

Appendix A

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

Product Name: DUNE HD Pro Vision 4K Solo

Trade Mark: DUNE HD

Test Model: Pro Vision 4K Solo

Environmental Conditions

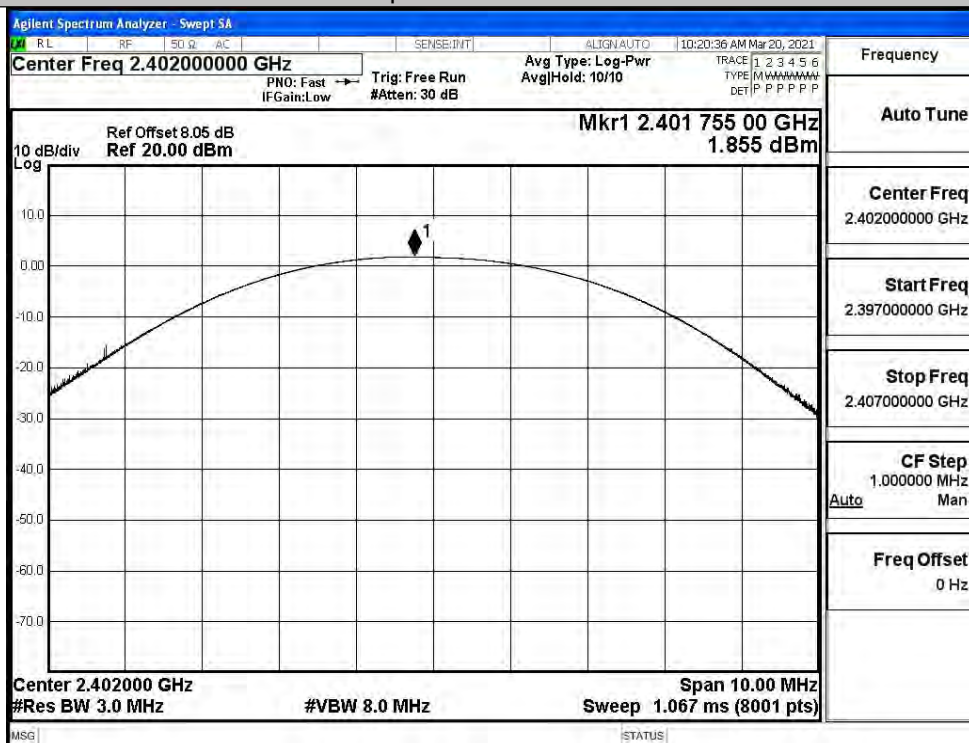
Temperature:	22.6° C
Relative Humidity:	54.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Kay Hu
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

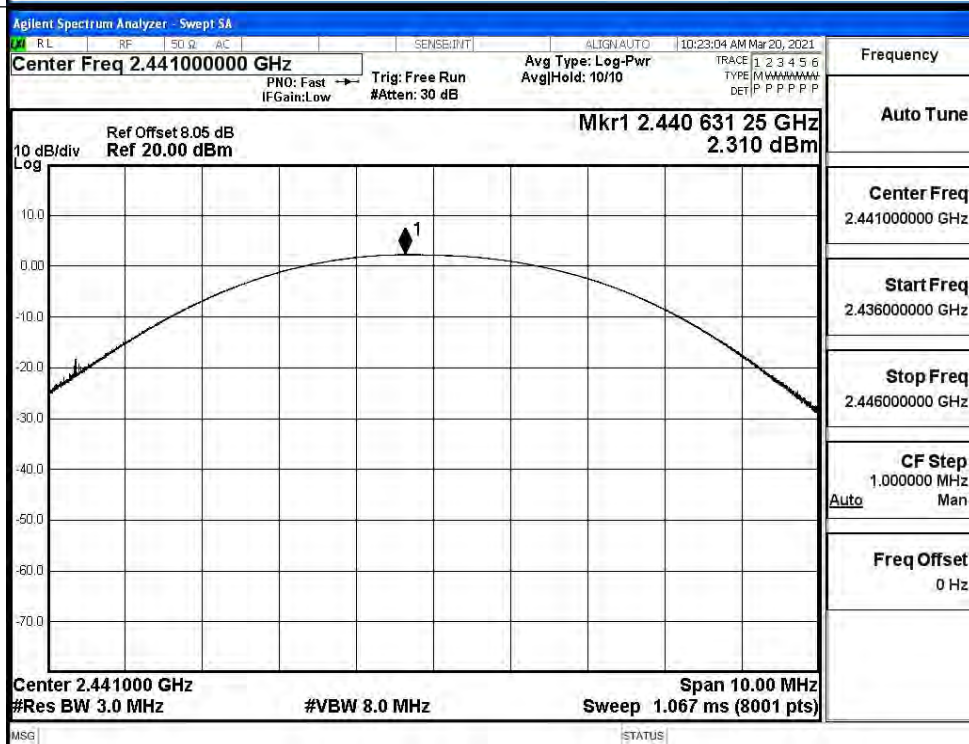
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.855	21	PASS
	MCH	2.310	21	PASS
	HCH	2.064	21	PASS
$\pi/4$ DQPSK	LCH	2.499	21	PASS
	MCH	2.936	21	PASS
	HCH	2.647	21	PASS
8DPSK	LCH	2.475	21	PASS
	MCH	2.927	21	PASS
	HCH	2.629	21	PASS

Test Graphs

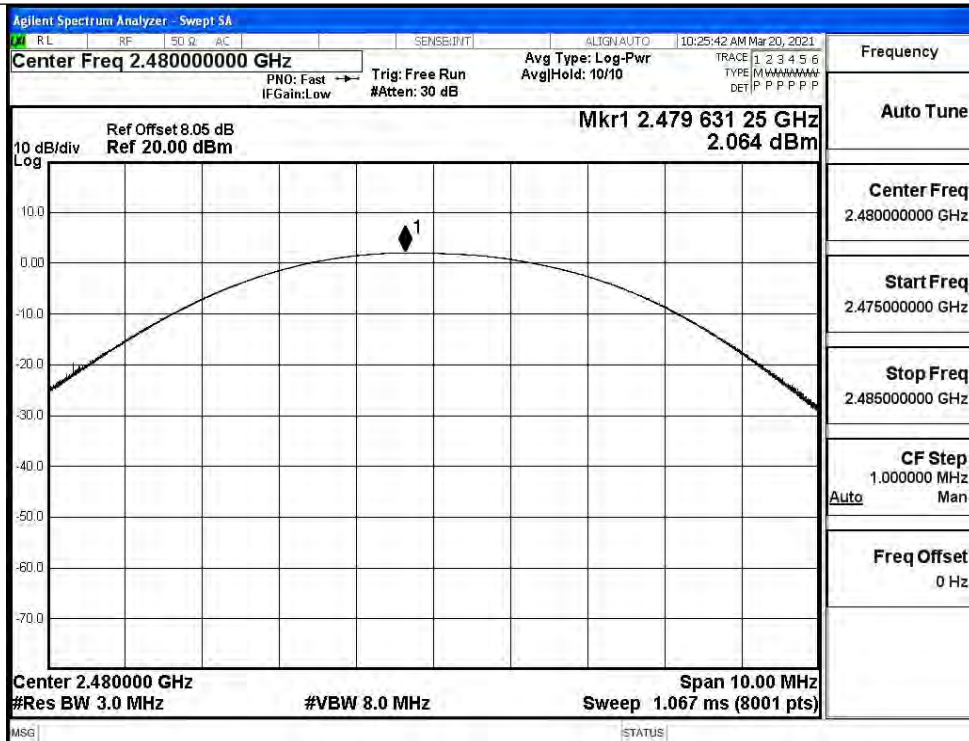
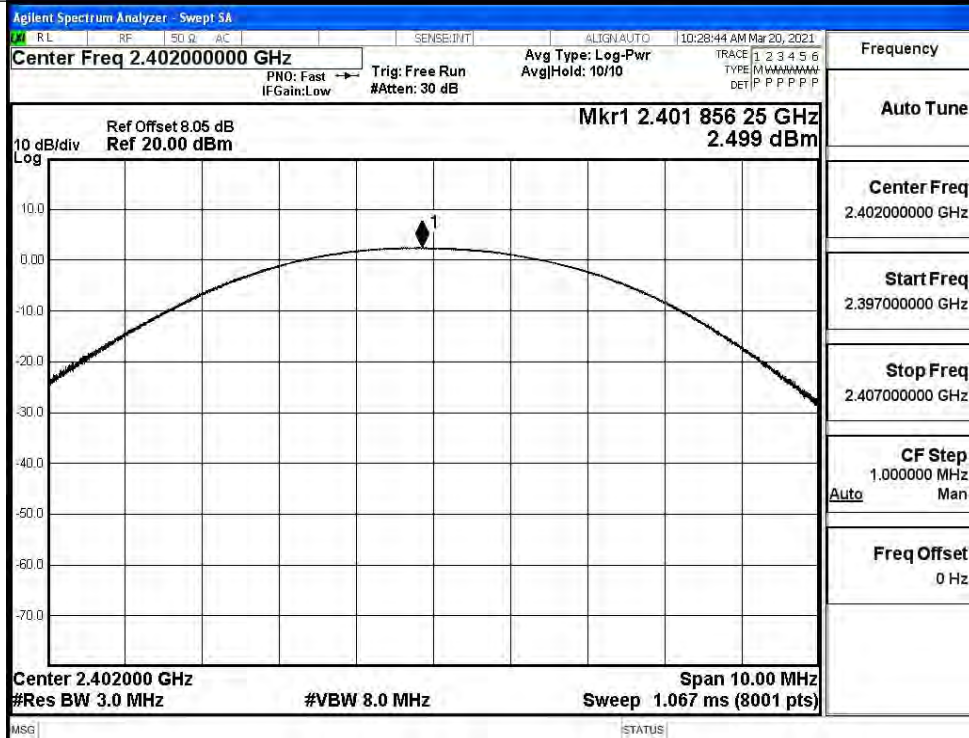
GFSK/LCH

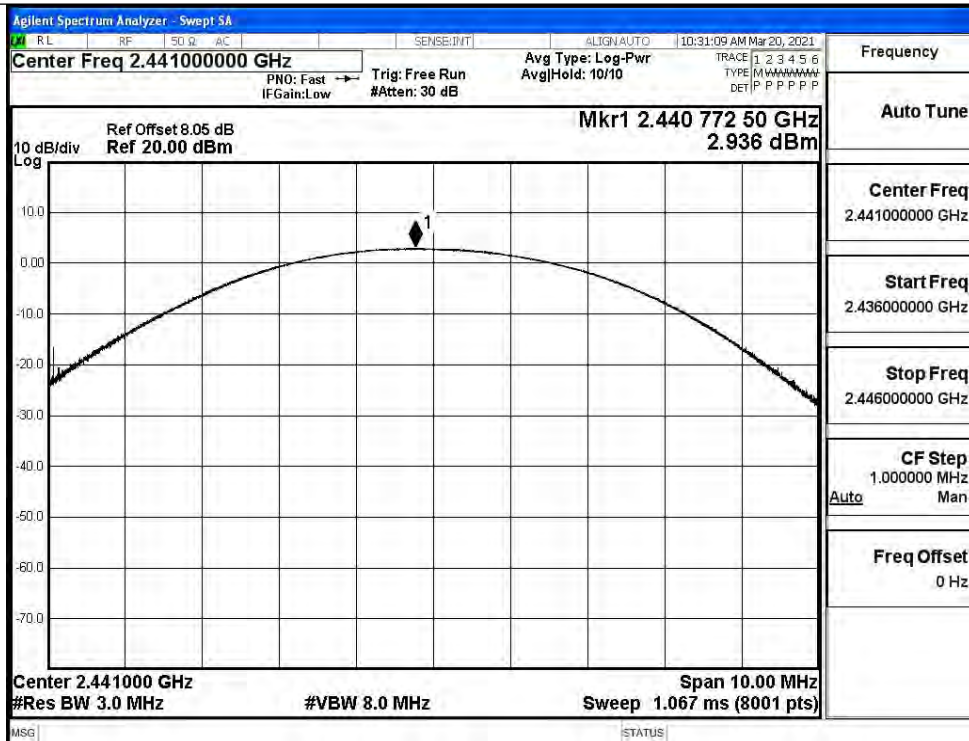
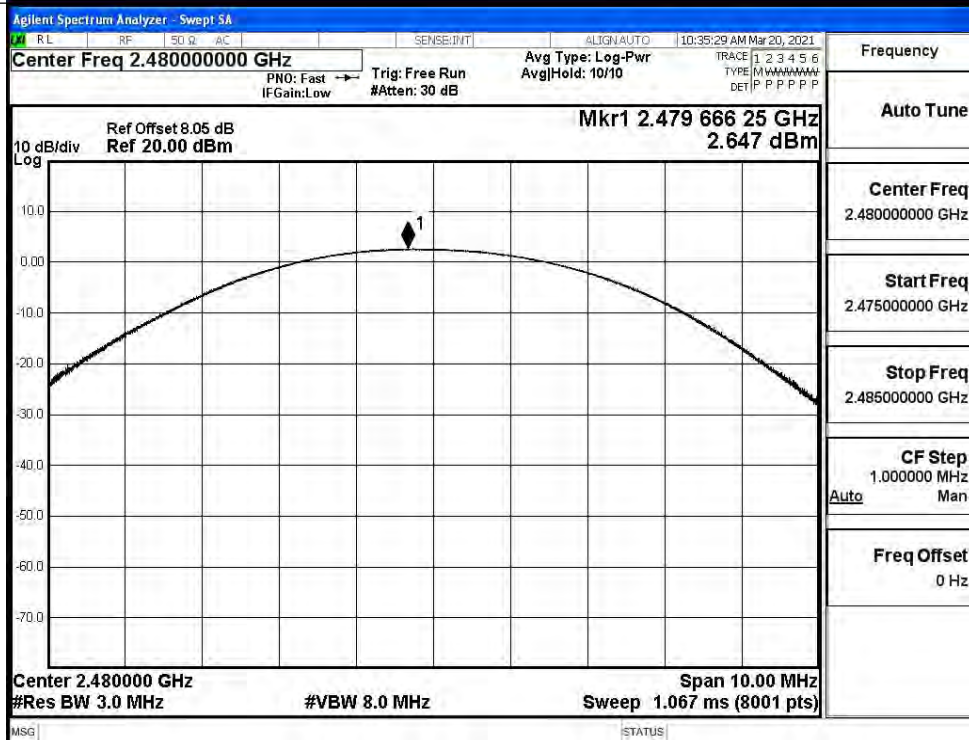


GFSK/MCH

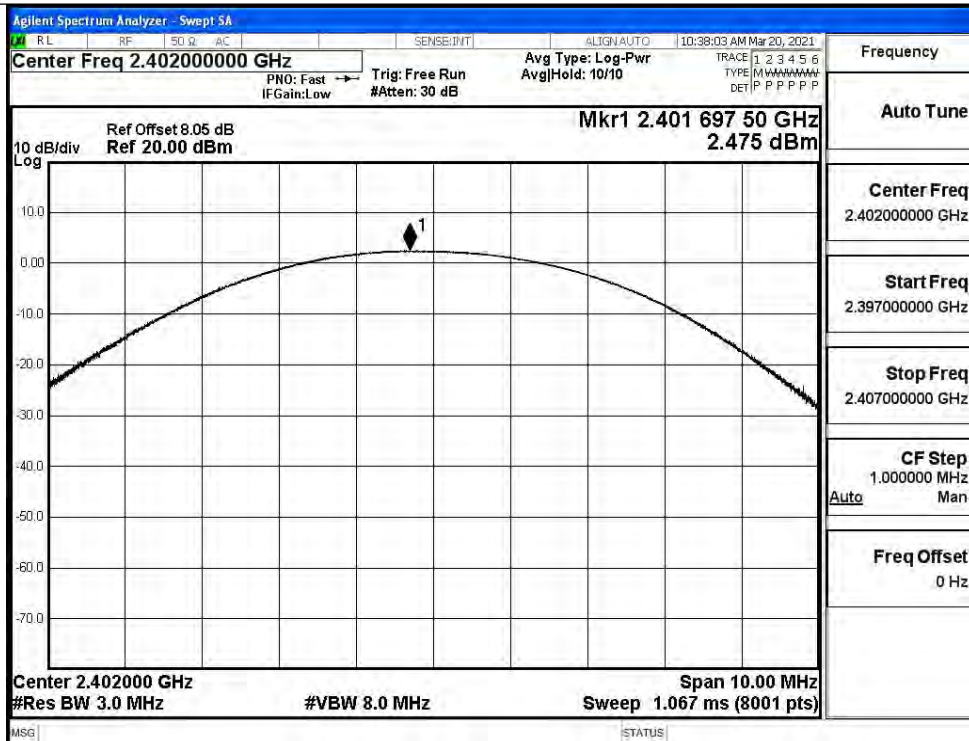


GFSK/HCH

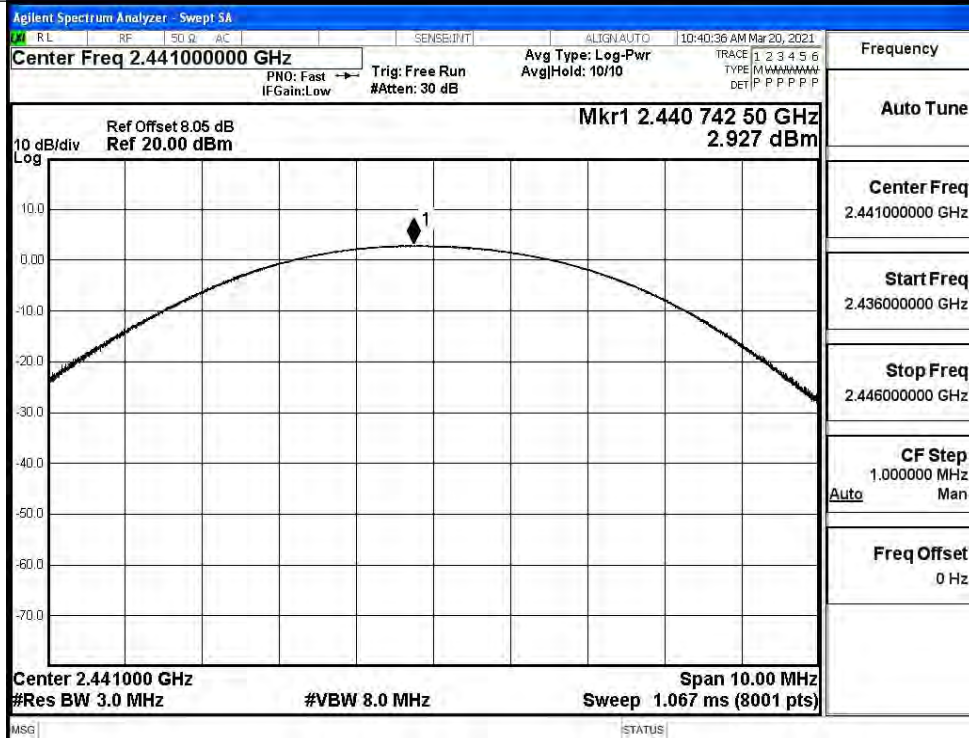
 π /4DQPSK/LCH

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

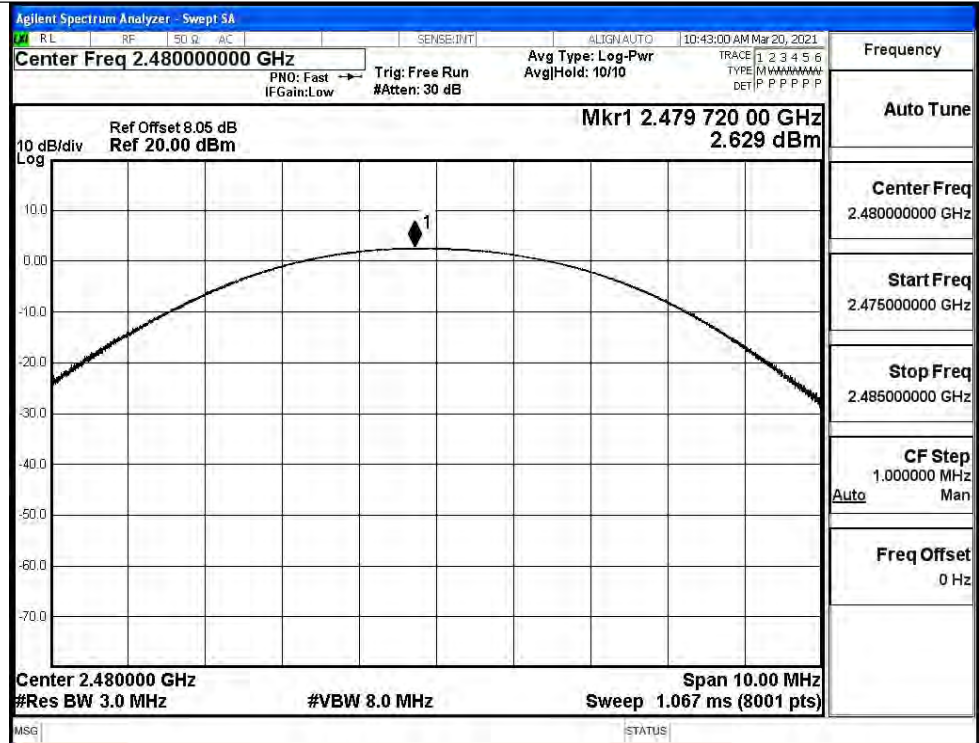
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

