

Appendix A

RF Test Data for BT V5.0(BDR/EDR) (Conducted Measurement)

Product Name: IPTV
Trade Mark: Formuler
Test Model: GTV

Environmental Conditions

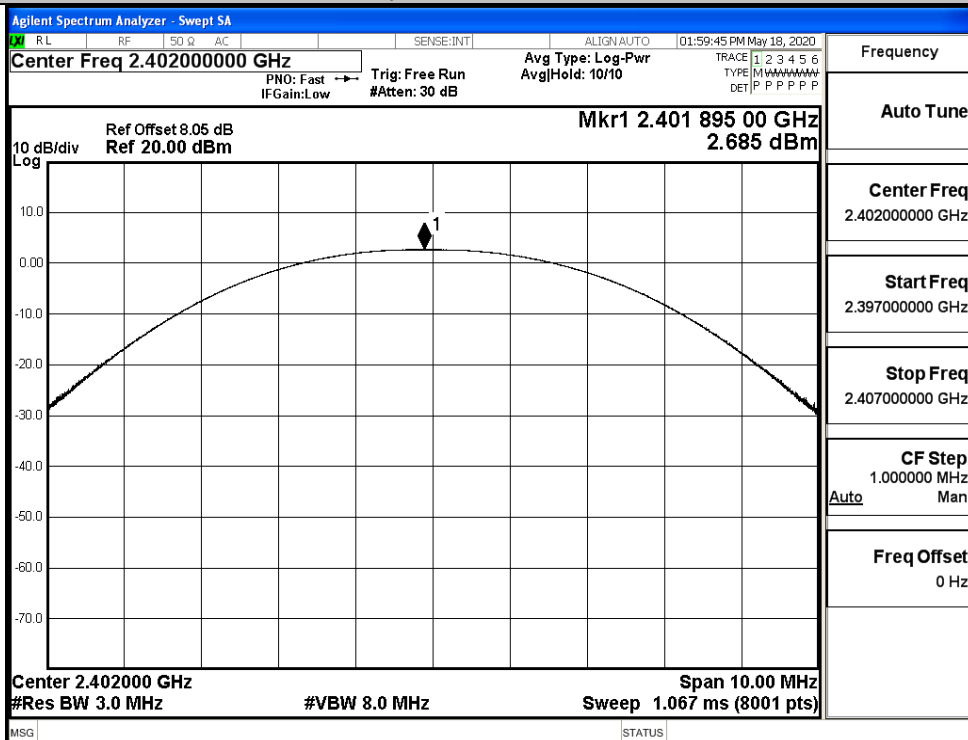
Temperature:	25.1 ° C
Relative Humidity:	53.8%
ATM Pressure:	100.0 kPa
Test Engineer:	David.Luo
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

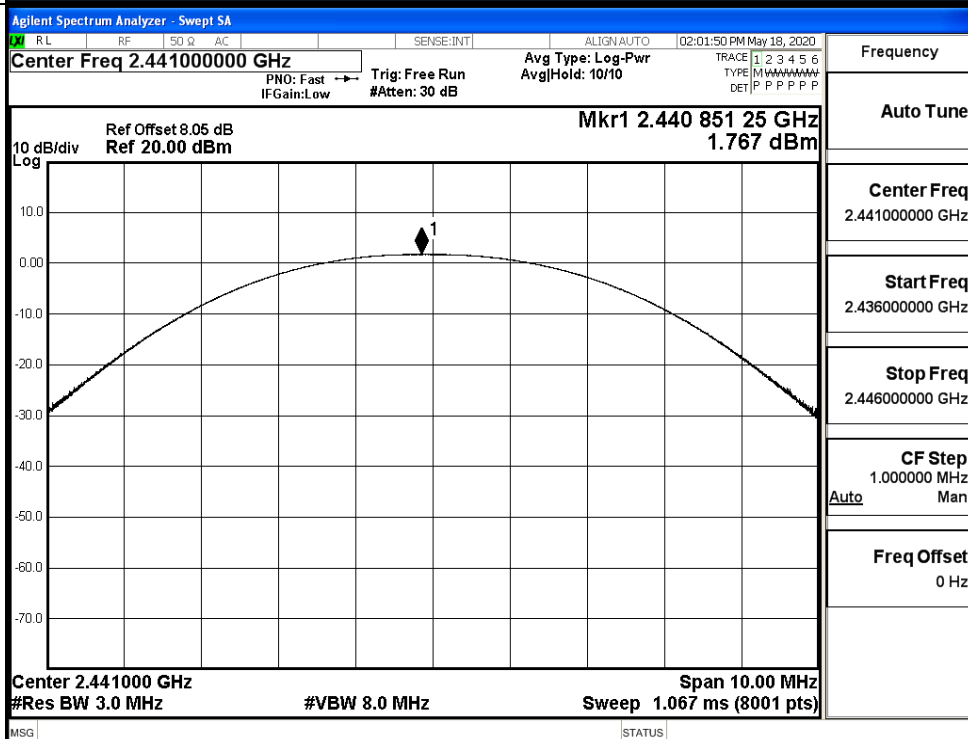
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.685	21	PASS
	MCH	1.767	21	PASS
	HCH	0.457	21	PASS
$\pi/4$ DQPSK	LCH	1.081	21	PASS
	MCH	0.100	21	PASS
	HCH	-1.268	21	PASS
8DPSK	LCH	1.531	21	PASS
	MCH	0.624	21	PASS
	HCH	-0.705	21	PASS

Test Graphs

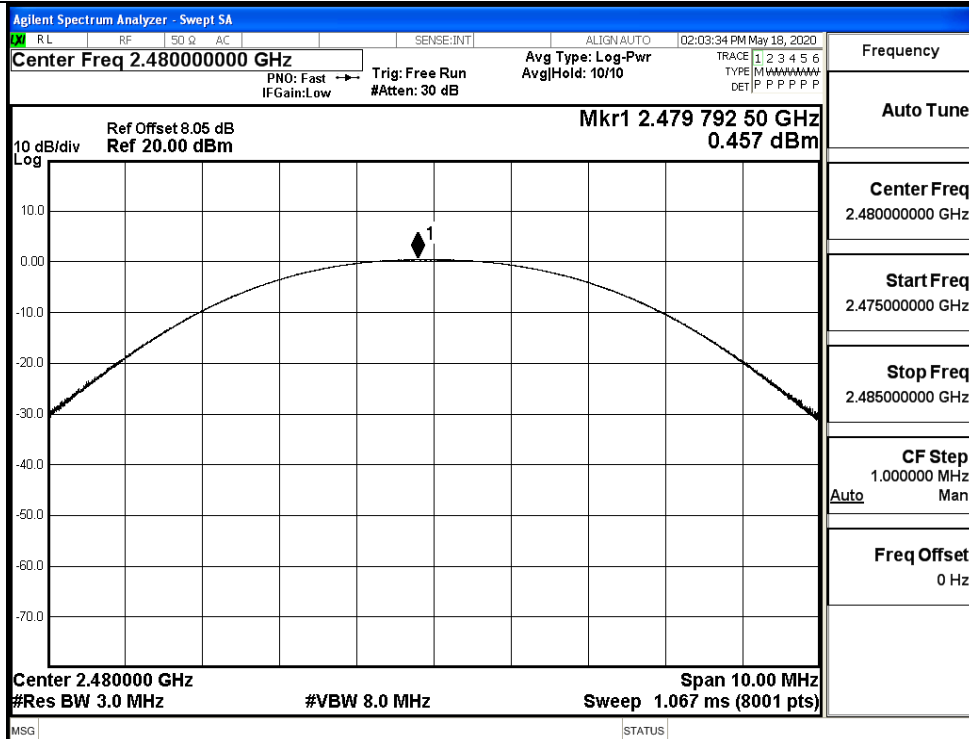
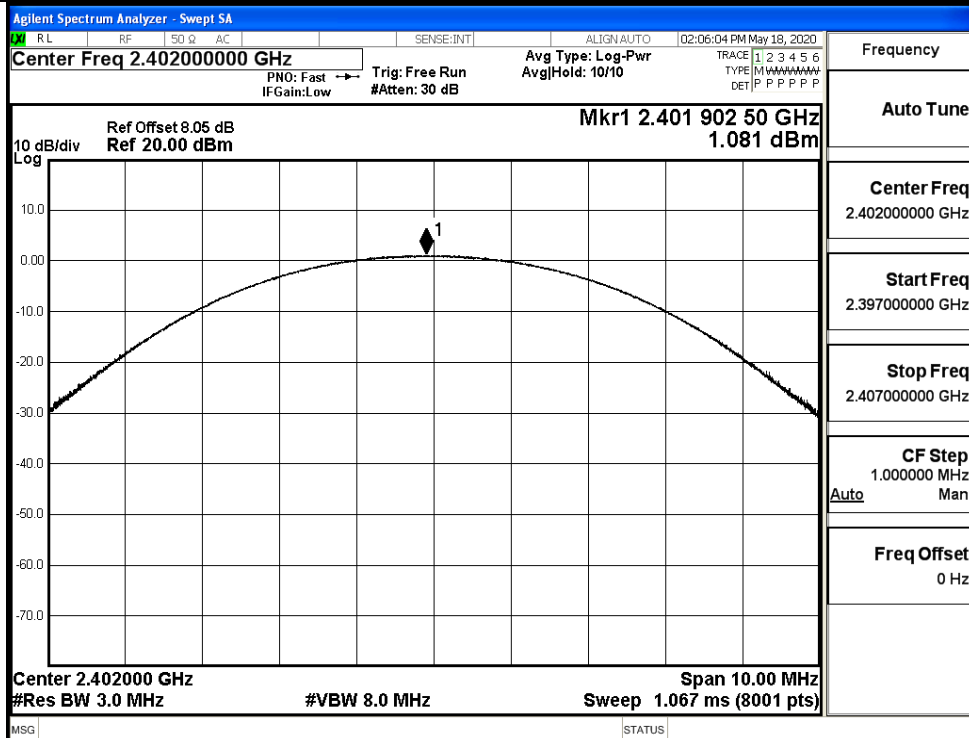
GFSK/LCH

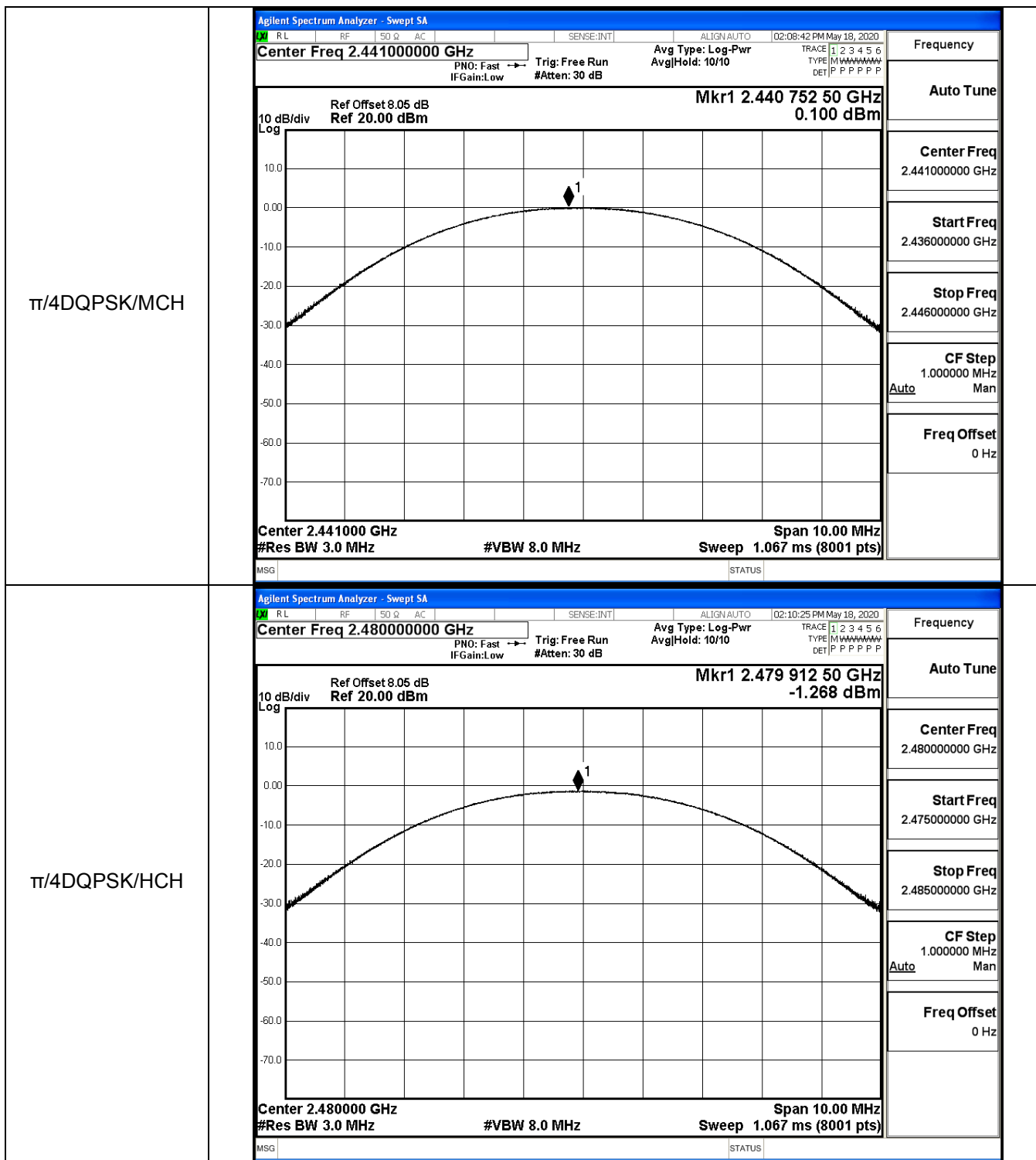


GFSK/MCH

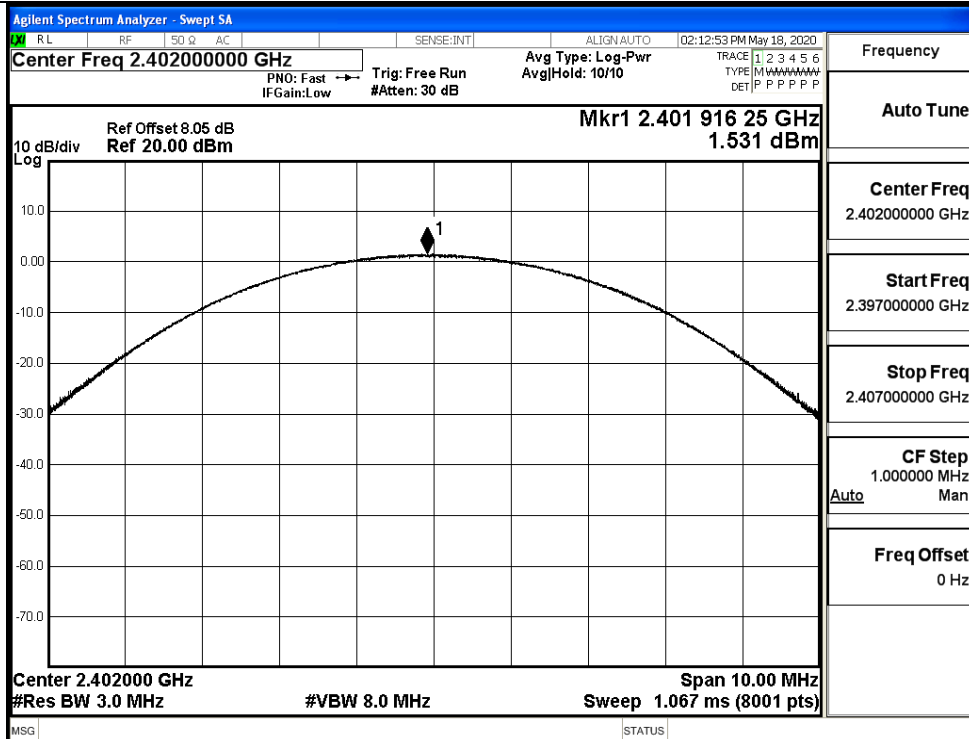


GFSK/HCH

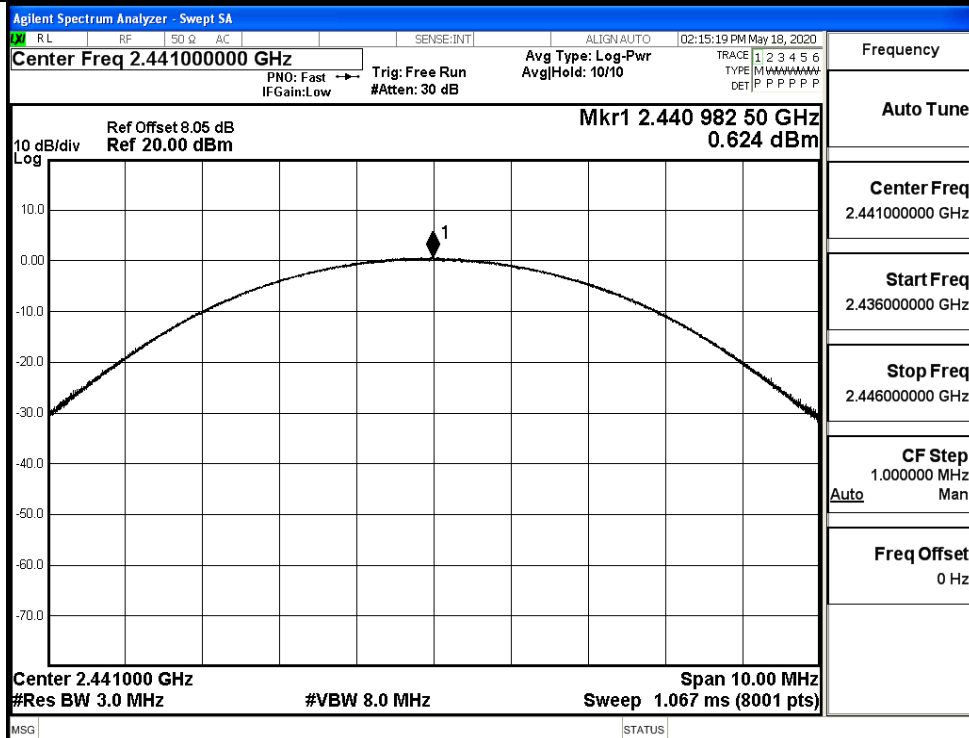
 π /4DQPSK/LCH



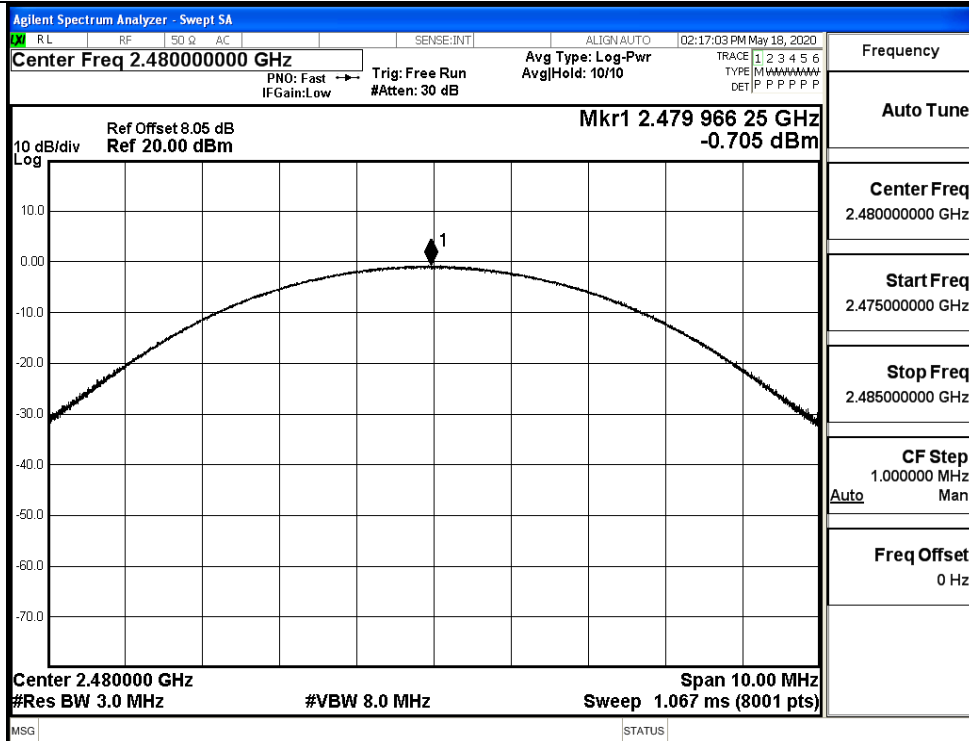
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

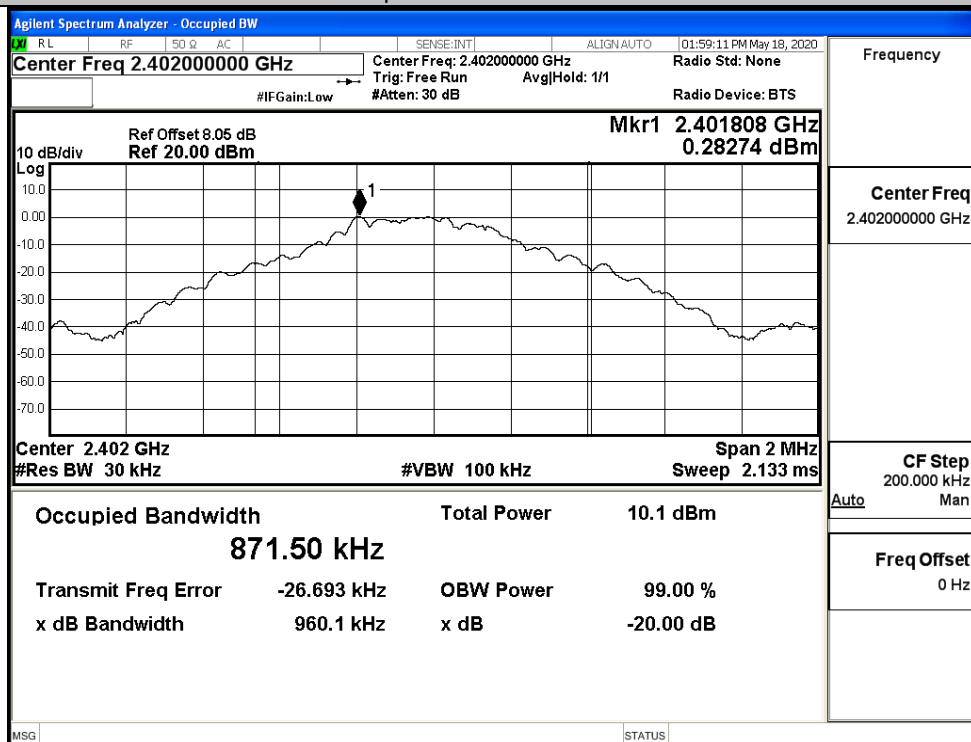


A.2 20dB Bandwidth

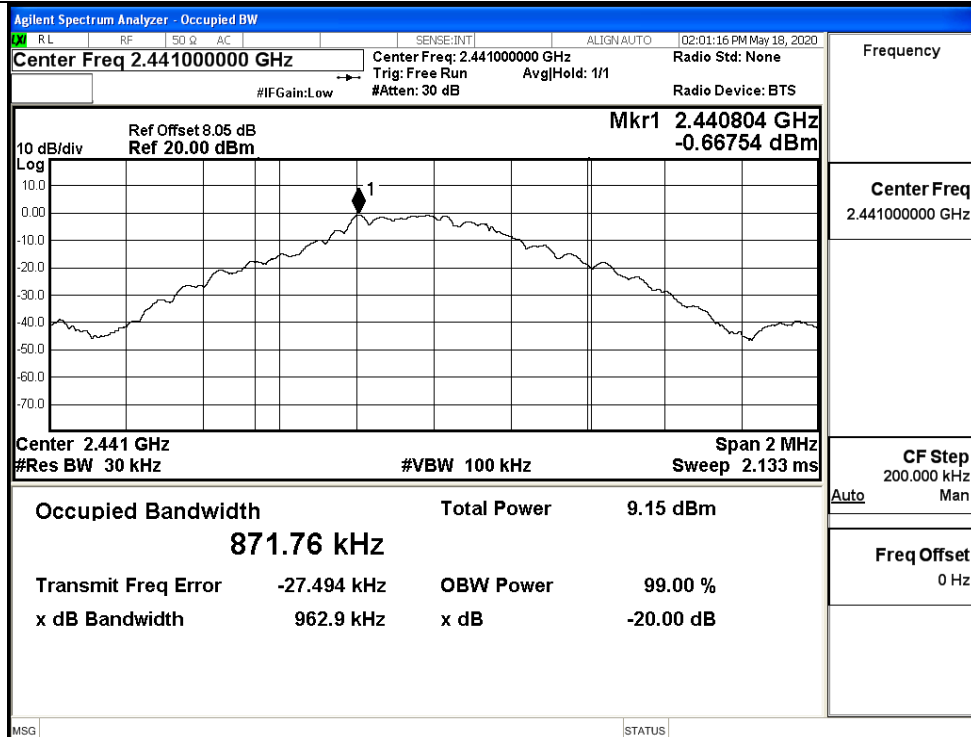
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9601	Not Specified	PASS
	MCH	0.9629	Not Specified	PASS
	HCH	0.9633	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.282	Not Specified	PASS
	MCH	1.283	Not Specified	PASS
	HCH	1.282	Not Specified	PASS
8DPSK	LCH	1.302	Not Specified	PASS
	MCH	1.302	Not Specified	PASS
	HCH	1.302	Not Specified	PASS

