

Appendix B

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

Product Name: Notebook computer

Trade Mark: WWNEO12A-2BK32

Test Model: THOMSON

Environmental Conditions

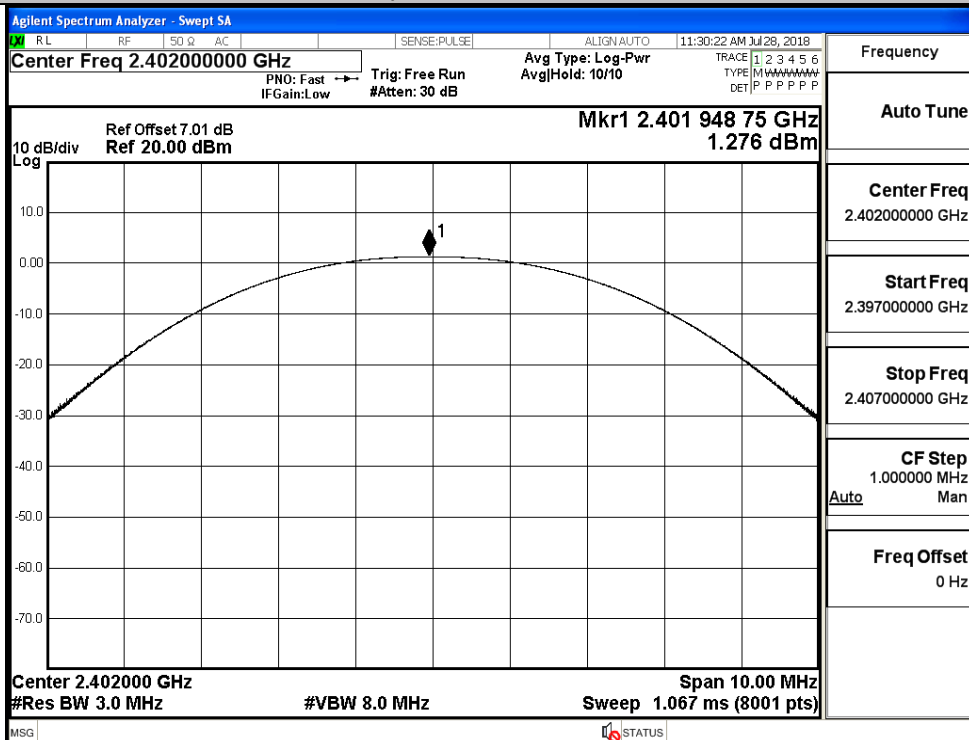
Temperature:	22.7° C
Relative Humidity:	53.5%
ATM Pressure:	100.0 kPa
Test Engineer:	WangChuang
Supervised by:	Jayden.Zhuo

B.1 Maximum Conducted Peak Output Power

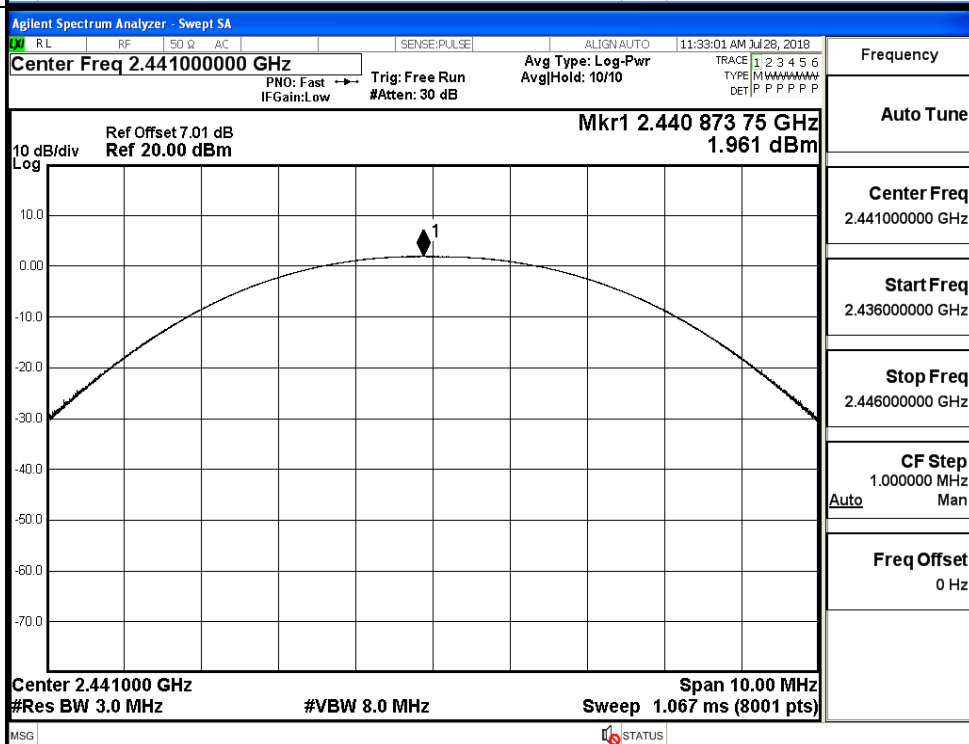
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.276	21	PASS
	MCH	1.961	21	PASS
	HCH	2.255	21	PASS
$\pi/4$ DQPSK	LCH	0.606	21	PASS
	MCH	1.311	21	PASS
	HCH	1.317	21	PASS
8DPSK	LCH	0.688	21	PASS
	MCH	1.340	21	PASS
	HCH	1.406	21	PASS

Test Graphs

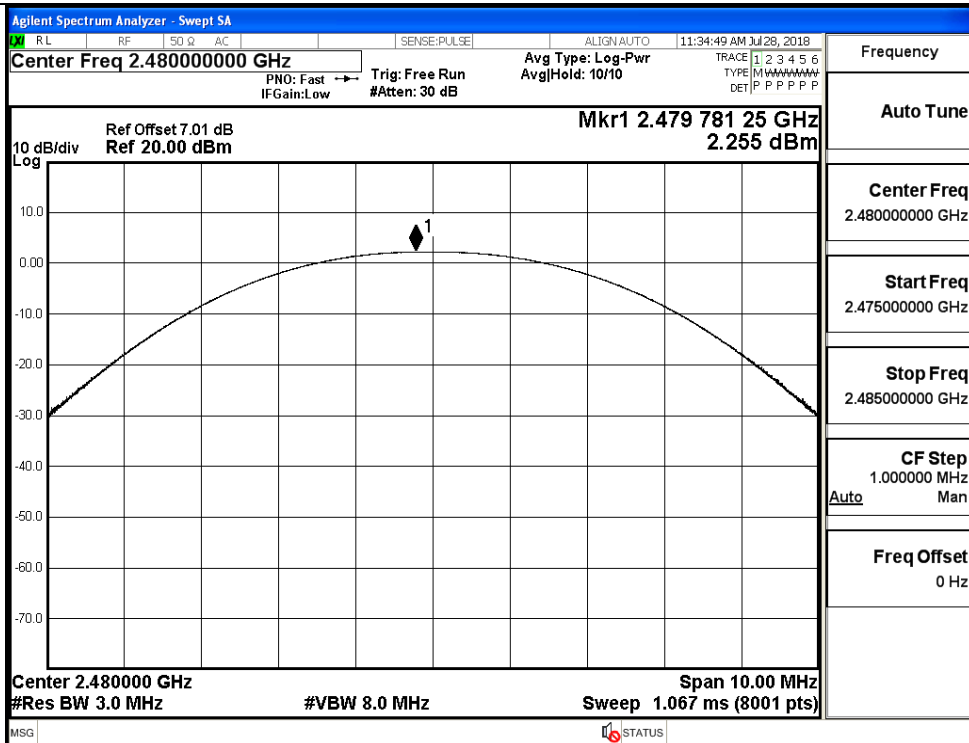
GFSK/LCH



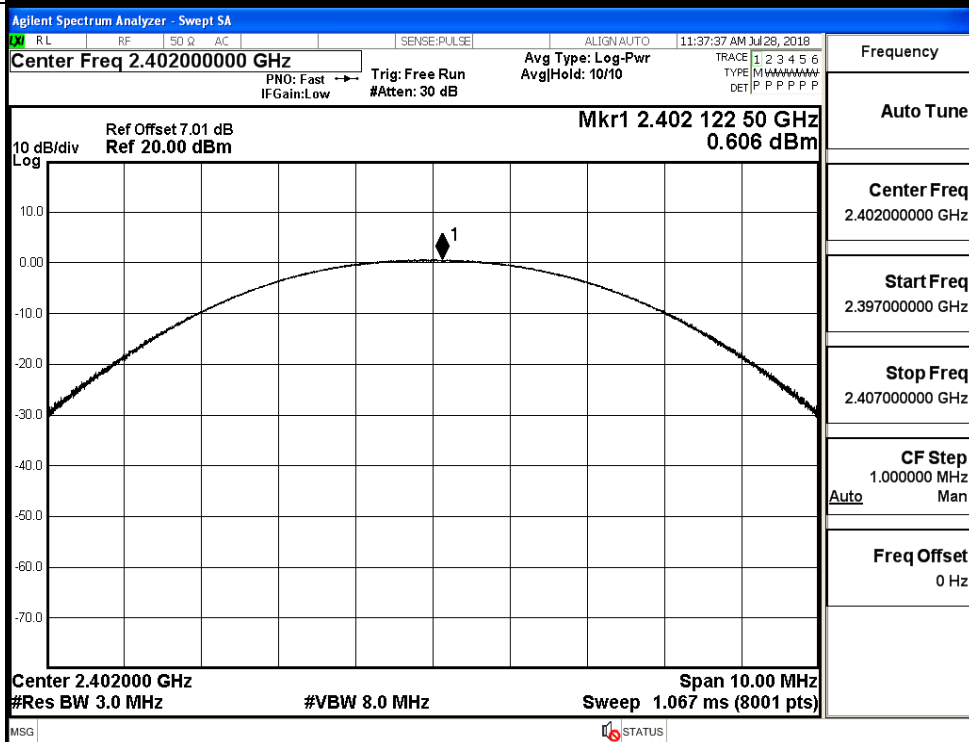
GFSK/MCH

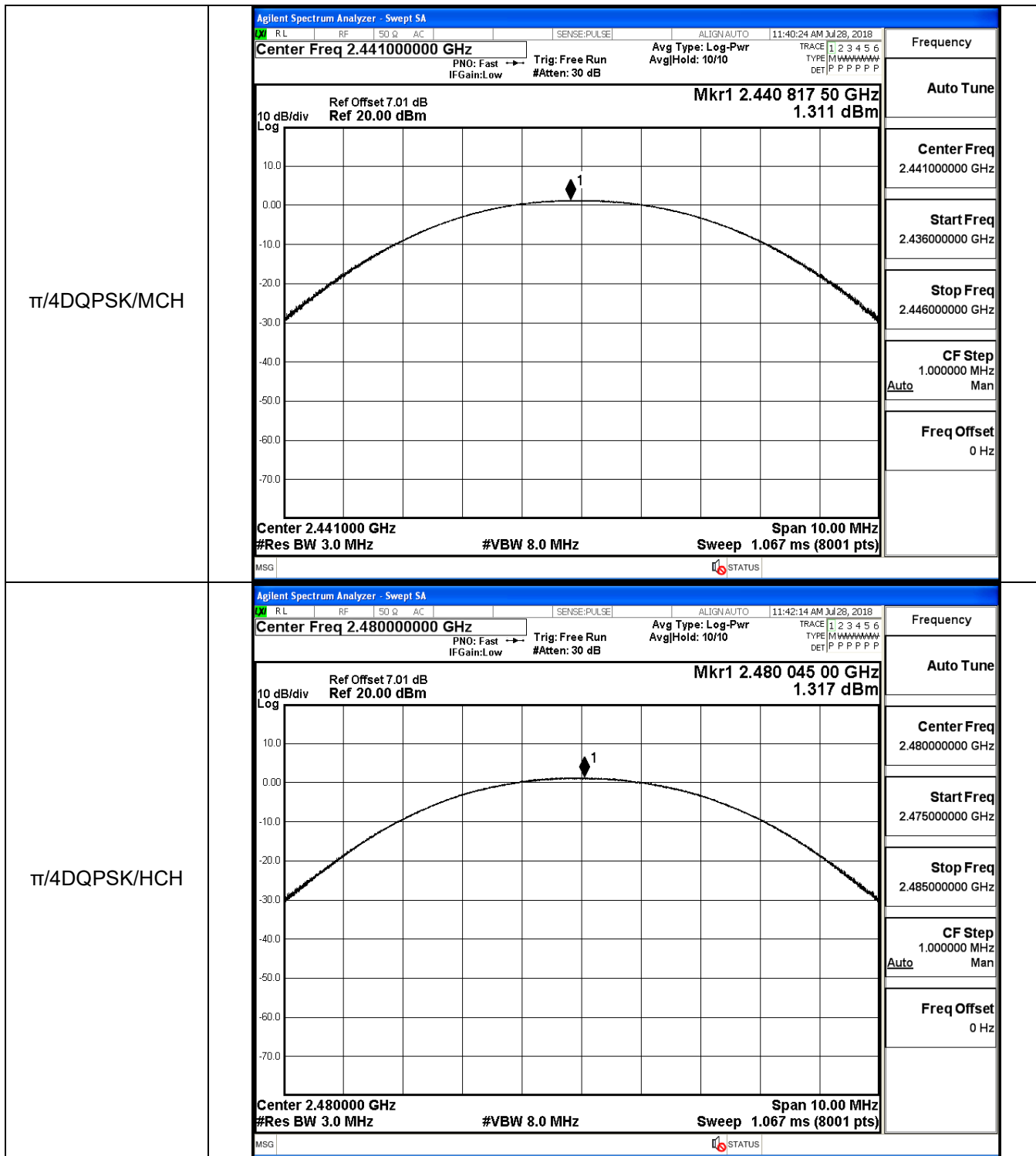


GFSK/HCH

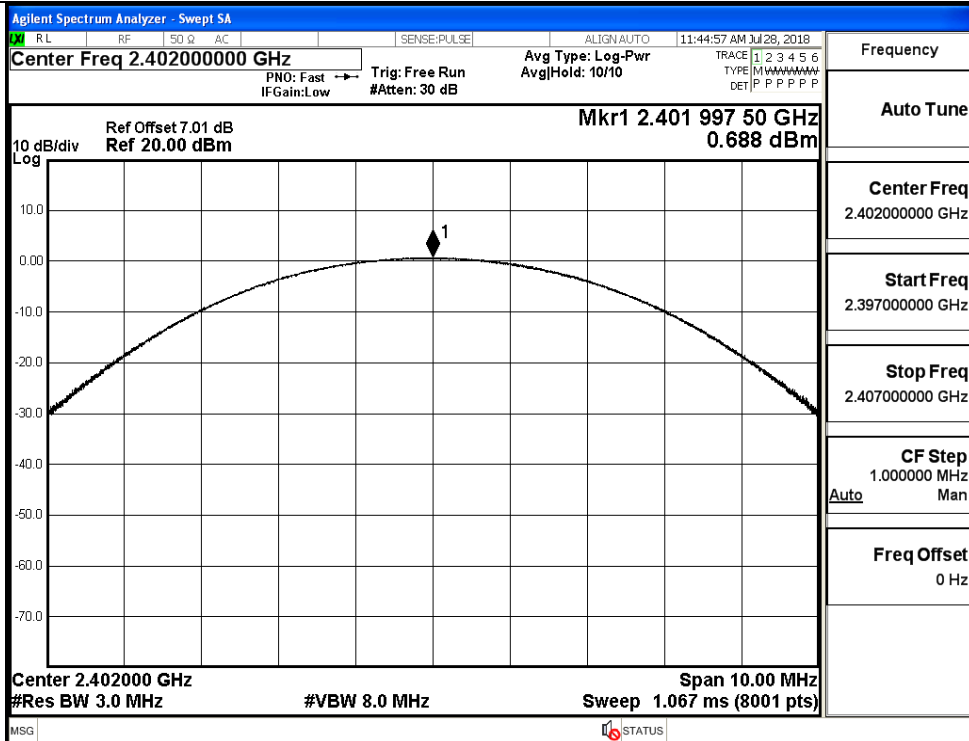


π /4DQPSK/LCH

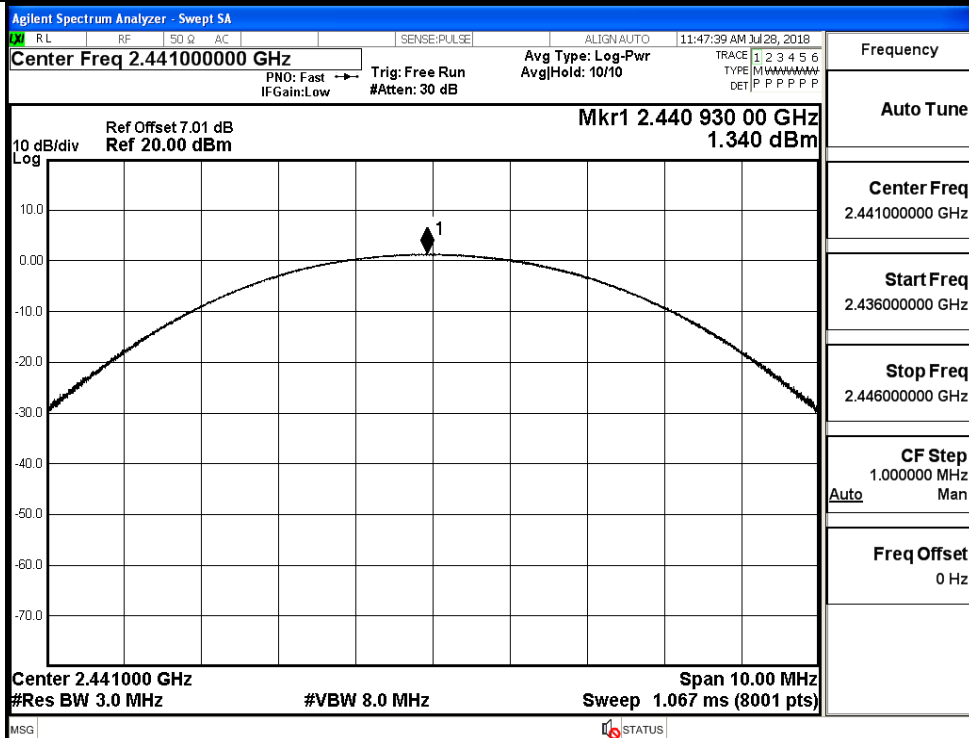




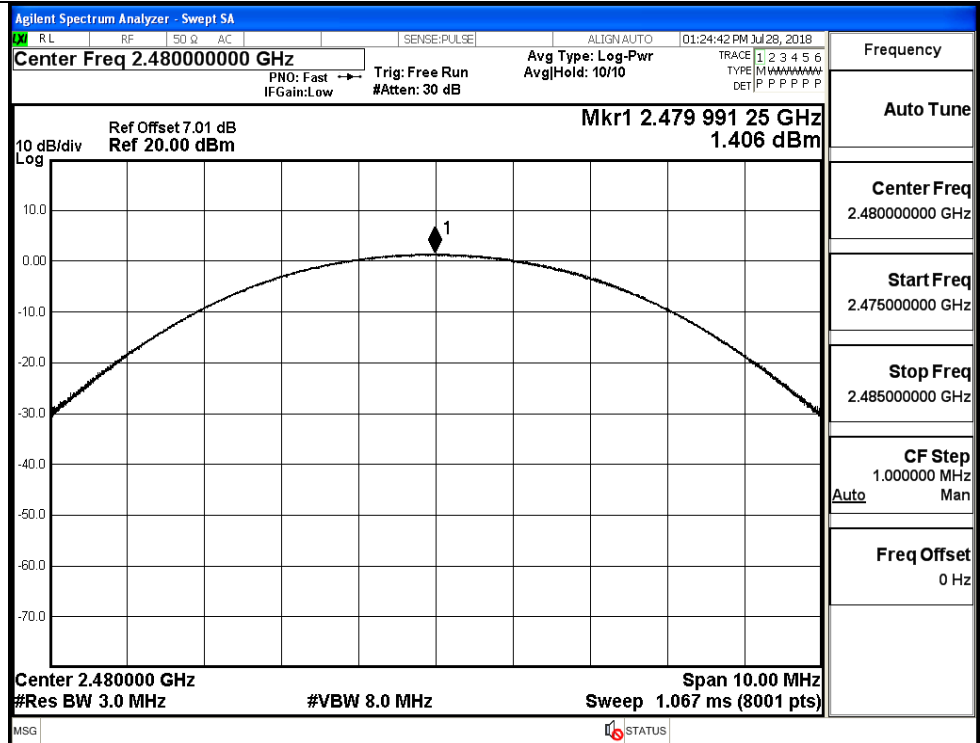
8DPSK/LCH



8DPSK/MCH

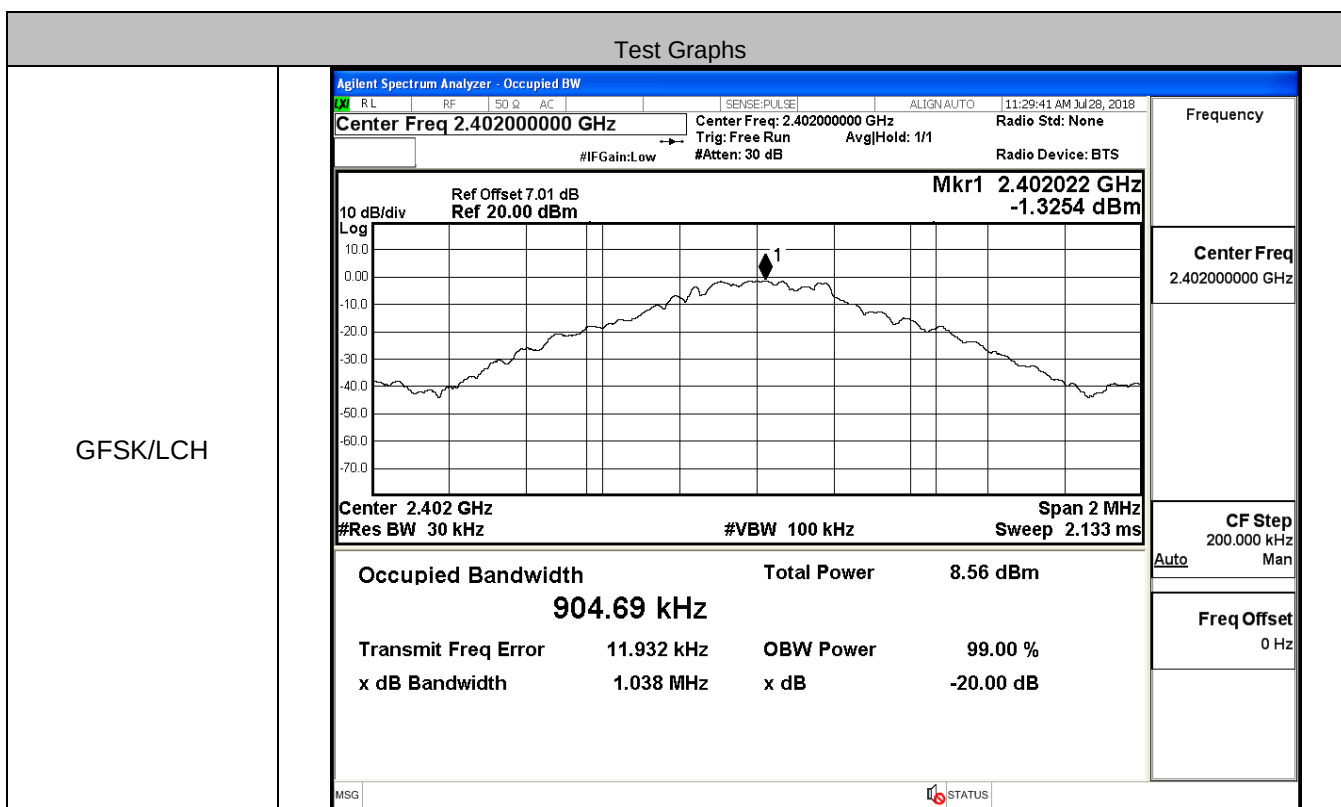


8DPSK/HCH

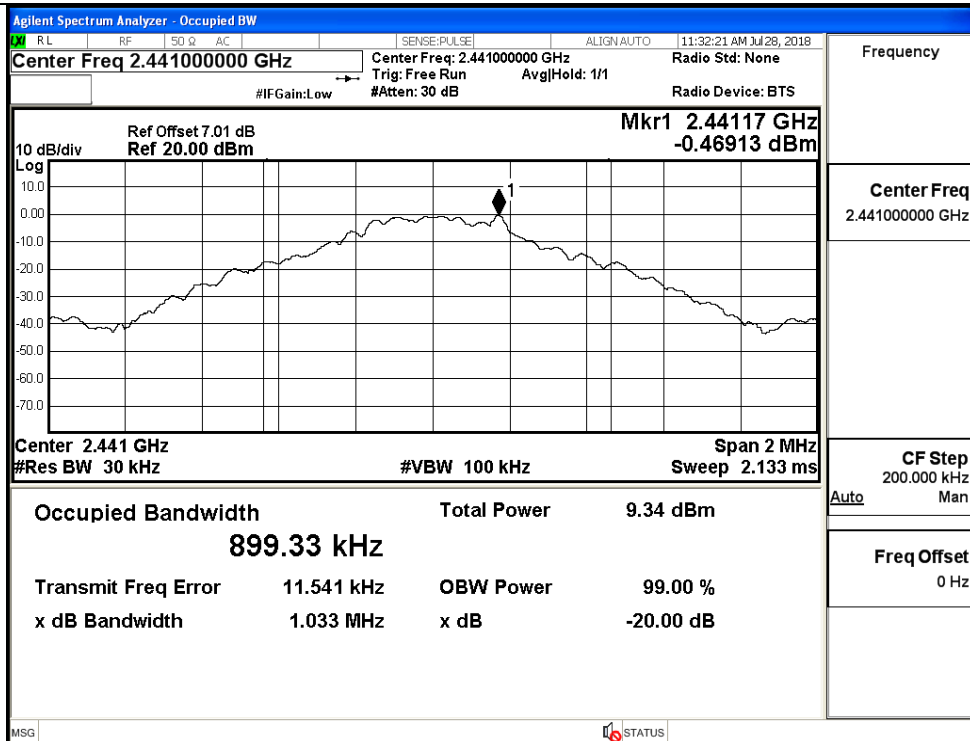


B.2 20dB Bandwidth

Mode	Channel.	99% Bandwidth [MHz]	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.90469	1.038	Not Specified	PASS
	MCH	0.89933	1.033	Not Specified	PASS
	HCH	0.90543	1.040	Not Specified	PASS
π /4DQPSK	LCH	1.1802	1.310	Not Specified	PASS
	MCH	1.1779	1.295	Not Specified	PASS
	HCH	1.1703	1.289	Not Specified	PASS
8DPSK	LCH	1.1874	1.297	Not Specified	PASS
	MCH	1.1893	1.297	Not Specified	PASS
	HCH	1.1787	1.294	Not Specified	PASS