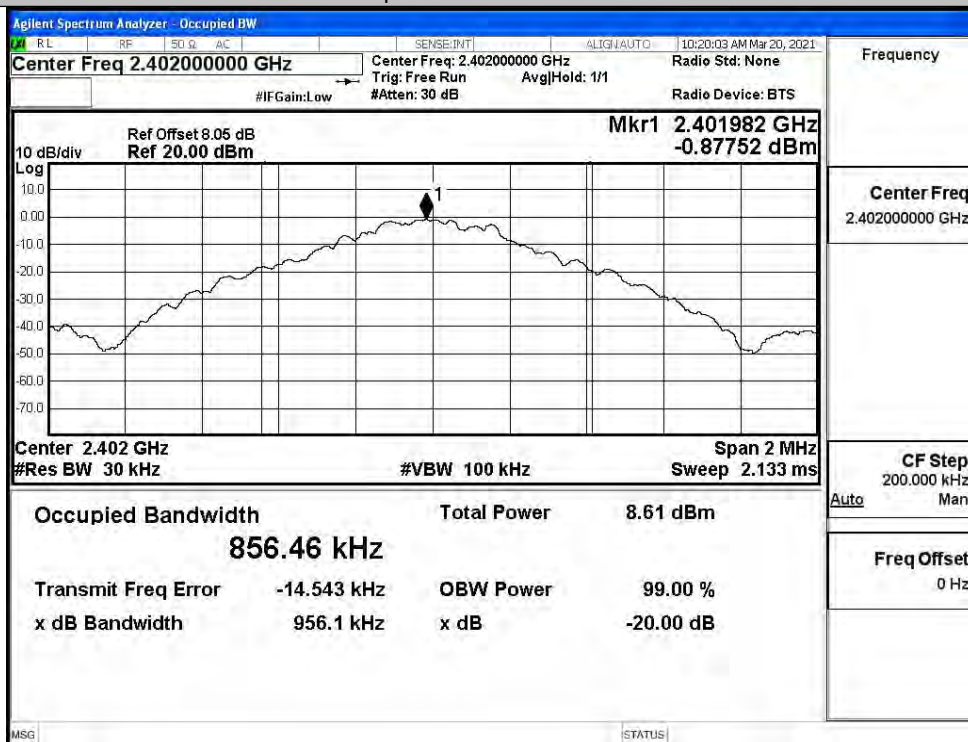


A.2 20dB Bandwidth

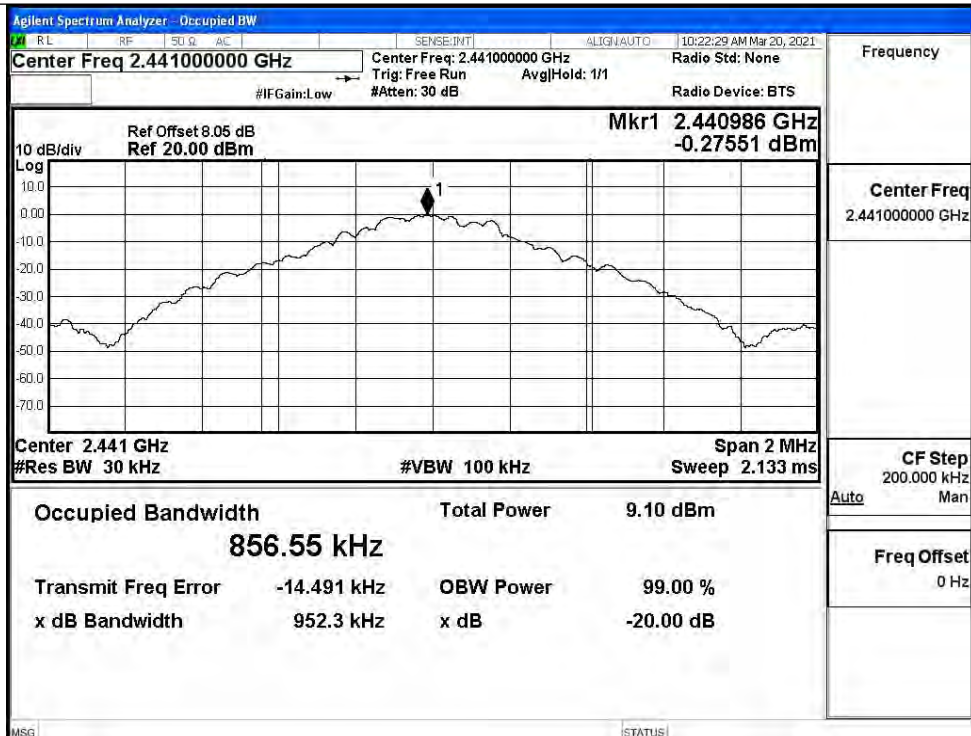
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9561	Not Specified	PASS
	MCH	0.9523	Not Specified	PASS
	HCH	0.9574	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.317	Not Specified	PASS
	MCH	1.314	Not Specified	PASS
	HCH	1.314	Not Specified	PASS
8DPSK	LCH	1.313	Not Specified	PASS
	MCH	1.316	Not Specified	PASS
	HCH	1.315	Not Specified	PASS

Test Graphs

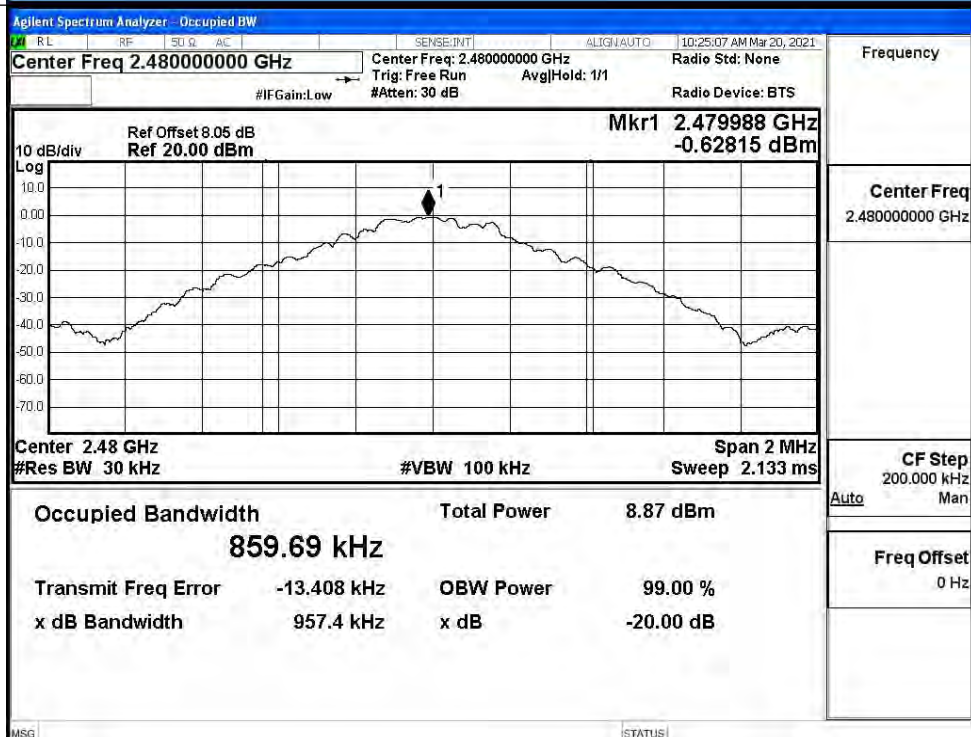
GFSK/LCH

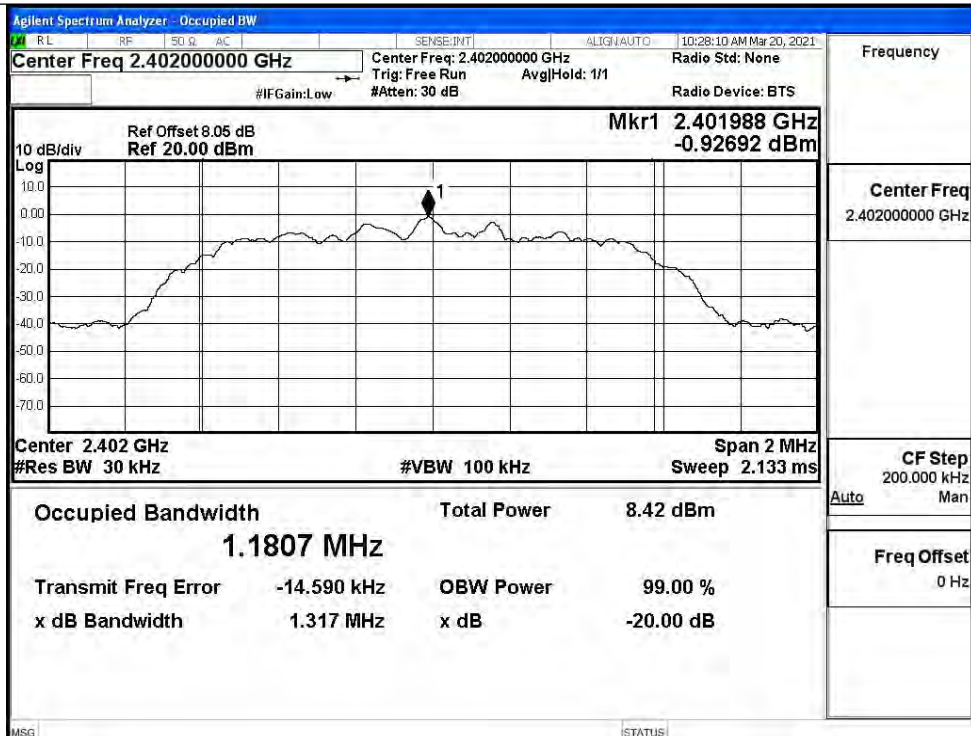
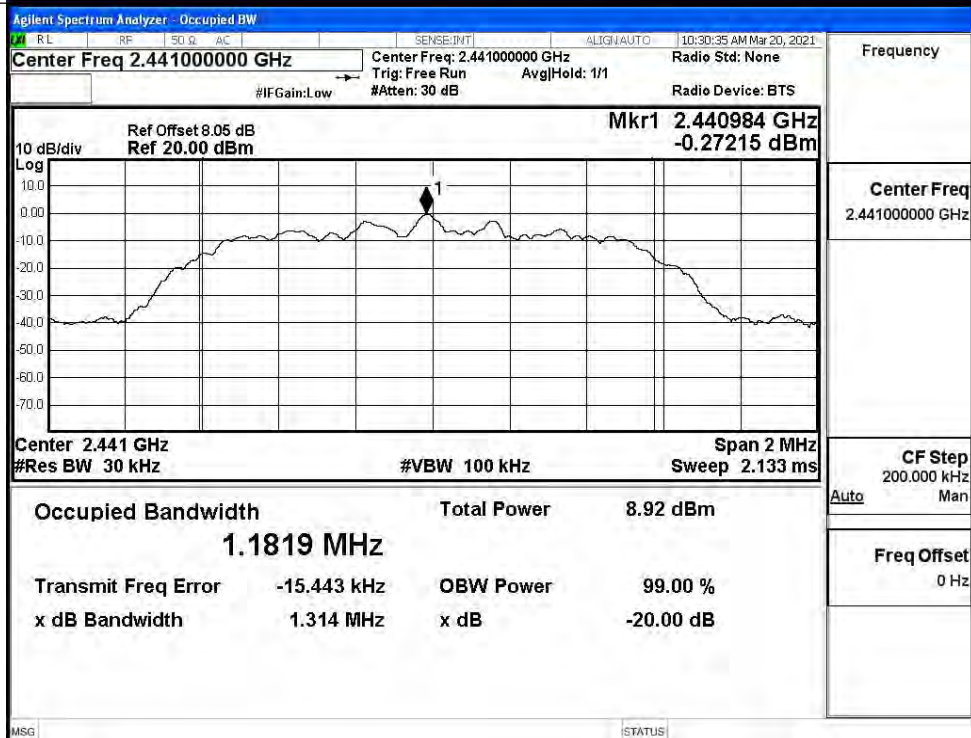


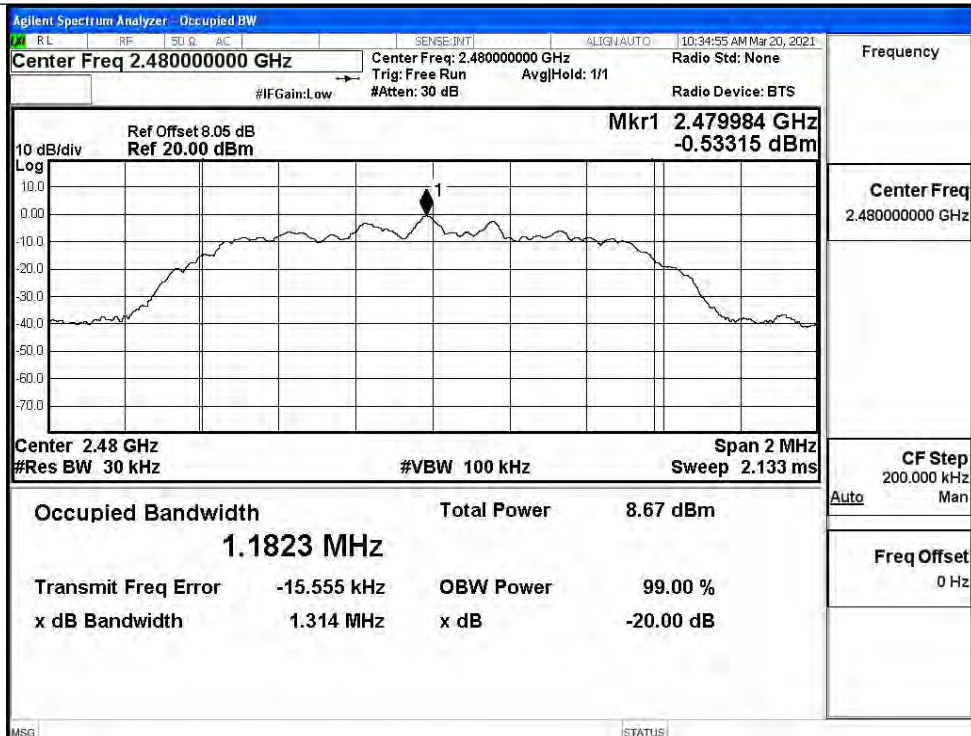
GFSK/MCH



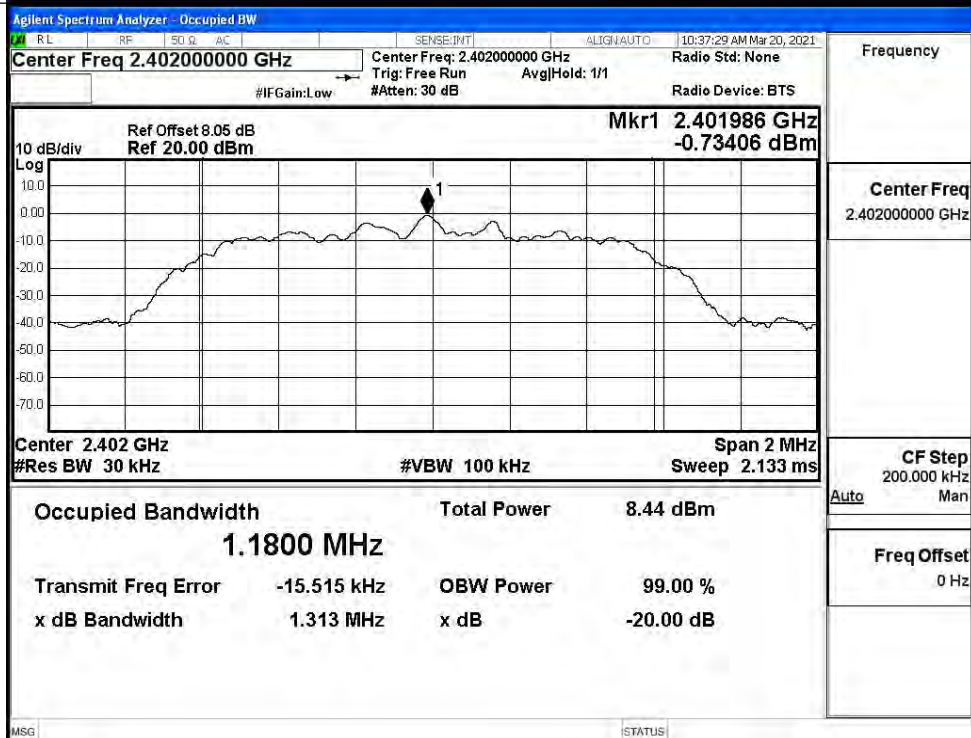
GFSK/HCH



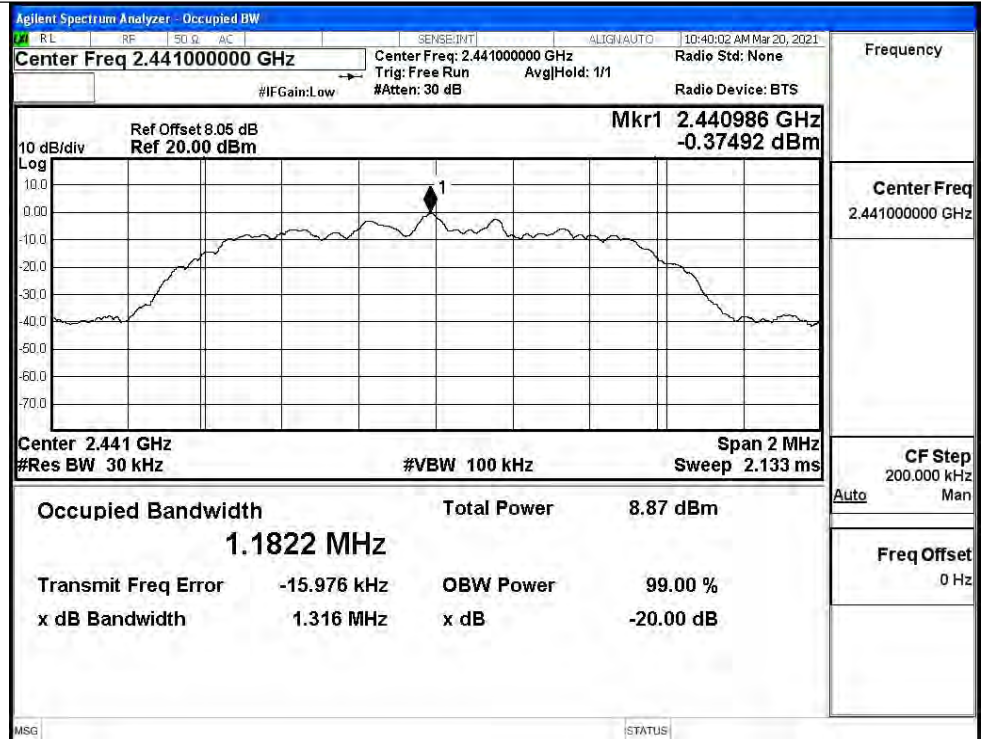
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

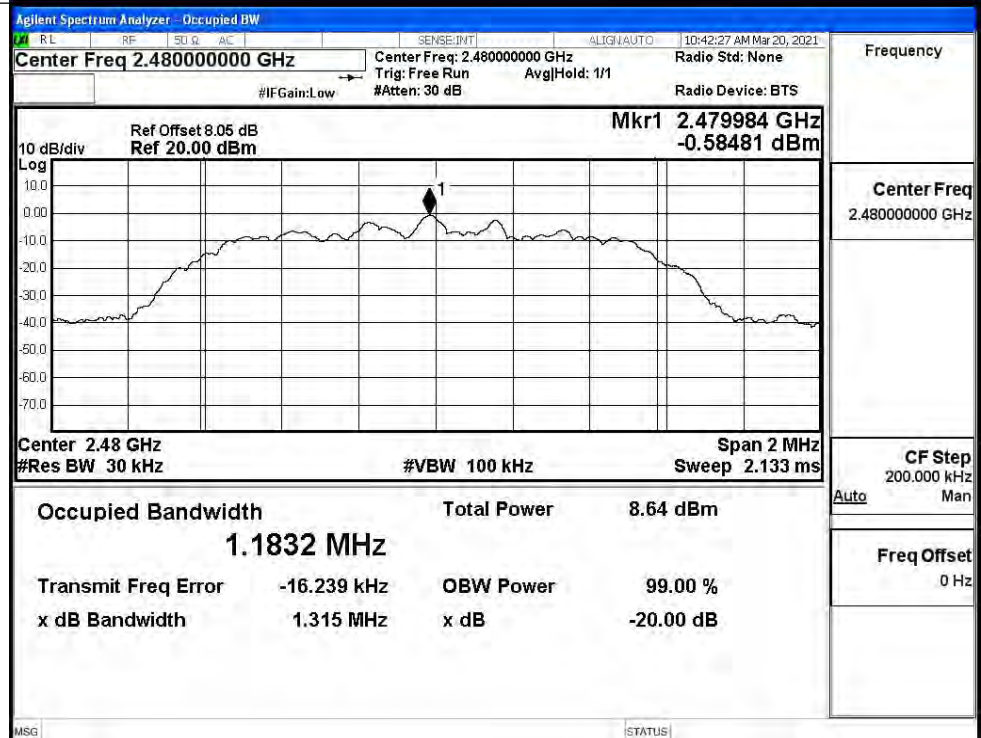
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

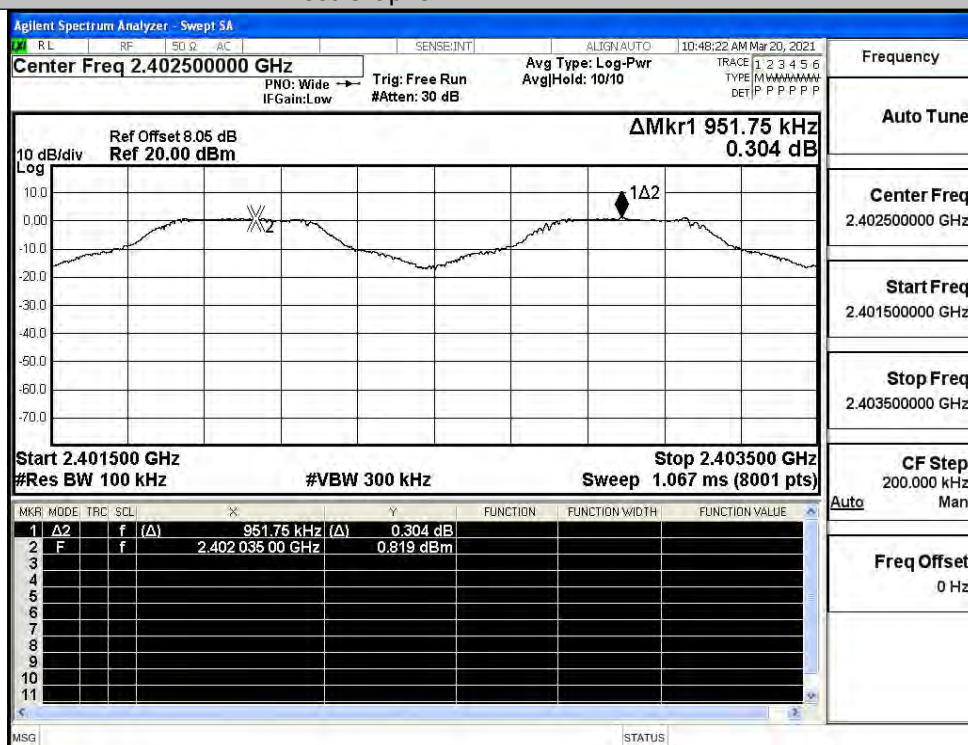


A.3 Carrier Frequency Separation

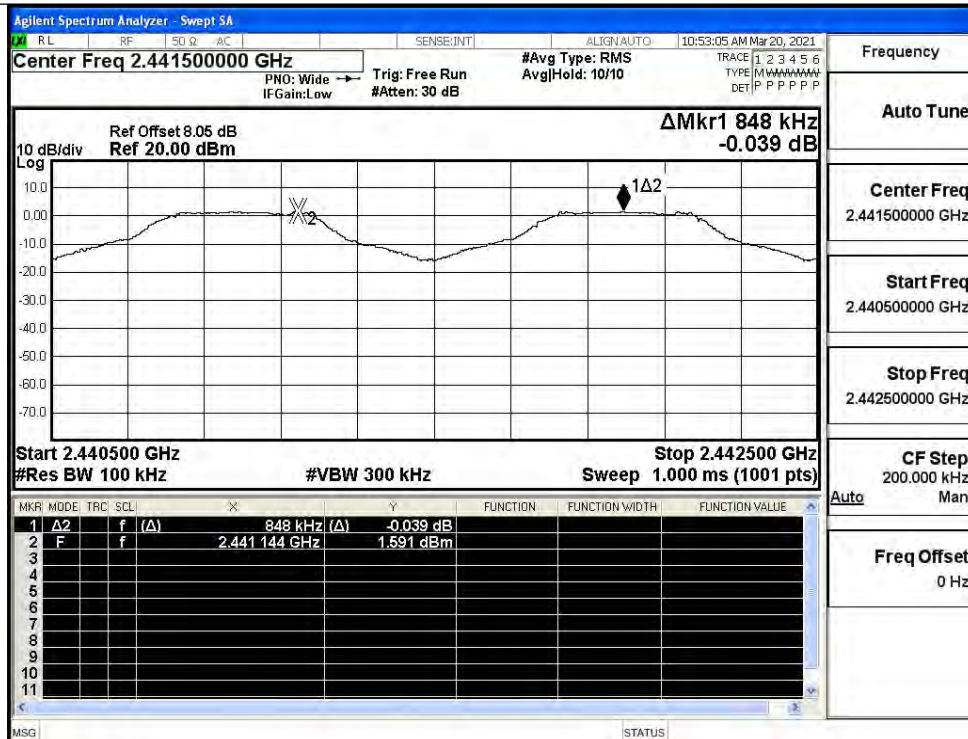
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.952	0.637	PASS
	MCH	0.848	0.635	PASS
	HCH	1.052	0.638	PASS
$\pi/4$ DQPSK	LCH	1.006	0.878	PASS
	MCH	1.156	0.876	PASS
	HCH	1.000	0.876	PASS
8DPSK	LCH	1.036	0.875	PASS
	MCH	1.006	0.877	PASS
	HCH	0.988	0.877	PASS

