

Appendix A

Product Name: PANEL PC

Trade Mark: Qbic

Test Model: TD-1060 Slim

Environmental Conditions

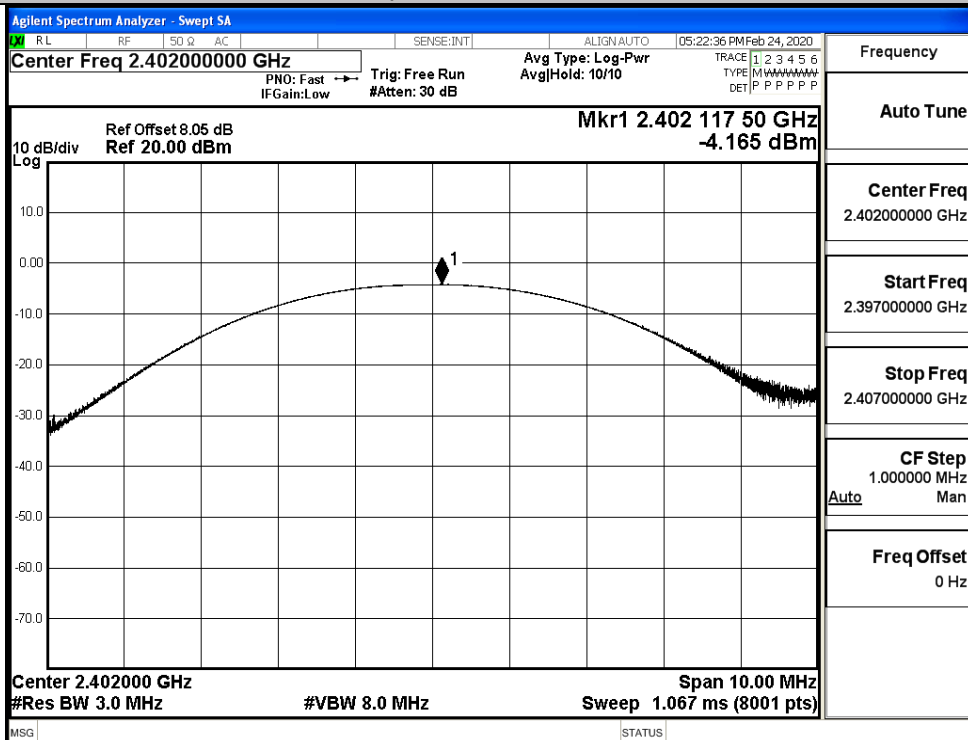
Temperature:	22.7°C
Relative Humidity:	53.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Li Huan
Supervised by:	Tom.Liu

A.1 Maximum Conducted Peak Output Power

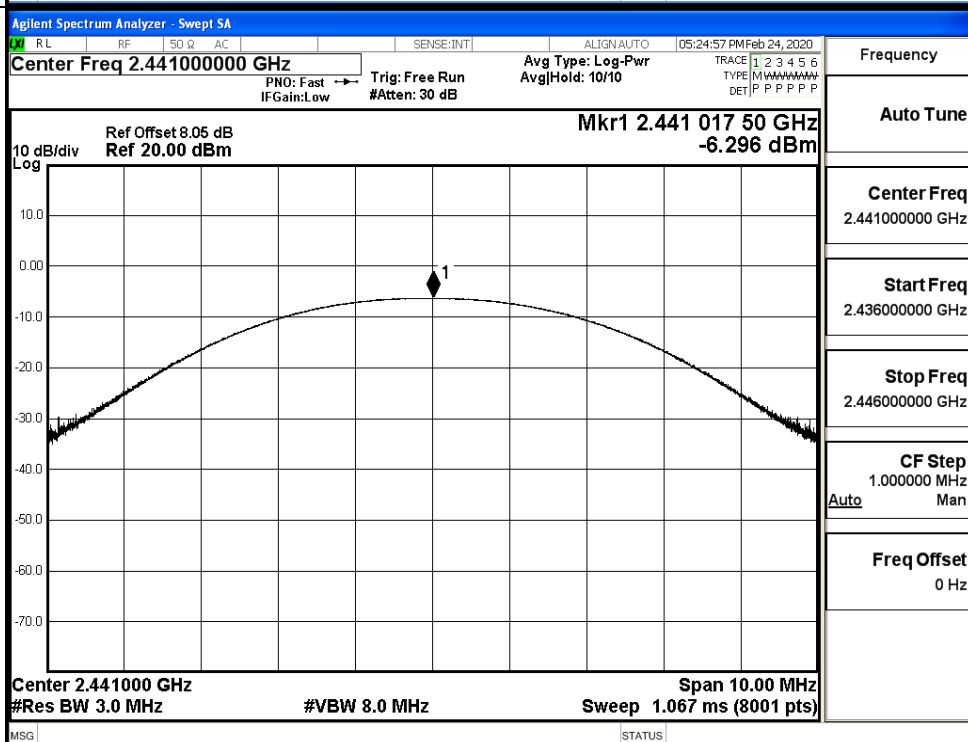
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-4.165	30	PASS
	MCH	-6.296	30	PASS
	HCH	-3.541	30	PASS
$\pi/4$ DQPSK	LCH	-4.941	30	PASS
	MCH	-6.970	30	PASS
	HCH	-4.221	30	PASS
8DPSK	LCH	-4.649	30	PASS
	MCH	-7.403	30	PASS
	HCH	-4.362	30	PASS

Test Graphs

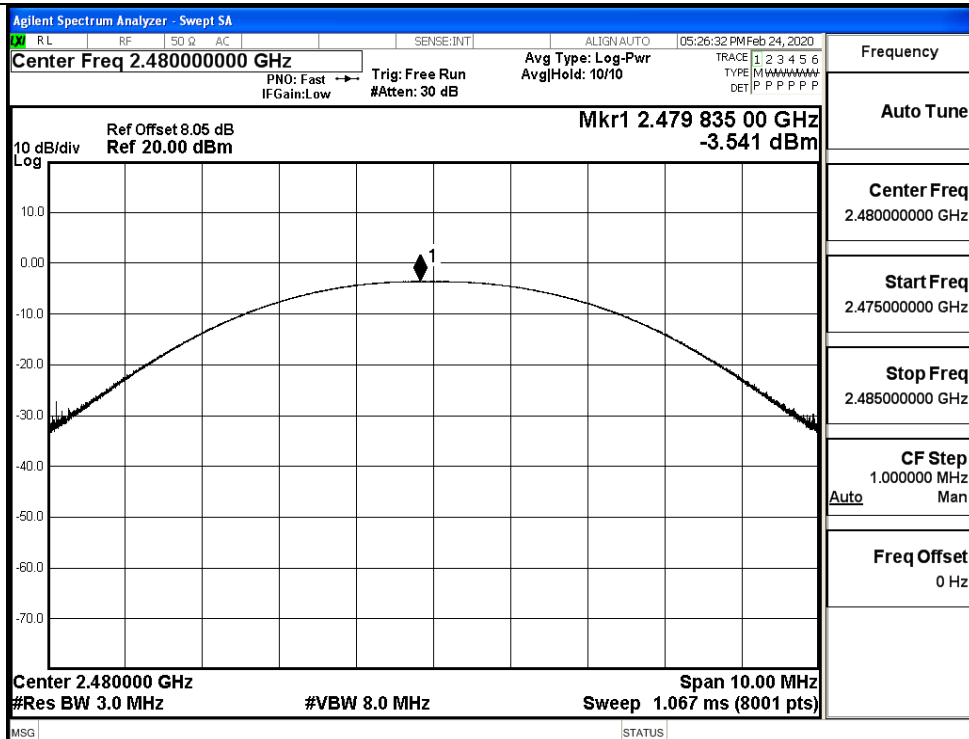
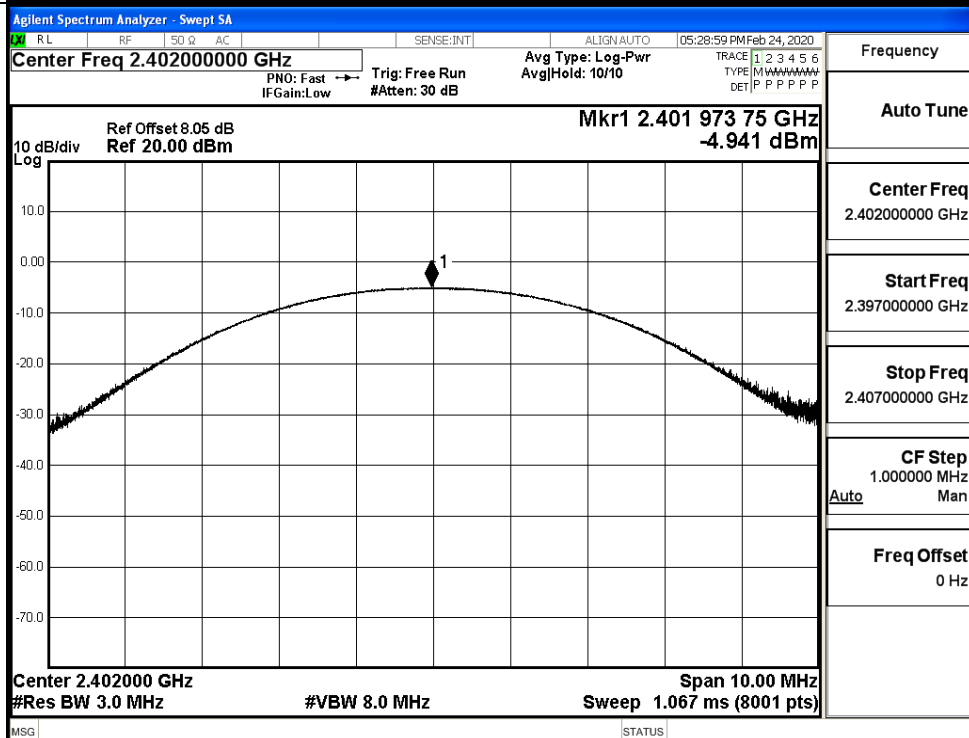
GFSK/LCH

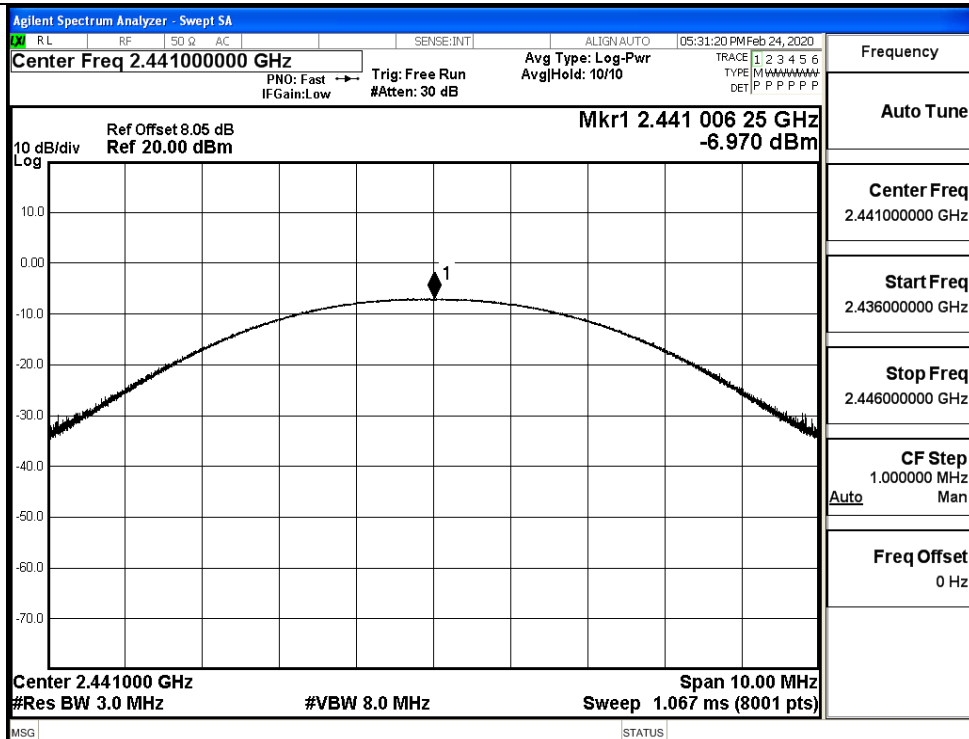
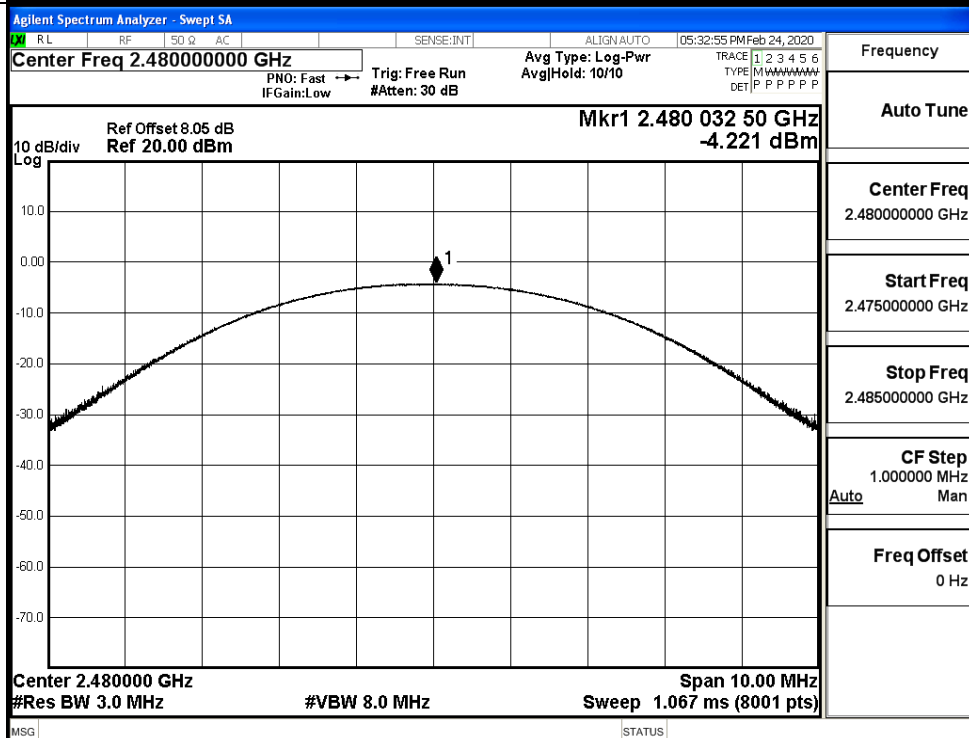


GFSK/MCH

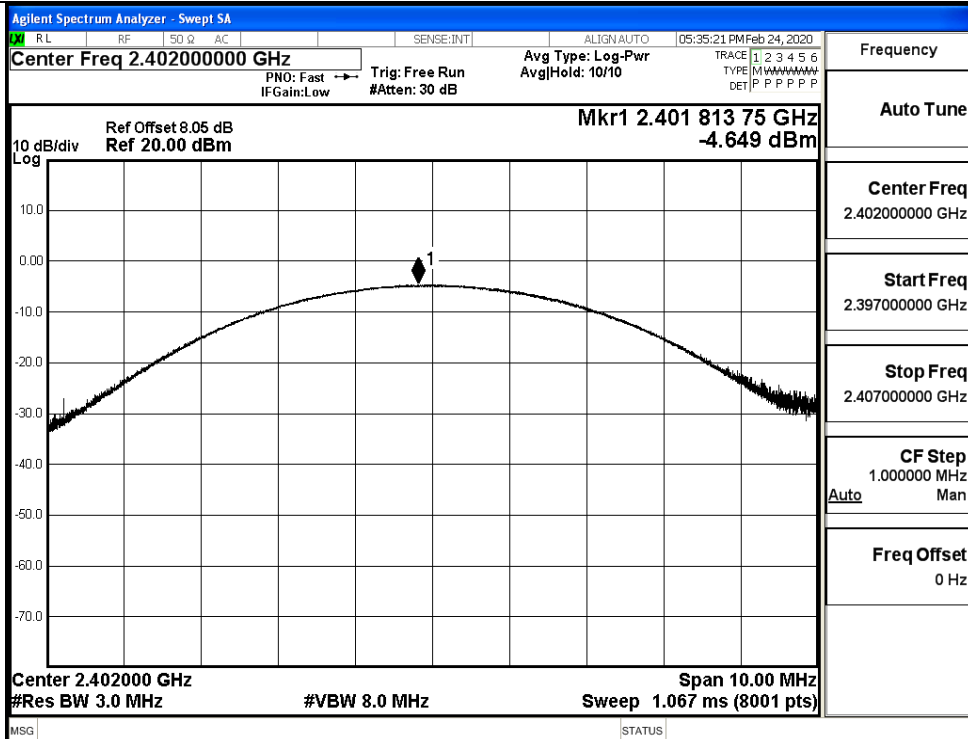


GFSK/HCH

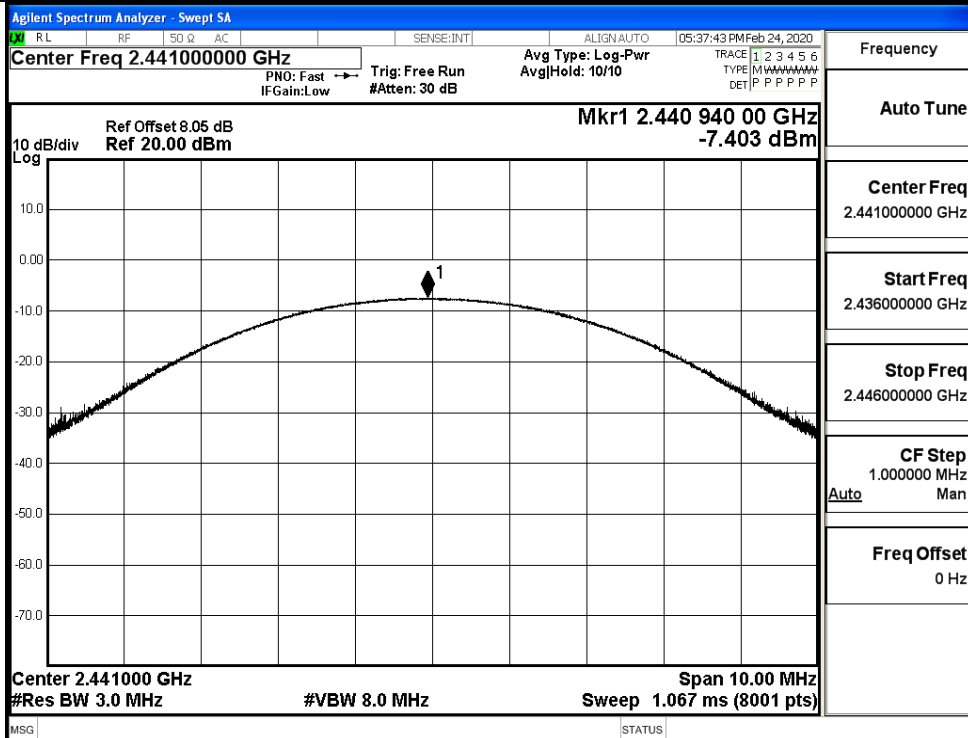
 $\pi/4$ DQPSK/LCH

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

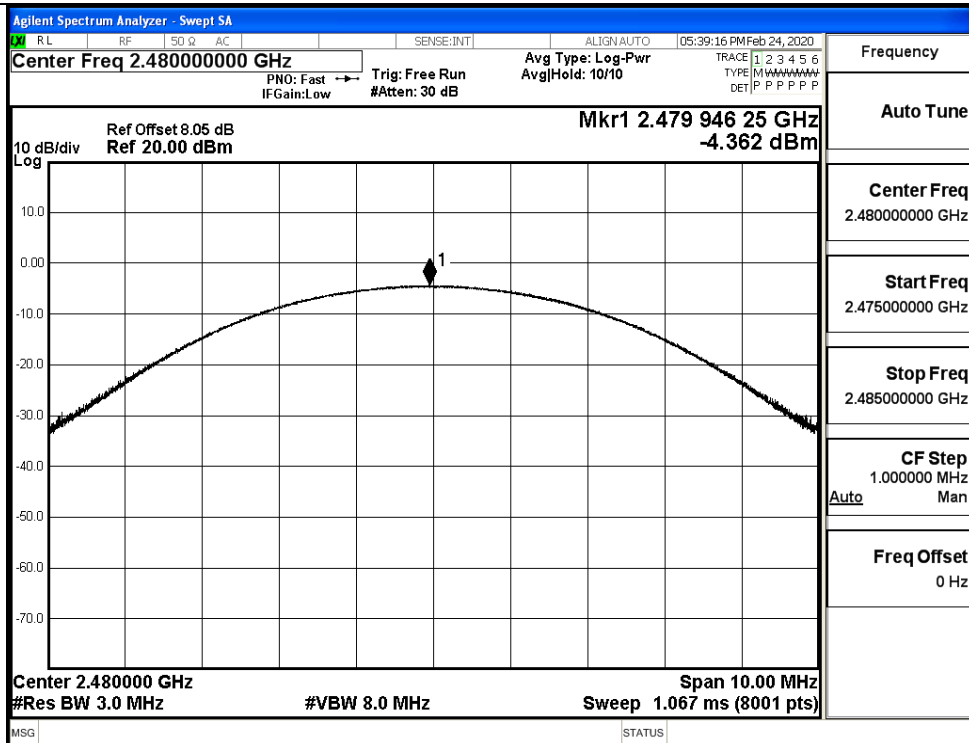
8DPSK/LCH



8DPSK/MCH



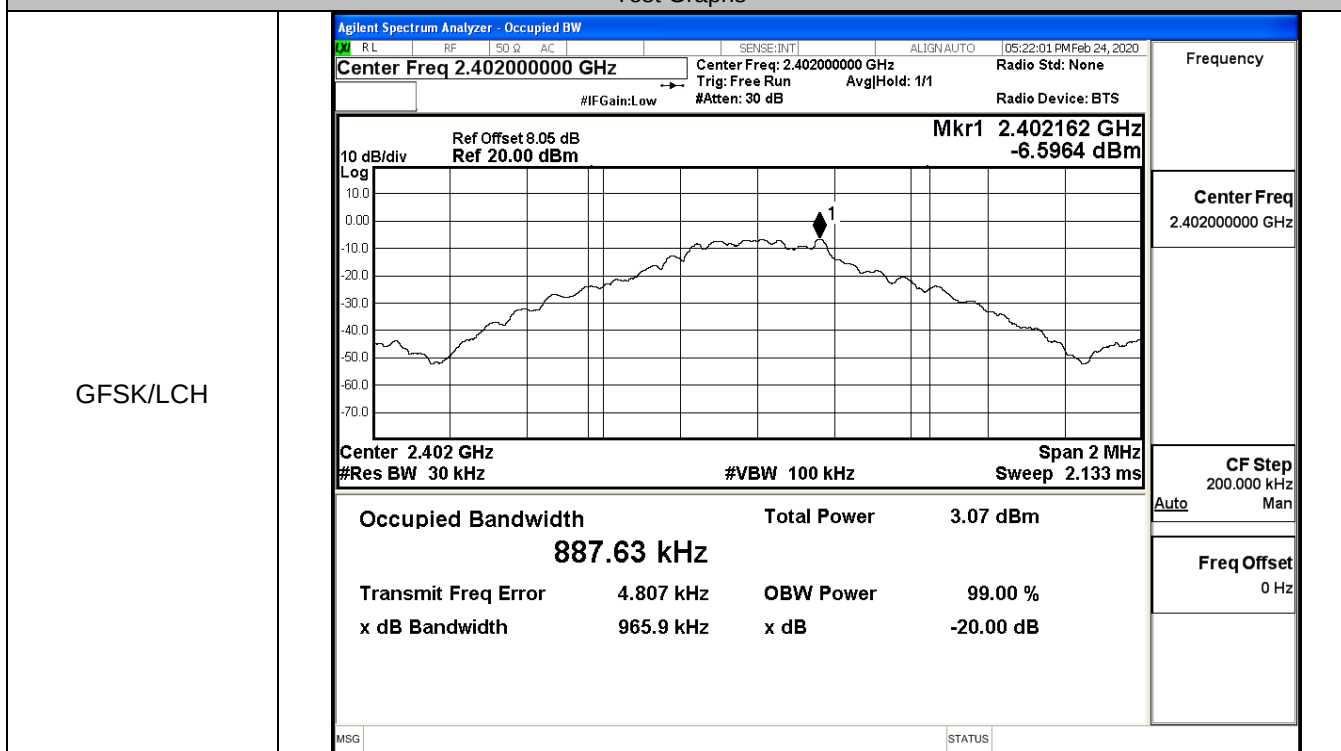
8DPSK/HCH



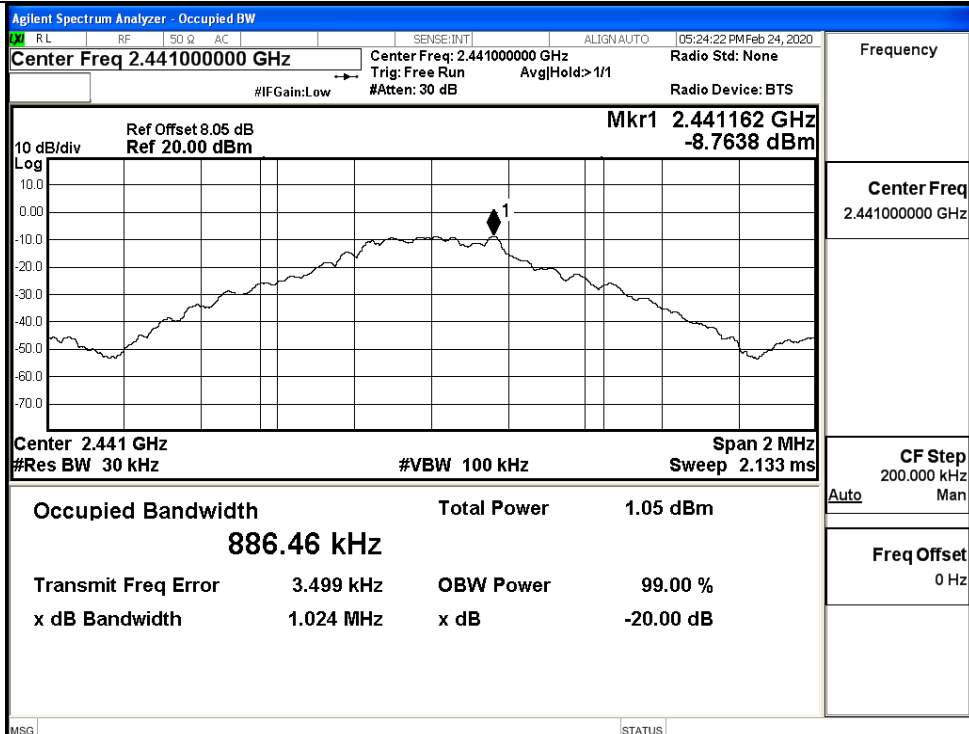
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9659	Not Specified	PASS
	MCH	1.024	Not Specified	PASS
	HCH	1.035	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.290	Not Specified	PASS
	MCH	1.308	Not Specified	PASS
	HCH	1.310	Not Specified	PASS
8DPSK	LCH	1.296	Not Specified	PASS
	MCH	1.303	Not Specified	PASS
	HCH	1.297	Not Specified	PASS