GFSK/MCH



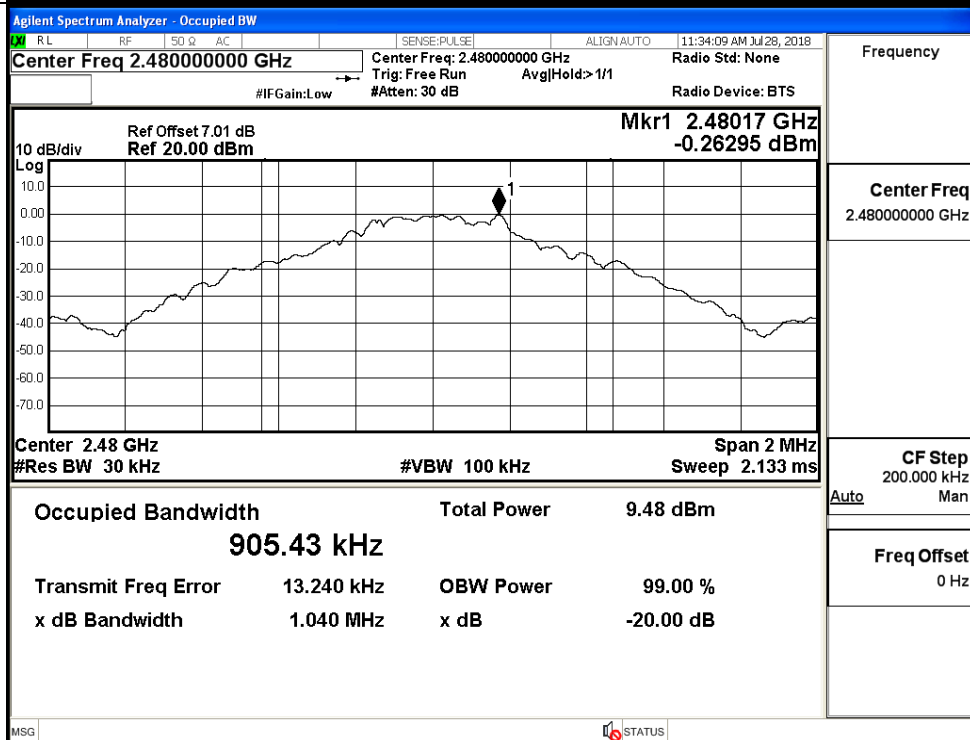
Frequency

Center Freq
2.441000000 GHz

CF Step
200.000 kHz

Freq Offset
0 Hz

GFSK/HCH



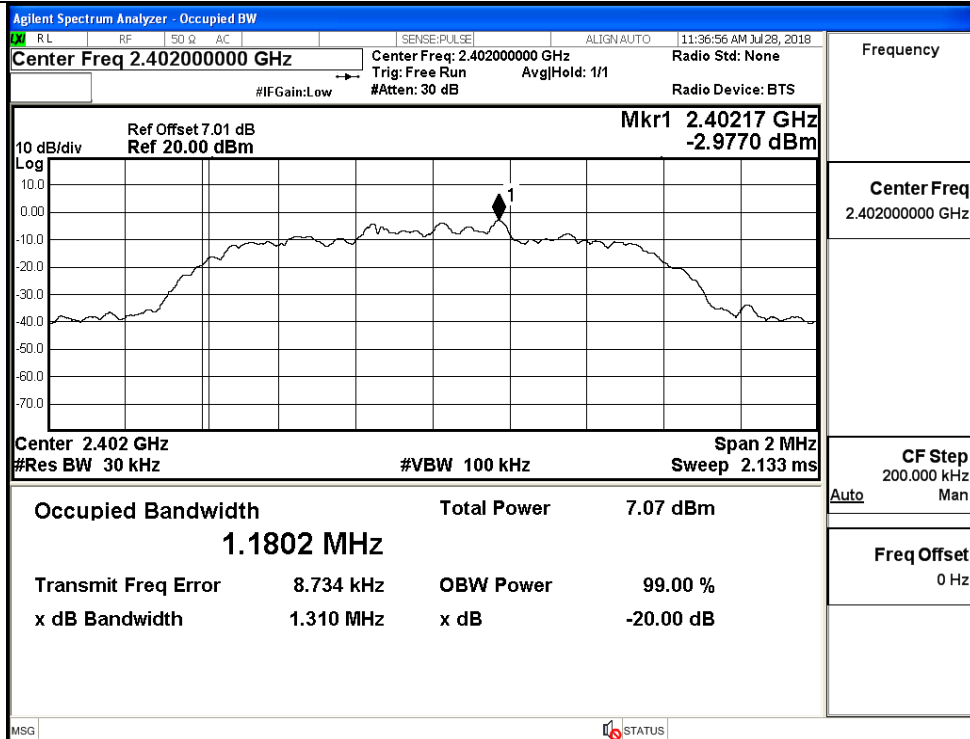
Frequency

Center Freq
2.480000000 GHz

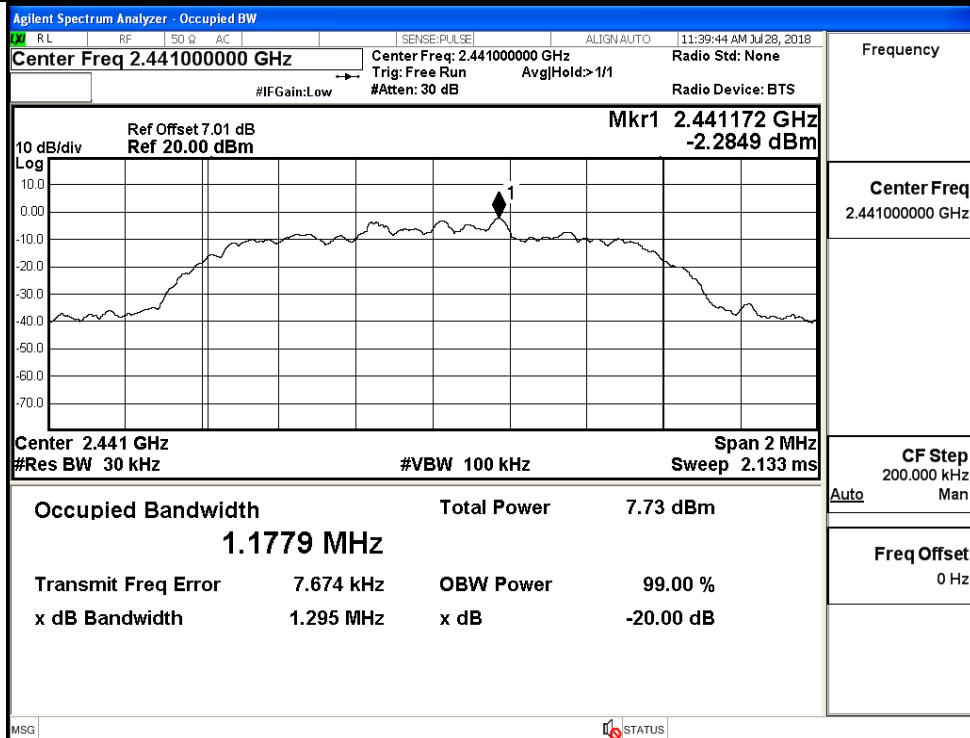
CF Step
200.000 kHz

Freq Offset
0 Hz

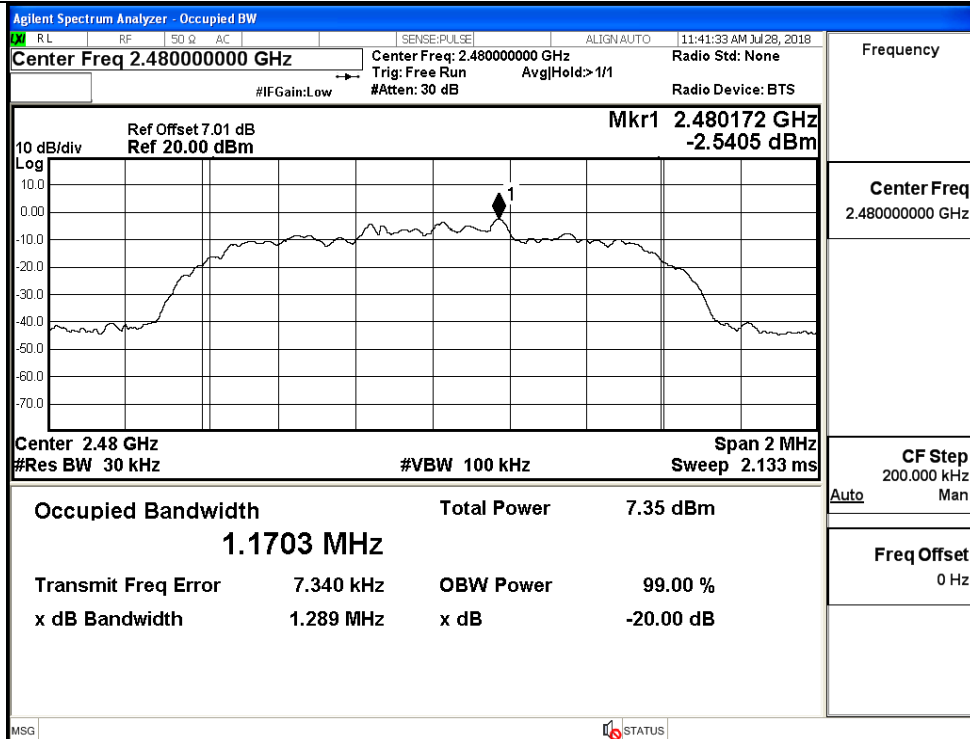
$\pi/4$ DQPSK/LCH



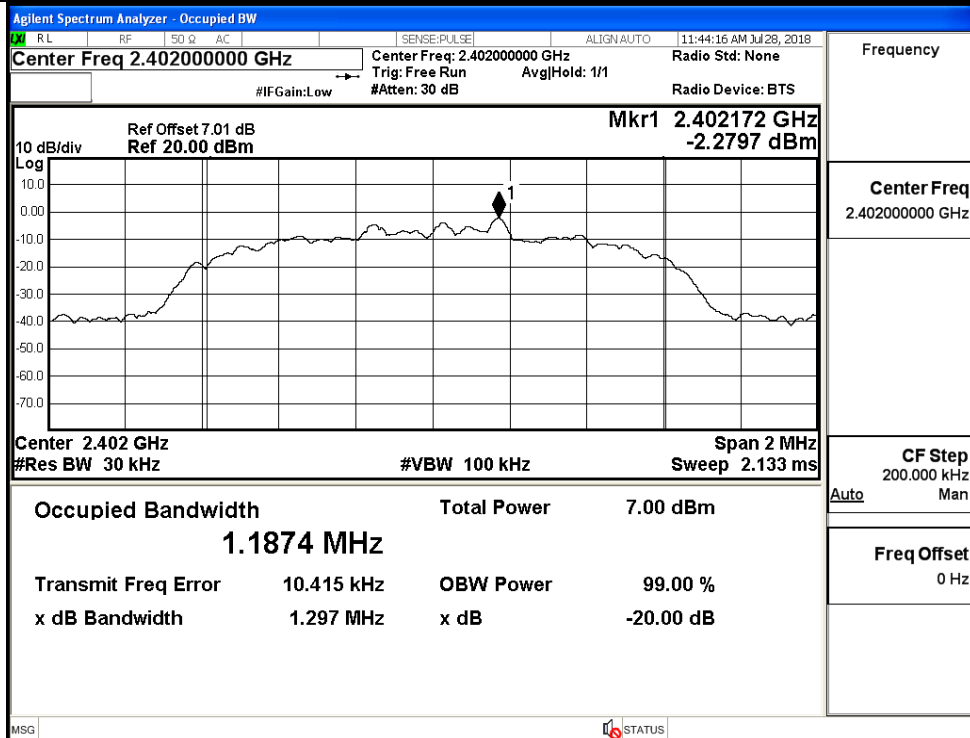
$\pi/4$ DQPSK/MCH



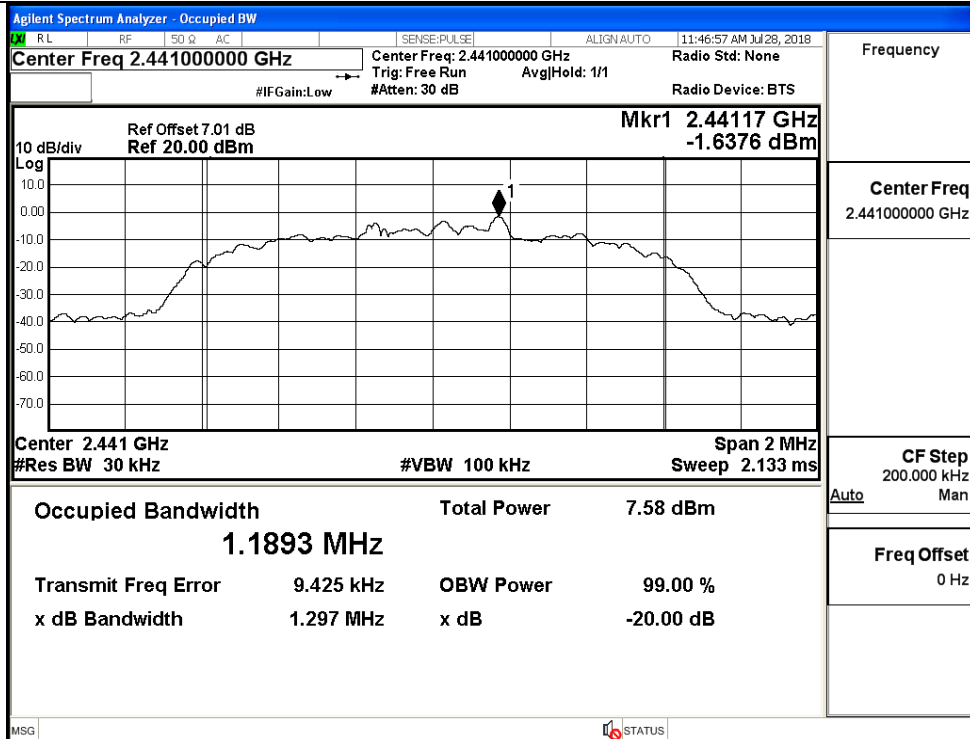
$\pi/4$ DQPSK/HCH



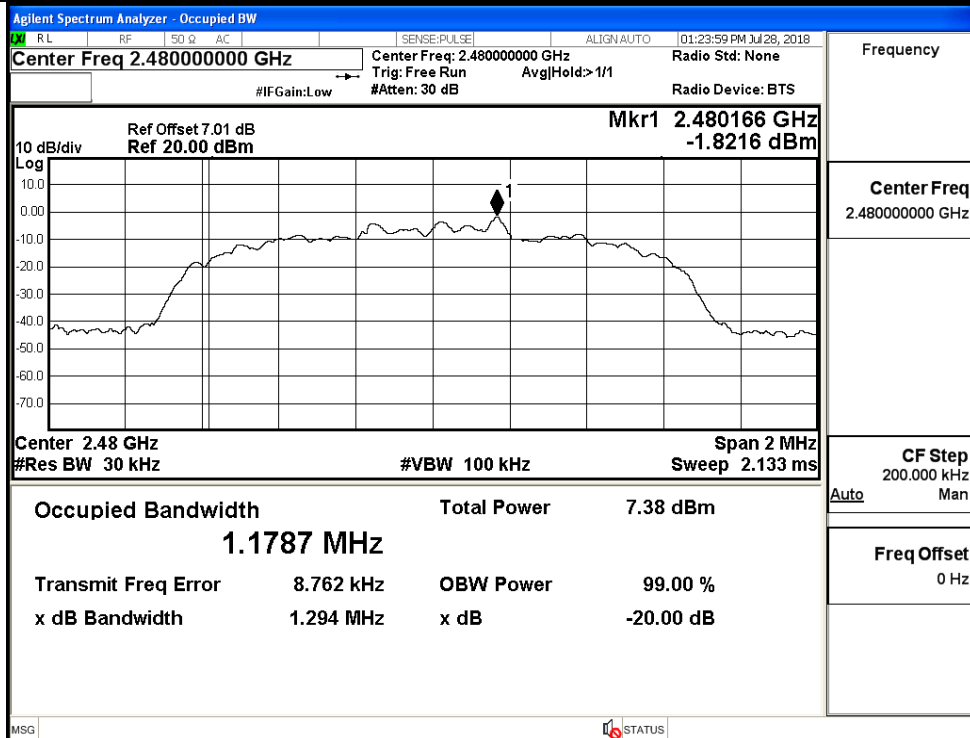
8DPSK/LCH



8DPSK/MCH



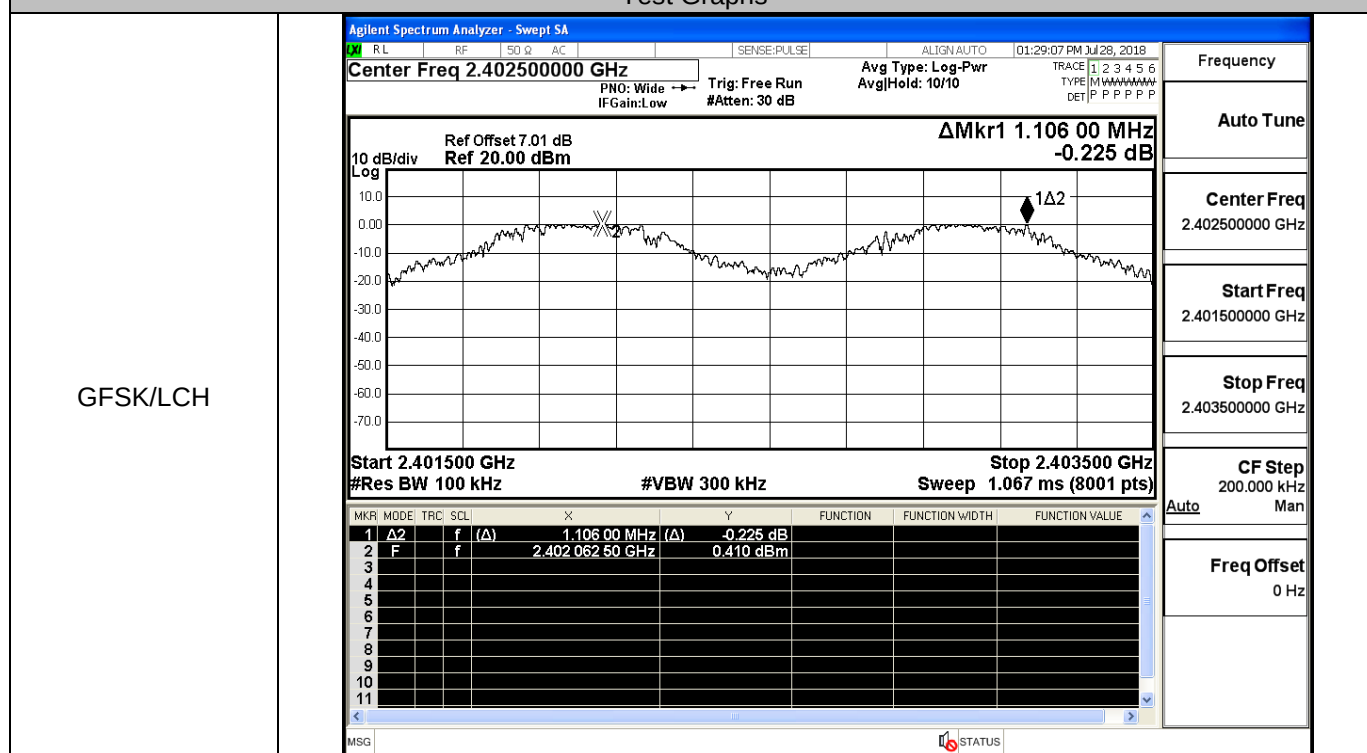
8DPSK/HCH



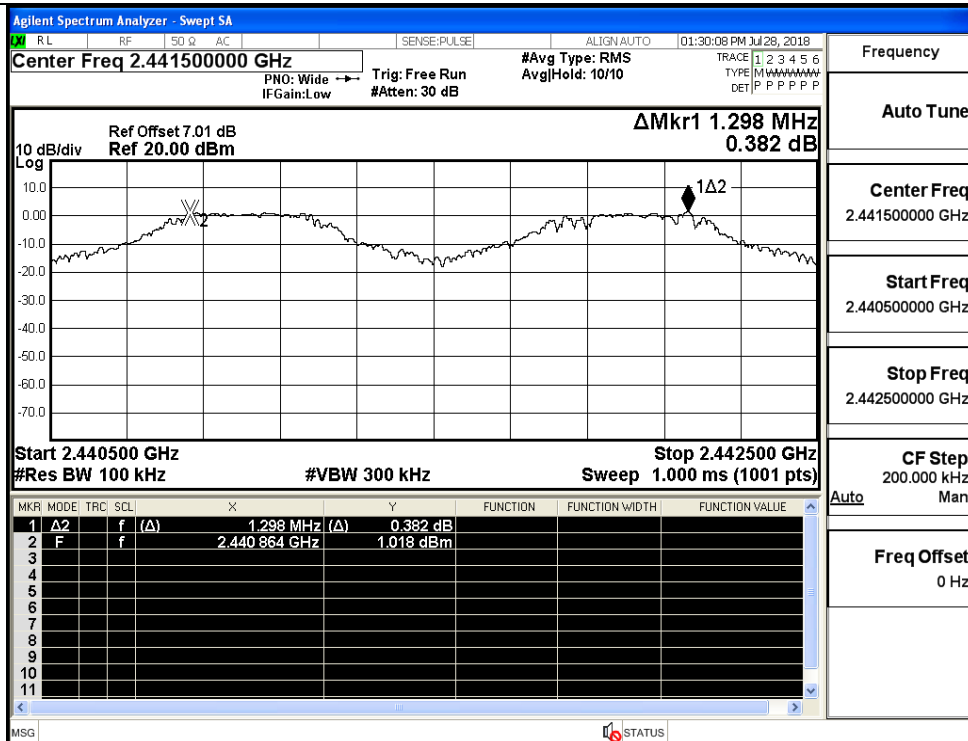
B.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.106	0.693	PASS
	MCH	1.298	0.693	PASS
	HCH	0.878	0.693	PASS
$\pi/4$ DQPSK	LCH	1.192	0.873	PASS
	MCH	1.308	0.873	PASS
	HCH	0.982	0.873	PASS
8DPSK	LCH	1.014	0.865	PASS
	MCH	1.078	0.865	PASS
	HCH	1.022	0.865	PASS