Test Graphs

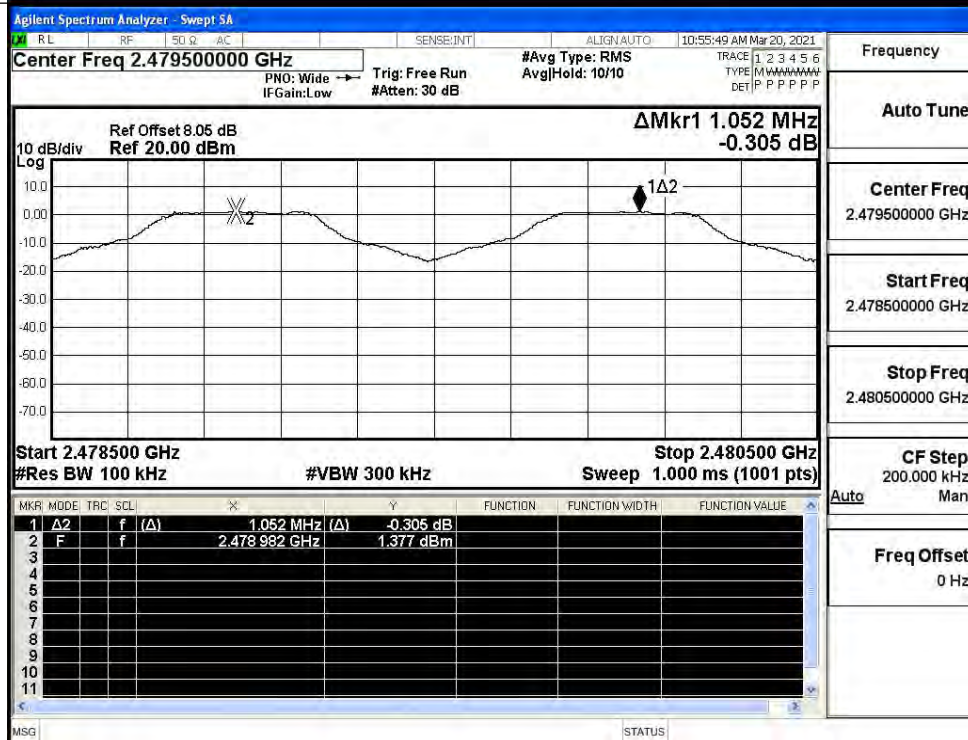
GFSK/LCH

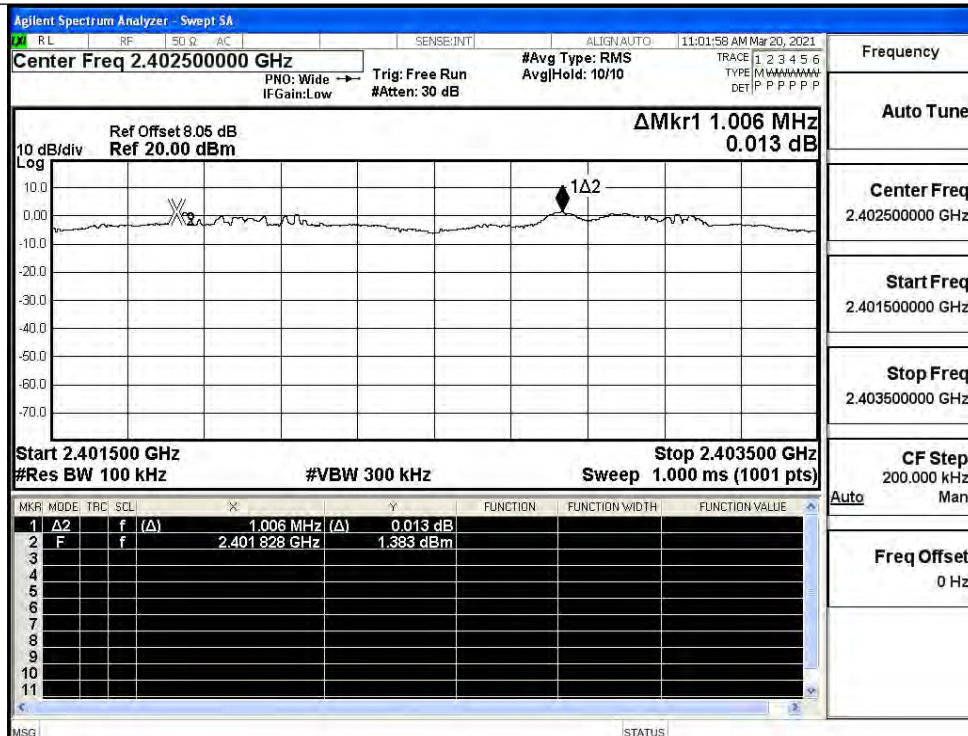
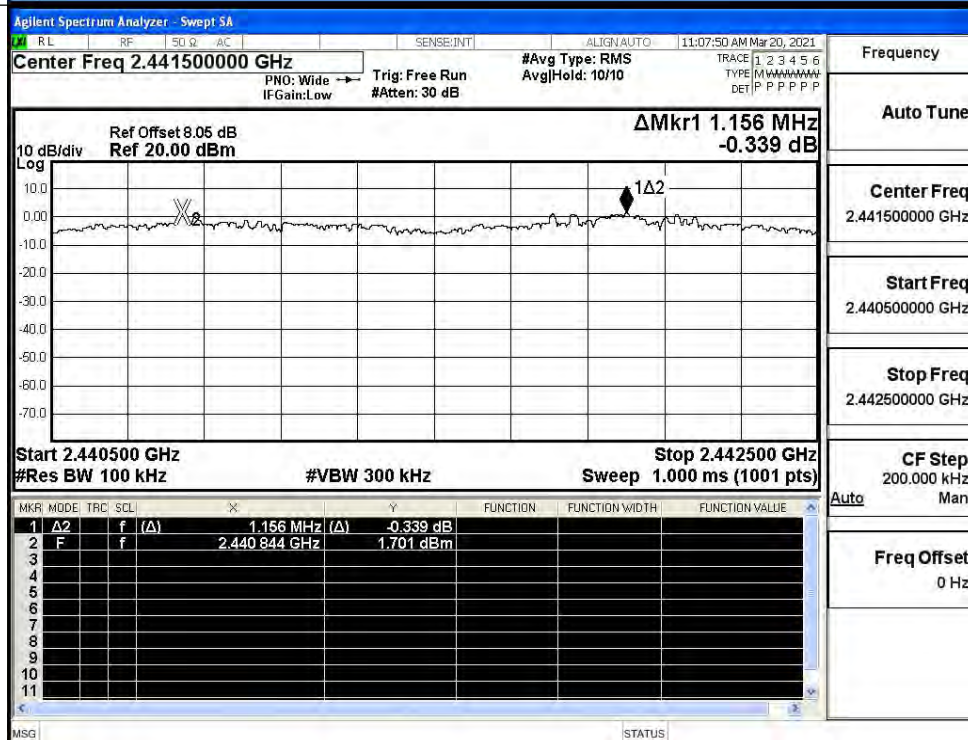


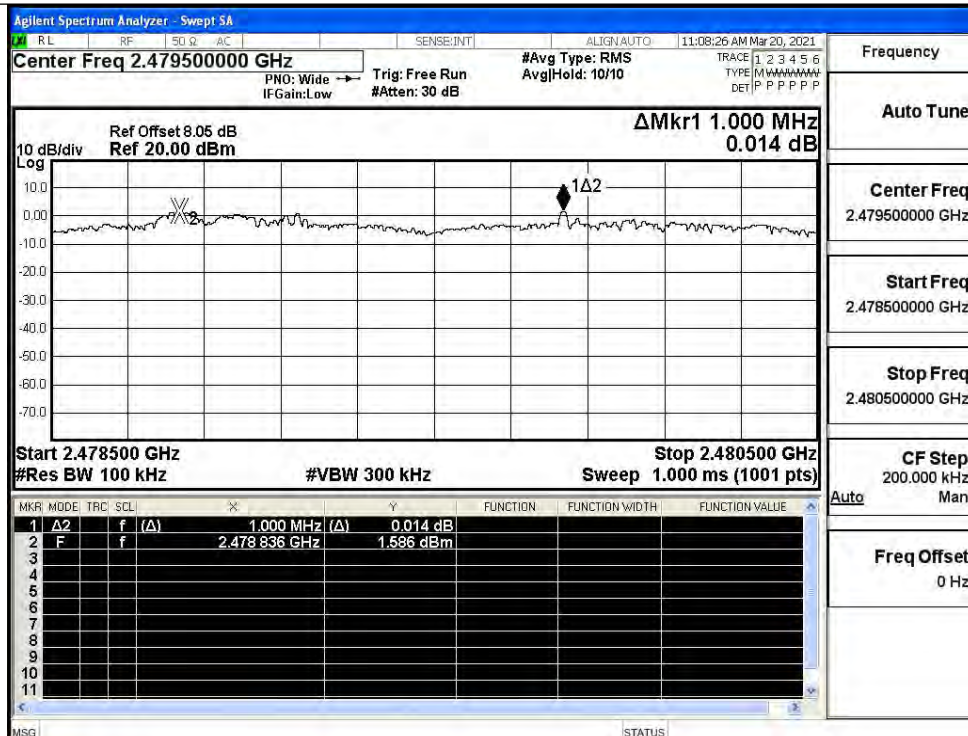
GFSK/MCH



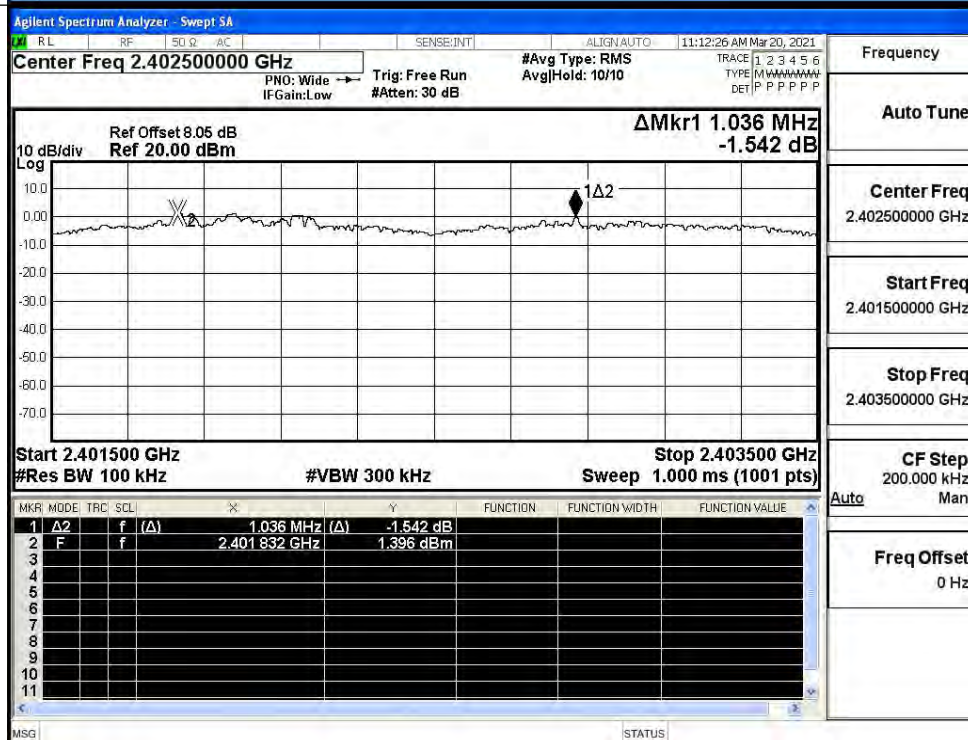
GFSK/HCH



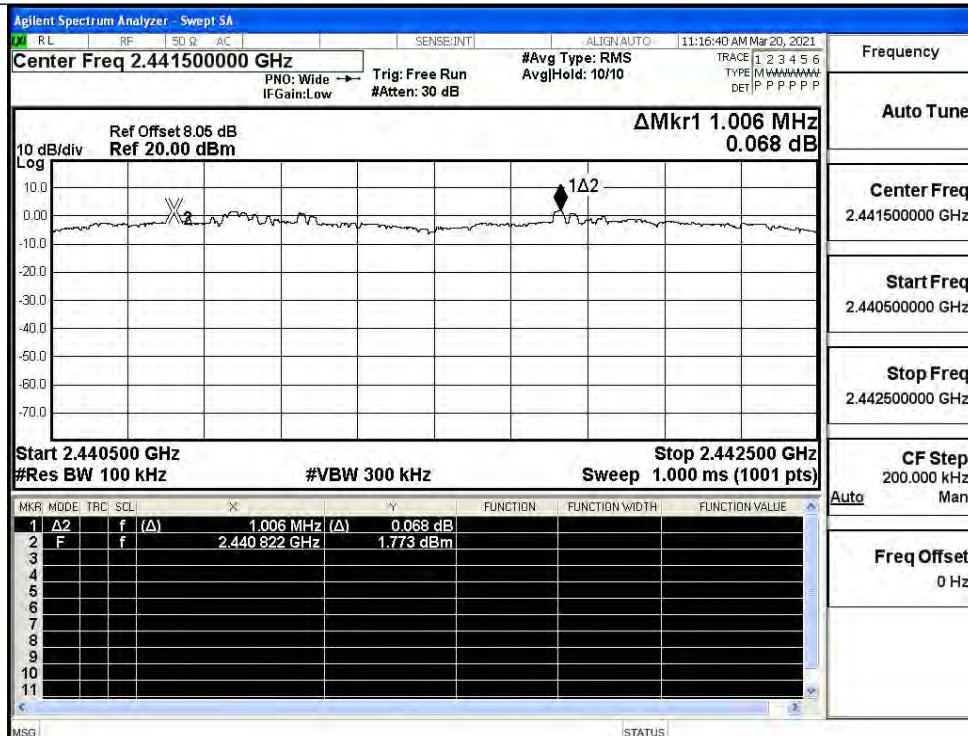
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

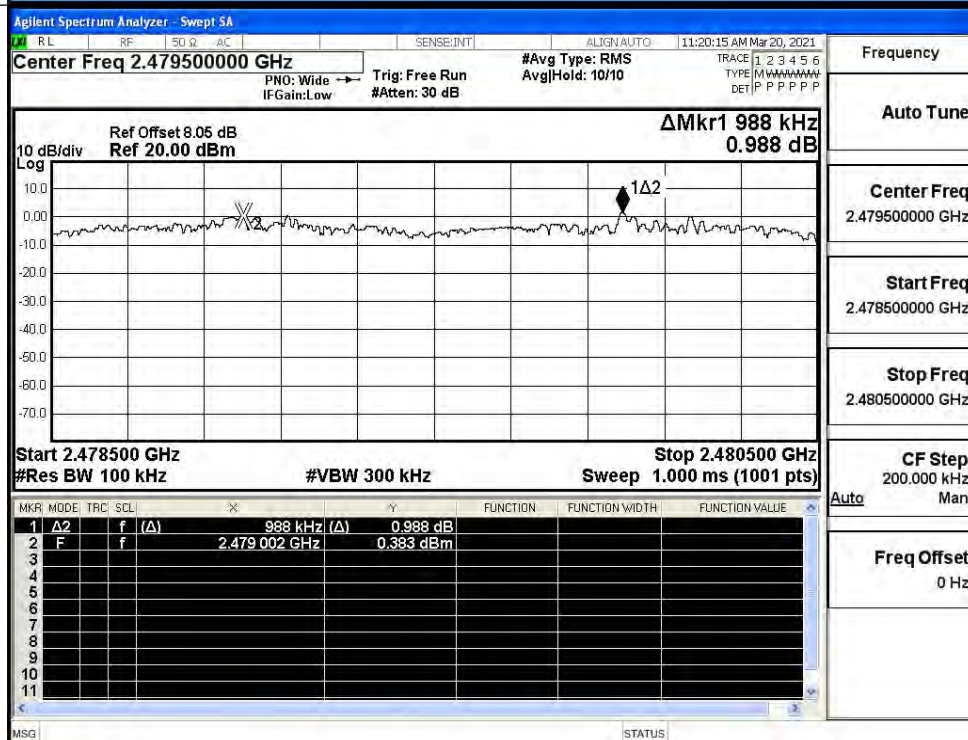
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

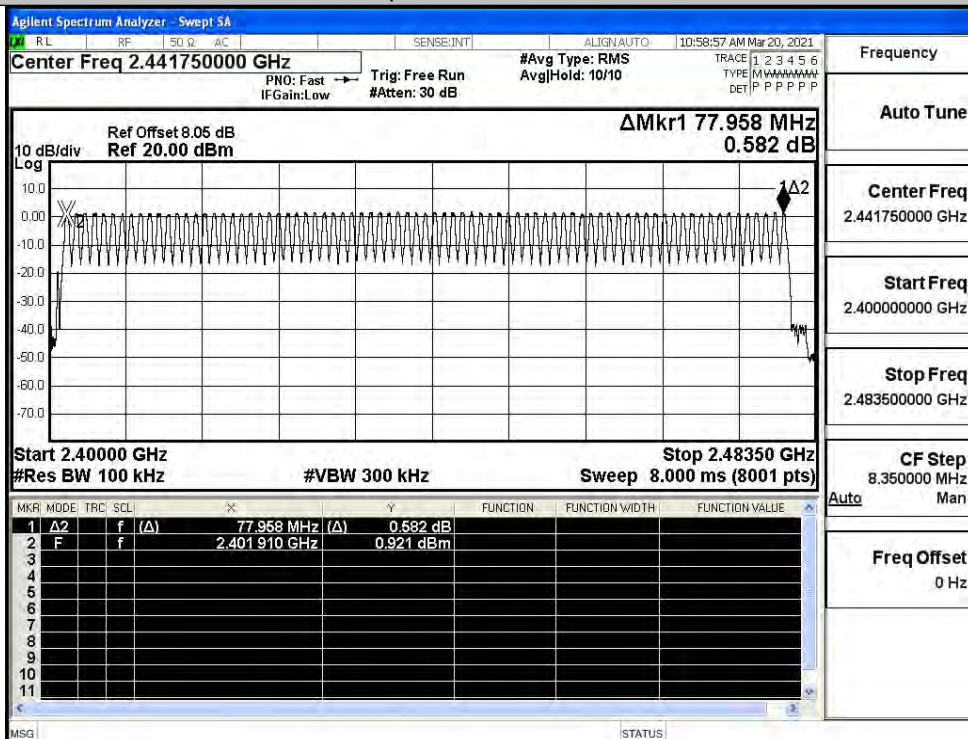
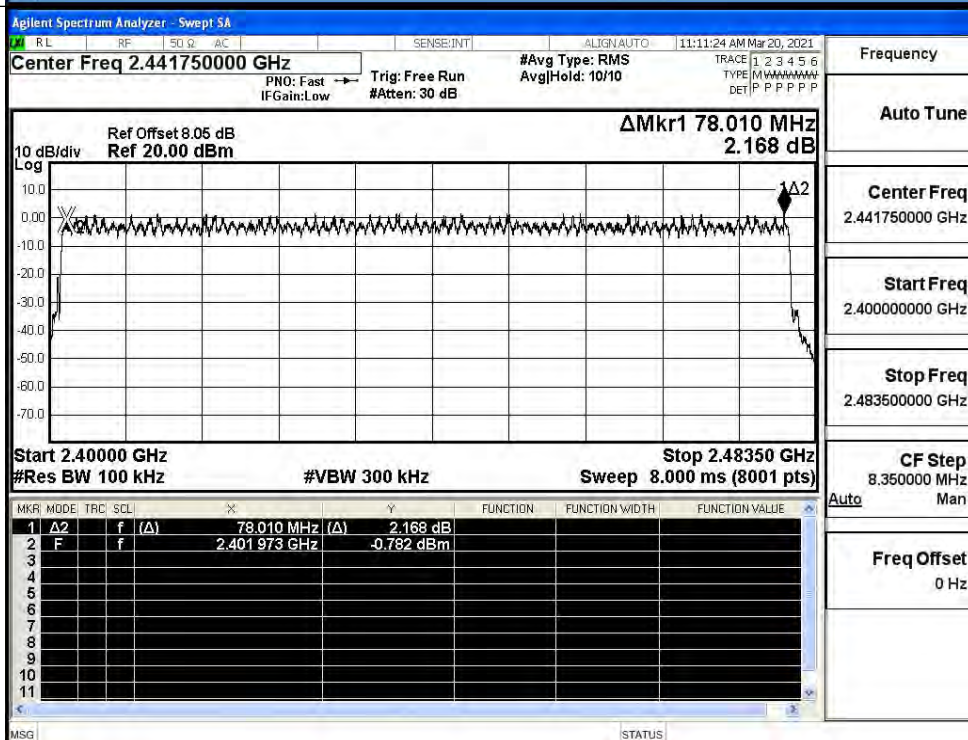


