

Appendix A

RF Test Data for BT V4.1(BDR/EDR) (Conducted Measurement)

Product Name: Post Kiosk

Trade Mark: N/A

Test Model: REEF-US-LKS8345A

Environmental Conditions

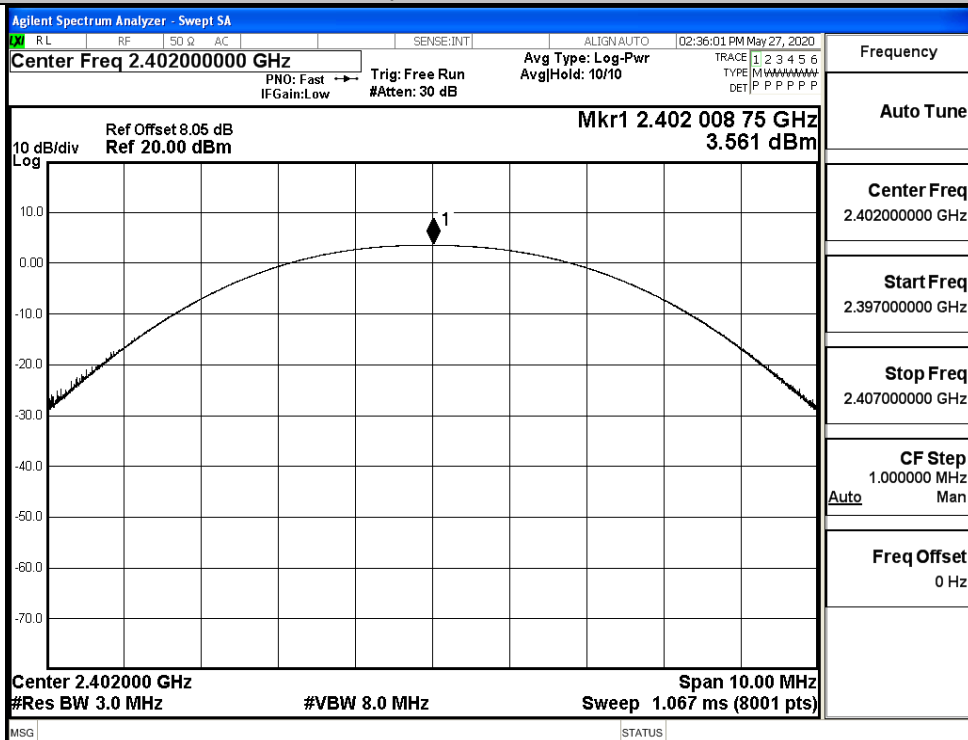
Temperature:	23.1 ° C
Relative Humidity:	53.3%
ATM Pressure:	100.0 kPa
Test Engineer:	SCOUT WU
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

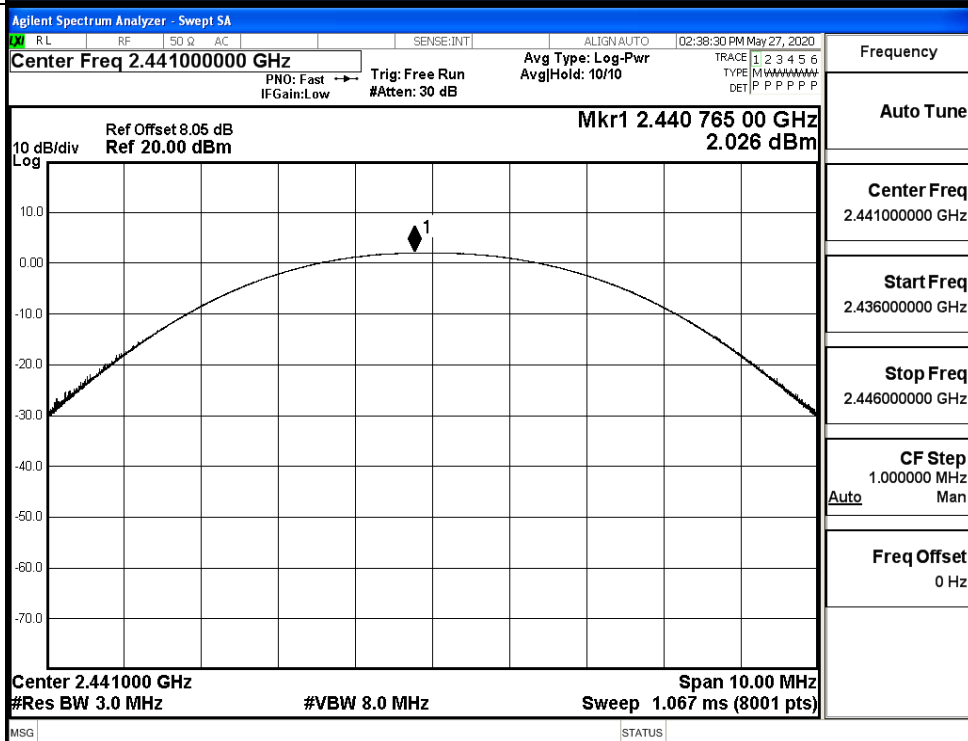
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.561	21	PASS
	MCH	2.026	21	PASS
	HCH	0.433	21	PASS
$\pi/4$ DQPSK	LCH	2.940	21	PASS
	MCH	1.374	21	PASS
	HCH	-0.321	21	PASS
8DPSK	LCH	3.317	21	PASS
	MCH	1.849	21	PASS
	HCH	0.221	21	PASS

Test Graphs

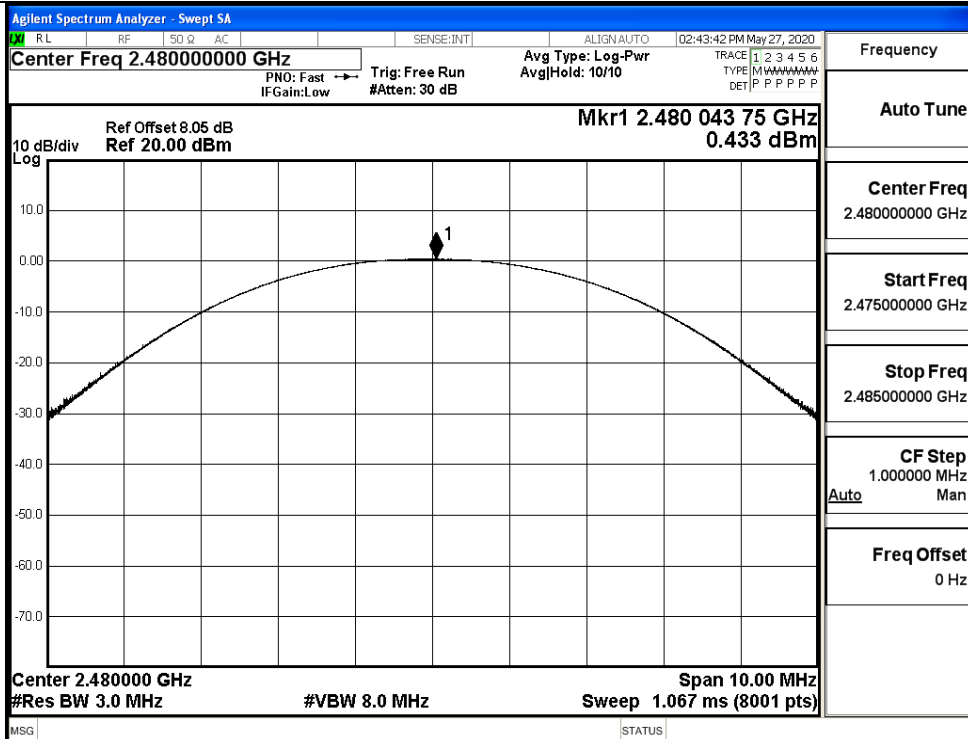
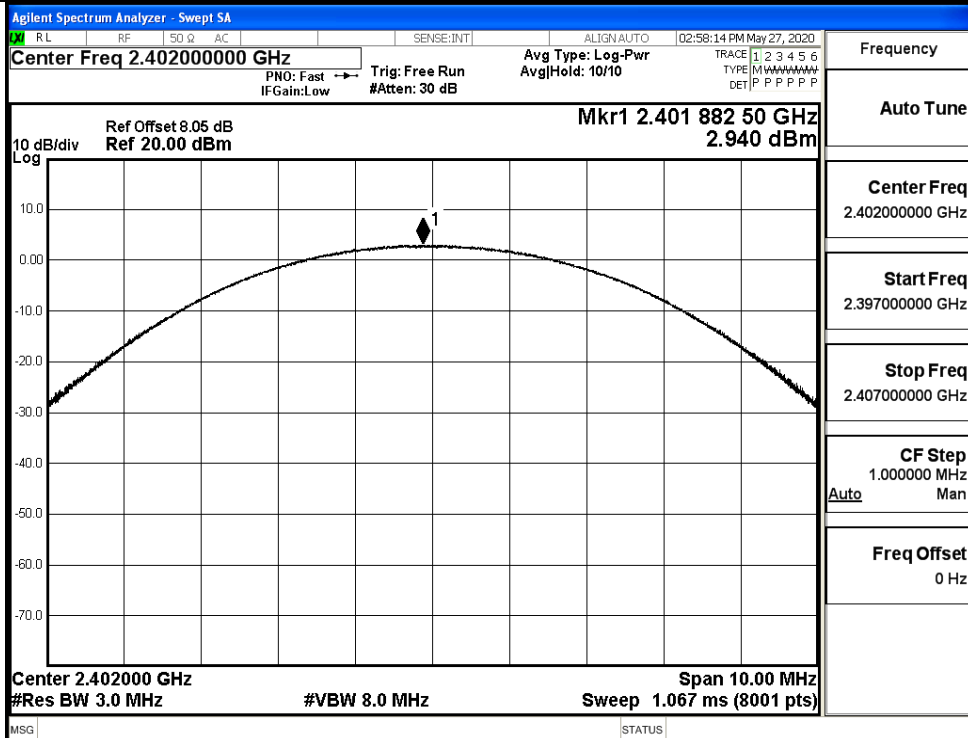
GFSK/LCH

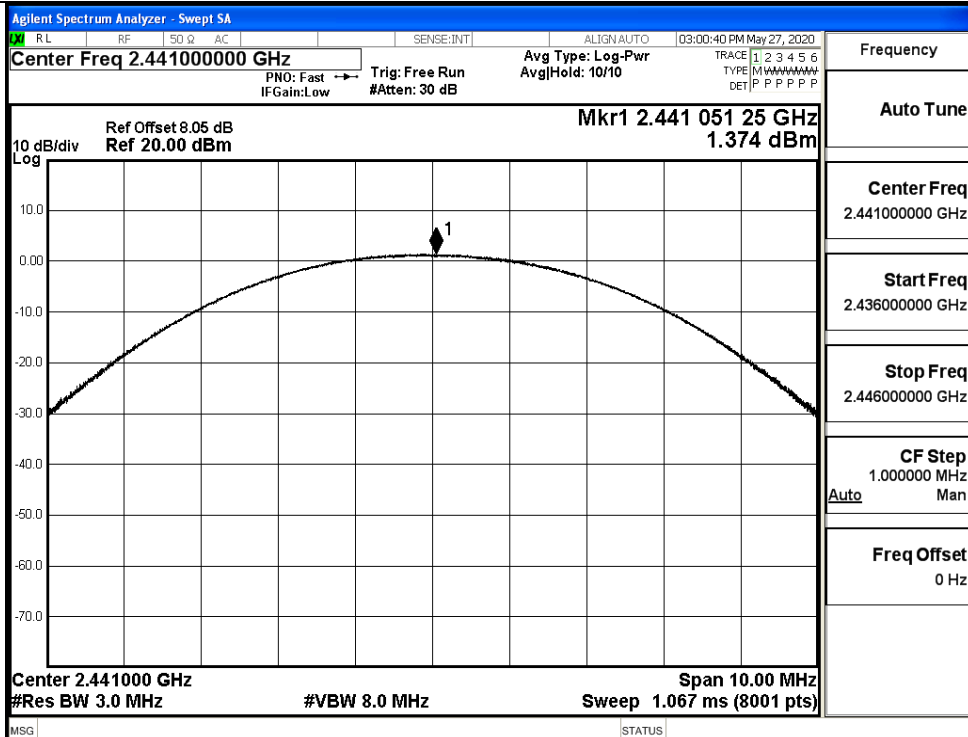
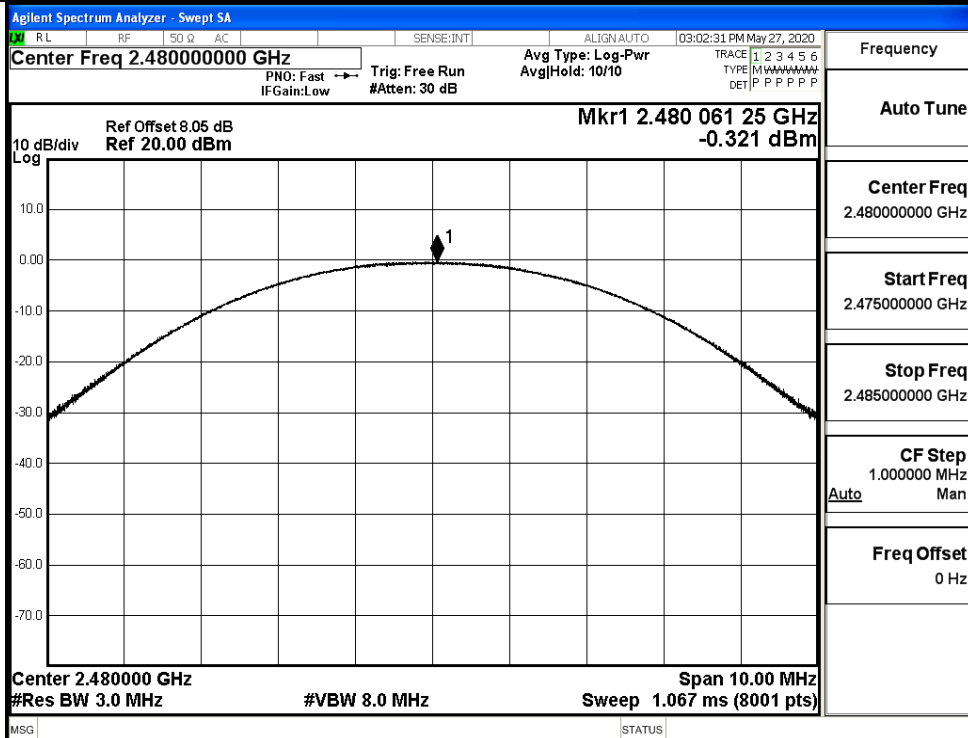


GFSK/MCH

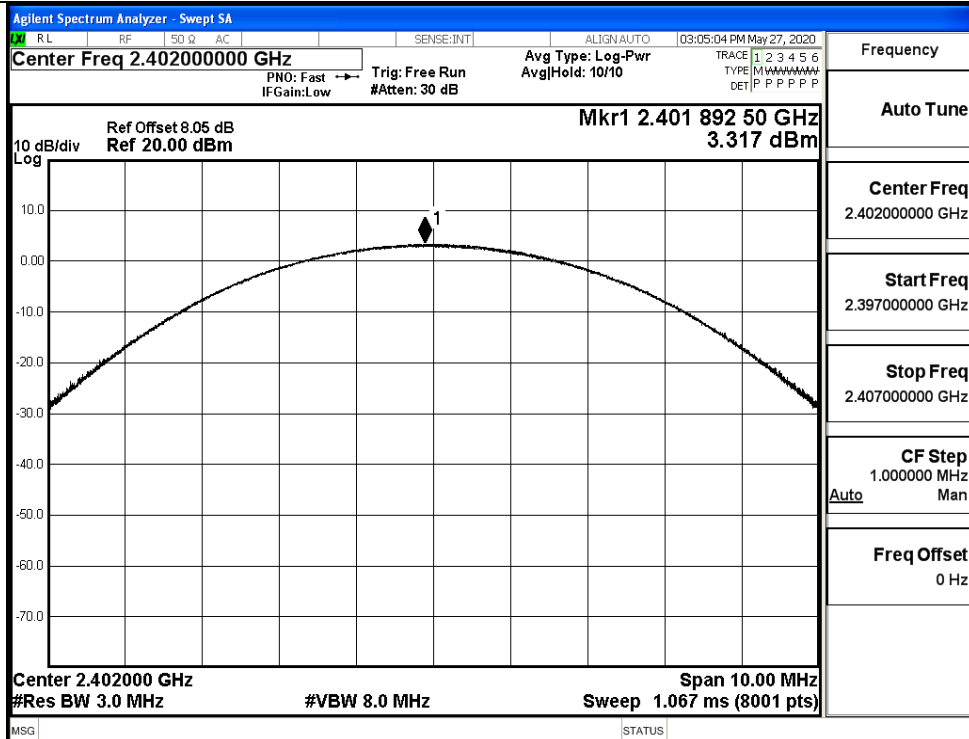


GFSK/HCH

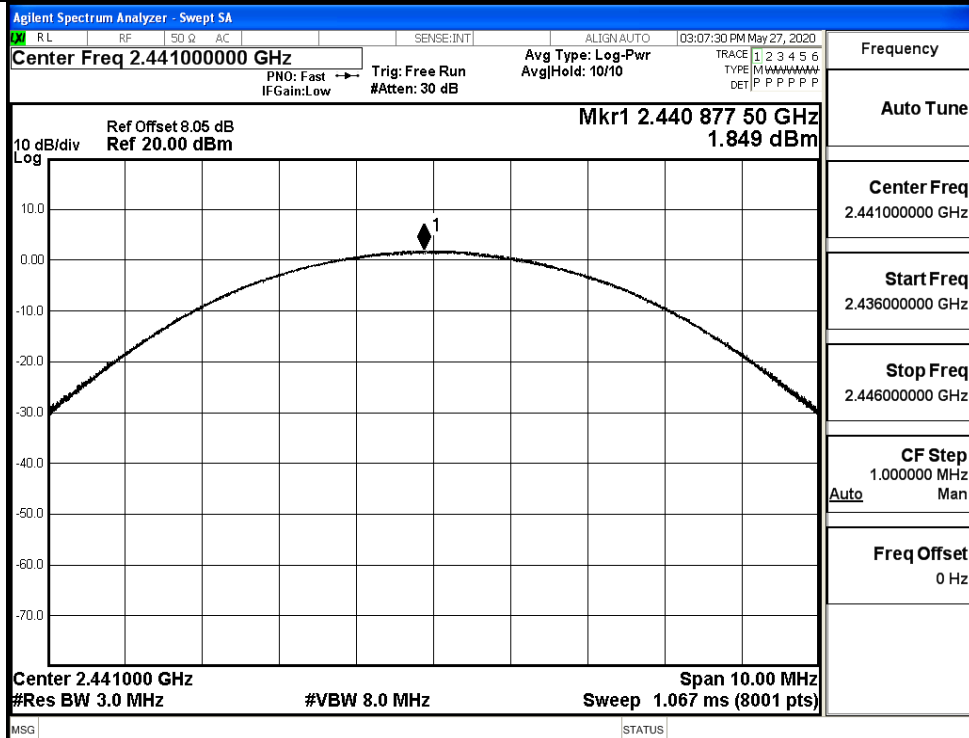
 $\pi/4$ DQPSK/LCH

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

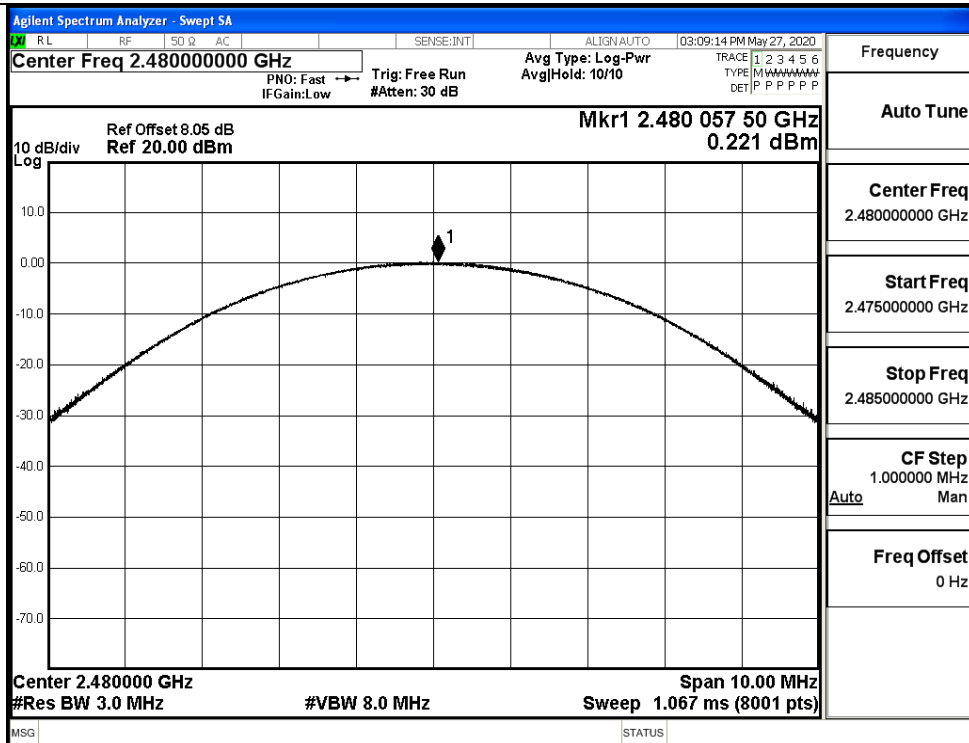
8DPSK/LCH



8DPSK/MCH



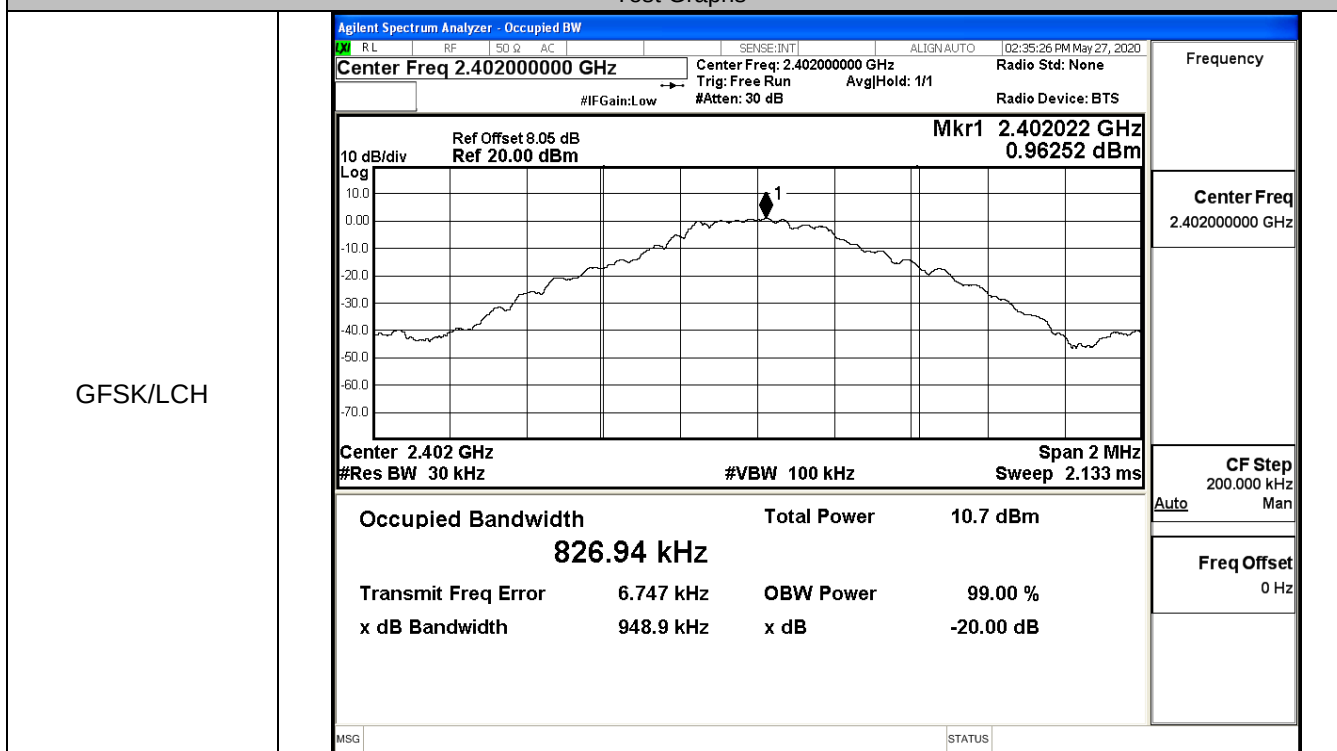
8DPSK/HCH



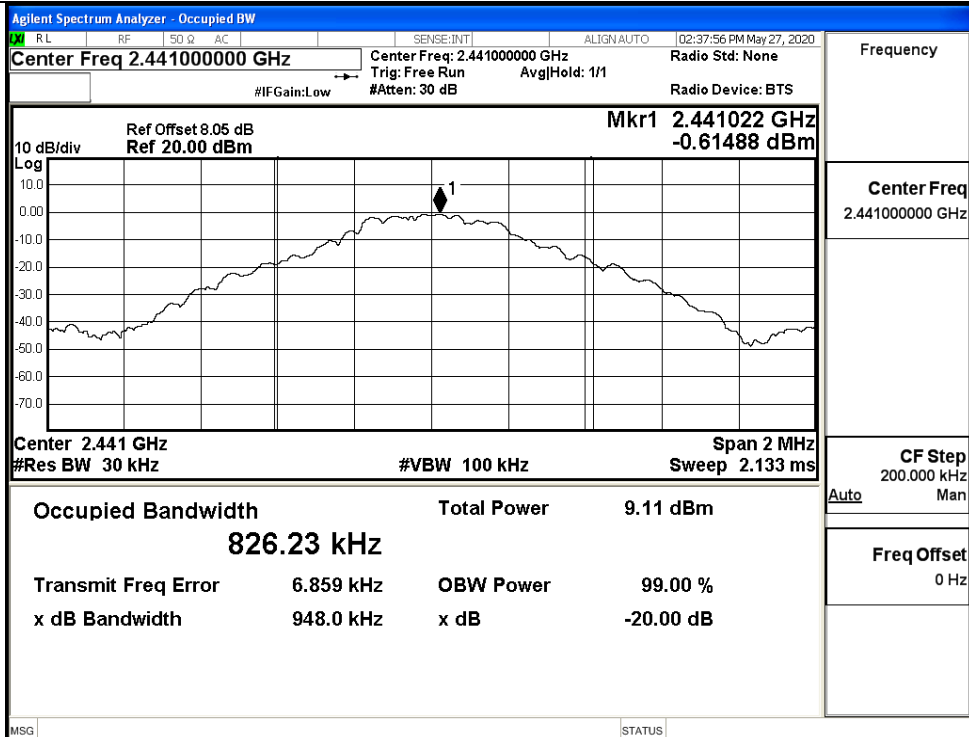
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9489	Not Specified	PASS
	MCH	0.9480	Not Specified	PASS
	HCH	0.9485	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.323	Not Specified	PASS
	MCH	1.323	Not Specified	PASS
	HCH	1.324	Not Specified	PASS
8DPSK	LCH	1.306	Not Specified	PASS
	MCH	1.308	Not Specified	PASS
	HCH	1.310	Not Specified	PASS

