

Appendix A

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

Product Name: Bluetooth Headset

Trade Mark: QM

Test Model: G2

Environmental Conditions

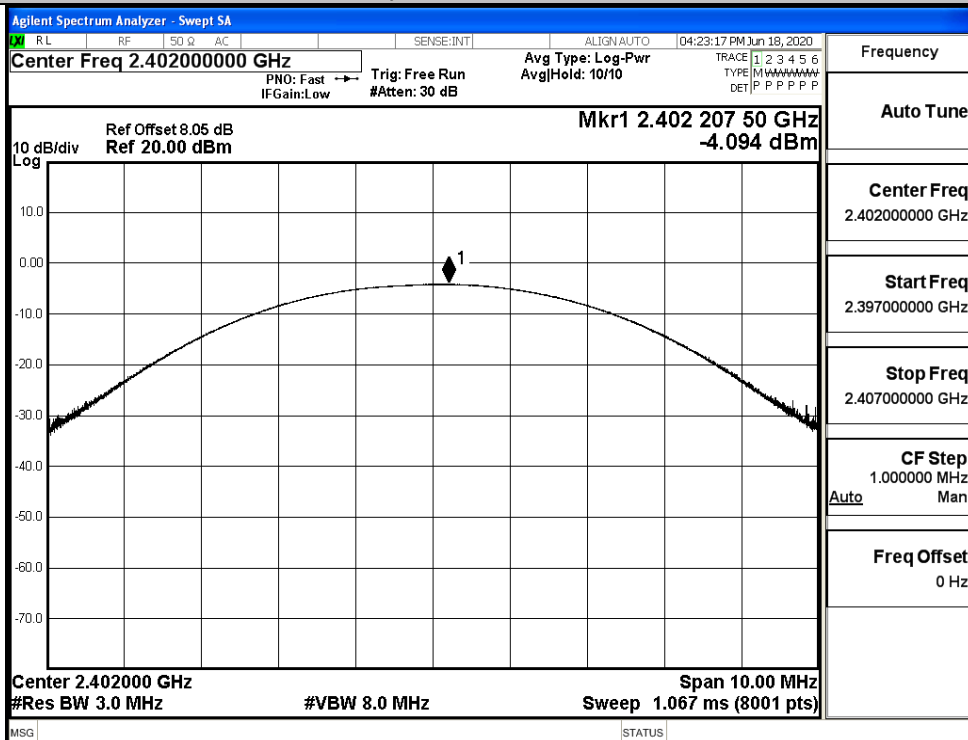
Temperature:	24.1 ° C
Relative Humidity:	53.9%
ATM Pressure:	100.0 kPa
Test Engineer:	QUXIN
Supervised by:	Tom.Liu

A.1 Maximum Conducted Peak Output Power

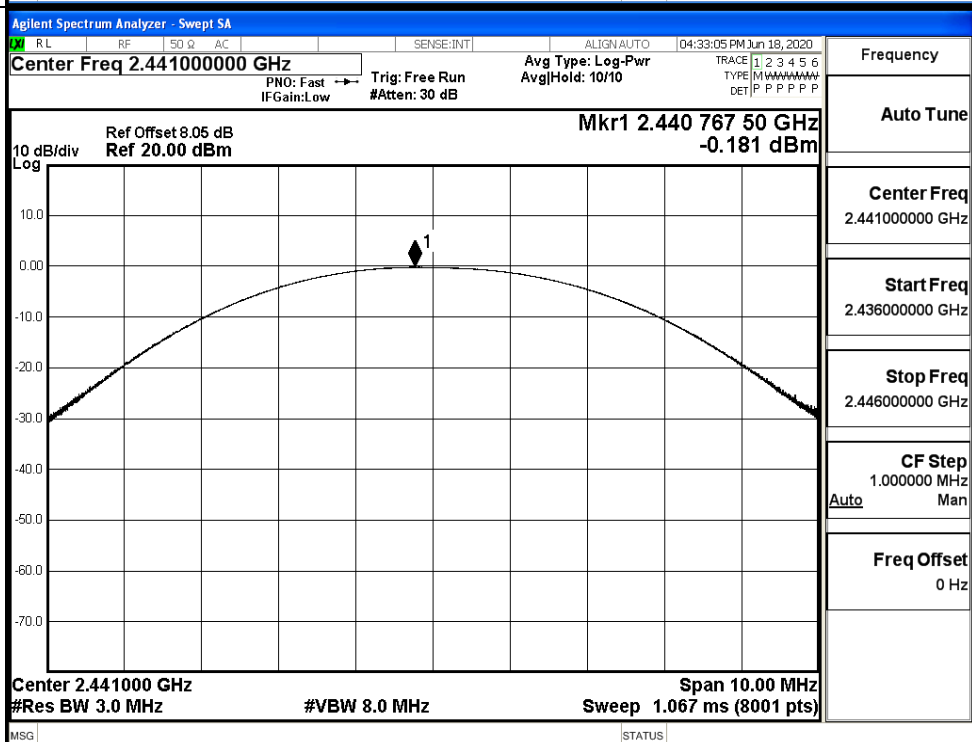
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-4.094	21	PASS
	MCH	-0.181	21	PASS
	HCH	1.534	21	PASS
$\pi/4$ DQPSK	LCH	-5.846	21	PASS
	MCH	-1.706	21	PASS
	HCH	0.173	21	PASS
8DPSK	LCH	-5.433	21	PASS
	MCH	-1.456	21	PASS
	HCH	0.384	21	PASS

Test Graphs

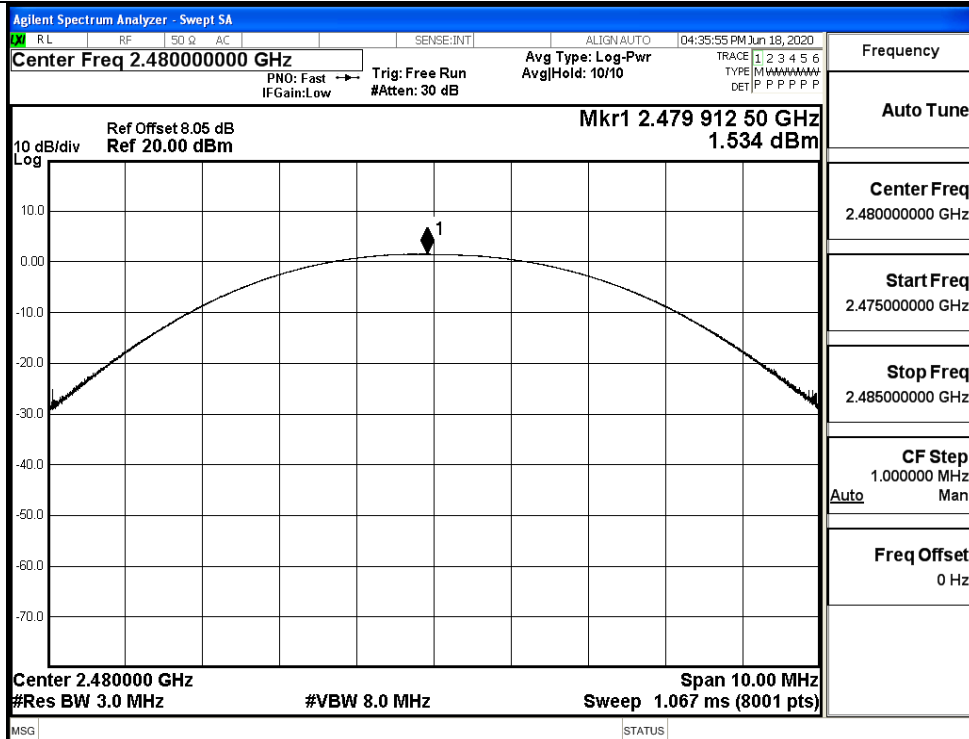
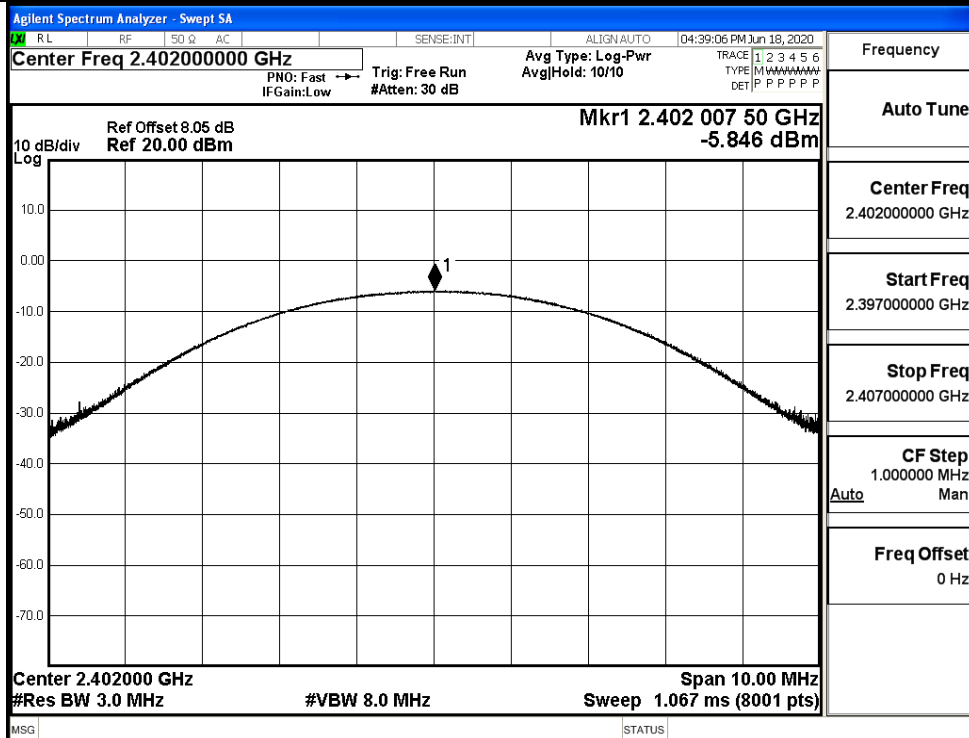
GFSK/LCH

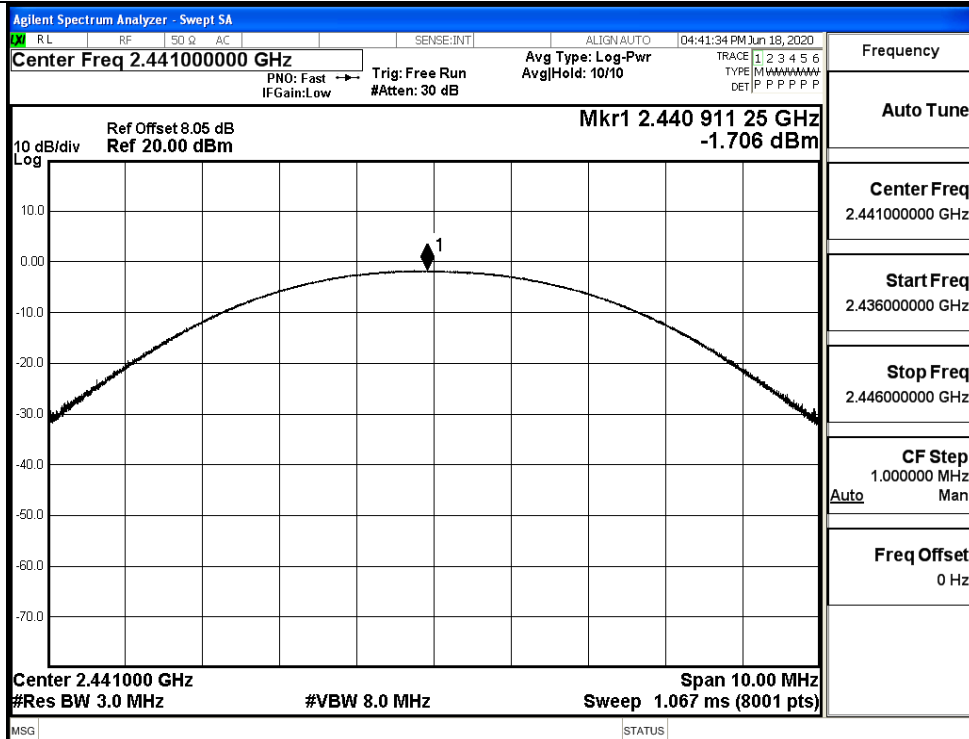
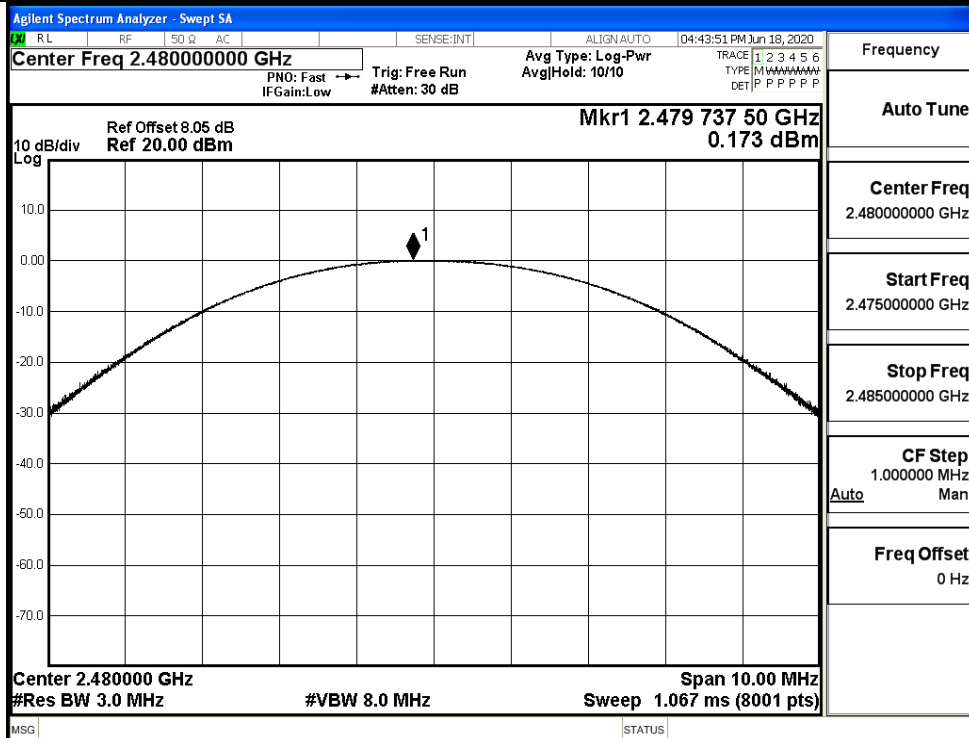


GFSK/MCH

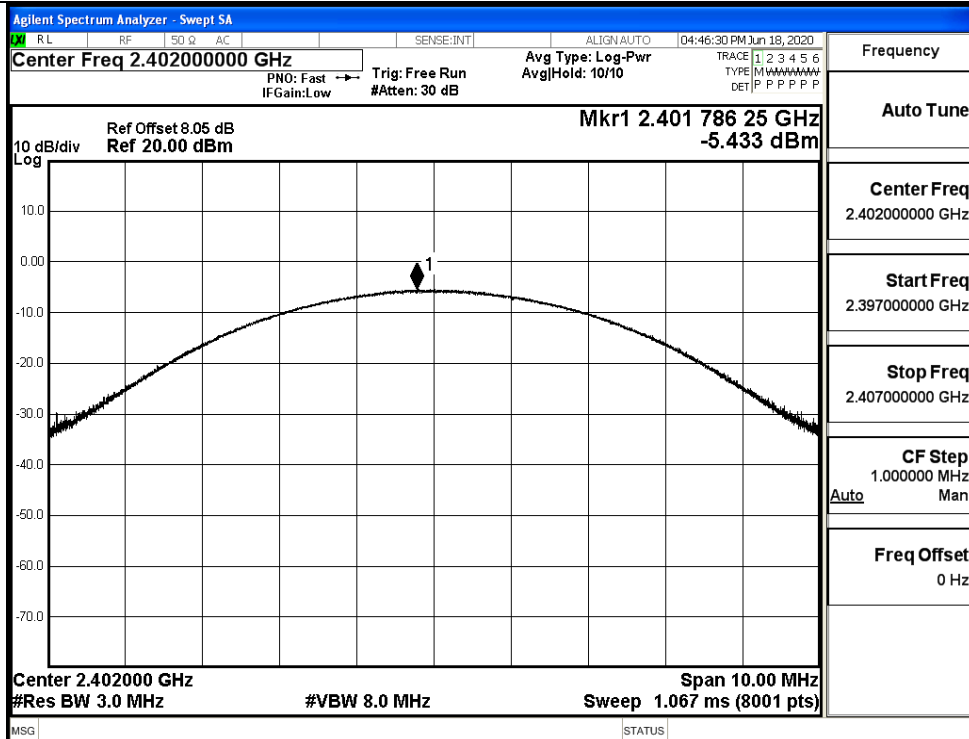


GFSK/HCH

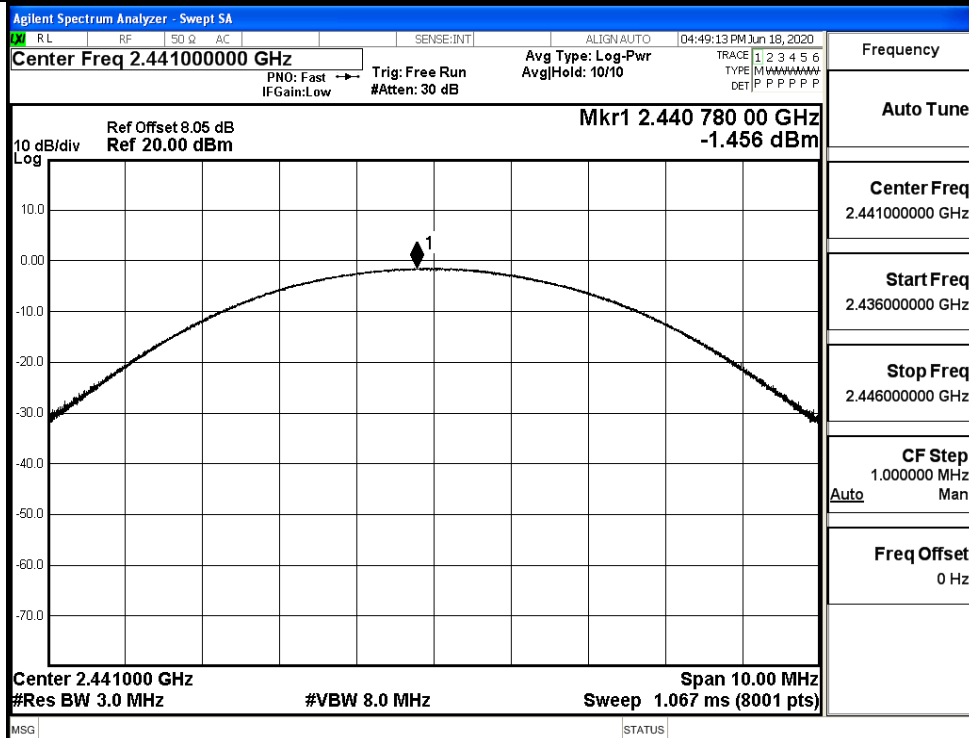
 π /4DQPSK/LCH

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

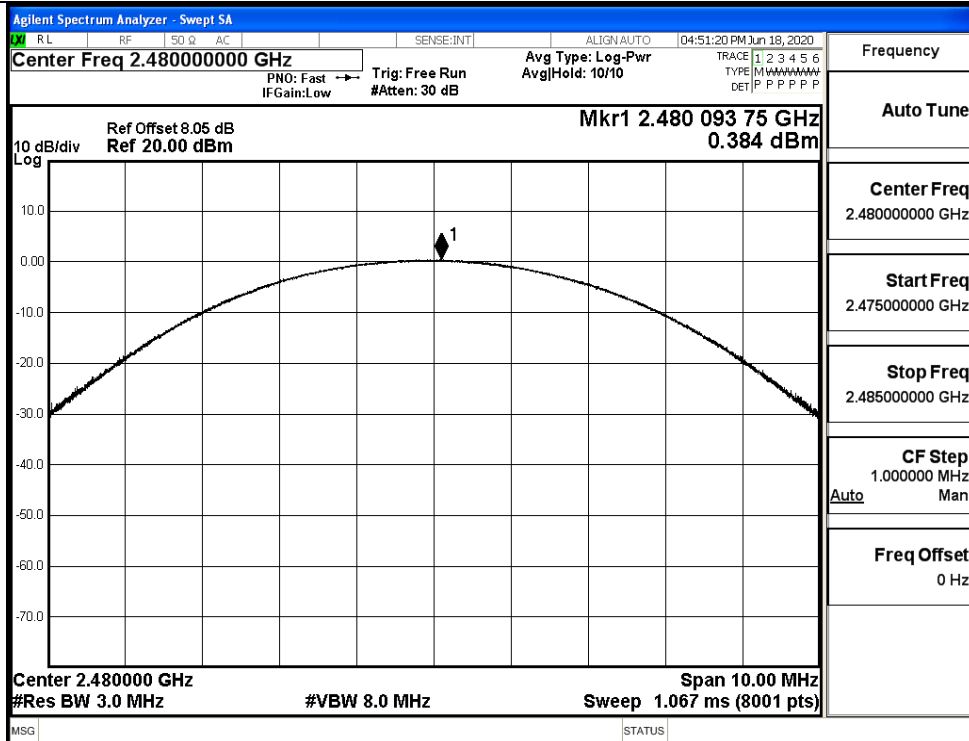
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

