

Appendix A

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

Product Name: ACOUSTIC AUITAR AMP

Trade Mark: AROMA

Test Model: AG-15A

Environmental Conditions

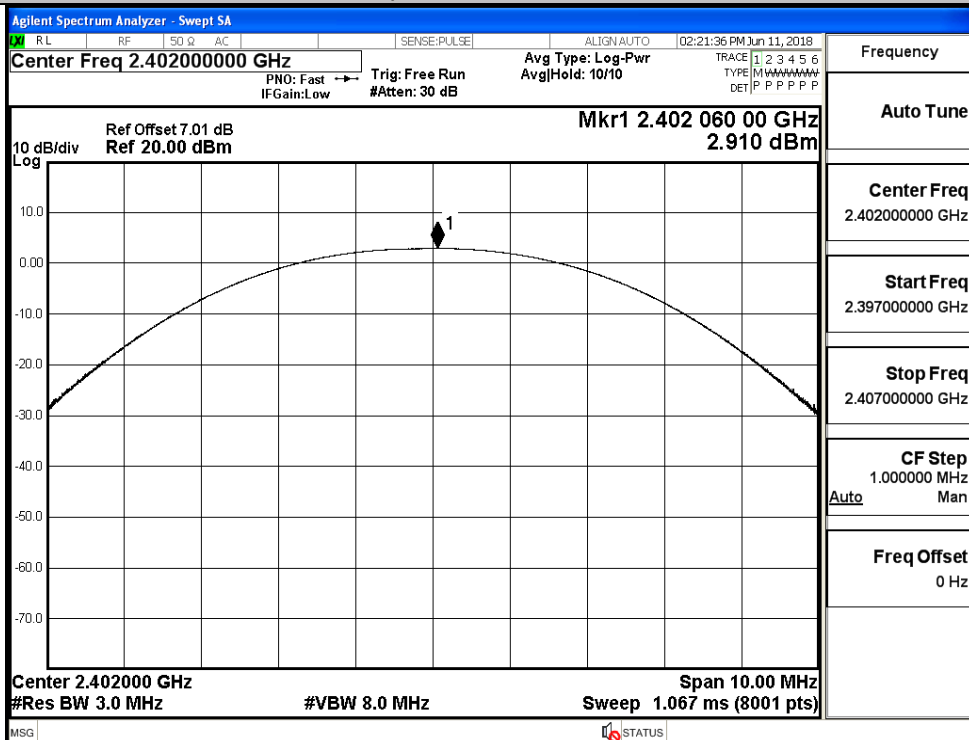
Temperature:	23.8° C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom.Liu
Supervised by:	Jayden.Zhuo

A.1 Maximum Conducted Peak Output Power

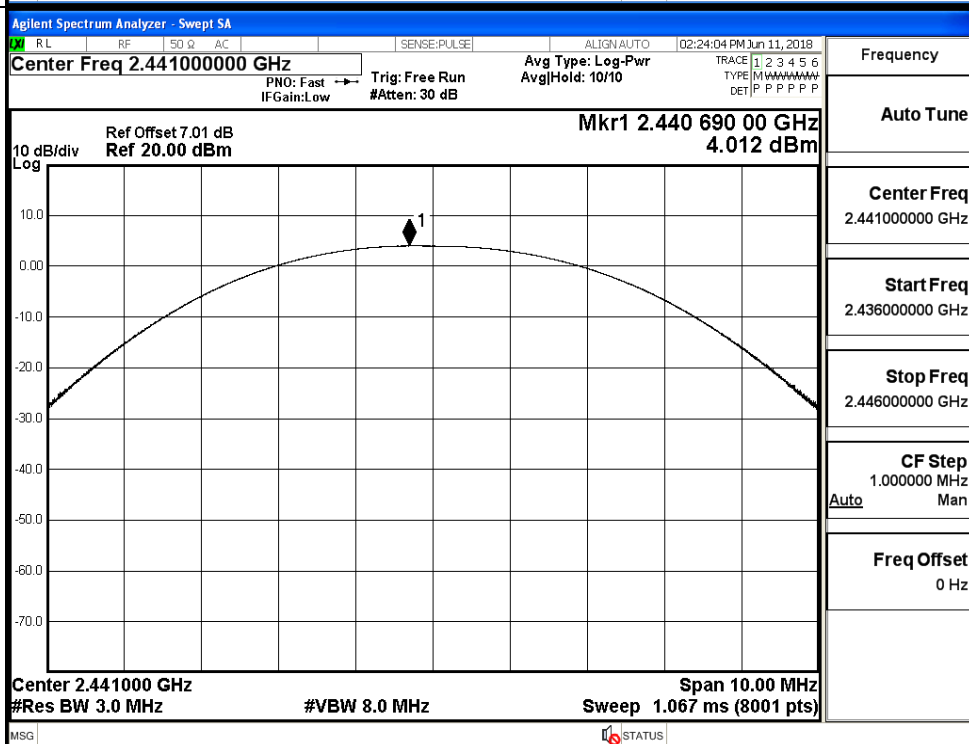
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.910	30	PASS
	MCH	4.012	30	PASS
	HCH	4.455	30	PASS
$\pi/4$ DQPSK	LCH	1.946	21	PASS
	MCH	3.478	21	PASS
	HCH	3.939	21	PASS

Test Graphs

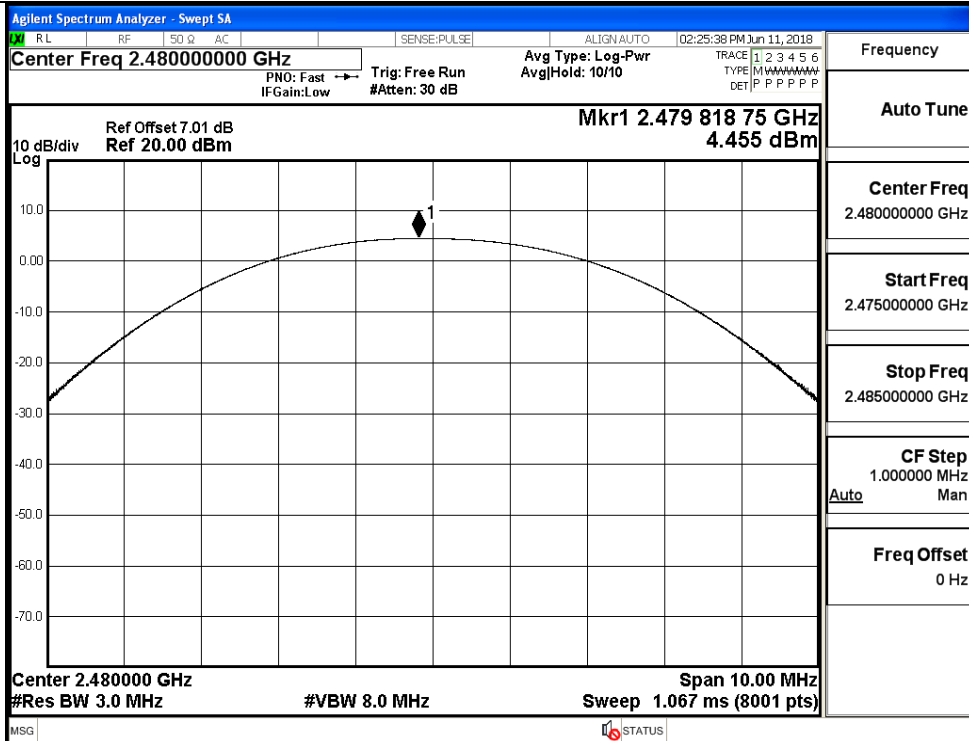
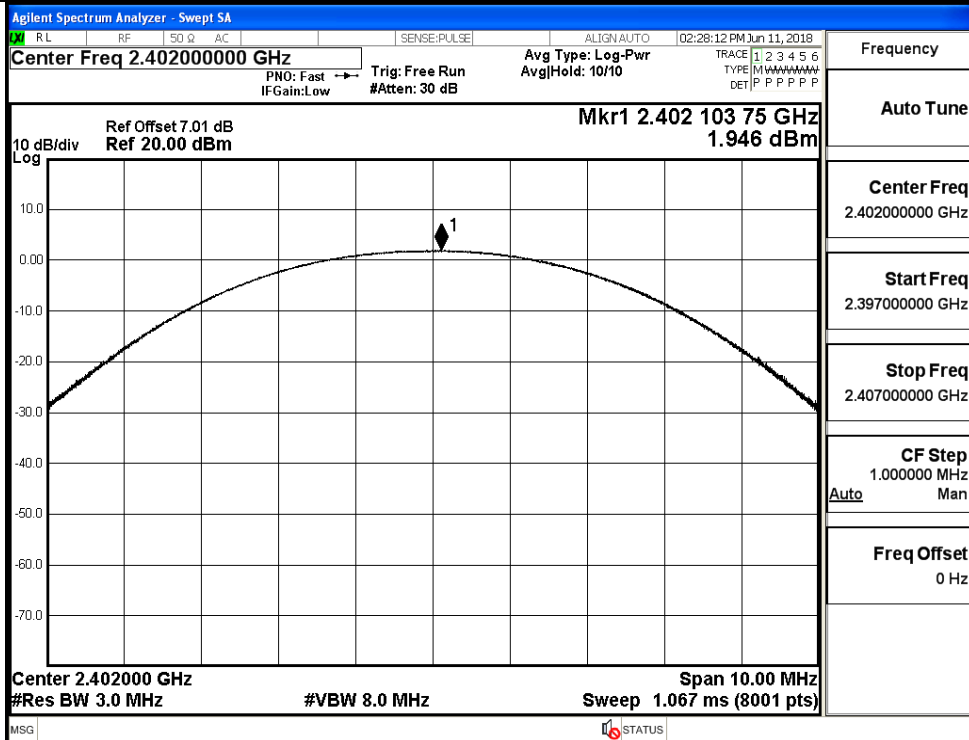
GFSK/LCH

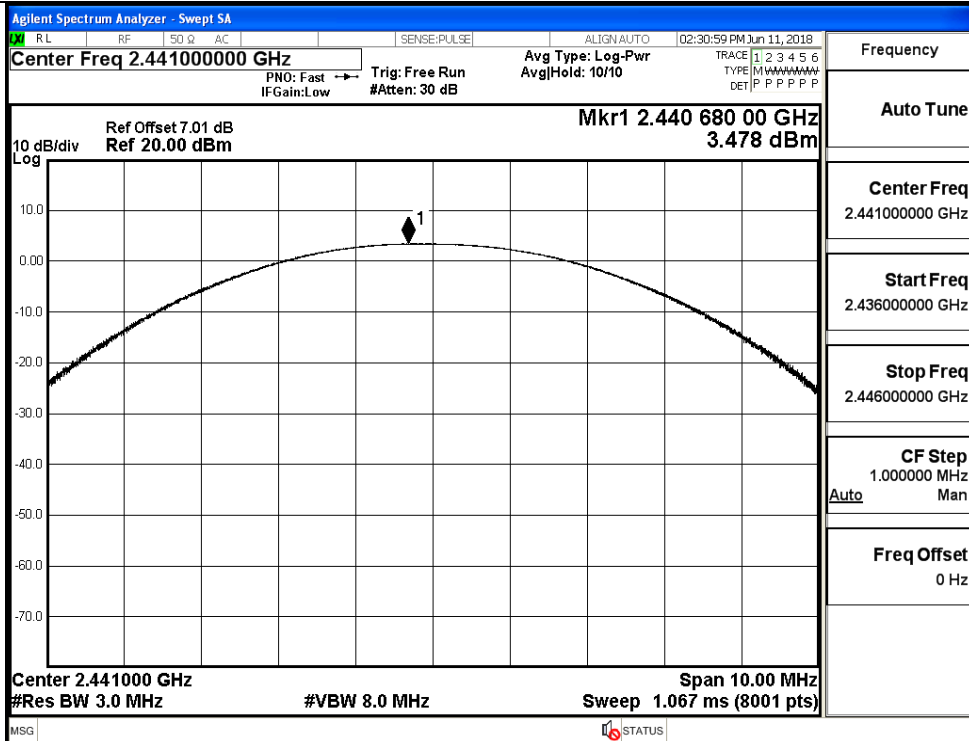
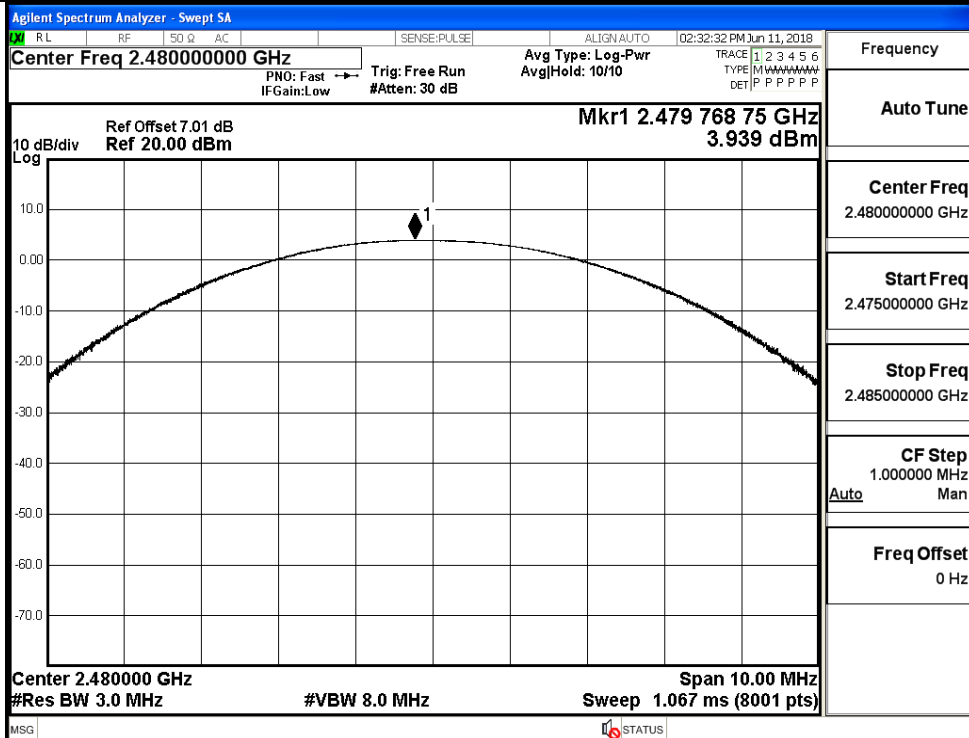


