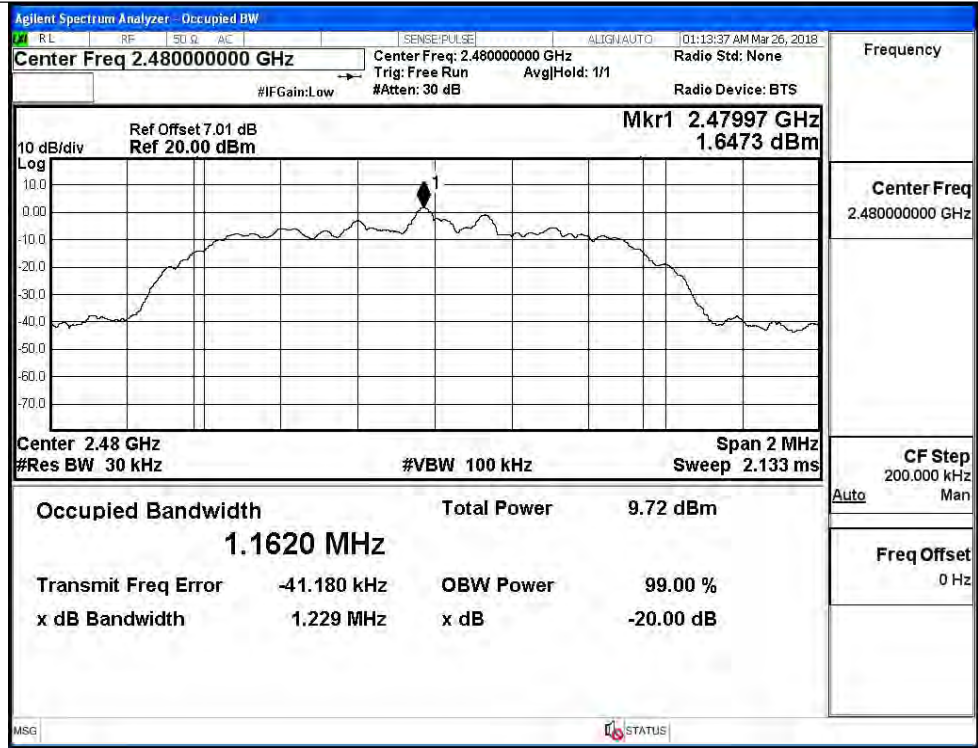
Frequency	2.40200000 GHz
Center Freq	2.40200000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

$\pi/4$ DQPSK/MCH



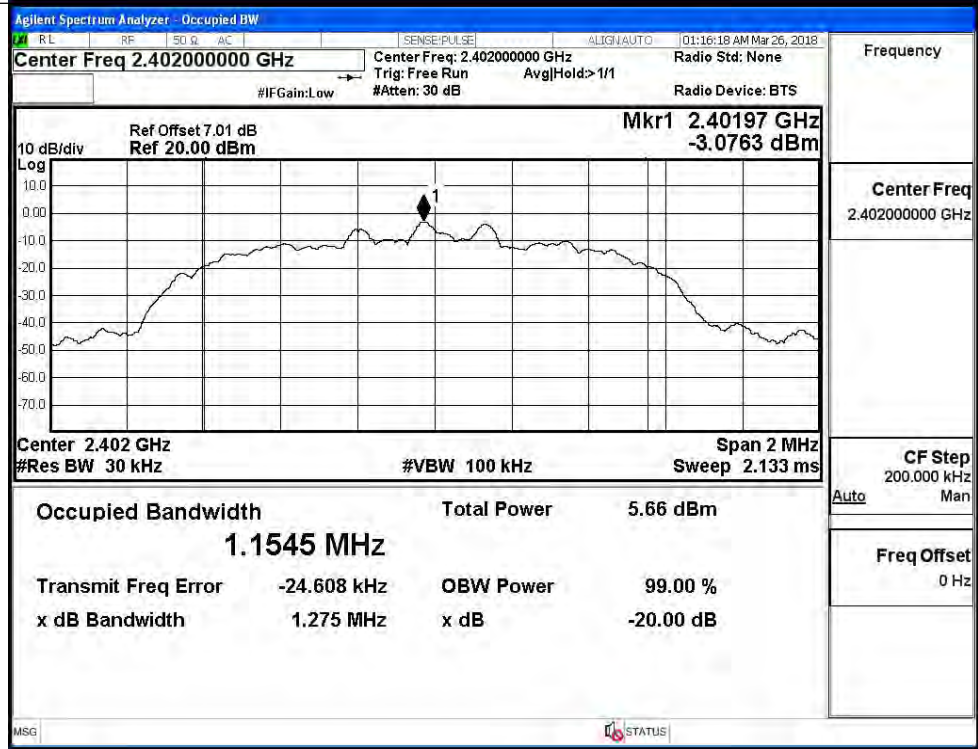
Frequency	2.44100000 GHz
Center Freq	2.44100000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

$\pi/4$ DQPSK/HCH



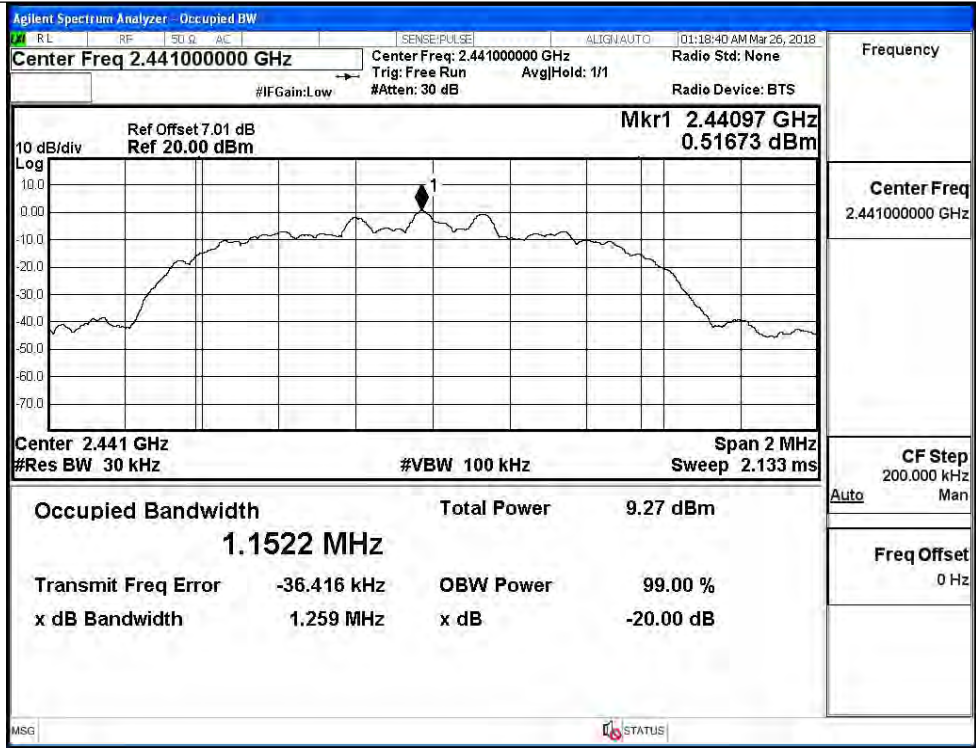
Frequency	2.48000000 GHz
Center Freq	2.48000000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

8DPSK/LCH

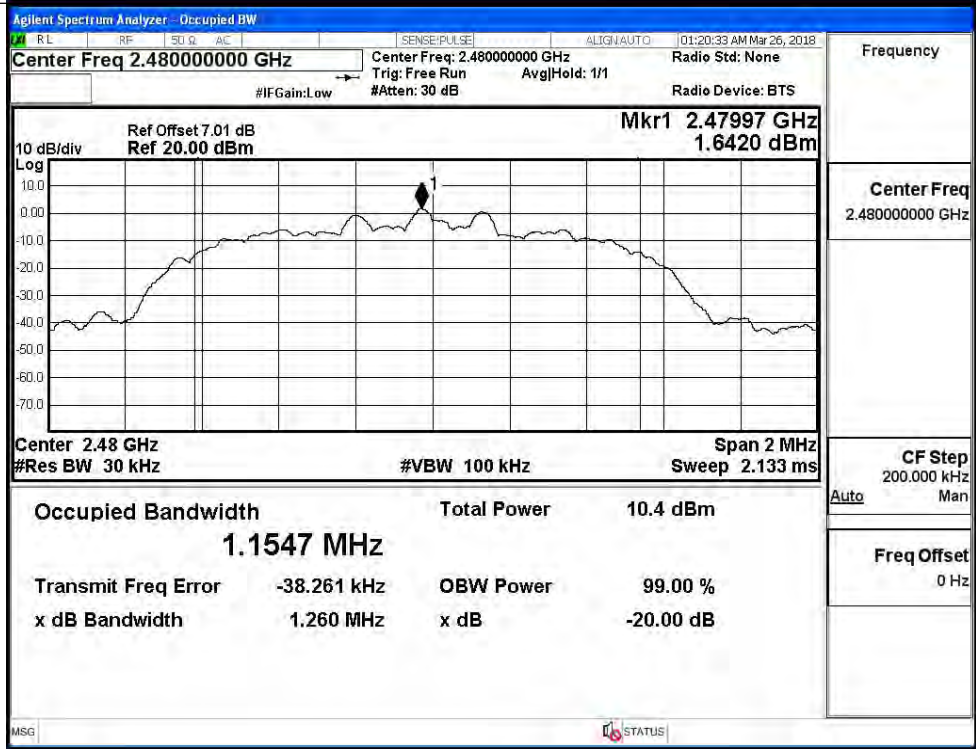


Frequency	2.40200000 GHz
Center Freq	2.40200000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

8DPSK/MCH

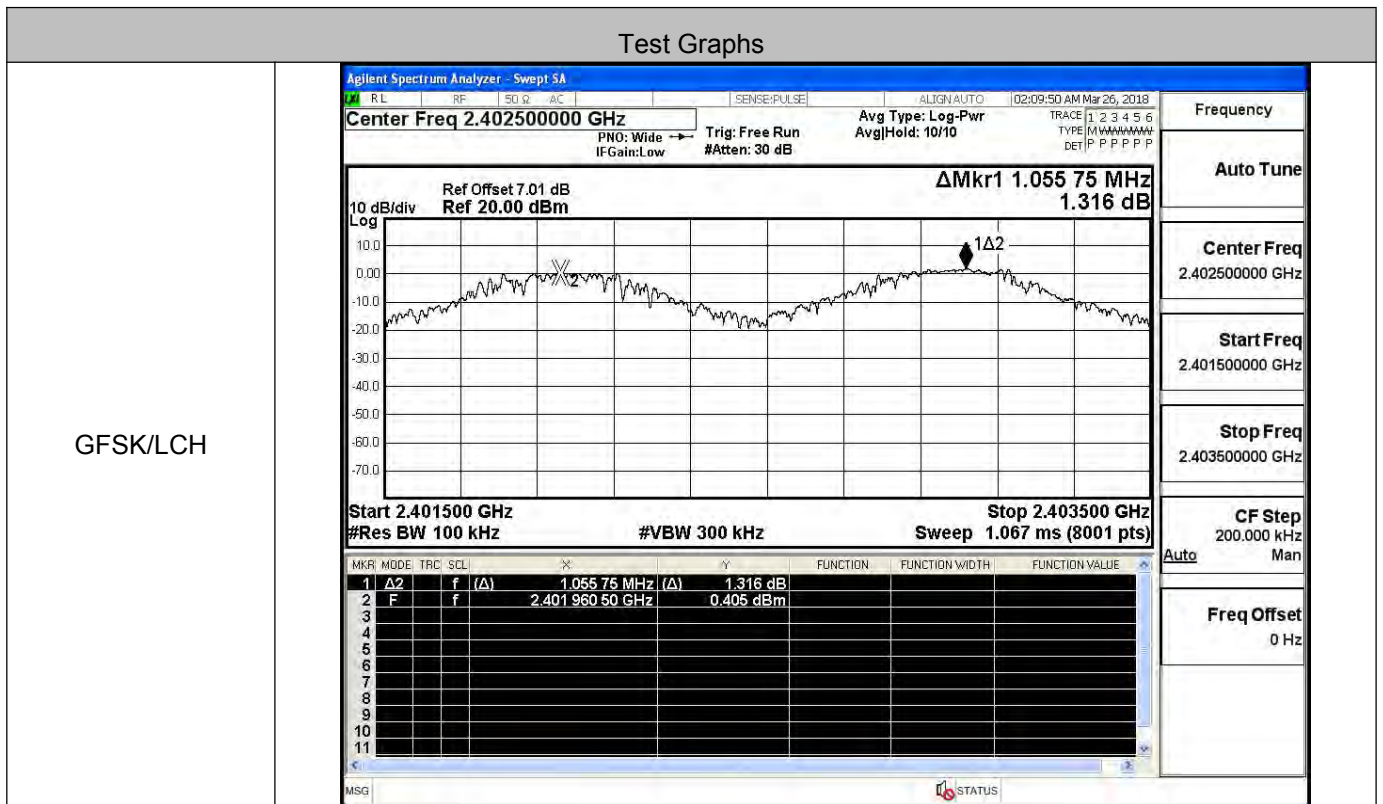


8DPSK/HCH

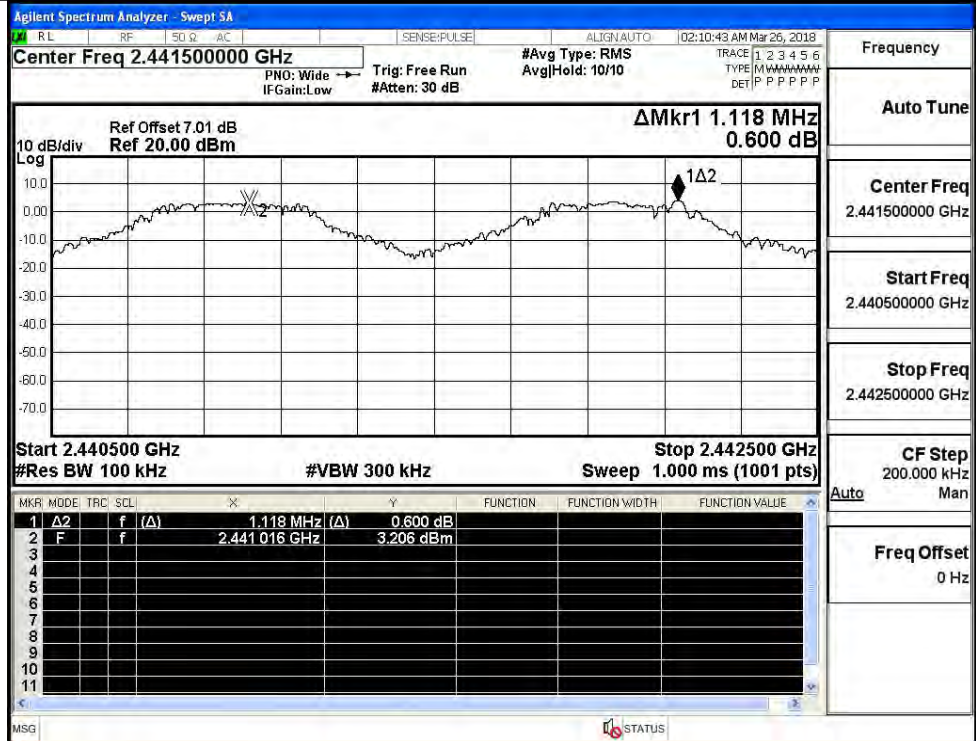


### A.3 Carrier Frequency Separation

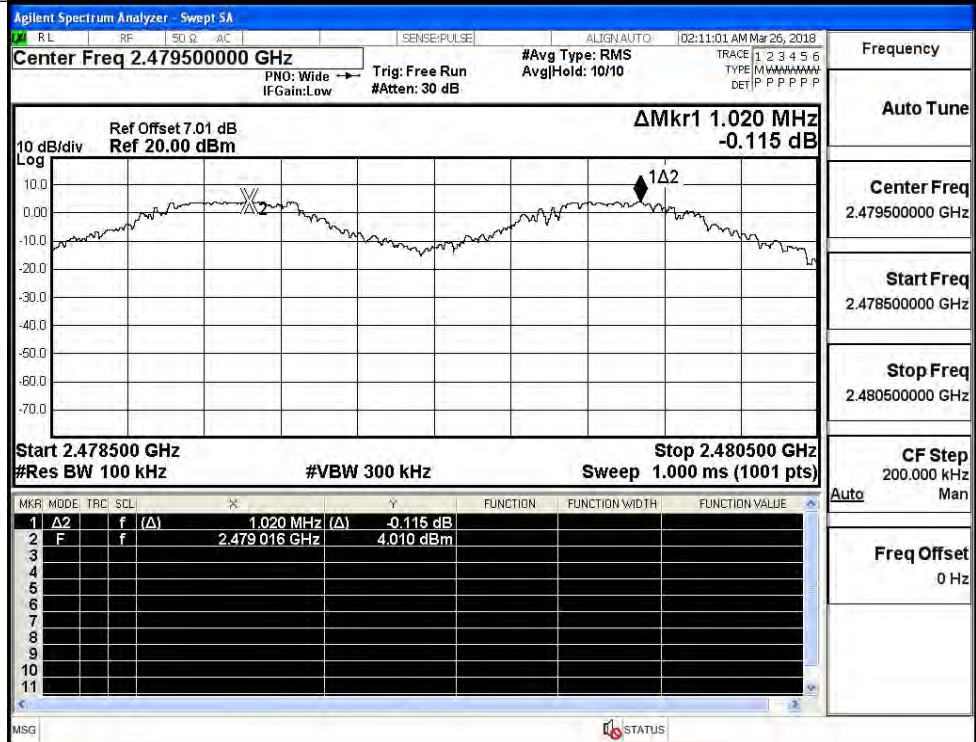
Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.056	0.634	PASS
	MCH	1.118	0.629	PASS
	HCH	1.020	0.629	PASS
π/4DQPSK	LCH	1.000	0.839	PASS
	MCH	0.972	1.229	PASS
	HCH	1.118	0.819	PASS
8DPSK	LCH	1.158	0.772	PASS
	MCH	1.160	0.773	PASS
	HCH	1.302	0.84	PASS