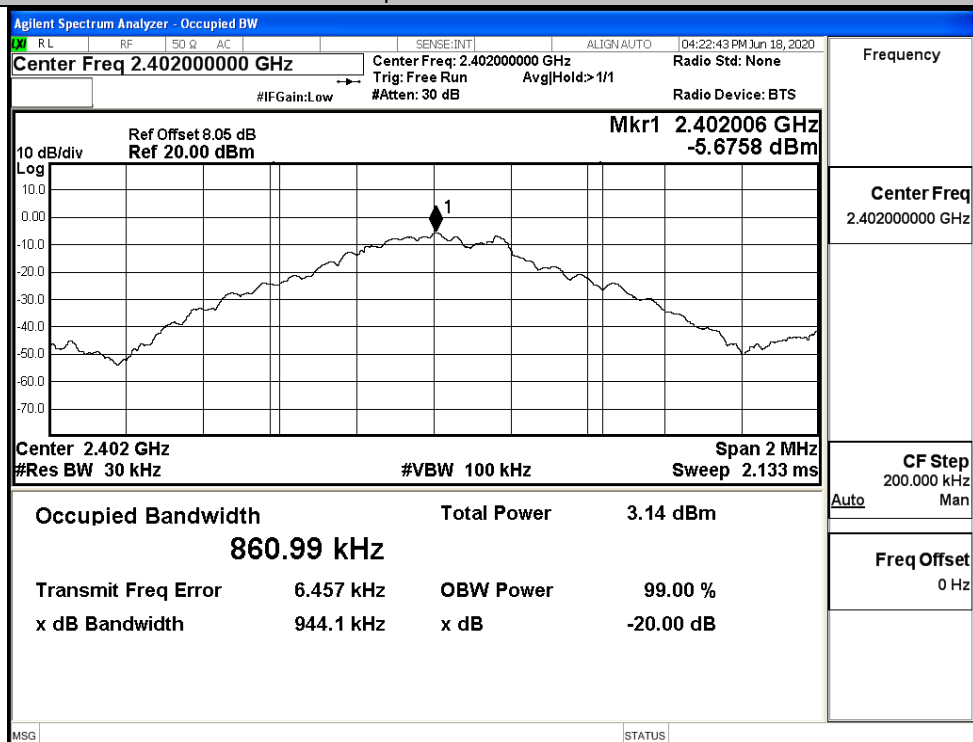


A.2 20dB Bandwidth

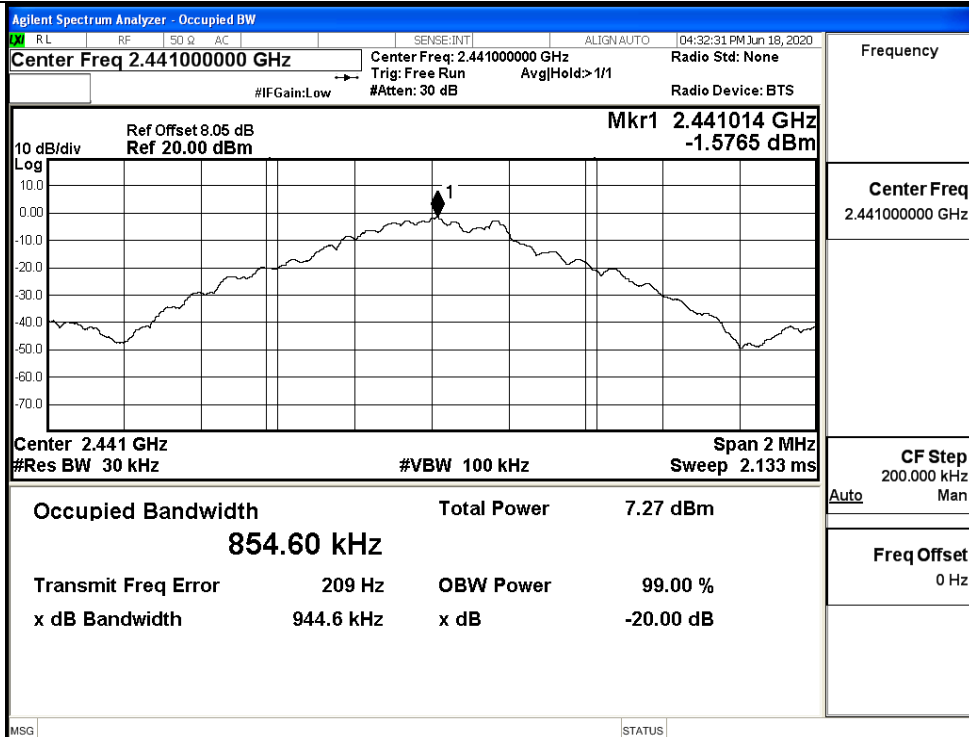
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9441	Not Specified	PASS
	MCH	0.9446	Not Specified	PASS
	HCH	0.9433	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.274	Not Specified	PASS
	MCH	1.232	Not Specified	PASS
	HCH	1.232	Not Specified	PASS
8DPSK	LCH	1.272	Not Specified	PASS
	MCH	1.262	Not Specified	PASS
	HCH	1.264	Not Specified	PASS

Test Graphs

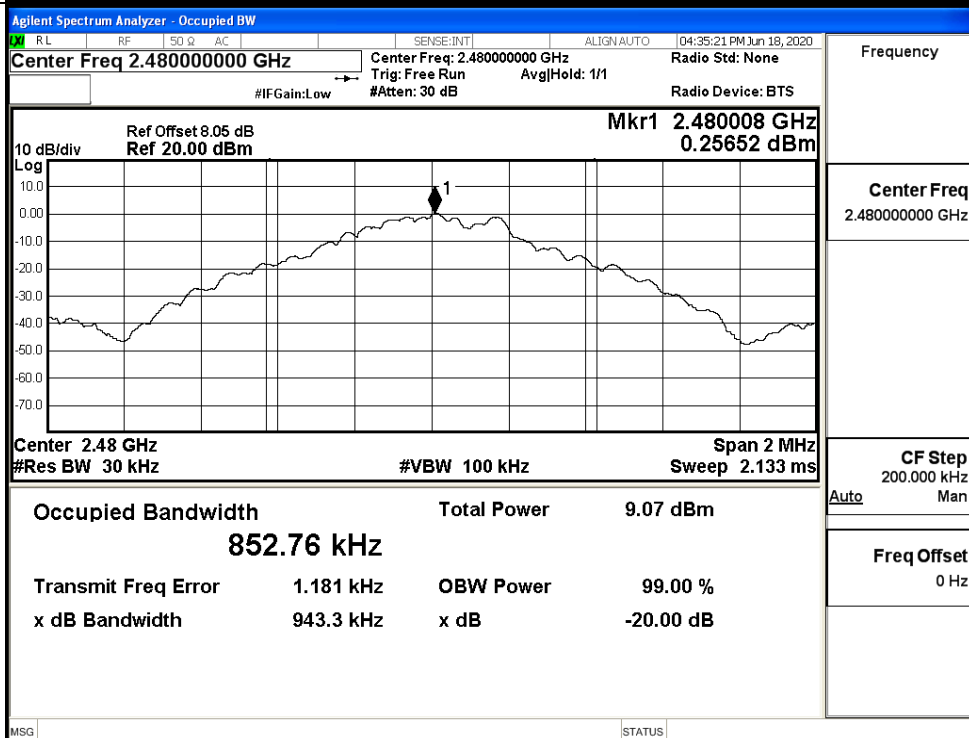
GFSK/LCH

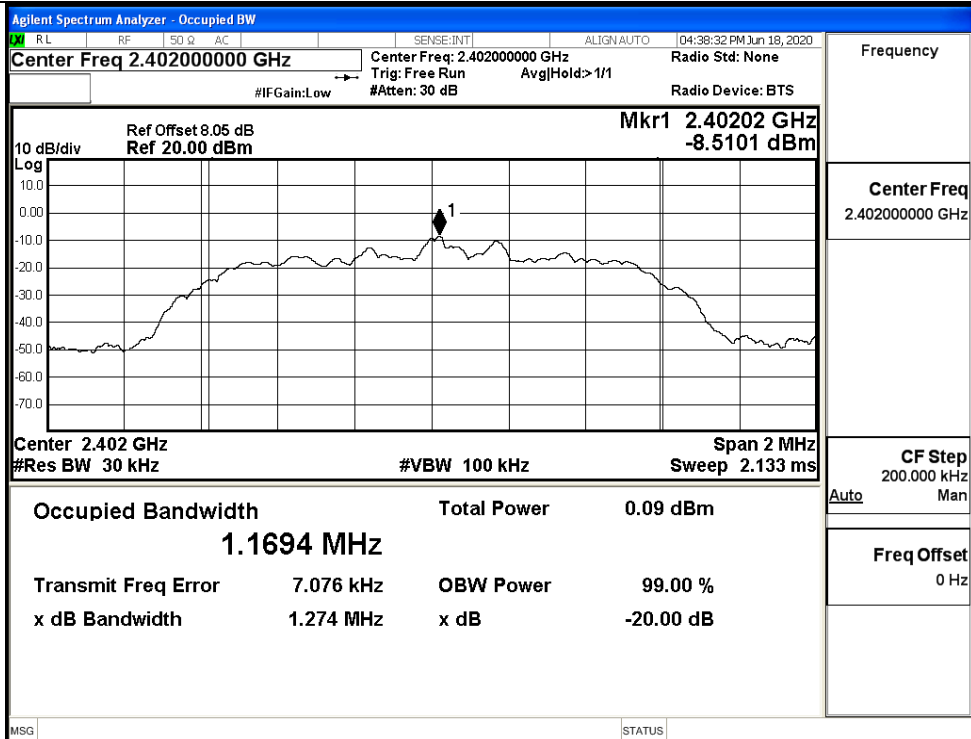
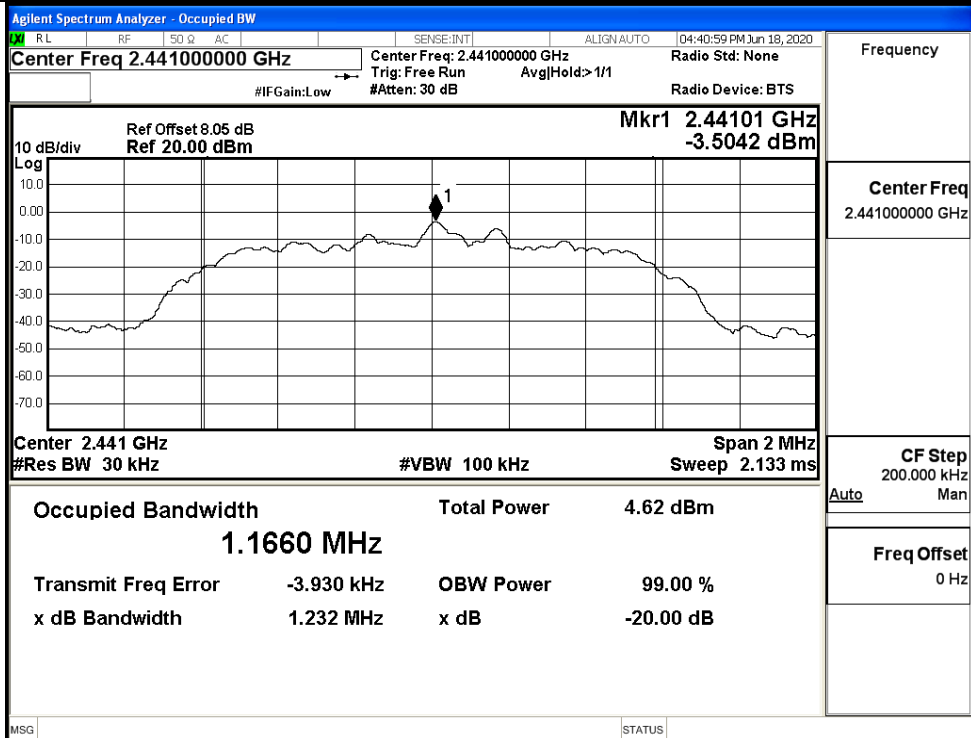


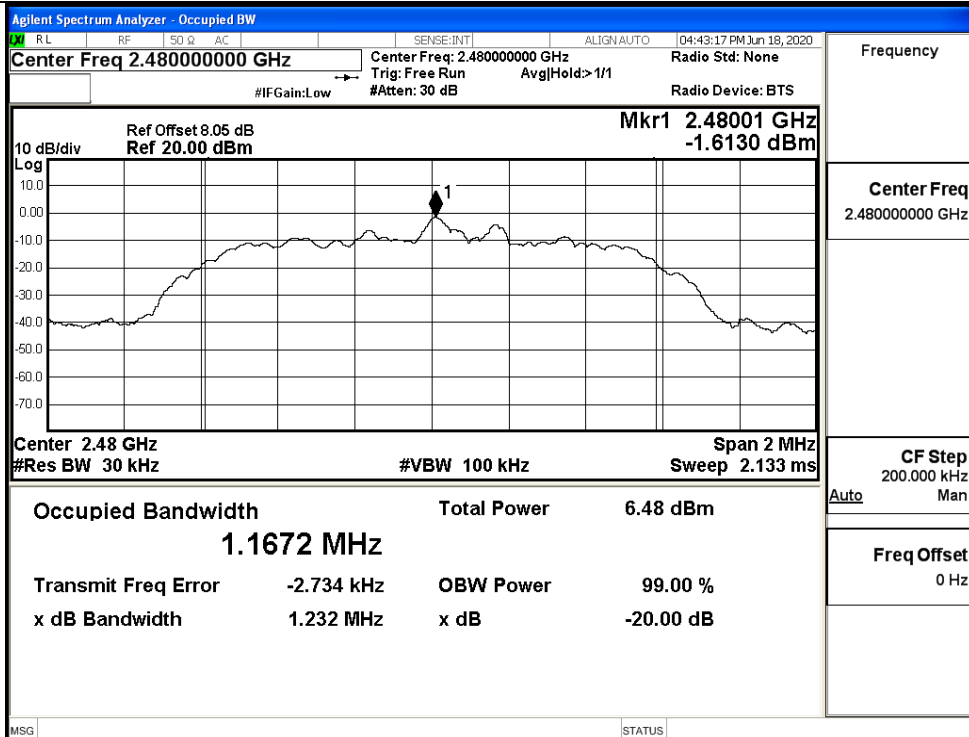
GFSK/MCH



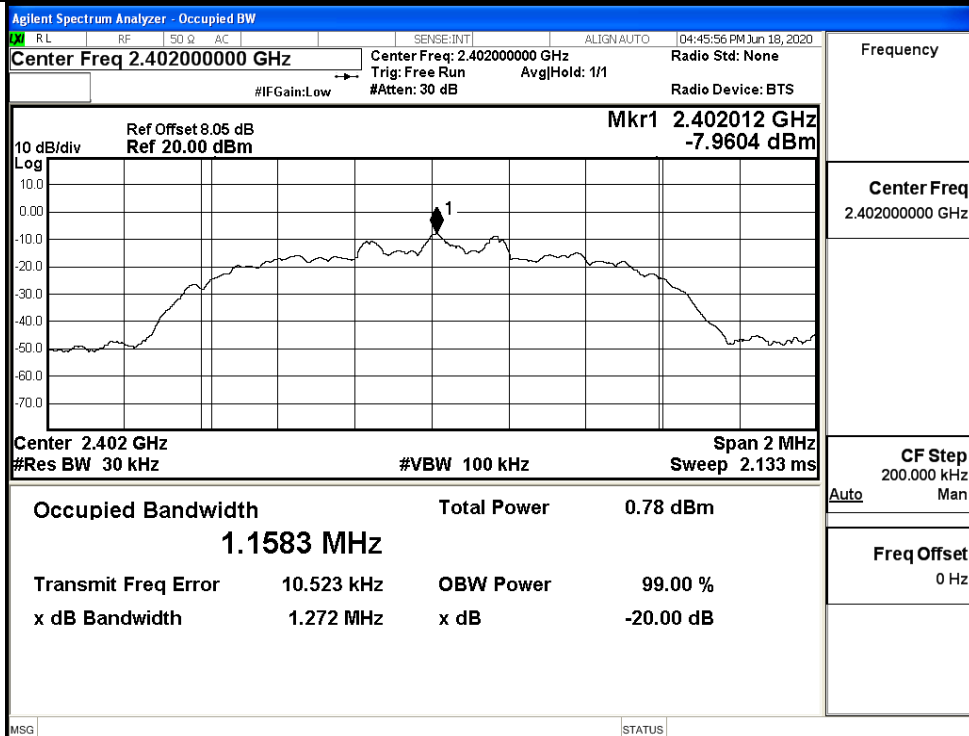
GFSK/HCH



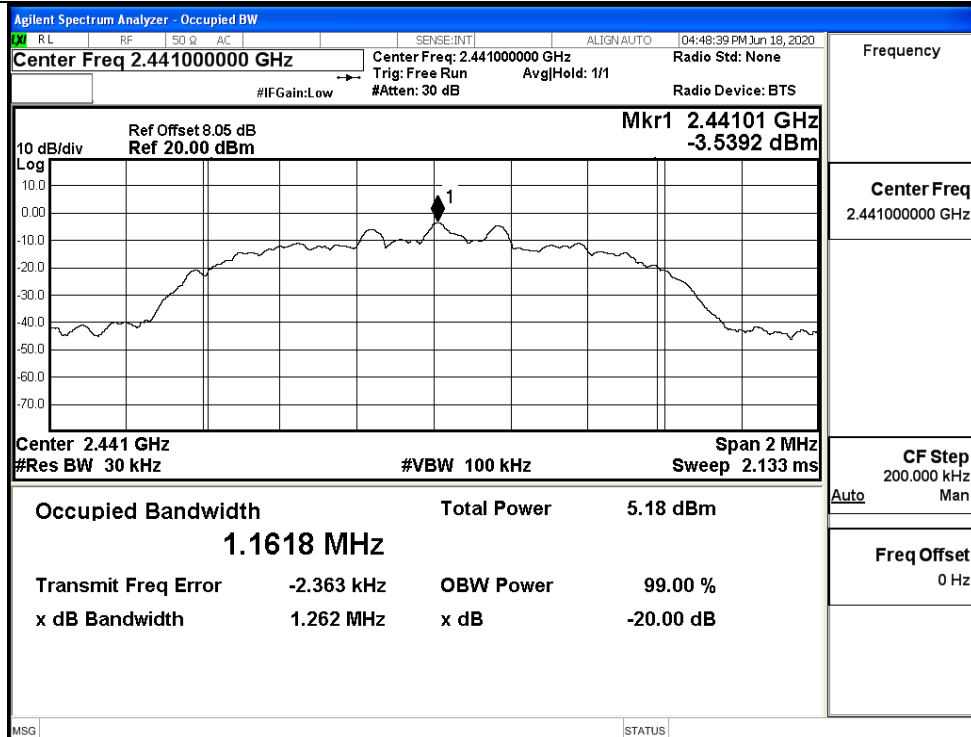
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

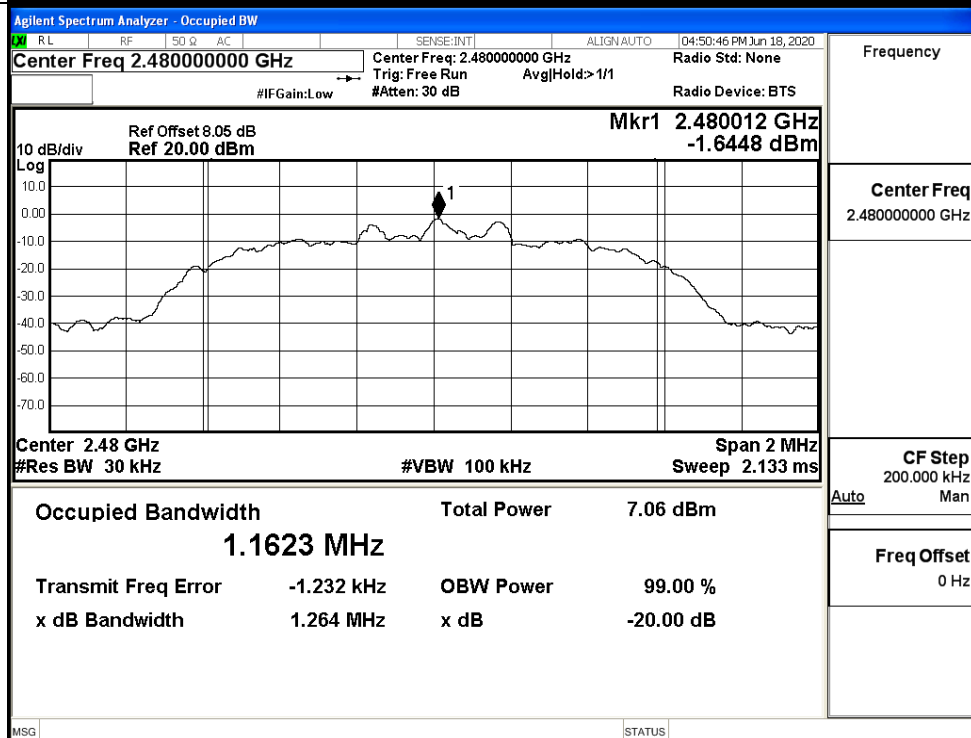
8DPSK/LCH



8DPSK/MCH



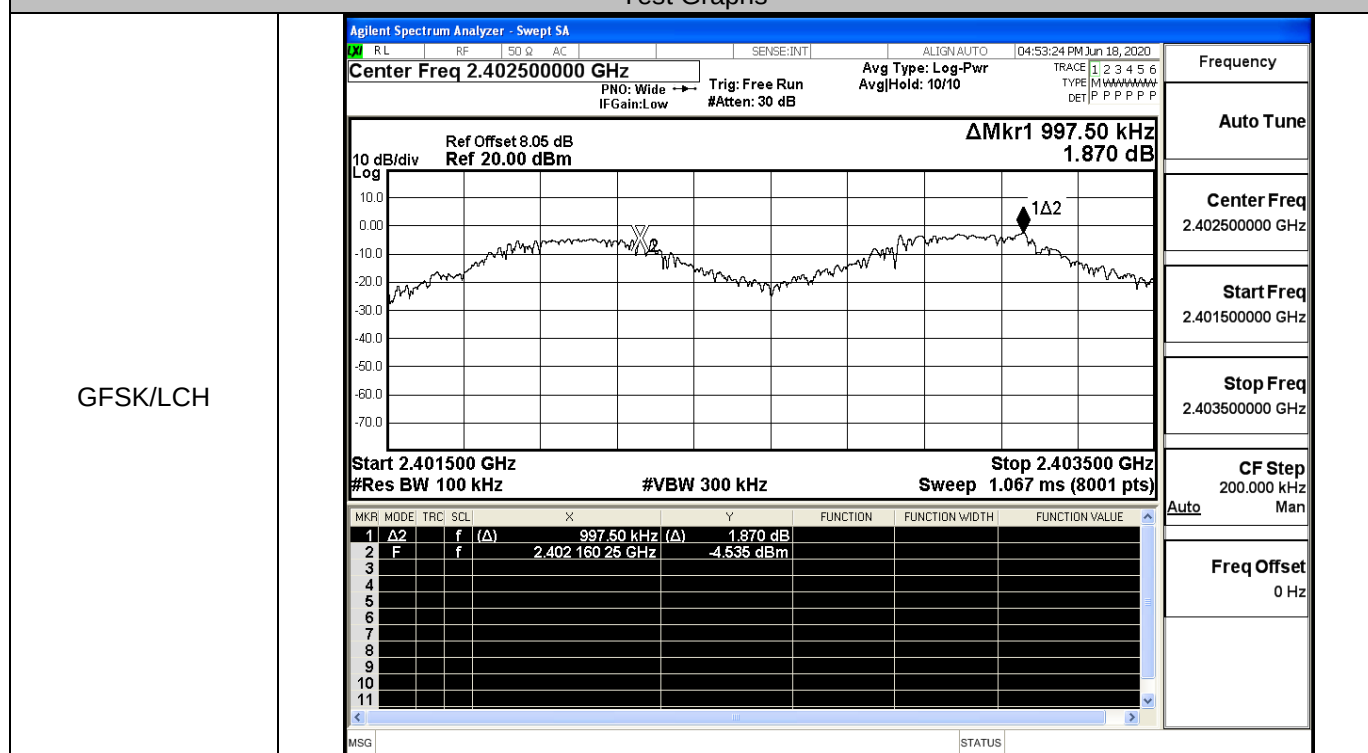
8DPSK/HCH



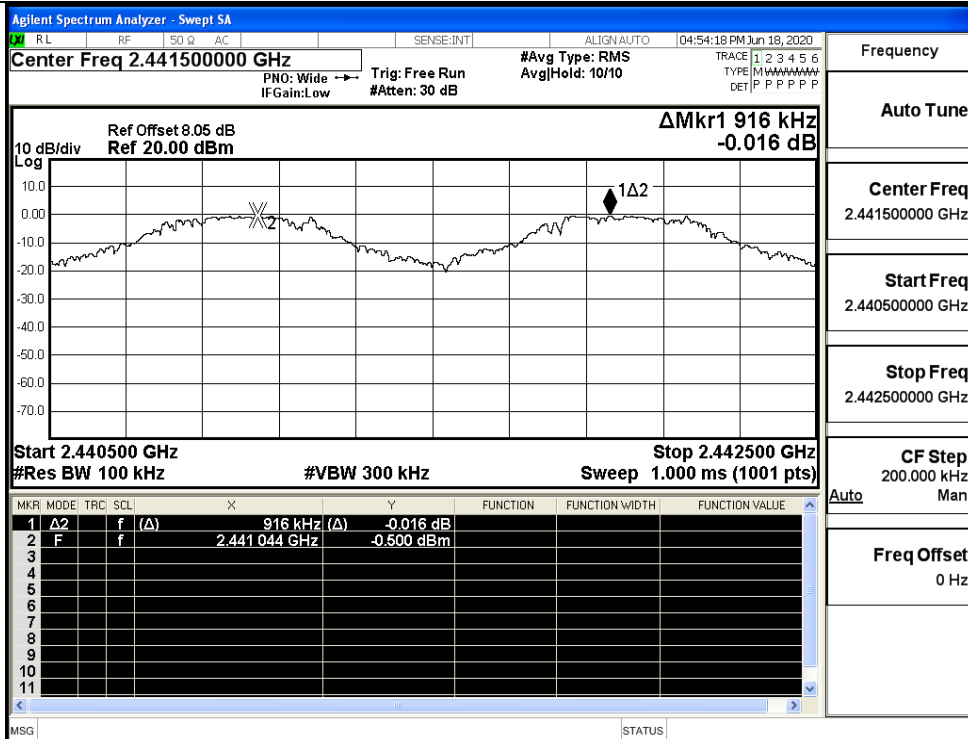
A.3 Carrier Frequency Separation

Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.997	0.630	PASS
	MCH	0.916	0.630	PASS
	HCH	0.974	0.630	PASS
$\pi/4$ DQPSK	LCH	1.080	0.849	PASS
	MCH	1.192	0.849	PASS
	HCH	0.892	0.849	PASS
8DPSK	LCH	1.202	0.848	PASS
	MCH	1.182	0.848	PASS
	HCH	1.182	0.848	PASS