Test Graphs

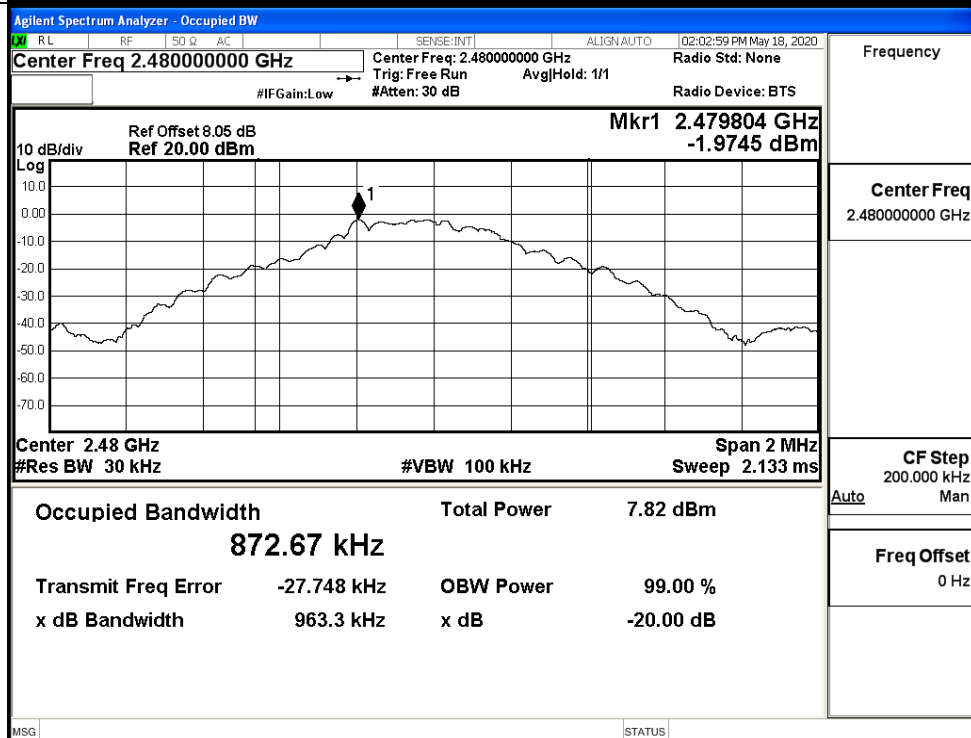
GFSK/LCH

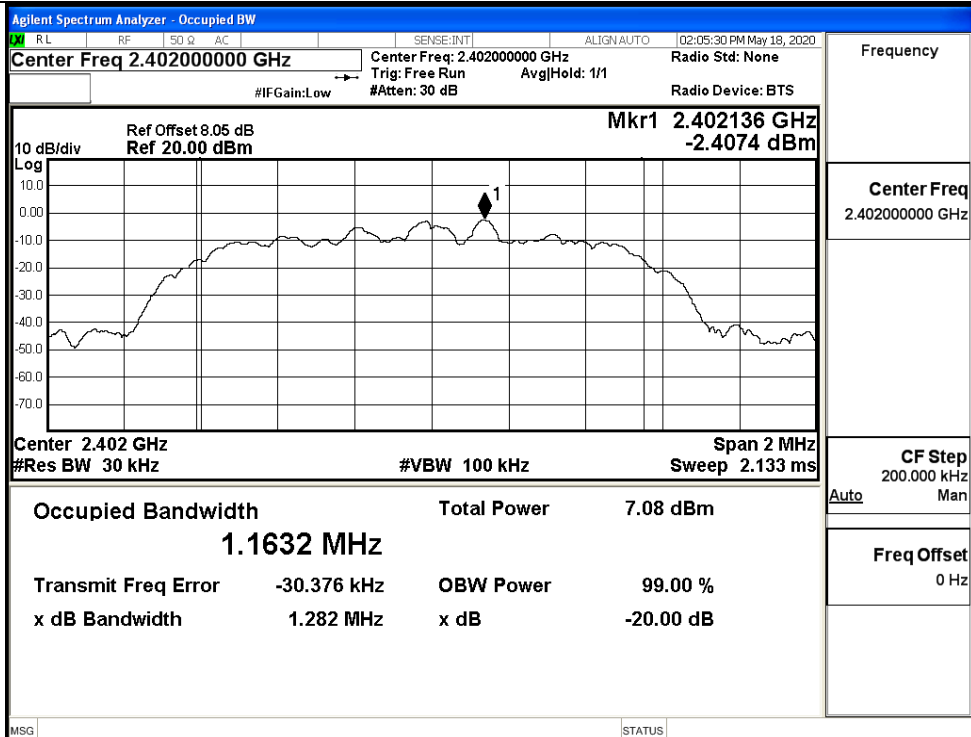
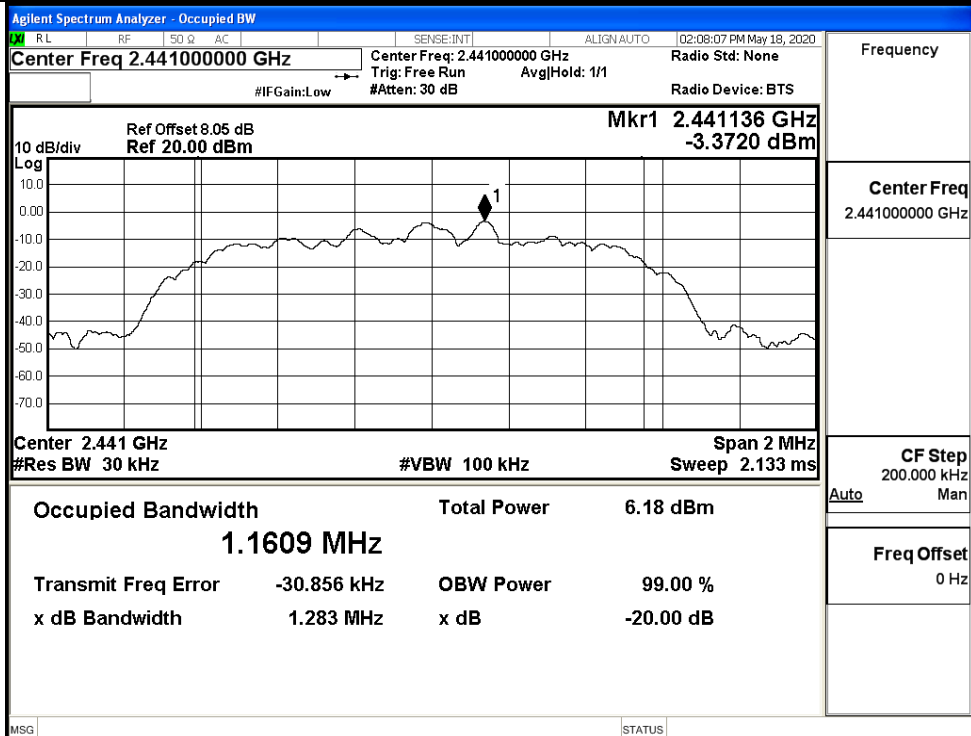


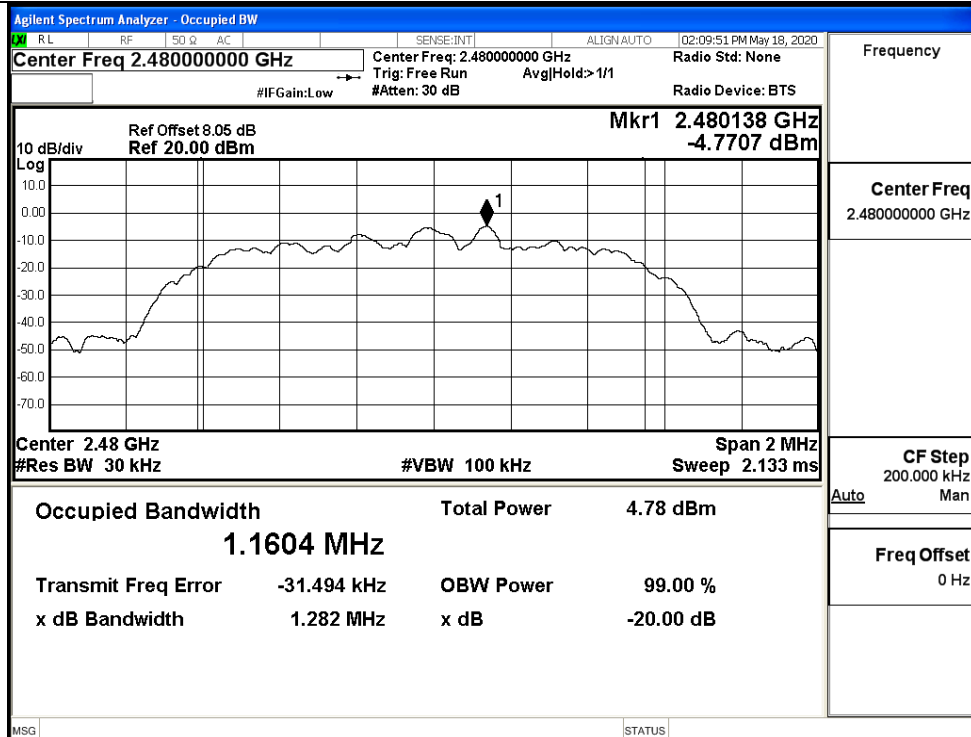
GFSK/MCH



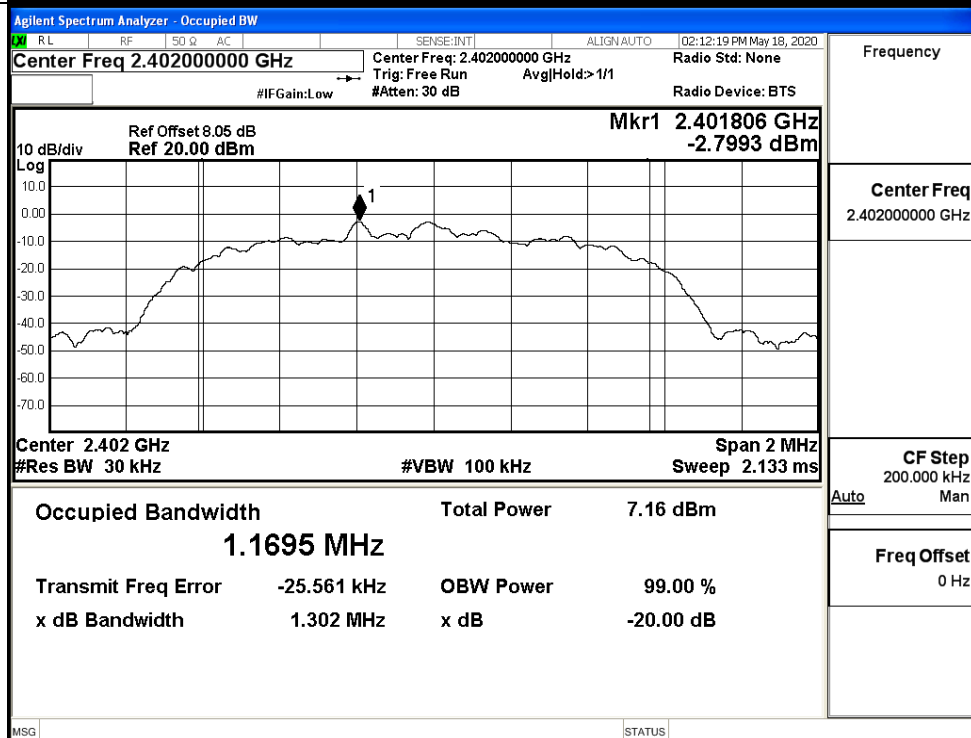
GFSK/HCH



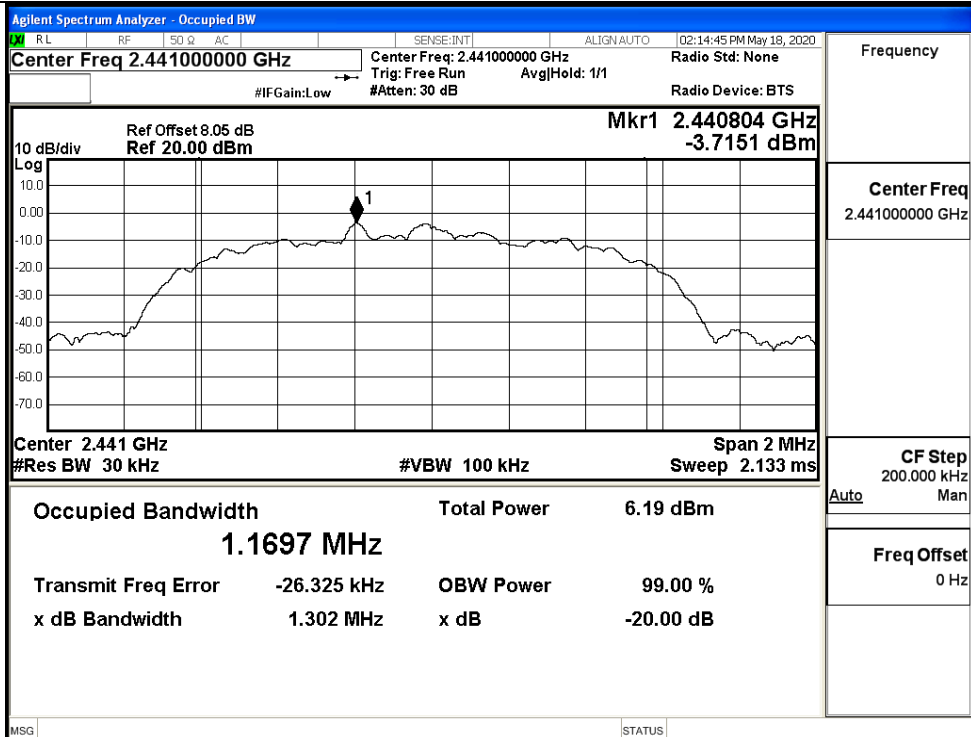
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

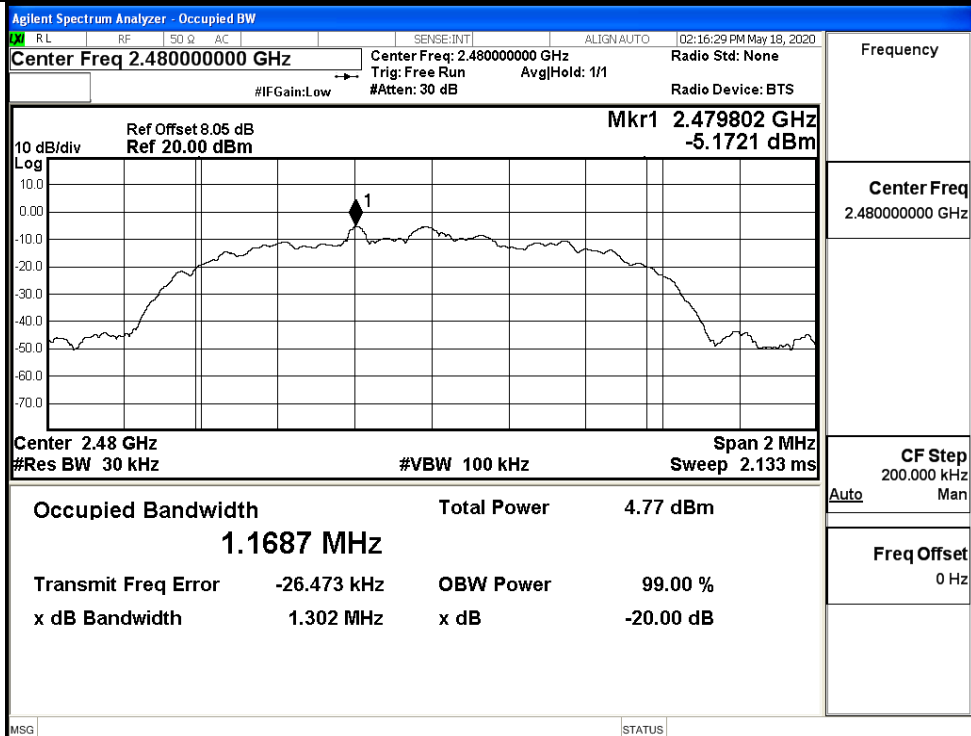
8DPSK/LCH



8DPSK/MCH



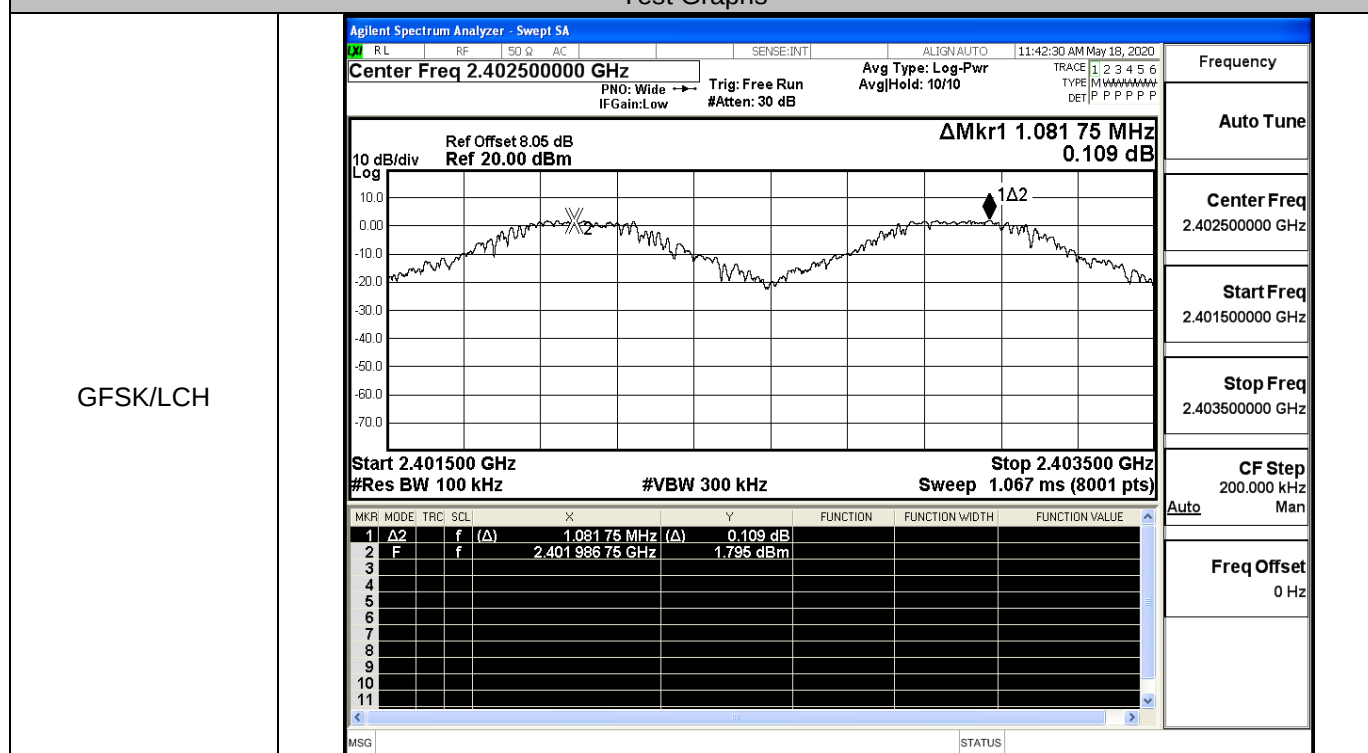
8DPSK/HCH



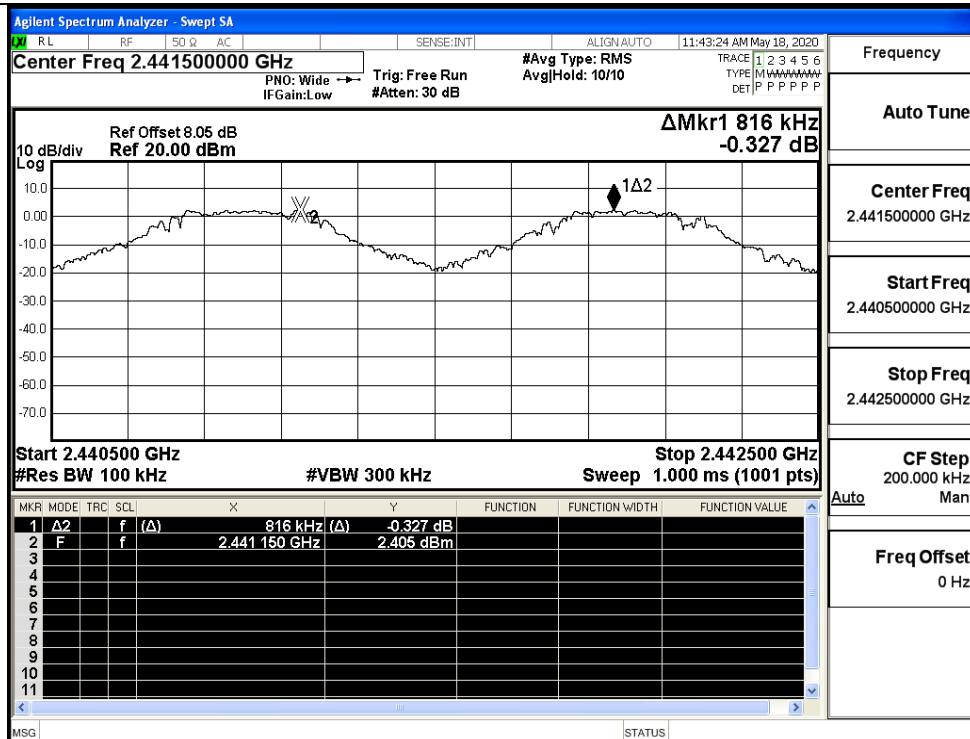
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.082	0.567	PASS
	MCH	0.816	0.567	PASS
	HCH	0.822	0.567	PASS
$\pi/4$ DQPSK	LCH	0.890	0.849	PASS
	MCH	1.308	0.849	PASS
	HCH	1.058	0.849	PASS
8DPSK	LCH	1.036	0.845	PASS
	MCH	1.270	0.845	PASS
	HCH	0.924	0.845	PASS

