

## Appendix A

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

Product Name: Bluetooth Sport Headset

Trade Mark: AWEI

Test Model: N1

#### Environmental Conditions

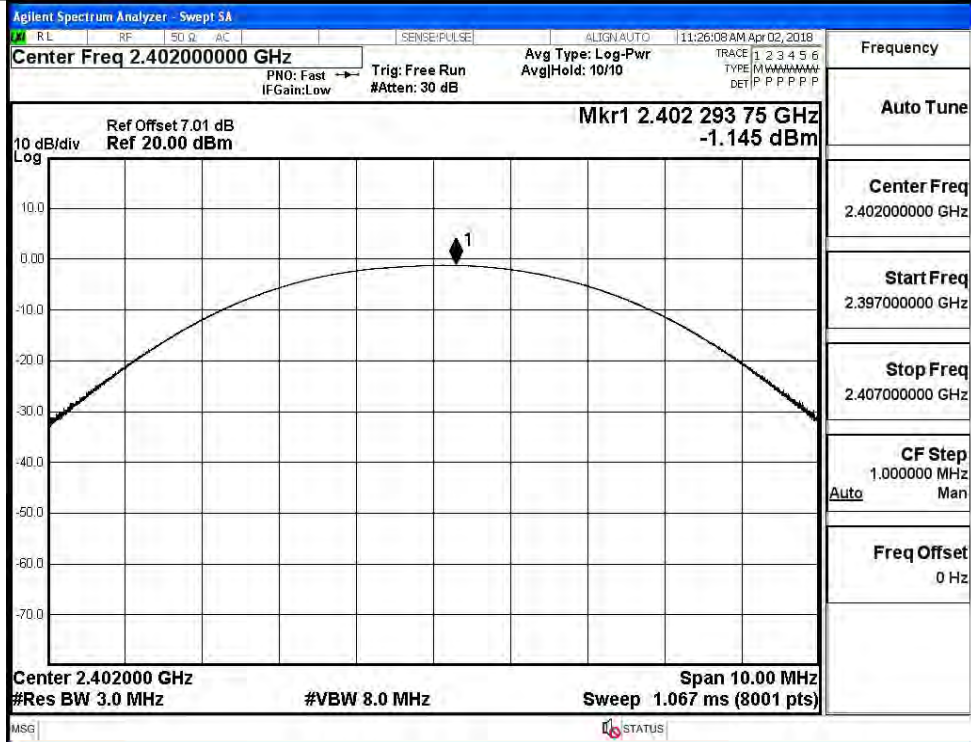
Temperature:	22.3 ° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Jayden.Zhuo
Supervised by:	Dick.Su

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

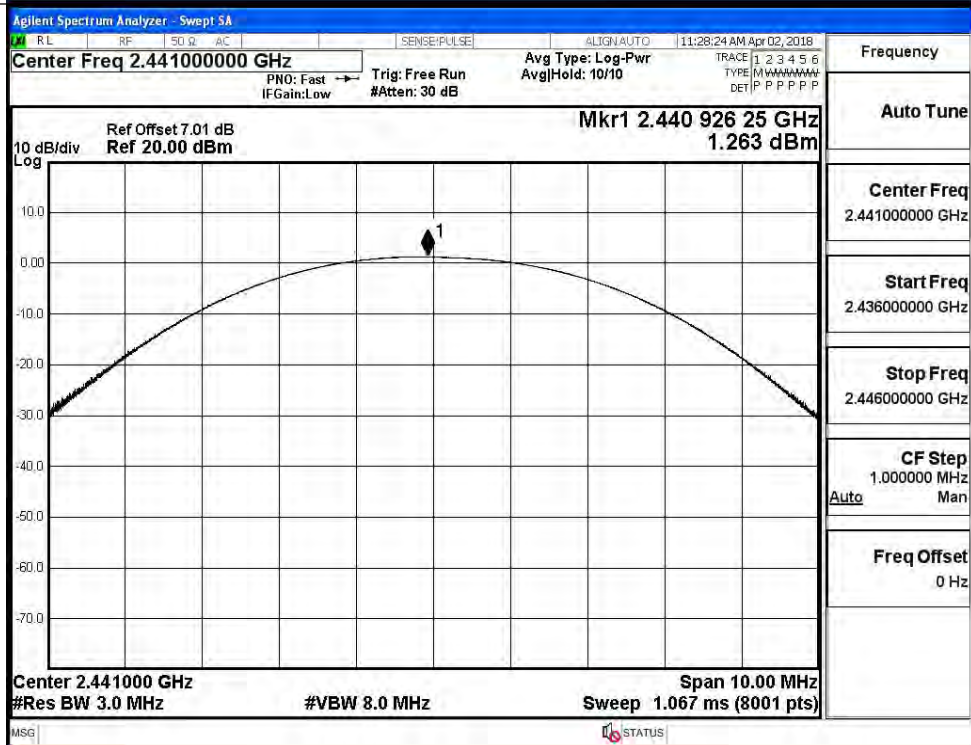
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-1.145	30	PASS
	MCH	1.263	30	PASS
	HCH	1.784	30	PASS
$\pi/4$ DQPSK	LCH	-3.397	21	PASS
	MCH	-0.599	21	PASS
	HCH	0.095	21	PASS
8DPSK	LCH	-3.128	21	PASS
	MCH	-0.235	21	PASS
	HCH	0.479	21	PASS

Test Graphs

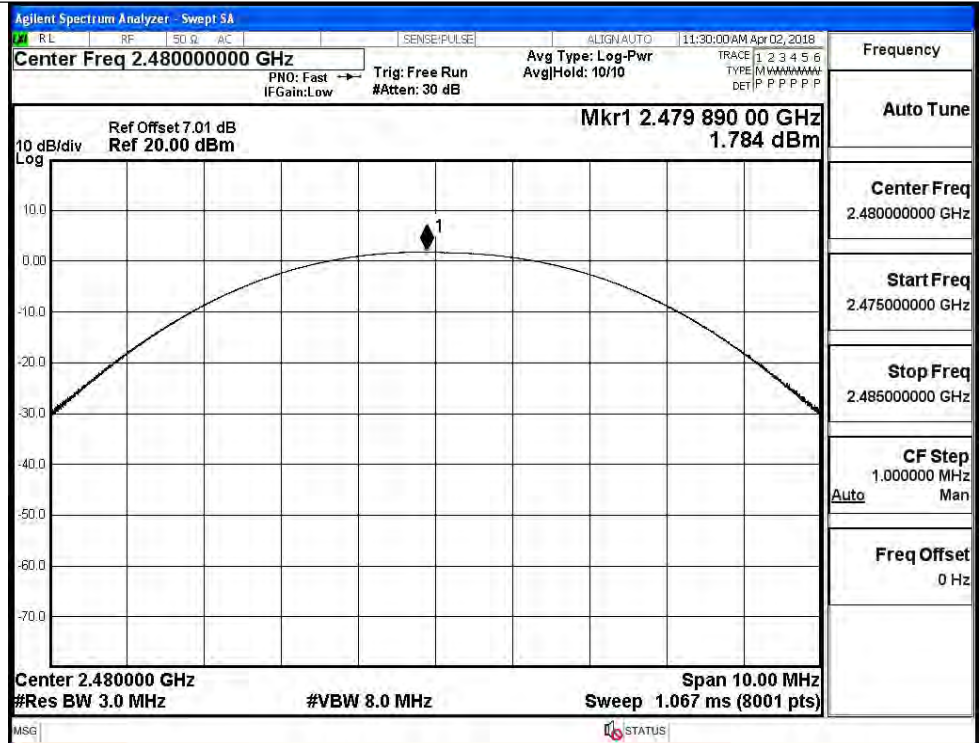
GFSK/LCH



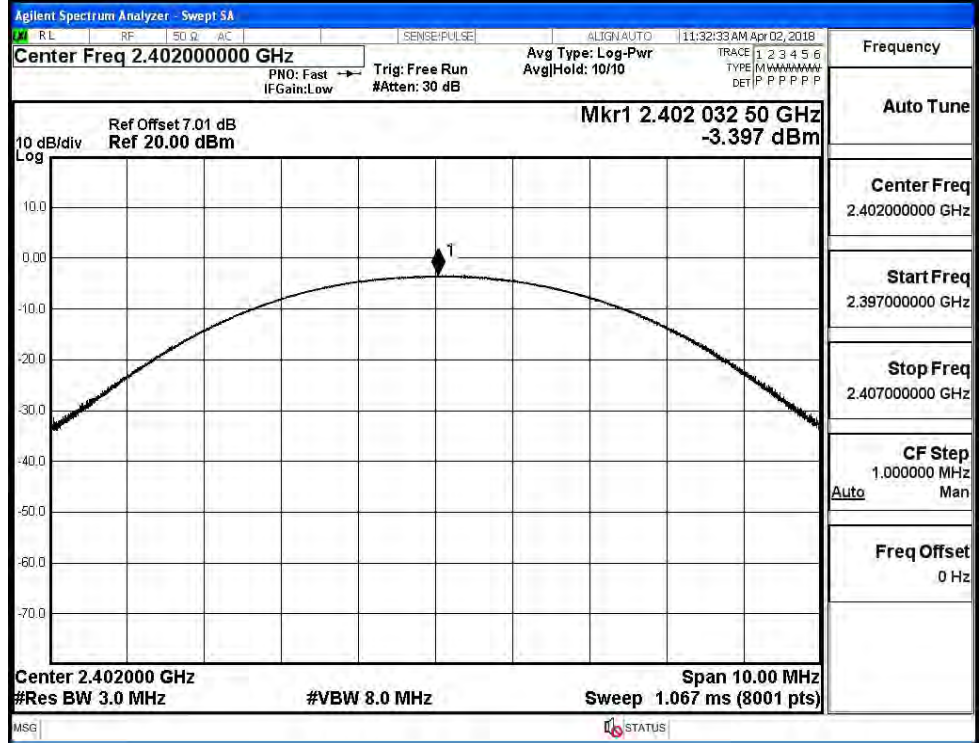
GFSK/MCH



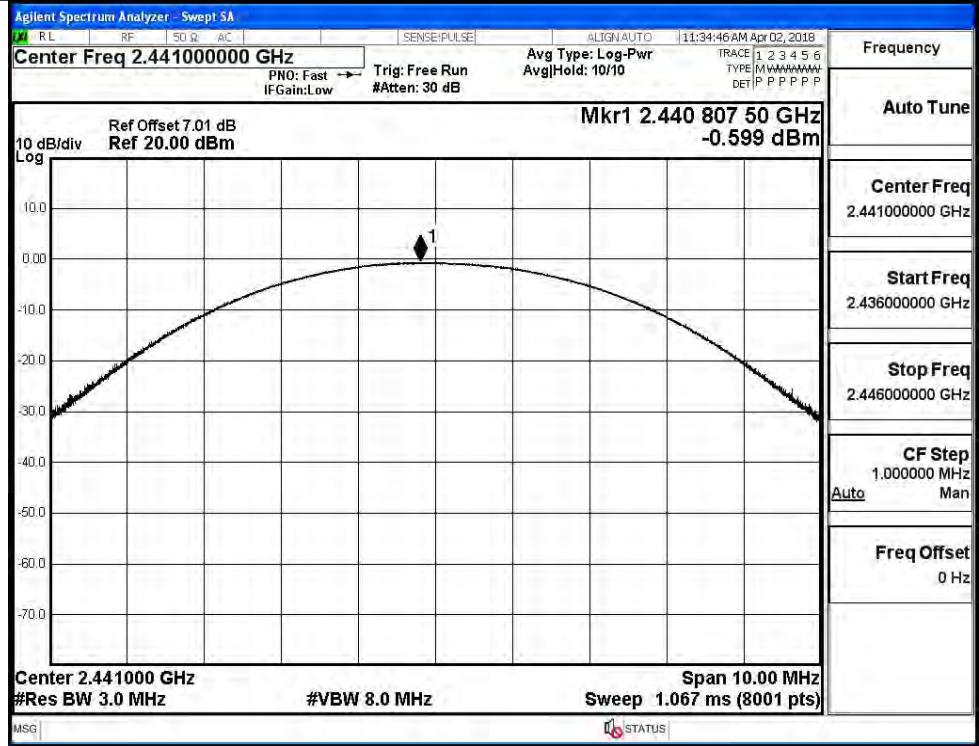
GFSK/HCH



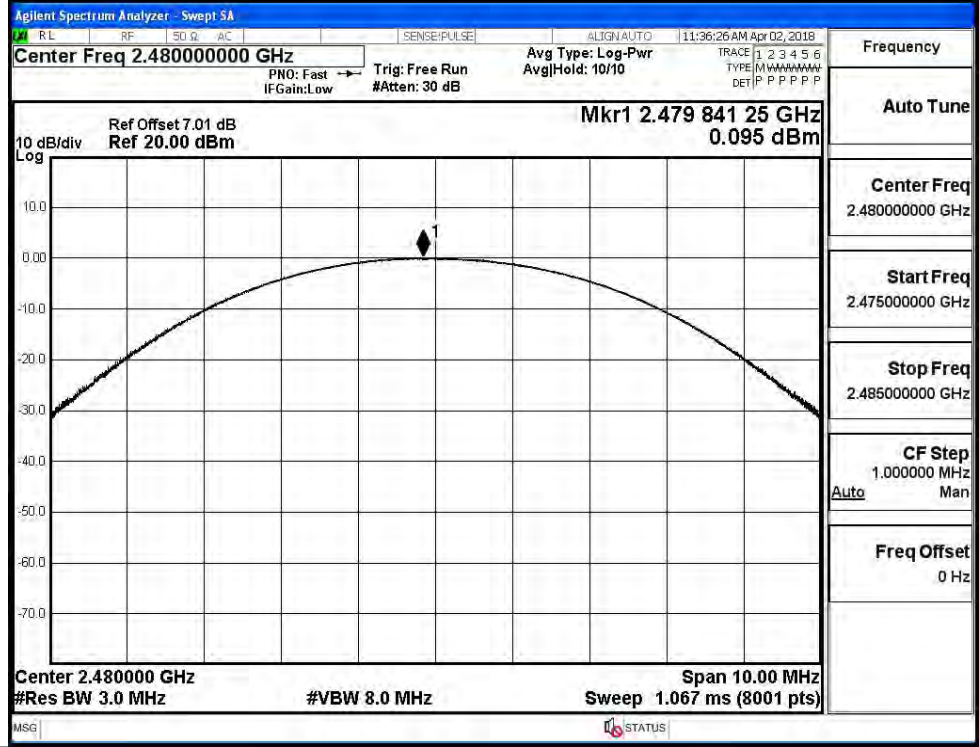
$\pi/4$ DQPSK/LCH



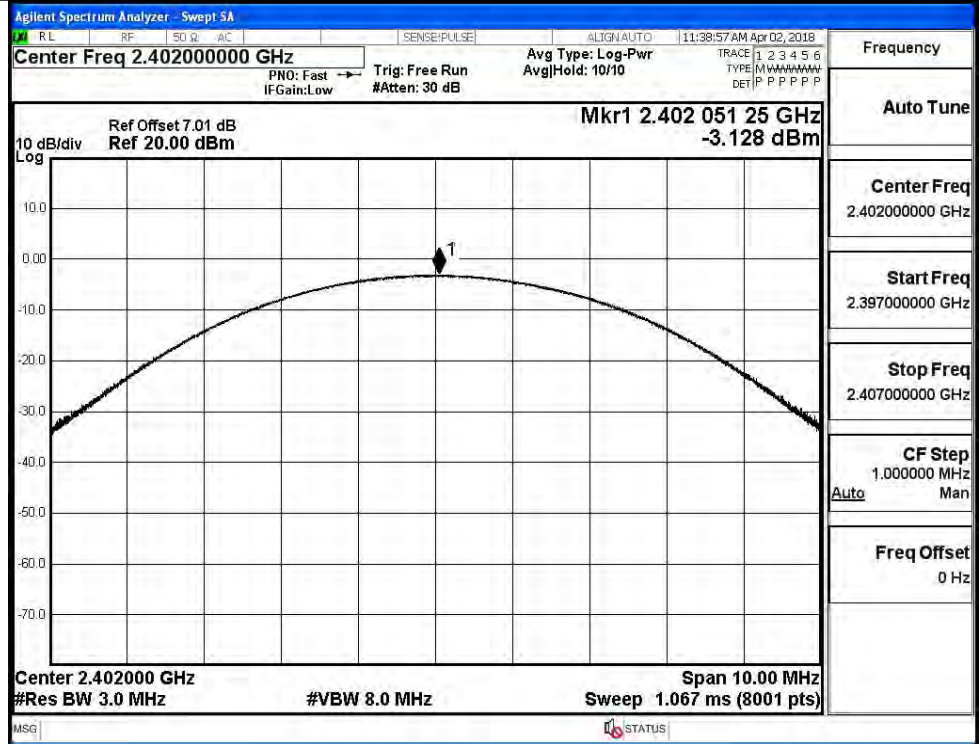
$\pi$ /4DQPSK/MCH



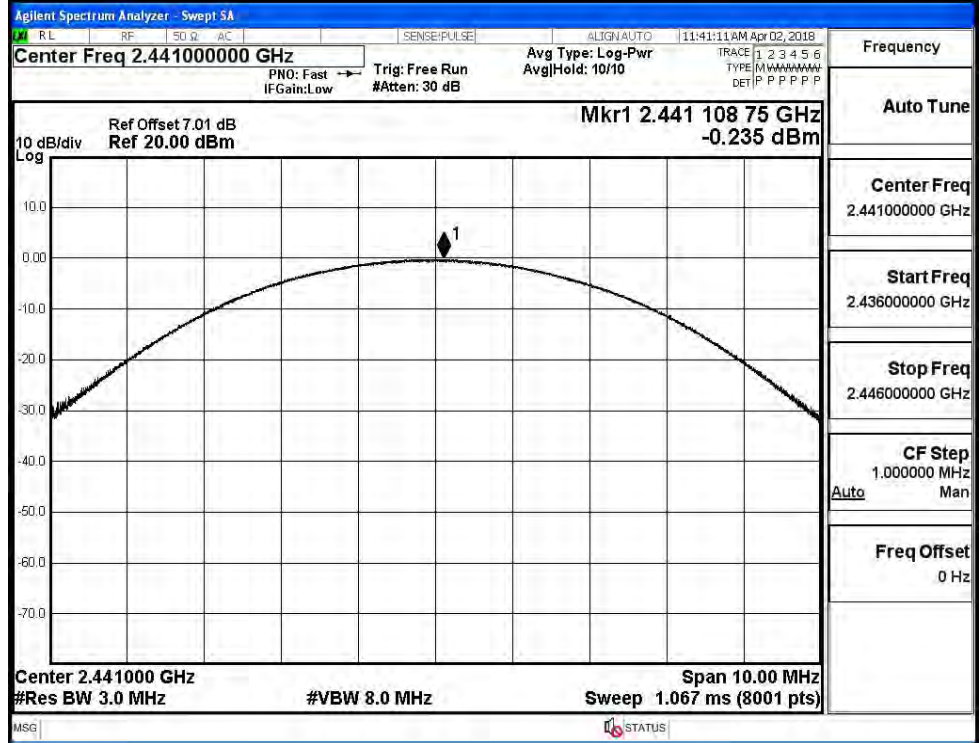
$\pi$ /4DQPSK/HCH



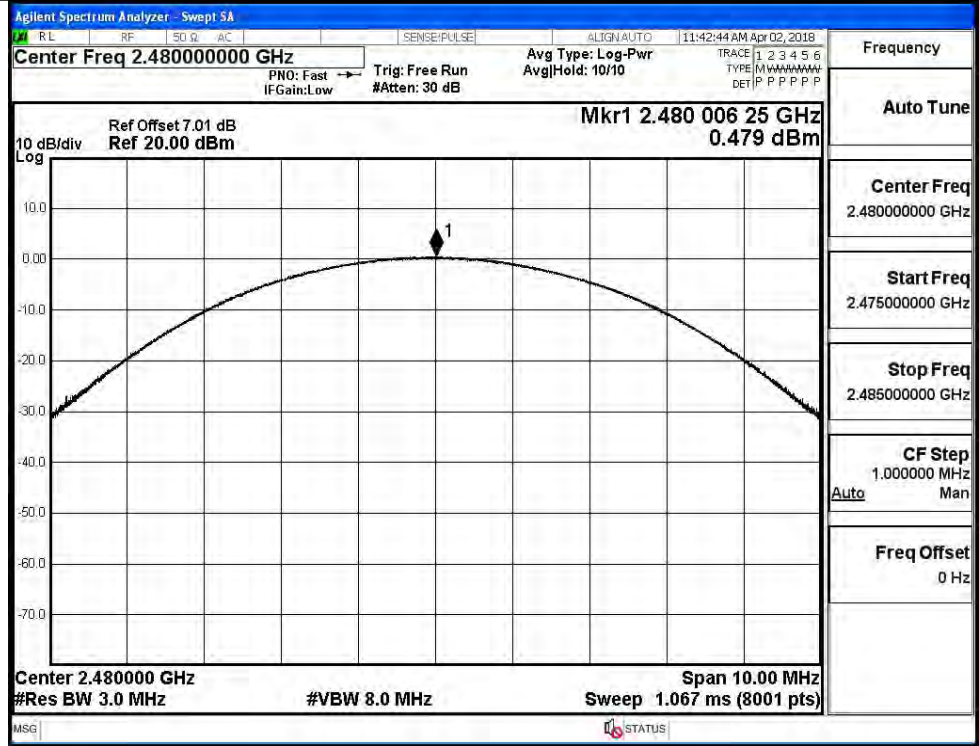
8DPSK/LCH



8DPSK/MCH

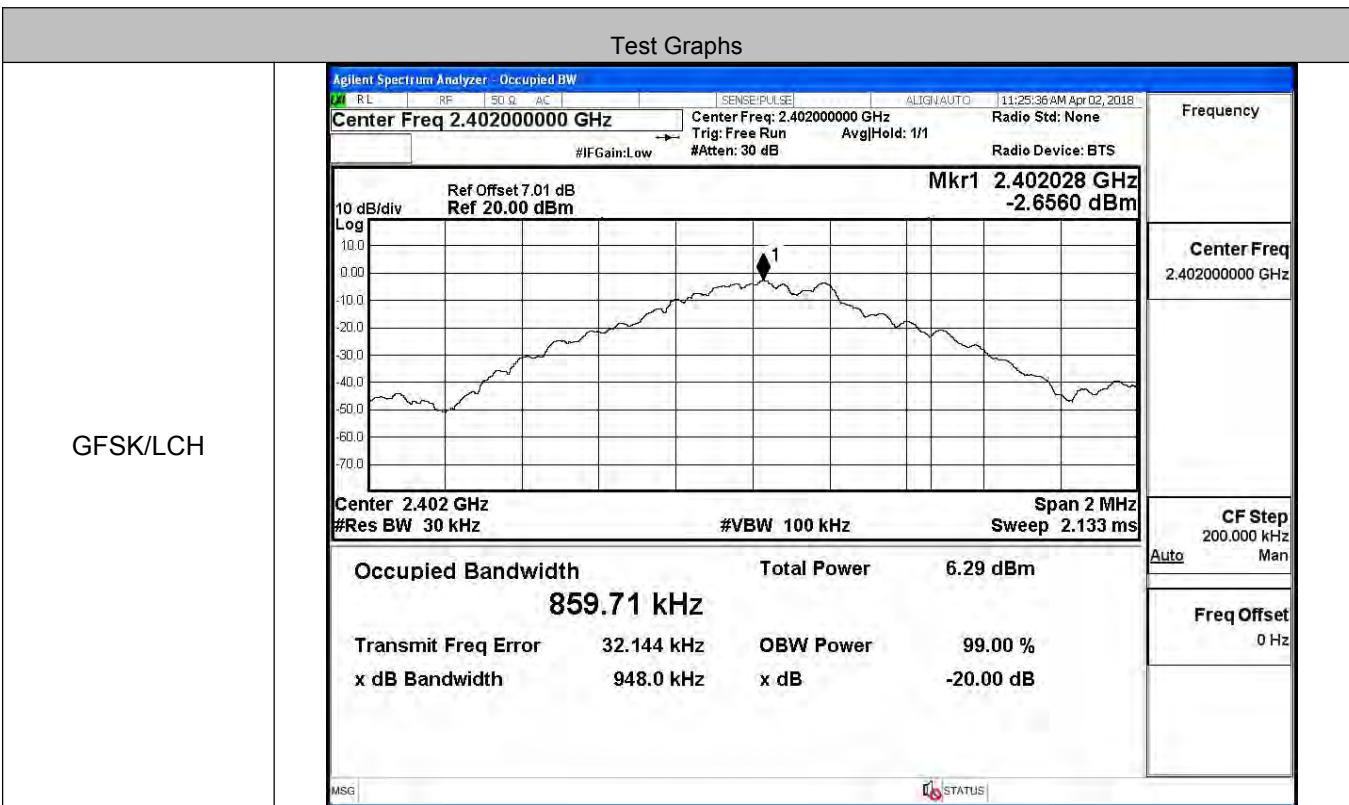


8DPSK/HCH

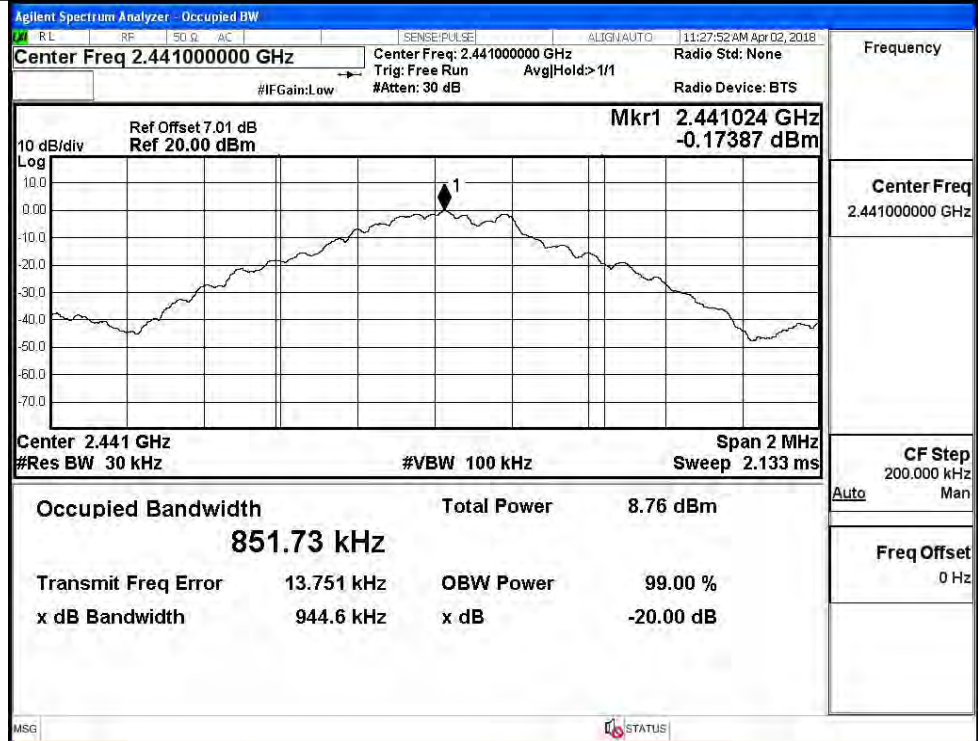


**A.2 20dB Bandwidth**

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9480	Not Specified	PASS
	MCH	0.9446	Not Specified	PASS
	HCH	0.9449	Not Specified	PASS
π/4DQPSK	LCH	1.258	Not Specified	PASS
	MCH	1.229	Not Specified	PASS
	HCH	1.227	Not Specified	PASS
8DPSK	LCH	1.275	Not Specified	PASS
	MCH	1.261	Not Specified	PASS
	HCH	1.260	Not Specified	PASS

