

Appendix A

RF Test Data for BT V4.1(BDR/EDR) (Conducted Measurement)

Product Name: ACOUSTIC AUITAR AMP

Trade Mark: AROMA

Test Model: AG-40A

Environmental Conditions

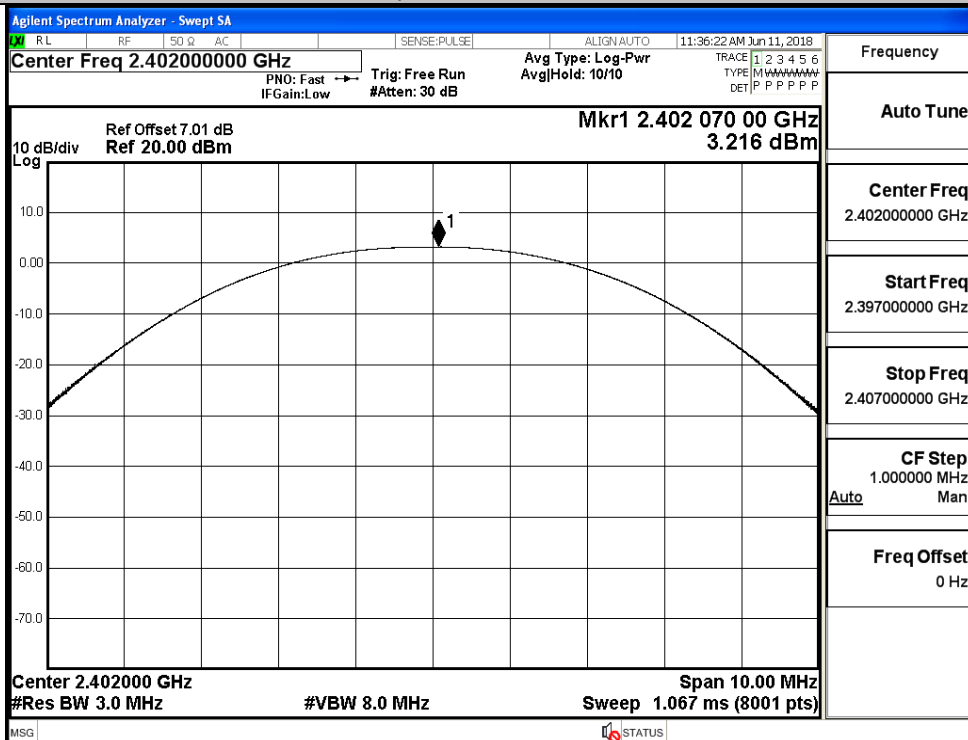
Temperature:	23.8 ° C
Relative Humidity:	51.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom.Liu
Supervised by:	Jayden.Zhuo

A.1 Maxmum Conducted Peak Output Power

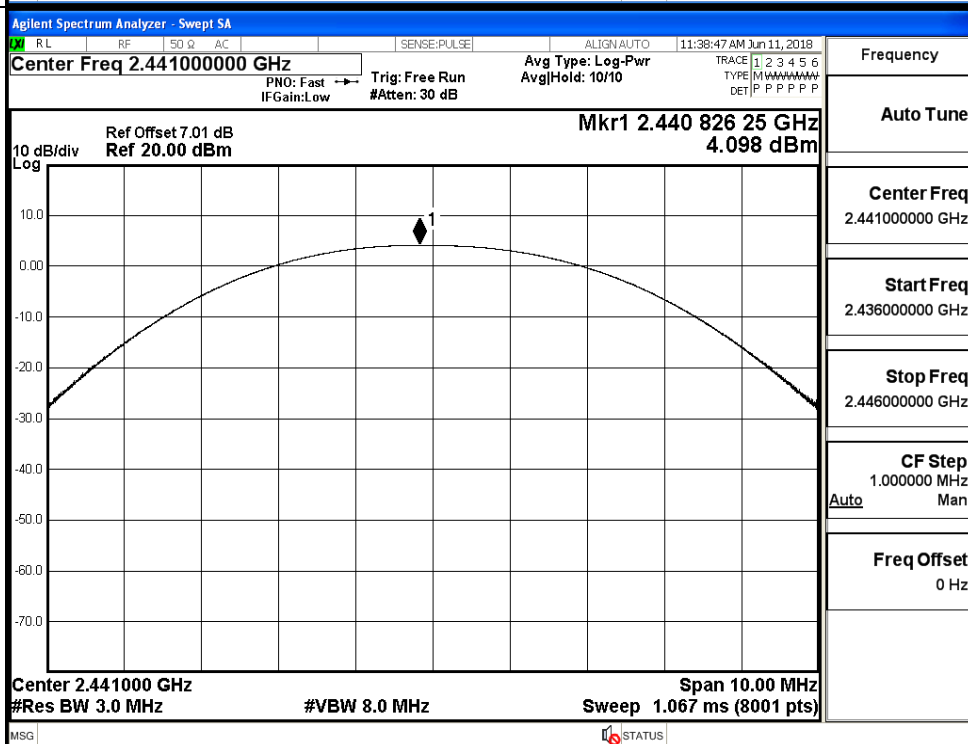
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.216	30	PASS
	MCH	4.098	30	PASS
	HCH	4.504	30	PASS
$\pi/4$ DQPSK	LCH	2.144	21	PASS
	MCH	3.571	21	PASS
	HCH	4.035	21	PASS
8DPSK	LCH	2.429	21	PASS
	MCH	3.738	21	PASS
	HCH	4.139	21	PASS

Test Graphs

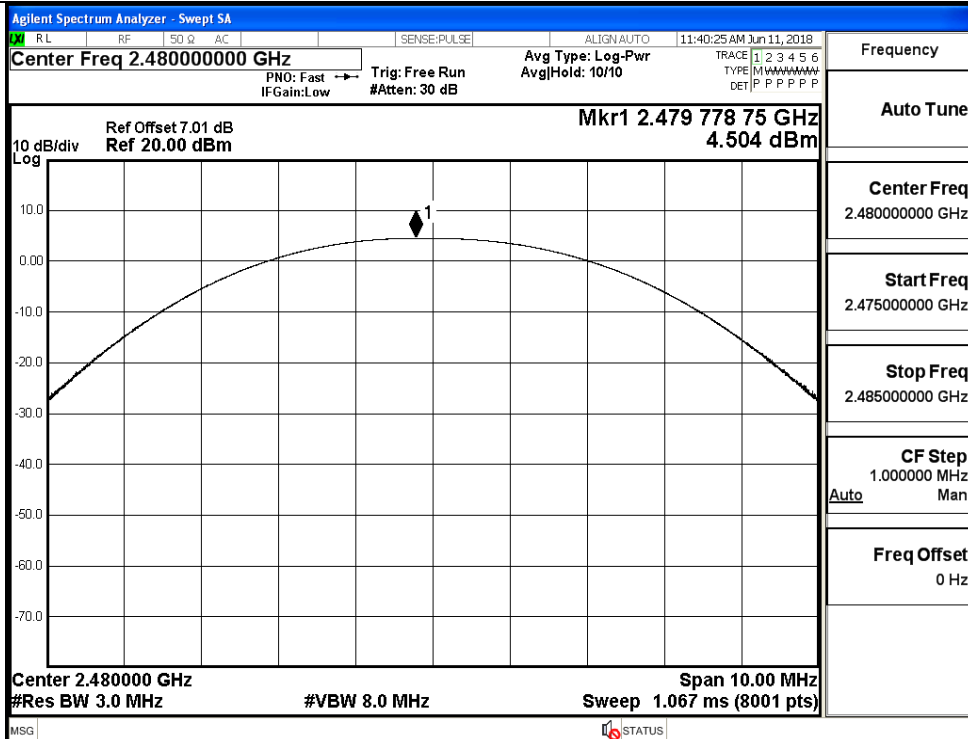
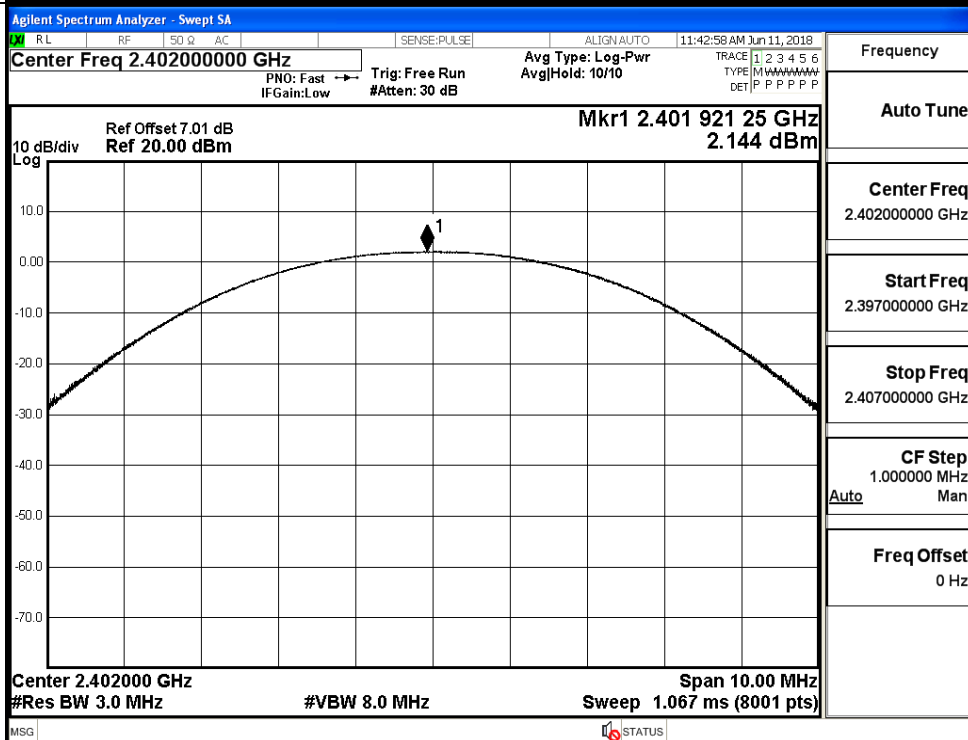
GFSK/LCH

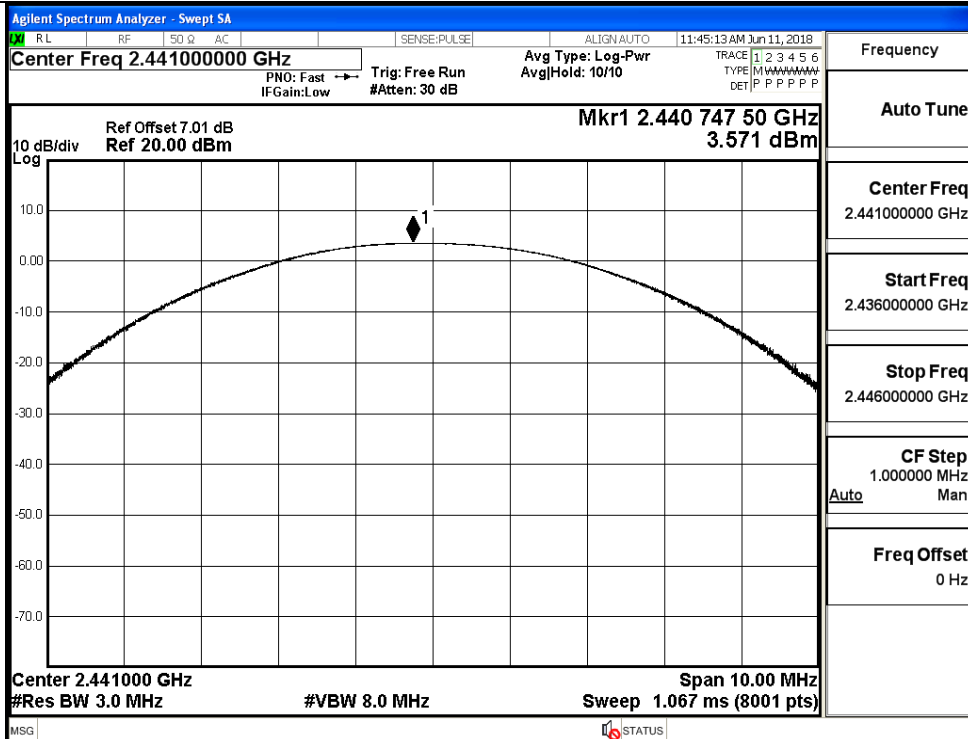
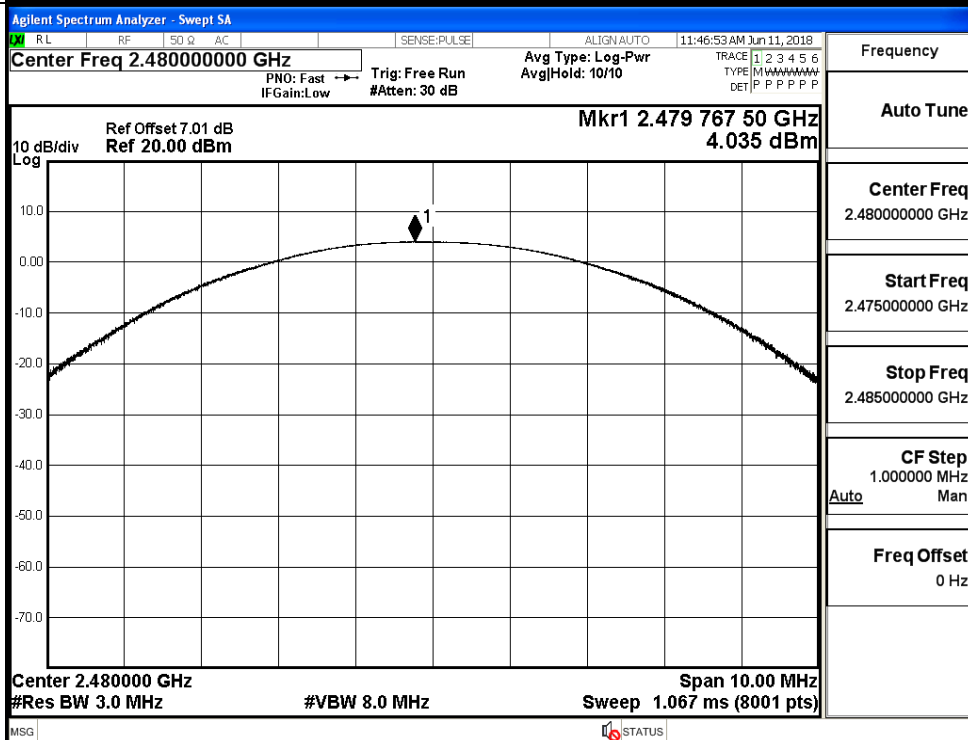


GFSK/MCH

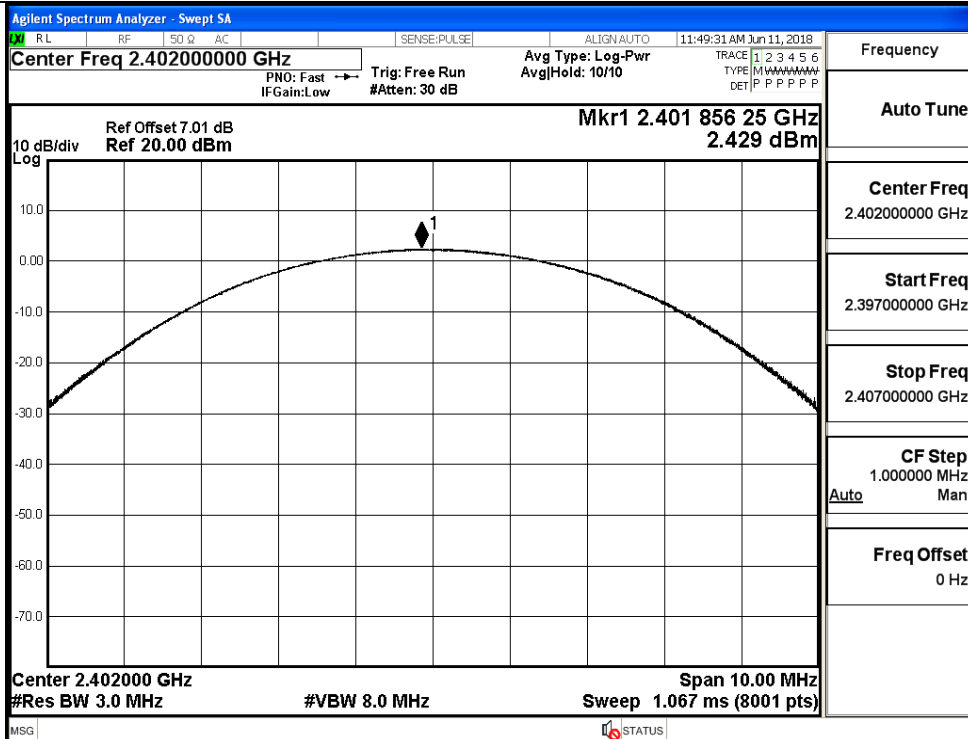


GFSK/HCH

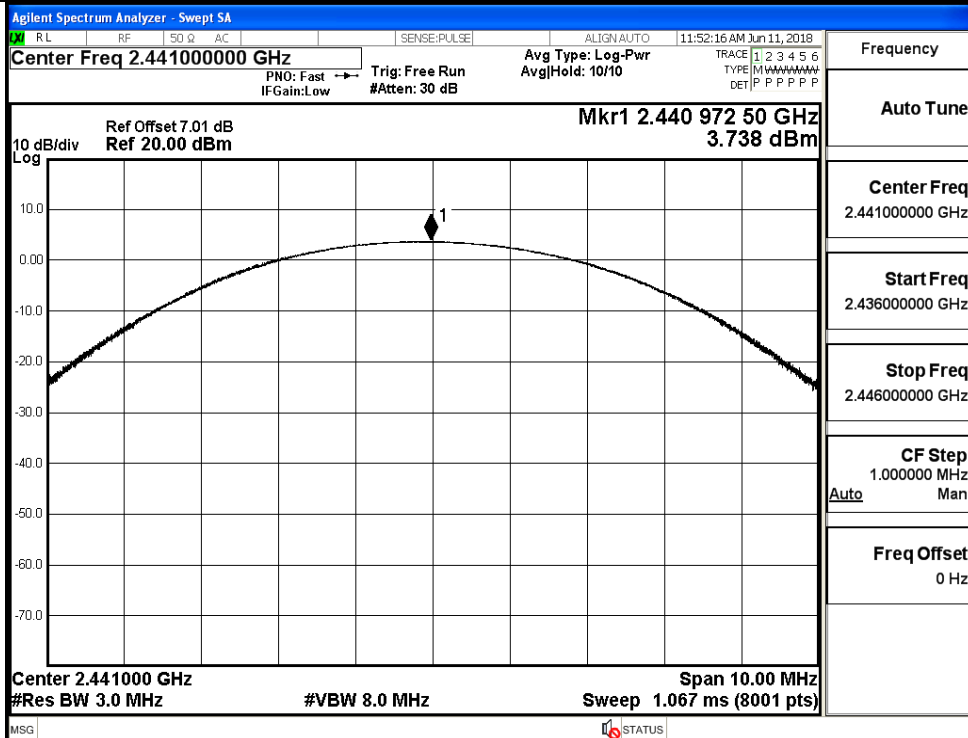
 π /4DQPSK/LCH

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

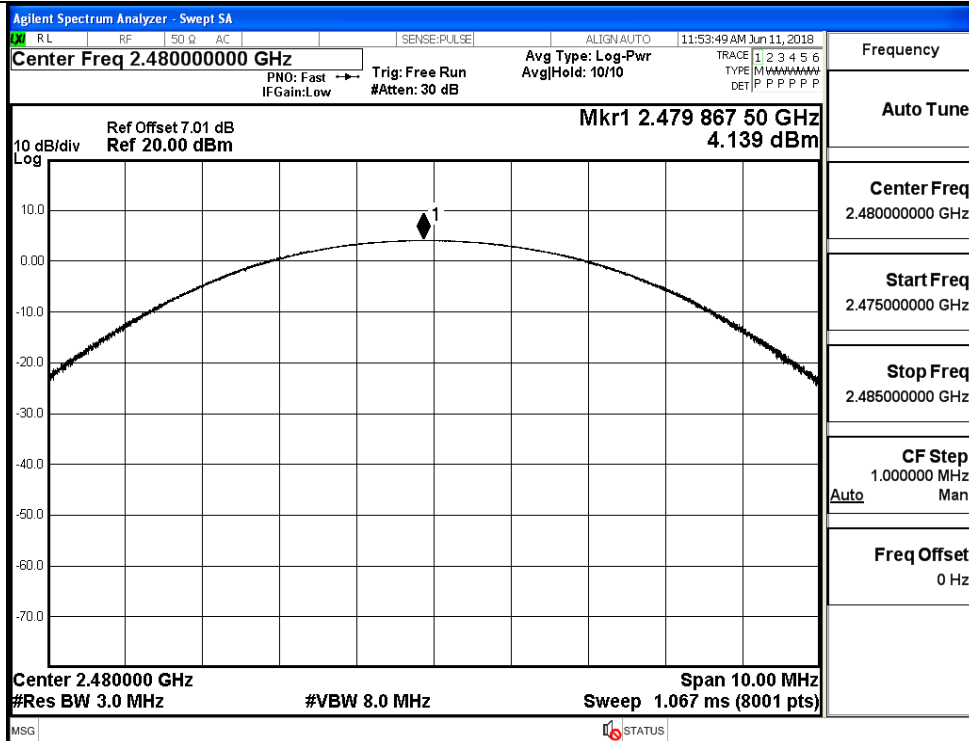
8DPSK/LCH



8DPSK/MCH



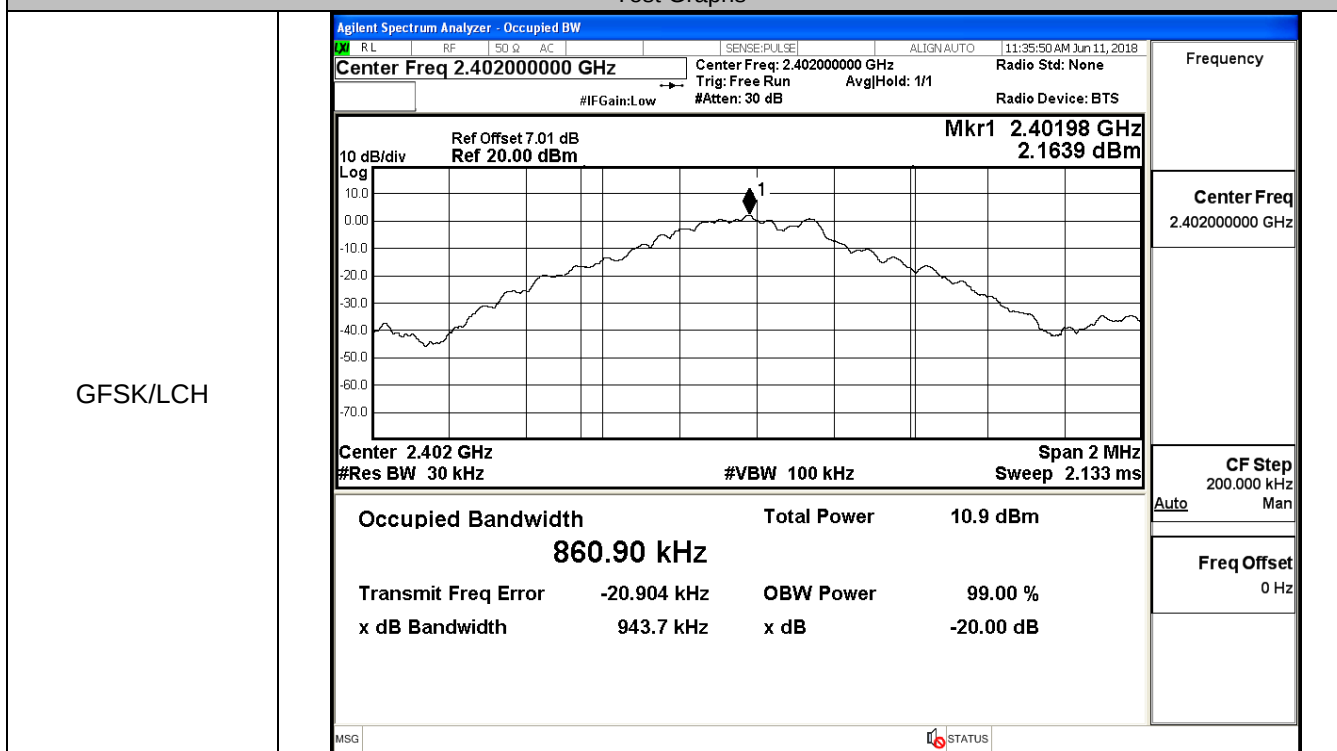
8DPSK/HCH



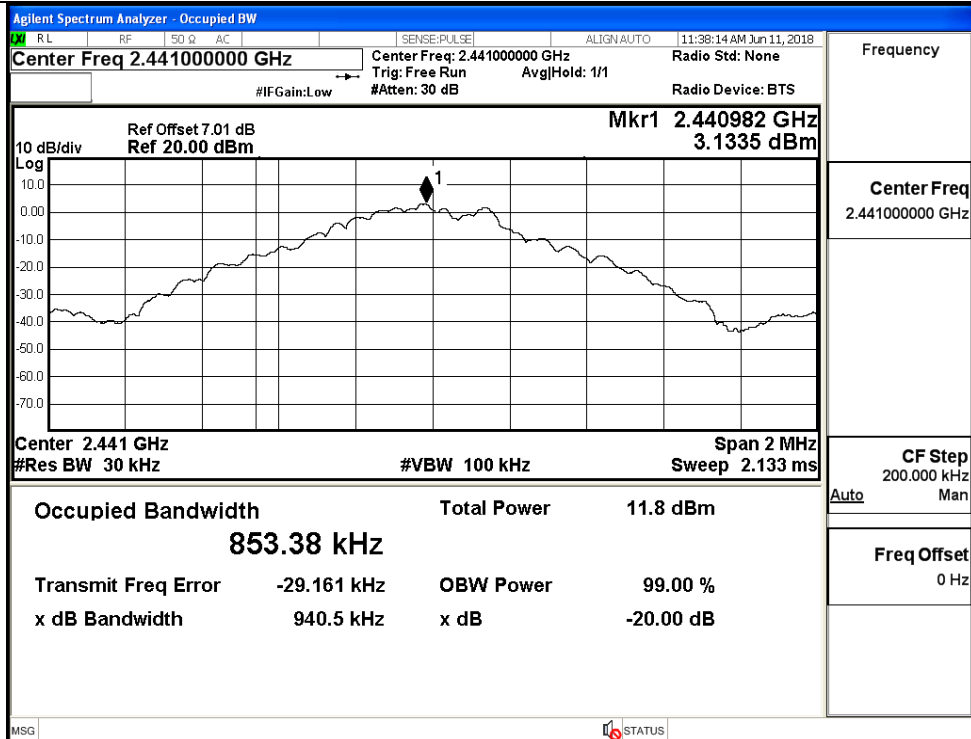
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9437	Not Specified	PASS
	MCH	0.9405	Not Specified	PASS
	HCH	0.9365	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.266	Not Specified	PASS
	MCH	1.242	Not Specified	PASS
	HCH	1.241	Not Specified	PASS
8DPSK	LCH	1.278	Not Specified	PASS
	MCH	1.267	Not Specified	PASS
	HCH	1.270	Not Specified	PASS

