

Appendix A

RF Test Data for BT V5.0(DSS) (Conducted Measurement)

Product Name: BASS4 Wireless Speaker with Handle

Trade Mark: N/A

Test Model: 24278

Environmental Conditions

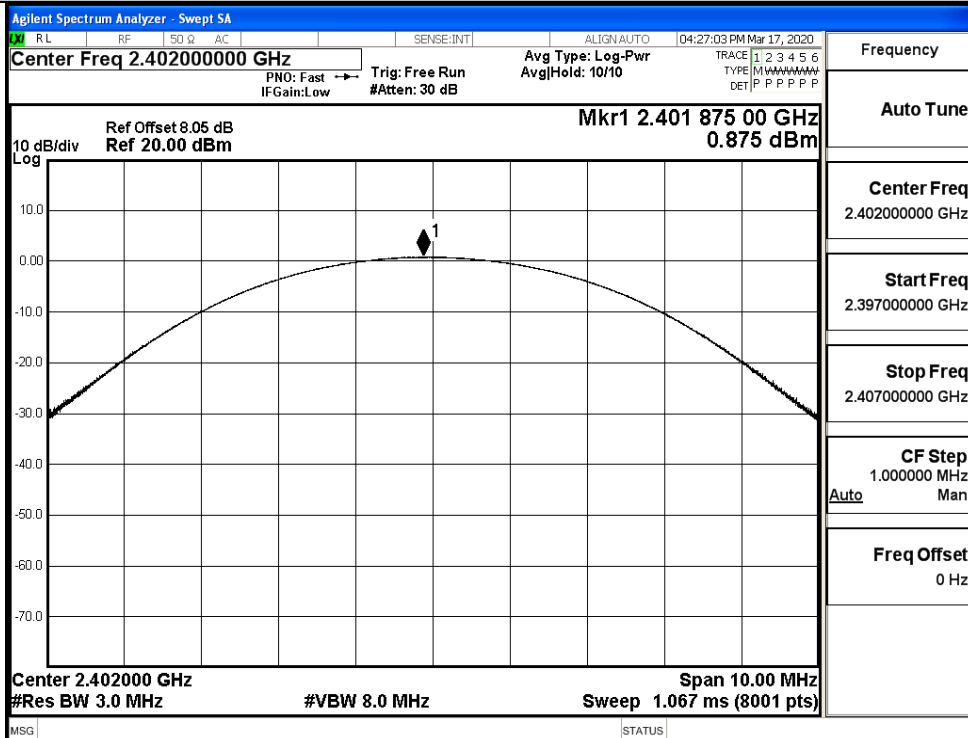
Temperature:	23.4 ° C
Relative Humidity:	53.8%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond.Lu
Supervised by:	Tom.Liu

A.1 Maximum Conducted Peak Output Power

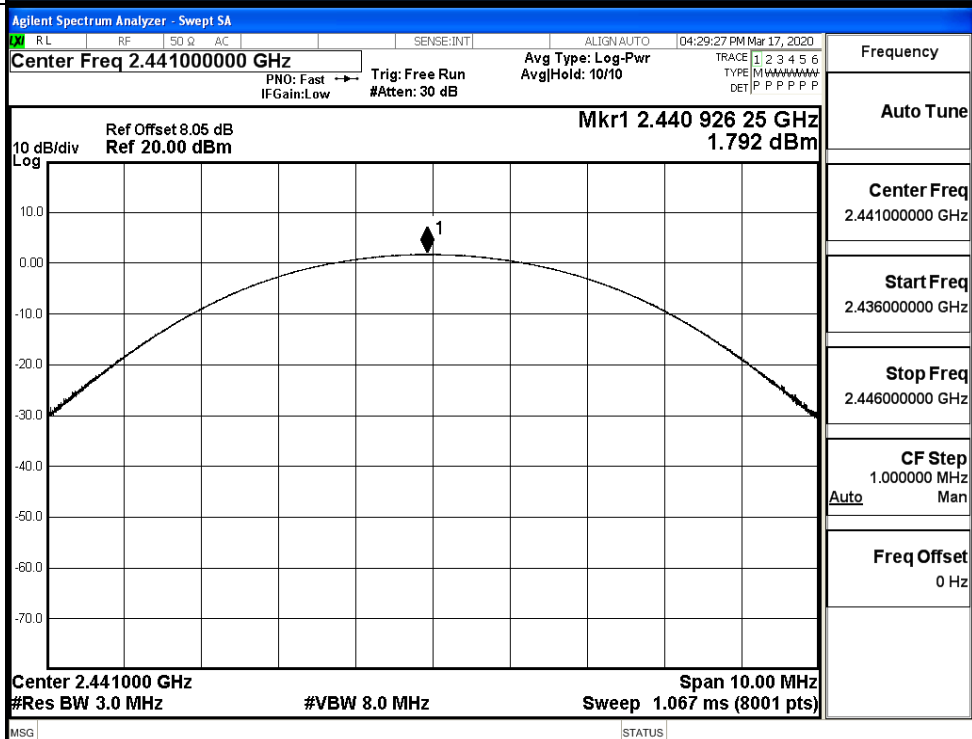
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.875	21	PASS
	MCH	1.792	21	PASS
	HCH	1.004	21	PASS
$\pi/4$ DQPSK	LCH	0.108	21	PASS
	MCH	1.259	21	PASS
	HCH	0.450	21	PASS
8DPSK	LCH	0.092	21	PASS
	MCH	1.256	21	PASS
	HCH	0.438	21	PASS

Test Graphs

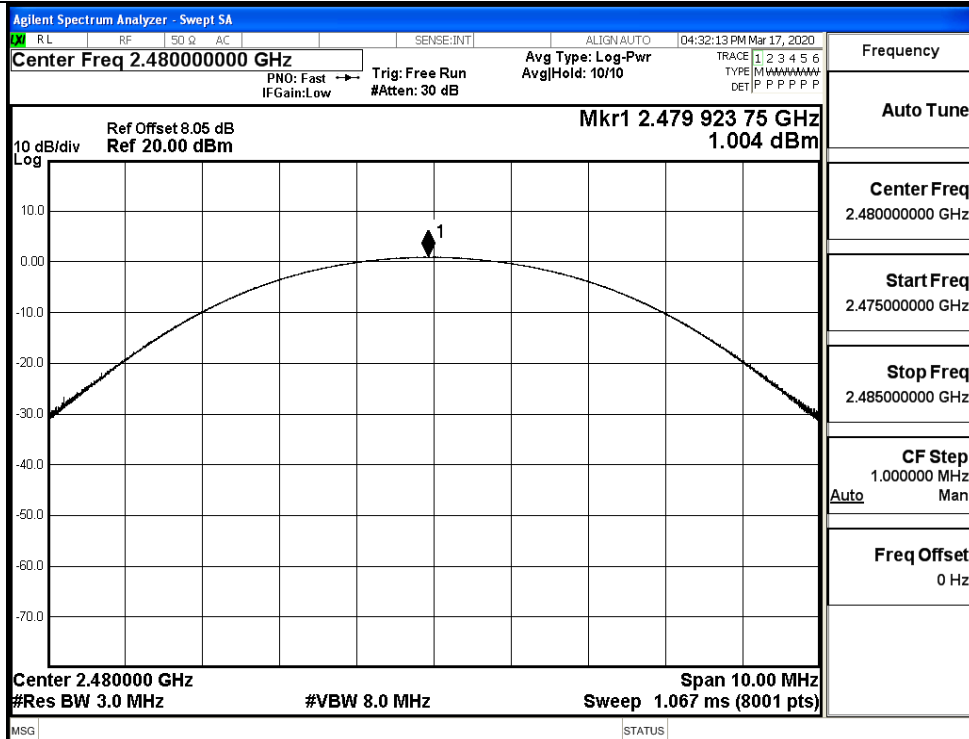
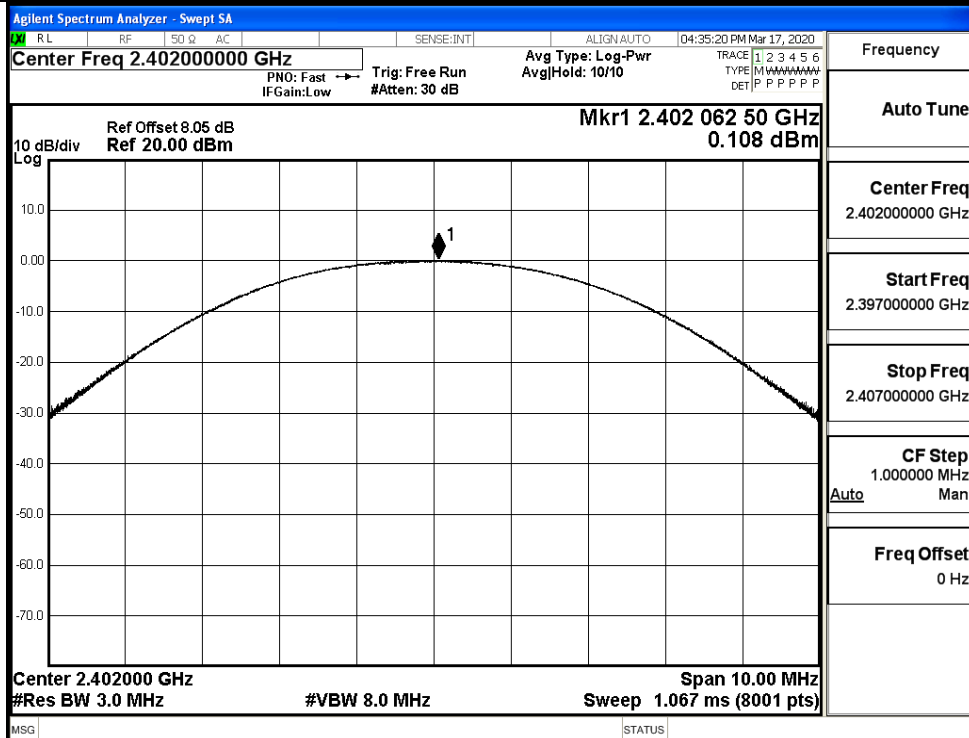
GFSK/LCH

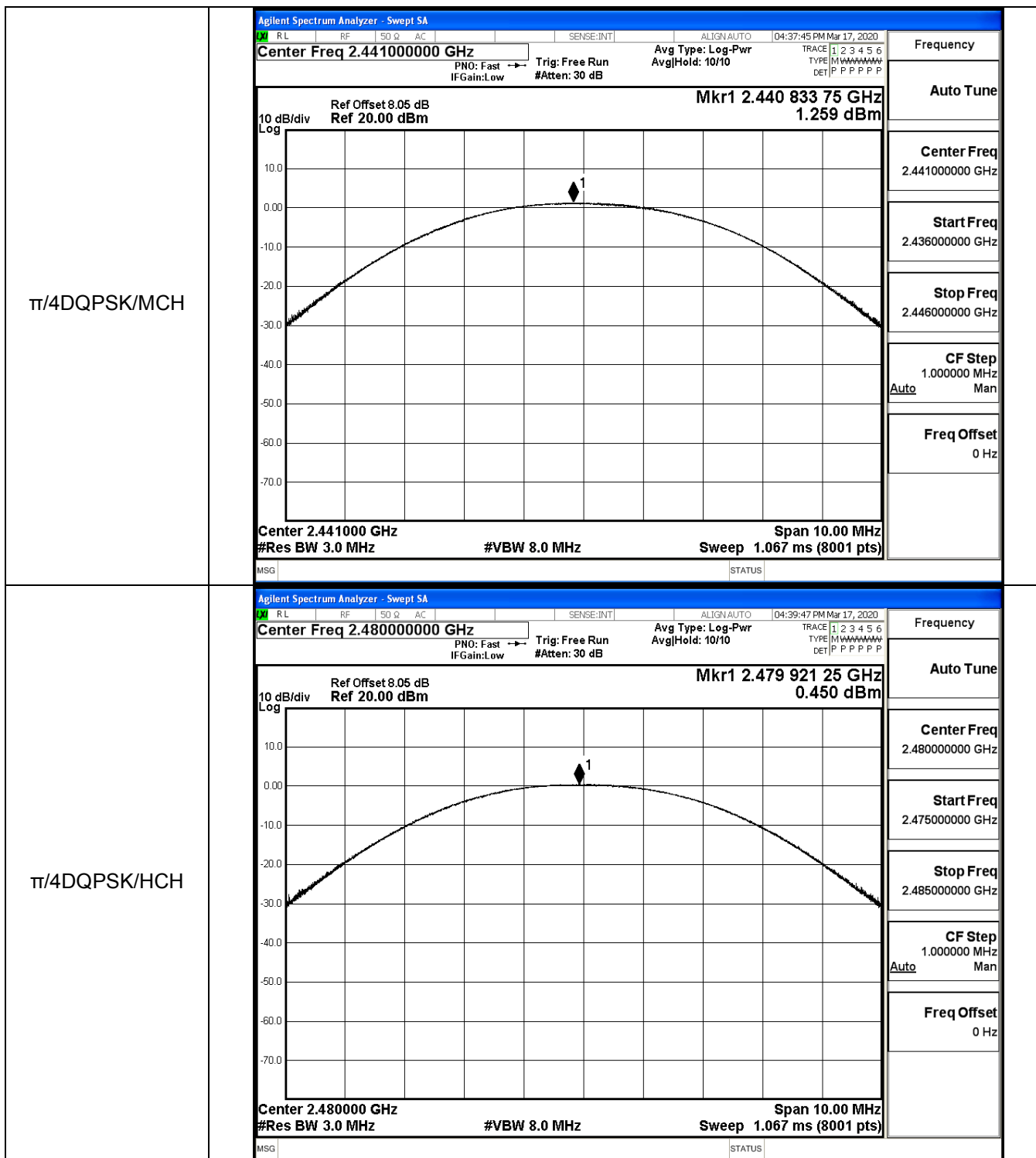


GFSK/MCH

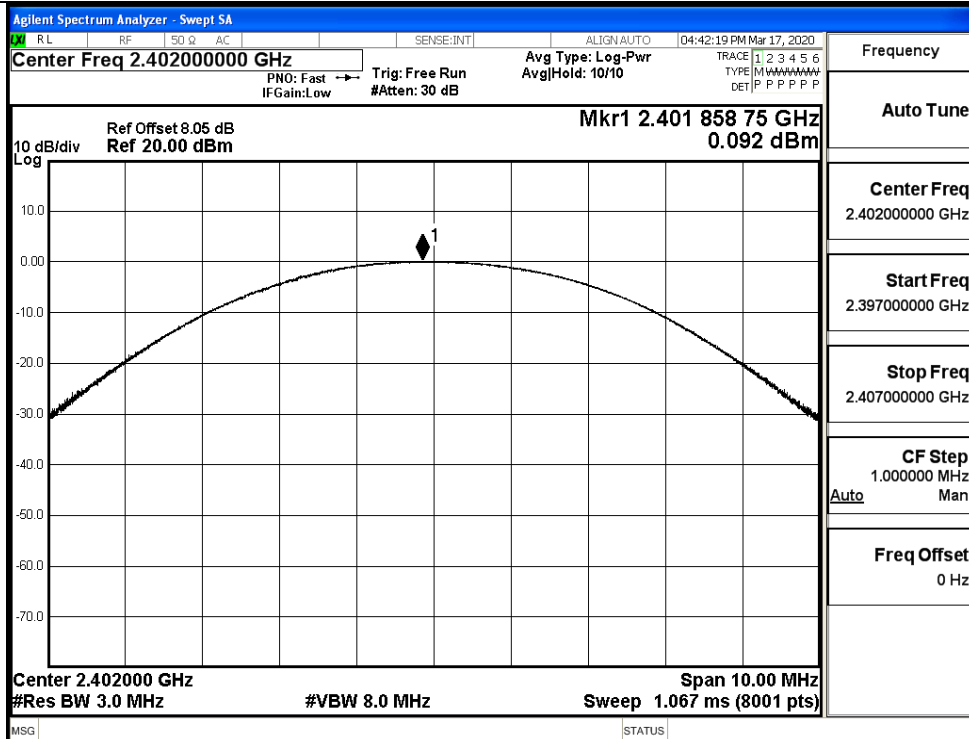


GFSK/HCH

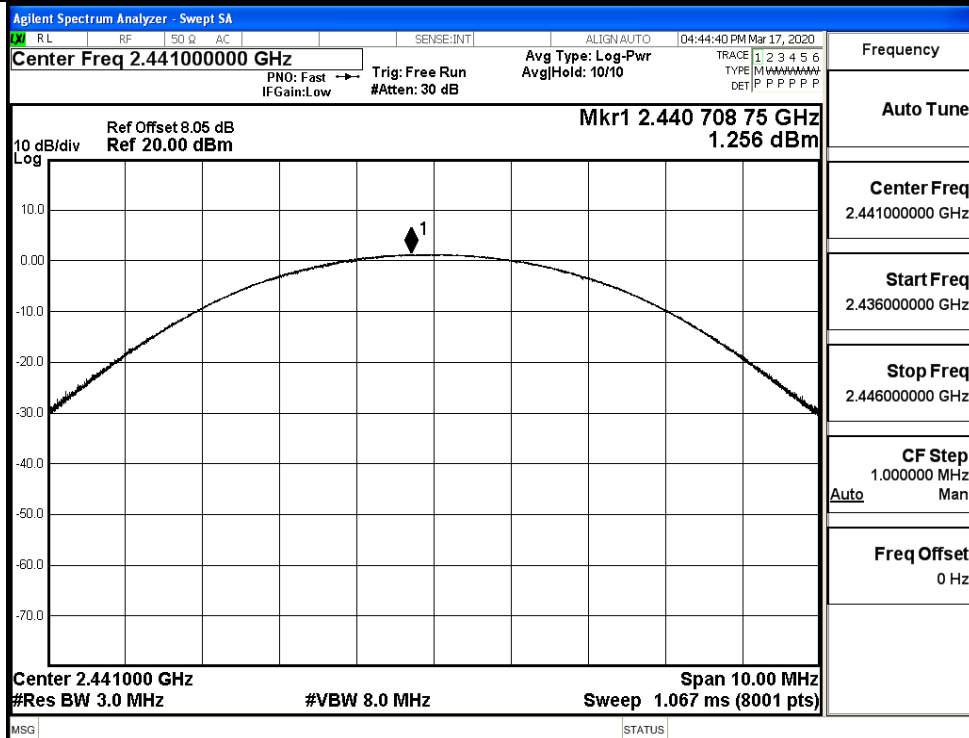
 π /4DQPSK/LCH



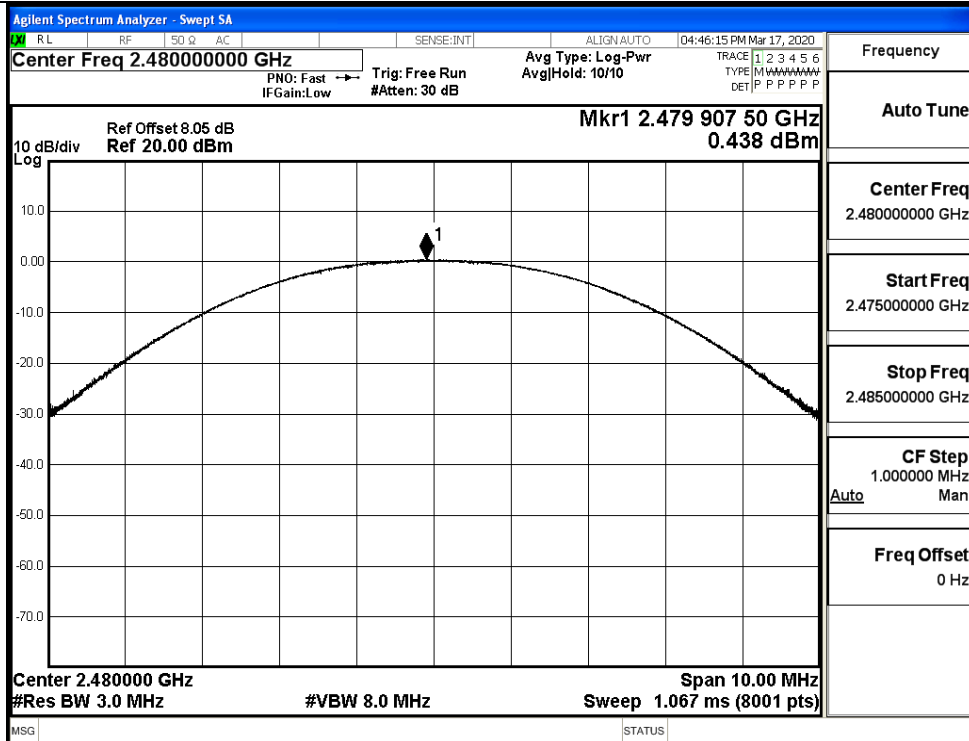
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

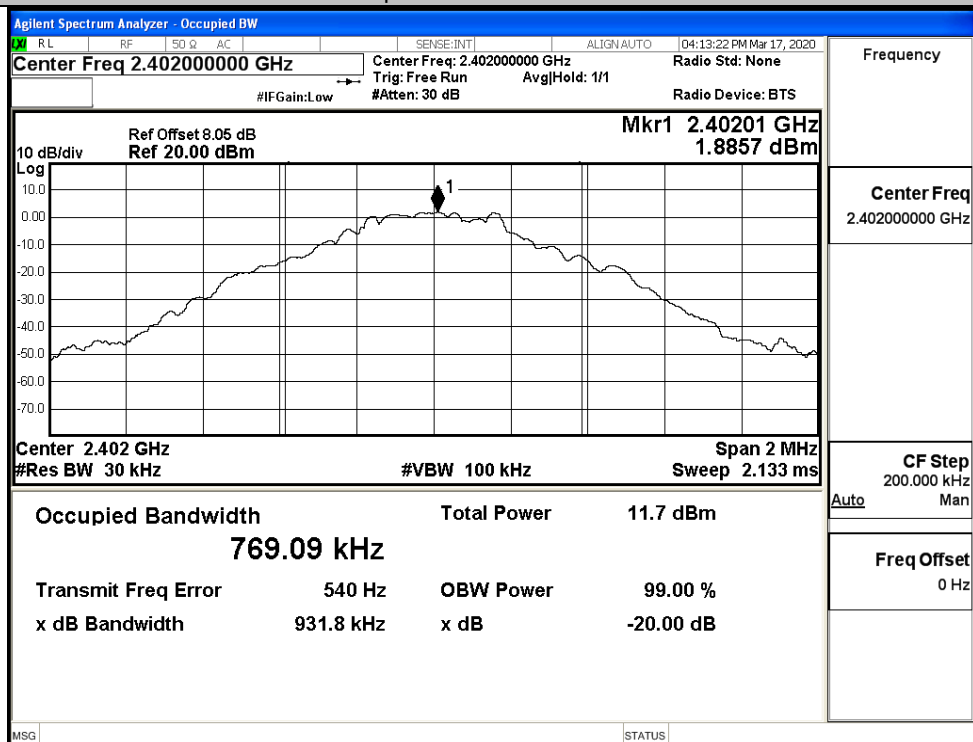


A.2 20dB Bandwidth

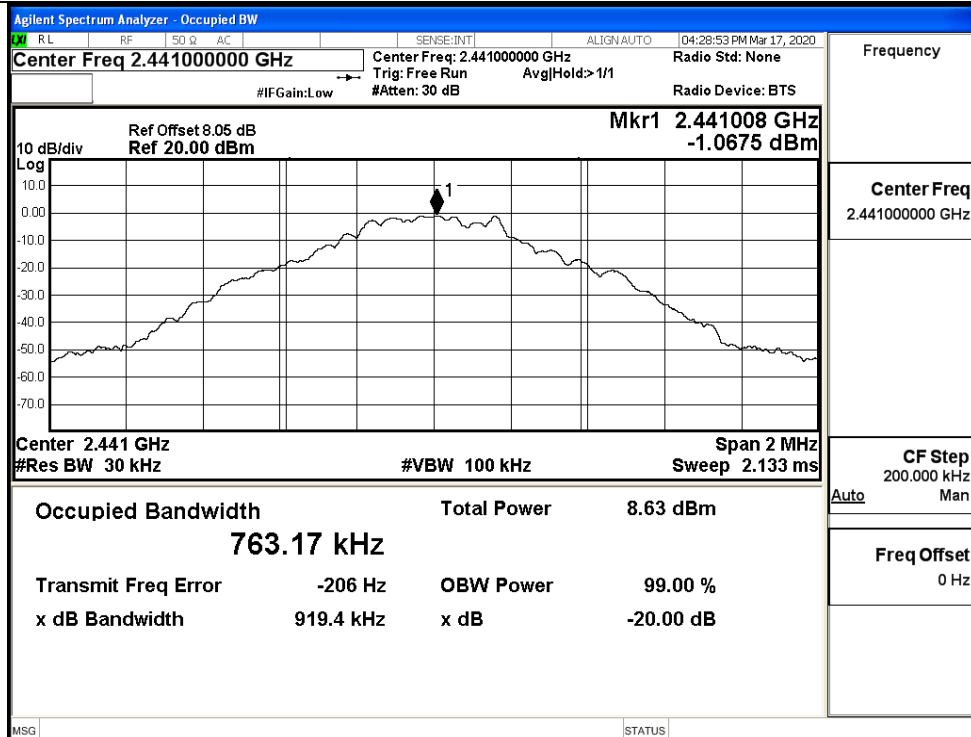
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9318	Not Specified	PASS
	MCH	0.9194	Not Specified	PASS
	HCH	0.9406	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.276	Not Specified	PASS
	MCH	1.280	Not Specified	PASS
	HCH	1.278	Not Specified	PASS
8DPSK	LCH	1.279	Not Specified	PASS
	MCH	1.287	Not Specified	PASS
	HCH	1.284	Not Specified	PASS