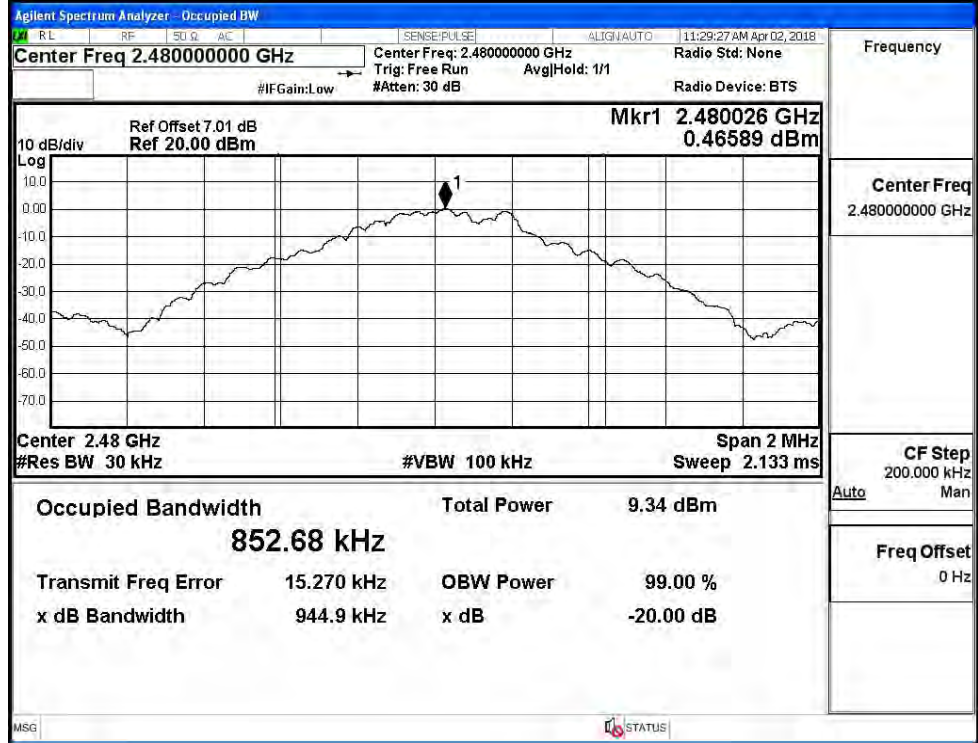


GFSK/MCH



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

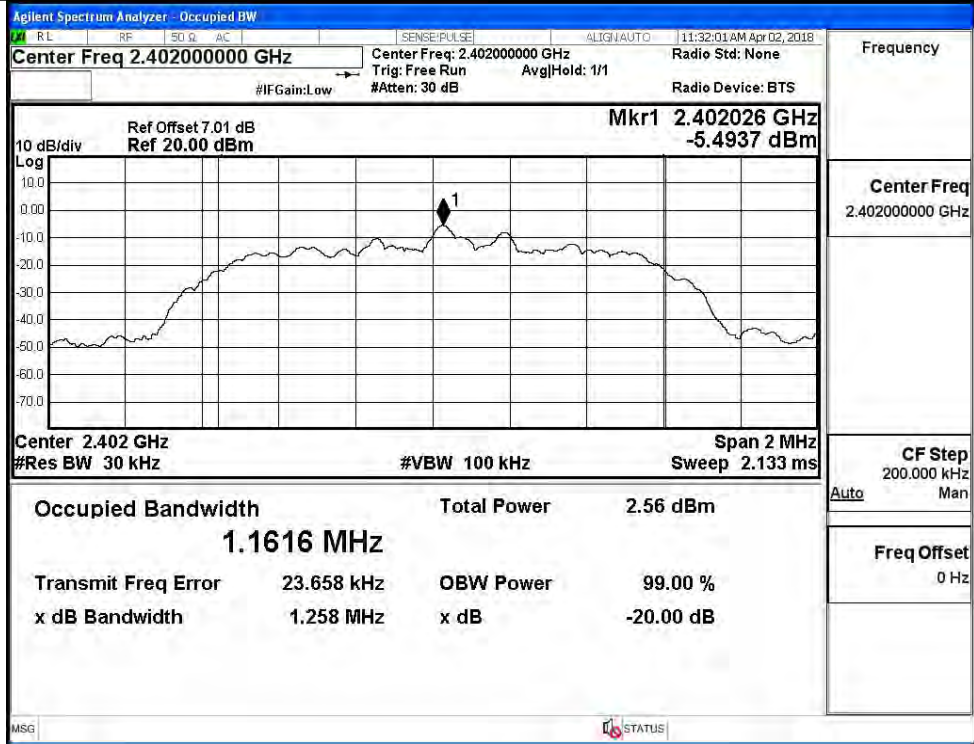
GFSK/HCH



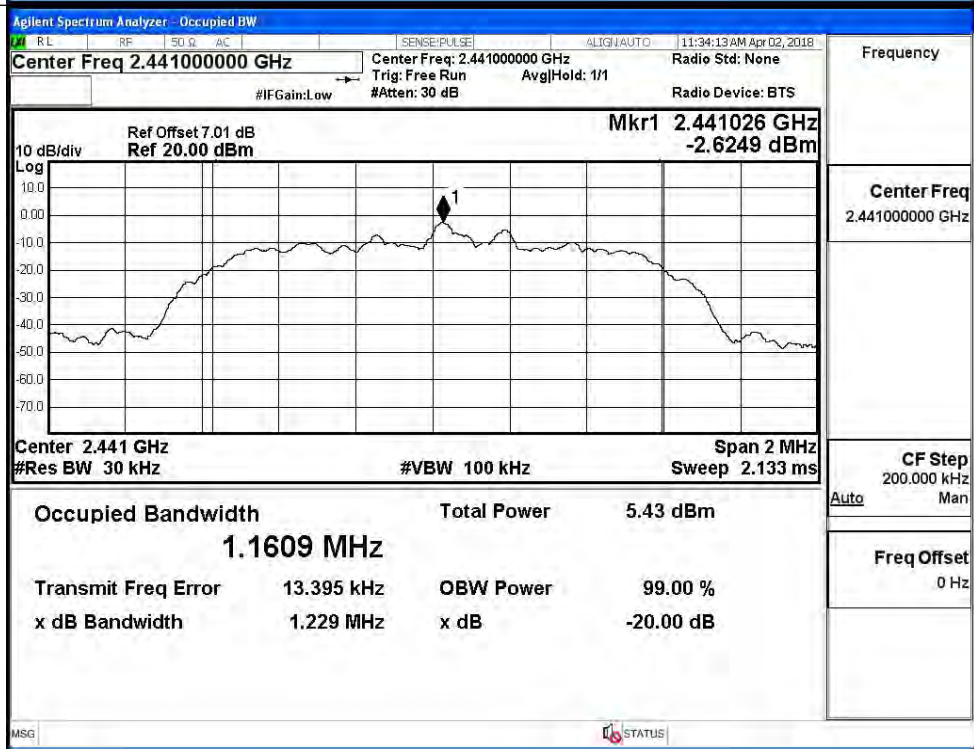
Frequency	2.48000000 GHz
Center Freq	2.48000000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz



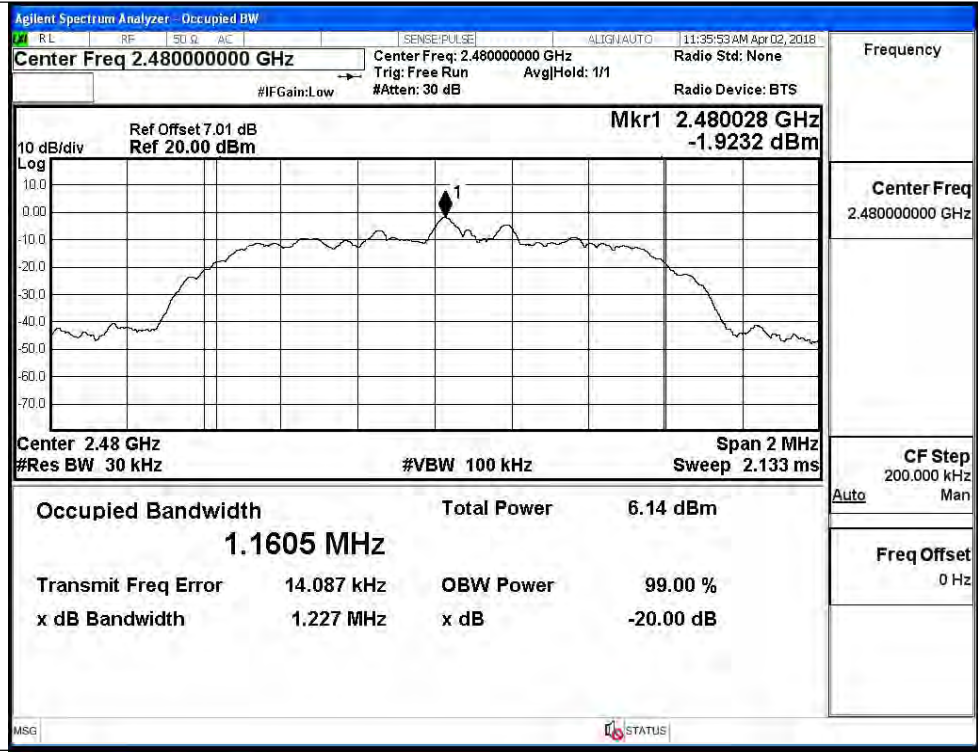
$\pi/4$ DQPSK/LCH



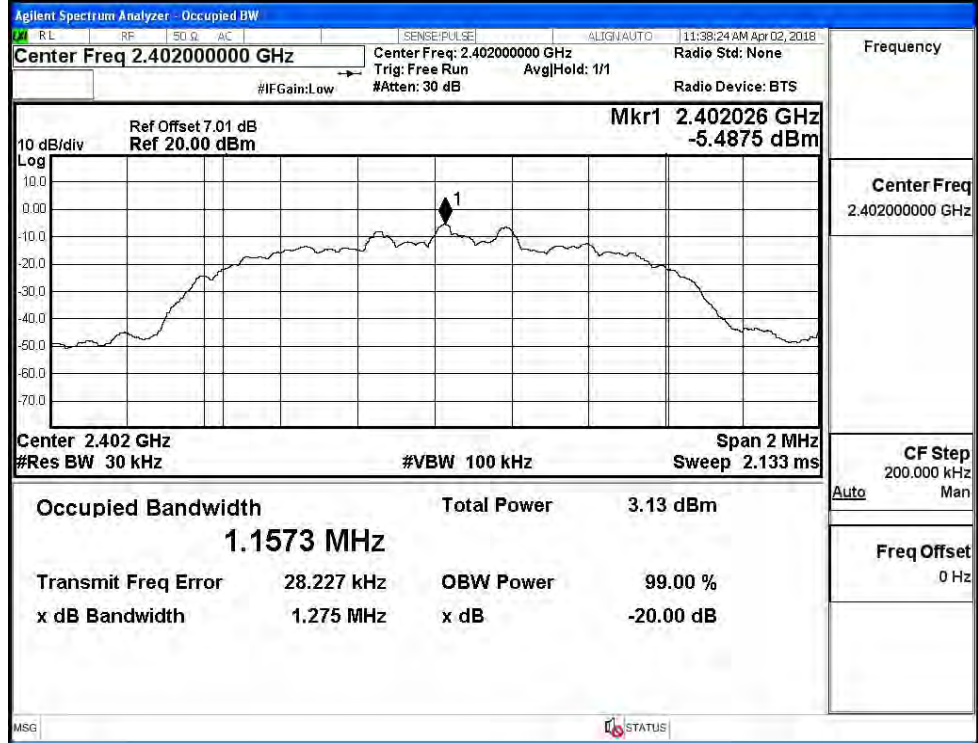
$\pi/4$ DQPSK/MCH



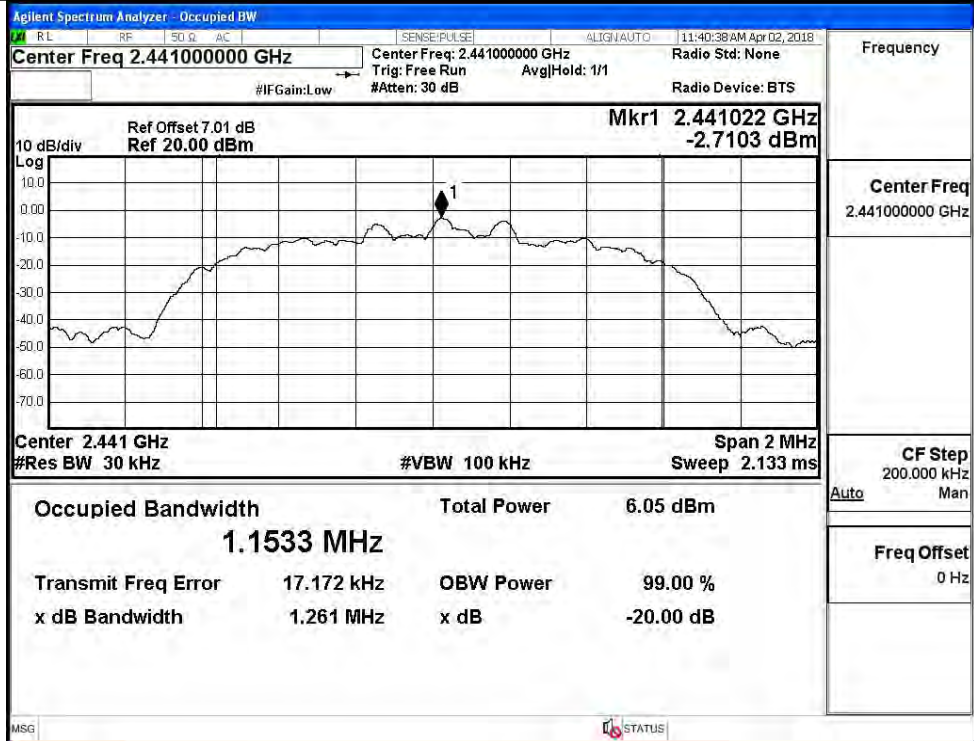
$\pi/4$ DQPSK/HCH



8DPSK/LCH

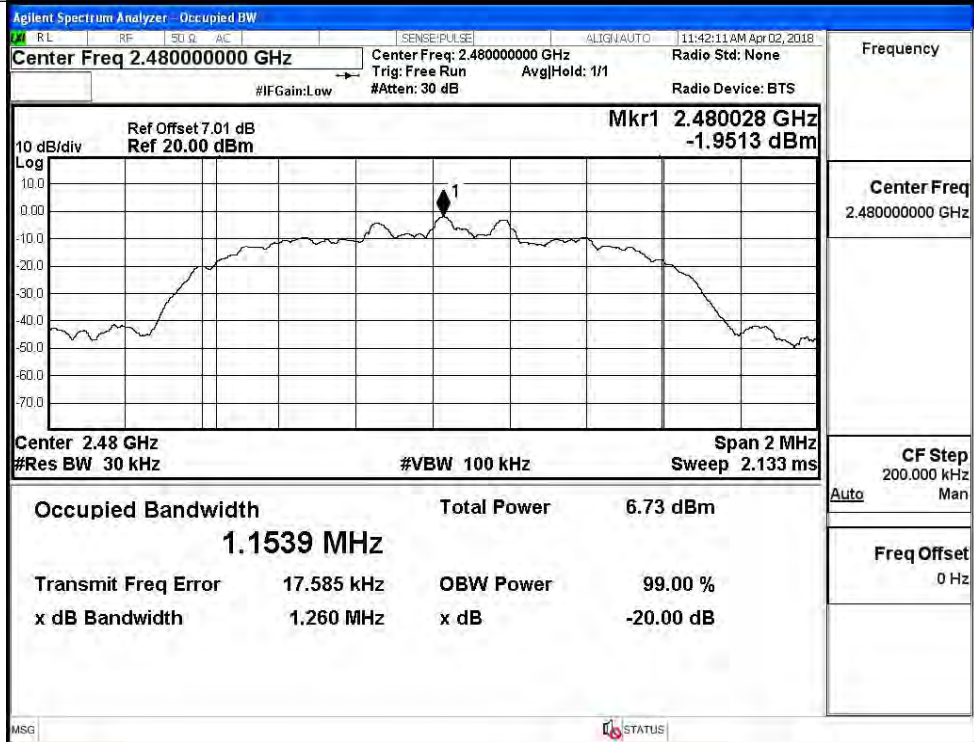


8DPSK/MCH



Frequency	
Center Freq	2.441000000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

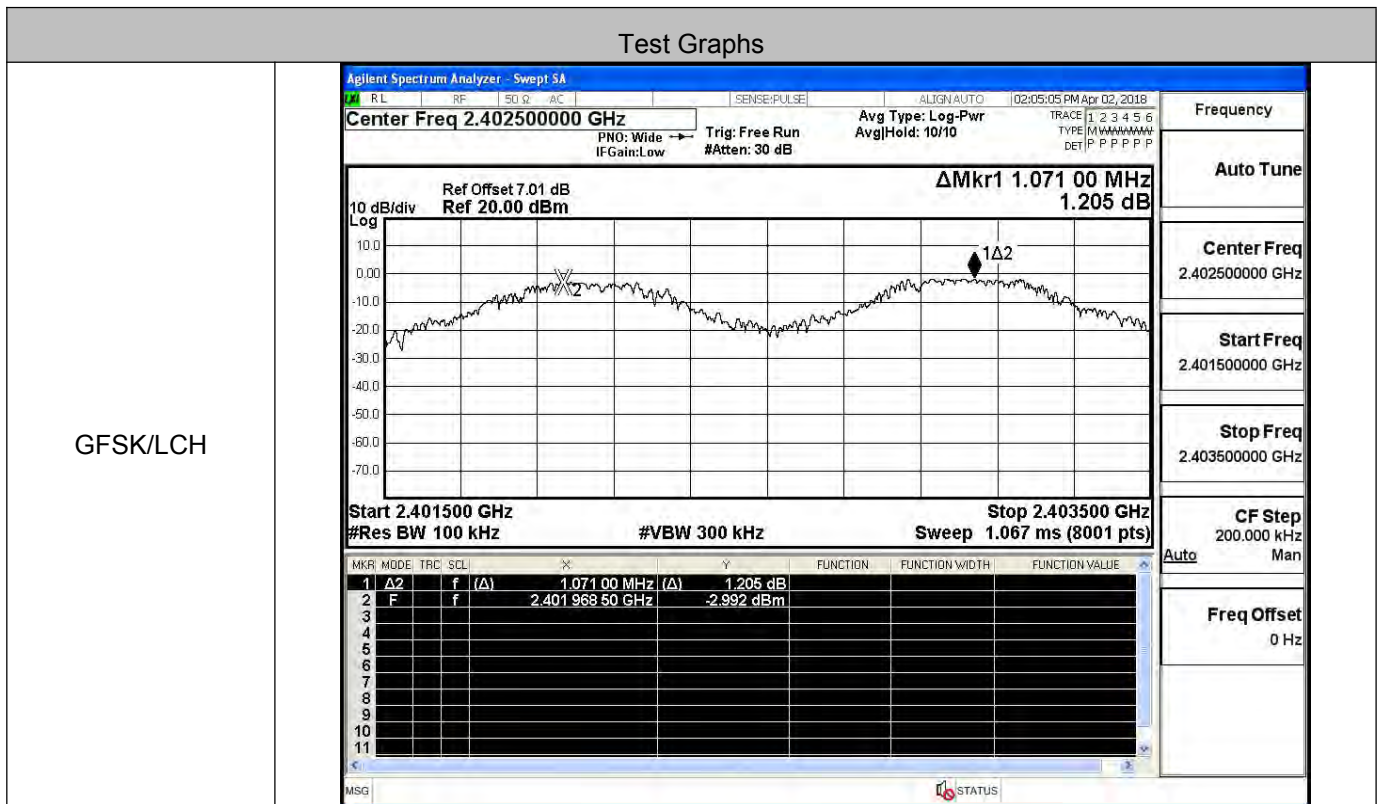
8DPSK/HCH



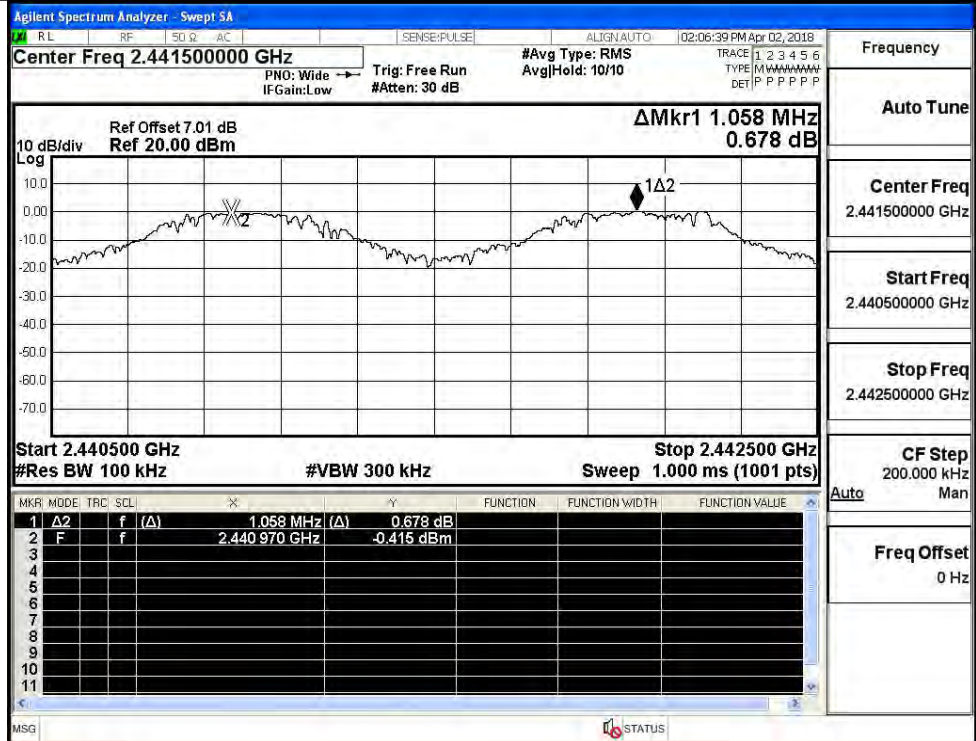
Frequency	
Center Freq	2.480000000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