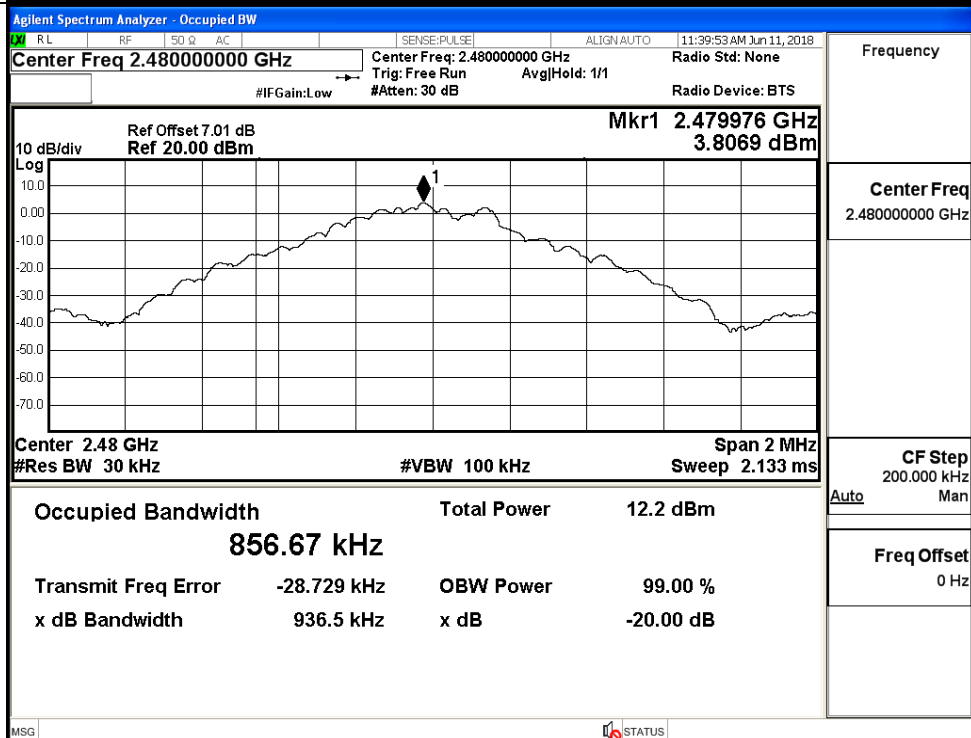
Test Graphs

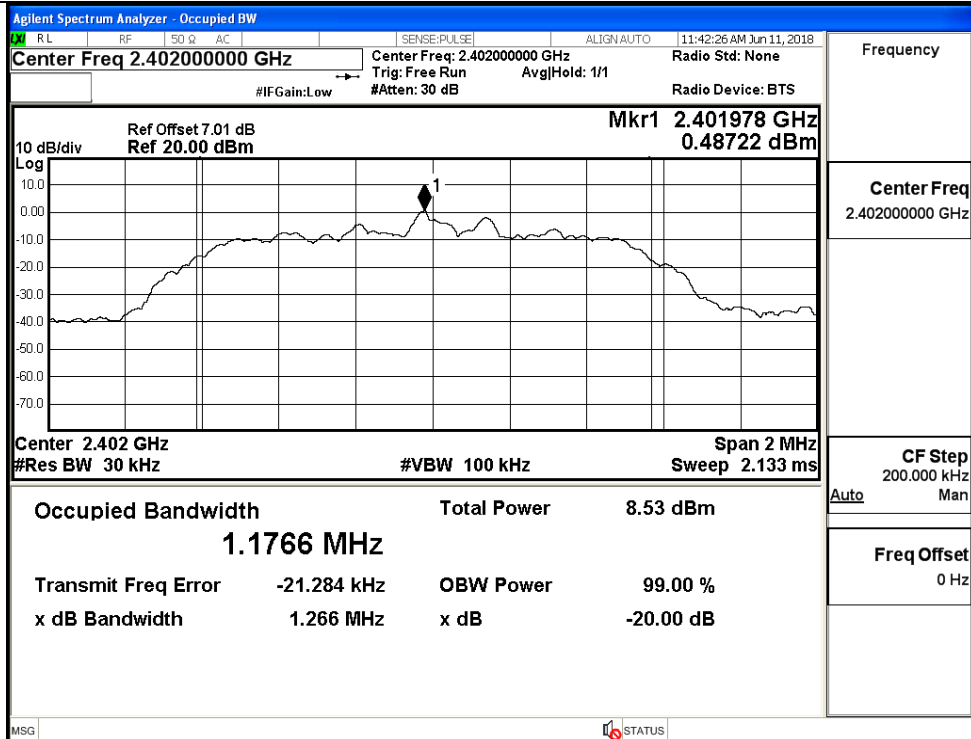
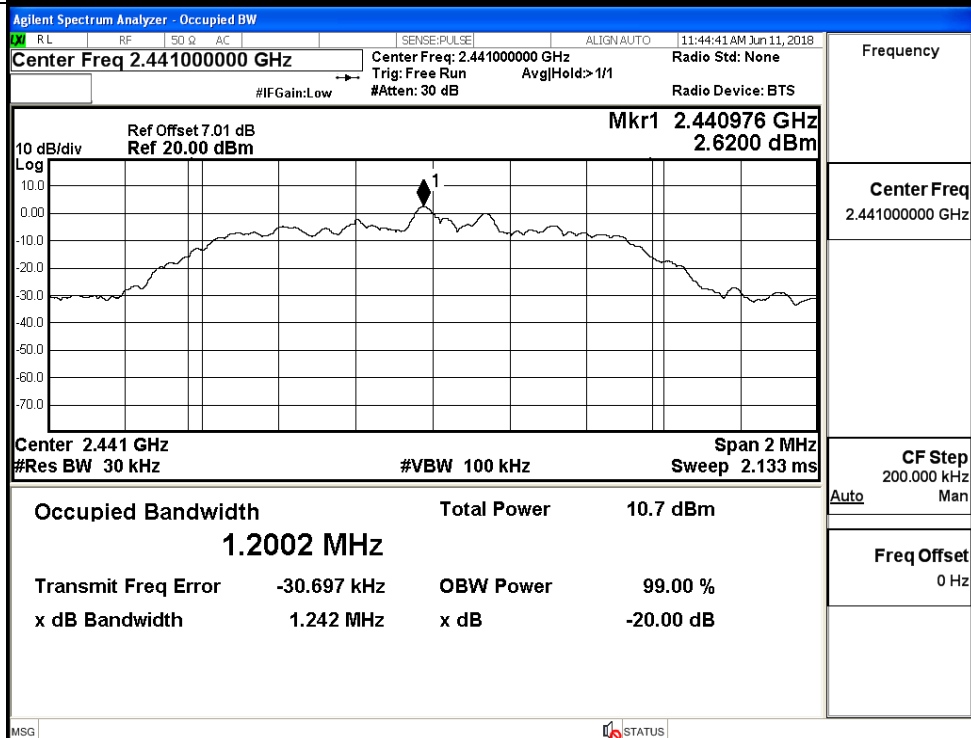


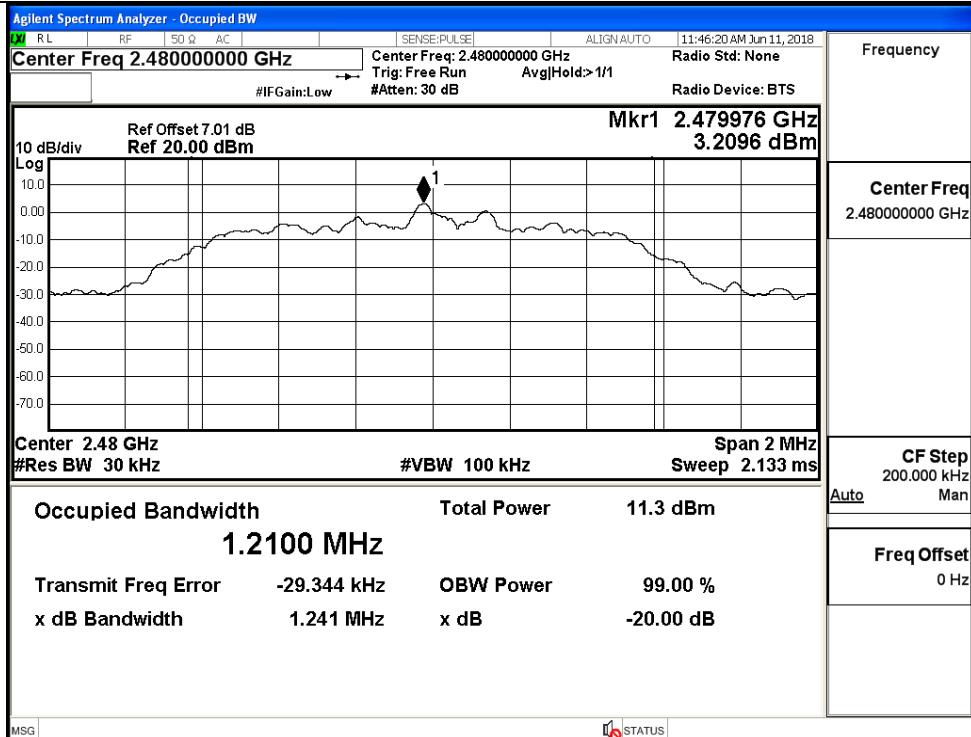
GFSK/MCH



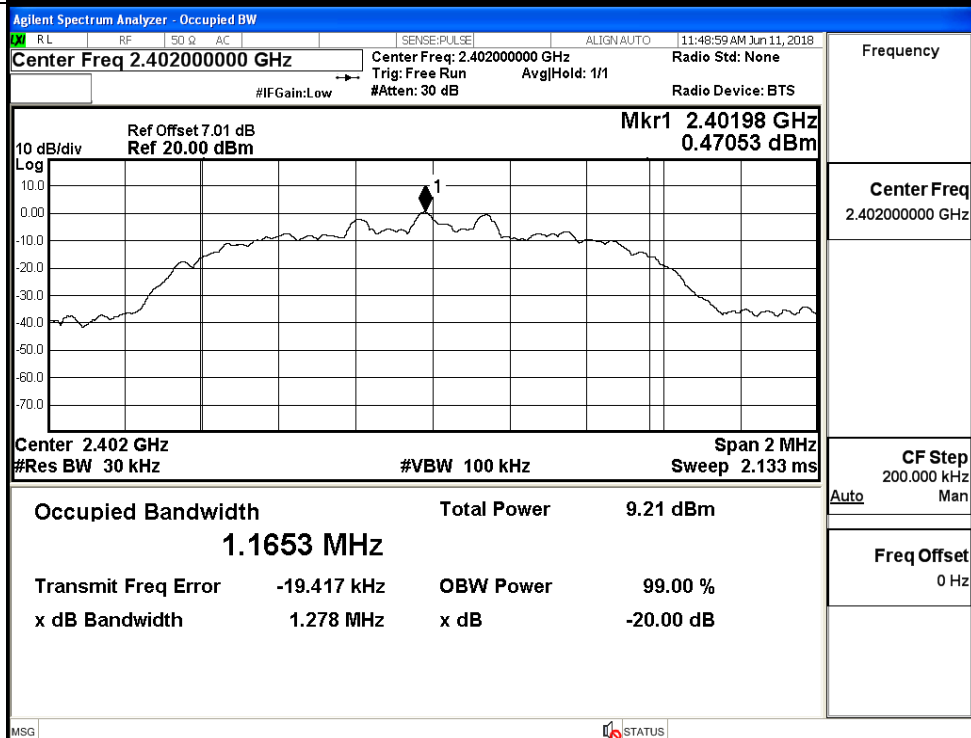
GFSK/HCH



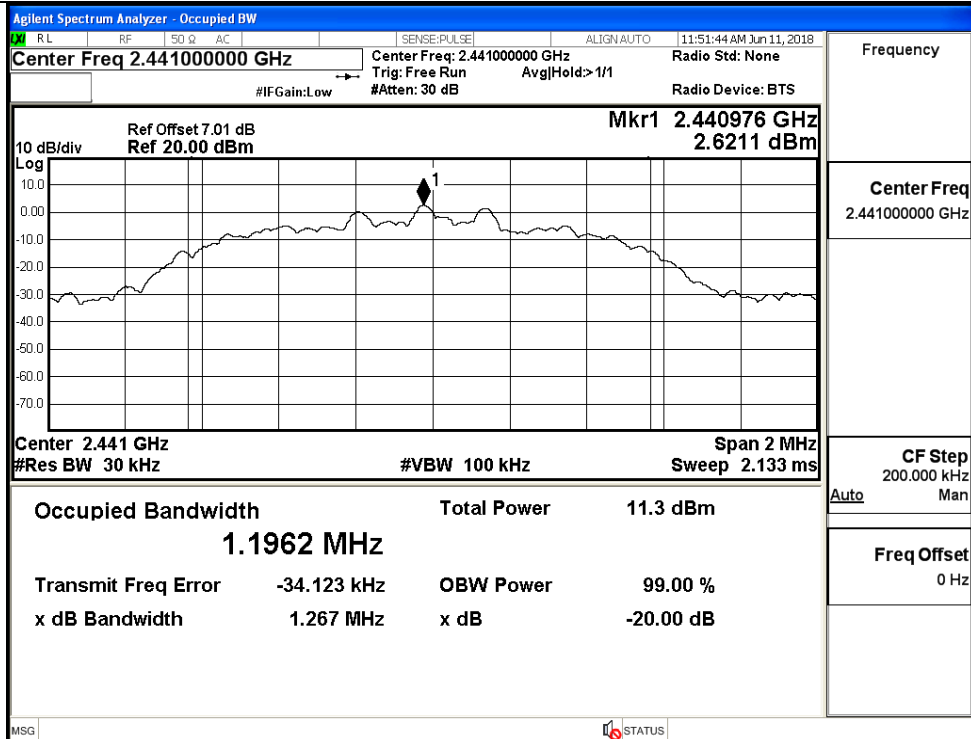
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

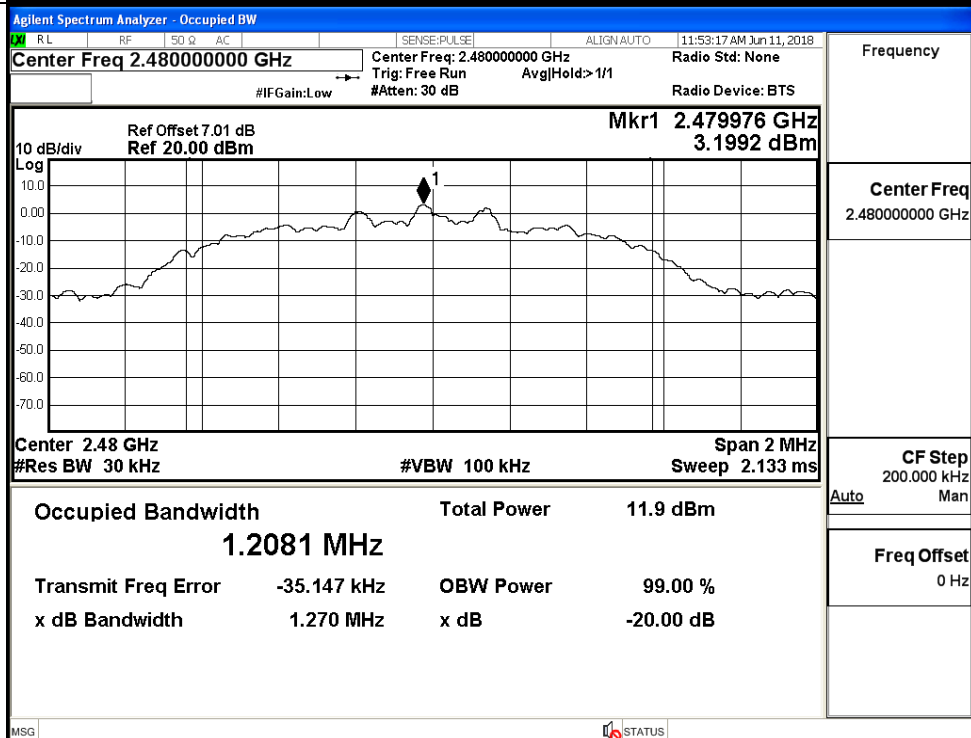
8DPSK/LCH



8DPSK/MCH



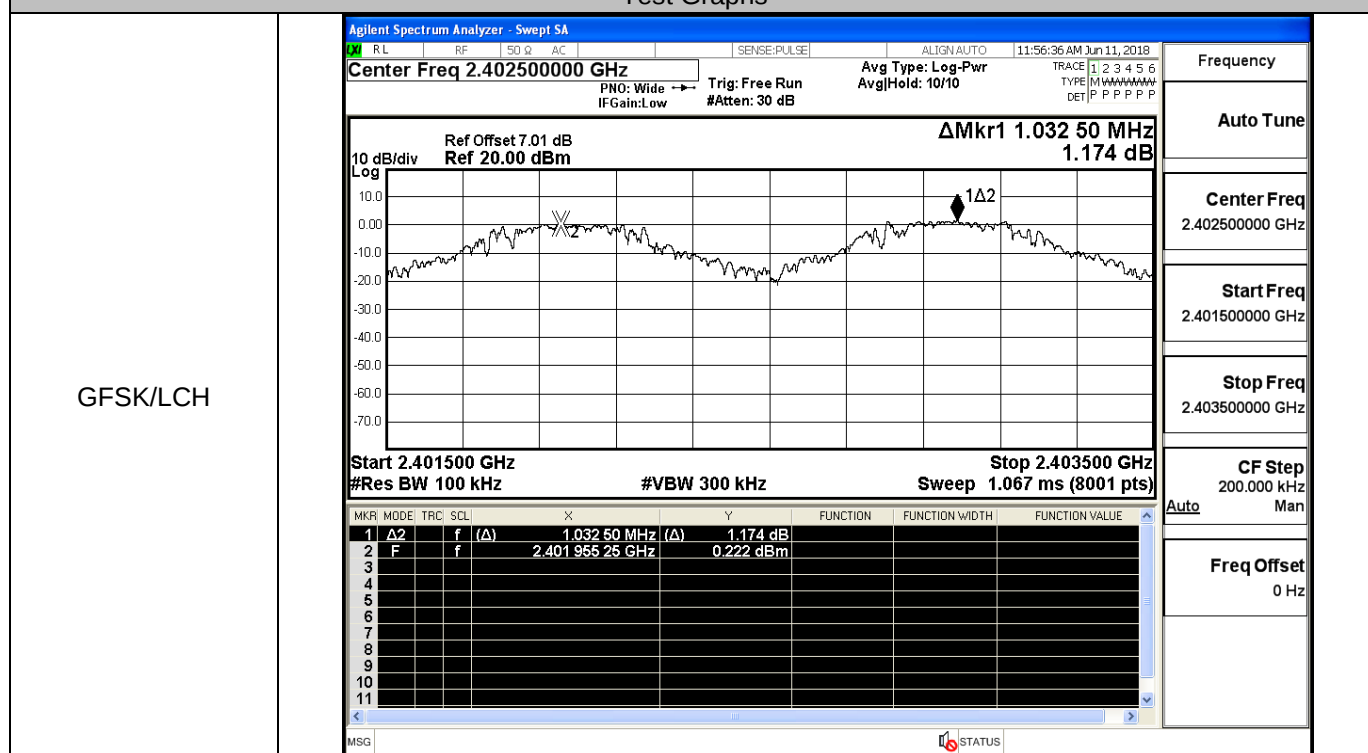
8DPSK/HCH



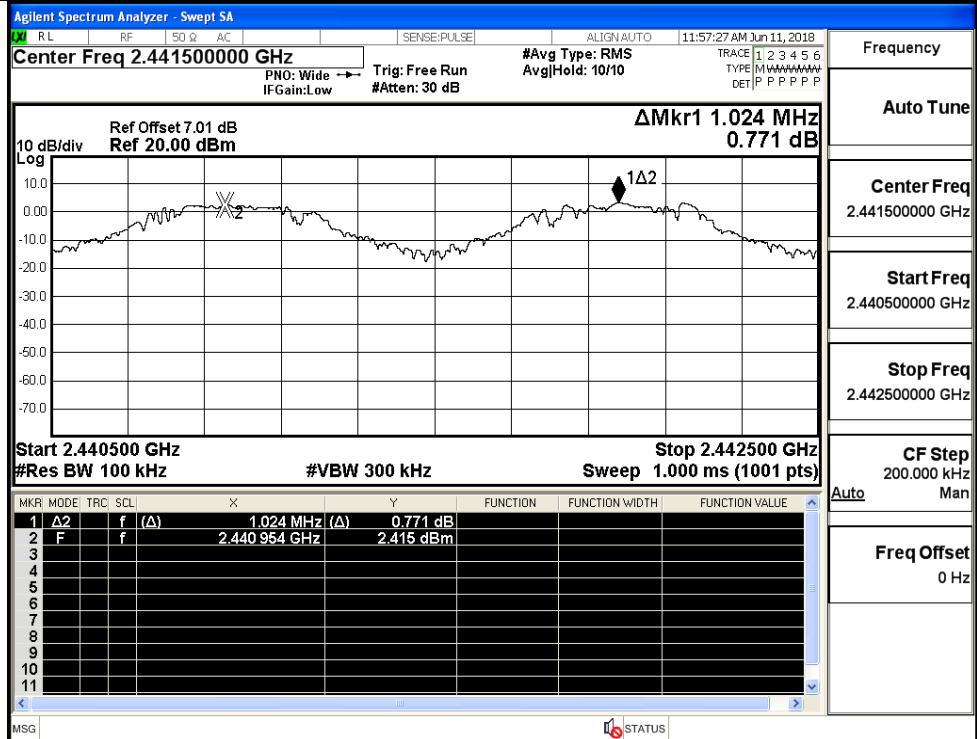
A.3 Carrier Frequency Separation

Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.032	0.629	PASS
	MCH	1.024	0.629	PASS
	HCH	1.046	0.629	PASS
$\pi/4$ DQPSK	LCH	1.110	0.844	PASS
	MCH	0.974	0.844	PASS
	HCH	1.032	0.844	PASS
8DPSK	LCH	1.140	0.852	PASS
	MCH	1.100	0.852	PASS
	HCH	0.976	0.852	PASS