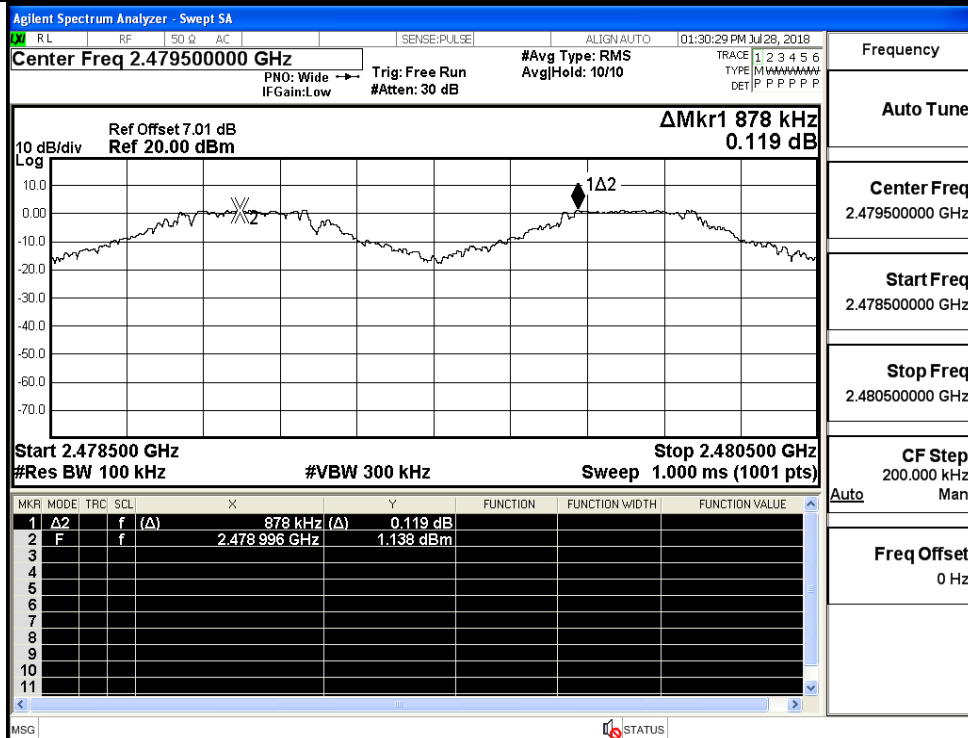
Test Graphs



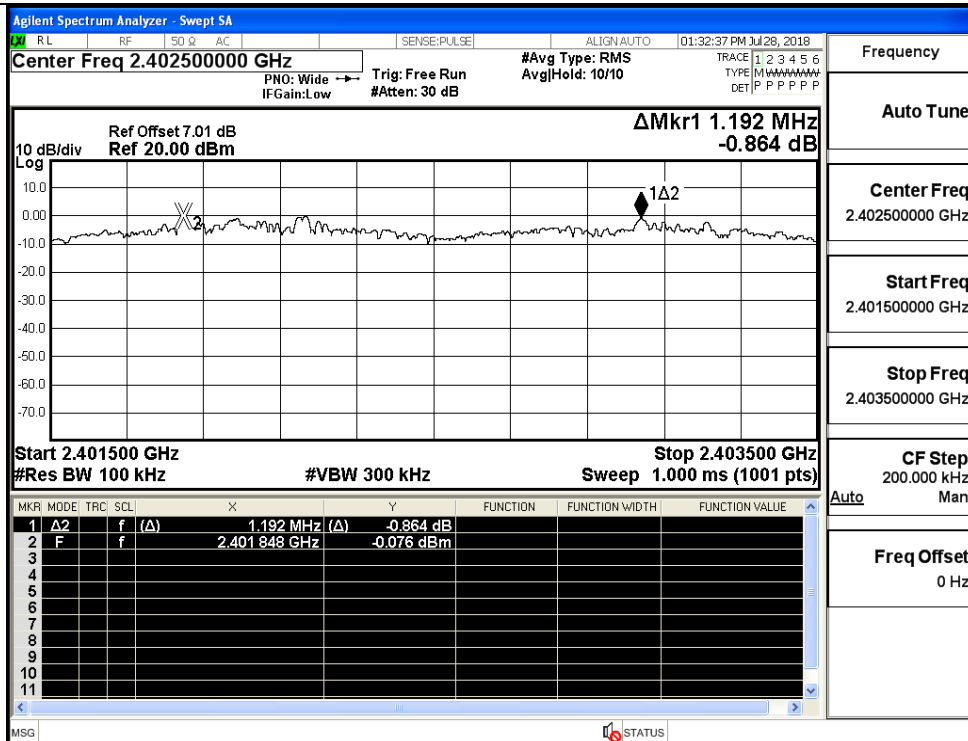
GFSK/MCH



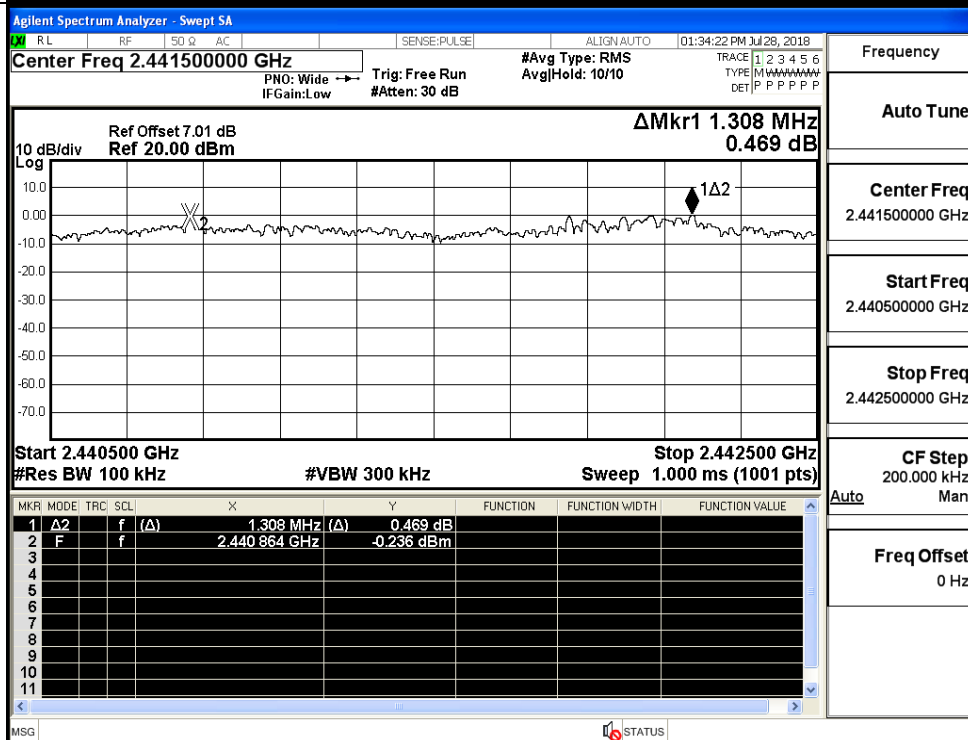
GFSK/HCH

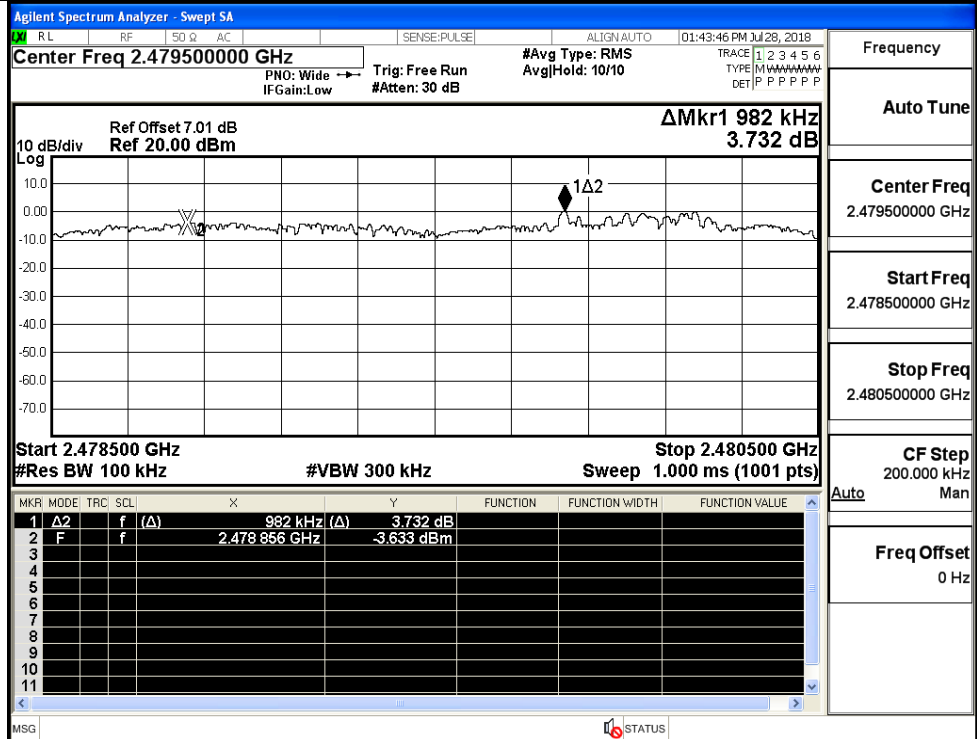


$\pi/4$ DQPSK/LCH

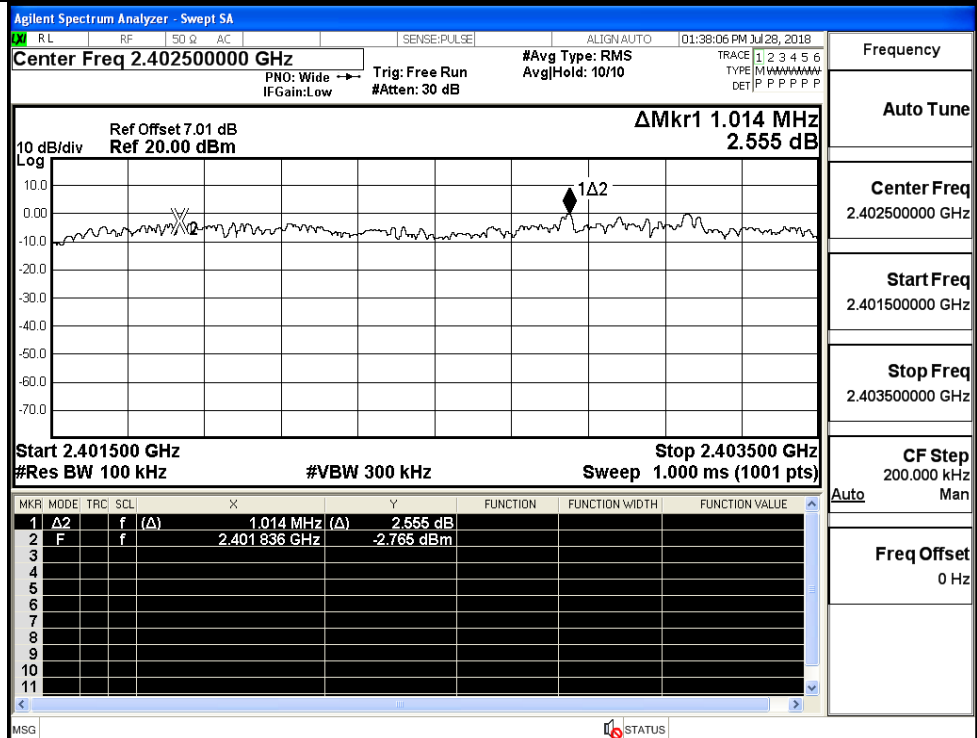


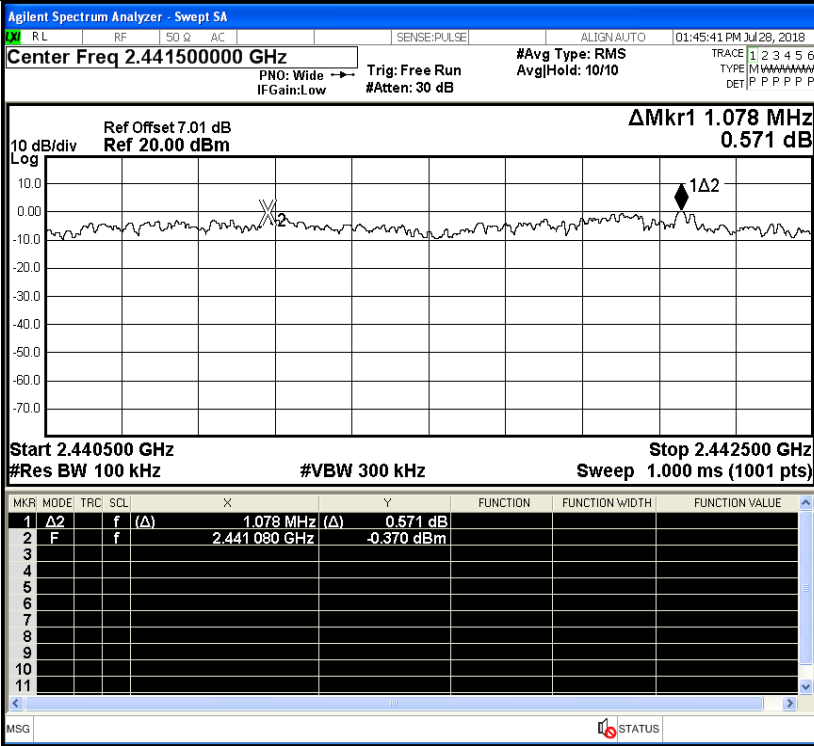
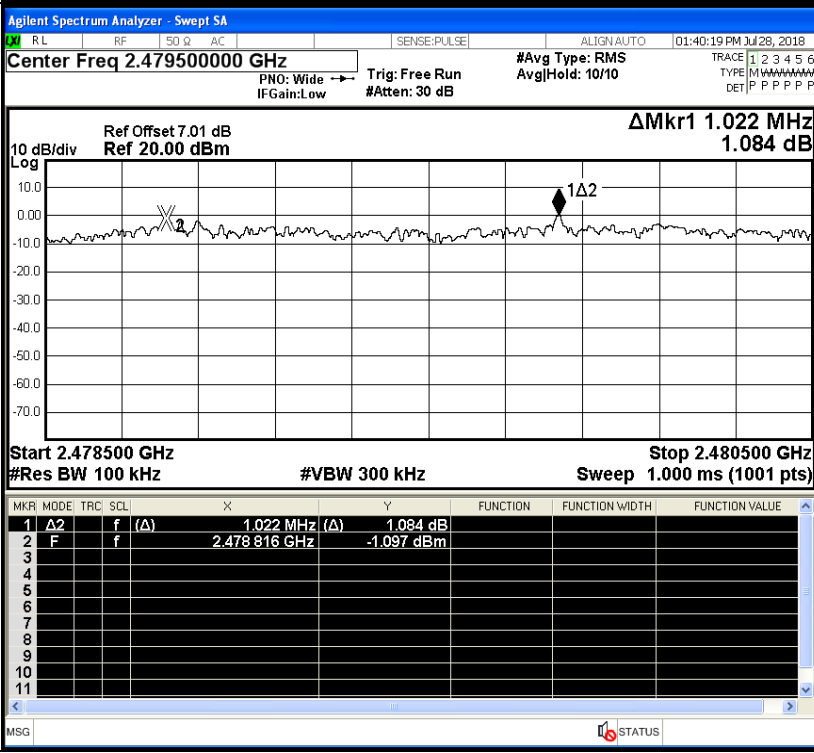
$\pi/4$ DQPSK/MCH



$\pi/4$ DQPSK/HCH

8DPSK/LCH



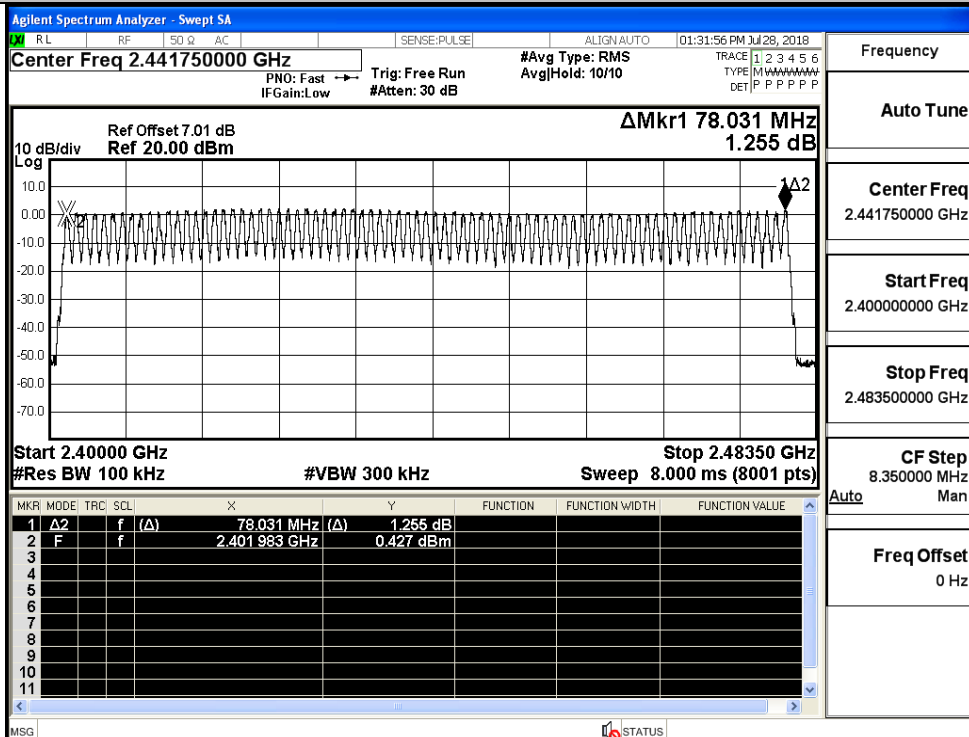
8DPSK/MCH	 Agilent Spectrum Analyzer - Swept SA Center Freq 2.441500000 GHz Ref Offset 7.01 dB Ref 20.00 dBm ΔMkr1 1.078 MHz 0.571 dB Start 2.440500 GHz #Res BW 100 kHz Stop 2.442500 GHz #VBW 300 kHz Sweep 1.000 ms (1001 pts) Frequency: 2.441500000 GHz Auto Tune Center Freq: 2.441500000 GHz Start Freq: 2.440500000 GHz Stop Freq: 2.442500000 GHz CF Step: 200.000 kHz Freq Offset: 0 Hz
8DPSK/HCH	 Agilent Spectrum Analyzer - Swept SA Center Freq 2.479500000 GHz Ref Offset 7.01 dB Ref 20.00 dBm ΔMkr1 1.022 MHz 1.084 dB Start 2.478500 GHz #Res BW 100 kHz Stop 2.480500 GHz #VBW 300 kHz Sweep 1.000 ms (1001 pts) Frequency: 2.479500000 GHz Auto Tune Center Freq: 2.479500000 GHz Start Freq: 2.478500000 GHz Stop Freq: 2.480500000 GHz CF Step: 200.000 kHz Freq Offset: 0 Hz

B.4 Hopping Channel Number

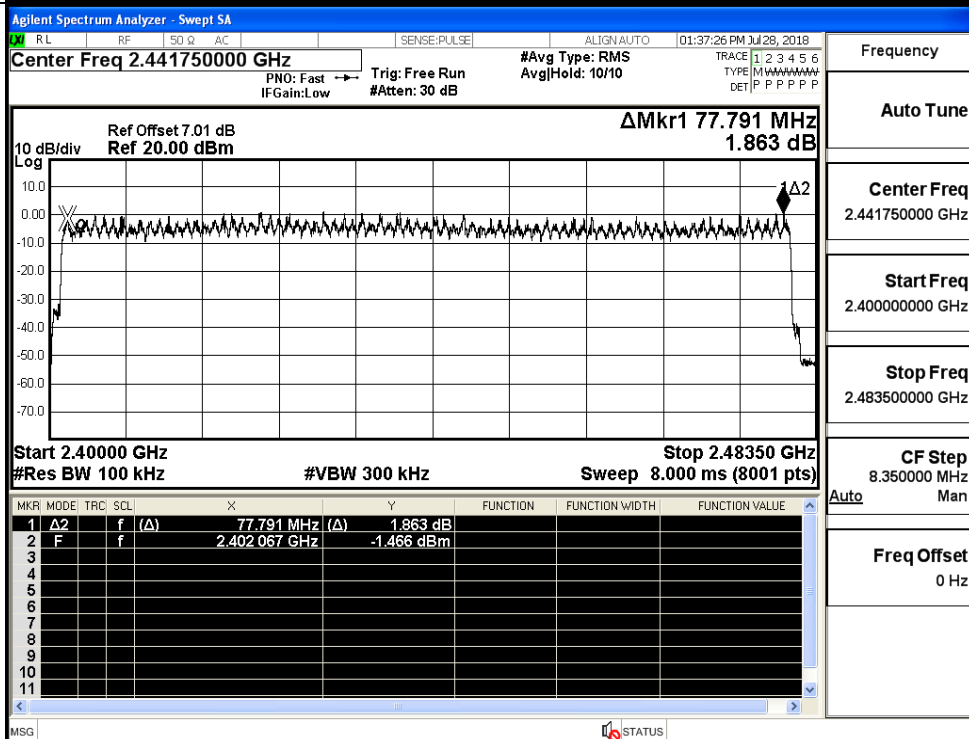
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