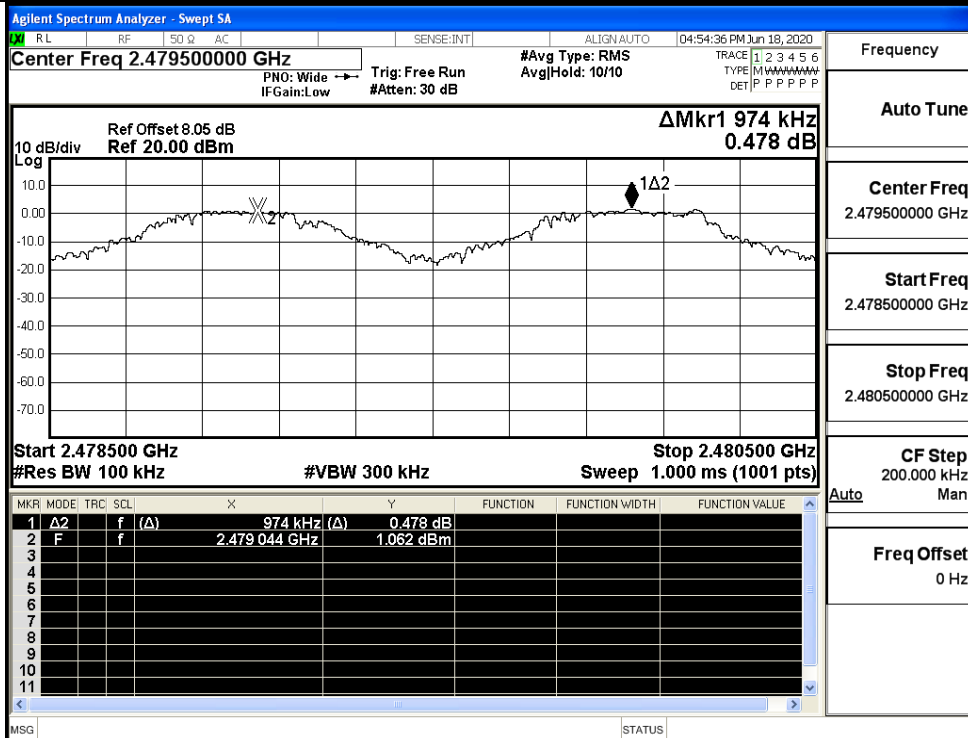
Test Graphs

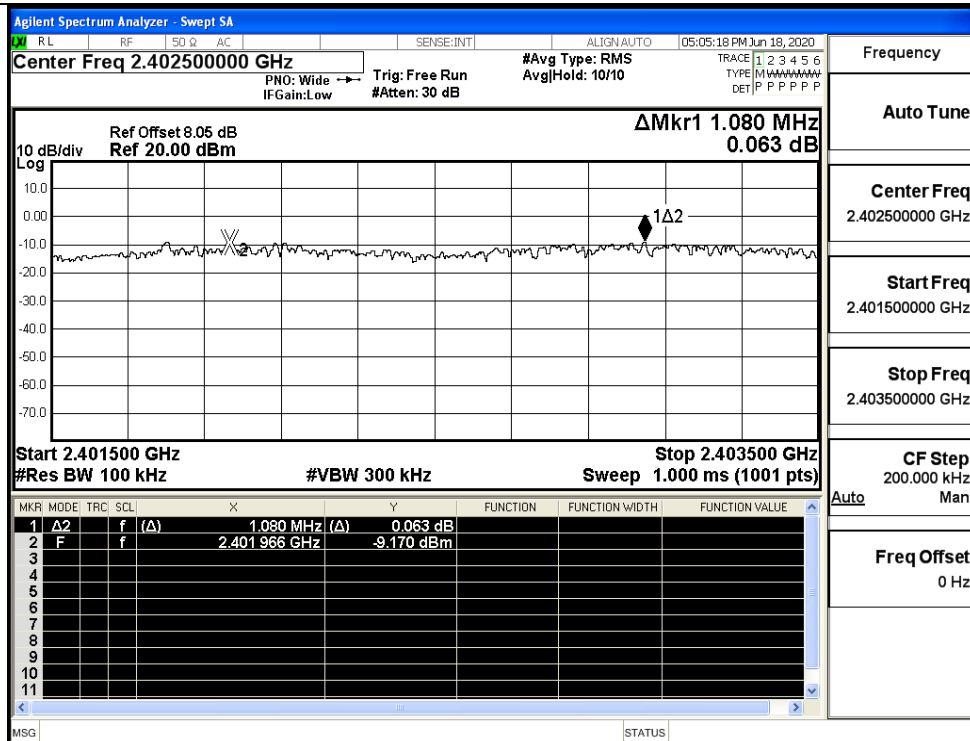
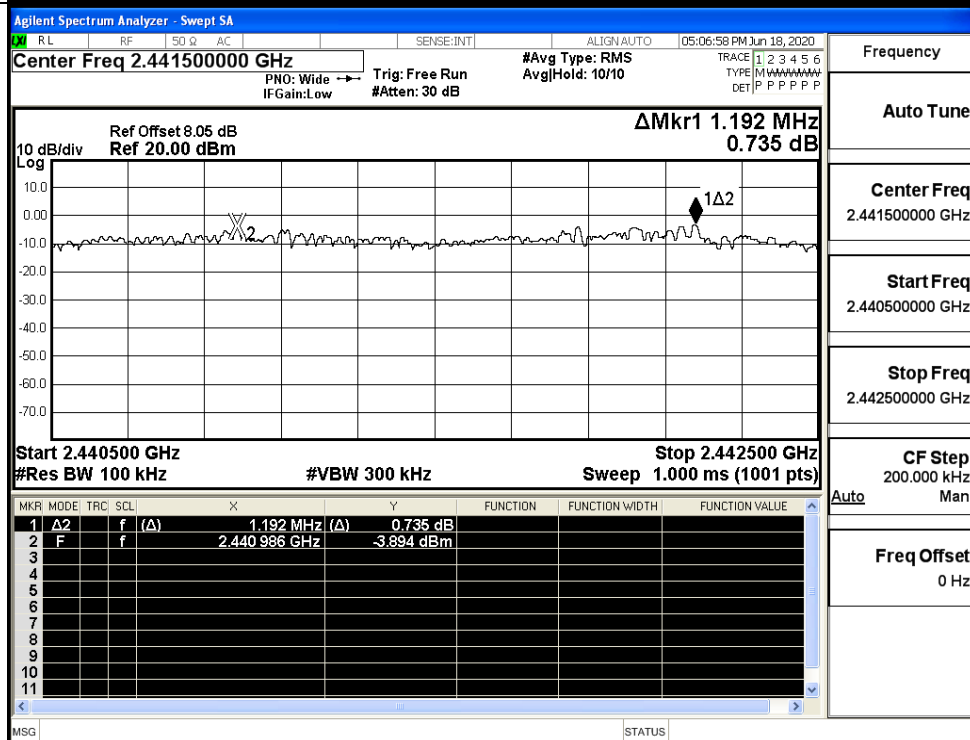


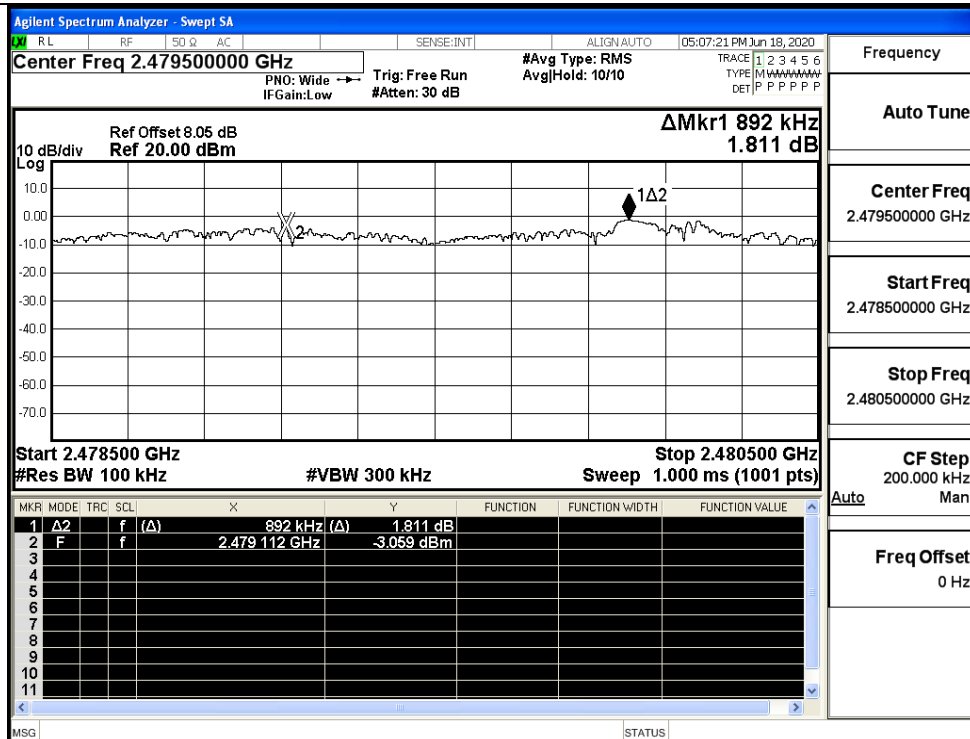
GFSK/MCH



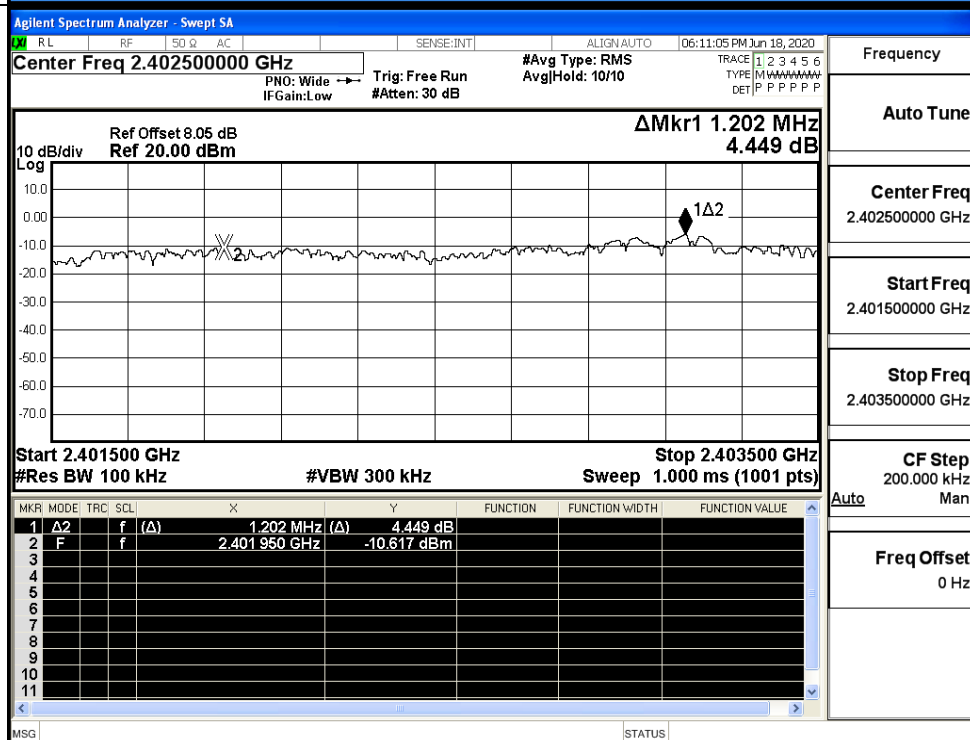
GFSK/HCH



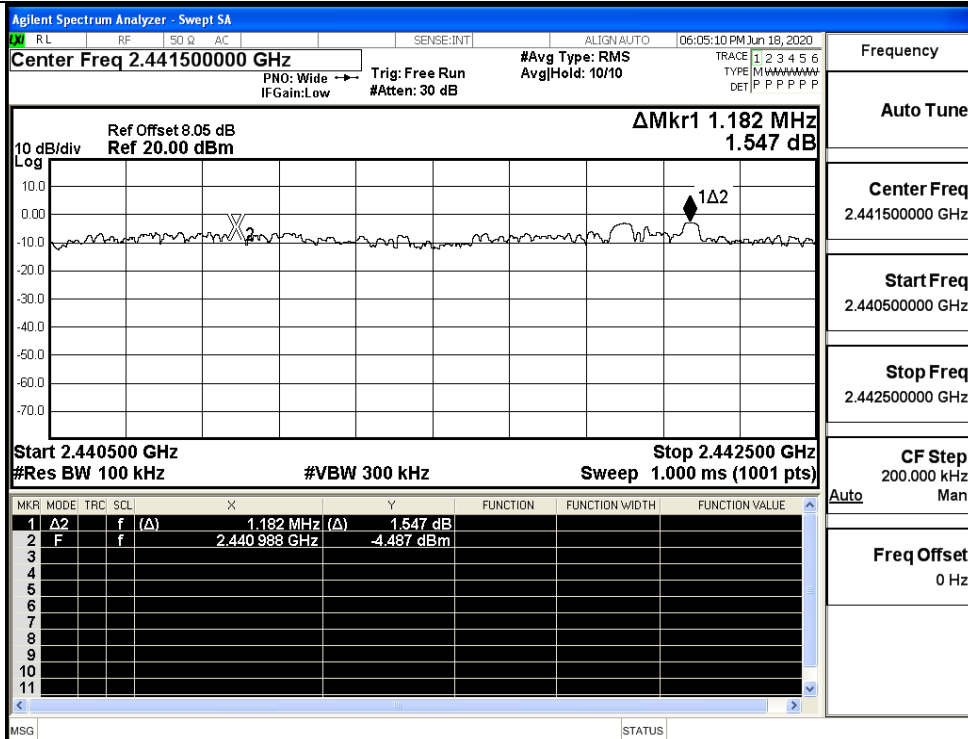
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

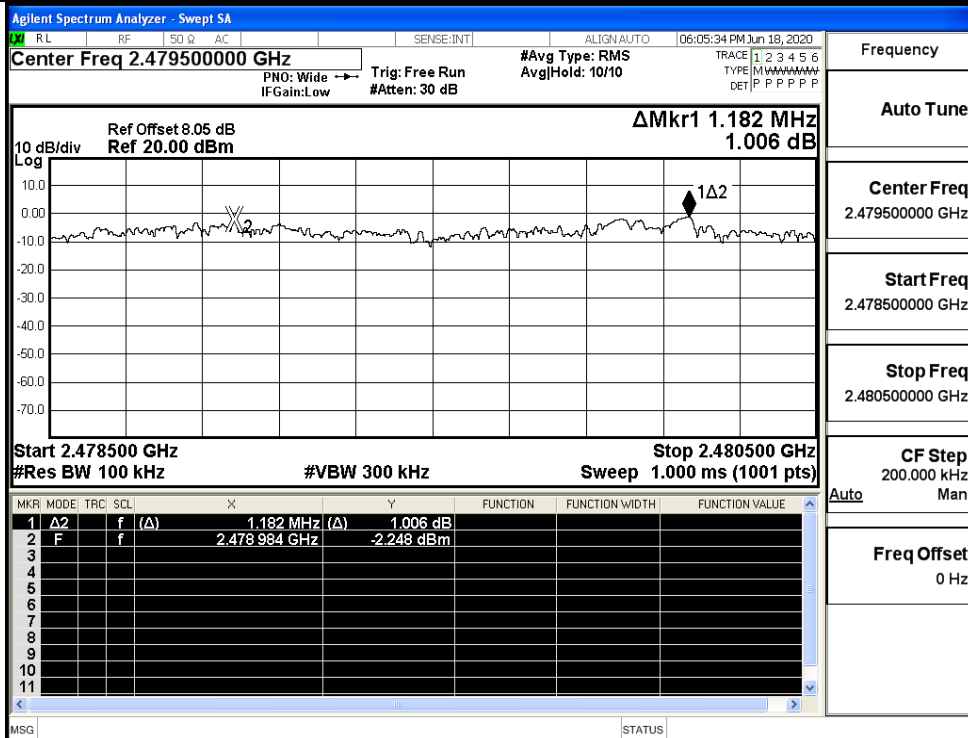
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

