

Appendix A

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

Product Name: R0781A Focus

Trade Mark: InkBook

Test Model: R0781A

Environmental Conditions

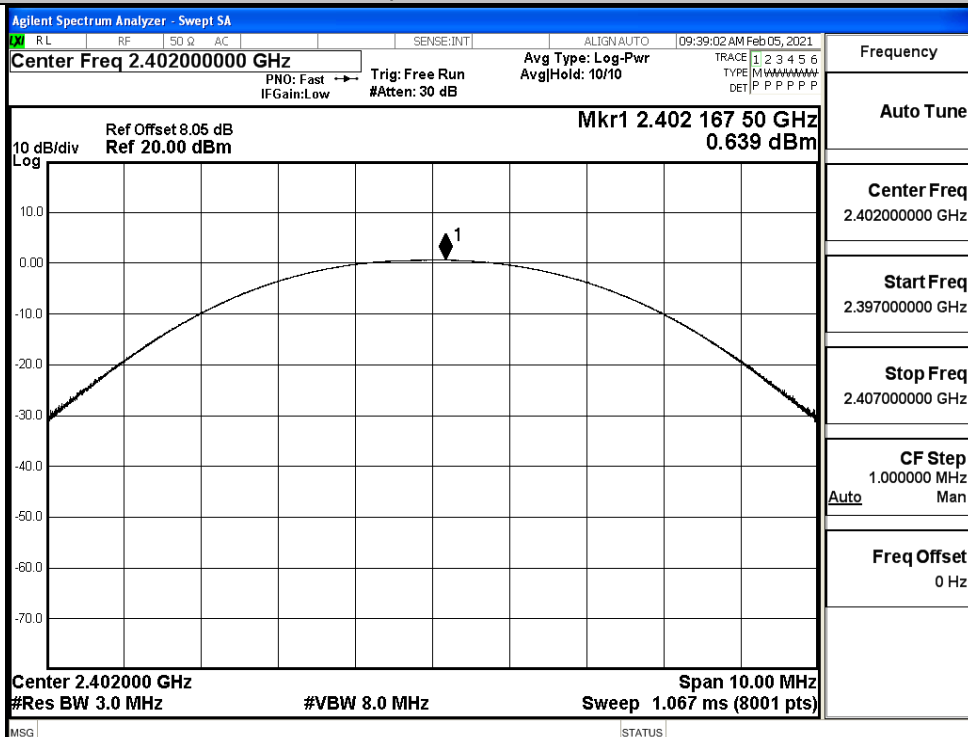
Temperature:	22.7° C
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

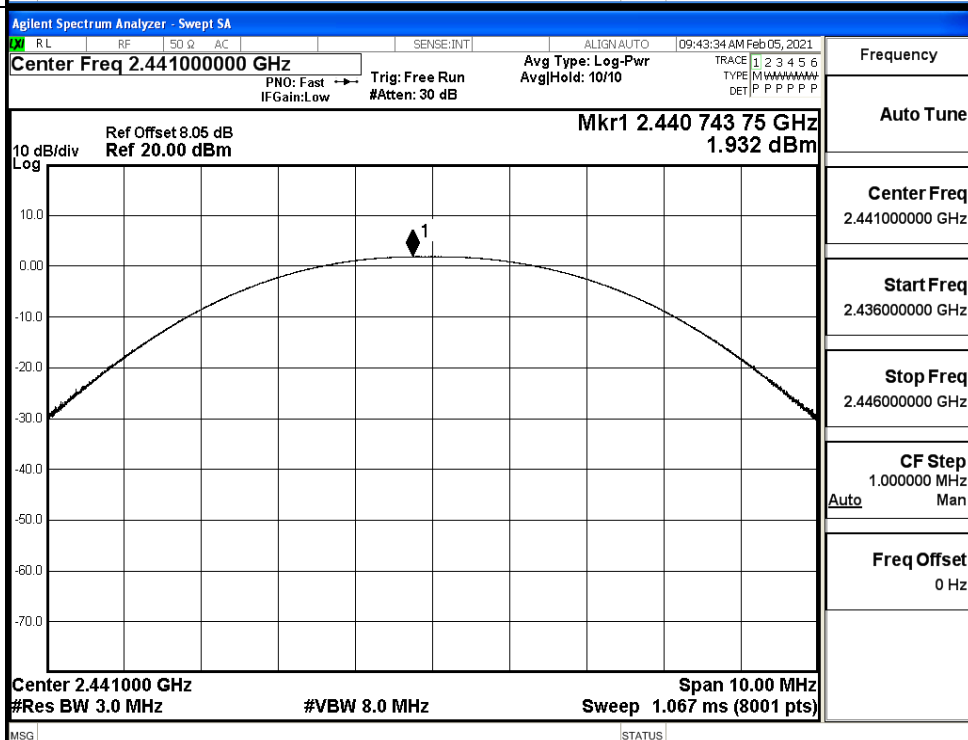
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.639	21	PASS
	MCH	1.932	21	PASS
	HCH	0.267	21	PASS
$\pi/4$ DQPSK	LCH	-0.195	21	PASS
	MCH	1.067	21	PASS
	HCH	-0.479	21	PASS
8DPSK	LCH	-0.087	21	PASS
	MCH	1.279	21	PASS
	HCH	-0.311	21	PASS

Test Graphs

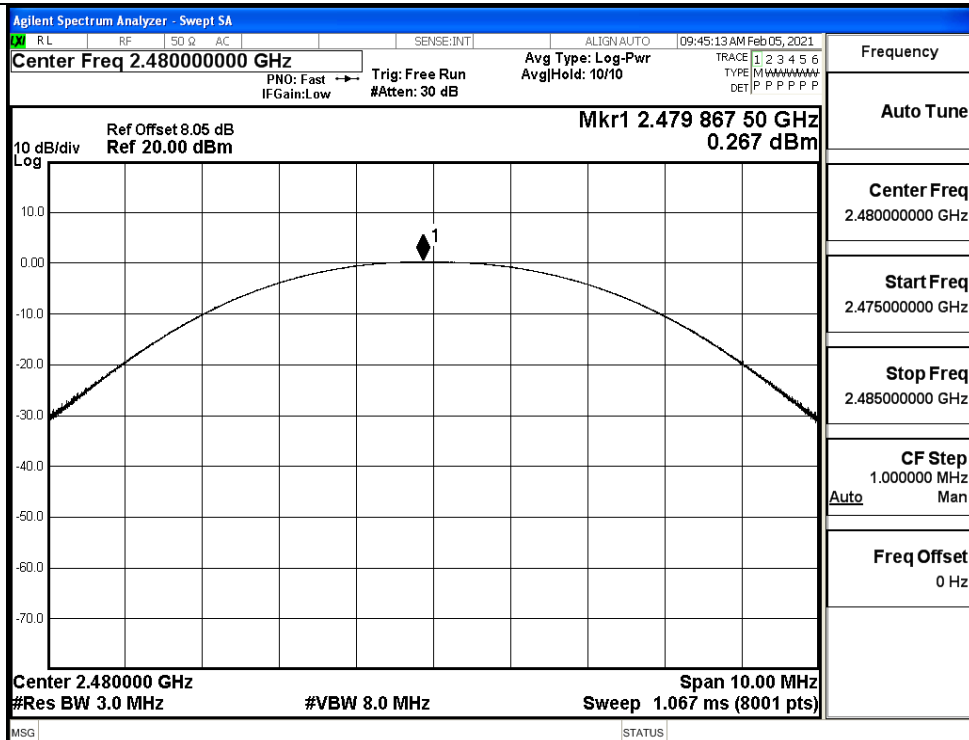
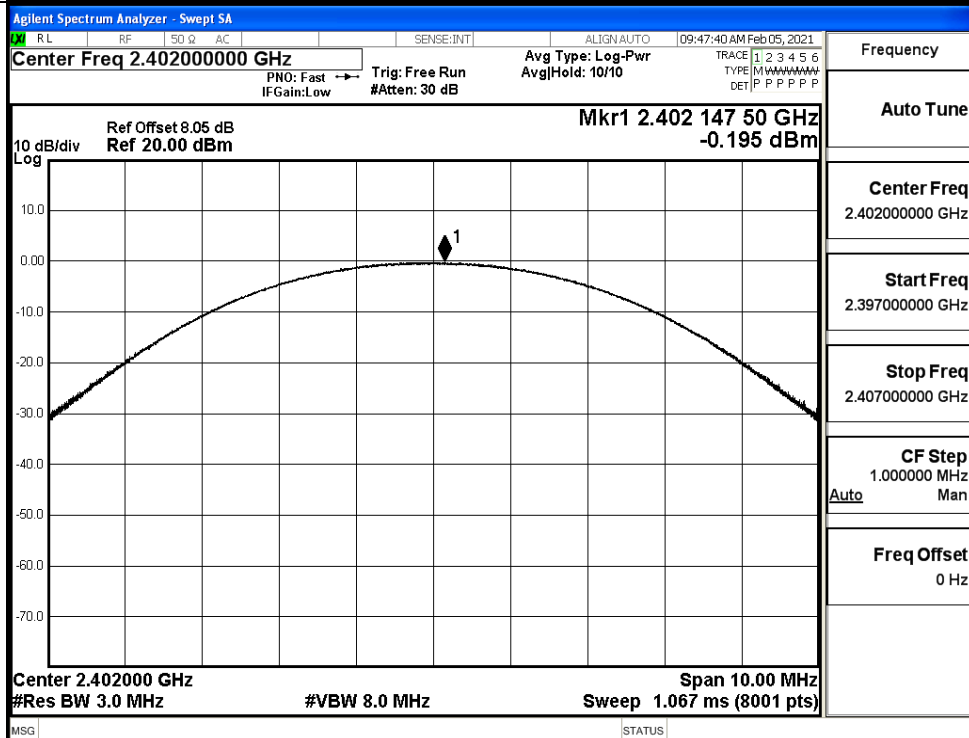
GFSK/LCH

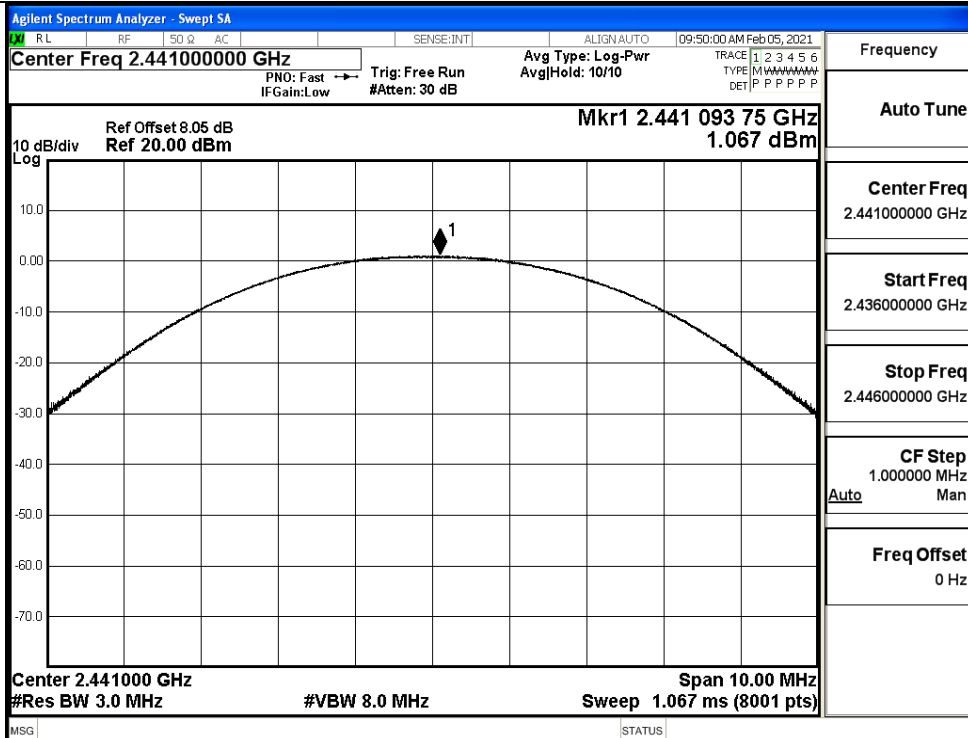
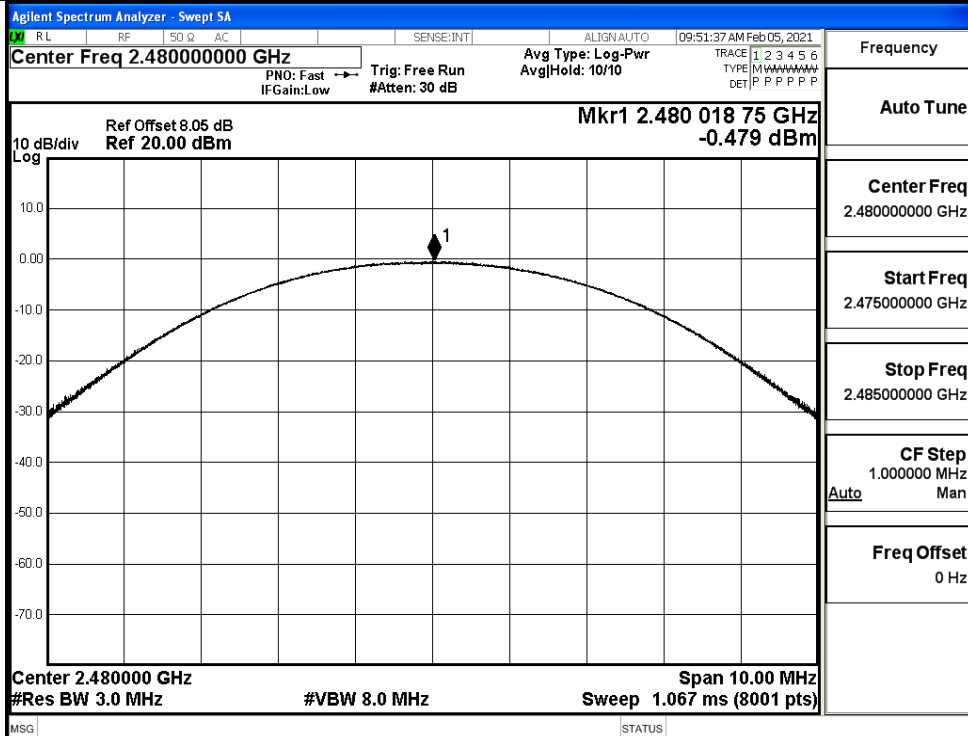


GFSK/MCH

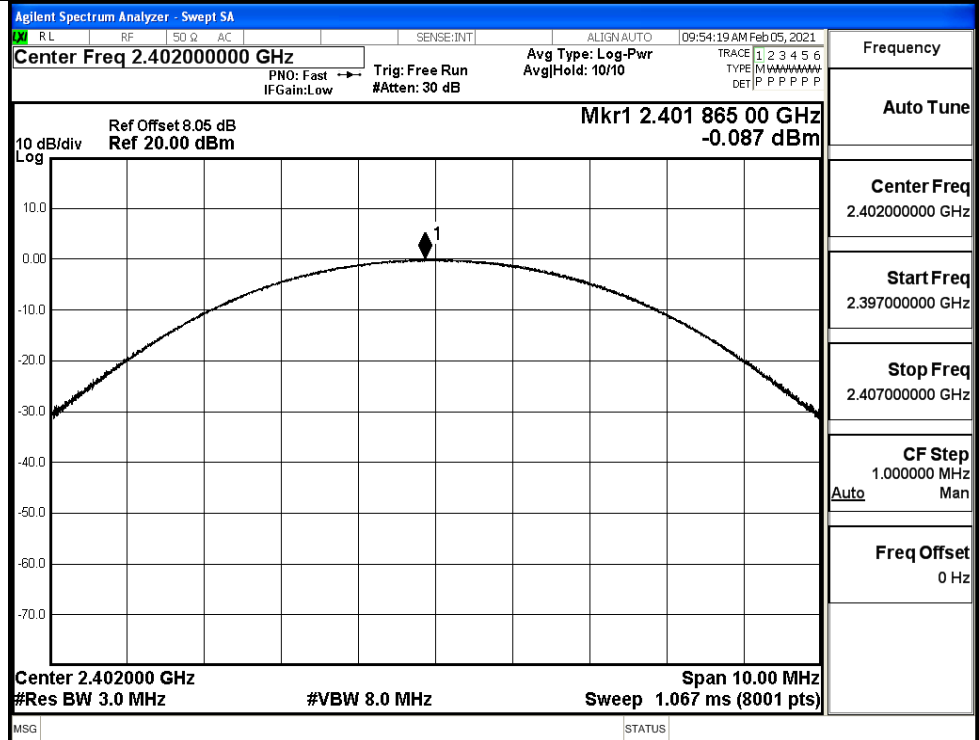


GFSK/HCH

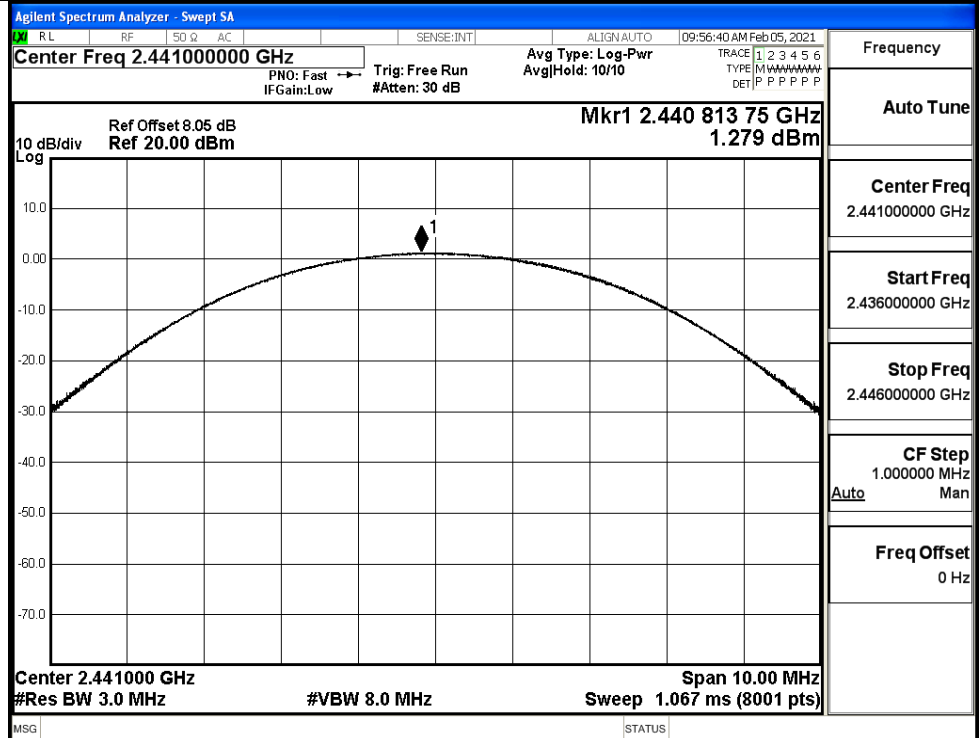
 π /4DQPSK/LCH

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

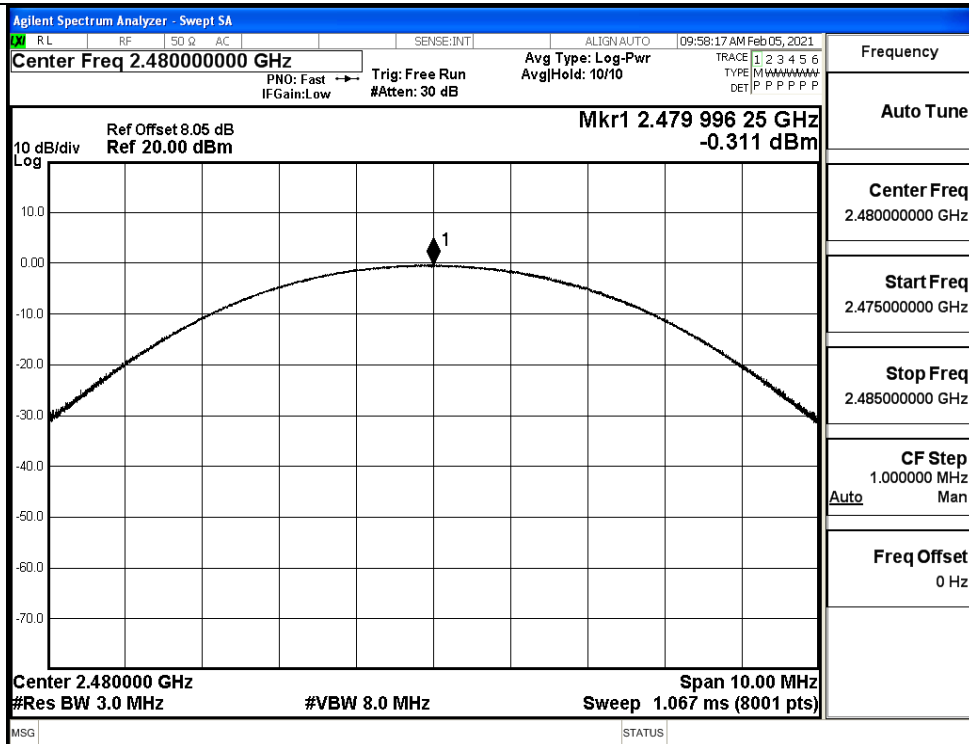
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

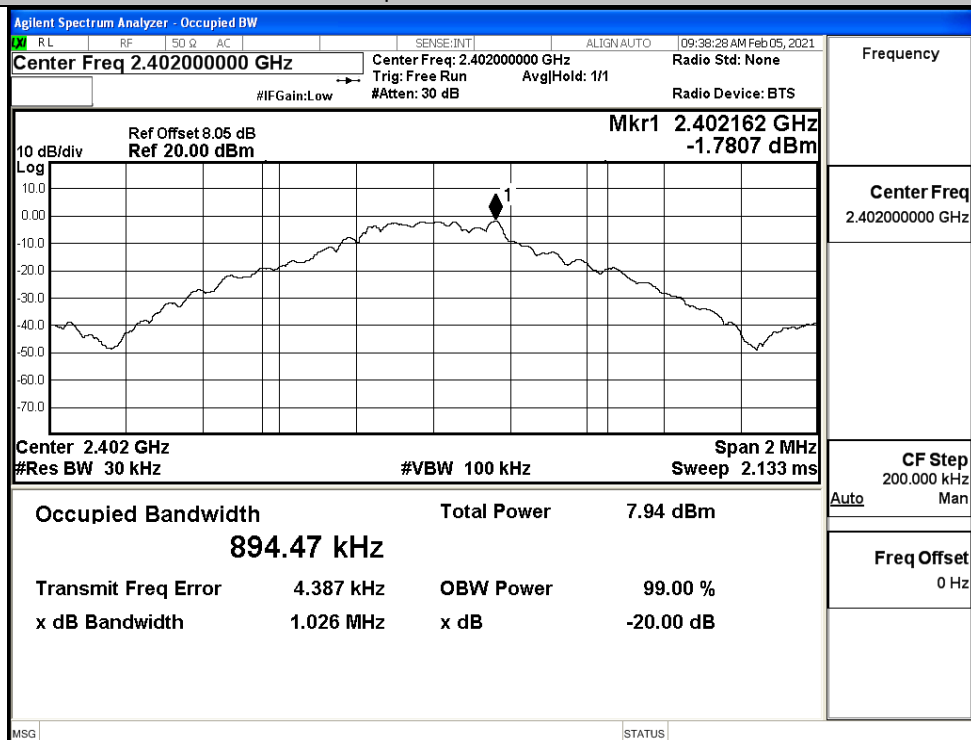


A.2 20dB Bandwidth

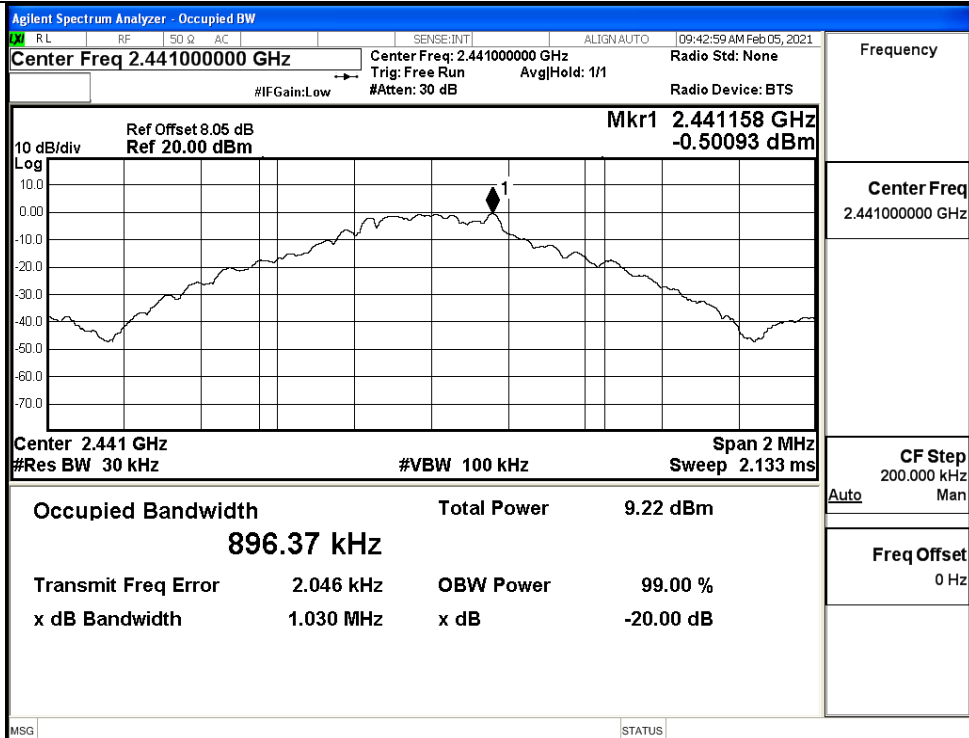
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.026	Not Specified	PASS
	MCH	1.030	Not Specified	PASS
	HCH	1.033	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.288	Not Specified	PASS
	MCH	1.287	Not Specified	PASS
	HCH	1.291	Not Specified	PASS
8DPSK	LCH	1.292	Not Specified	PASS
	MCH	1.291	Not Specified	PASS
	HCH	1.292	Not Specified	PASS