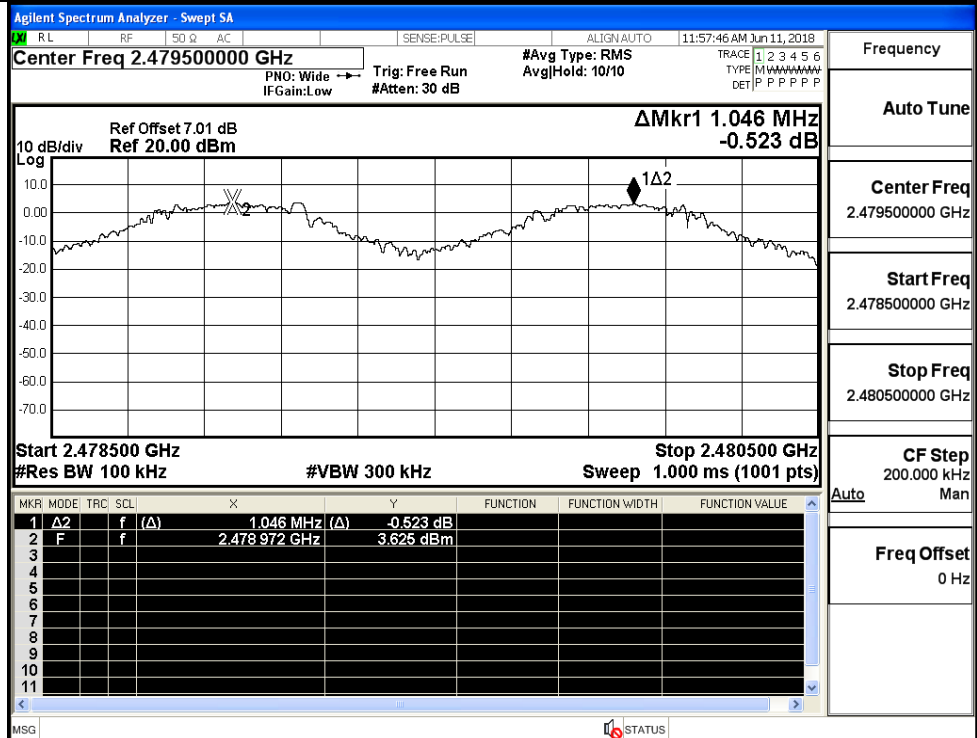
Test Graphs

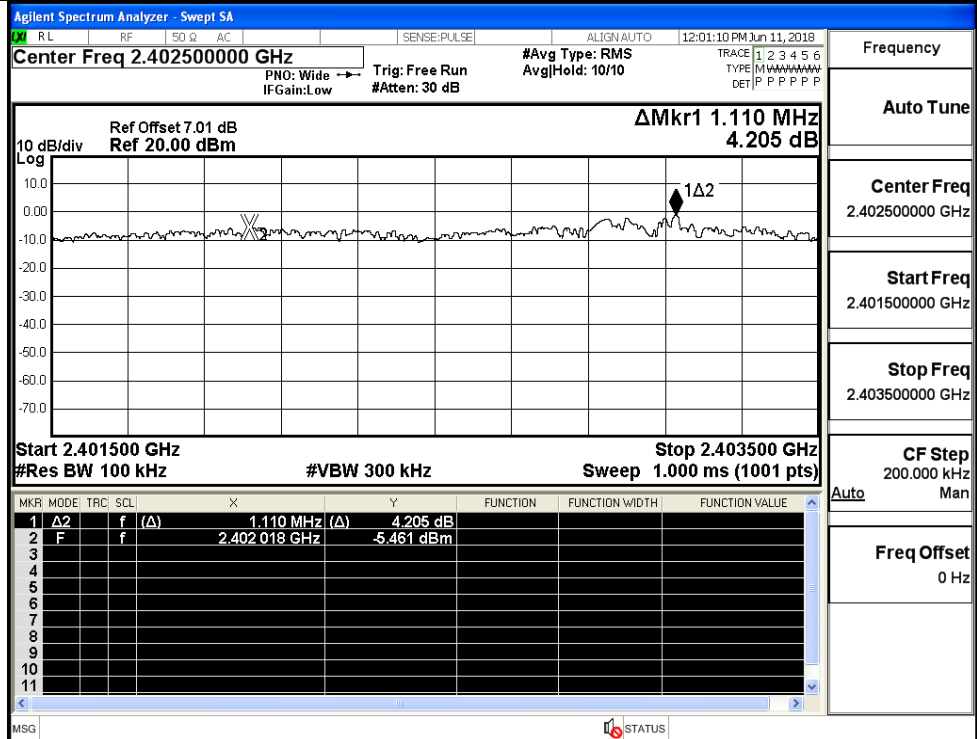
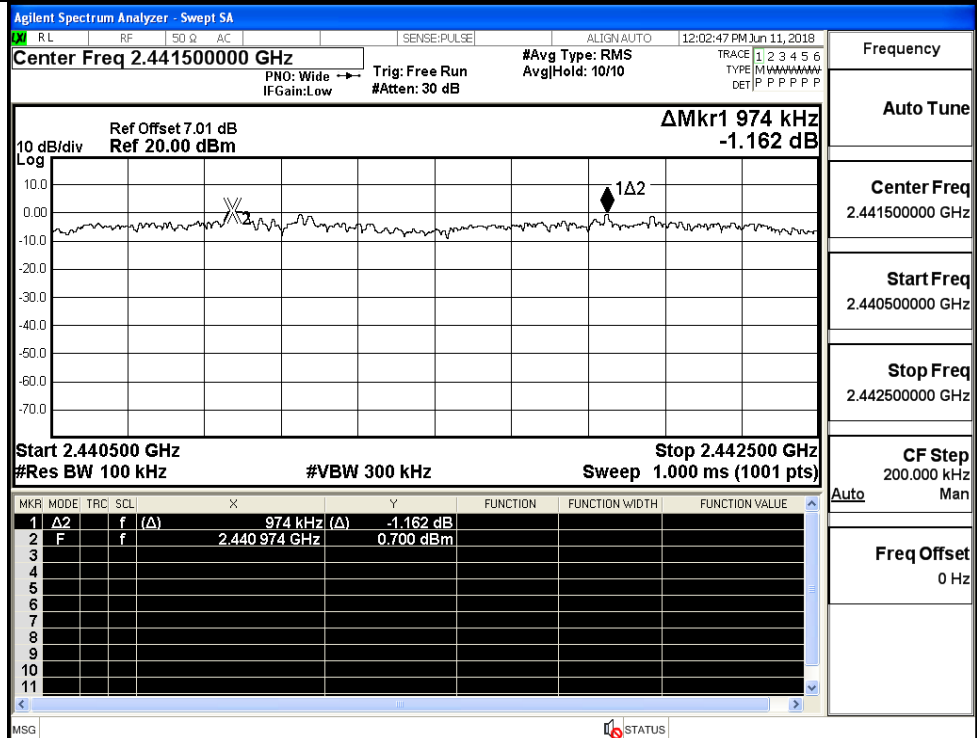


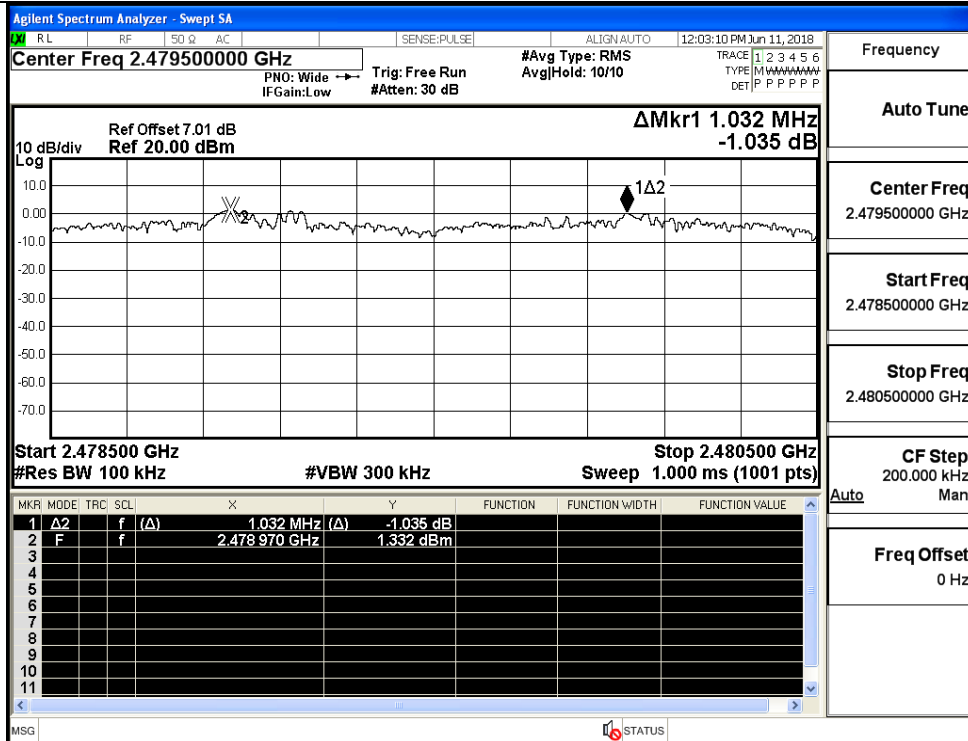
GFSK/MCH



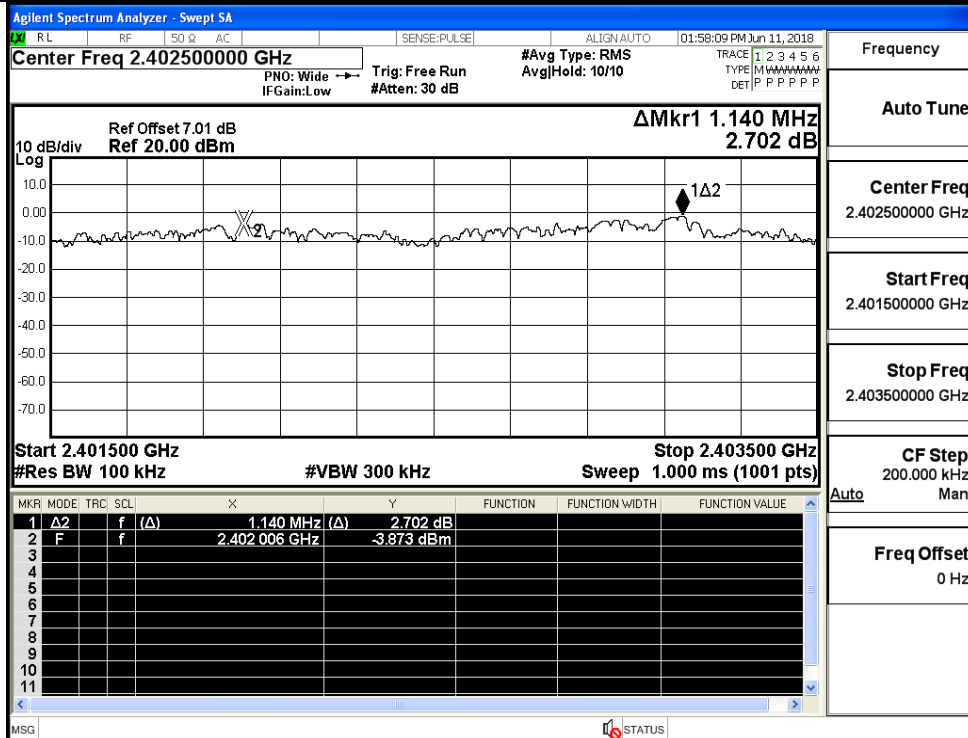
GFSK/HCH



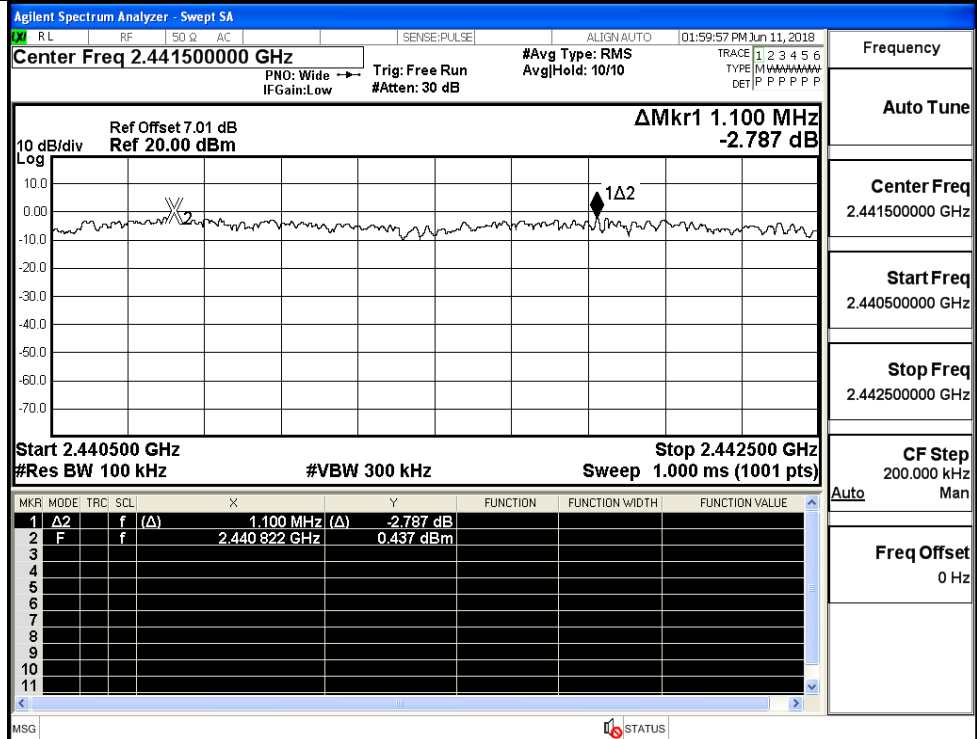
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

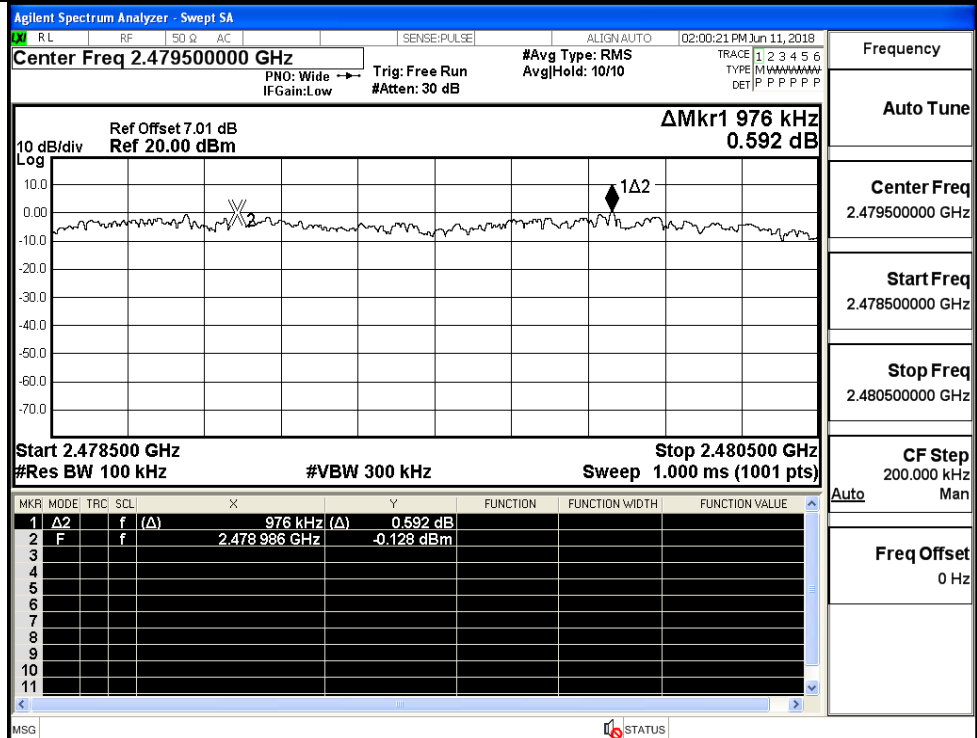
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

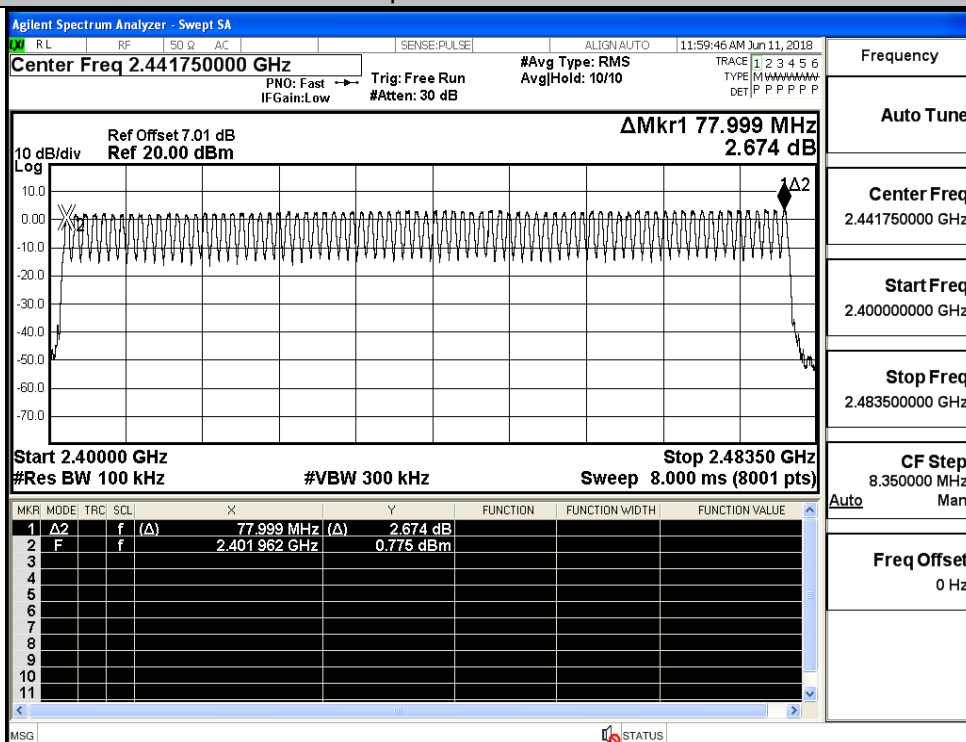
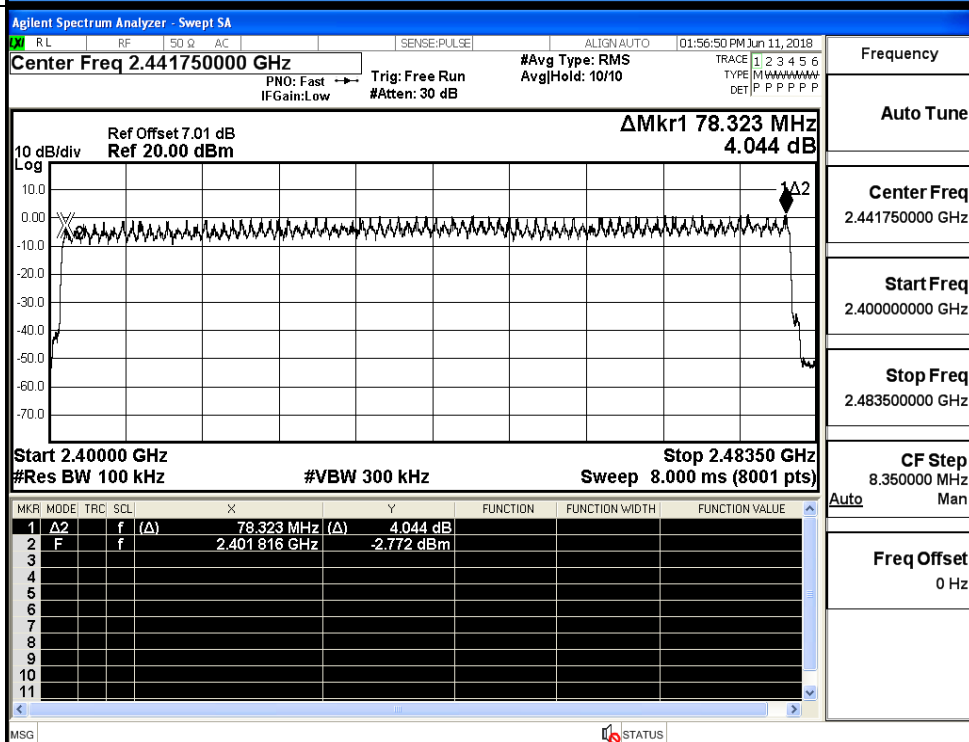


A.4 Hopping Channel Number

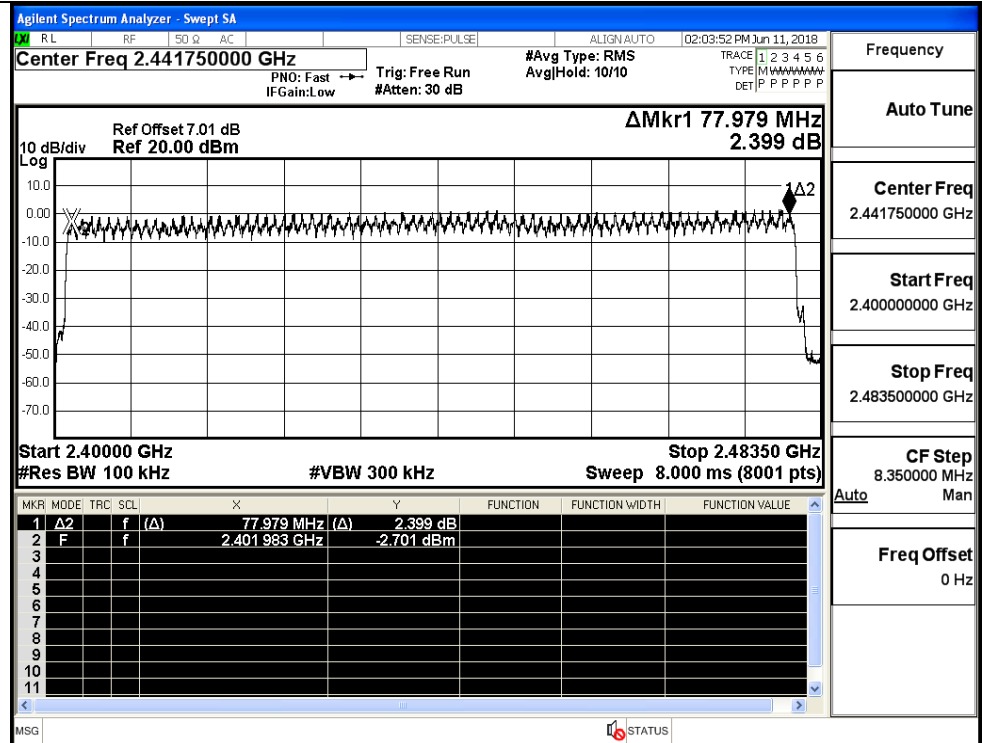
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

