

Appendix A
RF Test Data for BT V4.2(DSS) (Conducted Measurement)
Product Name: Auto Object Tracking Phone Holder
Trade Mark: N/A
Test Model: XO-10026

Environmental Conditions

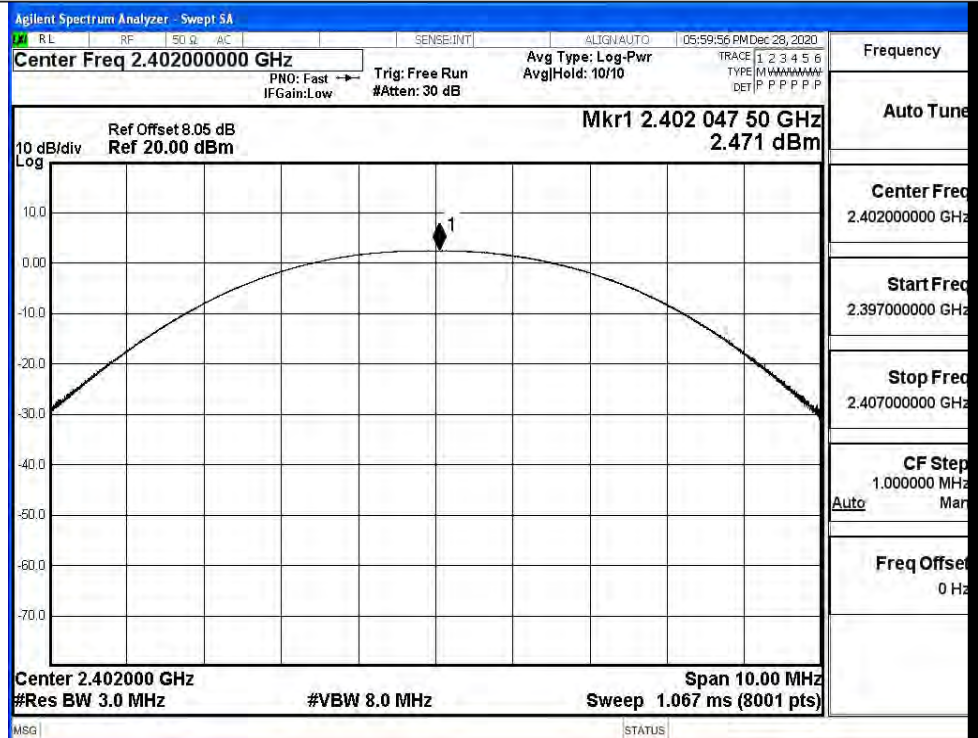
Temperature:	24.6 ° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Ben Jin
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

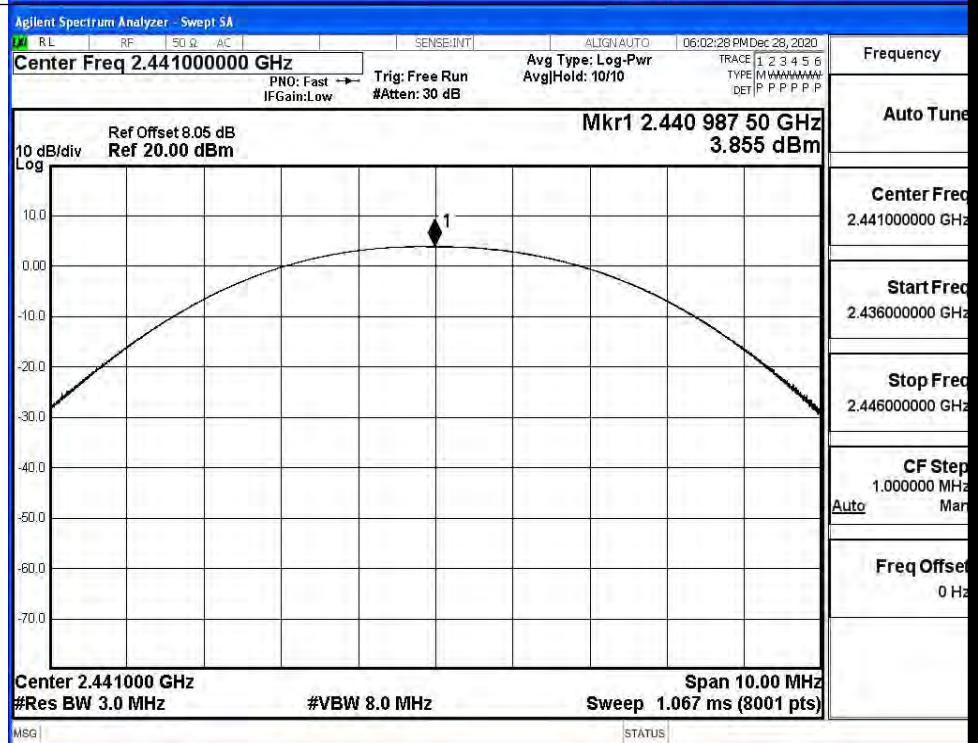
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.471	21	PASS
	MCH	3.855	21	PASS
	HCH	2.039	21	PASS
$\pi/4$ DQPSK	LCH	1.396	21	PASS
	MCH	2.825	21	PASS
	HCH	0.967	21	PASS
8DPSK	LCH	1.175	21	PASS
	MCH	2.653	21	PASS
	HCH	0.953	21	PASS

Test Graphs

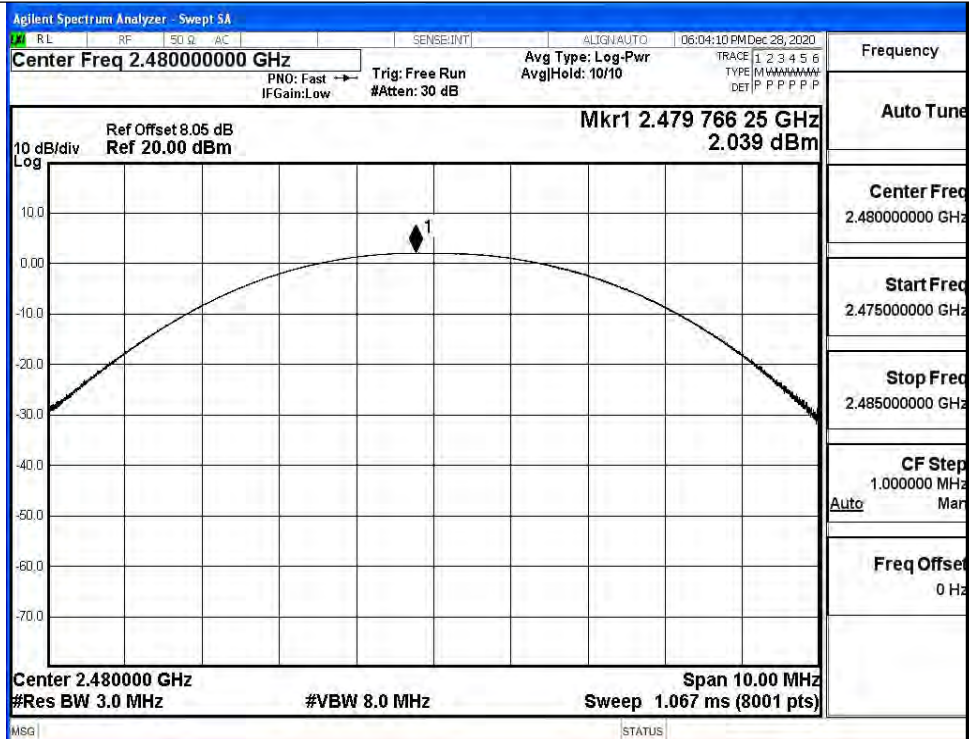
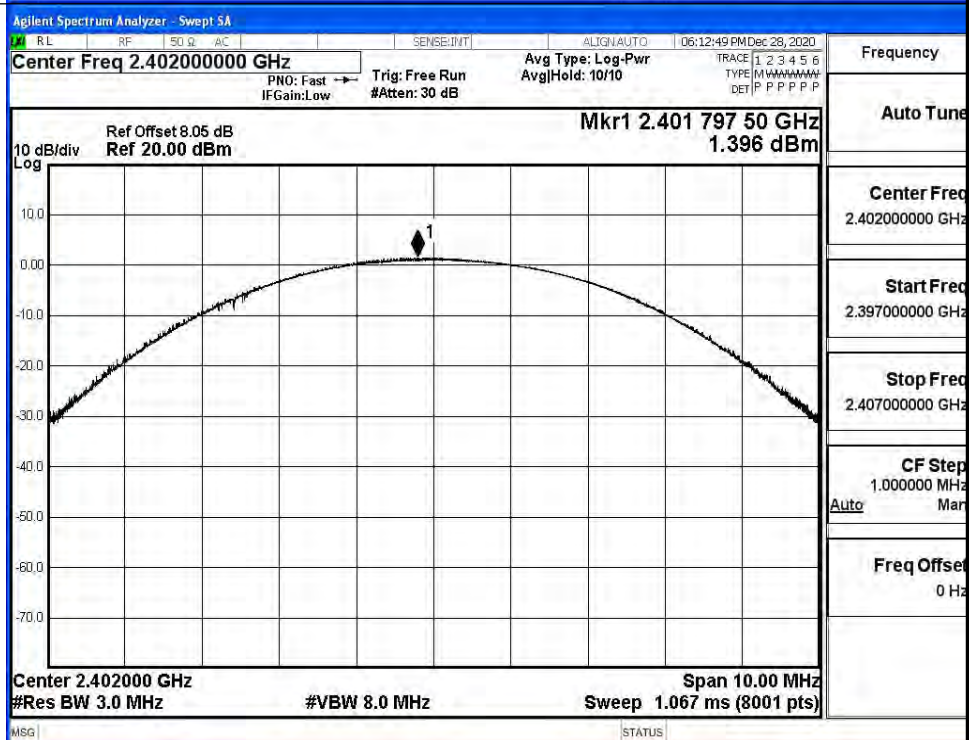
GFSK/LCH

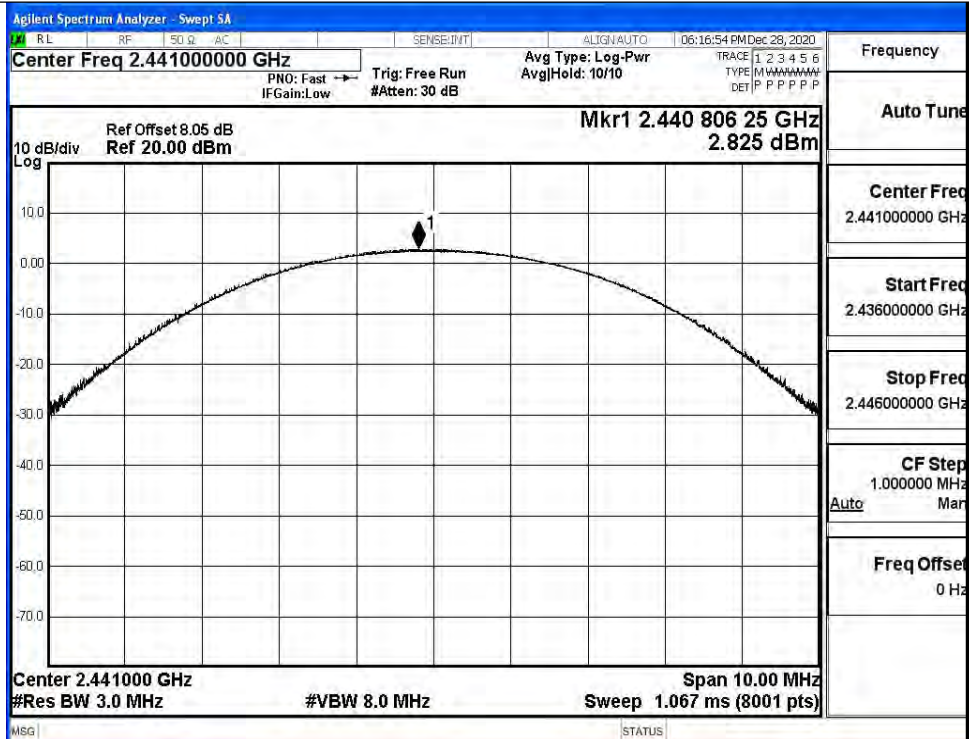
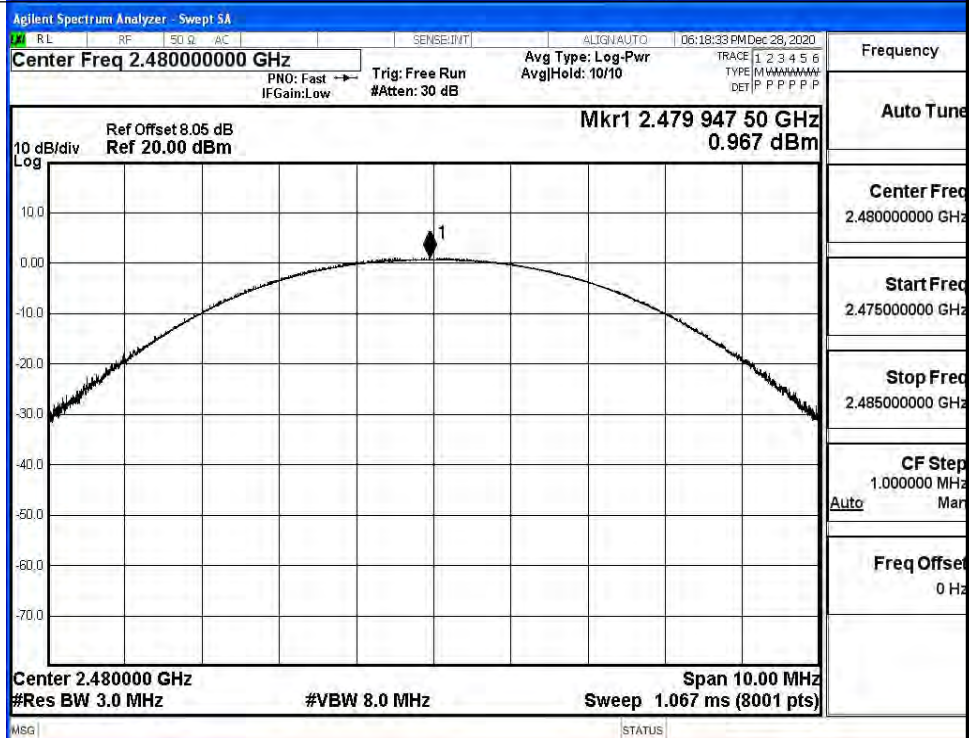


GFSK/MCH

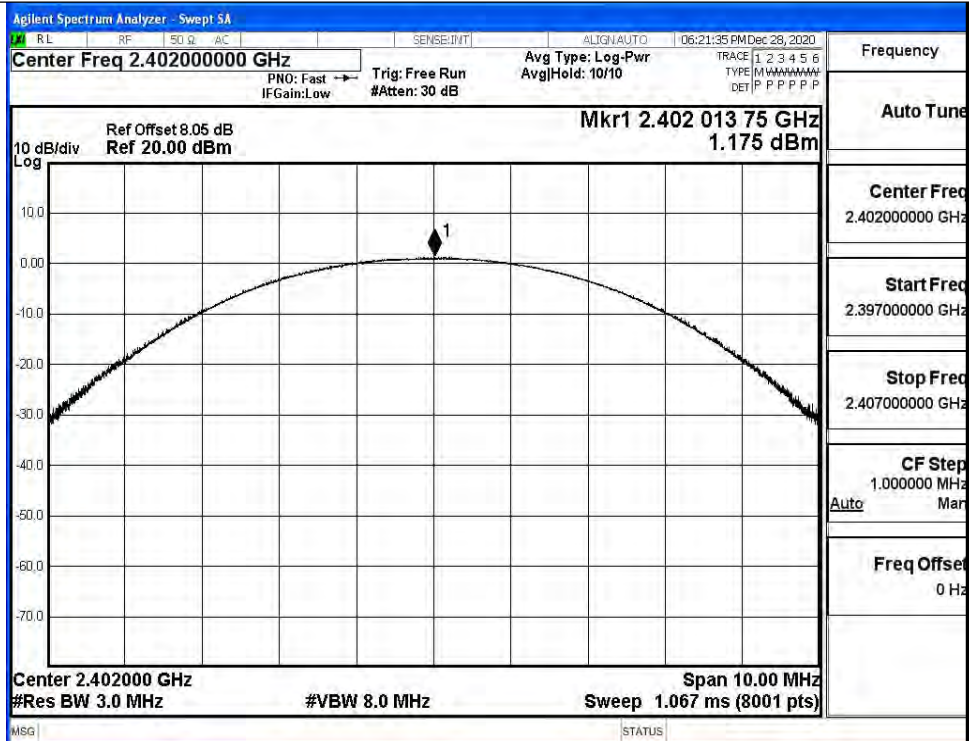


GFSK/HCH

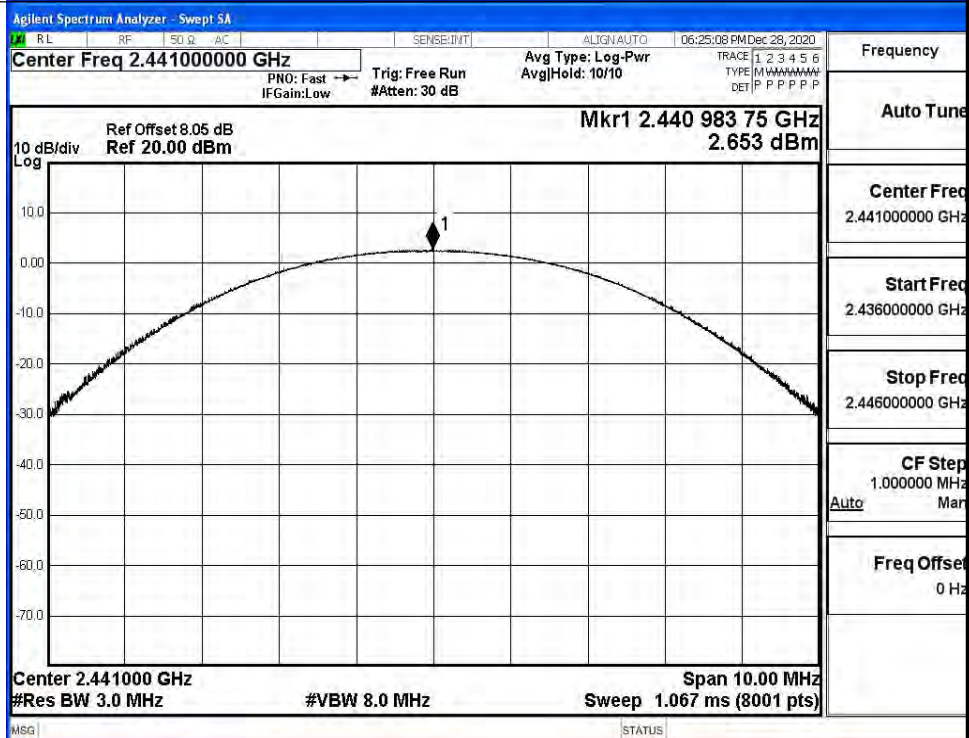
 $\pi/4$ DQPSK/LCH

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

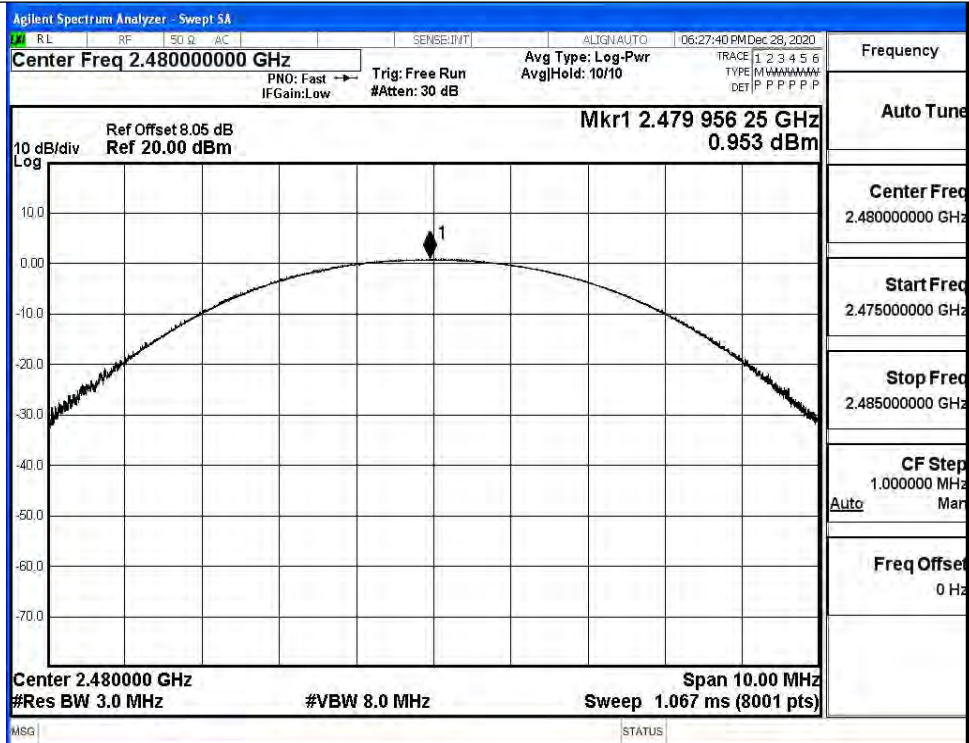
8DPSK/LCH



8DPSK/MCH



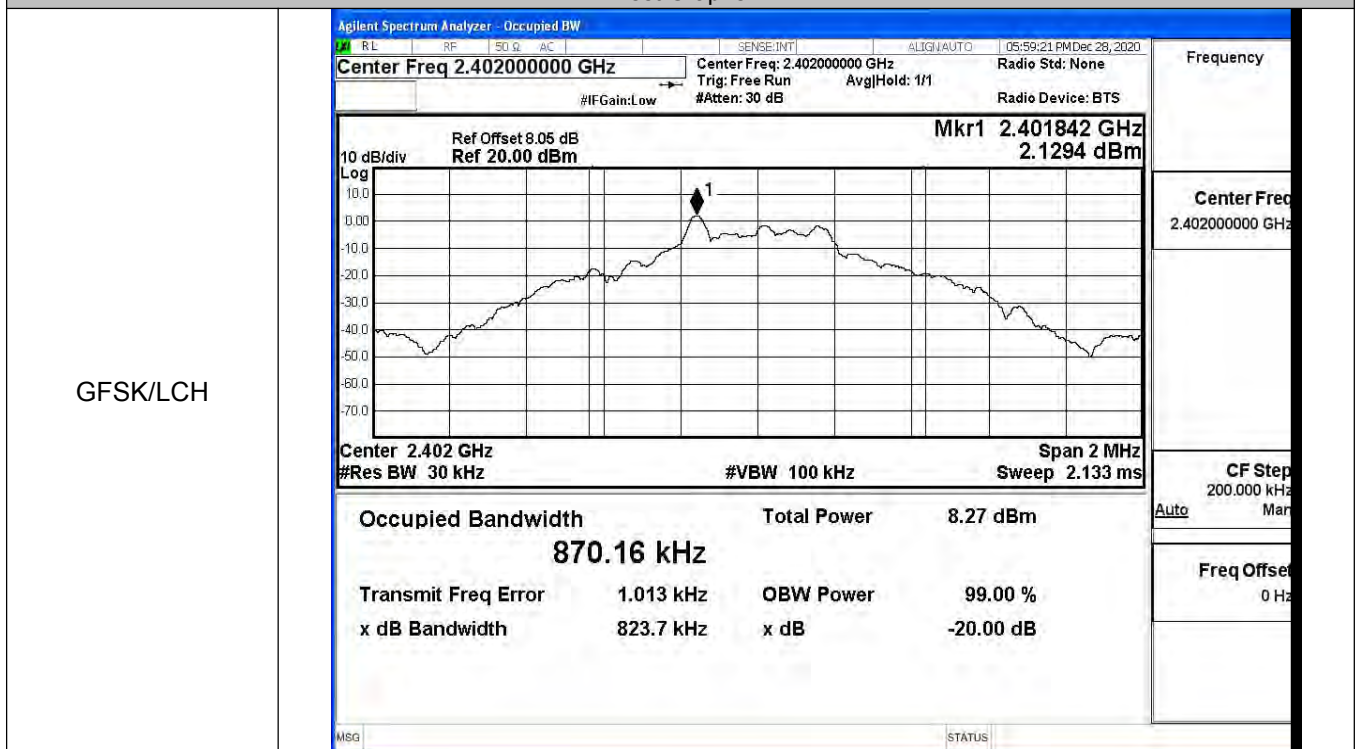
8DPSK/HCH



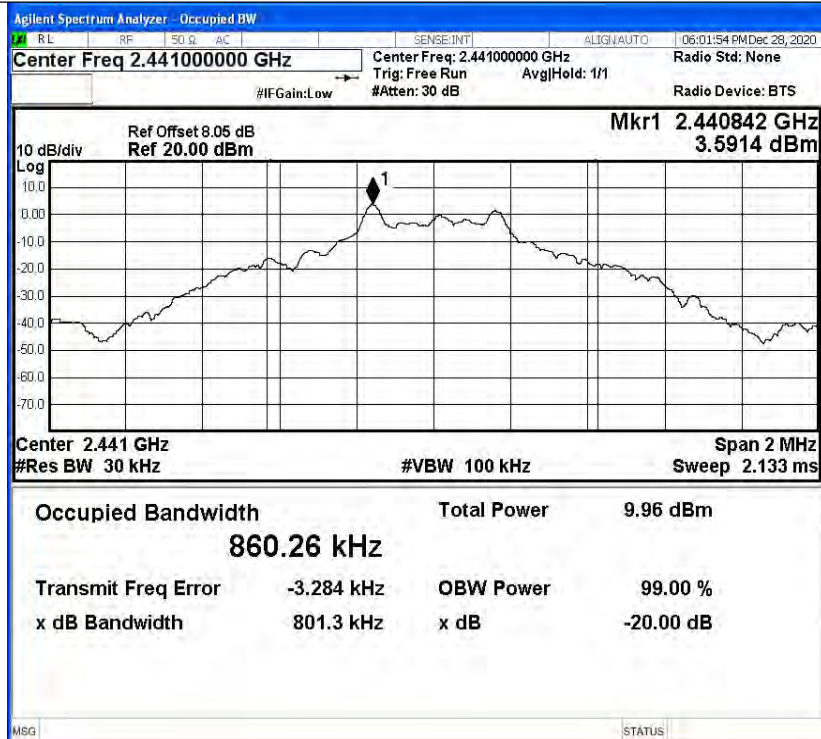
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.8237	Not Specified	PASS
	MCH	0.8013	Not Specified	PASS
	HCH	0.8251	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.133	Not Specified	PASS
	MCH	1.133	Not Specified	PASS
	HCH	1.134	Not Specified	PASS
8DPSK	LCH	1.139	Not Specified	PASS
	MCH	1.152	Not Specified	PASS
	HCH	1.125	Not Specified	PASS