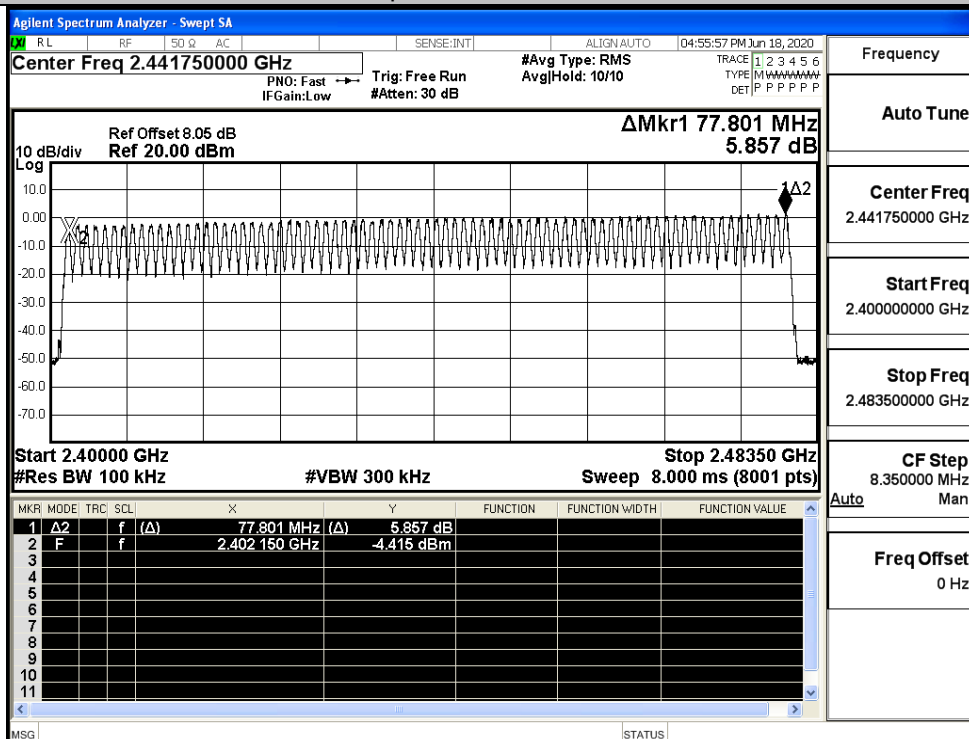


A.4 Hopping Channel Number

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

Test Graphs

GFSK/Hop



Frequency

Auto Tune

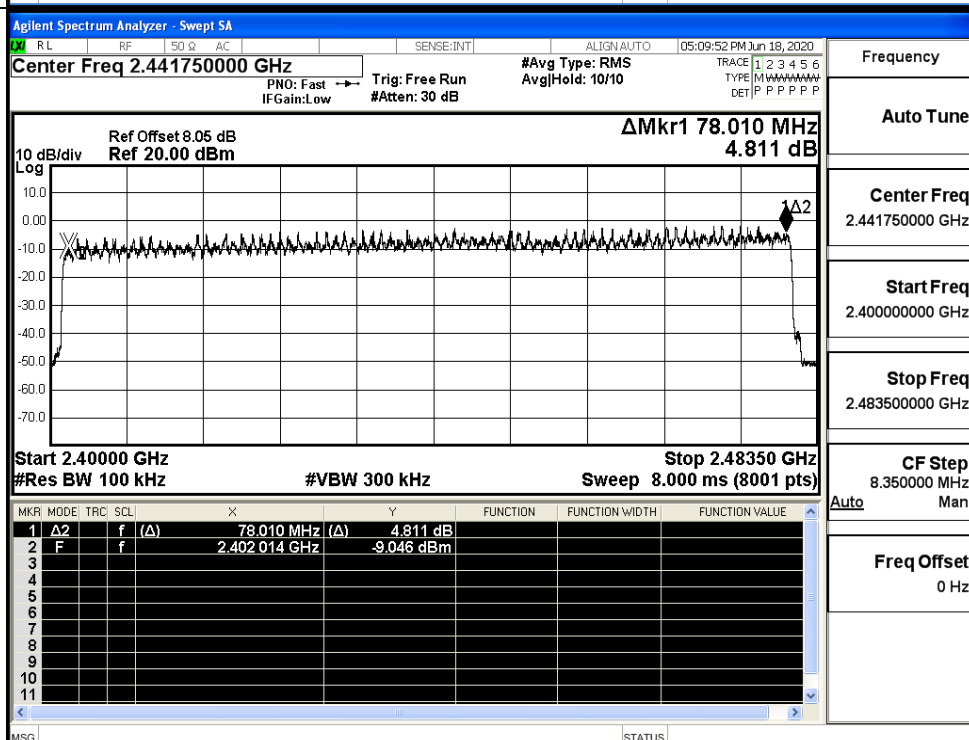
Center Freq
2.441750000 GHz

Start Freq
2.400000000 GHz

Stop Freq
2.483500000 GHz

CF Step
8.350000 MHz
Man

Freq Offset
0 Hz

 $\pi/4$ DQPSK/Hop

Frequency

Auto Tune

Center Freq
2.441750000 GHz

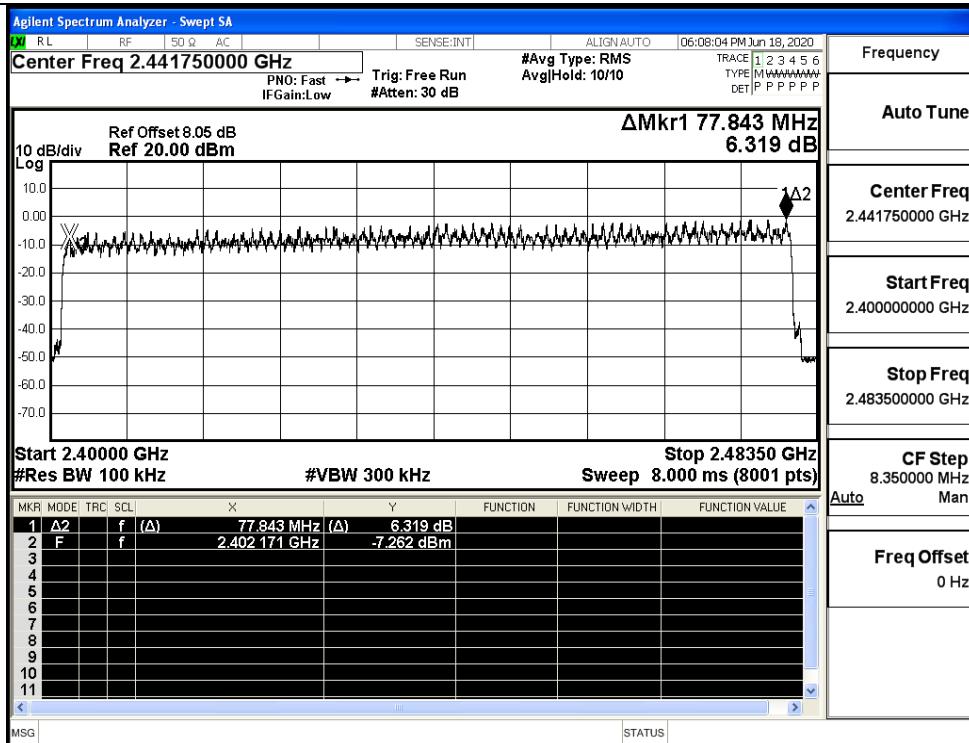
Start Freq
2.400000000 GHz

Stop Freq
2.483500000 GHz

CF Step
8.350000 MHz
Man

Freq Offset
0 Hz

8DPSK/Hop

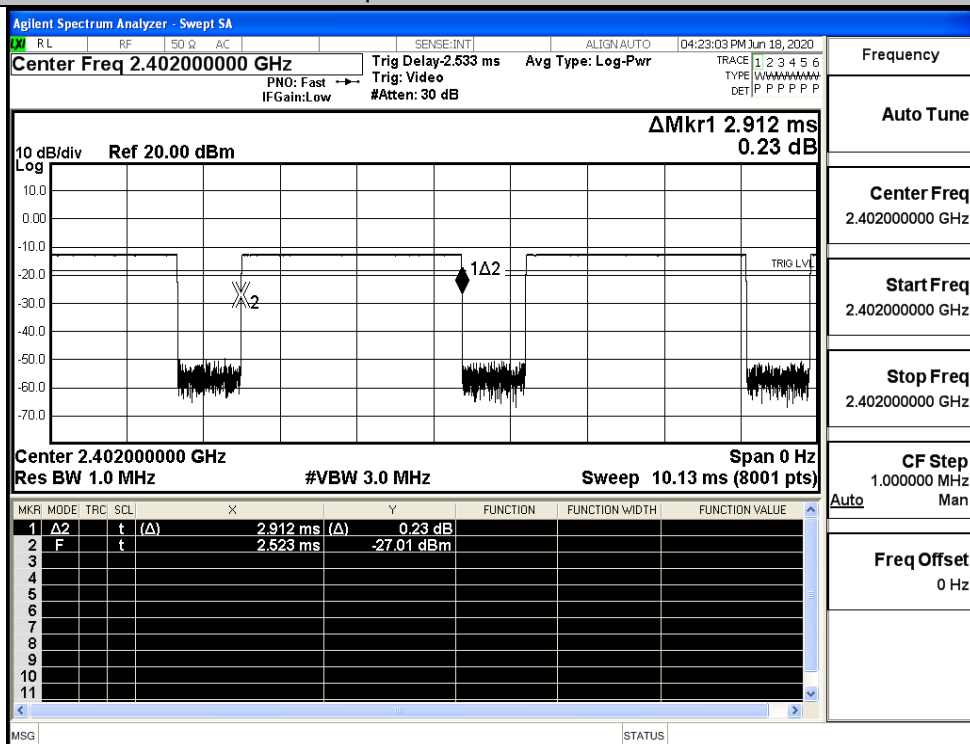


A.5 Dwell Time

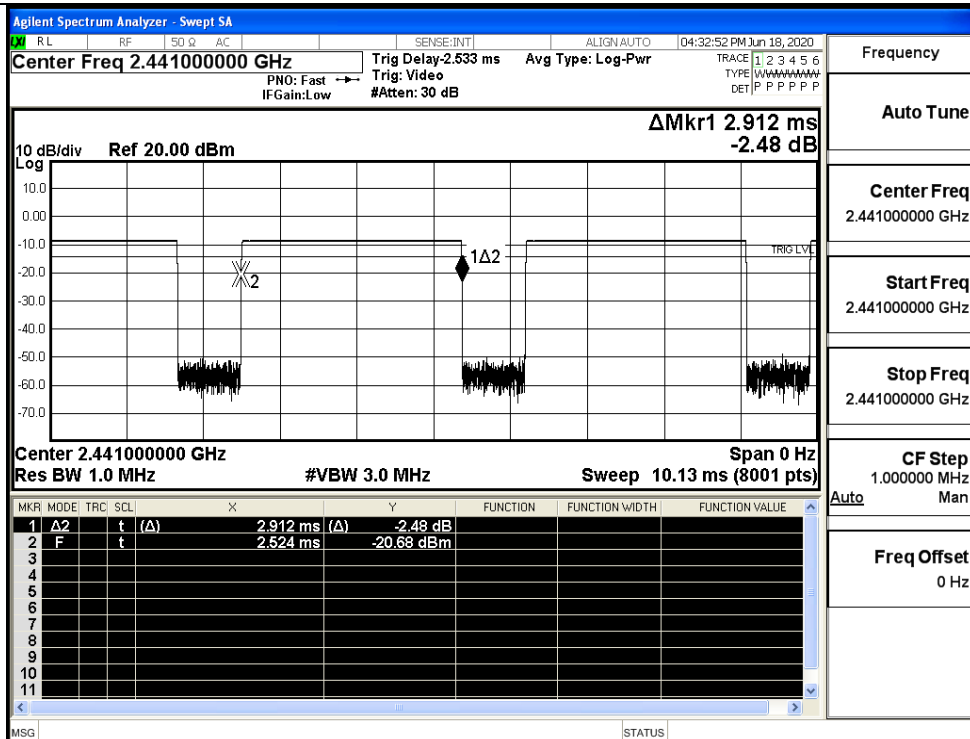
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.91	106.7	0.31	0.4	PASS
	DH5	MCH	2.91	106.7	0.31	0.4	PASS
	DH5	HCH	2.91	106.7	0.31	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.91	106.7	0.312	0.4	PASS
	2DH5	MCH	2.91	106.7	0.312	0.4	PASS
	2DH5	HCH	2.91	106.7	0.312	0.4	PASS
8DPSK	3DH5	LCH	2.91	106.7	0.312	0.4	PASS
	3DH5	MCH	2.91	106.7	0.312	0.4	PASS
	3DH5	HCH	2.91	106.7	0.312	0.4	PASS

Test Graphs

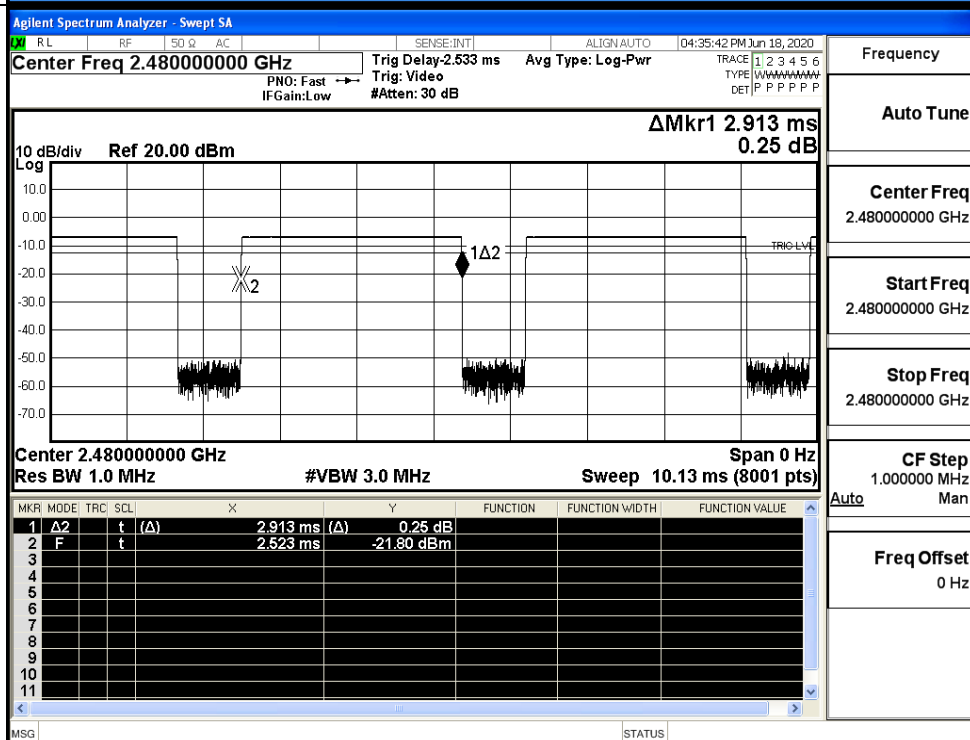
GFSK_DH5/LCH



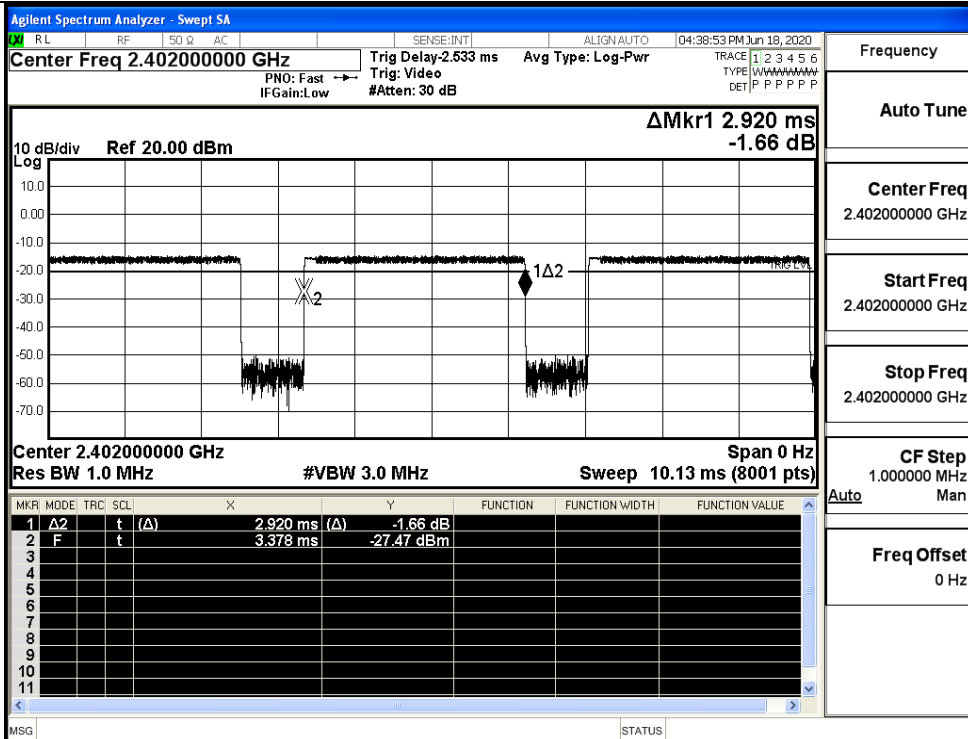
GFSK_DH5/MCH



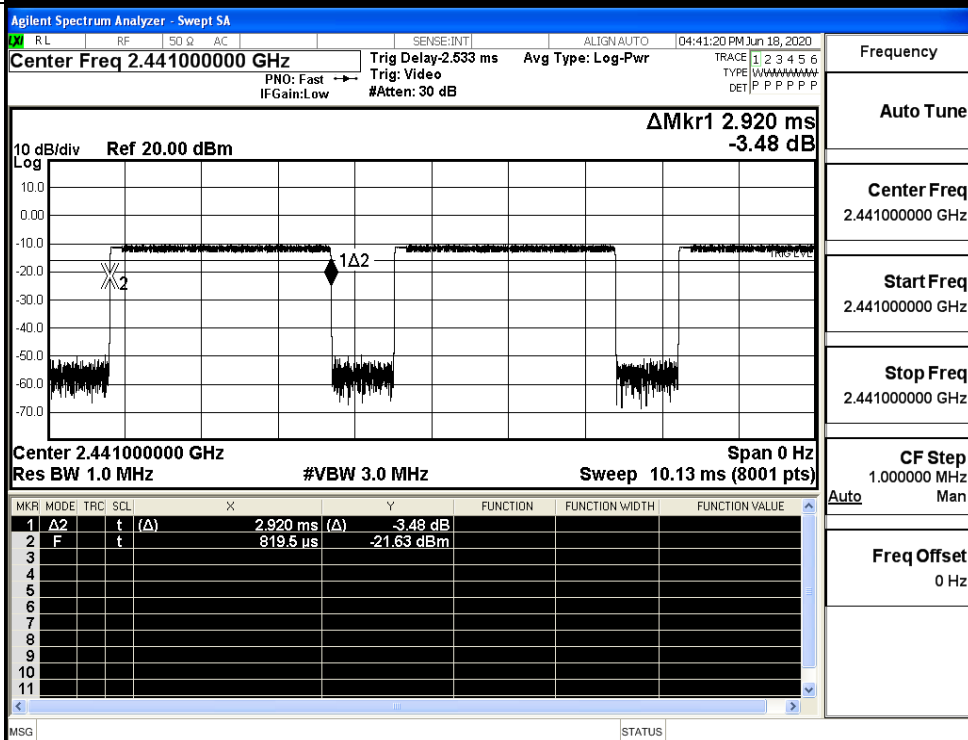
GFSK_DH5/HCH



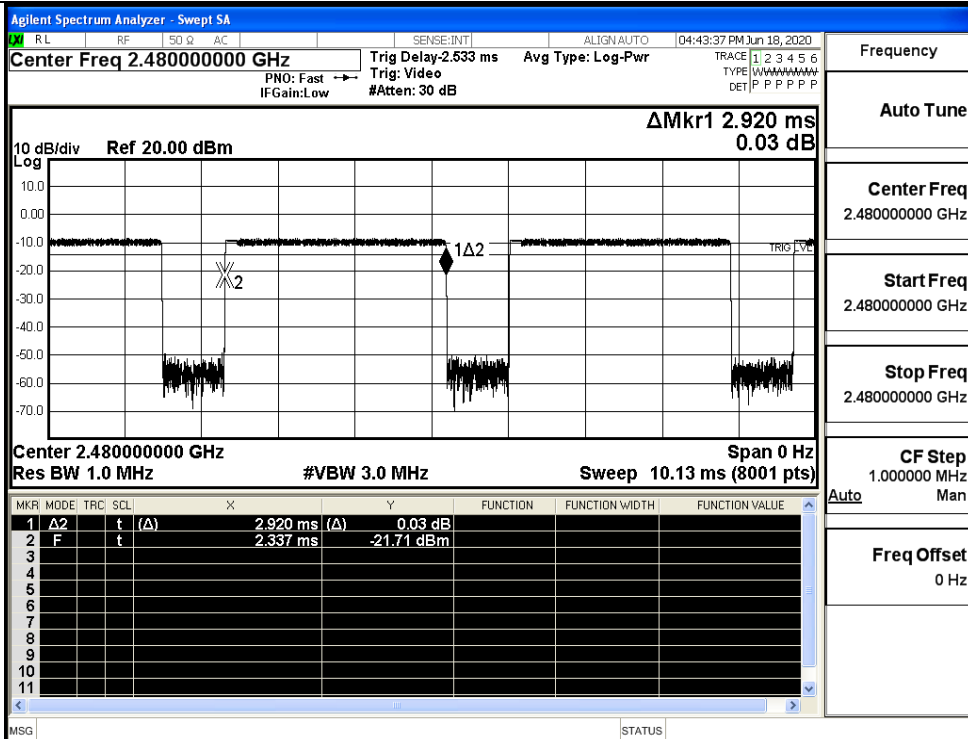
$\pi/4$ DQPSK
_2DH5/LCH



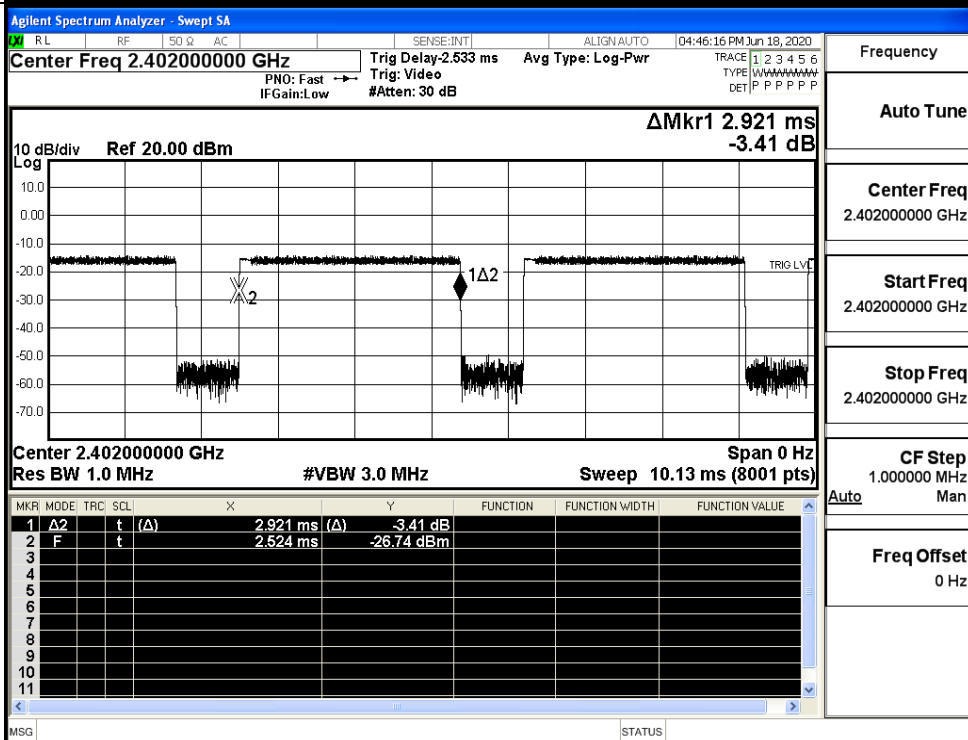
$\pi/4$ DQPSK
_2DH5/MCH



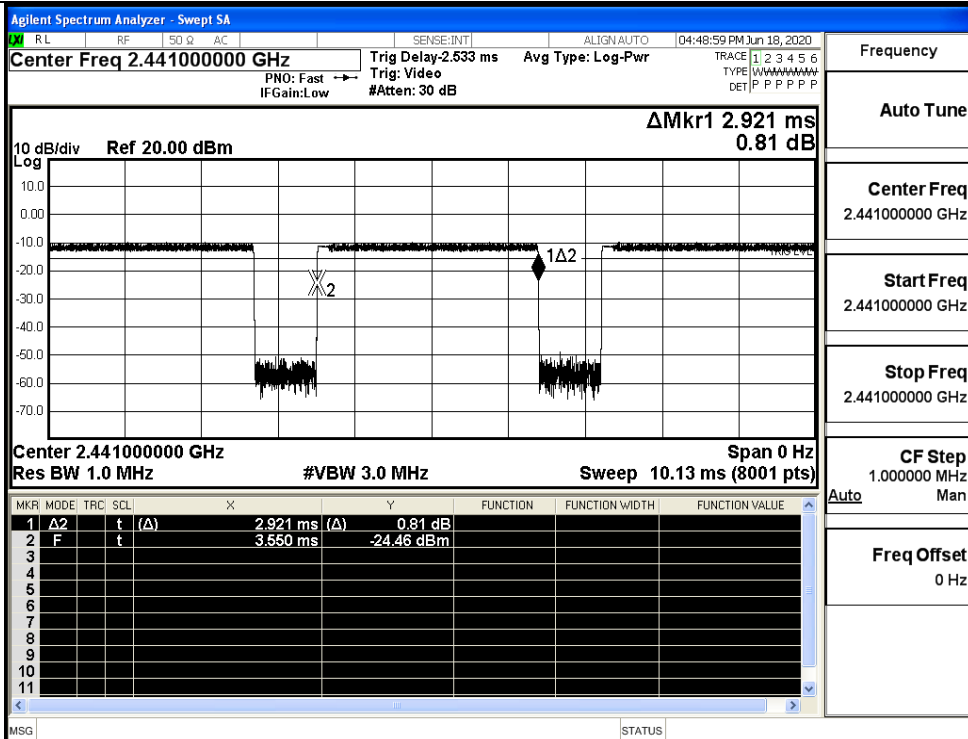
$\pi/4$ DQPSK
_2DH5/HCH



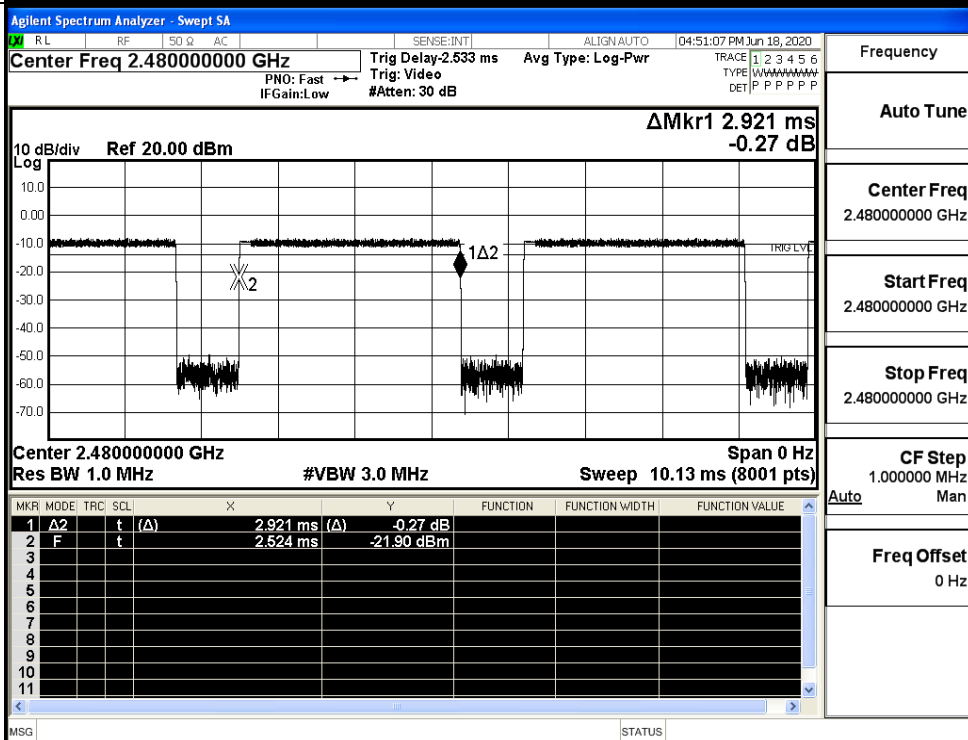
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