GFSK/MCH



GFSK/HCH

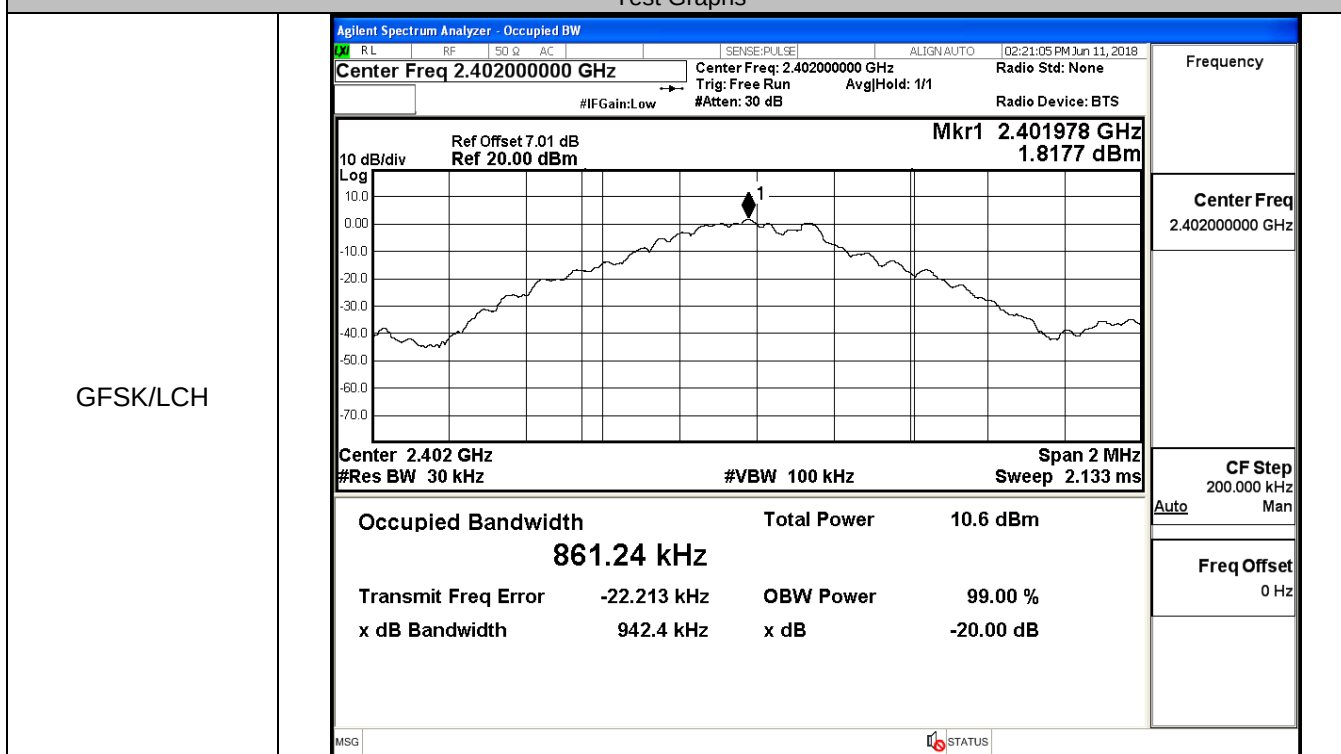
 π /4DQPSK/LCH

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

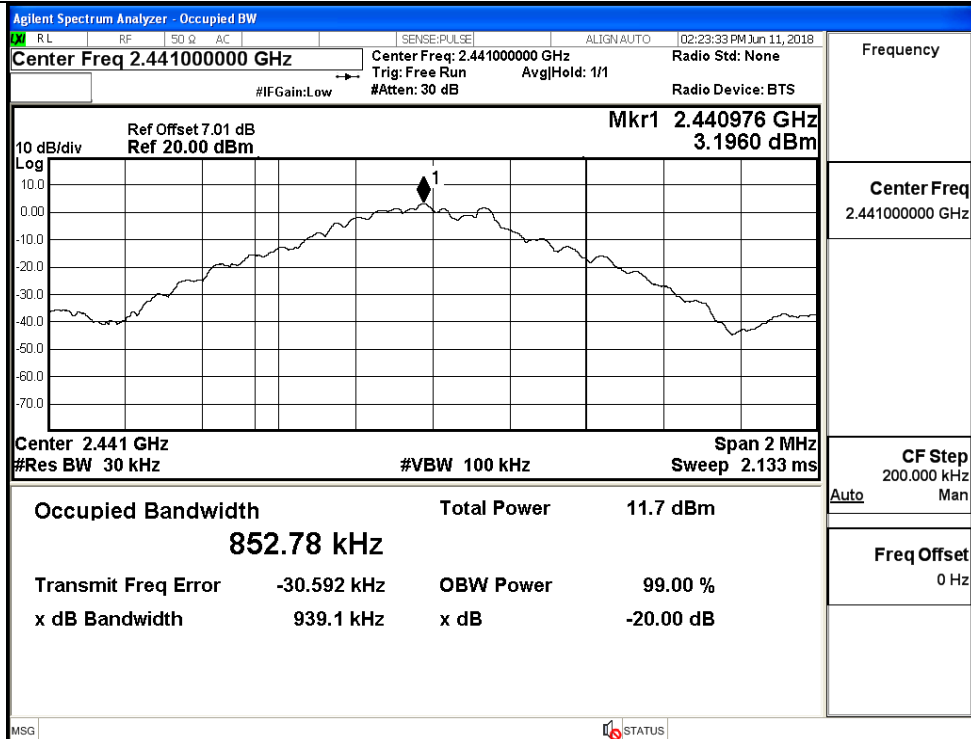
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9424	Not Specified	PASS
	MCH	0.9391	Not Specified	PASS
	HCH	0.9398	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.265	Not Specified	PASS
	MCH	1.241	Not Specified	PASS
	HCH	1.239	Not Specified	PASS

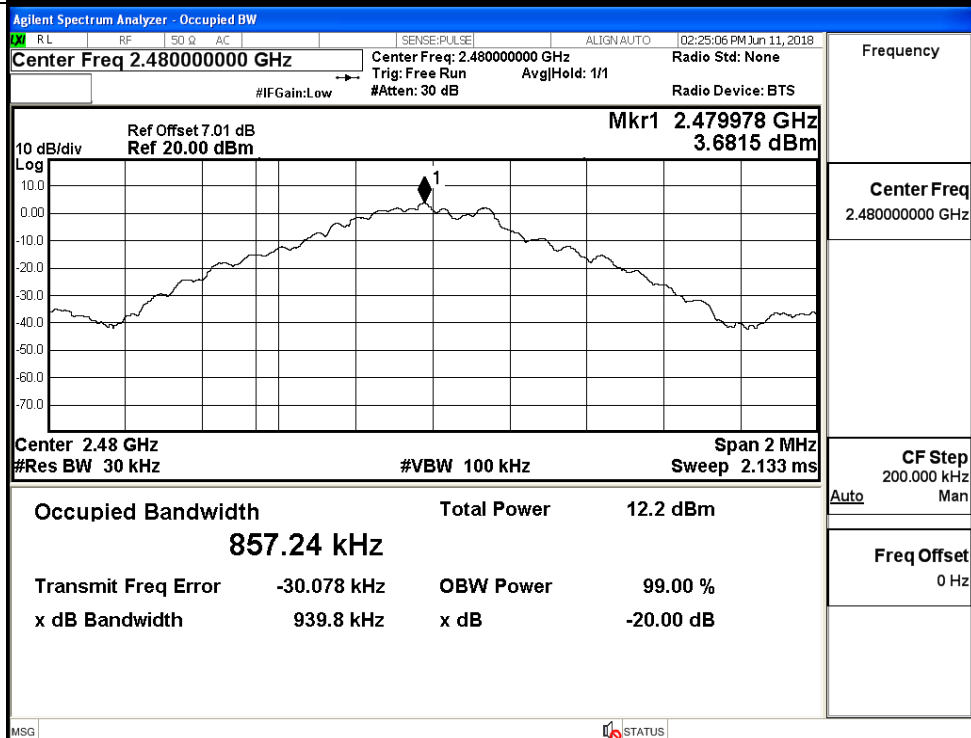
Test Graphs

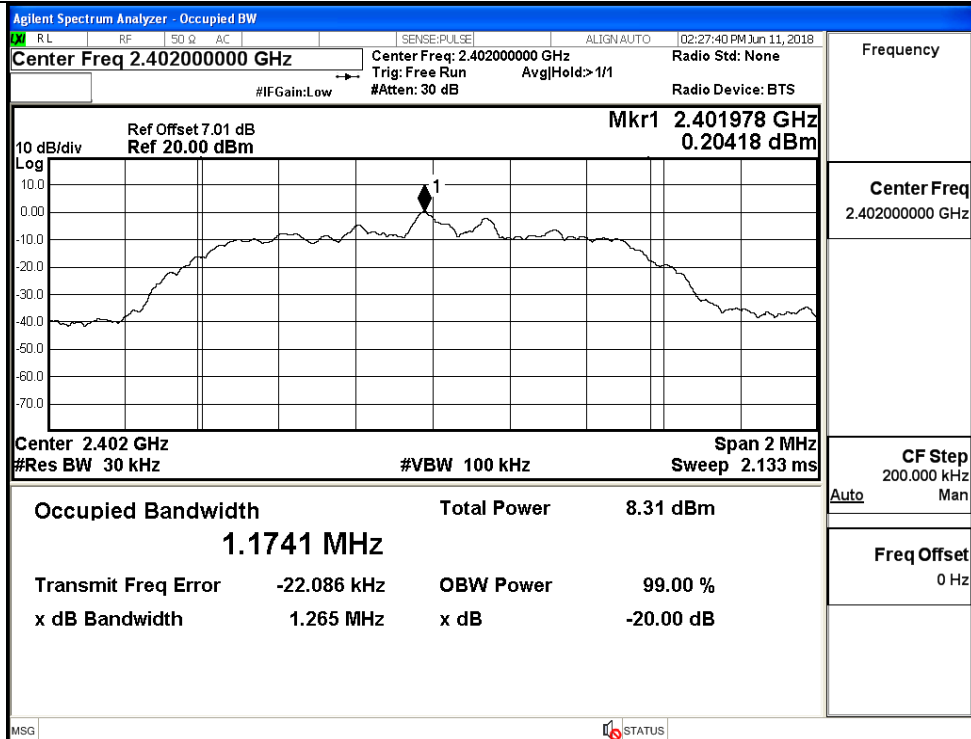
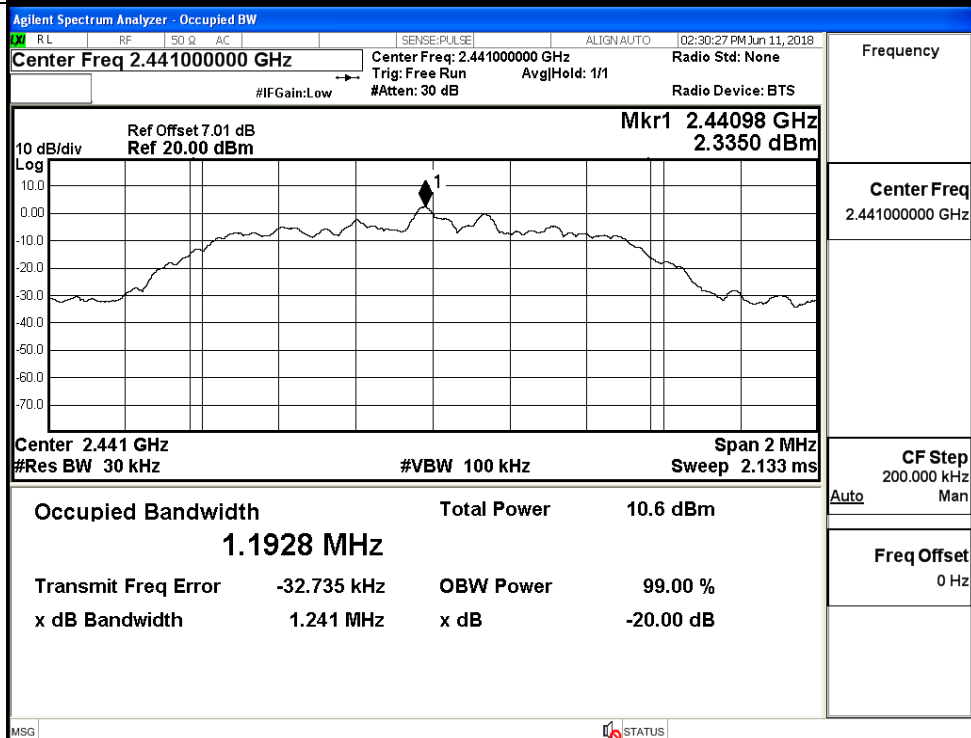


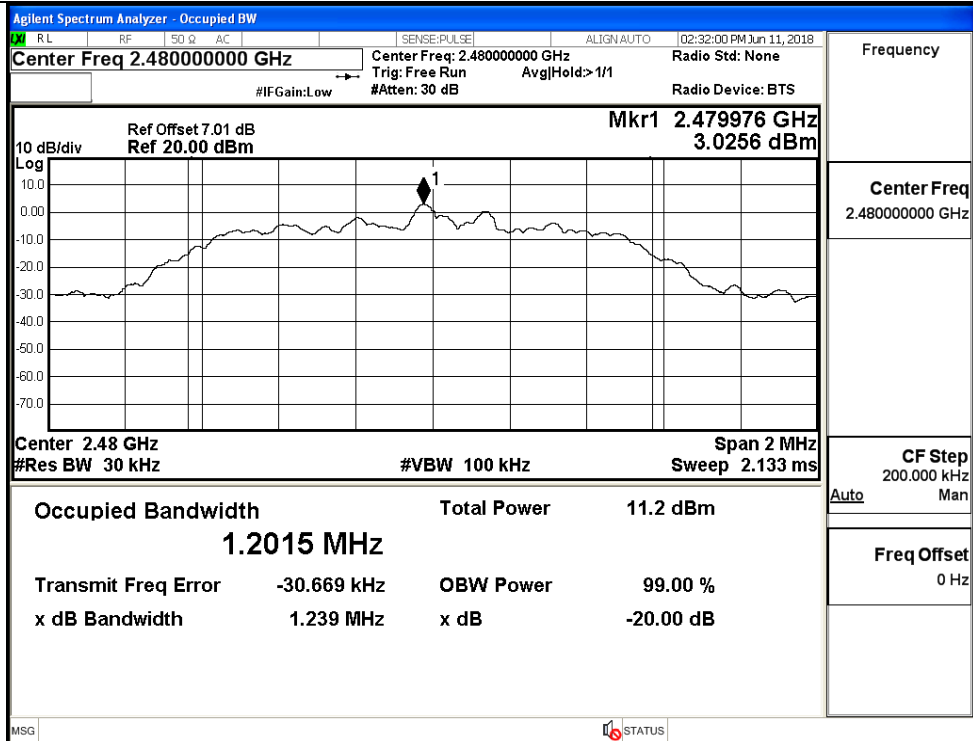
GFSK/MCH



GFSK/HCH



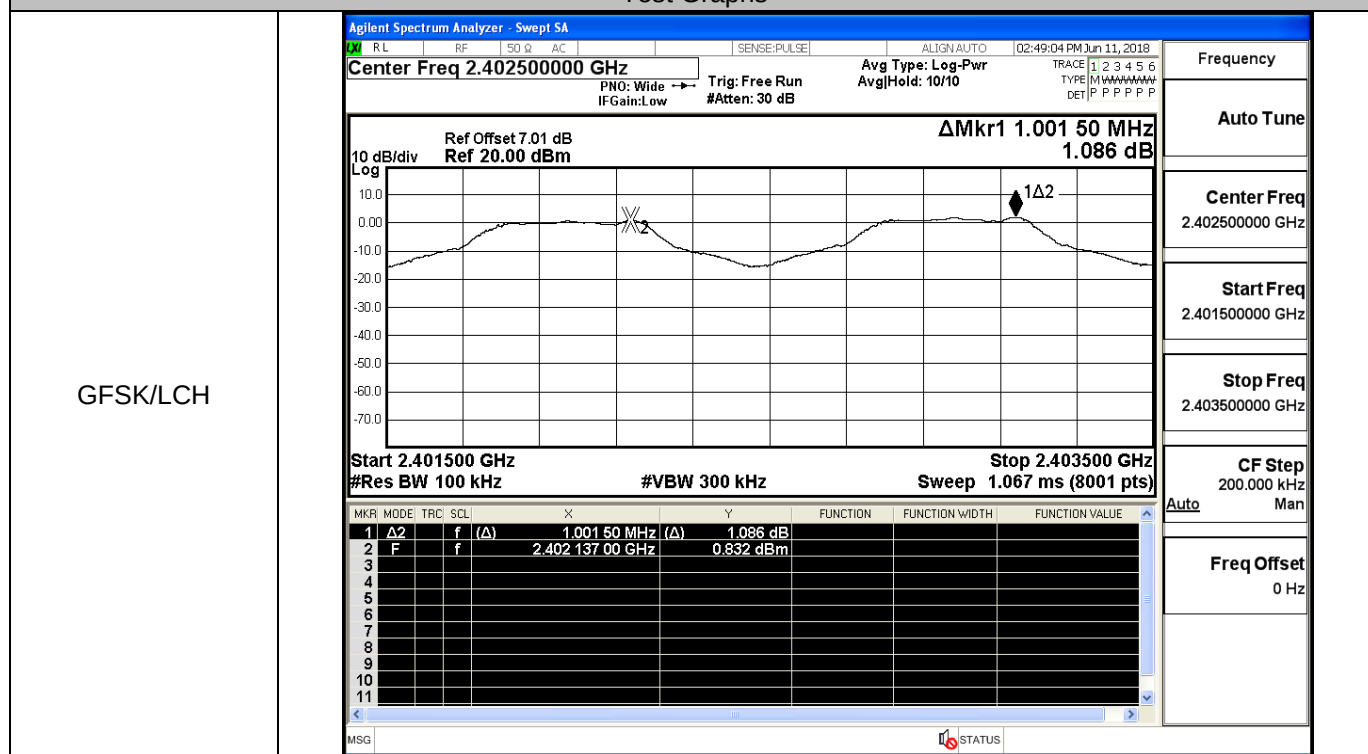
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