Test Graphs

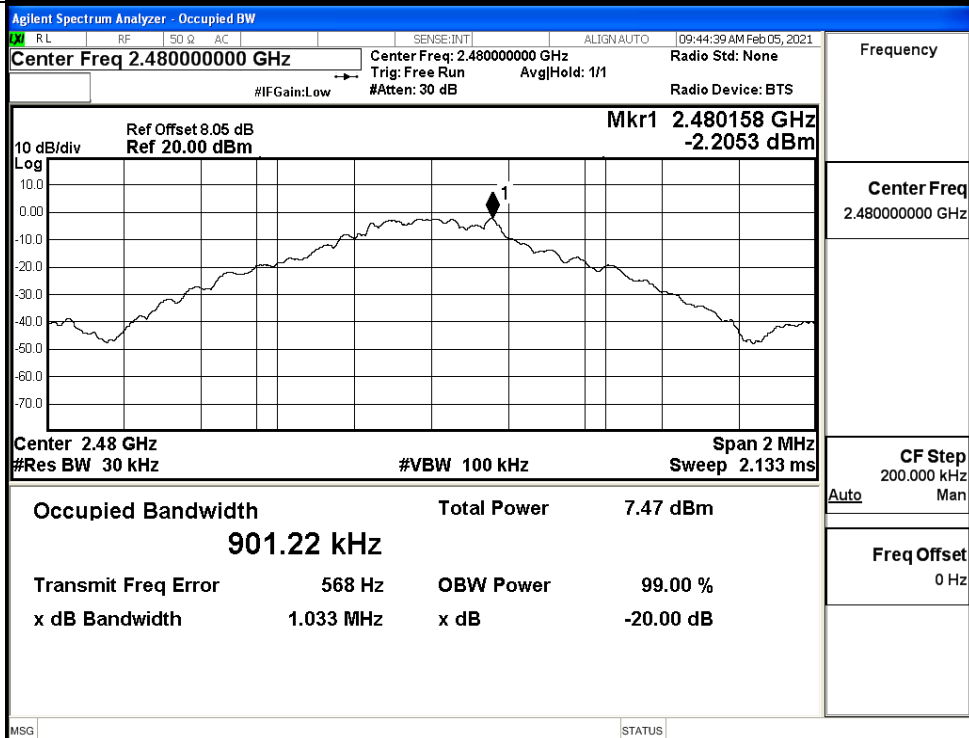
GFSK/LCH

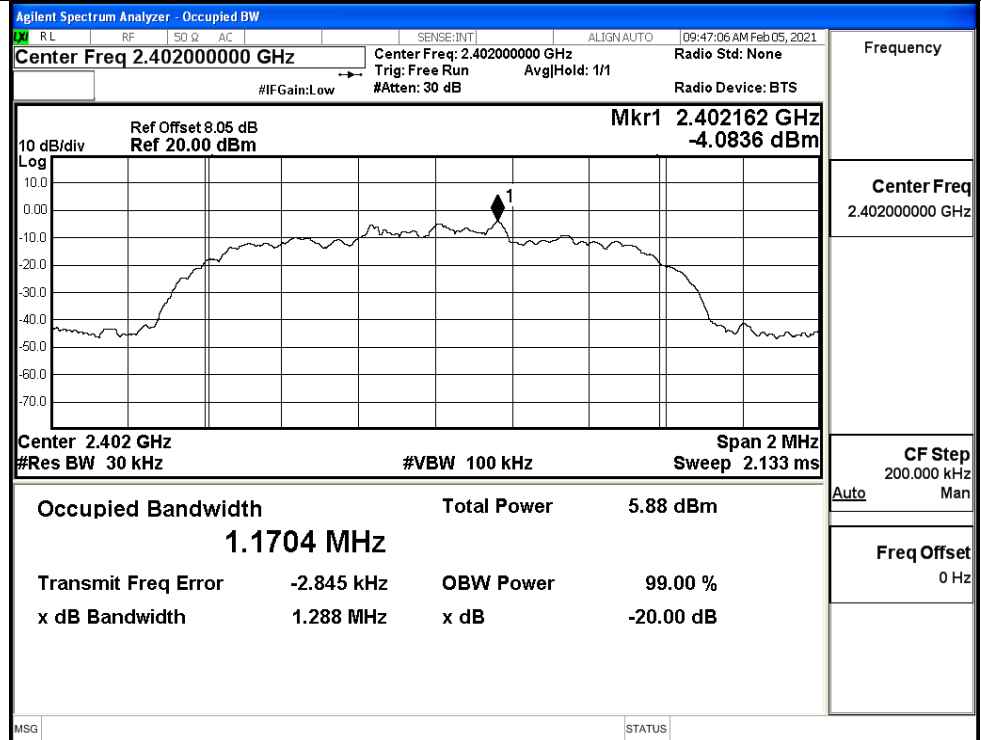
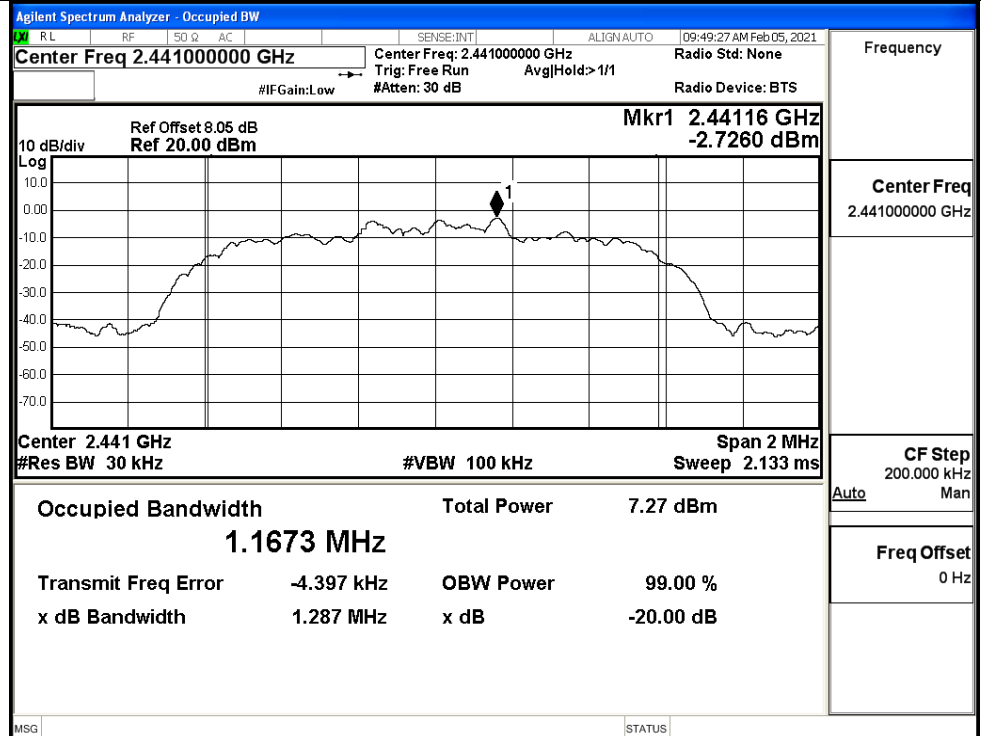


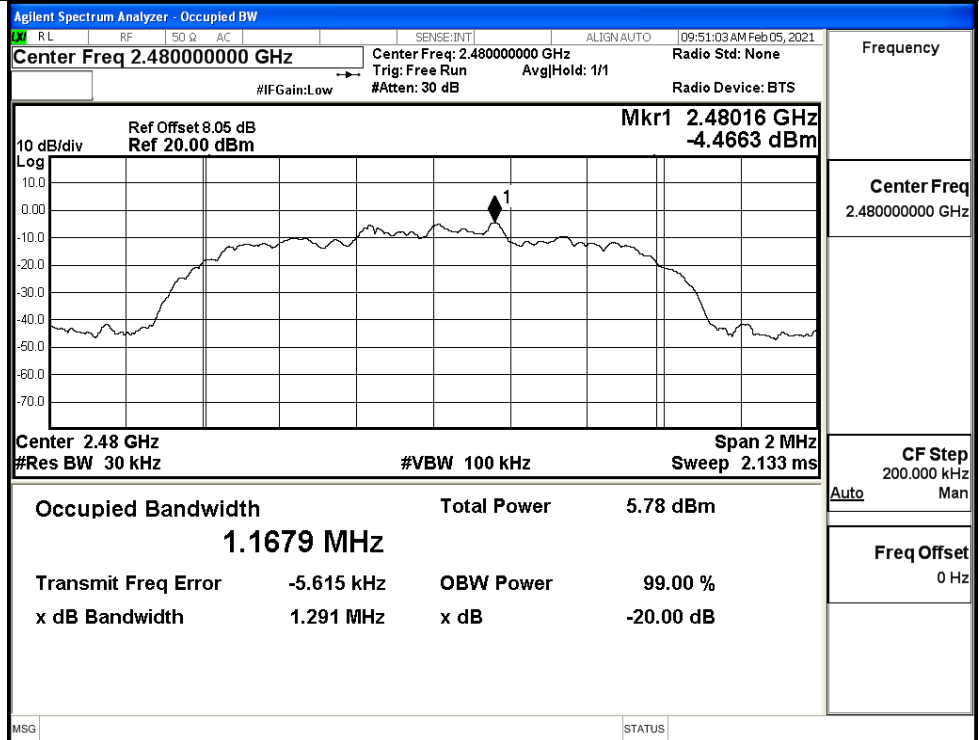
GFSK/MCH



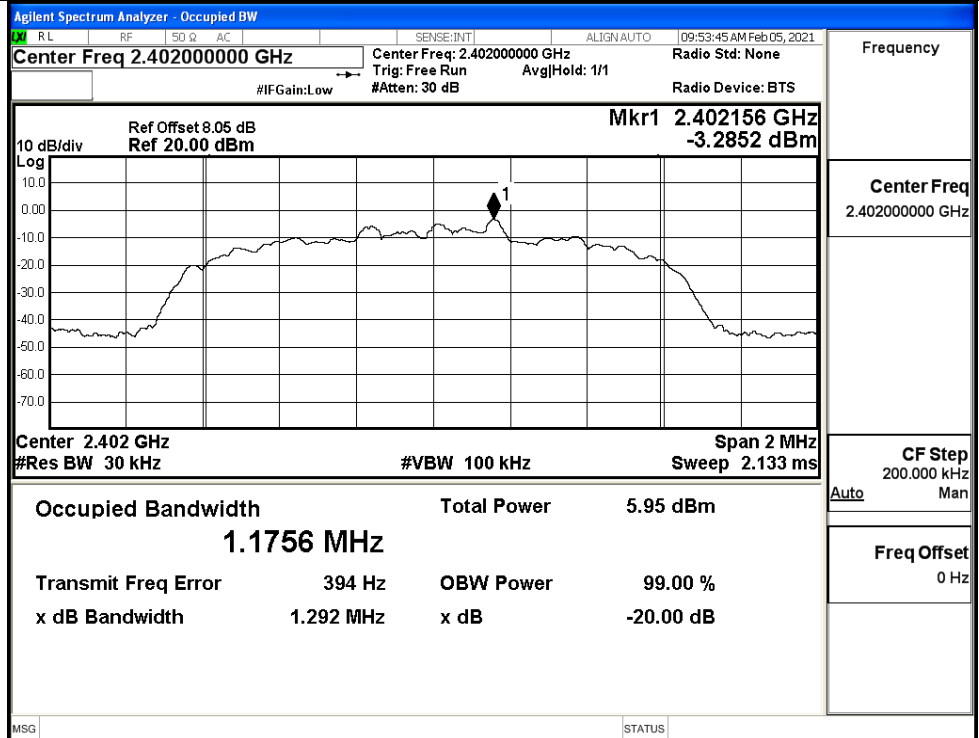
GFSK/HCH



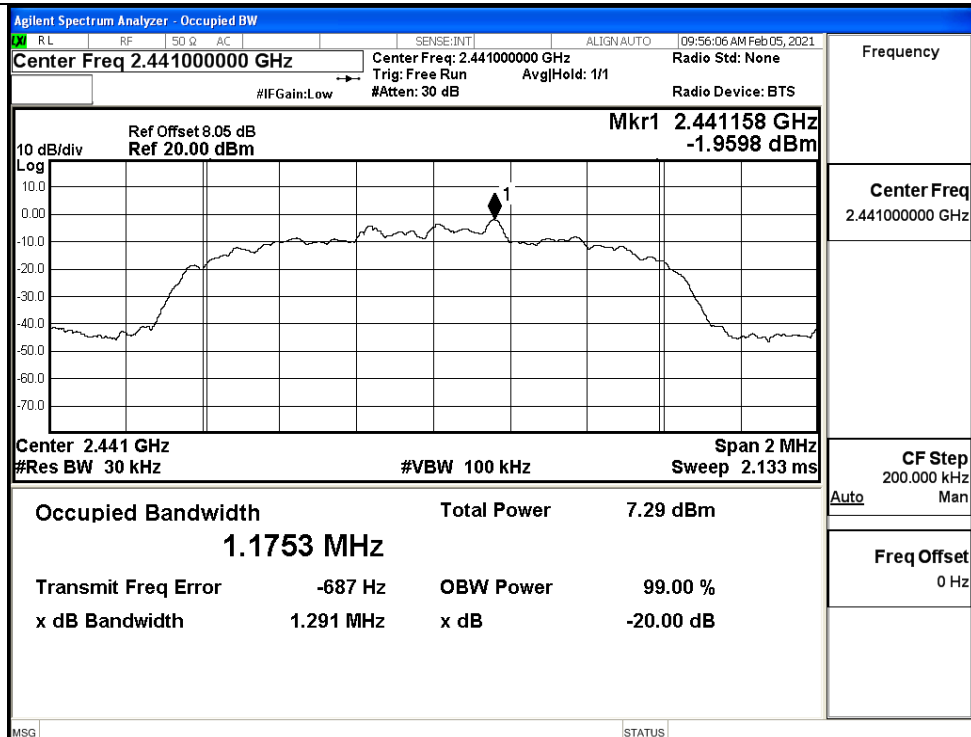
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

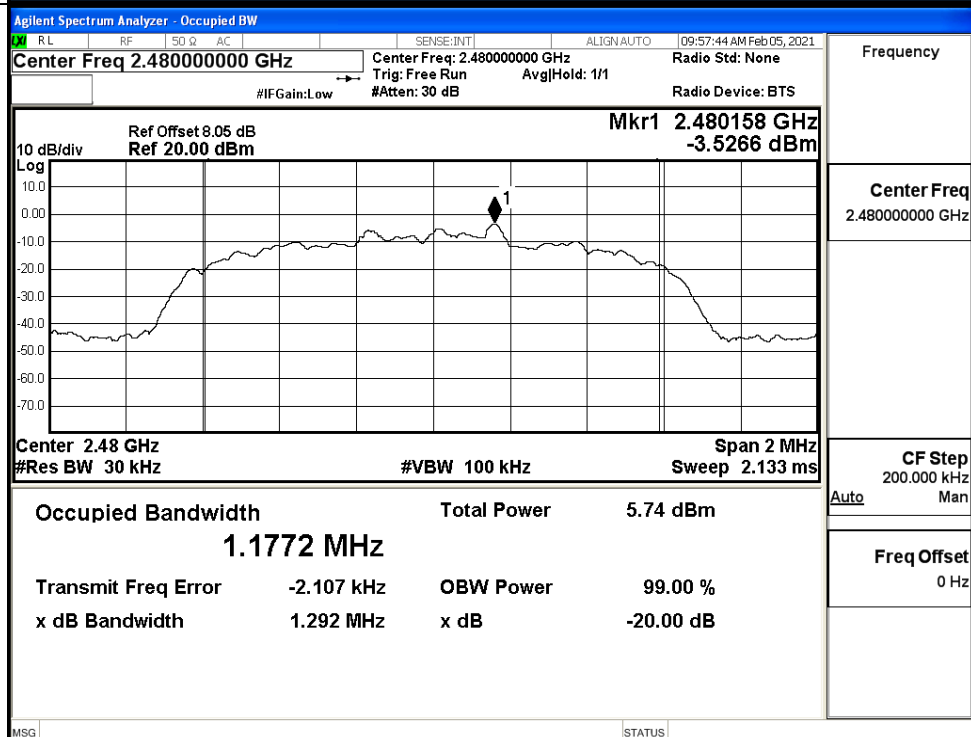
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

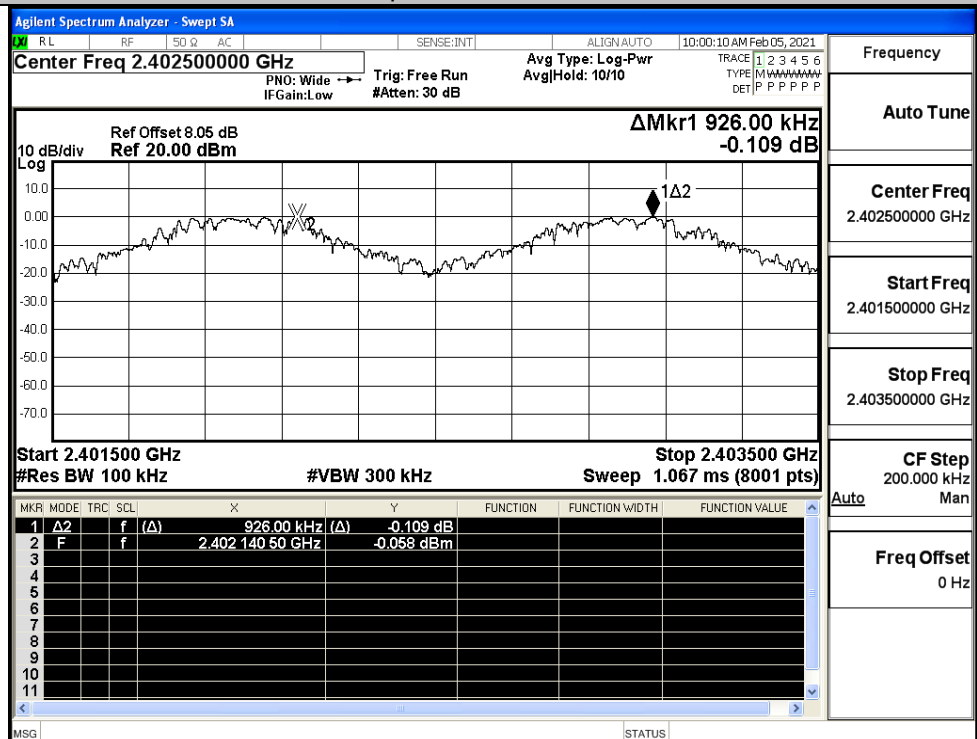


A.3 Carrier Frequency Separation

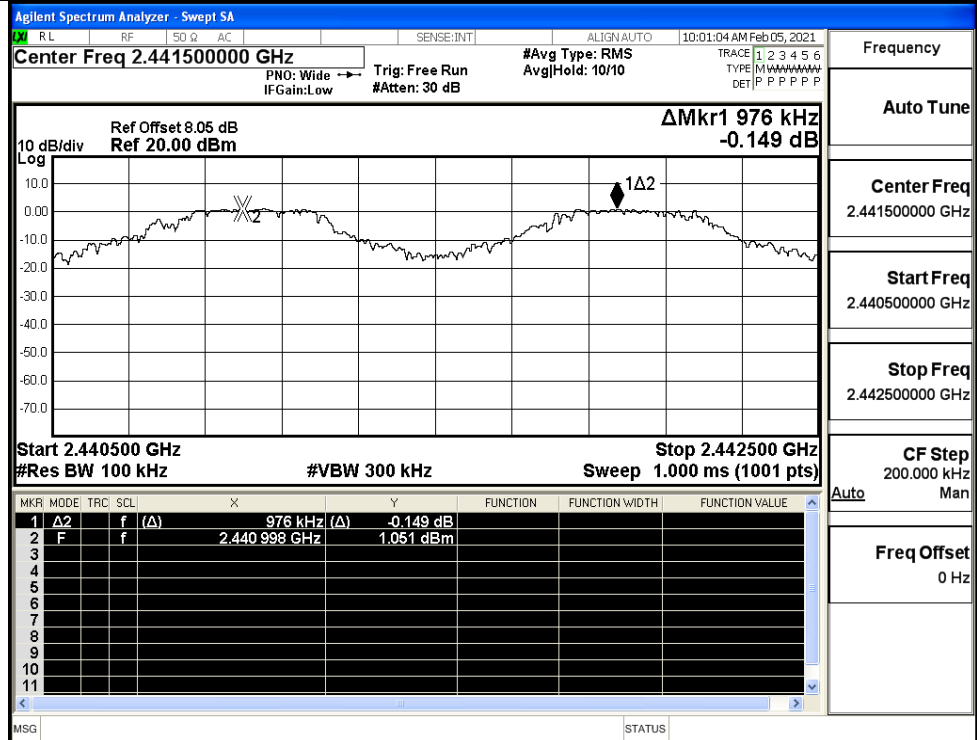
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.926	0.689	PASS
	MCH	0.976	0.689	PASS
	HCH	0.868	0.689	PASS
$\pi/4$ DQPSK	LCH	0.896	0.861	PASS
	MCH	0.988	0.861	PASS
	HCH	1.010	0.861	PASS
8DPSK	LCH	1.336	0.861	PASS
	MCH	0.932	0.861	PASS
	HCH	0.958	0.861	PASS