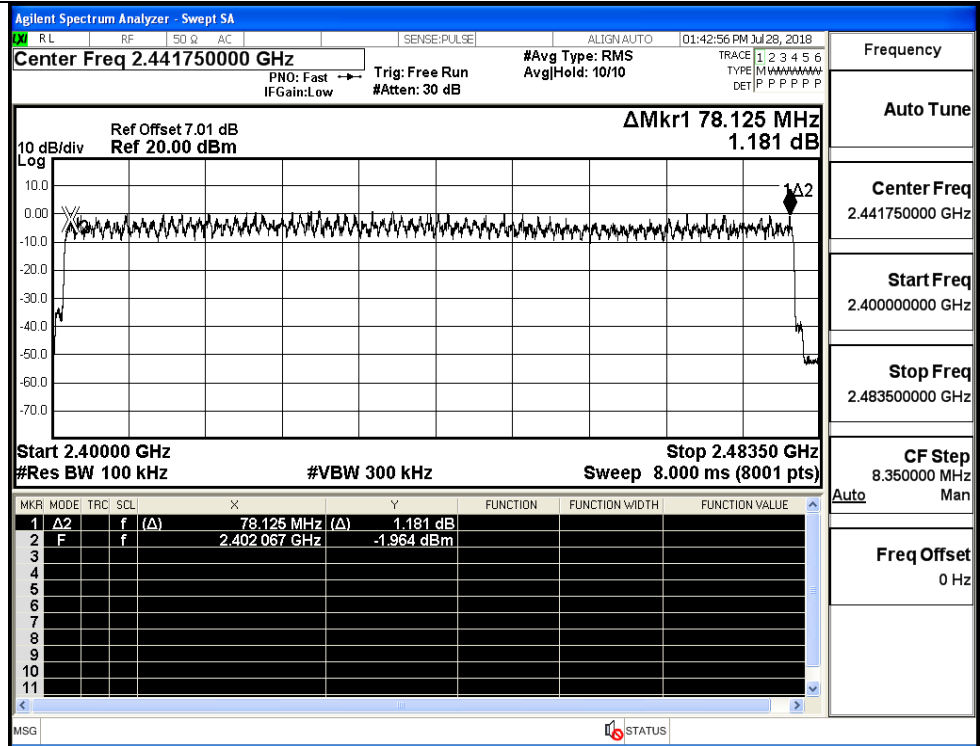
GFSK/Hop



π/4DQPSK/Hop



8DPSK/Hop

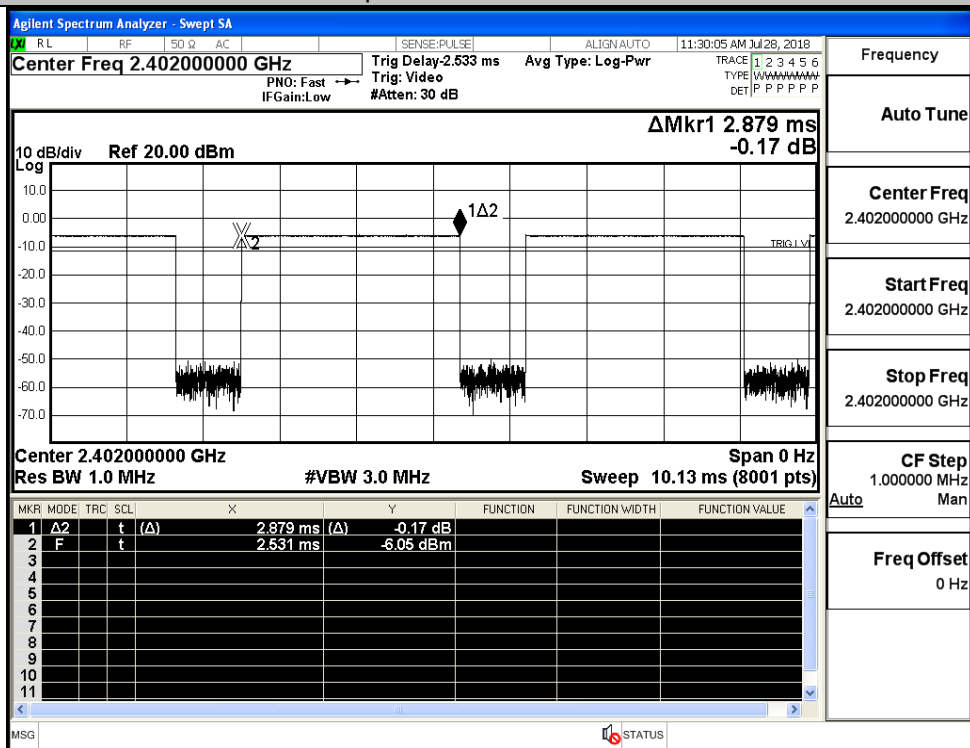


B.5 Dwell Time

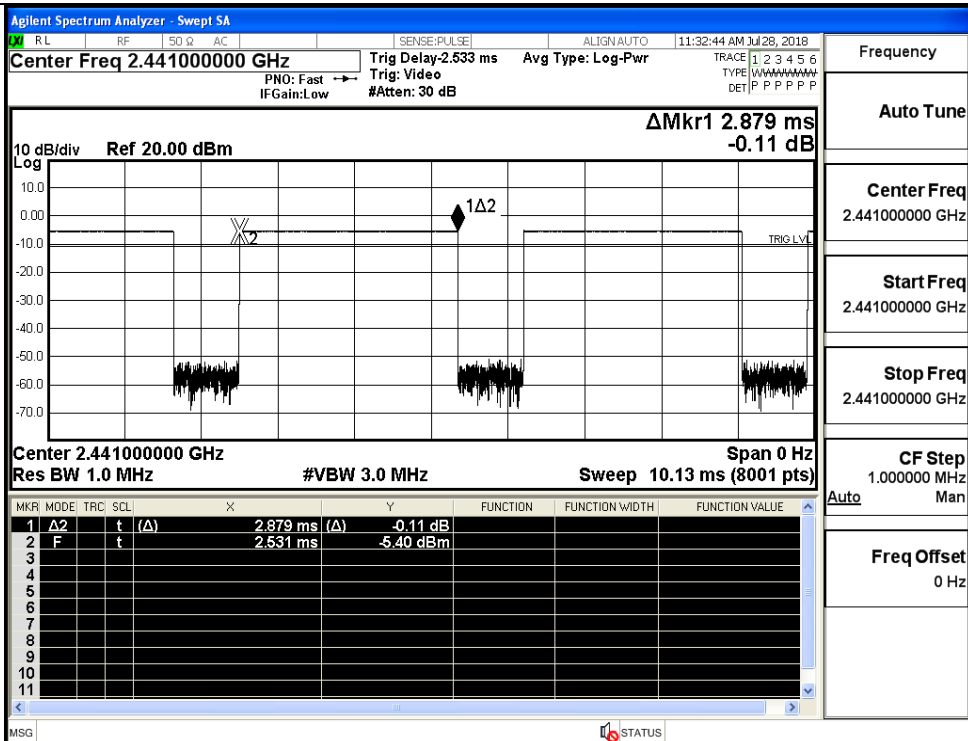
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88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

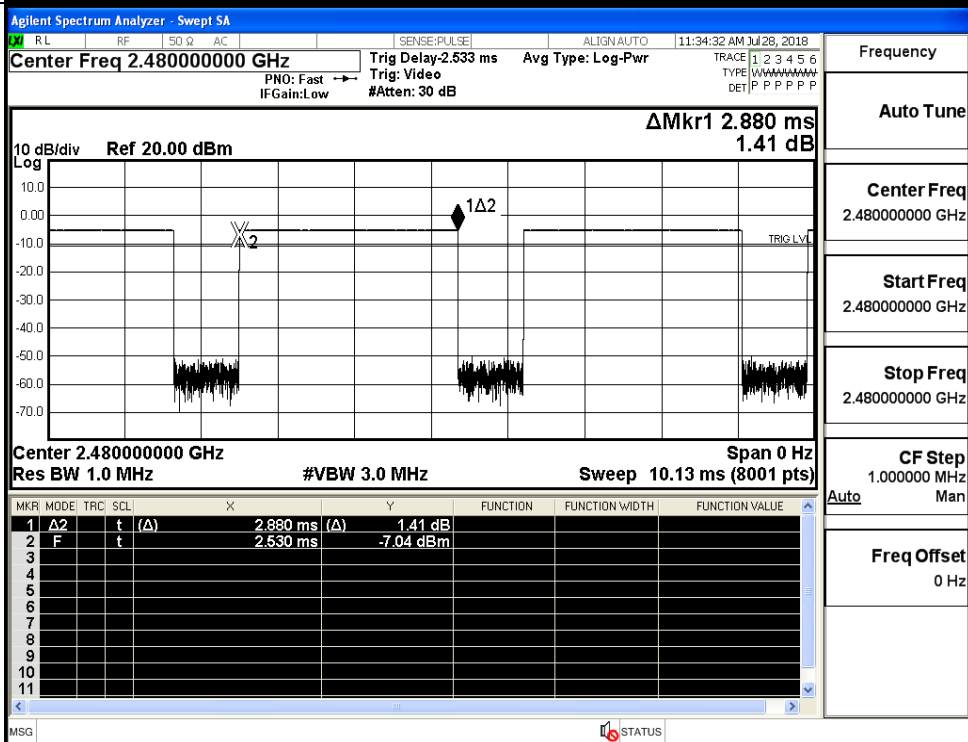
GFSK_DH5/LCH



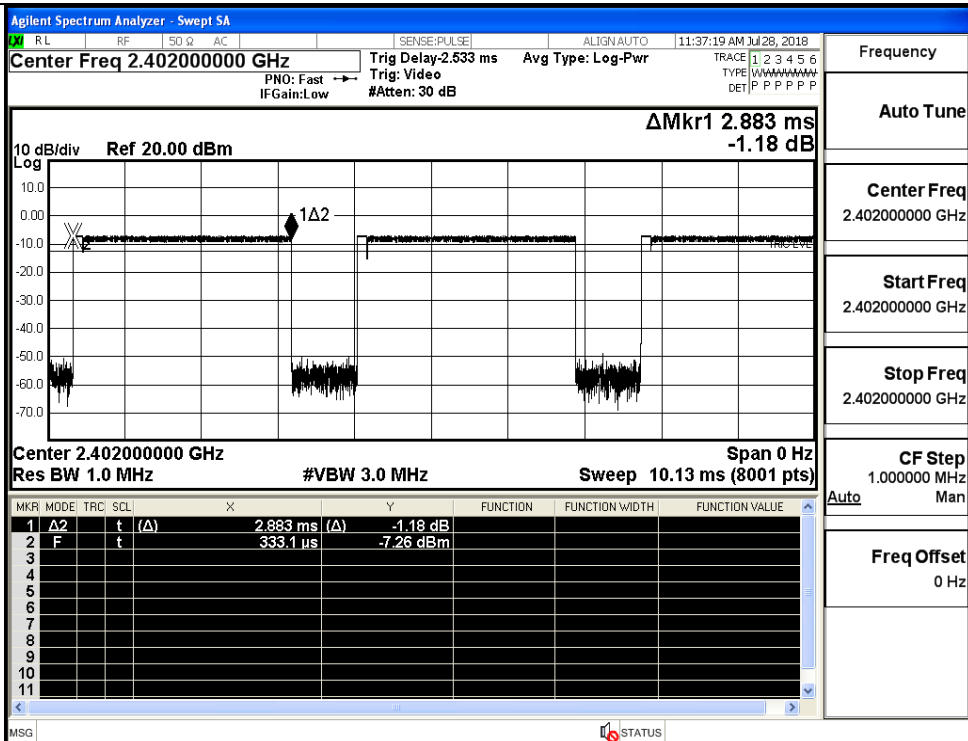
GFSK_DH5/MCH



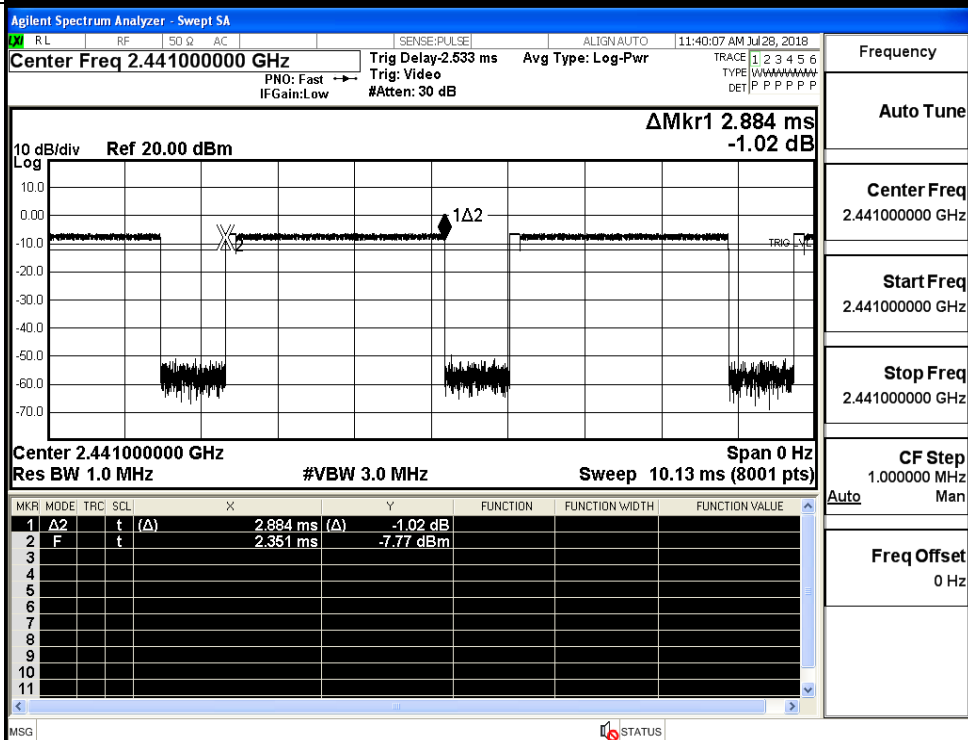
GFSK_DH5/HCH



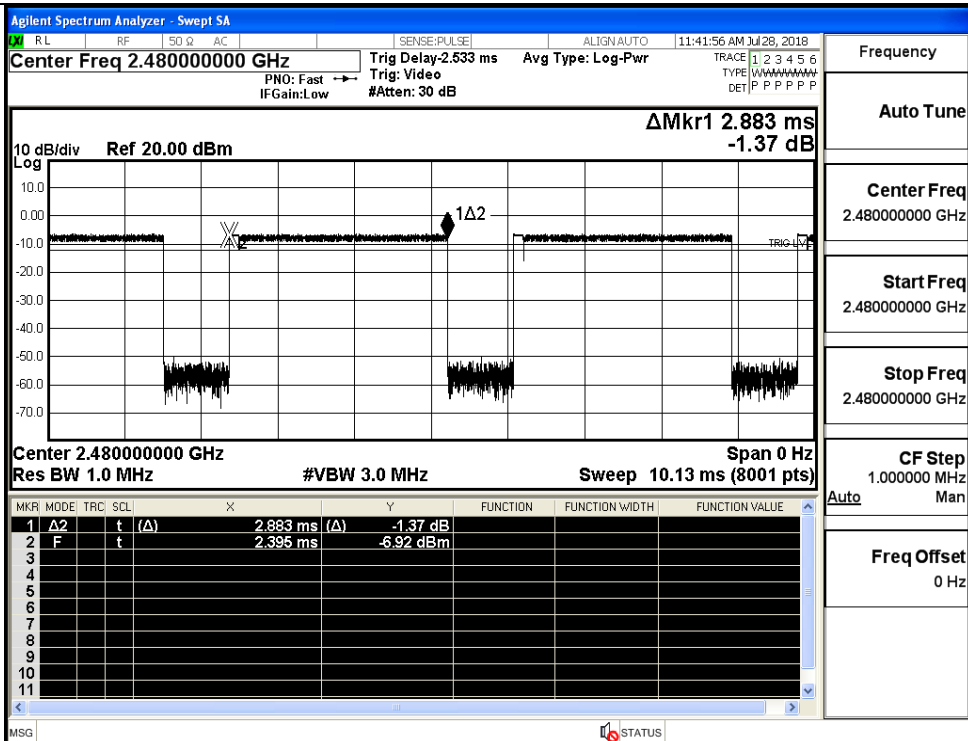
$\pi/4$ DQPSK
_2DH5/LCH



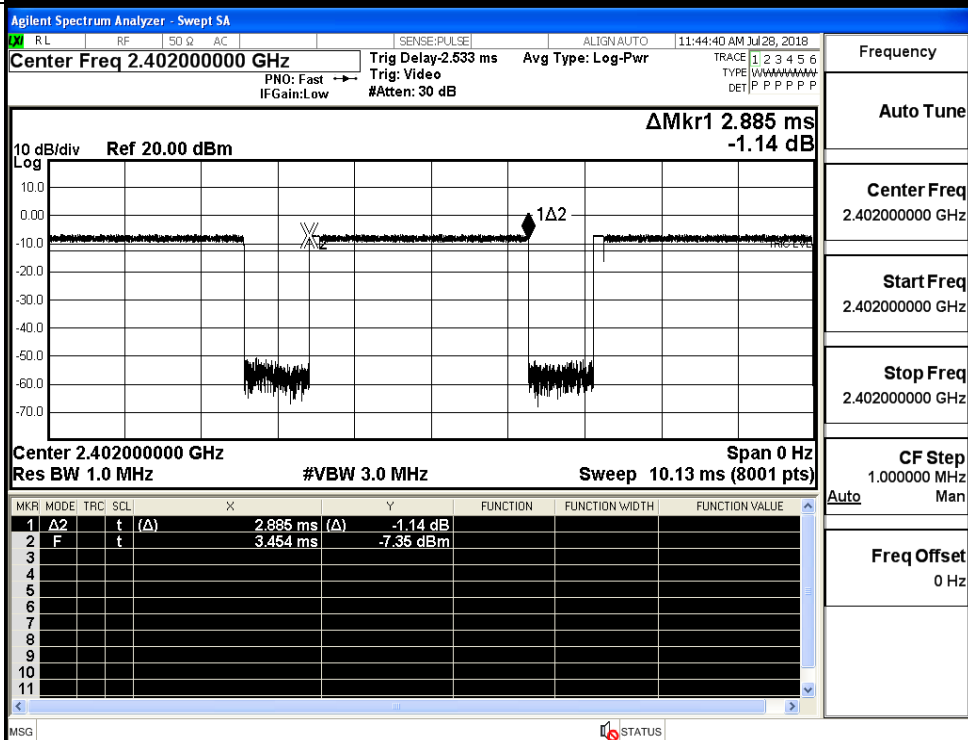
$\pi/4$ DQPSK
_2DH5/MCH



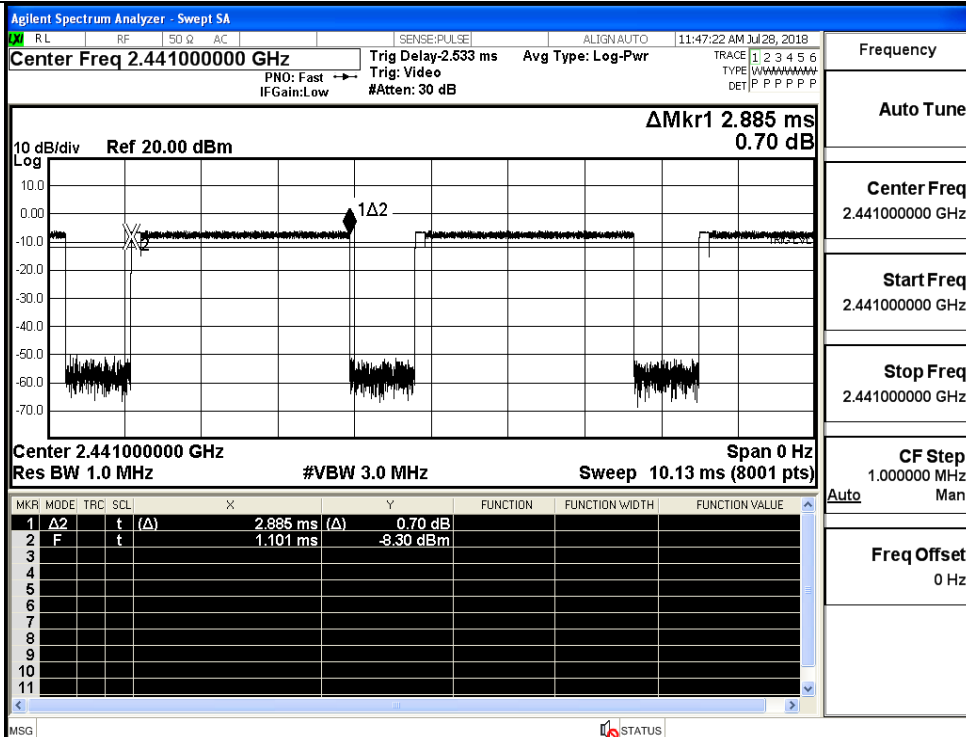
$\pi/4$ DQPSK
_2DH5/HCH



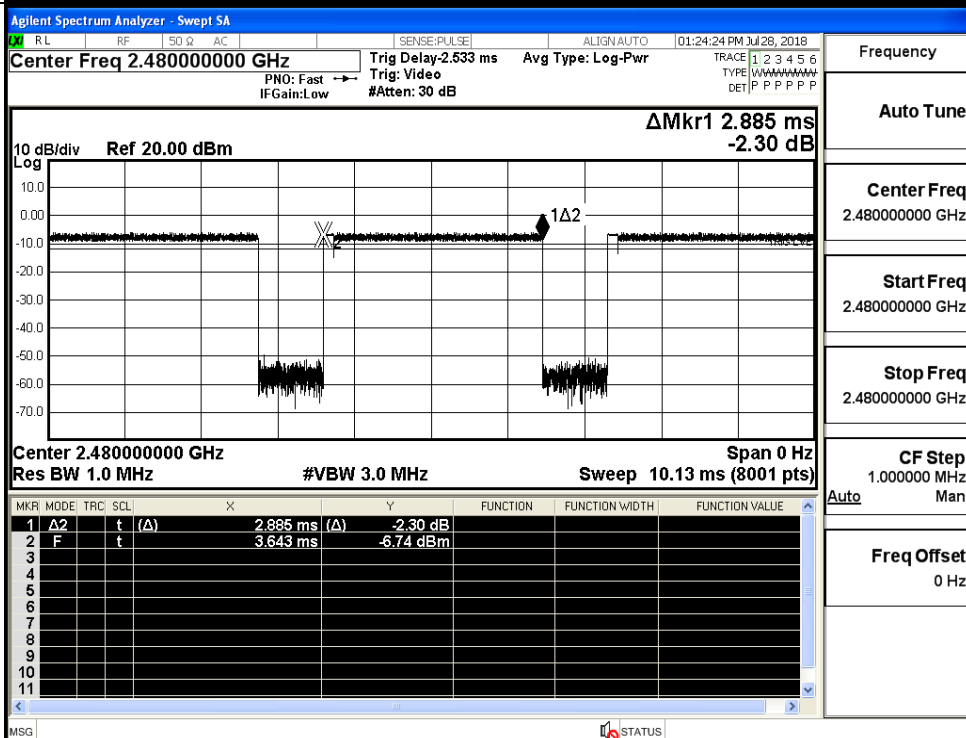
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



8DPSK_3DH5/HCH

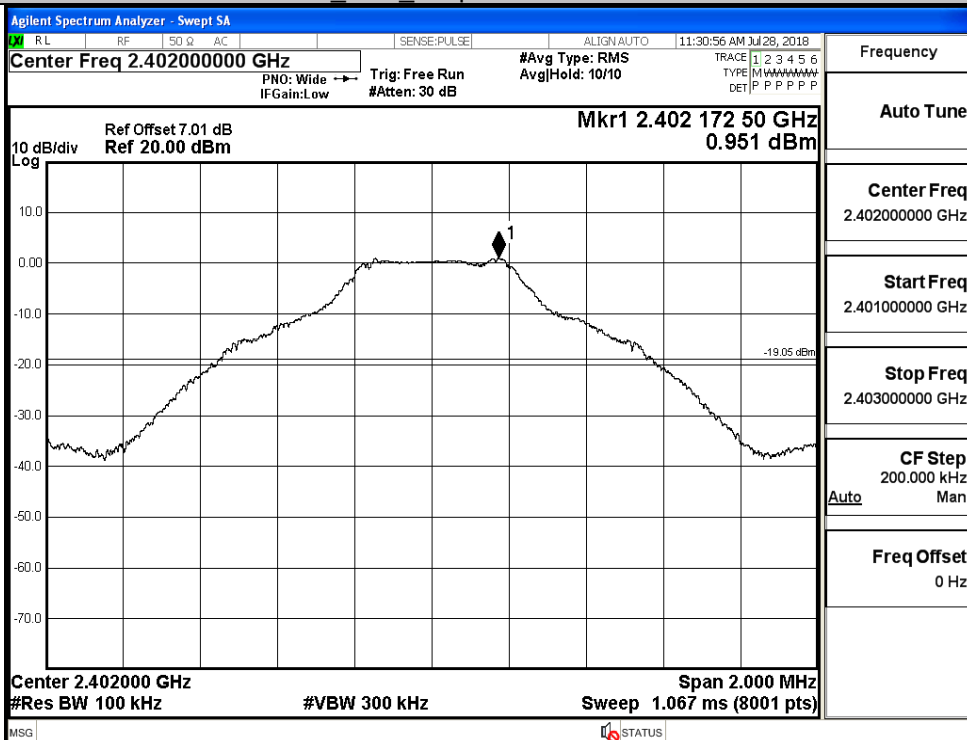


B.6 RF Conducted Spurious Emissions

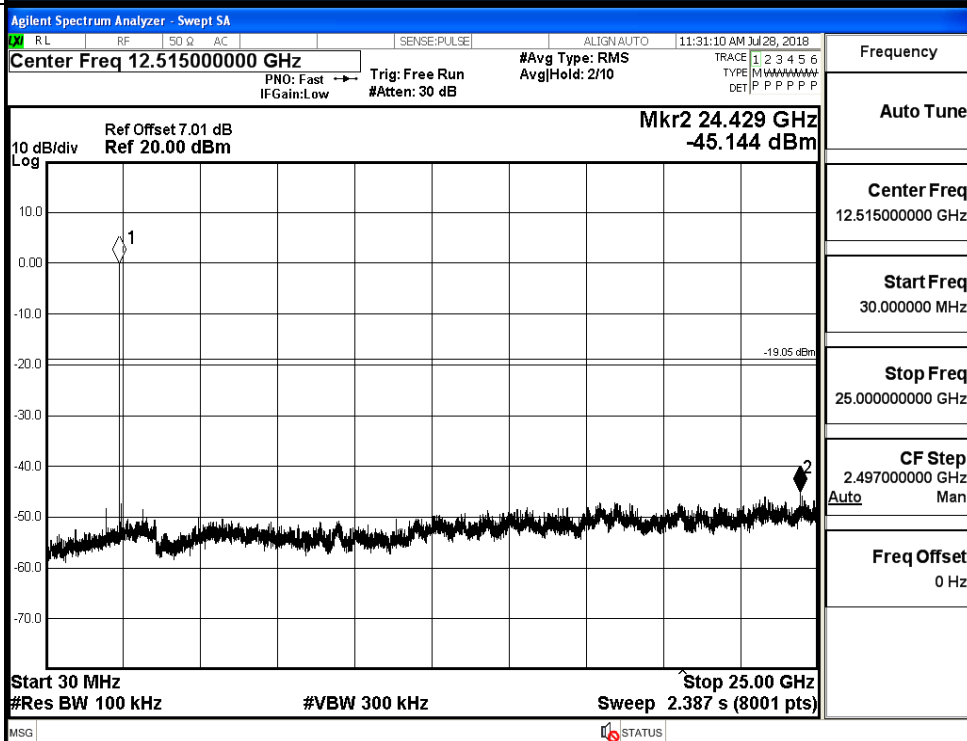
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.951	-45.144	-19.049	PASS
	MCH	1.507	-45.315	-18.493	PASS
	HCH	1.355	-45.995	-18.645	PASS
$\pi/4$ DQPSK	LCH	-0.493	-45.541	-20.428	PASS
	MCH	0.51	-45.368	-19.490	PASS
	HCH	-0.116	-45.068	-20.116	PASS
8DPSK	LCH	-0.266	-44.883	-20.266	PASS
	MCH	0.317	-46.075	-19.683	PASS
	HCH	0.11	-45.592	-19.920	PASS