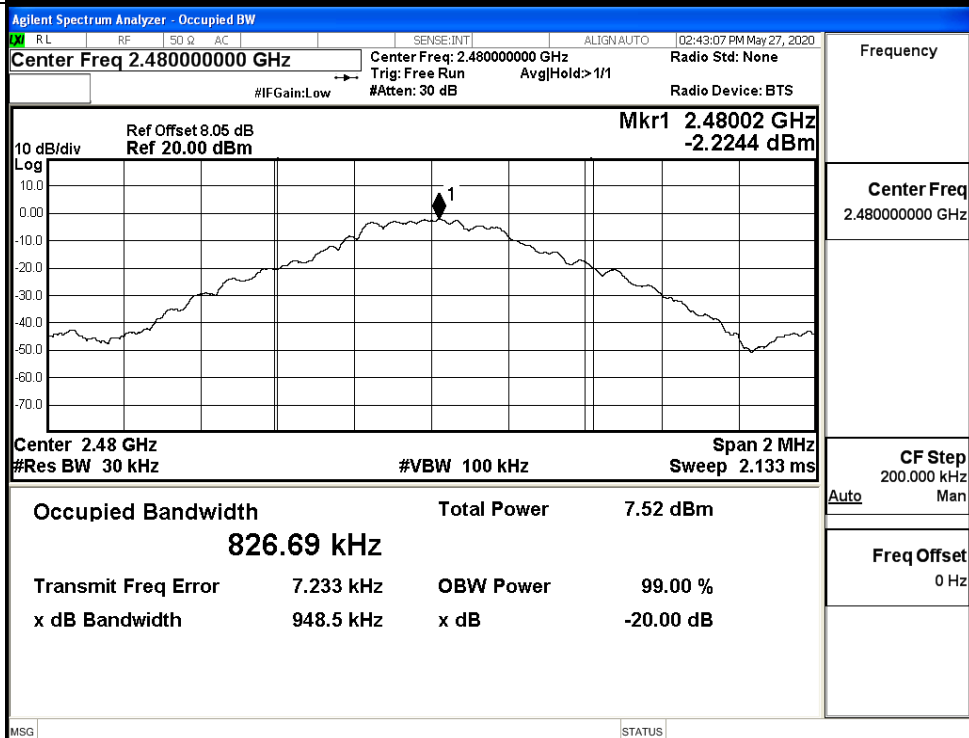
Test Graphs

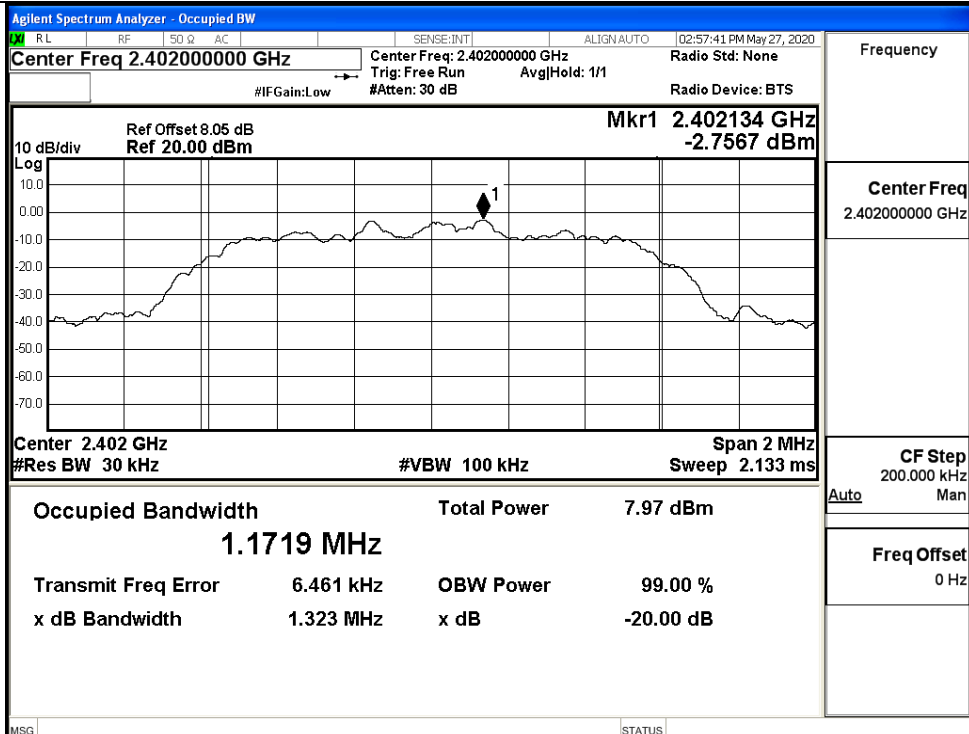
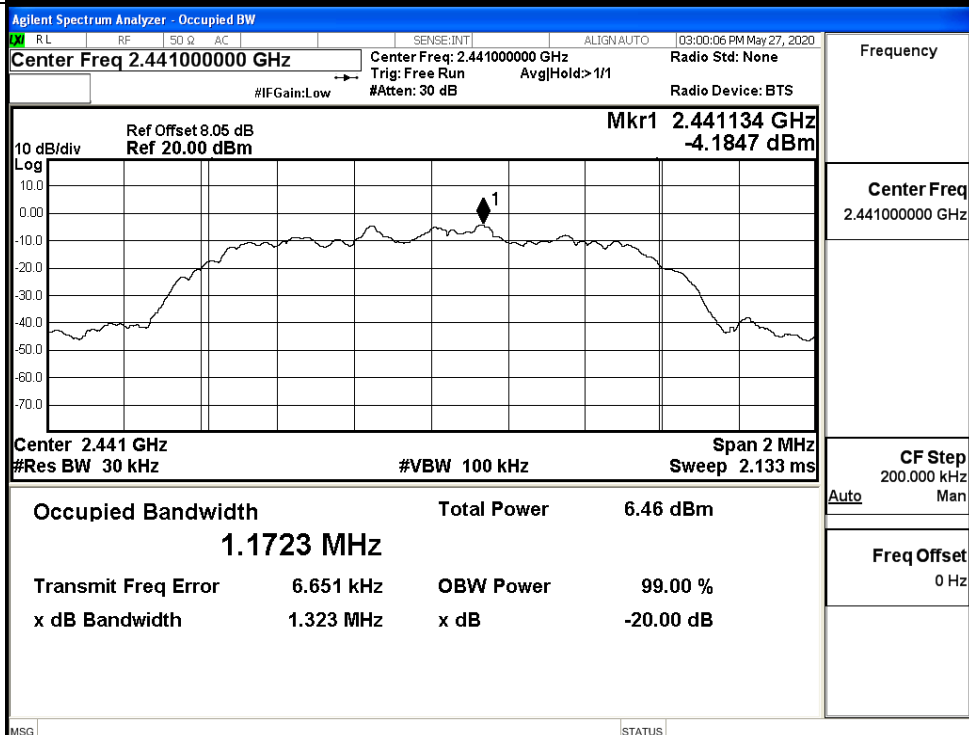


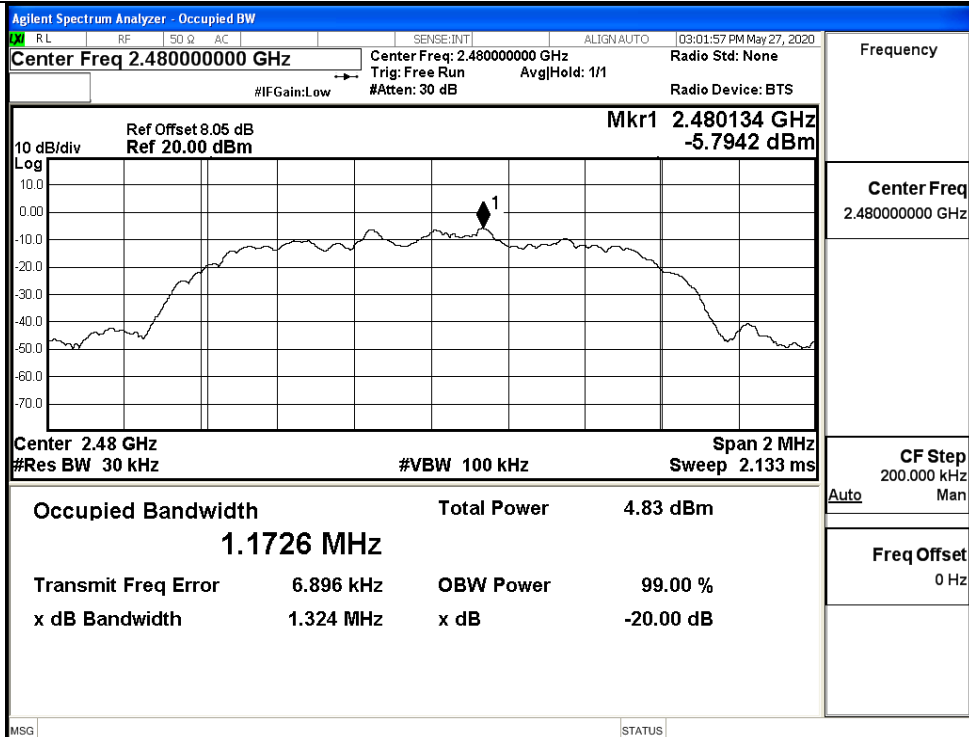
GFSK/MCH



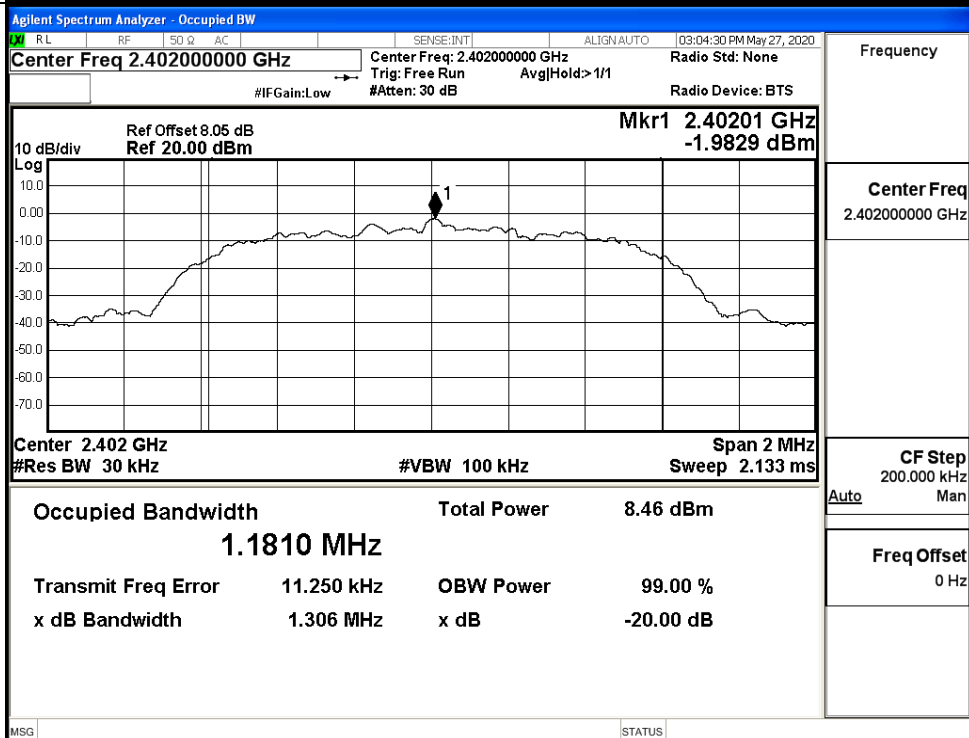
GFSK/HCH



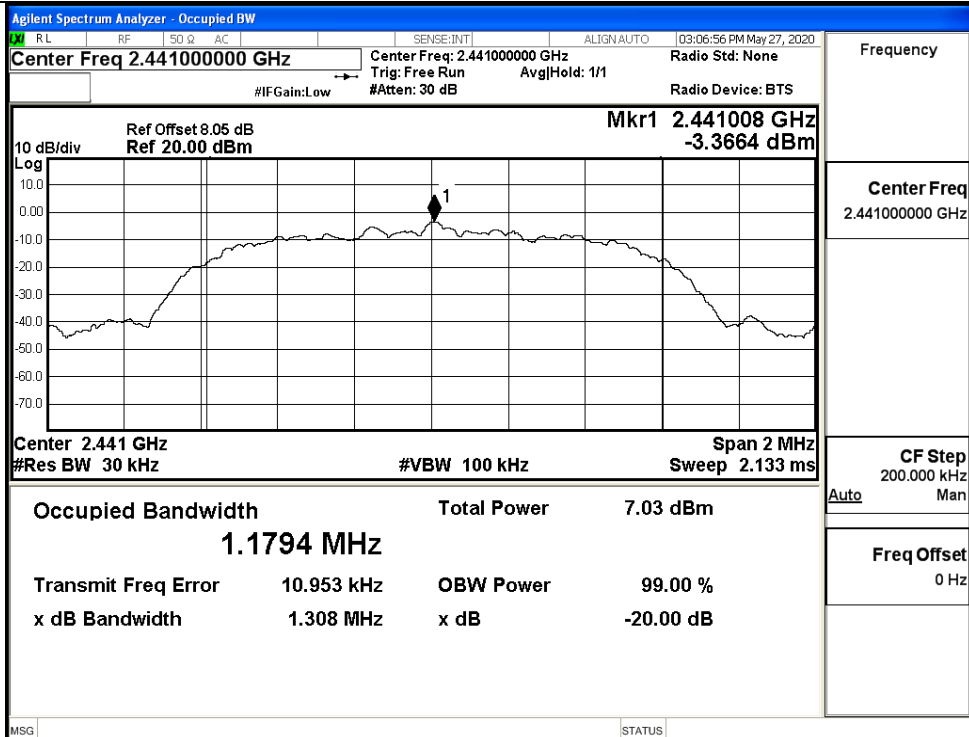
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

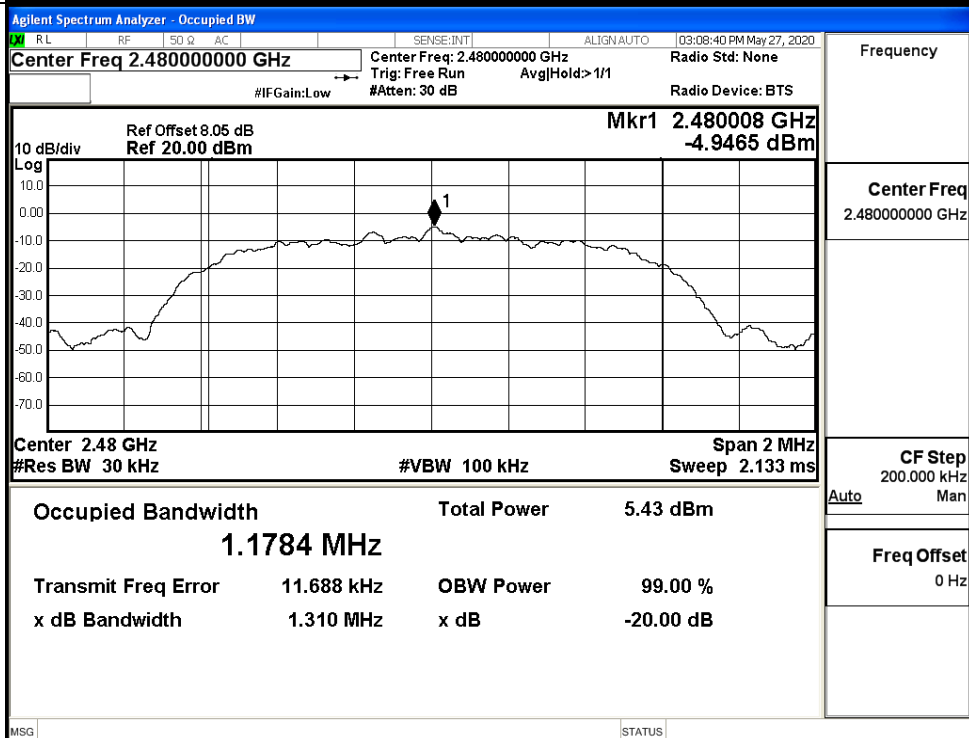
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

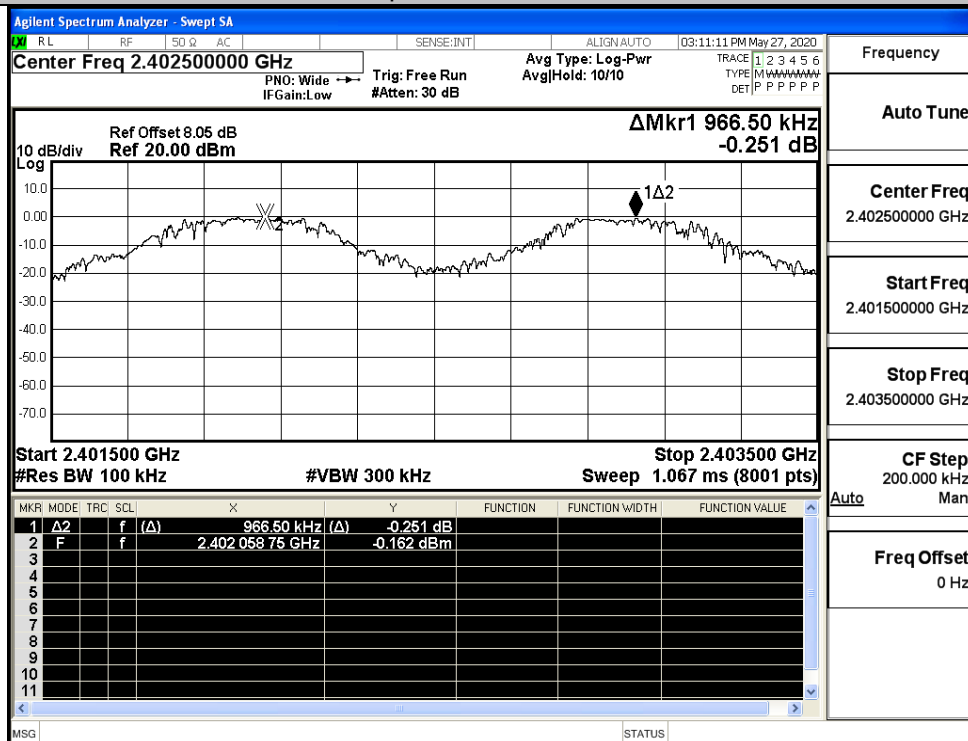


A.3 Carrier Frequency Separation

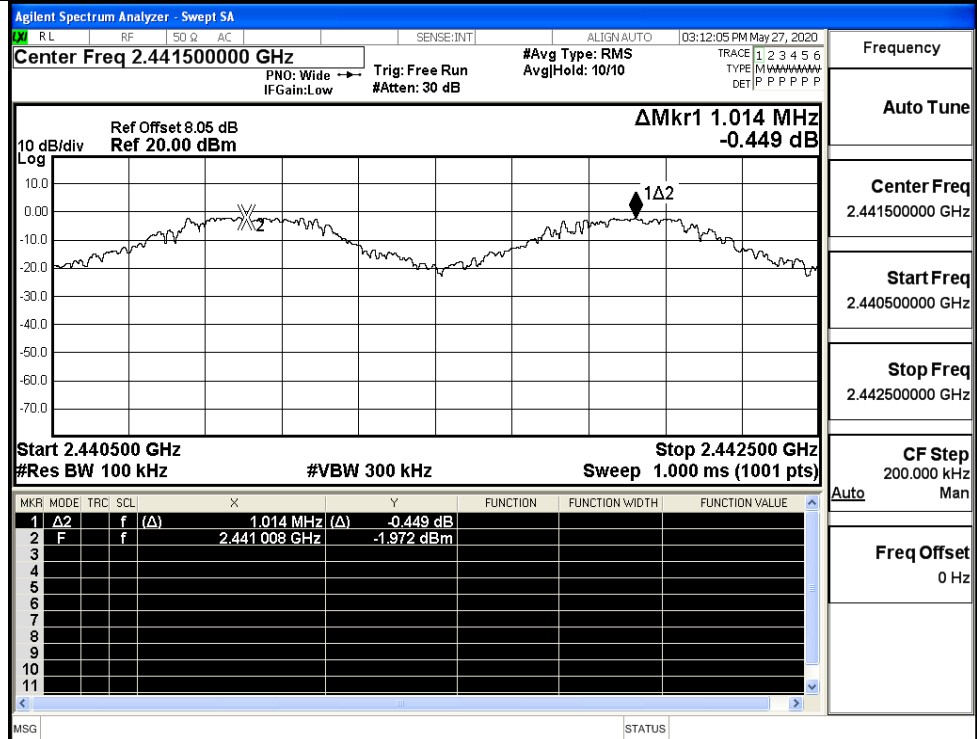
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.966	0.633	PASS
	MCH	1.014	0.632	PASS
	HCH	0.944	0.632	PASS
$\pi/4$ DQPSK	LCH	1.268	0.882	PASS
	MCH	1.238	0.882	PASS
	HCH	0.998	0.883	PASS
8DPSK	LCH	1.254	0.871	PASS
	MCH	1.090	0.872	PASS
	HCH	1.030	0.873	PASS

