

Appendix A

RF Test Data for BT V4.0(BDR/EDR) (Conducted Measurement)

Product Name: Over Ear Bluetooth Headphone

Trade Mark: N/A

Test Model: GC-T006

Environmental Conditions

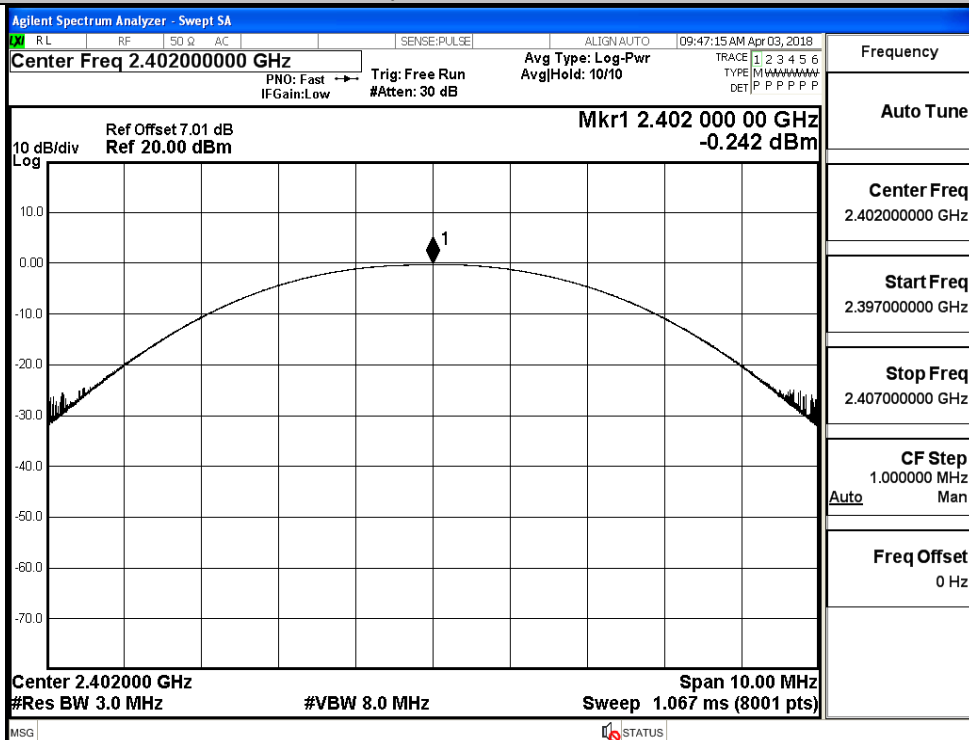
Temperature:	23.6 ° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Wilson hong
Supervised by:	Dick.Su

A.1 Maximum Conducted Peak Output Power

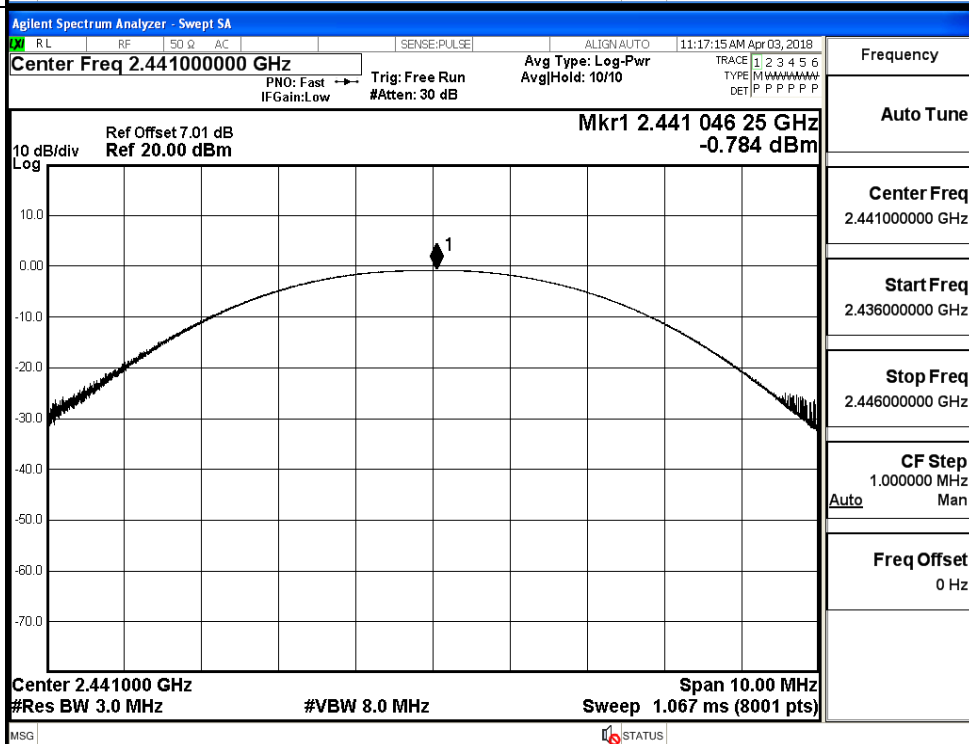
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.242	30	PASS
	MCH	-0.784	30	PASS
	HCH	-3.056	30	PASS
$\pi/4$ DQPSK	LCH	-1.036	21	PASS
	MCH	-1.426	21	PASS
	HCH	-3.608	21	PASS
8DPSK	LCH	-0.786	21	PASS
	MCH	-1.173	21	PASS
	HCH	-3.499	21	PASS

Test Graphs

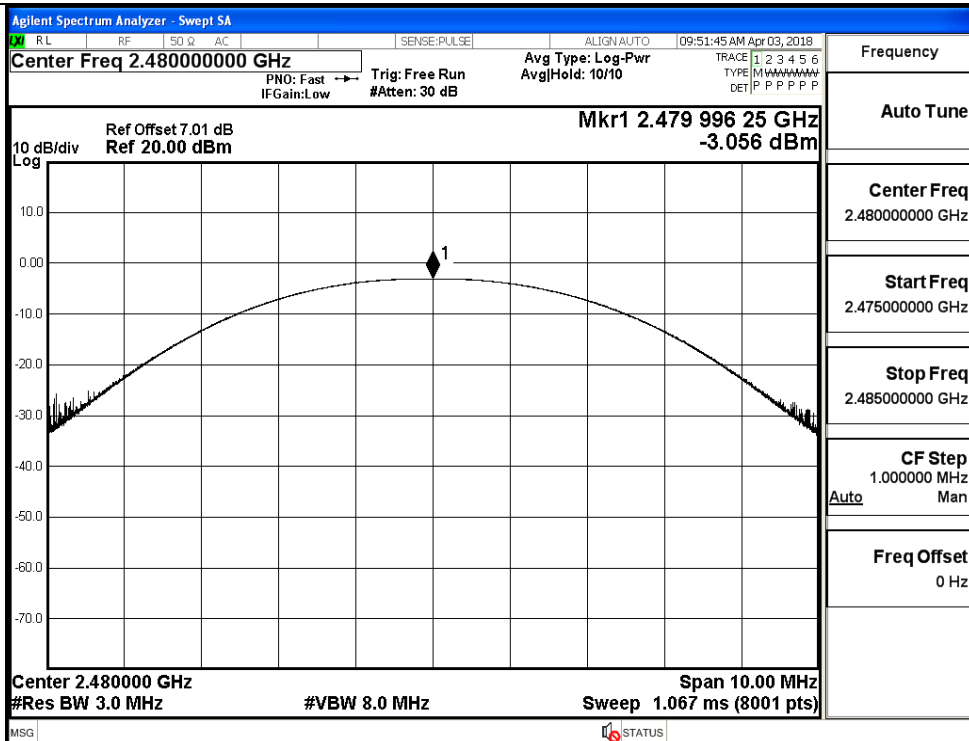
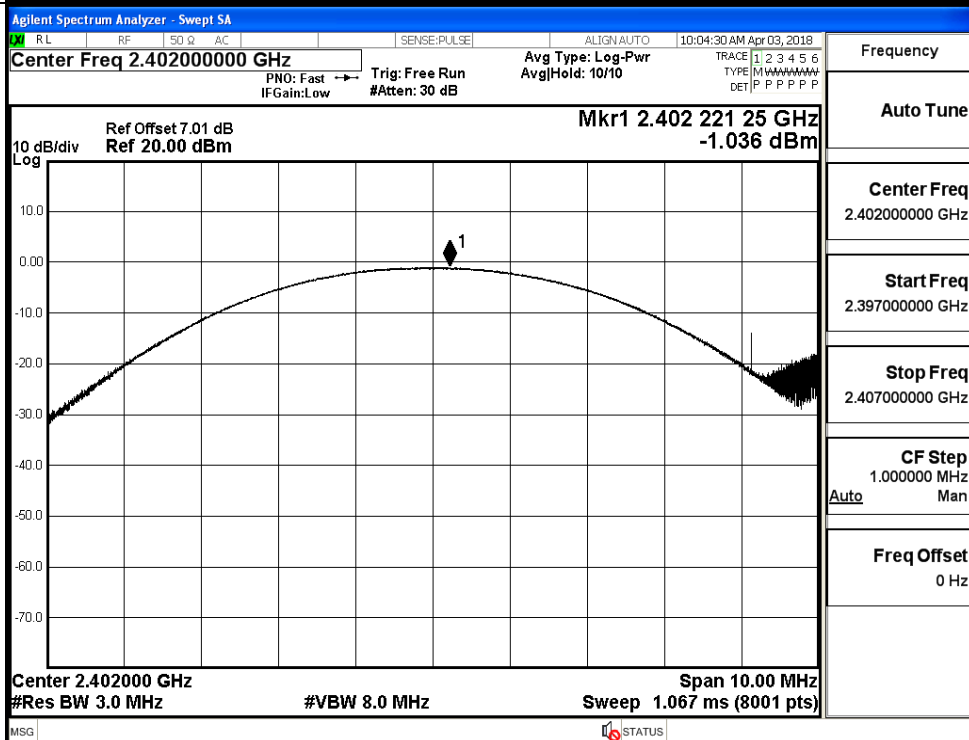
GFSK/LCH

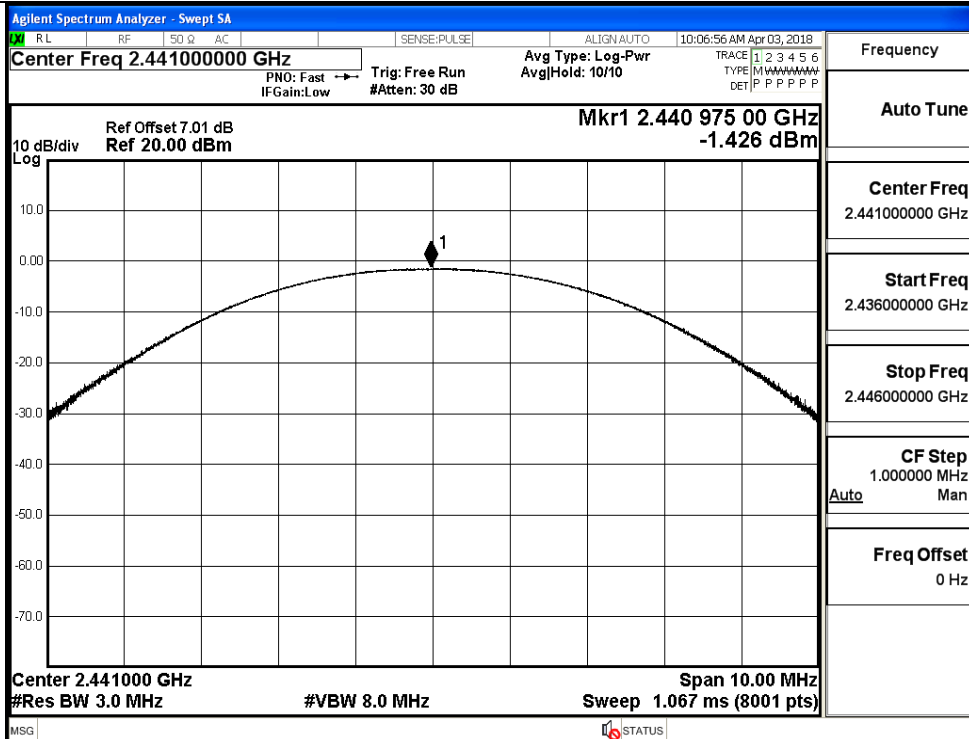
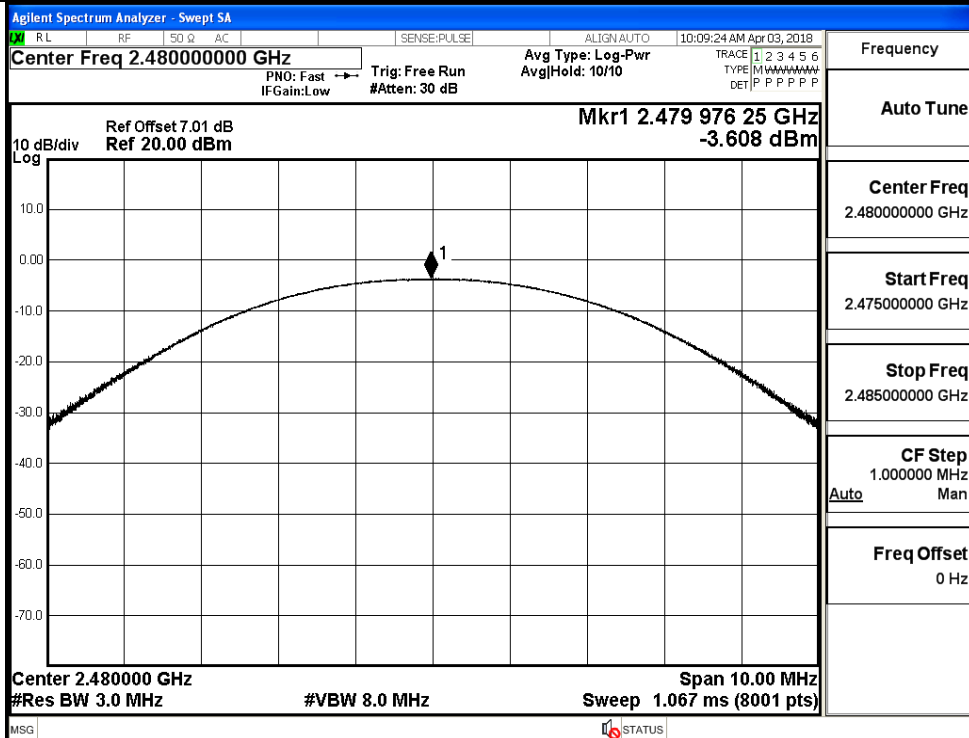


GFSK/MCH

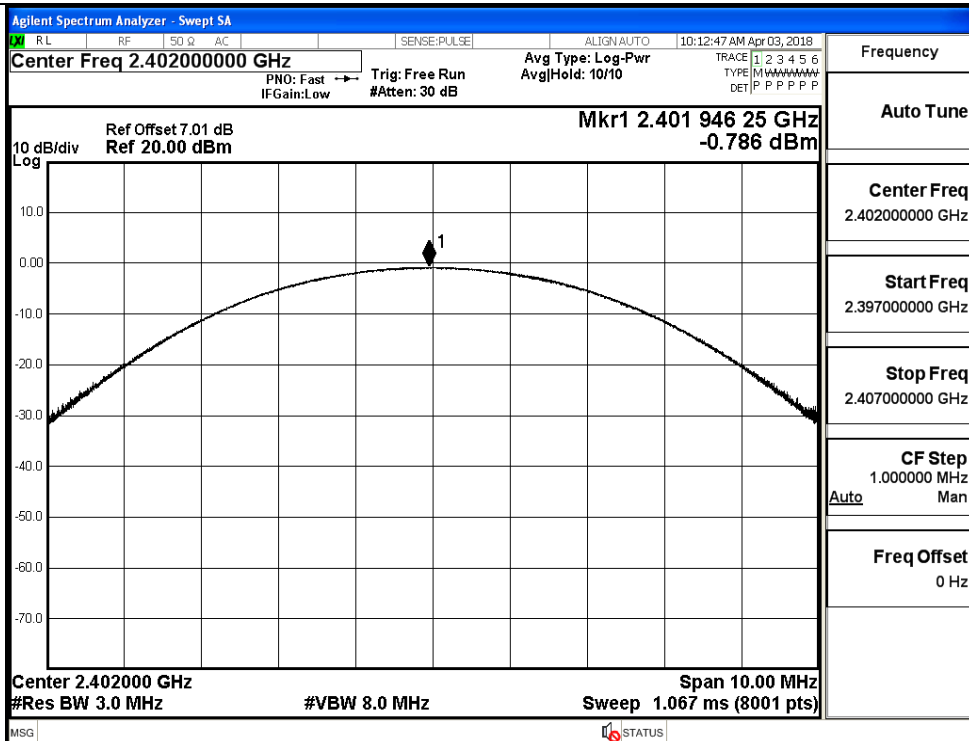


GFSK/HCH

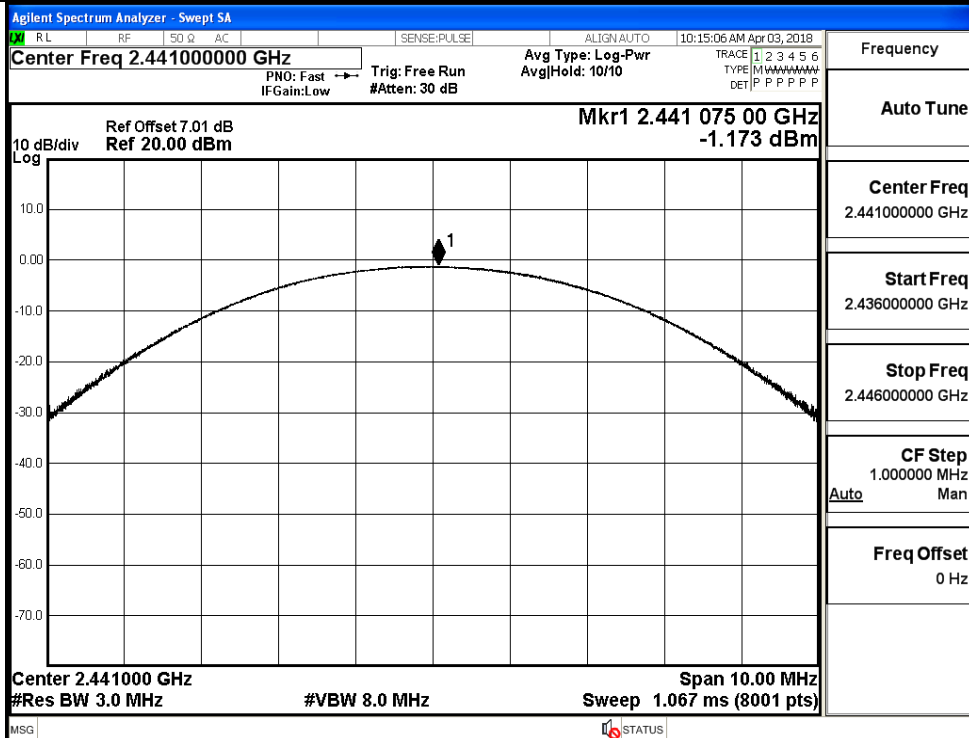
 π /4DQPSK/LCH

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

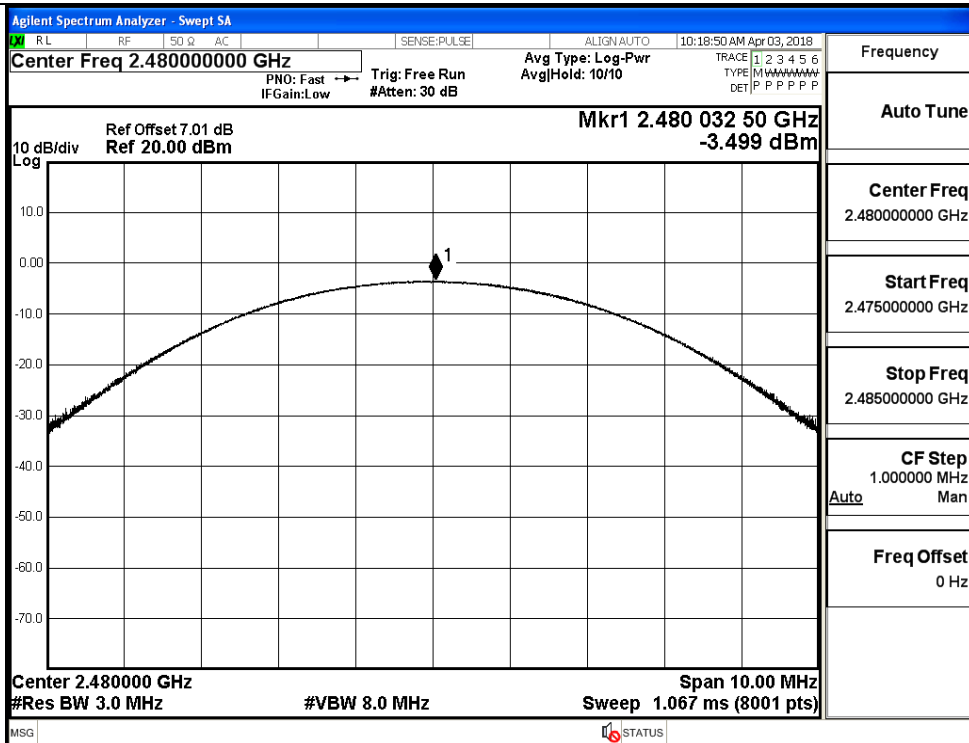
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

