

Appendix A

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

Product Name: Projector

Trade Mark: N/A

Test Model: F-506

Environmental Conditions

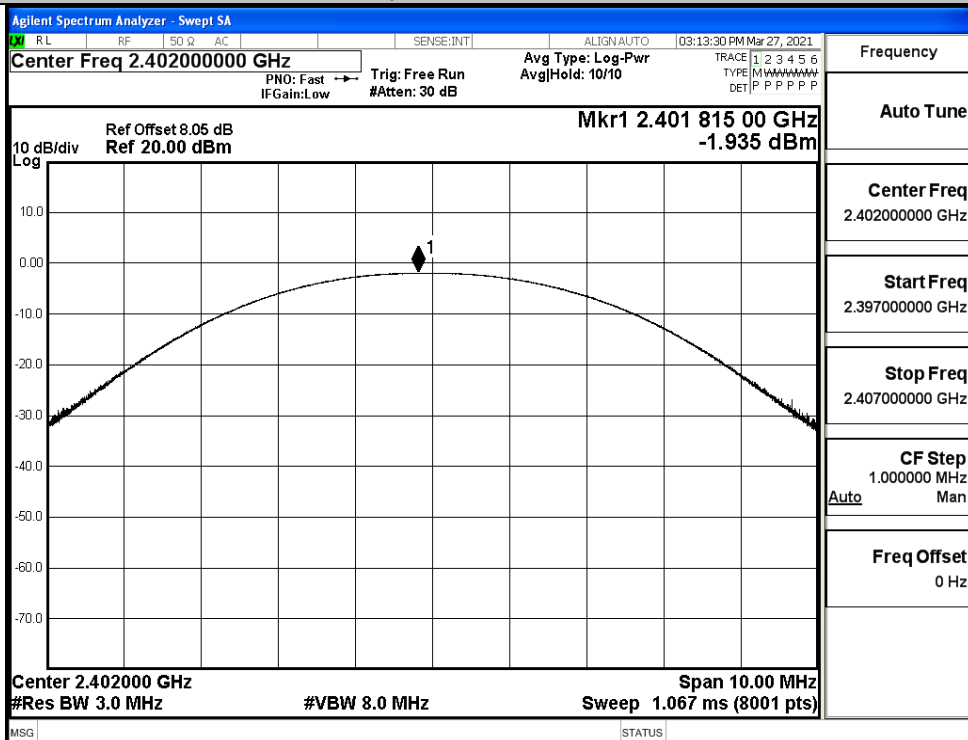
Temperature:	24.6° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Li Huan

A.1 Maxmum Conducted Peak Output Power

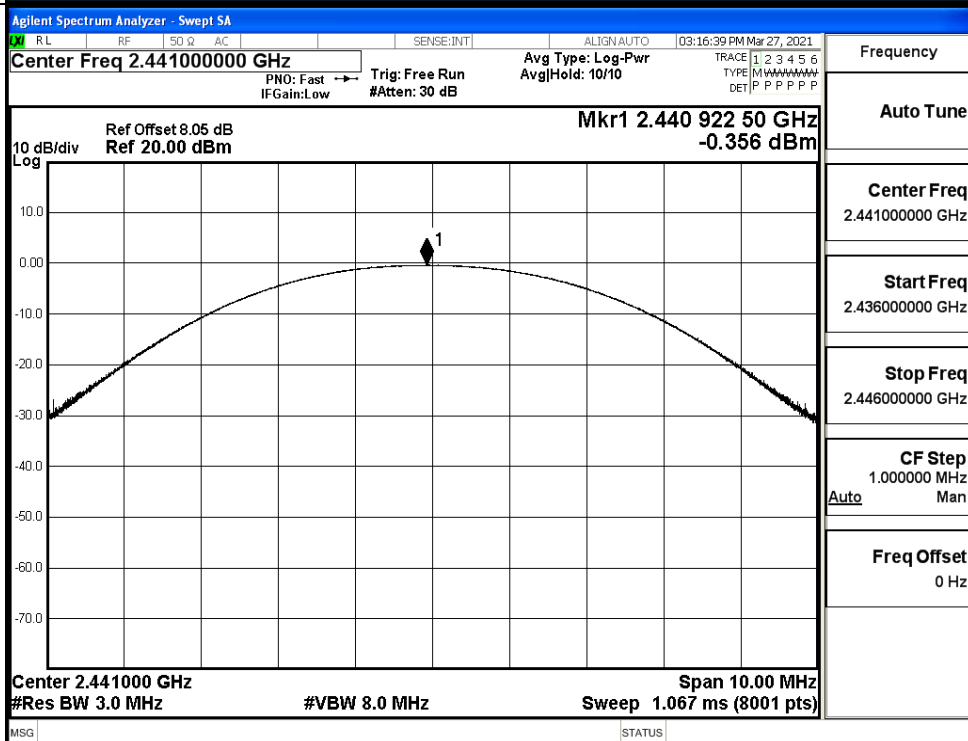
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-1.935	21	PASS
	MCH	-0.356	21	PASS
	HCH	-0.321	21	PASS
$\pi/4$ DQPSK	LCH	0.139	21	PASS
	MCH	1.985	21	PASS
	HCH	1.787	21	PASS
8DPSK	LCH	0.594	21	PASS
	MCH	2.334	21	PASS
	HCH	2.519	21	PASS

Test Graphs

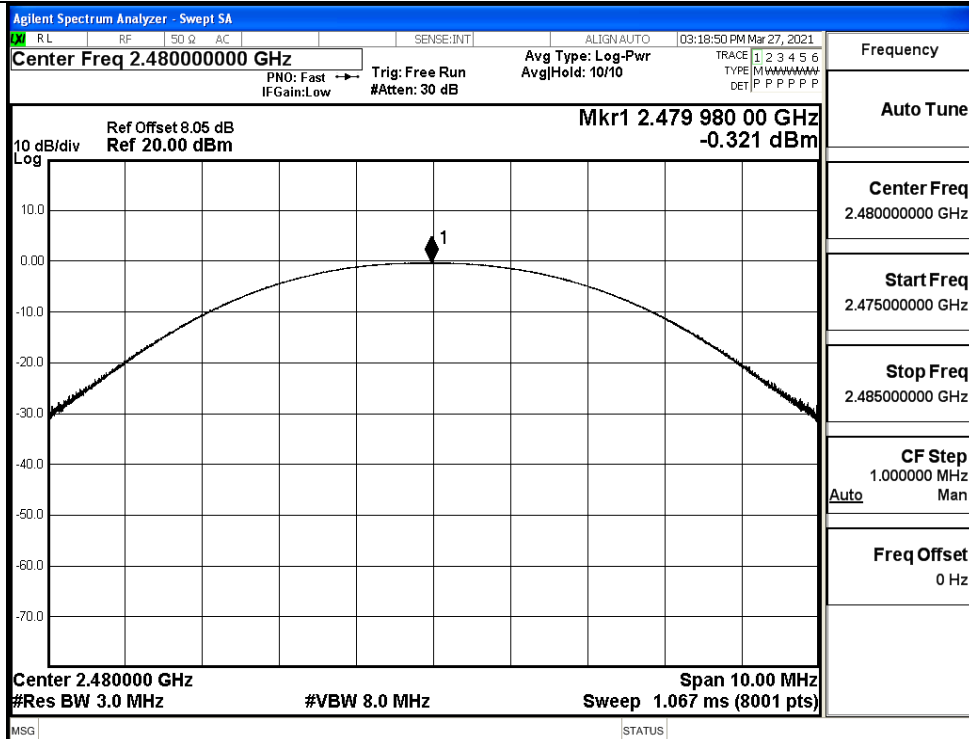
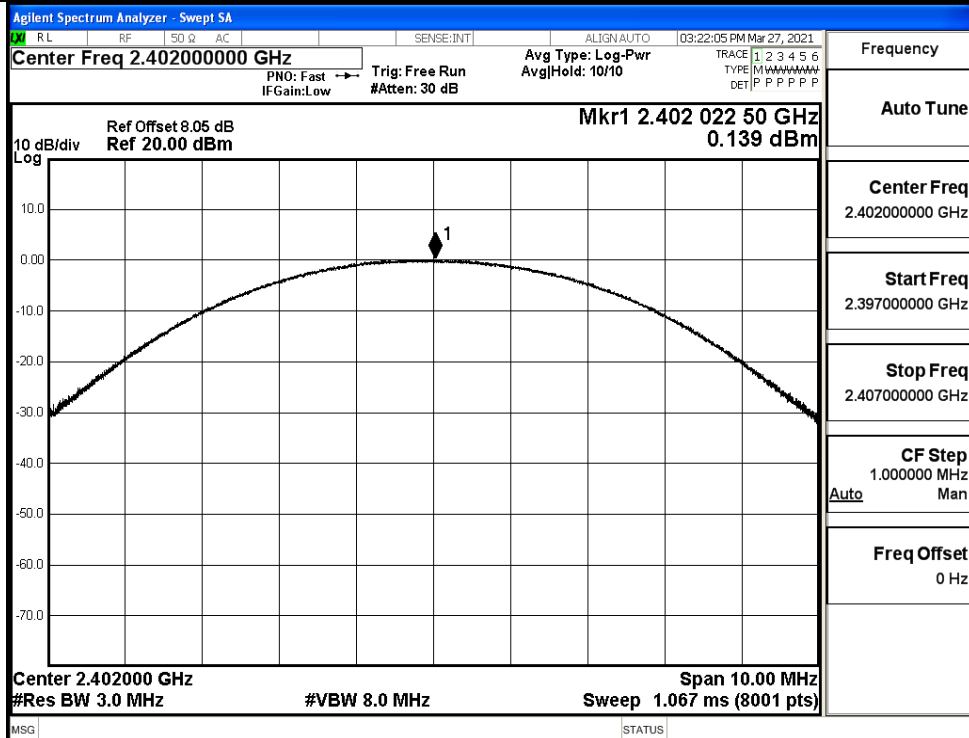
GFSK/LCH

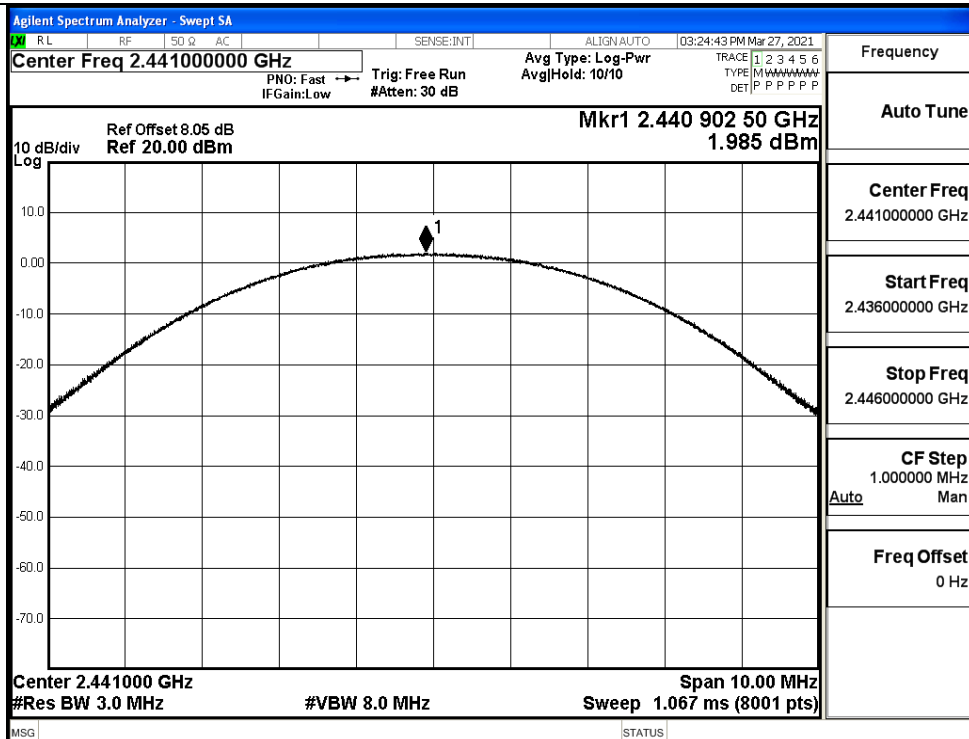
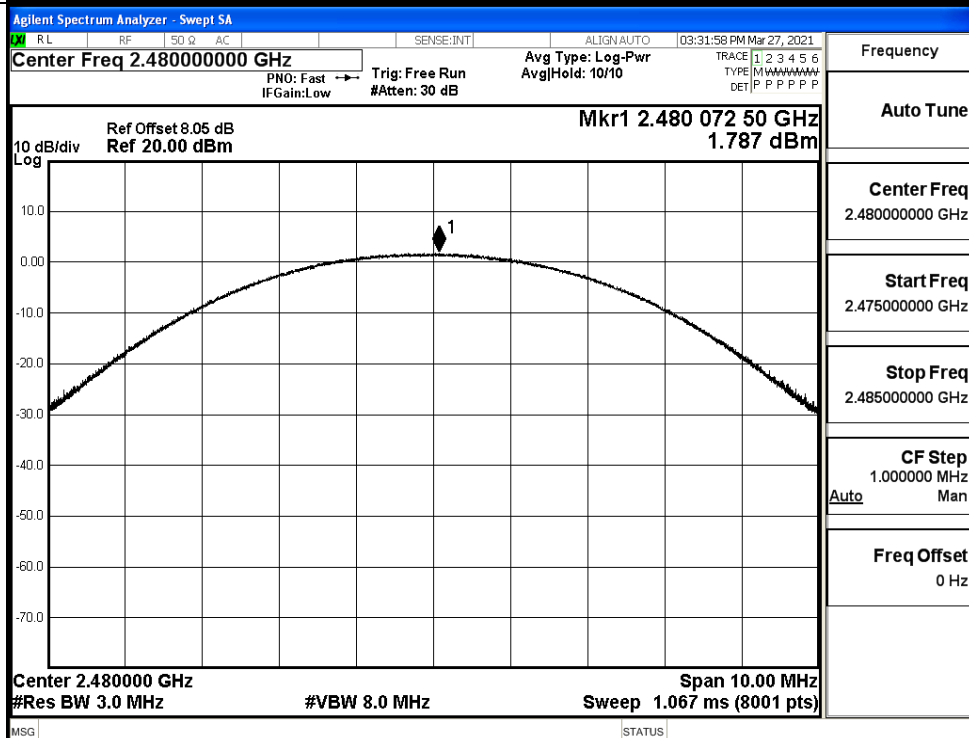