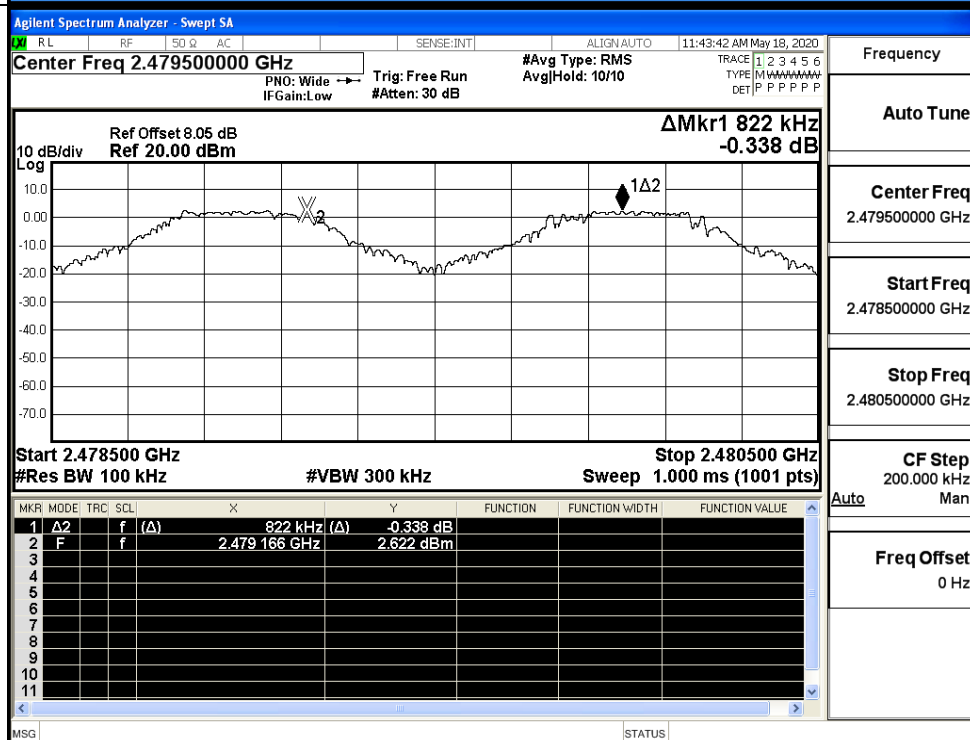
Test Graphs

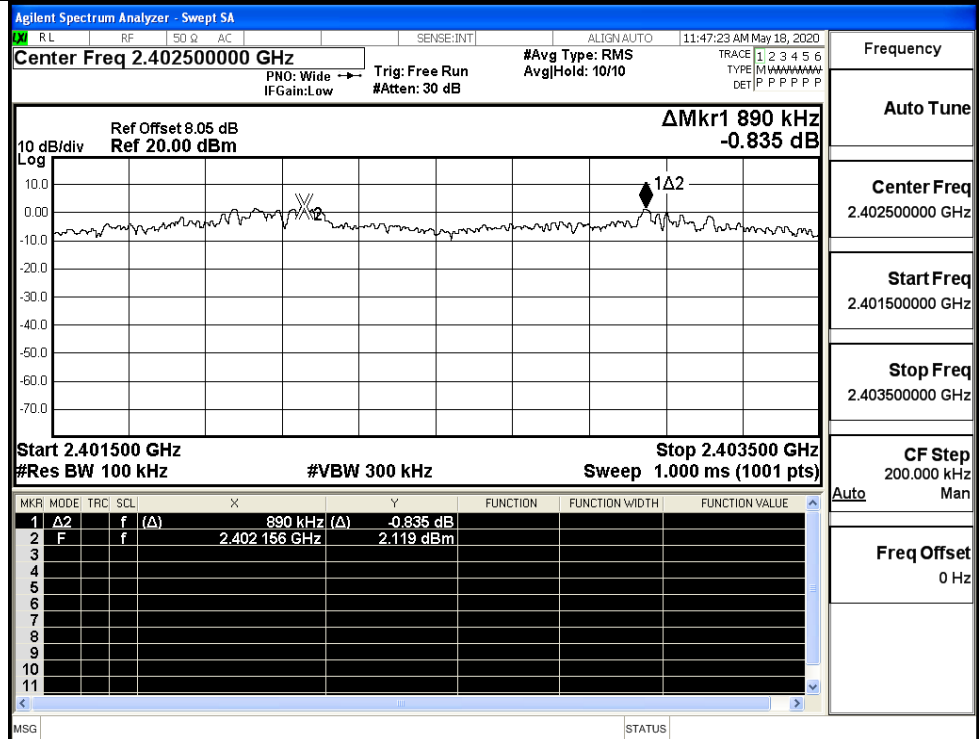
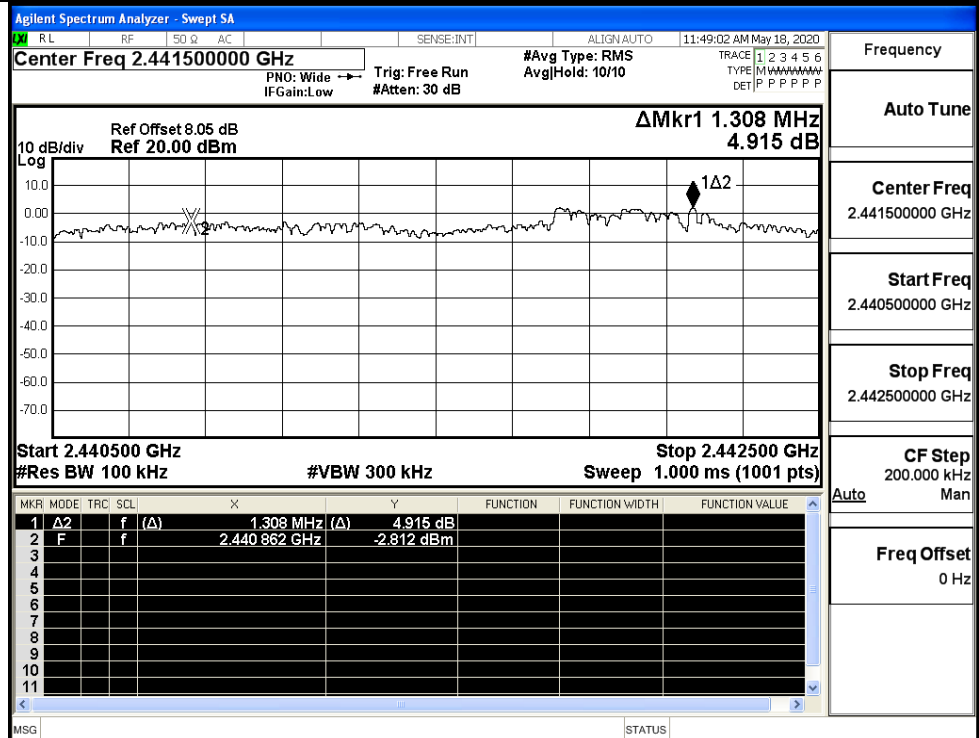


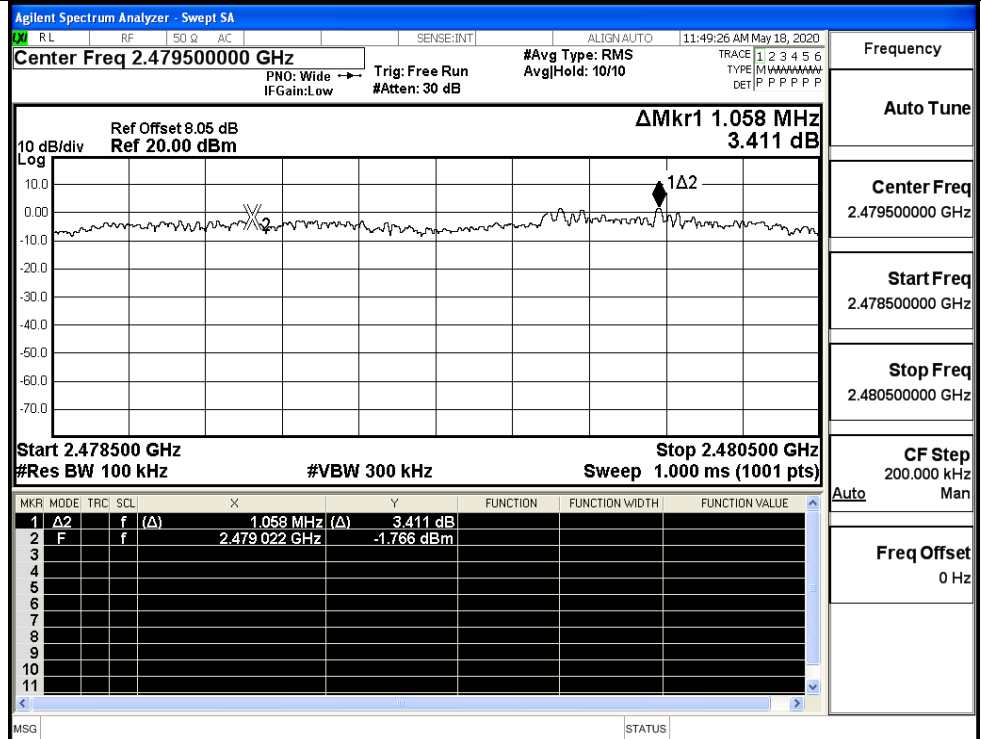
GFSK/MCH



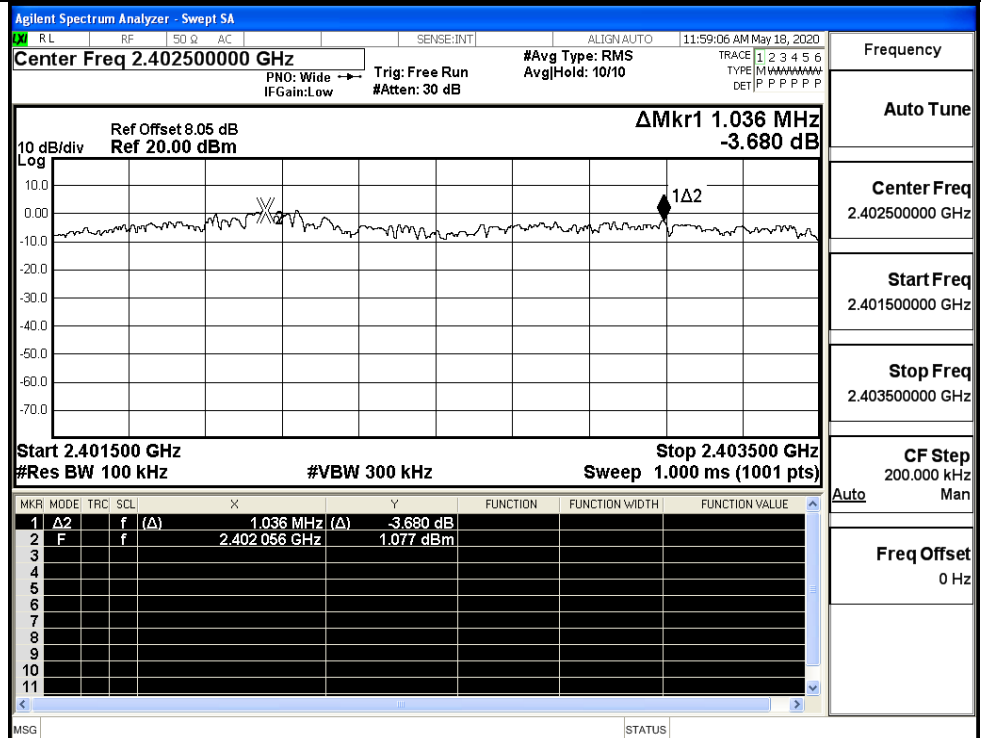
GFSK/HCH



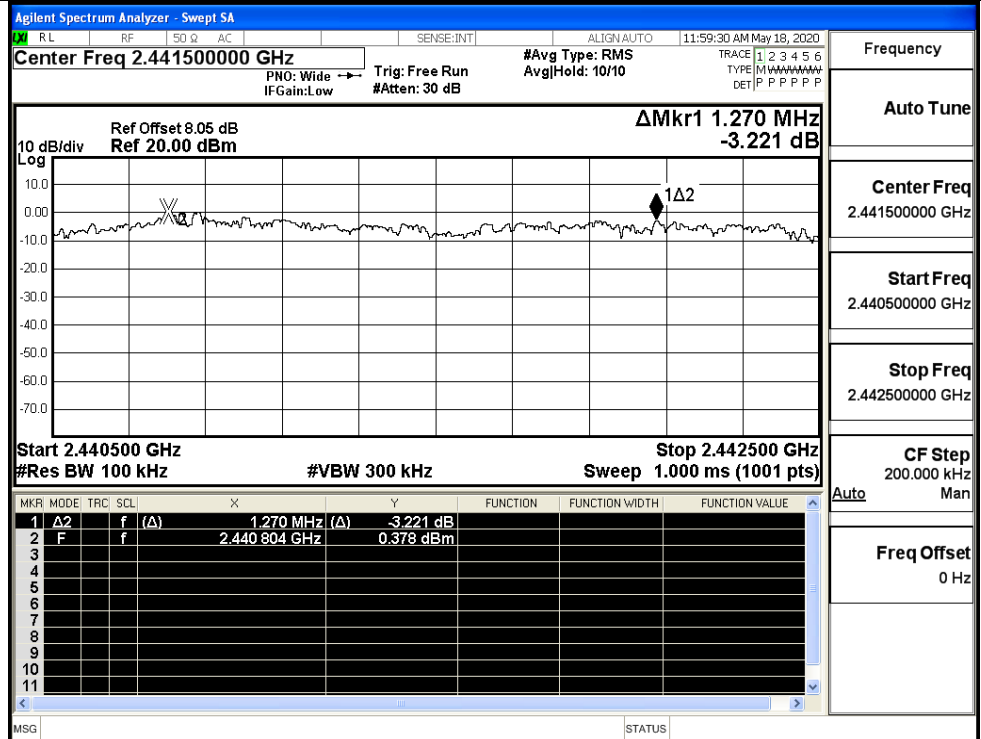
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

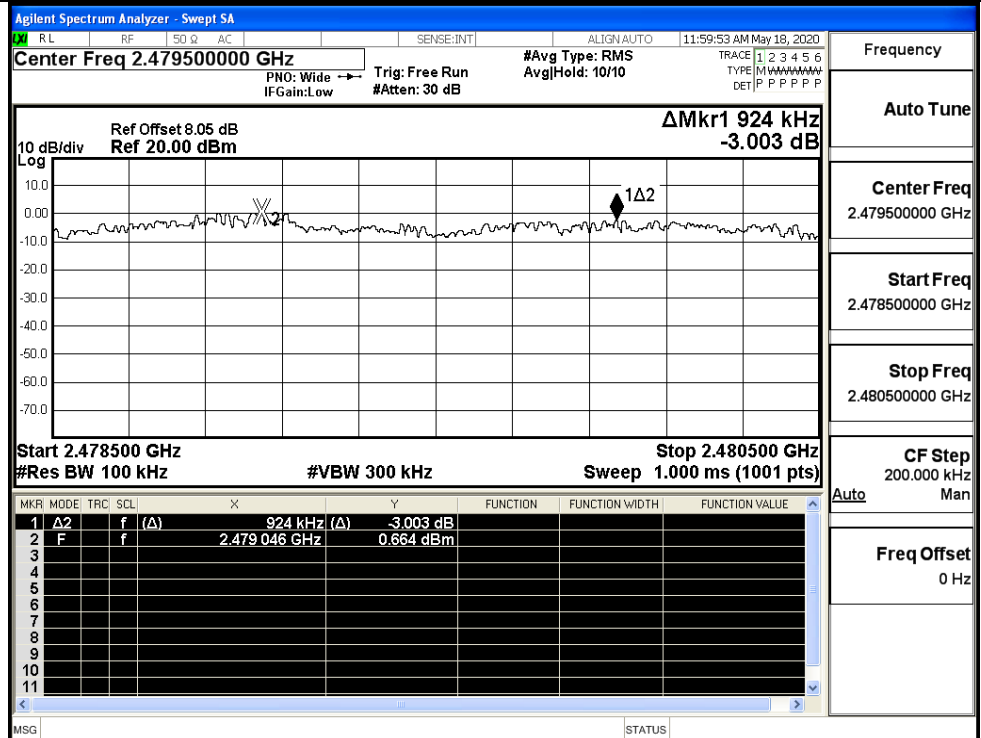
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

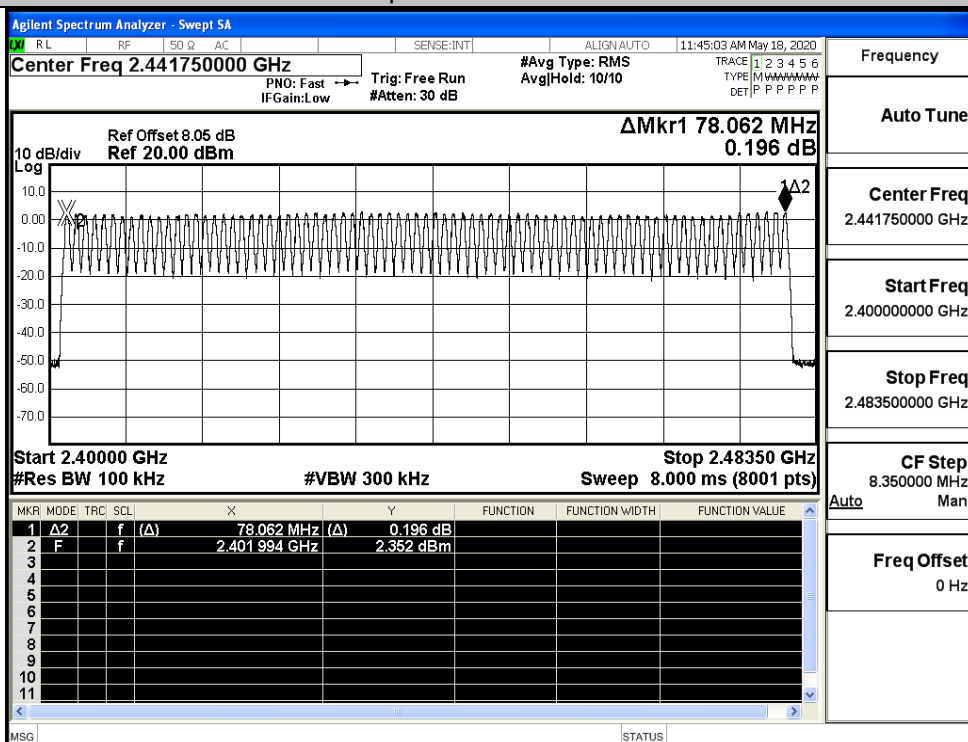


A.4 Hopping Channel Number

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

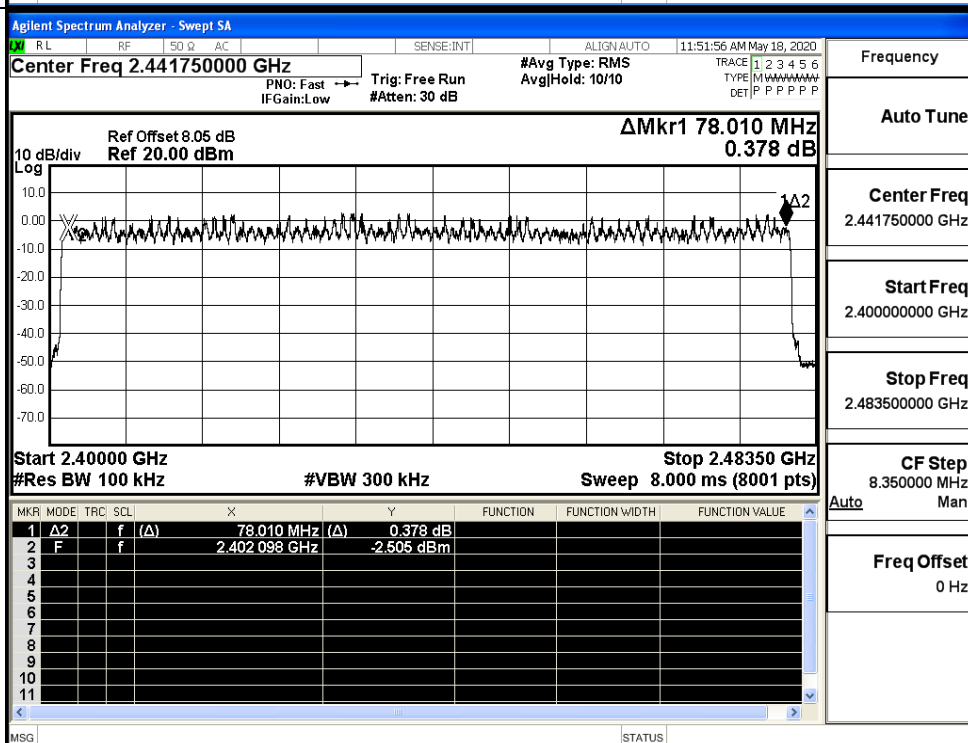
Test Graphs

GFSK/Hop



Frequency

Auto Tune

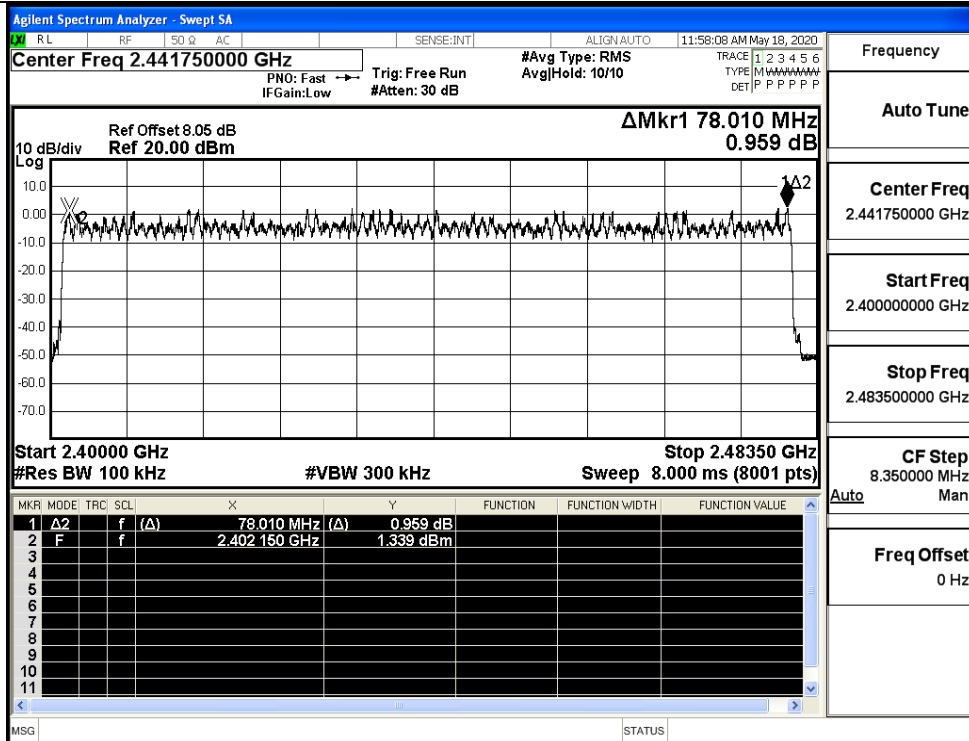
Center Freq
2.441750000 GHzStart Freq
2.400000000 GHzStop Freq
2.483500000 GHzCF Step
8.350000 MHz
ManFreq Offset
0 Hz $\pi/4$ DQPSK/Hop

Frequency

Auto Tune

Center Freq
2.441750000 GHzStart Freq
2.400000000 GHzStop Freq
2.483500000 GHzCF Step
8.350000 MHz
ManFreq Offset
0 Hz