A.4 Hopping Channel Number

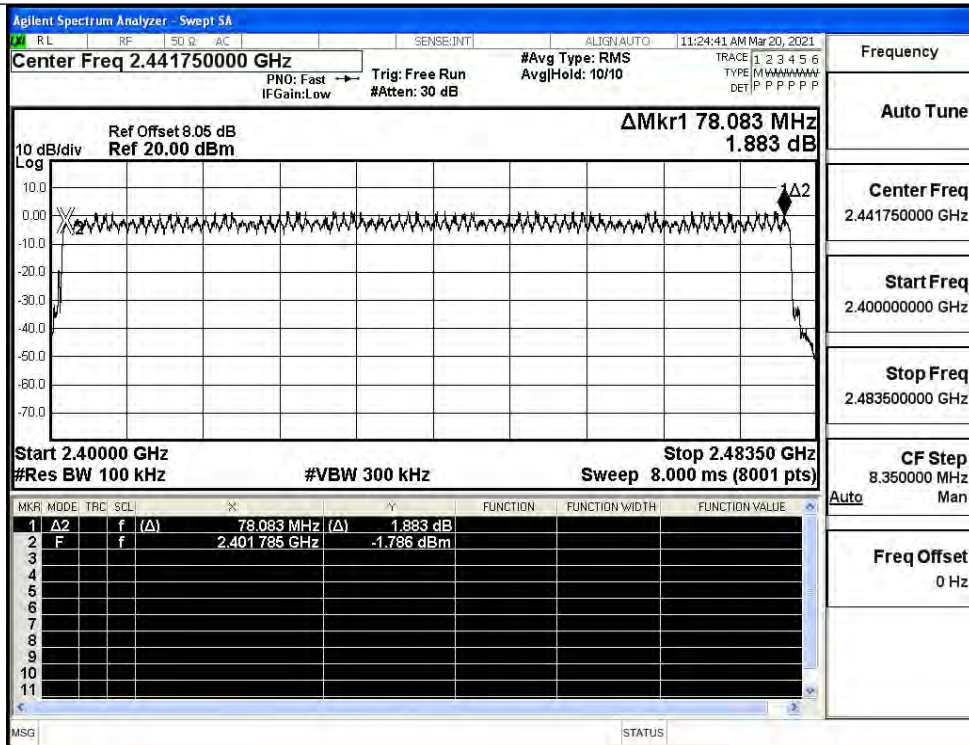
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

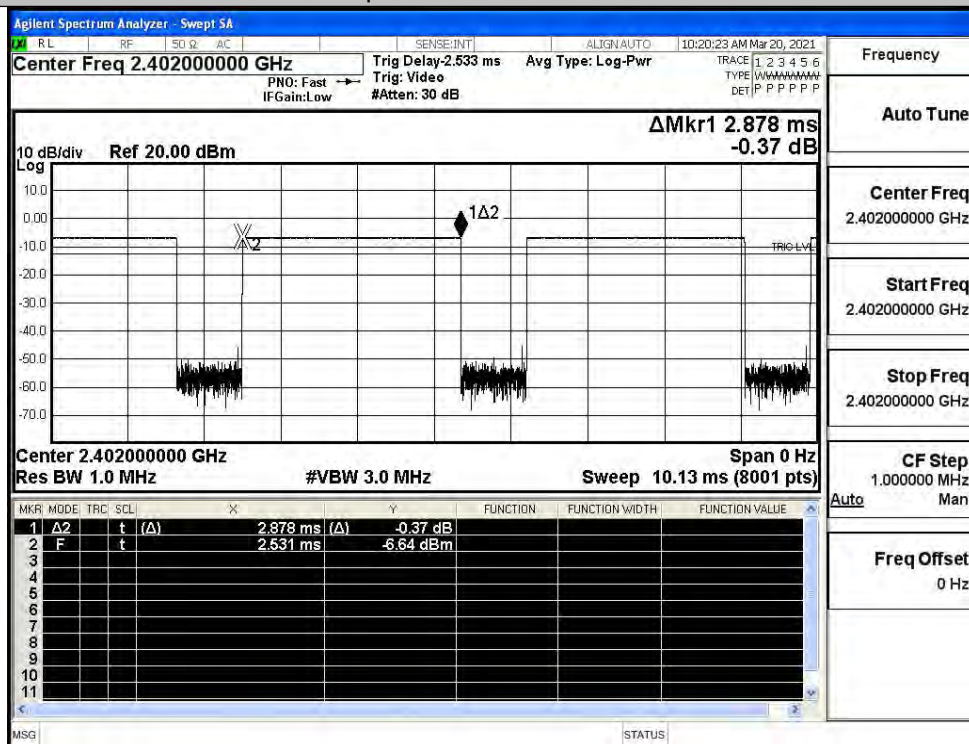


A.5 Dwell Time

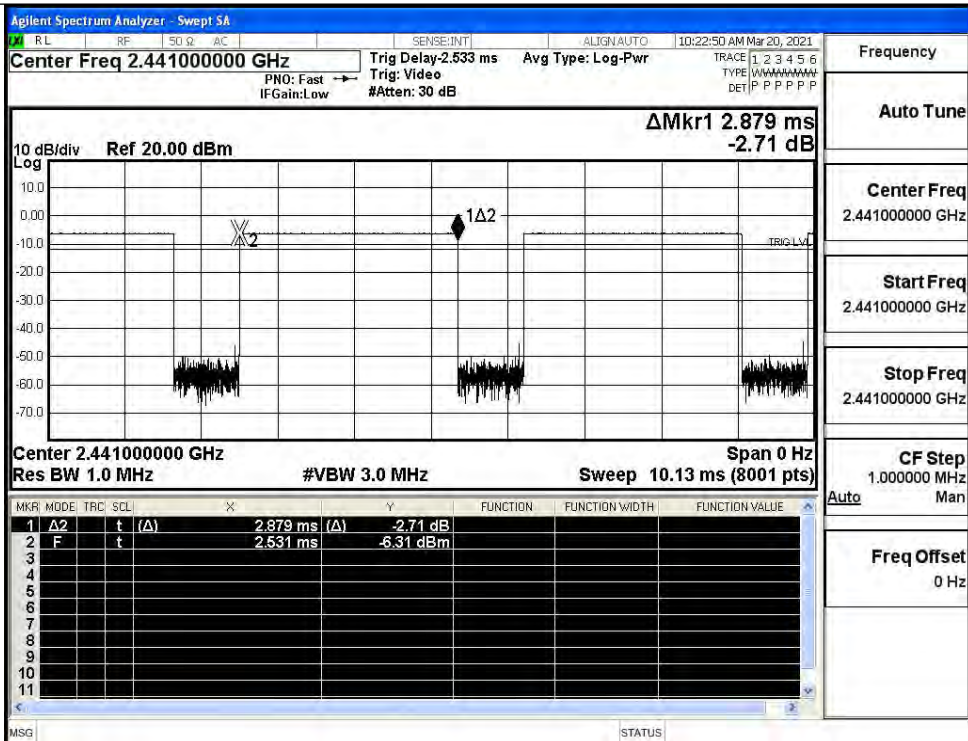
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.89	106.7	0.308	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.89	106.7	0.308	0.4	PASS
8DPSK	3DH5	LCH	2.88	106.7	0.307	0.4	PASS
	3DH5	MCH	2.89	106.7	0.308	0.4	PASS
	3DH5	HCH	2.89	106.7	0.308	0.4	PASS

Test Graphs

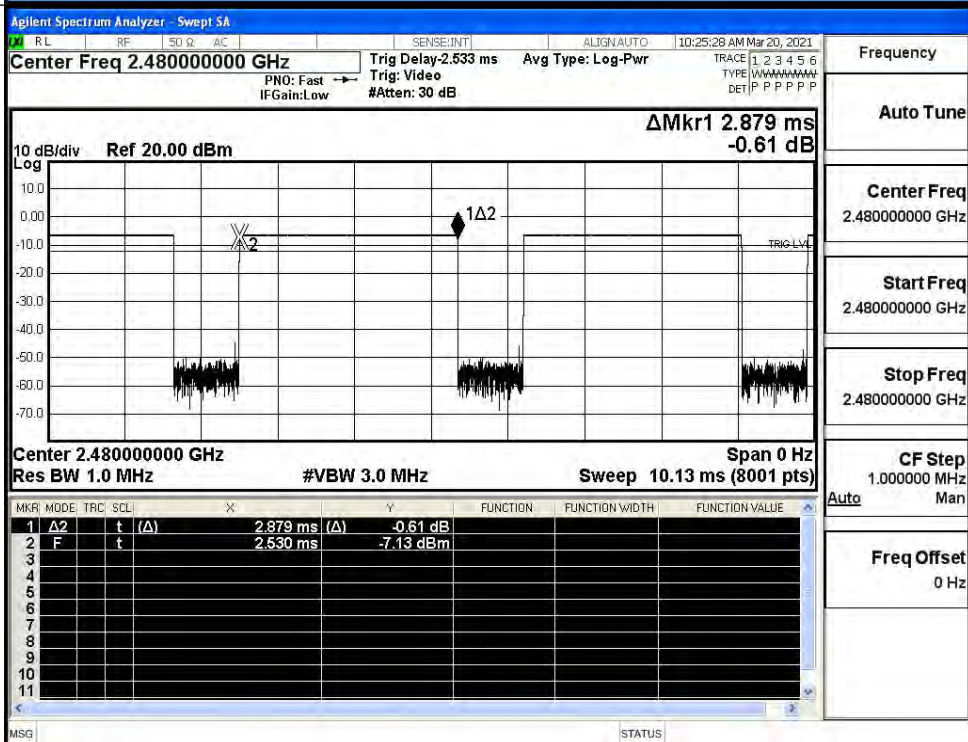
GFSK_DH5/LCH



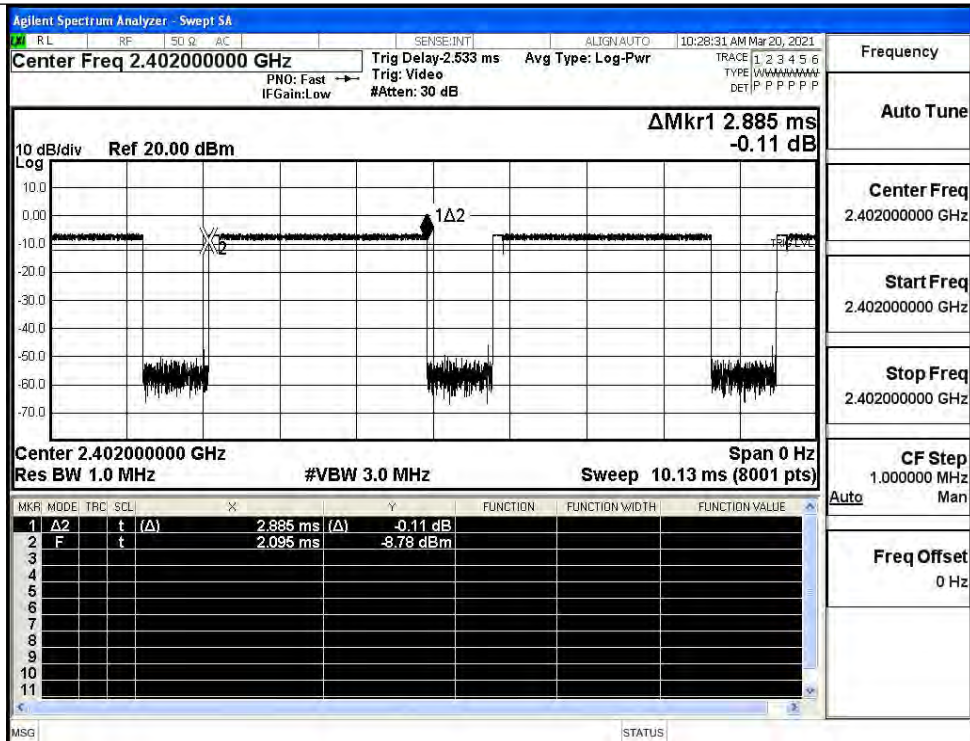
GFSK_DH5/MCH



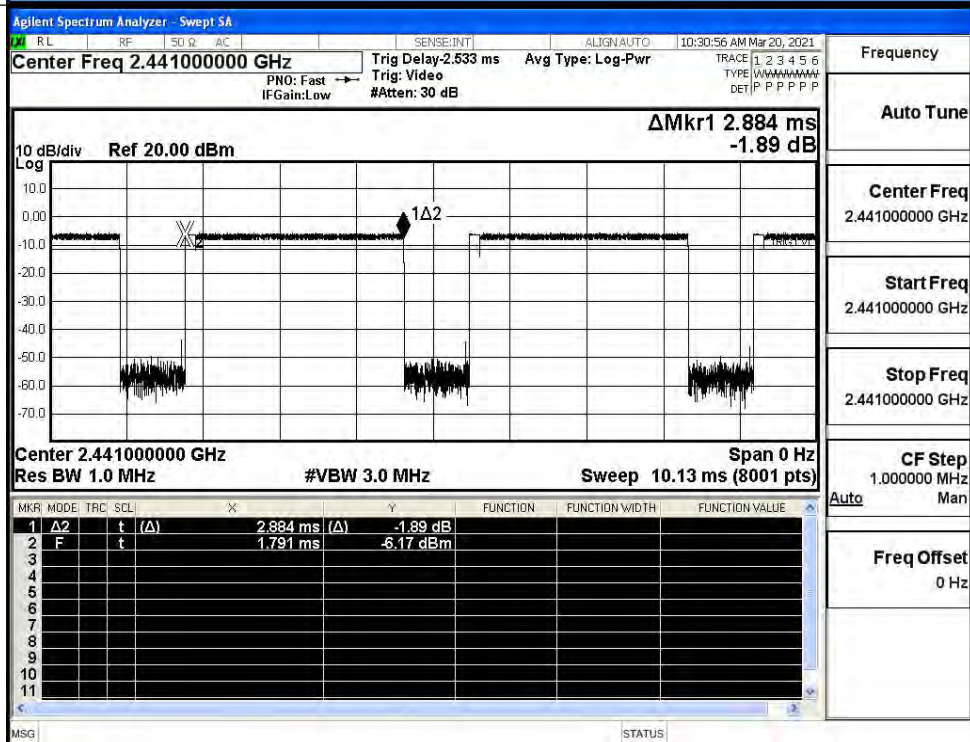
GFSK_DH5/HCH



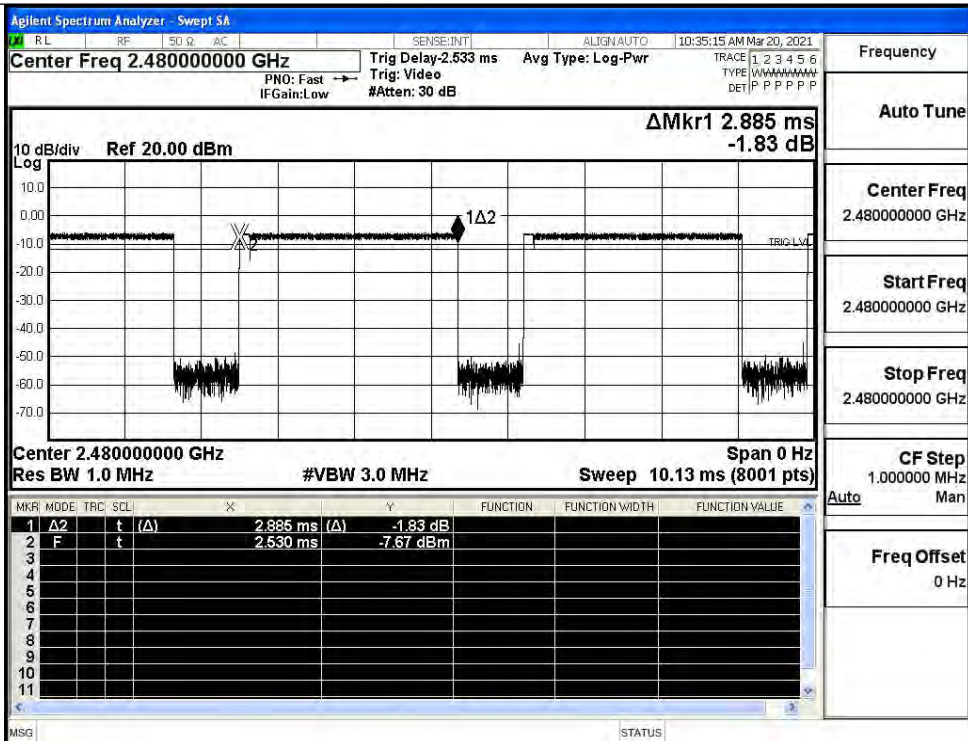
$\pi/4$ DQPSK
_2DH5/LCH



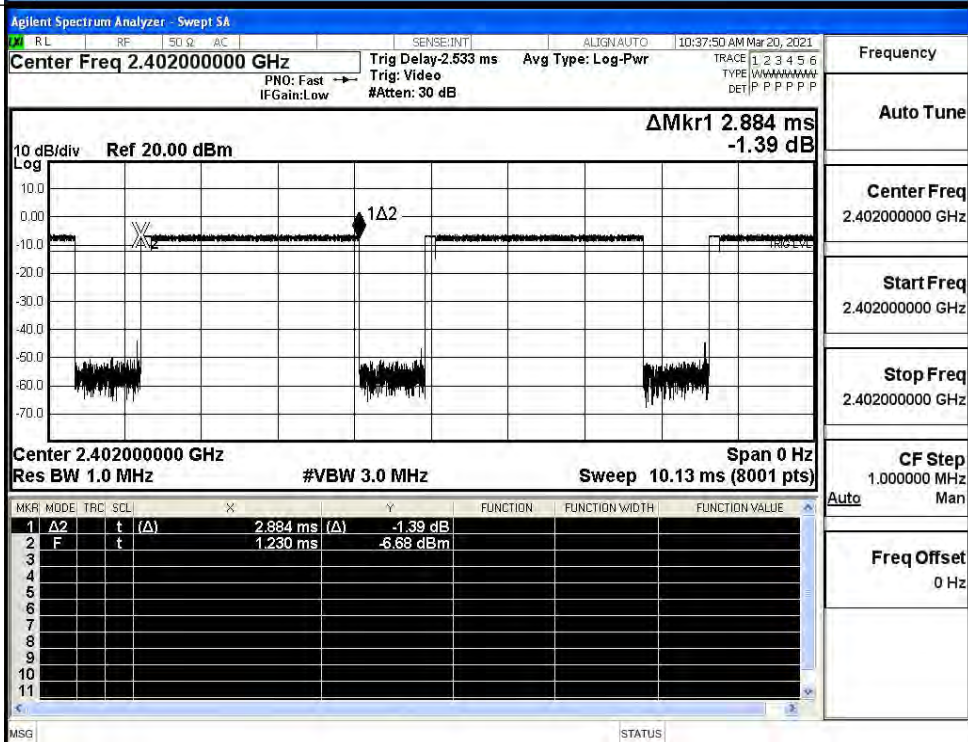
$\pi/4$ DQPSK
_2DH5/MCH



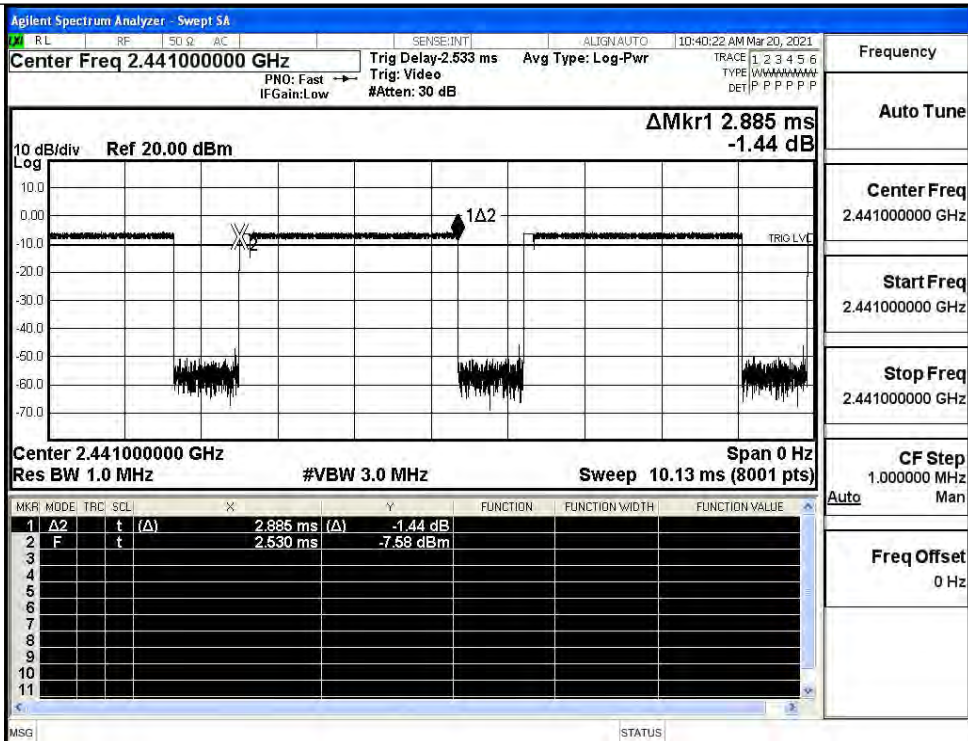
$\pi/4$ DQPSK
_2DH5/HCH



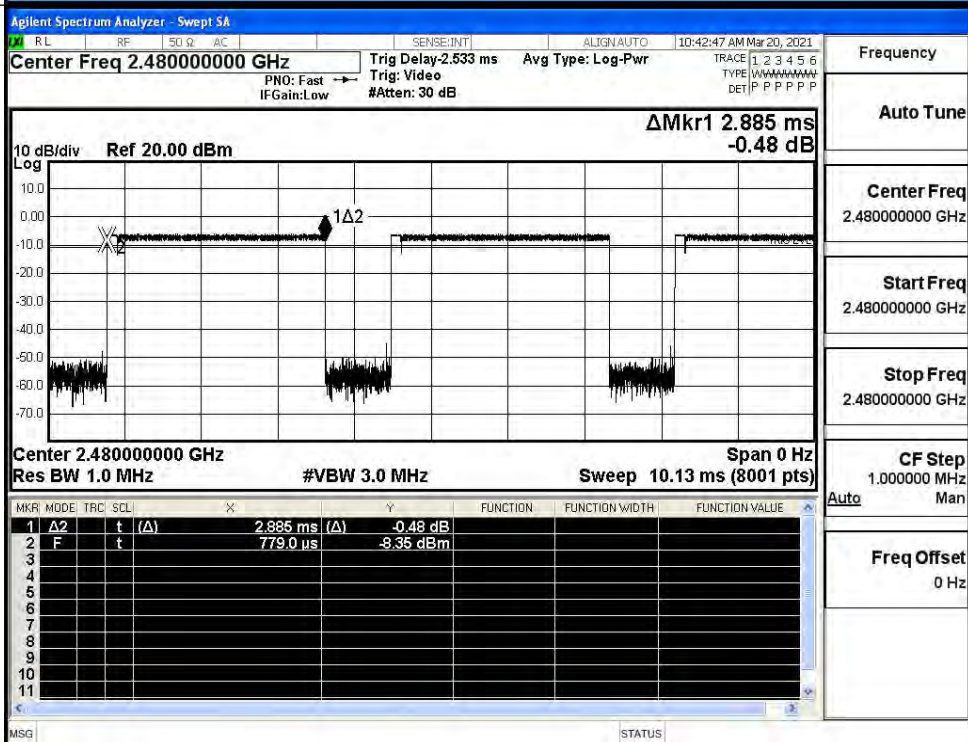
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