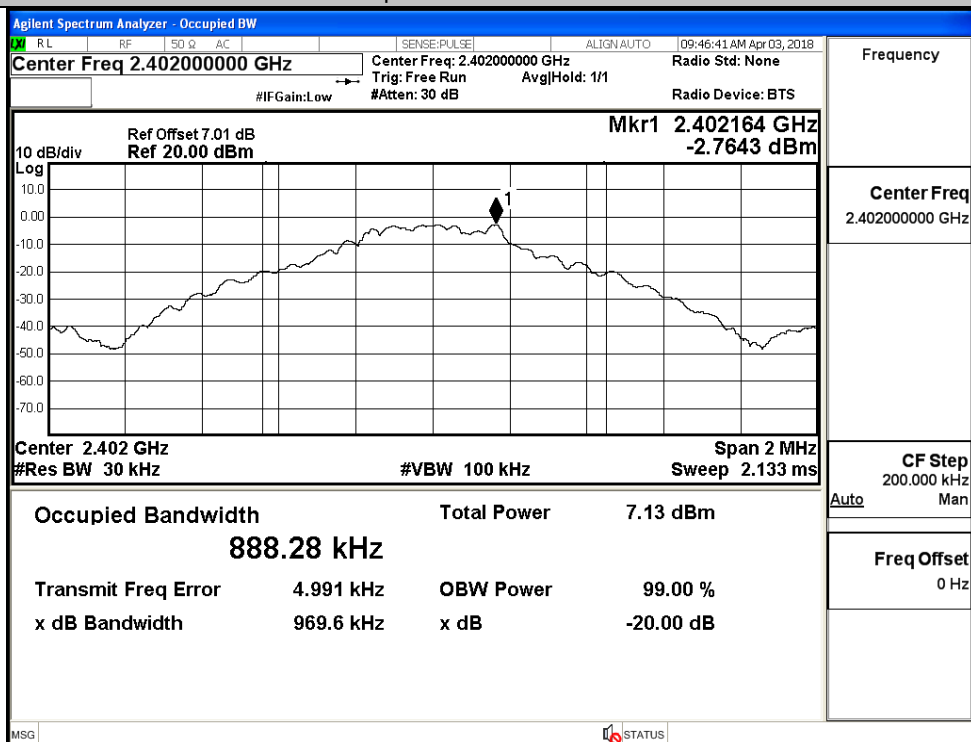


A.2 20dB Bandwidth

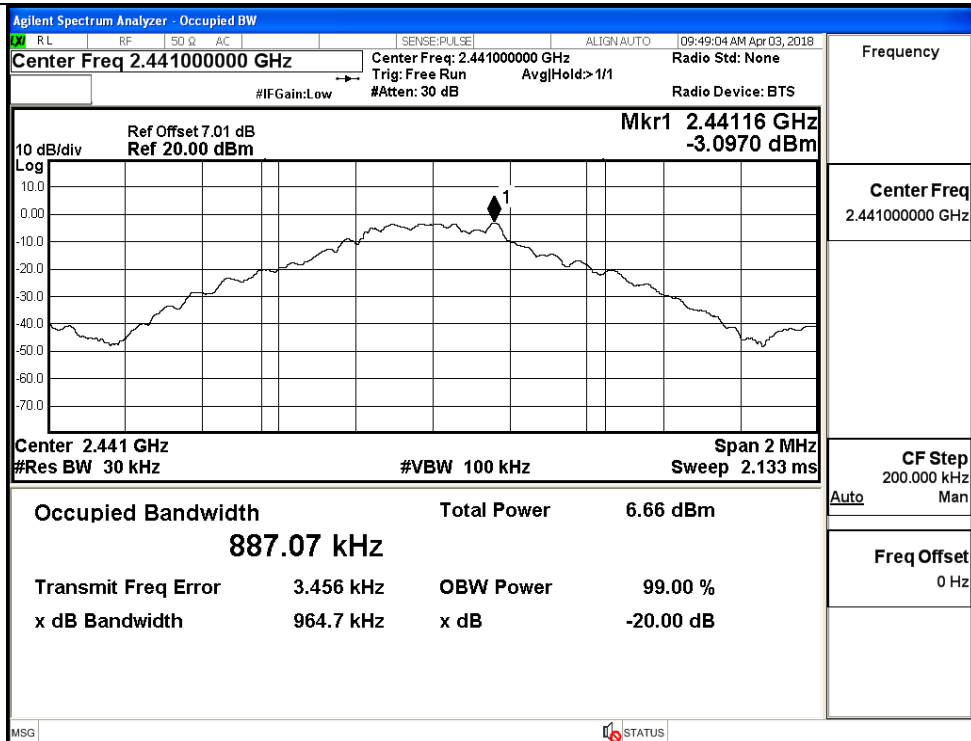
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9696	Not Specified	PASS
	MCH	0.9647	Not Specified	PASS
	HCH	0.9684	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.290	Not Specified	PASS
	MCH	1.305	Not Specified	PASS
	HCH	1.314	Not Specified	PASS
8DPSK	LCH	1.293	Not Specified	PASS
	MCH	1.301	Not Specified	PASS
	HCH	1.301	Not Specified	PASS

Test Graphs

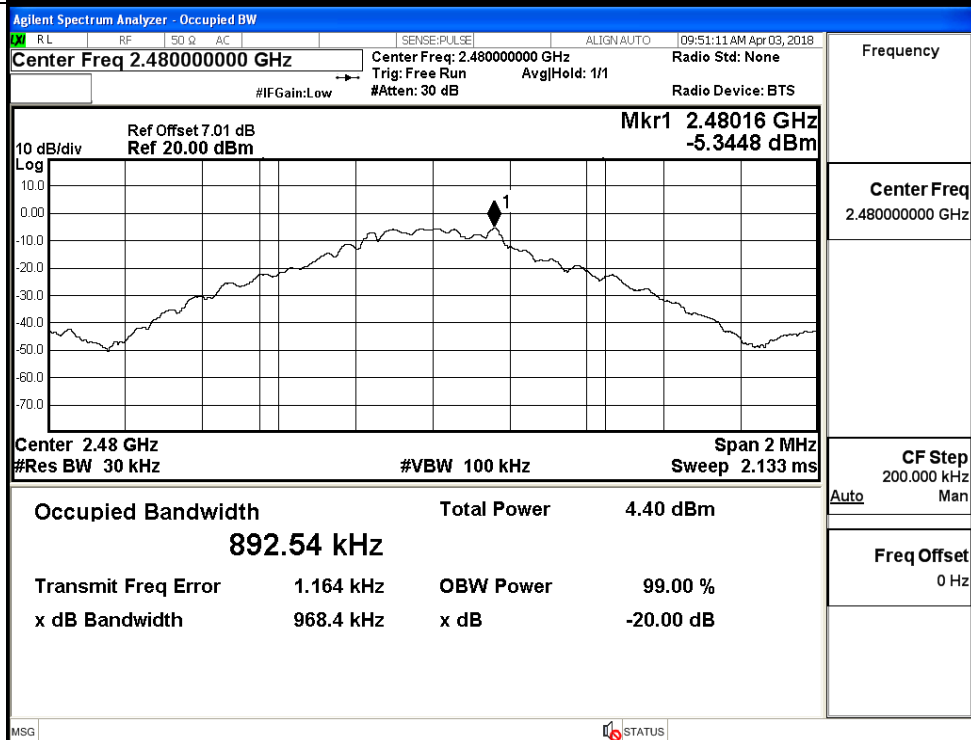
GFSK/LCH

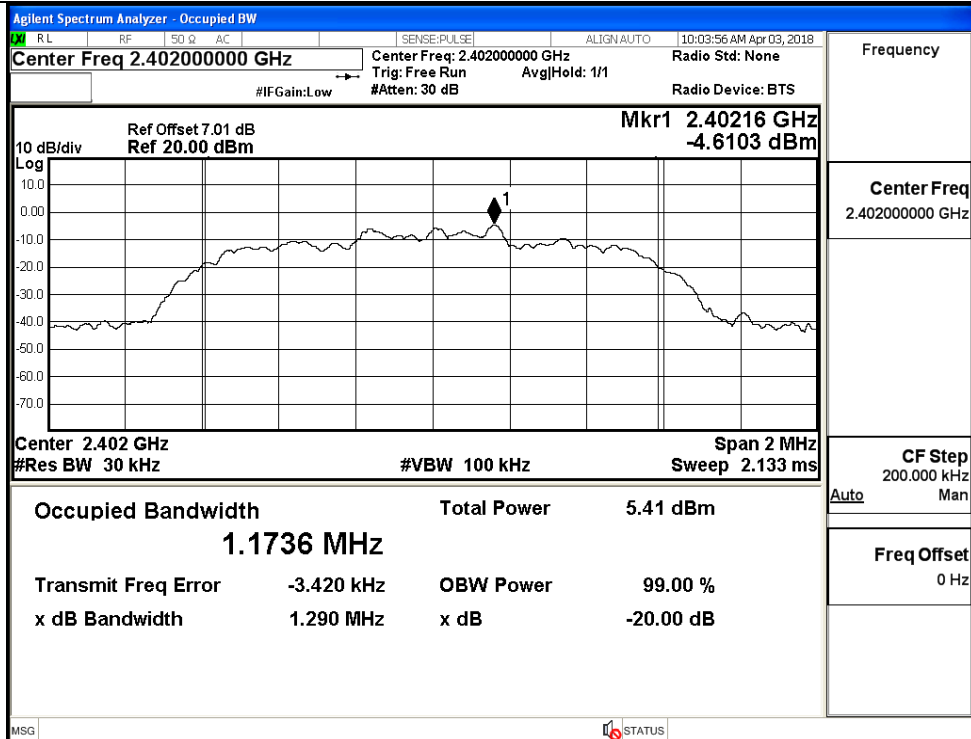
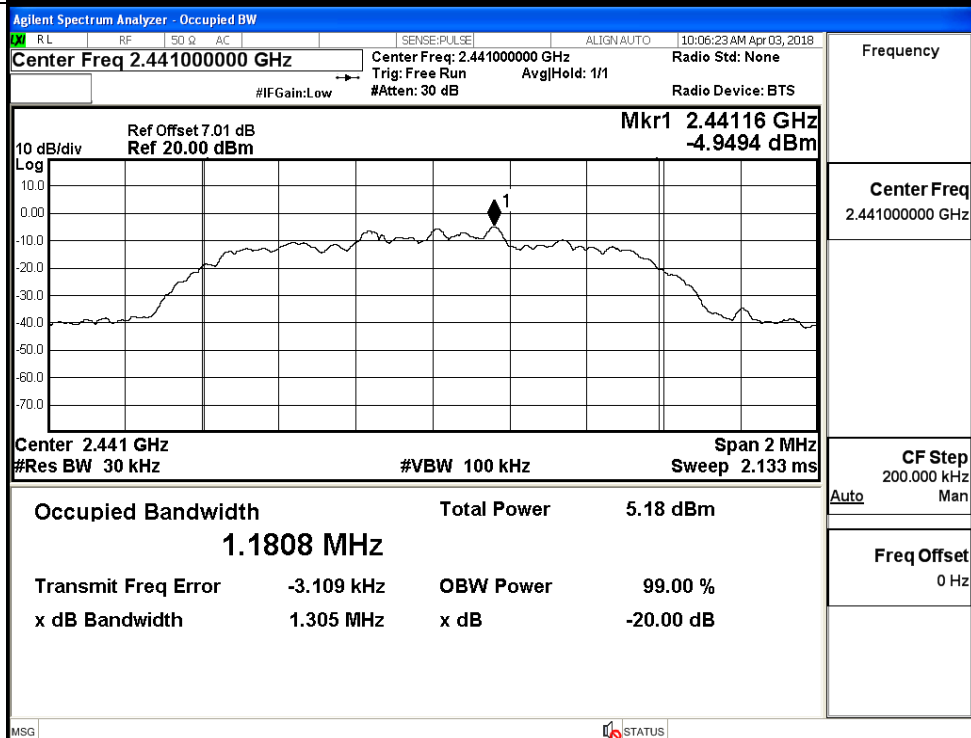


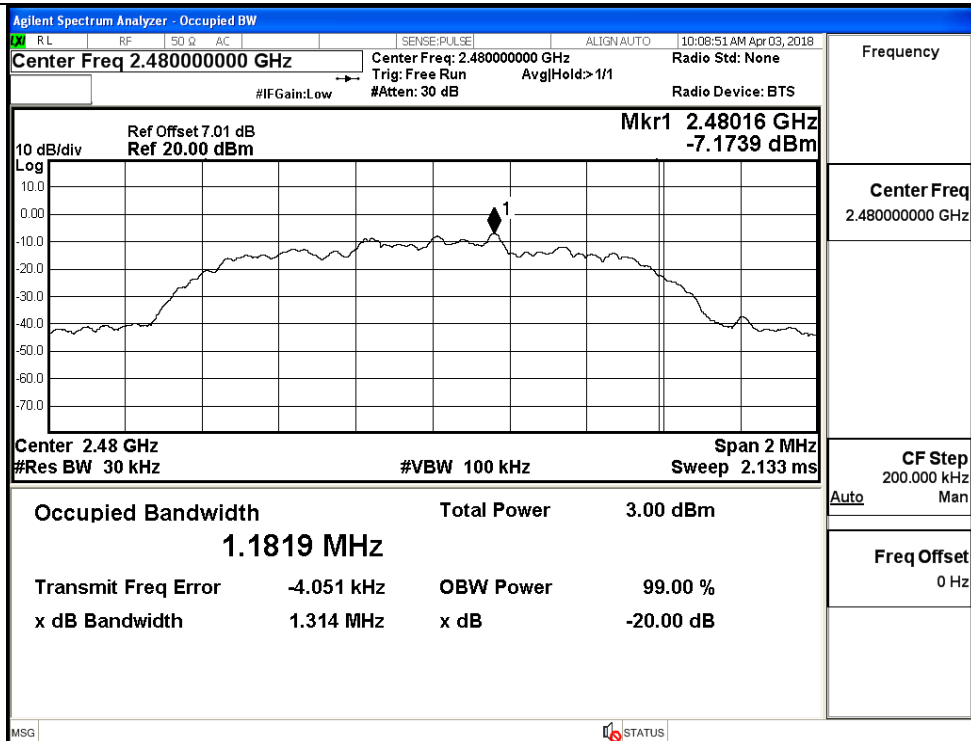
GFSK/MCH



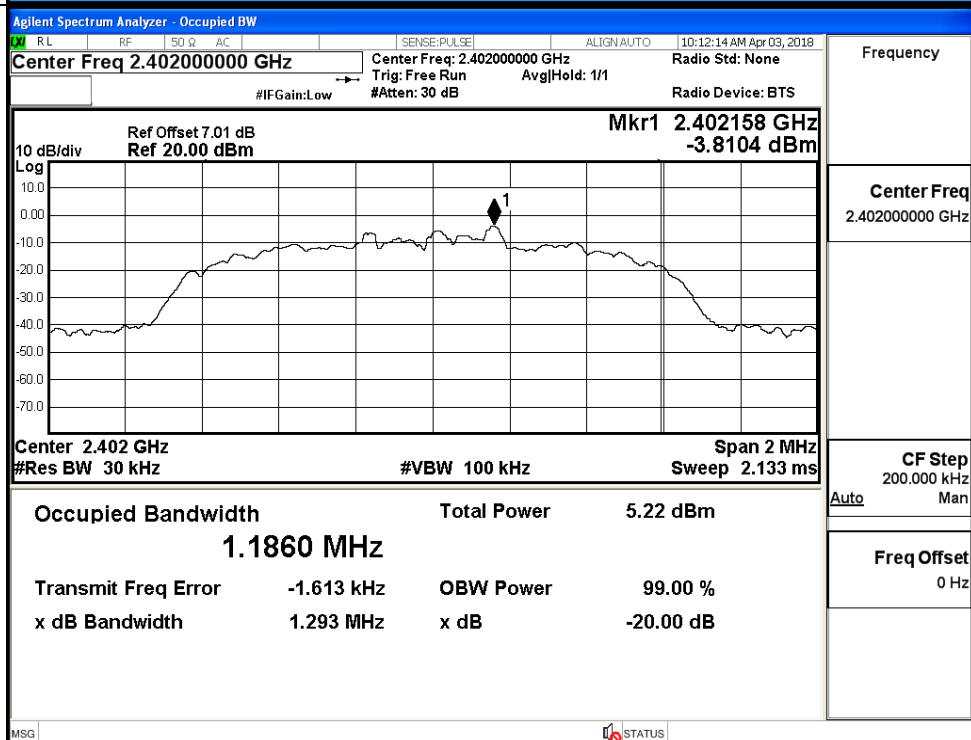
GFSK/HCH



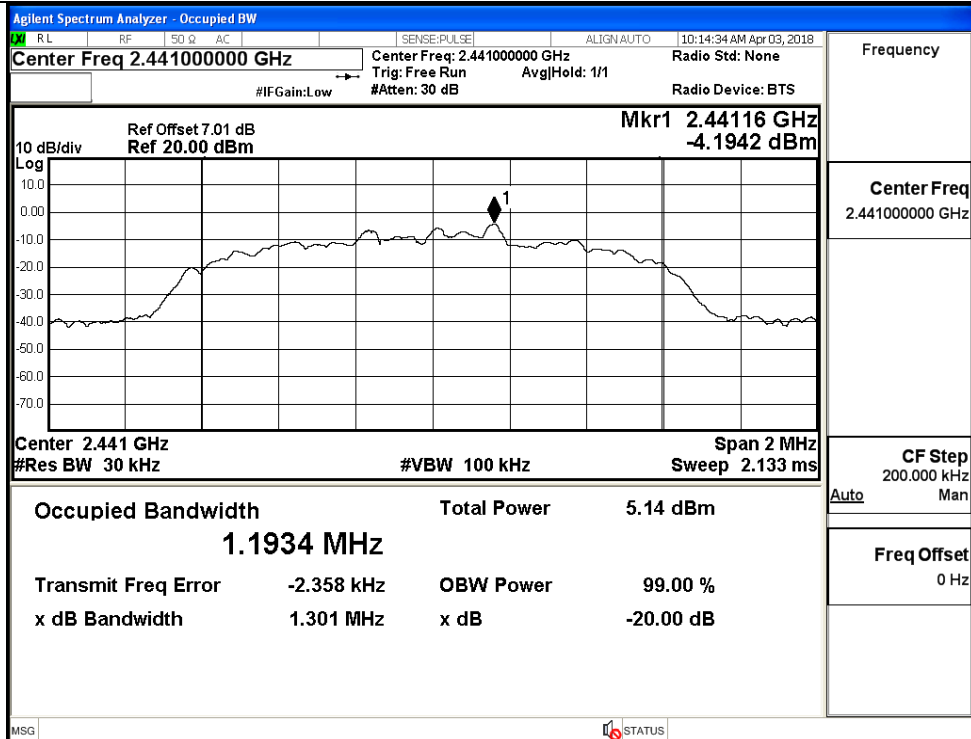
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

