

Appendix A

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

Product Name: PCSGOB1018M-Series

Trade Mark: PC SMART

Test Model: PCSGOB1018M-A

Environmental Conditions

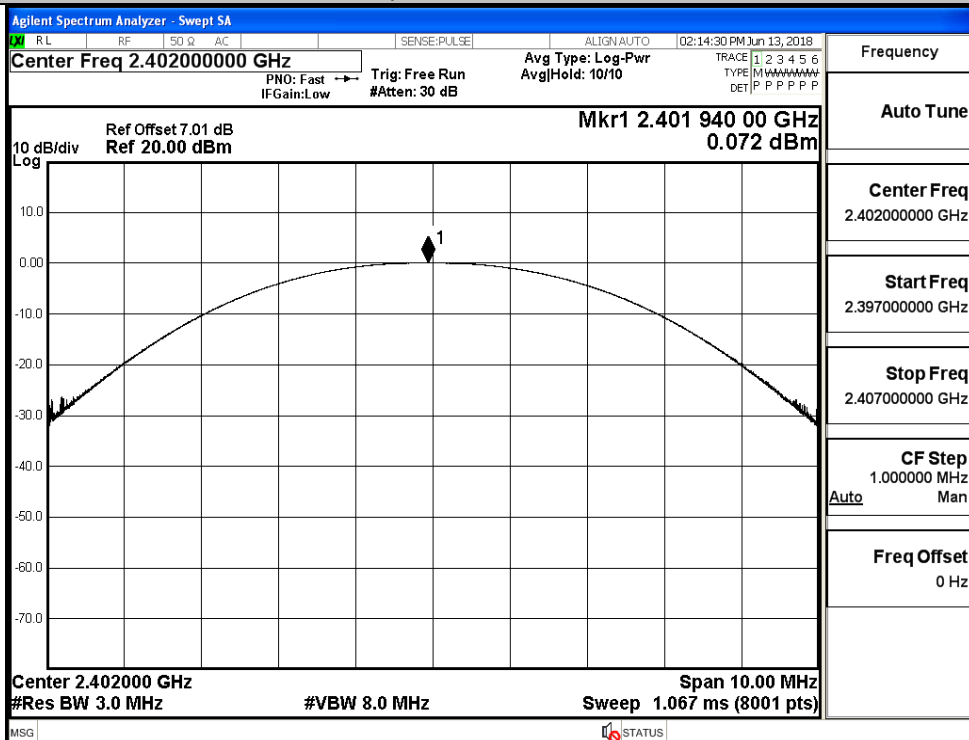
Temperature:	23.2 ° C
Relative Humidity:	52.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Wilson.Hong
Supervised by:	Jayden.Zhuo

A.1 Maximum Conducted Peak Output Power

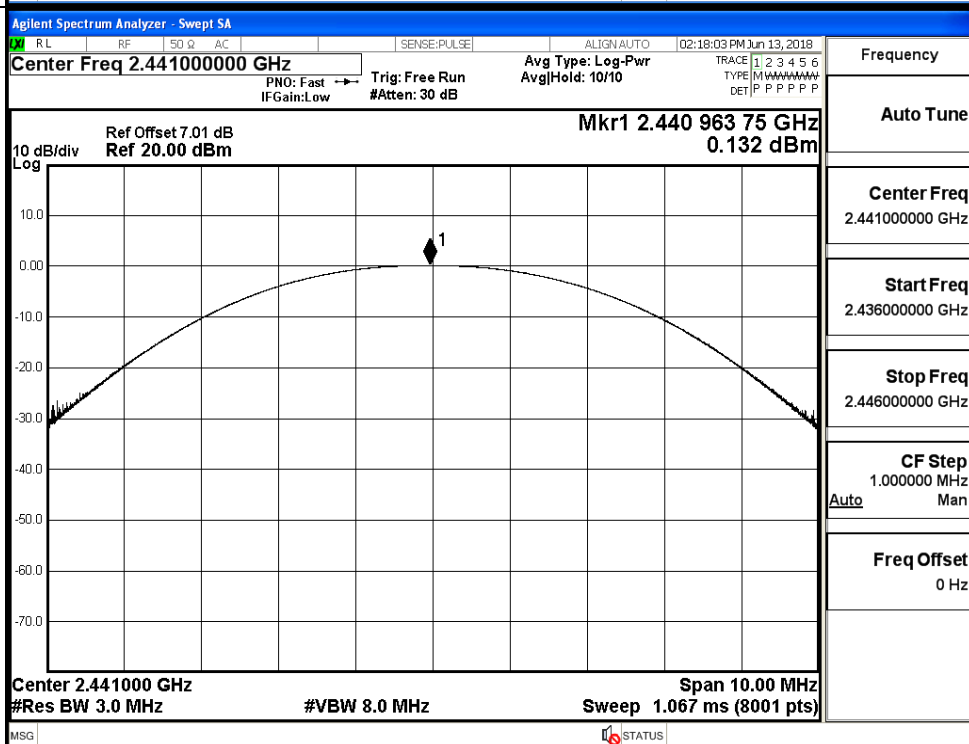
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.072	30	PASS
	MCH	0.132	30	PASS
	HCH	0.382	30	PASS
$\pi/4$ DQPSK	LCH	-0.096	21	PASS
	MCH	-0.003	21	PASS
	HCH	0.190	21	PASS
8DPSK	LCH	0.003	21	PASS
	MCH	0.174	21	PASS
	HCH	0.470	21	PASS

Test Graphs

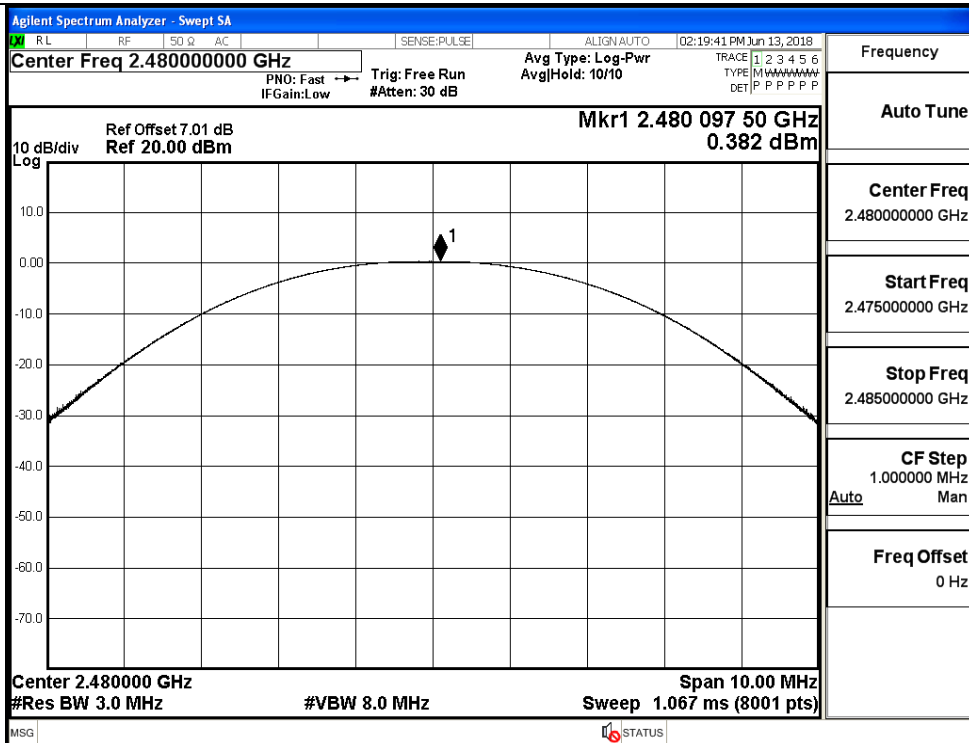
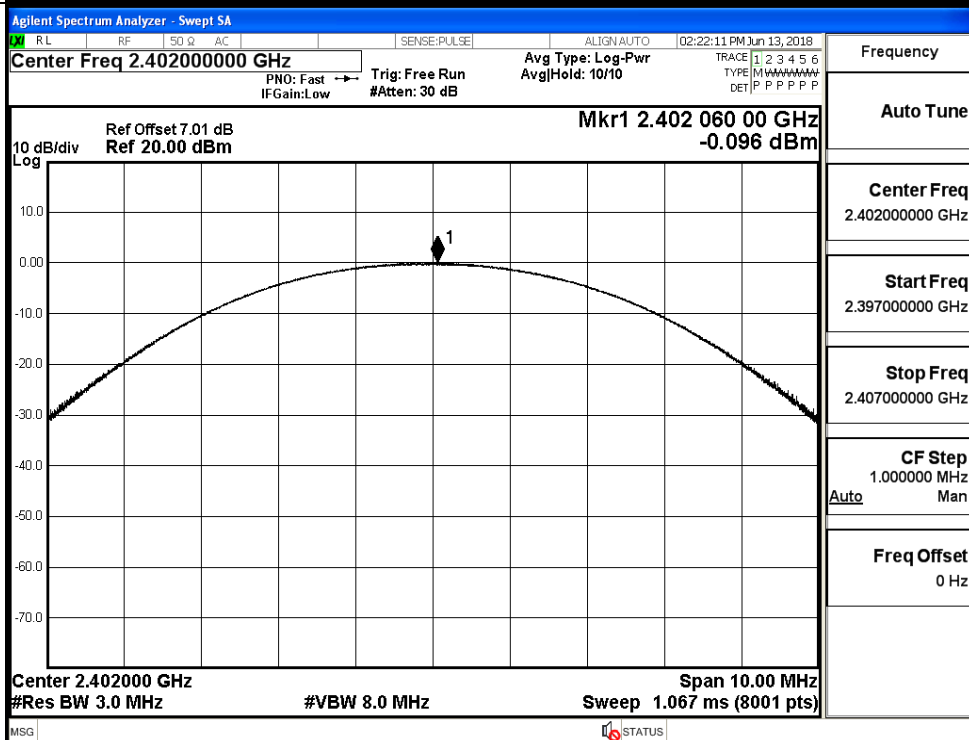
GFSK/LCH

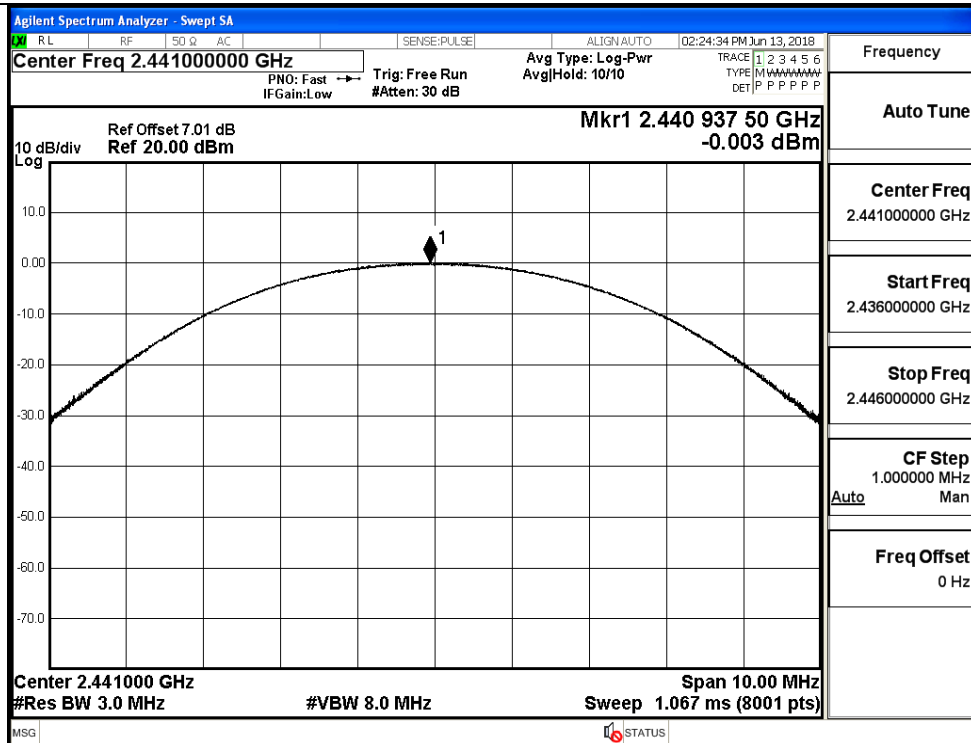
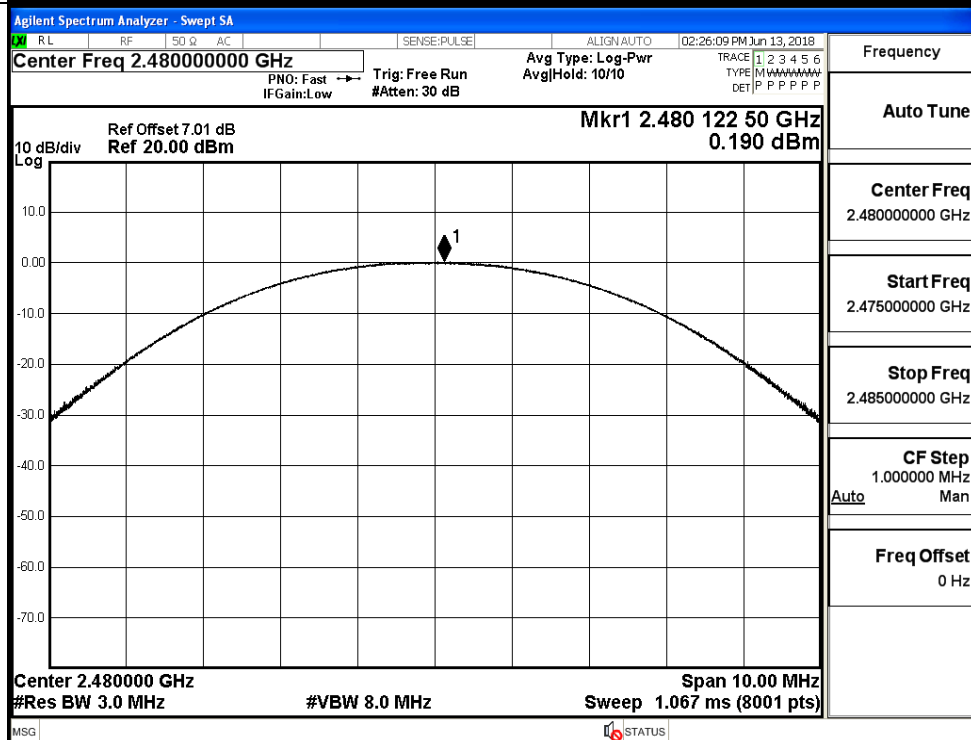