Test Graphs



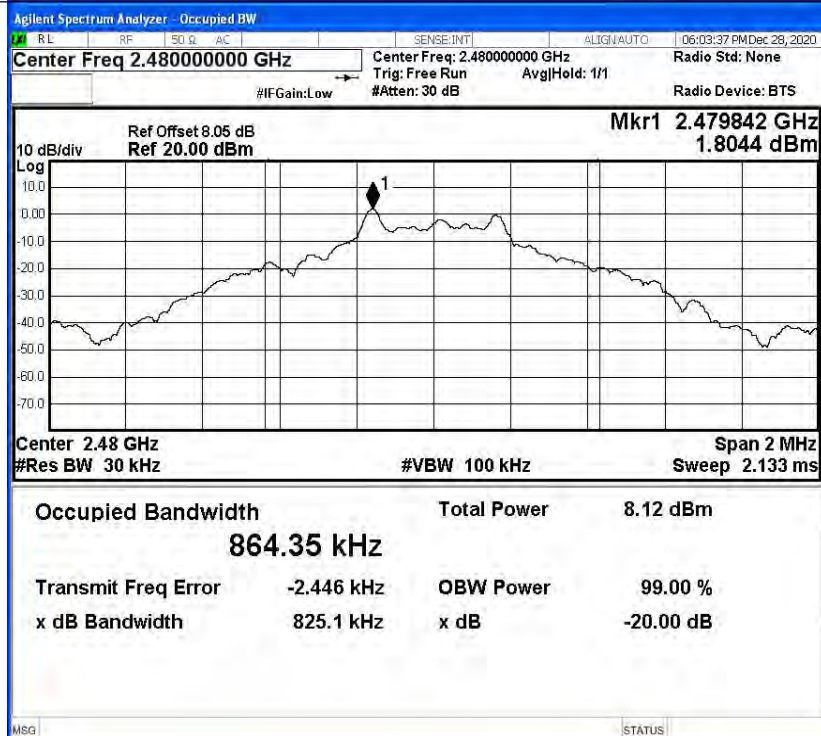
GFSK/MCH



Frequency

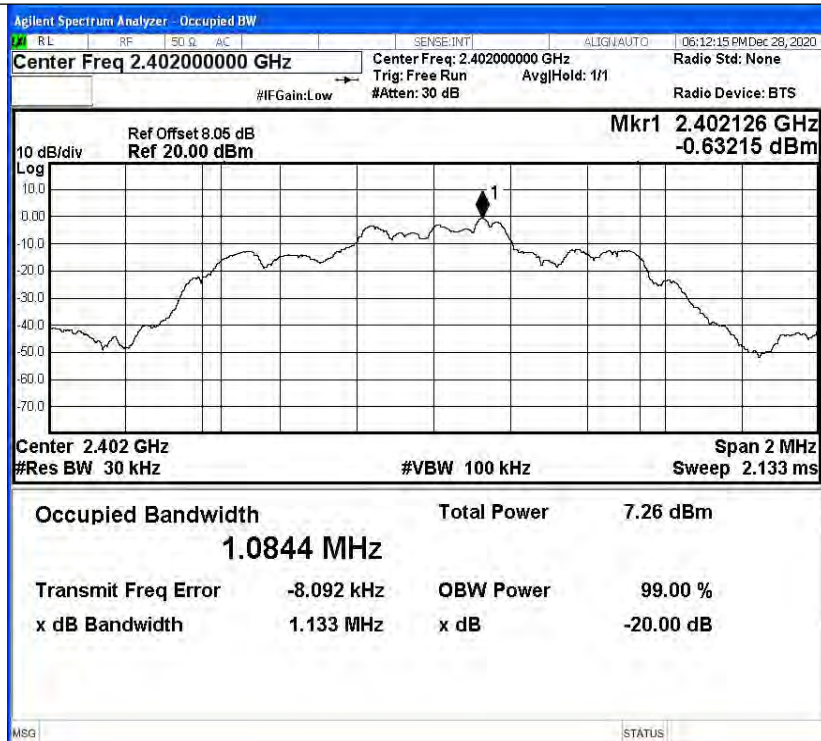
Center Freq
2.441000000 GHzCF Step
200.000 kHzFreq Offset
0 Hz

GFSK/HCH

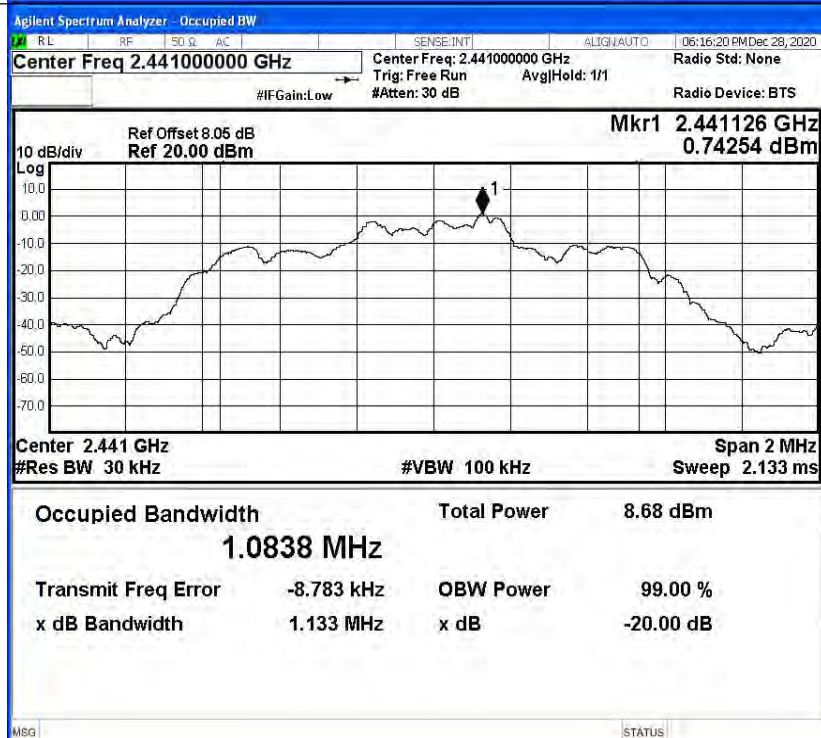


Frequency

Center Freq
2.480000000 GHzCF Step
200.000 kHzFreq Offset
0 Hz

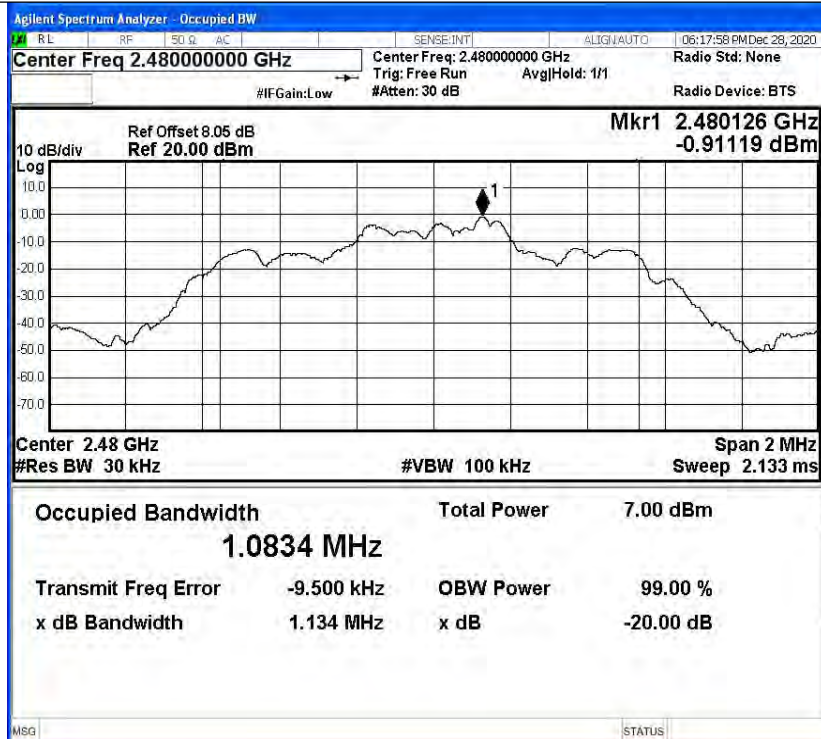
$\pi/4$ DQPSK/LCH

Frequency

Center Freq
2.402000000 GHzCF Step
200.000 kHzFreq Offset
0 Hz $\pi/4$ DQPSK/MCH

Frequency

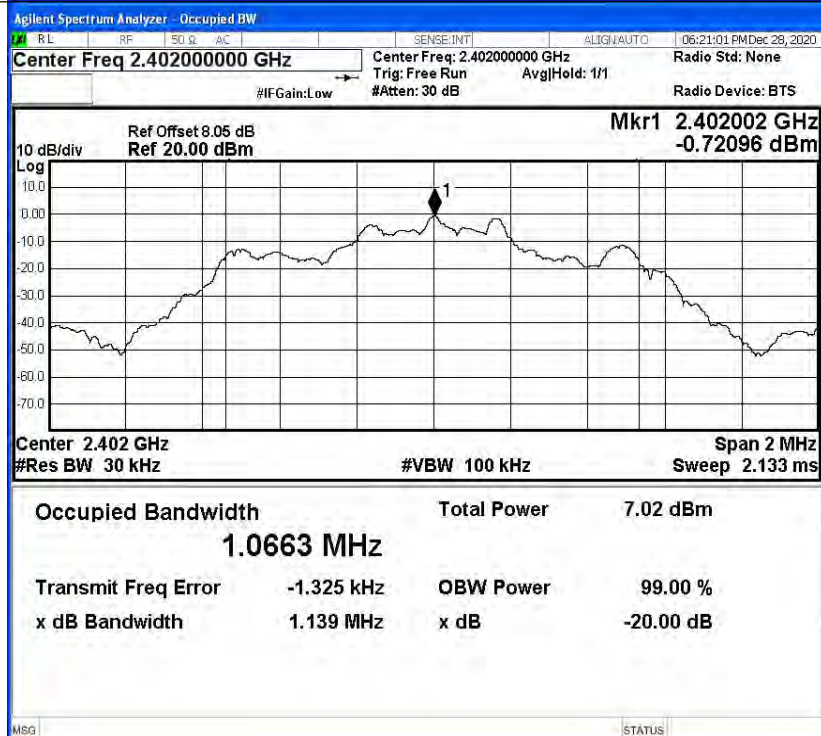
Center Freq
2.441000000 GHzCF Step
200.000 kHzFreq Offset
0 Hz

$\pi/4$ DQPSK/HCH

Frequency

Center Freq
2.48000000 GHzCF Step
200.000 kHzFreq Offset
0 Hz

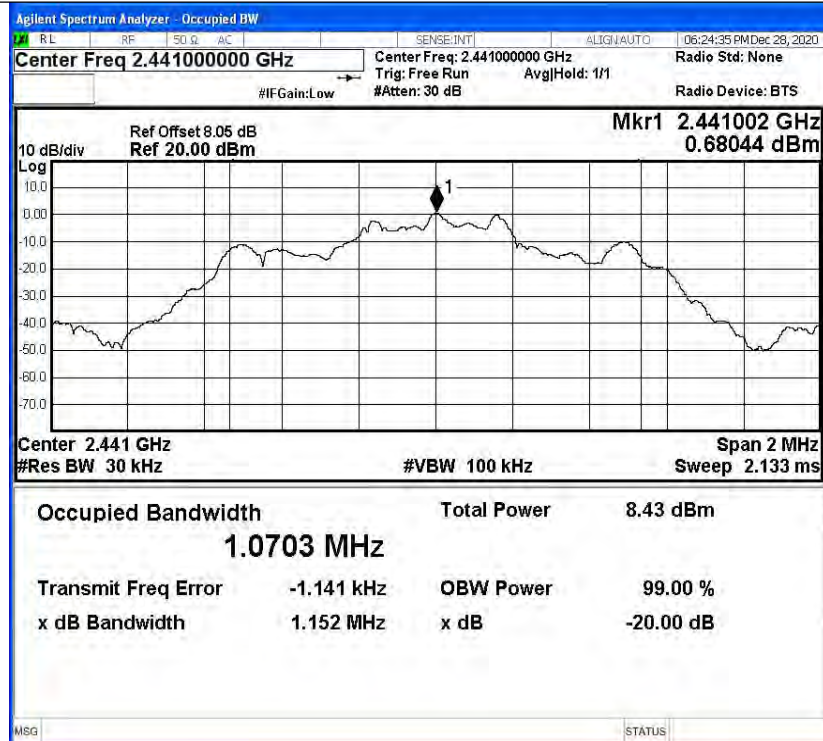
8DPSK/LCH



Frequency

Center Freq
2.40200000 GHzCF Step
200.000 kHzFreq Offset
0 Hz

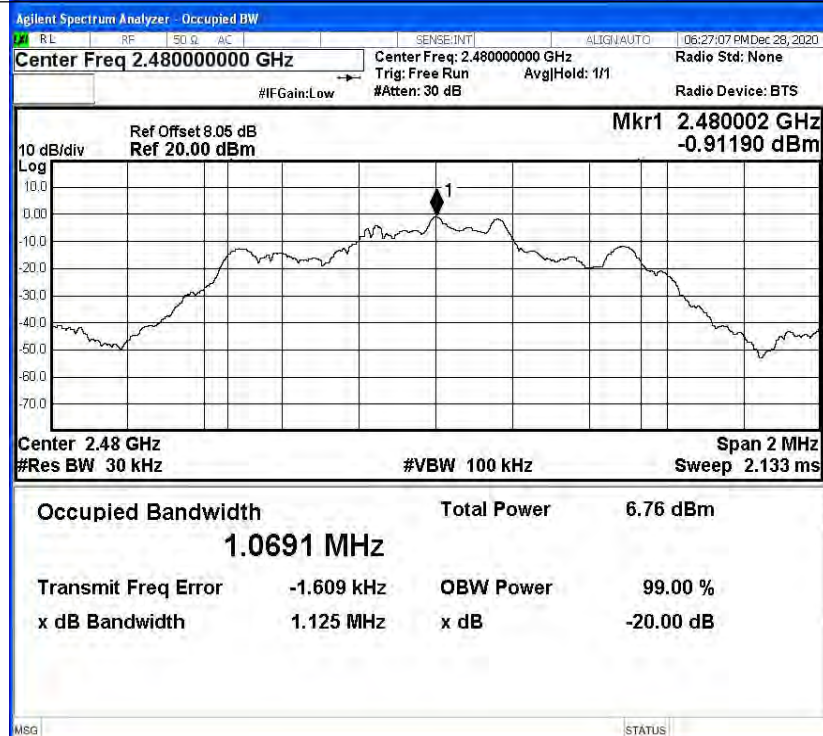
8DPSK/MCH



Frequency

Center Freq
2.441000000 GHzCF Step
200.000 kHzFreq Offset
0 Hz

8DPSK/HCH



Frequency

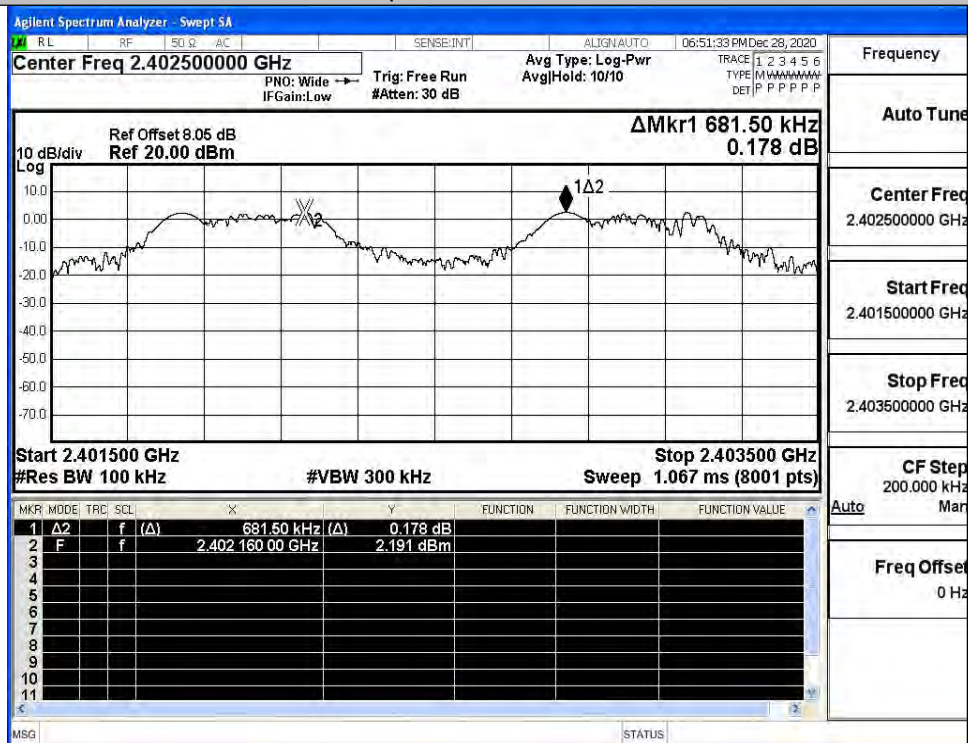
Center Freq
2.480000000 GHzCF Step
200.000 kHzFreq Offset
0 Hz

A.3 Carrier Frequency Separation

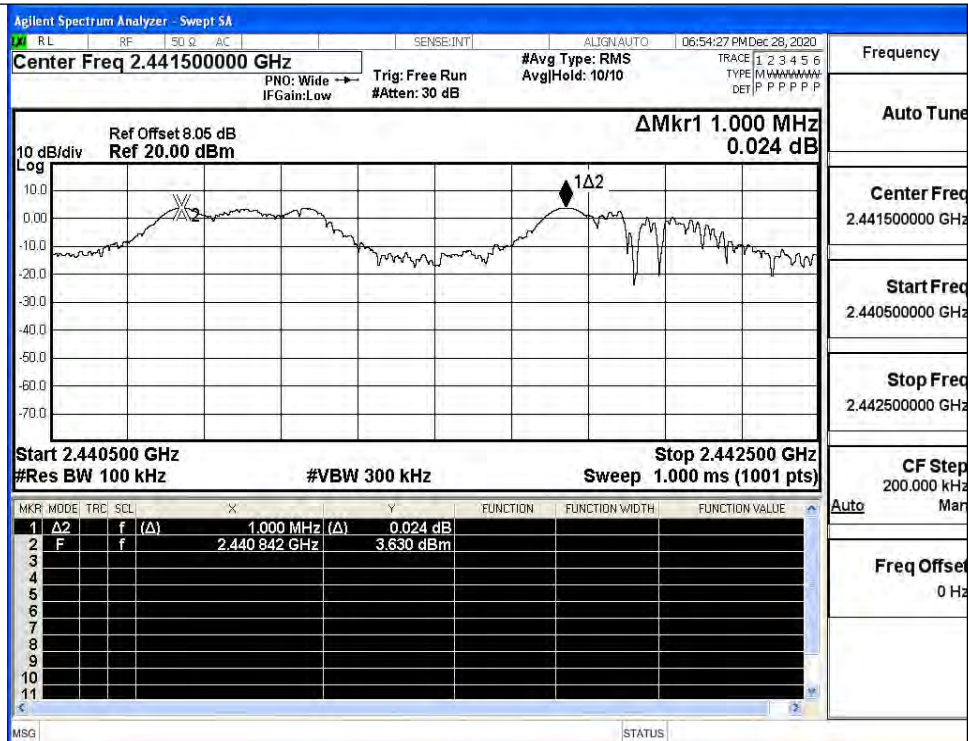
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.682	0.550	PASS
	MCH	1.000	0.550	PASS
	HCH	1.000	0.550	PASS
$\pi/4$ DQPSK	LCH	1.002	0.756	PASS
	MCH	0.990	0.756	PASS
	HCH	1.148	0.756	PASS
8DPSK	LCH	1.012	0.768	PASS
	MCH	1.286	0.768	PASS
	HCH	1.006	0.768	PASS