Test Graphs

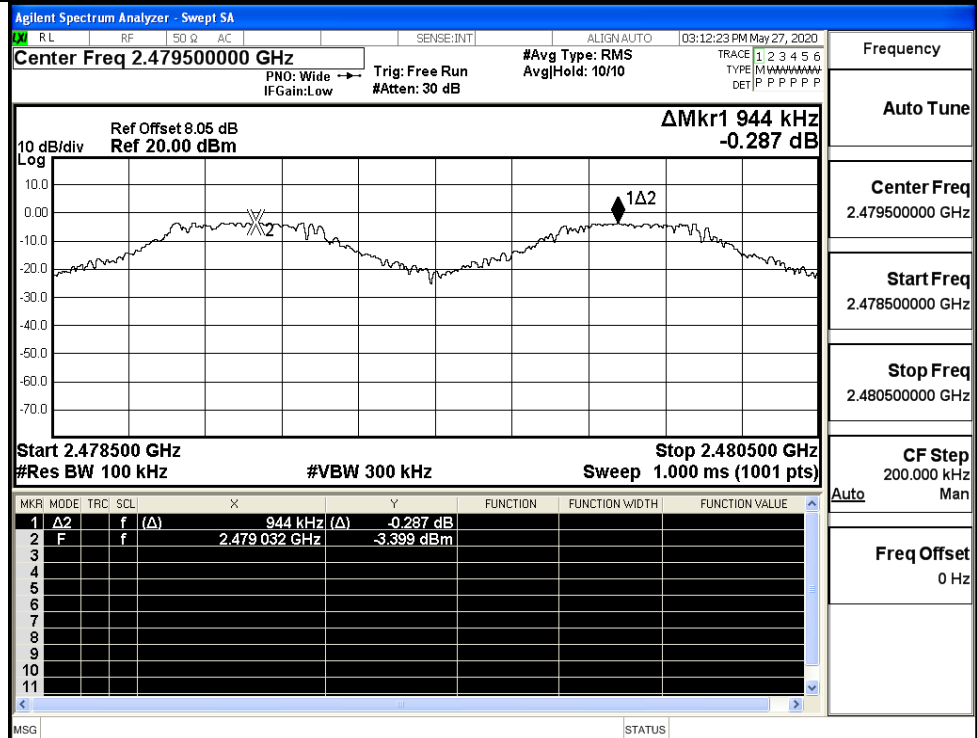
GFSK/LCH

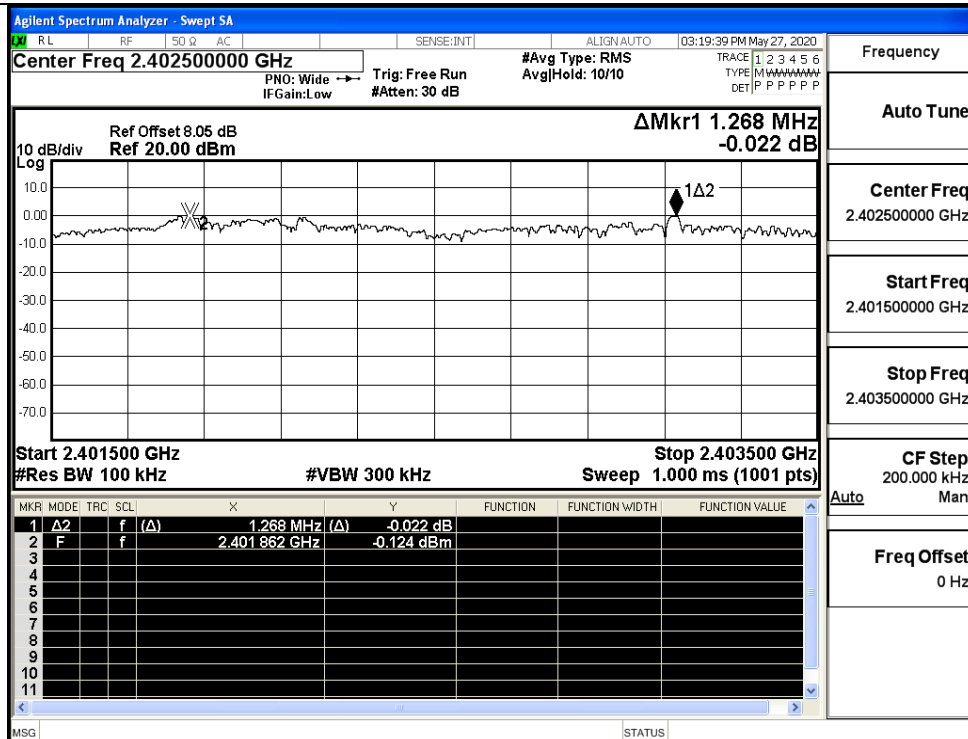
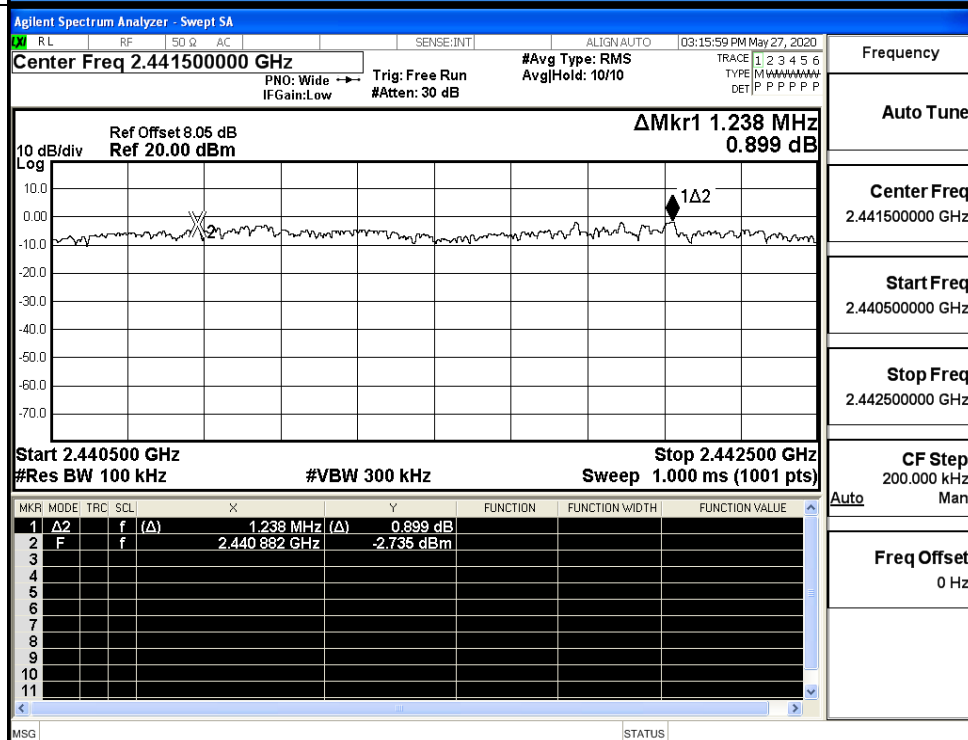


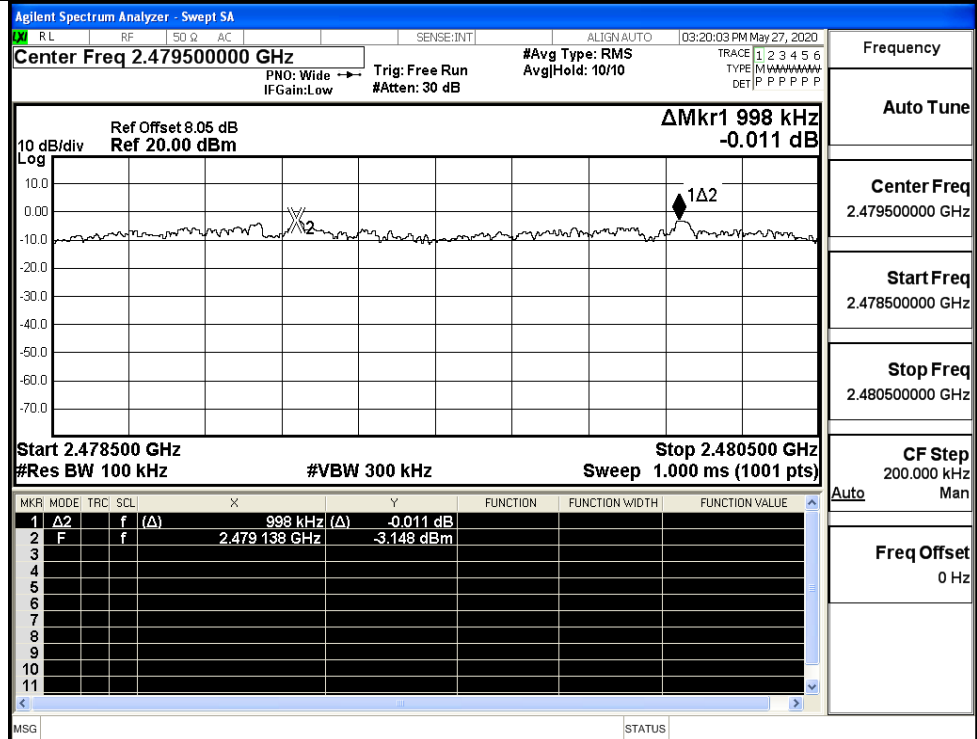
GFSK/MCH



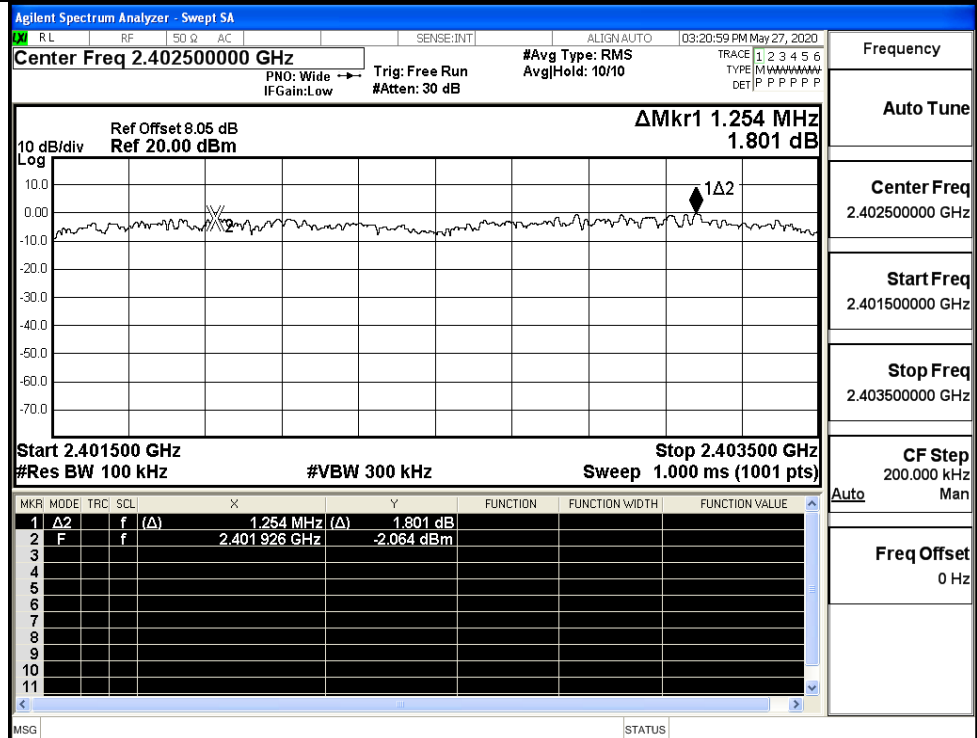
GFSK/HCH



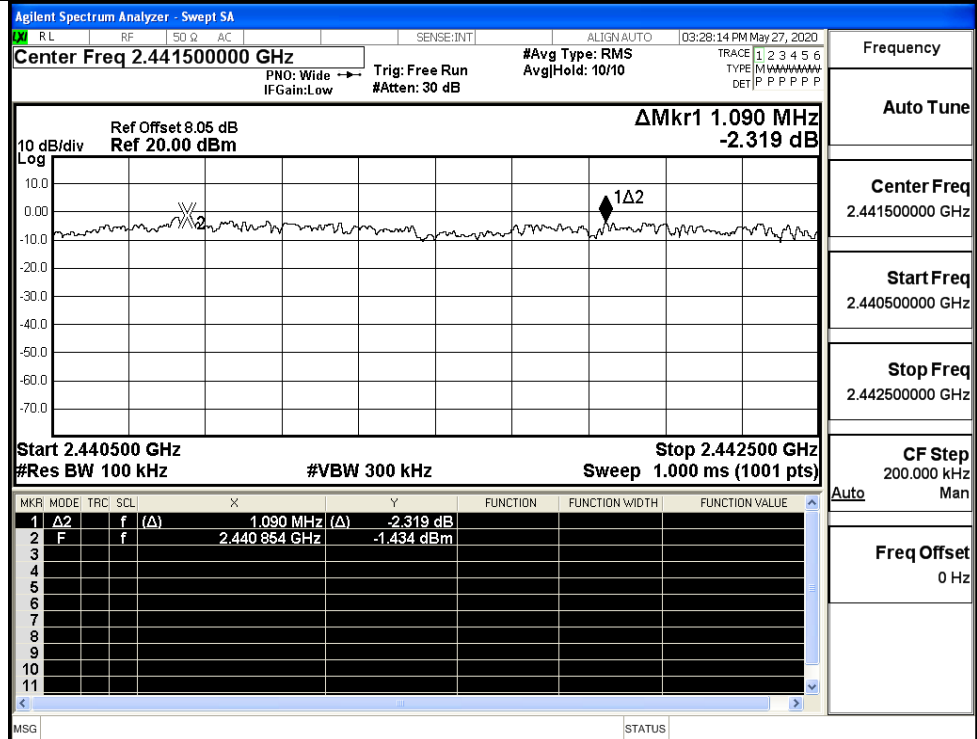
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

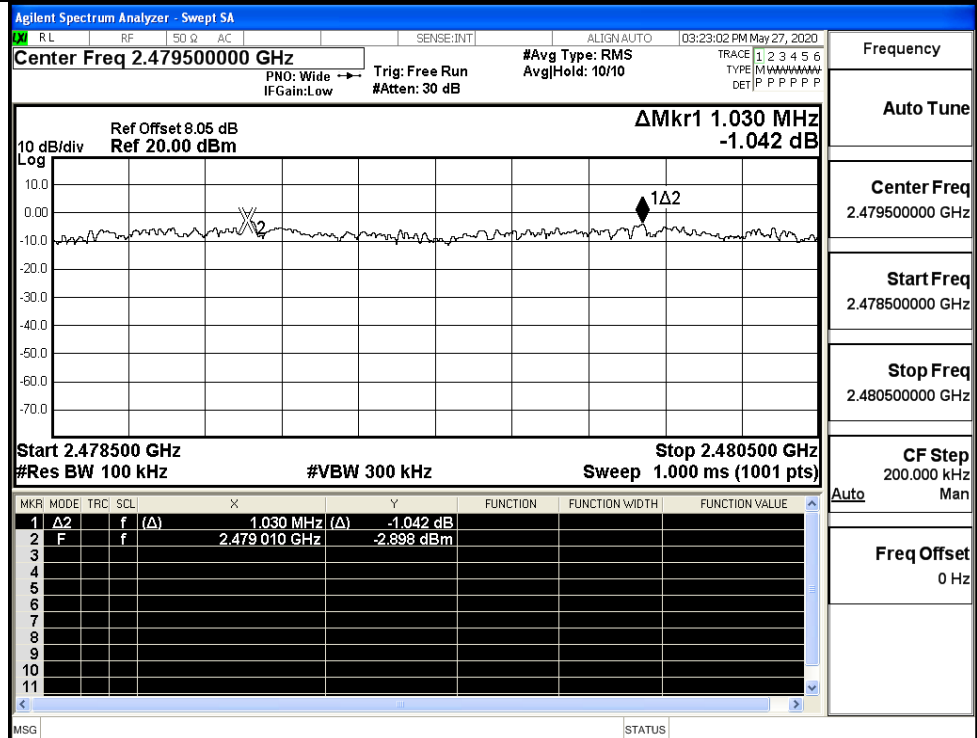
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