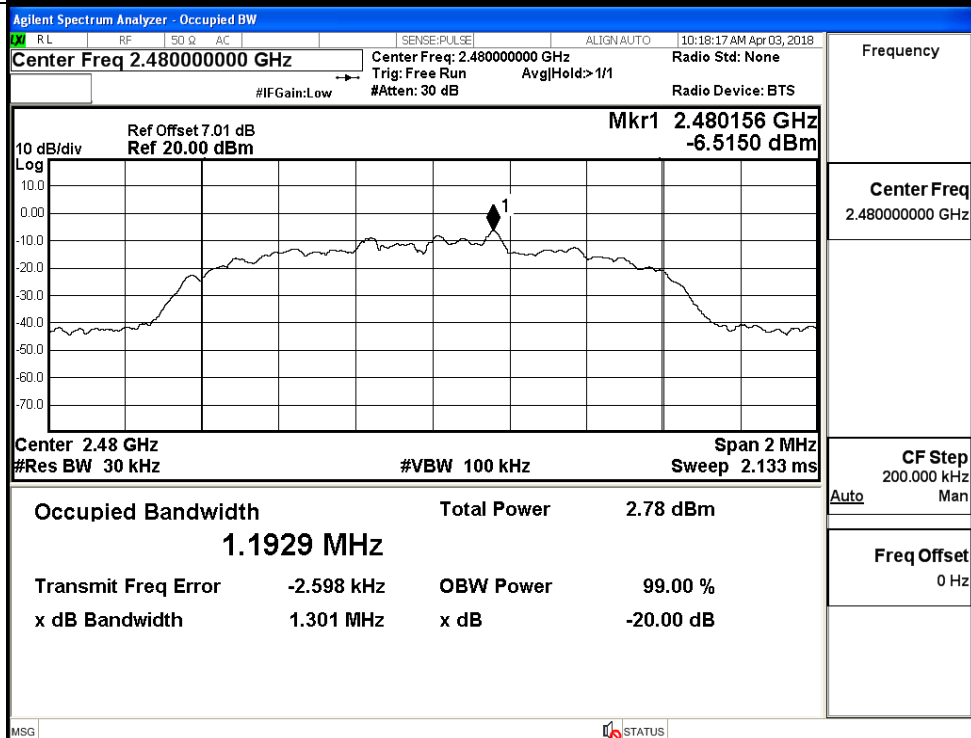
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

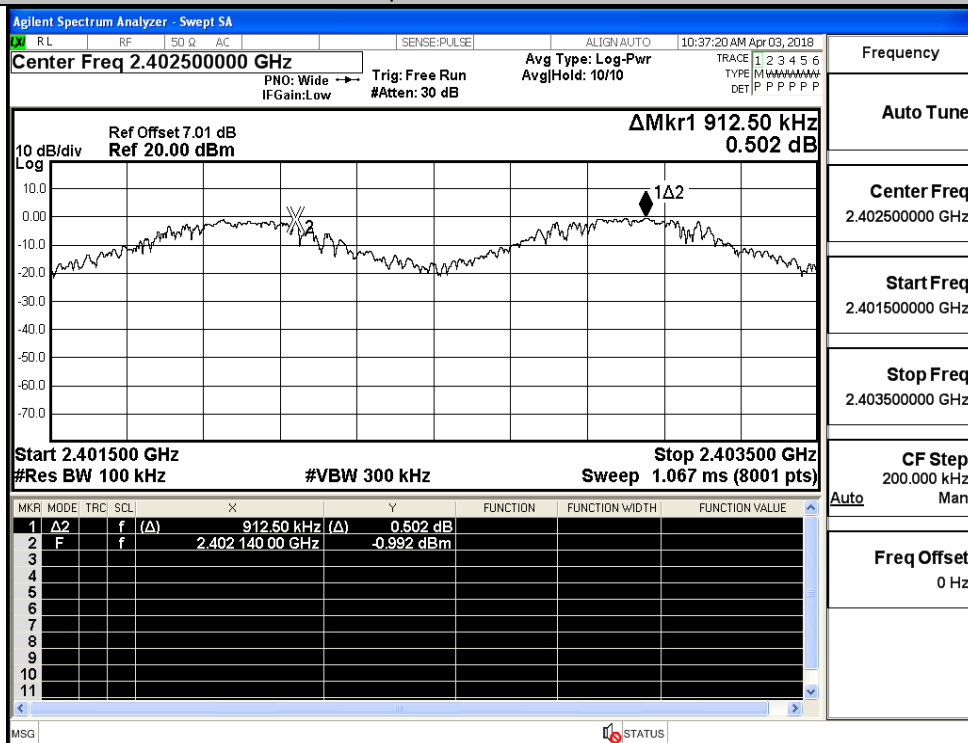


A.3 Carrier Frequency Separation

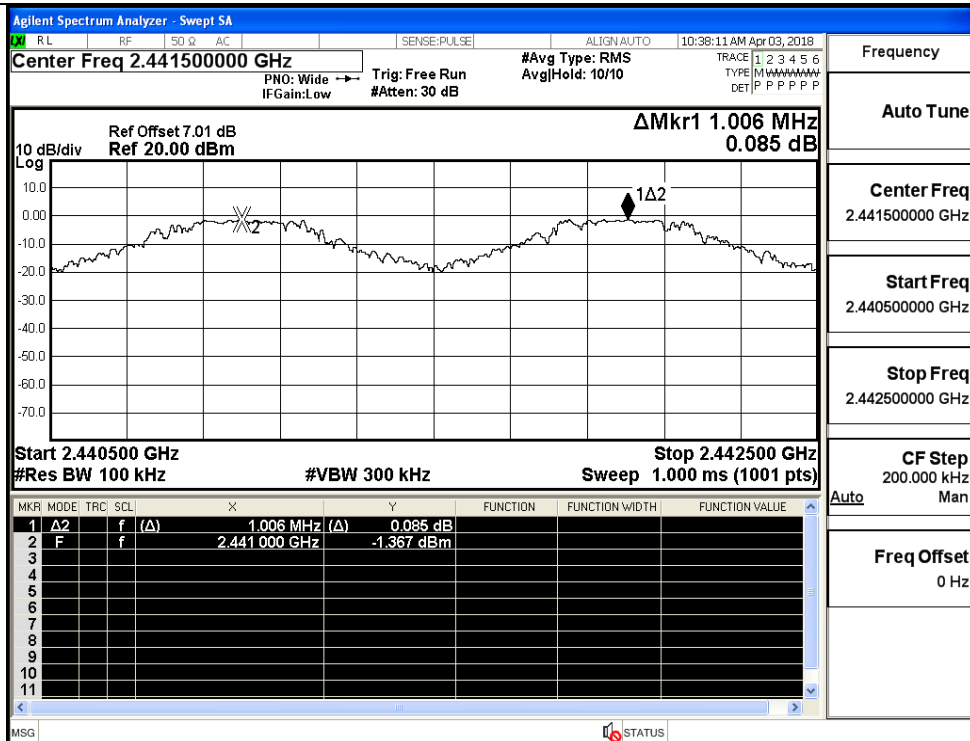
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.912	0.646	PASS
	MCH	1.006	0.646	PASS
	HCH	1.030	0.646	PASS
$\pi/4$ DQPSK	LCH	1.194	0.876	PASS
	MCH	1.004	0.876	PASS
	HCH	1.308	0.876	PASS
8DPSK	LCH	0.984	0.867	PASS
	MCH	1.030	0.867	PASS
	HCH	1.142	0.867	PASS

Test Graphs

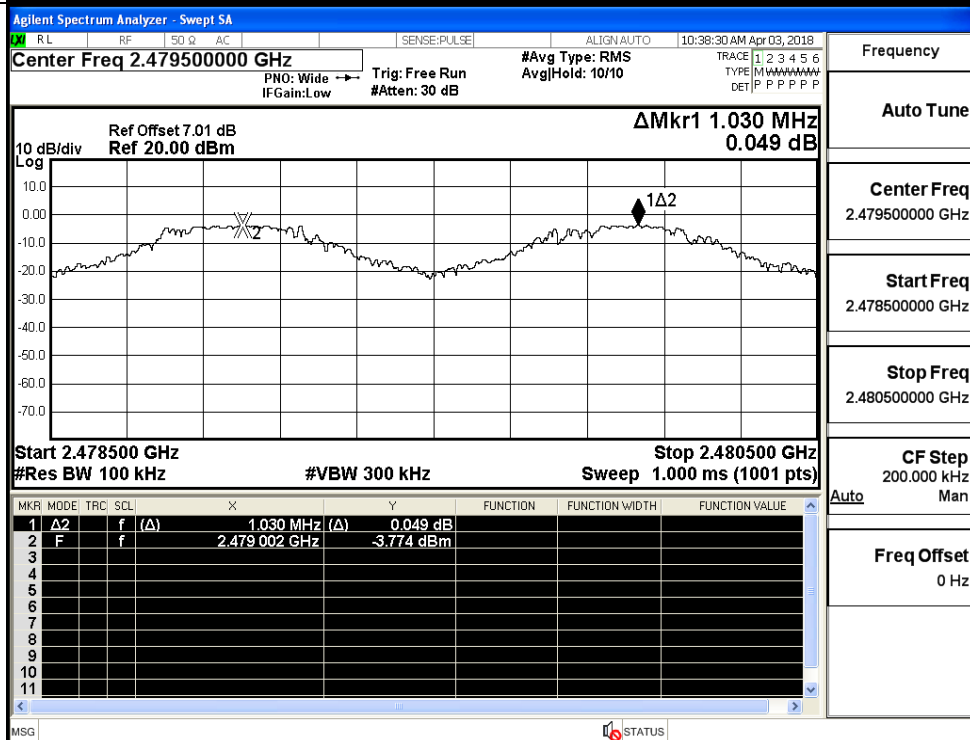
GFSK/LCH

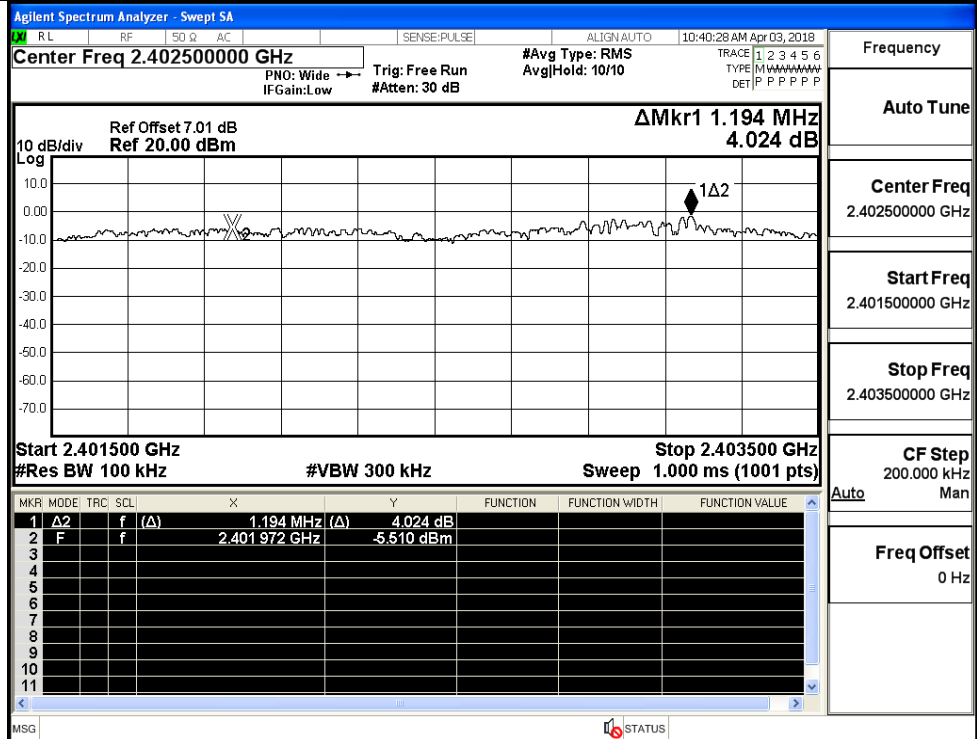
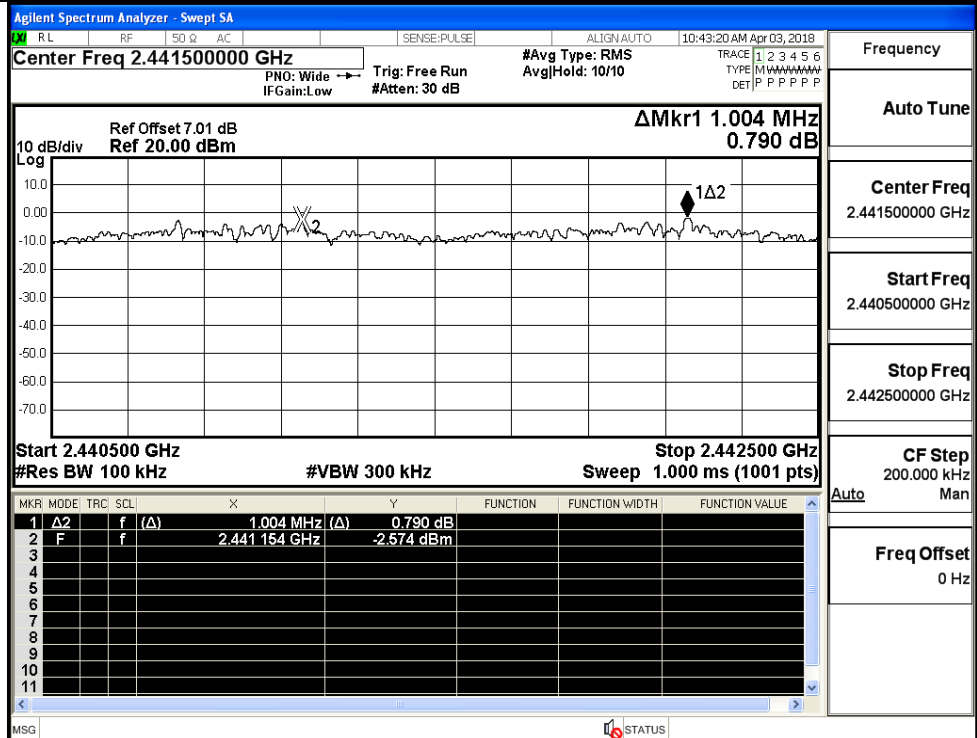


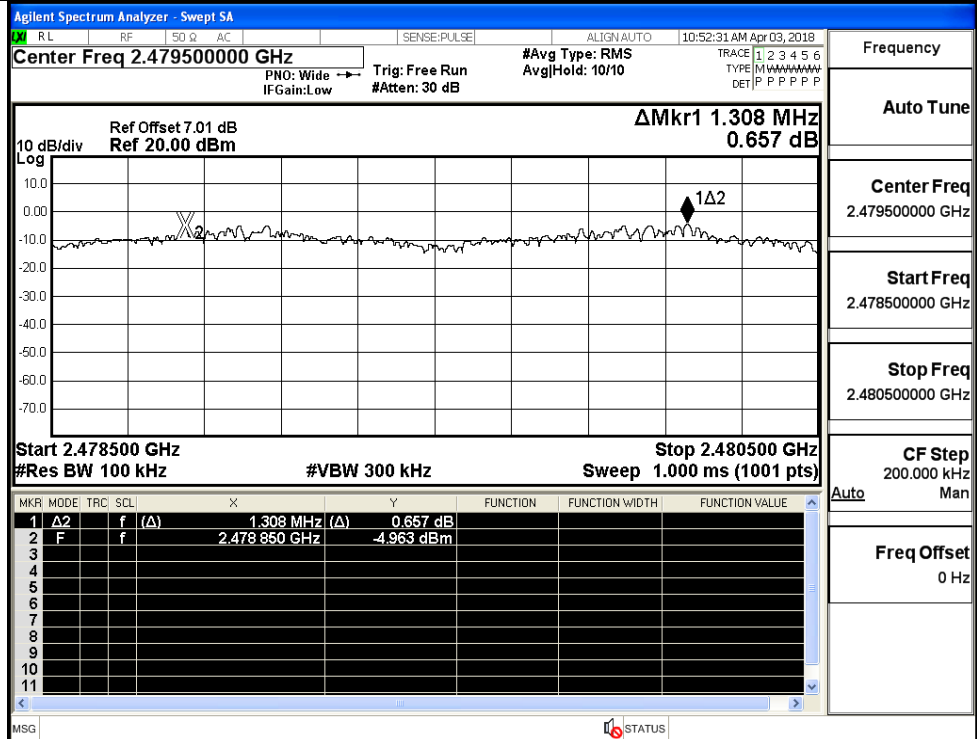
GFSK/MCH



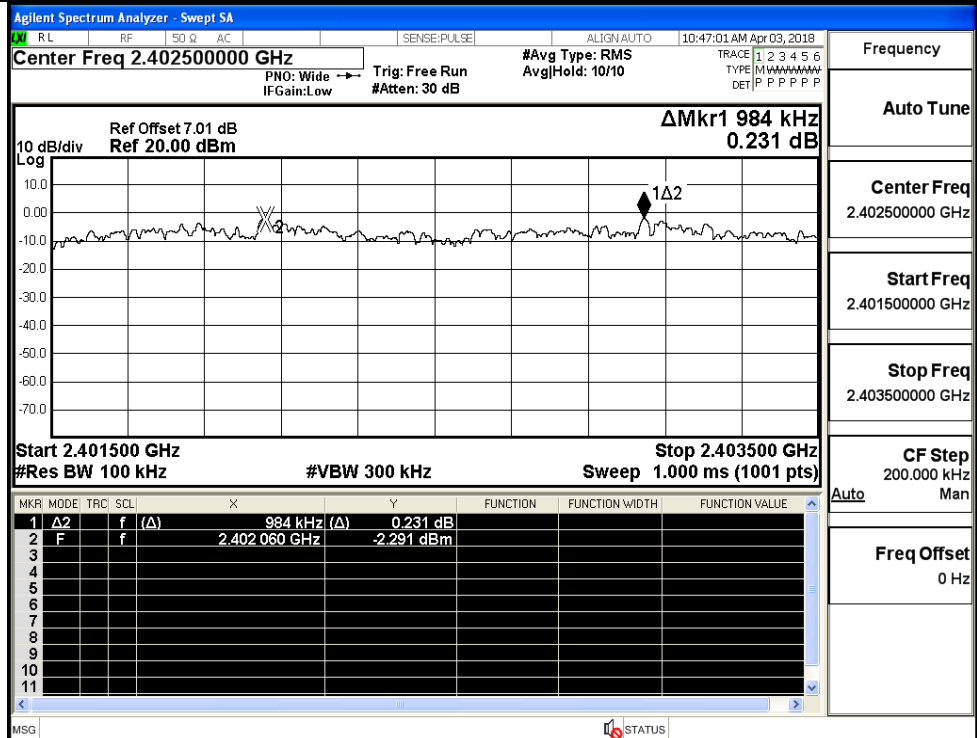
GFSK/HCH



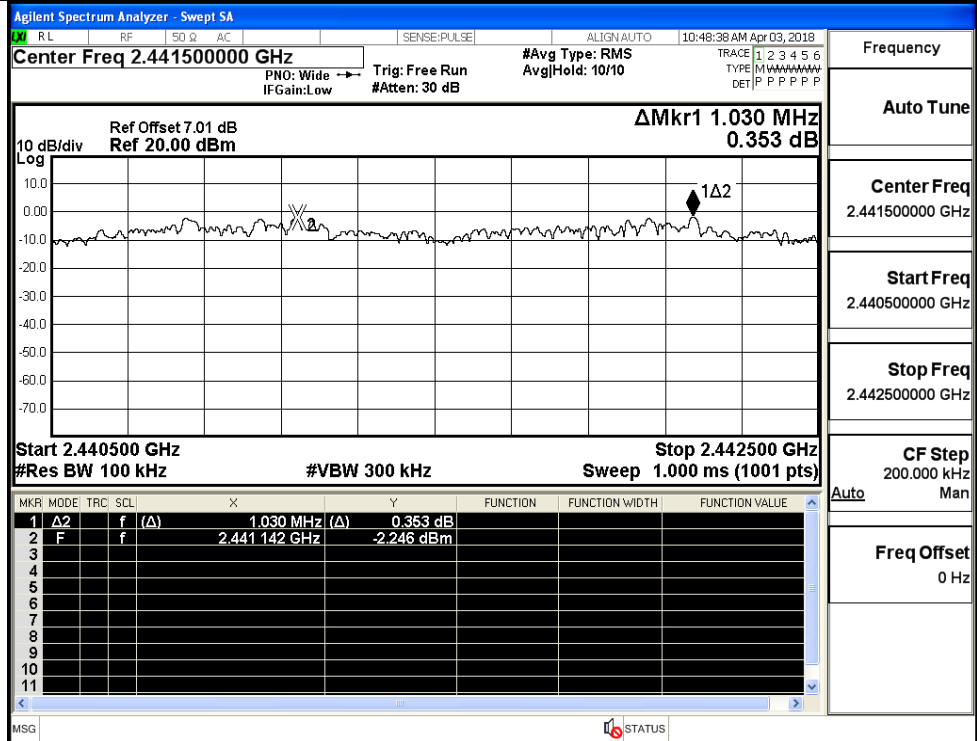
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