Test Graphs

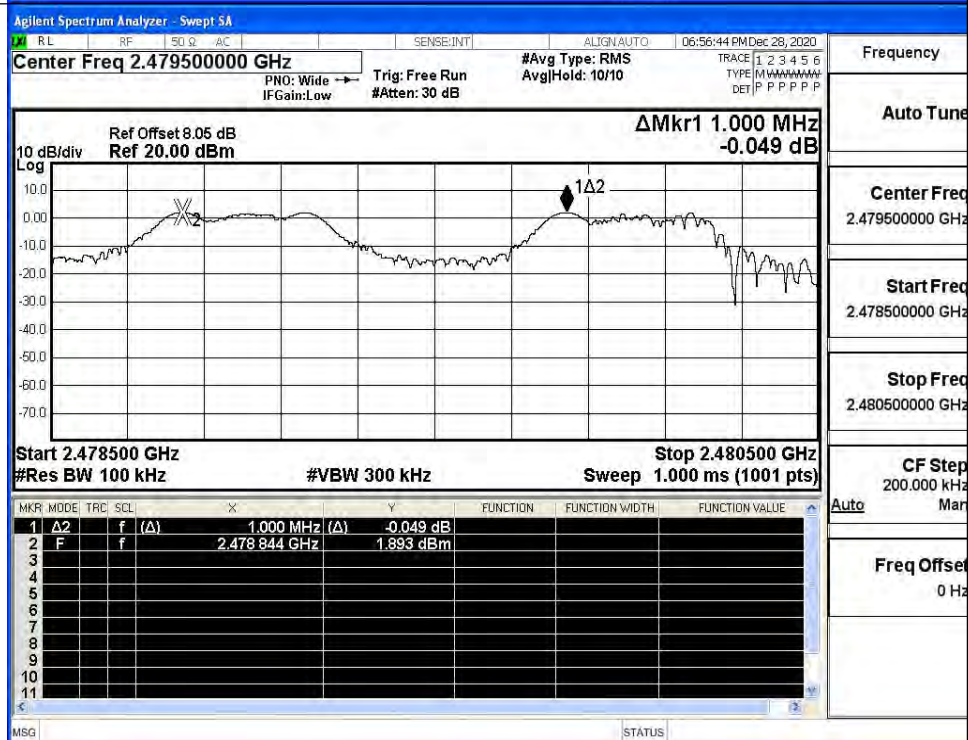
GFSK/LCH

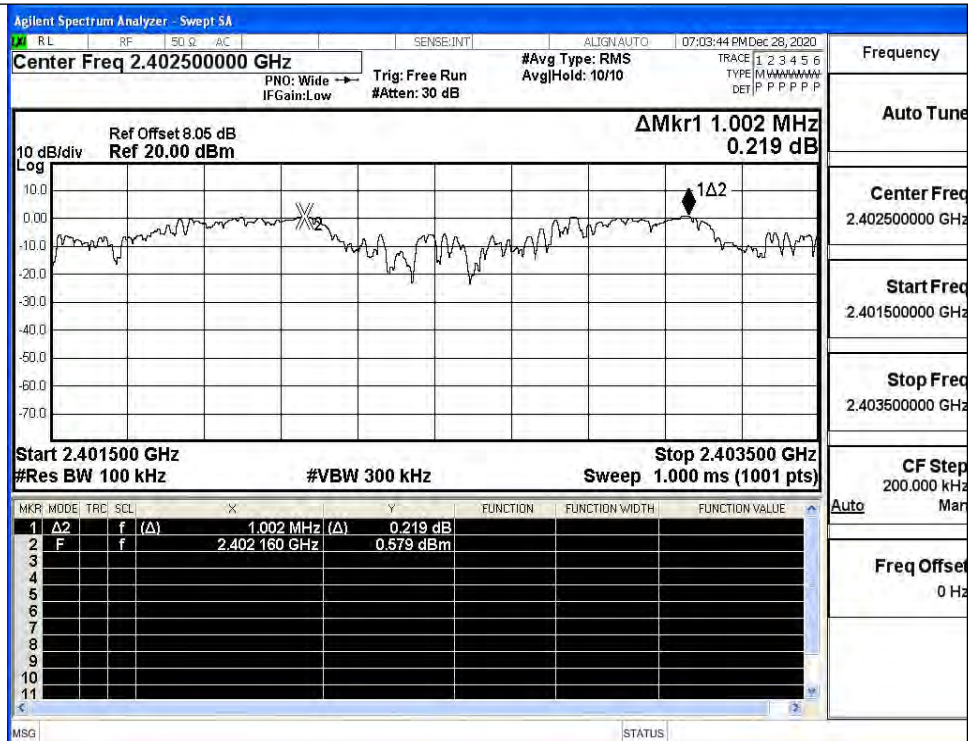
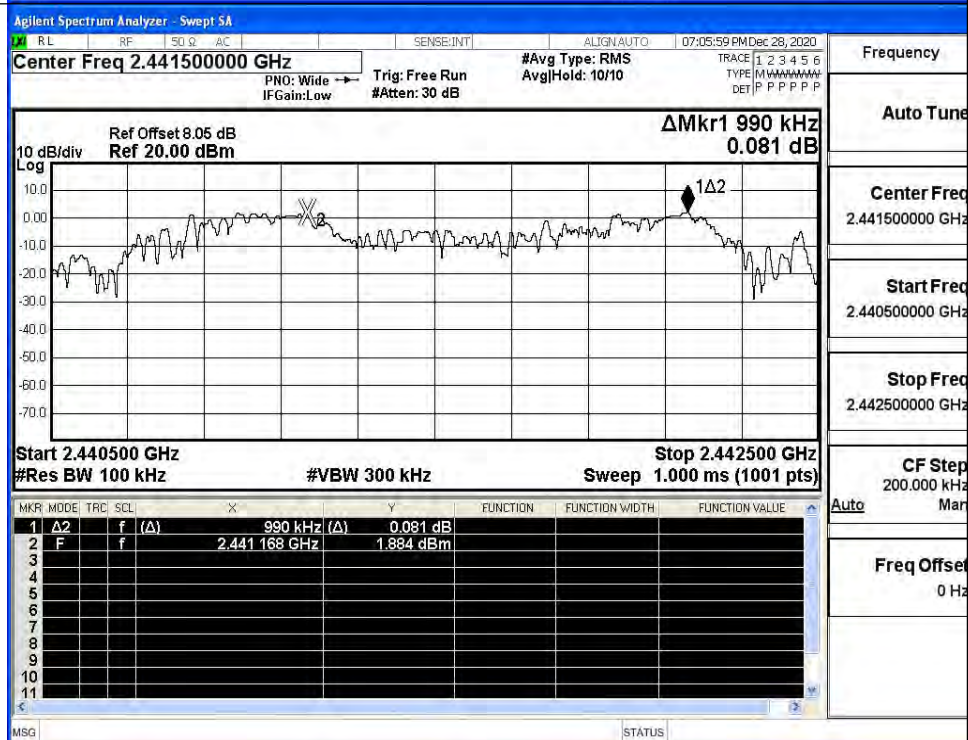


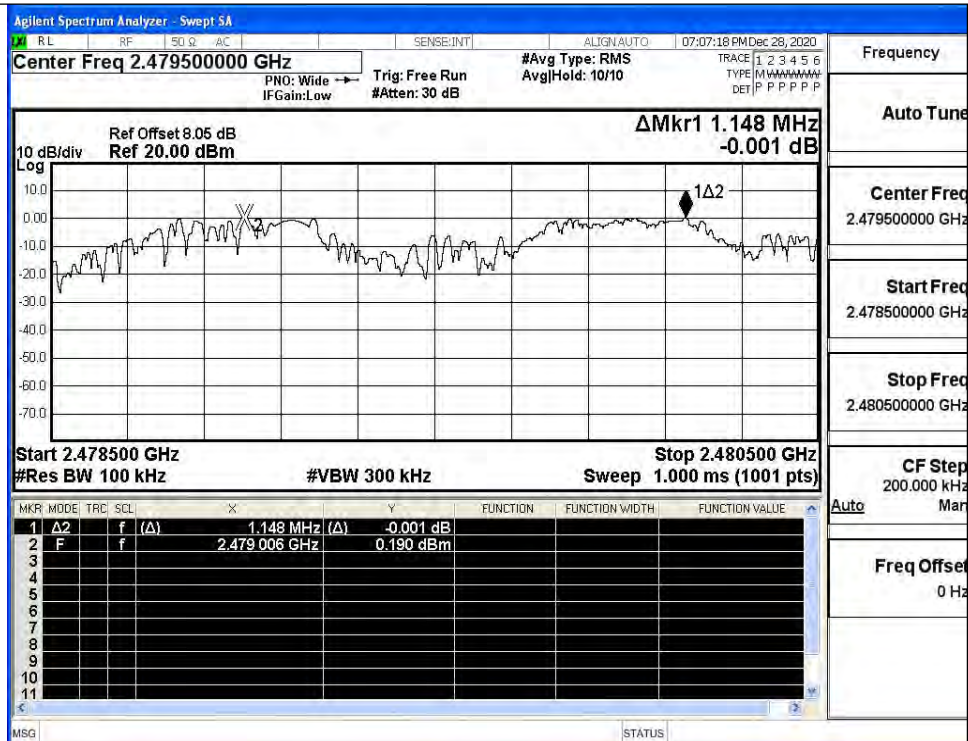
GFSK/MCH



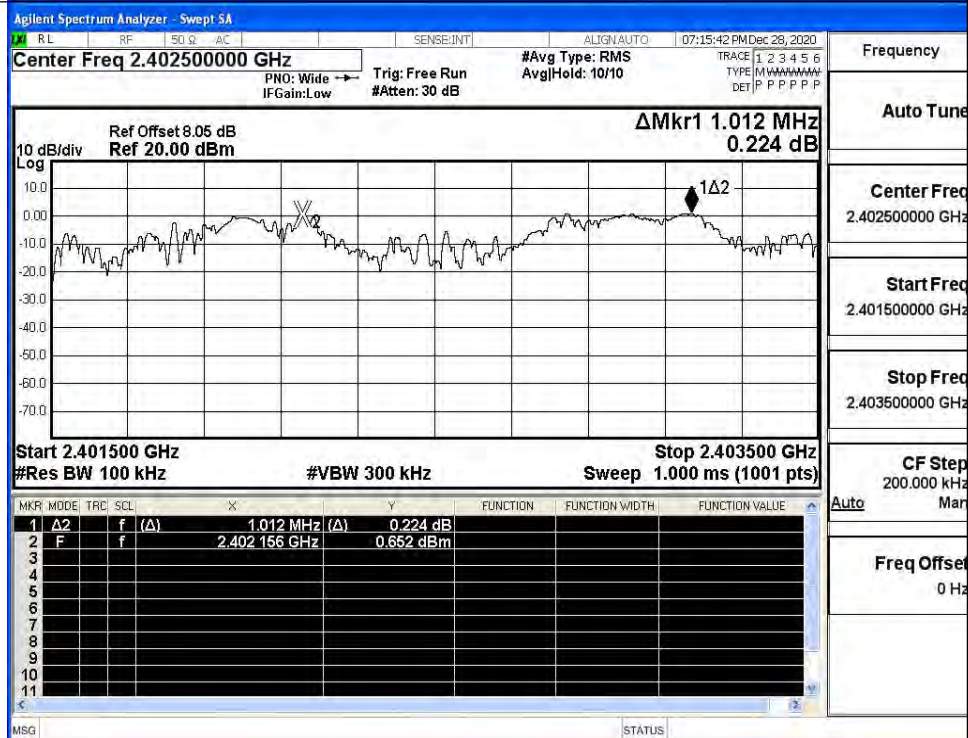
GFSK/HCH



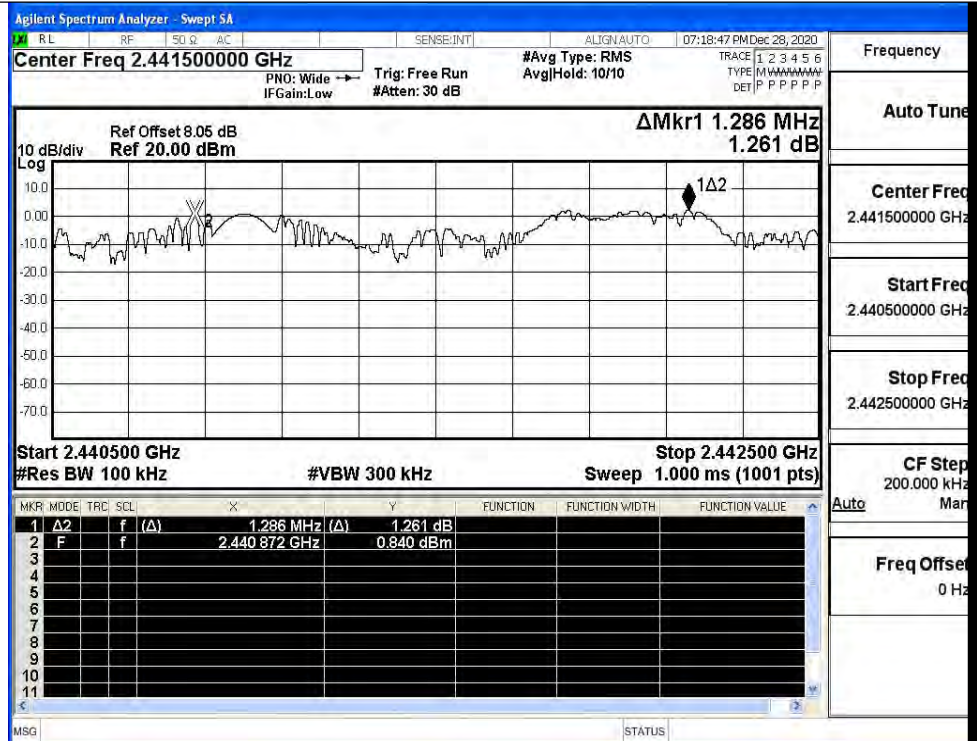
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

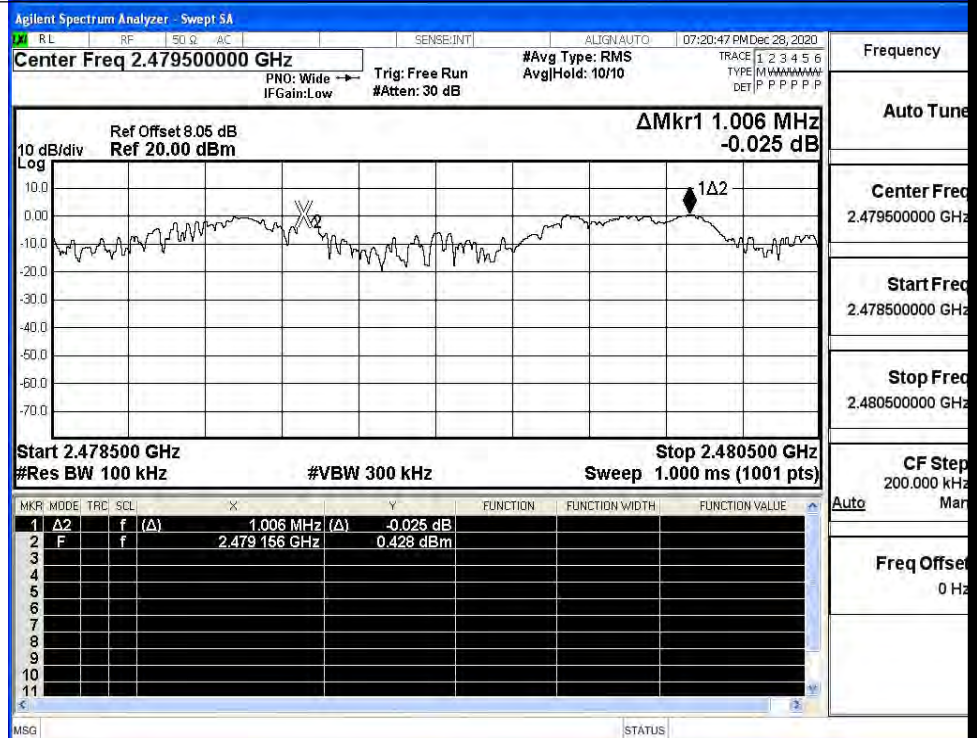
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

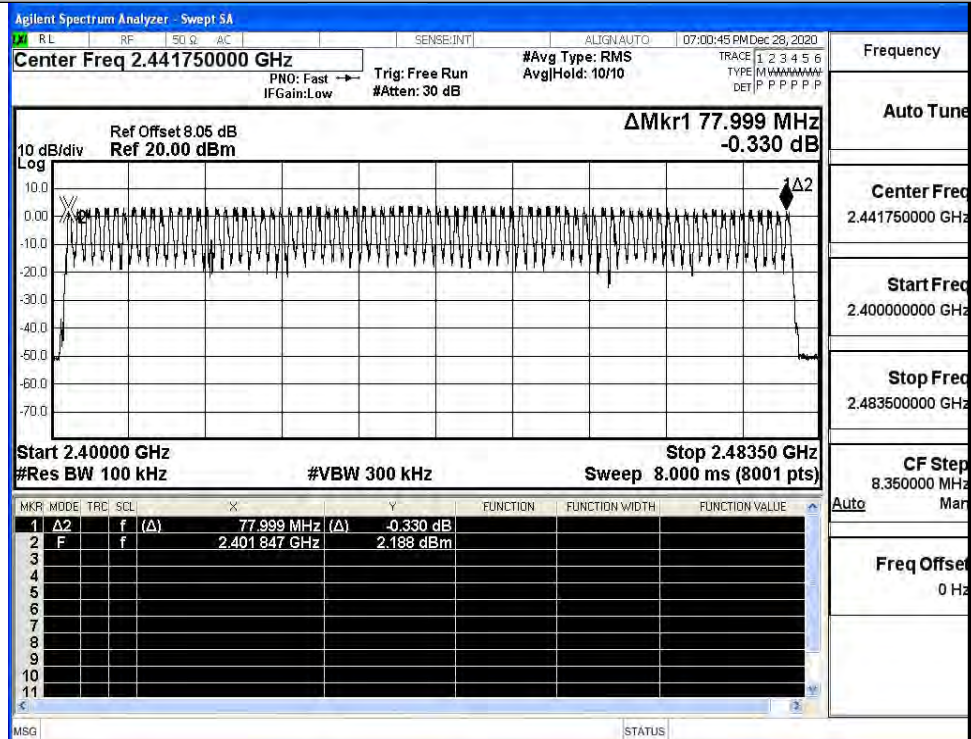
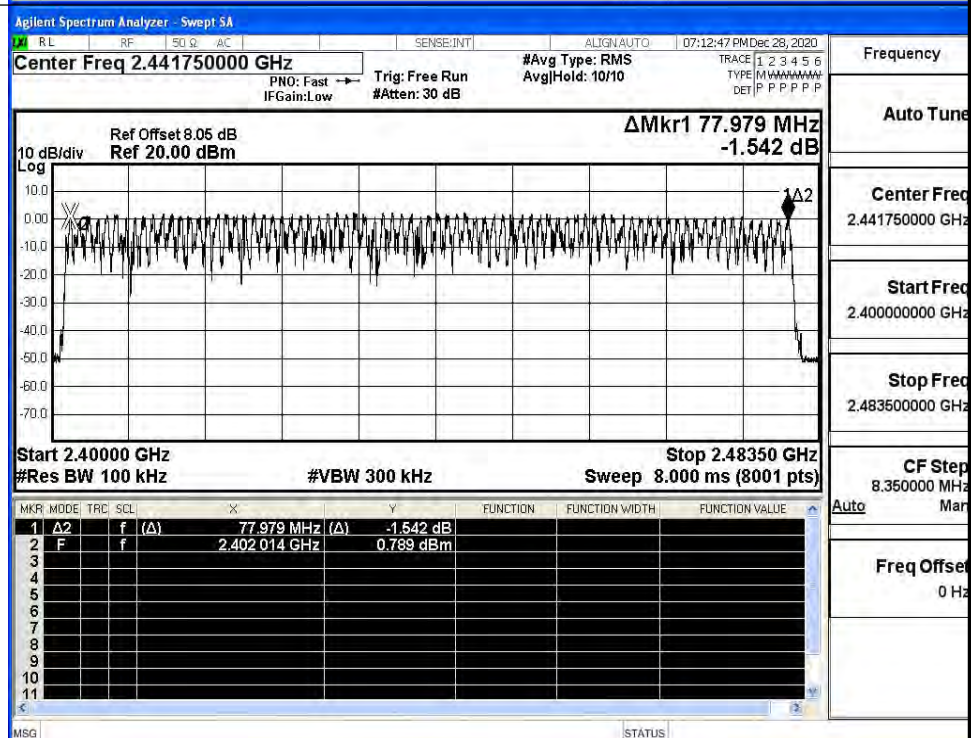


A.4 Hopping Channel Number

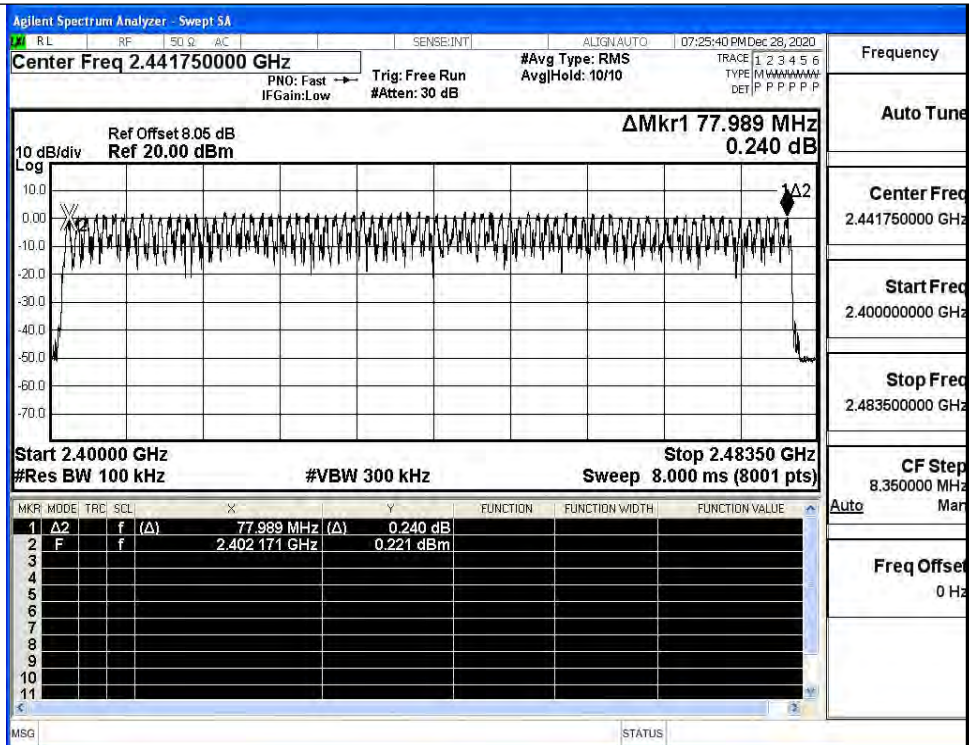
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	≥ 15	PASS
$\pi/4$ DQPSK	Hop	79	≥ 15	PASS
8DPSK	Hop	79	≥ 15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