Test Graphs

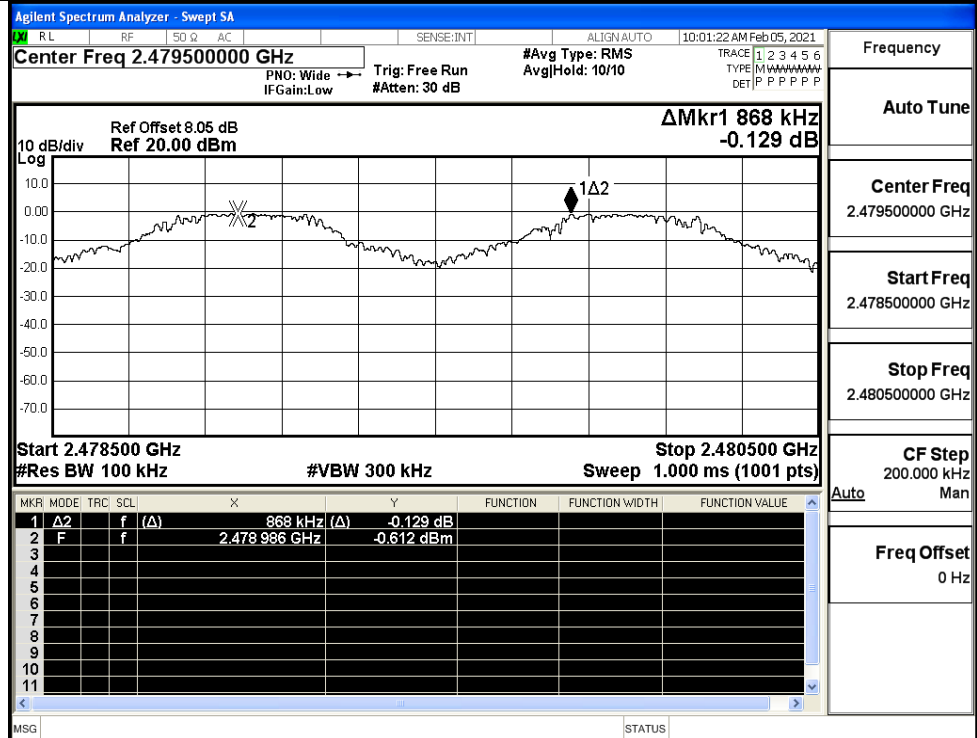
GFSK/LCH

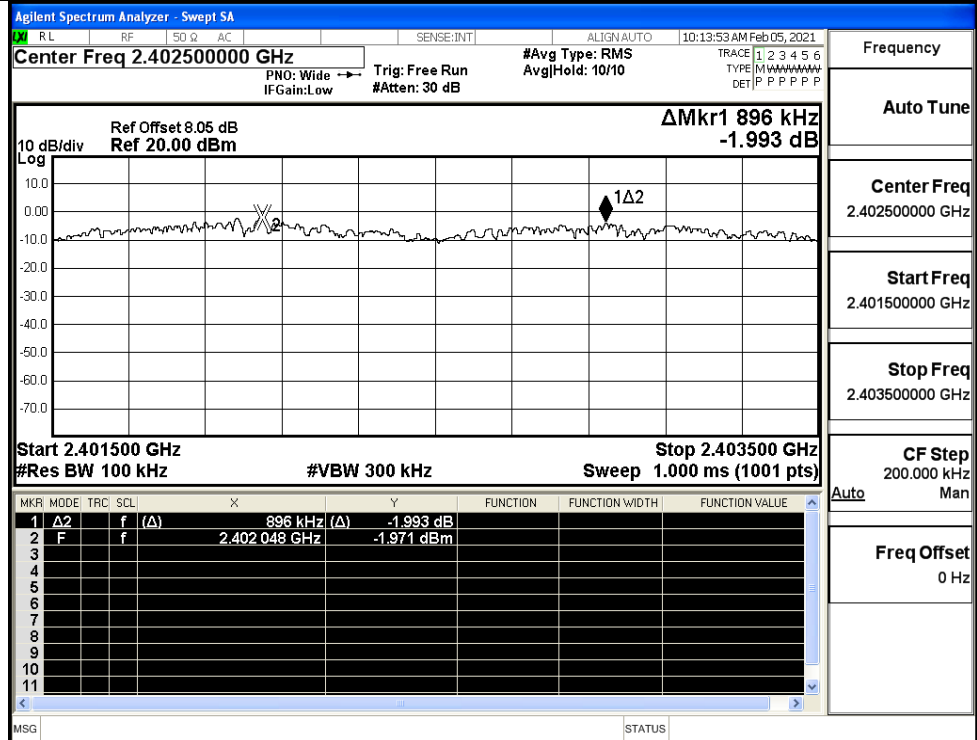


GFSK/MCH



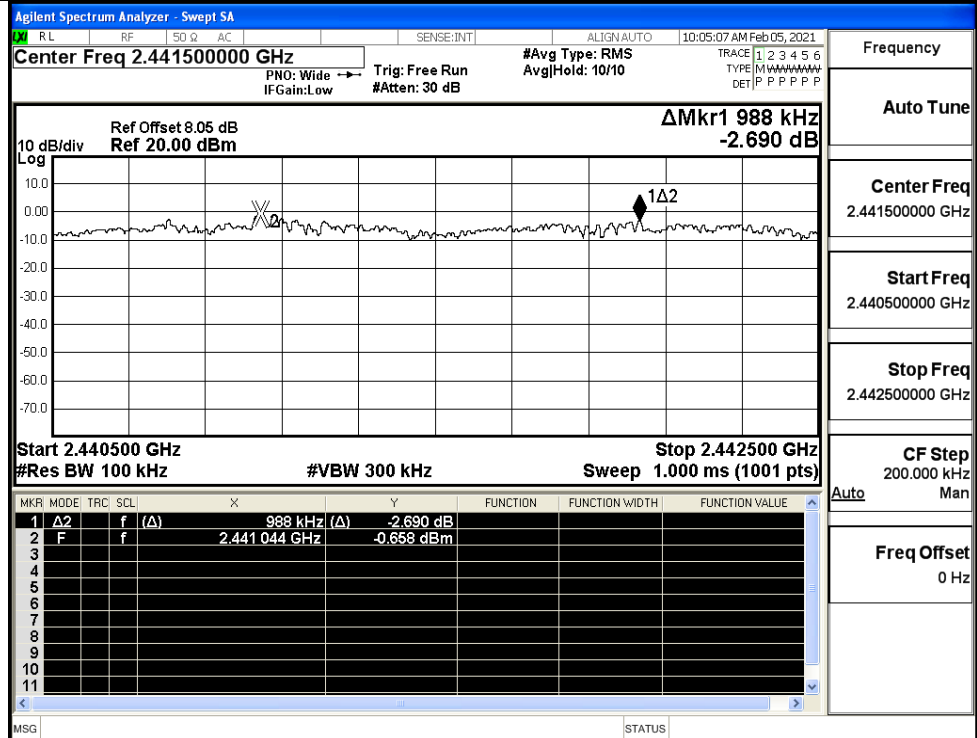
GFSK/HCH



π /4DQPSK/LCH

Frequency

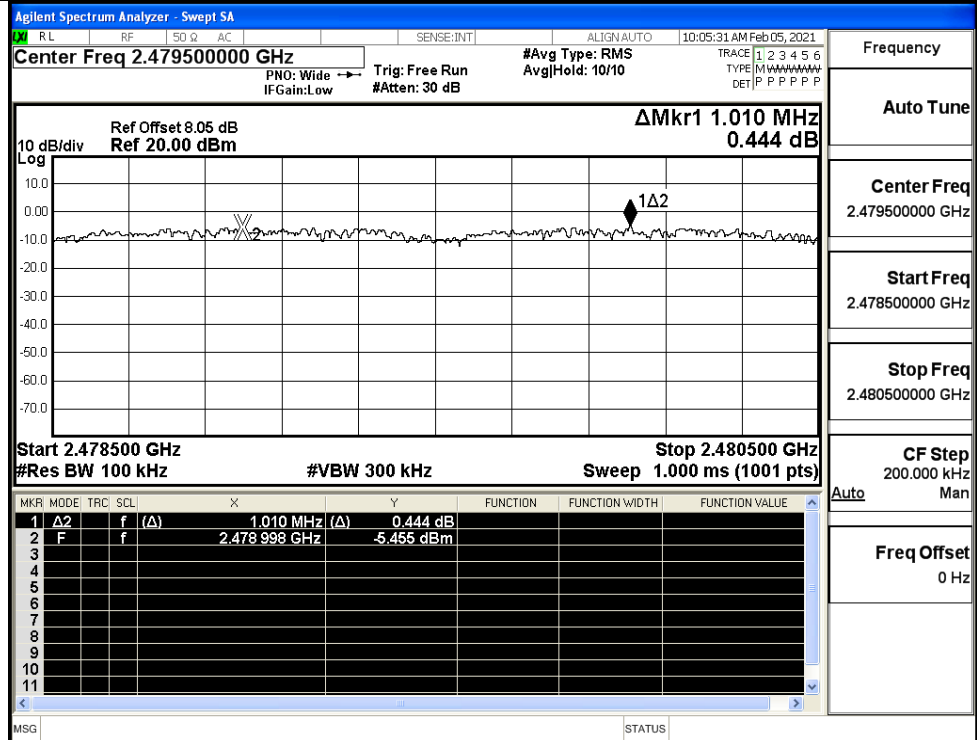
Auto Tune

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

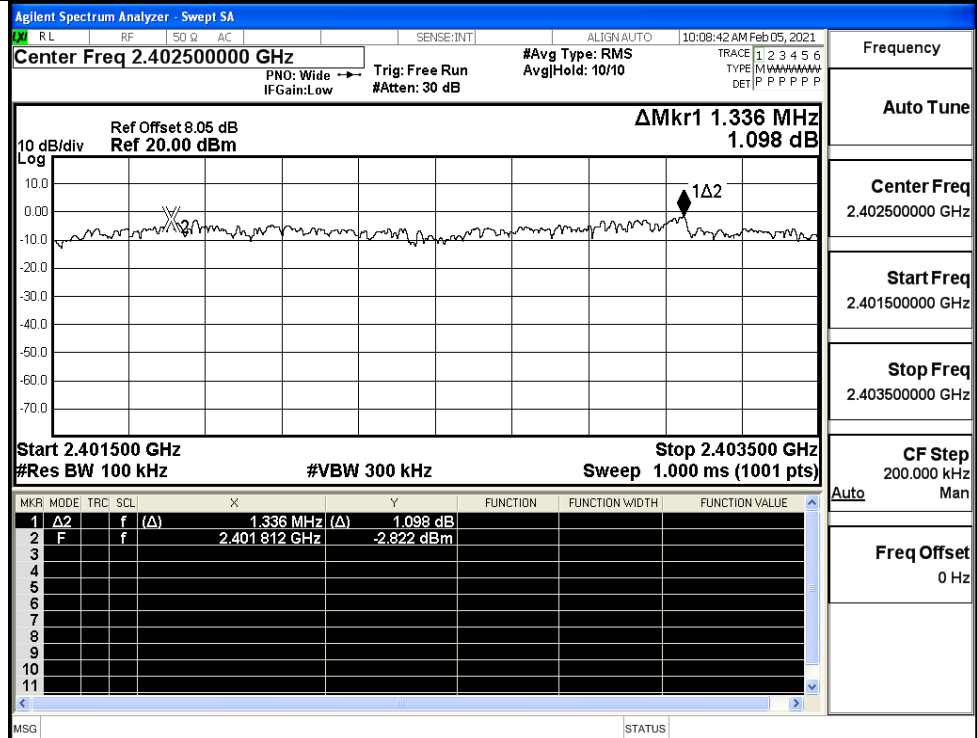
Frequency

Auto Tune

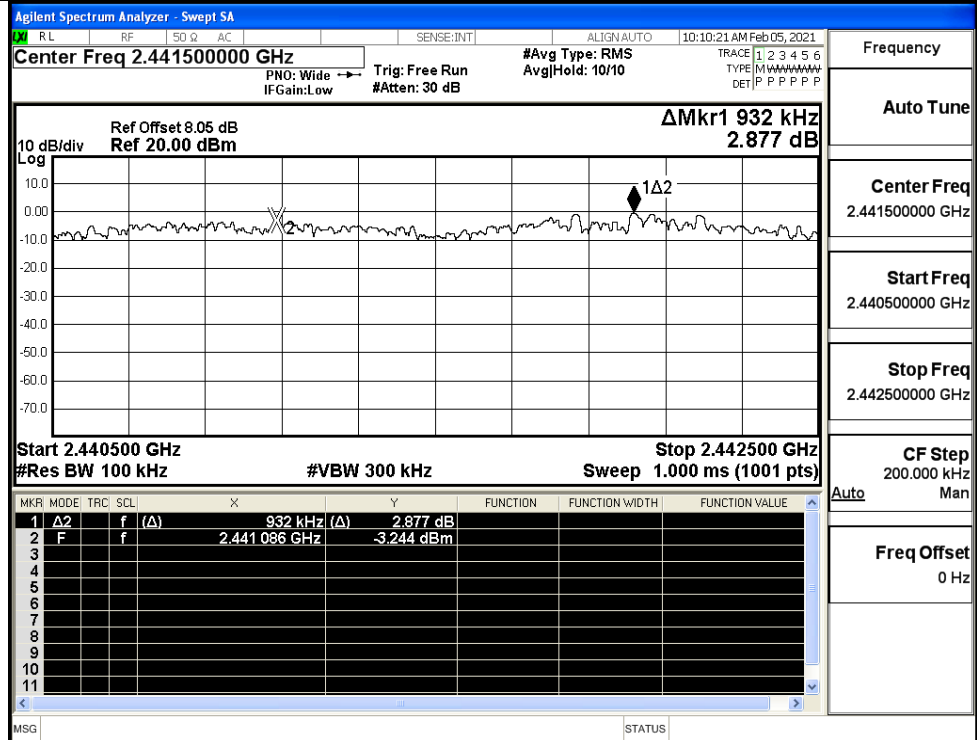
Center Freq
2.441500000 GHzStart Freq
2.440500000 GHzStop Freq
2.442500000 GHzCF Step
200.000 kHz
ManFreq Offset
0 Hz

π /4DQPSK/HCH

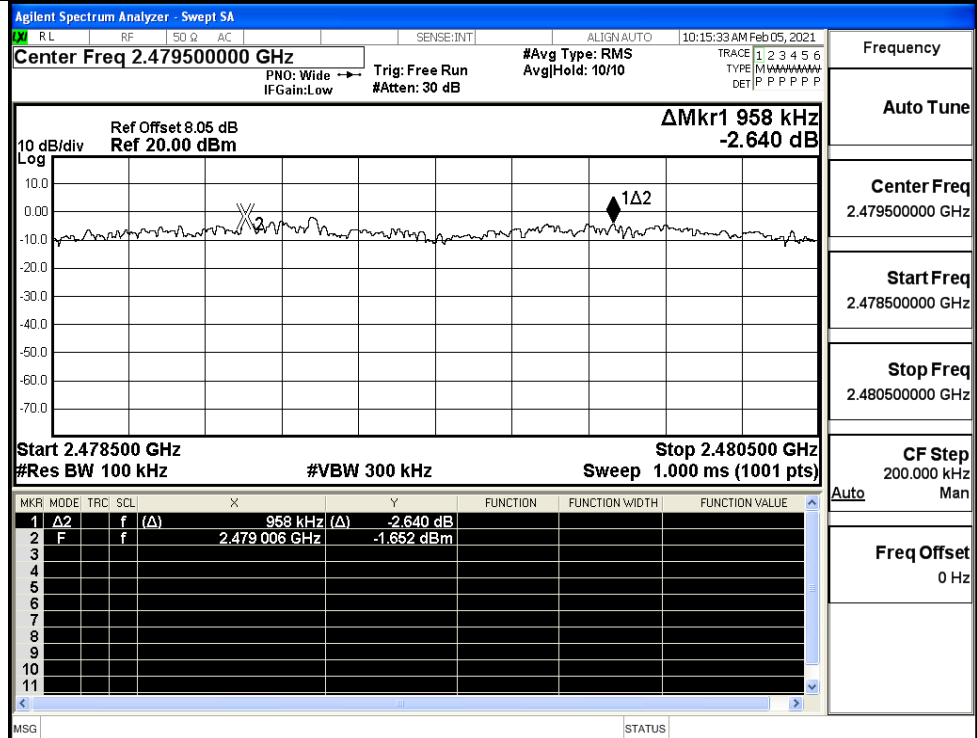
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

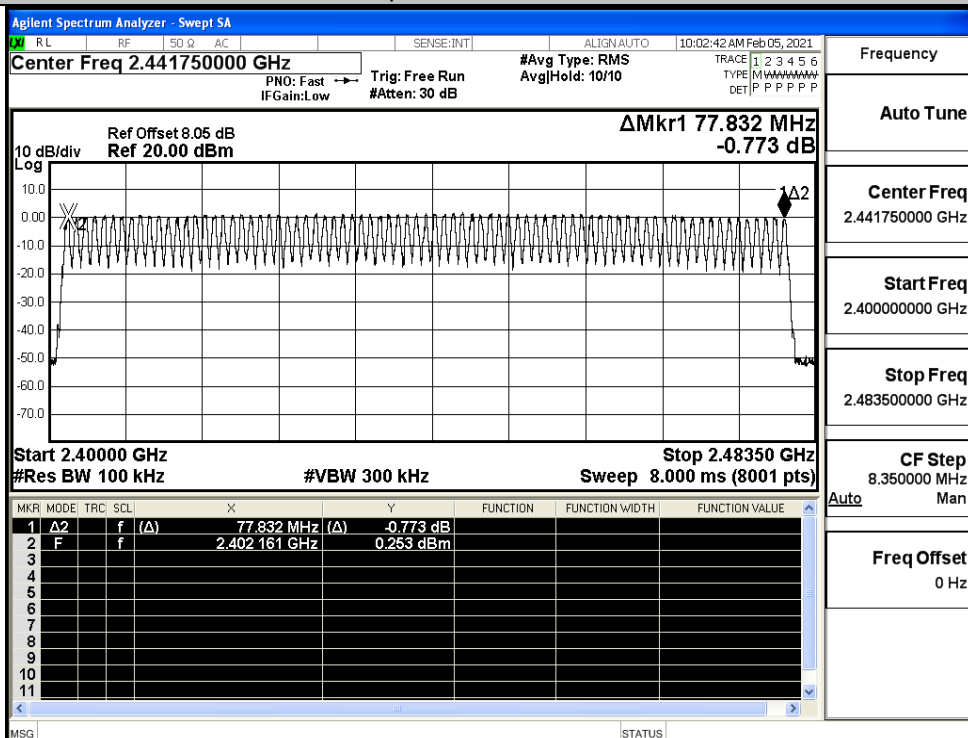


A.4 Hopping Channel Number

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

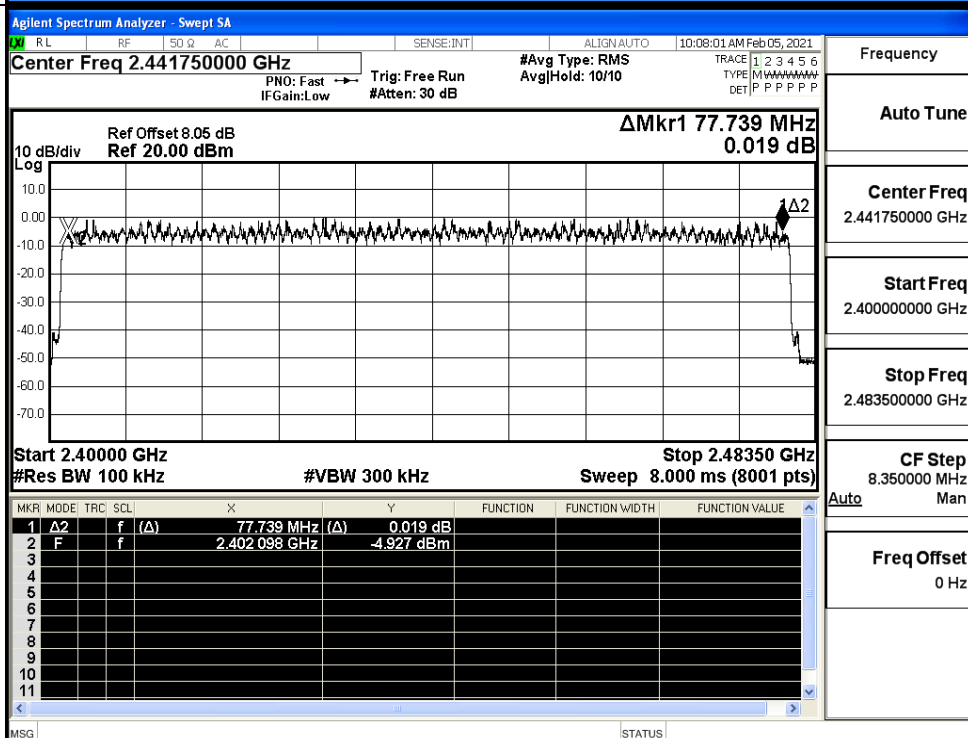
Test Graphs

GFSK/Hop



Frequency

Auto Tune

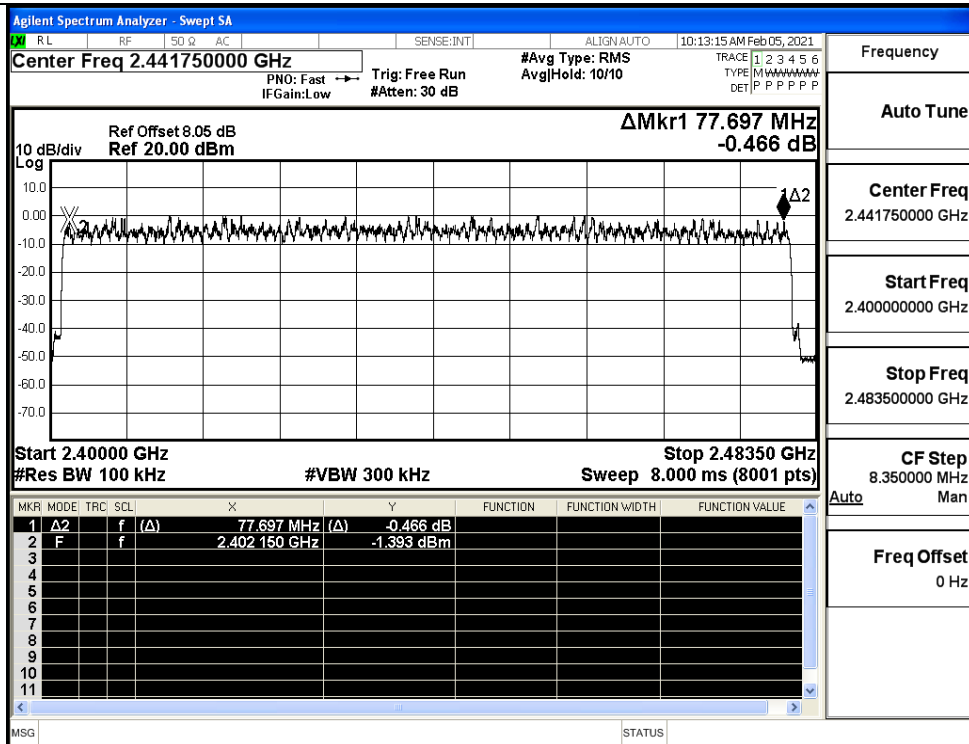
Center Freq
2.441750000 GHzStart Freq
2.400000000 GHzStop Freq
2.483500000 GHzCF Step
8.350000 MHz
ManFreq Offset
0 Hz $\pi/4$ DQPSK/Hop

Frequency

Auto Tune

Center Freq
2.441750000 GHzStart Freq
2.400000000 GHzStop Freq
2.483500000 GHzCF Step
8.350000 MHz
ManFreq Offset
0 Hz