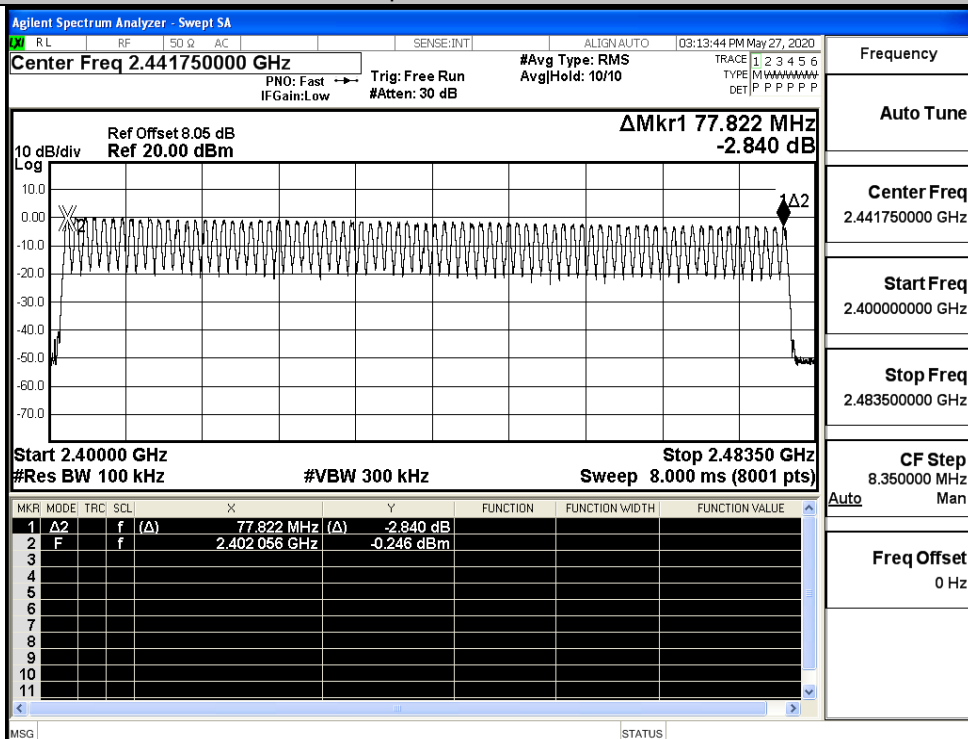


A.4 Hopping Channel Number

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

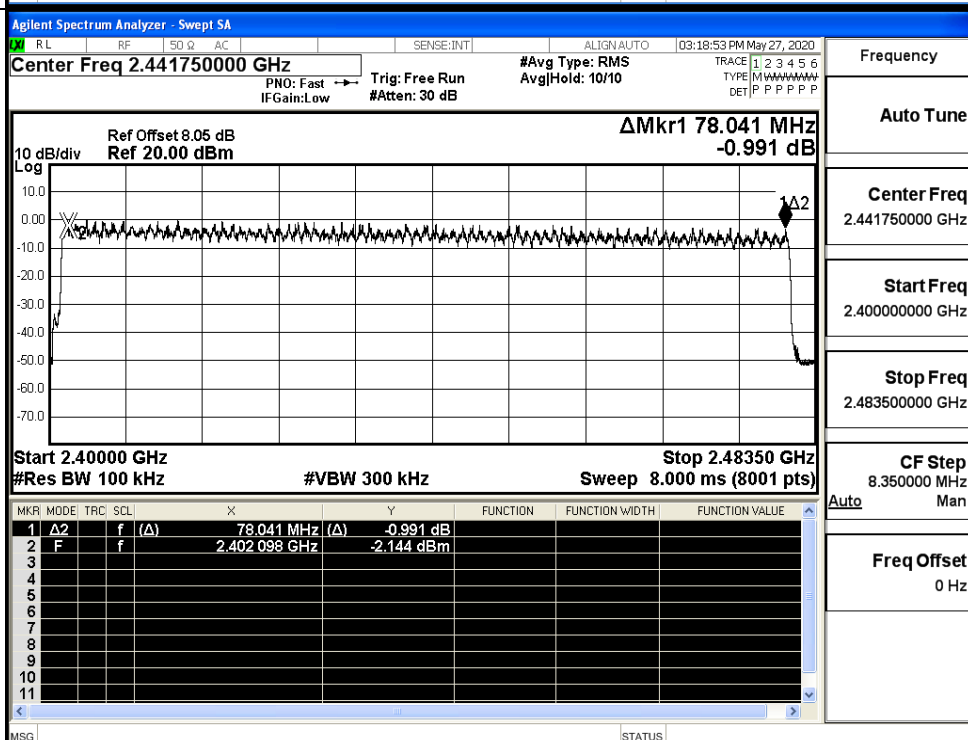
Center Freq
2.441750000 GHz

Start Freq
2.400000000 GHz

Stop Freq
2.483500000 GHz

CF Step
8.350000 MHz
Man

Freq Offset
0 Hz

 $\pi/4$ DQPSK/Hop

Frequency

Auto Tune

Center Freq
2.441750000 GHz

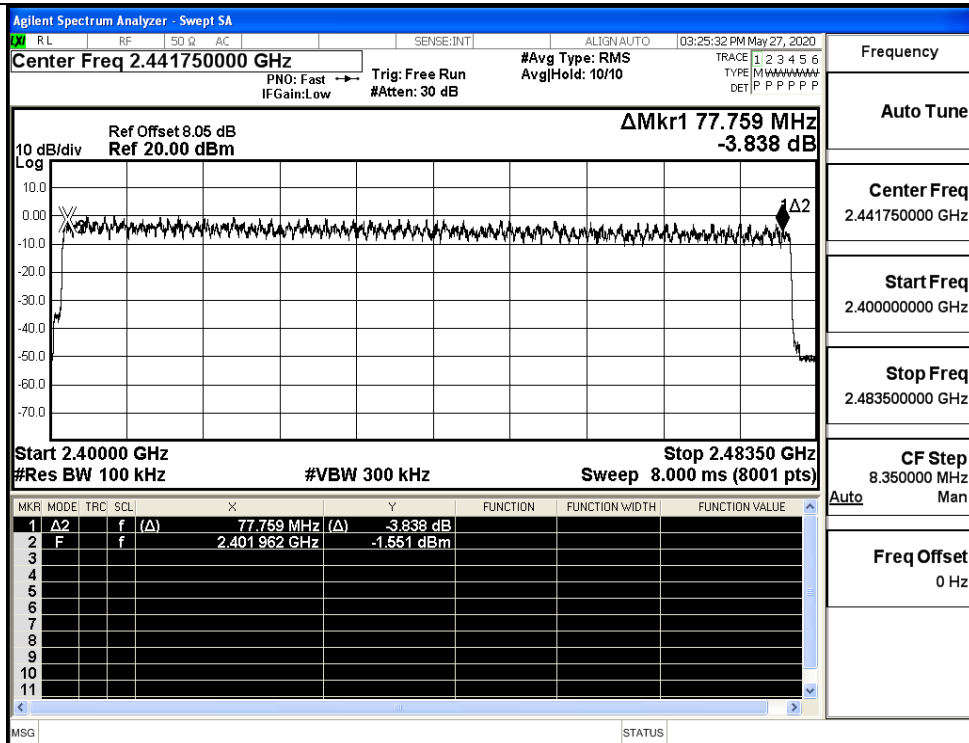
Start Freq
2.400000000 GHz

Stop Freq
2.483500000 GHz

CF Step
8.350000 MHz
Man

Freq Offset
0 Hz

8DPSK/Hop

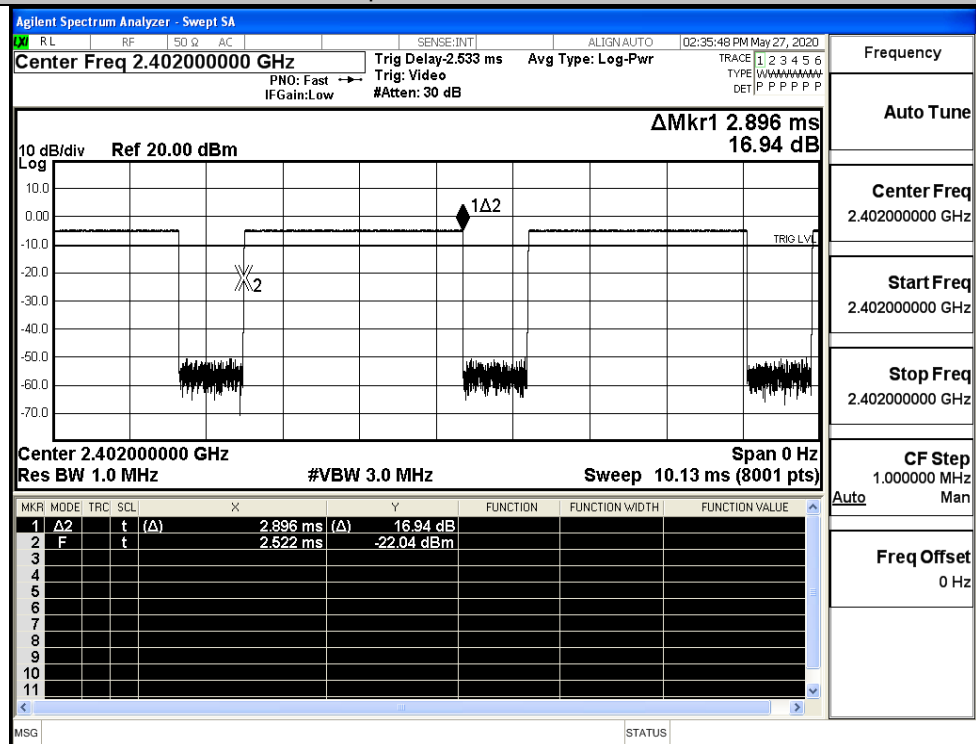


A.5 Dwell Time

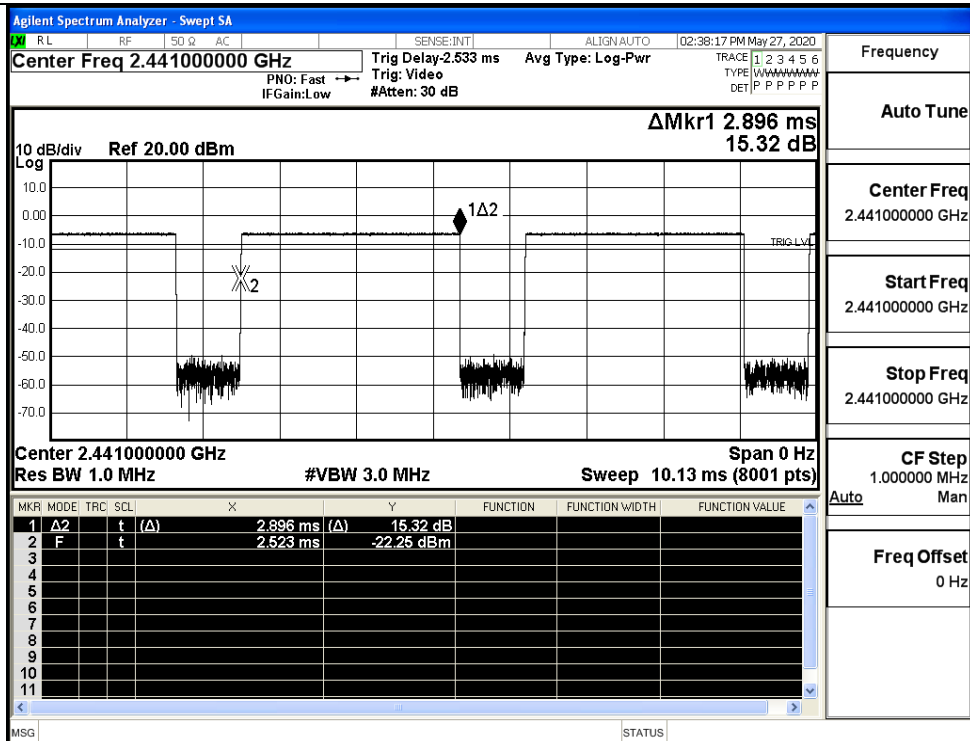
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.9	106.7	0.309	0.4	PASS
	DH5	MCH	2.9	106.7	0.309	0.4	PASS
	DH5	HCH	2.9	106.7	0.309	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.9	106.7	0.309	0.4	PASS
	2DH5	MCH	2.9	106.7	0.309	0.4	PASS
	2DH5	HCH	2.9	106.7	0.309	0.4	PASS
8DPSK	3DH5	LCH	2.9	106.7	0.309	0.4	PASS
	3DH5	MCH	2.9	106.7	0.309	0.4	PASS
	3DH5	HCH	2.9	106.7	0.309	0.4	PASS

Test Graphs

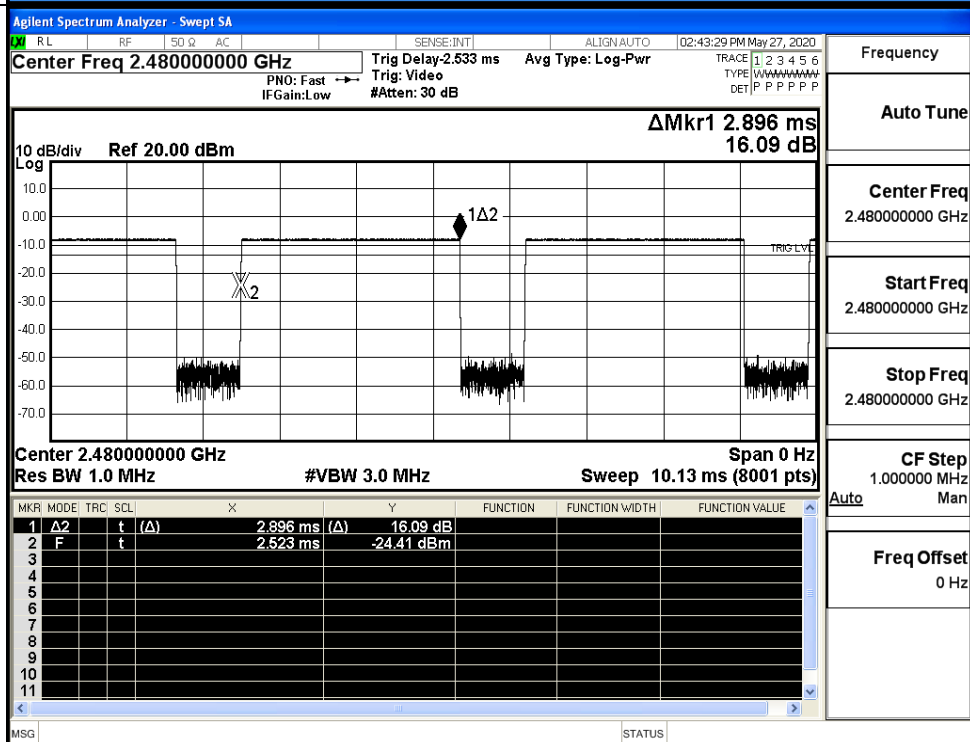
GFSK_DH5/LCH



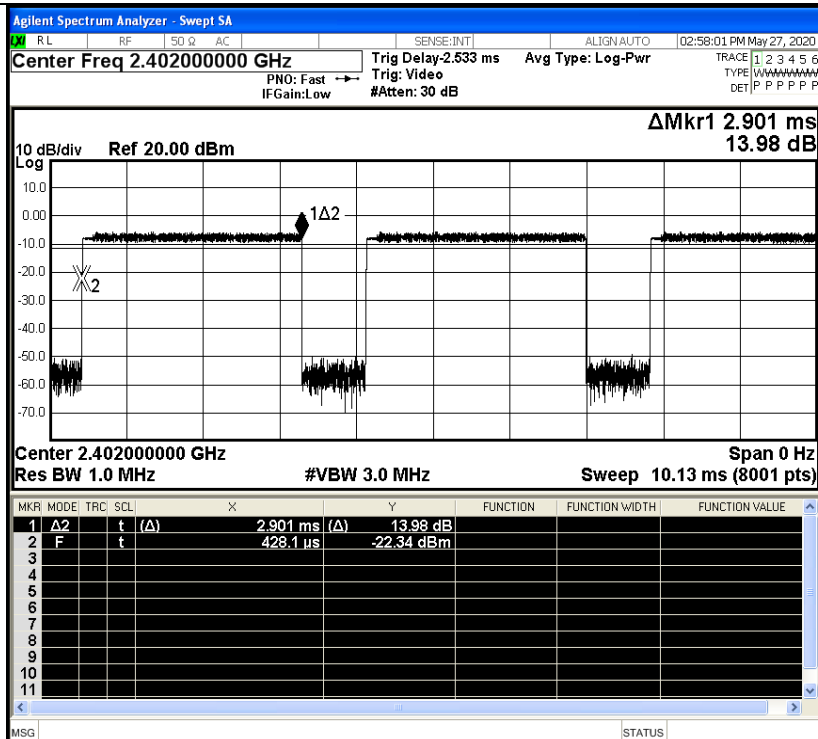
GFSK_DH5/MCH



GFSK_DH5/HCH



$\pi/4$ DQPSK
_2DH5/LCH



Frequency

Auto Tune

Center Freq
2.402000000 GHz

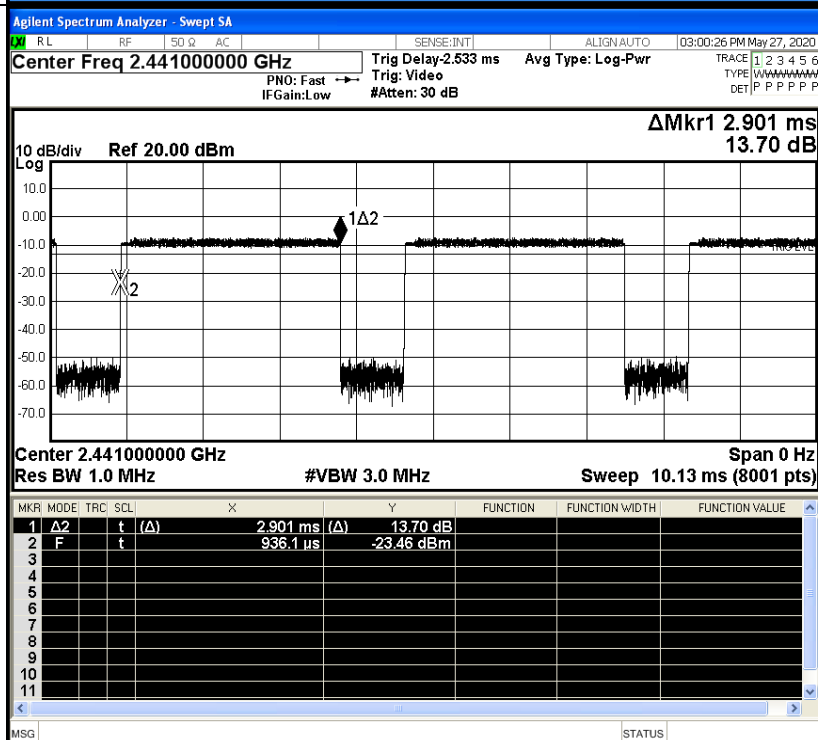
Start Freq
2.402000000 GHz

Stop Freq
2.402000000 GHz

CF Step
1.000000 MHz
Auto Man

Freq Offset
0 Hz

$\pi/4$ DQPSK
_2DH5/MCH



Frequency

Auto Tune

Center Freq
2.441000000 GHz

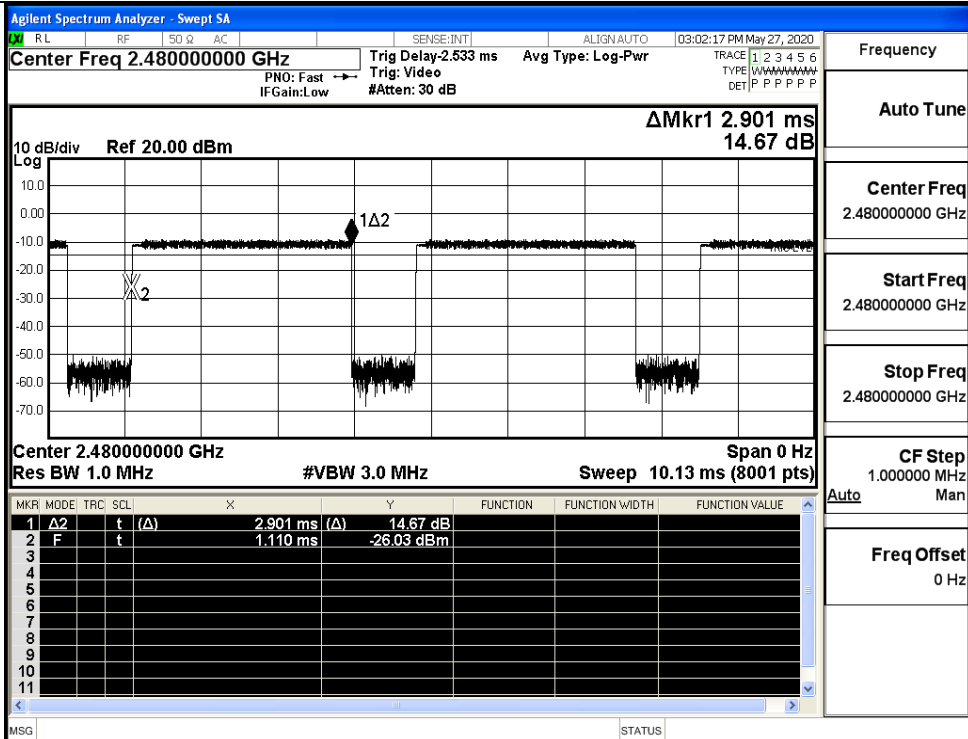
Start Freq
2.441000000 GHz

Stop Freq
2.441000000 GHz

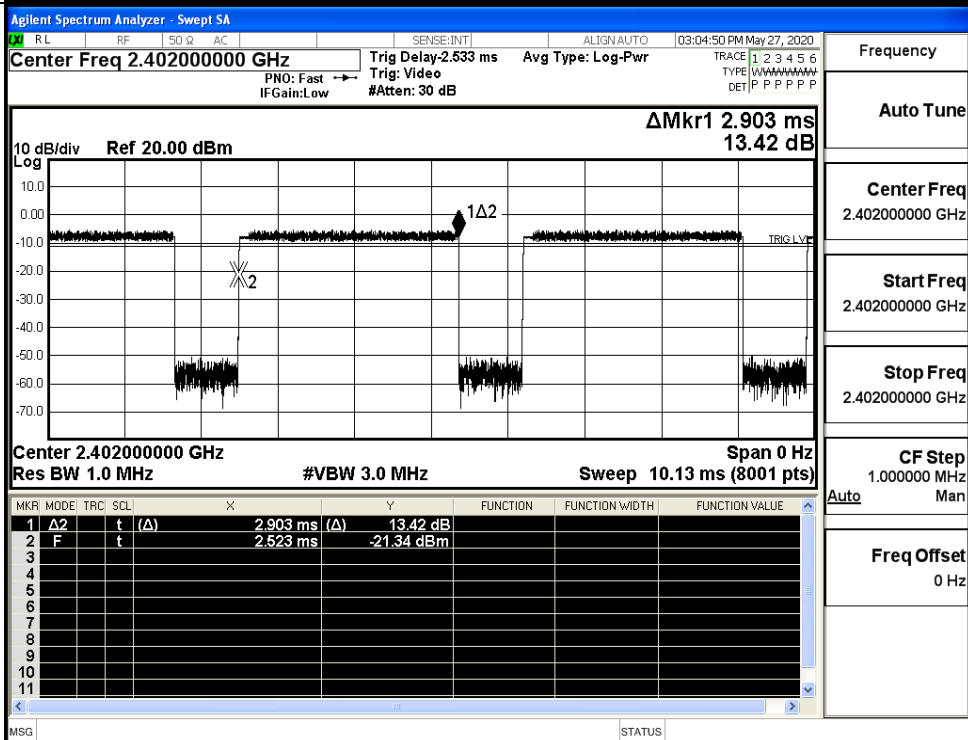
CF Step
1.000000 MHz
Auto Man

Freq Offset
0 Hz

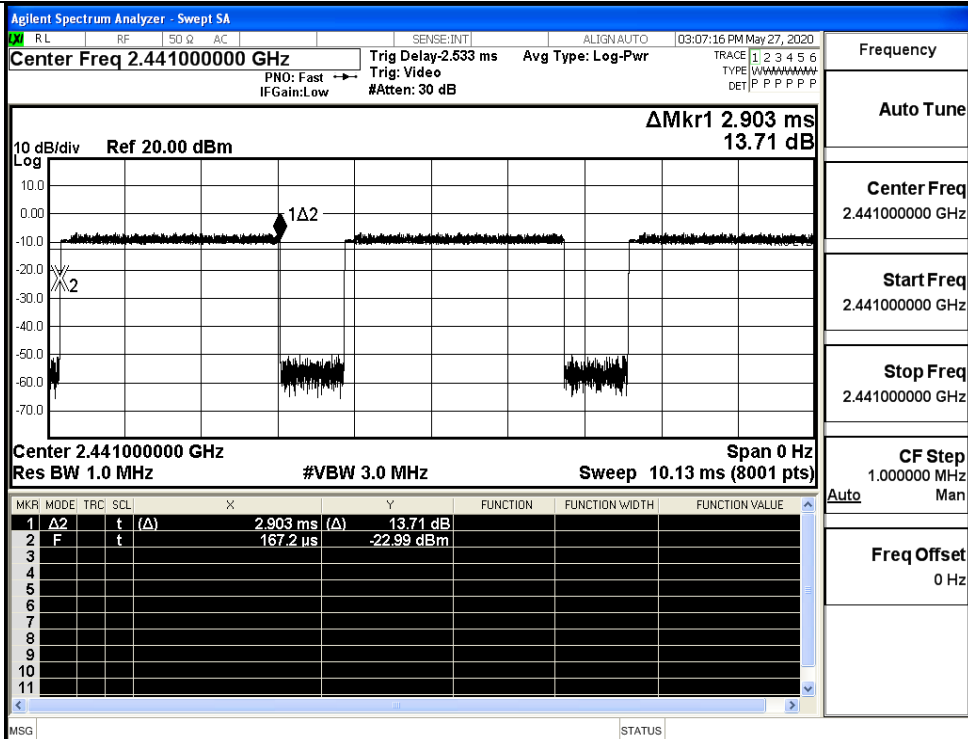
$\pi/4$ DQPSK
_2DH5/HCH



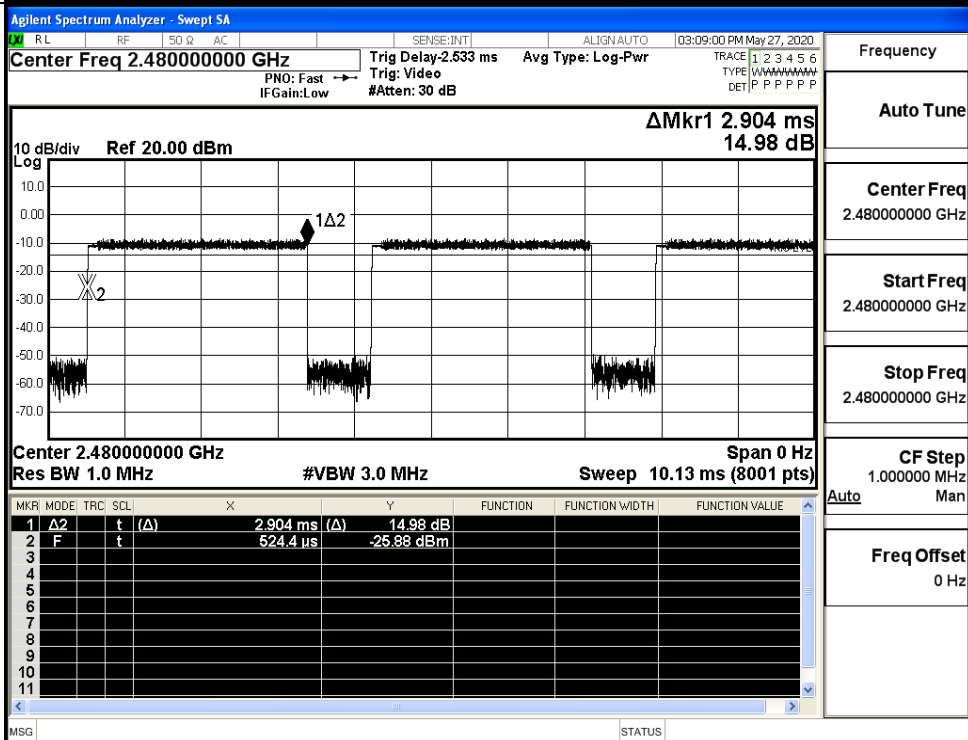
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