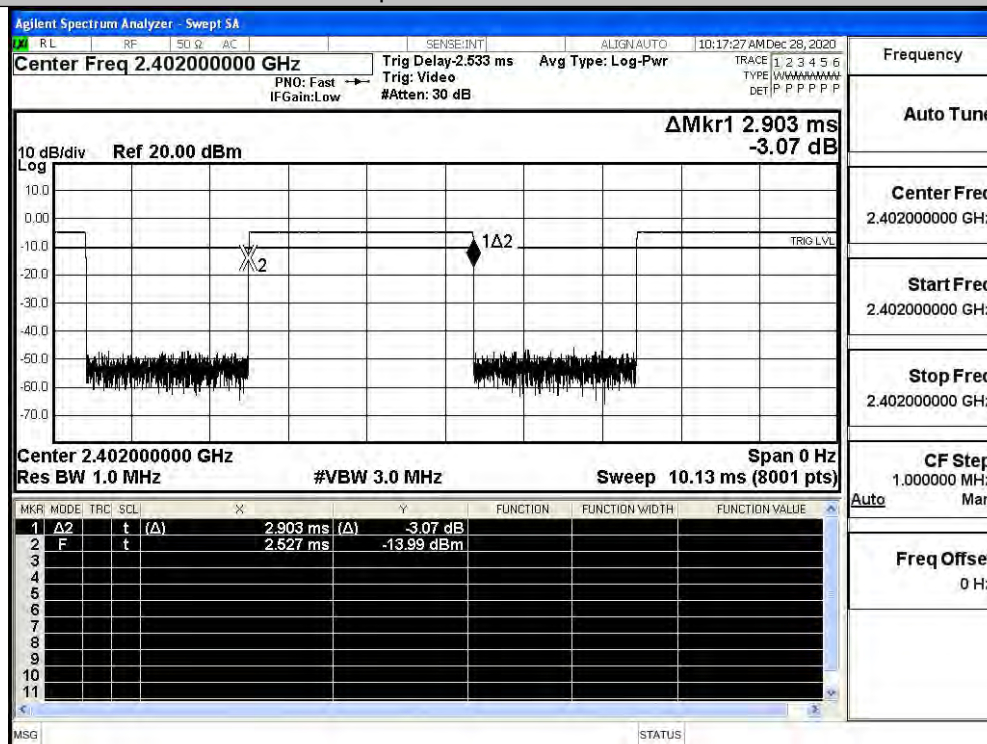


A.5 Dwell Time

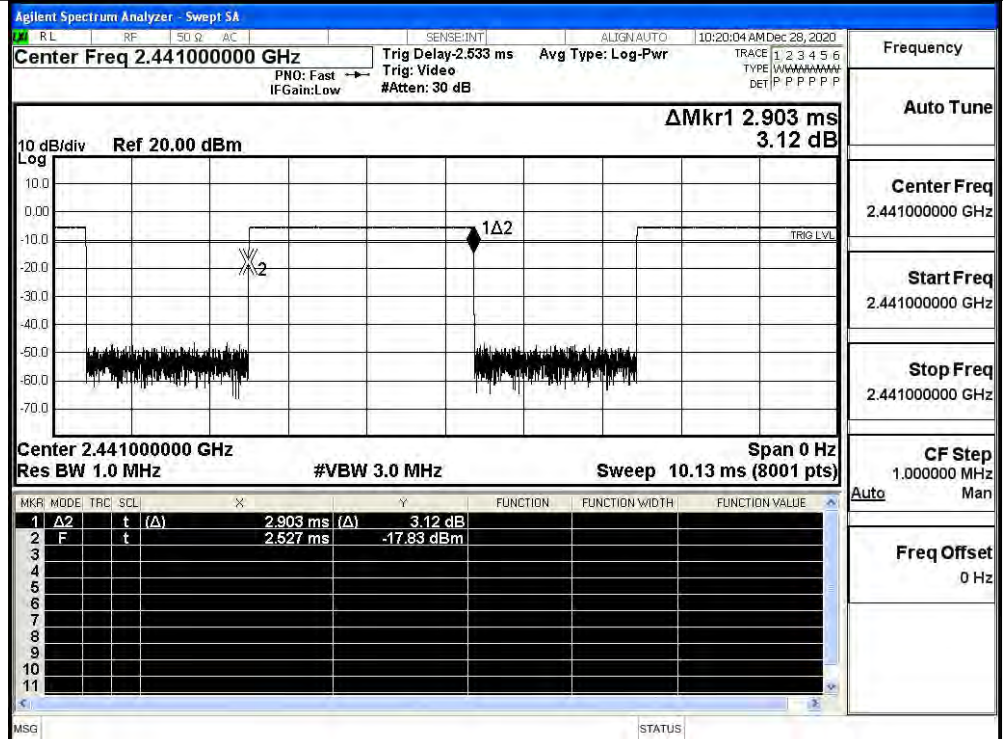
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.9	106.7	0.309	0.4	PASS
	DH5	MCH	2.9	106.7	0.309	0.4	PASS
	DH5	HCH	2.9	106.7	0.309	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.9	106.7	0.31	0.4	PASS
	2DH5	MCH	2.9	106.7	0.31	0.4	PASS
	2DH5	HCH	2.9	106.7	0.31	0.4	PASS
8DPSK	3DH5	LCH	2.9	106.7	0.31	0.4	PASS
	3DH5	MCH	2.9	106.7	0.31	0.4	PASS
	3DH5	HCH	2.9	106.7	0.31	0.4	PASS

Test Graphs

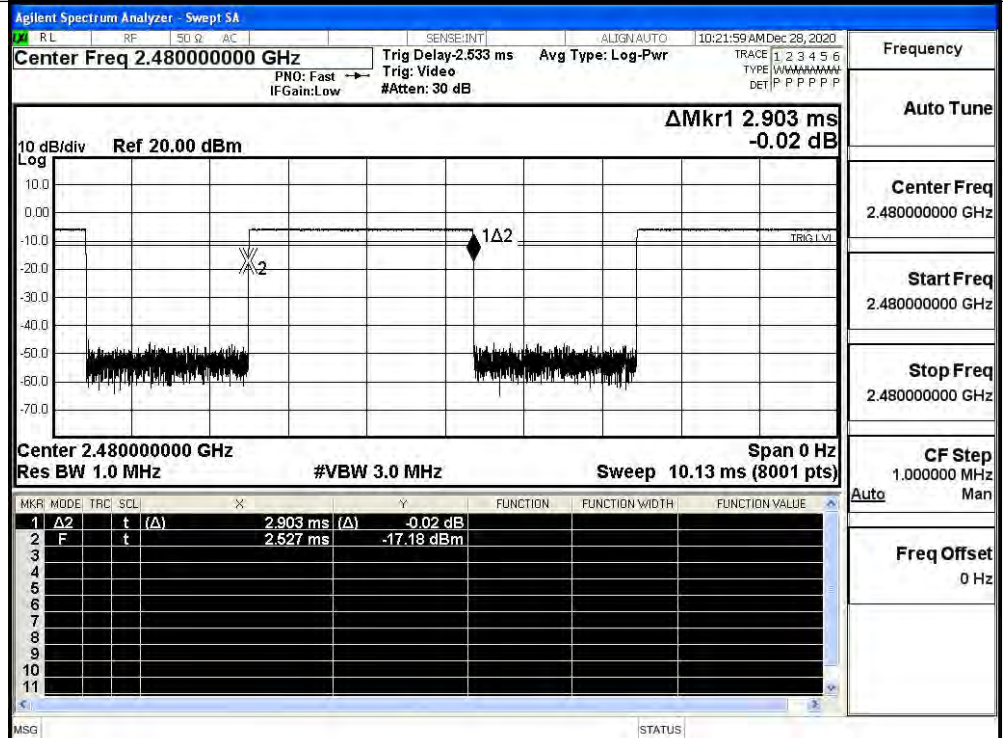
GFSK_DH5/LCH



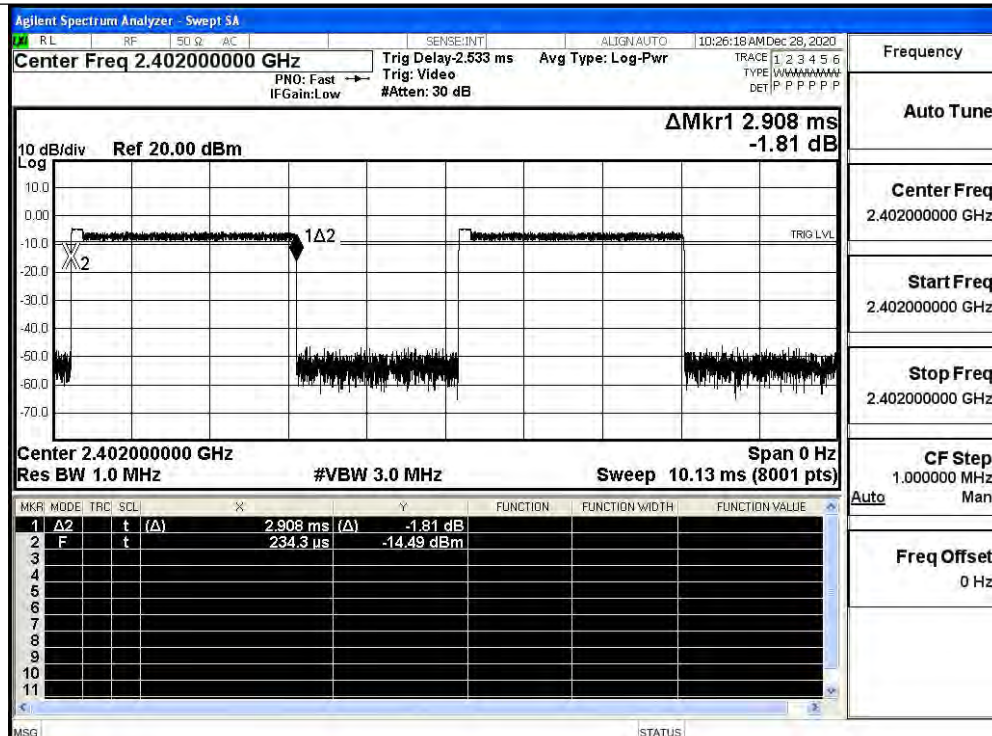
GFSK_DH5/MCH



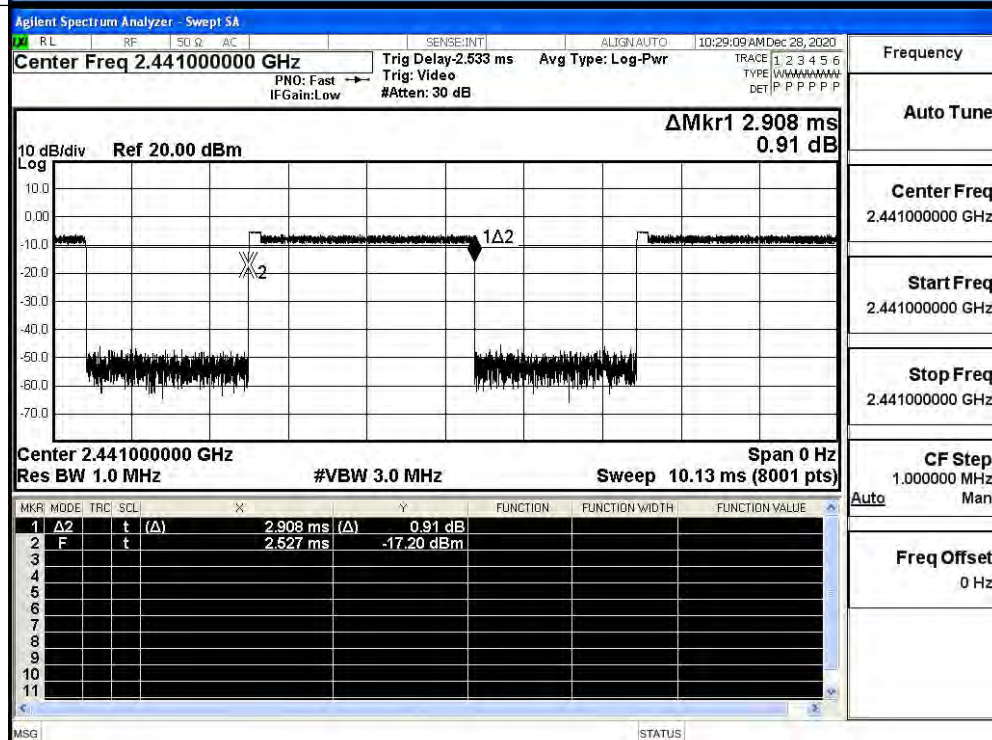
GFSK_DH5/HCH



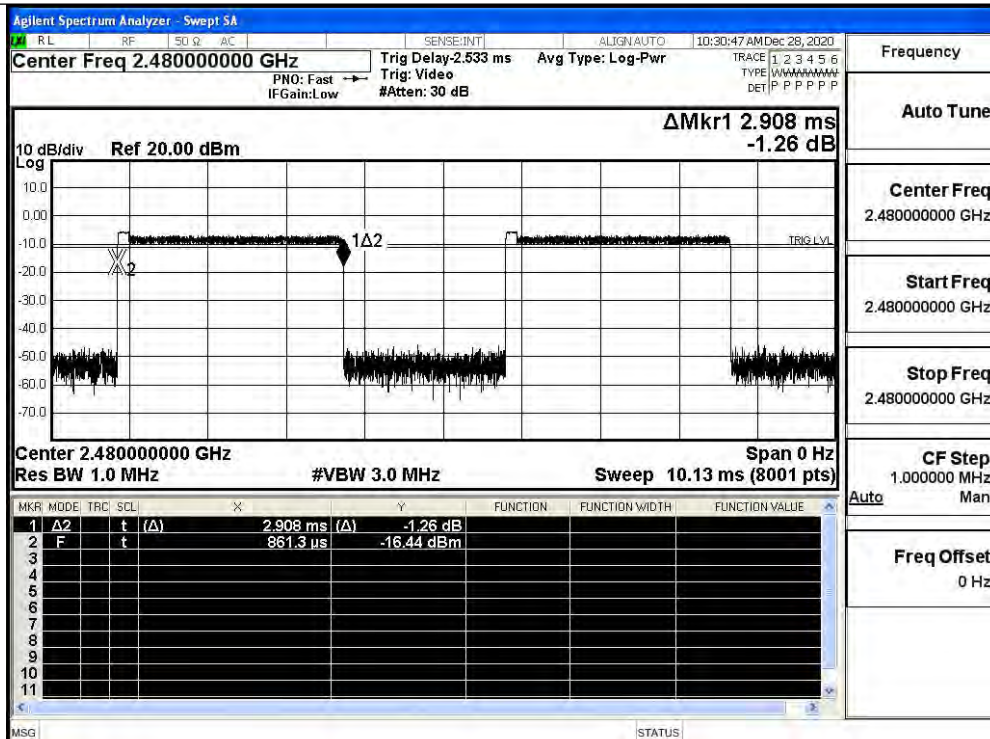
$\pi/4$ DQPSK
_2DH5/LCH



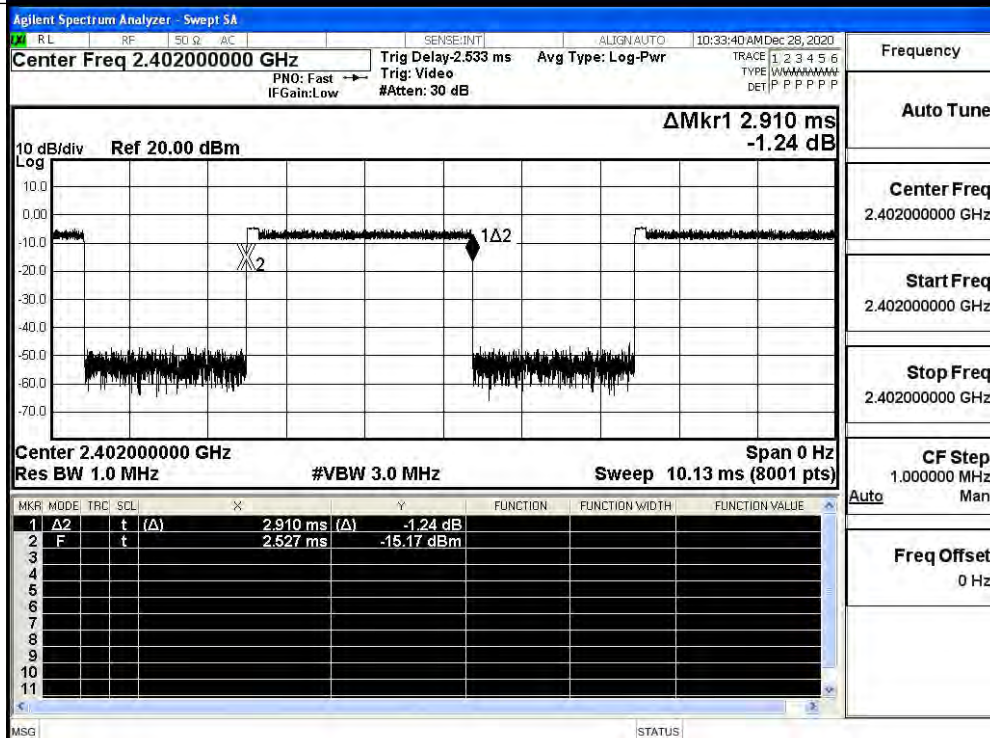
$\pi/4$ DQPSK
_2DH5/MCH



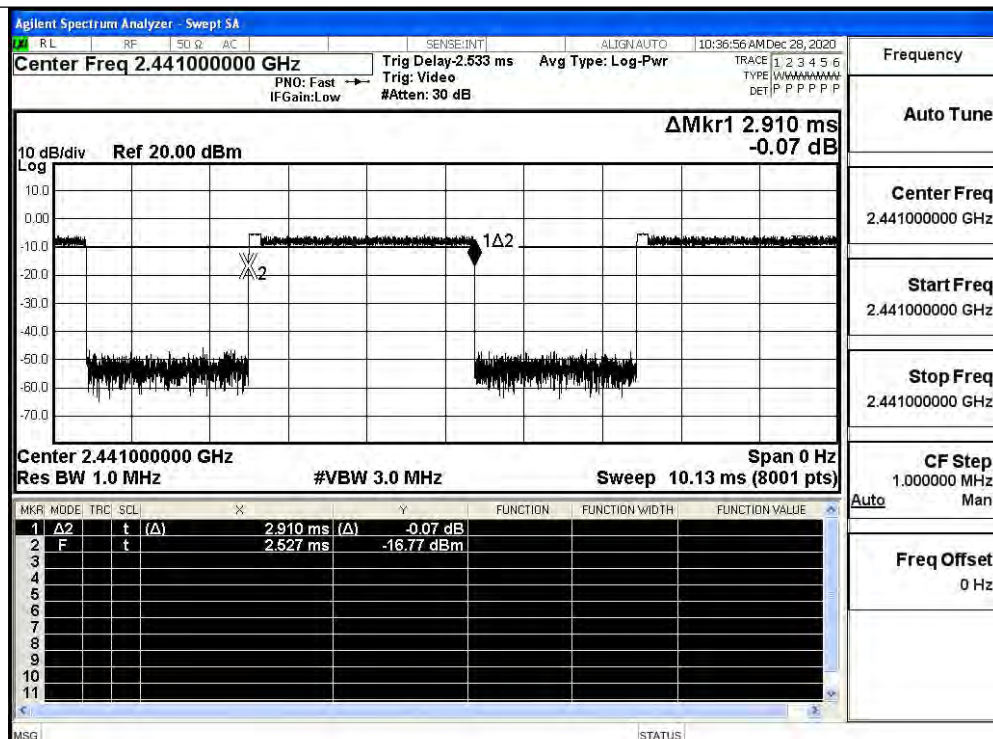
$\pi/4$ DQPSK
_2DH5/HCH



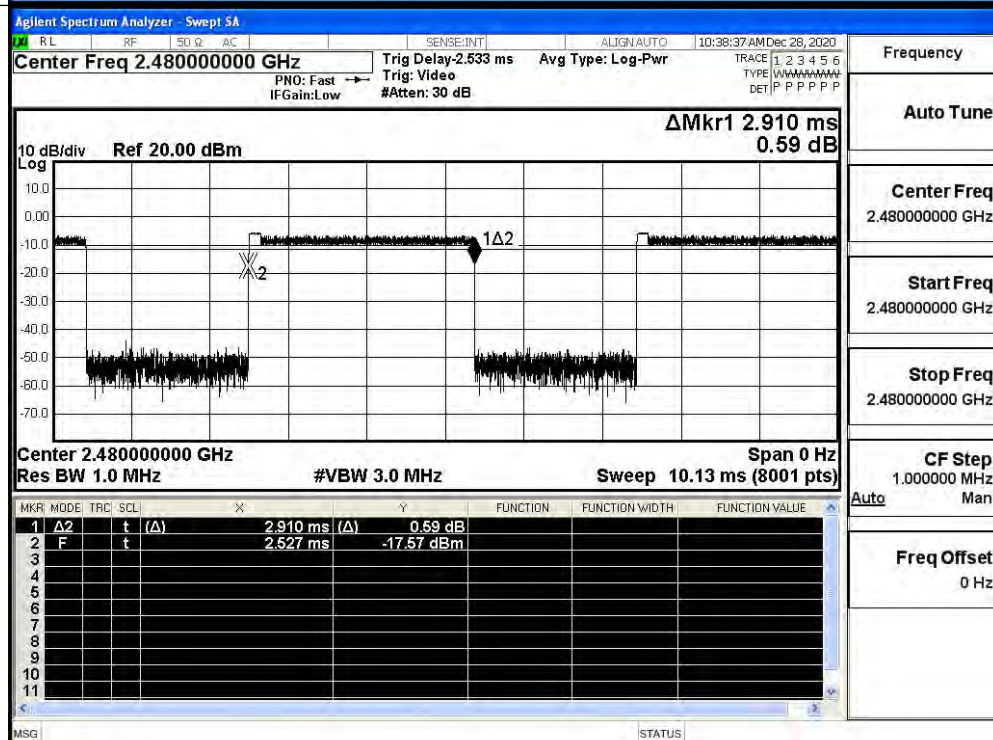
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



8DPSK_3DH5/HCH

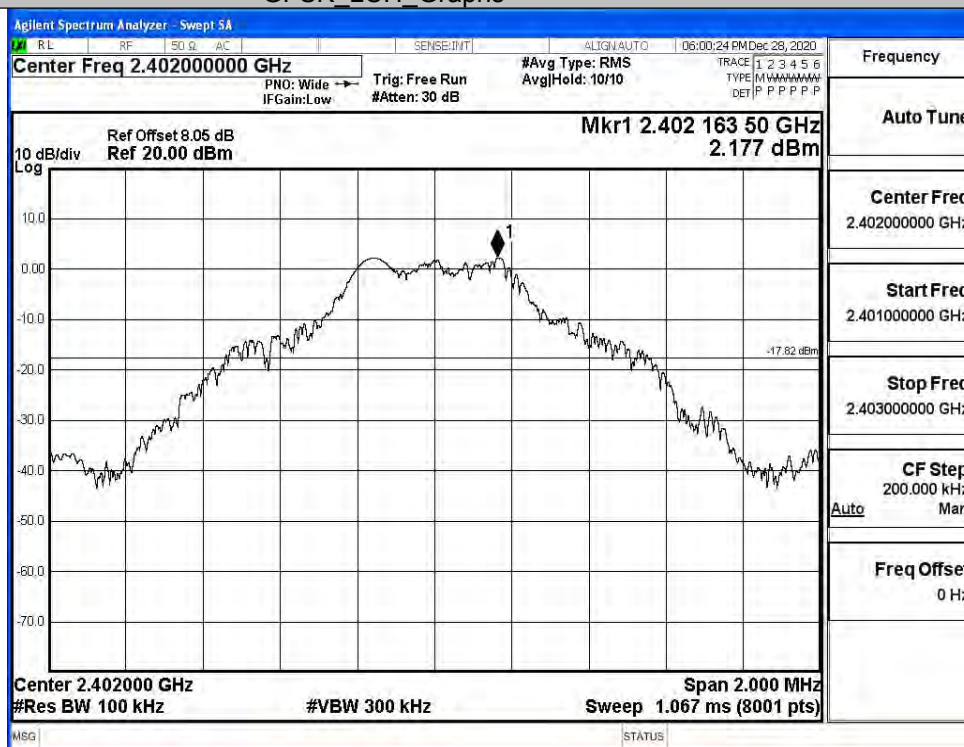


A.6 RF Conducted Spurious Emissions

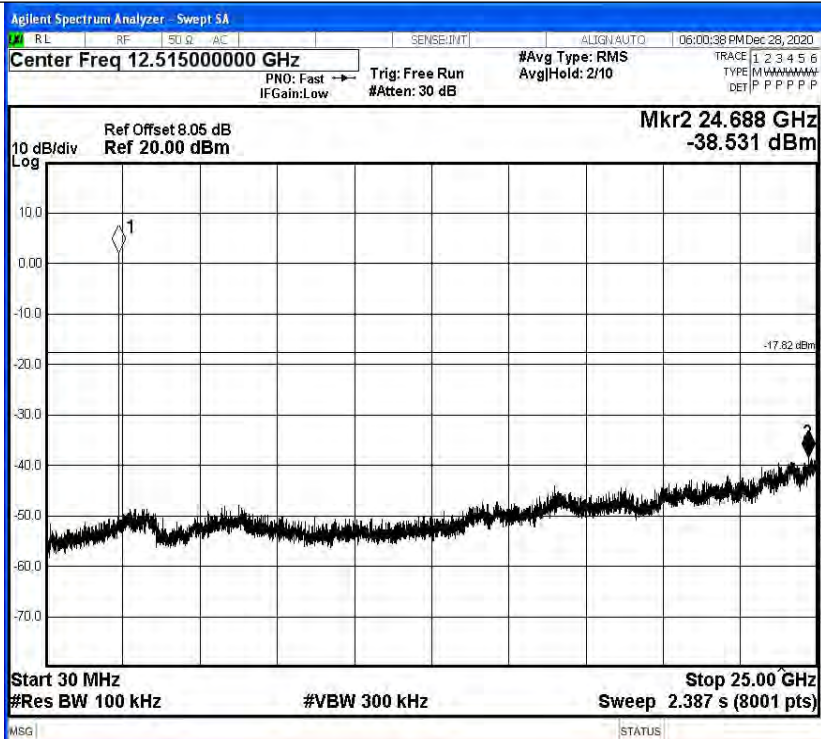
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.177	-38.531	-17.823	PASS
	MCH	3.591	-37.901	-16.409	PASS
	HCH	1.805	-37.858	-18.195	PASS
$\pi/4$ DQPSK	LCH	0.577	-38.011	-19.423	PASS
	MCH	1.573	-37.948	-18.427	PASS
	HCH	0.205	-37.898	-19.795	PASS
8DPSK	LCH	0.44	-38.104	-19.560	PASS
	MCH	1.975	-37.741	-18.025	PASS
	HCH	0.323	-37.184	-19.677	PASS