8DPSK/Hop

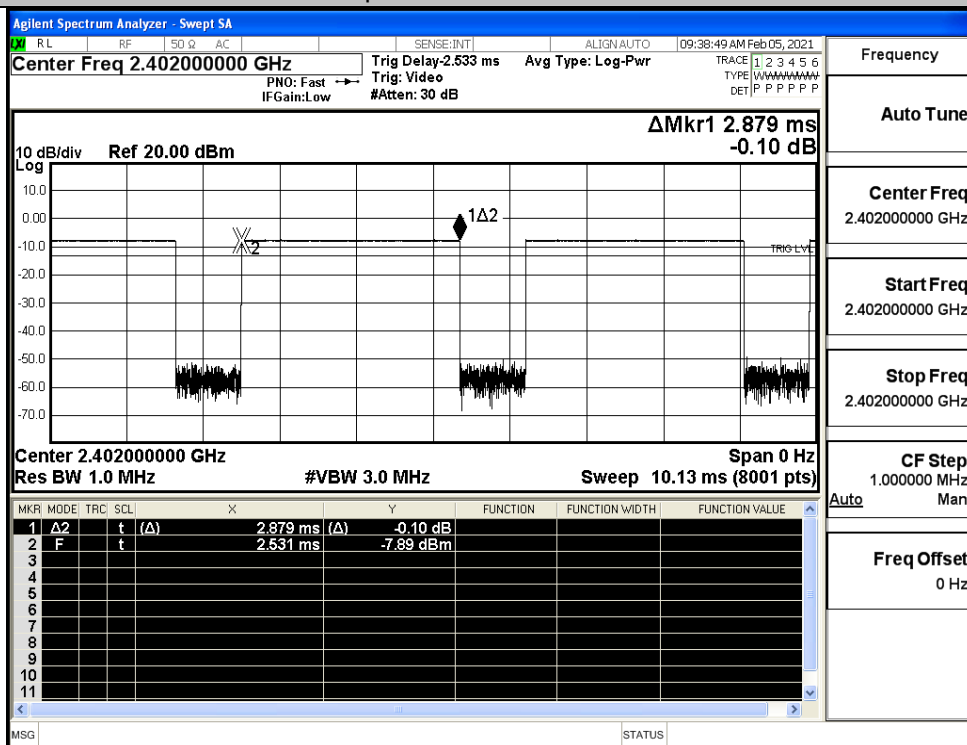


A.5 Dwell Time

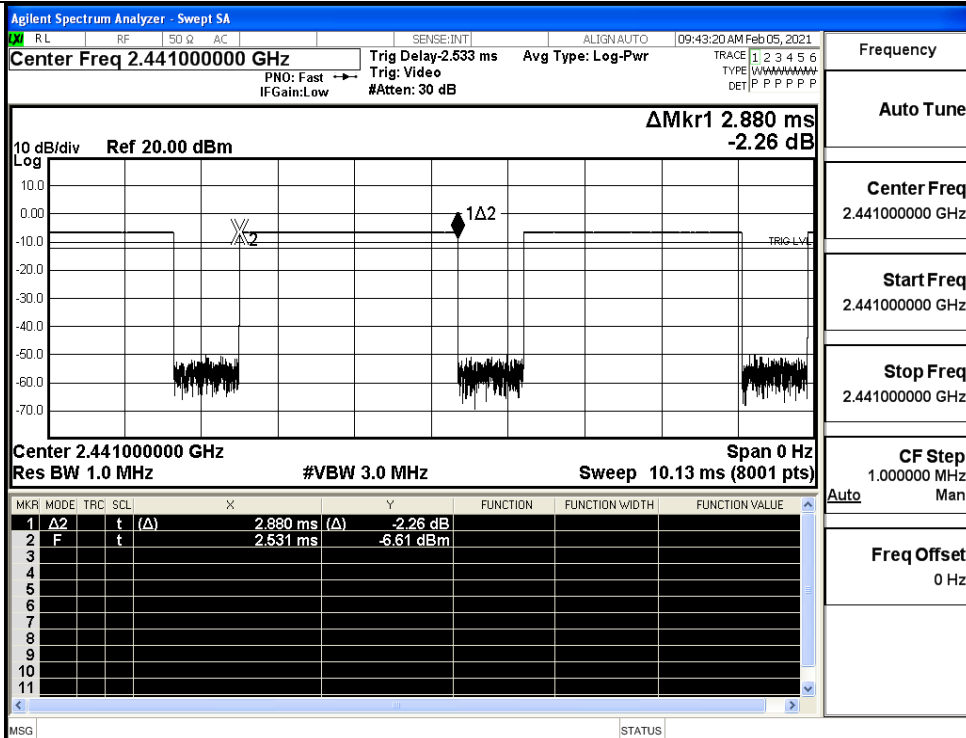
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88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

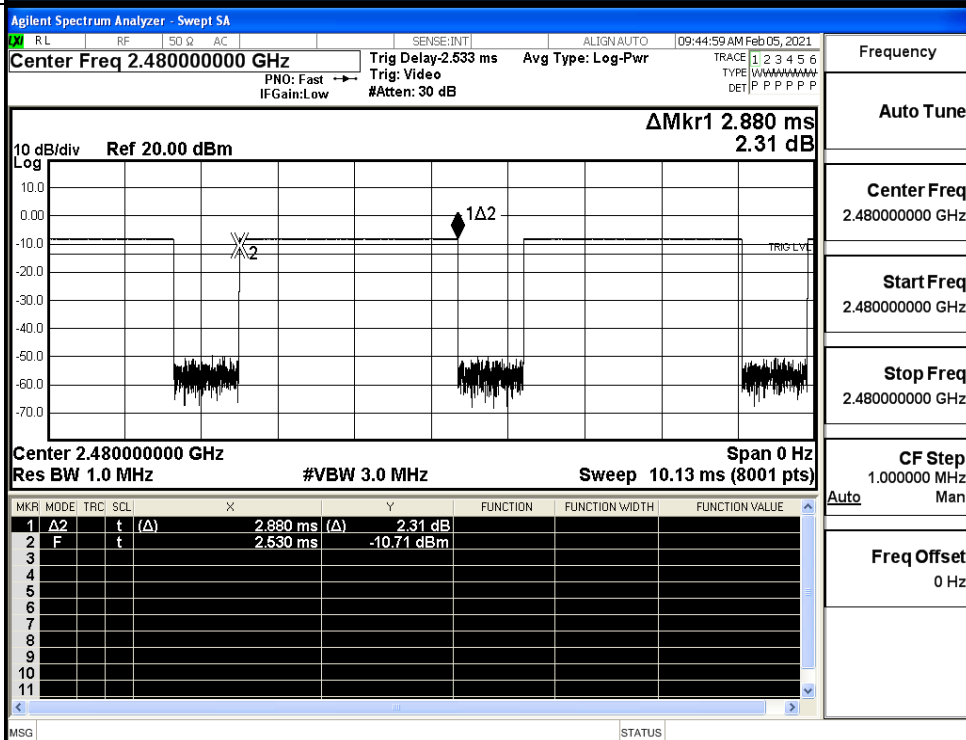
GFSK_DH5/LCH



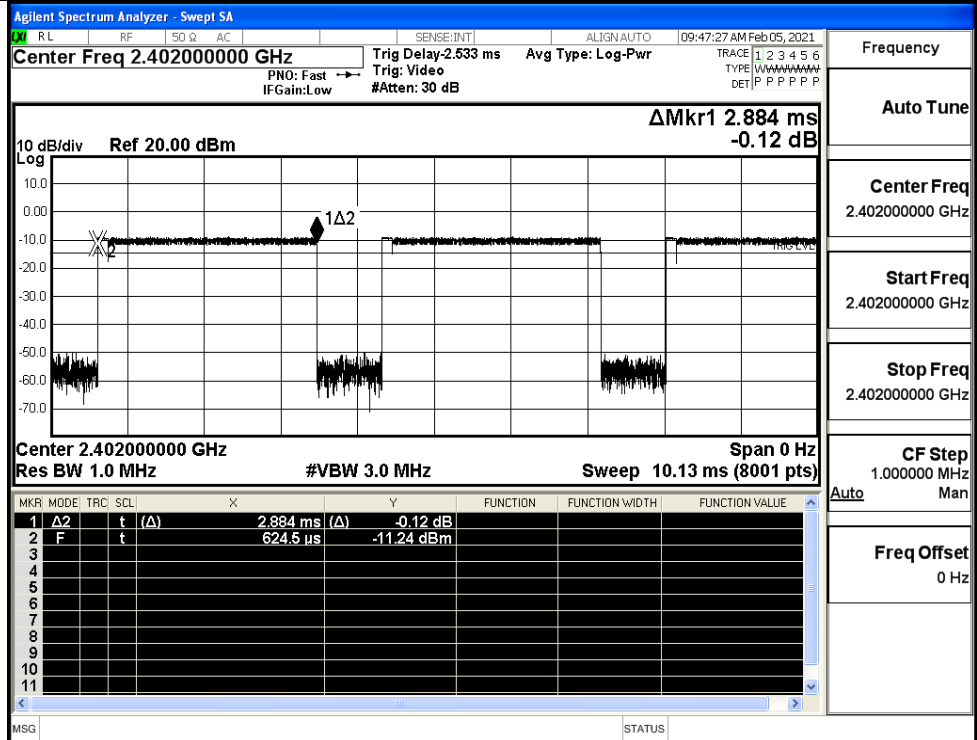
GFSK_DH5/MCH



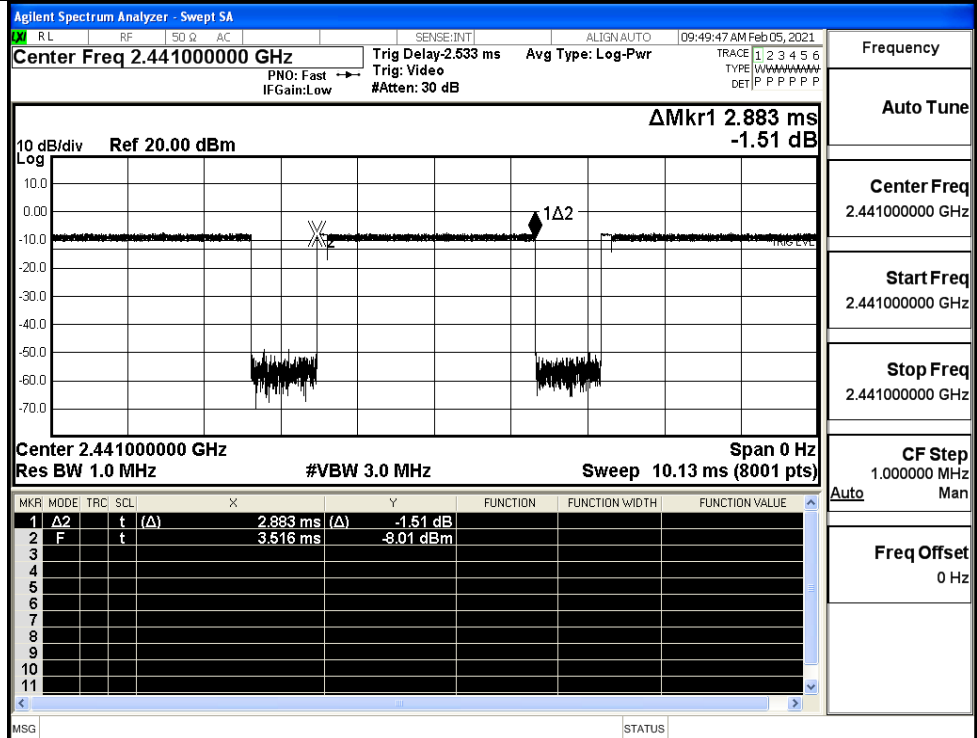
GFSK_DH5/HCH



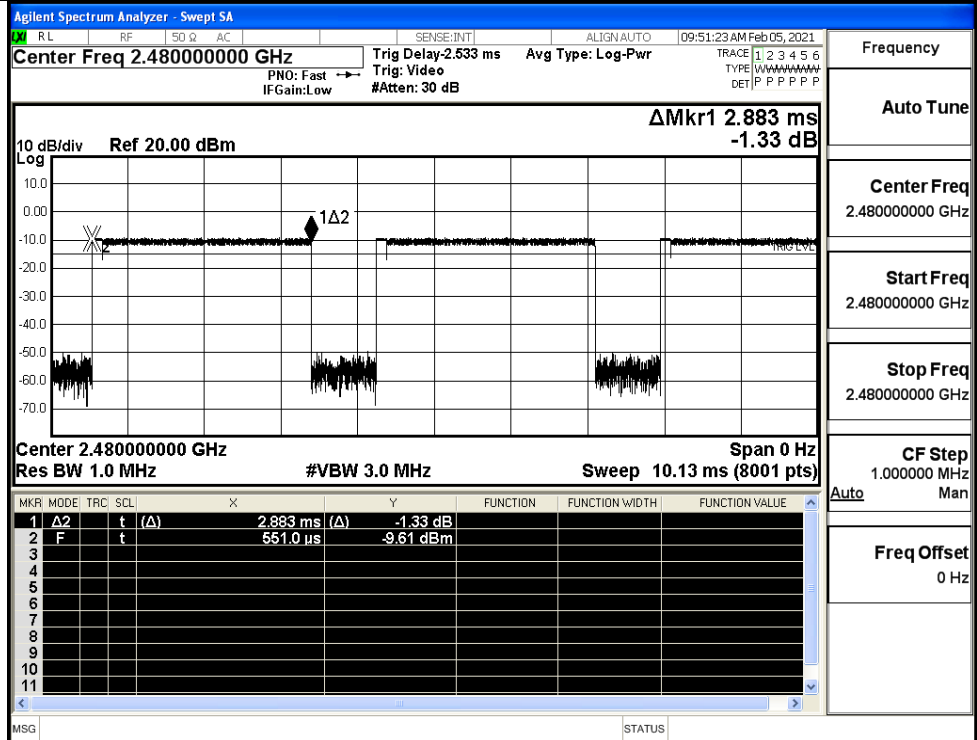
$\pi/4$ DQPSK
_2DH5/LCH



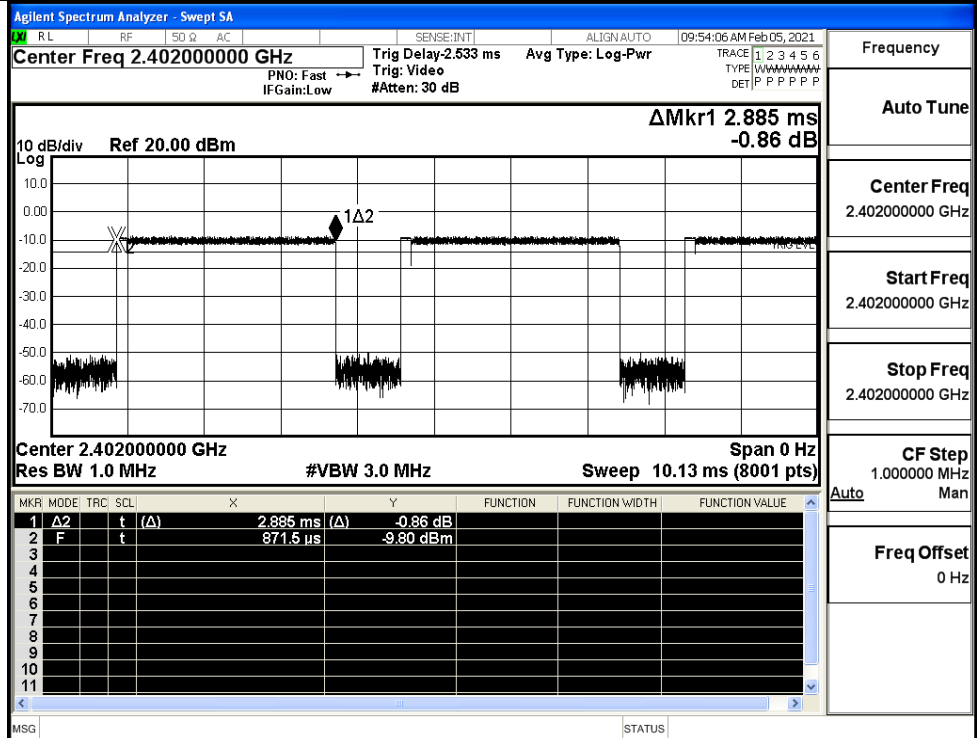
$\pi/4$ DQPSK
_2DH5/MCH



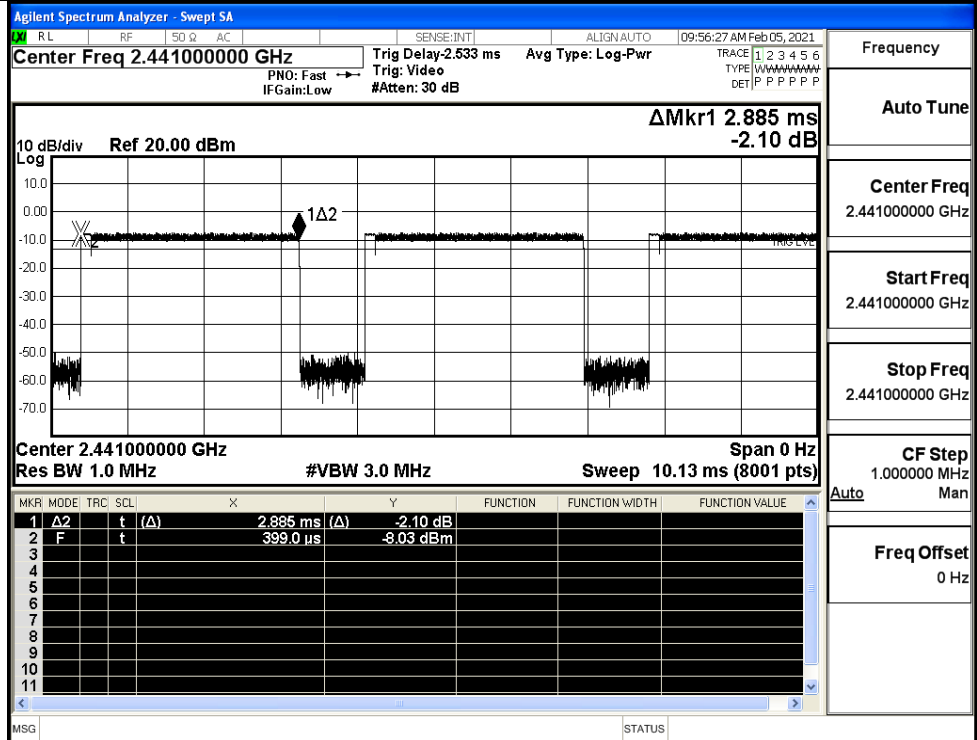
$\pi/4$ DQPSK
_2DH5/HCH



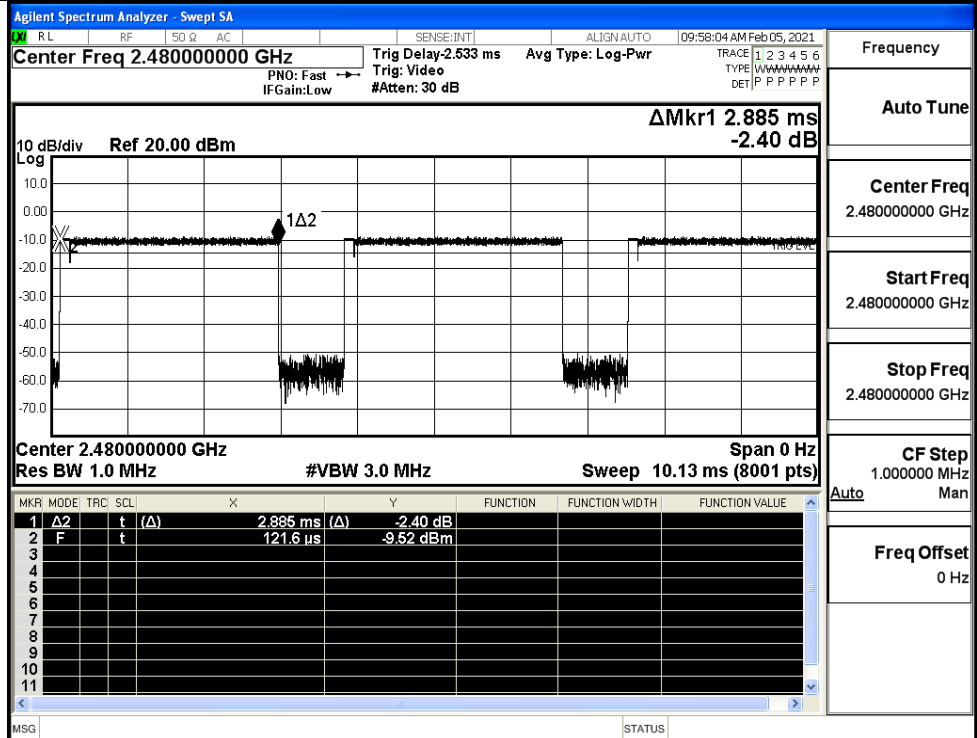
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



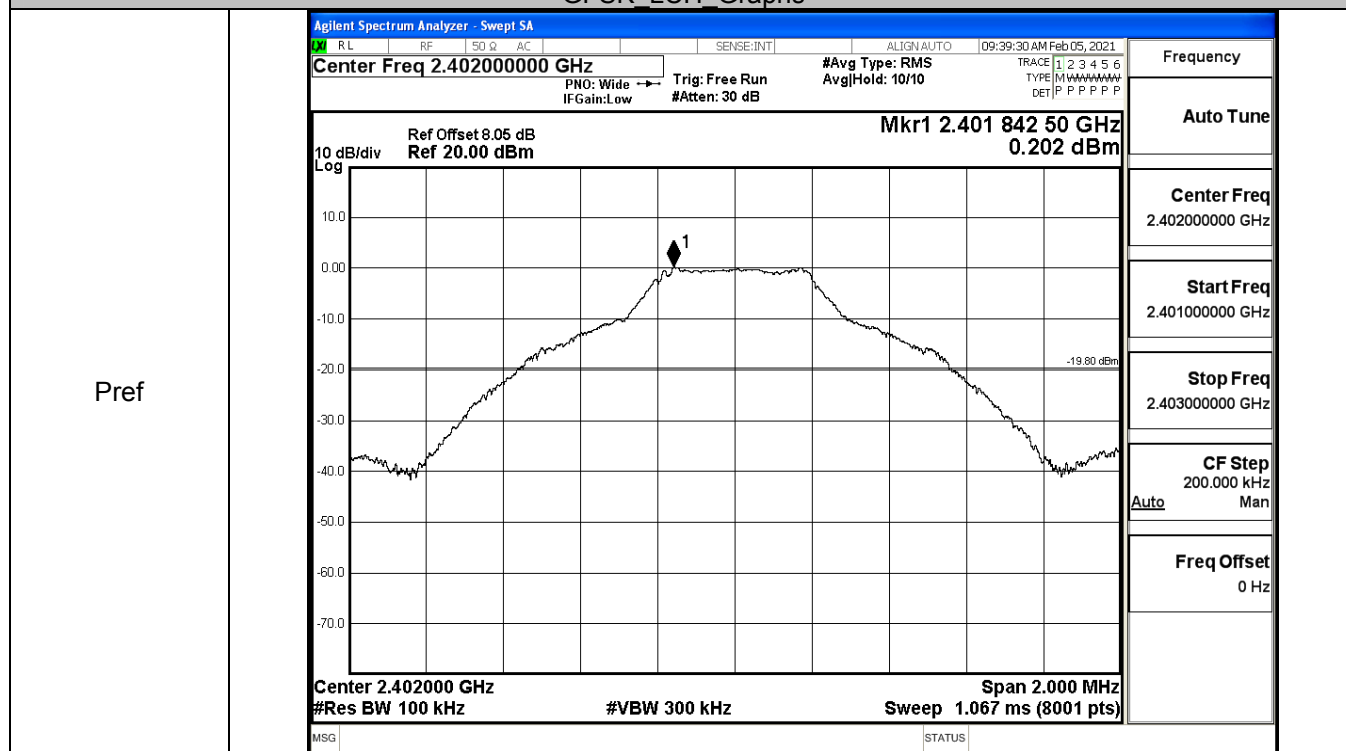
8DPSK_3DH5/HCH

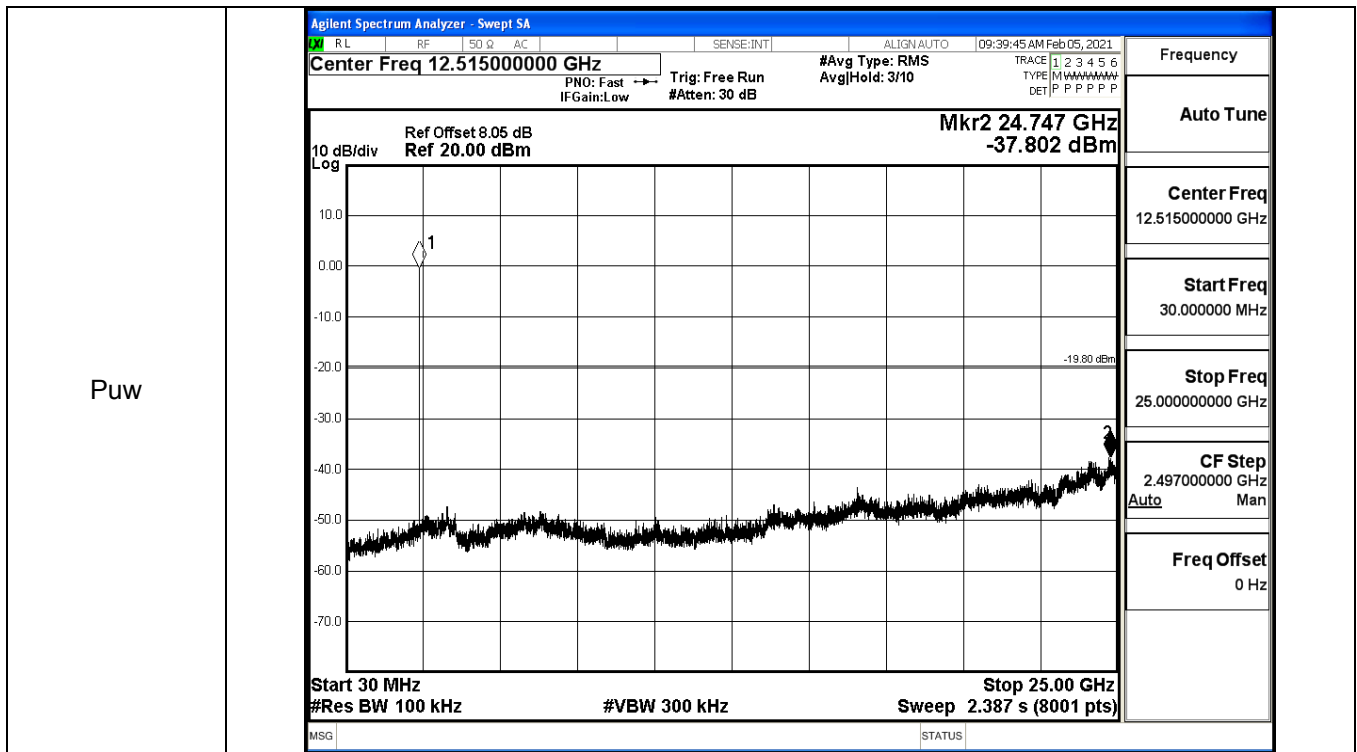


A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.202	-37.802	-19.798	PASS
	MCH	1.522	-37.526	-18.478	PASS
	HCH	-0.478	-37.517	-20.478	PASS
$\pi/4$ DQPSK	LCH	-1.33	-37.411	-21.330	PASS
	MCH	0.052	-36.779	-19.948	PASS
	HCH	-1.723	-37.571	-21.723	PASS
8DPSK	LCH	-1.164	-38.353	-21.164	PASS
	MCH	0.056	-37.212	-19.944	PASS
	HCH	-1.45	-38.084	-21.450	PASS