8DPSK_3DH5/HCH

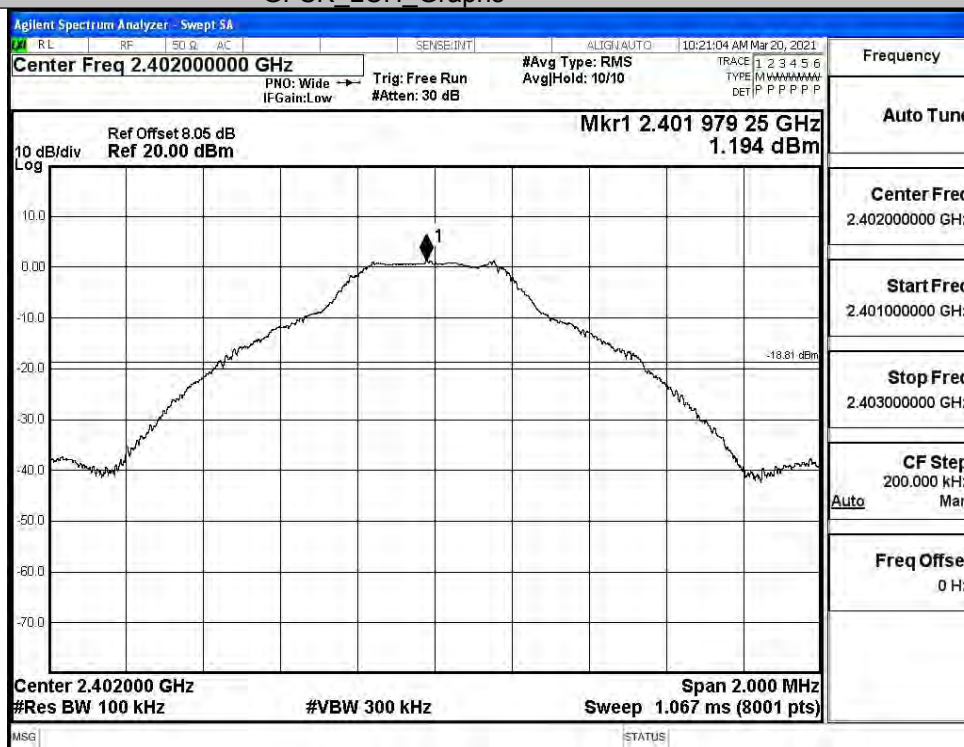


A.6 RF Conducted Spurious Emissions

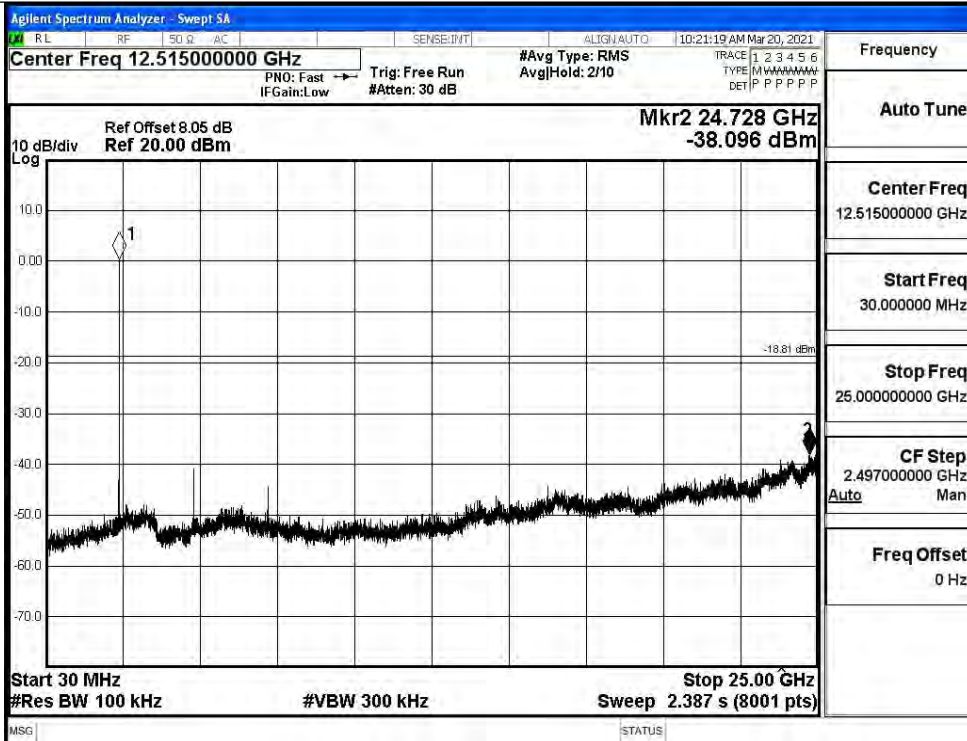
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.194	-38.096	-18.806	PASS
	MCH	1.669	-36.996	-18.331	PASS
	HCH	1.205	-37.473	-18.795	PASS
π /4DQPSK	LCH	1.393	-37.646	-18.607	PASS
	MCH	1.19	-37.574	-18.810	PASS
	HCH	1.561	-37.695	-18.439	PASS
8DPSK	LCH	1.015	-37.511	-18.985	PASS
	MCH	1.796	-38.191	-18.204	PASS
	HCH	1.228	-37.351	-18.772	PASS

