

Appendix A

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

Product Name: Laptop

Trade Mark: Trekstor, PEAQ

Test Model: G137

Environmental Conditions

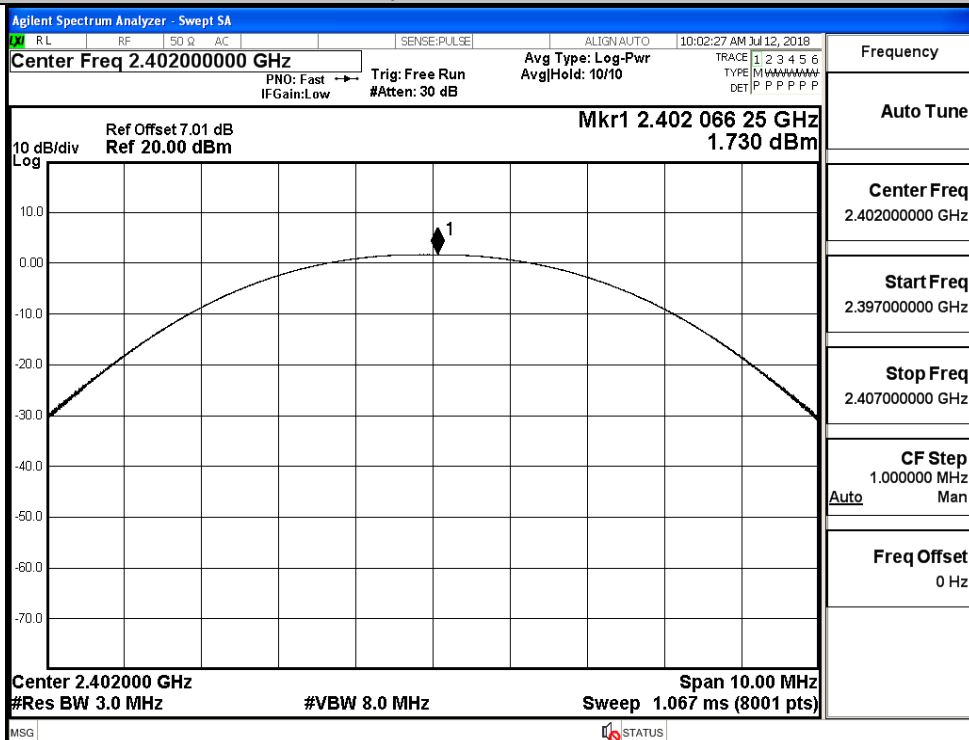
Temperature:	23.4 ° C
Relative Humidity:	53.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom.Liu
Supervised by:	Jayden.Zhuo

A.1 Maximum Conducted Peak Output Power

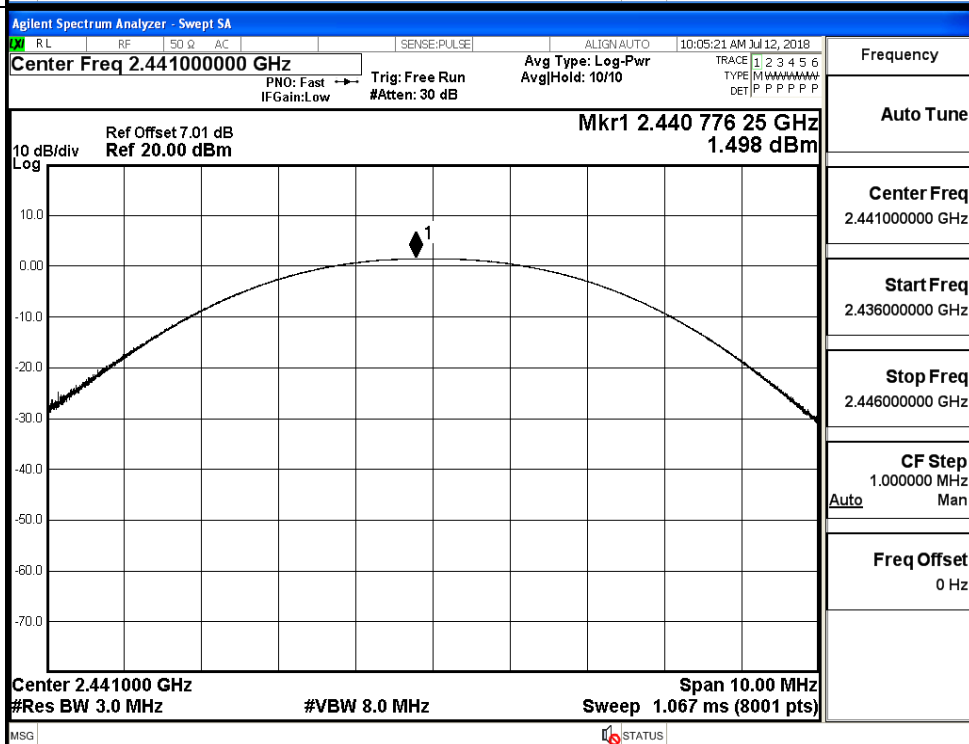
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.730	21	PASS
	MCH	1.498	21	PASS
	HCH	1.925	21	PASS
$\pi/4$ DQPSK	LCH	0.878	21	PASS
	MCH	0.605	21	PASS
	HCH	1.120	21	PASS
8DPSK	LCH	1.005	21	PASS
	MCH	0.816	21	PASS
	HCH	1.322	21	PASS

Test Graphs

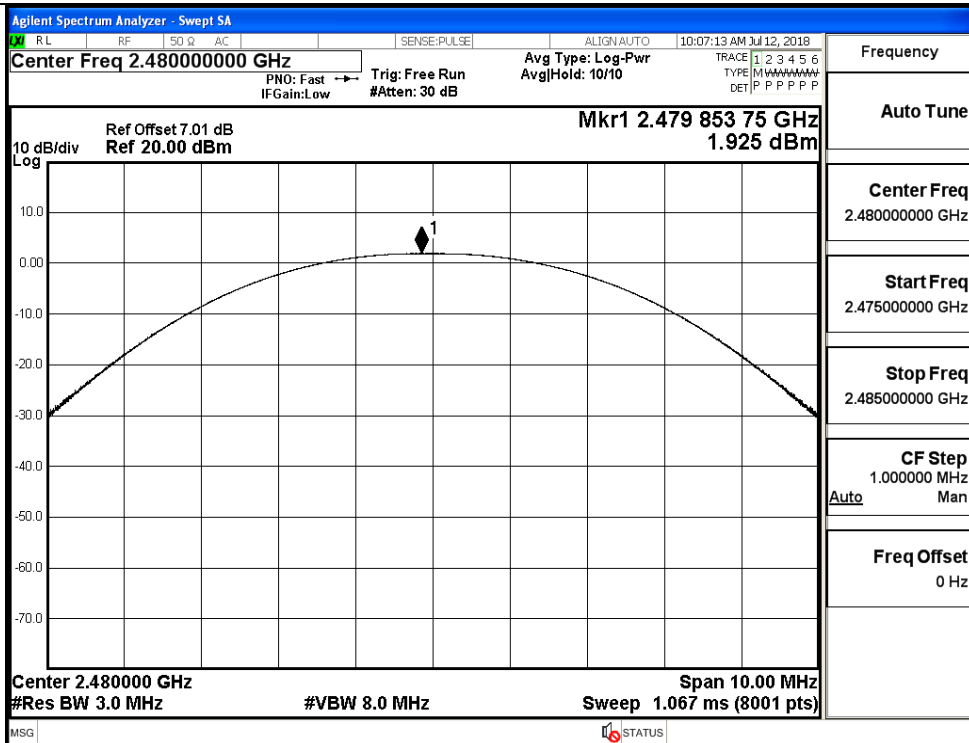
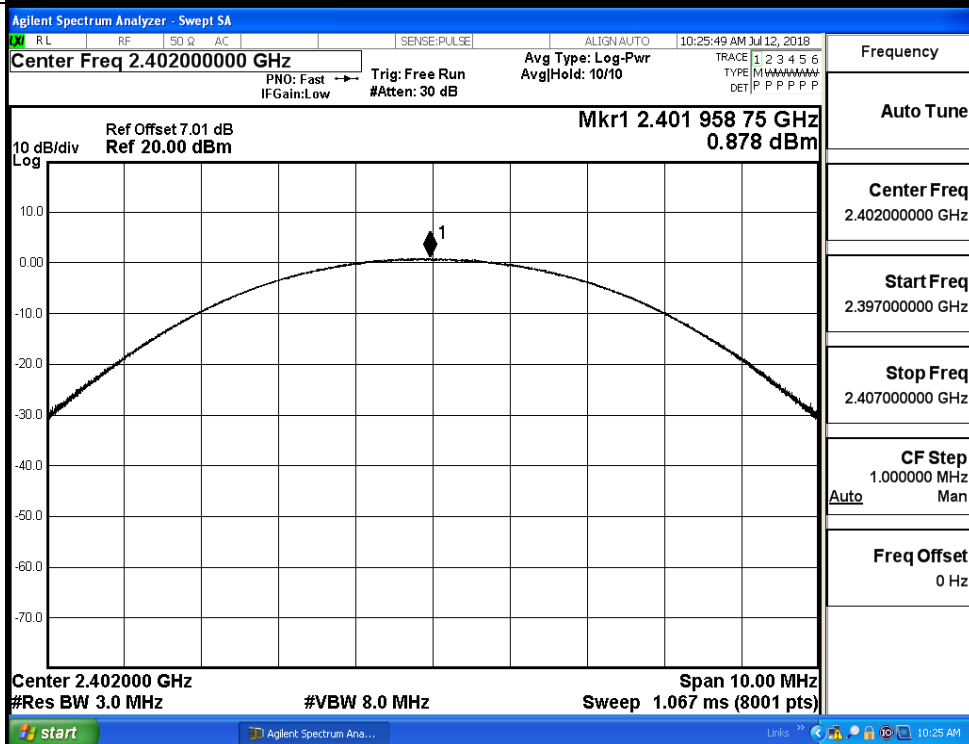
GFSK/LCH

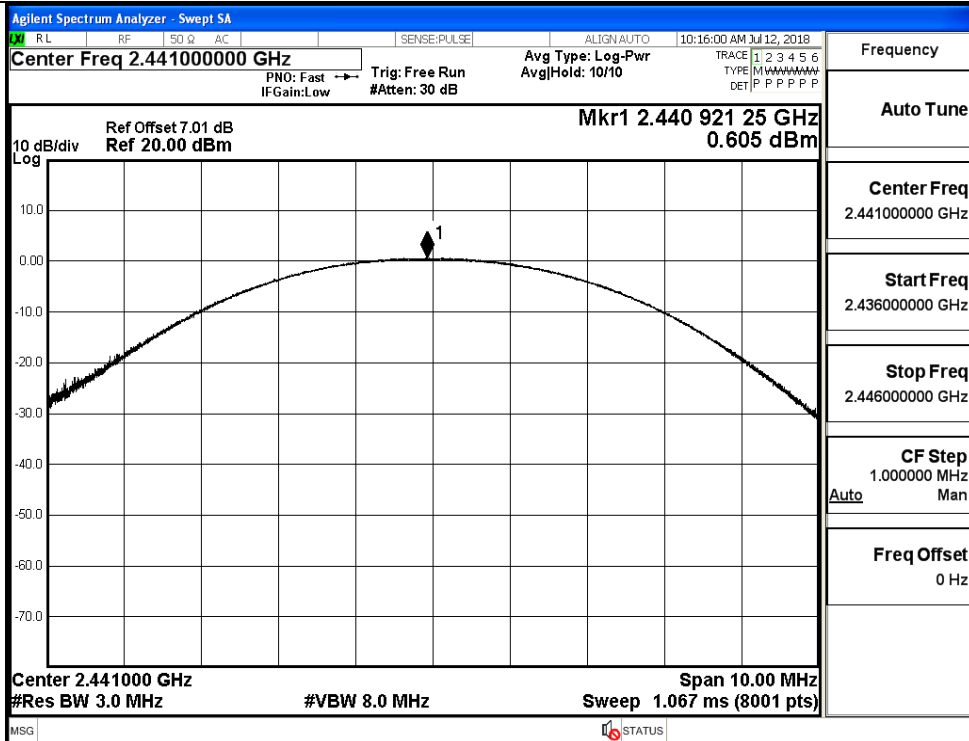
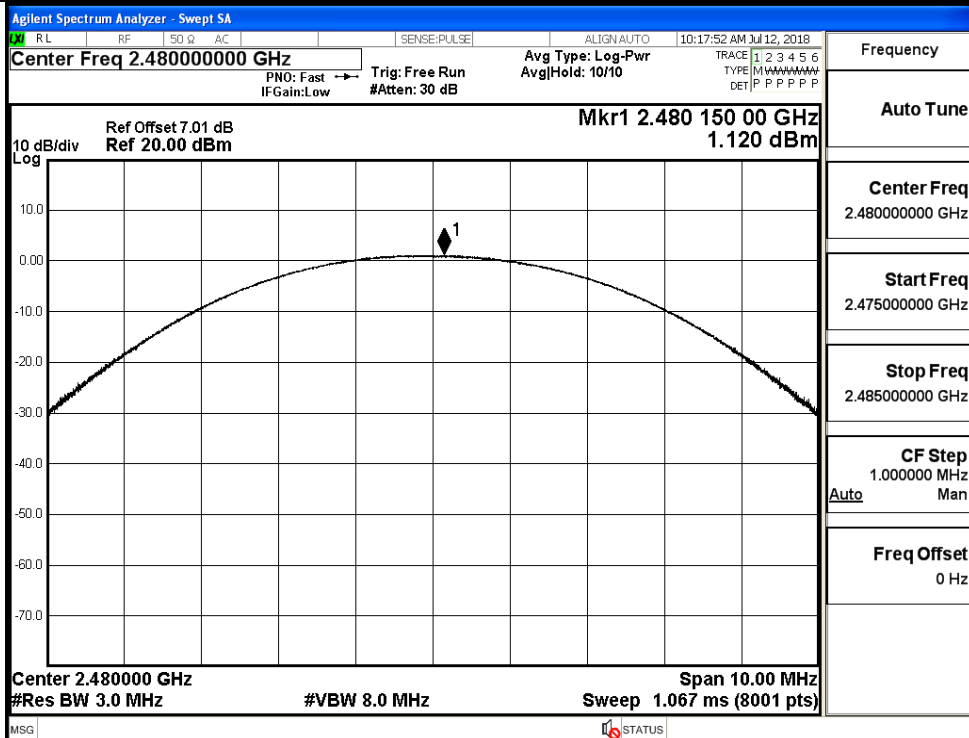


GFSK/MCH

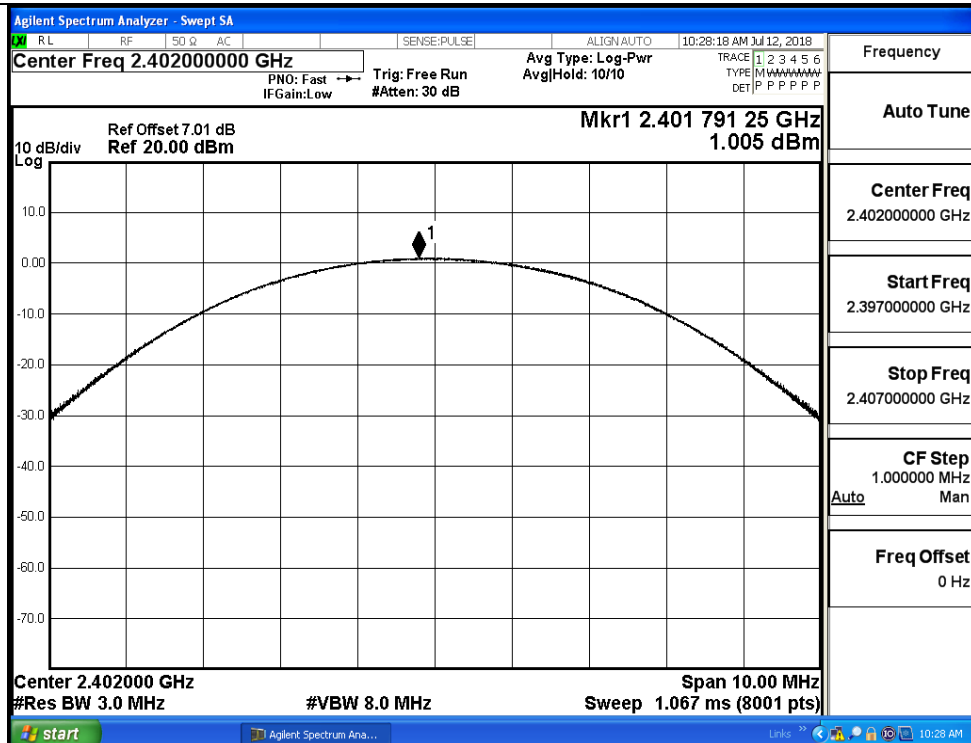


GFSK/HCH

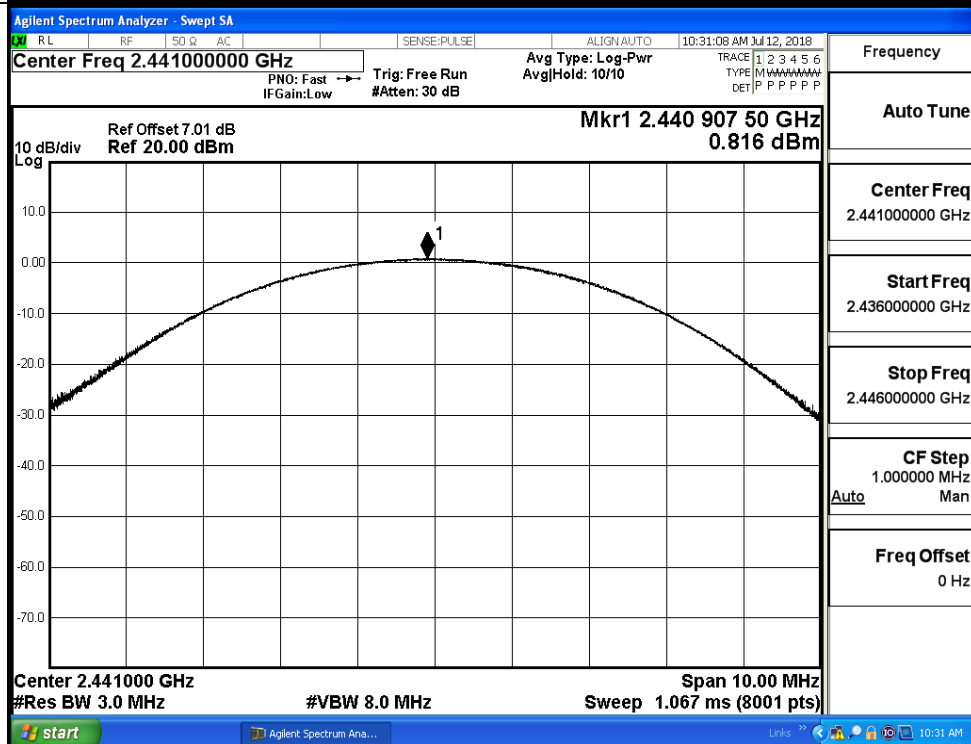
 π /4DQPSK/LCH

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

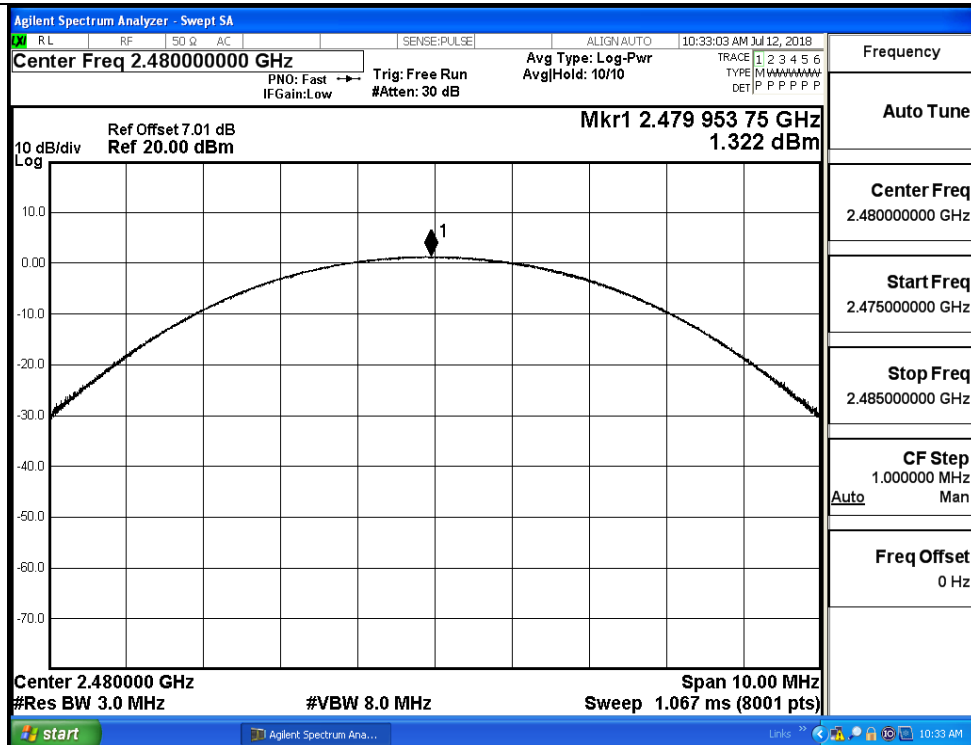
8DPSK/LCH



8DPSK/MCH



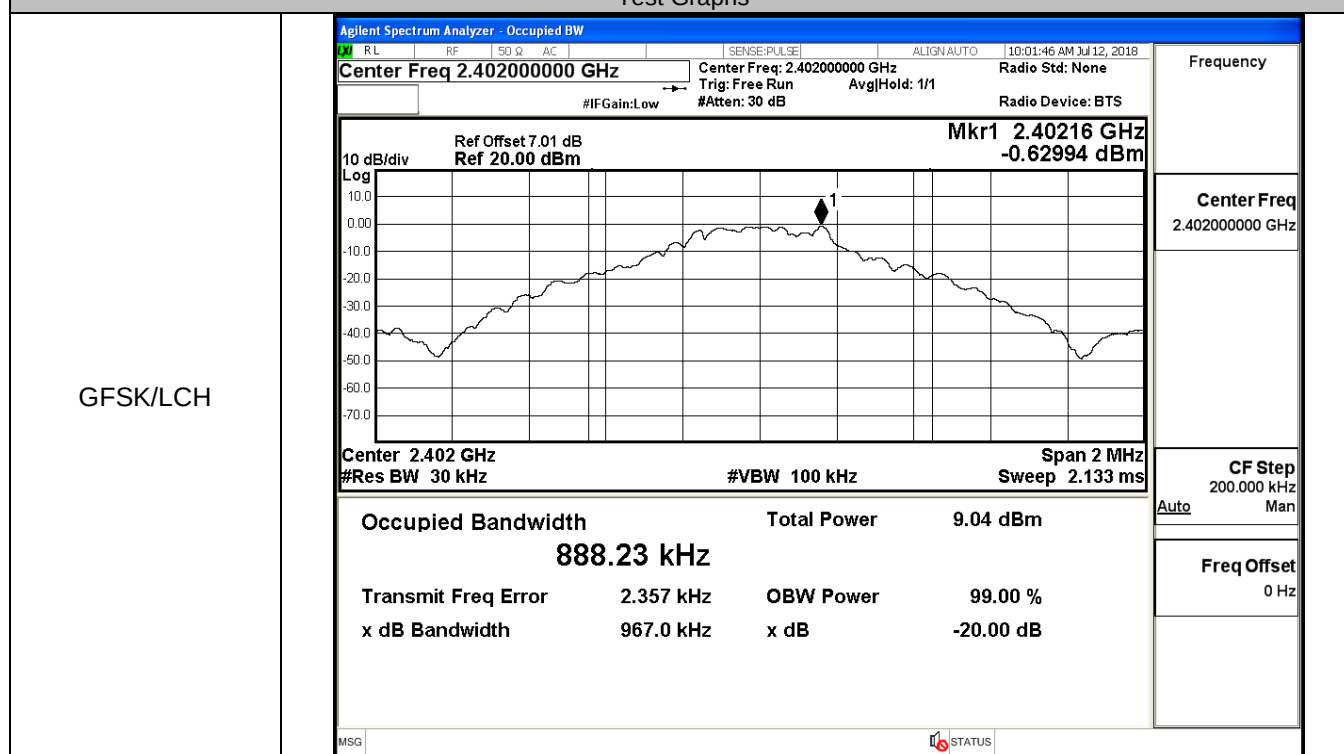
8DPSK/HCH



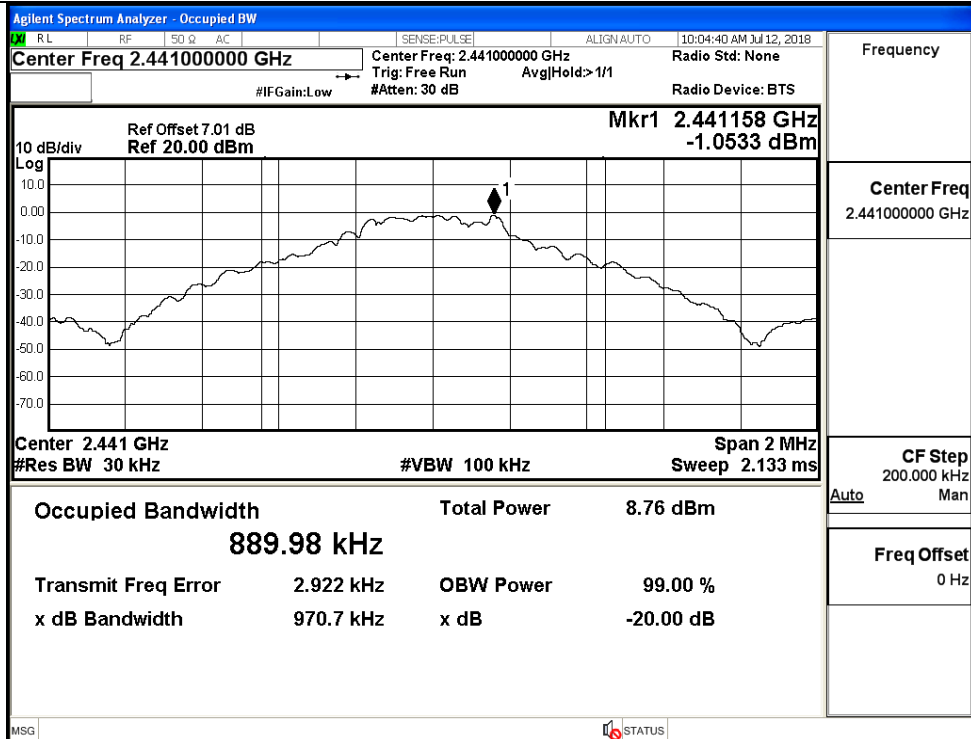
A.2 20dB Bandwidth

Mode	Channel.	99% Bandwidth [MHz]	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.88823	0.9670	Not Specified	PASS
	MCH	0.88998	0.9707	Not Specified	PASS
	HCH	0.88944	0.9653	Not Specified	PASS
π /4DQPSK	LCH	1.1693	1.289	Not Specified	PASS
	MCH	1.1670	1.287	Not Specified	PASS
	HCH	1.1687	1.287	Not Specified	PASS
8DPSK	LCH	1.1772	1.292	Not Specified	PASS
	MCH	1.1765	1.290	Not Specified	PASS
	HCH	1.1771	1.291	Not Specified	PASS

