

Appendix A

RF Test Data for BT V4.0(DSS) (Conducted Measurement)

Product Name: Android TV™ Box (GMS)

Trade Mark: RockTek

Test Model: RT-G1

Environmental Conditions

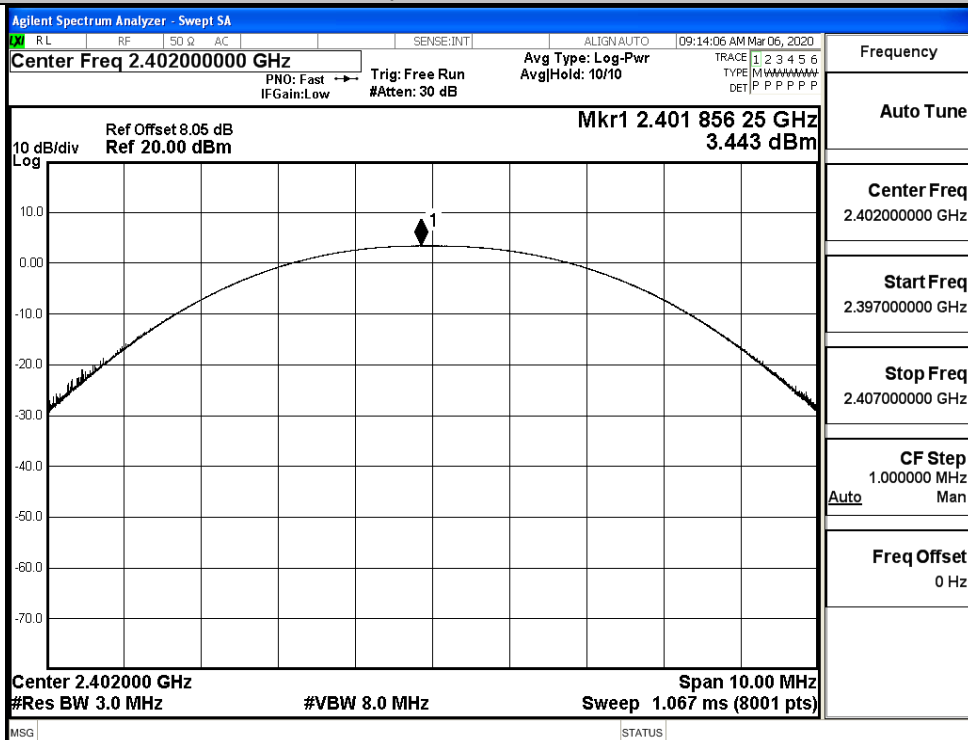
Temperature:	23.9 ° C
Relative Humidity:	52.8%
ATM Pressure:	100.0 kPa
Test Engineer:	Scout Wu
Supervised by:	Tom.Liu

A.1 Maximum Conducted Peak Output Power

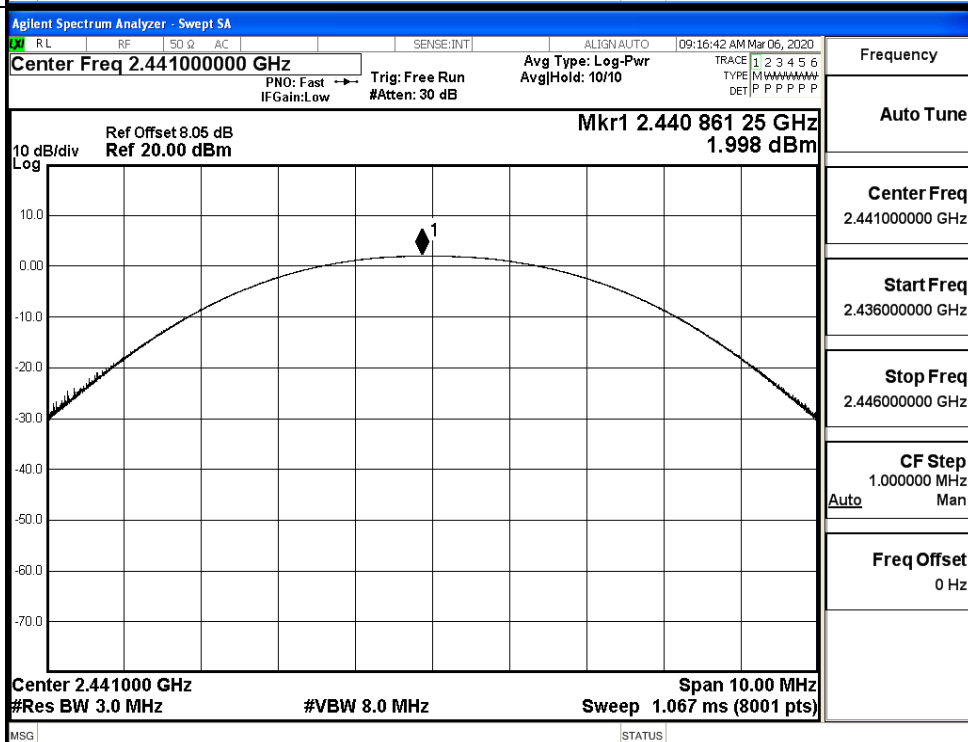
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.443	30	PASS
	MCH	1.998	30	PASS
	HCH	0.344	30	PASS
$\pi/4$ DQPSK	LCH	2.978	21	PASS
	MCH	1.437	21	PASS
	HCH	-0.242	21	PASS
8DPSK	LCH	3.375	21	PASS
	MCH	1.861	21	PASS
	HCH	0.173	21	PASS

Test Graphs

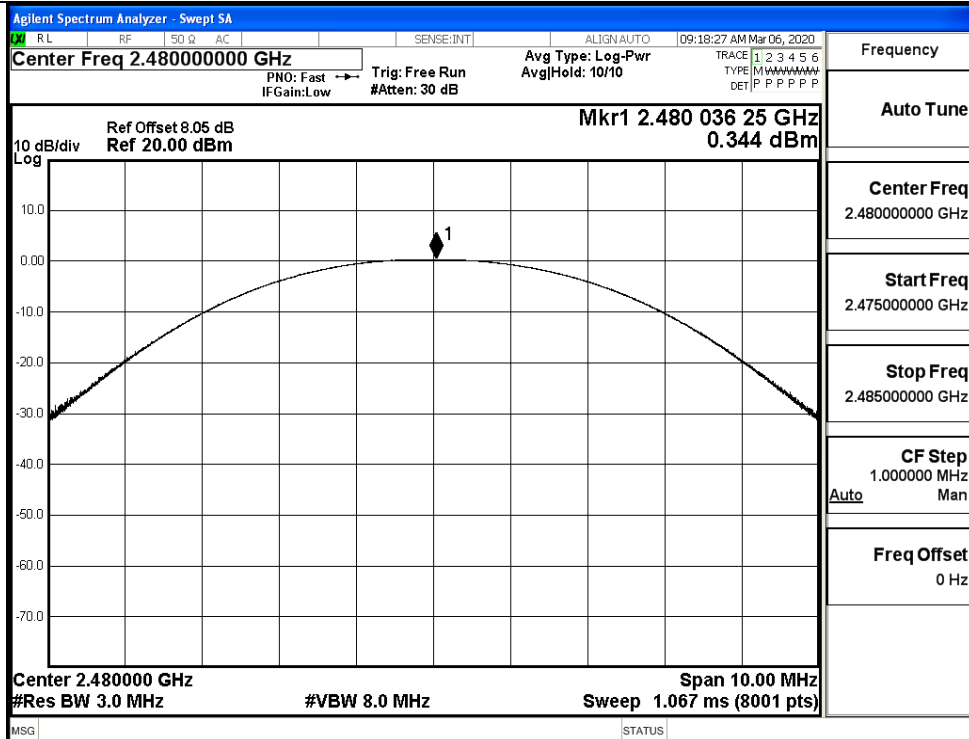
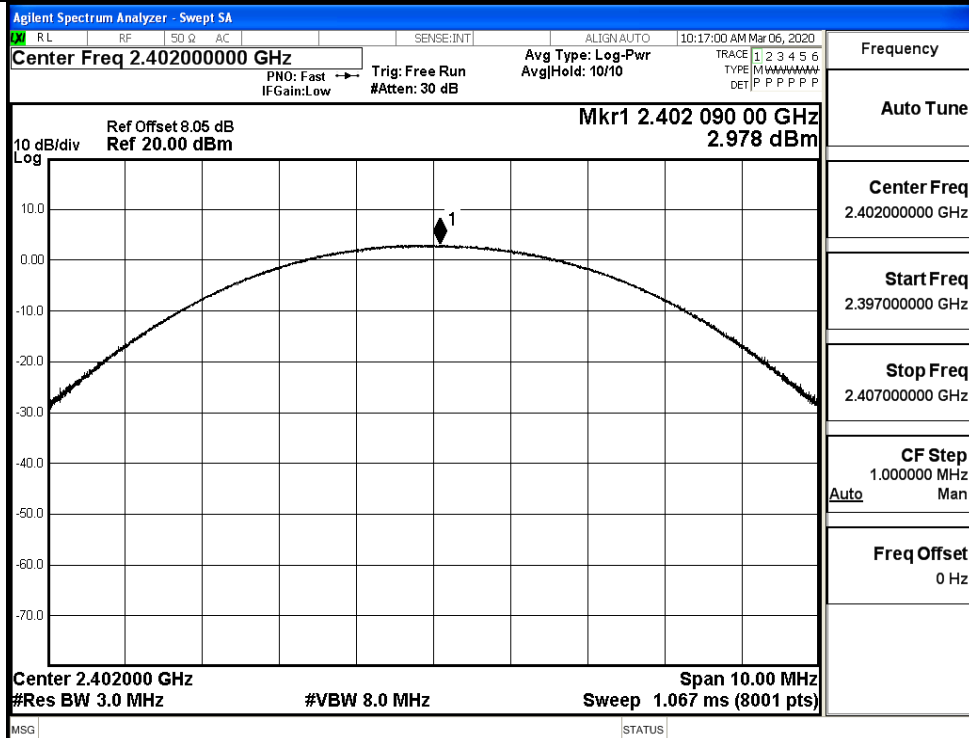
GFSK/LCH

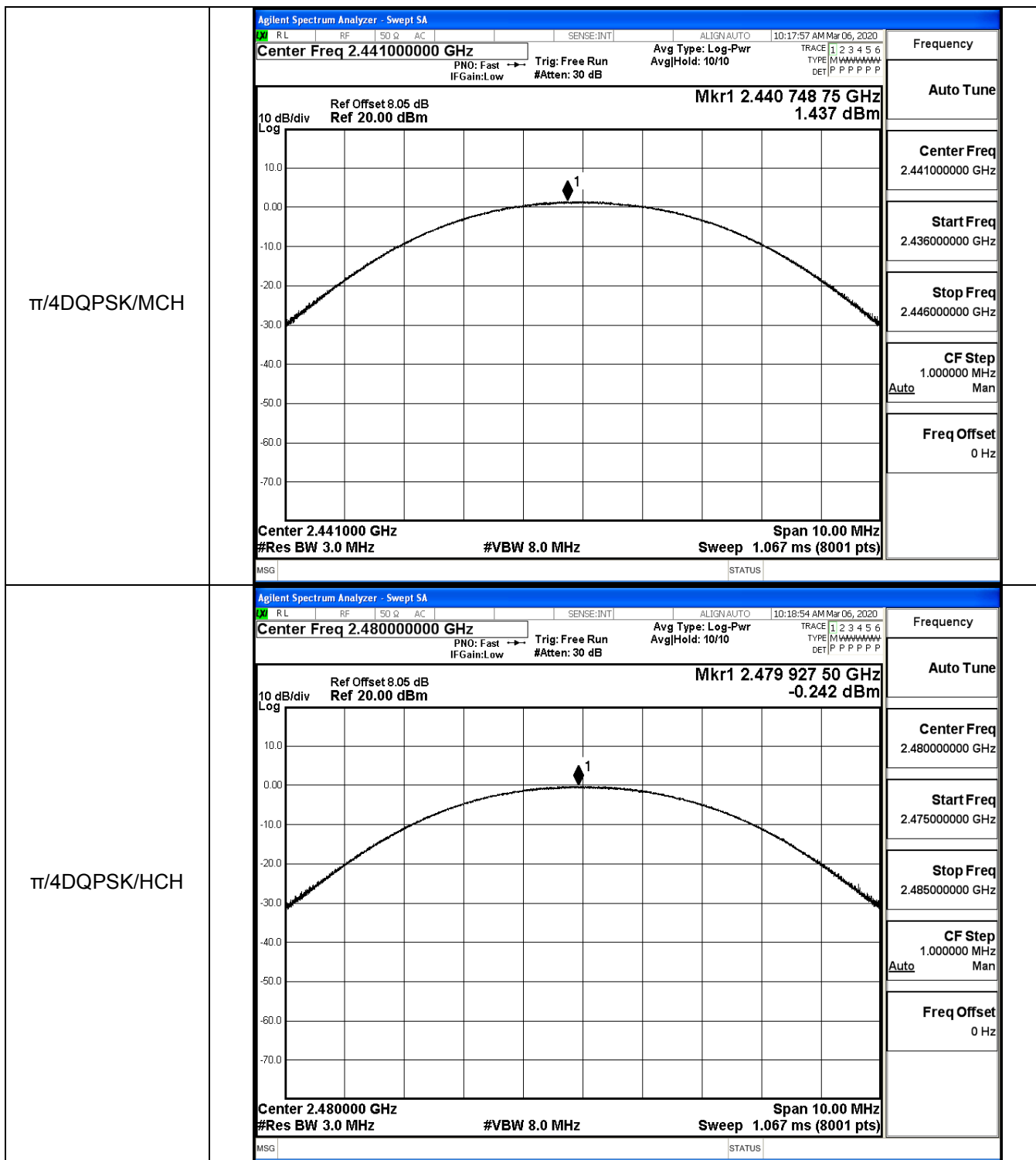


GFSK/MCH

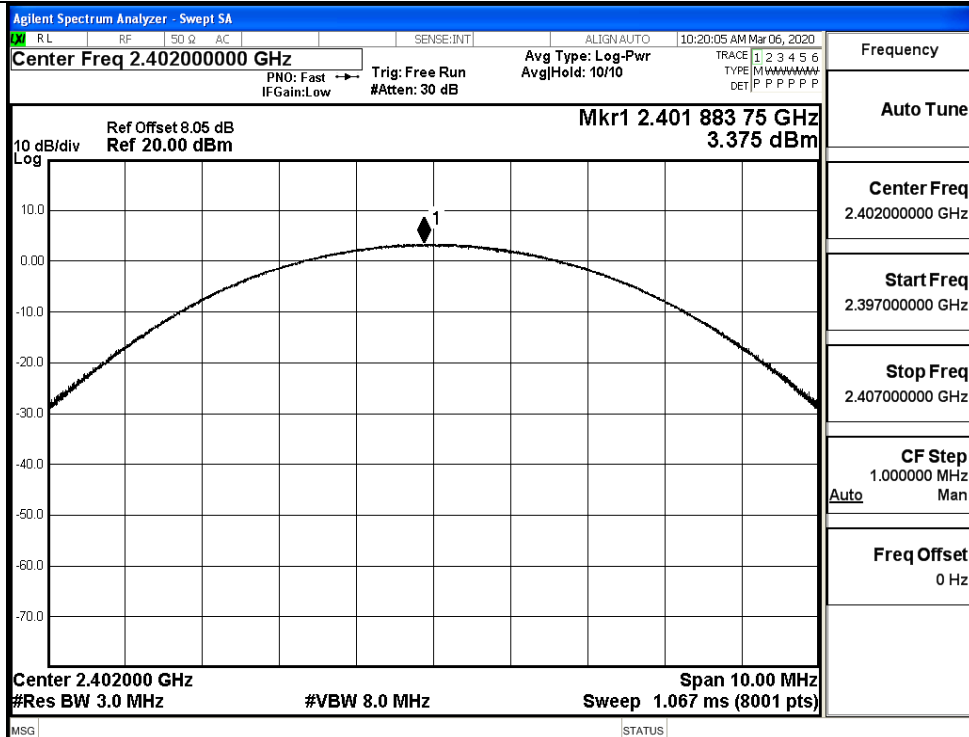


GFSK/HCH

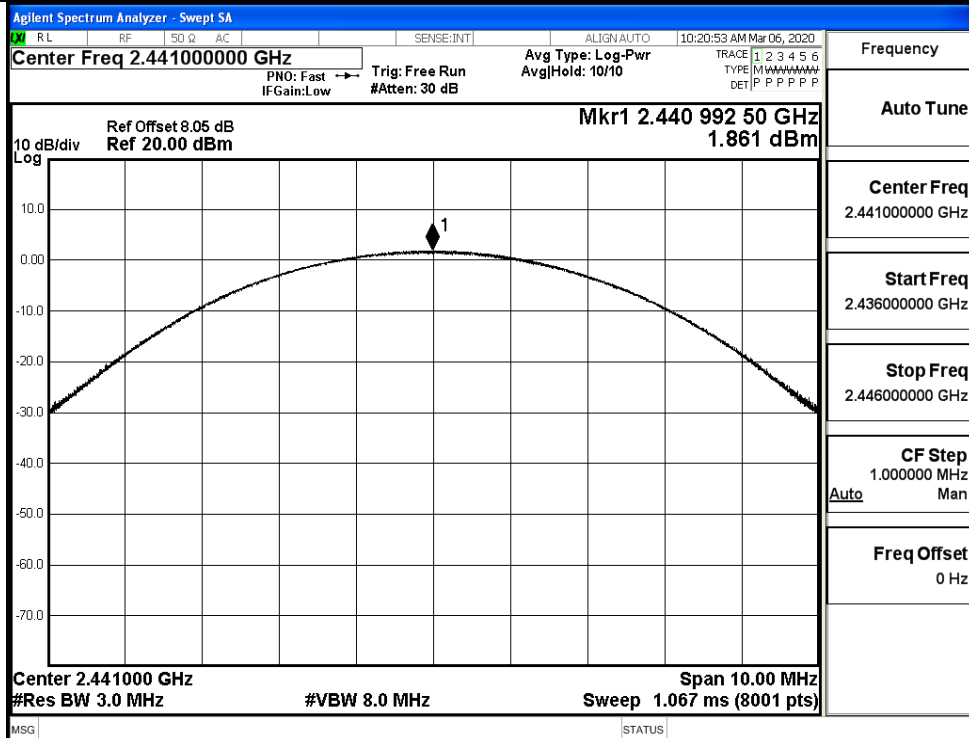
 $\pi/4$ DQPSK/LCH



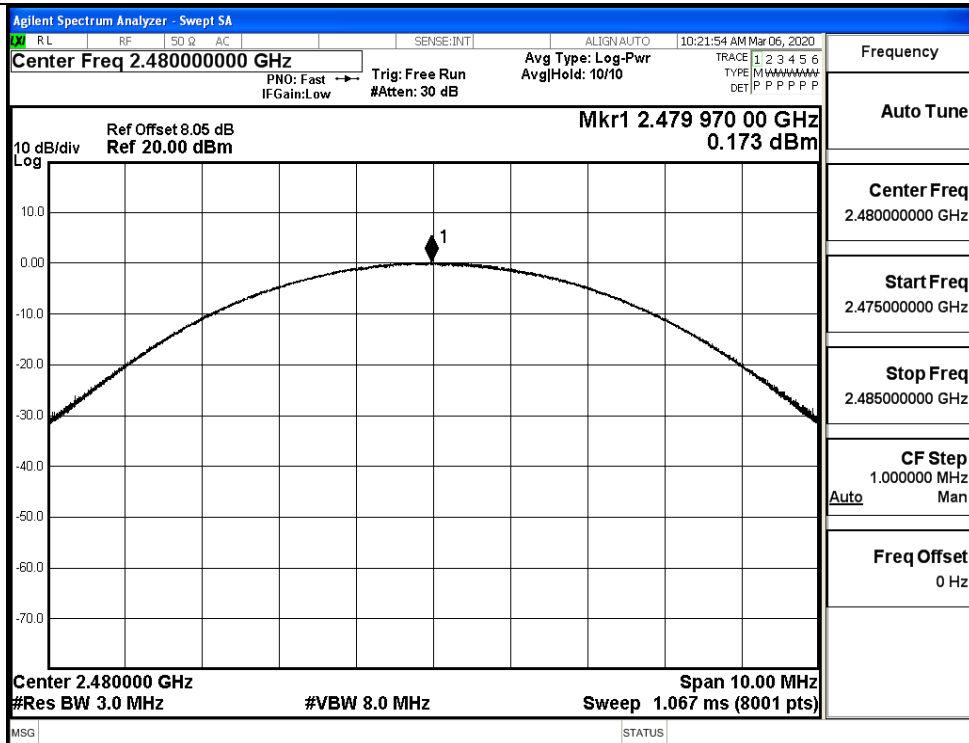
8DPSK/LCH



8DPSK/MCH



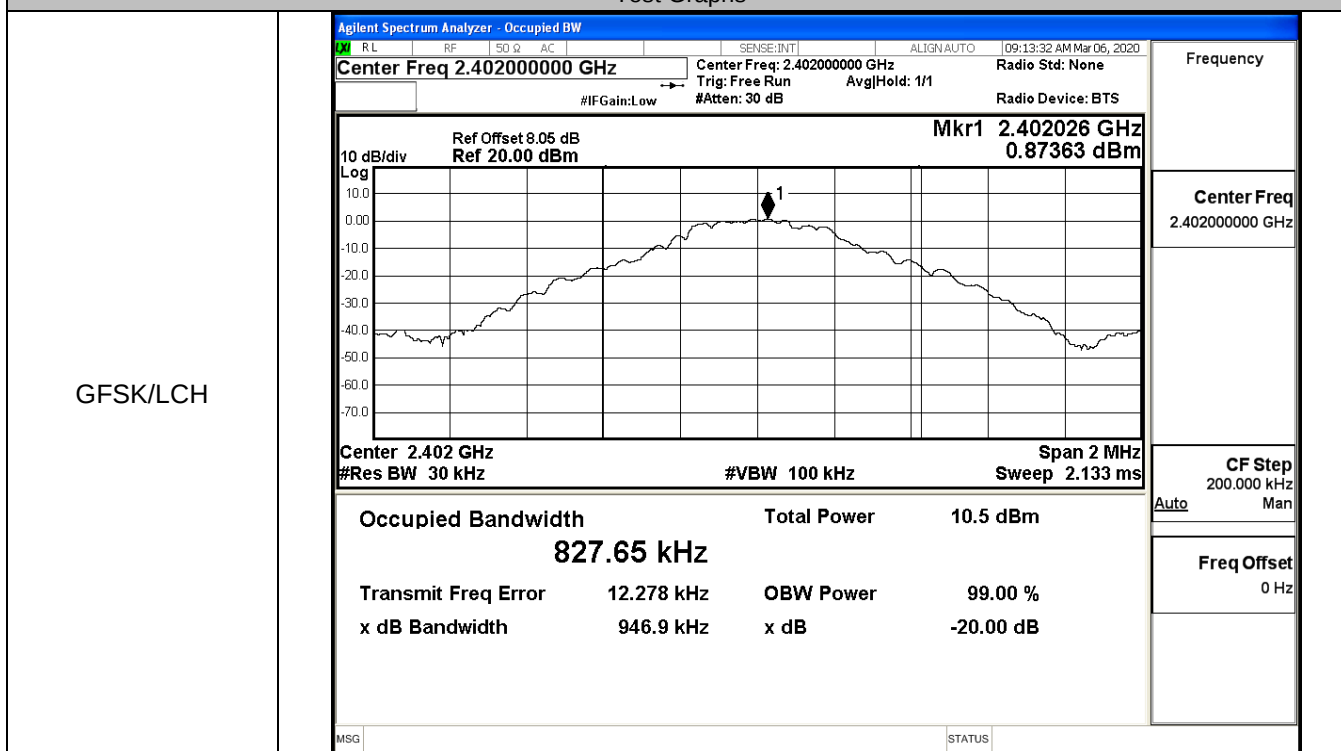
8DPSK/HCH



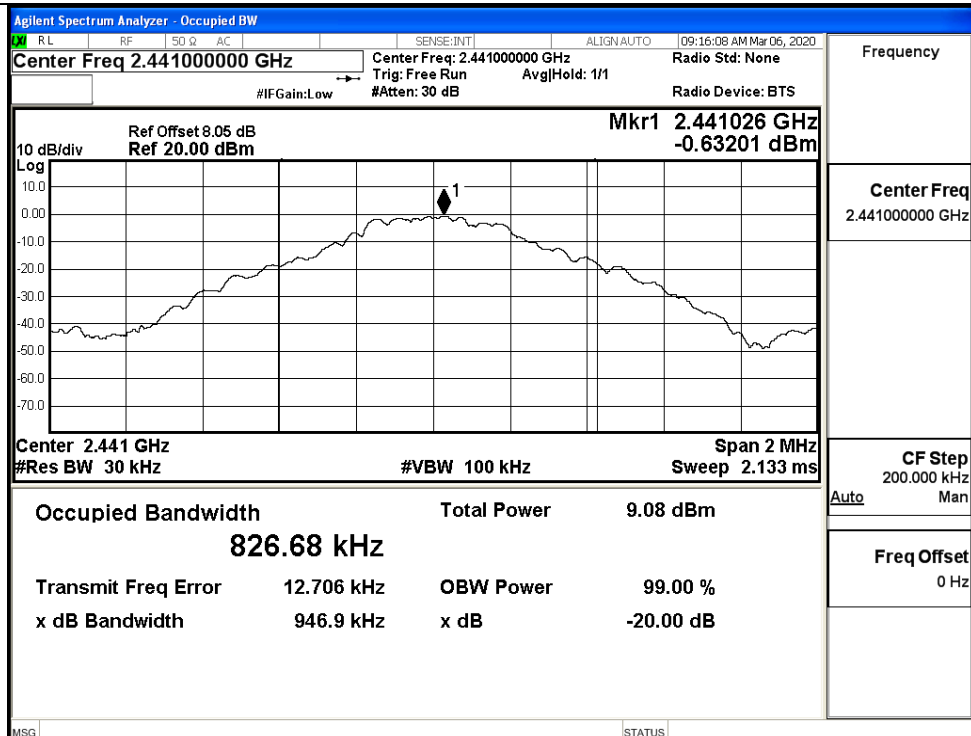
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9469	Not Specified	PASS
	MCH	0.9469	Not Specified	PASS
	HCH	0.9436	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	1.301	Not Specified	PASS
	MCH	1.306	Not Specified	PASS
	HCH	1.304	Not Specified	PASS