GFSK/MCH

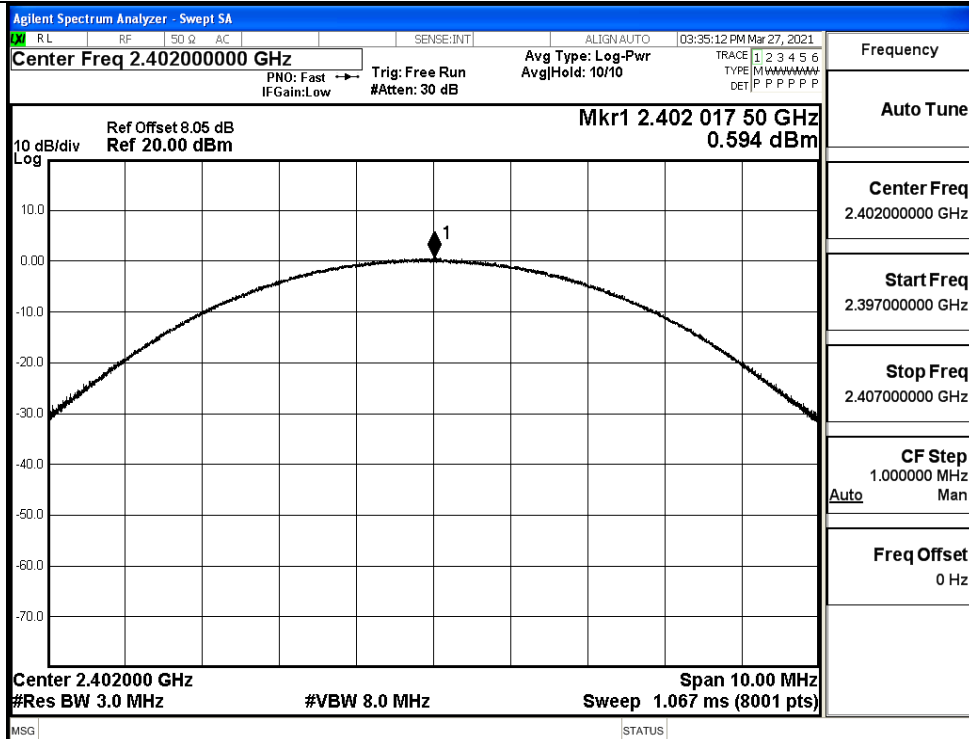


GFSK/HCH

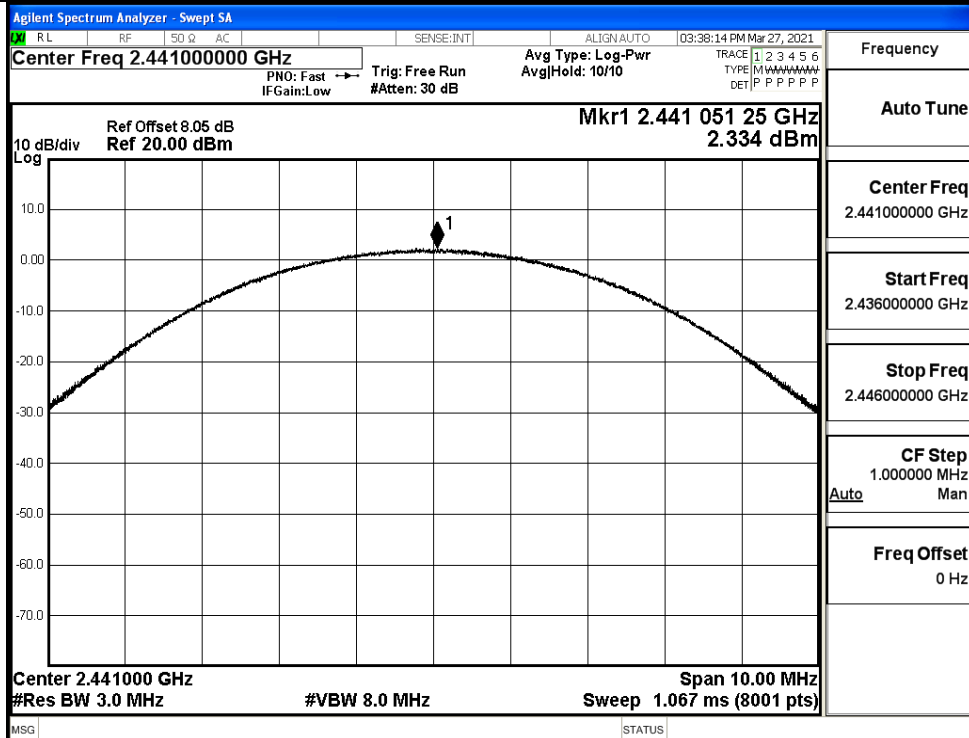
 $\pi/4$ DQPSK/LCH

$\pi/4$ DQPSK/MCH $\pi/4$ DQPSK/HCH

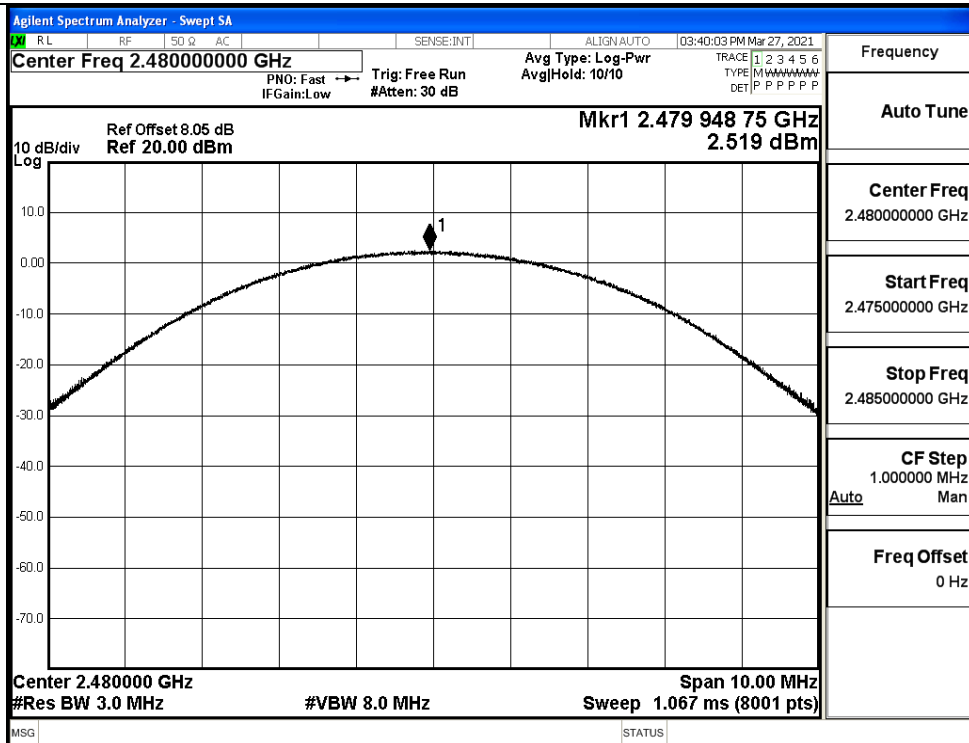
8DPSK/LCH



8DPSK/MCH



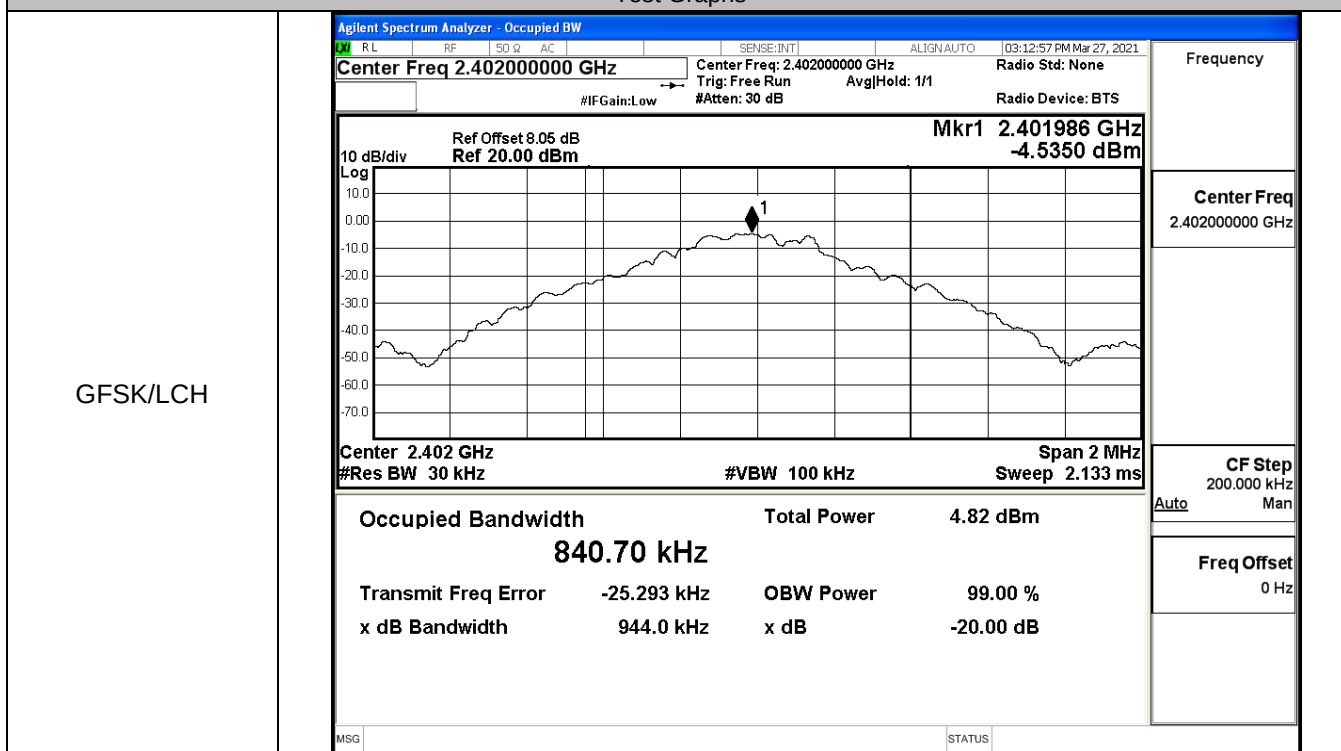
8DPSK/HCH



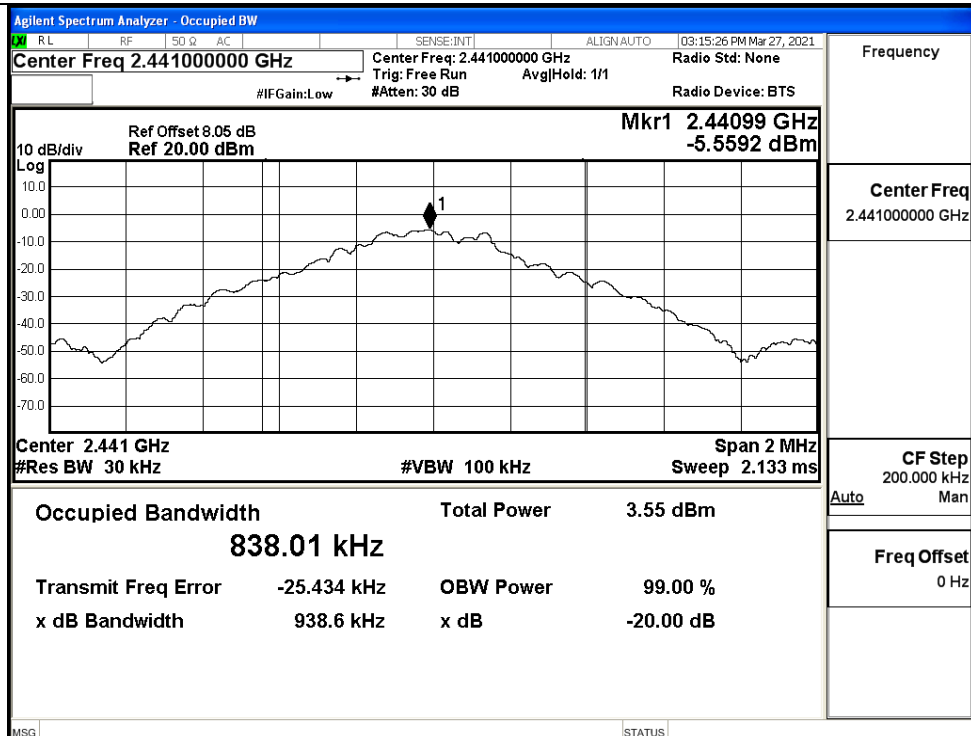
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9440	Not Specified	PASS
	MCH	0.9386	Not Specified	PASS
	HCH	0.9393	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.318	Not Specified	PASS
	MCH	1.313	Not Specified	PASS
	HCH	1.316	Not Specified	PASS
8DPSK	LCH	1.311	Not Specified	PASS
	MCH	1.309	Not Specified	PASS
	HCH	1.308	Not Specified	PASS

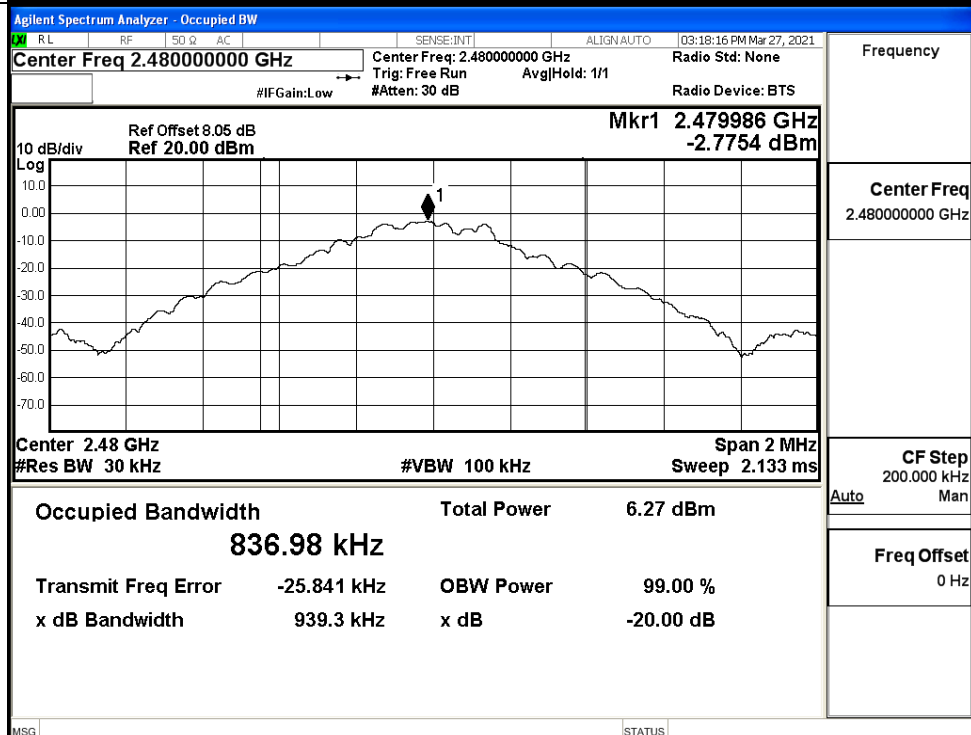
Test Graphs

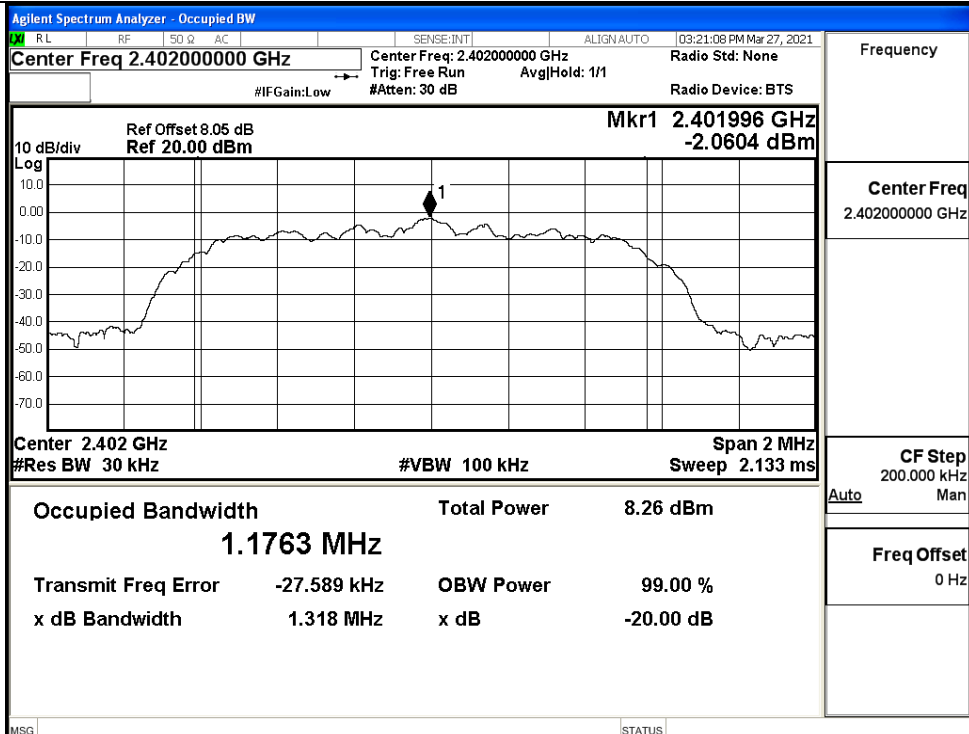
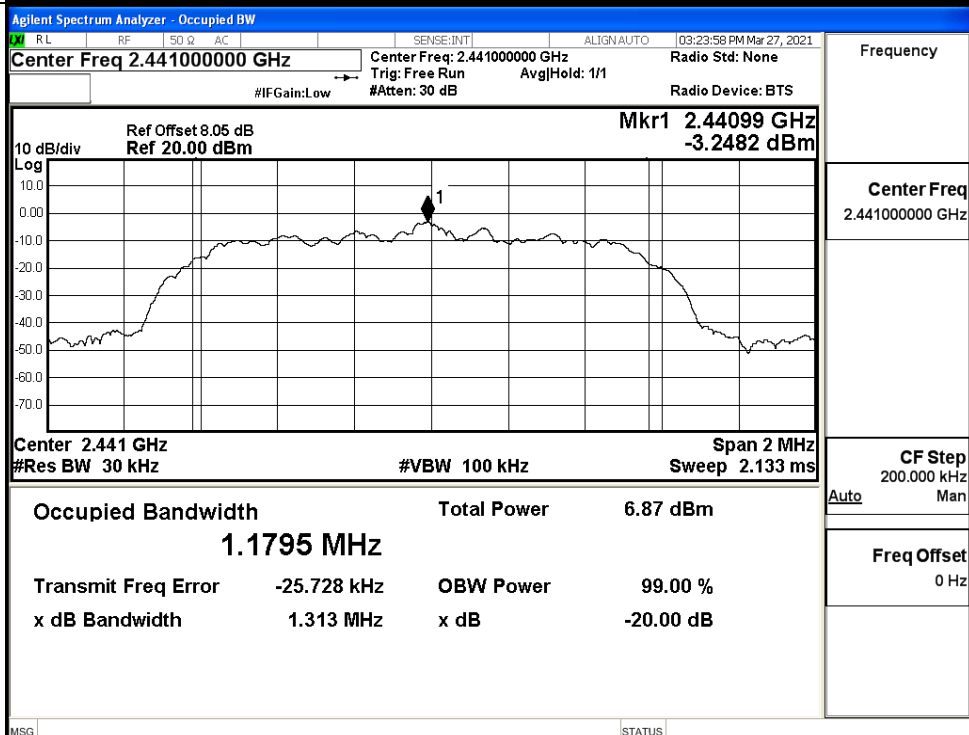


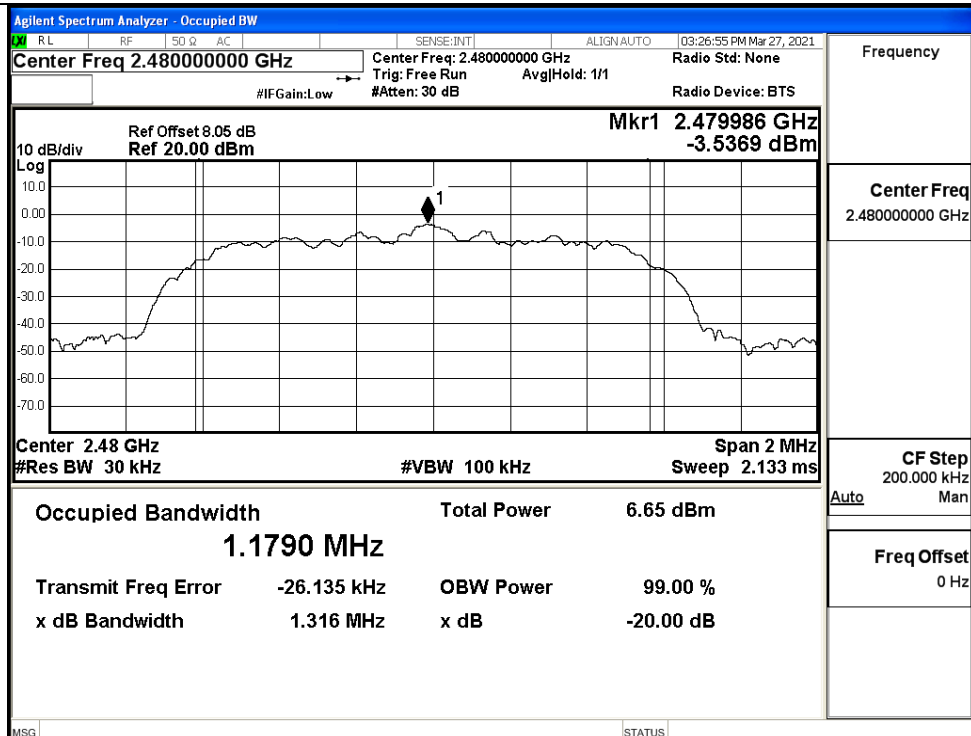
GFSK/MCH



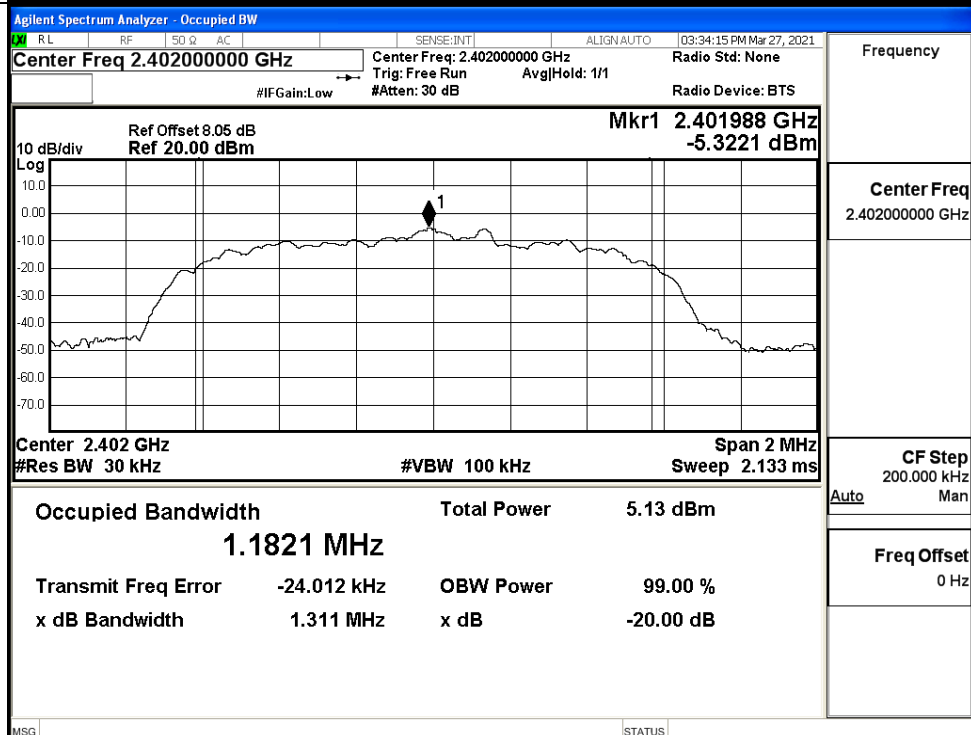
GFSK/HCH



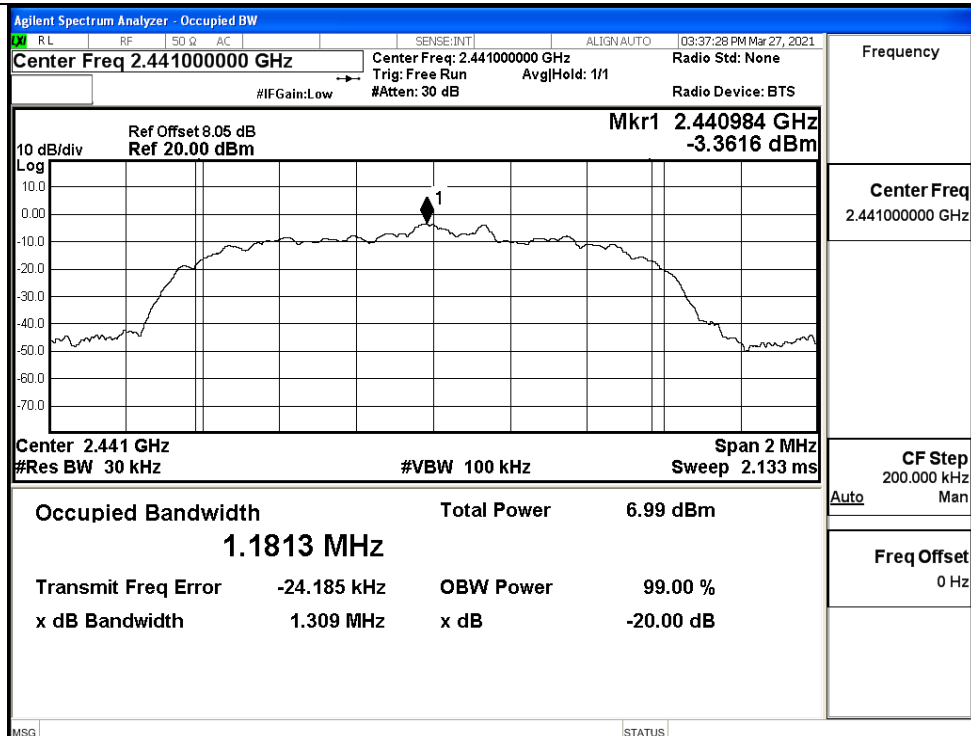
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

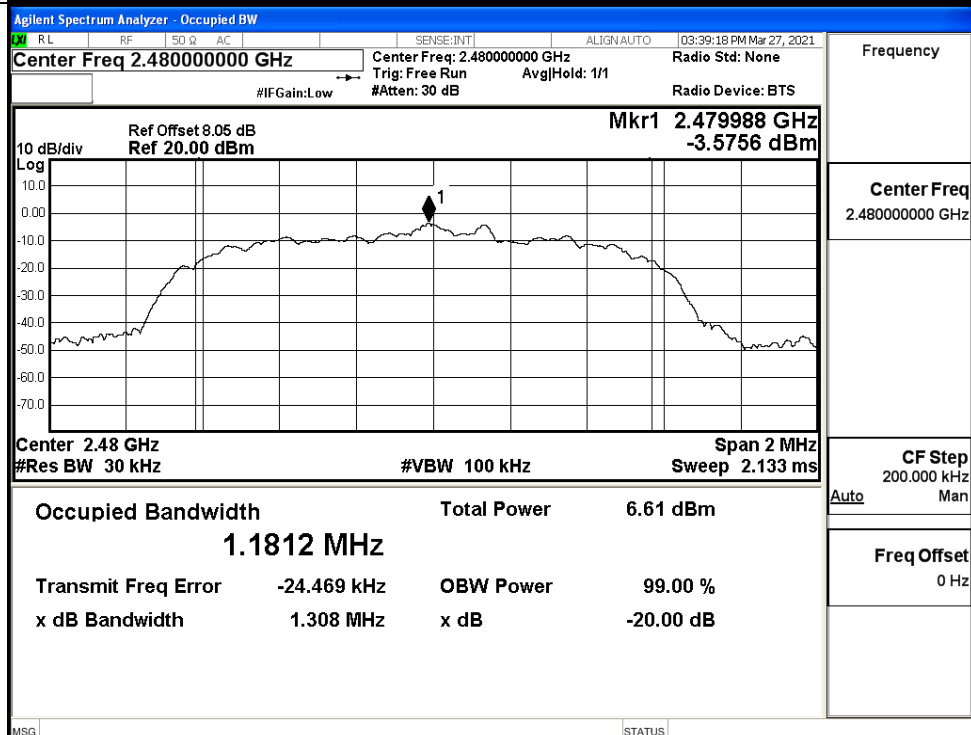
8DPSK/LCH



8DPSK/MCH



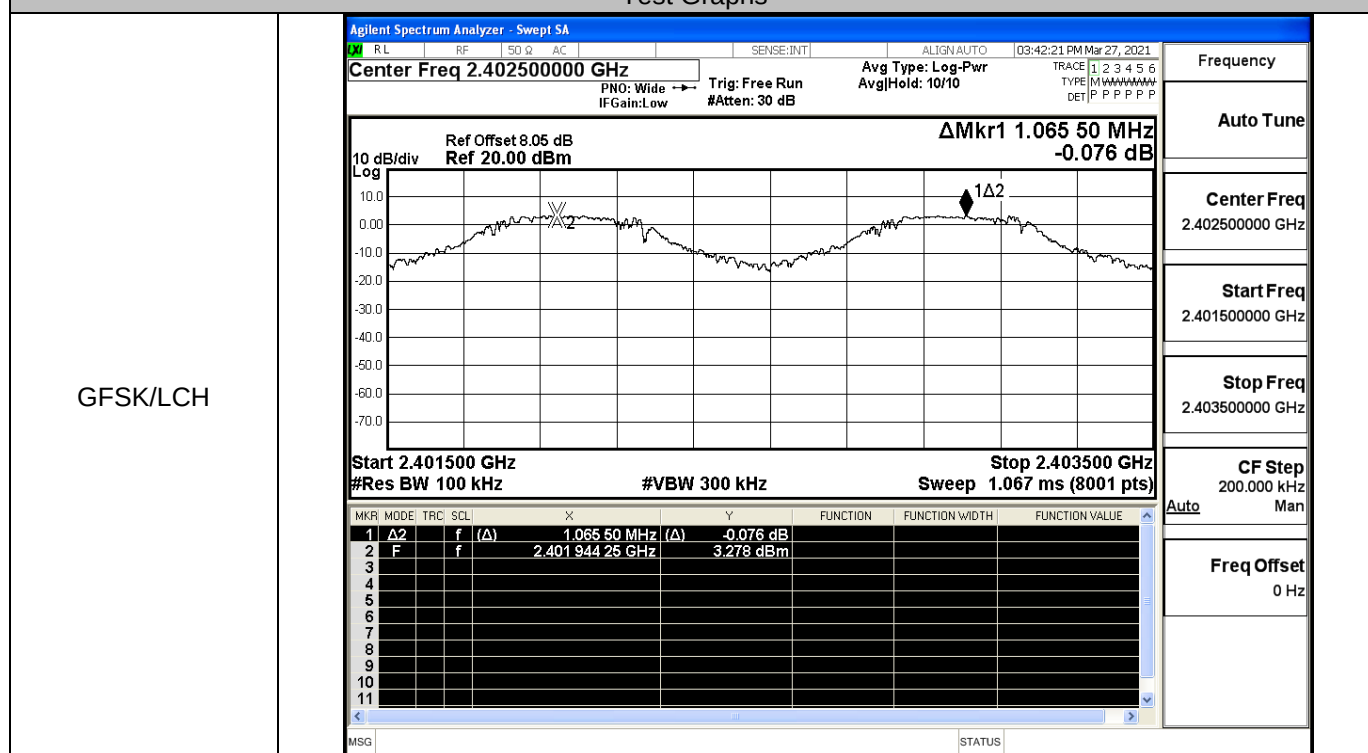
8DPSK/HCH



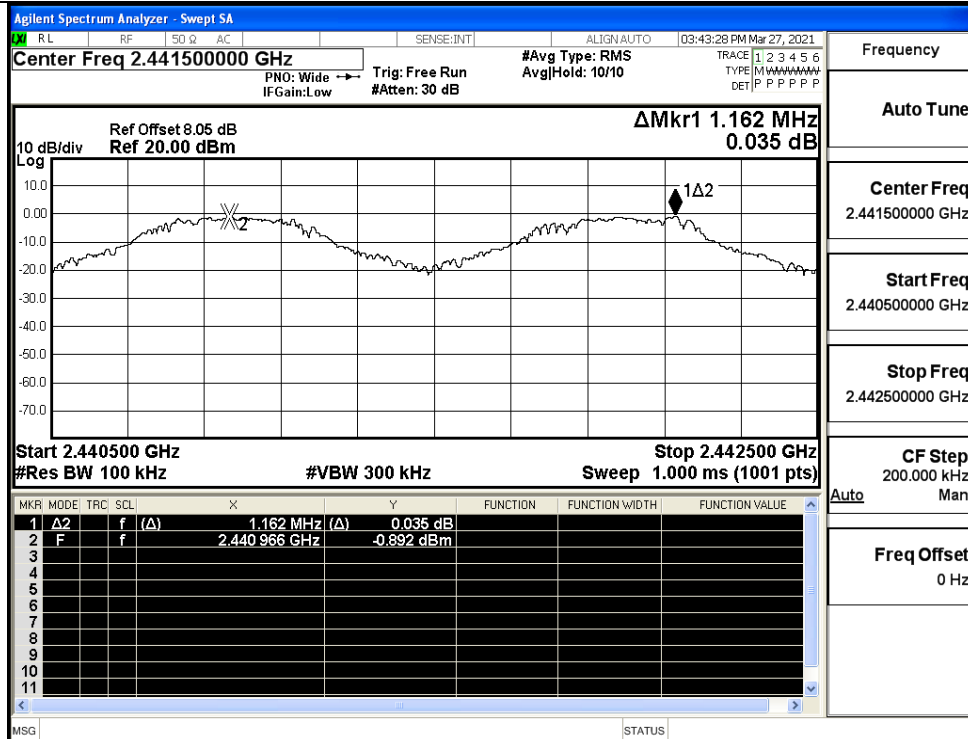
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.066	0.629	PASS
	MCH	1.162	0.629	PASS
	HCH	0.970	0.629	PASS
$\pi/4$ DQPSK	LCH	1.038	0.879	PASS
	MCH	0.976	0.879	PASS
	HCH	1.006	0.879	PASS
8DPSK	LCH	0.978	0.874	PASS
	MCH	0.928	0.874	PASS
	HCH	0.970	0.874	PASS