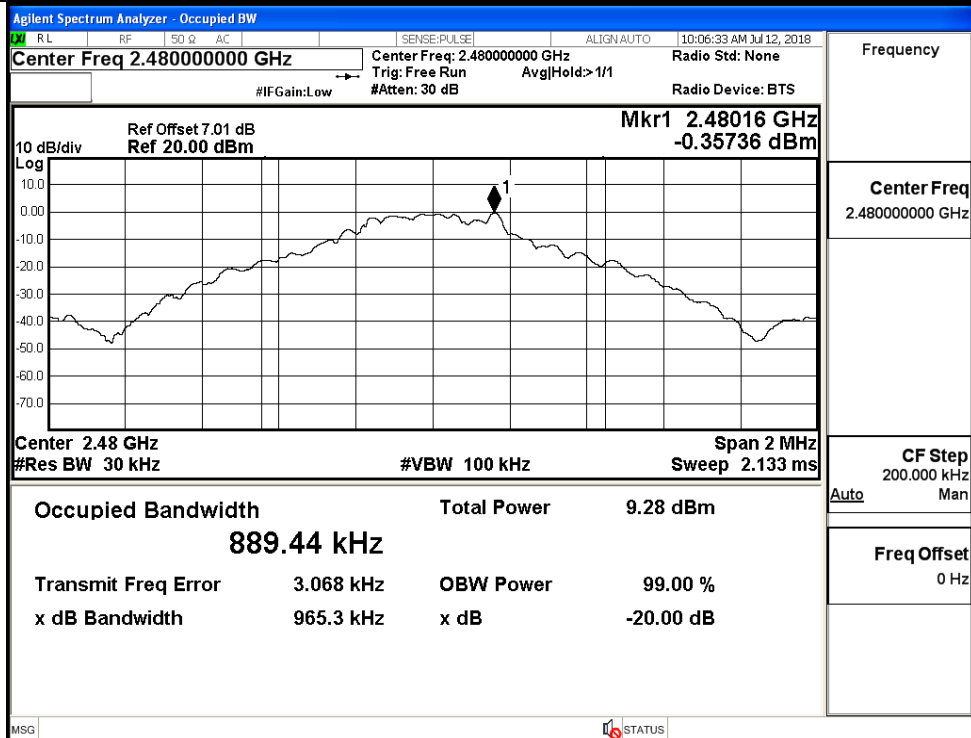
Test Graphs

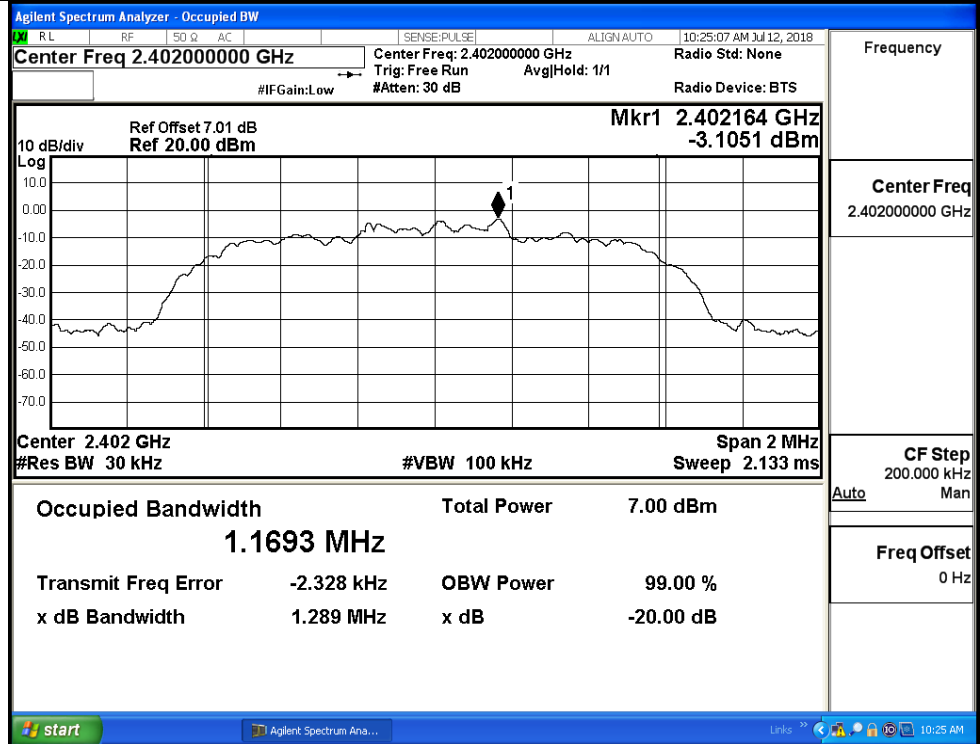
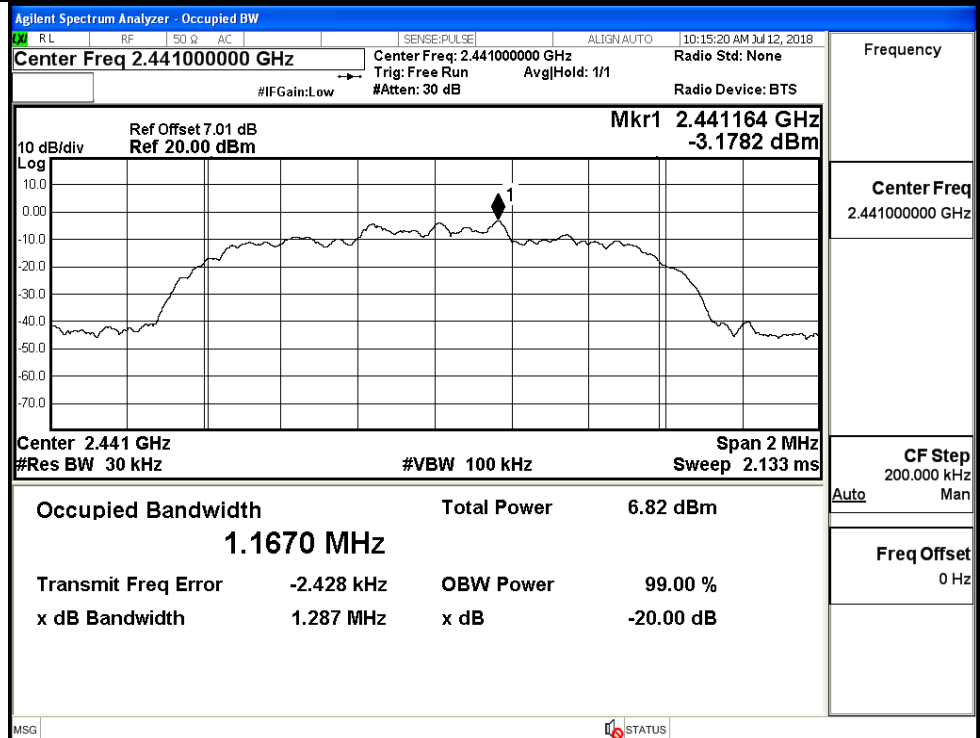


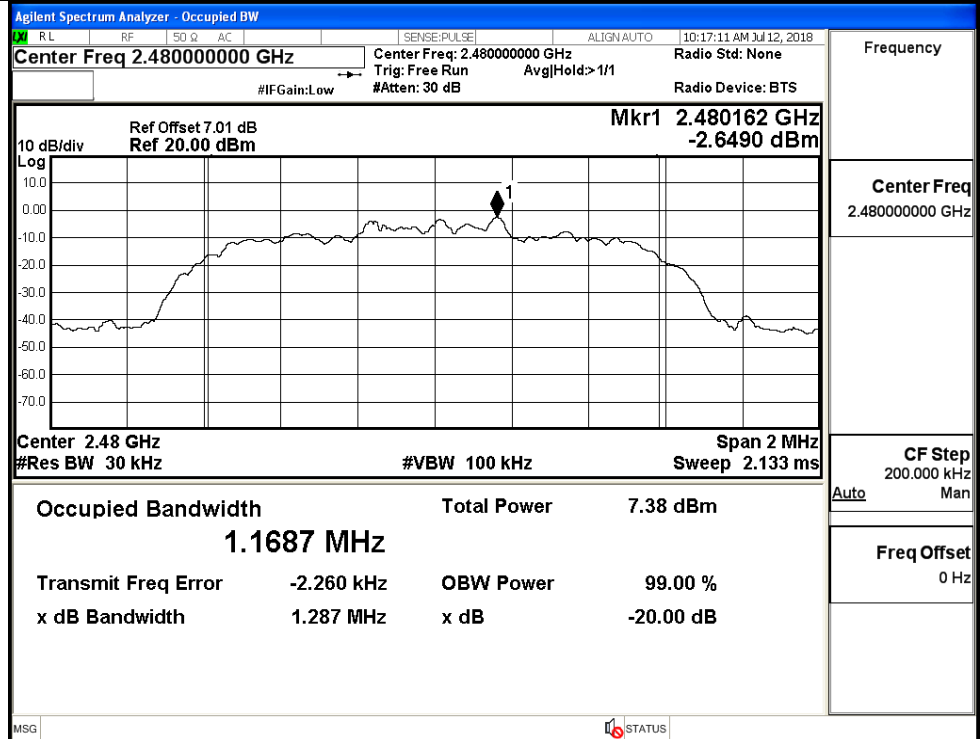
GFSK/MCH



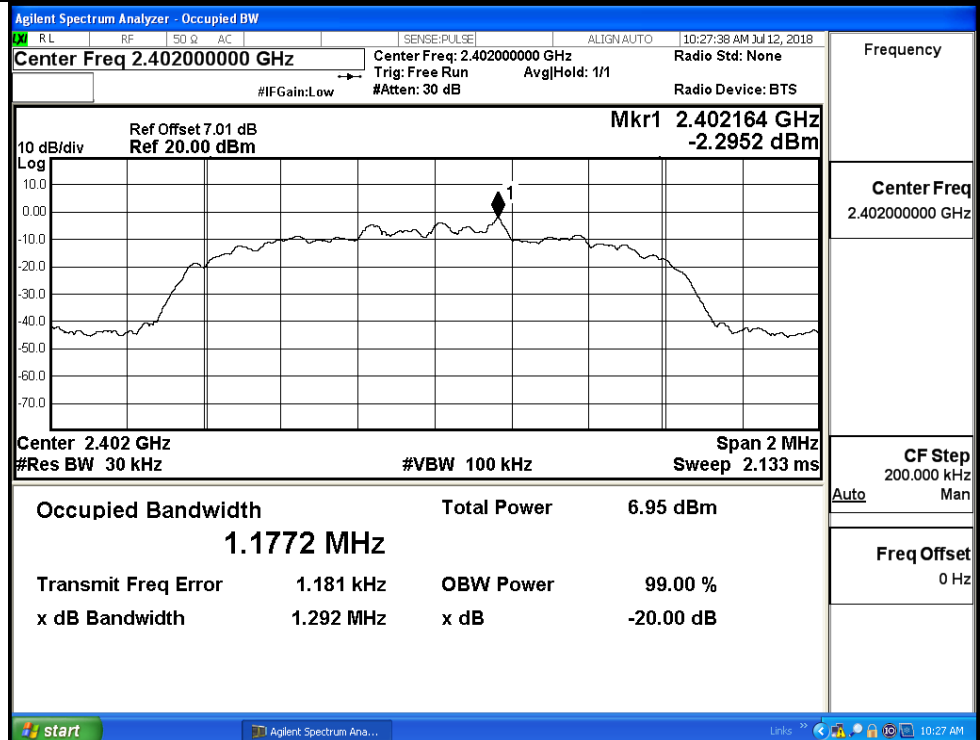
GFSK/HCH



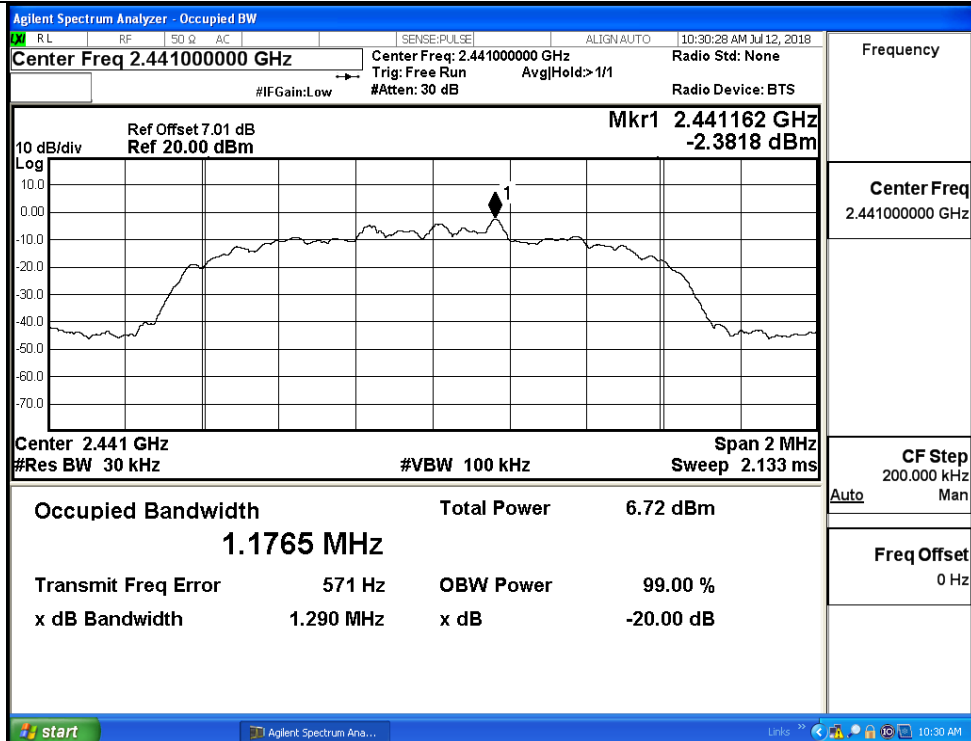
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

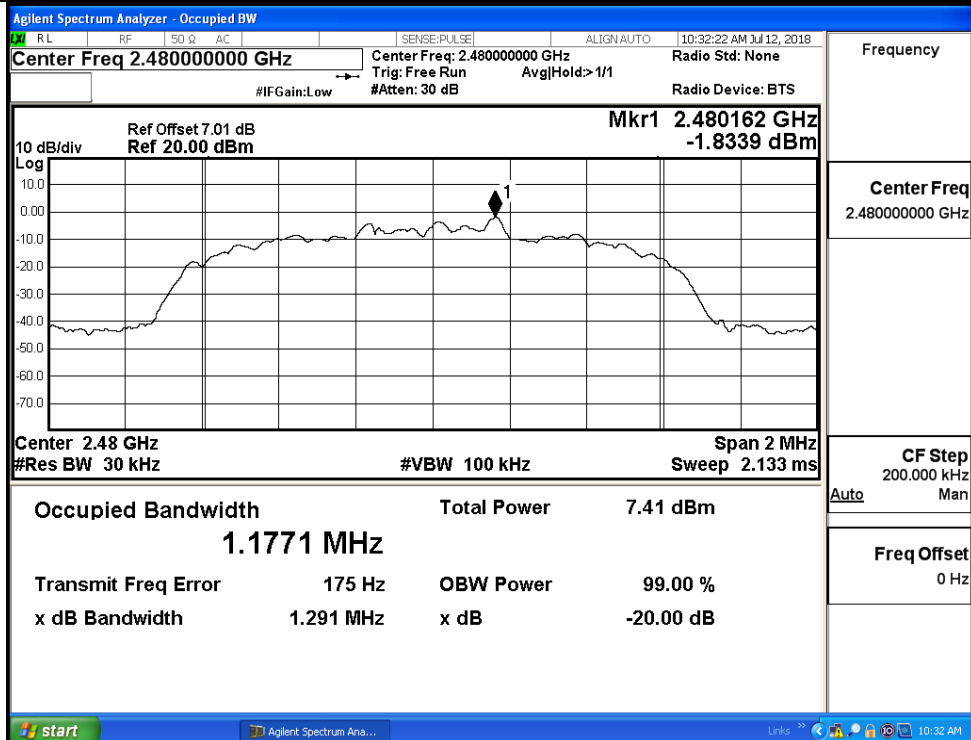
8DPSK/LCH



8DPSK/MCH



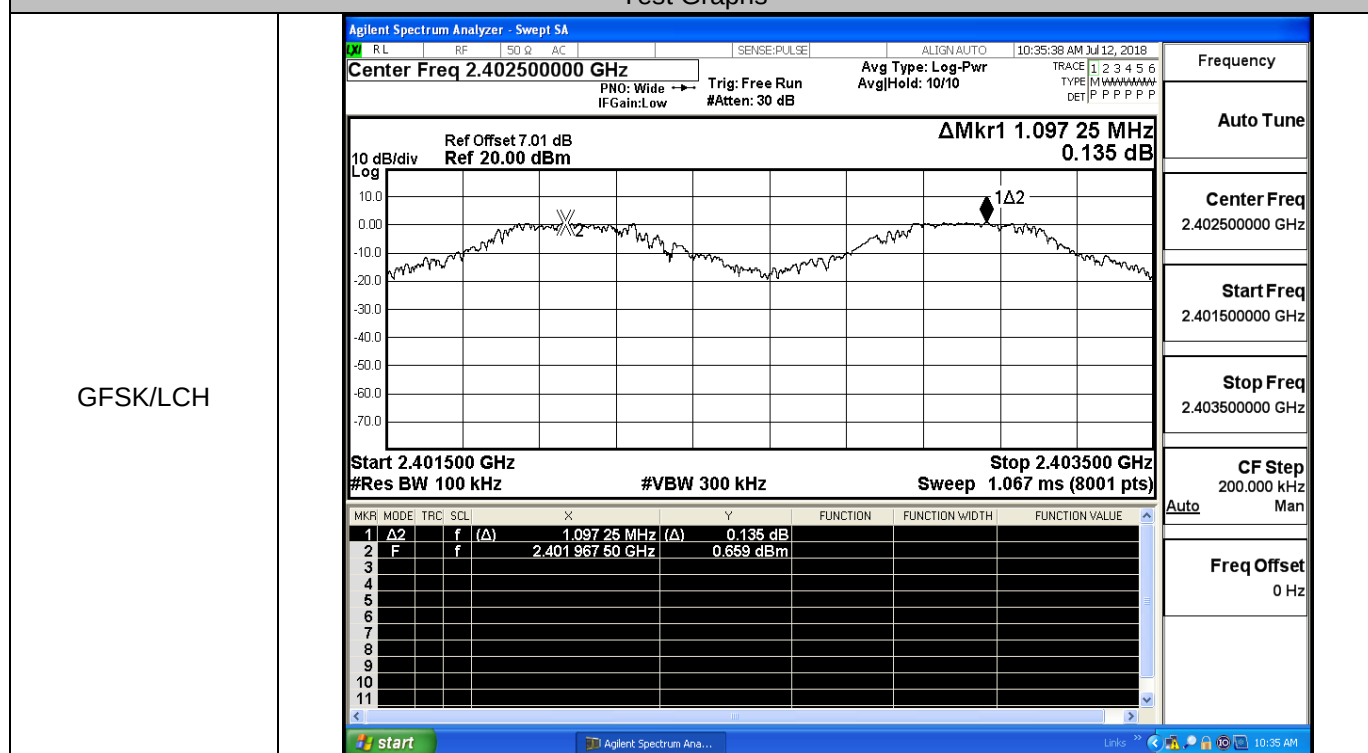
8DPSK/HCH



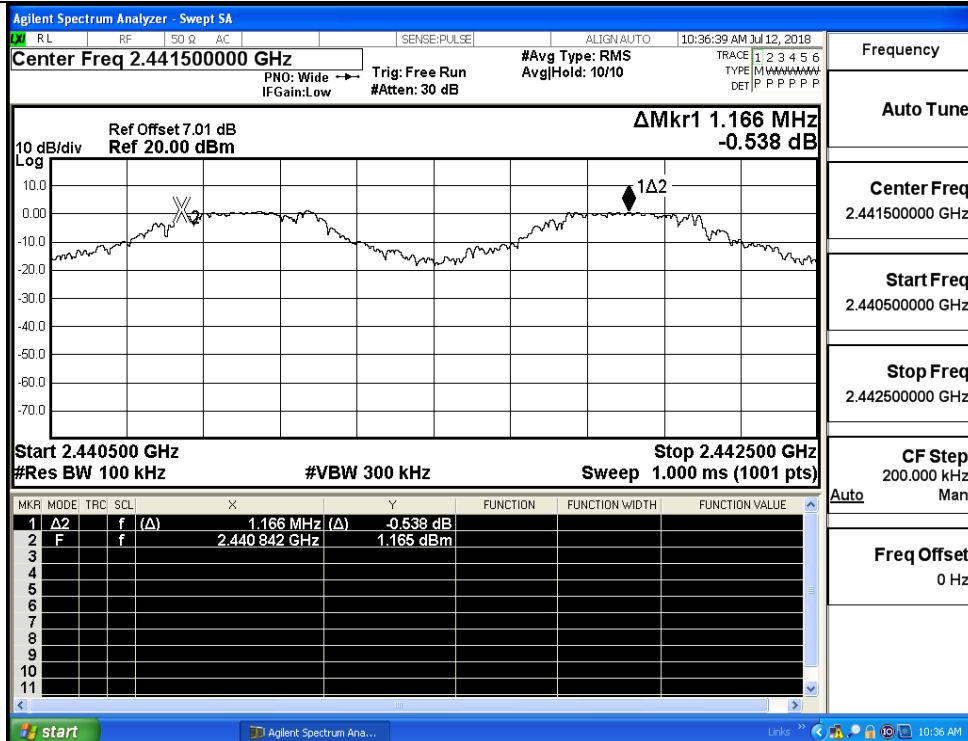
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.097	0.647	PASS
	MCH	1.166	0.647	PASS
	HCH	1.174	0.647	PASS
$\pi/4$ DQPSK	LCH	0.892	0.859	PASS
	MCH	1.004	0.859	PASS
	HCH	0.934	0.859	PASS
8DPSK	LCH	1.066	0.861	PASS
	MCH	1.078	0.861	PASS
	HCH	1.100	0.861	PASS