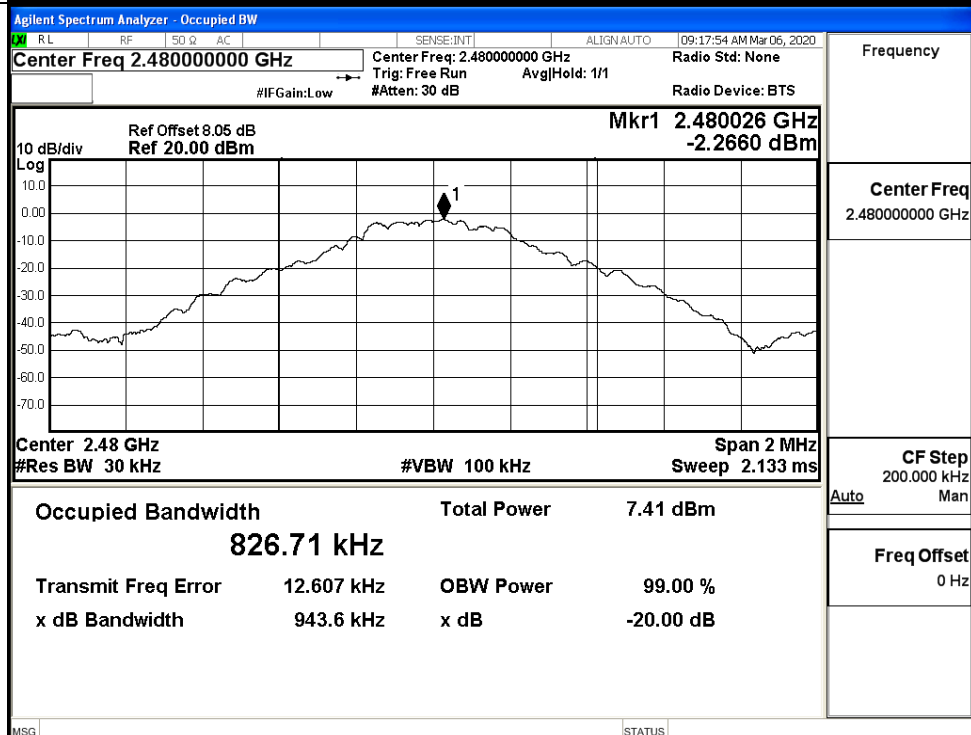
Test Graphs

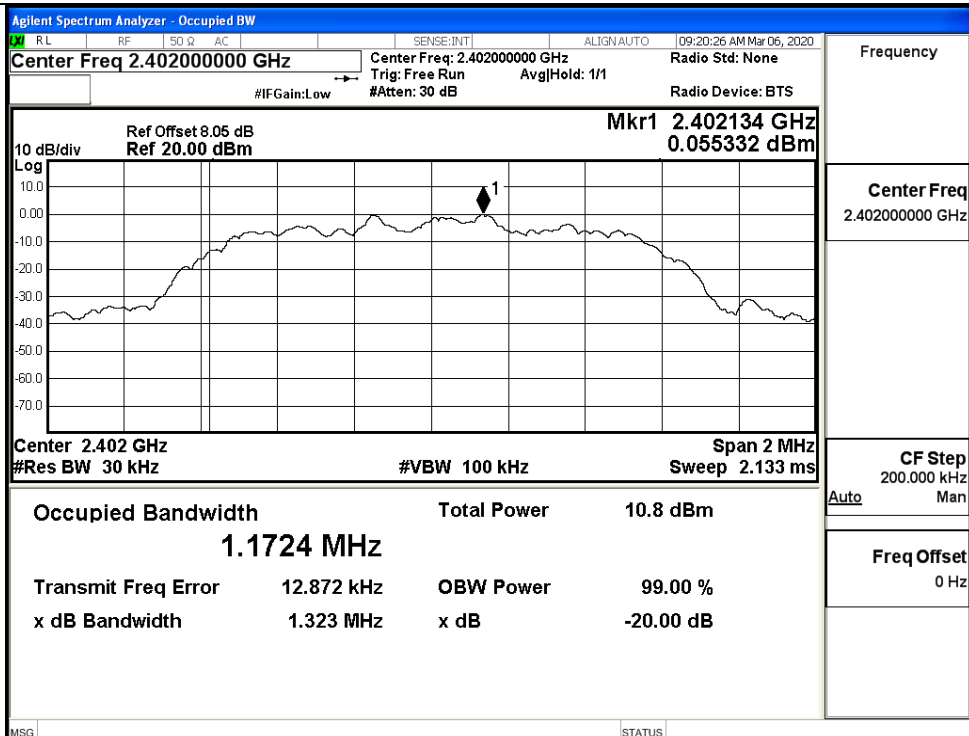


GFSK/MCH



GFSK/HCH

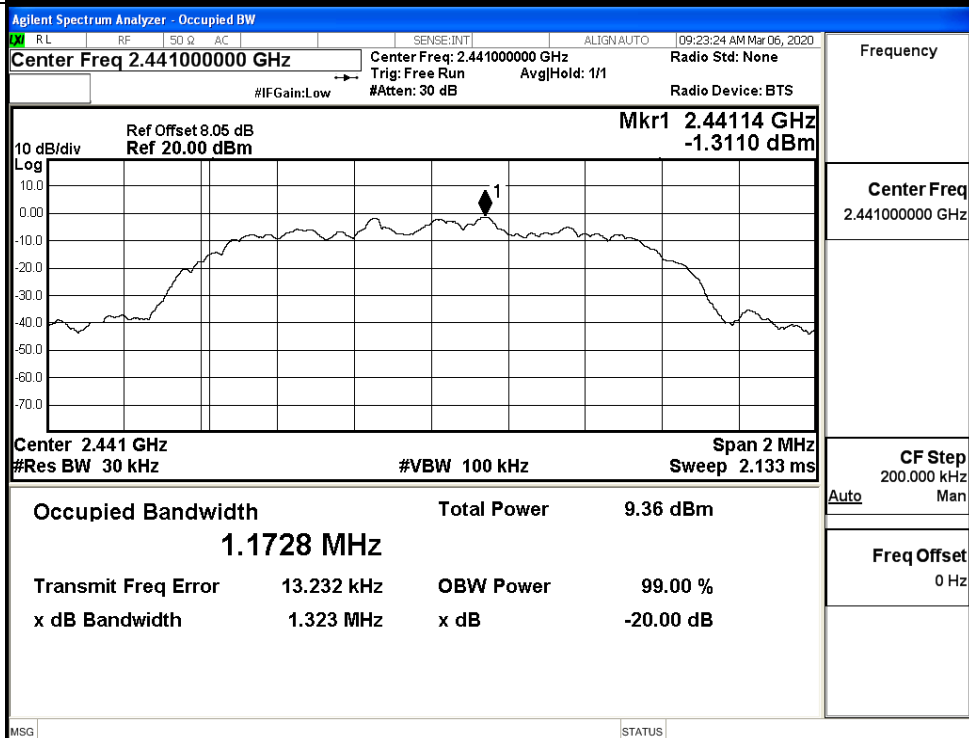


$\pi/4$ DQPSK/LCH

Frequency

Center Freq
2.402000000 GHzCF Step
200.000 kHz
Man

Auto

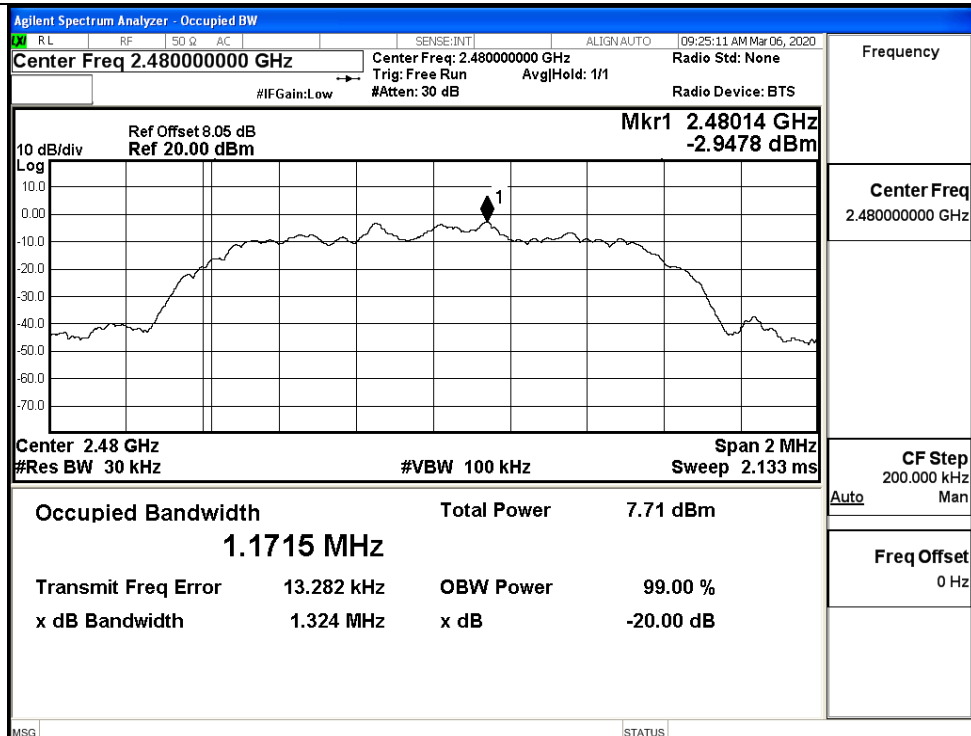
Freq Offset
0 Hz $\pi/4$ DQPSK/MCH

Frequency

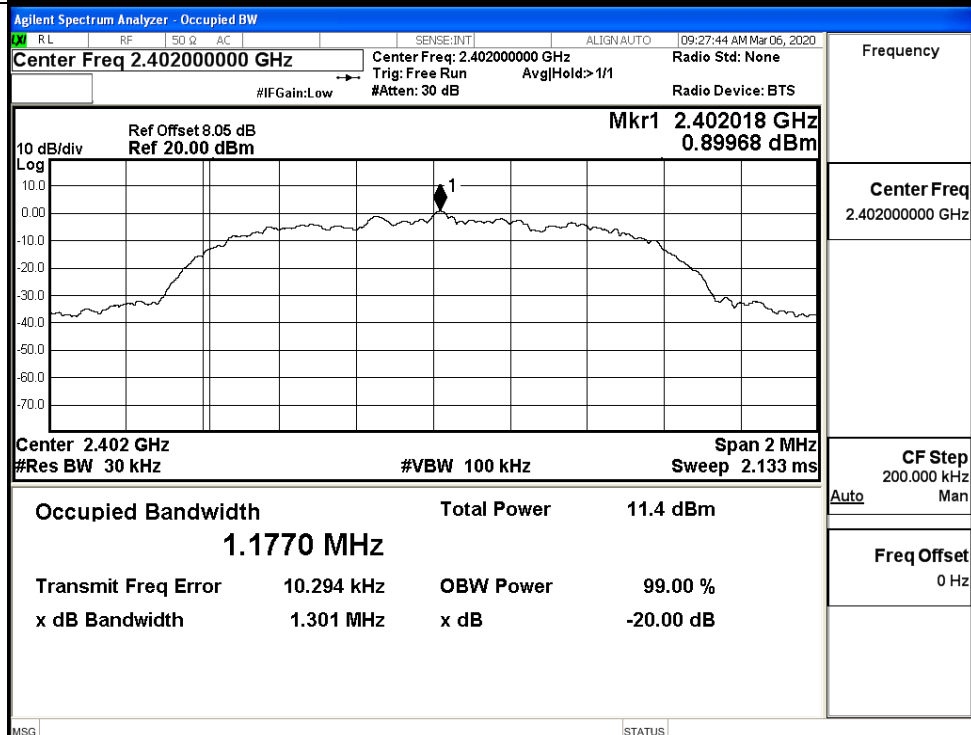
Center Freq
2.441000000 GHzCF Step
200.000 kHz
Man

Auto

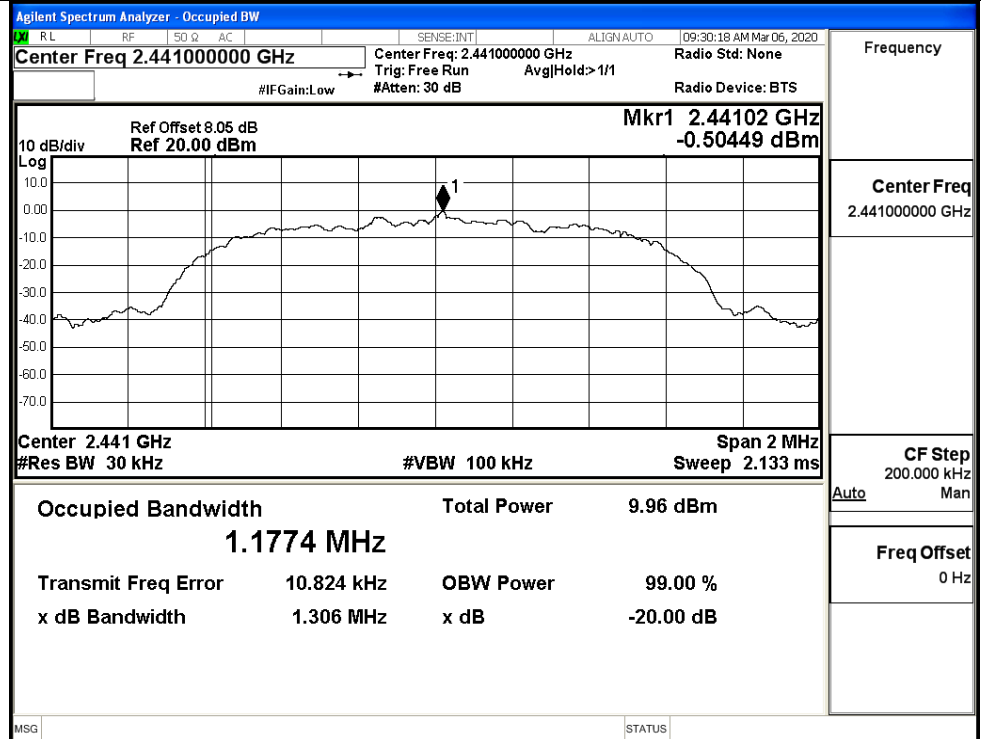
Freq Offset
0 Hz

$\pi/4$ DQPSK/HCH

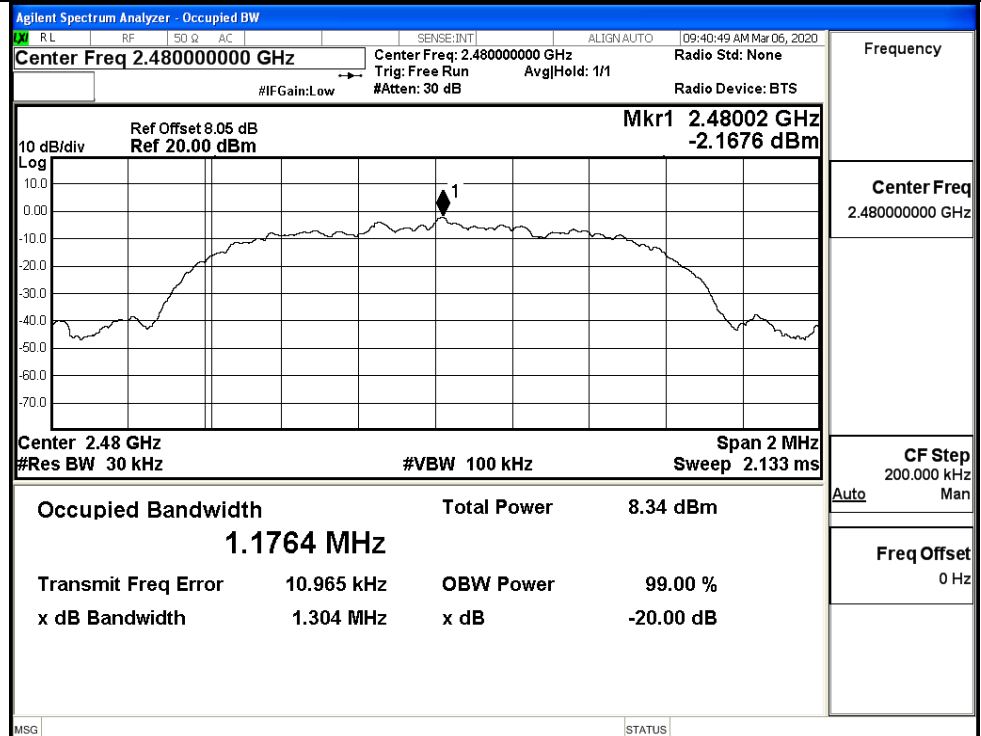
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

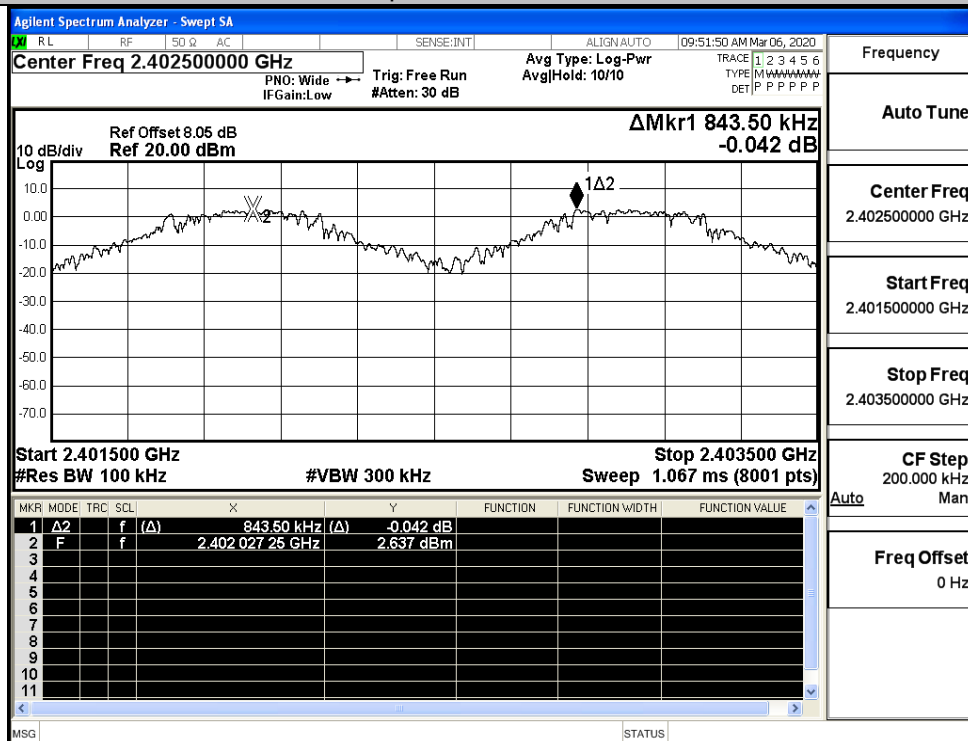


A.3 Carrier Frequency Separation

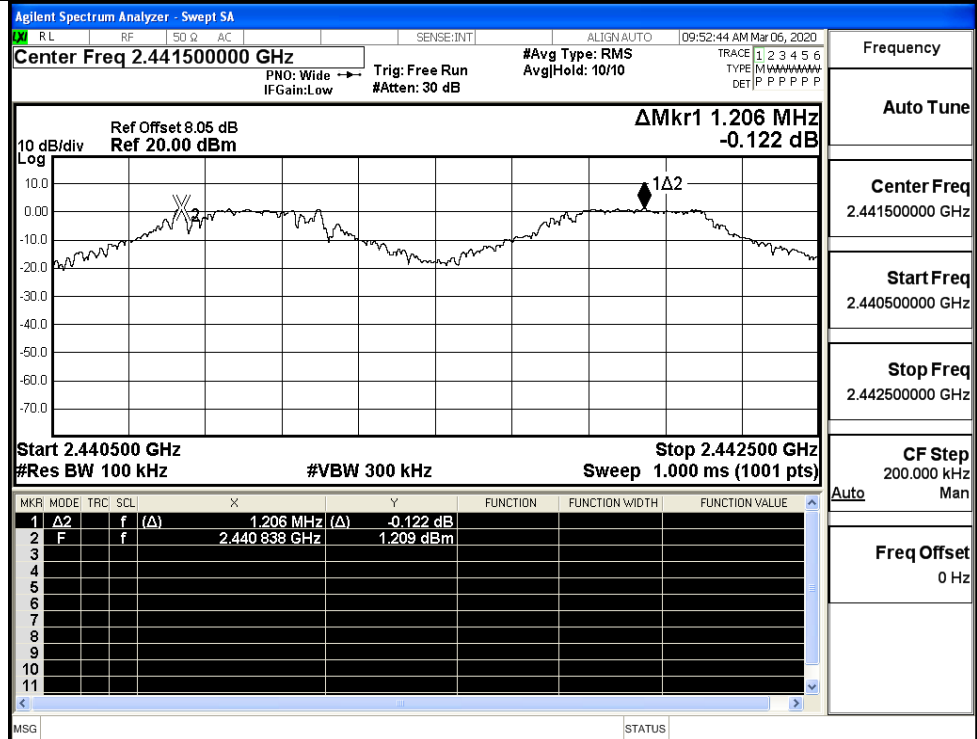
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.843	0.631	PASS
	MCH	1.206	0.631	PASS
	HCH	0.836	0.631	PASS
$\pi/4$ DQPSK	LCH	0.956	0.883	PASS
	MCH	1.130	0.883	PASS
	HCH	1.018	0.883	PASS
8DPSK	LCH	0.964	0.871	PASS
	MCH	0.992	0.871	PASS
	HCH	1.010	0.871	PASS