### A.3 Carrier Frequency Separation

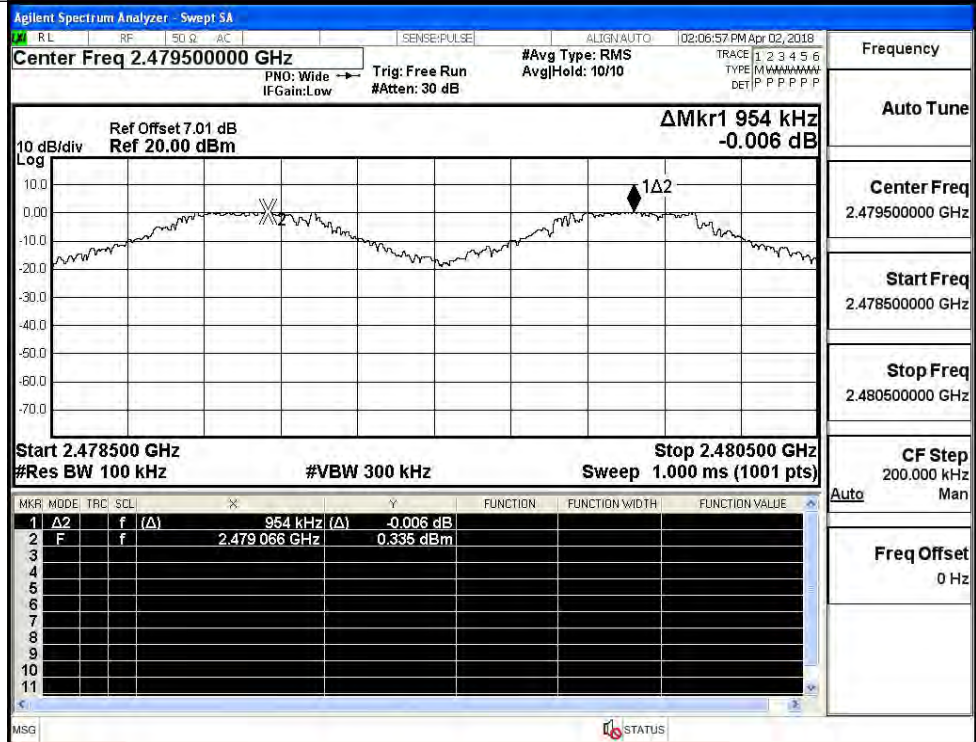
Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.071	0.632	PASS
	MCH	1.058	0.629	PASS
	HCH	0.954	0.629	PASS
π/4DQPSK	LCH	1.036	0.838	PASS
	MCH	0.900	0.819	PASS
	HCH	1.004	0.818	PASS
8DPSK	LCH	1.010	0.85	PASS
	MCH	1.012	0.84	PASS
	HCH	1.136	0.84	PASS



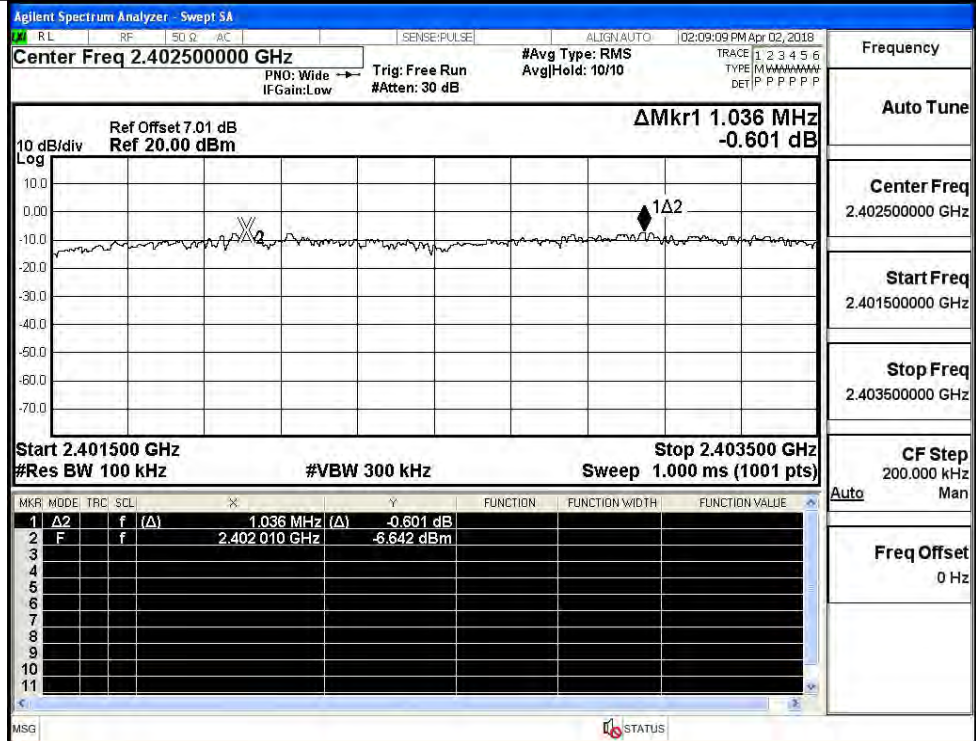
GFSK/MCH



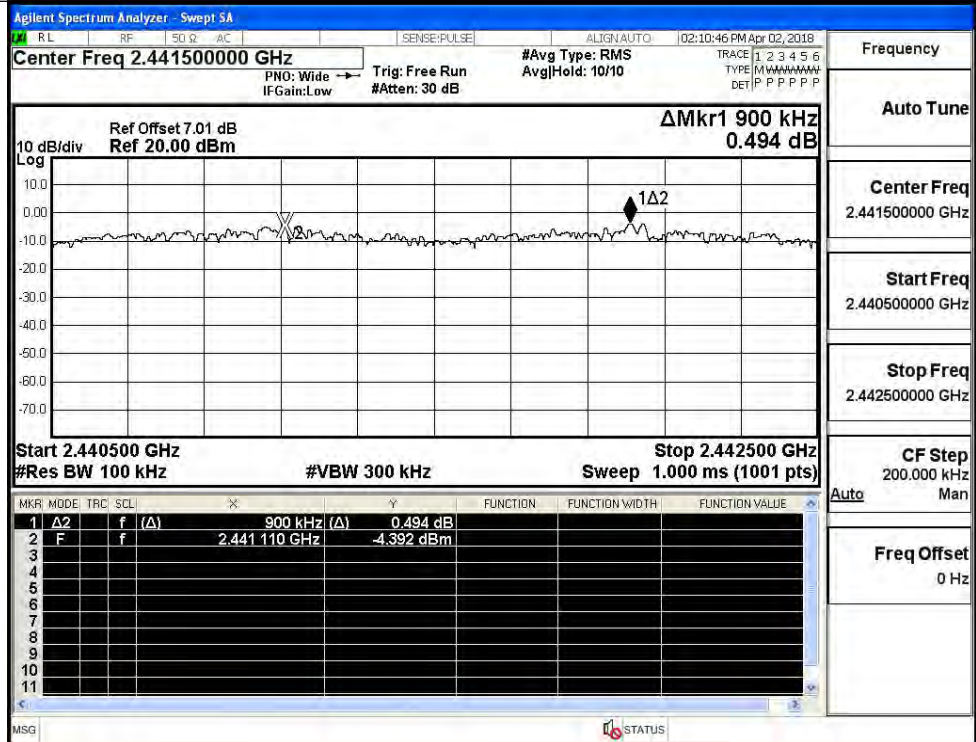
GFSK/HCH



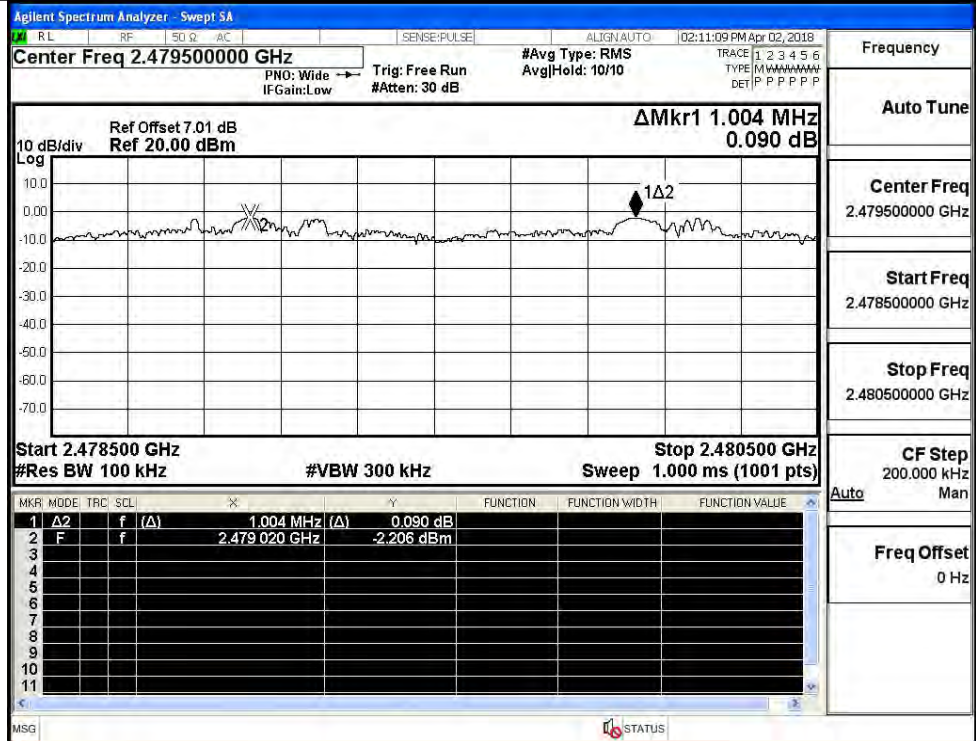
$\pi/4$ DQPSK/LCH



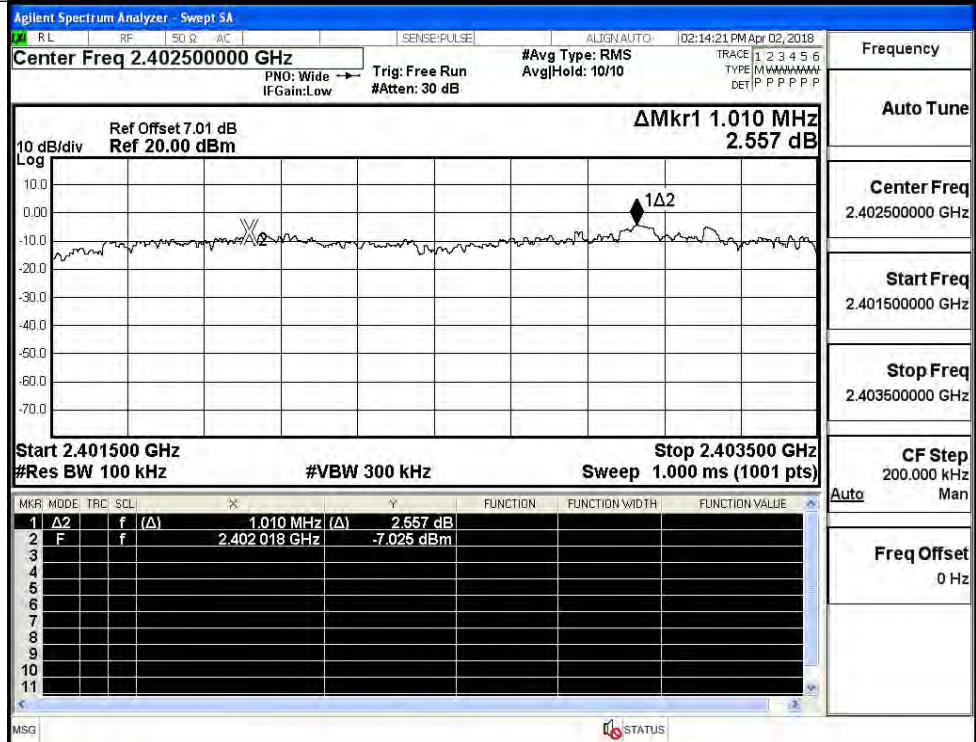
$\pi/4$ DQPSK/MCH



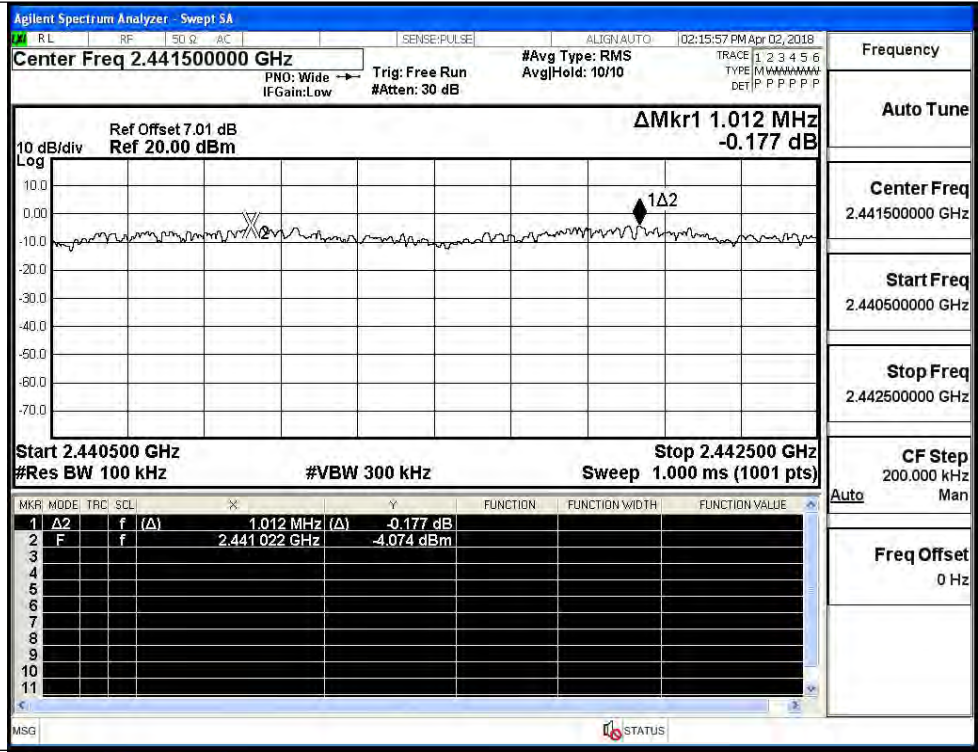
TT/4DQPSK/HCH



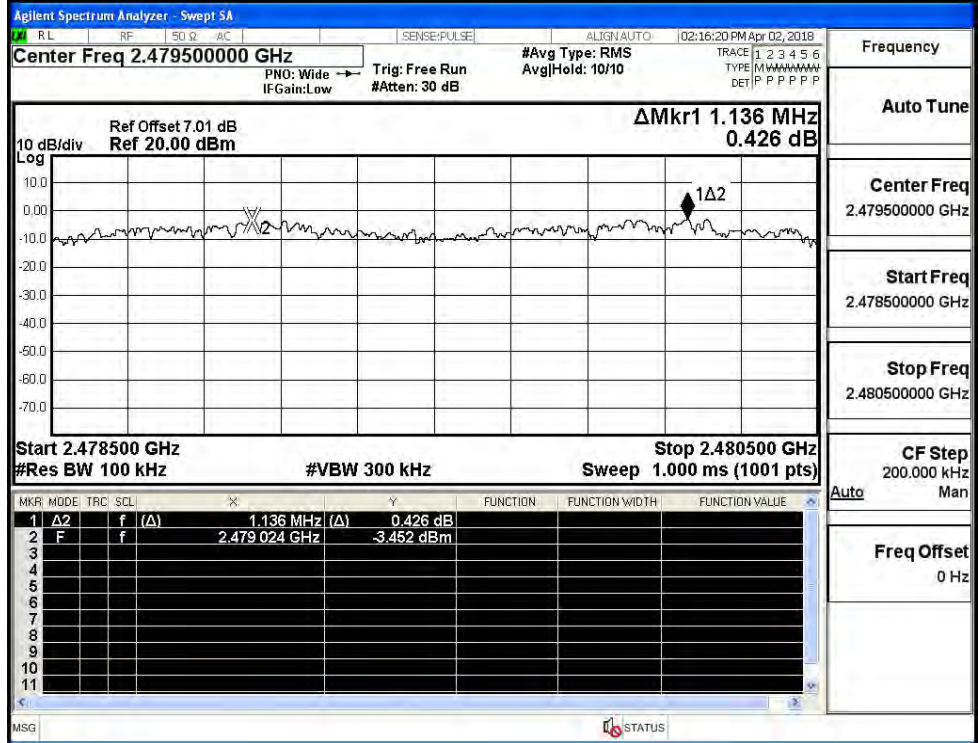
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH



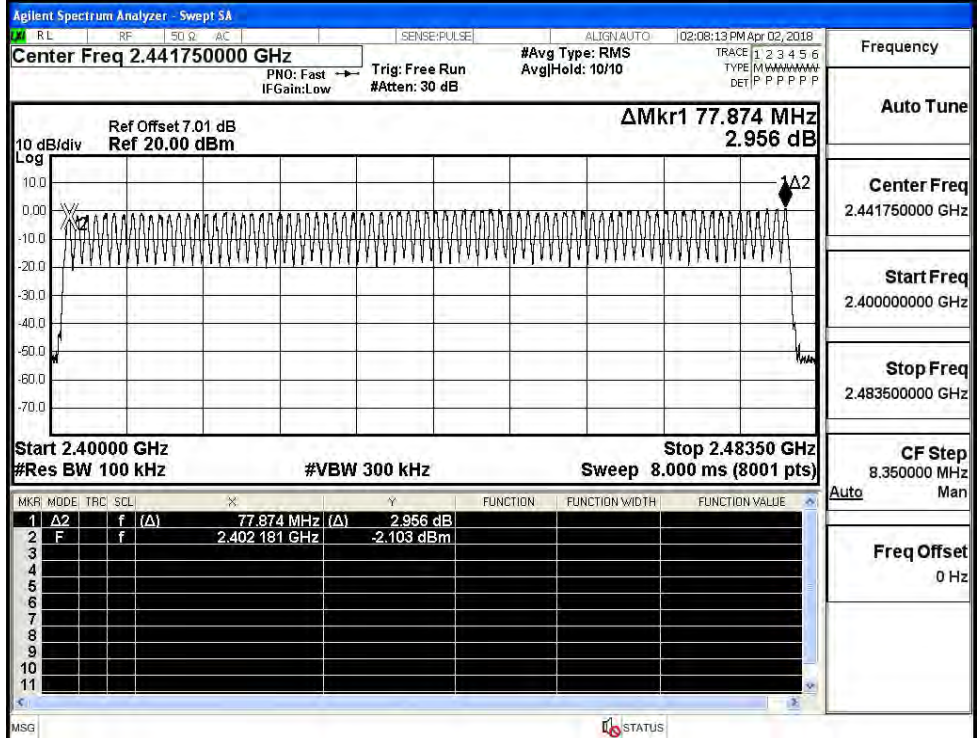
A.4 Hopping Channel Number

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

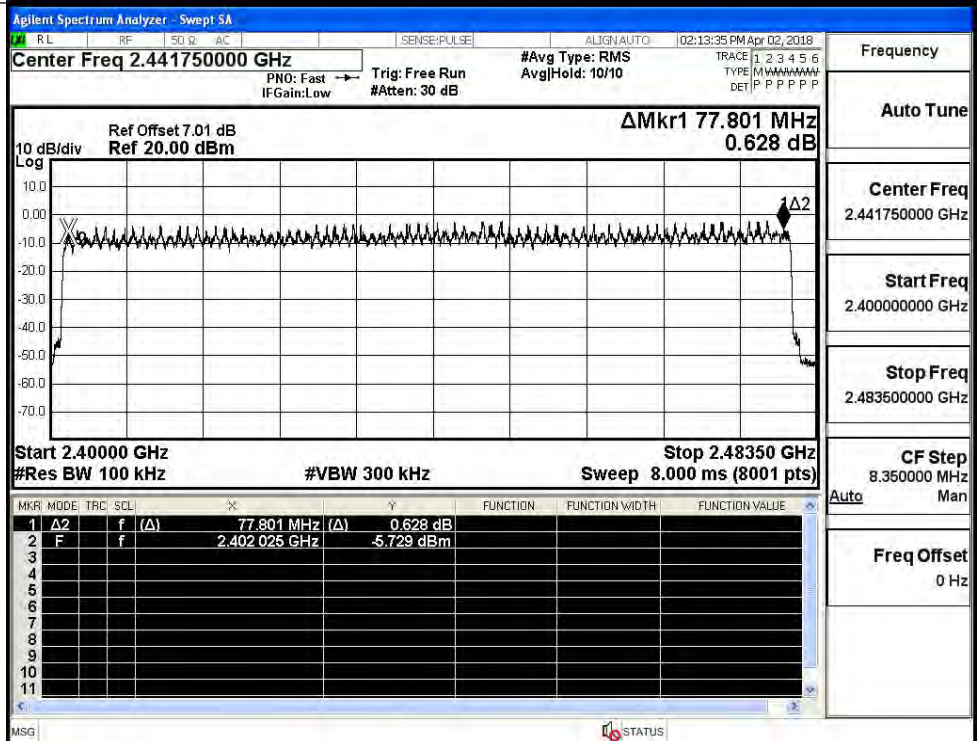


Test Graphs

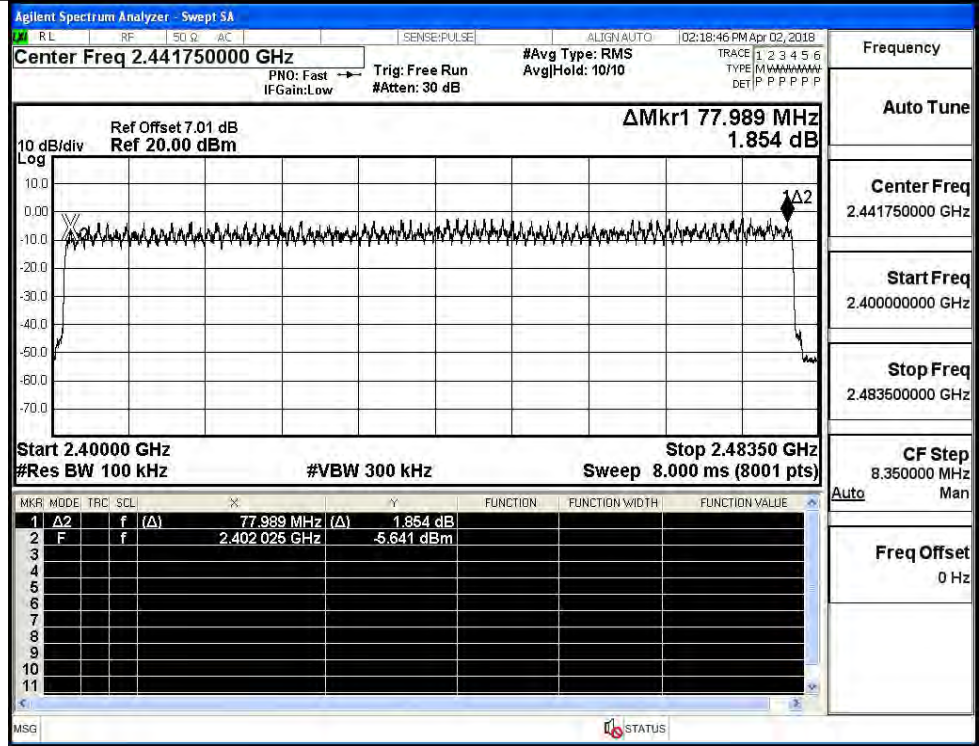
GFSK/Hop



$\pi/4$ DQPSK/Hop

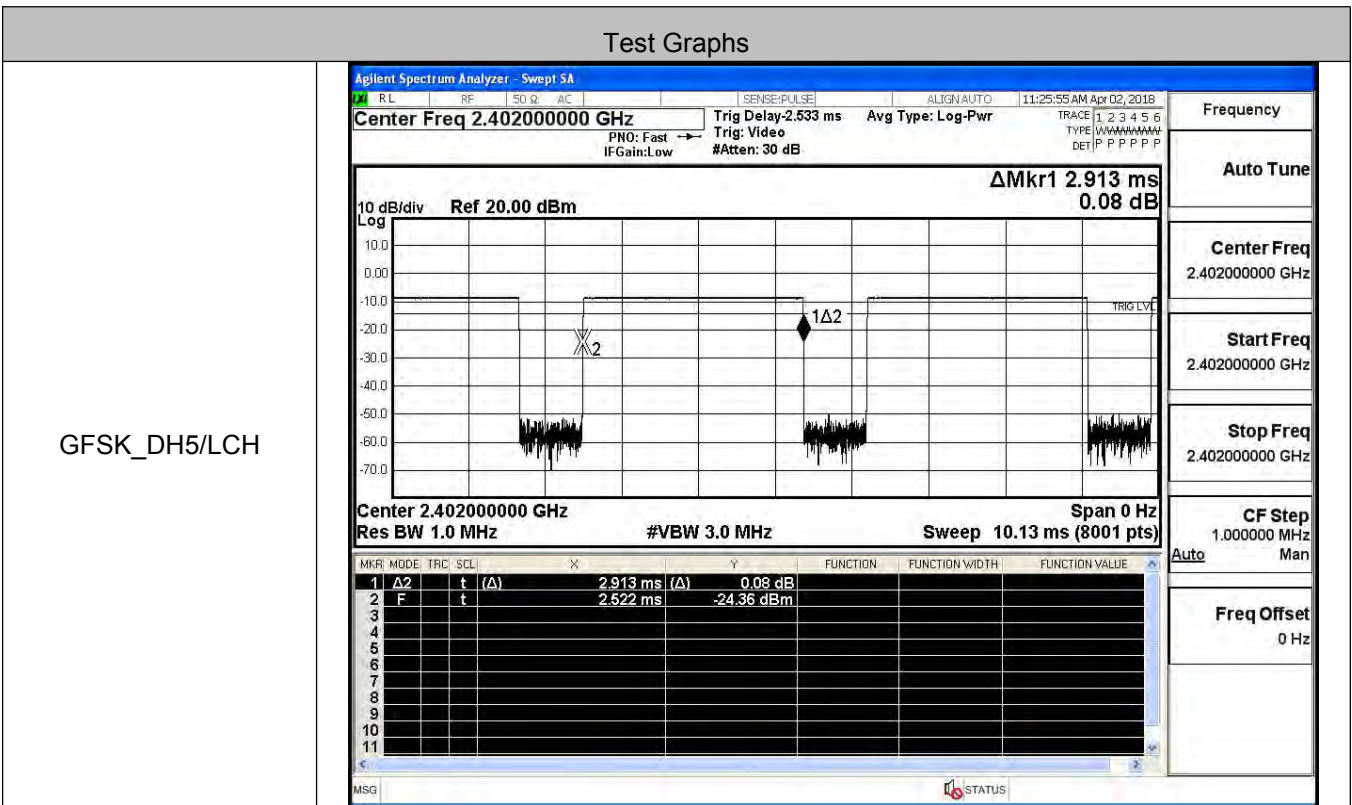


8DPSK/Hop

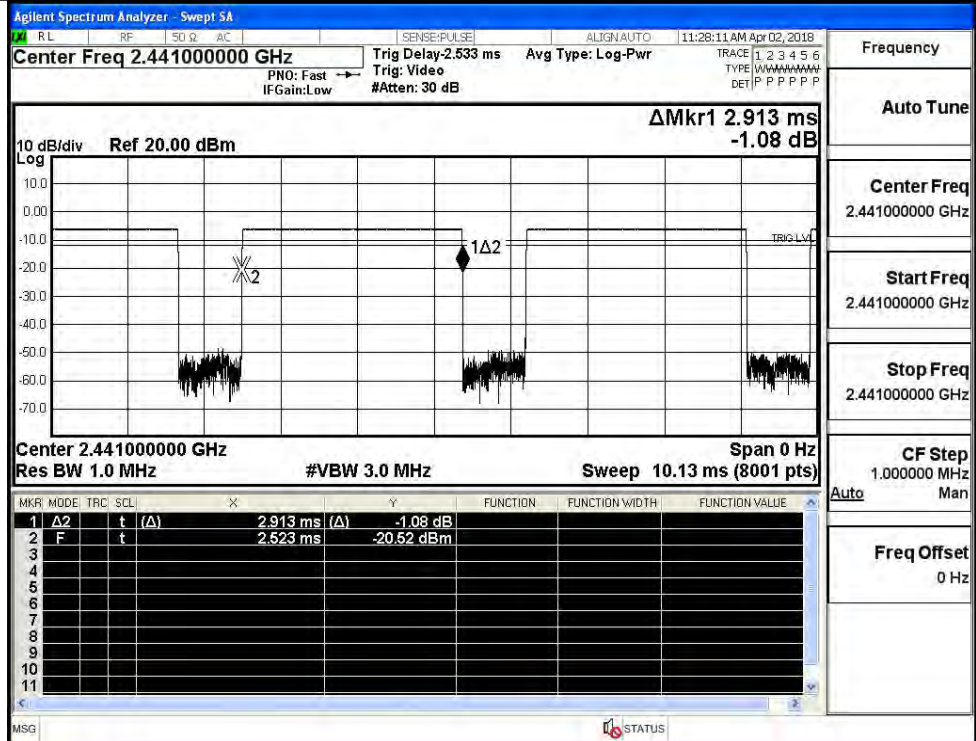


### A.5 Dwell Time

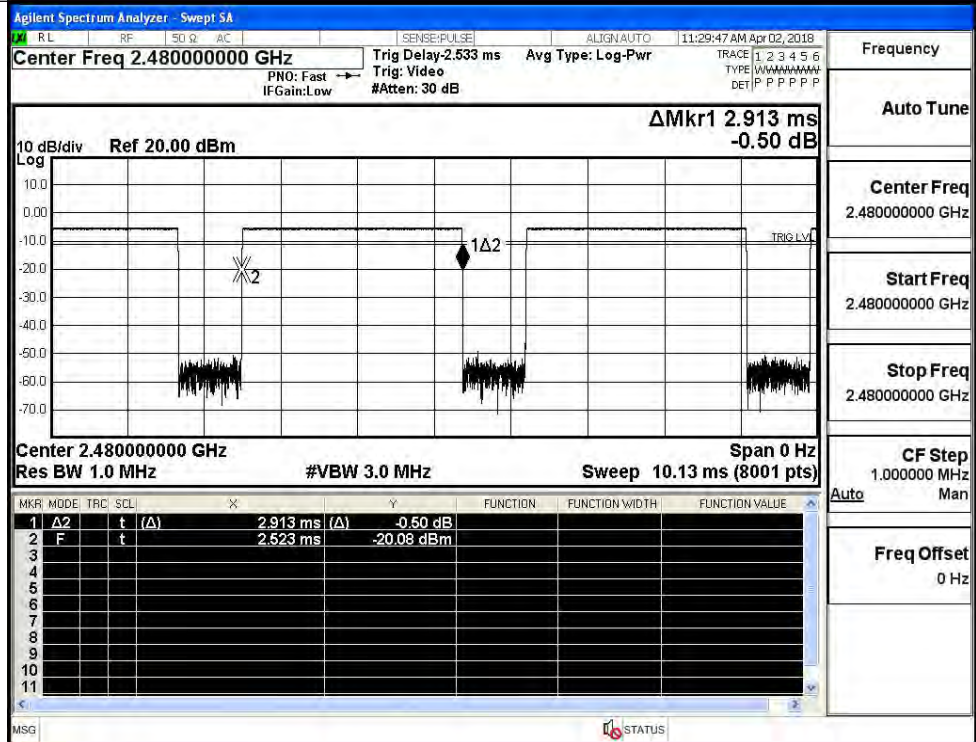
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.91	106.7	0.31	0.4	PASS
	DH5	MCH	2.91	106.7	0.31	0.4	PASS
	DH5	HCH	2.91	106.7	0.31	0.4	PASS
π/4DQPSK	2DH5	LCH	2.91	106.7	0.312	0.4	PASS
	2DH5	MCH	2.91	106.7	0.312	0.4	PASS
	2DH5	HCH	2.91	106.7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