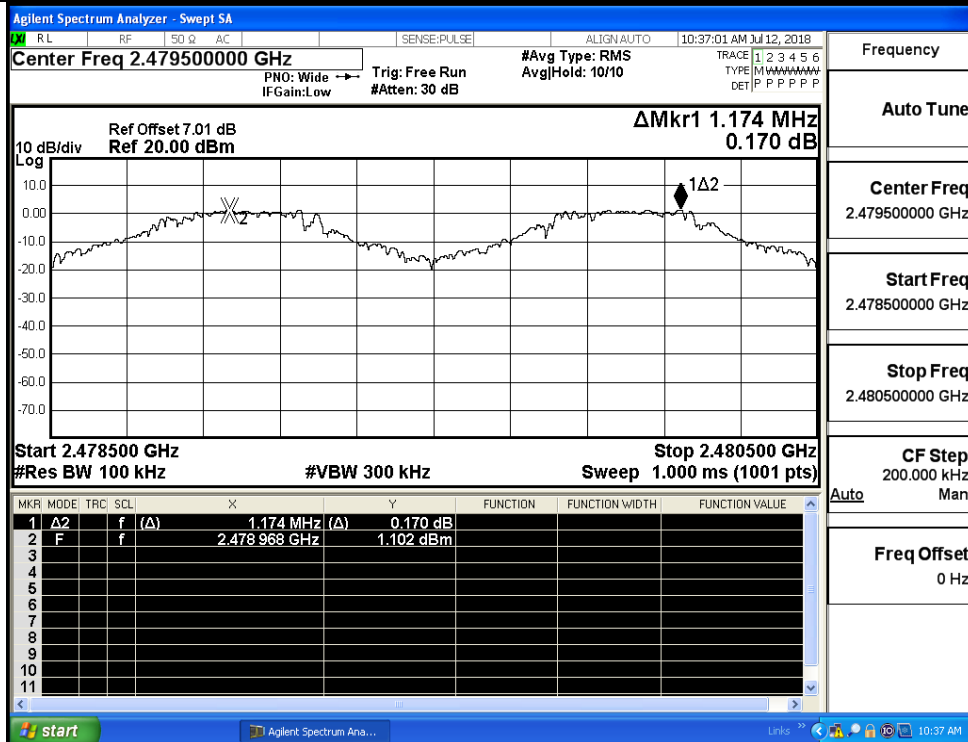
Test Graphs

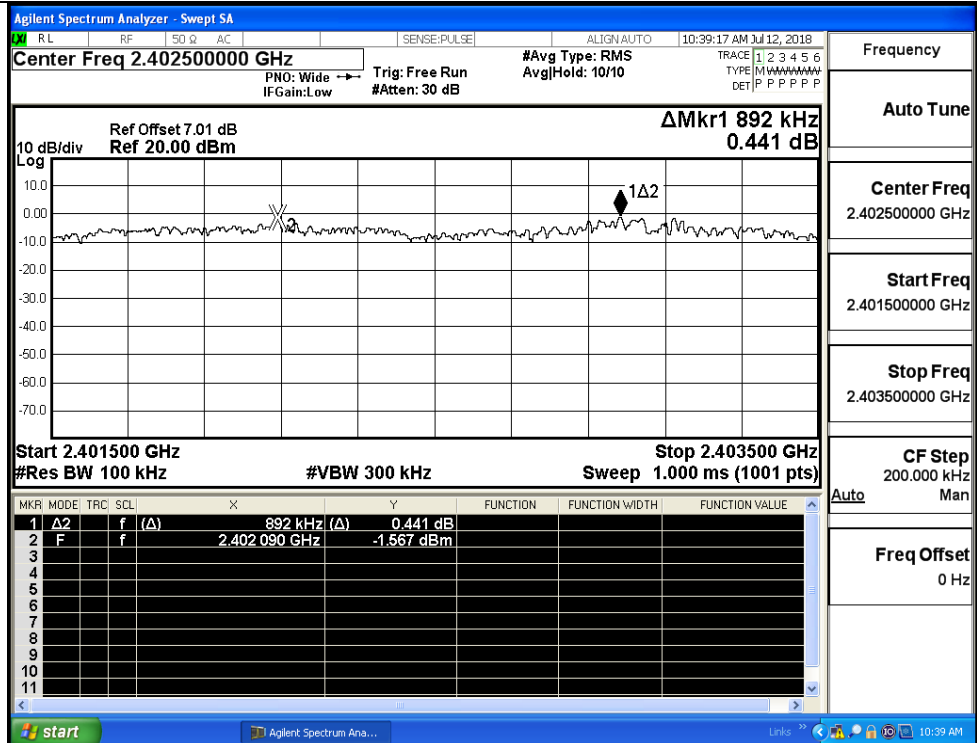
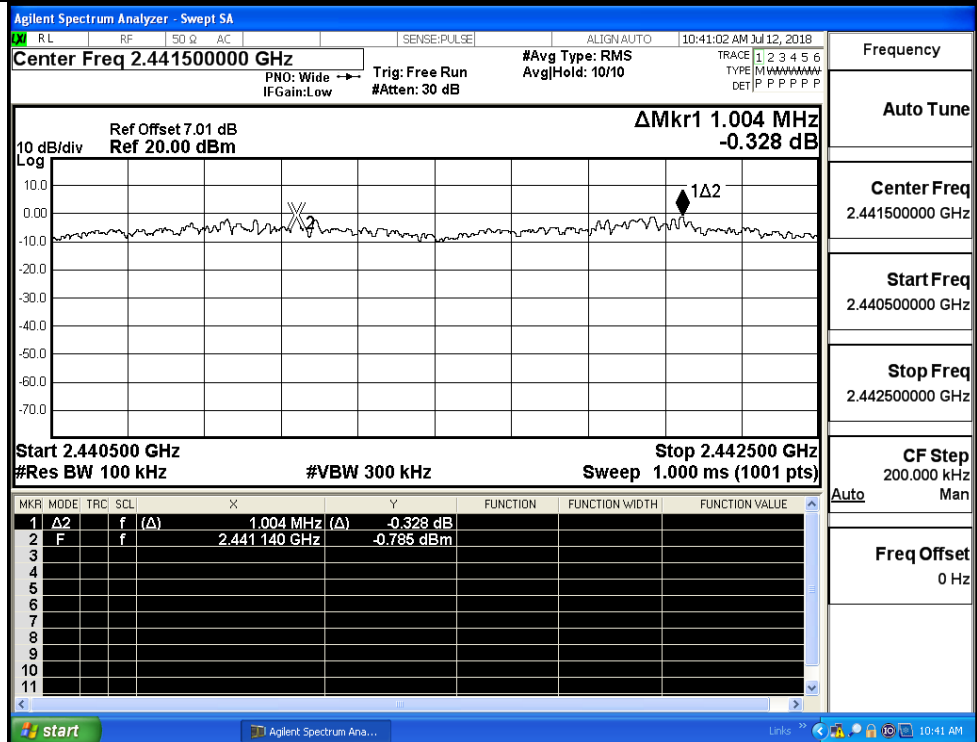


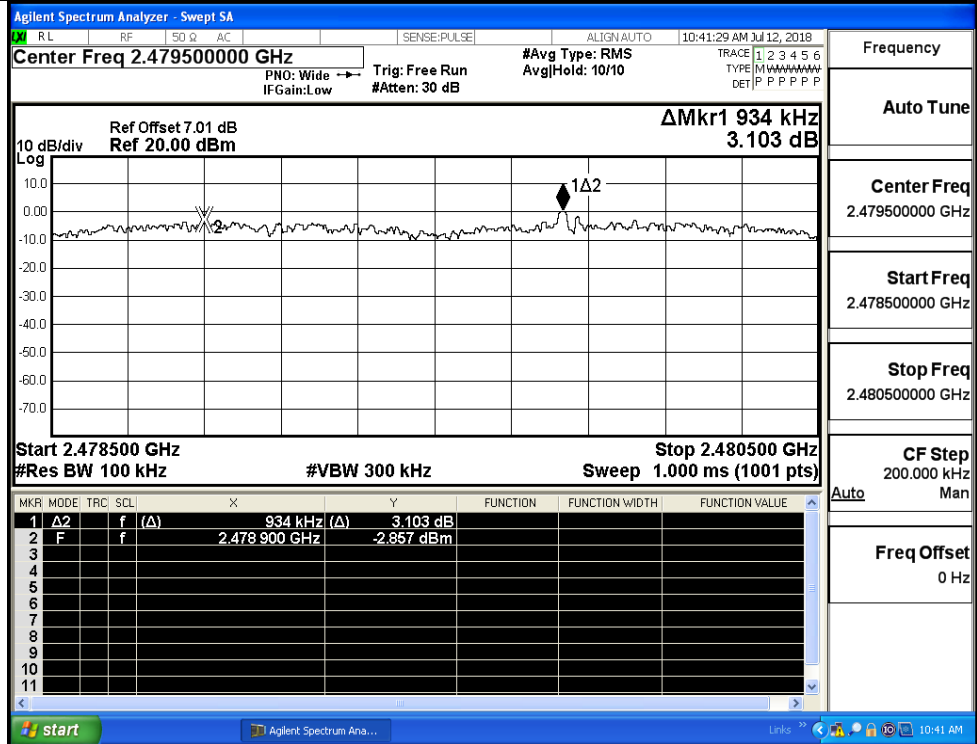
GFSK/MCH



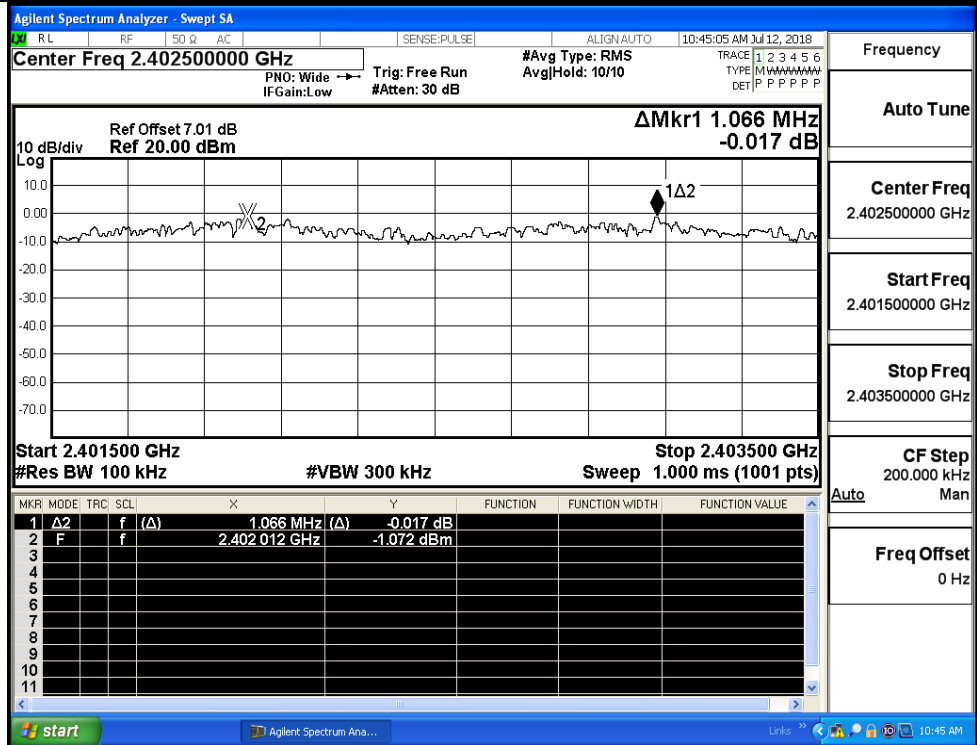
GFSK/HCH



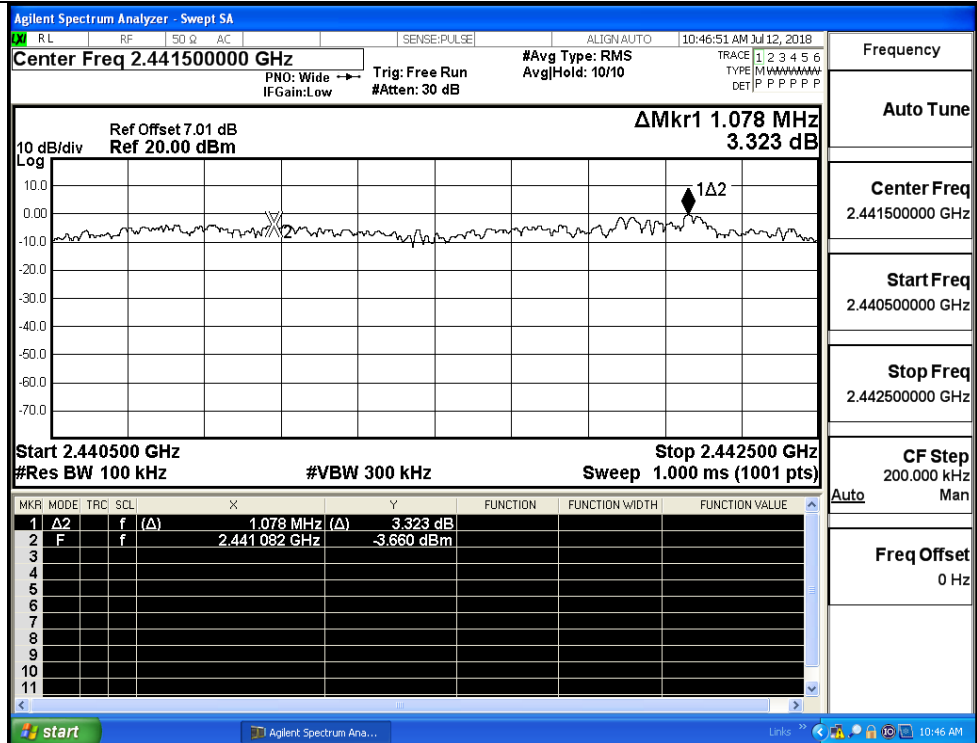
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

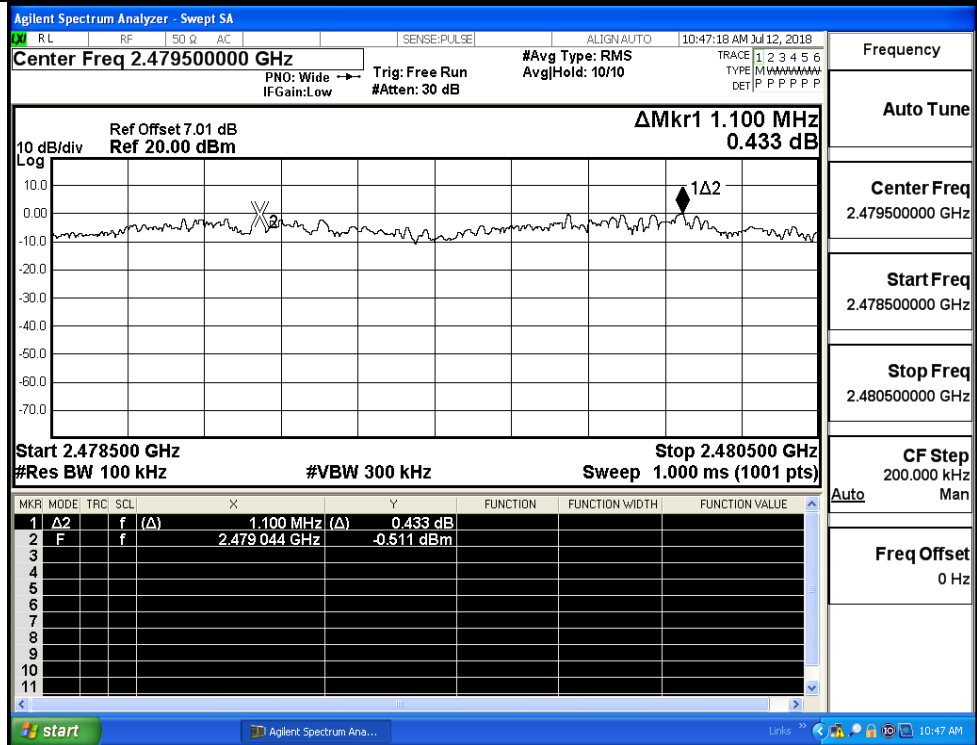
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

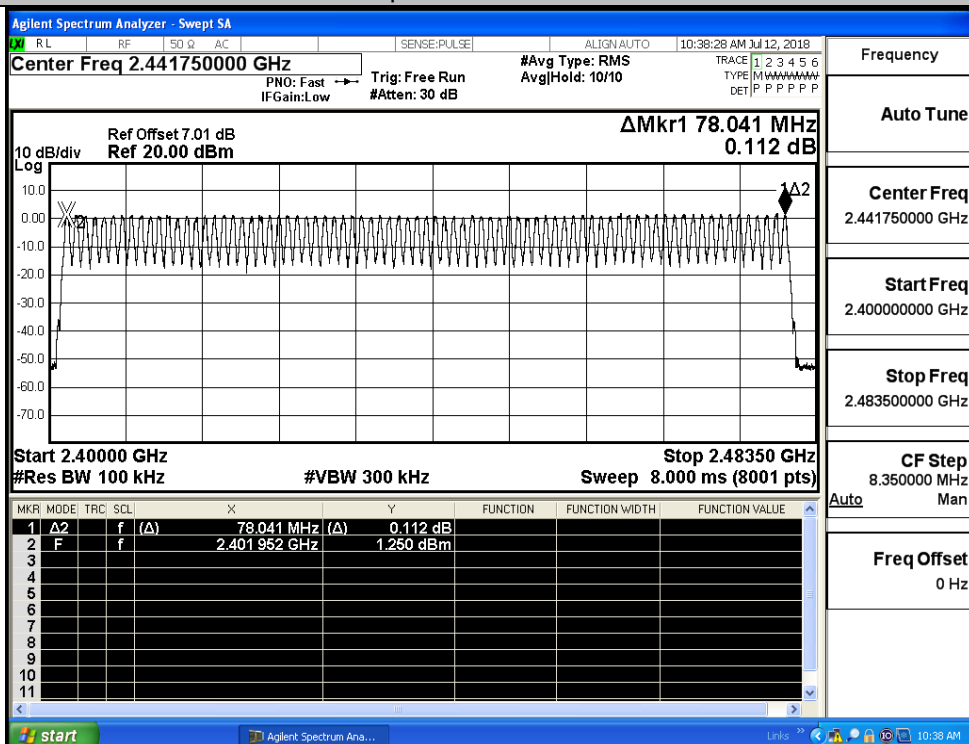
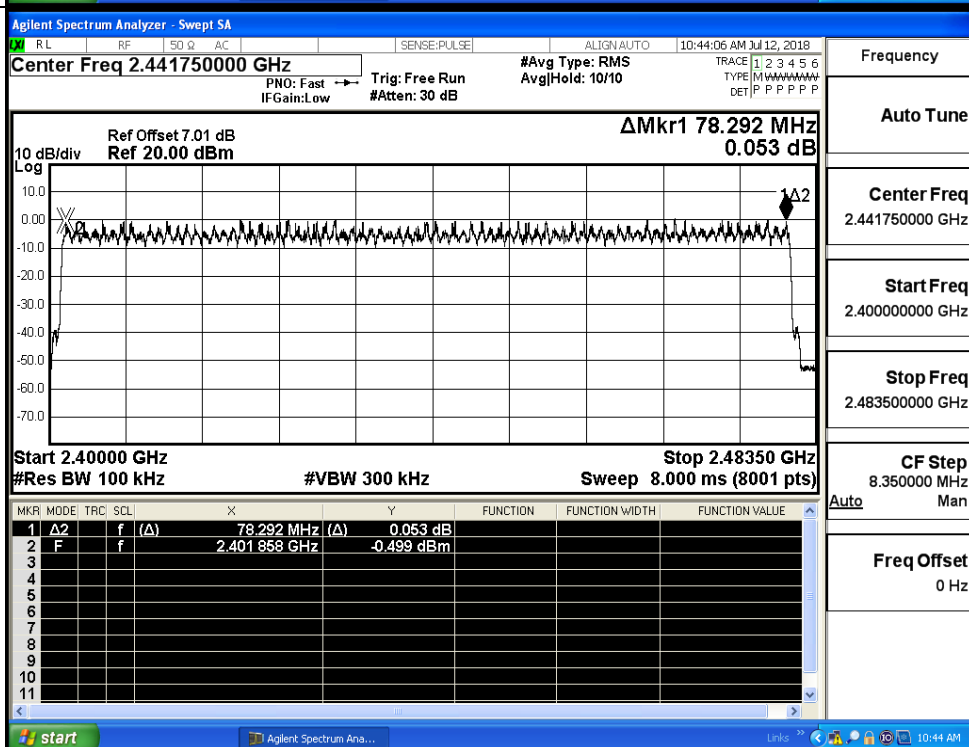


A.4 Hopping Channel Number

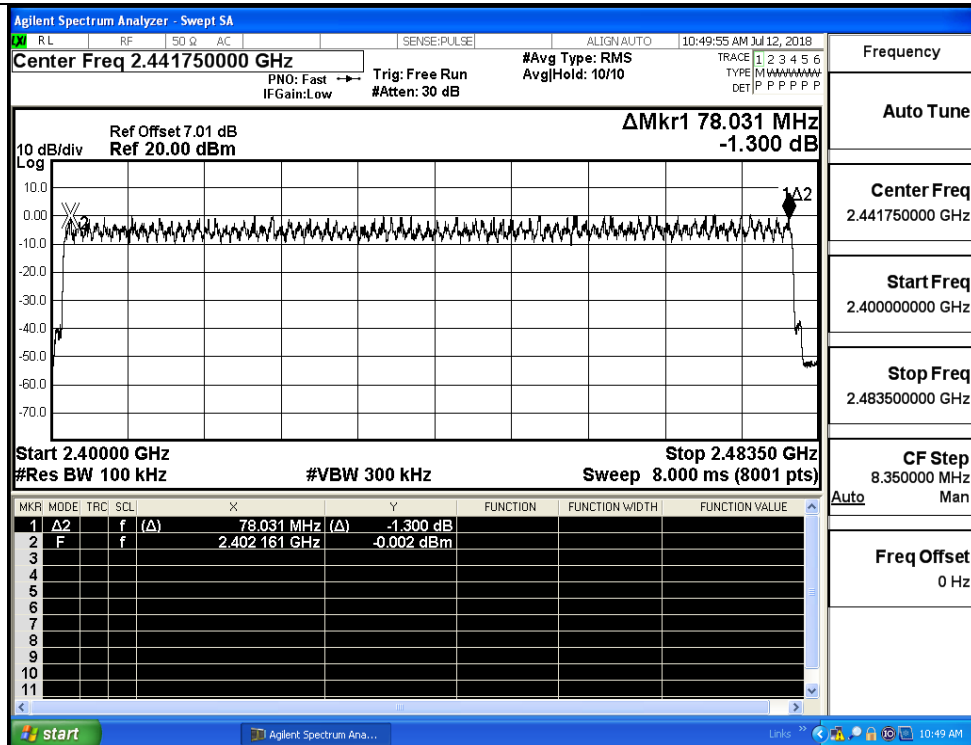
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	≥ 15	PASS
$\pi/4$ DQPSK	Hop	79	≥ 15	PASS
8DPSK	Hop	79	≥ 15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