Test Graphs

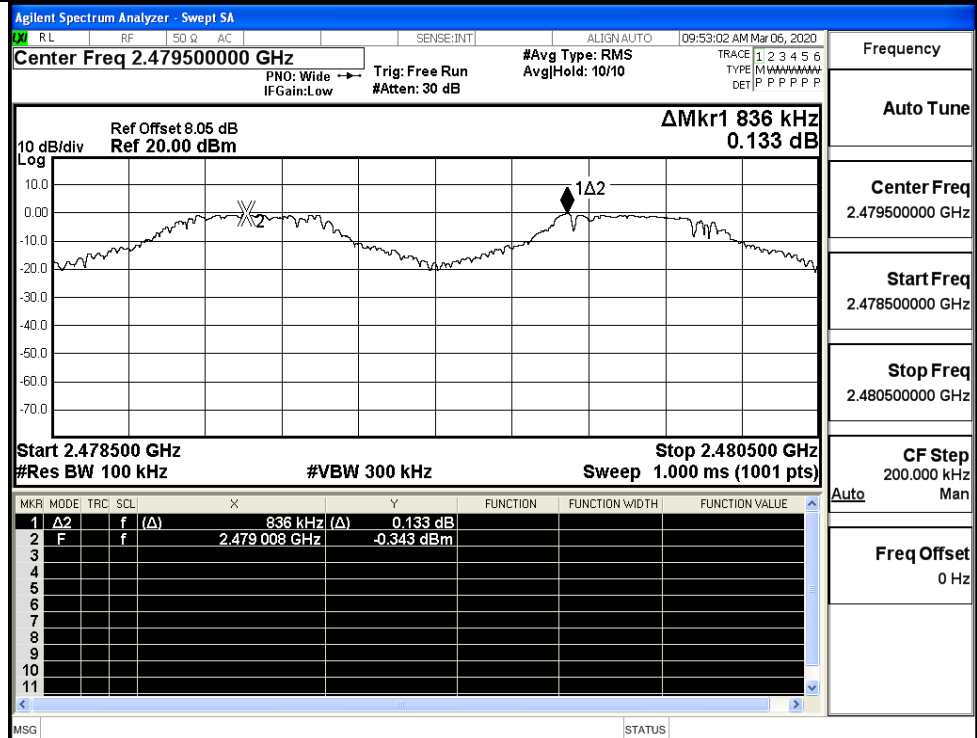
GFSK/LCH

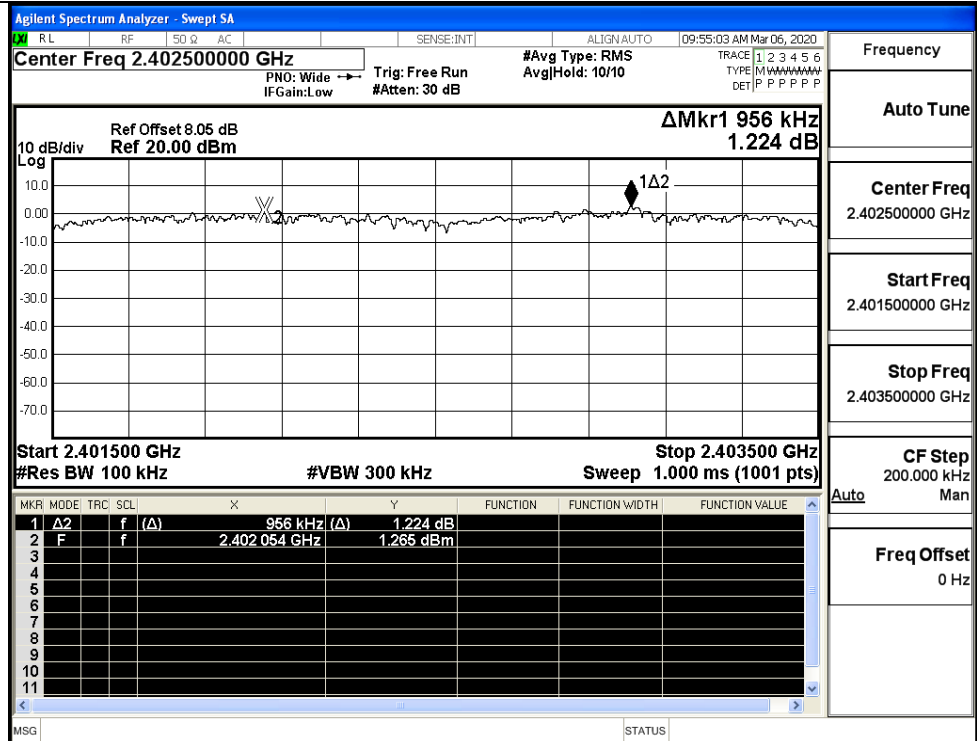
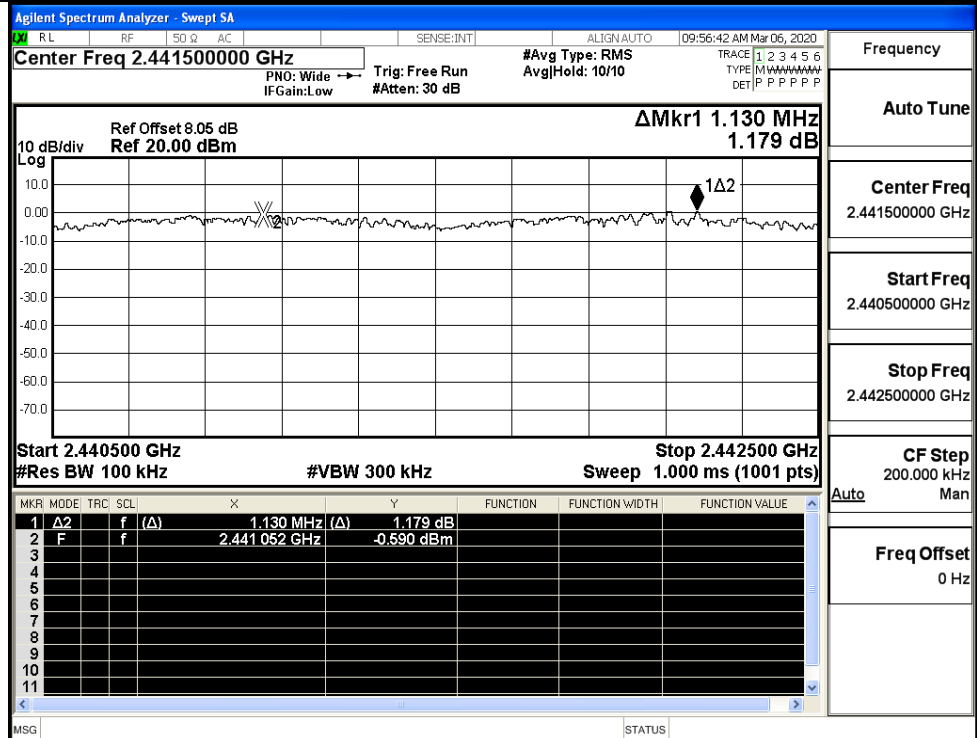


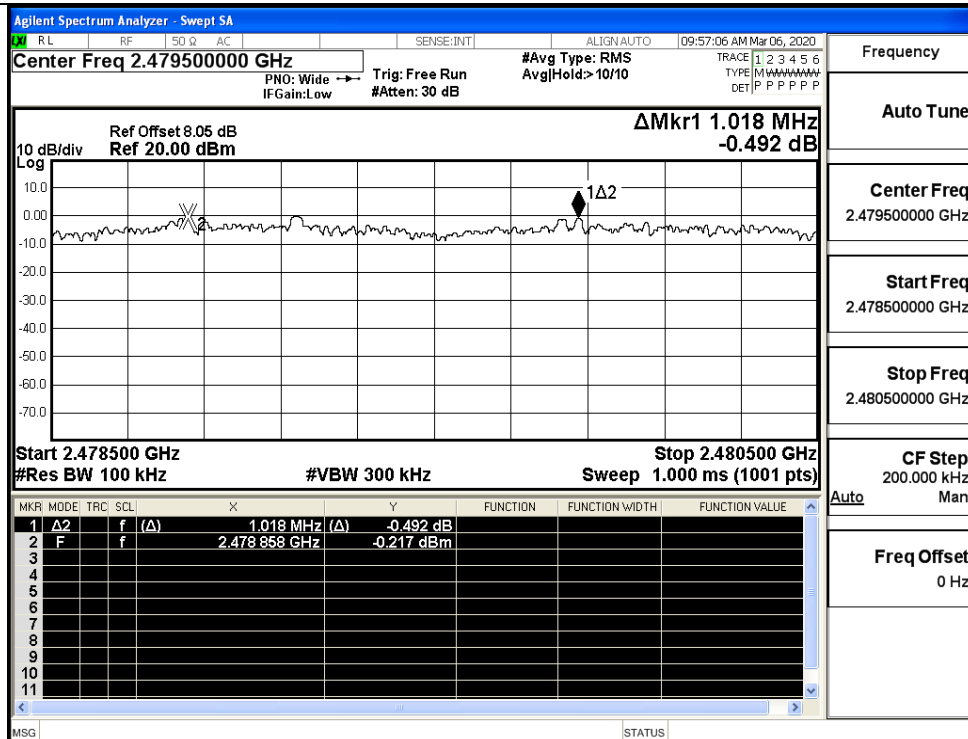
GFSK/MCH



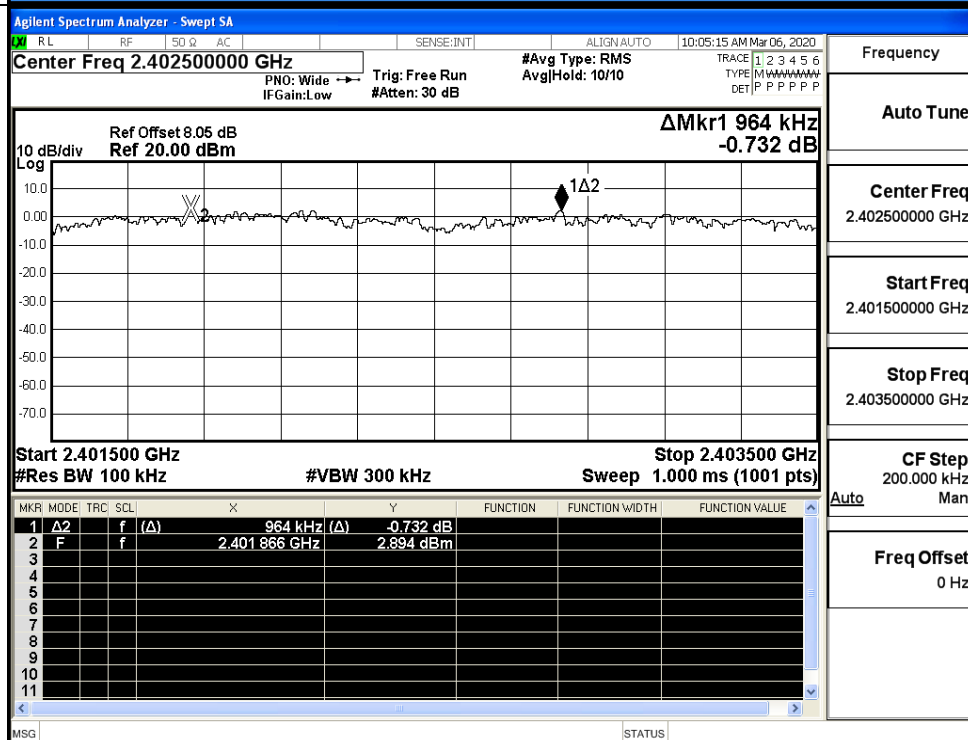
GFSK/HCH



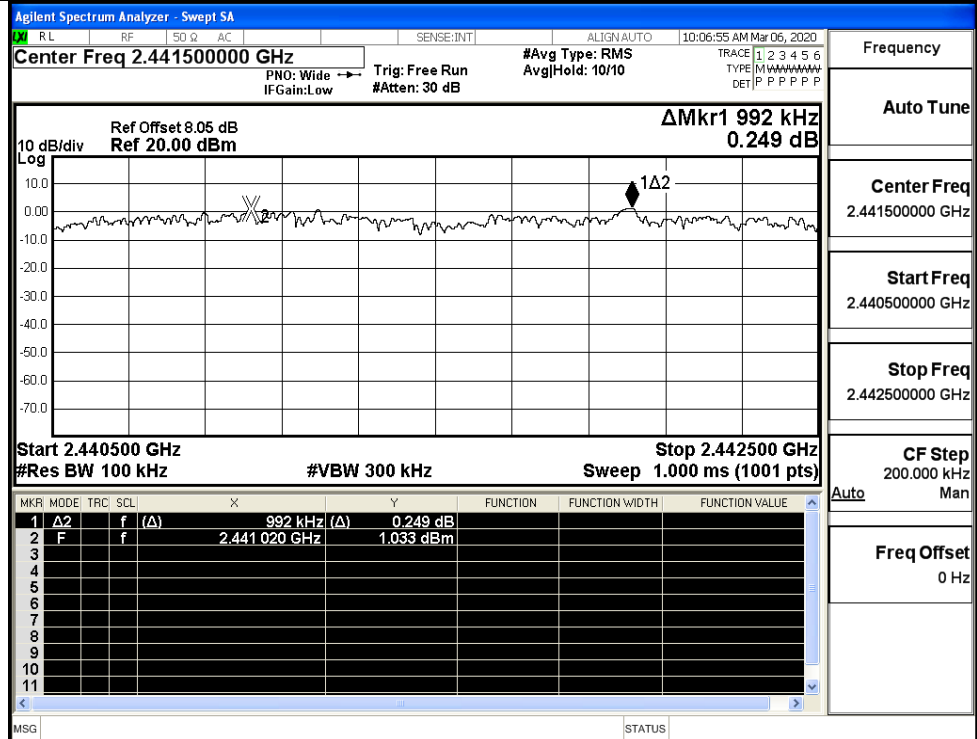
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

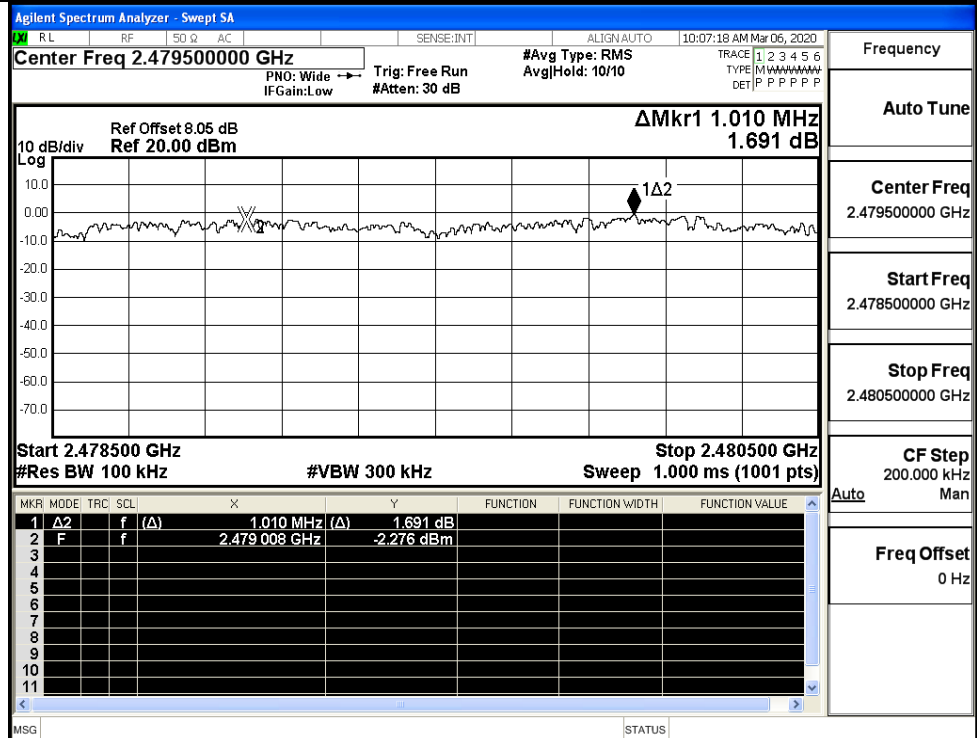
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

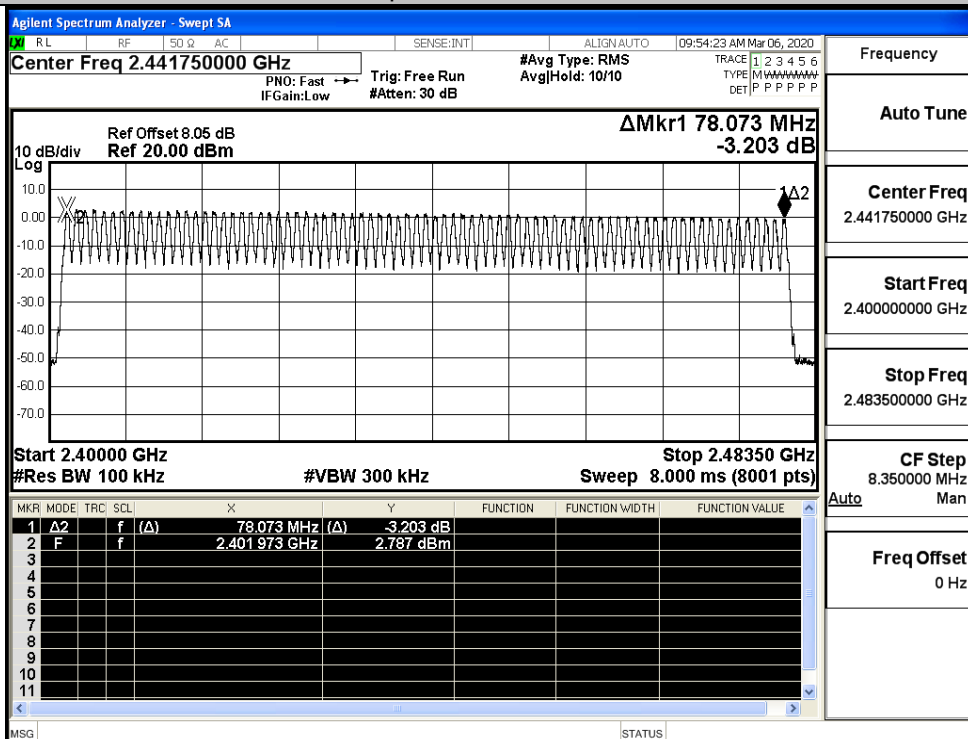
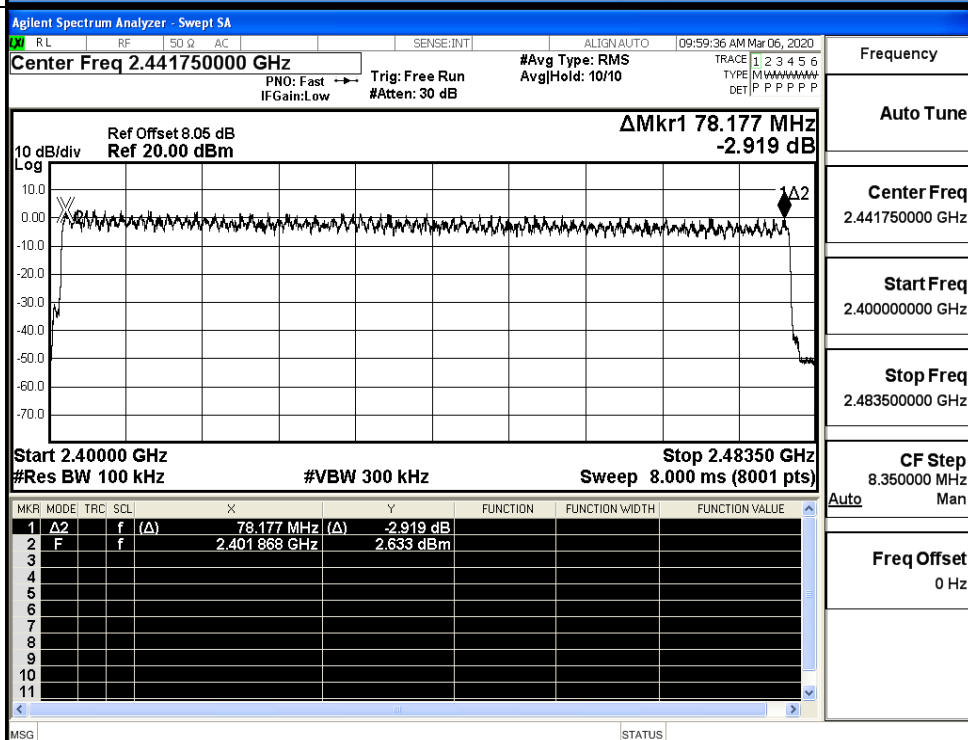


A.4 Hopping Channel Number

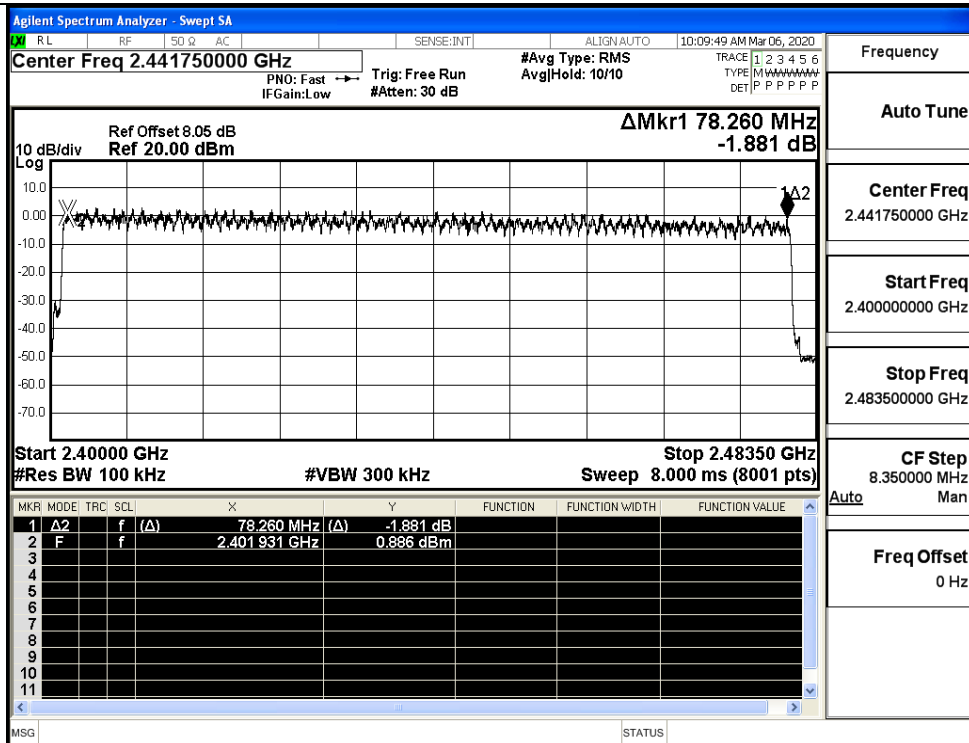
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	≥ 15	PASS
$\pi/4$ DQPSK	Hop	79	≥ 15	PASS
8DPSK	Hop	79	≥ 15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