GFSK_LCH_Graphs

Pref



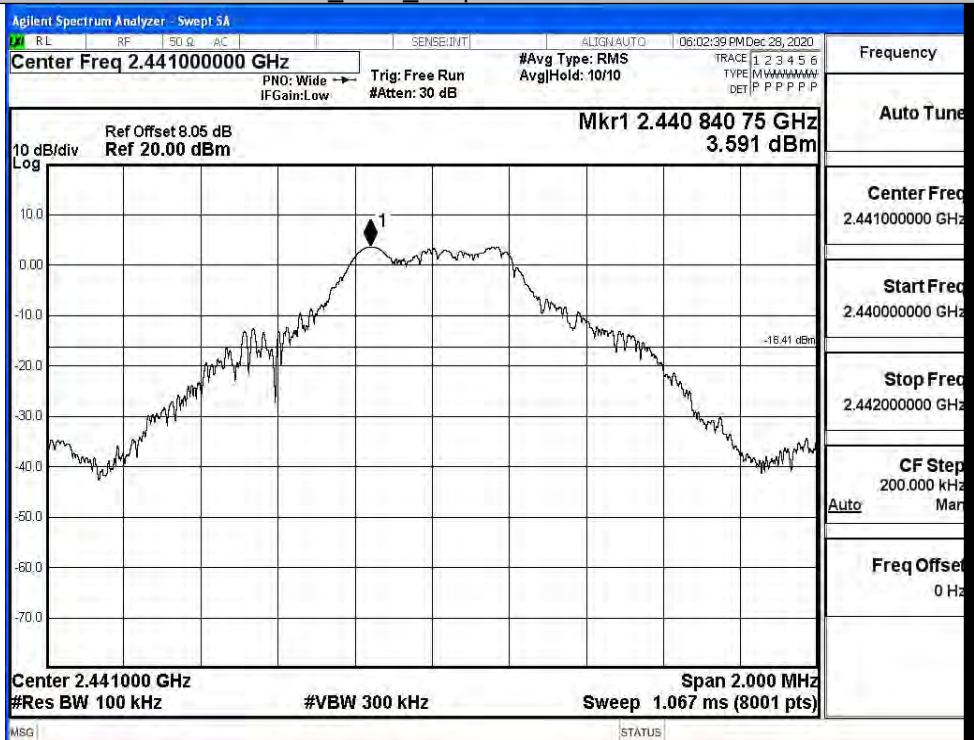
Puw



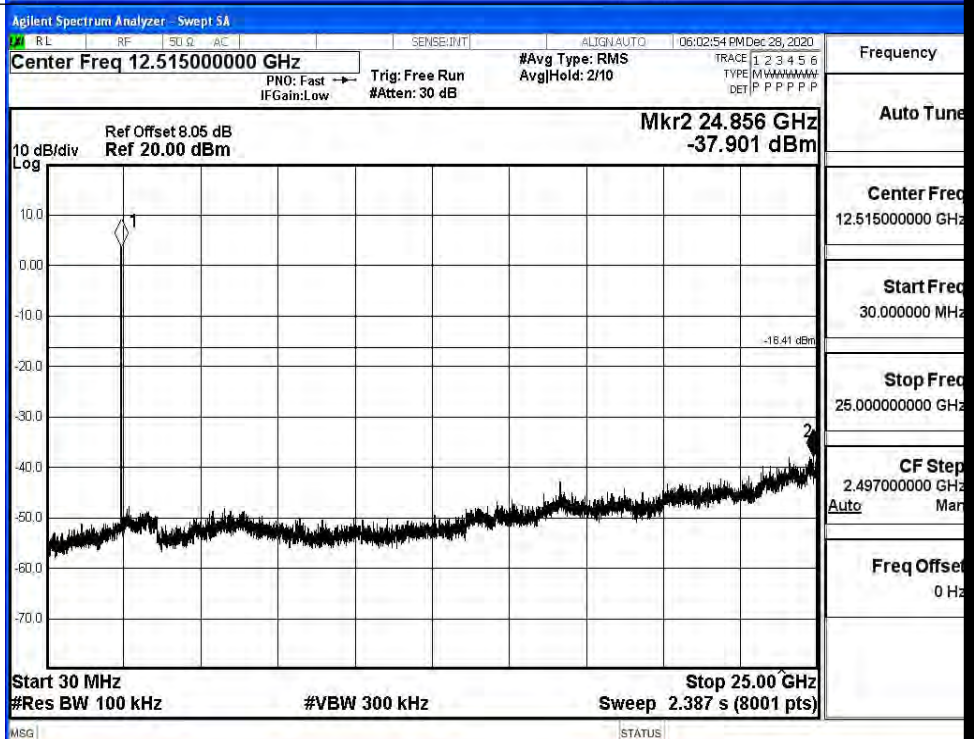
Frequency
Auto Tune
Center Freq 12.51500000 GHz
Start Freq 30.000000 MHz
Stop Freq 25.00000000 GHz
CF Step 2.497000000 GHz Auto Man
Freq Offset 0 Hz