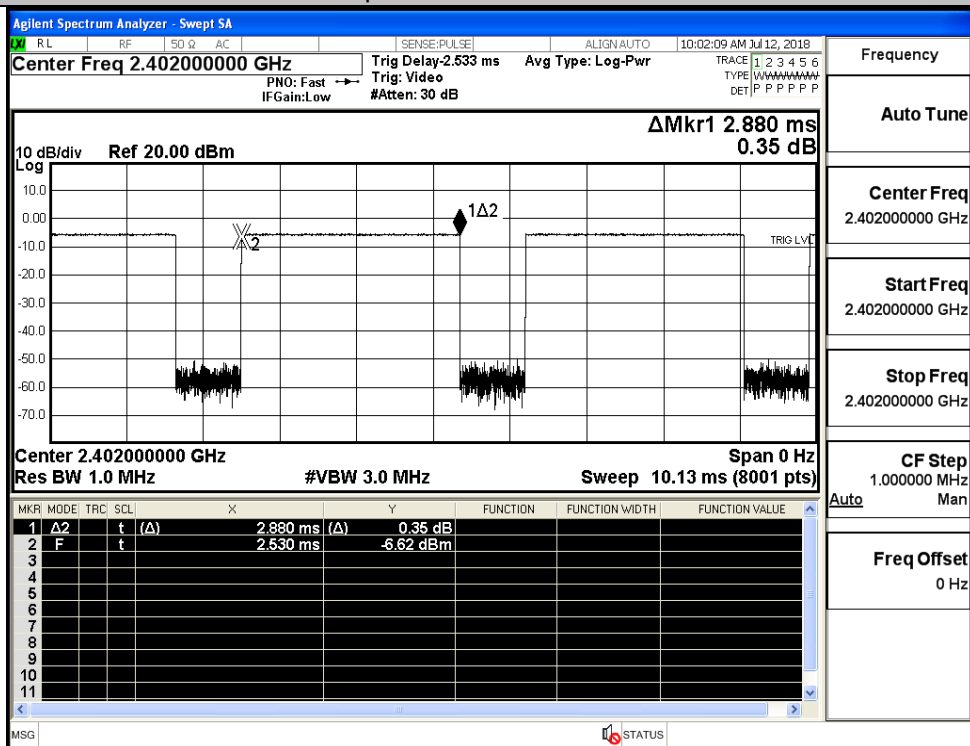


A.5 Dwell Time

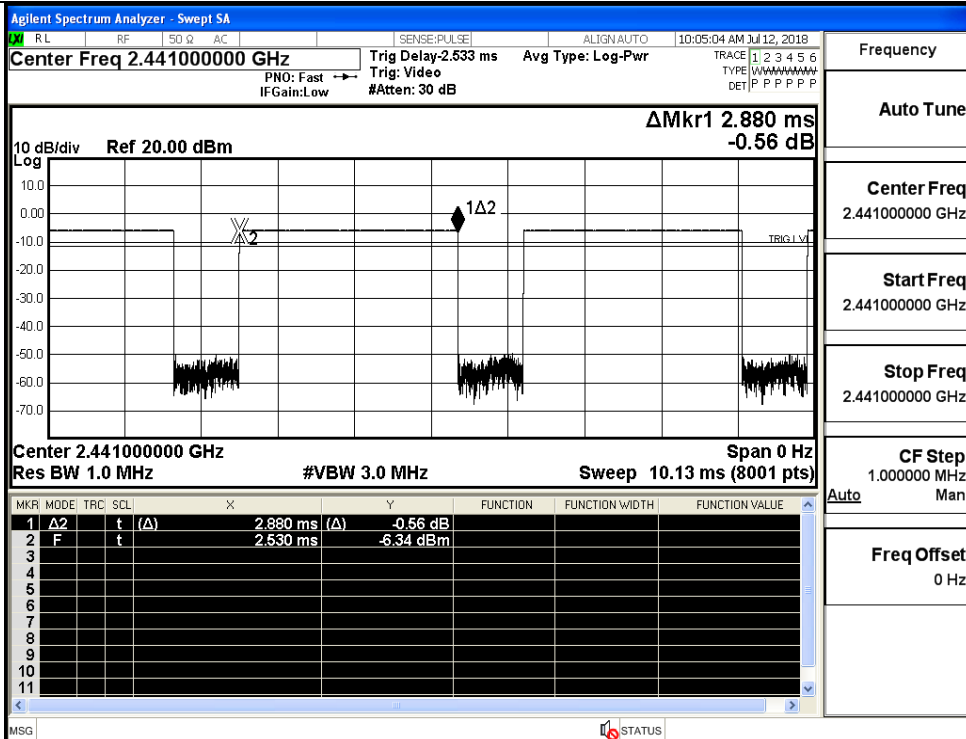
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7	0.307	0.4	PASS
8DPSK	3DH5	LCH	2.88	106.7	0.308	0.4	PASS
	3DH5	MCH	2.88	106.7	0.308	0.4	PASS
	3DH5	HCH	2.88	106.7	0.308	0.4	PASS

Test Graphs

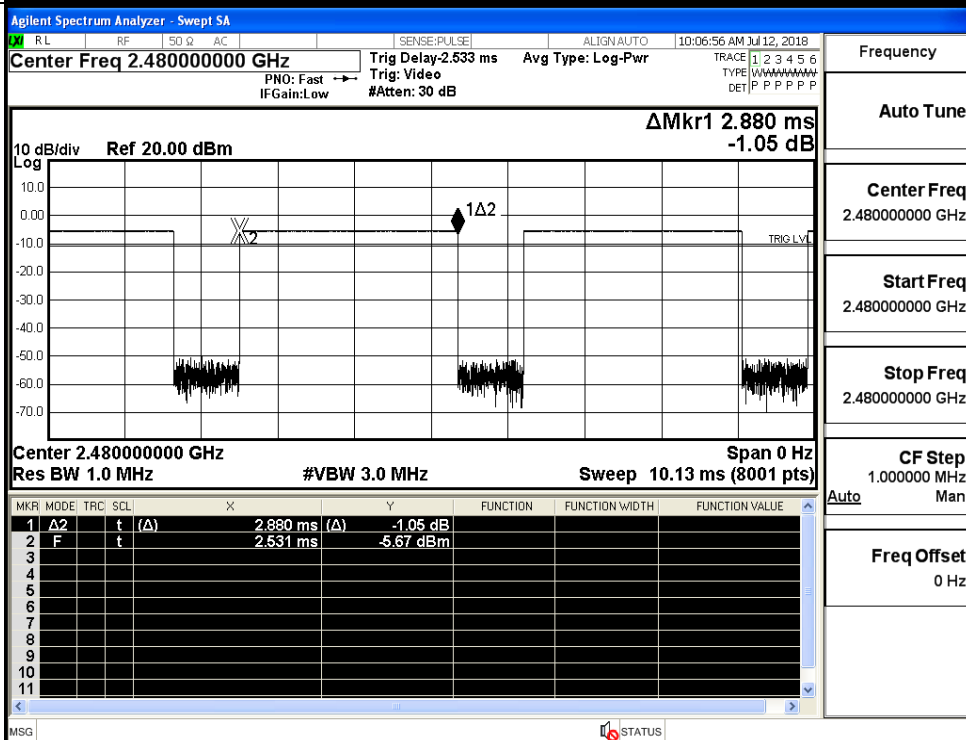
GFSK_DH5/LCH



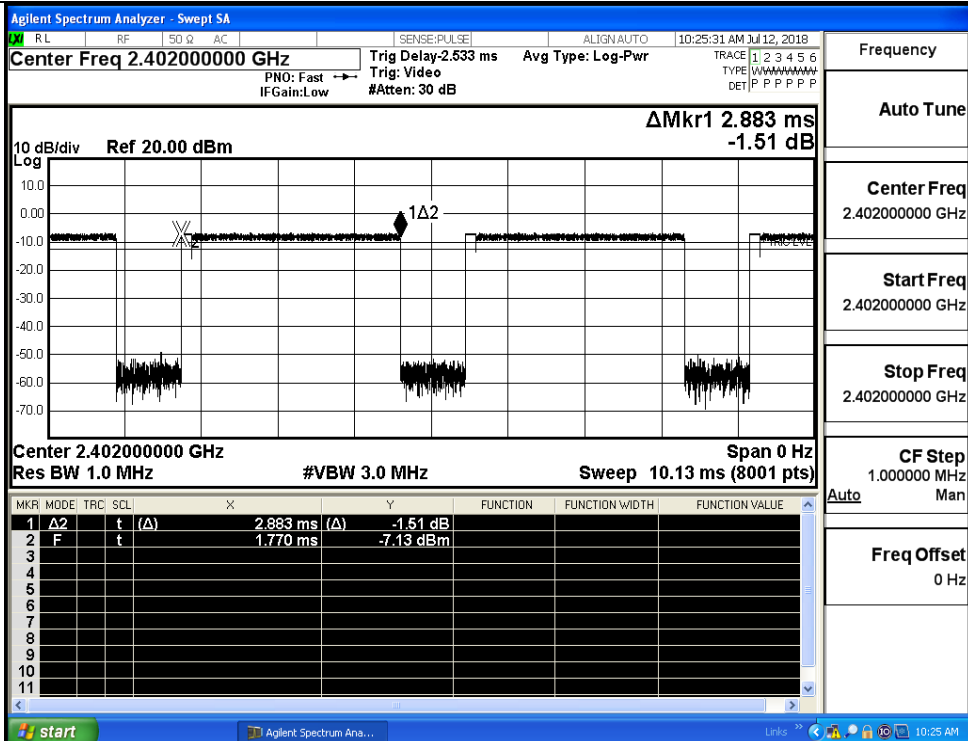
GFSK_DH5/MCH



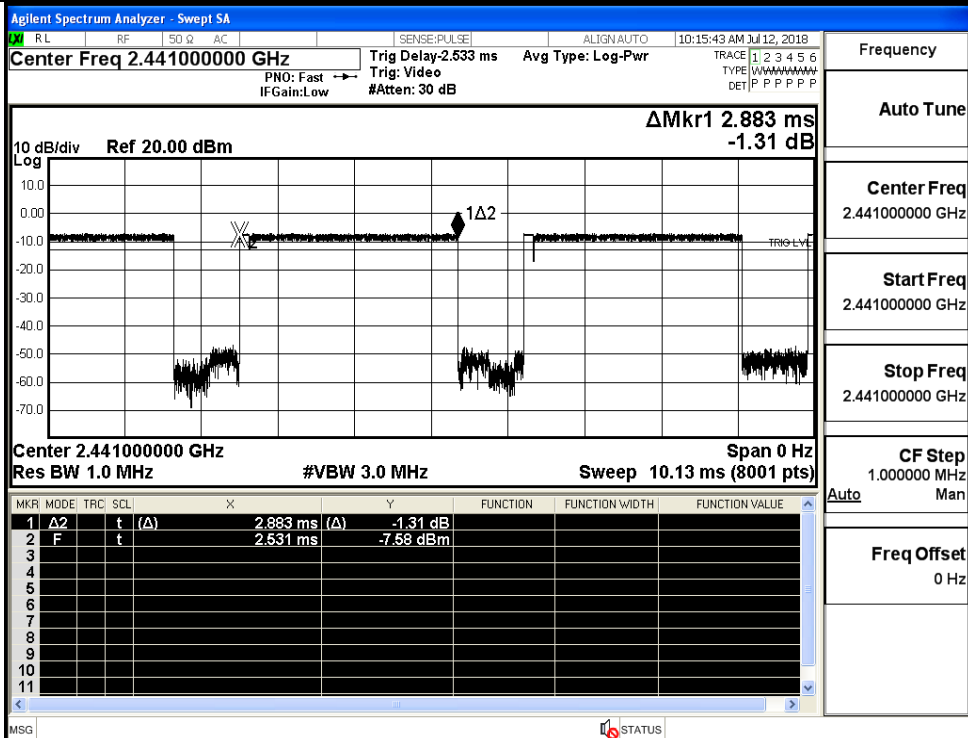
GFSK_DH5/HCH



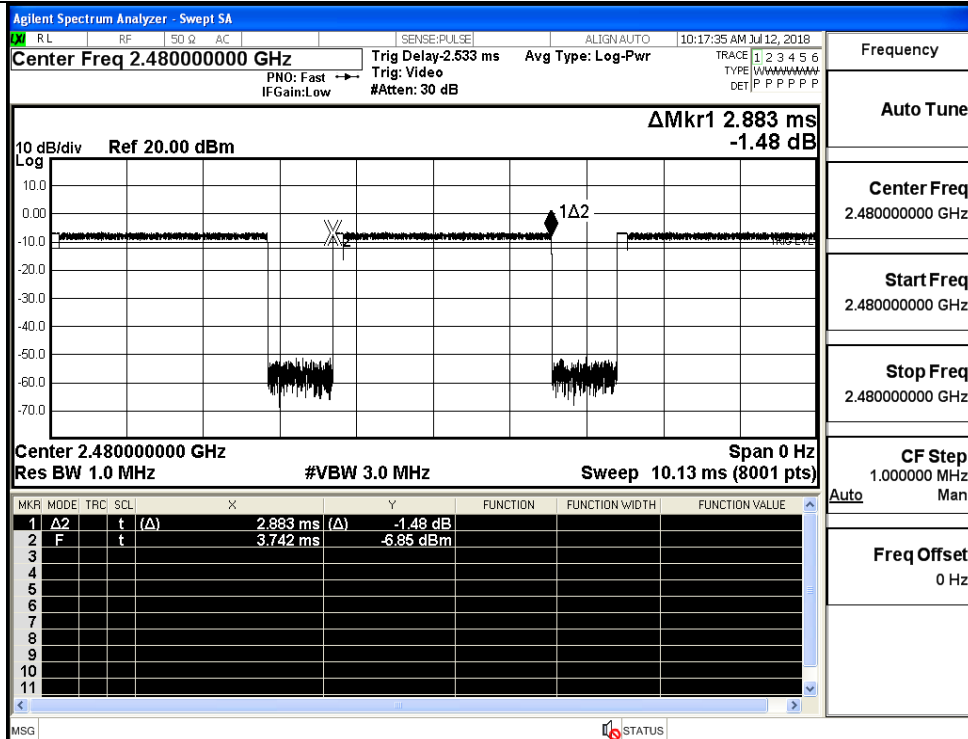
$\pi/4$ DQPSK
_2DH5/LCH



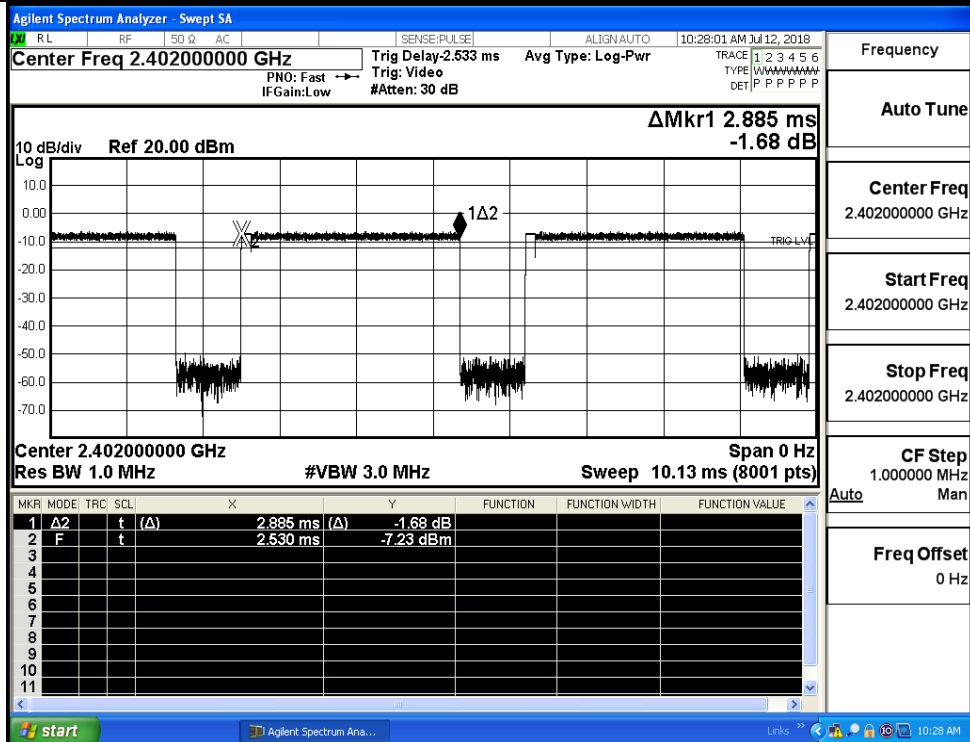
$\pi/4$ DQPSK
_2DH5/MCH



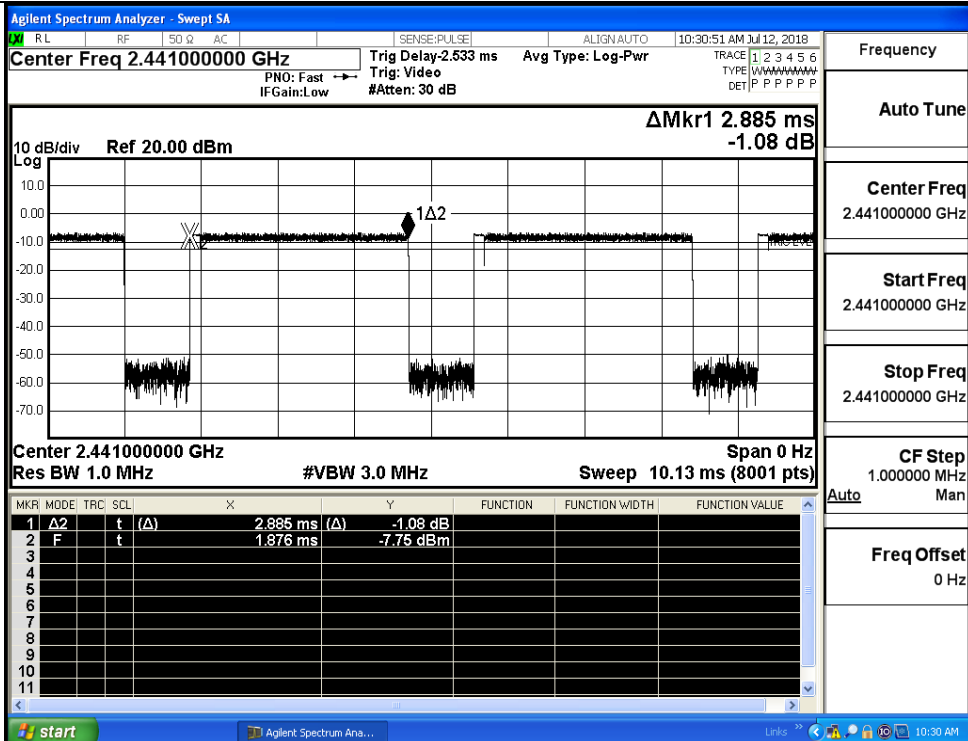
$\pi/4$ DQPSK
_2DH5/HCH



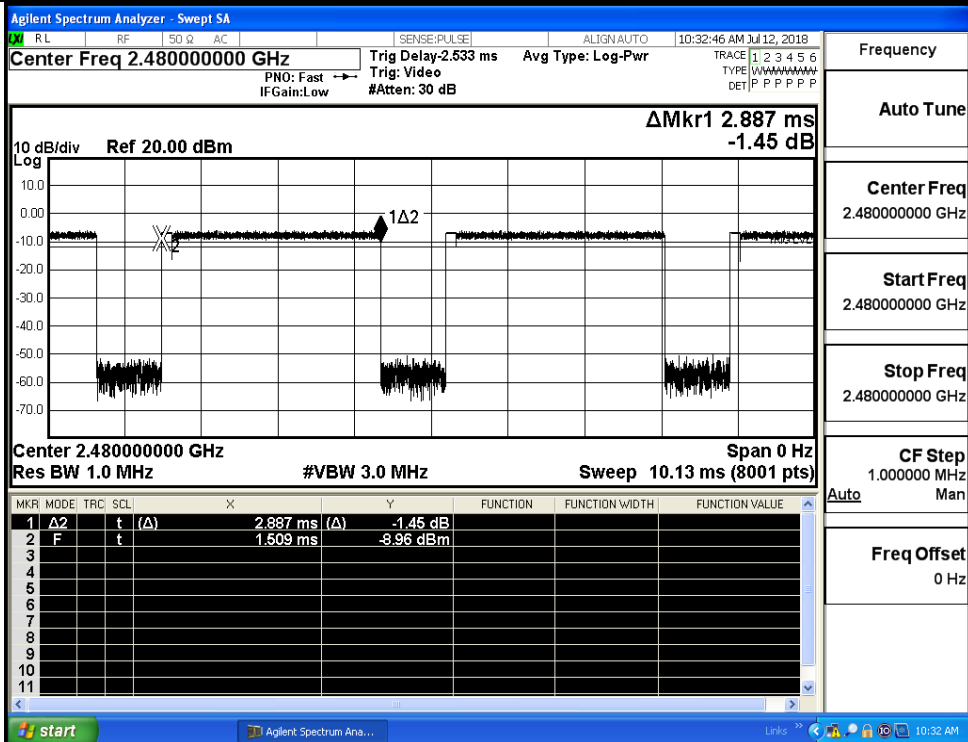
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



