

Appendix A

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

Product Name: Bluetooth audio receiver

Trade Mark: N/A

Test Model: HT-06A

Environmental Conditions

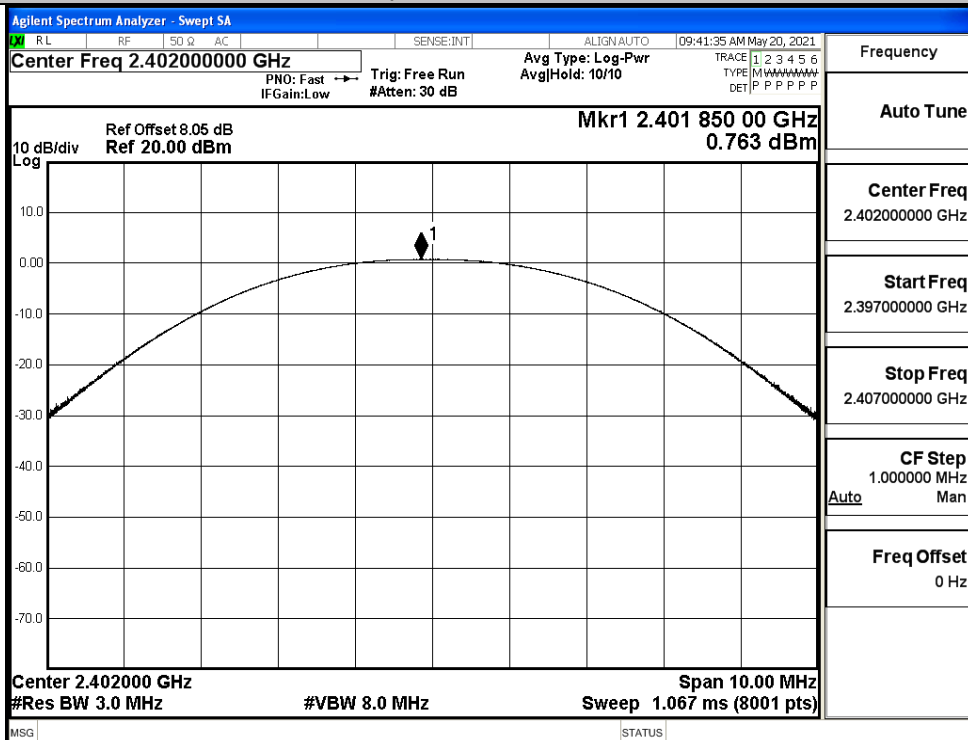
Temperature:	24.2° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Carl Fu
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

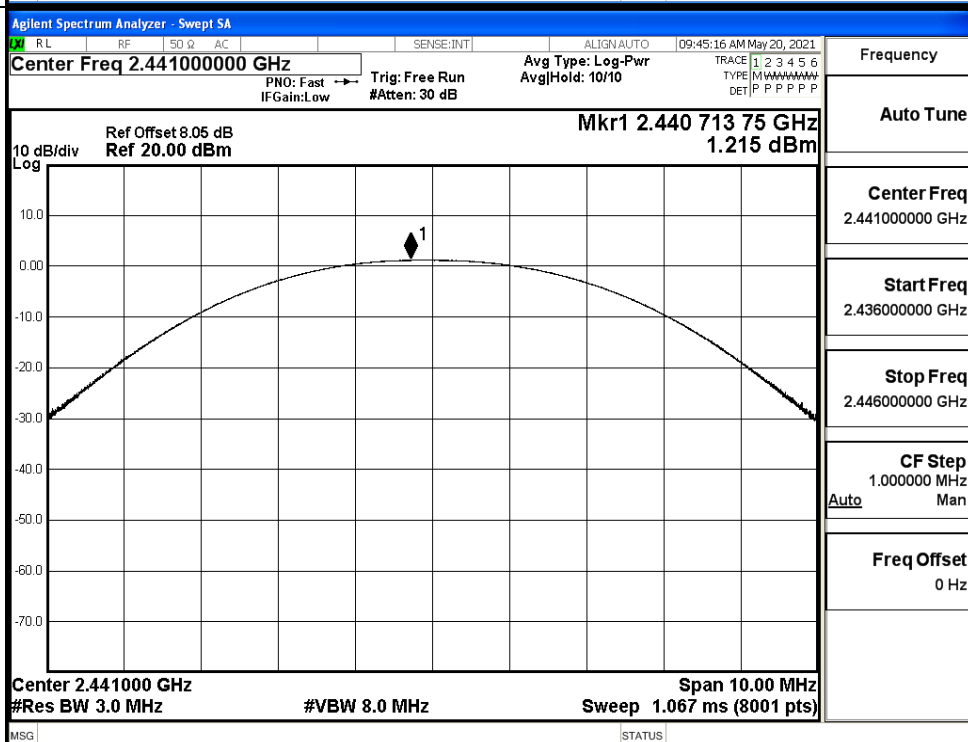
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.763	21	PASS
	MCH	1.215	21	PASS
	HCH	1.793	21	PASS
$\pi/4$ DQPSK	LCH	3.103	21	PASS
	MCH	3.542	21	PASS
	HCH	4.281	21	PASS
8DPSK	LCH	3.619	21	PASS
	MCH	4.080	21	PASS
	HCH	4.884	21	PASS

Test Graphs

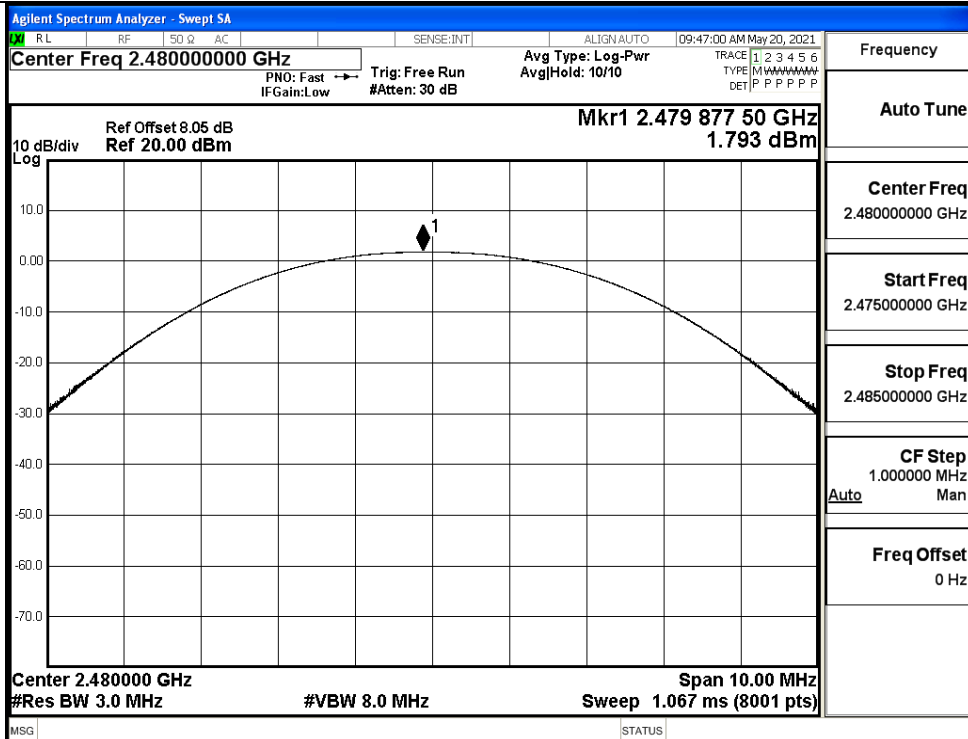
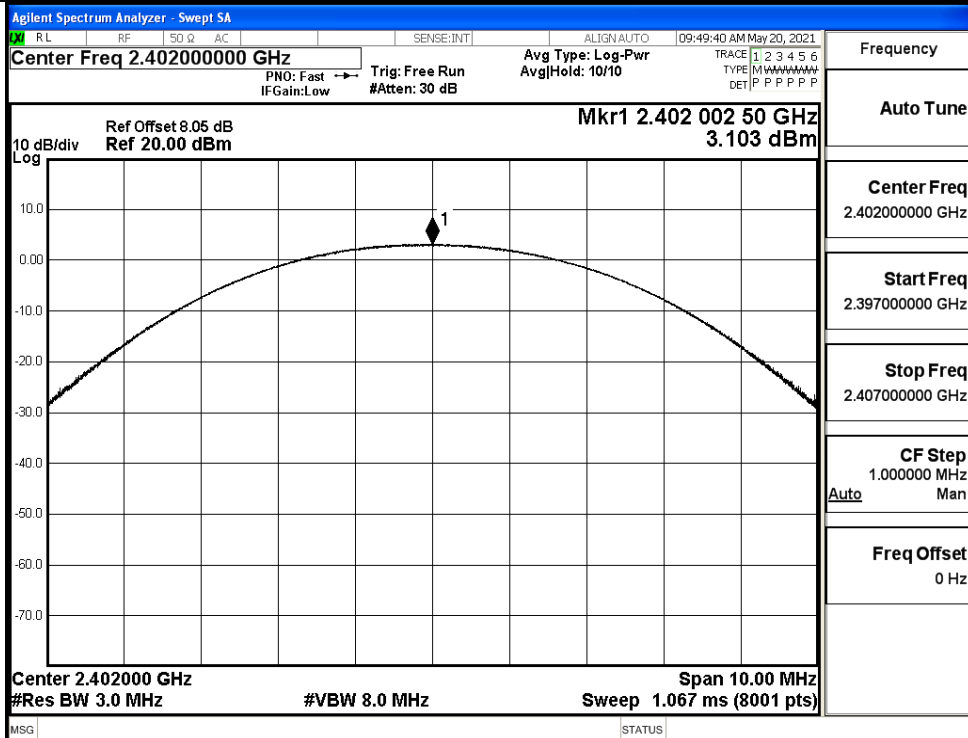
GFSK/LCH

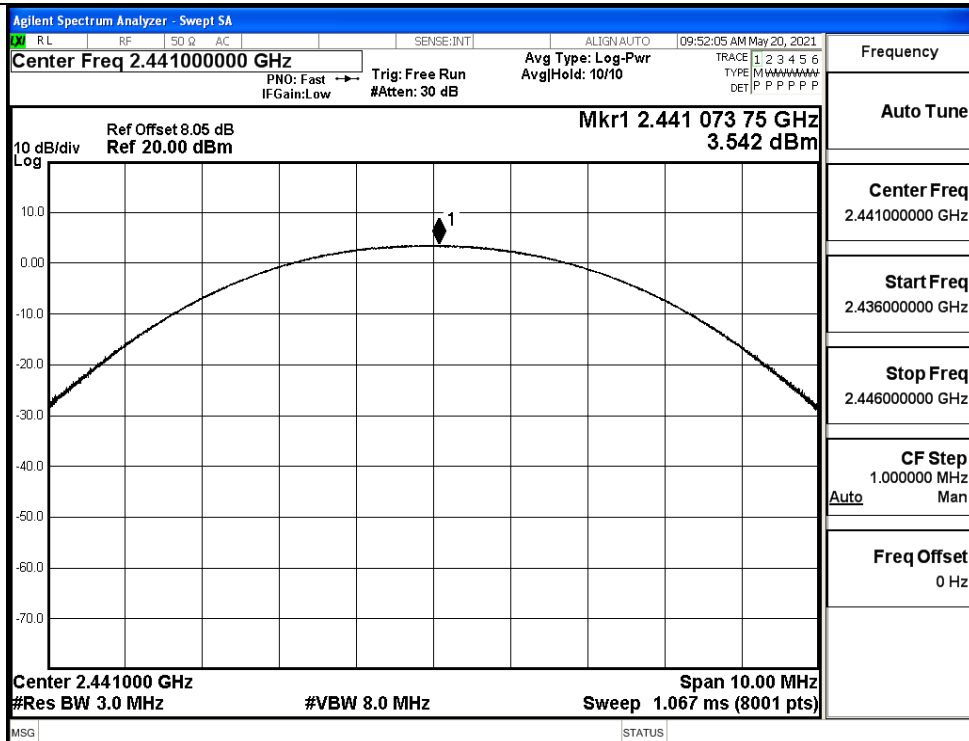
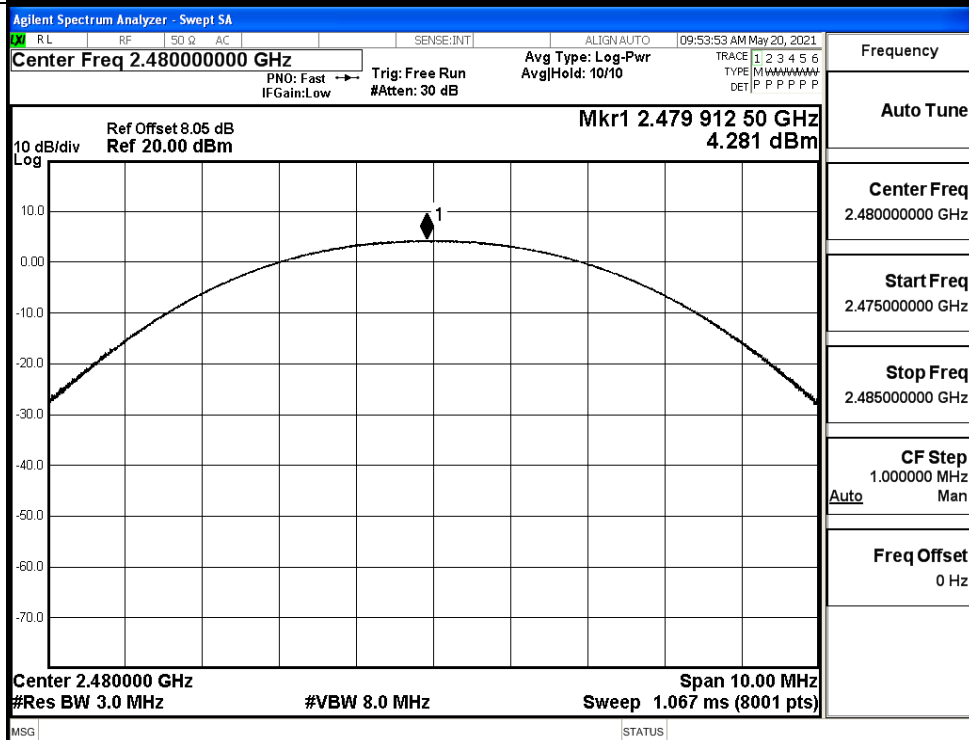


GFSK/MCH

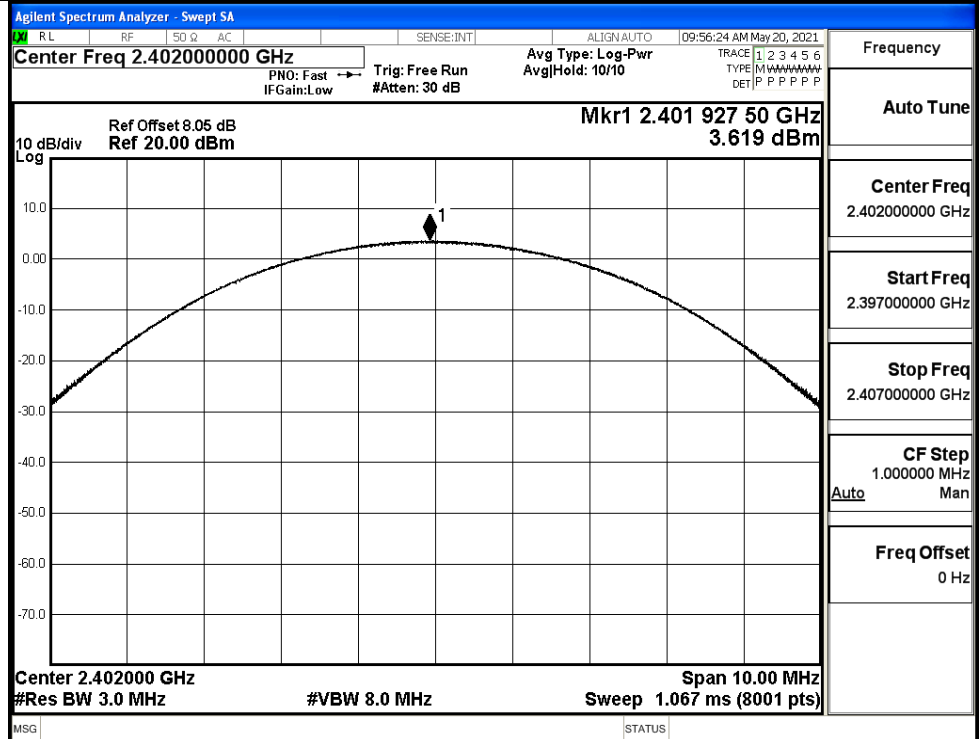


GFSK/HCH

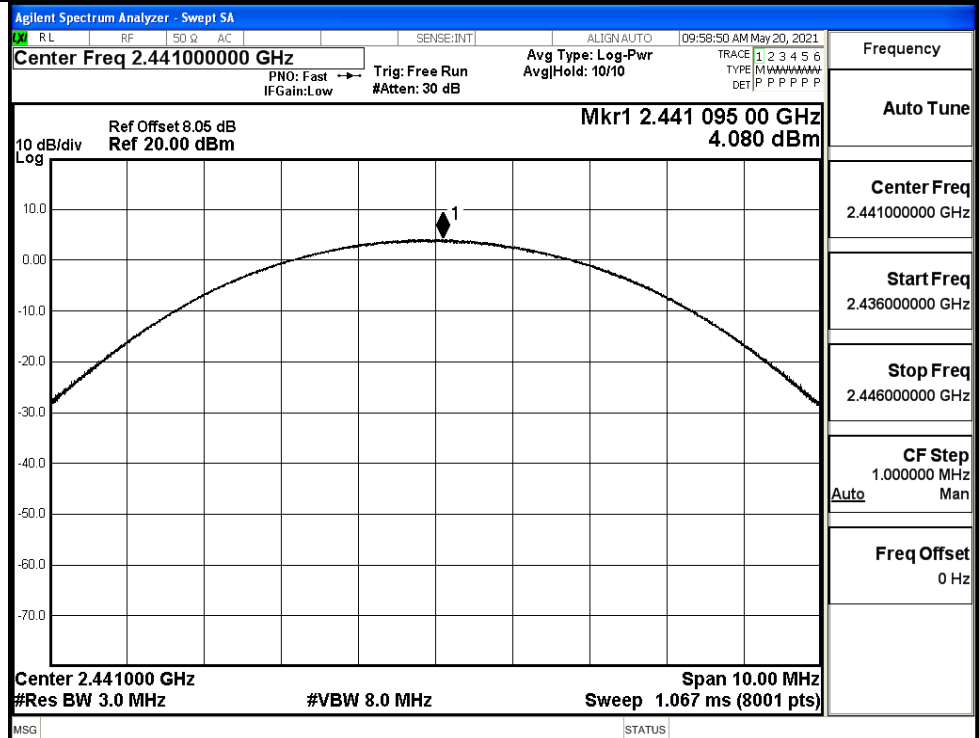
 π /4DQPSK/LCH

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

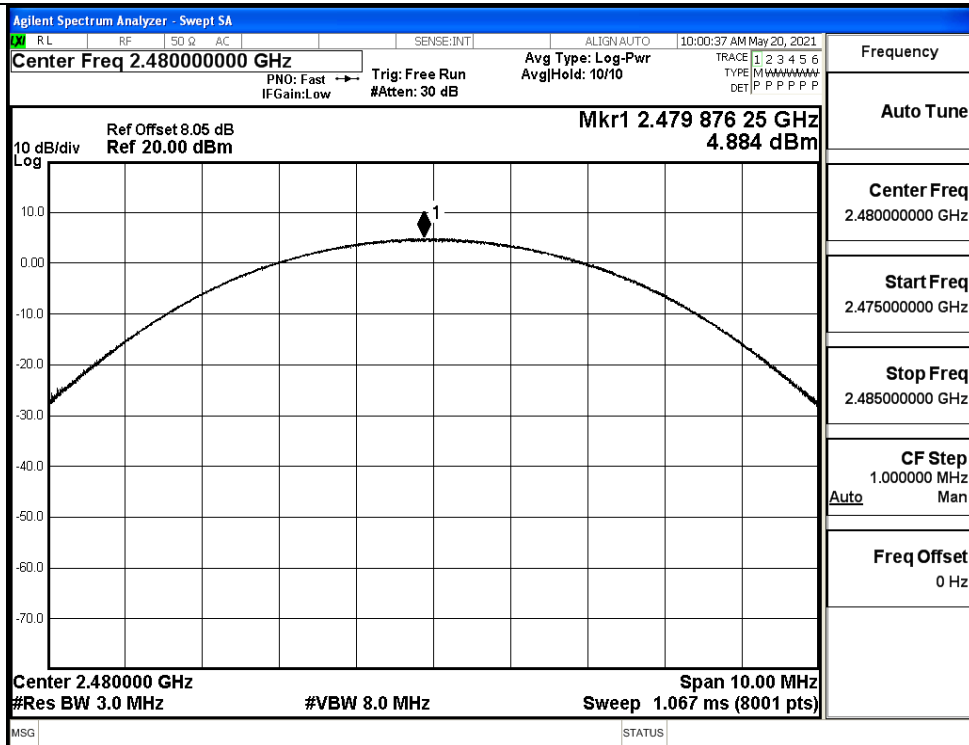
8DPSK/LCH



8DPSK/MCH



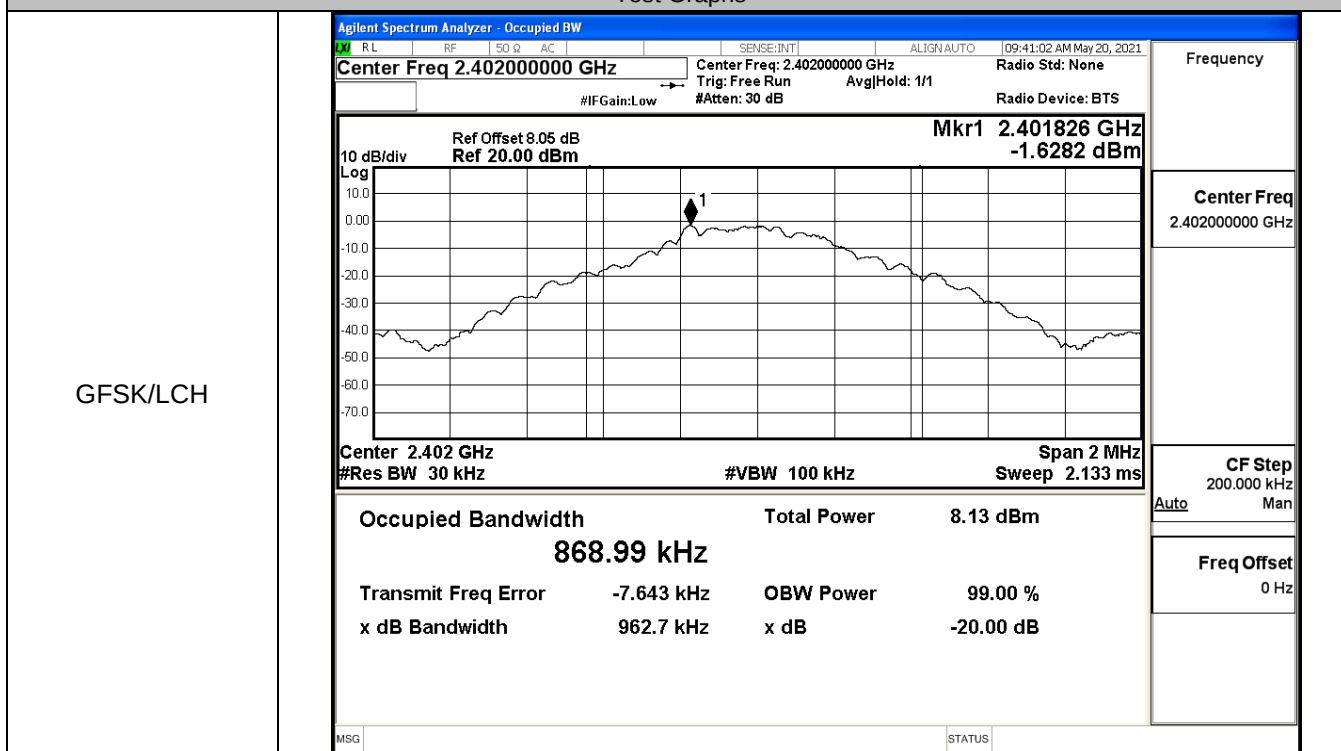
8DPSK/HCH



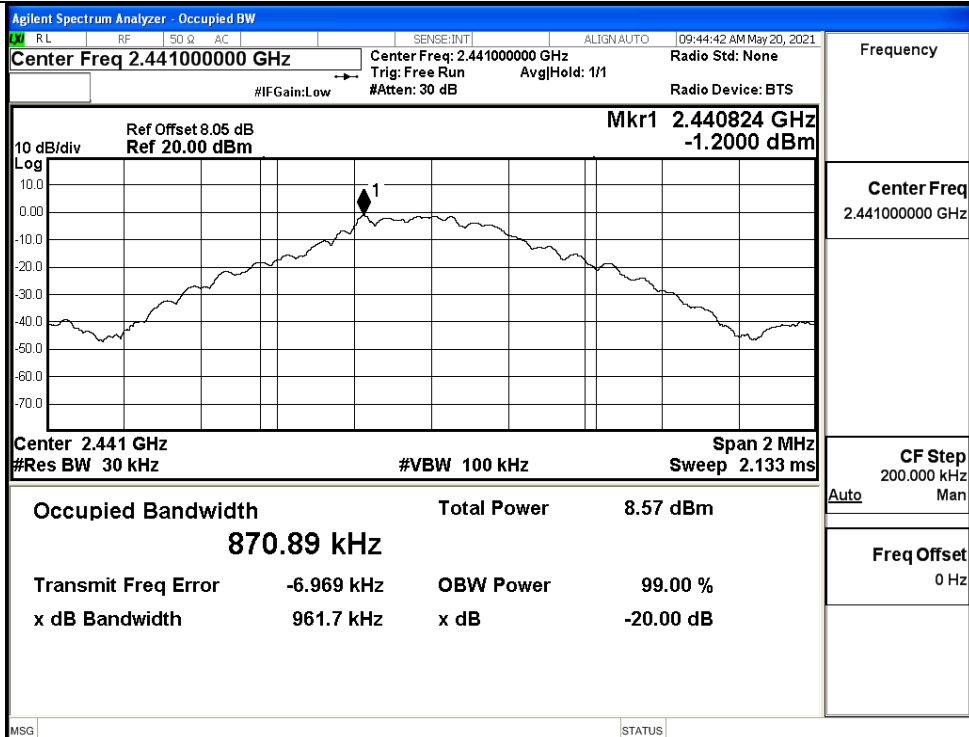
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9627	Not Specified	PASS
	MCH	0.9617	Not Specified	PASS
	HCH	0.9618	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.282	Not Specified	PASS
	MCH	1.281	Not Specified	PASS
	HCH	1.282	Not Specified	PASS
8DPSK	LCH	1.300	Not Specified	PASS
	MCH	1.299	Not Specified	PASS
	HCH	1.300	Not Specified	PASS