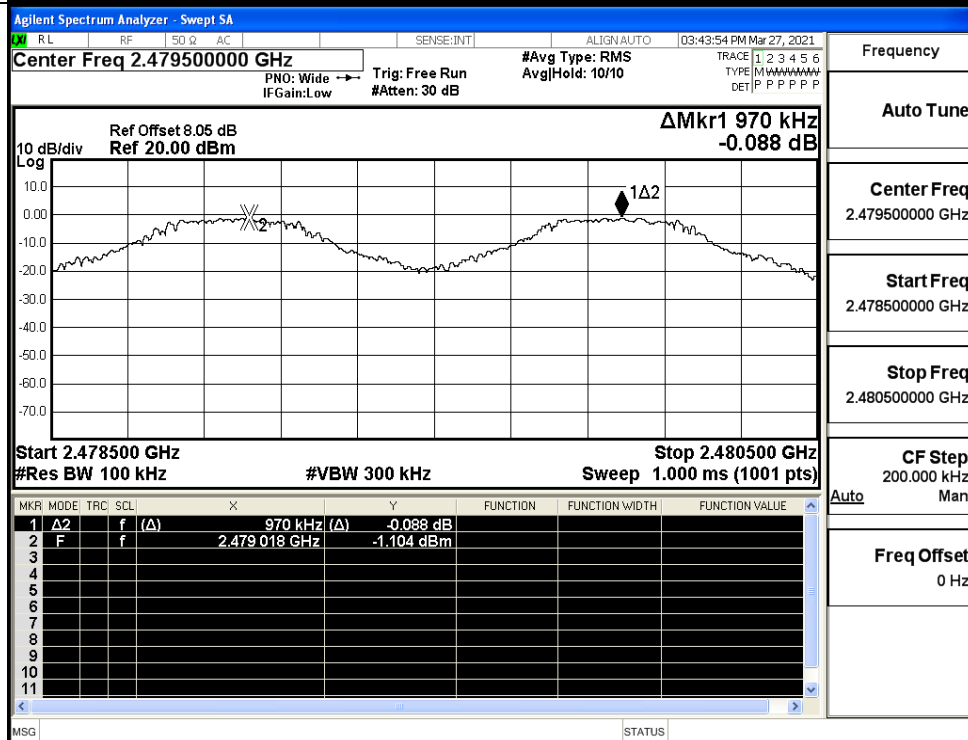
Test Graphs

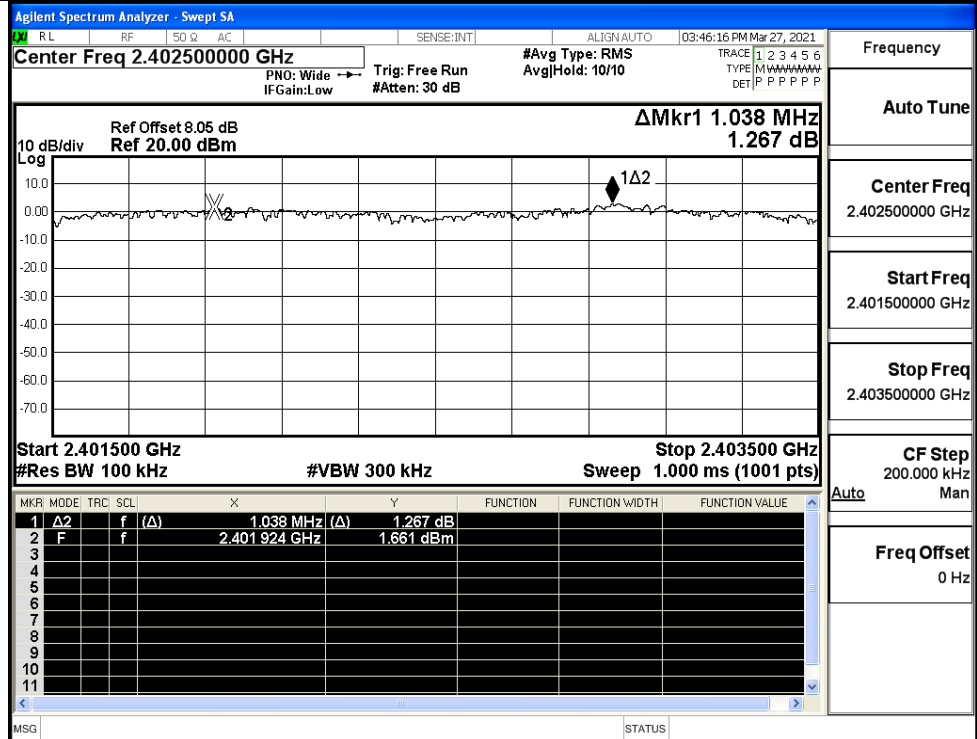
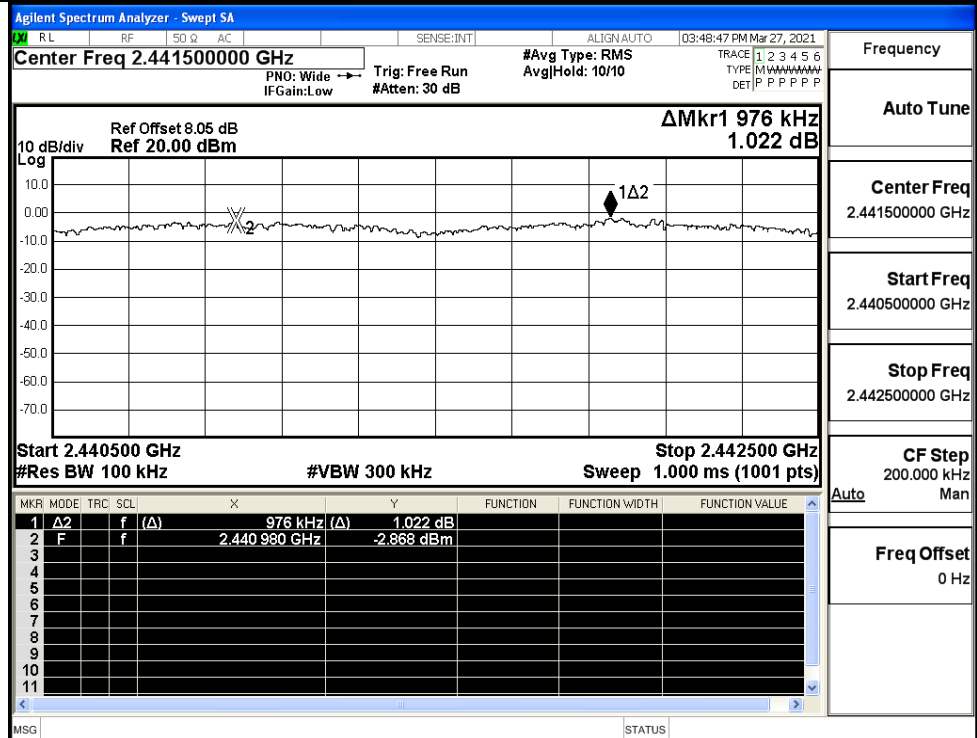


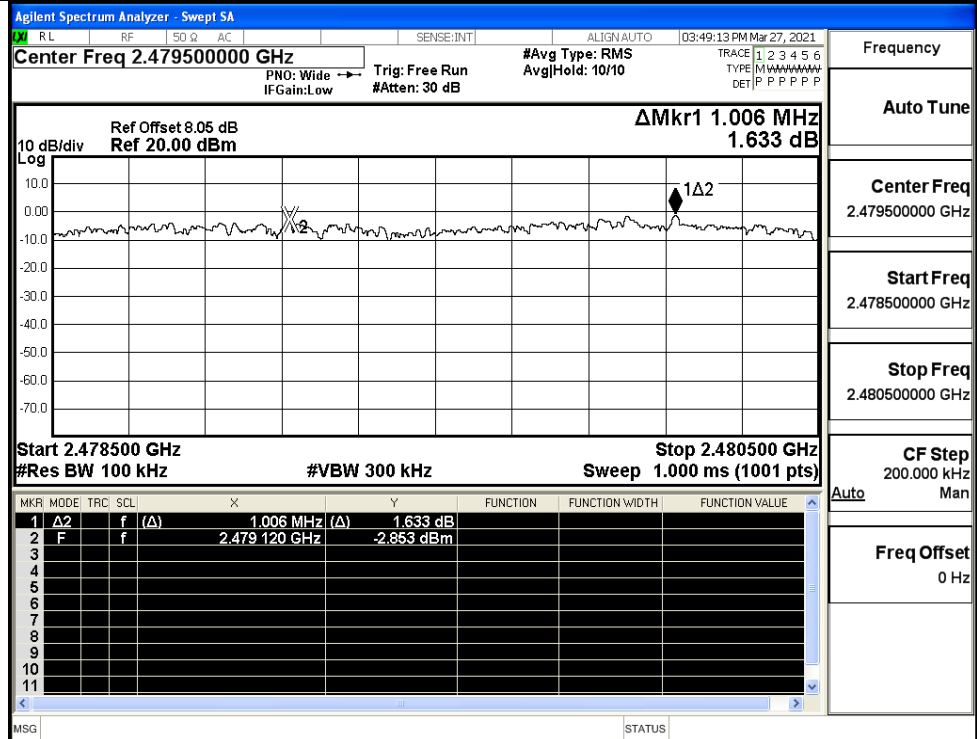
GFSK/MCH



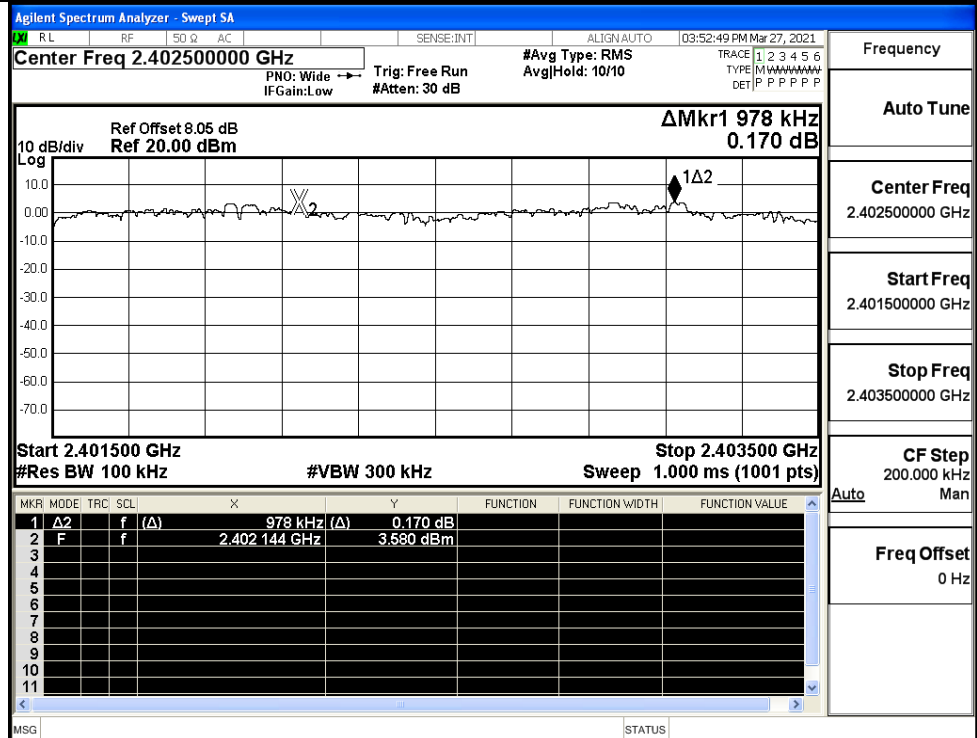
GFSK/HCH



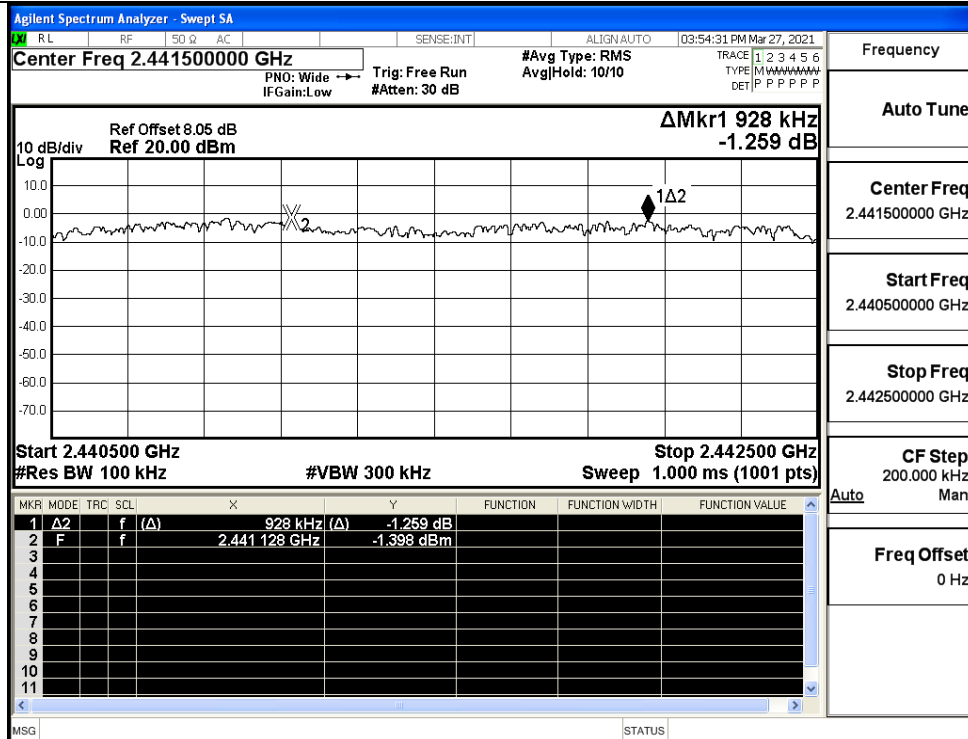
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

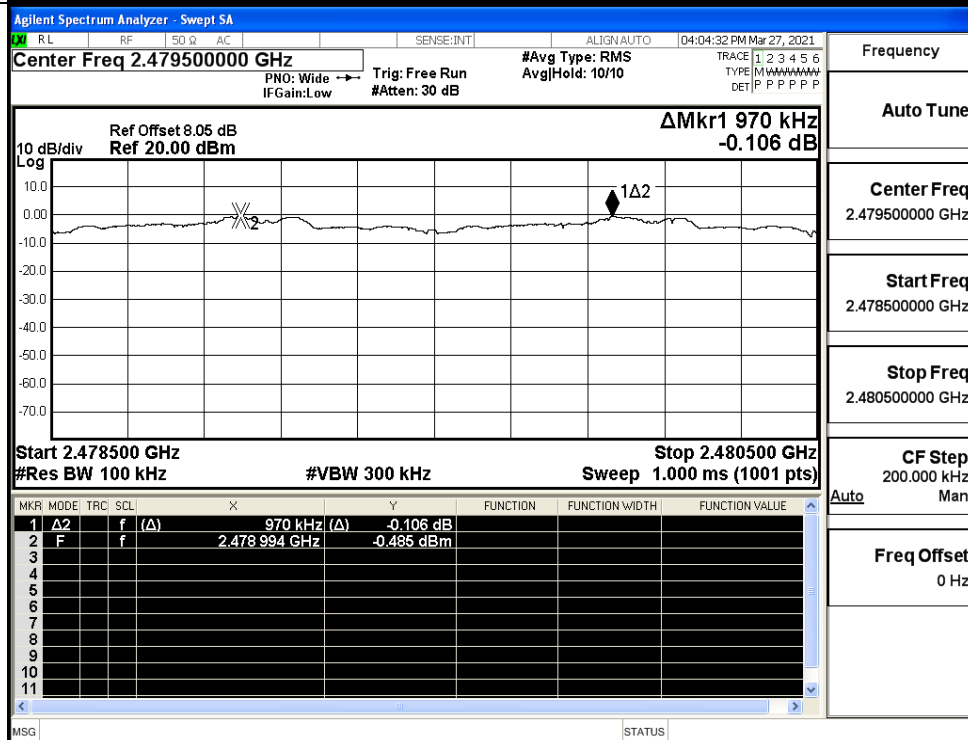
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

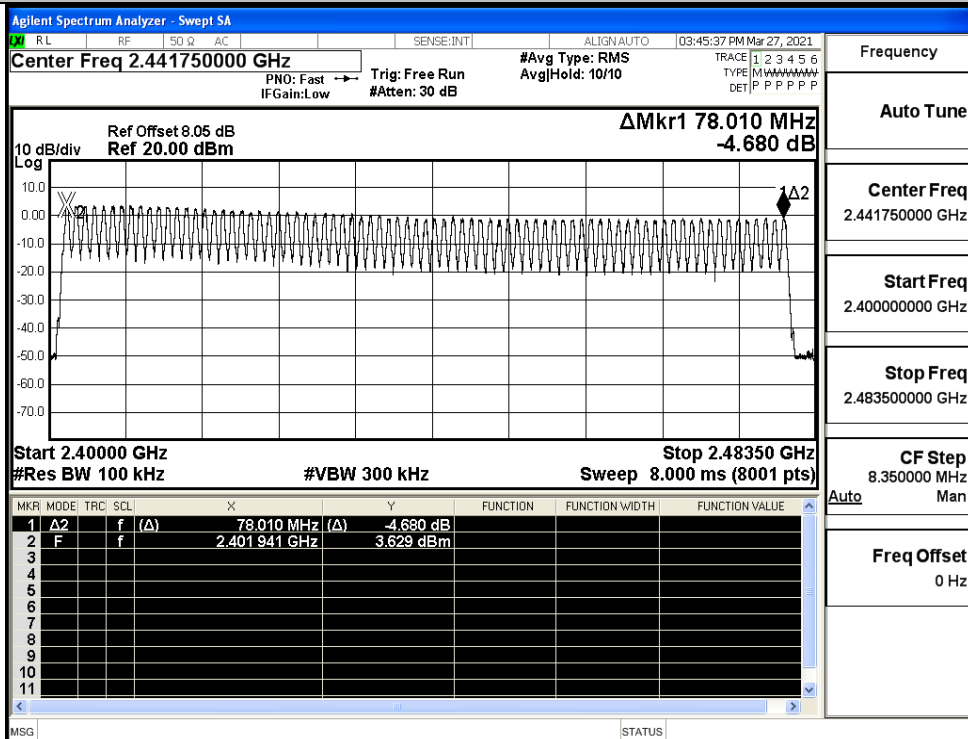
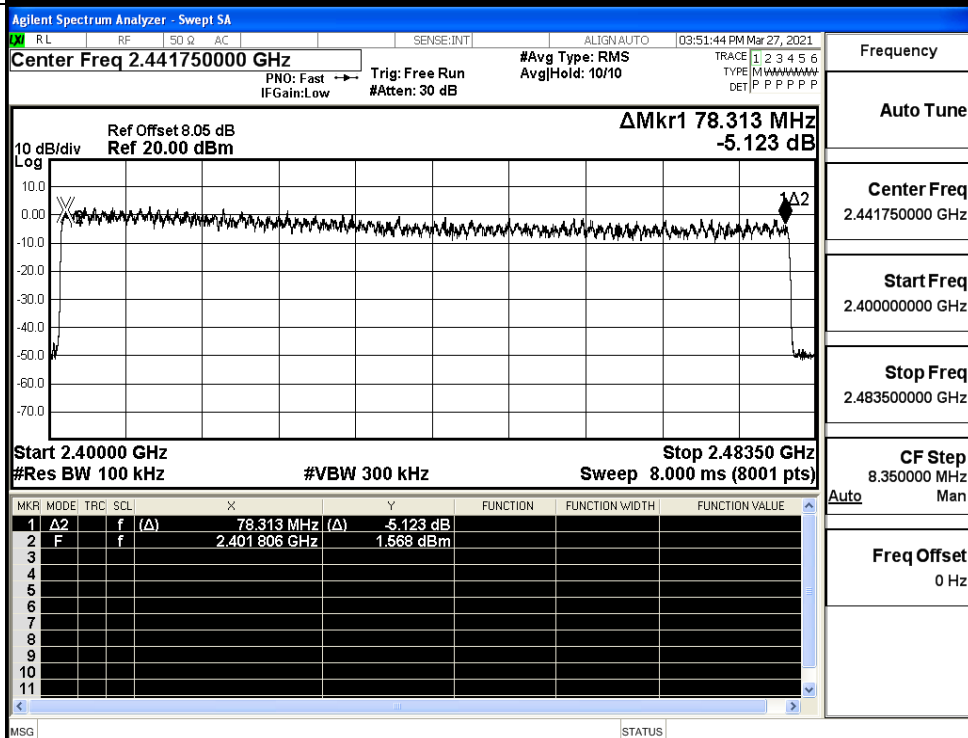