8DPSK_3DH5/HCH

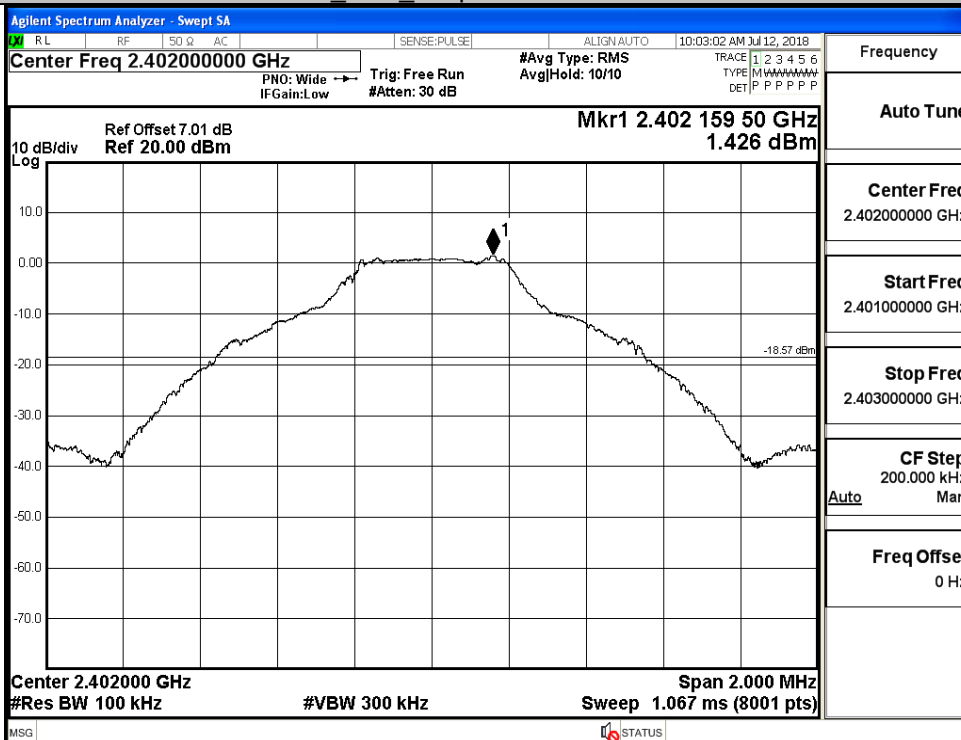


A.6 RF Conducted Spurious Emissions

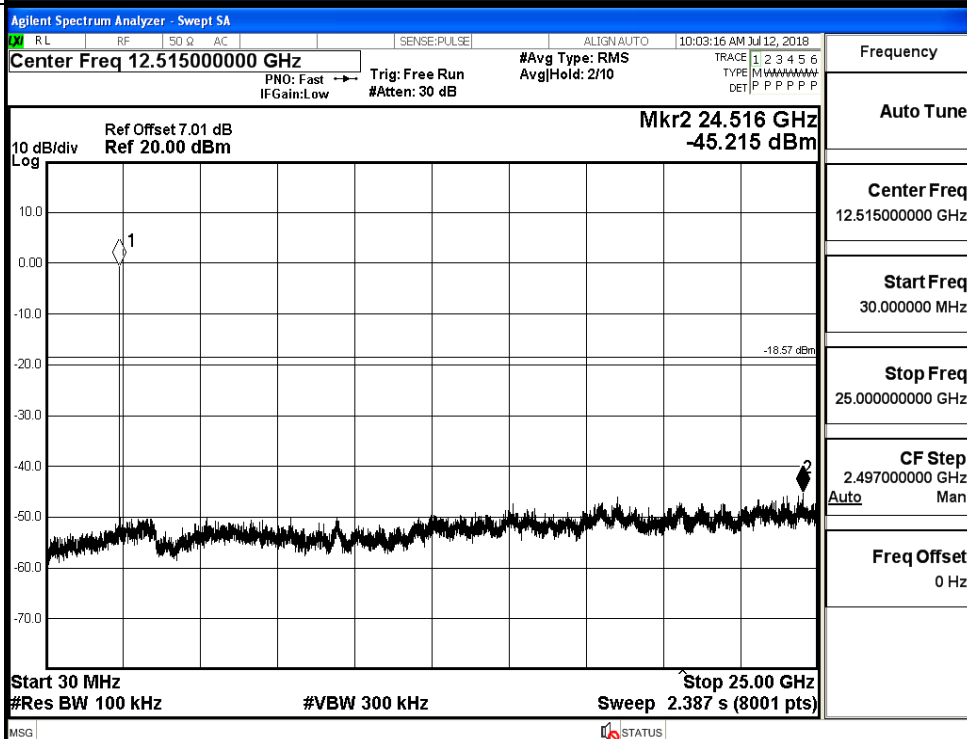
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.426	-45.215	-18.574	PASS
	MCH	0.72	-44.880	-19.280	PASS
	HCH	1.602	-46.418	-18.398	PASS
$\pi/4$ DQPSK	LCH	-0.278	-45.452	-20.278	PASS
	MCH	-0.331	-45.658	-20.331	PASS
	HCH	0.013	-45.814	-19.987	PASS
8DPSK	LCH	-0.083	-45.226	-20.083	PASS
	MCH	-0.509	-45.223	-20.509	PASS
	HCH	0.231	-45.360	-19.769	PASS