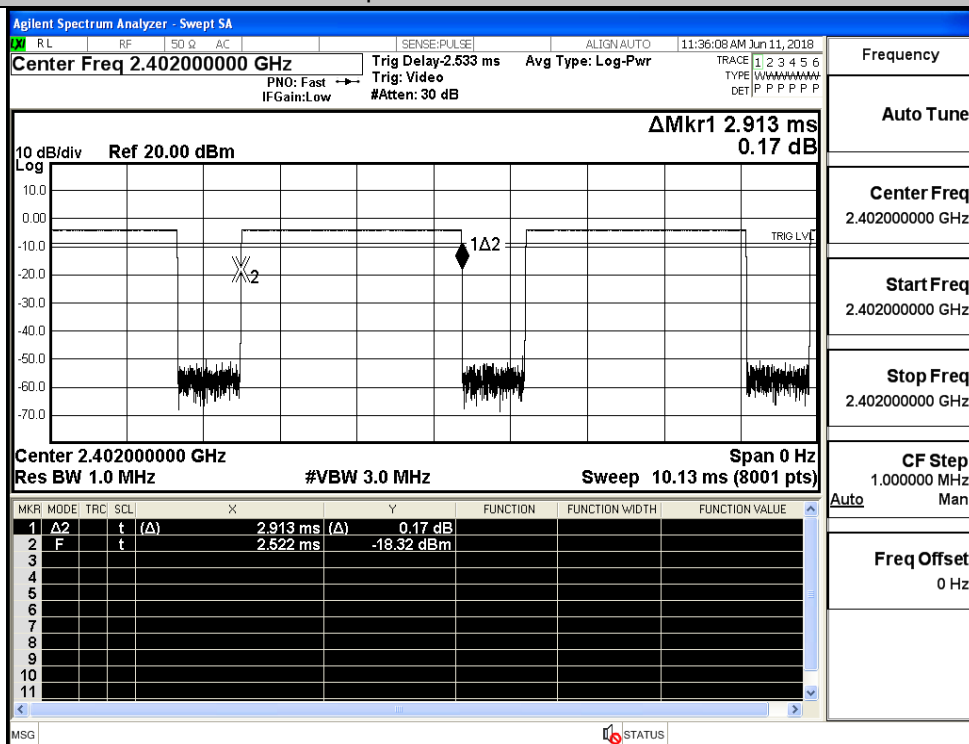


A.5 Dwell Time

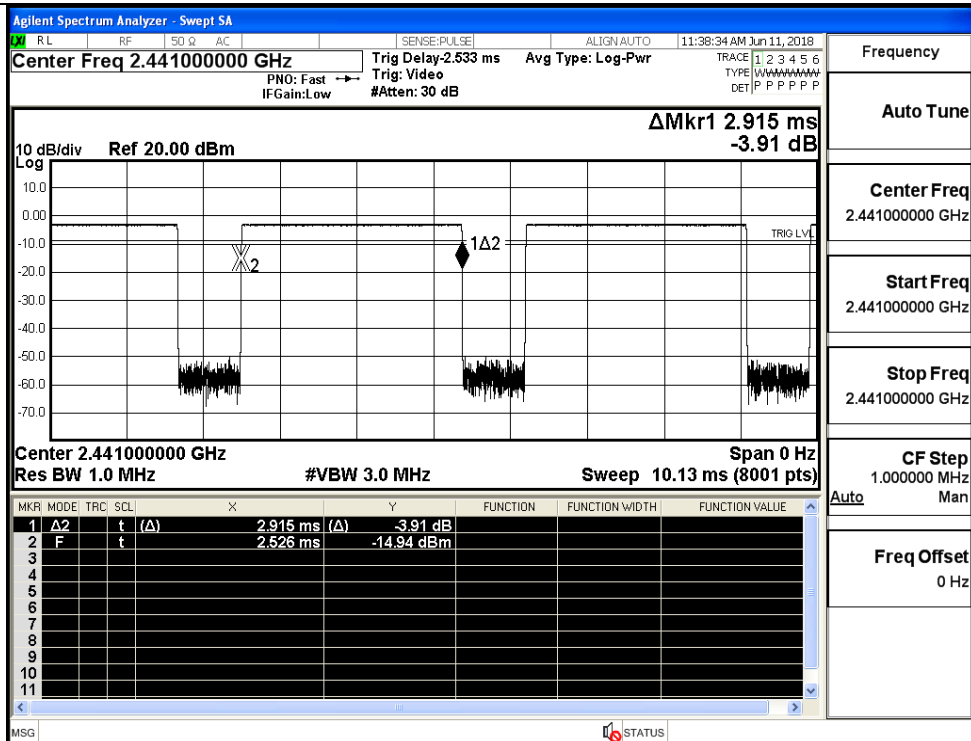
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.91	106.7	0.31	0.4	PASS
	DH5	MCH	2.91	106.7	0.31	0.4	PASS
	DH5	HCH	2.91	106.7	0.31	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.91	106.7	0.312	0.4	PASS
	2DH5	MCH	2.91	106.7	0.312	0.4	PASS
	2DH5	HCH	2.91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

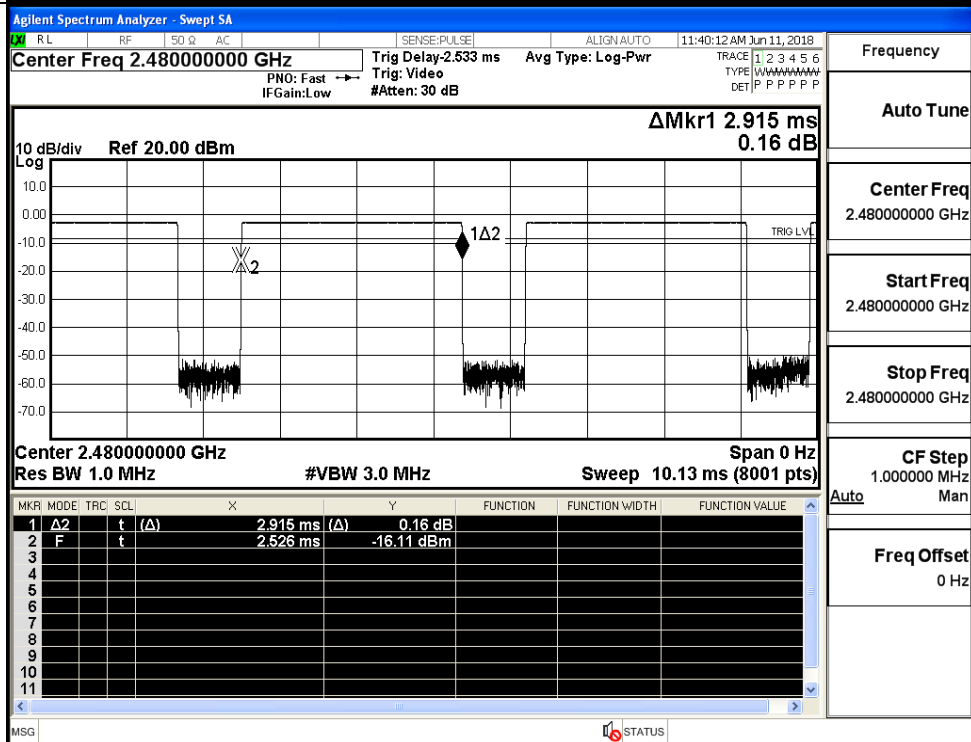
GFSK_DH5/LCH



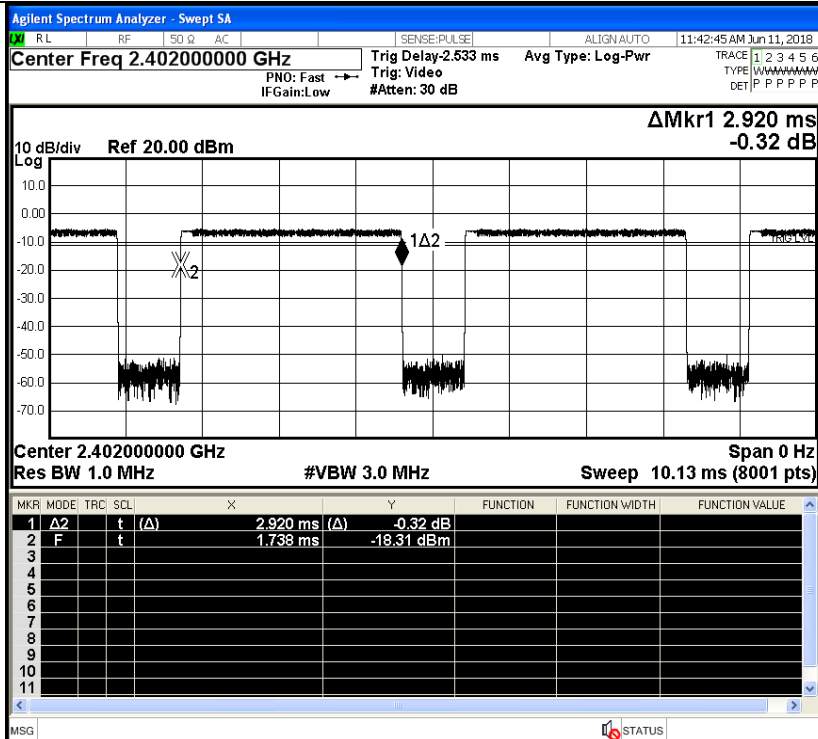
GFSK_DH5/MCH



GFSK_DH5/HCH

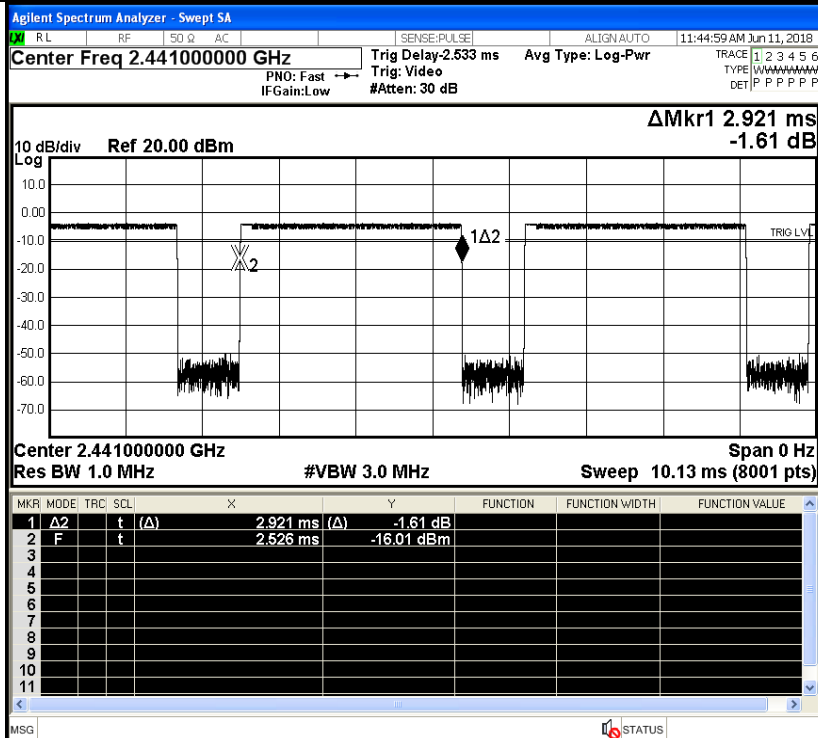


$\pi/4$ DQPSK
_2DH5/LCH



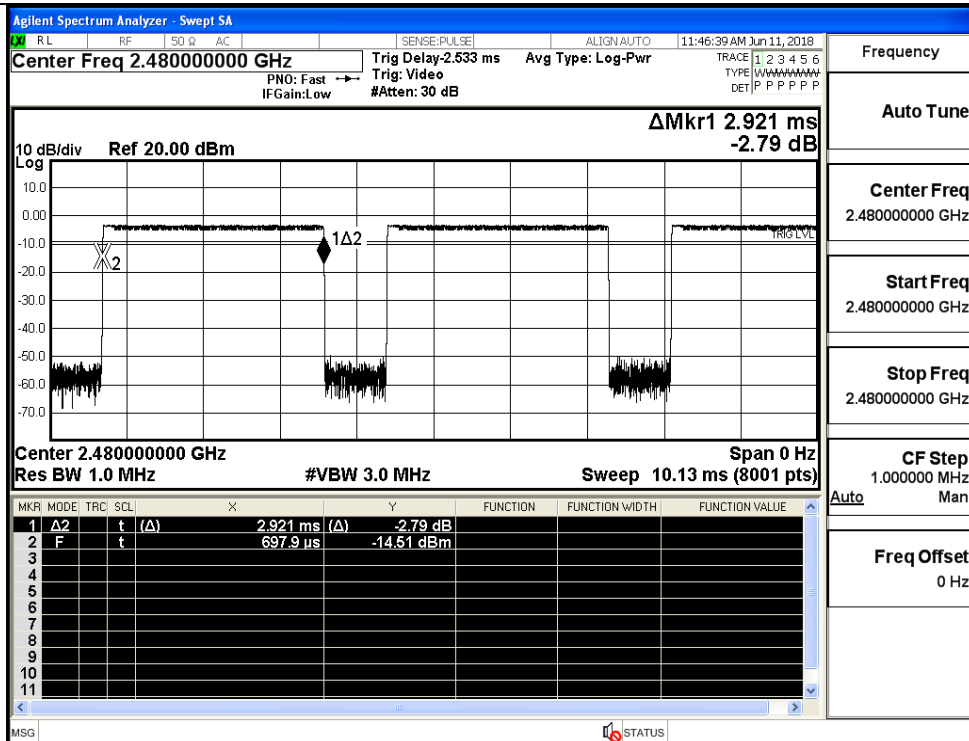
Frequency
Auto Tune
Center Freq 2.402000000 GHz
Start Freq 2.402000000 GHz
Stop Freq 2.402000000 GHz
CF Step 1.000000 MHz Auto Man
Freq Offset 0 Hz

$\pi/4$ DQPSK
_2DH5/MCH

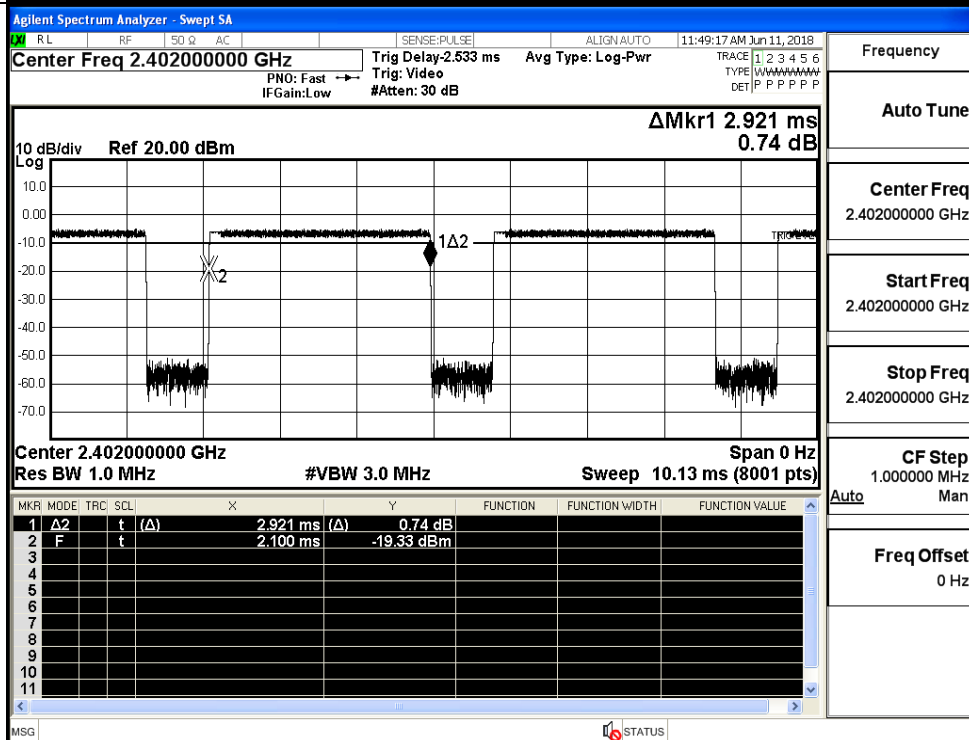


Frequency
Auto Tune
Center Freq 2.441000000 GHz
Start Freq 2.441000000 GHz
Stop Freq 2.441000000 GHz
CF Step 1.000000 MHz Auto Man
Freq Offset 0 Hz

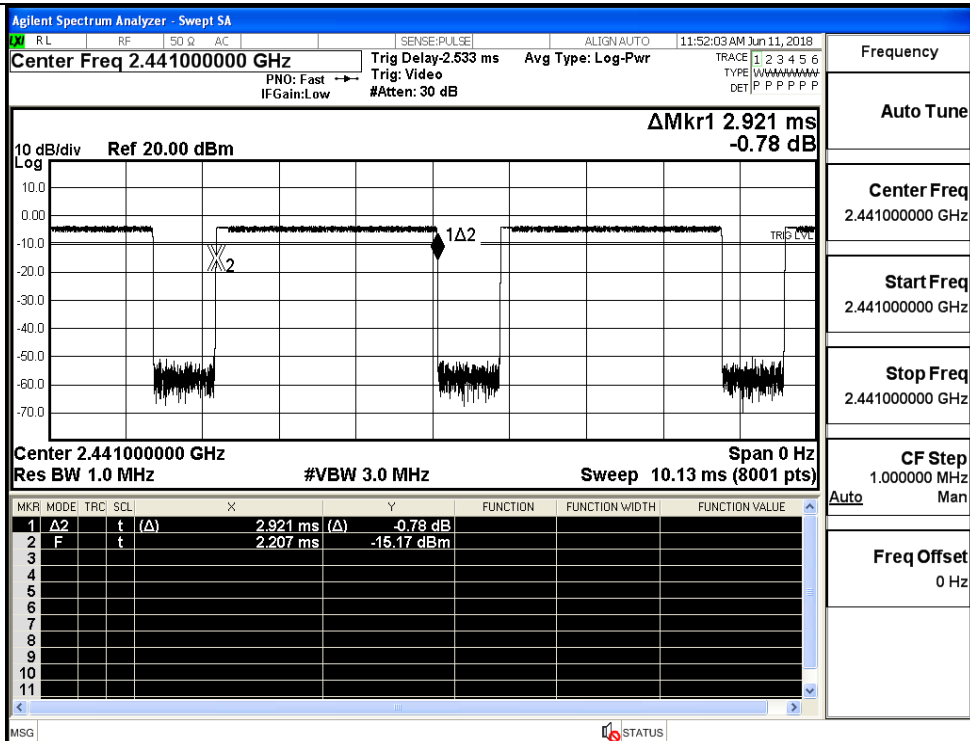
$\pi/4$ DQPSK
_2DH5/HCH



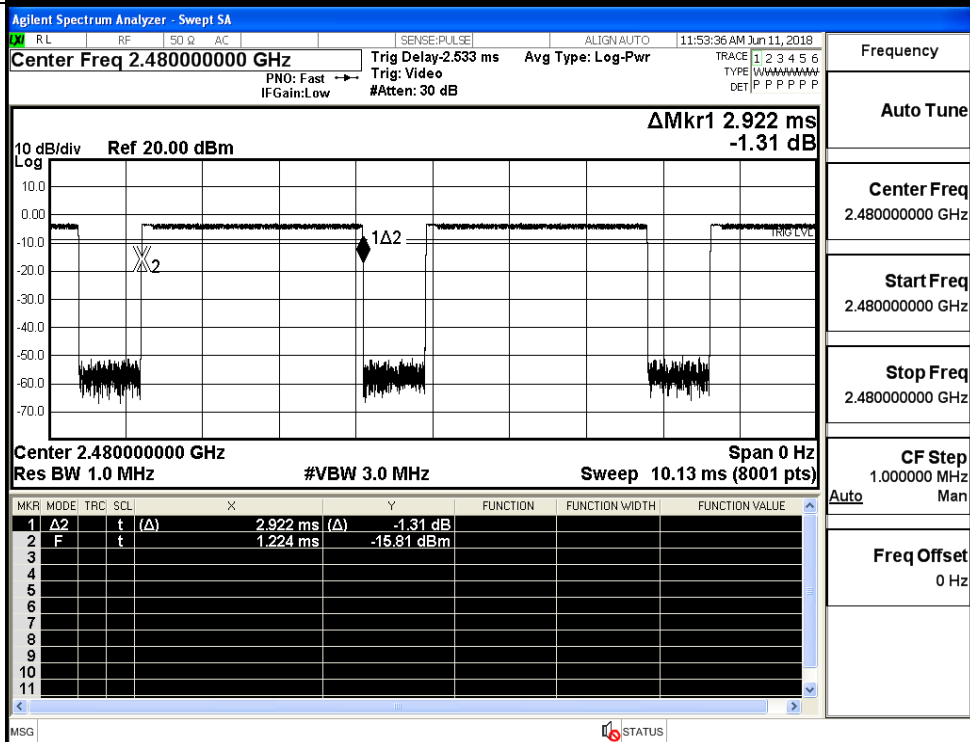
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