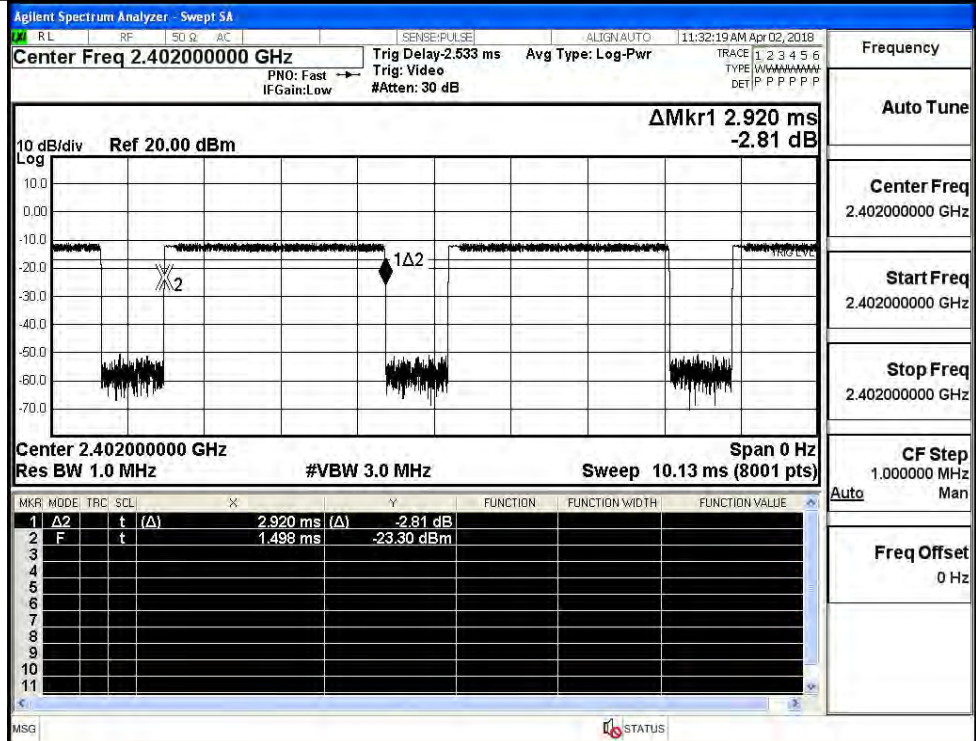
GFSK\_DH5/MCH



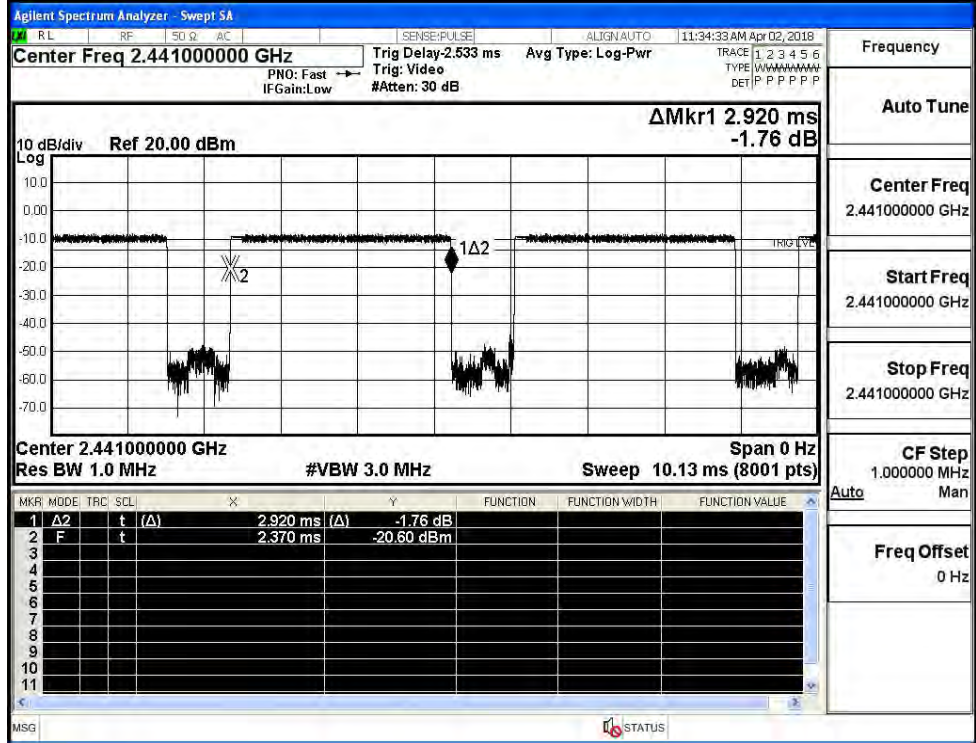
GFSK\_DH5/HCH



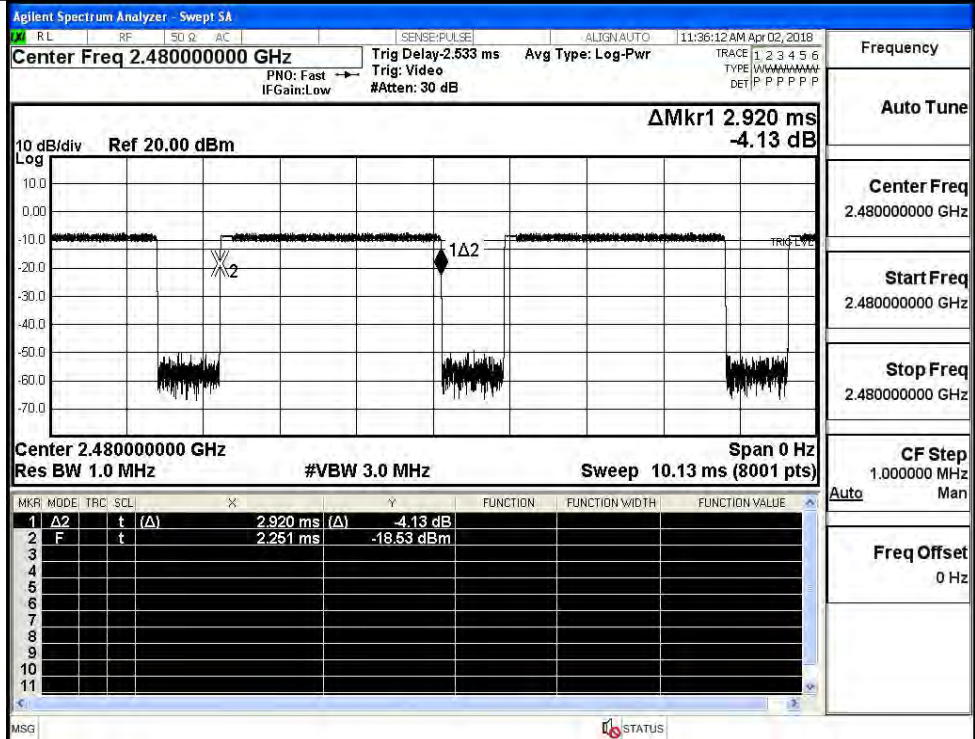
$\pi/4$ DQPSK  
\_2DH5/LCH



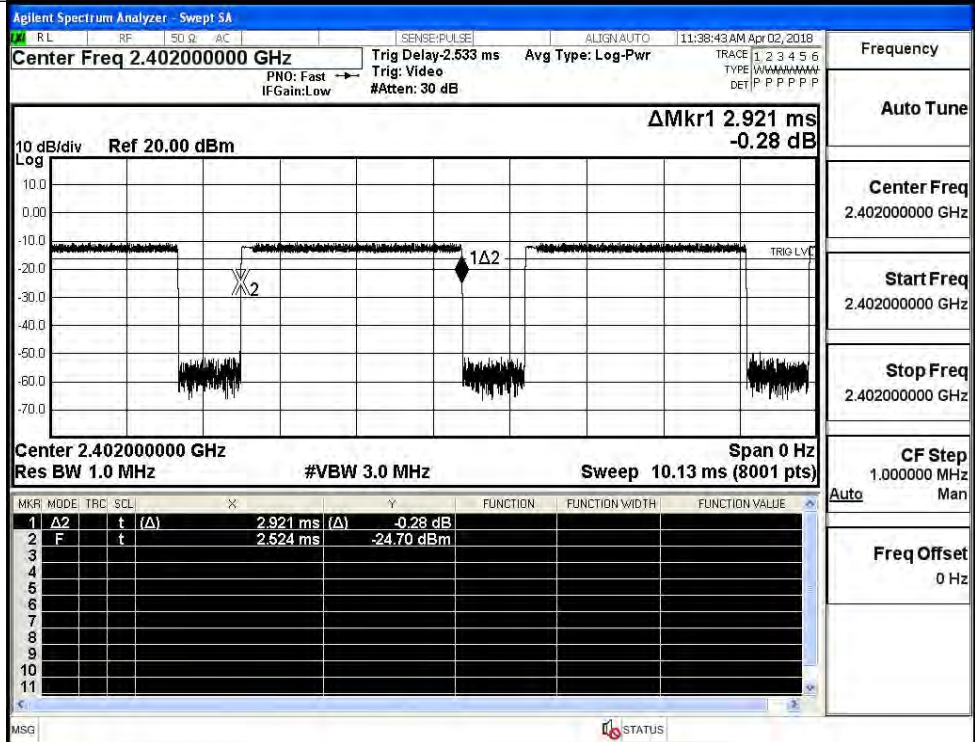
$\pi/4$ DQPSK  
\_2DH5/MCH



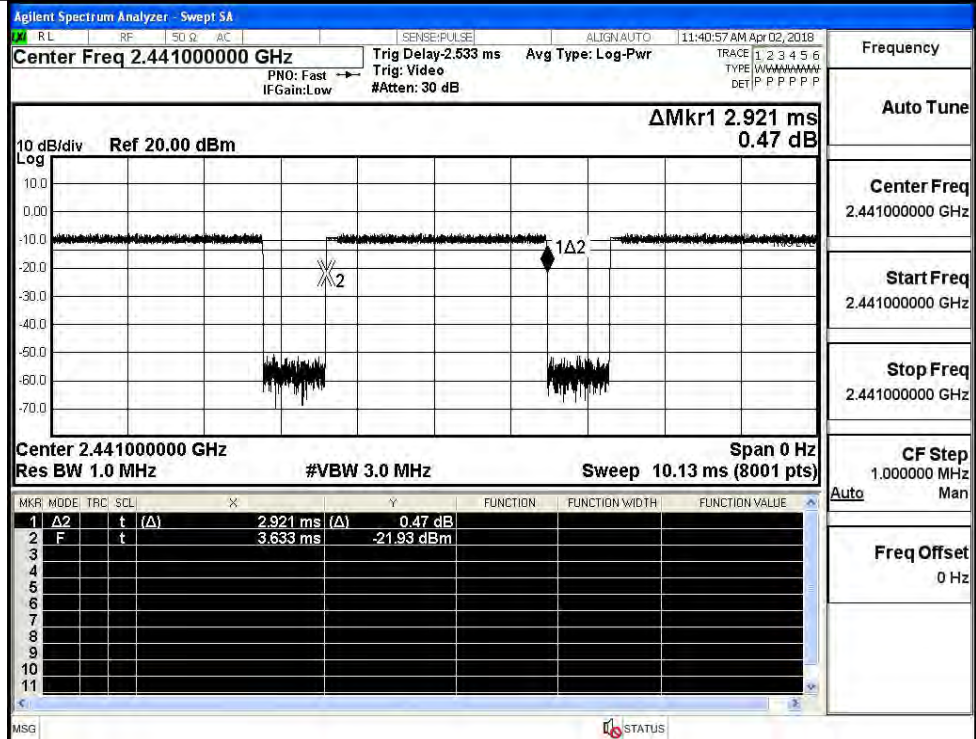
$\pi/4$ DQPSK  
\_2DH5/HCH



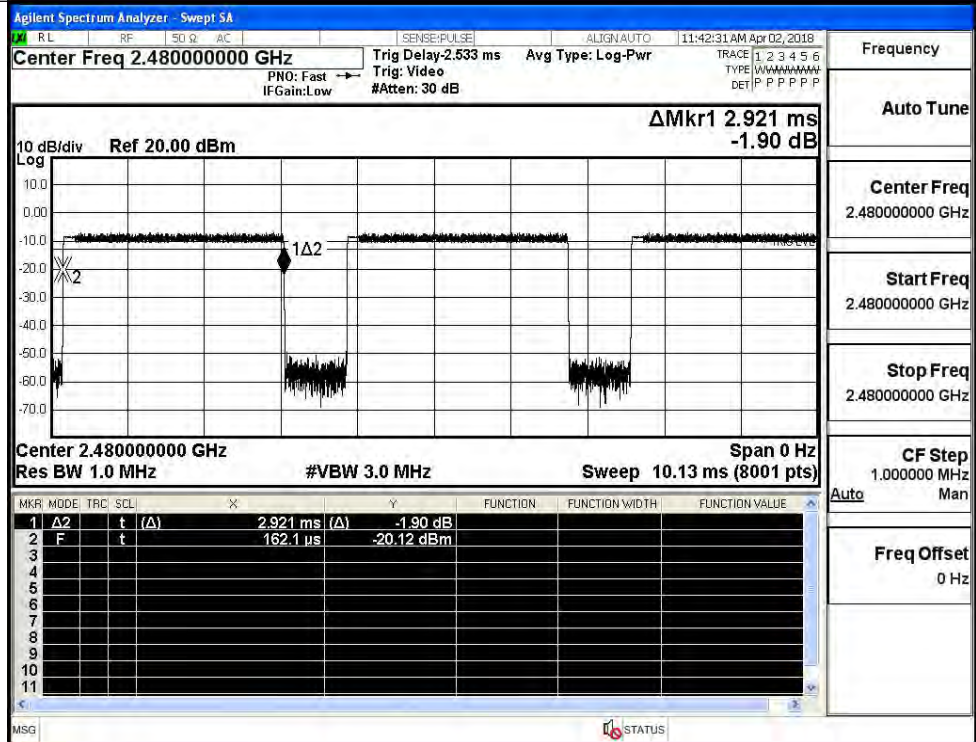
8DPSK\_3DH5/LCH



8DPSK\_3DH5/MCH



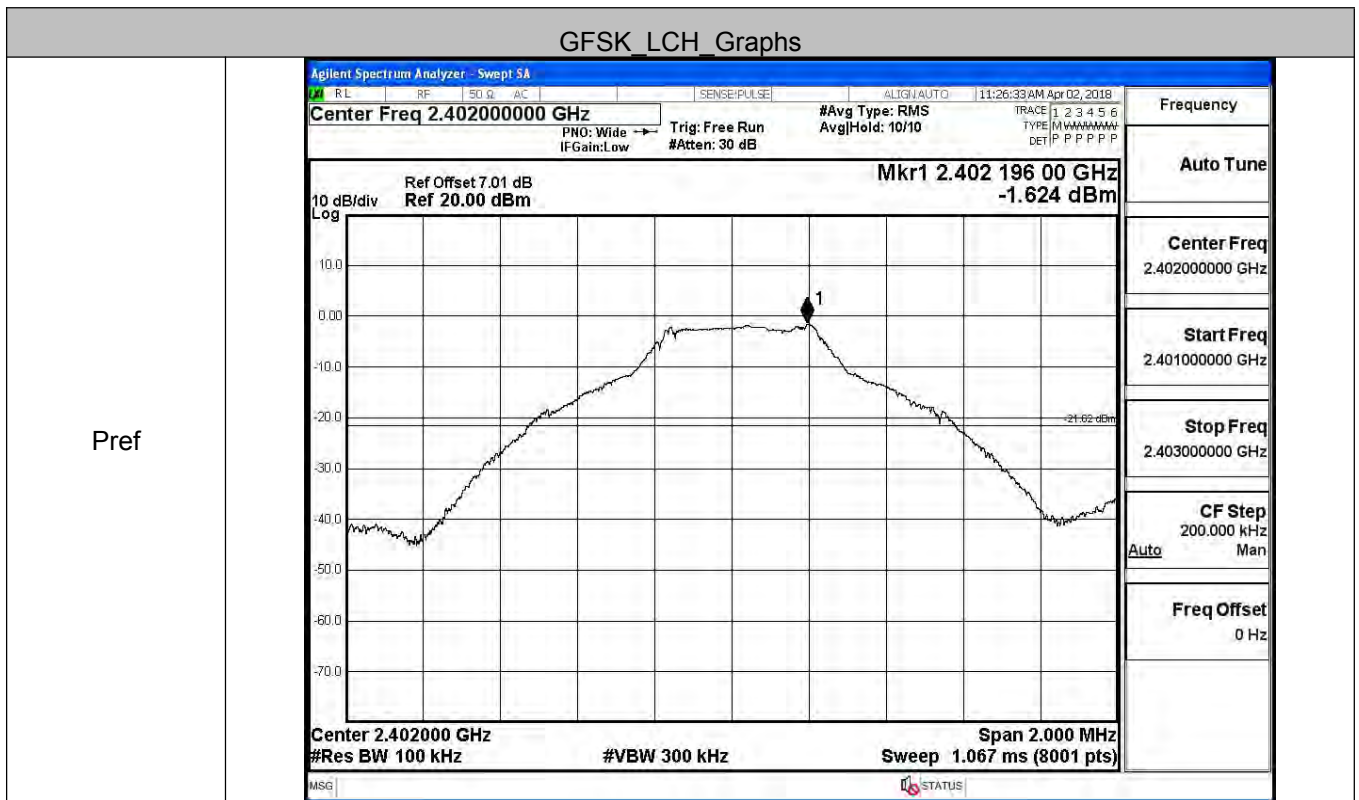
8DPSK\_3DH5/HCH



### A.6 RF Conducted Spurious Emissions

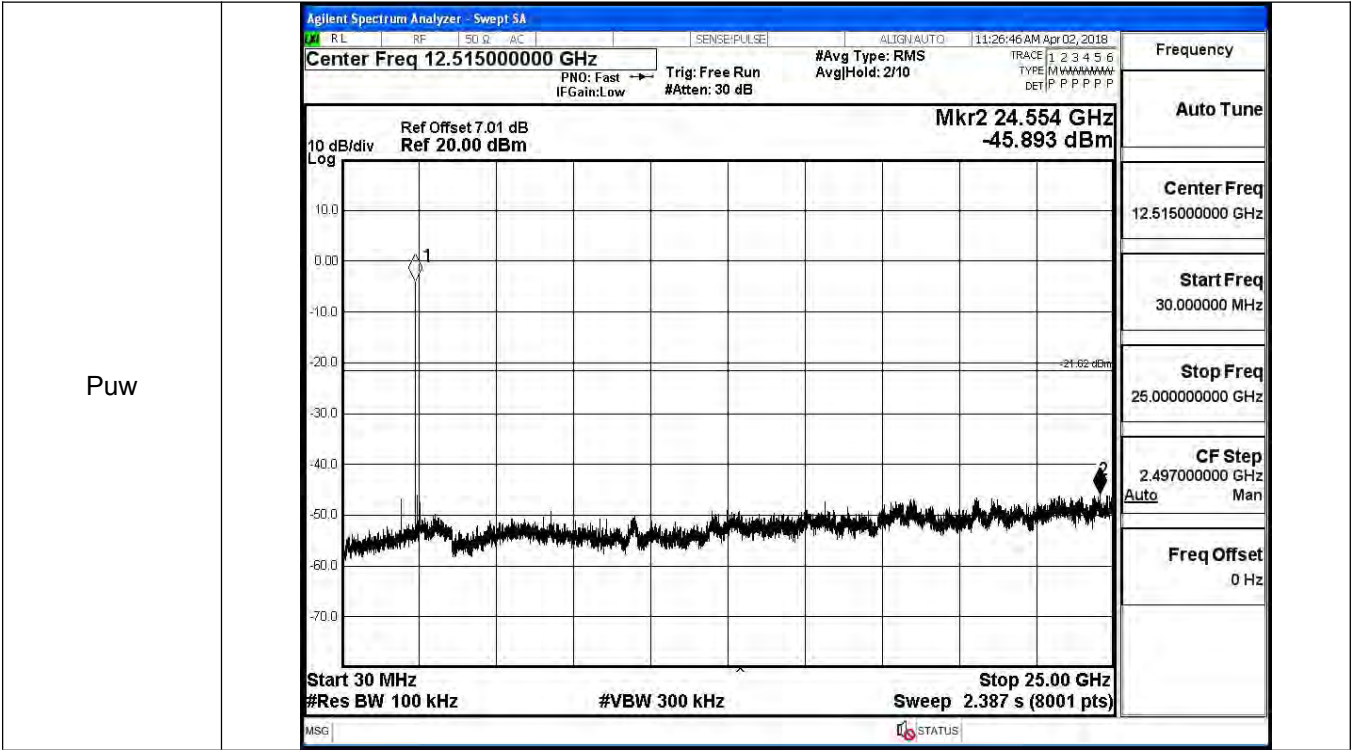
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-1.624	-45.893	-21.624	PASS
	MCH	0.877	-45.257	-19.123	PASS
	HCH	1.503	-45.047	-18.497	PASS
π/4DQPSK	LCH	-5.646	-45.768	-25.646	PASS
	MCH	-2.182	-45.341	-22.182	PASS
	HCH	-1.685	-45.152	-21.685	PASS
8DPSK	LCH	-4.933	-44.968	-24.933	PASS
	MCH	-2.304	-45.213	-22.304	PASS
	HCH	-1.448	-45.171	-21.448	PASS