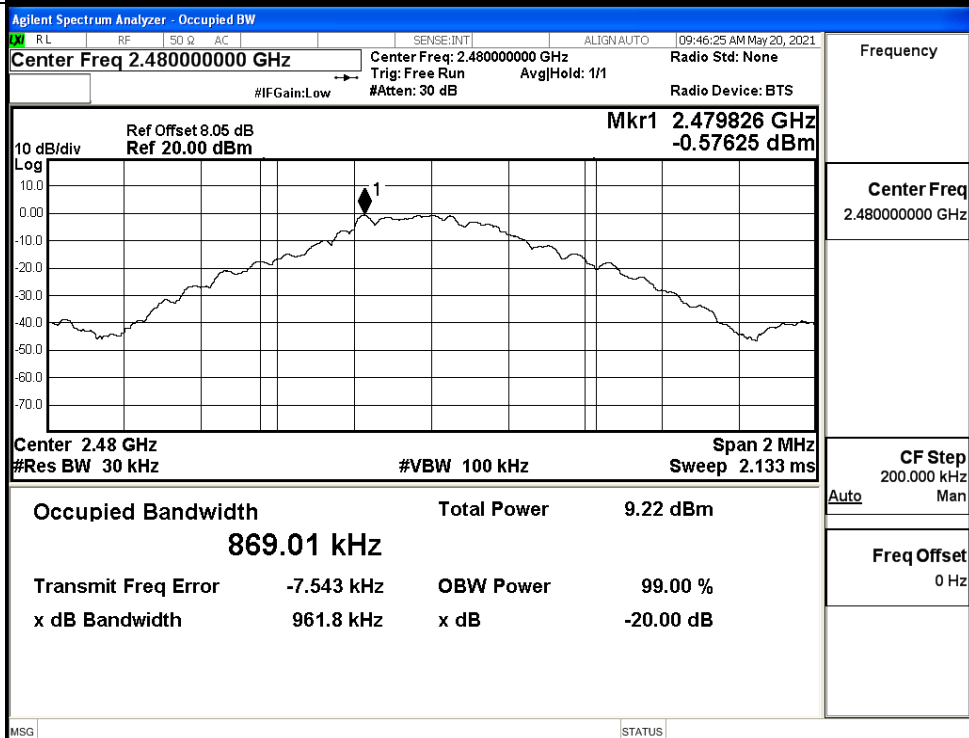
Test Graphs

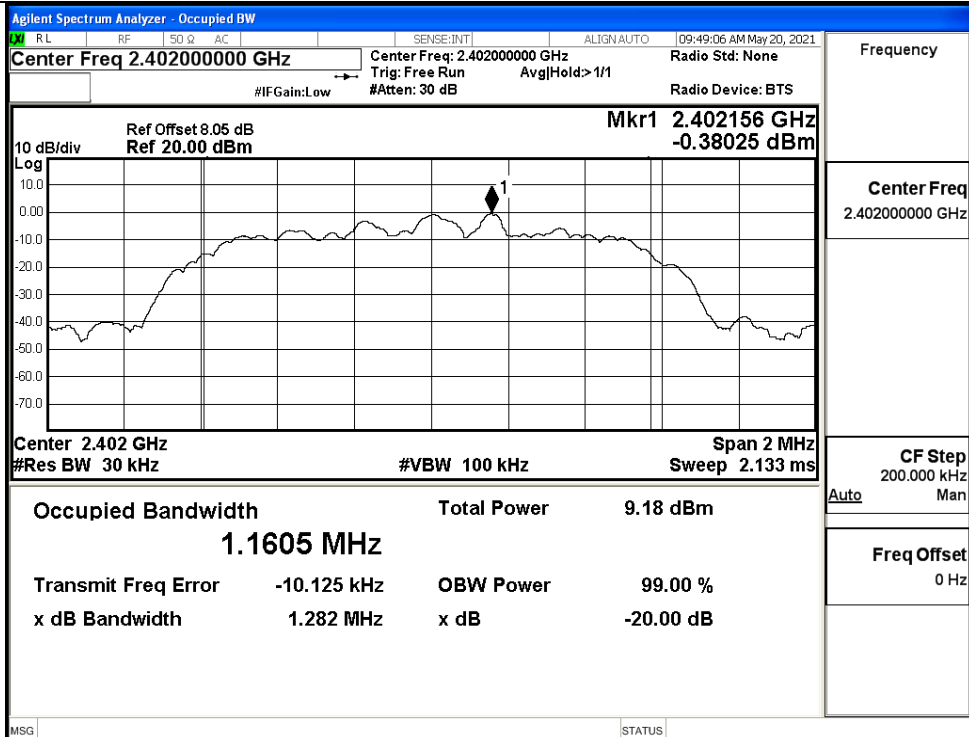


GFSK/MCH



GFSK/HCH

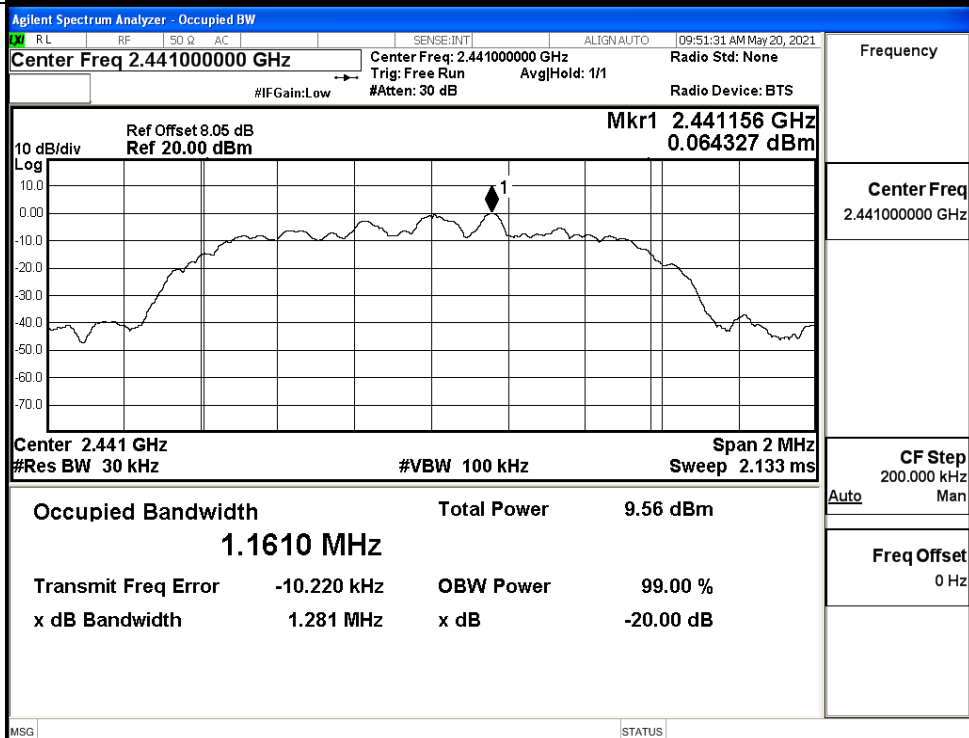


$\pi/4$ DQPSK/LCH

Frequency

Center Freq
2.40200000 GHzCF Step
200.000 kHz
Man

Auto

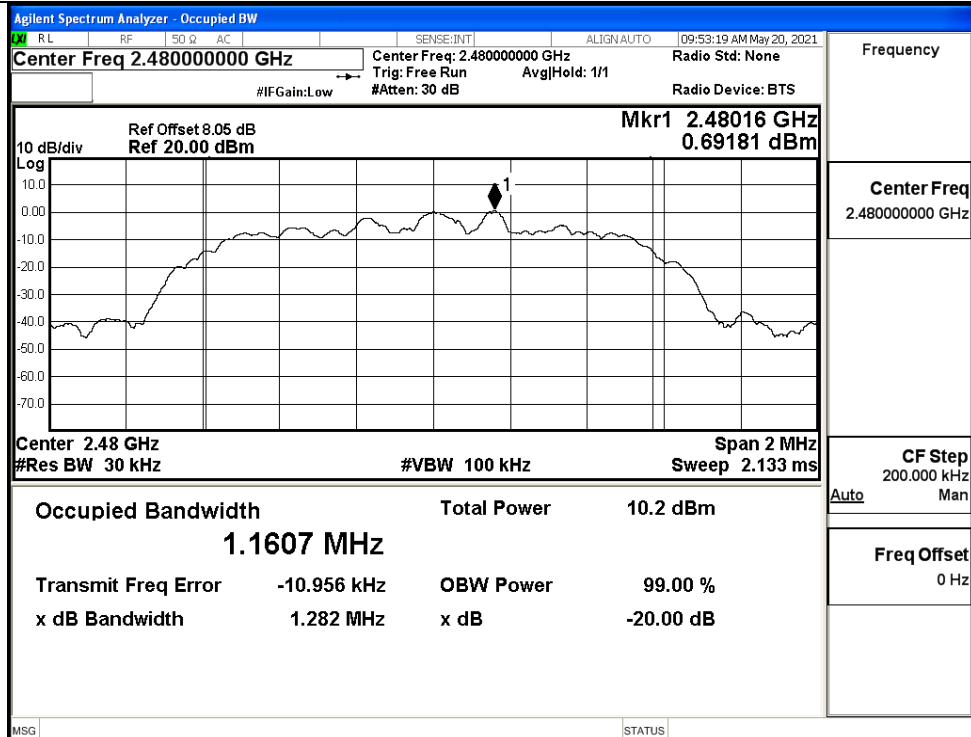
Freq Offset
0 Hz $\pi/4$ DQPSK/MCH

Frequency

Center Freq
2.44100000 GHzCF Step
200.000 kHz
Man

Auto

Freq Offset
0 Hz

$\pi/4$ DQPSK/HCH

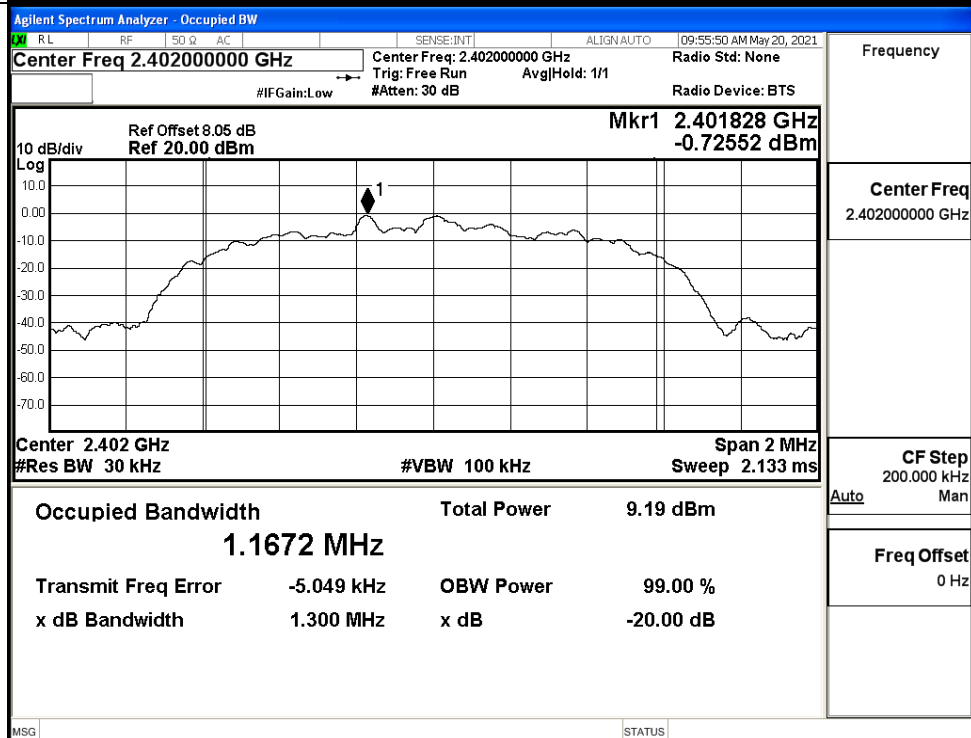
Frequency

Center Freq
2.48000000 GHzCF Step
200.000 kHz
Man

Auto

Freq Offset
0 Hz

8DPSK/LCH



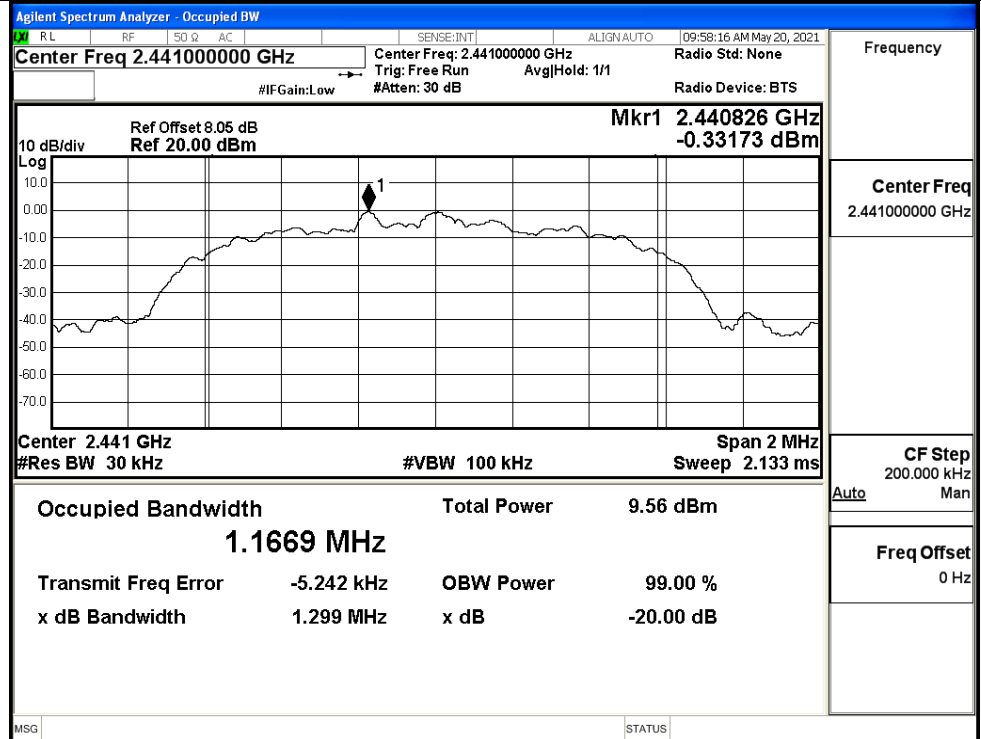
Frequency

Center Freq
2.40200000 GHzCF Step
200.000 kHz
Man

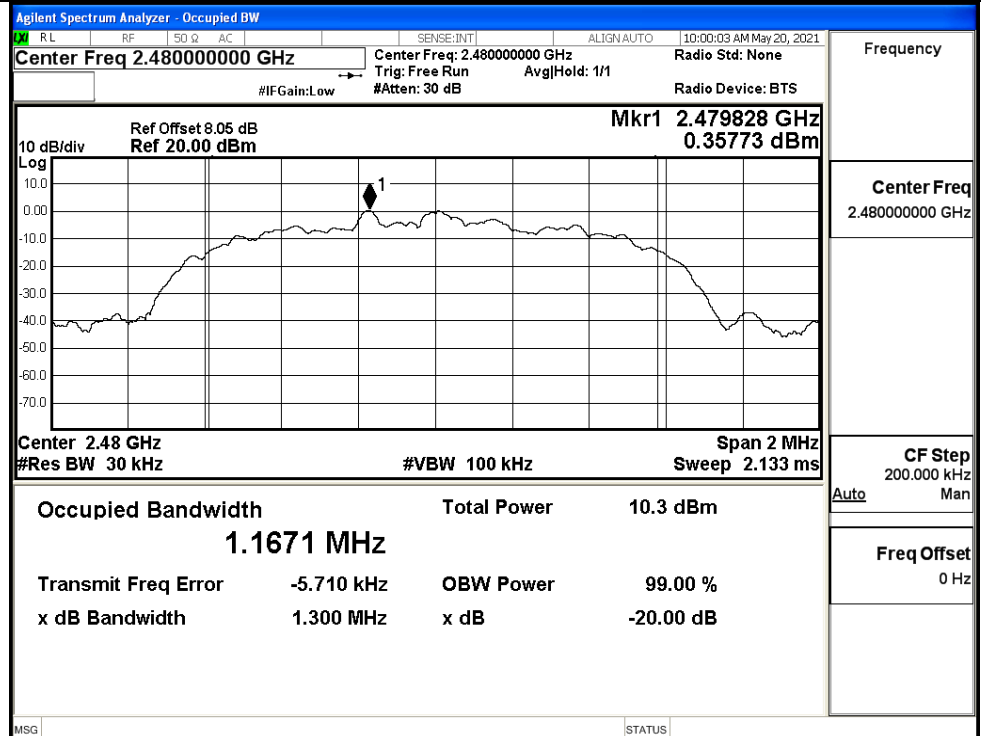
Auto

Freq Offset
0 Hz

8DPSK/MCH



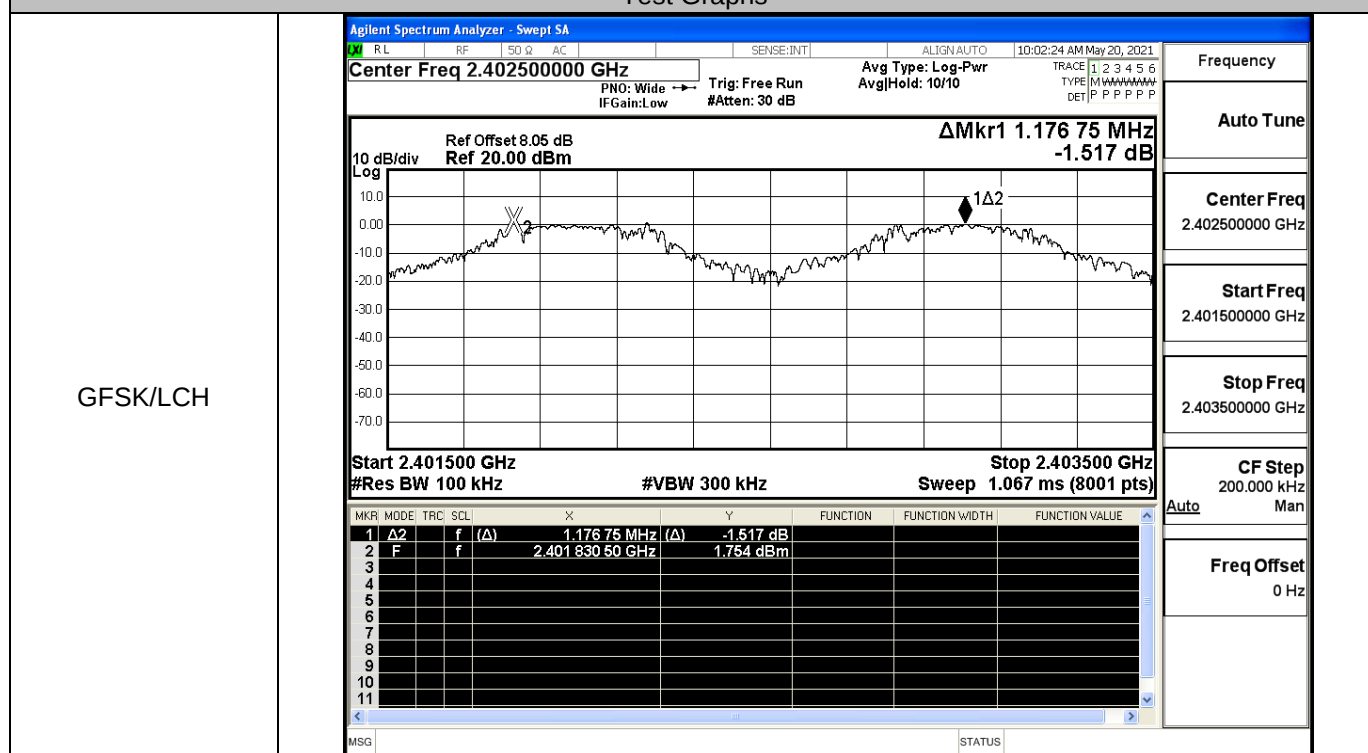
8DPSK/HCH



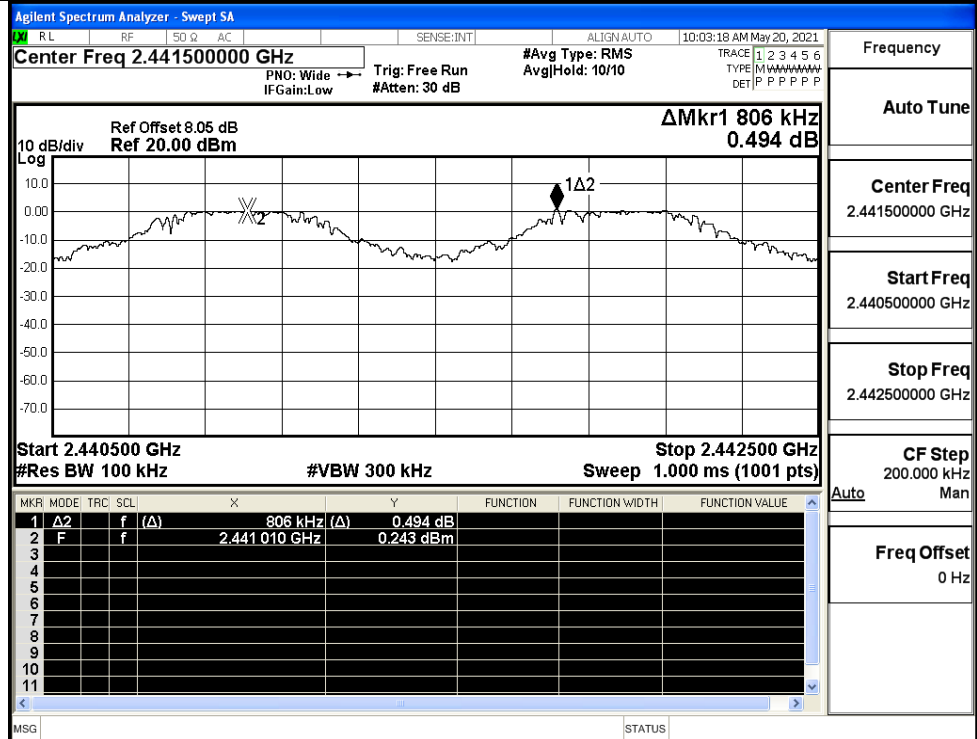
A.4 Carrier Frequency Separation

Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.177	0.642	PASS
	MCH	0.806	0.642	PASS
	HCH	0.768	0.642	PASS
$\pi/4$ DQPSK	LCH	1.054	0.855	PASS
	MCH	0.960	0.855	PASS
	HCH	1.170	0.855	PASS
8DPSK	LCH	1.462	0.867	PASS
	MCH	1.002	0.867	PASS
	HCH	0.954	0.867	PASS