A.4 Hopping Channel Number

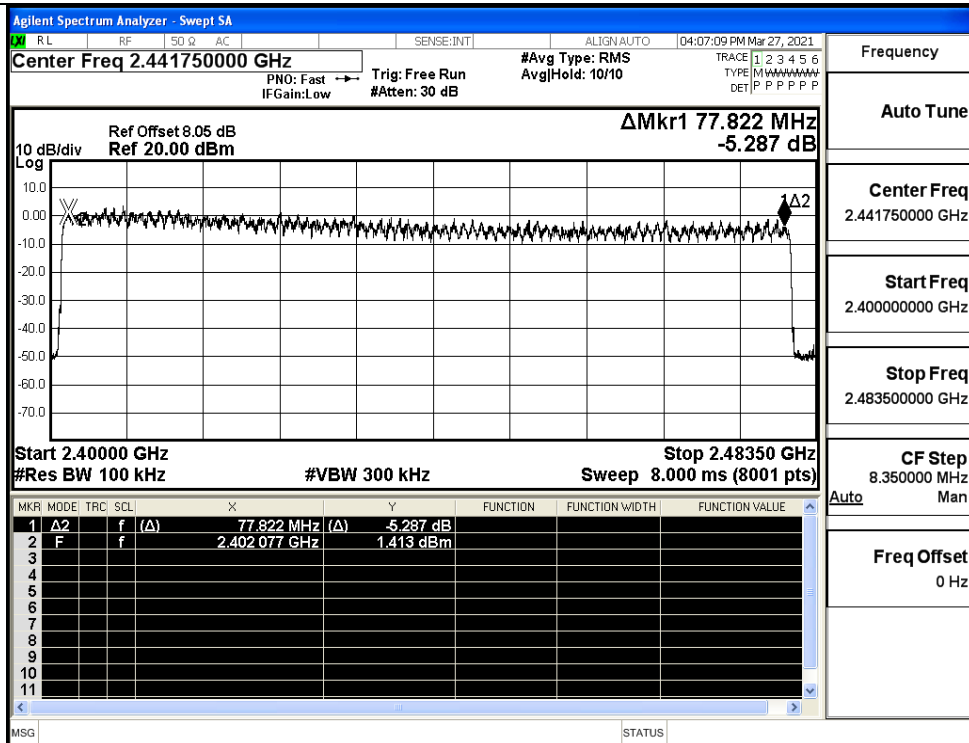
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	≥ 15	PASS
$\pi/4$ DQPSK	Hop	79	≥ 15	PASS
8DPSK	Hop	79	≥ 15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

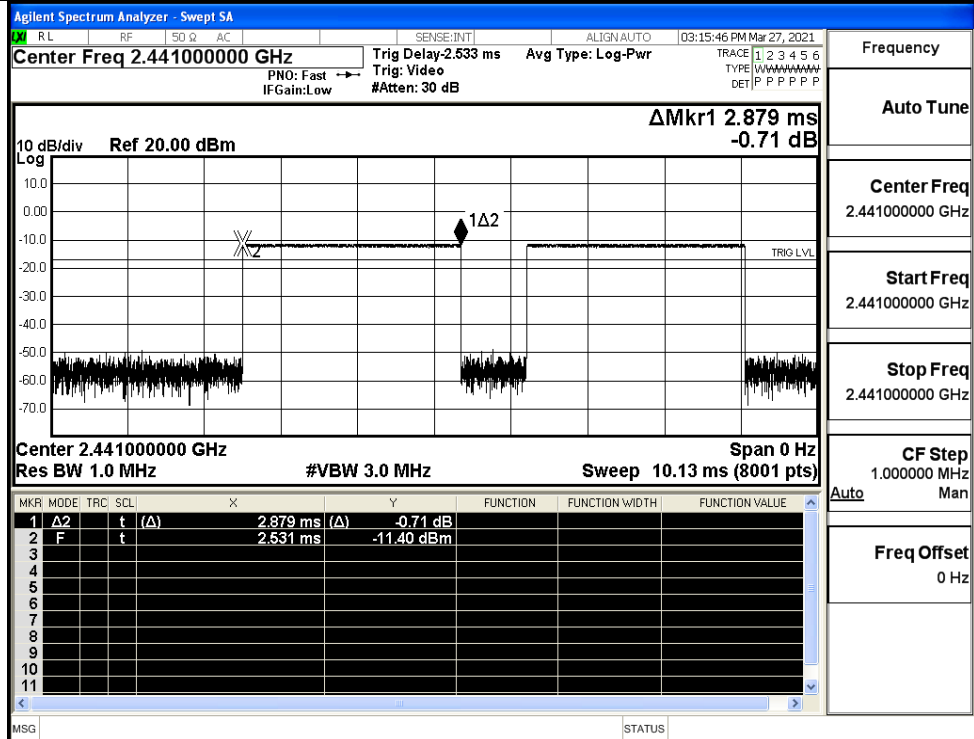
8DPSK/Hop



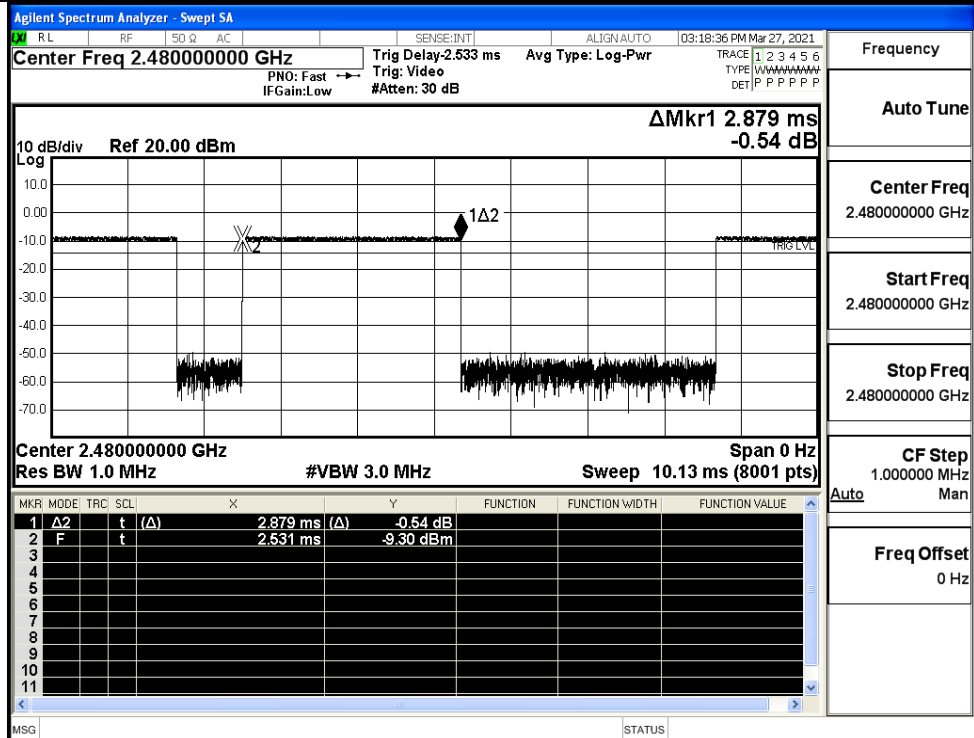
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7	0.307	0.4	PASS
8DPSK	3DH5	LCH	2.88	106.7	0.307	0.4	PASS
	3DH5	MCH	2.88	106.7	0.307	0.4	PASS
	3DH5	HCH	2.88	106.7	0.307	0.4	PASS

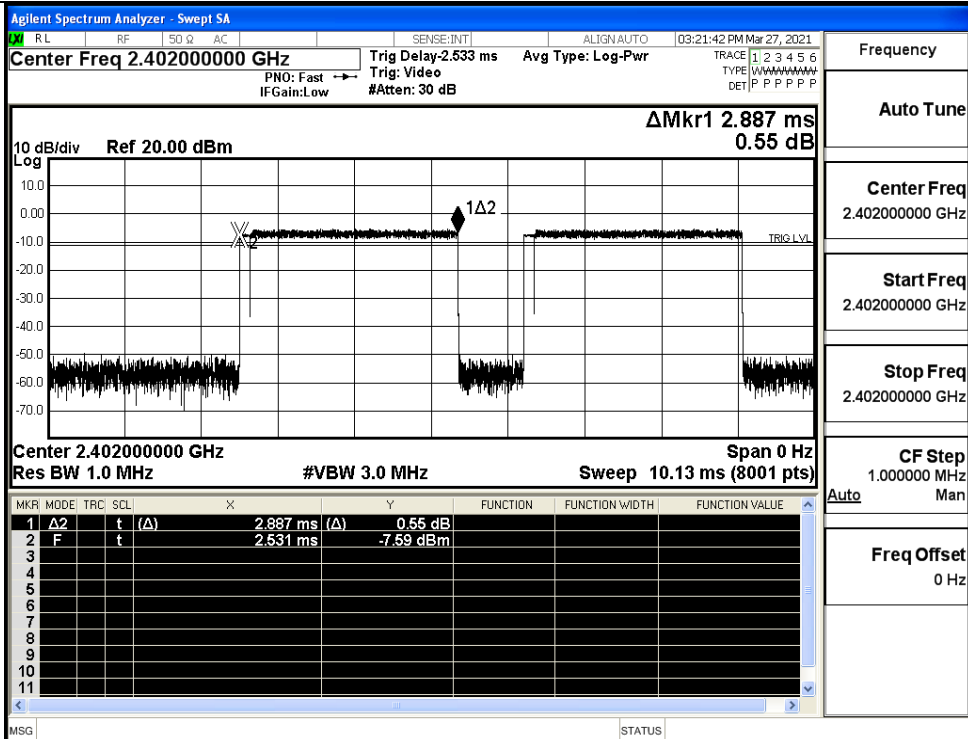
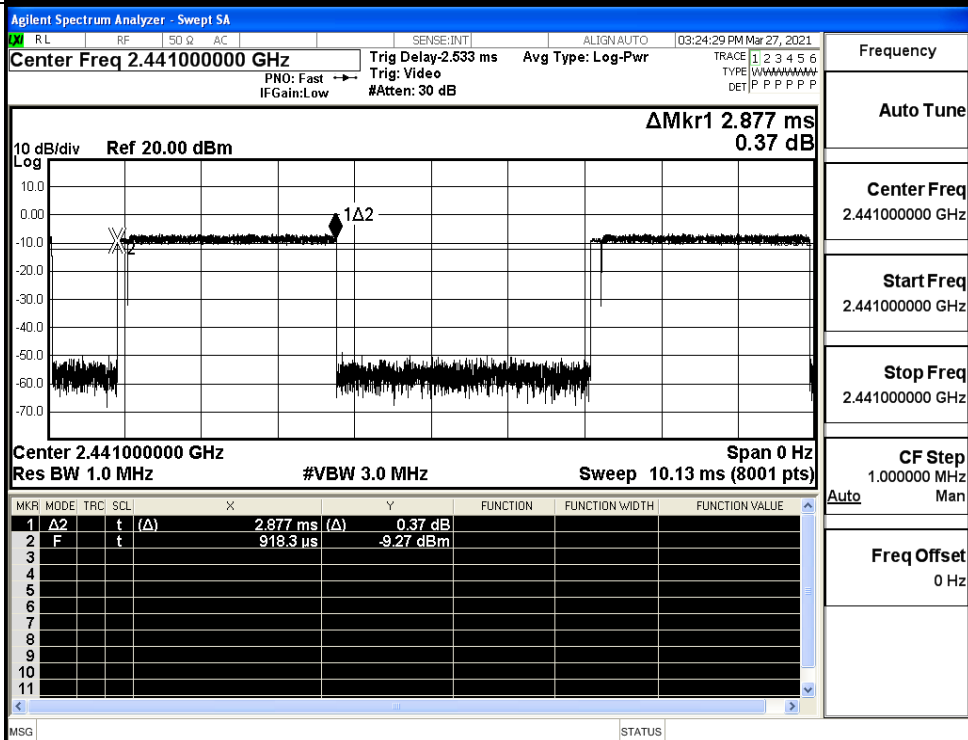


GFSK_DH5/MCH

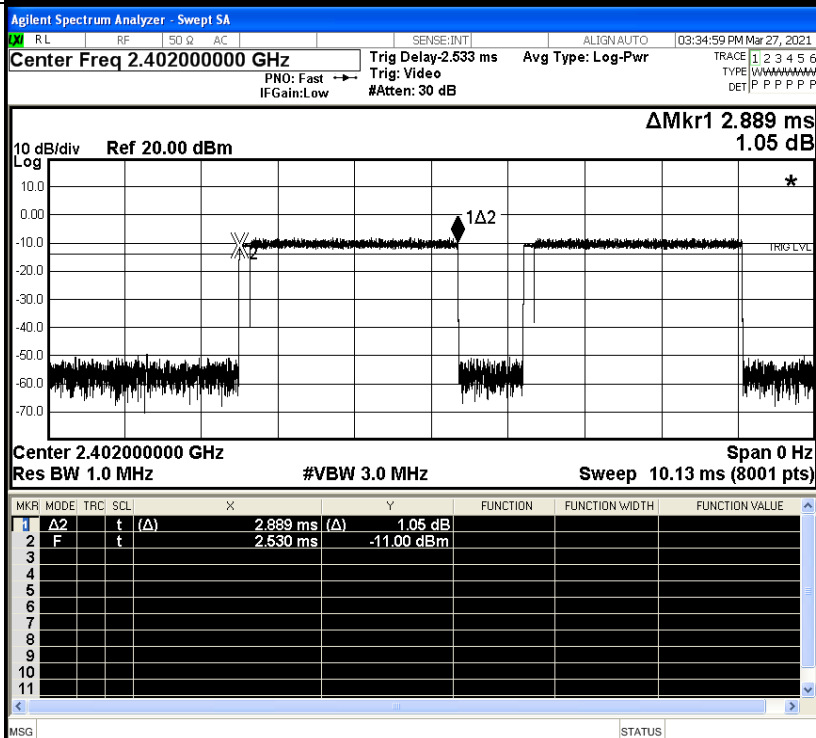


GFSK_DH5/HCH



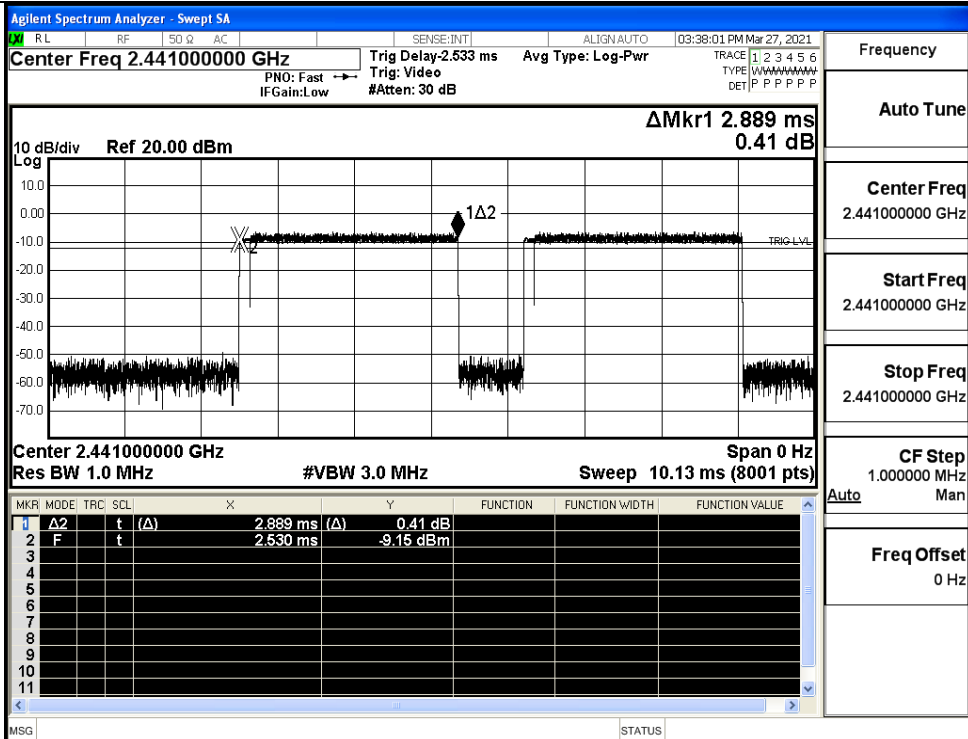
$\pi/4$ DQPSK
_2DH5/LCH $\pi/4$ DQPSK
_2DH5/MCH

8DPSK 3DH5/LCH

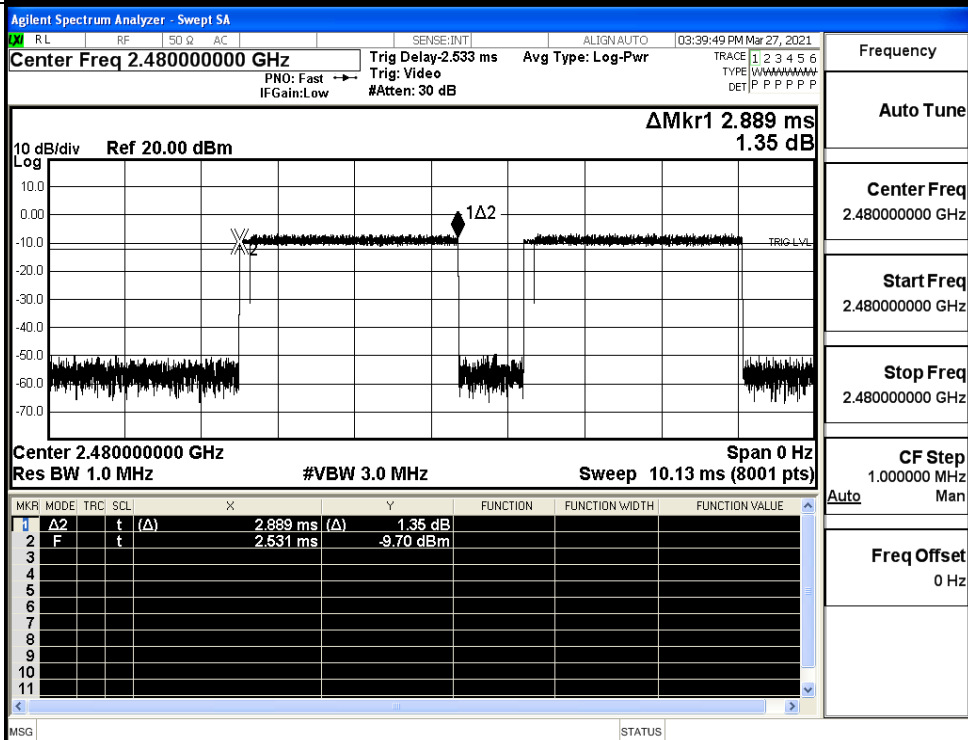


Frequency	
Auto Tune	
Center Freq	2.402000000 GHz
Start Freq	2.402000000 GHz
Stop Freq	2.402000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

8DPSK_3DH5/MCH



8DPSK_3DH5/HCH

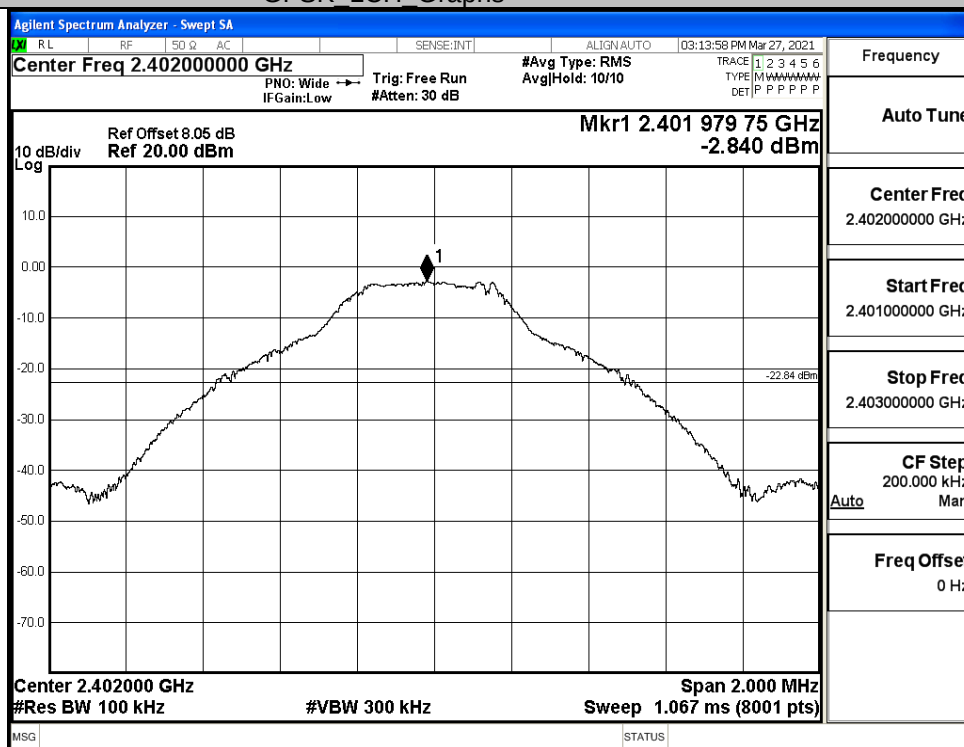


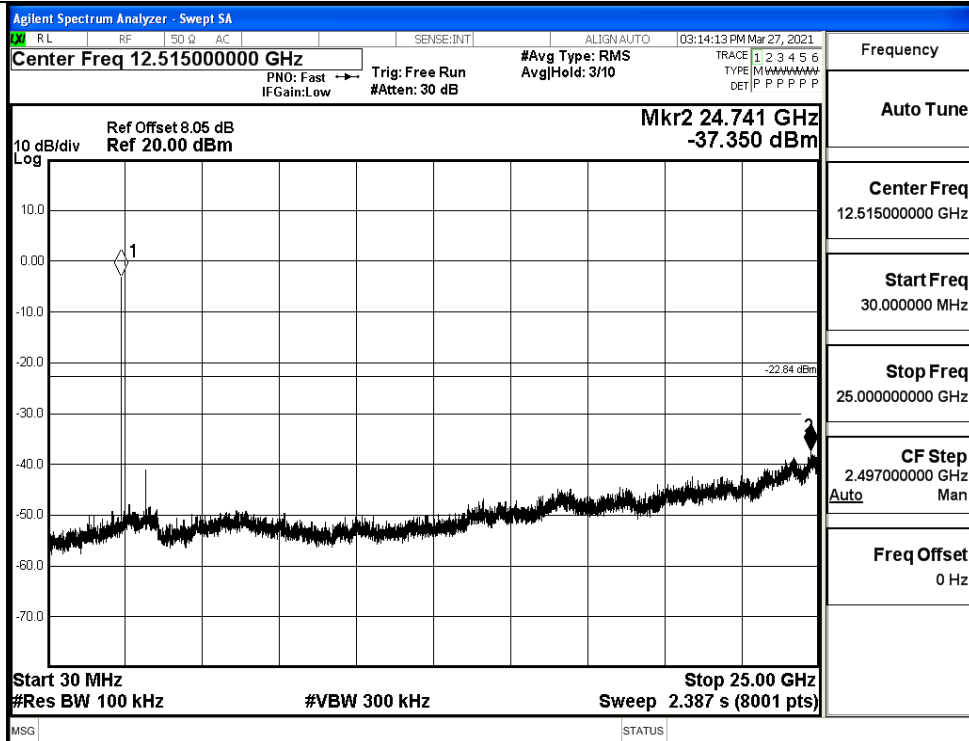
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-2.84	-37.350	-22.840	PASS
	MCH	-1.184	-37.762	-21.184	PASS
	HCH	-0.756	-37.325	-20.756	PASS
$\pi/4$ DQPSK	LCH	-2.752	-38.140	-22.752	PASS
	MCH	-0.914	-37.591	-20.914	PASS
	HCH	-1.775	-37.948	-21.775	PASS
8DPSK	LCH	-2.674	-36.779	-22.674	PASS
	MCH	-1.331	-38.006	-21.331	PASS
	HCH	-1.162	-37.618	-21.162	PASS