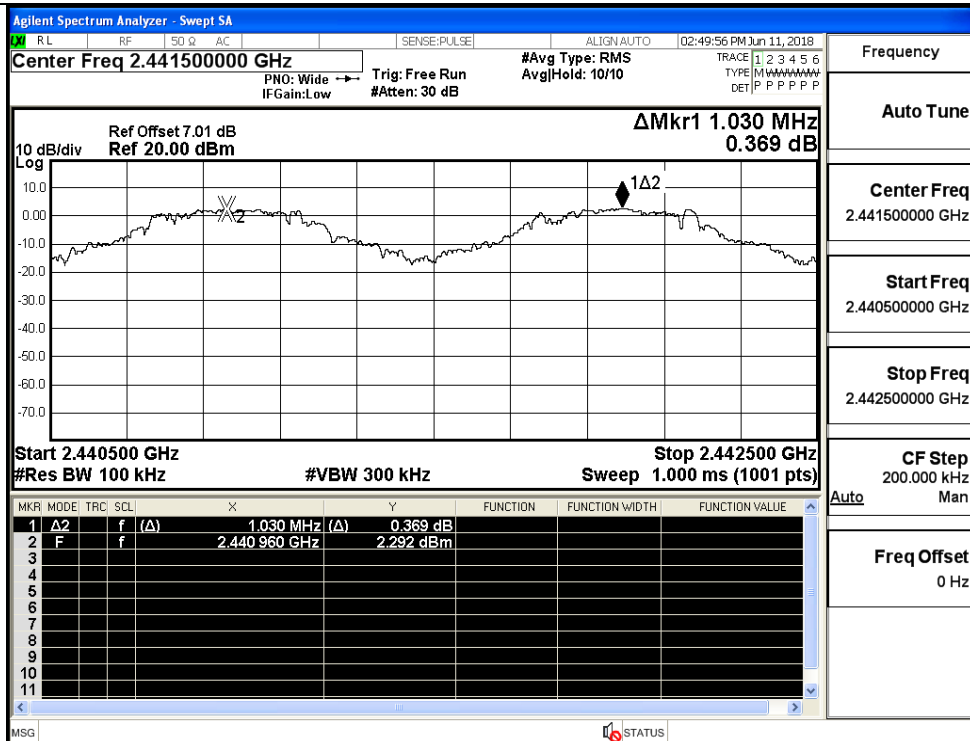
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.001	0.628	PASS
	MCH	1.030	0.628	PASS
	HCH	0.844	0.628	PASS
$\pi/4$ DQPSK	LCH	1.112	0.843	PASS
	MCH	1.046	0.843	PASS
	HCH	1.132	0.843	PASS

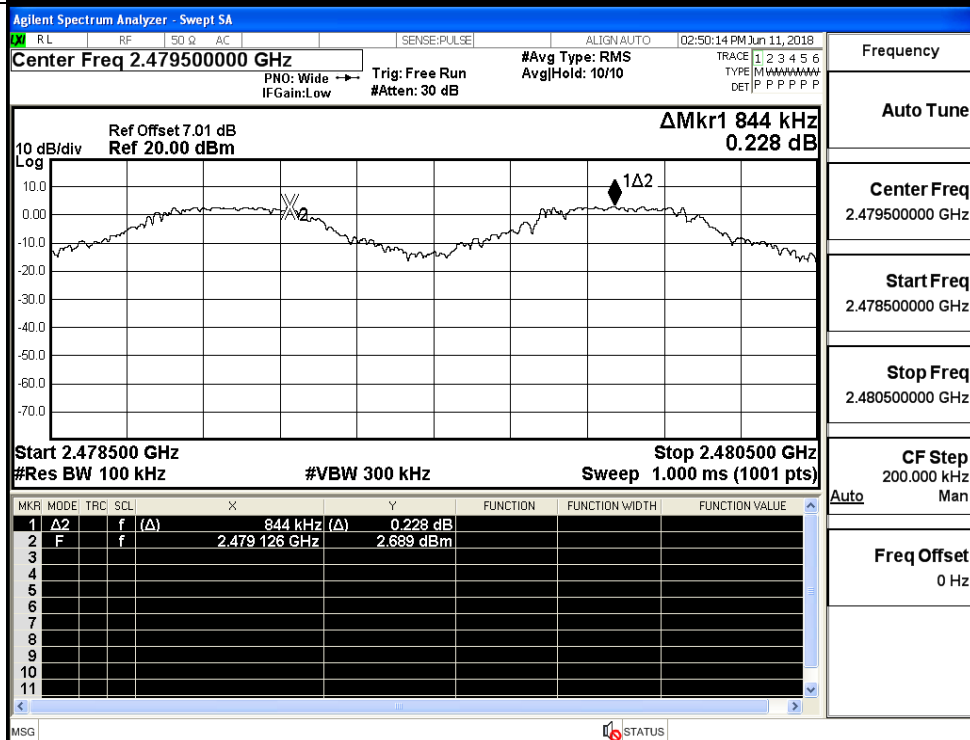
Test Graphs

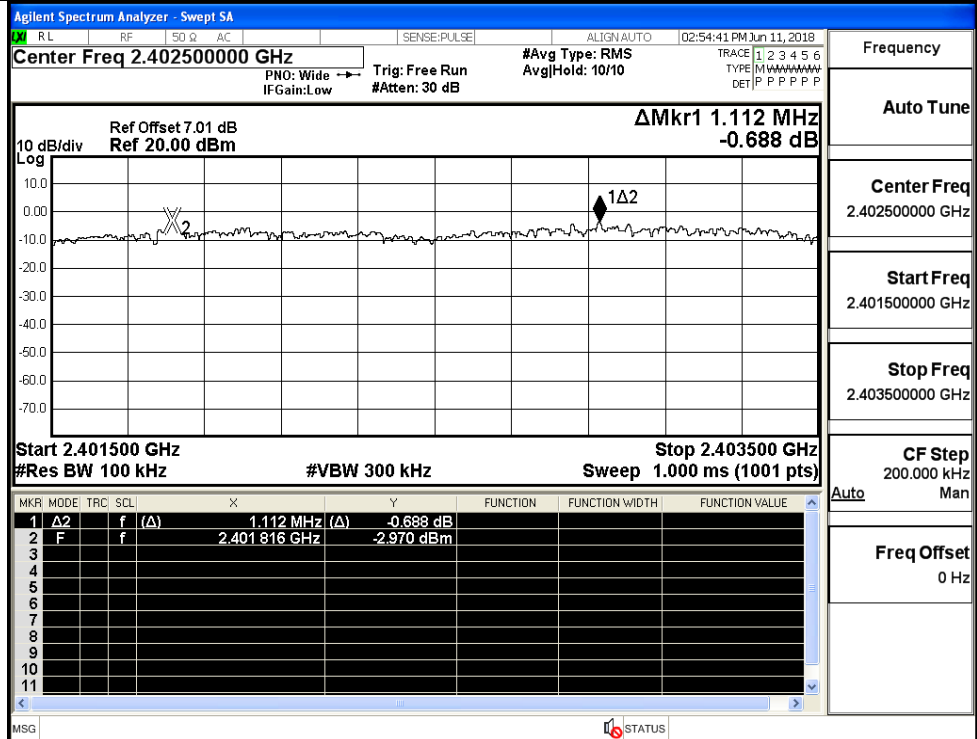
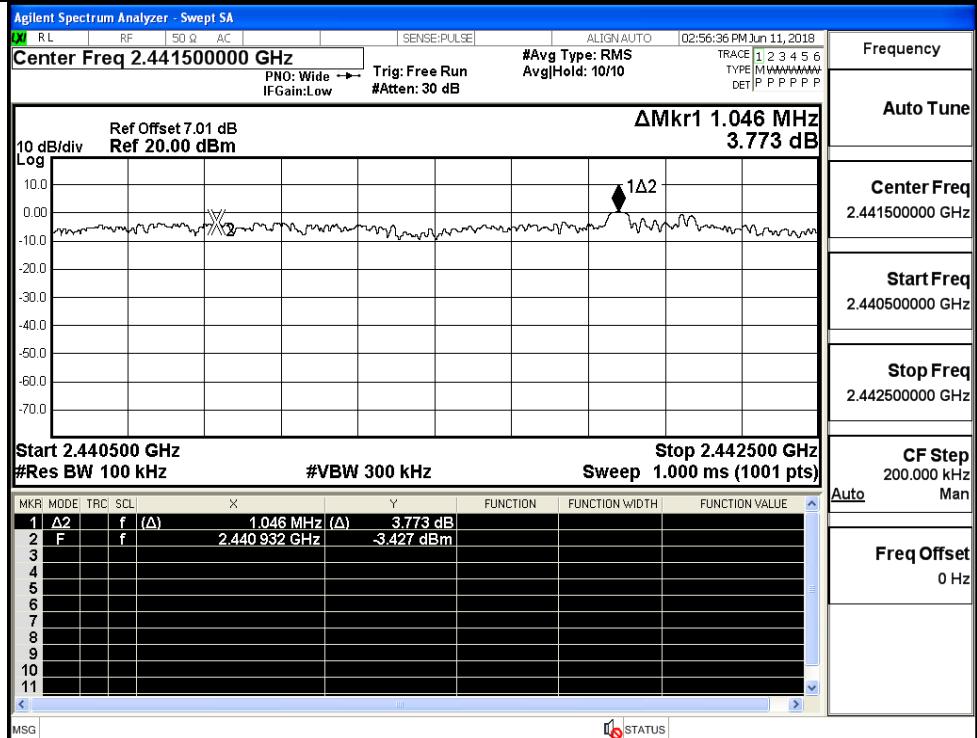