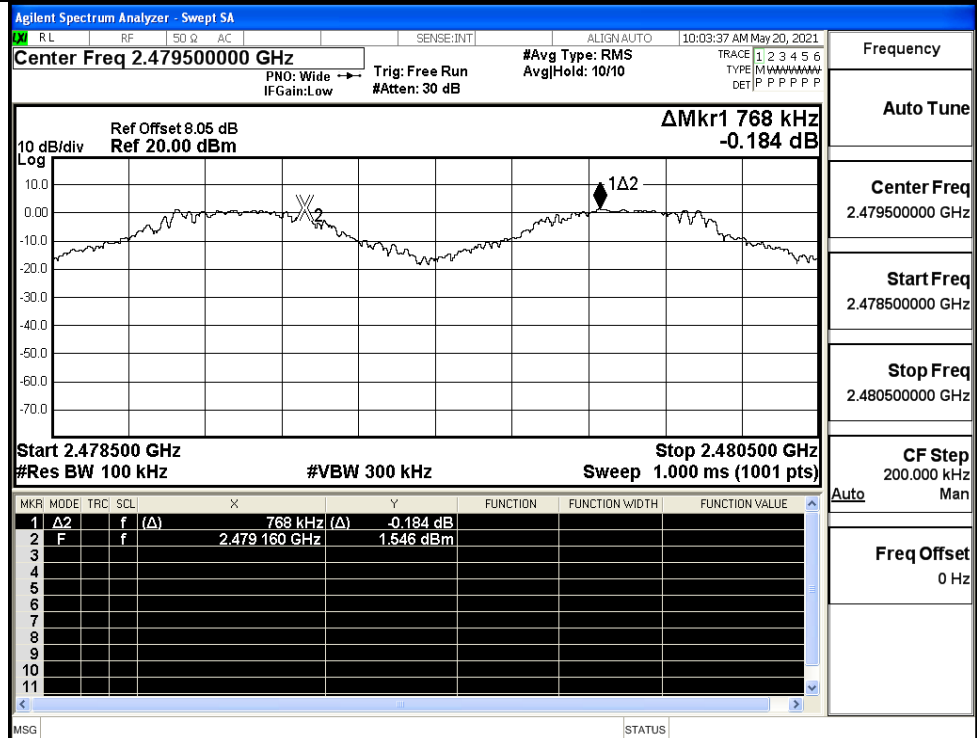
Test Graphs

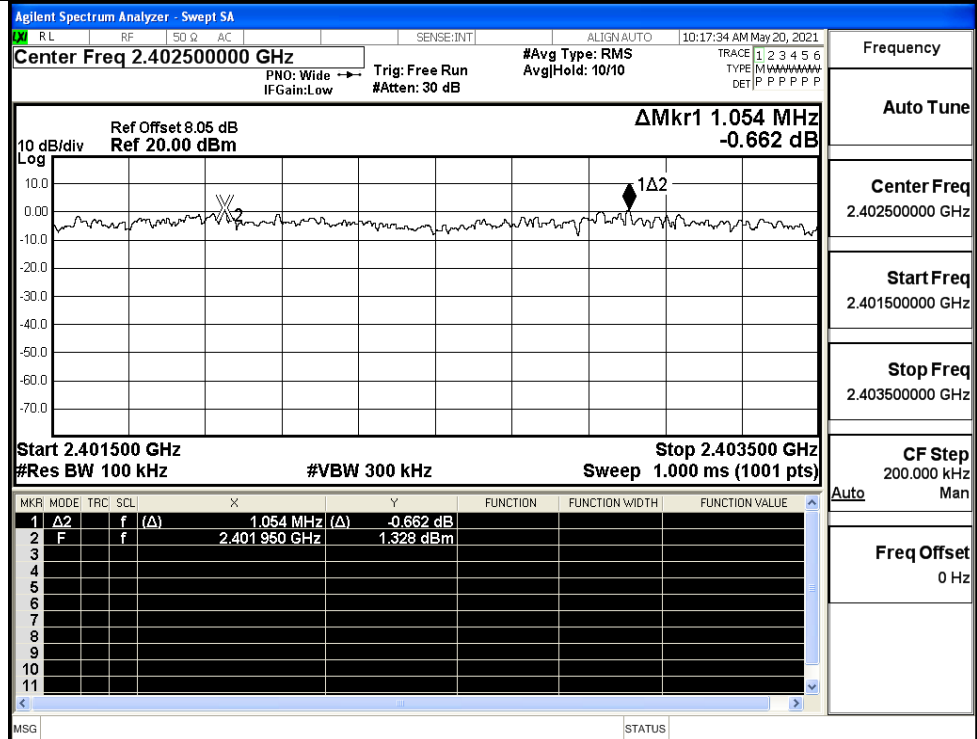
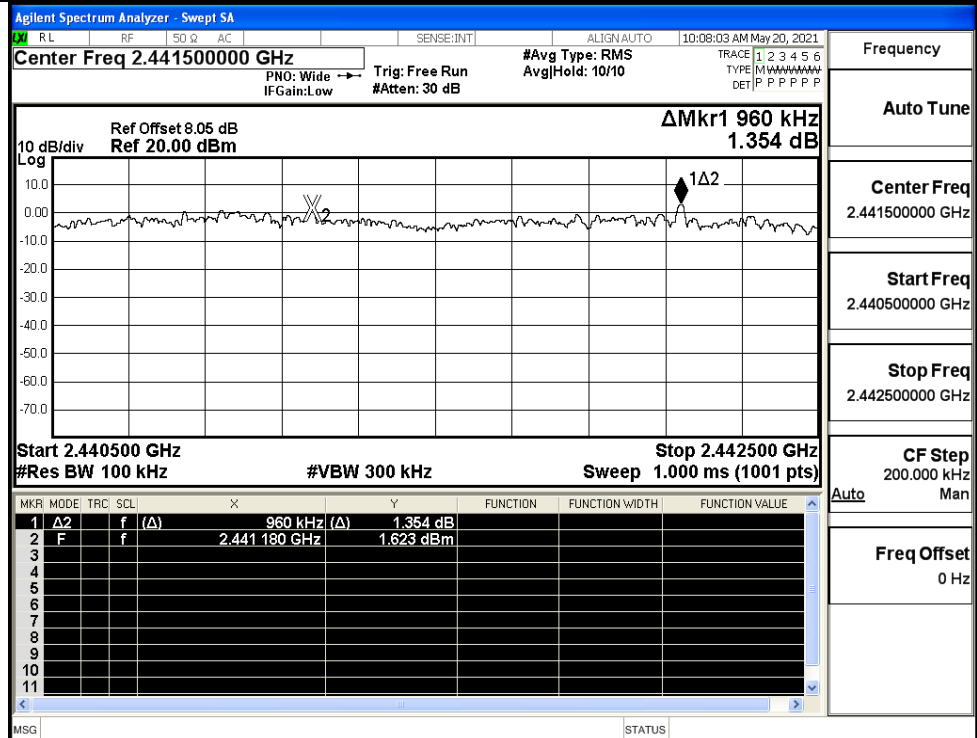


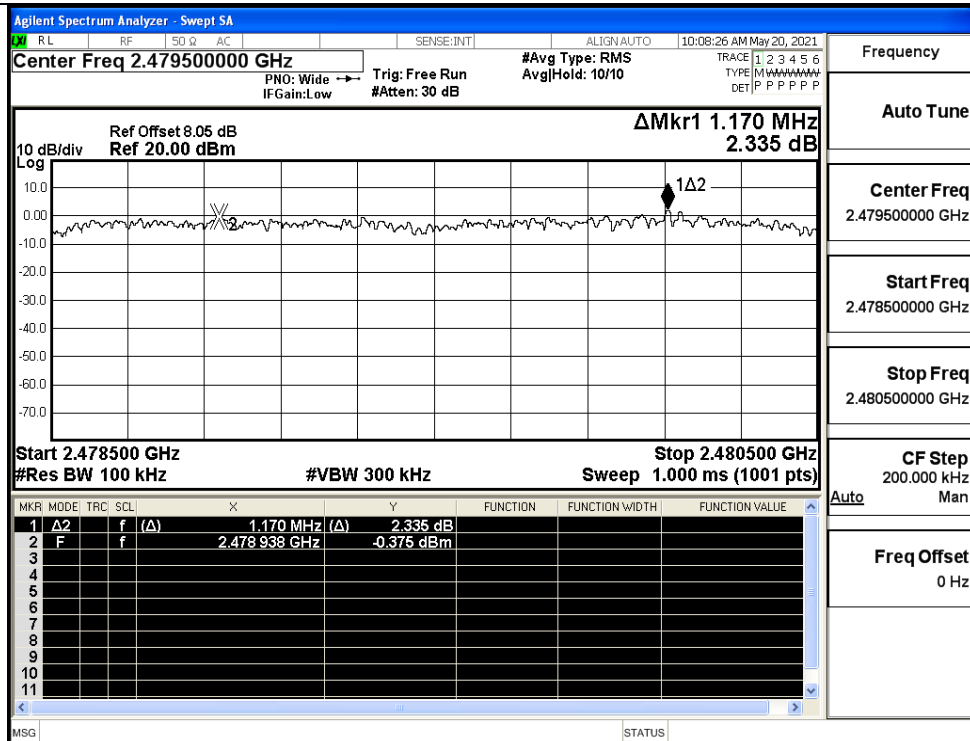
GFSK/MCH



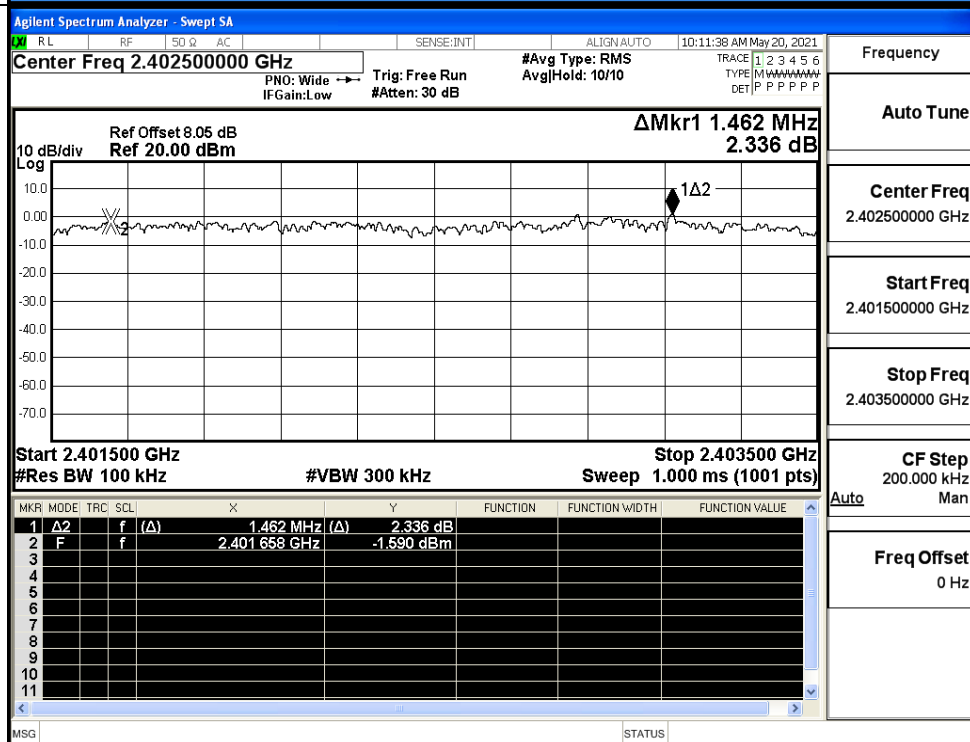
GFSK/HCH



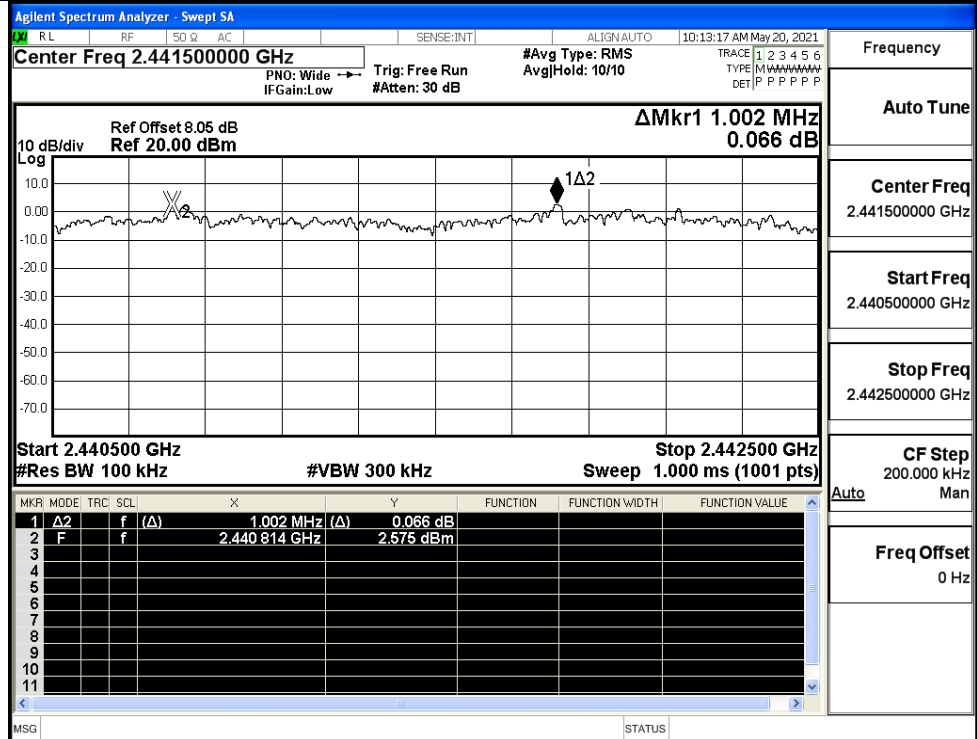
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

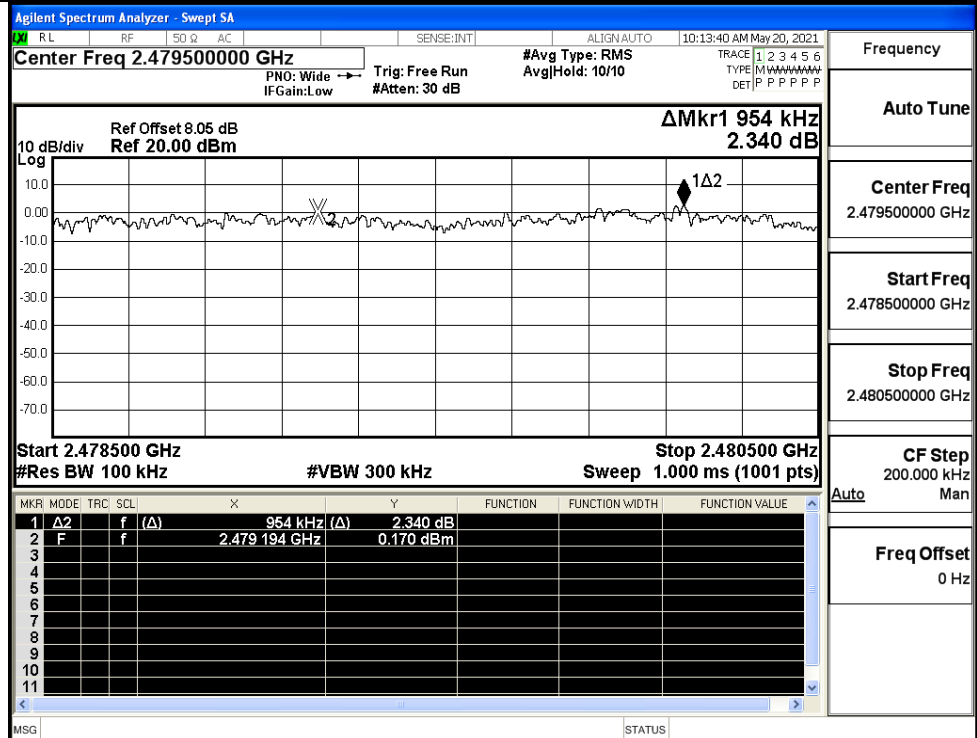
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

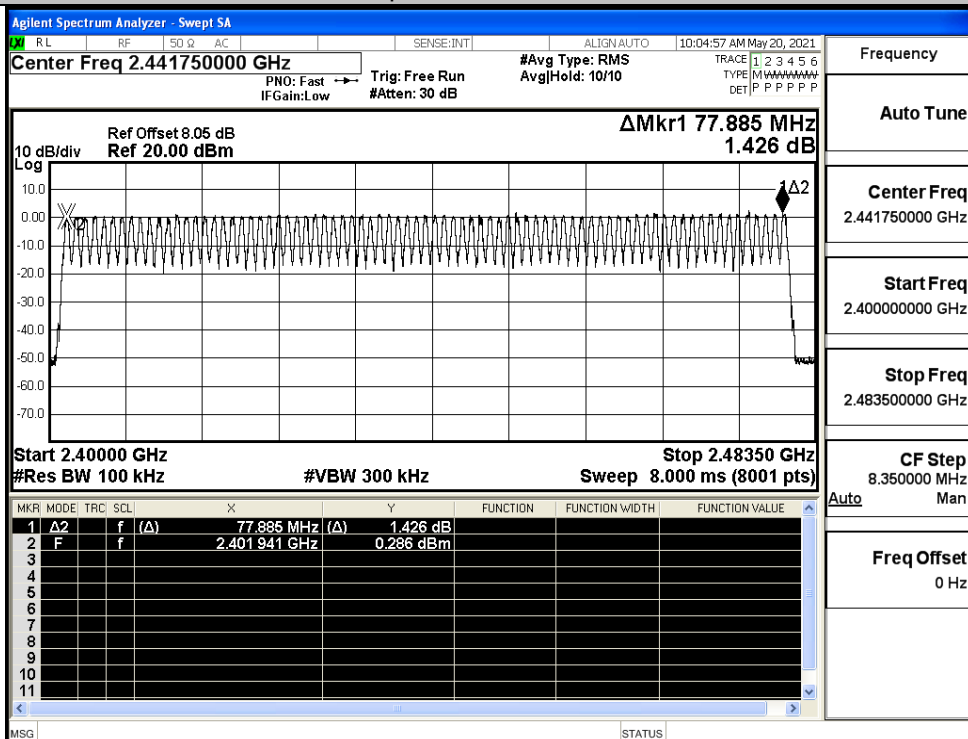
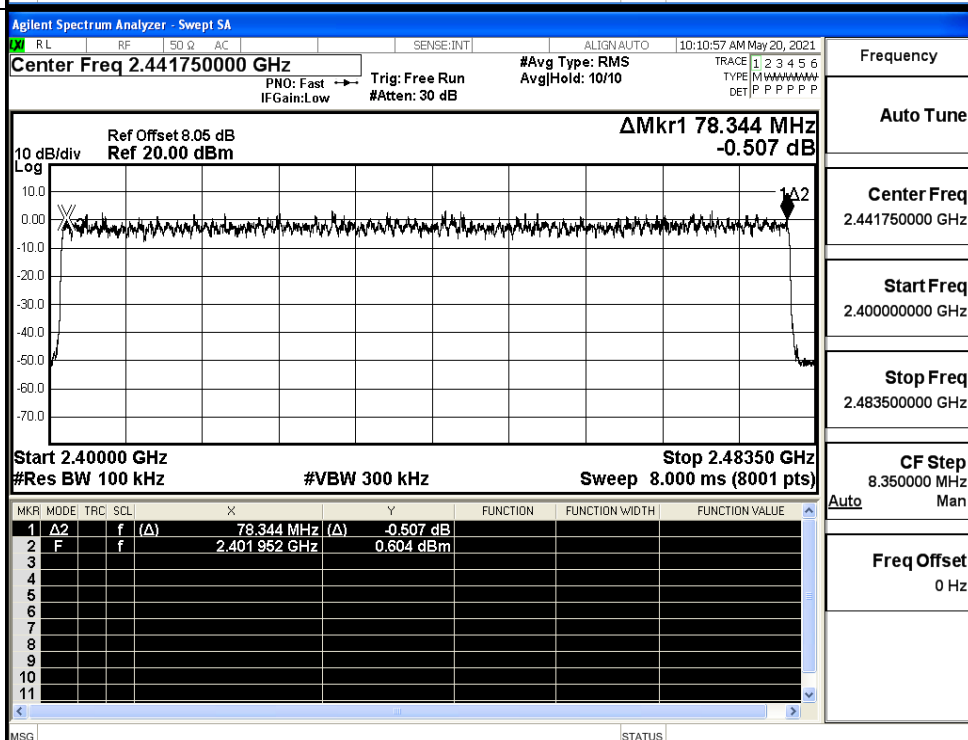


A.5 Hopping Channel Number

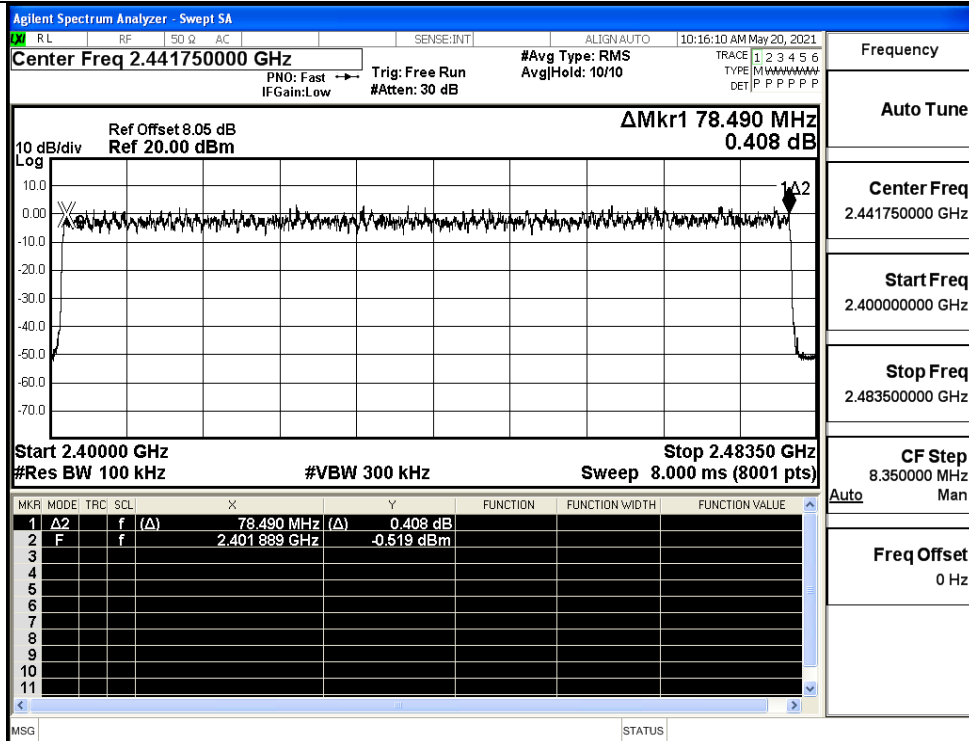
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