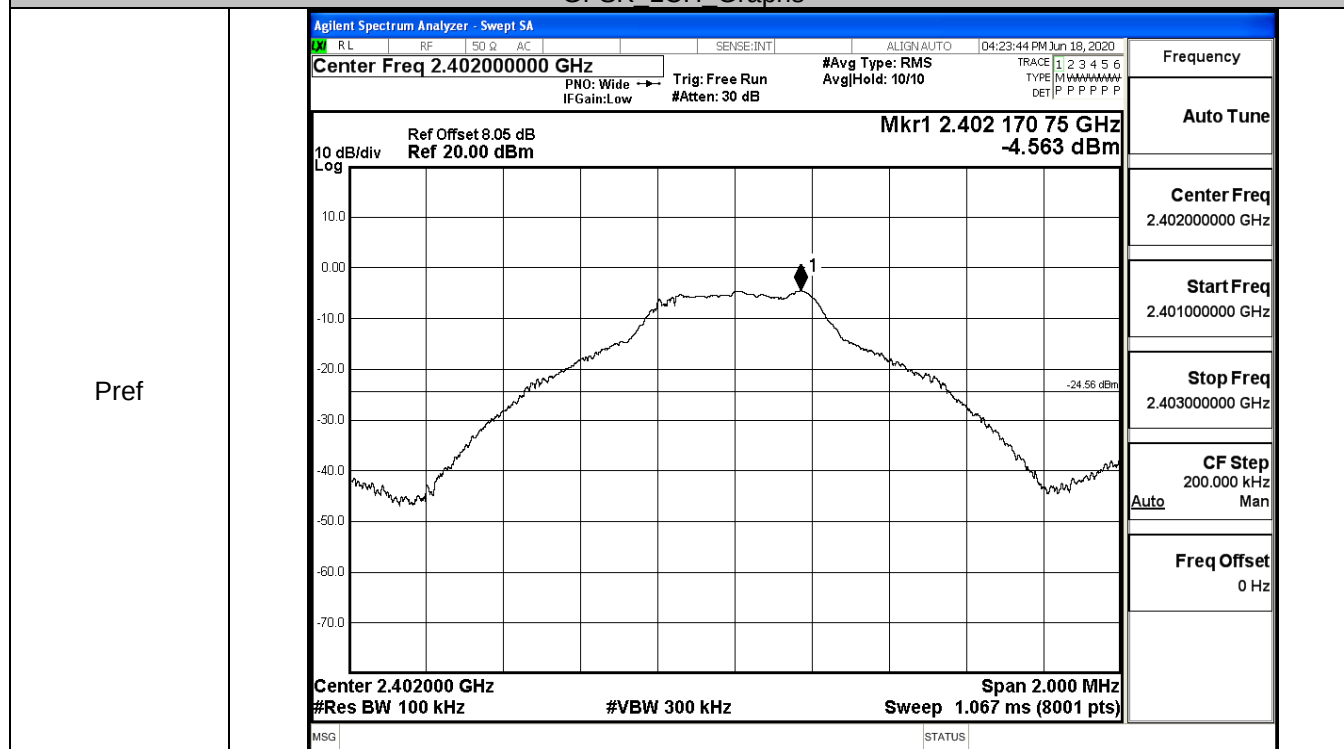
8DPSK_3DH5/HCH

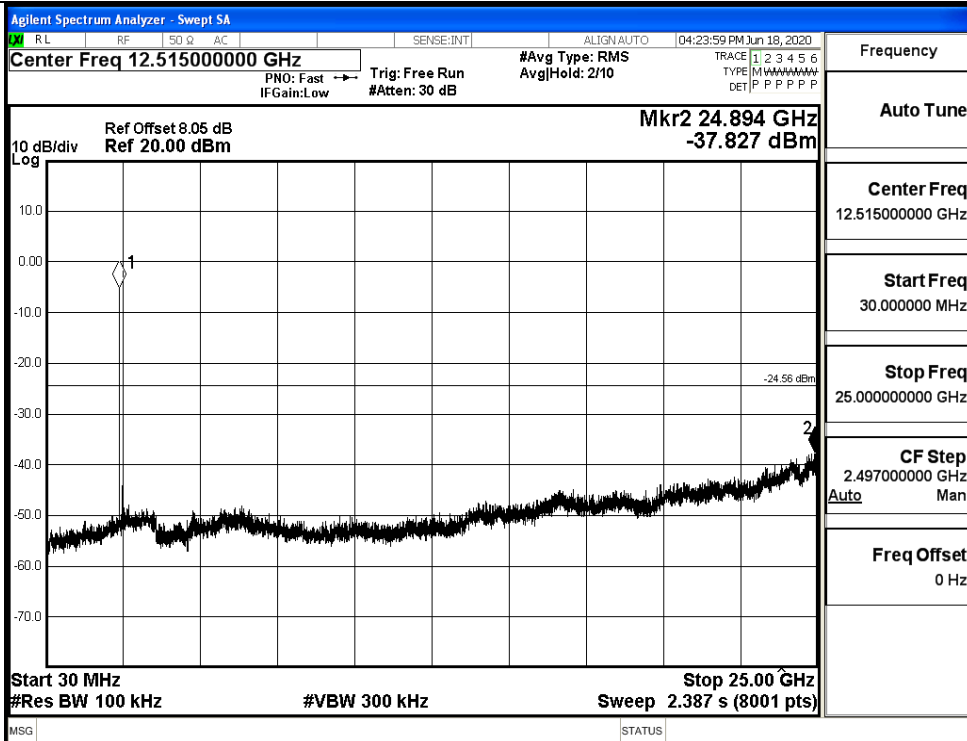


A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-4.563	-37.827	-24.563	PASS
	MCH	-0.516	-38.535	-20.516	PASS
	HCH	0.977	-37.596	-19.023	PASS
$\pi/4$ DQPSK	LCH	-8.01	-37.384	-28.010	PASS
	MCH	-3.163	-38.438	-23.163	PASS
	HCH	-1.168	-29.566	-21.168	PASS
8DPSK	LCH	-7.36	-38.099	-27.360	PASS
	MCH	-3.107	-37.761	-23.107	PASS
	HCH	-1.257	-37.543	-21.257	PASS