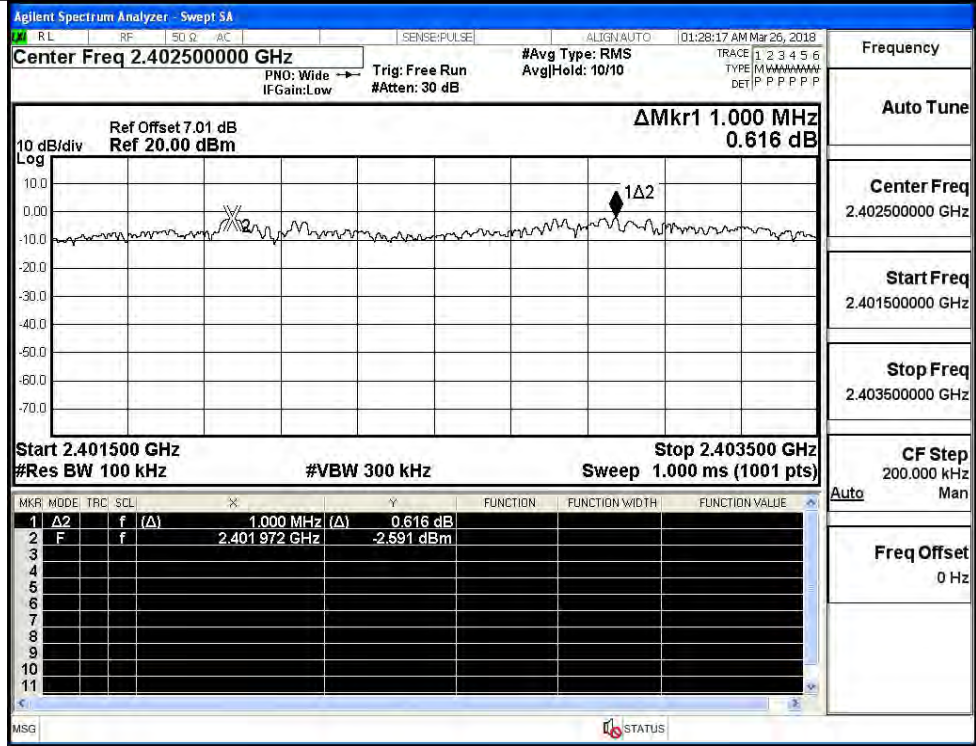
GFSK/MCH



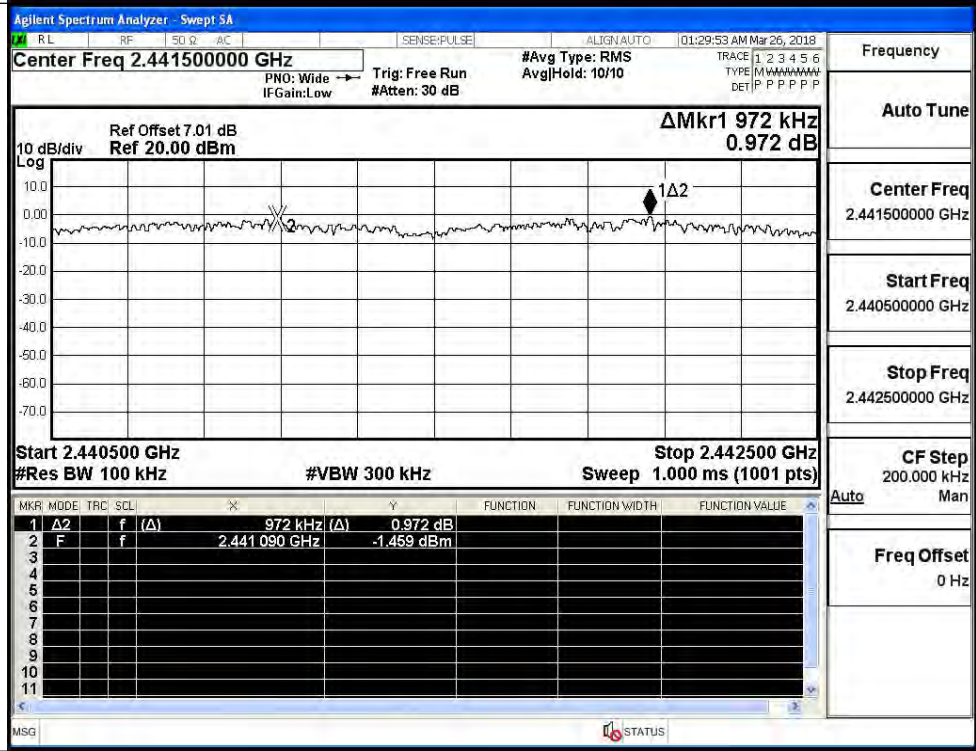
GFSK/HCH



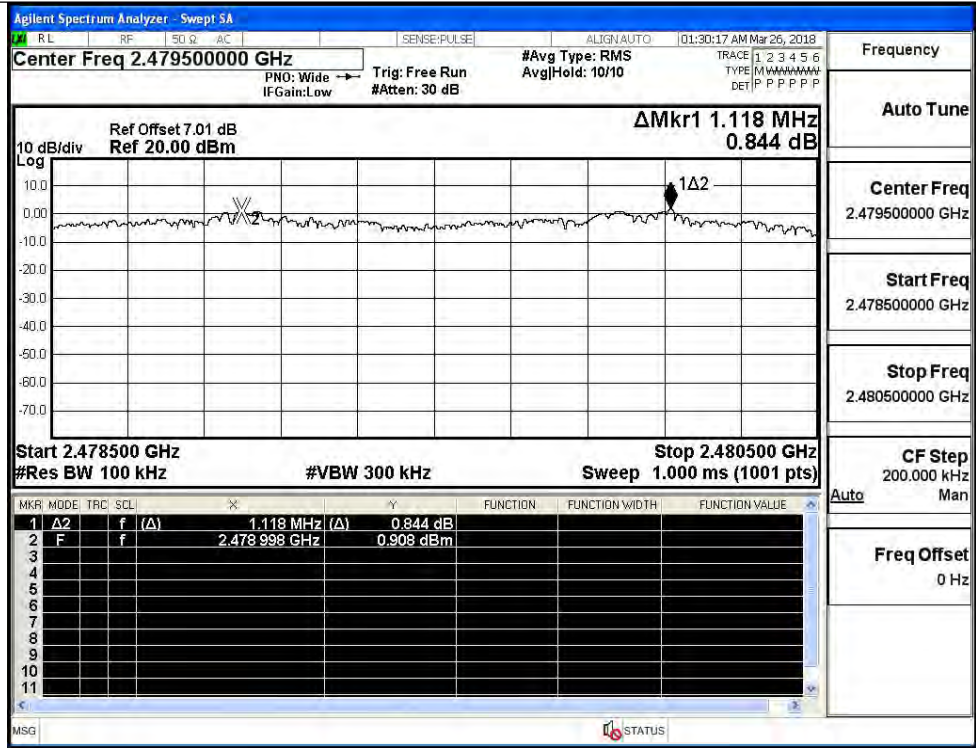
$\pi/4$ DQPSK/LCH



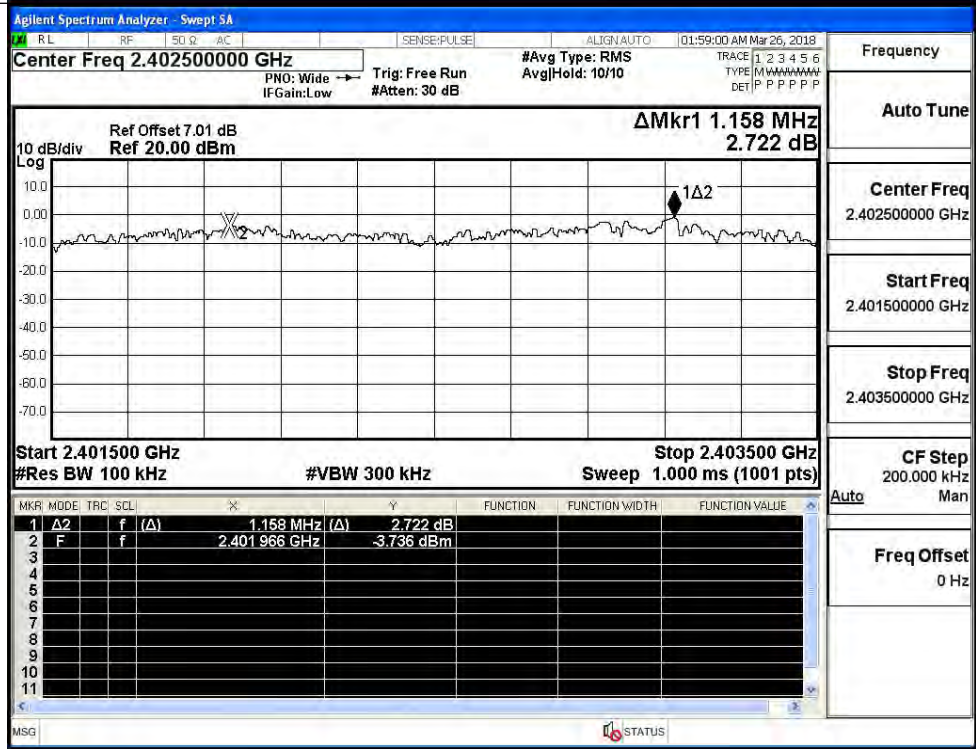
$\pi/4$ DQPSK/MCH

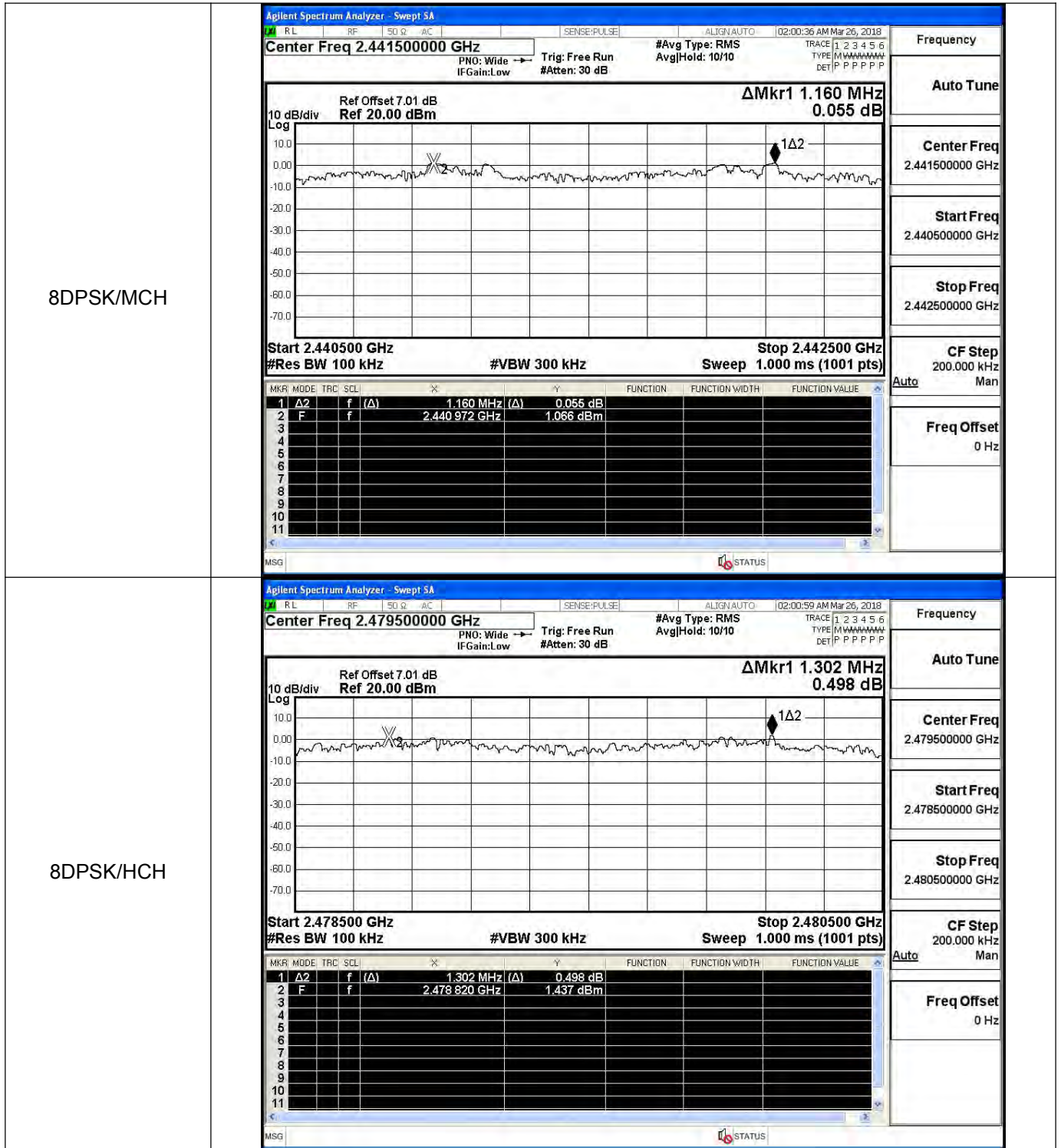


TT/4DQPSK/HCH



8DPSK/LCH





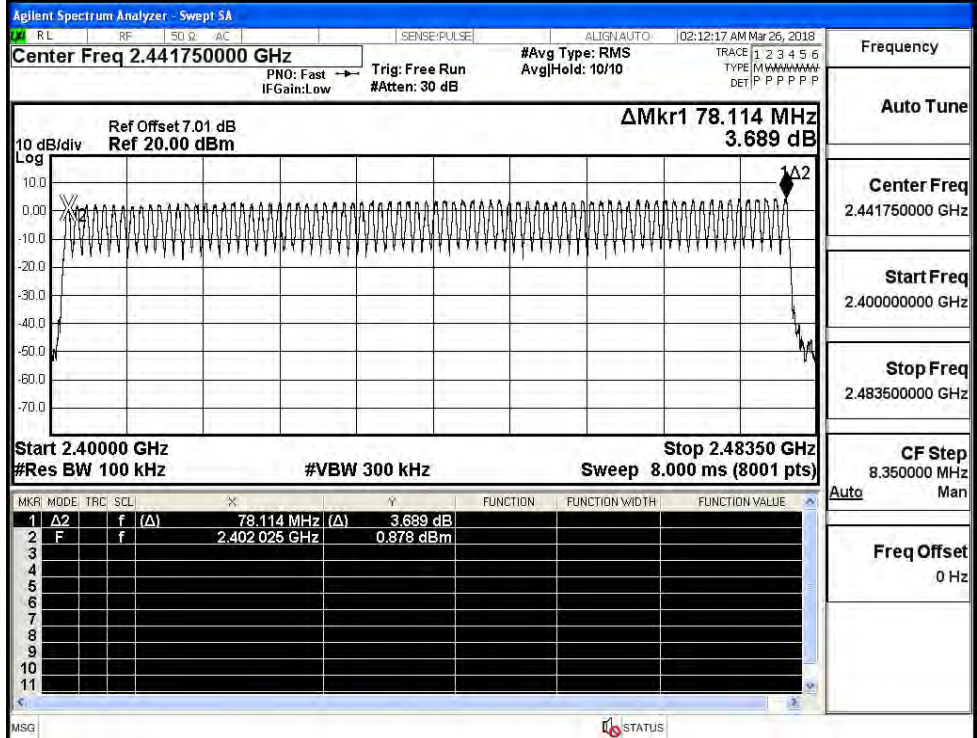
A.4 Hopping Channel Number

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

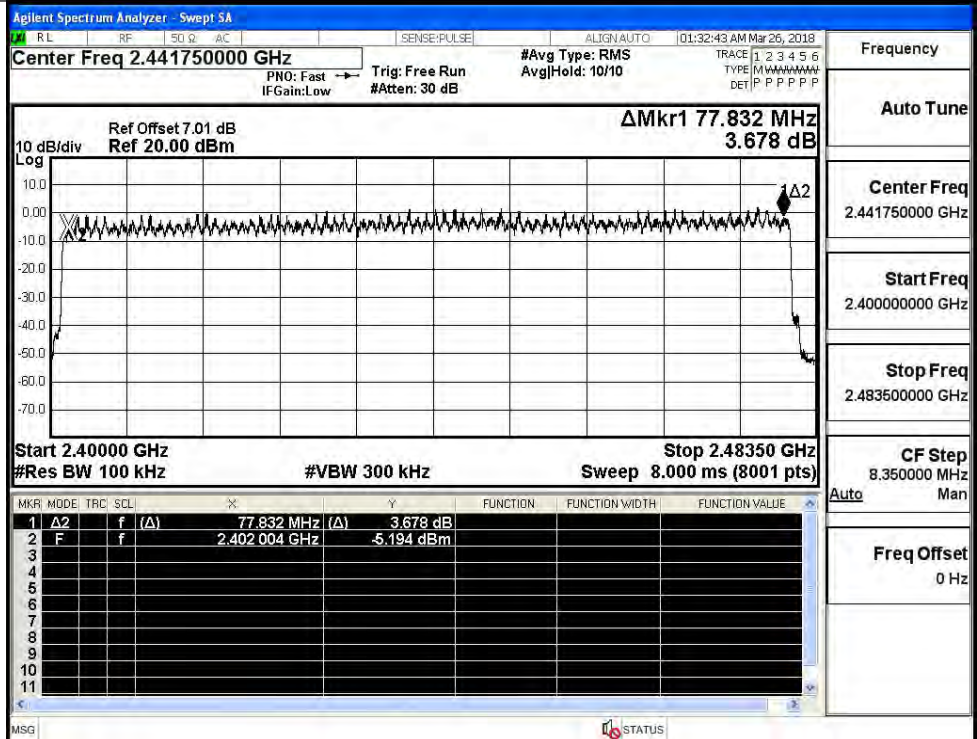


Test Graphs

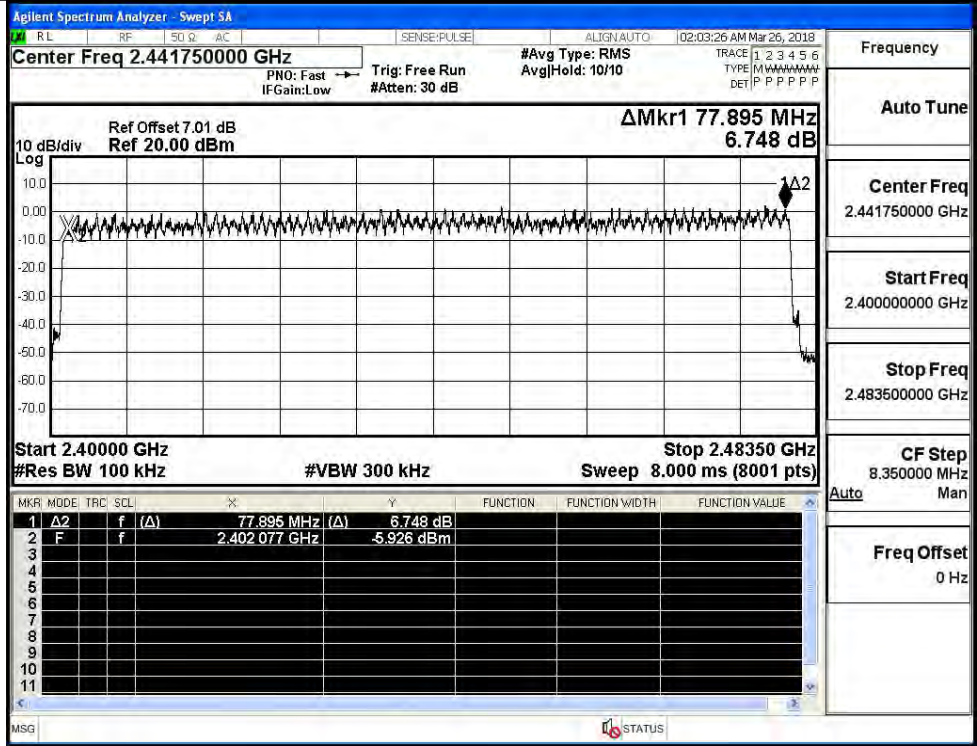
GFSK/Hop



$\pi/4$ DQPSK/Hop

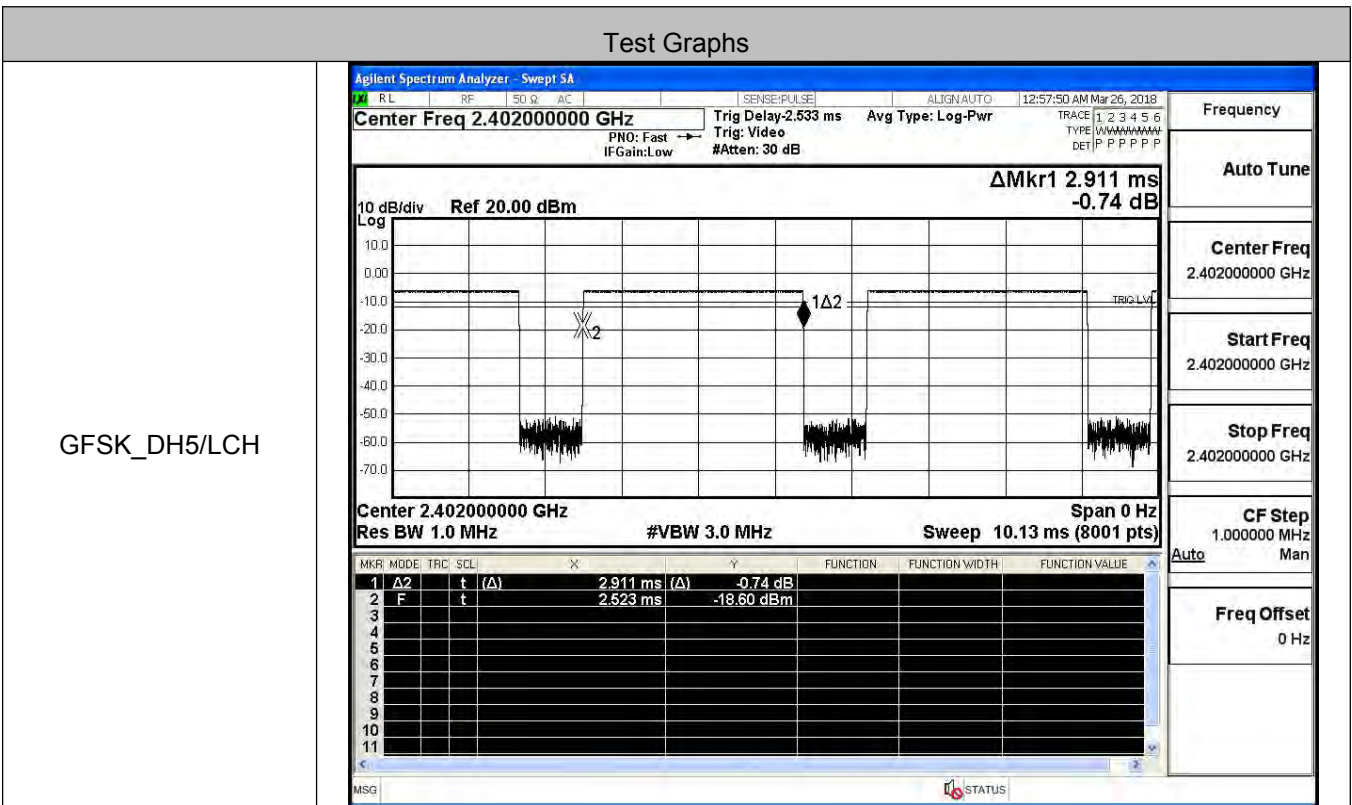


8DPSK/Hop

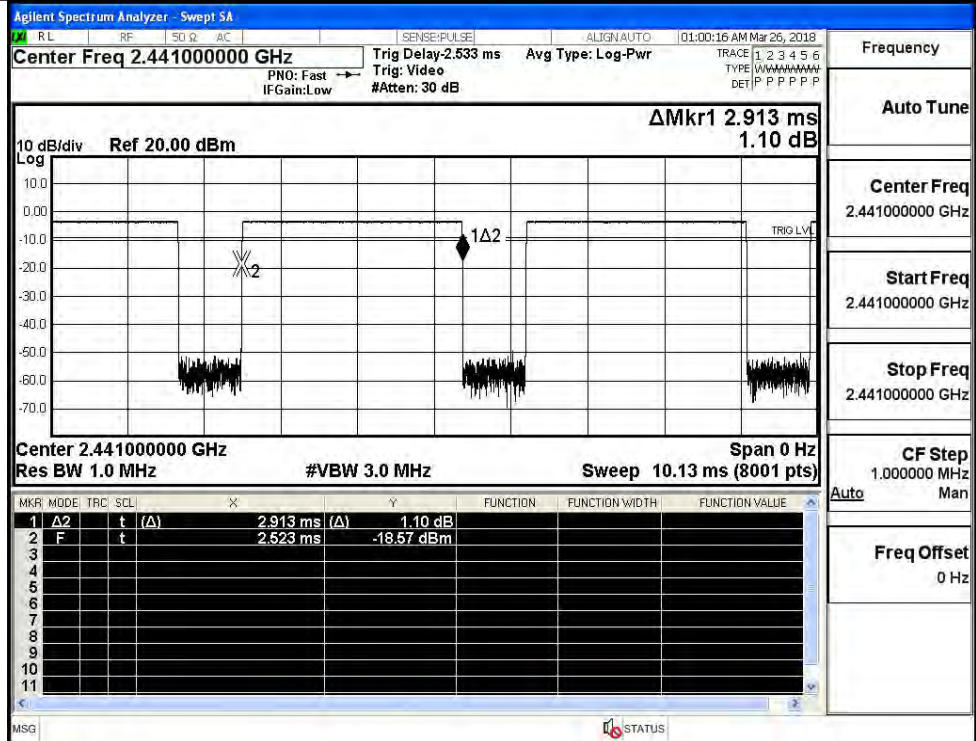


### A.5 Dwell Time

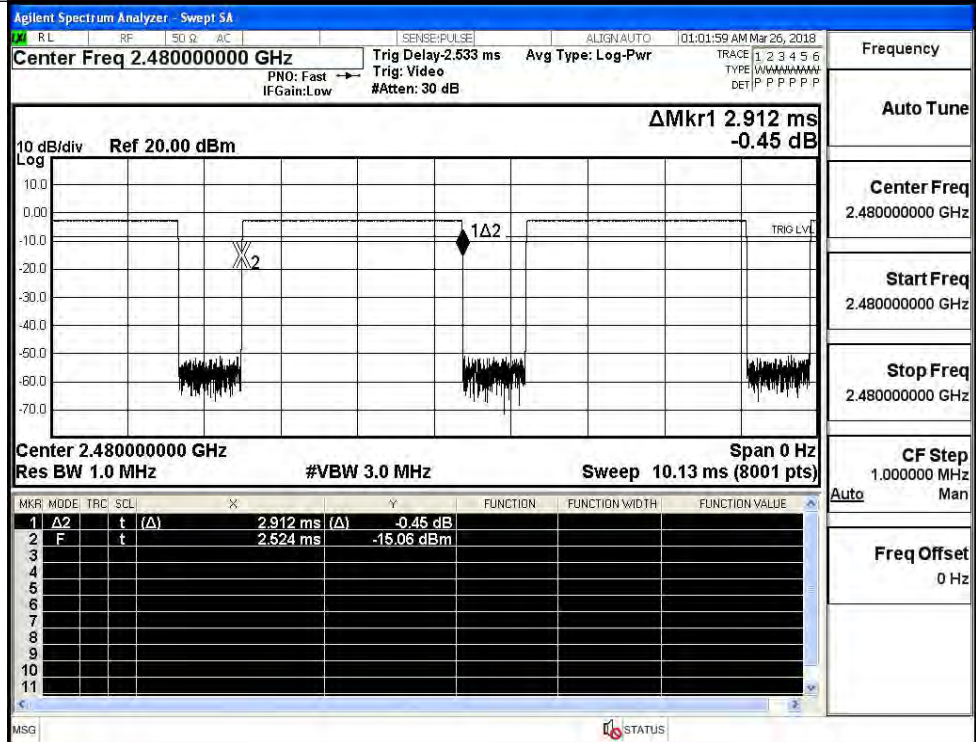
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.91	106.7	0.31	0.4	PASS
	DH5	MCH	2.91	106.7	0.31	0.4	PASS
	DH5	HCH	2.91	106.7	0.31	0.4	PASS
π/4DQPSK	2DH5	LCH	2.91	106.7	0.312	0.4	PASS
	2DH5	MCH	2.91	106.7	0.312	0.4	PASS
	2DH5	HCH	2.91	106.7	0.312	0.4	PASS
8DPSK	3DH5	LCH	2.91	106.7	0.312	0.4	PASS
	3DH5	MCH	2.91	106.7	0.312	0.4	PASS
	3DH5	HCH	2.91	106.7	0.312	0.4	PASS