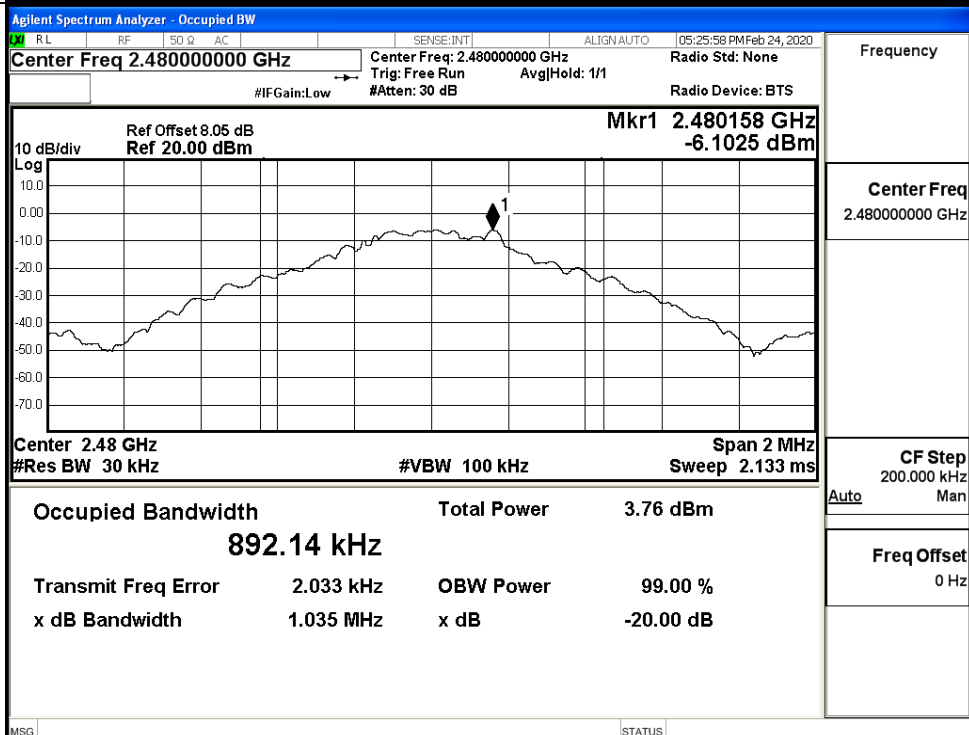
Test Graphs

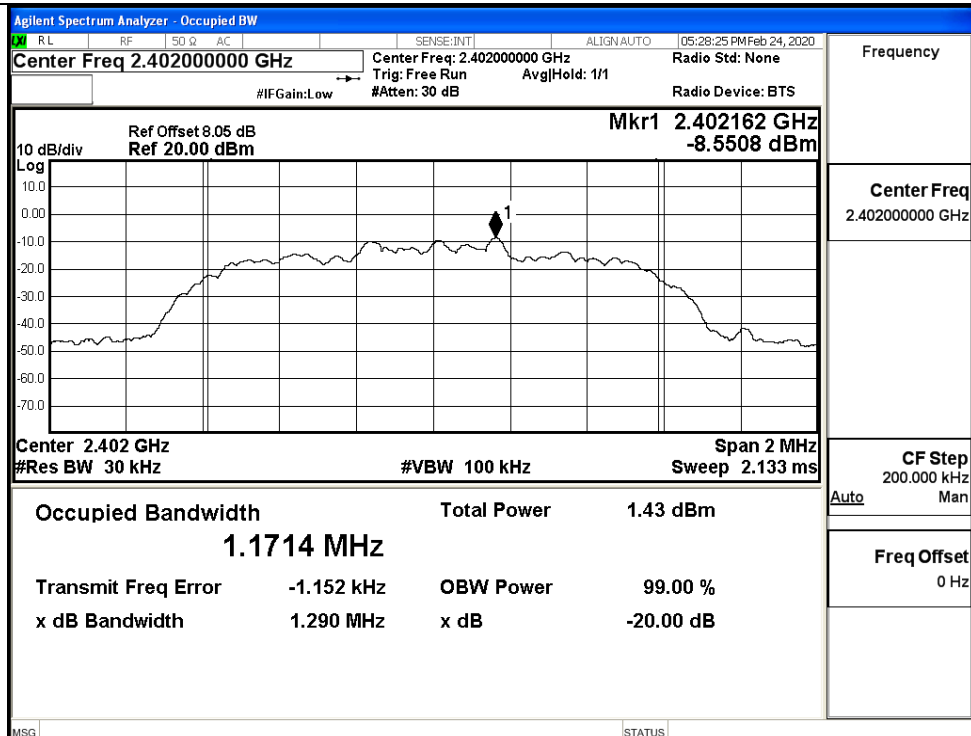
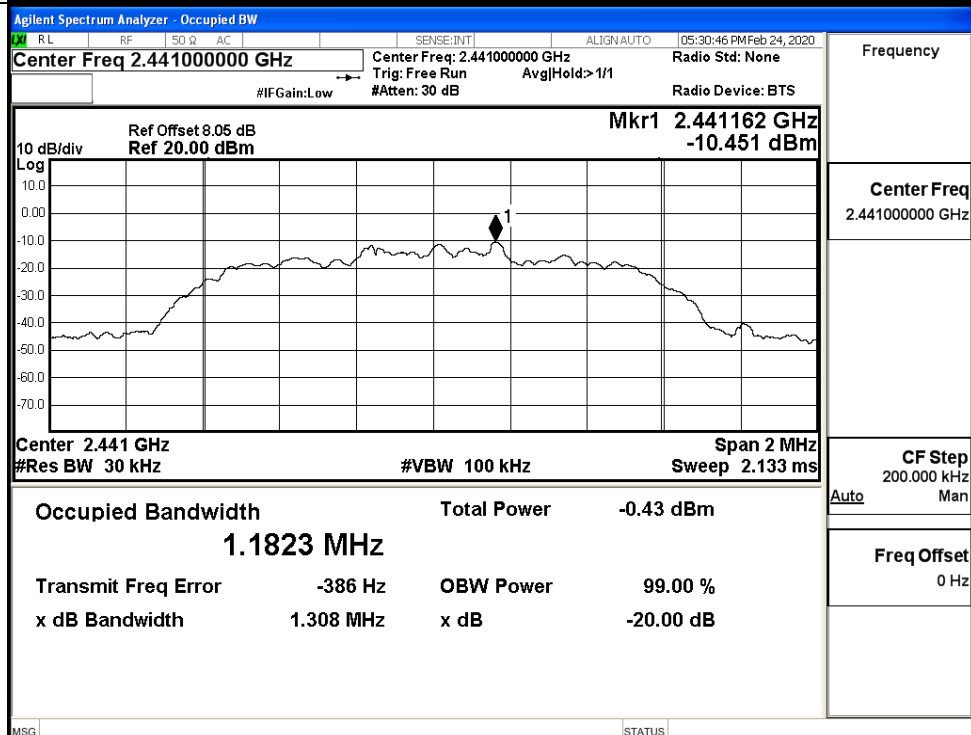


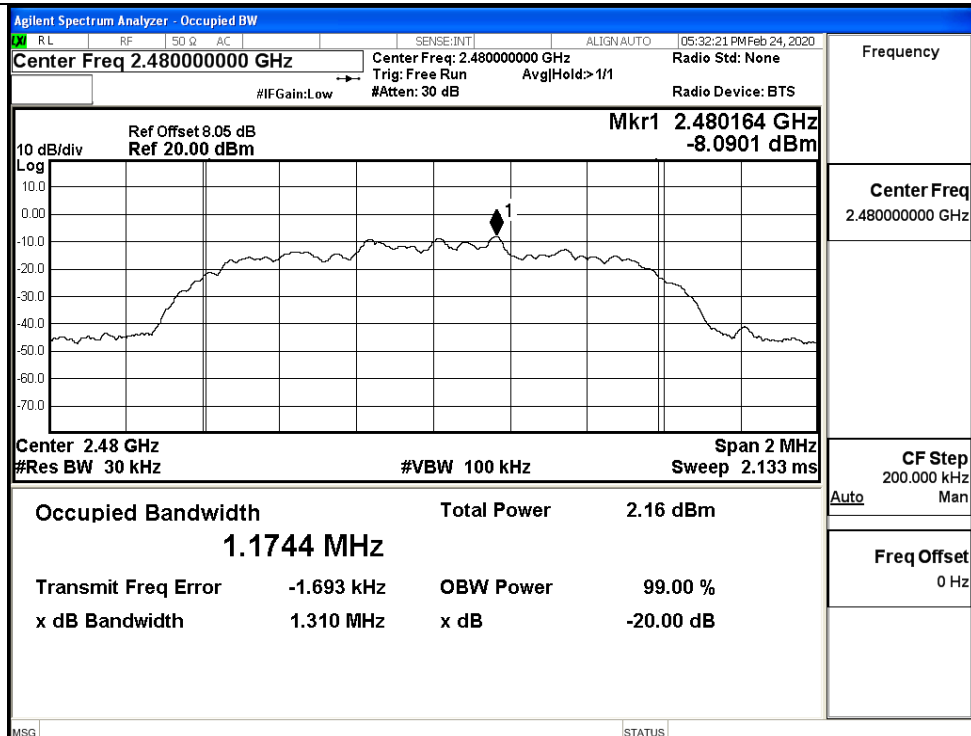
GFSK/MCH



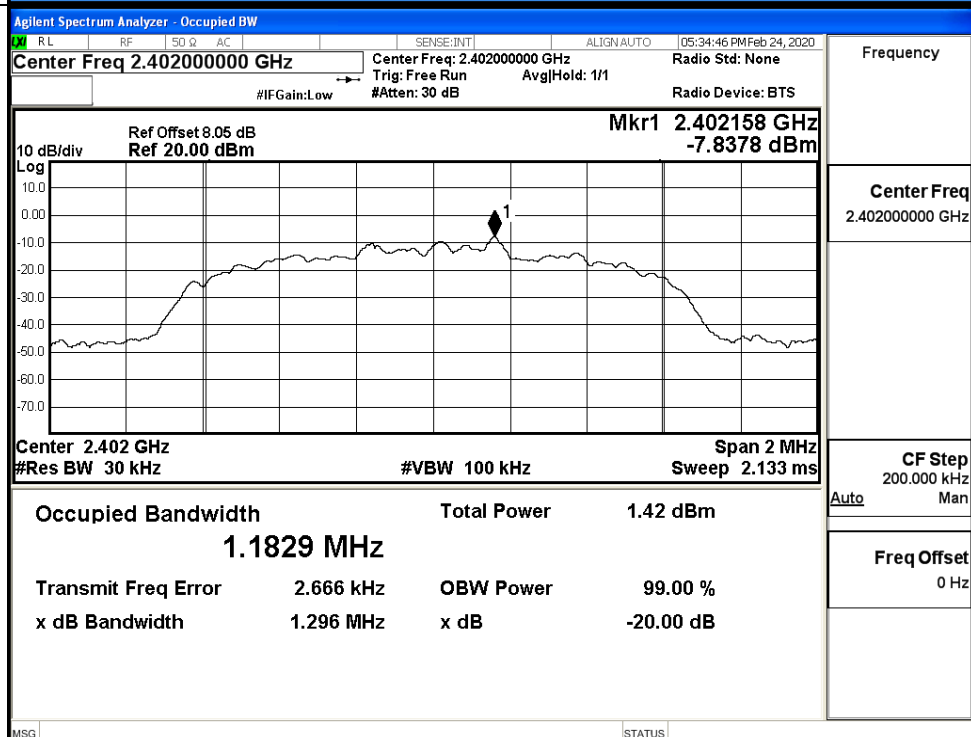
GFSK/HCH



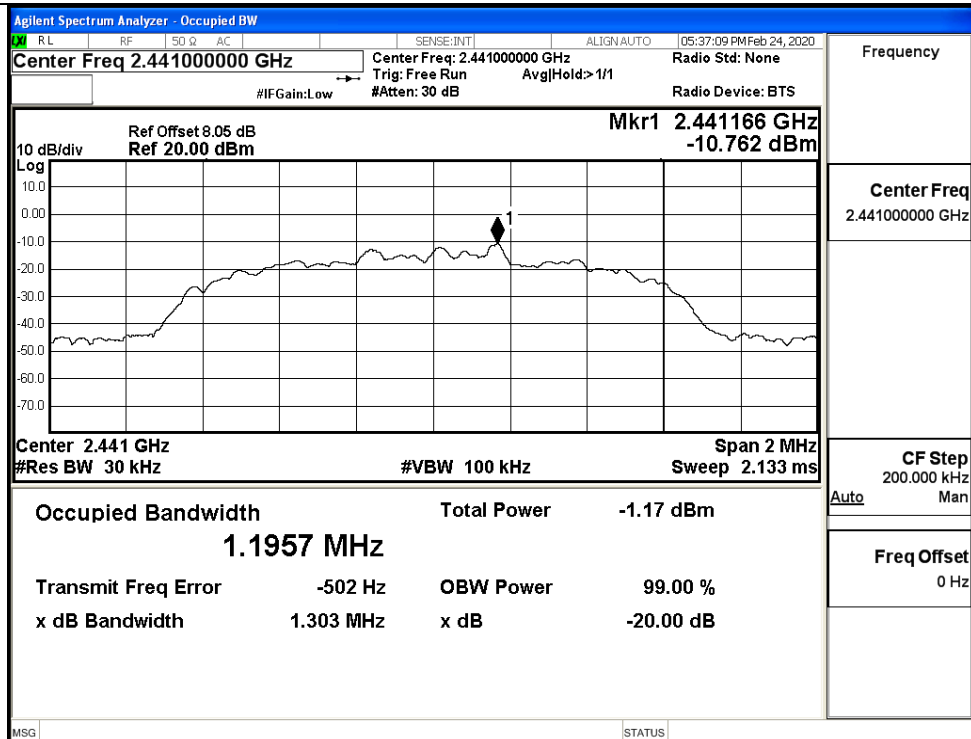
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

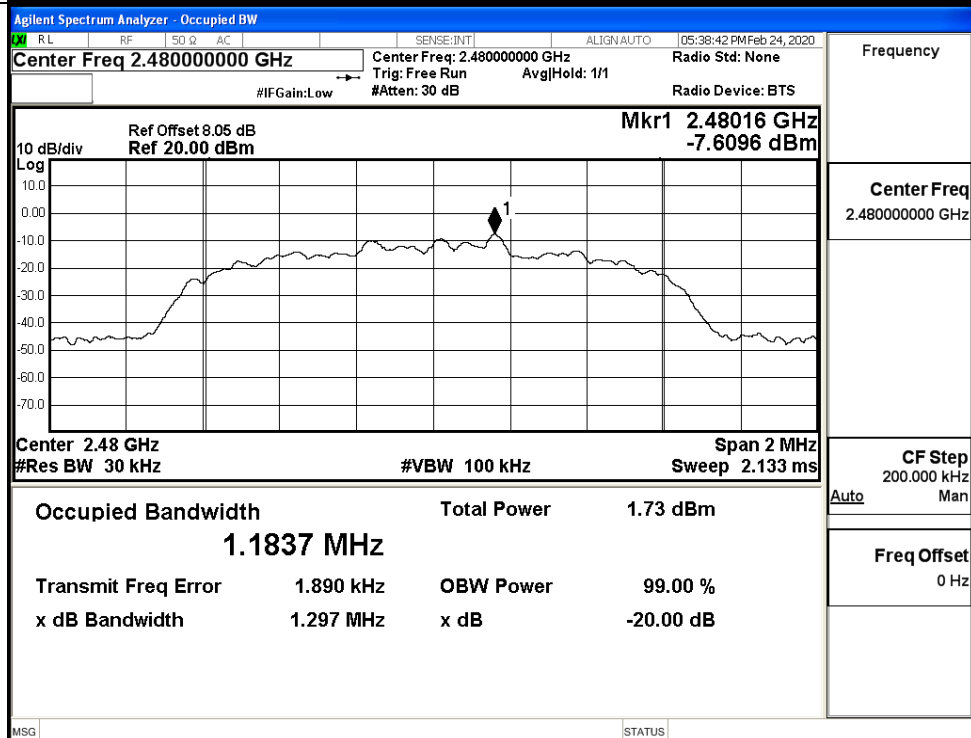
8DPSK/LCH



8DPSK/MCH



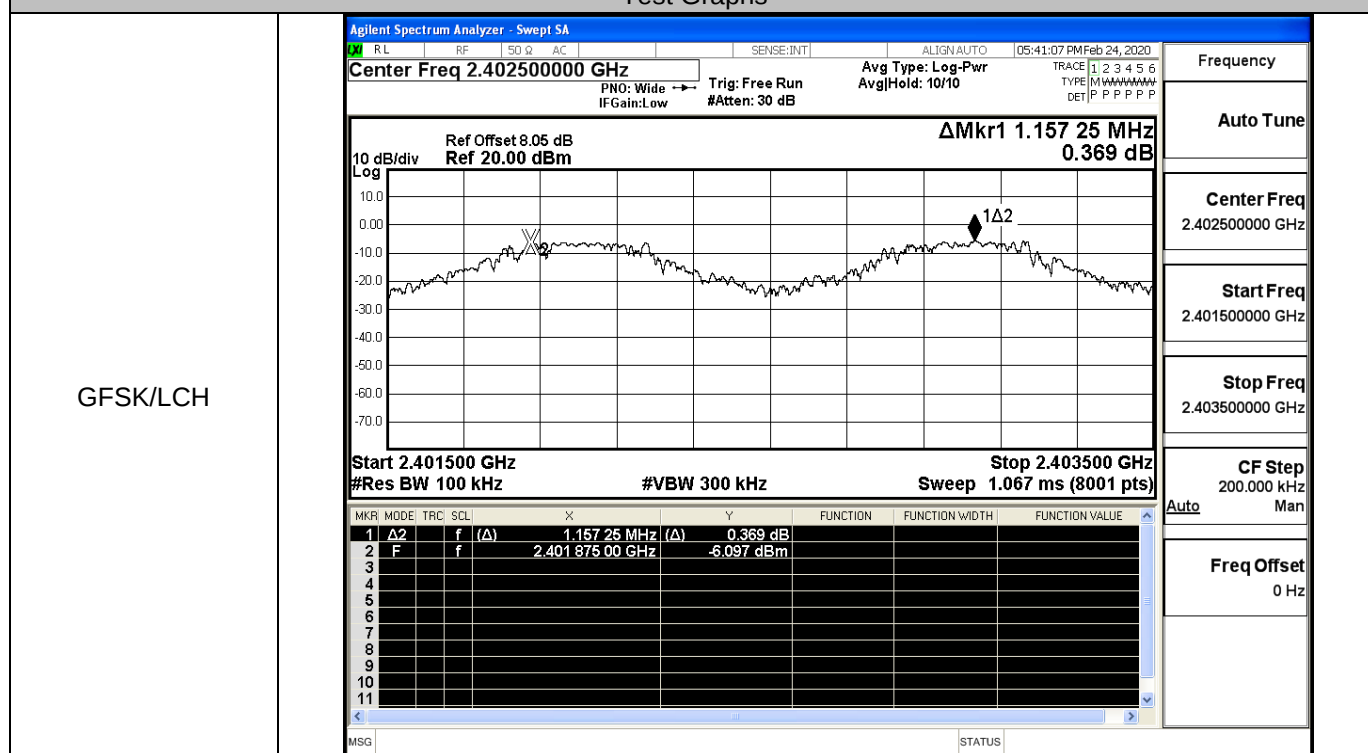
8DPSK/HCH



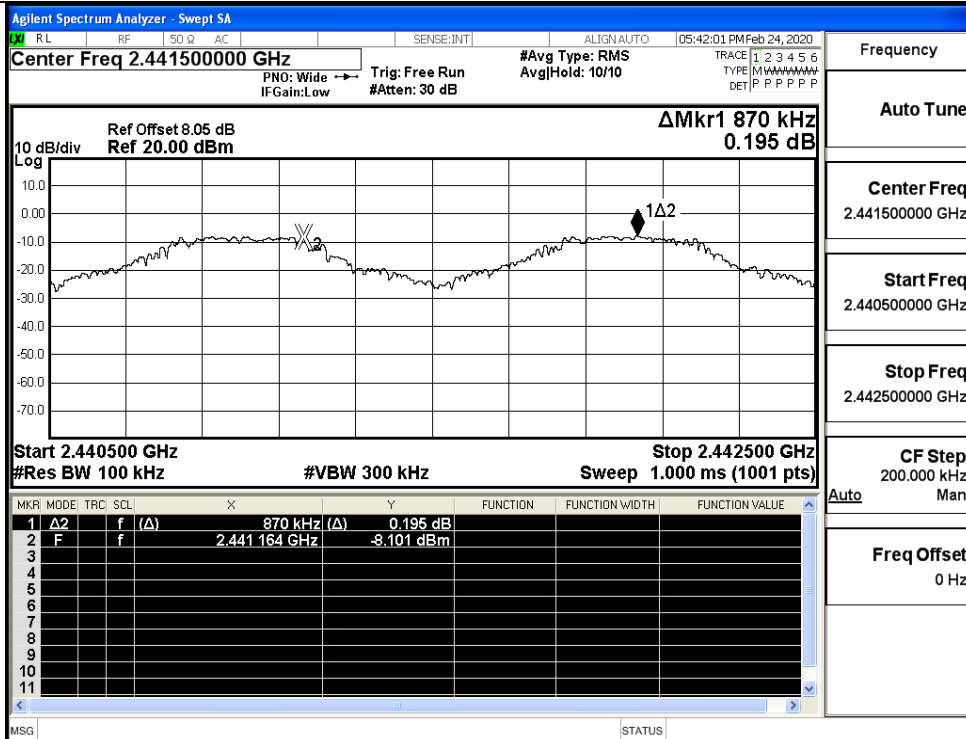
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.157	0.690	PASS
	MCH	0.870	0.690	PASS
	HCH	1.158	0.690	PASS
$\pi/4$ DQPSK	LCH	1.358	0.873	PASS
	MCH	1.010	0.873	PASS
	HCH	1.042	0.873	PASS
8DPSK	LCH	0.918	0.869	PASS
	MCH	0.958	0.869	PASS
	HCH	1.044	0.869	PASS