8DPSK/Hop

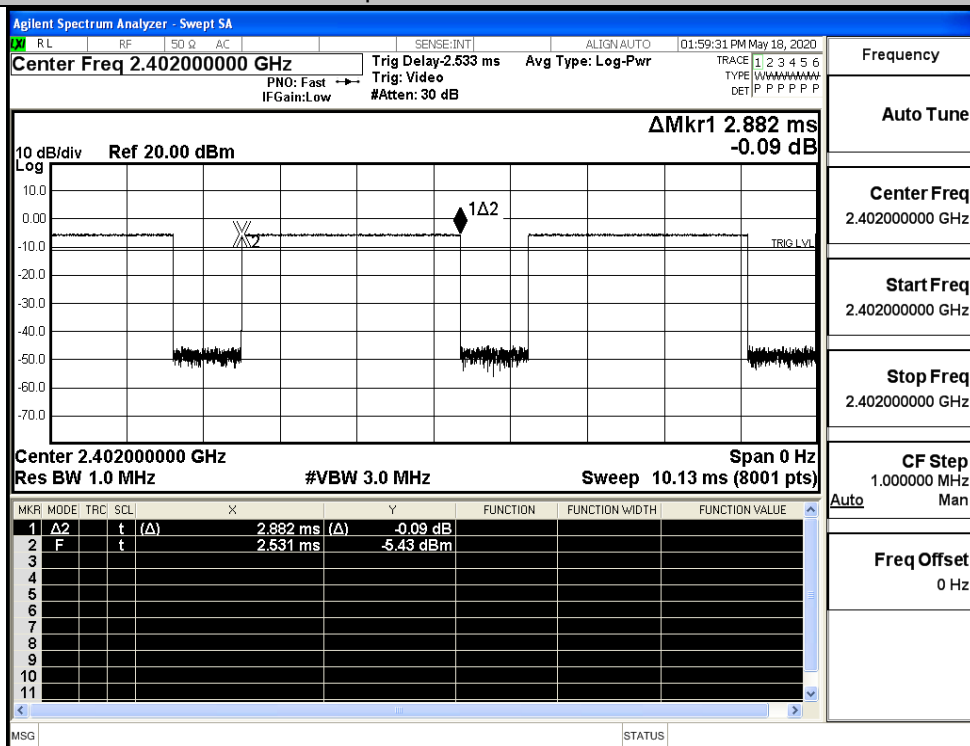


A.5 Dwell Time

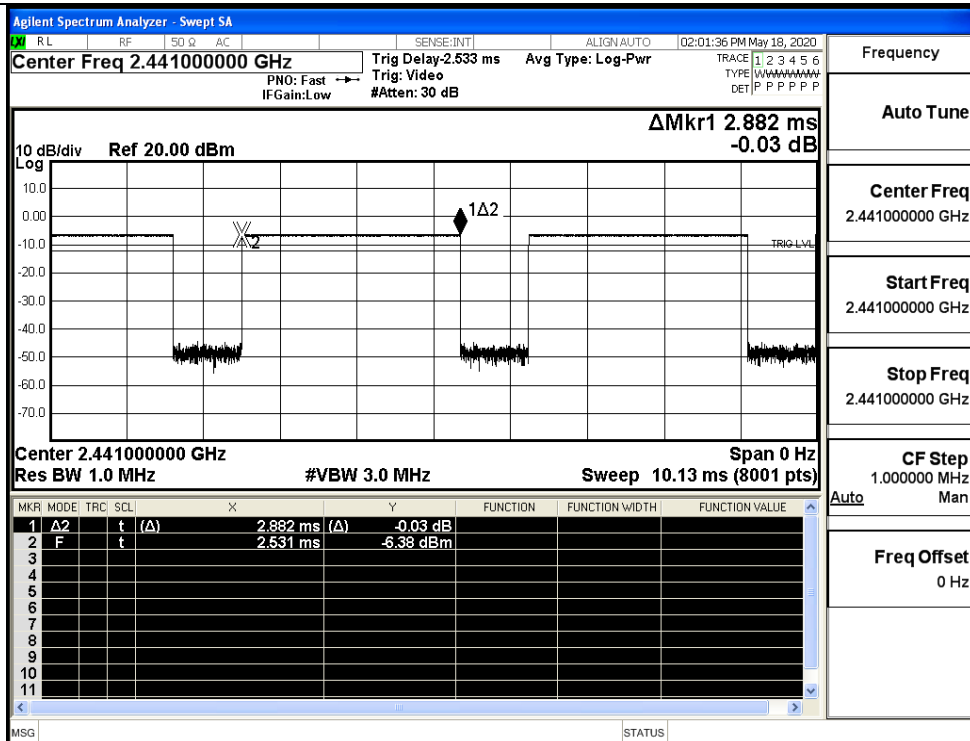
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.308	0.4	PASS
	2DH5	MCH	2.88	106.7	0.308	0.4	PASS
	2DH5	HCH	2.88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

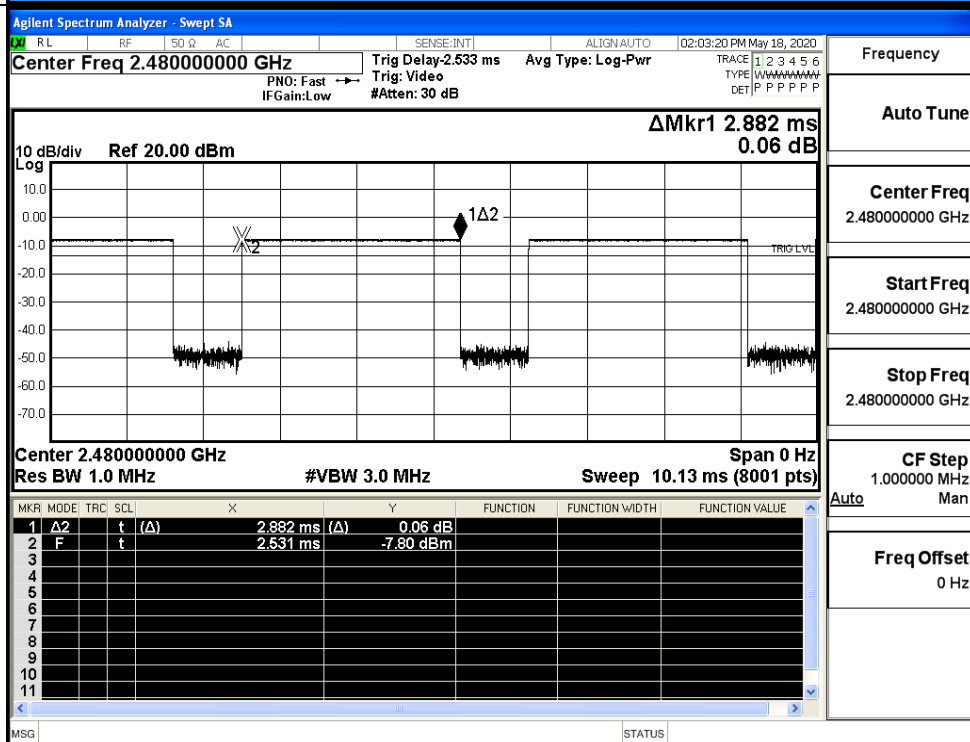
GFSK_DH5/LCH



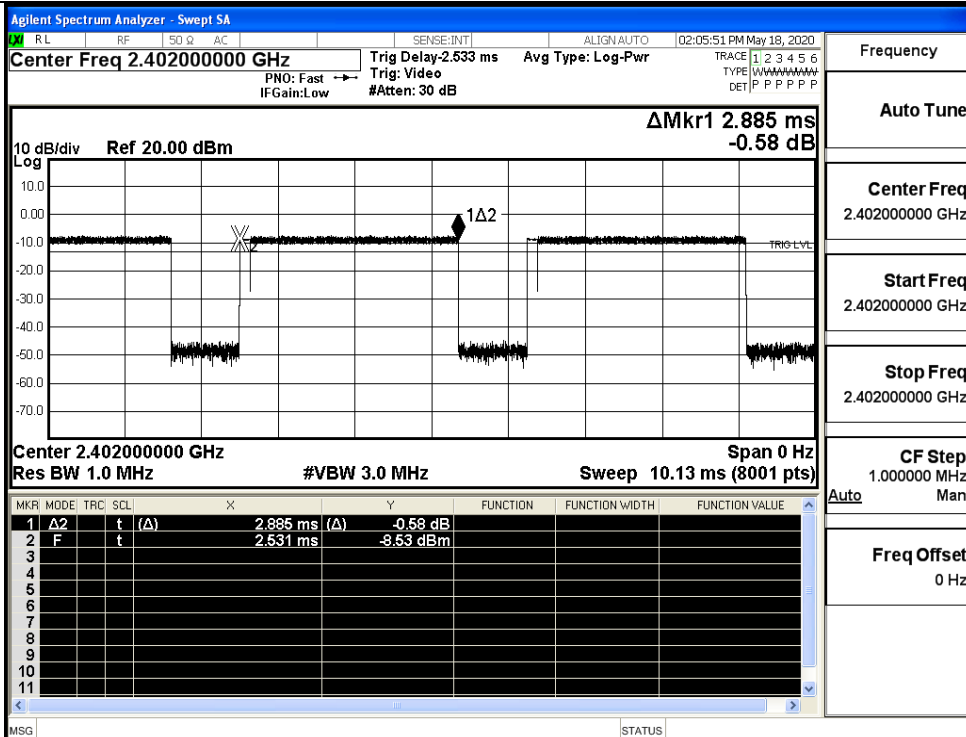
GFSK_DH5/MCH



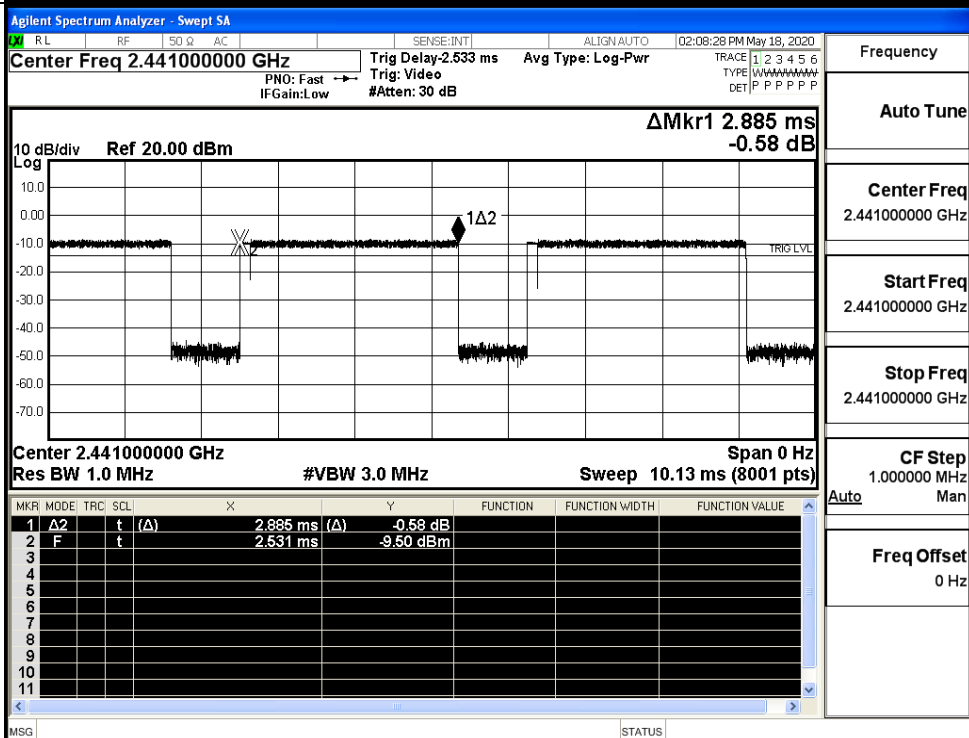
GFSK_DH5/HCH



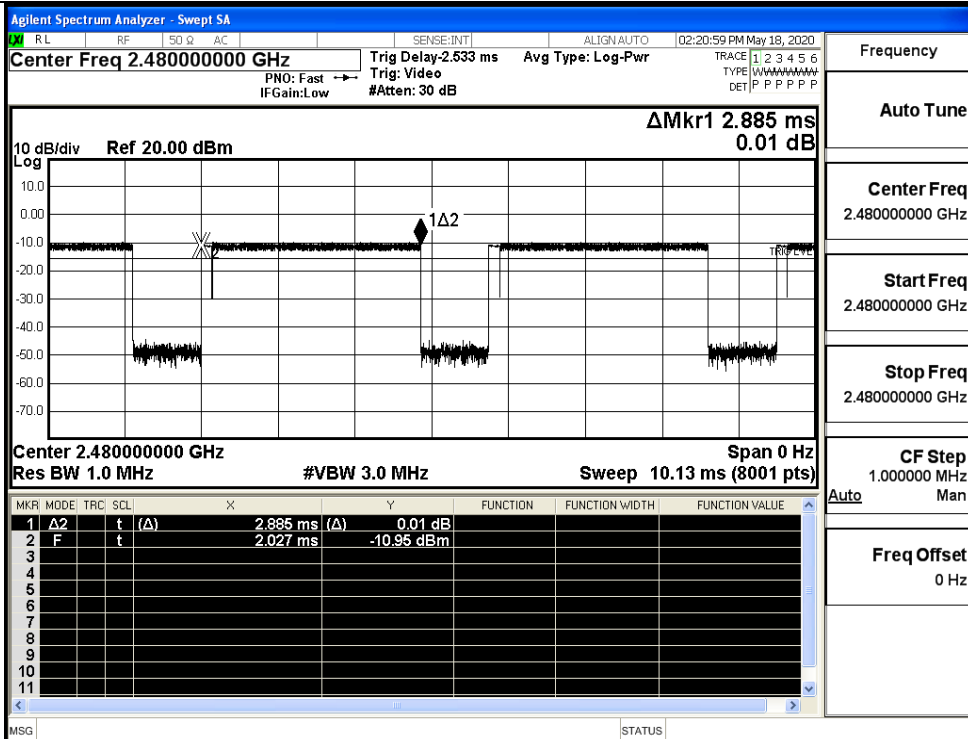
π /4DQPSK
_2DH5/LCH



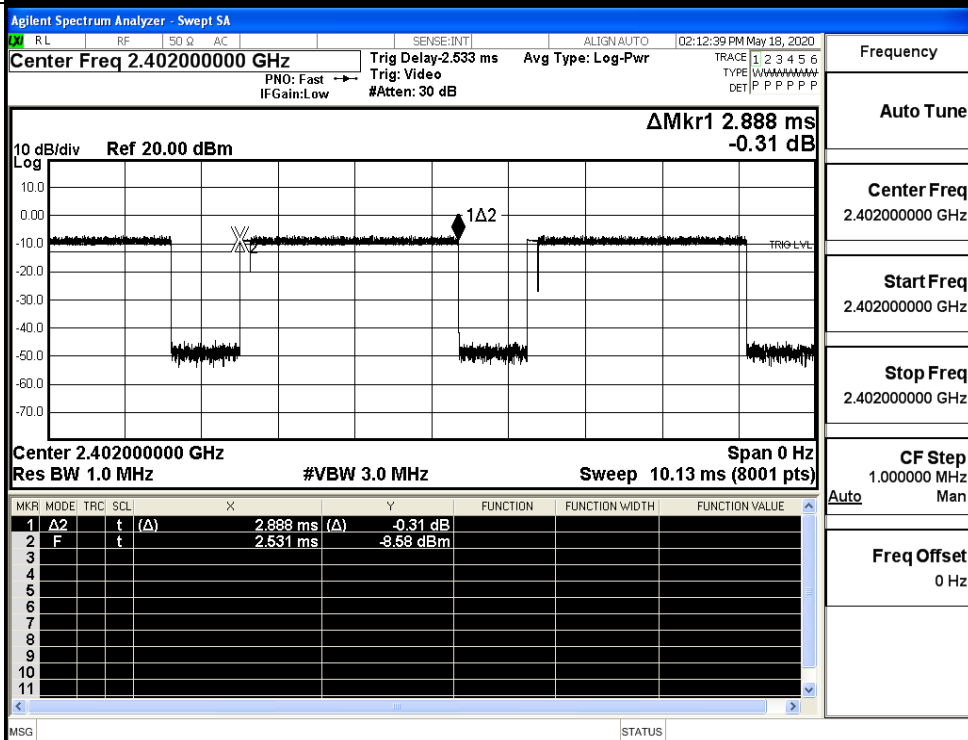
π /4DQPSK
_2DH5/MCH



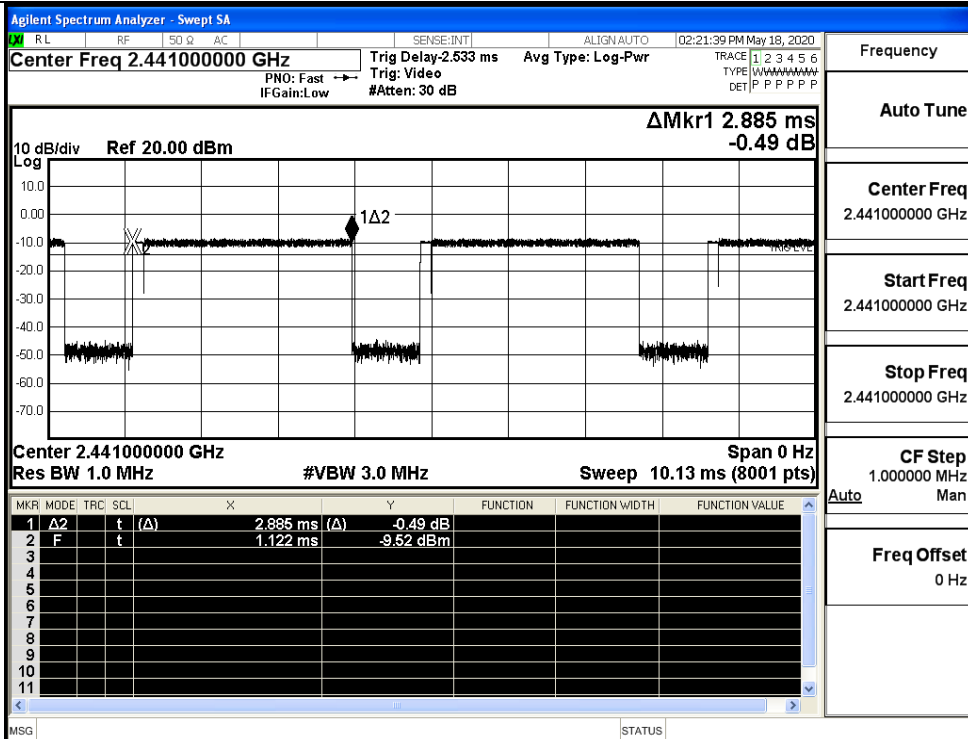
$\pi/4$ DQPSK
_2DH5/HCH



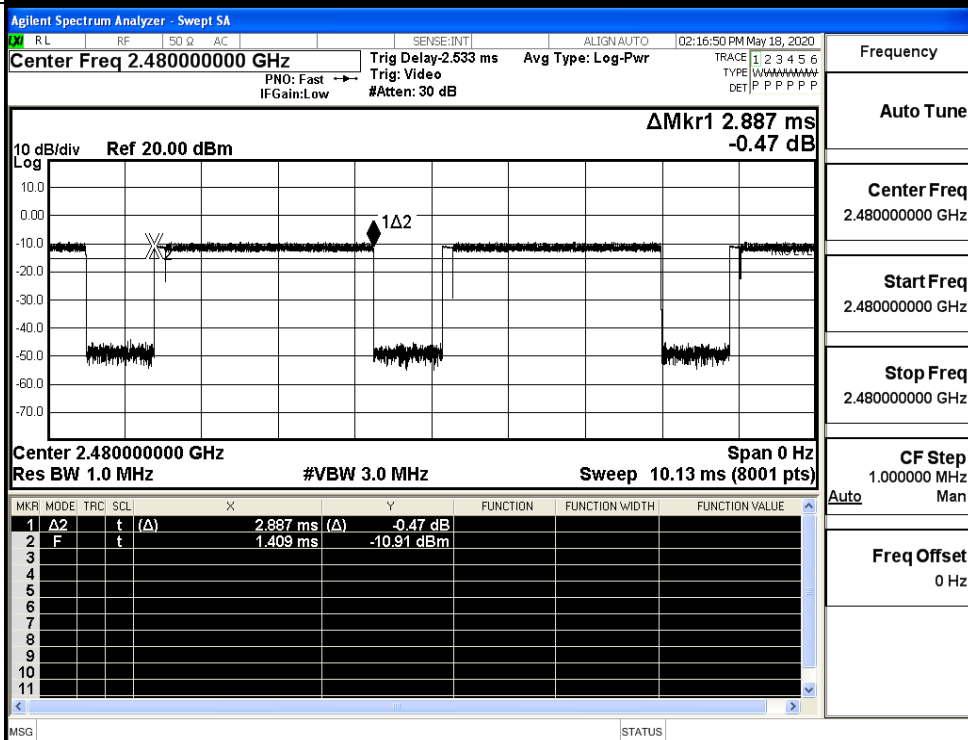
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



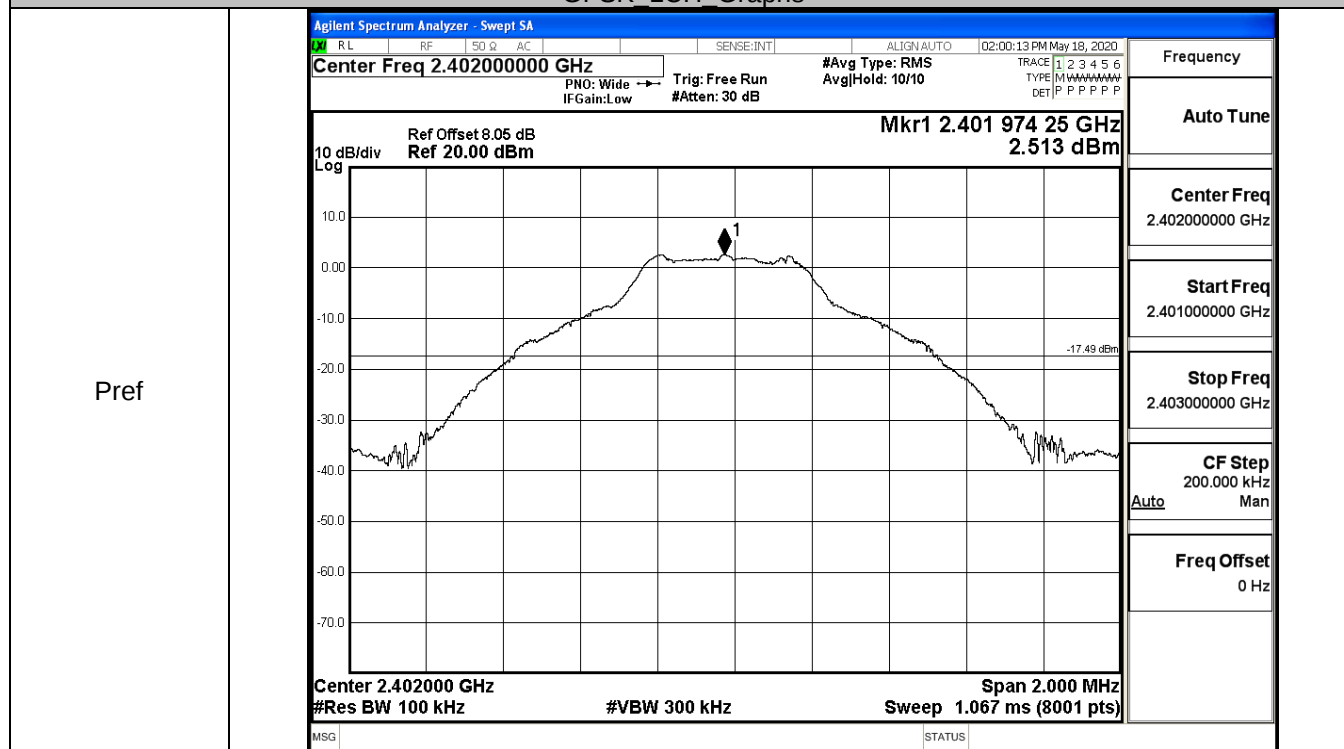
8DPSK_3DH5/HCH

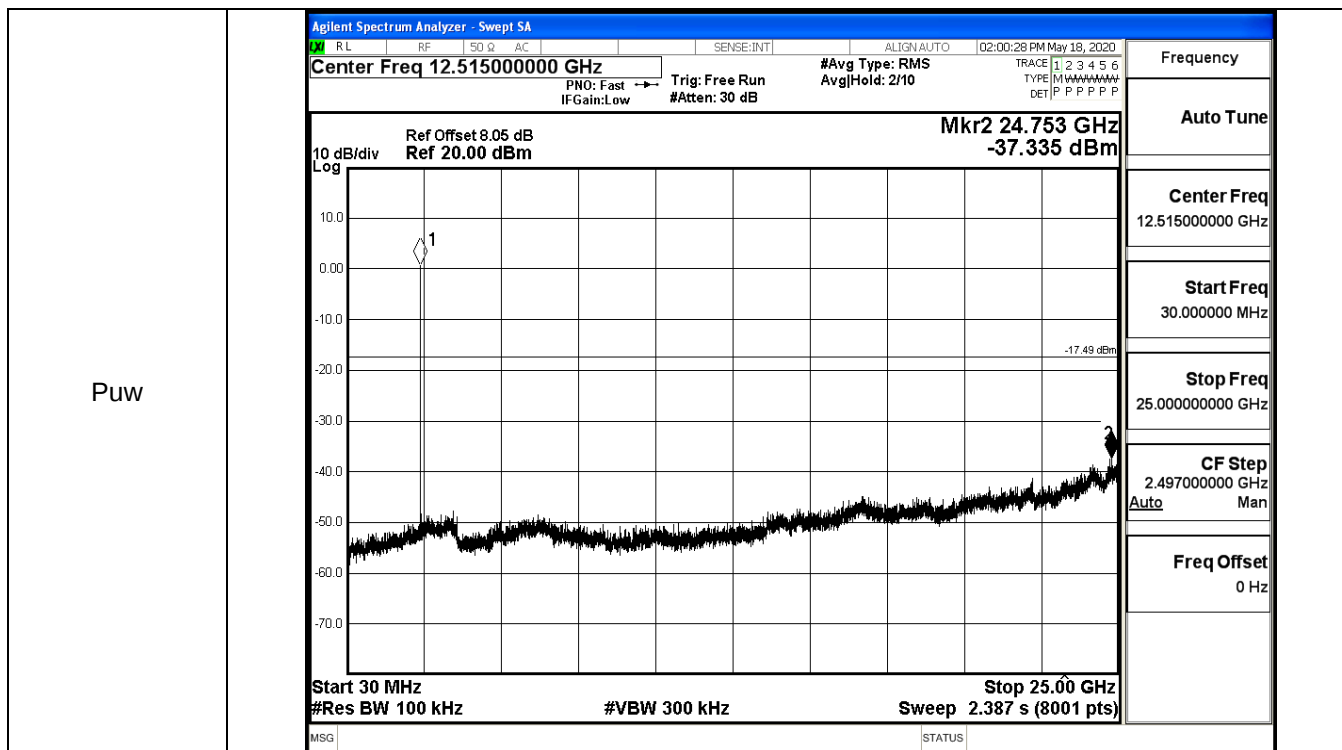


A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.513	-37.335	-17.487	PASS
	MCH	1.558	-38.204	-18.442	PASS
	HCH	0.238	-37.862	-19.762	PASS
$\pi/4$ DQPSK	LCH	-0.527	-37.457	-20.527	PASS
	MCH	-1.549	-38.006	-21.549	PASS
	HCH	-3.143	-38.343	-23.143	PASS
8DPSK	LCH	-0.508	-37.609	-20.508	PASS
	MCH	-1.509	-37.825	-21.509	PASS
	HCH	-2.973	-38.008	-22.973	PASS