GFSK/MCH

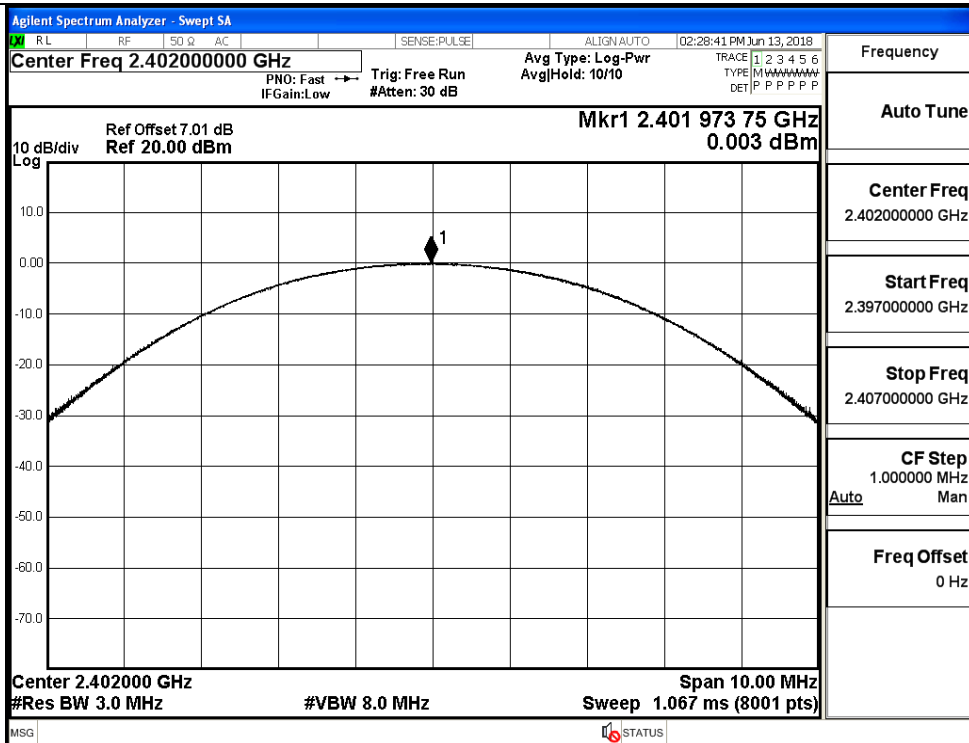


GFSK/HCH

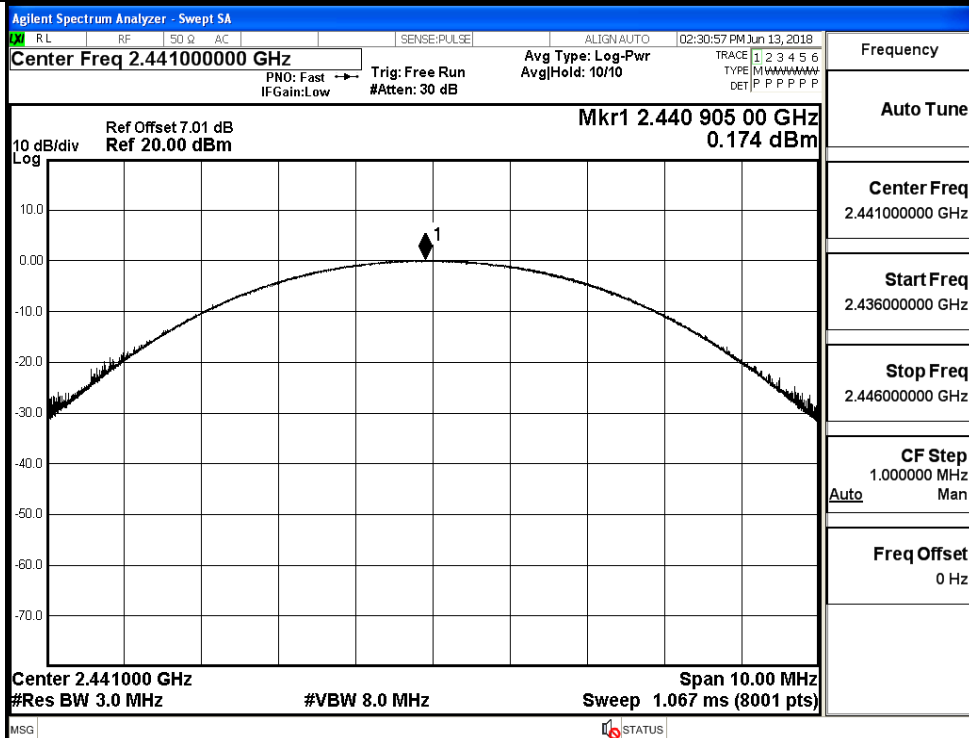
 π /4DQPSK/LCH

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

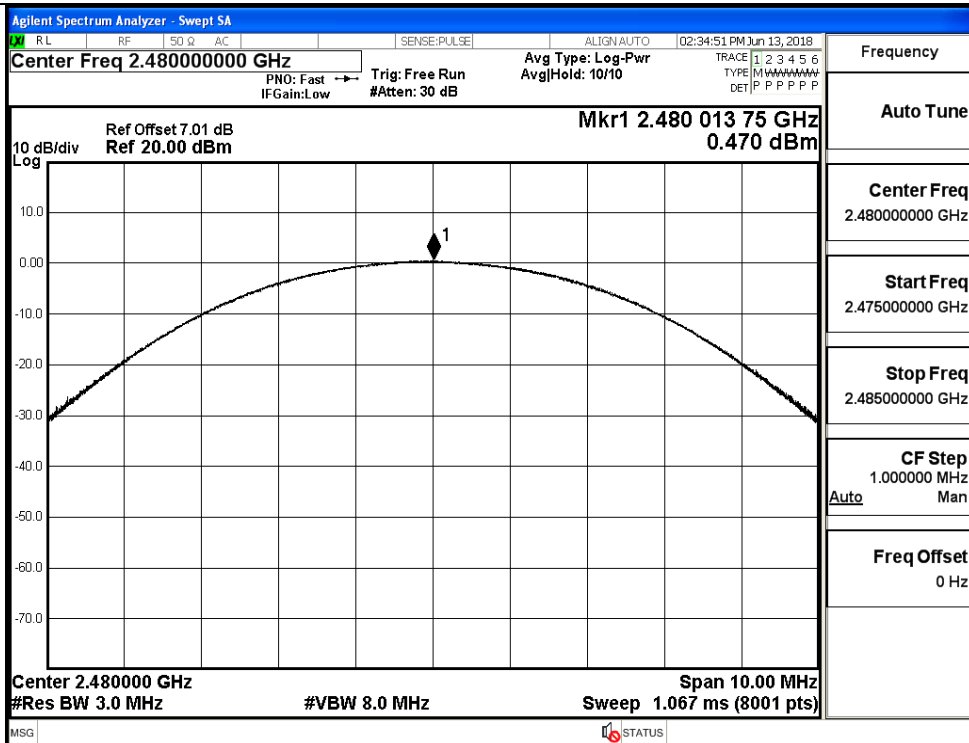
8DPSK/LCH



8DPSK/MCH



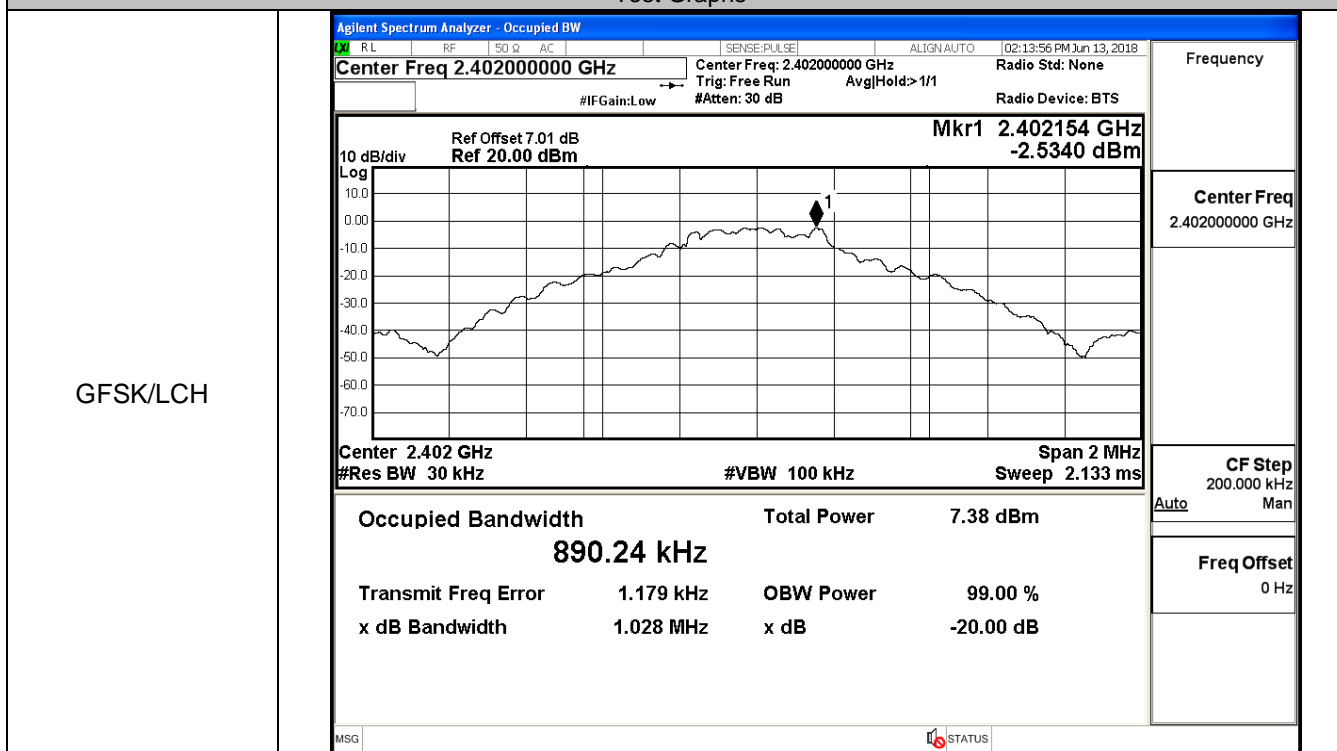
8DPSK/HCH



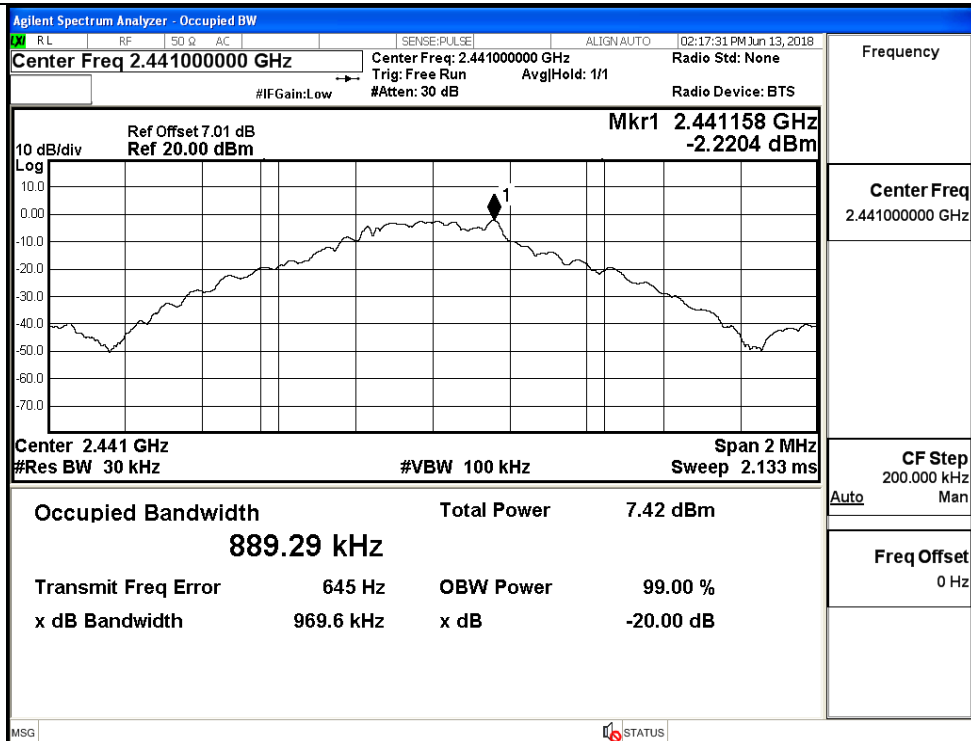
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.028	Not Specified	PASS
	MCH	0.9696	Not Specified	PASS
	HCH	1.027	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.290	Not Specified	PASS
	MCH	1.289	Not Specified	PASS
	HCH	1.288	Not Specified	PASS
8DPSK	LCH	1.290	Not Specified	PASS
	MCH	1.289	Not Specified	PASS
	HCH	1.288	Not Specified	PASS

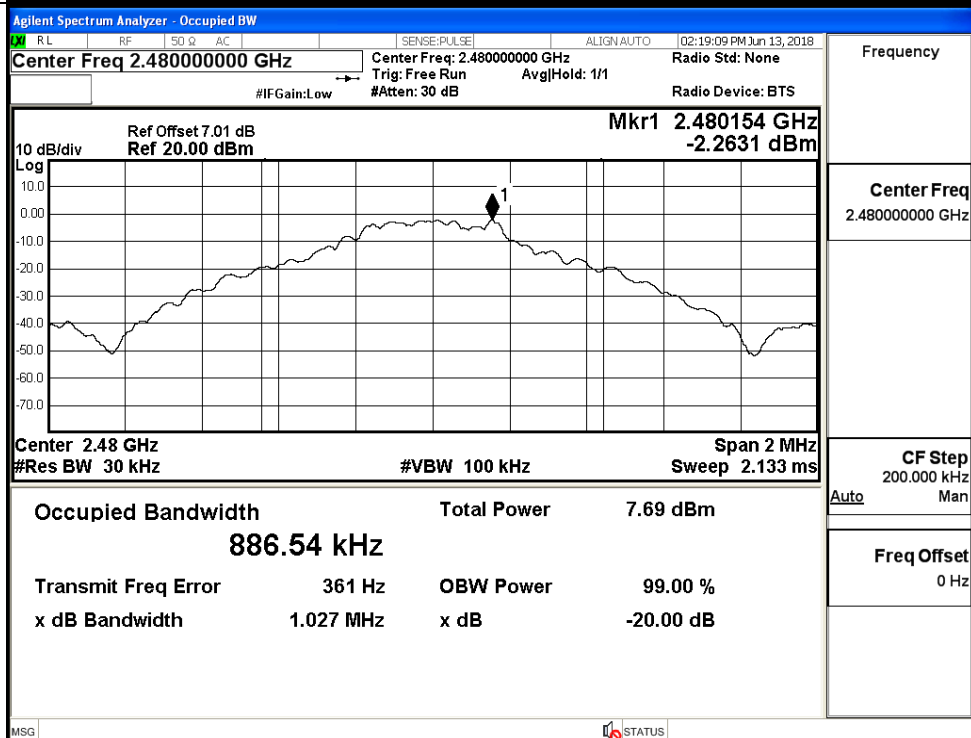
Test Graphs

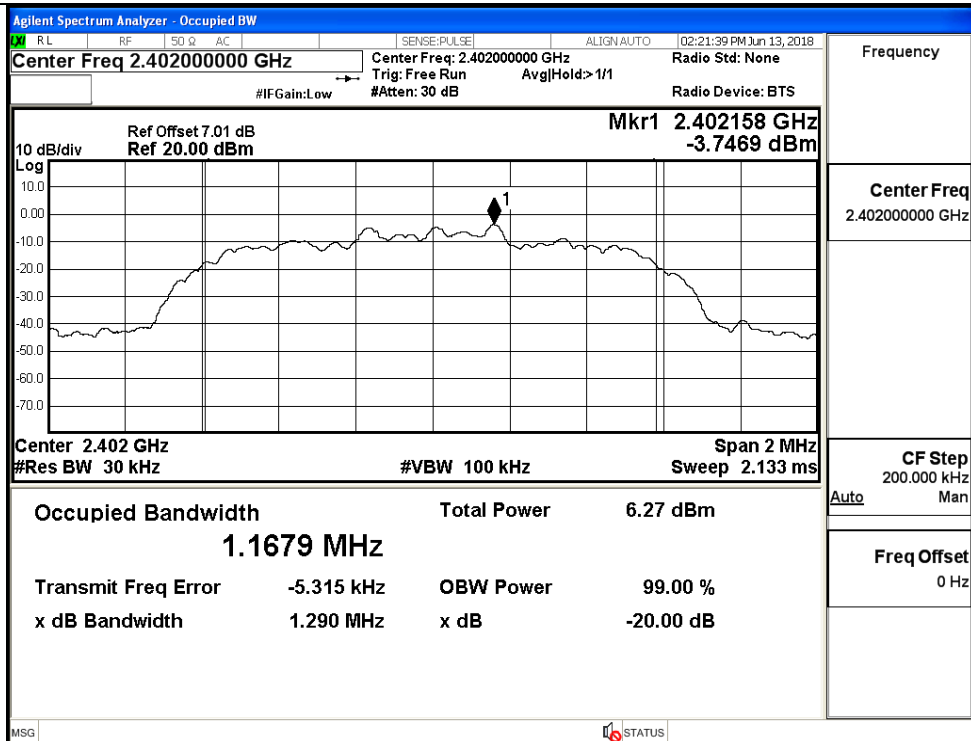
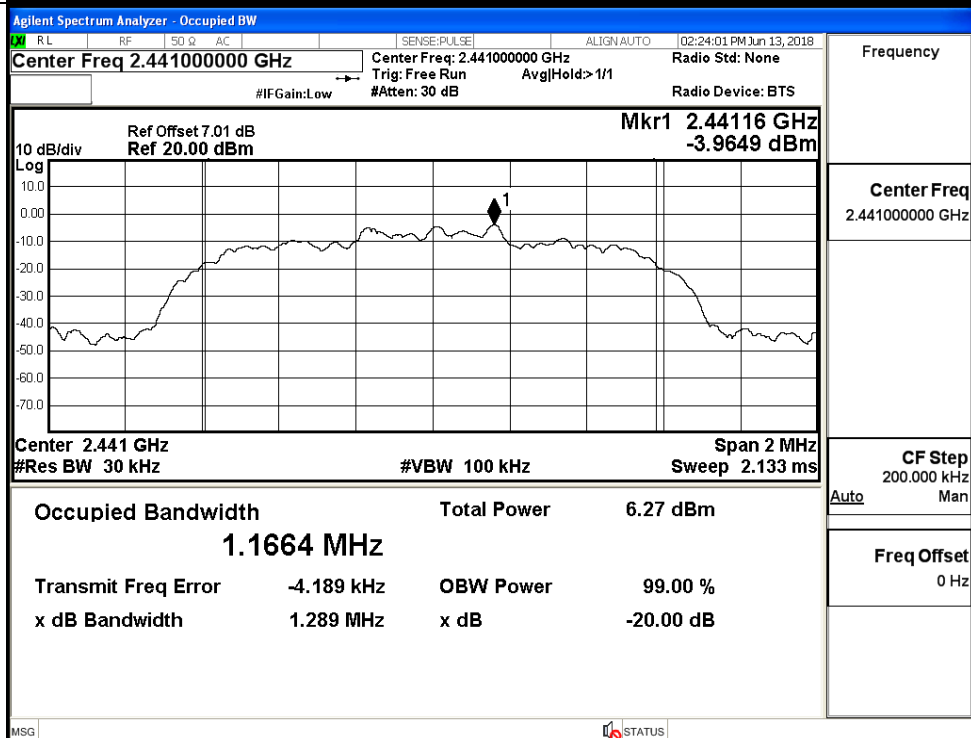


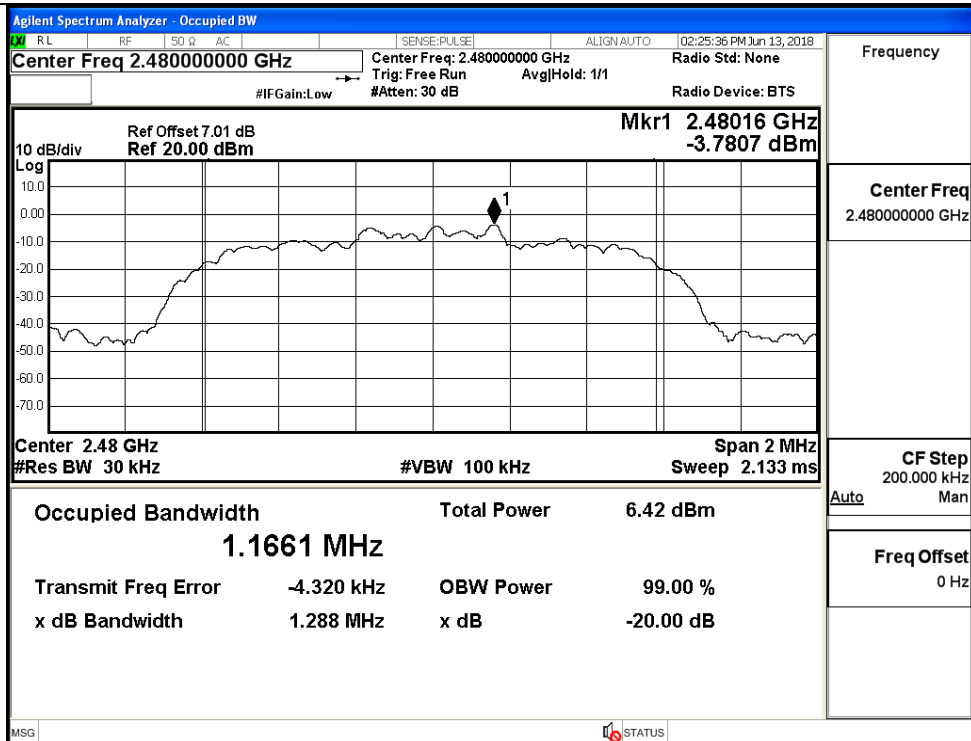
GFSK/MCH



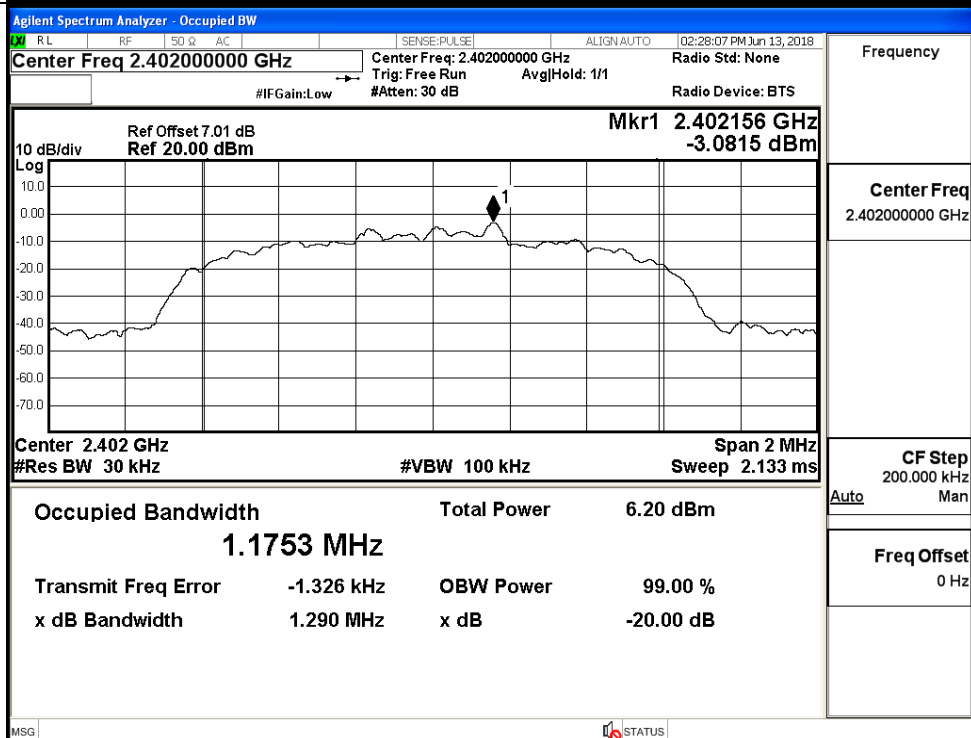
GFSK/HCH



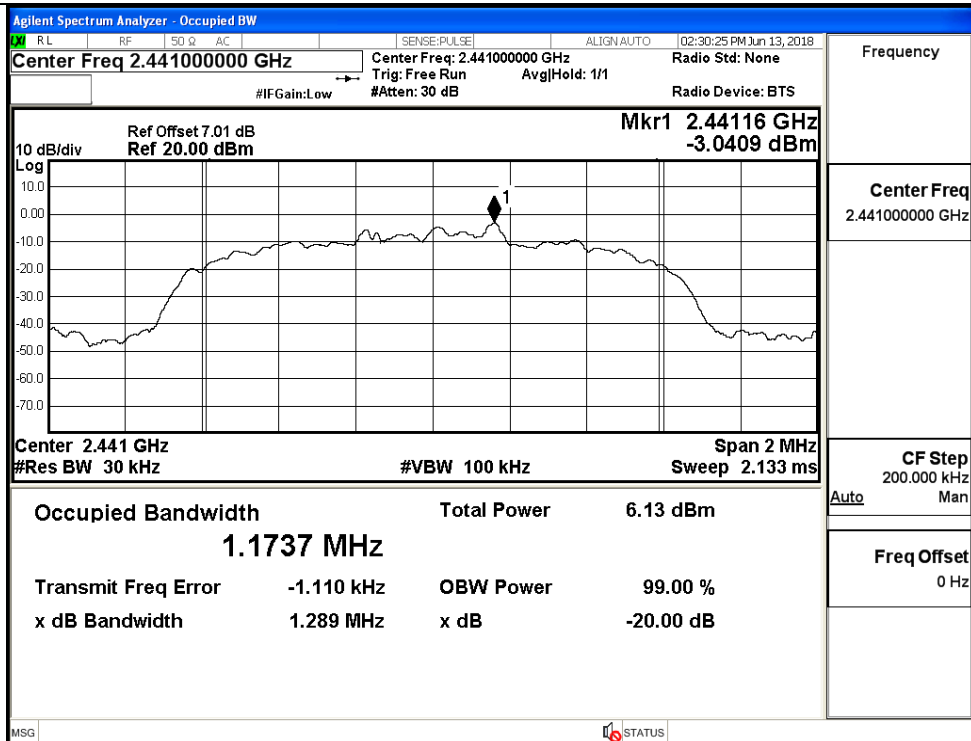
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

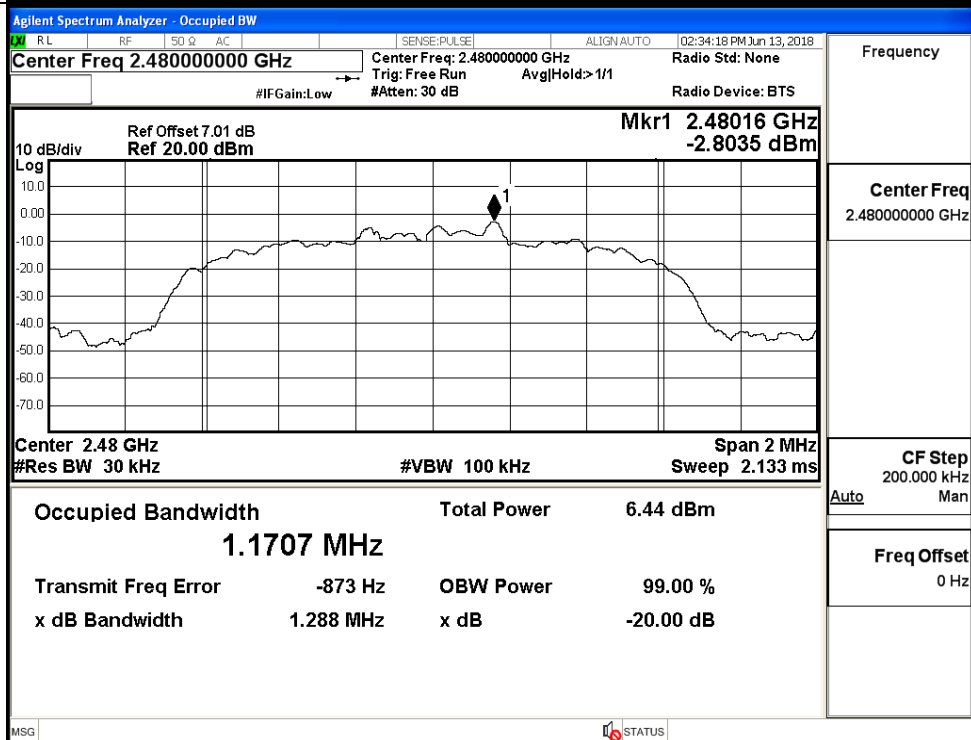
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

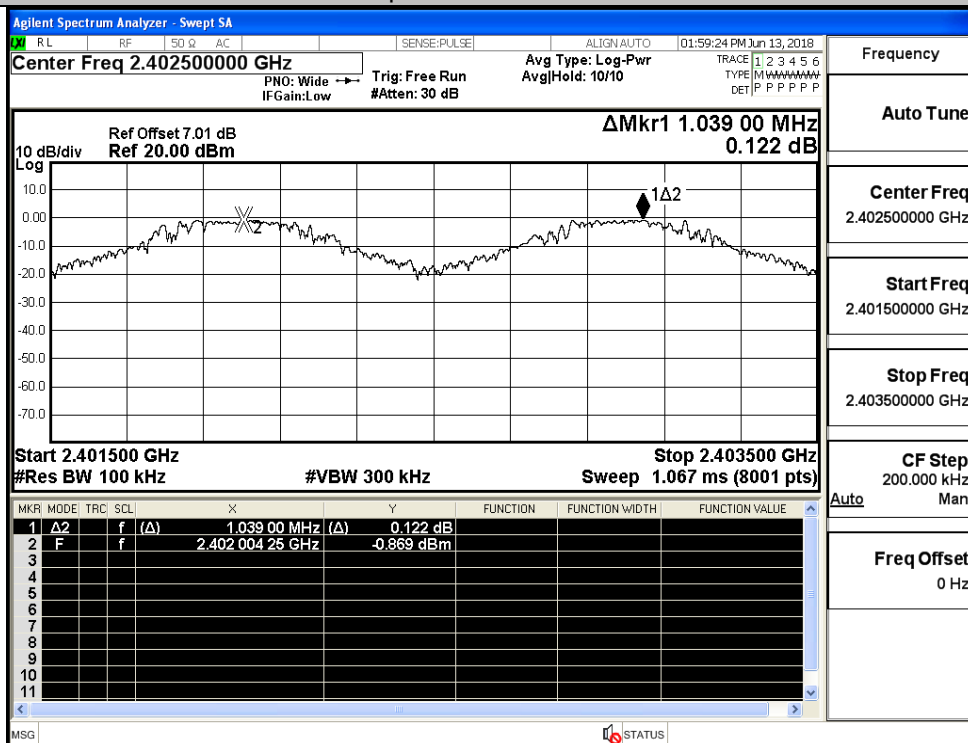


A.3 Carrier Frequency Separation

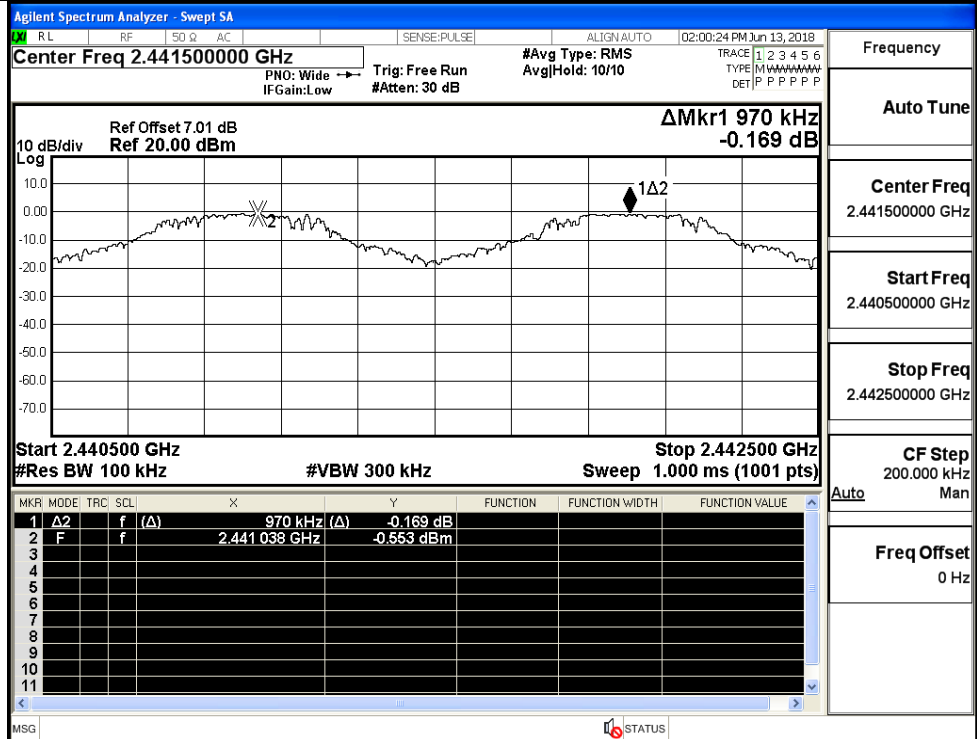
Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.039	0.685	PASS
	MCH	0.970	0.646	PASS
	HCH	1.336	0.685	PASS
$\pi/4$ DQPSK	LCH	1.012	0.860	PASS
	MCH	0.898	0.859	PASS
	HCH	0.892	0.859	PASS
8DPSK	LCH	1.332	0.860	PASS
	MCH	1.234	0.859	PASS
	HCH	1.120	0.859	PASS