8DPSK_3DH5/HCH

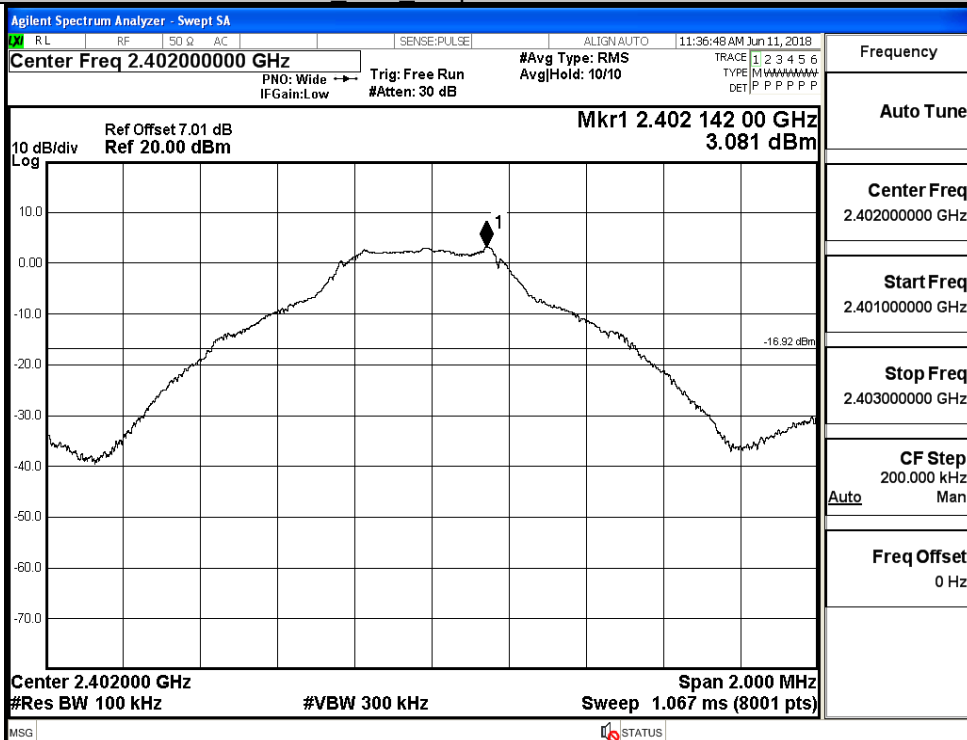


A.6 RF Conducted Spurious Emissions

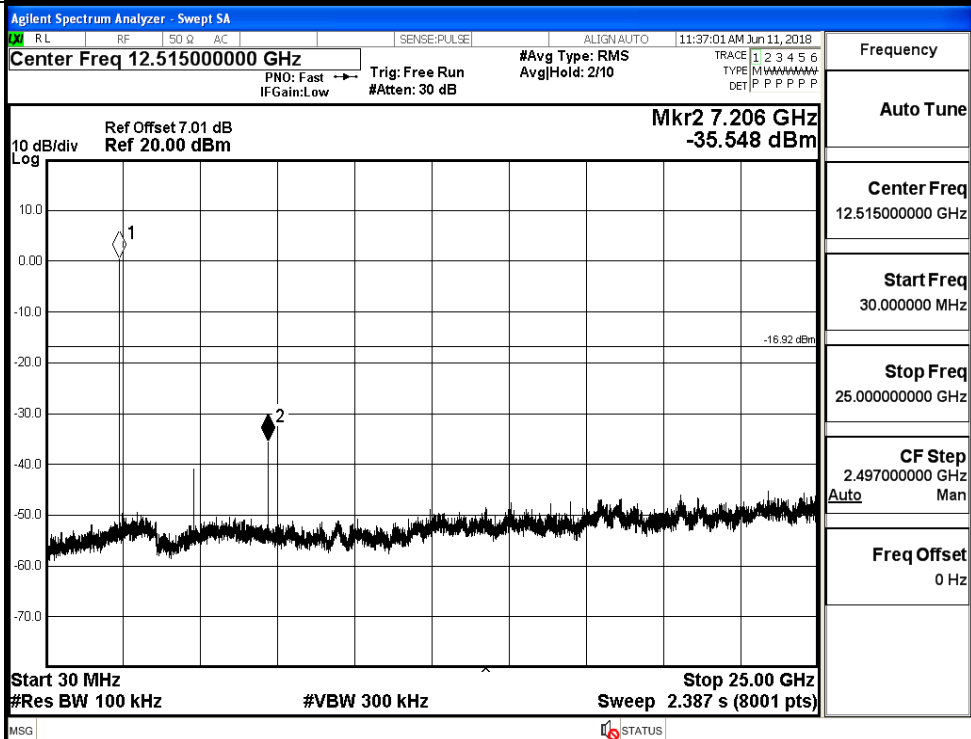
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.081	-35.548	-16.919	PASS
	MCH	3.822	-28.022	-16.178	PASS
	HCH	4.372	-28.255	-15.628	PASS
$\pi/4$ DQPSK	LCH	0.954	-45.798	-19.046	PASS
	MCH	2.314	-39.342	-17.686	PASS
	HCH	3.558	-38.230	-16.442	PASS
8DPSK	LCH	0.924	-45.613	-19.076	PASS
	MCH	3.074	-38.659	-16.926	PASS
	HCH	3.554	-38.942	-16.446	PASS