GFSK LCH Graphs

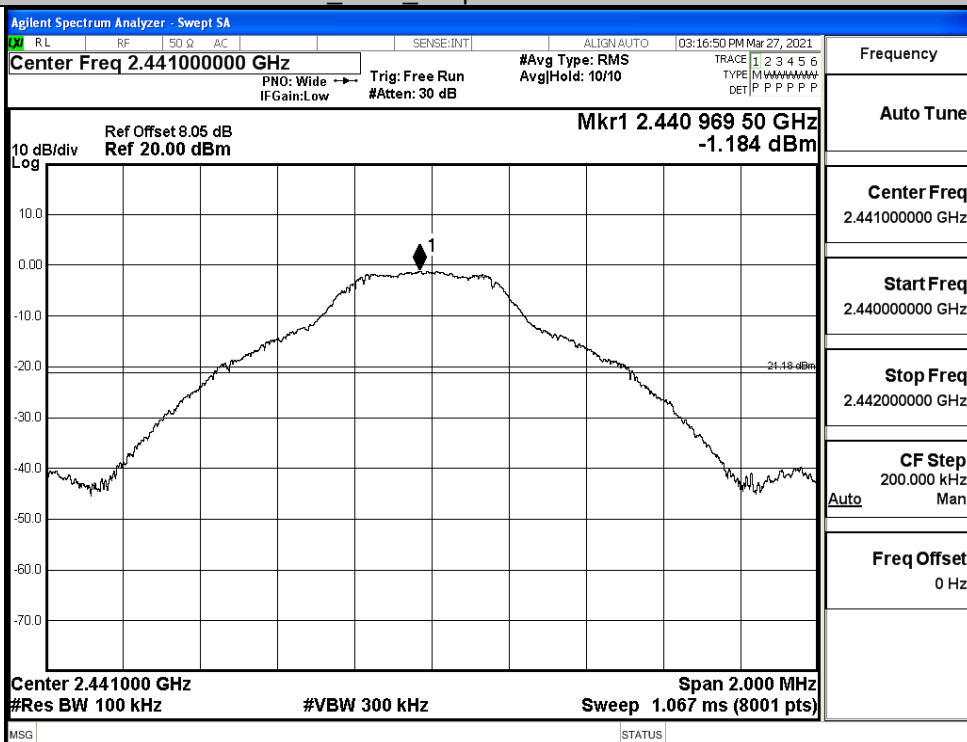
Pref



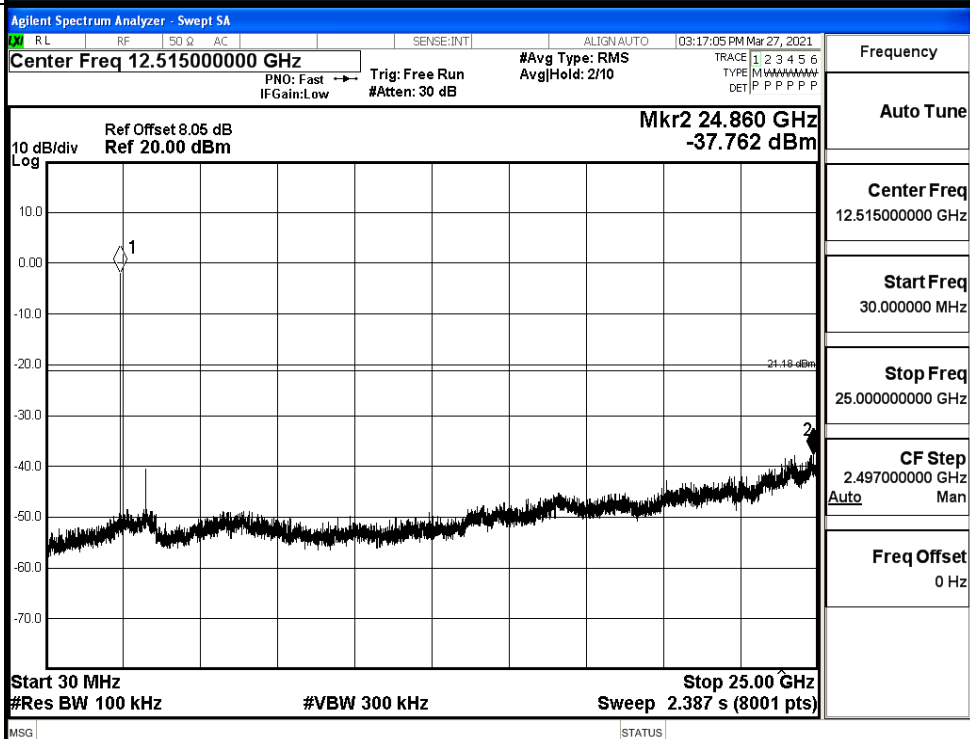
P_uw

GFSK_MCH_Graphs

Pref

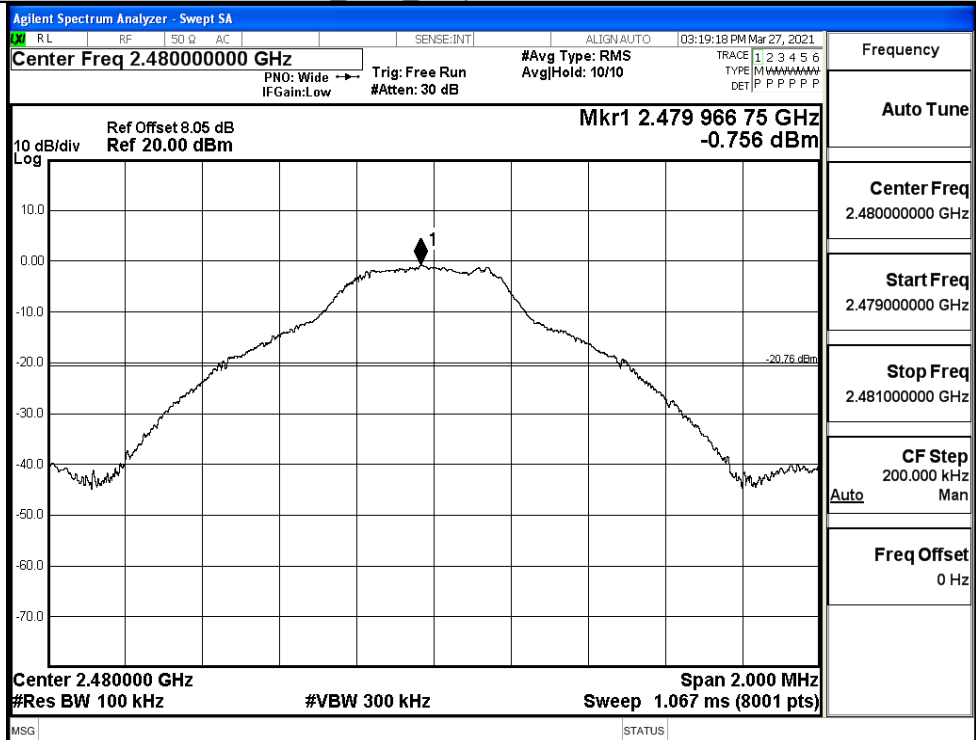


Puw



GFSK HCH Graphs

Pref

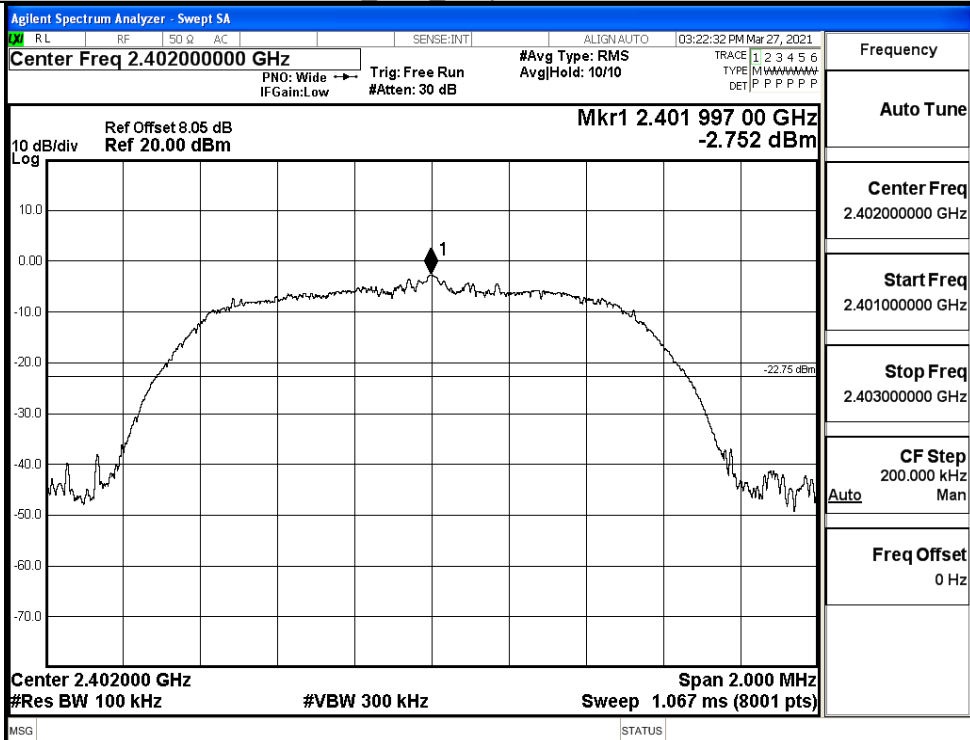


Puw

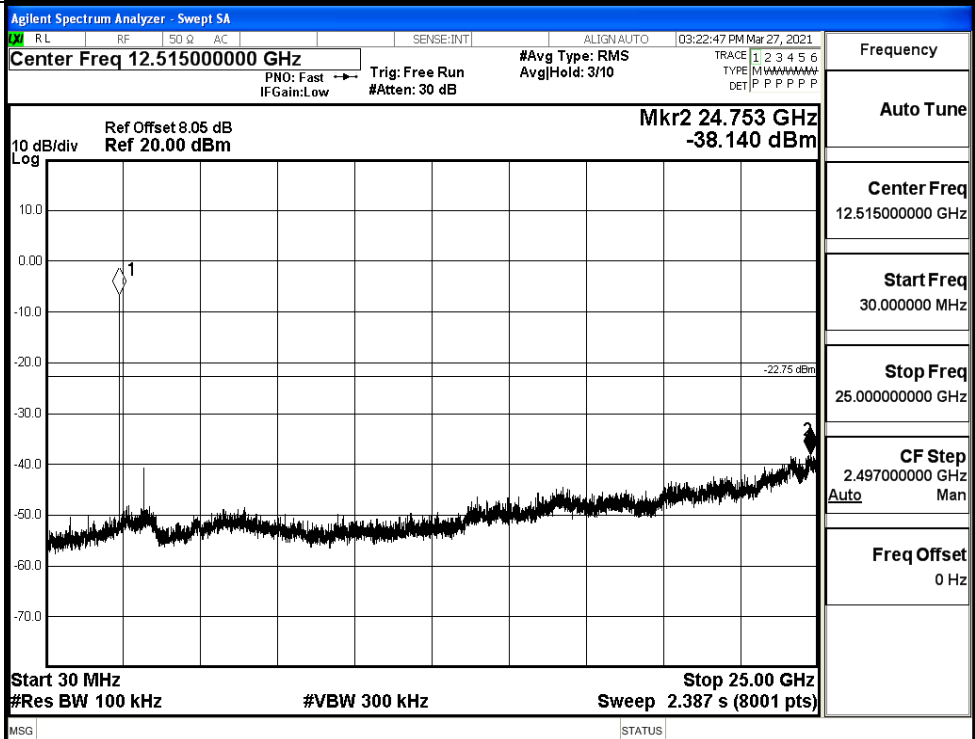


$\pi/4$ DQPSK_LCH_Graphs

Pref

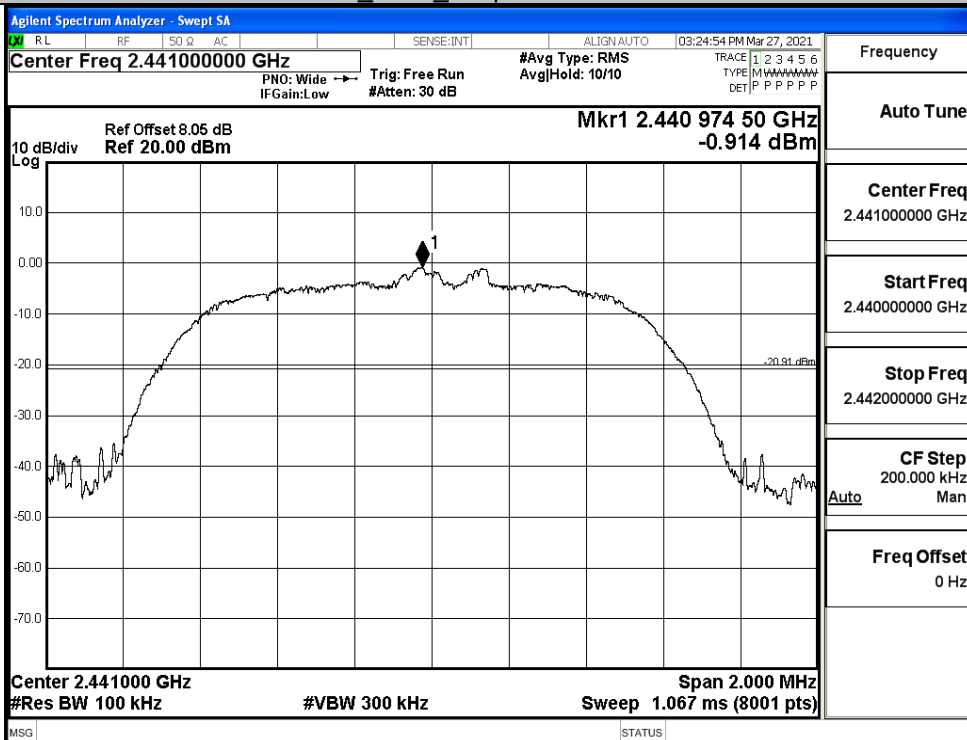


Puw

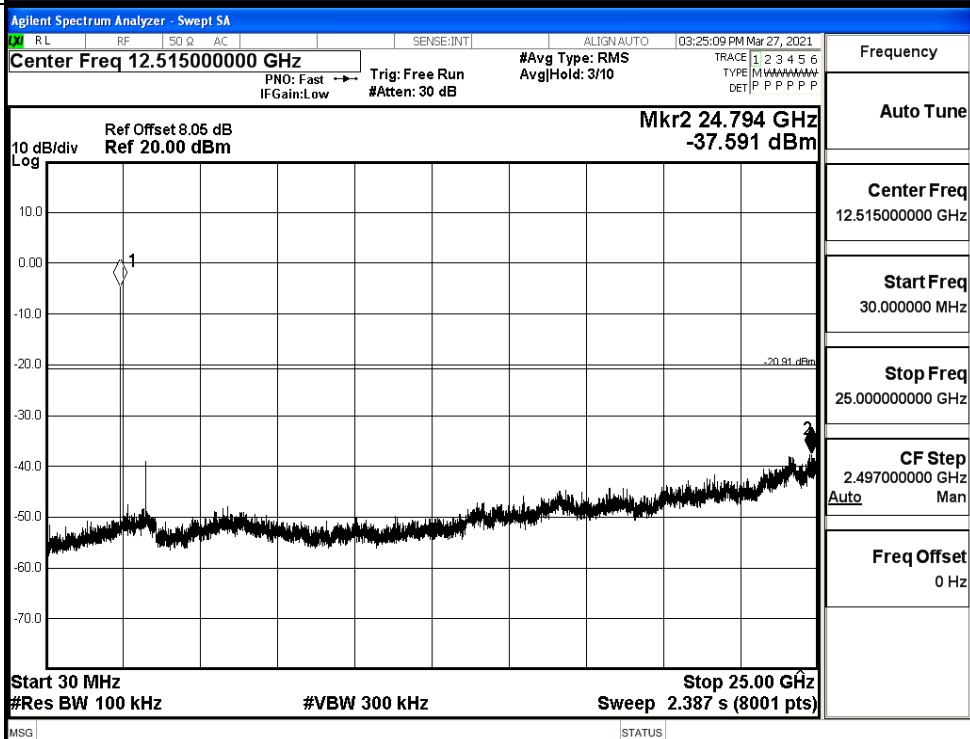


π /4DQPSK_MCH_Graphs

Pref

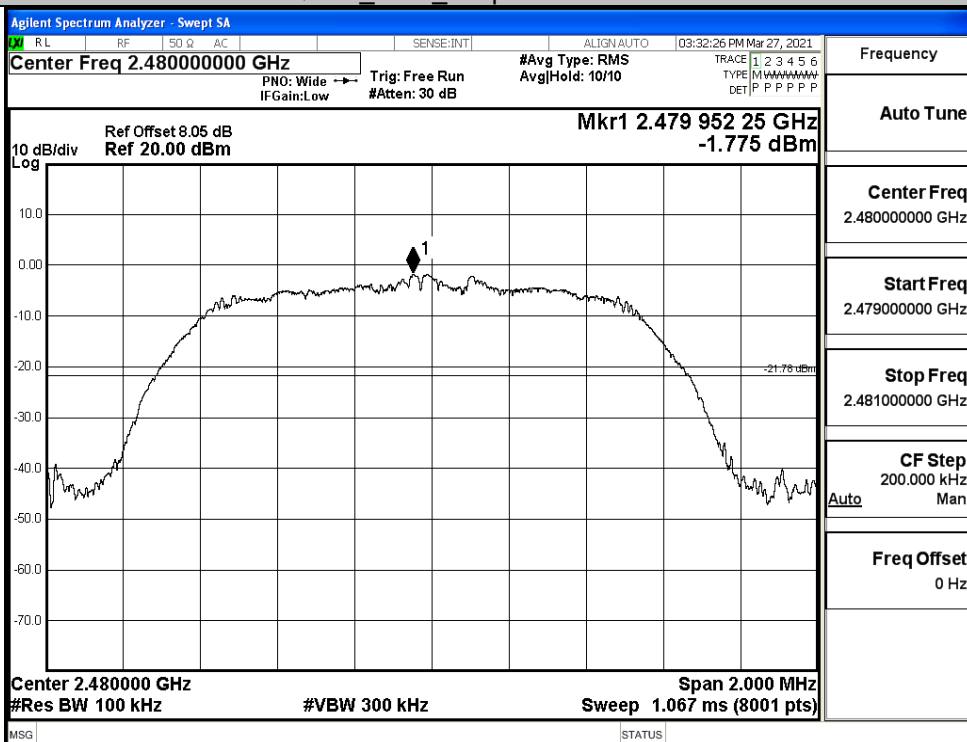


Puw

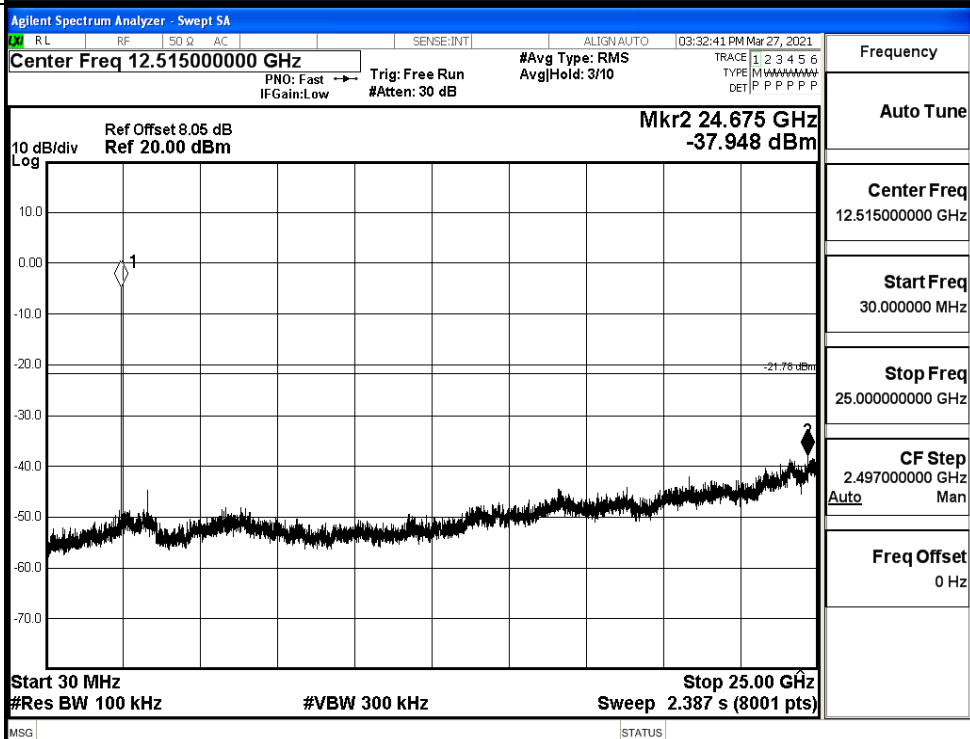


π /4DQPSK_HCH_Graphs

Pref

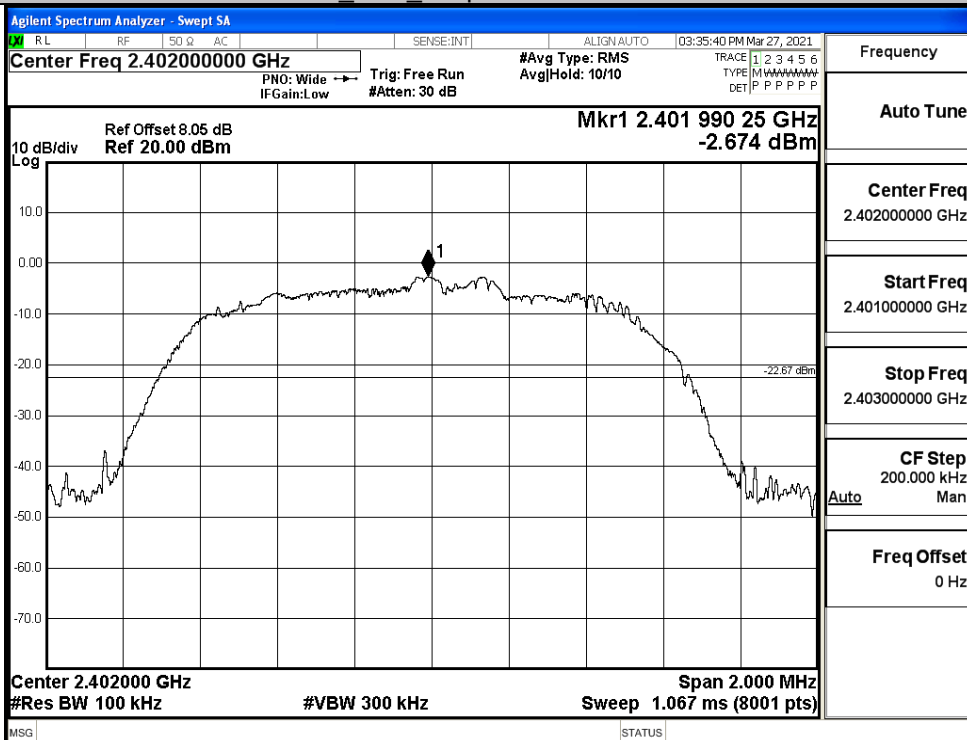


Puw

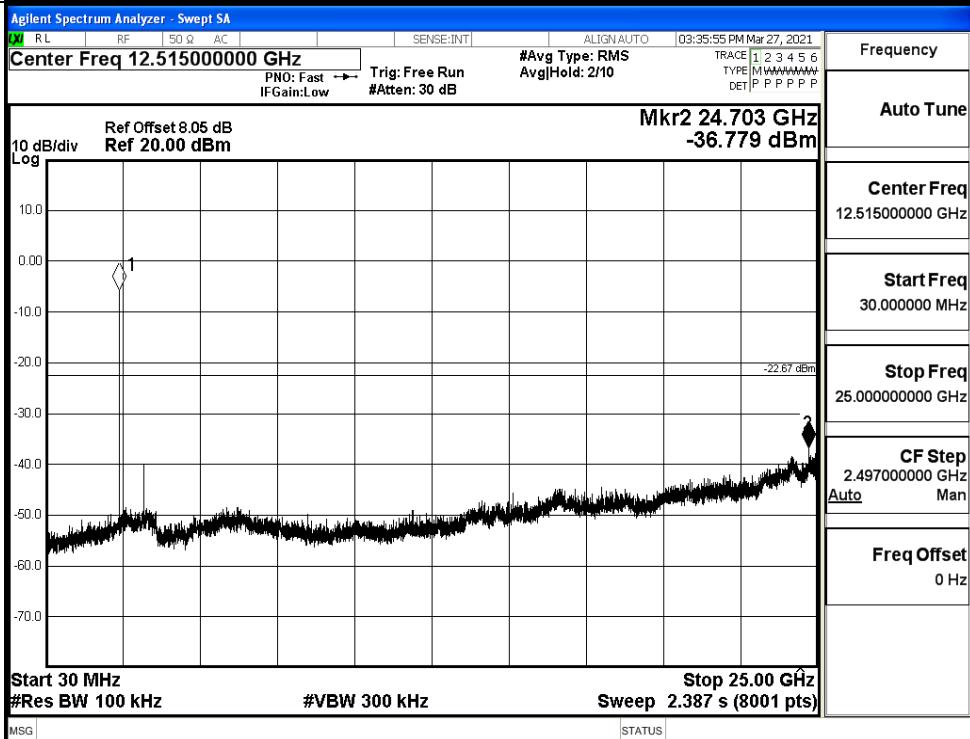


8DPSK_LCH_Graphs

Pref

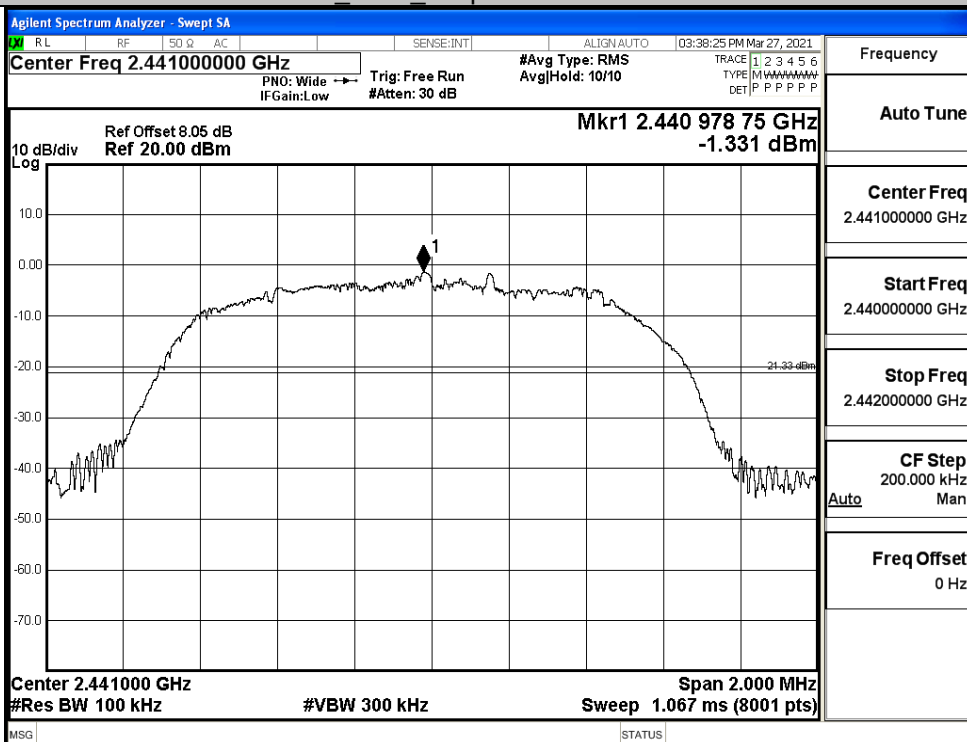


Puw

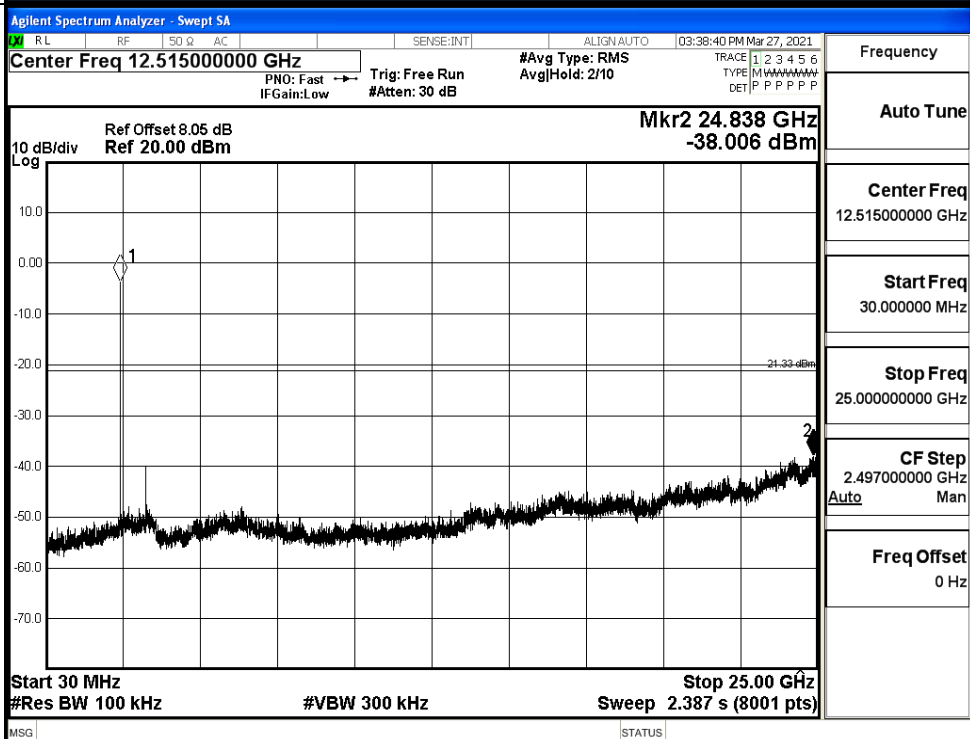


8DPSK_MCH_Graphs

Pref

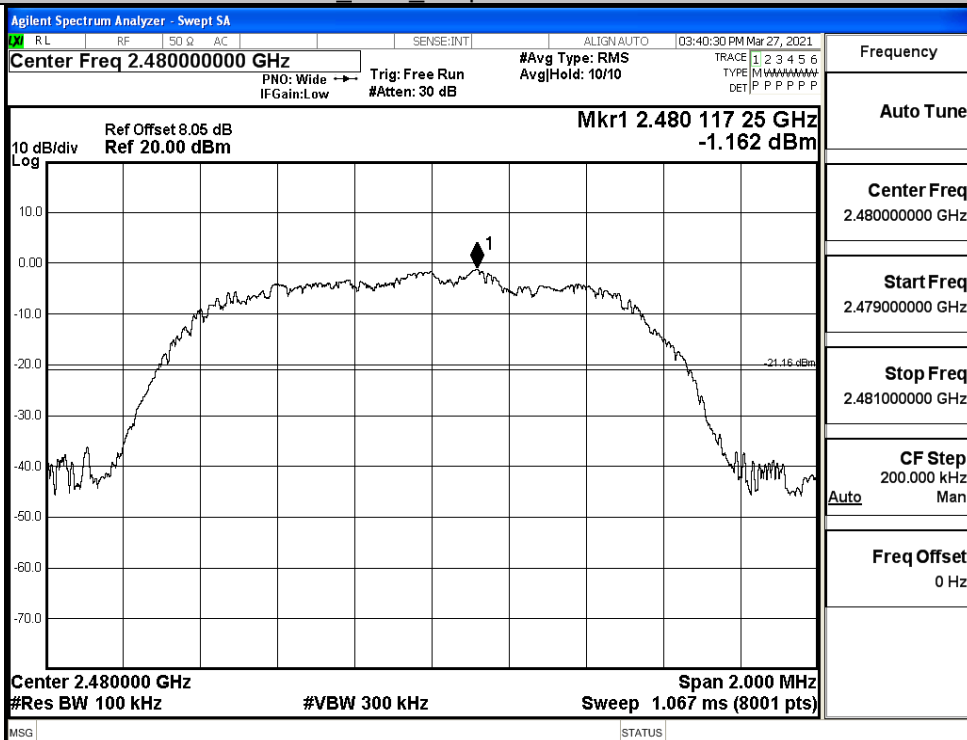


Puw

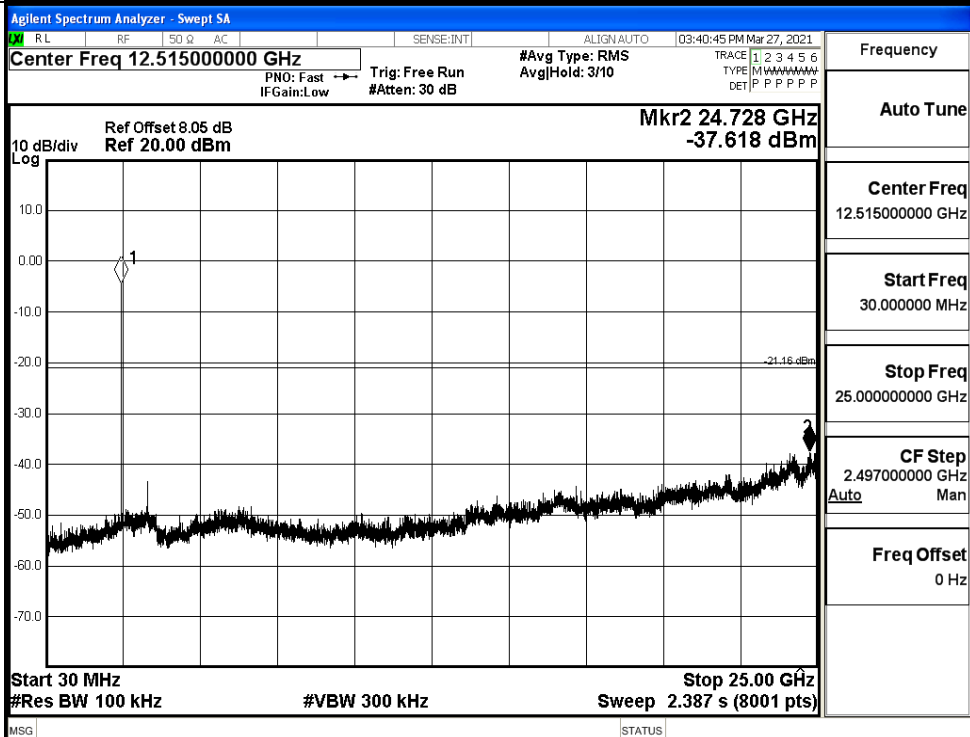