Test Graphs

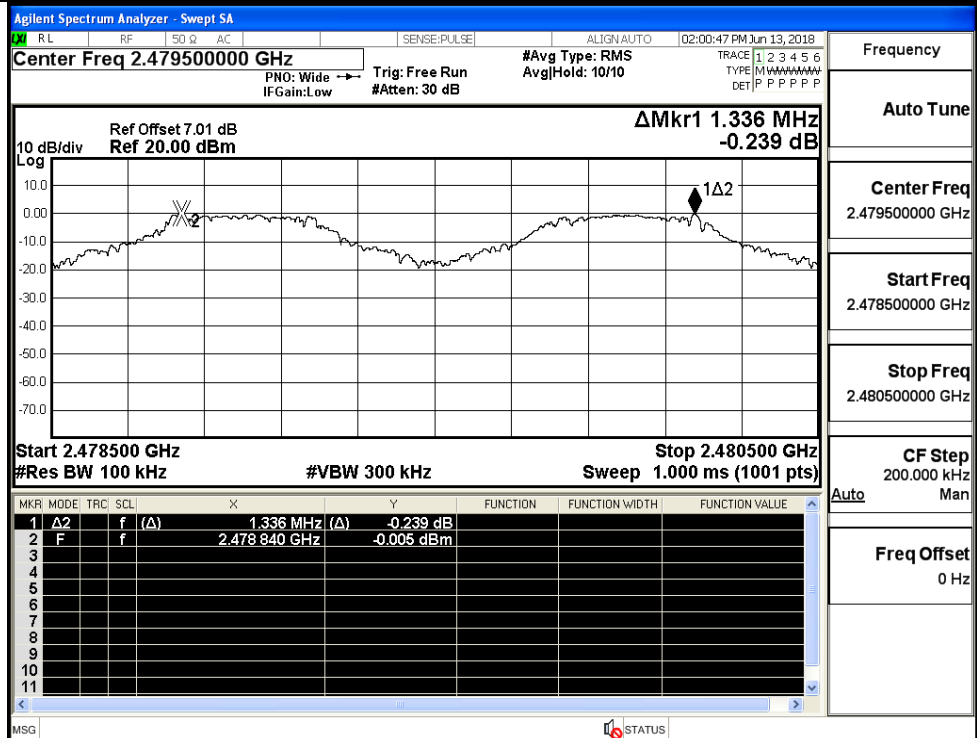
GFSK/LCH

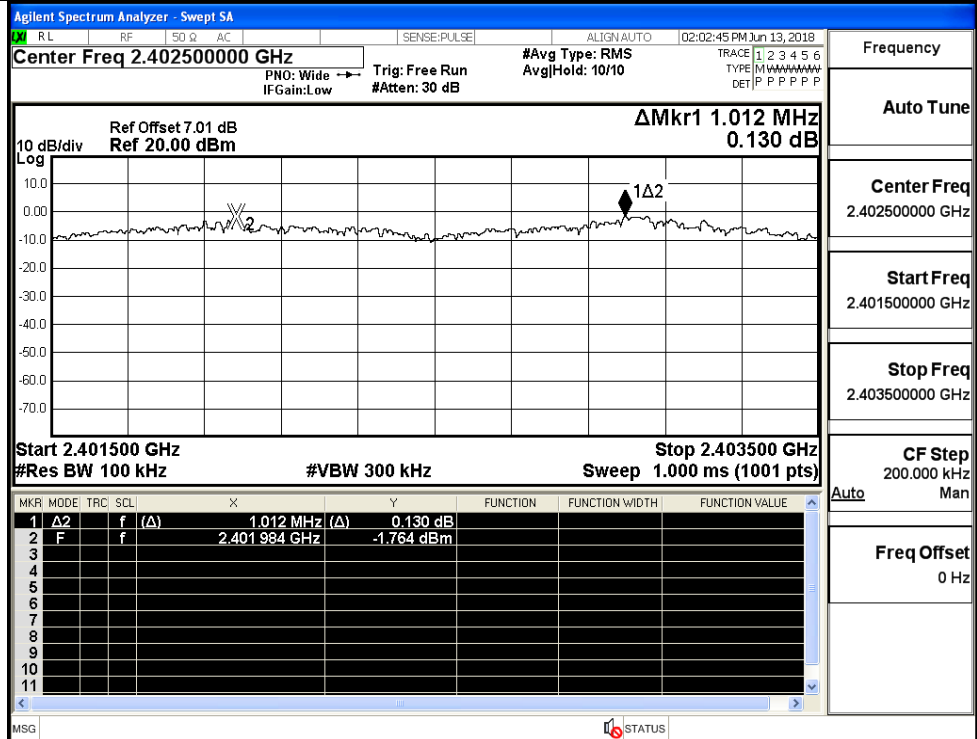
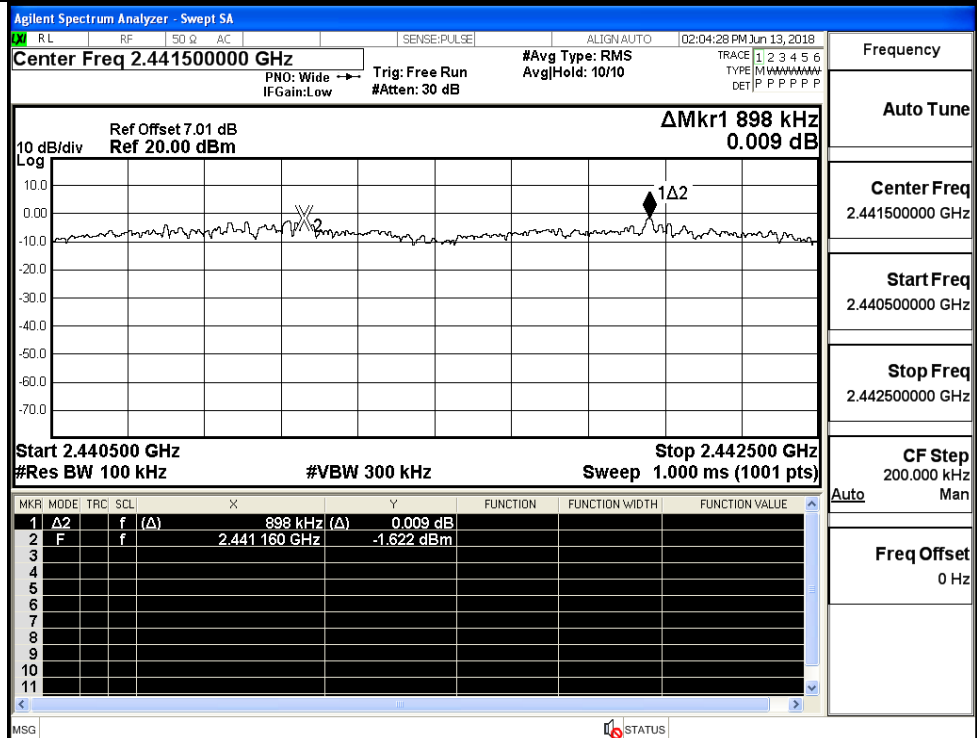


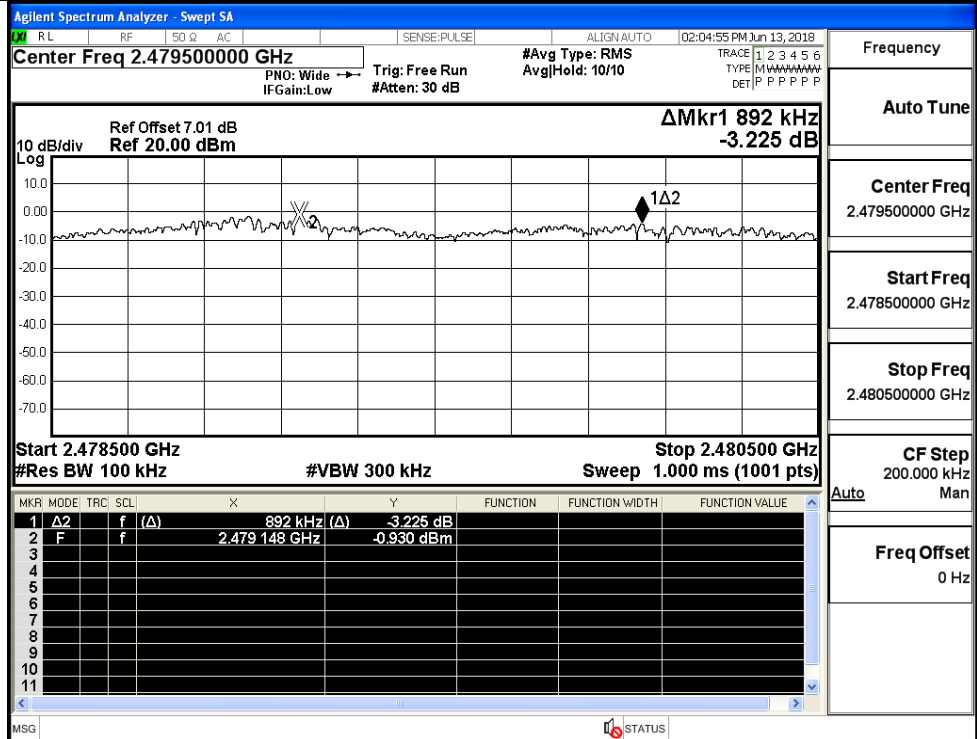
GFSK/MCH



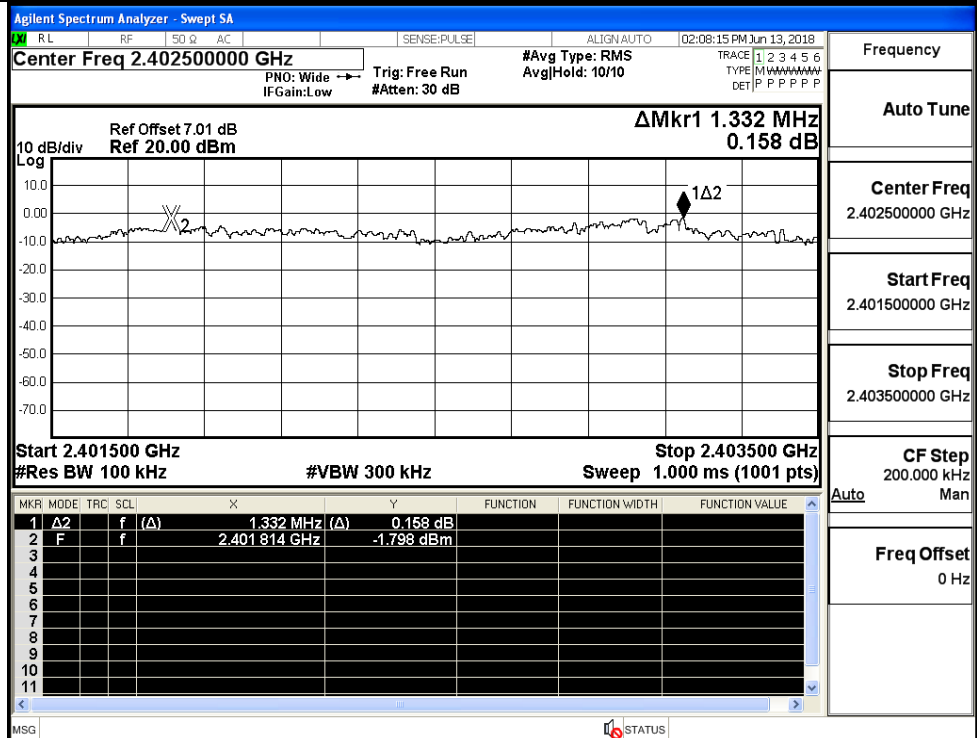
GFSK/HCH



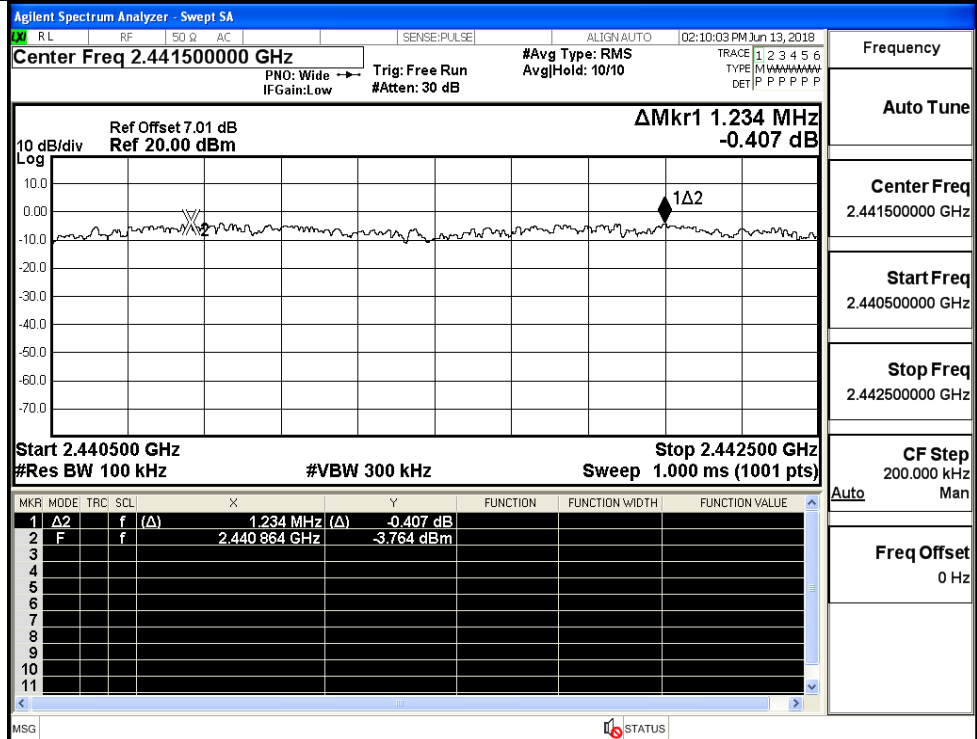
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

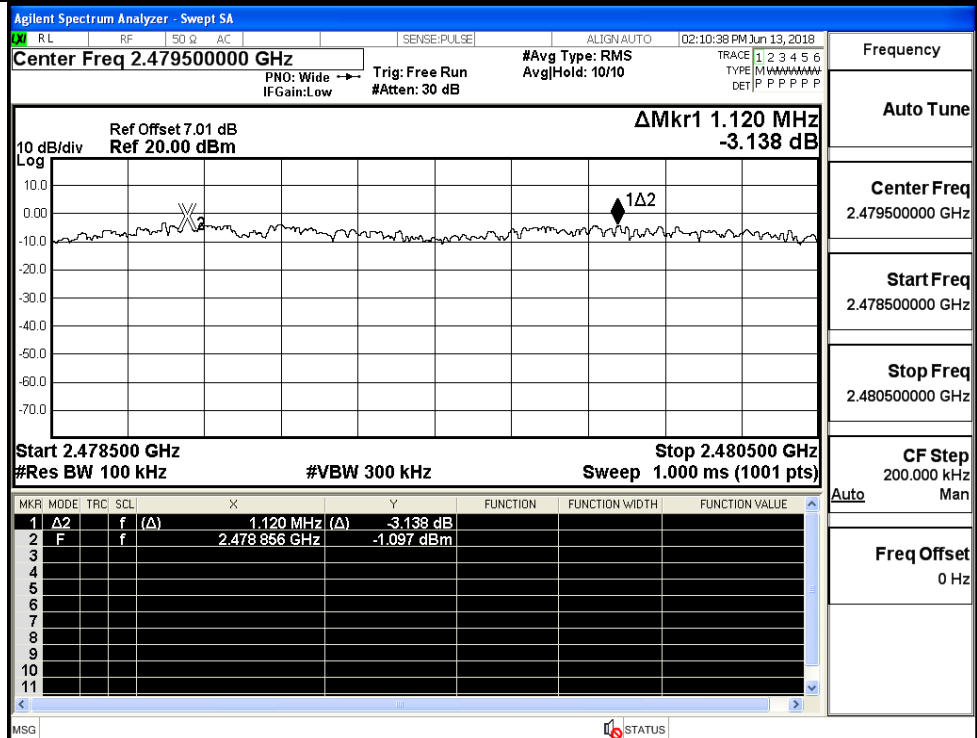
8DPSK/LCH



8DPSK/MCH



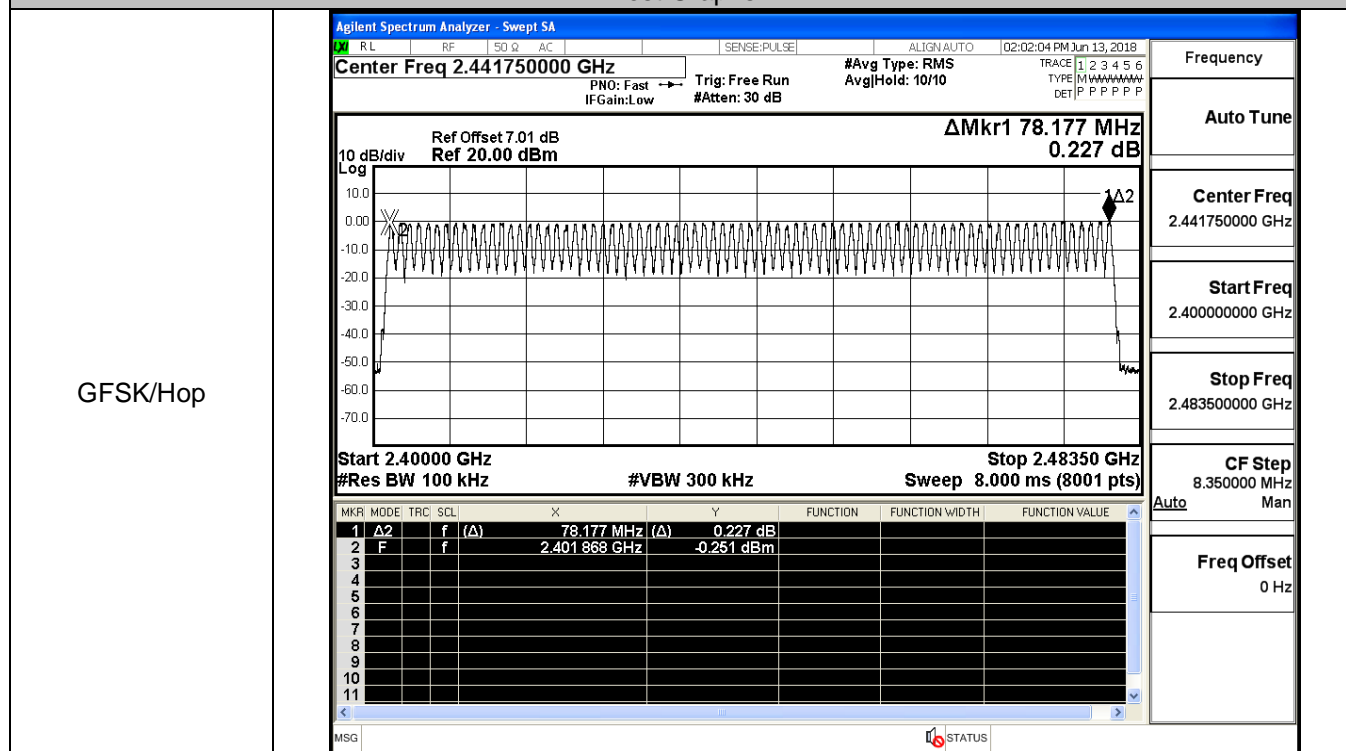
8DPSK/HCH

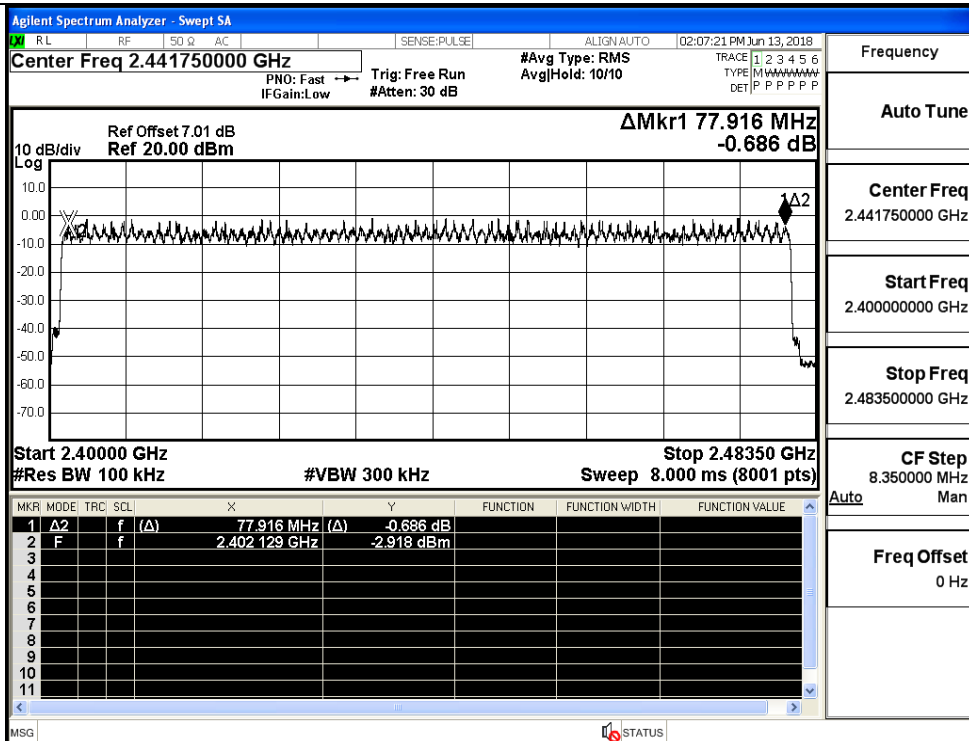


A.4 Hopping Channel Number

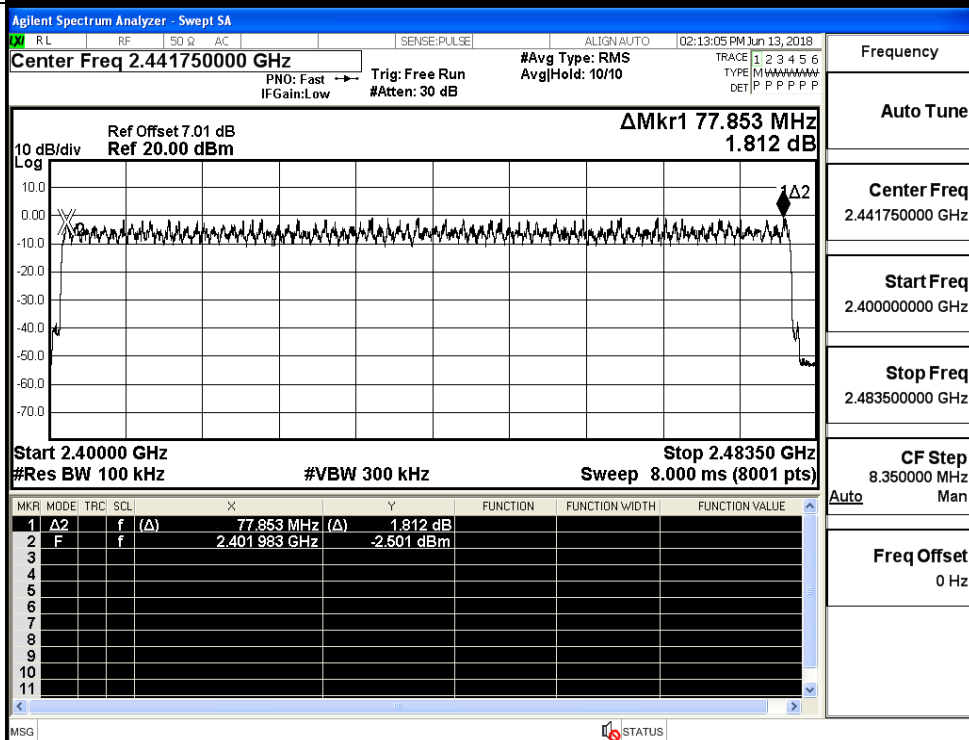
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	≥ 15	PASS
$\pi/4$ DQPSK	Hop	79	≥ 15	PASS
8DPSK	Hop	79	≥ 15	PASS