GFSK LCH Graphs

Pref

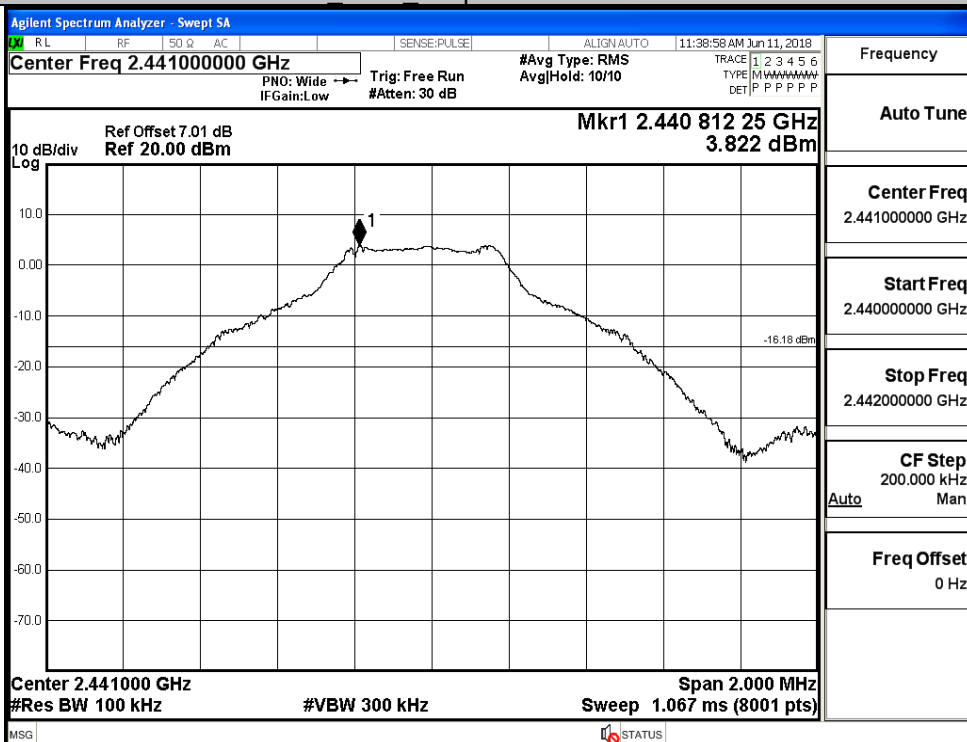


Puw

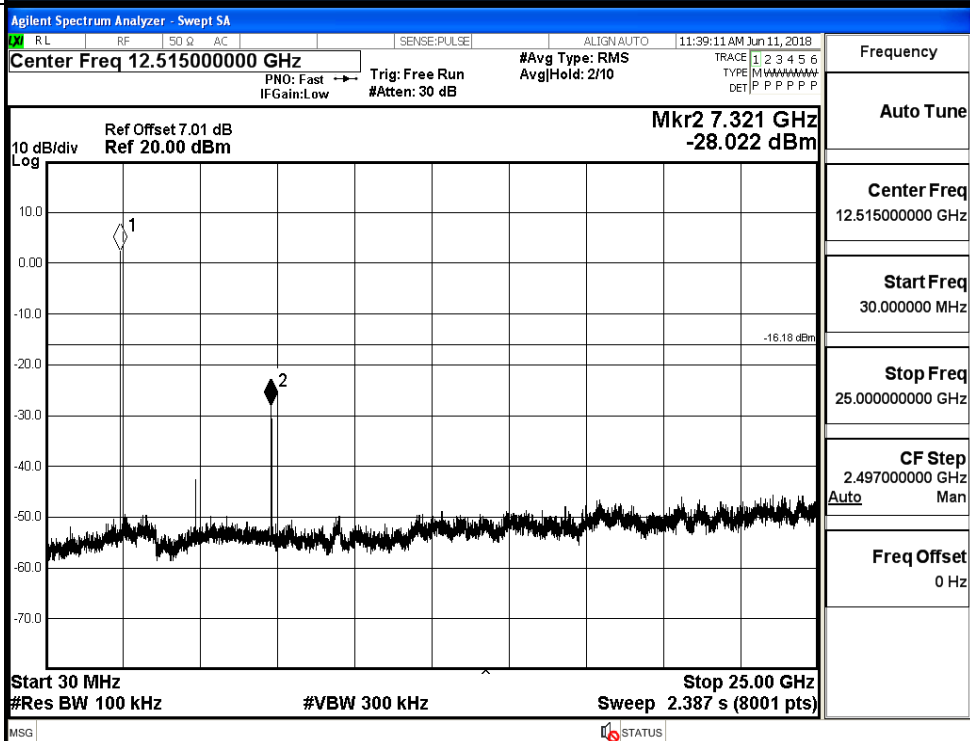


GFSK MCH Graphs

Pref

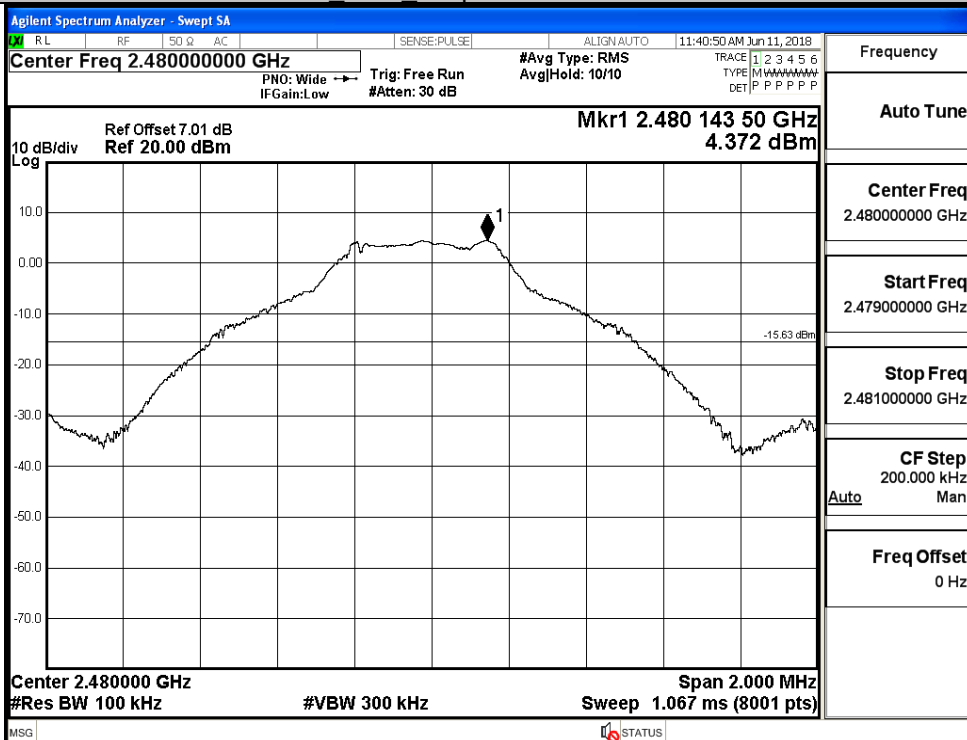


Puw

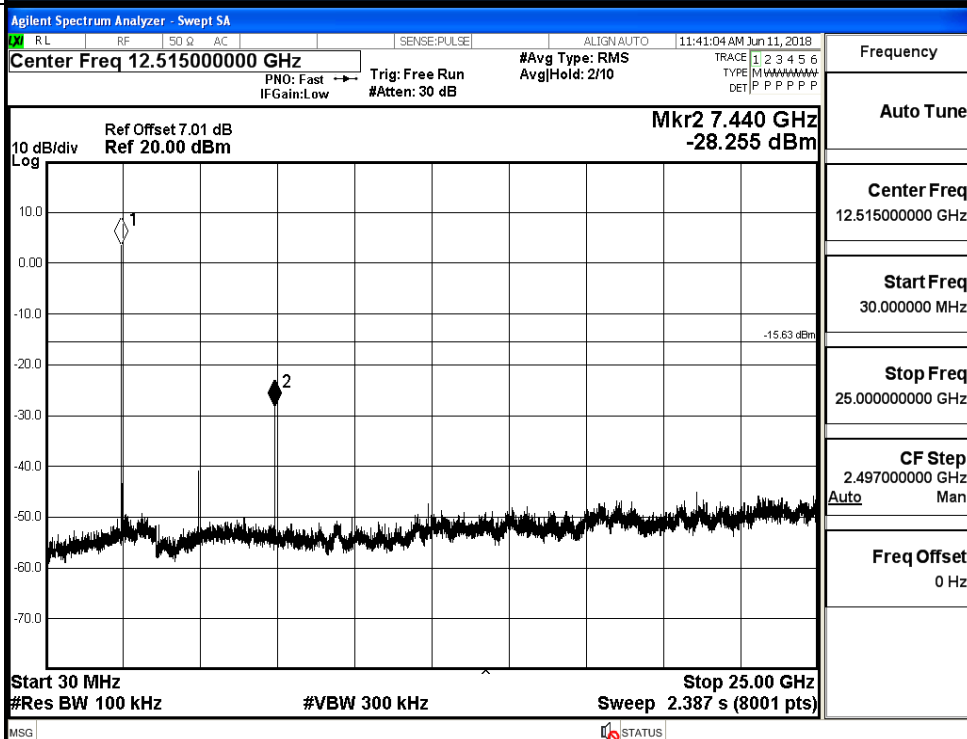


GFSK HCH Graphs

Pref

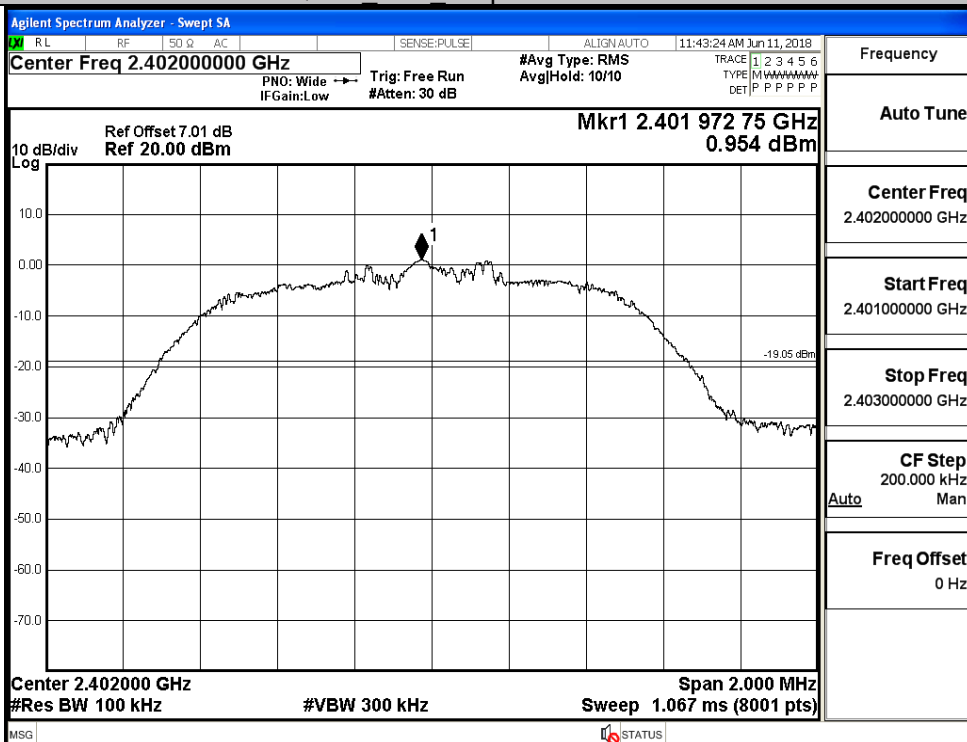


Puw

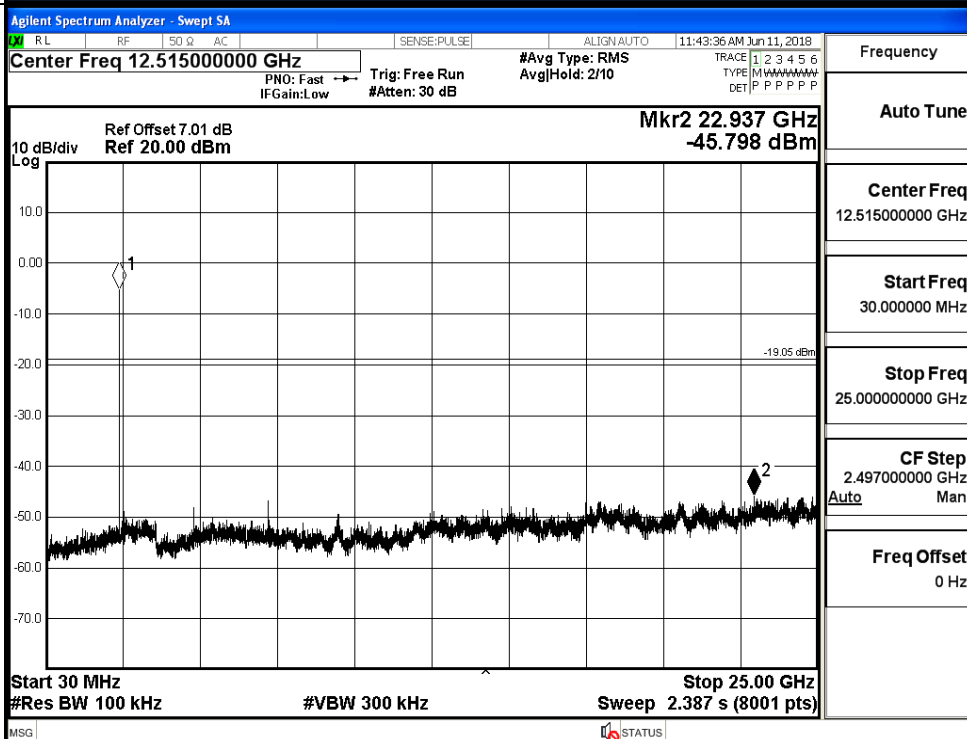


π /4DQPSK LCH Graphs

Pref

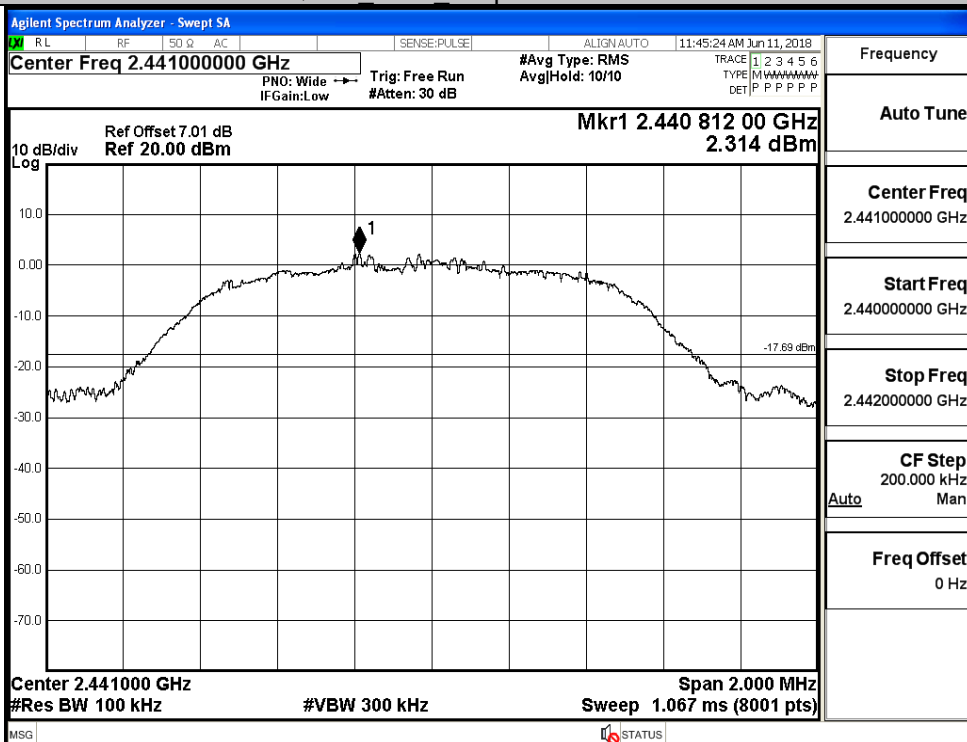


Puw

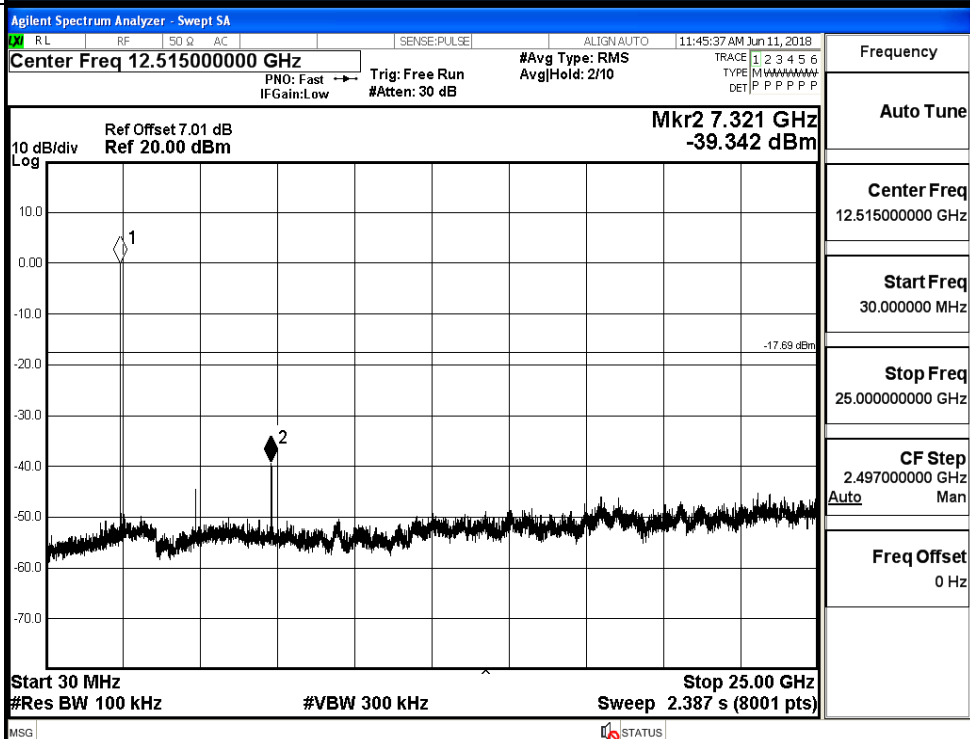


π /4DQPSK MCH Graphs

Pref

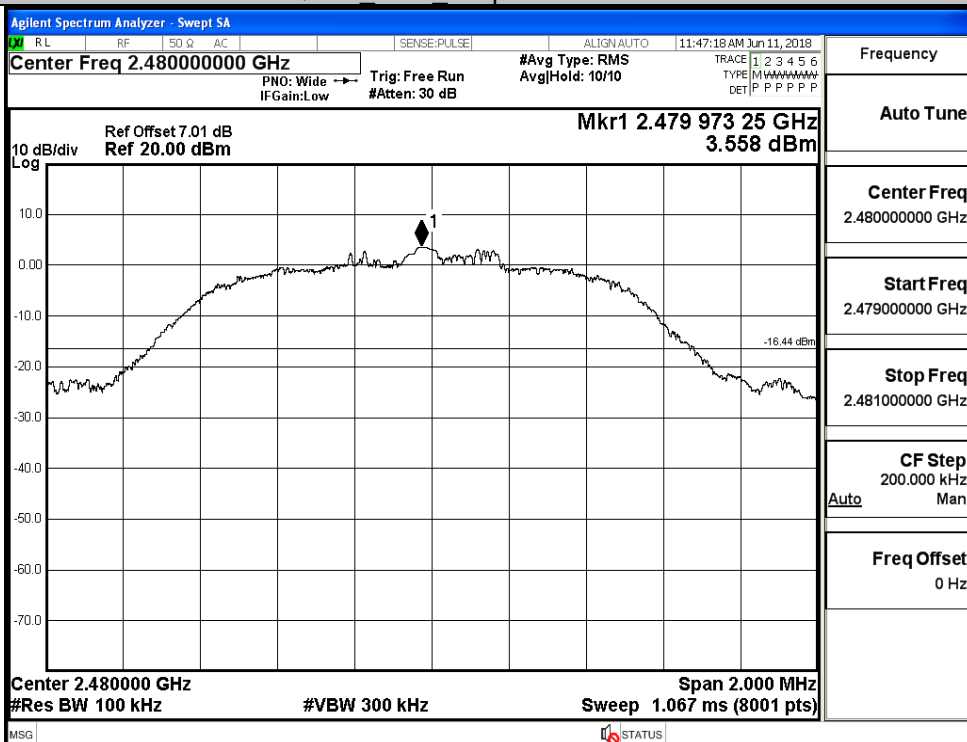


Puw

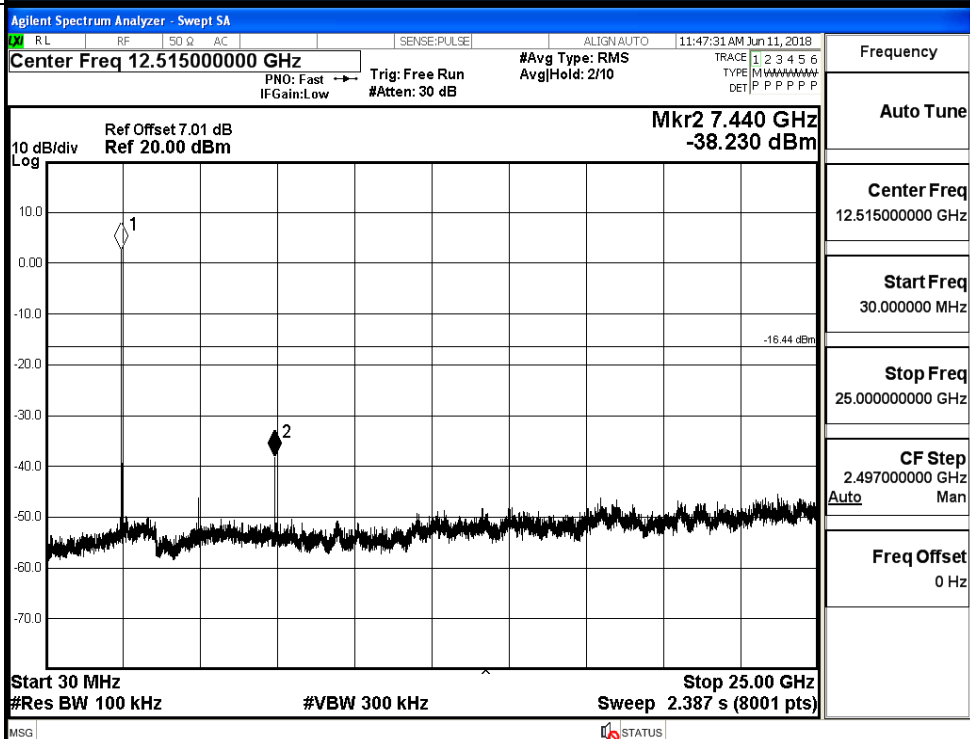


$\pi/4$ DQPSK HCH Graphs

Pref

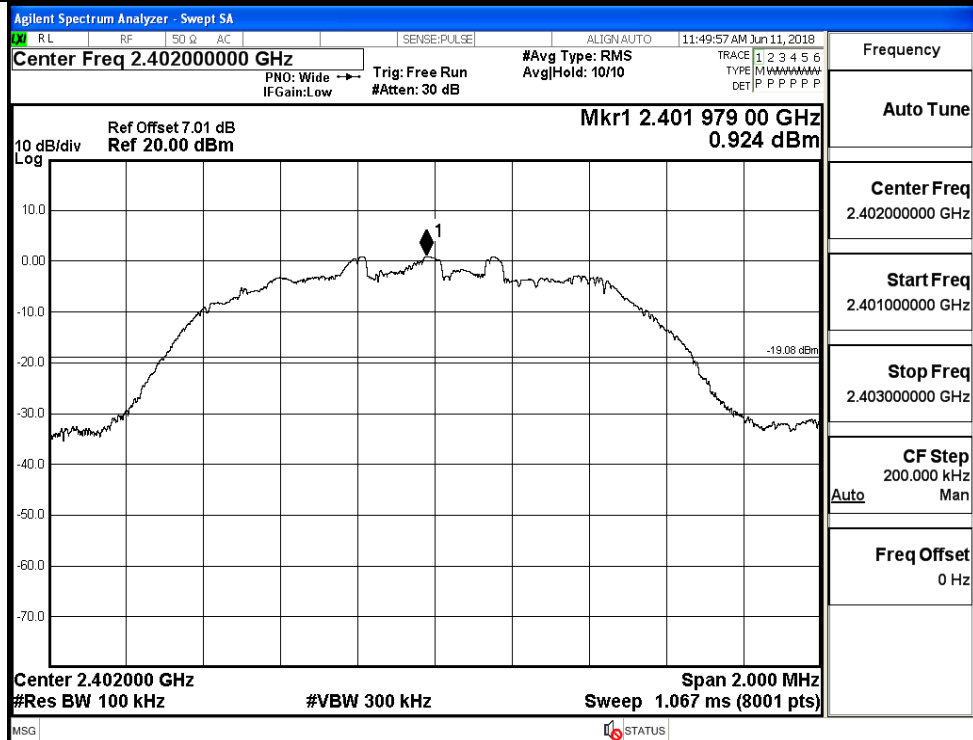


Puw

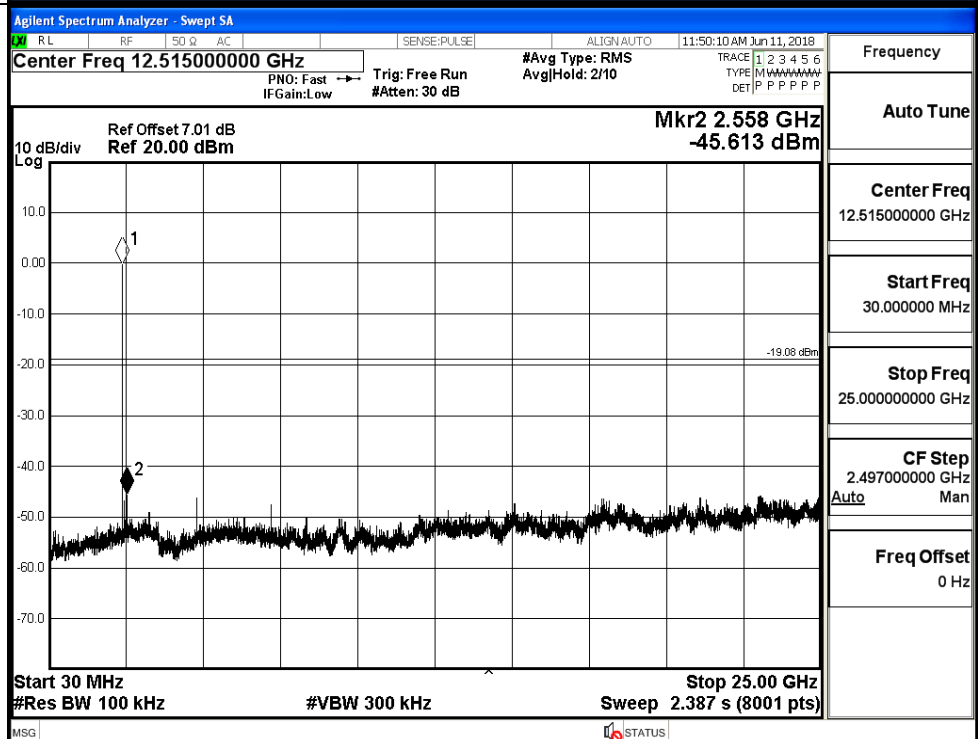


8DPSK LCH Graphs

Pref

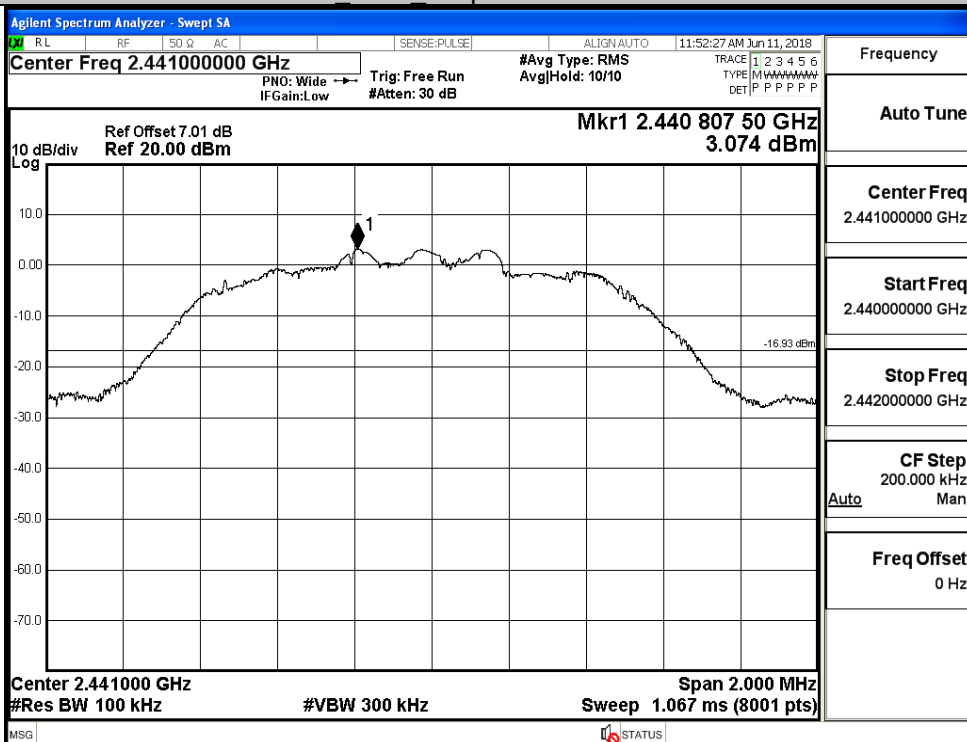


Puw

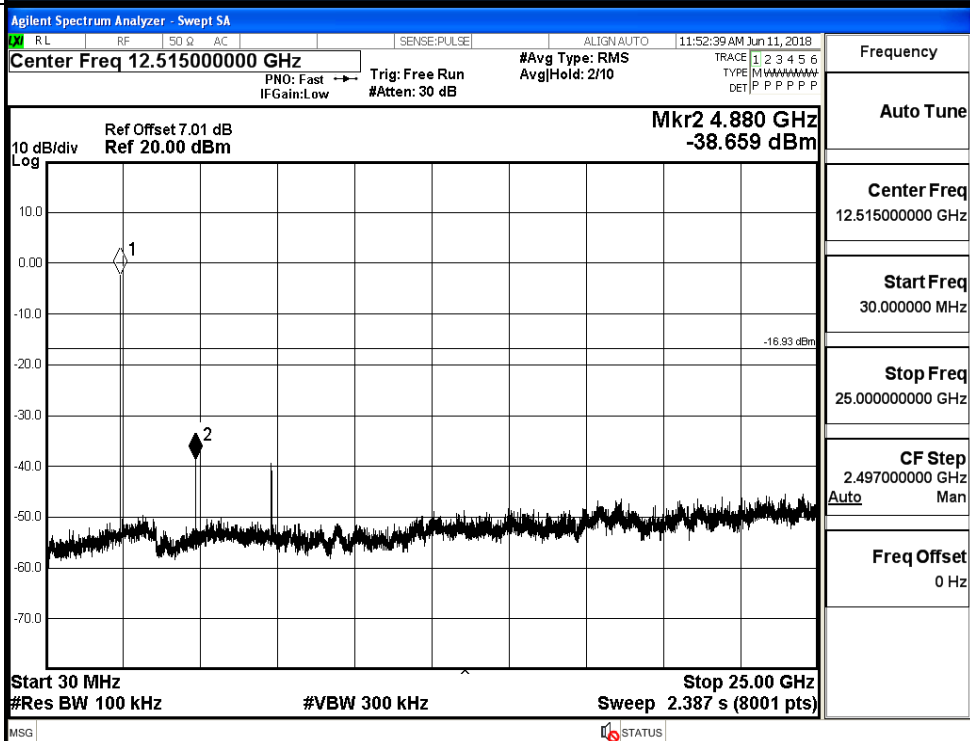


8DPSK MCH Graphs

Pref

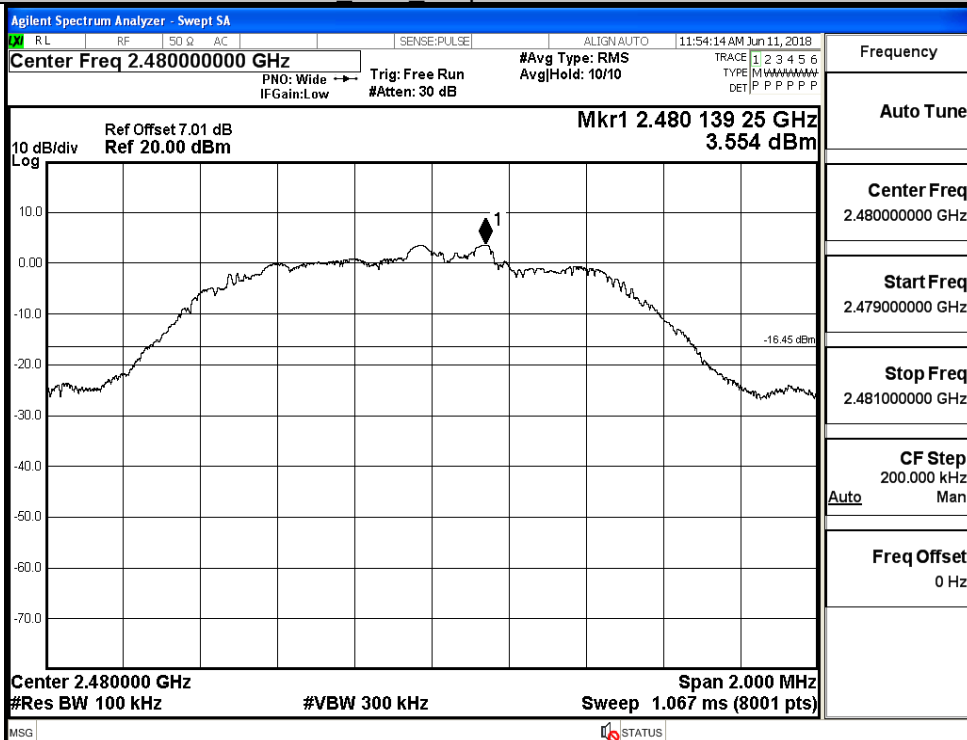


Puw

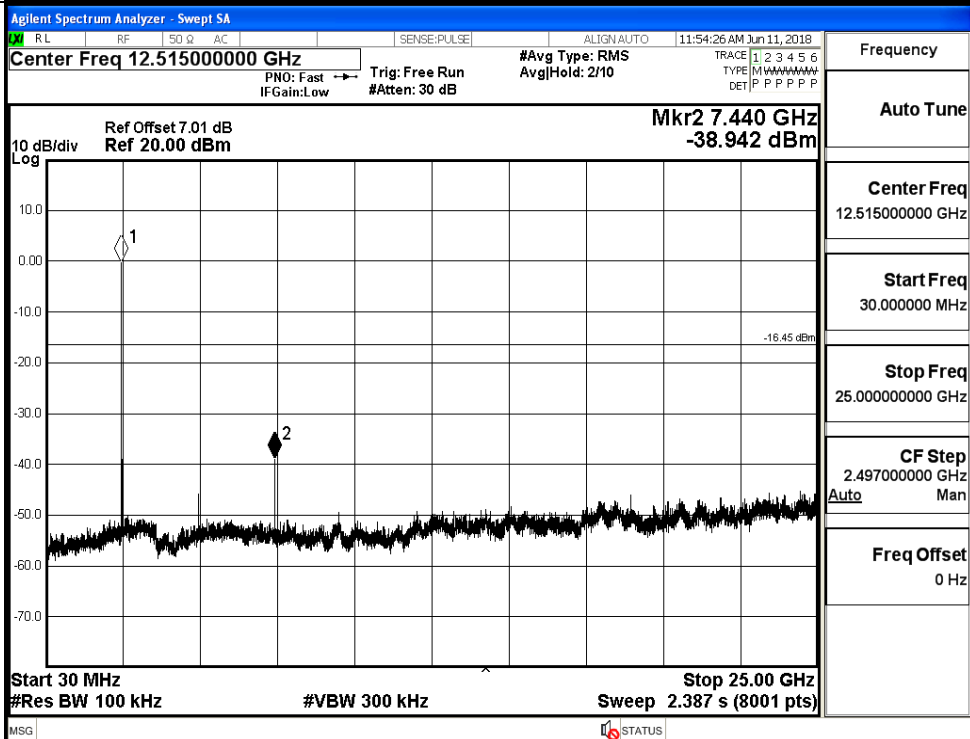


8DPSK_HCH Graphs

Pref



Puw

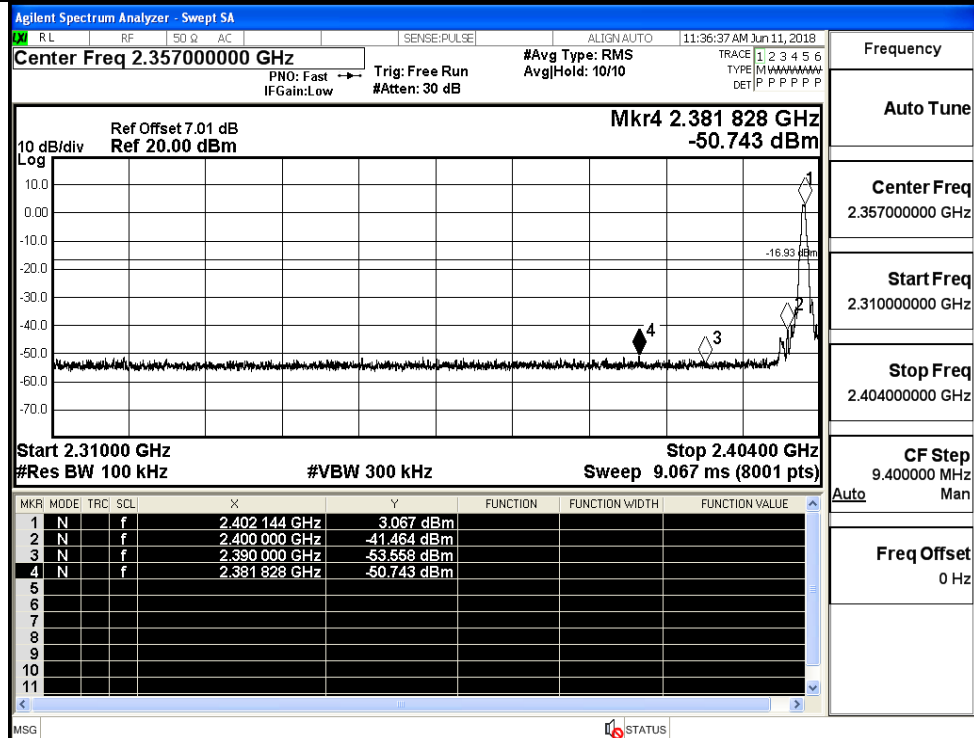


A.7 Band-edge for RF Conducted Emissions

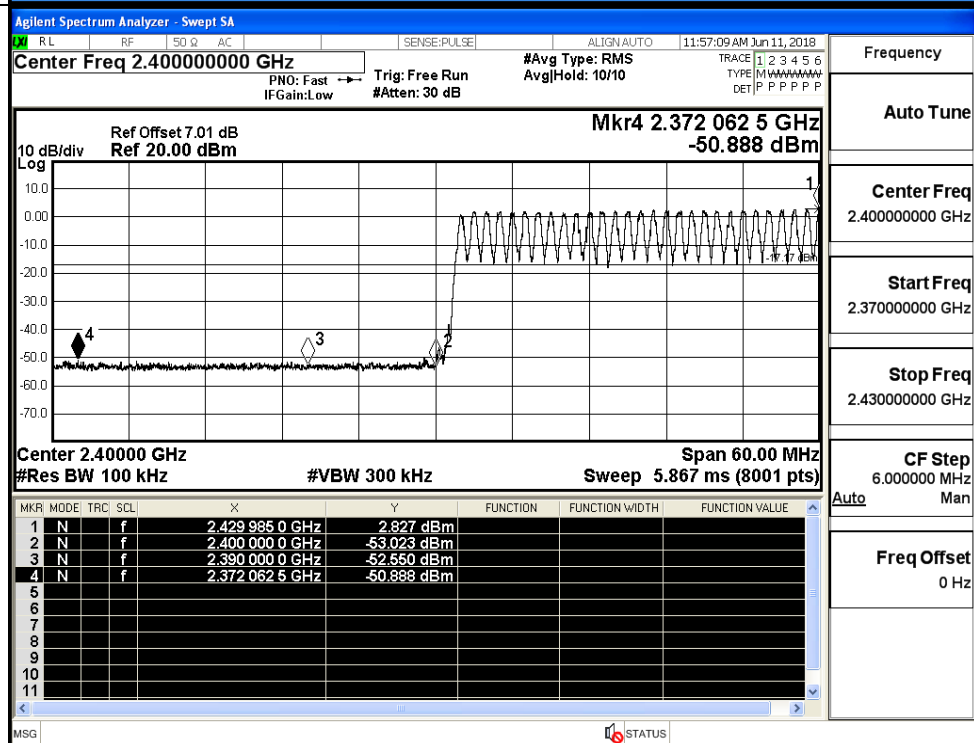
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	3.067	Off	-50.743	-16.93	PASS
			2.827	On	-50.888	-17.17	PASS
	HCH	2480	4.512	Off	-50.282	-15.49	PASS
			3.388	On	-49.699	-16.61	PASS
$\pi/4$ DQPSK	LCH	2402	0.531	Off	-51.224	-19.47	PASS
			0.069	On	-49.406	-19.93	PASS
	HCH	2480	3.404	Off	-47.447	-16.6	PASS
			1.520	On	-49.333	-18.48	PASS
8DPSK	LCH	2402	1.060	Off	-50.830	-18.94	PASS
			0.027	On	-49.969	-19.97	PASS
	HCH	2480	3.577	Off	-49.178	-16.42	PASS
			1.183	On	-49.693	-18.82	PASS