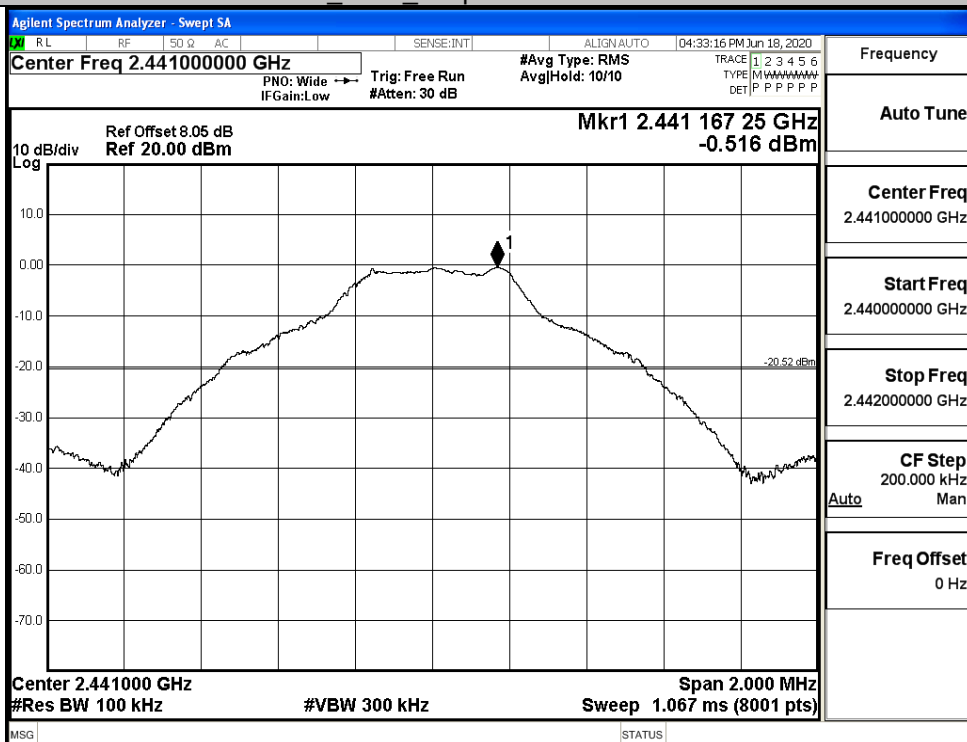
GFSK LCH Graphs



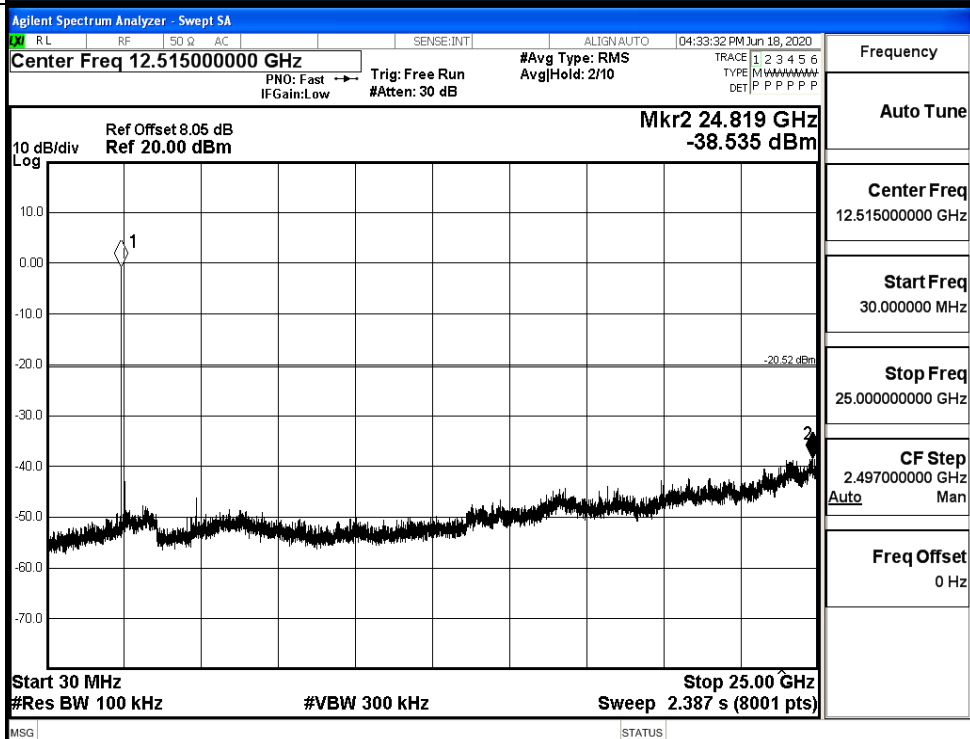
P_{uw}

GFSK_MCH_Graphs

Pref

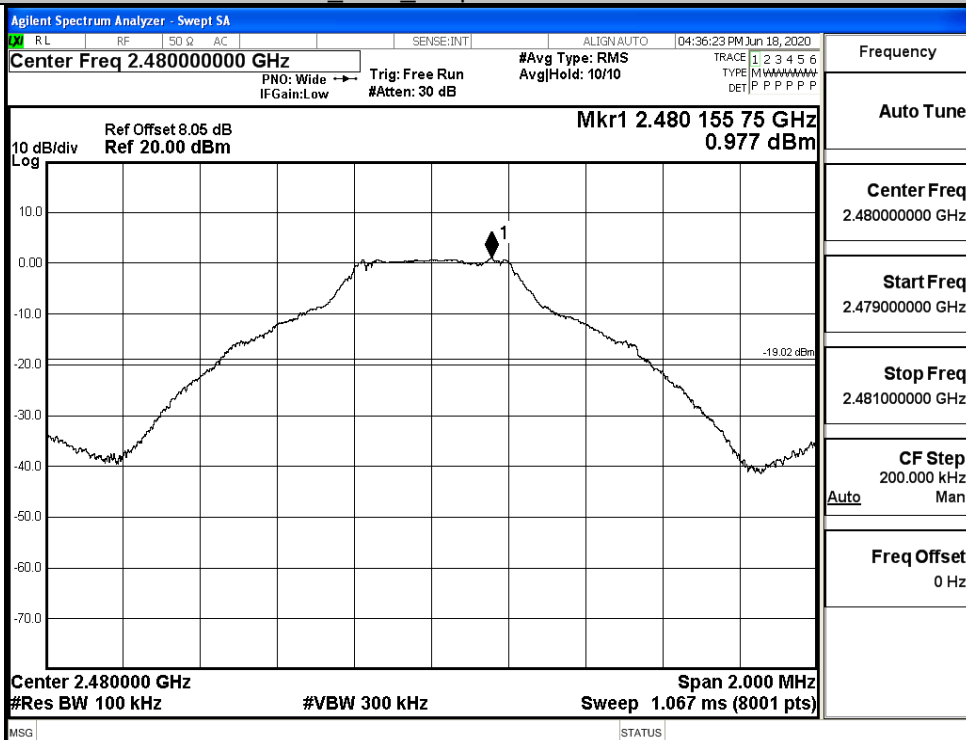


Puw

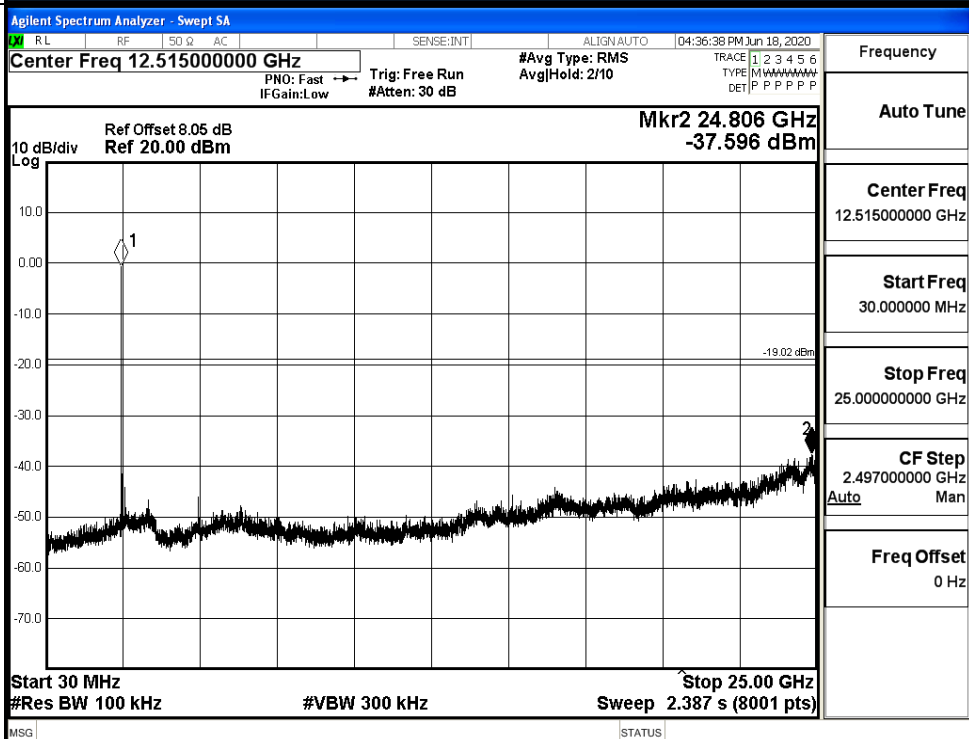


GFSK HCH_Graphs

Pref

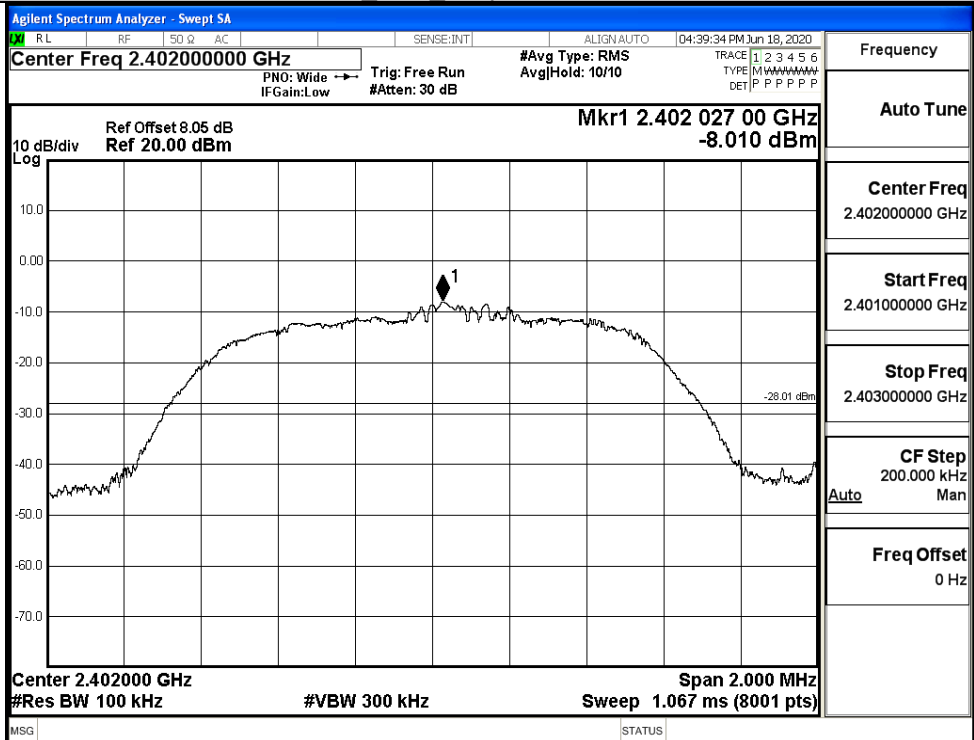


Puw



$\pi/4$ DQPSK_LCH_Graphs

Pref

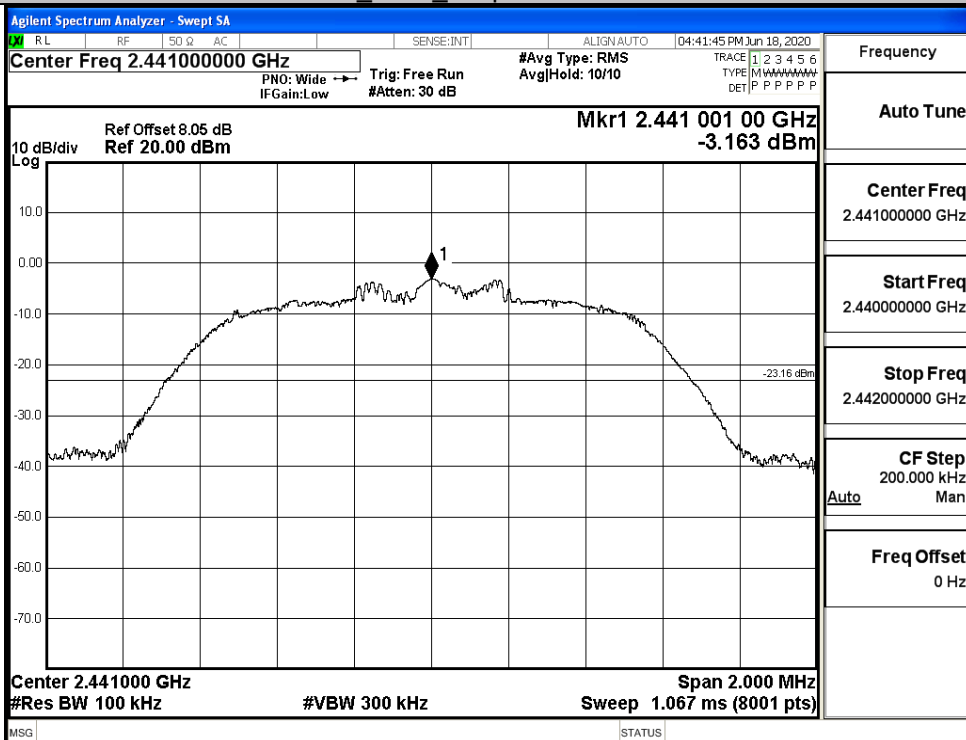


Puw

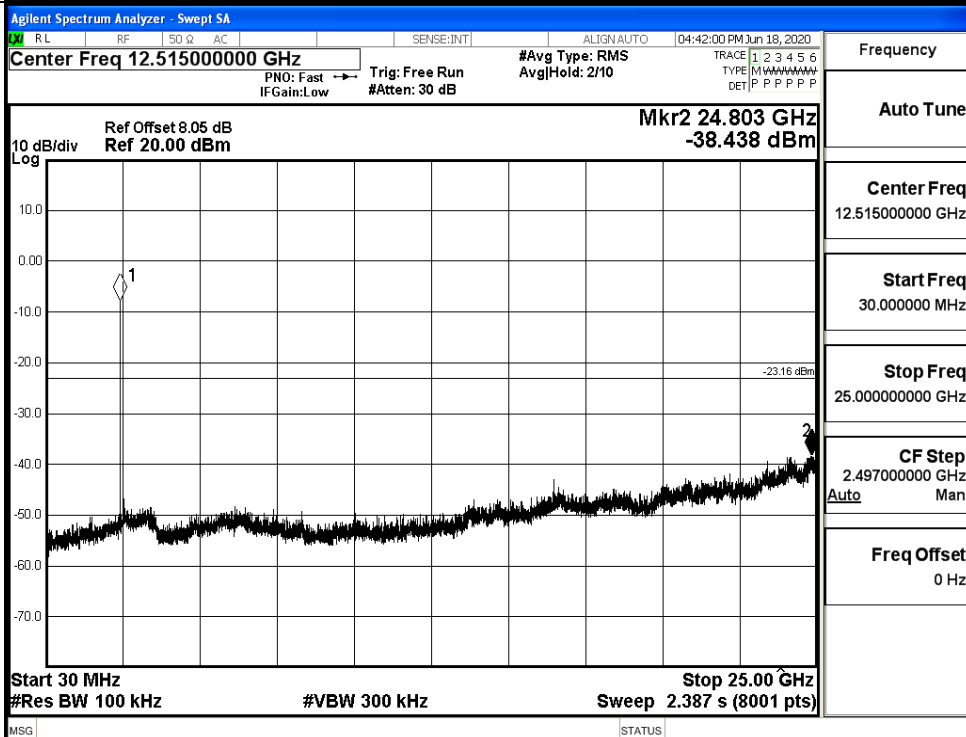


$\pi/4$ DQPSK_MCH_Graphs

Pref

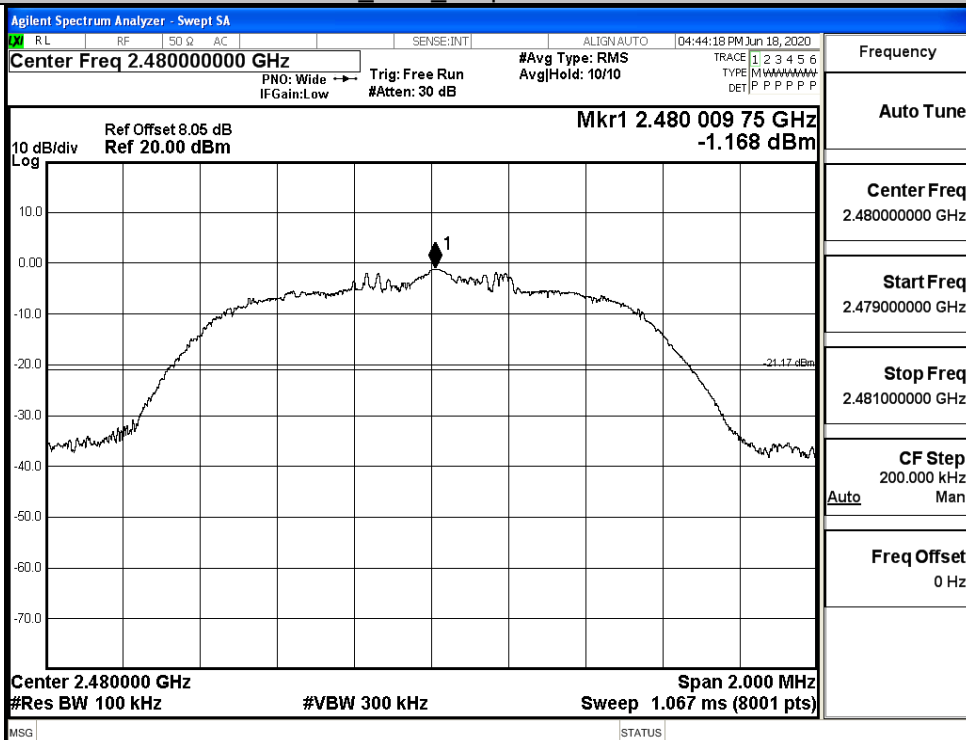


Puw

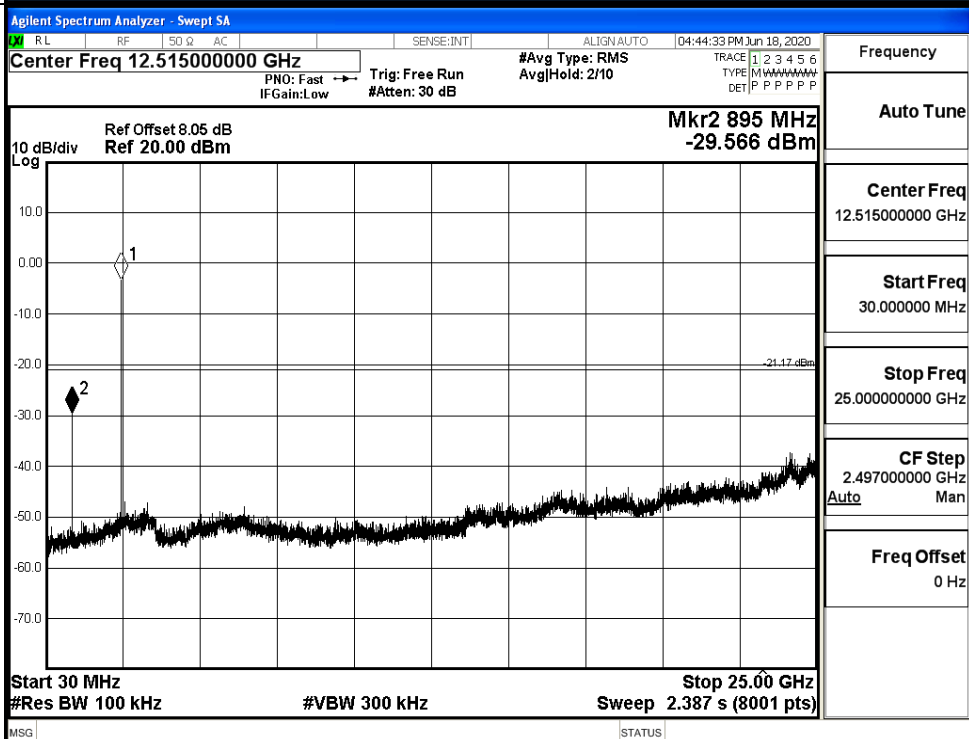


$\pi/4$ DQPSK_HCH_Graphs

Pref

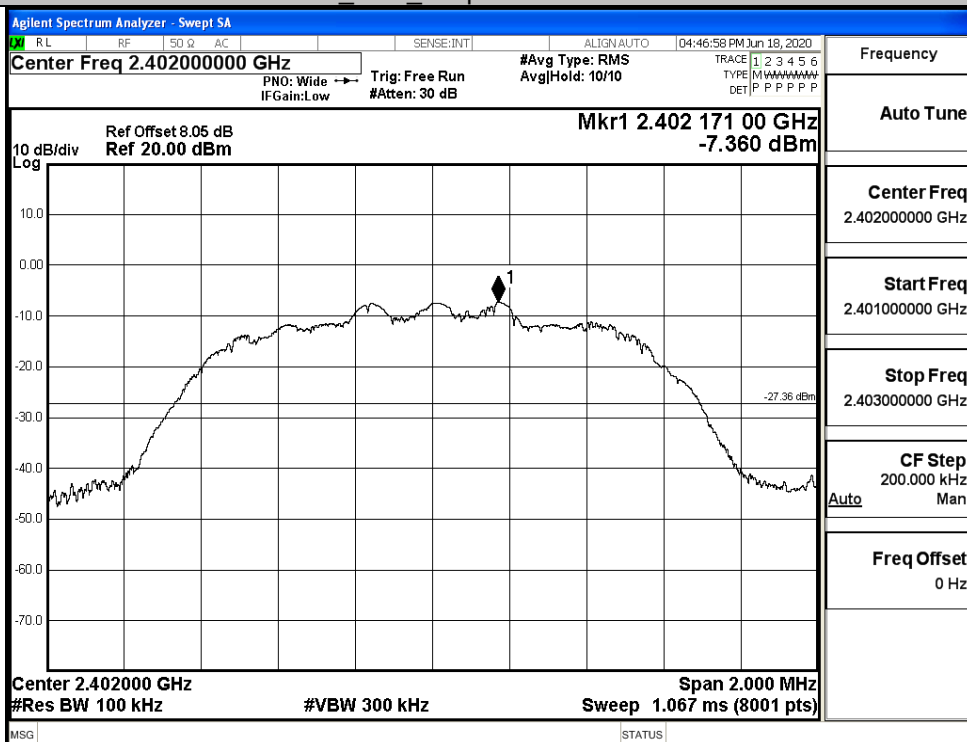


Puw

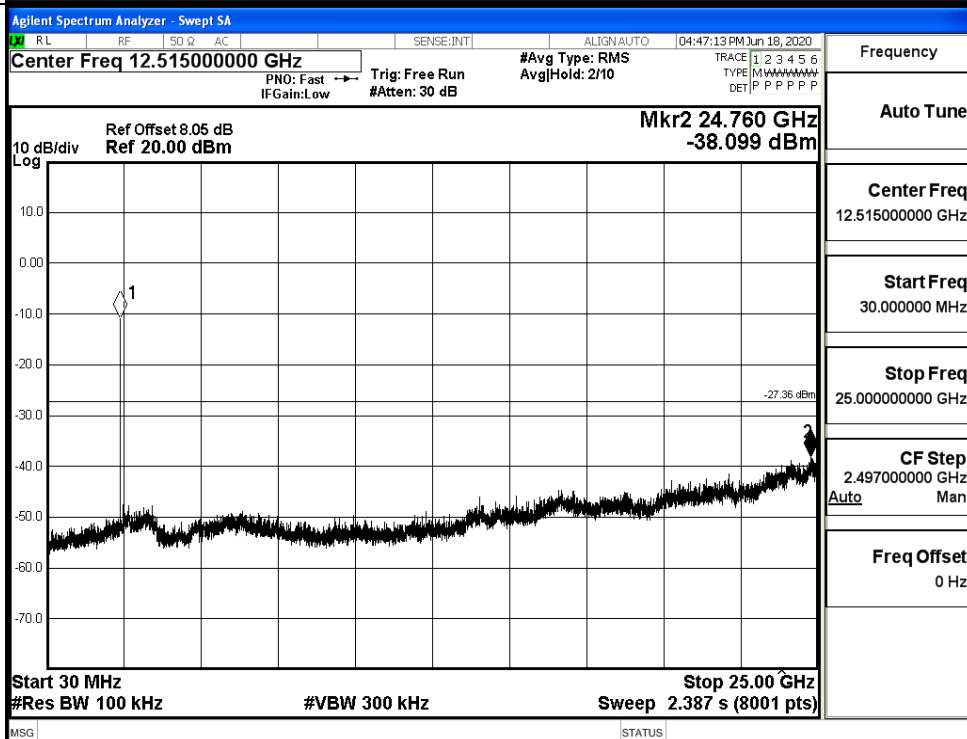


8DPSK_LCH_Graphs

Pref

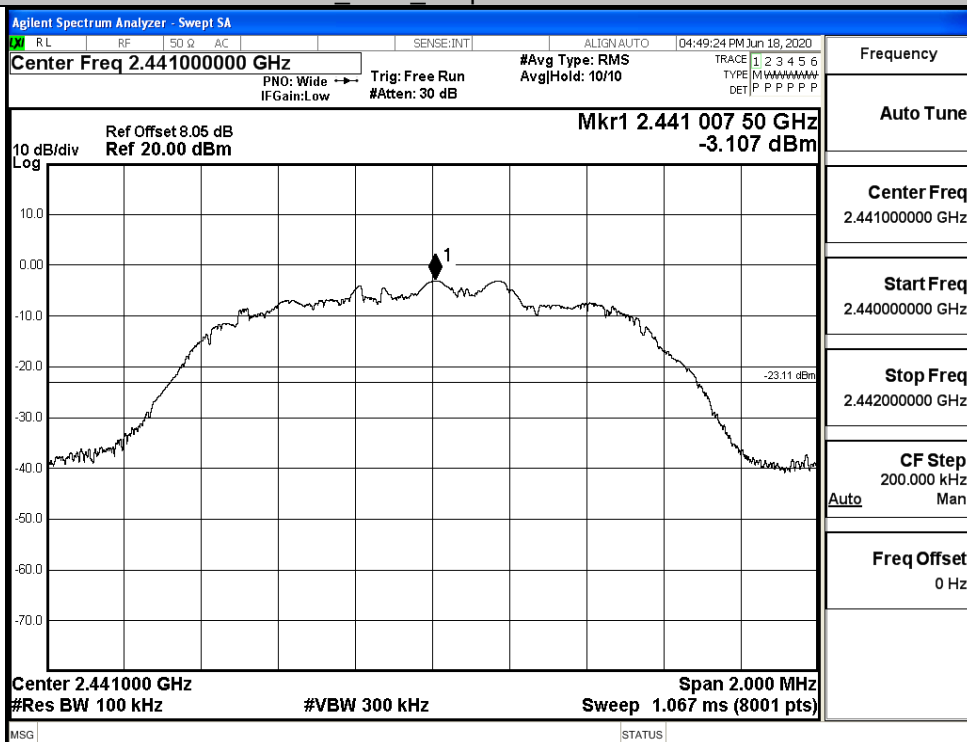


Puw

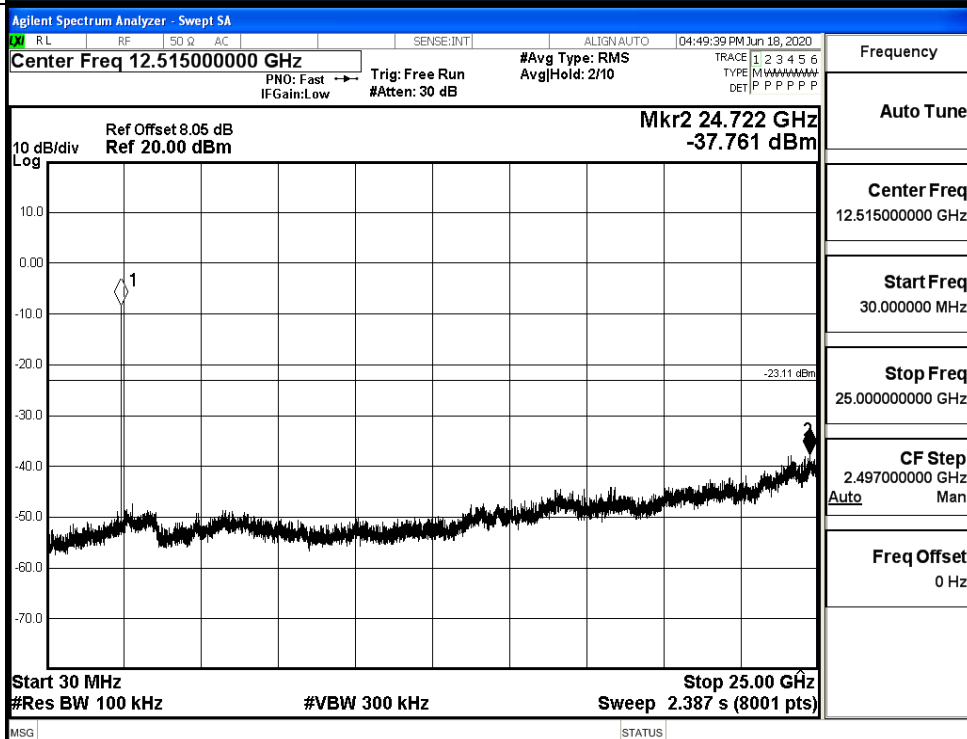


8DPSK_MCH_Graphs

Pref

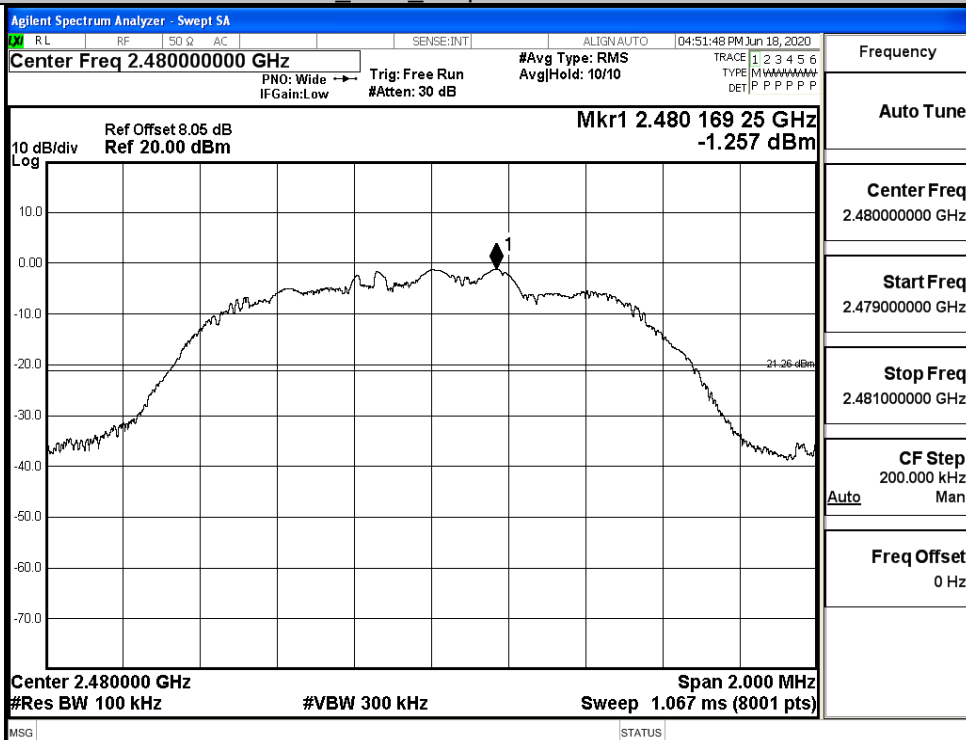


Puw

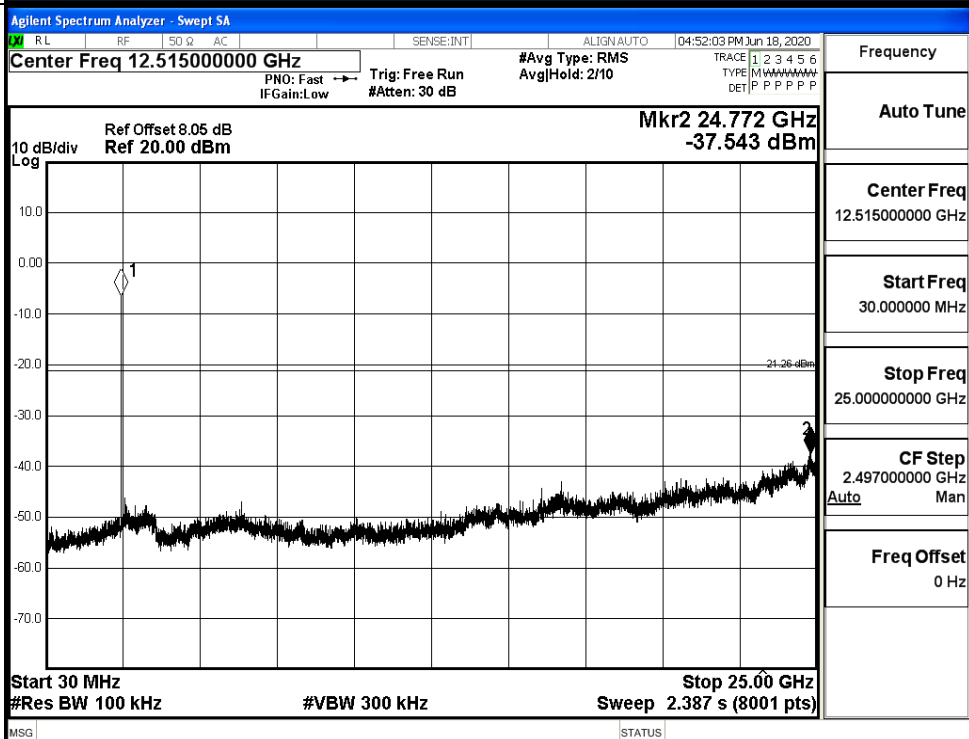


8DPSK_HCH_Graphs

Pref



Puw

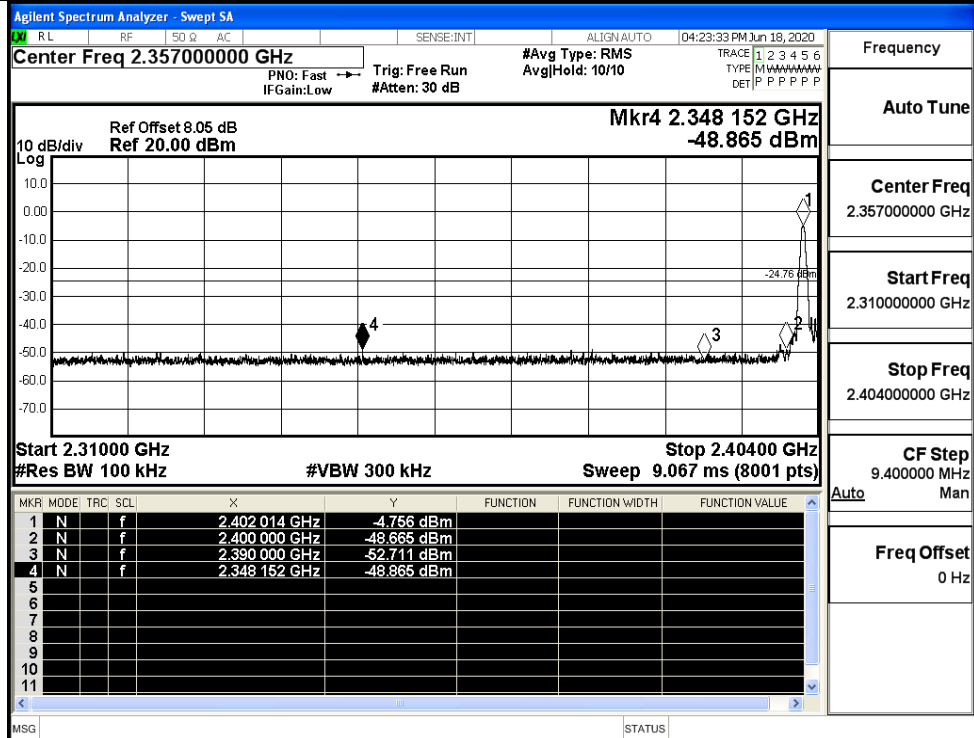


A.7 Band-edge for RF Conducted Emissions

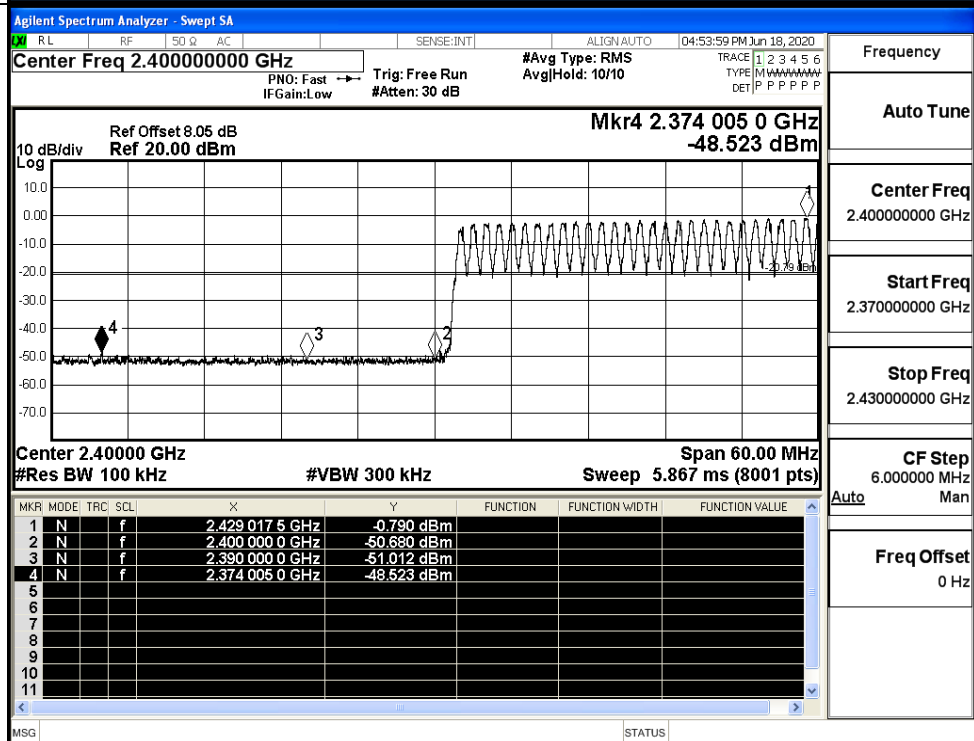
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-4.756	Off	-48.865	-24.76	PASS
			-0.790	On	-48.523	-20.79	PASS
	HCH	2480	1.295	Off	-45.814	-18.71	PASS
			1.526	On	-47.895	-18.47	PASS
$\pi/4$ DQPSK	LCH	2402	-7.320	Off	-49.353	-27.32	PASS
			-4.286	On	-48.758	-24.29	PASS
	HCH	2480	-1.215	Off	-48.236	-21.22	PASS
			-1.547	On	-47.863	-21.55	PASS
8DPSK	LCH	2402	-7.570	Off	-49.006	-27.57	PASS
			-4.068	On	-48.461	-24.07	PASS
	HCH	2480	-1.232	Off	-48.949	-21.23	PASS
			-1.175	On	-48.530	-21.18	PASS