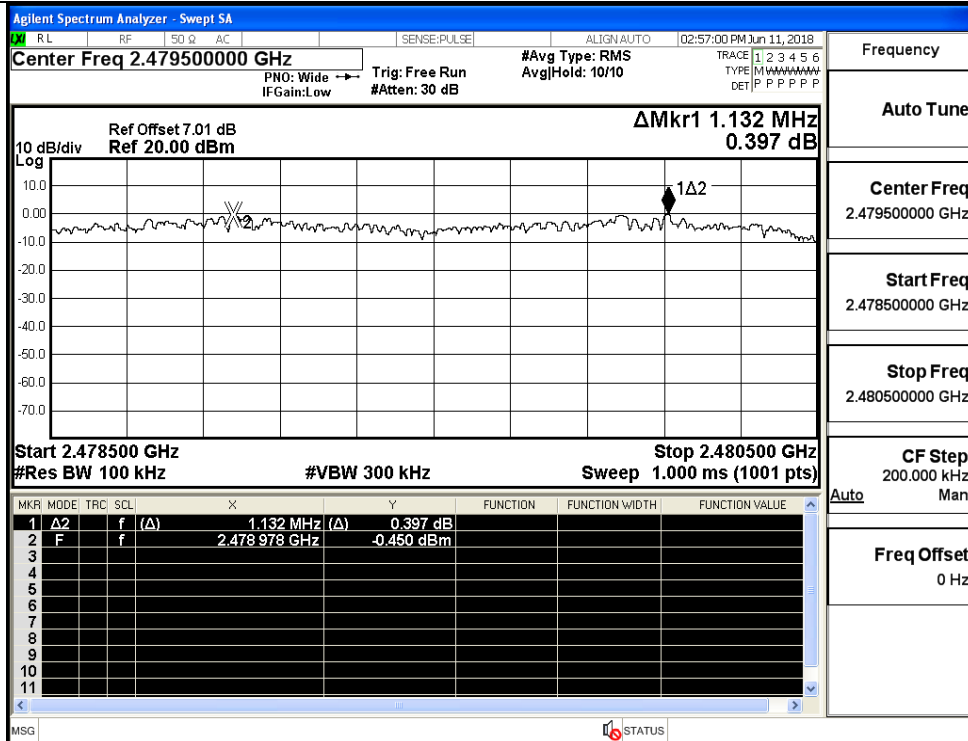
GFSK/MCH



GFSK/HCH



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

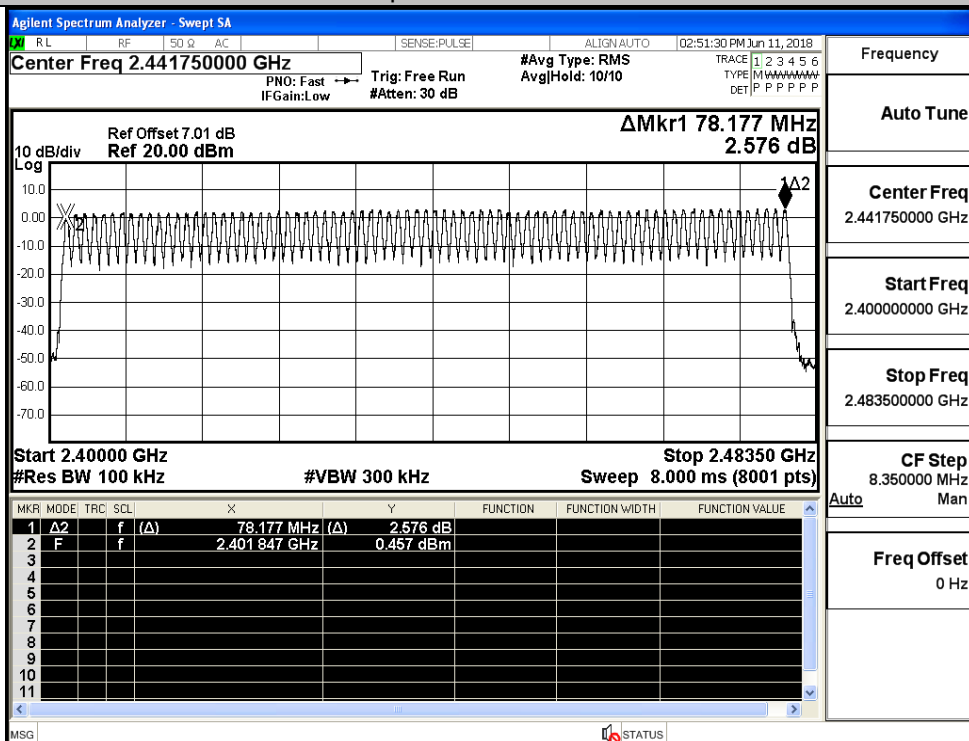
$\pi/4$ DQPSK/HCH

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

Test Graphs

GFSK/Hop



Frequency

Auto Tune

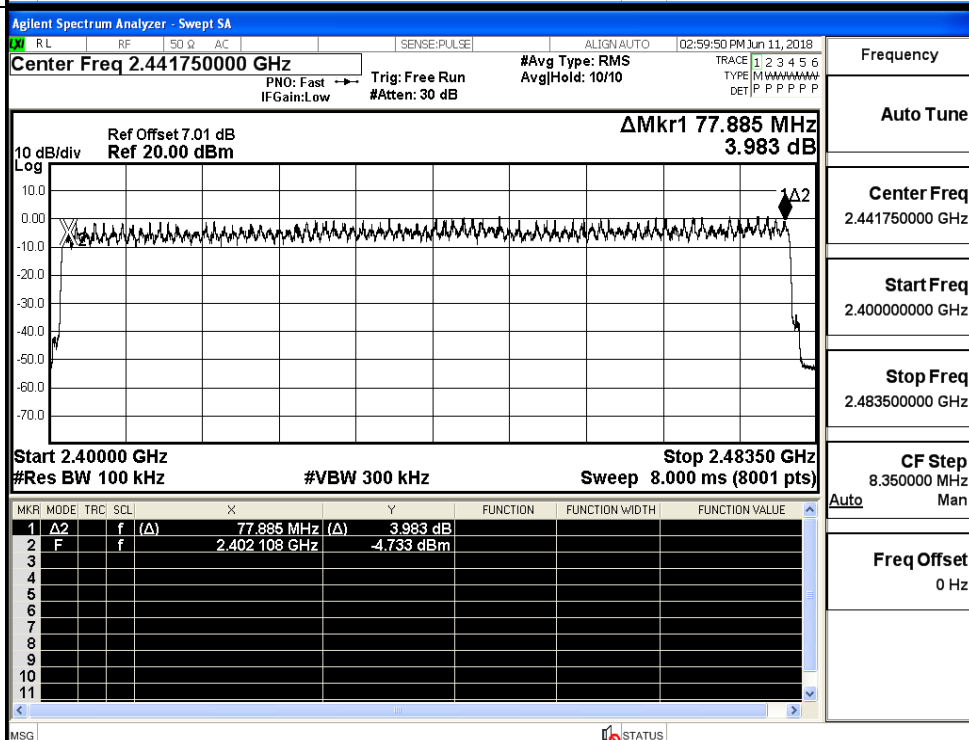
Center Freq
2.441750000 GHz

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

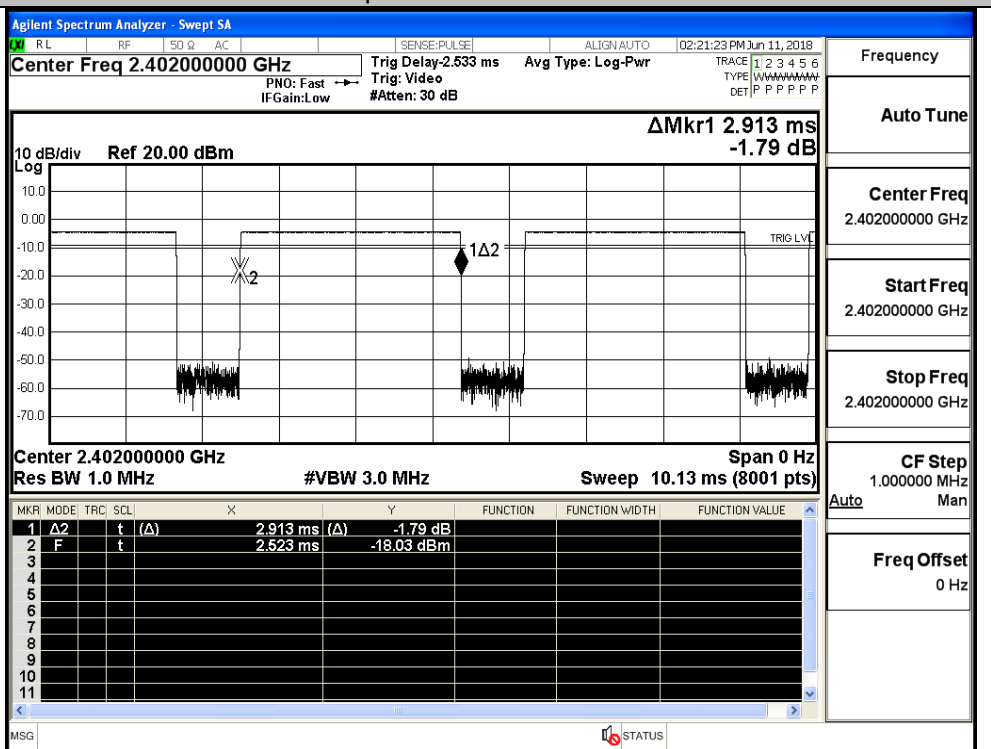
Freq Offset
0 Hz

A.5 Dwell Time

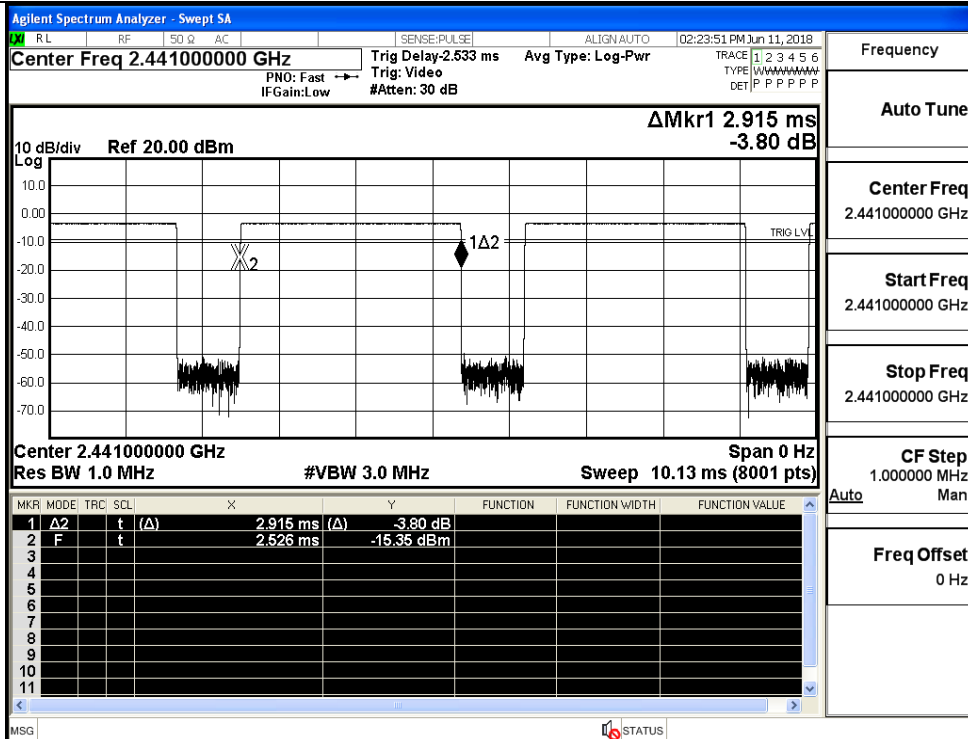
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.91	106.7	0.31	0.4	PASS
	DH5	MCH	2.91	106.7	0.31	0.4	PASS
	DH5	HCH	2.91	106.7	0.31	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.91	106.7	0.312	0.4	PASS
	2DH5	MCH	2.91	106.7	0.312	0.4	PASS
	2DH5	HCH	2.91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