Test Graphs

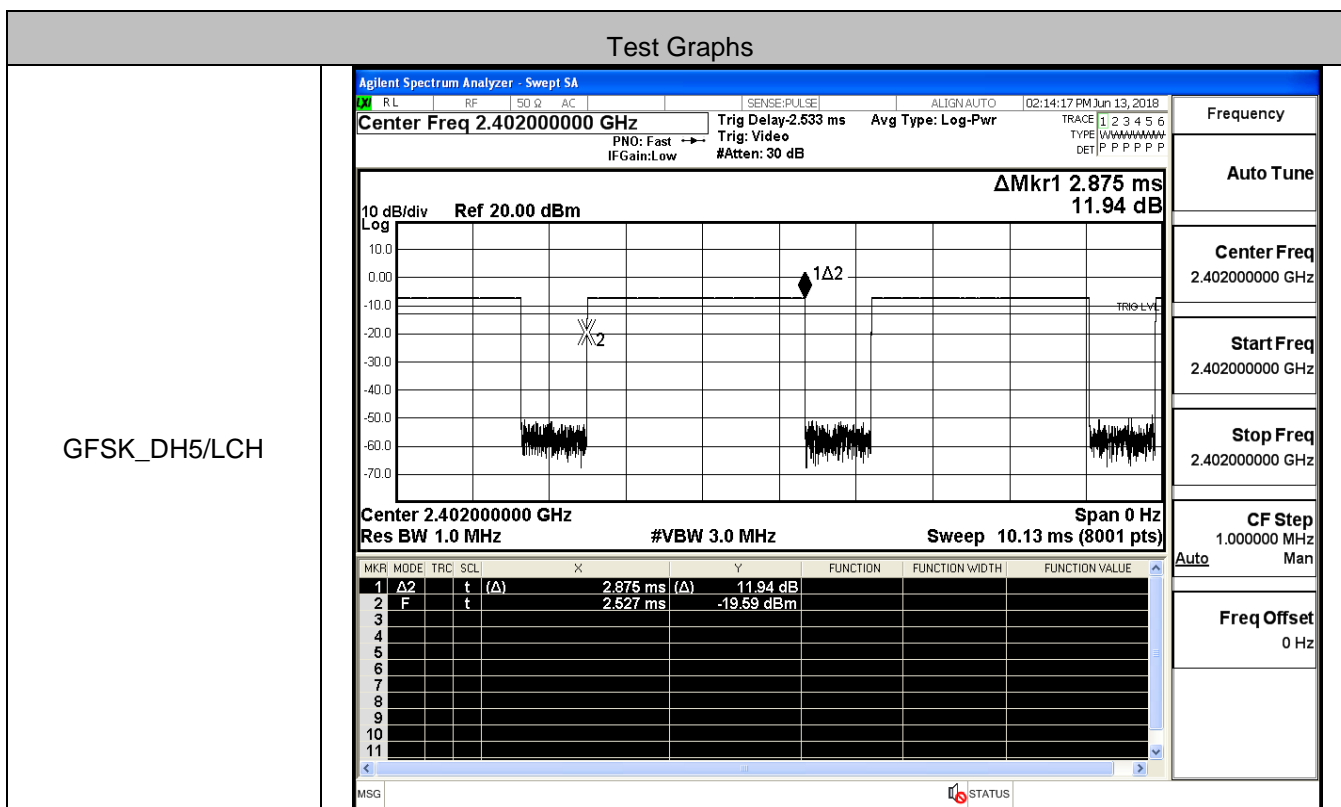


$\pi/4$ DQPSK/Hop

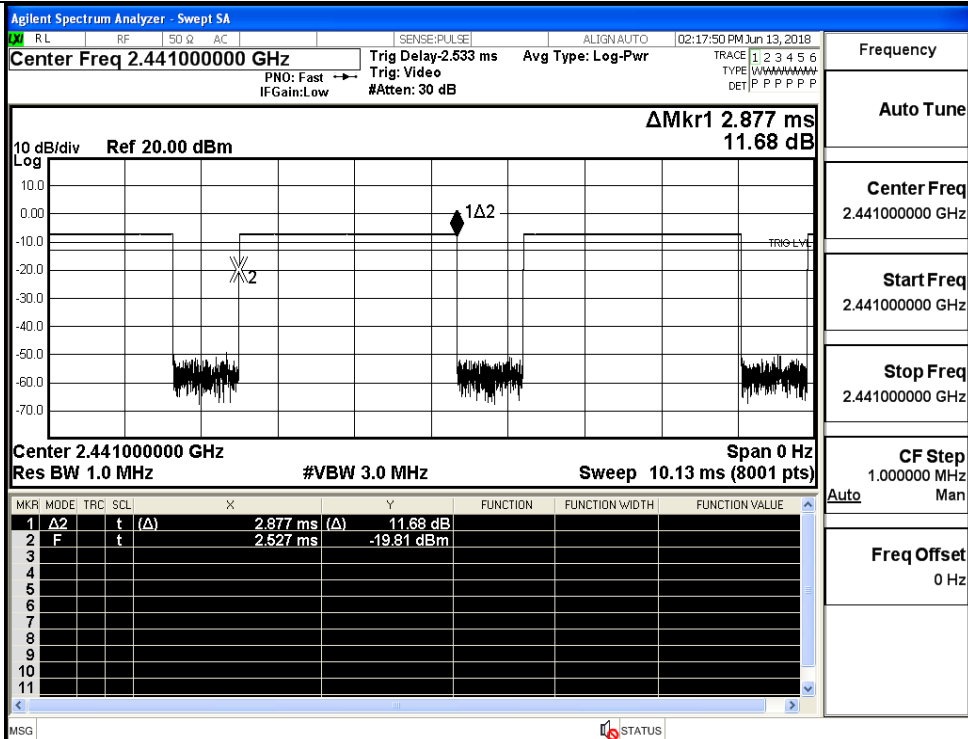
8DPSK/Hop



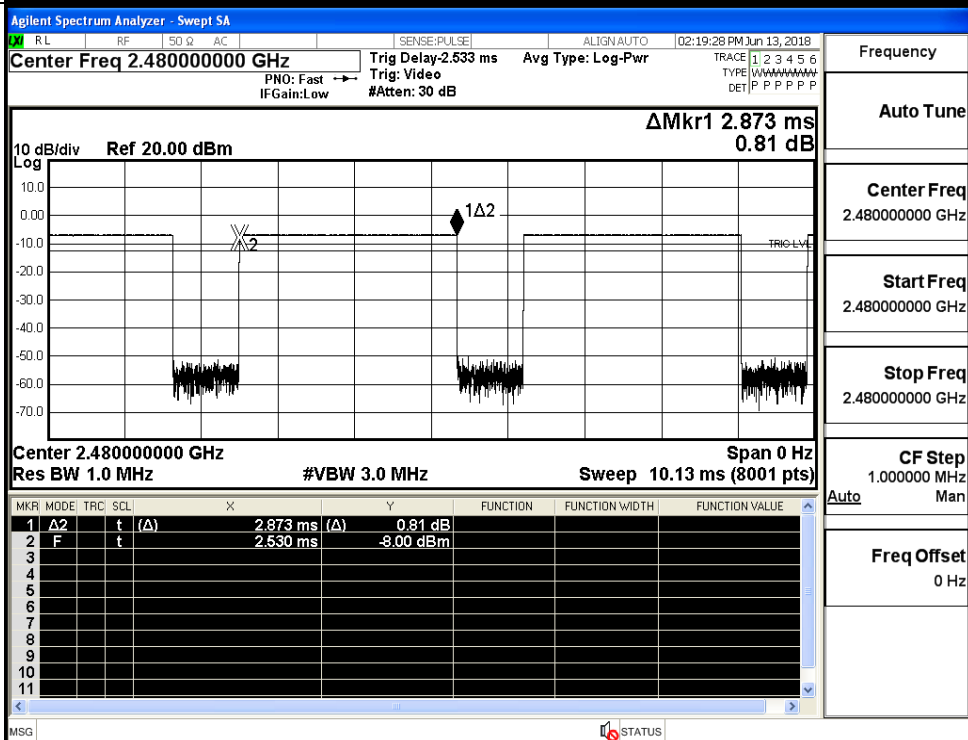
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.87	106.7	0.306	0.4	PASS
π/4DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.87	106.7	0.307	0.4	PASS
8DPSK	3DH5	LCH	2.88	106.7	0.307	0.4	PASS
	3DH5	MCH	2.88	106.7	0.307	0.4	PASS
	3DH5	HCH	2.87	106.7	0.307	0.4	PASS



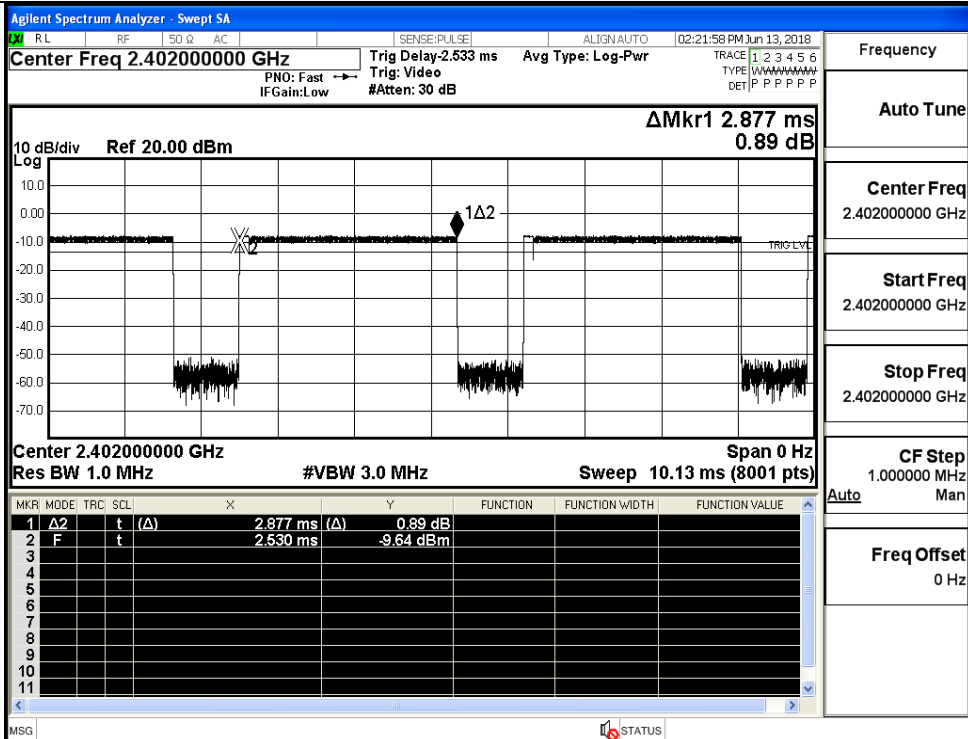
GFSK_DH5/MCH



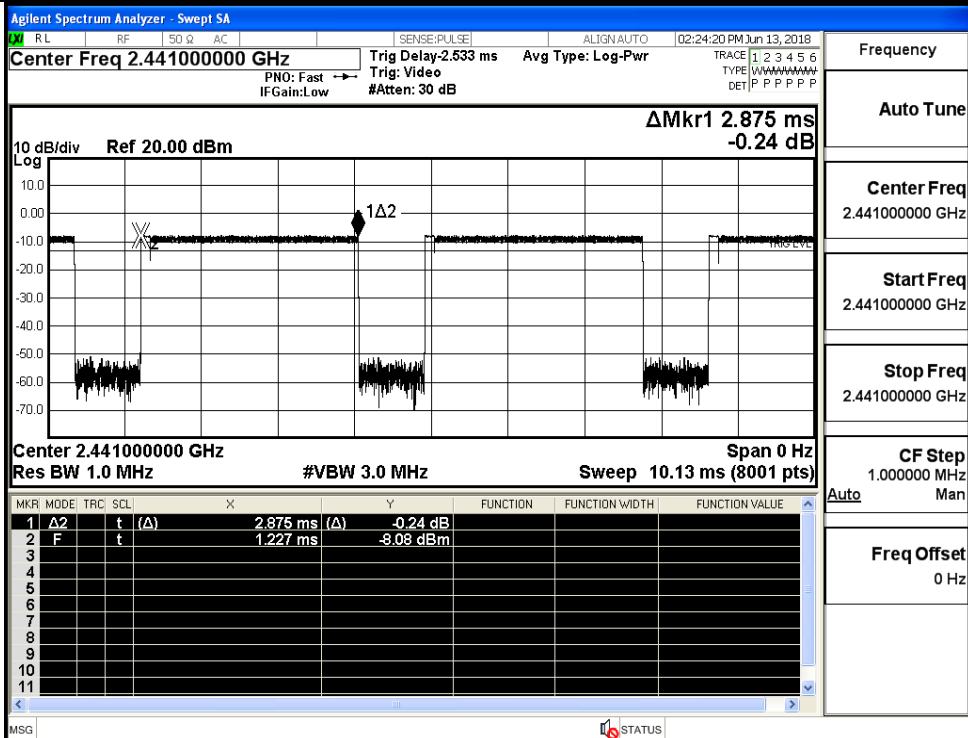
GFSK_DH5/HCH



$\pi/4$ DQPSK
_2DH5/LCH



$\pi/4$ DQPSK
_2DH5/MCH



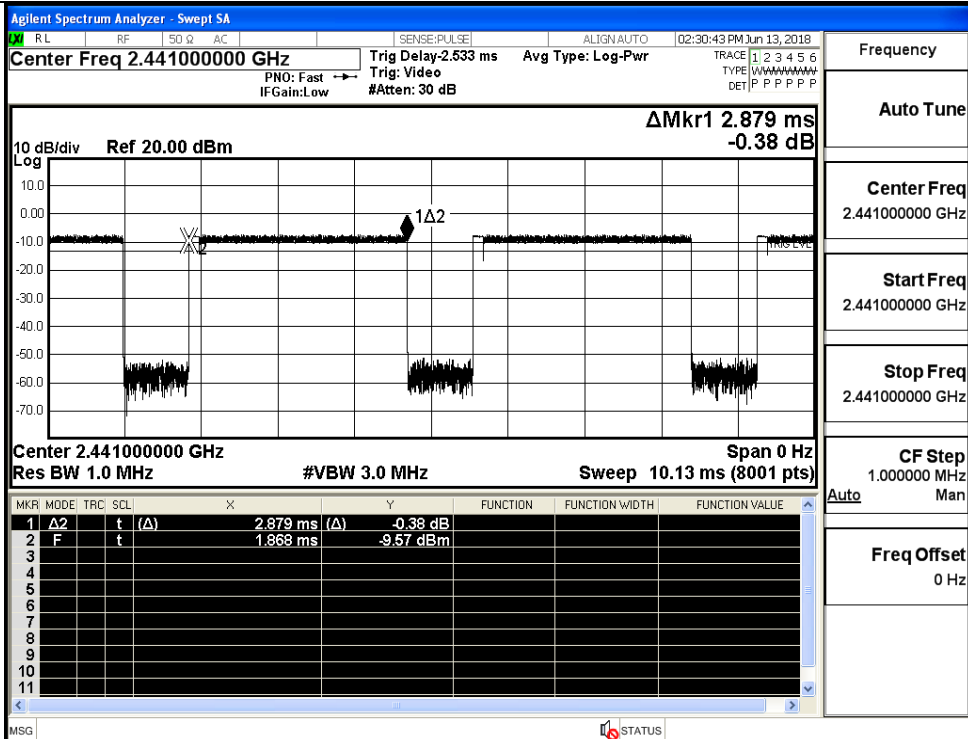
[illegible]

Frequency
Auto Tune
Center Freq 2.480000000 GHz
Start Freq 2.480000000 GHz
Stop Freq 2.480000000 GHz
CF Step 1.000000 MHz Auto Man
Freq Offset 0 Hz

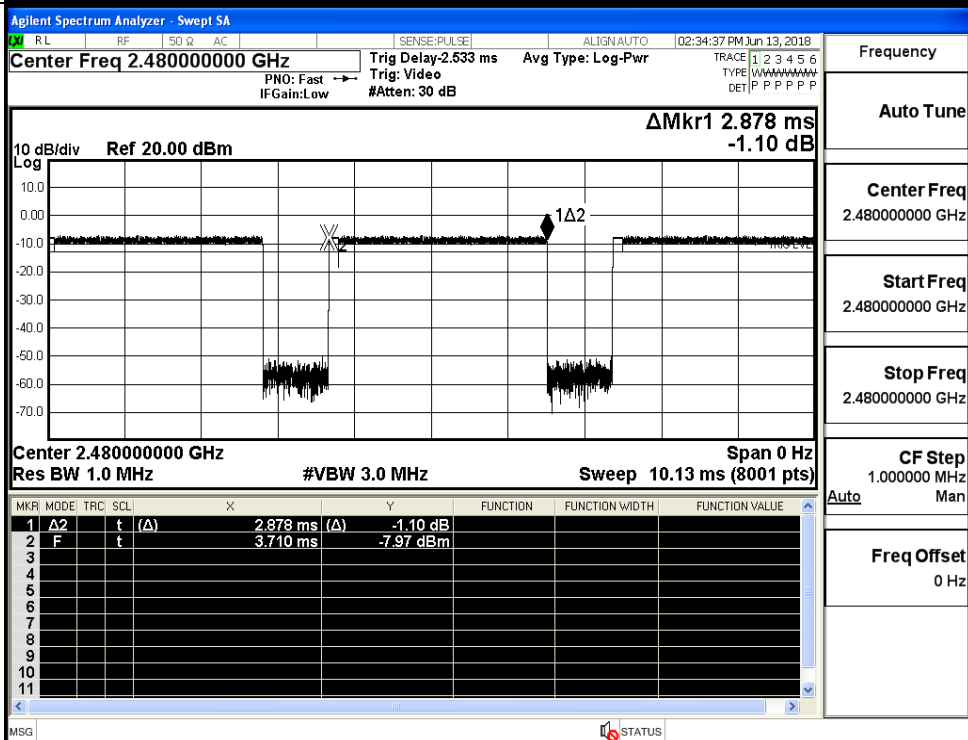
[illegible]

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

8DPSK_3DH5/MCH



8DPSK_3DH5/HCH

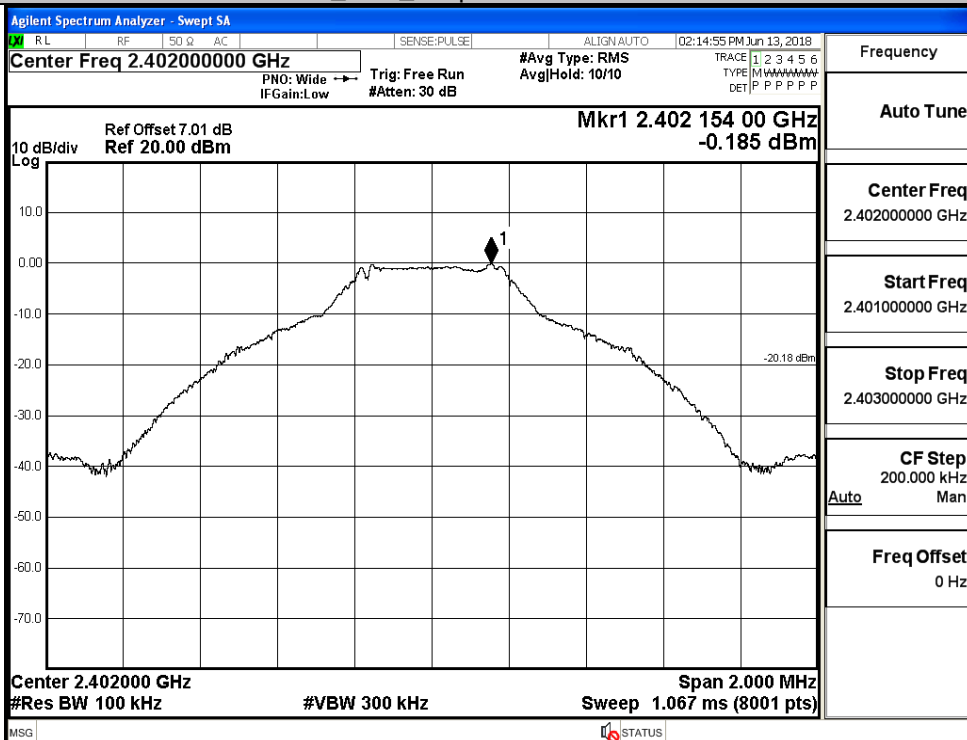


A.6 RF Conducted Spurious Emissions

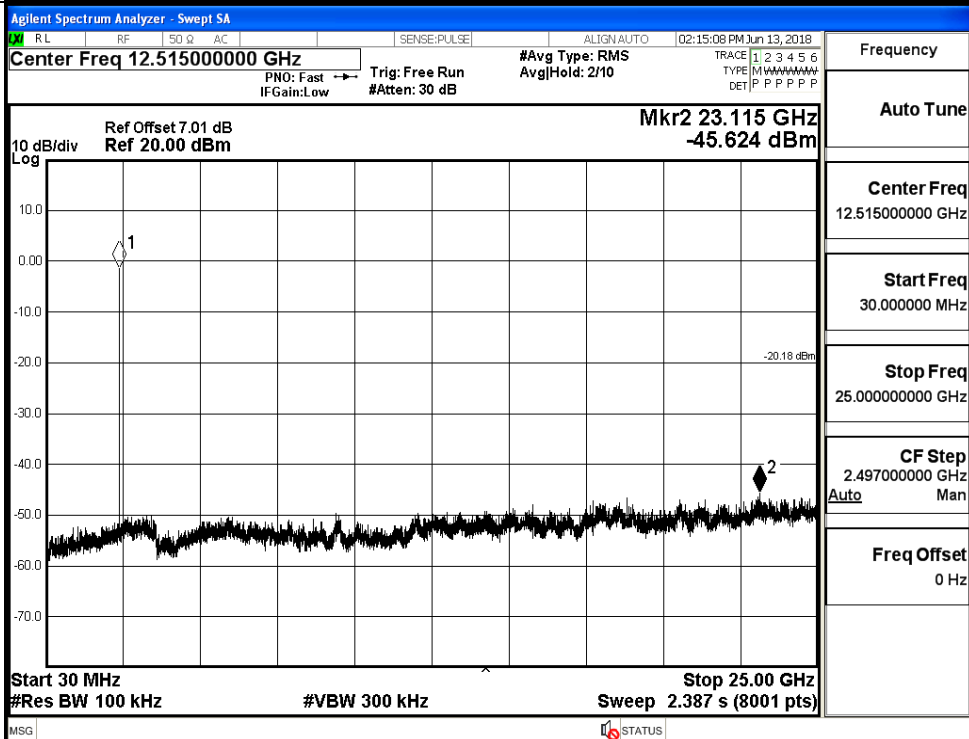
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.185	-45.624	-20.185	PASS
	MCH	-0.25	-45.775	-20.250	PASS
	HCH	-0.148	-45.760	-20.148	PASS
$\pi/4$ DQPSK	LCH	-1.029	-45.870	-21.029	PASS
	MCH	-0.91	-45.749	-20.910	PASS
	HCH	-1.066	-45.672	-21.066	PASS
8DPSK	LCH	-1.043	-45.147	-21.043	PASS
	MCH	-1.013	-45.069	-21.013	PASS
	HCH	-0.87	-44.987	-20.870	PASS