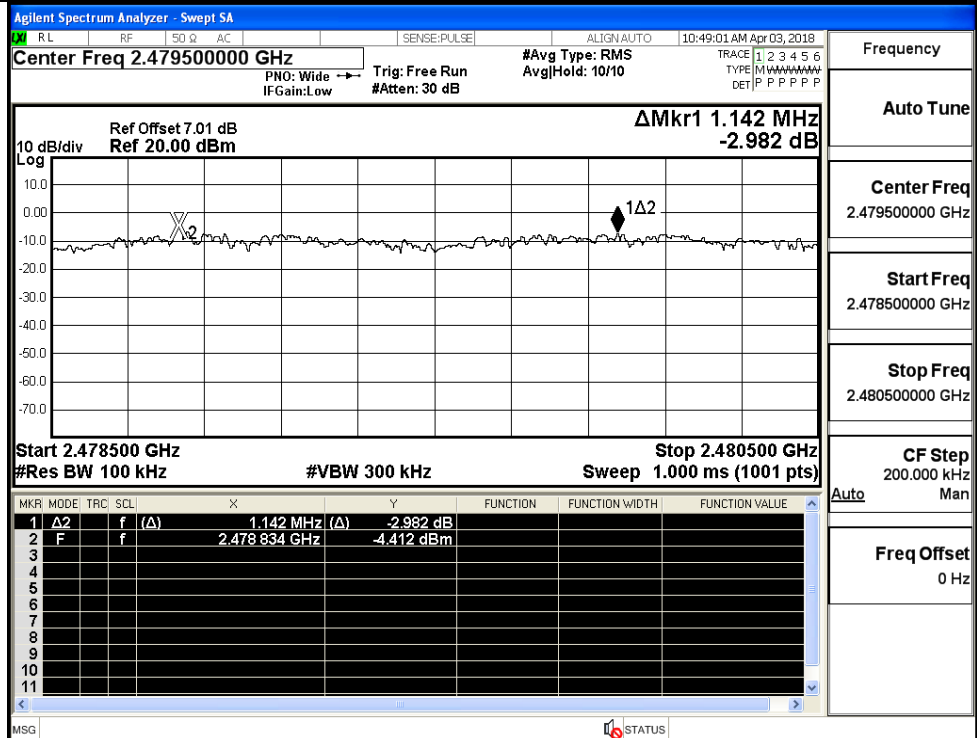
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

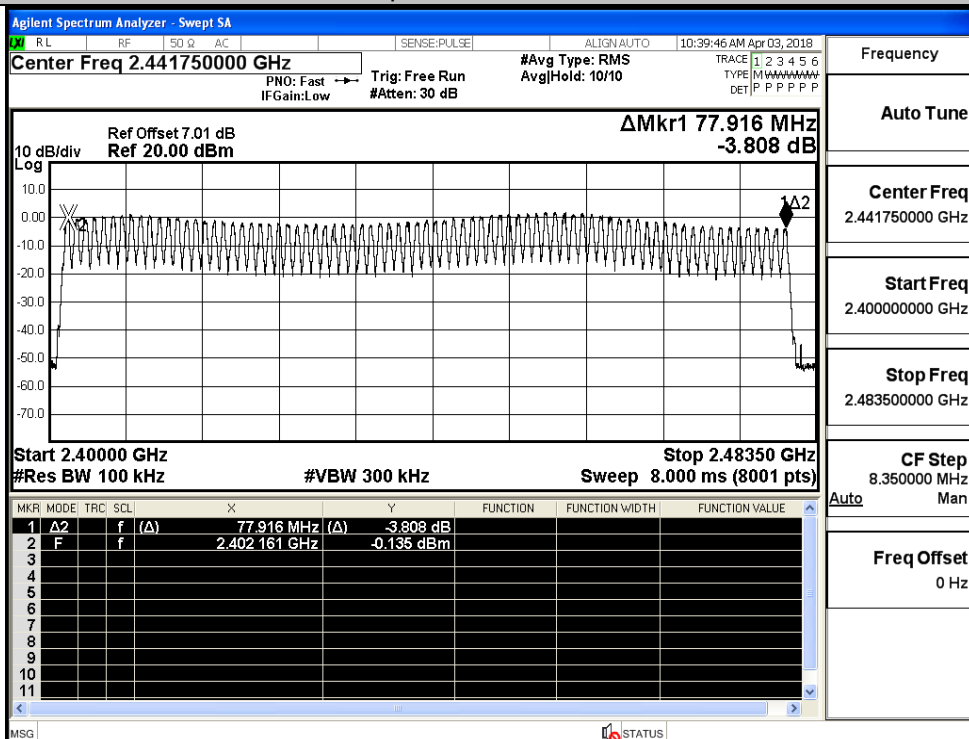
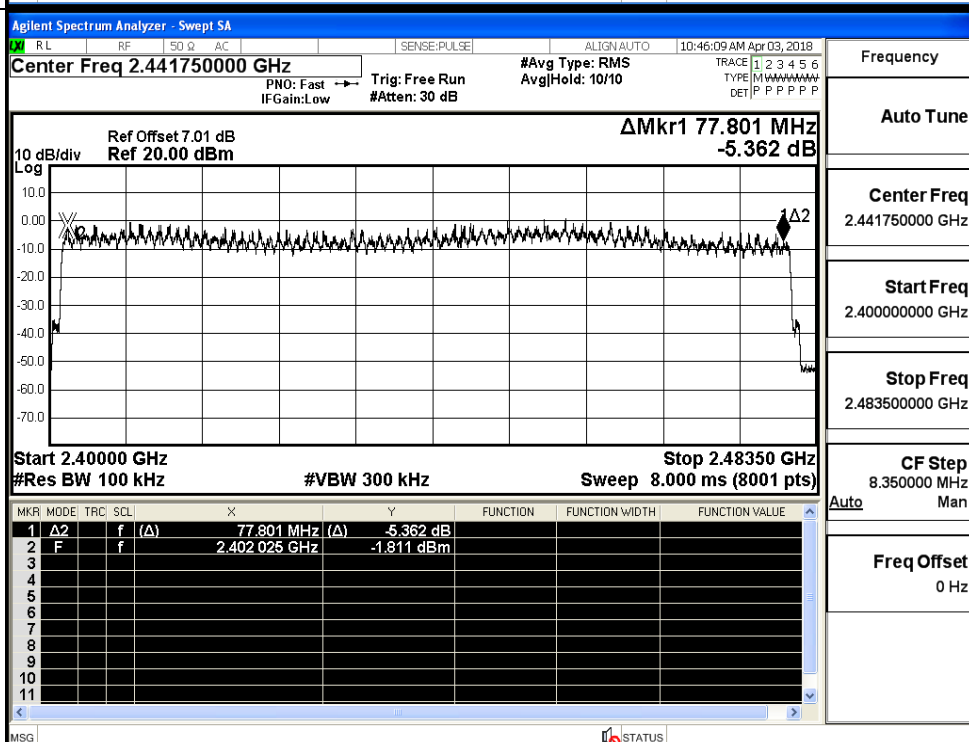


A.4 Hopping Channel Number

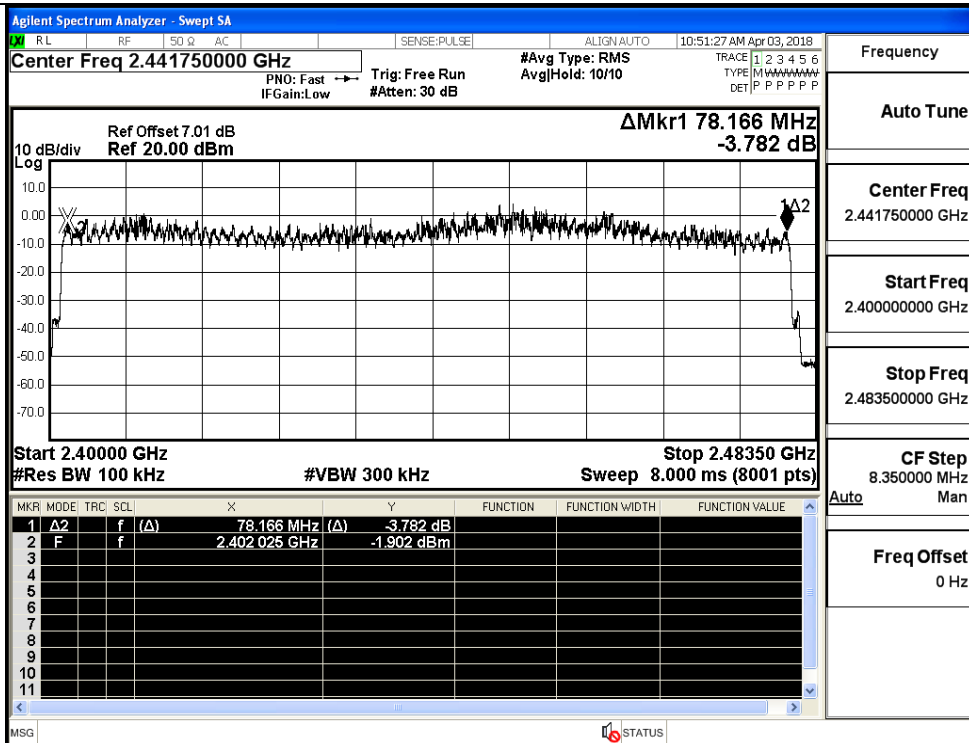
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

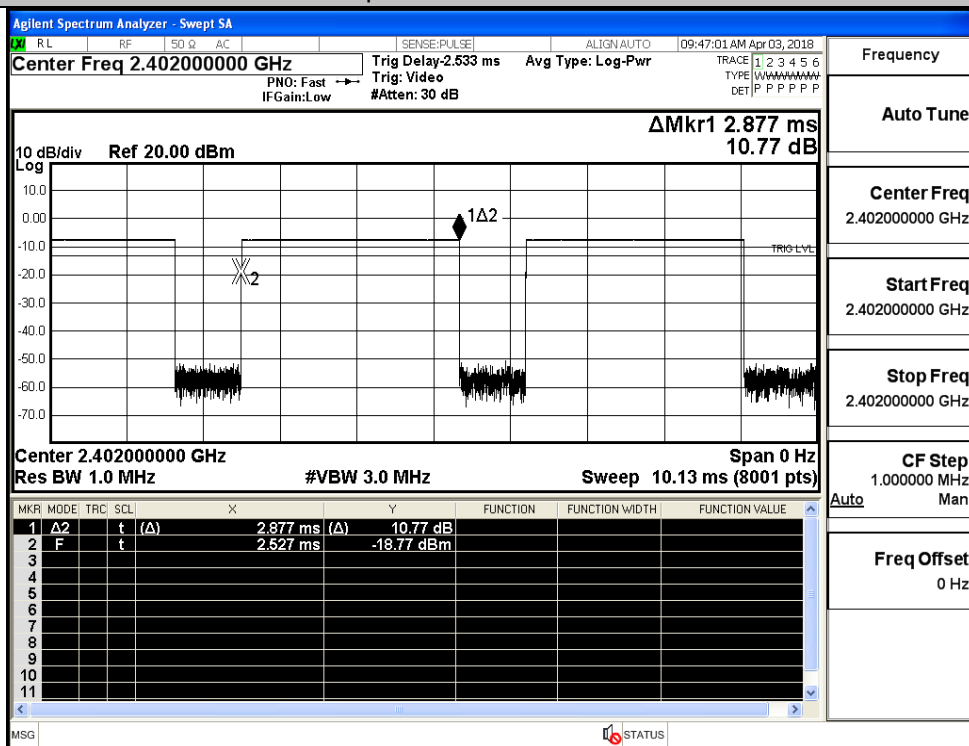


A.5 Dwell Time

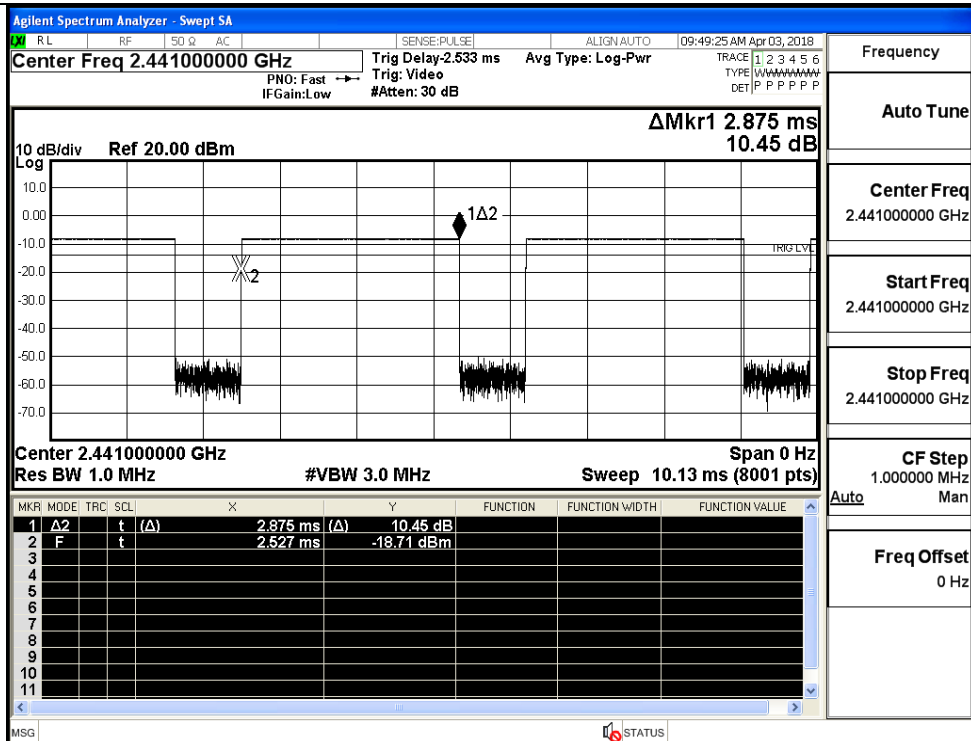
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	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	2.88	106.7	0.307	0.4	PASS