Test Graphs

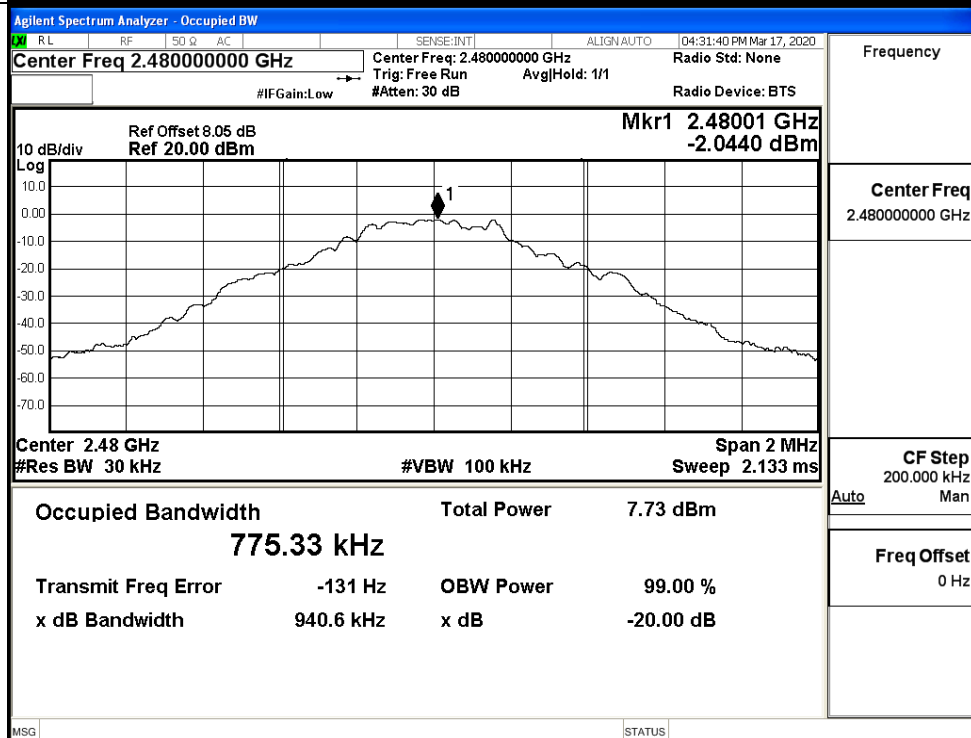
GFSK/LCH

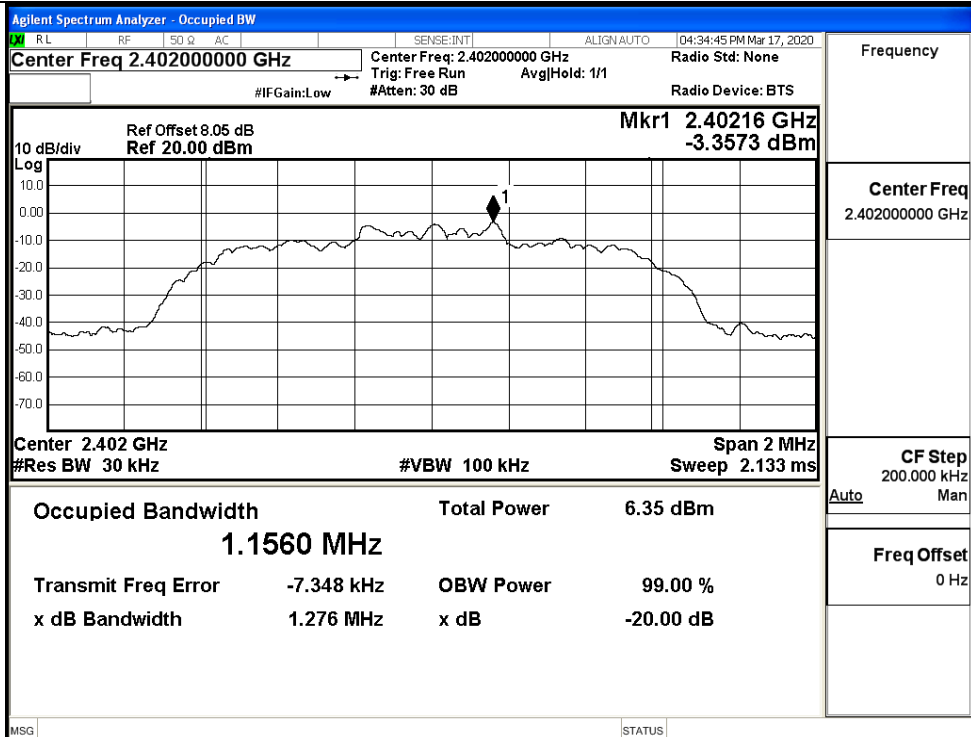
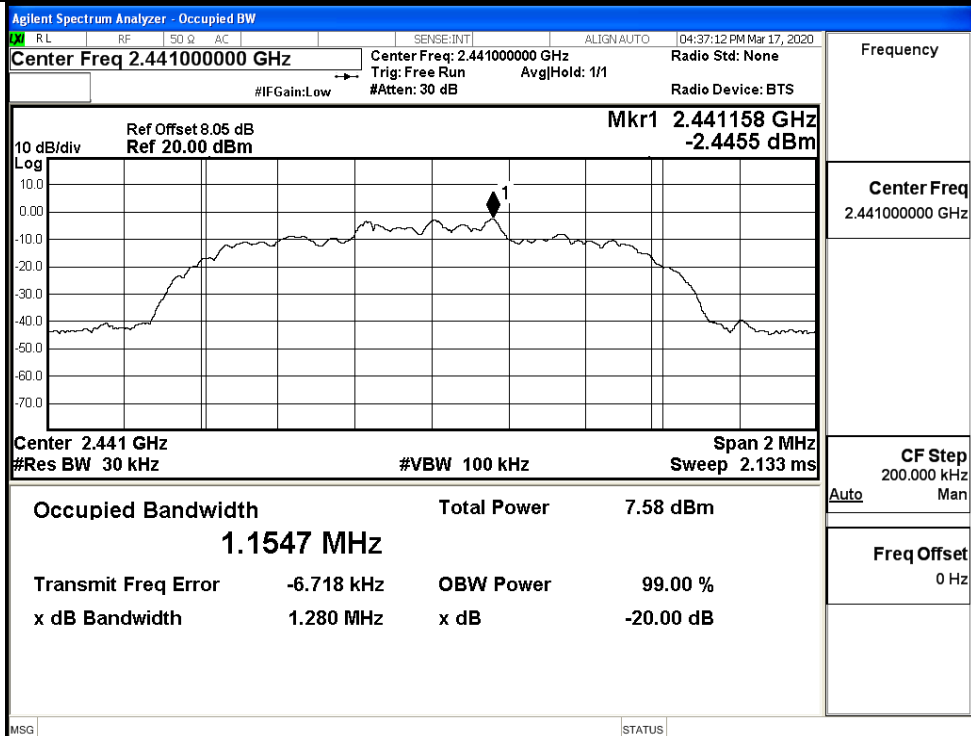


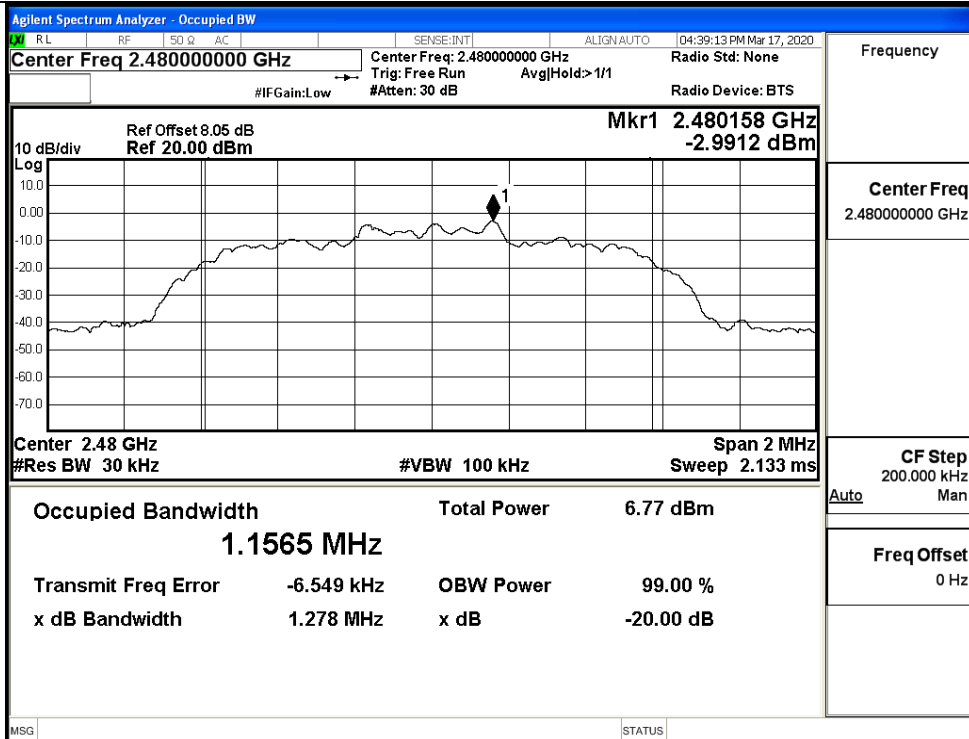
GFSK/MCH



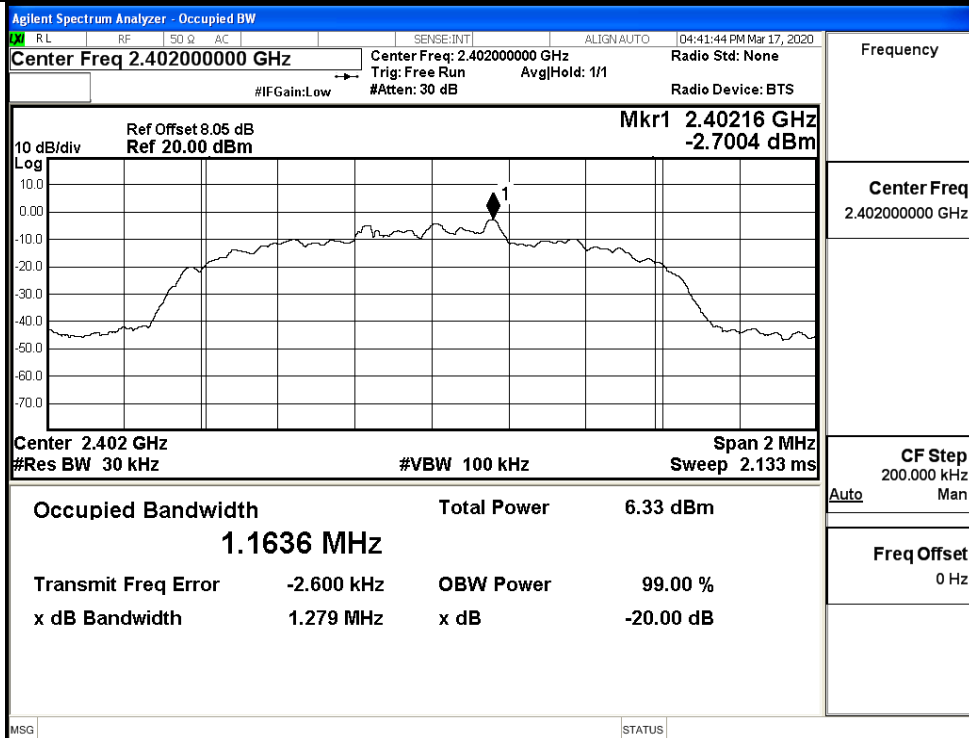
GFSK/HCH



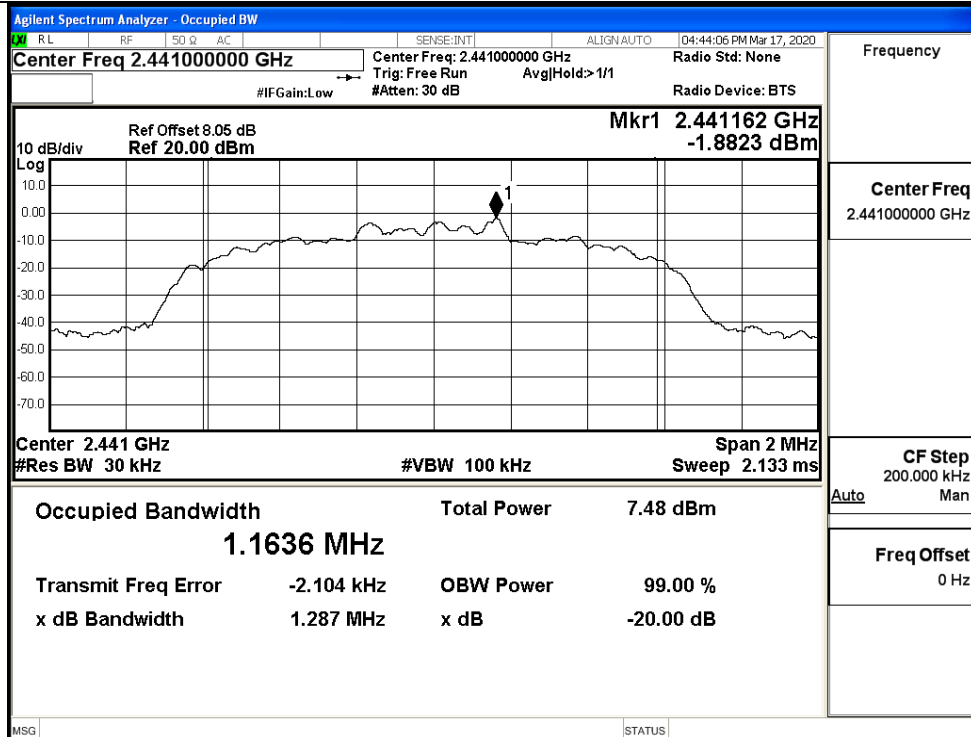
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

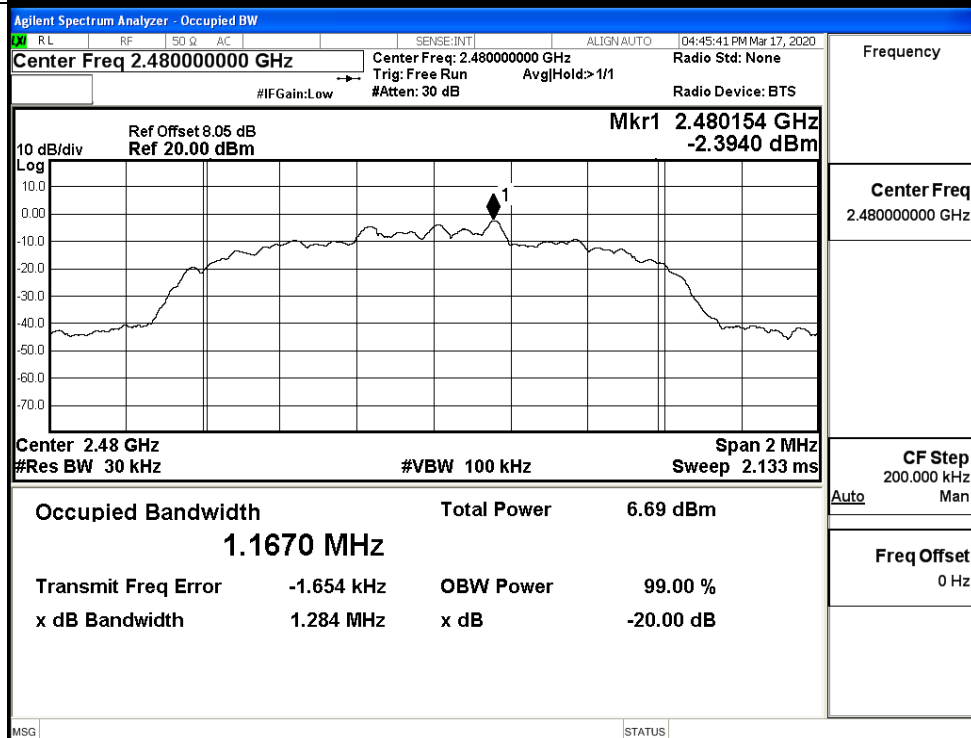
8DPSK/LCH



8DPSK/MCH



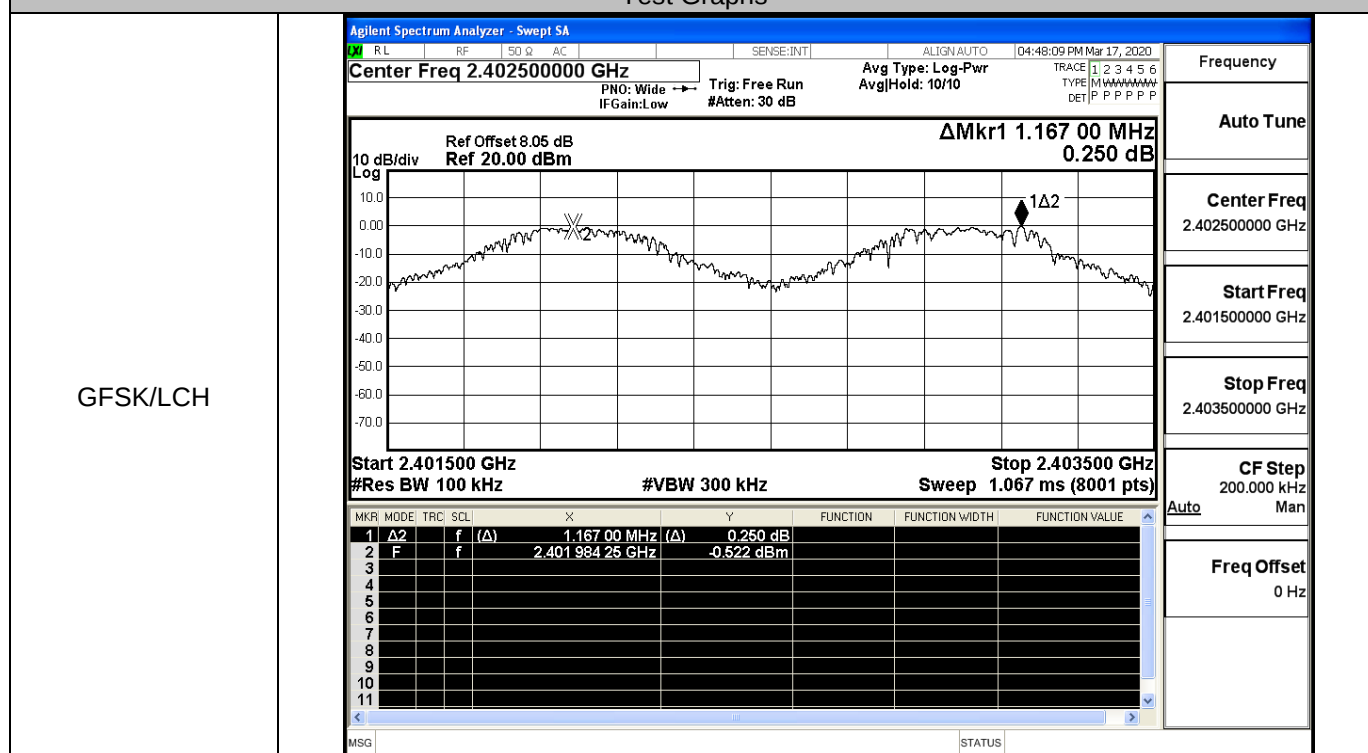
8DPSK/HCH



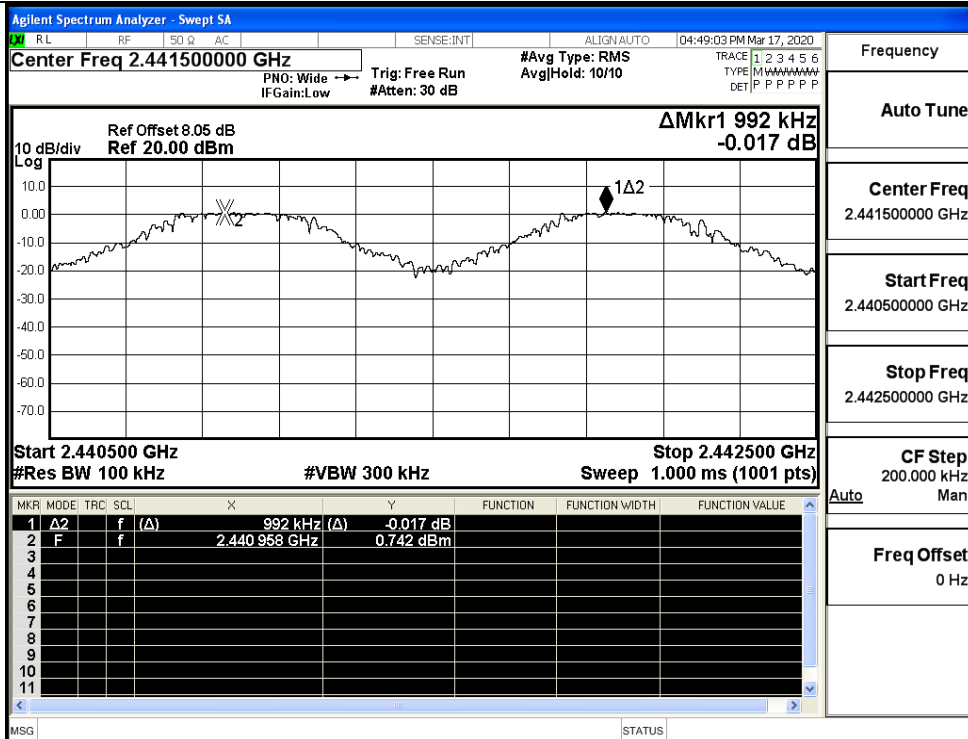
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.167	0.627	PASS
	MCH	0.992	0.627	PASS
	HCH	0.996	0.627	PASS
$\pi/4$ DQPSK	LCH	1.032	0.853	PASS
	MCH	1.114	0.853	PASS
	HCH	0.940	0.853	PASS
8DPSK	LCH	1.030	0.858	PASS
	MCH	1.004	0.858	PASS
	HCH	1.054	0.858	PASS