GFSK_LCH_Graphs

Pref

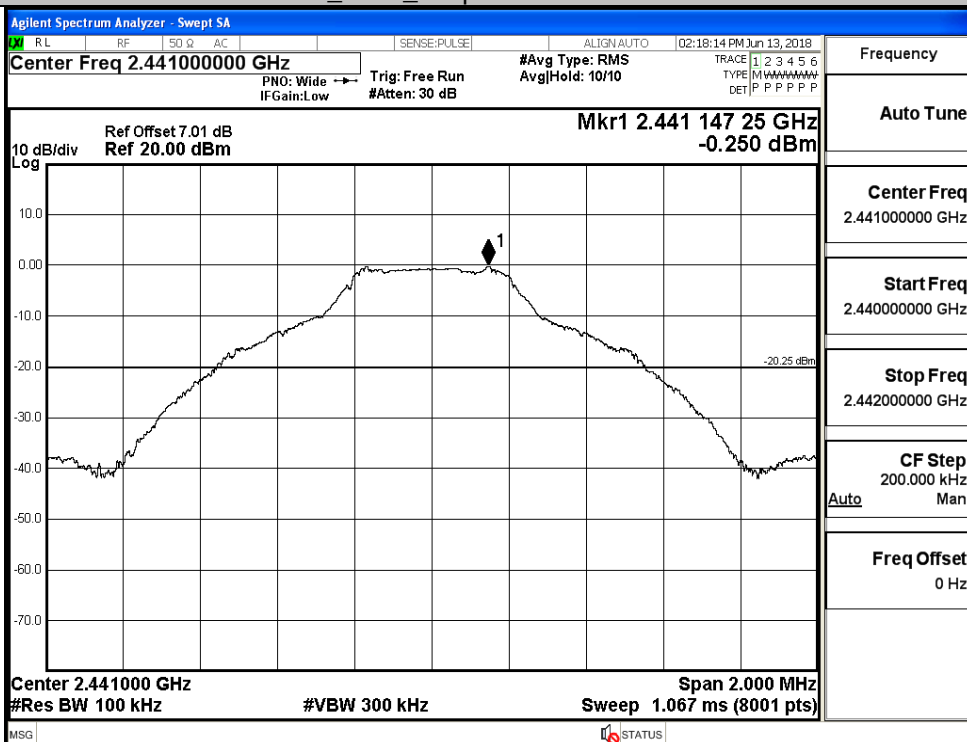


Puw

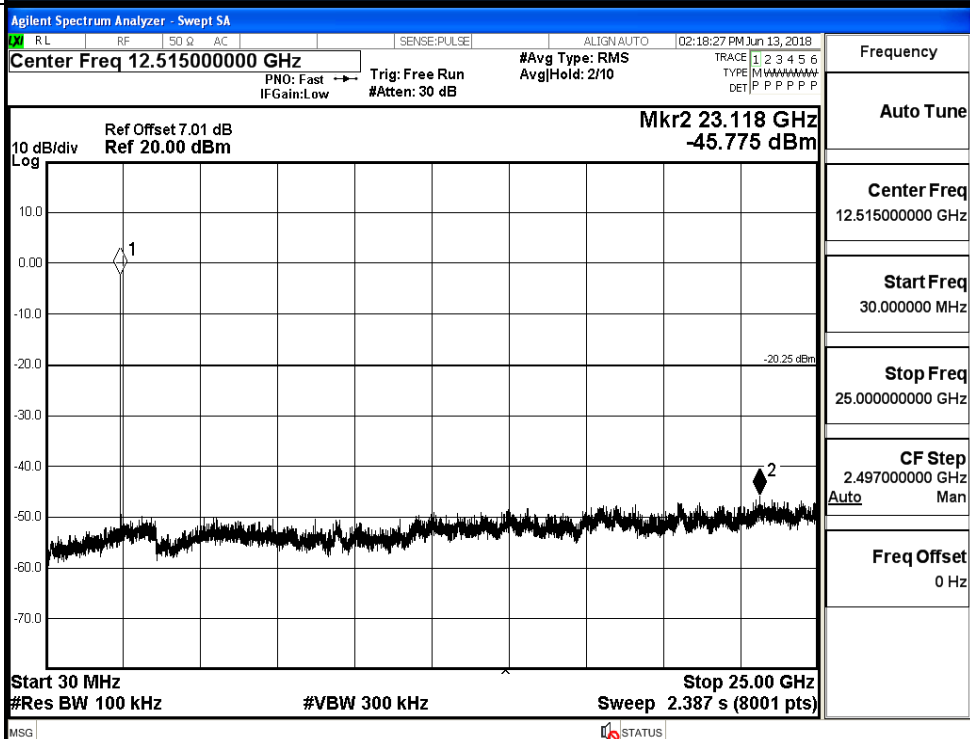


GFSK_MCH_Graphs

Pref

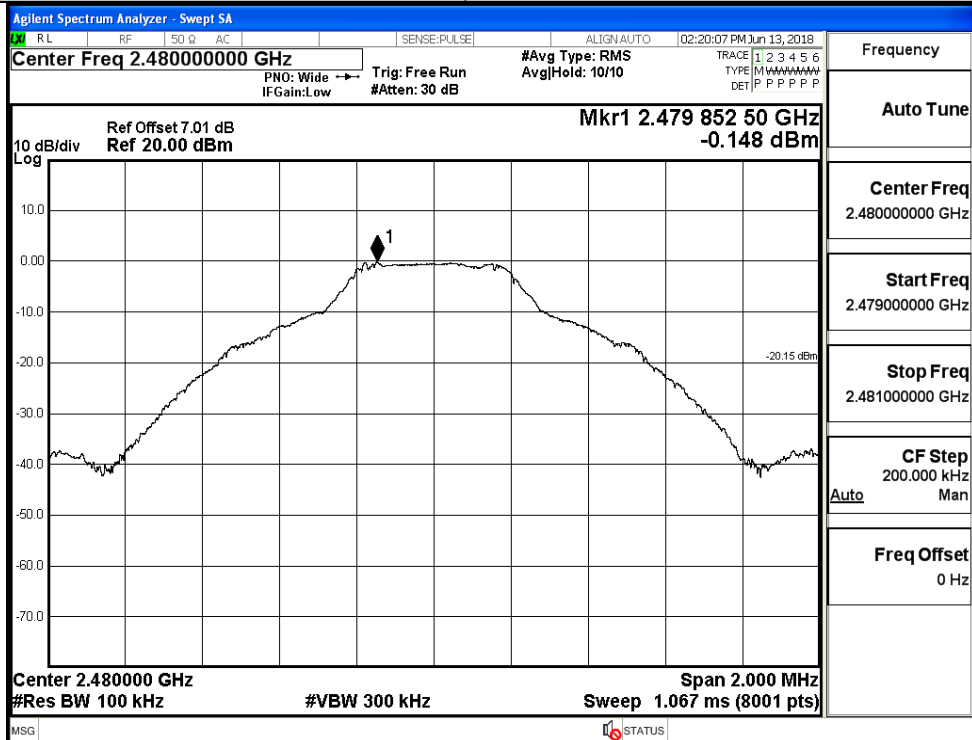


Puw

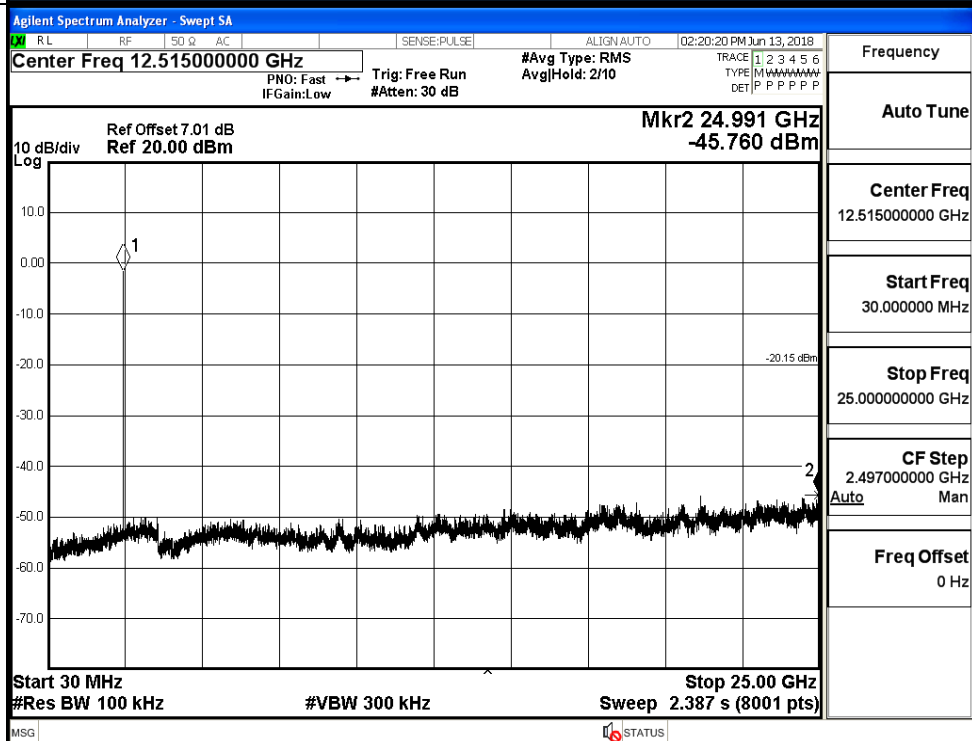


GFSK_HCH_Graphs

Pref

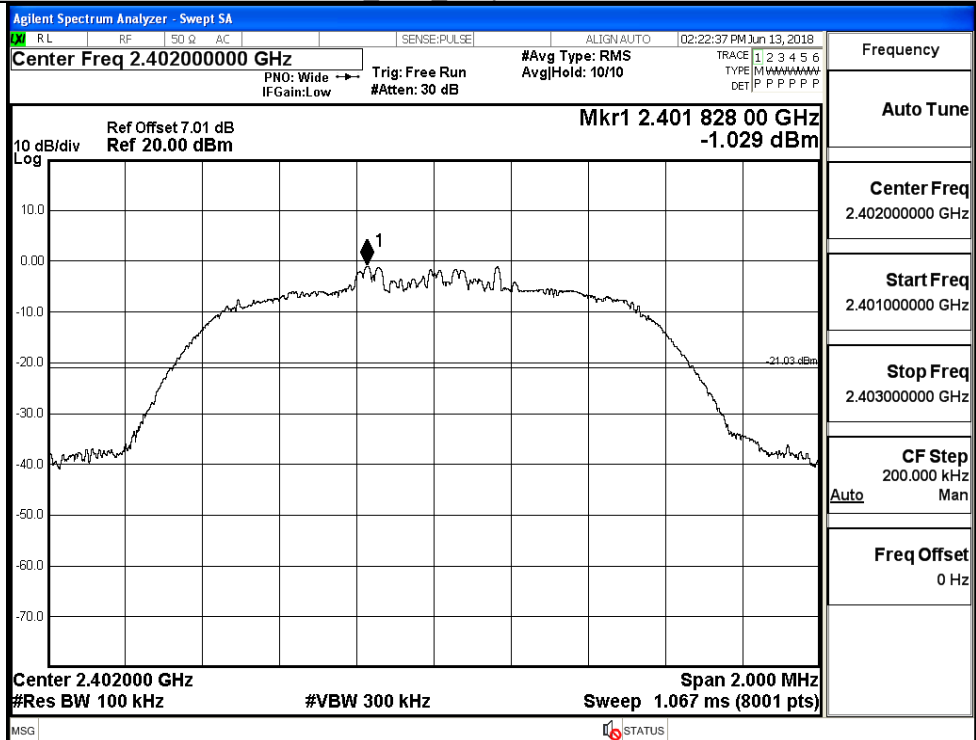


Puw

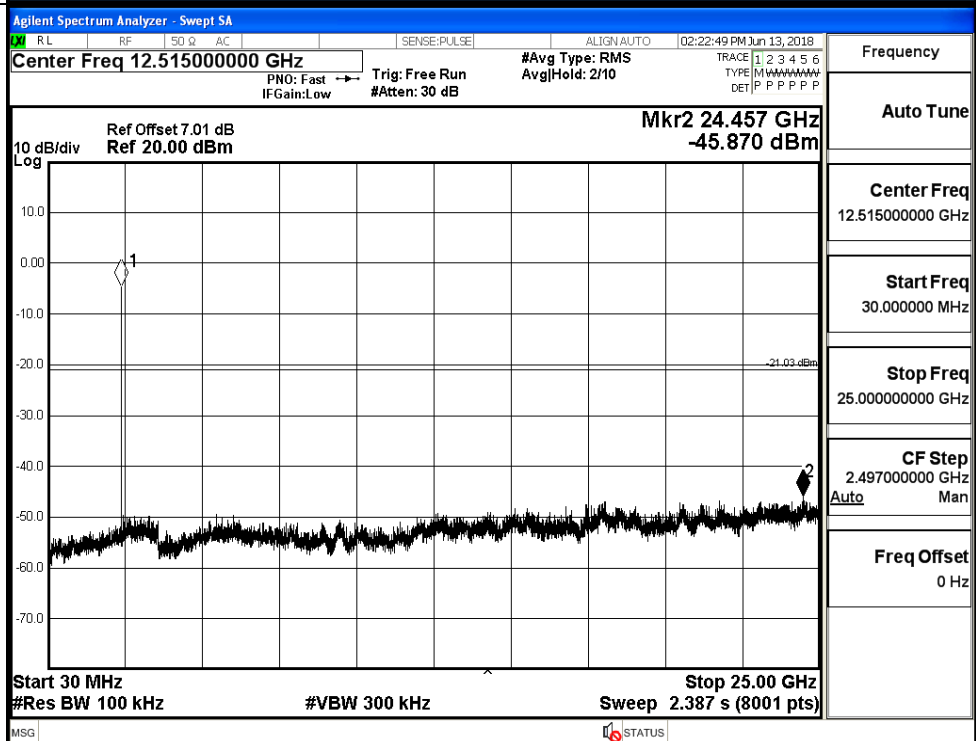


π /4DQPSK LCH_Graphs

Pref

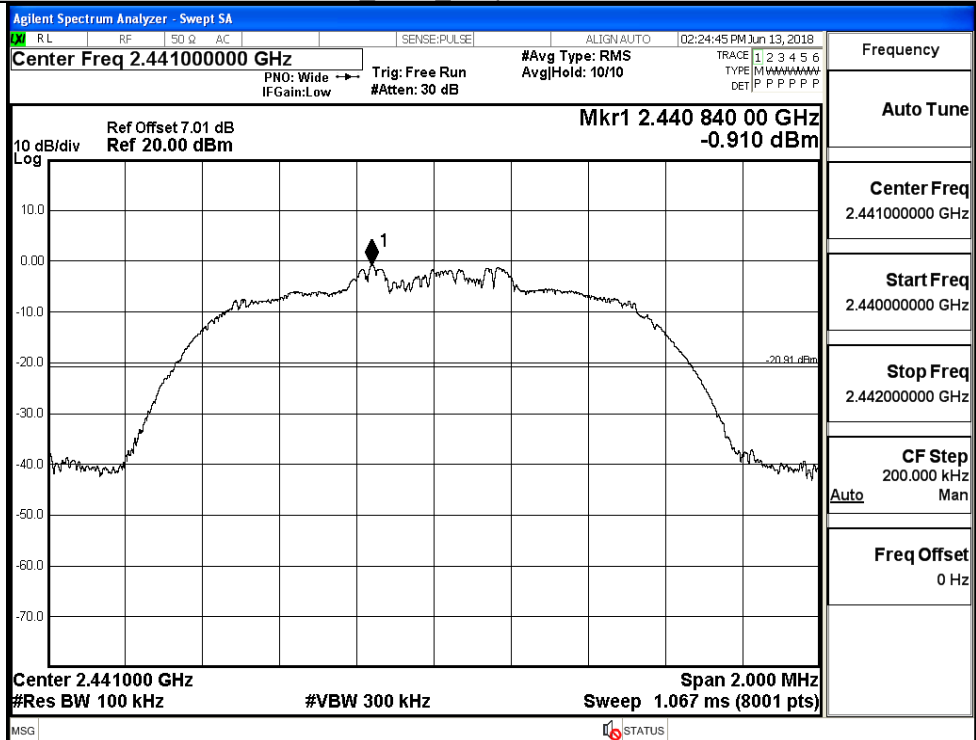


Puw

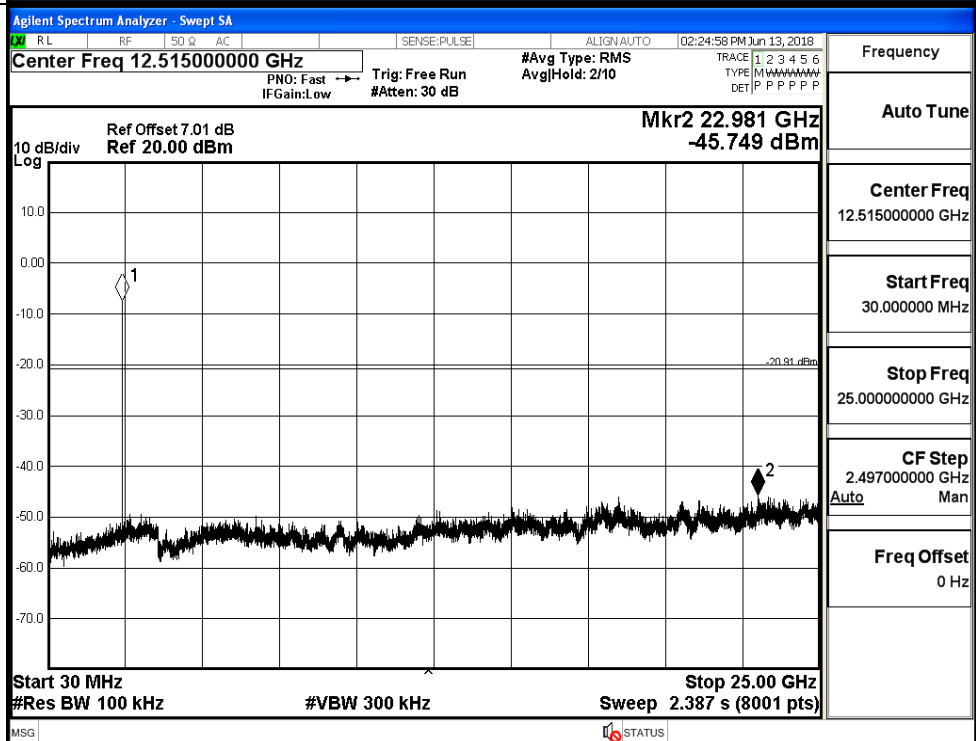


π /4DQPSK_MCH_Graphs

Pref

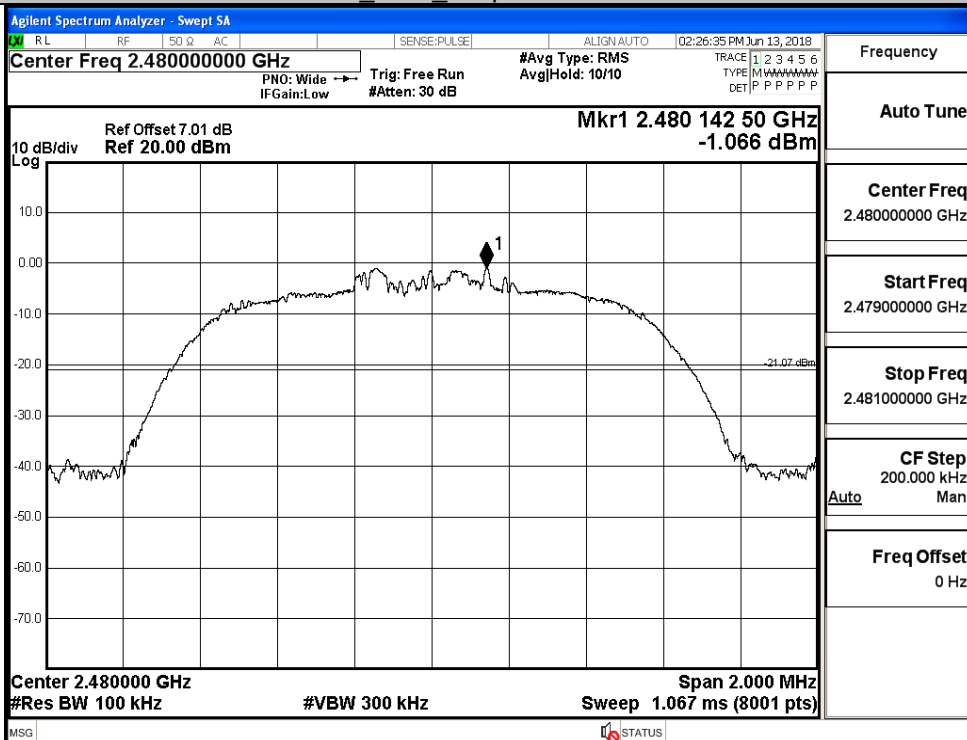


Puw

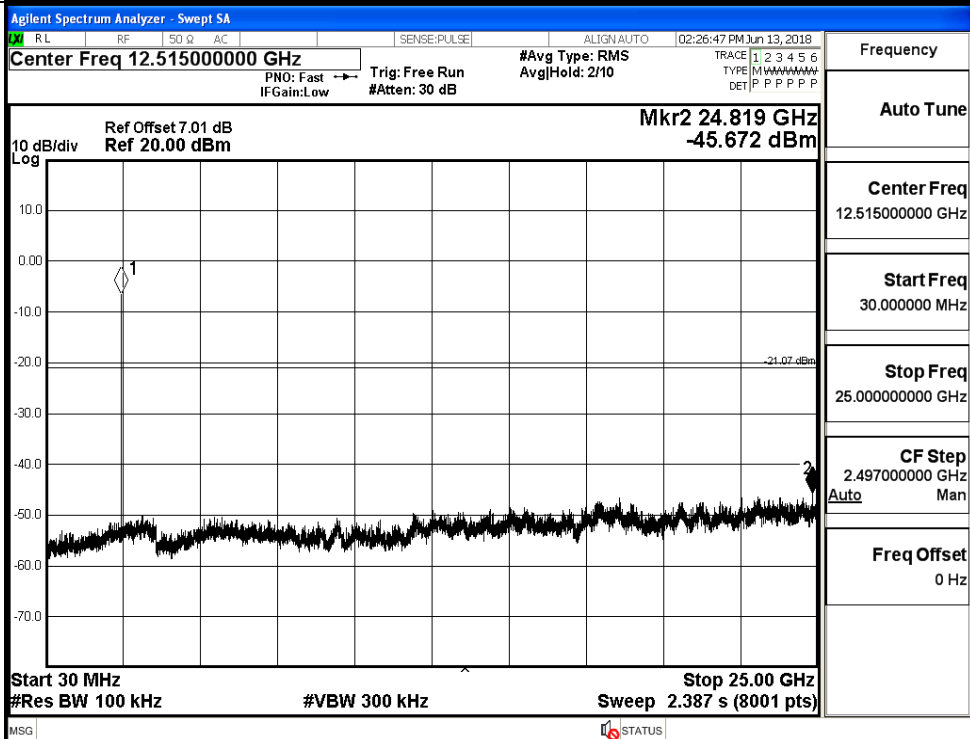


$\pi/4$ DQPSK_HCH_Graphs

Pref

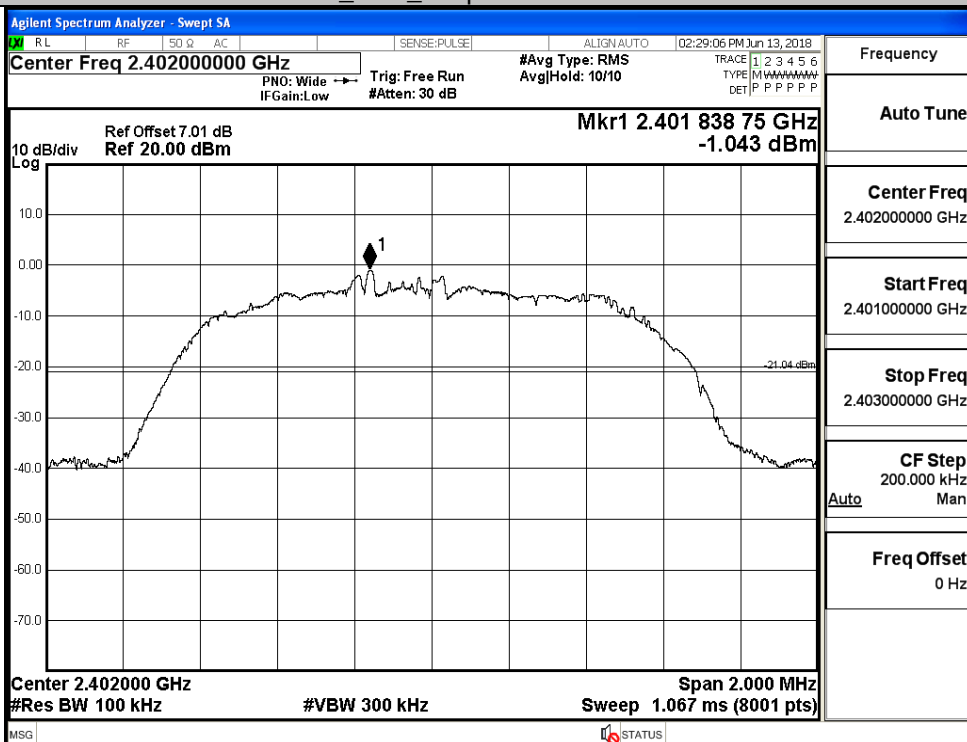


Puw

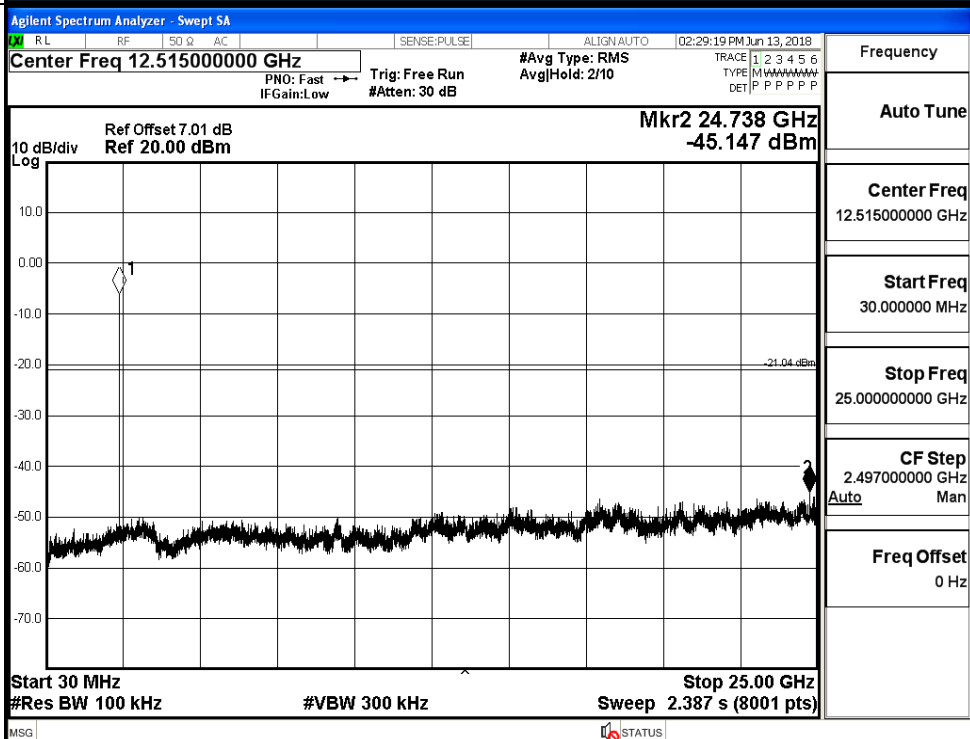


8DPSK_LCH_Graphs

Pref

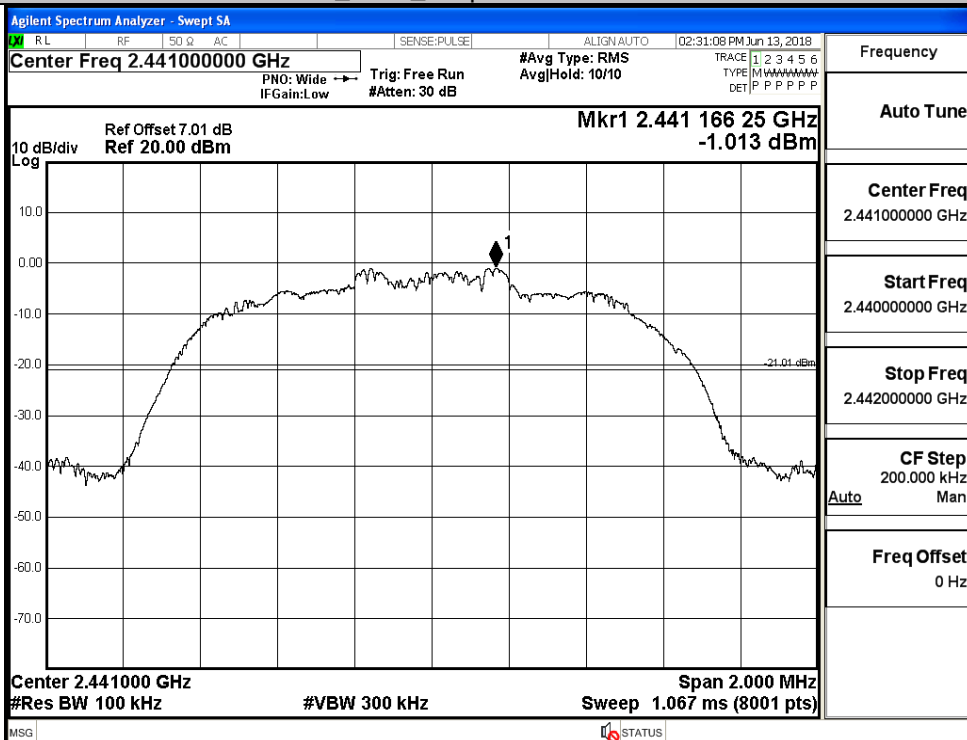


Puw