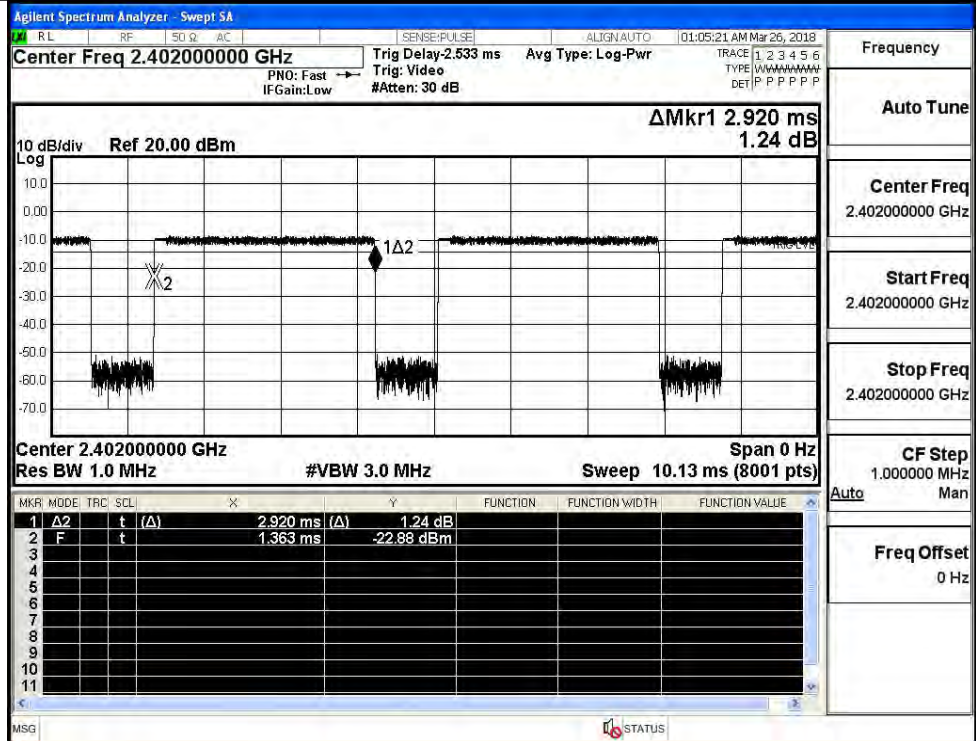
GFSK\_DH5/MCH



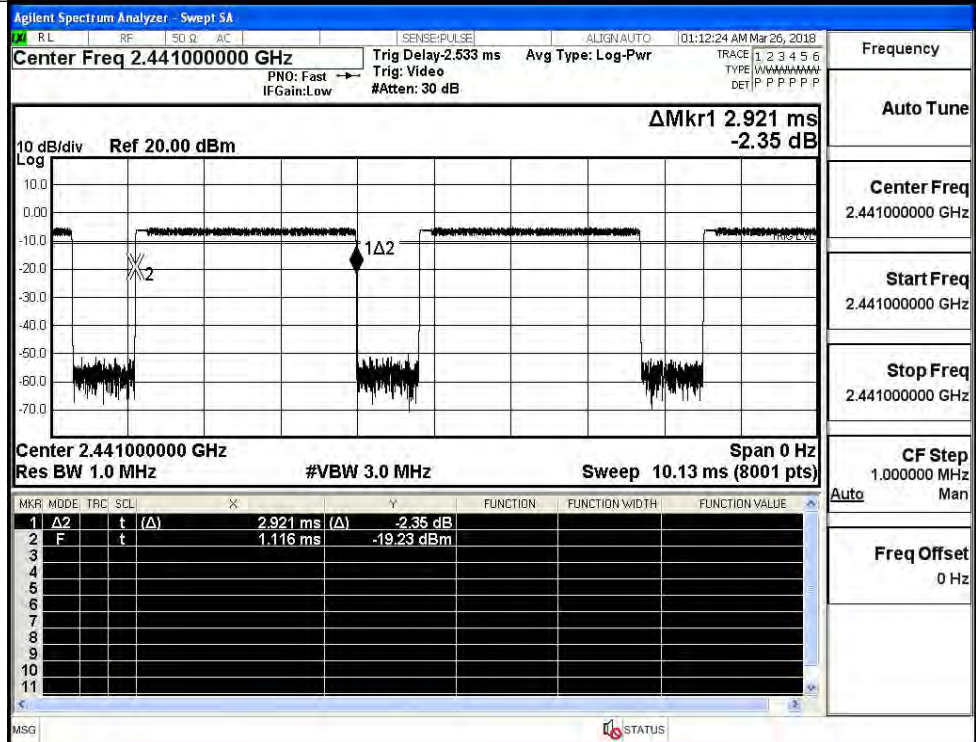
GFSK\_DH5/HCH



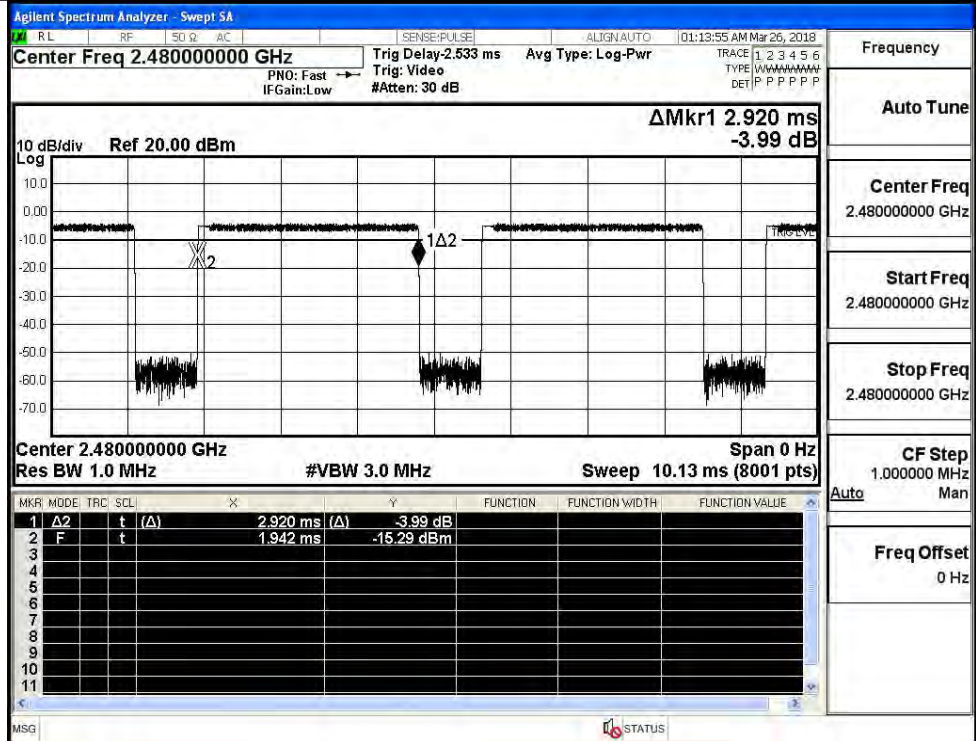
$\pi/4$ DQPSK  
\_2DH5/LCH



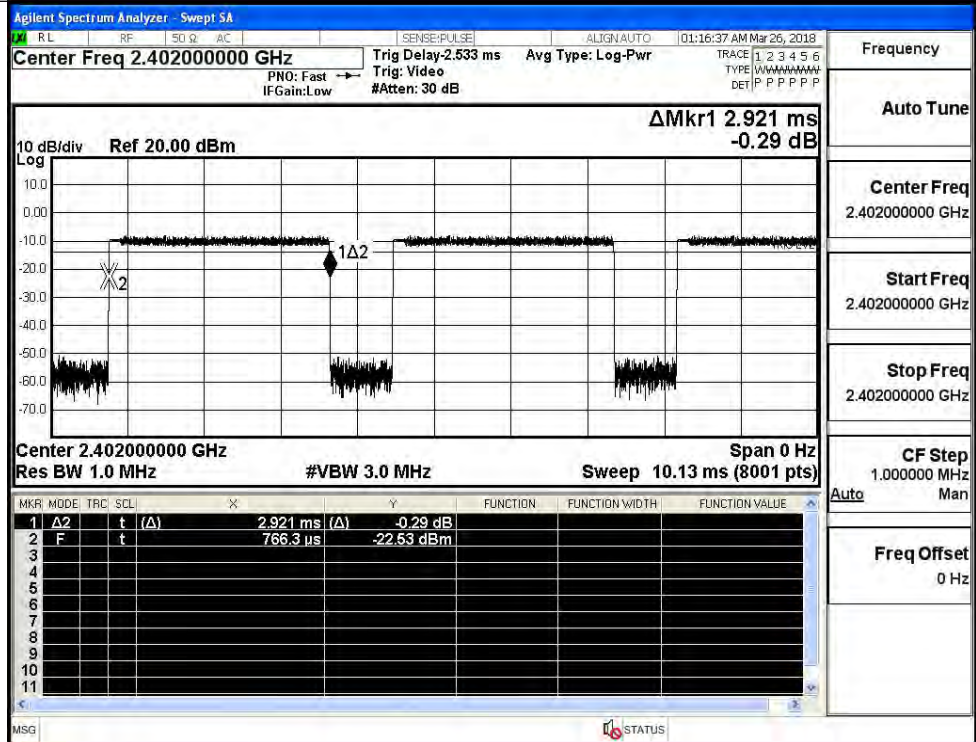
$\pi/4$ DQPSK  
\_2DH5/MCH



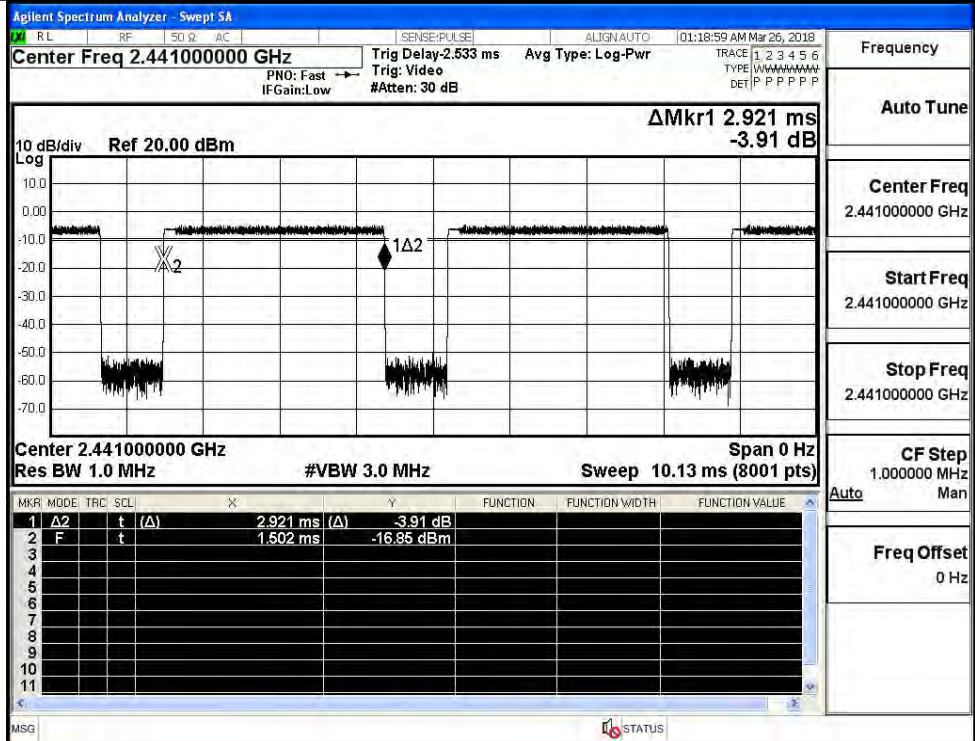
$\pi/4$ DQPSK  
\_2DH5/HCH



8DPSK\_3DH5/LCH



8DPSK\_3DH5/MCH



Frequency

Auto Tune

Center Freq  
2.441000000 GHz

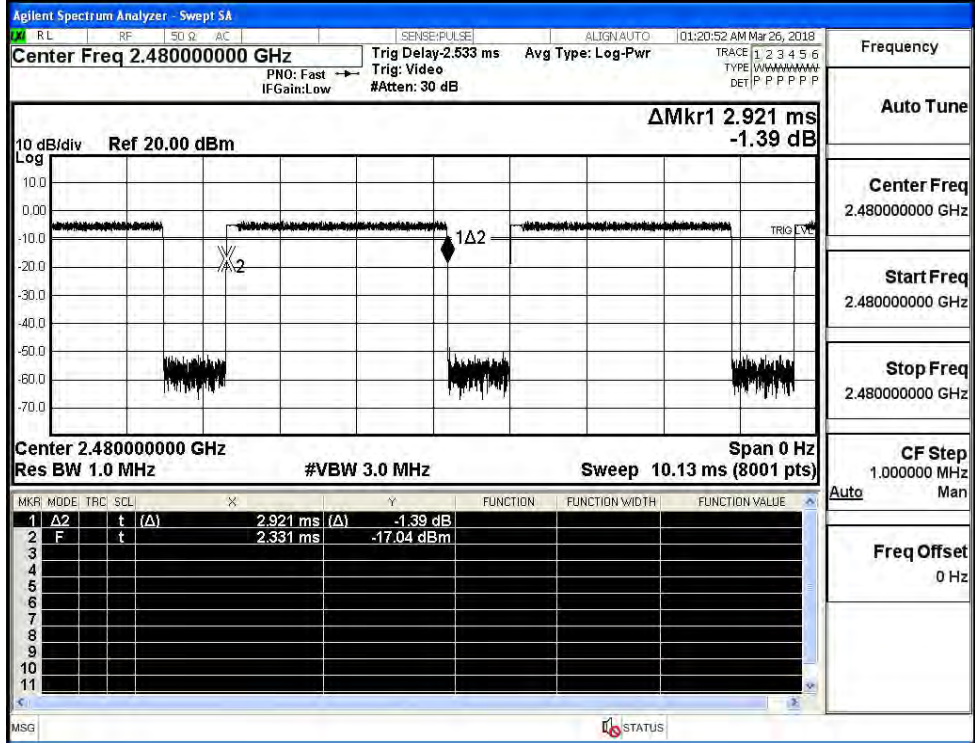
Start Freq  
2.441000000 GHz

Stop Freq  
2.441000000 GHz

CF Step  
1.000000 MHz

Freq Offset  
0 Hz

8DPSK\_3DH5/HCH



Frequency

Auto Tune

Center Freq  
2.480000000 GHz

Start Freq  
2.480000000 GHz

Stop Freq  
2.480000000 GHz

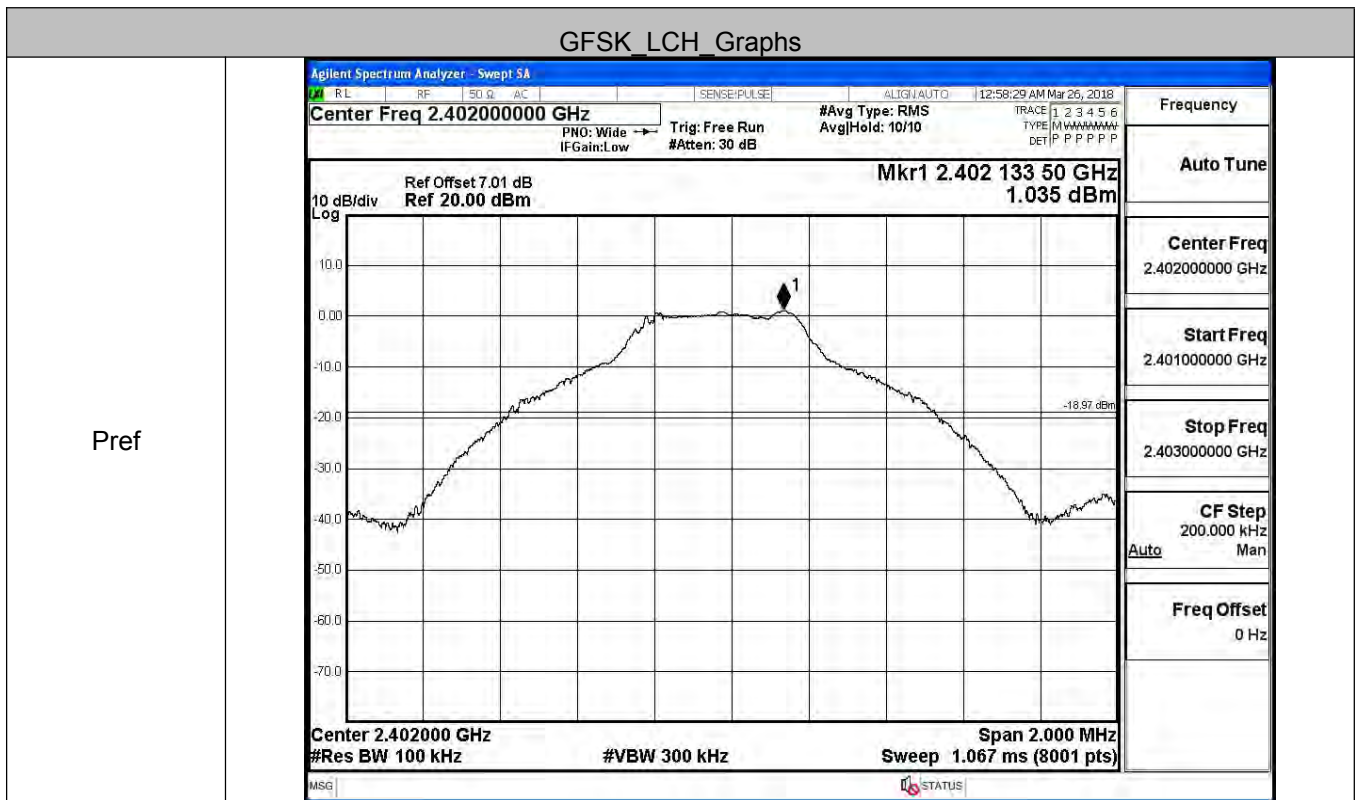
CF Step  
1.000000 MHz

Freq Offset  
0 Hz

### A.6 RF Conducted Spurious Emissions

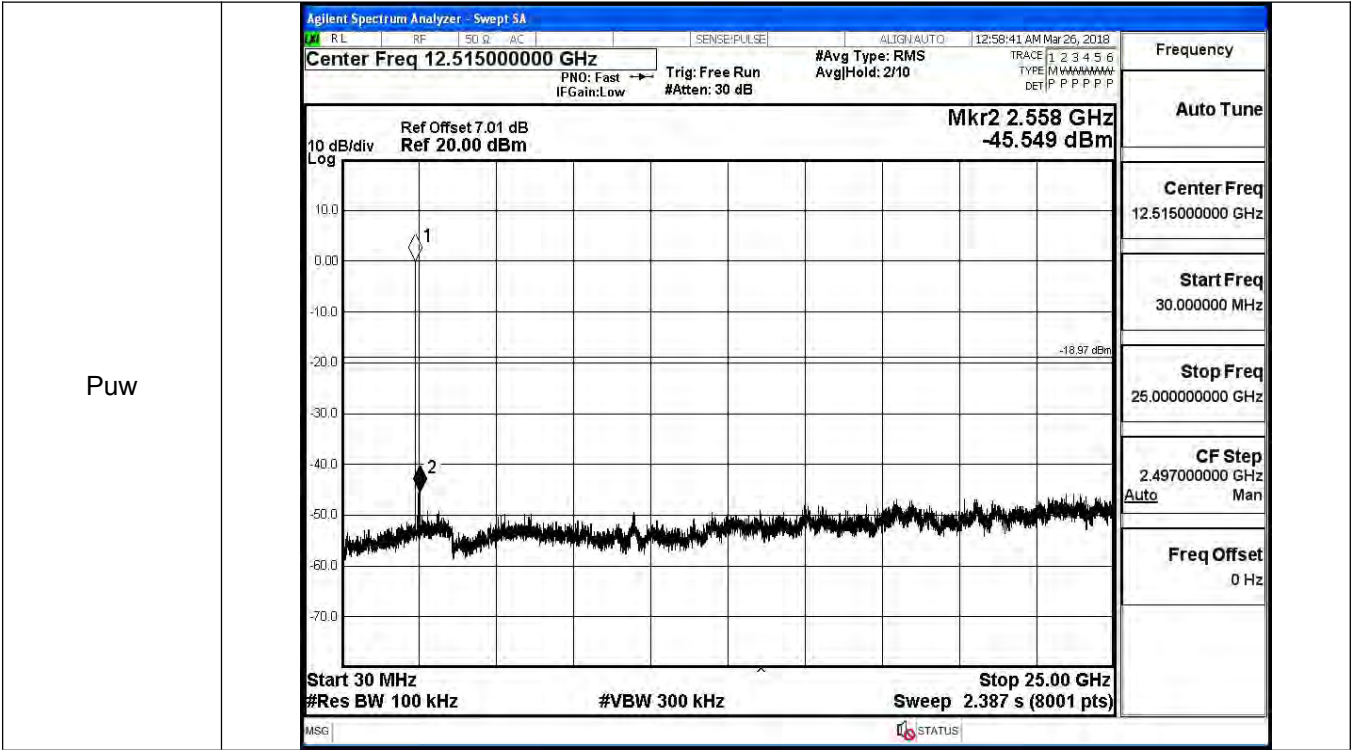
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.035	-45.549	-18.965	PASS
	MCH	3.489	-45.080	-16.511	PASS
	HCH	4.413	-45.281	-15.587	PASS
π/4DQPSK	LCH	-2.594	-45.832	-22.594	PASS
	MCH	0.619	-45.868	-19.381	PASS
	HCH	2.091	-44.394	-17.909	PASS
8DPSK	LCH	-2.466	-44.808	-22.466	PASS
	MCH	0.962	-40.806	-19.038	PASS
	HCH	2.235	-44.352	-17.765	PASS