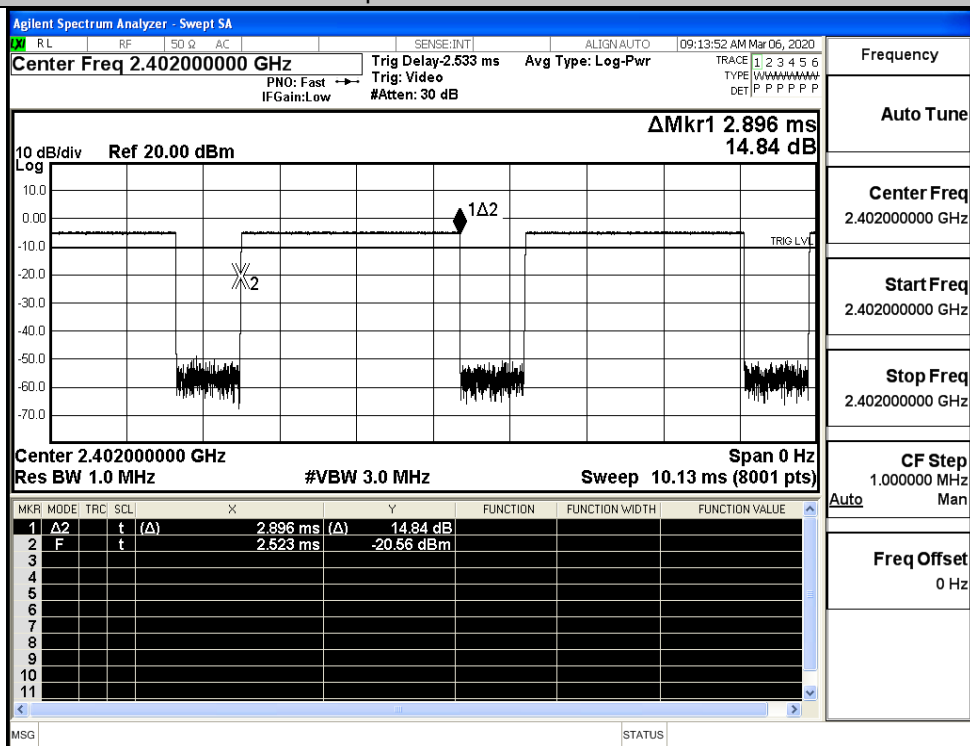


A.5 Dwell Time

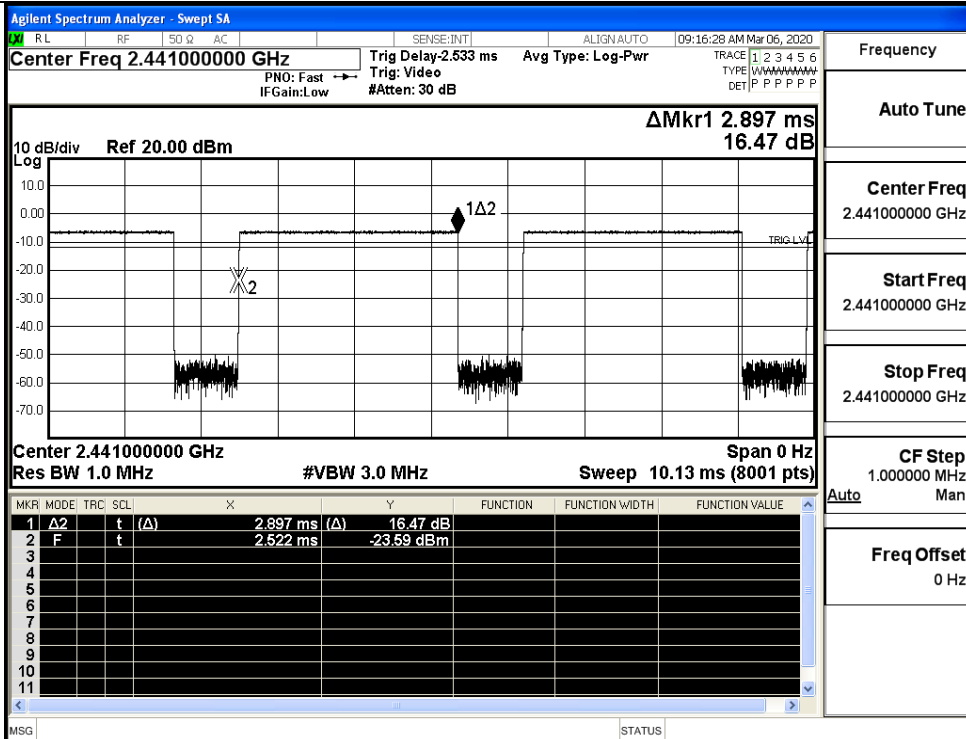
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.9	106.7	0.309	0.4	PASS
	DH5	MCH	2.9	106.7	0.309	0.4	PASS
	DH5	HCH	2.9	106.7	0.309	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.9	106.7	0.309	0.4	PASS
	2DH5	MCH	2.9	106.7	0.309	0.4	PASS
	2DH5	HCH	2.9	106.7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

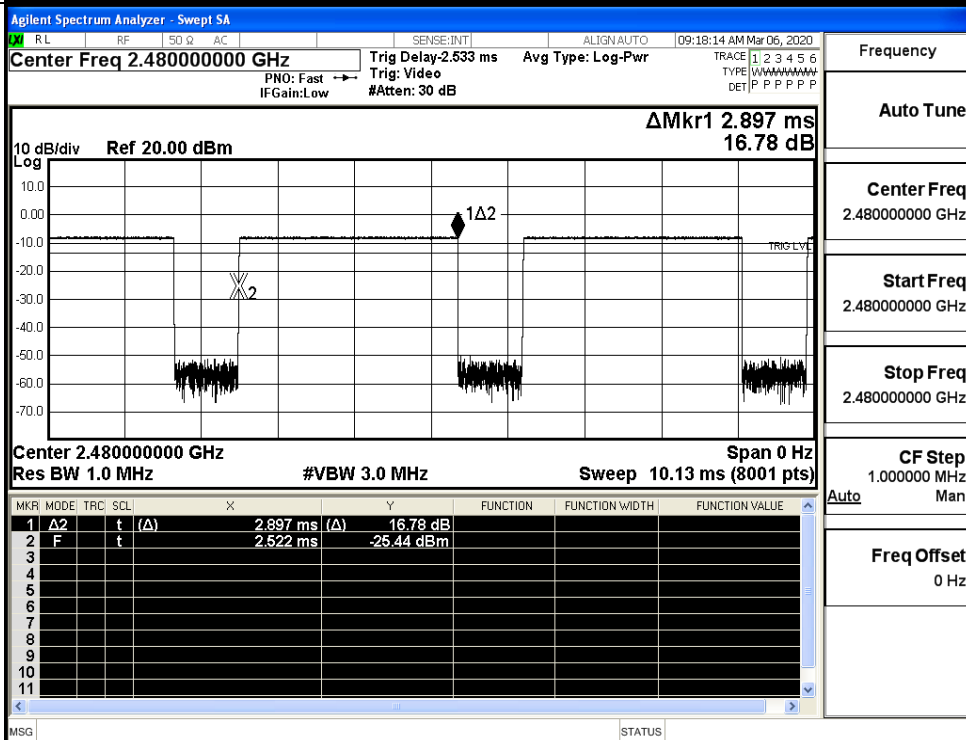
GFSK_DH5/LCH



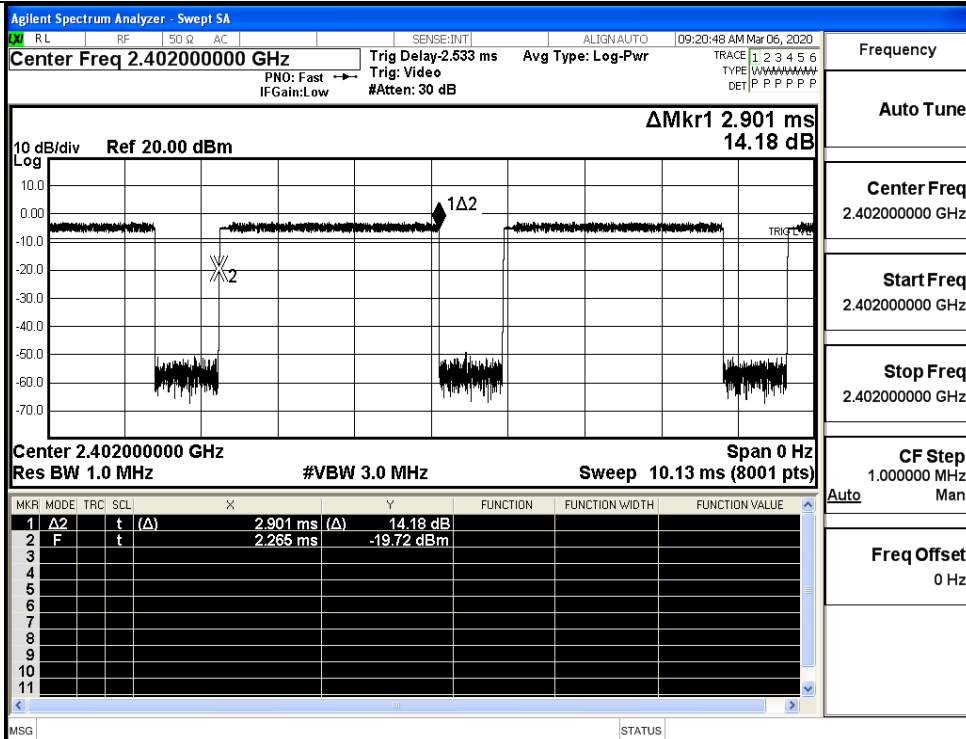
GFSK_DH5/MCH



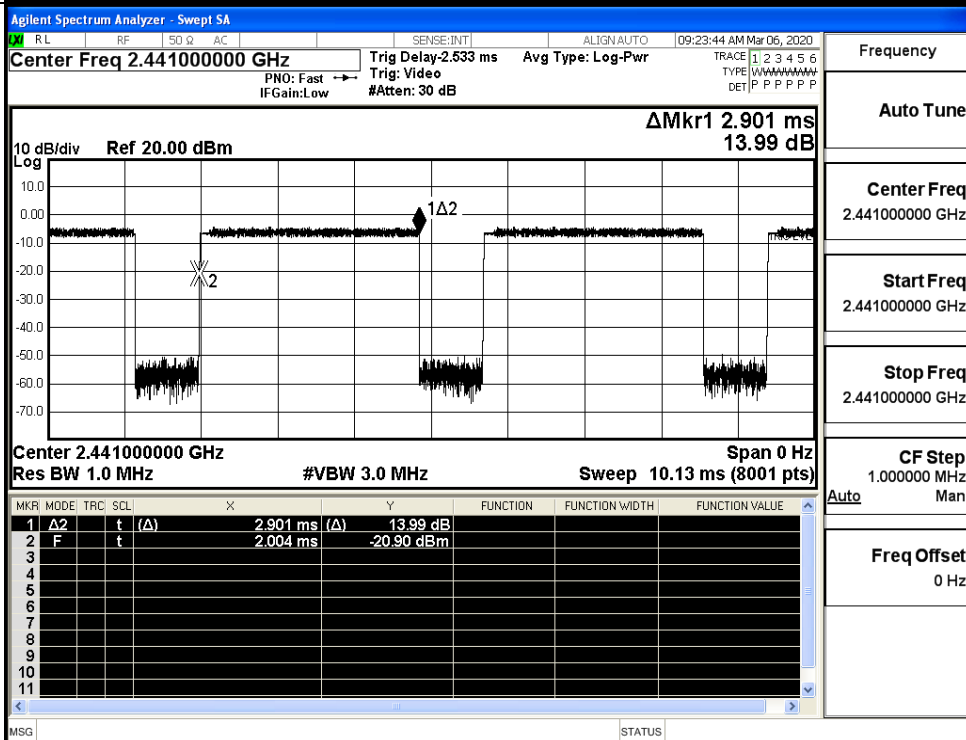
GFSK_DH5/HCH



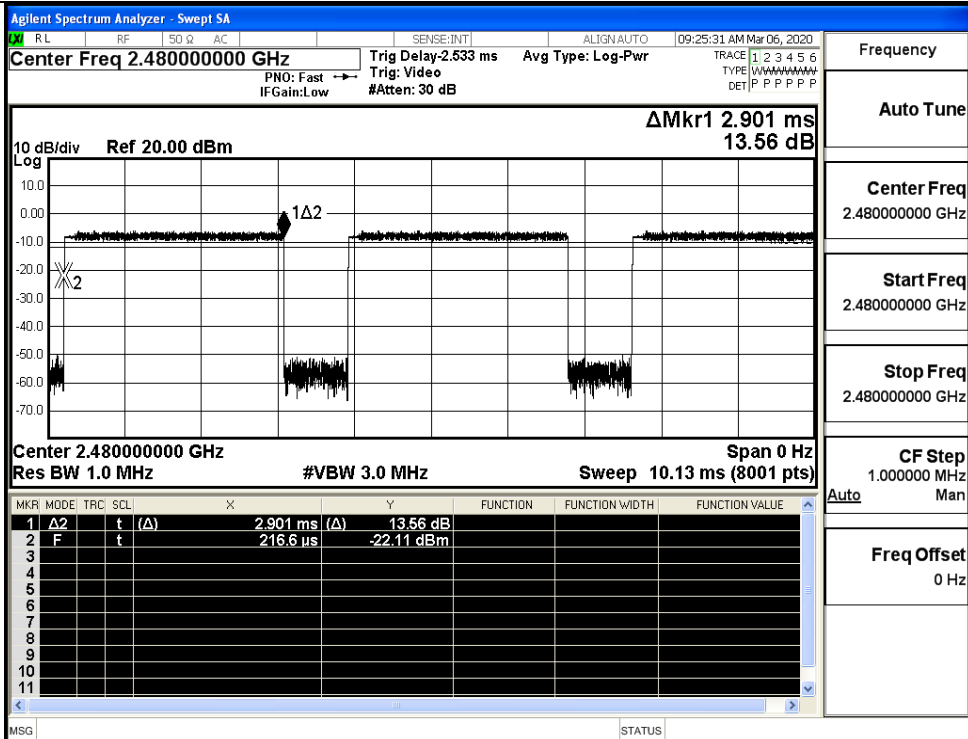
$\pi/4$ DQPSK
_2DH5/LCH



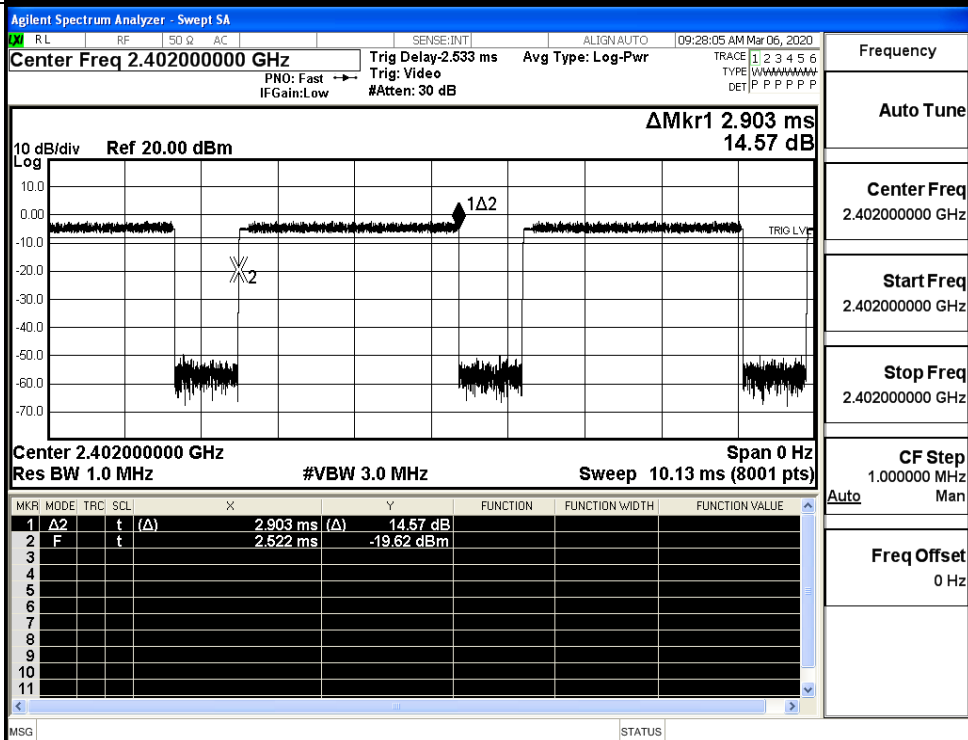
$\pi/4$ DQPSK
_2DH5/MCH



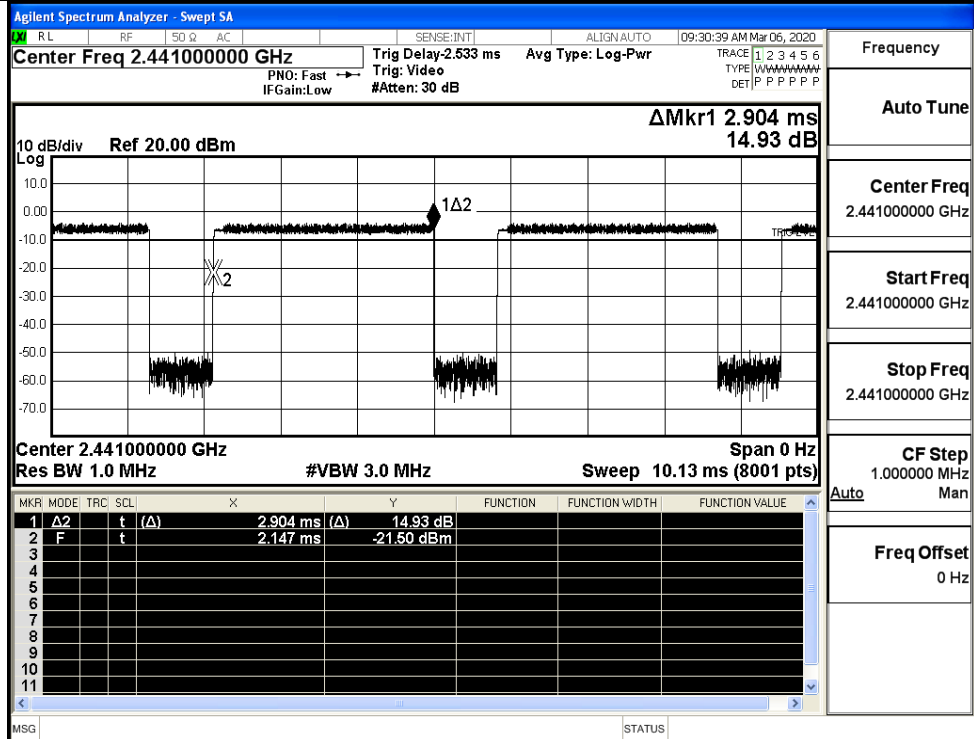
$\pi/4$ DQPSK
_2DH5/HCH



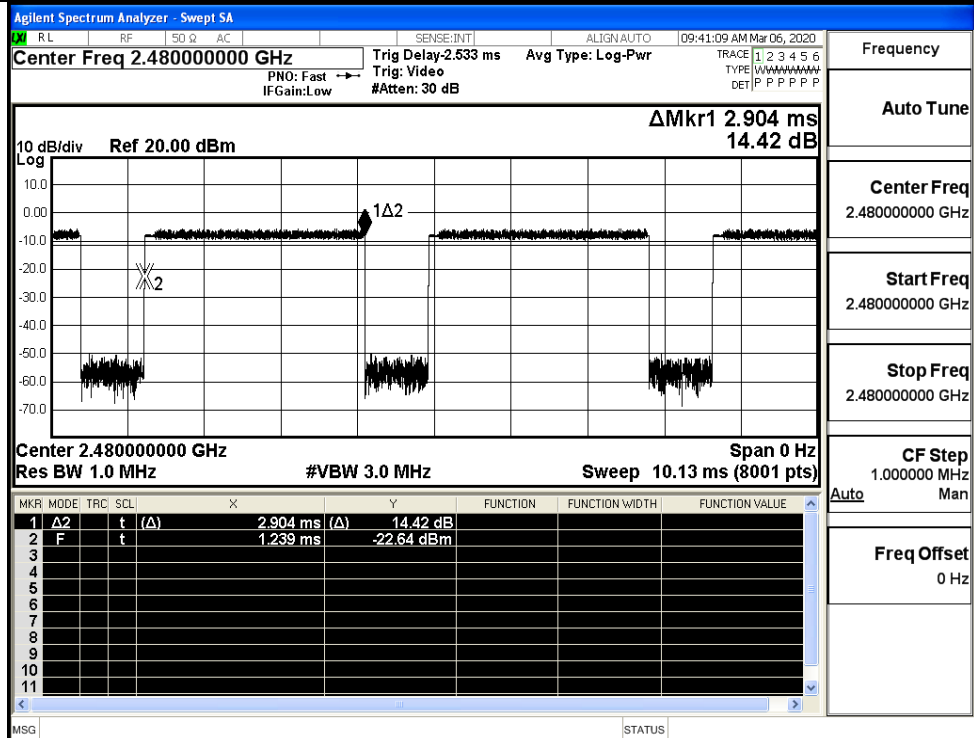
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