GFSK_MCH_Graphs

Pref

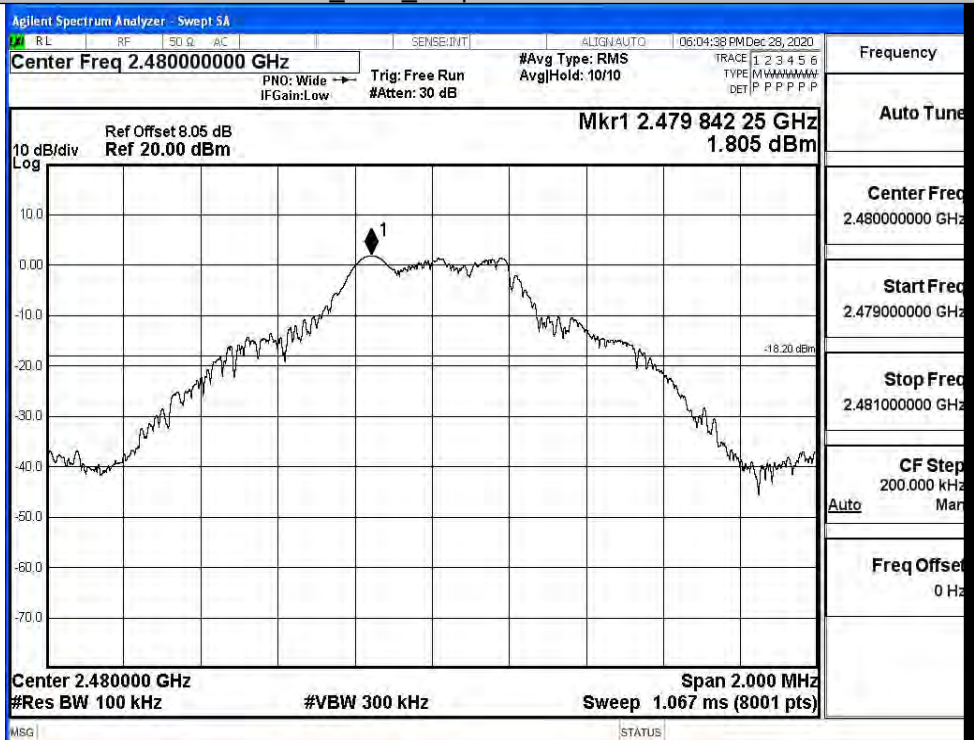


Puw

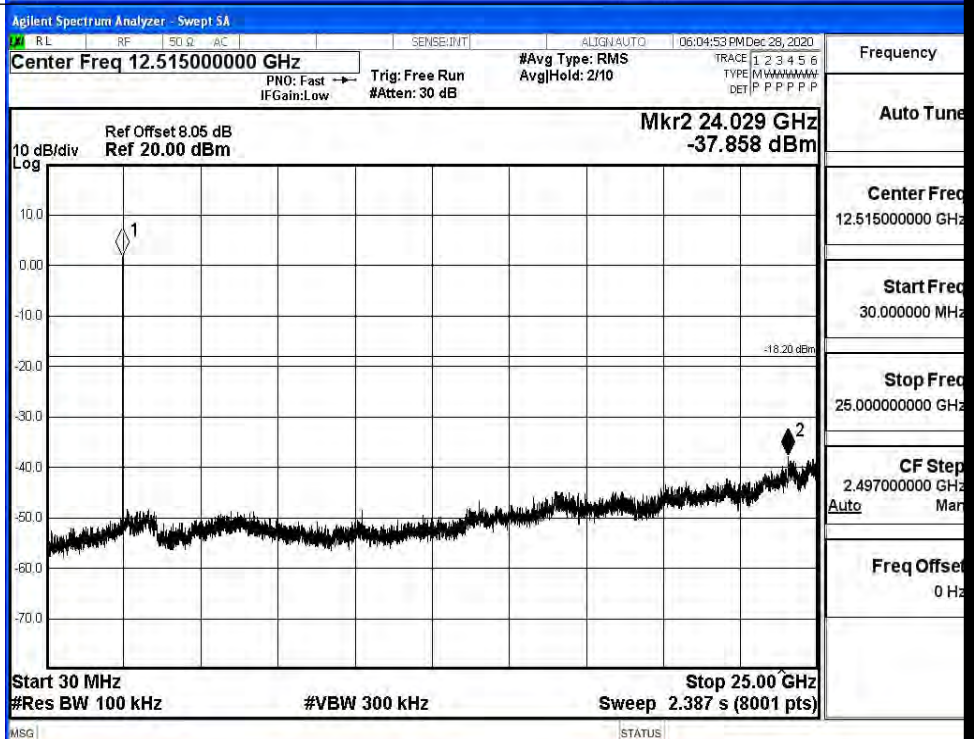


GFSK_HCH_Graphs

Pref

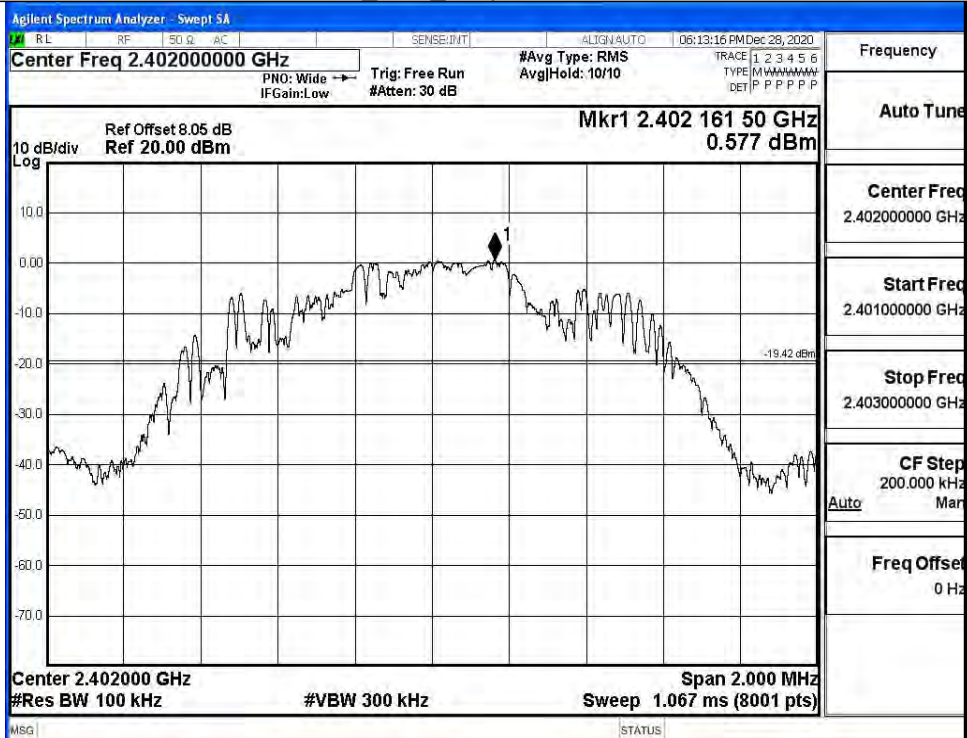


Puw

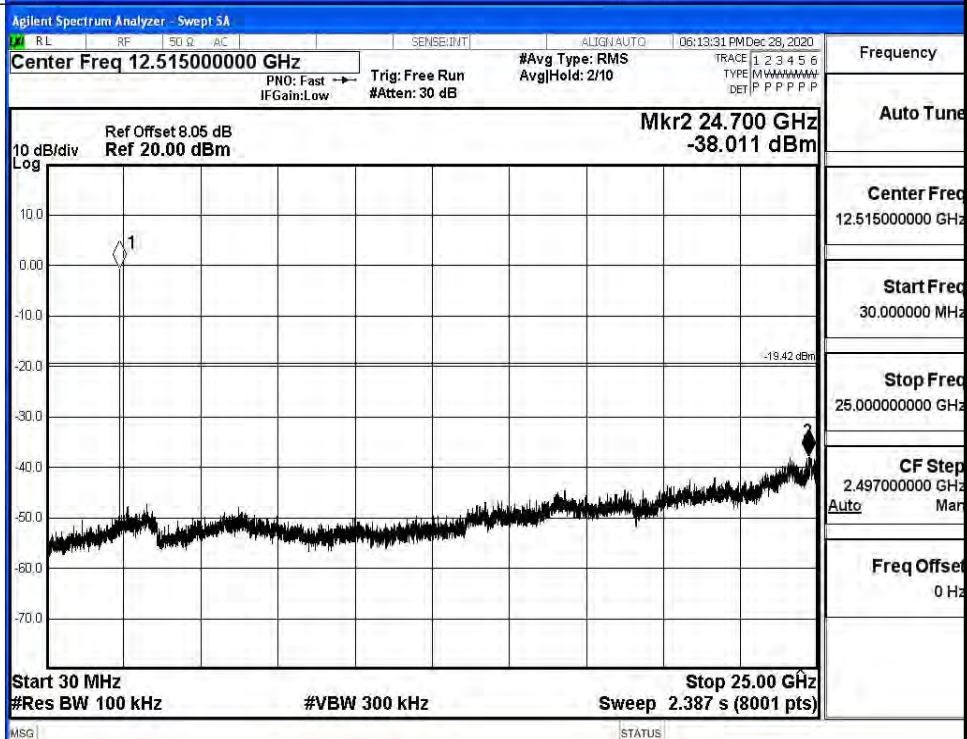


$\pi/4$ DQPSK_LCH_Graphs

Pref

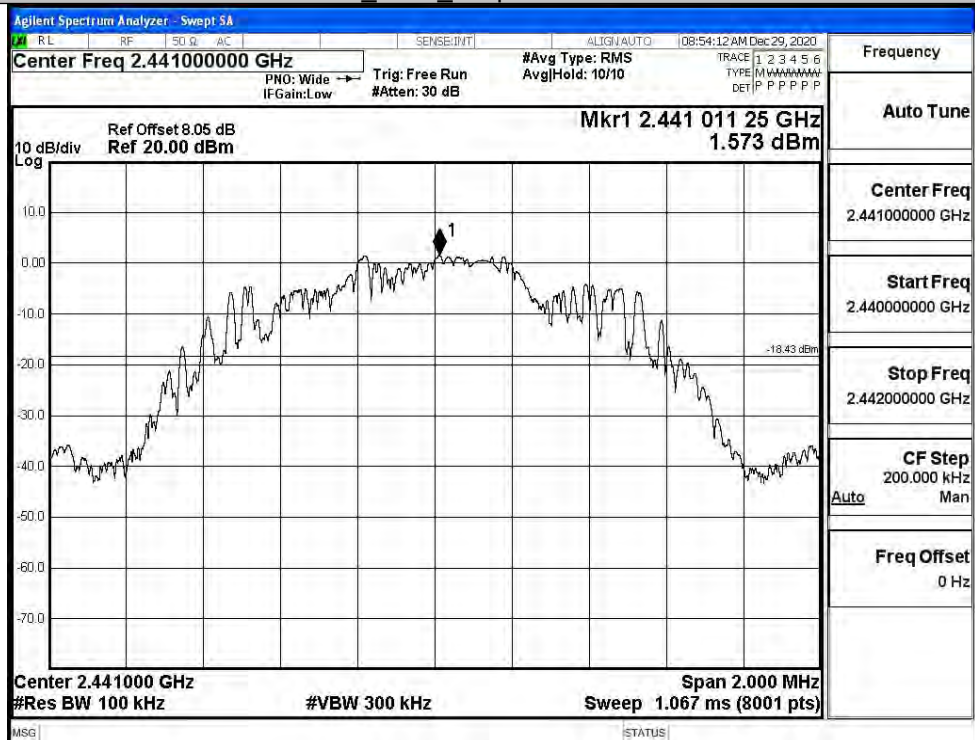


Puw

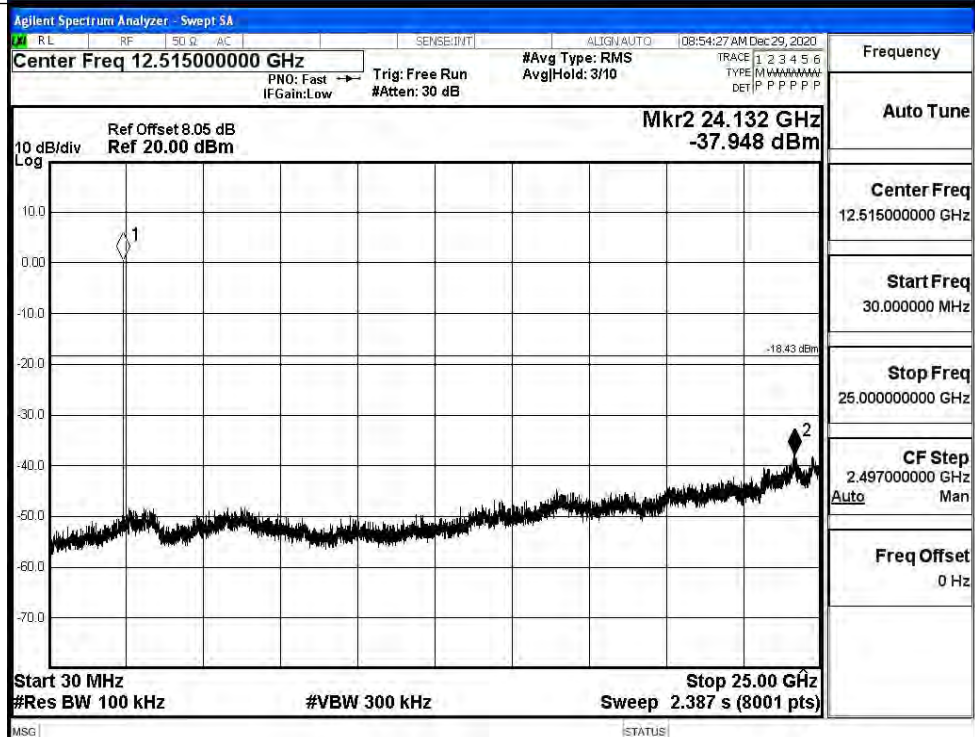


π /4DQPSK_MCH_Graphs

Pref

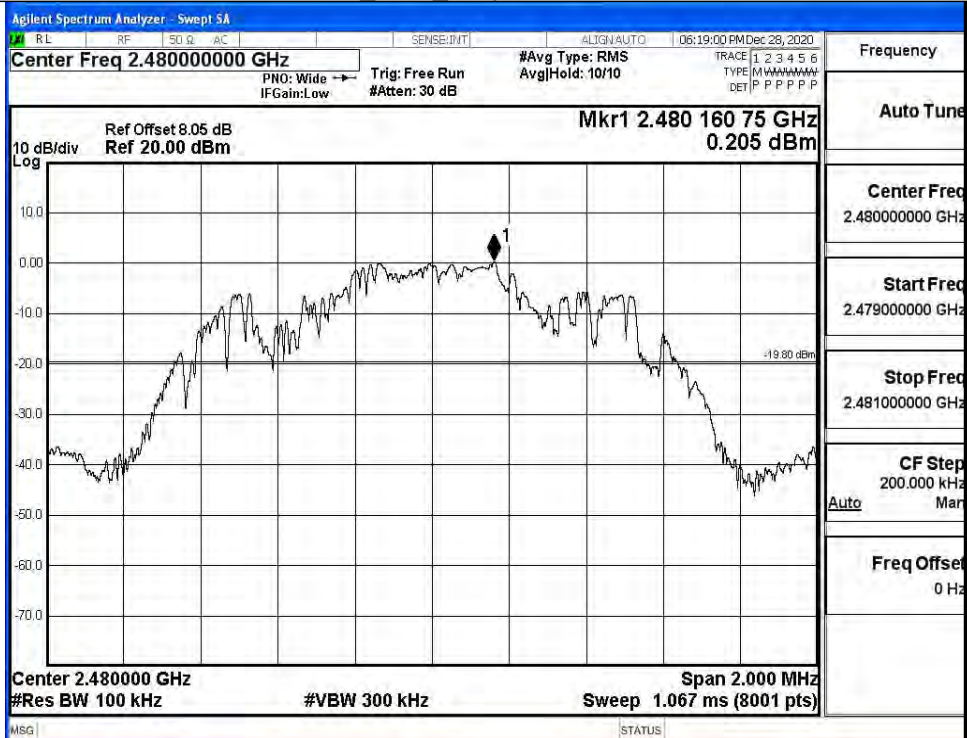


Puw

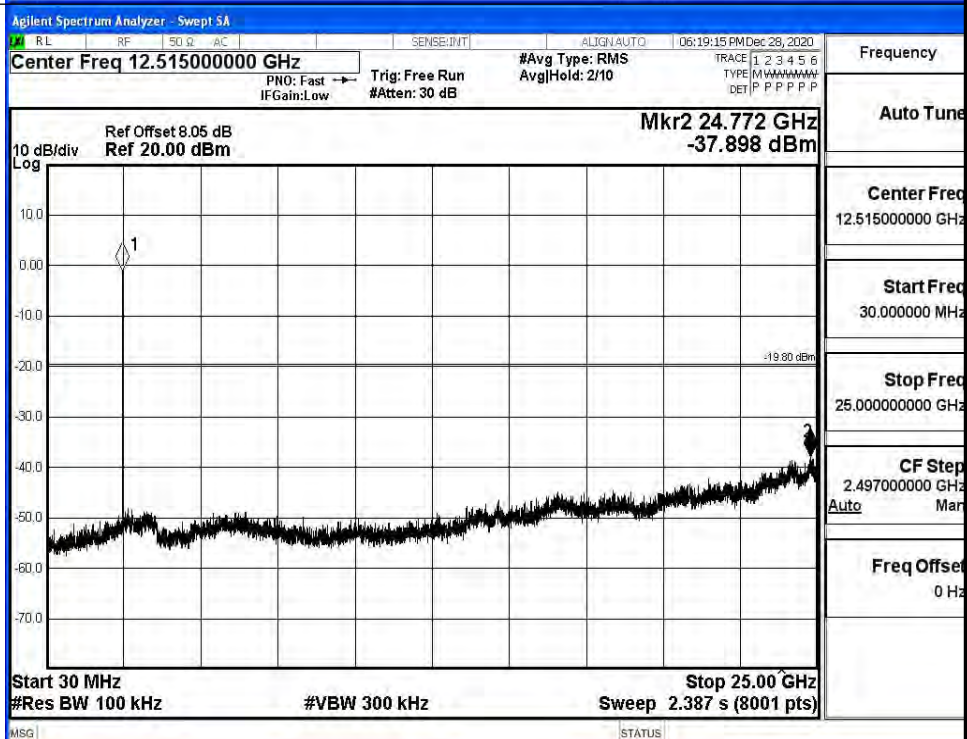


$\pi/4$ DQPSK_HCH_Graphs

Pref

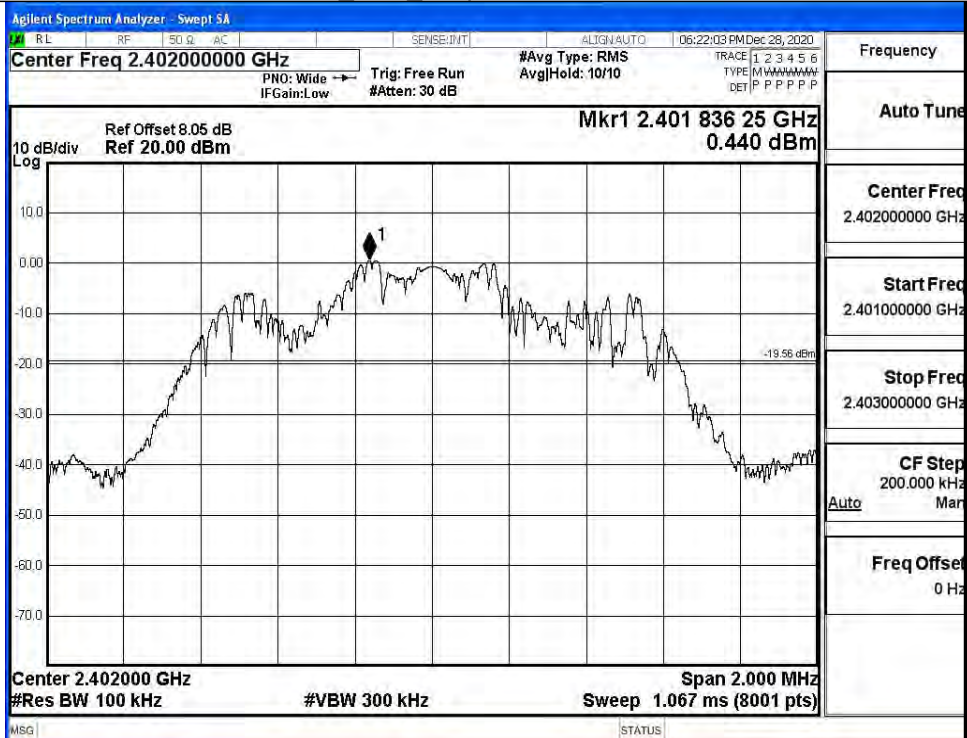


Puw

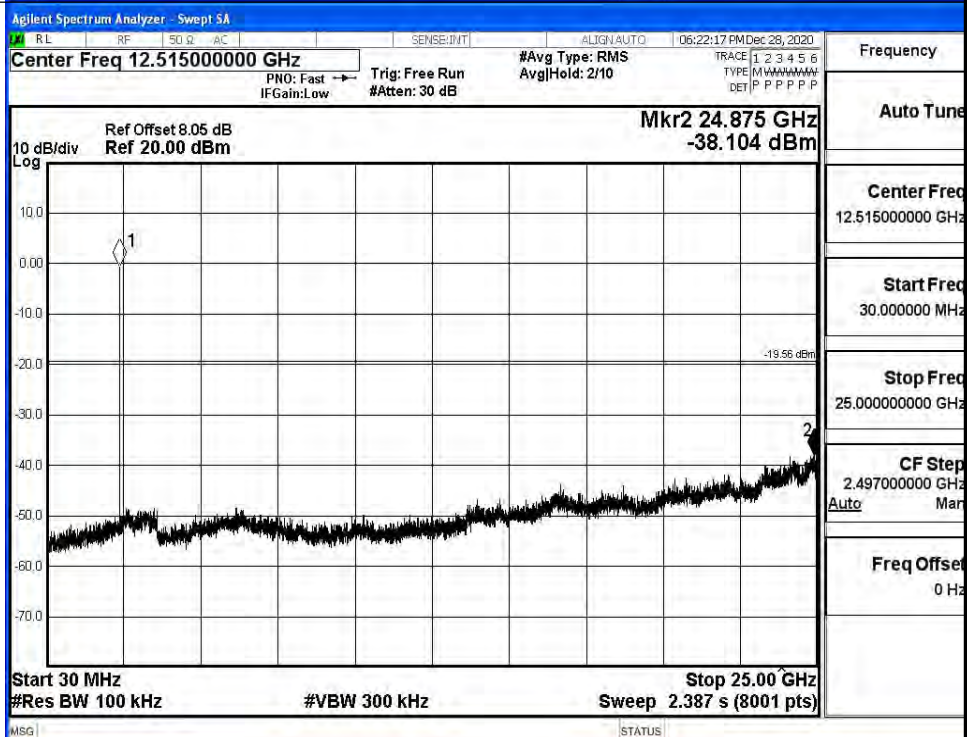


8DPSK_LCH_Graphs

Pref

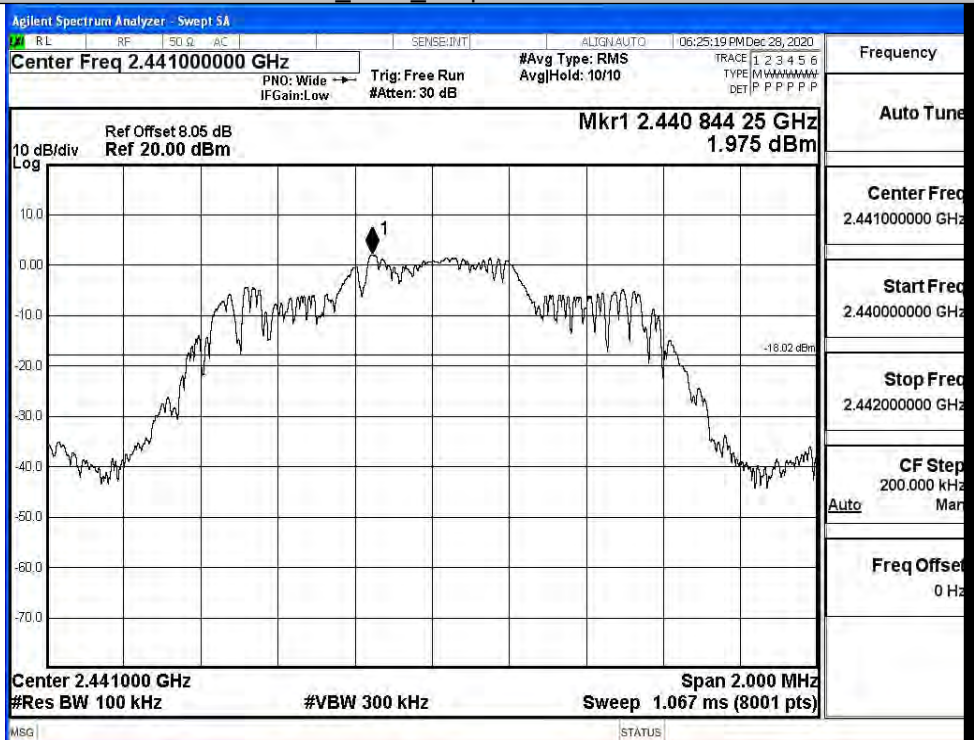


Puw

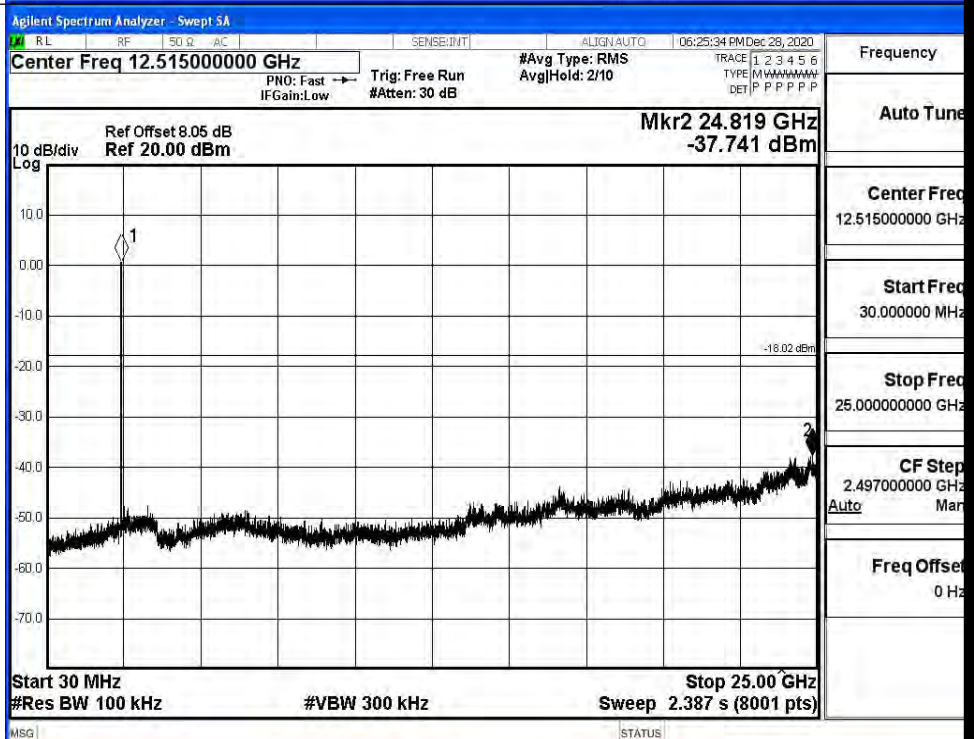


8DPSK_MCH_Graphs

Pref

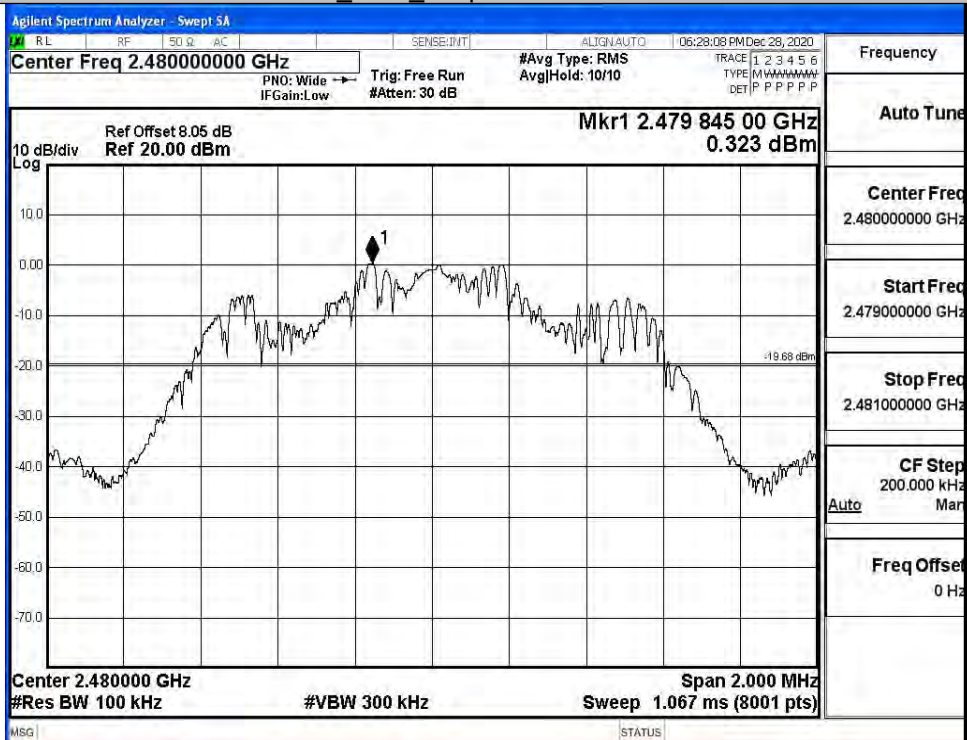


Puw

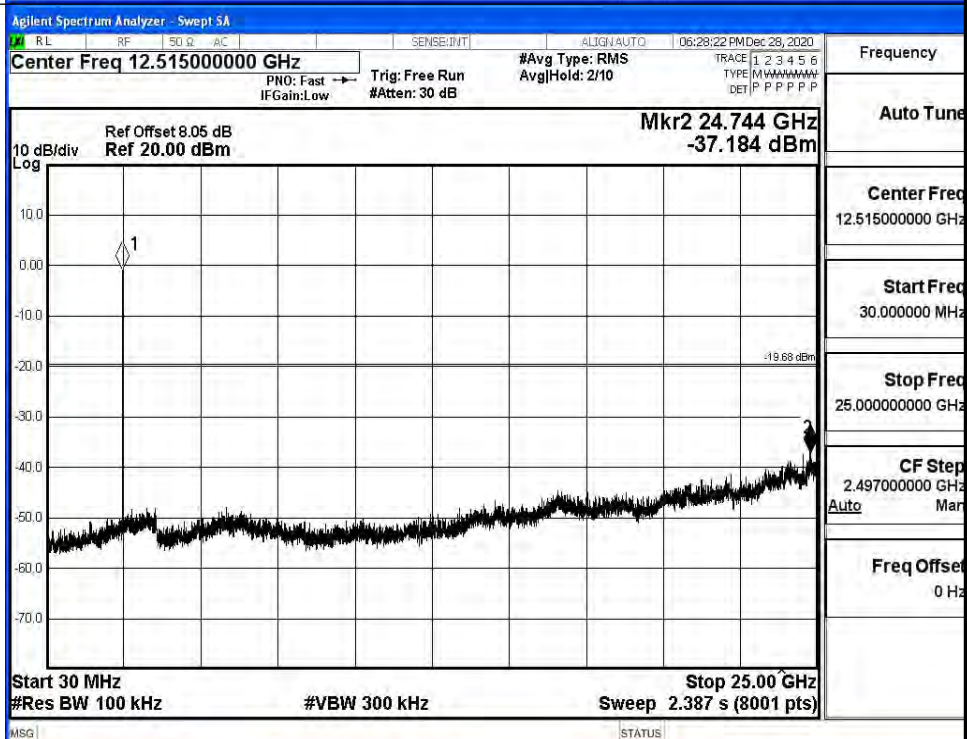


8DPSK_HCH_Graphs

Pref



Puw

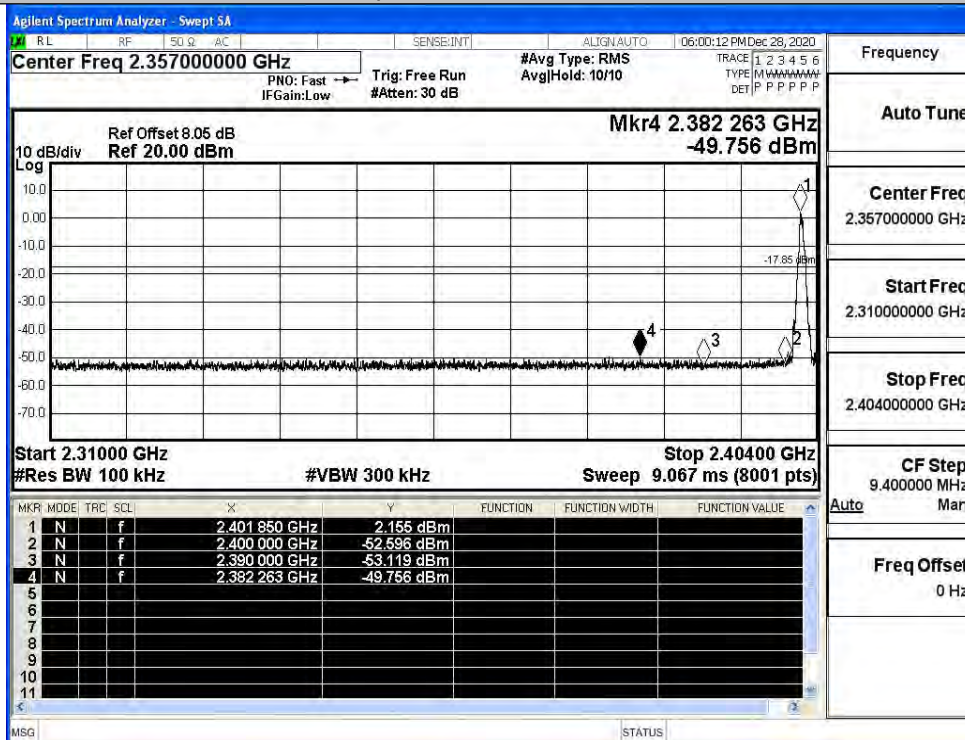


A.7 Band-edge for RF Conducted Emissions

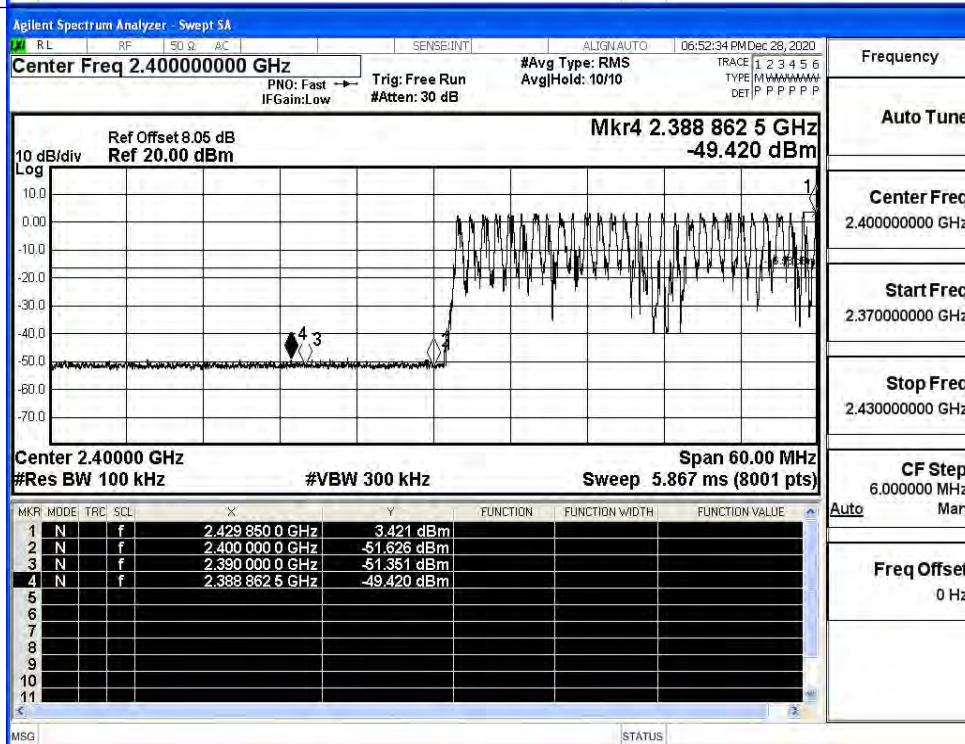
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	2.155	Off	-49.756	-17.85	PASS
			3.421	On	-49.420	-16.58	PASS
	HCH	2480	1.843	Off	-49.600	-18.16	PASS
			3.423	On	-48.787	-16.58	PASS
$\pi/4$ DQPSK	LCH	2402	-0.006	Off	-49.376	-20.01	PASS
			1.874	On	-48.893	-18.13	PASS
	HCH	2480	0.381	Off	-49.122	-19.62	PASS
			1.479	On	-48.763	-18.52	PASS
8DPSK	LCH	2402	-0.384	Off	-48.919	-20.38	PASS
			1.900	On	-48.478	-18.1	PASS
	HCH	2480	0.461	Off	-49.091	-19.54	PASS
			1.935	On	-48.922	-18.07	PASS