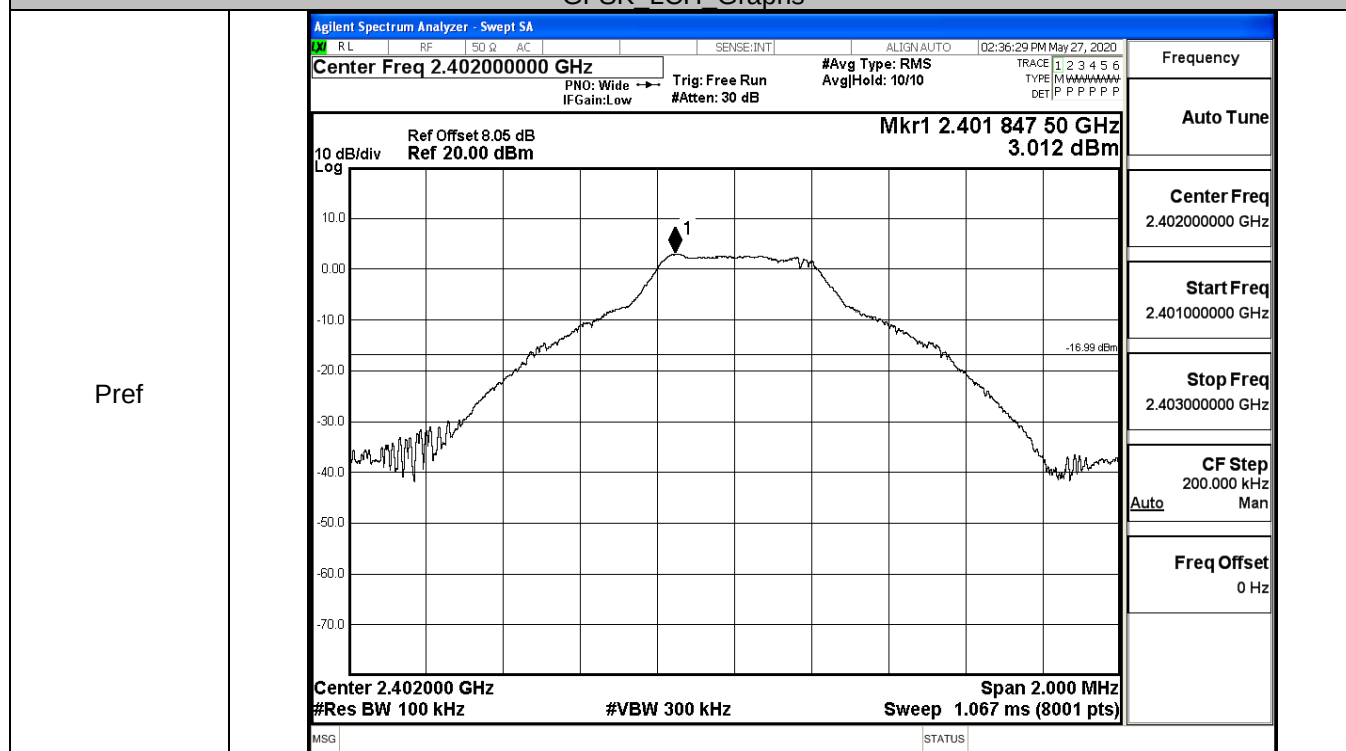
8DPSK_3DH5/HCH



A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.012	-37.338	-16.988	PASS
	MCH	1.556	-37.690	-18.444	PASS
	HCH	-0.1	-37.622	-20.100	PASS
$\pi/4$ DQPSK	LCH	-0.166	-38.151	-20.166	PASS
	MCH	-1.605	-37.351	-21.605	PASS
	HCH	-3.208	-34.611	-23.208	PASS
8DPSK	LCH	0.013	-38.178	-19.987	PASS
	MCH	-1.401	-36.979	-21.401	PASS
	HCH	-2.849	-37.980	-22.849	PASS