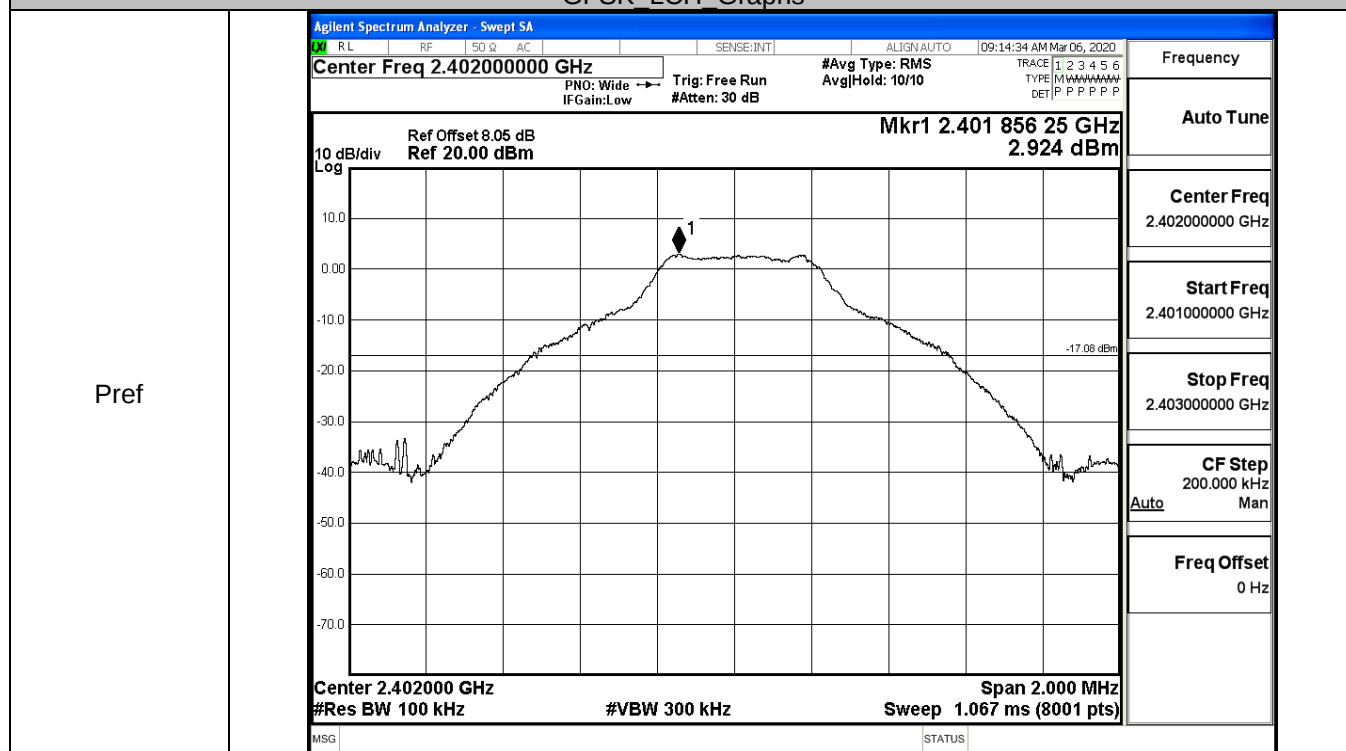
8DPSK_3DH5/HCH



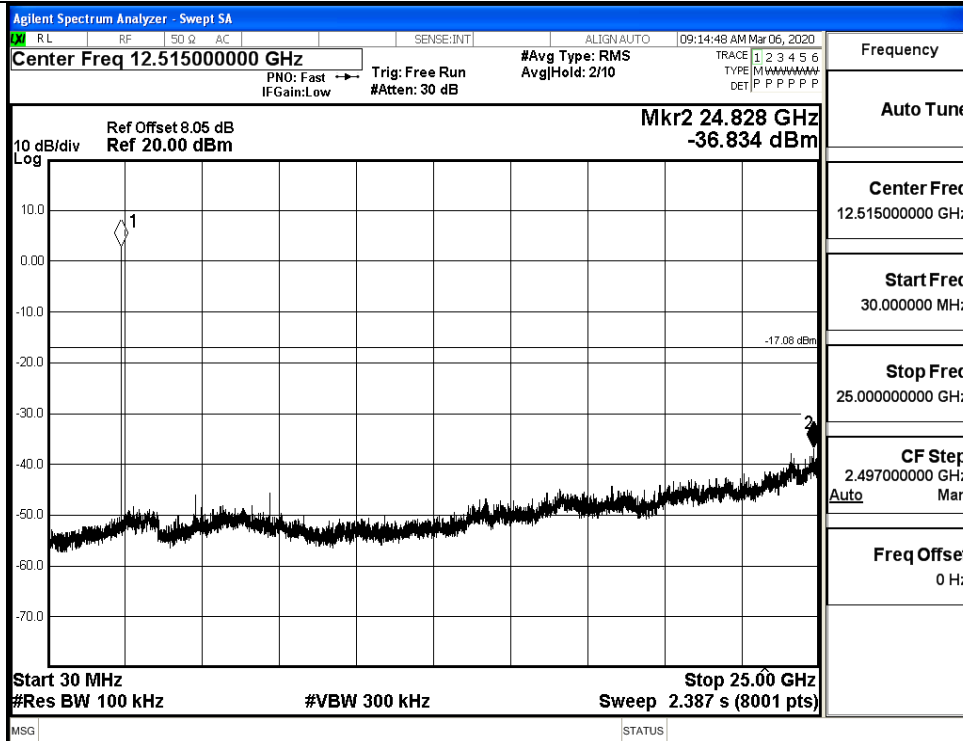
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.924	-36.834	-17.076	PASS
	MCH	1.491	-38.857	-18.509	PASS
	HCH	-0.224	-37.900	-20.224	PASS
$\pi/4$ DQPSK	LCH	2.726	-37.102	-17.274	PASS
	MCH	-1.553	-36.818	-21.553	PASS
	HCH	-0.212	-37.608	-20.212	PASS
8DPSK	LCH	2.898	-37.261	-17.102	PASS
	MCH	-1.408	-37.838	-21.408	PASS
	HCH	-0.149	-38.044	-20.149	PASS