Test Graphs

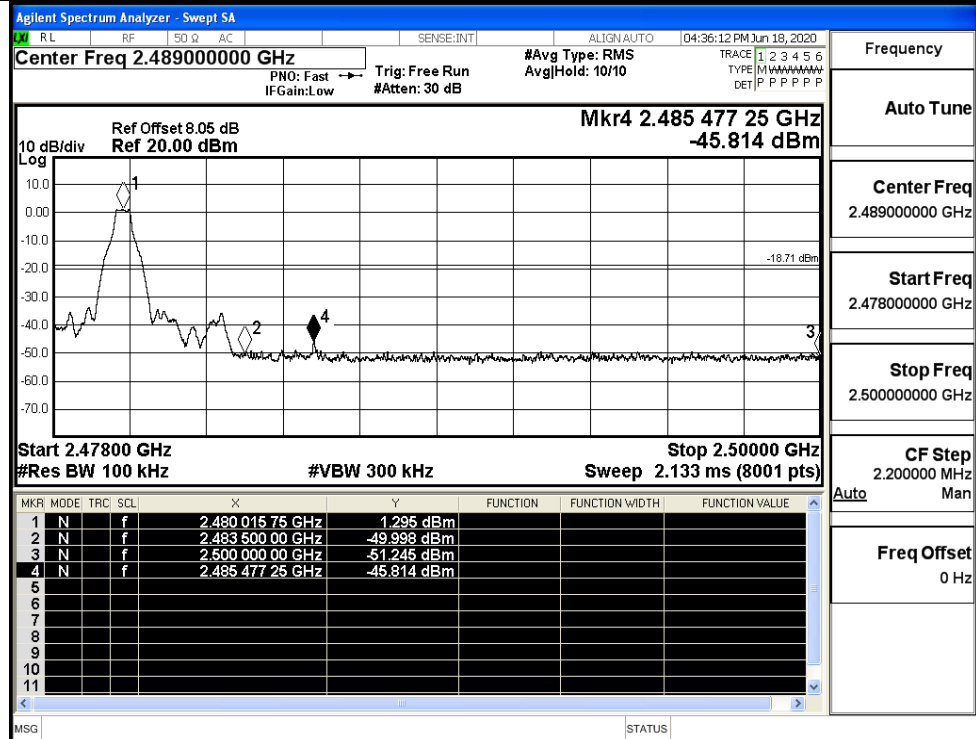
GFSK/LCH/No Hop



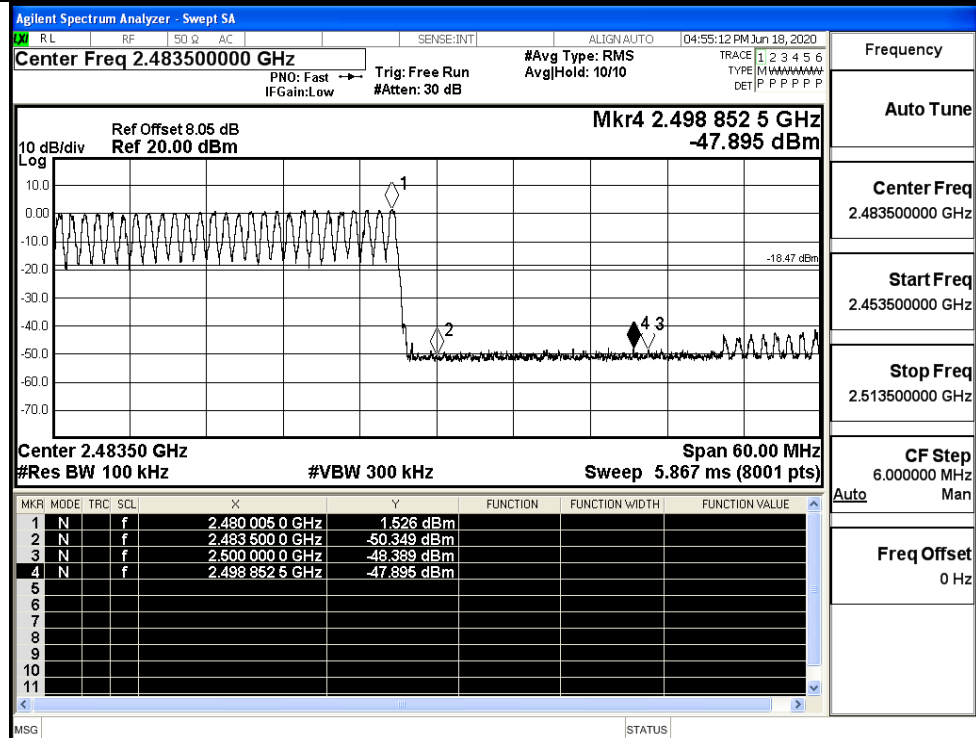
GFSK/LCH/Hop



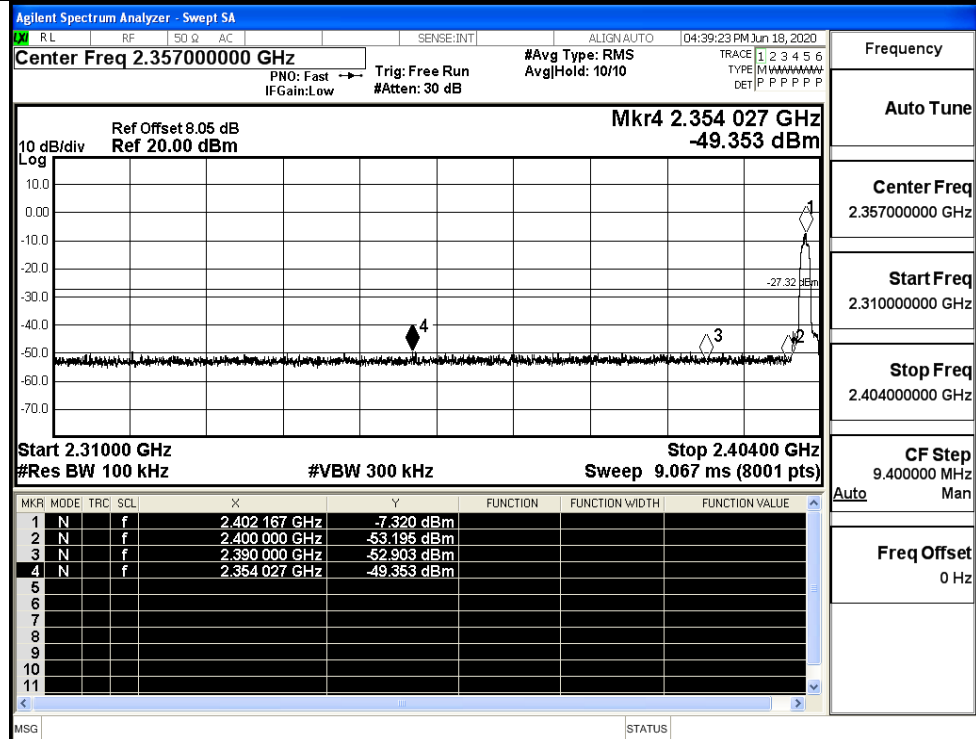
GFSK/HCH/No Hop



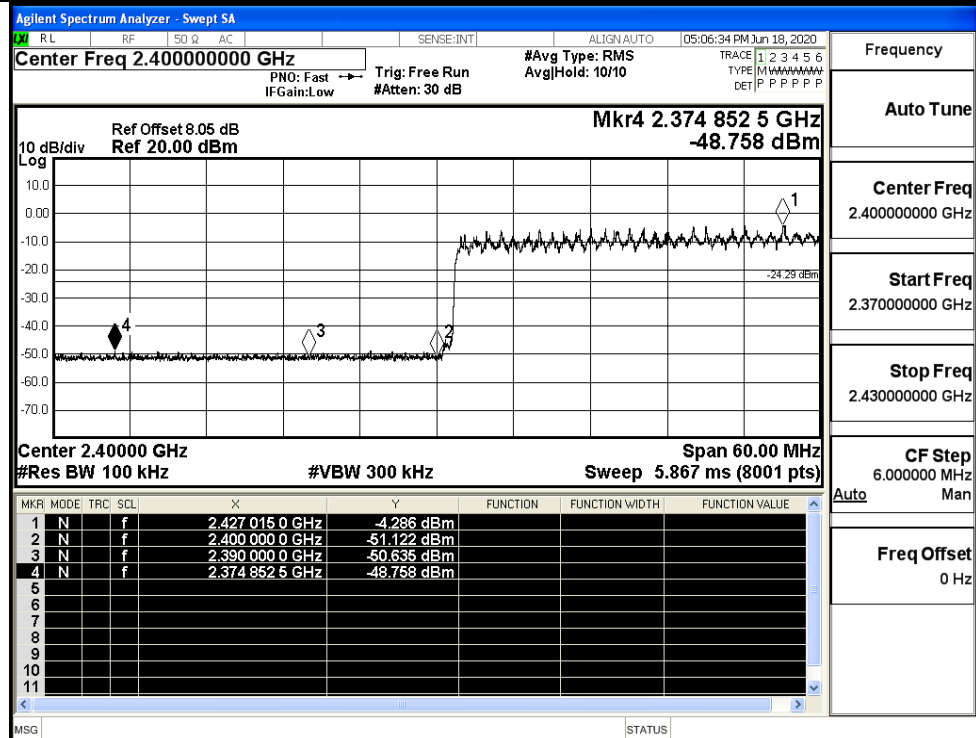
GFSK/HCH/Hop



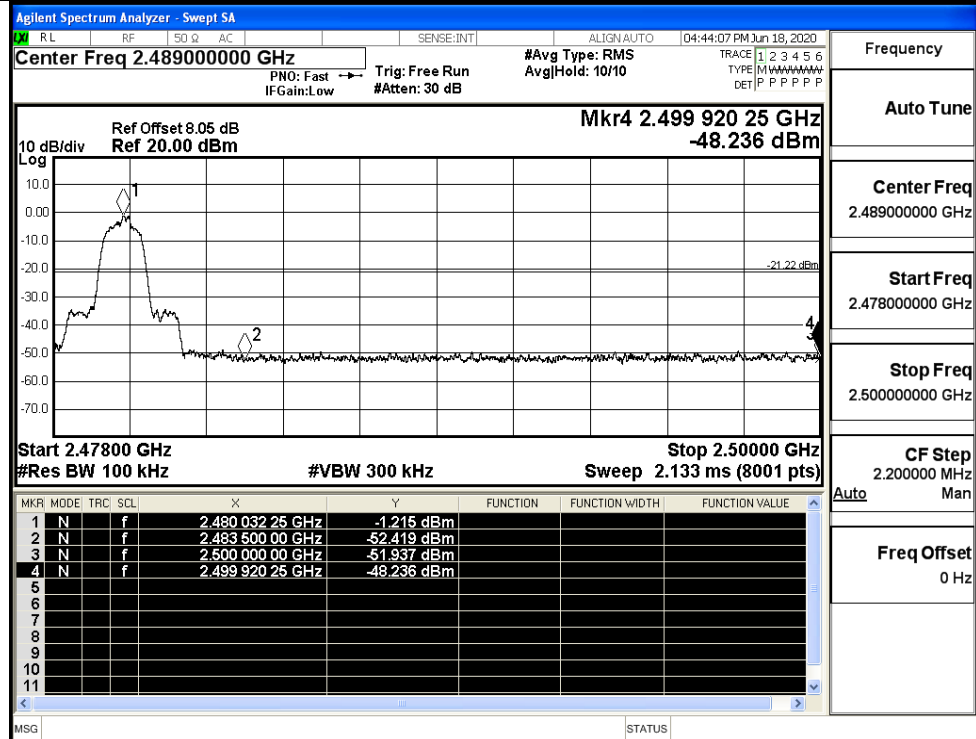
$\pi/4$ DQPSK/LCH/No
Hop



$\pi/4$ DQPSK/LCH/Hop



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



Frequency

Auto Tune

Center Freq
2.489000000 GHz

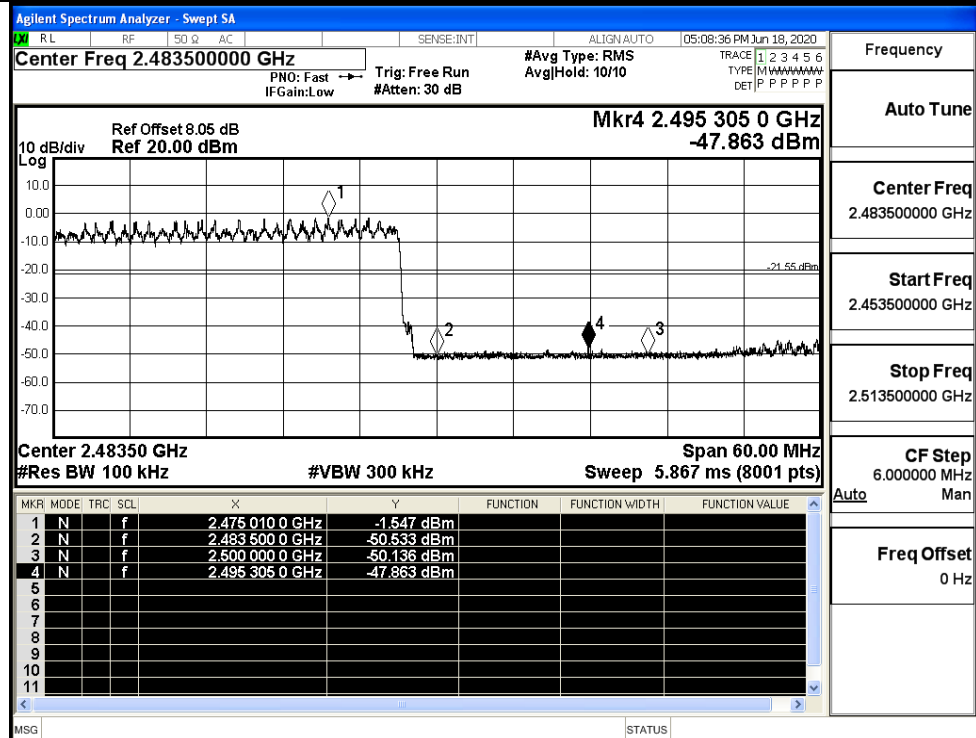
Start Freq
2.478000000 GHz

Stop Freq
2.500000000 GHz

CF Step
2.200000 MHz
Auto Man

Freq Offset
0 Hz

$\pi/4$ DQPSK/HCH/Hop



Frequency

Auto Tune

Center Freq
2.483500000 GHz

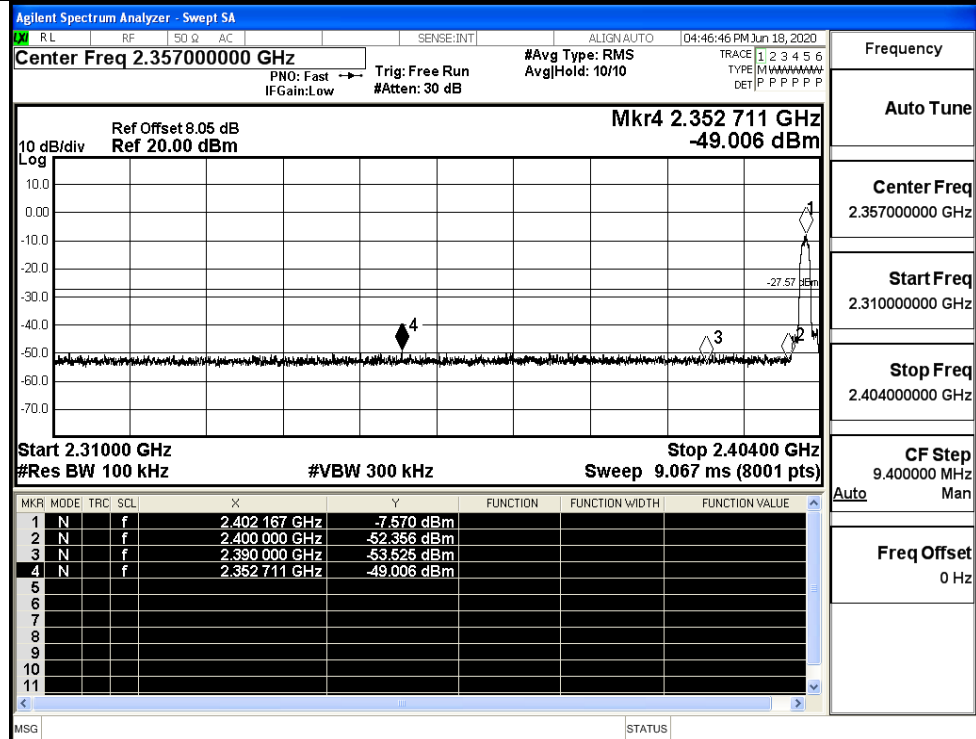
Start Freq
2.453500000 GHz

Stop Freq
2.513500000 GHz

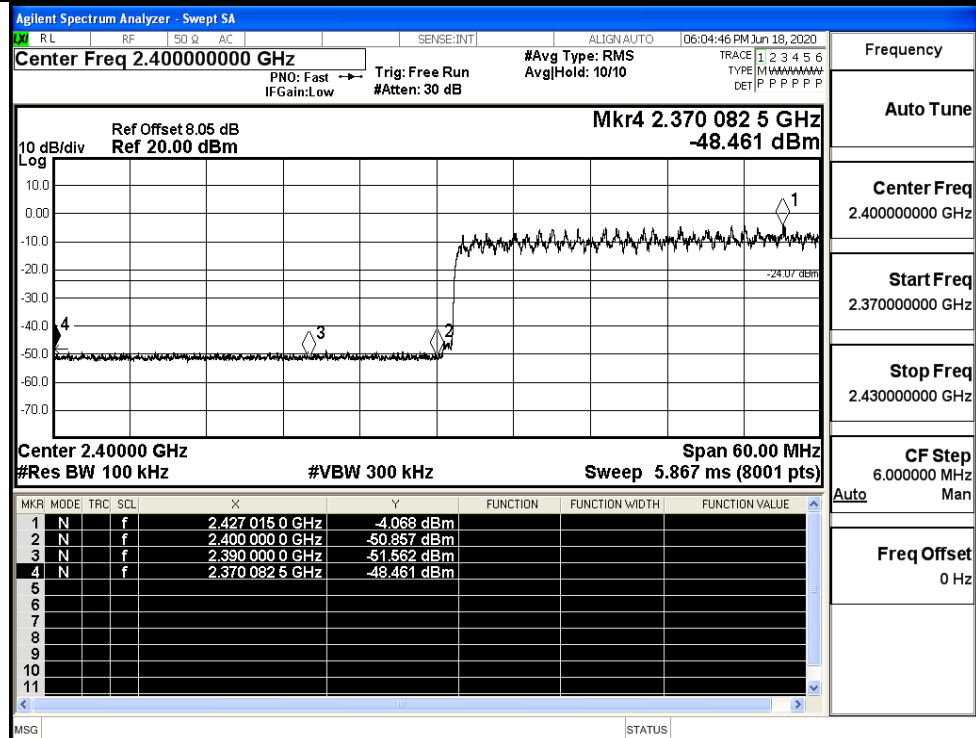
CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

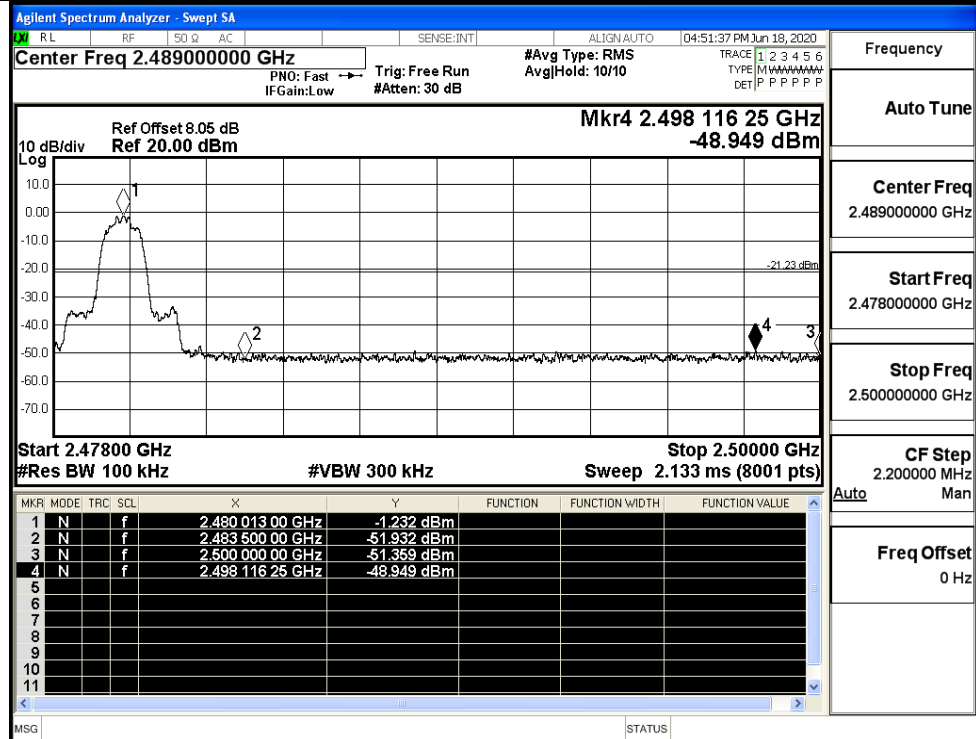
8DPSK/LCH/No Hop



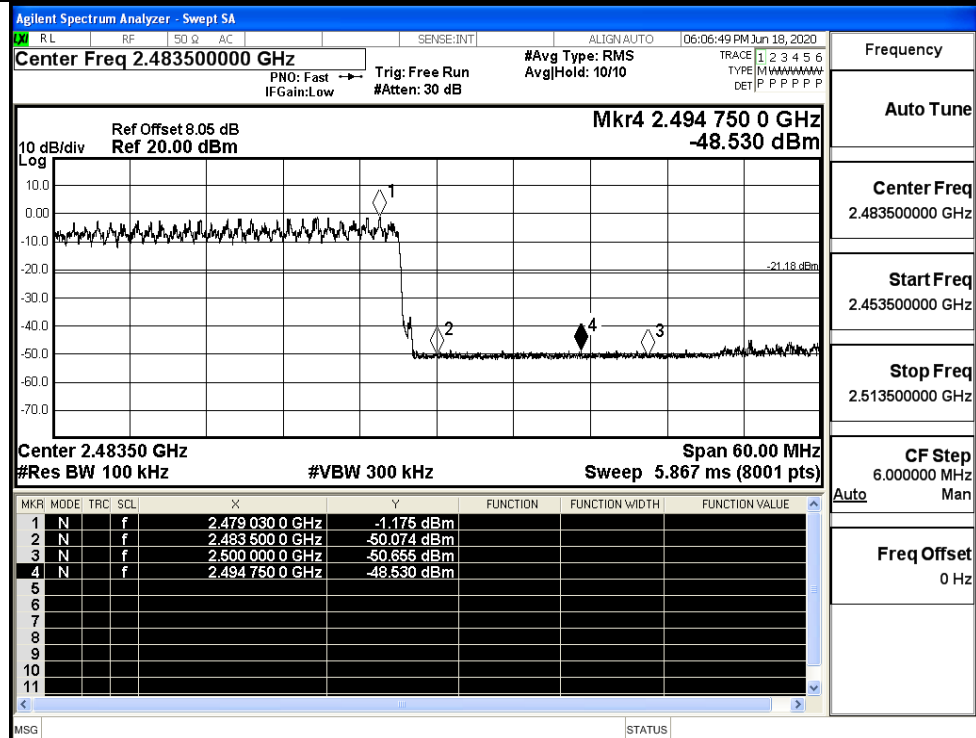
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



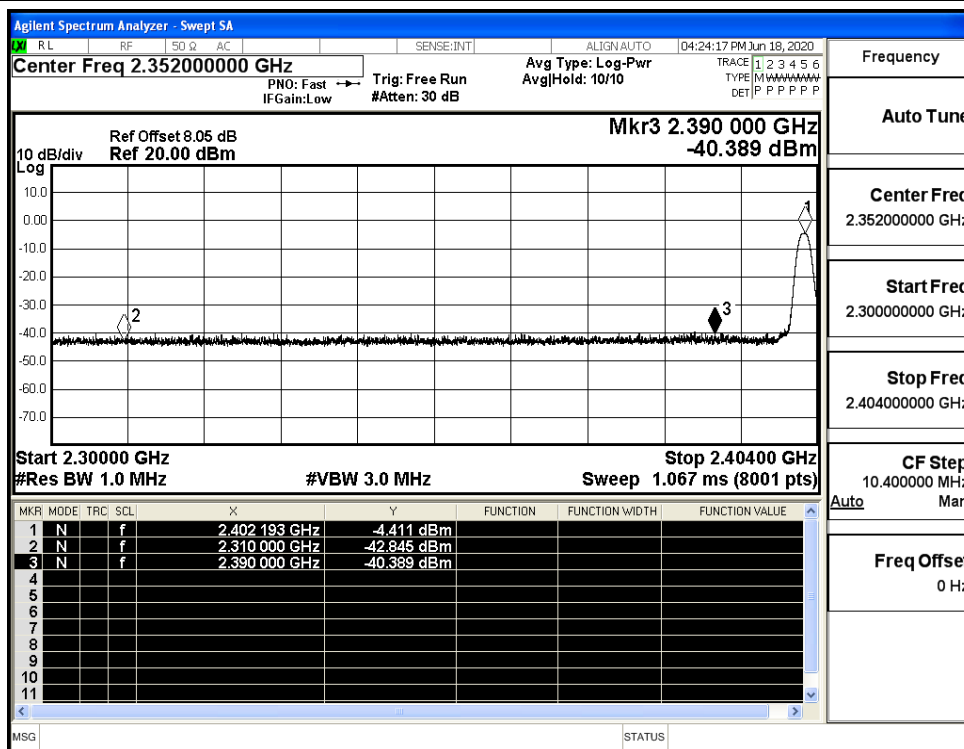
8DPSK/HCH/Hop



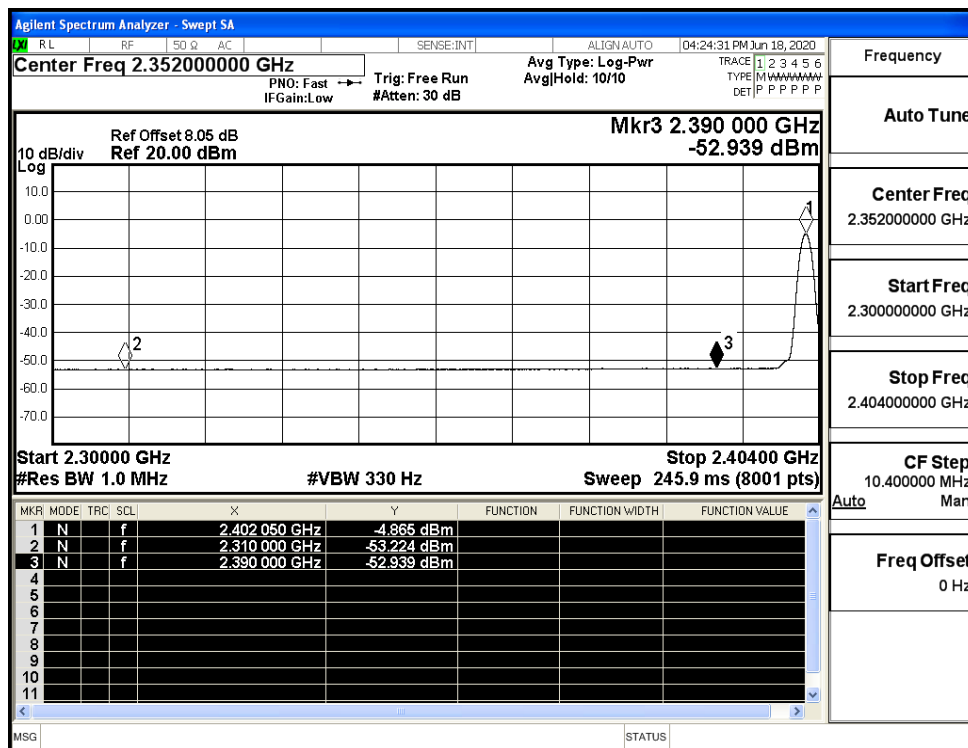
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.85	2.0	0	52.41	PEAK	74	PASS
	Off	2310.0	-53.22	2.0	0	42.03	AV	54	PASS
	Off	2390.0	-40.39	2.0	0	54.87	PEAK	74	PASS
	Off	2390.0	-52.94	2.0	0	42.32	AV	54	PASS
	Off	2483.5	-36.41	2.0	0	58.85	PEAK	74	PASS
	Off	2483.5	-47.00	2.0	0	48.26	AV	54	PASS
	Off	2500.0	-42.00	2.0	0	53.26	PEAK	74	PASS
	Off	2500.0	-52.25	2.0	0	43.01	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-42.49	2.0	0	52.77	PEAK	74	PASS
	Off	2310.0	-53.14	2.0	0	42.12	AV	54	PASS
	Off	2390.0	-41.63	2.0	0	53.63	PEAK	74	PASS
	Off	2390.0	-52.91	2.0	0	42.35	AV	54	PASS
	Off	2483.5	-42.29	2.0	0	52.97	PEAK	74	PASS
	Off	2483.5	-52.02	2.0	0	43.24	AV	54	PASS
	Off	2500.0	-41.10	2.0	0	54.16	PEAK	74	PASS
	Off	2500.0	-52.26	2.0	0	43.00	AV	54	PASS
8DPSK	Off	2310.0	-42.29	2.0	0	52.96	PEAK	74	PASS
	Off	2310.0	-53.26	2.0	0	41.99	AV	54	PASS
	Off	2390.0	-41.76	2.0	0	53.50	PEAK	74	PASS
	Off	2390.0	-52.87	2.0	0	42.39	AV	54	PASS
	Off	2483.5	-41.32	2.0	0	53.94	PEAK	74	PASS
	Off	2483.5	-52.10	2.0	0	43.16	AV	54	PASS
	Off	2500.0	-41.37	2.0	0	53.89	PEAK	74	PASS
	Off	2500.0	-52.21	2.0	0	43.04	AV	54	PASS