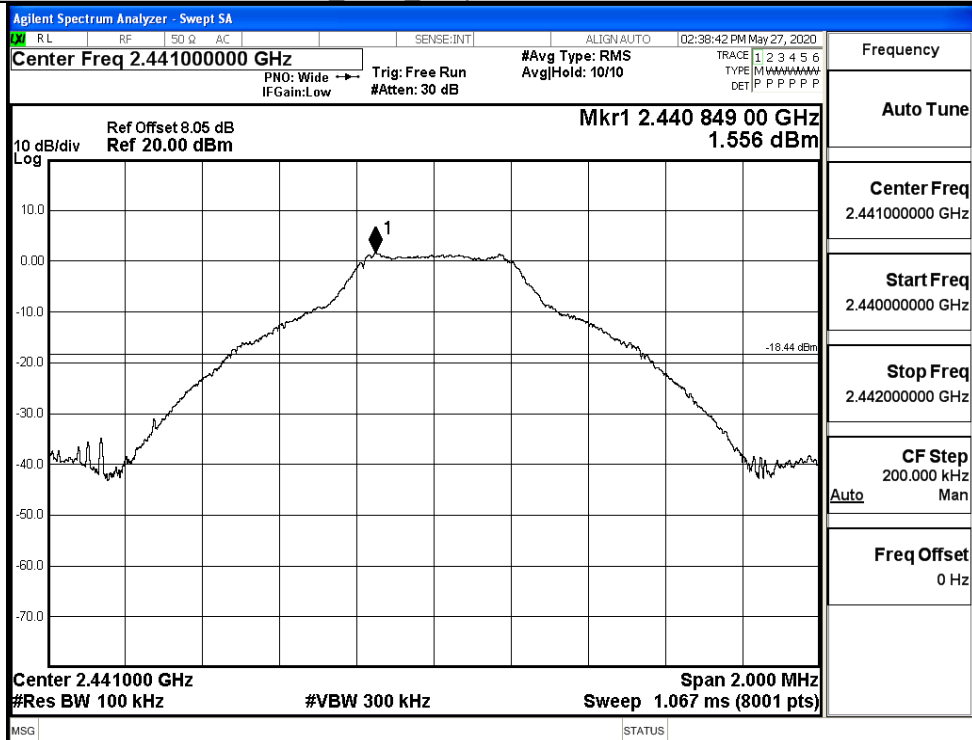
GFSK LCH Graphs



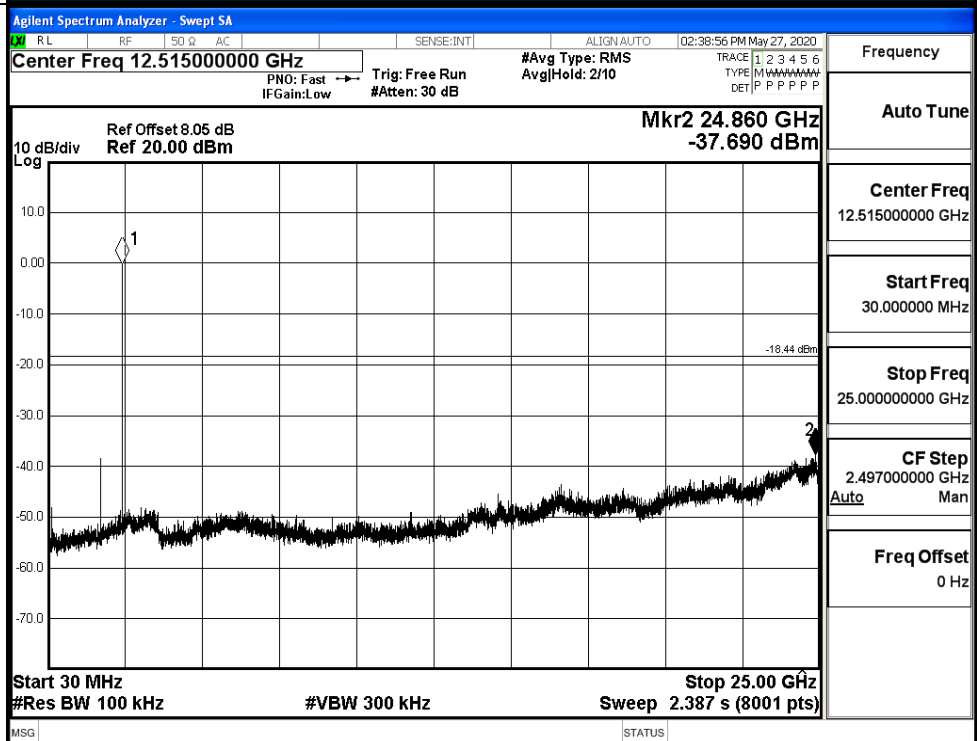


GFSK_MCH_Graphs

Pref

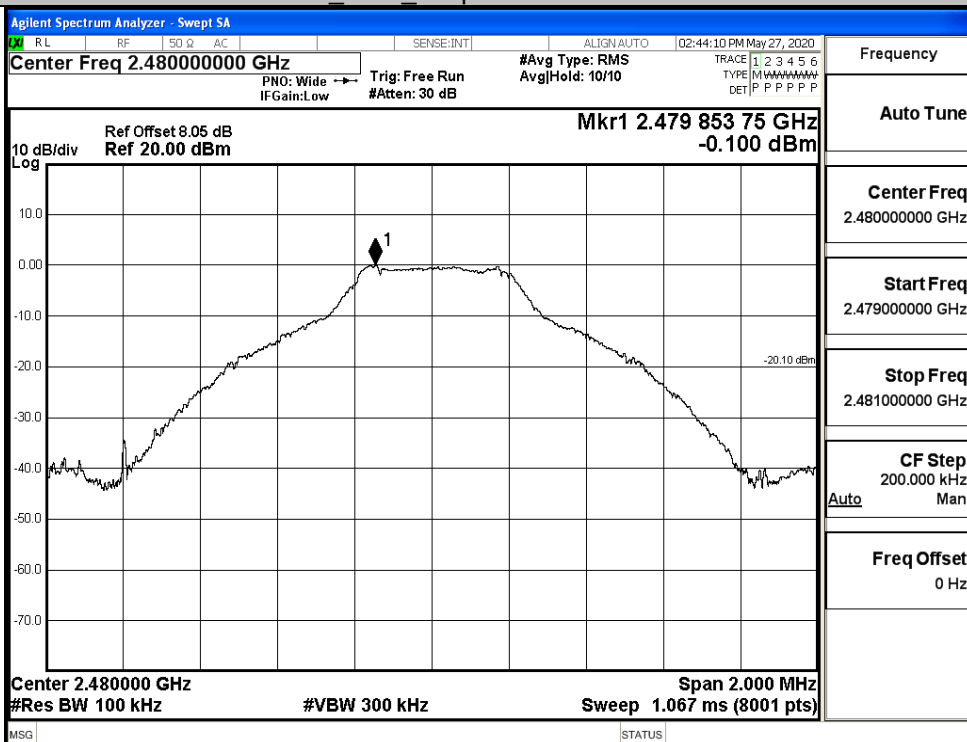


Puw

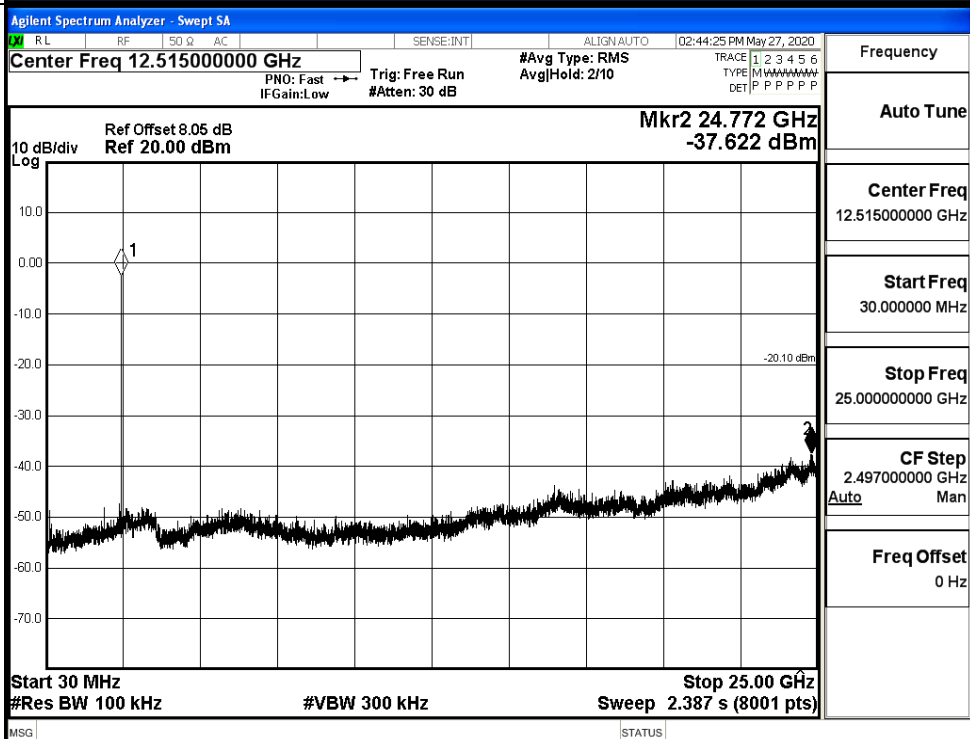


GFSK HCH_Graphs

Pref

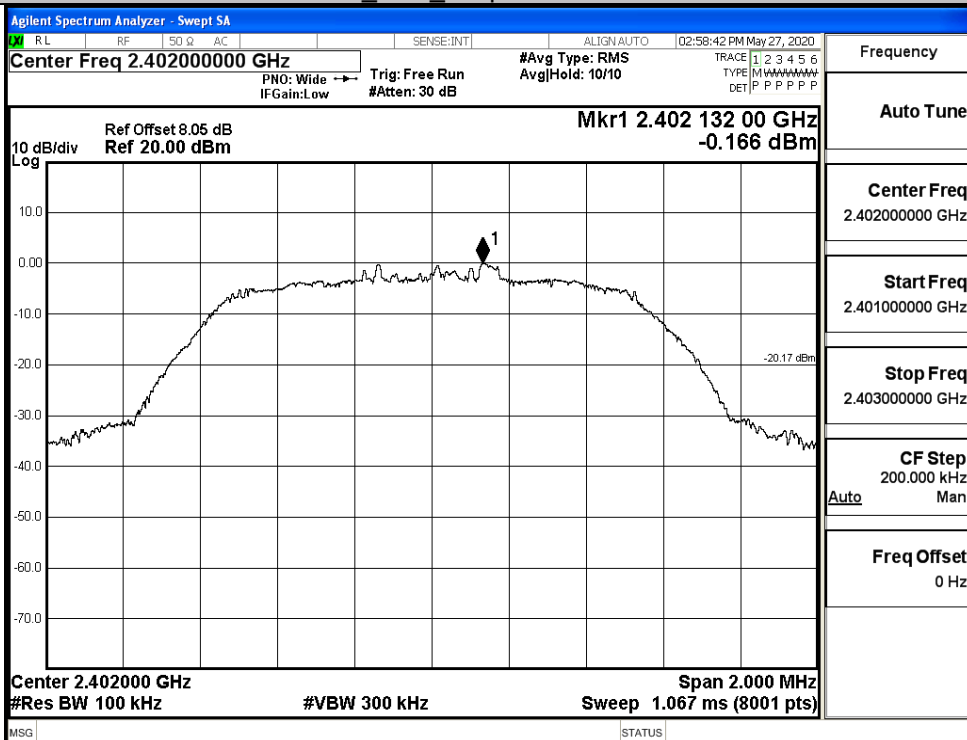


Puw

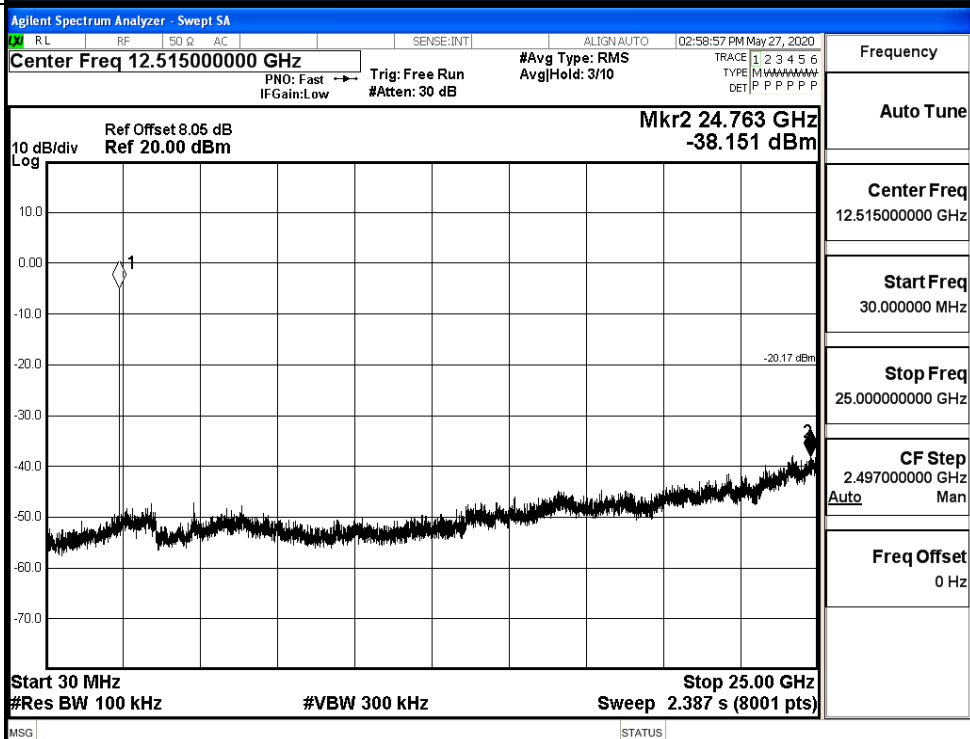


π /4DQPSK_LCH_Graphs

Pref

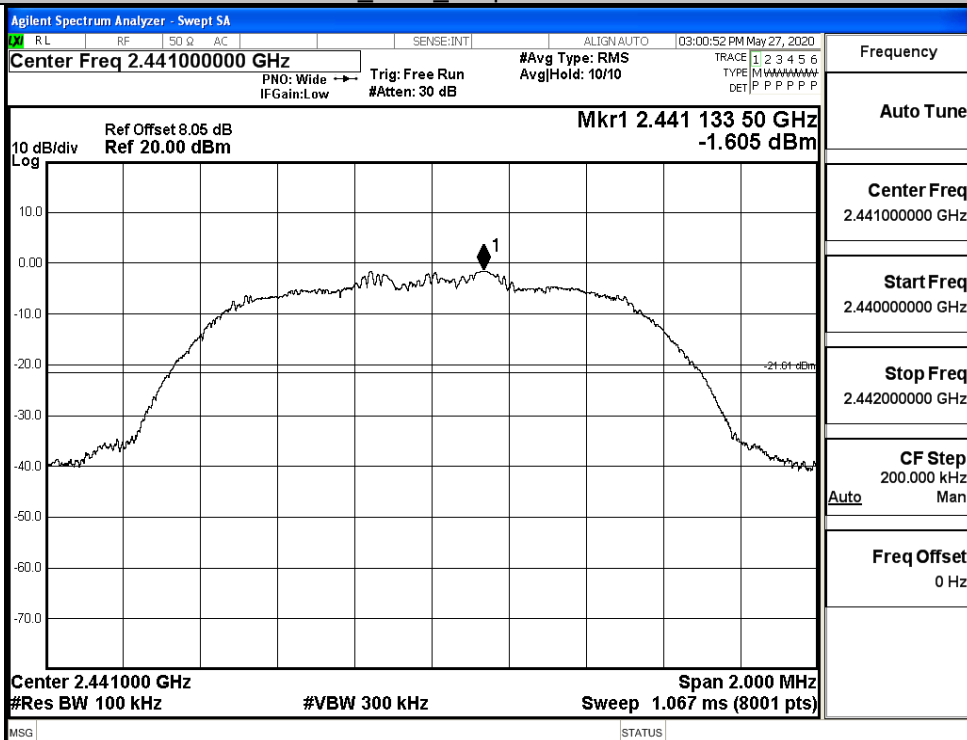


Puw

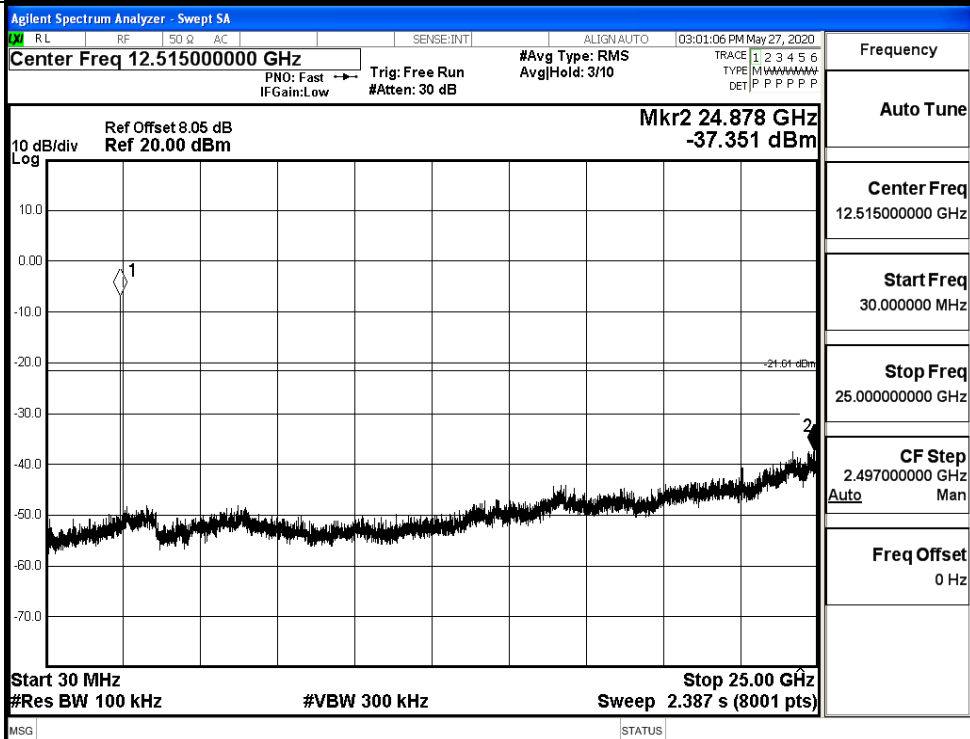


$\pi/4$ DQPSK_MCH_Graphs

Pref

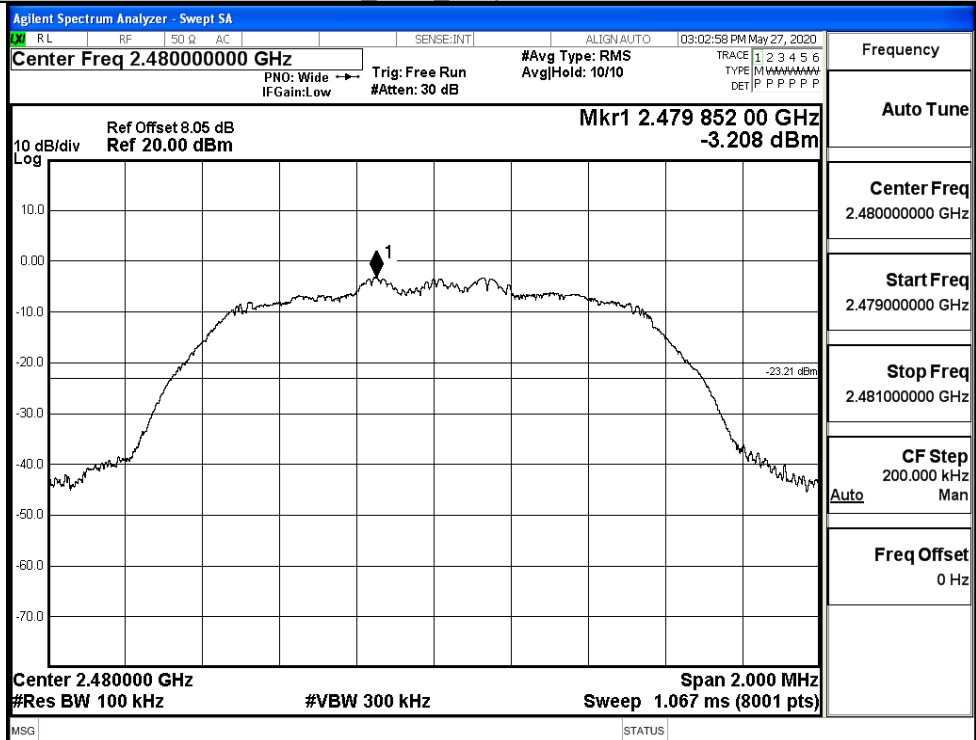


Puw

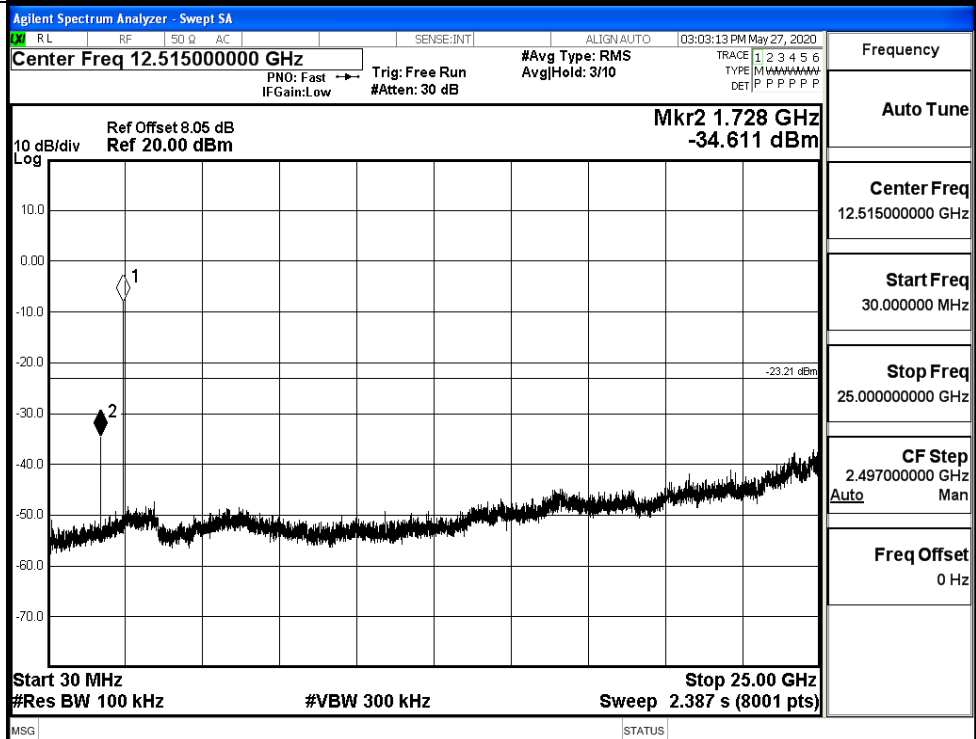


π /4DQPSK_HCH_Graphs

Pref

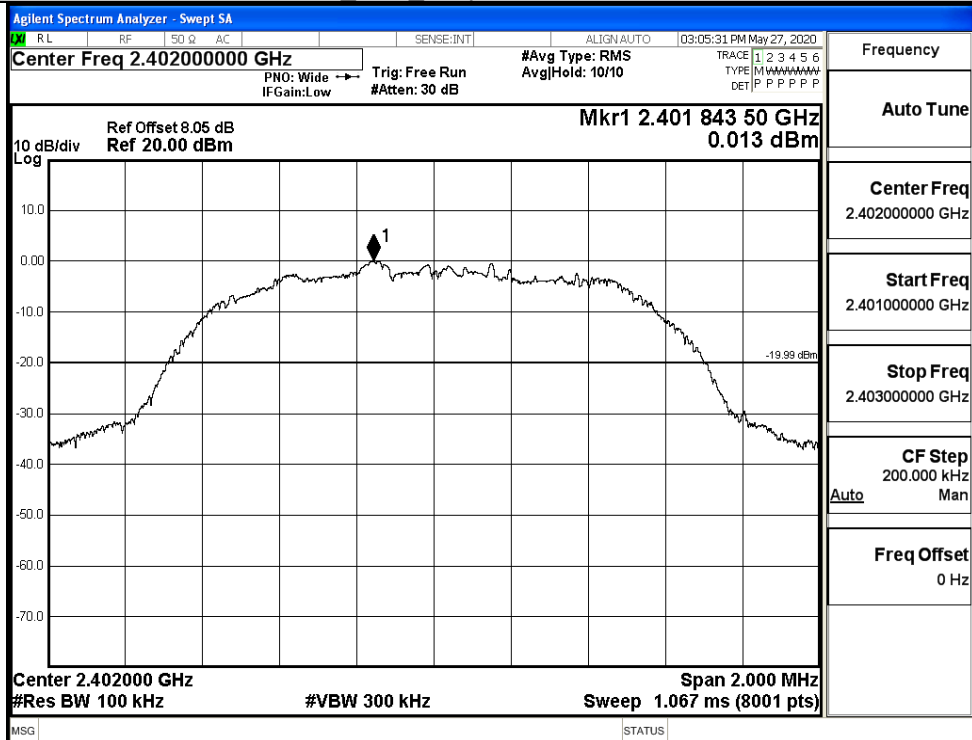


Puw

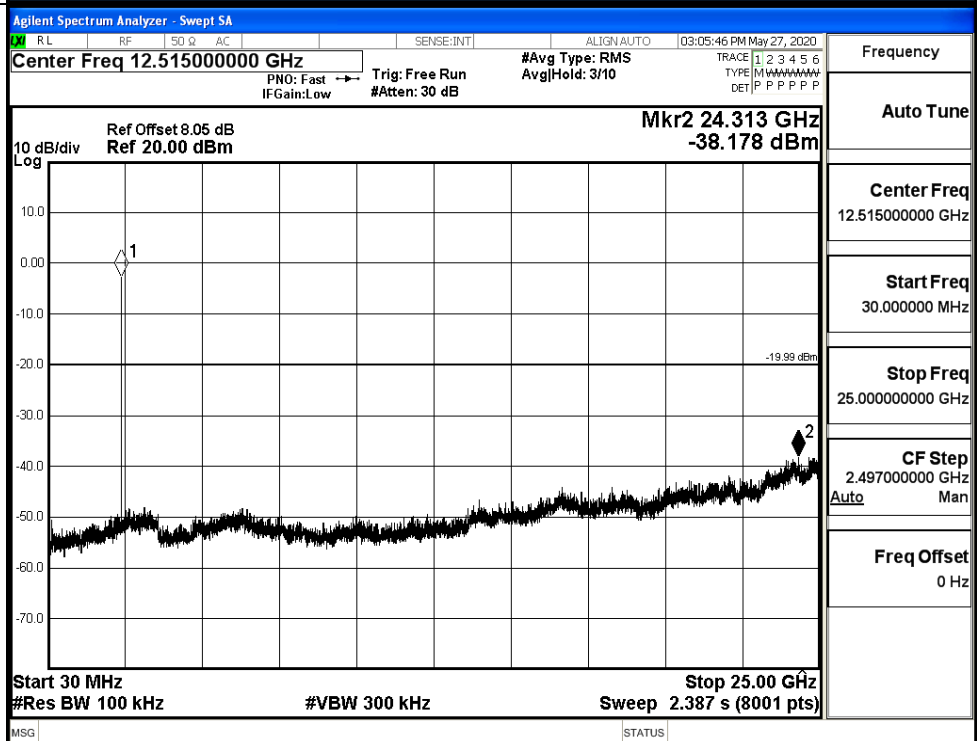


8DPSK_LCH_Graphs

Pref

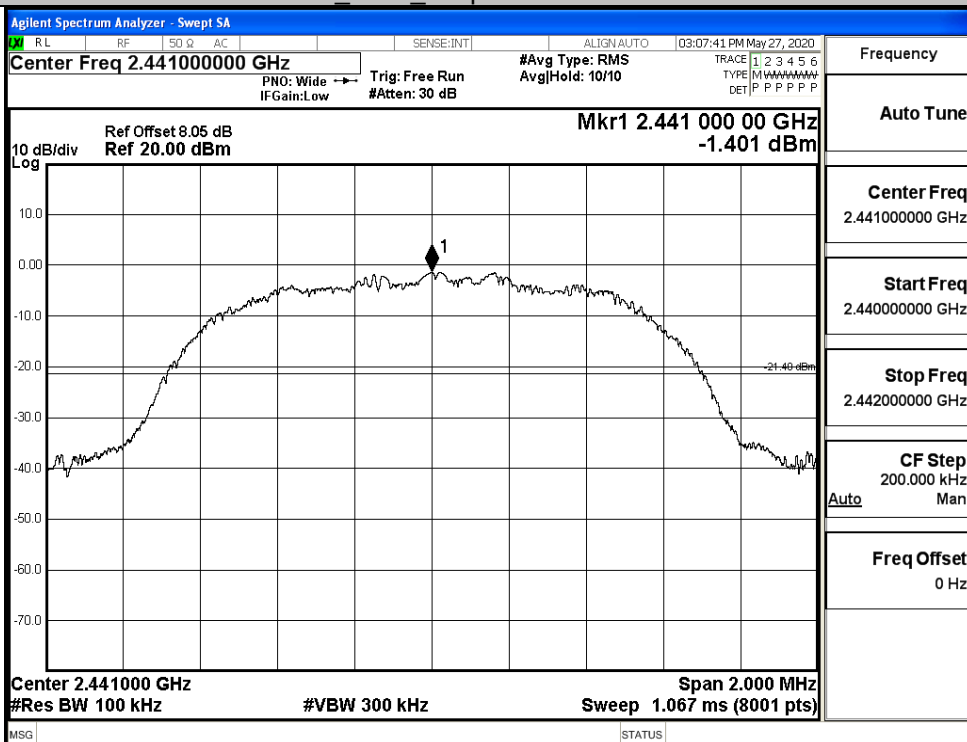


Puw

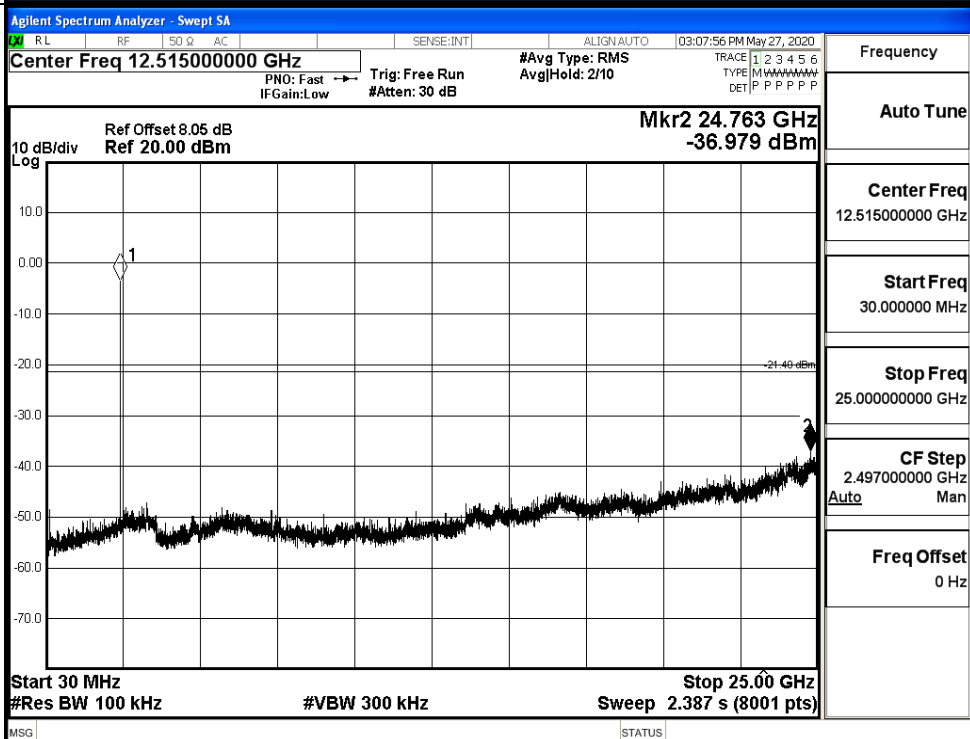


8DPSK_MCH_Graphs

Pref

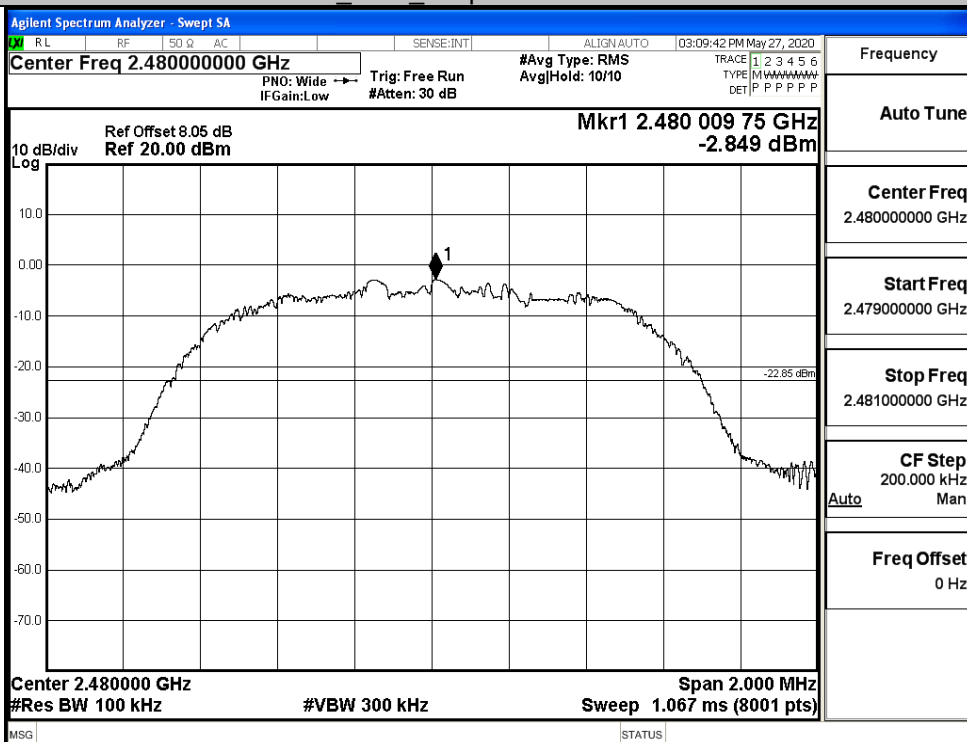


Puw

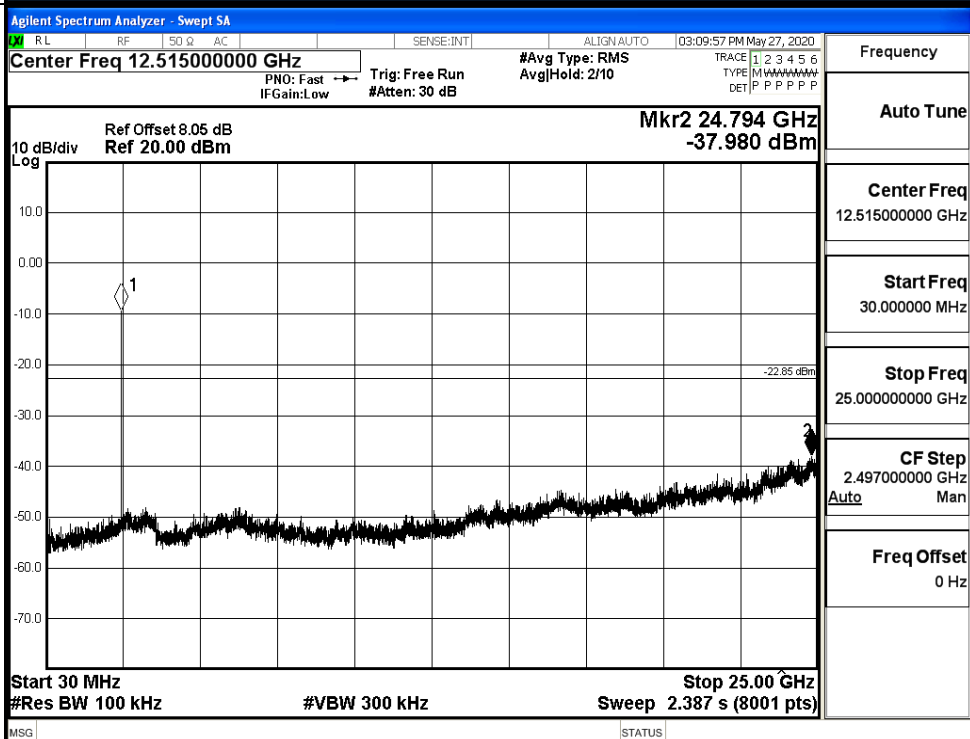


8DPSK_HCH_Graphs

Pref



Puw

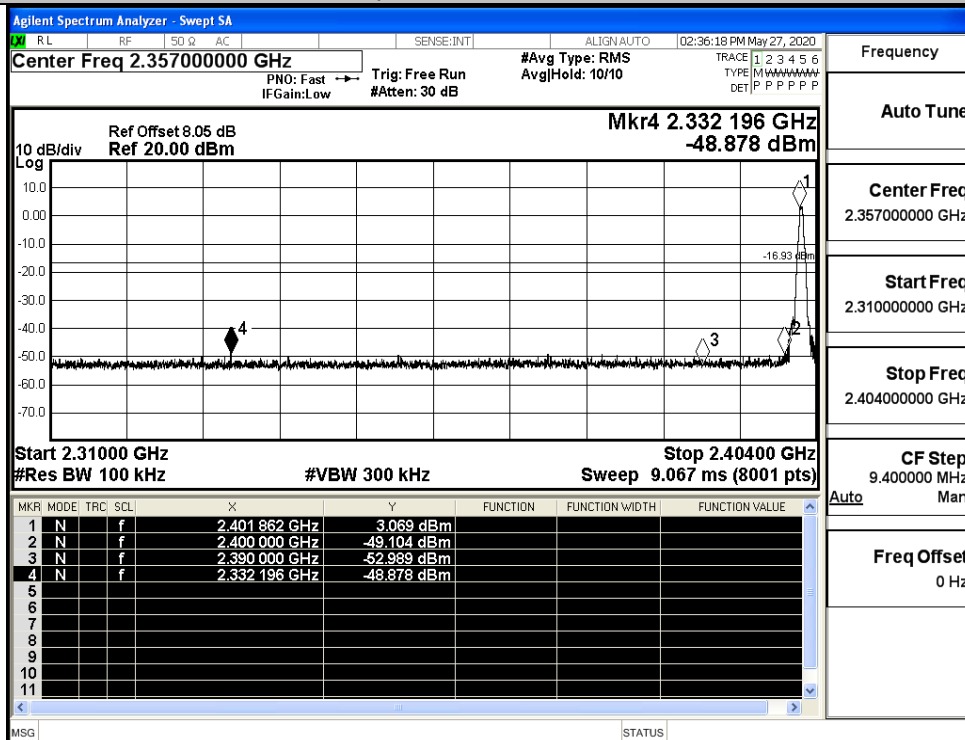


A.7 Band-edge for RF Conducted Emissions

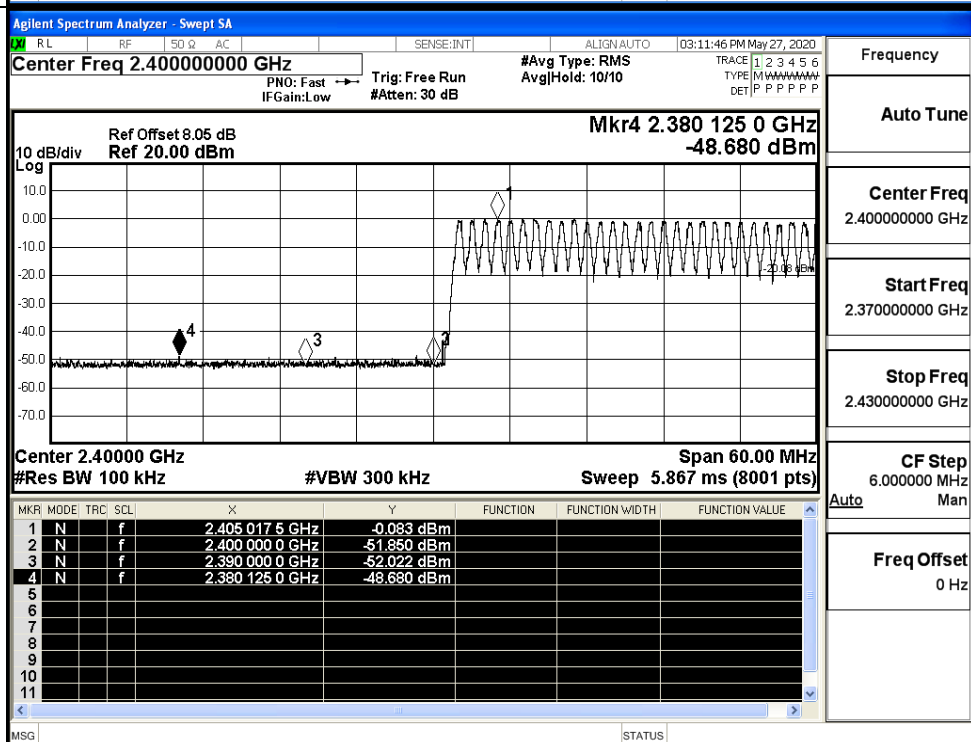
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	3.069	Off	-48.878	-16.93	PASS
			-0.083	On	-48.680	-20.08	PASS
	HCH	2480	0.066	Off	-48.560	-19.93	PASS
			-1.981	On	-48.594	-21.98	PASS
$\pi/4$ DQPSK	LCH	2402	0.152	Off	-48.548	-19.85	PASS
			-0.227	On	-48.316	-20.23	PASS
	HCH	2480	-2.927	Off	-48.859	-22.93	PASS
			-2.209	On	-48.371	-22.21	PASS
8DPSK	LCH	2402	-0.018	Off	-49.587	-20.02	PASS
			0.025	On	-48.683	-19.98	PASS
	HCH	2480	-2.822	Off	-49.046	-22.82	PASS
			-1.890	On	-48.621	-21.89	PASS