GFSK LCH Graphs

Pref

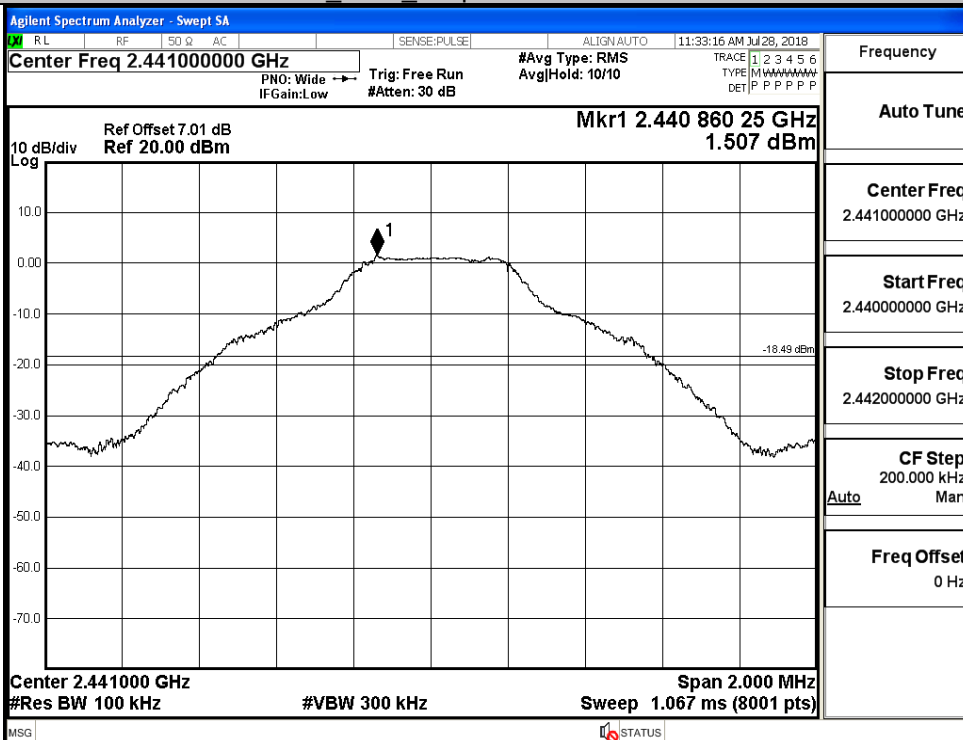


Puw

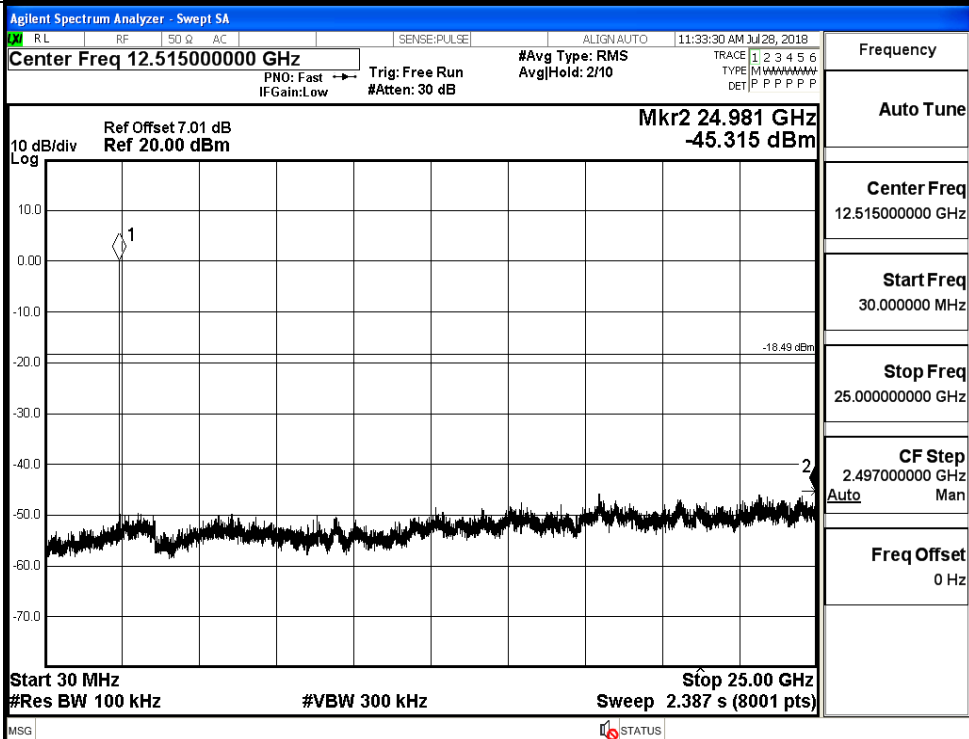


GFSK_MCH_Graphs

Pref

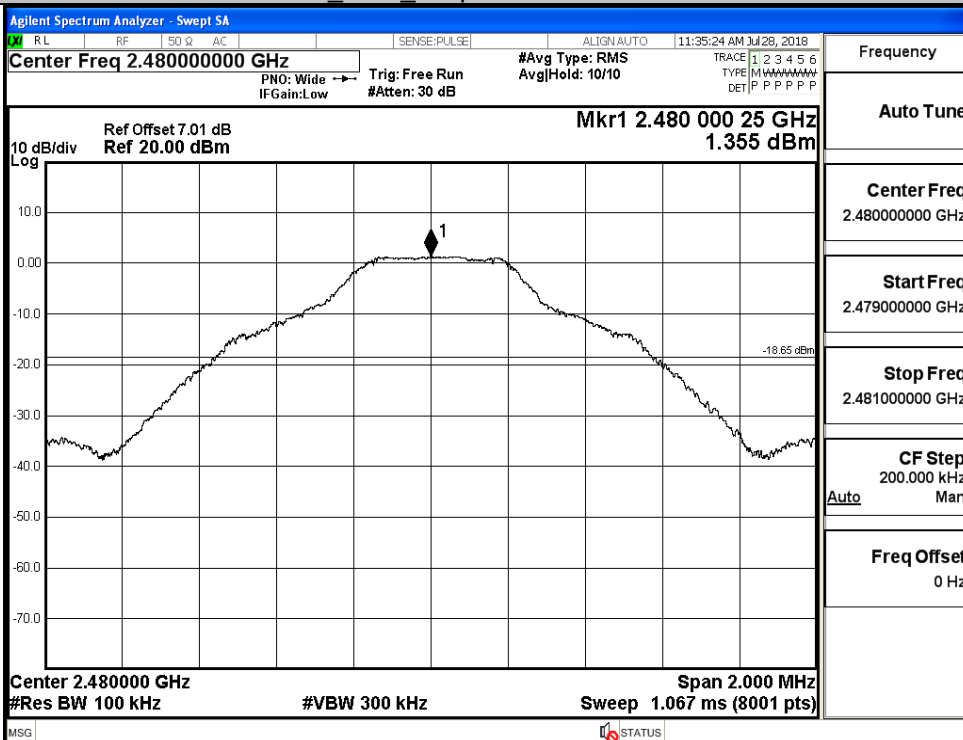


Puw

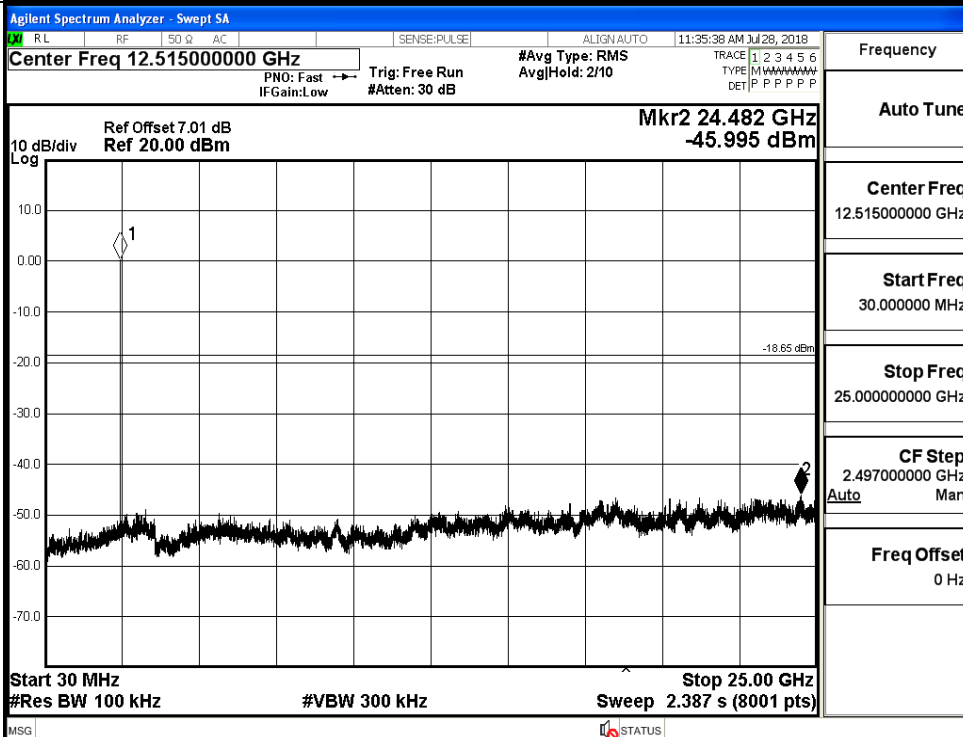


GFSK HCH_Graphs

Pref

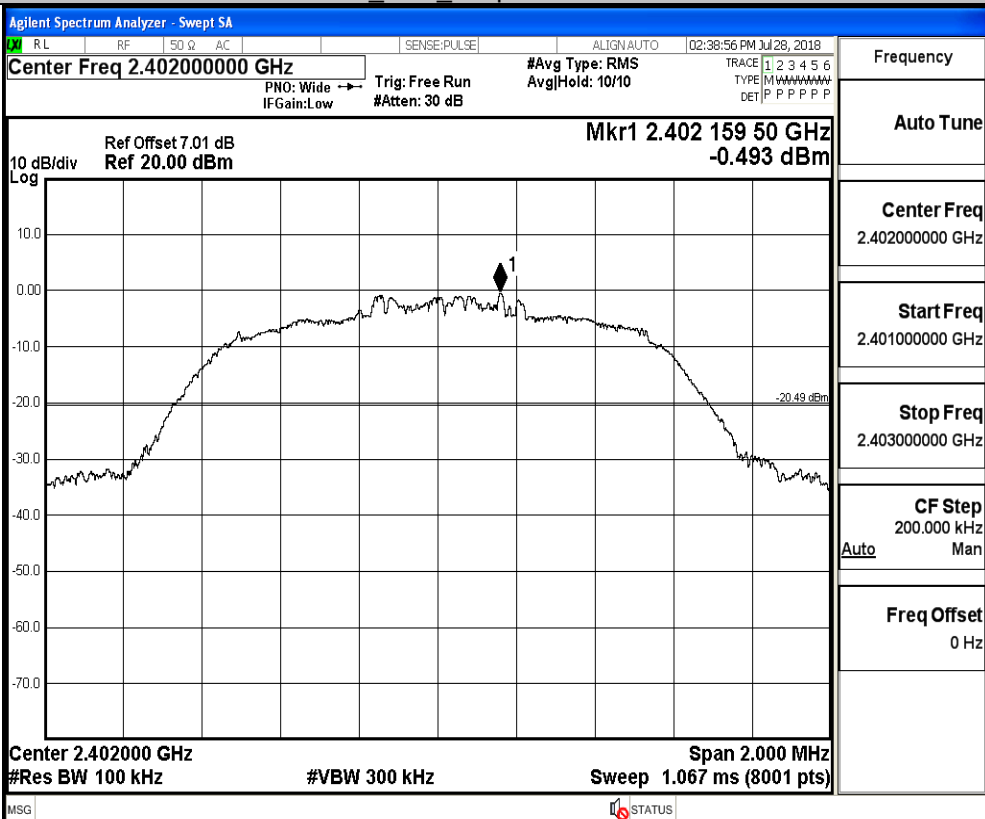


Puw

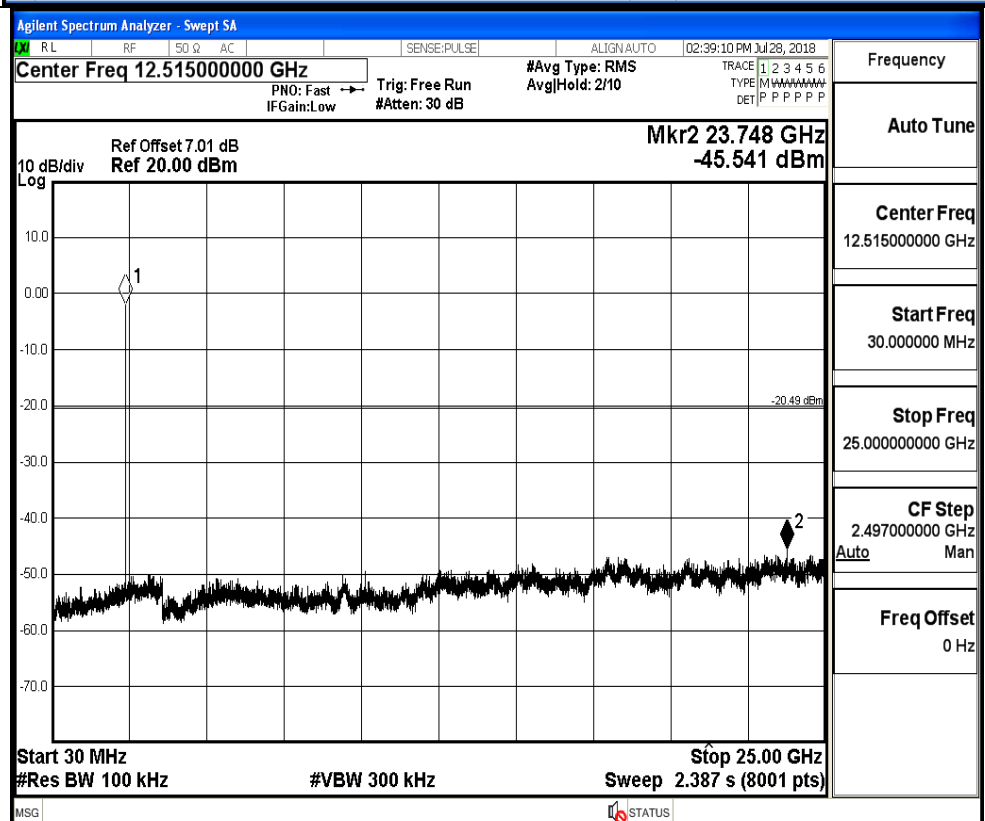


$\pi/4$ DQPSK LCH_Graphs

Pref

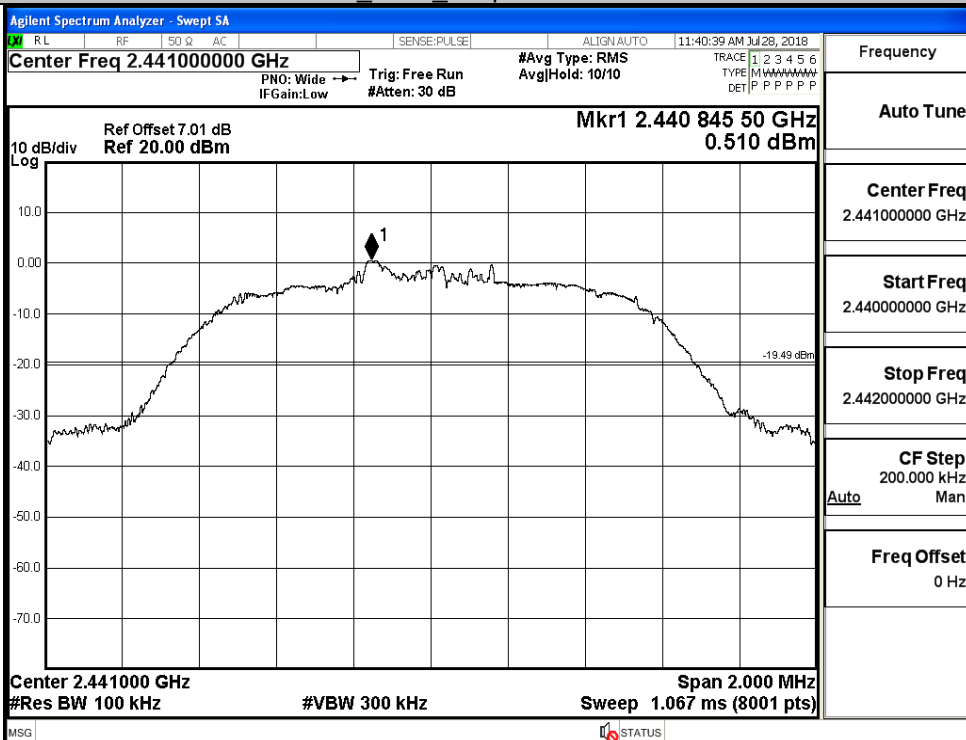


Puw

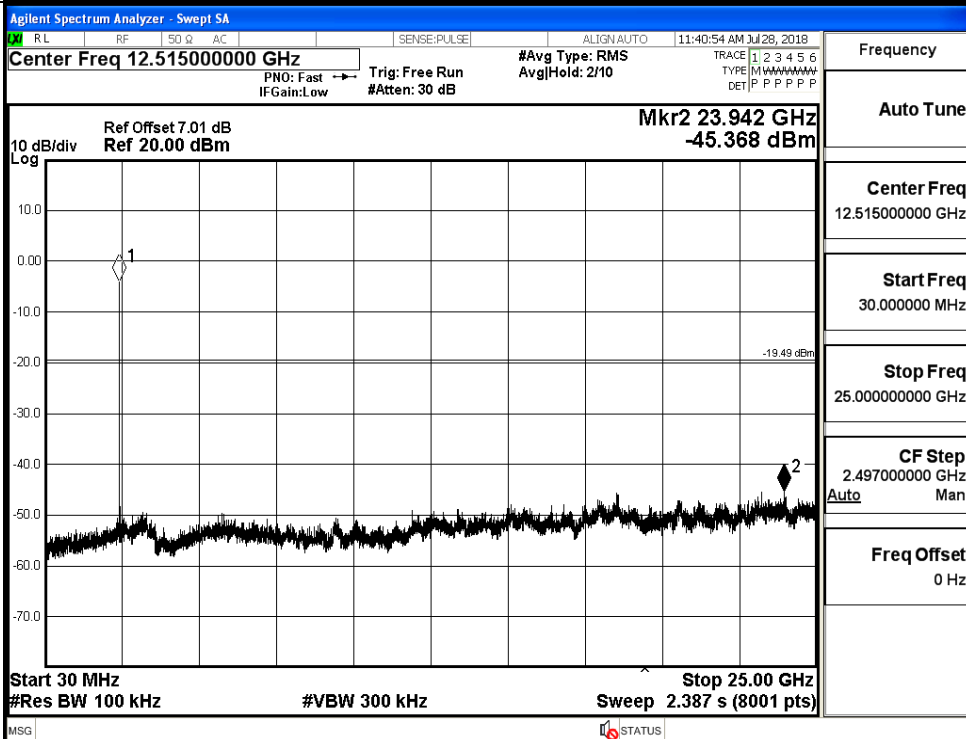


π /4DQPSK_MCH_Graphs

Pref

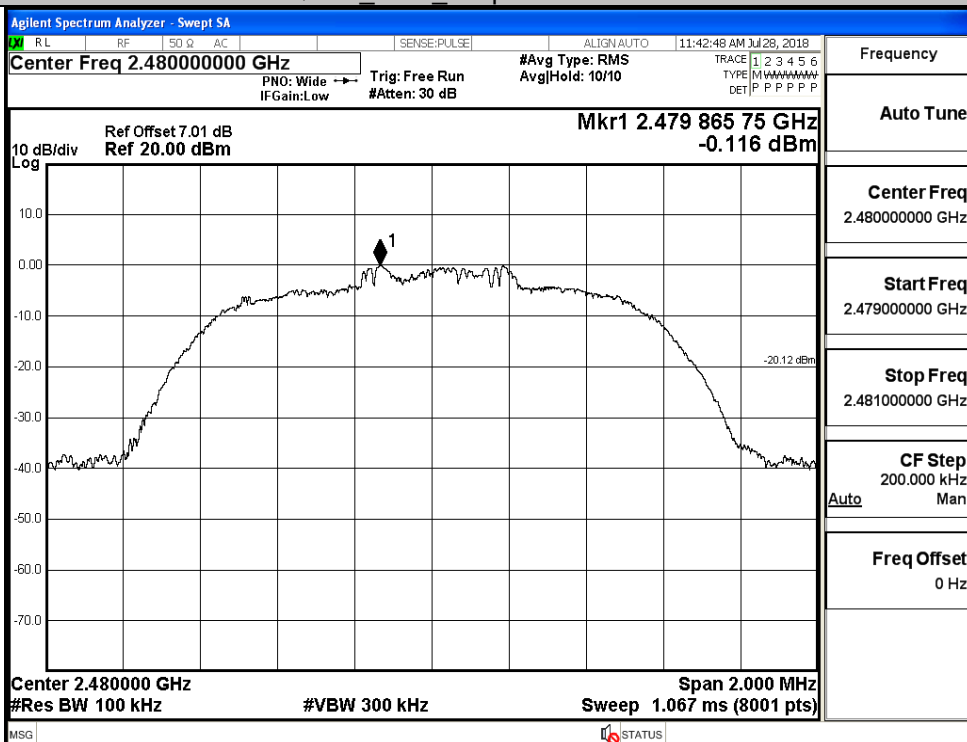


Puw

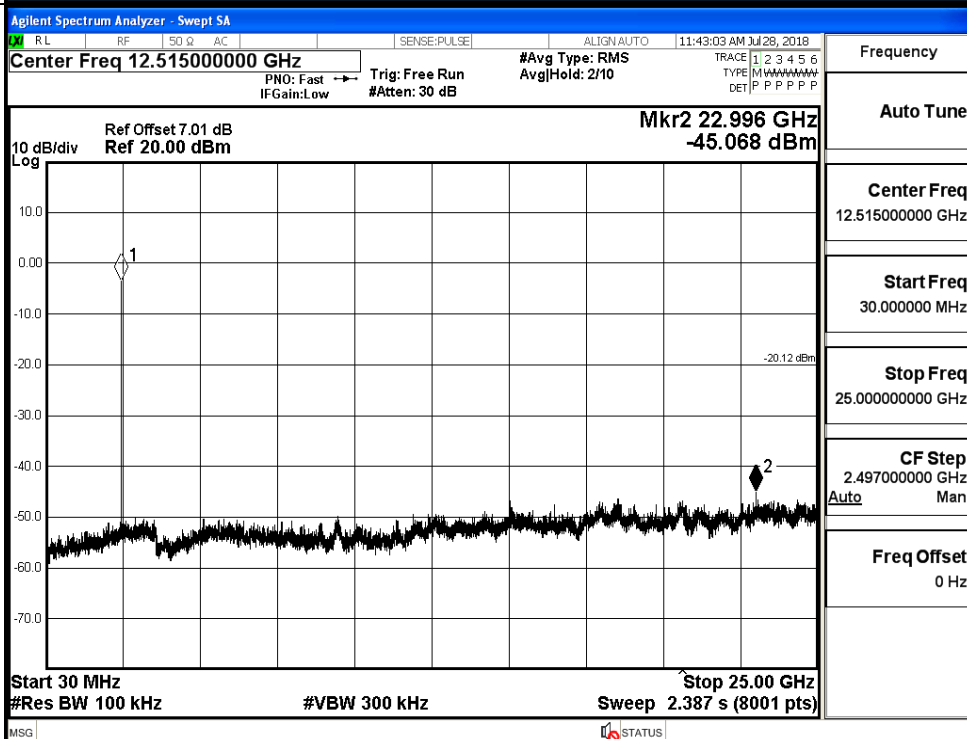


$\pi/4$ DQPSK_HCH_Graphs

Pref

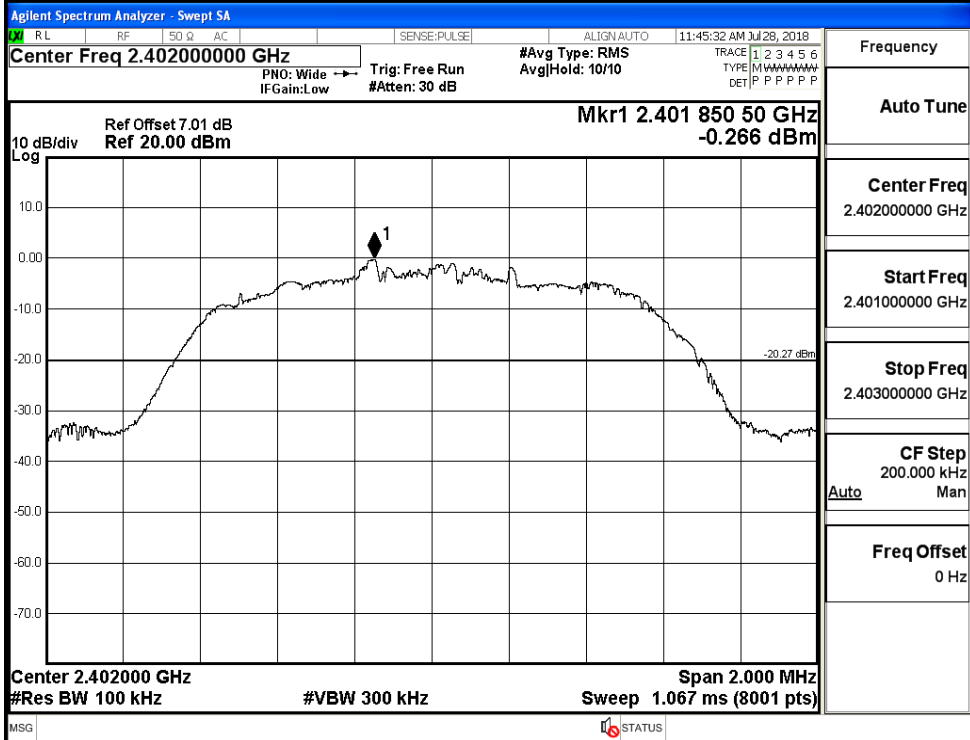


Puw

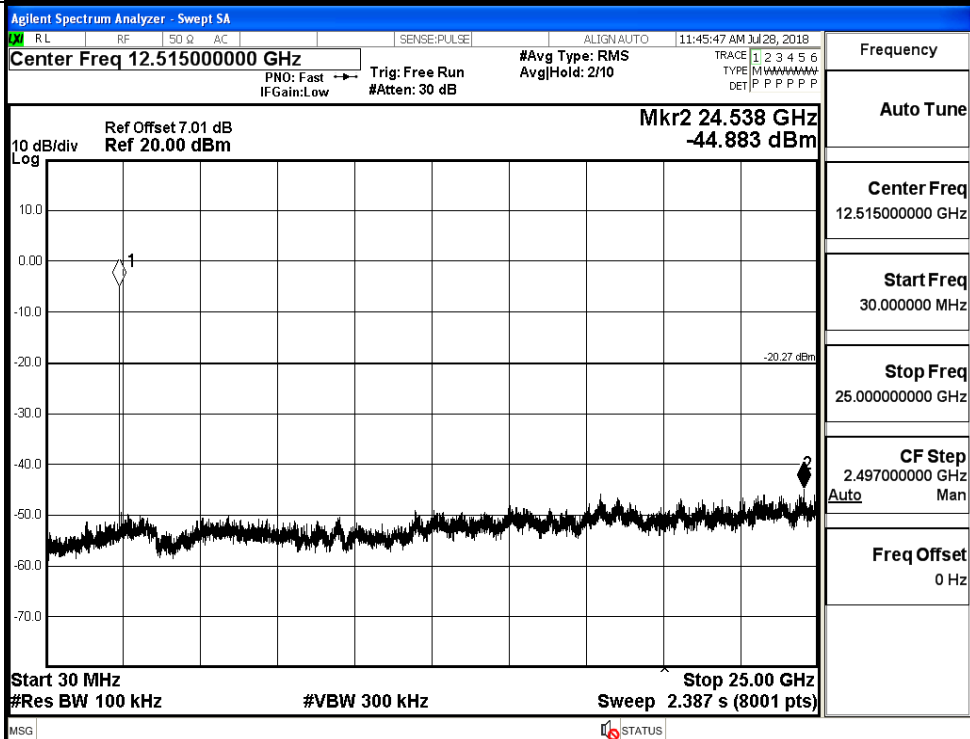


8DPSK_LCH_Graphs

Pref

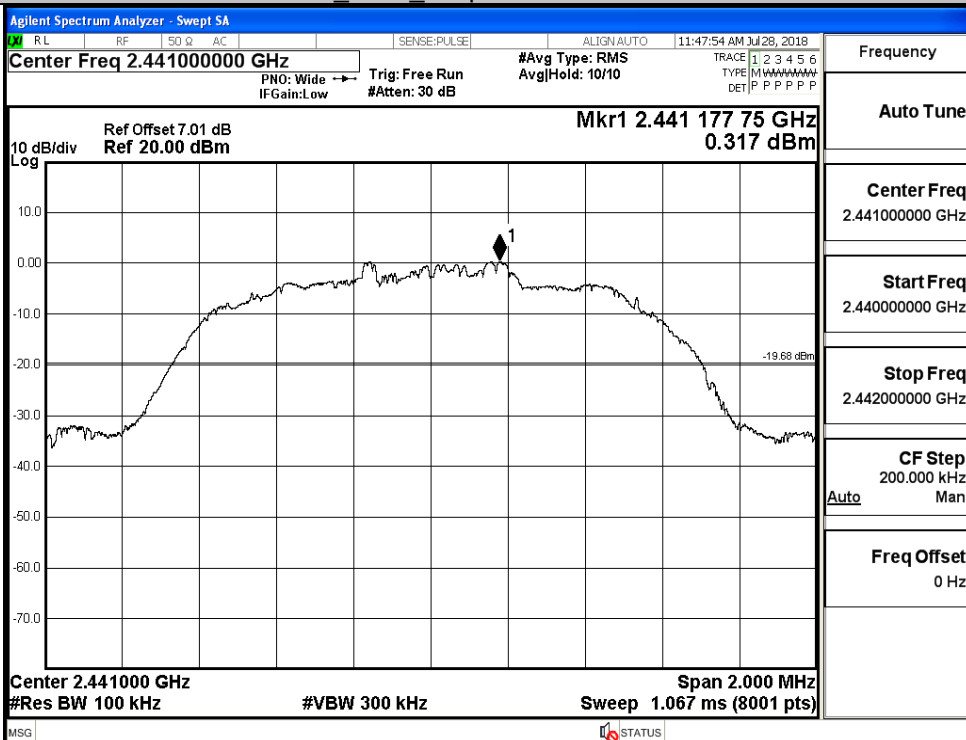


Puw