8DPSK_HCH_Graphs

Pref



Puw

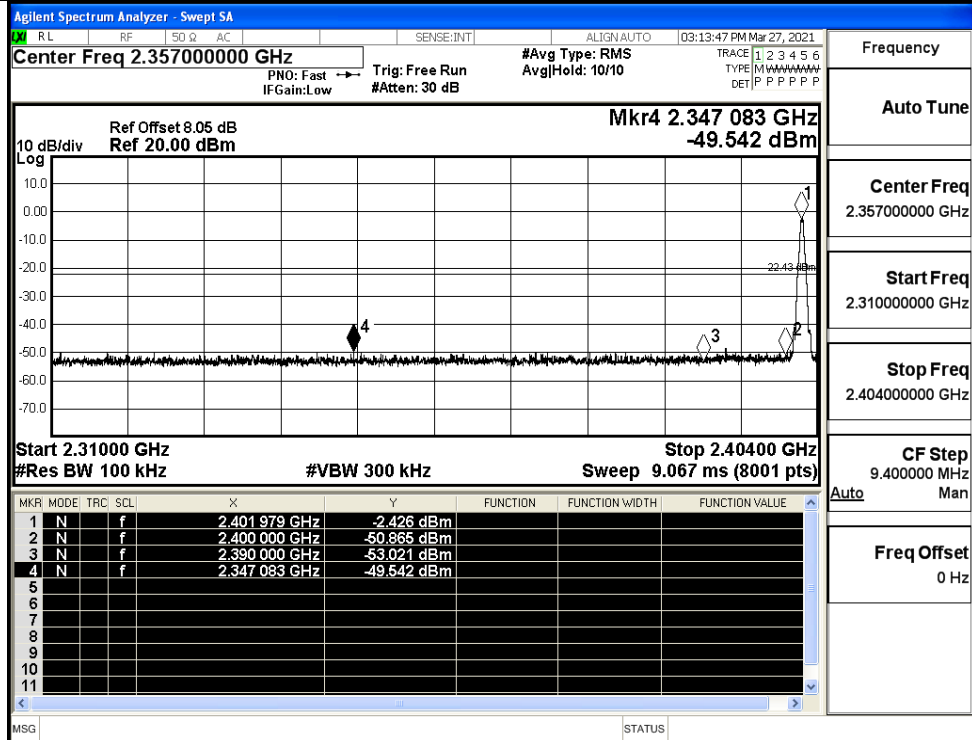


A.7 Band-edge for RF Conducted Emissions

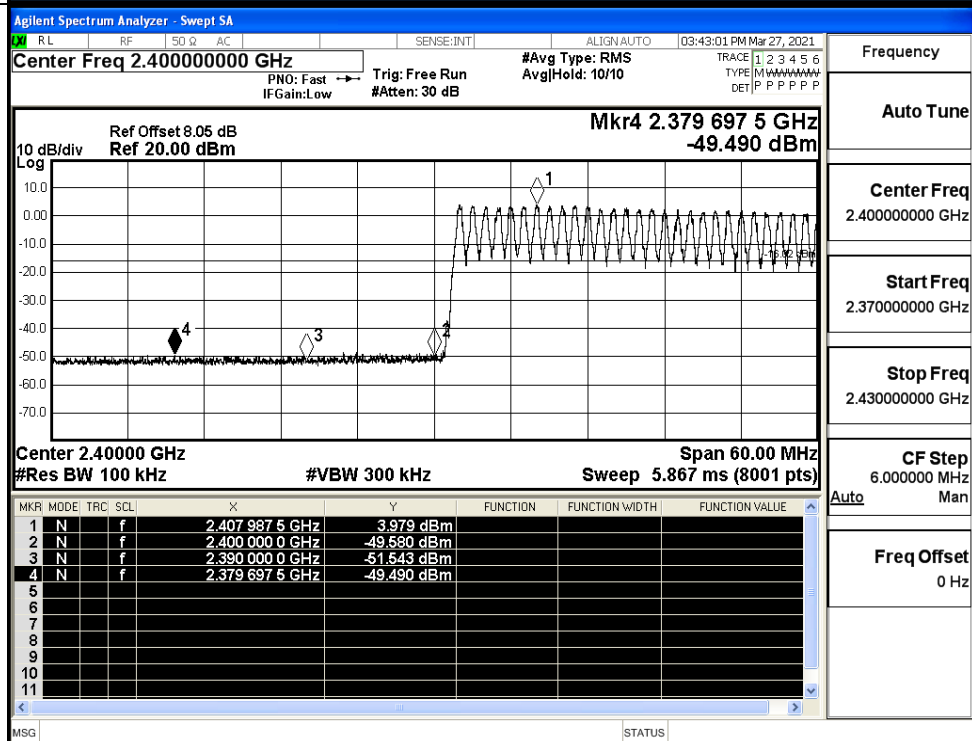
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-2.426	Off	-49.542	-22.43	PASS
			3.979	On	-49.490	-16.02	PASS
	HCH	2480	-0.661	Off	-46.334	-20.66	PASS
			-0.936	On	-47.751	-20.94	PASS
$\pi/4$ DQPSK	LCH	2402	-3.242	Off	-49.486	-23.24	PASS
			2.974	On	-48.946	-17.03	PASS
	HCH	2480	-1.458	Off	-47.409	-21.46	PASS
			-0.878	On	-46.849	-20.88	PASS
8DPSK	LCH	2402	-2.742	Off	-49.896	-22.74	PASS
			3.095	On	-49.608	-16.91	PASS
	HCH	2480	-1.412	Off	-47.212	-21.41	PASS
			-0.910	On	-47.136	-20.91	PASS

Test Graphs

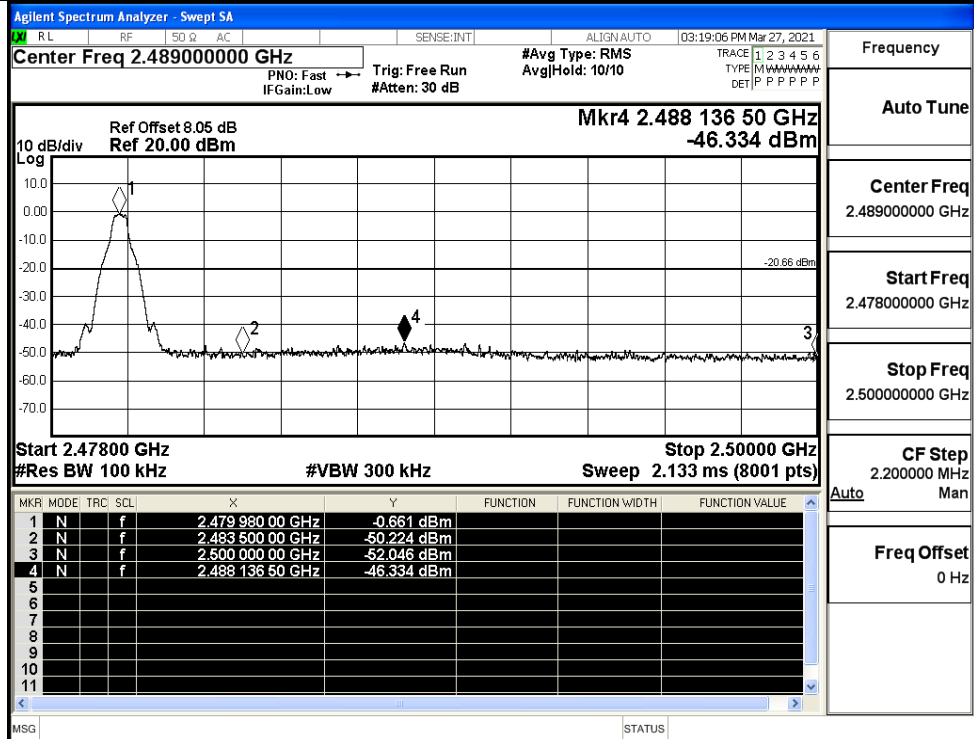
GFSK/LCH/No Hop



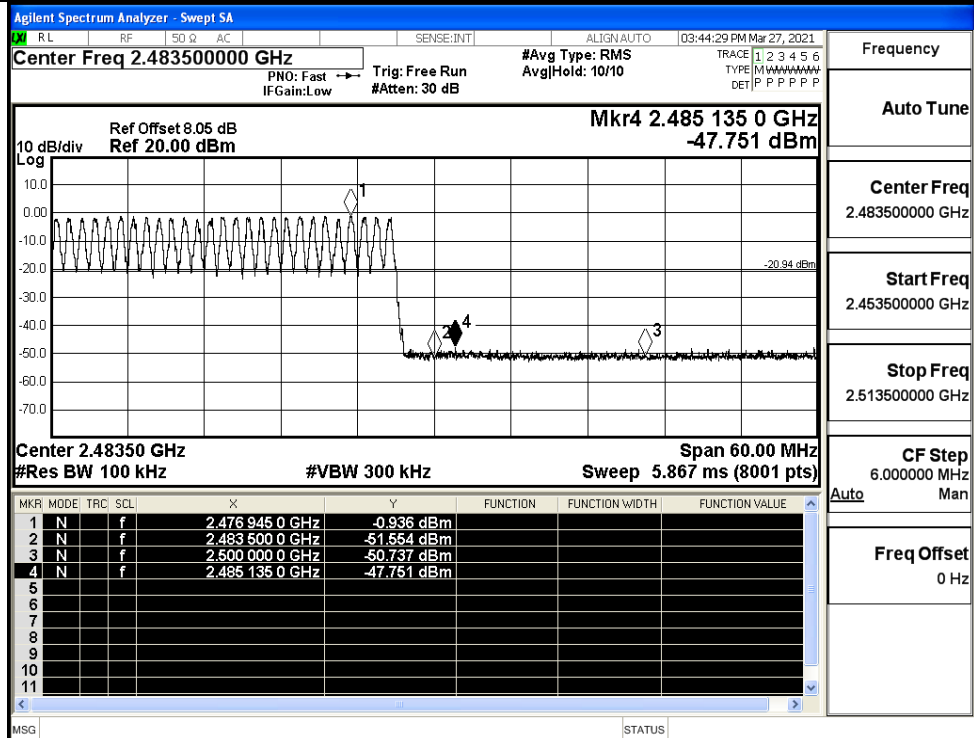
GFSK/LCH/Hop



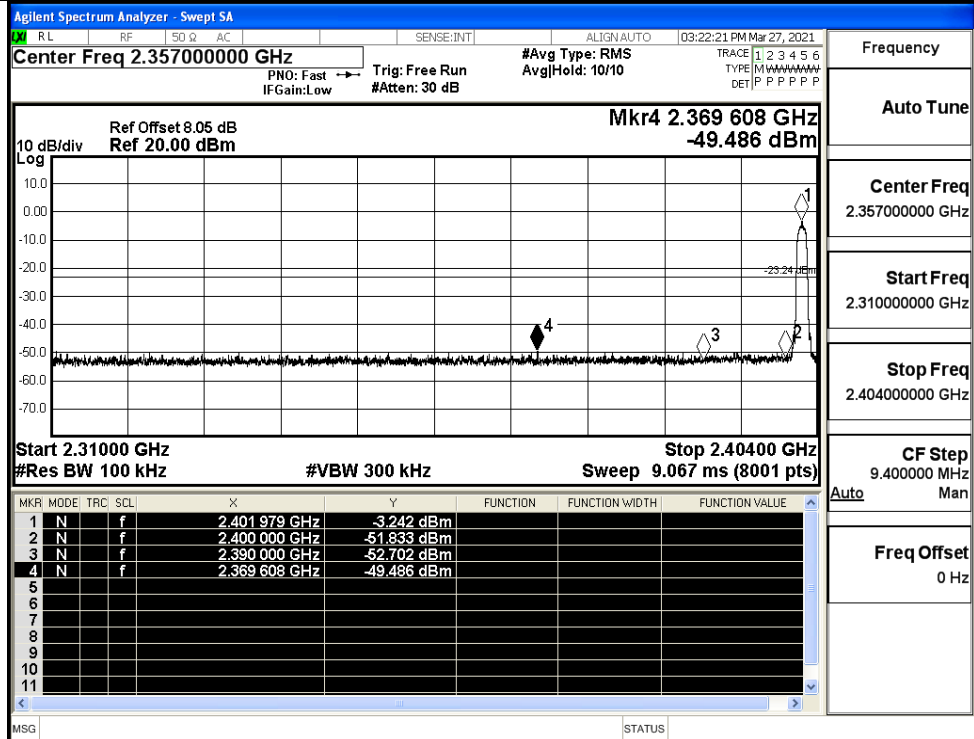
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq
2.357000000 GHz