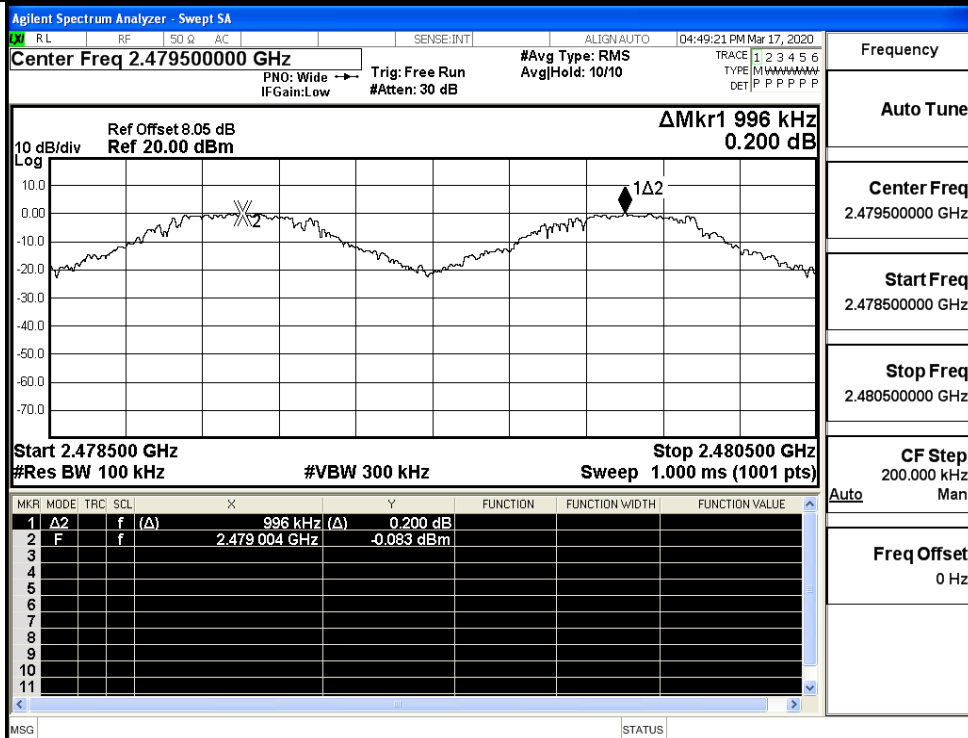
Test Graphs

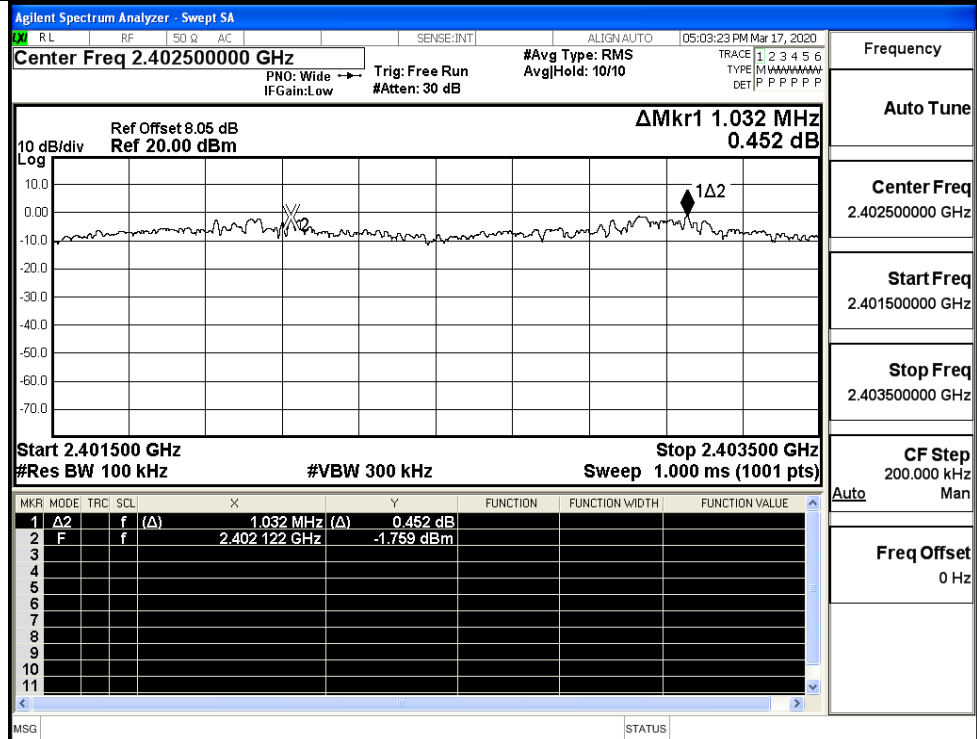
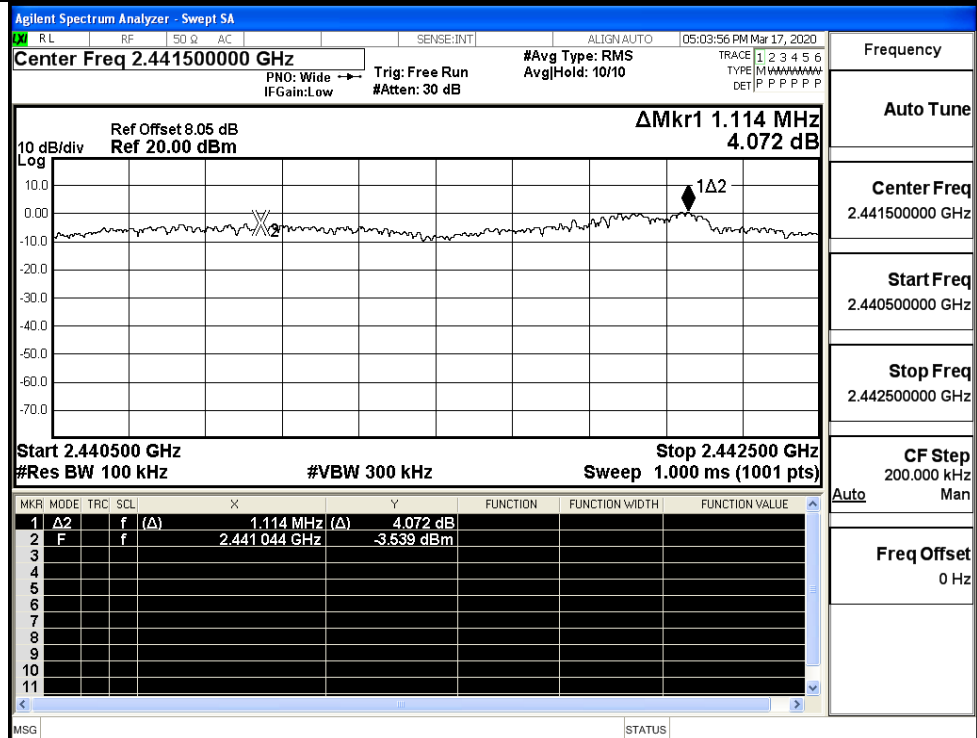


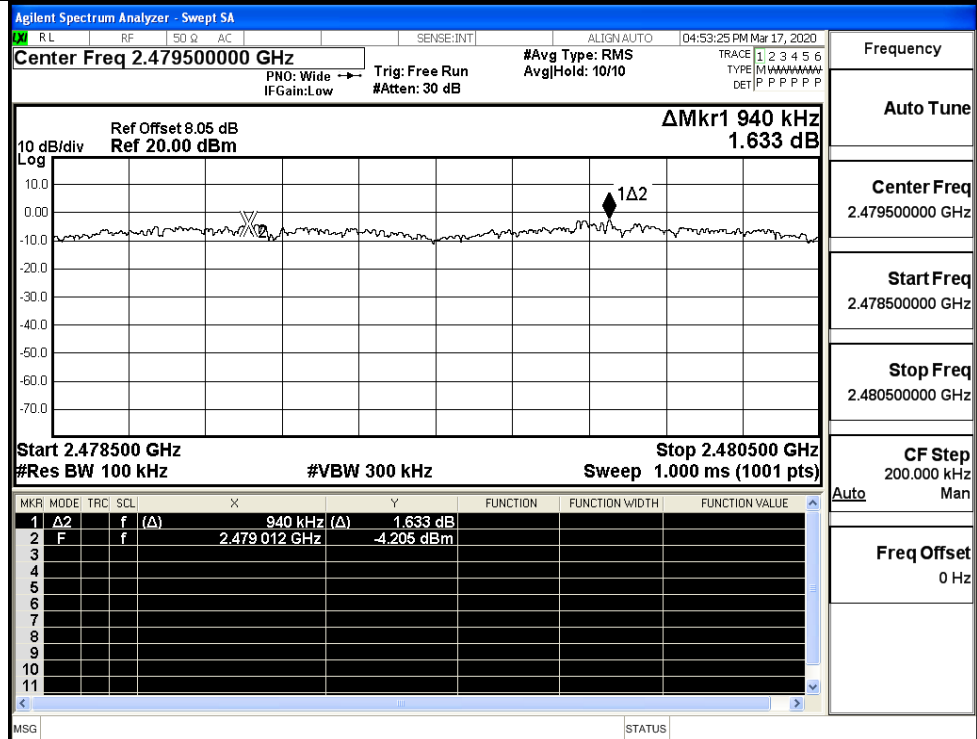
GFSK/MCH



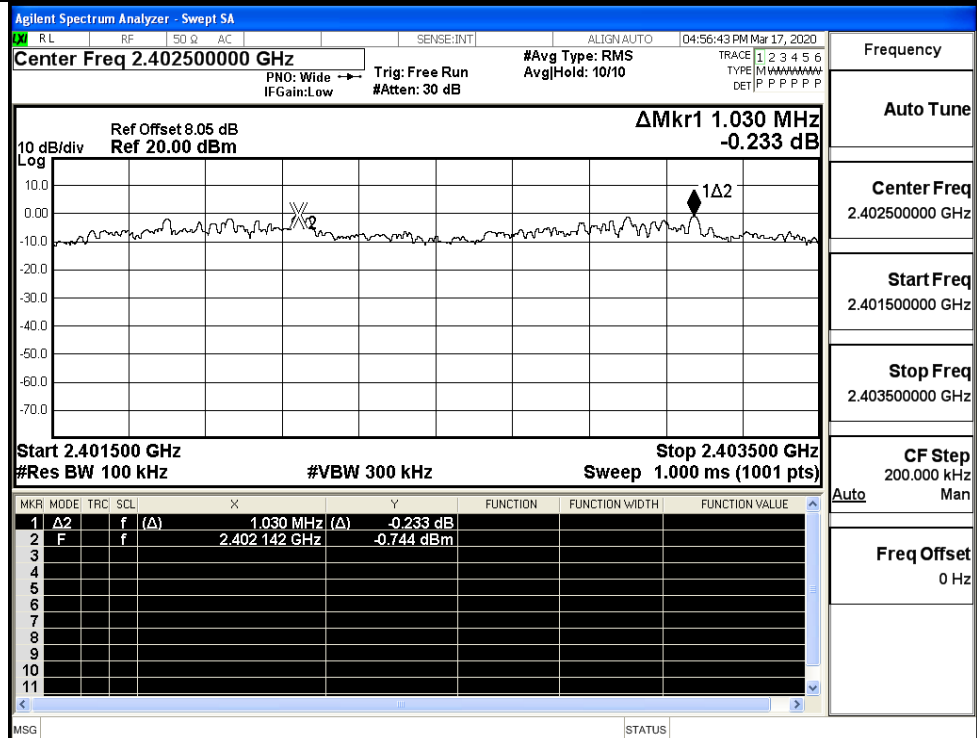
GFSK/HCH



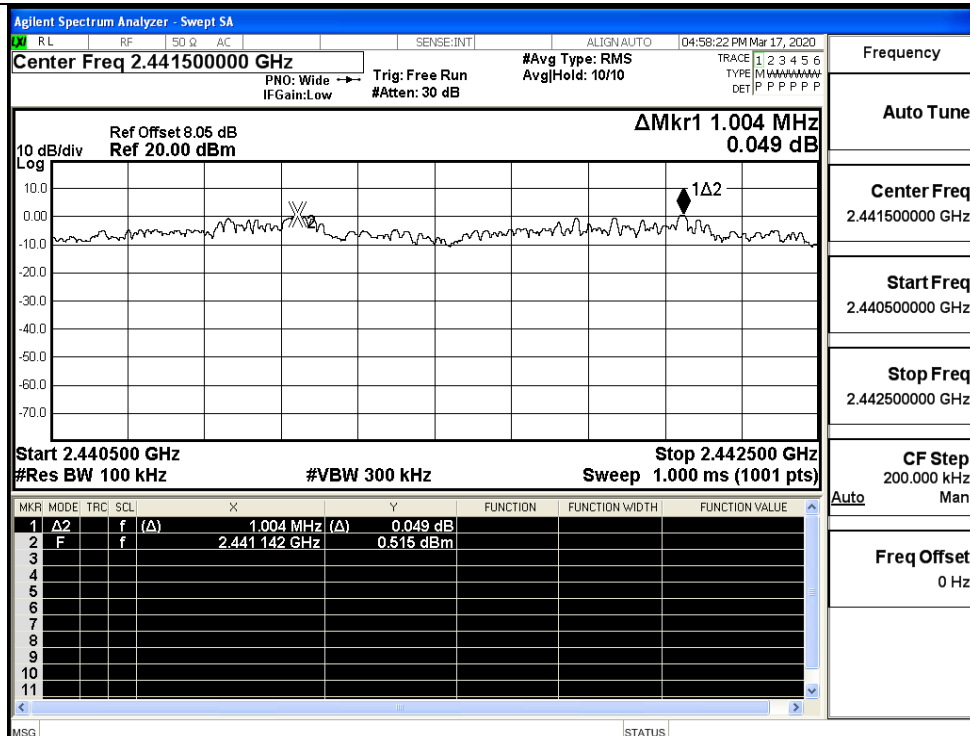
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

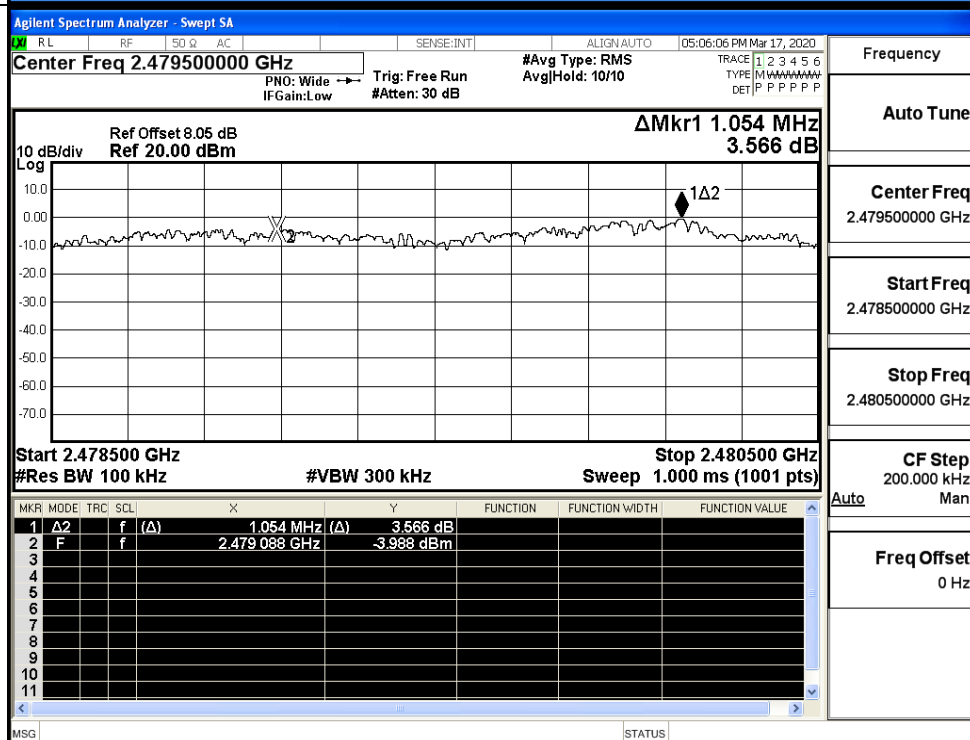
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

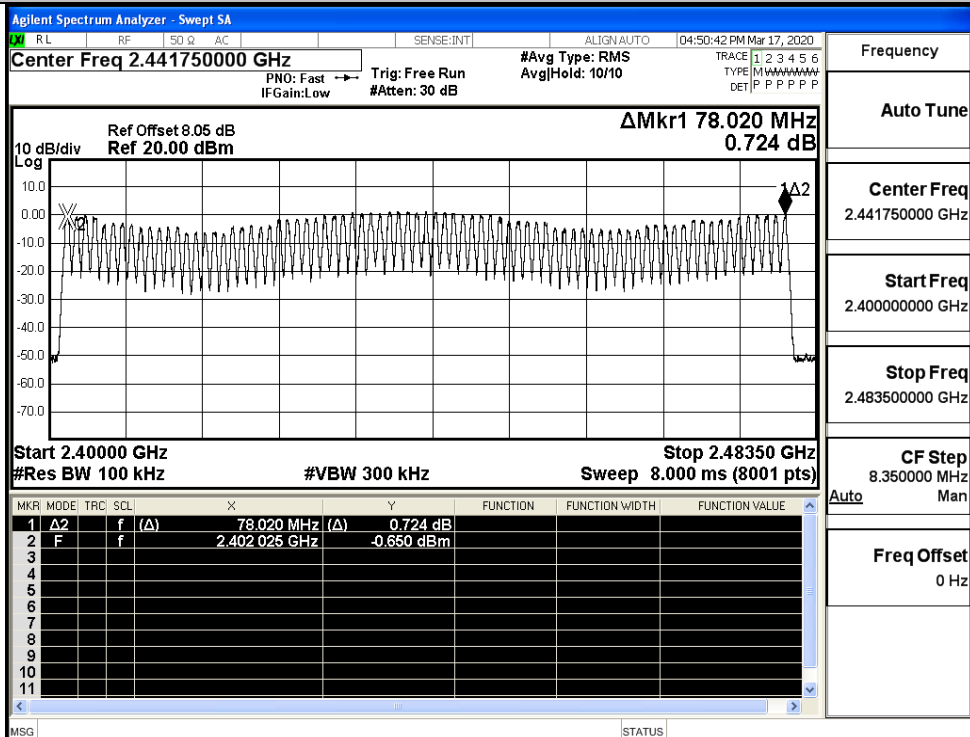


A.4 Hopping Channel Number

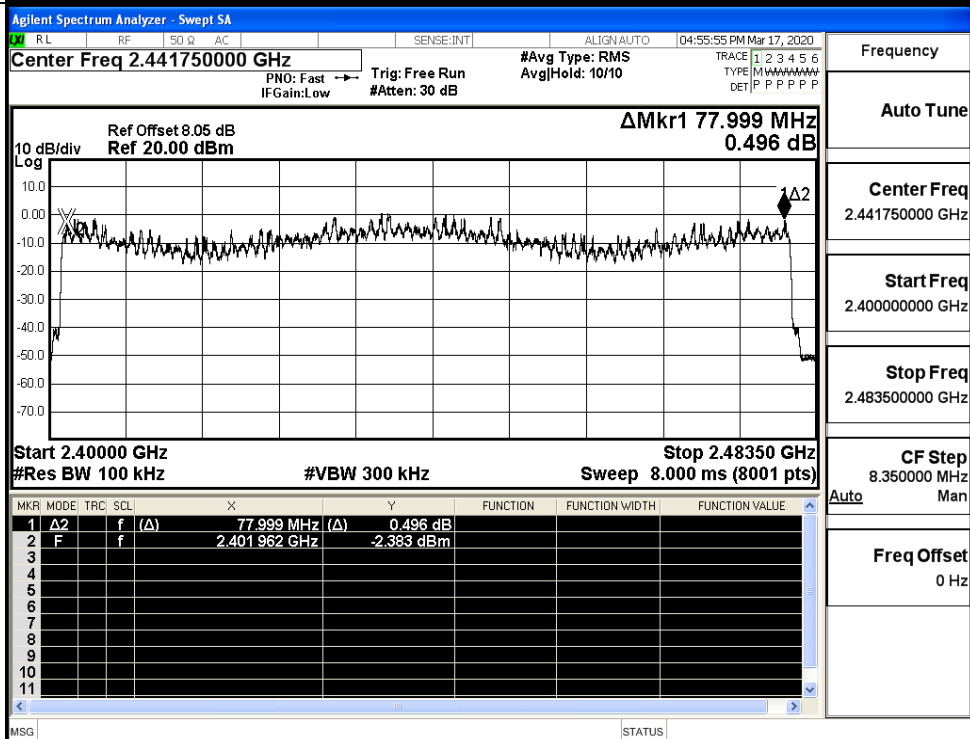
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
π/4DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