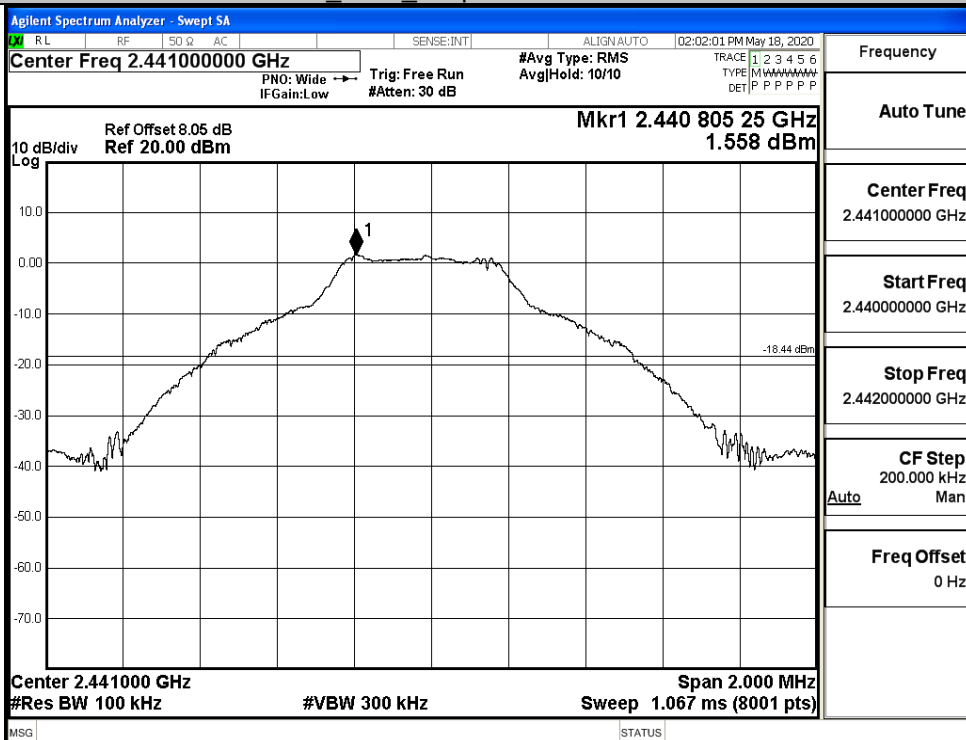
GFSK LCH Graphs



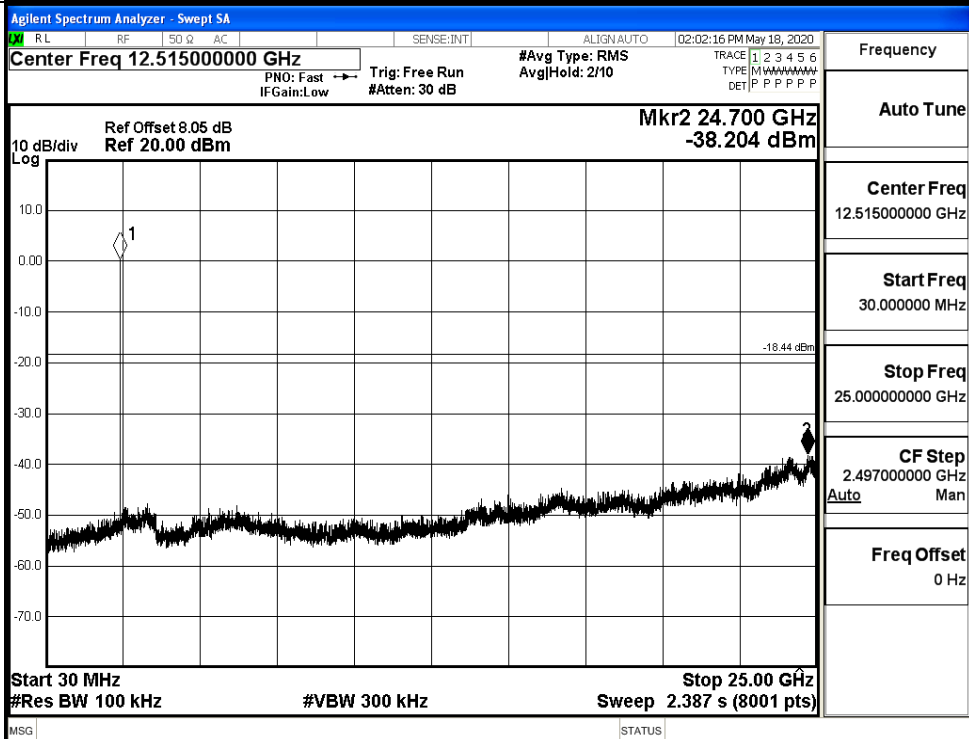


GFSK_MCH_Graphs

Pref

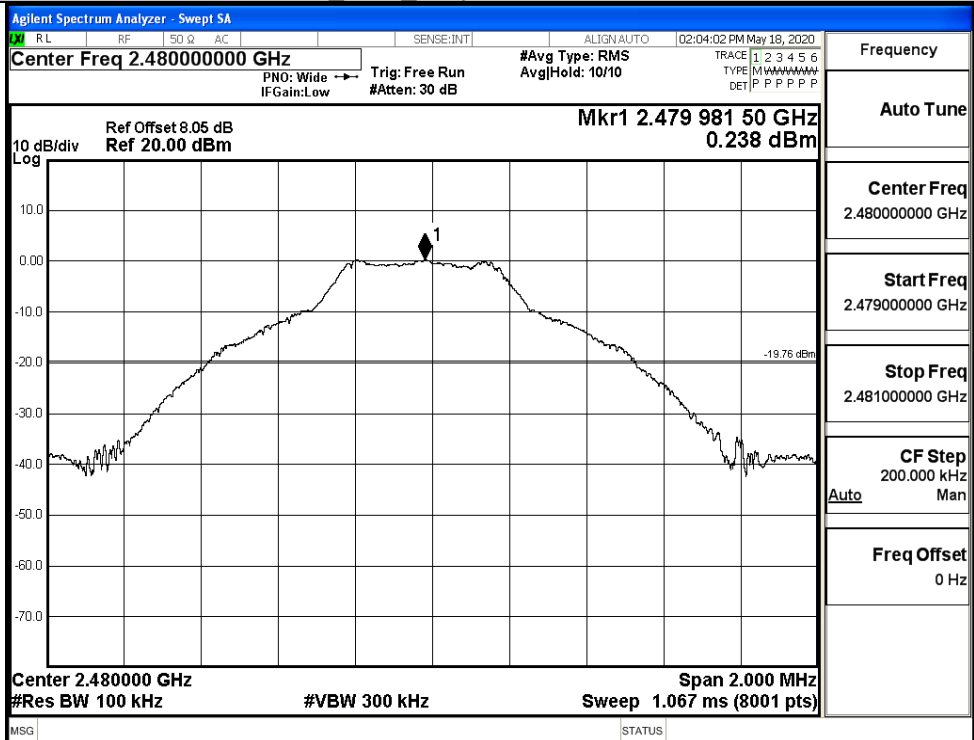


Puw

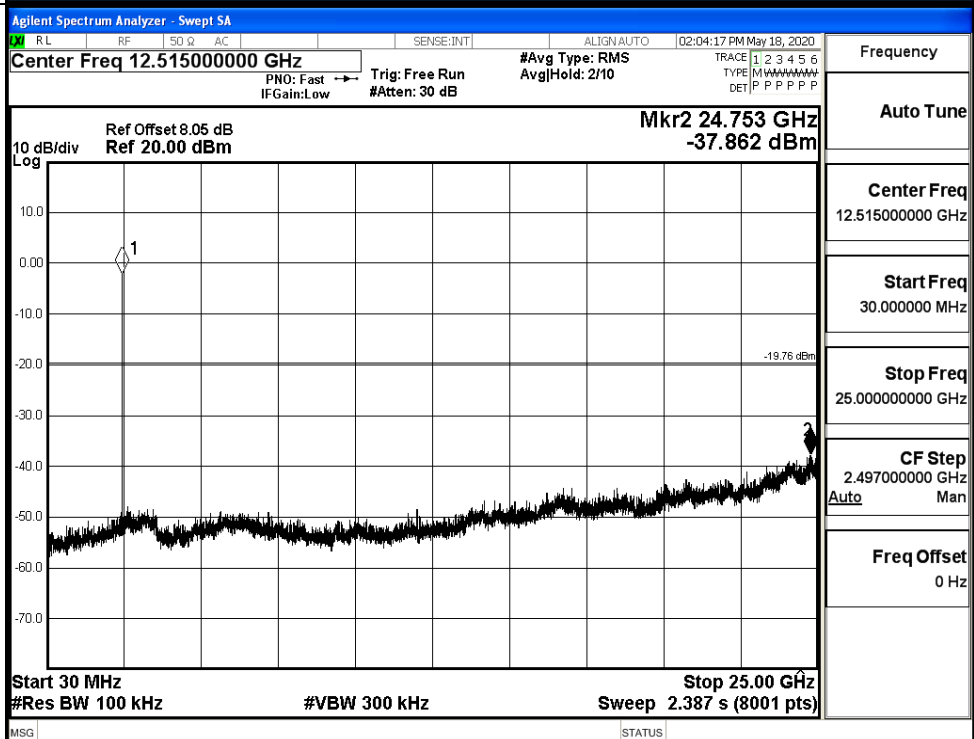


GFSK HCH_Graphs

Pref

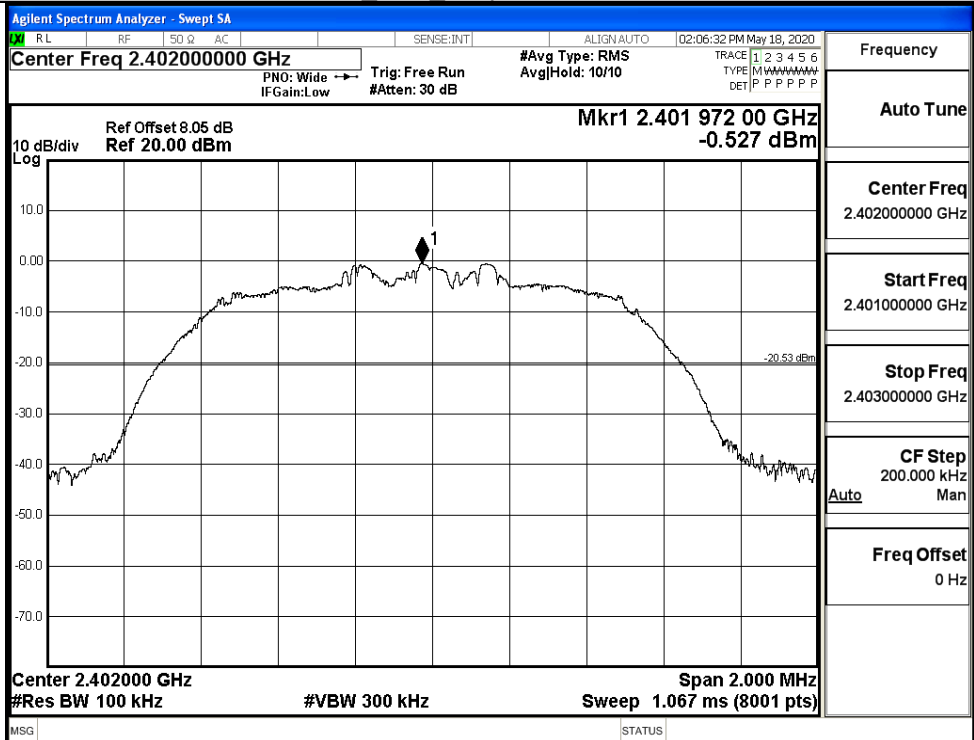


Puw

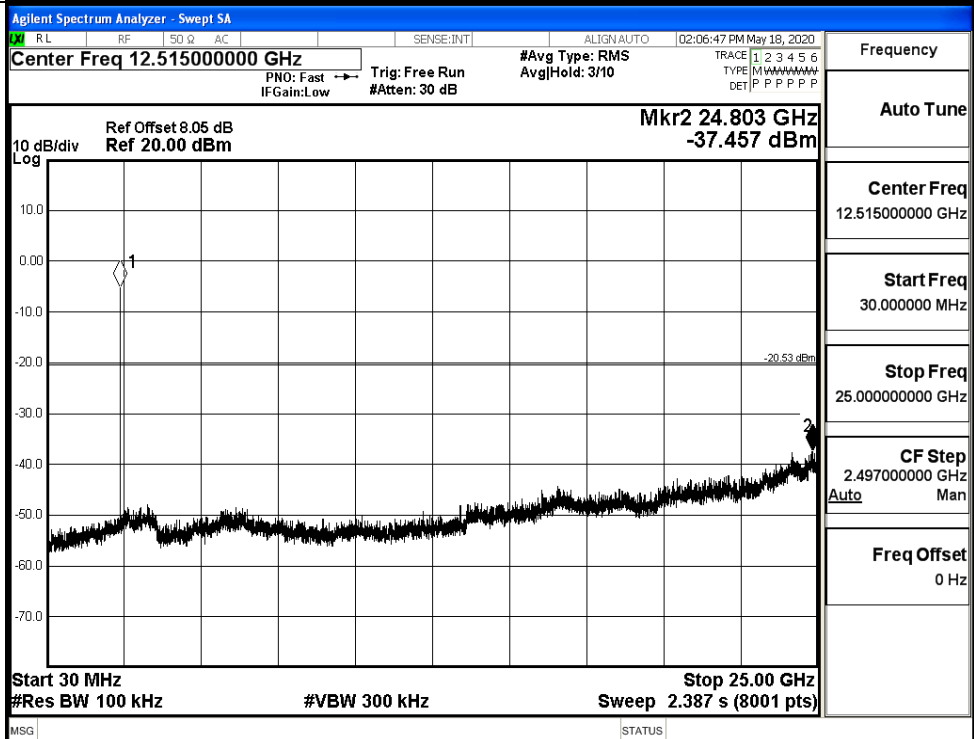


$\pi/4$ DQPSK_LCH_Graphs

Pref

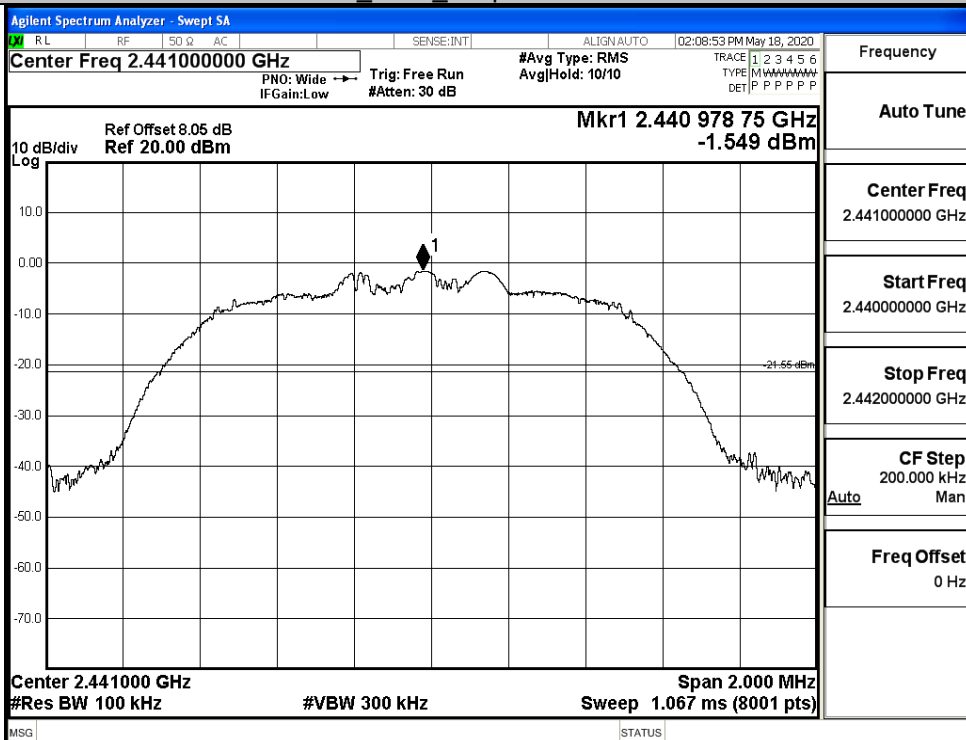


Puw

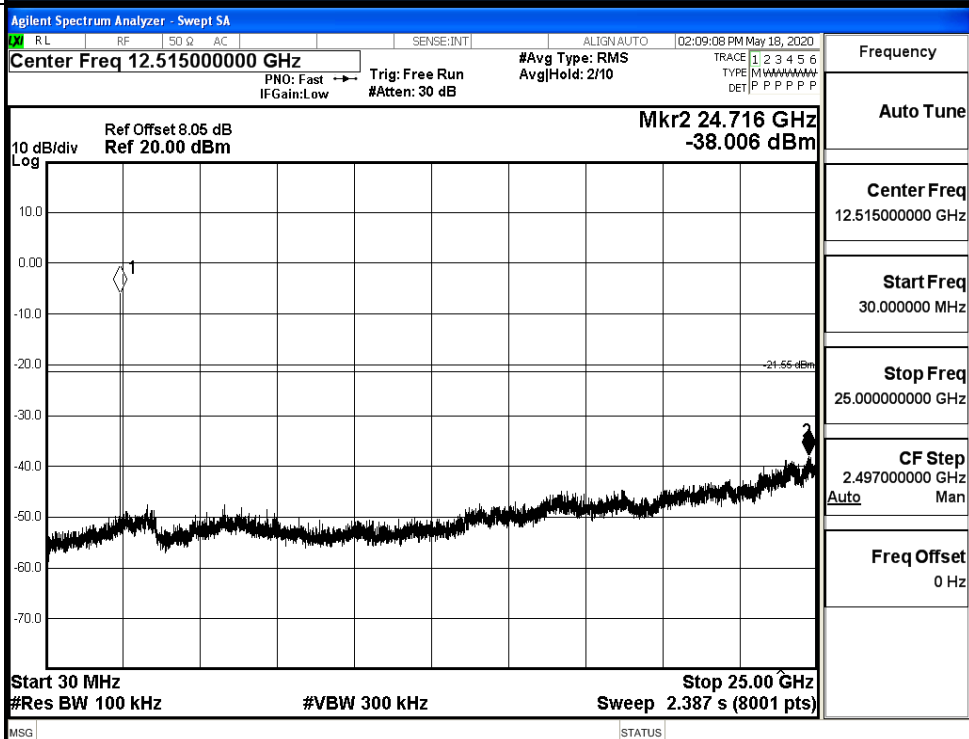


$\pi/4$ DQPSK_MCH_Graphs

Pref

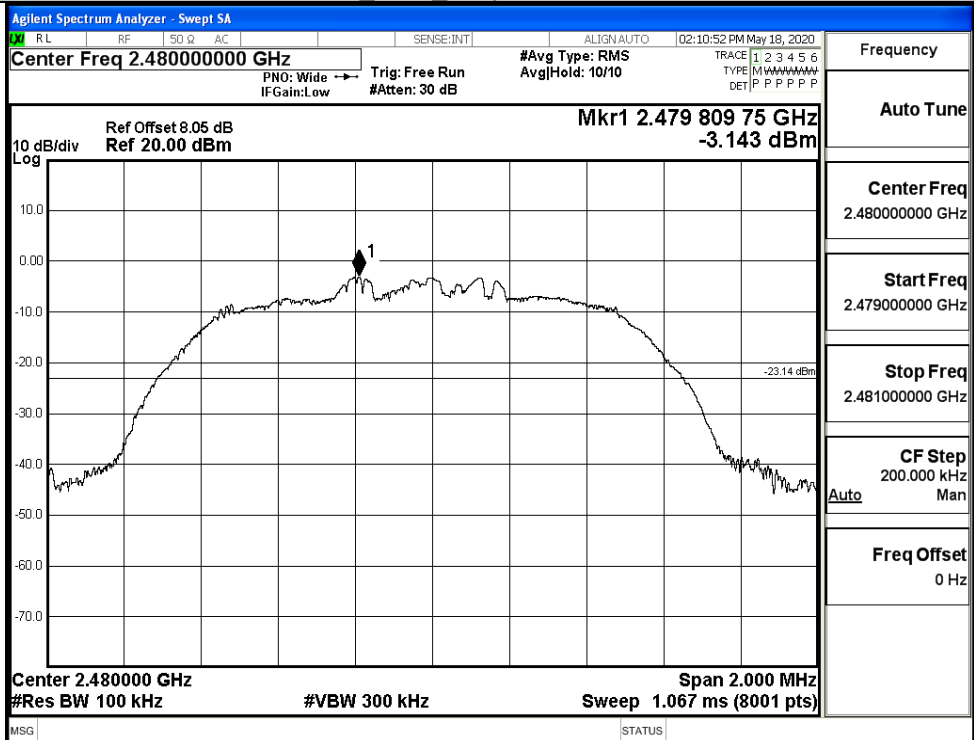


Puw

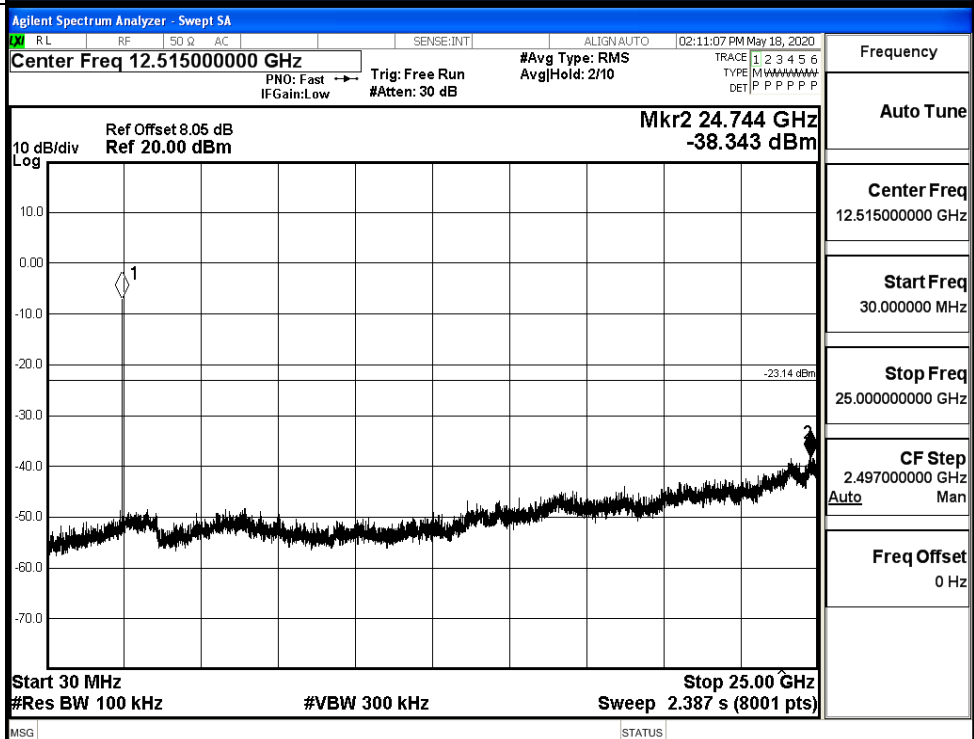


$\pi/4$ DQPSK_HCH_Graphs

Pref

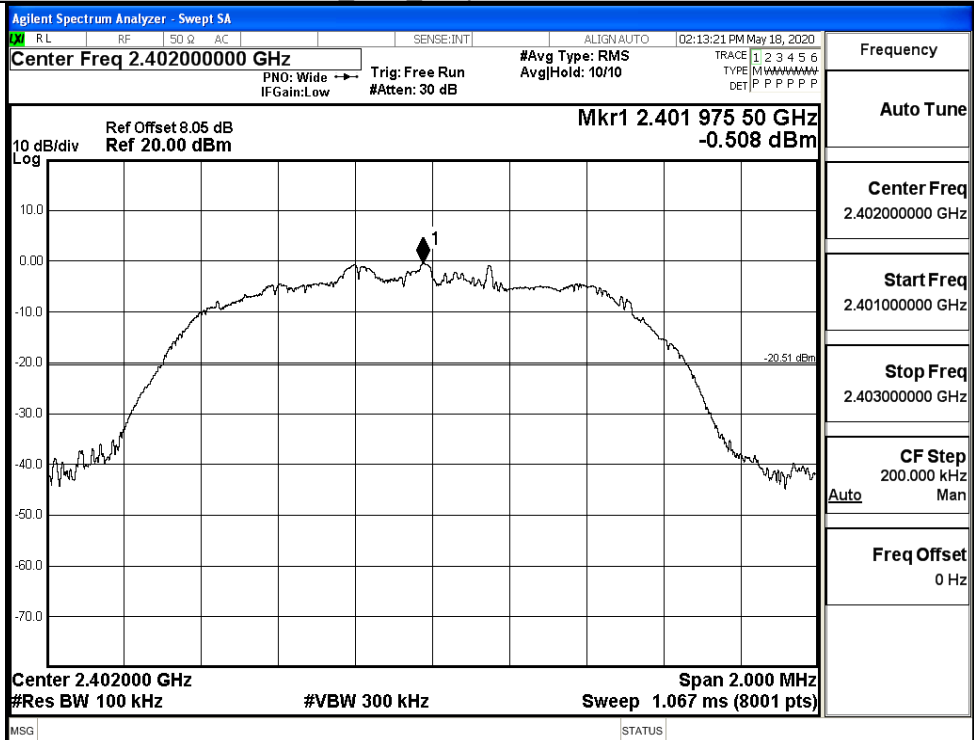


Puw



8DPSK_LCH_Graphs

Pref

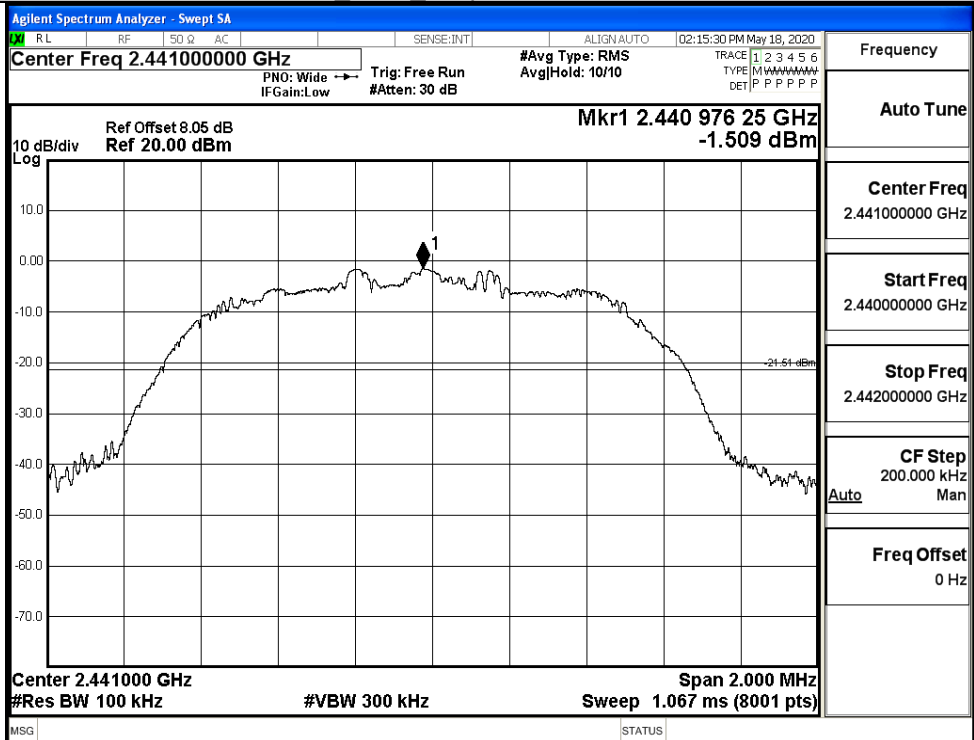


Puw

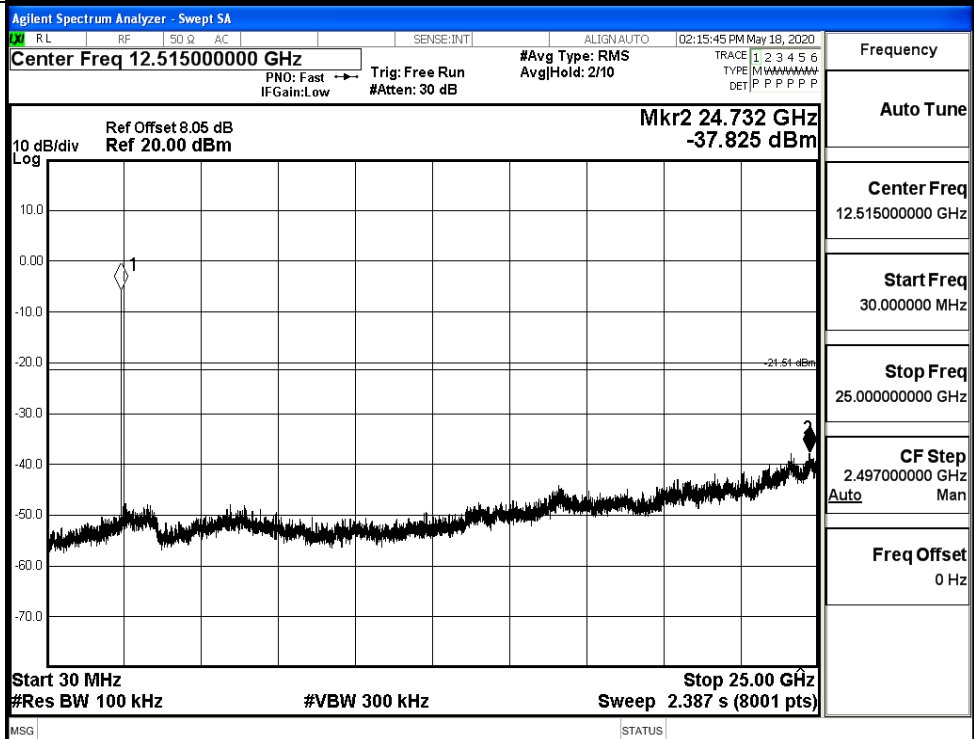