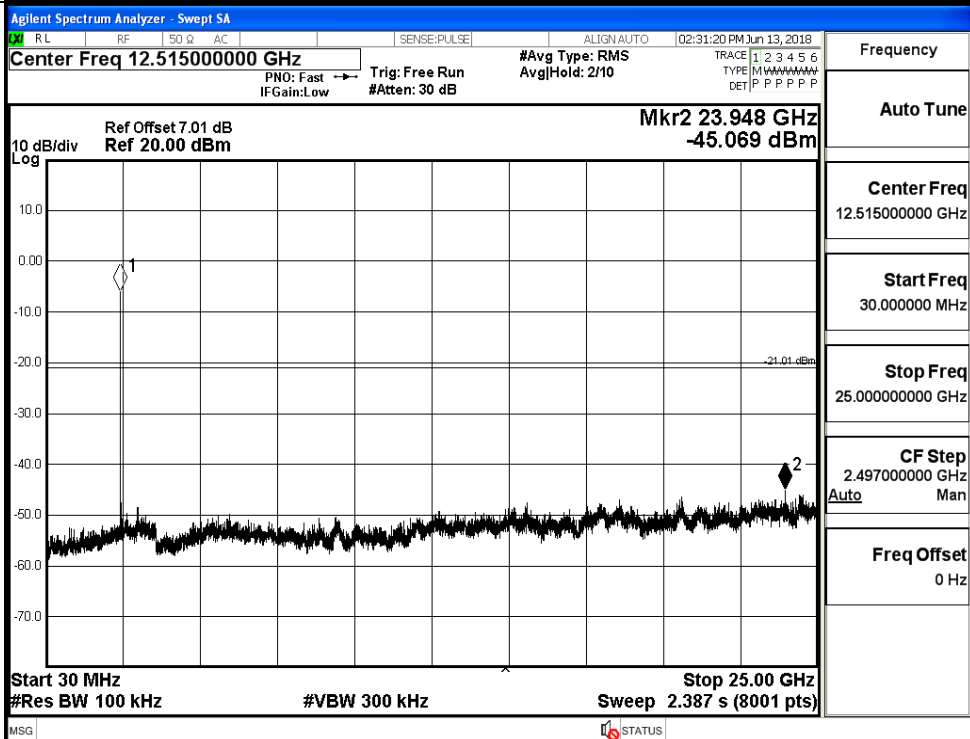


8DPSK_MCH_Graphs

Pref

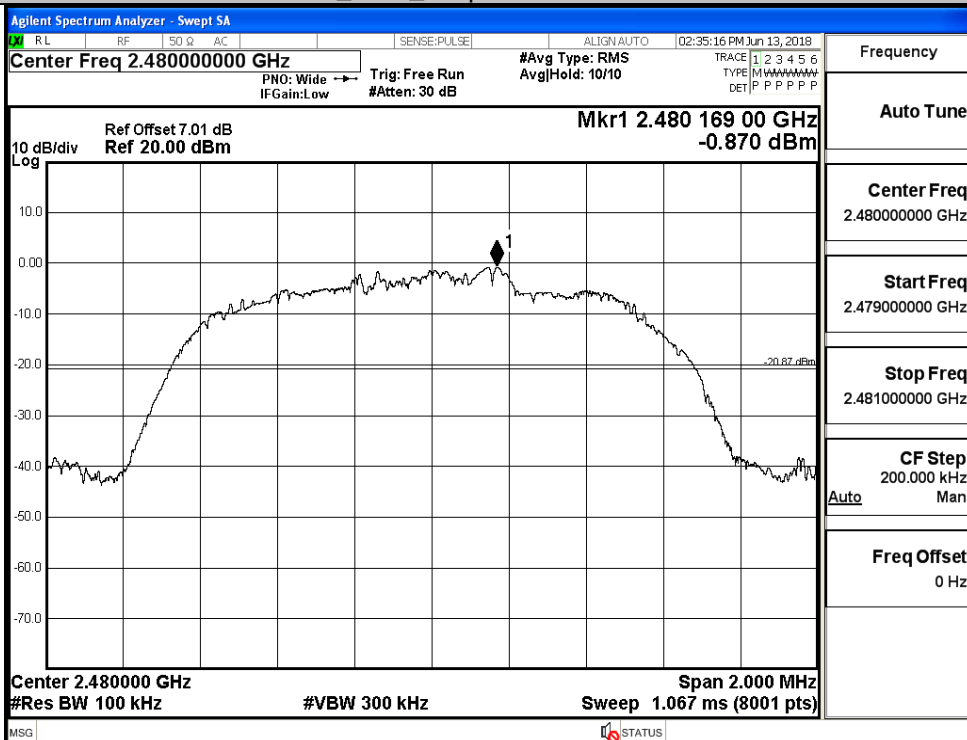


Puw

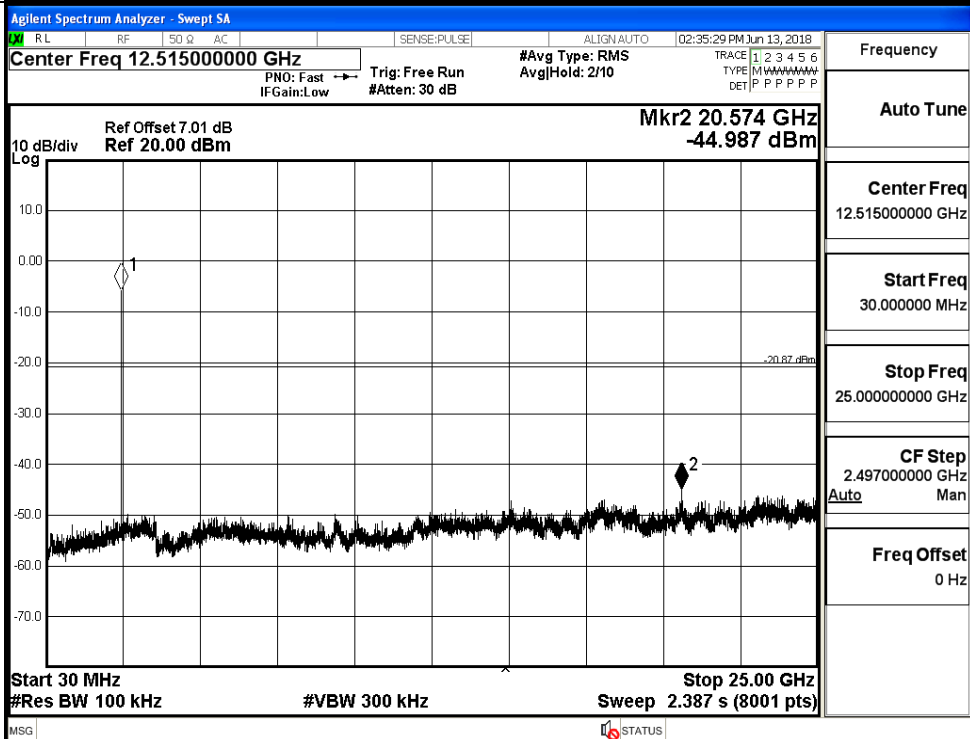


8DPSK_HCH_Graphs

Pref



Puw

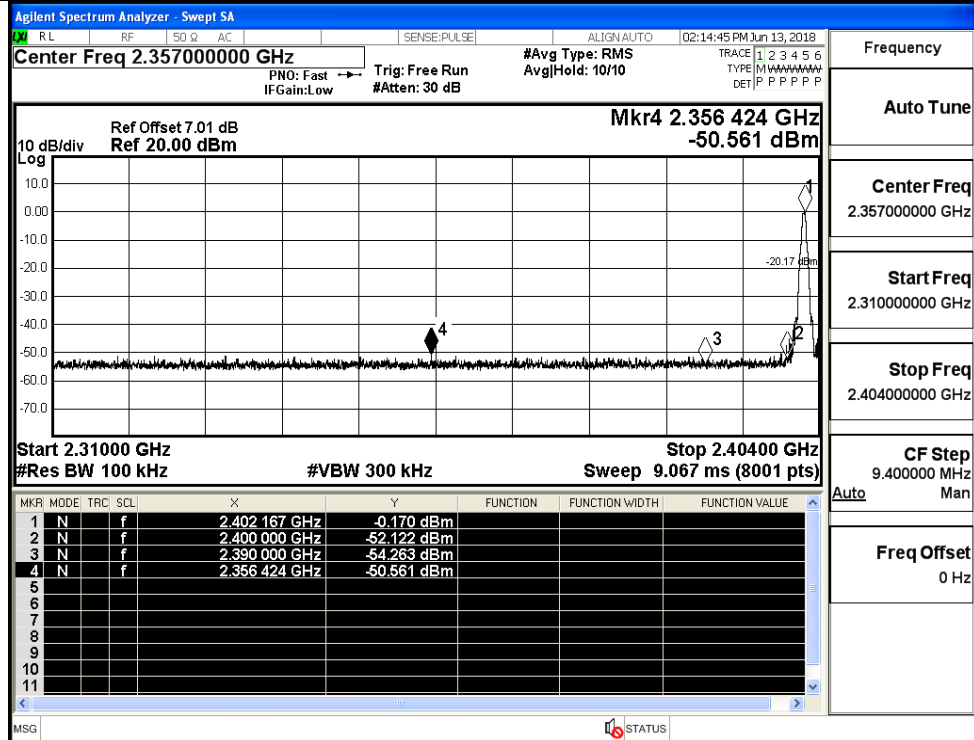


A.7 Band-edge for RF Conducted Emissions

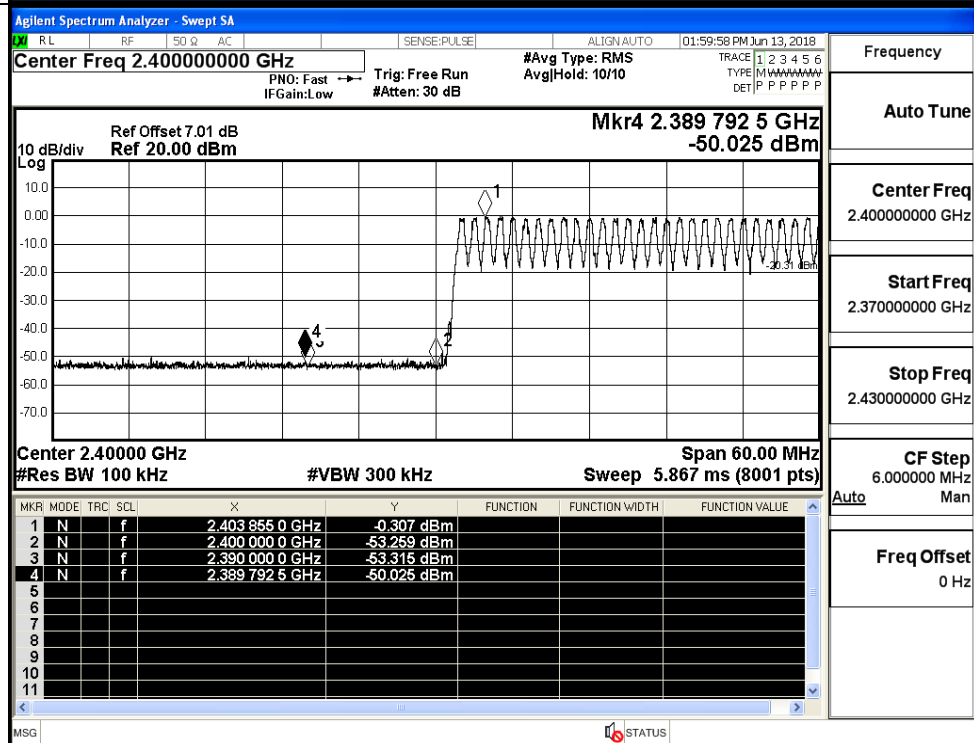
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-0.170	Off	-50.561	-20.17	PASS
			-0.307	On	-50.025	-20.31	PASS
	HCH	2480	0.213	Off	-50.558	-19.79	PASS
			0.084	On	-49.175	-19.92	PASS
$\pi/4$ DQPSK	LCH	2402	-0.896	Off	-50.845	-20.9	PASS
			-0.980	On	-50.484	-20.98	PASS
	HCH	2480	-1.150	Off	-50.678	-21.15	PASS
			-0.936	On	-50.714	-20.94	PASS
8DPSK	LCH	2402	-1.118	Off	-50.649	-21.12	PASS
			-1.120	On	-50.348	-21.12	PASS
	HCH	2480	-0.620	Off	-50.958	-20.62	PASS
			-0.752	On	-49.952	-20.75	PASS