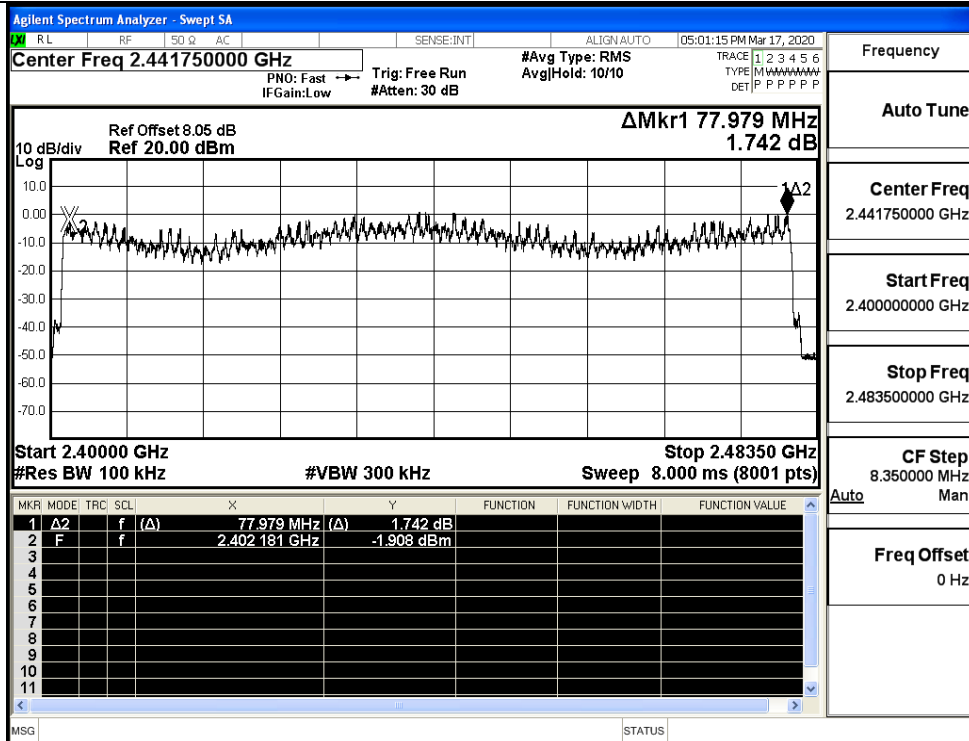
GFSK/Hop



π/4DQPSK/Hop



8DPSK/Hop

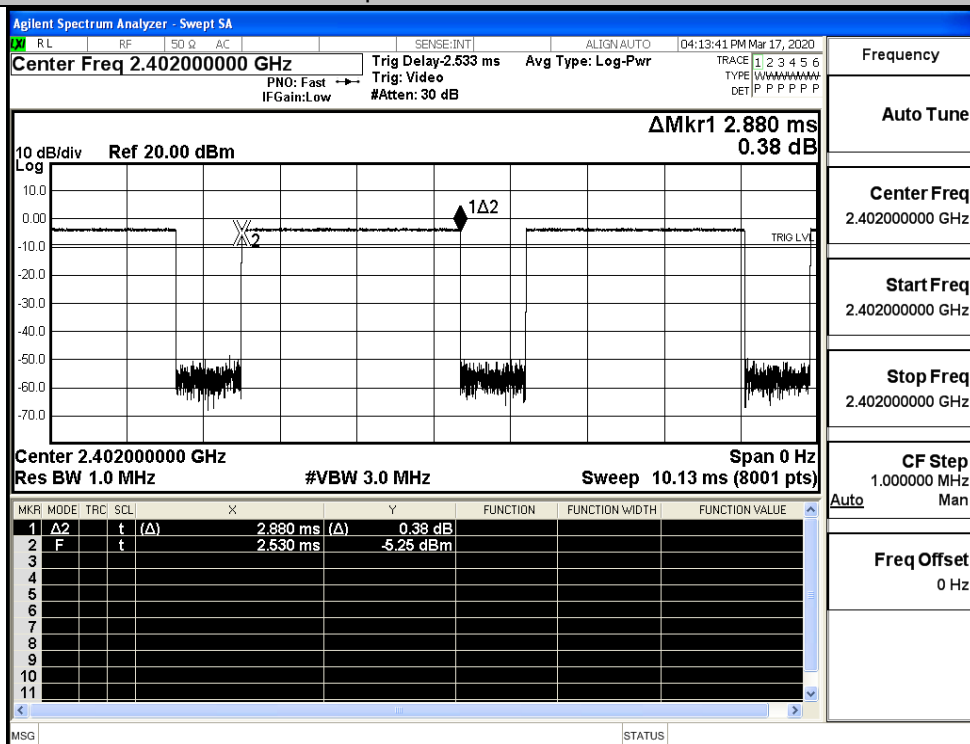


A.5 Dwell Time

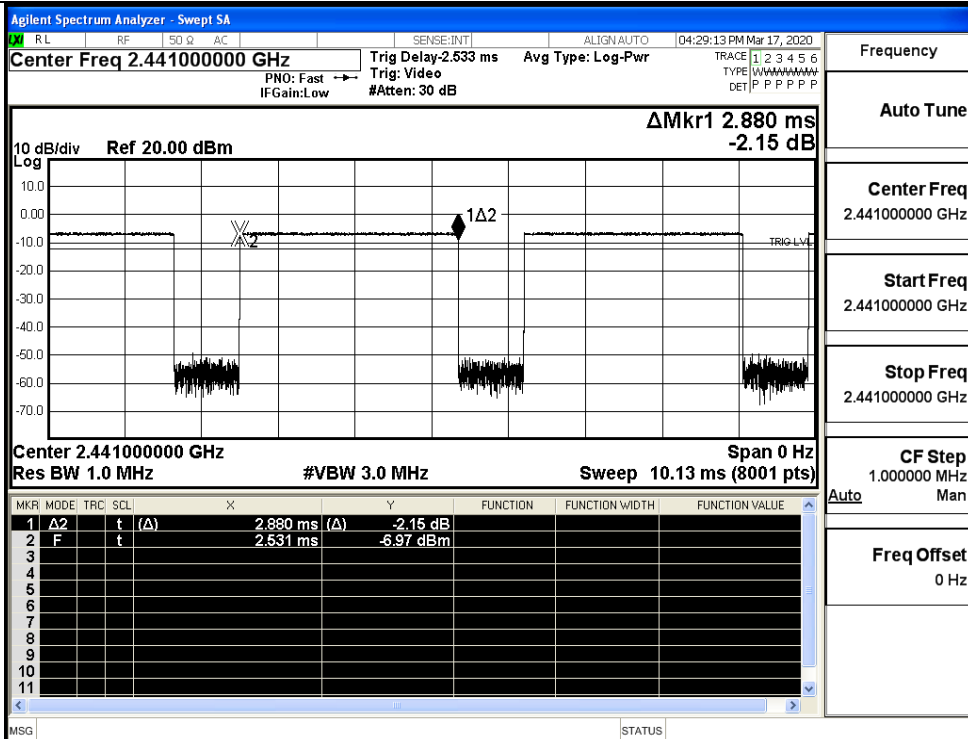
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88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

Test Graphs

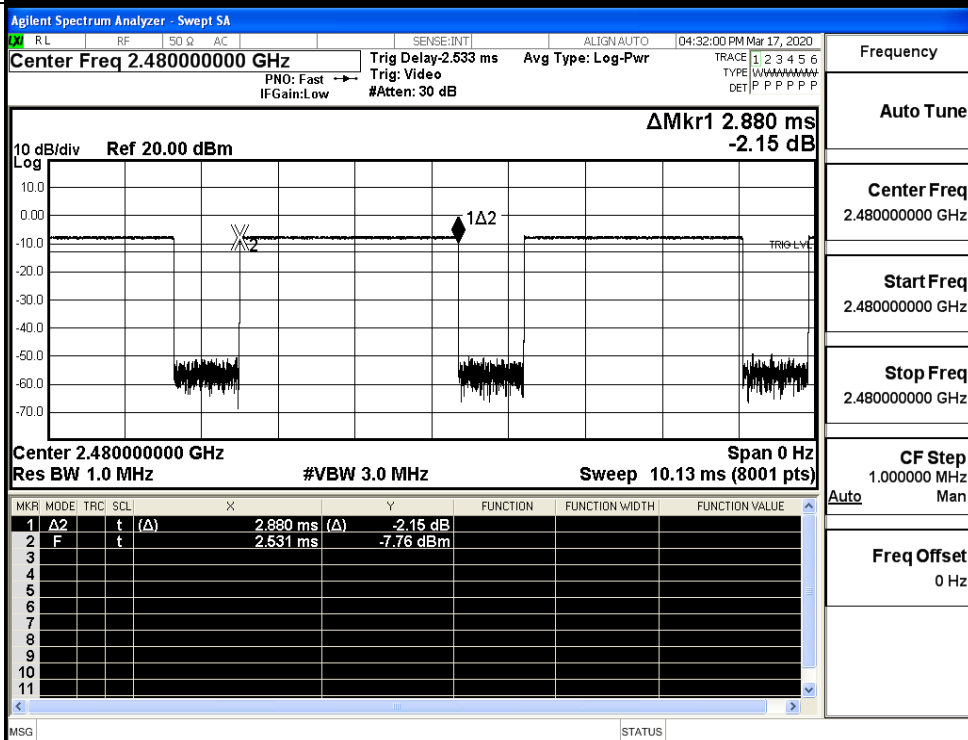
GFSK_DH5/LCH



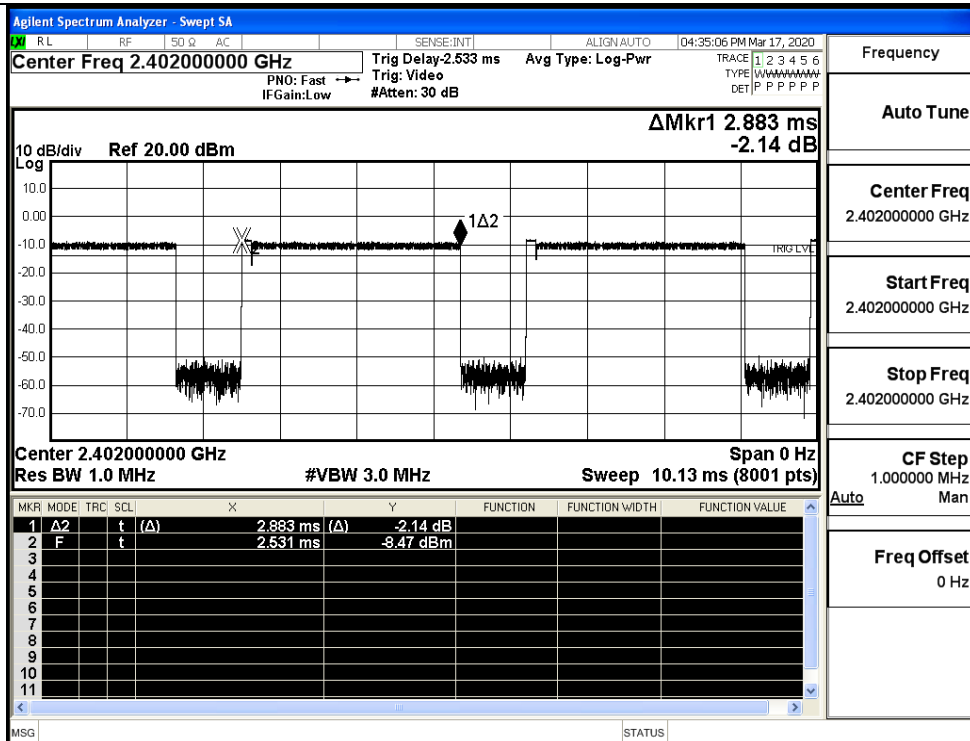
GFSK_DH5/MCH



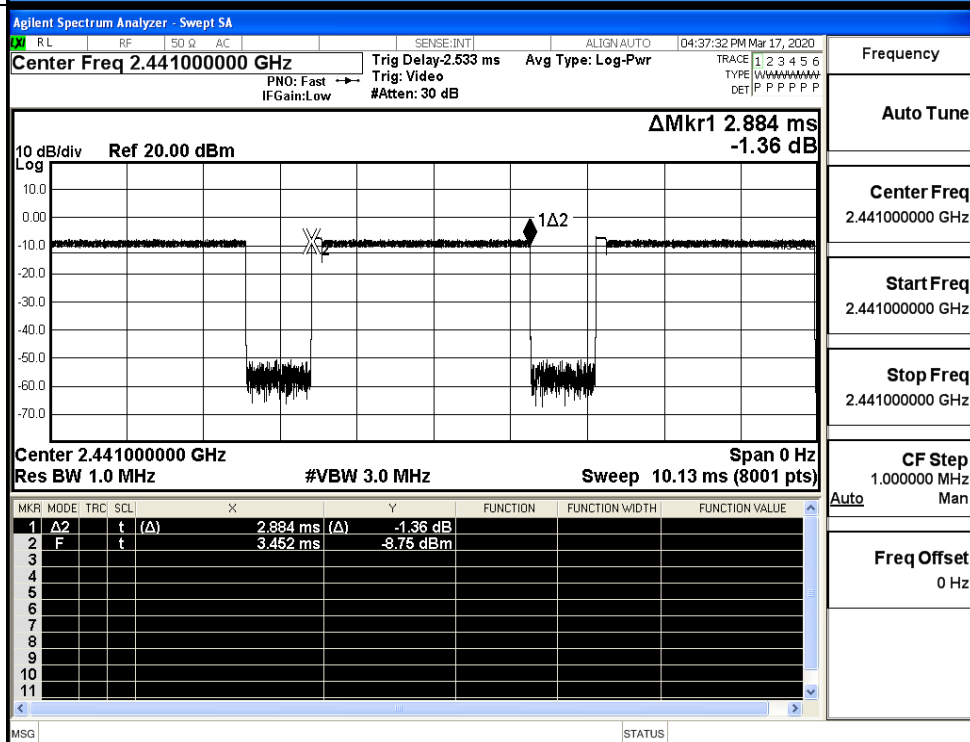
GFSK_DH5/HCH



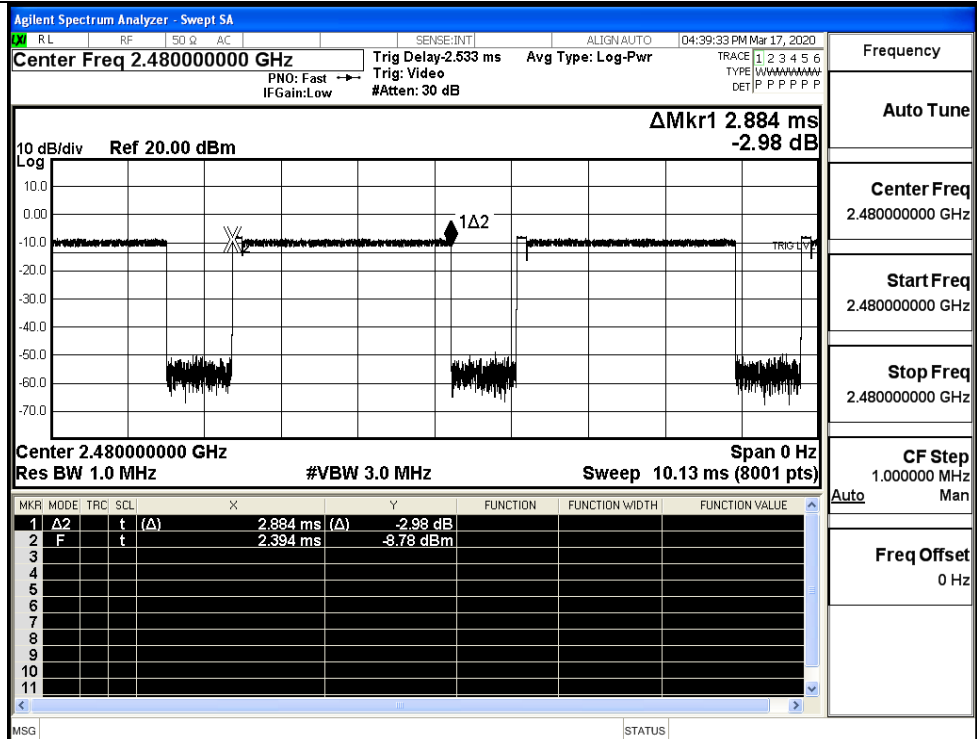
$\pi/4$ DQPSK
_2DH5/LCH



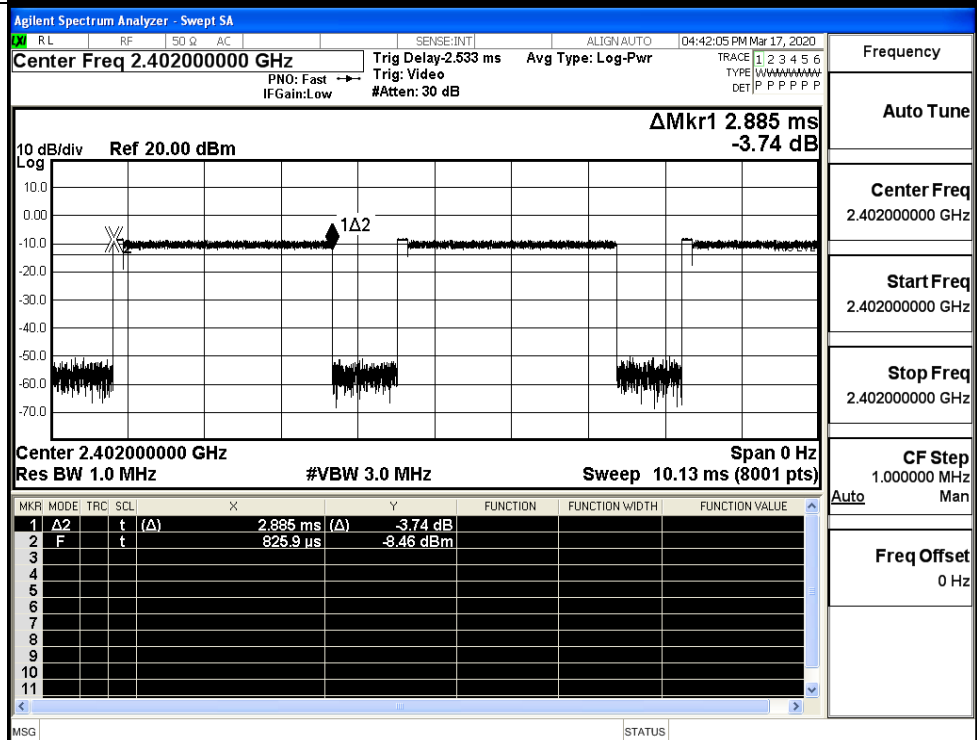
$\pi/4$ DQPSK
_2DH5/MCH



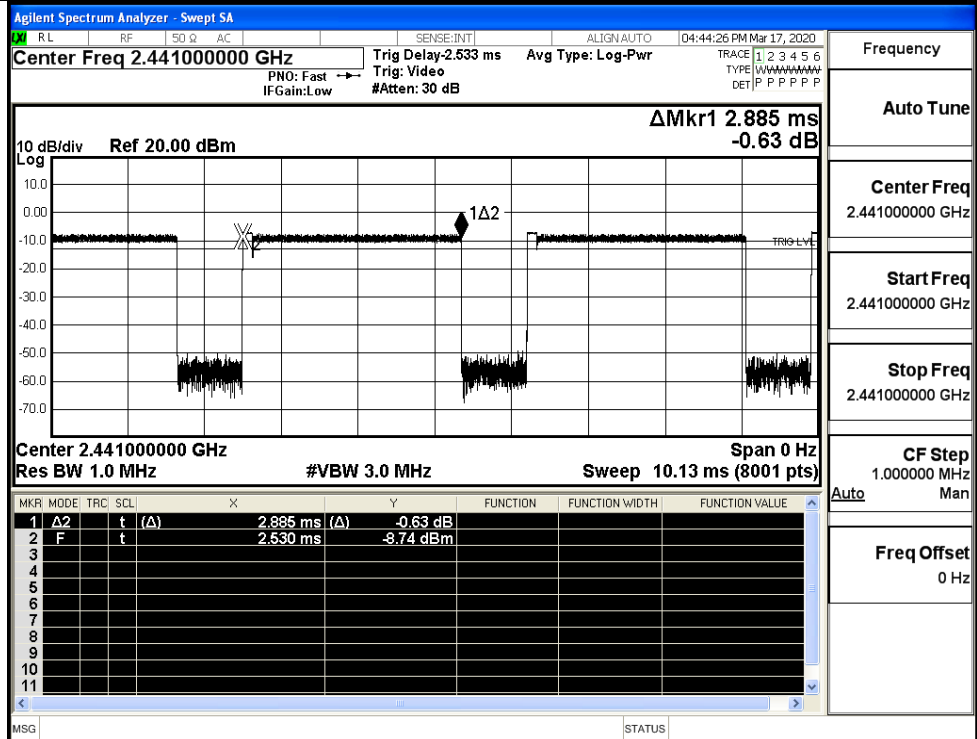
$\pi/4$ DQPSK
_2DH5/HCH



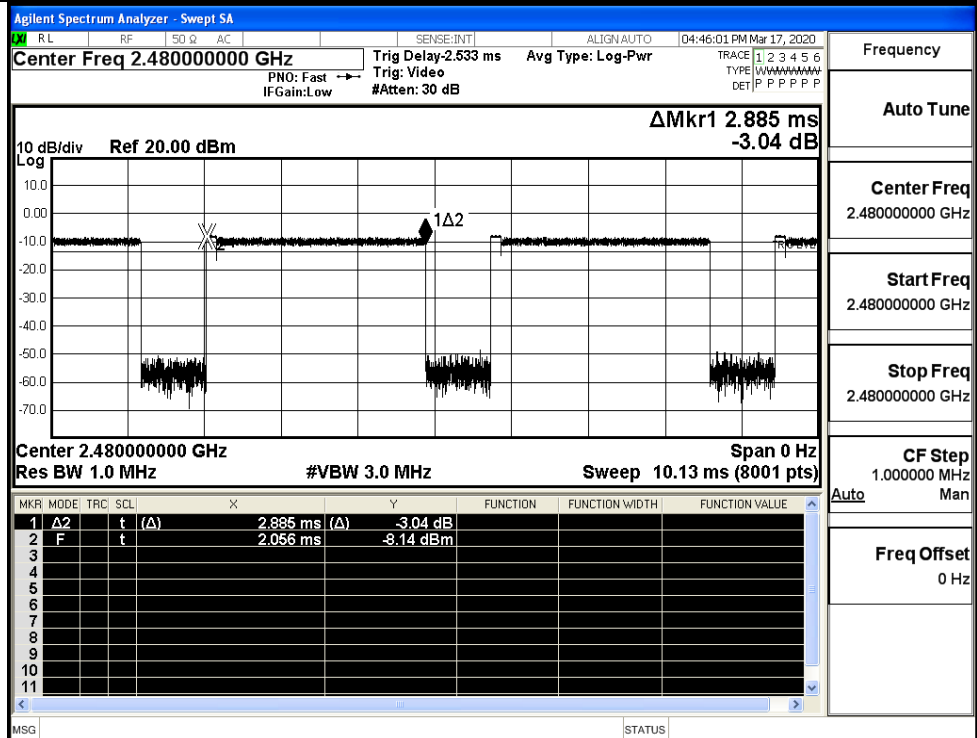
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



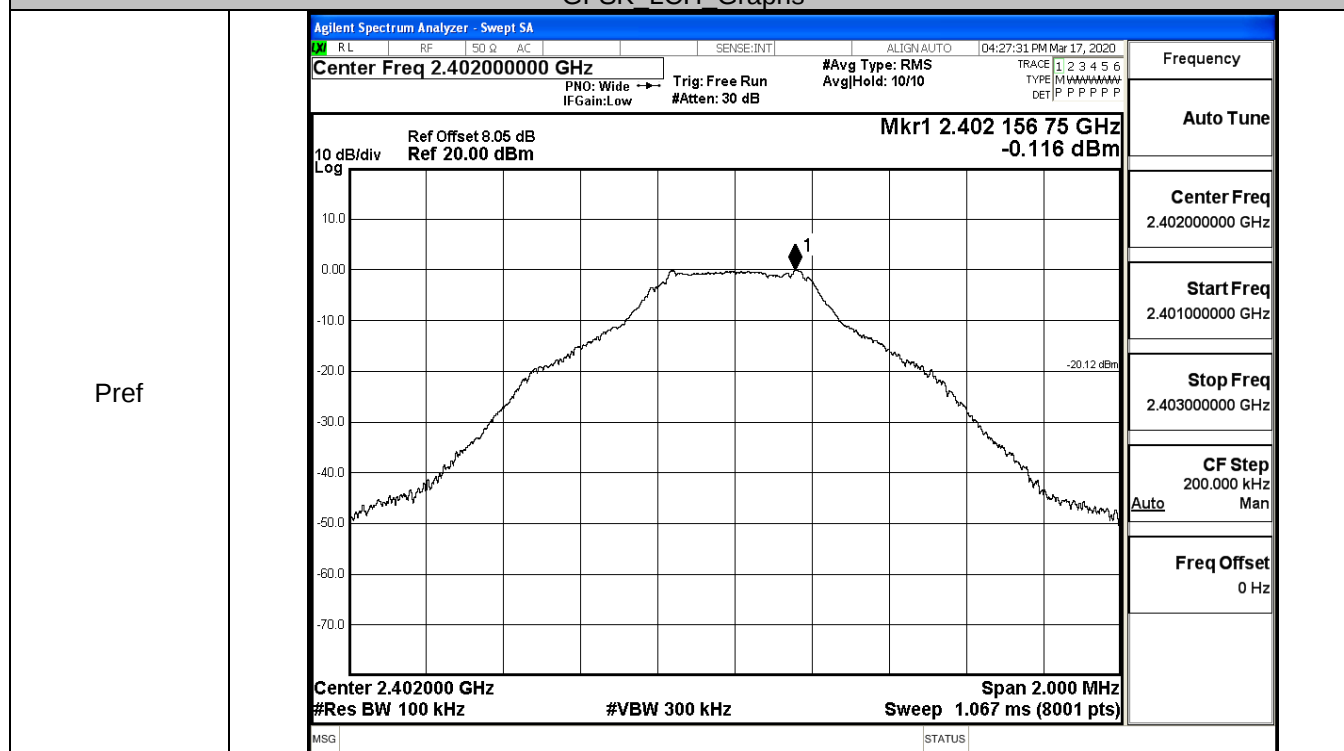
8DPSK_3DH5/HCH

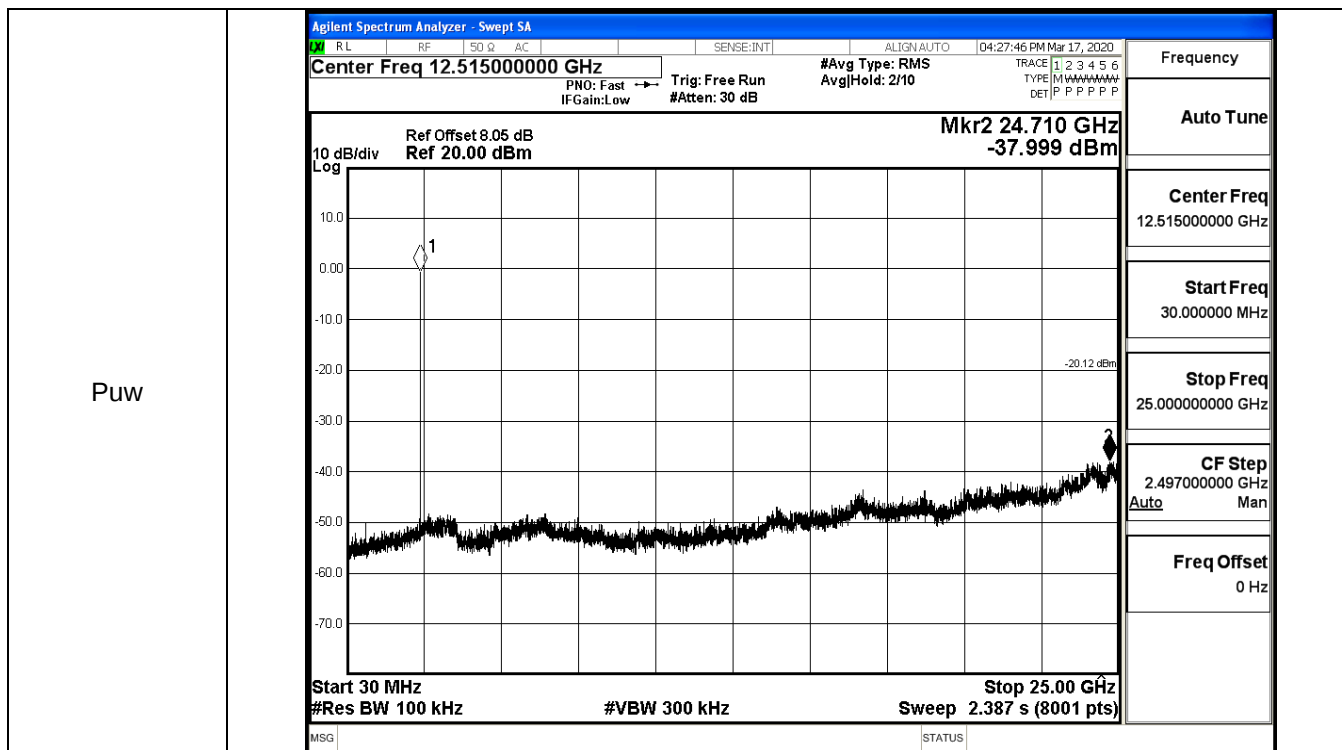


A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.116	-37.999	-20.116	PASS
	MCH	0.983	-37.464	-19.017	PASS
	HCH	0.079	-37.771	-19.921	PASS
$\pi/4$ DQPSK	LCH	-0.596	-38.138	-20.596	PASS
	MCH	0.689	-37.293	-19.311	PASS
	HCH	-0.24	-36.237	-20.240	PASS
8DPSK	LCH	-0.718	-37.767	-20.718	PASS
	MCH	0.694	-37.380	-19.306	PASS
	HCH	-0.38	-37.430	-20.380	PASS