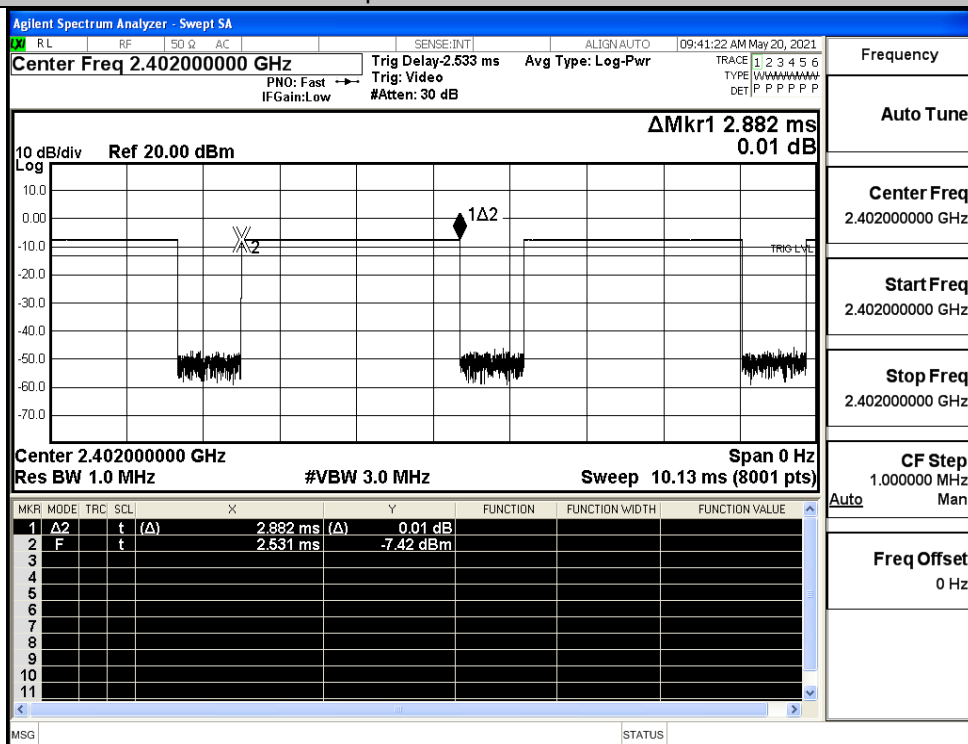


A.6 Dwell Time

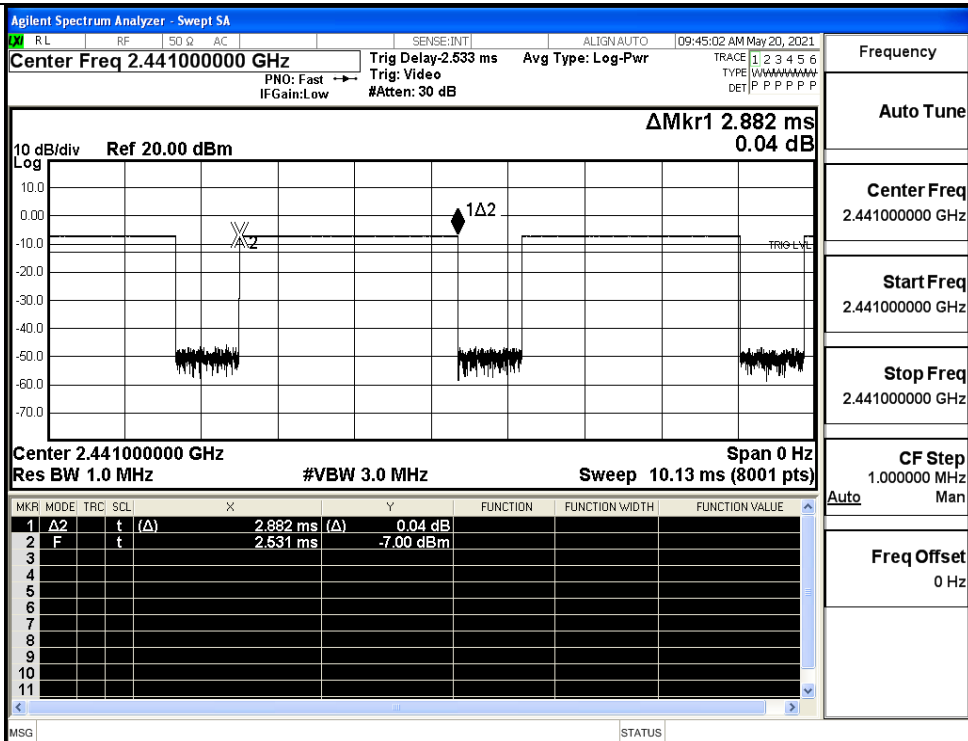
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.015	0.4	PASS
	2DH5	MCH	2.88	106.7	0.015	0.4	PASS
	2DH5	HCH	2.88	106.7	0.015	0.4	PASS
8DPSK	3DH5	LCH	2.88	106.7	0.015	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

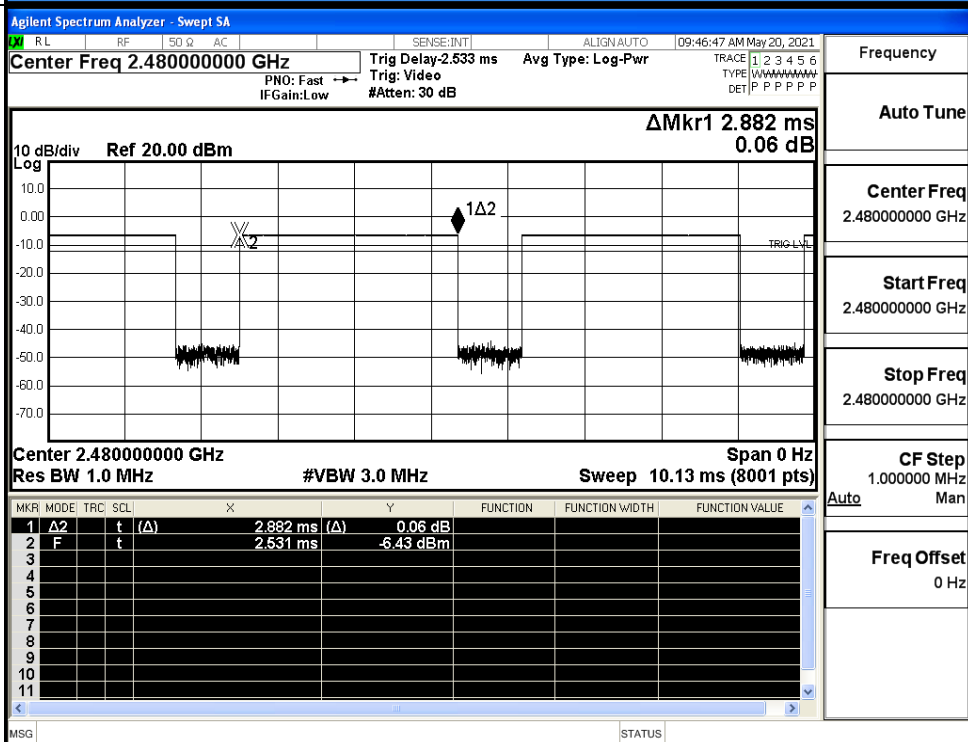
GFSK_DH5/LCH



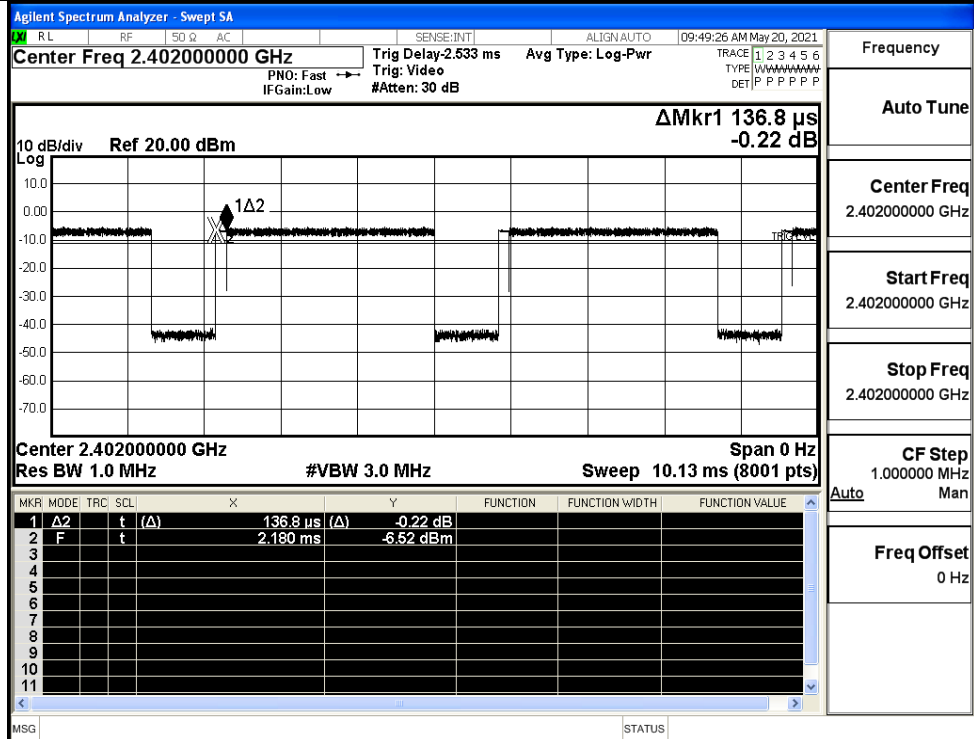
GFSK_DH5/MCH



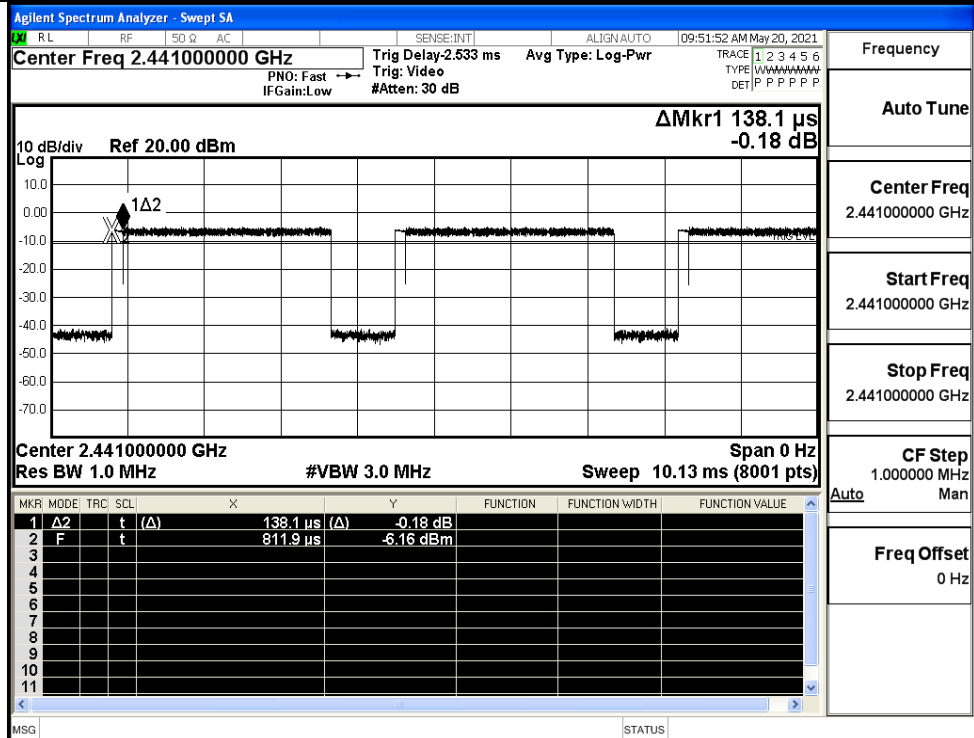
GFSK_DH5/HCH



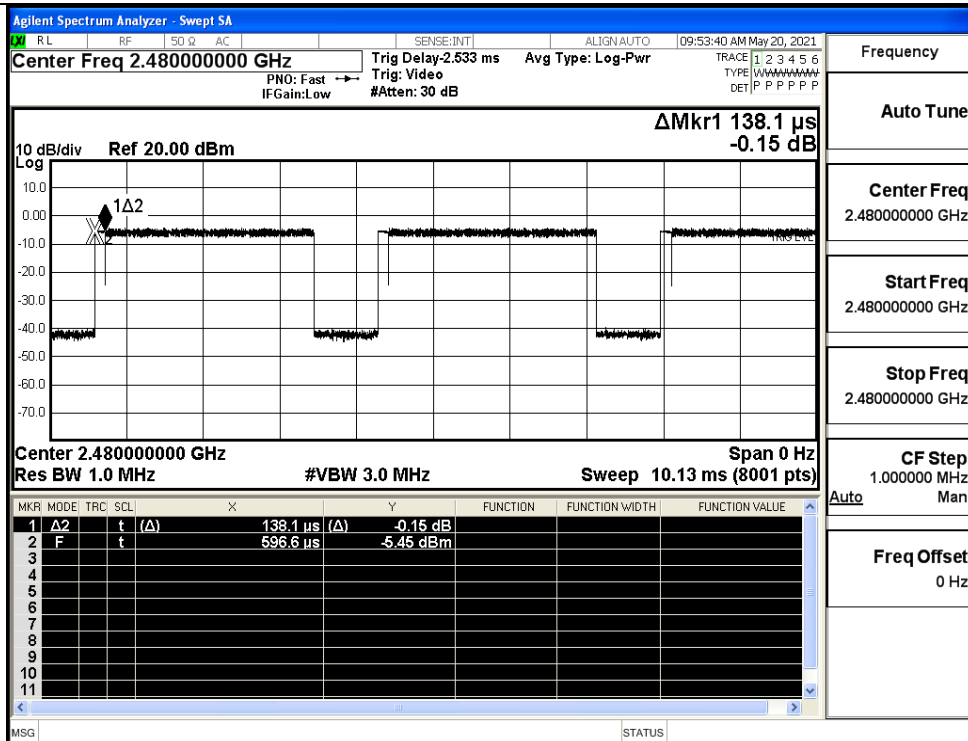
$\pi/4$ DQPSK
_2DH5/LCH



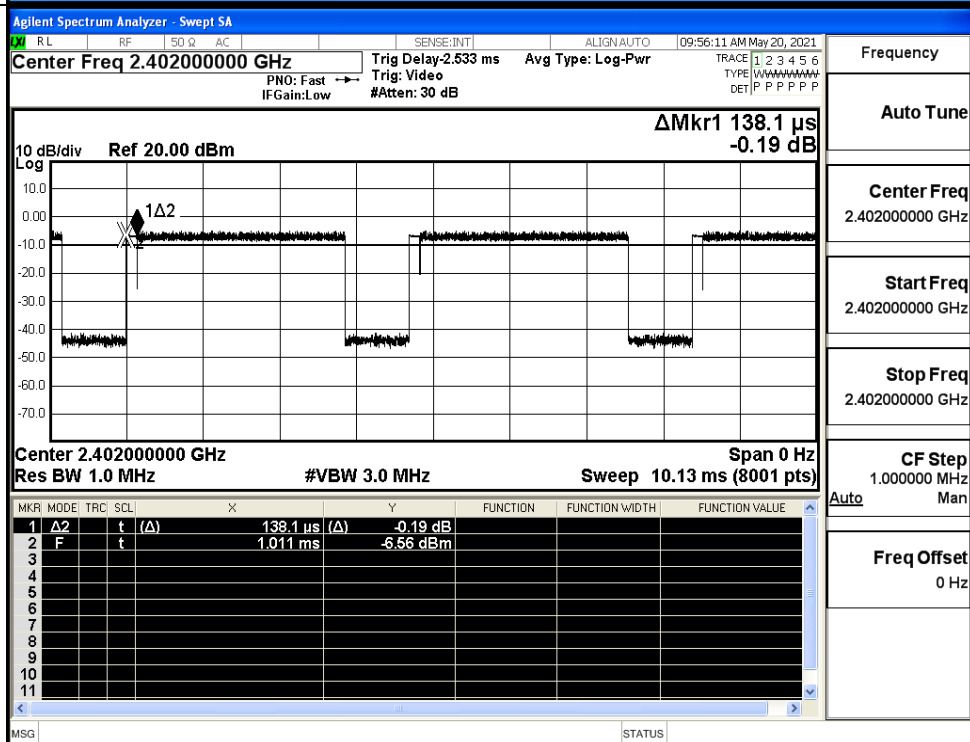
$\pi/4$ DQPSK
_2DH5/MCH



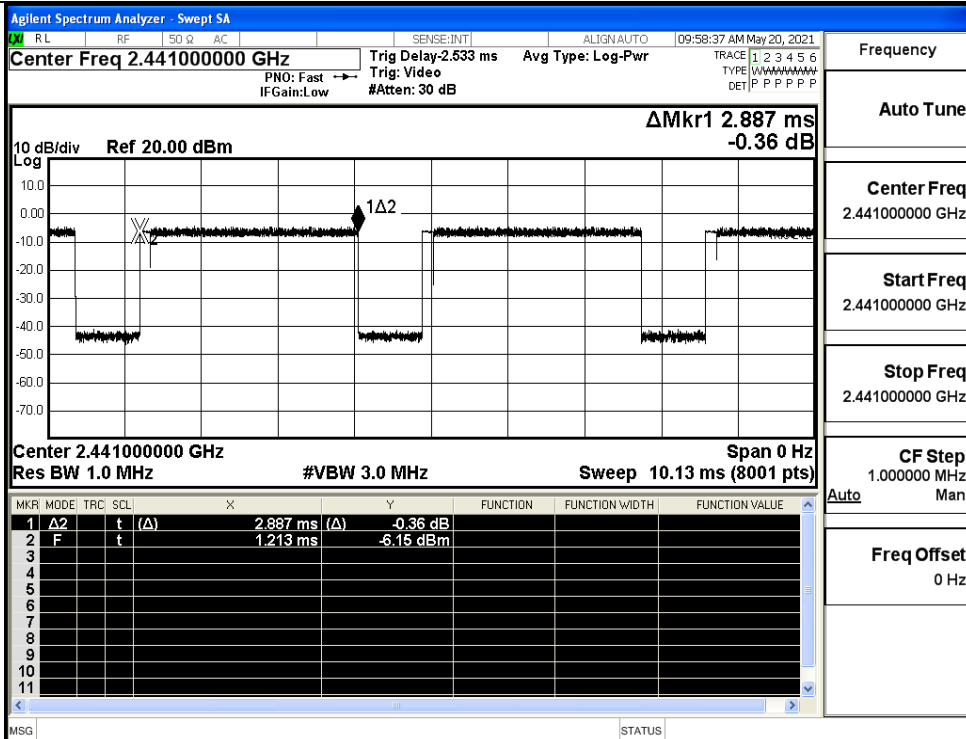
$\pi/4$ DQPSK
_2DH5/HCH



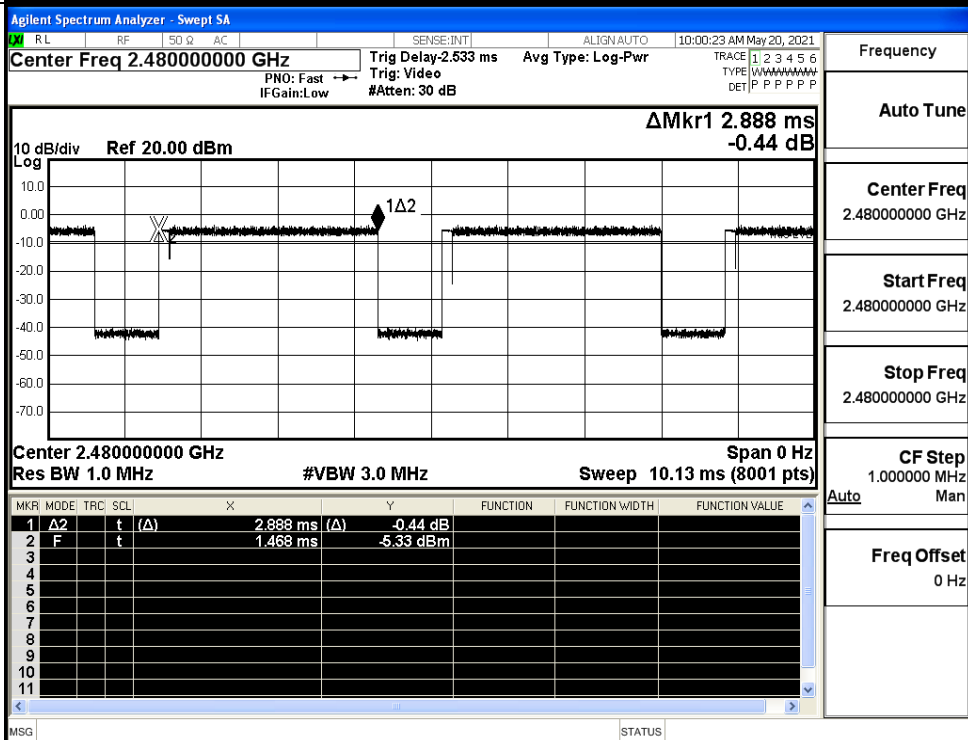
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