Test Graphs

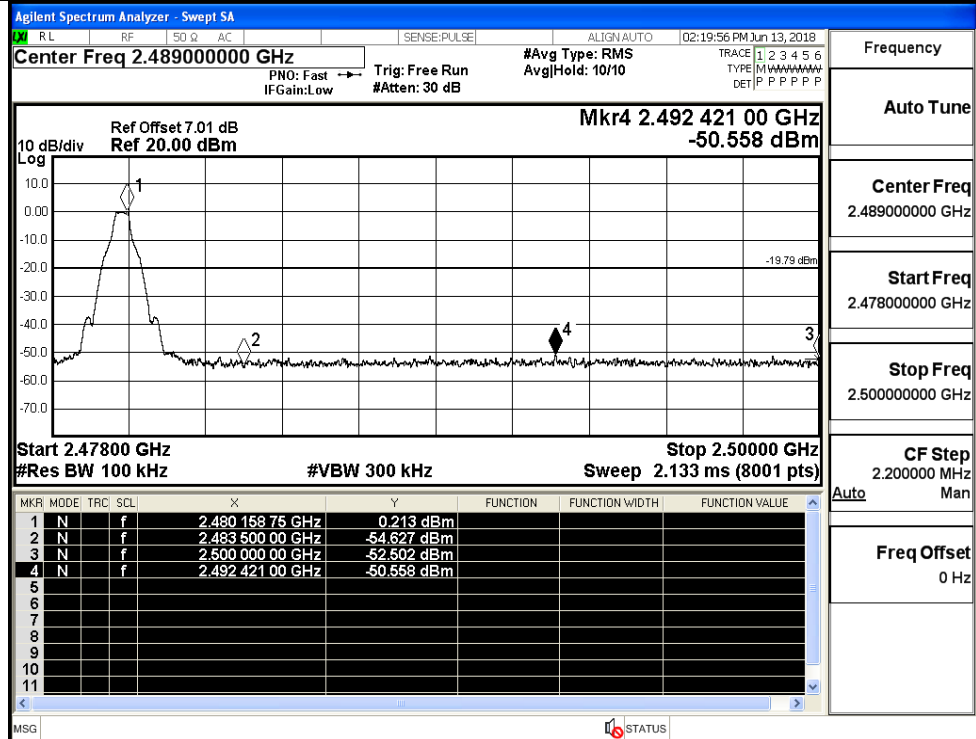
GFSK/LCH/No Hop



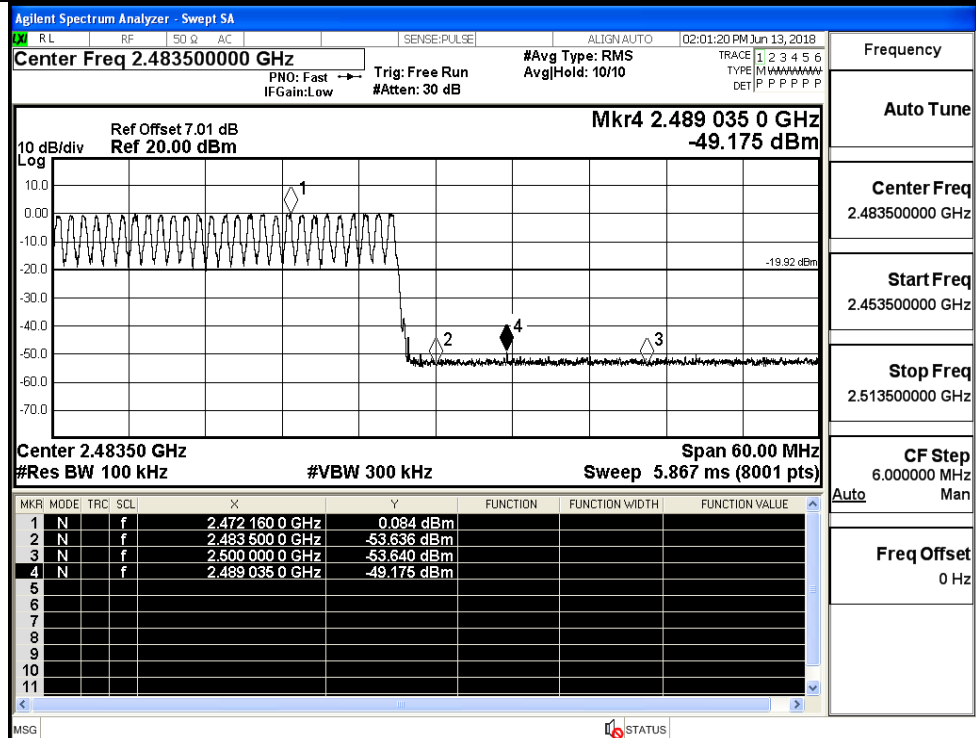
GFSK/LCH/Hop



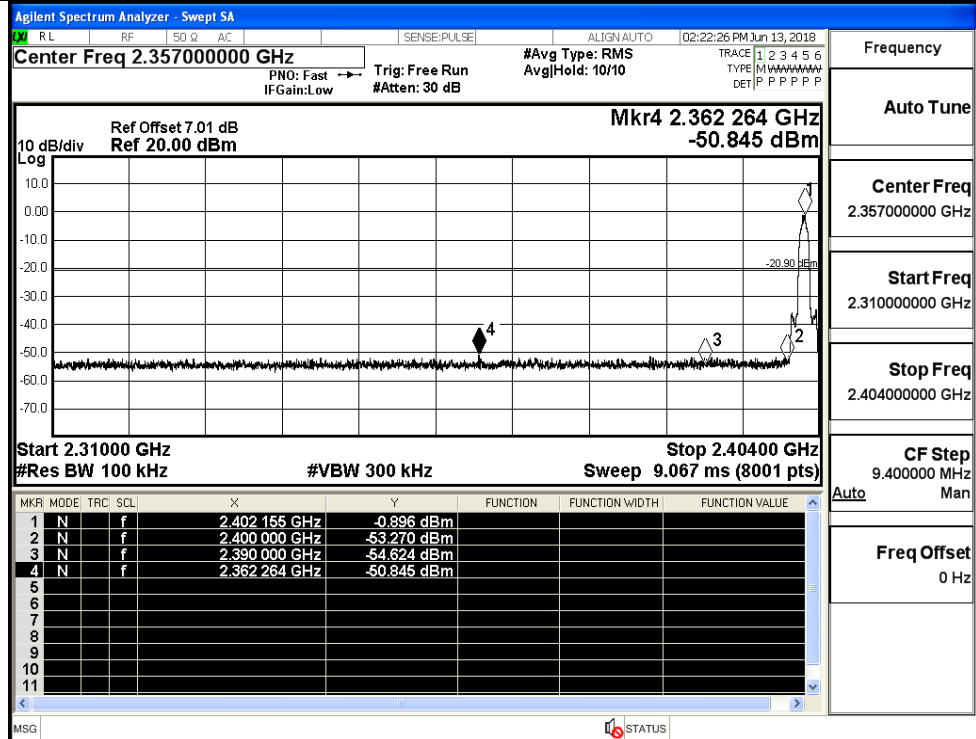
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq
2.357000000 GHz

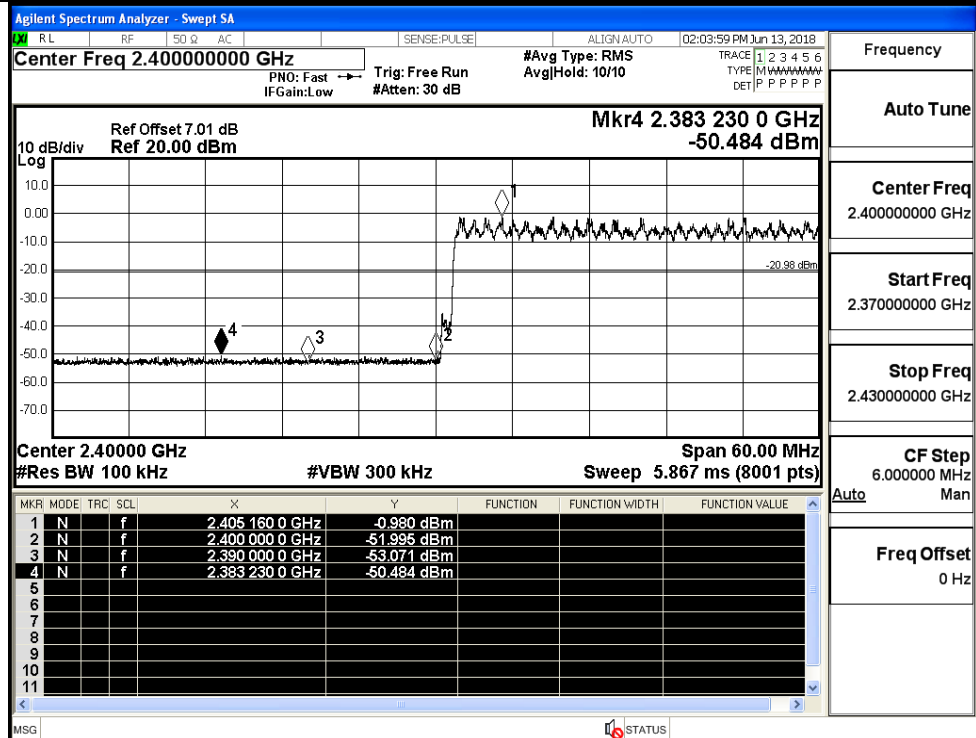
Start Freq
2.310000000 GHz

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

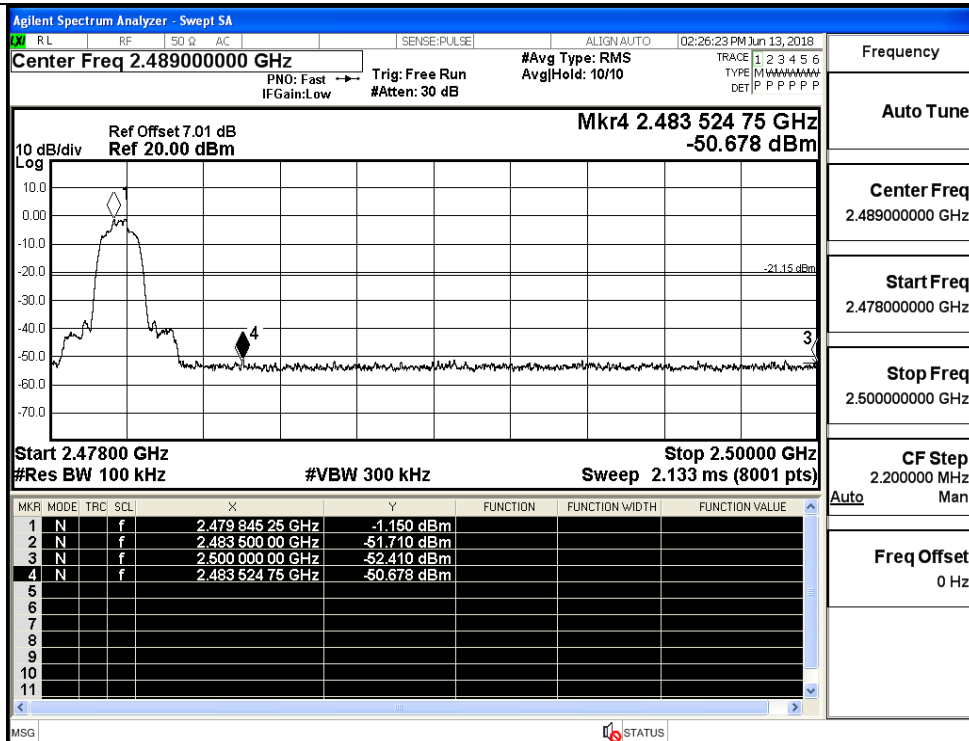
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

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

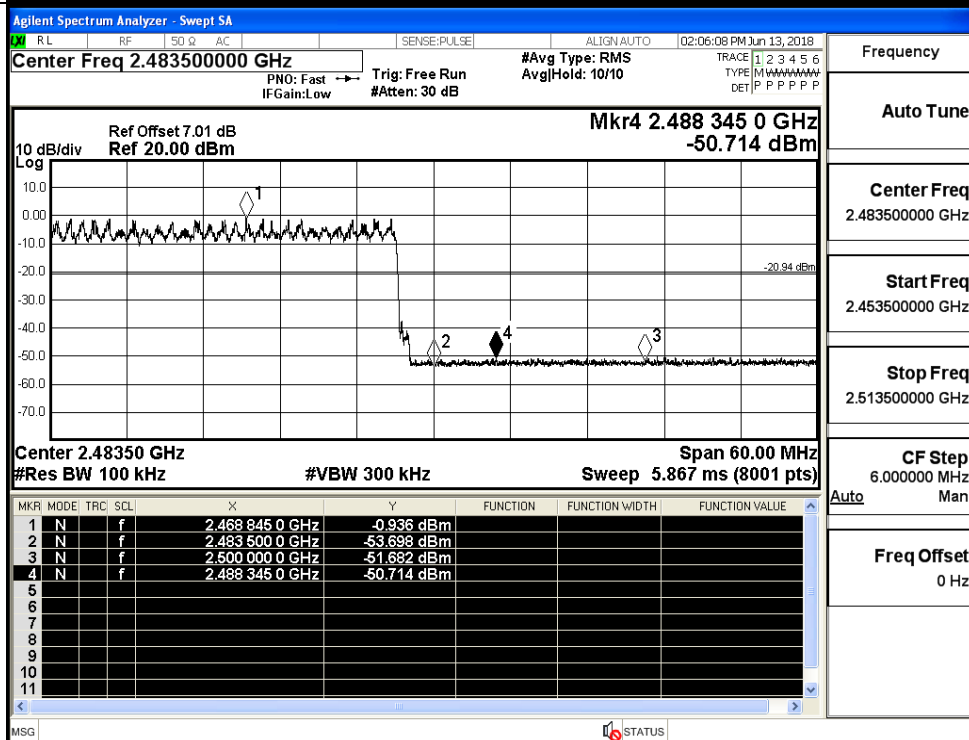


Frequency

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

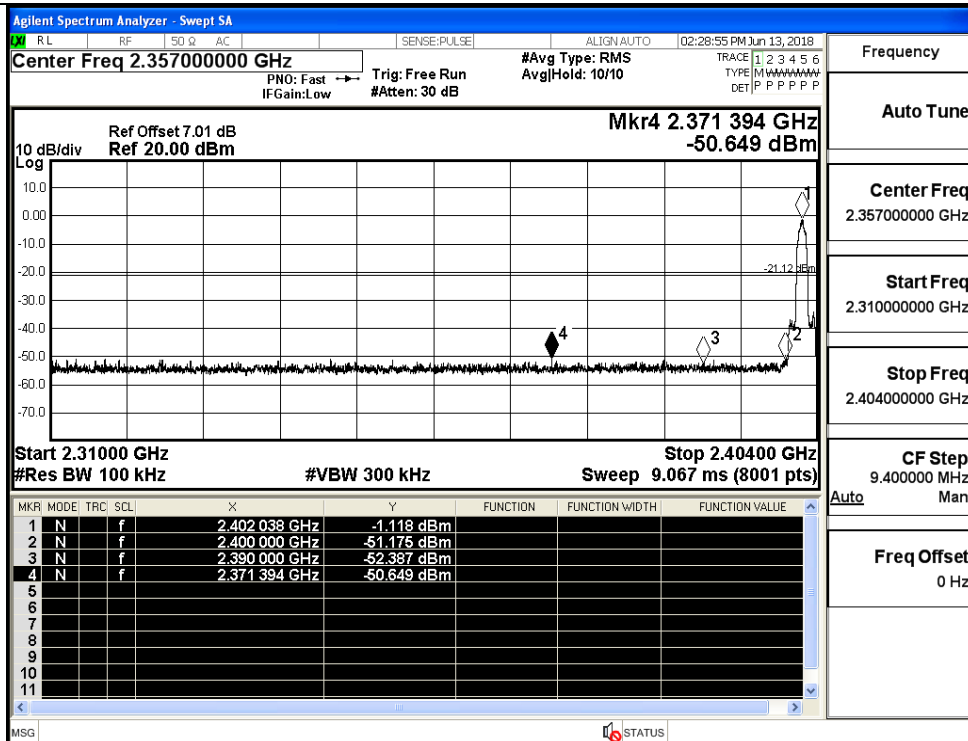


Frequency

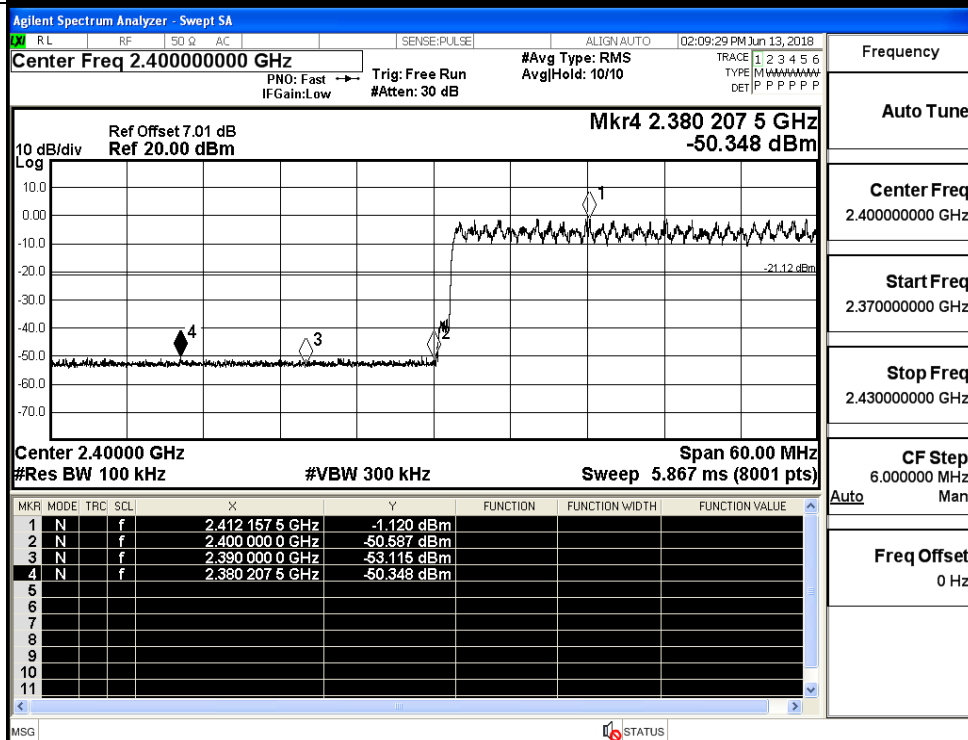
Auto Tune

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

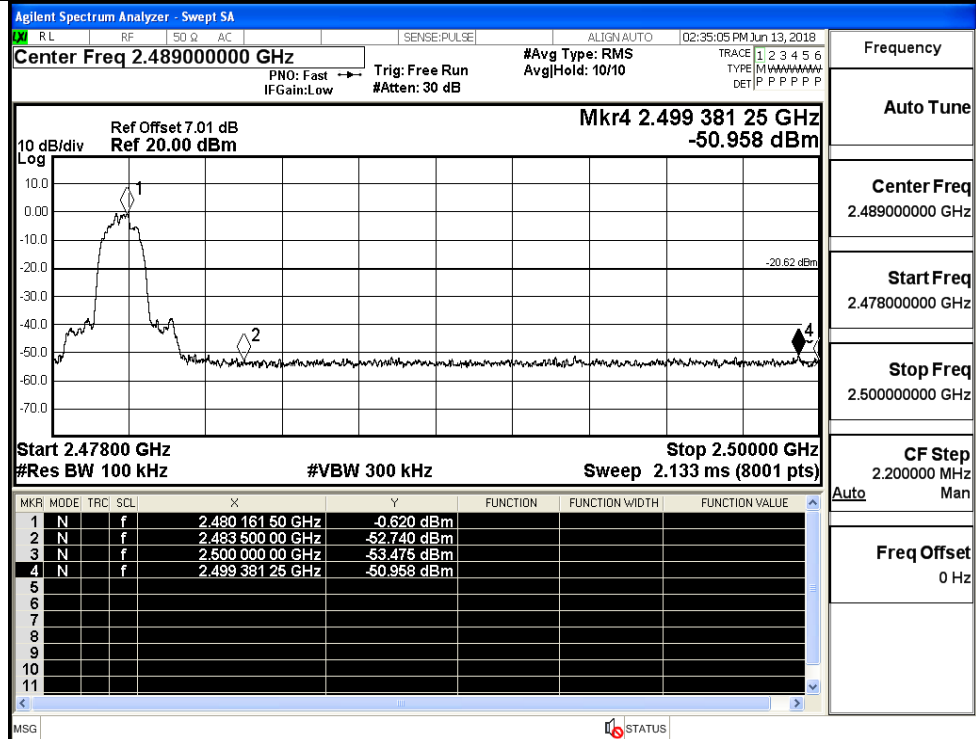
8DPSK/LCH/No Hop



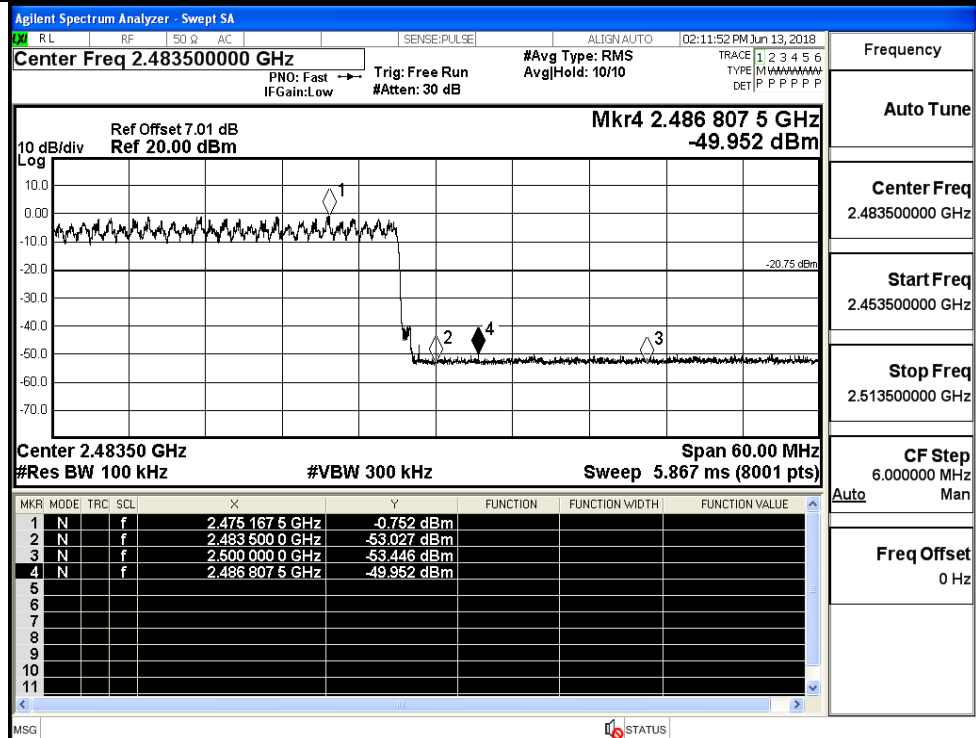
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



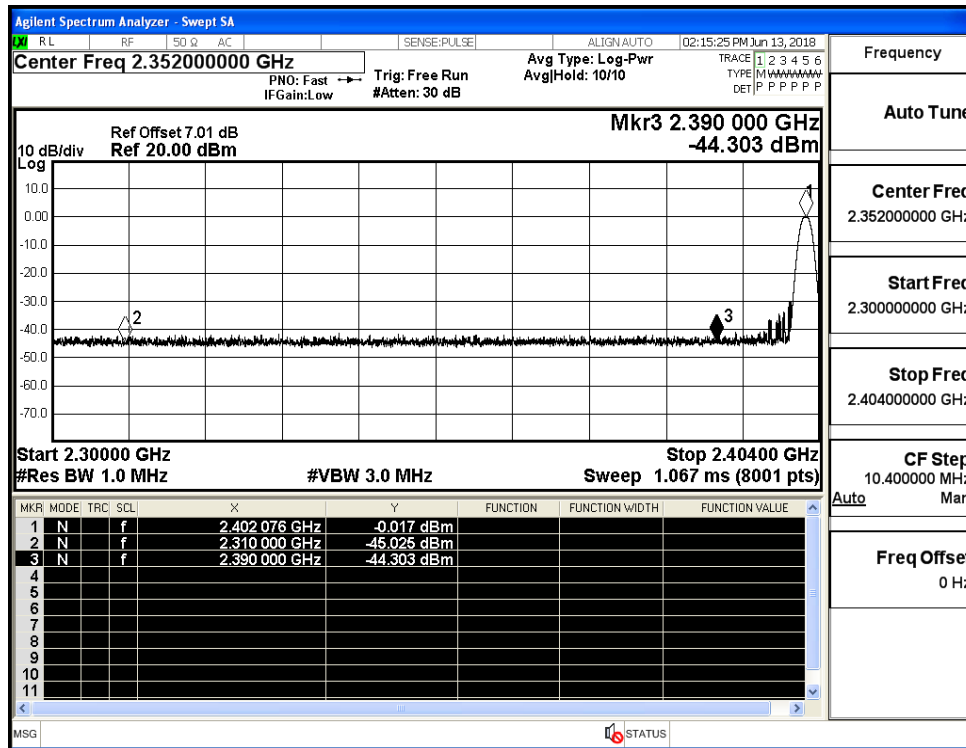
8DPSK/HCH/Hop



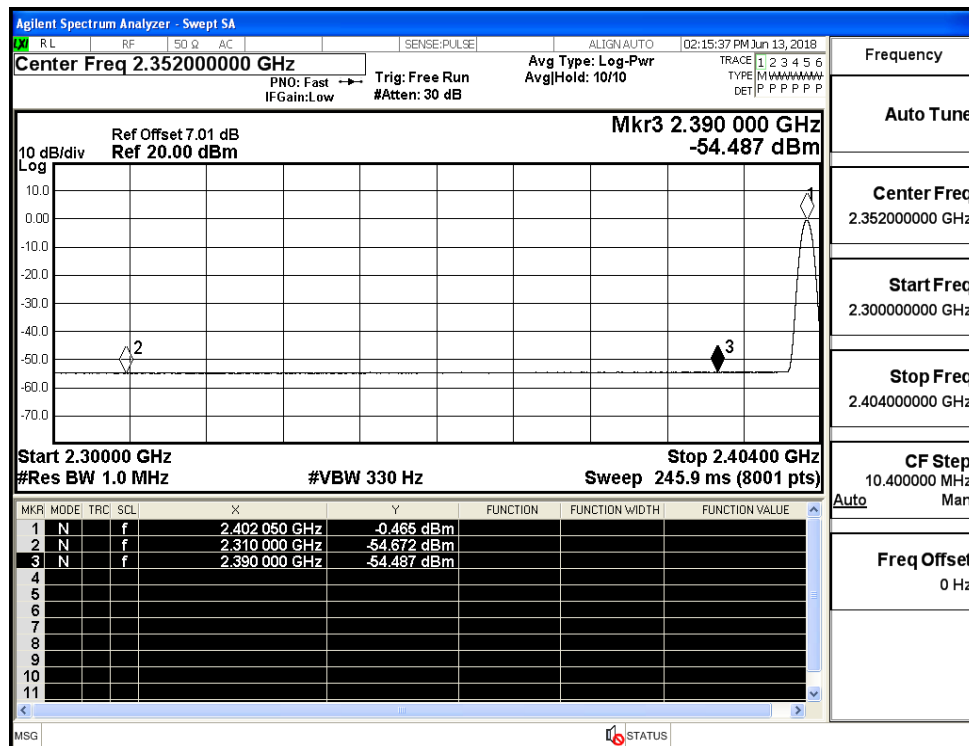
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-45.03	2.0	0	52.23	PEAK	74	PASS
	Off	2310.0	-54.67	2.0	0	42.59	AV	54	PASS
	Off	2390.0	-44.30	2.0	0	52.95	PEAK	74	PASS
	Off	2390.0	-54.49	2.0	0	42.77	AV	54	PASS
	Off	2483.5	-44.71	2.0	0	52.55	PEAK	74	PASS
	Off	2483.5	-54.26	2.0	0	42.99	AV	54	PASS
	Off	2500.0	-43.44	2.0	0	53.82	PEAK	74	PASS
	Off	2500.0	-54.14	2.0	0	43.12	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-45.70	2.0	0	51.56	PEAK	74	PASS
	Off	2310.0	-54.83	2.0	0	42.43	AV	54	PASS
	Off	2390.0	-44.48	2.0	0	52.78	PEAK	74	PASS
	Off	2390.0	-54.47	2.0	0	42.79	AV	54	PASS
	Off	2483.5	-44.40	2.0	0	52.86	PEAK	74	PASS
	Off	2483.5	-54.18	2.0	0	43.07	AV	54	PASS
	Off	2500.0	-43.94	2.0	0	53.32	PEAK	74	PASS
	Off	2500.0	-54.10	2.0	0	43.16	AV	54	PASS
8DPSK	Off	2310.0	-43.99	2.0	0	53.27	PEAK	74	PASS
	Off	2310.0	-54.85	2.0	0	42.41	AV	54	PASS
	Off	2390.0	-44.52	2.0	0	52.74	PEAK	74	PASS
	Off	2390.0	-54.52	2.0	0	42.74	AV	54	PASS
	Off	2483.5	-44.41	2.0	0	52.85	PEAK	74	PASS
	Off	2483.5	-54.09	2.0	0	43.16	AV	54	PASS
	Off	2500.0	-42.41	2.0	0	54.84	PEAK	74	PASS
	Off	2500.0	-54.01	2.0	0	43.25	AV	54	PASS