Test Graphs

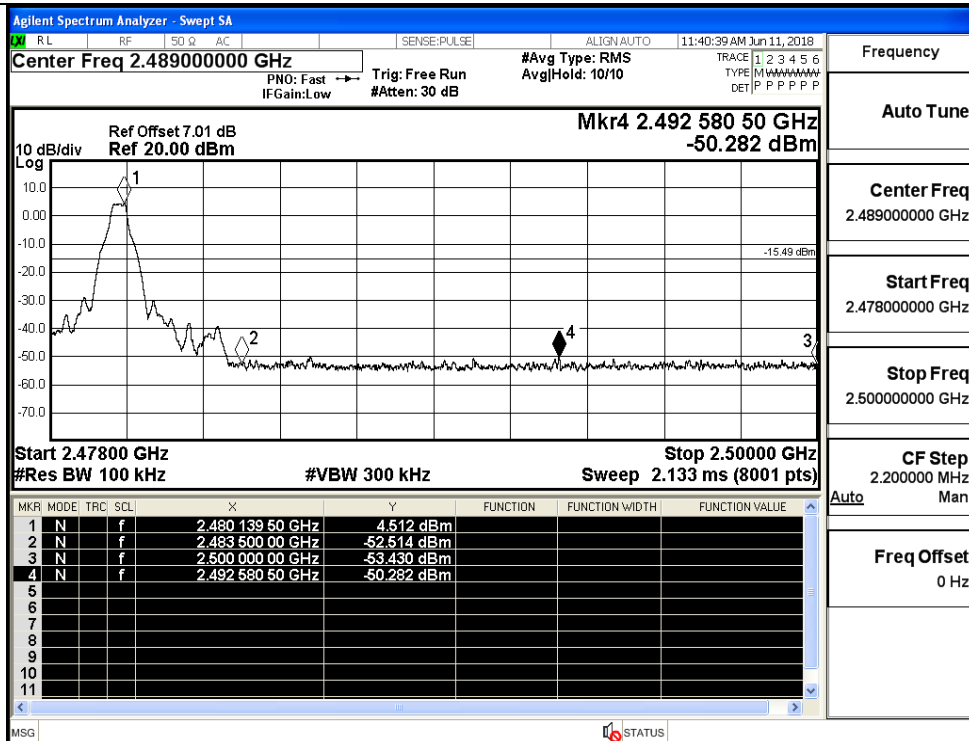
GFSK/LCH/No Hop



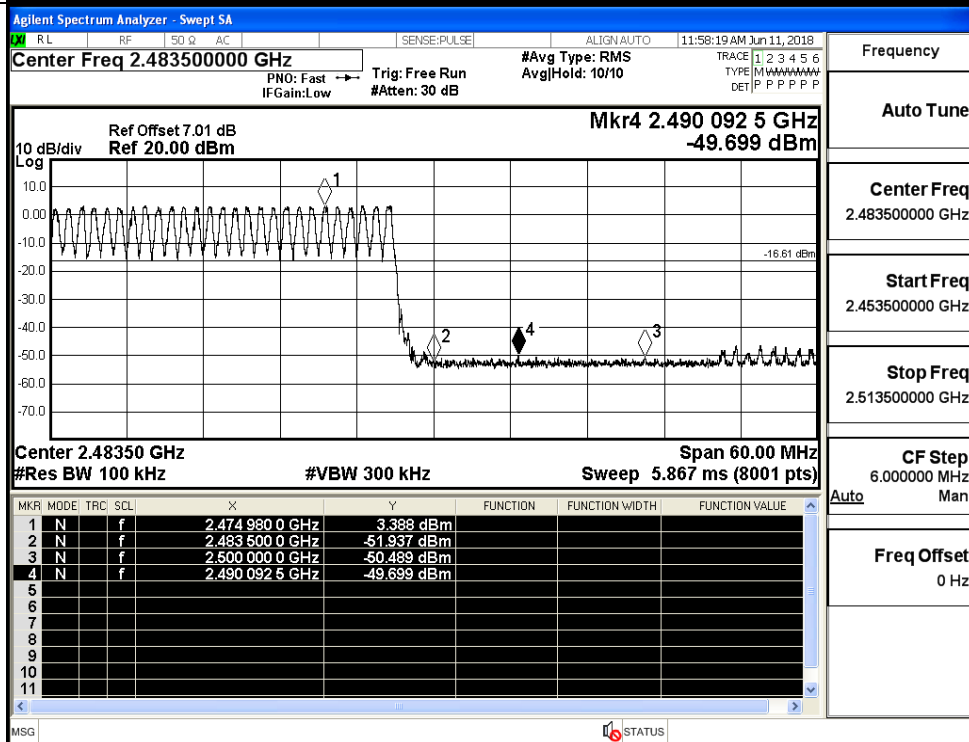
GFSK/LCH/Hop



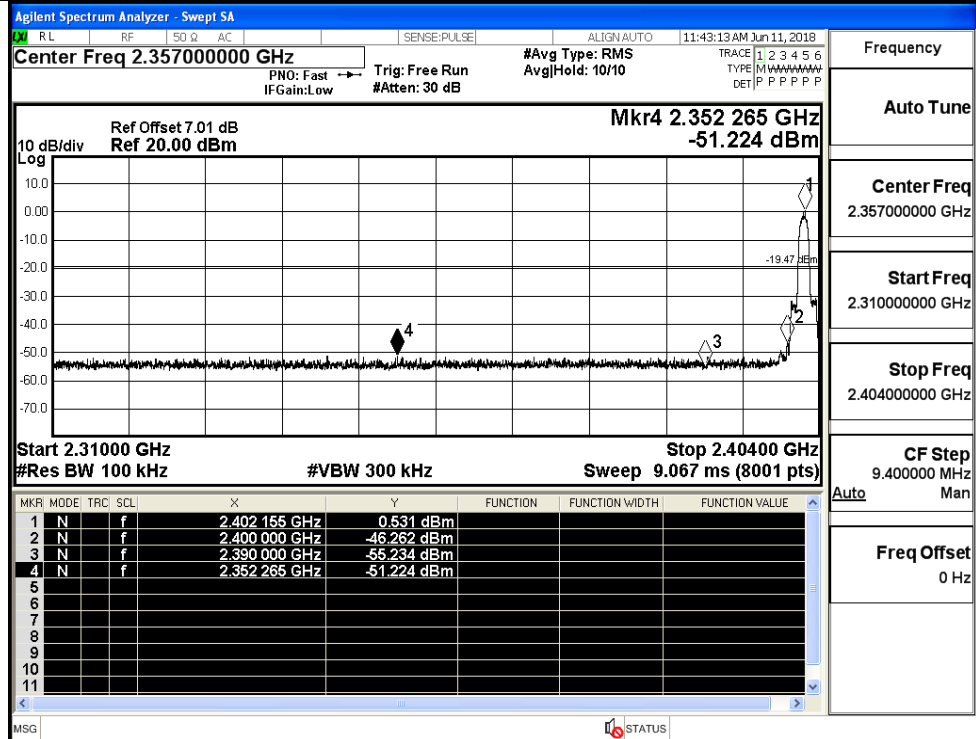
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq
2.357000000 GHz

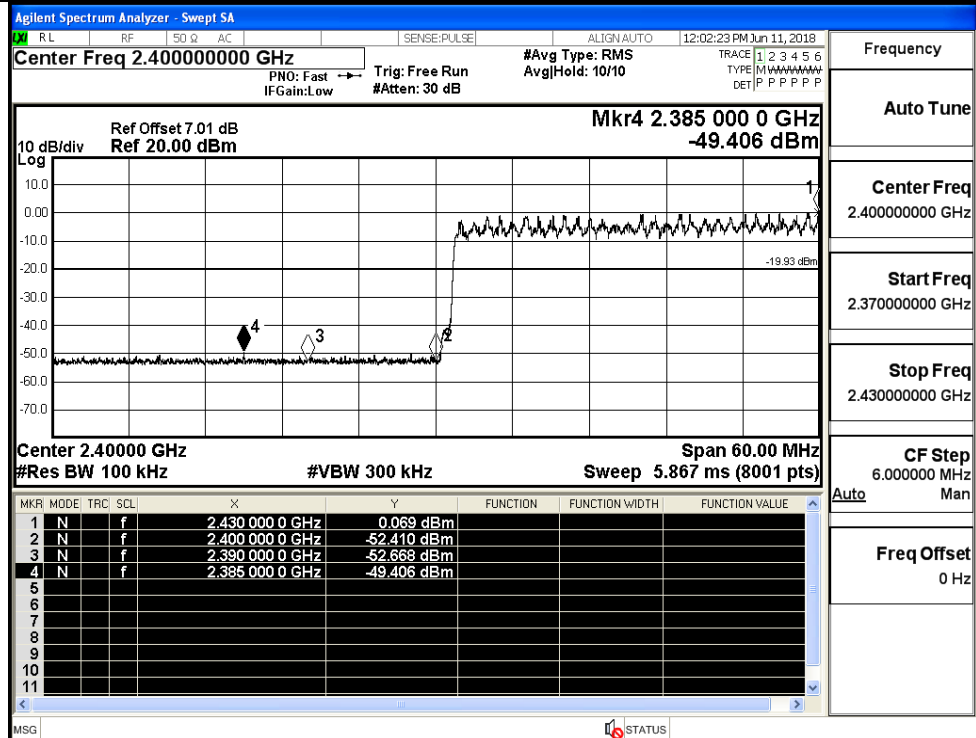
Start Freq
2.310000000 GHz

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

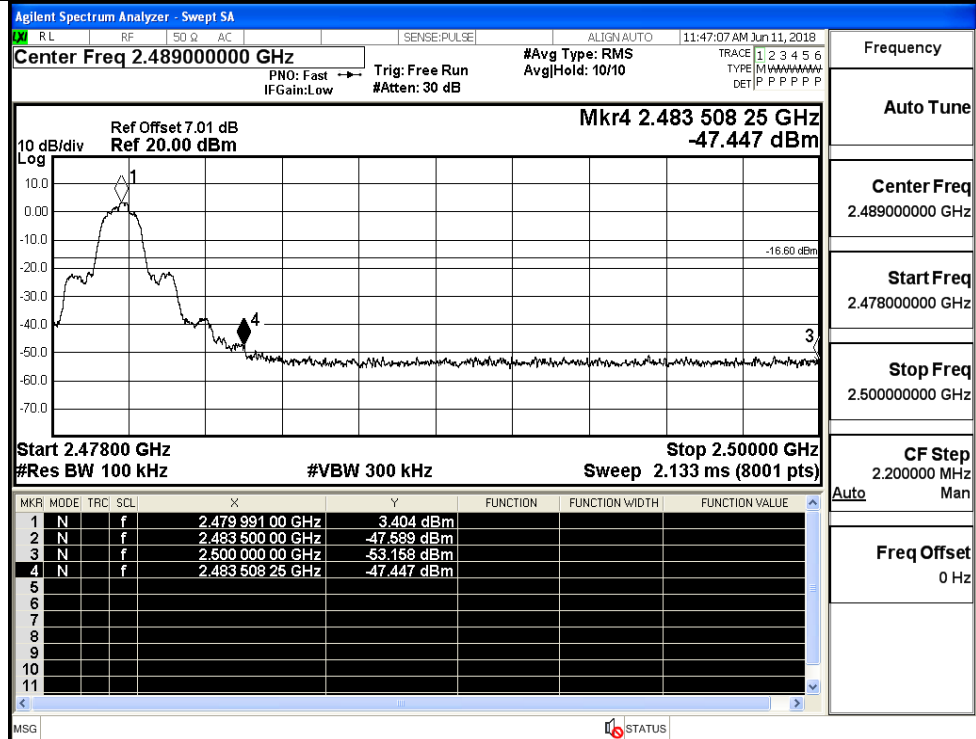
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

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

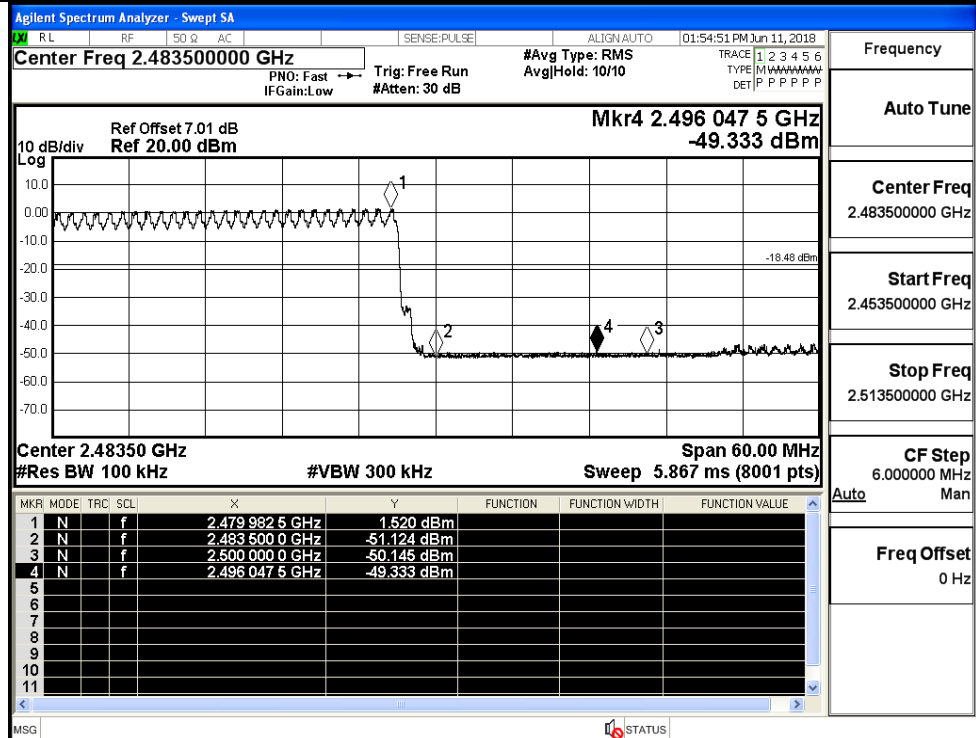


Frequency

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

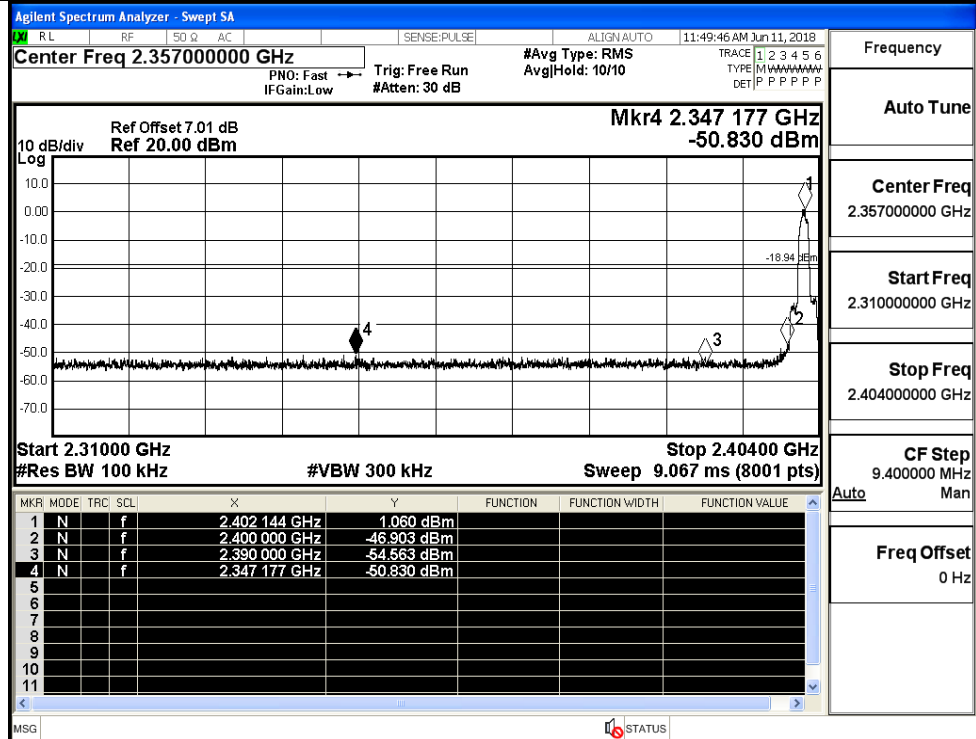


Frequency

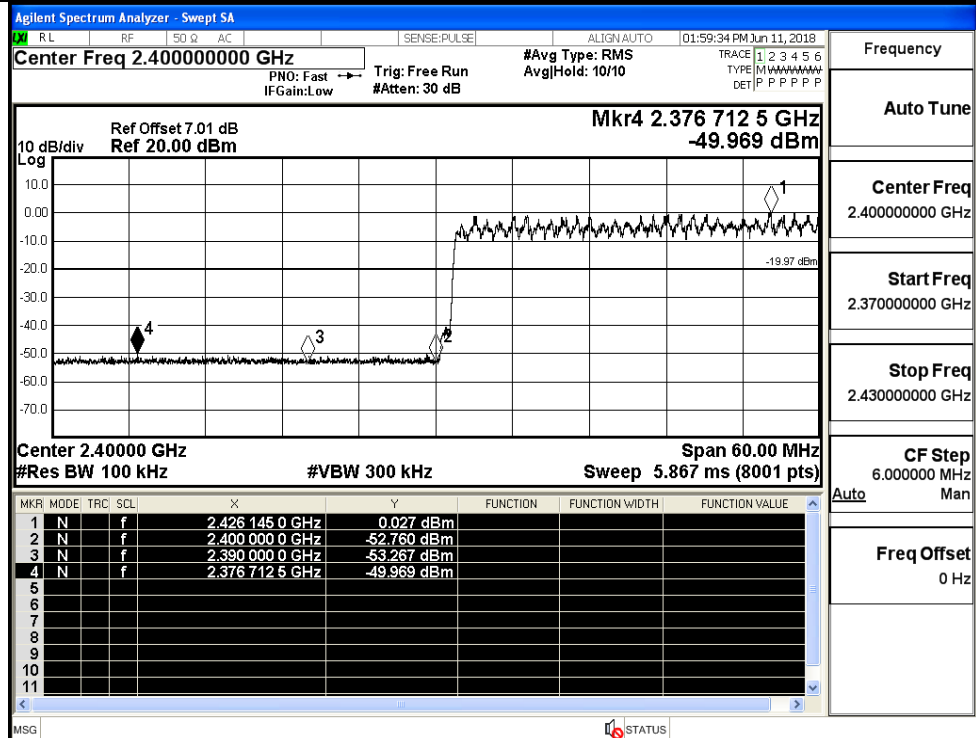
Auto Tune

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

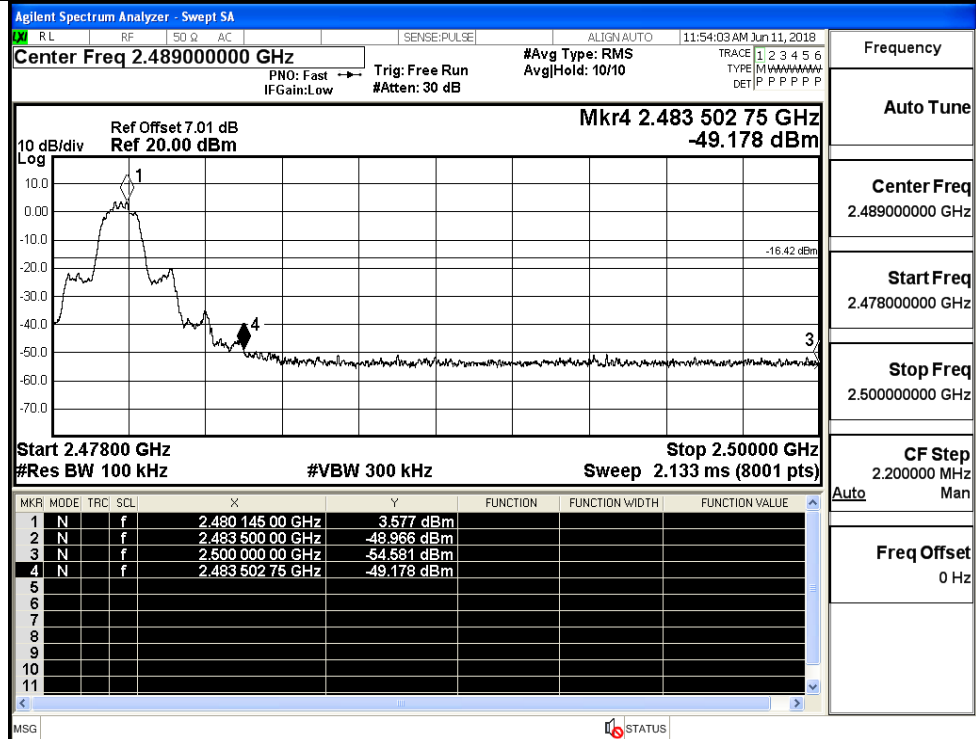
8DPSK/LCH/No Hop



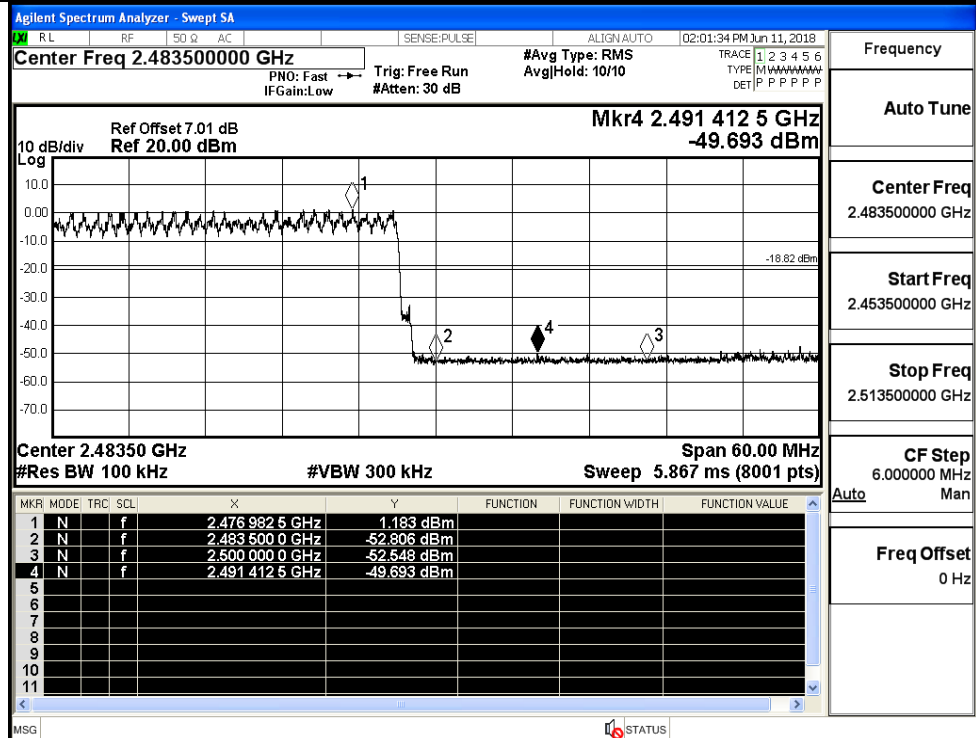
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