GFSK LCH Graphs

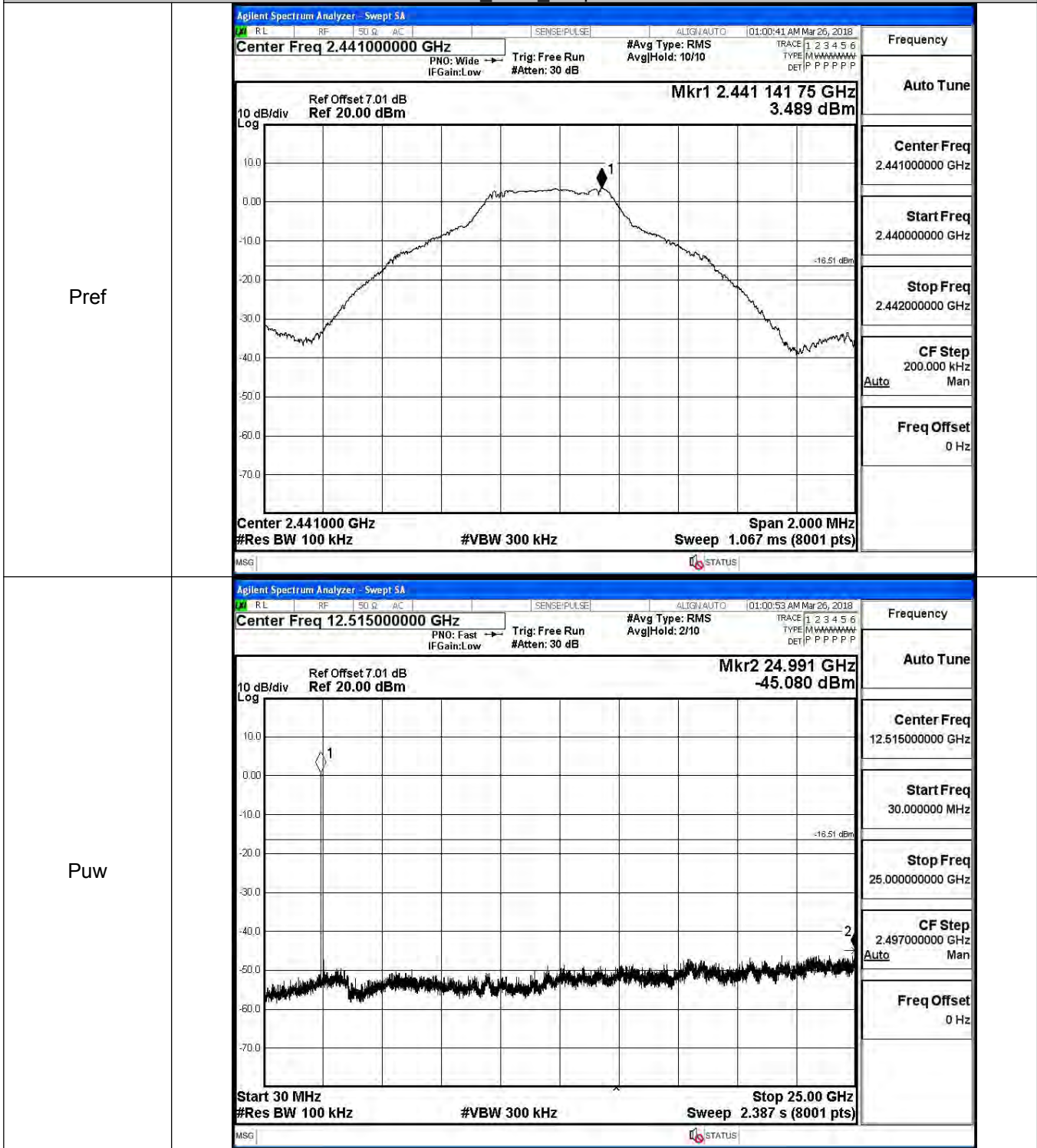


Pref

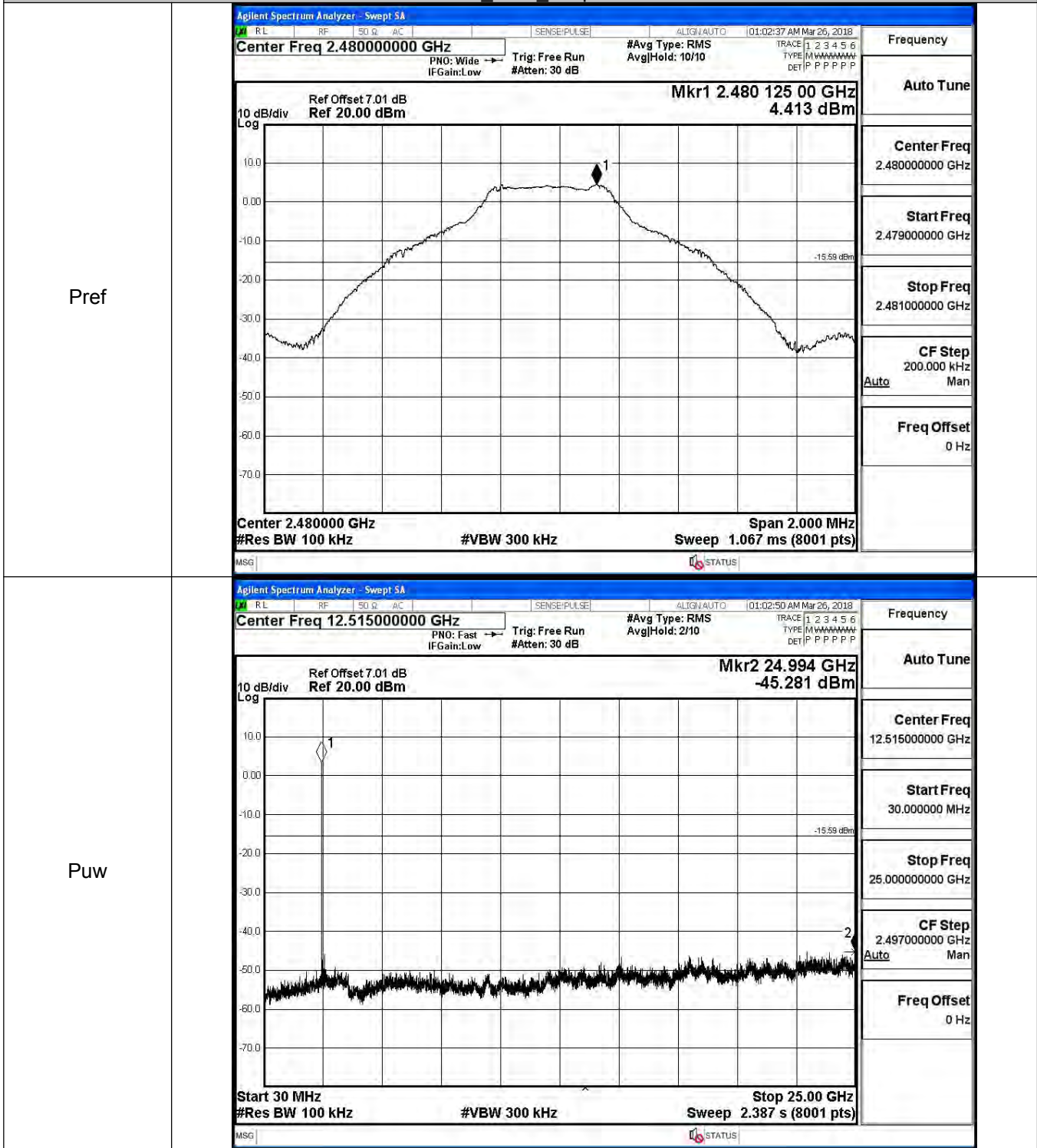




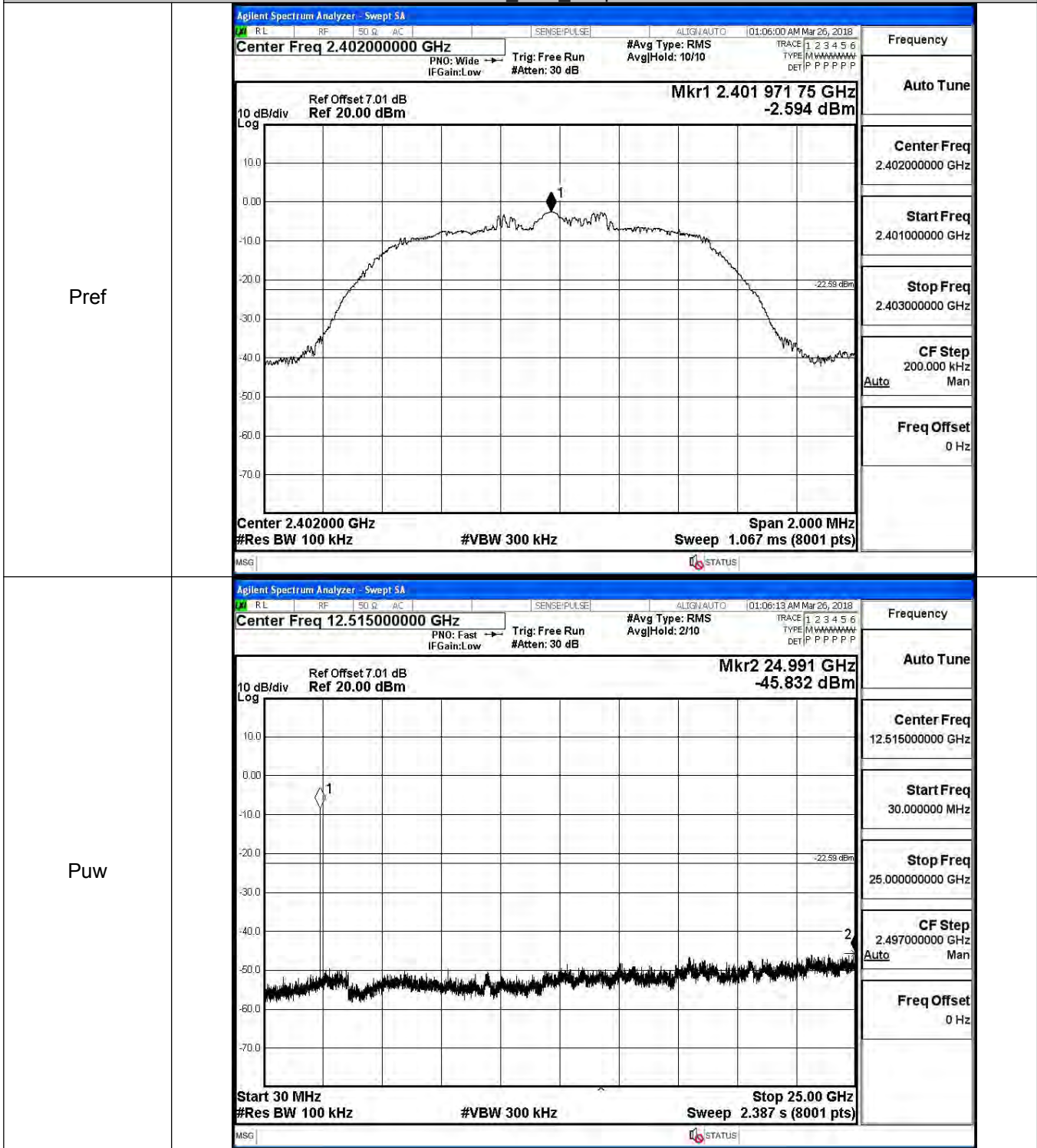
GFSK\_MCH\_Graphs



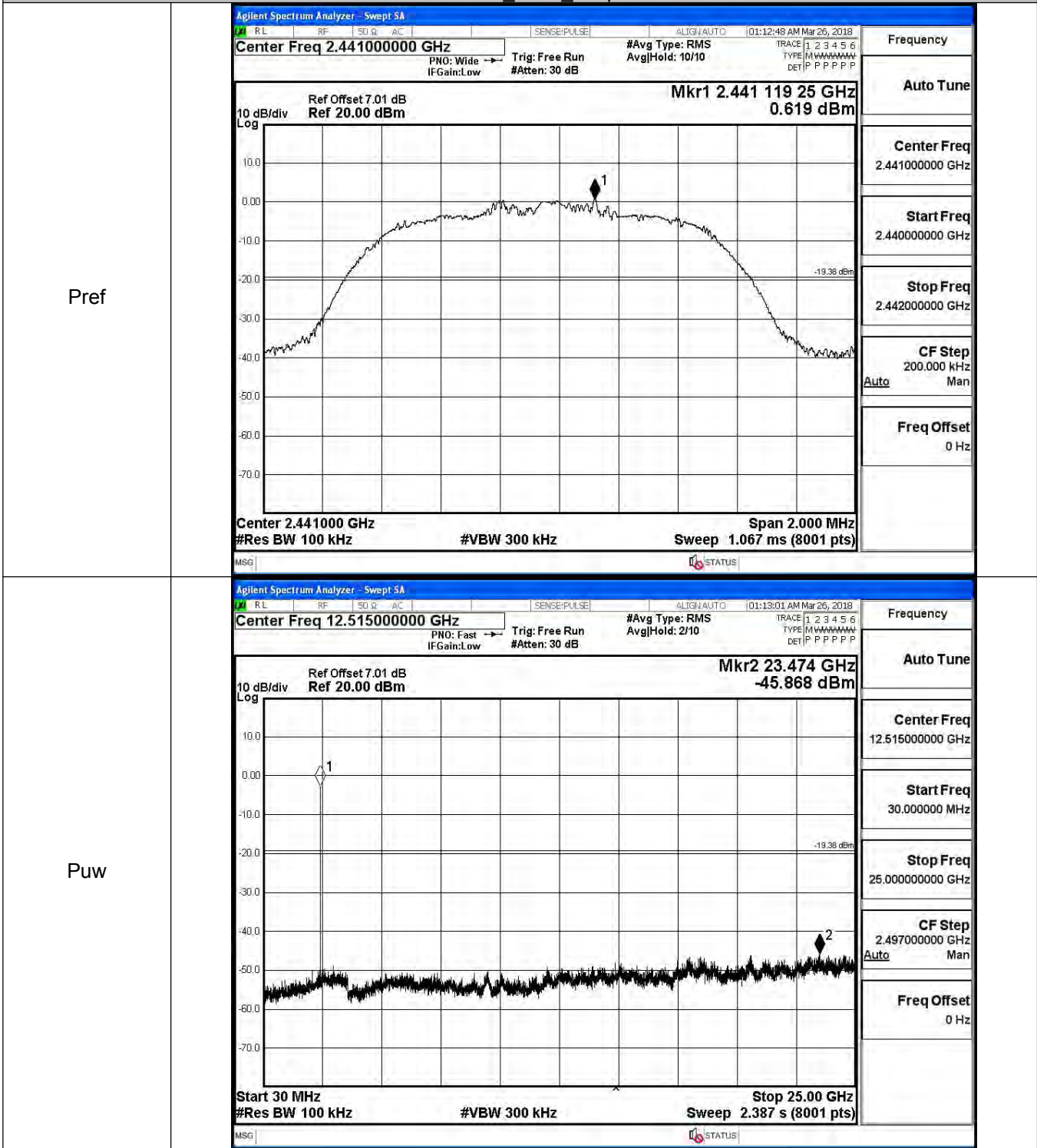
GFSK\_HCH\_Graphs



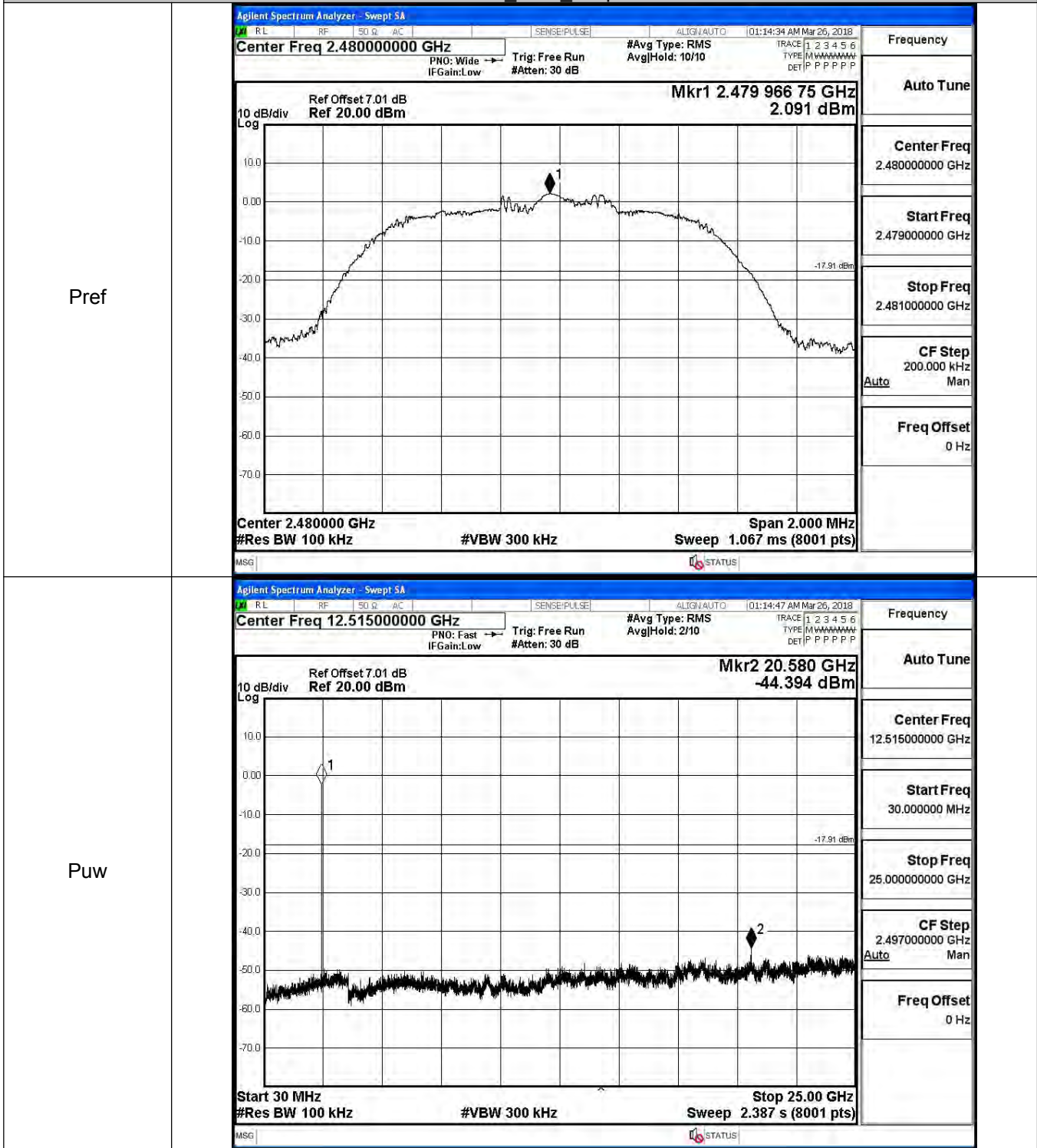
$\pi/4$ DQPSK\_LCH\_Graphs



$\pi/4$ DQPSK\_MCH\_Graphs



$\pi/4$ DQPSK\_HCH\_Graphs

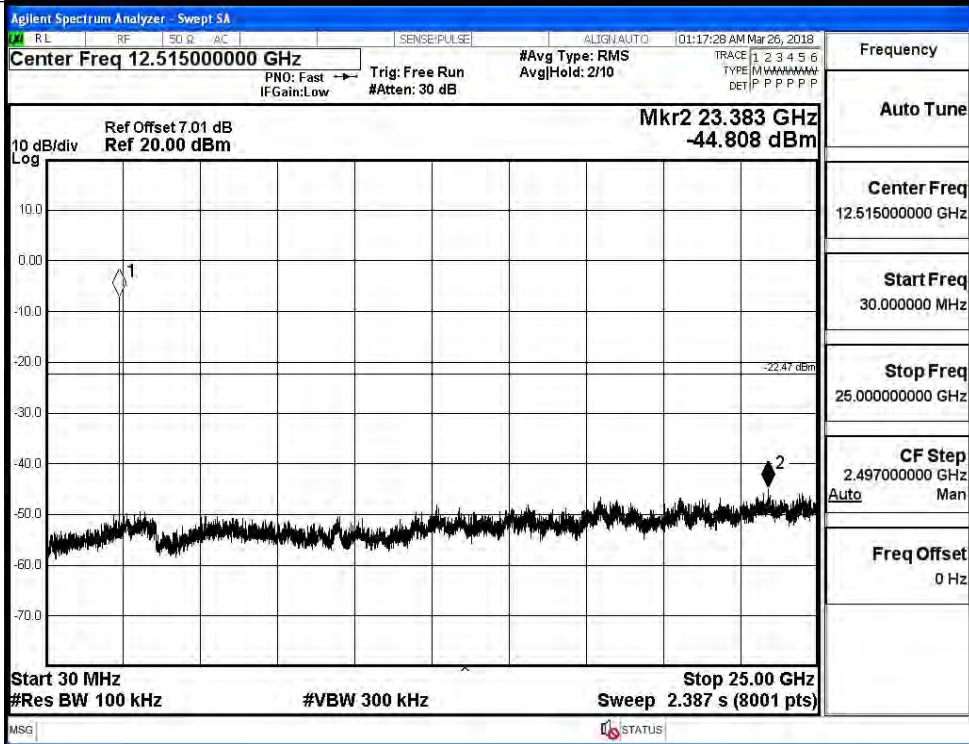


8DPSK\_LCH\_Graphs

Pref

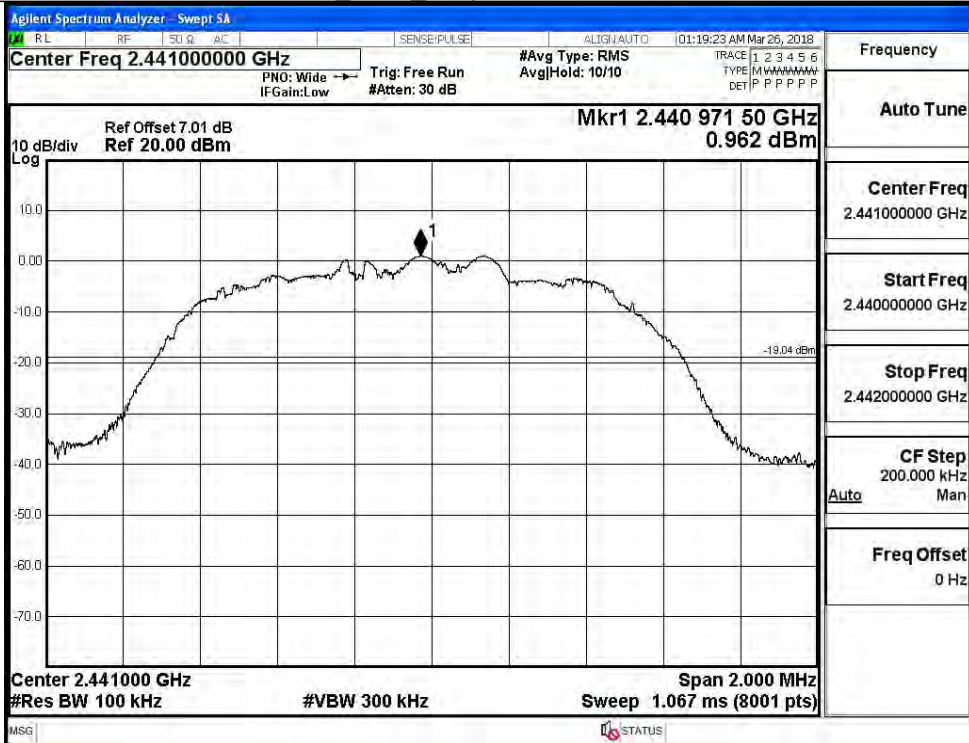


Puw

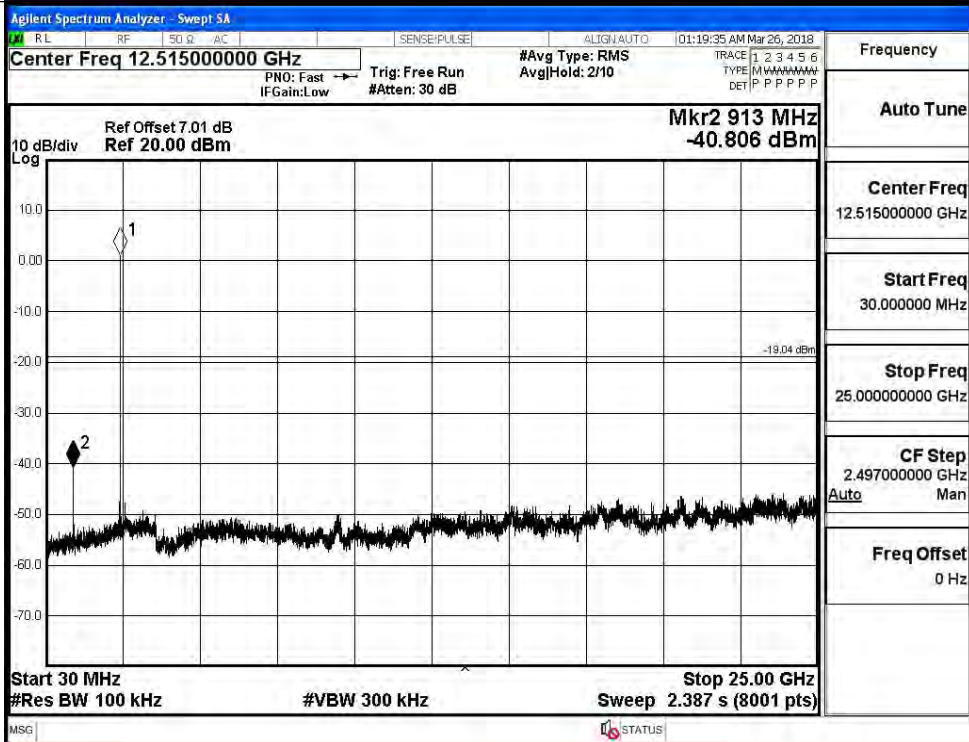


8DPSK\_MCH\_Graphs

Pref



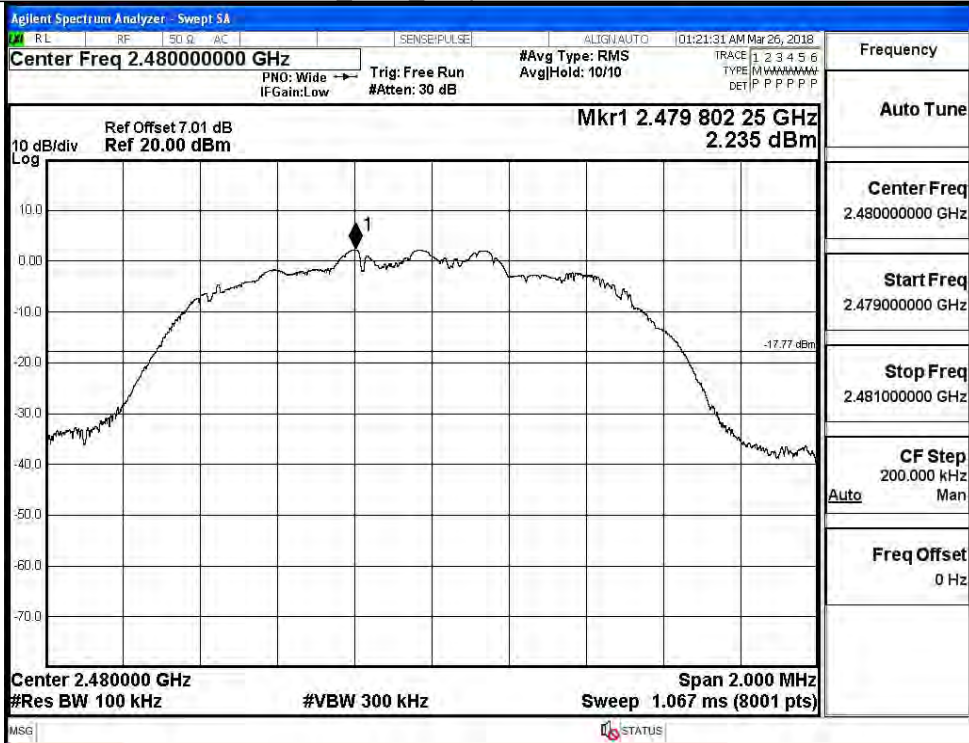
Puw



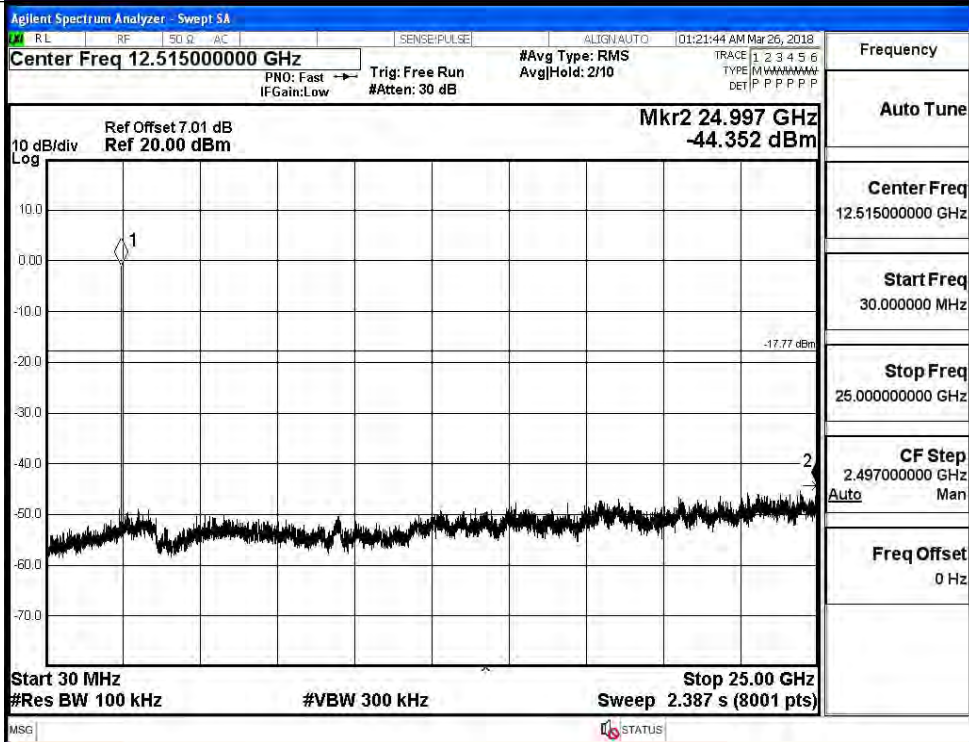