Test Graphs

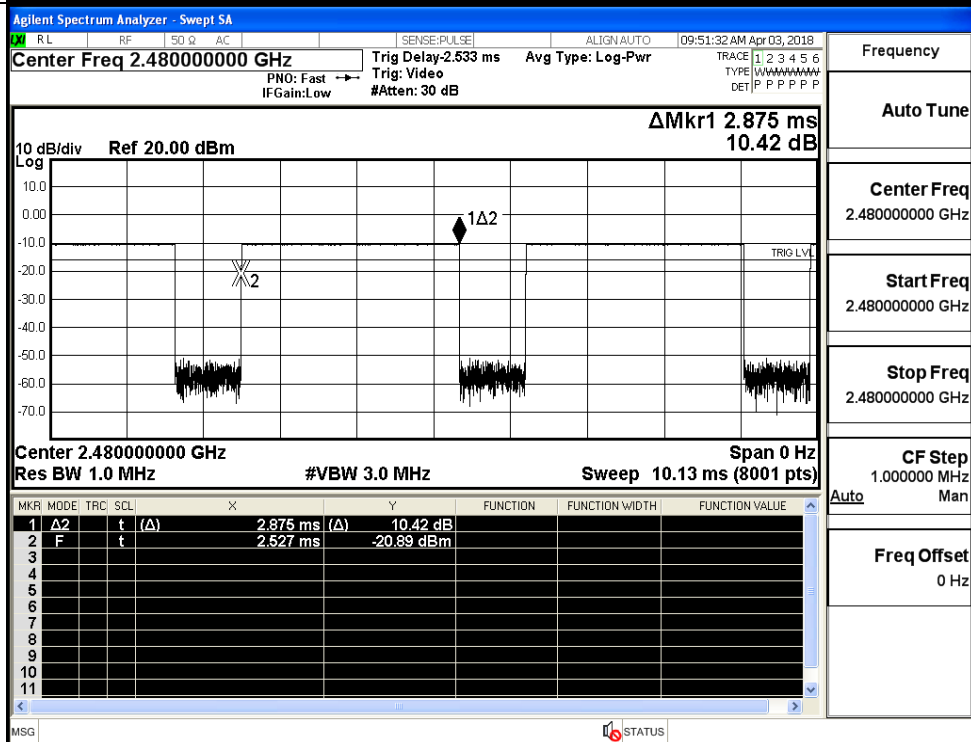
GFSK_DH5/LCH



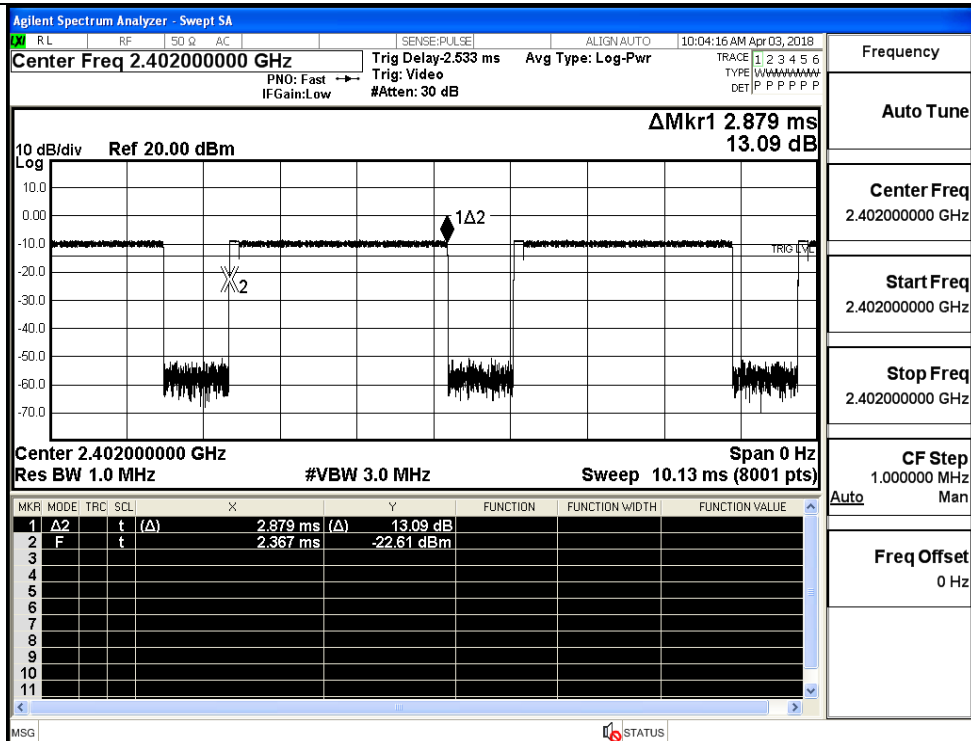
GFSK_DH5/MCH



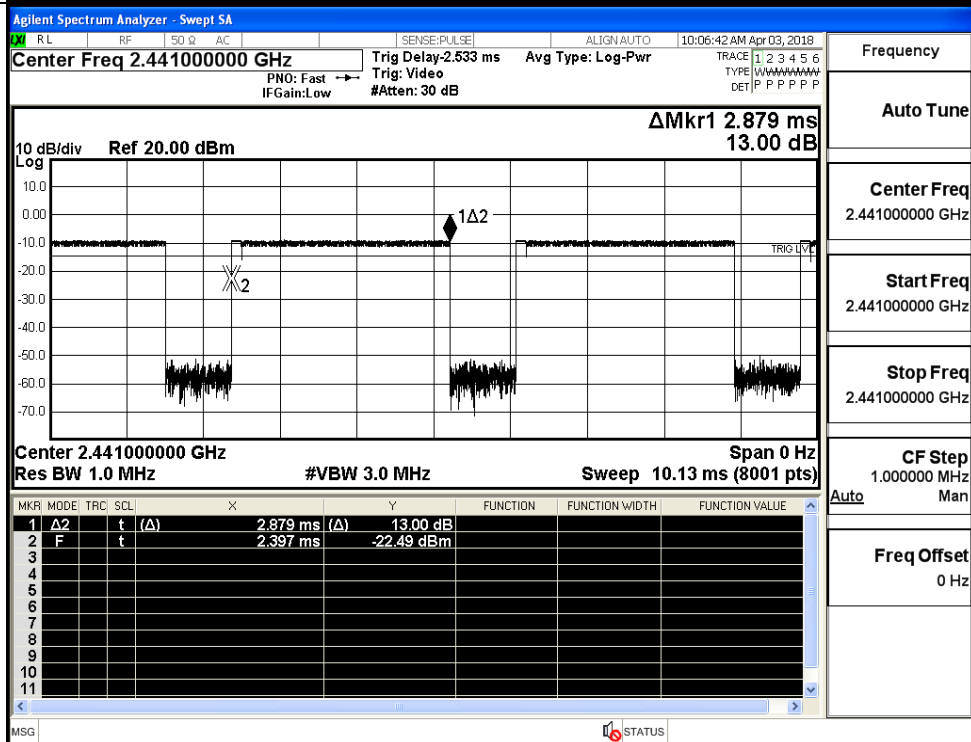
GFSK_DH5/HCH



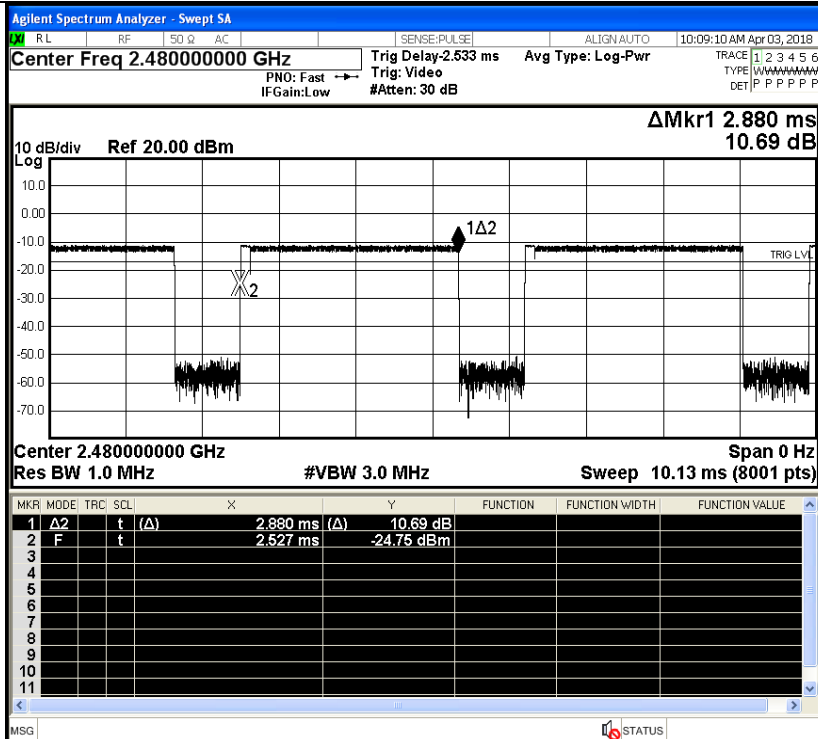
$\pi/4$ DQPSK
_2DH5/LCH



$\pi/4$ DQPSK
_2DH5/MCH



$\pi/4$ DQPSK
_2DH5/HCH



Frequency

Auto Tune

Center Freq
2.480000000 GHz

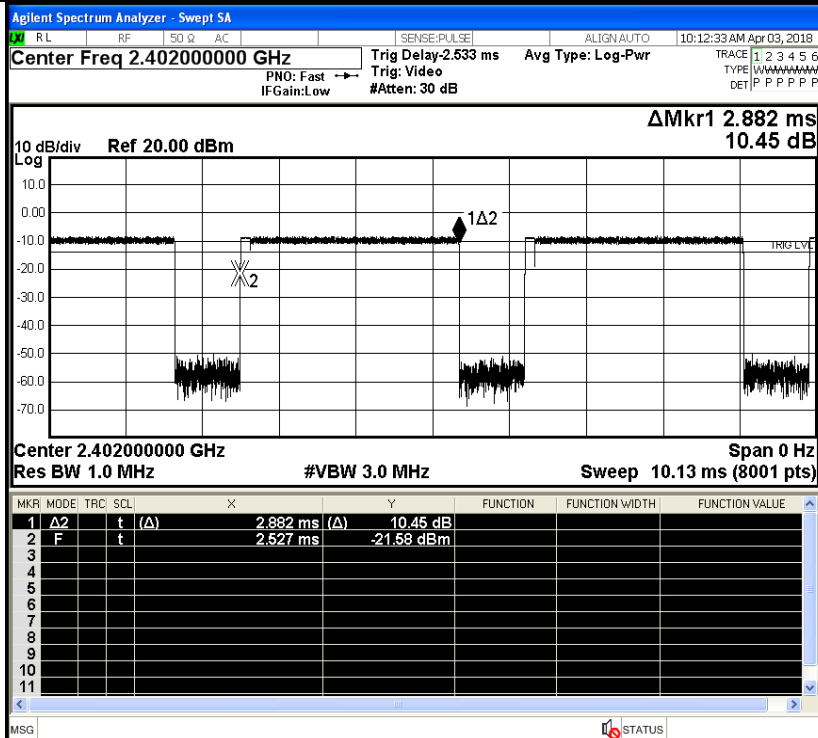
Start Freq
2.480000000 GHz

Stop Freq
2.480000000 GHz

CF Step
1.000000 MHz
Auto Man

Freq Offset
0 Hz

8DPSK _3DH5/LCH



Frequency

Auto Tune

Center Freq
2.402000000 GHz

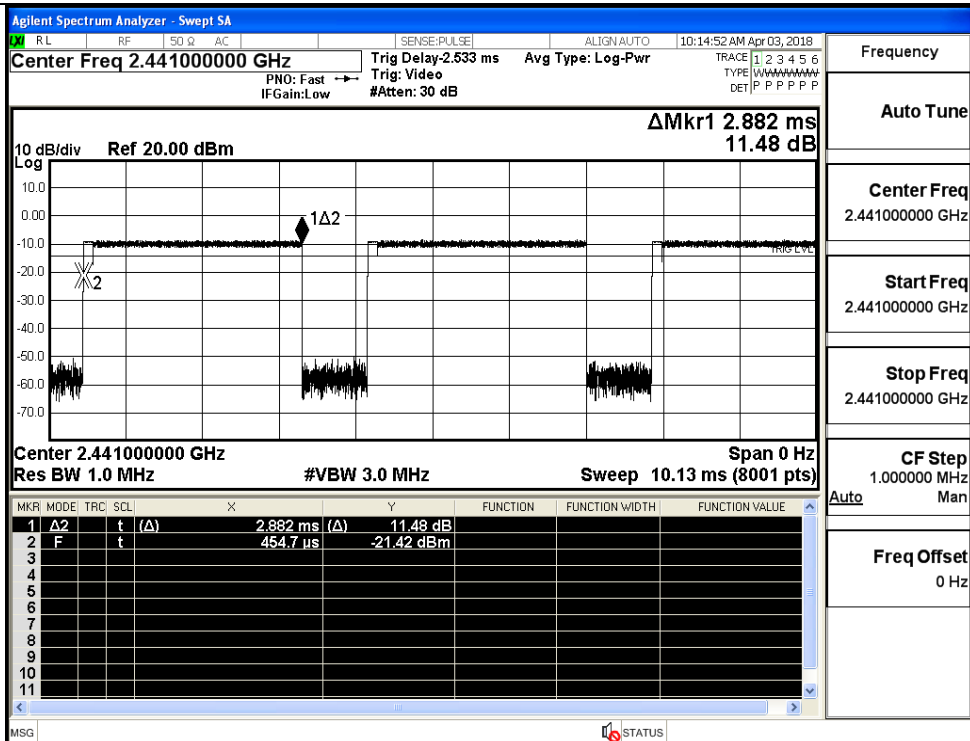
Start Freq
2.402000000 GHz

Stop Freq
2.402000000 GHz

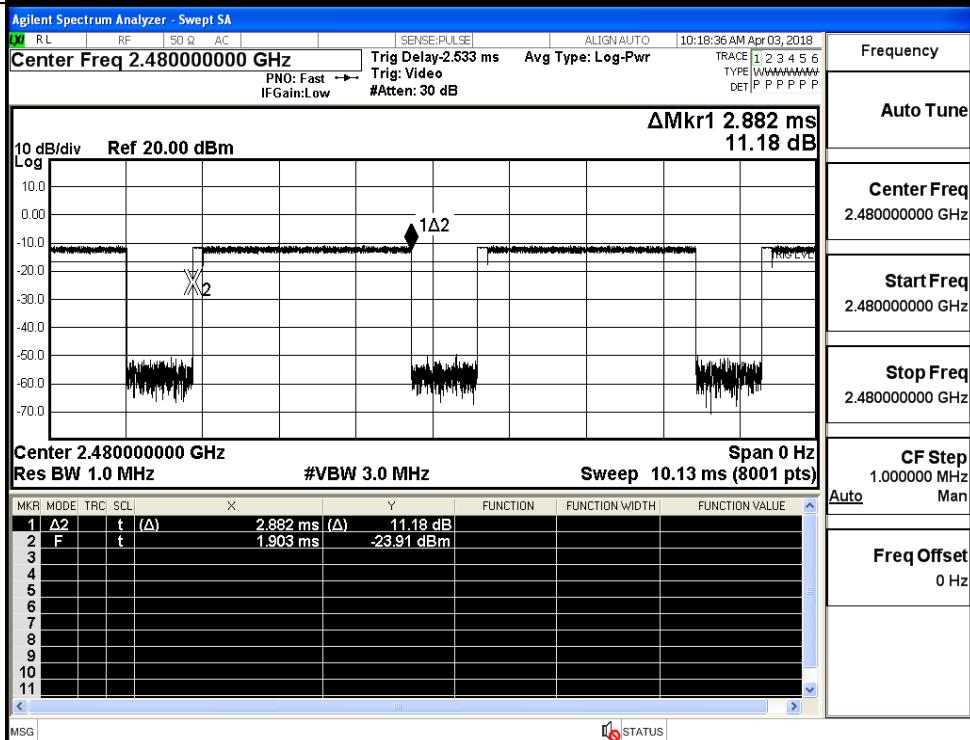
CF Step
1.000000 MHz
Auto Man

Freq Offset
0 Hz

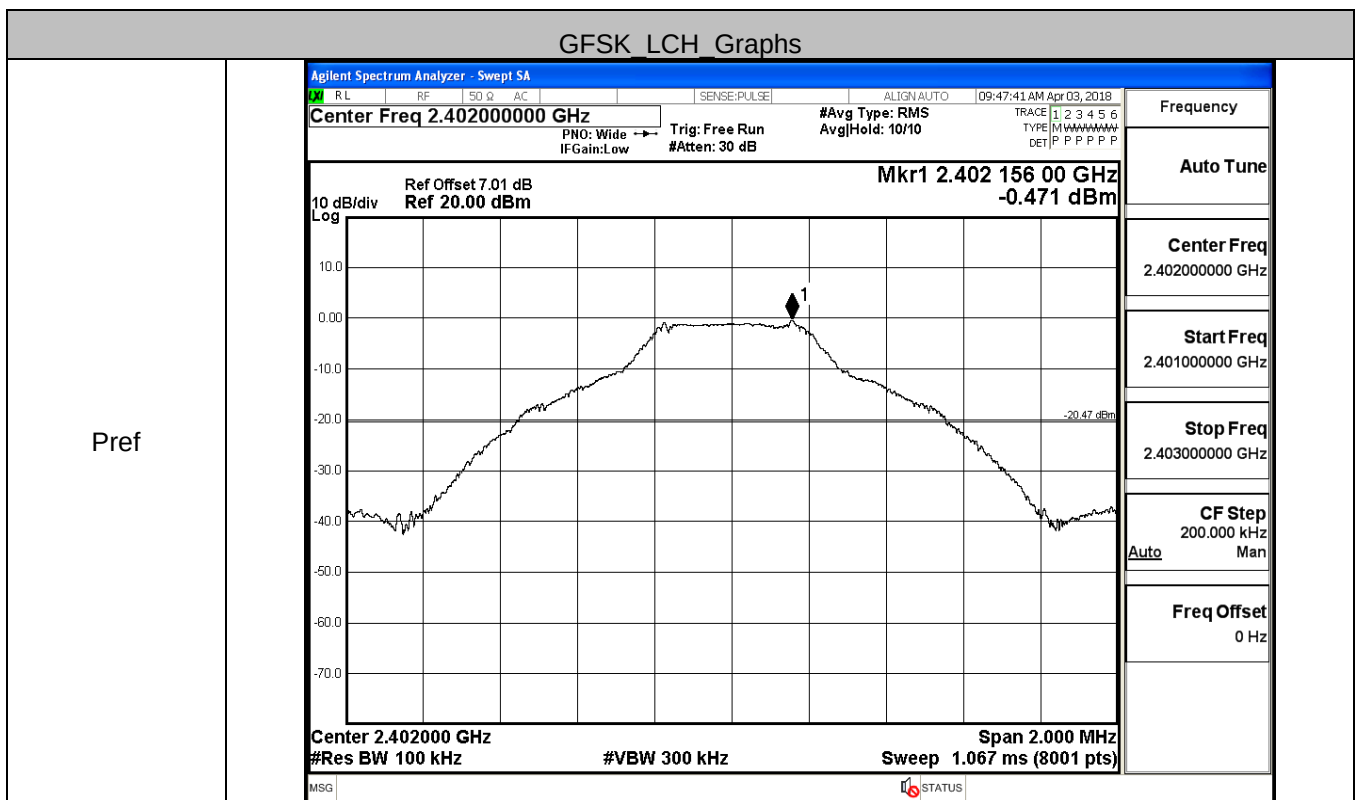
8DPSK_3DH5/MCH

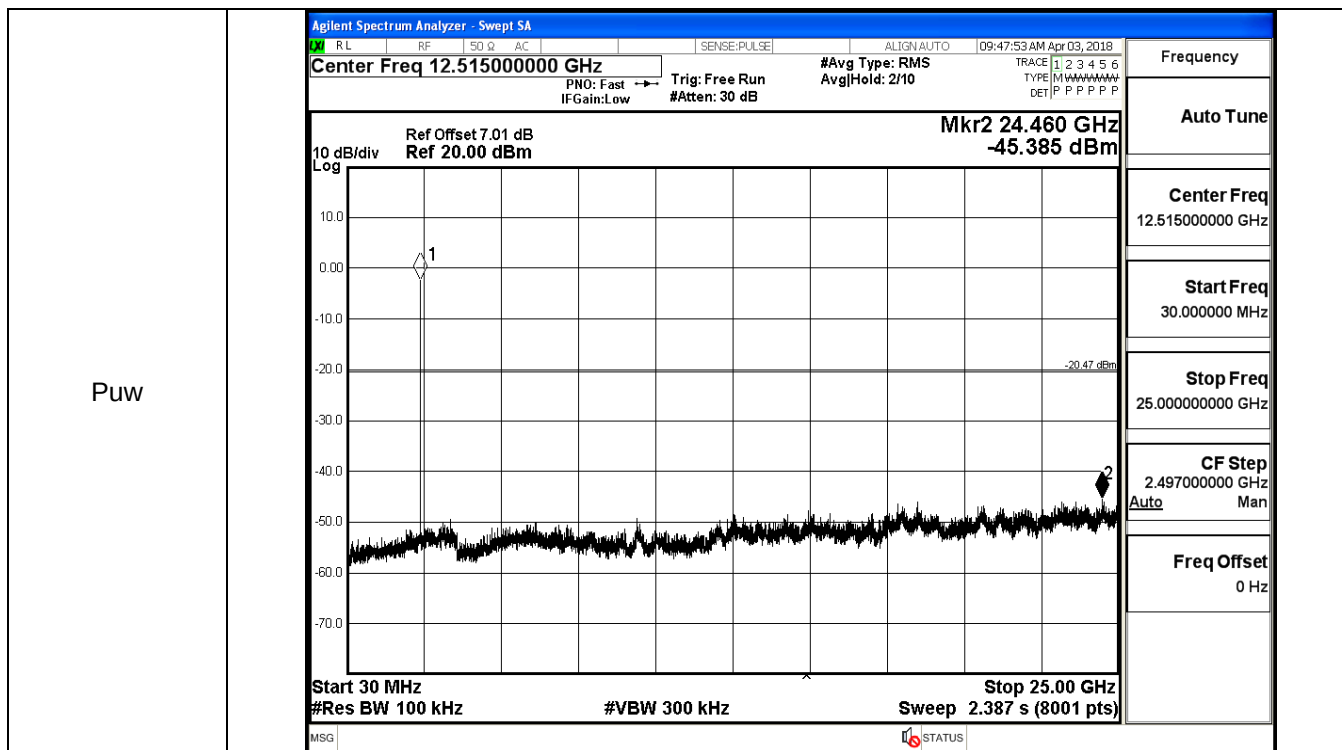


8DPSK_3DH5/HCH



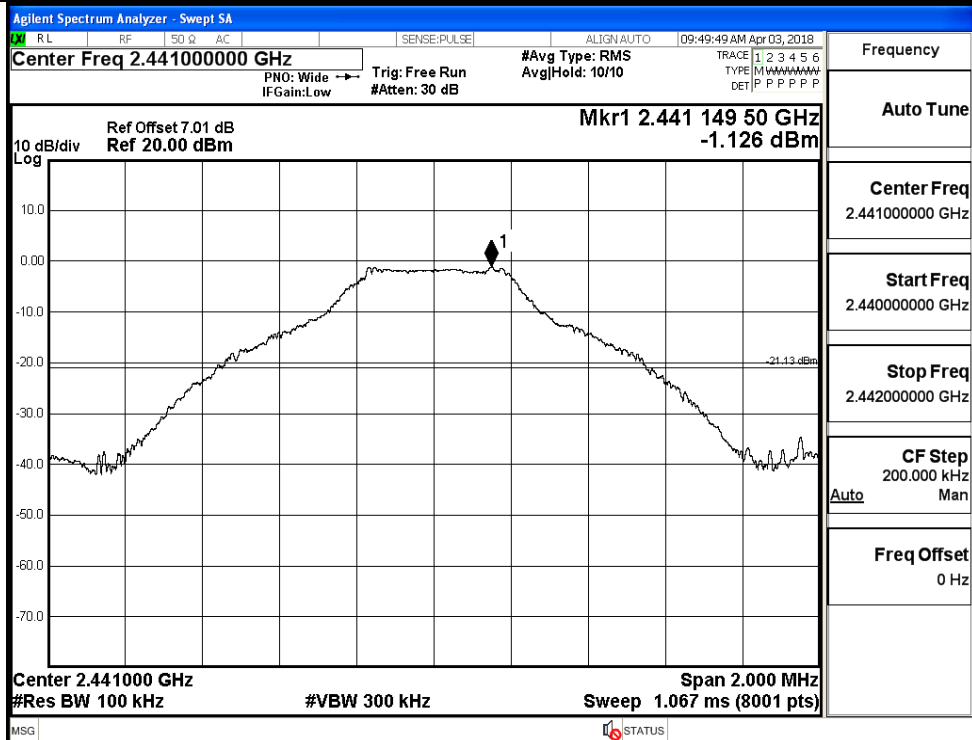
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.471	-45.385	-20.471	PASS
	MCH	-1.126	-41.170	-21.126	PASS
	HCH	-3.312	-45.427	-23.312	PASS
$\pi/4$ DQPSK	LCH	-2.493	-45.649	-22.493	PASS
	MCH	-2.878	-45.077	-22.878	PASS
	HCH	-4.493	-45.445	-24.493	PASS
8DPSK	LCH	-1.898	-44.846	-21.898	PASS
	MCH	1.712	-45.529	-18.288	PASS
	HCH	-4.463	-45.411	-24.463	PASS