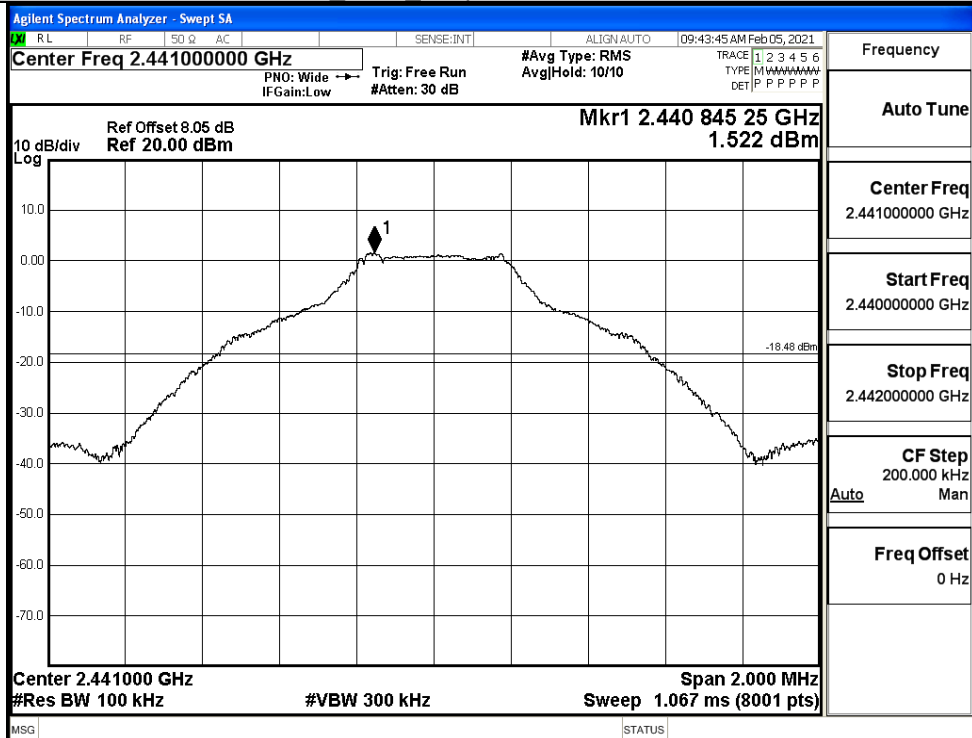
GFSK LCH Graphs



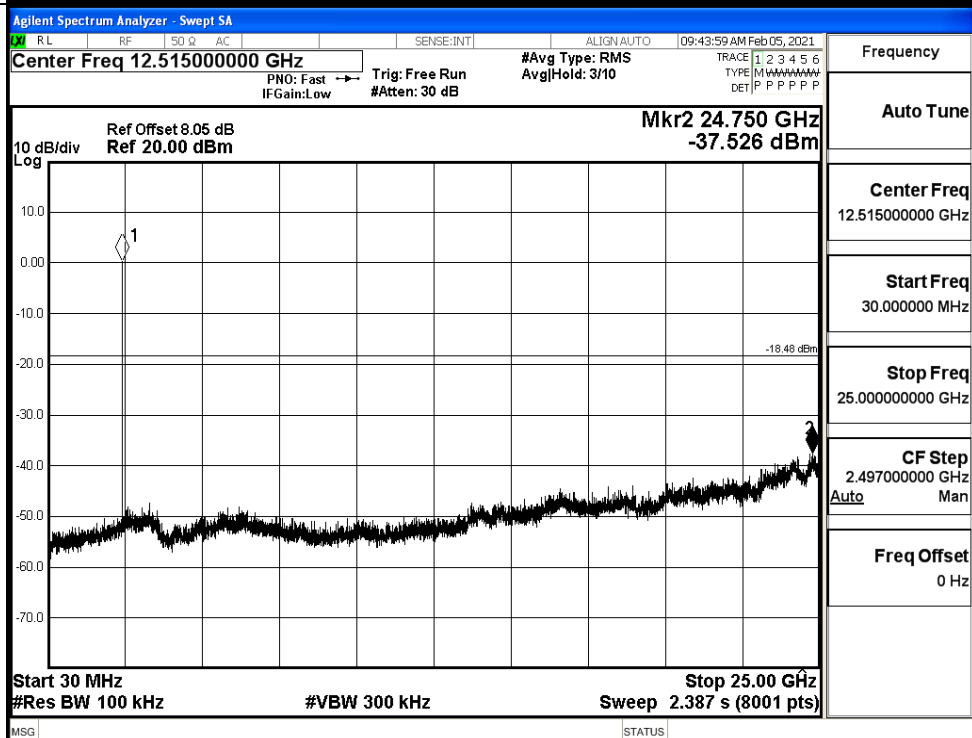


GFSK_MCH_Graphs

Pref

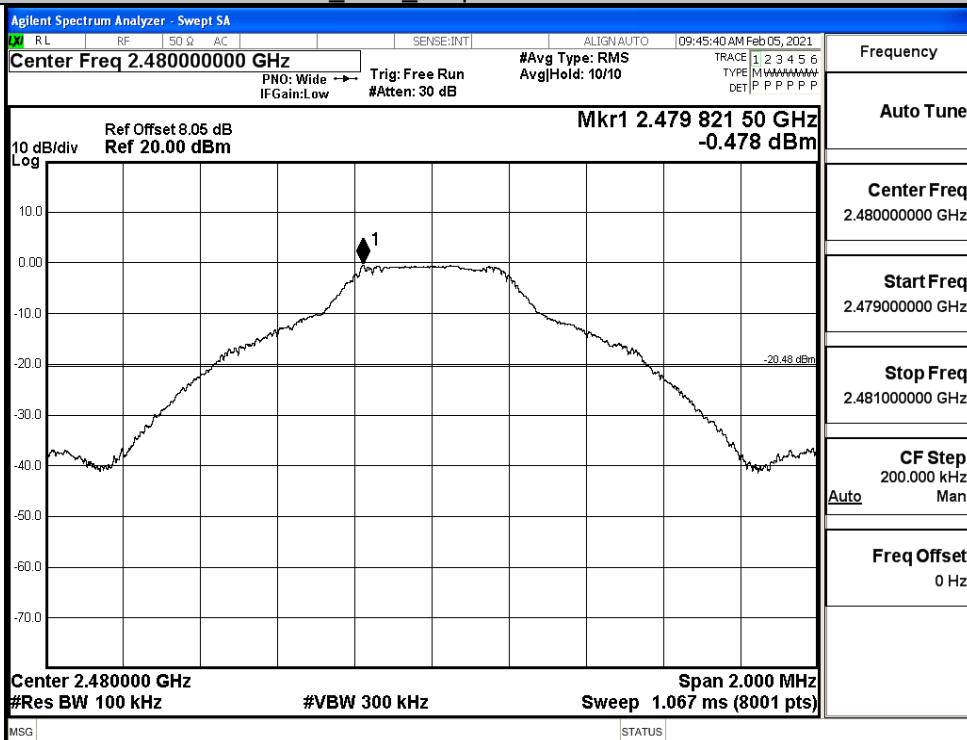


Puw

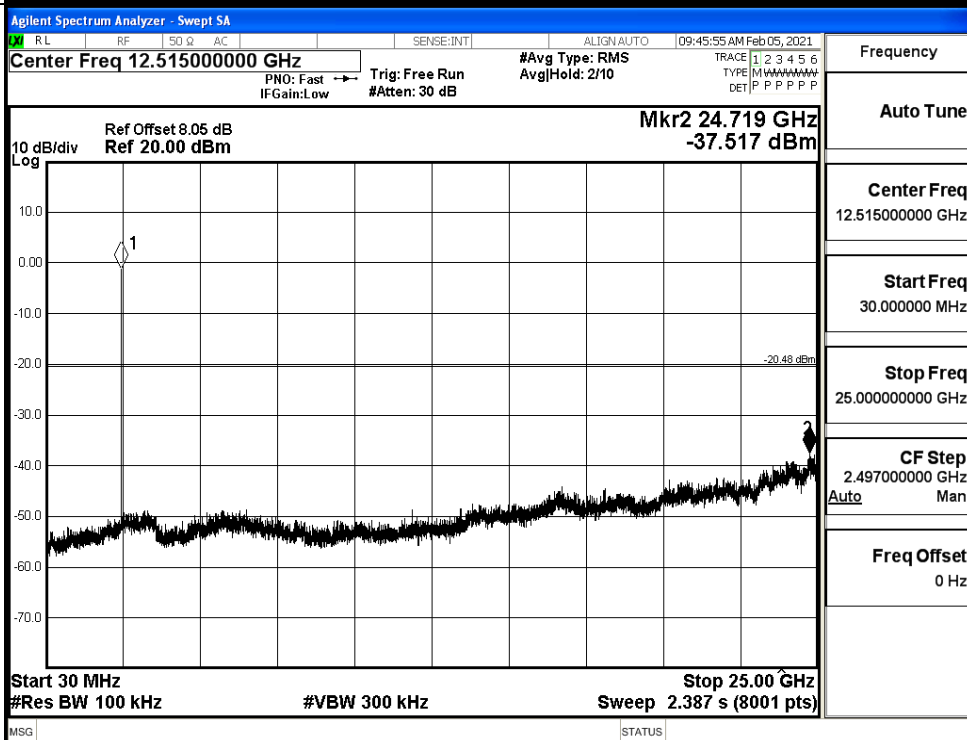


GFSK_HCH_Graphs

Pref

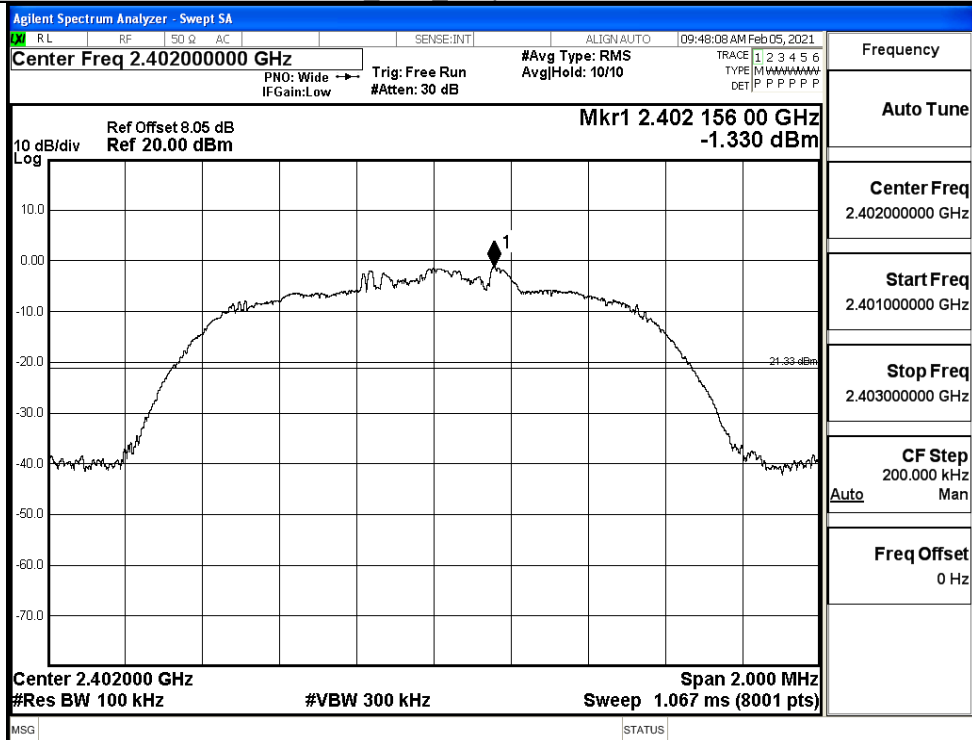


Puw

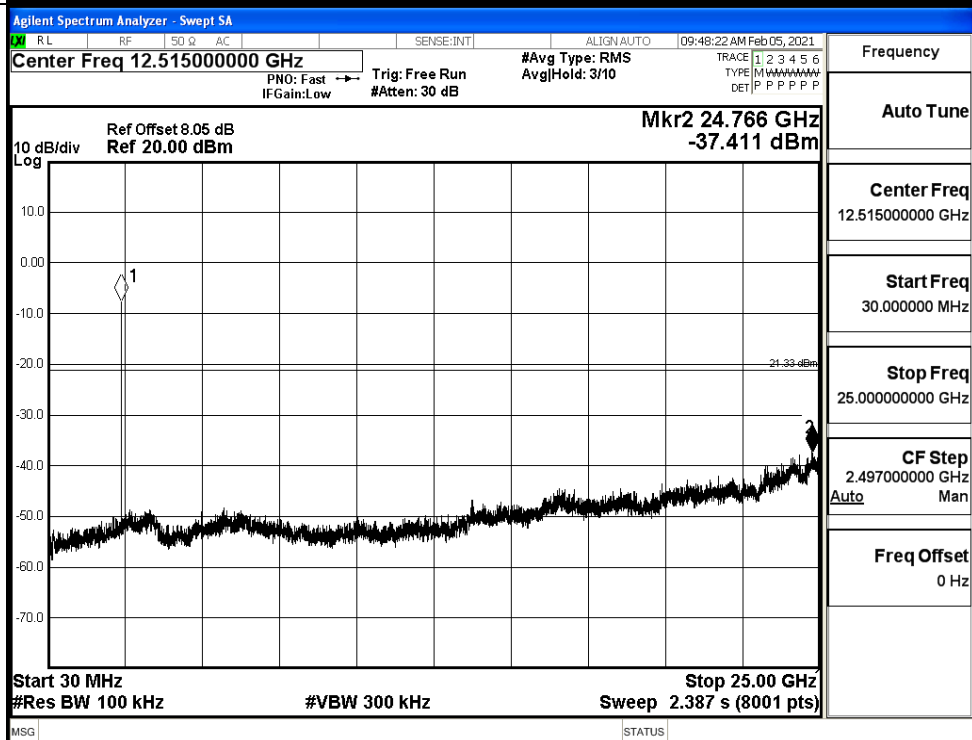


$\pi/4$ DQPSK_LCH_Graphs

Pref

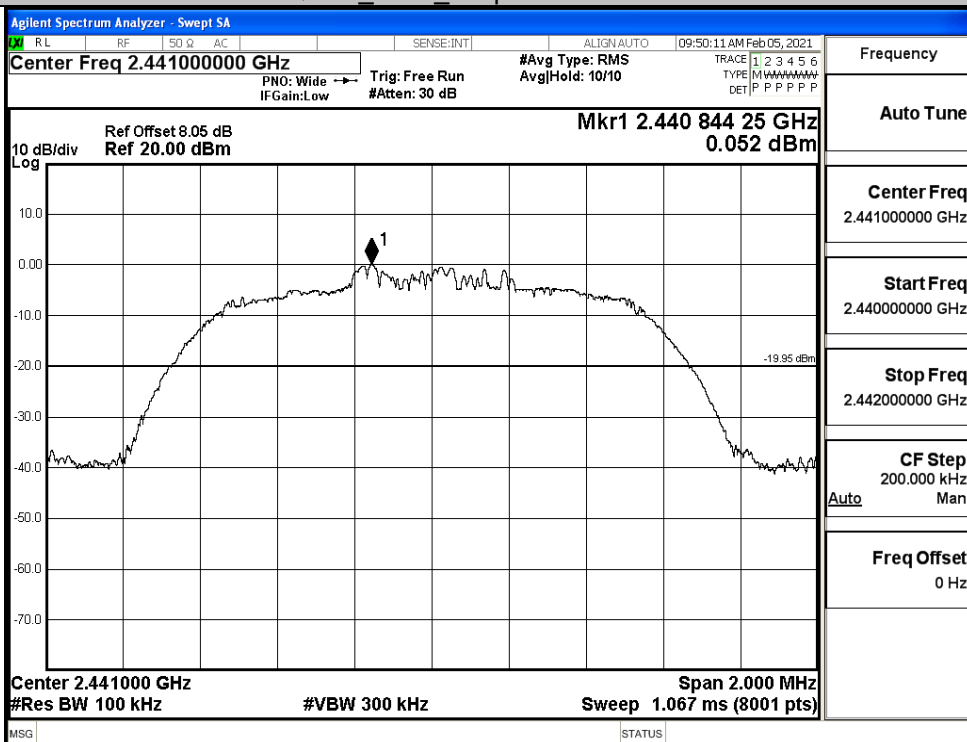


Puw

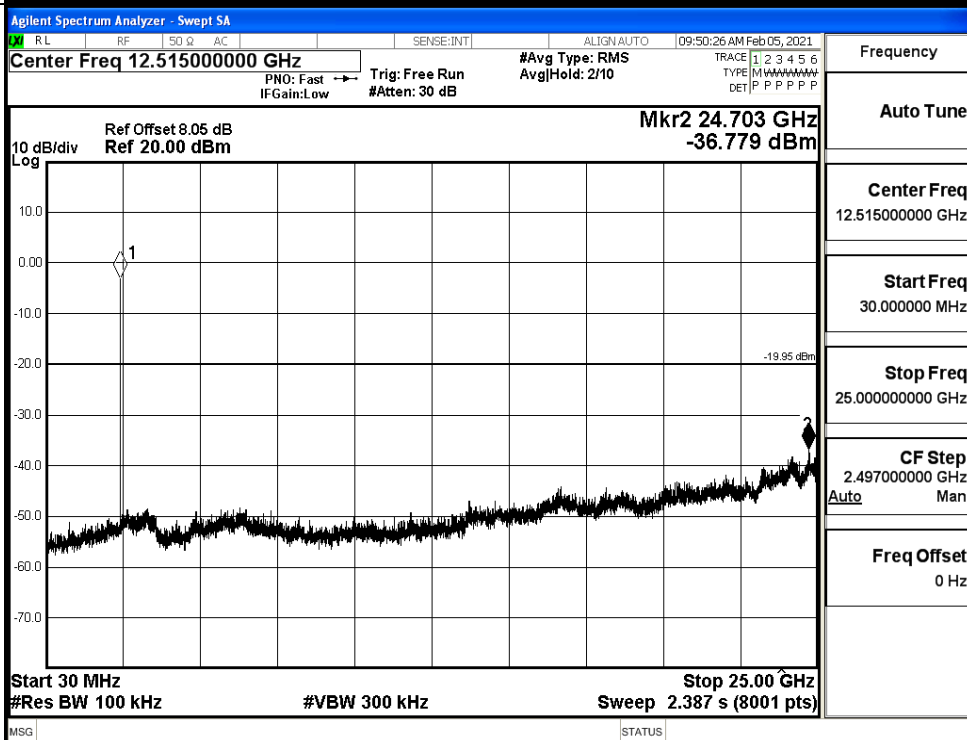


π /4DQPSK_MCH_Graphs

Pref

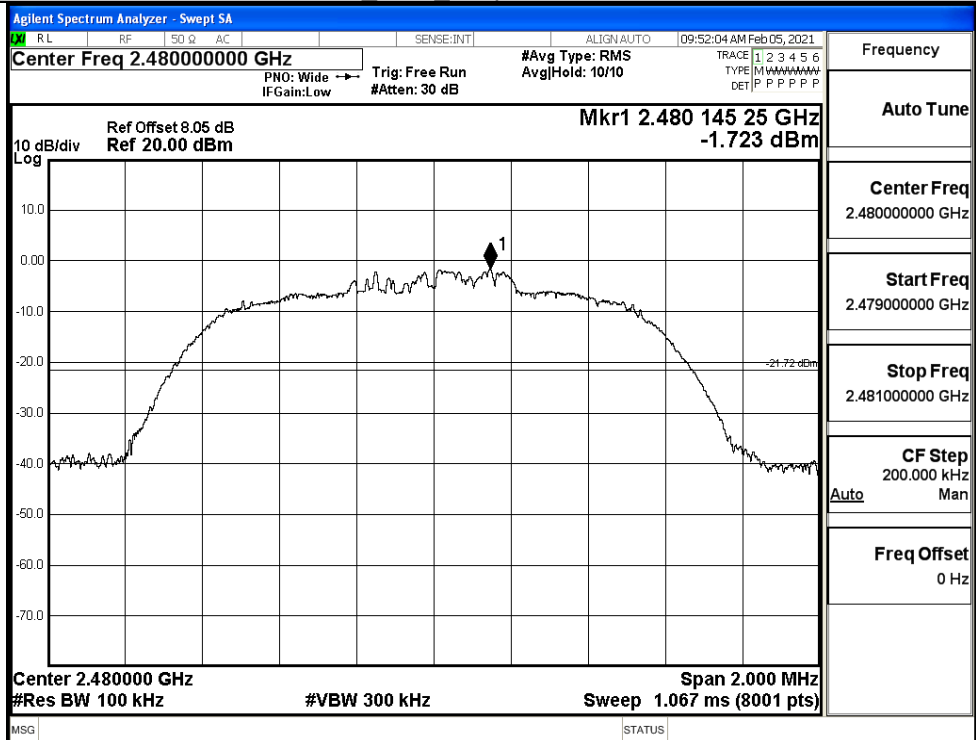


Puw

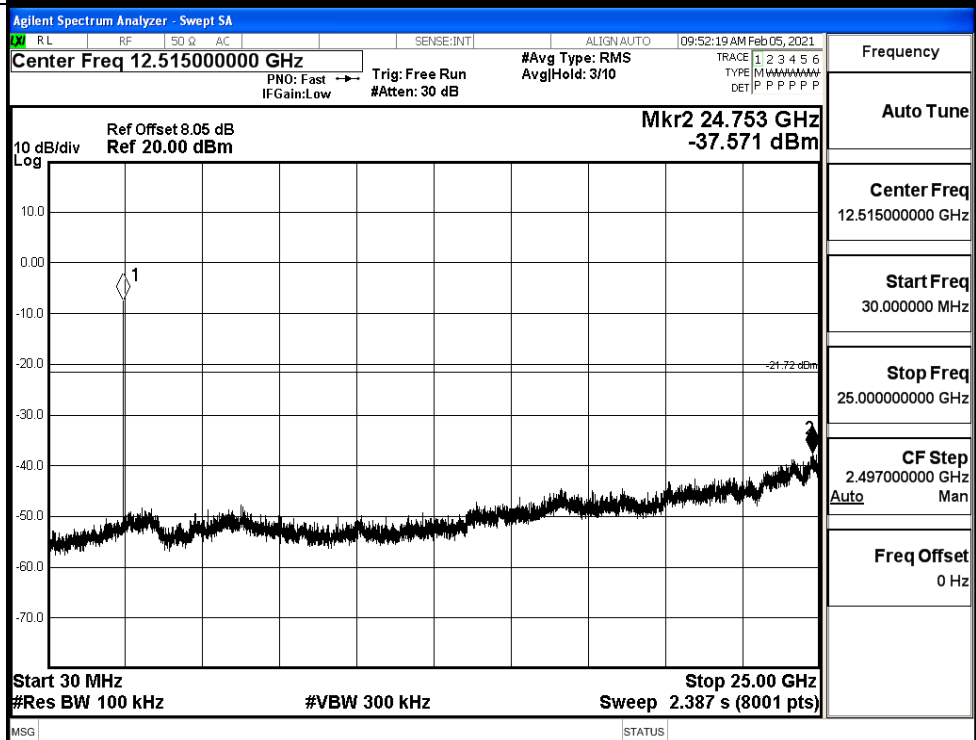


$\pi/4$ DQPSK_HCH_Graphs

Pref

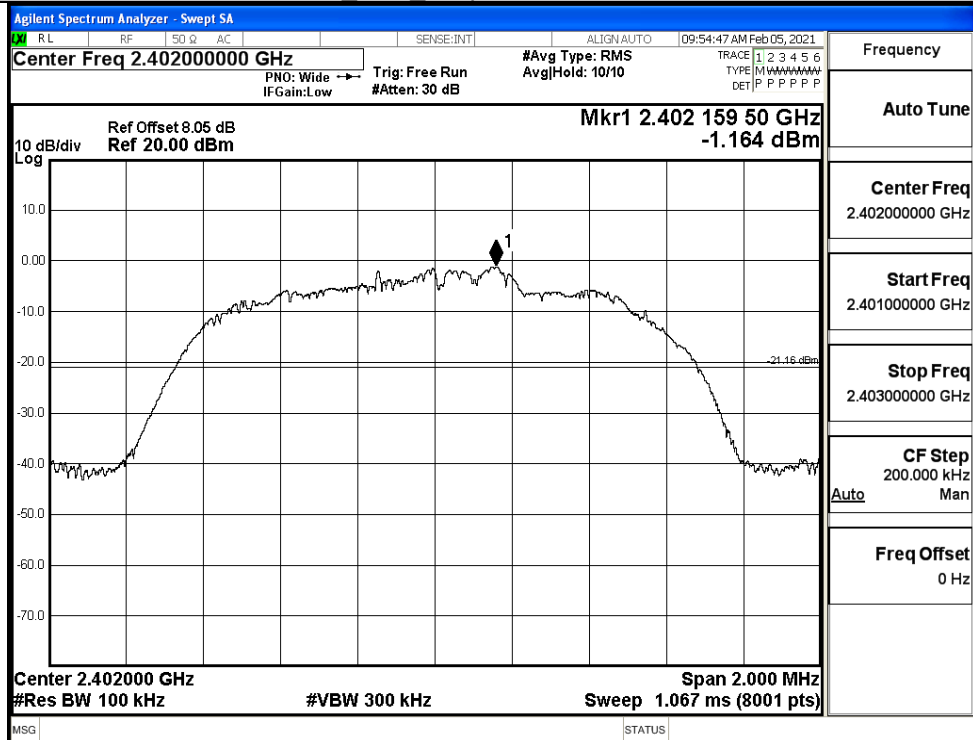


Puw

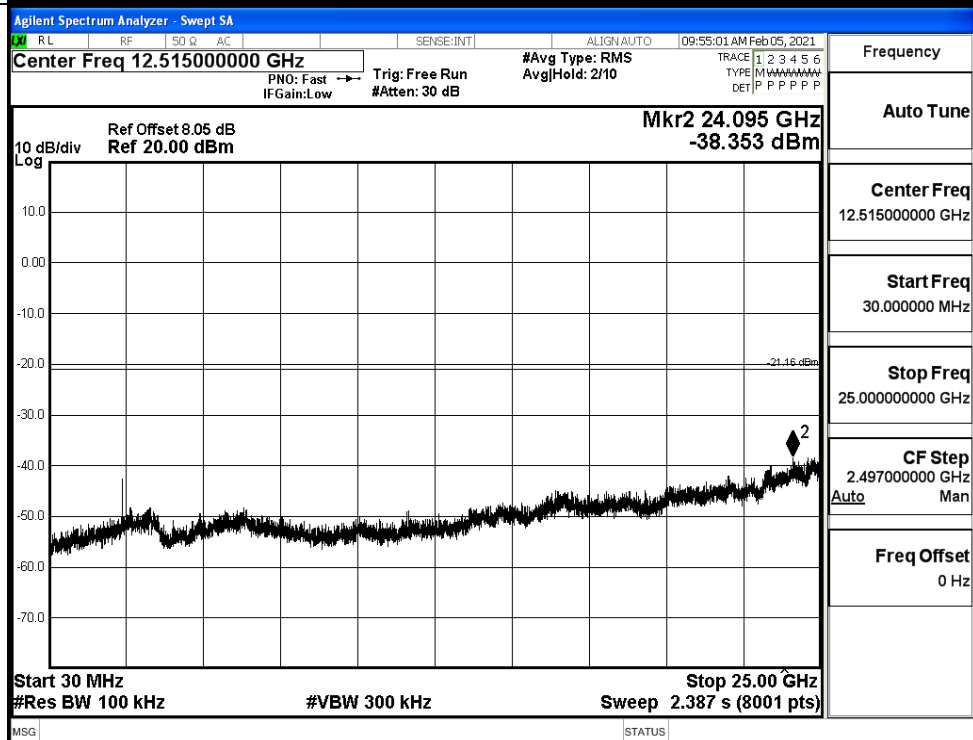


8DPSK_LCH_Graphs

Pref

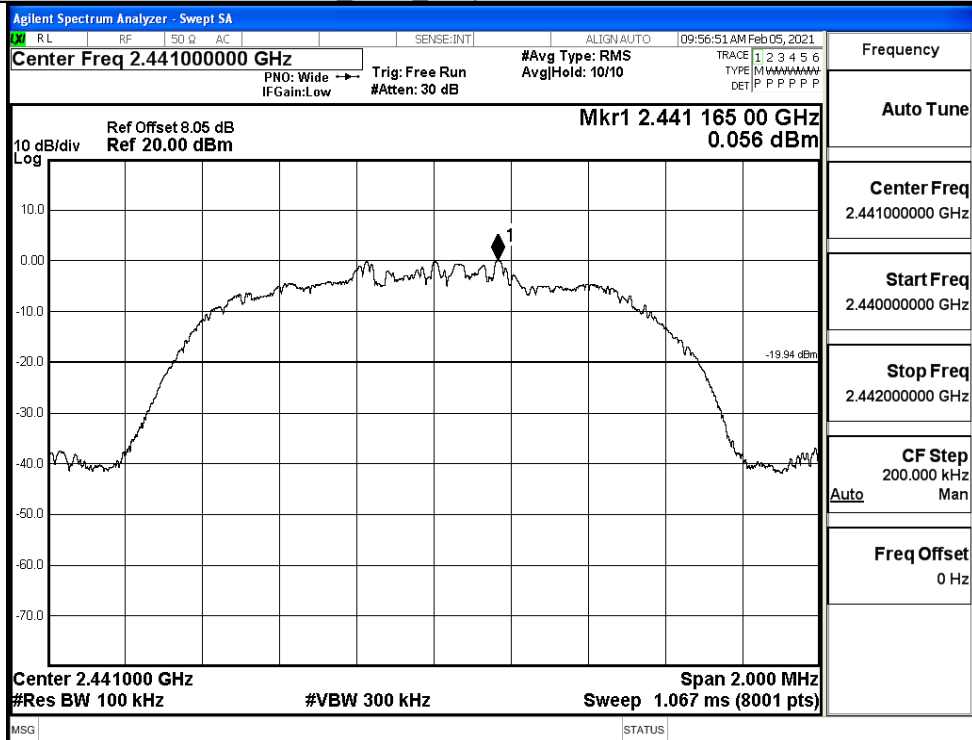


Puw

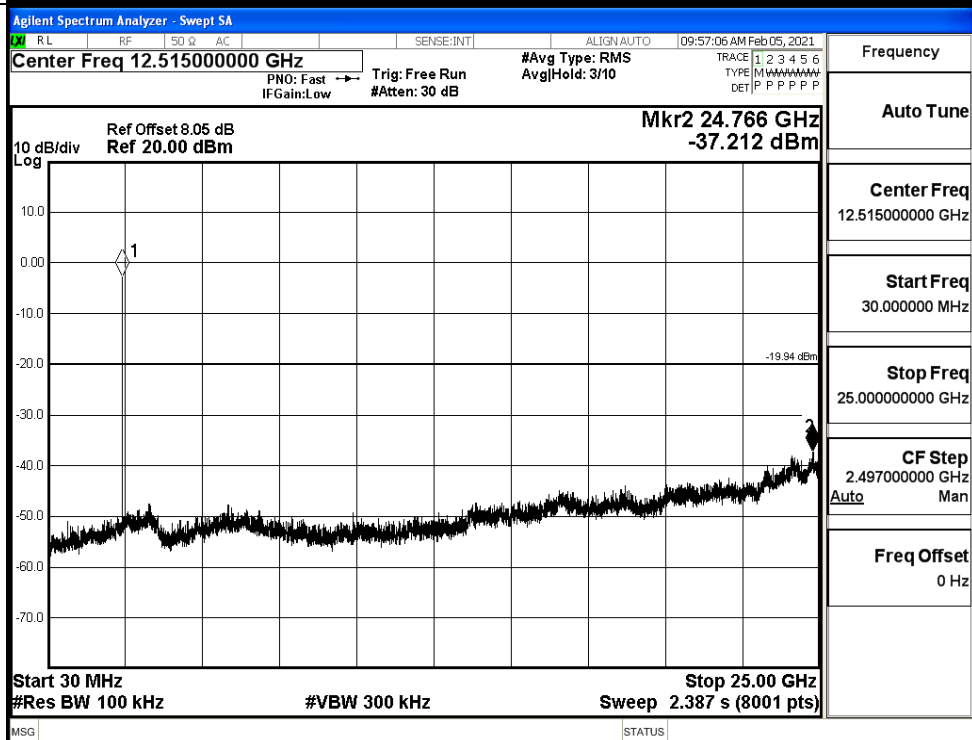