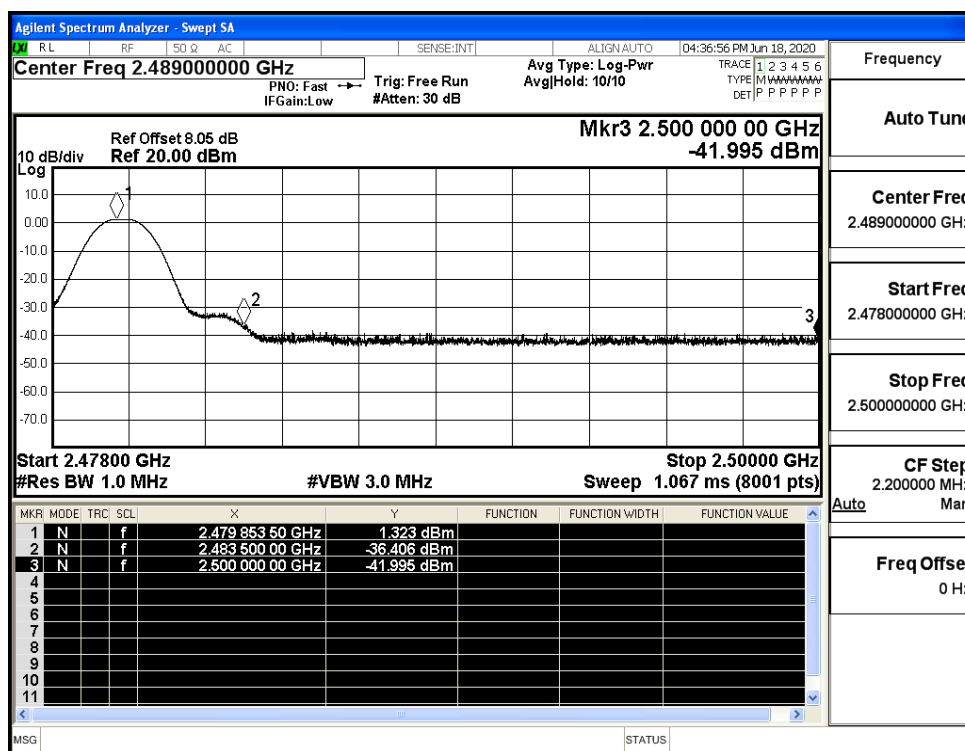
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



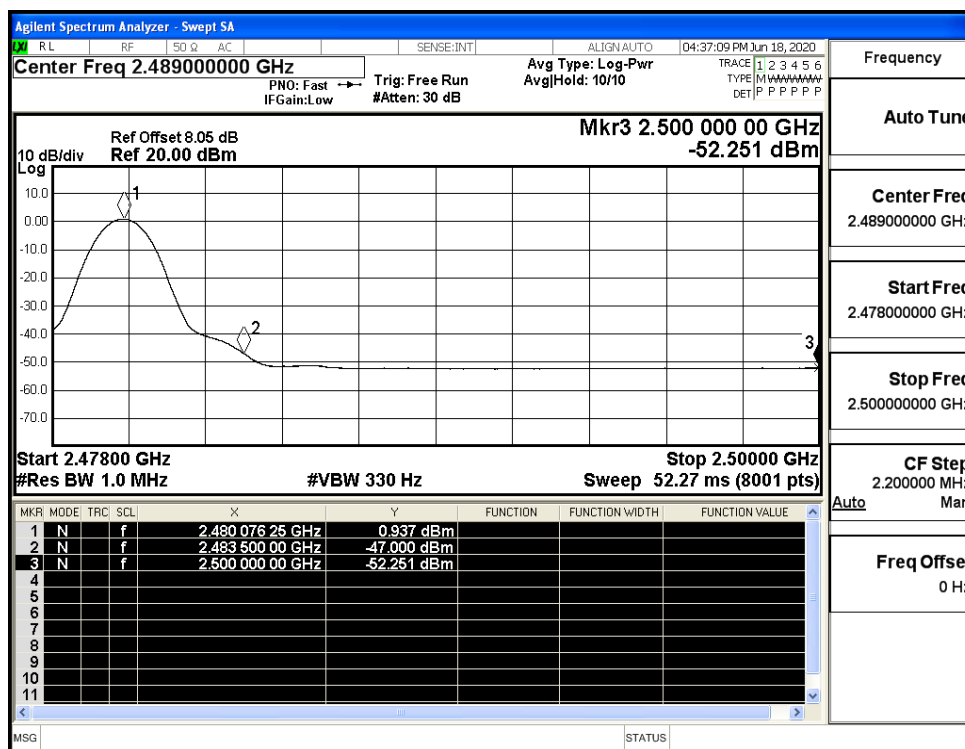
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

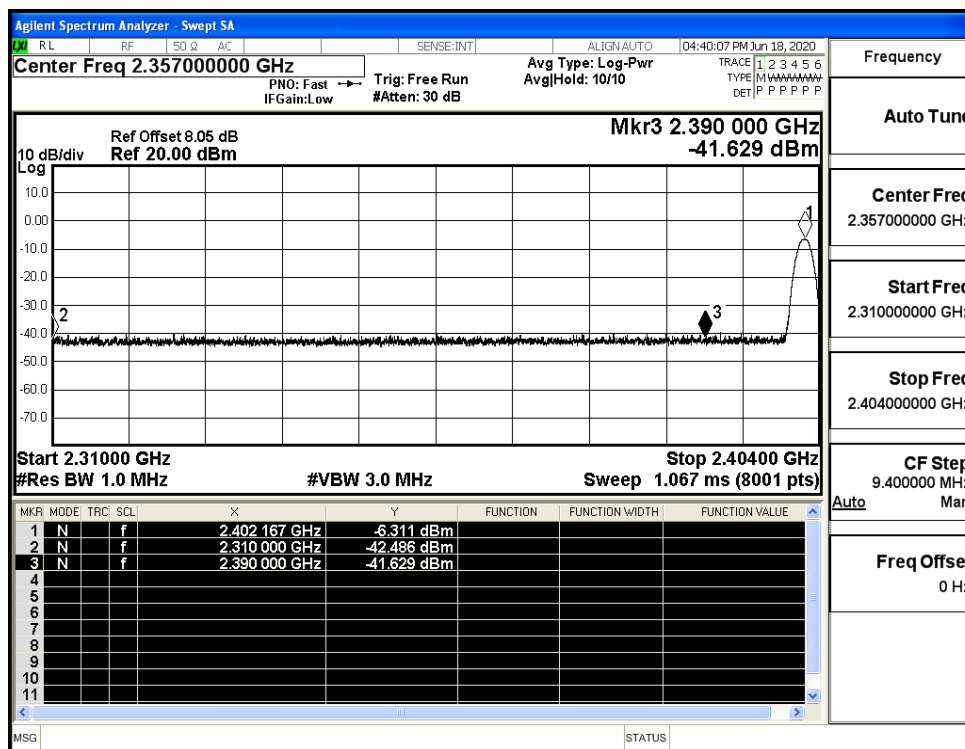
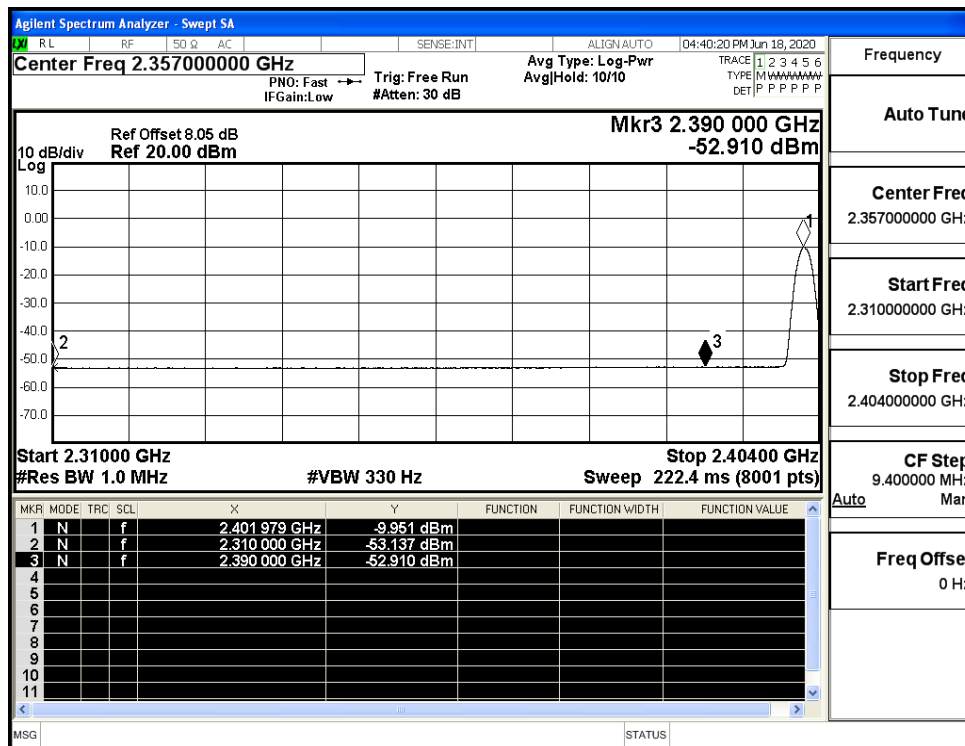


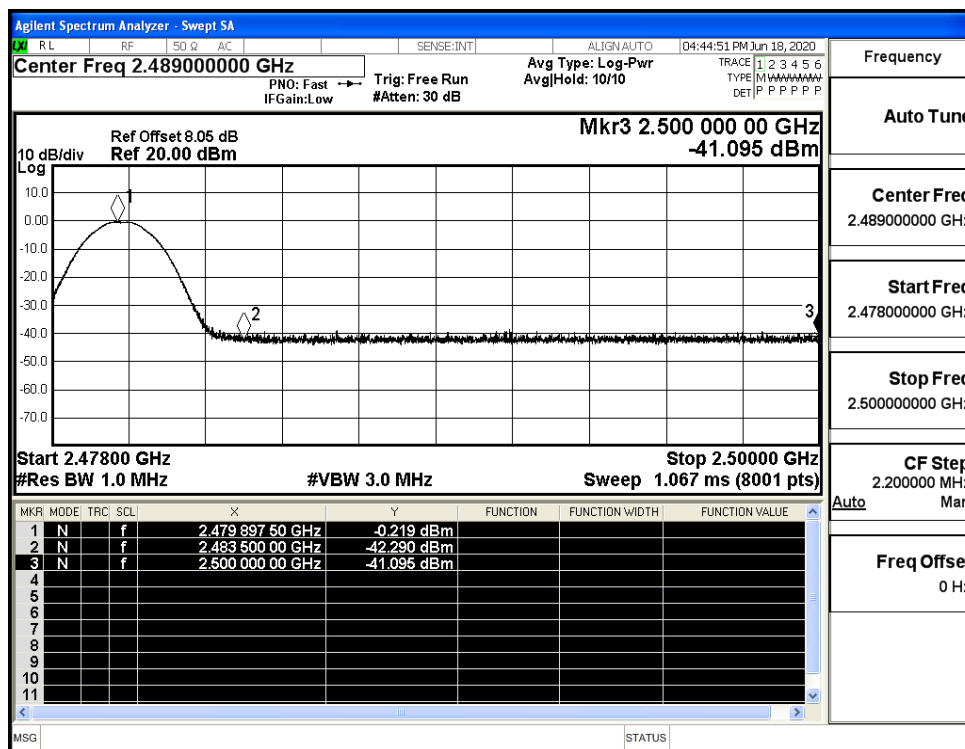
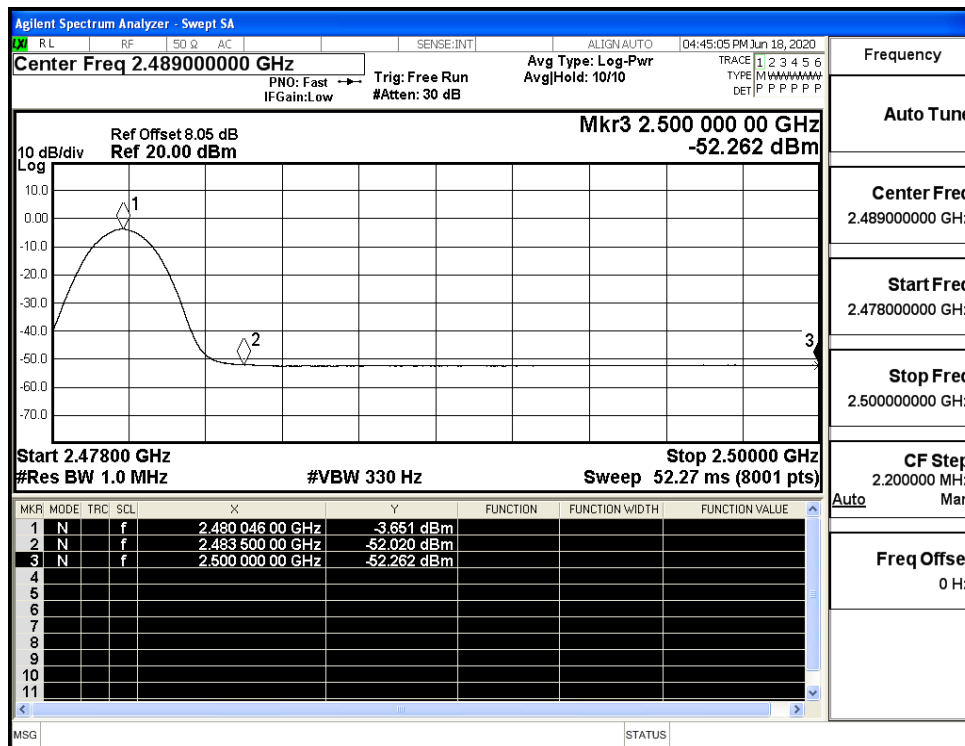
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



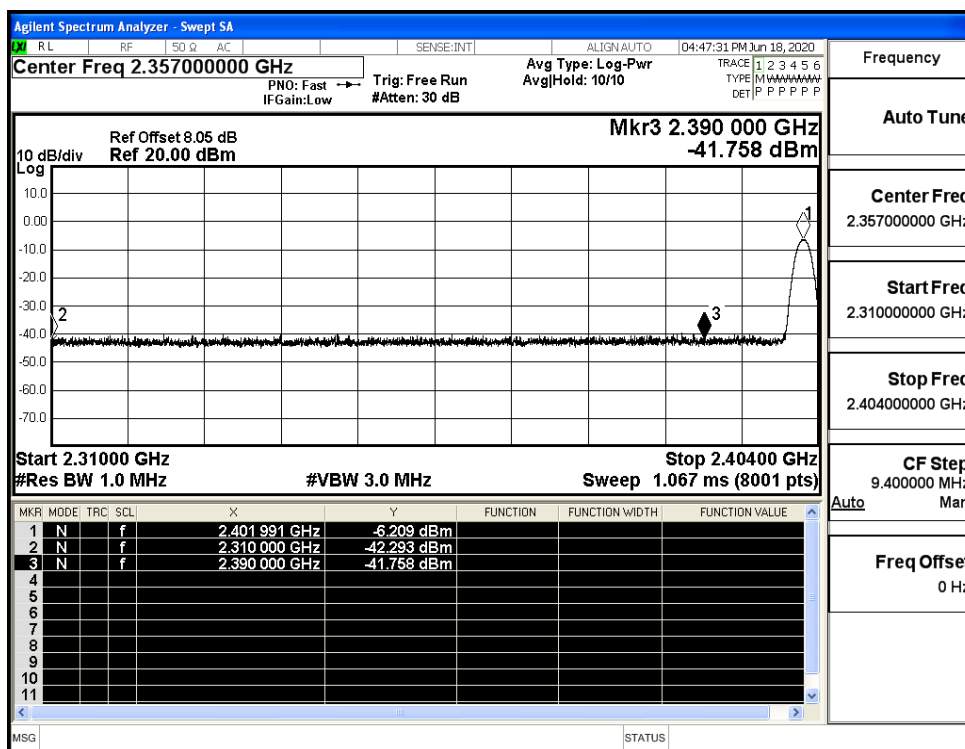
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



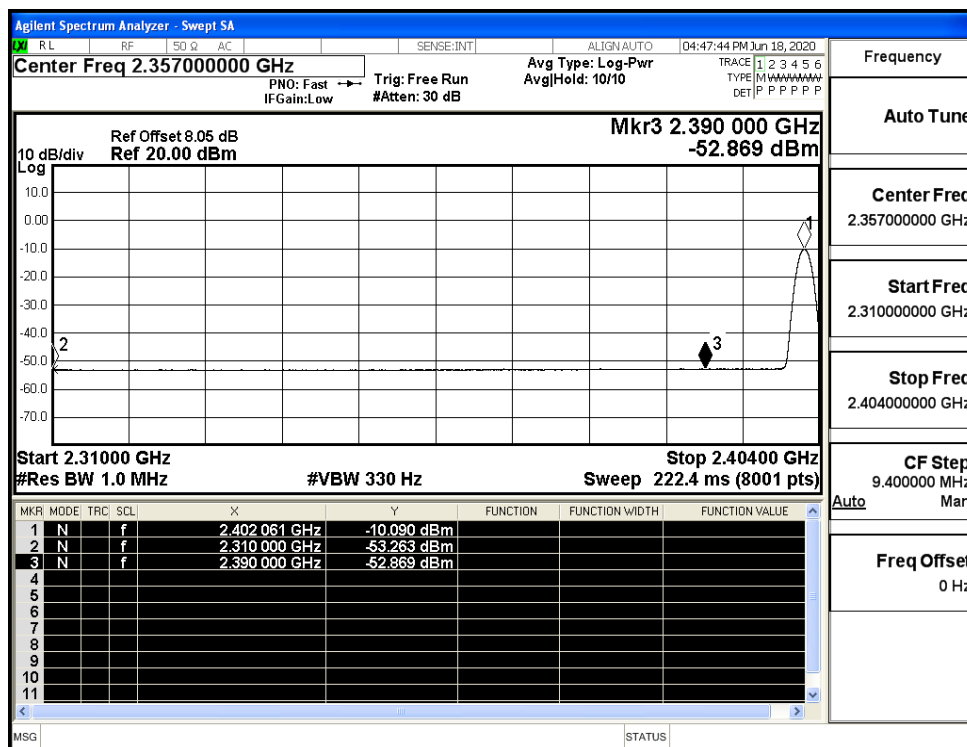
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

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)

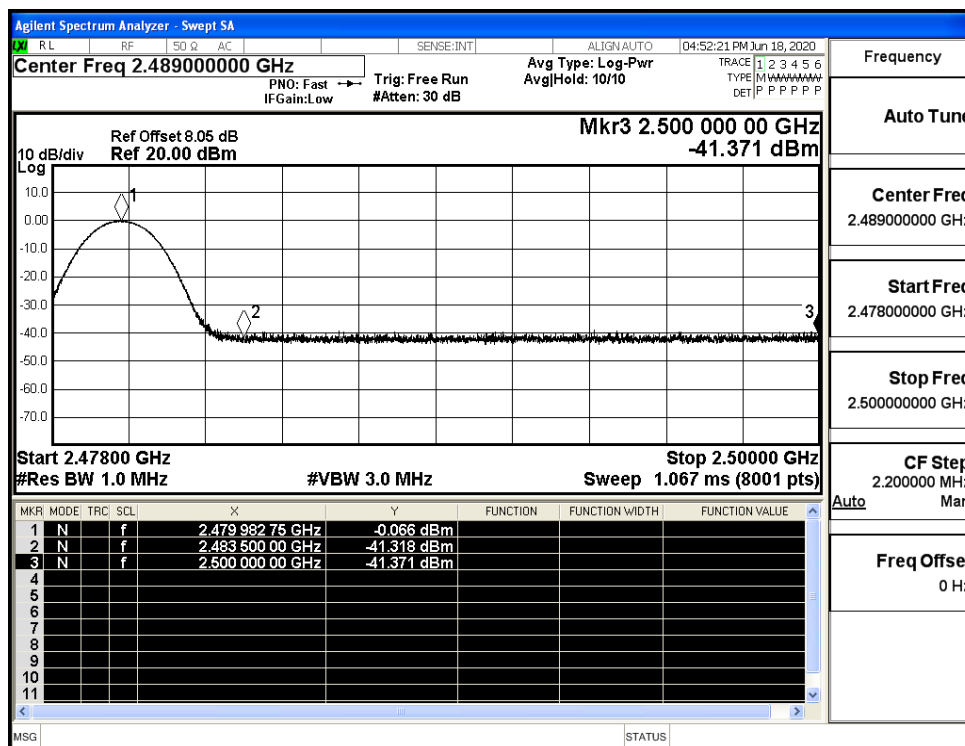
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