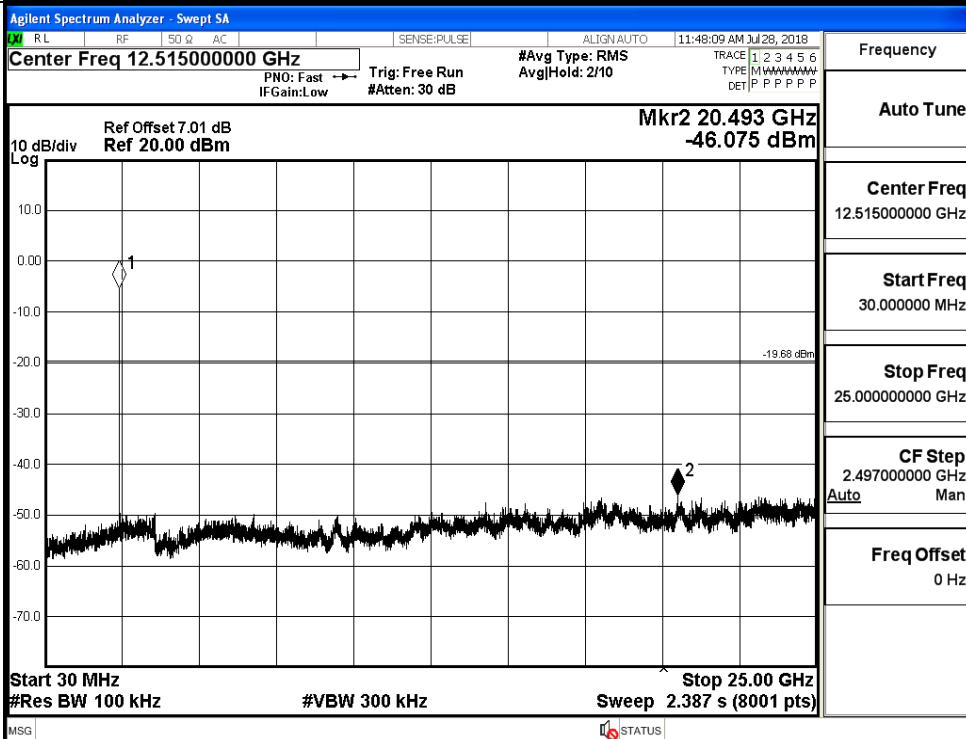


8DPSK_MCH_Graphs

Pref

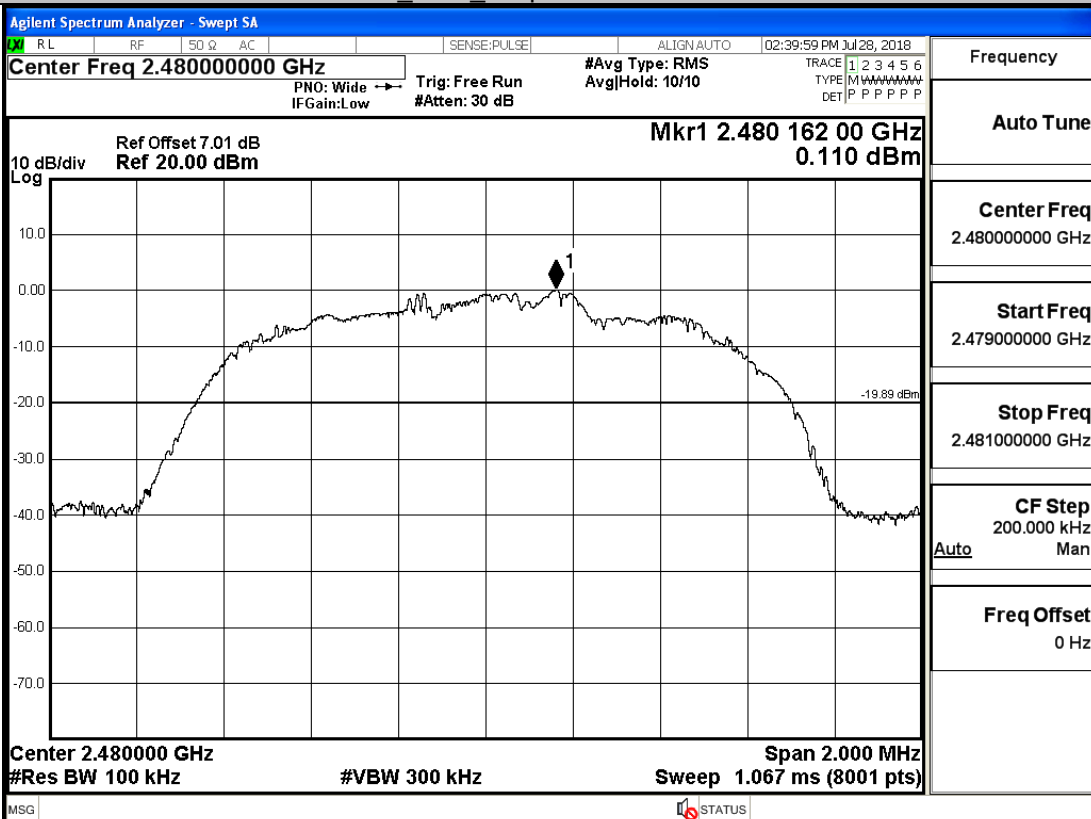


Puw

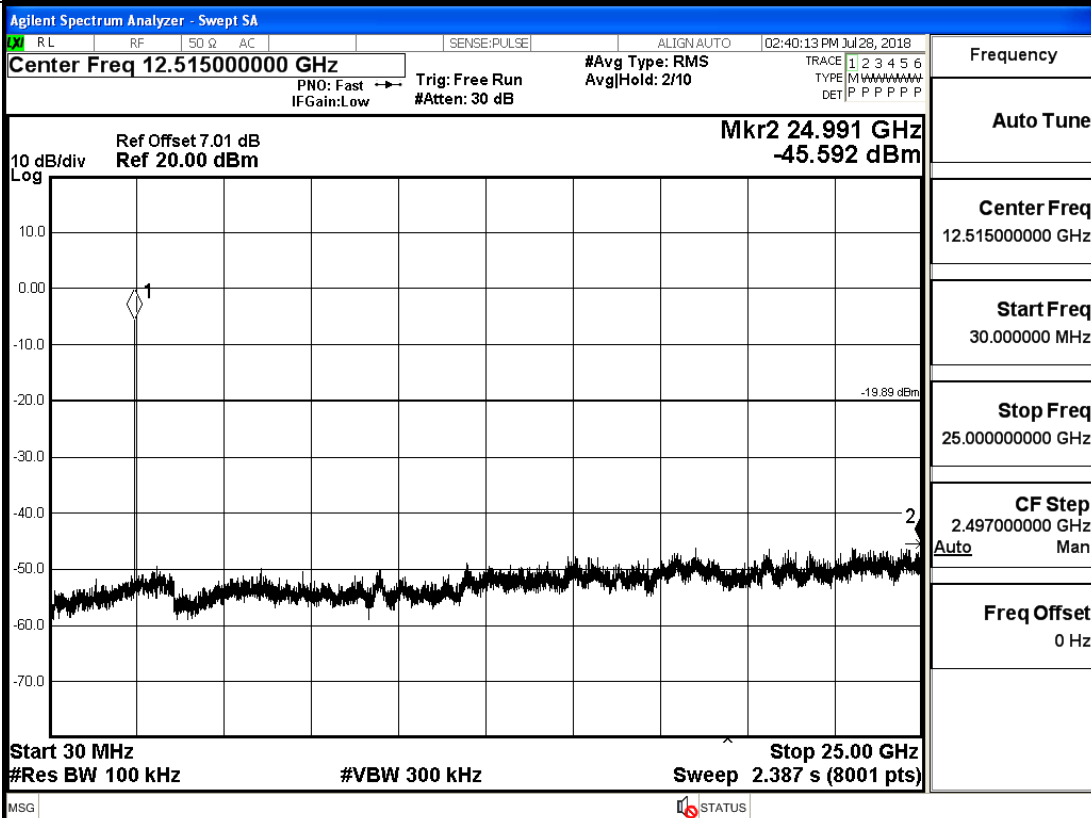


8DPSK_HCH_Graphs

Pref



Puw

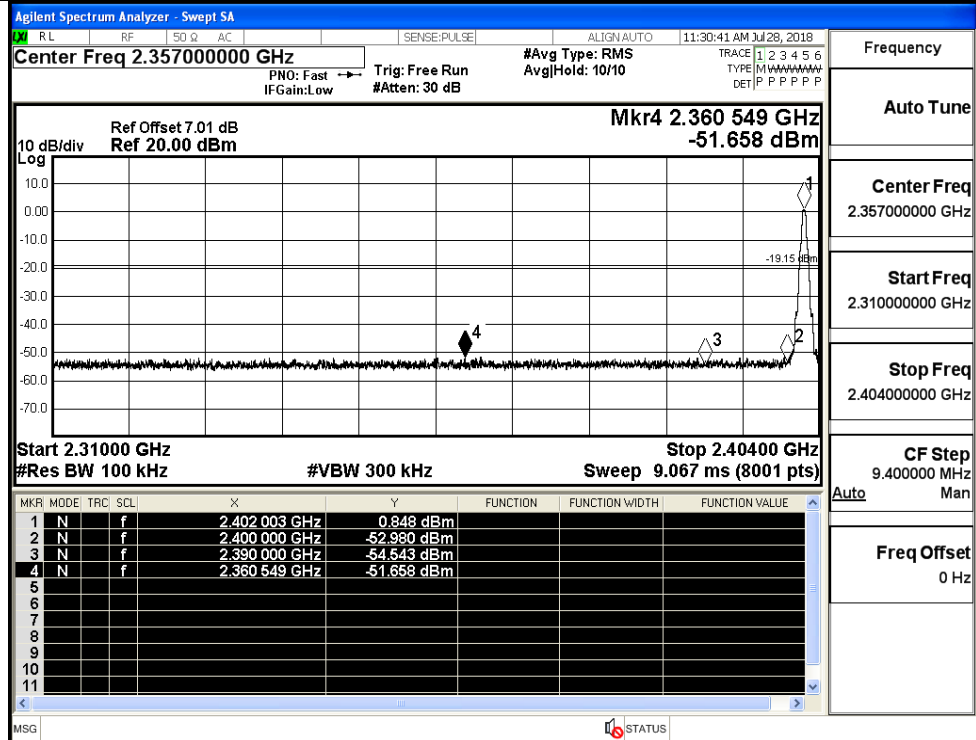


B.7 Band-edge for RF Conducted Emissions

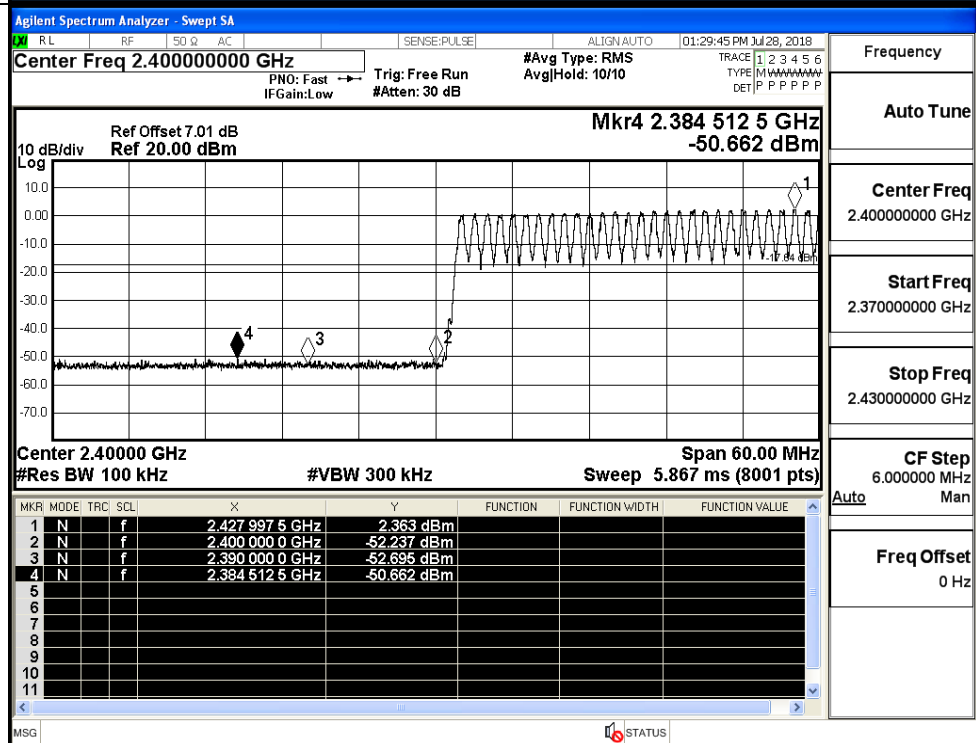
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.848	Off	-51.658	-19.15	PASS
			2.363	On	-50.662	-17.64	PASS
	HCH	2480	1.851	Off	-50.584	-18.15	PASS
			1.504	On	-49.794	-18.5	PASS
$\pi/4$ DQPSK	LCH	2402	-1.772	Off	-50.979	-21.77	PASS
			0.647	On	-50.666	-19.35	PASS
	HCH	2480	0.263	Off	-50.807	-19.74	PASS
			0.112	On	-49.676	-19.89	PASS
8DPSK	LCH	2402	-0.154	Off	-50.735	-20.15	PASS
			0.966	On	-49.915	-19.03	PASS
	HCH	2480	0.171	Off	-51.308	-19.83	PASS
			0.248	On	-50.246	-19.75	PASS