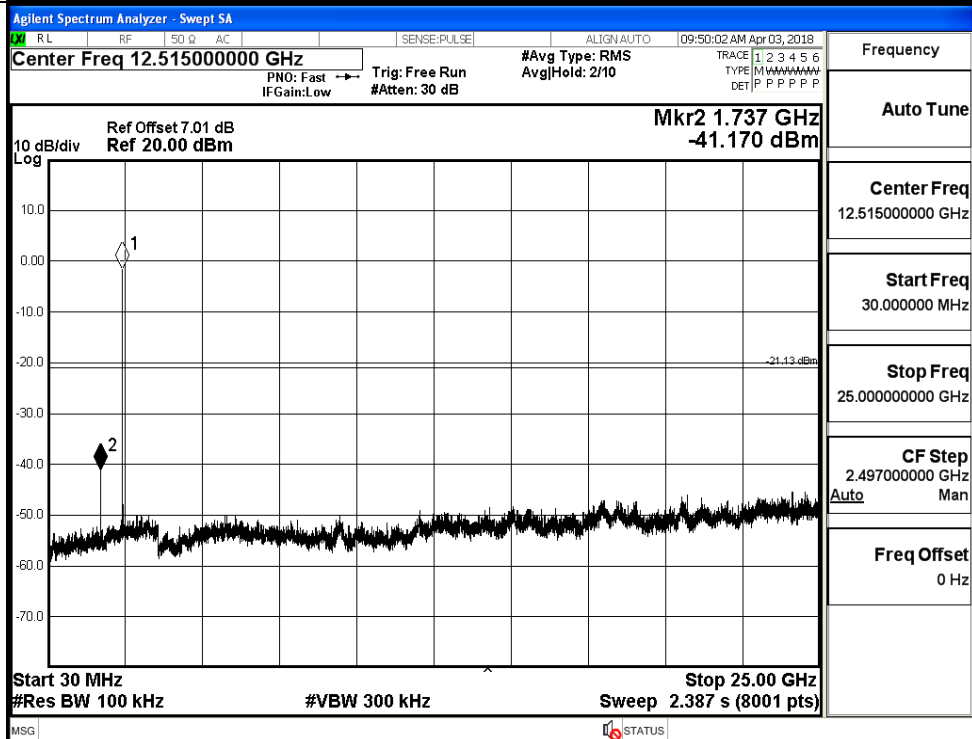


GFSK MCH Graphs

Pref

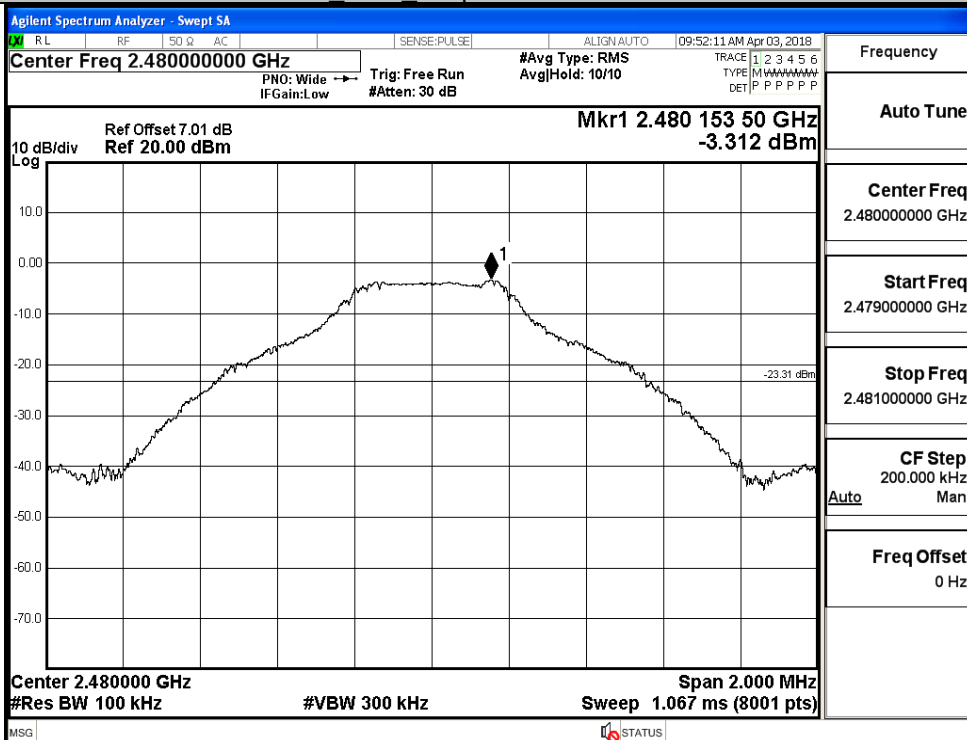


Puw

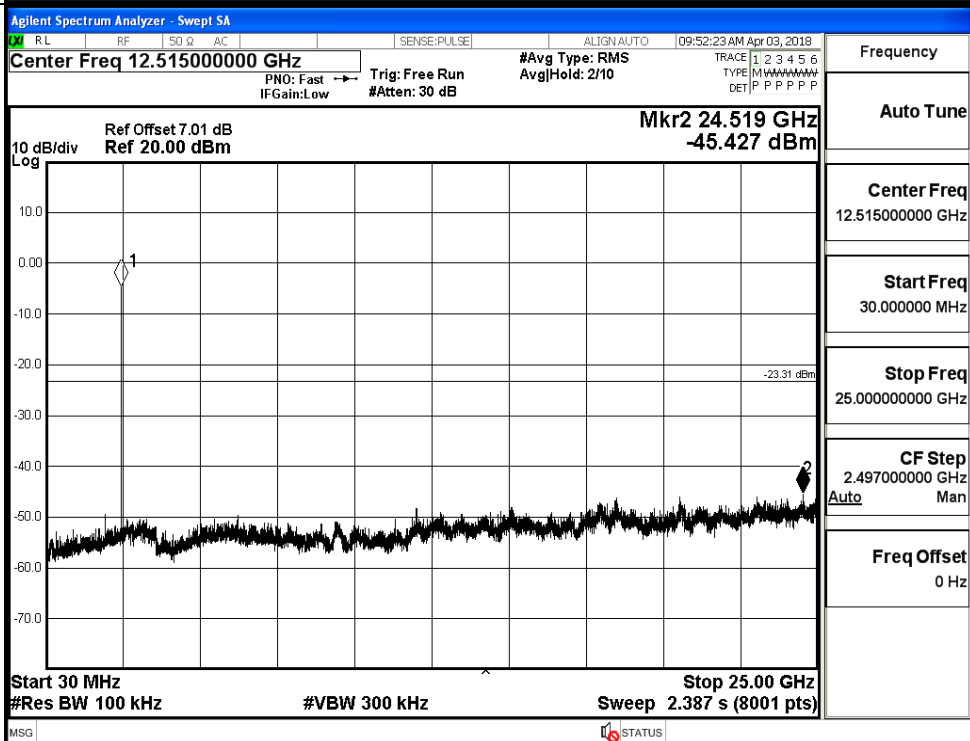


GFSK HCH Graphs

Pref

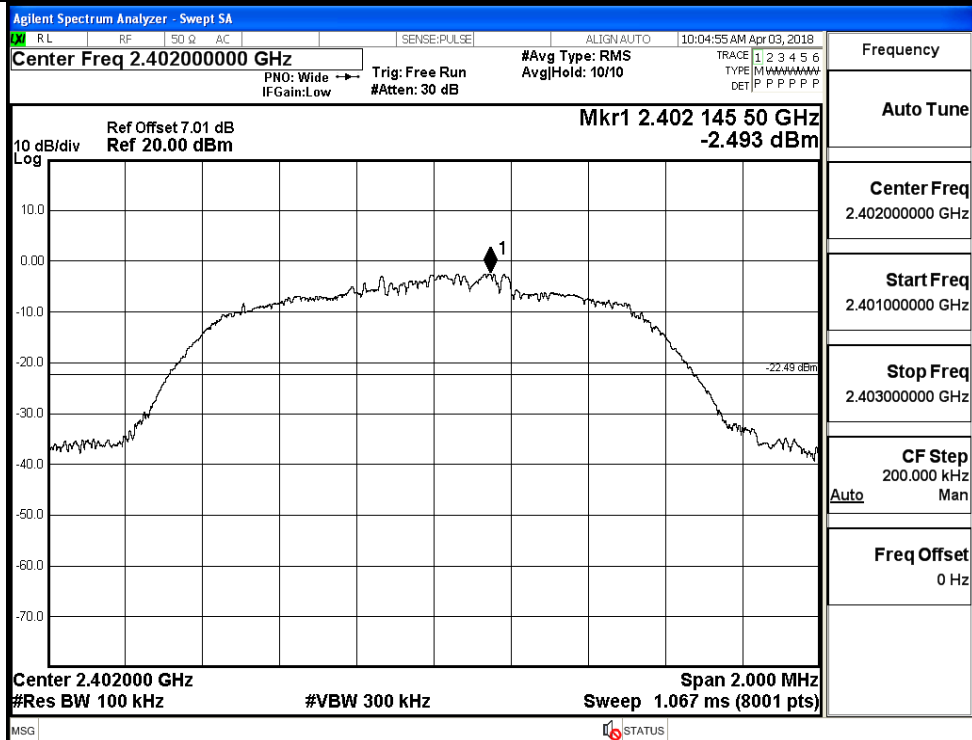


Puw

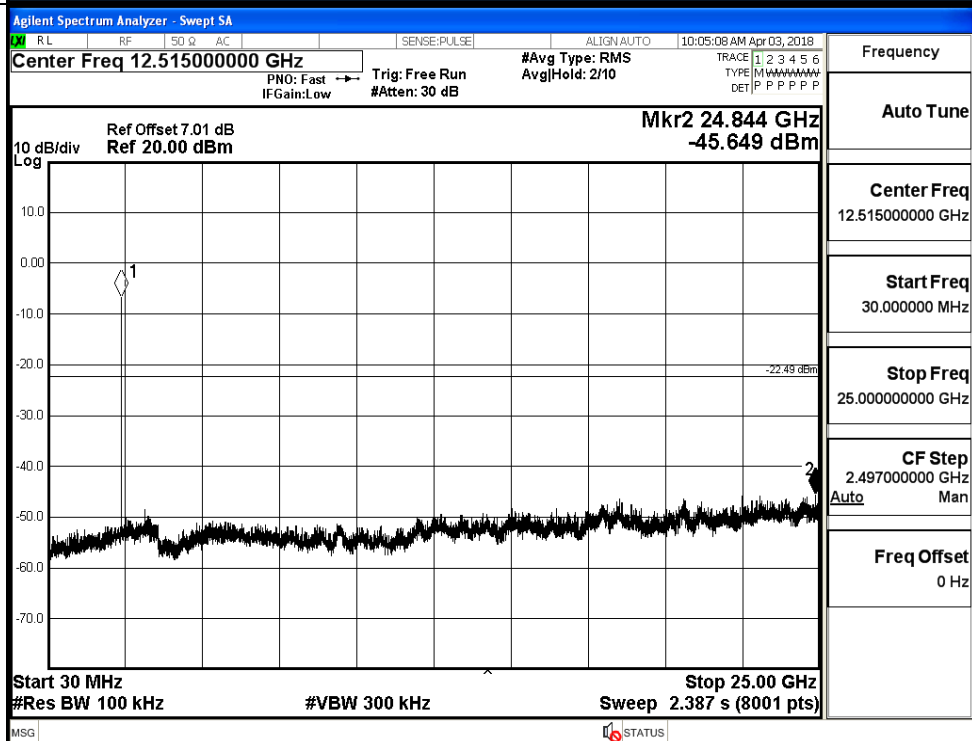


$\pi/4$ DQPSK LCH Graphs

Pref

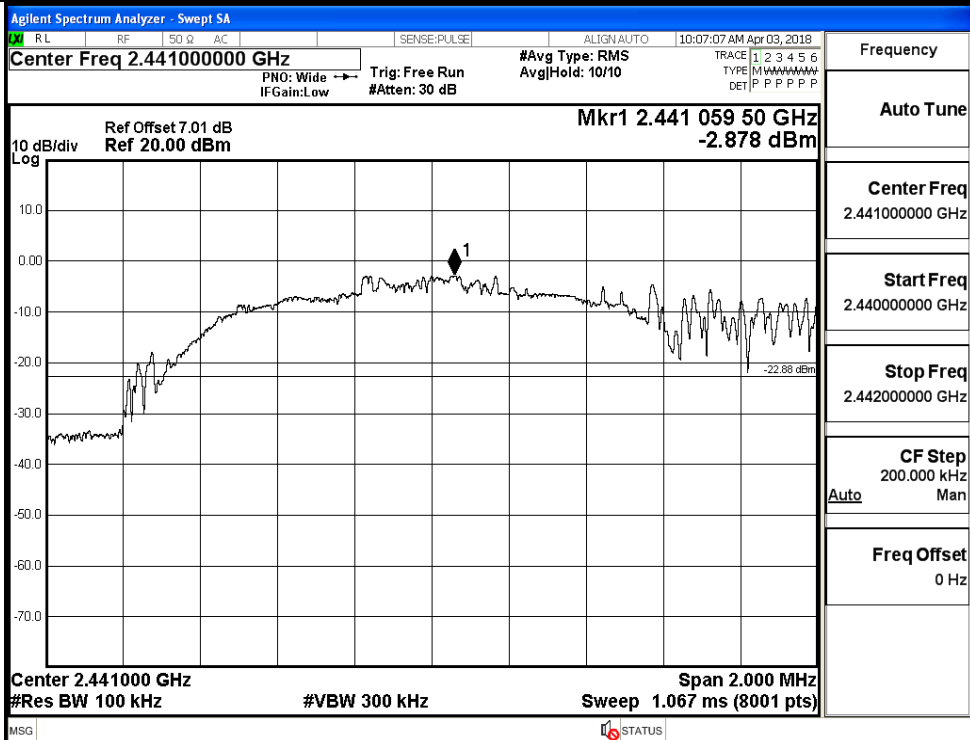


Puw

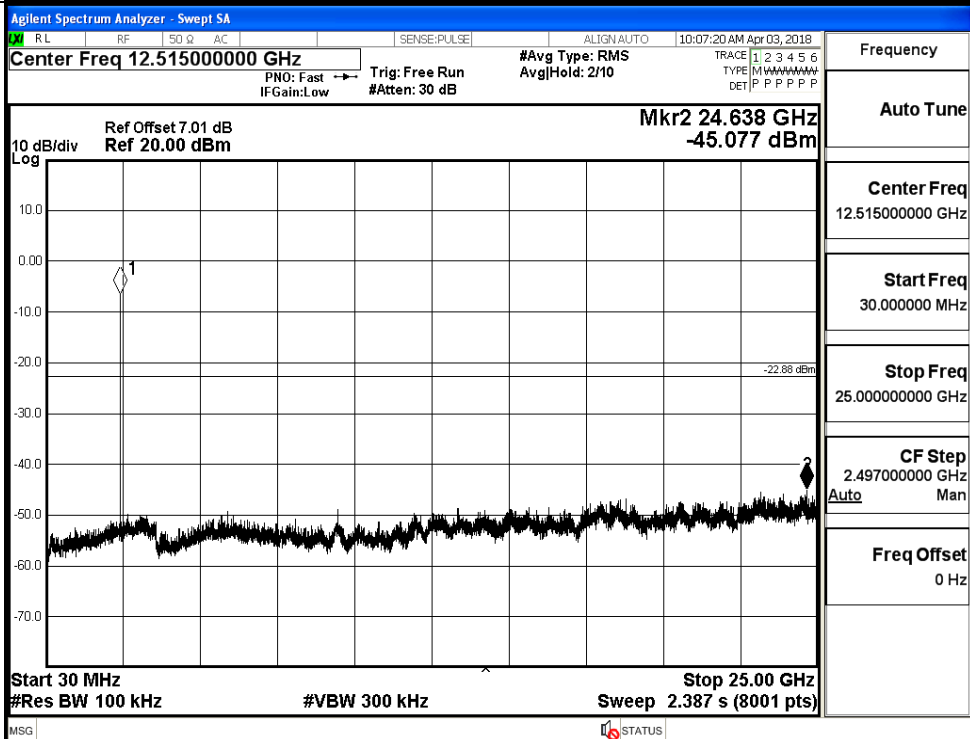


π /4DQPSK MCH Graphs

Pref

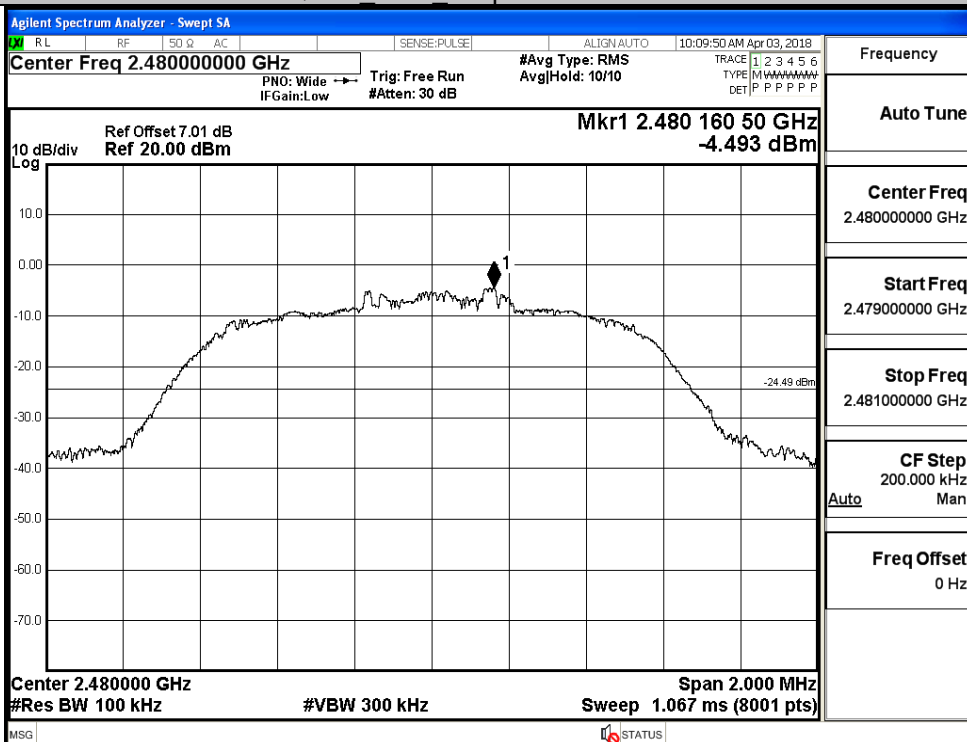


Puw

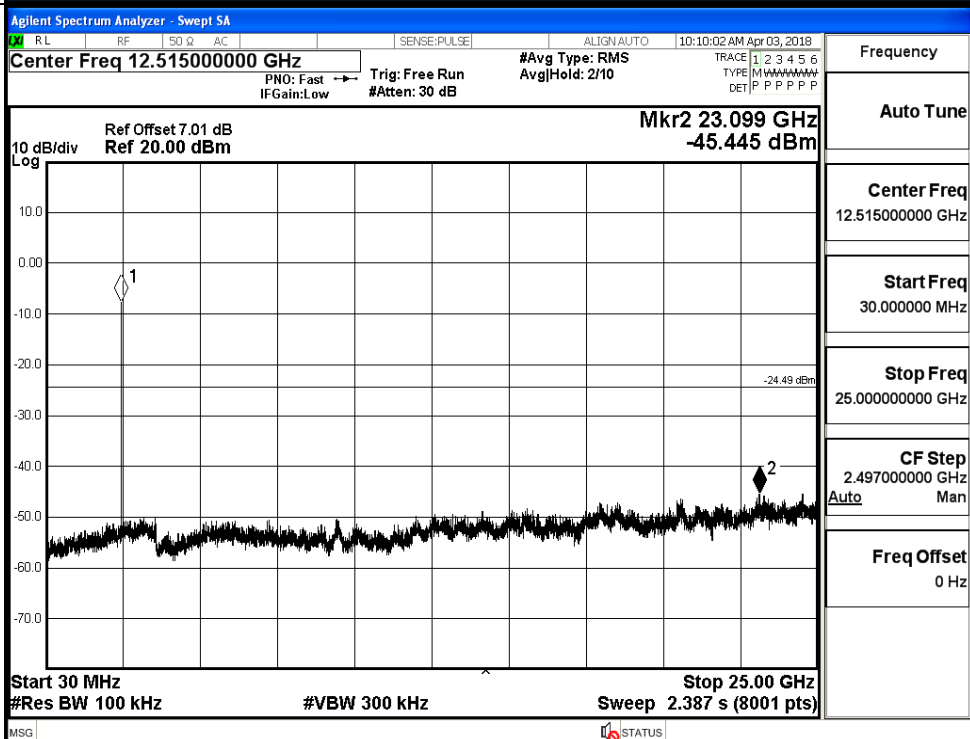


$\pi/4$ DQPSK HCH Graphs

Pref

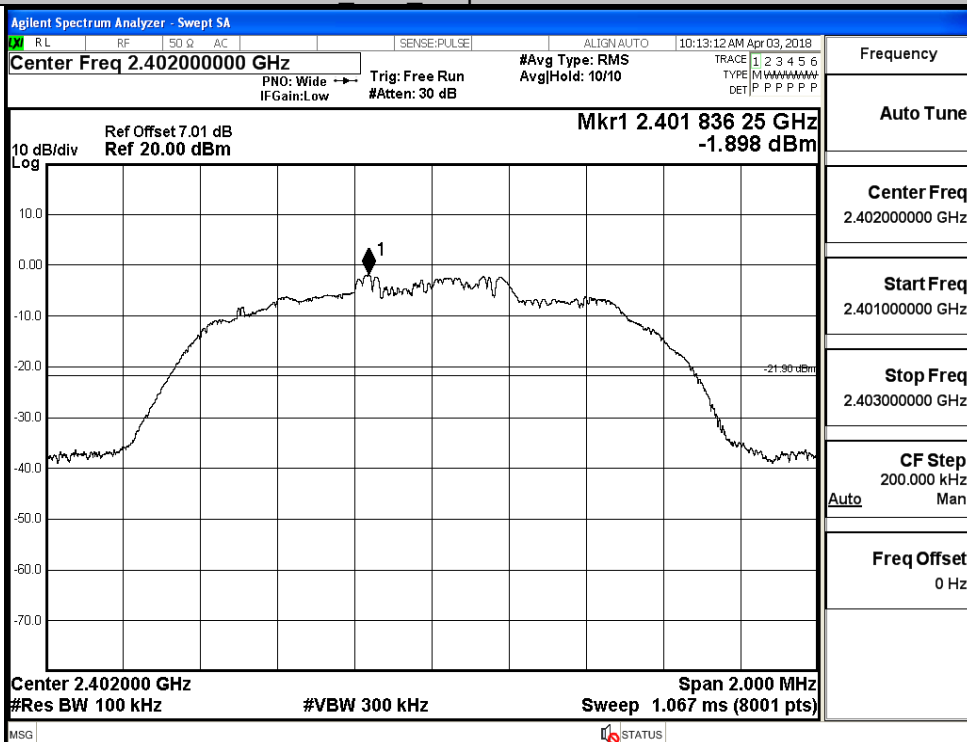


Puw

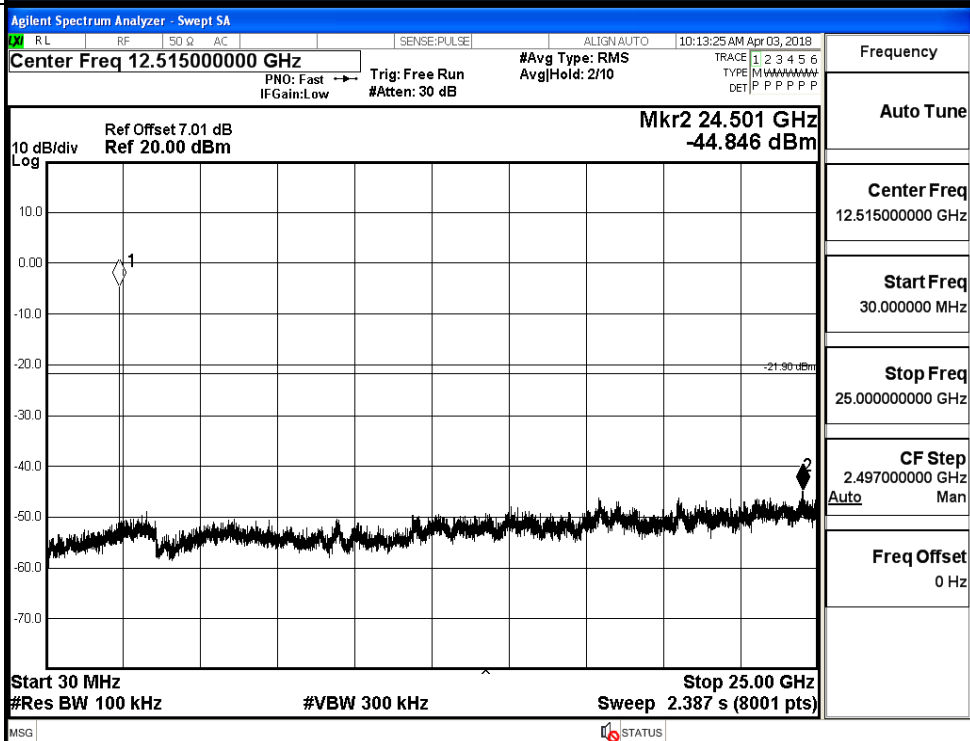


8DPSK LCH Graphs

Pref

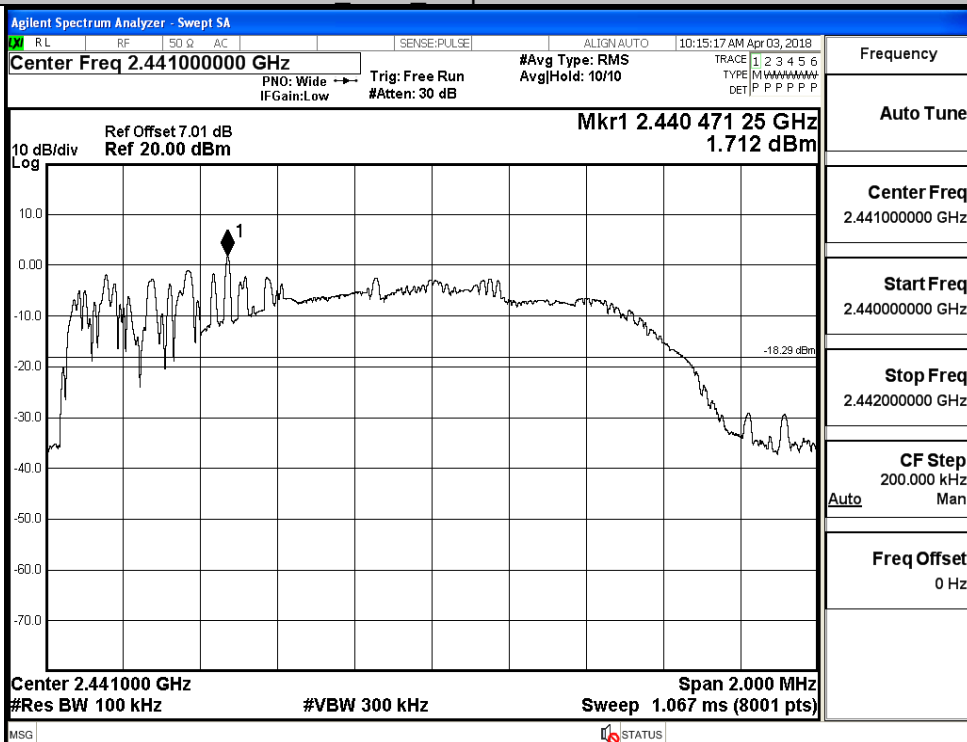


Puw

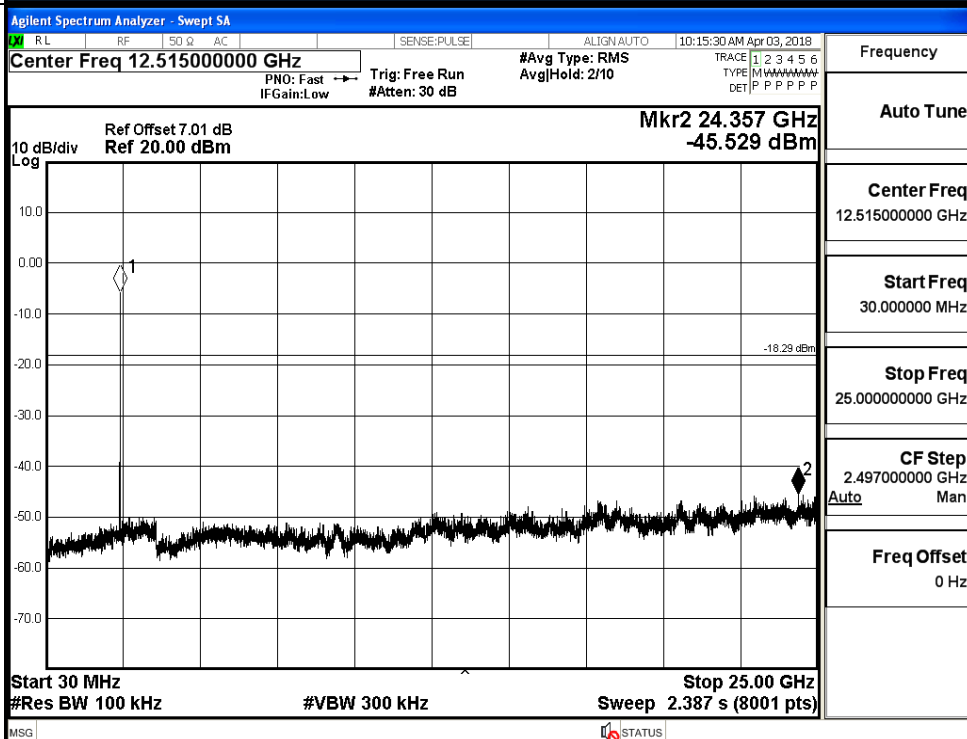


8DPSK MCH Graphs