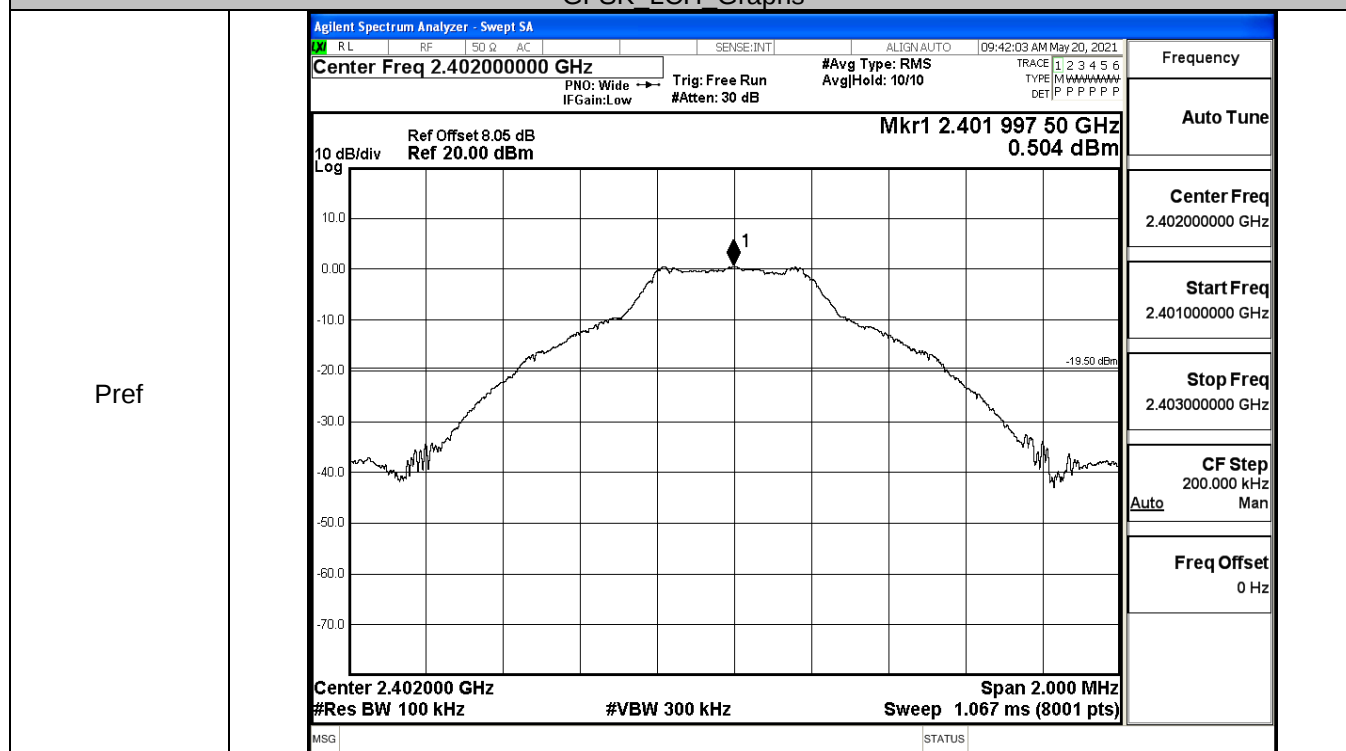
8DPSK_3DH5/HCH



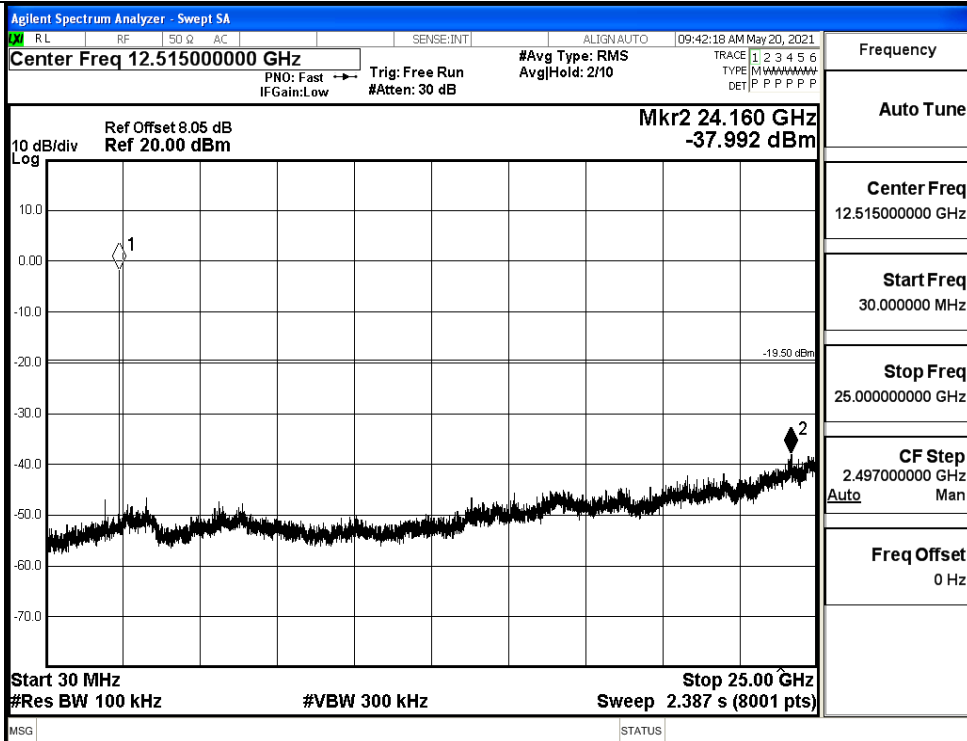
A.7 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.504	-37.992	-19.496	PASS
	MCH	1.005	-37.924	-18.995	PASS
	HCH	1.61	-38.086	-18.390	PASS
$\pi/4$ DQPSK	LCH	1.301	-37.142	-18.699	PASS
	MCH	1.738	-37.466	-18.262	PASS
	HCH	2.551	-37.123	-17.449	PASS
8DPSK	LCH	1.431	-37.853	-18.569	PASS
	MCH	1.81	-37.213	-18.190	PASS
	HCH	2.571	-37.567	-17.429	PASS