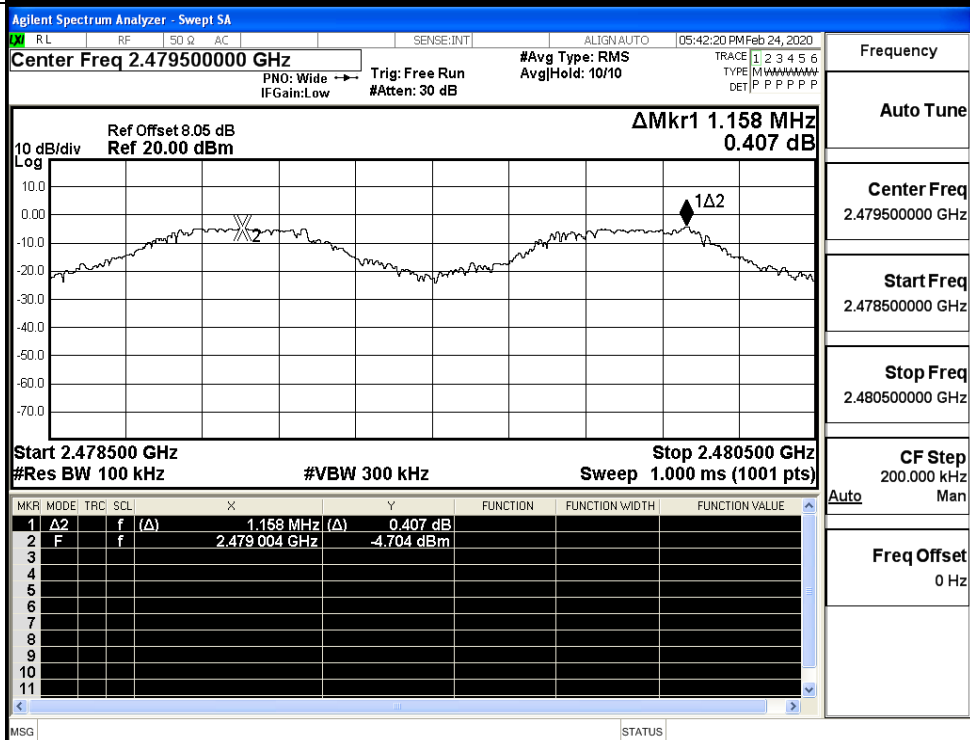
Test Graphs

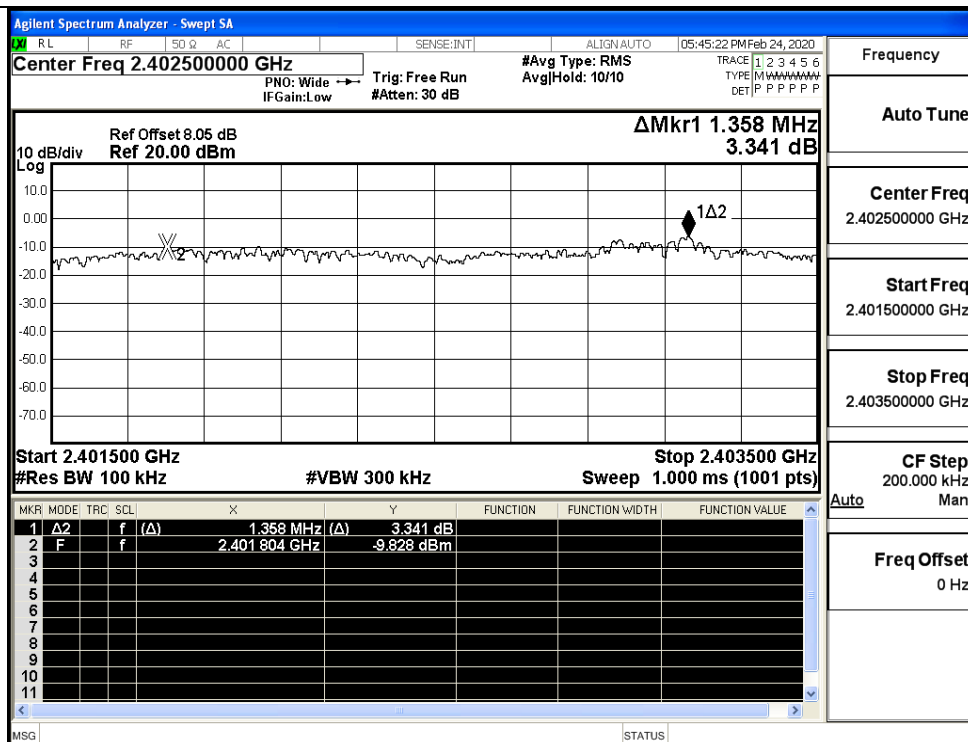


GFSK/MCH



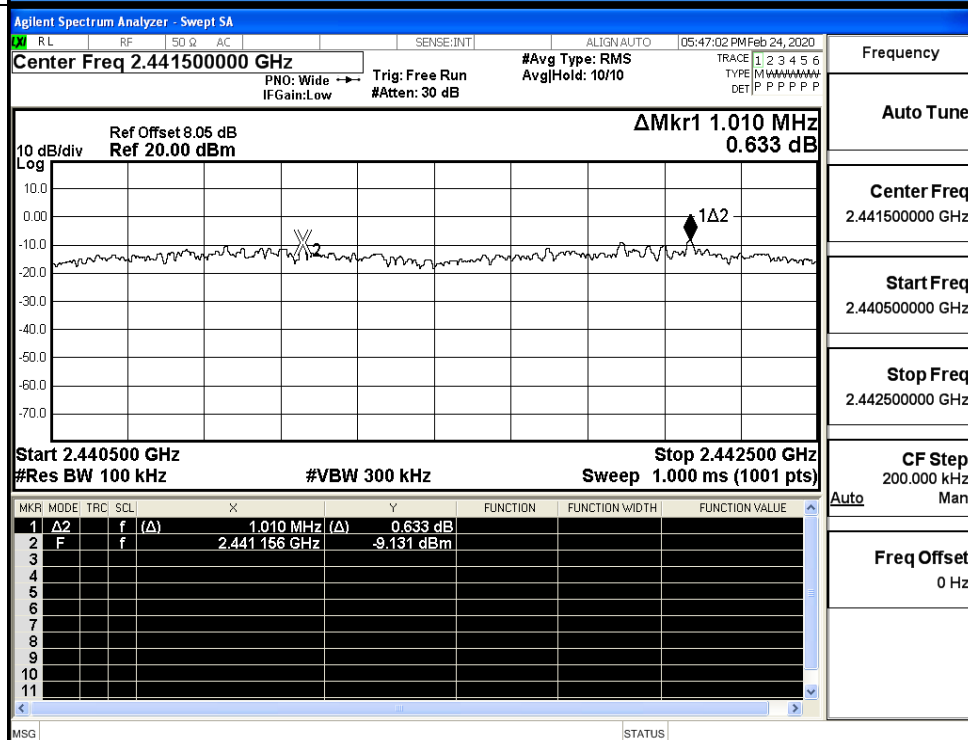
GFSK/HCH



$\pi/4$ DQPSK/LCH

Frequency

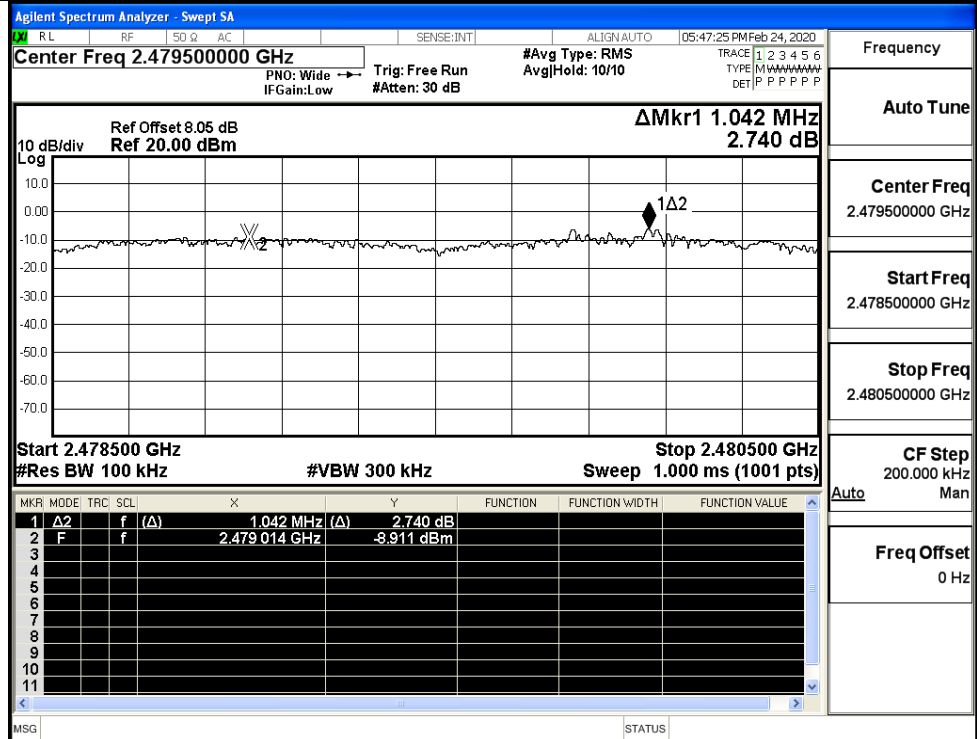
Auto Tune

Center Freq
2.402500000 GHzStart Freq
2.401500000 GHzStop Freq
2.403500000 GHzCF Step
200.000 kHz
ManFreq Offset
0 Hz $\pi/4$ DQPSK/MCH

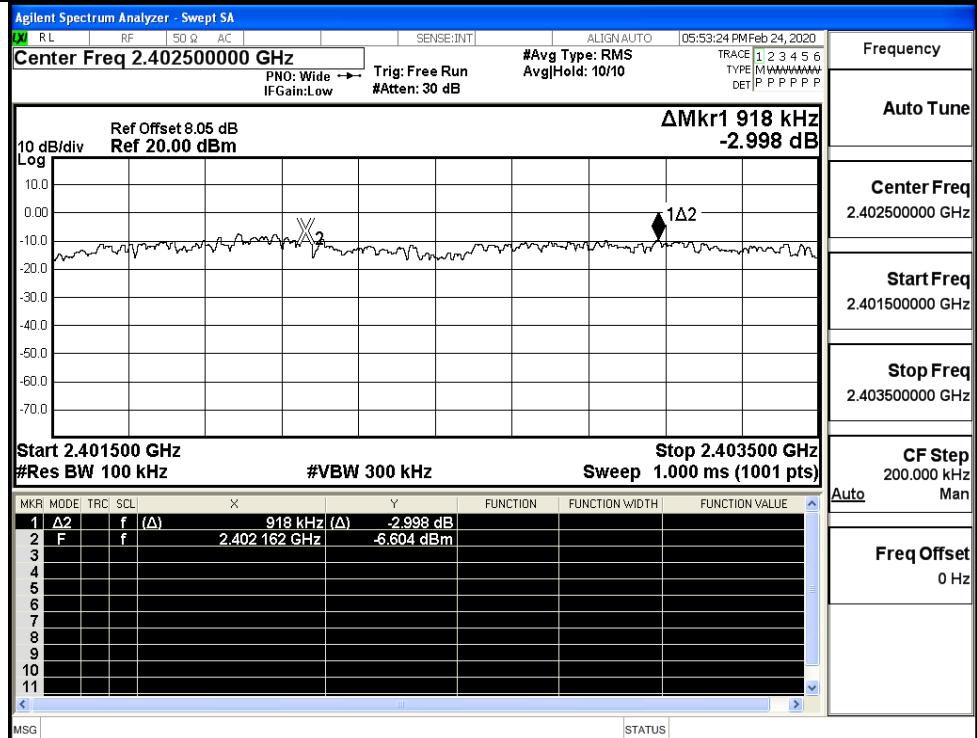
Frequency

Auto Tune

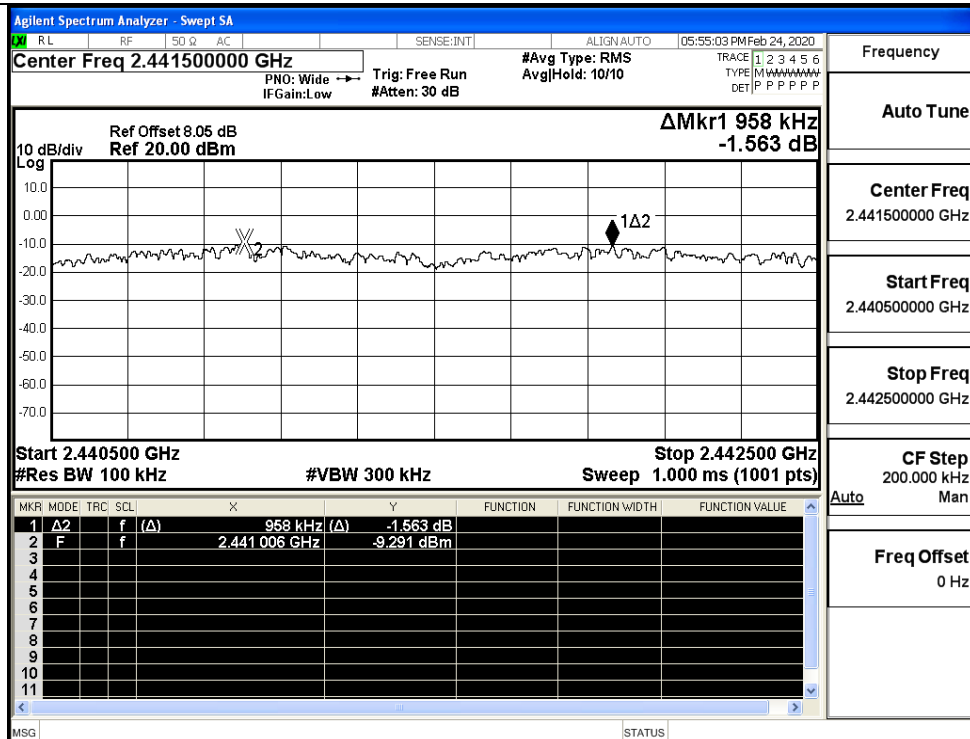
Center Freq
2.441500000 GHzStart Freq
2.440500000 GHzStop Freq
2.442500000 GHzCF Step
200.000 kHz
ManFreq Offset
0 Hz

$\pi/4$ DQPSK/HCH

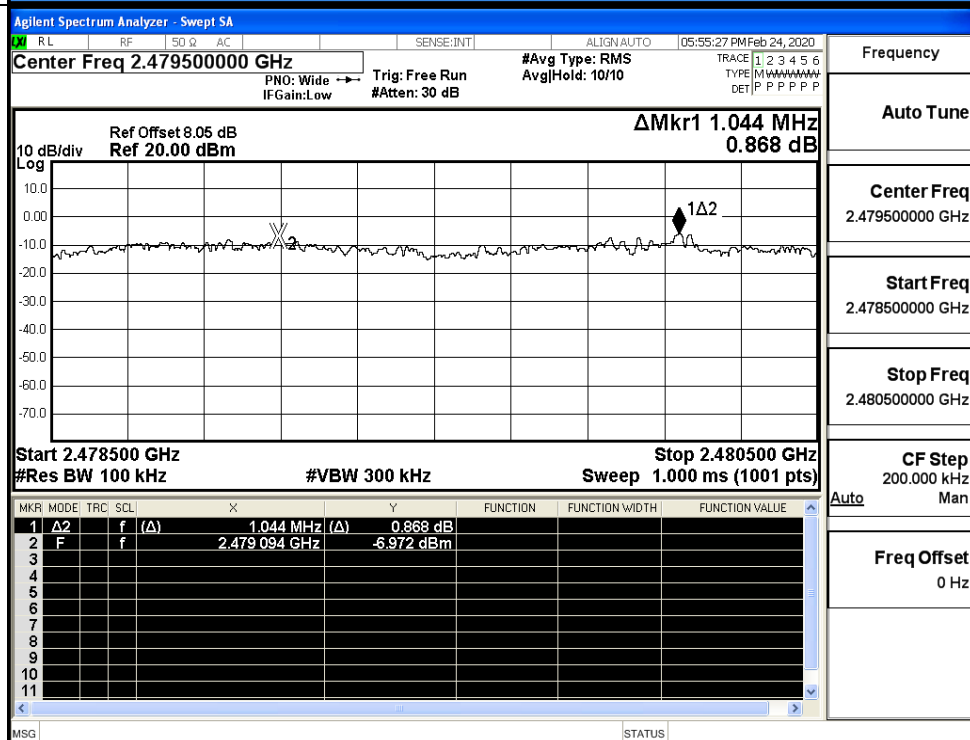
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