Pref

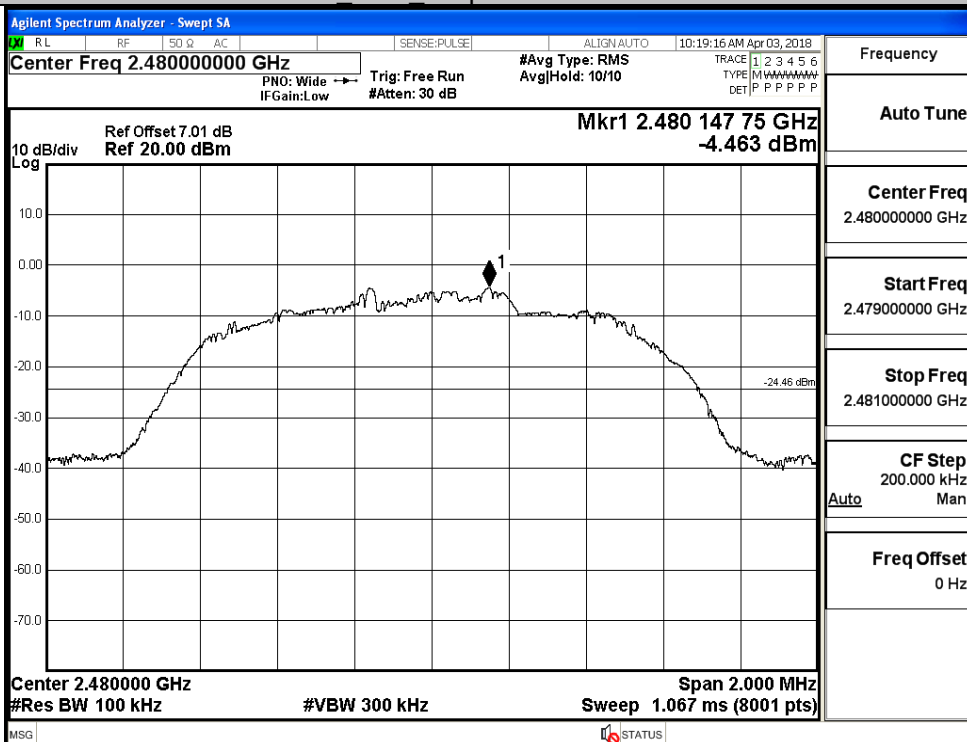


Puw

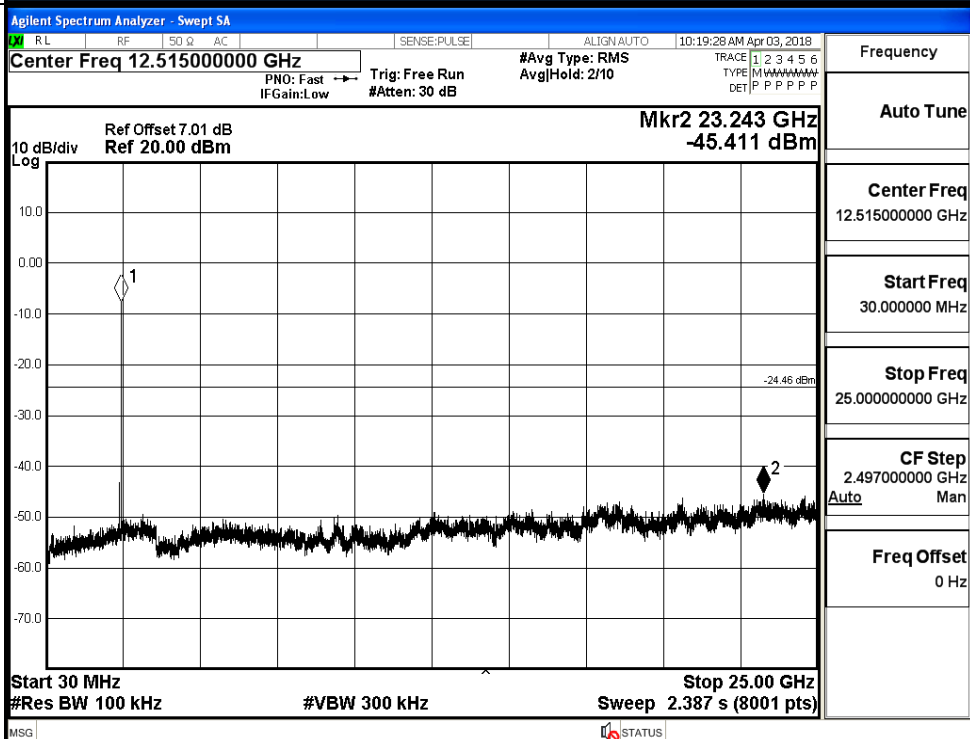


8DPSK_HCH Graphs

Pref



Puw

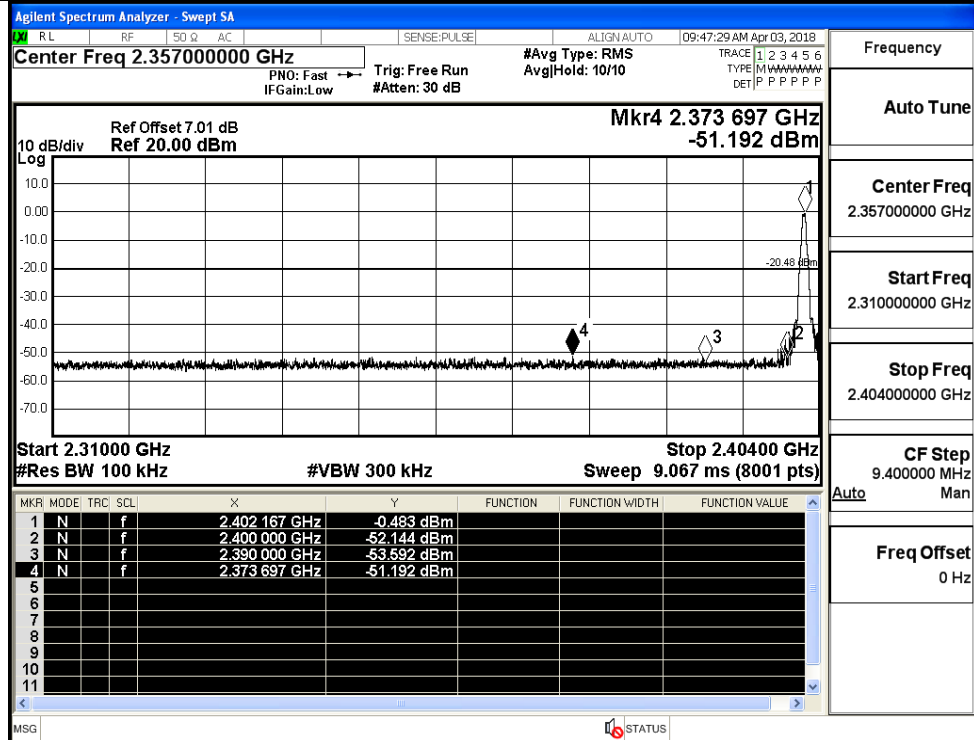


A.7 Band-edge for RF Conducted Emissions

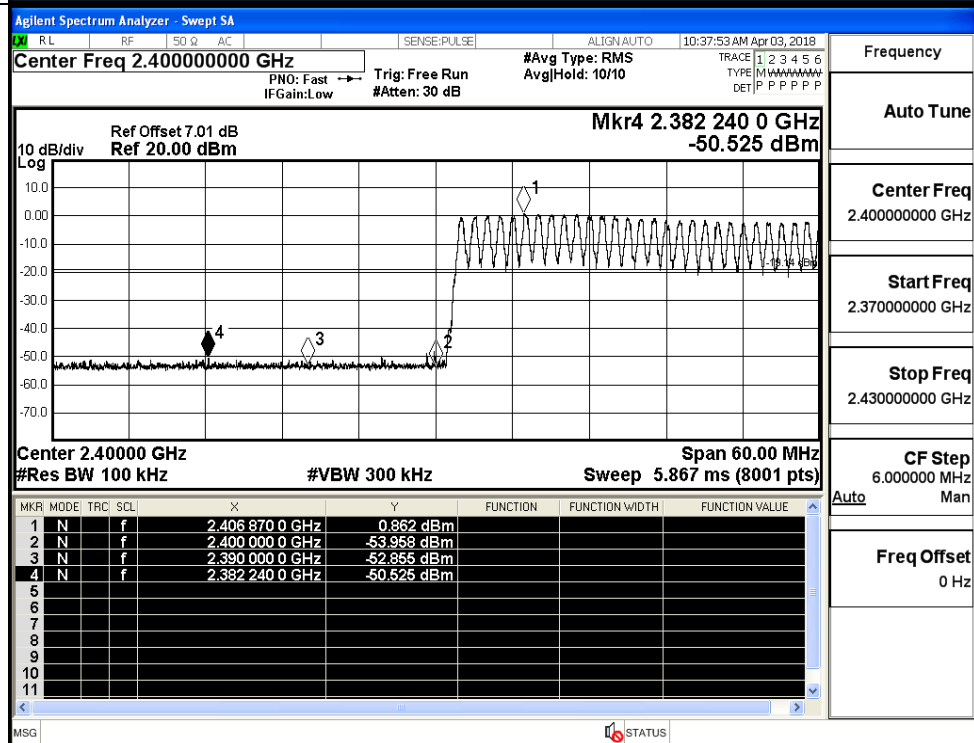
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-0.483	Off	-51.192	-20.48	PASS
			0.862	On	-50.525	-19.14	PASS
	HCH	2480	-3.304	Off	-50.558	-23.3	PASS
			2.018	On	-49.308	-17.98	PASS
$\pi/4$ DQPSK	LCH	2402	-3.422	Off	-50.699	-23.42	PASS
			-0.594	On	-50.716	-20.59	PASS
	HCH	2480	-4.362	Off	-43.307	-24.36	PASS
			2.110	On	-42.172	-17.89	PASS
8DPSK	LCH	2402	-1.847	Off	-50.923	-21.85	PASS
			-0.612	On	-50.600	-20.61	PASS
	HCH	2480	-4.930	Off	-50.747	-24.93	PASS
			3.303	On	-50.668	-16.7	PASS