GFSK LCH Graphs

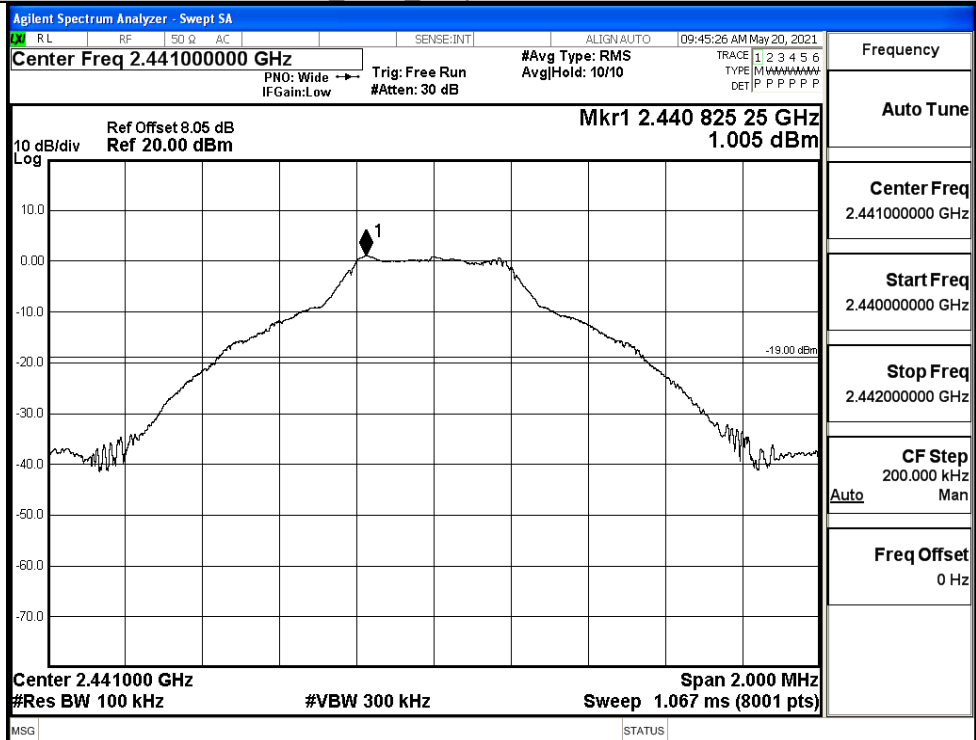


Puw

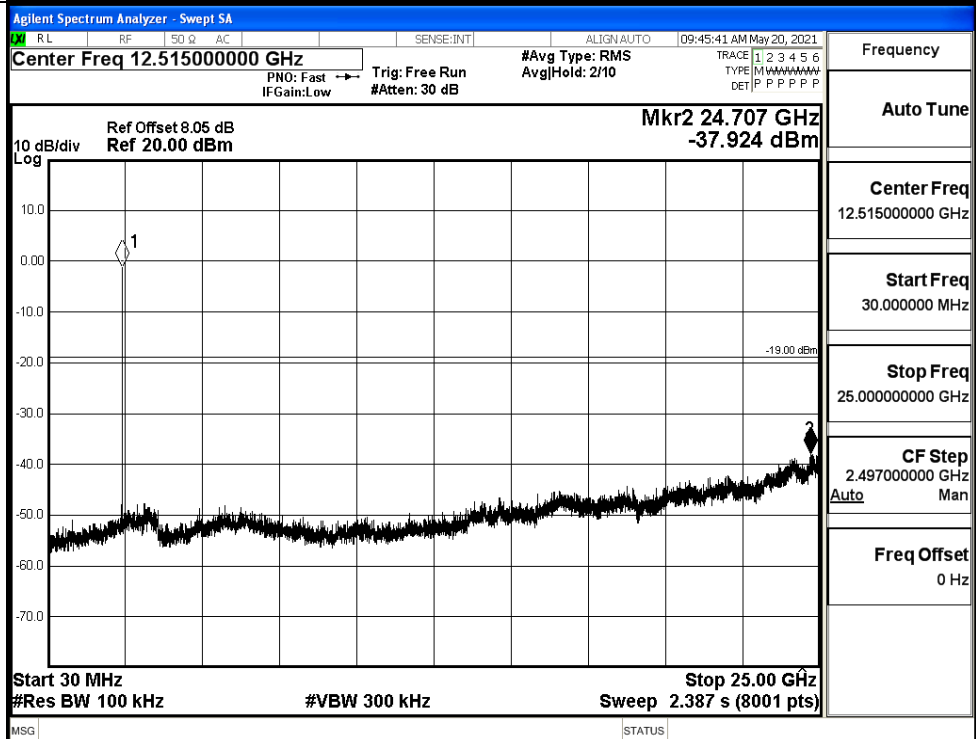


GFSK_MCH_Graphs

Pref

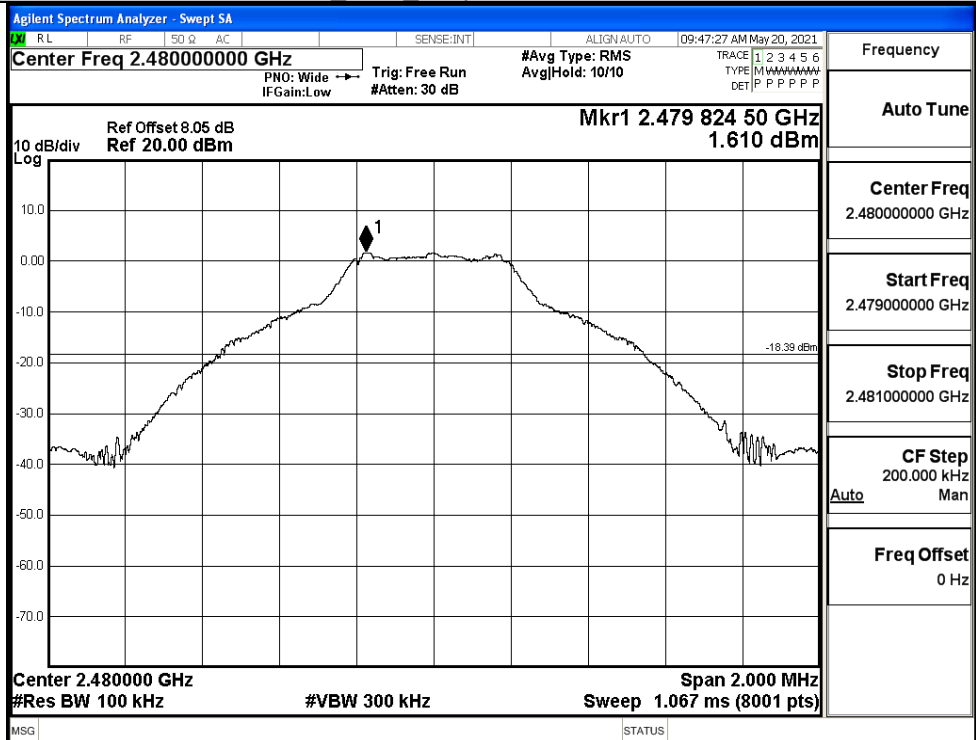


Puw

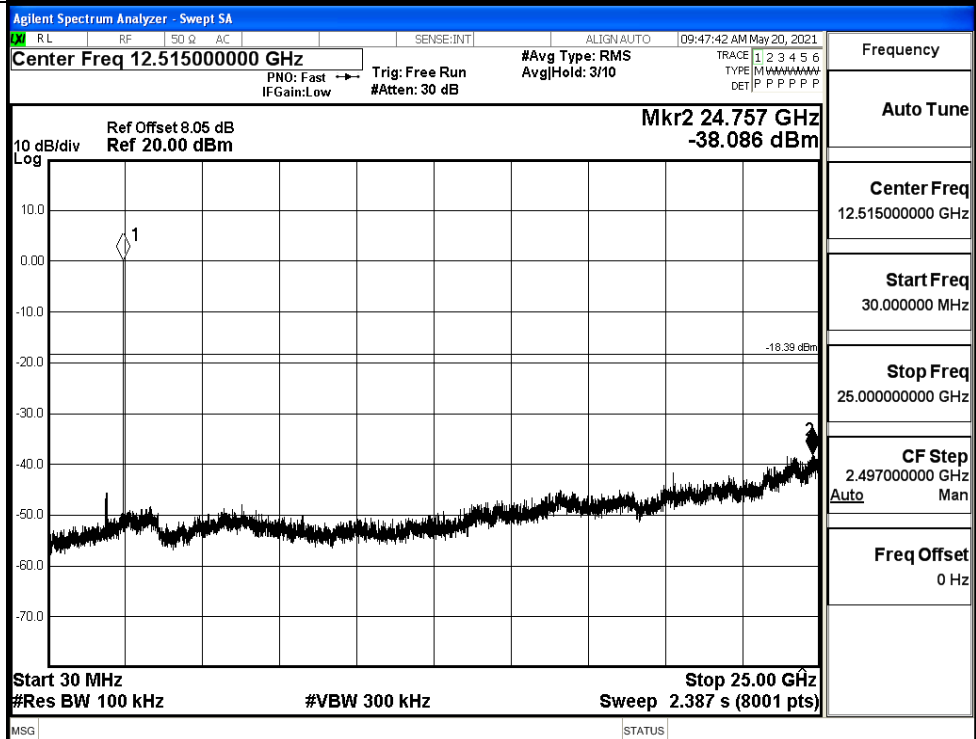


GFSK HCH Graphs

Pref

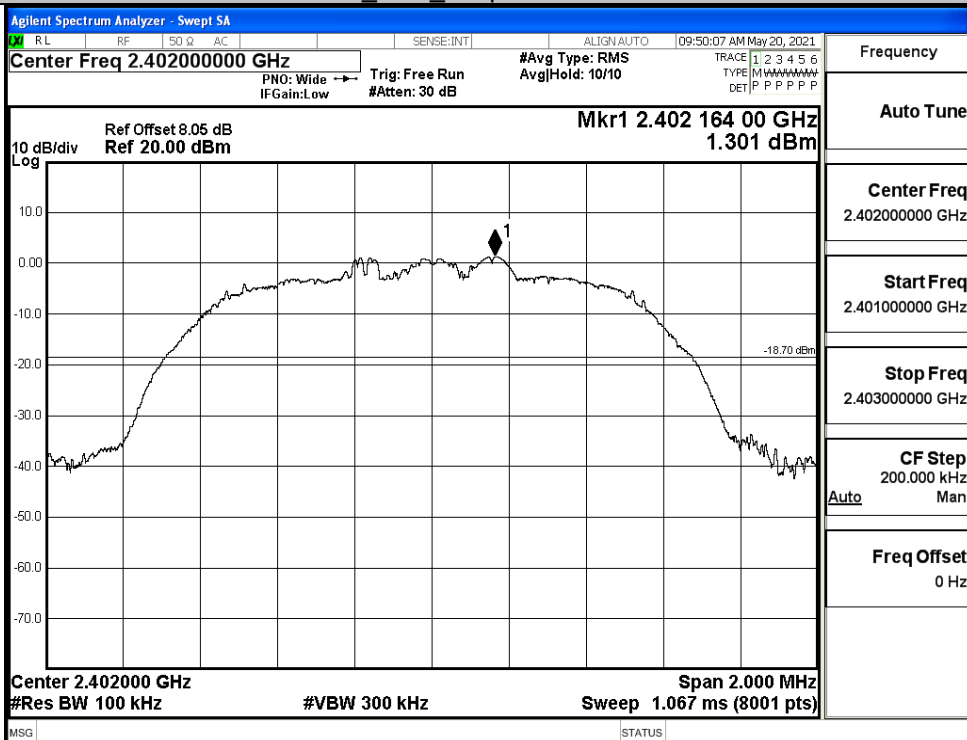


Puw

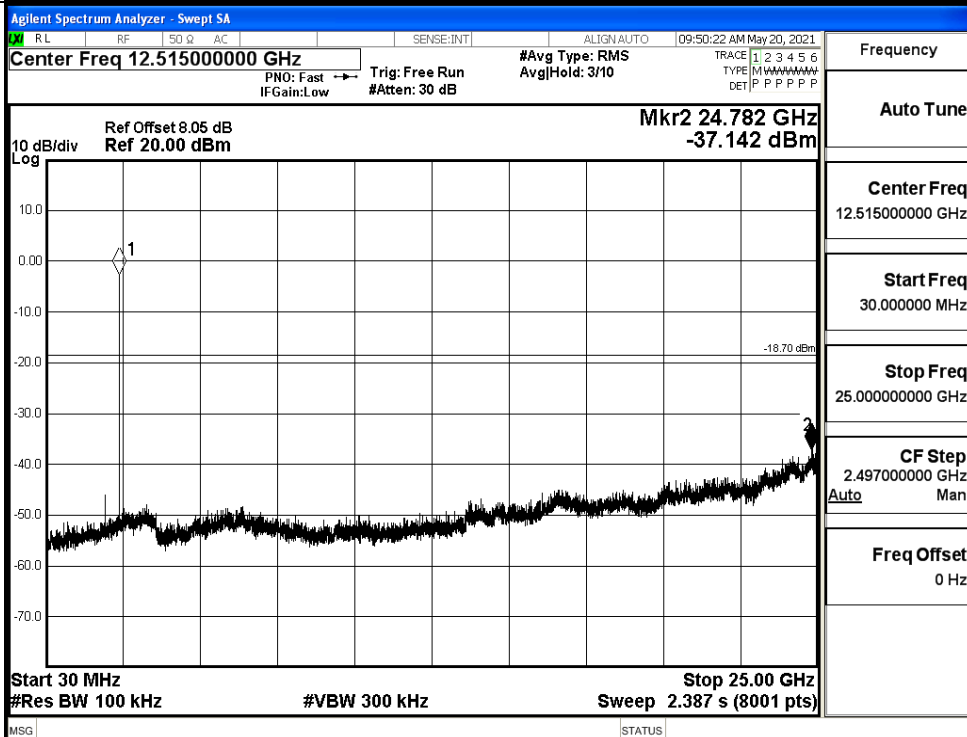


π /4DQPSK_LCH_Graphs

Pref

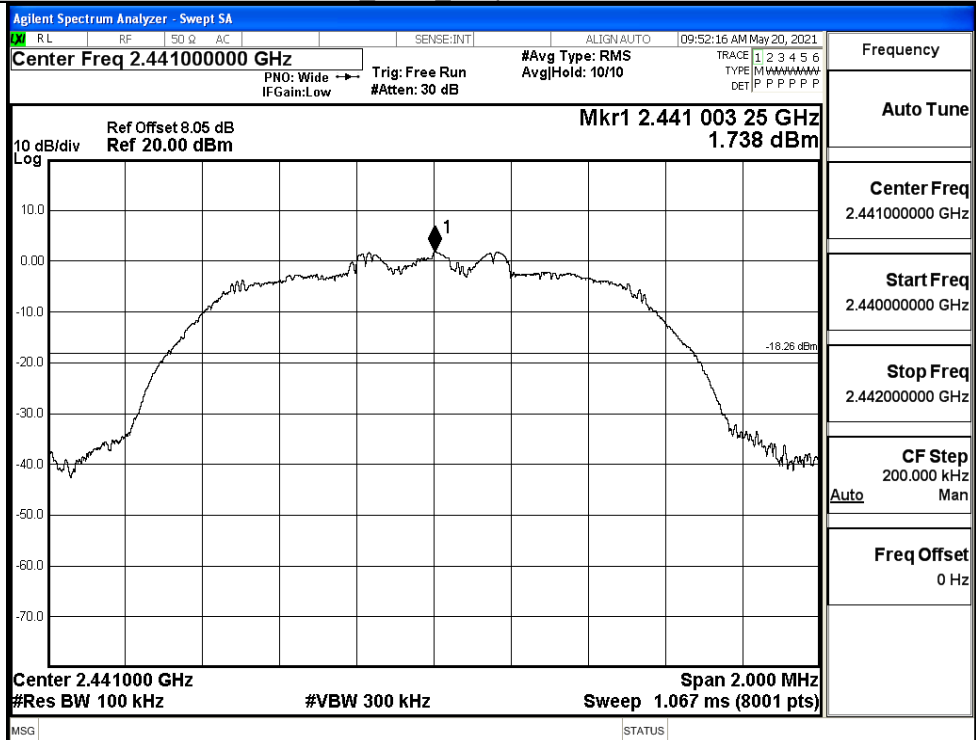


Puw

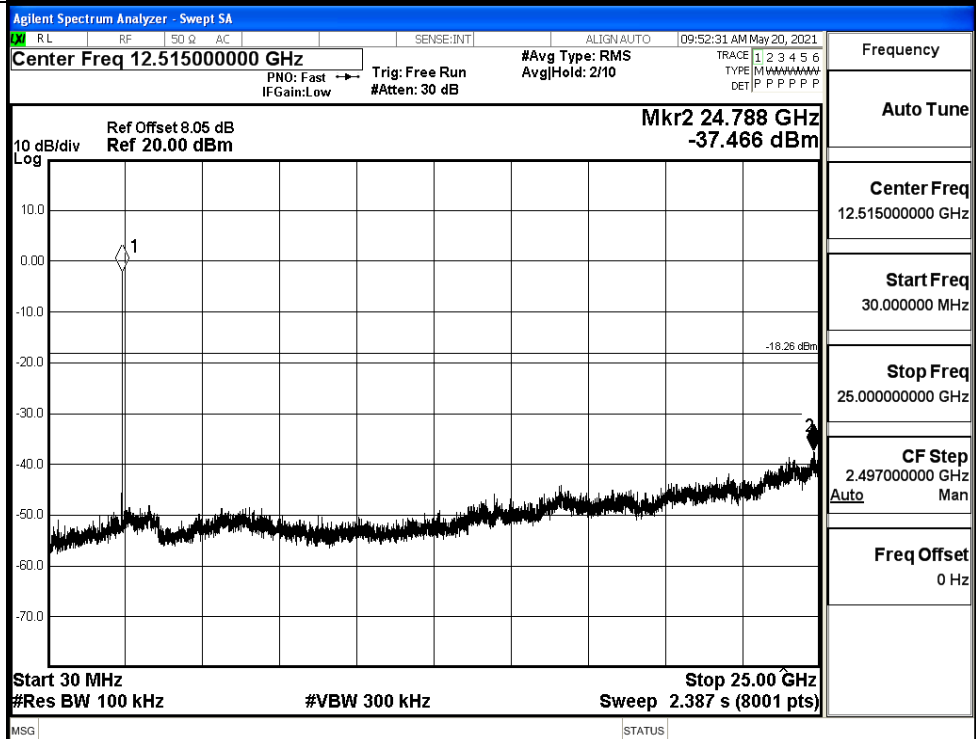


π /4DQPSK_MCH_Graphs

Pref

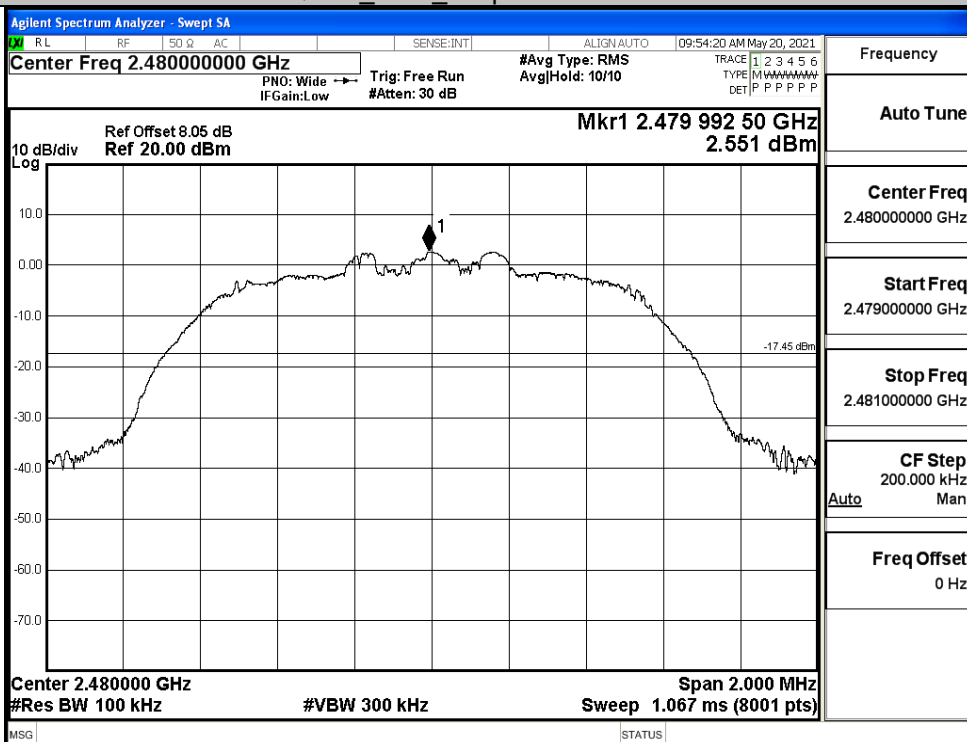


Puw

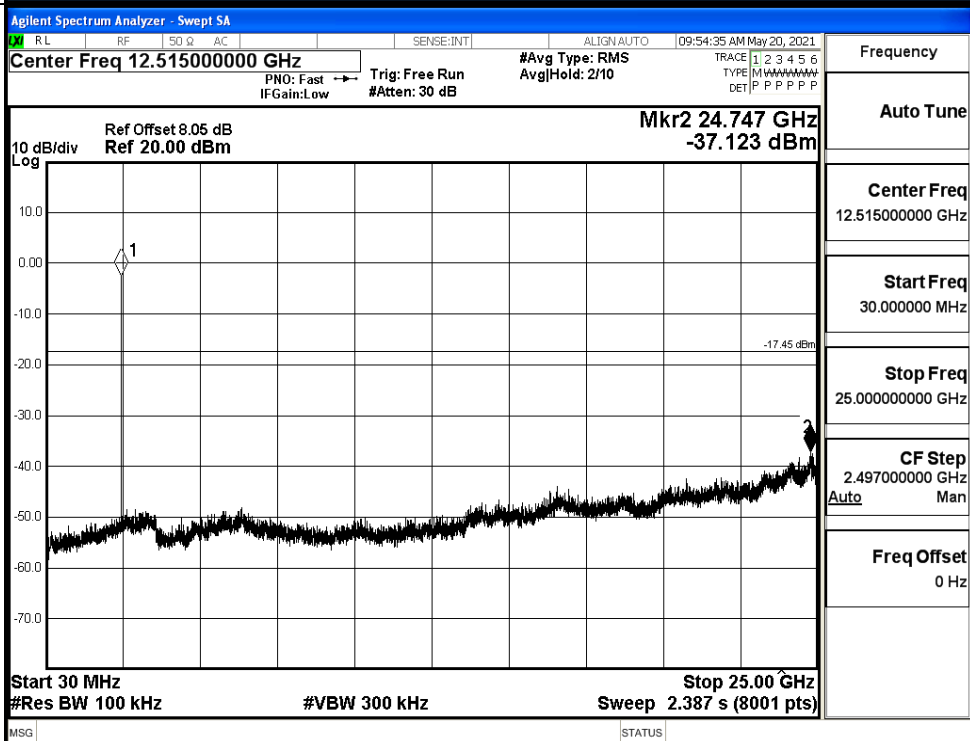


π /4DQPSK_HCH_Graphs

Pref

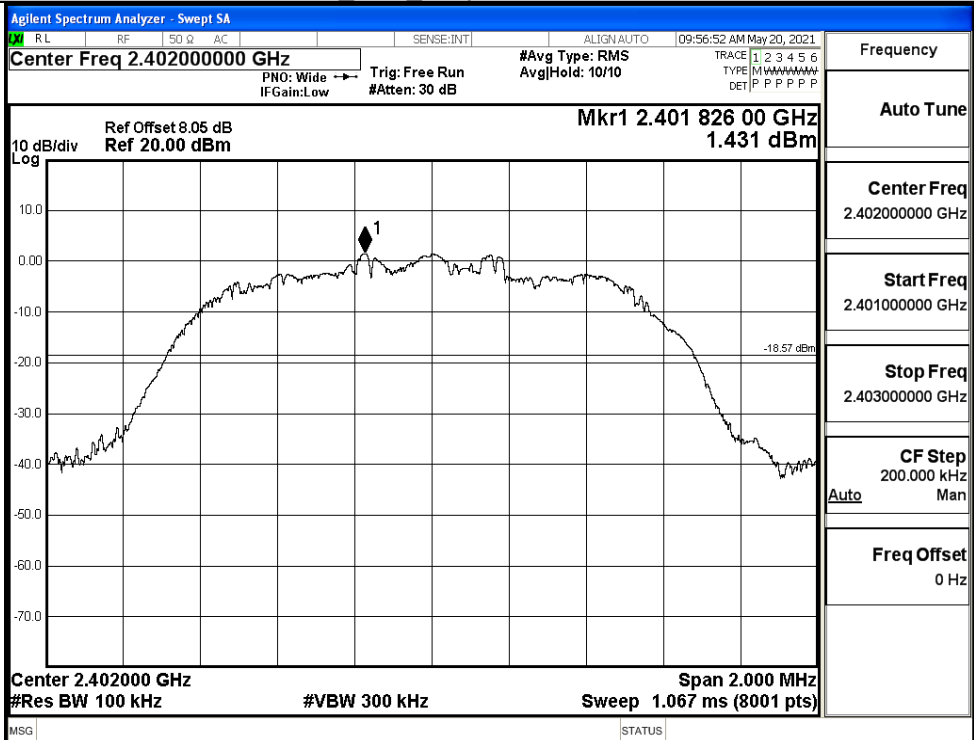


Puw

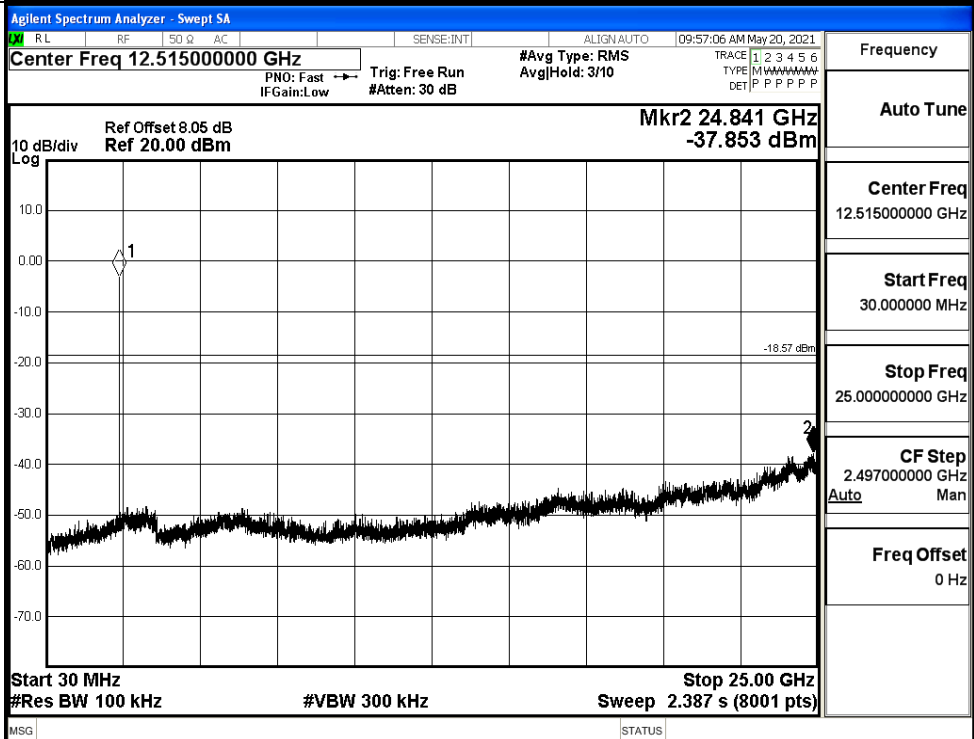


8DPSK_LCH_Graphs

Pref

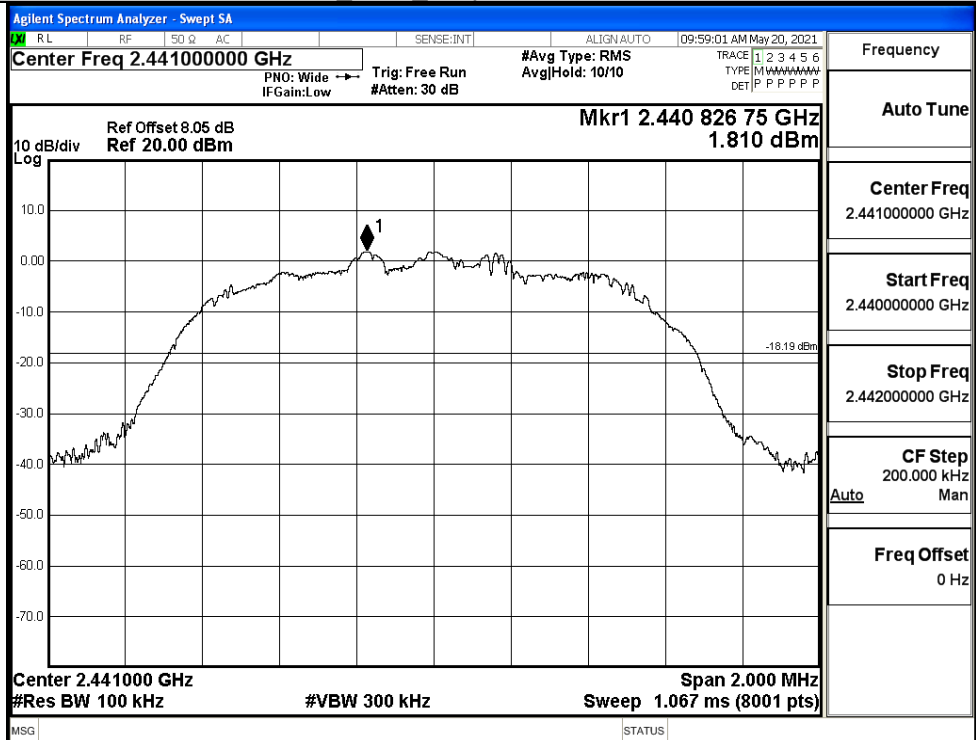


Puw

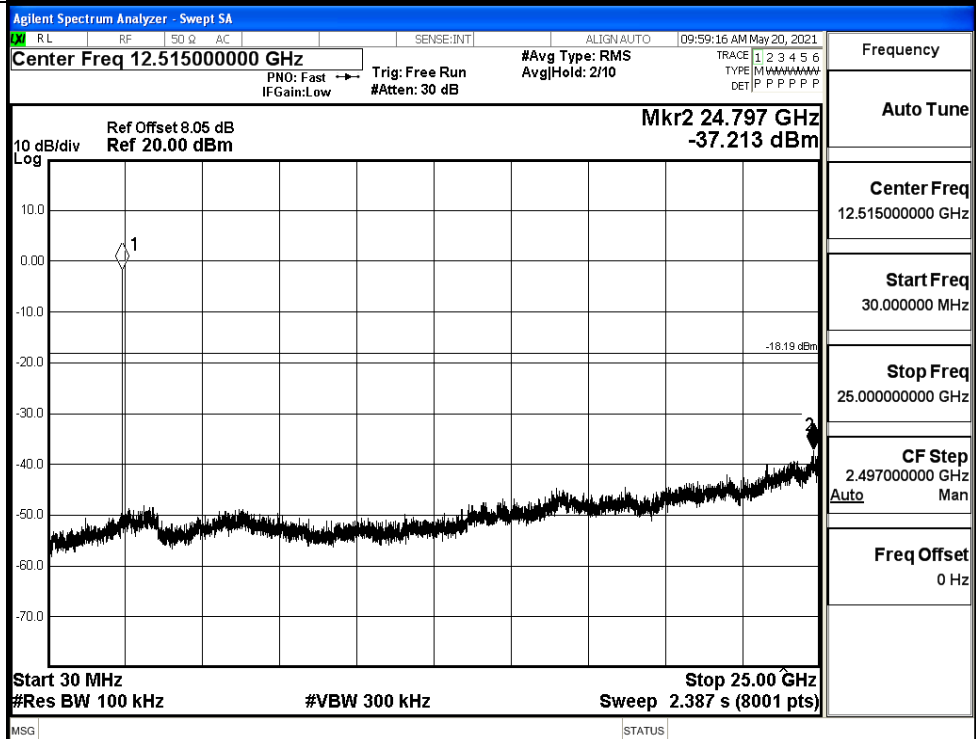


8DPSK_MCH_Graphs

Pref

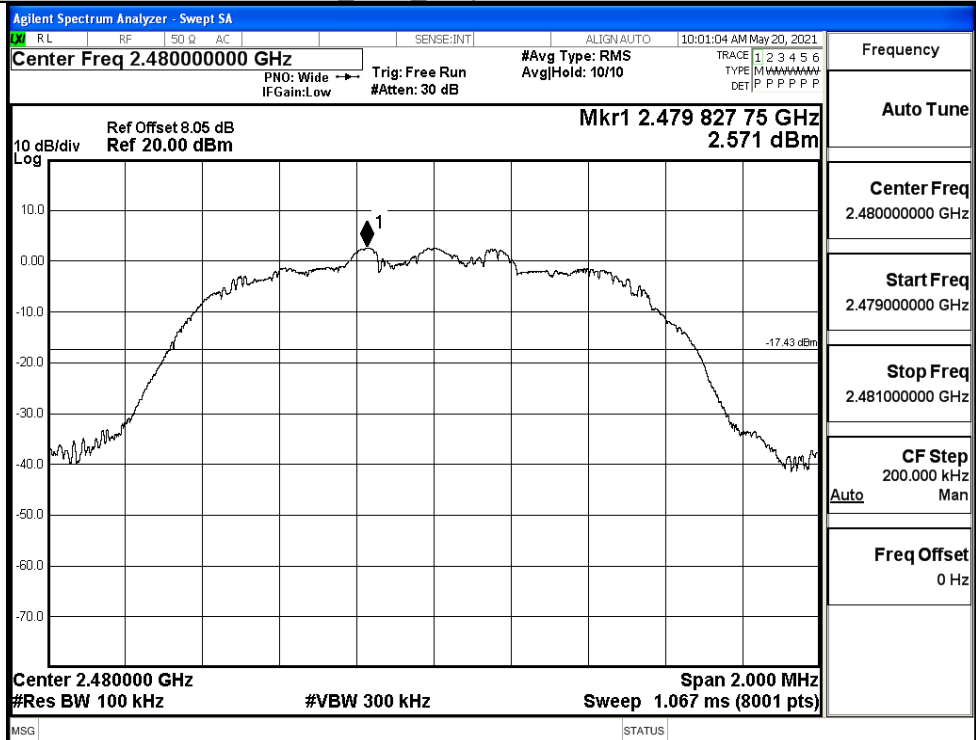


Puw

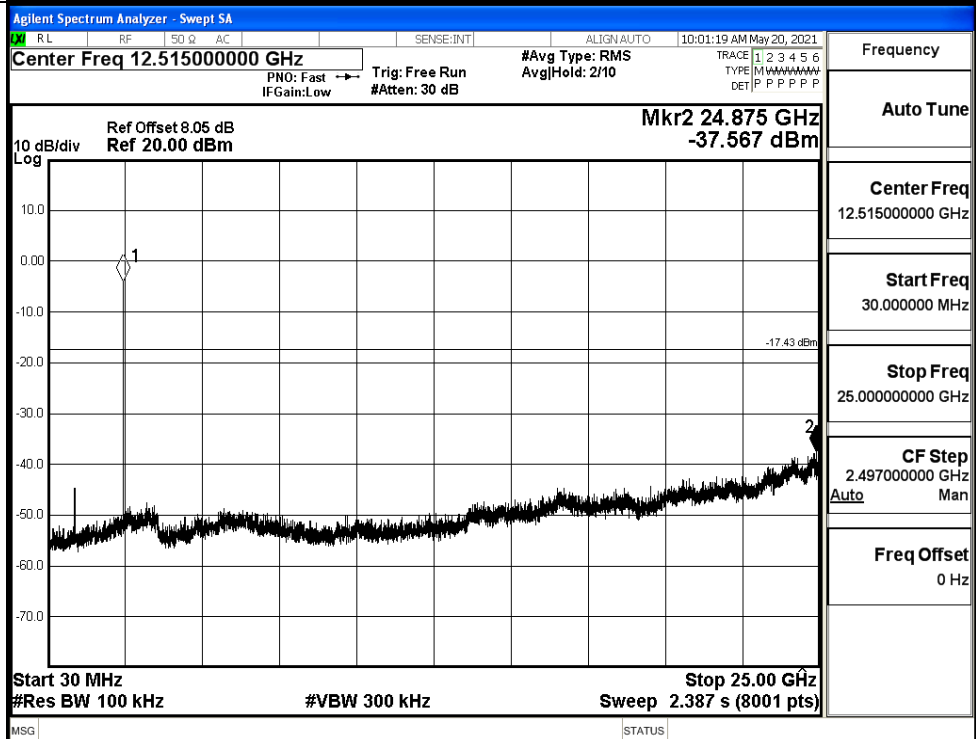


8DPSK_HCH_Graphs

Pref



Puw

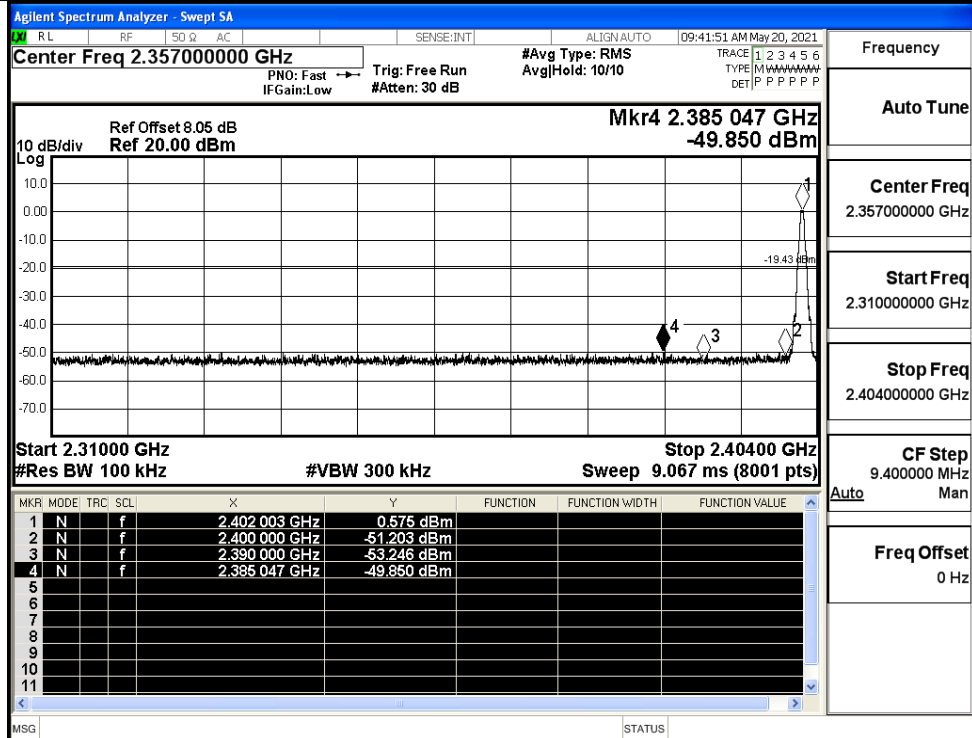


A.8 Band-edge for RF Conducted Emissions

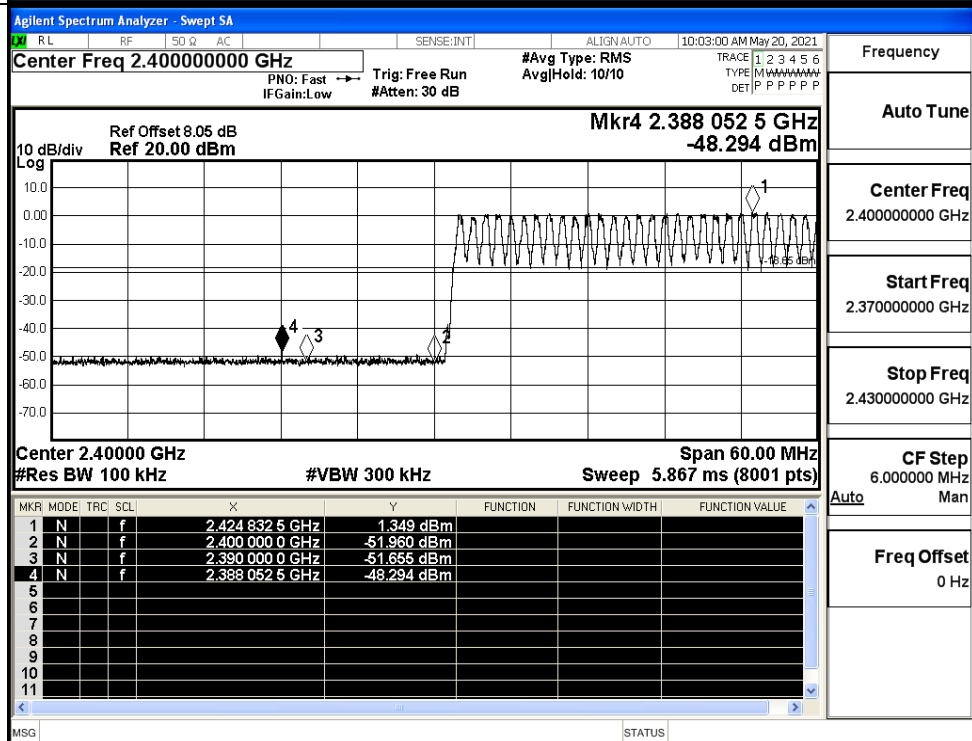
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.575	Off	-49.850	-19.43	PASS
			1.349	On	-48.294	-18.65	PASS
	HCH	2480	1.652	Off	-49.525	-18.35	PASS
			1.551	On	-49.163	-18.45	PASS
$\pi/4$ DQPSK	LCH	2402	1.365	Off	-49.269	-18.64	PASS
			2.623	On	-48.870	-17.38	PASS
	HCH	2480	2.570	Off	-48.803	-17.43	PASS
			3.853	On	-48.840	-16.15	PASS
8DPSK	LCH	2402	1.423	Off	-49.503	-18.58	PASS
			3.054	On	-49.020	-16.95	PASS
	HCH	2480	2.584	Off	-48.655	-17.42	PASS
			2.943	On	-48.516	-17.06	PASS