GFSK LCH Graphs

Pref

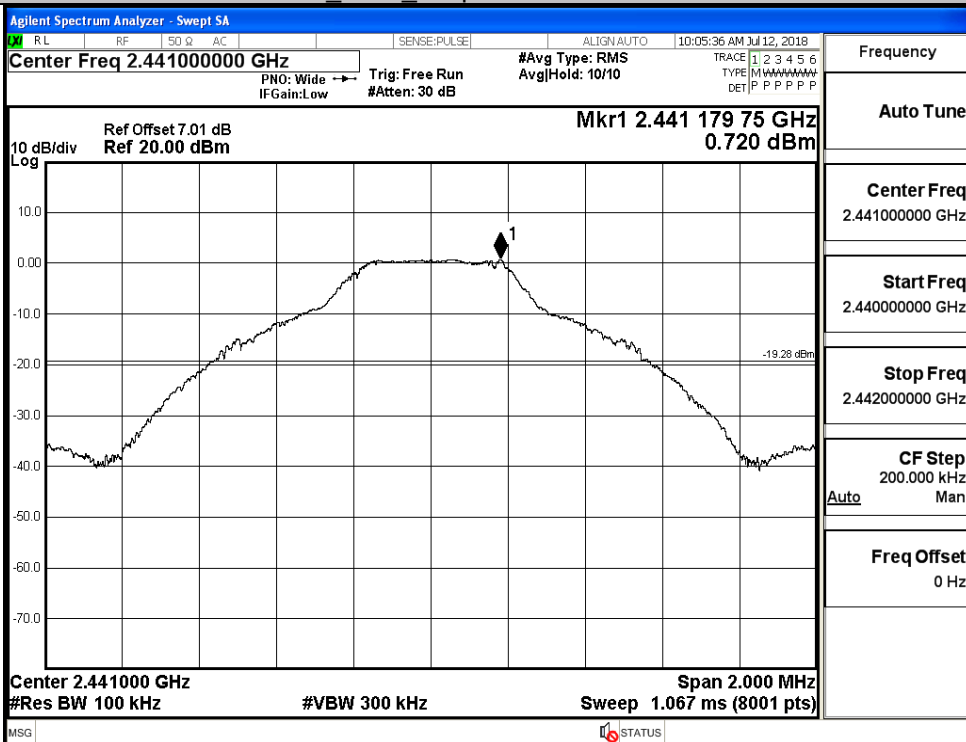


Puw

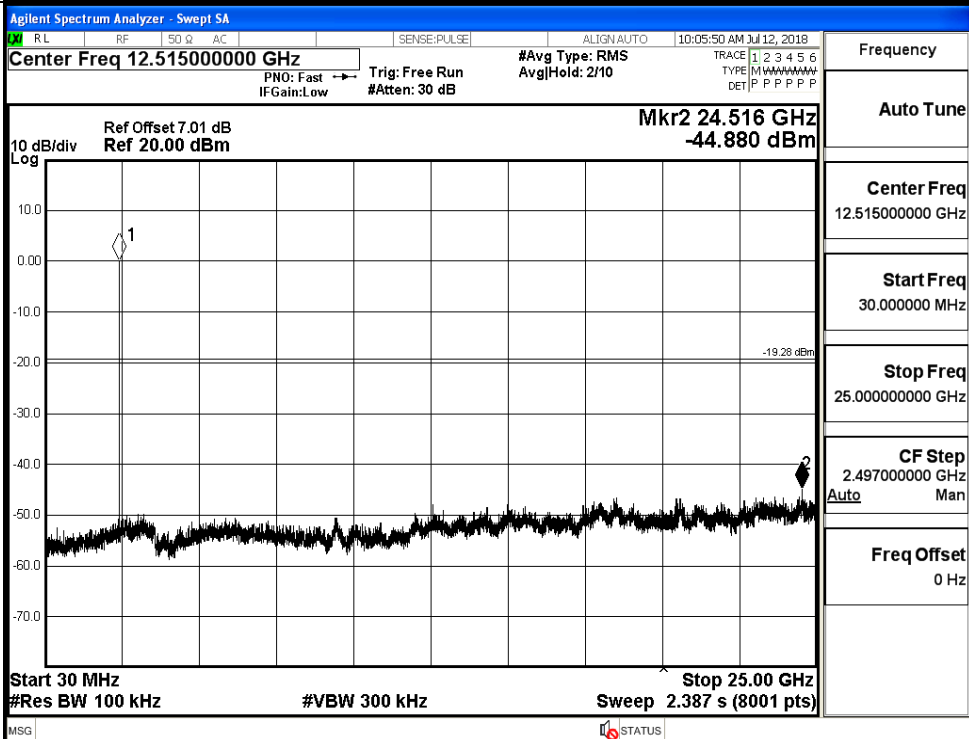


GFSK_MCH_Graphs

Pref

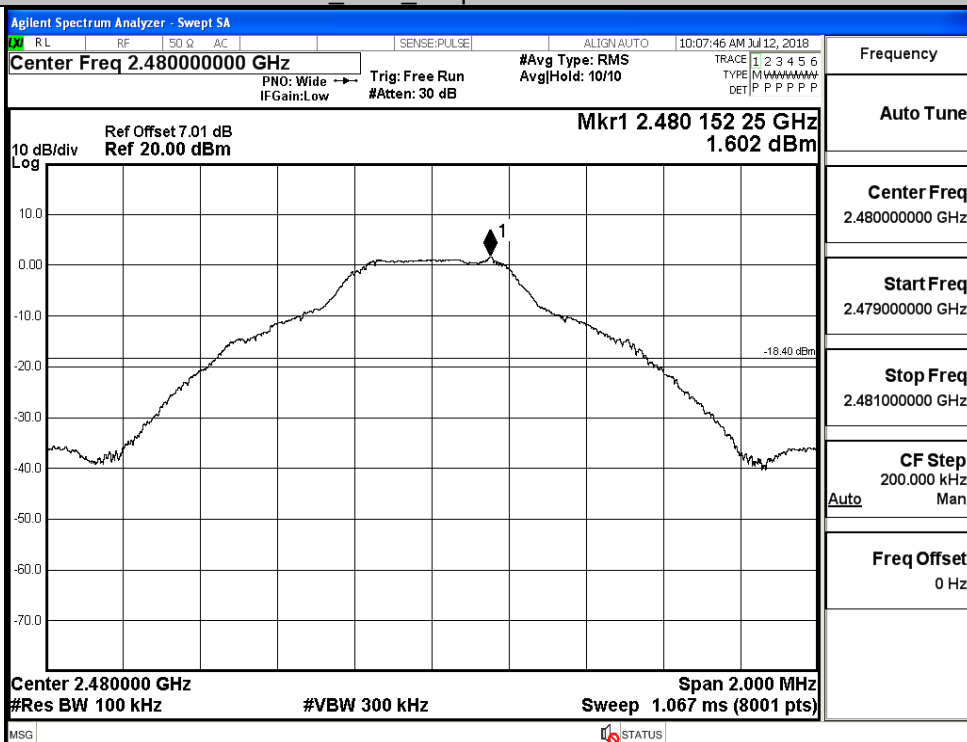


Puw

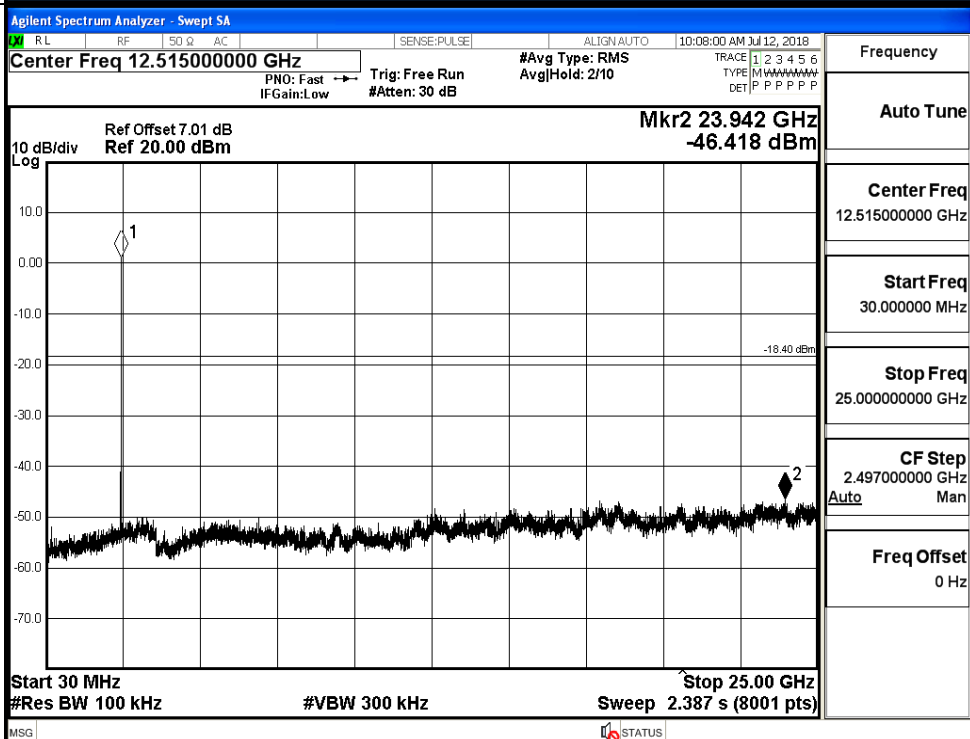


GFSK_HCH_Graphs

Pref

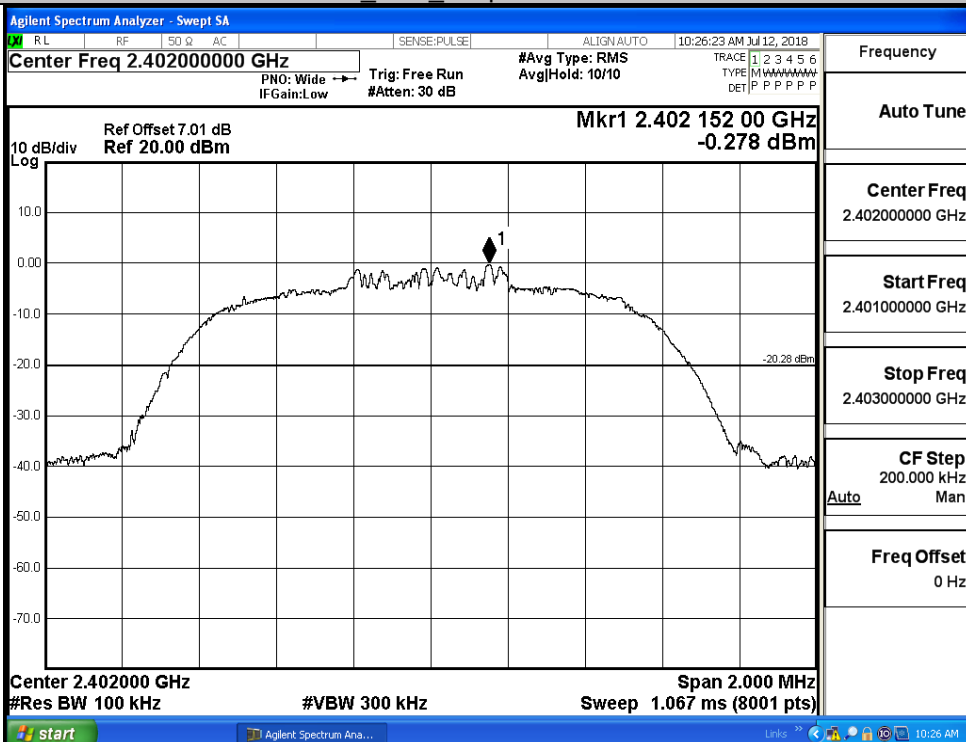


Puw

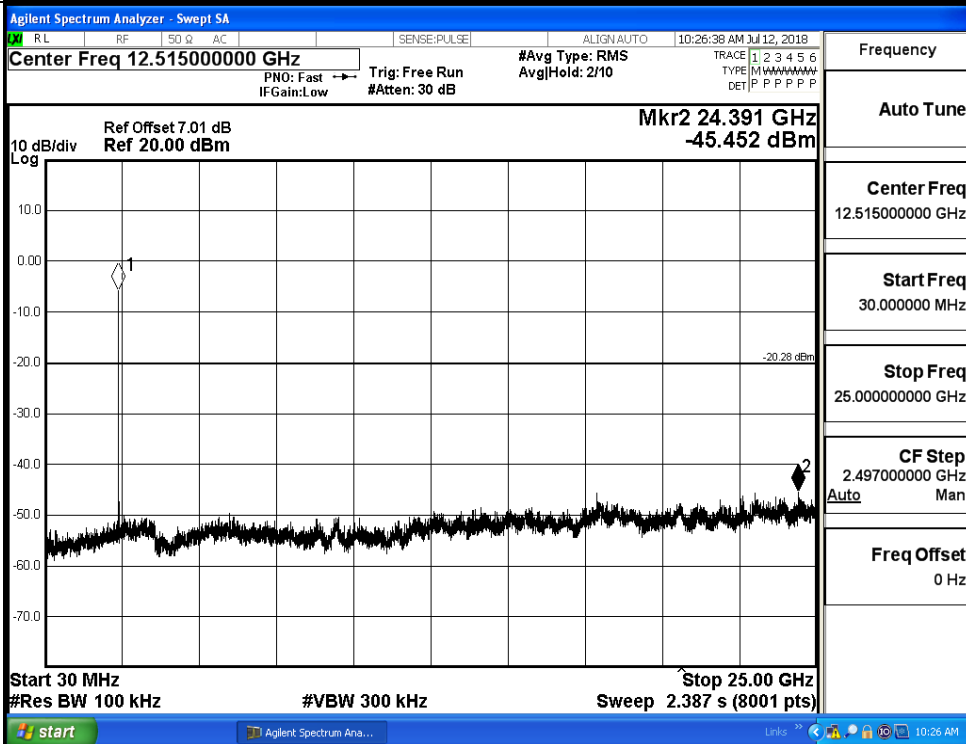


$\pi/4$ DQPSK LCH_Graphs

Pref

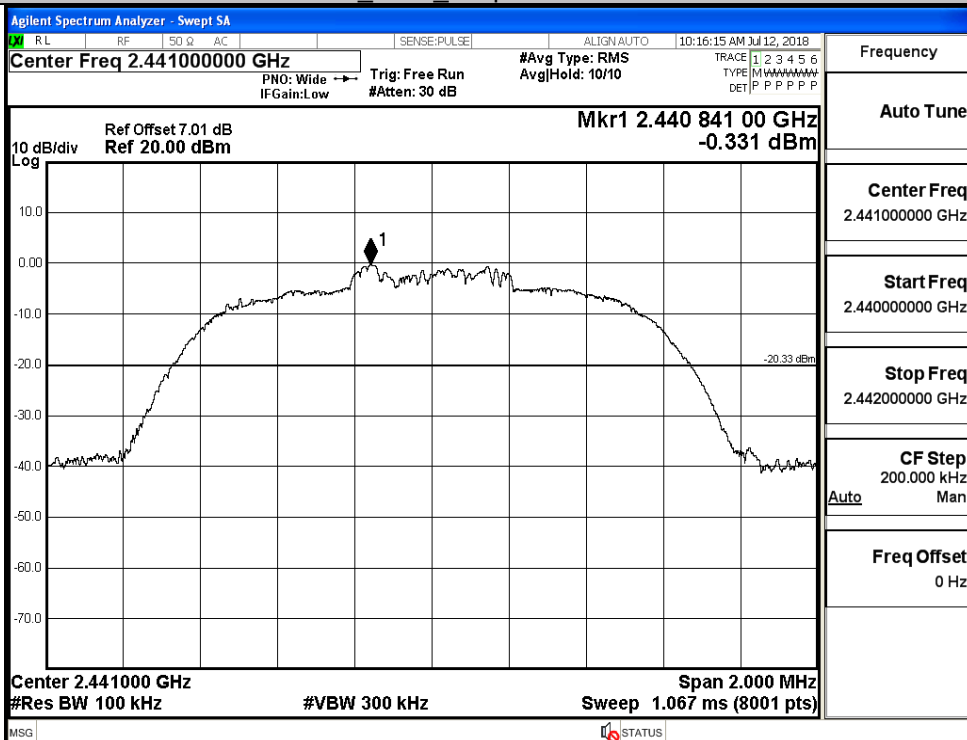


Puw

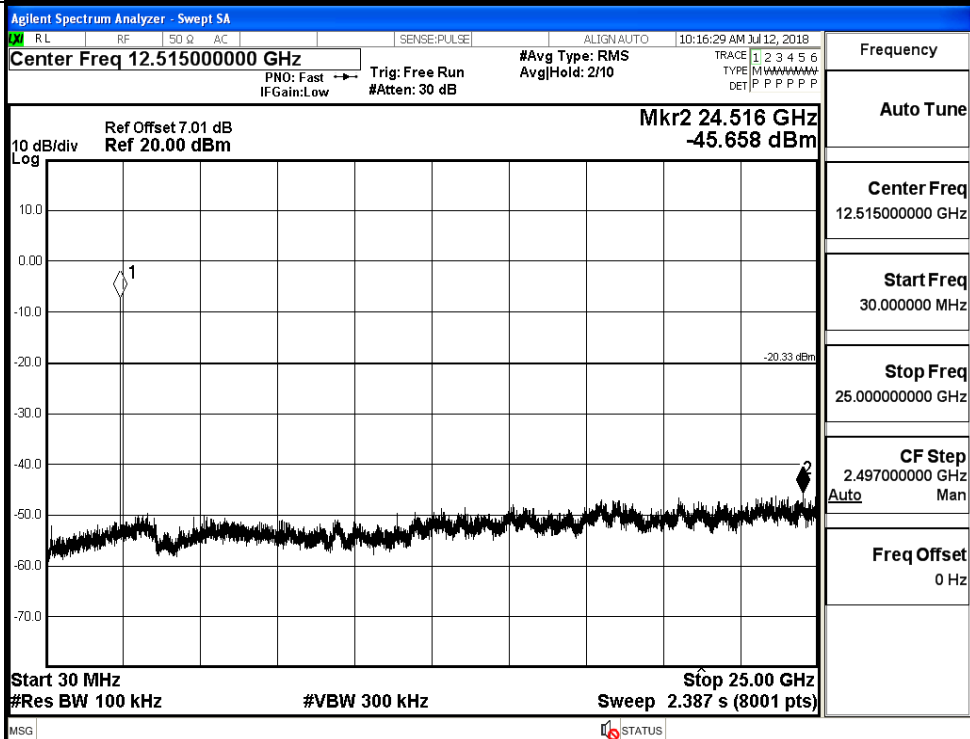


π /4DQPSK_MCH_Graphs

Pref

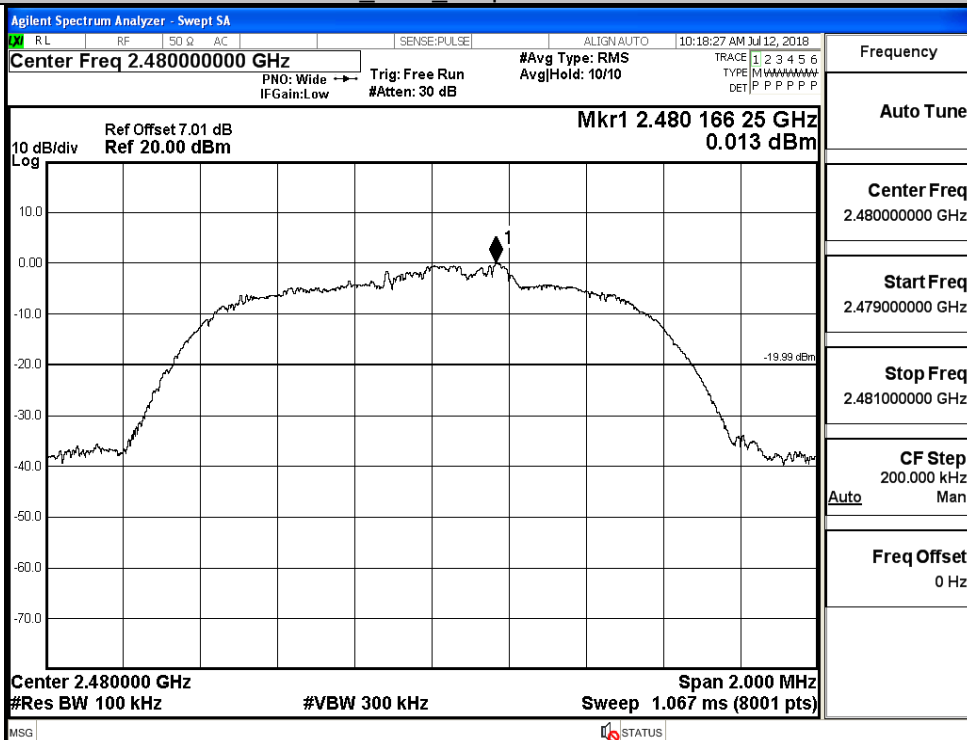


Puw

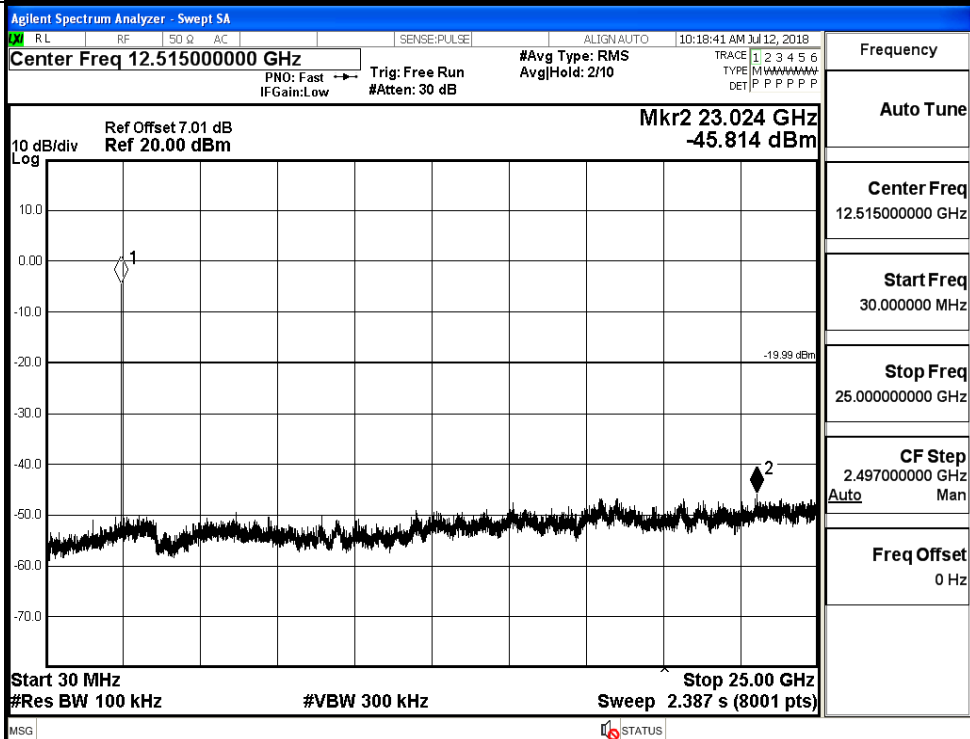


π /4DQPSK_HCH_Graphs

Pref

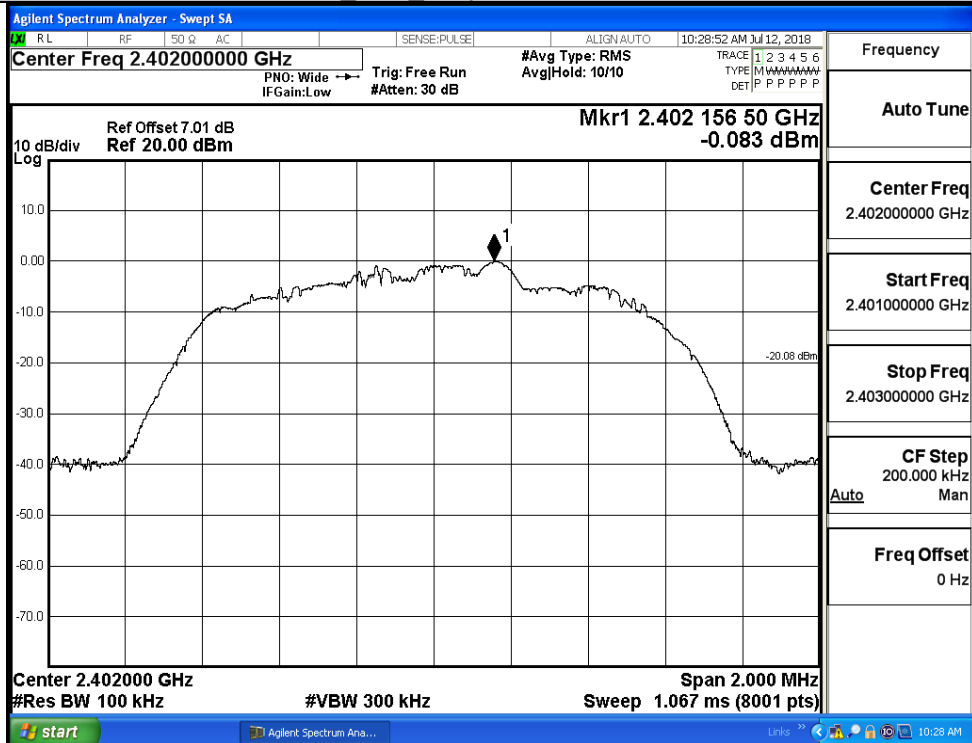


Puw

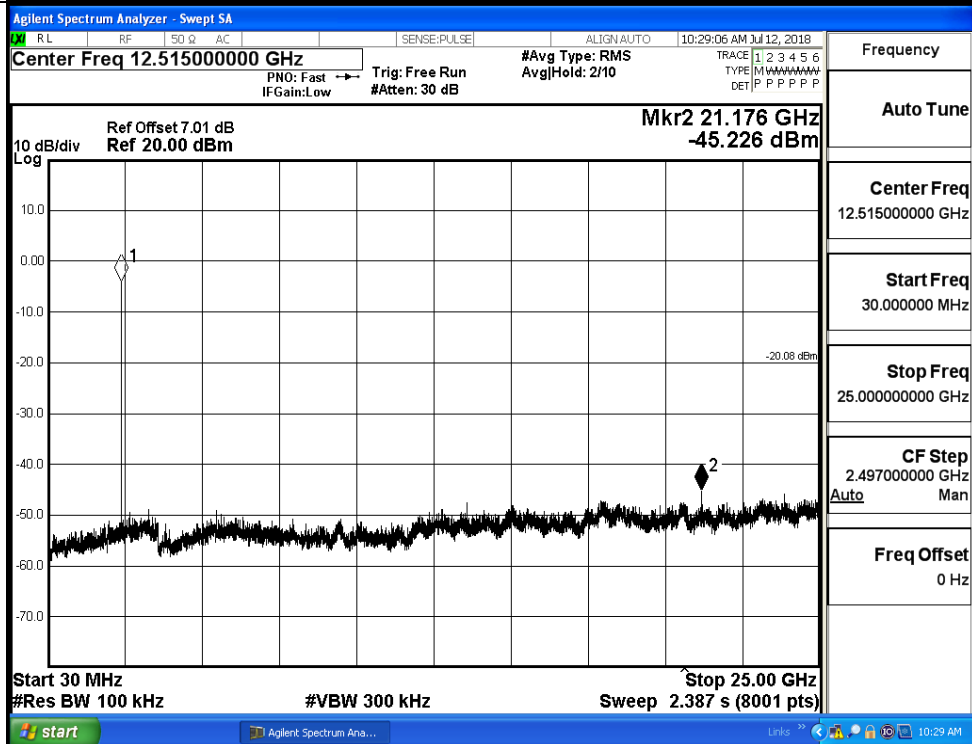


8DPSK_LCH_Graphs

Pref

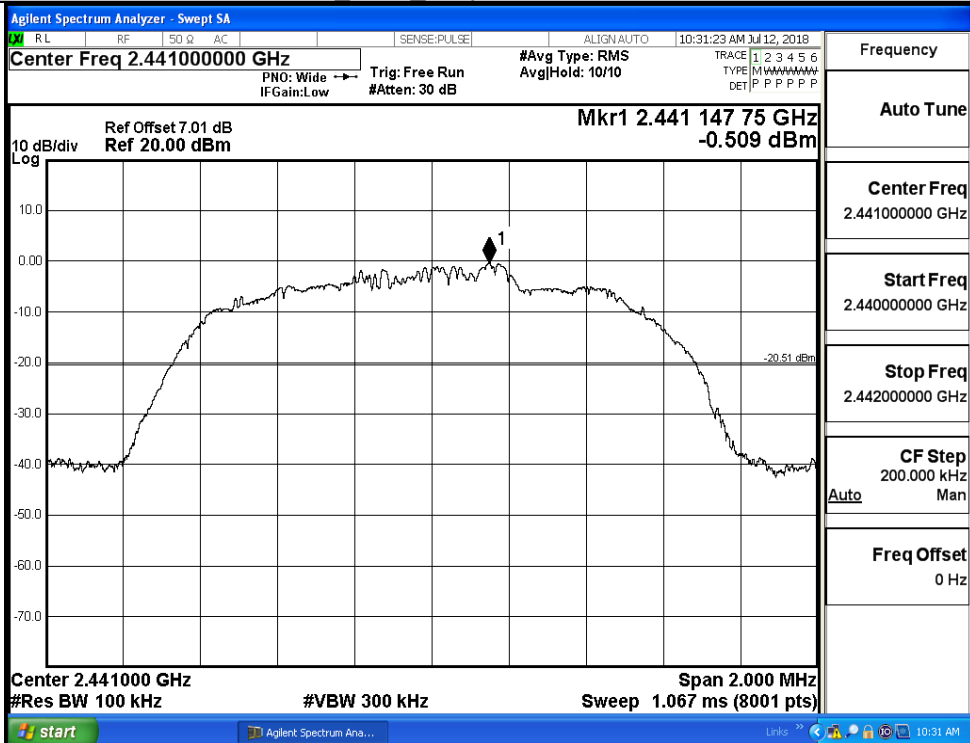


Puw

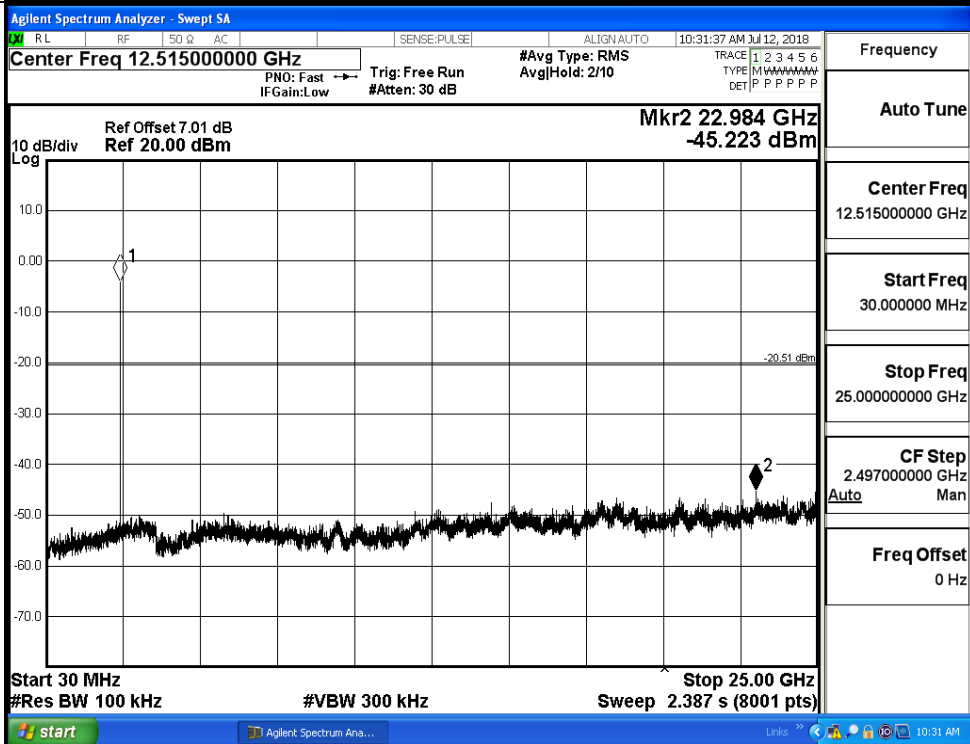


8DPSK_MCH_Graphs

Pref

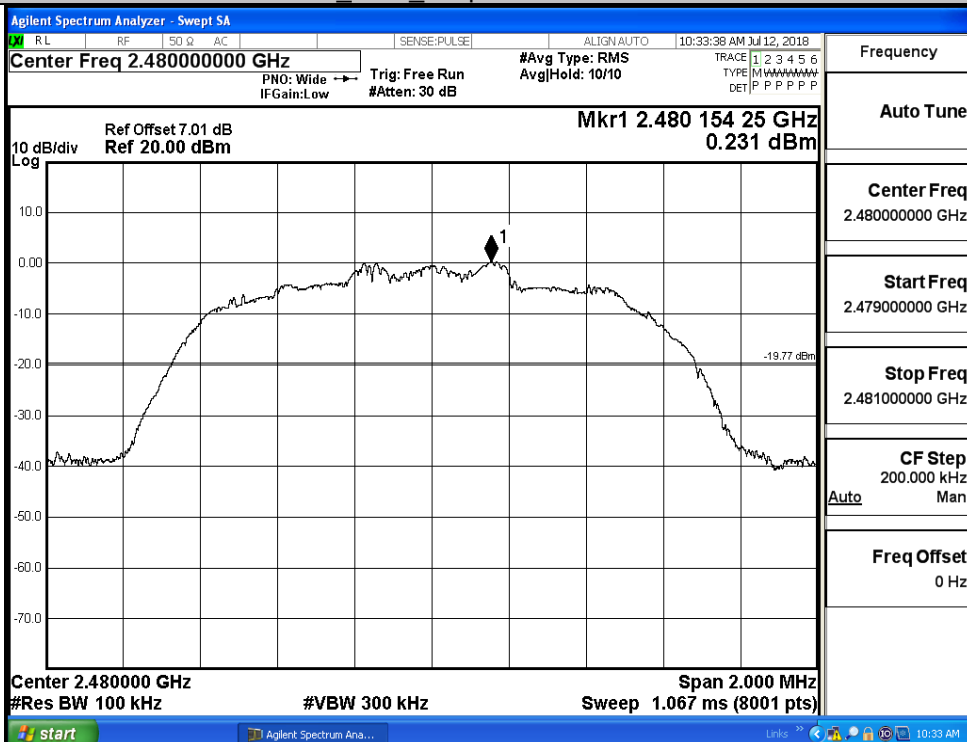


Puw

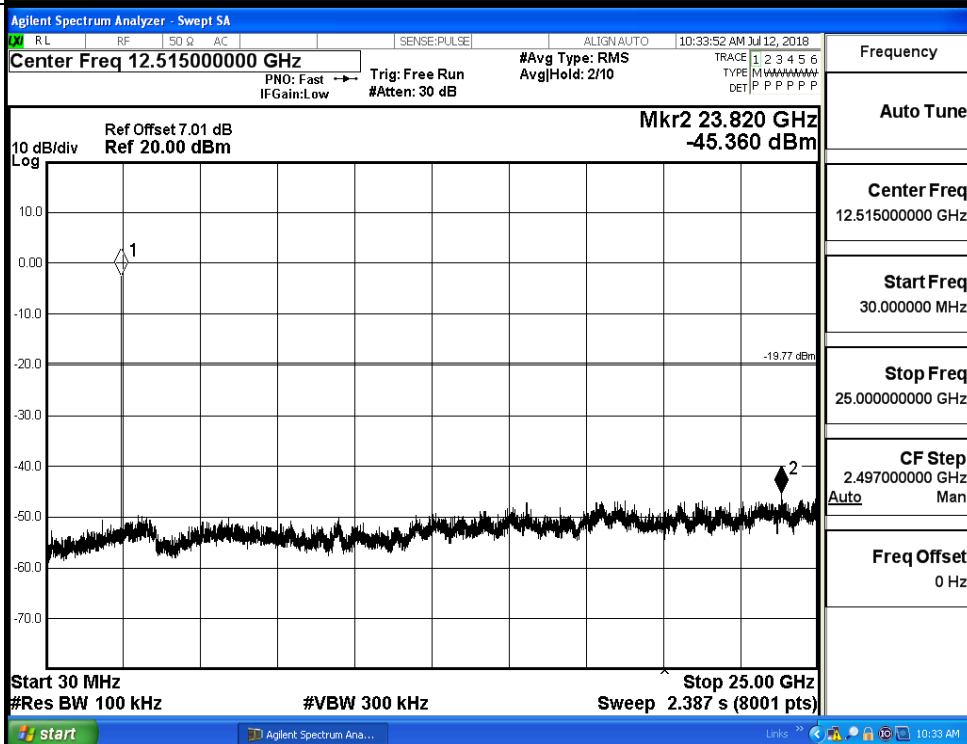


8DPSK_HCH_Graphs

Pref



Puw

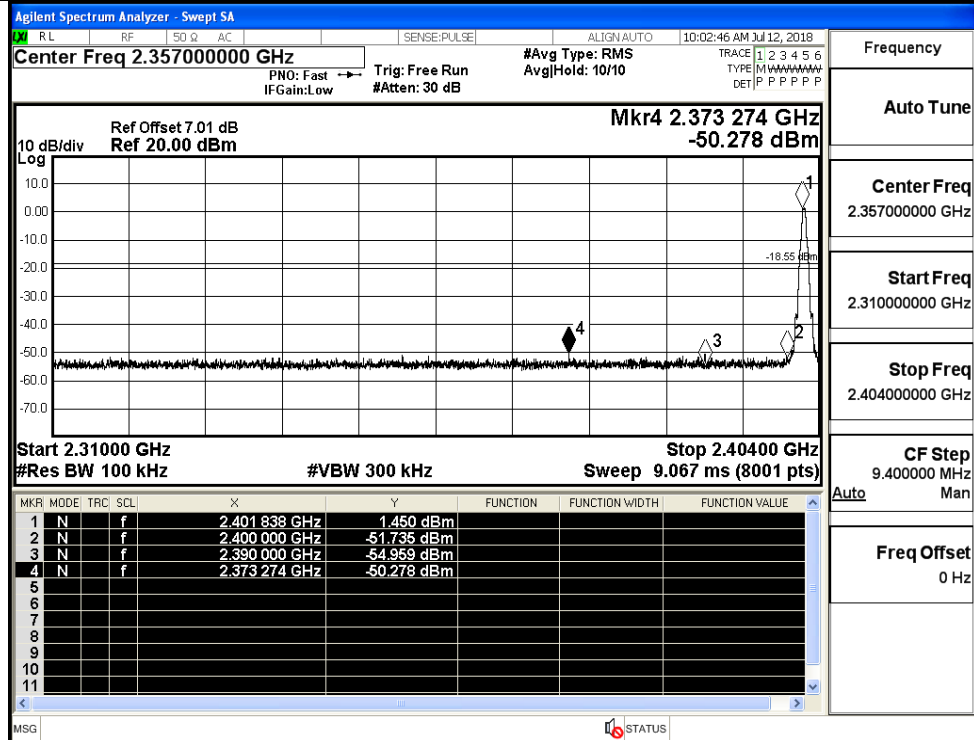


A.7 Band-edge for RF Conducted Emissions

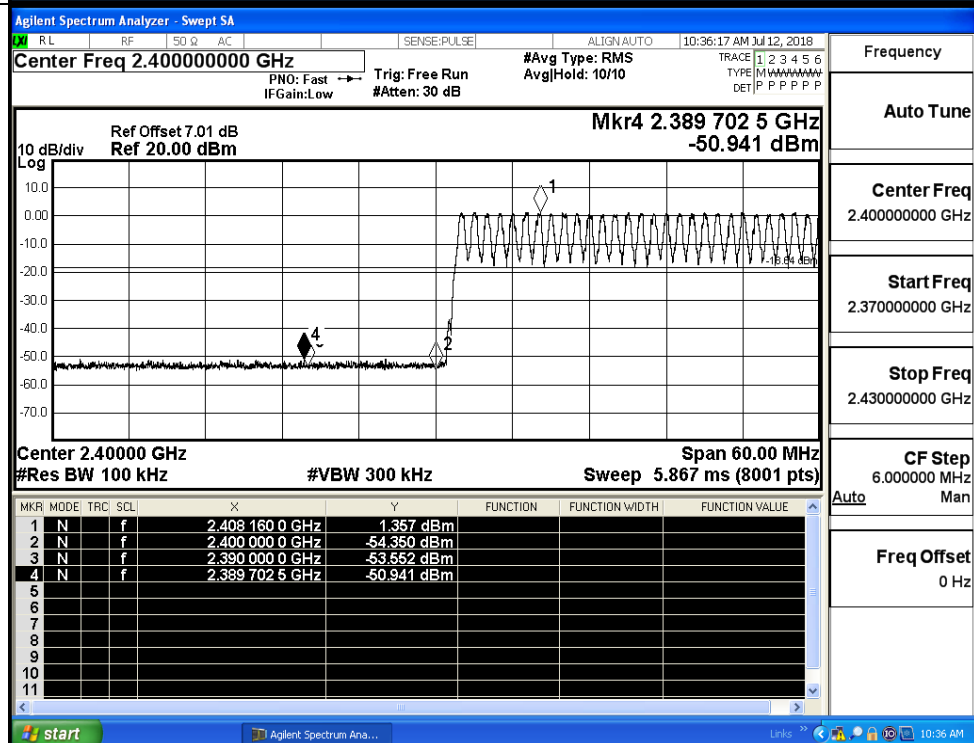
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	1.450	Off	-50.278	-18.55	PASS
			1.357	On	-50.941	-18.64	PASS
	HCH	2480	1.703	Off	-50.657	-18.3	PASS
			1.683	On	-51.002	-18.32	PASS
$\pi/4$ DQPSK	LCH	2402	-1.694	Off	-50.805	-21.69	PASS
			-0.102	On	-50.508	-20.1	PASS
	HCH	2480	0.313	Off	-51.357	-19.69	PASS
			0.465	On	-50.200	-19.54	PASS
8DPSK	LCH	2402	-0.043	Off	-50.926	-20.04	PASS
			-0.289	On	-50.699	-20.29	PASS
	HCH	2480	0.281	Off	-50.968	-19.72	PASS
			0.350	On	-50.314	-19.65	PASS