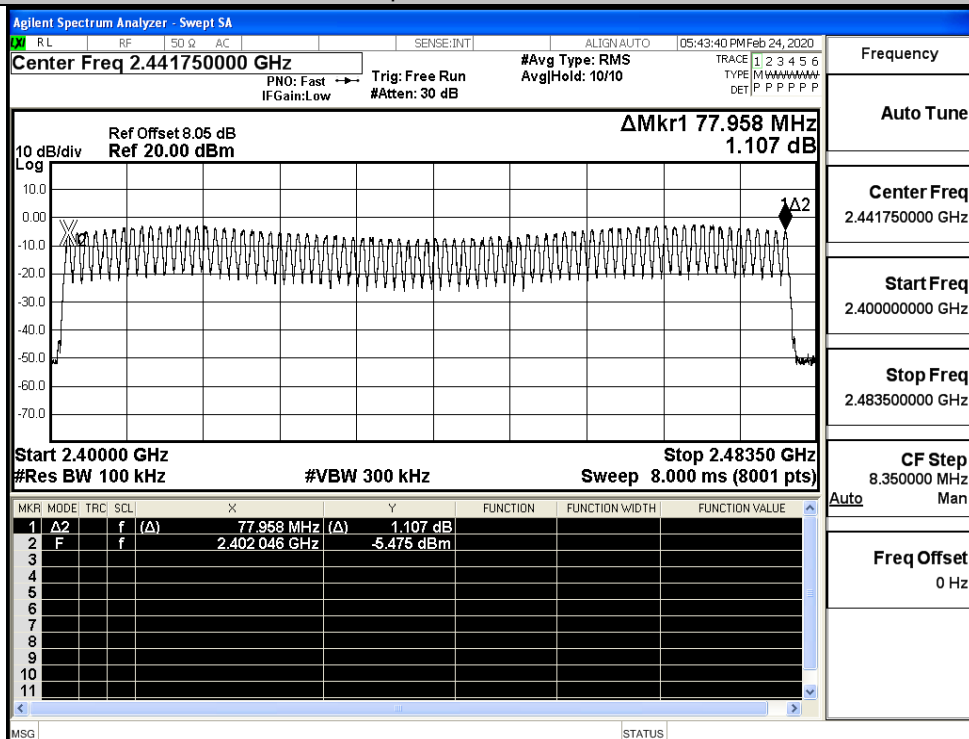


A.4 Hopping Channel Number

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

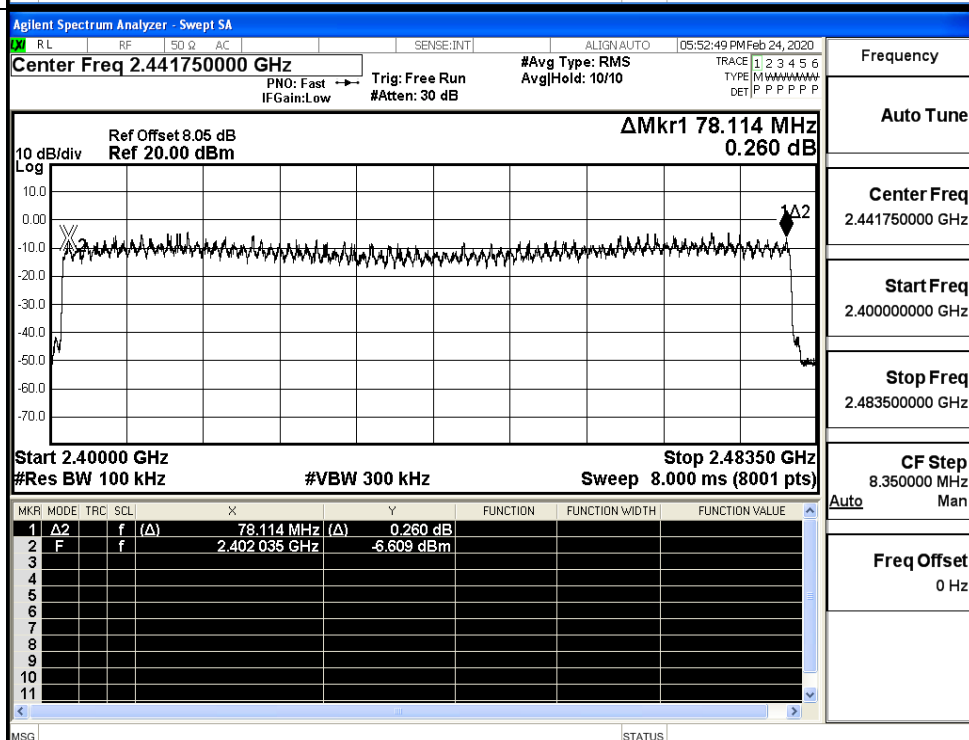
Center Freq
2.441750000 GHz

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

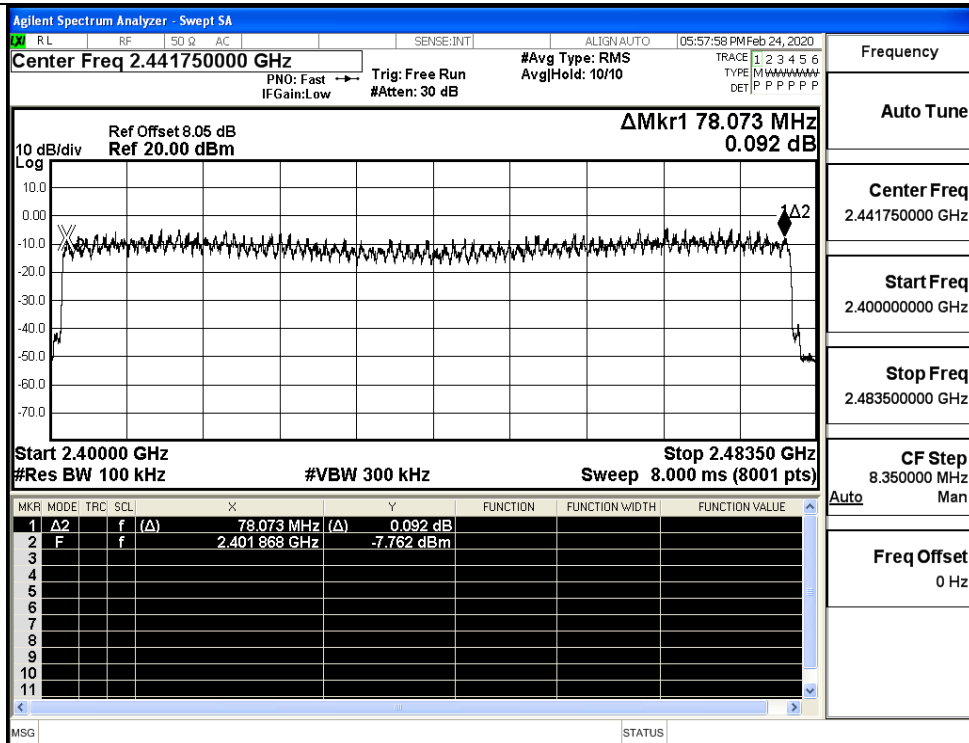
Start Freq
2.400000000 GHz

Stop Freq
2.483500000 GHz

CF Step
8.350000 MHz
Man

Freq Offset
0 Hz

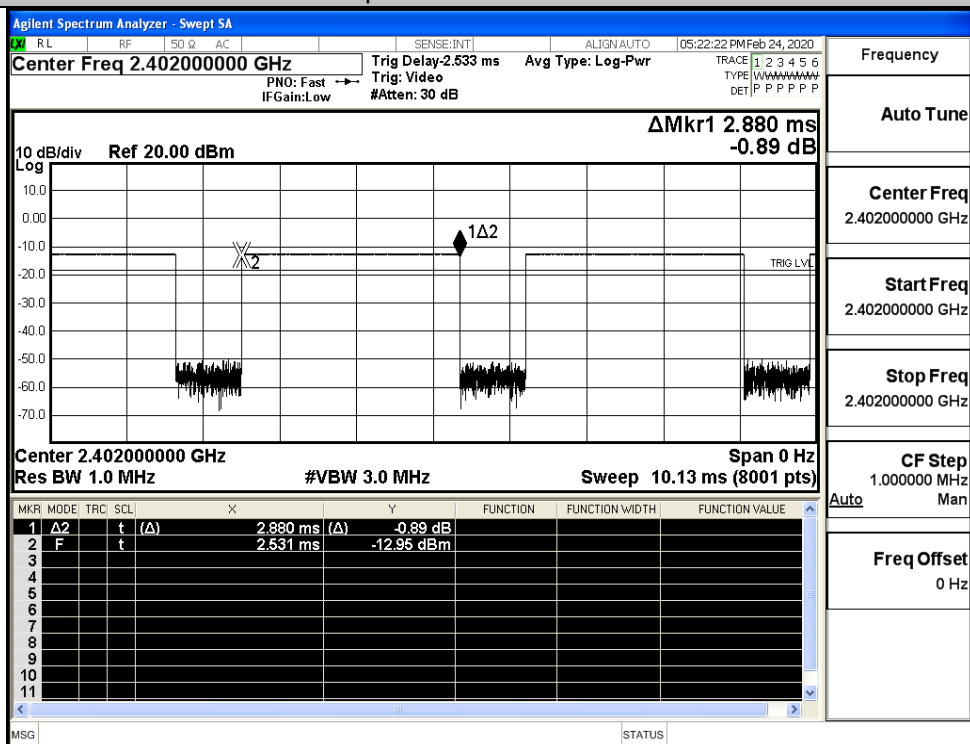
8DPSK/Hop



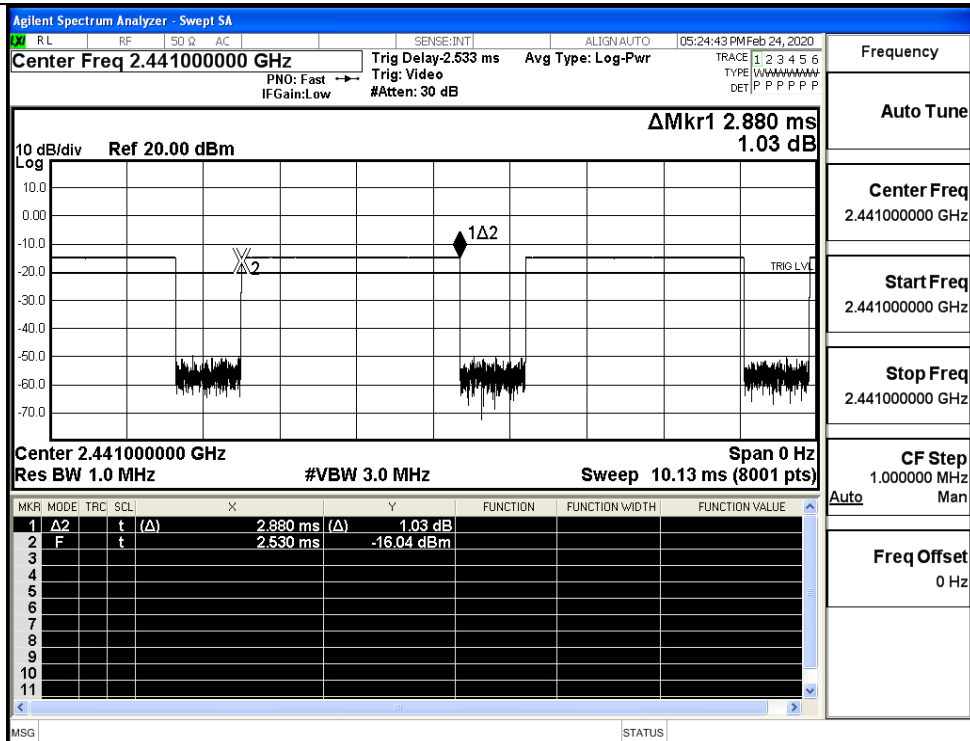
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88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



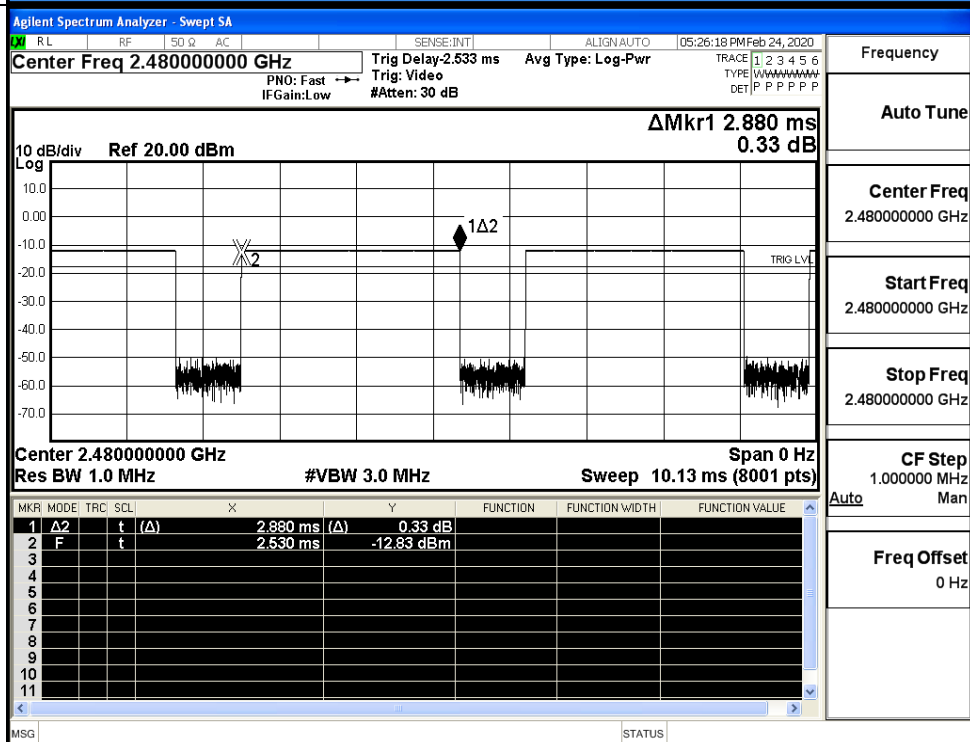
GFSK DH5/LCH



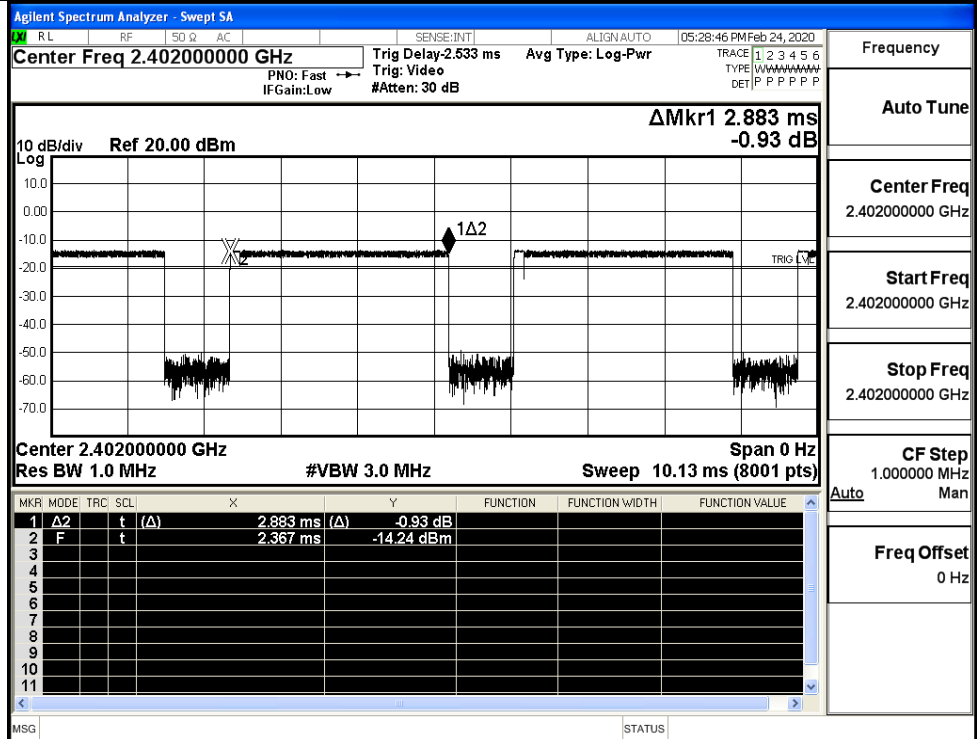
GFSK_DH5/MCH



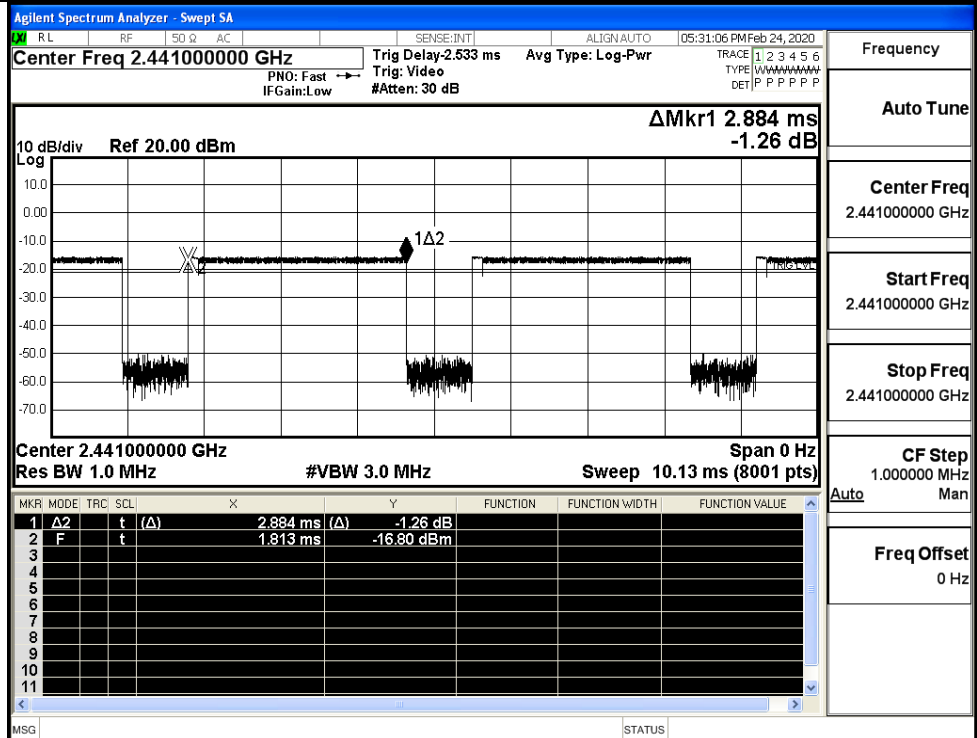
GFSK_DH5/HCH



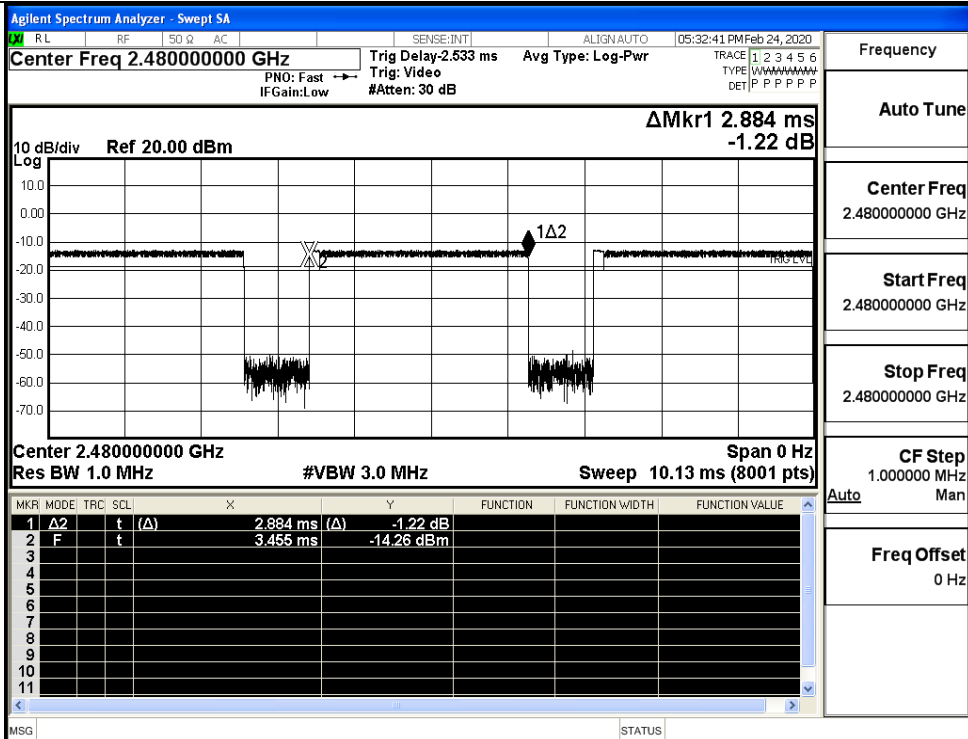
$\pi/4$ DQPSK
_2DH5/LCH



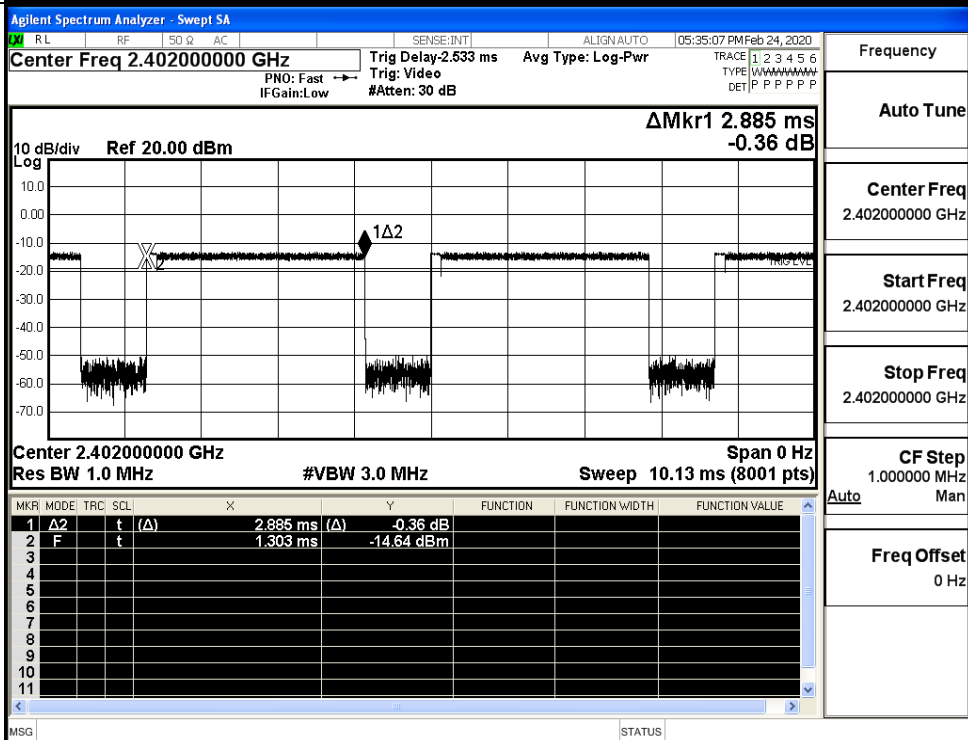
$\pi/4$ DQPSK
_2DH5/MCH



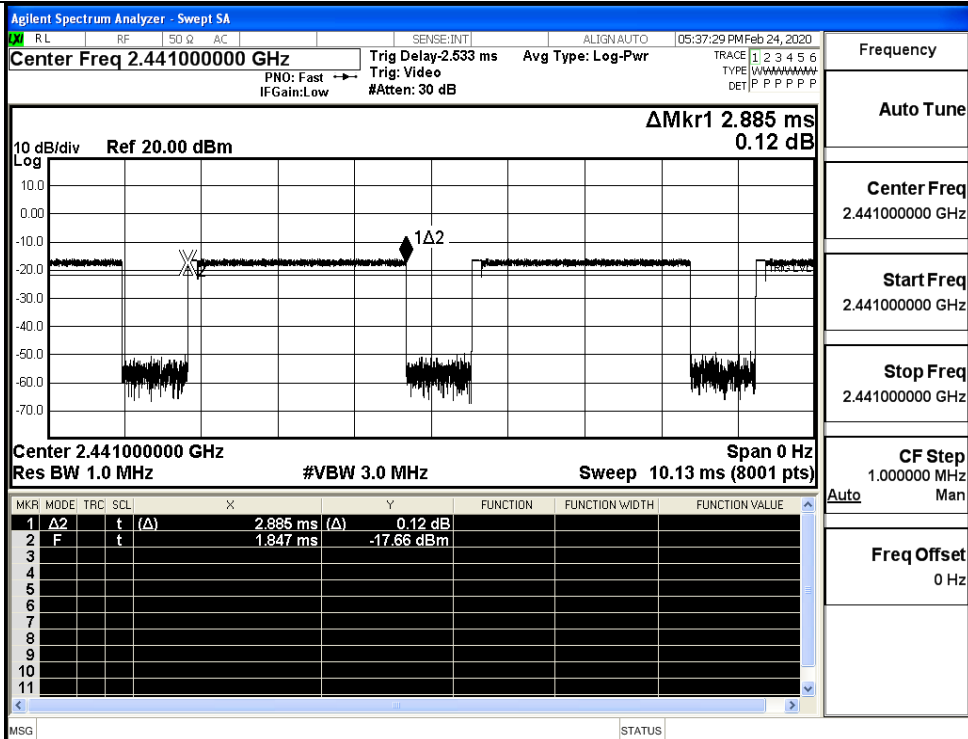
$\pi/4$ DQPSK
_2DH5/HCH



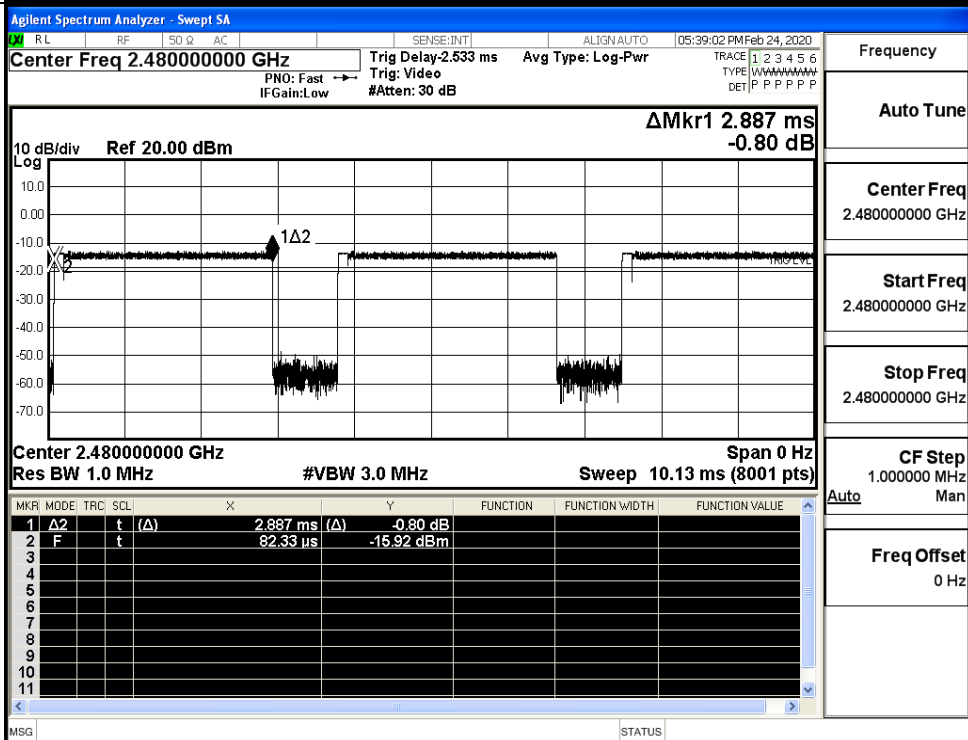
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