Test Graphs

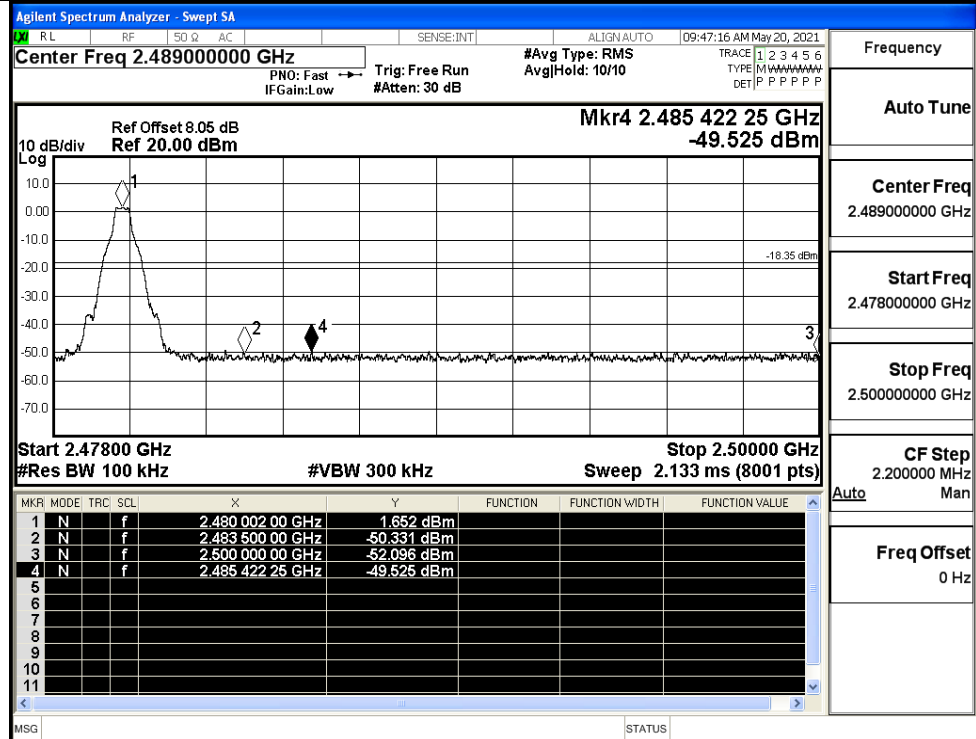
GFSK/LCH/No Hop



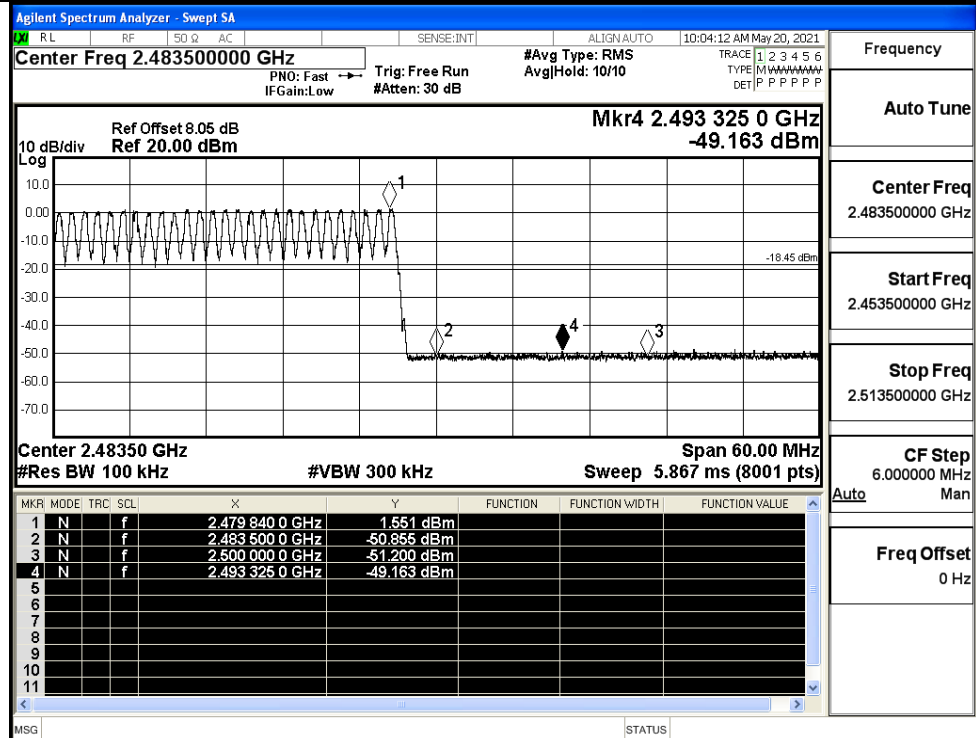
GFSK/LCH/Hop



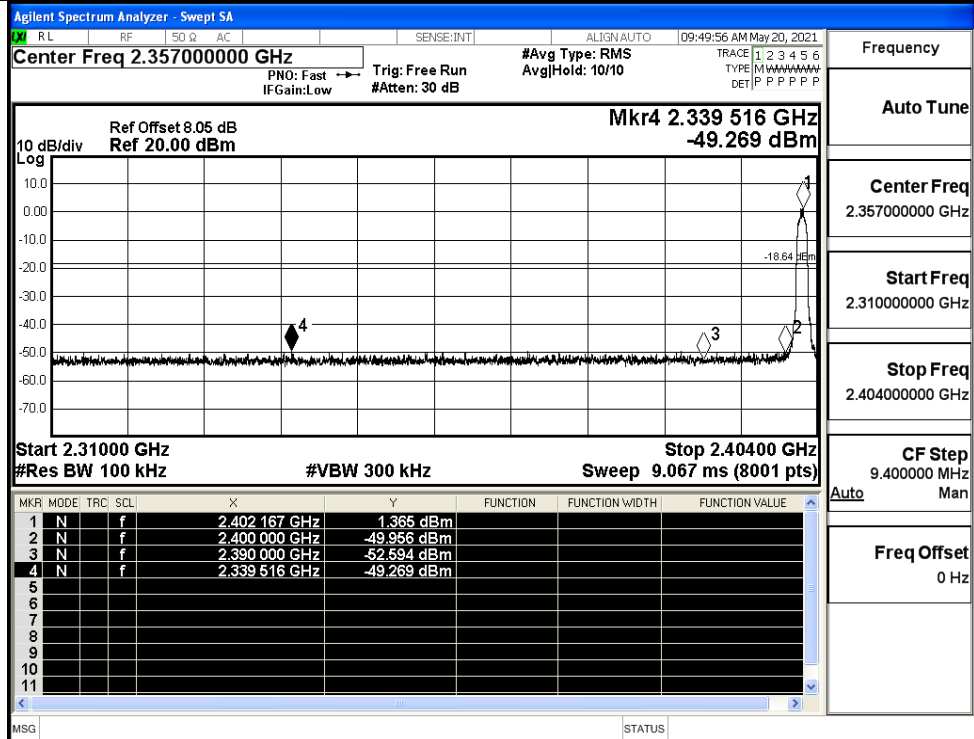
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq
2.357000000 GHz

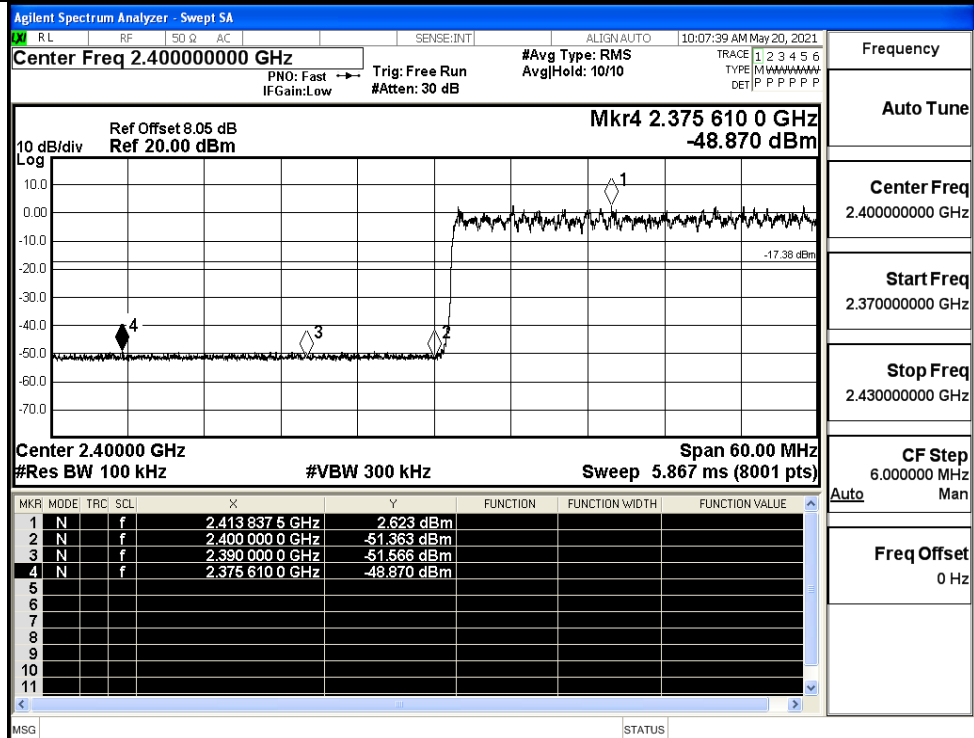
Start Freq
2.310000000 GHz

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

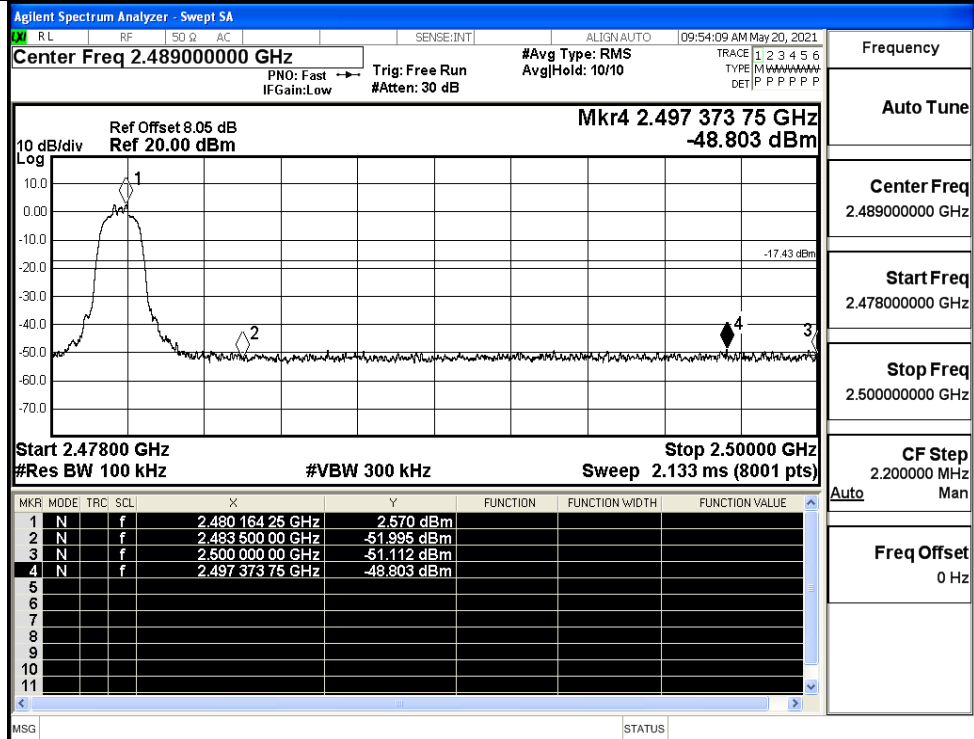
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

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

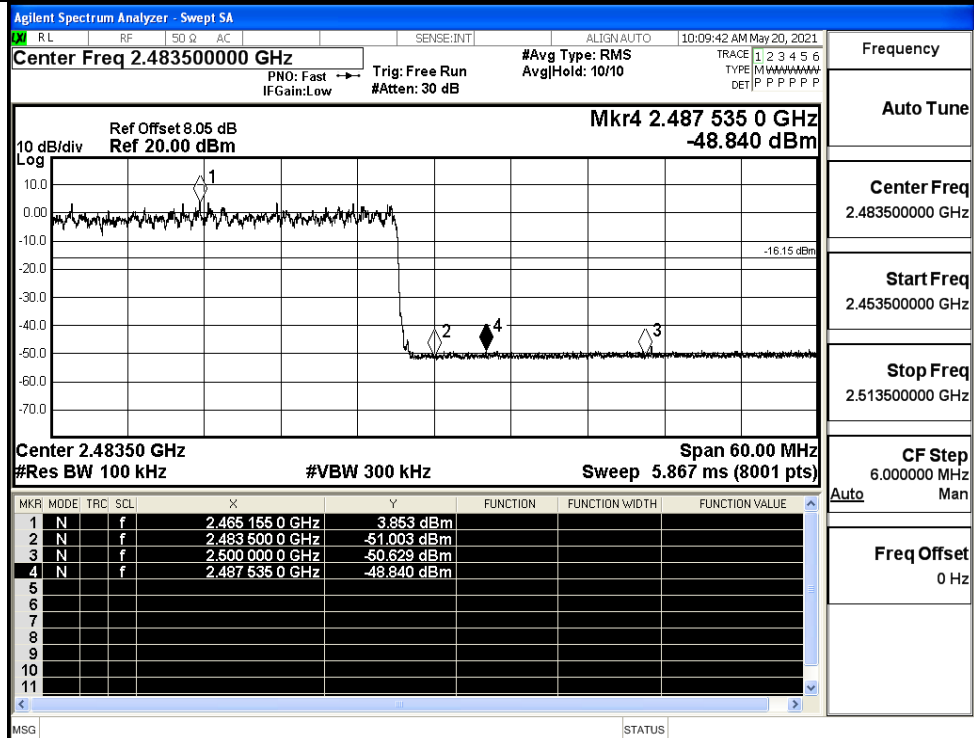


Frequency

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

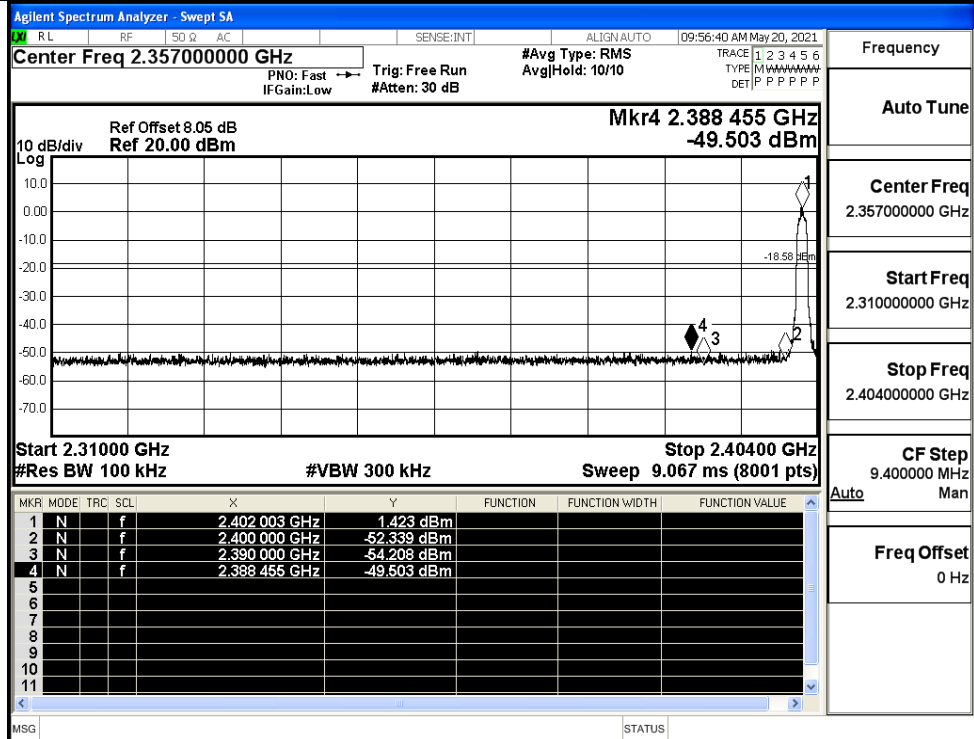


Frequency

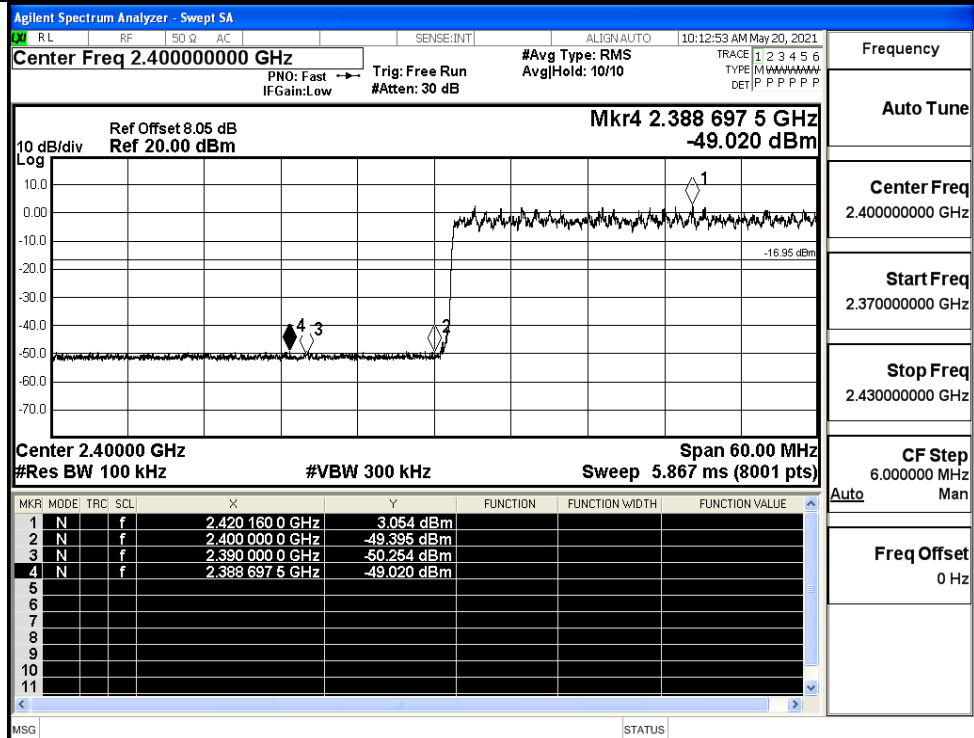
Auto Tune

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

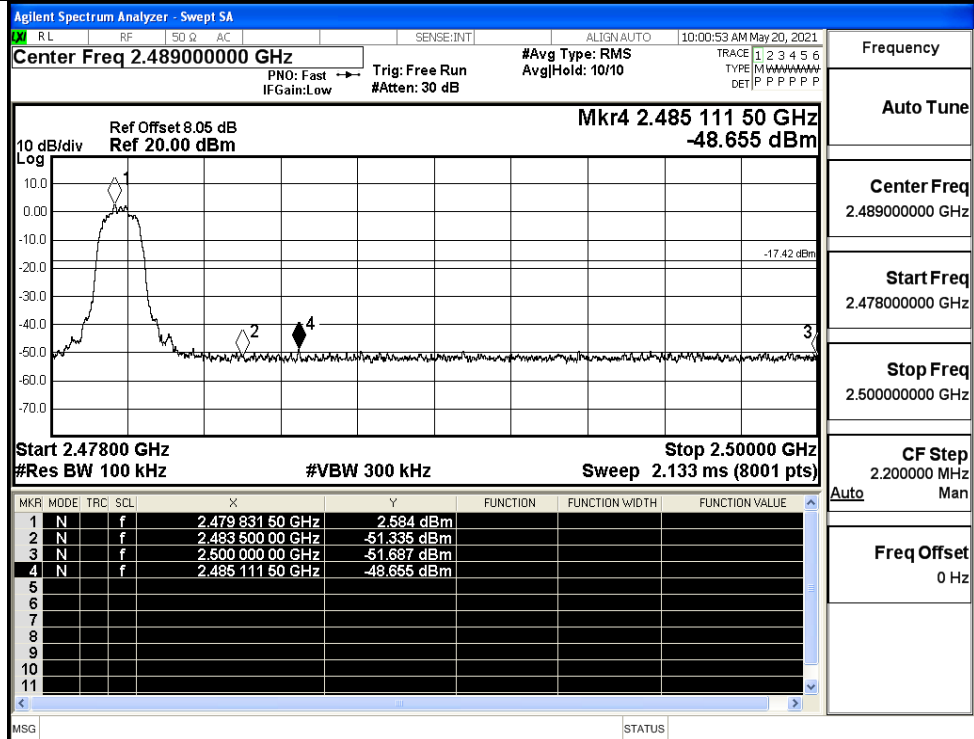
8DPSK/LCH/No Hop



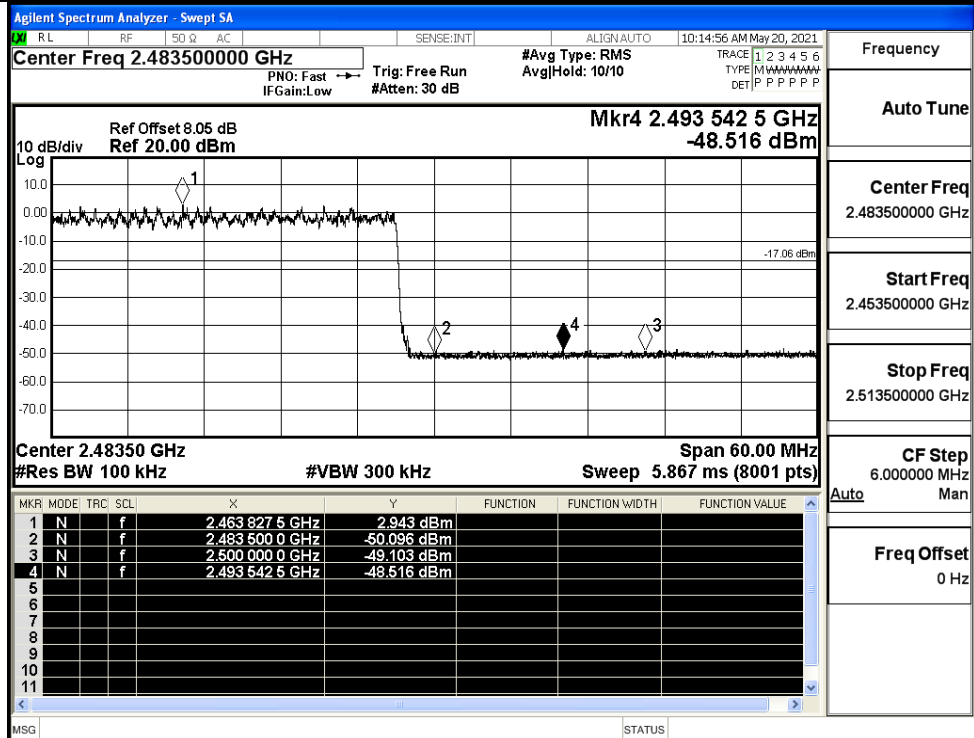
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