Test Graphs

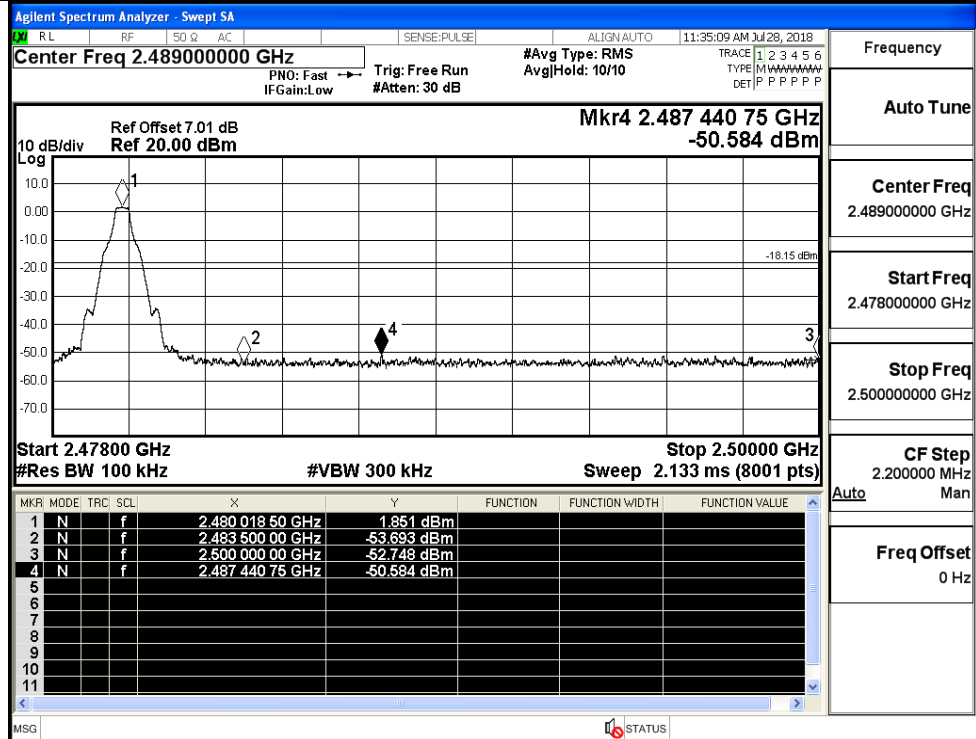
GFSK/LCH/No Hop



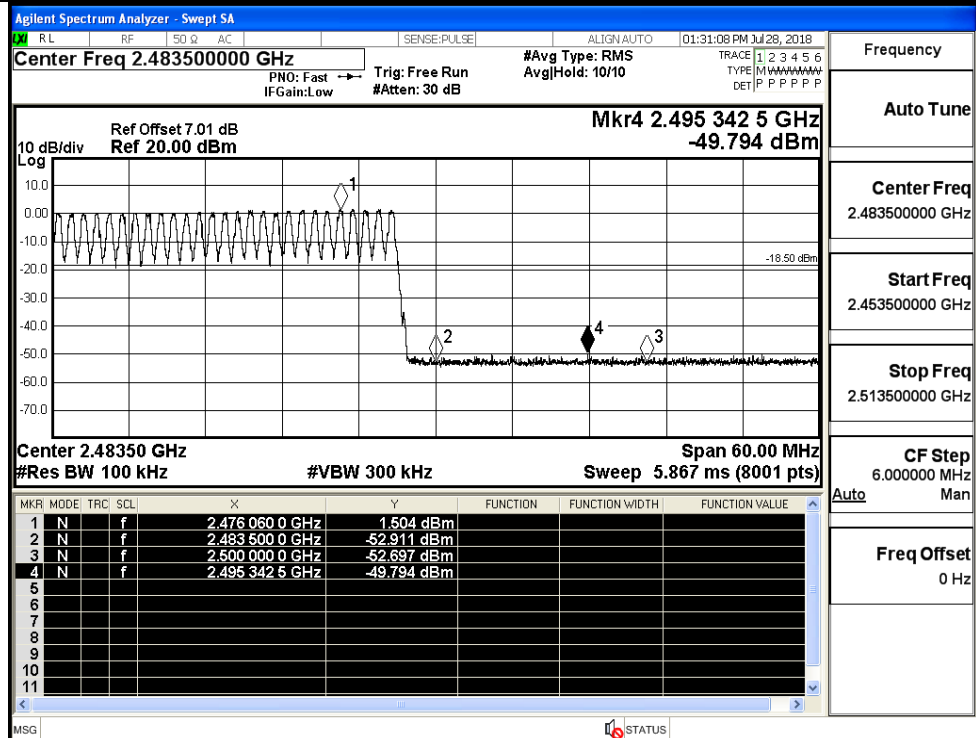
GFSK/LCH/Hop



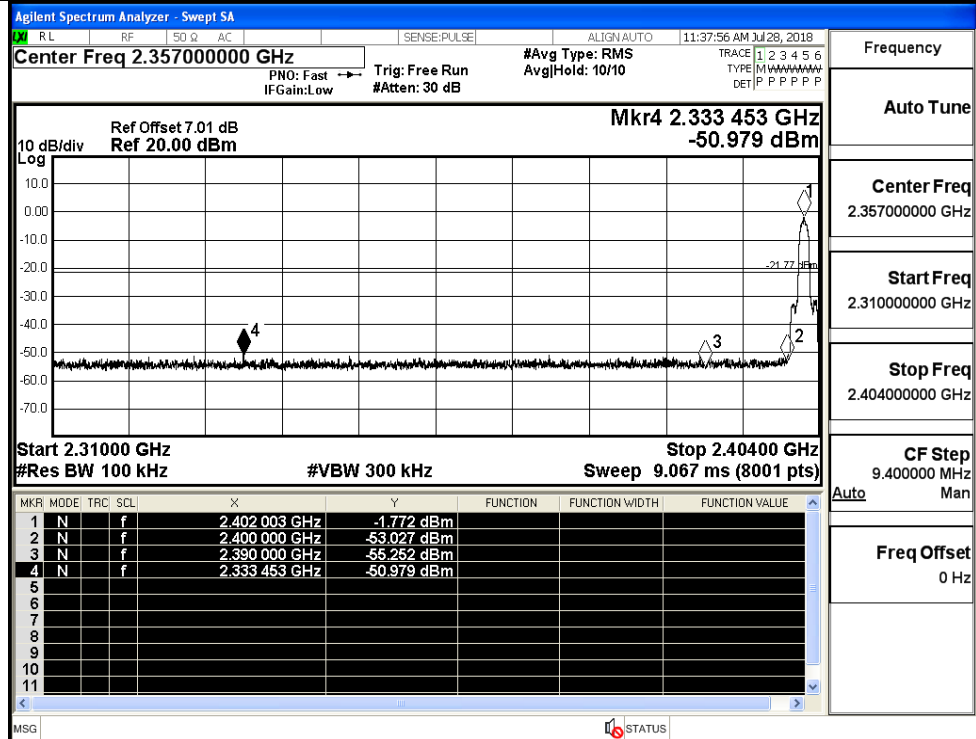
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq
2.357000000 GHz

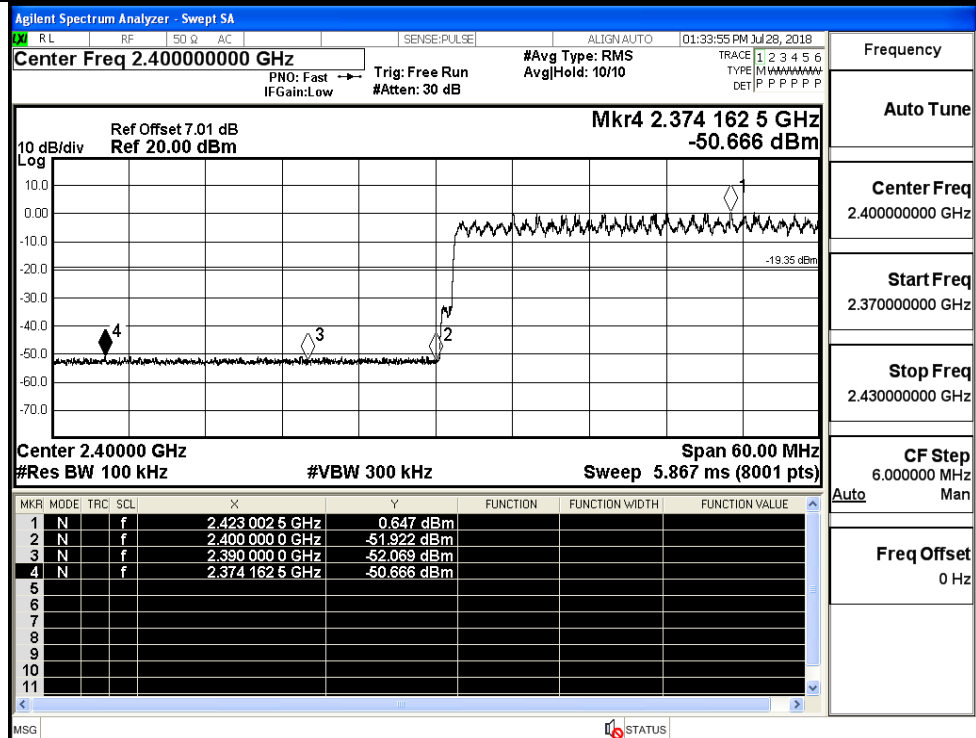
Start Freq
2.310000000 GHz

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

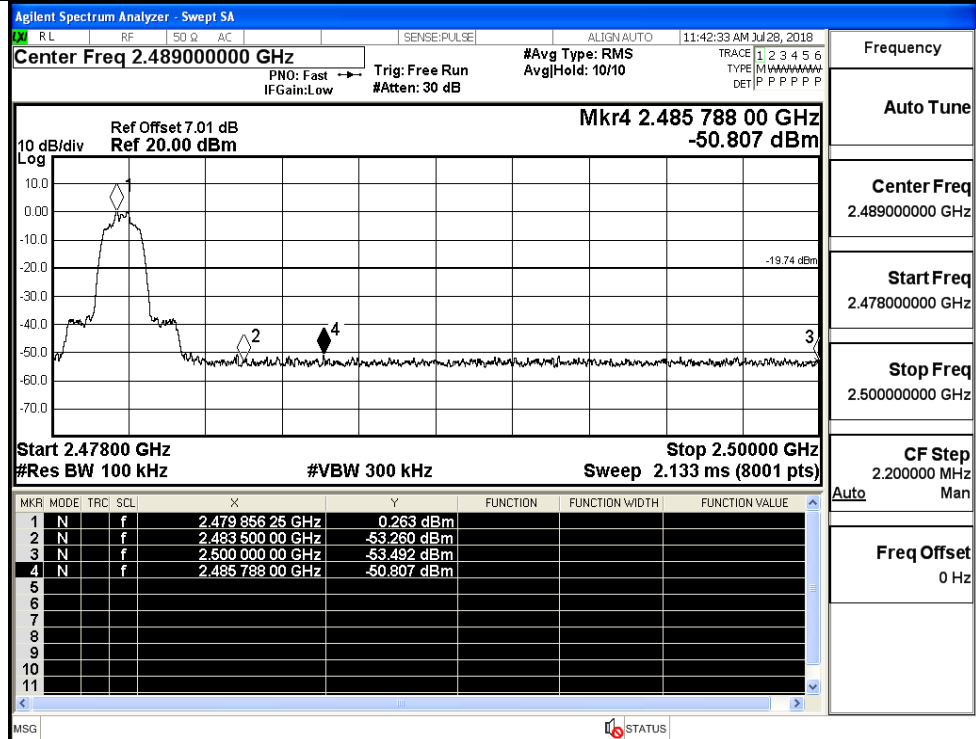
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

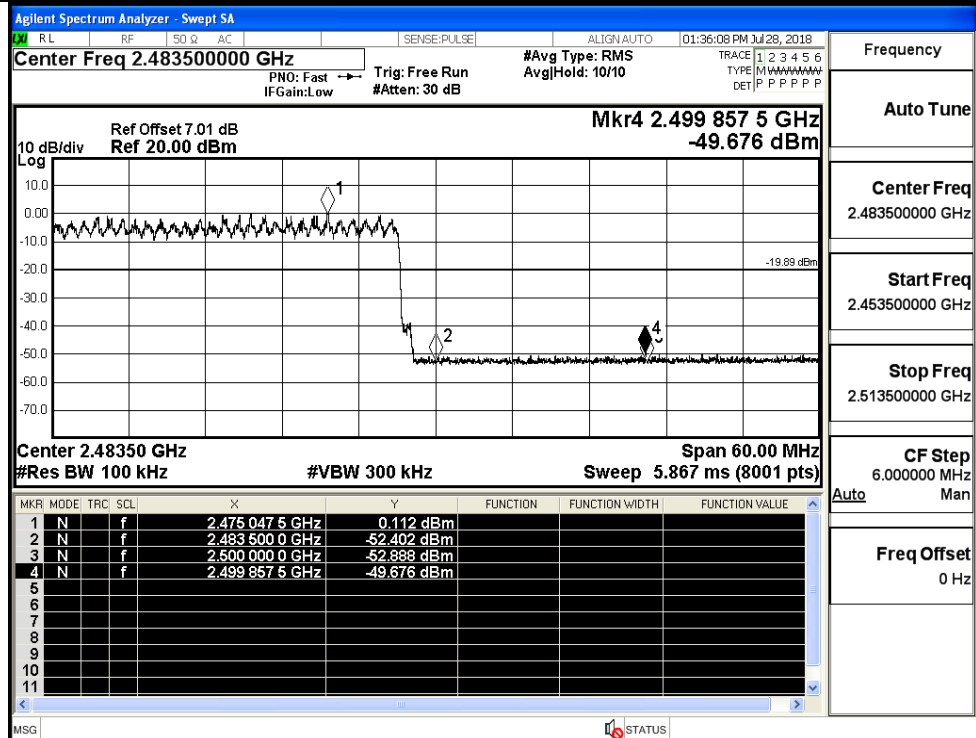
CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

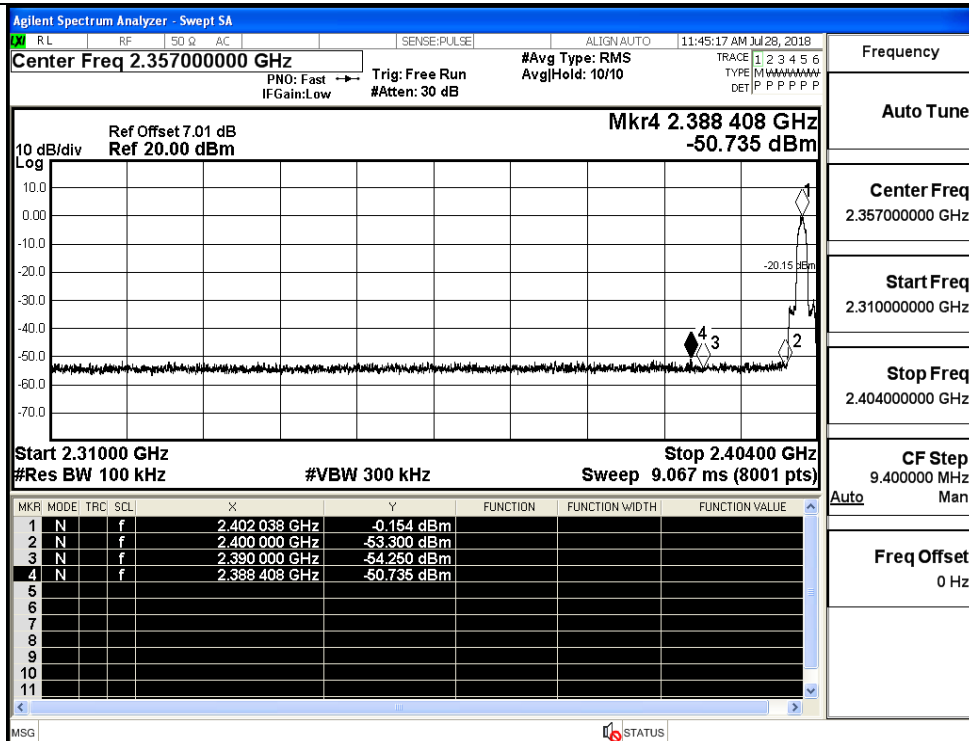
$\pi/4$ DQPSK/HCH/No
Hop



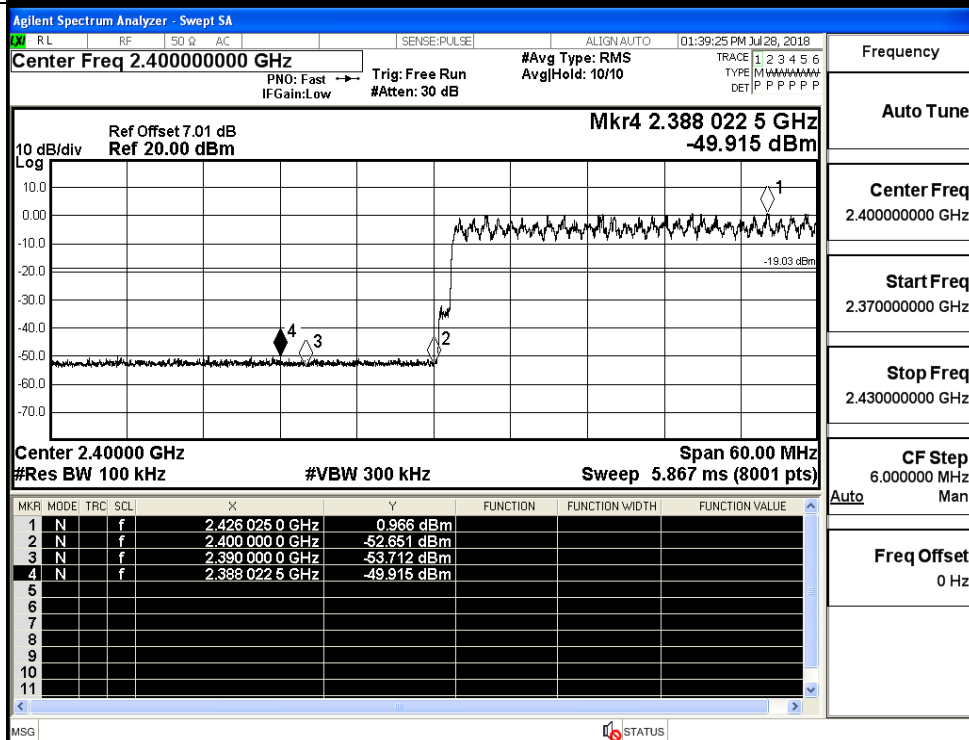
$\pi/4$ DQPSK/HCH/Hop



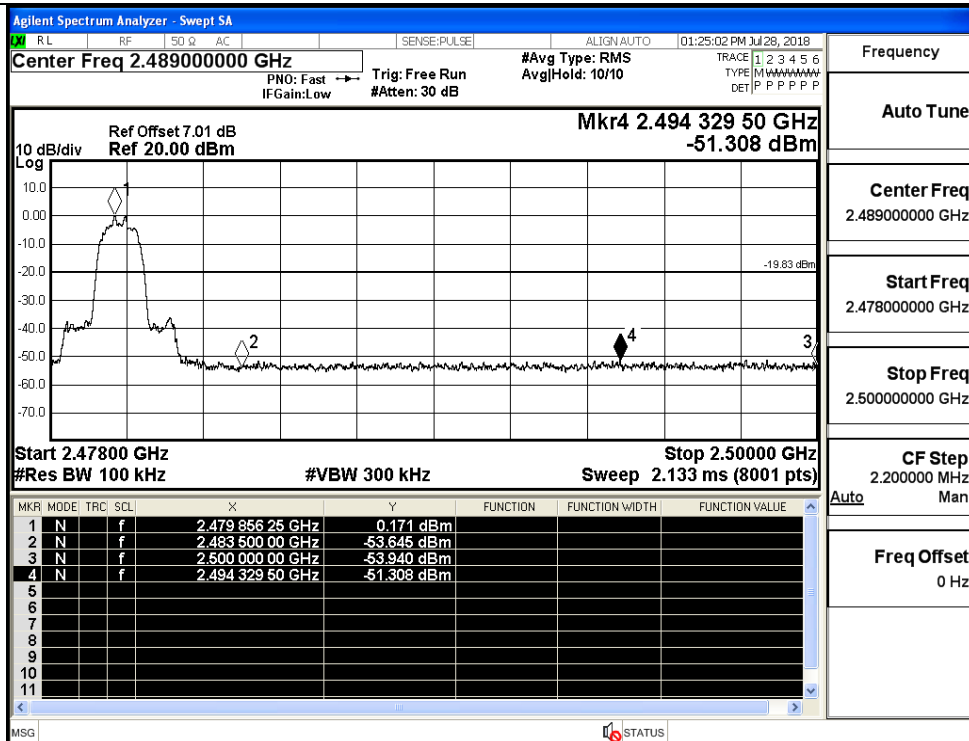
8DPSK/LCH/No Hop



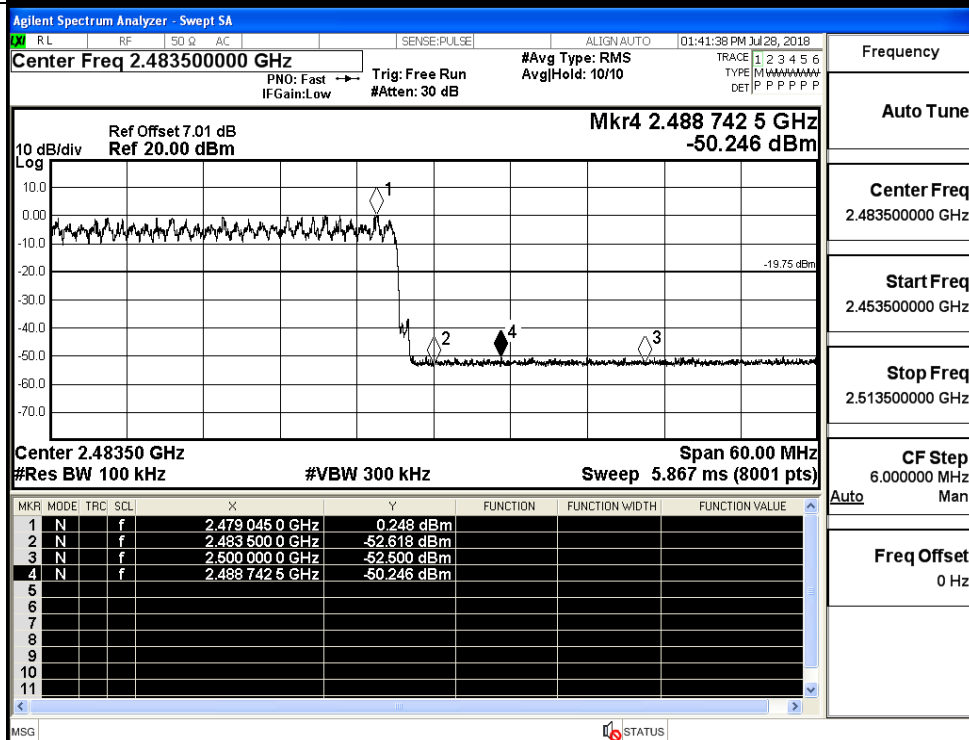
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