Test Graphs

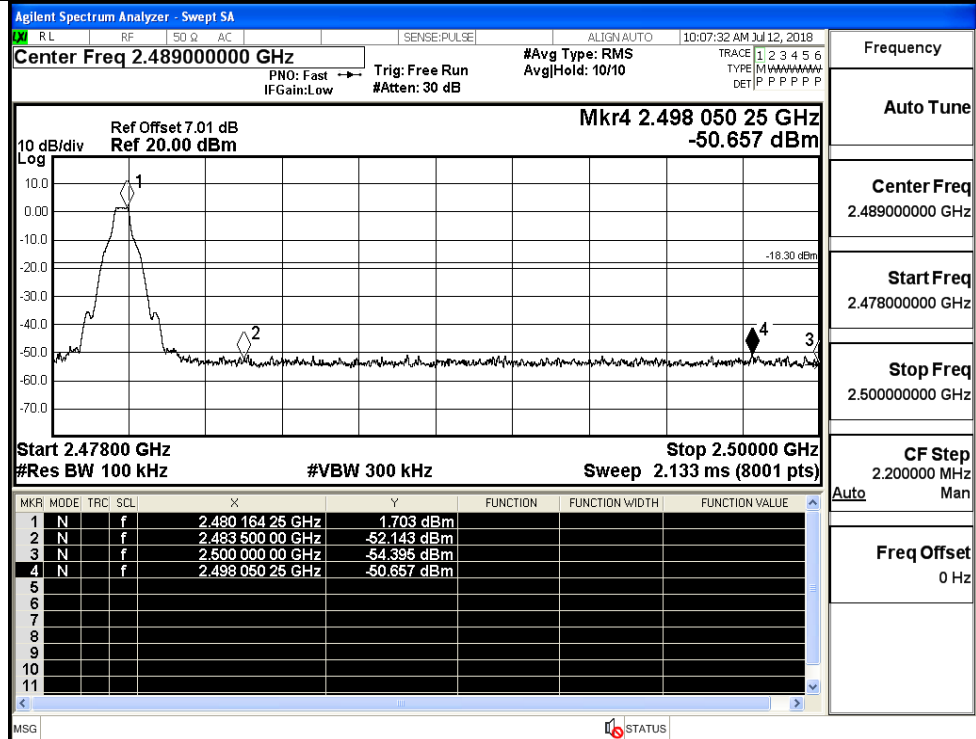
GFSK/LCH/No Hop



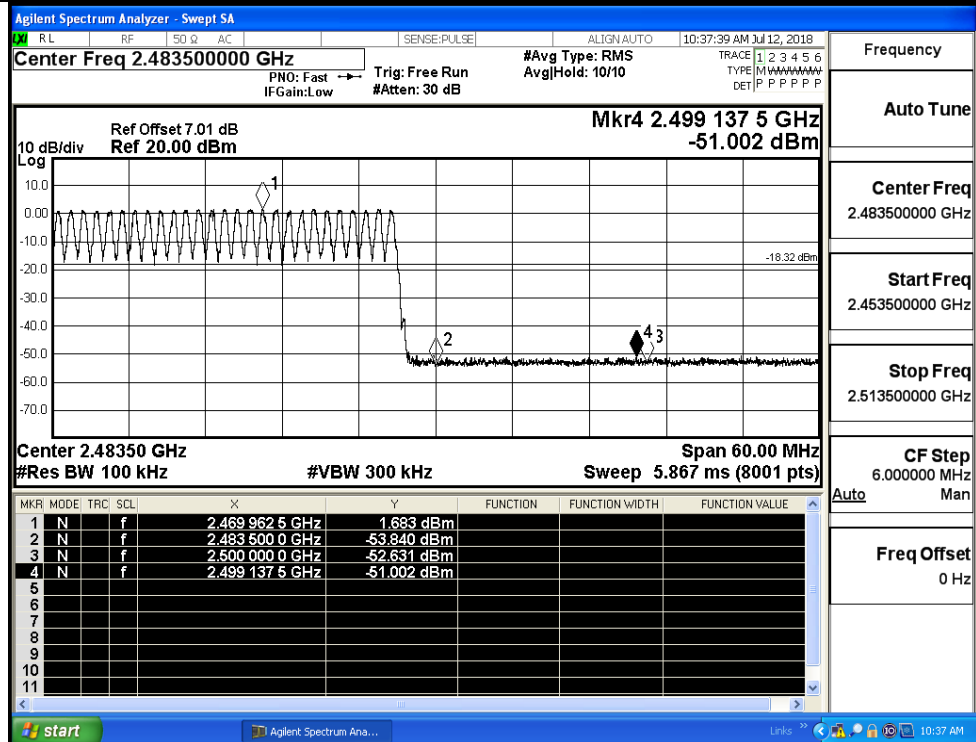
GFSK/LCH/Hop



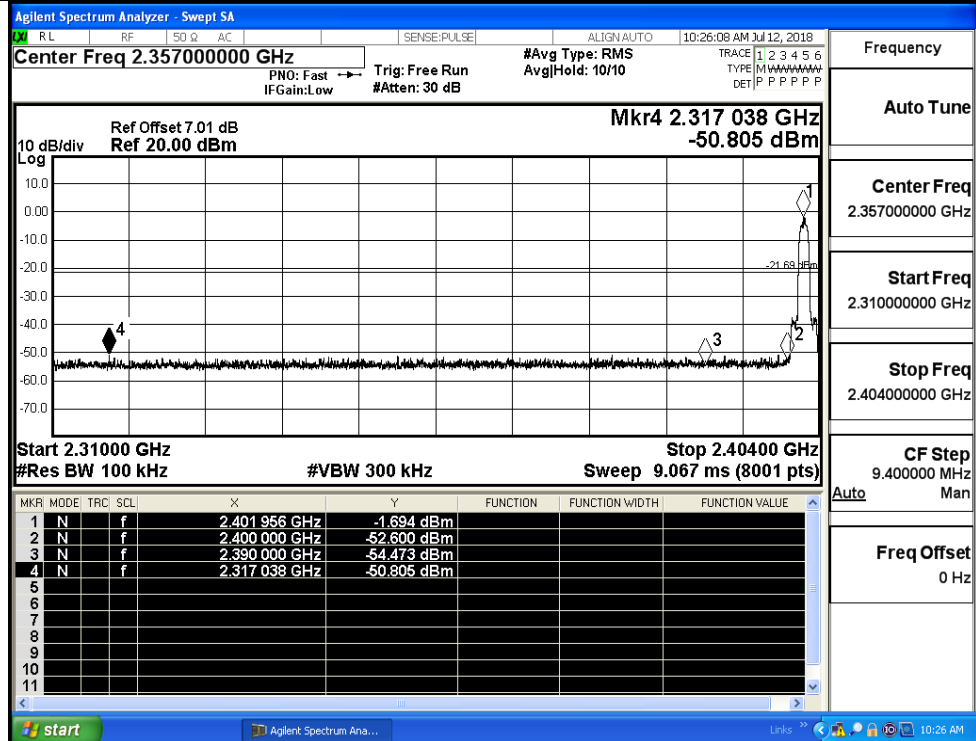
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq
2.357000000 GHz

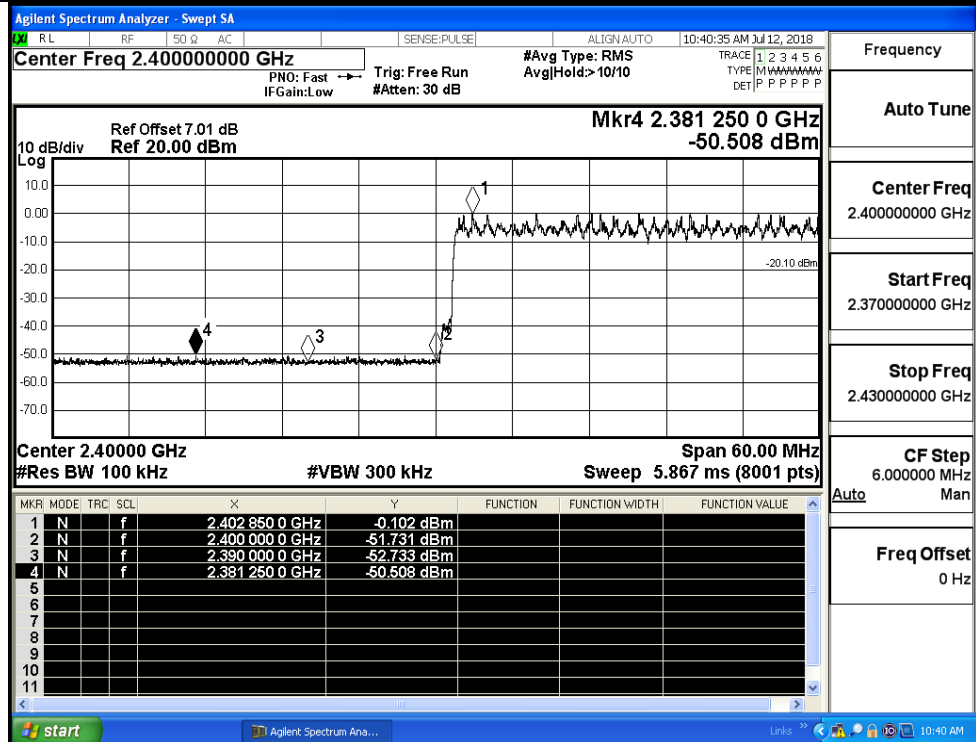
Start Freq
2.310000000 GHz

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

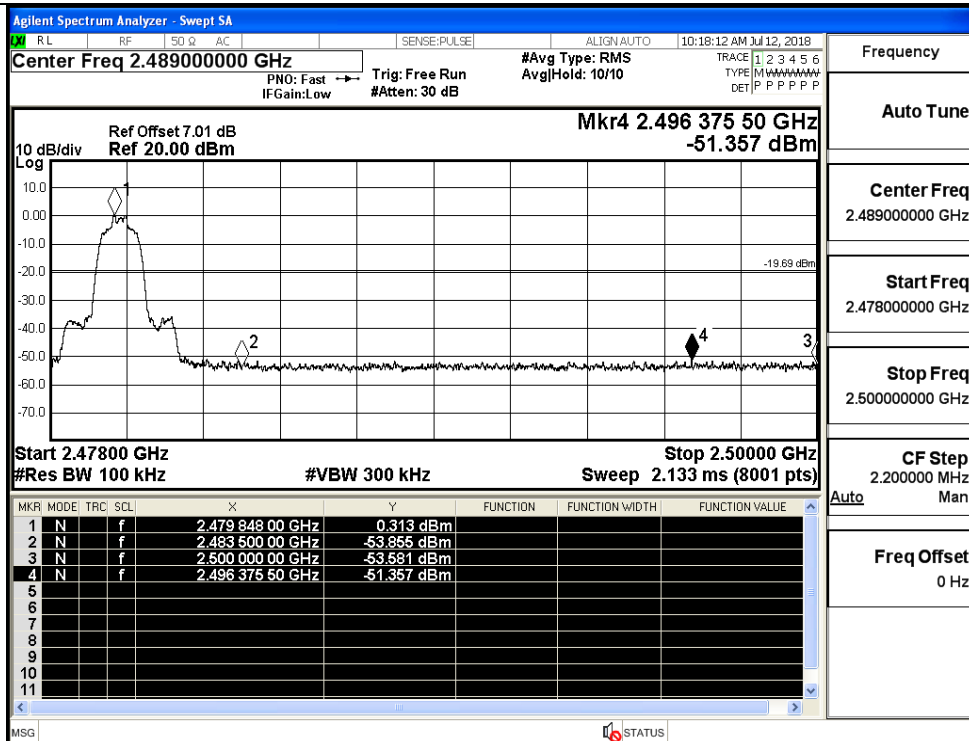
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

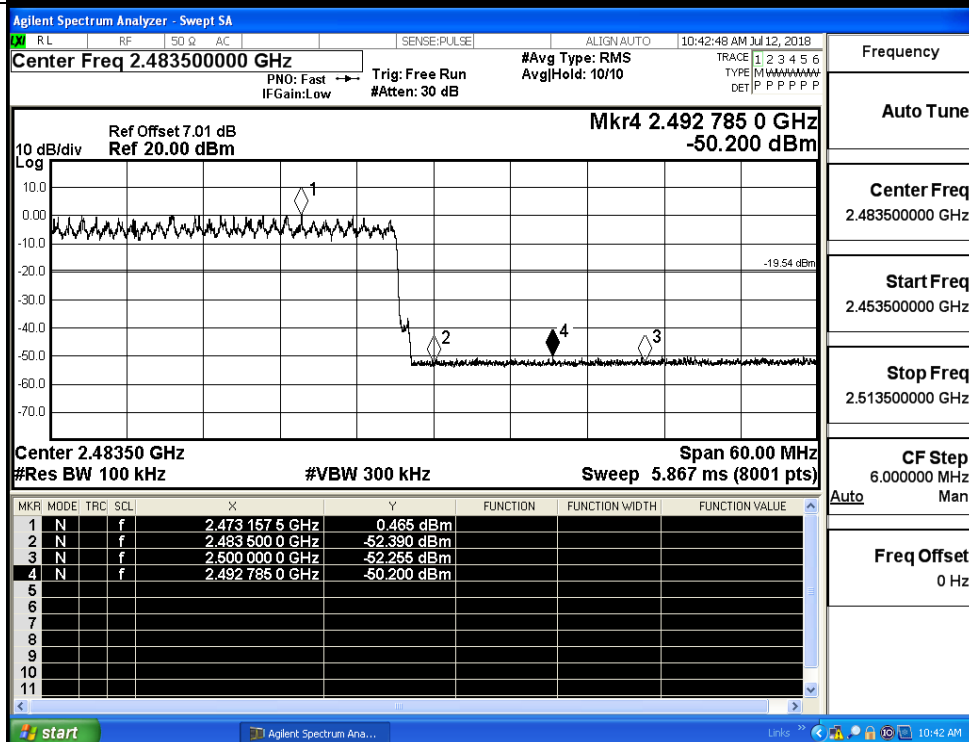
CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

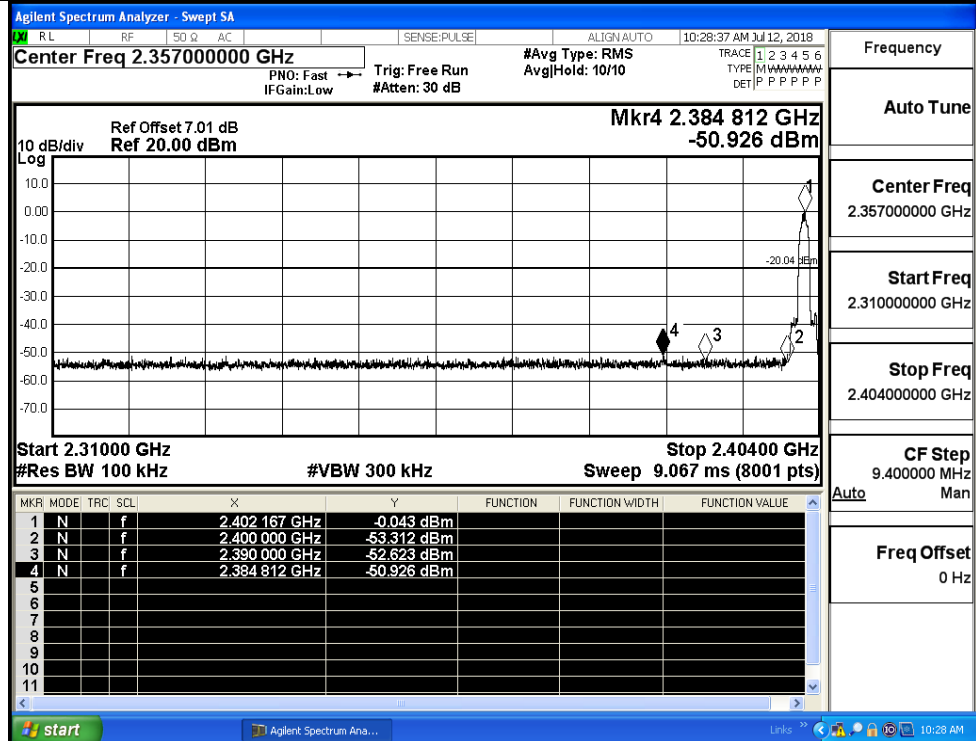
$\pi/4$ DQPSK/HCH/No
Hop



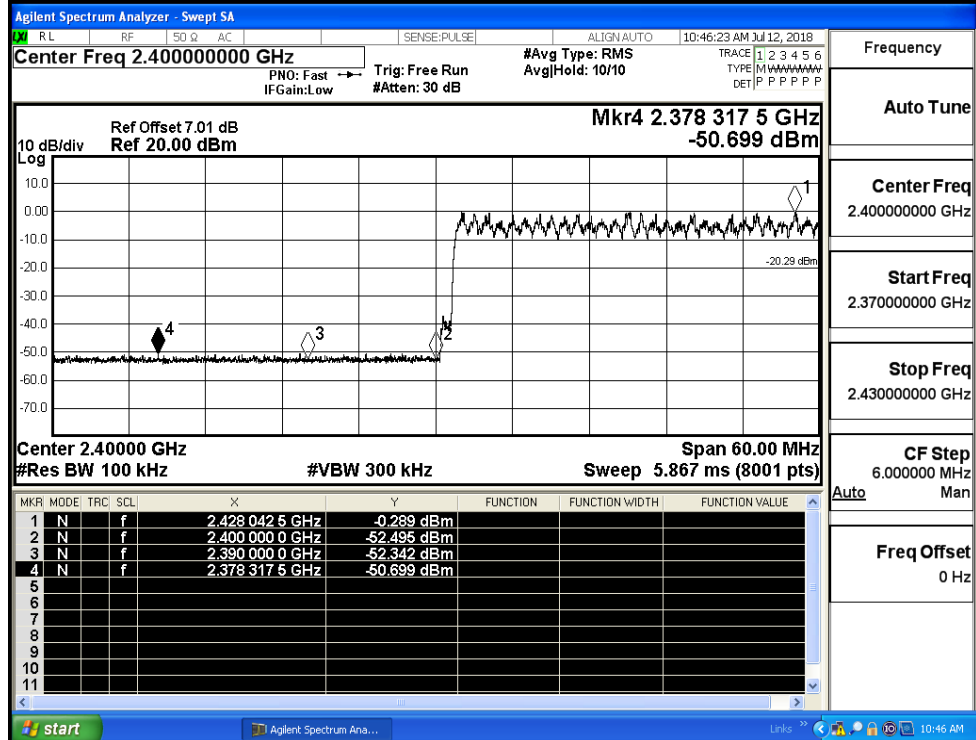
$\pi/4$ DQPSK/HCH/Hop



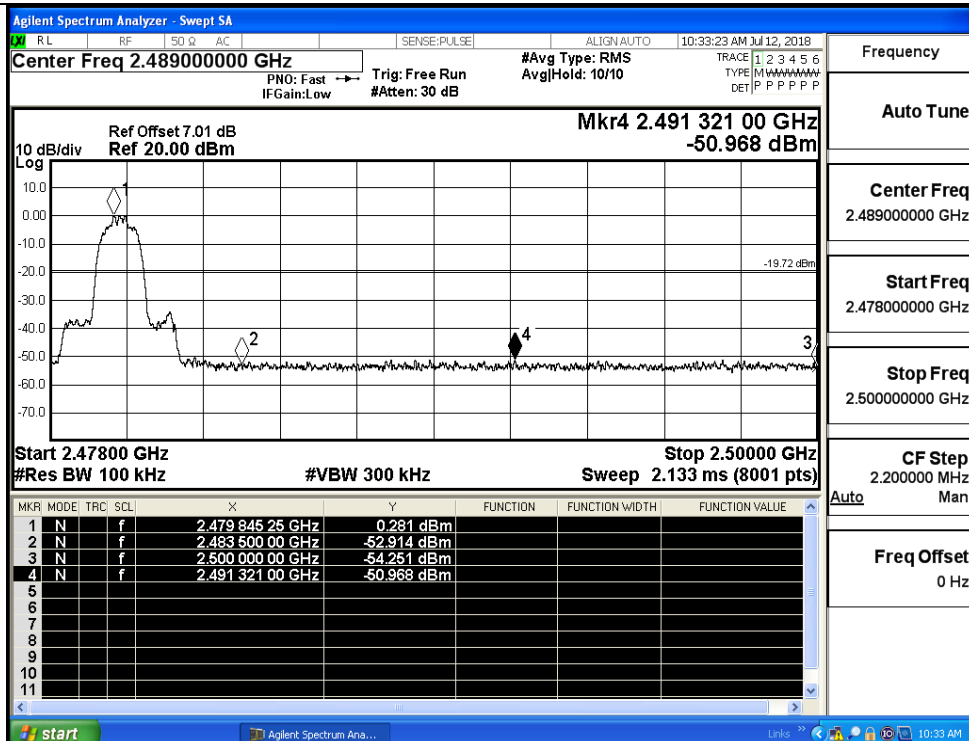
8DPSK/LCH/No Hop



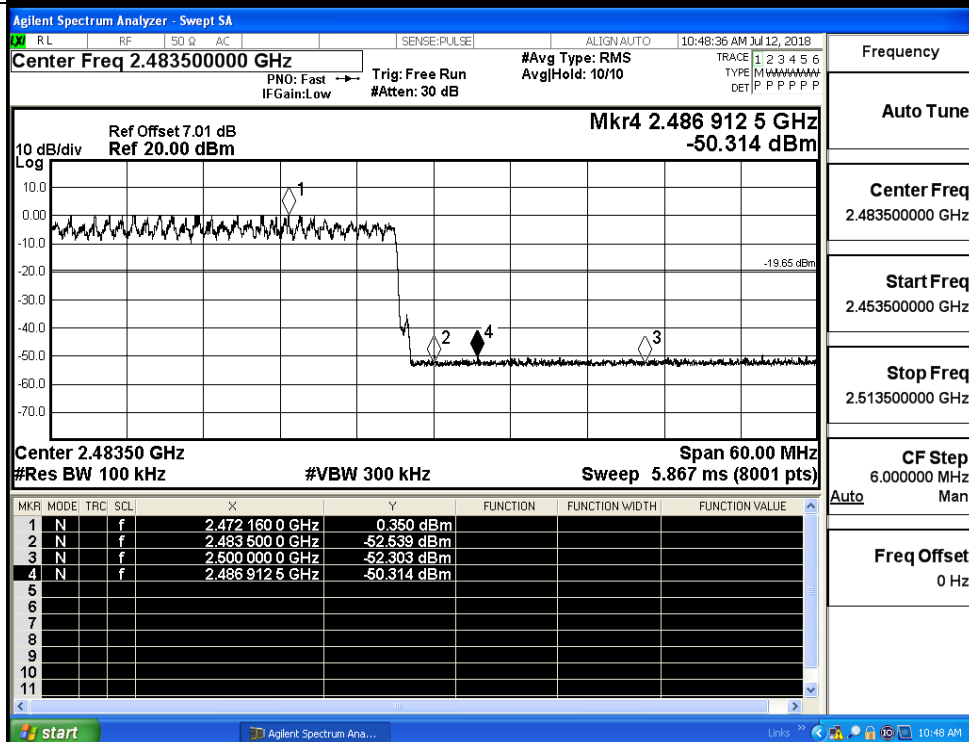
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