8DPSK_MCH_Graphs

Pref

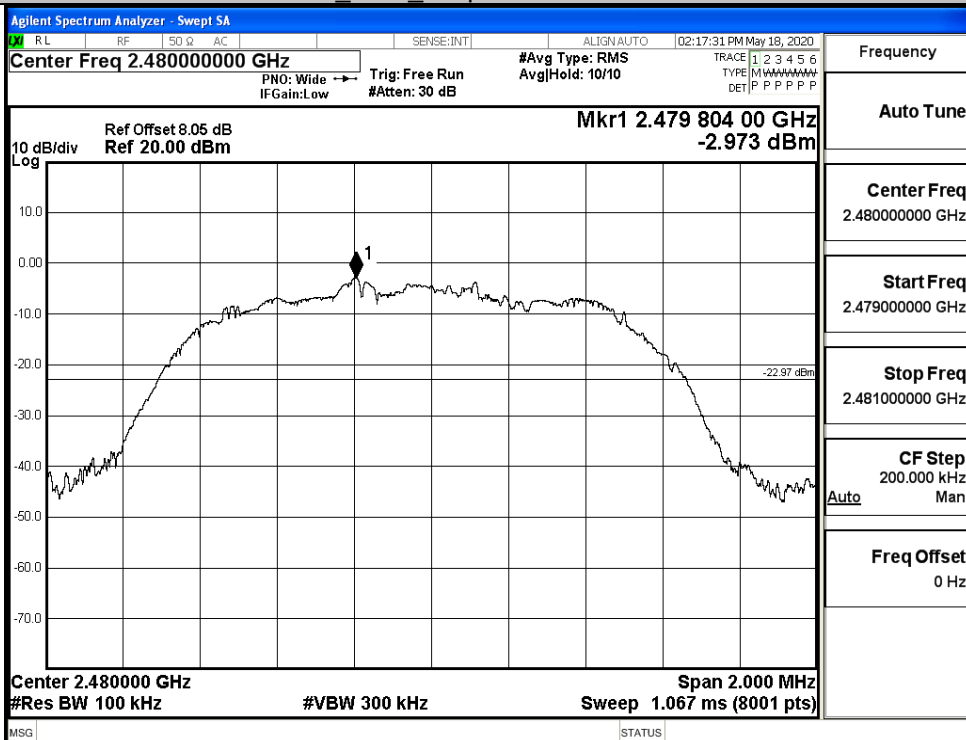


Puw

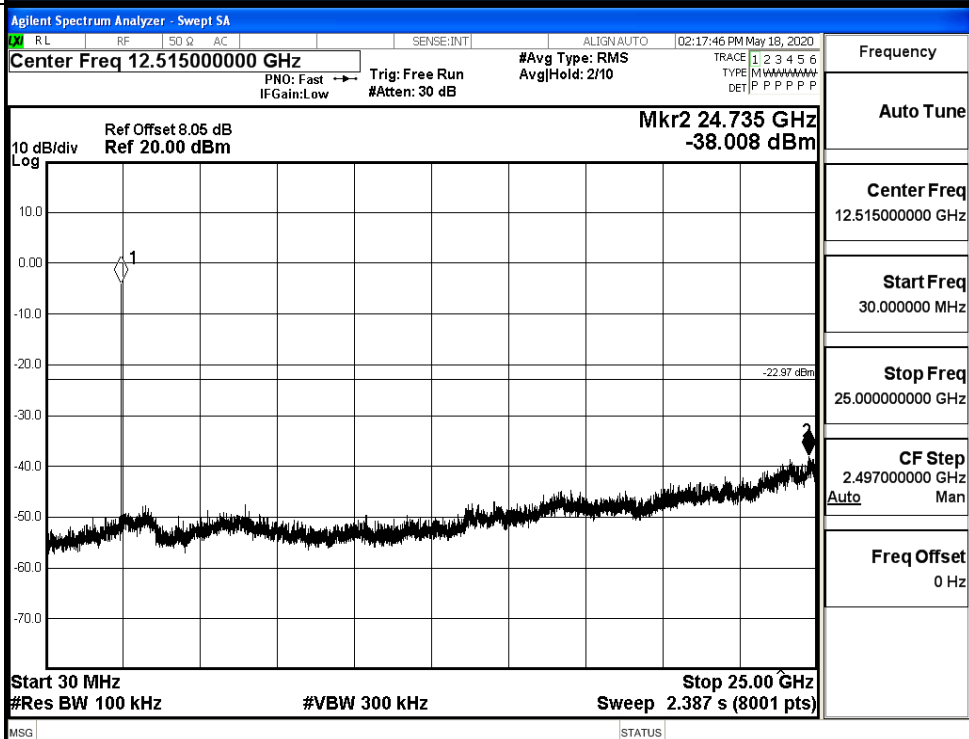


8DPSK_HCH_Graphs

Pref



Puw

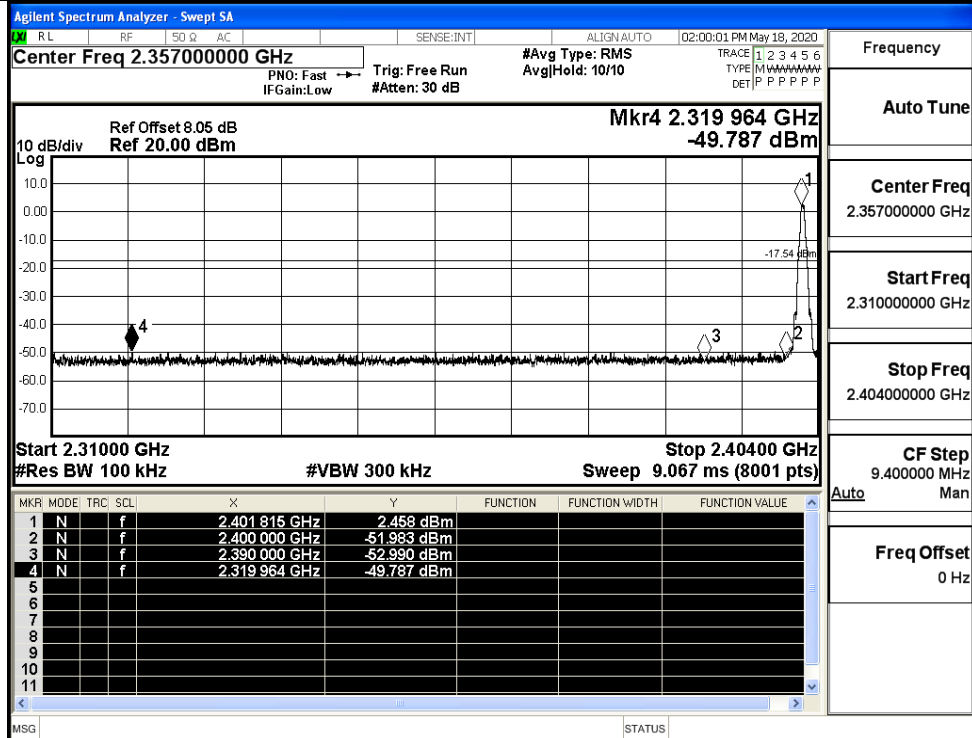


A.7 Band-edge for RF Conducted Emissions

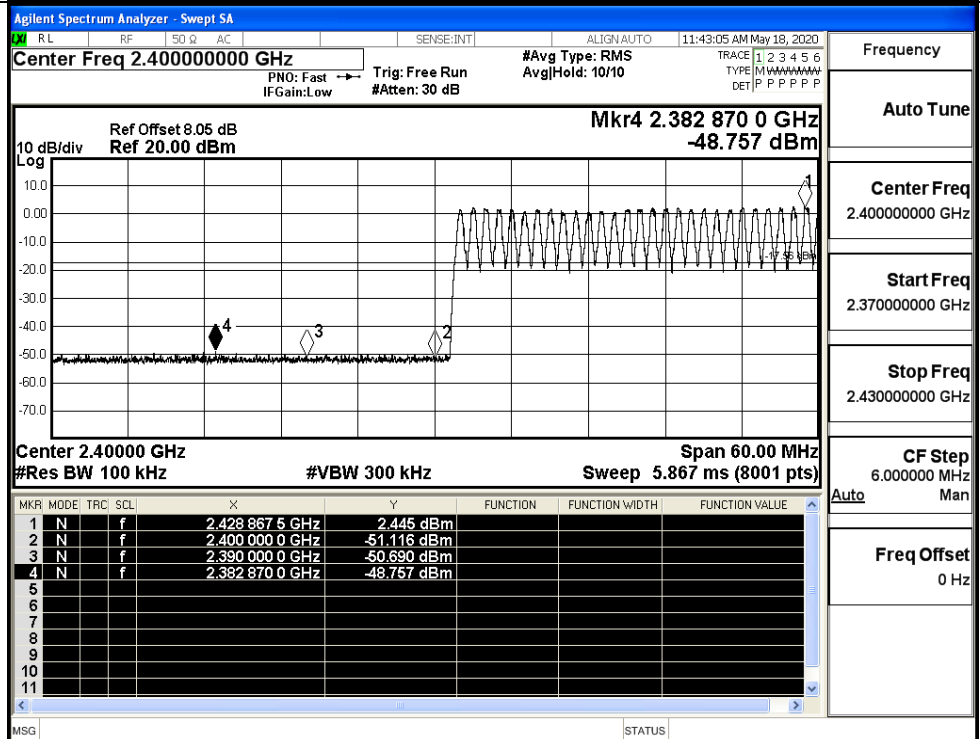
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	2.458	Off	-49.787	-17.54	PASS
			2.445	On	-48.757	-17.56	PASS
	HCH	2480	0.418	Off	-48.754	-19.58	PASS
			2.657	On	-48.606	-17.34	PASS
$\pi/4$ DQPSK	LCH	2402	-0.671	Off	-49.512	-20.67	PASS
			2.374	On	-48.861	-17.63	PASS
	HCH	2480	-2.748	Off	-48.734	-22.75	PASS
			2.530	On	-48.626	-17.47	PASS
8DPSK	LCH	2402	-0.598	Off	-49.442	-20.6	PASS
			1.738	On	-49.151	-18.26	PASS
	HCH	2480	-2.786	Off	-49.010	-22.79	PASS
			1.940	On	-48.670	-18.06	PASS