Test Graphs

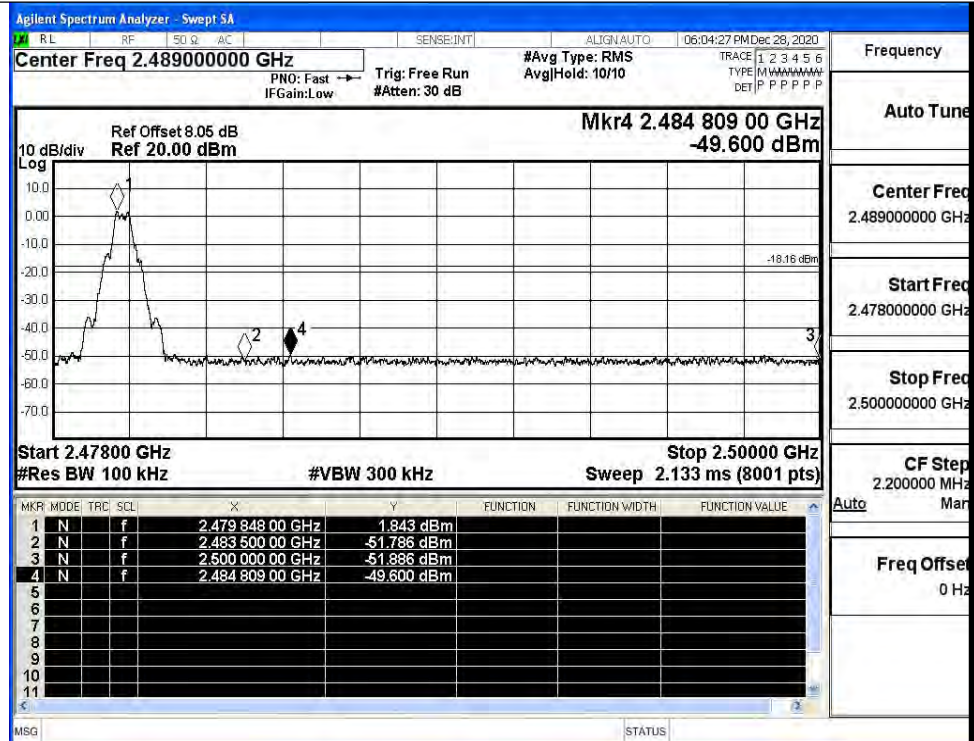
GFSK/LCH/No Hop



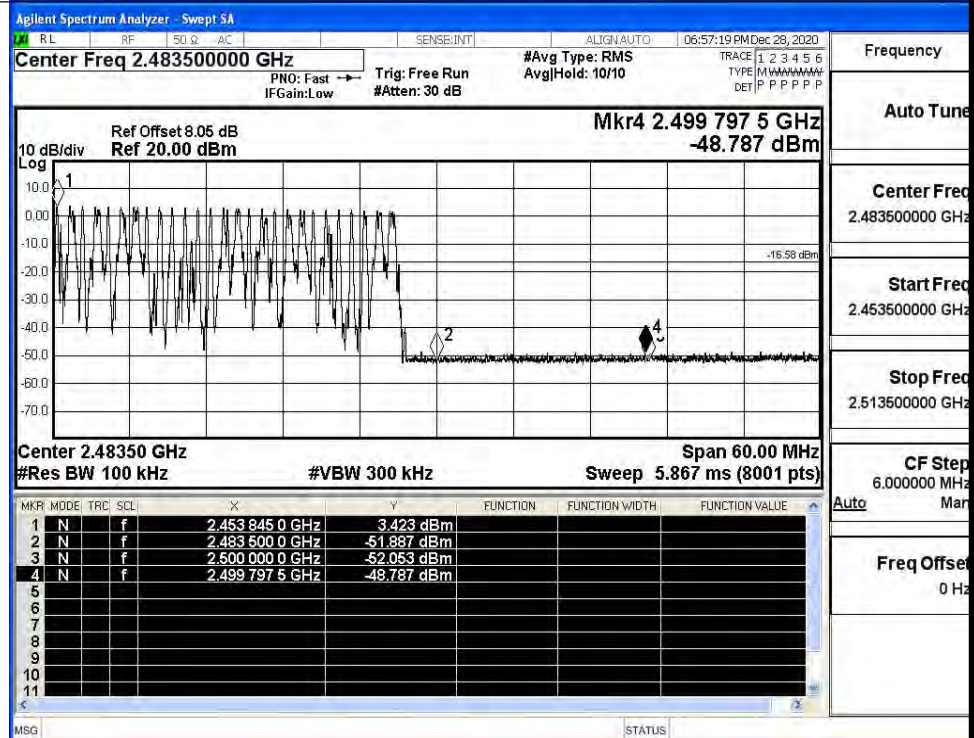
GFSK/LCH/Hop



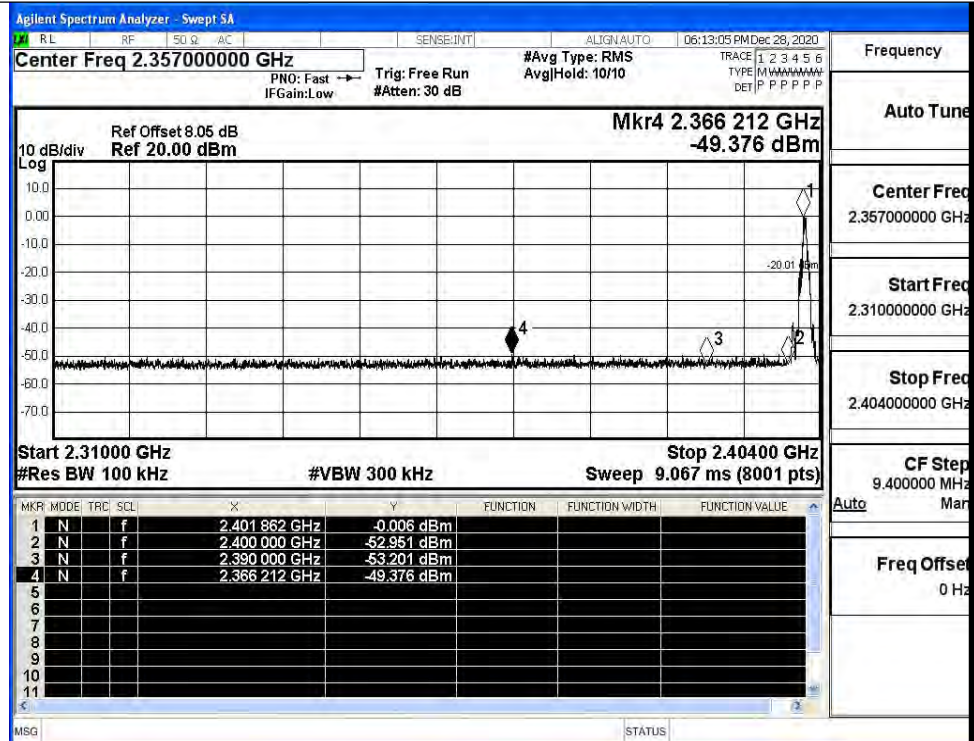
GFSK/HCH/No Hop



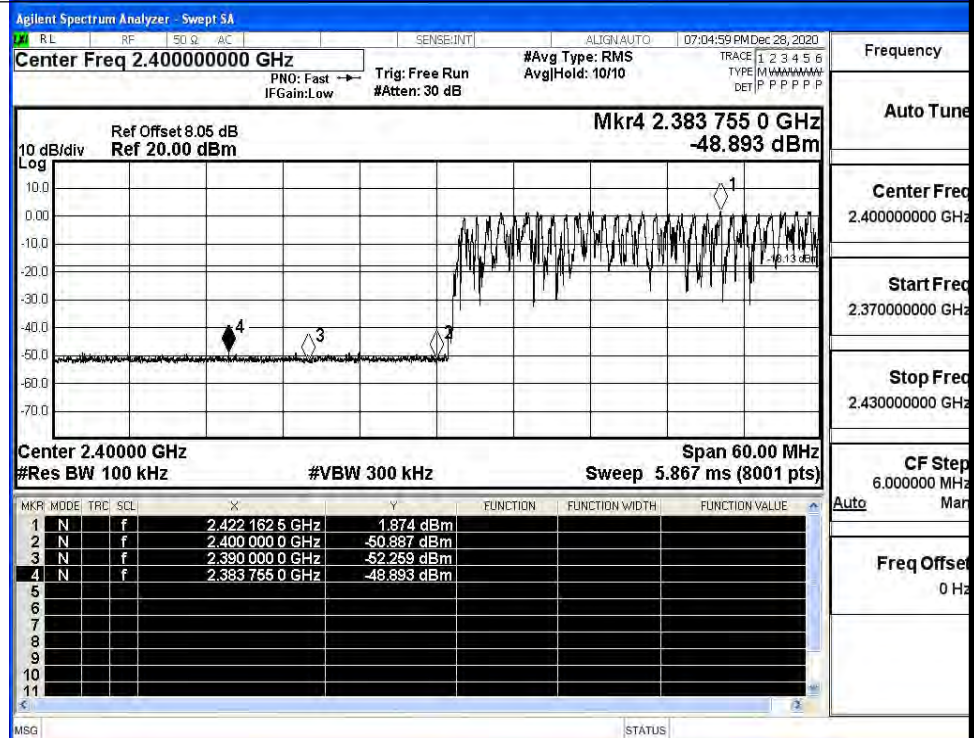
GFSK/HCH/Hop



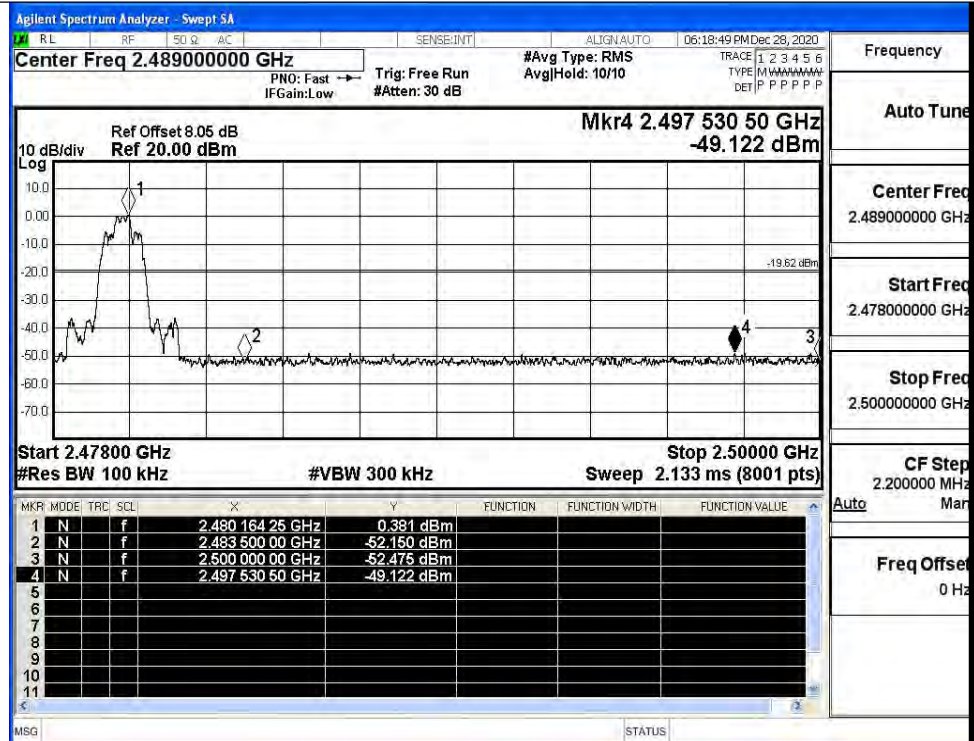
$\pi/4$ DQPSK/LCH/No
Hop



$\pi/4$ DQPSK/LCH/Hop



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

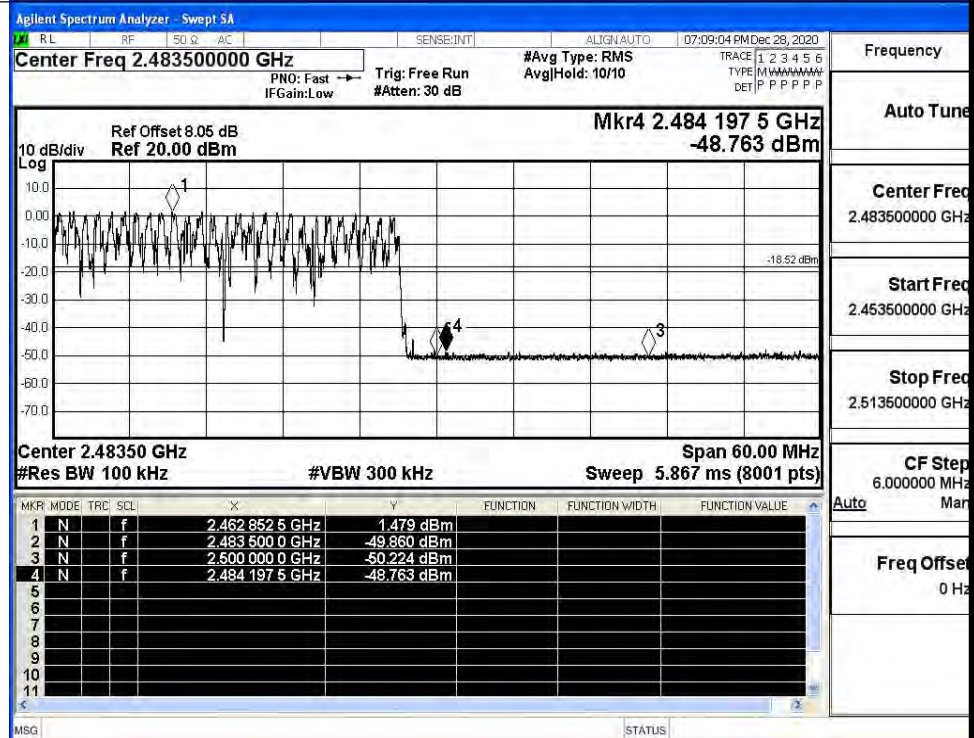


Frequency

Auto Tune

Center Freq
2.489000000 GHzStart Freq
2.478000000 GHzStop Freq
2.500000000 GHzCF Step
2.200000 MHzFreq Offset
0 Hz

$\pi/4$ DQPSK/HCH/Hop

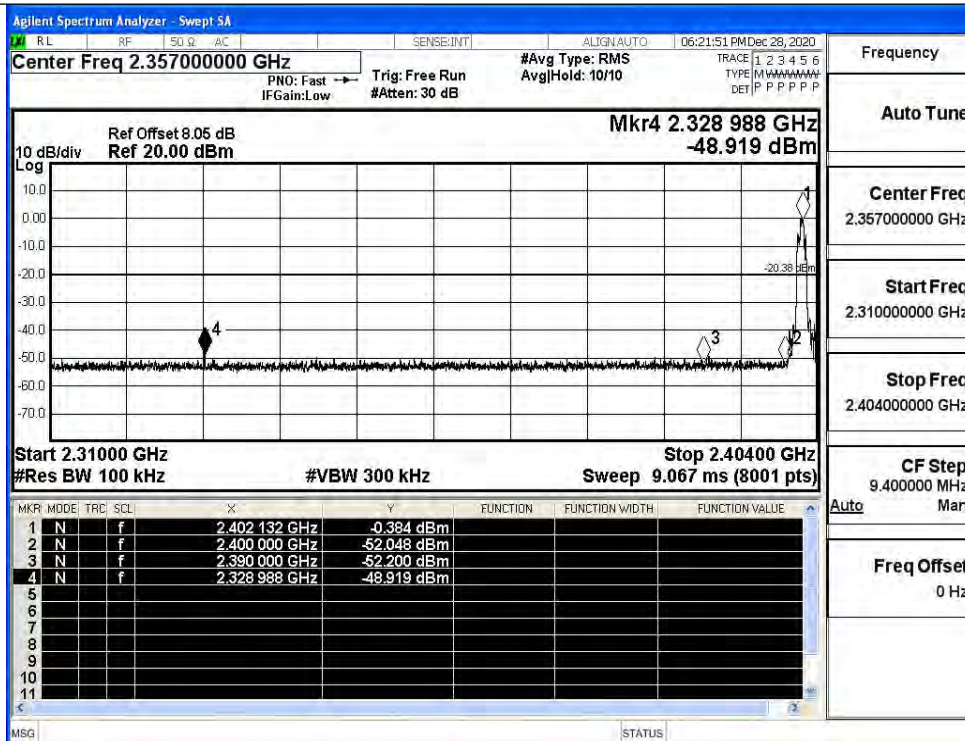


Frequency

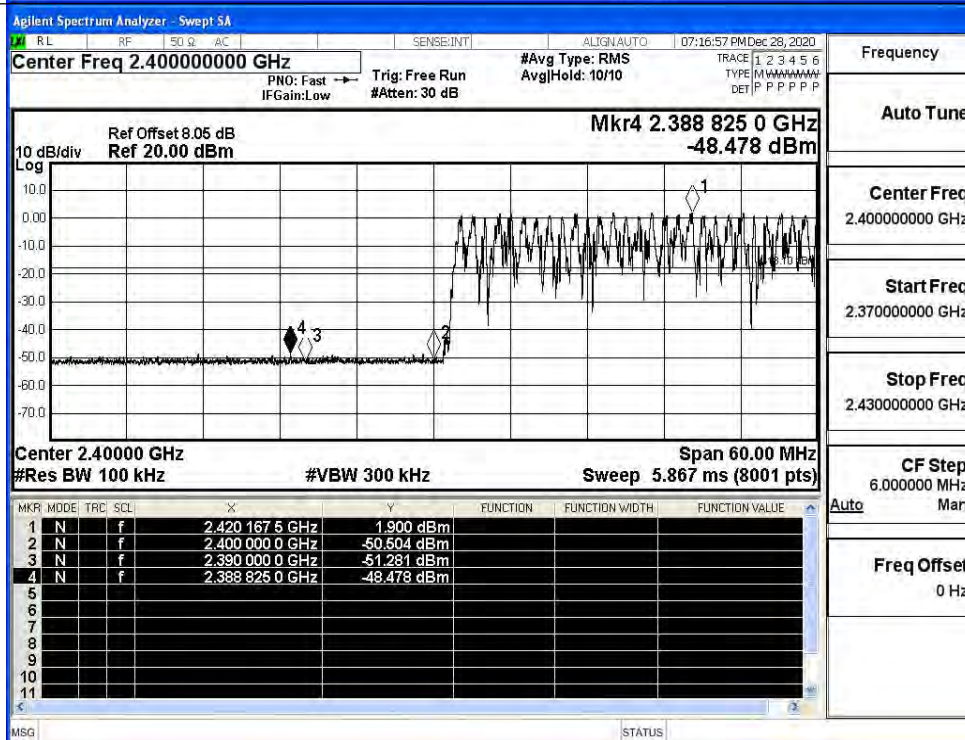
Auto Tune

Center Freq
2.483500000 GHzStart Freq
2.453500000 GHzStop Freq
2.513500000 GHzCF Step
6.000000 MHzFreq Offset
0 Hz

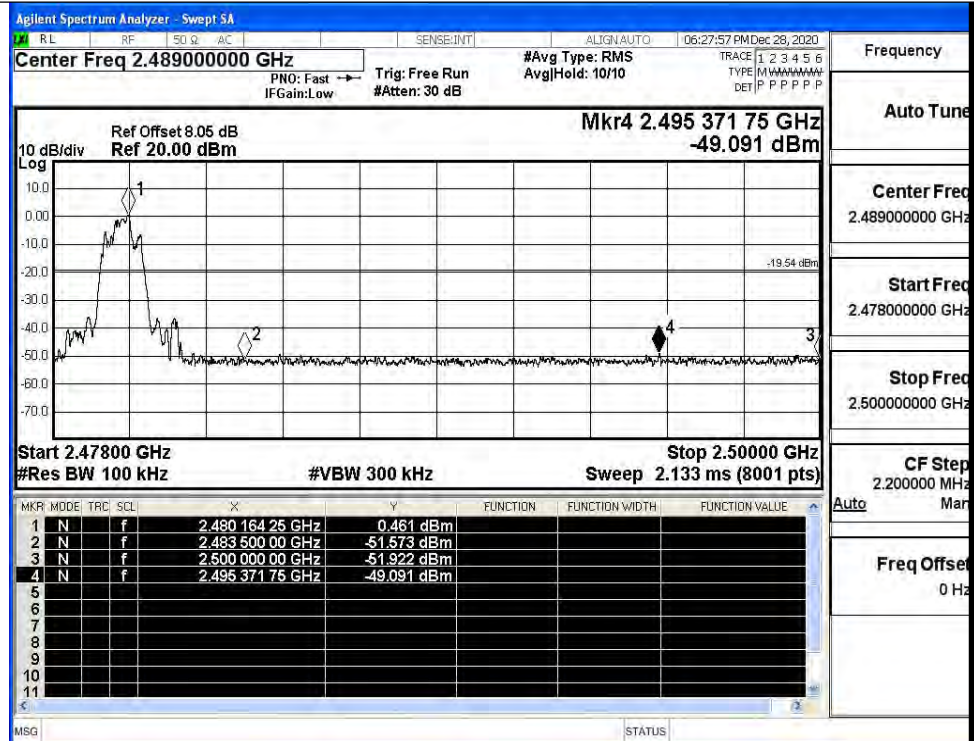
8DPSK/LCH/No Hop



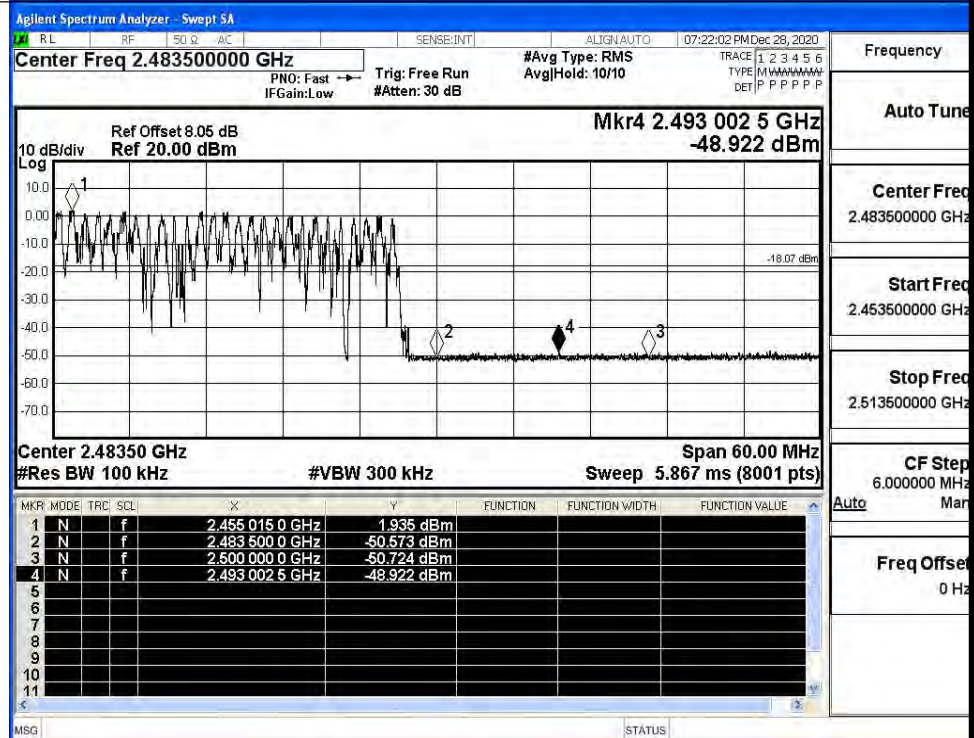
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



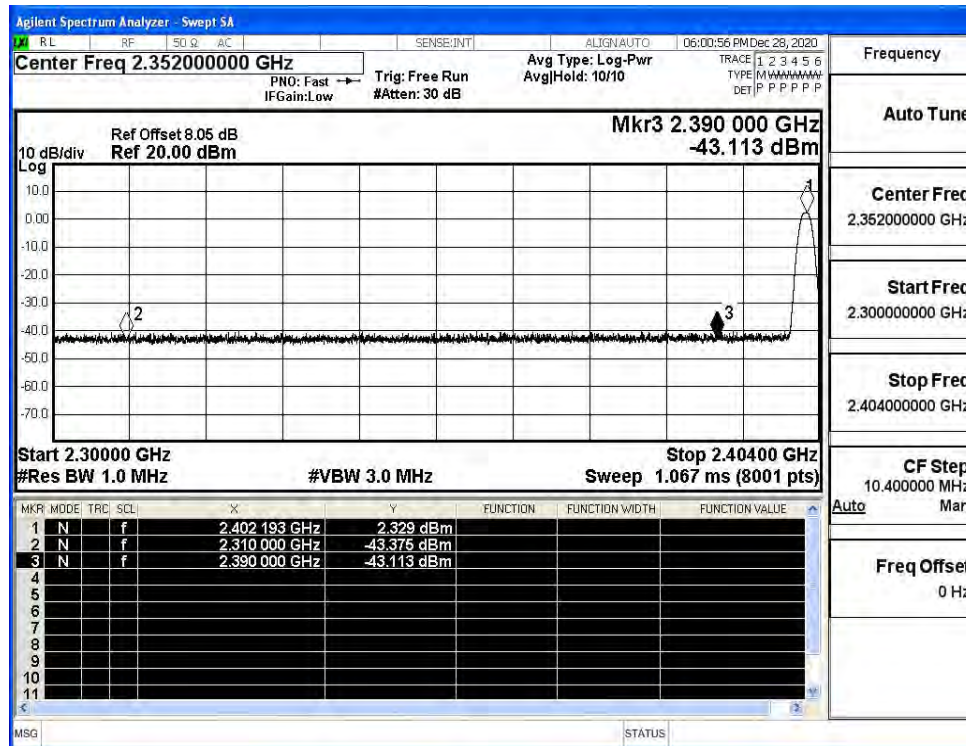
8DPSK/HCH/Hop



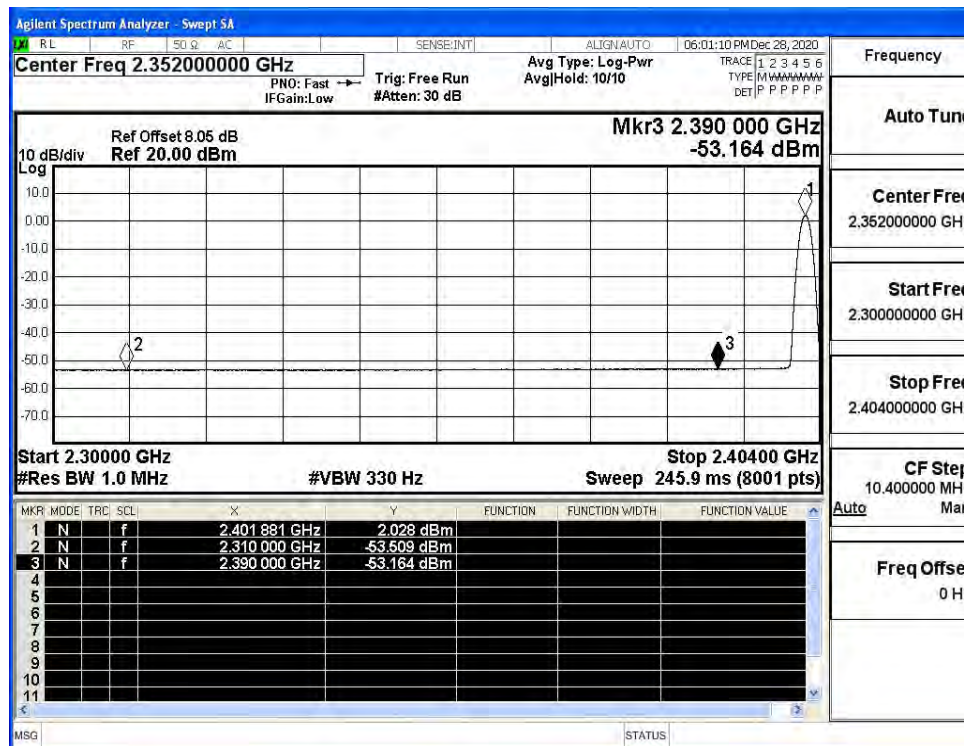
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.38	2.0	0	53.85	PEAK	74	PASS
	Off	2310.0	-53.51	2.0	0	43.72	AV	54	PASS
	Off	2390.0	-43.11	2.0	0	54.12	PEAK	74	PASS
	Off	2390.0	-53.16	2.0	0	44.07	AV	54	PASS
	Off	2483.5	-41.95	2.0	0	55.28	PEAK	74	PASS
	Off	2483.5	-52.51	2.0	0	44.72	AV	54	PASS
	Off	2500.0	-42.30	2.0	0	54.93	PEAK	74	PASS
	Off	2500.0	-52.50	2.0	0	44.73	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.93	2.0	0	53.30	PEAK	74	PASS
	Off	2310.0	-53.47	2.0	0	43.76	AV	54	PASS
	Off	2390.0	-42.80	2.0	0	54.43	PEAK	74	PASS
	Off	2390.0	-53.01	2.0	0	44.22	AV	54	PASS
	Off	2483.5	-42.69	2.0	0	54.54	PEAK	74	PASS
	Off	2483.5	-52.60	2.0	0	44.63	AV	54	PASS
	Off	2500.0	-43.28	2.0	0	53.95	PEAK	74	PASS
	Off	2500.0	-52.41	2.0	0	44.82	AV	54	PASS
8DPSK	Off	2310.0	-43.54	2.0	0	53.69	PEAK	74	PASS
	Off	2310.0	-53.34	2.0	0	43.89	AV	54	PASS
	Off	2390.0	-43.26	2.0	0	53.97	PEAK	74	PASS
	Off	2390.0	-53.18	2.0	0	44.05	AV	54	PASS
	Off	2483.5	-42.42	2.0	0	54.81	PEAK	74	PASS
	Off	2483.5	-52.51	2.0	0	44.72	AV	54	PASS
	Off	2500.0	-41.05	2.0	0	56.18	PEAK	74	PASS
	Off	2500.0	-52.42	2.0	0	44.81	AV	54	PASS