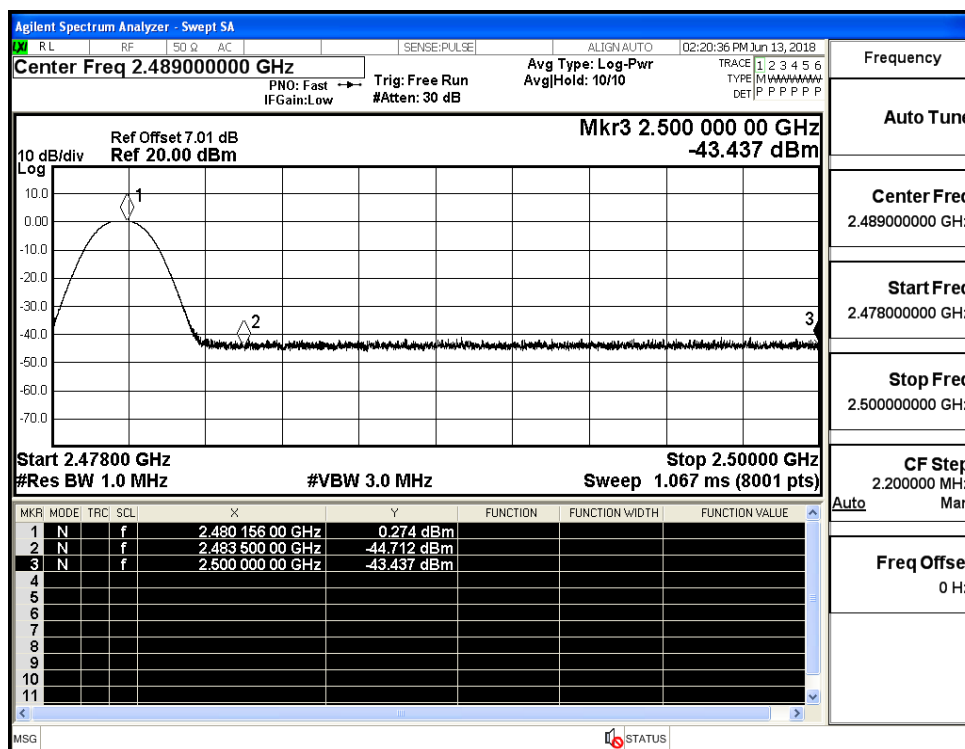
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



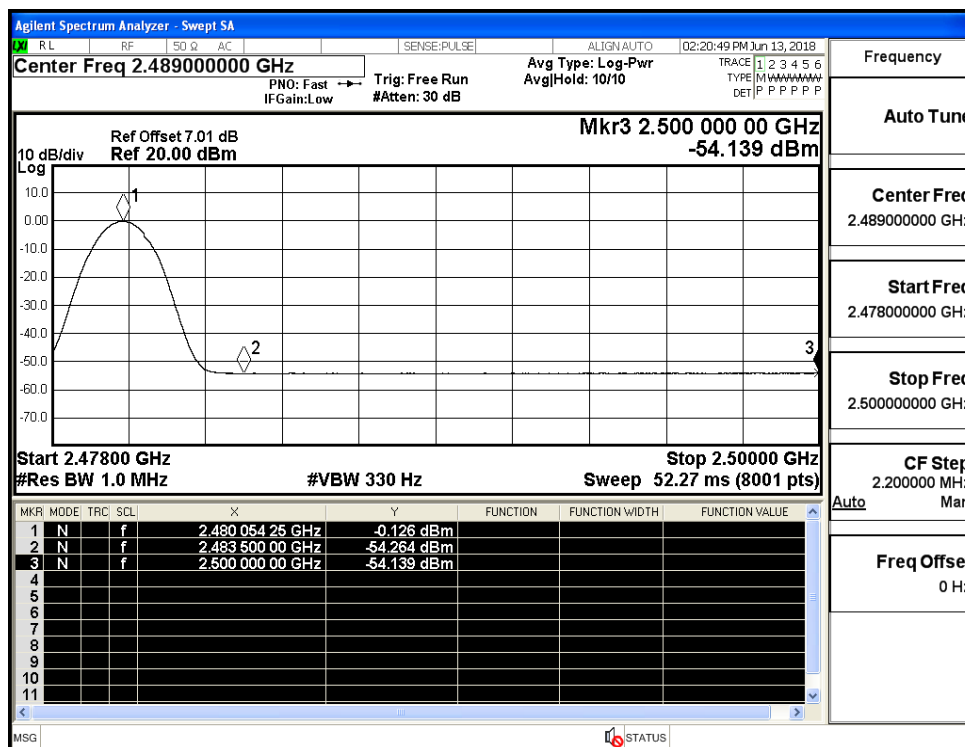
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)

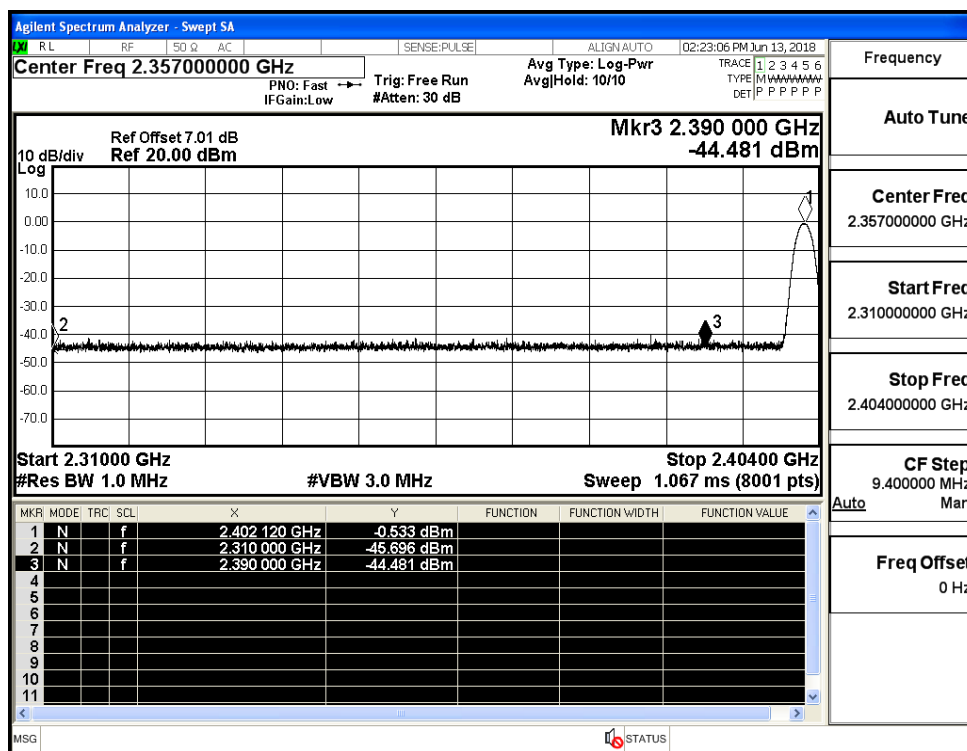
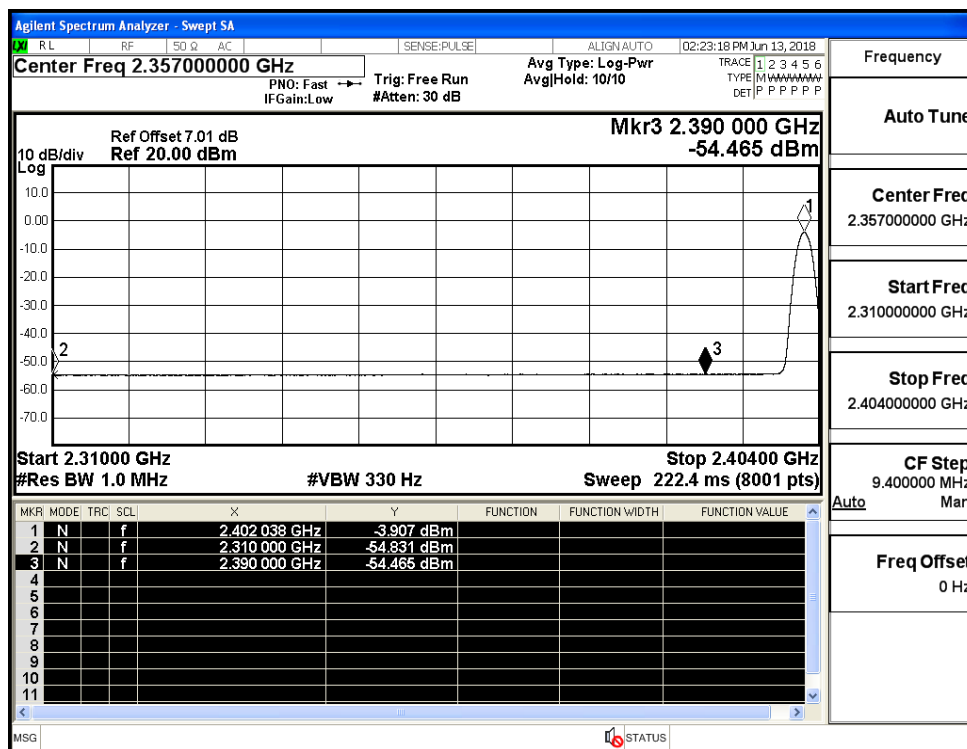


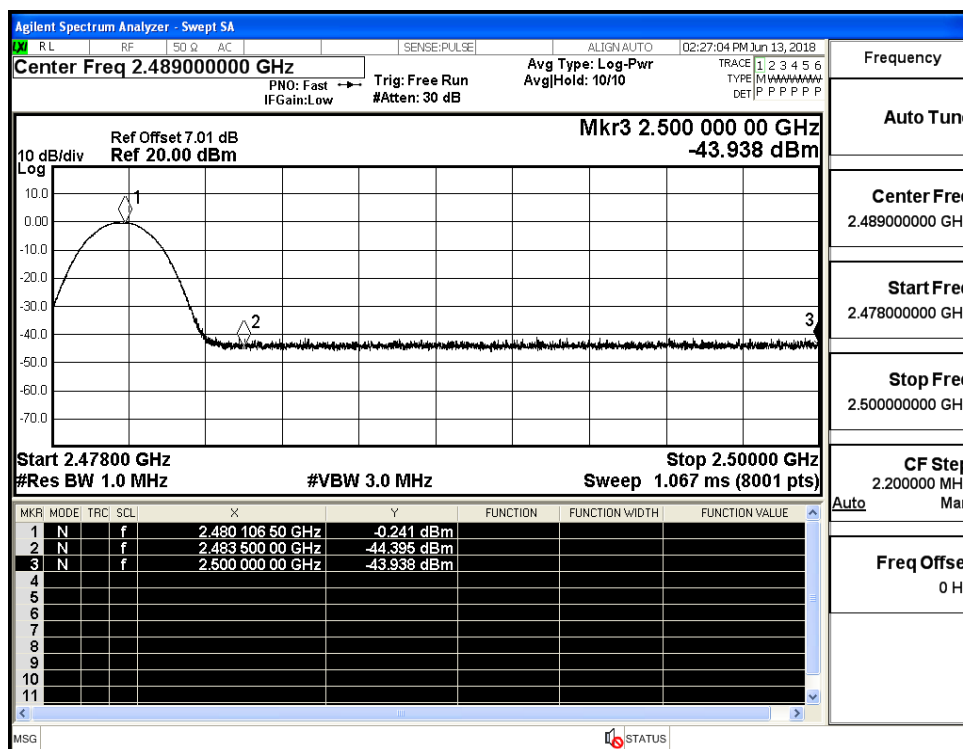
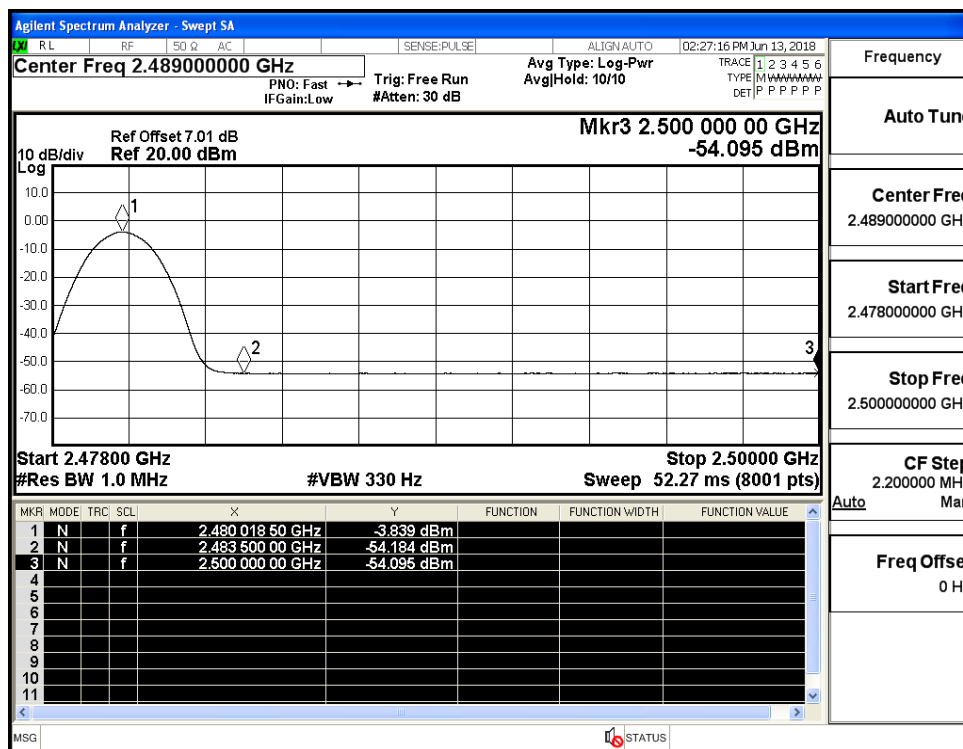
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



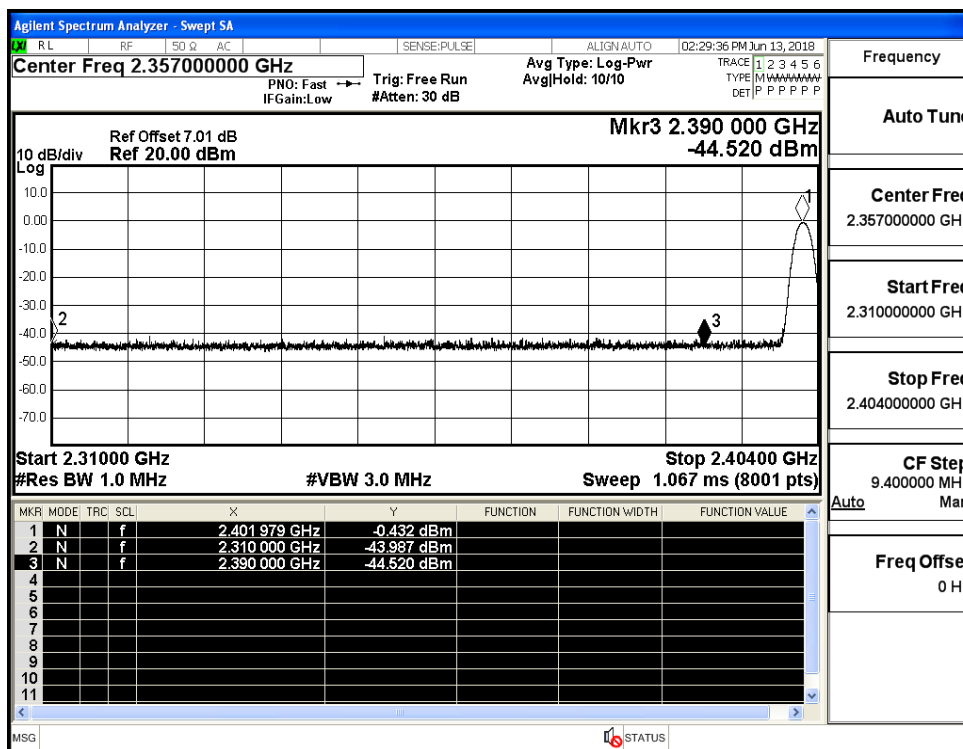
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



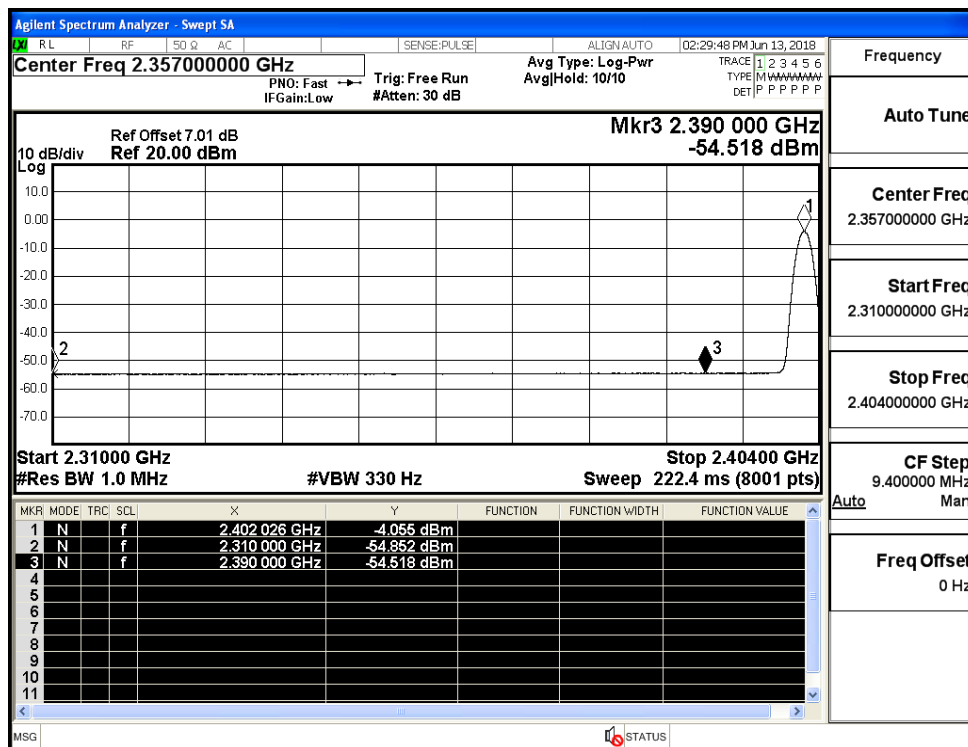
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

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)

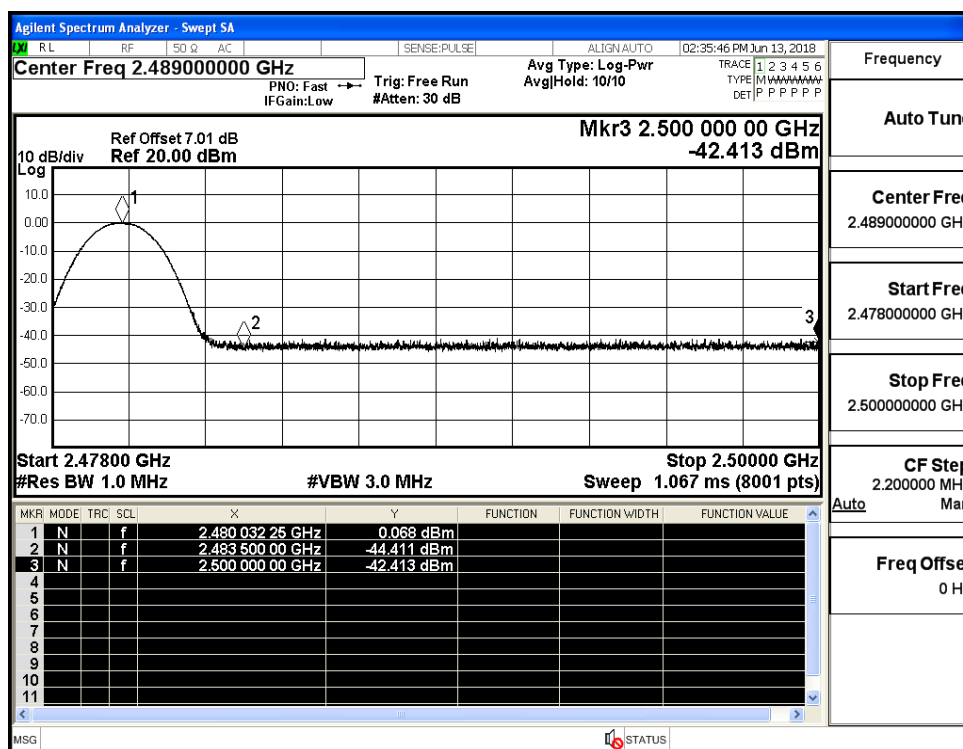
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