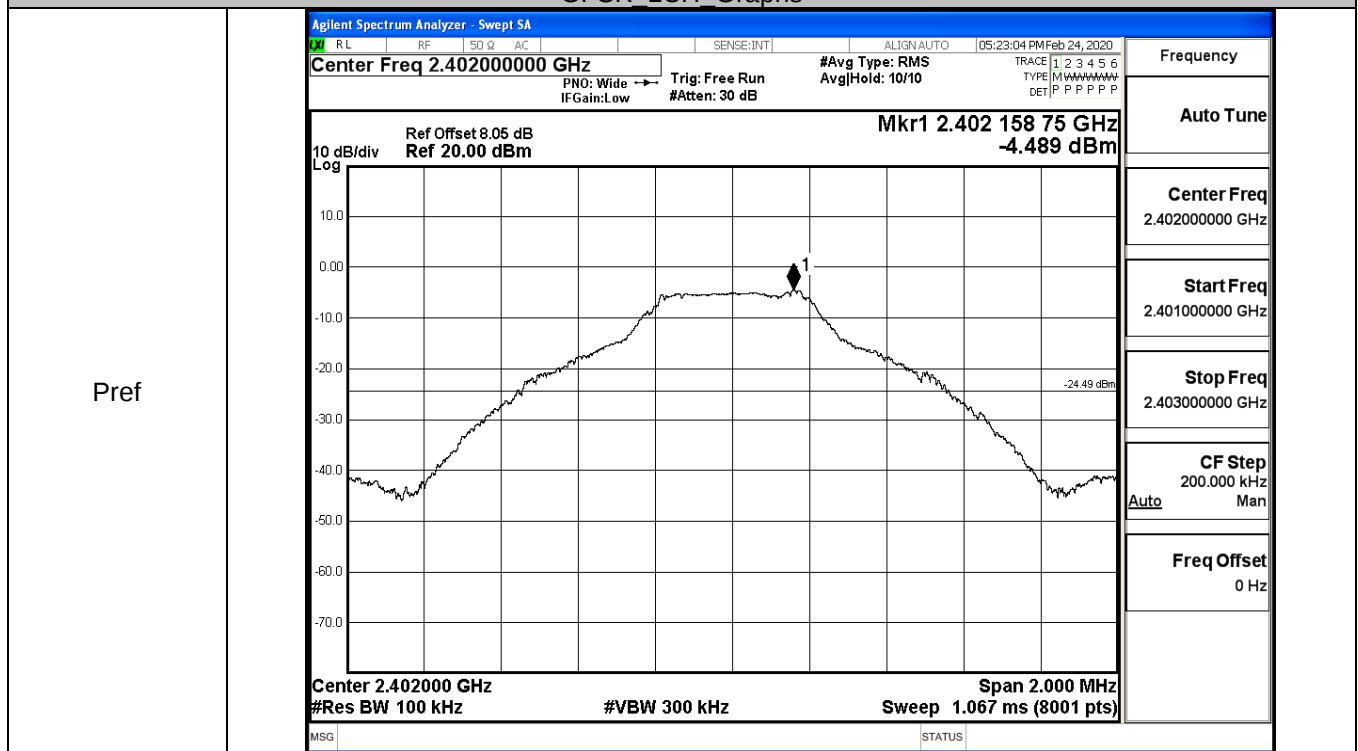
8DPSK_3DH5/HCH



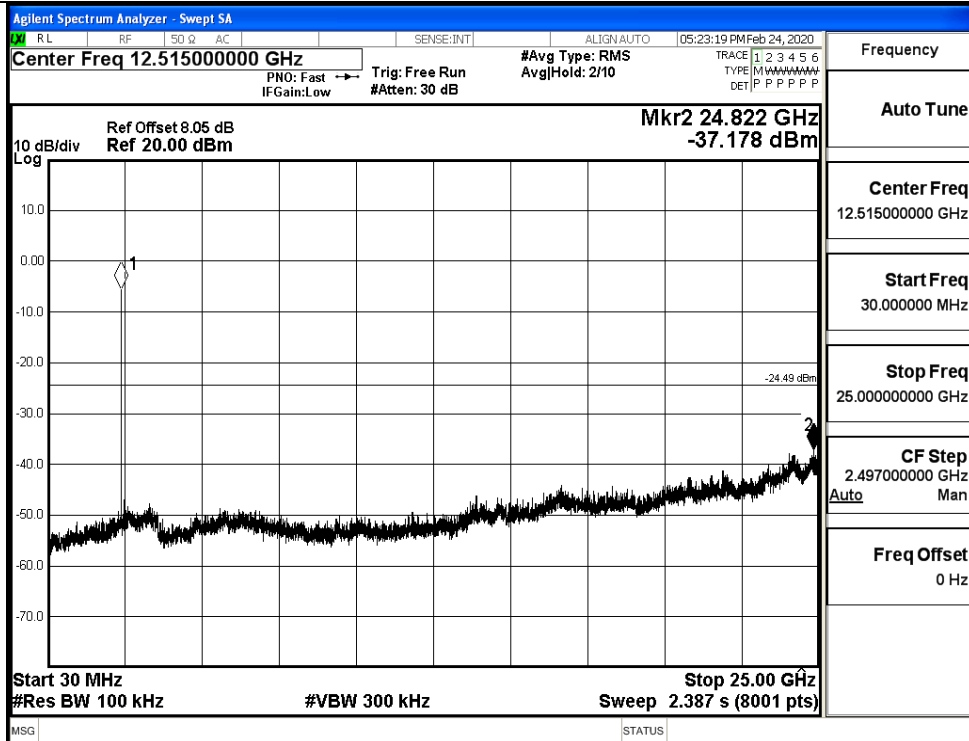
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-4.489	-37.178	-24.489	PASS
	MCH	-6.645	-37.791	-26.645	PASS
	HCH	-3.899	-38.101	-23.899	PASS
$\pi/4$ DQPSK	LCH	-6.055	-38.033	-26.055	PASS
	MCH	-7.826	-38.100	-27.826	PASS
	HCH	-5.033	-37.200	-25.033	PASS
8DPSK	LCH	-6.574	-37.677	-26.574	PASS
	MCH	-8.294	-37.020	-28.294	PASS
	HCH	-6.091	-37.951	-26.091	PASS

GFSK LCH Graphs

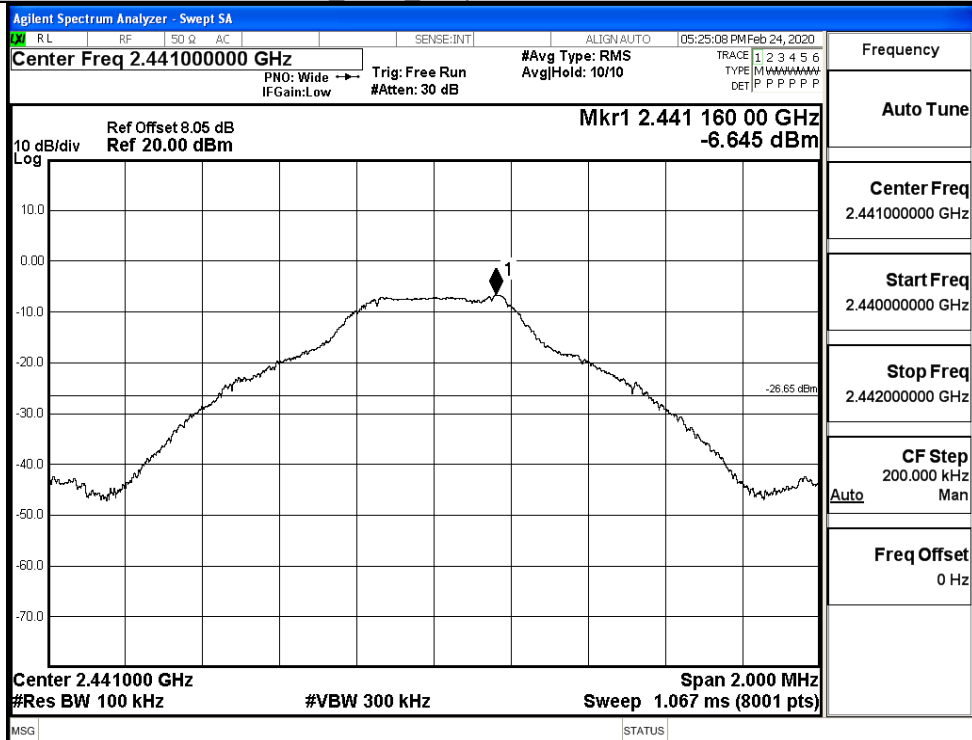


Puw

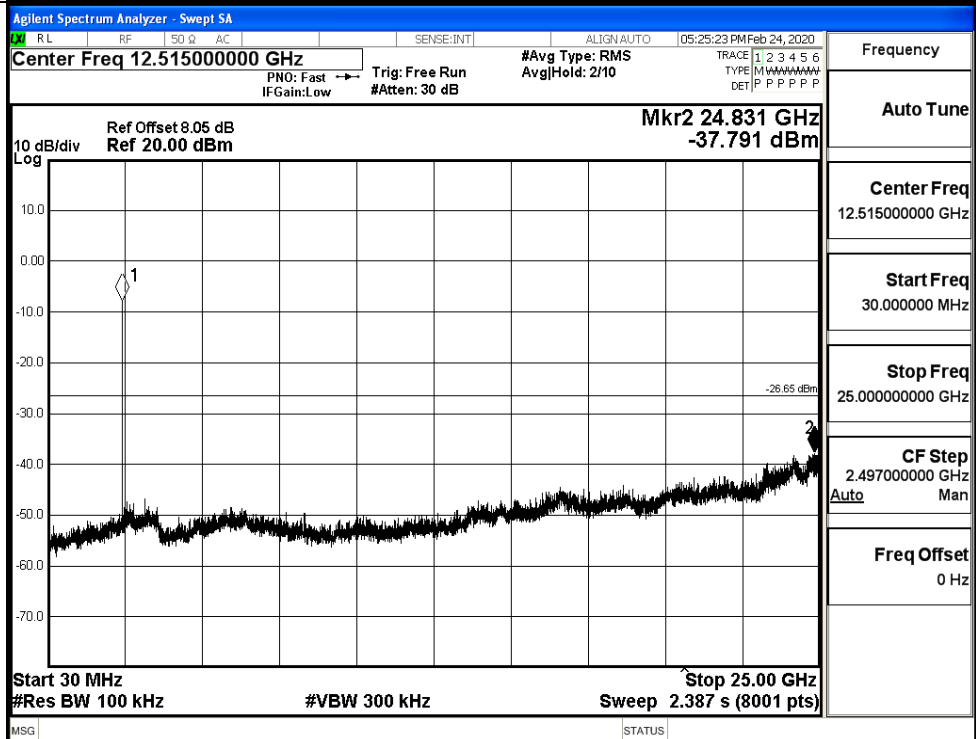


GFSK_MCH_Graphs

Pref

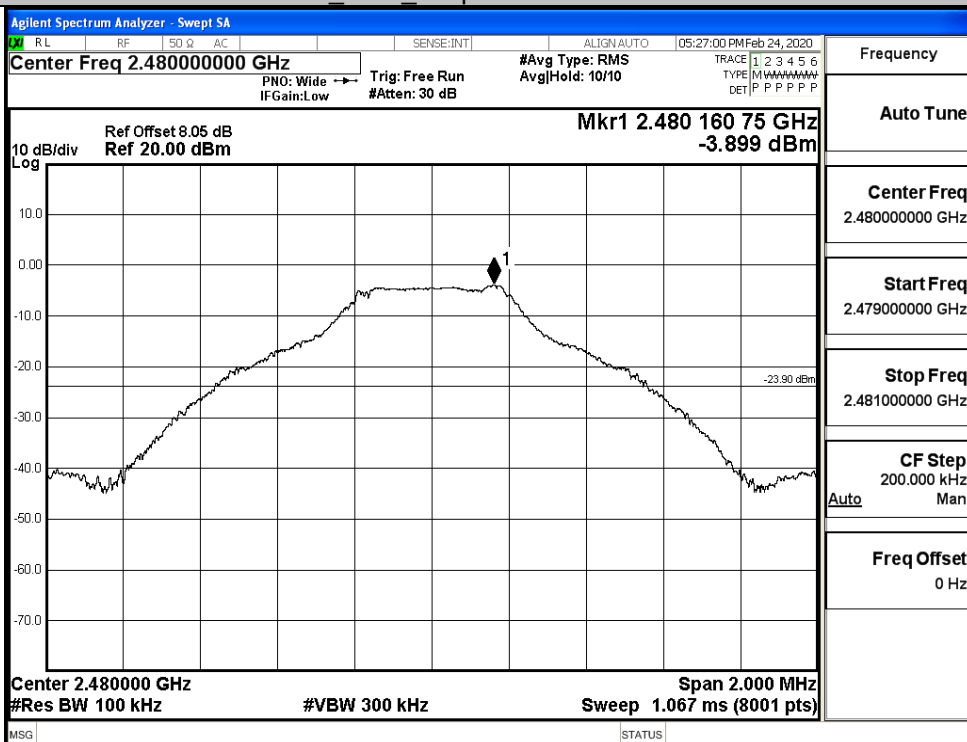


Puw

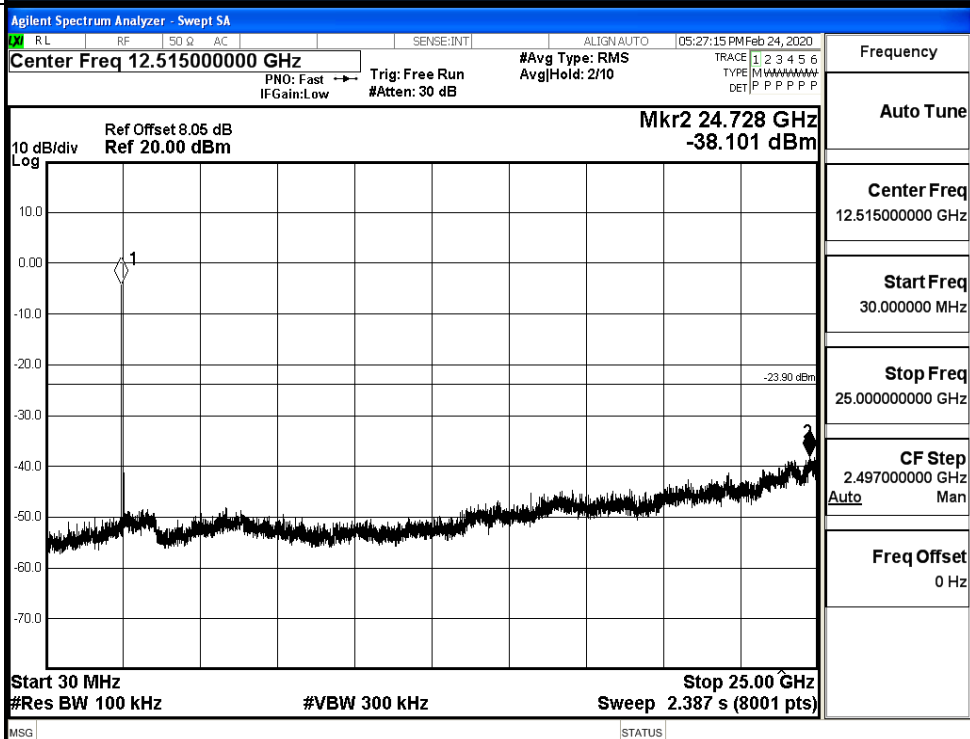


GFSK HCH Graphs

Pref

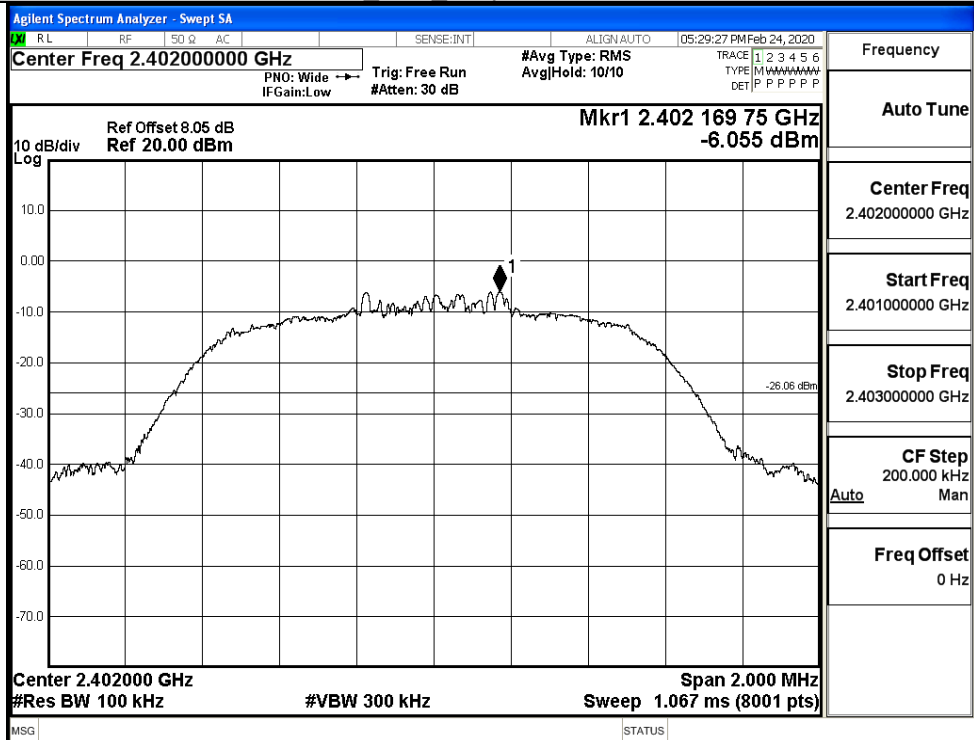


Puw

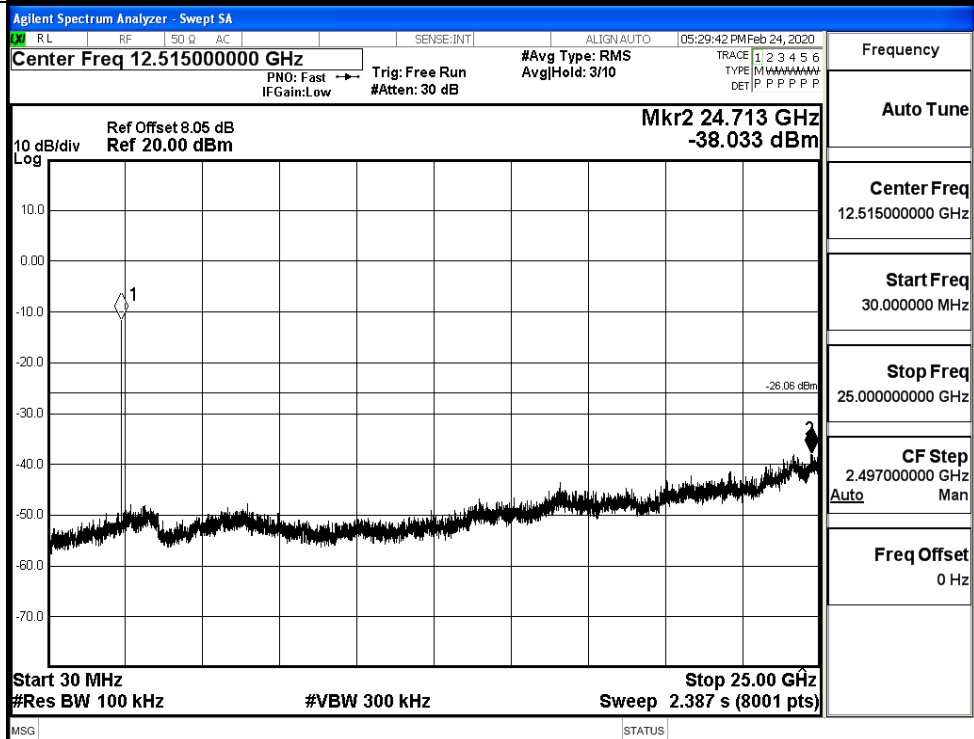


$\pi/4$ DQPSK_LCH_Graphs

Pref

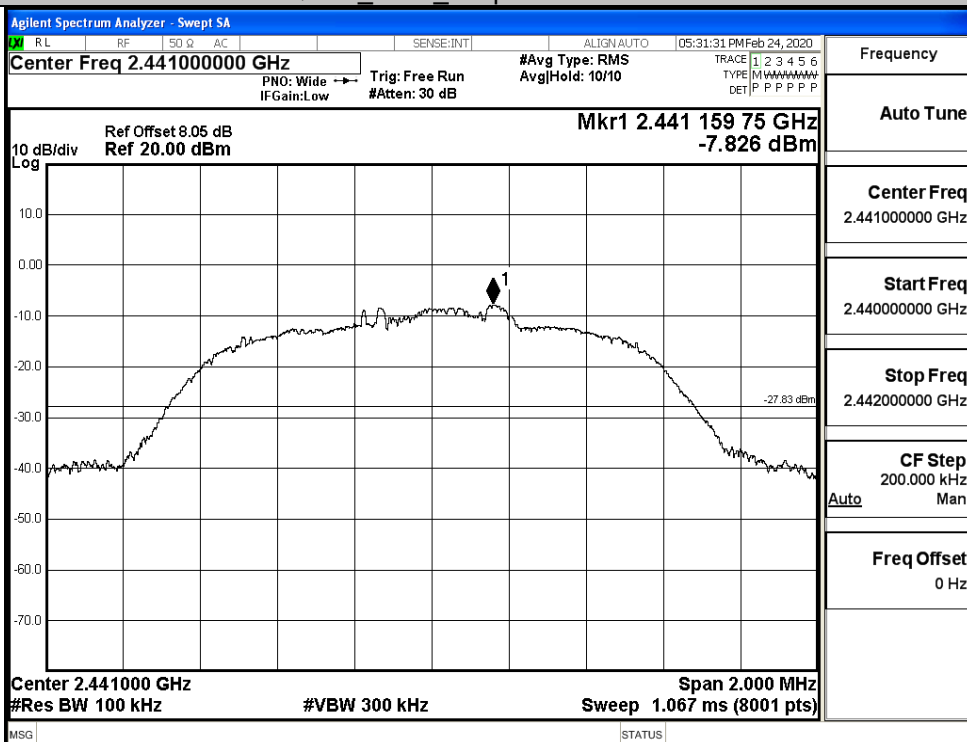


Puw

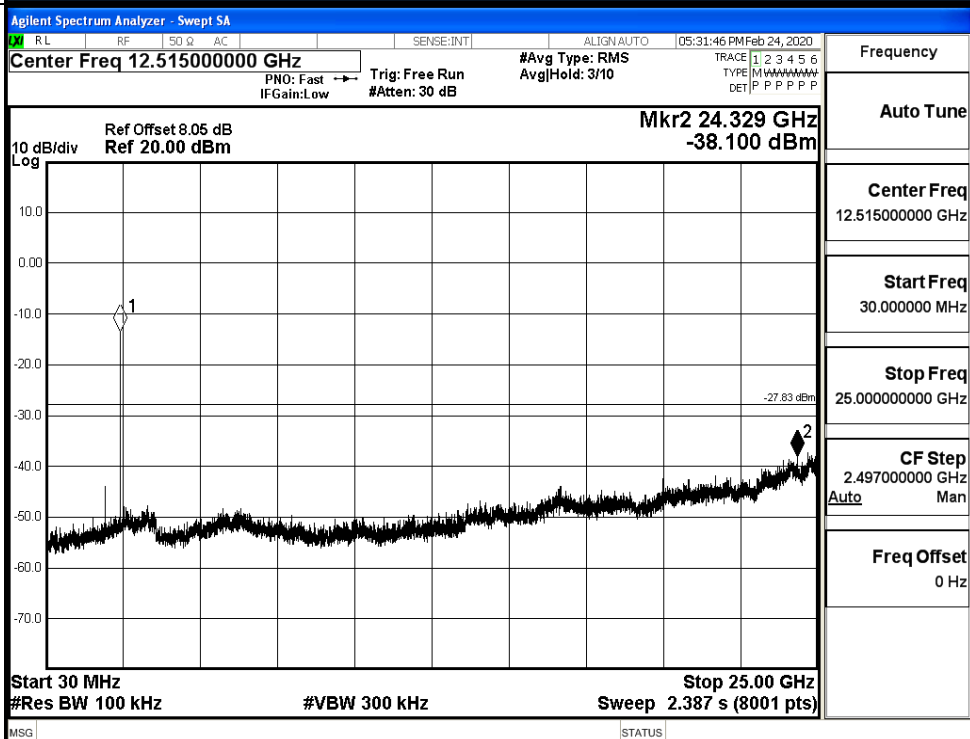


π /4DQPSK_MCH_Graphs

Pref

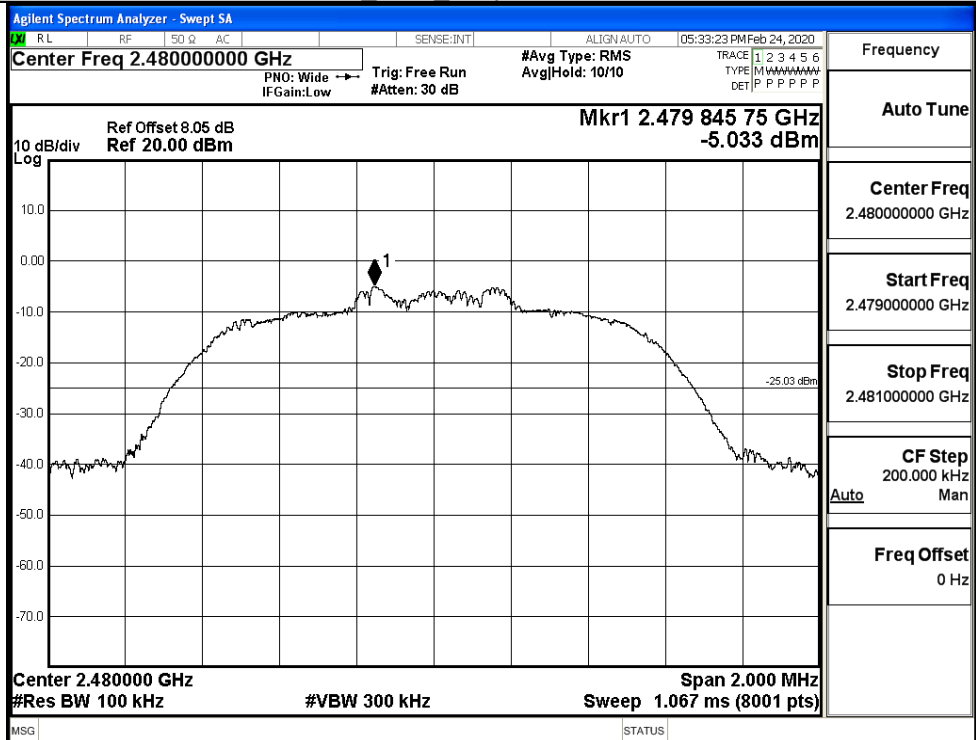


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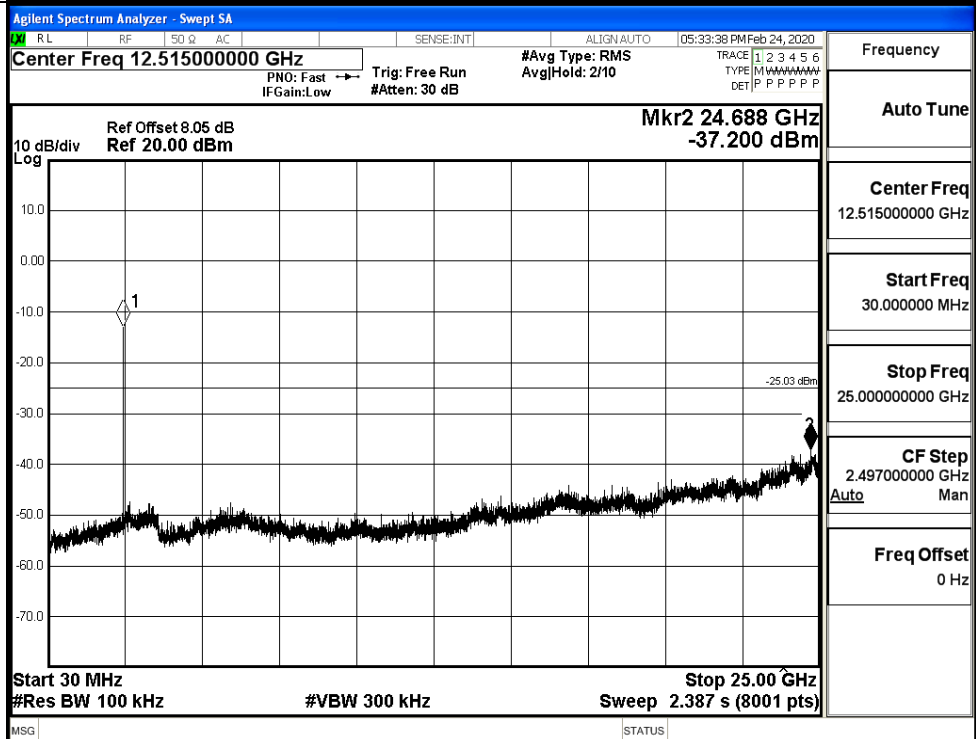