GFSK LCH Graphs

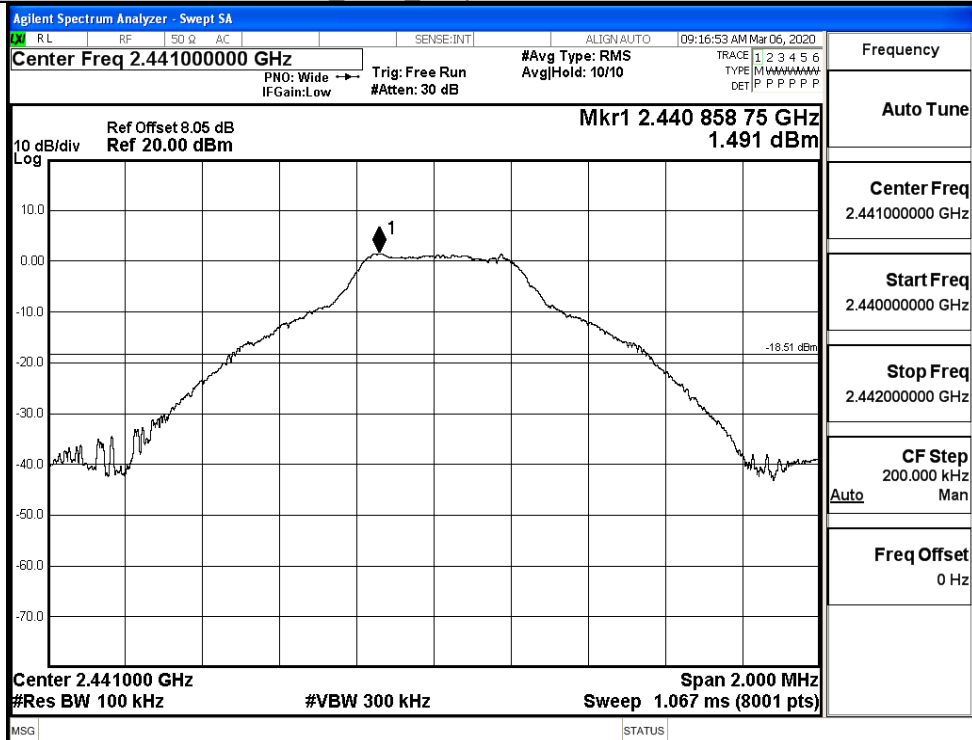


Puw

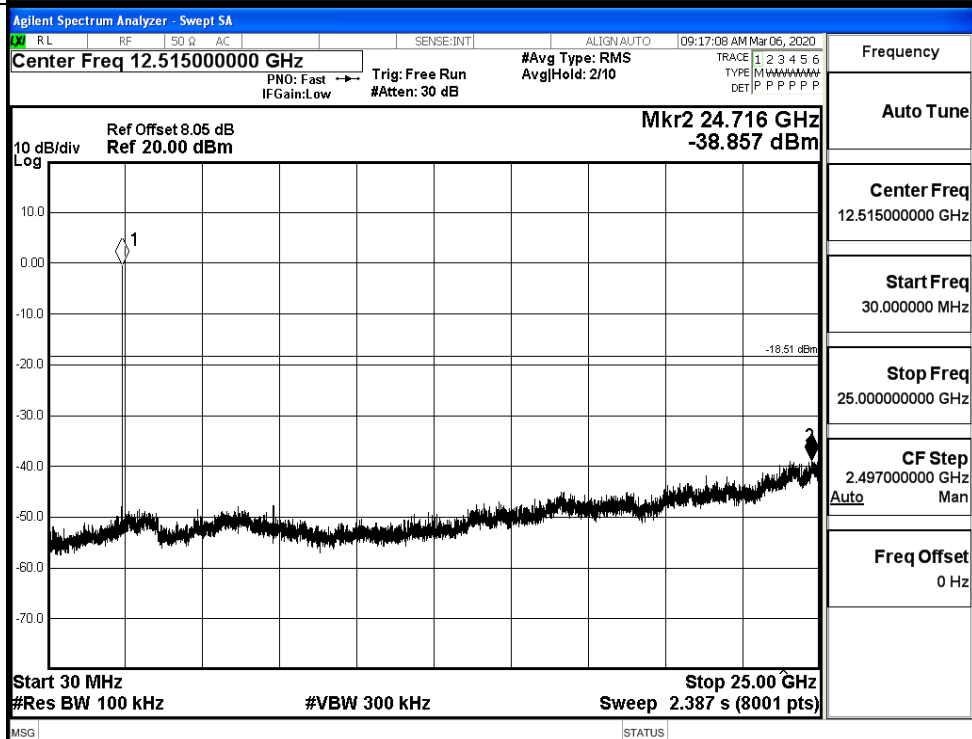


GFSK_MCH_Graphs

Pref

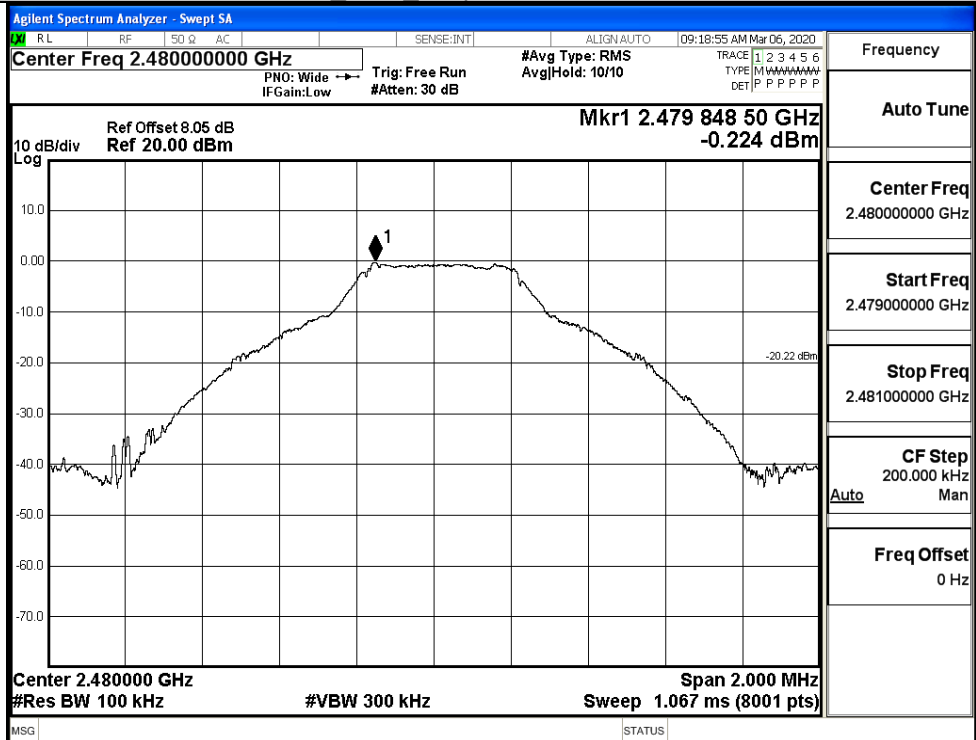


Puw



GFSK HCH Graphs

Pref

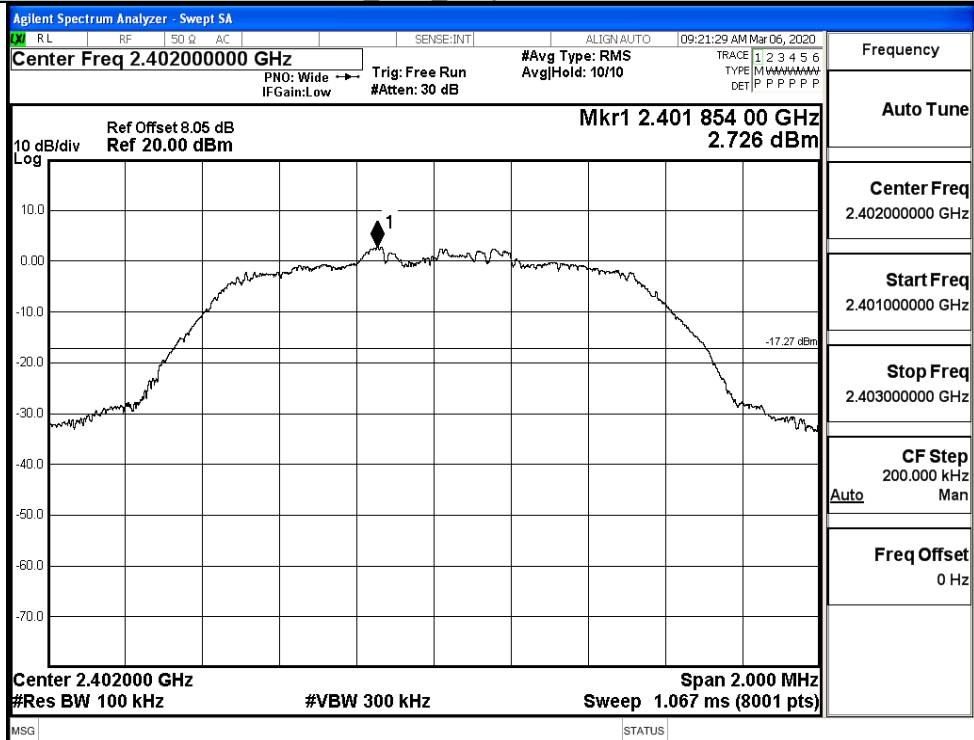


Puw

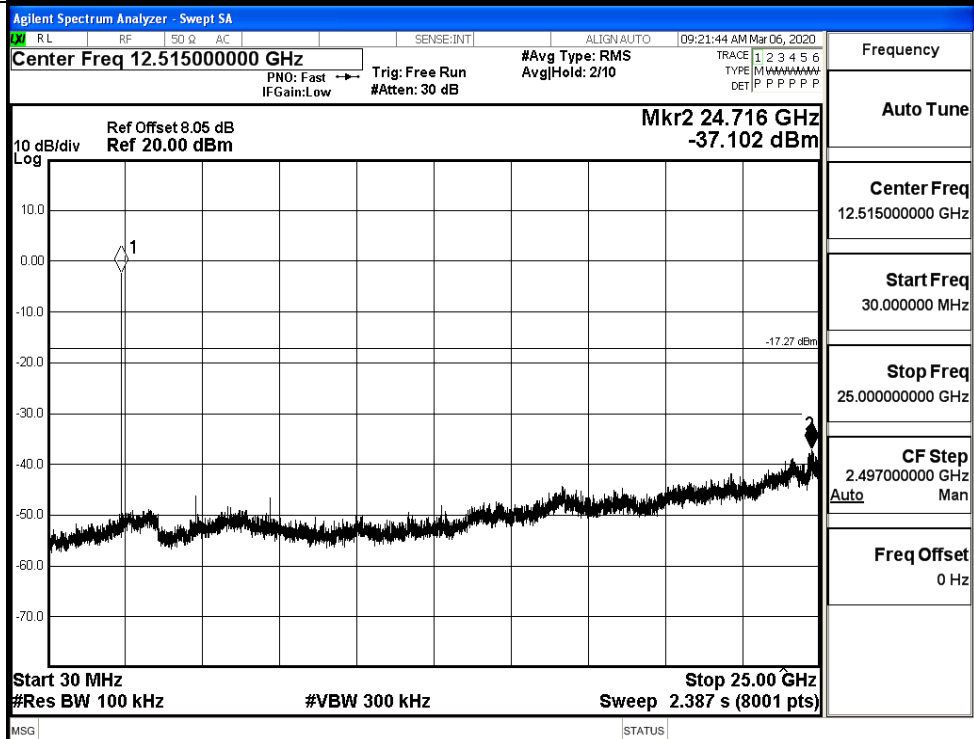


$\pi/4$ DQPSK_LCH_Graphs

Pref

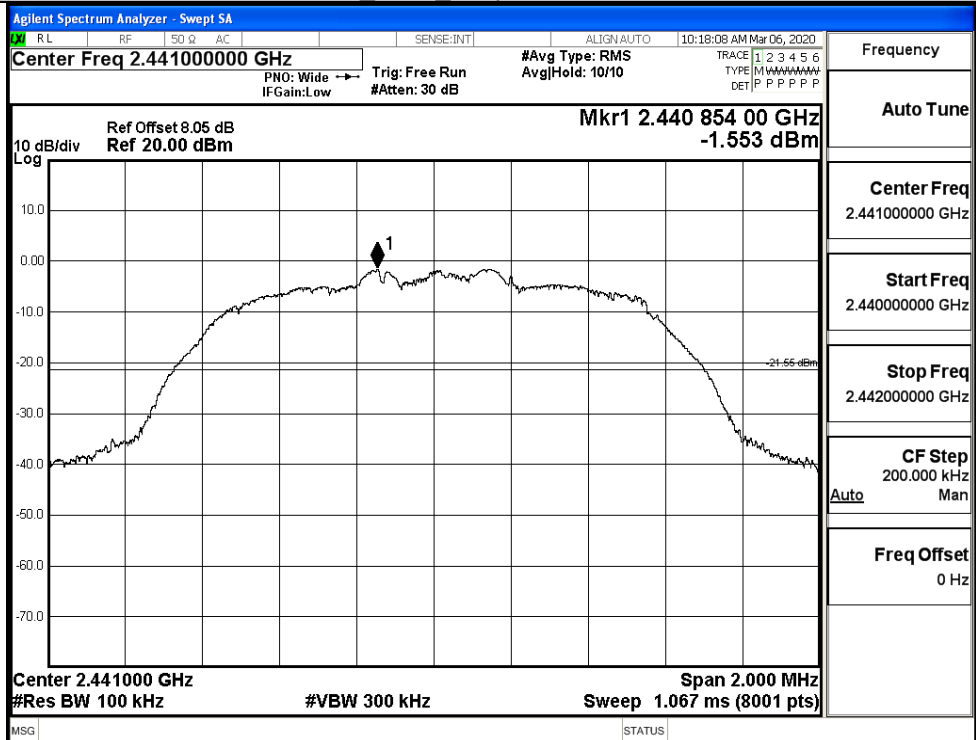


Puw

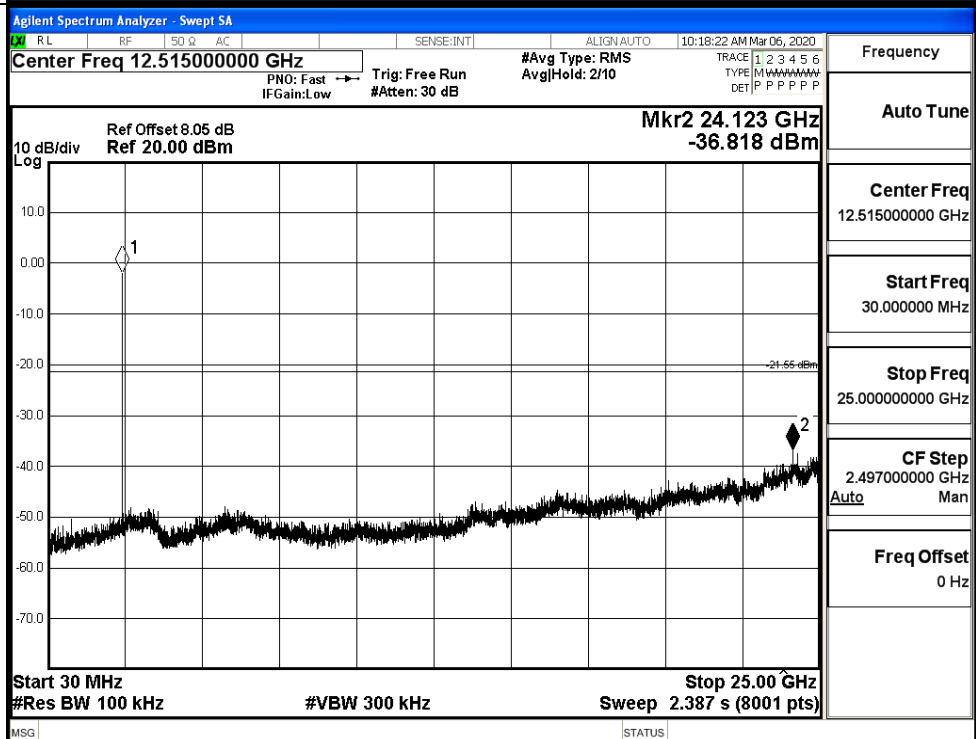


π /4DQPSK_MCH_Graphs

Pref

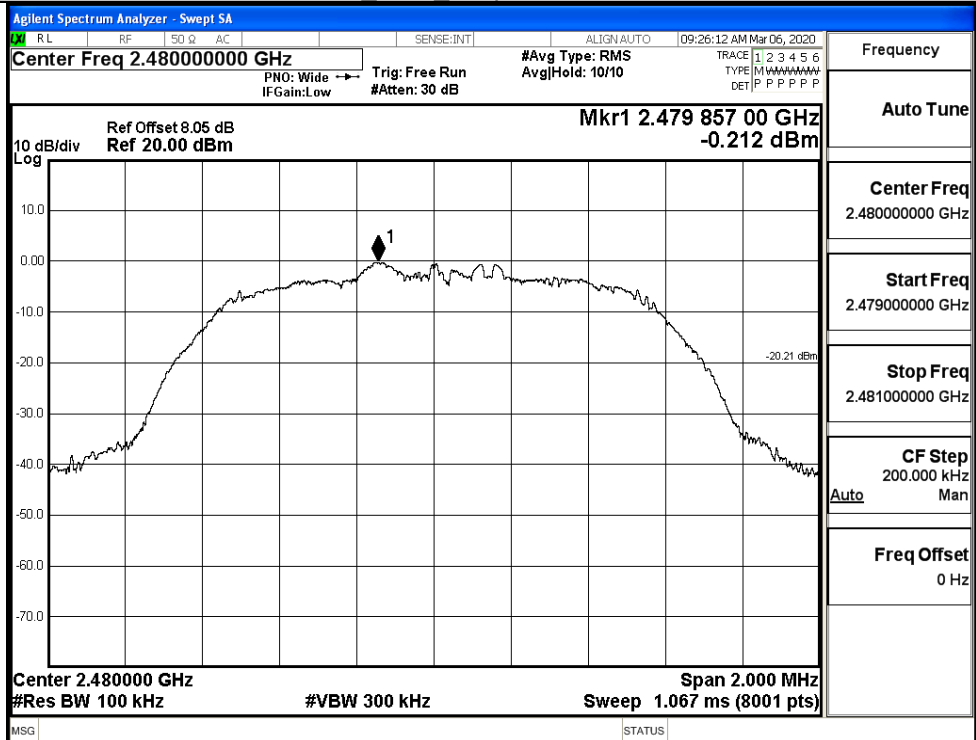


Puw

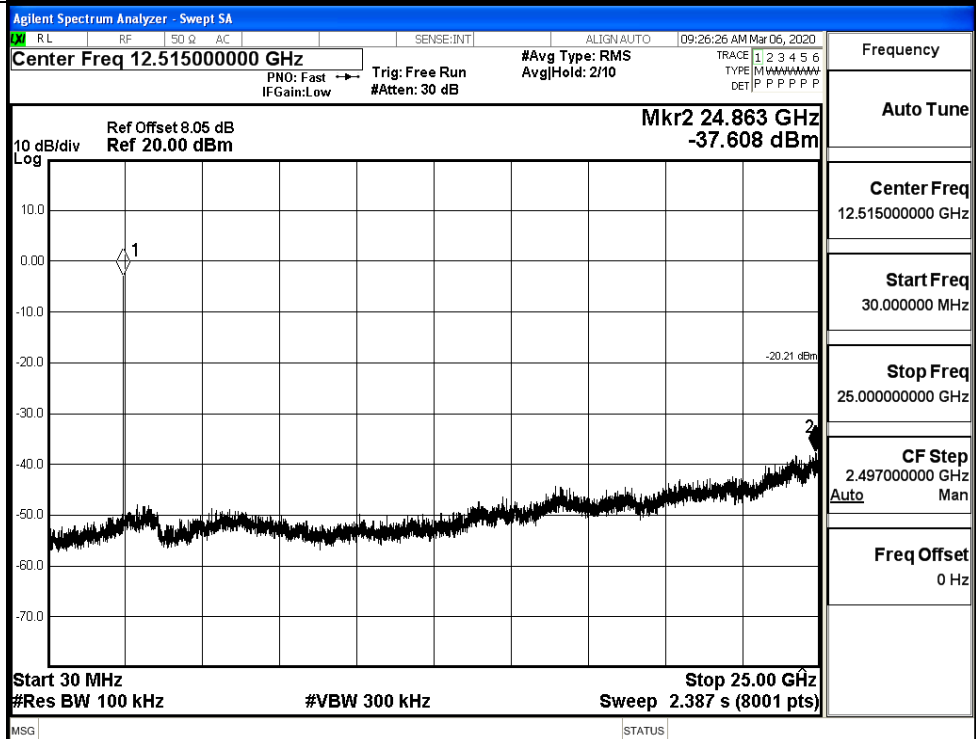


$\pi/4$ DQPSK_HCH_Graphs

Pref

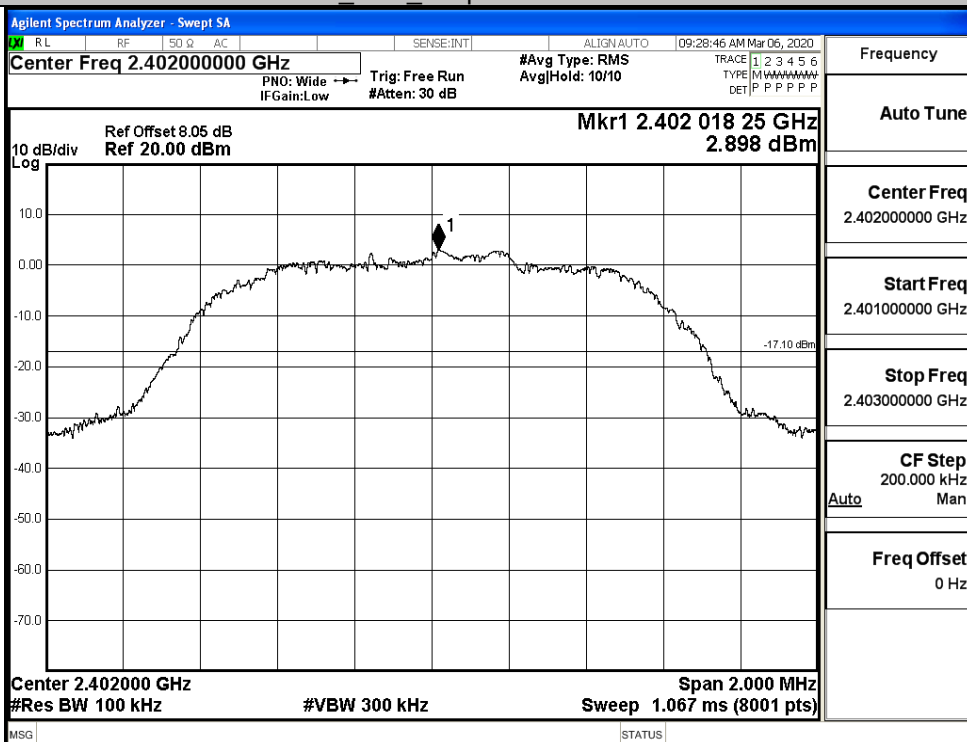


Puw

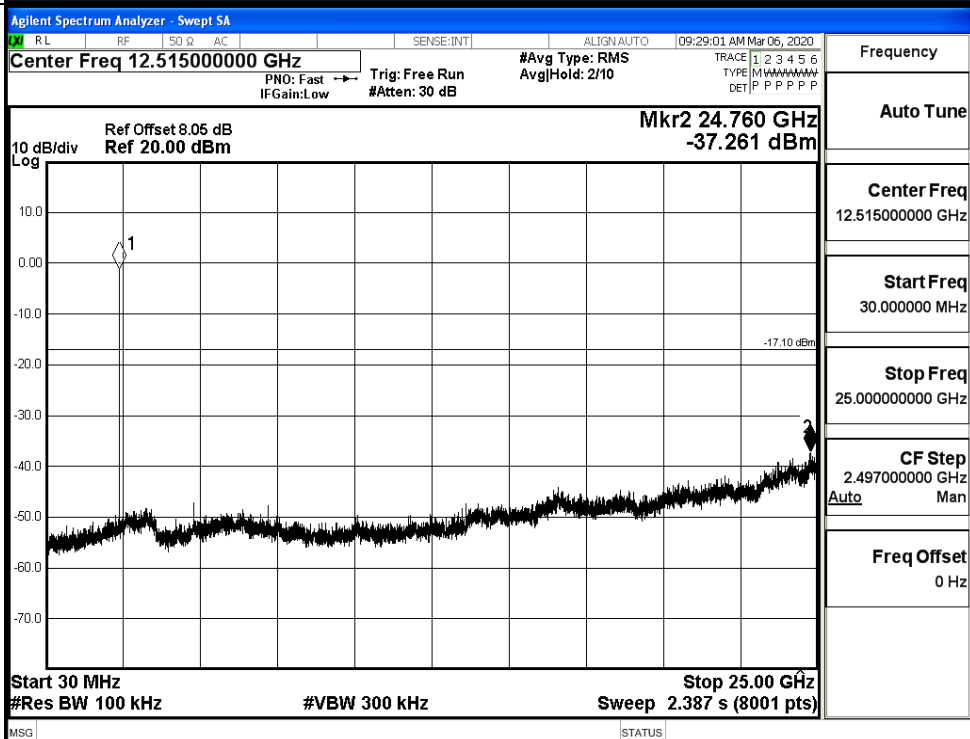


8DPSK_LCH_Graphs

Pref

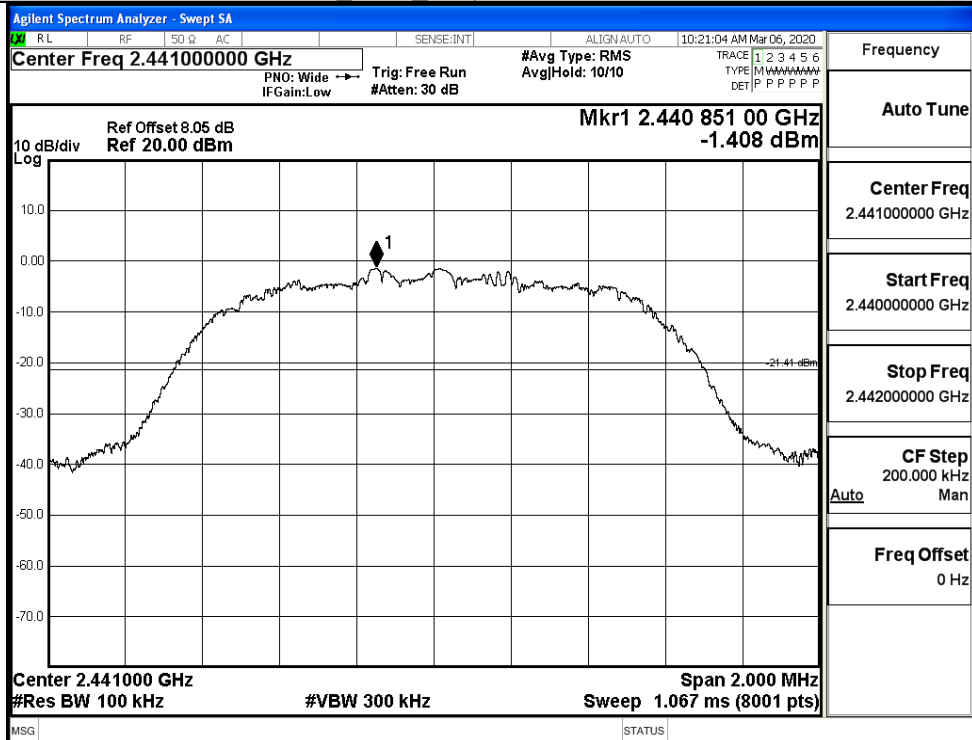


Puw

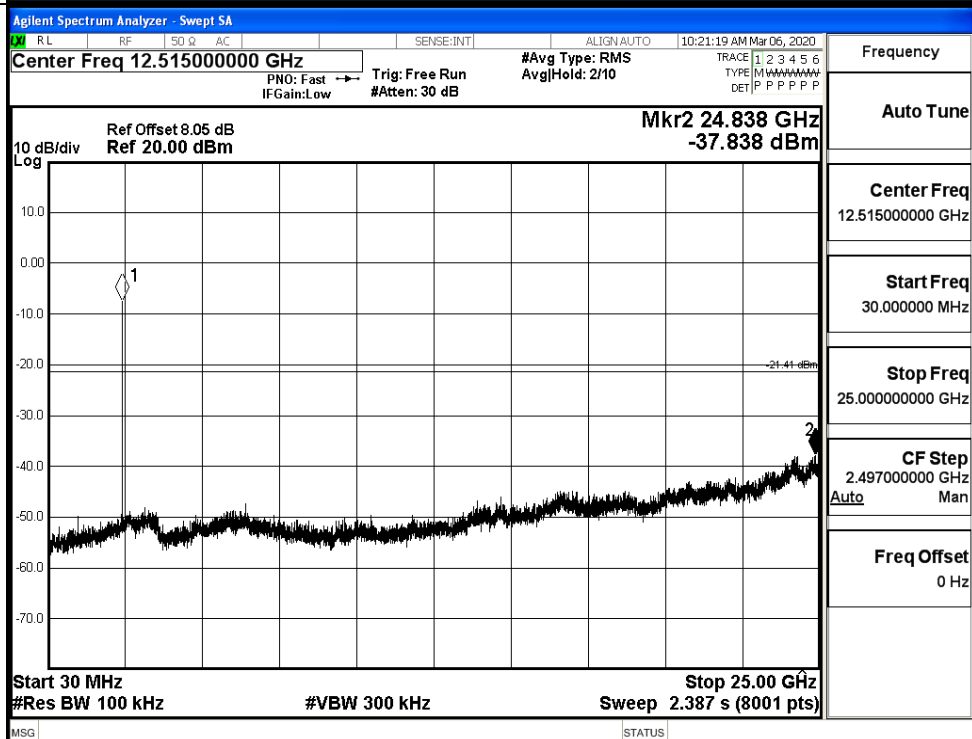


8DPSK_MCH_Graphs

Pref

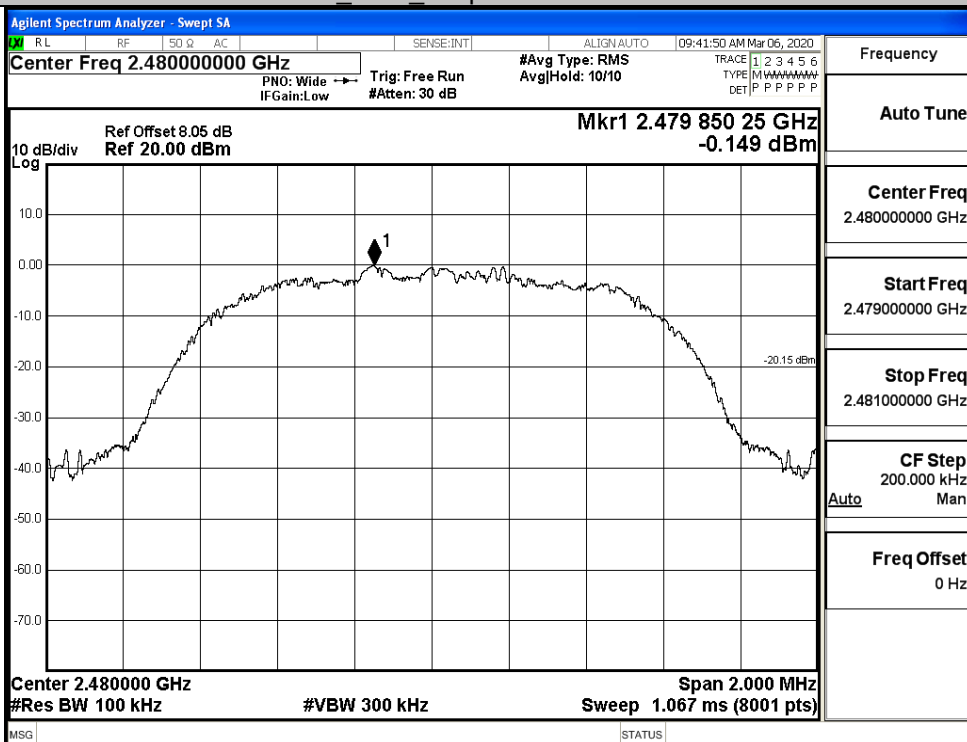


Puw

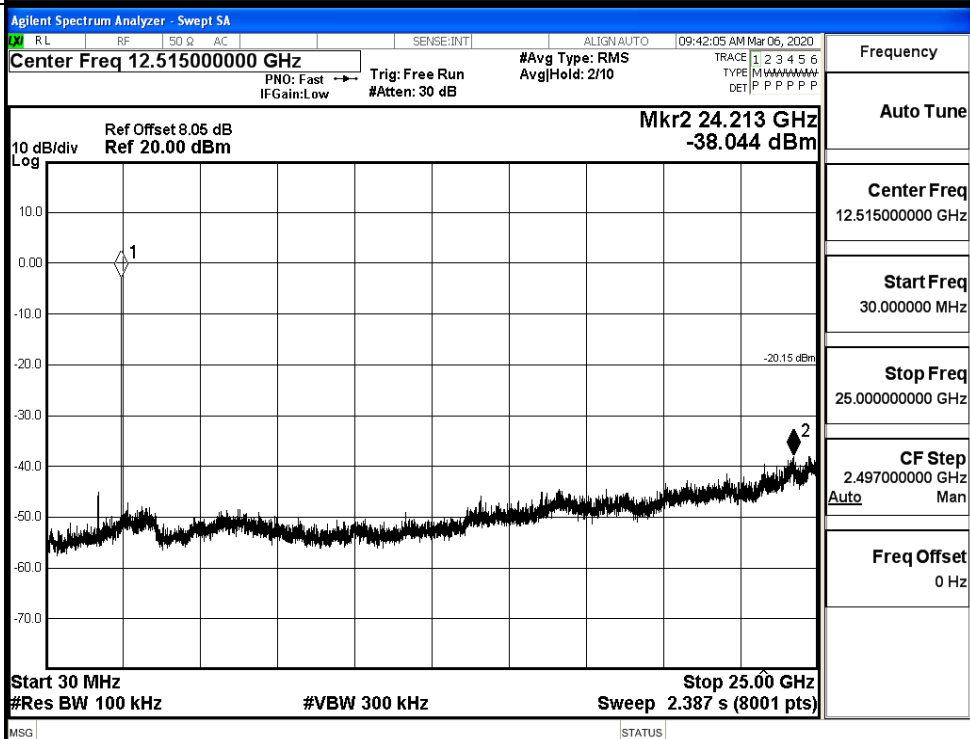


8DPSK_HCH_Graphs

Pref



Puw

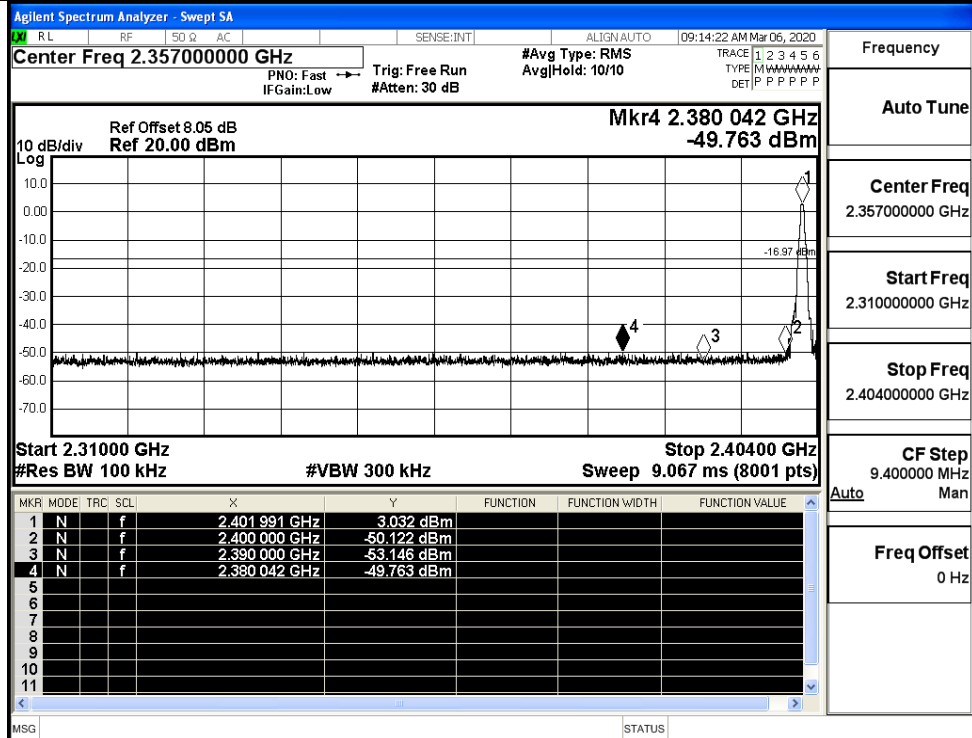


A.7 Band-edge for RF Conducted Emissions

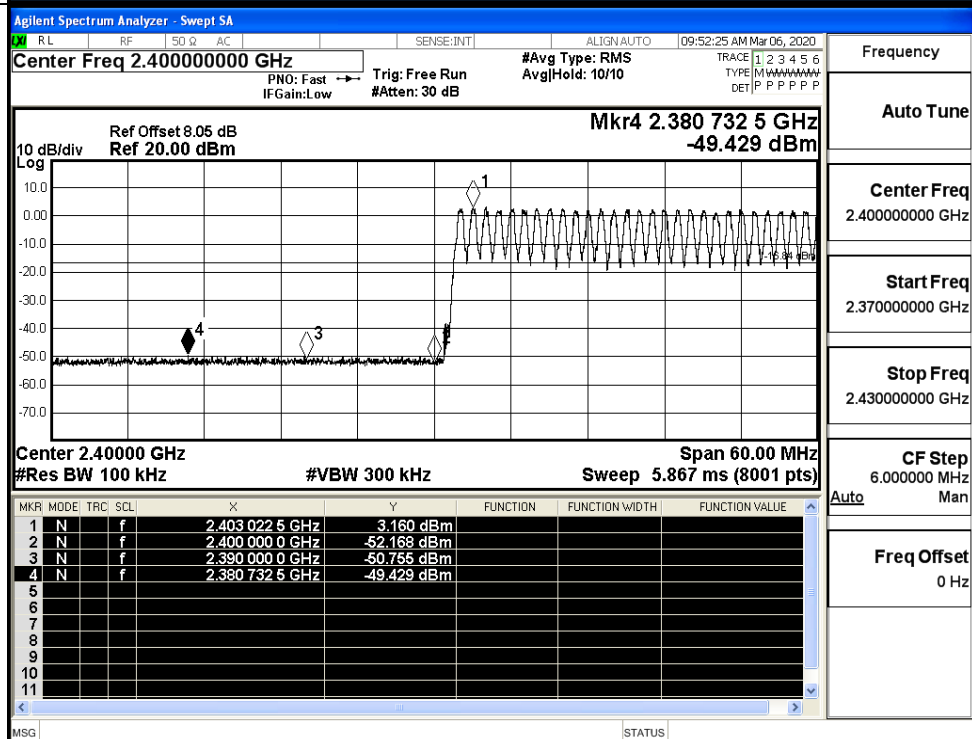
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-3.032	Off	-49.763	-16.97	PASS
			-3.160	On	-49.429	-16.84	PASS
	HCH	2480	-0.166	Off	-48.720	-20.17	PASS
			-0.666	On	-48.353	-19.33	PASS
$\pi/4$ DQPSK	LCH	2402	-0.001	Off	-49.873	-20	PASS
			-2.810	On	-48.924	-17.19	PASS
	HCH	2480	-3.066	Off	-48.656	-23.07	PASS
			-0.834	On	-48.533	-19.17	PASS
8DPSK	LCH	2402	-0.020	Off	-49.490	-20.02	PASS
			-2.631	On	-48.774	-17.37	PASS
	HCH	2480	-2.867	Off	-49.035	-22.87	PASS
			-0.732	On	-48.258	-19.27	PASS