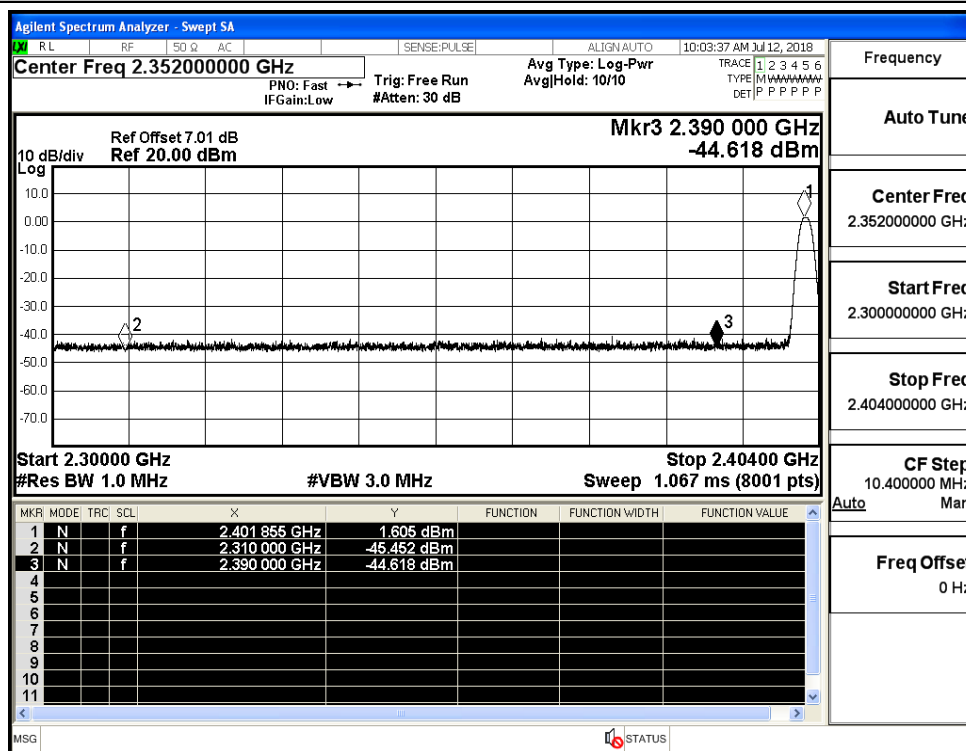
8DPSK/HCH/Hop



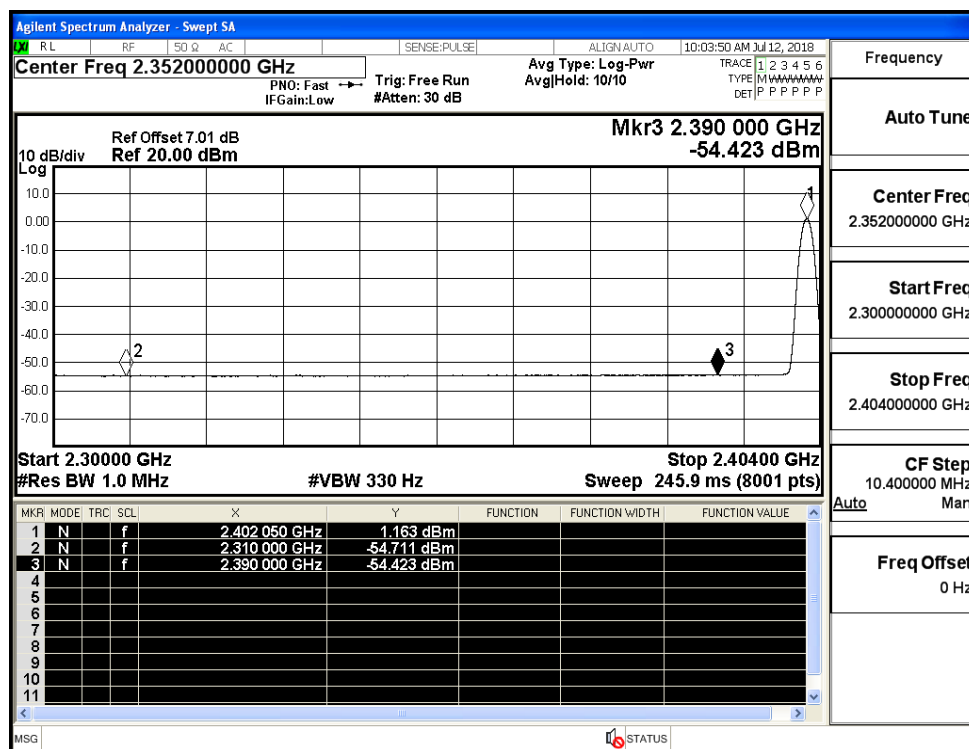
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-45.45	2.0	0	49.81	PEAK	74	PASS
	Off	2310.0	-54.71	2.0	0	40.55	AV	54	PASS
	Off	2390.0	-44.62	2.0	0	50.64	PEAK	74	PASS
	Off	2390.0	-54.42	2.0	0	40.83	AV	54	PASS
	Off	2483.5	-44.01	2.0	0	51.24	PEAK	74	PASS
	Off	2483.5	-54.04	2.0	0	41.21	AV	54	PASS
	Off	2500.0	-41.48	2.0	0	53.77	PEAK	74	PASS
	Off	2500.0	-54.05	2.0	0	41.21	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.55	2.0	0	51.70	PEAK	74	PASS
	Off	2310.0	-54.66	2.0	0	40.60	AV	54	PASS
	Off	2390.0	-44.16	2.0	0	51.10	PEAK	74	PASS
	Off	2390.0	-54.41	2.0	0	40.85	AV	54	PASS
	Off	2483.5	-42.90	2.0	0	52.36	PEAK	74	PASS
	Off	2483.5	-53.96	2.0	0	41.30	AV	54	PASS
	Off	2500.0	-43.86	2.0	0	51.40	PEAK	74	PASS
	Off	2500.0	-53.94	2.0	0	41.31	AV	54	PASS
8DPSK	Off	2310.0	-44.97	2.0	0	50.28	PEAK	74	PASS
	Off	2310.0	-54.59	2.0	0	40.67	AV	54	PASS
	Off	2390.0	-45.01	2.0	0	50.25	PEAK	74	PASS
	Off	2390.0	-54.47	2.0	0	40.79	AV	54	PASS
	Off	2483.5	-43.08	2.0	0	52.18	PEAK	74	PASS
	Off	2483.5	-53.96	2.0	0	41.30	AV	54	PASS
	Off	2500.0	-44.02	2.0	0	51.24	PEAK	74	PASS
	Off	2500.0	-54.02	2.0	0	41.24	AV	54	PASS

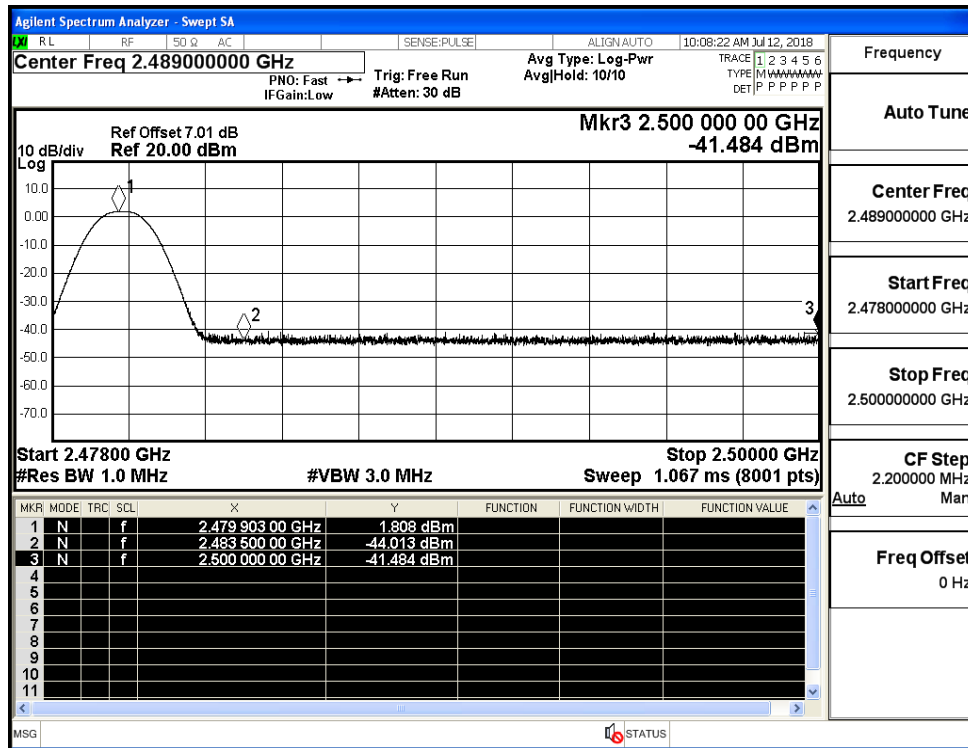
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



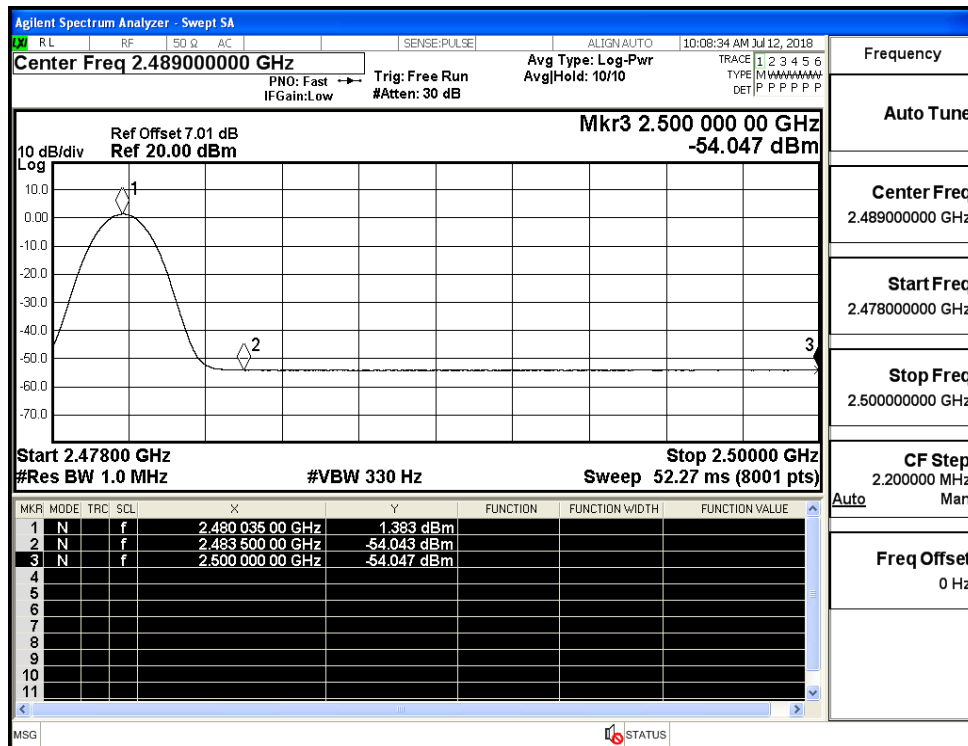
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

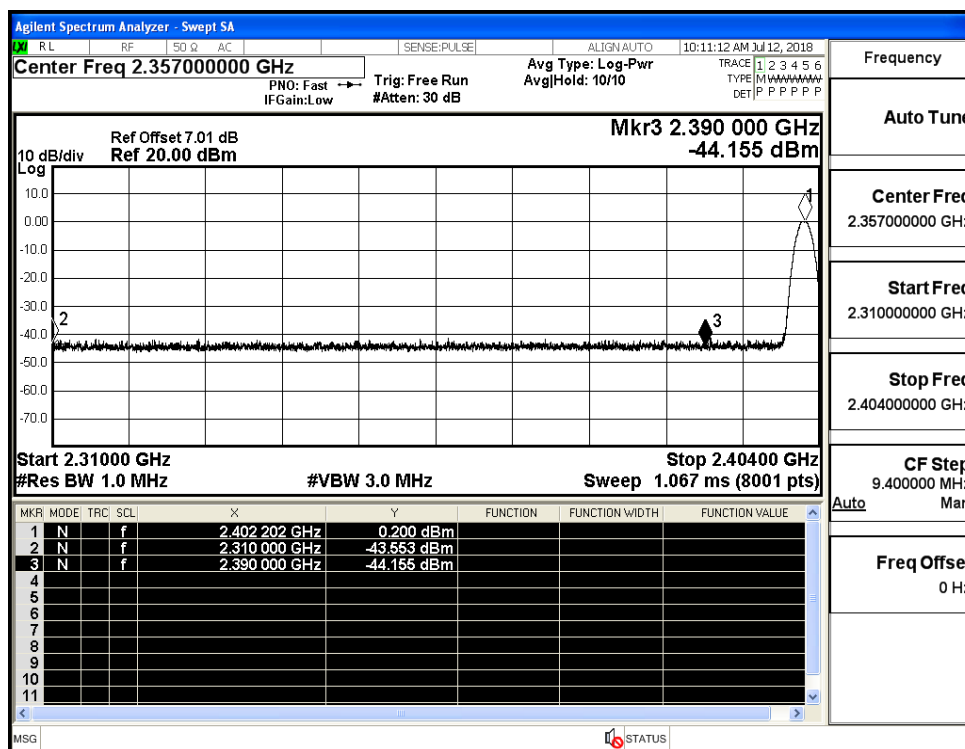
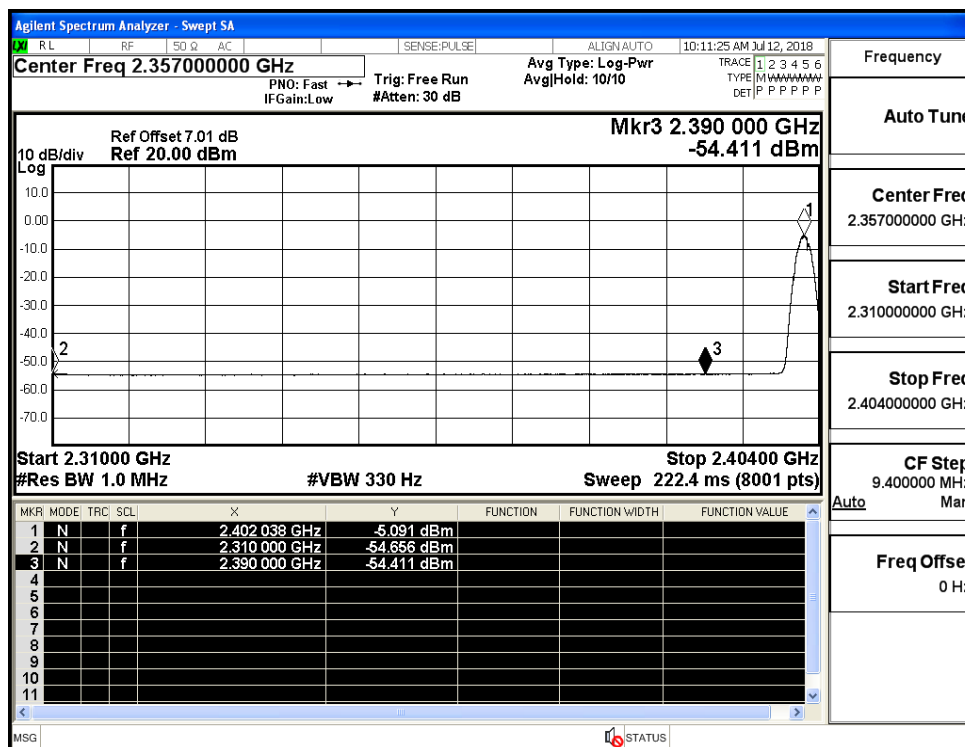


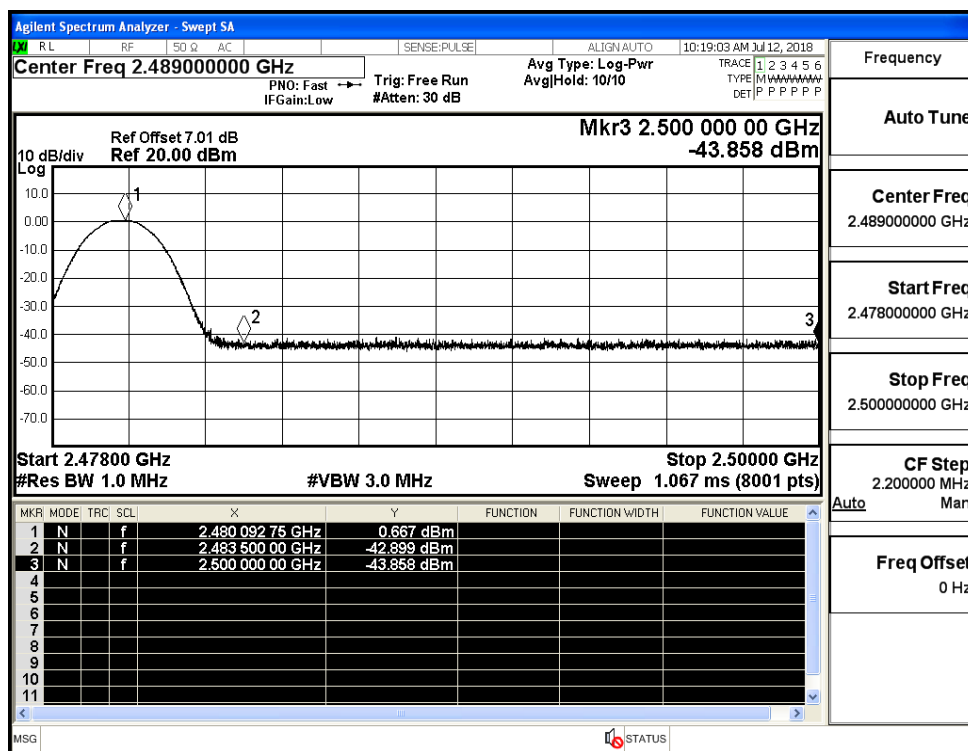
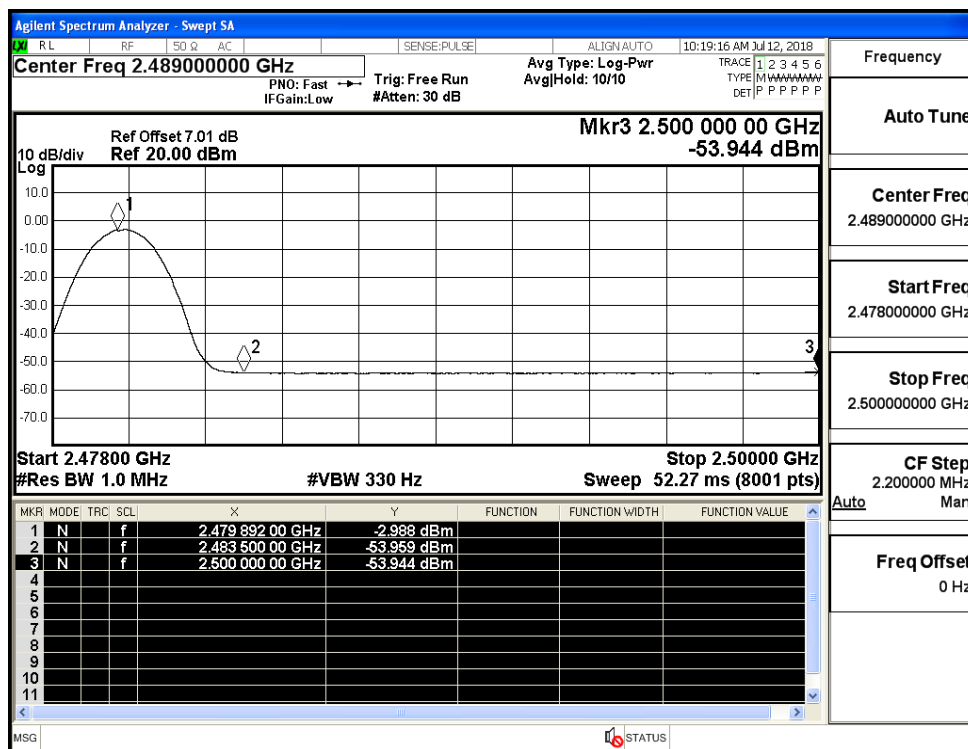
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



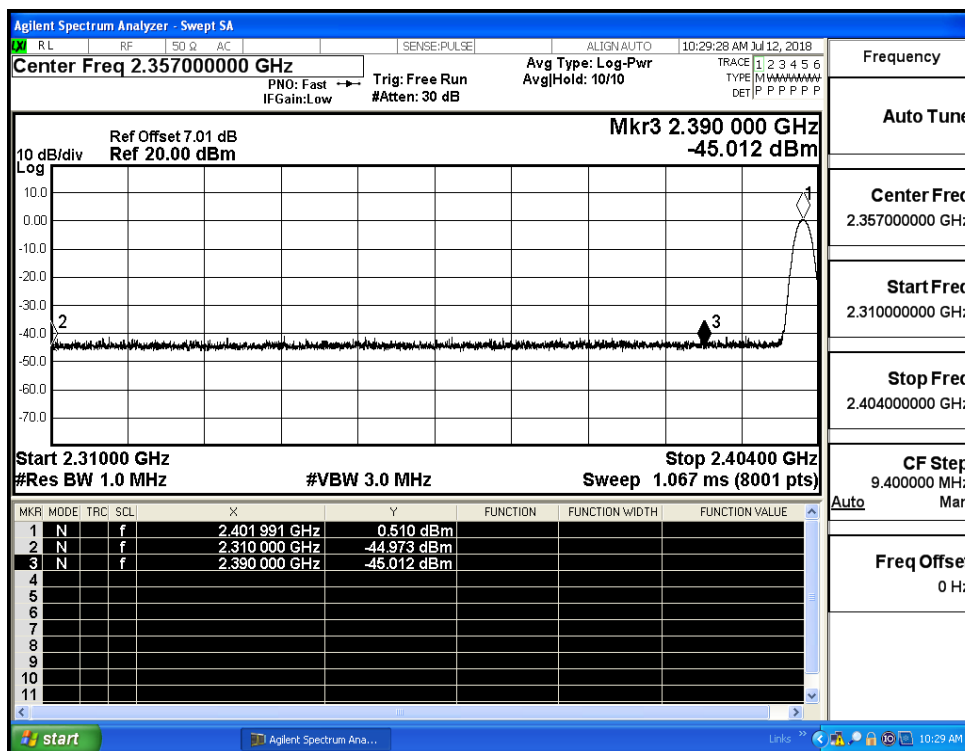
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



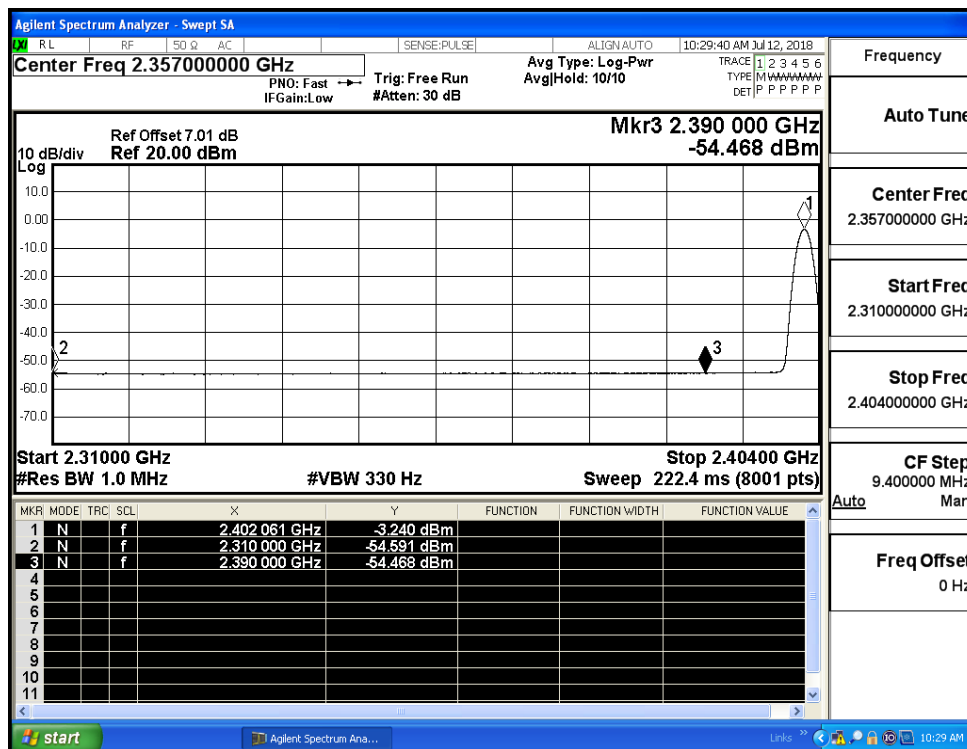
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

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)

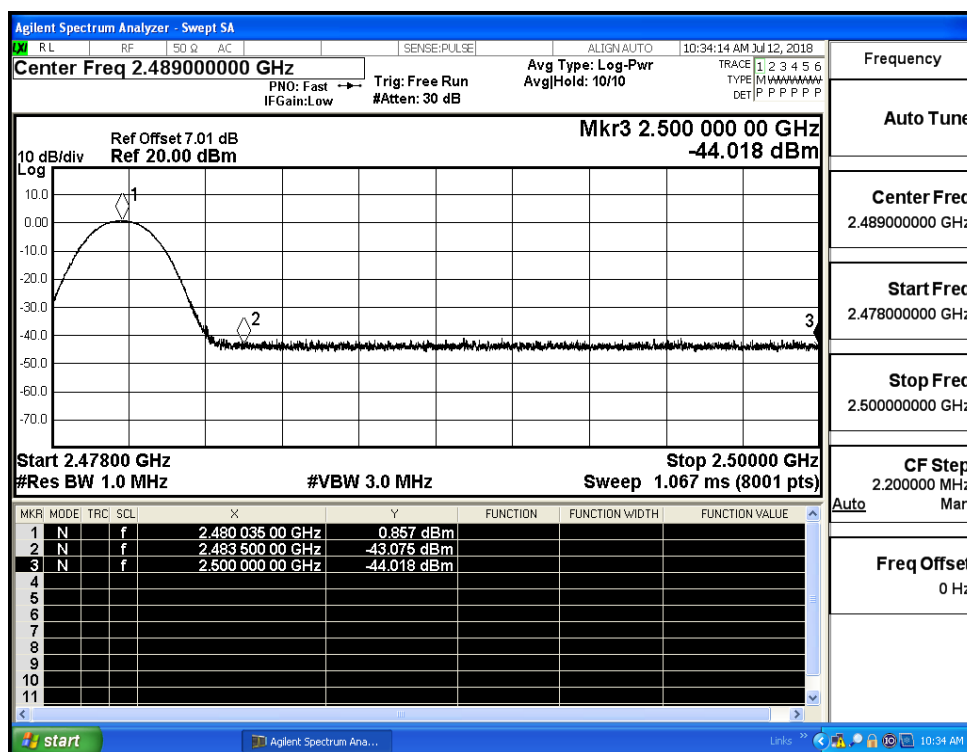
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