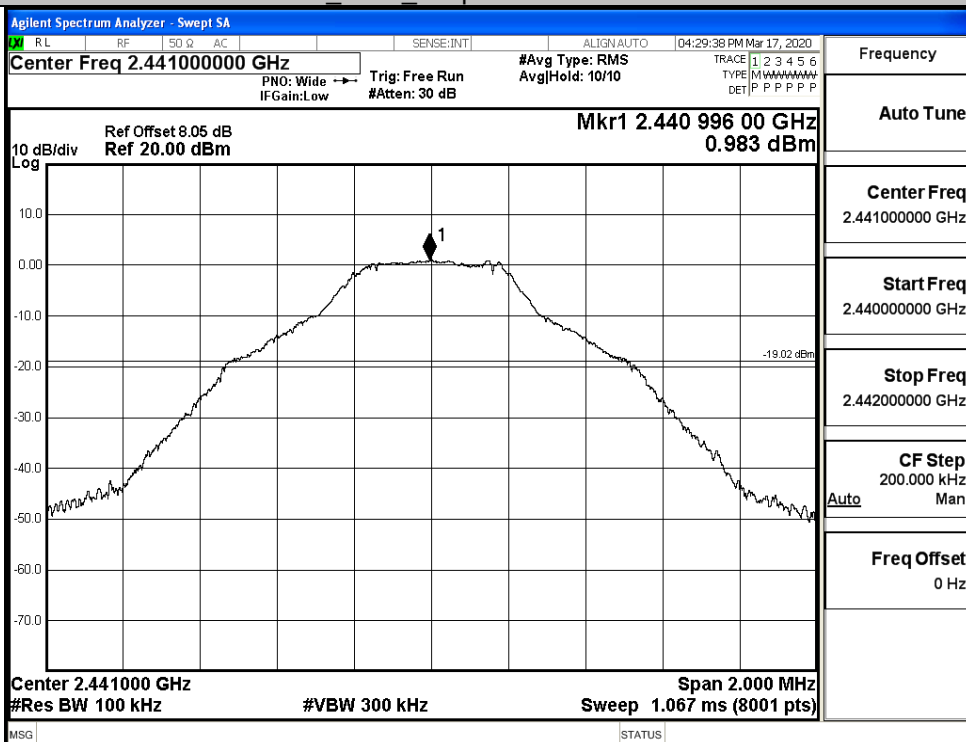
GFSK LCH Graphs



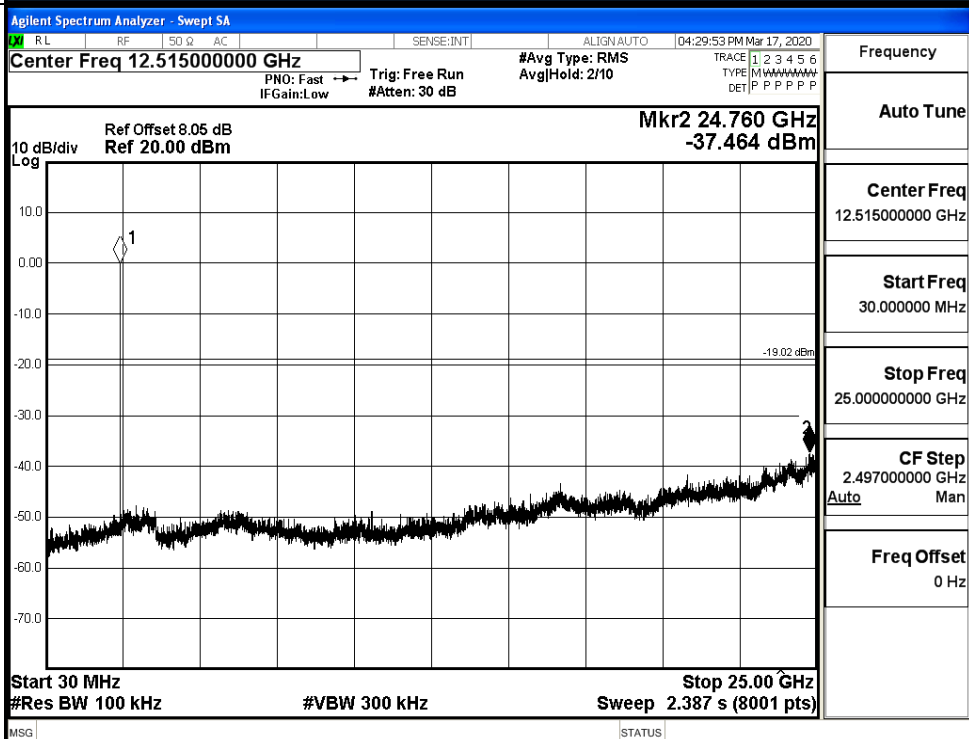


GFSK_MCH_Graphs

Pref

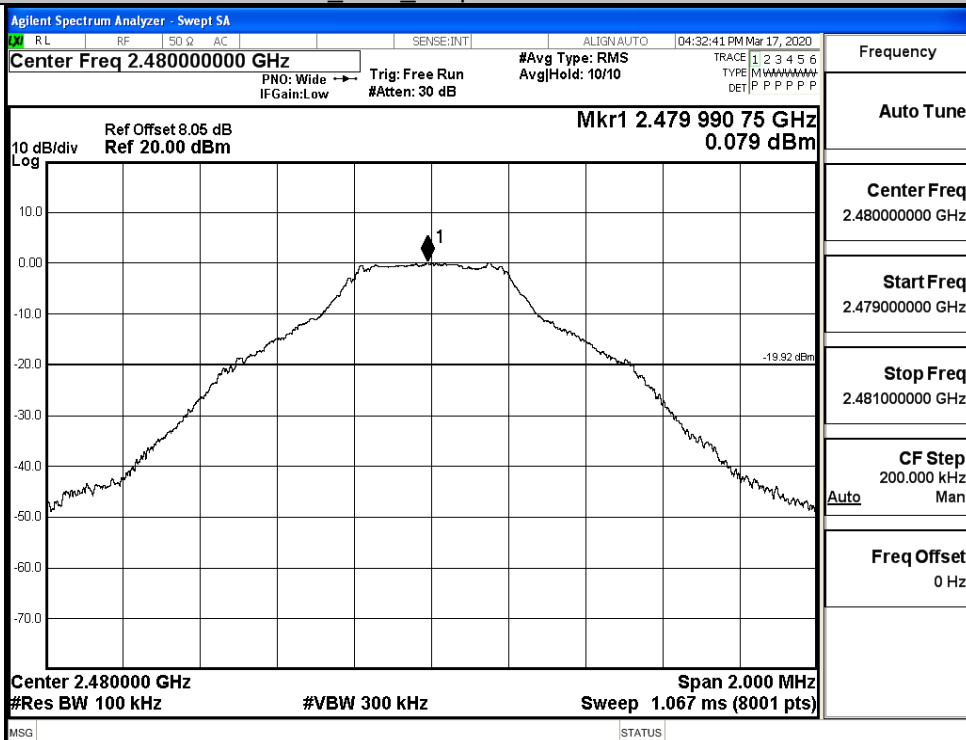


Puw

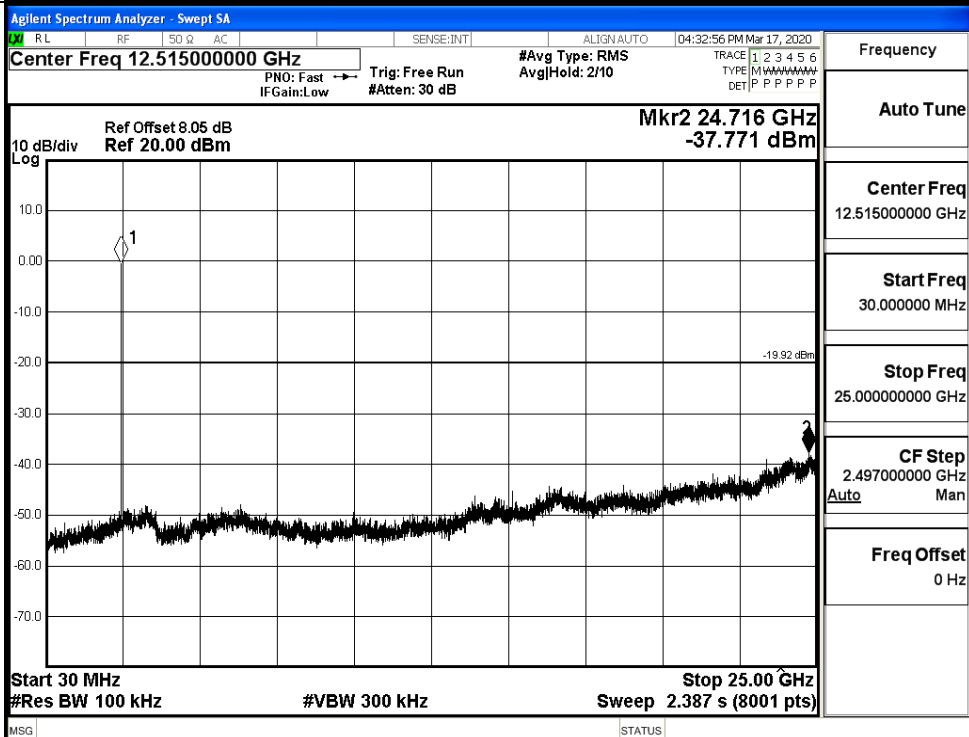


GFSK HCH_Graphs

Pref

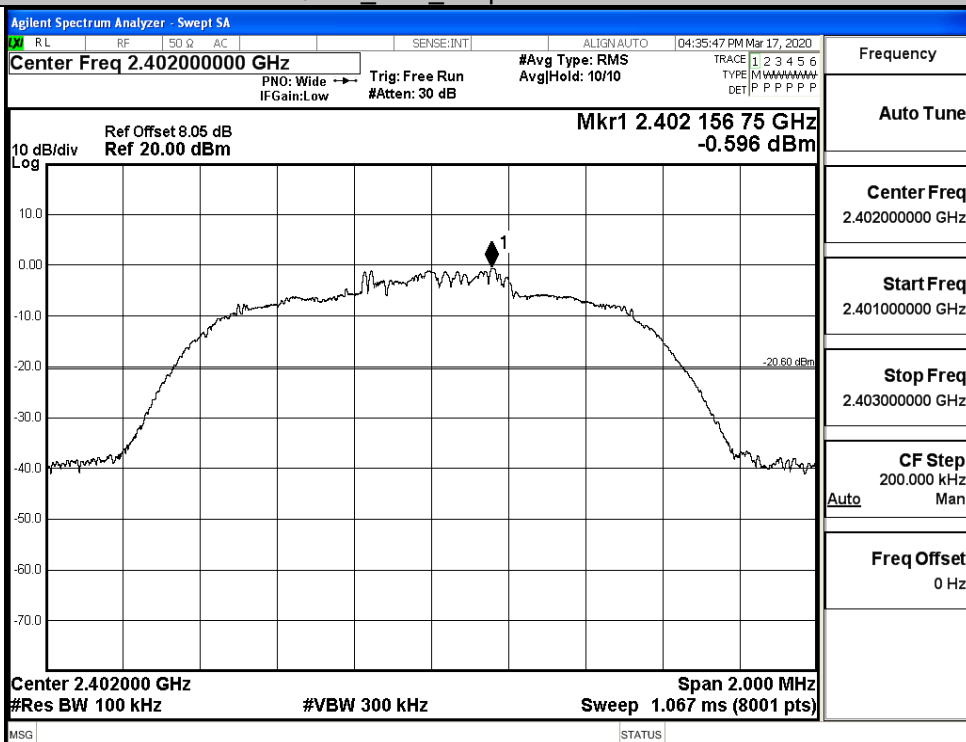


Puw

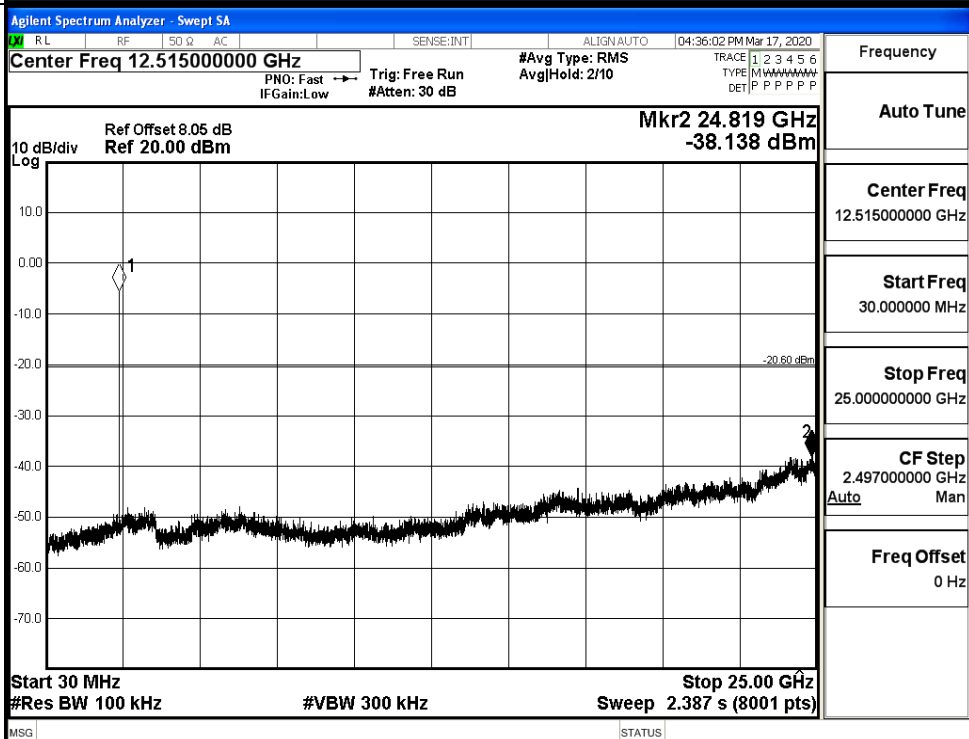


$\pi/4$ DQPSK_LCH_Graphs

Pref

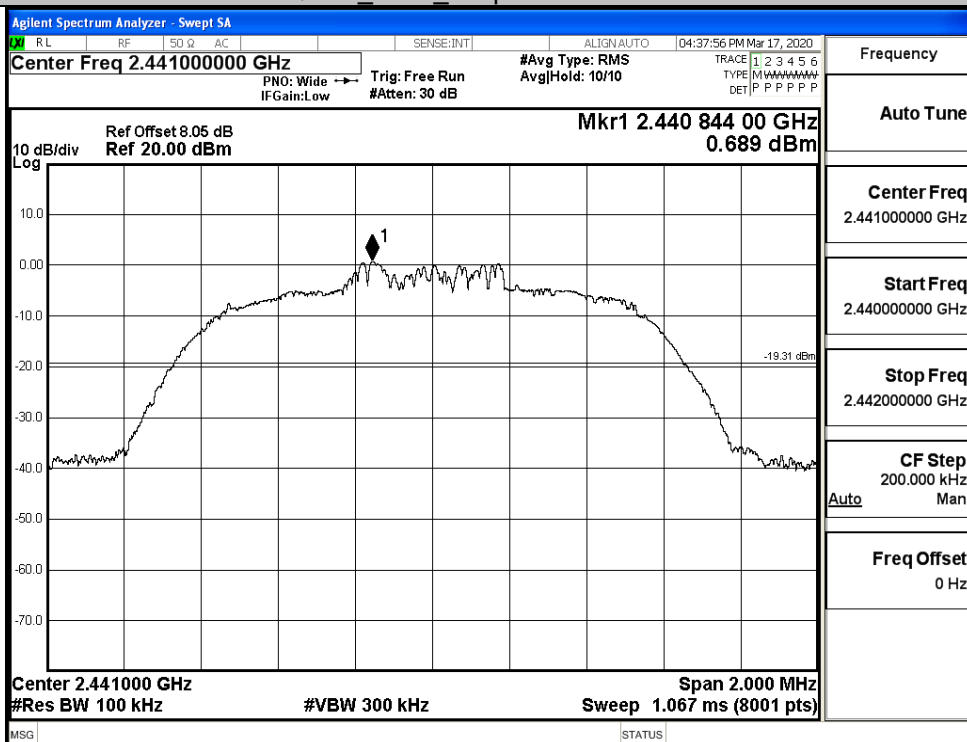


Puw

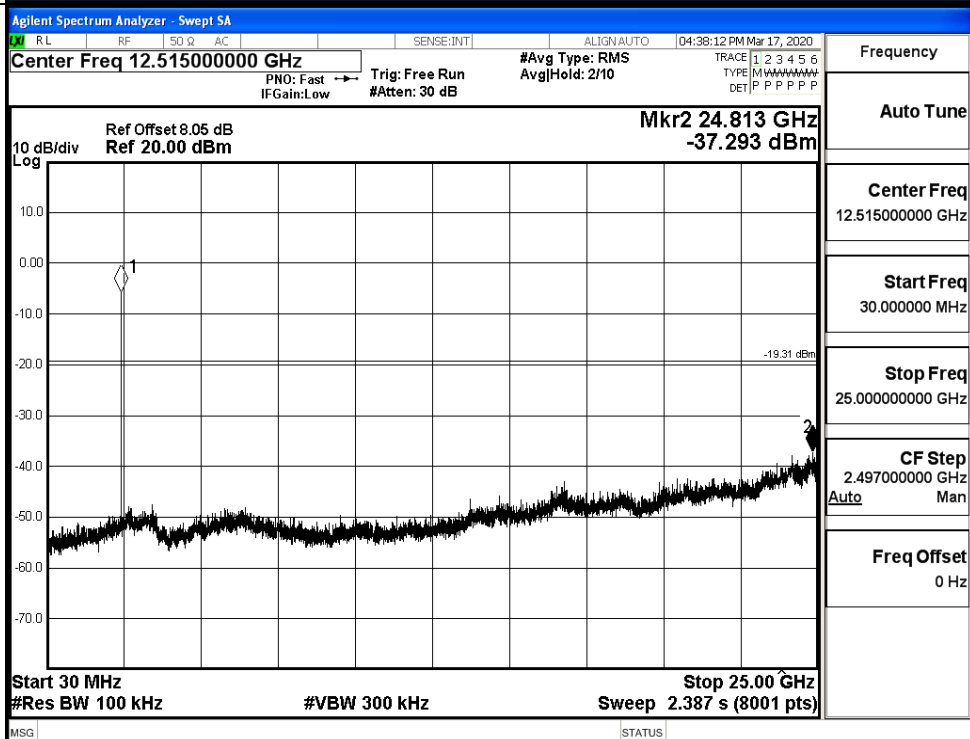


π /4DQPSK_MCH_Graphs

Pref

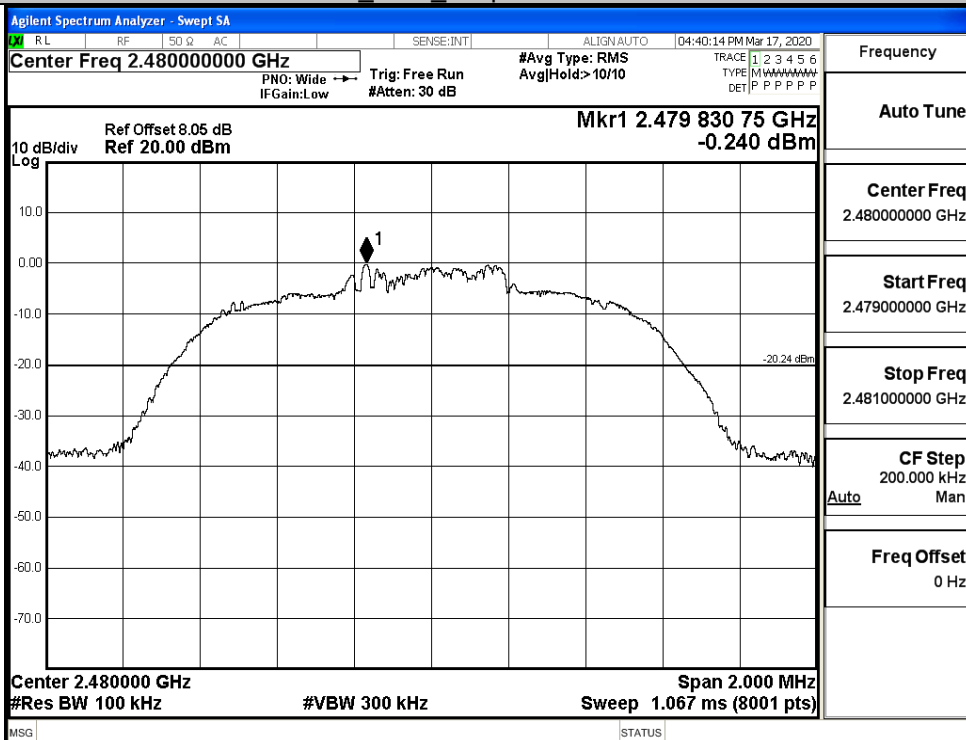


Puw

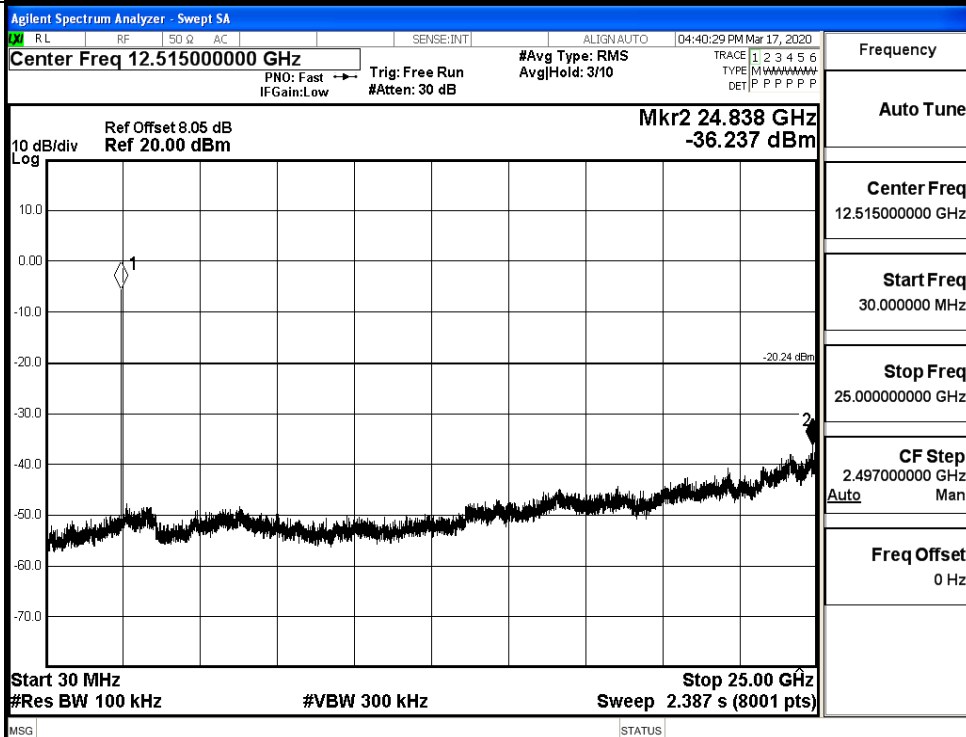


$\pi/4$ DQPSK_HCH_Graphs

Pref

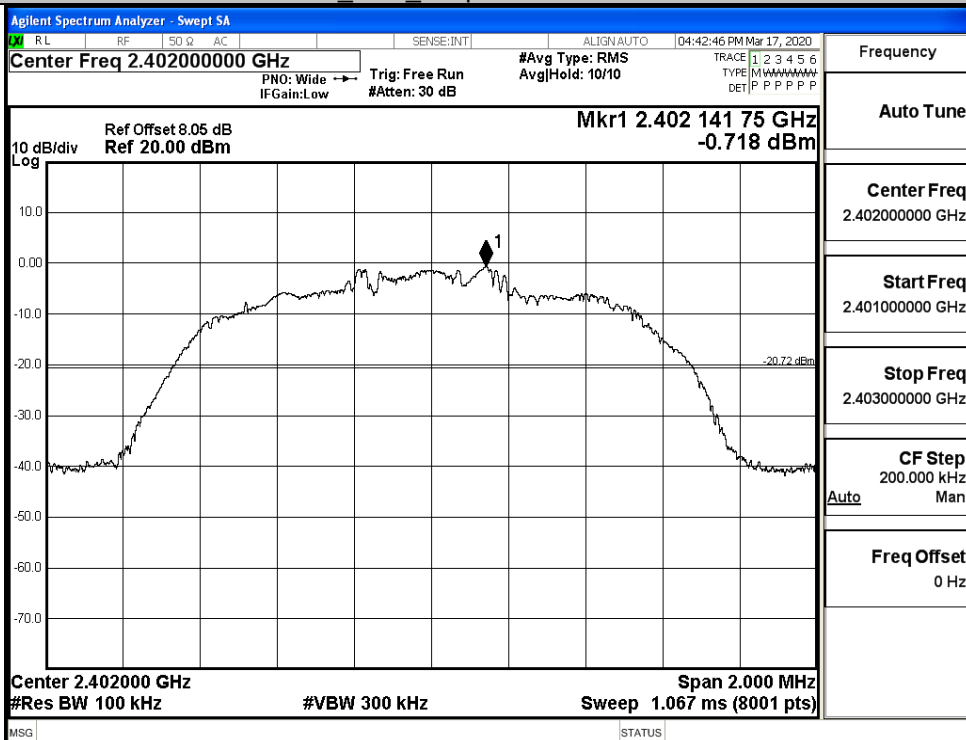


Puw

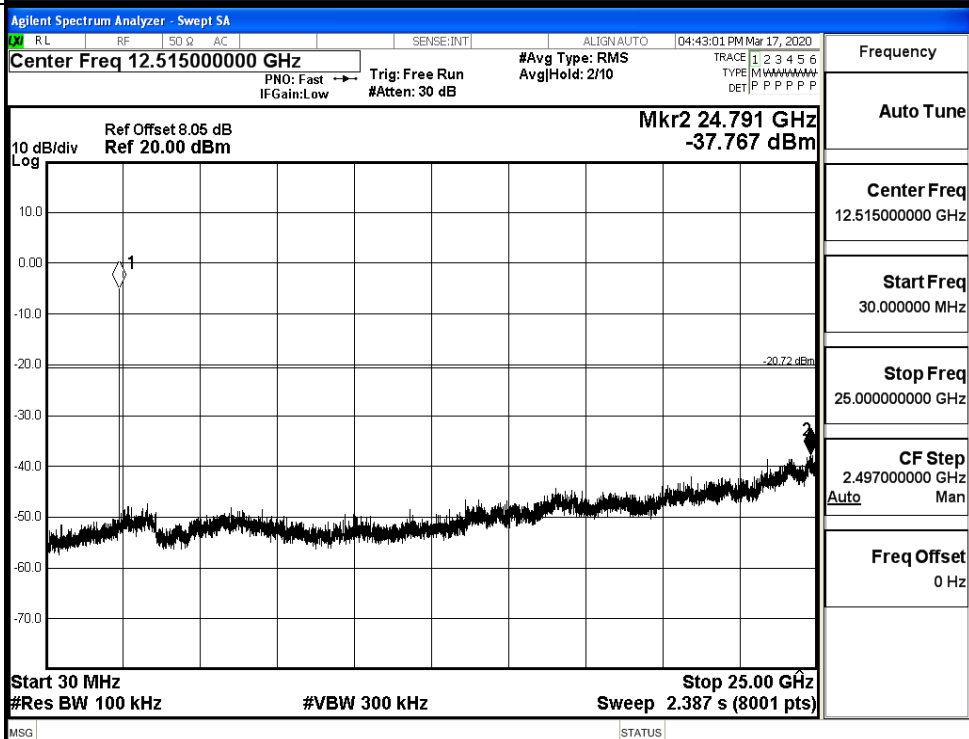


8DPSK_LCH_Graphs

Pref

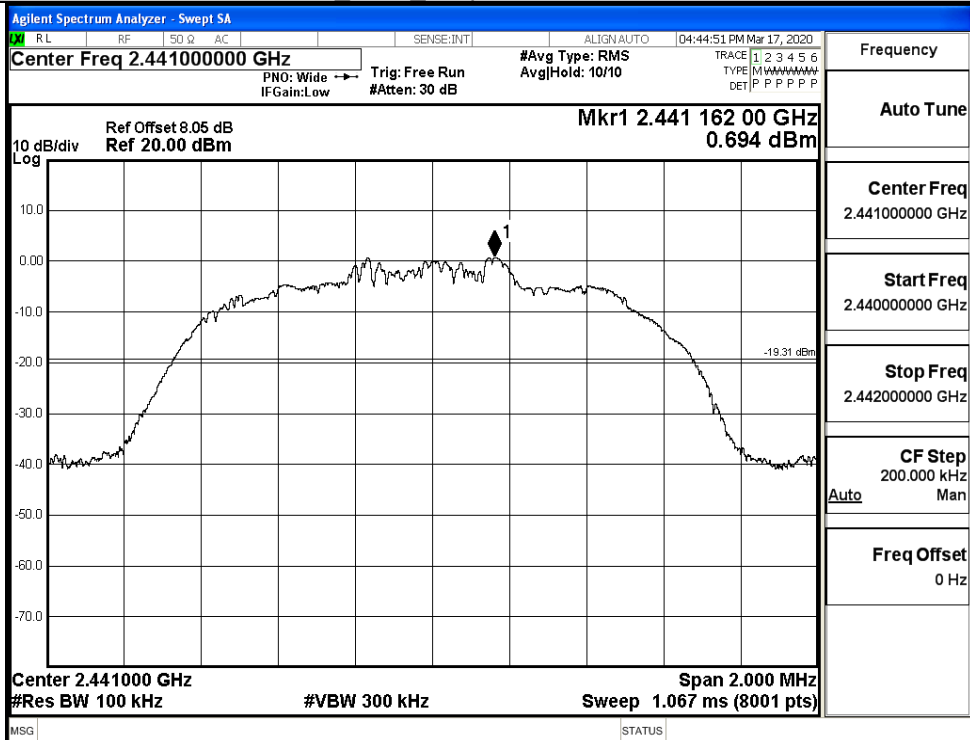


Puw

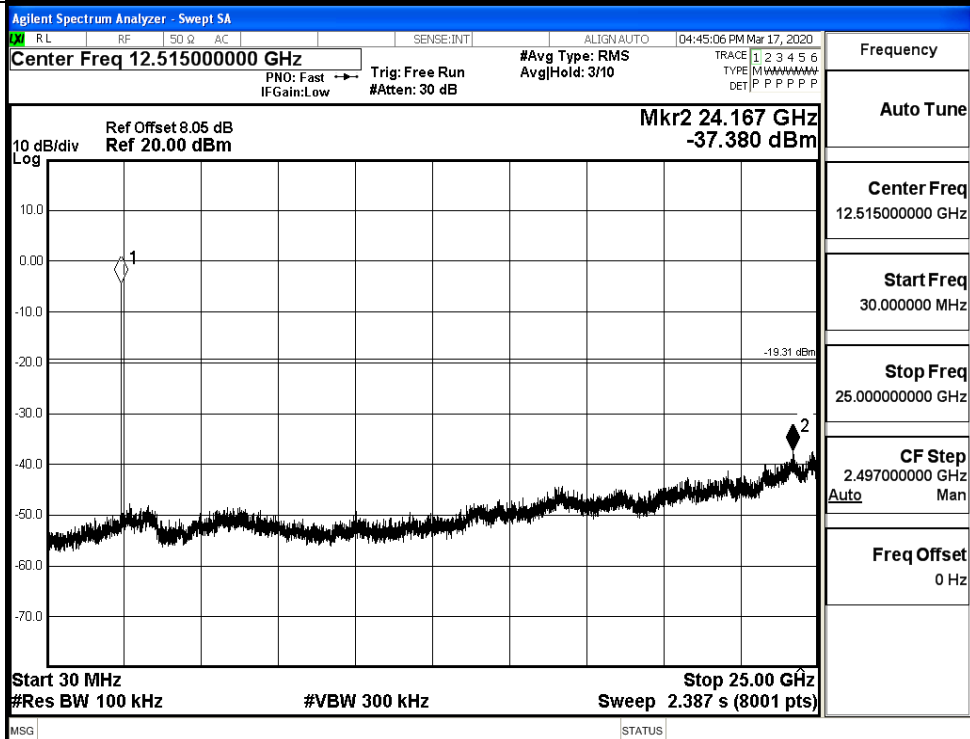