GFSK LCH Graphs

Pref

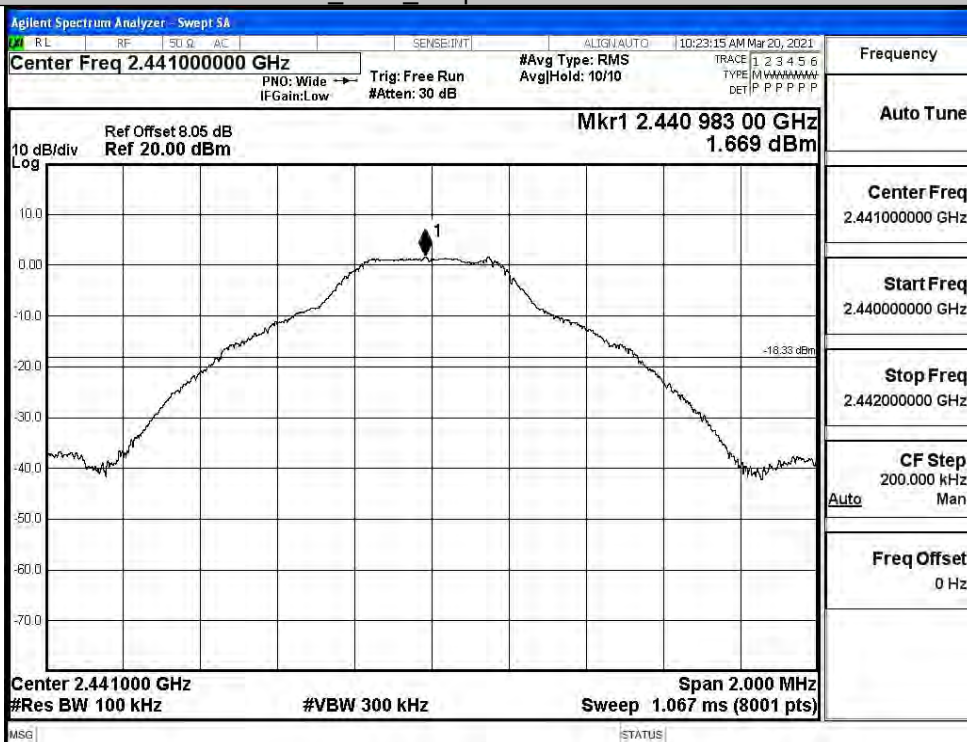


Puw

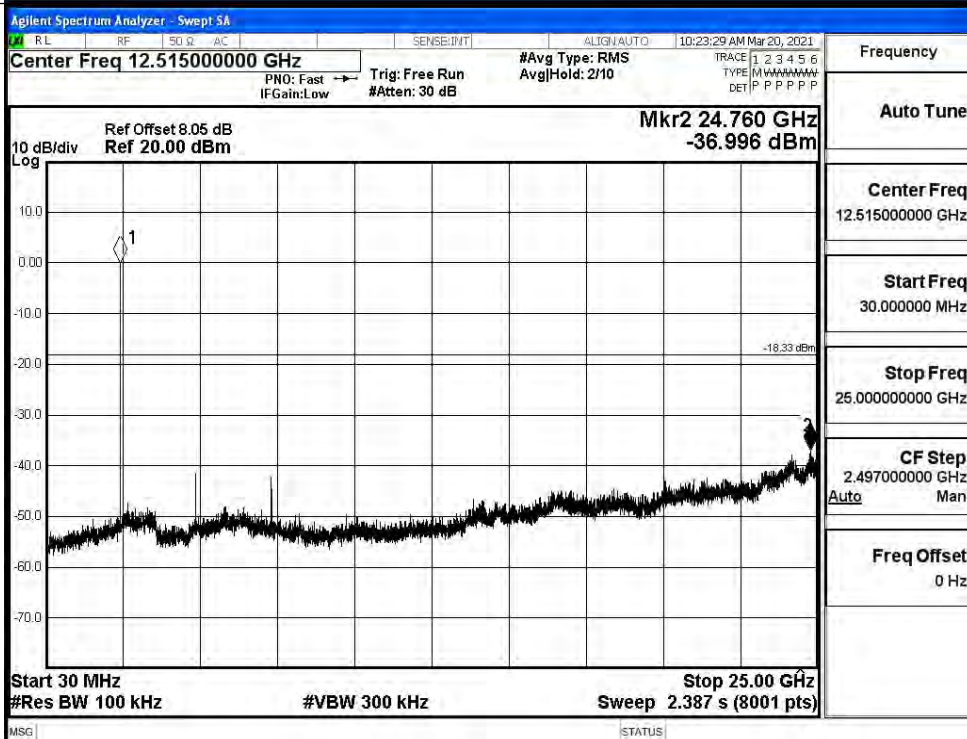


GFSK_MCH_Graphs

Pref

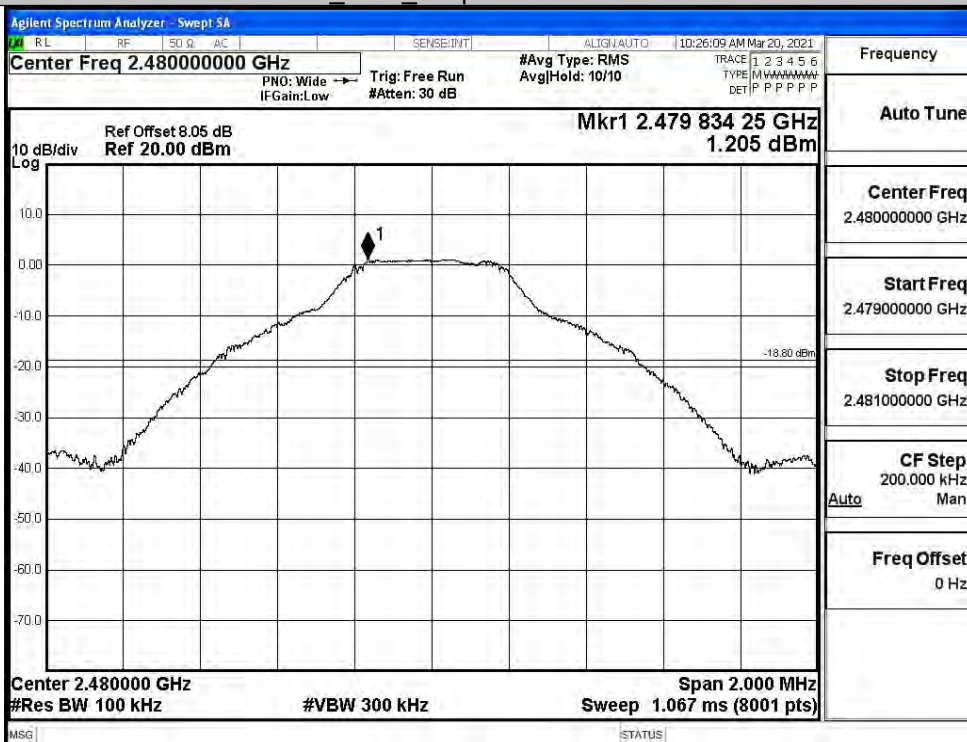


Puw

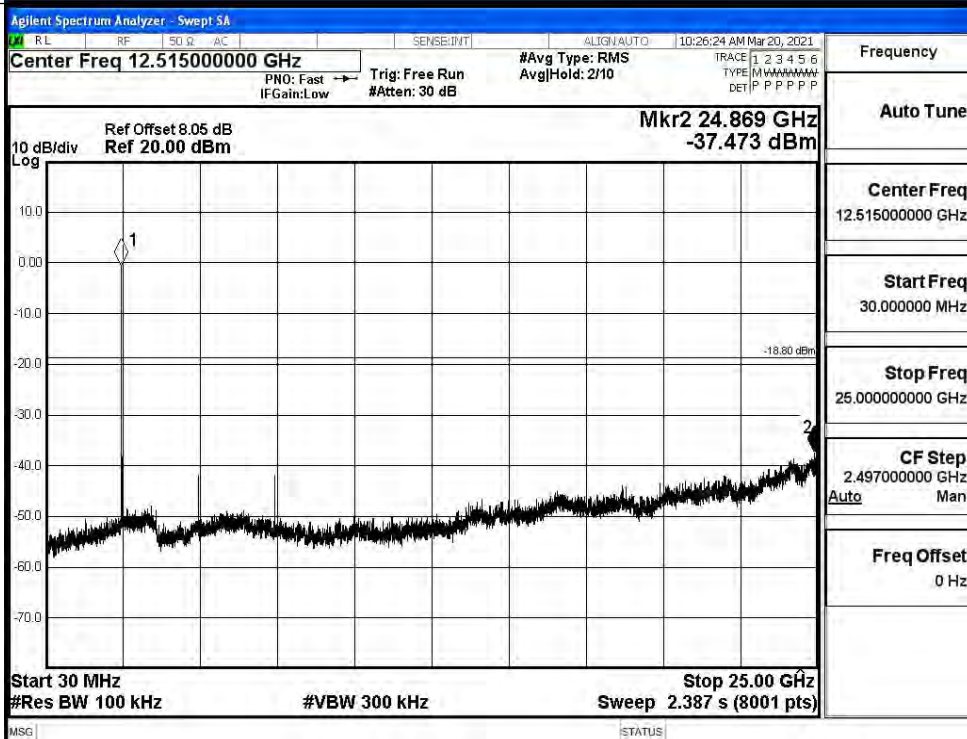


GFSK_HCH_Graphs

Pref

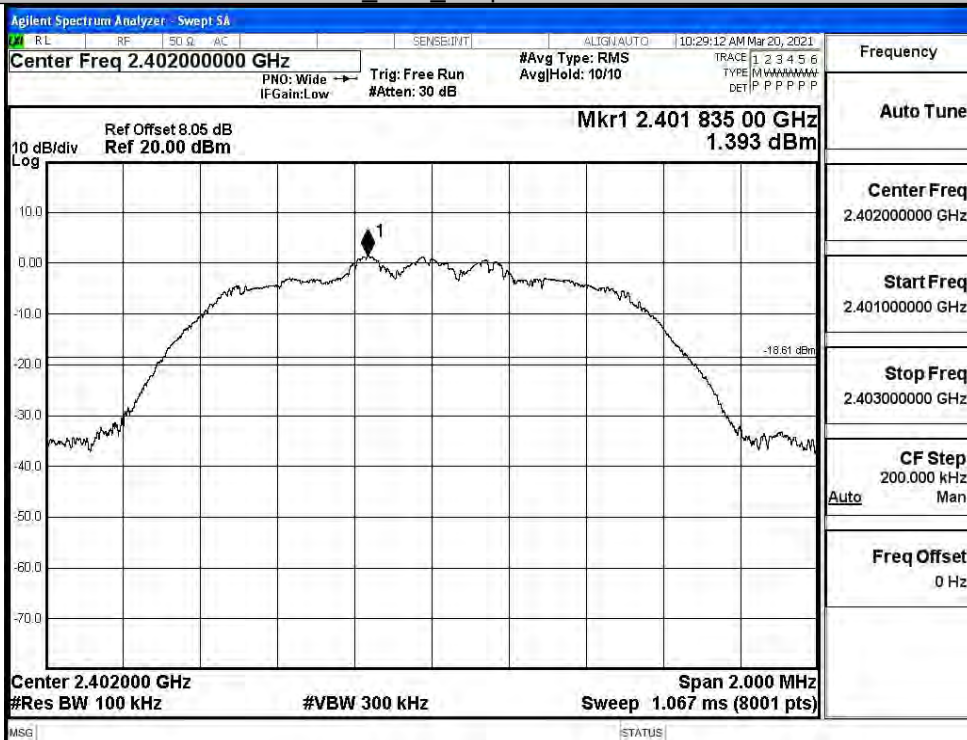


Puw



$\pi/4$ DQPSK_LCH_Graphs

Pref

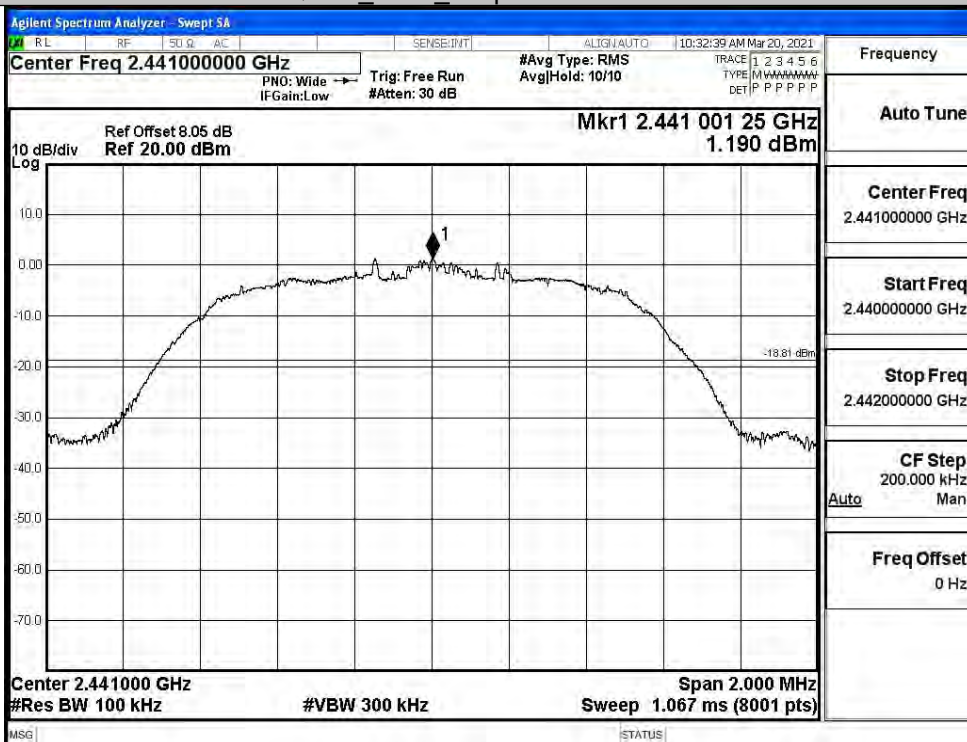


Puw

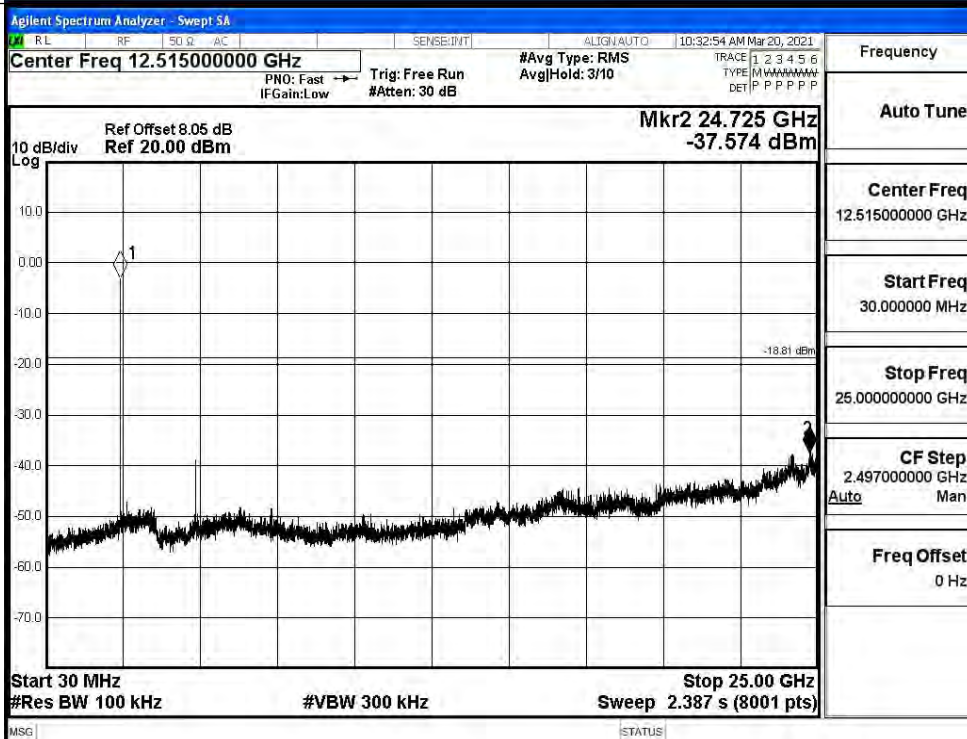


$\pi/4$ DQPSK_MCH_Graphs

Pref

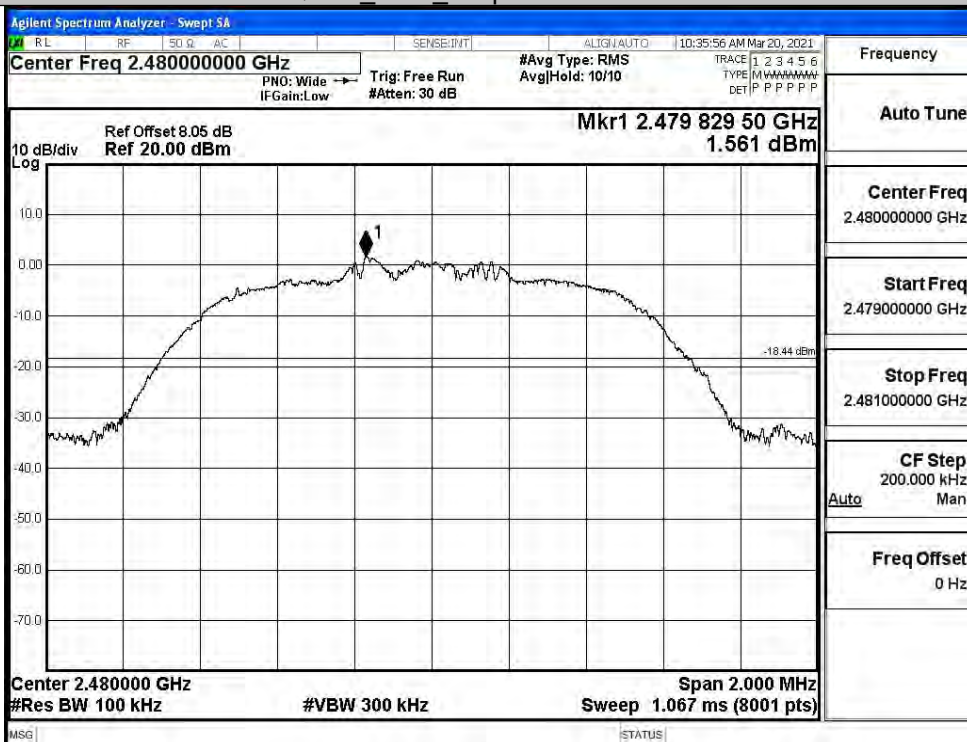


Puw

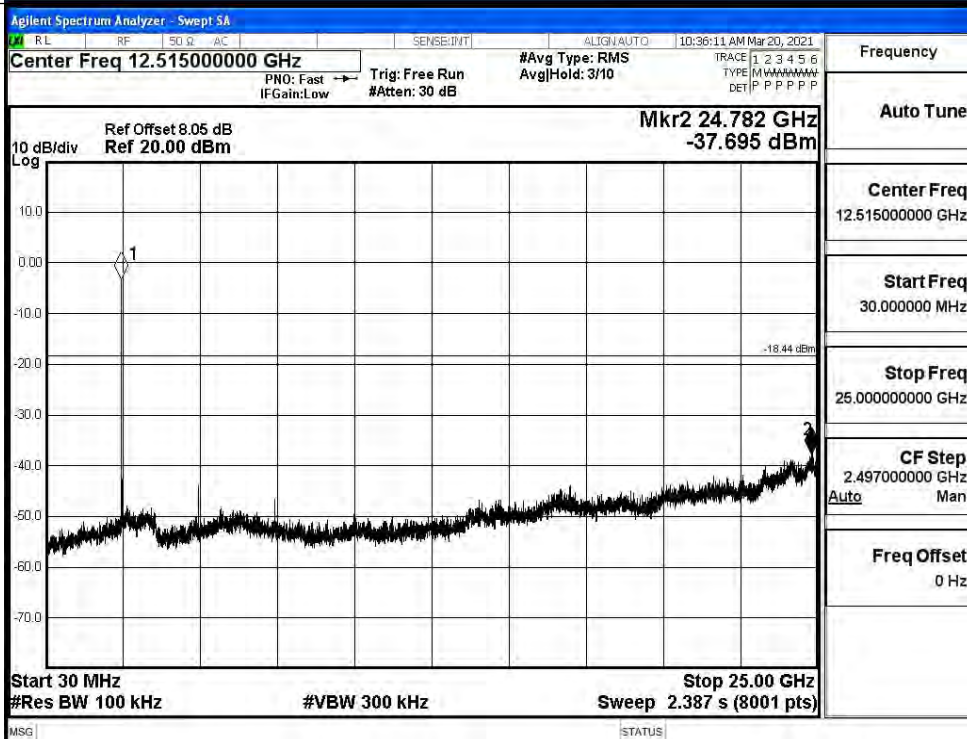


$\pi/4$ DQPSK_HCH_Graphs

Pref

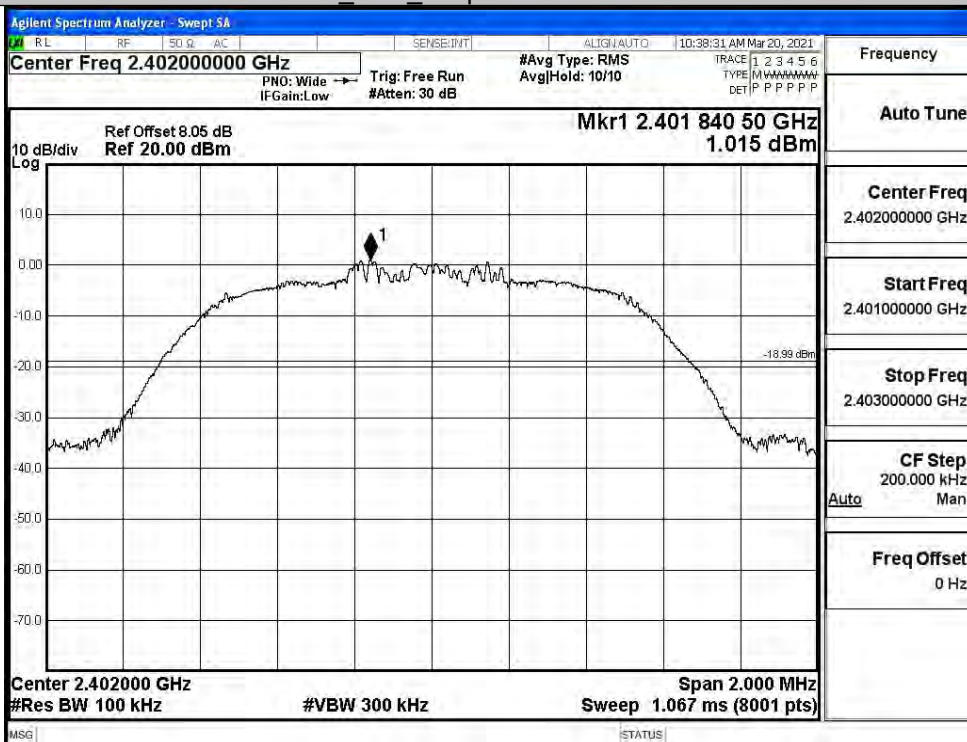


Puw



8DPSK_LCH_Graphs

Pref

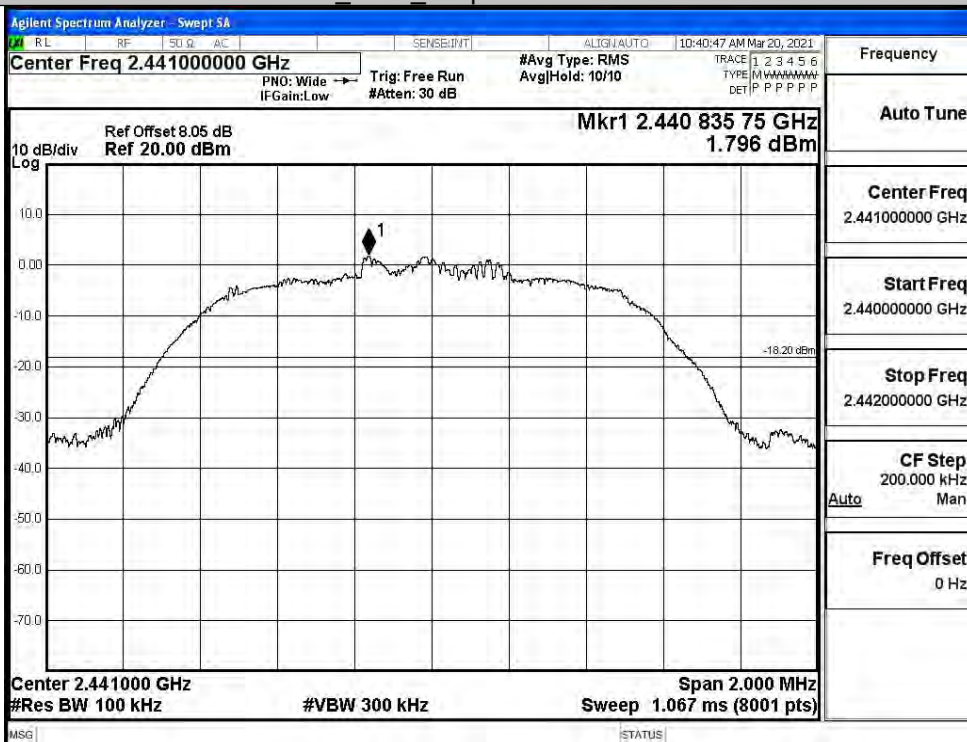


Puw

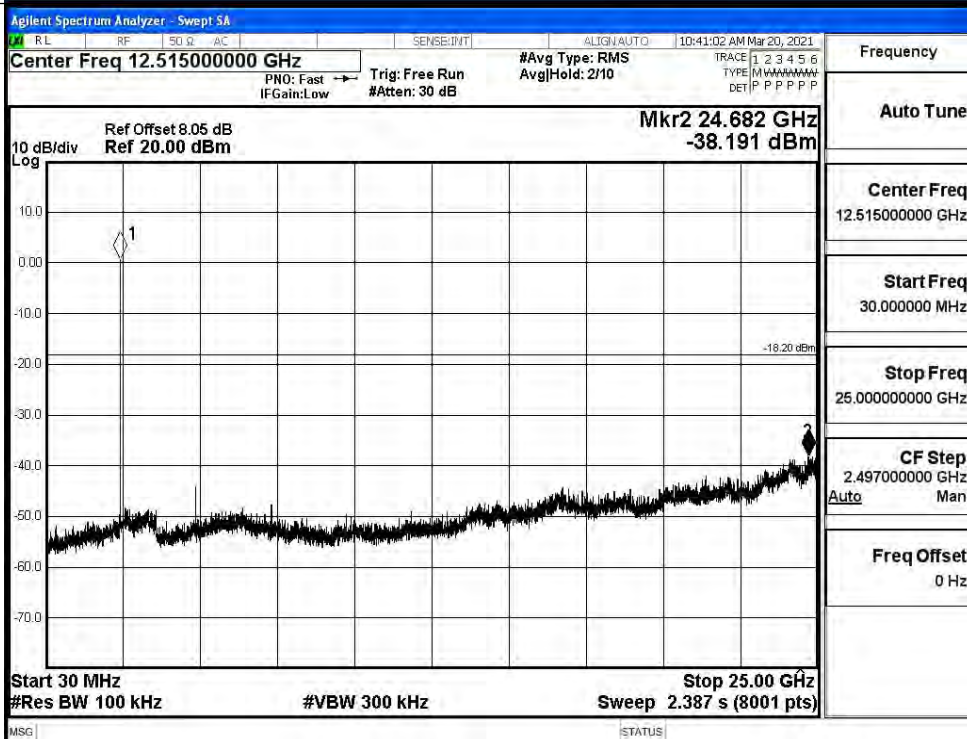


8DPSK_MCH_Graphs

Pref

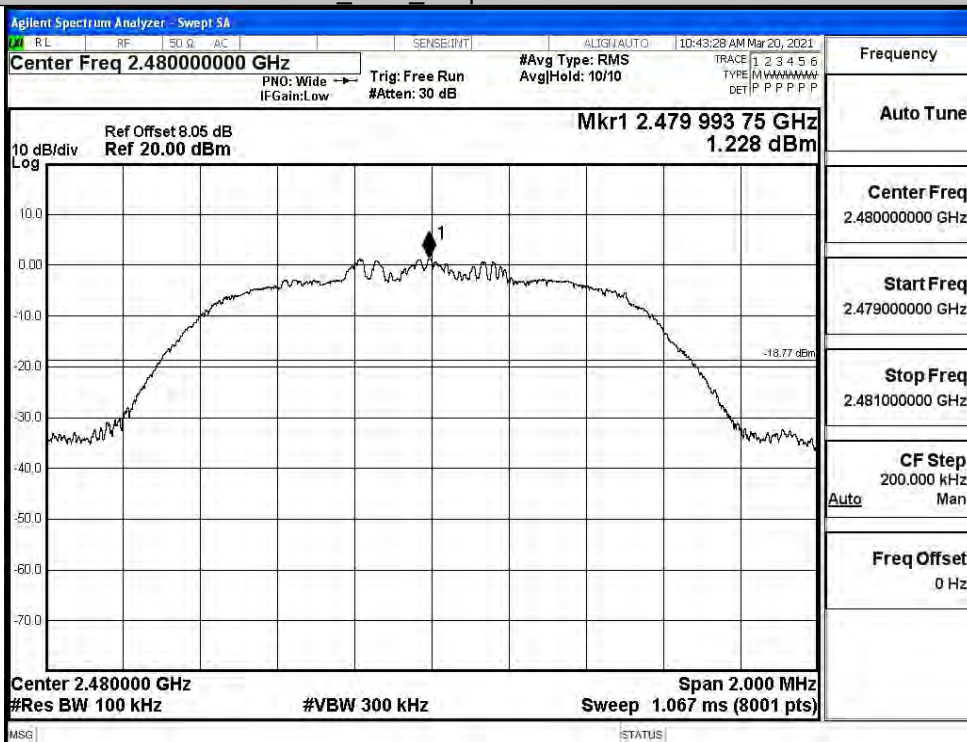


Puw



8DPSK_HCH_Graphs

Pref



Puw

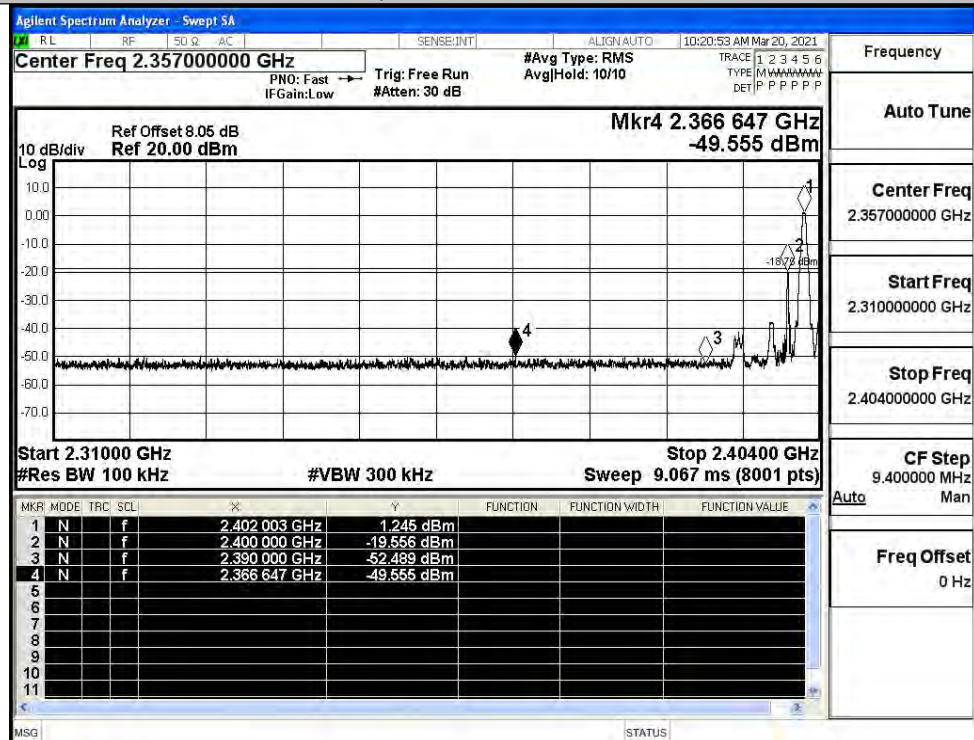


A.7 Band-edge for RF Conducted Emissions

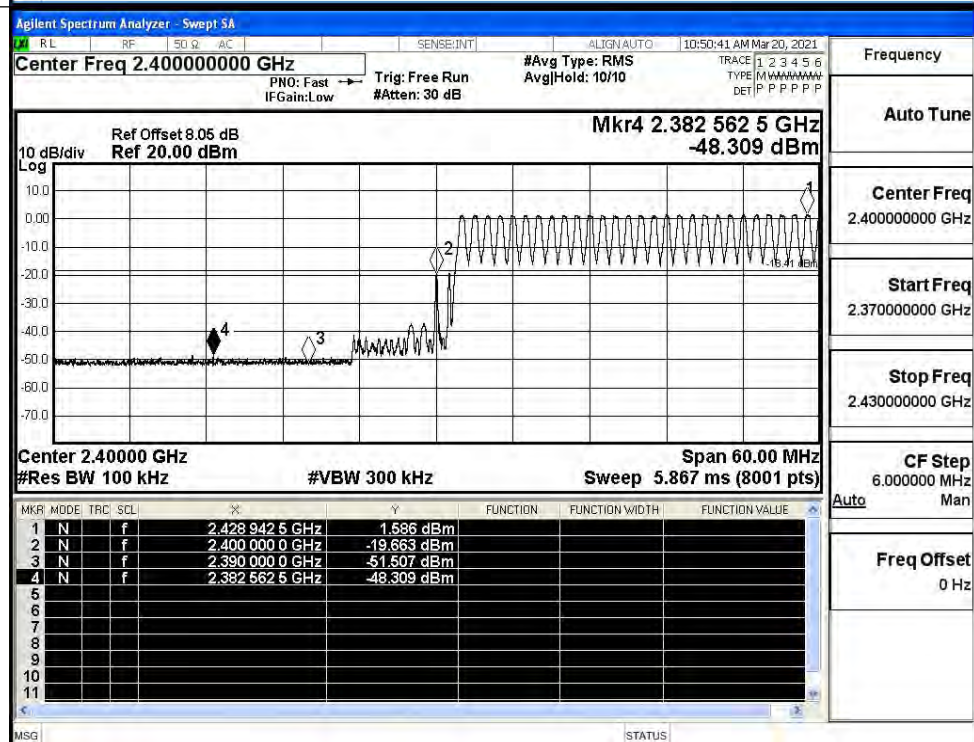
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	1.245	Off	-49.555	-18.76	PASS
			1.586	On	-48.309	-18.41	PASS
	HCH	2480	1.521	Off	-47.061	-18.48	PASS
			1.469	On	-48.316	-18.53	PASS
$\pi/4$ DQPSK	LCH	2402	1.427	Off	-49.683	-18.57	PASS
			1.575	On	-48.301	-18.43	PASS
	HCH	2480	1.710	Off	-49.074	-18.29	PASS
			1.684	On	-47.689	-18.32	PASS
8DPSK	LCH	2402	1.155	Off	-49.153	-18.85	PASS
			1.738	On	-49.165	-18.26	PASS
	HCH	2480	1.415	Off	-48.006	-18.59	PASS
			1.625	On	-48.328	-18.38	PASS