8DPSK_MCH_Graphs

Pref

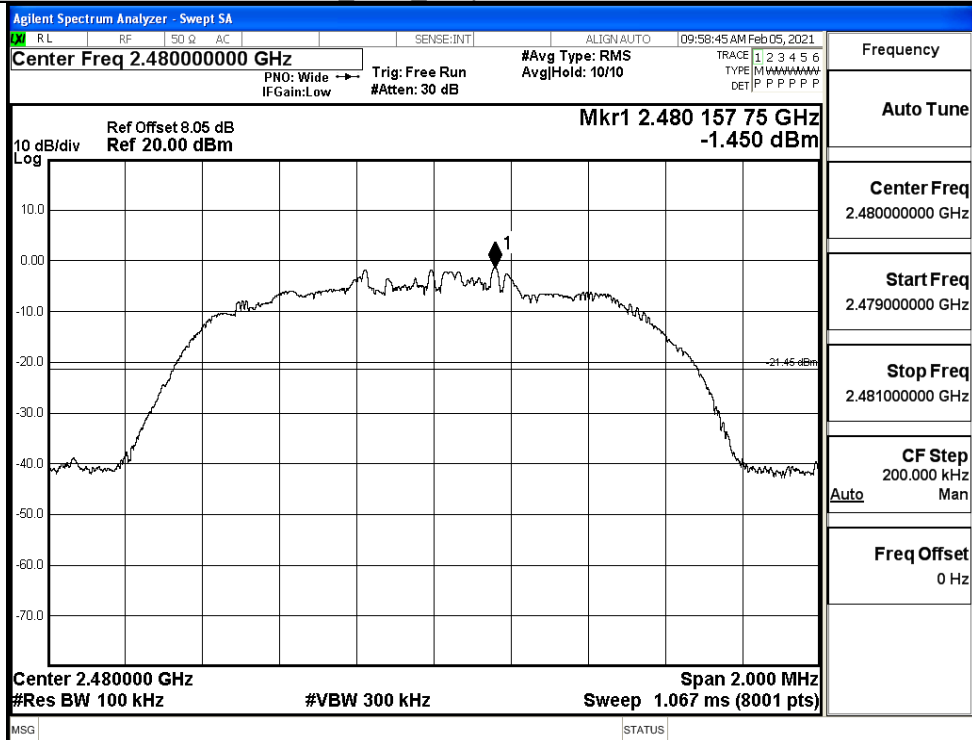


Puw

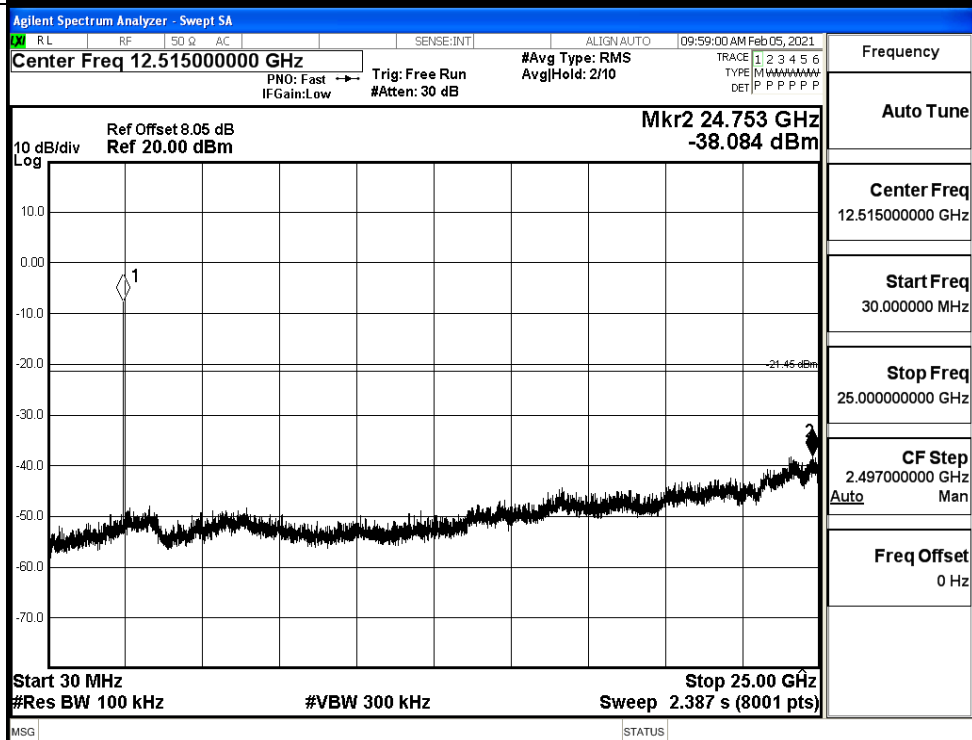


8DPSK_HCH_Graphs

Pref



Puw

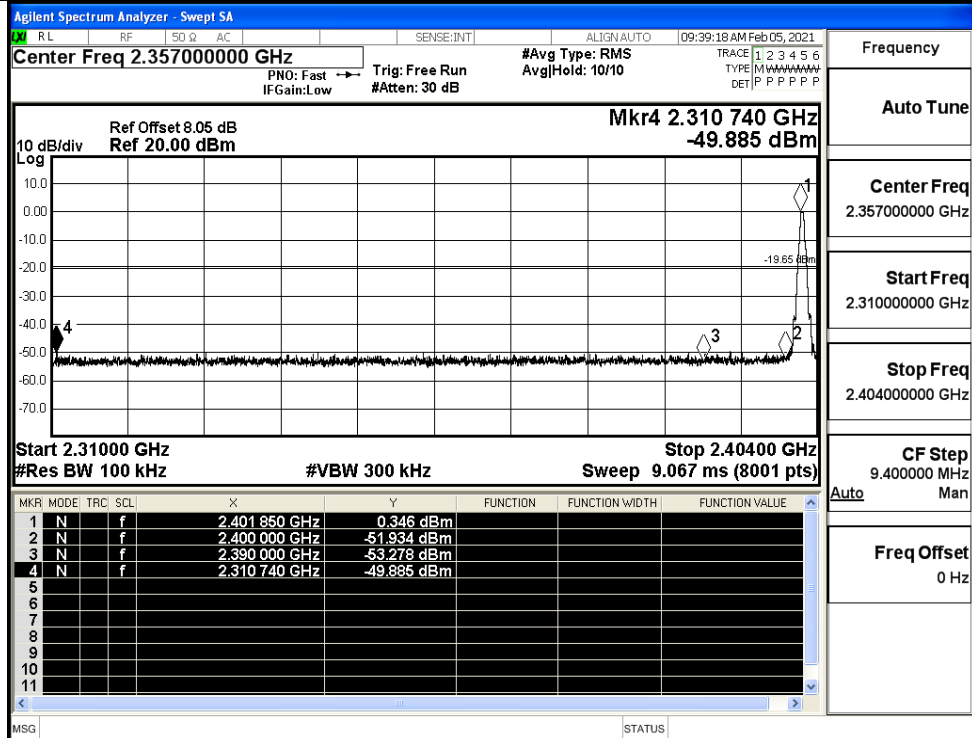


A.7 Band-edge for RF Conducted Emissions

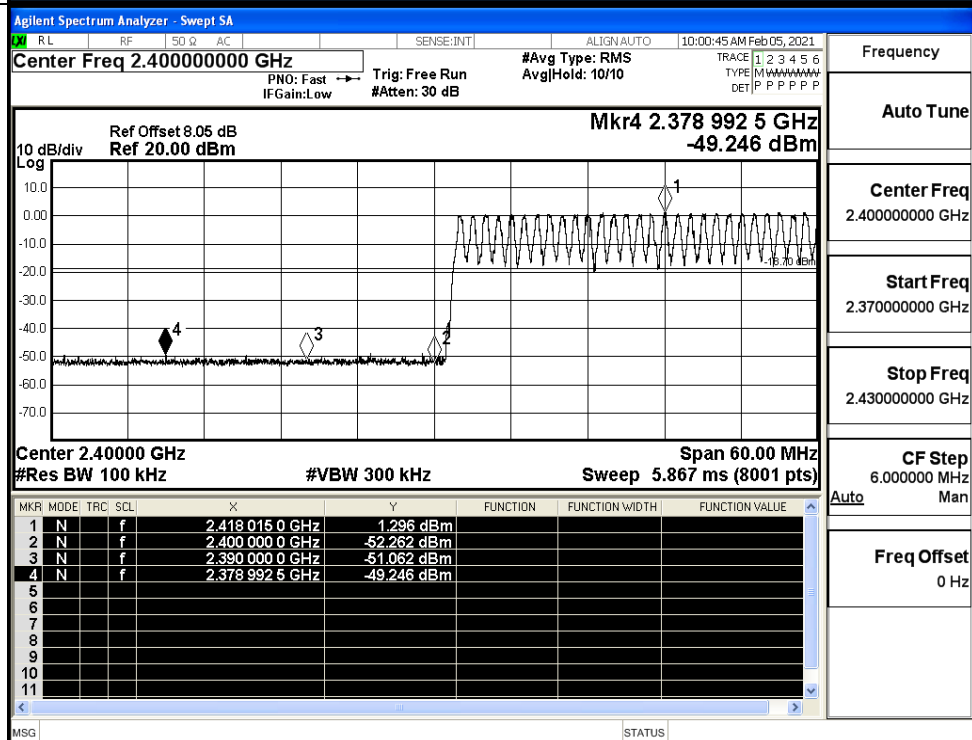
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.346	Off	-49.885	-19.65	PASS
			1.296	On	-49.246	-18.7	PASS
	HCH	2480	-0.010	Off	-48.248	-20.01	PASS
			1.115	On	-48.655	-18.89	PASS
$\pi/4$ DQPSK	LCH	2402	-1.242	Off	-49.099	-21.24	PASS
			0.103	On	-48.313	-19.9	PASS
	HCH	2480	-1.348	Off	-49.307	-21.35	PASS
			-0.068	On	-48.487	-20.07	PASS
8DPSK	LCH	2402	-1.092	Off	-49.912	-21.09	PASS
			-0.142	On	-49.121	-20.14	PASS
	HCH	2480	-1.401	Off	-49.360	-21.4	PASS
			-0.181	On	-48.425	-20.18	PASS