Test Graphs

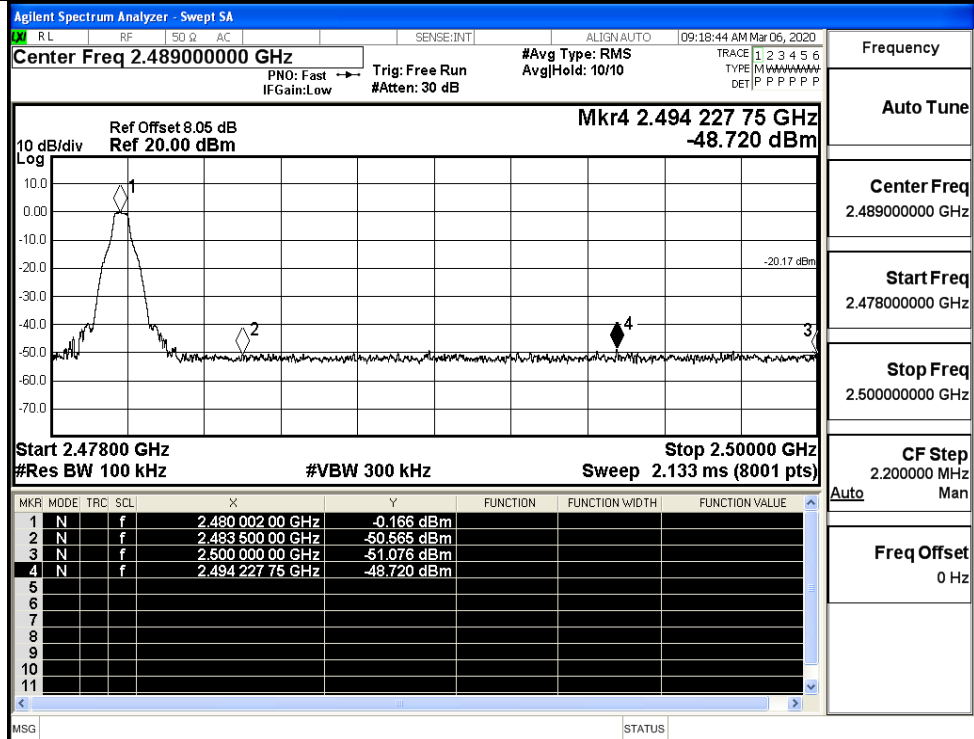
GFSK/LCH/No Hop



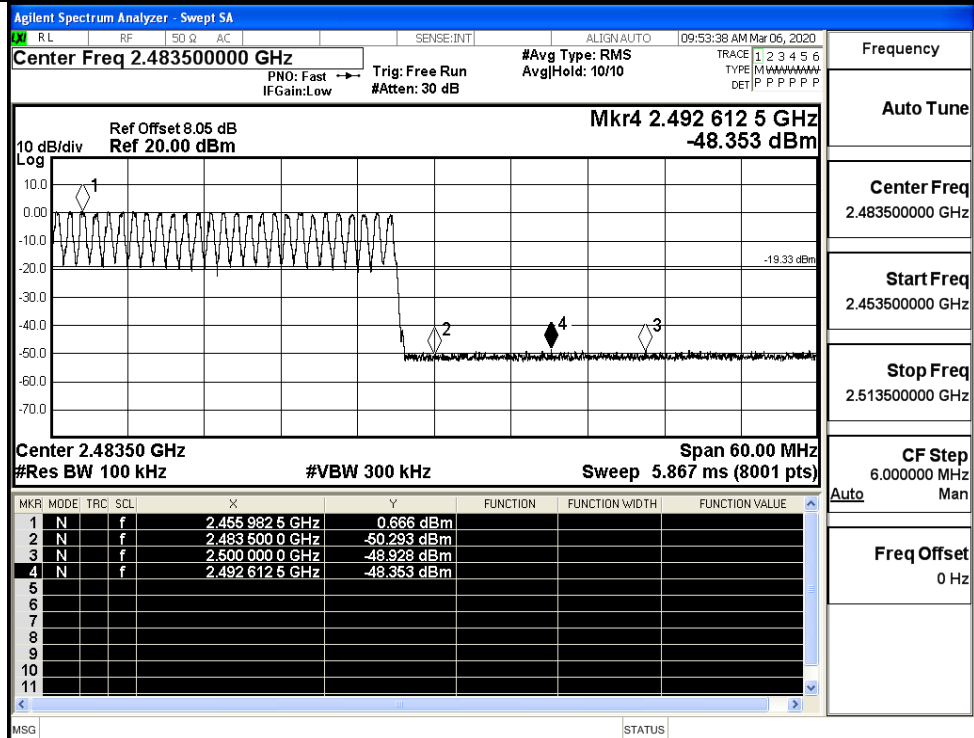
GFSK/LCH/Hop



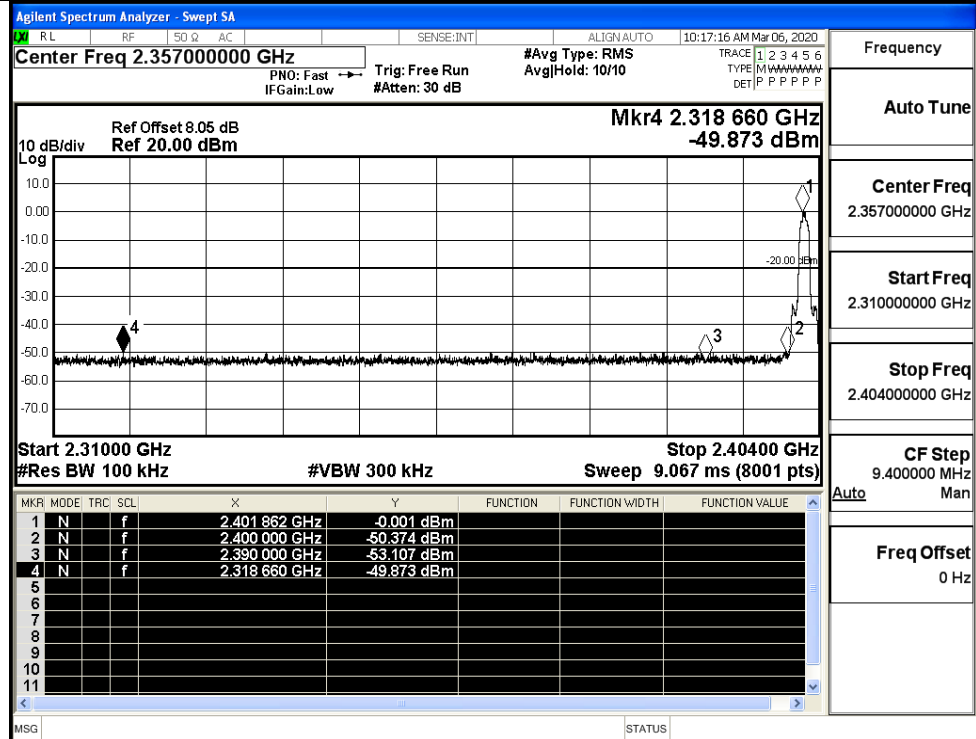
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq
2.357000000 GHz

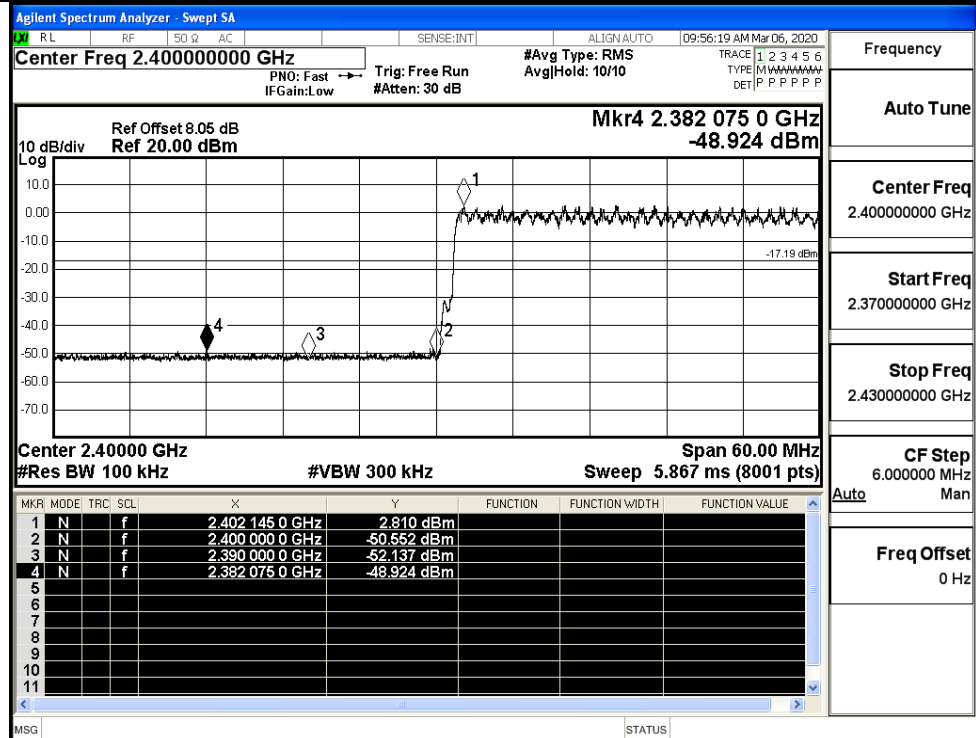
Start Freq
2.310000000 GHz

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

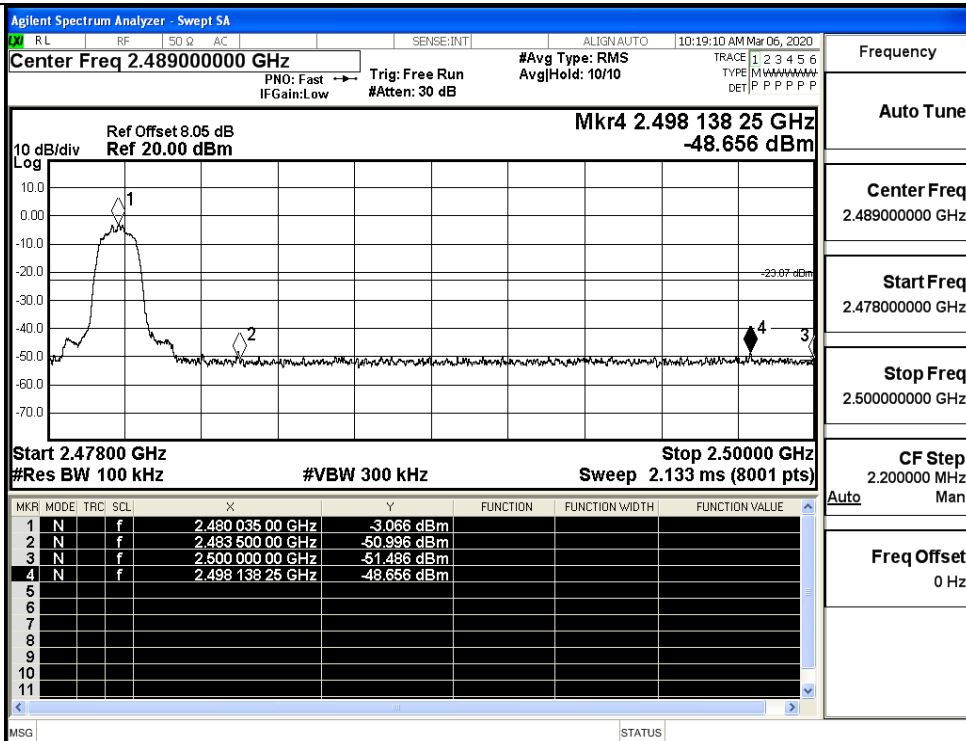
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

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

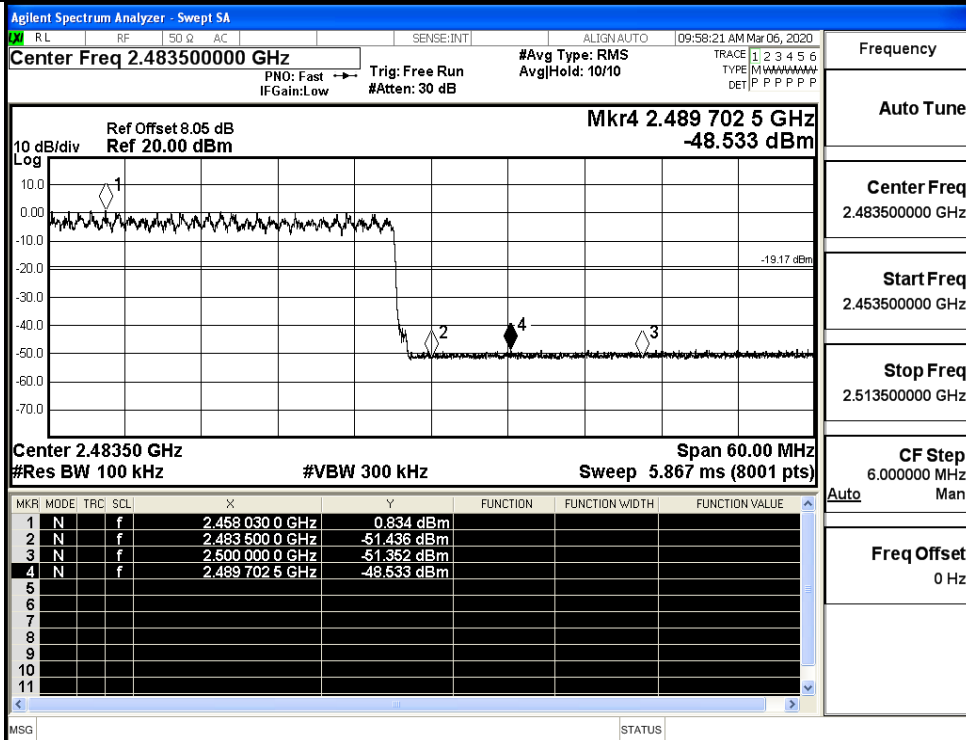


Frequency

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

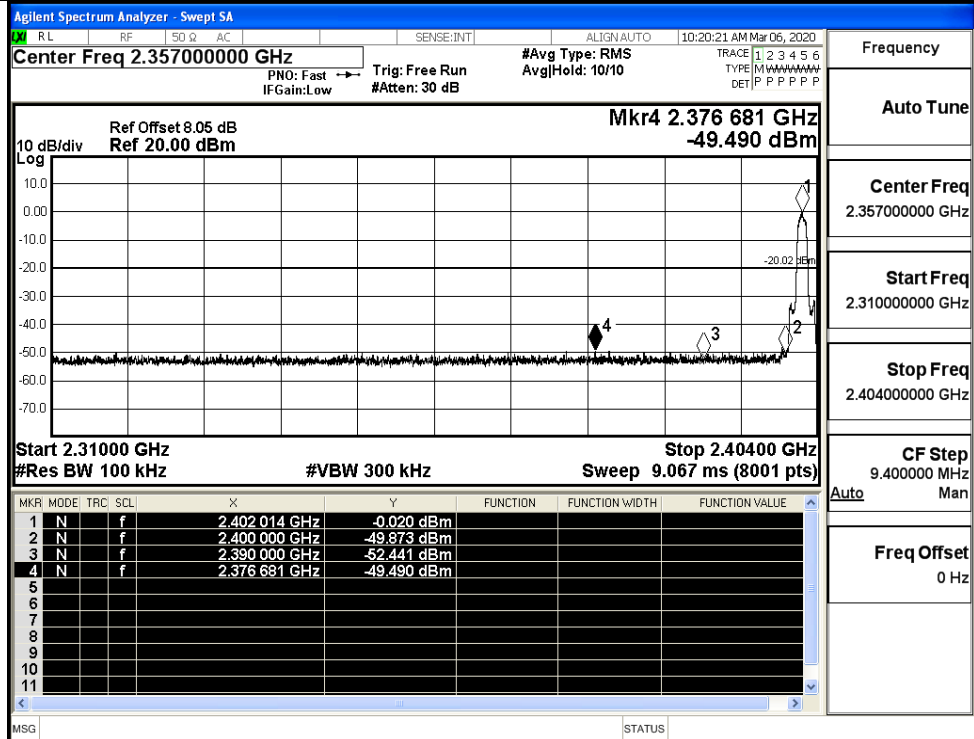


Frequency

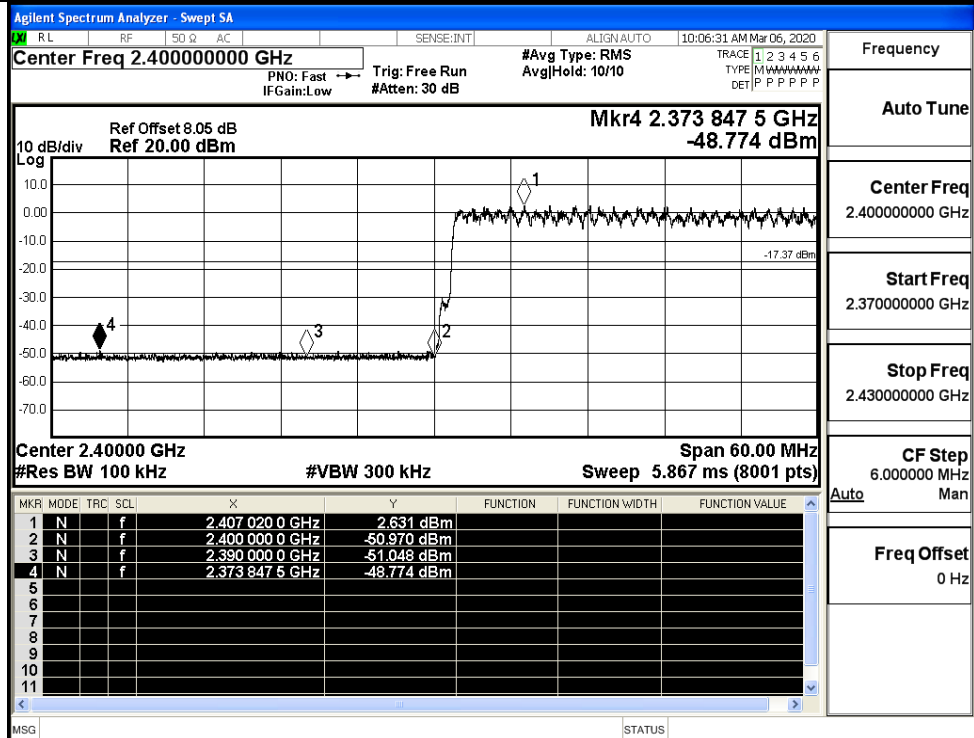
Auto Tune

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

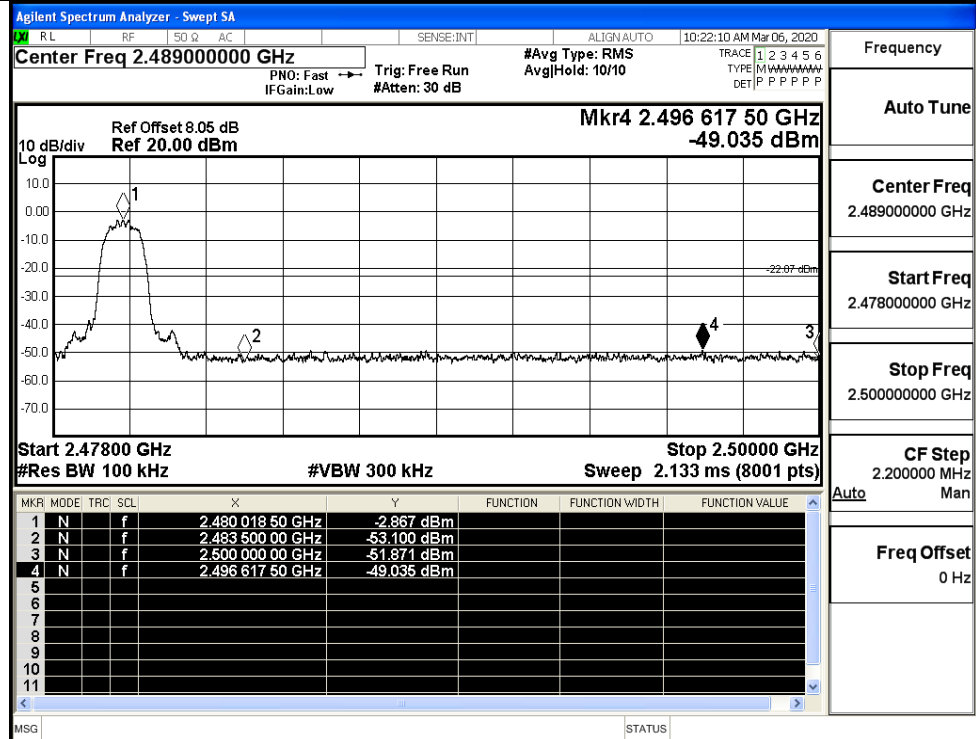
8DPSK/LCH/No Hop



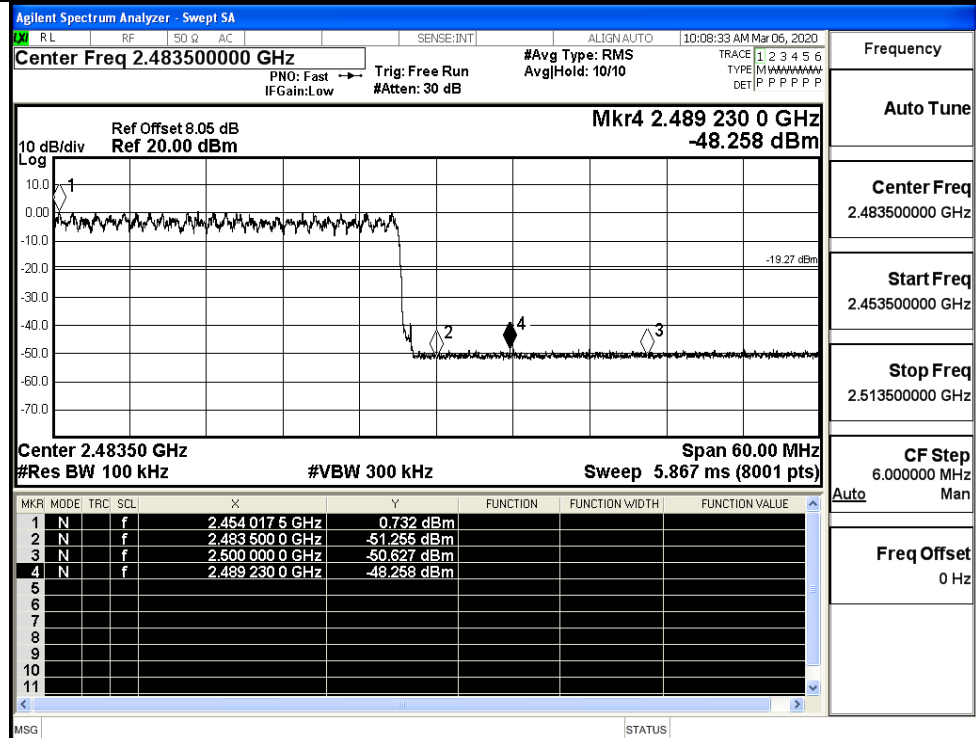
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



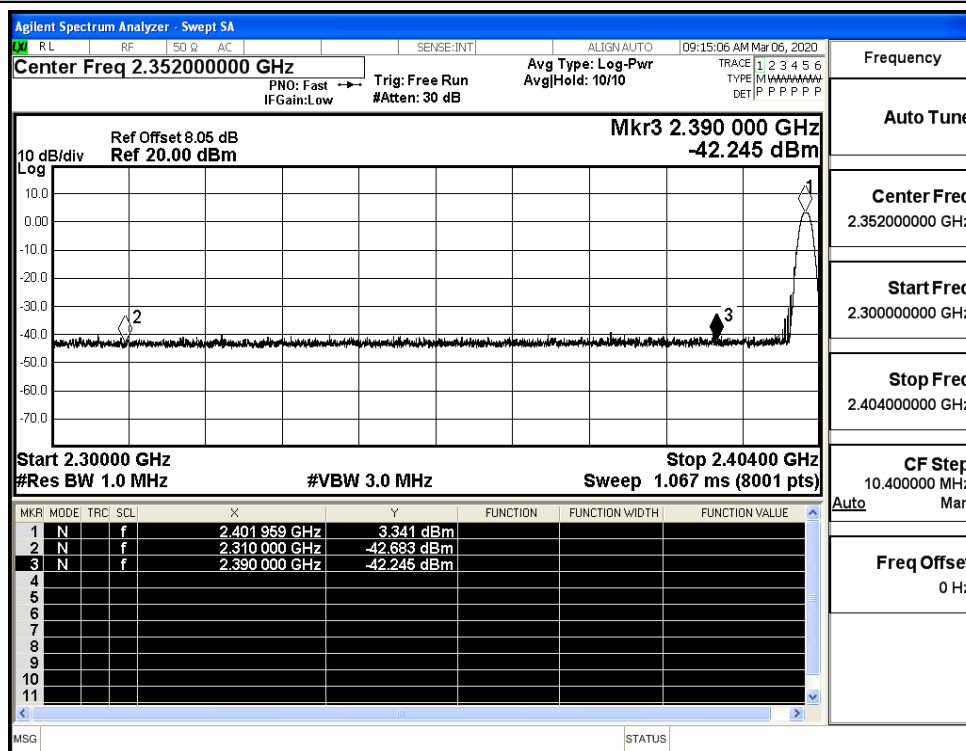
8DPSK/HCH/Hop



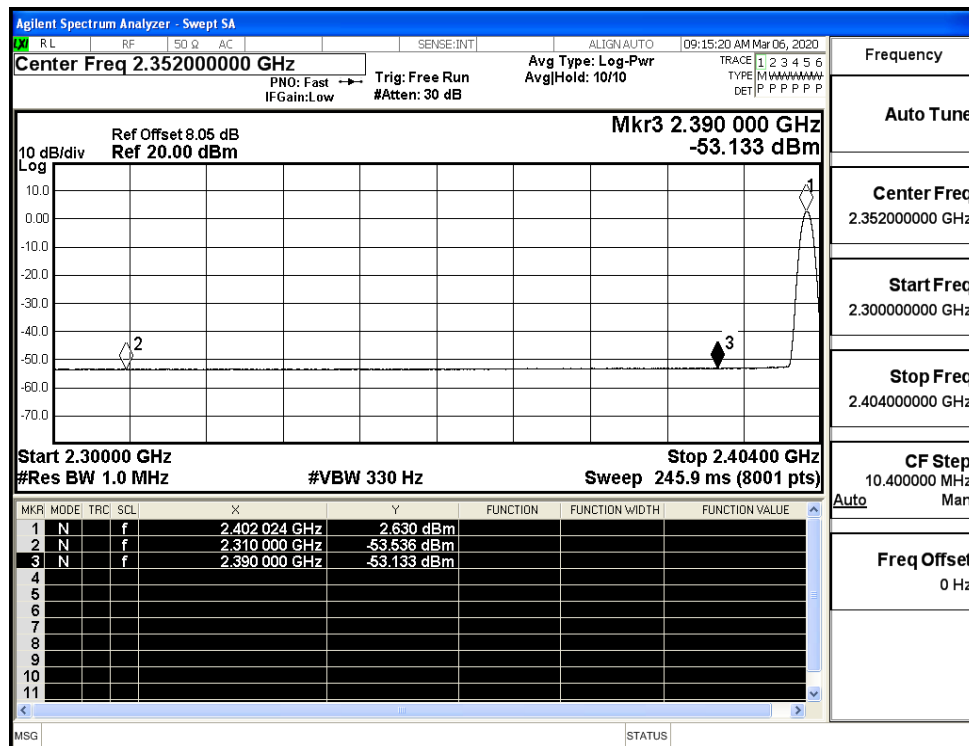
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.68	2.0	0	54.57	PEAK	74	PASS
	Off	2310.0	-53.54	2.0	0	43.72	AV	54	PASS
	Off	2390.0	-42.25	2.0	0	55.01	PEAK	74	PASS
	Off	2390.0	-53.13	2.0	0	44.12	AV	54	PASS
	Off	2483.5	-42.89	2.0	0	54.37	PEAK	74	PASS
	Off	2483.5	-52.57	2.0	0	44.69	AV	54	PASS
	Off	2500.0	-41.71	2.0	0	55.54	PEAK	74	PASS
	Off	2500.0	-52.38	2.0	0	44.88	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.55	2.0	0	53.71	PEAK	74	PASS
	Off	2310.0	-53.49	2.0	0	43.77	AV	54	PASS
	Off	2390.0	-43.42	2.0	0	53.84	PEAK	74	PASS
	Off	2390.0	-53.13	2.0	0	44.13	AV	54	PASS
	Off	2483.5	-42.84	2.0	0	54.41	PEAK	74	PASS
	Off	2483.5	-52.38	2.0	0	44.88	AV	54	PASS
	Off	2500.0	-41.73	2.0	0	55.52	PEAK	74	PASS
	Off	2500.0	-52.34	2.0	0	44.91	AV	54	PASS
8DPSK	Off	2310.0	-42.57	2.0	0	54.69	PEAK	74	PASS
	Off	2310.0	-53.27	2.0	0	43.99	AV	54	PASS
	Off	2390.0	-42.95	2.0	0	54.31	PEAK	74	PASS
	Off	2390.0	-52.98	2.0	0	44.28	AV	54	PASS
	Off	2483.5	-41.96	2.0	0	55.29	PEAK	74	PASS
	Off	2483.5	-52.45	2.0	0	44.81	AV	54	PASS
	Off	2500.0	-42.60	2.0	0	54.65	PEAK	74	PASS
	Off	2500.0	-52.28	2.0	0	44.98	AV	54	PASS