8DPSK\_HCH\_Graphs

Pref



Puw

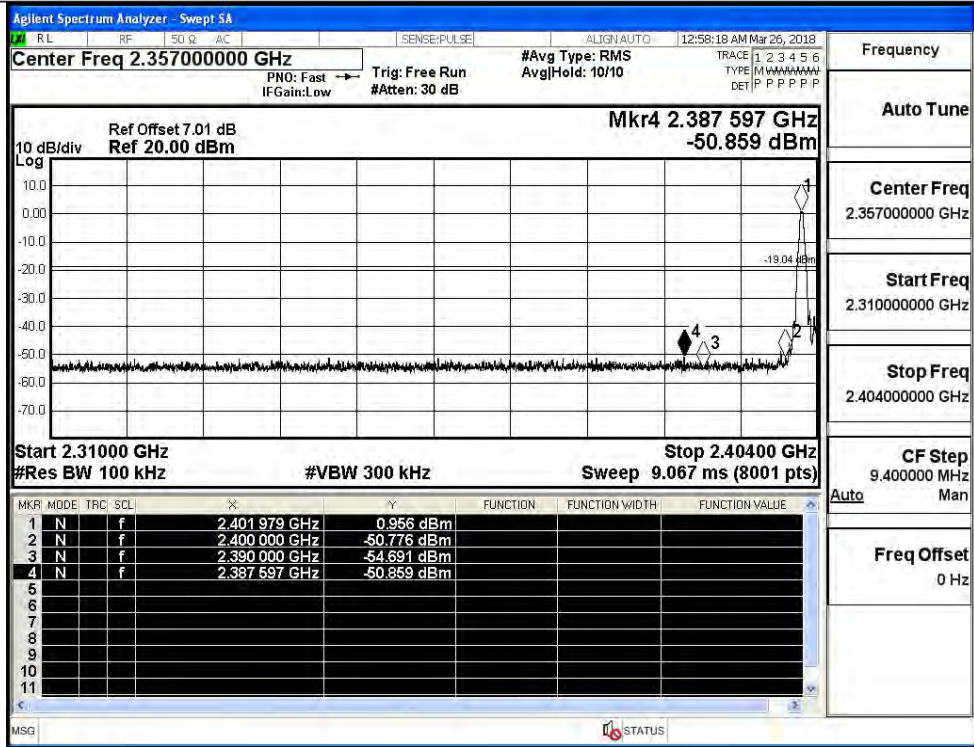


### A.7 Band-edge for RF Conducted Emissions

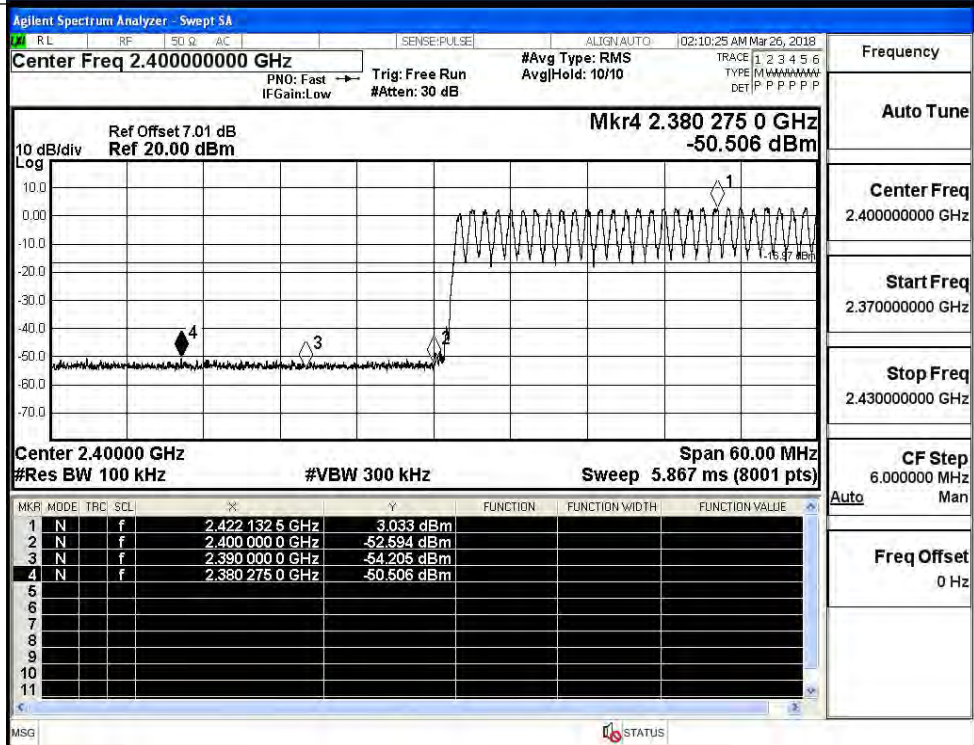
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.956	Off	-50.859	-19.04	PASS
			3.033	On	-50.506	-16.97	PASS
	HCH	2480	4.461	Off	-51.084	-15.54	PASS
			4.343	On	-48.309	-15.66	PASS
$\pi/4$ DQPSK	LCH	2402	-4.549	Off	-51.658	-24.55	PASS
			0.180	On	-50.589	-19.82	PASS
	HCH	2480	2.110	Off	-50.544	-17.89	PASS
			1.961	On	-49.914	-18.04	PASS
8DPSK	LCH	2402	-2.479	Off	-50.432	-22.48	PASS
			0.379	On	-50.091	-19.62	PASS
	HCH	2480	2.264	Off	-50.141	-17.74	PASS
			2.009	On	-50.405	-17.99	PASS