$\pi/4$ DQPSK_HCH_Graphs

Pref

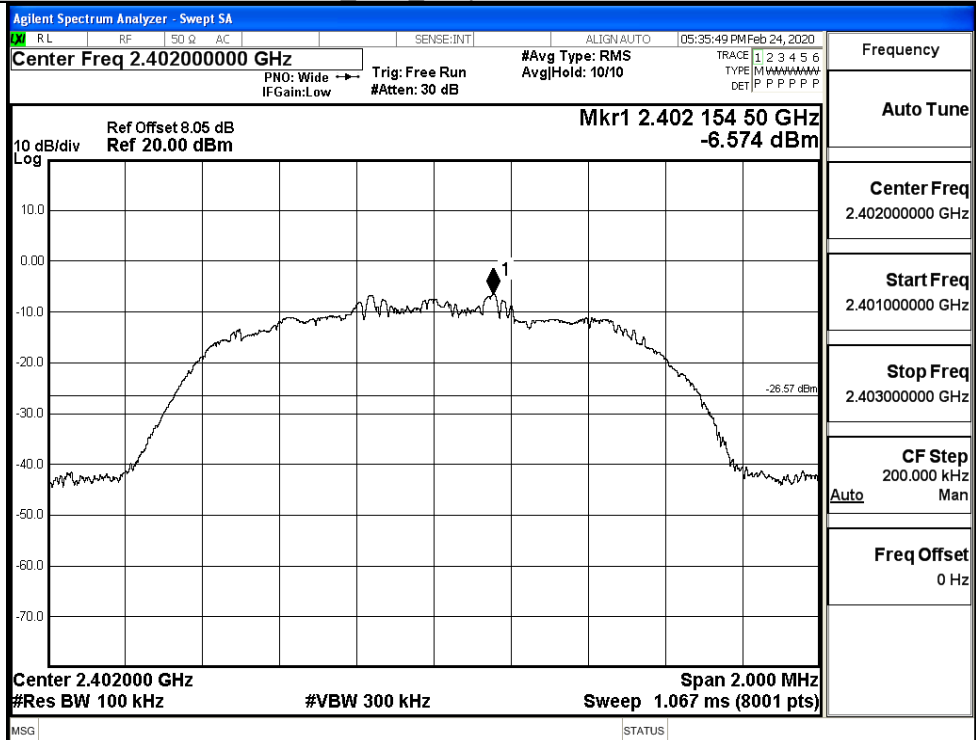


Puw

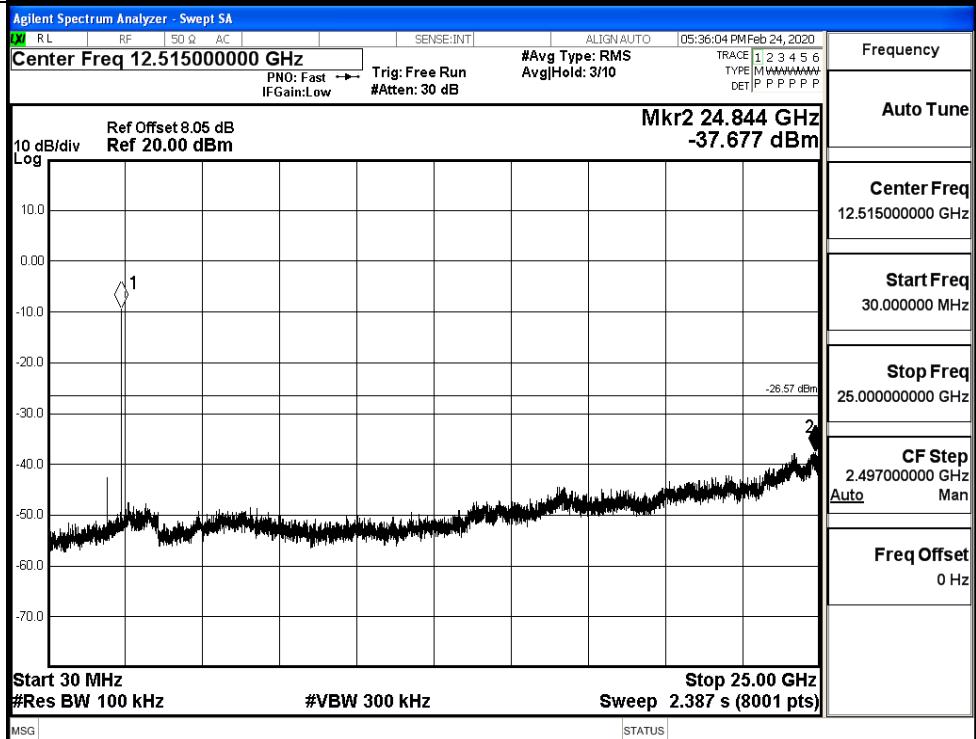


8DPSK_LCH_Graphs

Pref

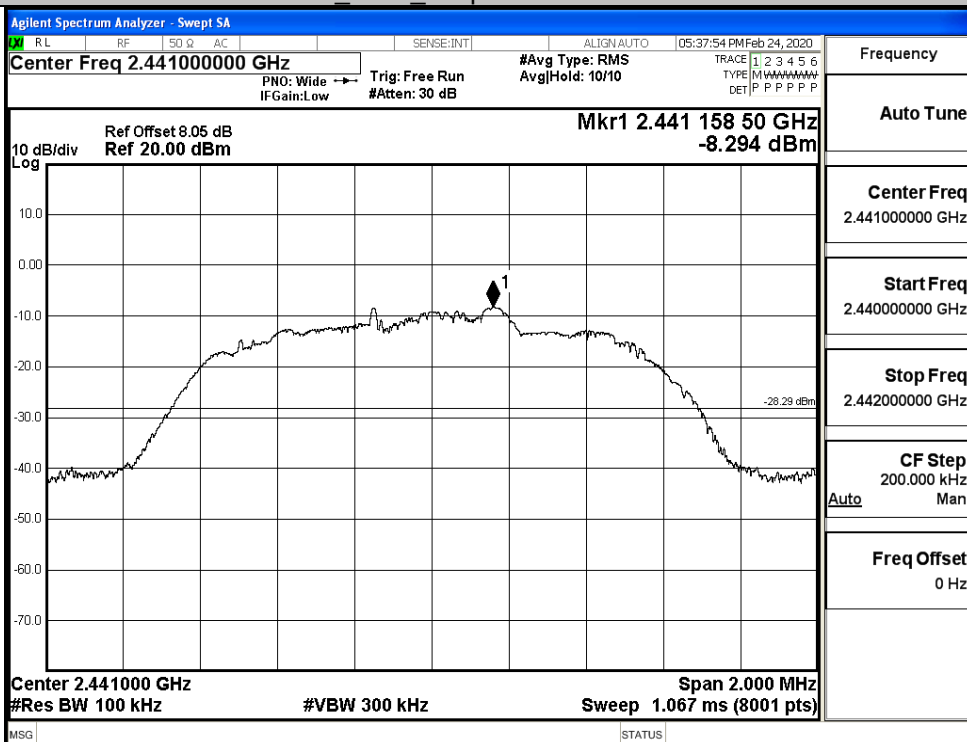


Puw

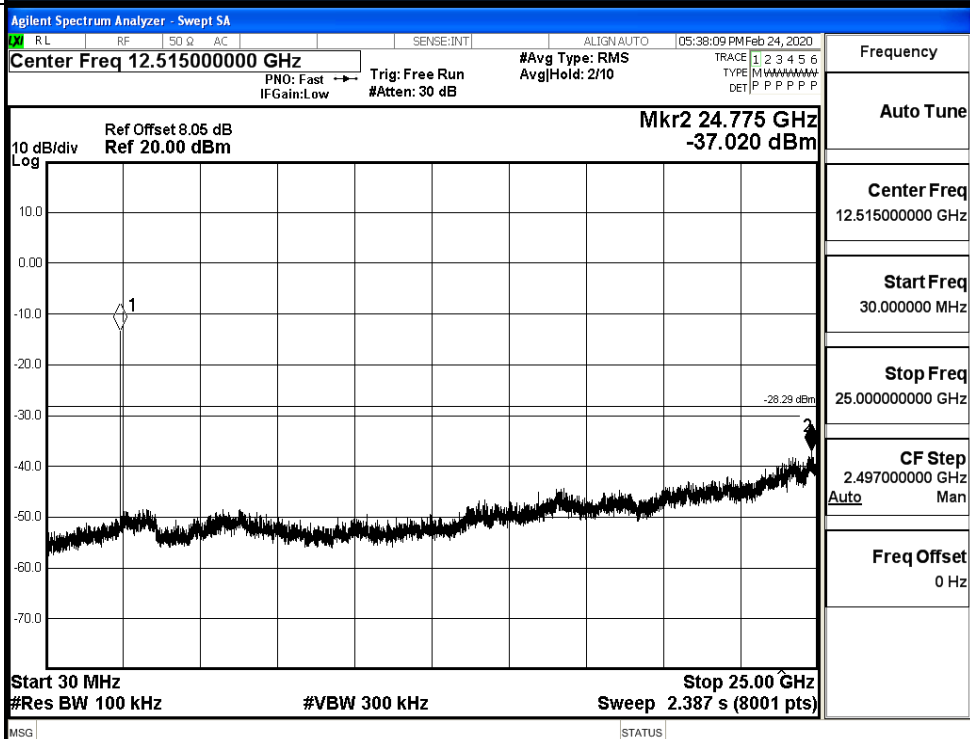


8DPSK_MCH_Graphs

Pref

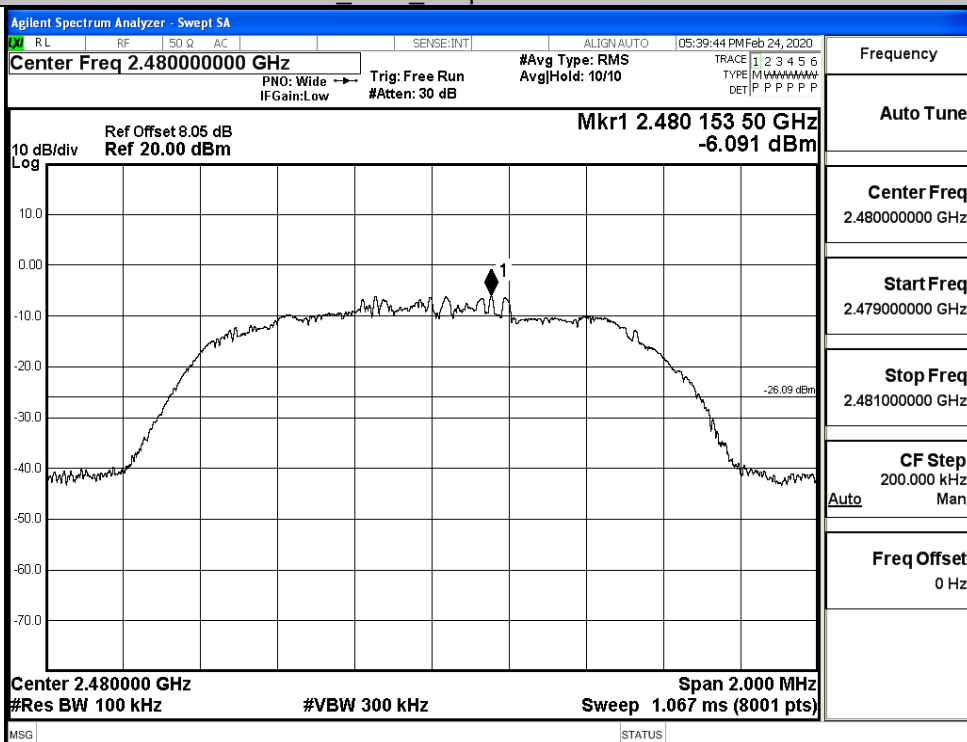


Puw

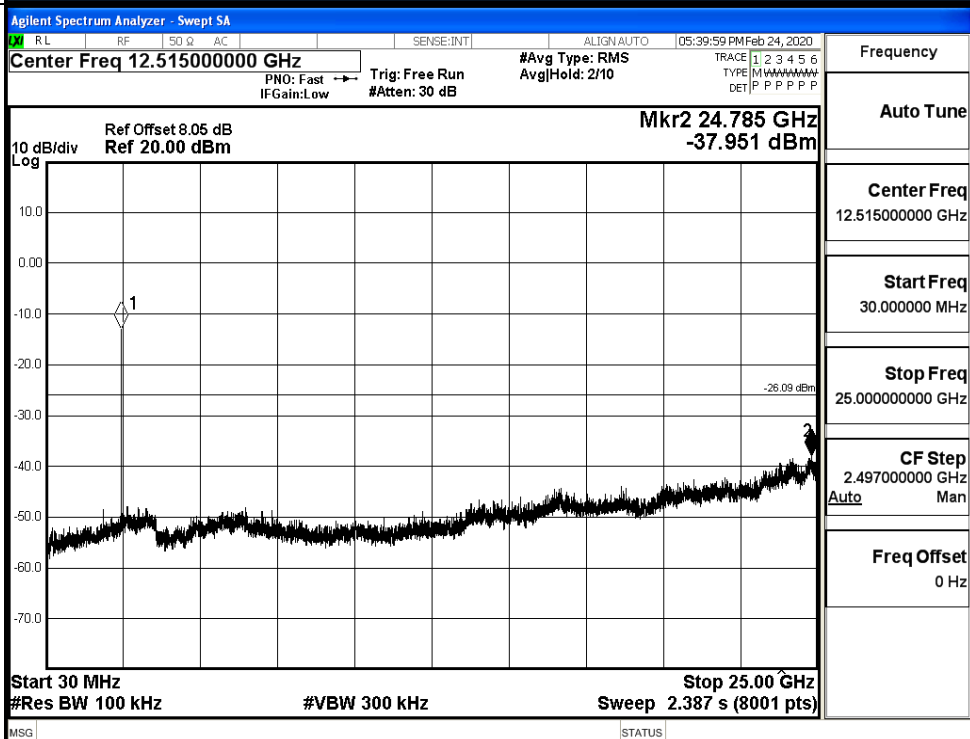


8DPSK_HCH_Graphs

Pref



Puw

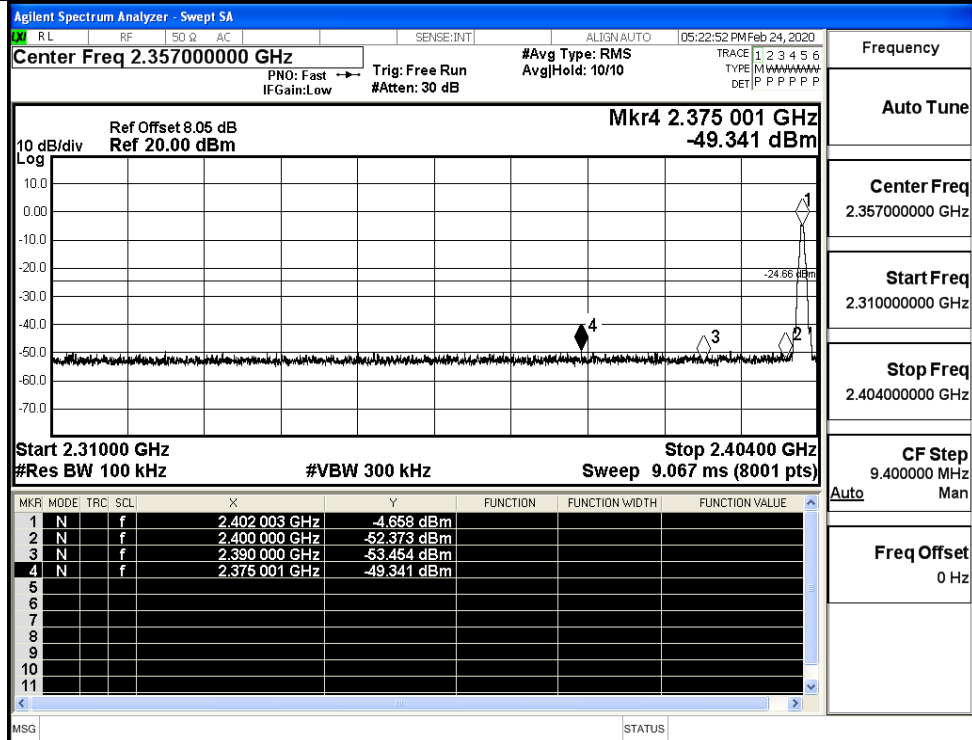


A.7 Band-edge for RF Conducted Emissions

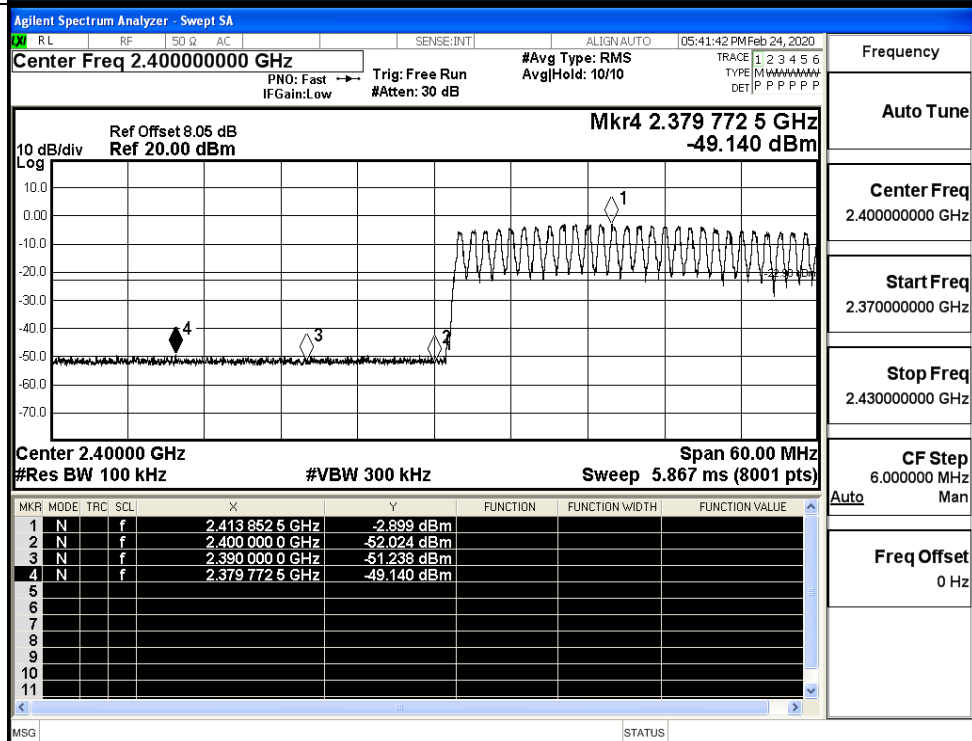
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-4.658	Off	-49.341	-24.66	PASS
			-2.899	On	-49.140	-22.9	PASS
	HCH	2480	-3.905	Off	-49.479	-23.91	PASS
			-2.638	On	-48.915	-22.64	PASS
$\pi/4$ DQPSK	LCH	2402	-5.707	Off	-49.293	-25.71	PASS
			-4.471	On	-48.585	-24.47	PASS
	HCH	2480	-5.101	Off	-48.177	-25.1	PASS
			-4.586	On	-47.341	-24.59	PASS
8DPSK	LCH	2402	-4.620	Off	-49.357	-24.62	PASS
			-4.625	On	-48.887	-24.63	PASS
	HCH	2480	-5.451	Off	-48.642	-25.45	PASS
			-4.444	On	-48.051	-24.44	PASS