8DPSK_MCH_Graphs

Pref

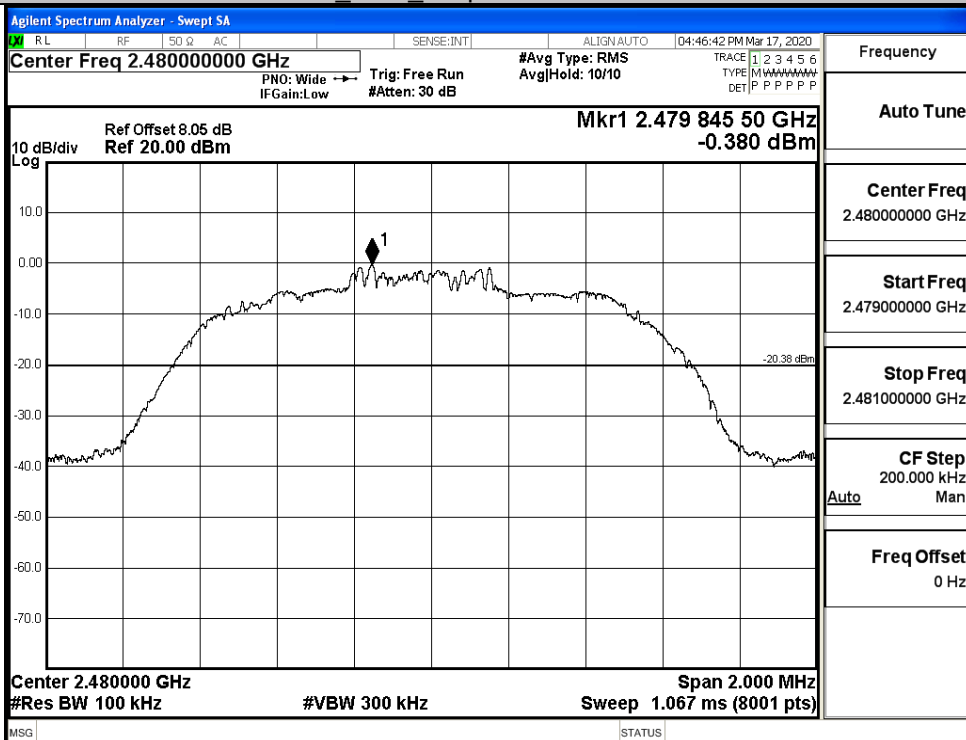


Puw

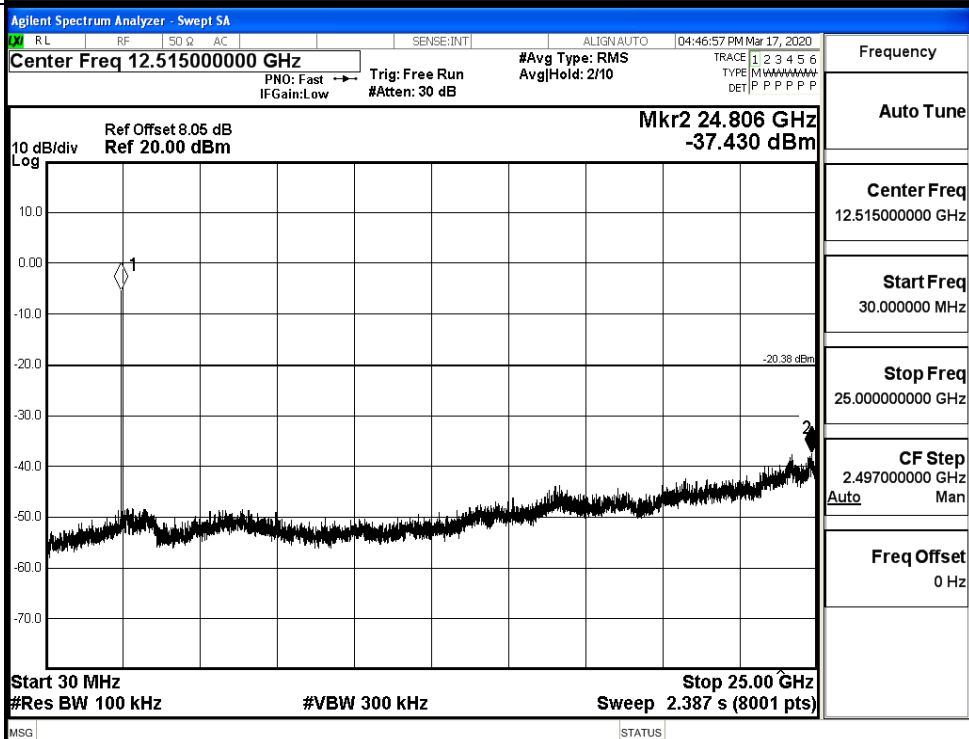


8DPSK_HCH_Graphs

Pref



Puw

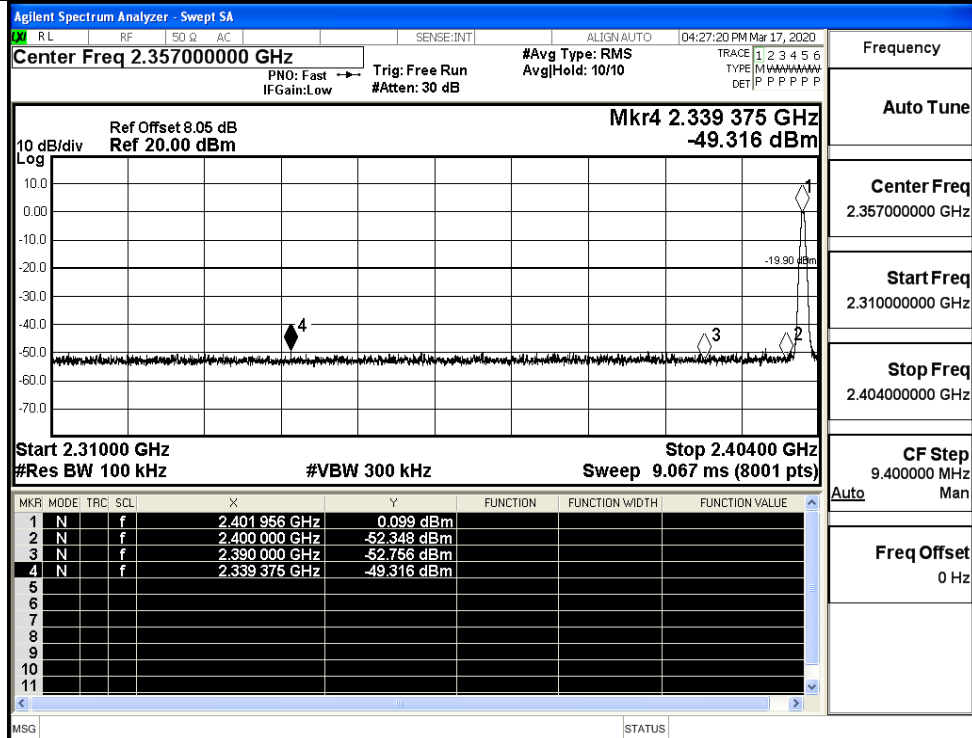


A.7 Band-edge for RF Conducted Emissions

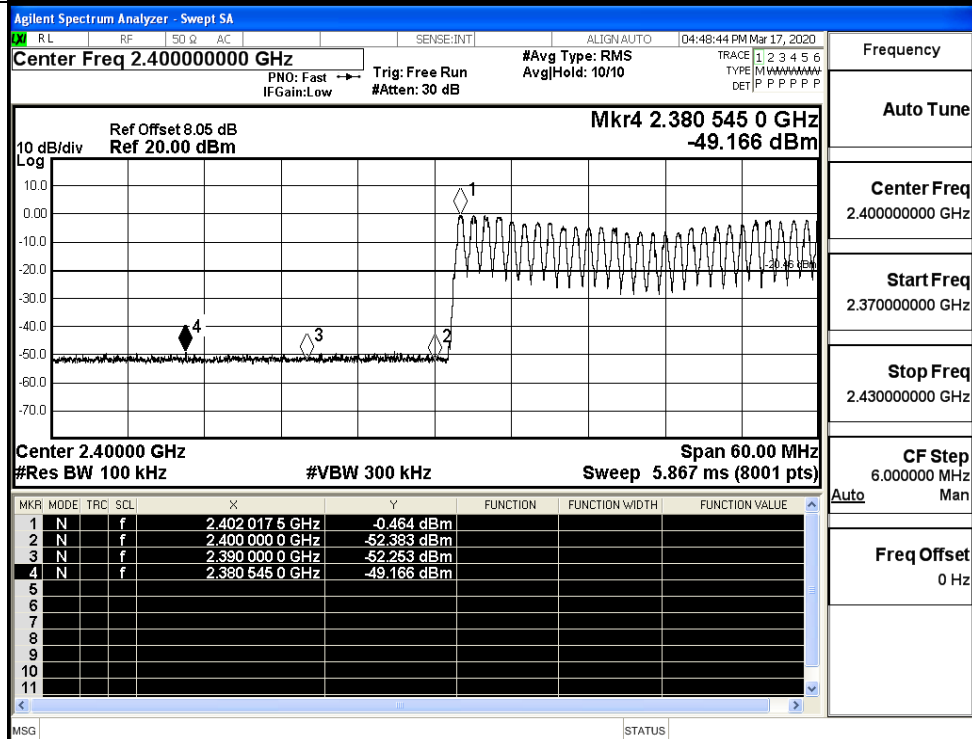
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.099	Off	-49.316	-19.9	PASS
			-0.464	On	-49.166	-20.46	PASS
	HCH	2480	0.421	Off	-48.635	-19.58	PASS
			0.230	On	-48.975	-19.77	PASS
$\pi/4$ DQPSK	LCH	2402	-0.691	Off	-48.492	-20.69	PASS
			-0.877	On	-49.201	-20.88	PASS
	HCH	2480	-0.264	Off	-49.023	-20.26	PASS
			-0.313	On	-48.058	-20.31	PASS
8DPSK	LCH	2402	-1.091	Off	-48.796	-21.09	PASS
			-0.956	On	-48.604	-20.96	PASS
	HCH	2480	-0.113	Off	-49.143	-20.11	PASS
			-0.544	On	-47.836	-20.54	PASS