Test Graphs

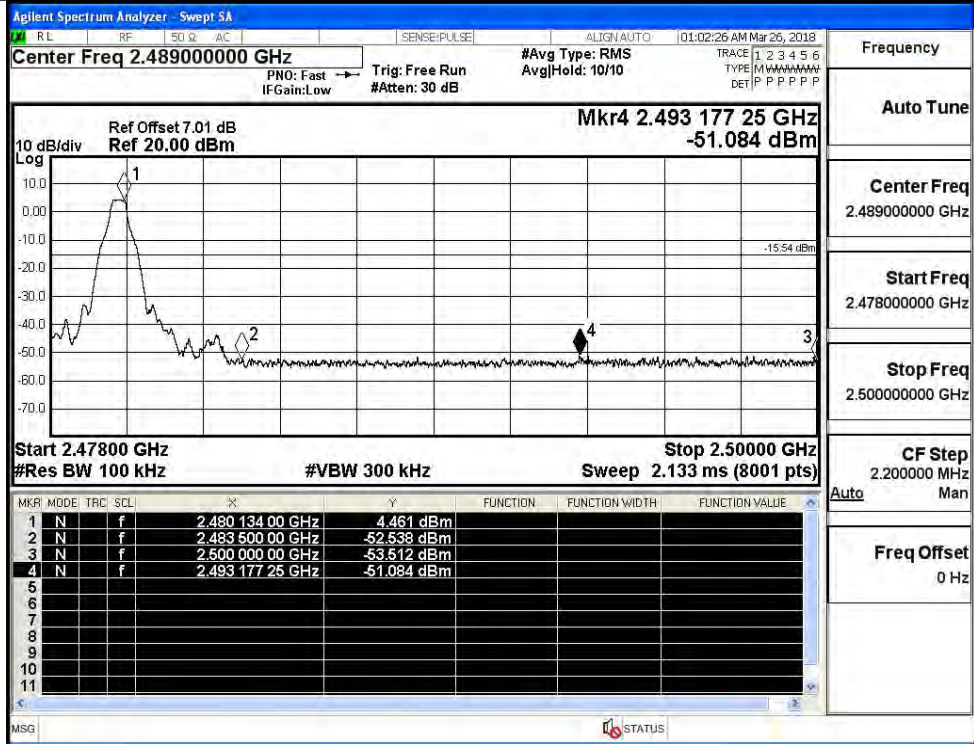
GFSK/LCH/No Hop



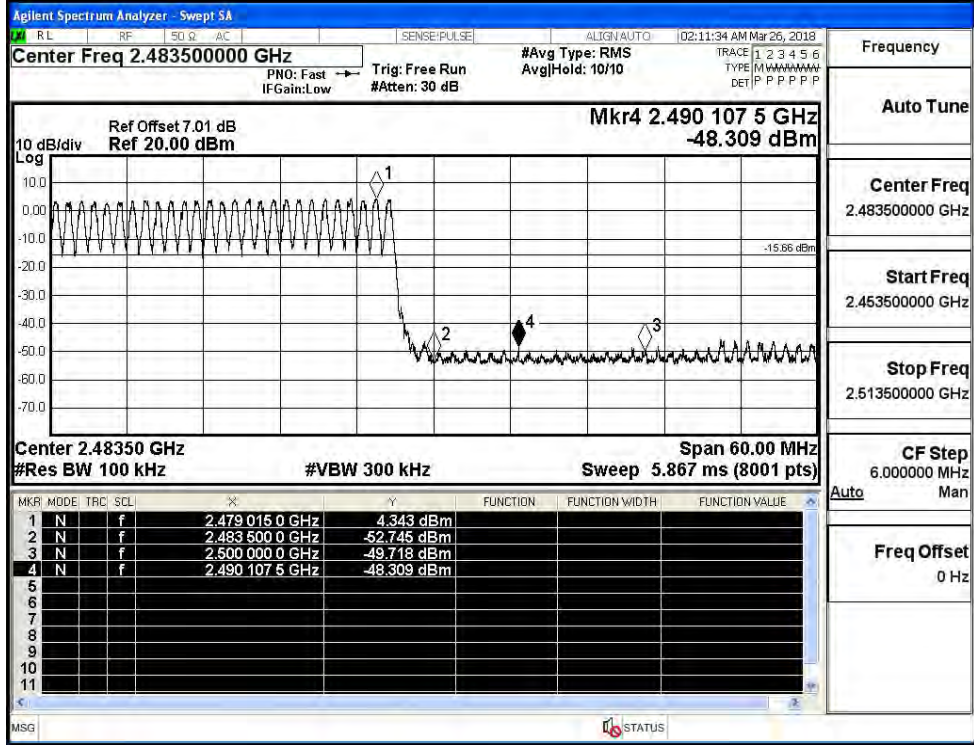
GFSK/LCH/Hop



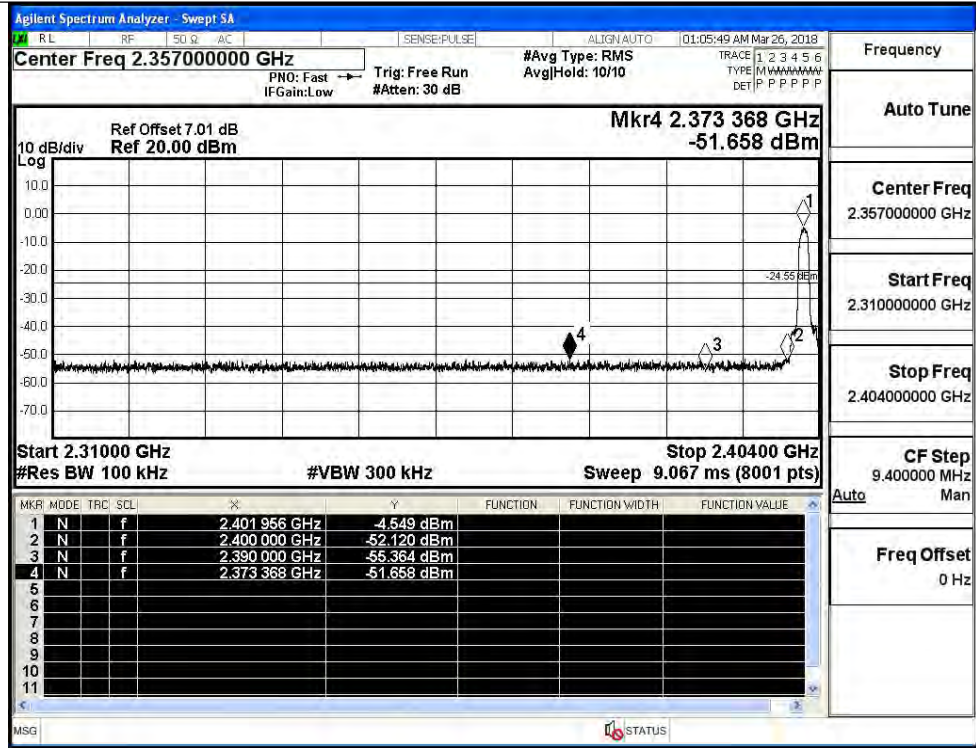
GFSK/HCH/No Hop



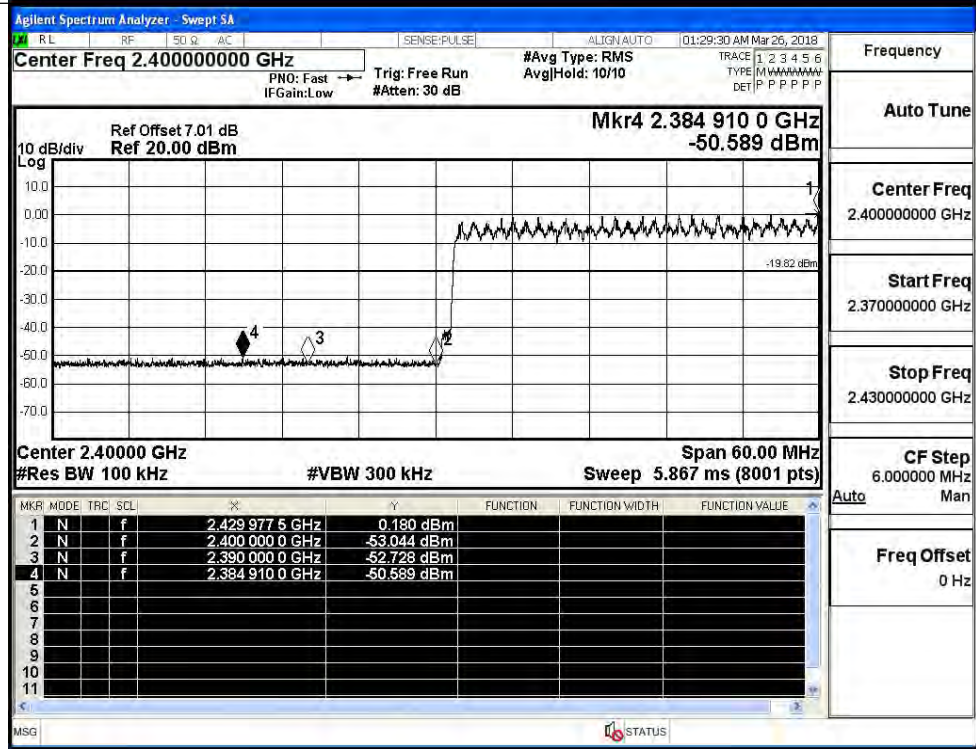
GFSK/HCH/Hop



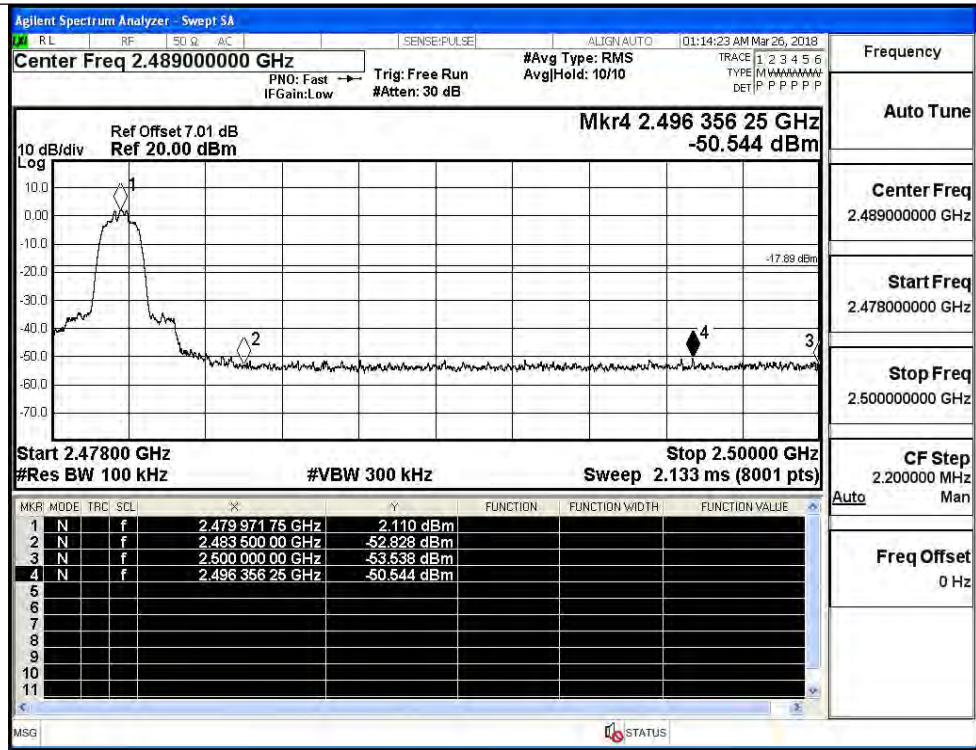
$\pi/4$ DQPSK/LCH/No Hop



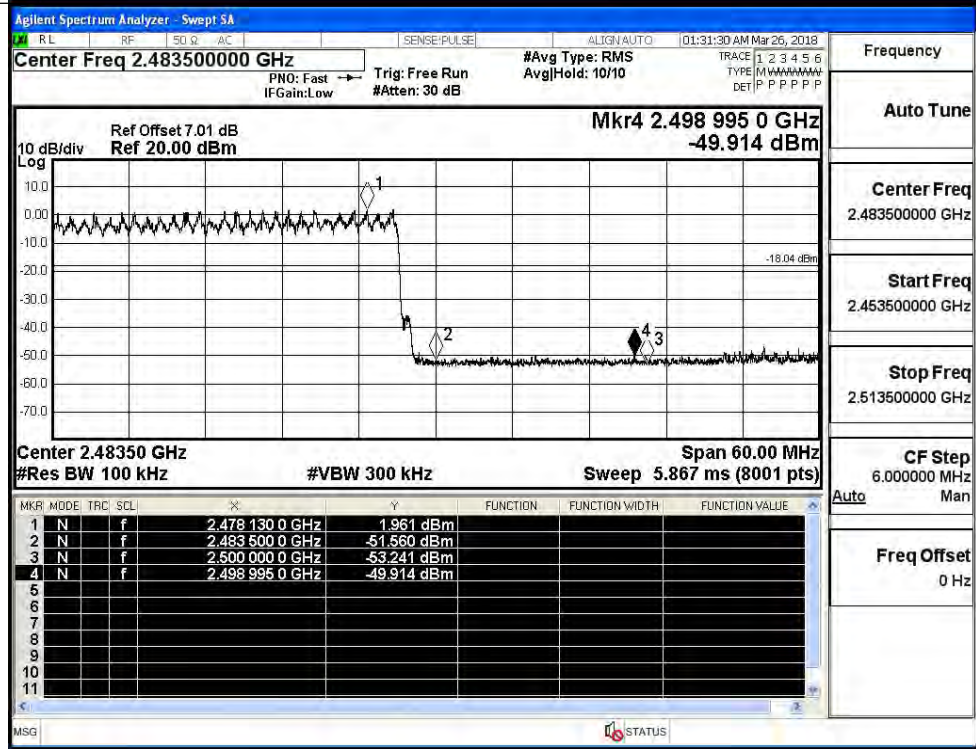
$\pi/4$ DQPSK/LCH/Hop



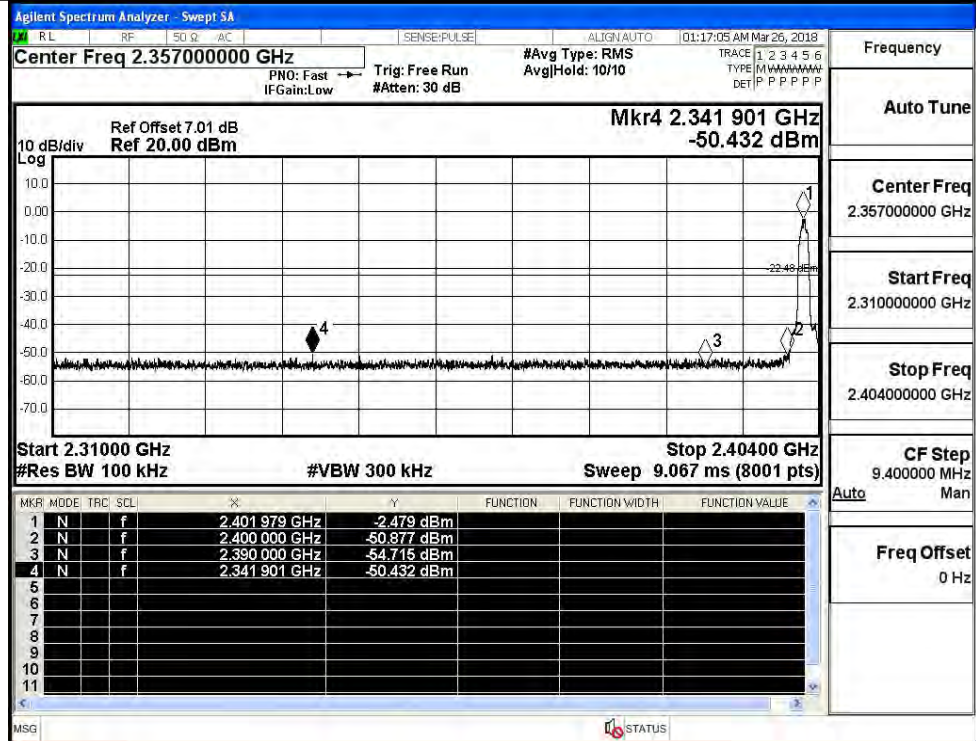
$\pi/4$ DQPSK/HCH/No Hop



$\pi/4$ DQPSK/HCH/Hop

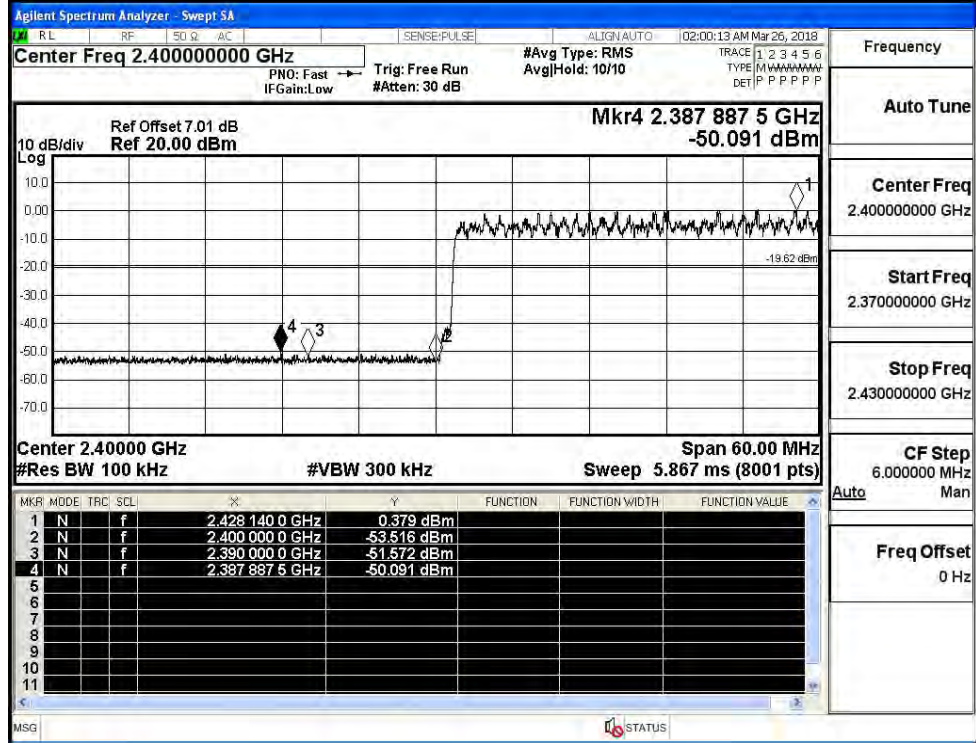


8DPSK/LCH/No Hop



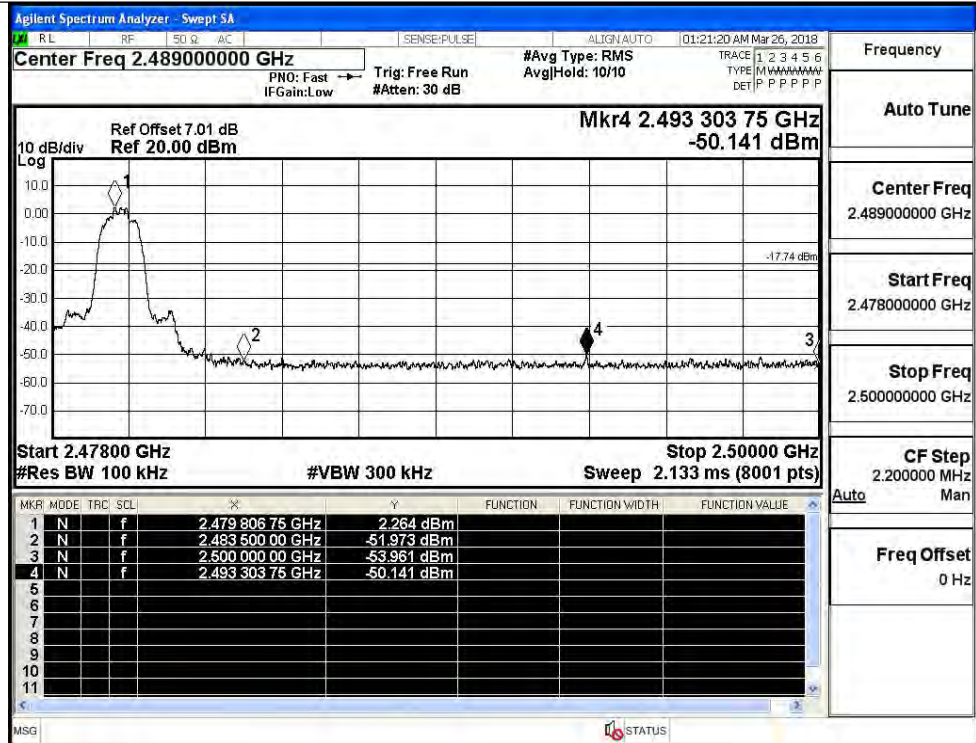
Frequency	
Auto Tune	
Center Freq	2.357000000 GHz
Start Freq	2.310000000 GHz
Stop Freq	2.404000000 GHz
CF Step	9.400000 MHz
Freq Offset	0 Hz

8DPSK/LCH/Hop



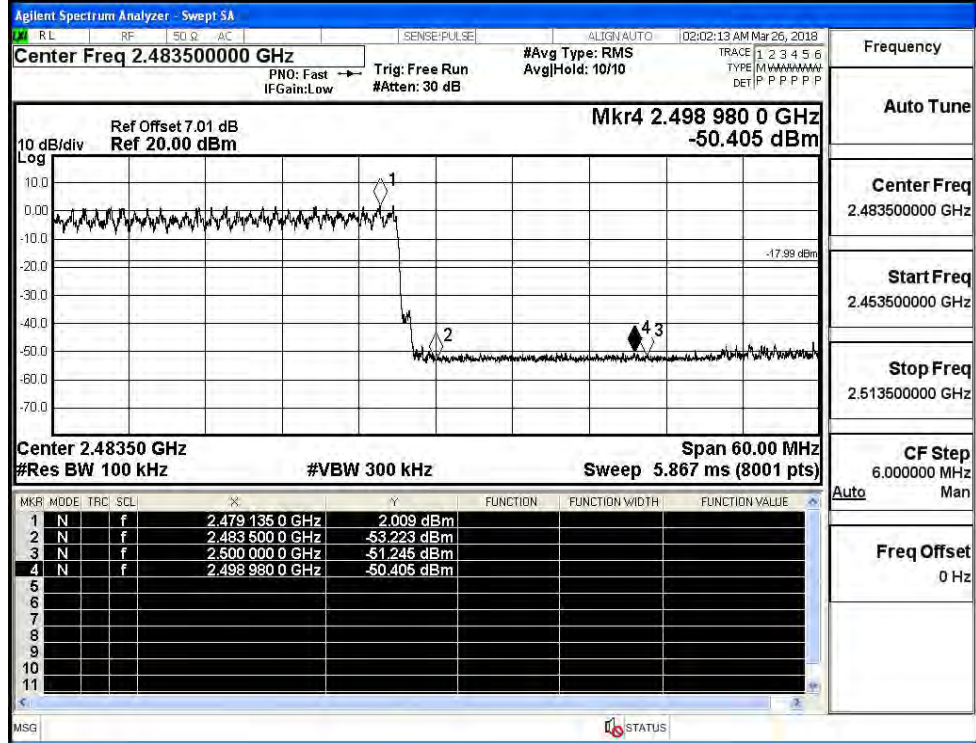
Frequency	
Auto Tune	
Center Freq	2.400000000 GHz
Start Freq	2.370000000 GHz
Stop Freq	2.430000000 GHz
CF Step	6.000000 MHz
Freq Offset	0 Hz

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



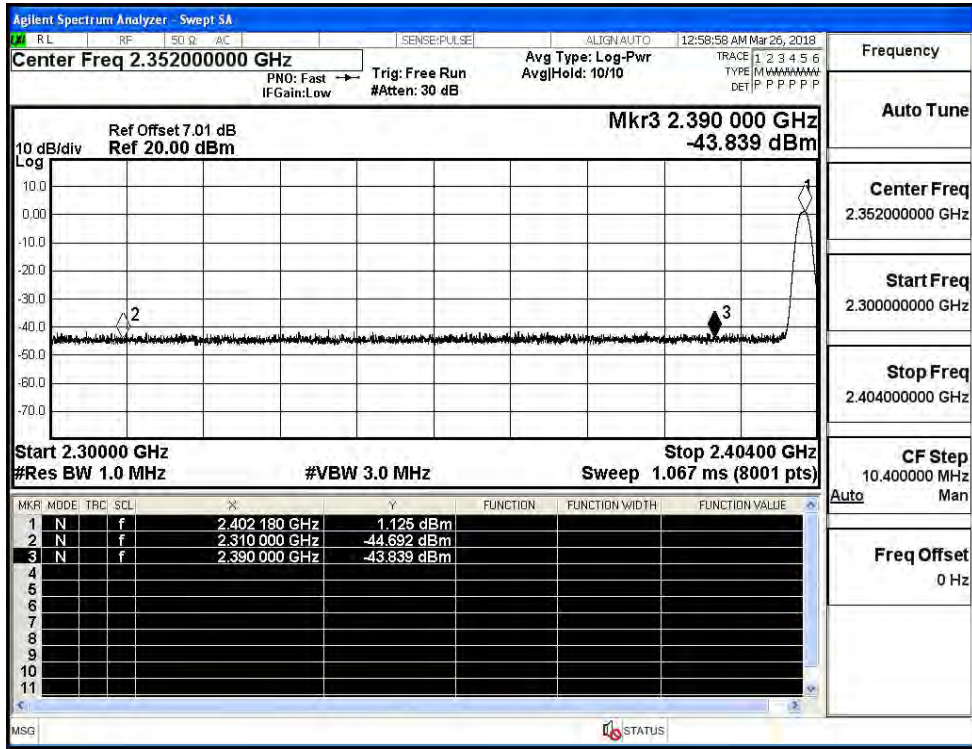
Frequency
Auto Tune
Center Freq 2.483500000 GHz
Start Freq 2.463500000 GHz
Stop Freq 2.513500000 GHz
CF Step 6.000000 MHz
Freq Offset 0 Hz



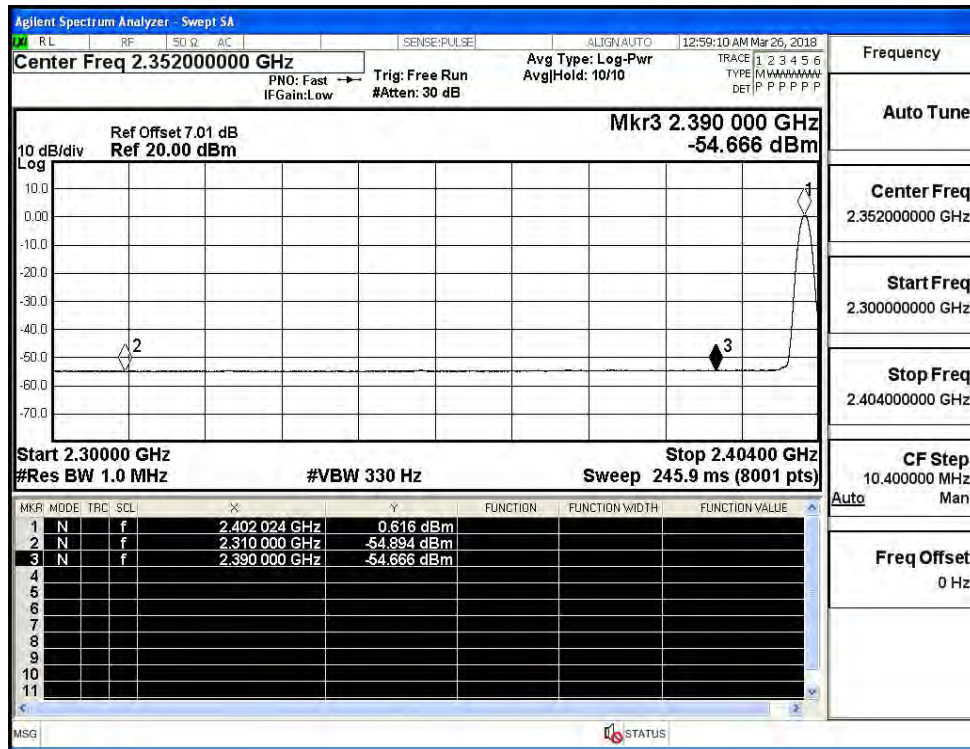