Test Graphs

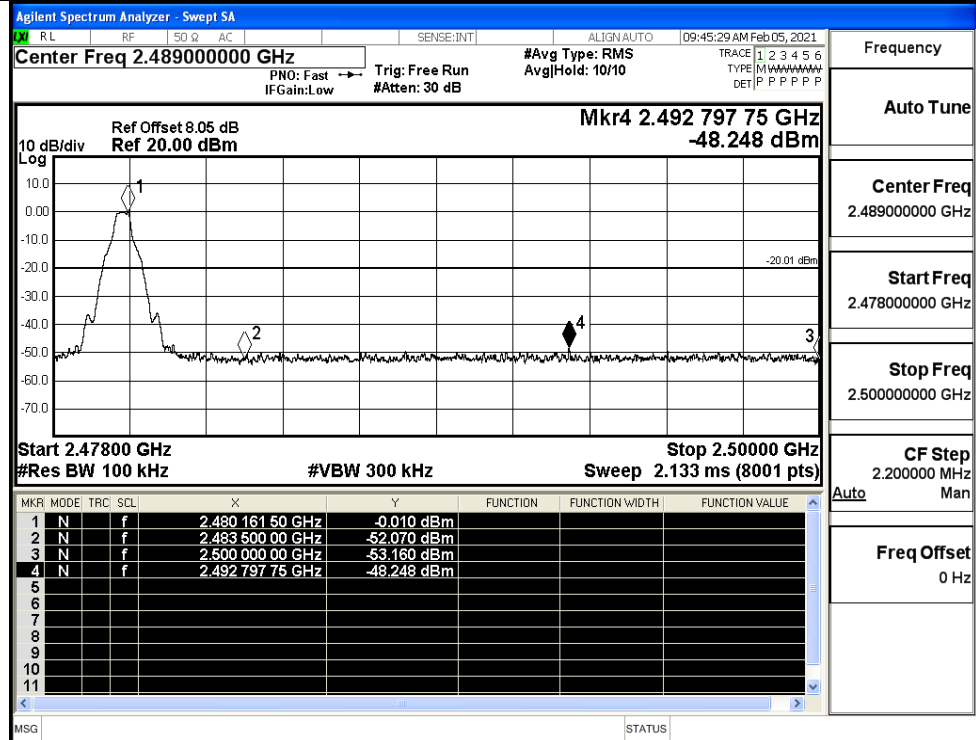
GFSK/LCH/No Hop



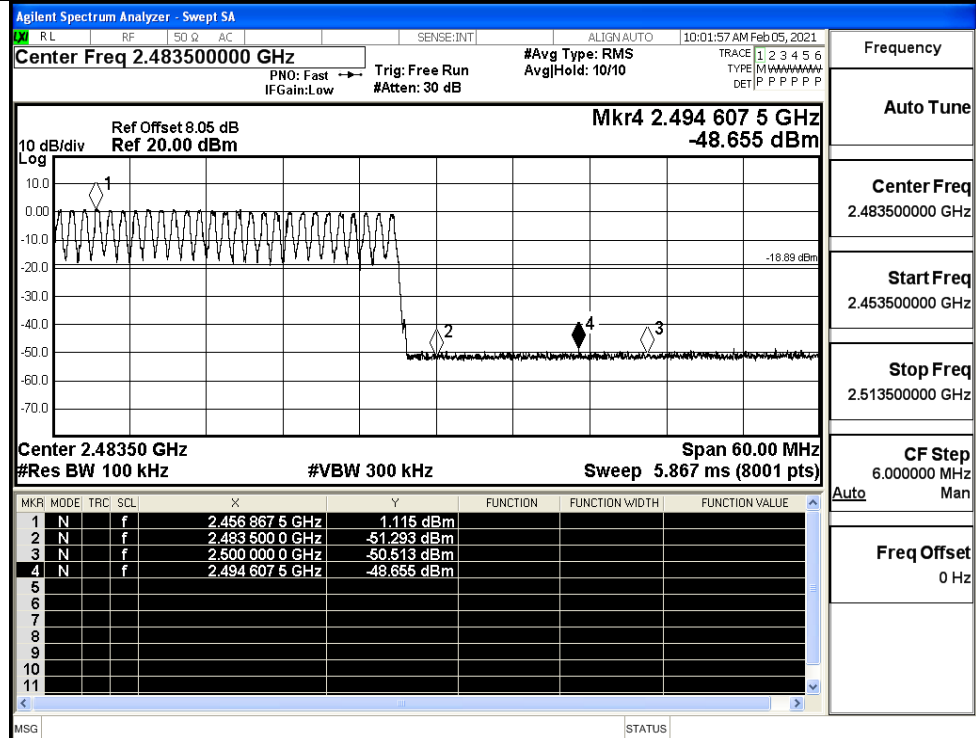
GFSK/LCH/Hop



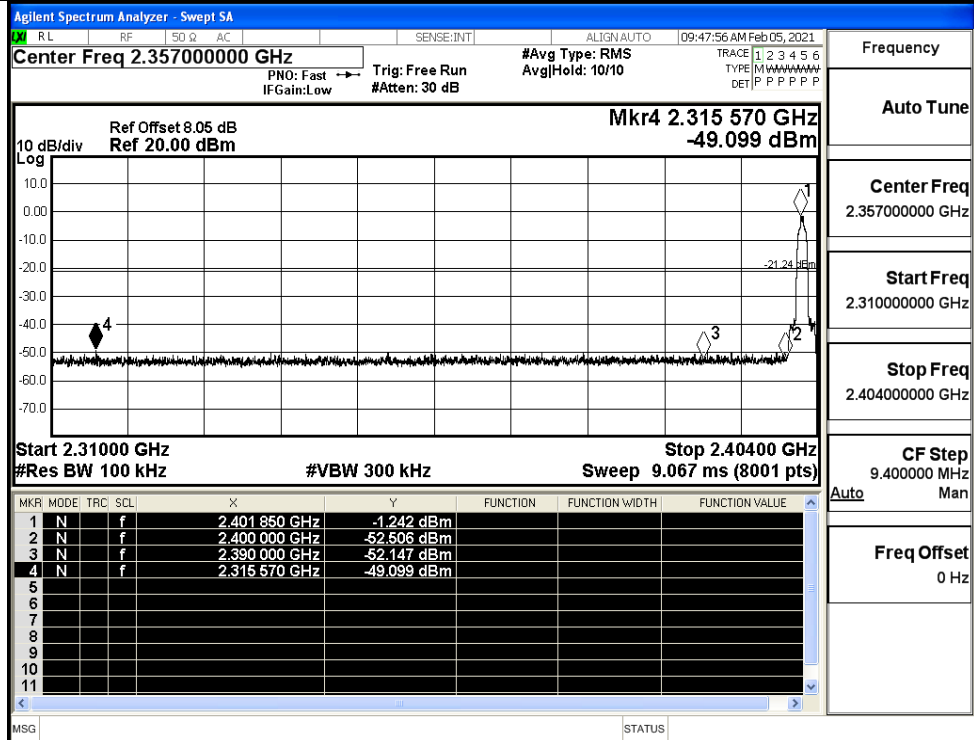
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq
2.357000000 GHz

Start Freq
2.310000000 GHz

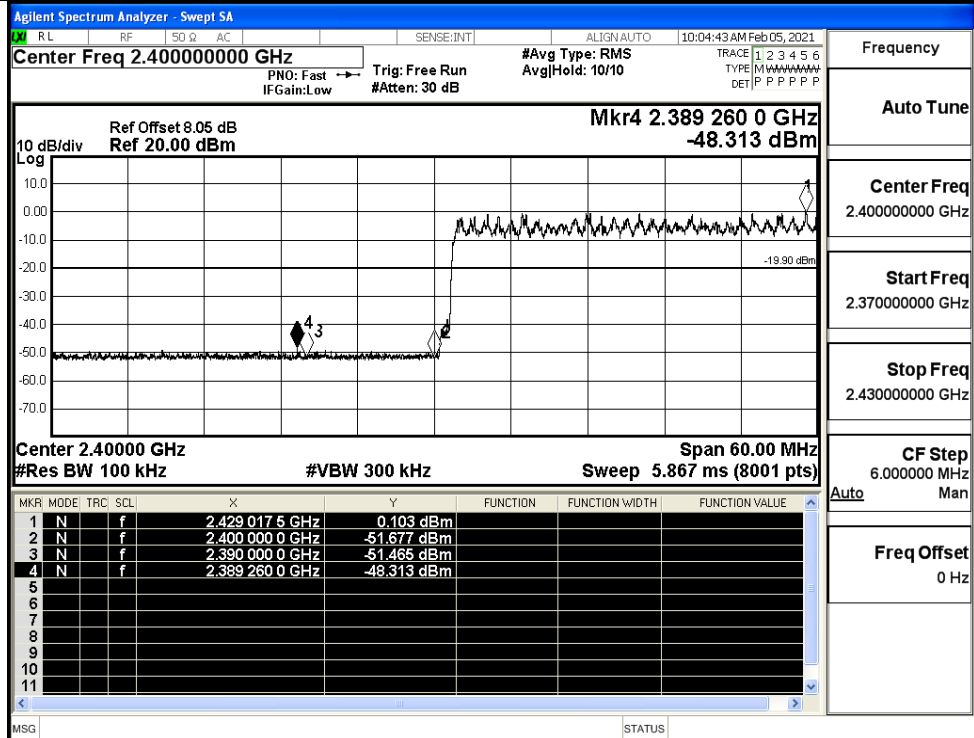
Stop Freq
2.404000000 GHz

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

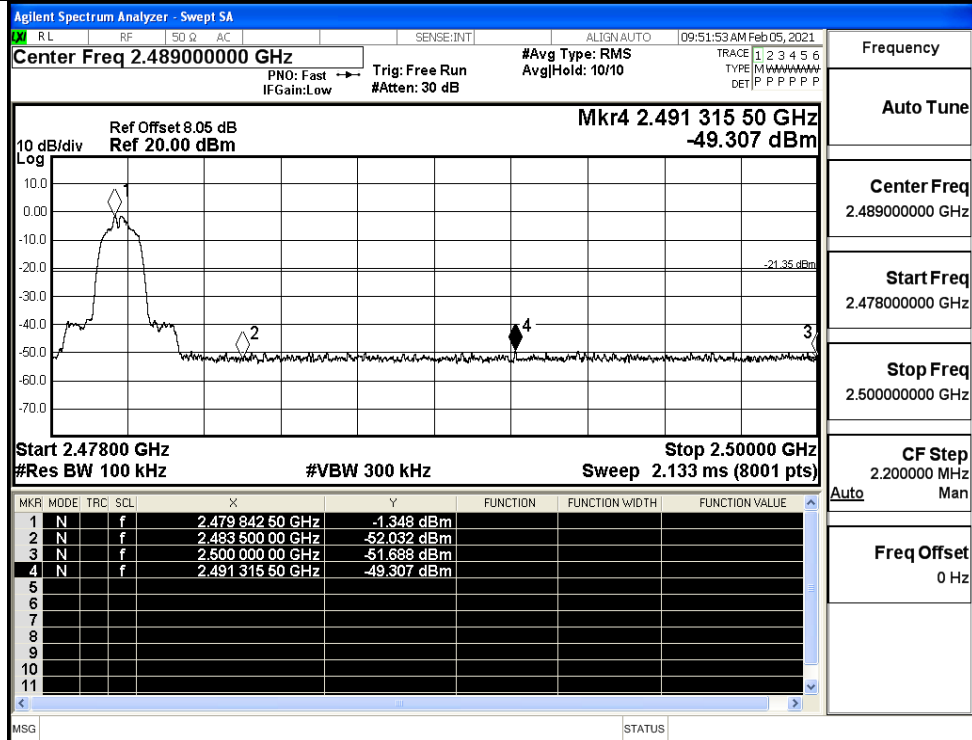
Stop Freq
2.430000000 GHz

CF Step
6.000000 MHz

Auto Man

Freq Offset
0 Hz

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

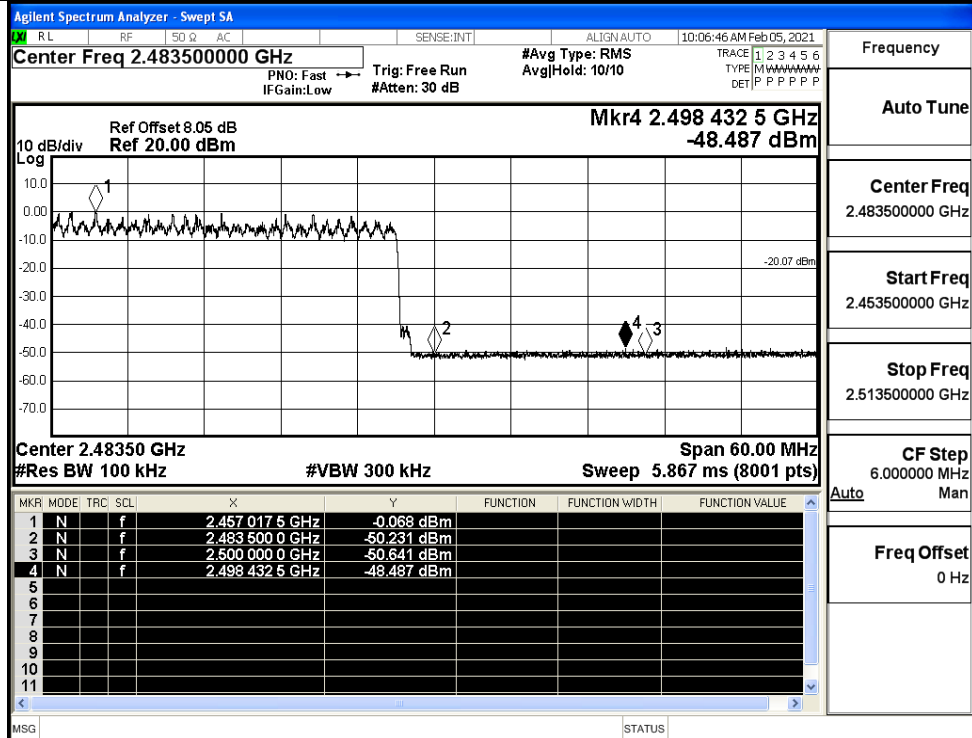


Frequency

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

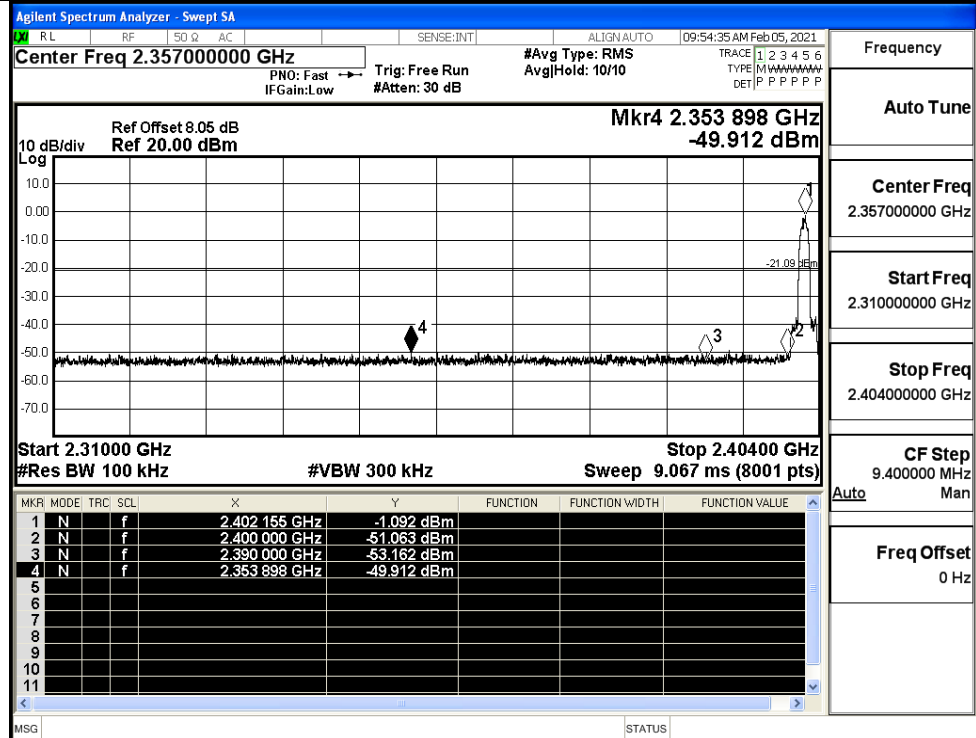


Frequency

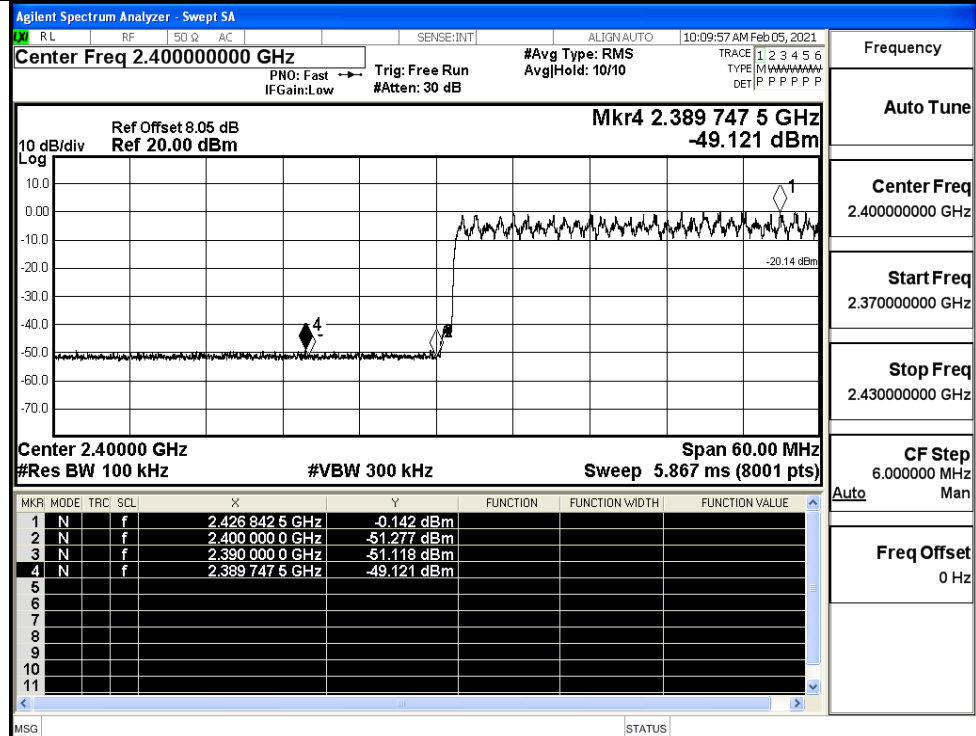
Auto Tune

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

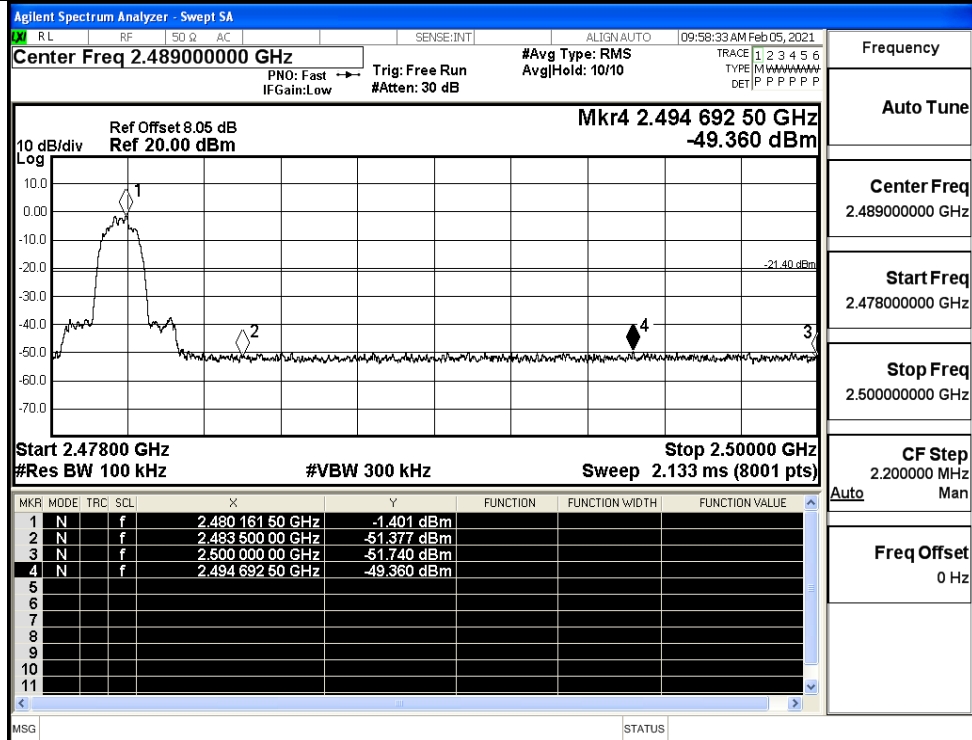
8DPSK/LCH/No Hop



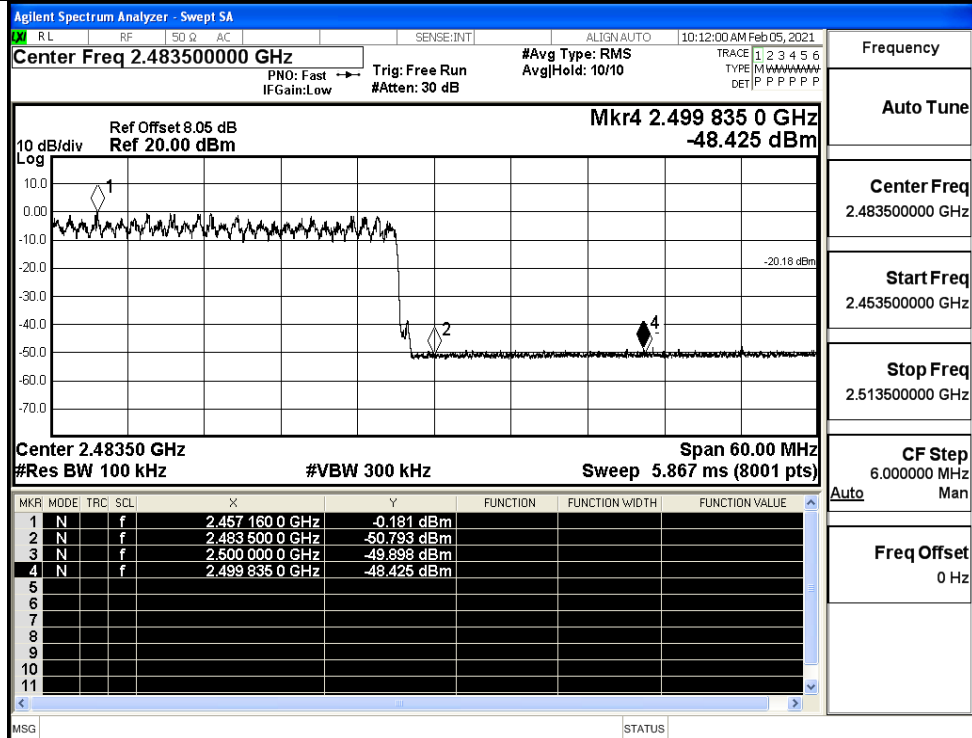
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