GFSK LCH Graphs



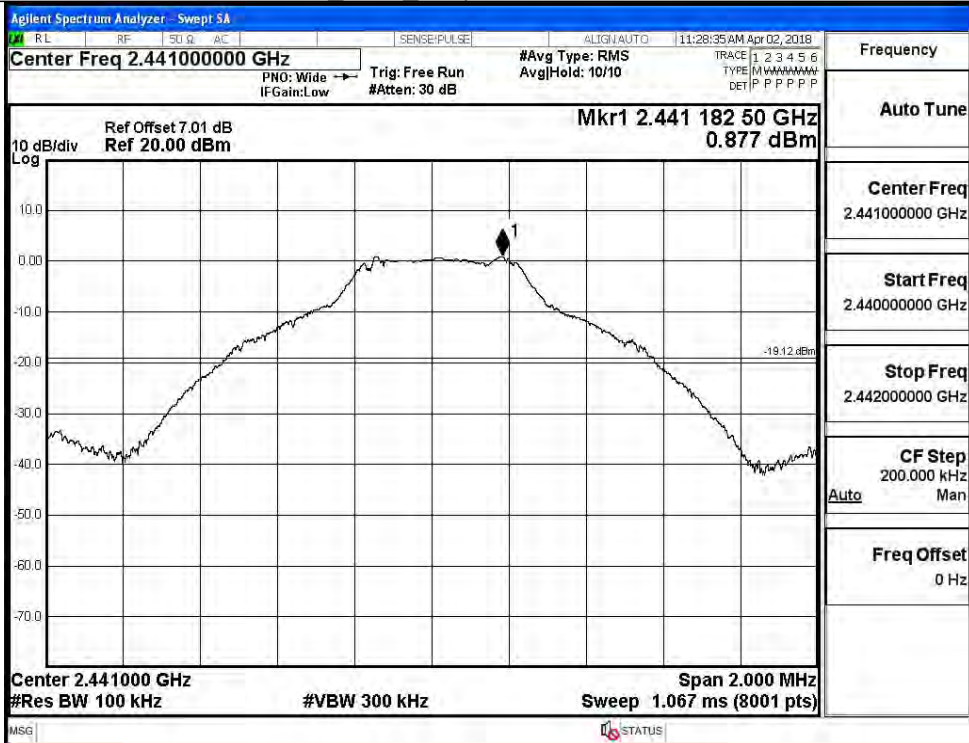
Pref



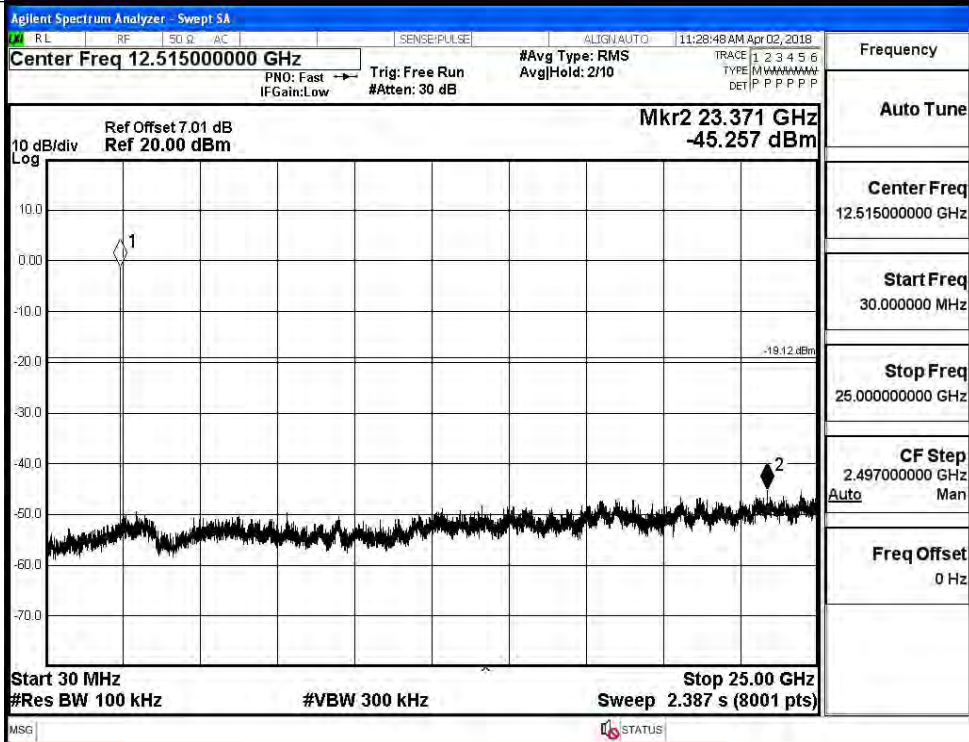


GFSK\_MCH\_Graphs

Pref

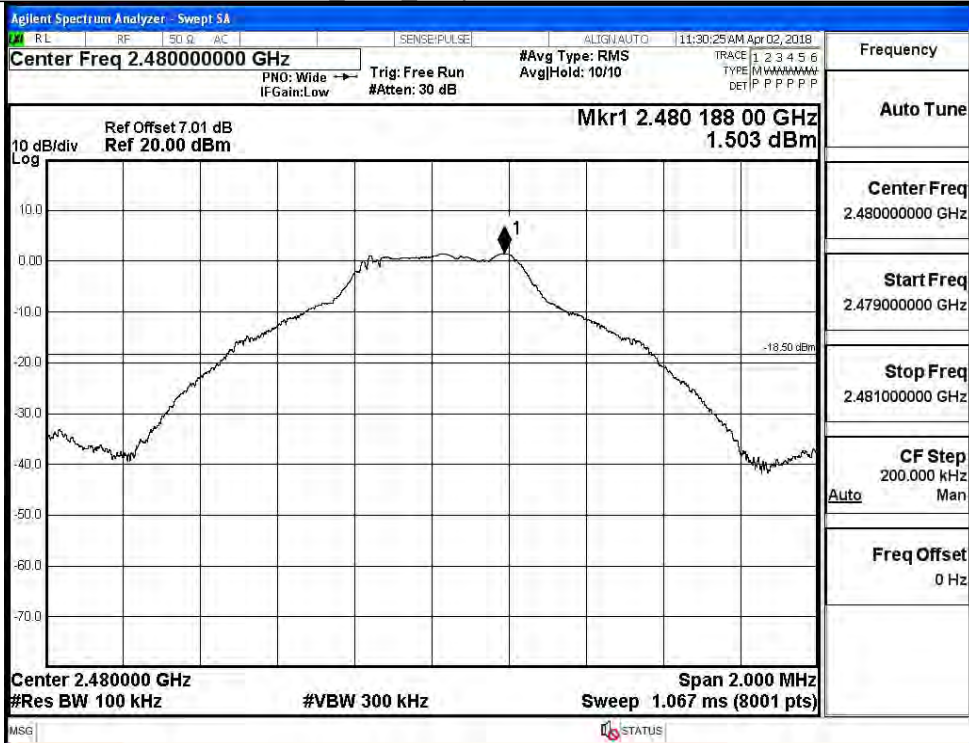


Puw

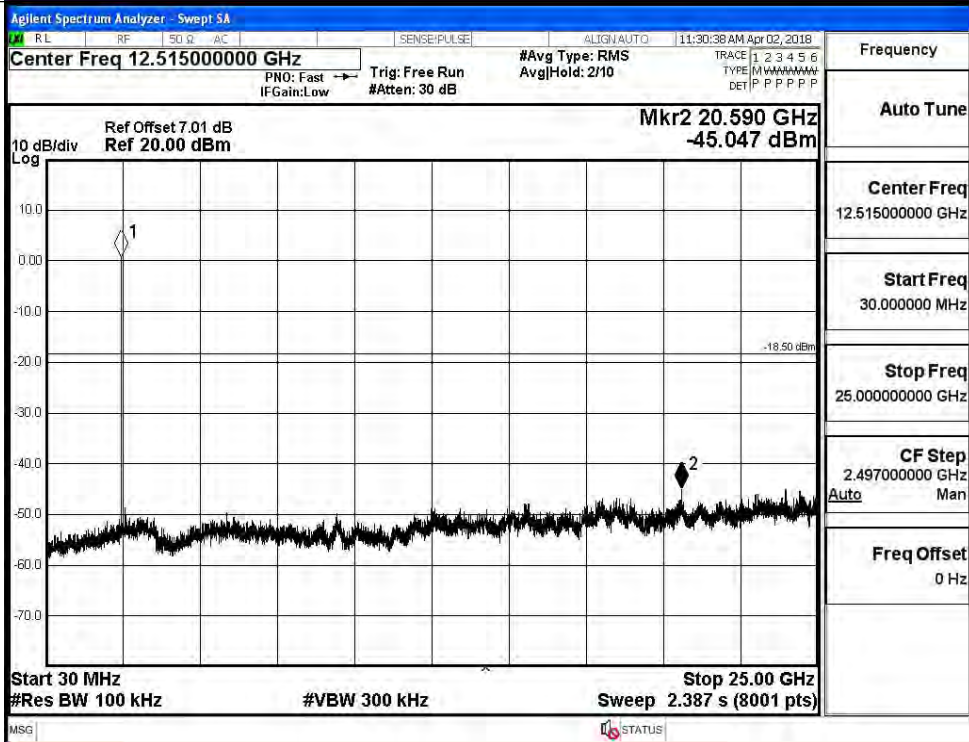


GFSK\_HCH\_Graphs

Pref

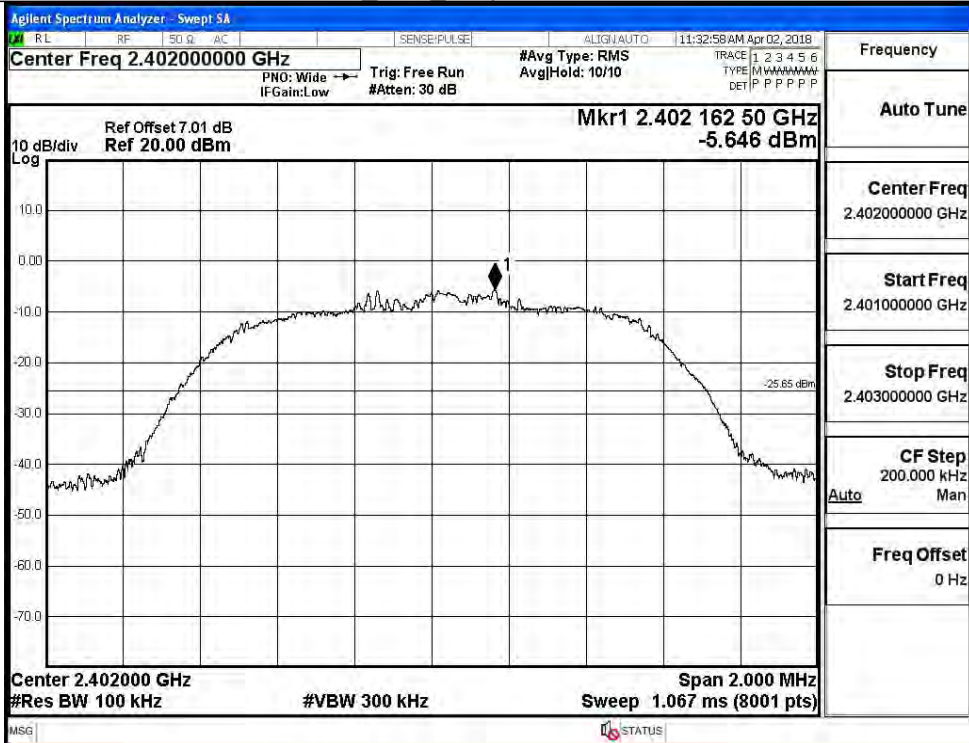


Puw

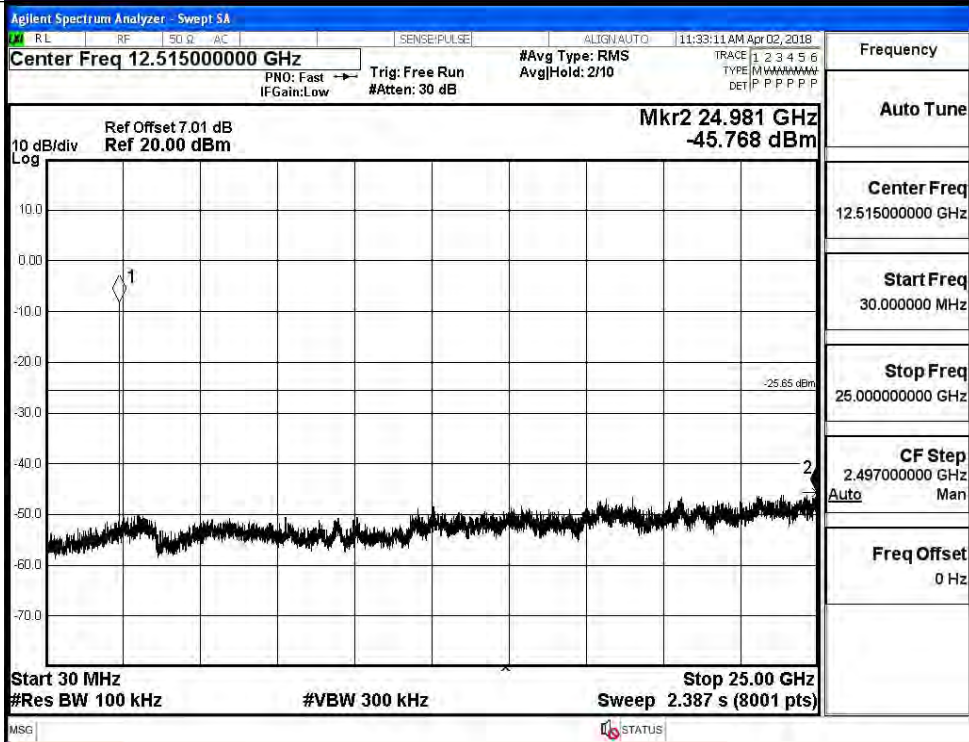


$\pi/4$ DQPSK\_LCH\_Graphs

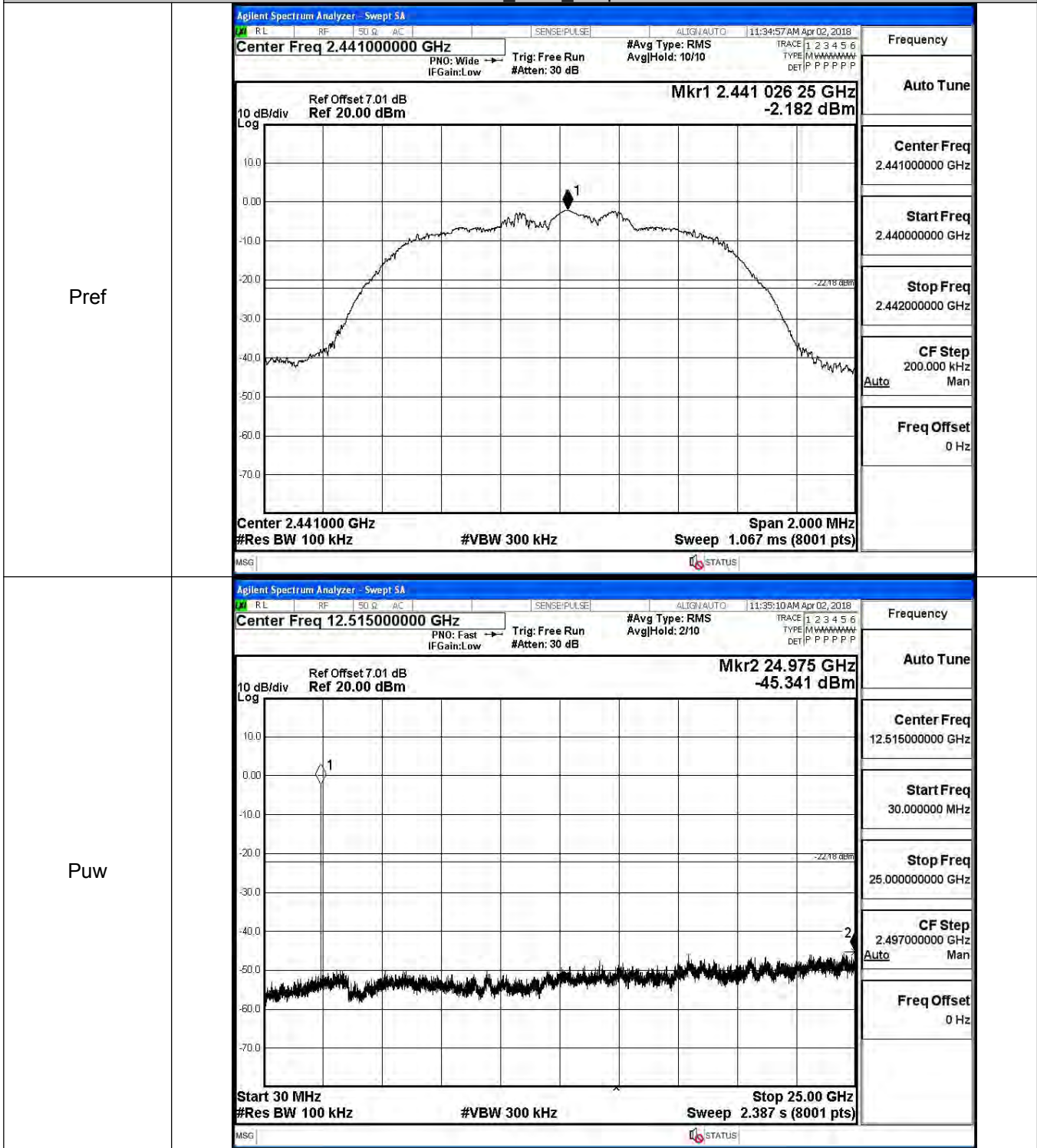
Pref



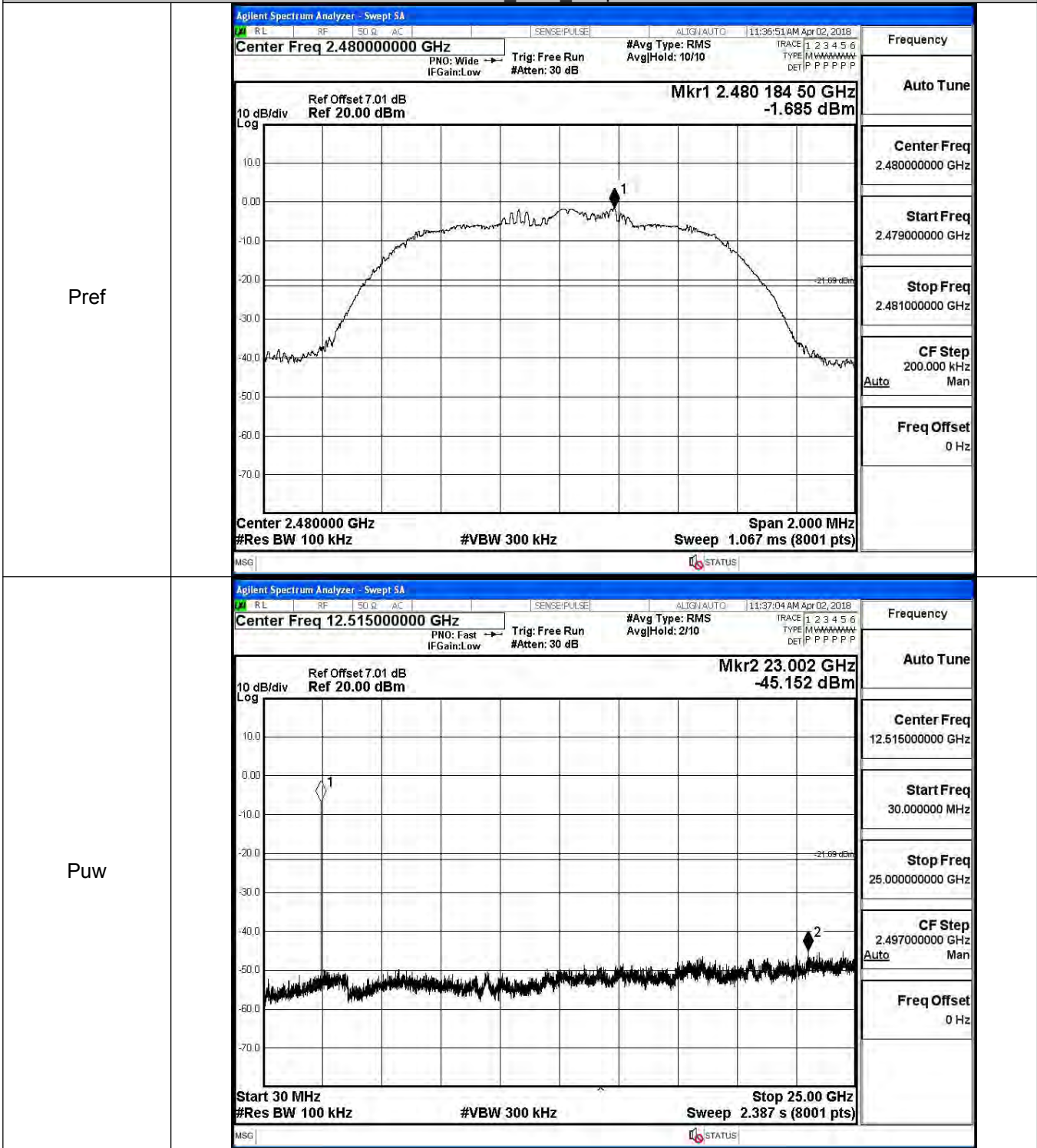
Puw



$\pi/4$ DQPSK\_MCH\_Graphs

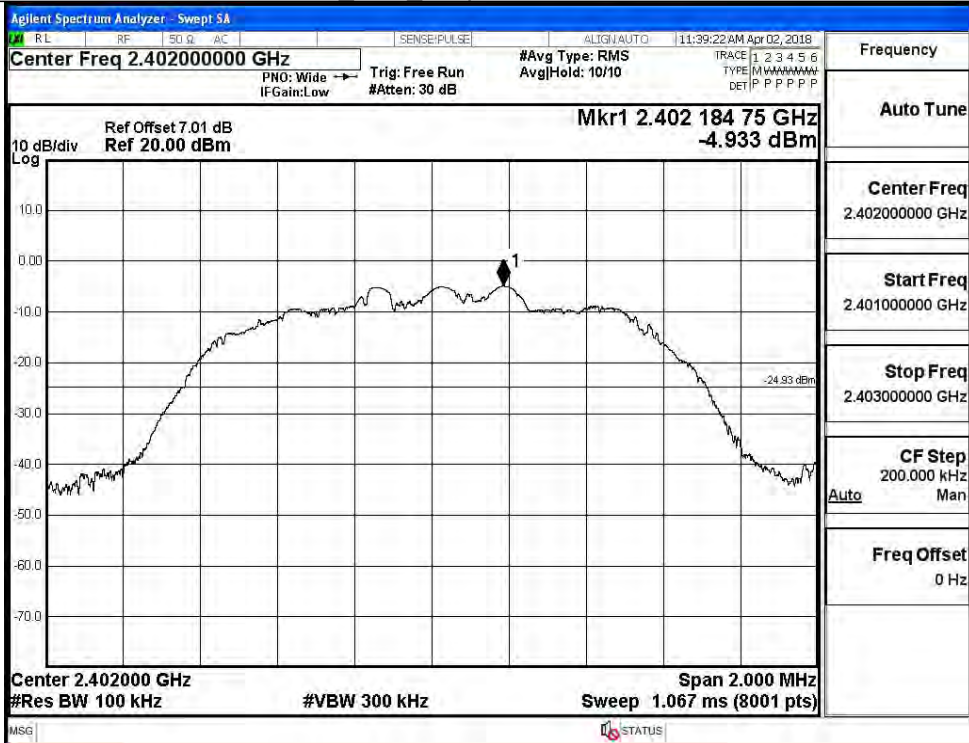


$\pi/4$ DQPSK\_HCH\_Graphs

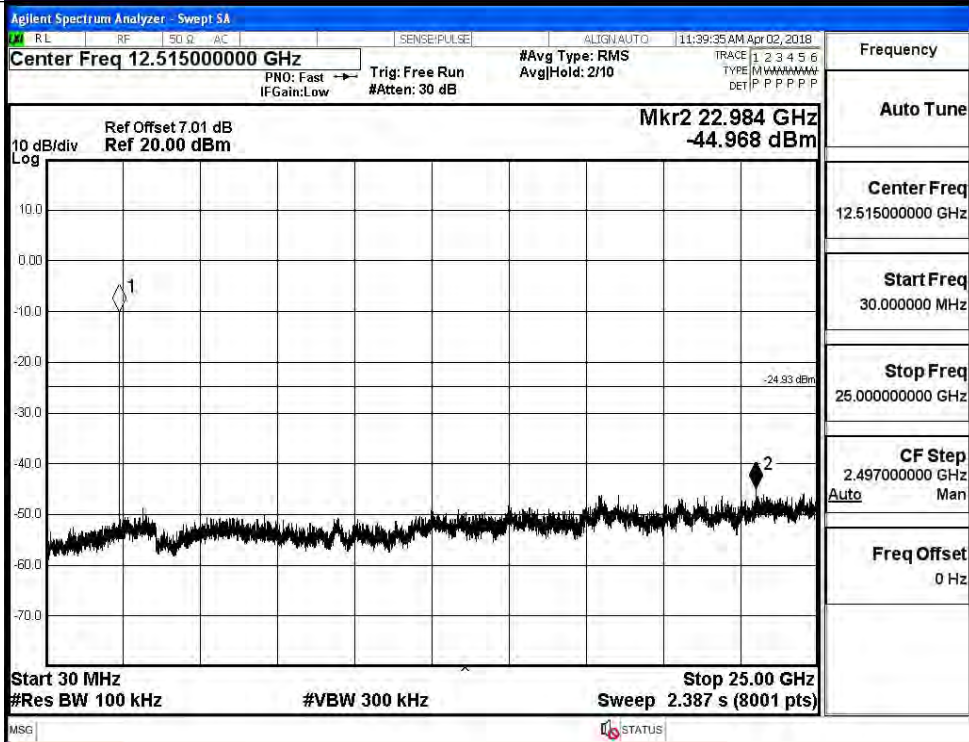


8DPSK\_LCH\_Graphs

Pref

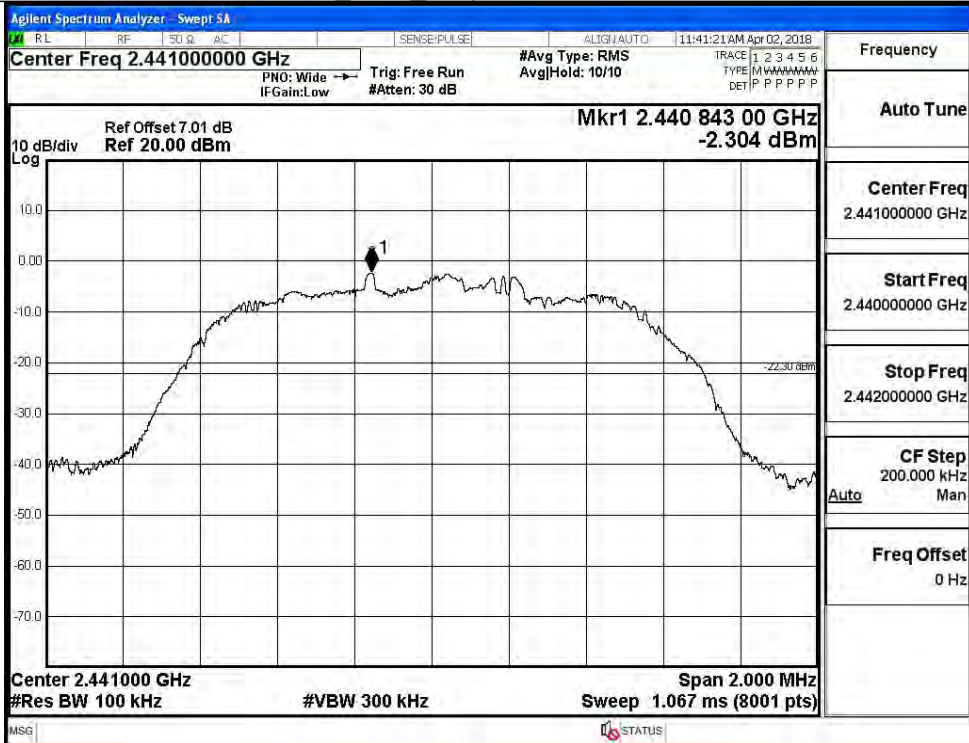


Puw

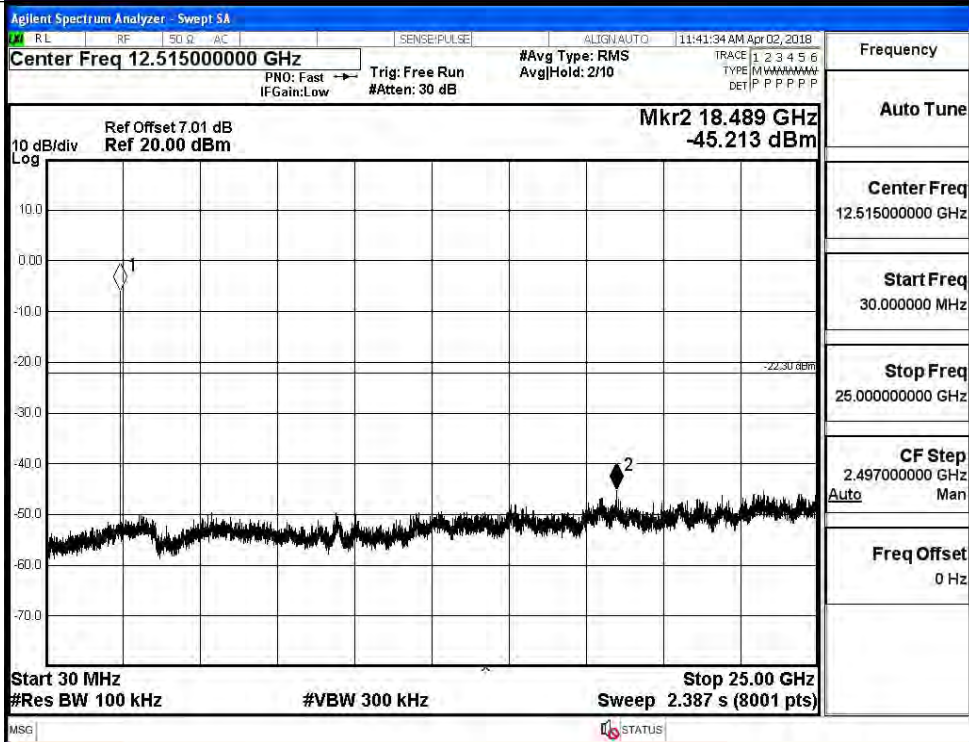


8DPSK\_MCH\_Graphs

Pref



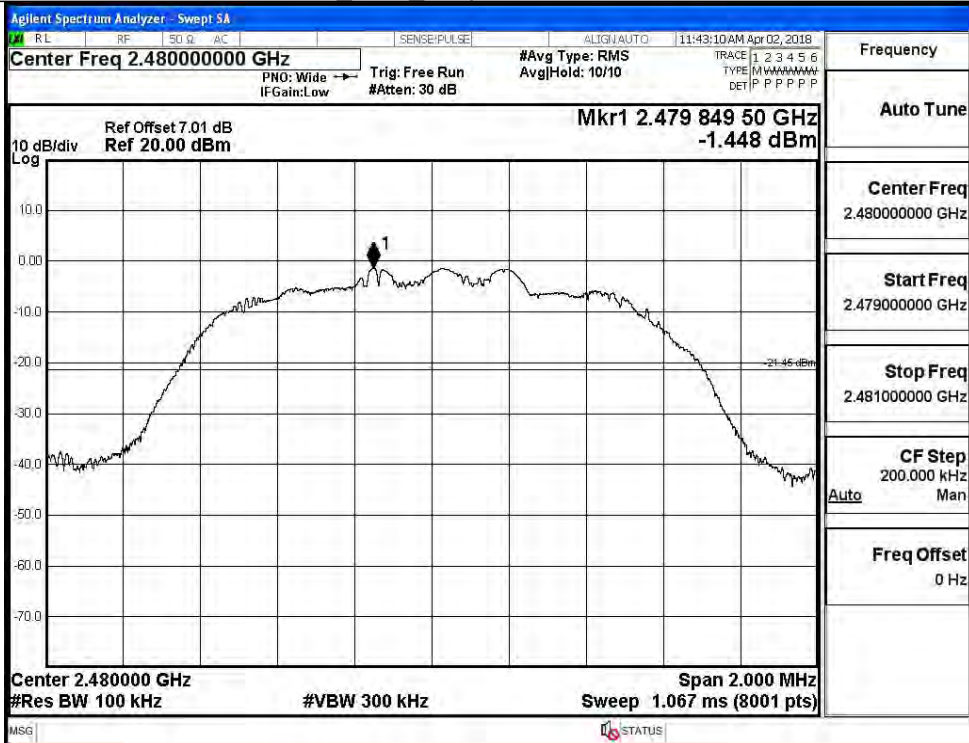
Puw



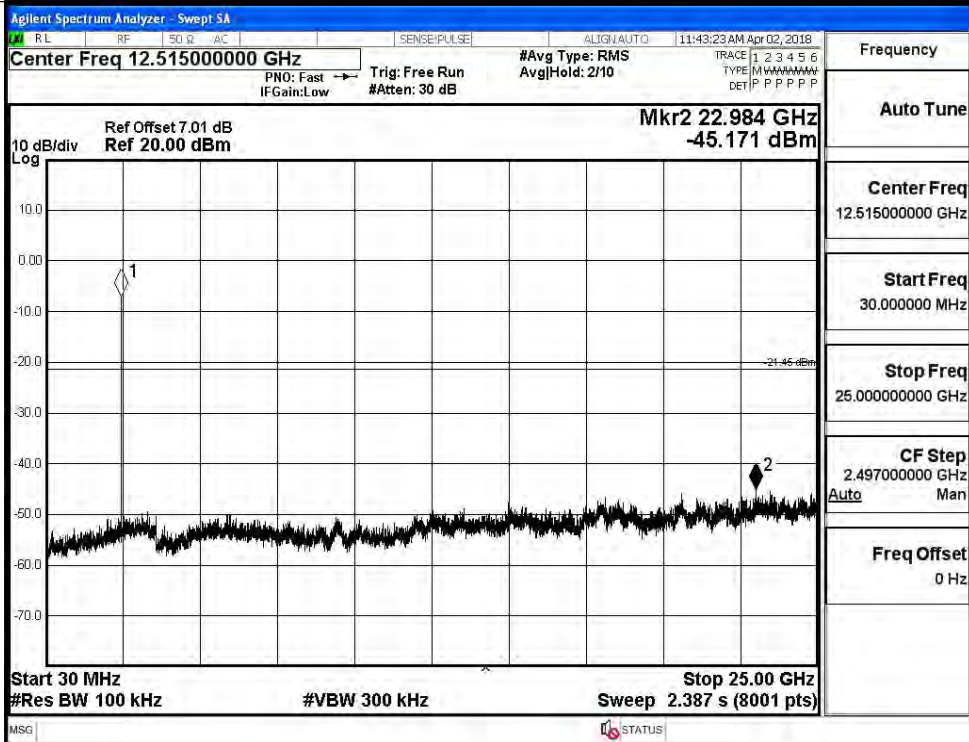


8DPSK\_HCH\_Graphs

Pref



Puw

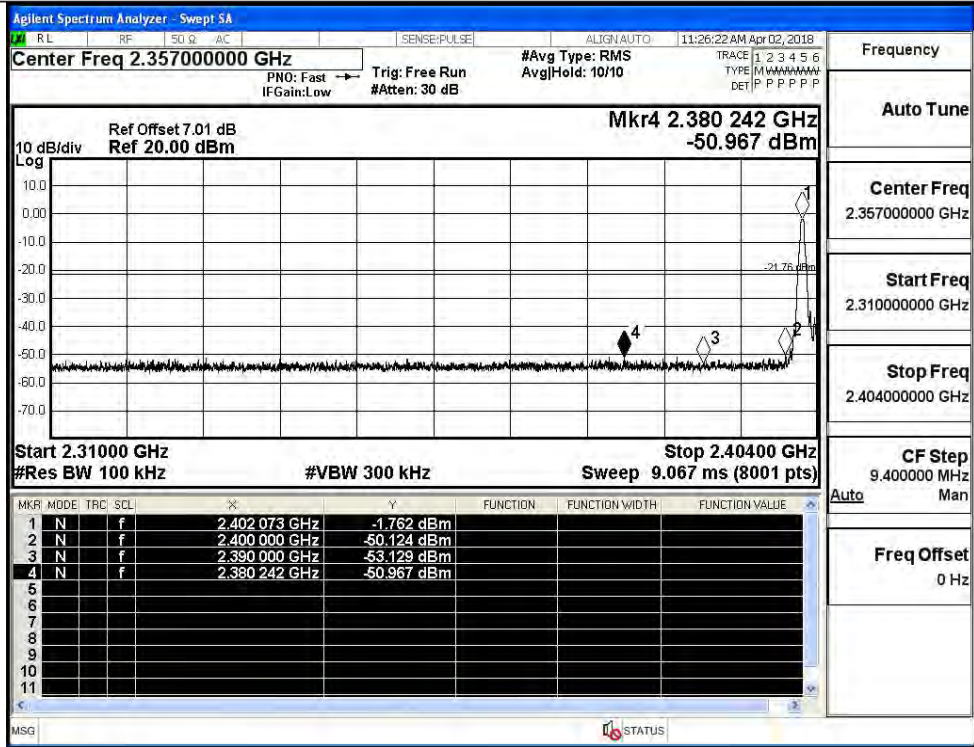


## A.7 Band-edge for RF Conducted Emissions

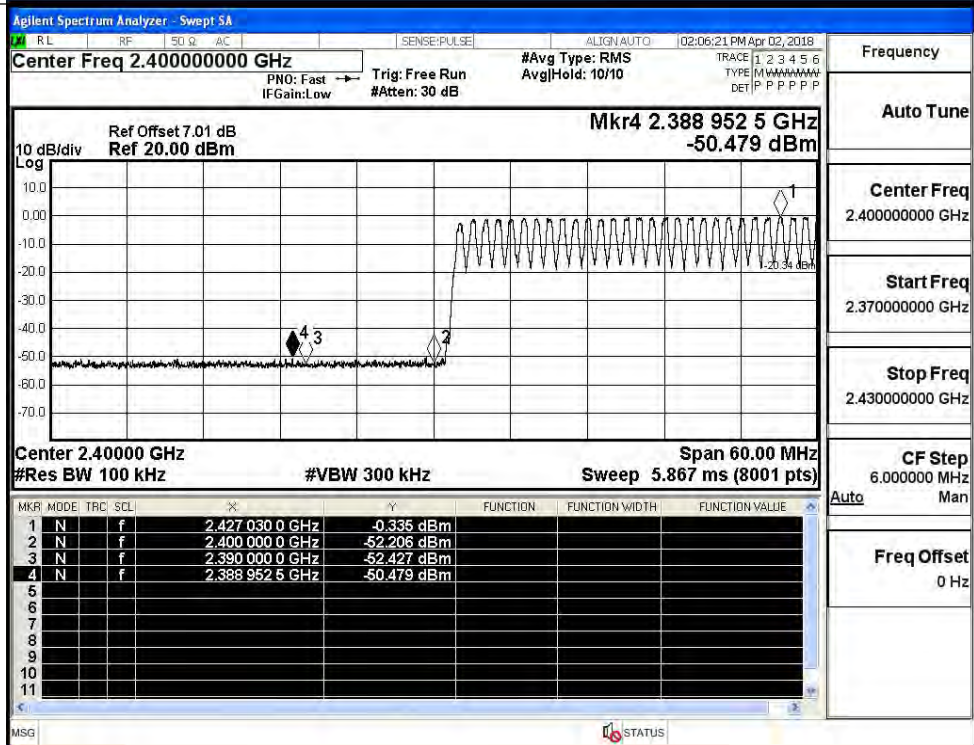
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-1.762	Off	-50.967	-21.76	PASS
			-0.335	On	-50.479	-20.34	PASS
	HCH	2480	1.486	Off	-50.738	-18.51	PASS
			0.632	On	-49.794	-19.37	PASS
$\pi/4$ DQPSK	LCH	2402	-4.988	Off	-50.823	-24.99	PASS
			-3.769	On	-50.018	-23.77	PASS
	HCH	2480	-1.692	Off	-51.288	-21.69	PASS
			-2.268	On	-49.750	-22.27	PASS
8DPSK	LCH	2402	-4.925	Off	-50.825	-24.93	PASS
			-3.523	On	-50.644	-23.52	PASS
	HCH	2480	-1.415	Off	-50.473	-21.42	PASS
			-2.056	On	-50.686	-22.06	PASS