Test Graphs

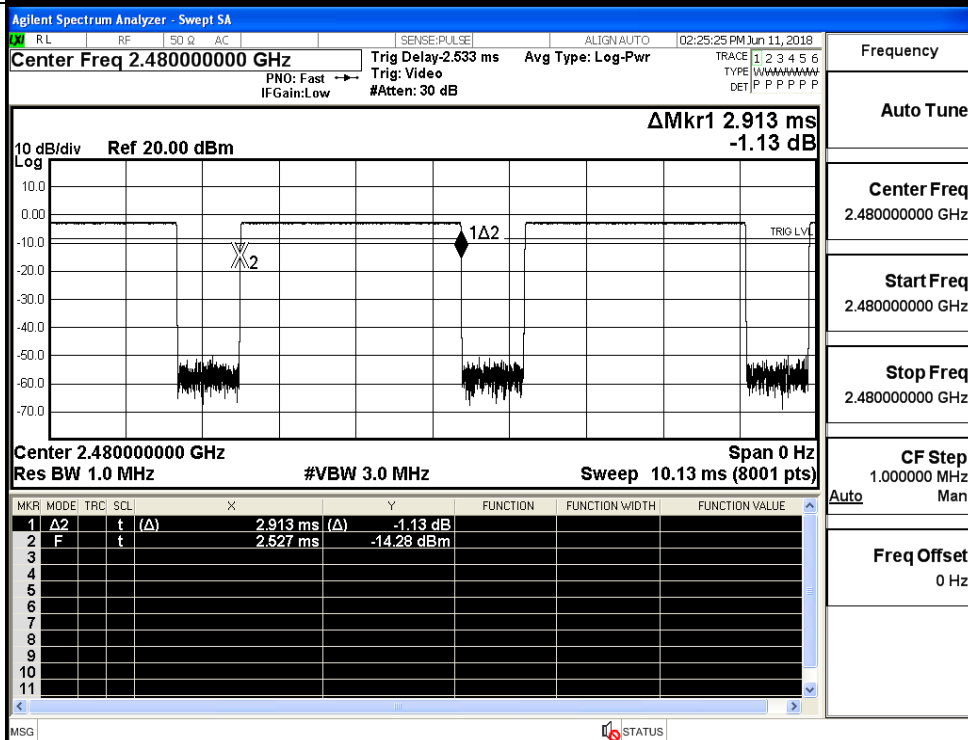
GFSK_DH5/LCH



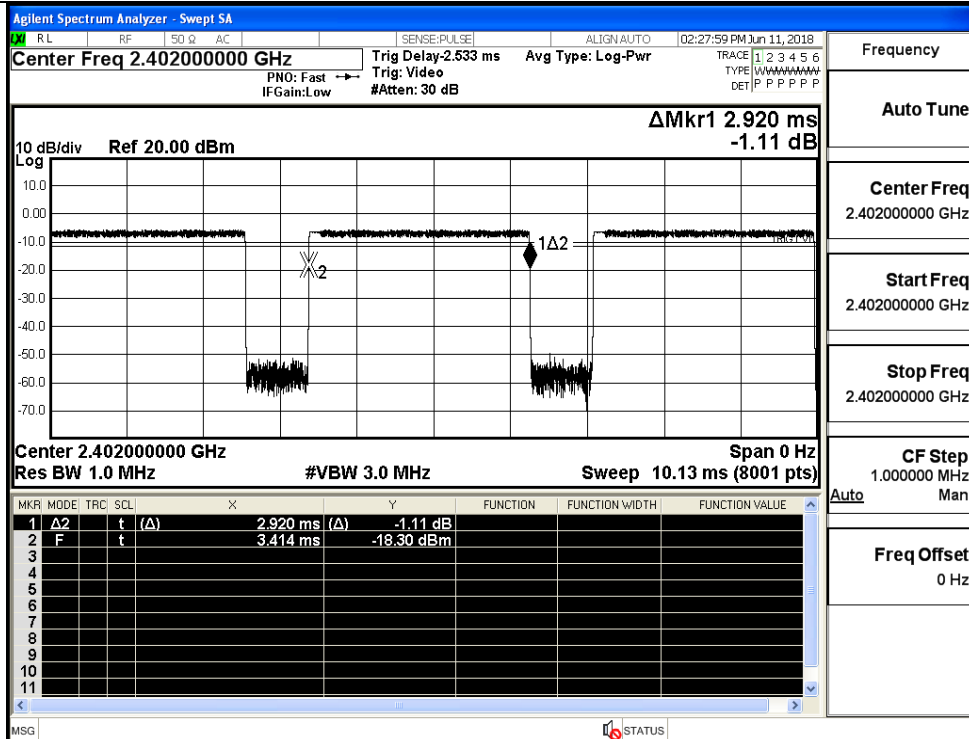
GFSK_DH5/MCH



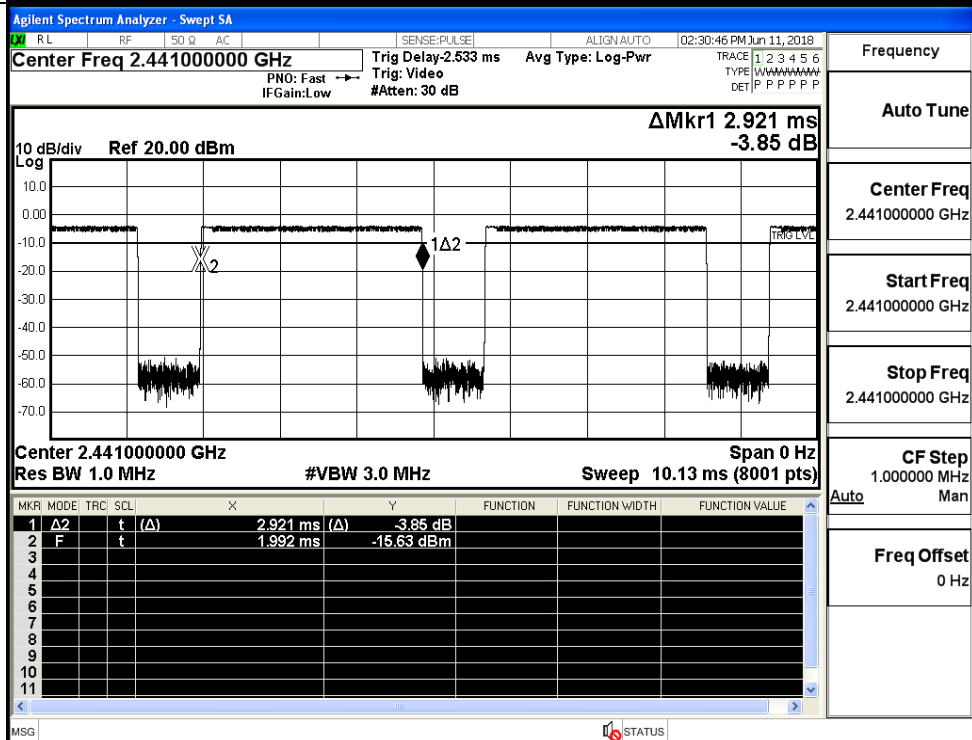
GFSK_DH5/HCH



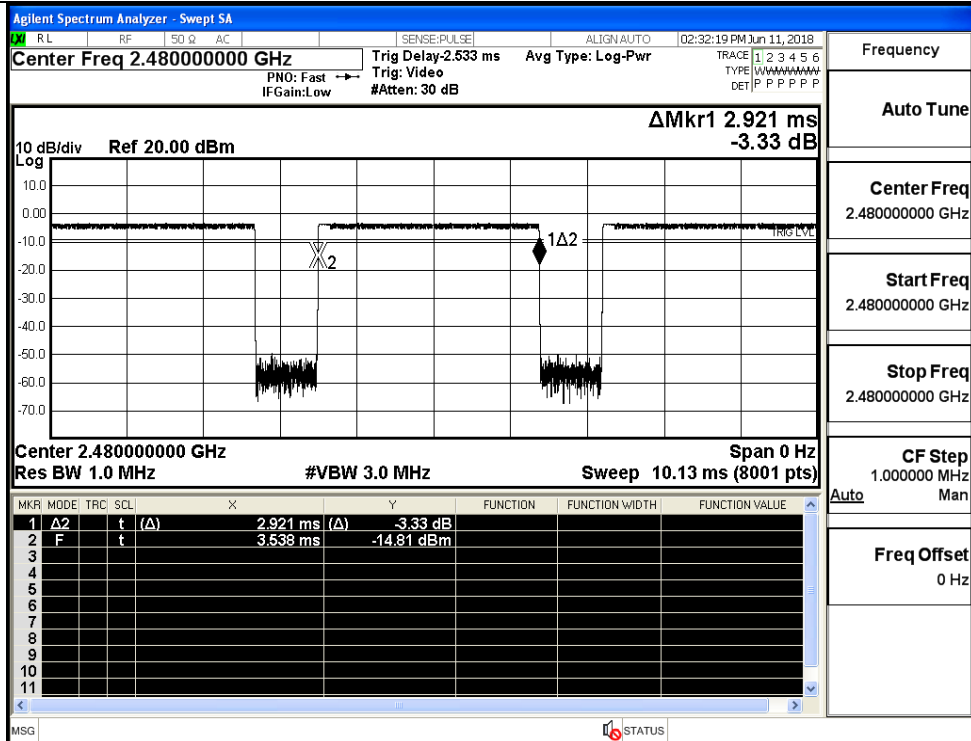
$\pi/4$ DQPSK
_2DH5/LCH



$\pi/4$ DQPSK
_2DH5/MCH



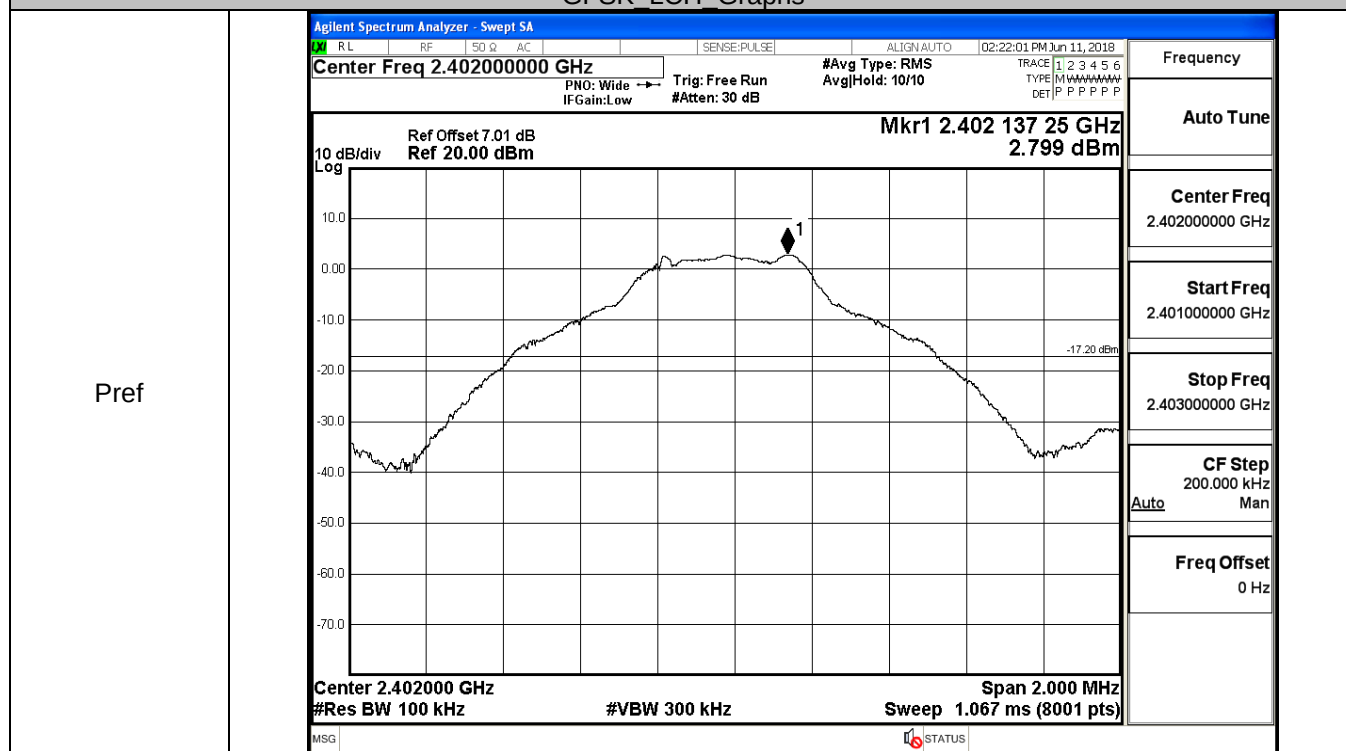
$\pi/4$ DQPSK
_2DH5/HCH



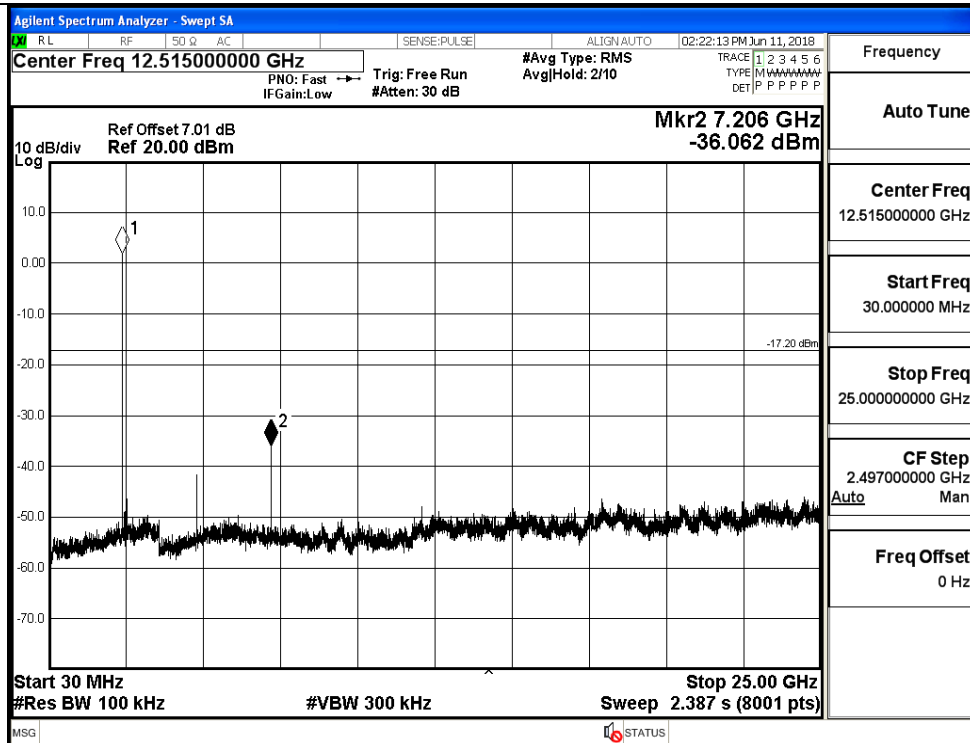
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.799	-36.062	-17.201	PASS
	MCH	3.742	-32.102	-16.258	PASS
	HCH	4.284	-26.839	-15.716	PASS
$\pi/4$ DQPSK	LCH	0.682	-46.479	-19.318	PASS
	MCH	2.45	-40.557	-17.550	PASS
	HCH	3.4	-38.578	-16.600	PASS