Test Graphs

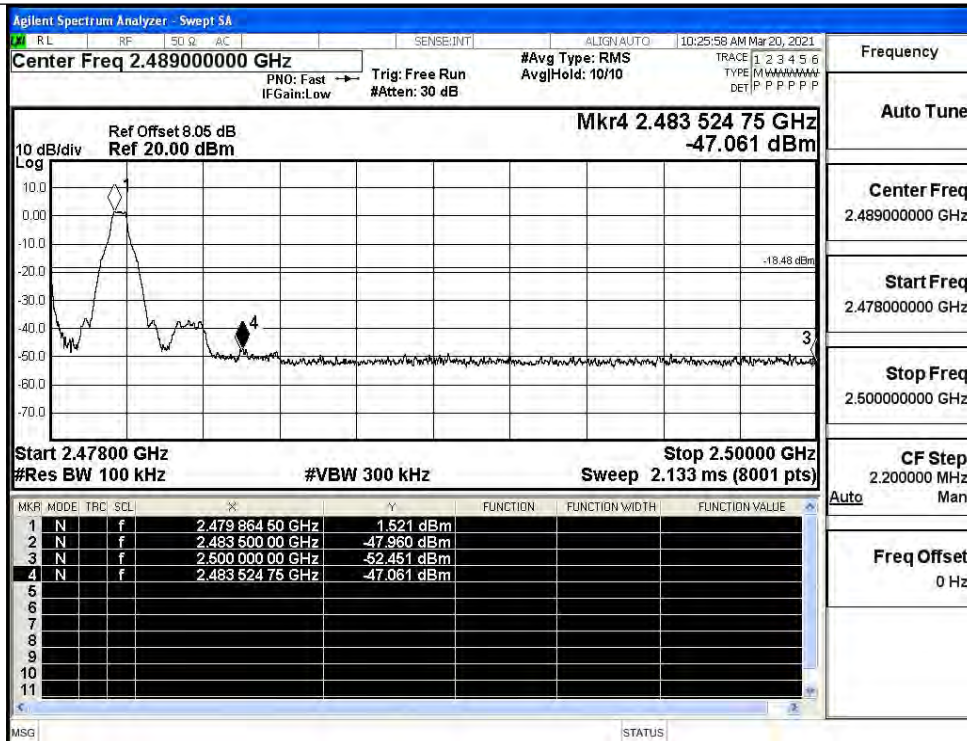
GFSK/LCH/No Hop



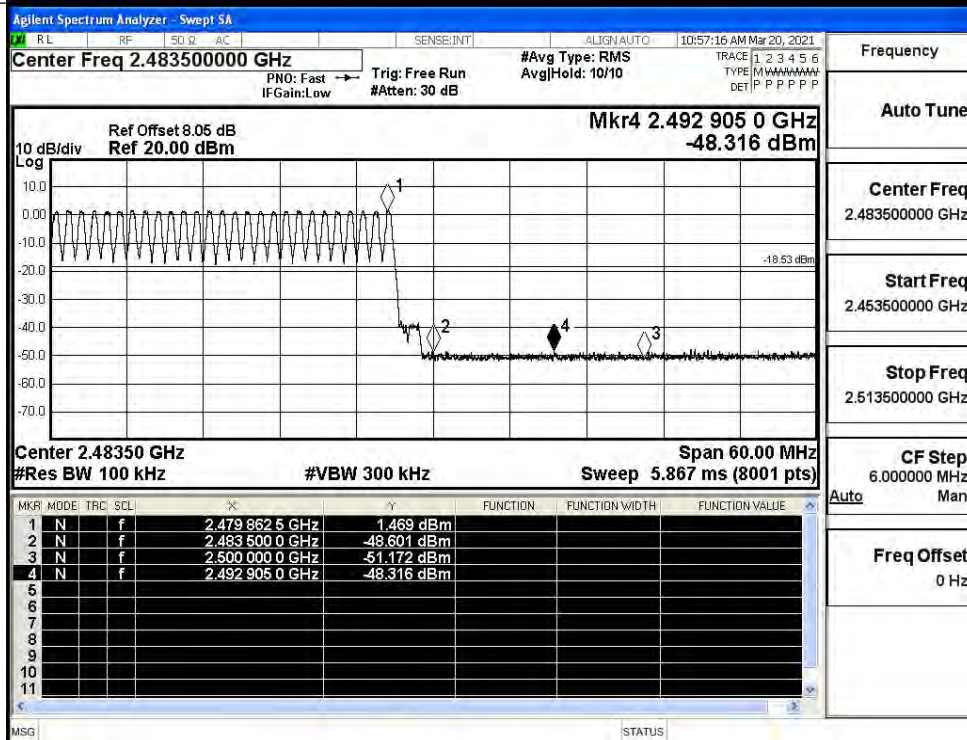
GFSK/LCH/Hop



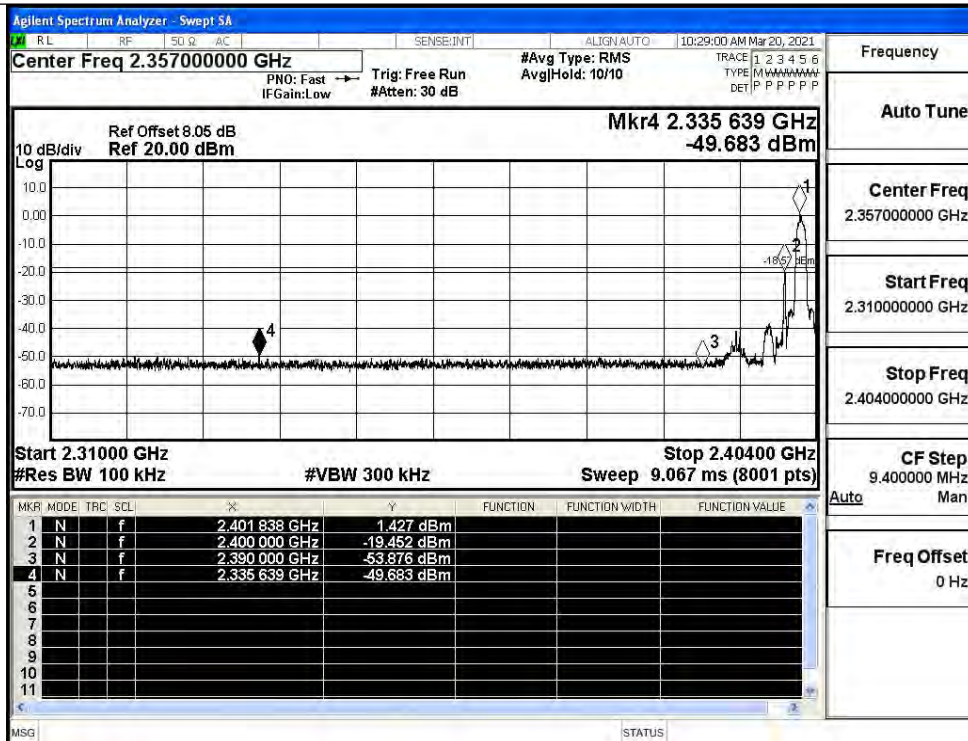
GFSK/HCH/No Hop



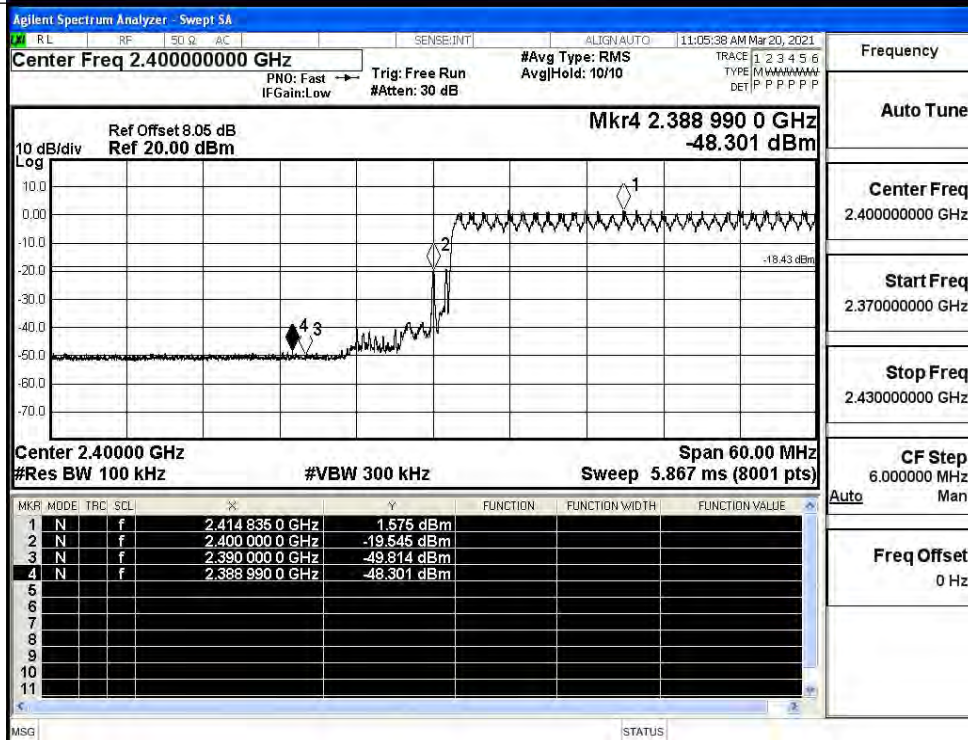
GFSK/HCH/Hop



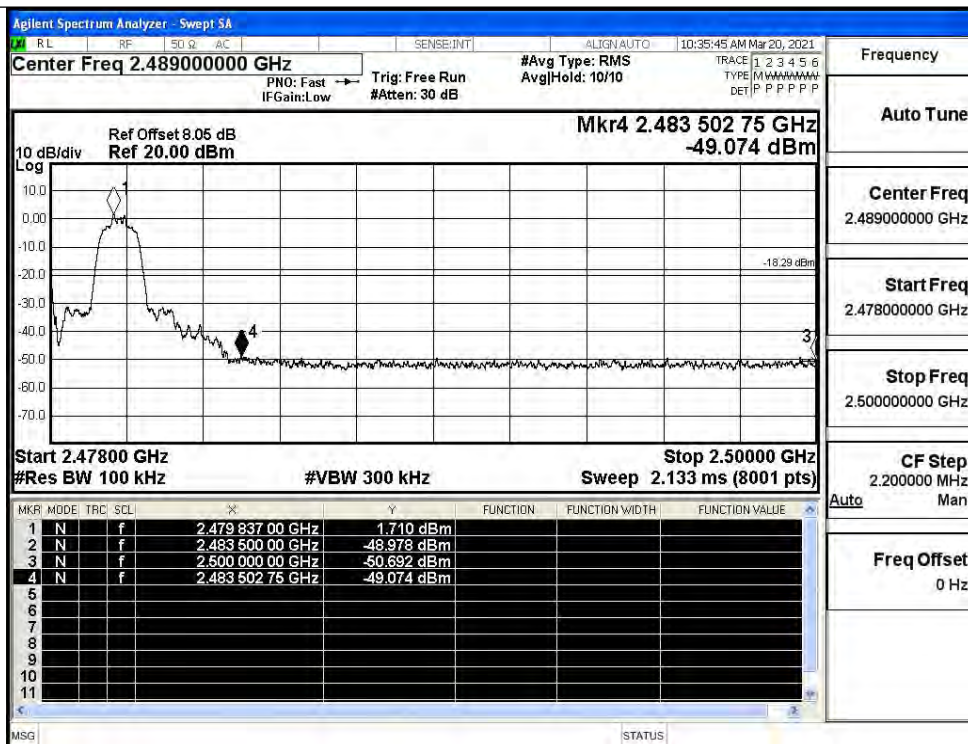
$\pi/4$ DQPSK/LCH/No
Hop



$\pi/4$ DQPSK/LCH/Hop



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

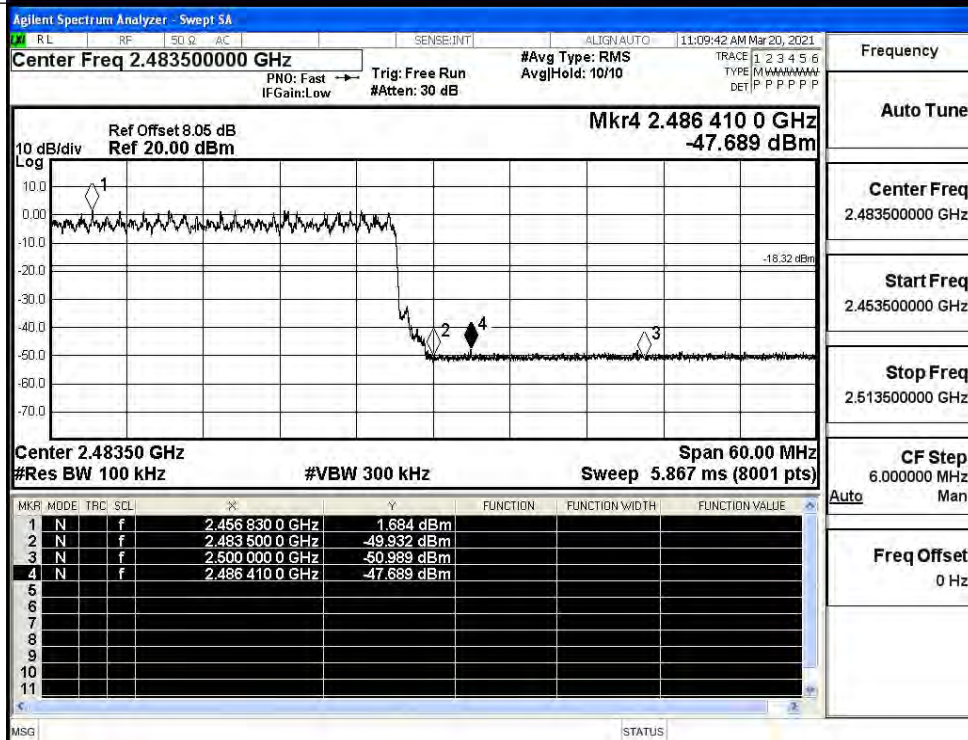


Frequency

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

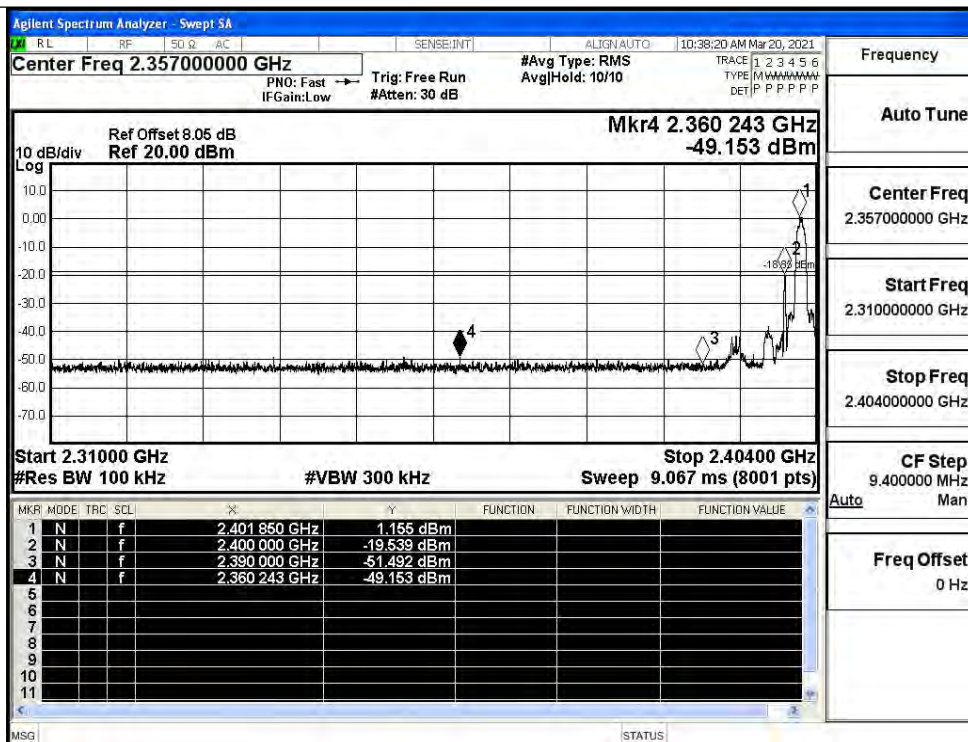


Frequency

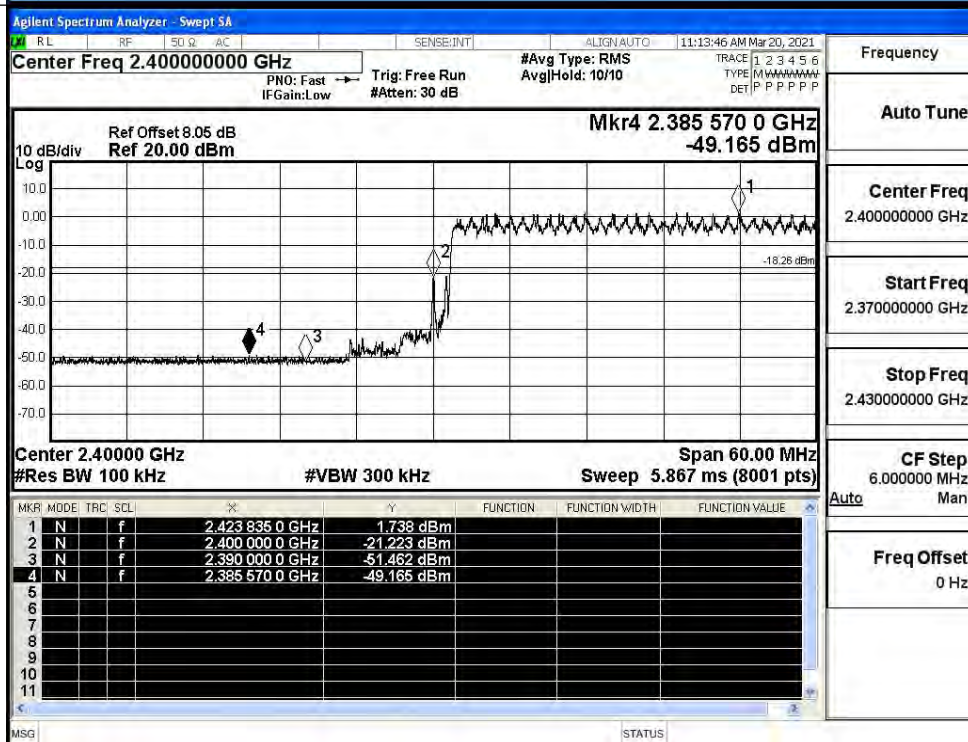
Auto Tune

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

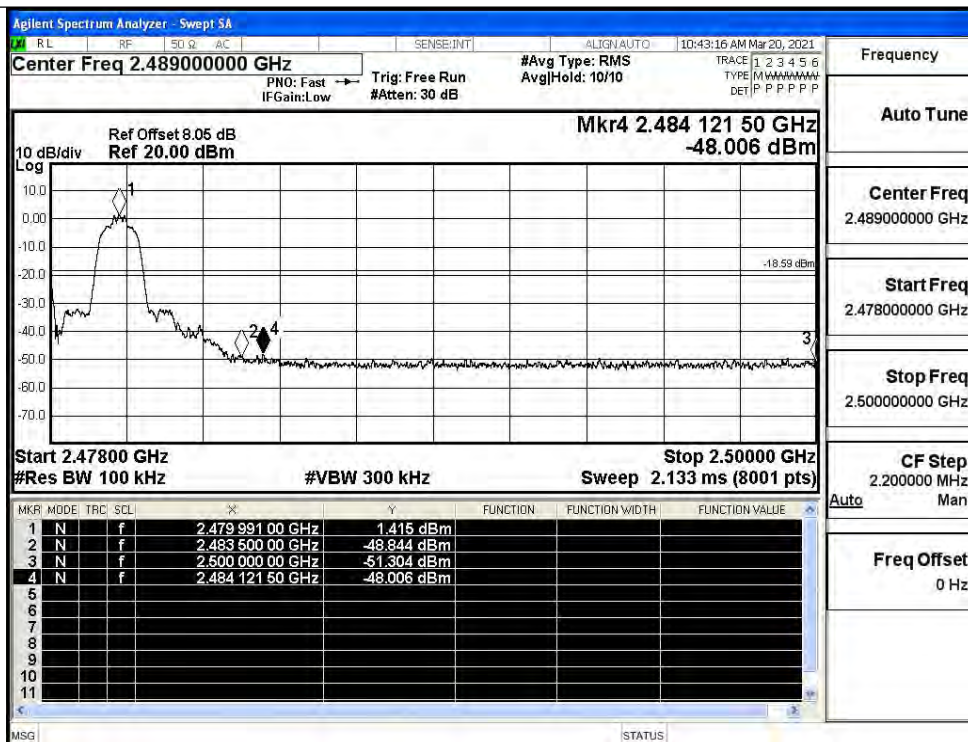
8DPSK/LCH/No Hop



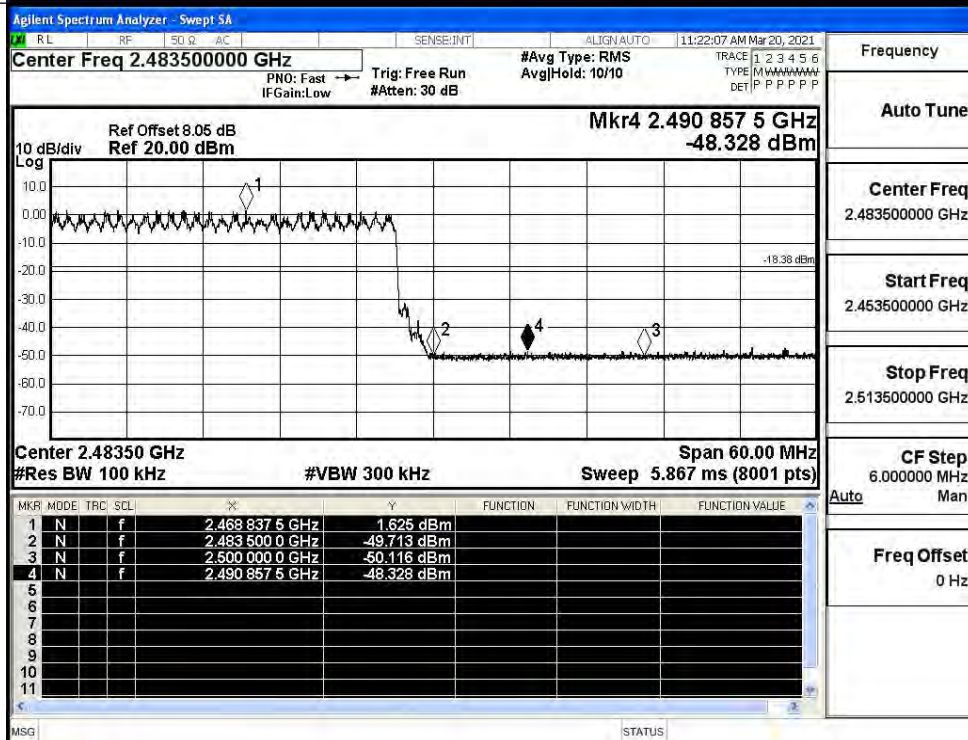
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



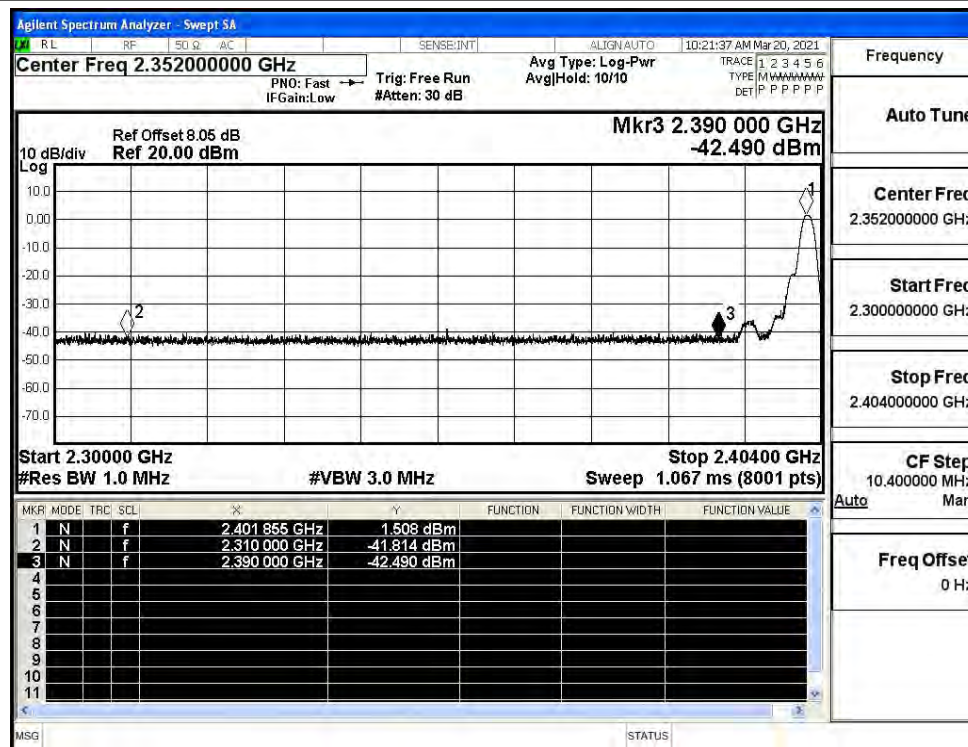
8DPSK/HCH/Hop



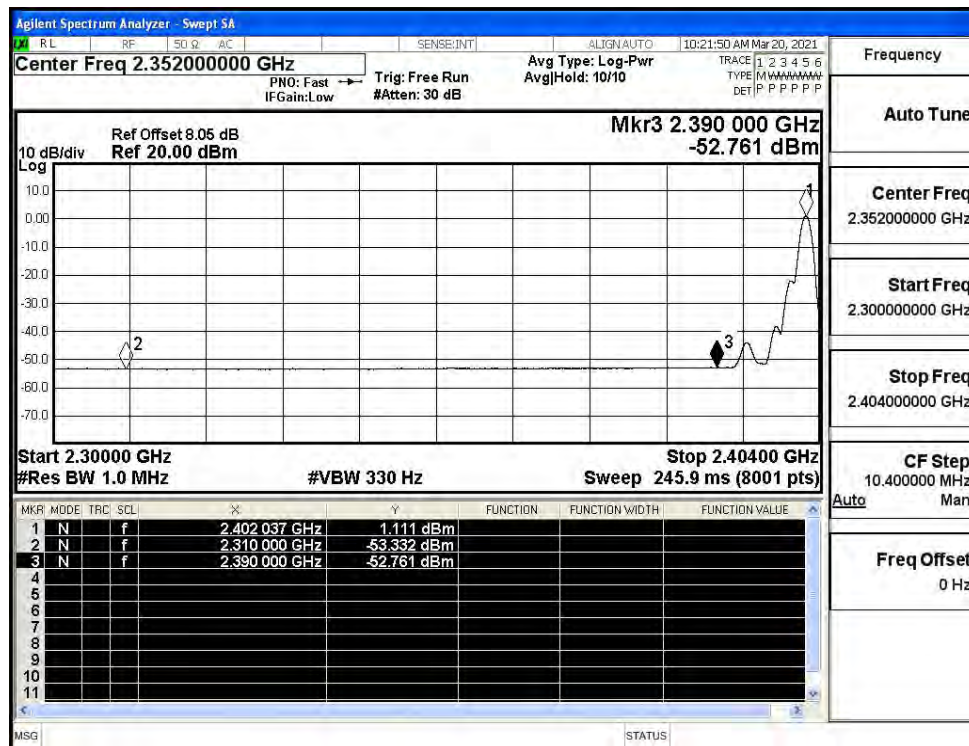
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-41.81	2.0	0	55.42	PEAK	74	PASS
	Off	2310.0	-53.33	2.0	0	43.90	AV	54	PASS
	Off	2390.0	-42.49	2.0	0	54.74	PEAK	74	PASS
	Off	2390.0	-52.76	2.0	0	44.47	AV	54	PASS
	Off	2483.5	-39.79	2.0	0	57.44	PEAK	74	PASS
	Off	2483.5	-49.03	2.0	0	48.20	AV	54	PASS
	Off	2500.0	-40.78	2.0	0	56.45	PEAK	74	PASS
	Off	2500.0	-52.24	2.0	0	44.99	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.33	2.0	0	53.90	PEAK	74	PASS
	Off	2310.0	-53.41	2.0	0	43.82	AV	54	PASS
	Off	2390.0	-43.66	2.0	0	53.57	PEAK	74	PASS
	Off	2390.0	-52.91	2.0	0	44.32	AV	54	PASS
	Off	2483.5	-39.57	2.0	0	57.66	PEAK	74	PASS
	Off	2483.5	-49.28	2.0	0	47.95	AV	54	PASS
	Off	2500.0	-40.81	2.0	0	56.42	PEAK	74	PASS
	Off	2500.0	-52.34	2.0	0	44.89	AV	54	PASS
8DPSK	Off	2310.0	-42.22	2.0	0	55.01	PEAK	74	PASS
	Off	2310.0	-53.37	2.0	0	43.86	AV	54	PASS
	Off	2390.0	-42.97	2.0	0	54.26	PEAK	74	PASS
	Off	2390.0	-52.93	2.0	0	44.30	AV	54	PASS
	Off	2483.5	-39.93	2.0	0	57.30	PEAK	74	PASS
	Off	2483.5	-49.25	2.0	0	47.98	AV	54	PASS
	Off	2500.0	-41.24	2.0	0	55.99	PEAK	74	PASS
	Off	2500.0	-52.34	2.0	0	44.89	AV	54	PASS