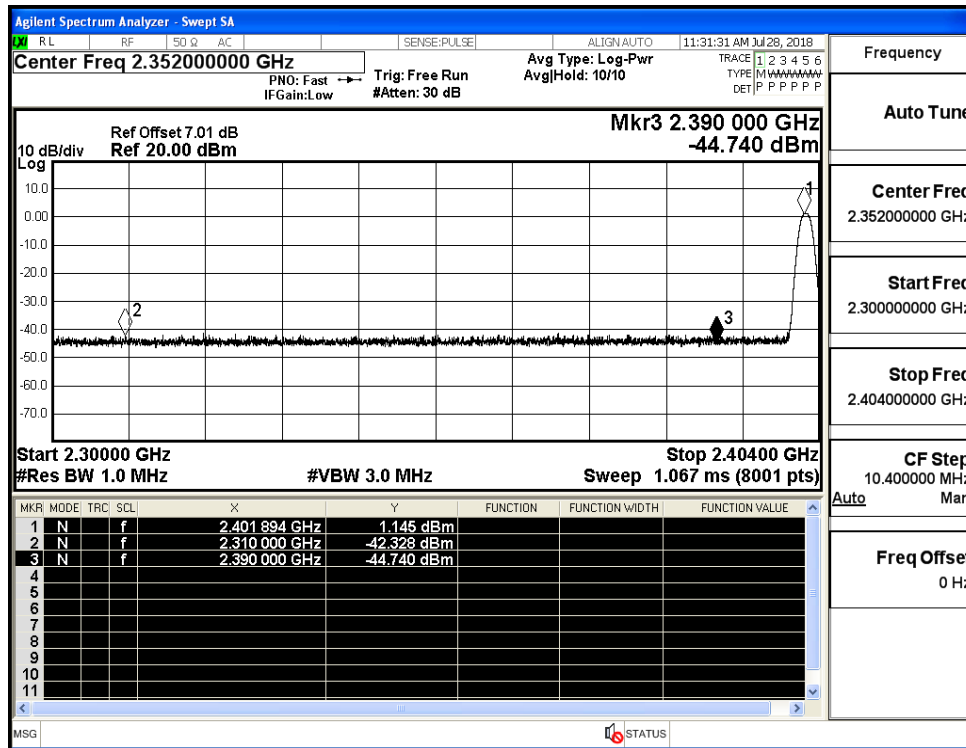
8DPSK/HCH/Hop



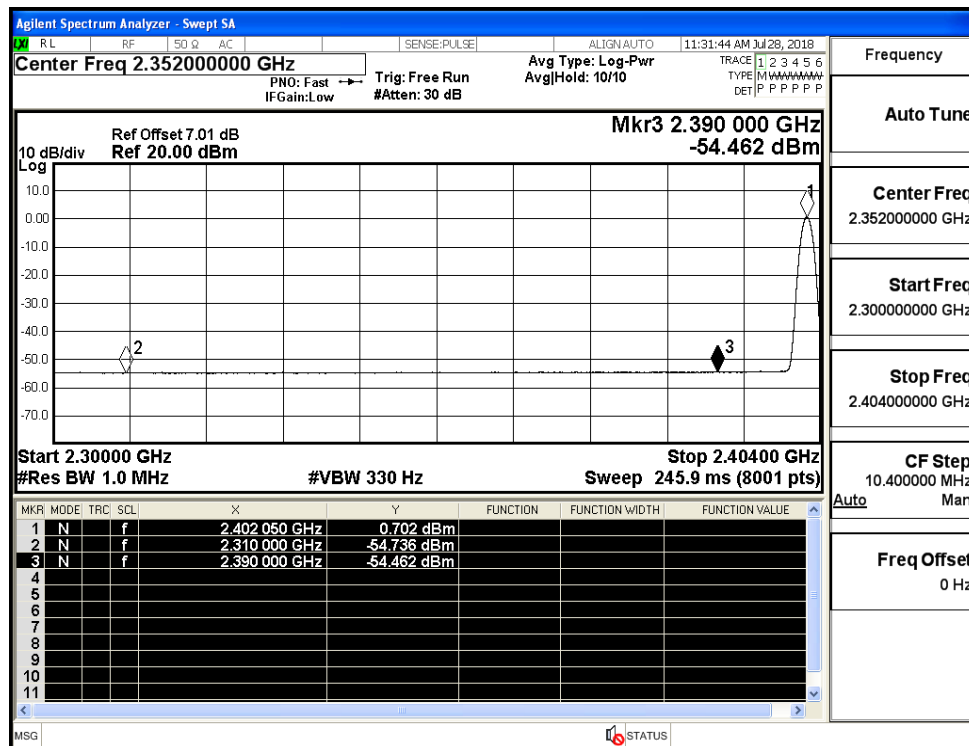
B.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.33	2.0	0	52.93	PEAK	74	PASS
	Off	2310.0	-54.74	2.0	0	40.52	AV	54	PASS
	Off	2390.0	-44.74	2.0	0	50.52	PEAK	74	PASS
	Off	2390.0	-54.46	2.0	0	40.80	AV	54	PASS
	Off	2483.5	-43.46	2.0	0	51.79	PEAK	74	PASS
	Off	2483.5	-54.03	2.0	0	41.22	AV	54	PASS
	Off	2500.0	-43.44	2.0	0	51.81	PEAK	74	PASS
	Off	2500.0	-54.06	2.0	0	41.20	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-45.26	2.0	0	49.99	PEAK	74	PASS
	Off	2310.0	-54.69	2.0	0	40.57	AV	54	PASS
	Off	2390.0	-43.64	2.0	0	51.62	PEAK	74	PASS
	Off	2390.0	-54.45	2.0	0	40.81	AV	54	PASS
	Off	2483.5	-44.37	2.0	0	50.89	PEAK	74	PASS
	Off	2483.5	-54.06	2.0	0	41.20	AV	54	PASS
	Off	2500.0	-43.81	2.0	0	51.45	PEAK	74	PASS
	Off	2500.0	-54.03	2.0	0	41.23	AV	54	PASS
8DPSK	Off	2310.0	-45.21	2.0	0	50.04	PEAK	74	PASS
	Off	2310.0	-54.70	2.0	0	40.56	AV	54	PASS
	Off	2390.0	-44.02	2.0	0	51.24	PEAK	74	PASS
	Off	2390.0	-54.48	2.0	0	40.77	AV	54	PASS
	Off	2483.5	-44.24	2.0	0	51.02	PEAK	74	PASS
	Off	2483.5	-53.91	2.0	0	41.35	AV	54	PASS
	Off	2500.0	-44.34	2.0	0	50.91	PEAK	74	PASS
	Off	2500.0	-53.92	2.0	0	41.34	AV	54	PASS

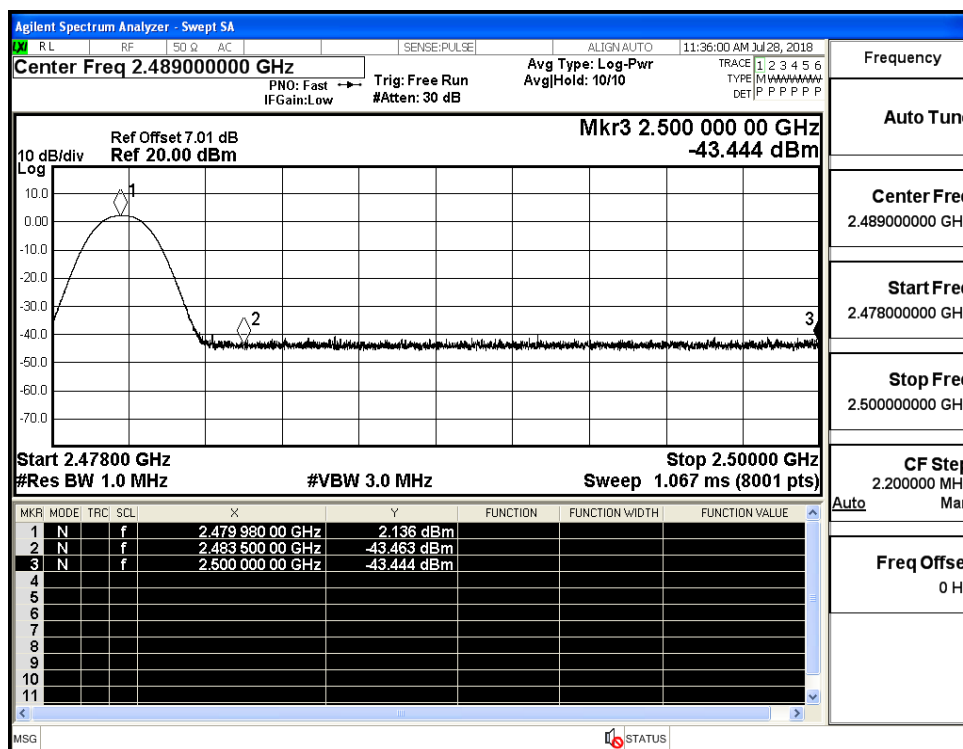
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



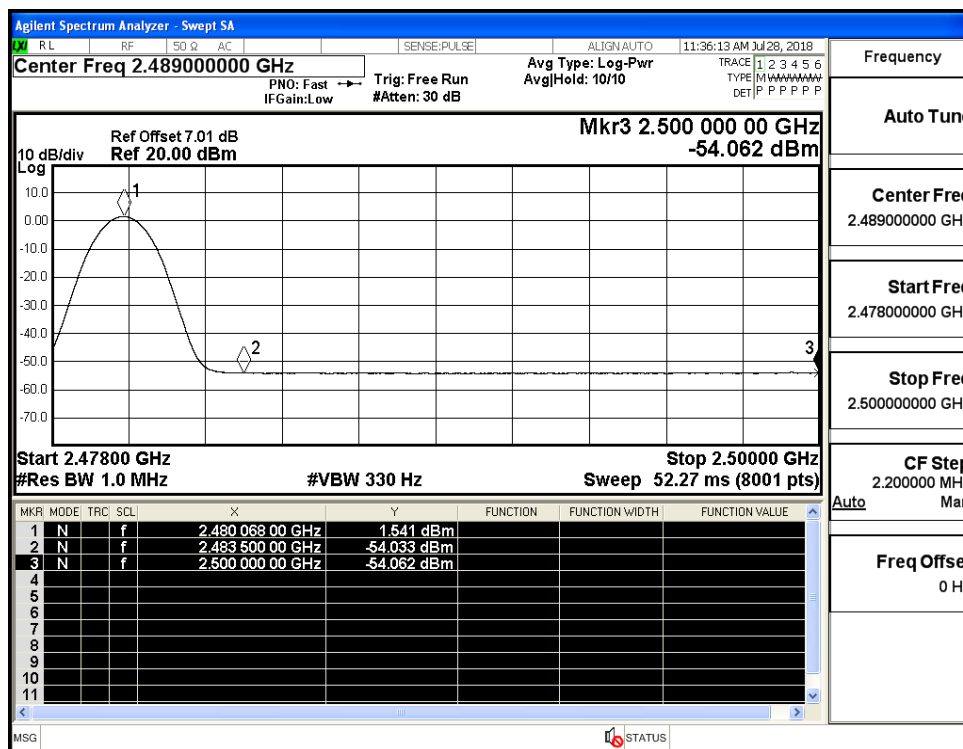
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



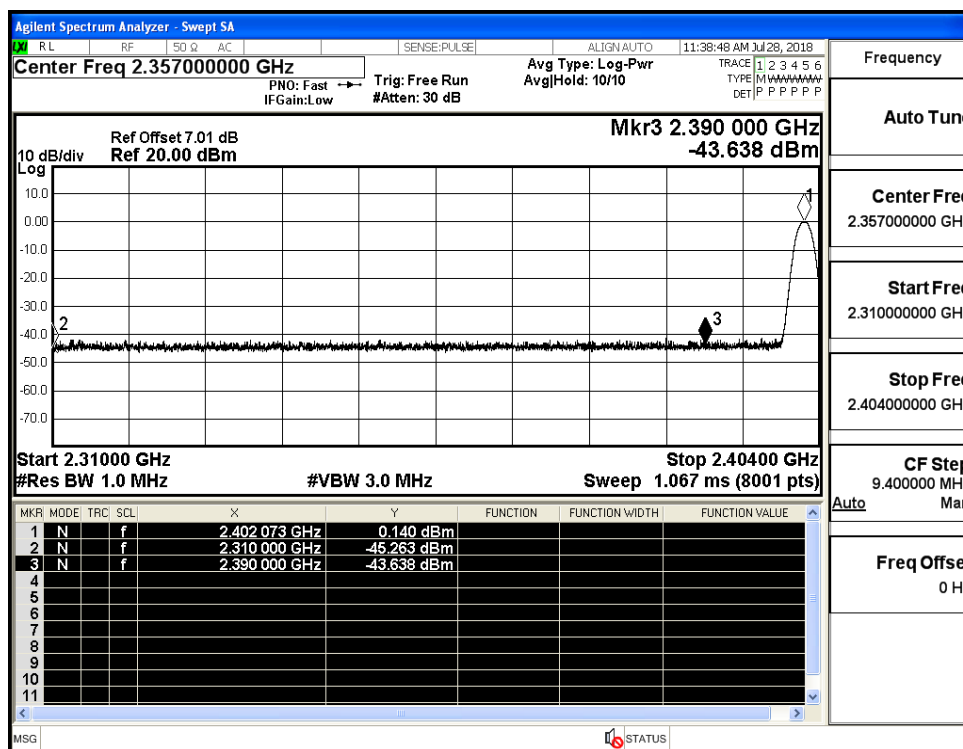
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



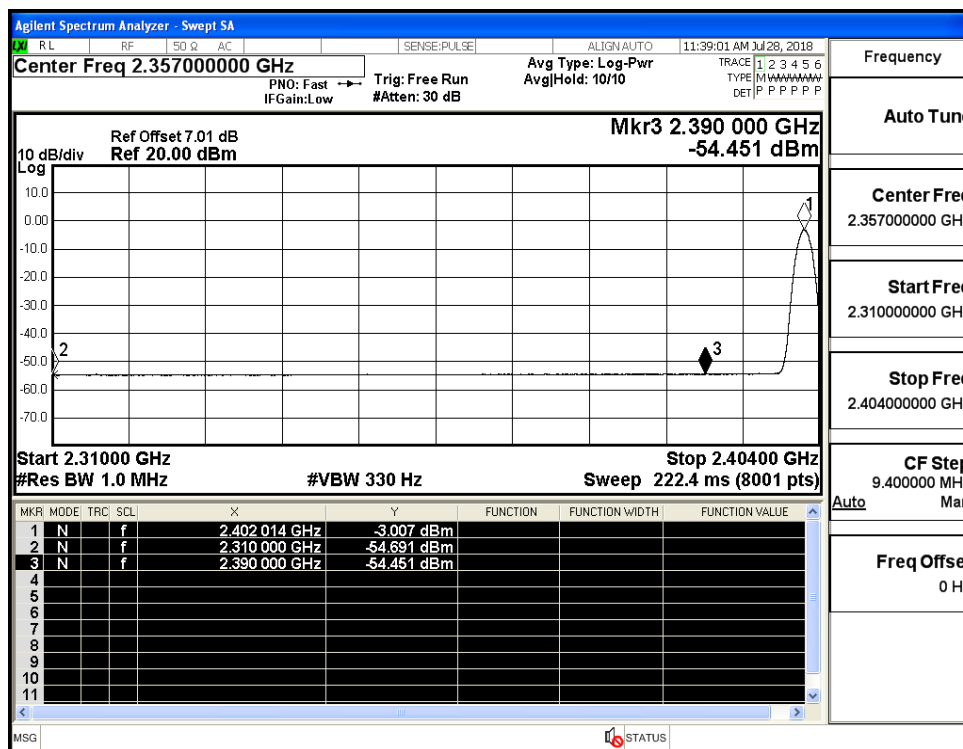
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



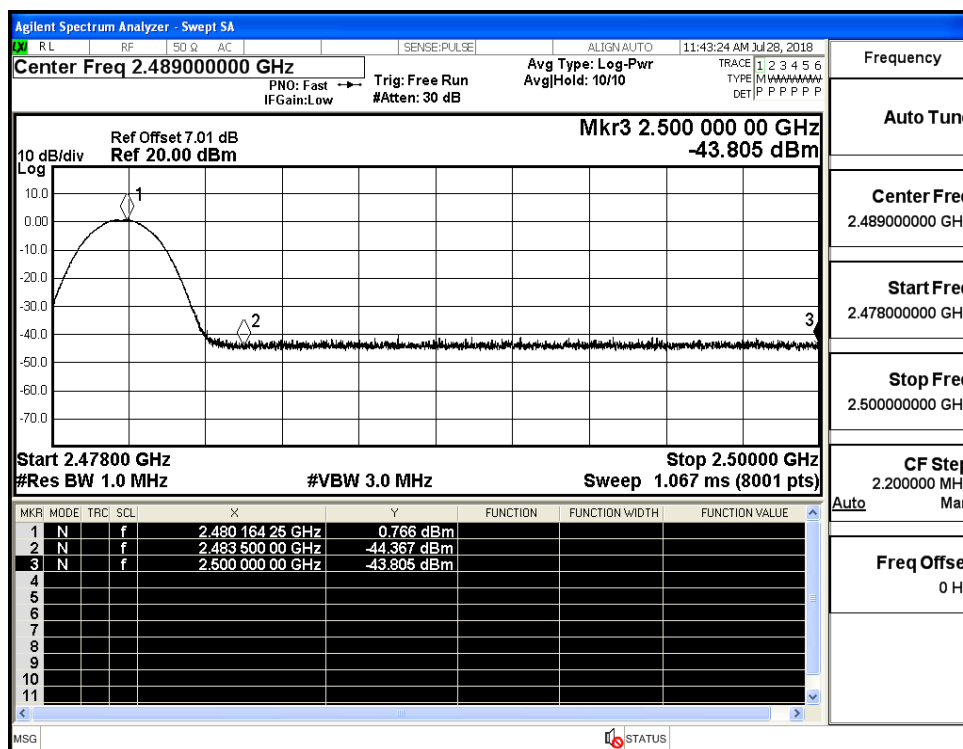
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)



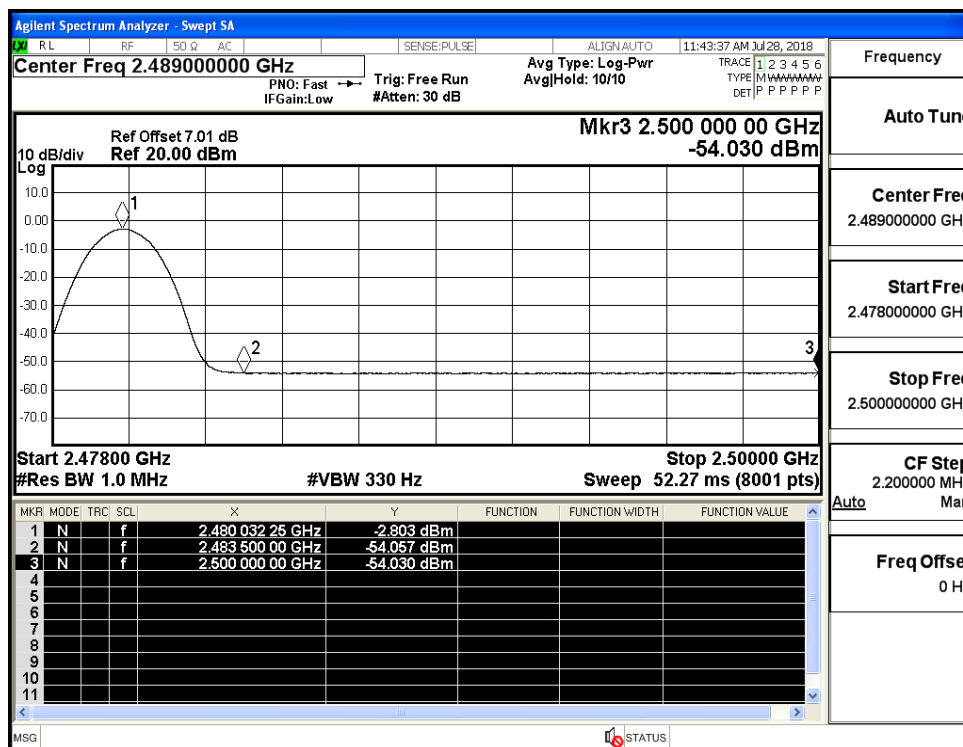
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)



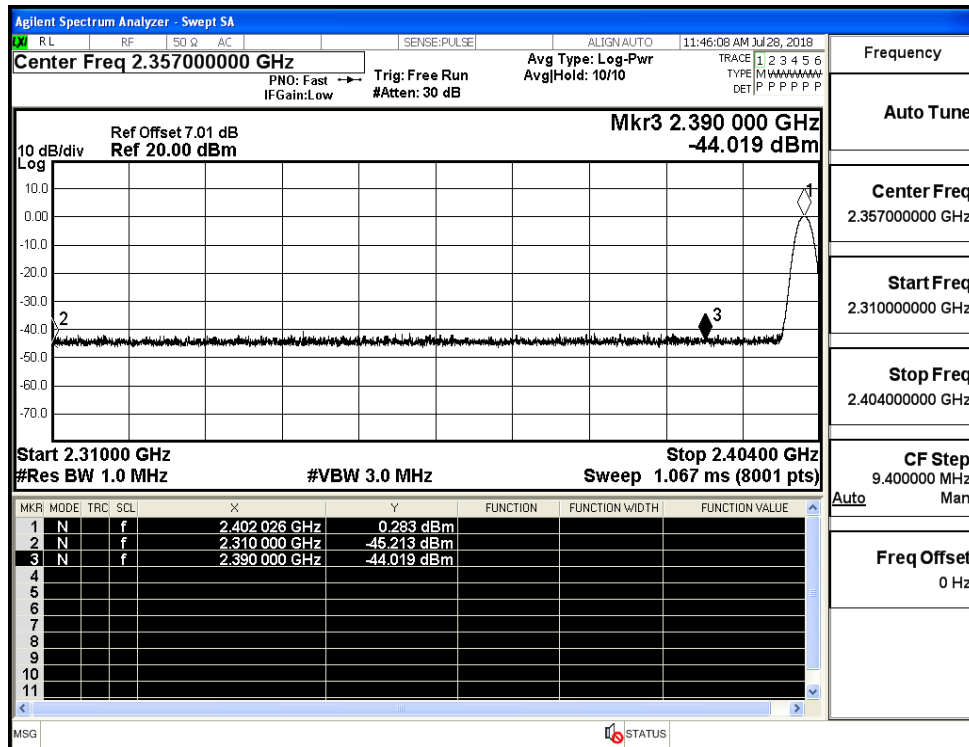
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



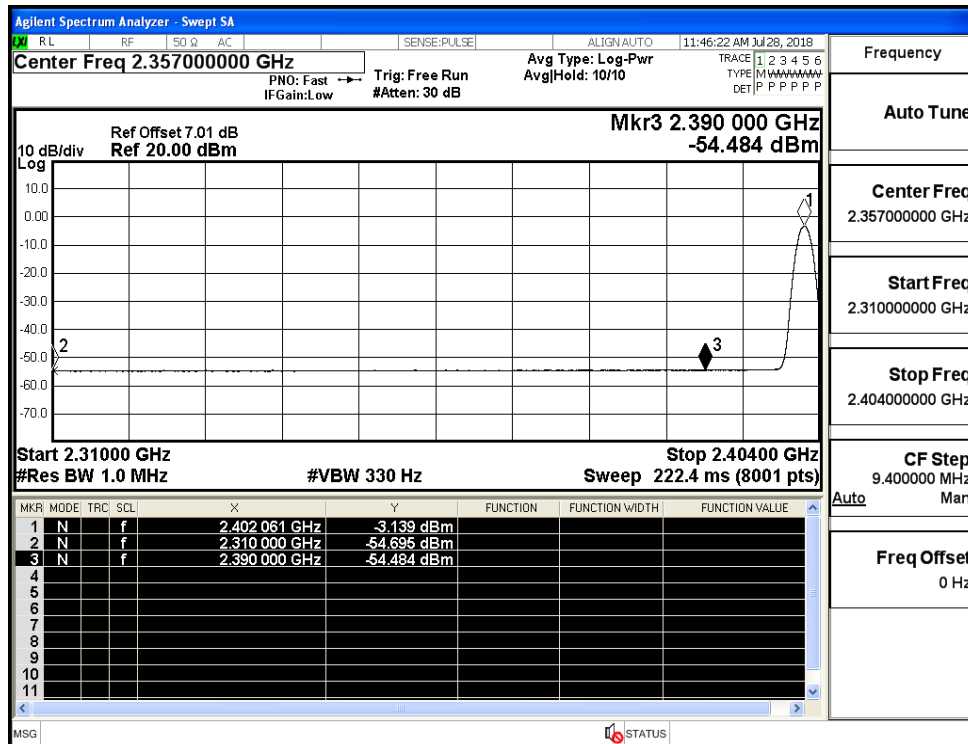
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



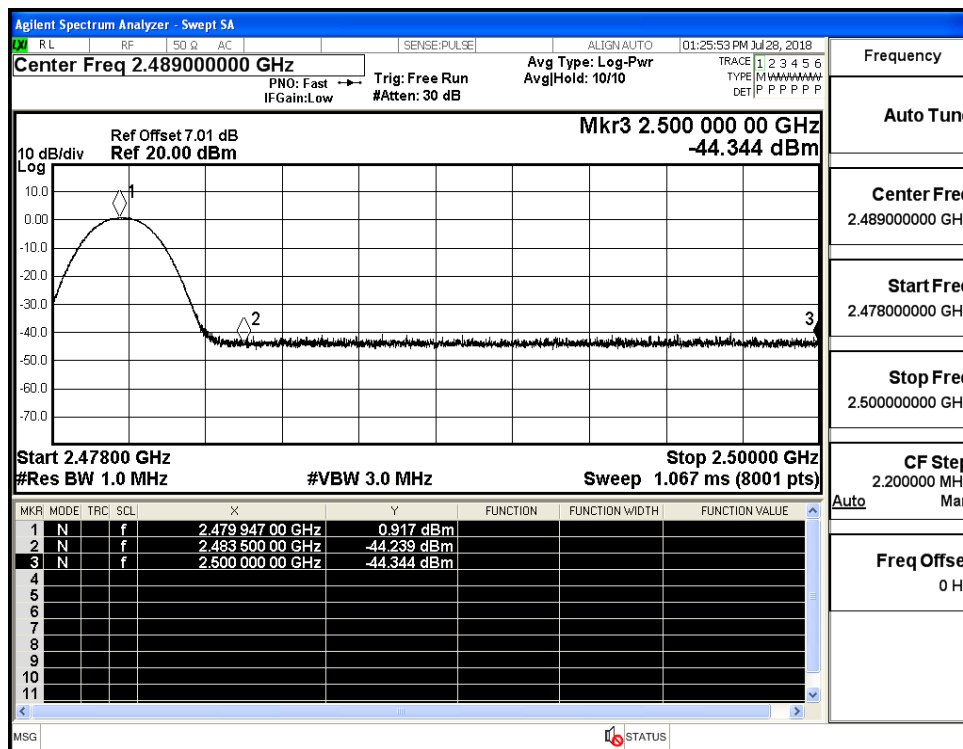
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