GFSK LCH Graphs

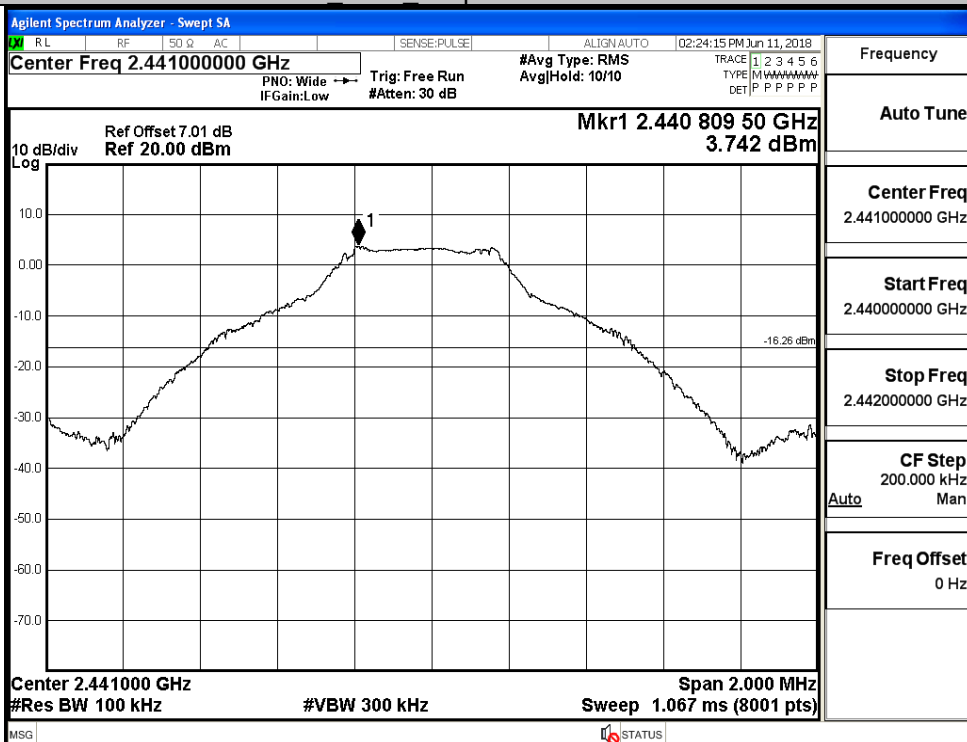


Puw

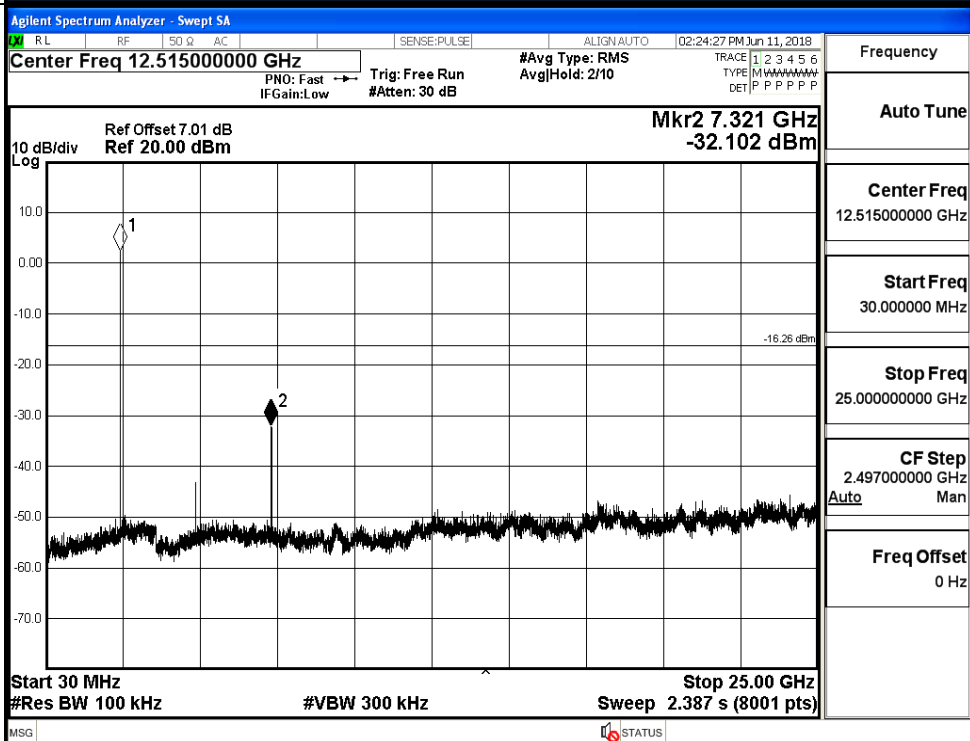


GFSK MCH Graphs

Pref

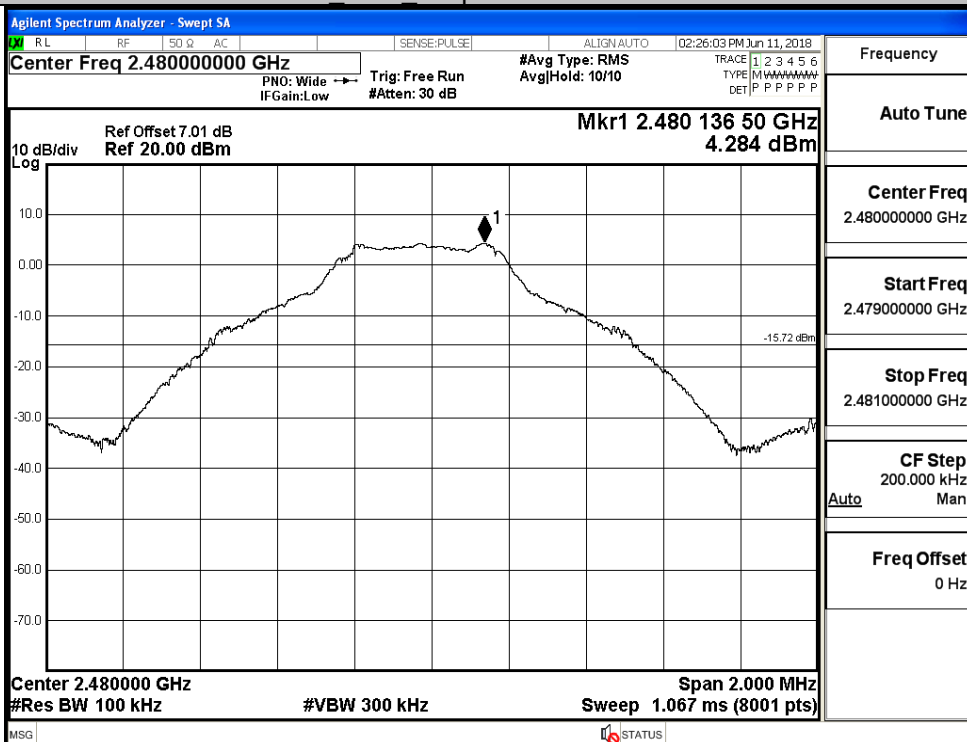


Puw

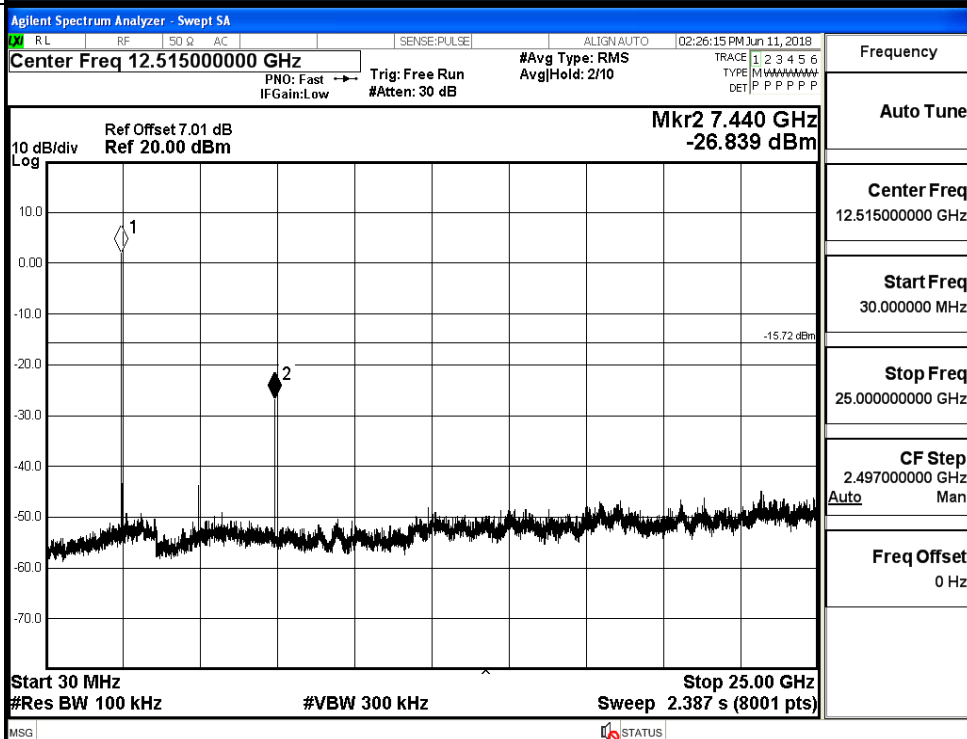


GFSK HCH Graphs

Pref

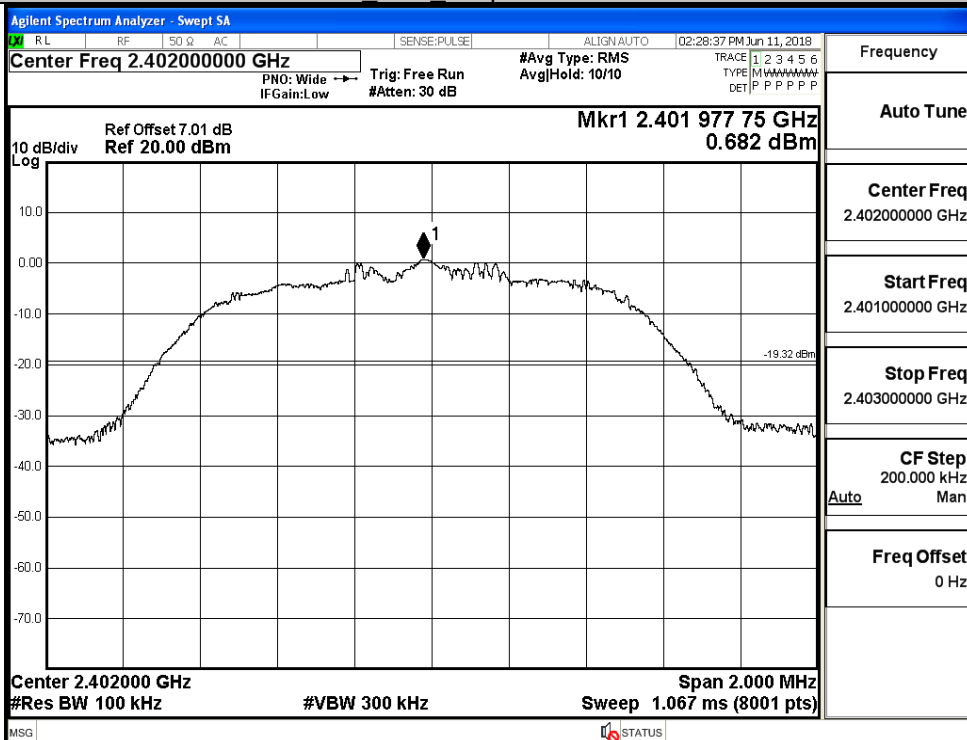


Puw

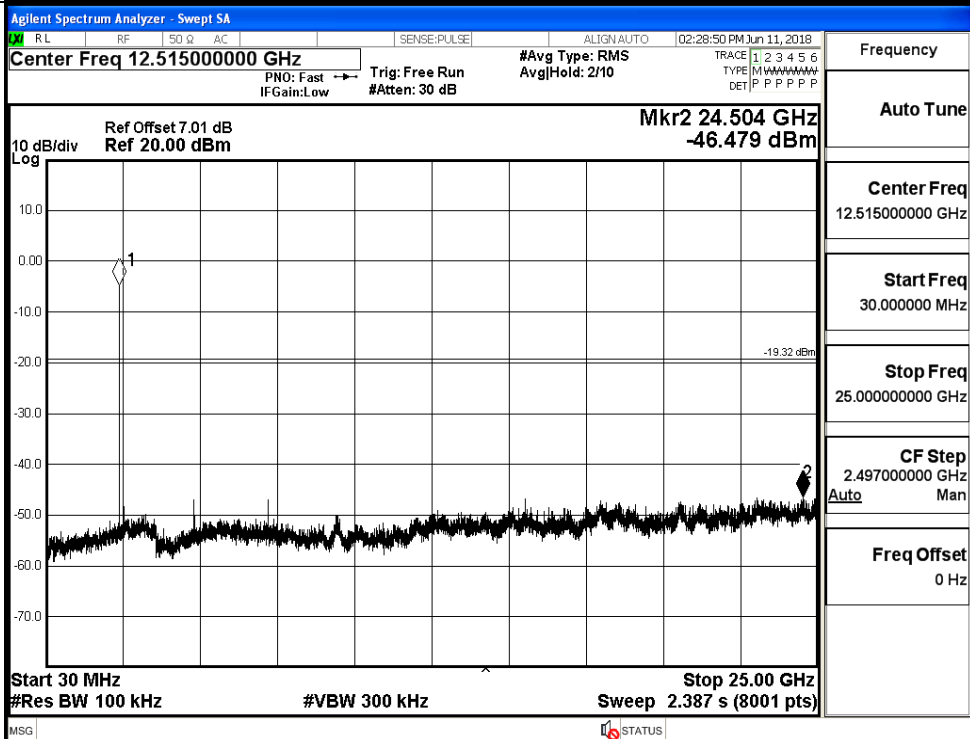


$\pi/4$ DQPSK LCH Graphs

Pref

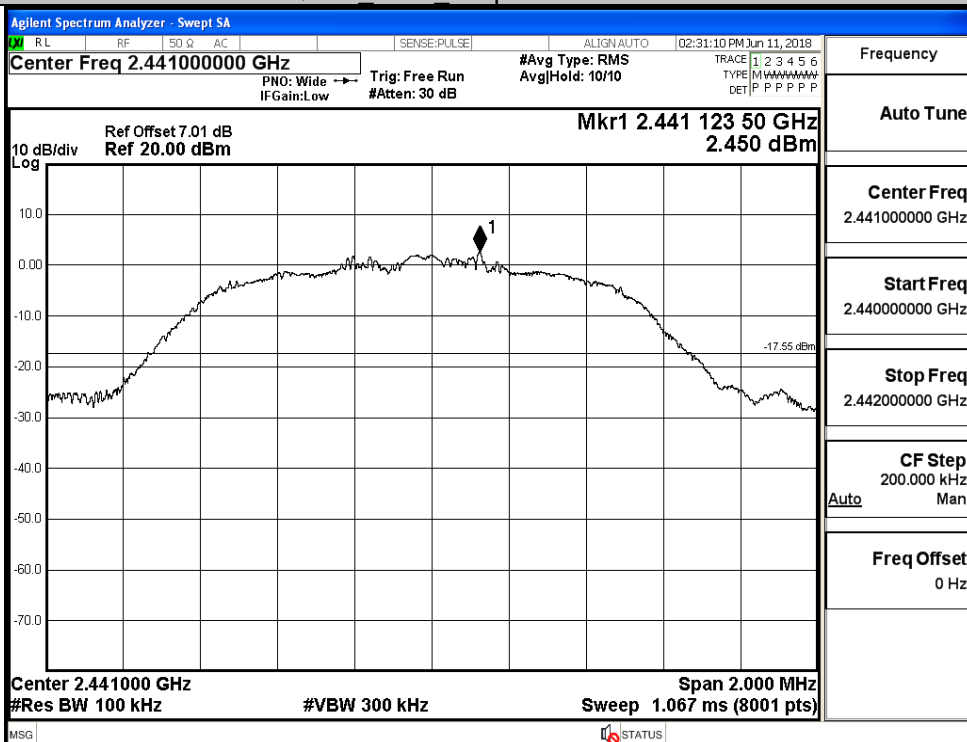


Puw

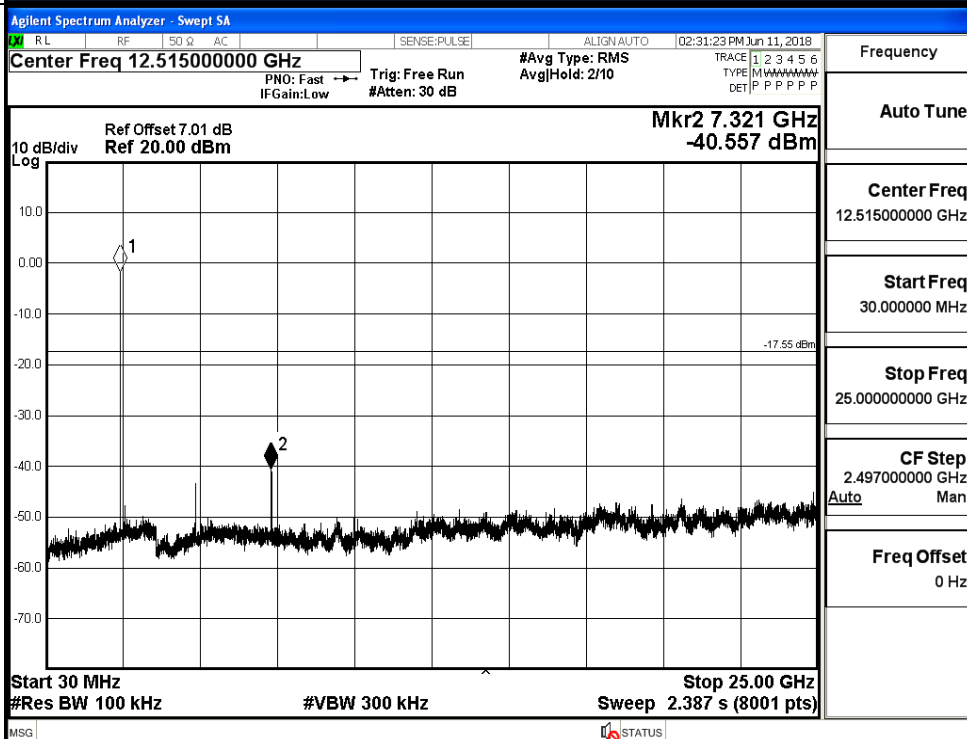


π /4DQPSK MCH Graphs

Pref

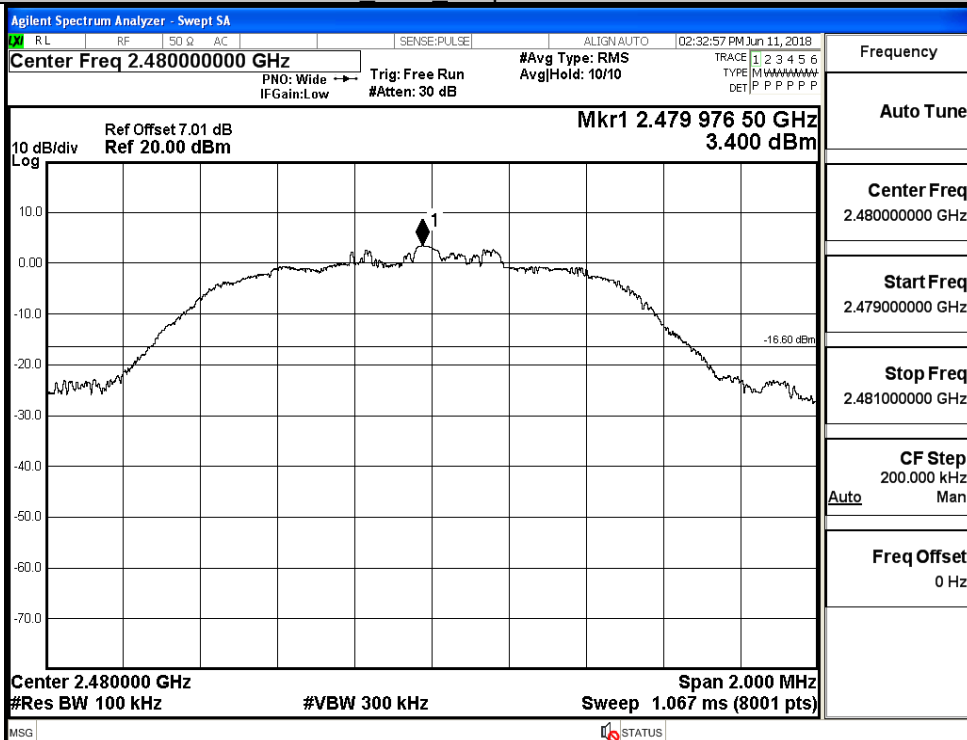


Puw

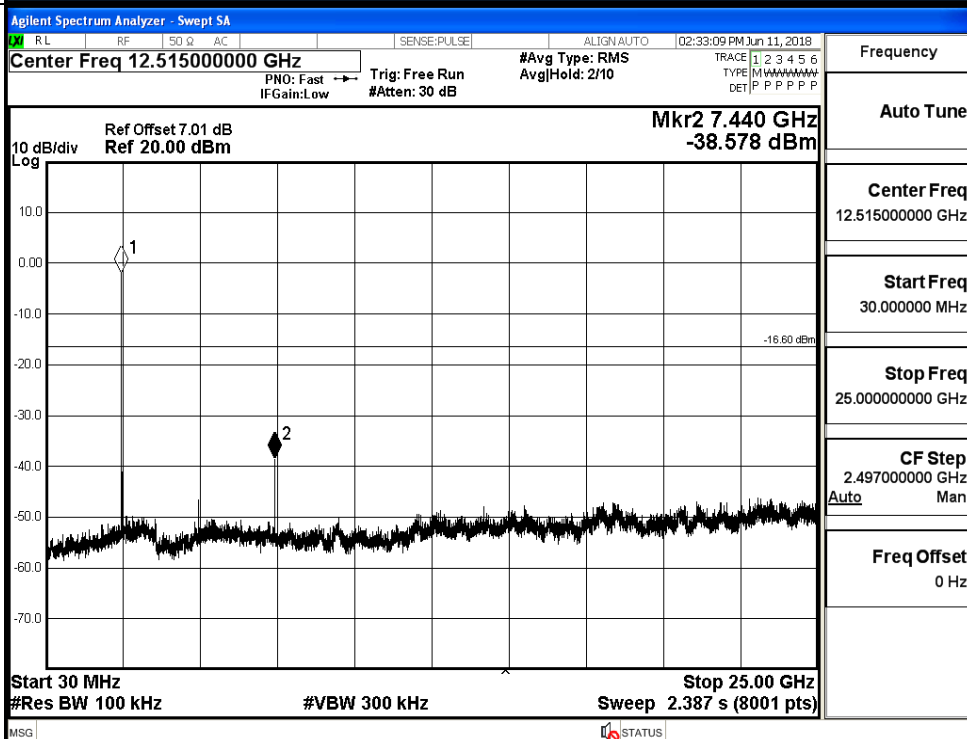


$\pi/4$ DQPSK HCH Graphs

Pref



Puw

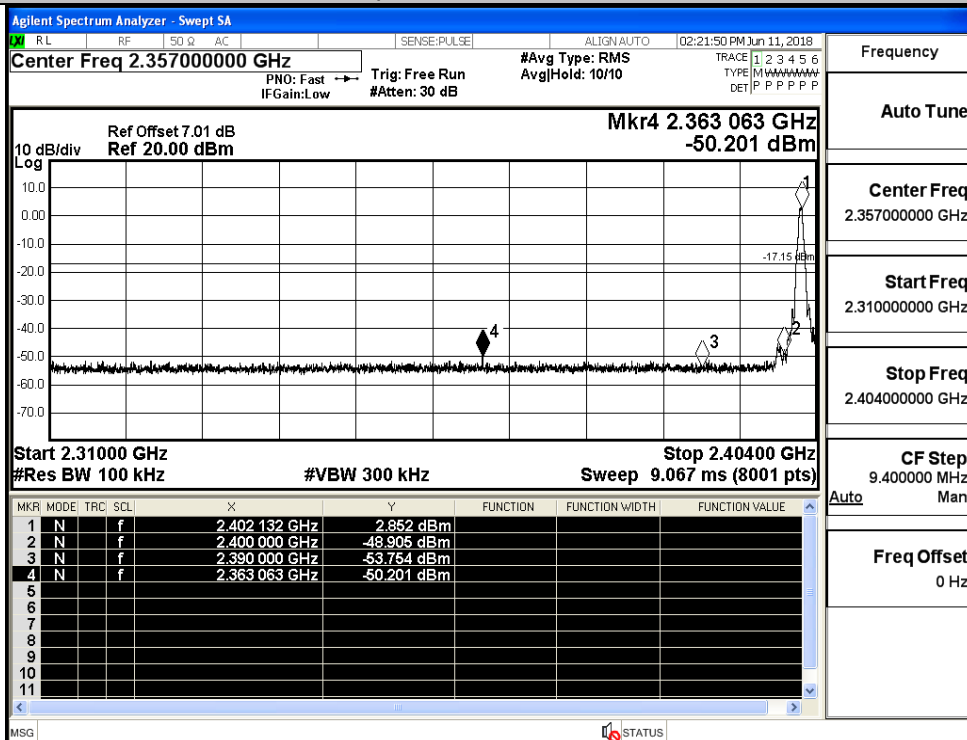


A.7 Band-edge for RF Conducted Emissions

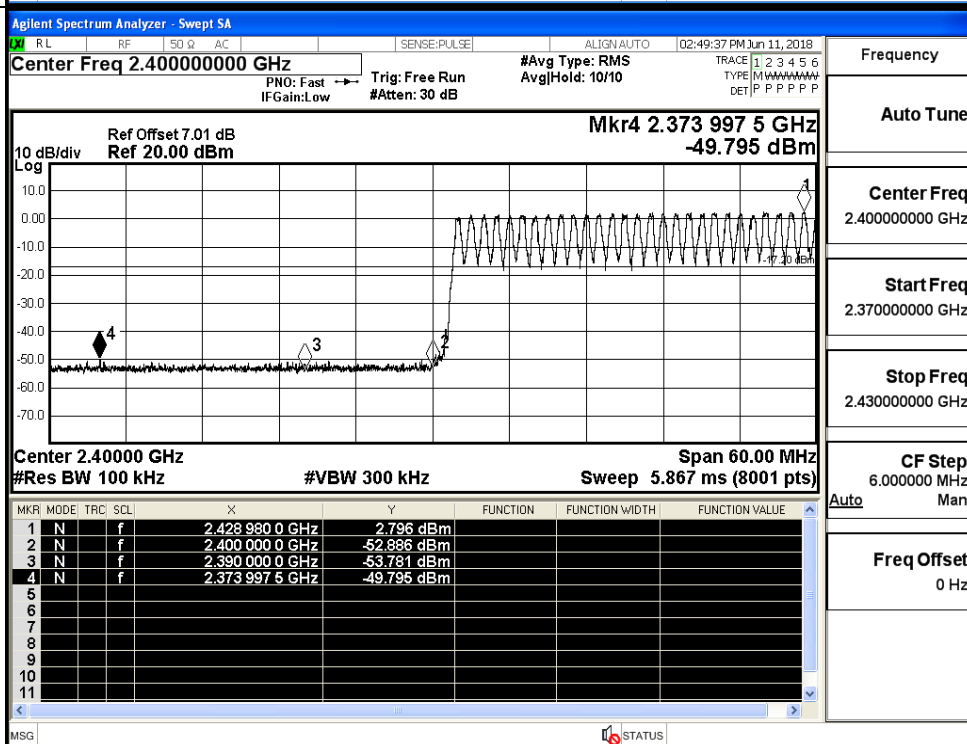
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	2.852	Off	-50.201	-17.15	PASS
			2.796	On	-49.795	-17.2	PASS
	HCH	2480	4.328	Off	-50.669	-15.67	PASS
			3.393	On	-50.384	-16.61	PASS
$\pi/4$ DQPSK	LCH	2402	0.795	Off	-50.468	-19.21	PASS
			-0.145	On	-50.621	-20.15	PASS
	HCH	2480	3.512	Off	-49.815	-16.49	PASS
			1.110	On	-50.125	-18.89	PASS