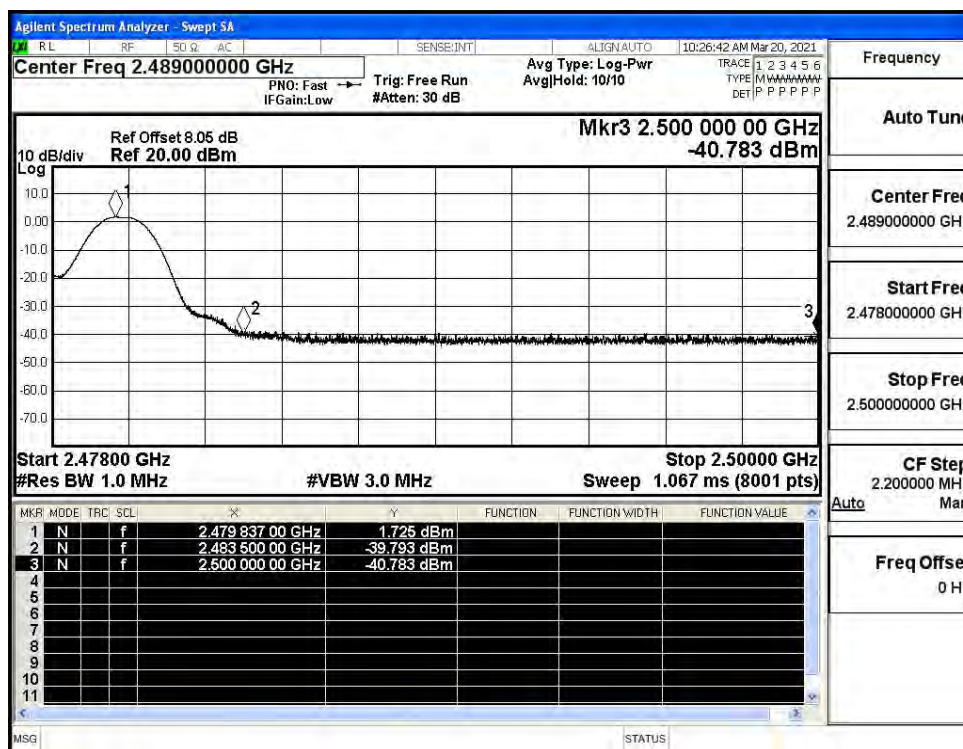
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



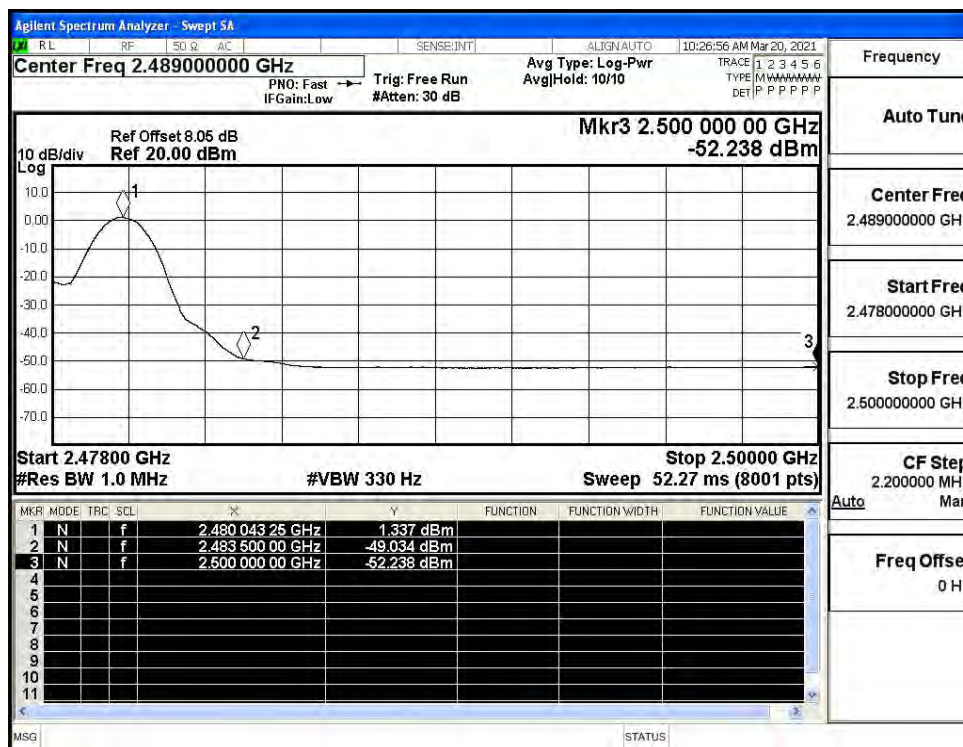
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

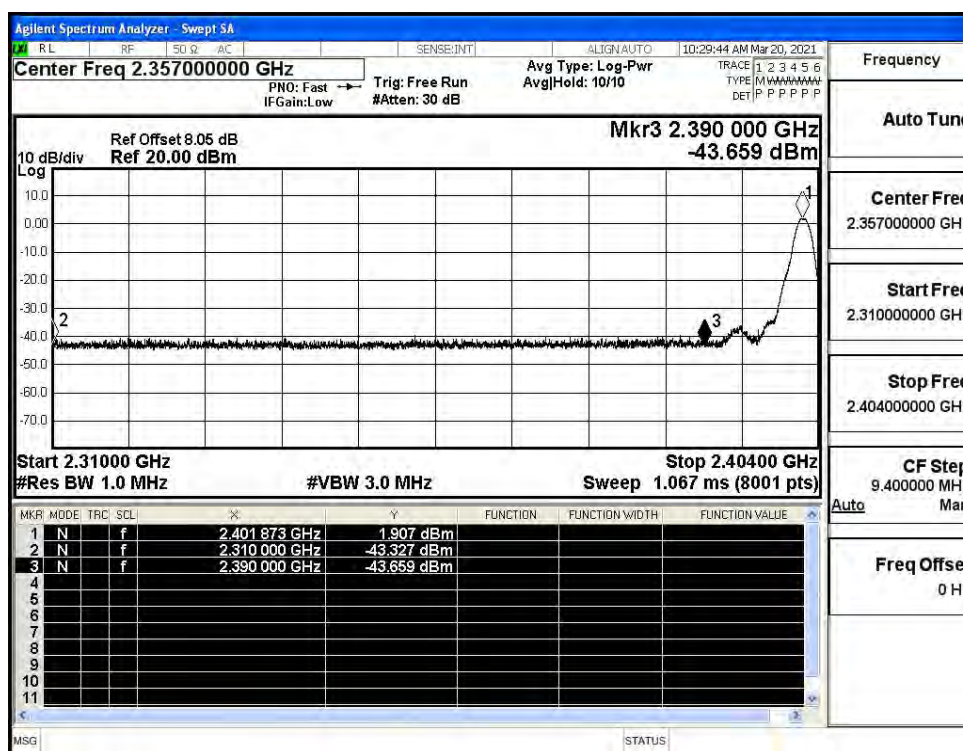
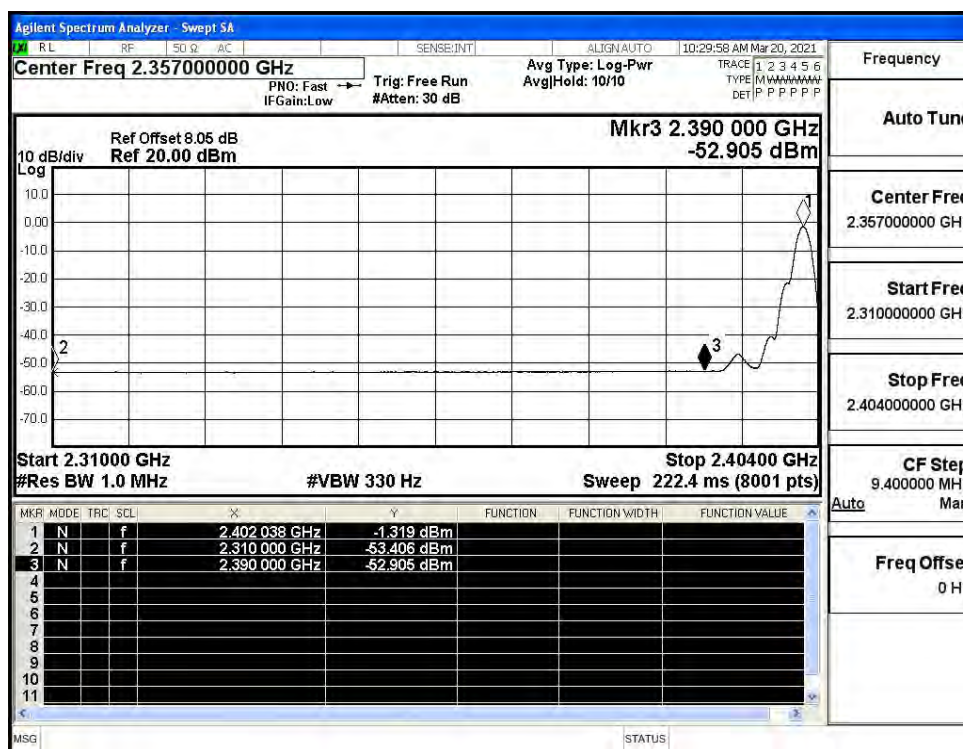


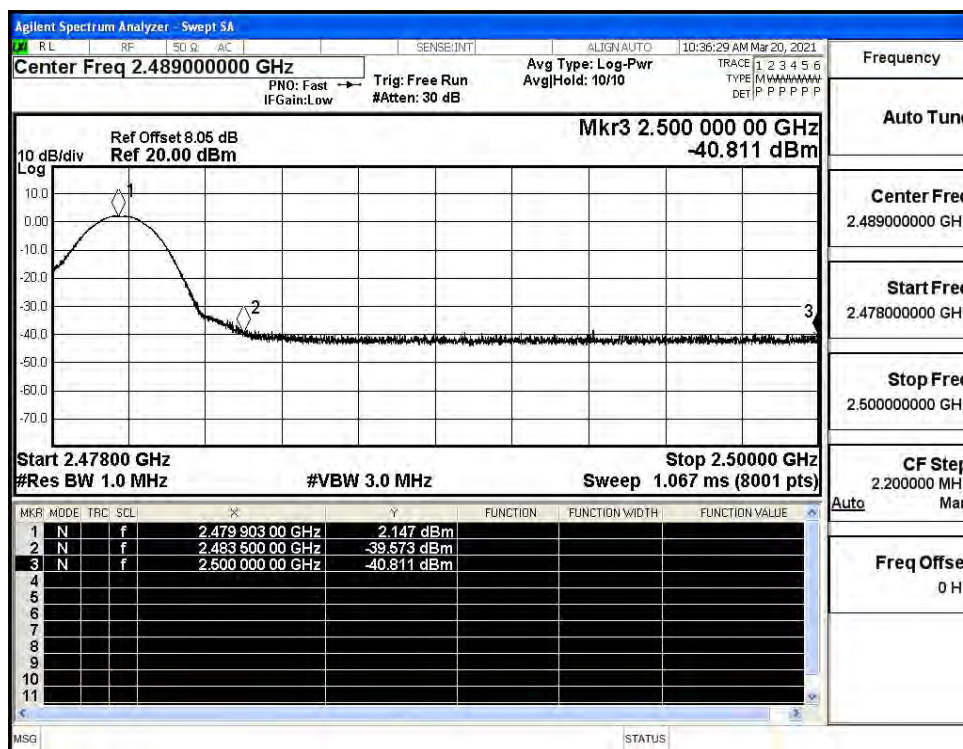
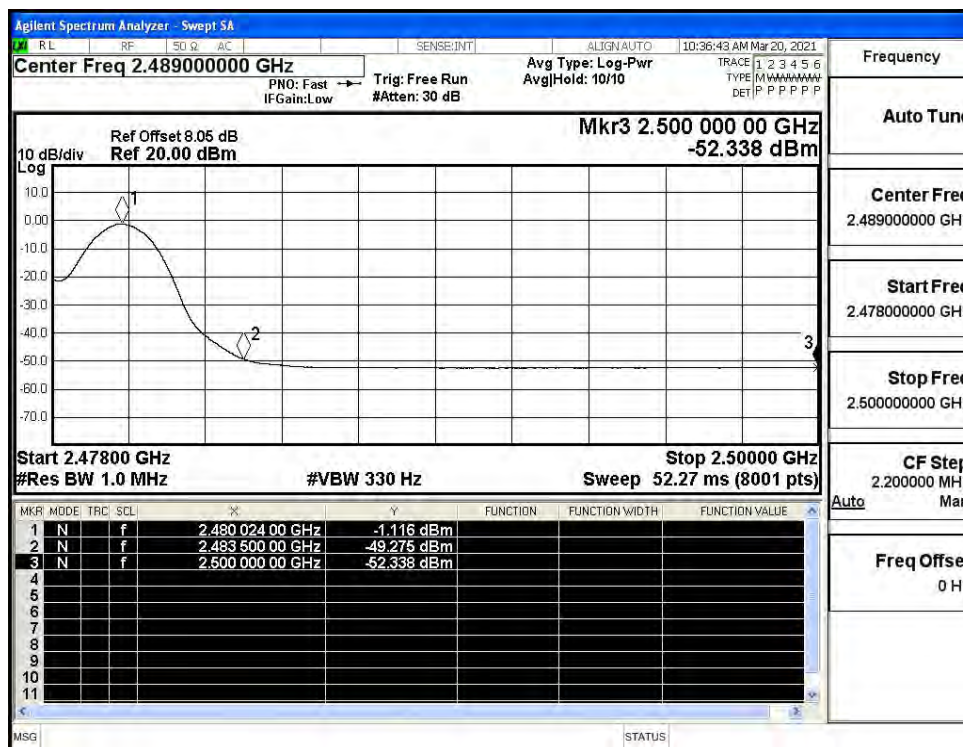
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



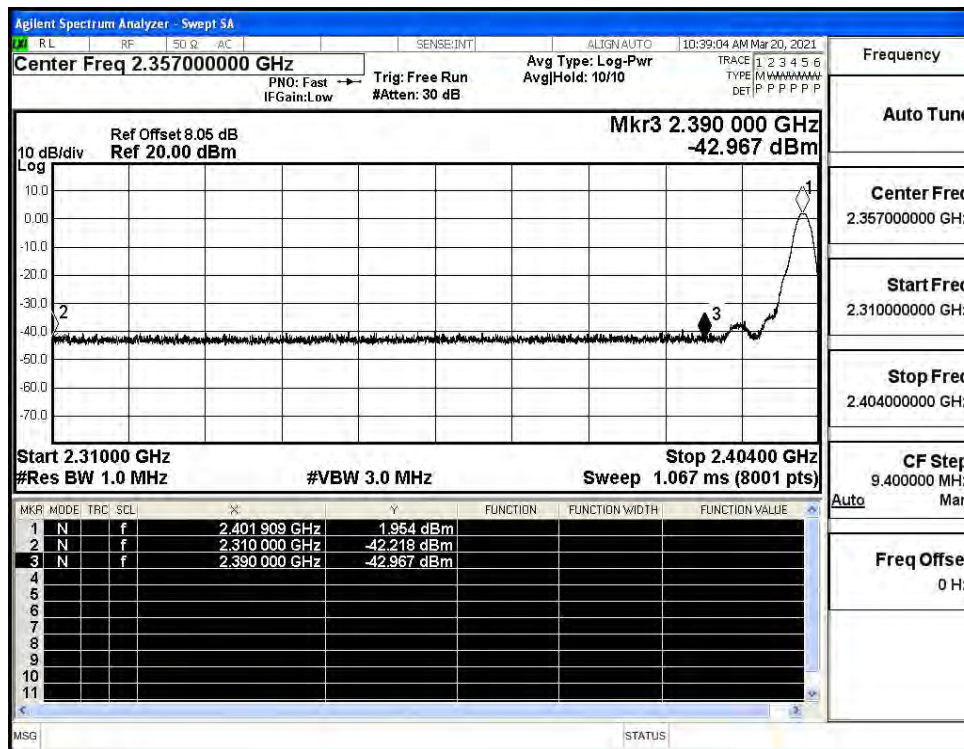
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



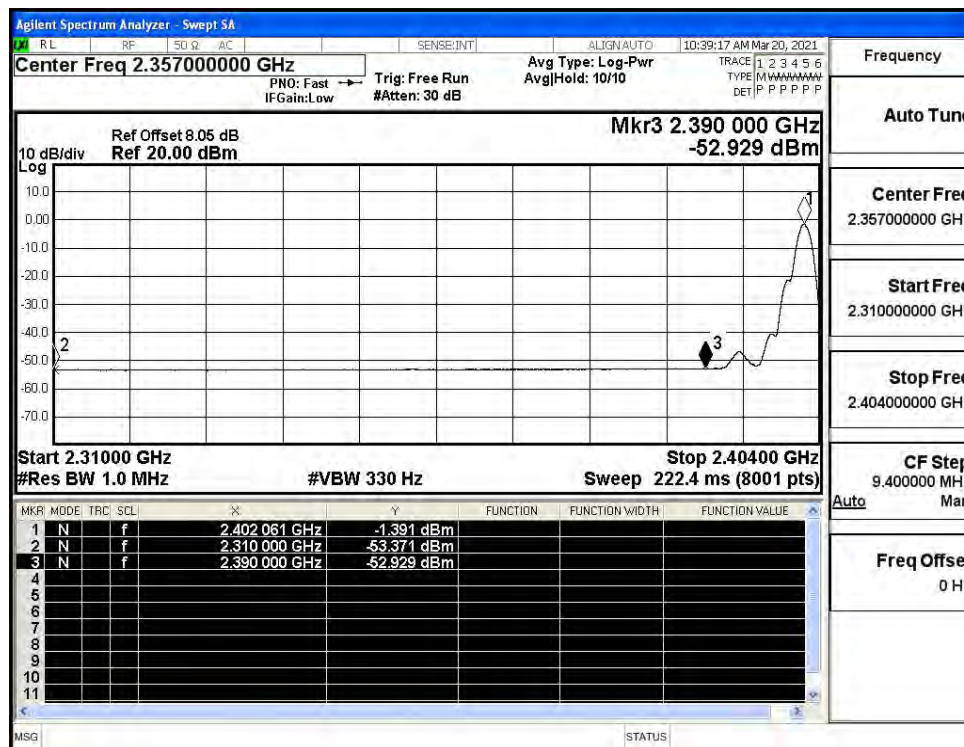
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

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

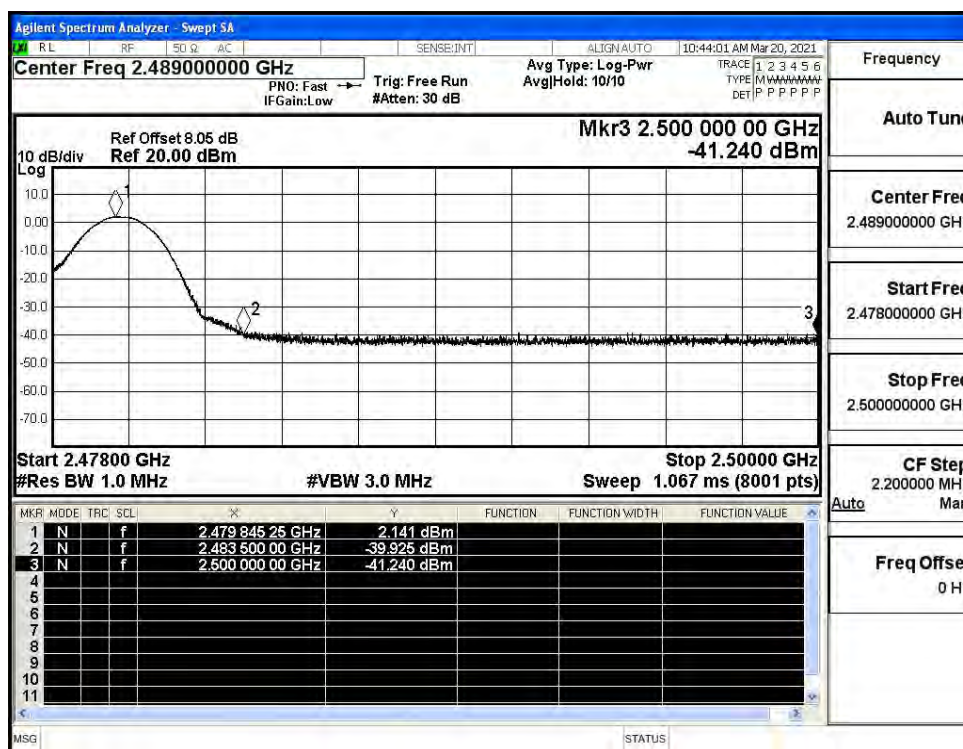
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