Test Graphs

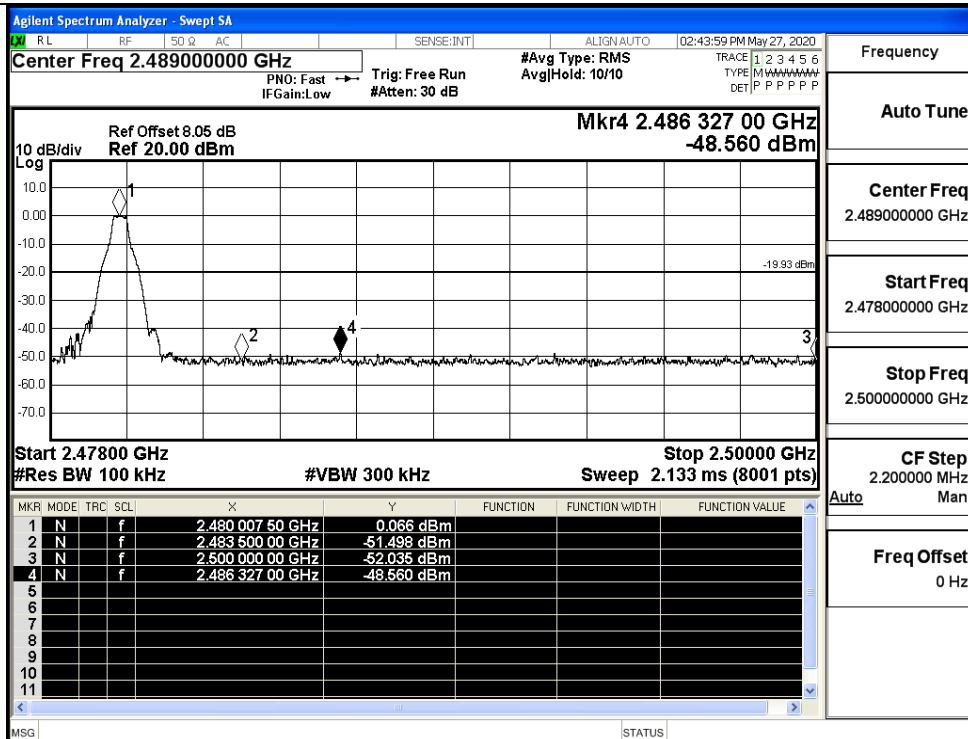
GFSK/LCH/No Hop



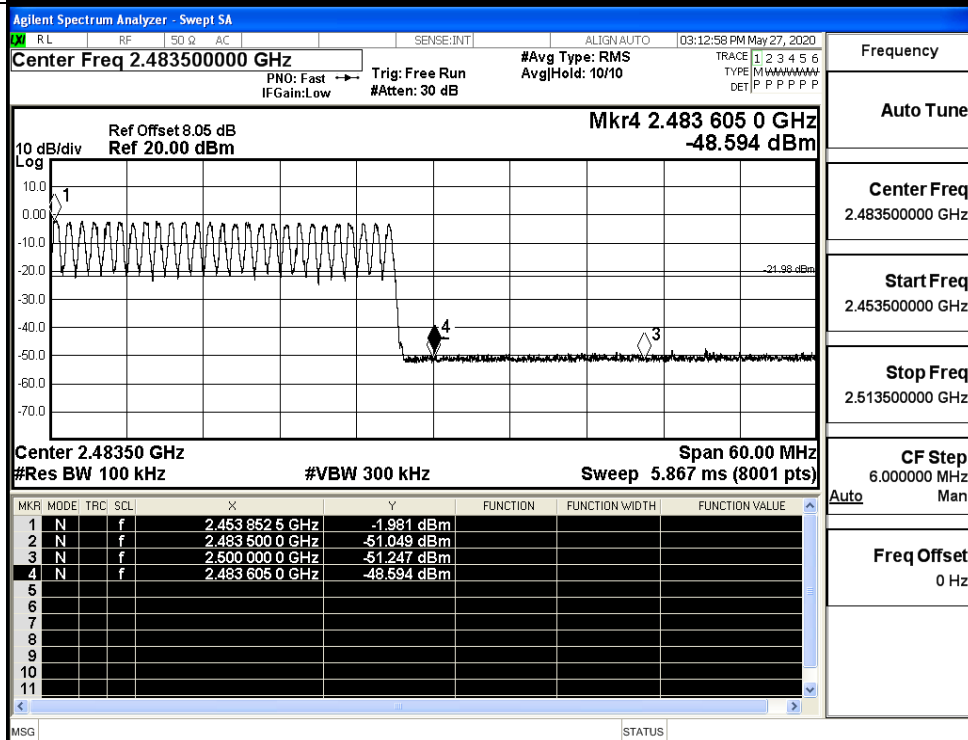
GFSK/LCH/Hop



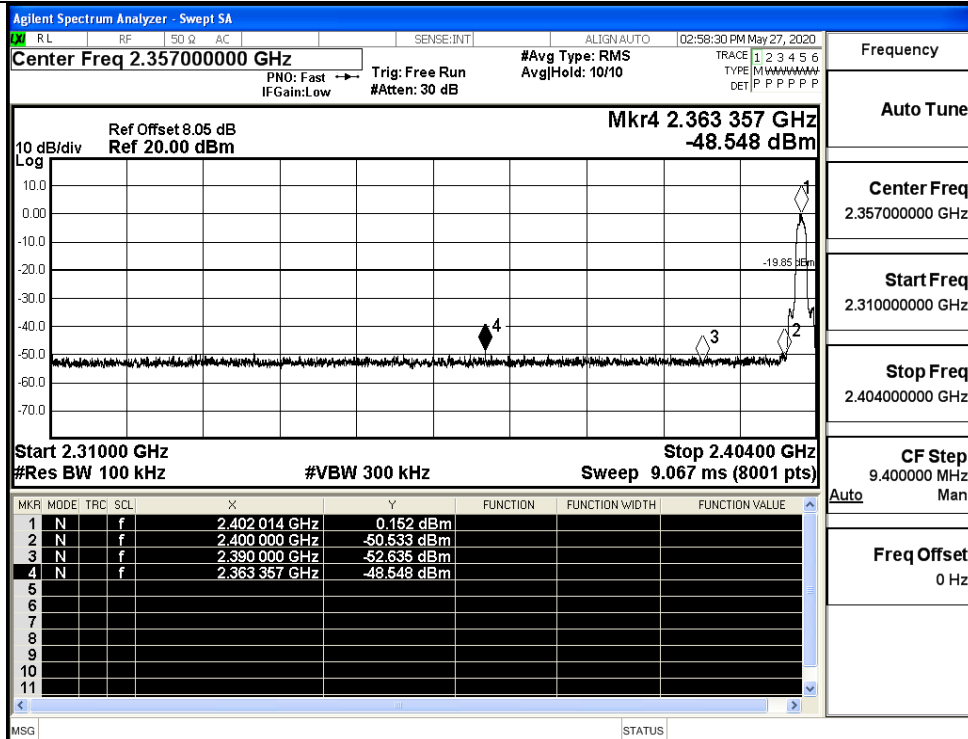
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq
2.357000000 GHz

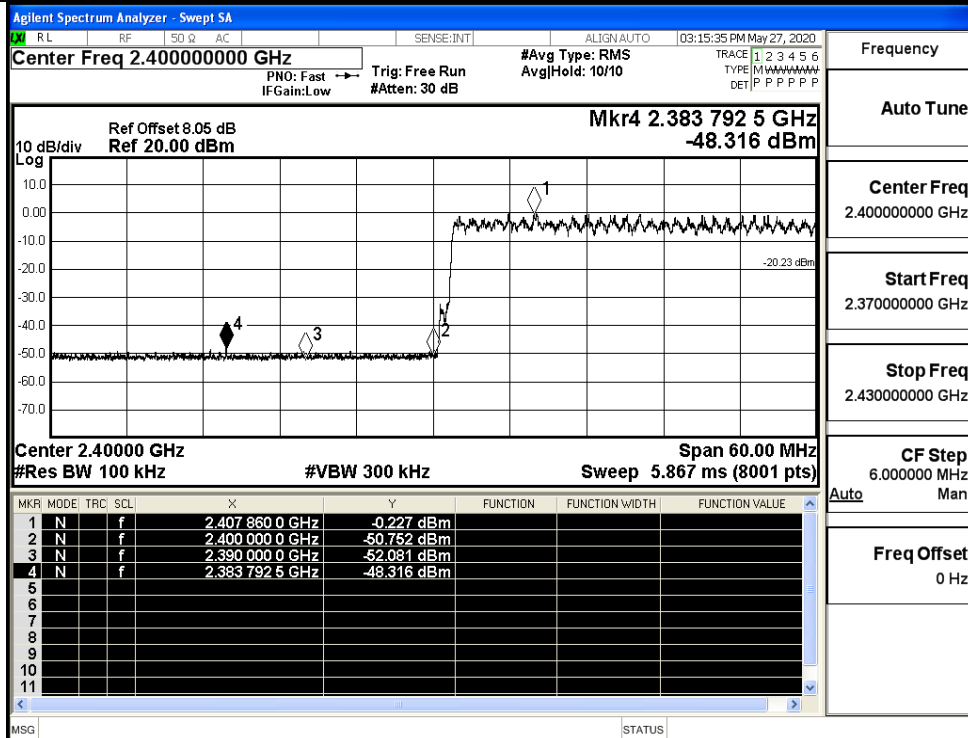
Start Freq
2.310000000 GHz

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

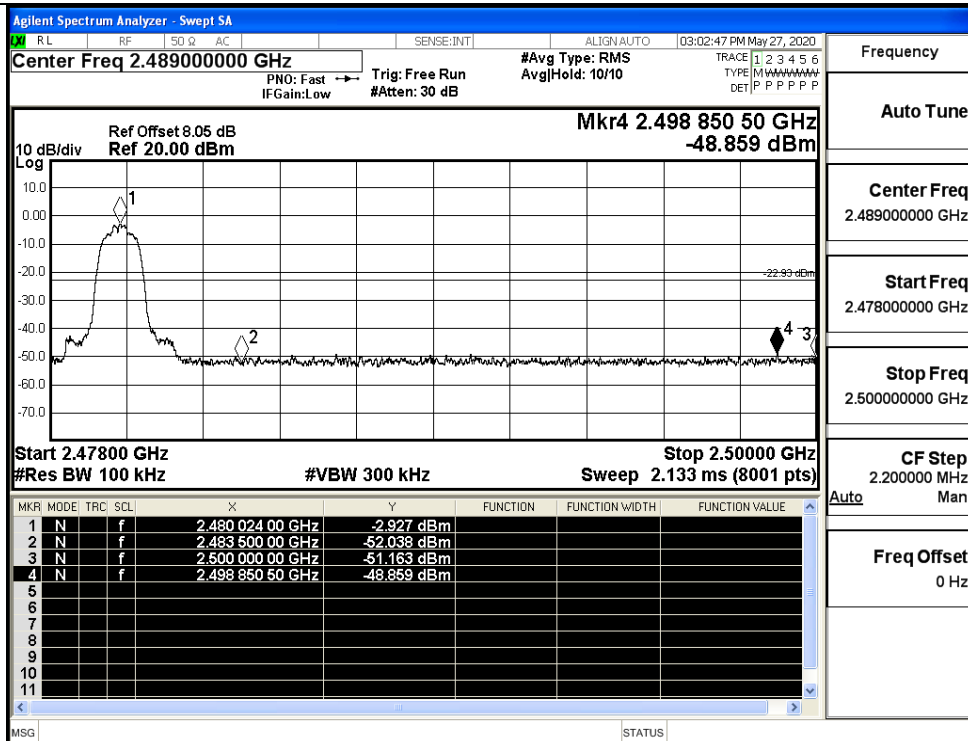
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

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

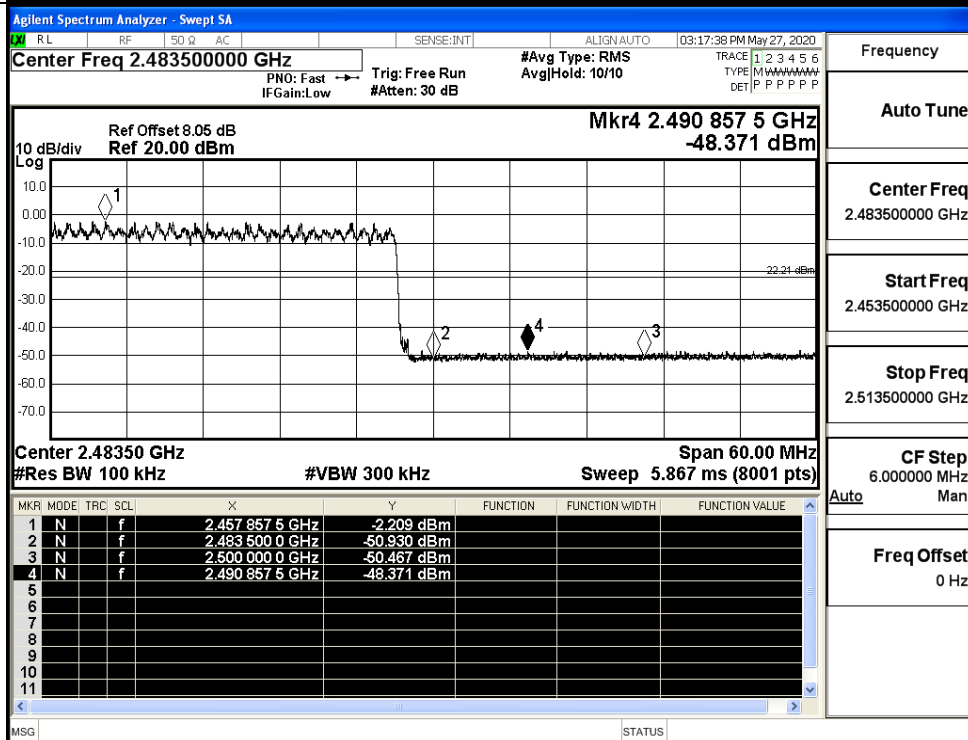


Frequency

Auto Tune

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

$\pi/4$ DQPSK/HCH/Hop

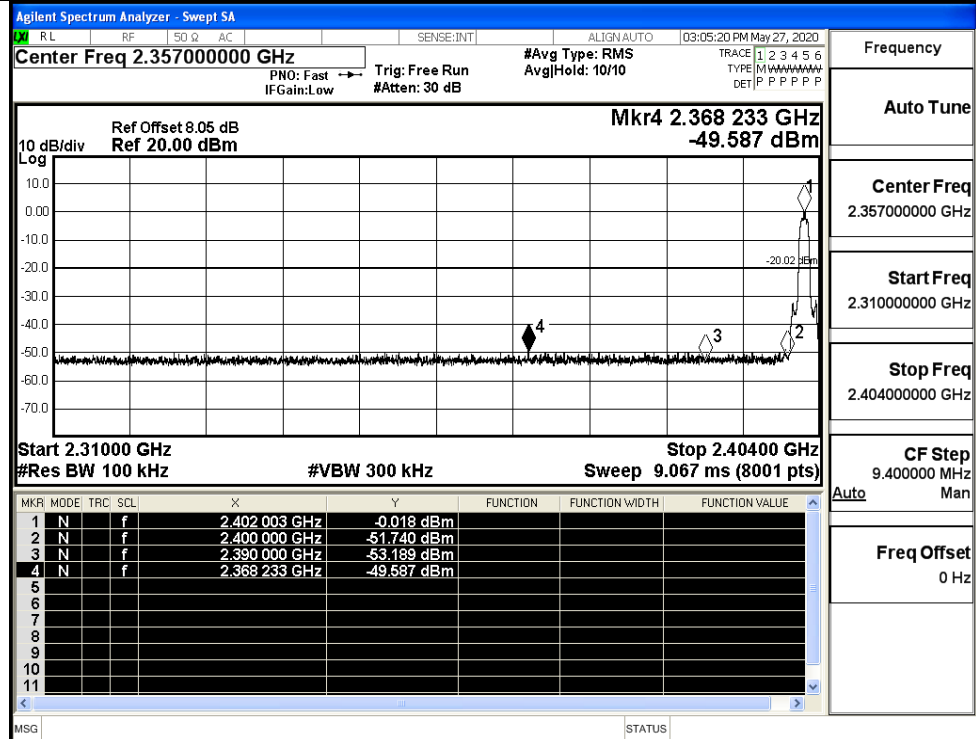


Frequency

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 GHz

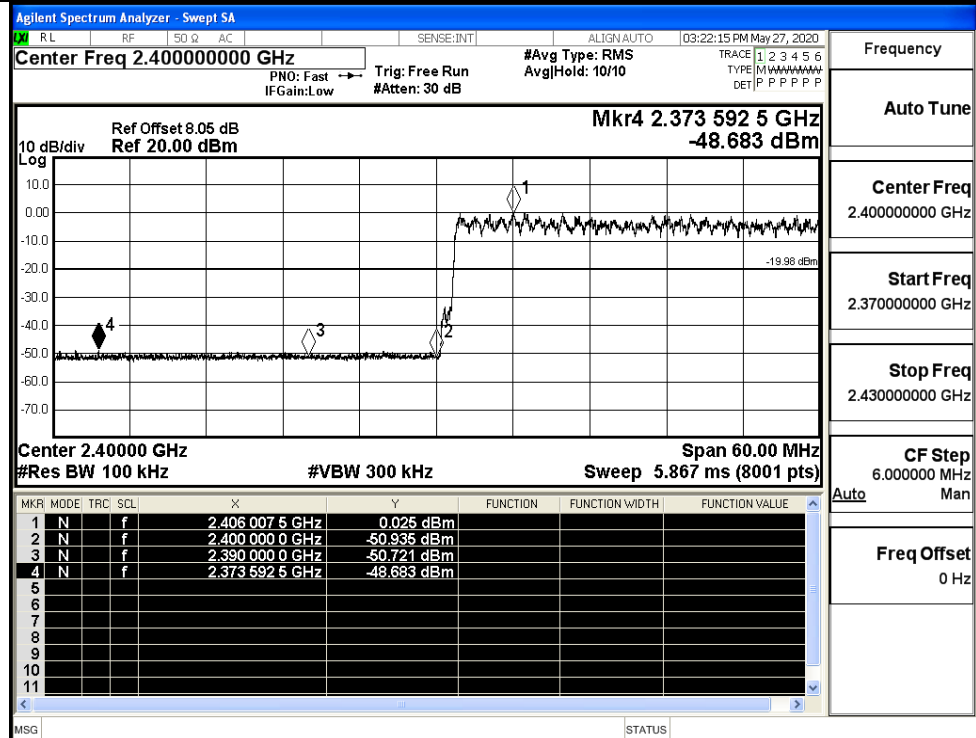
Start Freq
2.310000000 GHz

Stop Freq
2.404000000 GHz

CF Step
9.400000 MHz
Auto Man

Freq Offset
0 Hz

8DPSK/LCH/Hop



Frequency

Auto Tune

Center Freq
2.400000000 GHz

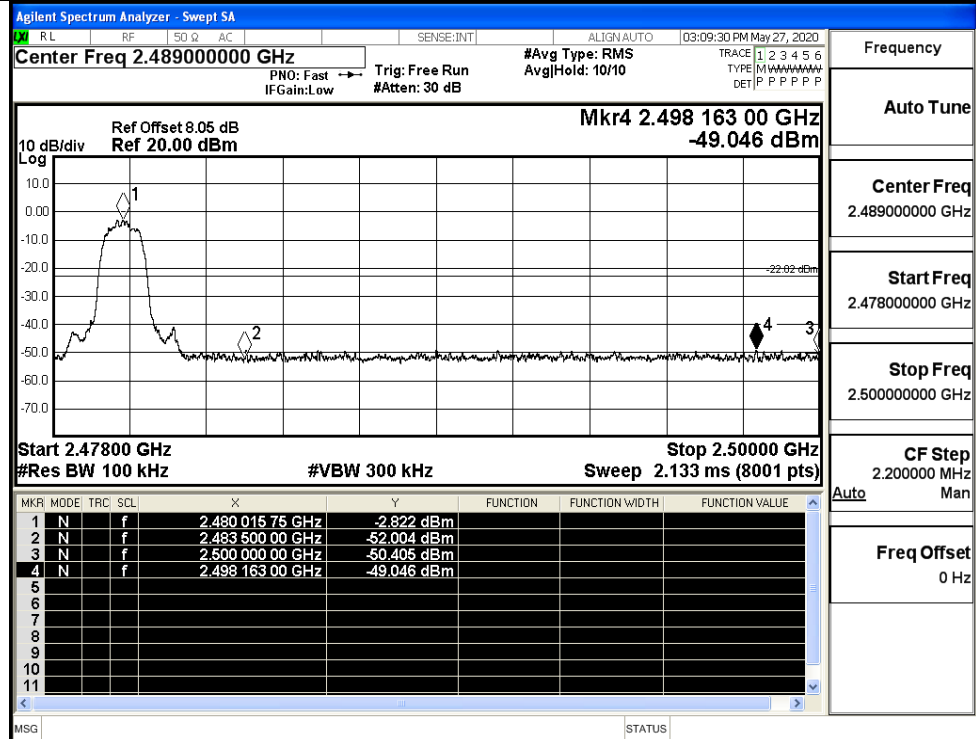
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

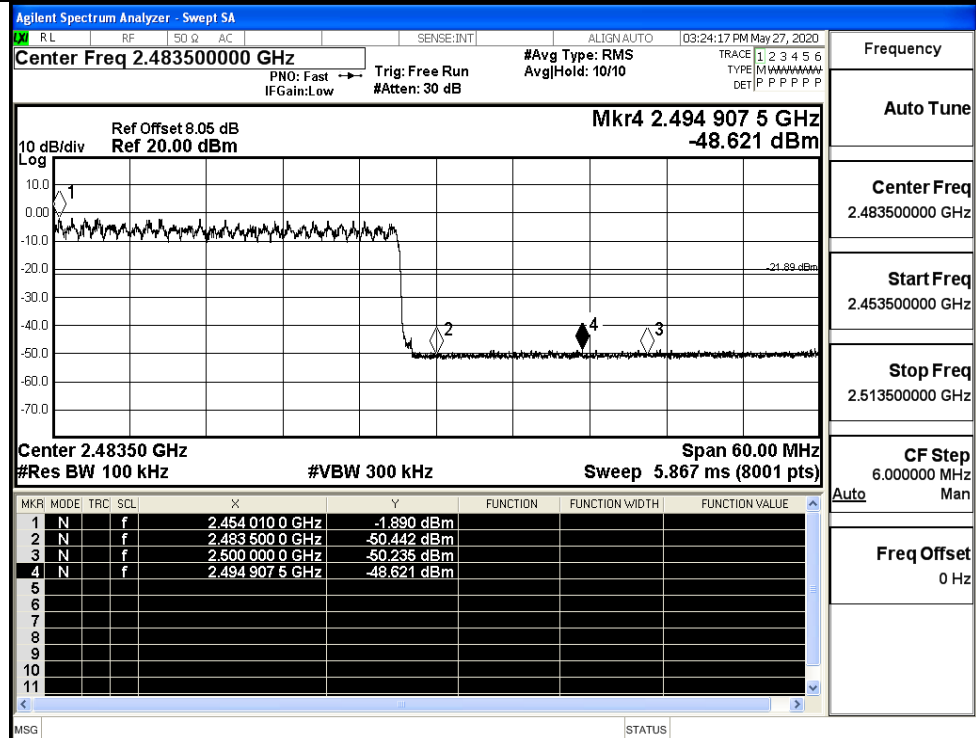
CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

8DPSK/HCH/No Hop



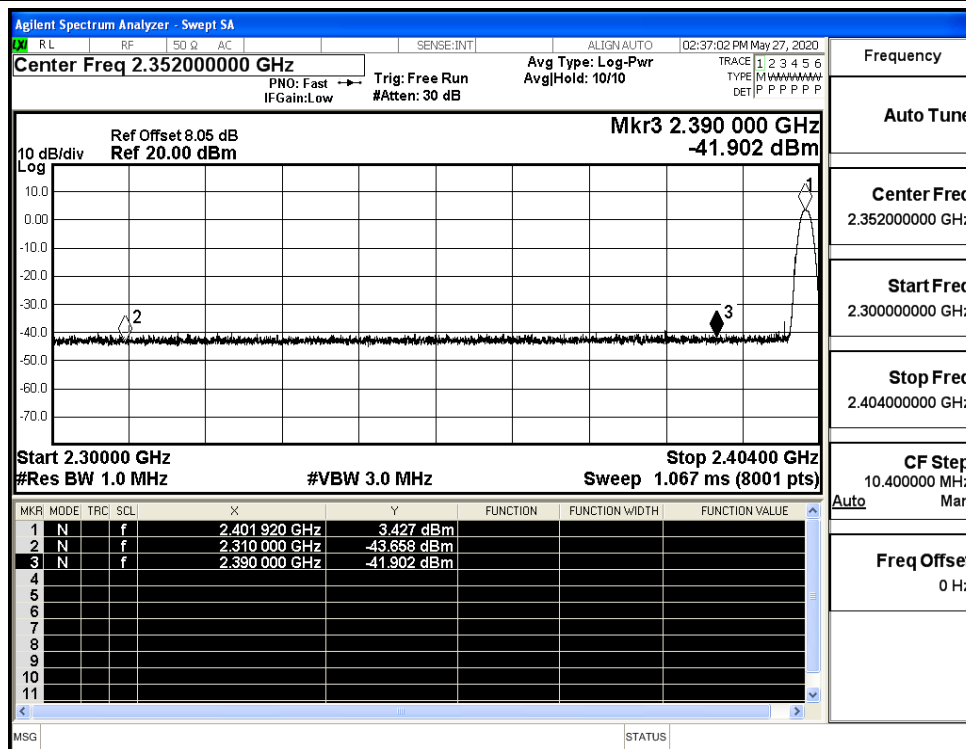
8DPSK/HCH/Hop



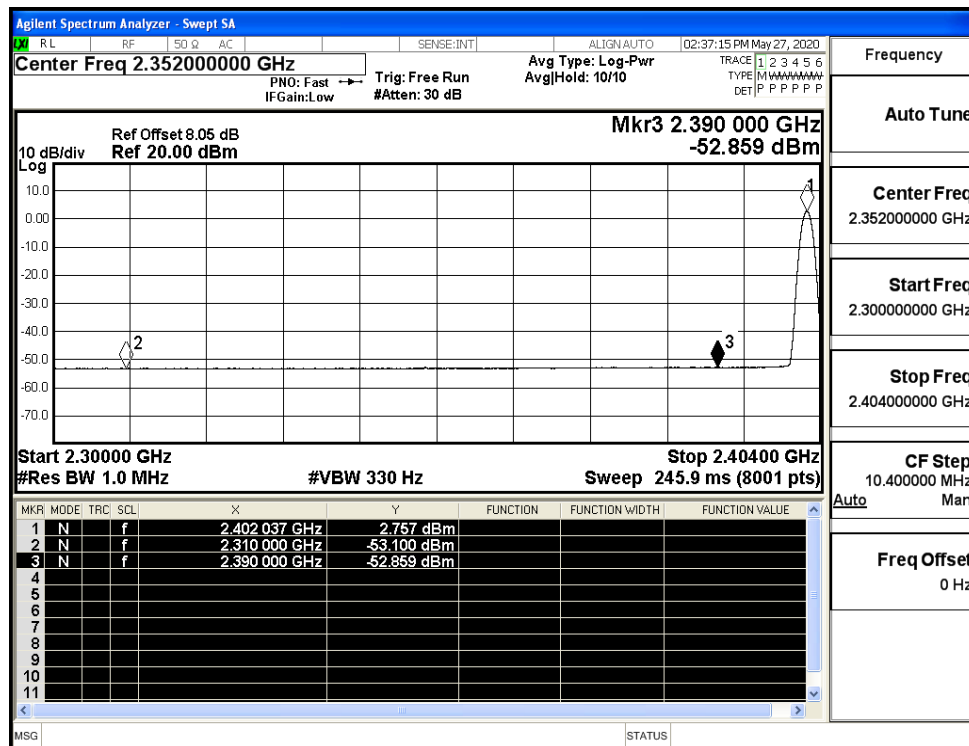
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.66	2.0	0	53.57	PEAK	74	PASS
	Off	2310.0	-53.10	2.0	0	44.13	AV	54	PASS
	Off	2390.0	-41.90	2.0	0	55.33	PEAK	74	PASS
	Off	2390.0	-52.86	2.0	0	44.37	AV	54	PASS
	Off	2483.5	-42.40	2.0	0	54.83	PEAK	74	PASS
	Off	2483.5	-52.33	2.0	0	44.90	AV	54	PASS
	Off	2500.0	-41.26	2.0	0	55.97	PEAK	74	PASS
	Off	2500.0	-52.10	2.0	0	45.13	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-42.54	2.0	0	54.69	PEAK	74	PASS
	Off	2310.0	-53.02	2.0	0	44.21	AV	54	PASS
	Off	2390.0	-42.30	2.0	0	54.93	PEAK	74	PASS
	Off	2390.0	-52.92	2.0	0	44.31	AV	54	PASS
	Off	2483.5	-41.79	2.0	0	55.44	PEAK	74	PASS
	Off	2483.5	-52.34	2.0	0	44.89	AV	54	PASS
	Off	2500.0	-42.29	2.0	0	54.94	PEAK	74	PASS
	Off	2500.0	-52.28	2.0	0	44.95	AV	54	PASS
8DPSK	Off	2310.0	-43.43	2.0	0	53.80	PEAK	74	PASS
	Off	2310.0	-53.27	2.0	0	43.96	AV	54	PASS
	Off	2390.0	-41.10	2.0	0	56.13	PEAK	74	PASS
	Off	2390.0	-52.78	2.0	0	44.45	AV	54	PASS
	Off	2483.5	-41.04	2.0	0	56.19	PEAK	74	PASS
	Off	2483.5	-52.34	2.0	0	44.89	AV	54	PASS
	Off	2500.0	-41.59	2.0	0	55.64	PEAK	74	PASS
	Off	2500.0	-52.24	2.0	0	44.99	AV	54	PASS