Test Graphs

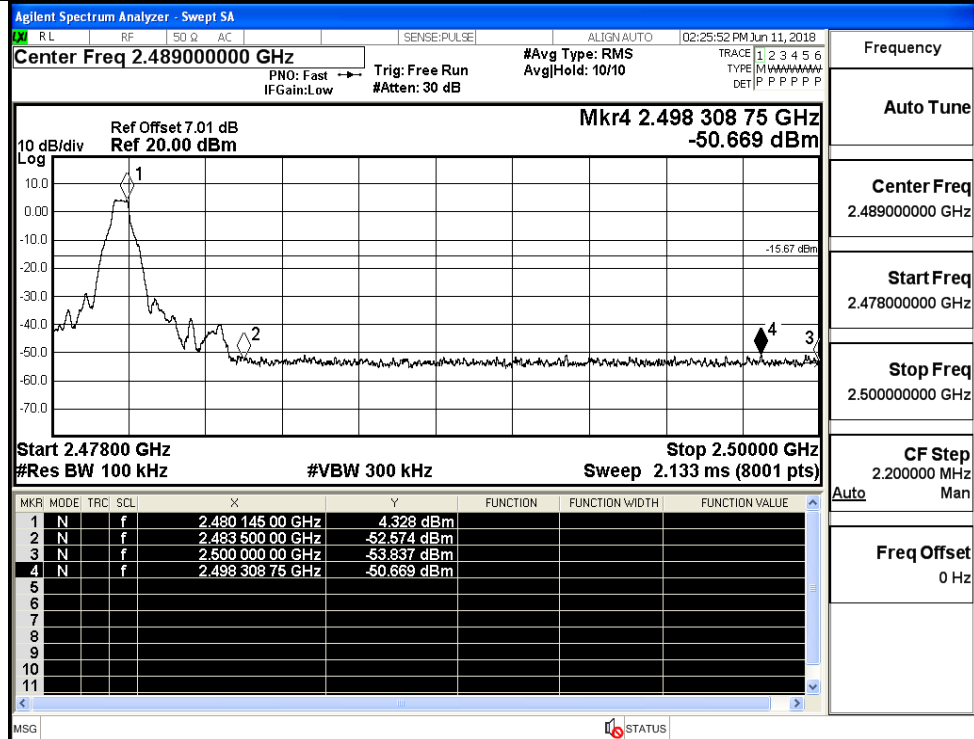
GFSK/LCH/No Hop



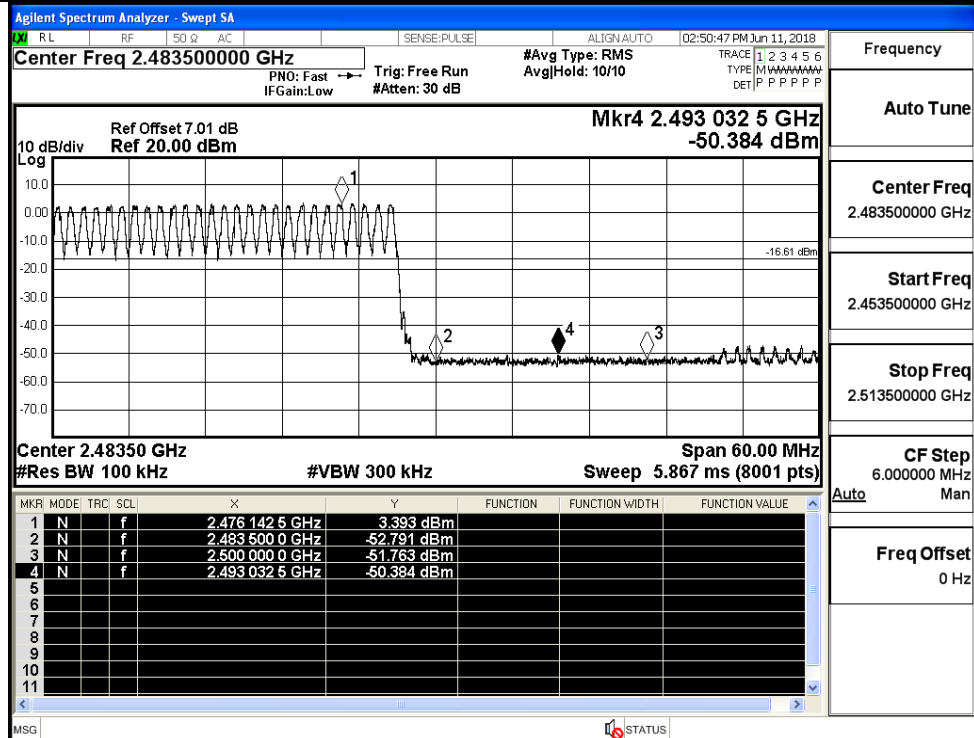
GFSK/LCH/Hop



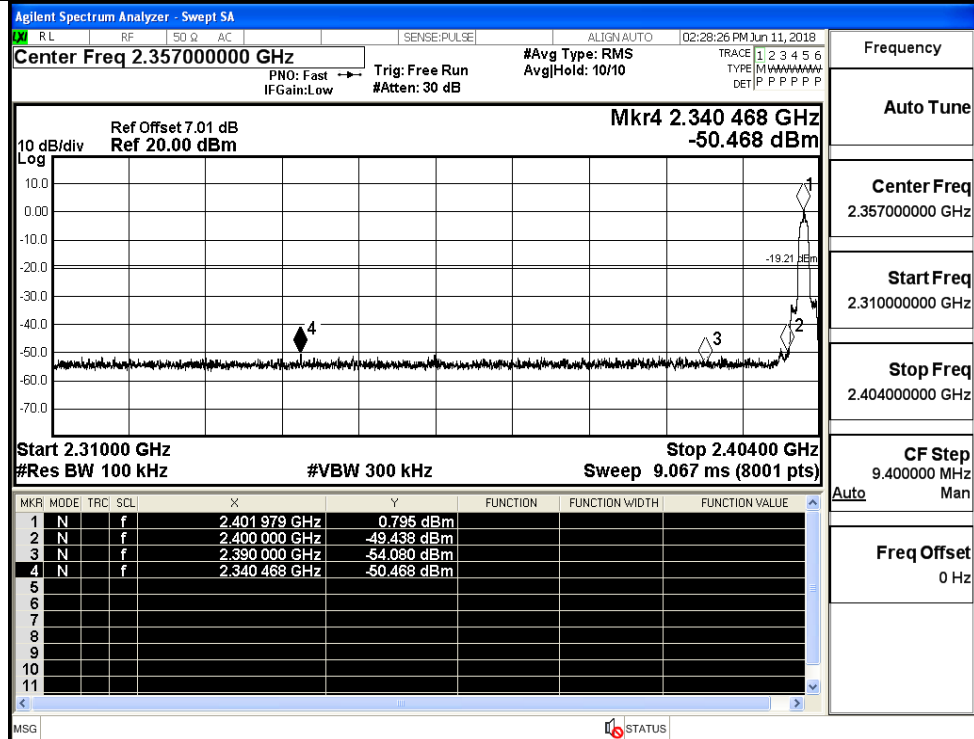
GFSK/HCH/No Hop



GFSK/HCH/Hop



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

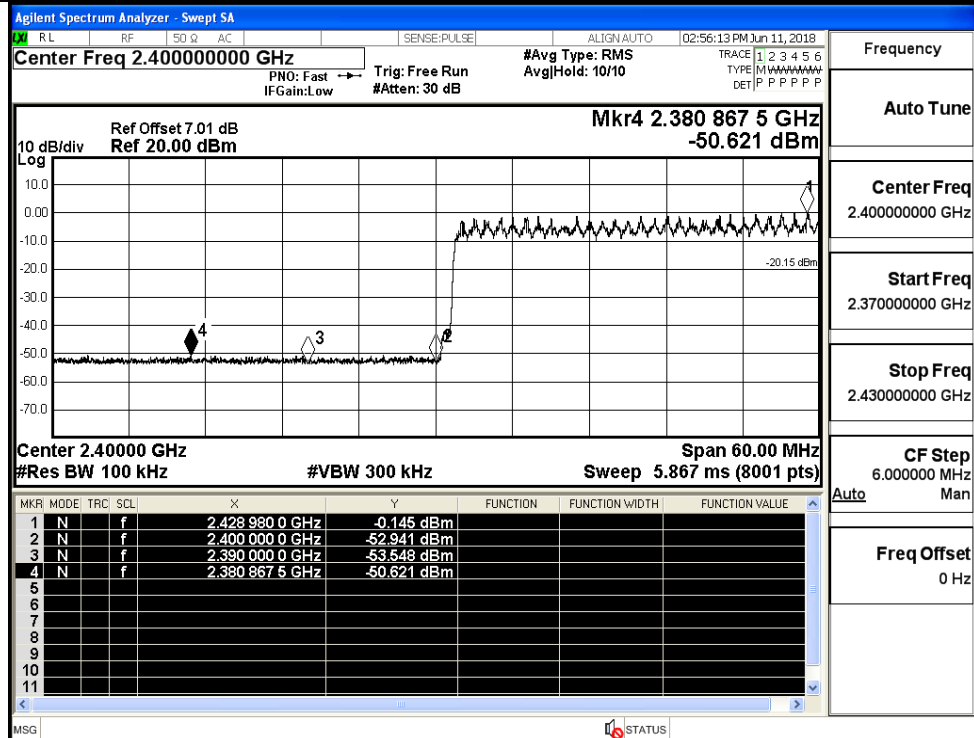


Frequency

Auto Tune

Center Freq
2.357000000 GHzStart Freq
2.310000000 GHzStop Freq
2.404000000 GHzCF Step
9.400000 MHz
Auto ManFreq Offset
0 Hz

$\pi/4$ DQPSK/LCH/Hop

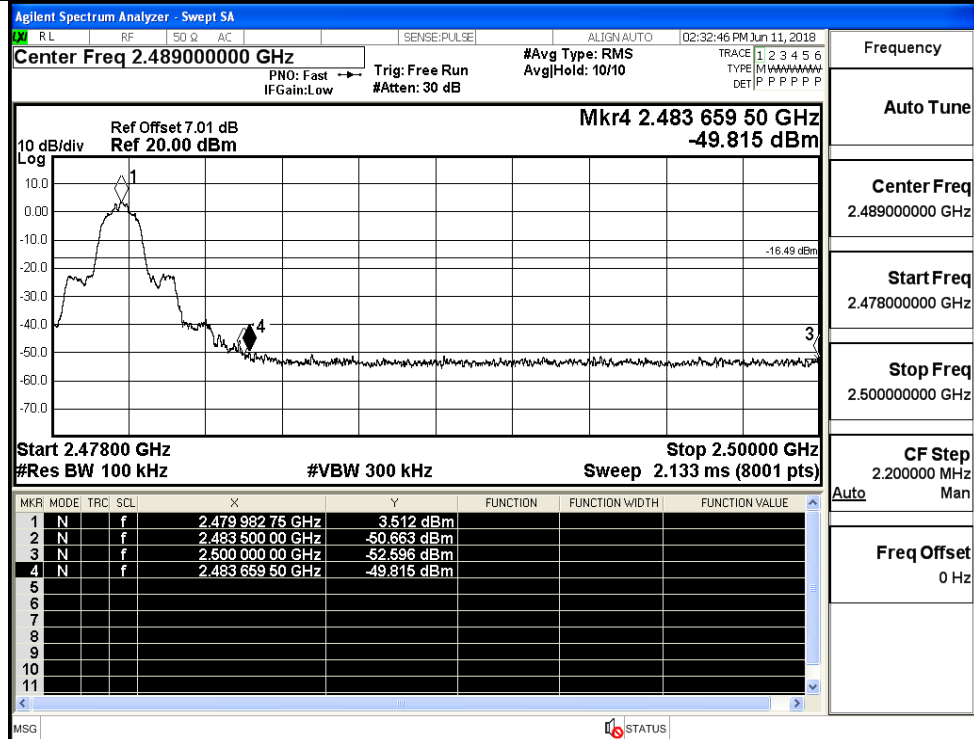


Frequency

Auto Tune

Center Freq
2.400000000 GHzStart Freq
2.370000000 GHzStop Freq
2.430000000 GHzCF Step
6.000000 MHz
Auto ManFreq Offset
0 Hz