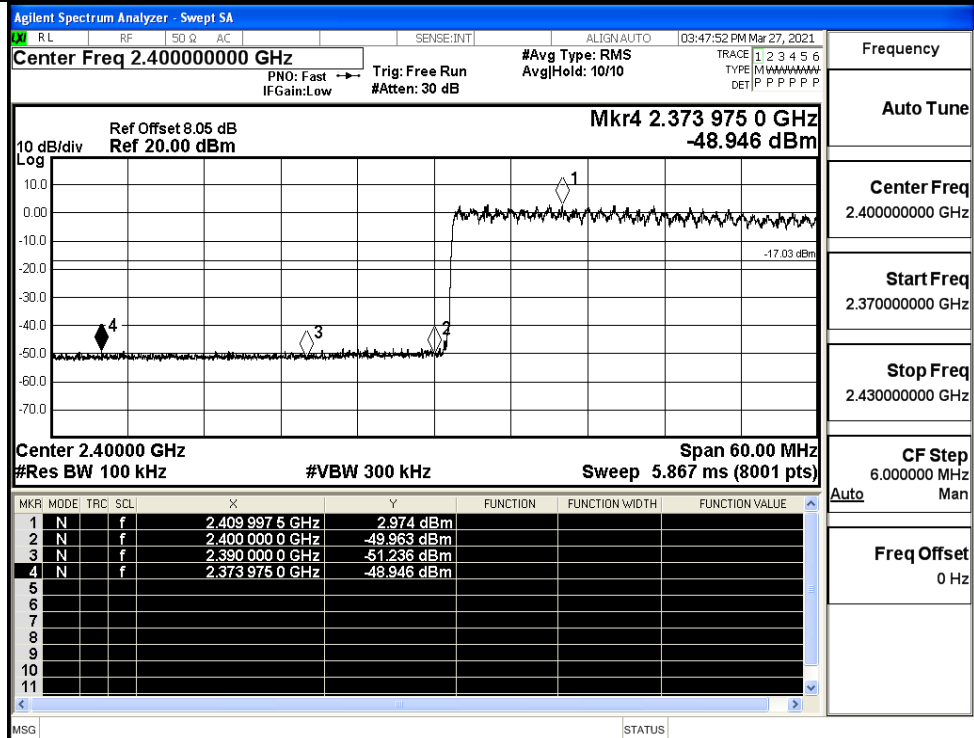
Start Freq
2.310000000 GHz

Stop Freq
2.404000000 GHz

CF Step
9.400000 MHz
Auto Man

Freq Offset
0 Hz

$\pi/4$ DQPSK/LCH/Hop



Frequency

Auto Tune

Center Freq
2.400000000 GHz

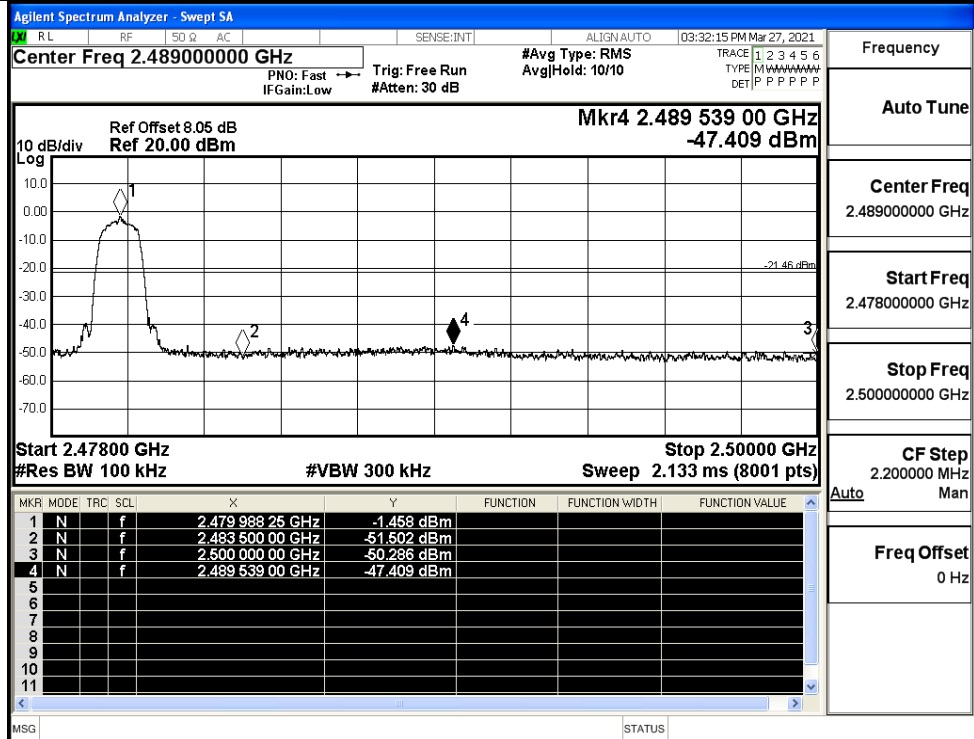
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

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



Frequency

Auto Tune

Center Freq
2.489000000 GHz

Start Freq
2.478000000 GHz

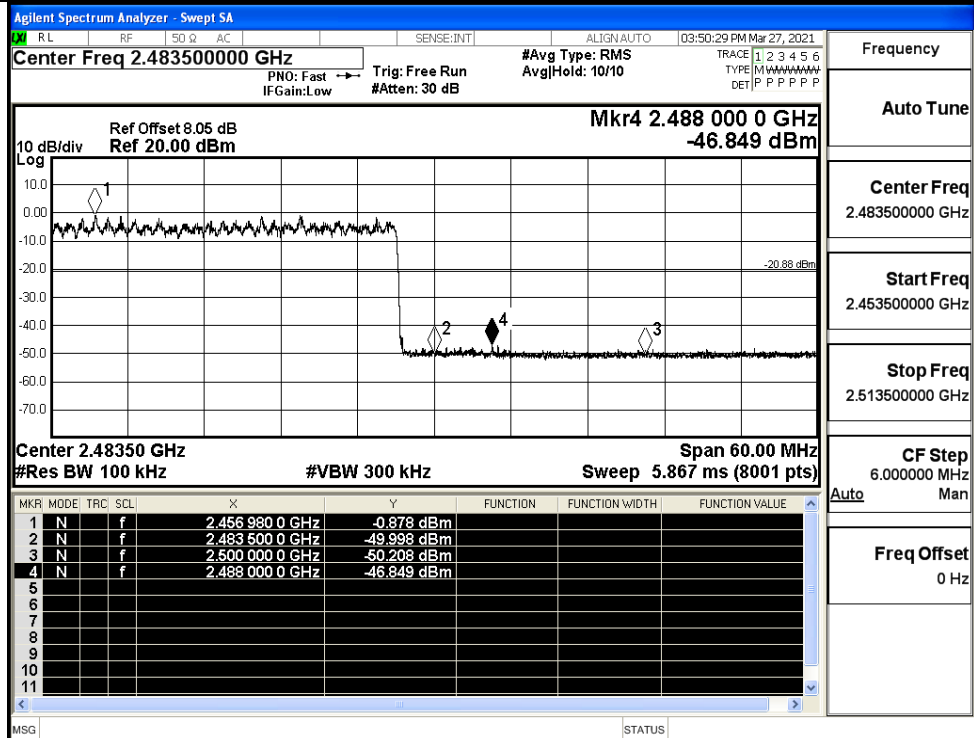
Stop Freq
2.500000000 GHz

CF Step
2.200000 MHz

Auto Man

Freq Offset
0 Hz

$\pi/4$ DQPSK/HCH/Hop



Frequency

Auto Tune

Center Freq
2.483500000 GHz

Start Freq
2.453500000 GHz

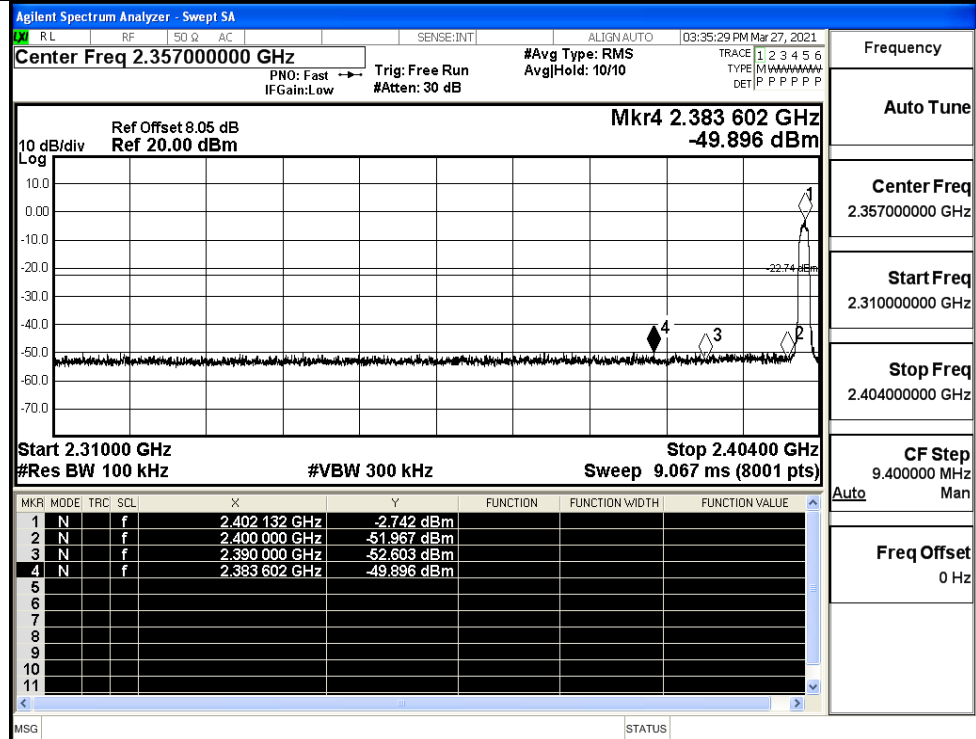
Stop Freq
2.513500000 GHz

CF Step
6.000000 MHz

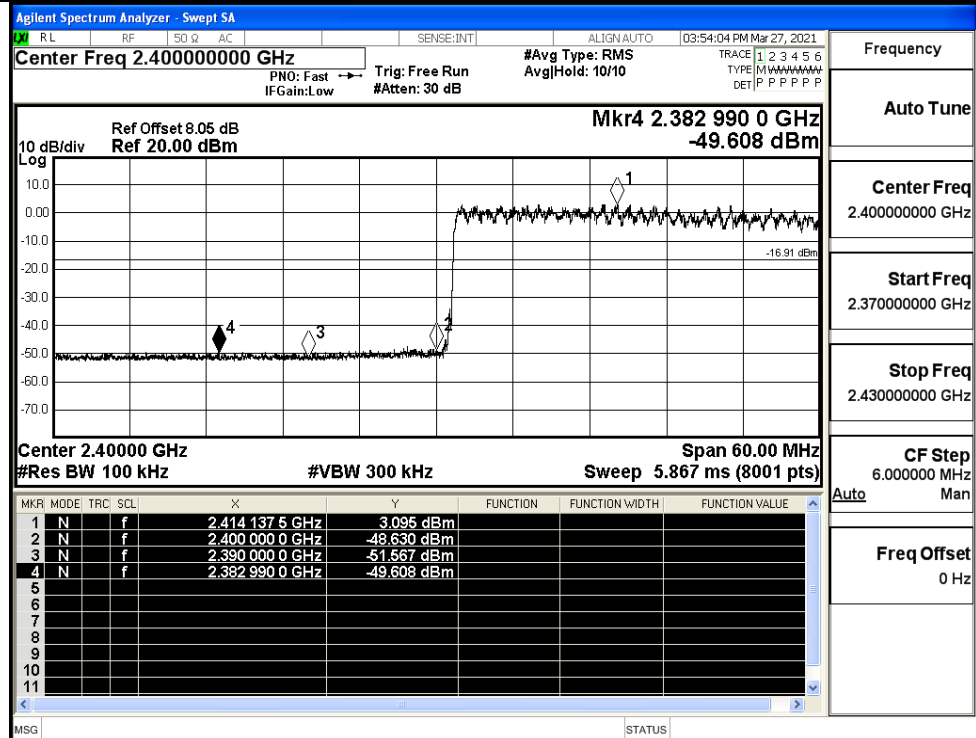
Auto Man

Freq Offset
0 Hz

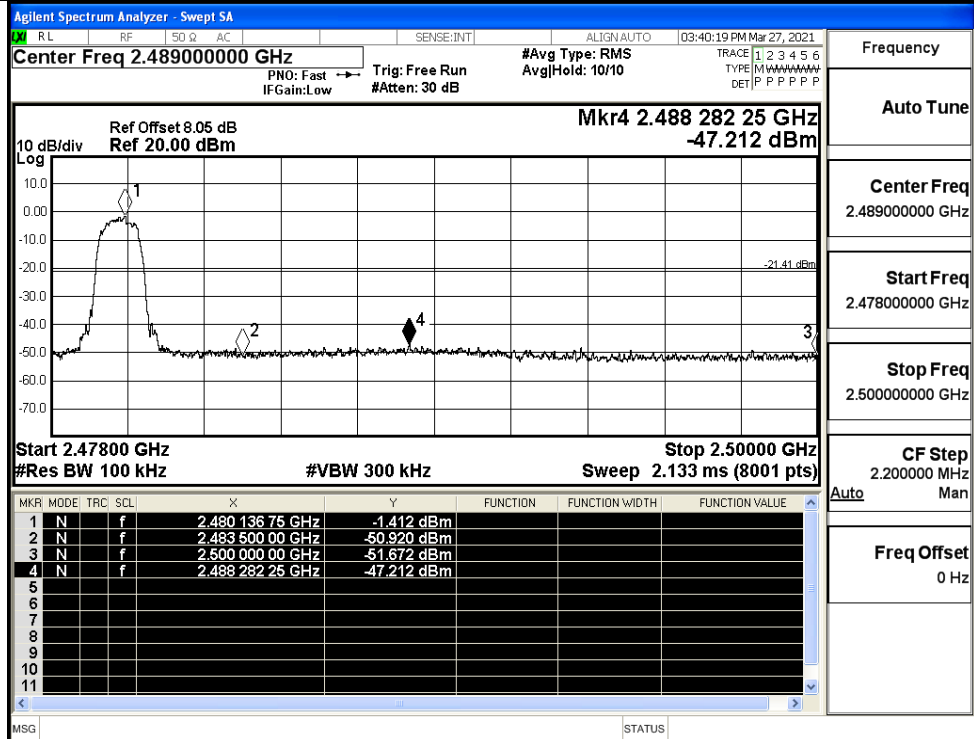
8DPSK/LCH/No Hop



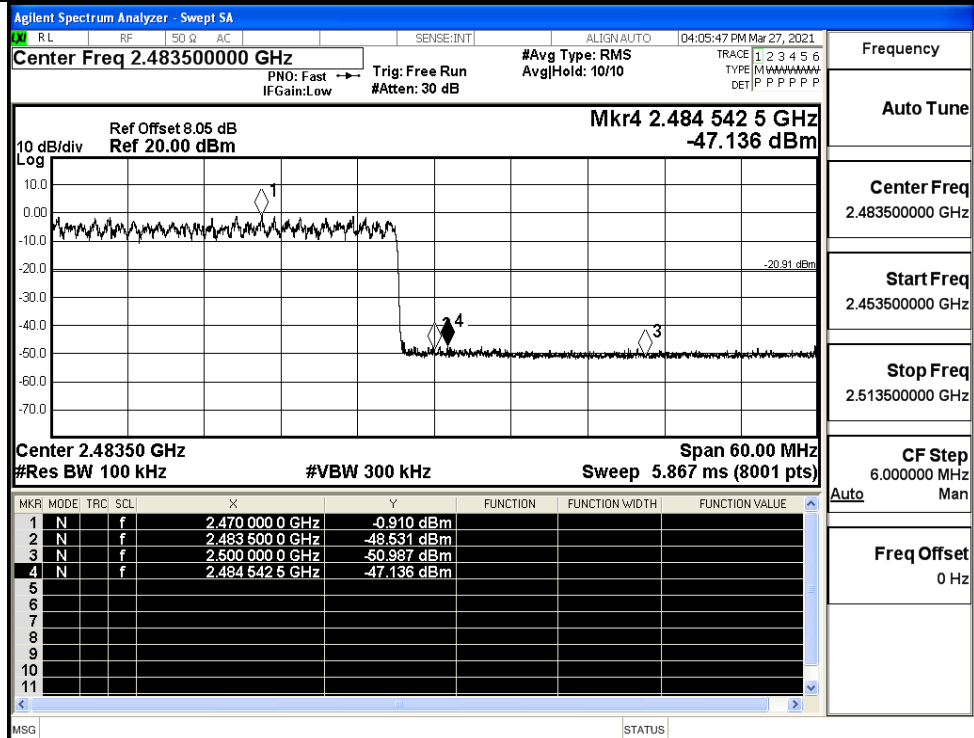
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



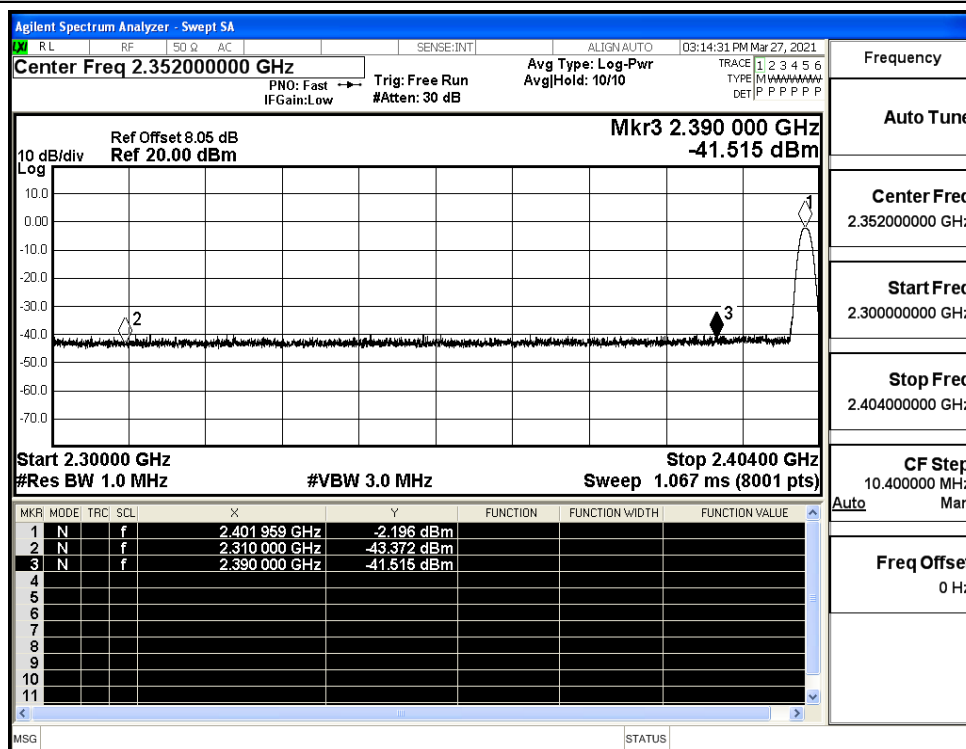
8DPSK/HCH/Hop



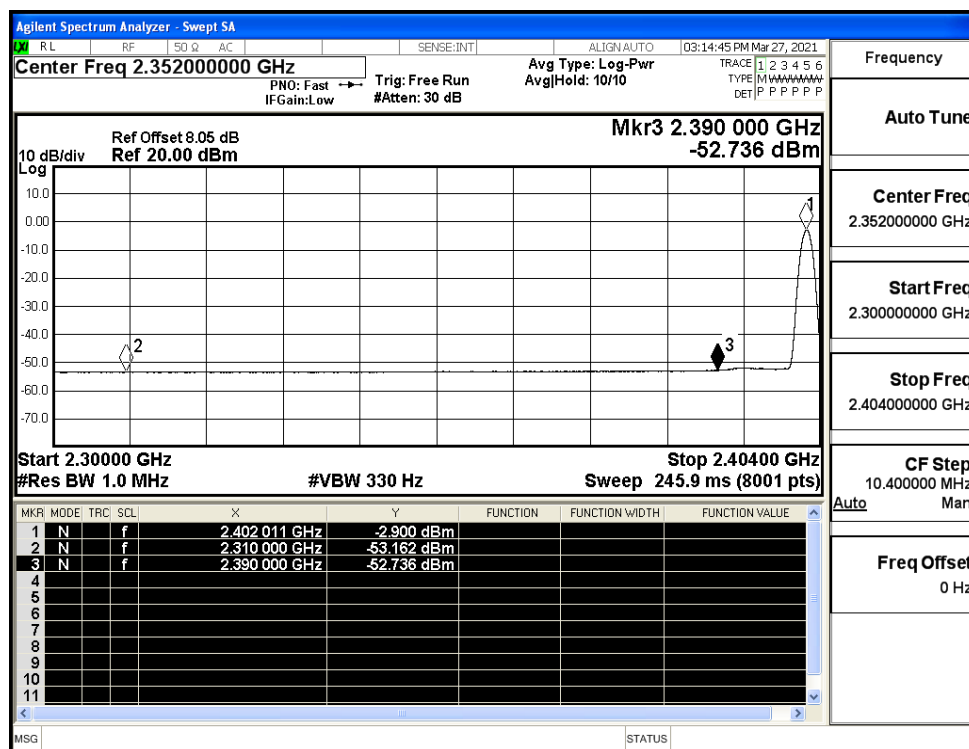
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.37	2.0	0	53.89	PEAK	74	PASS
	Off	2310.0	-53.16	2.0	0	44.1	AV	54	PASS
	Off	2390.0	-41.52	2.0	0	55.74	PEAK	74	PASS
	Off	2390.0	-52.74	2.0	0	44.52	AV	54	PASS
	Off	2483.5	-40.86	2.0	0	56.4	PEAK	74	PASS
	Off	2483.5	-50.64	2.0	0	46.62	AV	54	PASS
	Off	2500.0	-41.76	2.0	0	55.5	PEAK	74	PASS
	Off	2500.0	-52.14	2.0	0	45.12	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-42.51	2.0	0	54.75	PEAK	74	PASS
	Off	2310.0	-53.42	2.0	0	43.84	AV	54	PASS
	Off	2390.0	-43.53	2.0	0	53.73	PEAK	74	PASS
	Off	2390.0	-52.93	2.0	0	44.33	AV	54	PASS
	Off	2483.5	-40.25	2.0	0	57.01	PEAK	74	PASS
	Off	2483.5	-50.85	2.0	0	46.41	AV	54	PASS
	Off	2500.0	-40.99	2.0	0	56.27	PEAK	74	PASS
	Off	2500.0	-52.26	2.0	0	45	AV	54	PASS
8DPSK	Off	2310.0	-43.22	2.0	0	54.04	PEAK	74	PASS
	Off	2310.0	-53.44	2.0	0	43.82	AV	54	PASS
	Off	2390.0	-41.45	2.0	0	55.81	PEAK	74	PASS
	Off	2390.0	-52.93	2.0	0	44.33	AV	54	PASS
	Off	2483.5	-40.91	2.0	0	56.35	PEAK	74	PASS
	Off	2483.5	-50.58	2.0	0	46.68	AV	54	PASS
	Off	2500.0	-42.17	2.0	0	55.09	PEAK	74	PASS
	Off	2500.0	-52.10	2.0	0	45.16	AV	54	PASS