### A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-44.69	2.0	0	52.57	PEAK	74	PASS
	Off	2310.0	-54.89	2.0	0	42.37	AV	54	PASS
	Off	2390.0	-43.84	2.0	0	53.42	PEAK	74	PASS
	Off	2390.0	-54.67	2.0	0	42.59	AV	54	PASS
	Off	2483.5	-41.07	2.0	0	56.19	PEAK	74	PASS
	Off	2483.5	-52.33	2.0	0	44.93	AV	54	PASS
	Off	2500.0	-43.53	2.0	0	53.73	PEAK	74	PASS
	Off	2500.0	-54.22	2.0	0	43.04	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-44.16	2.0	0	53.1	PEAK	74	PASS
	Off	2310.0	-54.83	2.0	0	42.43	AV	54	PASS
	Off	2390.0	-44.50	2.0	0	52.76	PEAK	74	PASS
	Off	2390.0	-54.63	2.0	0	42.63	AV	54	PASS
	Off	2483.5	-42.09	2.0	0	55.17	PEAK	74	PASS
	Off	2483.5	-53.60	2.0	0	43.66	AV	54	PASS
	Off	2500.0	-43.50	2.0	0	53.76	PEAK	74	PASS
	Off	2500.0	-54.20	2.0	0	43.06	AV	54	PASS
8DPSK	Off	2310.0	-44.20	2.0	0	53.06	PEAK	74	PASS
	Off	2310.0	-54.90	2.0	0	42.36	AV	54	PASS
	Off	2390.0	-43.93	2.0	0	53.33	PEAK	74	PASS
	Off	2390.0	-54.55	2.0	0	42.71	AV	54	PASS
	Off	2483.5	-43.85	2.0	0	53.41	PEAK	74	PASS
	Off	2483.5	-53.55	2.0	0	43.71	AV	54	PASS
	Off	2500.0	-44.39	2.0	0	52.87	PEAK	74	PASS
	Off	2500.0	-54.16	2.0	0	43.1	AV	54	PASS

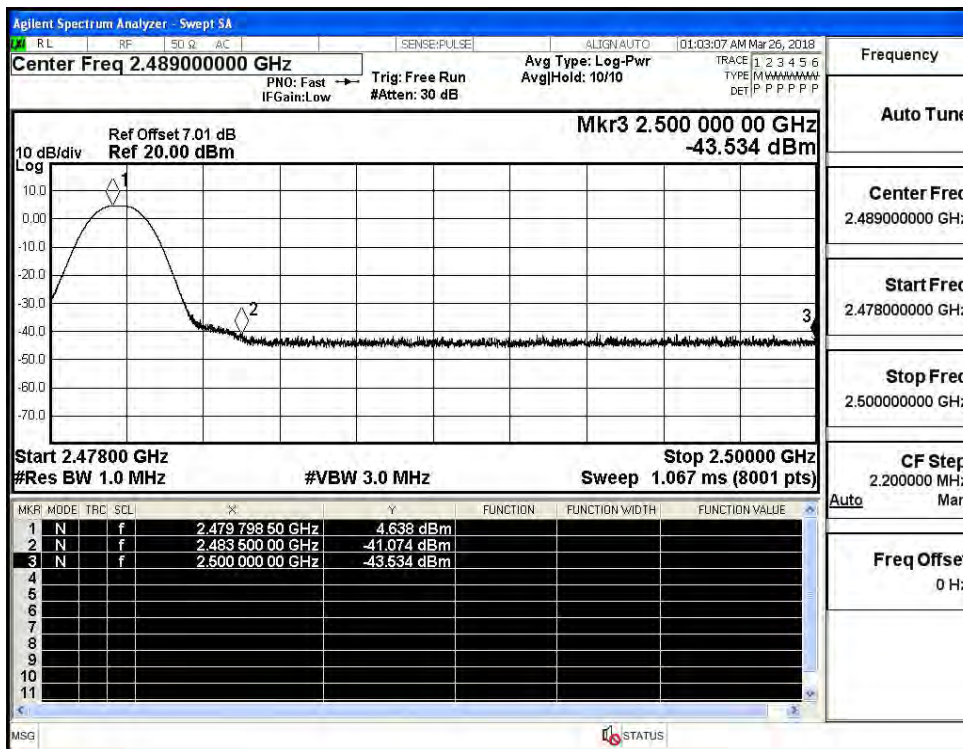
Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (Low Channel)