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

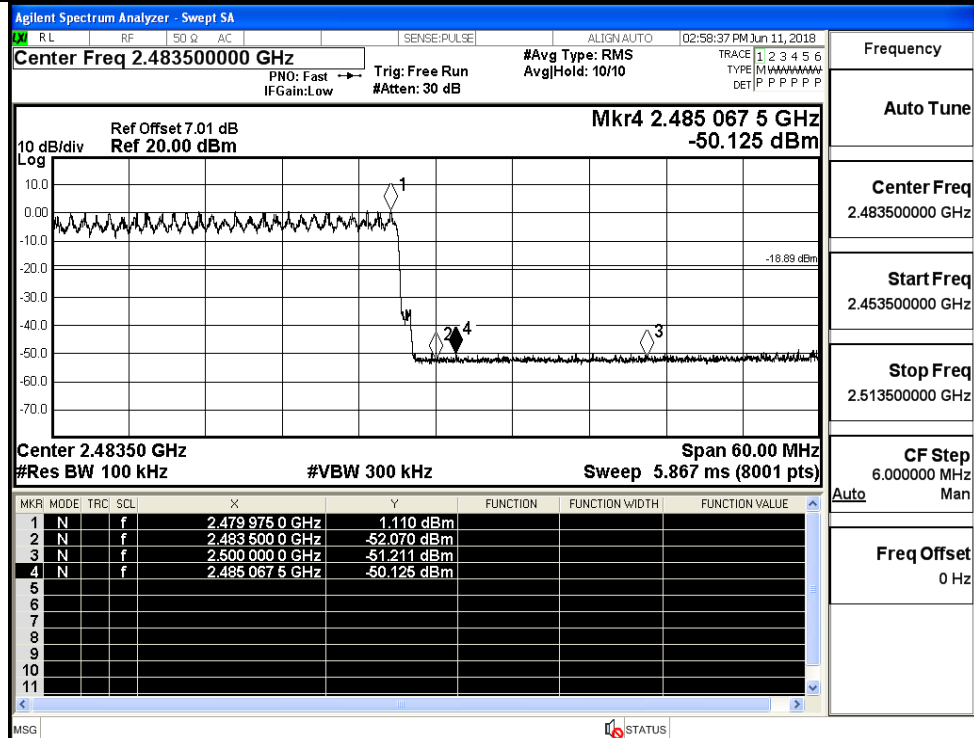


Frequency

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

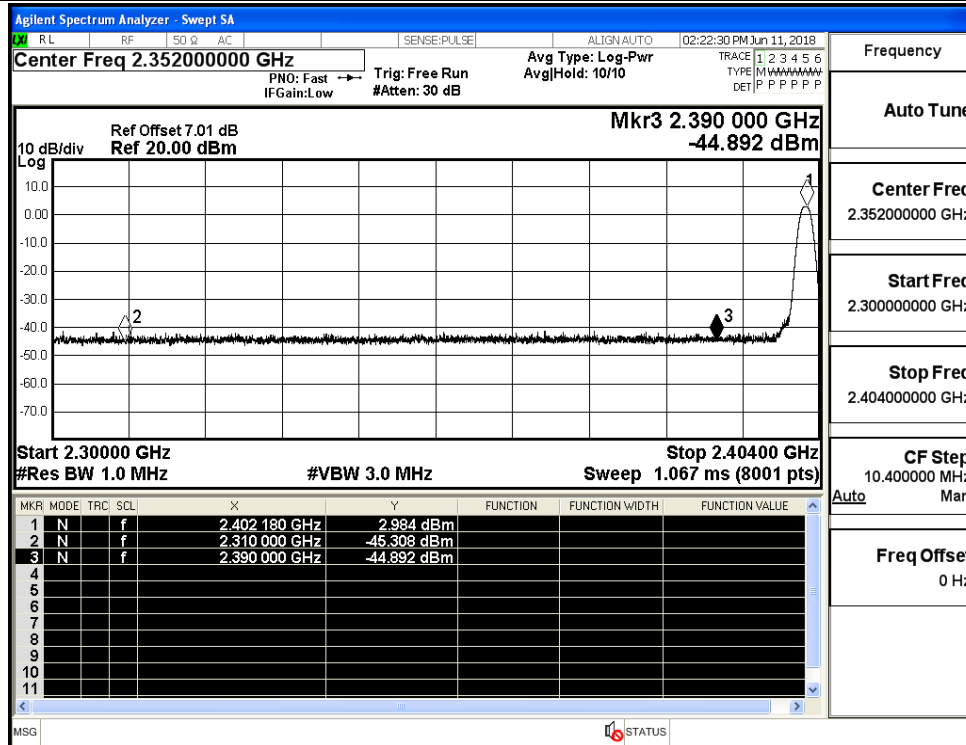
Auto Tune

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

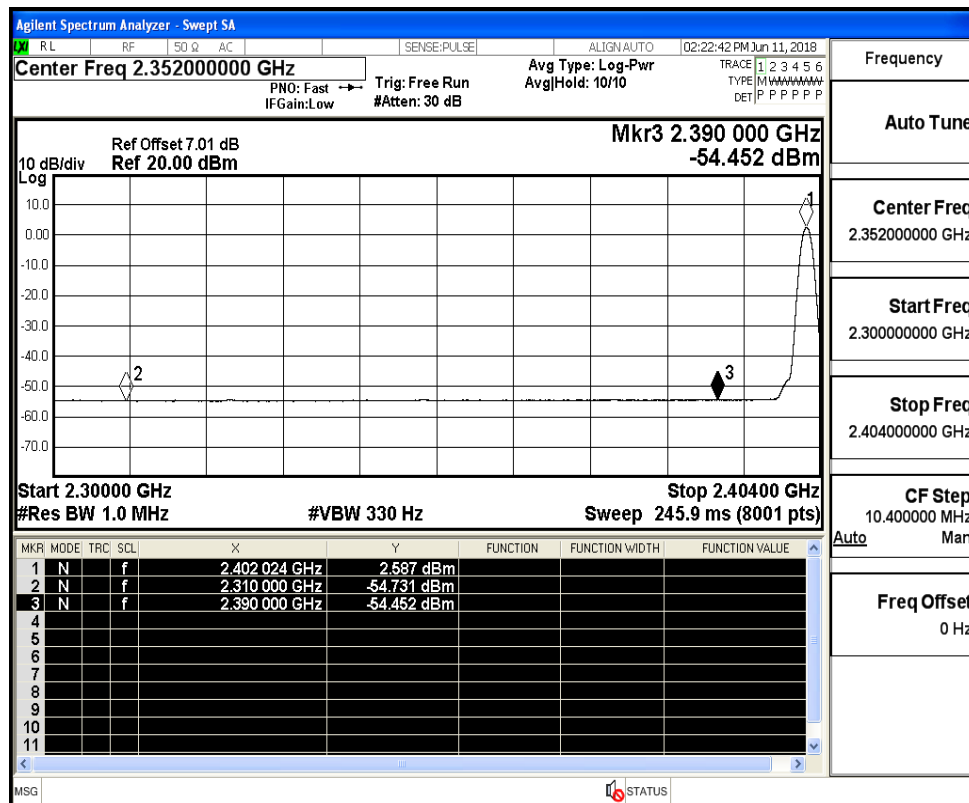
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-45.31	2.0	0	51.95	PEAK	74	PASS
	Off	2310.0	-54.73	2.0	0	42.53	AV	54	PASS
	Off	2390.0	-44.89	2.0	0	52.37	PEAK	74	PASS
	Off	2390.0	-54.45	2.0	0	42.81	AV	54	PASS
	Off	2483.5	-39.32	2.0	0	57.94	PEAK	74	PASS
	Off	2483.5	-49.87	2.0	0	47.39	AV	54	PASS
	Off	2500.0	-43.33	2.0	0	53.93	PEAK	74	PASS
	Off	2500.0	-53.90	2.0	0	43.36	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-45.10	2.0	0	52.16	PEAK	74	PASS
	Off	2310.0	-54.76	2.0	0	42.50	AV	54	PASS
	Off	2390.0	-44.14	2.0	0	53.12	PEAK	74	PASS
	Off	2390.0	-54.44	2.0	0	42.82	AV	54	PASS
	Off	2483.5	-37.50	2.0	0	59.76	PEAK	74	PASS
	Off	2483.5	-50.72	2.0	0	46.54	AV	54	PASS
	Off	2500.0	-44.26	2.0	0	52.99	PEAK	74	PASS
	Off	2500.0	-54.02	2.0	0	43.23	AV	54	PASS

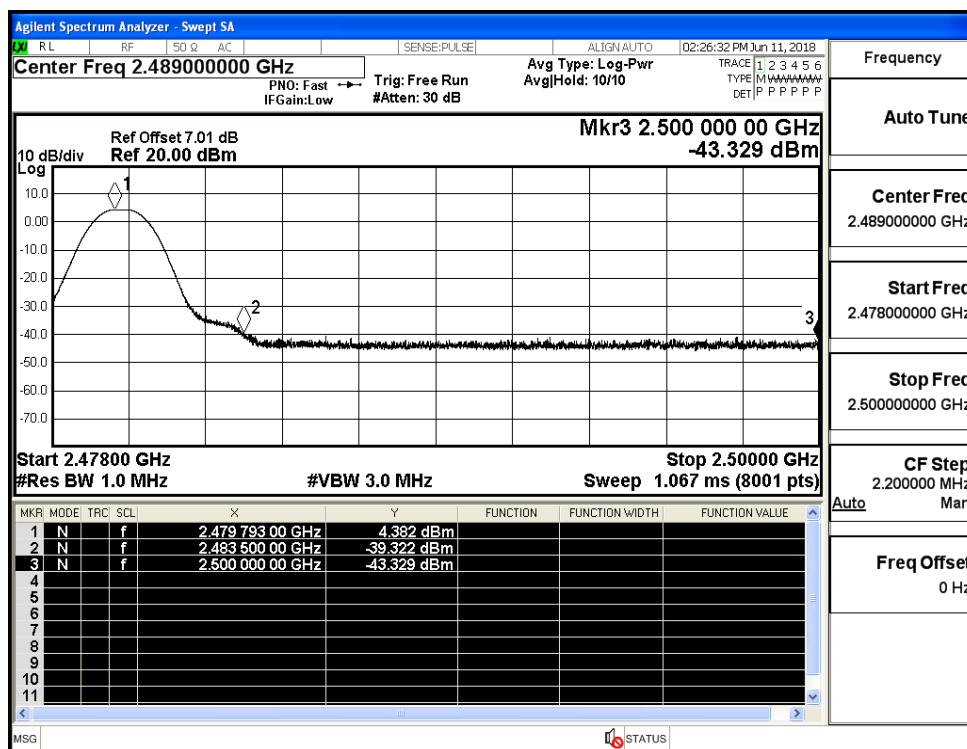
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



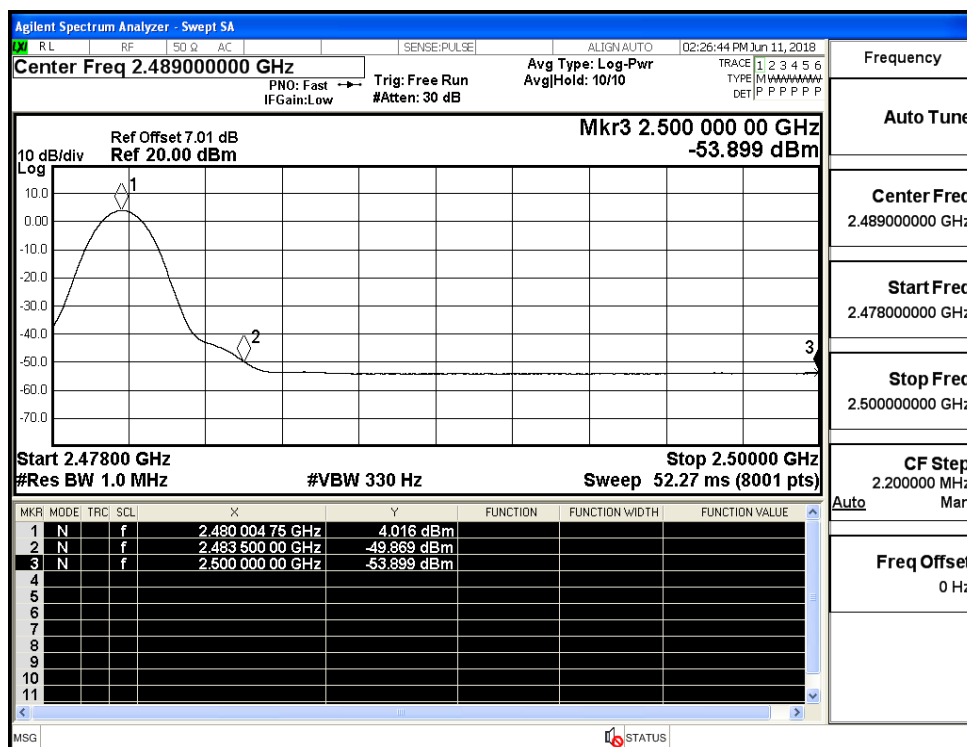
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

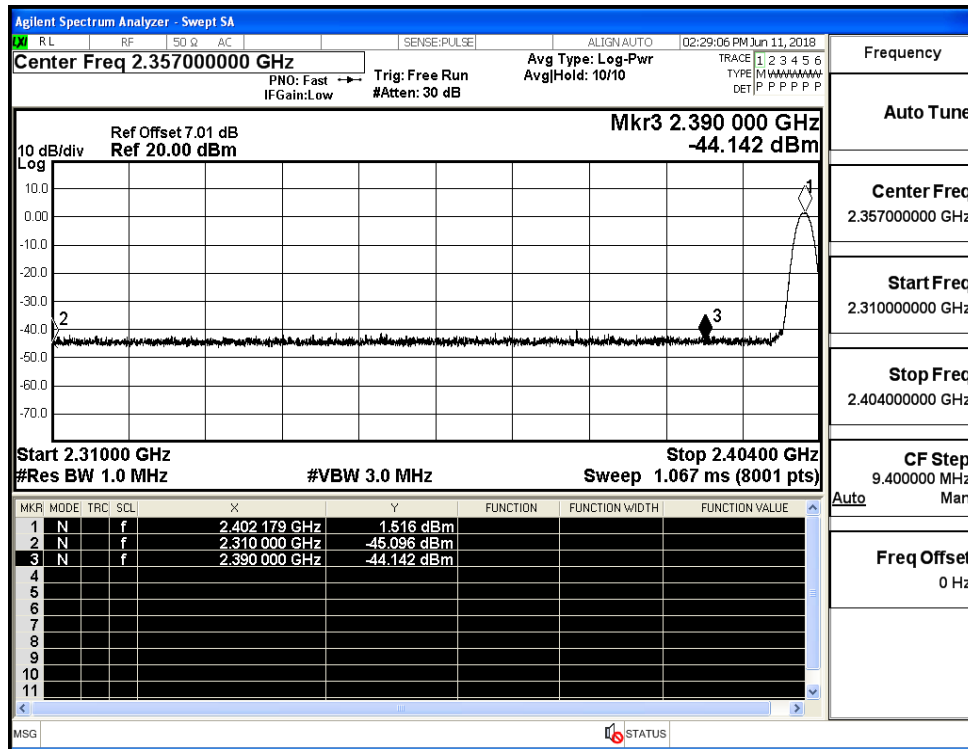
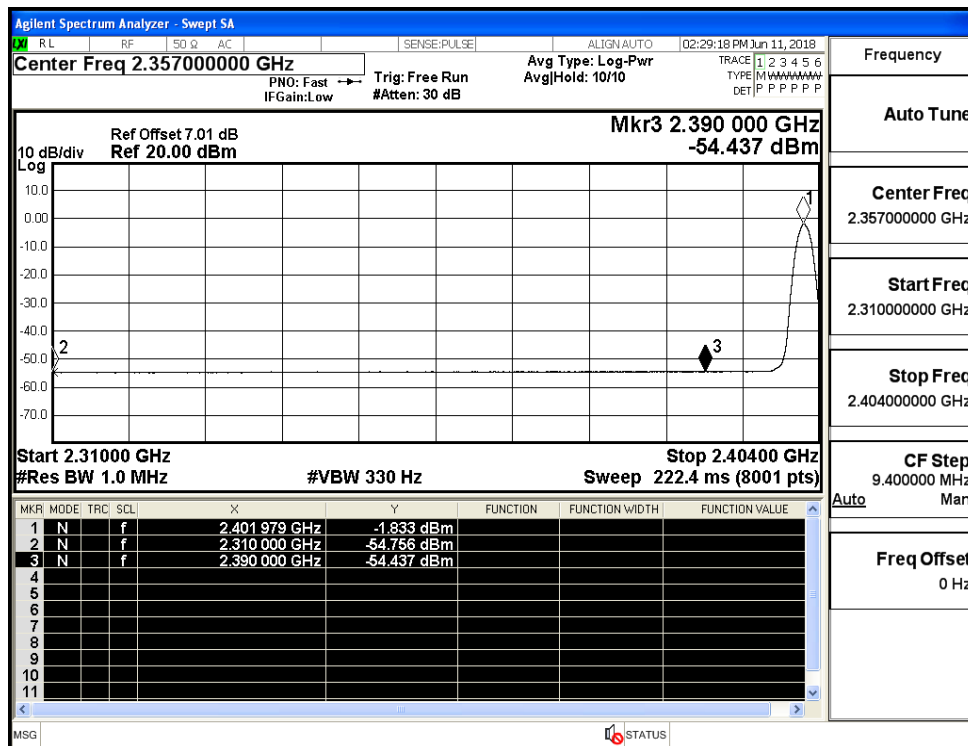


Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)

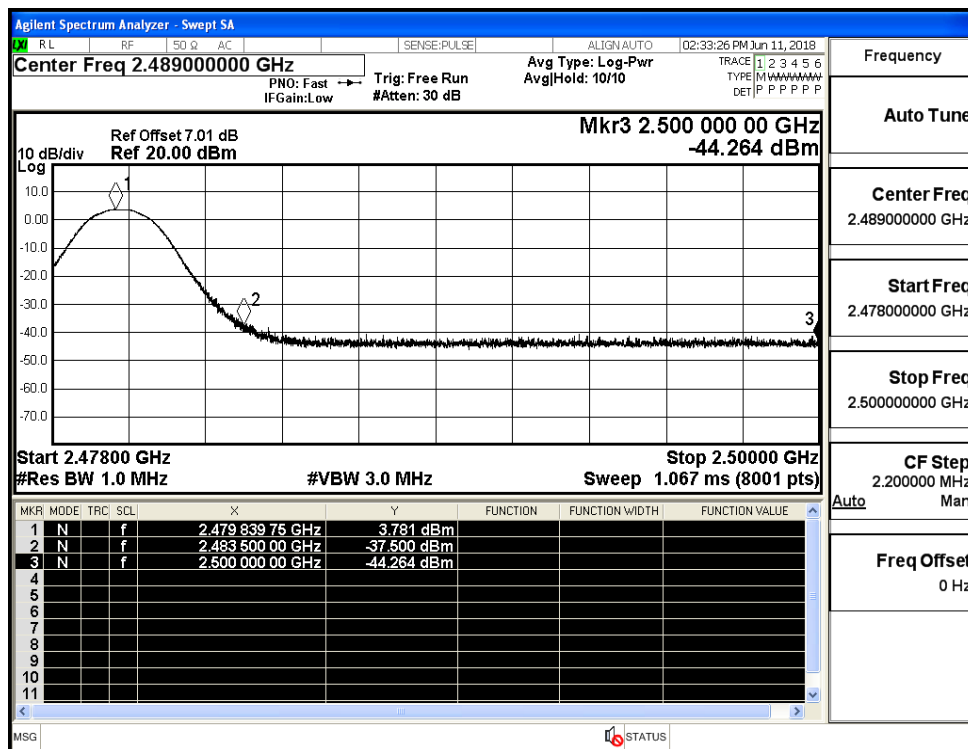


Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



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)