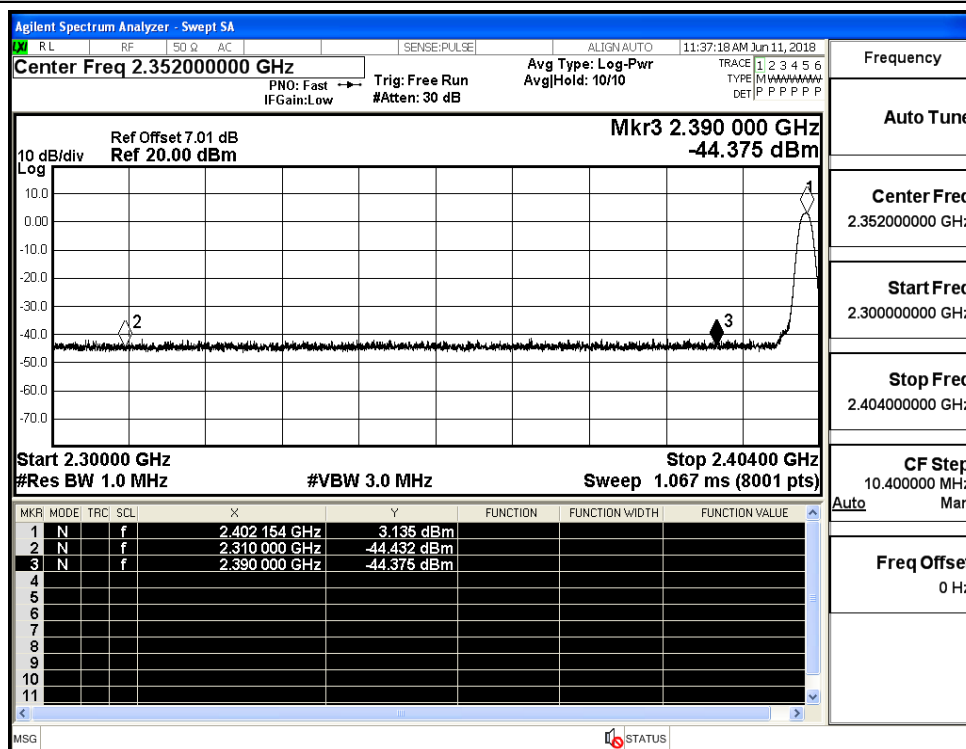
8DPSK/HCH/Hop



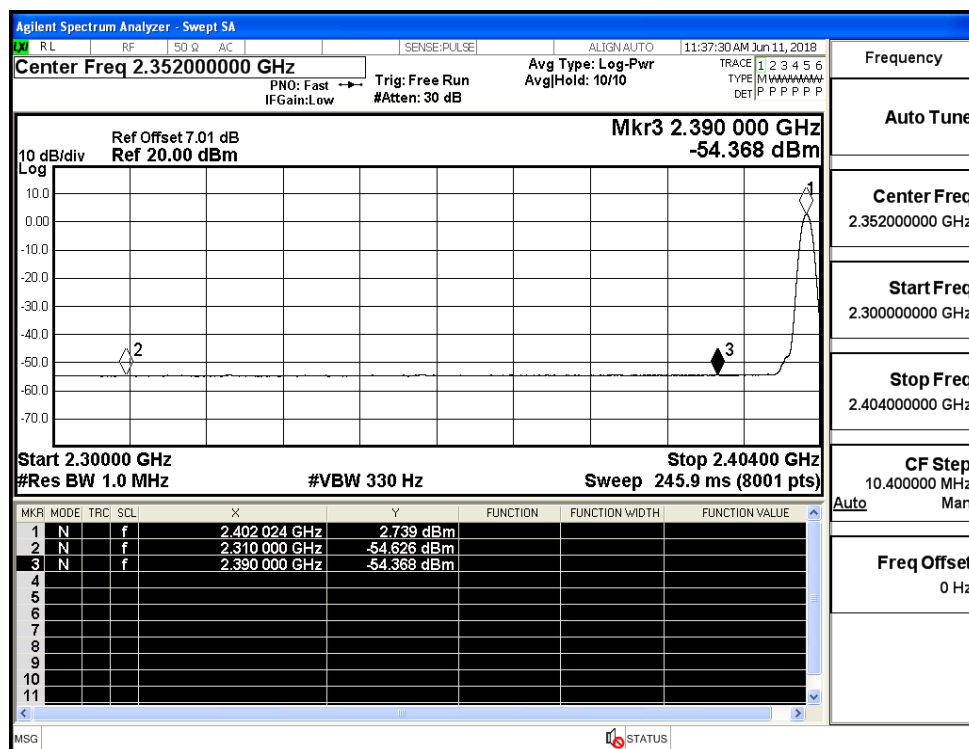
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-44.43	2.0	0	52.83	PEAK	74	PASS
	Off	2310.0	-54.63	2.0	0	42.63	AV	54	PASS
	Off	2390.0	-44.38	2.0	0	52.88	PEAK	74	PASS
	Off	2390.0	-54.37	2.0	0	42.89	AV	54	PASS
	Off	2483.5	-39.97	2.0	0	57.29	PEAK	74	PASS
	Off	2483.5	-49.82	2.0	0	47.44	AV	54	PASS
	Off	2500.0	-44.01	2.0	0	53.24	PEAK	74	PASS
	Off	2500.0	-53.88	2.0	0	43.38	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-44.12	2.0	0	53.14	PEAK	74	PASS
	Off	2310.0	-54.79	2.0	0	42.47	AV	54	PASS
	Off	2390.0	-43.05	2.0	0	54.21	PEAK	74	PASS
	Off	2390.0	-54.46	2.0	0	42.79	AV	54	PASS
	Off	2483.5	-35.02	2.0	0	62.24	PEAK	74	PASS
	Off	2483.5	-50.35	2.0	0	46.90	AV	54	PASS
	Off	2500.0	-43.83	2.0	0	53.43	PEAK	74	PASS
	Off	2500.0	-54.08	2.0	0	43.18	AV	54	PASS
8DPSK	Off	2310.0	-44.68	2.0	0	52.58	PEAK	74	PASS
	Off	2310.0	-54.74	2.0	0	42.51	AV	54	PASS
	Off	2390.0	-44.62	2.0	0	52.64	PEAK	74	PASS
	Off	2390.0	-54.40	2.0	0	42.86	AV	54	PASS
	Off	2483.5	-37.24	2.0	0	60.01	PEAK	74	PASS
	Off	2483.5	-50.34	2.0	0	46.91	AV	54	PASS
	Off	2500.0	-44.09	2.0	0	53.17	PEAK	74	PASS
	Off	2500.0	-54.03	2.0	0	43.22	AV	54	PASS

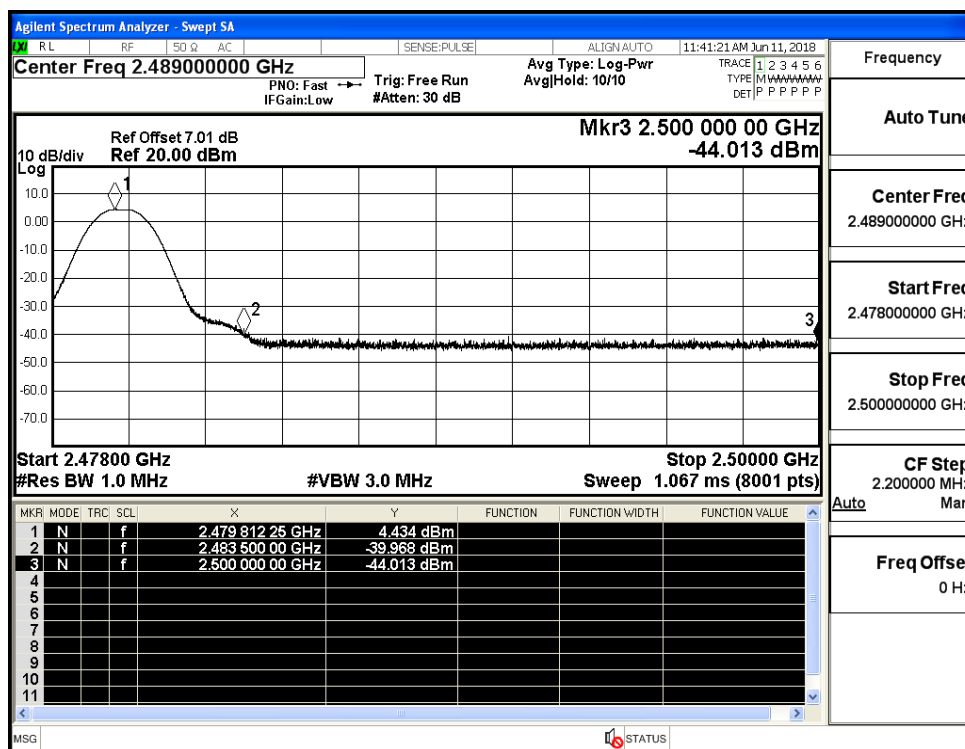
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



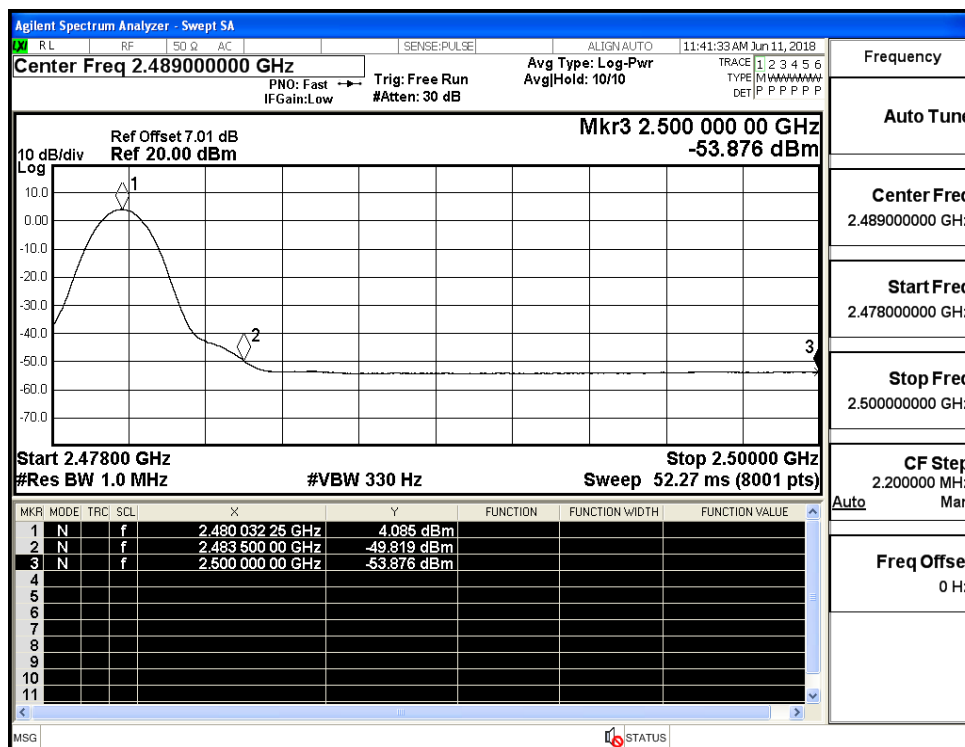
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

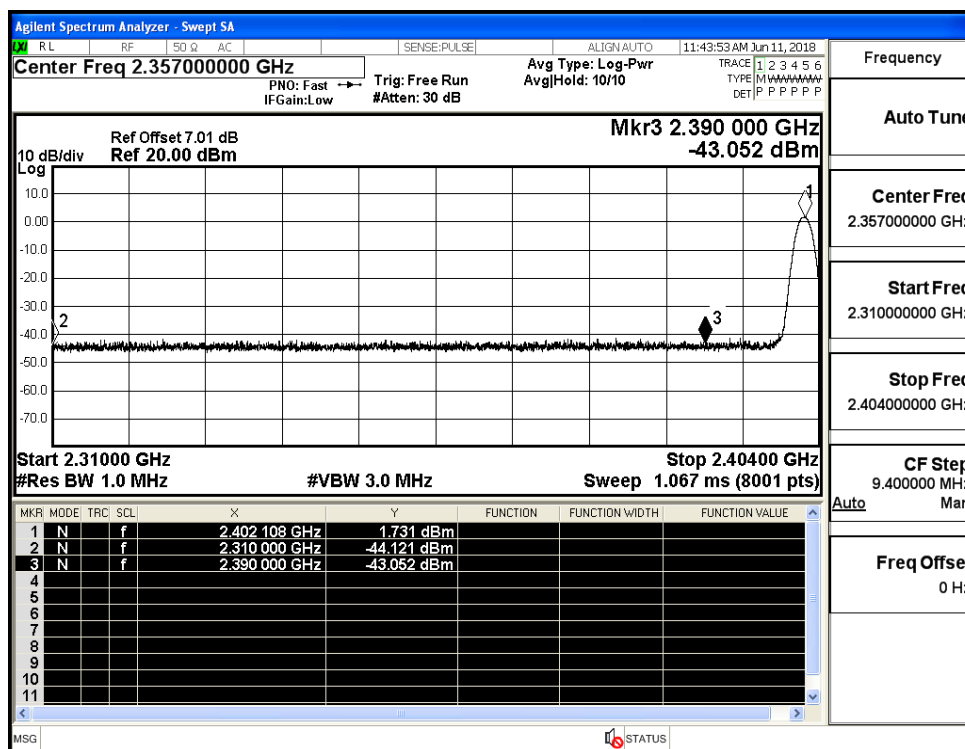
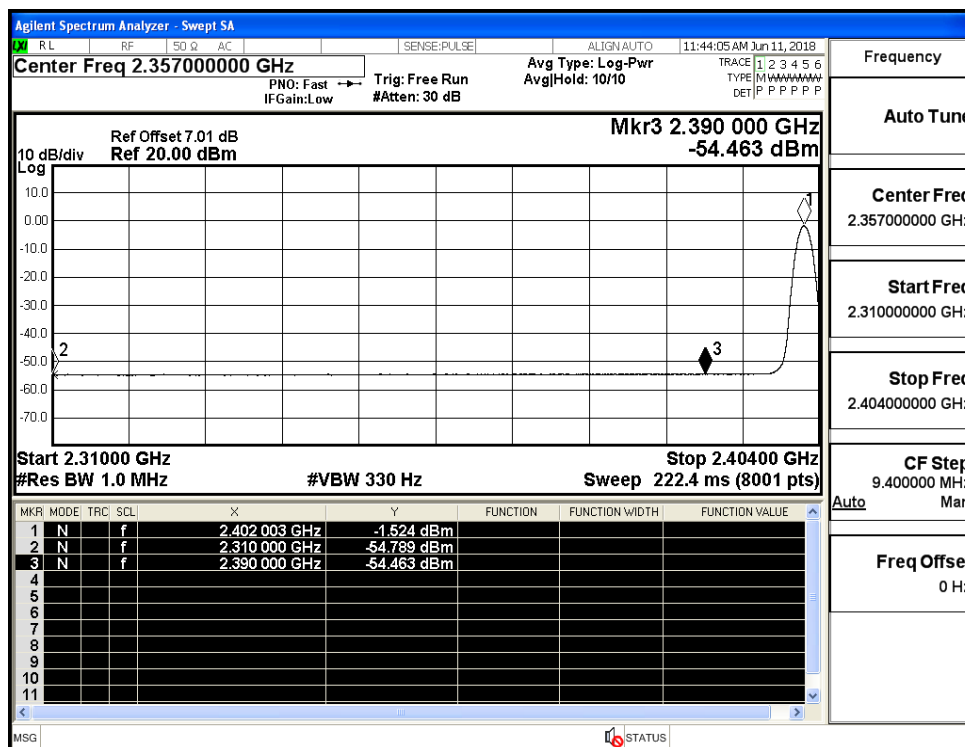


Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)

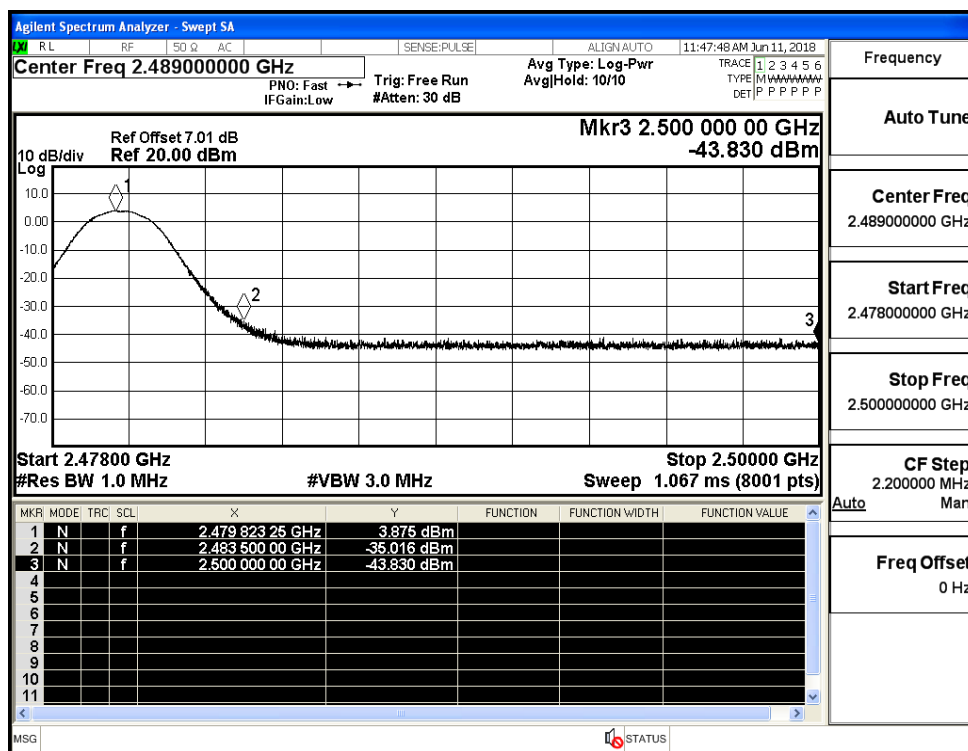


Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)

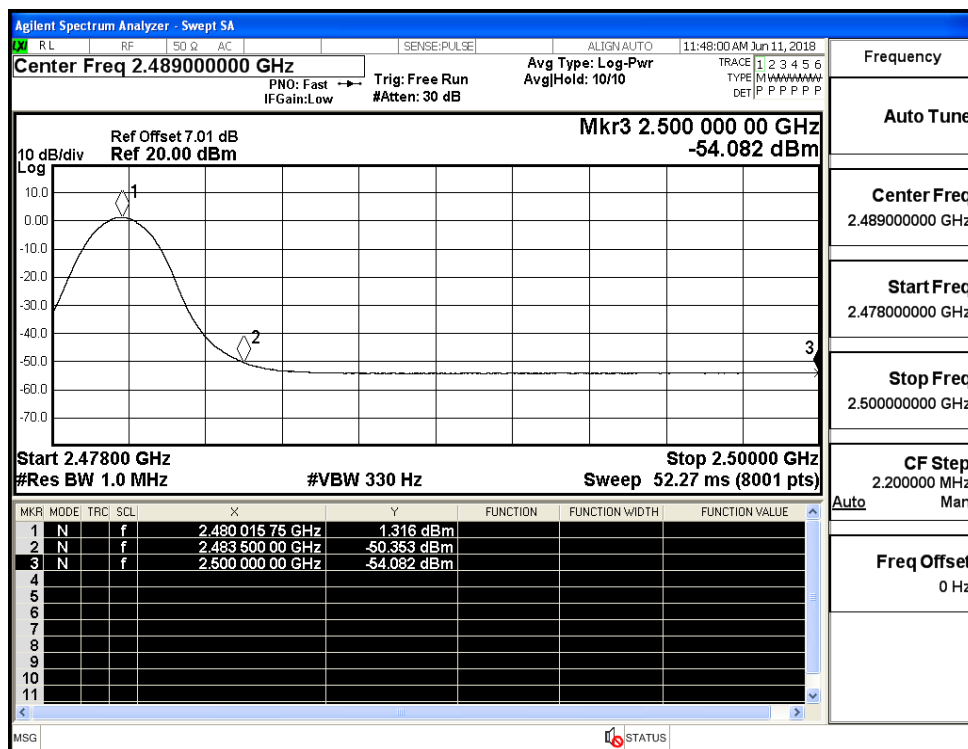


Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

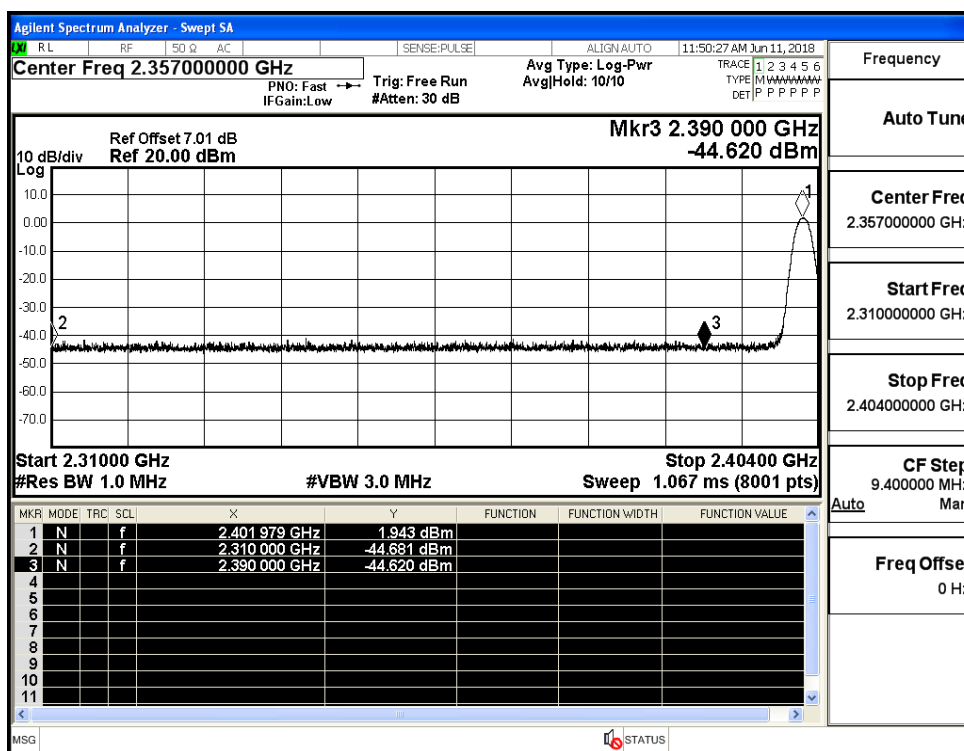
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



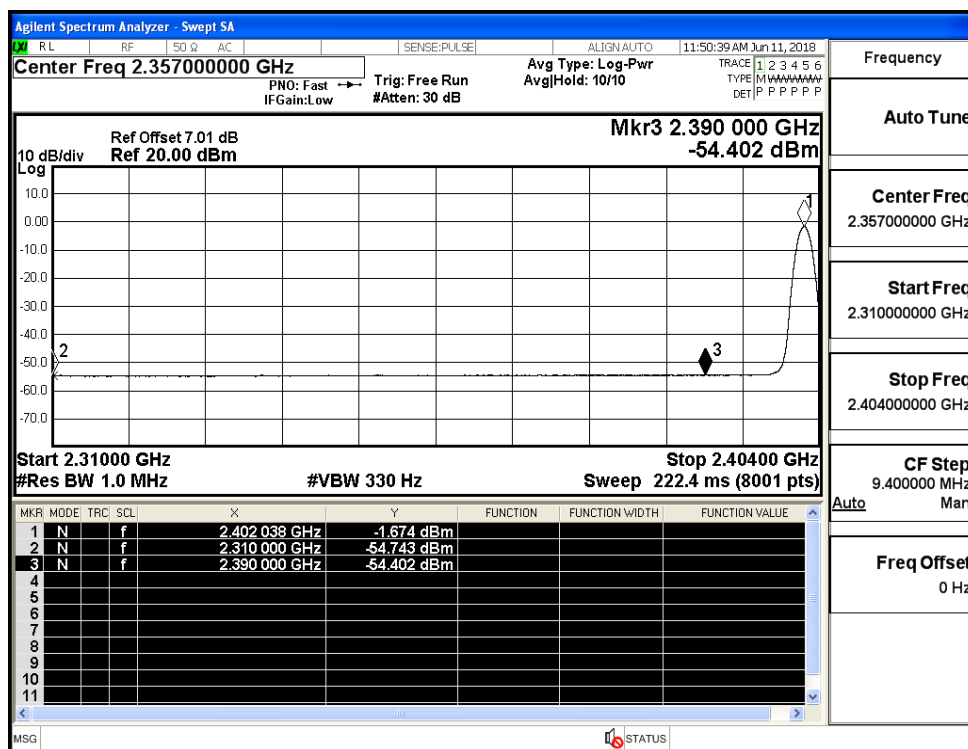
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



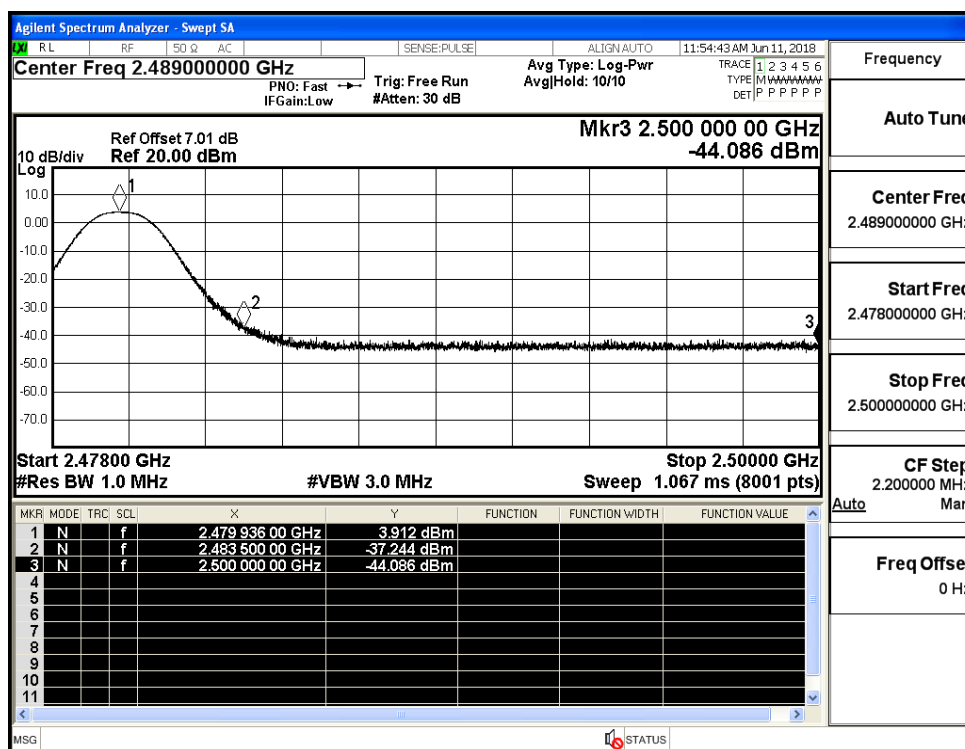
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