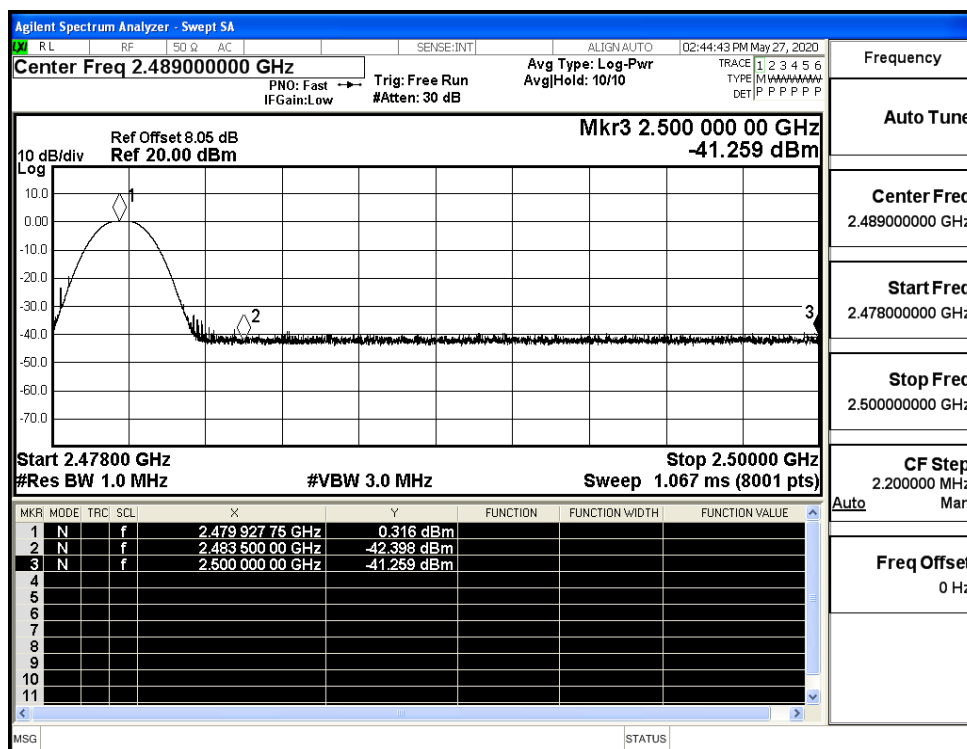
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



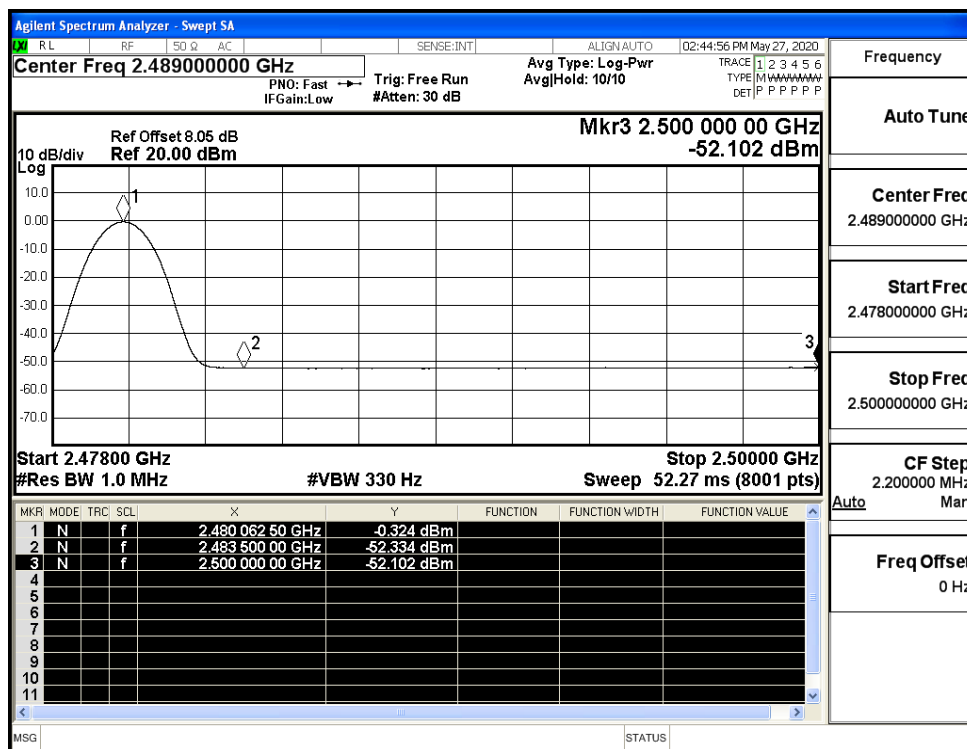
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

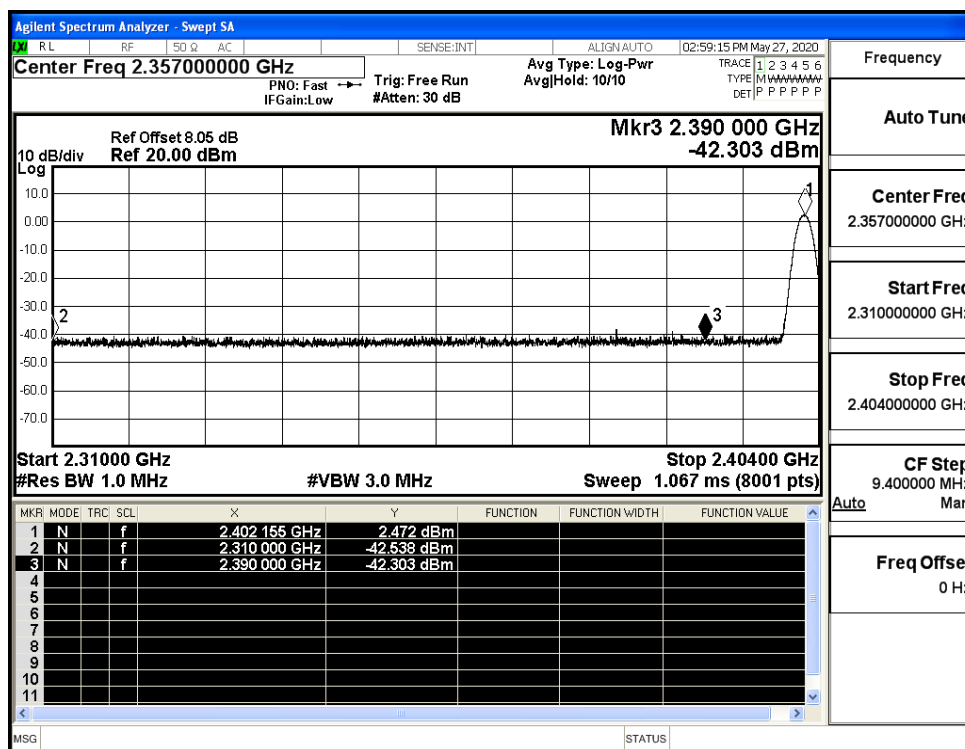
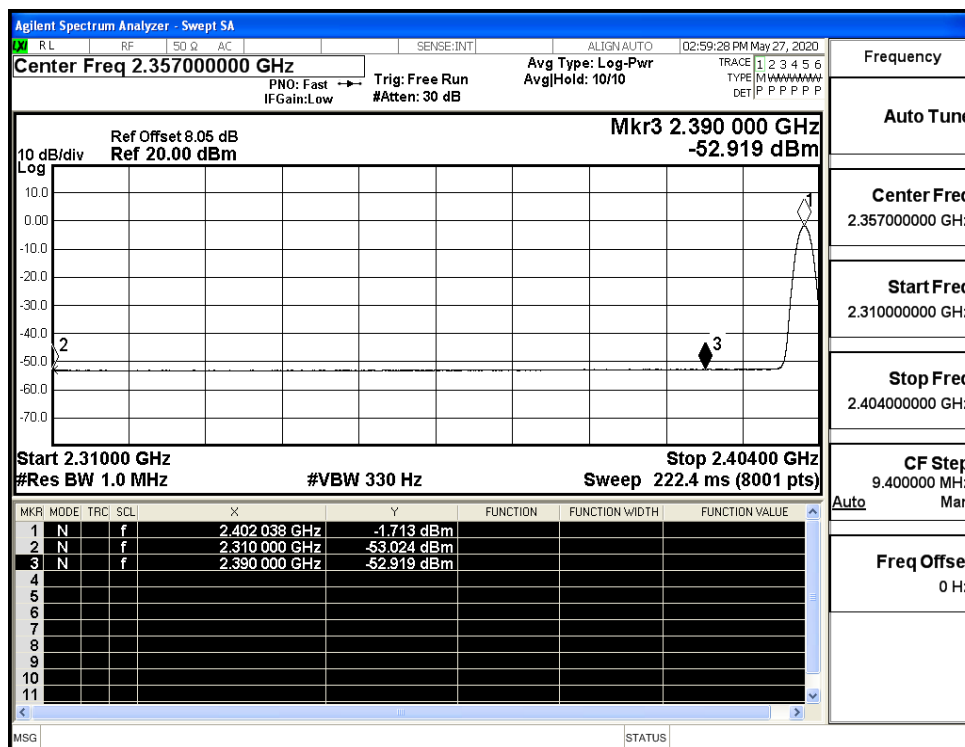


Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)

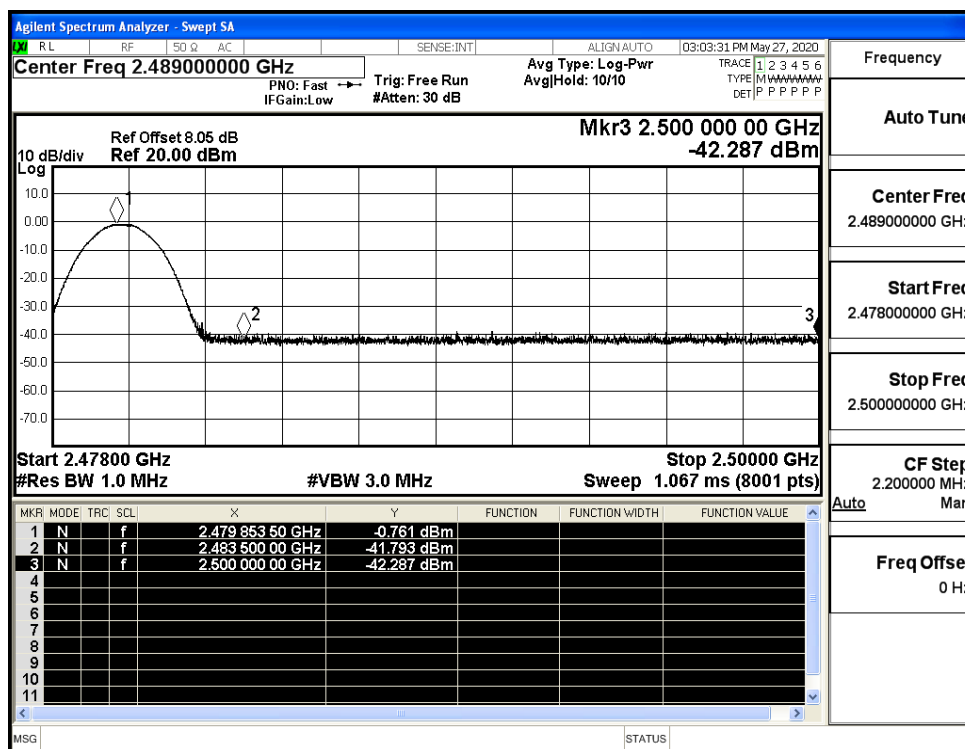


Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)

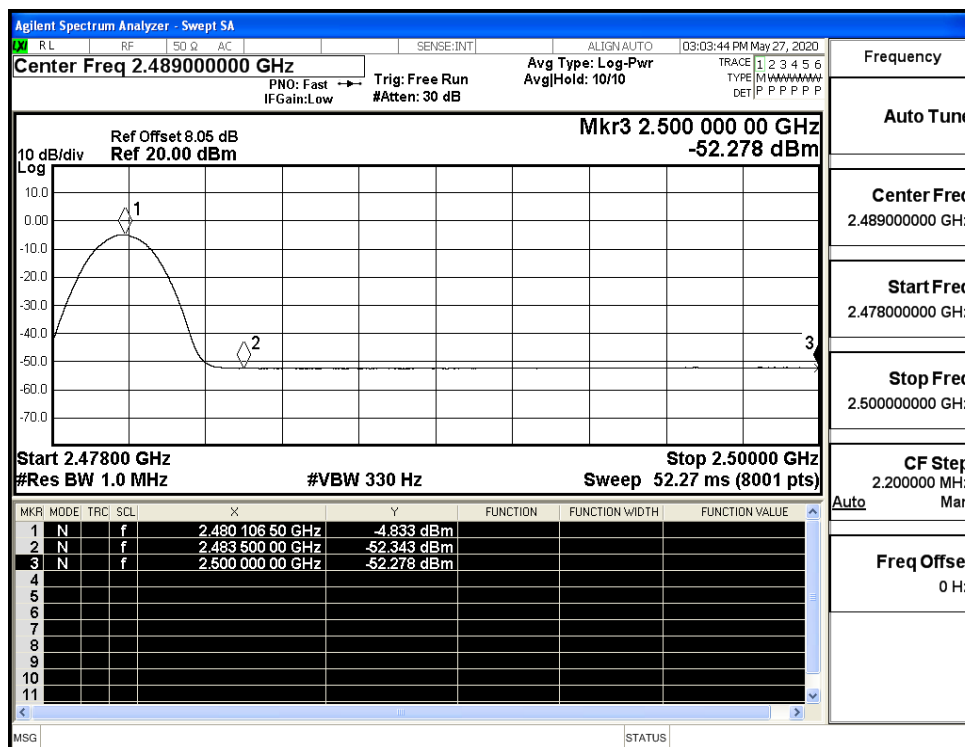


Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

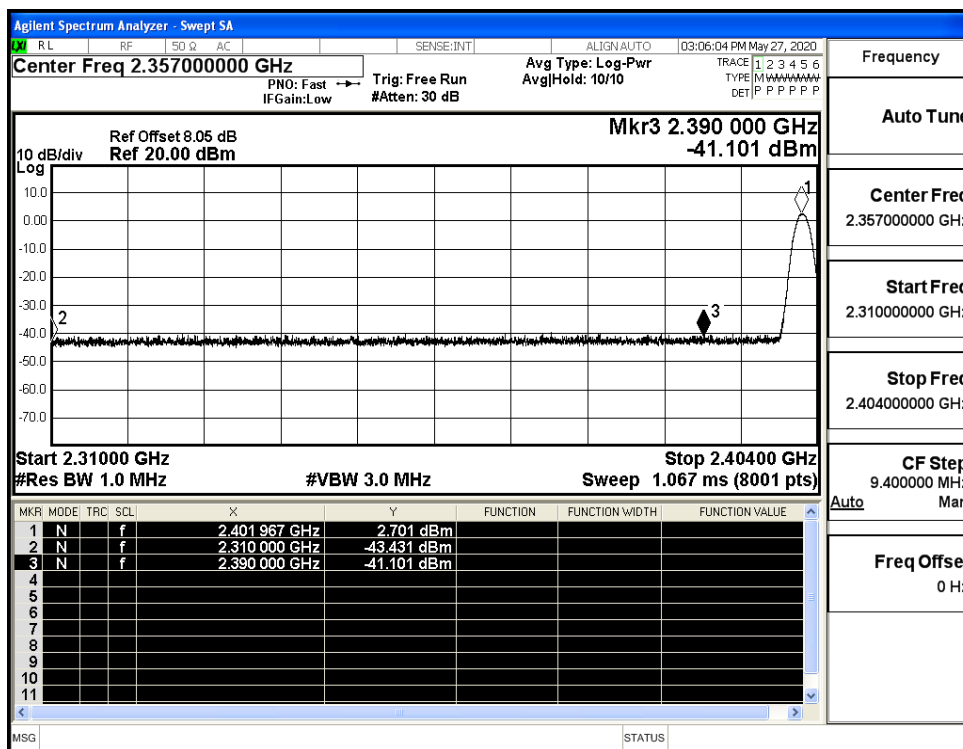
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



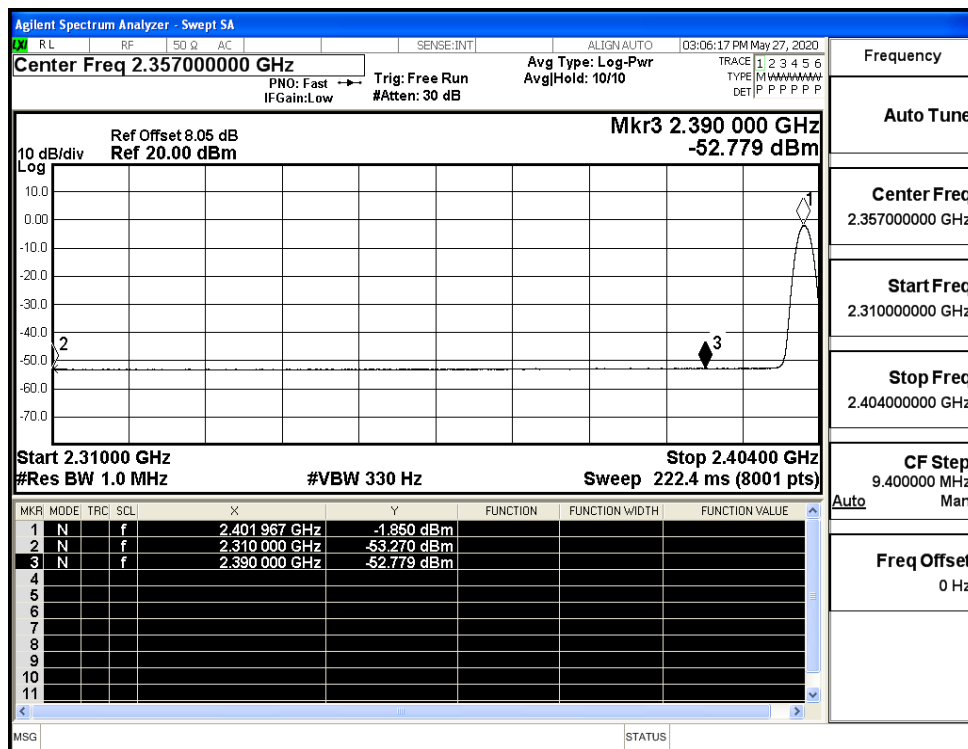
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



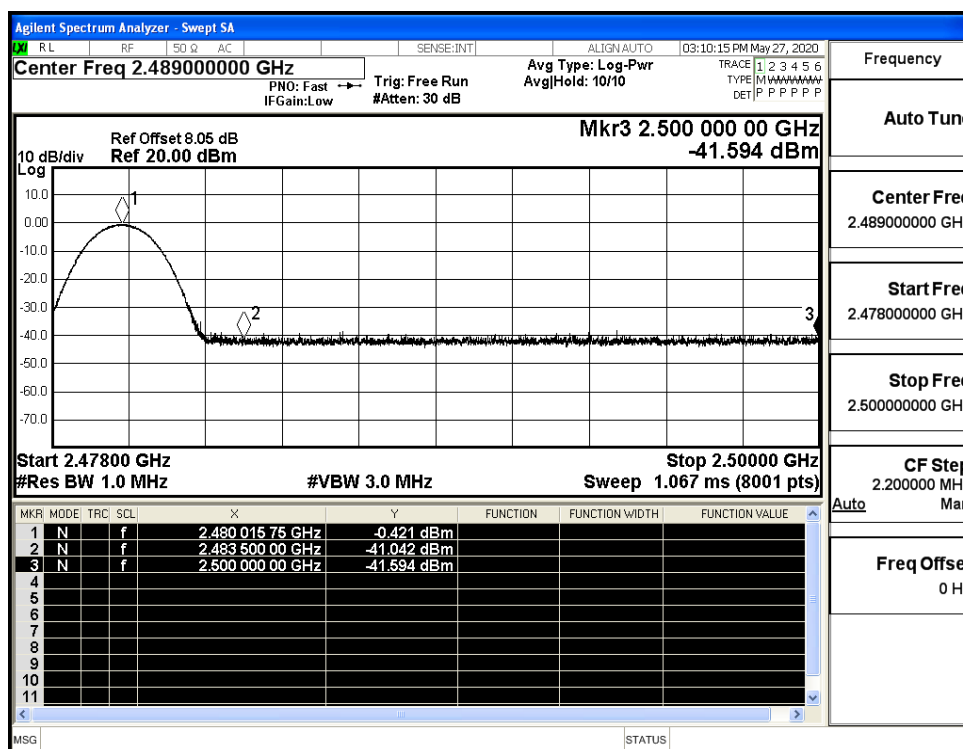
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