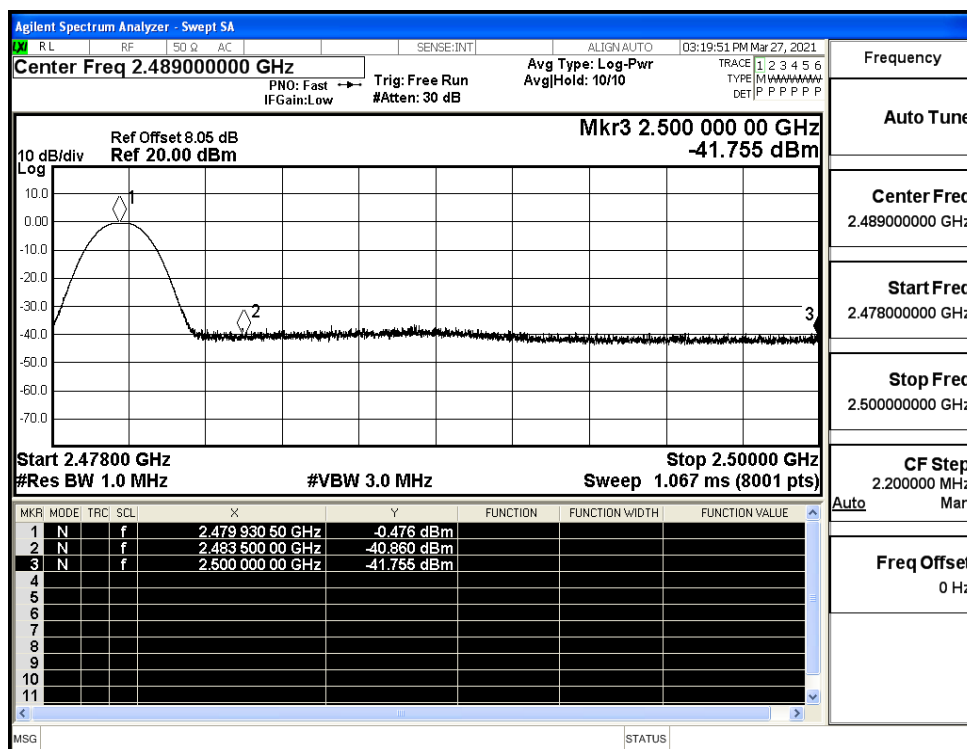
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



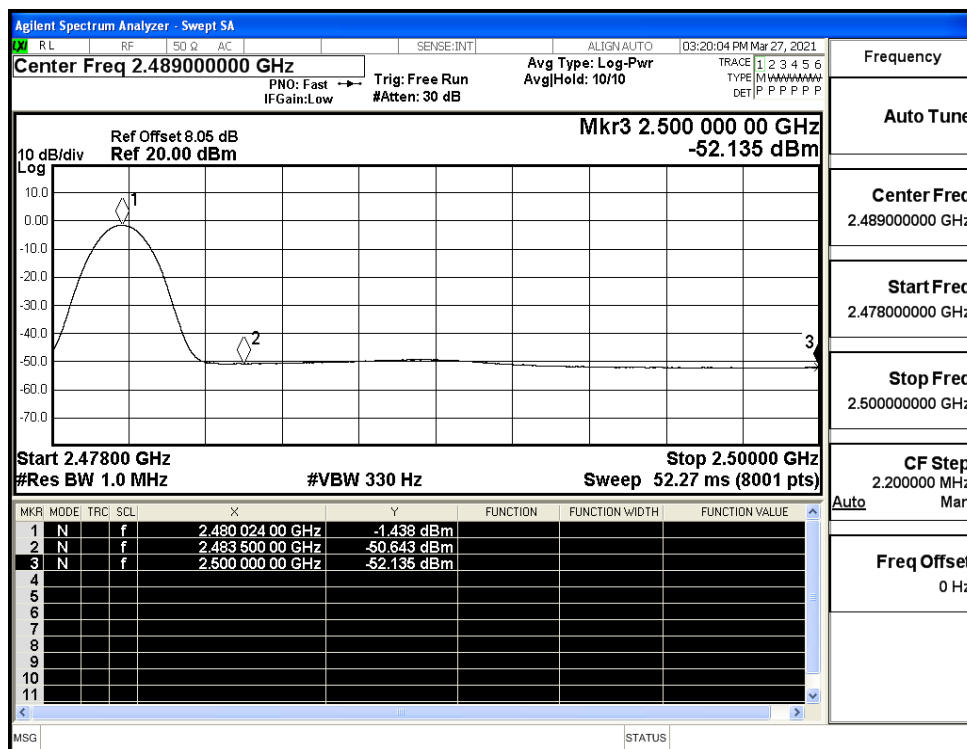
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

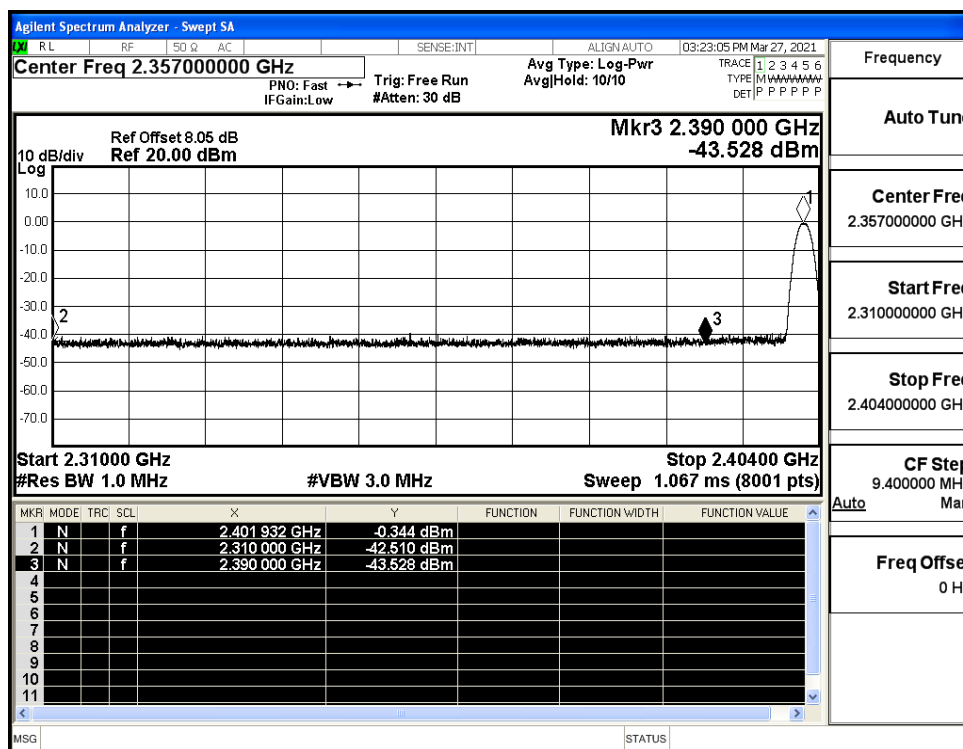
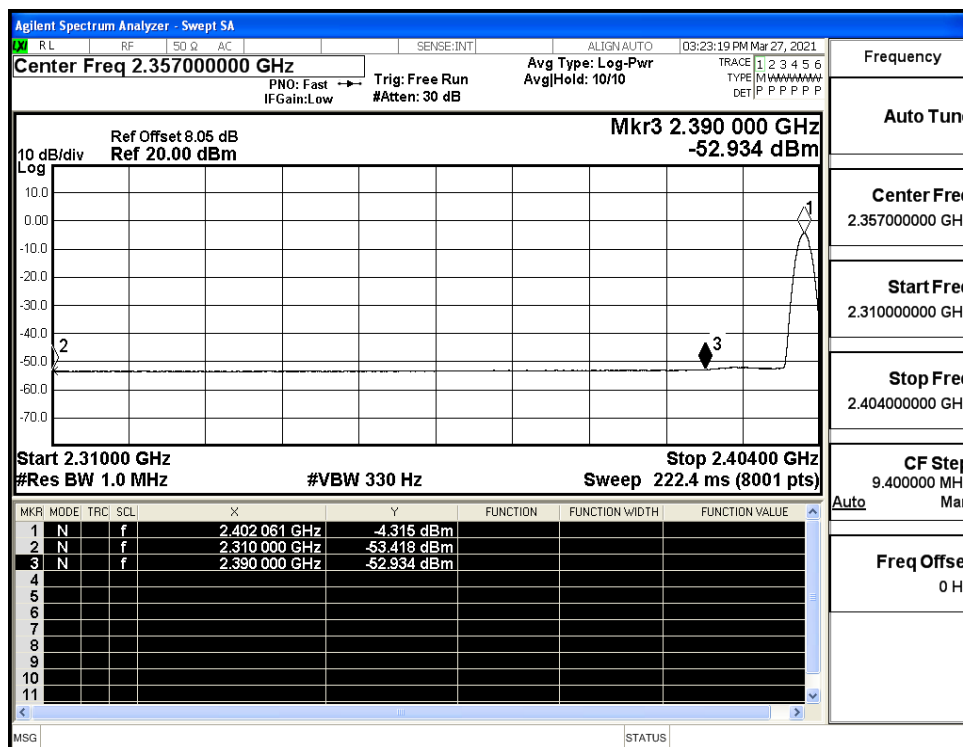


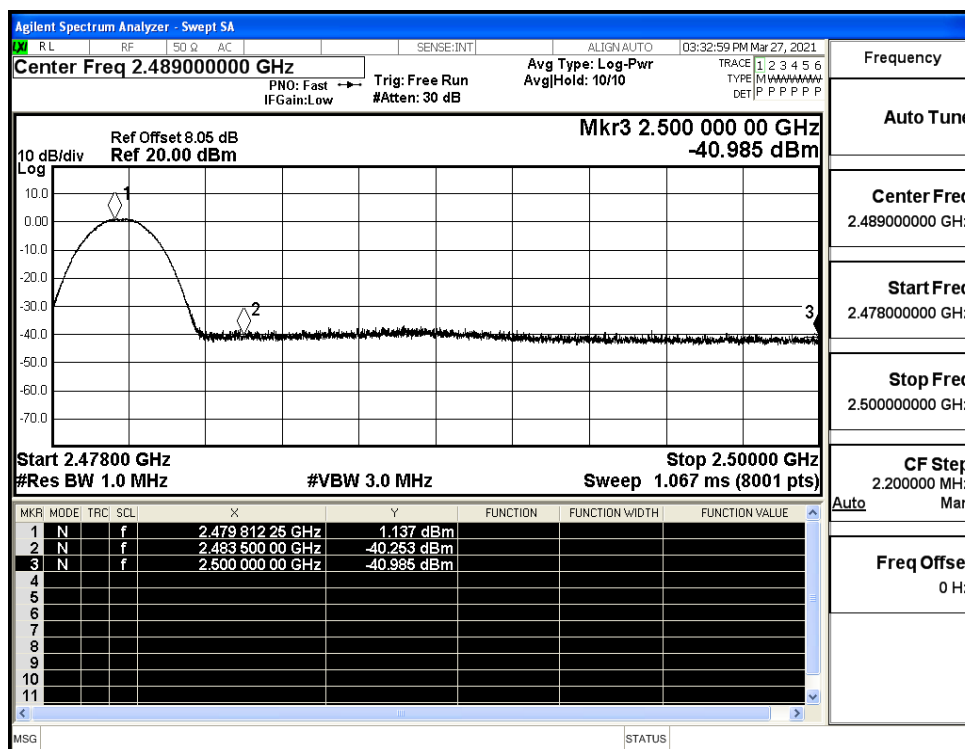
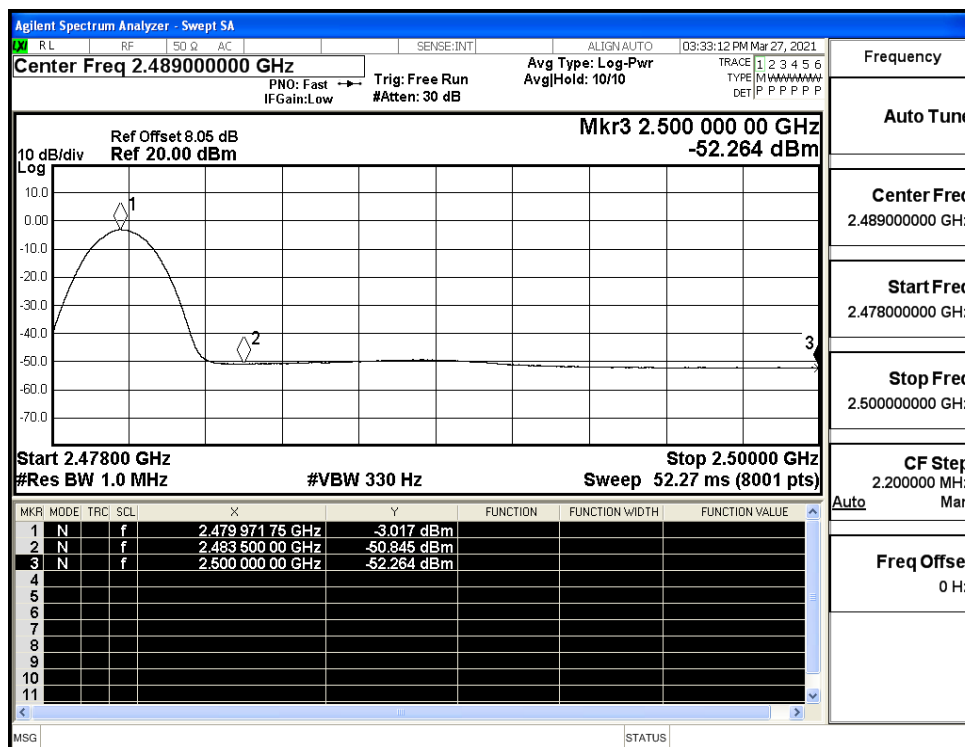
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



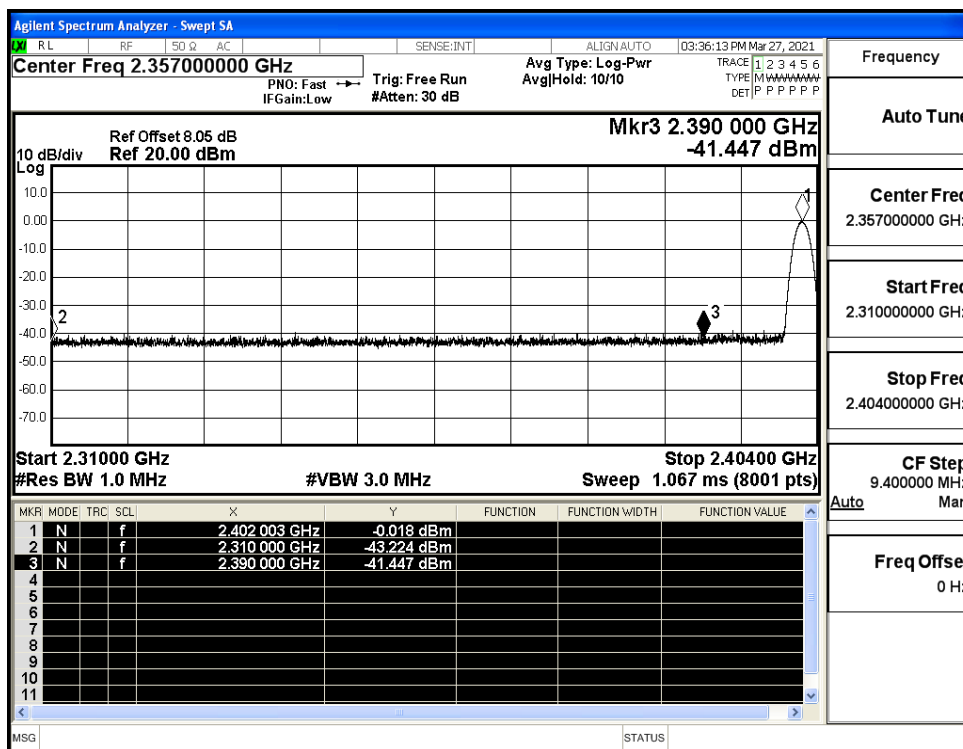
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



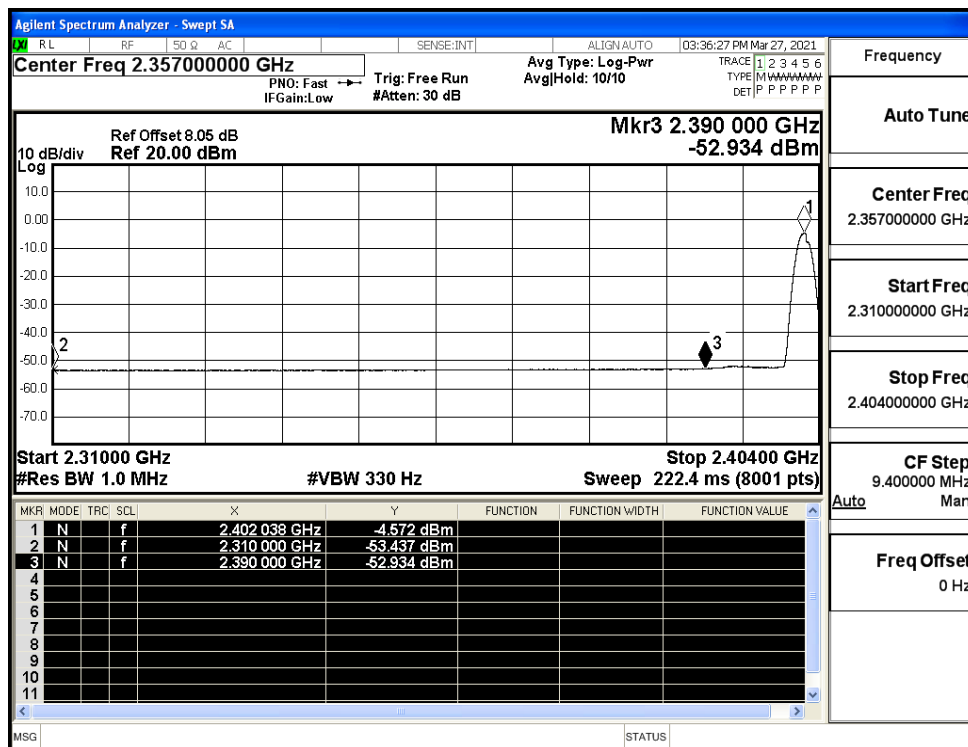
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

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

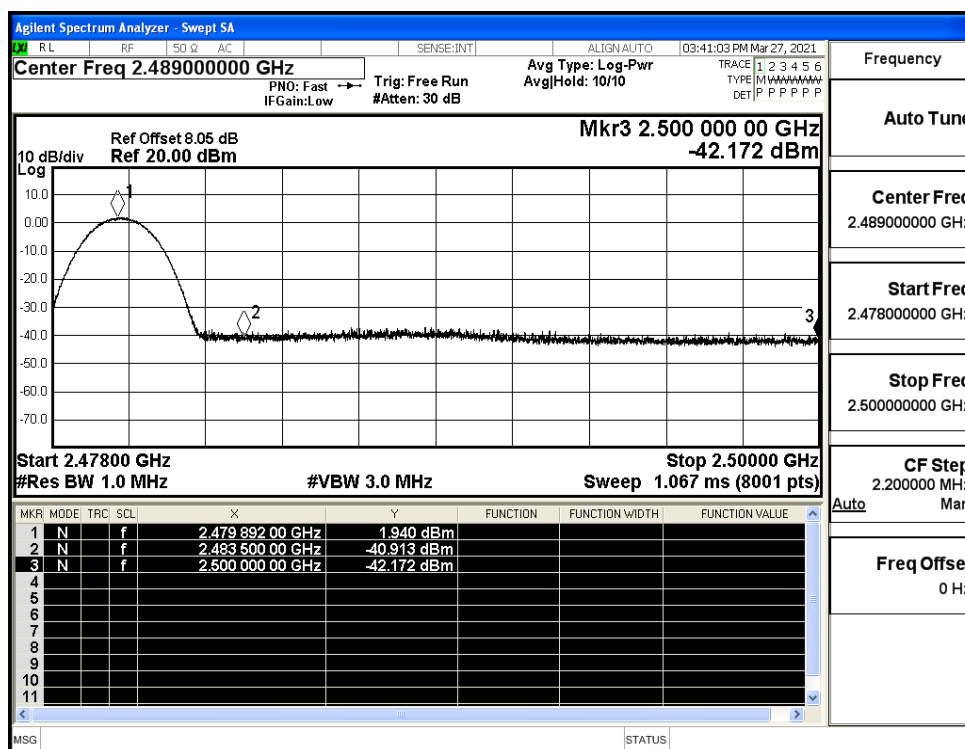
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