Test Graphs

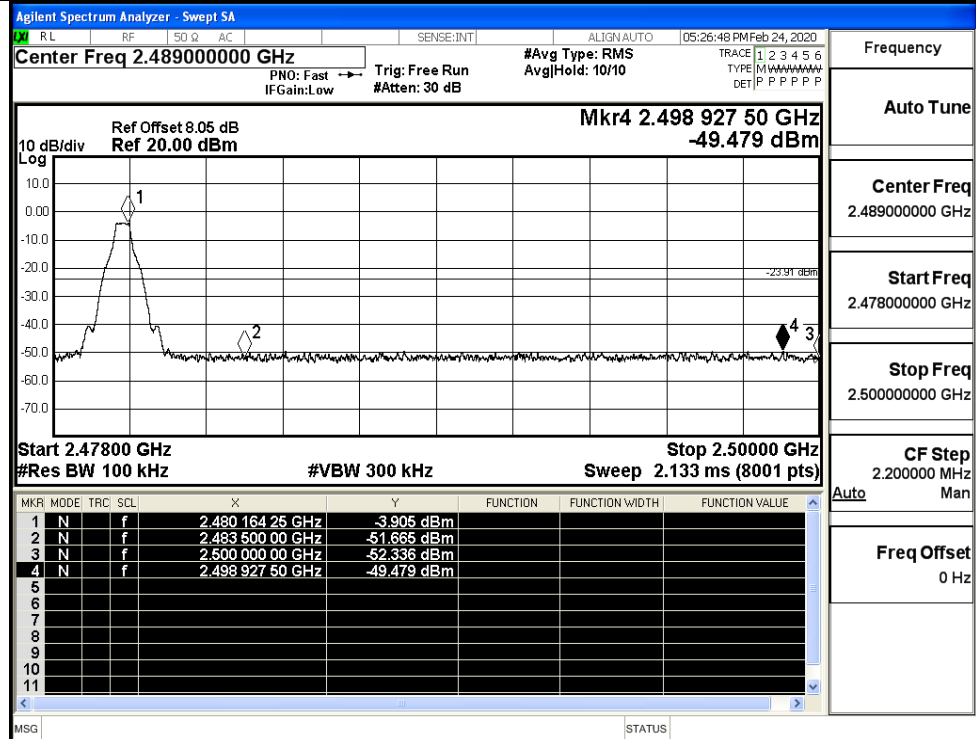
GFSK/LCH/No Hop



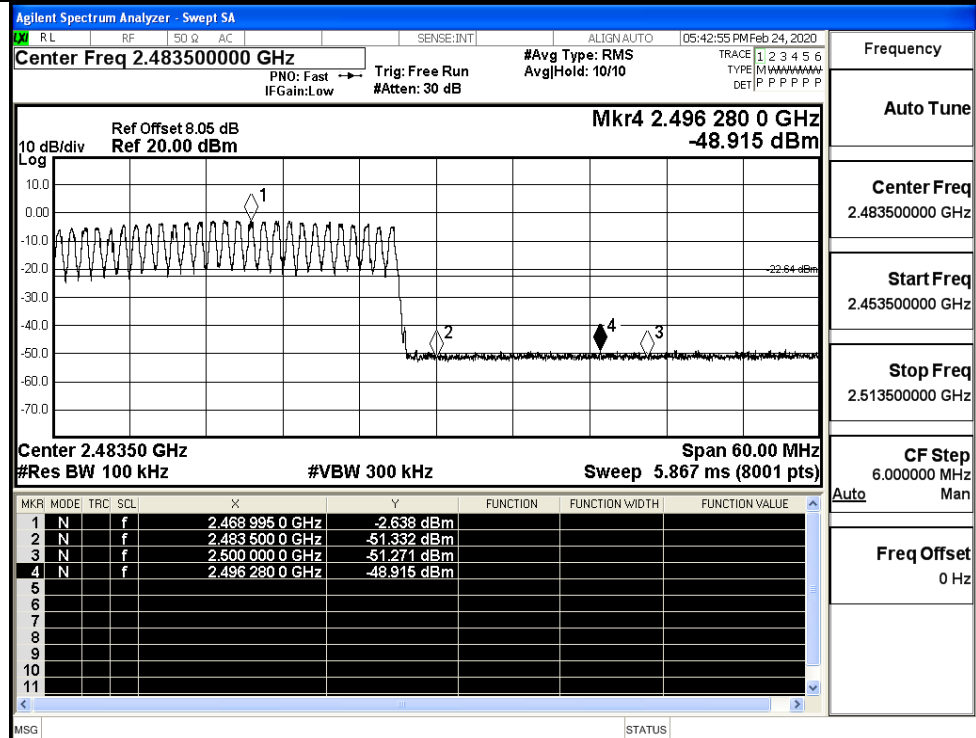
GFSK/LCH/Hop



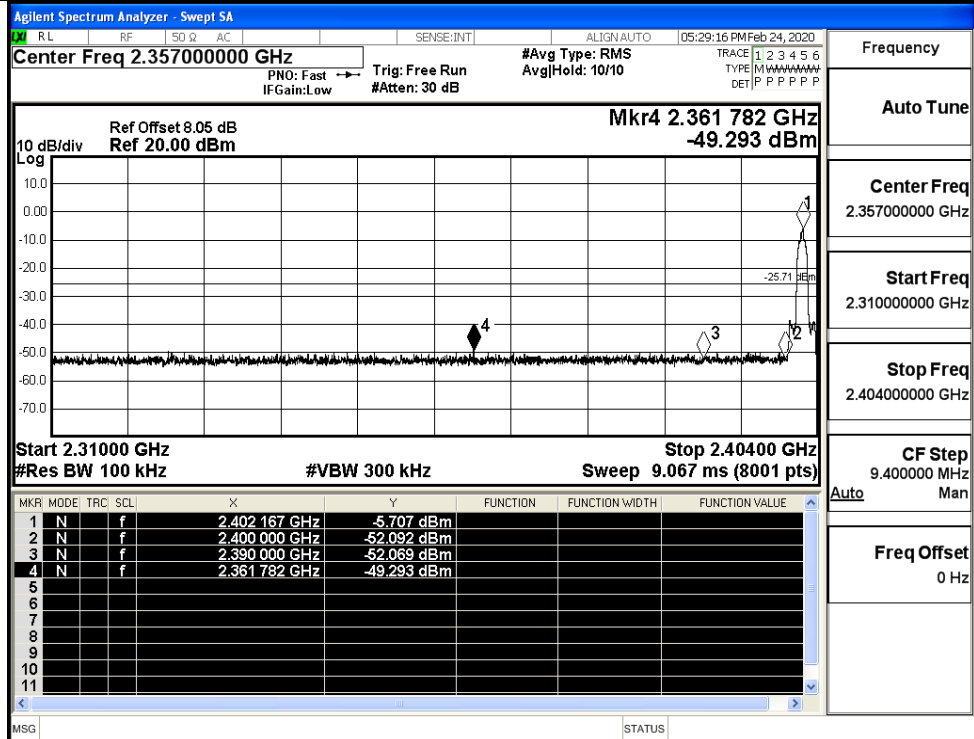
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq
2.357000000 GHz

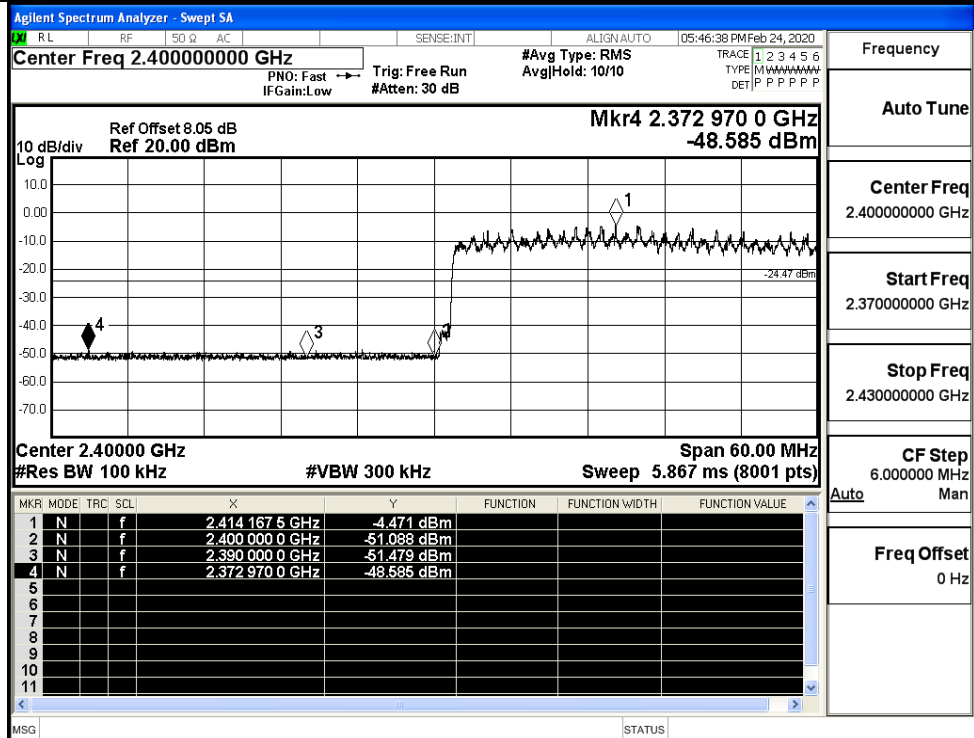
Start Freq
2.310000000 GHz

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

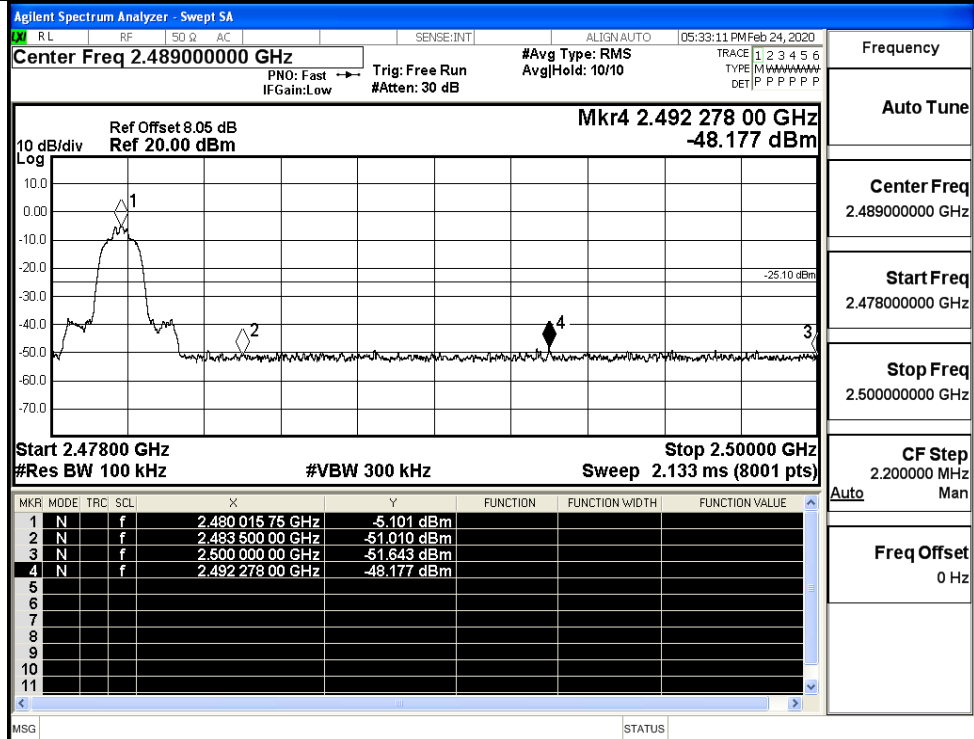
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

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

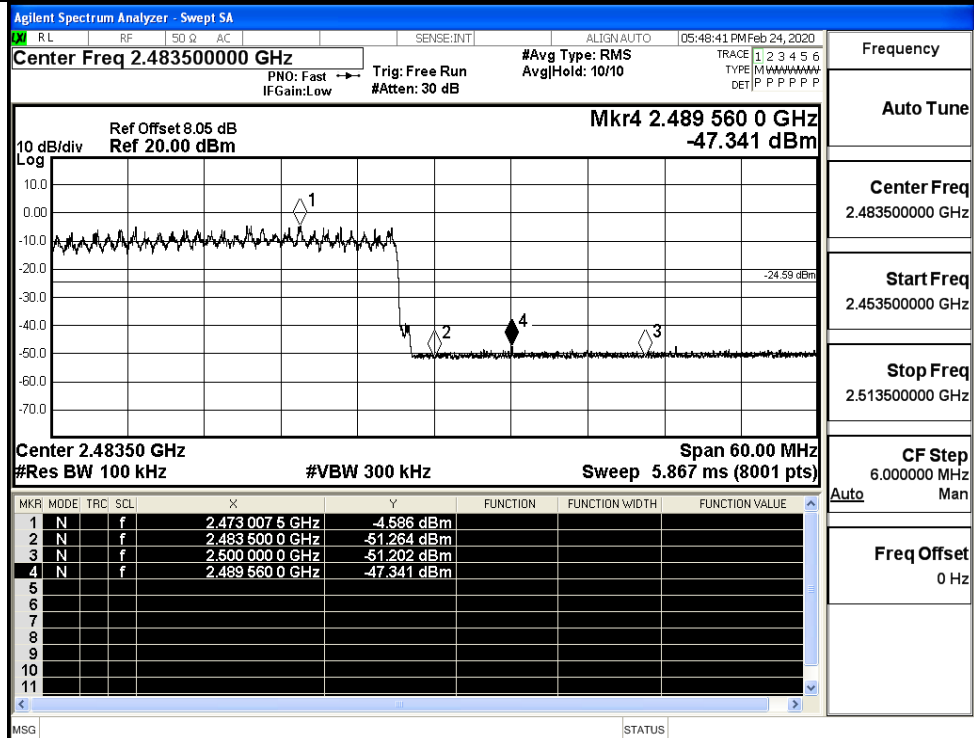


Frequency

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

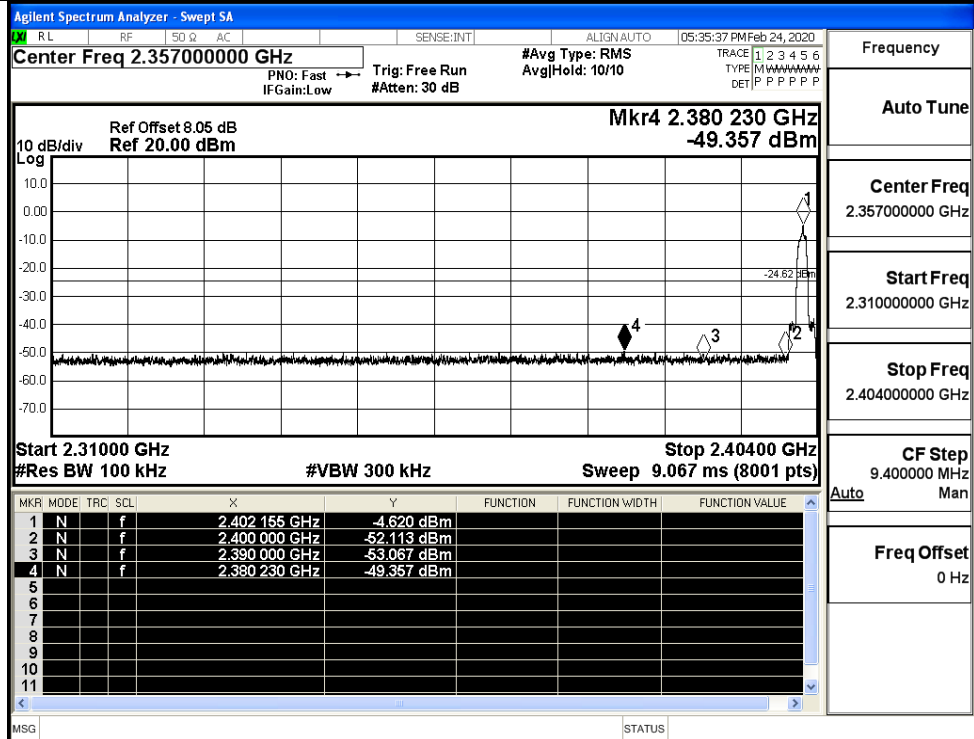


Frequency

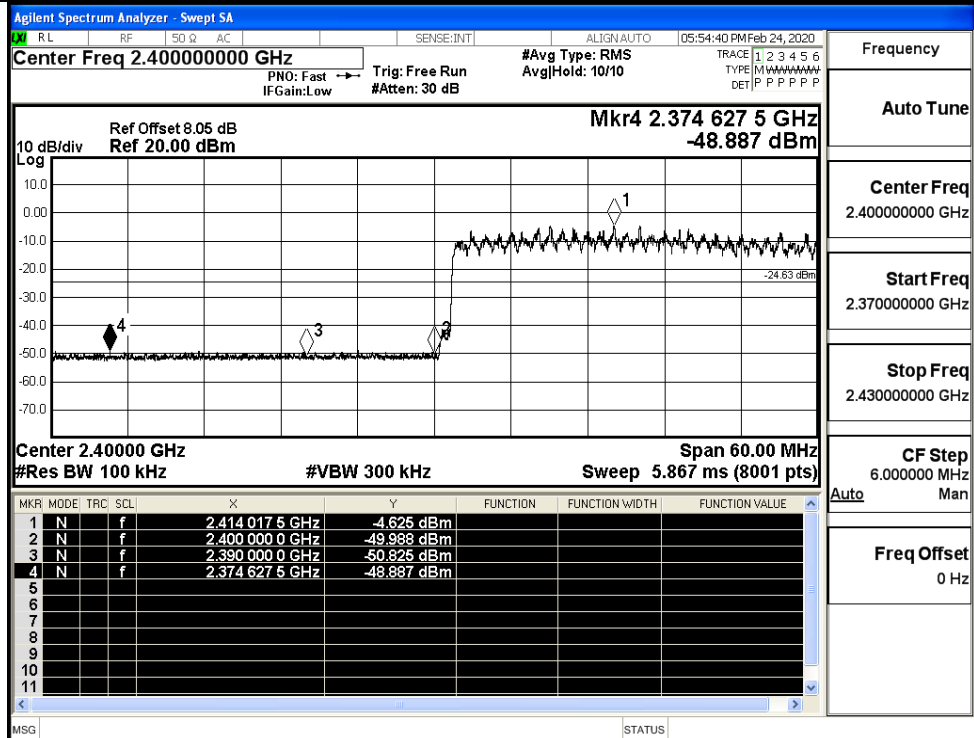
Auto Tune

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

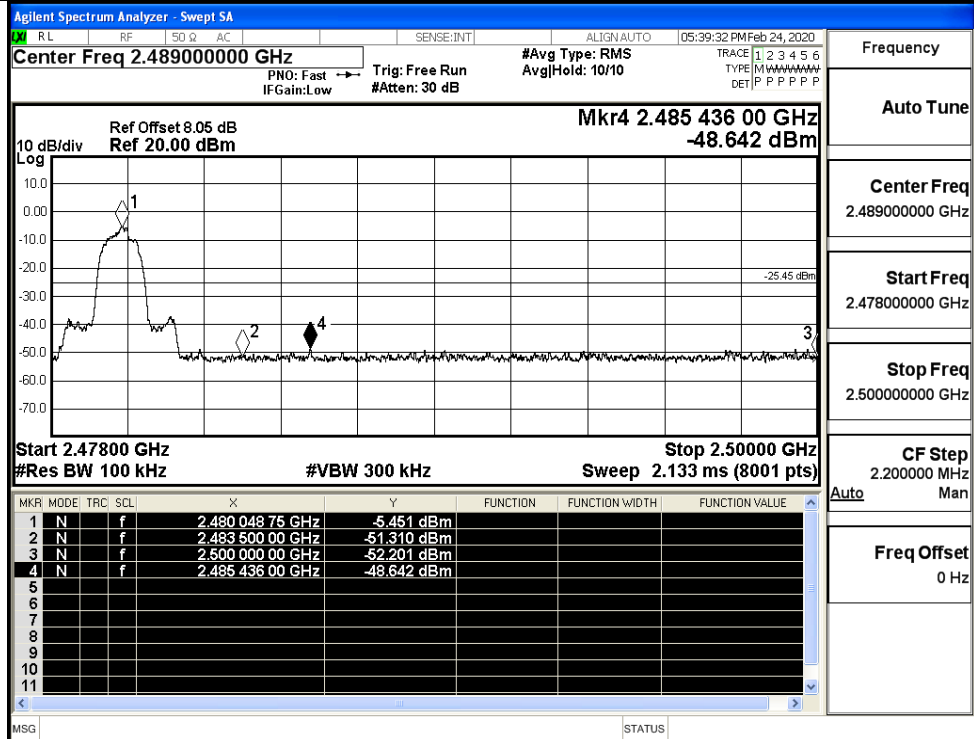
8DPSK/LCH/No Hop



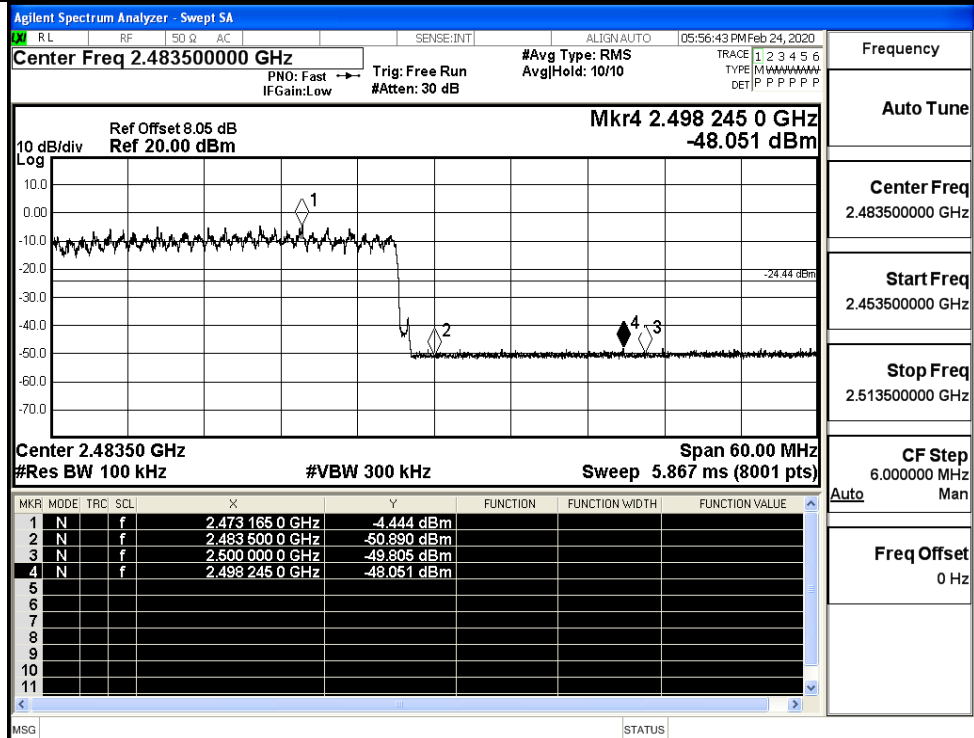
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