Test Graphs

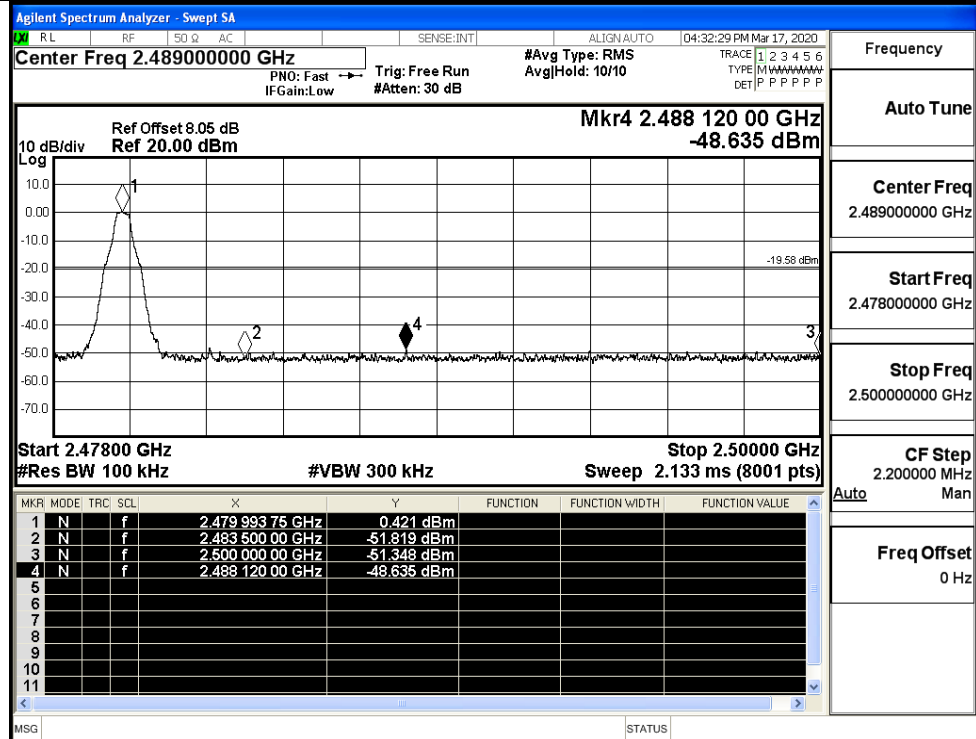
GFSK/LCH/No Hop



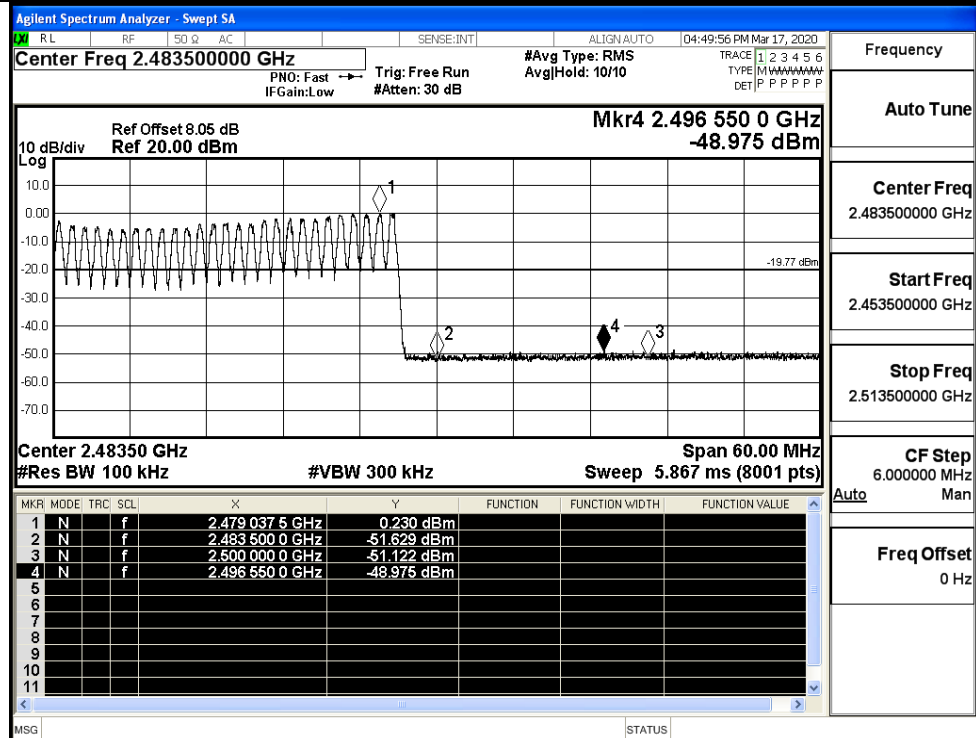
GFSK/LCH/Hop



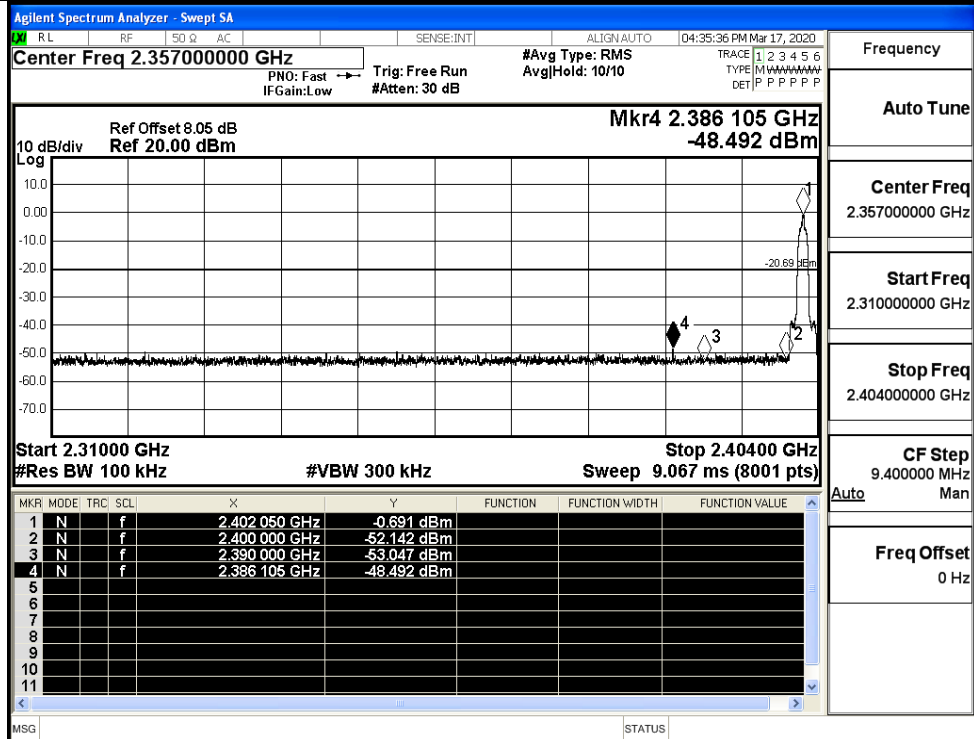
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq
2.357000000 GHz

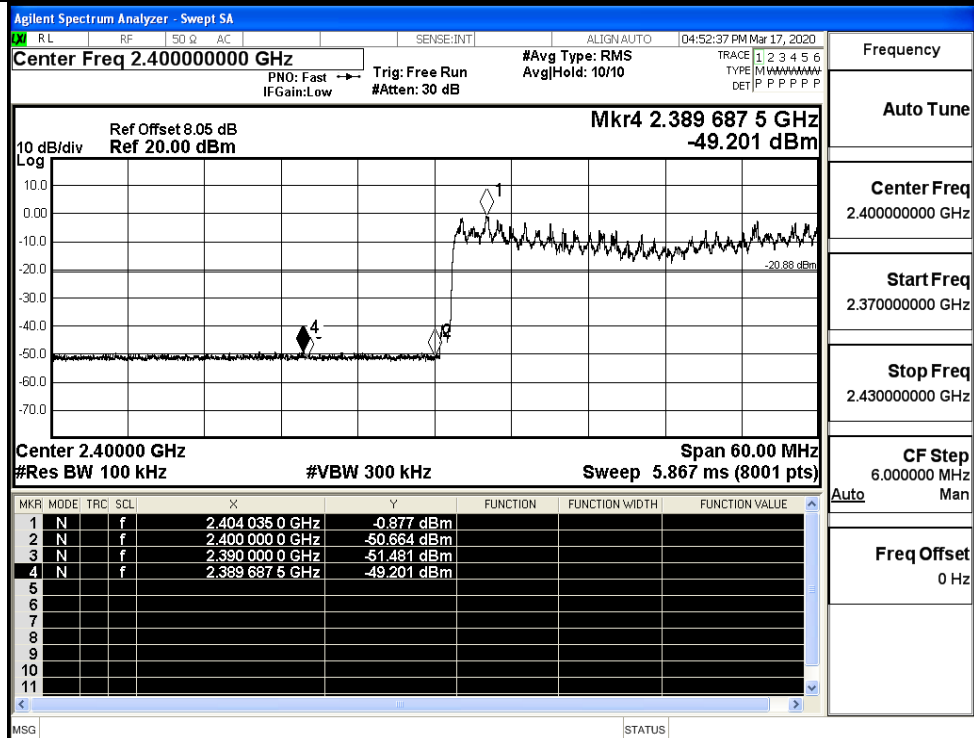
Start Freq
2.310000000 GHz

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

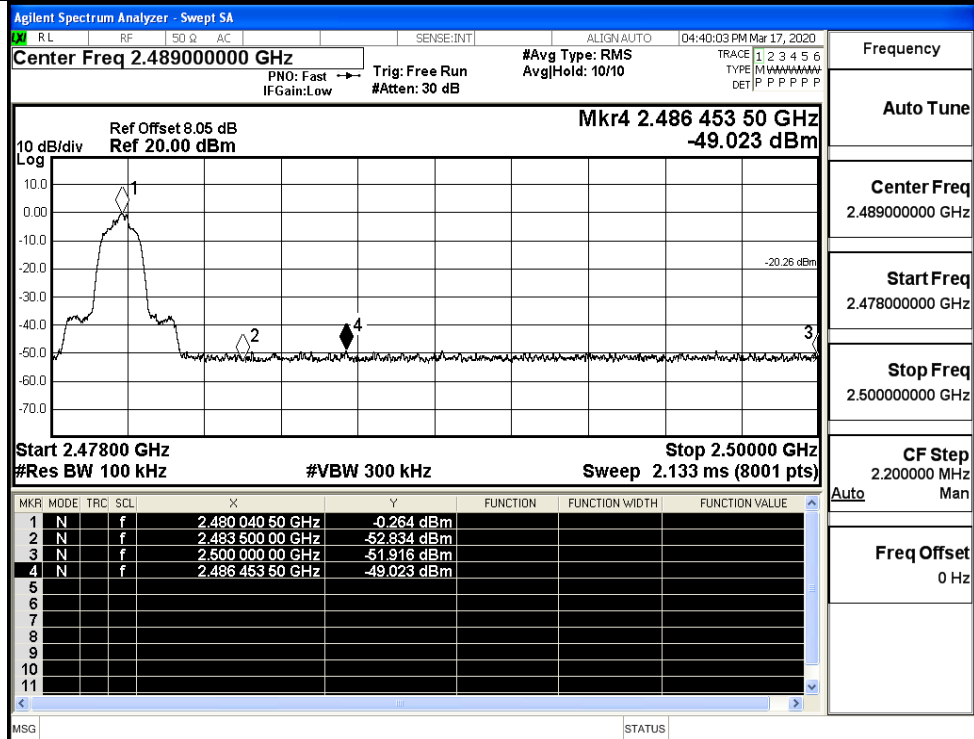
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

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

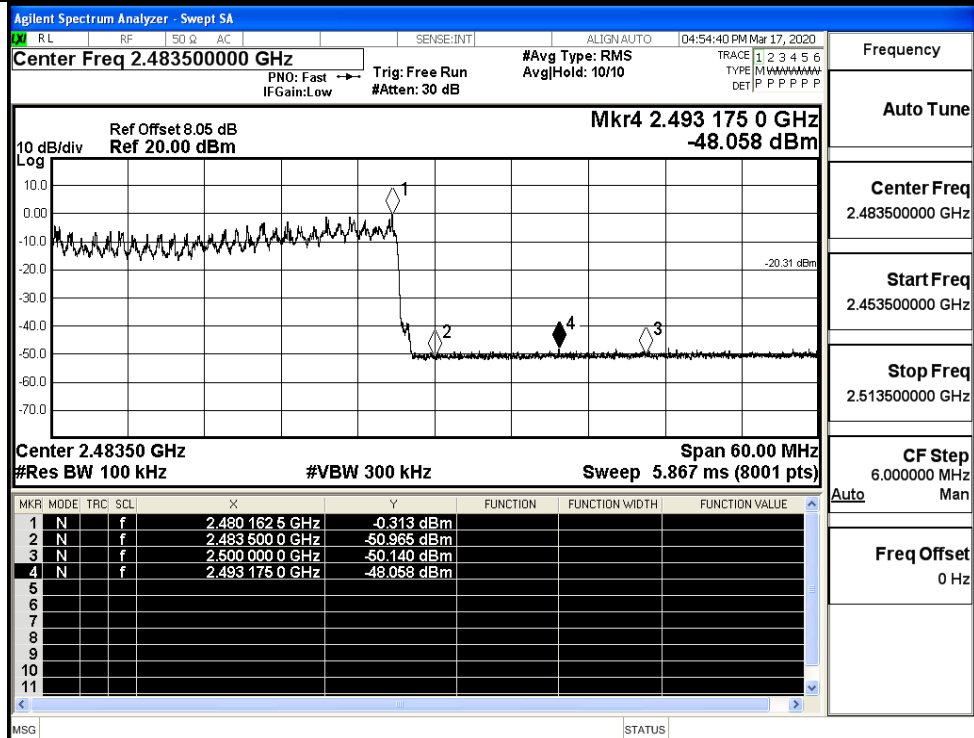


Frequency

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

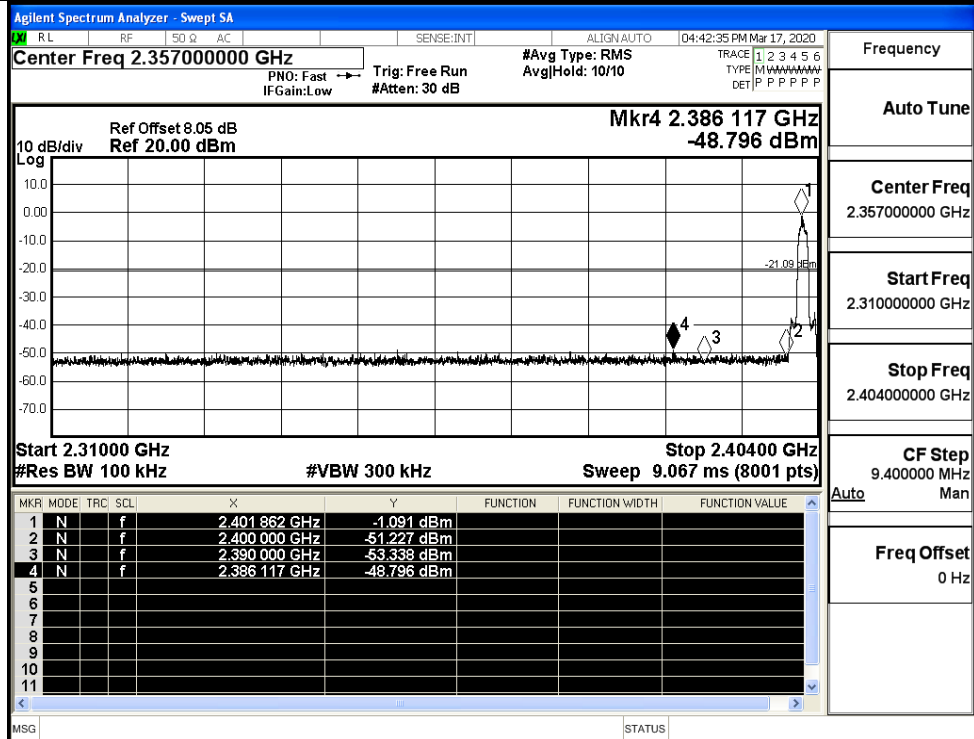


Frequency

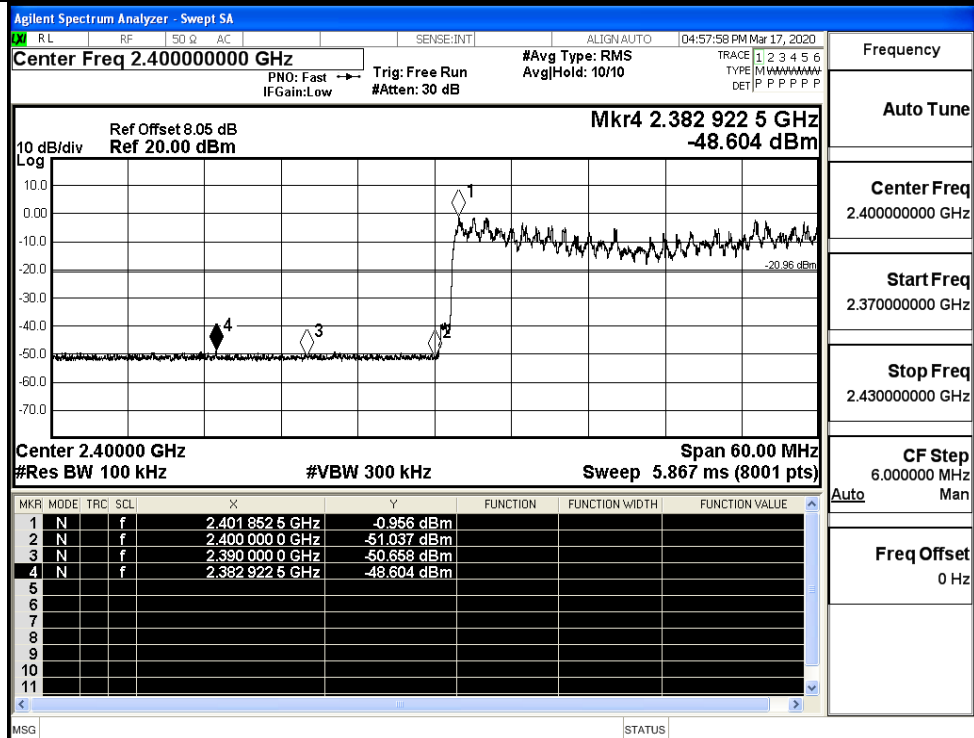
Auto Tune

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

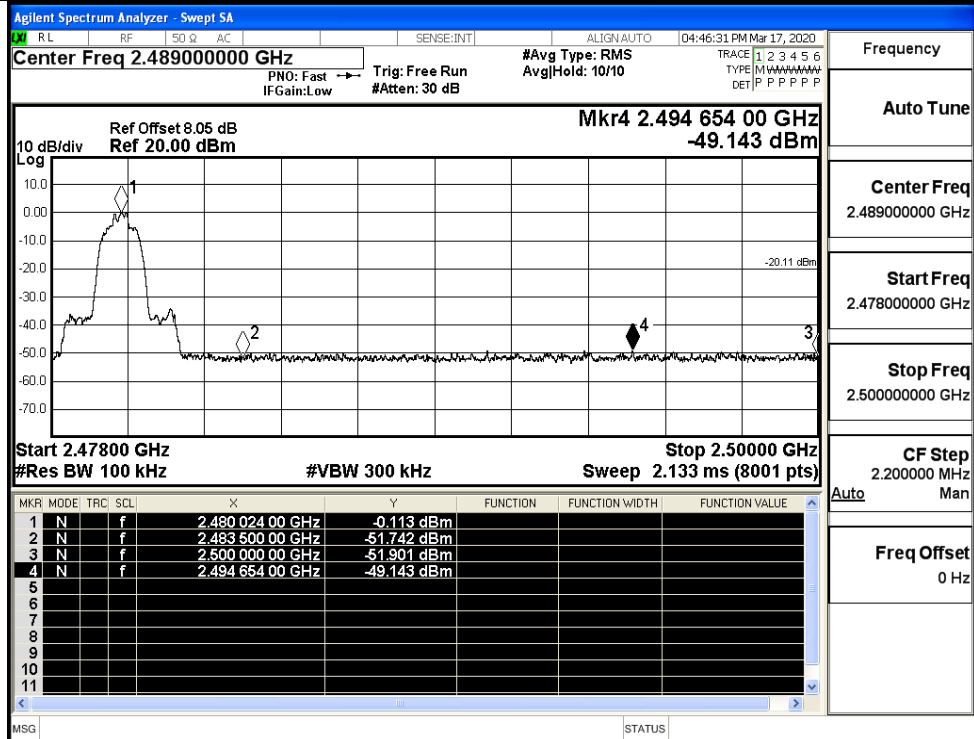
8DPSK/LCH/No Hop



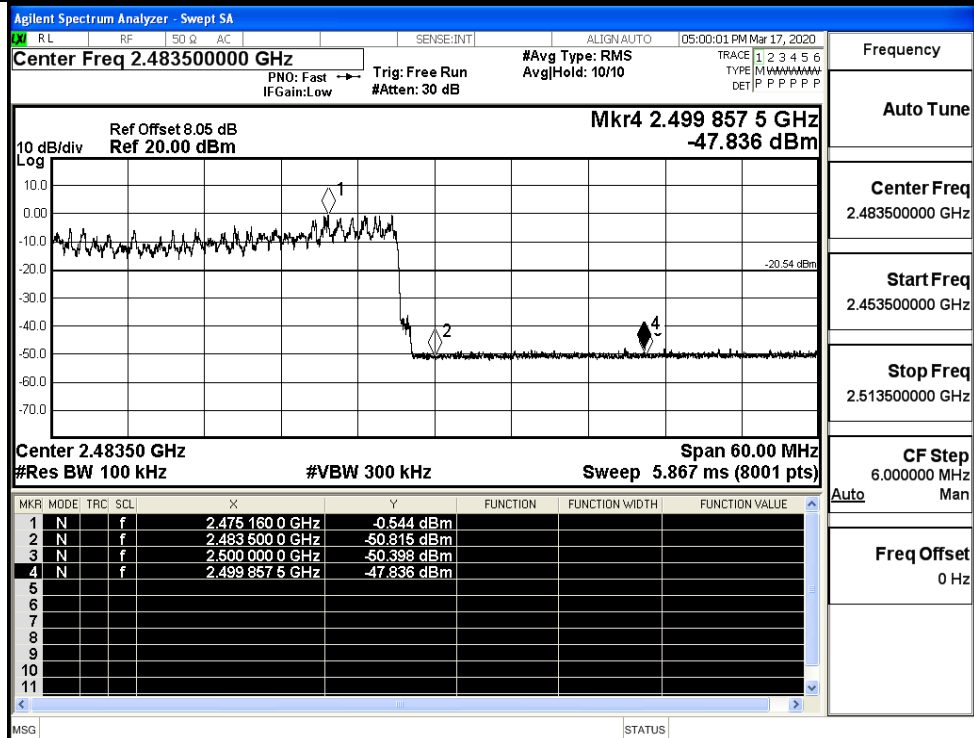
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