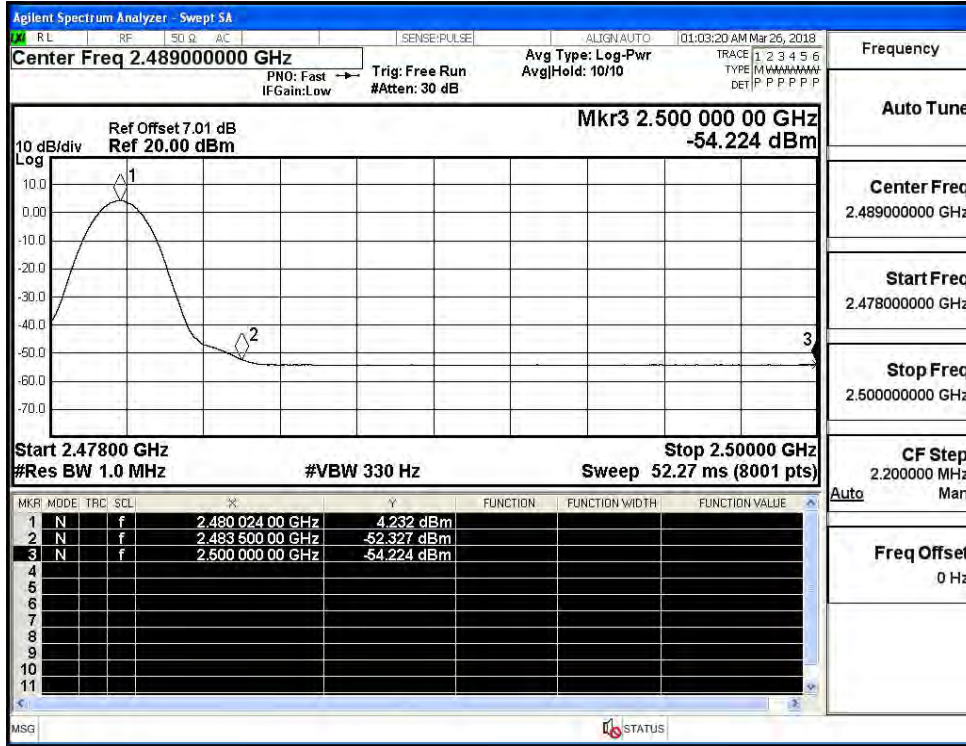
Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (Low Channel)



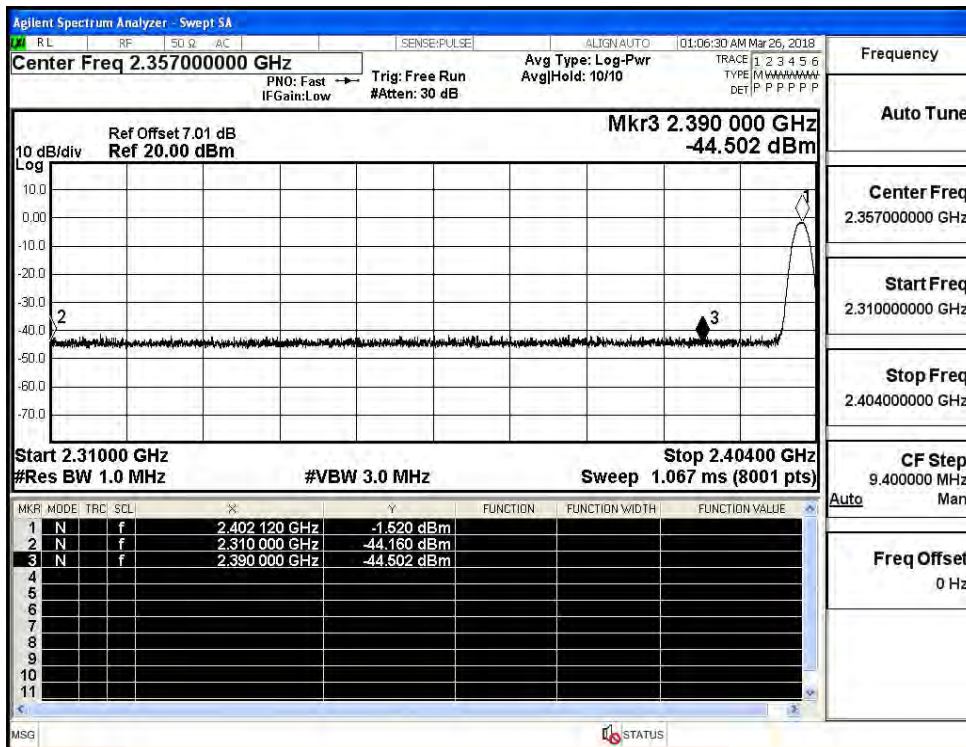
Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (High Channel)



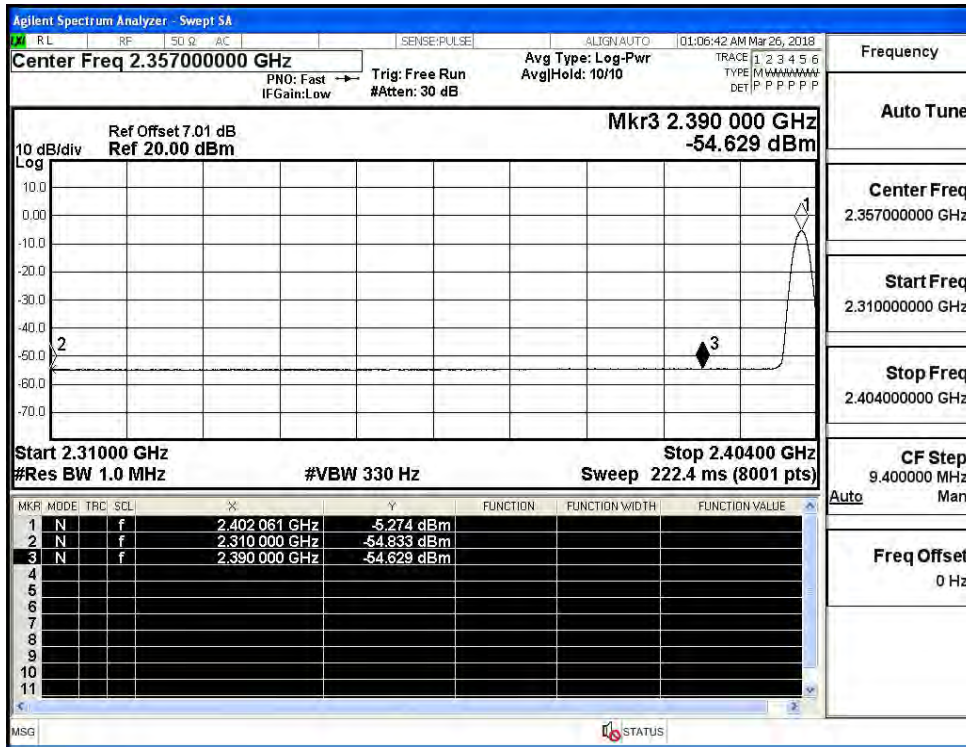
Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (High Channel)



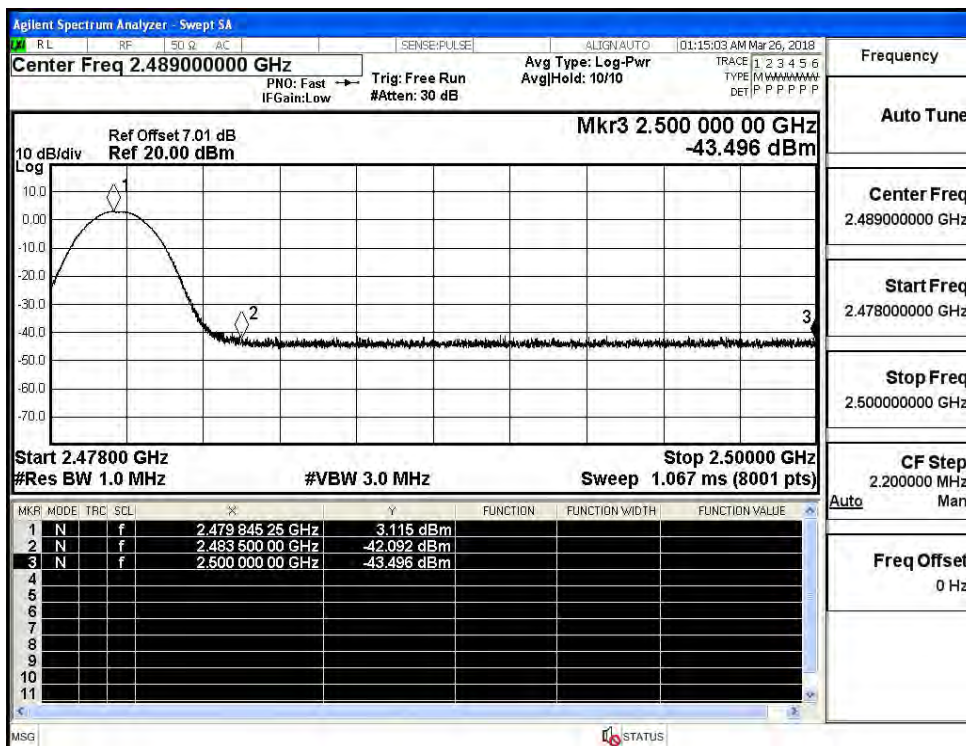
Restrict-band band-edge measurements\_Hopping Off  $\pi/4$ -DQPSK\_PEAK (Low Channel)



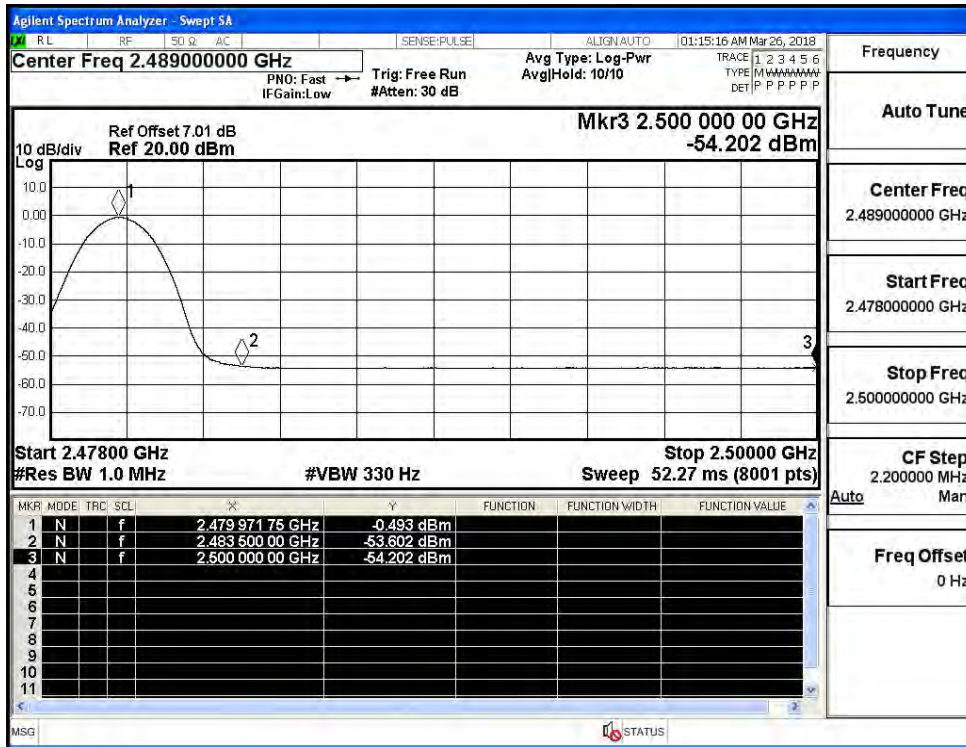
Restrict-band band-edge measurements\_Hopping Off  $\pi/4$ -DQPSK\_Average (Low Channel)



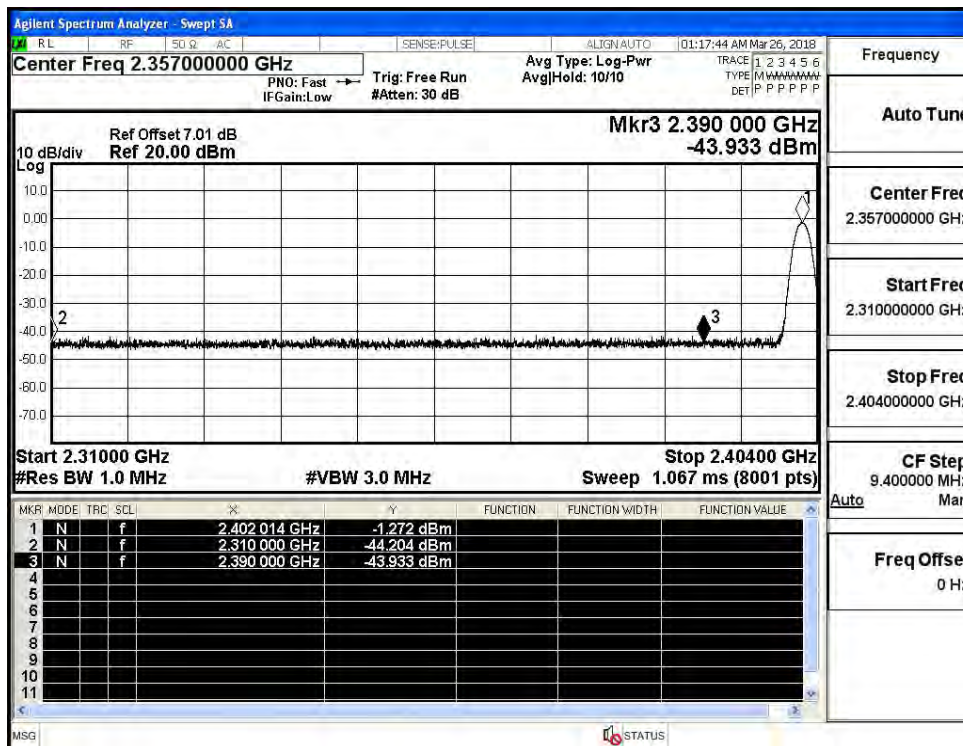
Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_PEAK (High Channel)



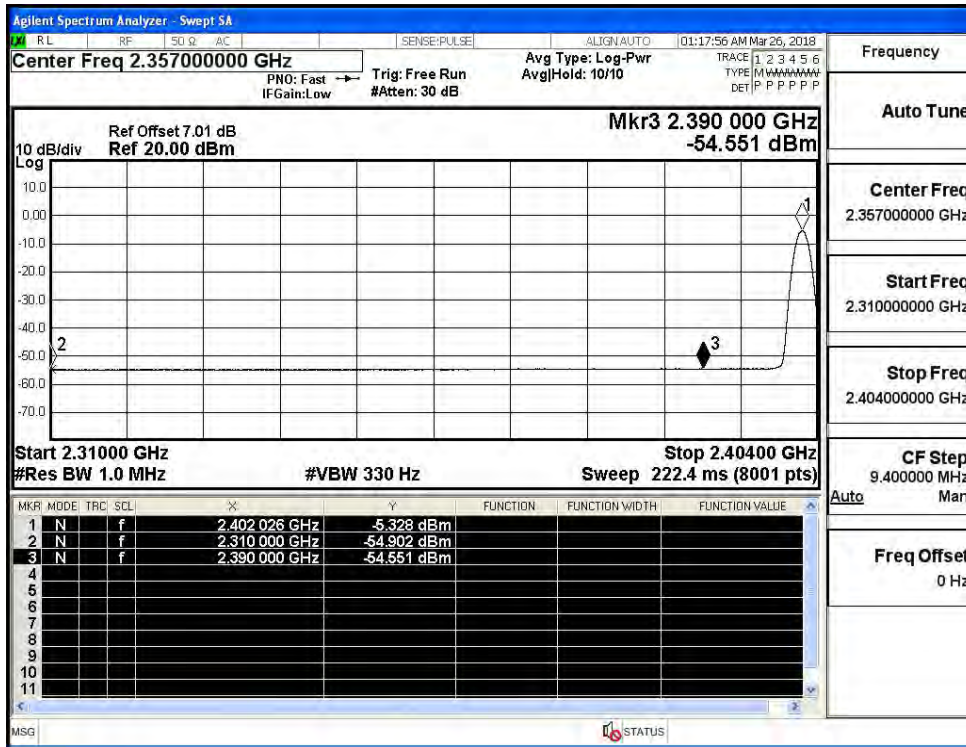
Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_Average (High Channel)



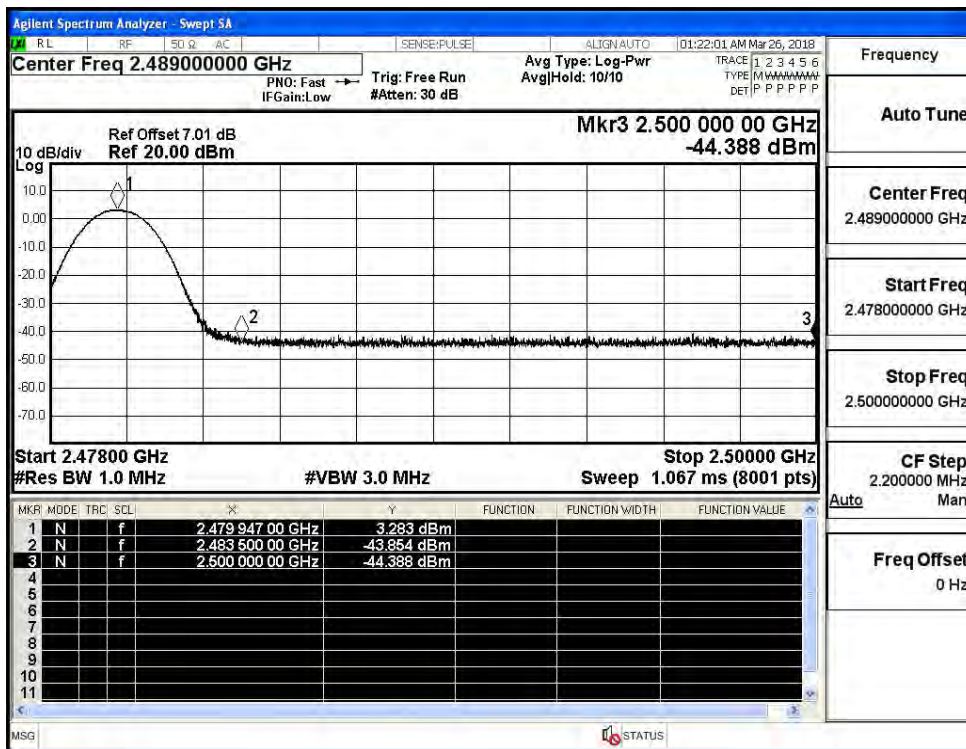
Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_PEAK (Low Channel)



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)