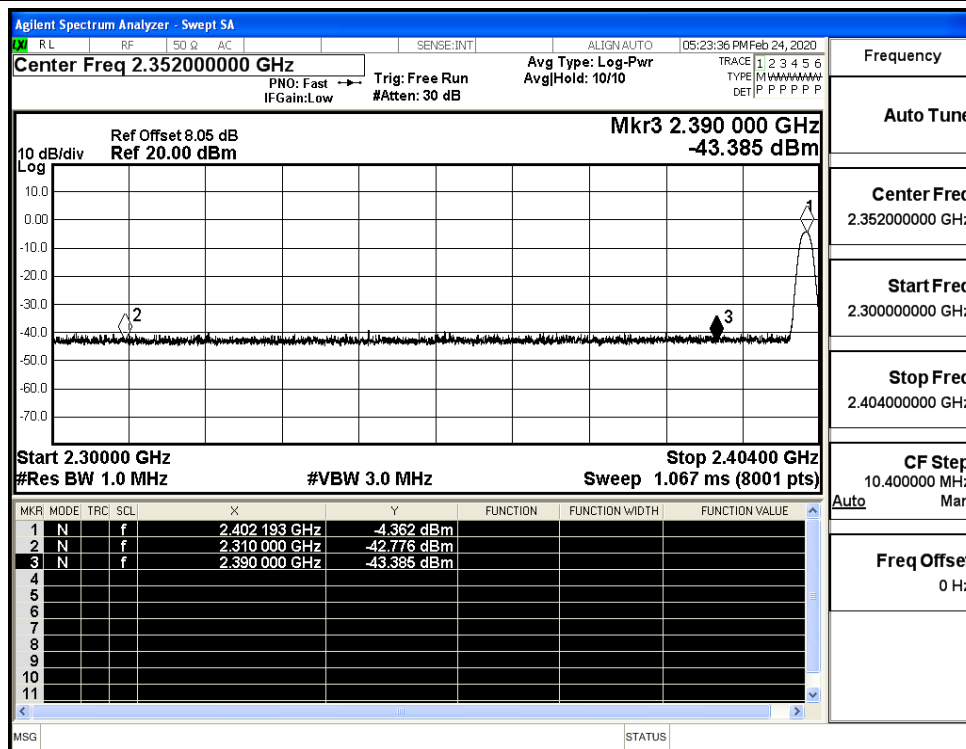
8DPSK/HCH/Hop



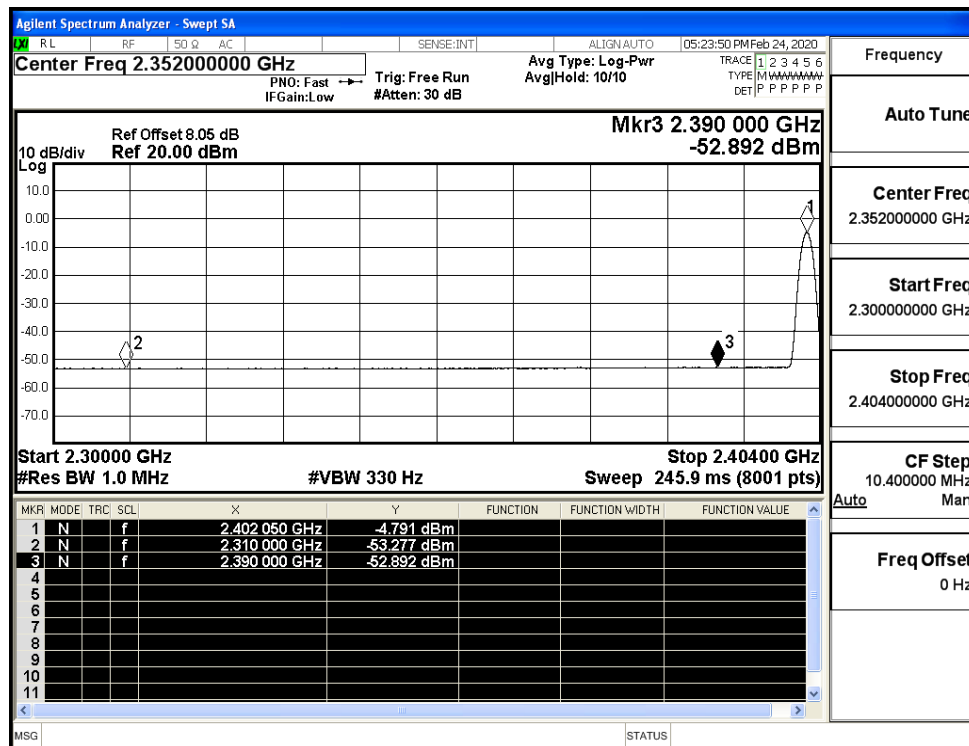
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.78	2.0	0	54.45	PEAK	74	PASS
	Off	2310.0	-53.28	2.0	0	43.95	AV	54	PASS
	Off	2390.0	-43.39	2.0	0	53.84	PEAK	74	PASS
	Off	2390.0	-52.89	2.0	0	44.34	AV	54	PASS
	Off	2483.5	-43.16	2.0	0	54.07	PEAK	74	PASS
	Off	2483.5	-52.48	2.0	0	44.75	AV	54	PASS
	Off	2500.0	-41.88	2.0	0	55.35	PEAK	74	PASS
	Off	2500.0	-52.24	2.0	0	44.99	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-42.56	2.0	0	54.67	PEAK	74	PASS
	Off	2310.0	-53.22	2.0	0	44.01	AV	54	PASS
	Off	2390.0	-42.60	2.0	0	54.63	PEAK	74	PASS
	Off	2390.0	-52.84	2.0	0	44.39	AV	54	PASS
	Off	2483.5	-42.21	2.0	0	55.02	PEAK	74	PASS
	Off	2483.5	-52.40	2.0	0	44.83	AV	54	PASS
	Off	2500.0	-41.28	2.0	0	55.95	PEAK	74	PASS
	Off	2500.0	-52.18	2.0	0	45.05	AV	54	PASS
8DPSK	Off	2310.0	-41.78	2.0	0	55.45	PEAK	74	PASS
	Off	2310.0	-53.28	2.0	0	43.95	AV	54	PASS
	Off	2390.0	-42.70	2.0	0	54.53	PEAK	74	PASS
	Off	2390.0	-52.88	2.0	0	44.35	AV	54	PASS
	Off	2483.5	-43.21	2.0	0	54.02	PEAK	74	PASS
	Off	2483.5	-52.42	2.0	0	44.81	AV	54	PASS
	Off	2500.0	-42.69	2.0	0	54.54	PEAK	74	PASS
	Off	2500.0	-52.10	2.0	0	45.13	AV	54	PASS

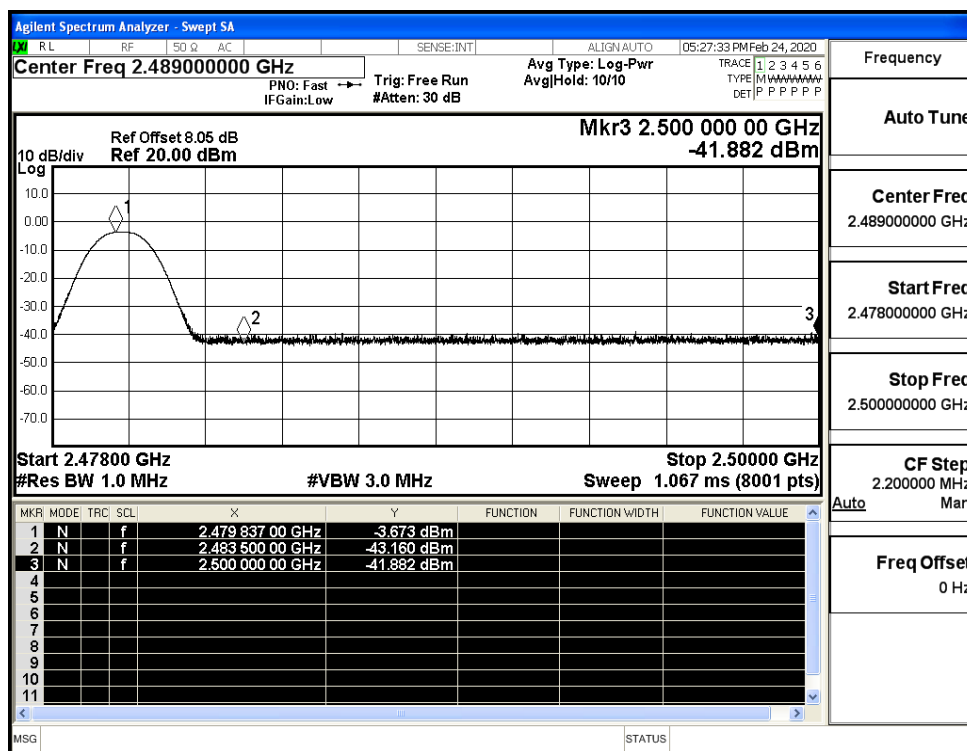
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



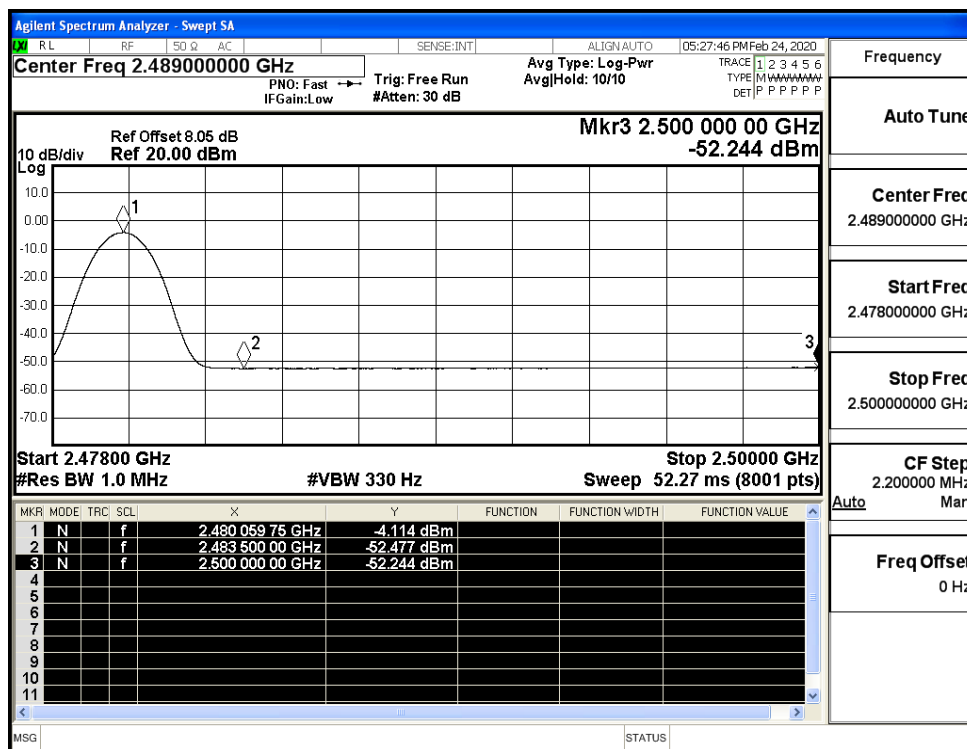
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

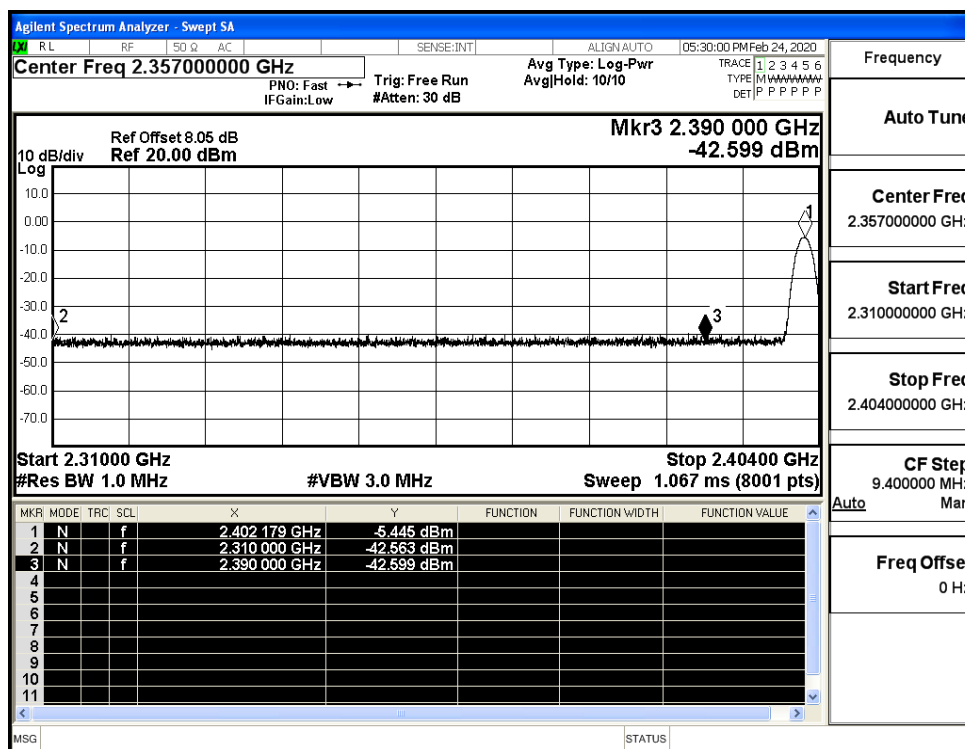
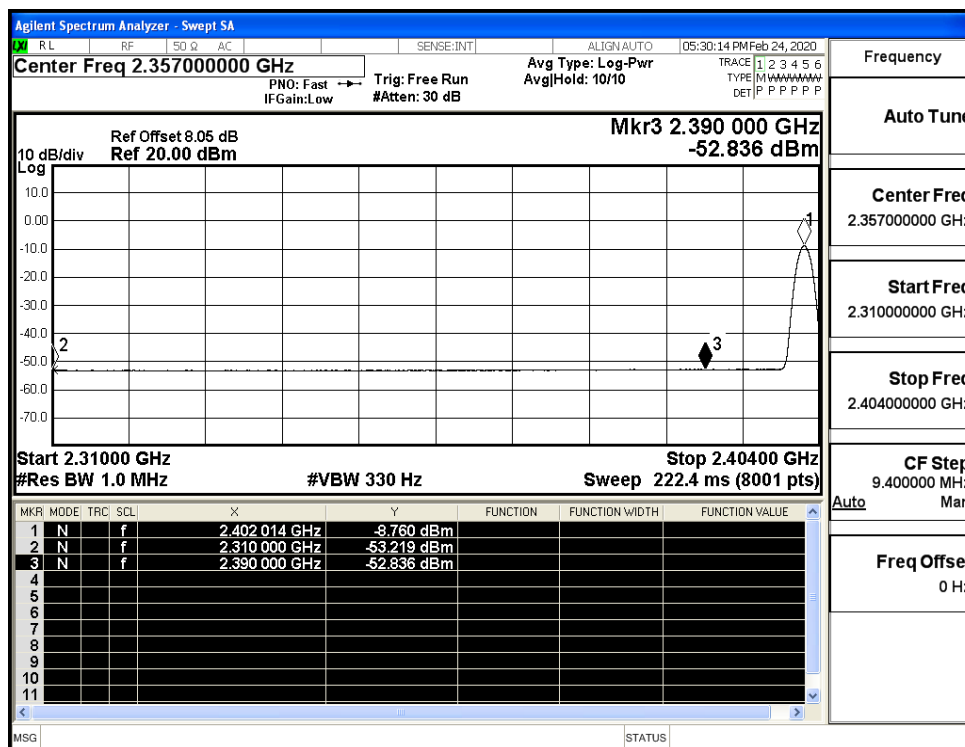


Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)

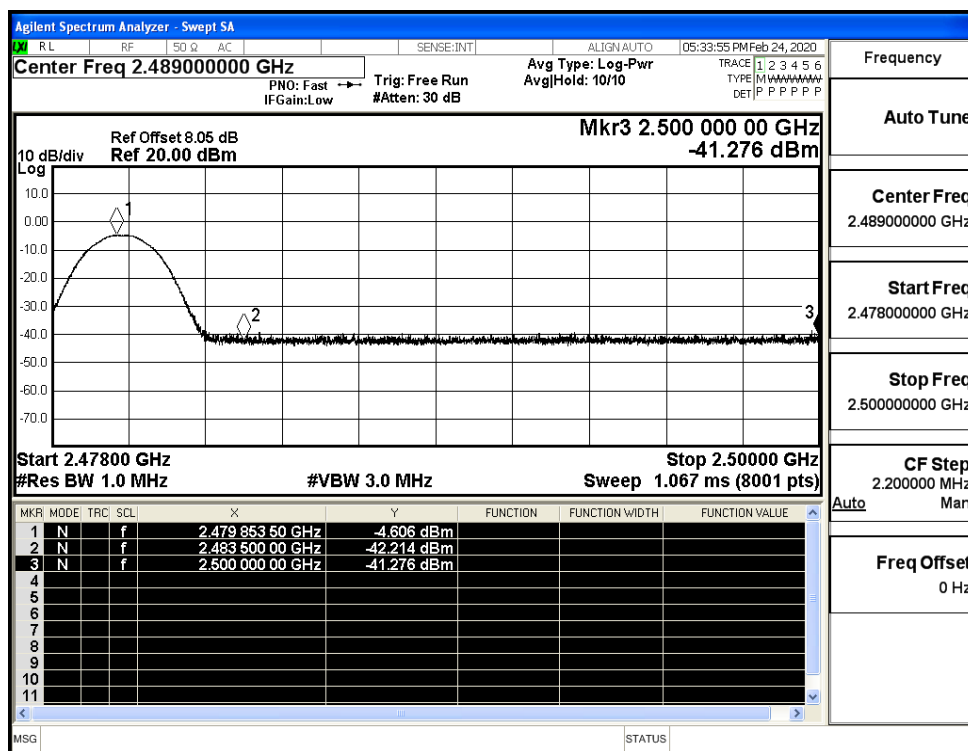


Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)

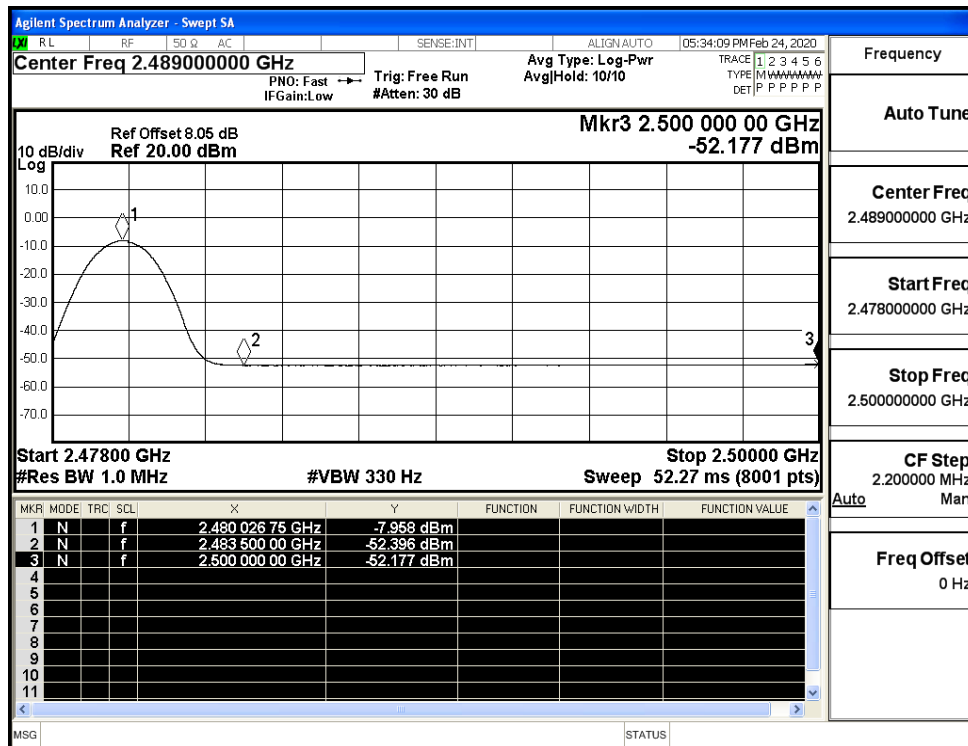


Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

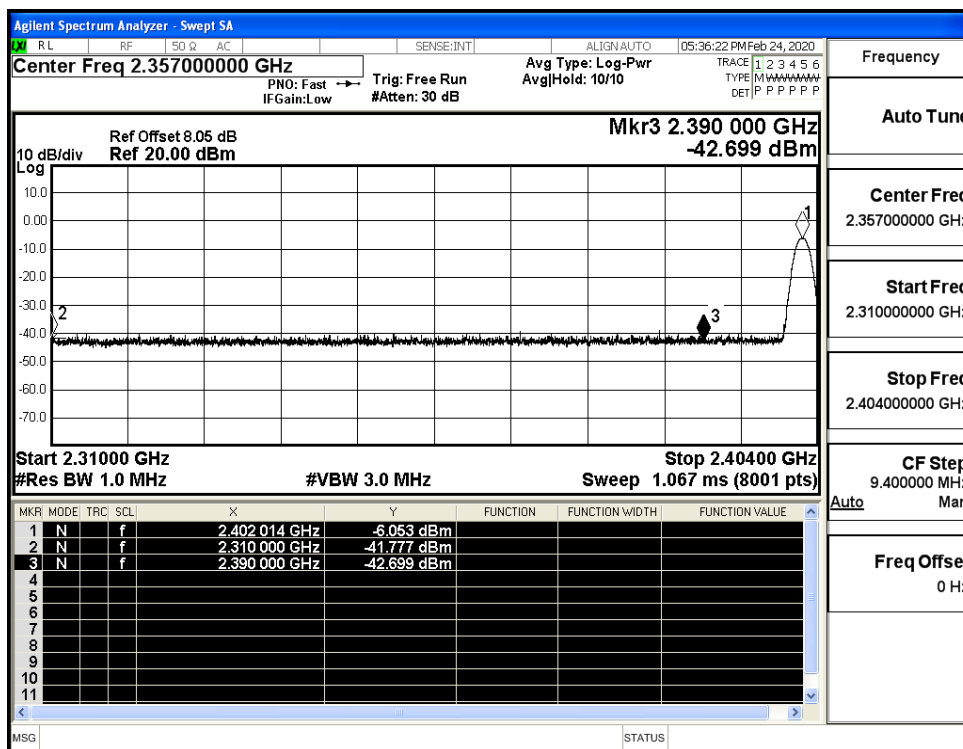
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



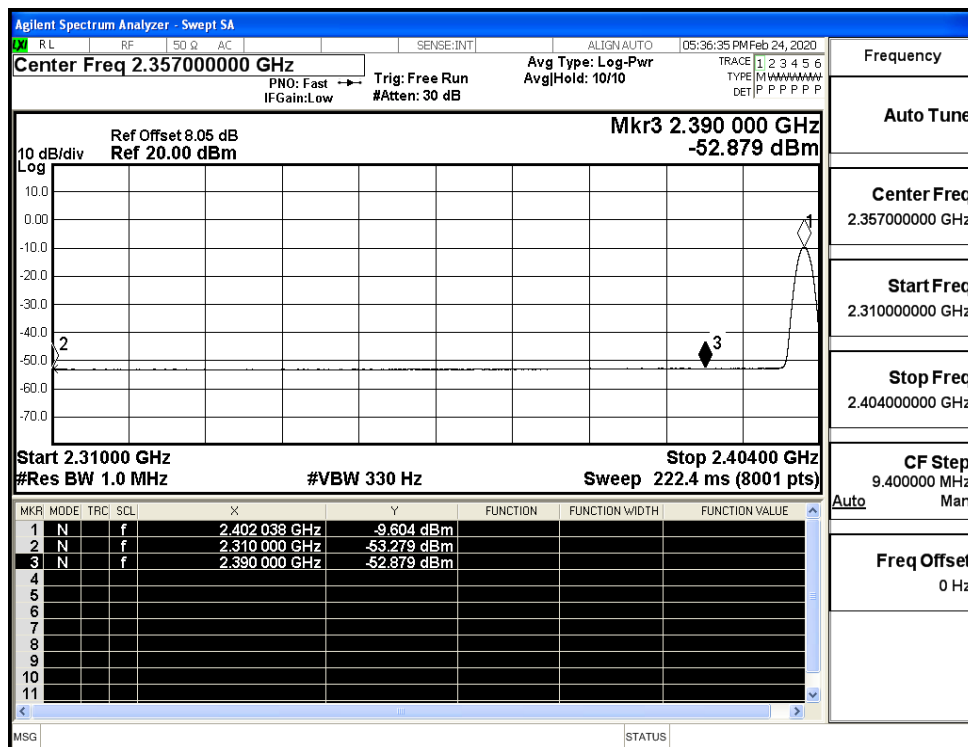
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



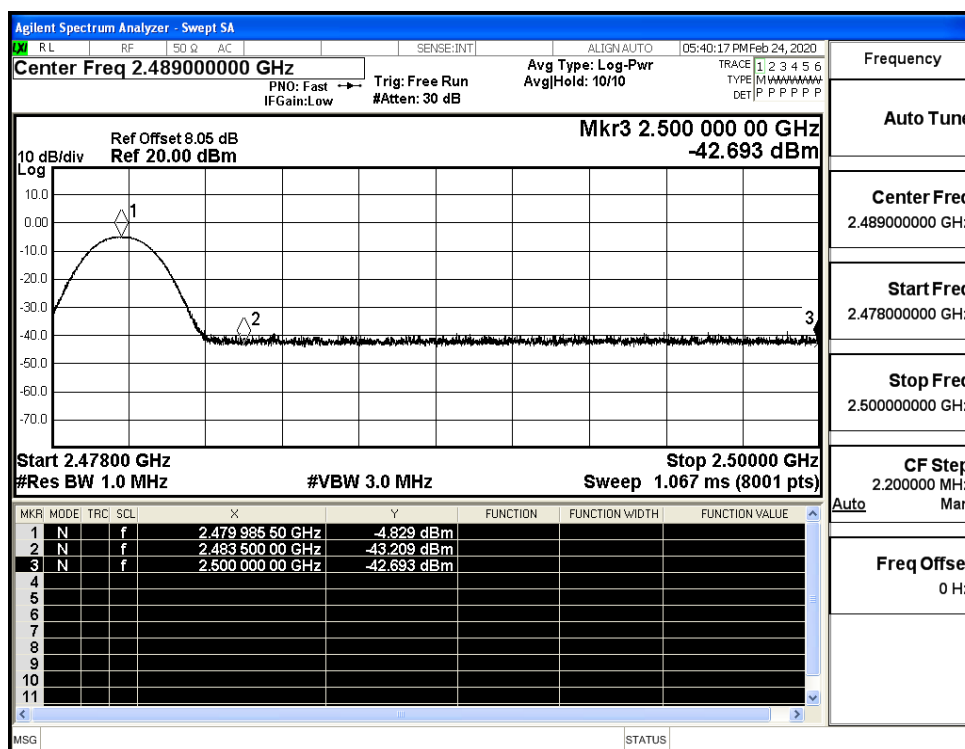
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