Test Graphs

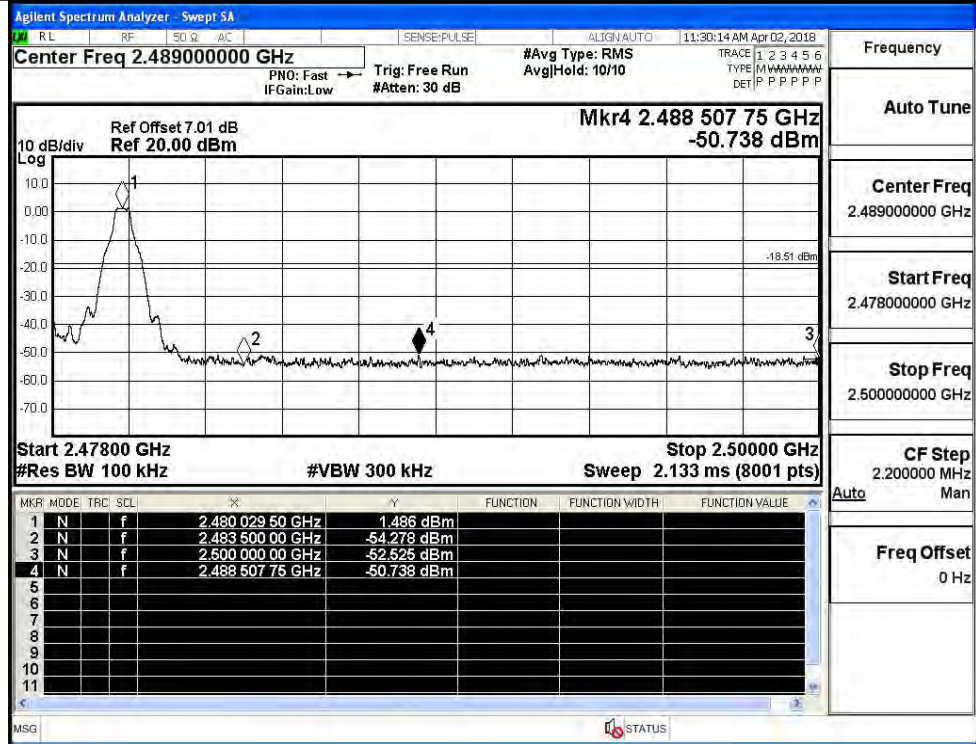
GFSK/LCH/No Hop



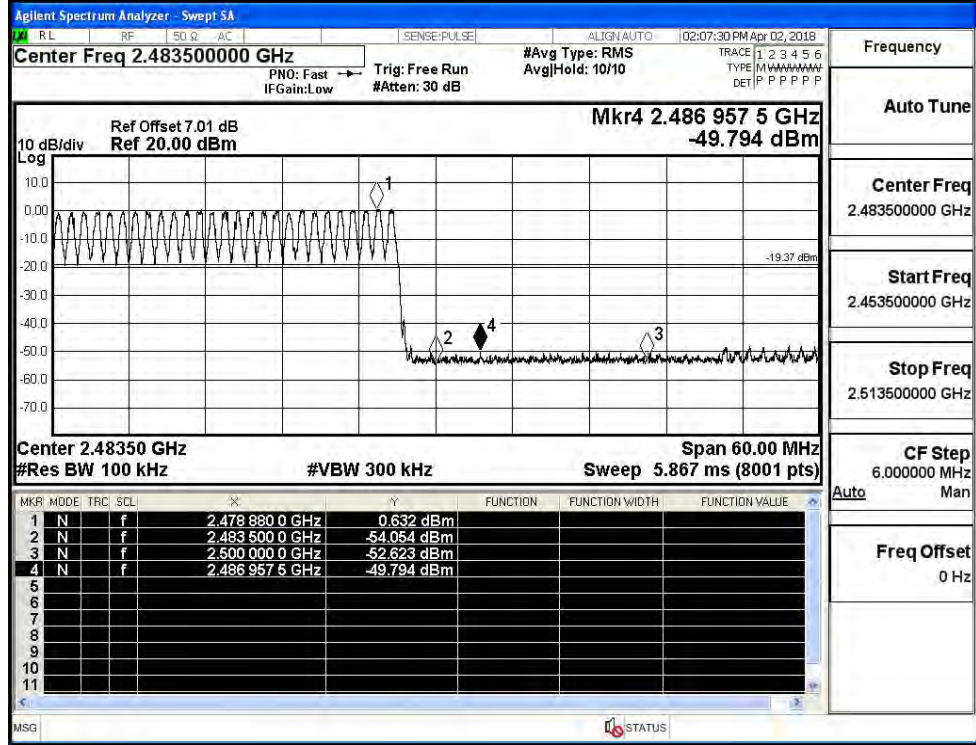
GFSK/LCH/Hop



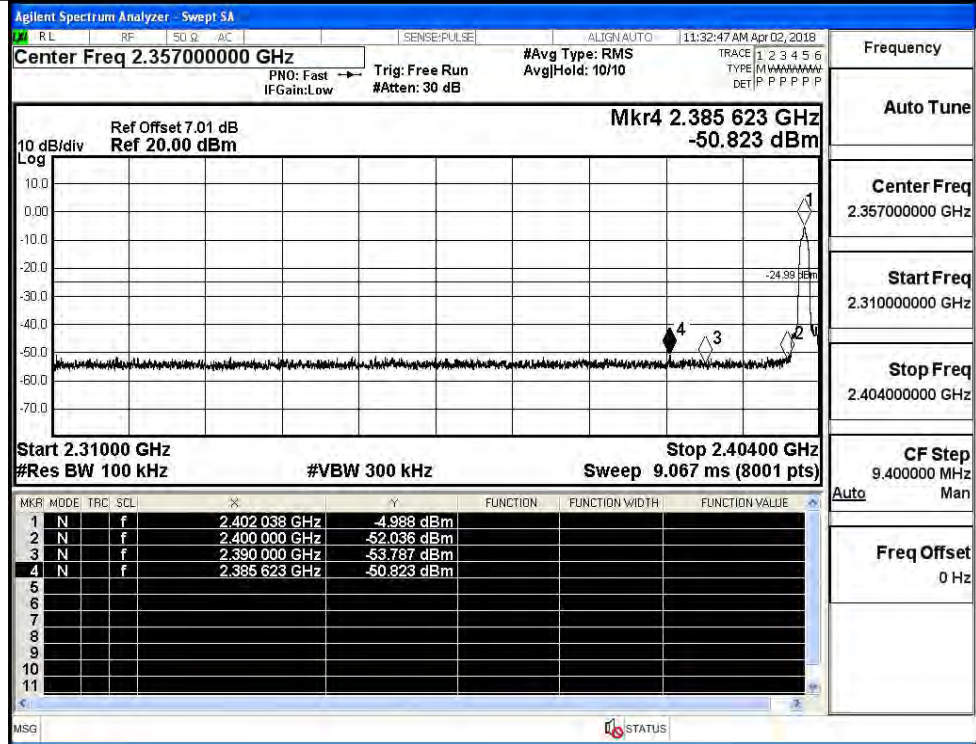
GFSK/HCH/No Hop



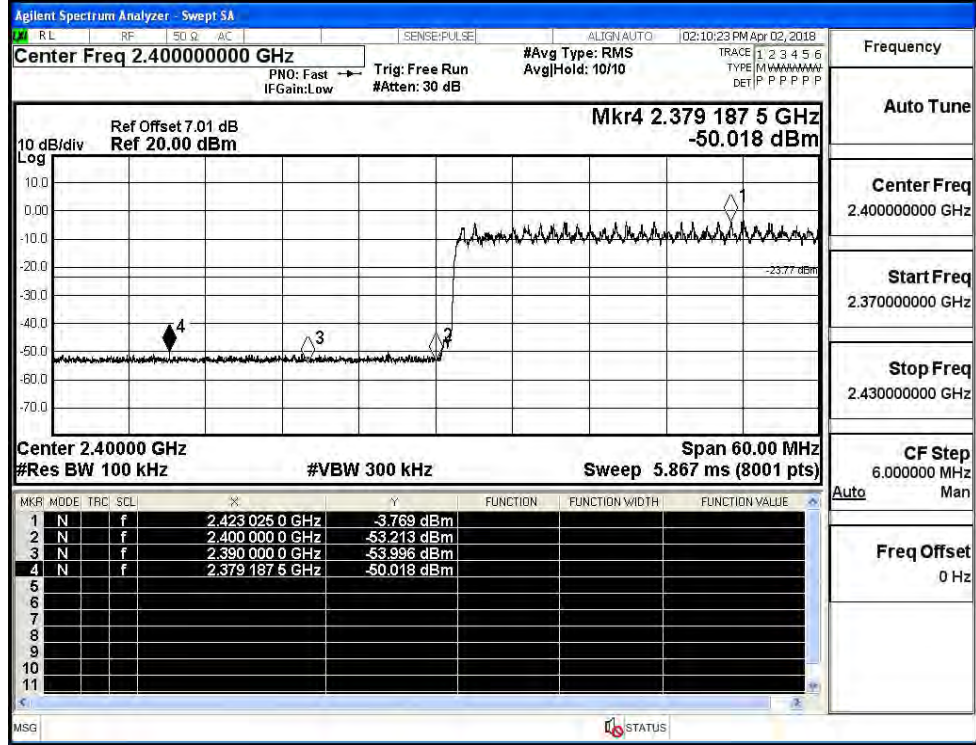
GFSK/HCH/Hop



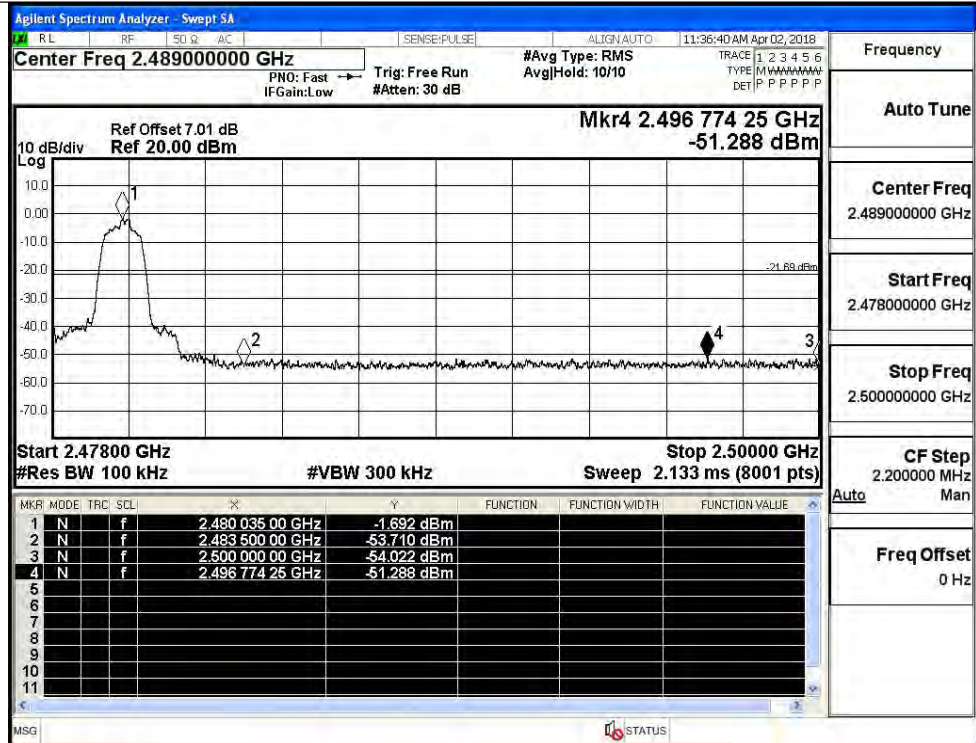
$\pi/4$ DQPSK/LCH/No Hop



$\pi/4$ DQPSK/LCH/Hop

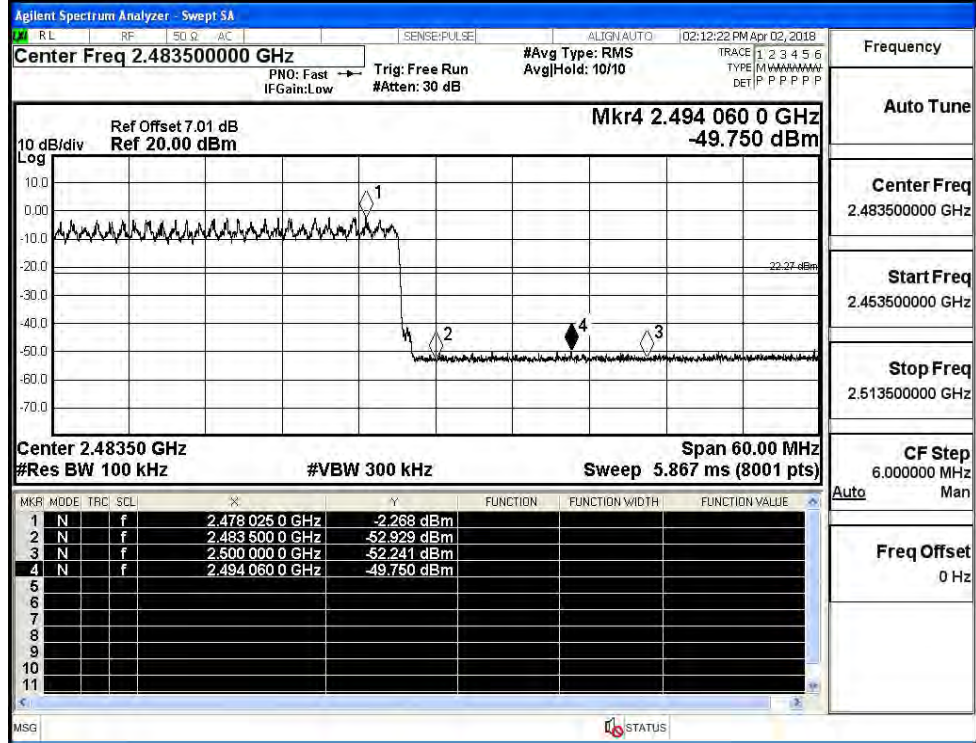


$\pi$ /4DQPSK/HCH/No  
Hop



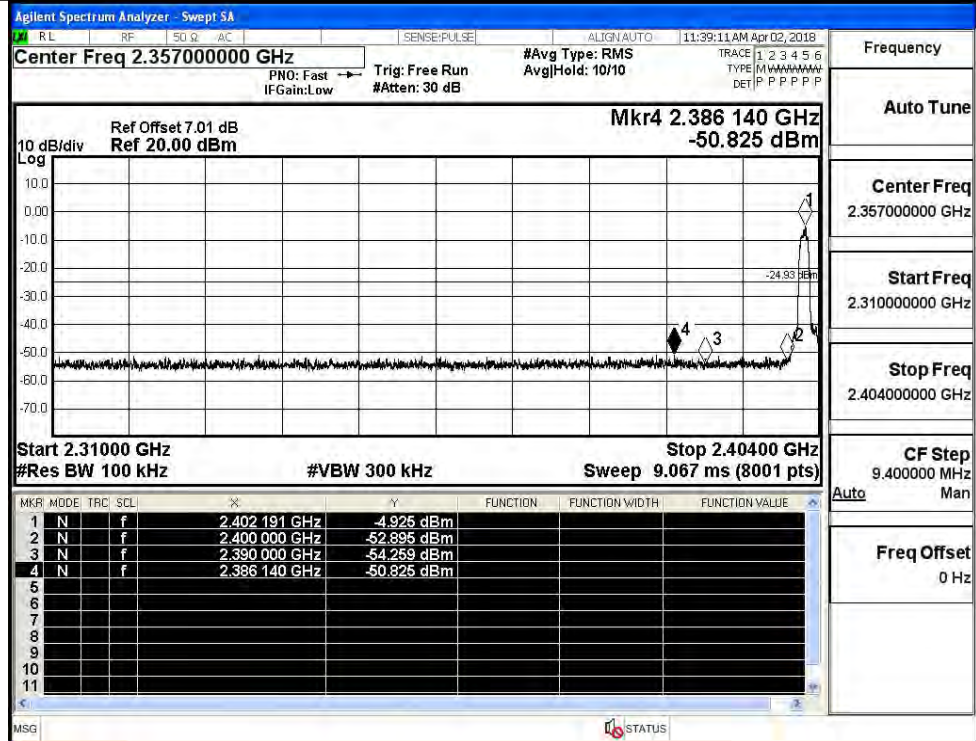
Frequency
Auto Tune
Center Freq 2.489000000 GHz
Start Freq 2.478000000 GHz
Stop Freq 2.500000000 GHz
CF Step 2.200000 MHz
Auto Man
Freq Offset 0 Hz

$\pi$ /4DQPSK/HCH/Hop



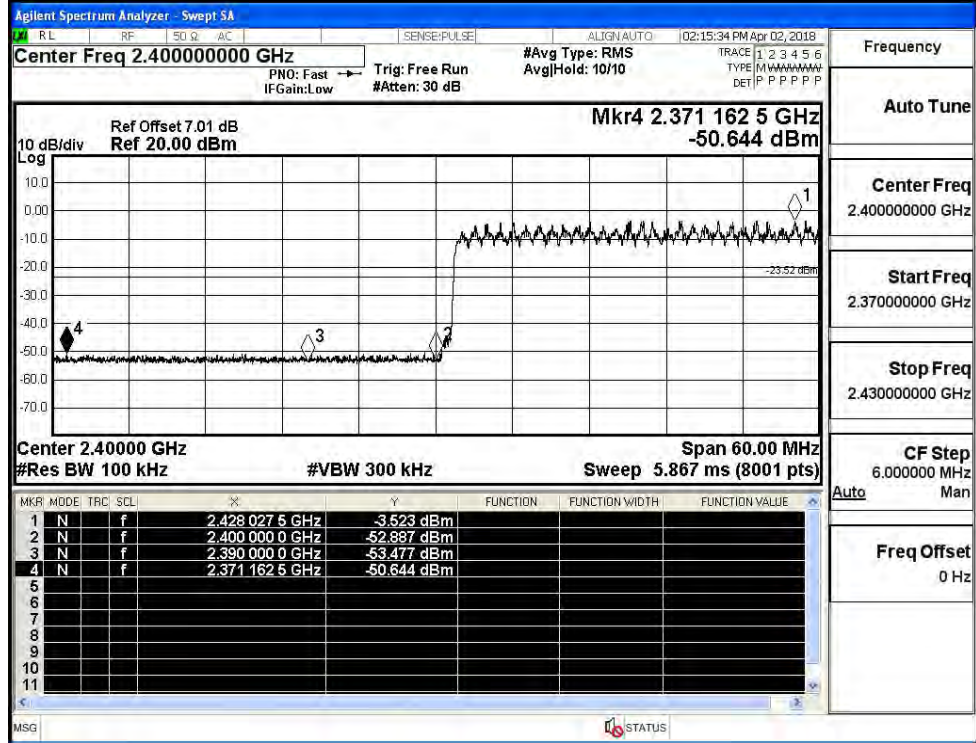
Frequency
Auto Tune
Center Freq 2.483500000 GHz
Start Freq 2.453500000 GHz
Stop Freq 2.513500000 GHz
CF Step 6.000000 MHz
Auto Man
Freq Offset 0 Hz

8DPSK/LCH/No Hop



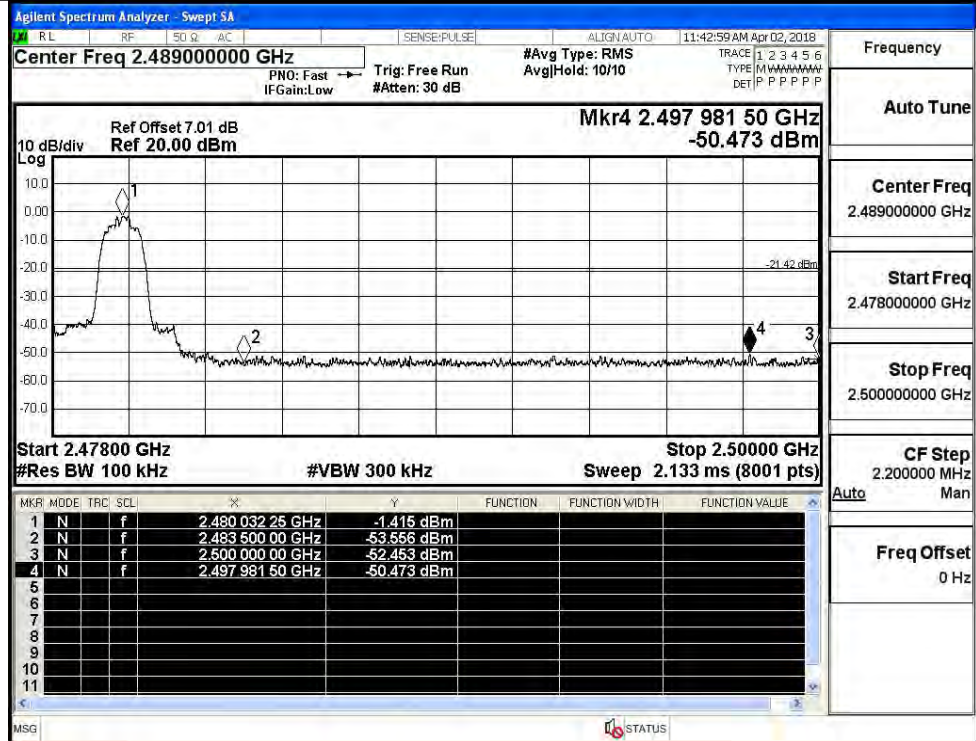
Frequency	
Auto Tune	
Center Freq	2.357000000 GHz
Start Freq	2.310000000 GHz
Stop Freq	2.404000000 GHz
CF Step	9.400000 MHz
Freq Offset	0 Hz

8DPSK/LCH/Hop

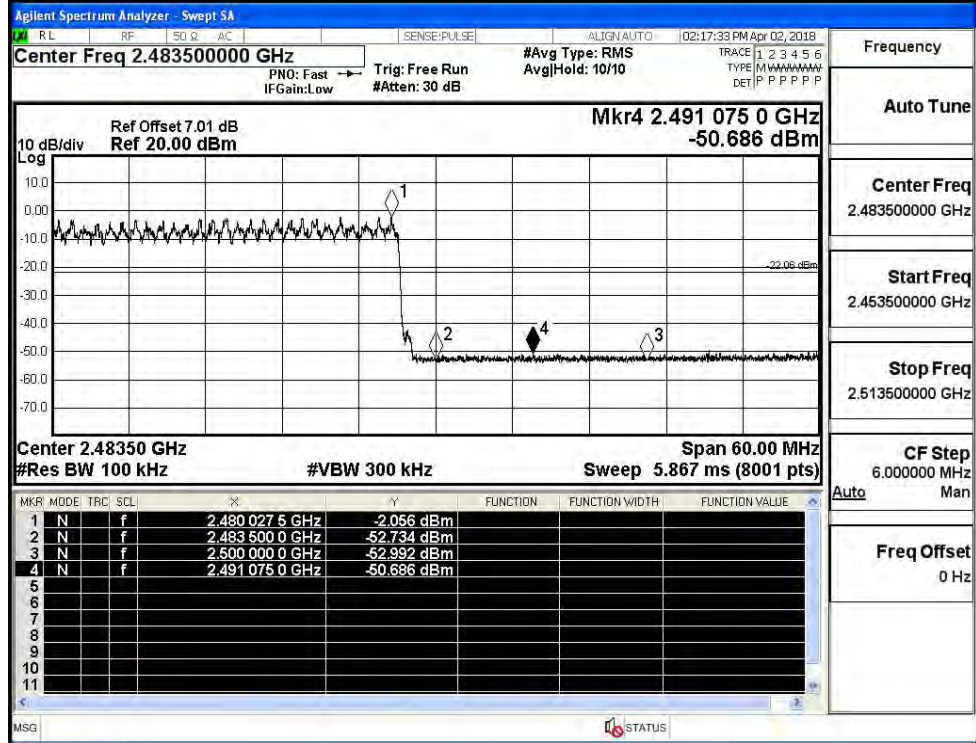


Frequency	
Auto Tune	
Center Freq	2.400000000 GHz
Start Freq	2.370000000 GHz
Stop Freq	2.430000000 GHz
CF Step	6.000000 MHz
Freq Offset	0 Hz