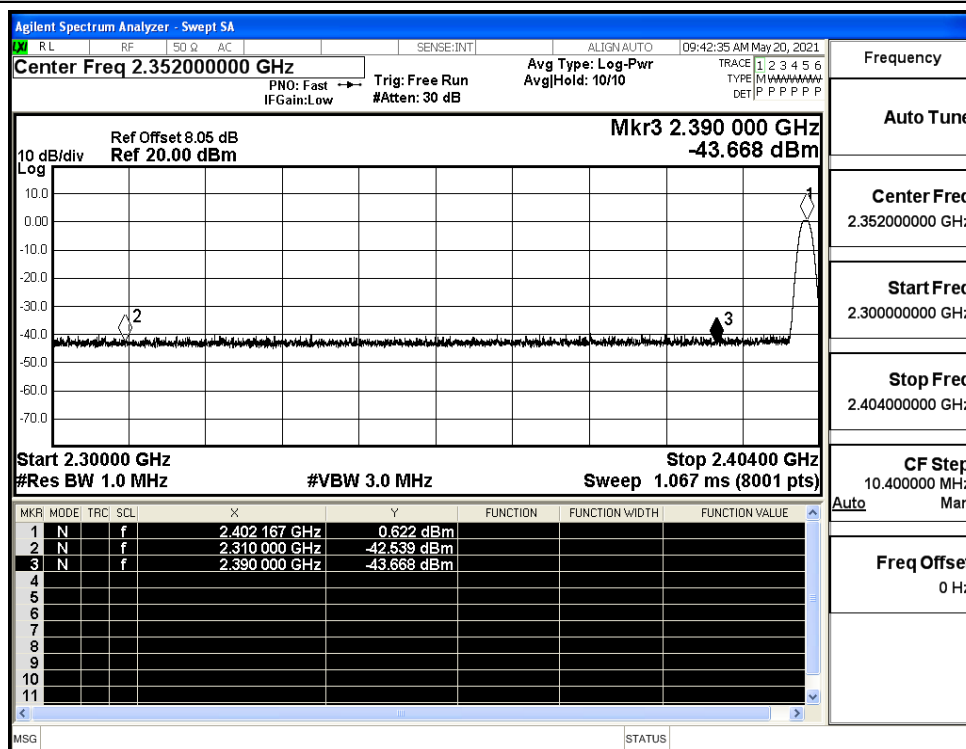
8DPSK/HCH/Hop



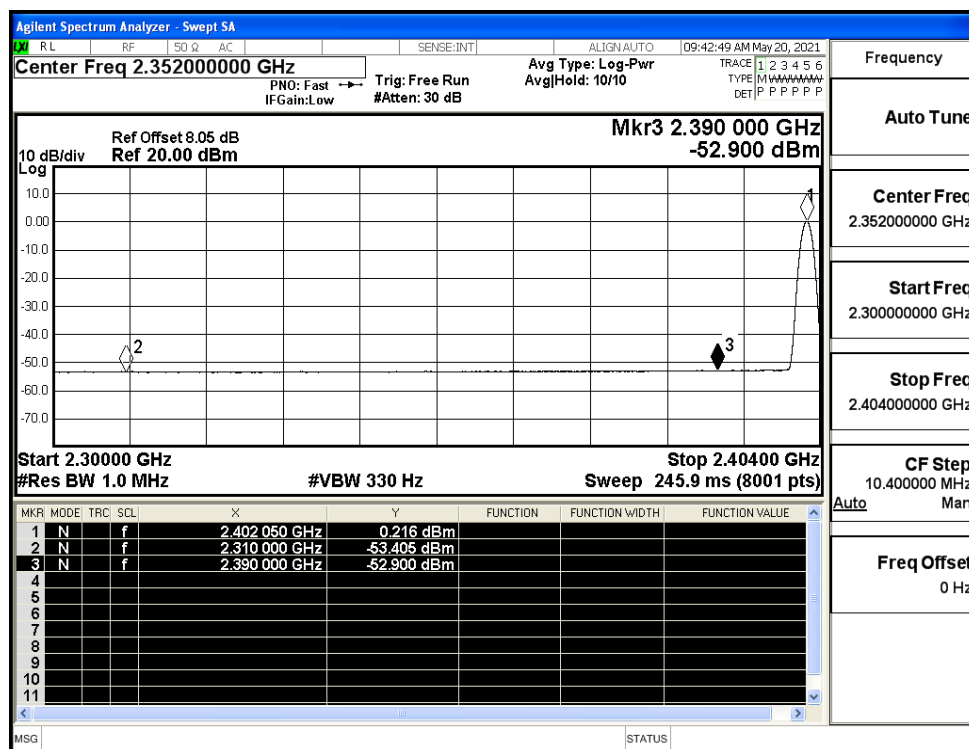
A.9 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.54	2.0	0	52.72	PEAK	74	PASS
	Off	2310.0	-53.41	2.0	0	41.85	AV	54	PASS
	Off	2390.0	-43.67	2.0	0	51.59	PEAK	74	PASS
	Off	2390.0	-52.90	2.0	0	42.36	AV	54	PASS
	Off	2483.5	-42.62	2.0	0	52.64	PEAK	74	PASS
	Off	2483.5	-52.42	2.0	0	42.84	AV	54	PASS
	Off	2500.0	-43.09	2.0	0	52.17	PEAK	74	PASS
	Off	2500.0	-52.28	2.0	0	42.98	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.09	2.0	0	52.17	PEAK	74	PASS
	Off	2310.0	-53.27	2.0	0	41.99	AV	54	PASS
	Off	2390.0	-42.45	2.0	0	52.81	PEAK	74	PASS
	Off	2390.0	-52.96	2.0	0	42.29	AV	54	PASS
	Off	2483.5	-40.77	2.0	0	54.49	PEAK	74	PASS
	Off	2483.5	-52.31	2.0	0	42.95	AV	54	PASS
	Off	2500.0	-42.57	2.0	0	52.69	PEAK	74	PASS
	Off	2500.0	-52.23	2.0	0	43.03	AV	54	PASS
8DPSK	Off	2310.0	-43.08	2.0	0	52.18	PEAK	74	PASS
	Off	2310.0	-53.36	2.0	0	41.90	AV	54	PASS
	Off	2390.0	-42.11	2.0	0	53.15	PEAK	74	PASS
	Off	2390.0	-52.94	2.0	0	42.32	AV	54	PASS
	Off	2483.5	-42.11	2.0	0	53.15	PEAK	74	PASS
	Off	2483.5	-52.31	2.0	0	42.95	AV	54	PASS
	Off	2500.0	-41.48	2.0	0	53.78	PEAK	74	PASS
	Off	2500.0	-52.20	2.0	0	43.05	AV	54	PASS

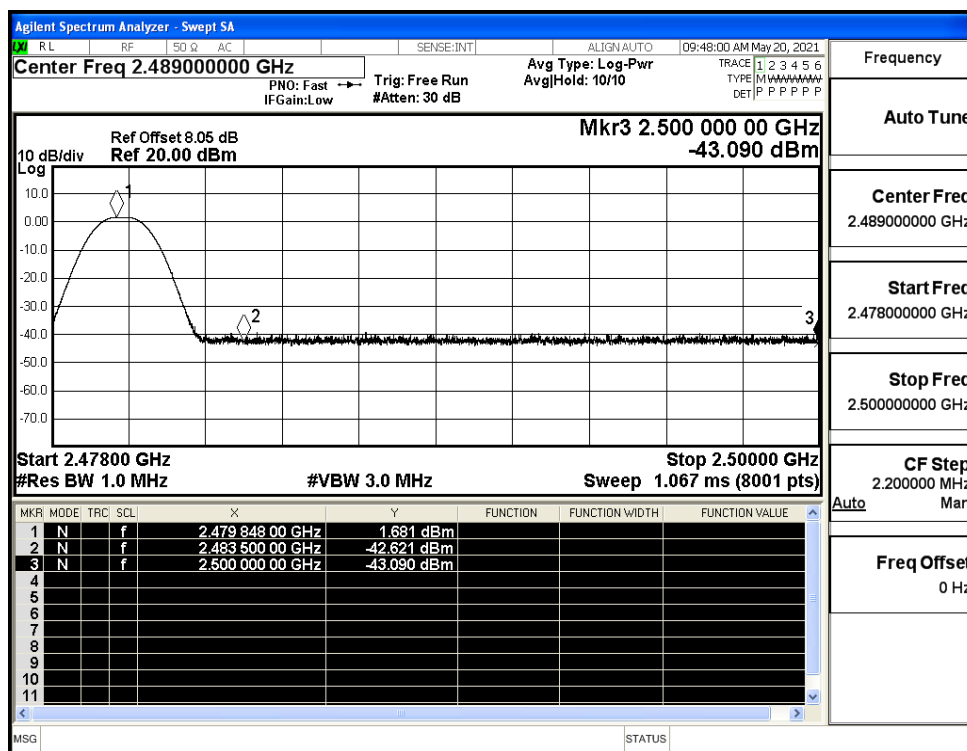
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



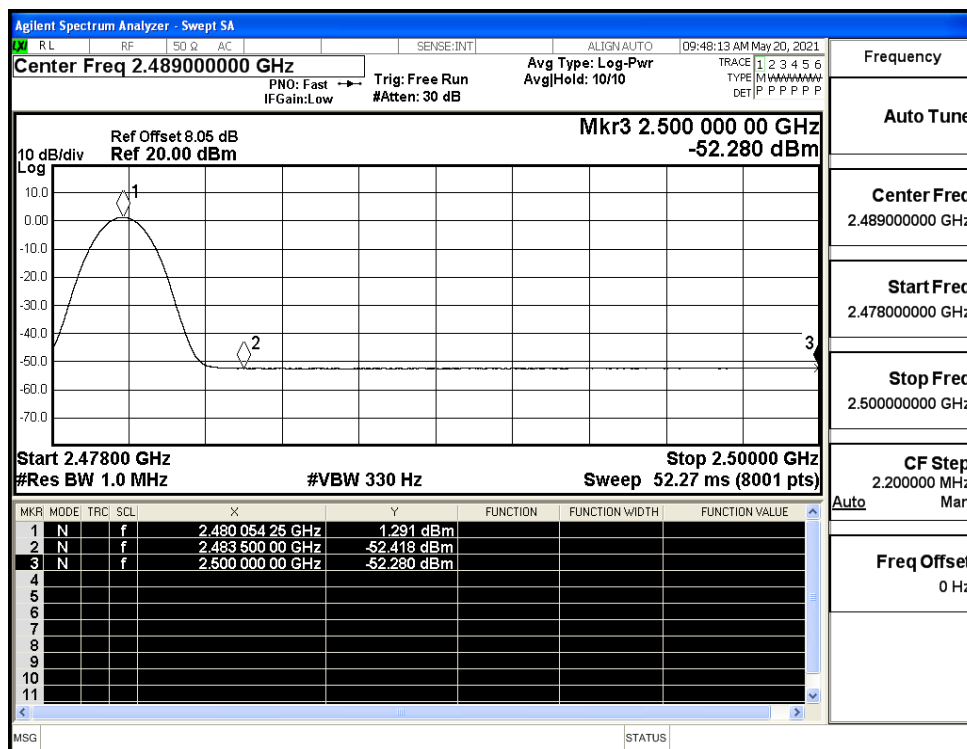
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

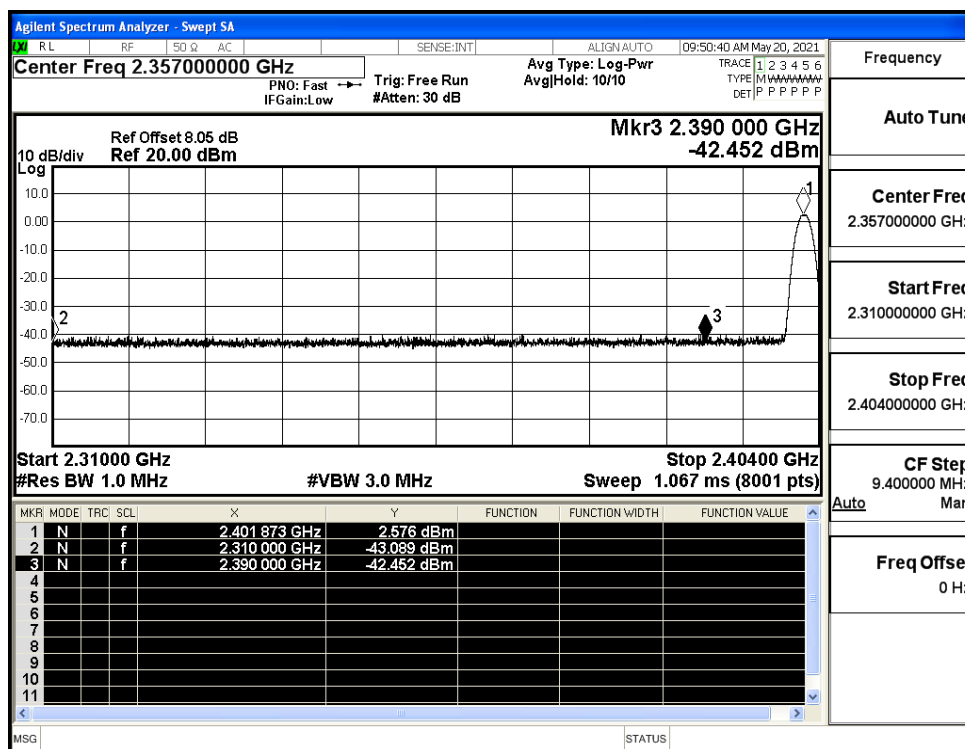
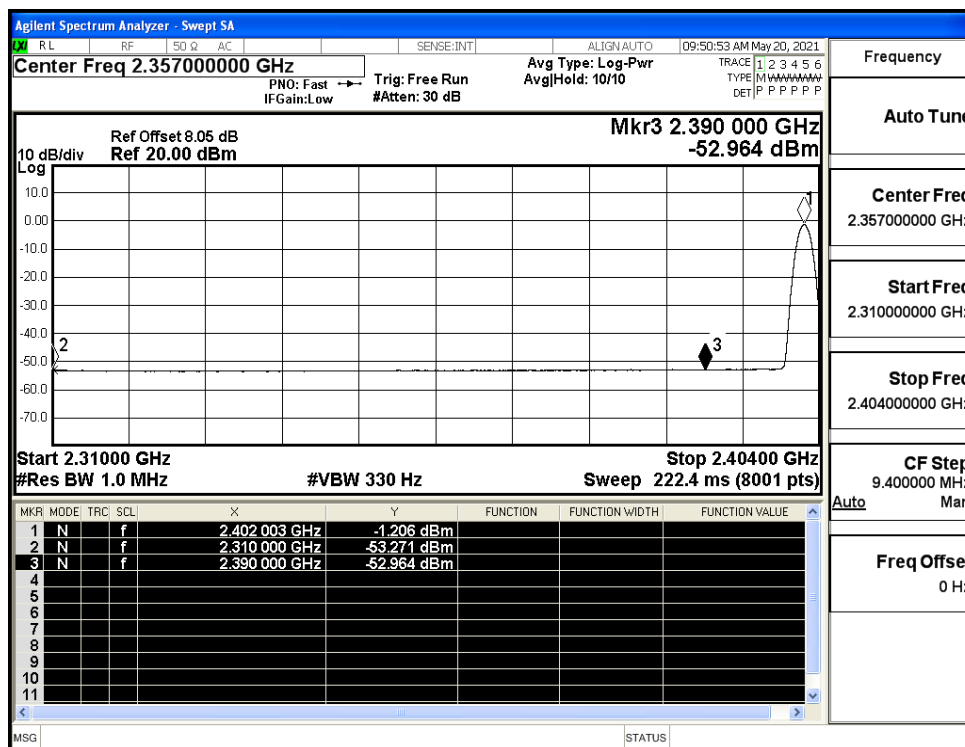


Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)

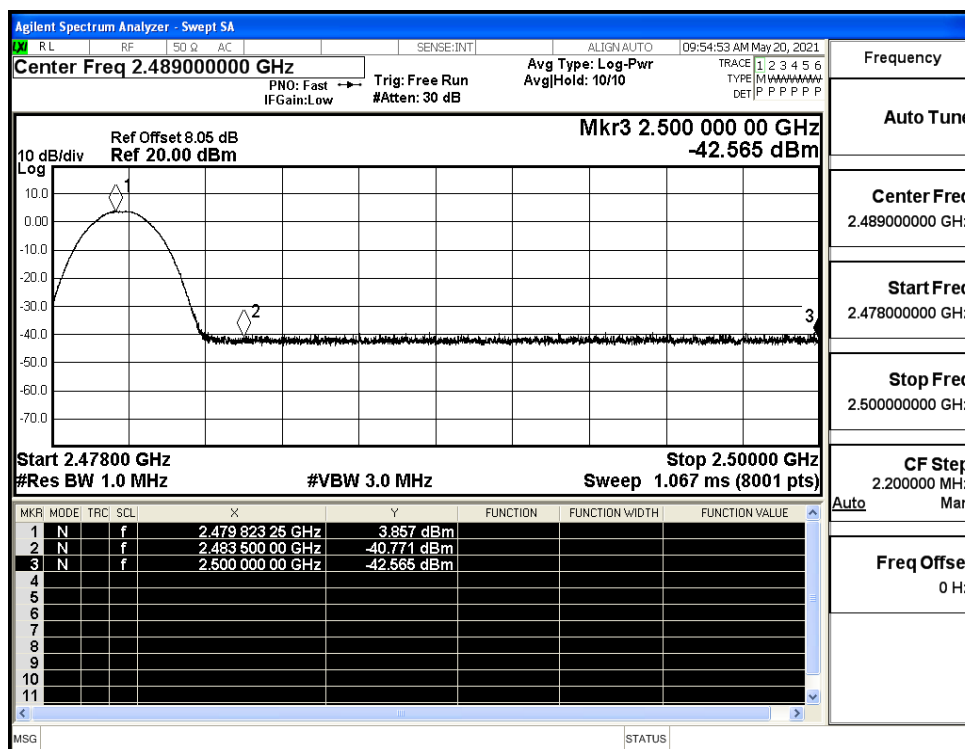


Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)

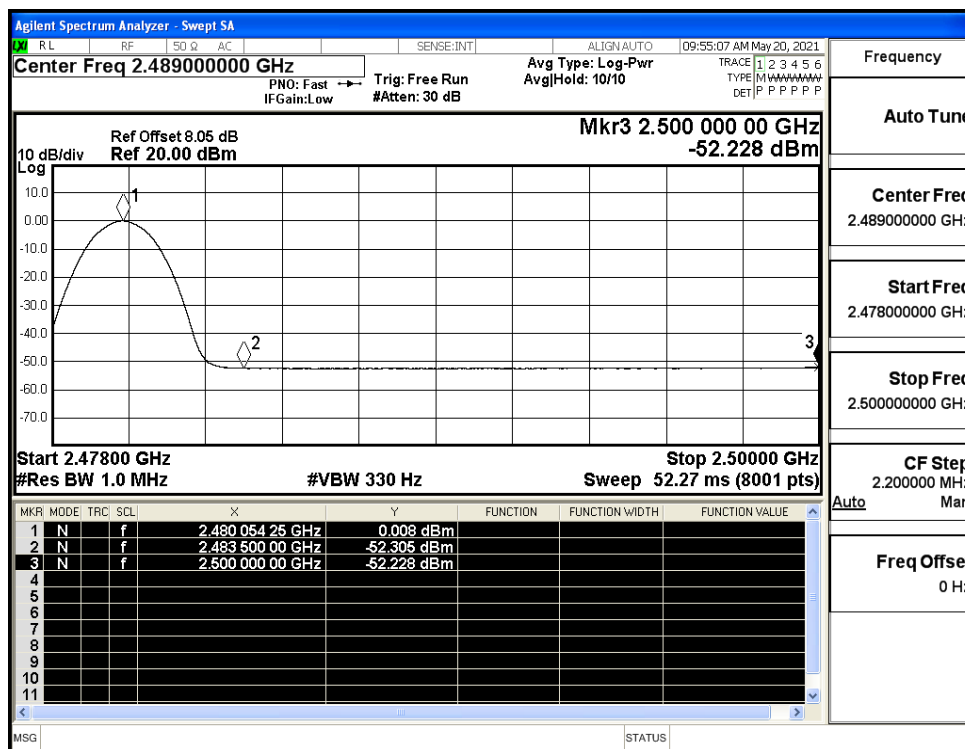


Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

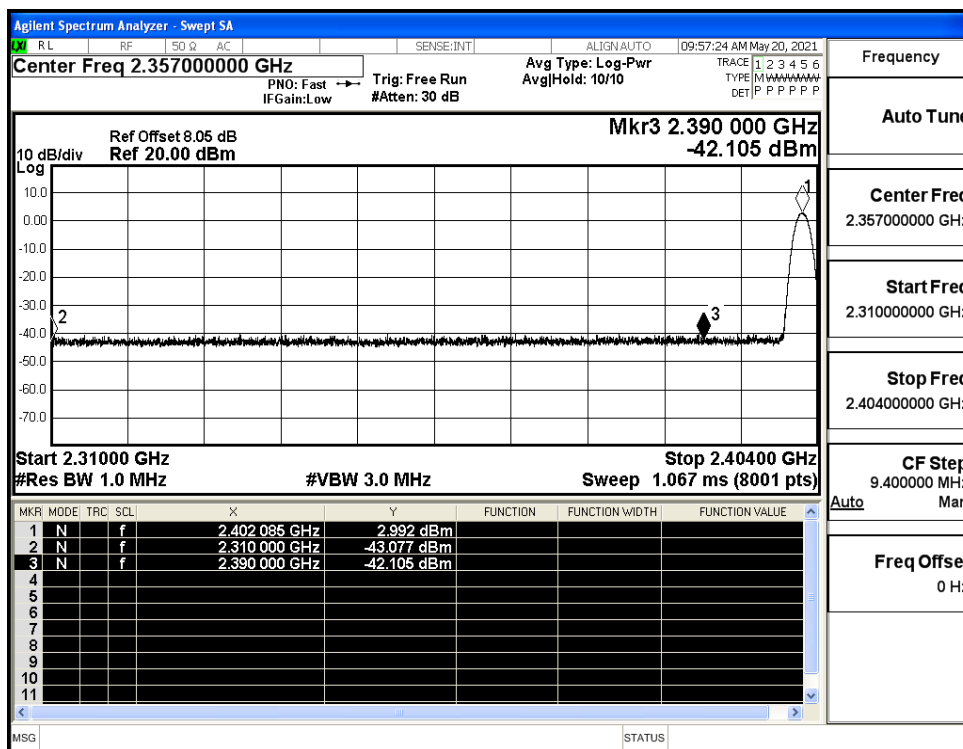
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



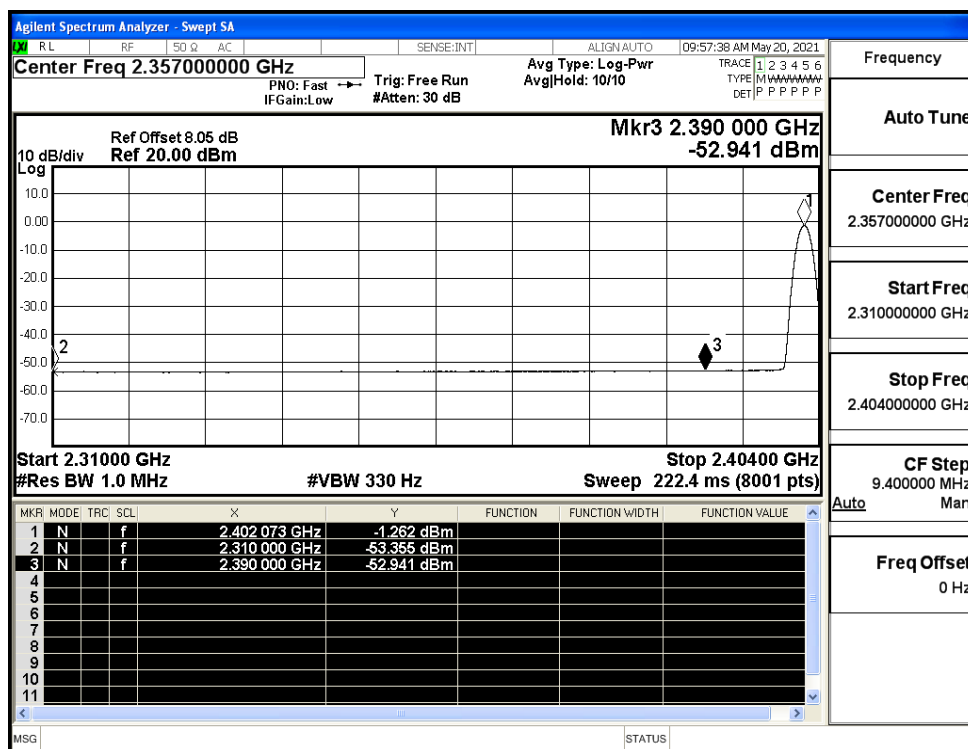
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



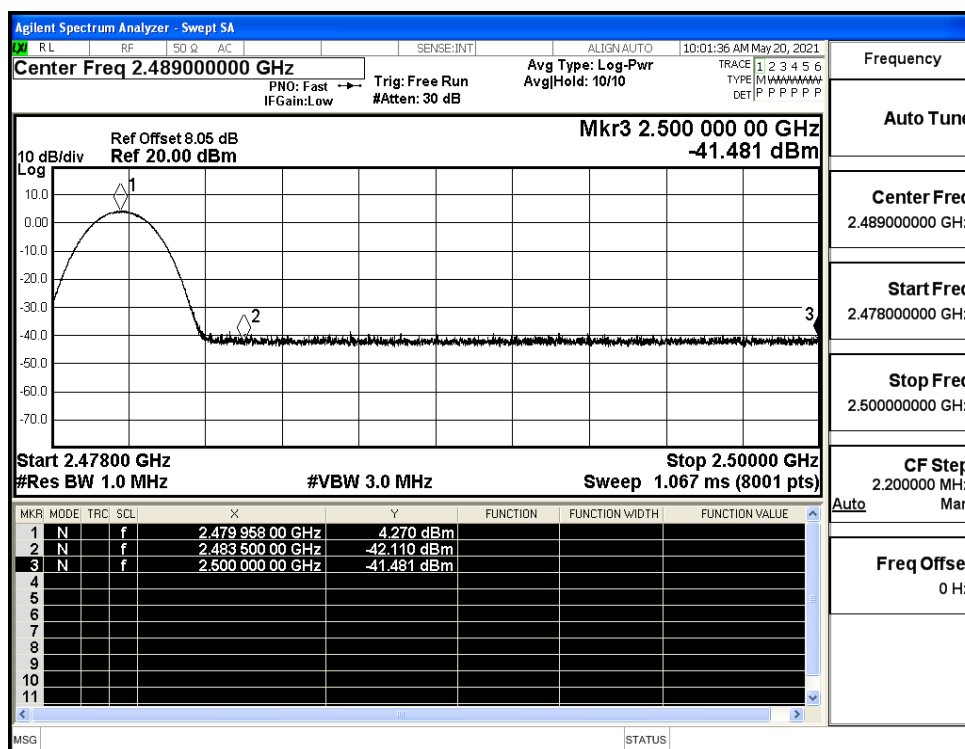
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