Test Graphs

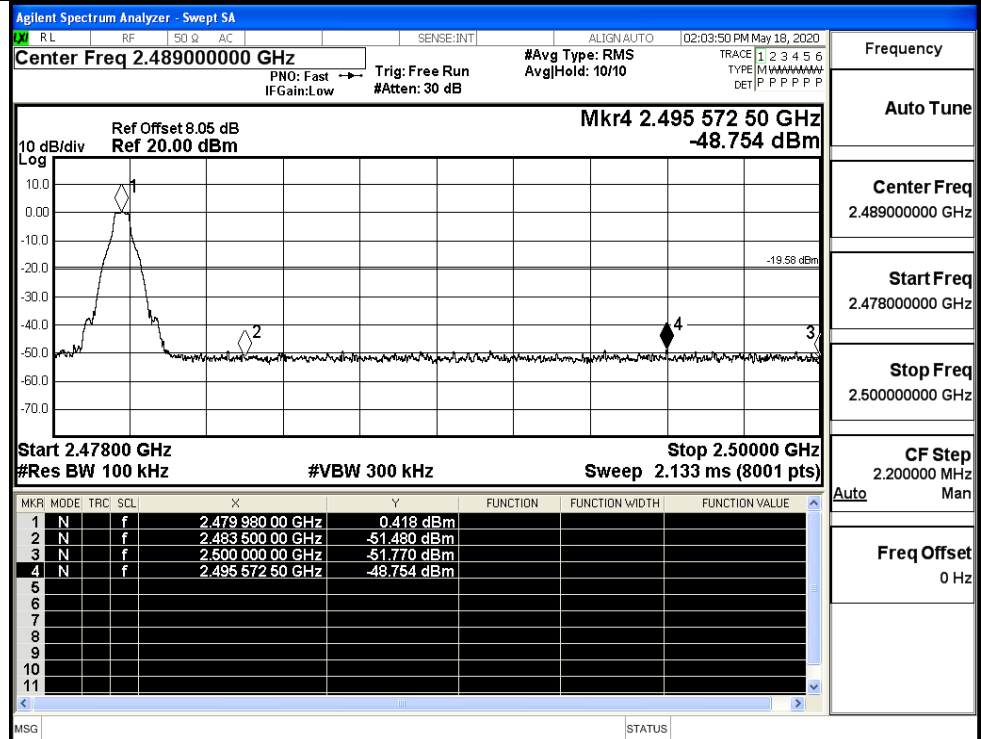
GFSK/LCH/No Hop



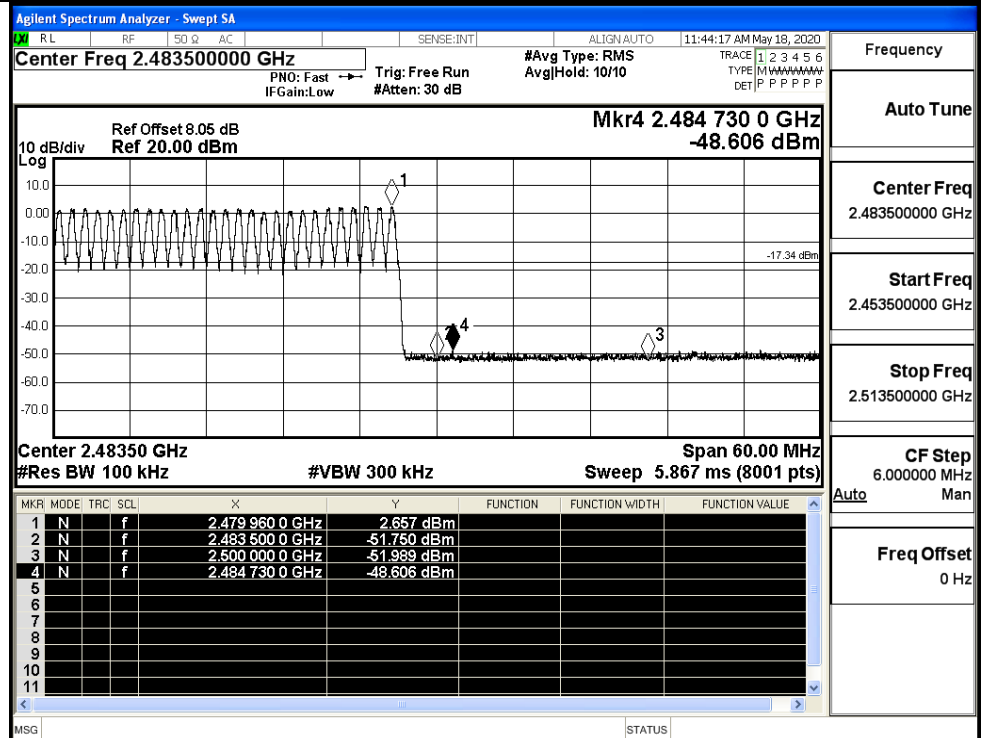
GFSK/LCH/Hop



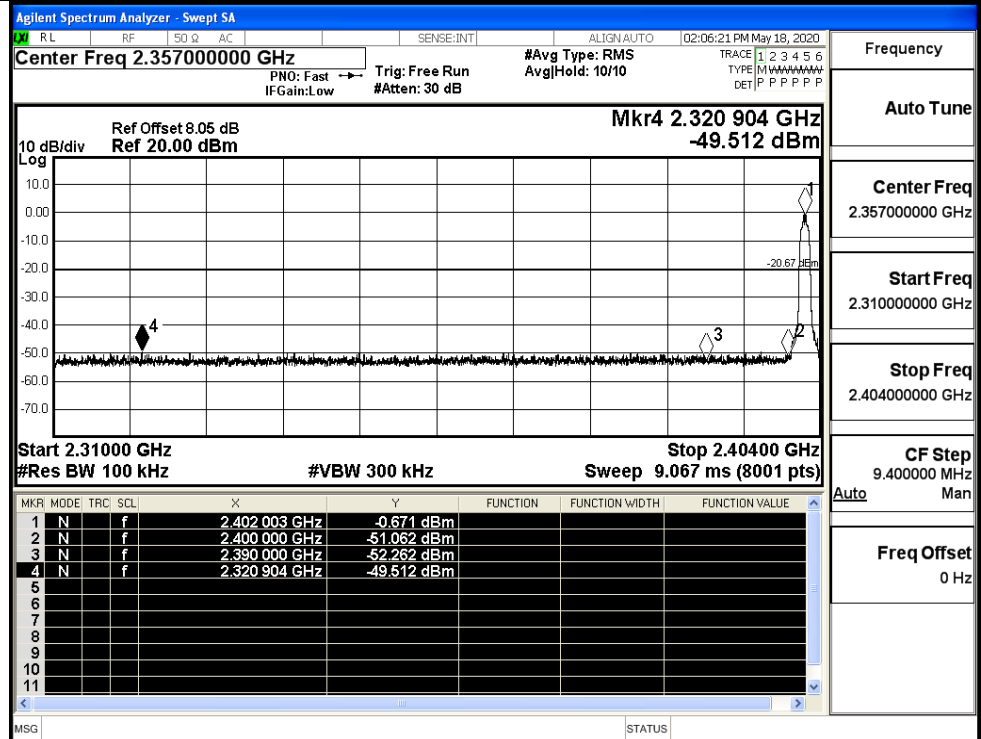
GFSK/HCH/No Hop



GFSK/HCH/Hop



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

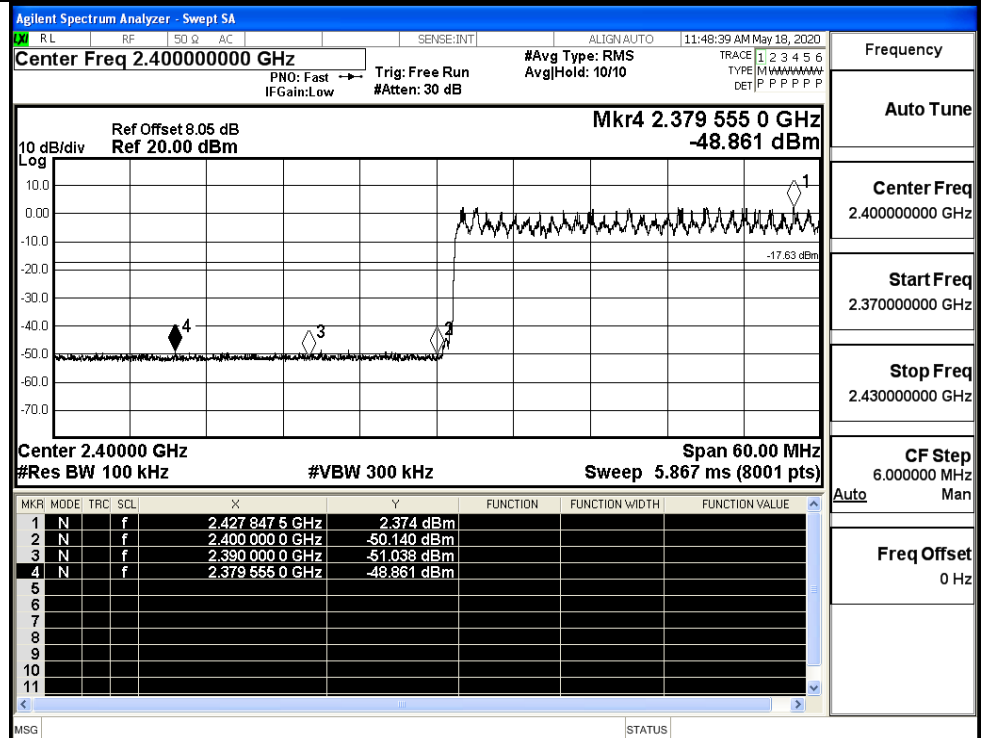


Frequency

Auto Tune

Center Freq
2.357000000 GHzStart Freq
2.310000000 GHzStop Freq
2.404000000 GHzCF Step
9.400000 MHz
Auto ManFreq Offset
0 Hz

$\pi/4$ DQPSK/LCH/Hop

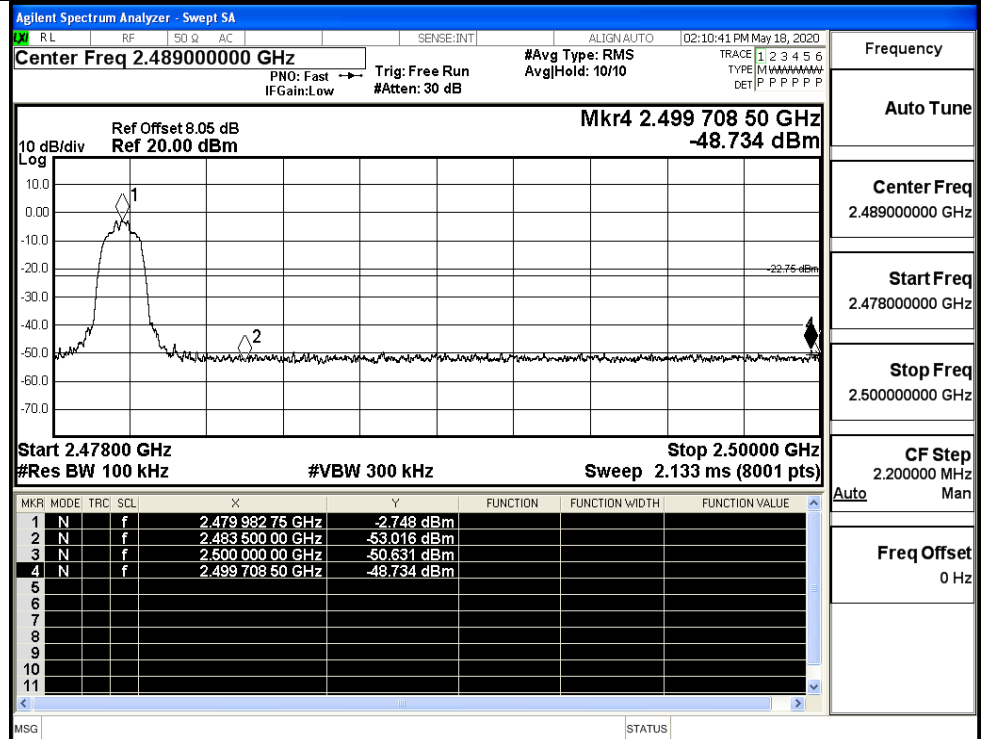


Frequency

Auto Tune

Center Freq
2.400000000 GHzStart Freq
2.370000000 GHzStop Freq
2.430000000 GHzCF Step
6.000000 MHz
Auto ManFreq Offset
0 Hz

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

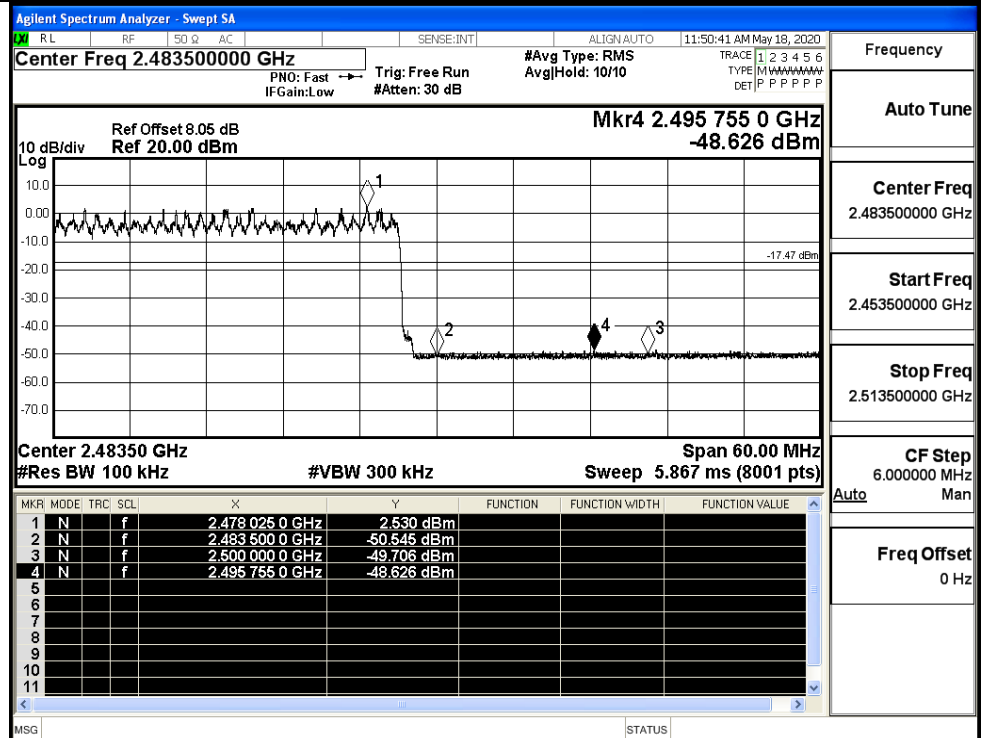


Frequency

Auto Tune

Center Freq
2.489000000 GHzStart Freq
2.478000000 GHzStop Freq
2.500000000 GHzCF Step
2.200000 MHz
Auto ManFreq Offset
0 Hz

$\pi/4$ DQPSK/HCH/Hop

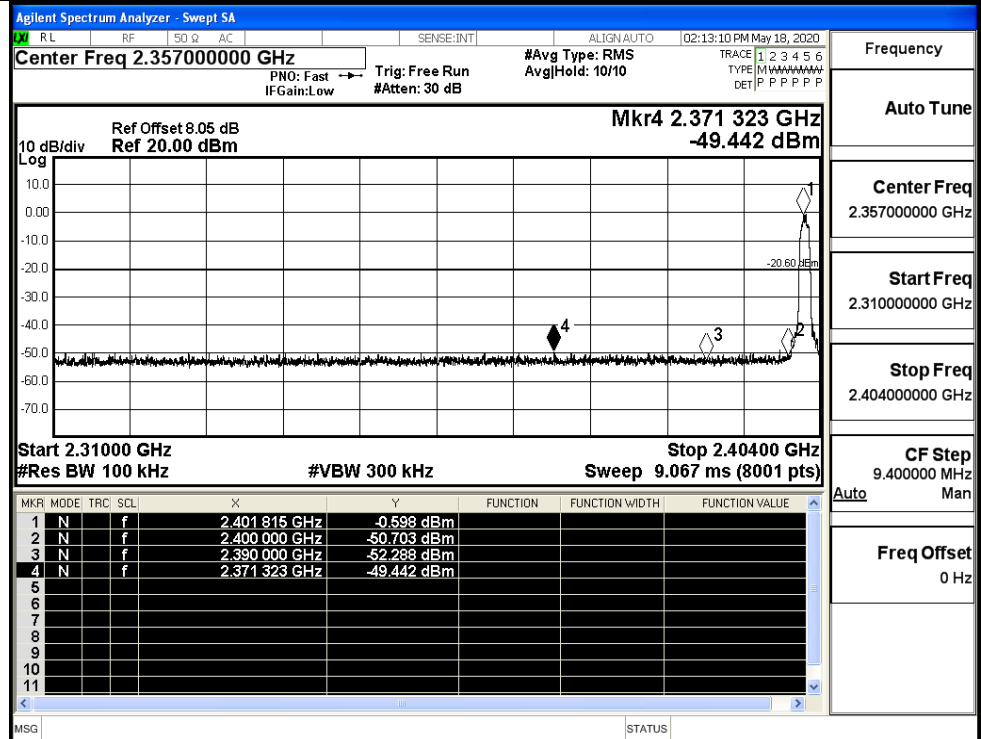


Frequency

Auto Tune

Center Freq
2.483500000 GHzStart Freq
2.453500000 GHzStop Freq
2.513500000 GHzCF Step
6.000000 MHz
Auto ManFreq Offset
0 Hz

8DPSK/LCH/No Hop

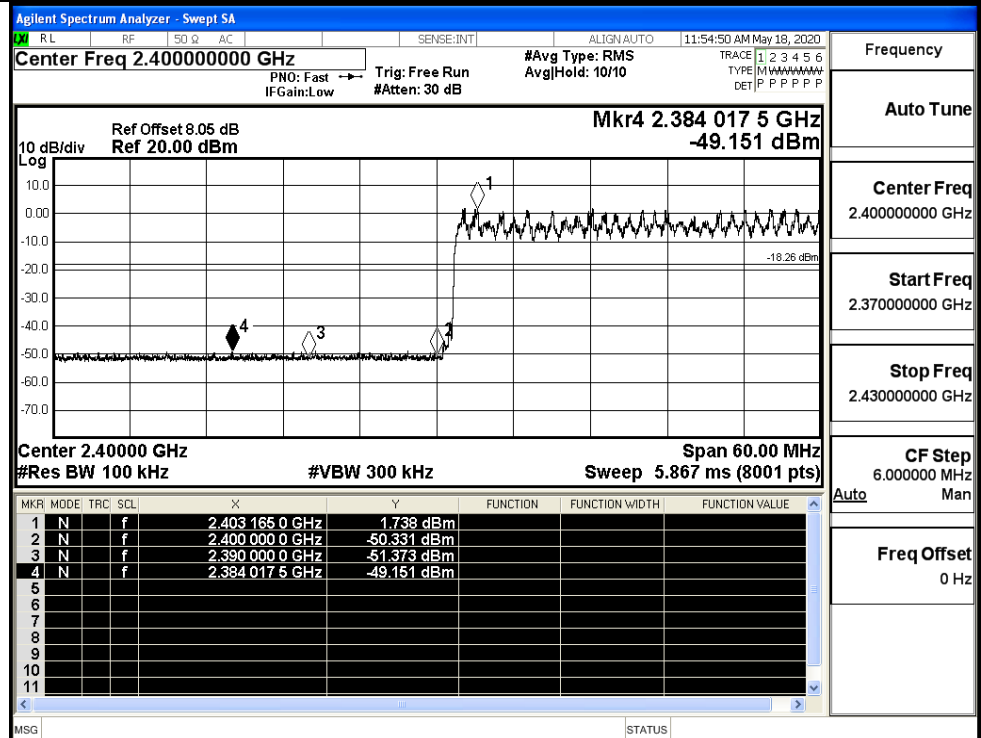


Frequency

Auto Tune

Center Freq
2.357000000 GHzStart Freq
2.310000000 GHzStop Freq
2.404000000 GHzCF Step
9.400000 MHz
Auto ManFreq Offset
0 Hz

8DPSK/LCH/Hop

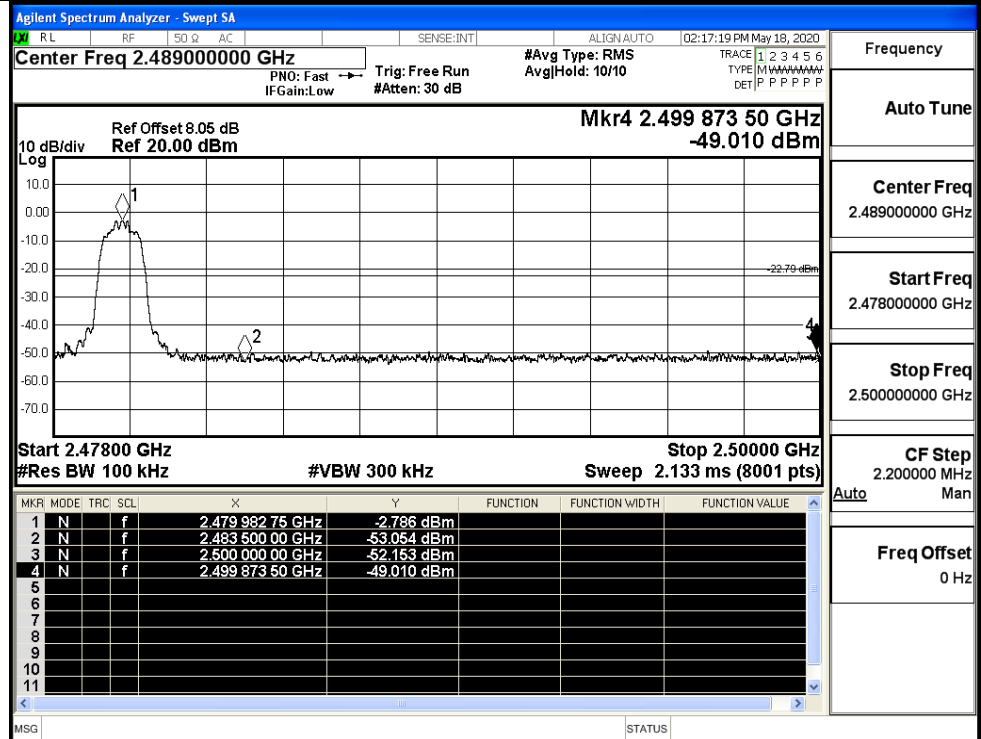


Frequency

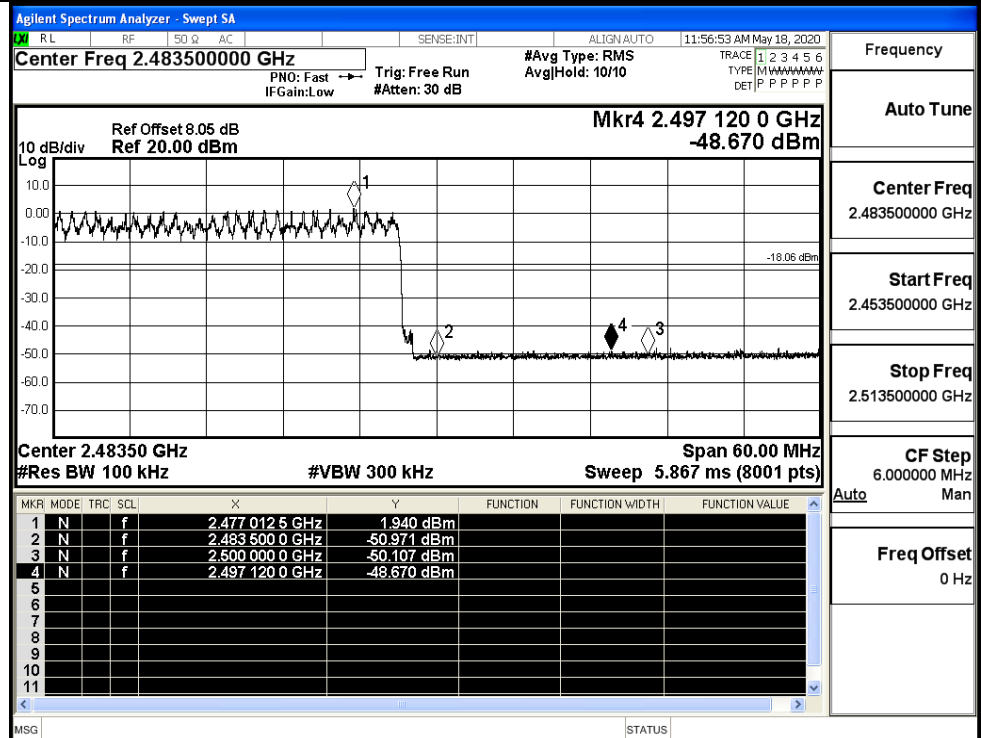
Auto Tune

Center Freq
2.400000000 GHzStart Freq
2.370000000 GHzStop Freq
2.430000000 GHzCF Step
6.000000 MHz
Auto ManFreq Offset
0 Hz