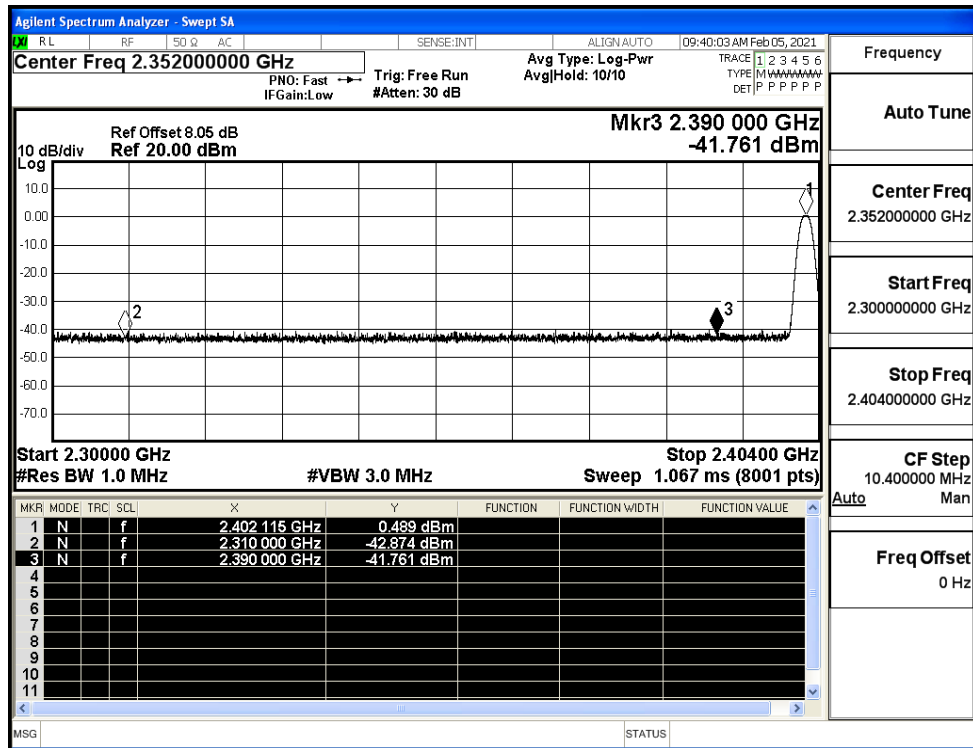
8DPSK/HCH/Hop



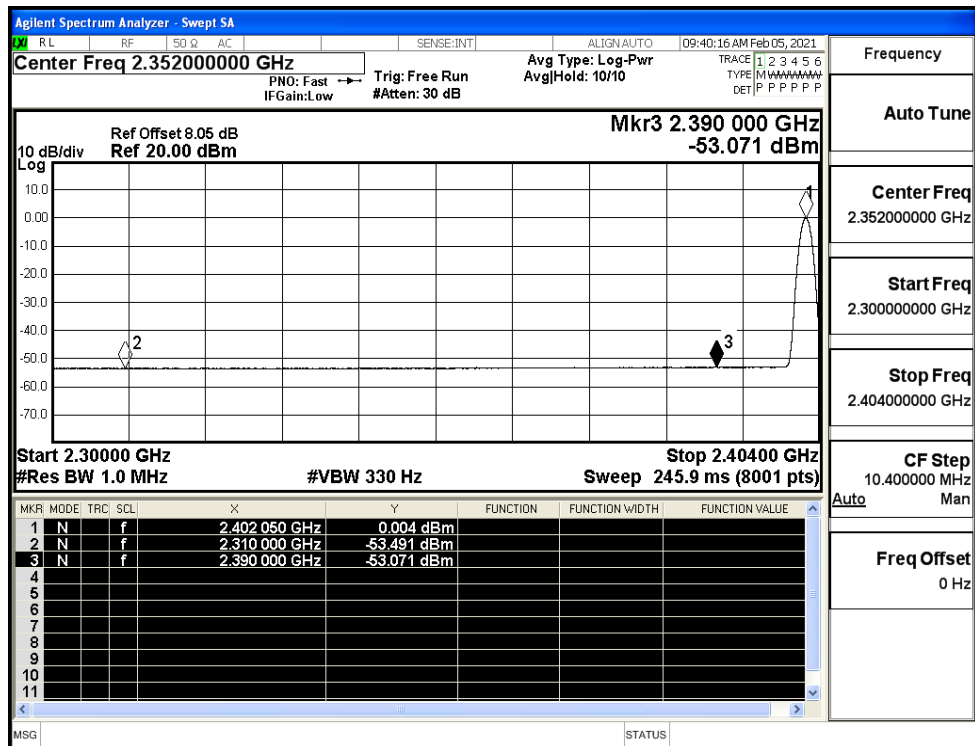
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.87	2.0	0	52.38	PEAK	74	PASS
	Off	2310.0	-53.49	2.0	0	41.77	AV	54	PASS
	Off	2390.0	-41.76	2.0	0	53.50	PEAK	74	PASS
	Off	2390.0	-53.07	2.0	0	42.19	AV	54	PASS
	Off	2483.5	-42.70	2.0	0	52.55	PEAK	74	PASS
	Off	2483.5	-52.60	2.0	0	42.66	AV	54	PASS
	Off	2500.0	-43.19	2.0	0	52.07	PEAK	74	PASS
	Off	2500.0	-52.50	2.0	0	42.75	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-42.20	2.0	0	53.06	PEAK	74	PASS
	Off	2310.0	-53.43	2.0	0	41.83	AV	54	PASS
	Off	2390.0	-42.91	2.0	0	52.35	PEAK	74	PASS
	Off	2390.0	-53.16	2.0	0	42.10	AV	54	PASS
	Off	2483.5	-42.27	2.0	0	52.99	PEAK	74	PASS
	Off	2483.5	-52.57	2.0	0	42.69	AV	54	PASS
	Off	2500.0	-42.01	2.0	0	53.24	PEAK	74	PASS
	Off	2500.0	-52.42	2.0	0	42.84	AV	54	PASS
8DPSK	Off	2310.0	-43.07	2.0	0	52.19	PEAK	74	PASS
	Off	2310.0	-53.40	2.0	0	41.86	AV	54	PASS
	Off	2390.0	-43.29	2.0	0	51.97	PEAK	74	PASS
	Off	2390.0	-53.13	2.0	0	42.13	AV	54	PASS
	Off	2483.5	-42.64	2.0	0	52.62	PEAK	74	PASS
	Off	2483.5	-52.61	2.0	0	42.65	AV	54	PASS
	Off	2500.0	-42.06	2.0	0	53.20	PEAK	74	PASS
	Off	2500.0	-52.48	2.0	0	42.78	AV	54	PASS

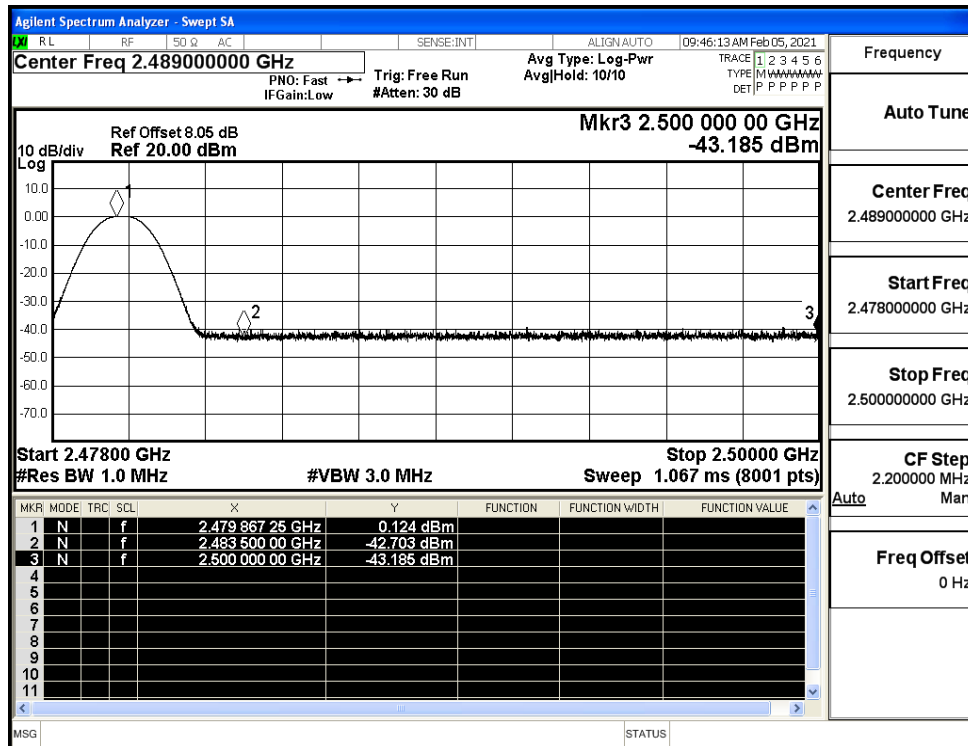
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



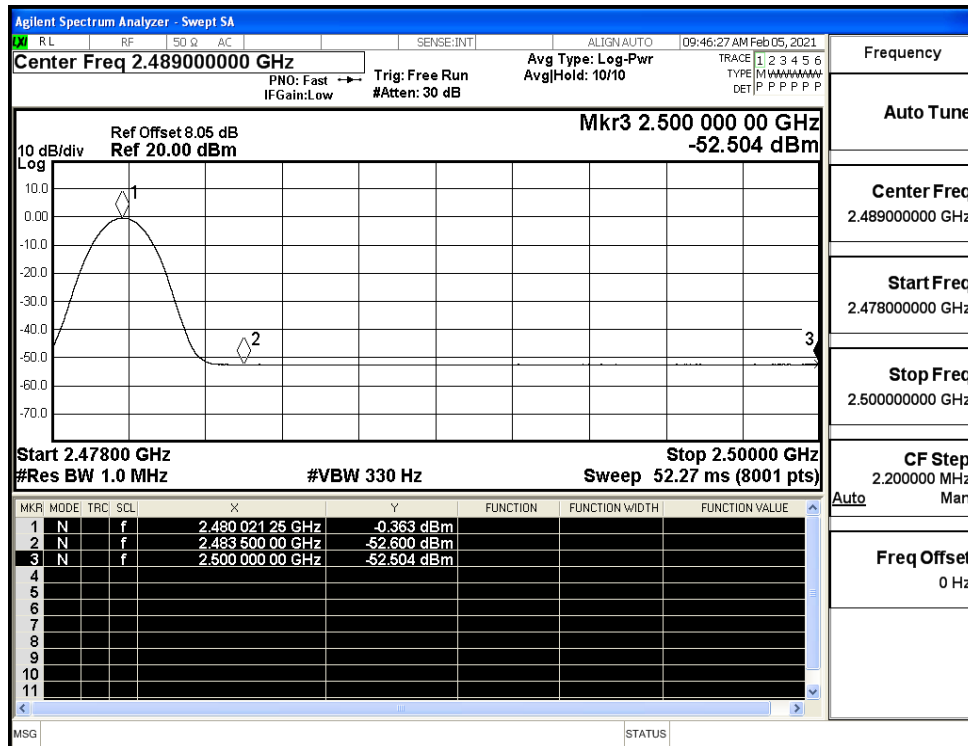
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

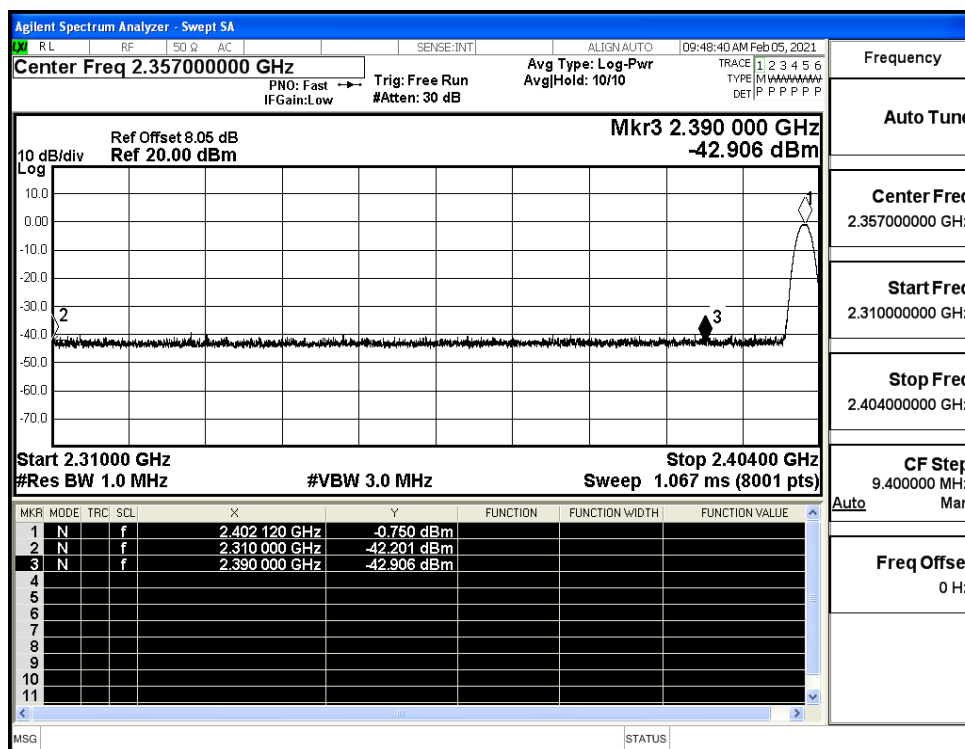
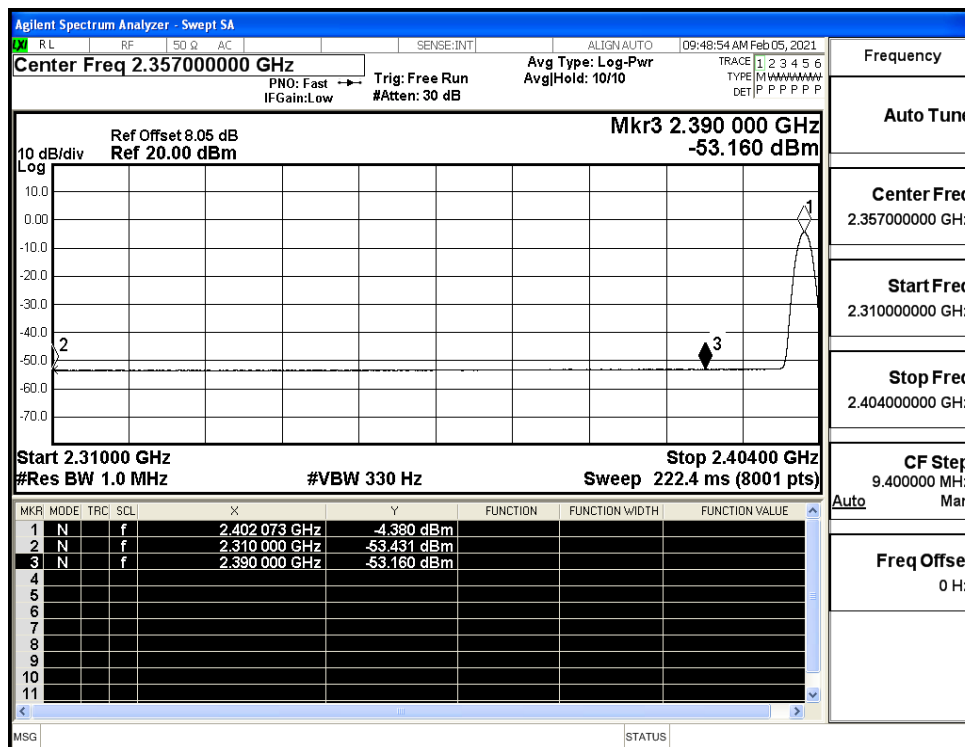


Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)

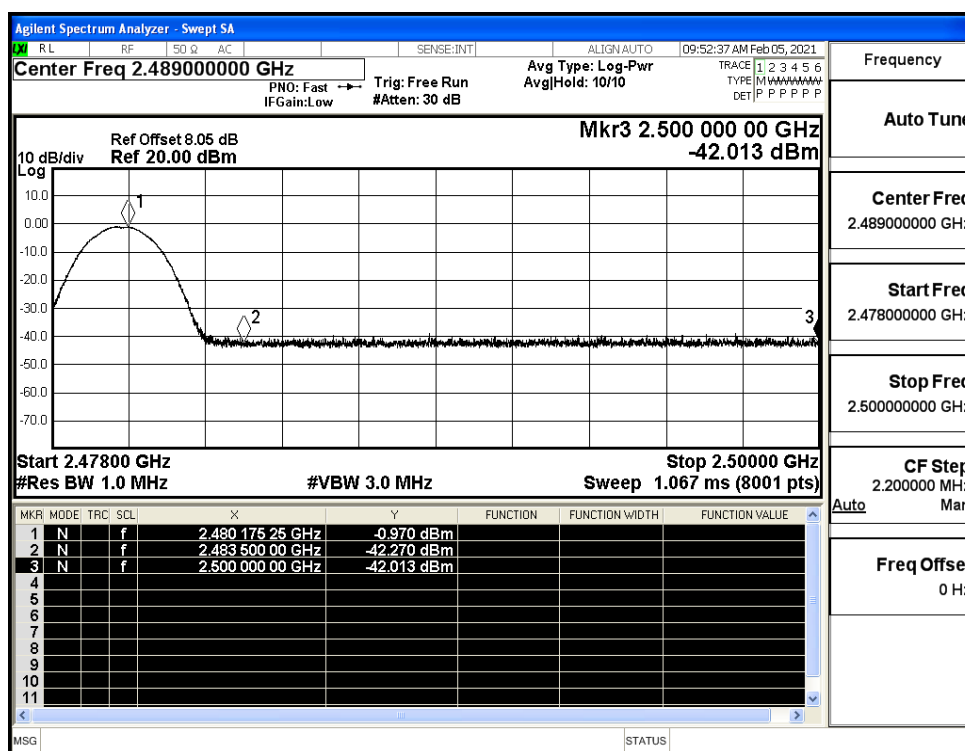


Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)

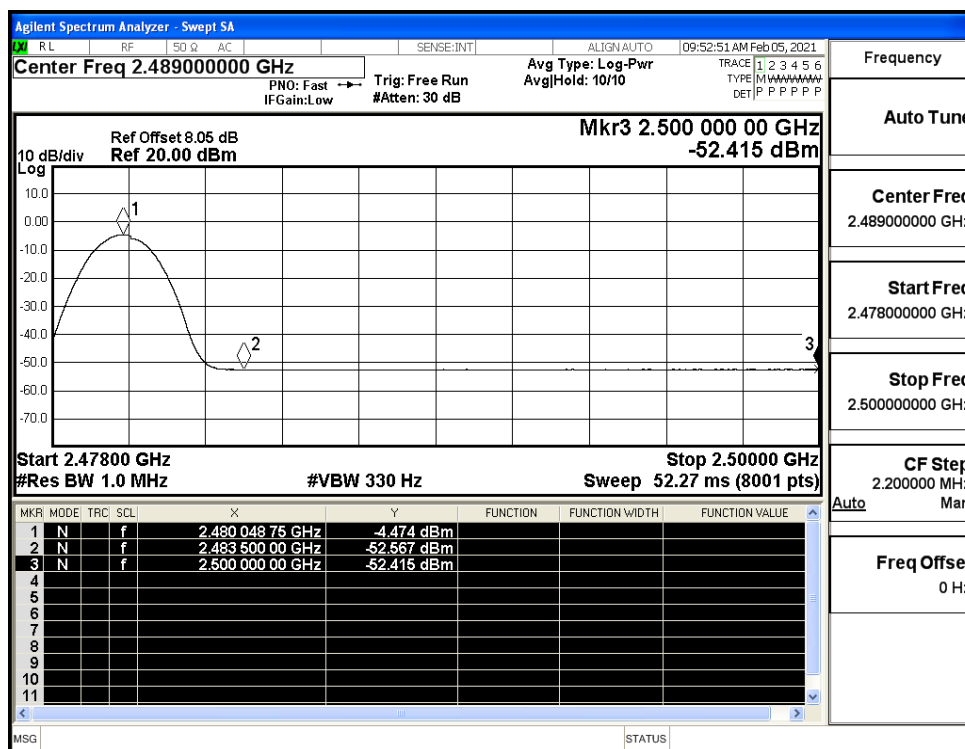


Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

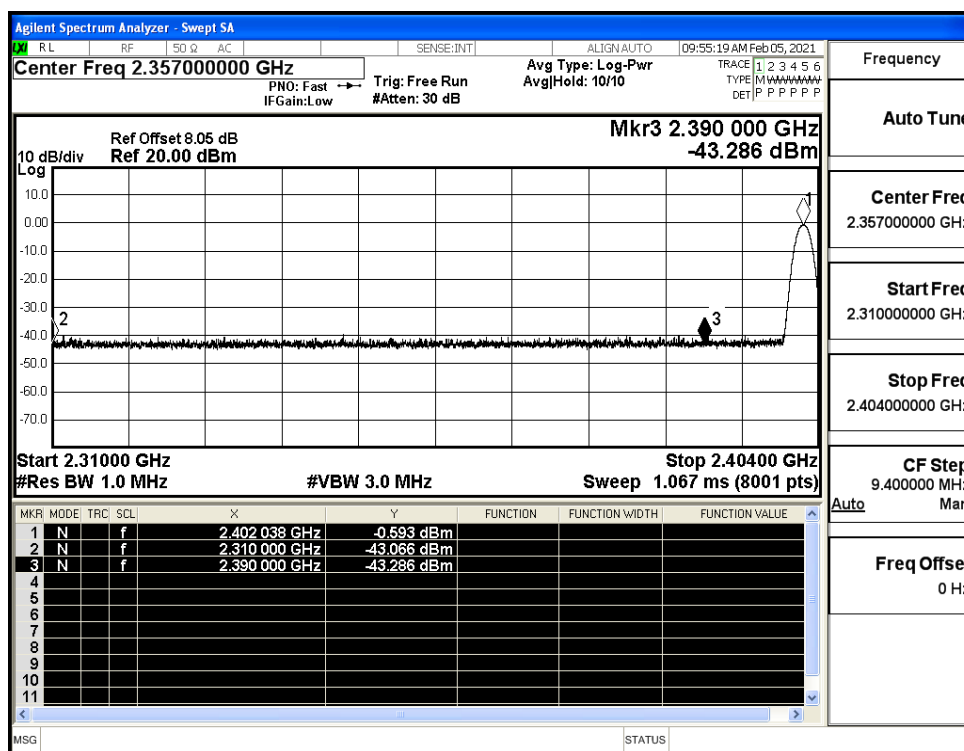
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



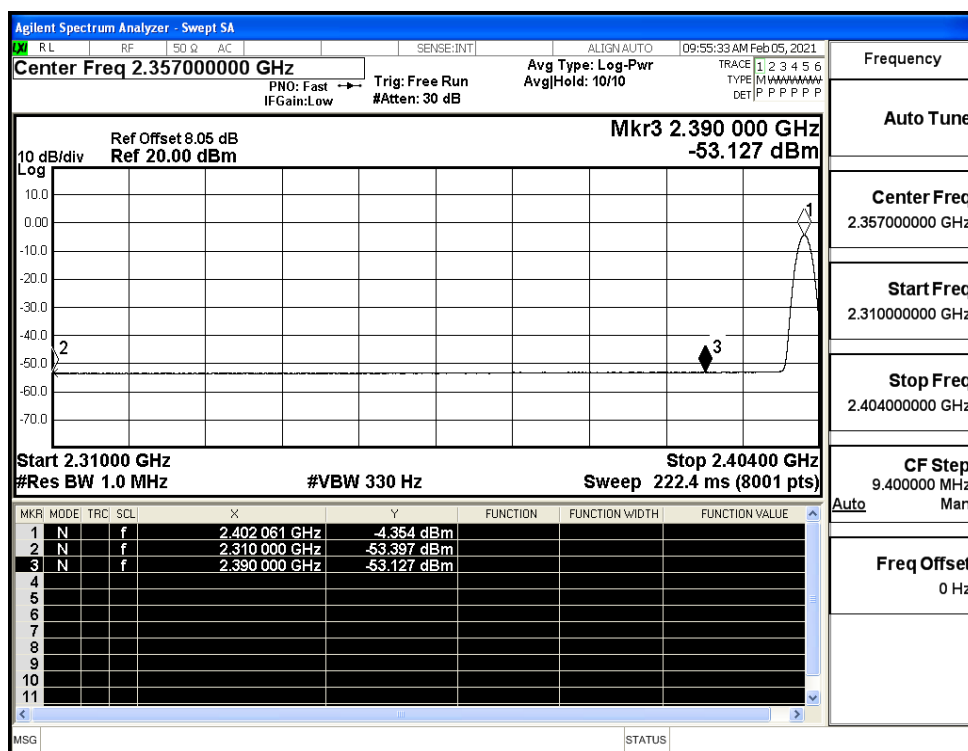
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



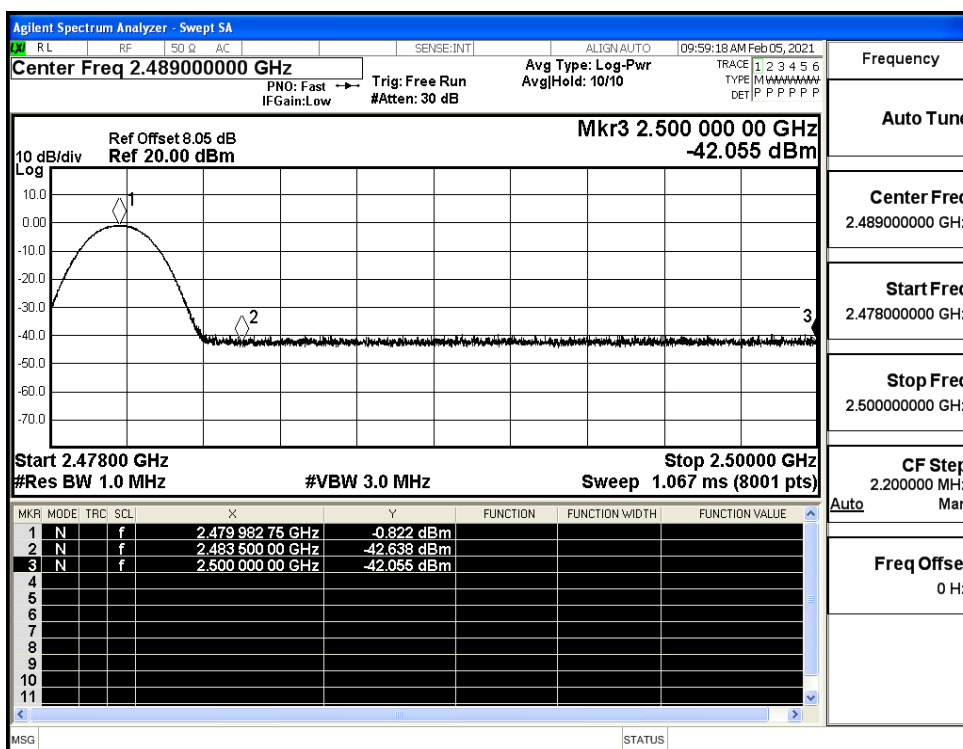
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