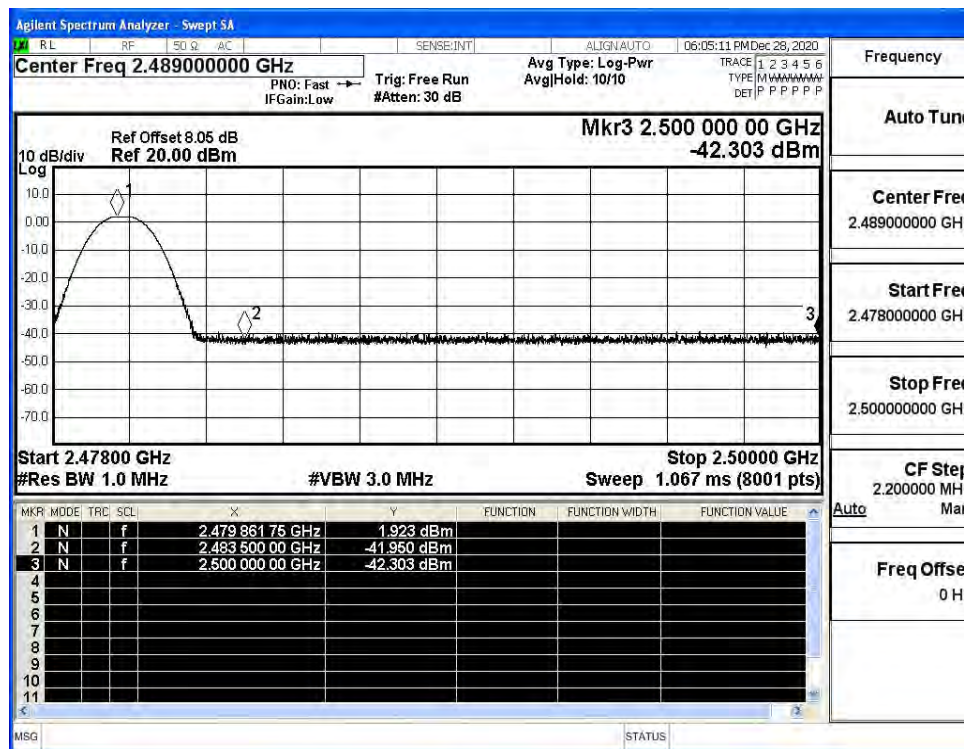
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



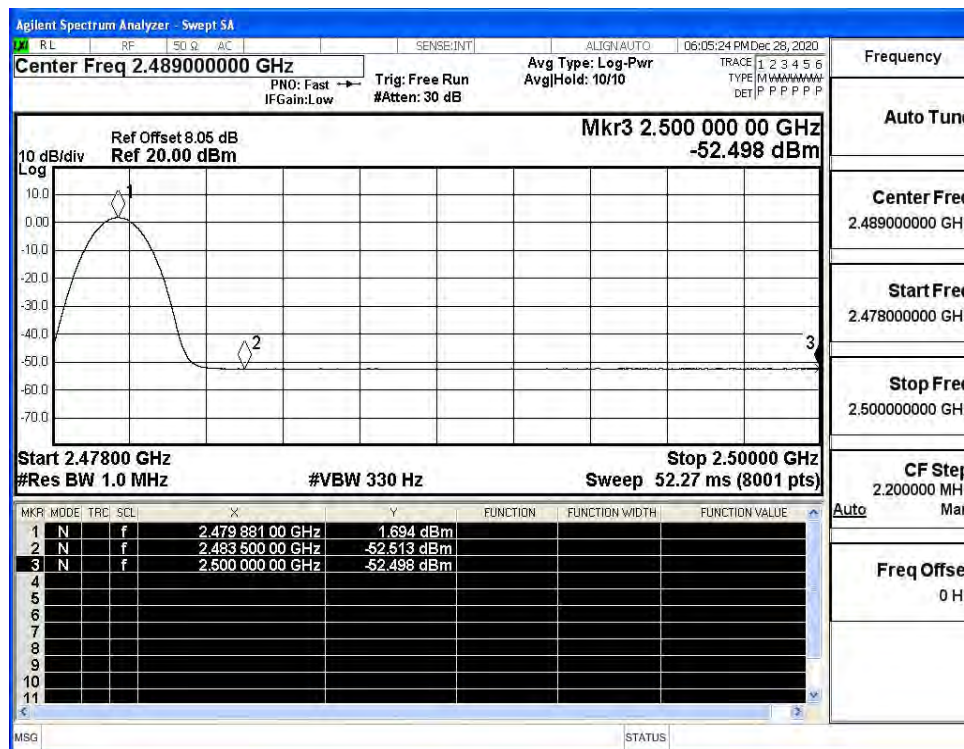
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)

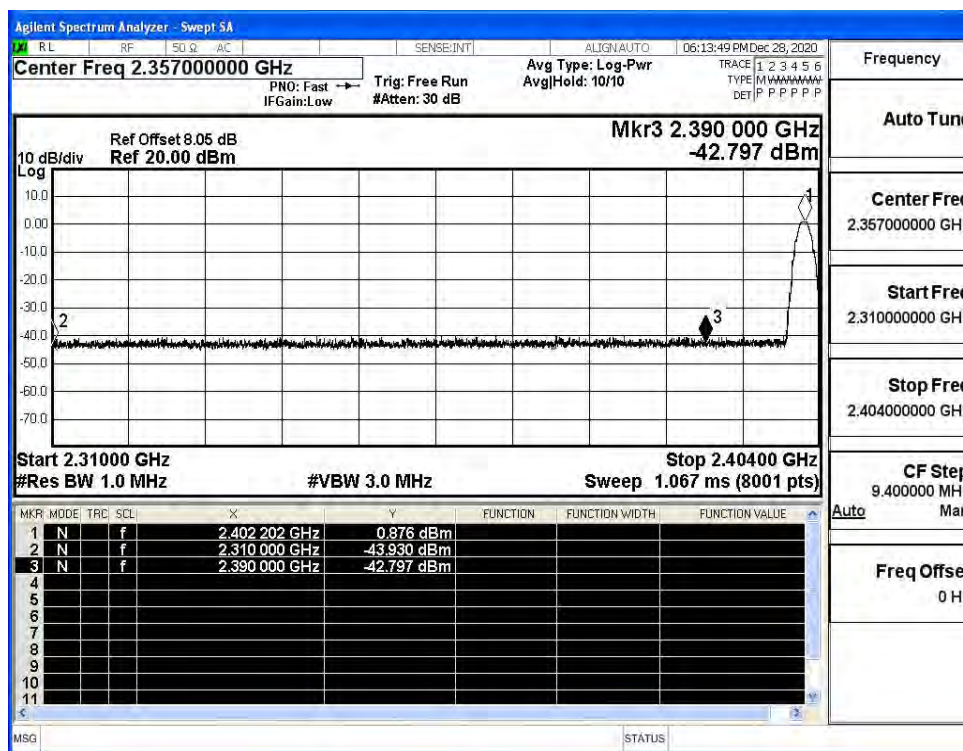
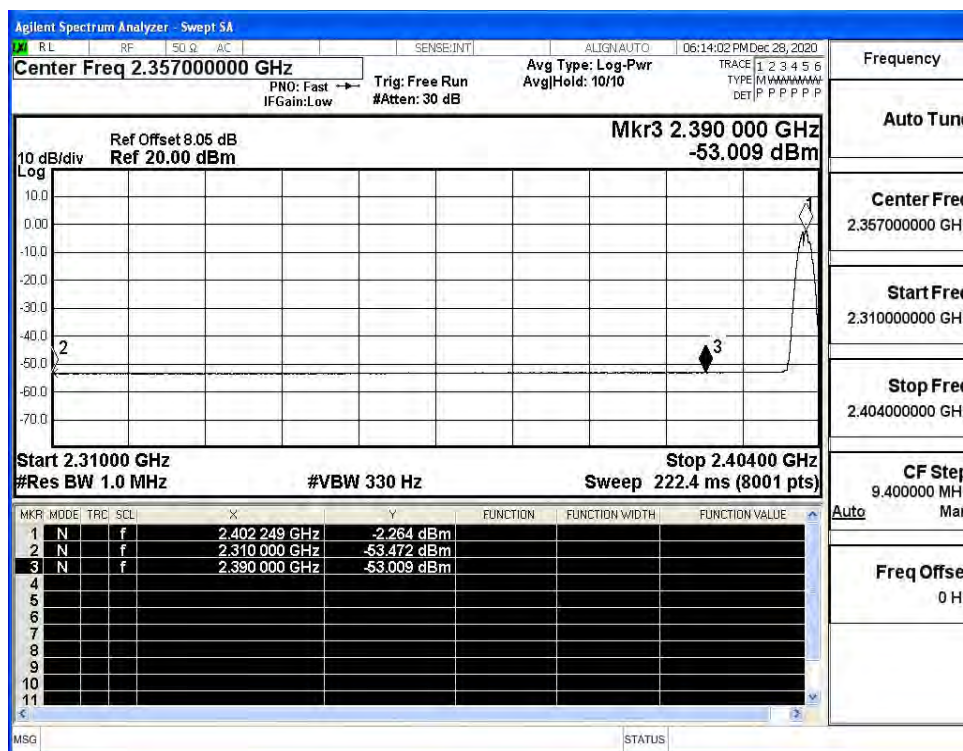


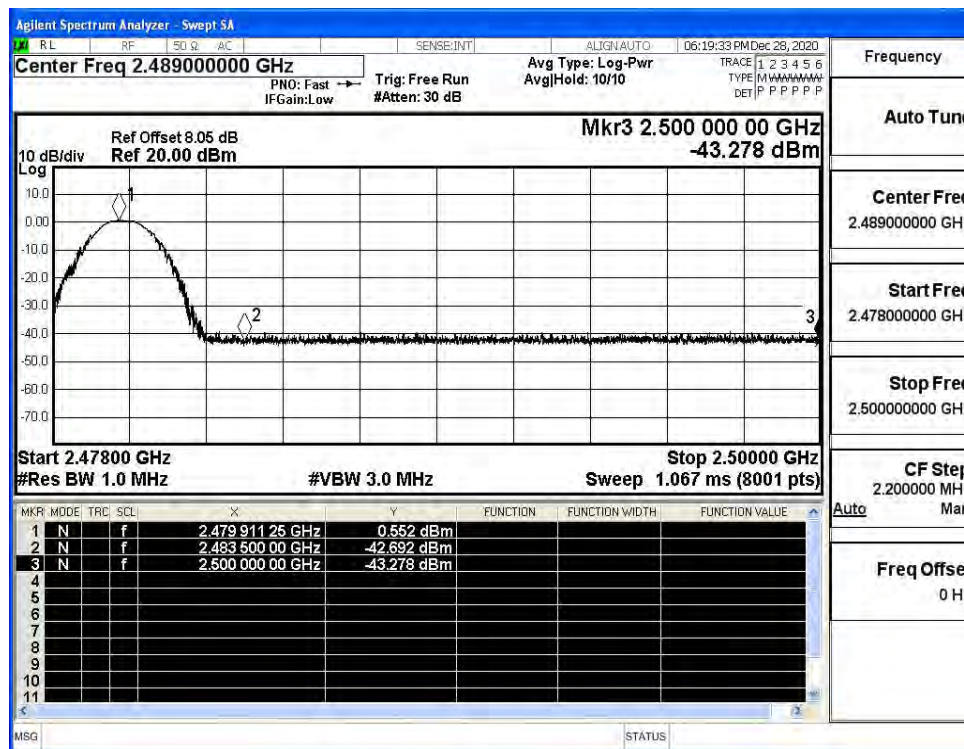
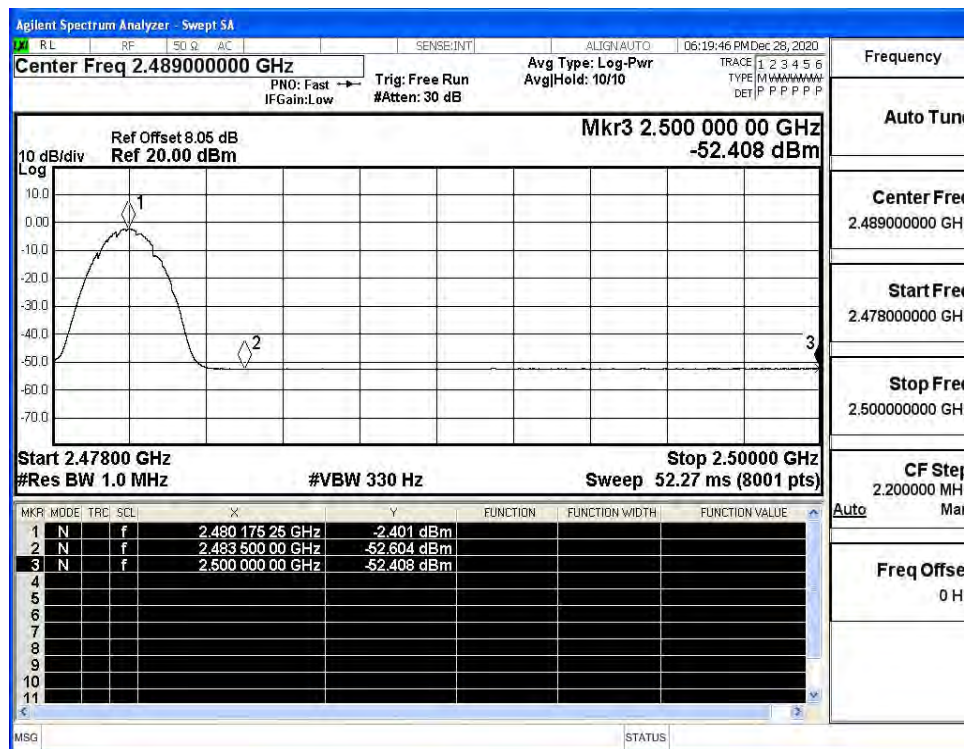
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



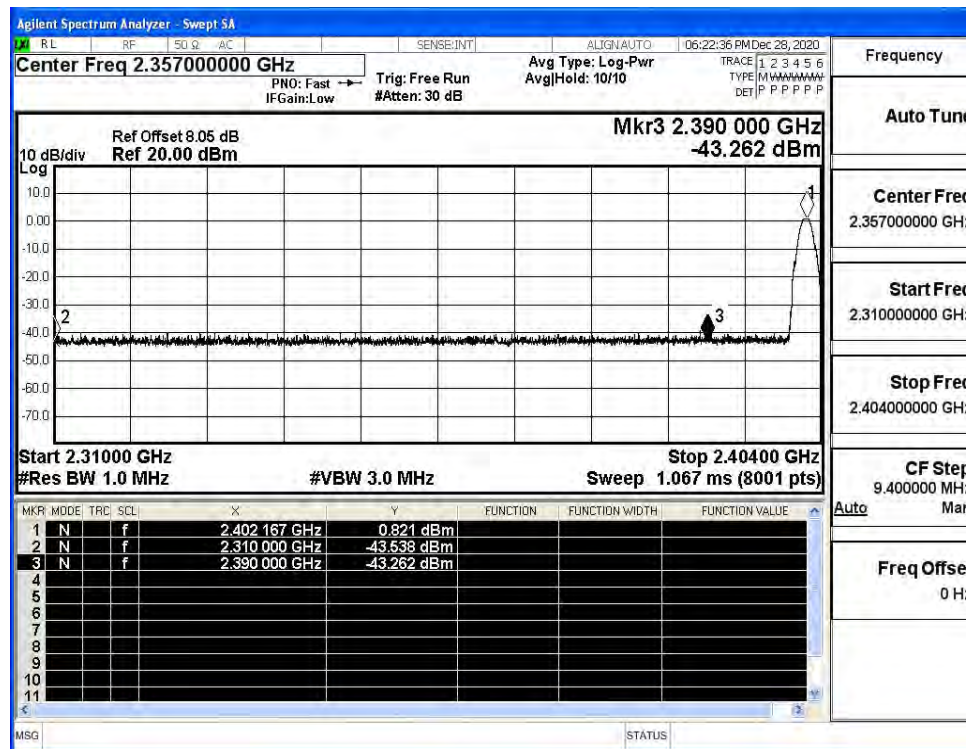
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



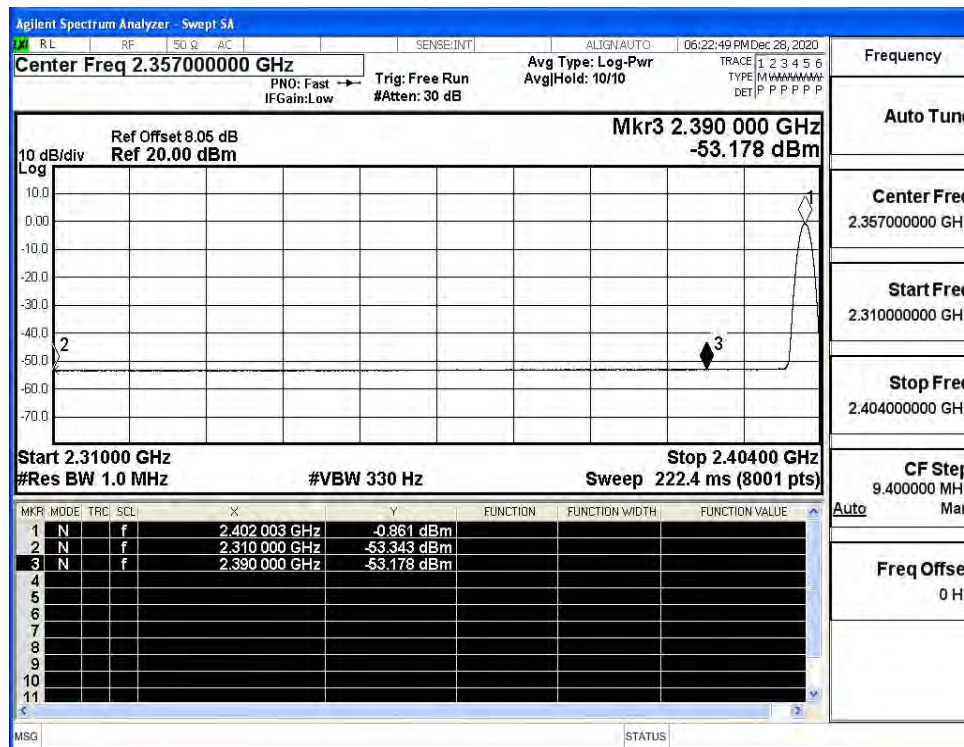
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

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)

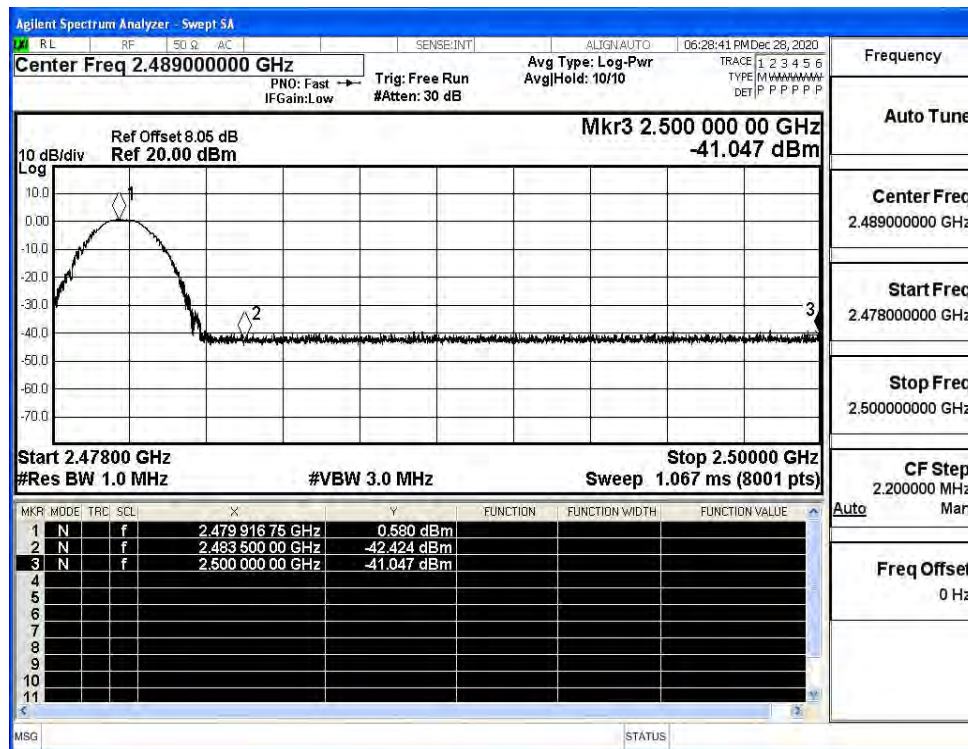
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