8DPSK/HCH/No Hop



8DPSK/HCH/Hop

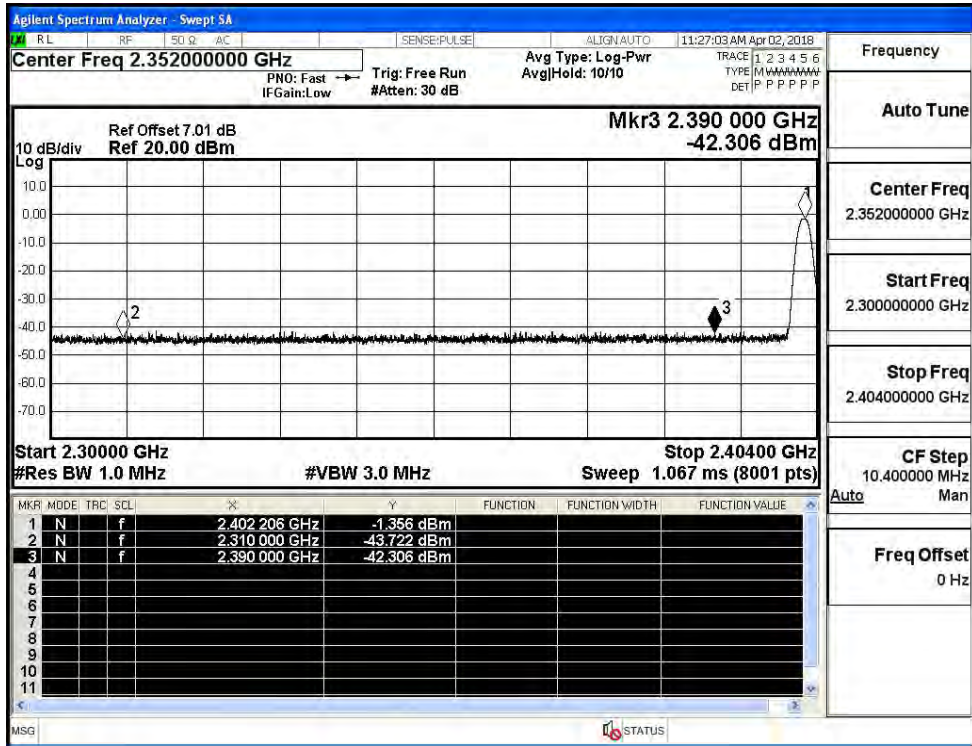




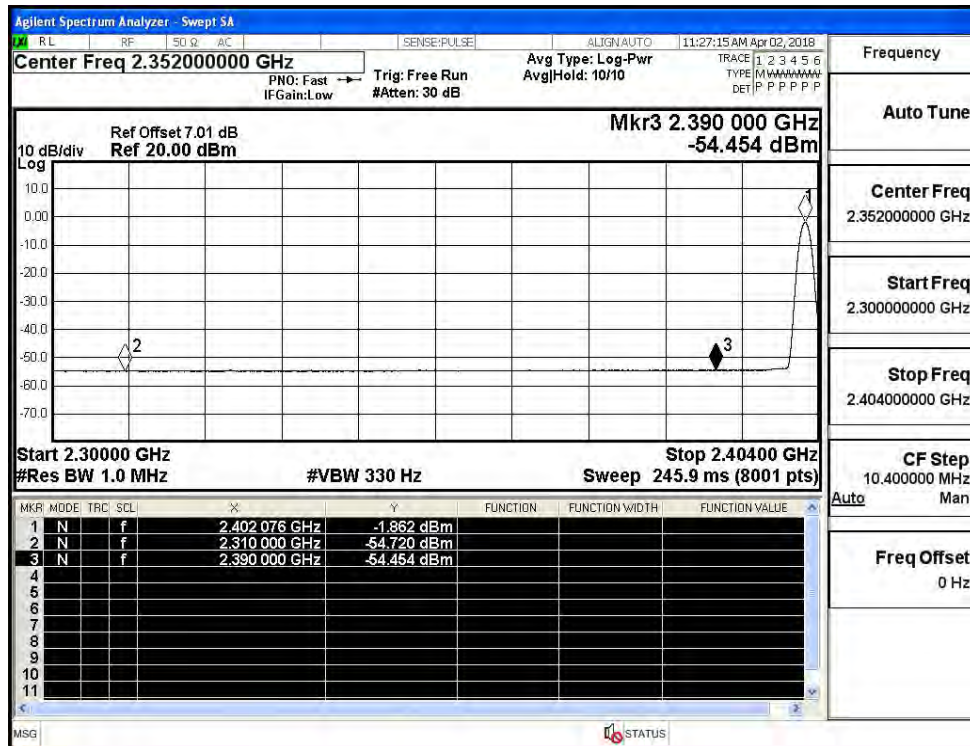
## A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.72	2.0	0	53.54	PEAK	74	PASS
	Off	2310.0	-54.72	2.0	0	42.54	AV	54	PASS
	Off	2390.0	-42.31	2.0	0	54.95	PEAK	74	PASS
	Off	2390.0	-54.45	2.0	0	42.81	AV	54	PASS
	Off	2483.5	-43.34	2.0	0	53.92	PEAK	74	PASS
	Off	2483.5	-53.37	2.0	0	43.89	AV	54	PASS
	Off	2500.0	-43.98	2.0	0	53.28	PEAK	74	PASS
	Off	2500.0	-54.09	2.0	0	43.17	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-44.16	2.0	0	53.1	PEAK	74	PASS
	Off	2310.0	-54.86	2.0	0	42.4	AV	54	PASS
	Off	2390.0	-45.42	2.0	0	51.84	PEAK	74	PASS
	Off	2390.0	-54.44	2.0	0	42.82	AV	54	PASS
	Off	2483.5	-42.63	2.0	0	54.63	PEAK	74	PASS
	Off	2483.5	-53.69	2.0	0	43.57	AV	54	PASS
	Off	2500.0	-43.11	2.0	0	54.15	PEAK	74	PASS
	Off	2500.0	-54.03	2.0	0	43.23	AV	54	PASS
8DPSK	Off	2310.0	-44.53	2.0	0	52.73	PEAK	74	PASS
	Off	2310.0	-54.71	2.0	0	42.55	AV	54	PASS
	Off	2390.0	-44.01	2.0	0	53.25	PEAK	74	PASS
	Off	2390.0	-54.47	2.0	0	42.79	AV	54	PASS
	Off	2483.5	-43.01	2.0	0	54.25	PEAK	74	PASS
	Off	2483.5	-53.73	2.0	0	43.53	AV	54	PASS
	Off	2500.0	-42.90	2.0	0	54.36	PEAK	74	PASS
	Off	2500.0	-54.10	2.0	0	43.16	AV	54	PASS

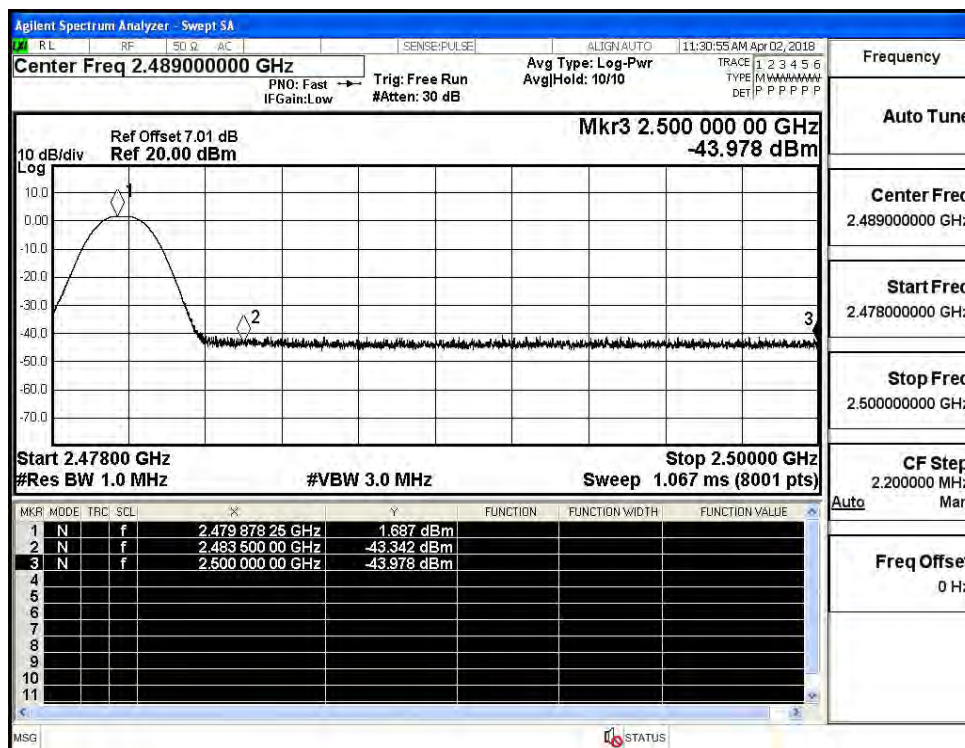
Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (Low Channel)



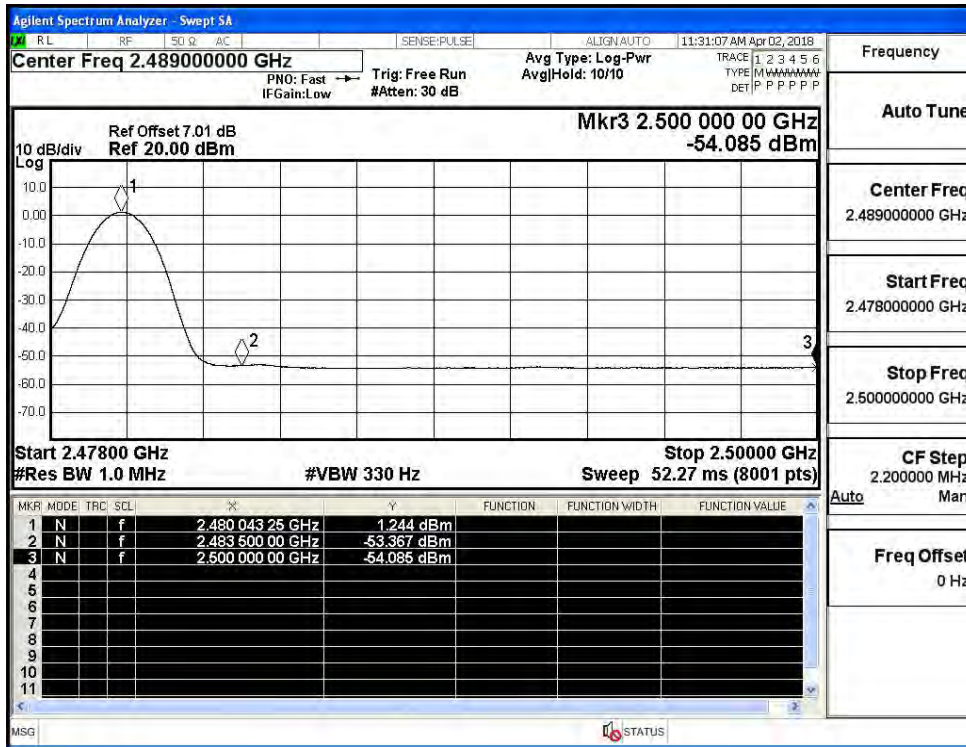
Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (Low Channel)



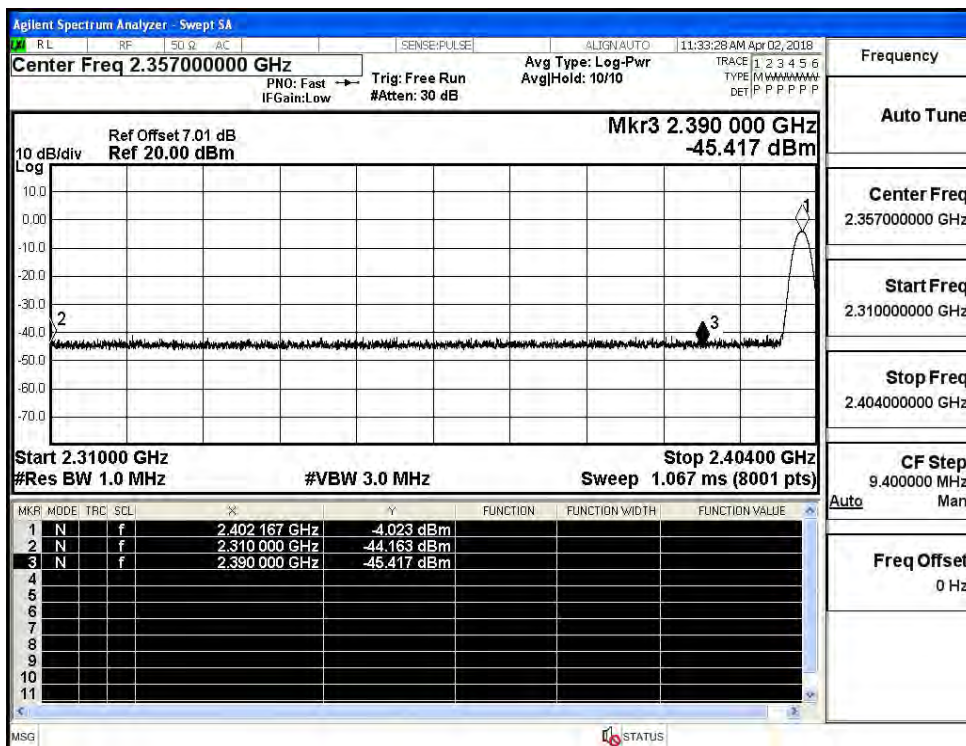
Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (High Channel)



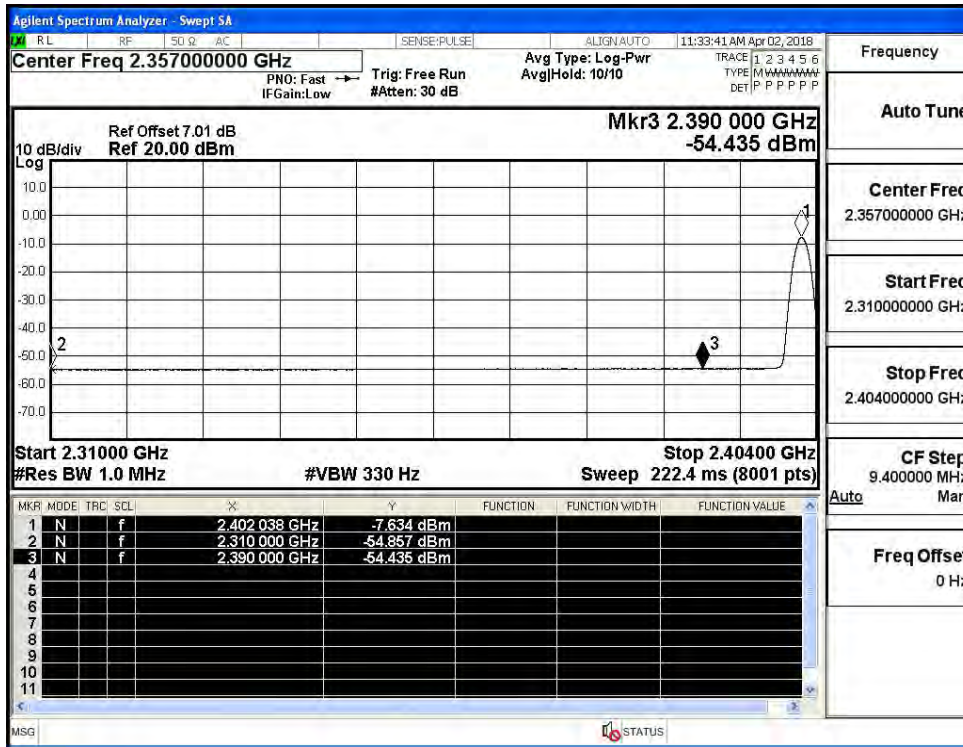
Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (High Channel)



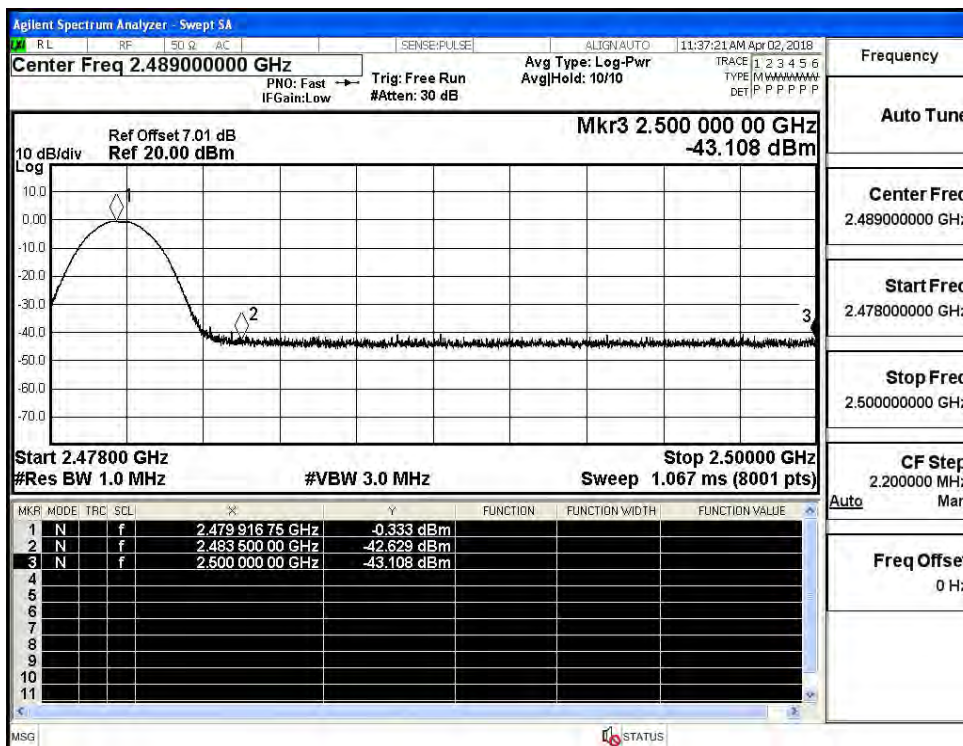
Restrict-band band-edge measurements\_Hopping Off  $\pi/4$ -DQPSK\_PEAK (Low Channel)



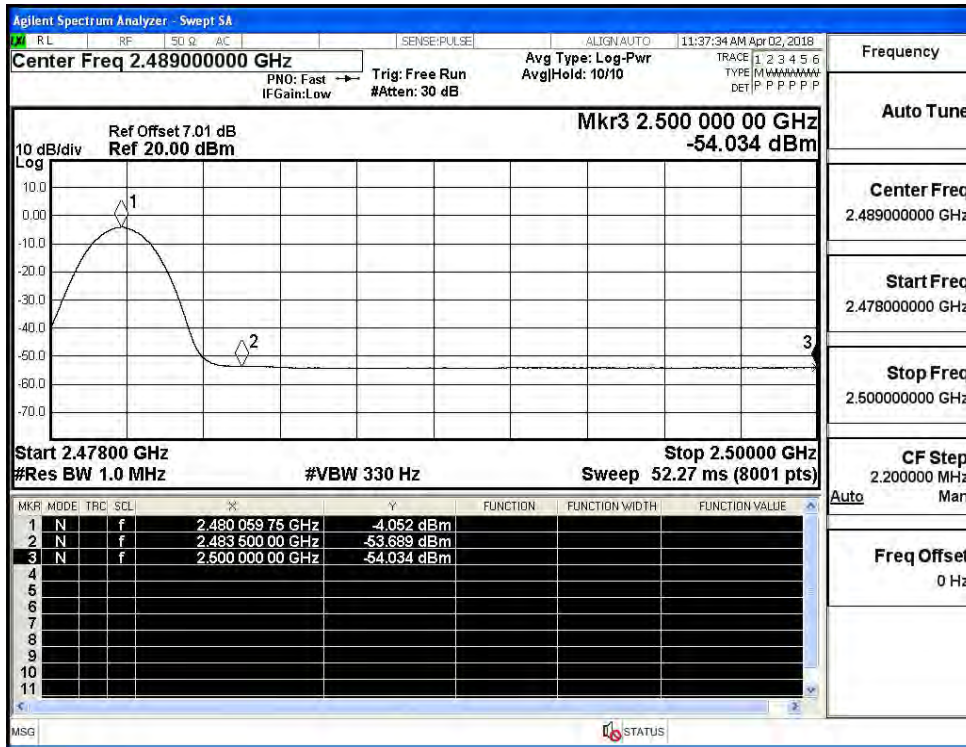
Restrict-band band-edge measurements\_Hopping Off  $\pi/4$ -DQPSK\_Average (Low Channel)



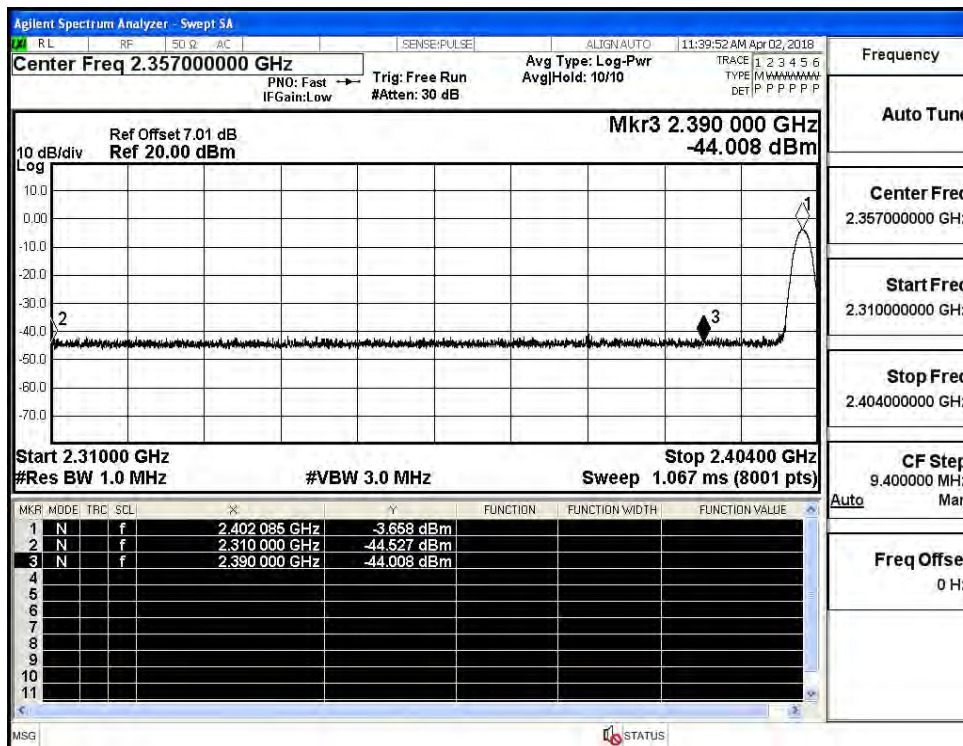
Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_PEAK (High Channel)



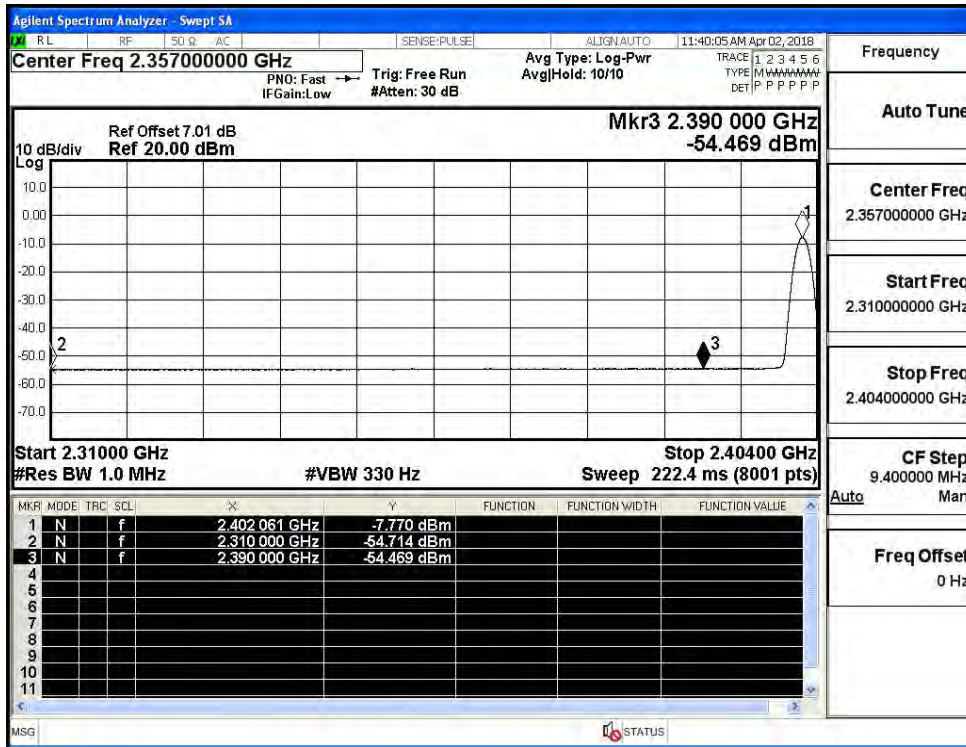
Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_Average (High Channel)



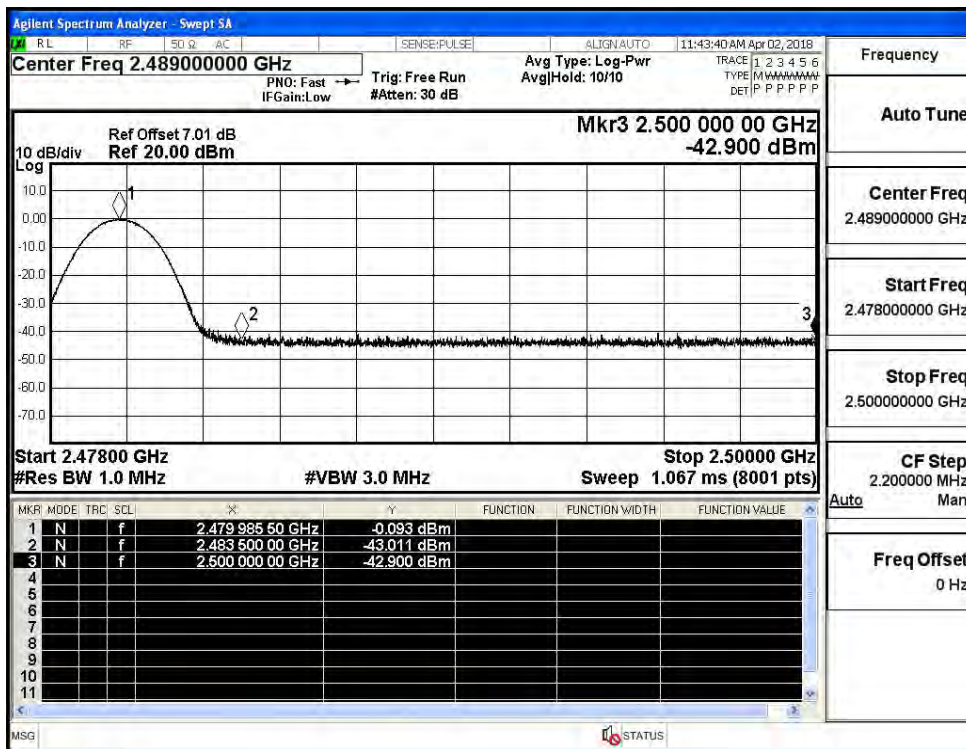
Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_PEAK (Low Channel)



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)