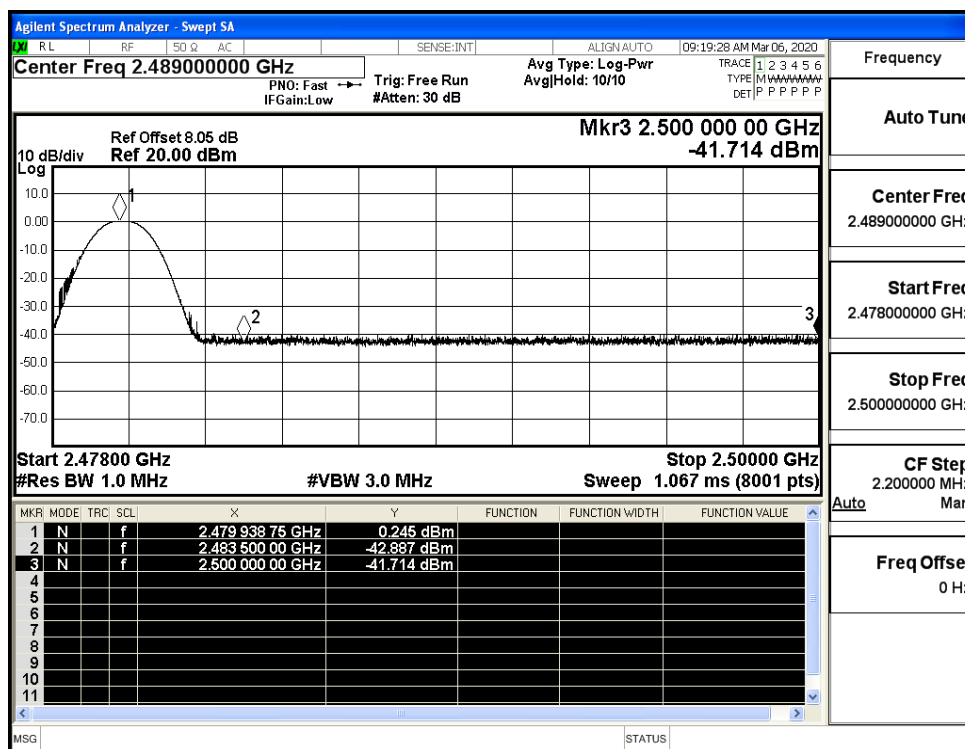
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



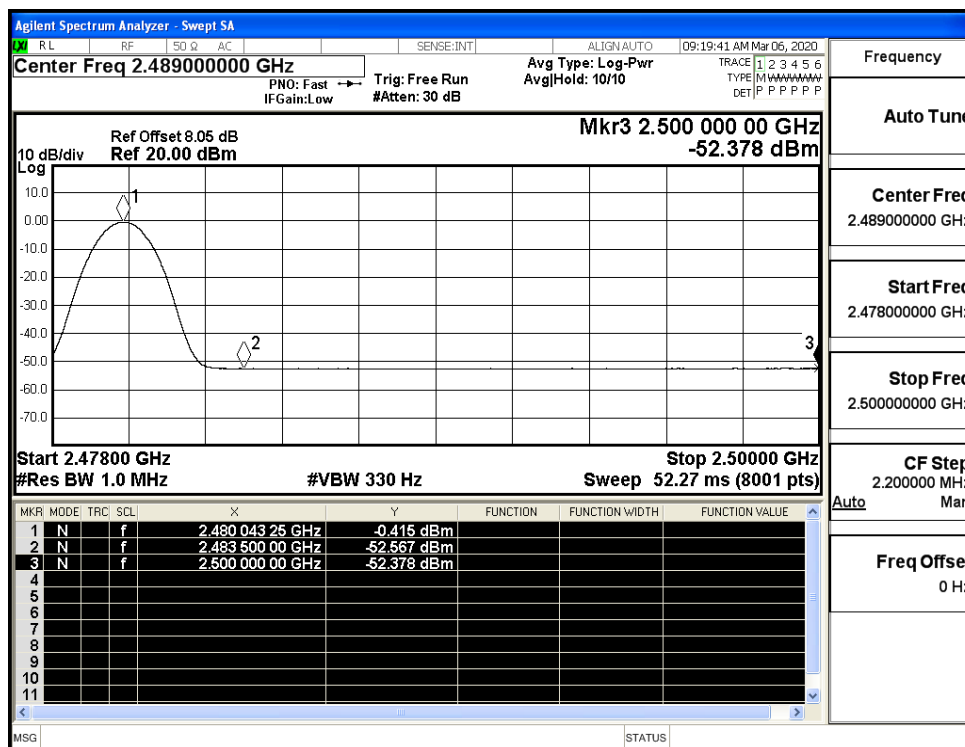
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

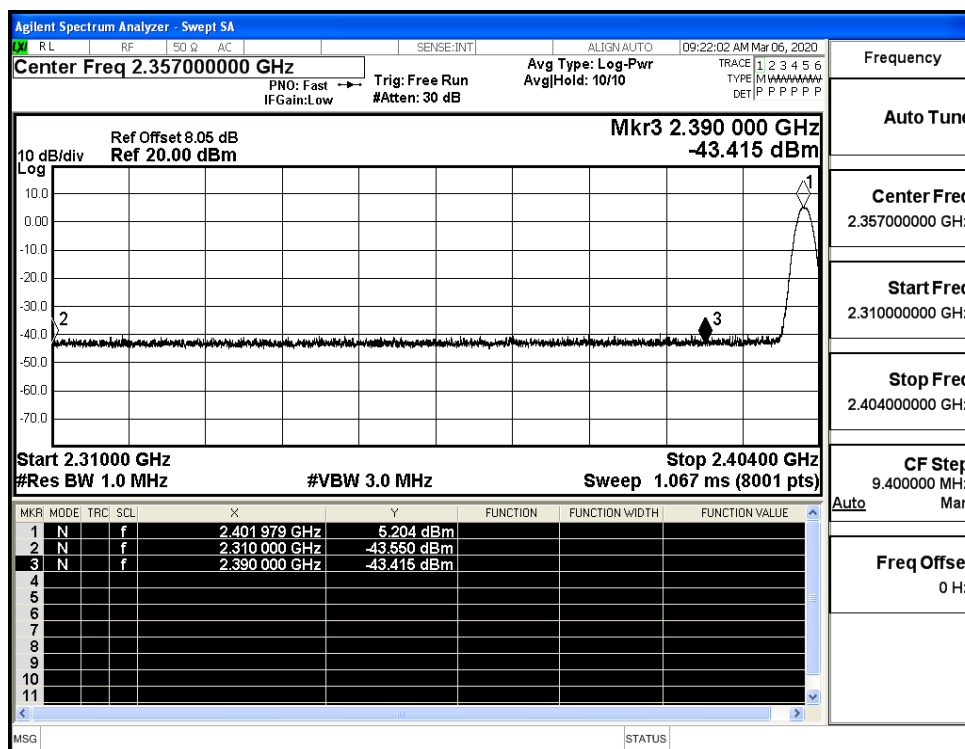
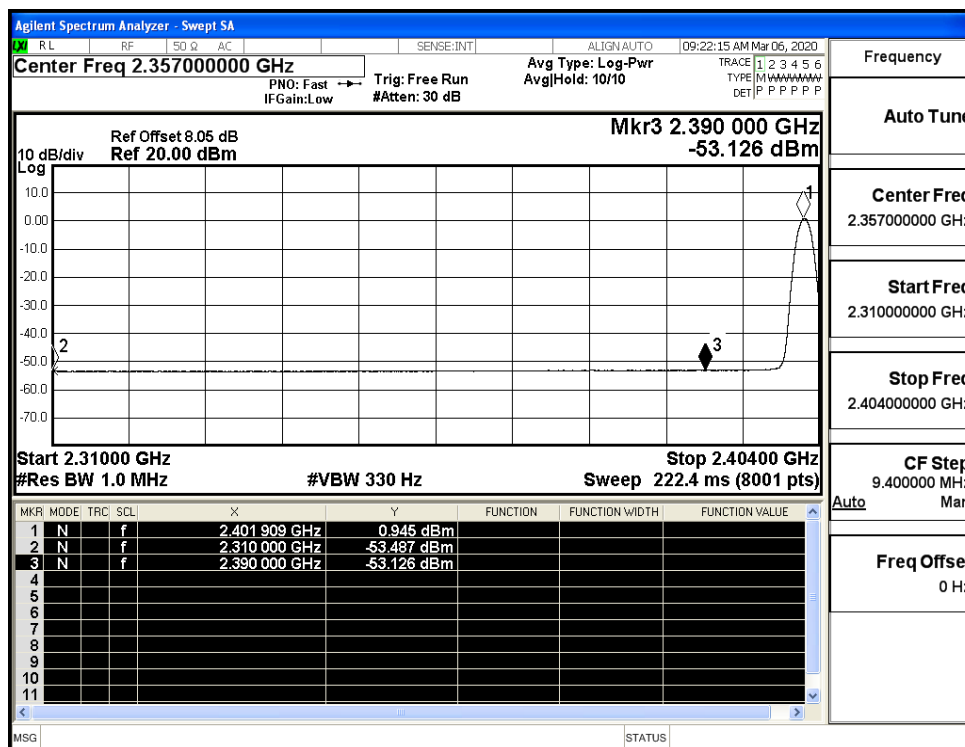


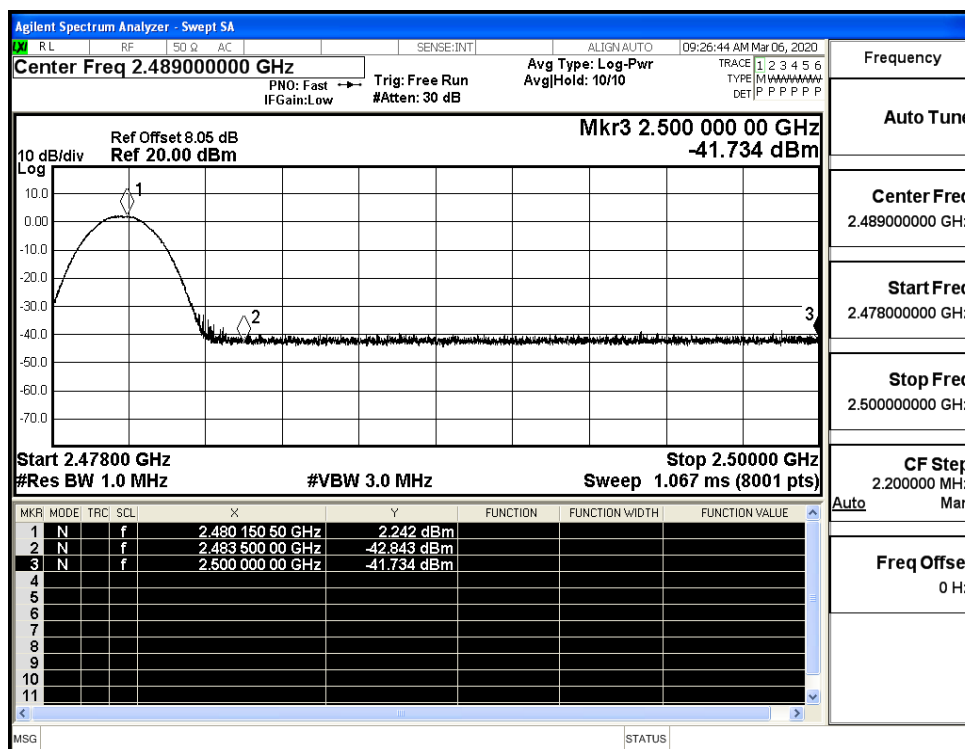
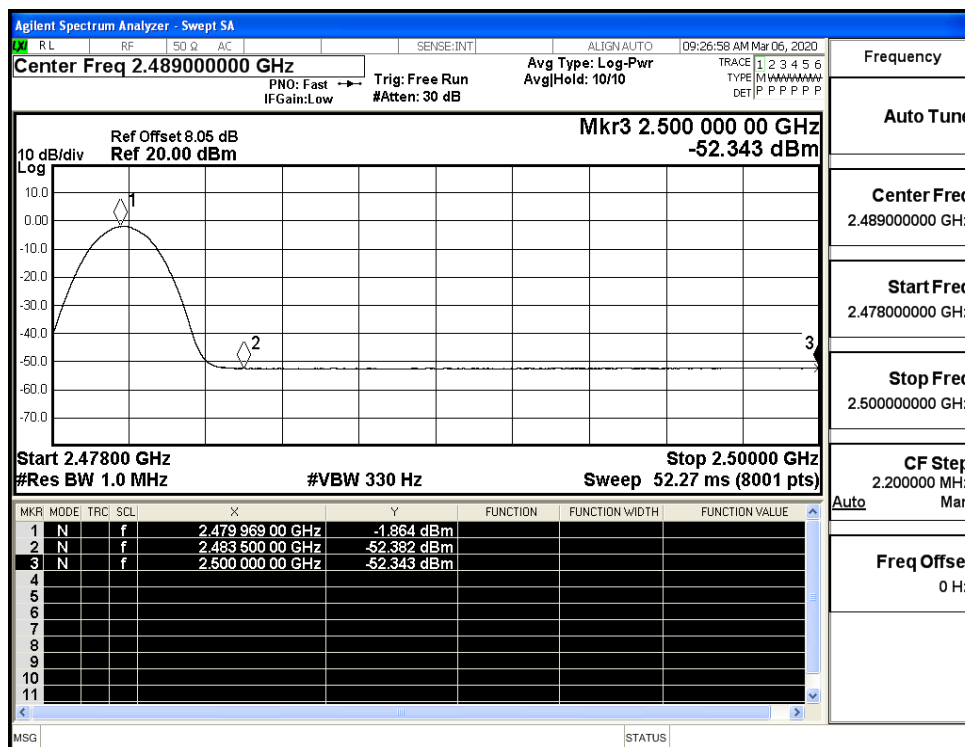
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



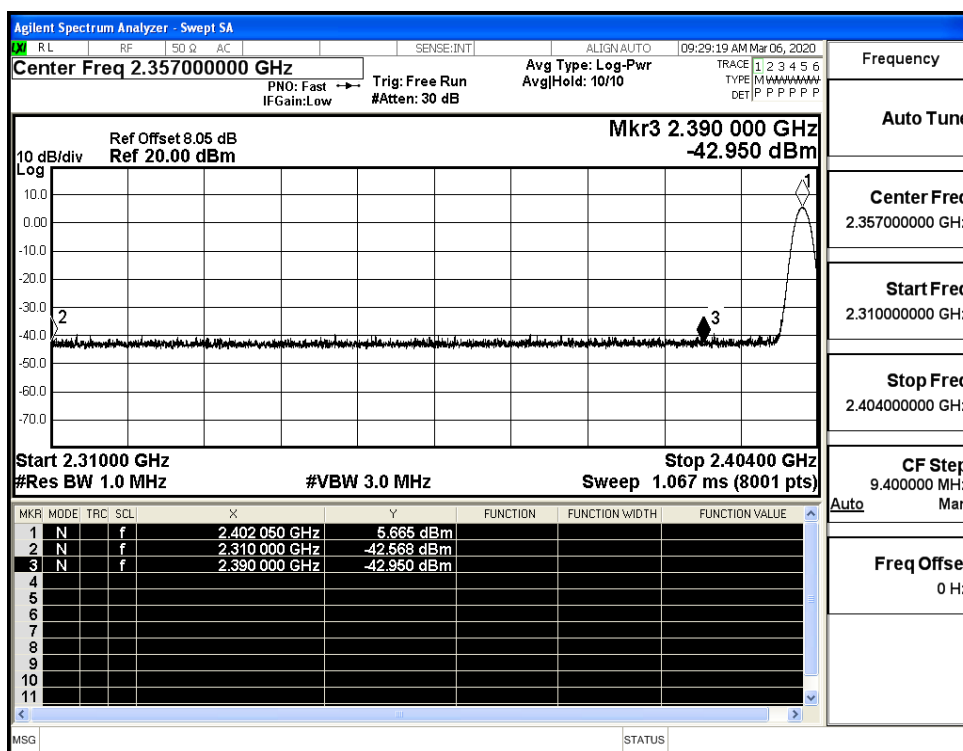
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



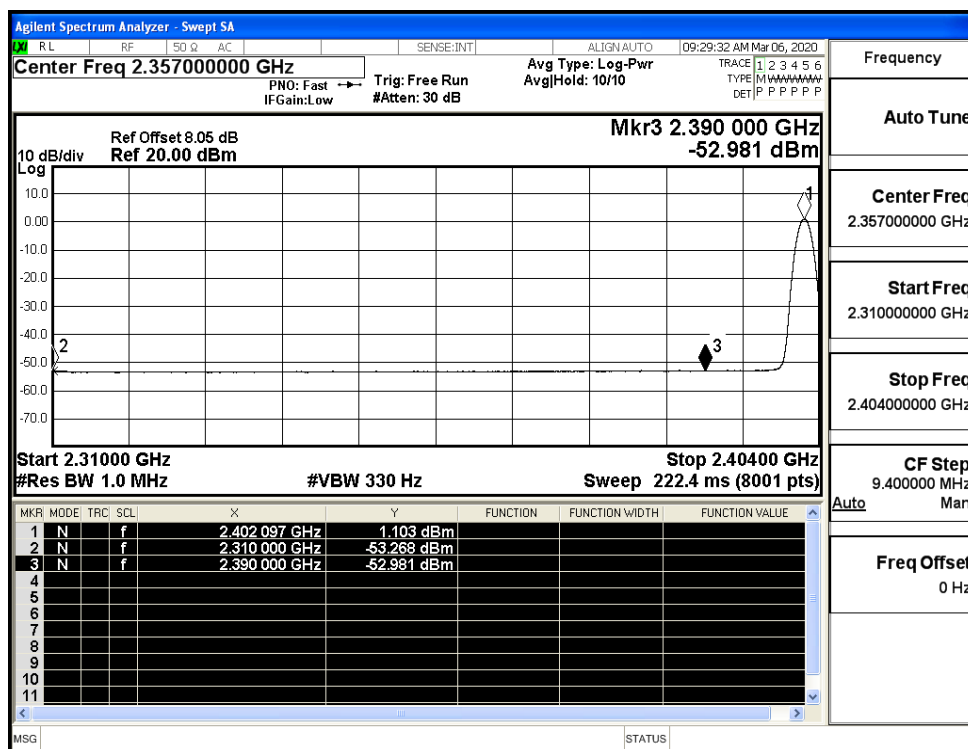
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

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)

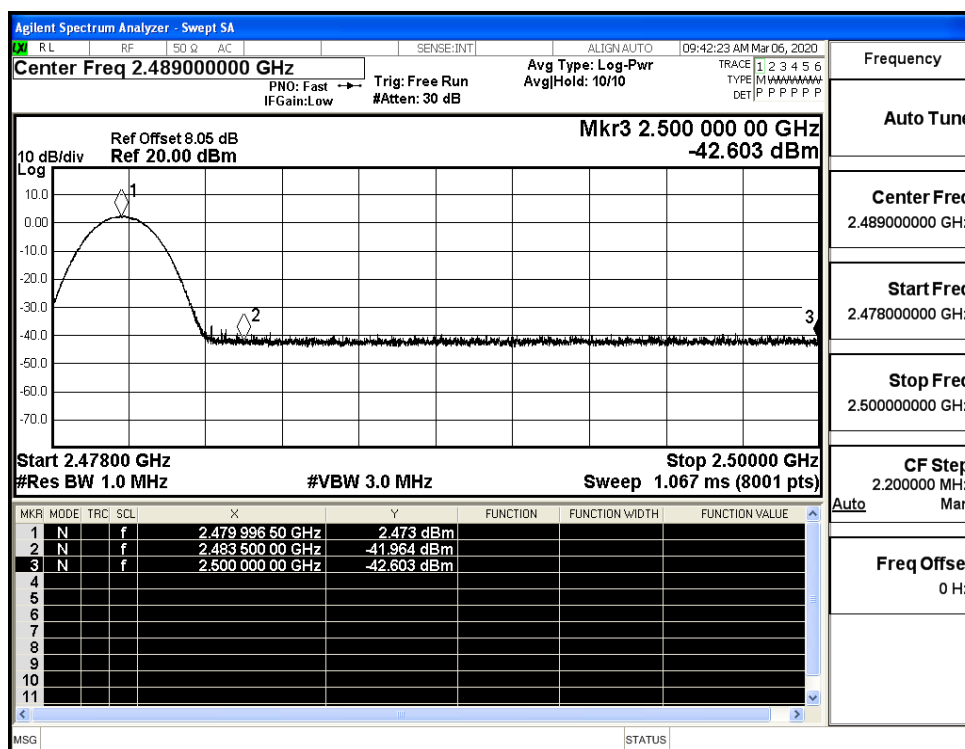
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