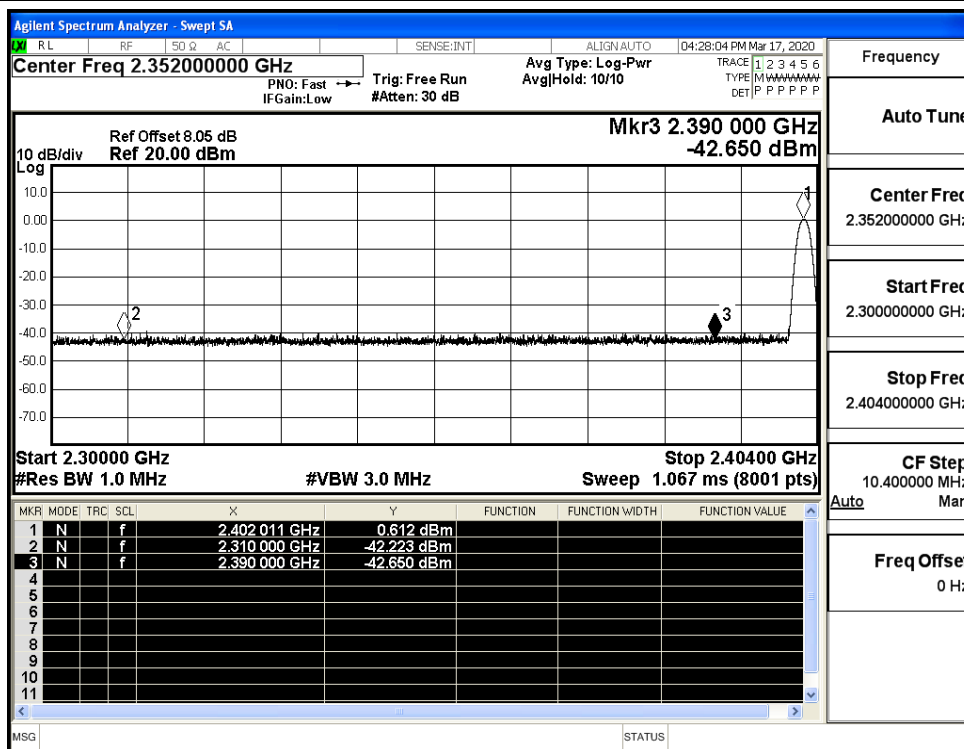
8DPSK/HCH/Hop



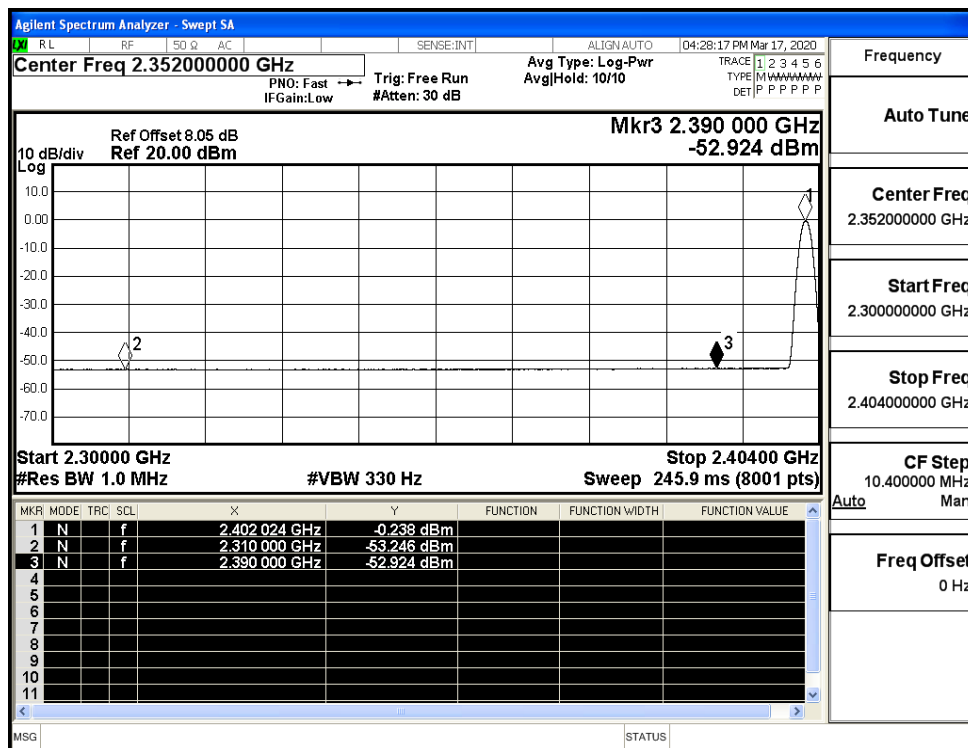
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.22	2.0	0	53.03	PEAK	74	PASS
	Off	2310.0	-53.25	2.0	0	42.01	AV	54	PASS
	Off	2390.0	-42.65	2.0	0	52.61	PEAK	74	PASS
	Off	2390.0	-52.92	2.0	0	42.33	AV	54	PASS
	Off	2483.5	-41.68	2.0	0	53.58	PEAK	74	PASS
	Off	2483.5	-52.35	2.0	0	42.91	AV	54	PASS
	Off	2500.0	-41.57	2.0	0	53.69	PEAK	74	PASS
	Off	2500.0	-52.26	2.0	0	43.00	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-44.01	2.0	0	51.25	PEAK	74	PASS
	Off	2310.0	-53.28	2.0	0	41.98	AV	54	PASS
	Off	2390.0	-42.89	2.0	0	52.37	PEAK	74	PASS
	Off	2390.0	-52.87	2.0	0	42.38	AV	54	PASS
	Off	2483.5	-41.89	2.0	0	53.36	PEAK	74	PASS
	Off	2483.5	-52.34	2.0	0	42.92	AV	54	PASS
	Off	2500.0	-40.94	2.0	0	54.32	PEAK	74	PASS
	Off	2500.0	-52.20	2.0	0	43.06	AV	54	PASS
8DPSK	Off	2310.0	-42.21	2.0	0	53.05	PEAK	74	PASS
	Off	2310.0	-53.23	2.0	0	42.03	AV	54	PASS
	Off	2390.0	-41.53	2.0	0	53.73	PEAK	74	PASS
	Off	2390.0	-52.81	2.0	0	42.45	AV	54	PASS
	Off	2483.5	-39.63	2.0	0	55.63	PEAK	74	PASS
	Off	2483.5	-52.35	2.0	0	42.91	AV	54	PASS
	Off	2500.0	-42.85	2.0	0	52.40	PEAK	74	PASS
	Off	2500.0	-52.27	2.0	0	42.99	AV	54	PASS

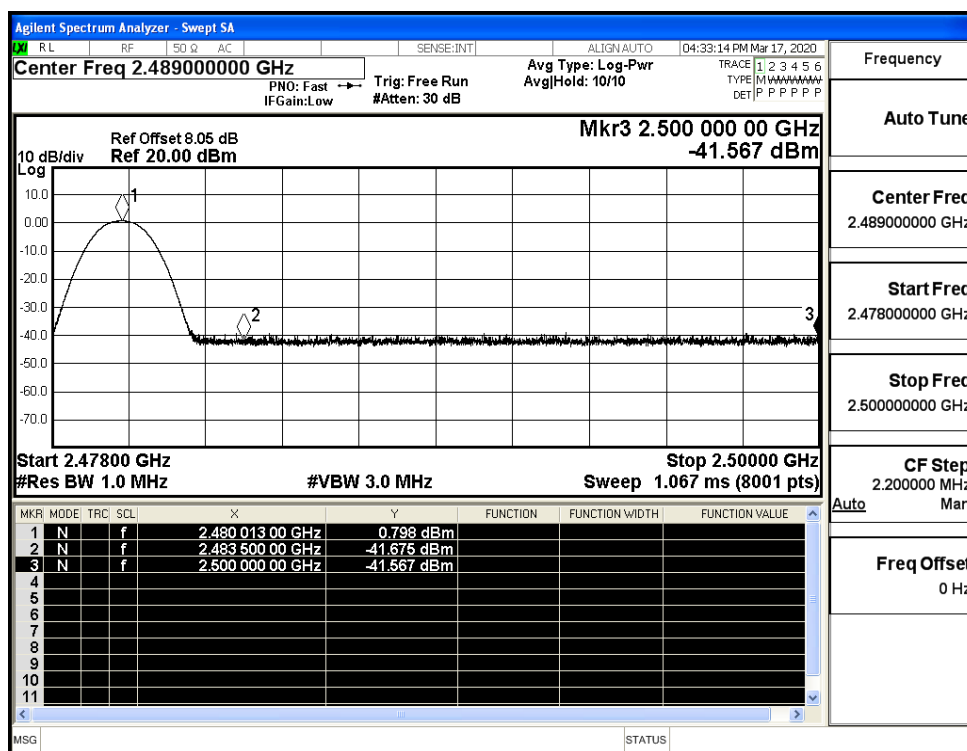
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



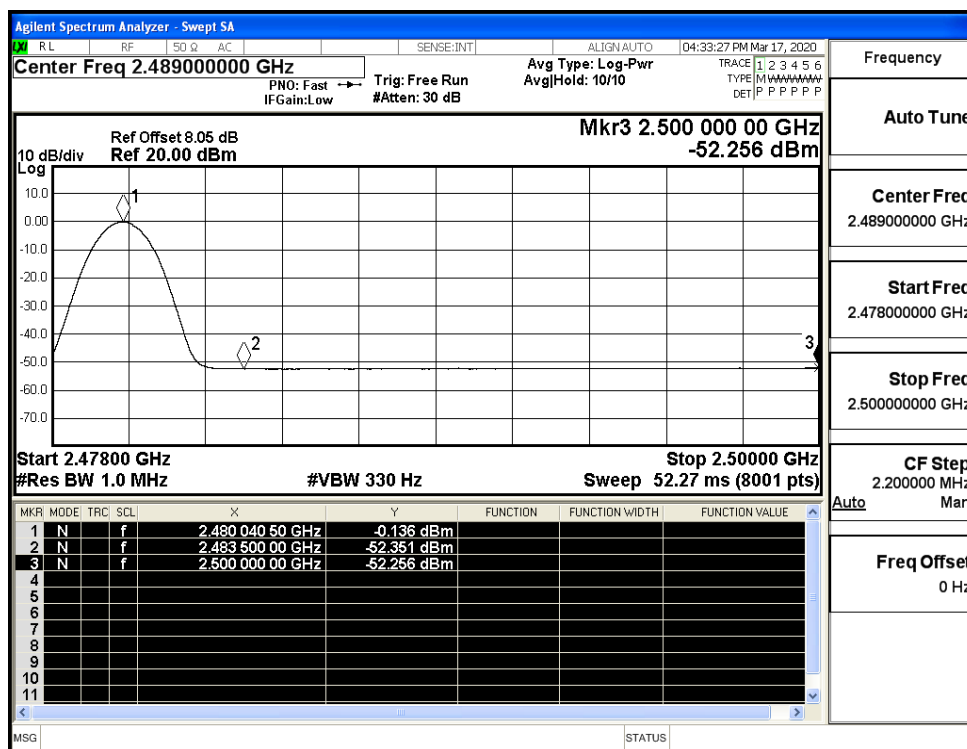
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

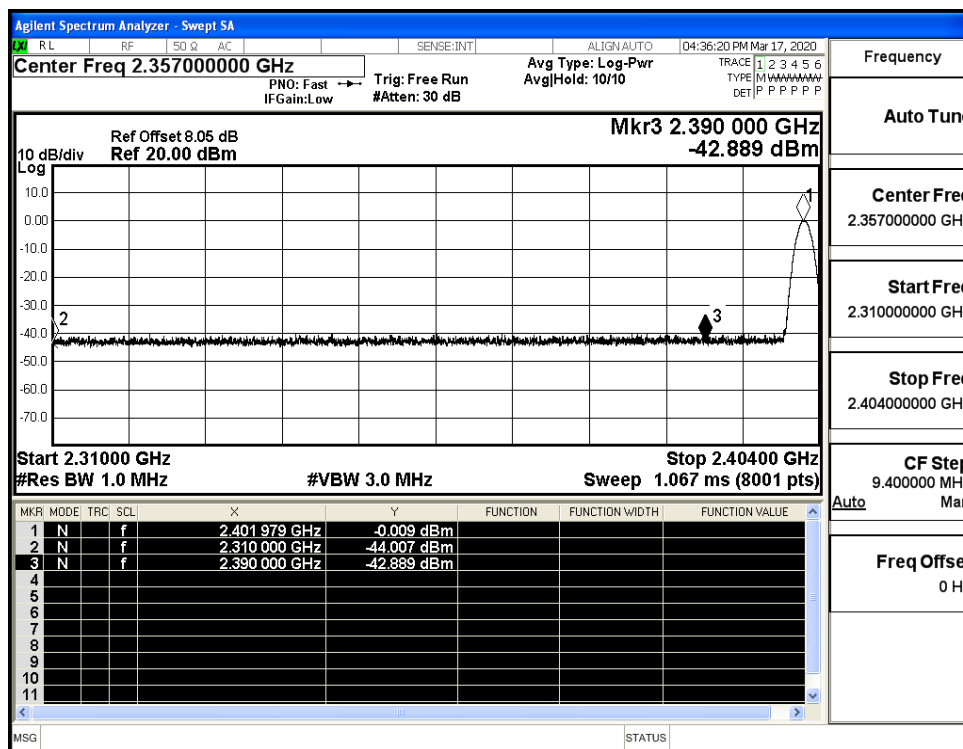
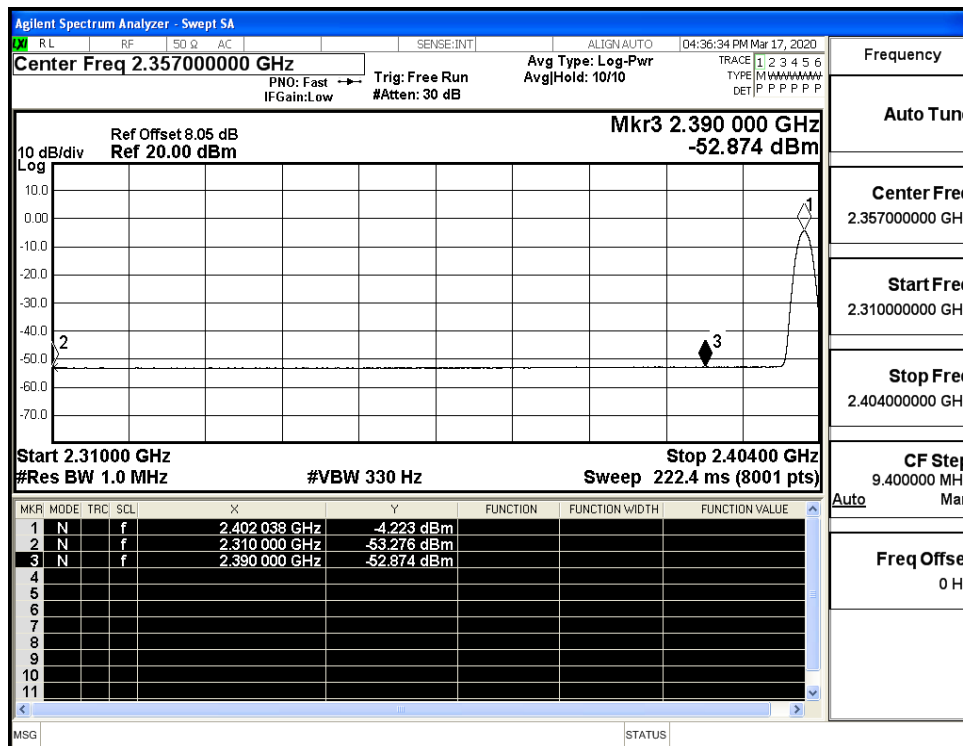


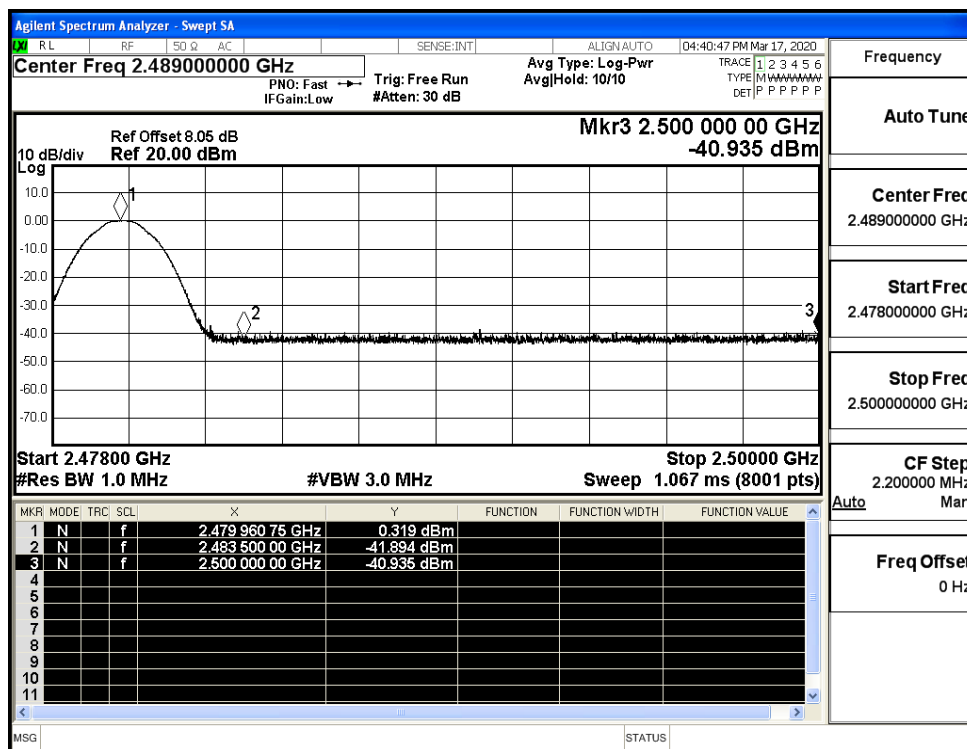
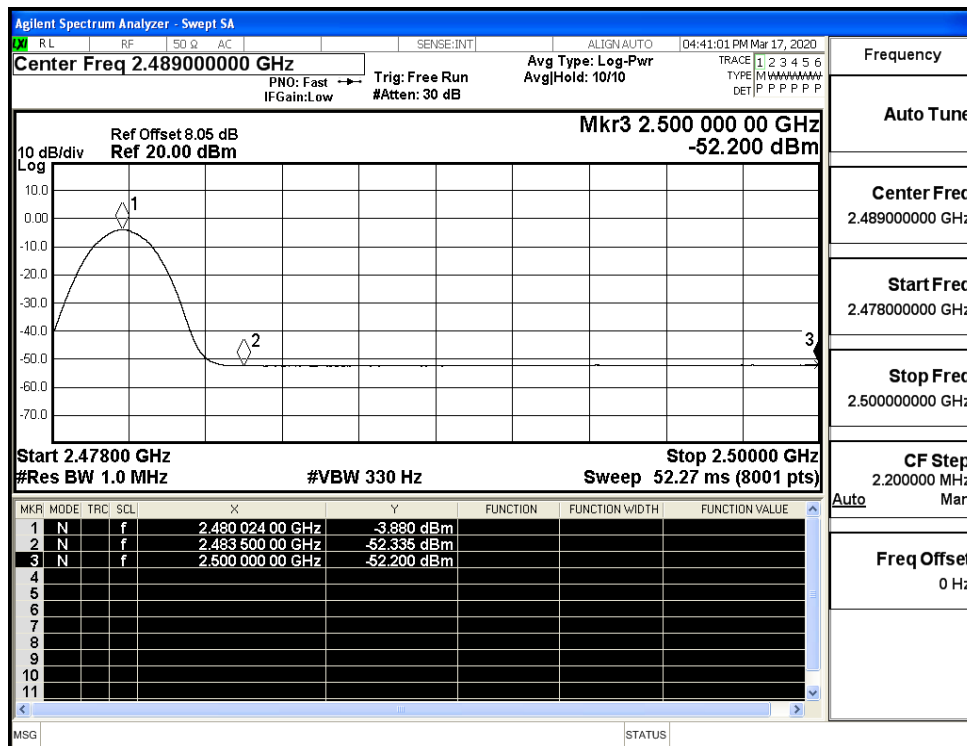
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



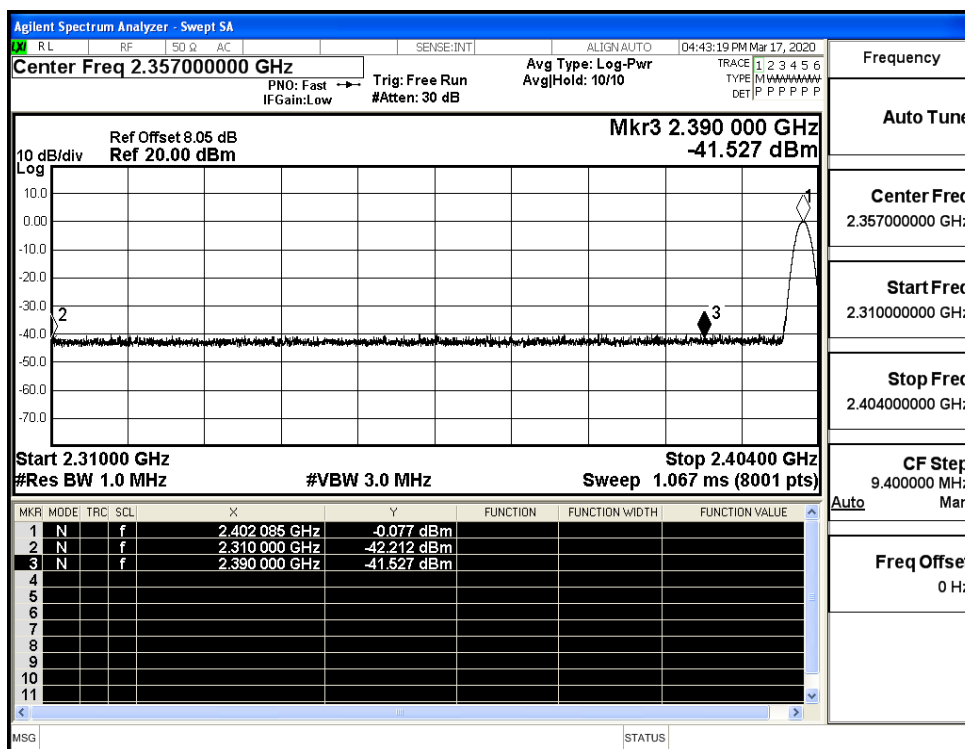
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



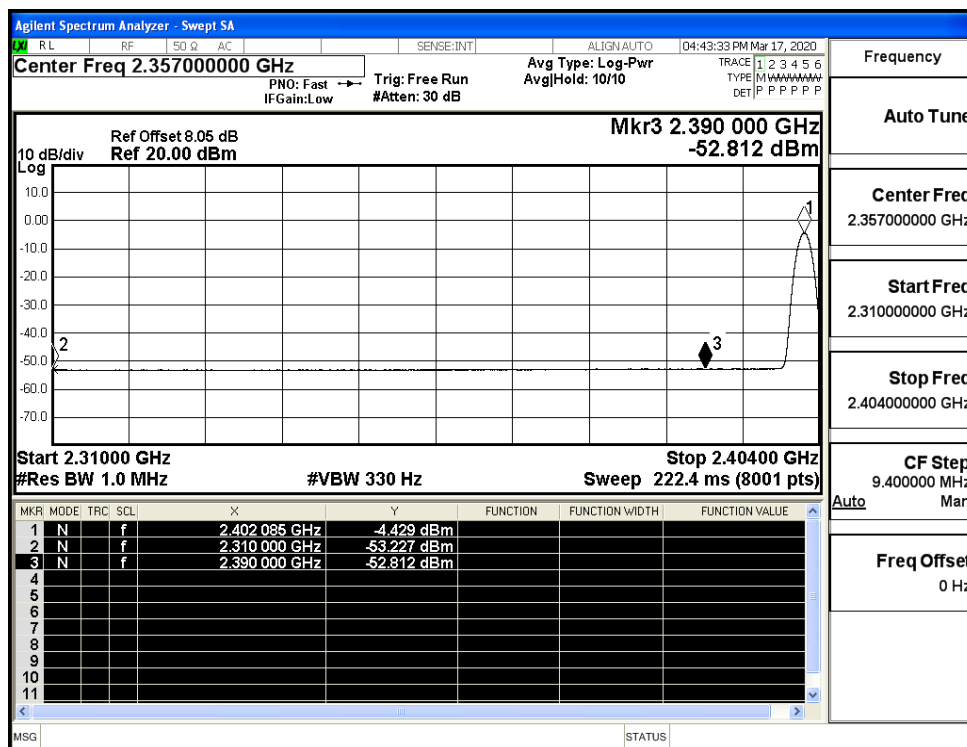
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

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

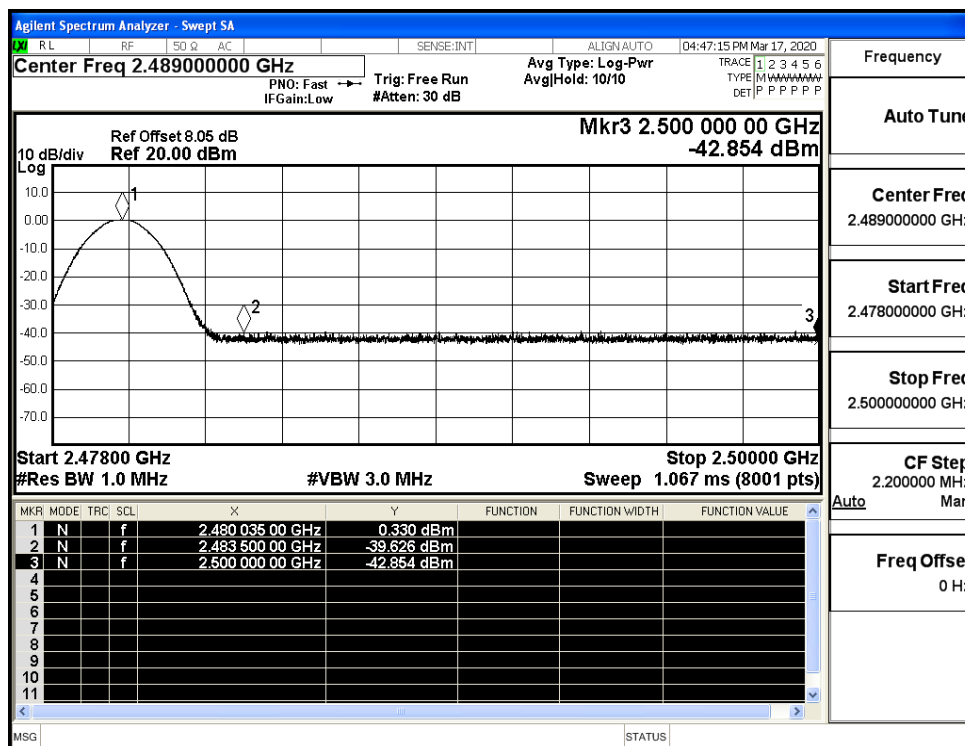
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