8DPSK/HCH/No Hop



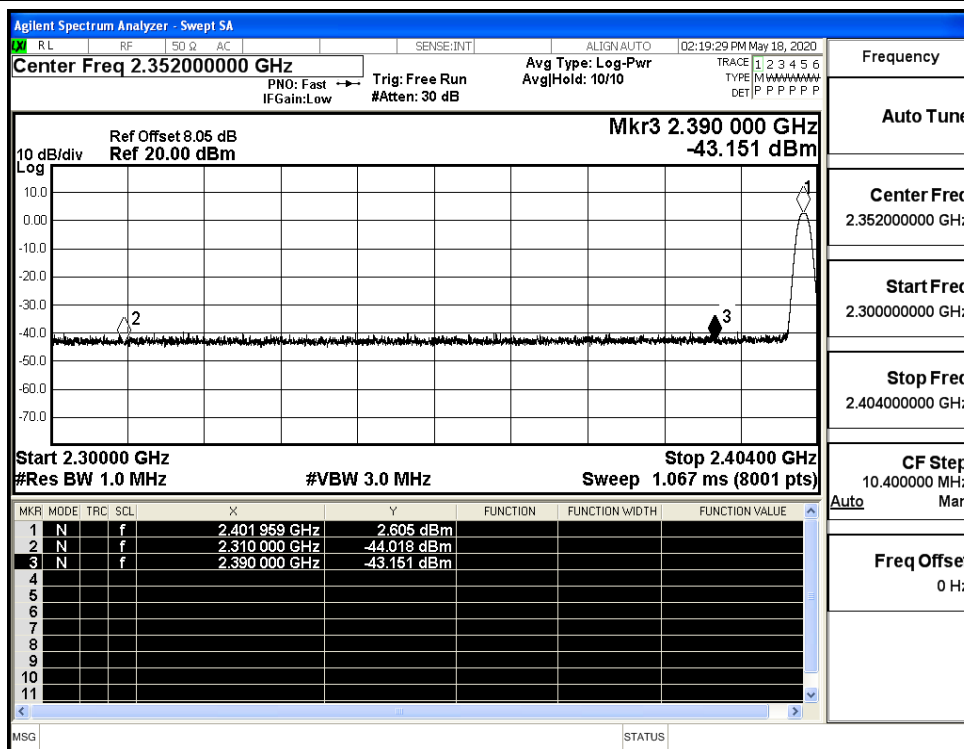
8DPSK/HCH/Hop



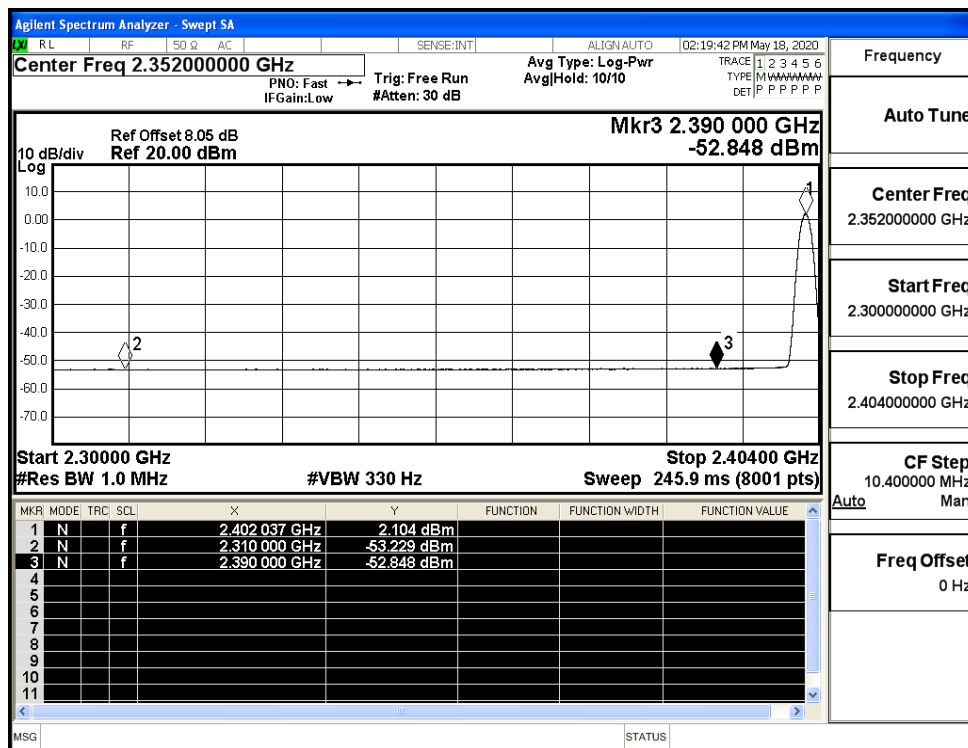
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-44.02	2.0	0	53.24	PEAK	74	PASS
	Off	2310.0	-53.23	2.0	0	44.03	AV	54	PASS
	Off	2390.0	-43.15	2.0	0	54.11	PEAK	74	PASS
	Off	2390.0	-52.85	2.0	0	44.41	AV	54	PASS
	Off	2483.5	-43.01	2.0	0	54.25	PEAK	74	PASS
	Off	2483.5	-52.30	2.0	0	44.96	AV	54	PASS
	Off	2500.0	-41.86	2.0	0	55.40	PEAK	74	PASS
	Off	2500.0	-52.18	2.0	0	45.07	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.93	2.0	0	53.33	PEAK	74	PASS
	Off	2310.0	-53.24	2.0	0	44.02	AV	54	PASS
	Off	2390.0	-42.74	2.0	0	54.52	PEAK	74	PASS
	Off	2390.0	-52.92	2.0	0	44.34	AV	54	PASS
	Off	2483.5	-40.60	2.0	0	56.66	PEAK	74	PASS
	Off	2483.5	-52.41	2.0	0	44.85	AV	54	PASS
	Off	2500.0	-42.43	2.0	0	54.83	PEAK	74	PASS
	Off	2500.0	-52.31	2.0	0	44.95	AV	54	PASS
8DPSK	Off	2310.0	-42.93	2.0	0	54.33	PEAK	74	PASS
	Off	2310.0	-53.26	2.0	0	44.00	AV	54	PASS
	Off	2390.0	-42.01	2.0	0	55.25	PEAK	74	PASS
	Off	2390.0	-52.86	2.0	0	44.39	AV	54	PASS
	Off	2483.5	-42.34	2.0	0	54.92	PEAK	74	PASS
	Off	2483.5	-52.45	2.0	0	44.81	AV	54	PASS
	Off	2500.0	-41.54	2.0	0	55.72	PEAK	74	PASS
	Off	2500.0	-52.30	2.0	0	44.96	AV	54	PASS

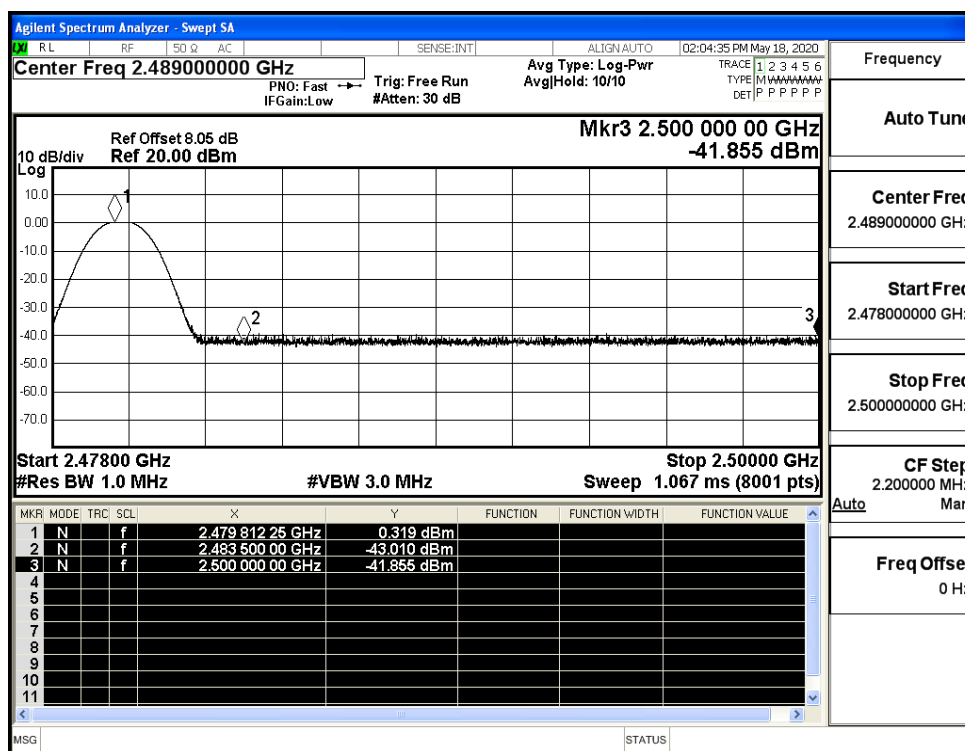
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



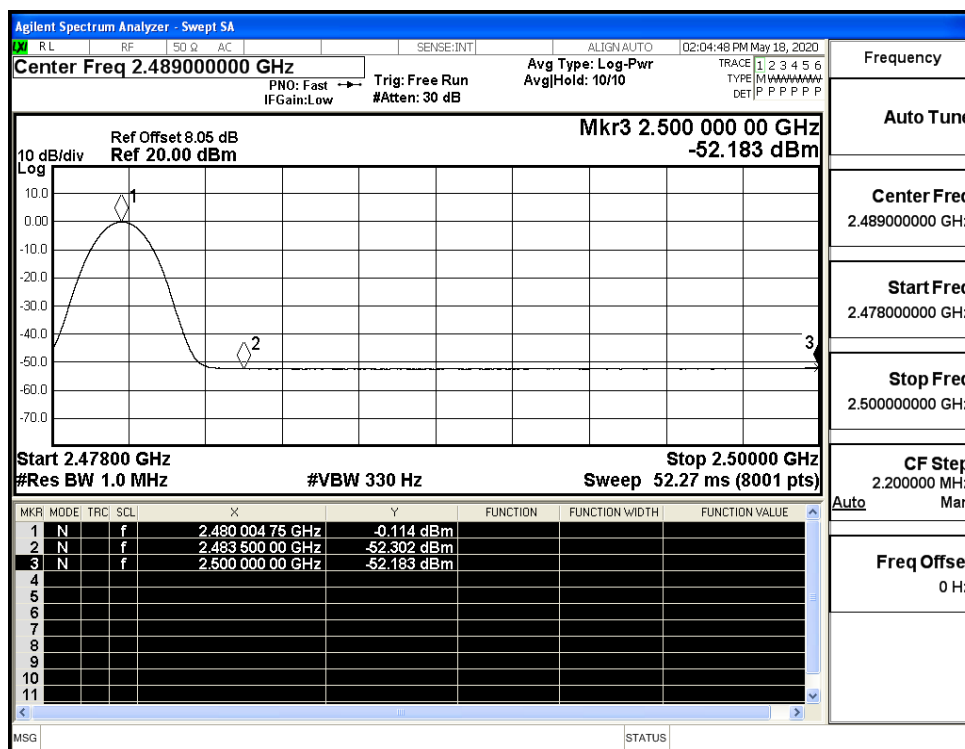
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

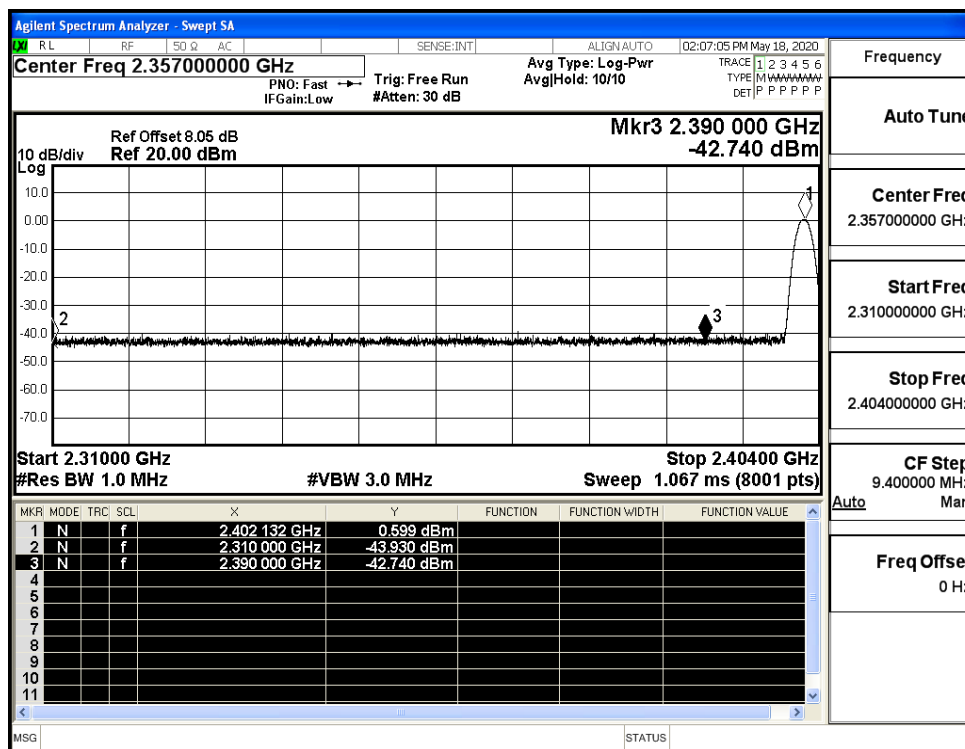
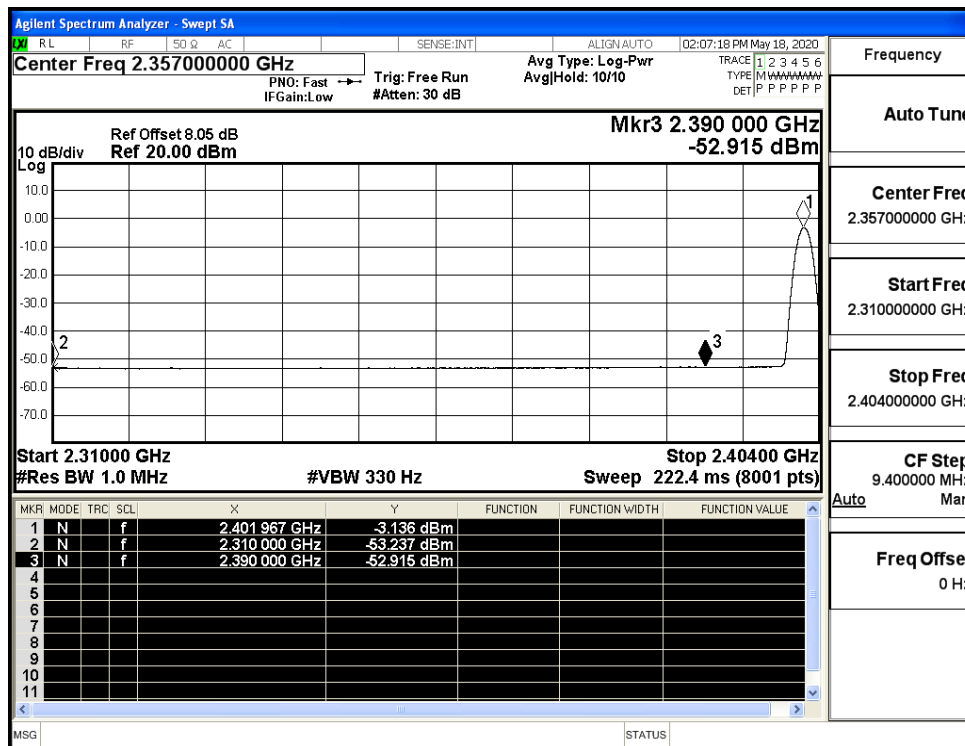


Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)

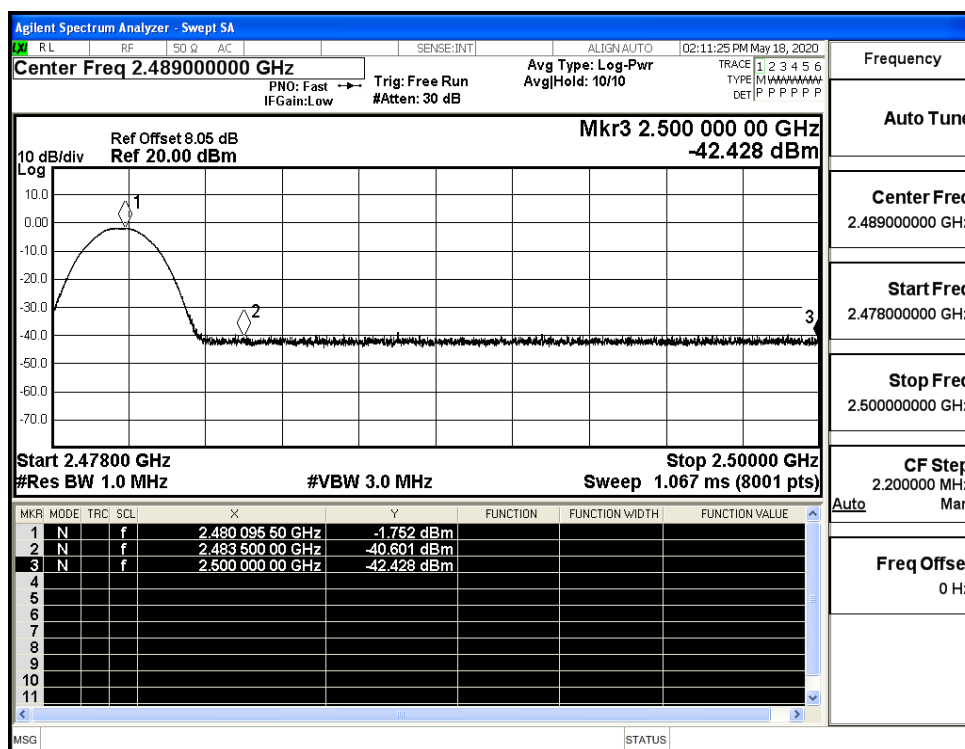


Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)

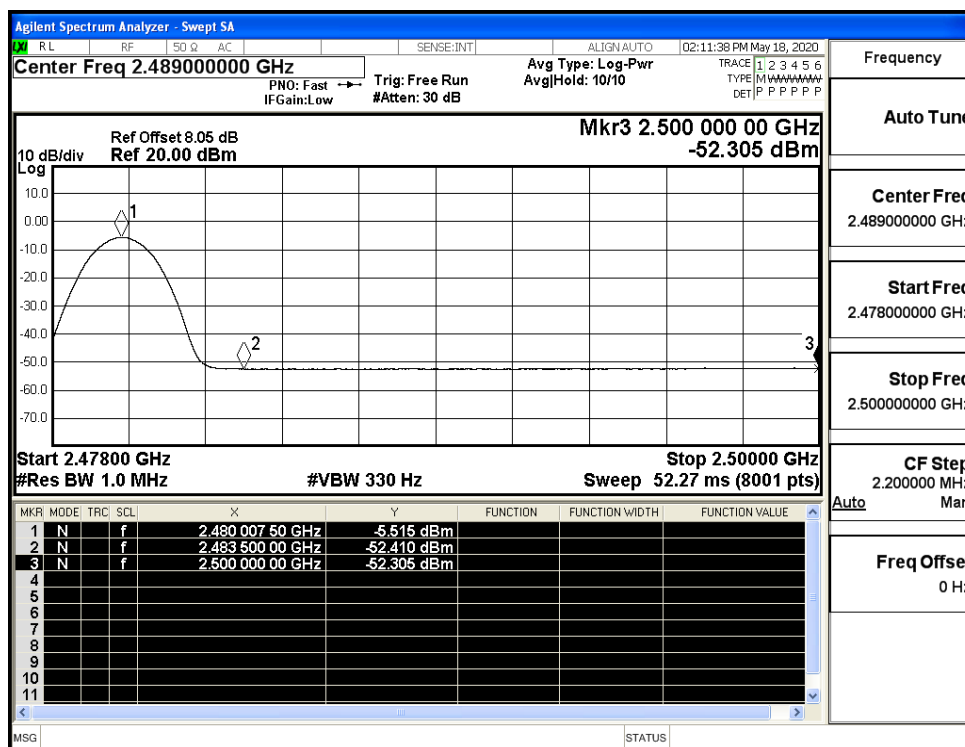


Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

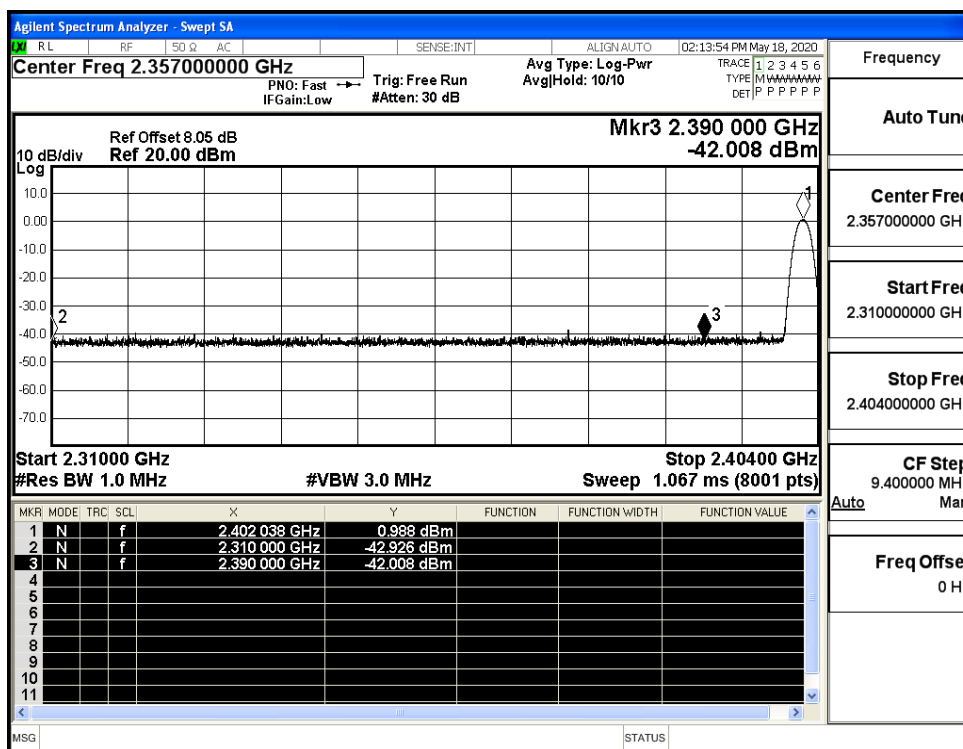
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



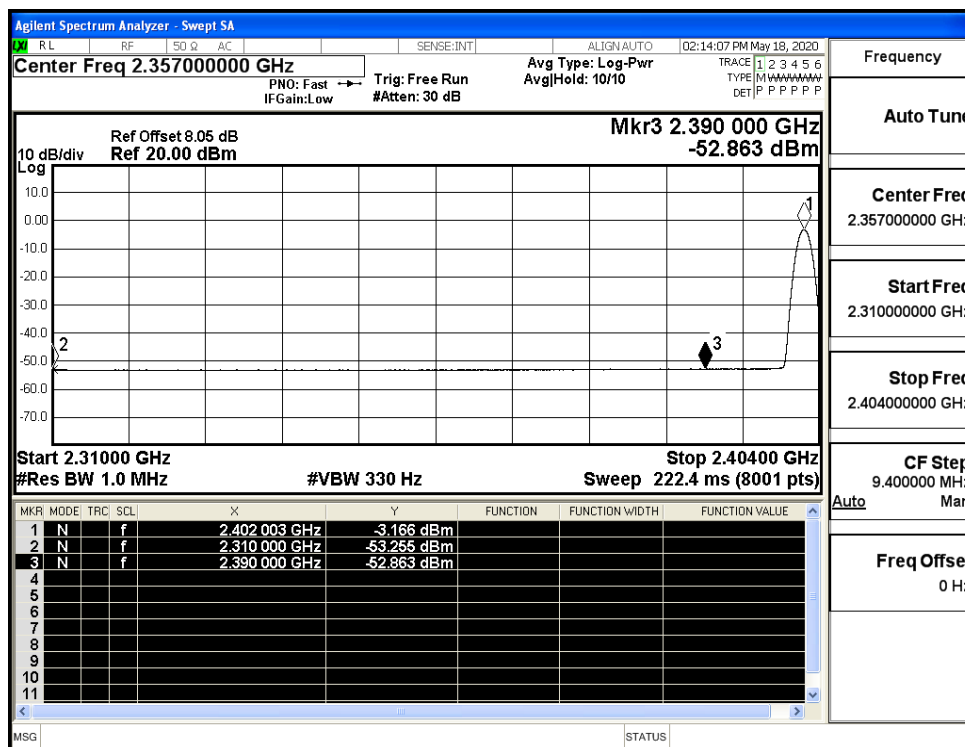
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



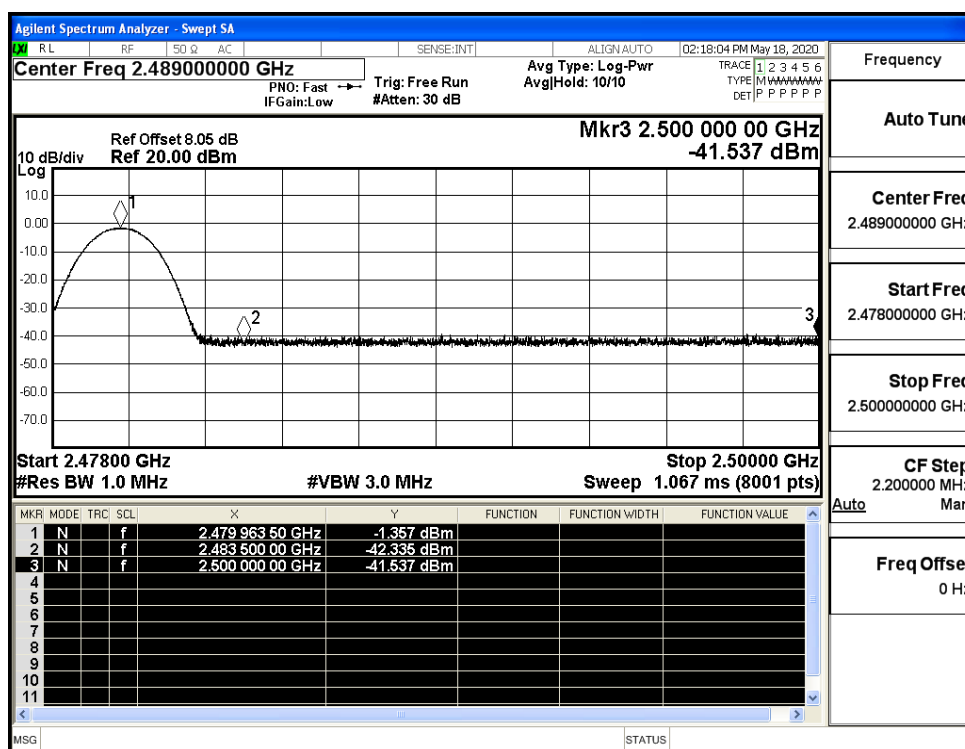
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