Test Graphs

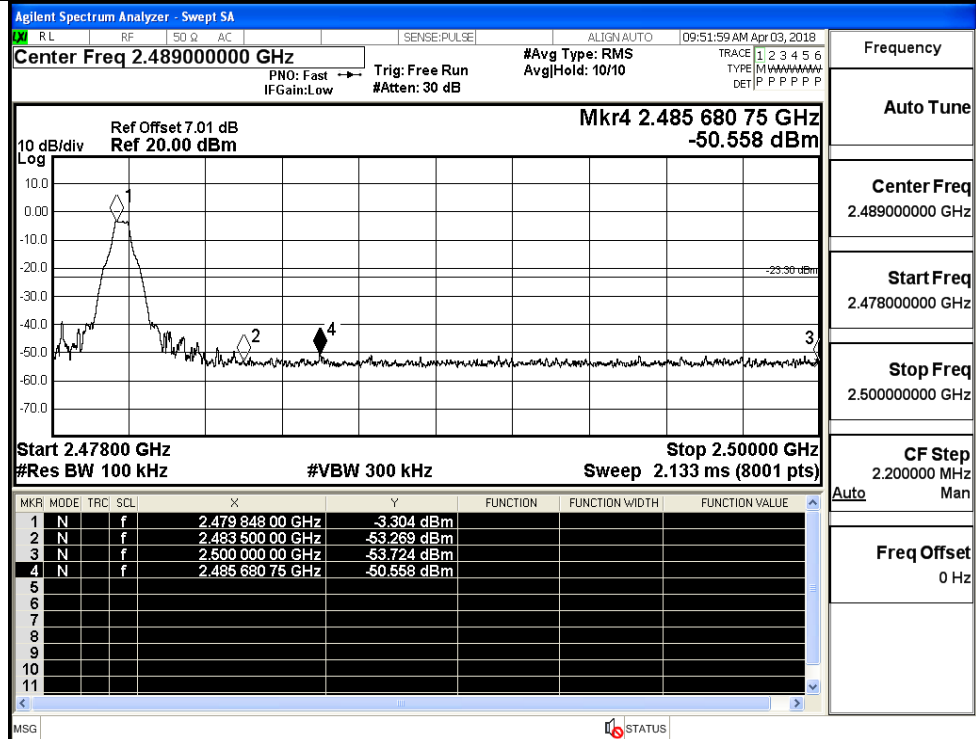
GFSK/LCH/No Hop



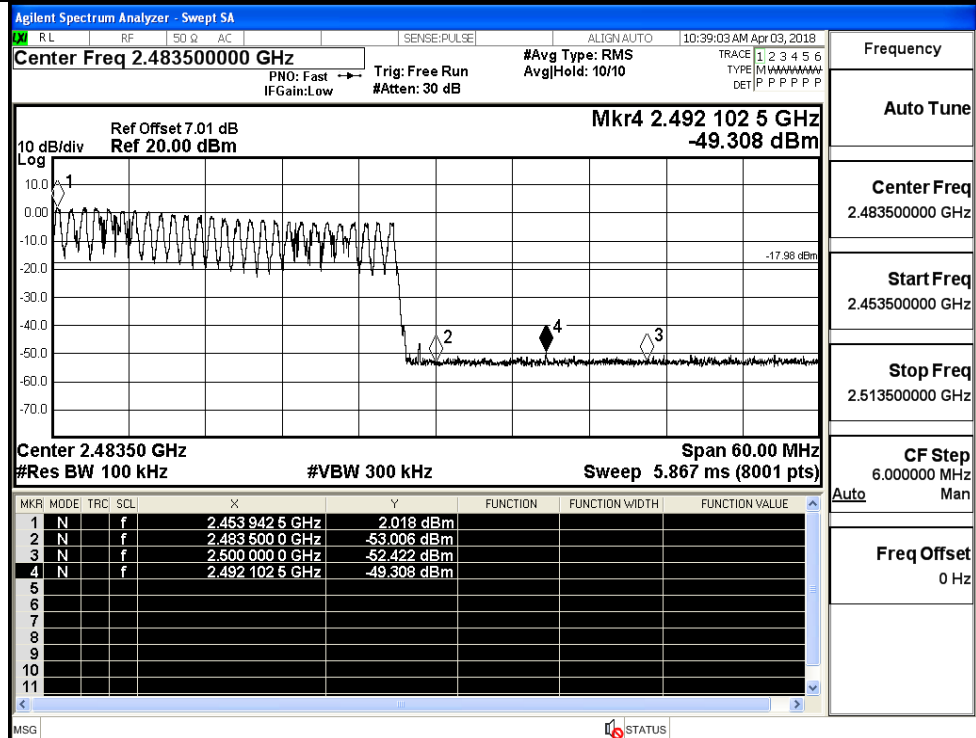
GFSK/LCH/Hop



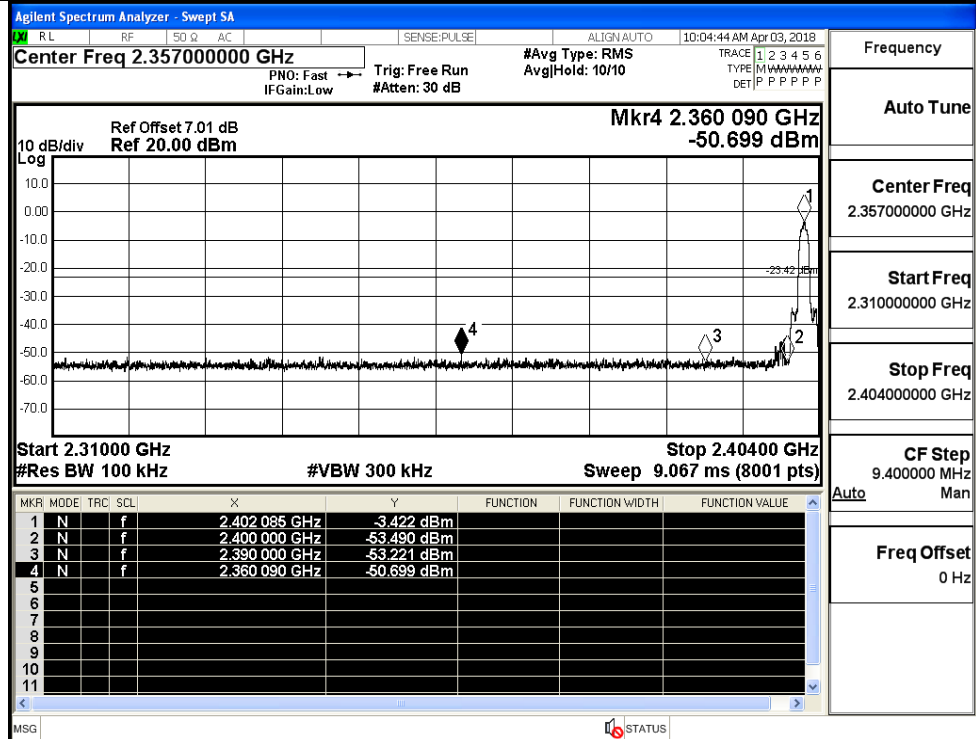
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq
2.357000000 GHz

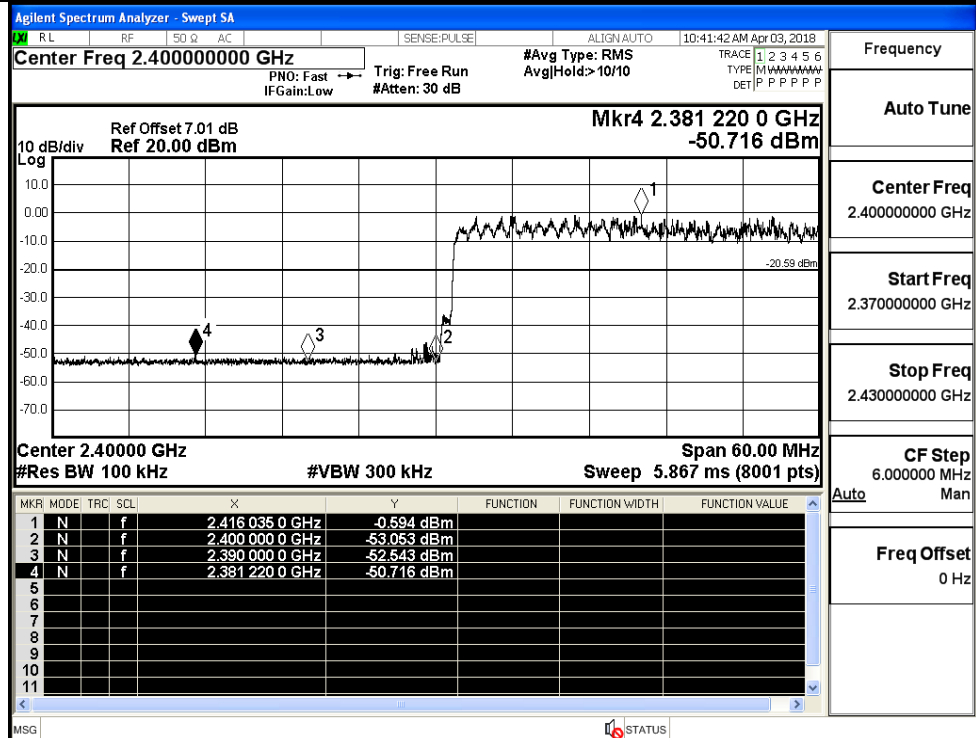
Start Freq
2.310000000 GHz

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

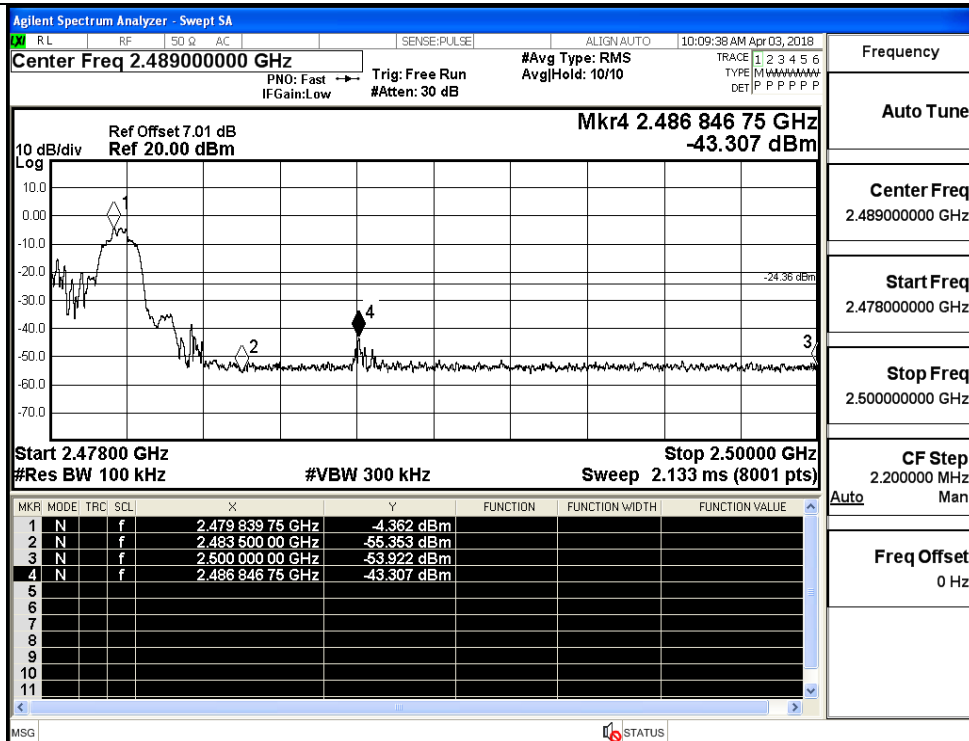
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

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

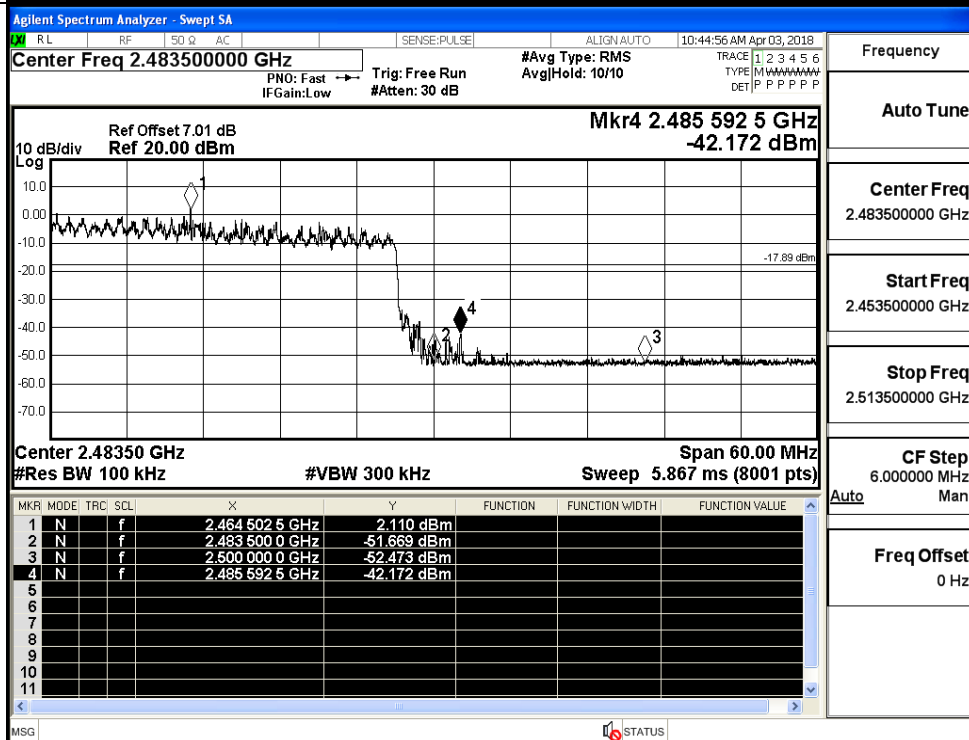


Frequency

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

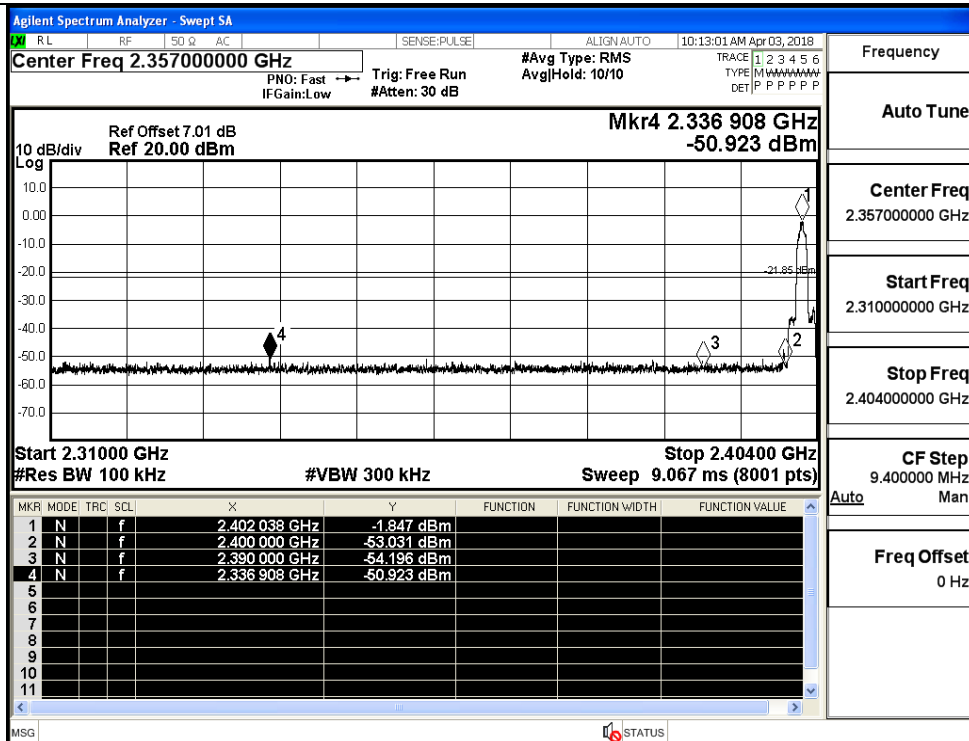


Frequency

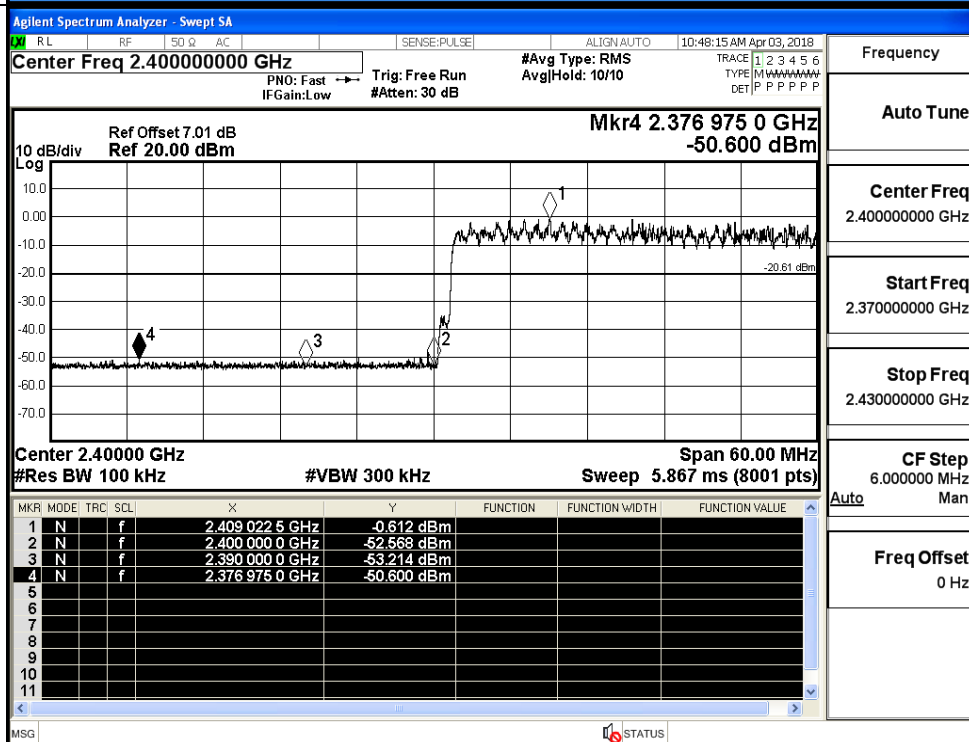
Auto Tune

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

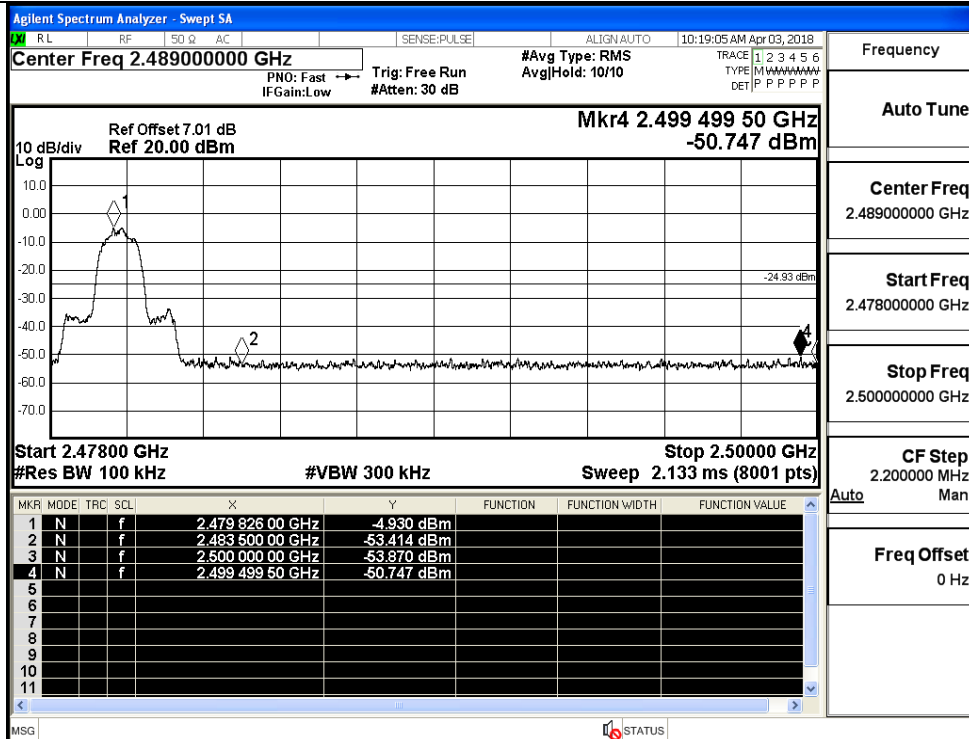
8DPSK/LCH/No Hop



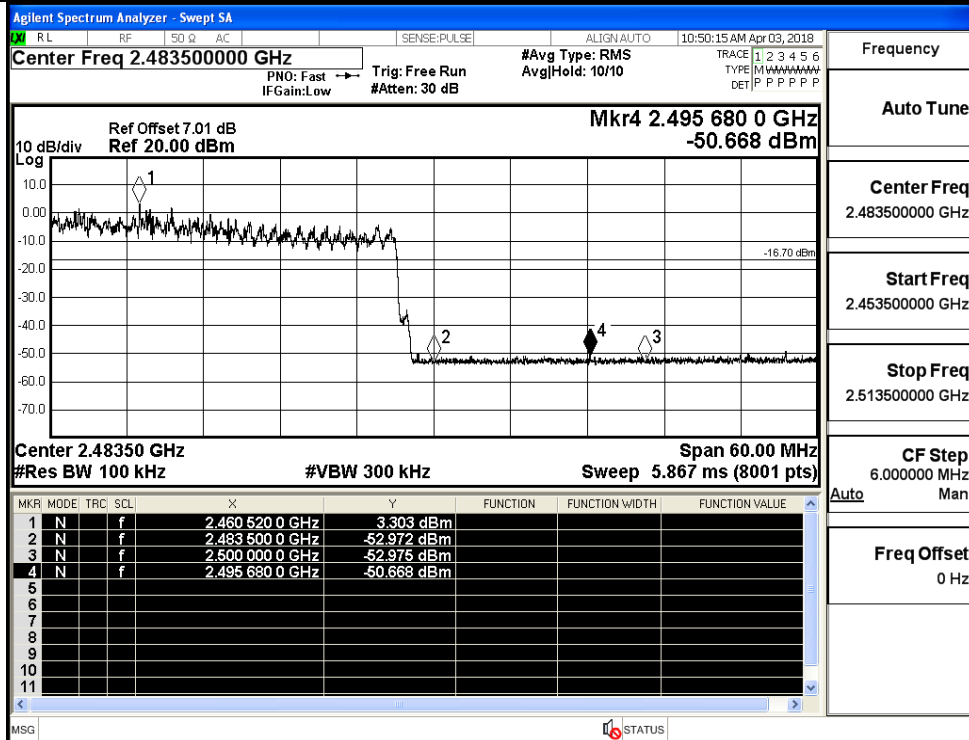
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



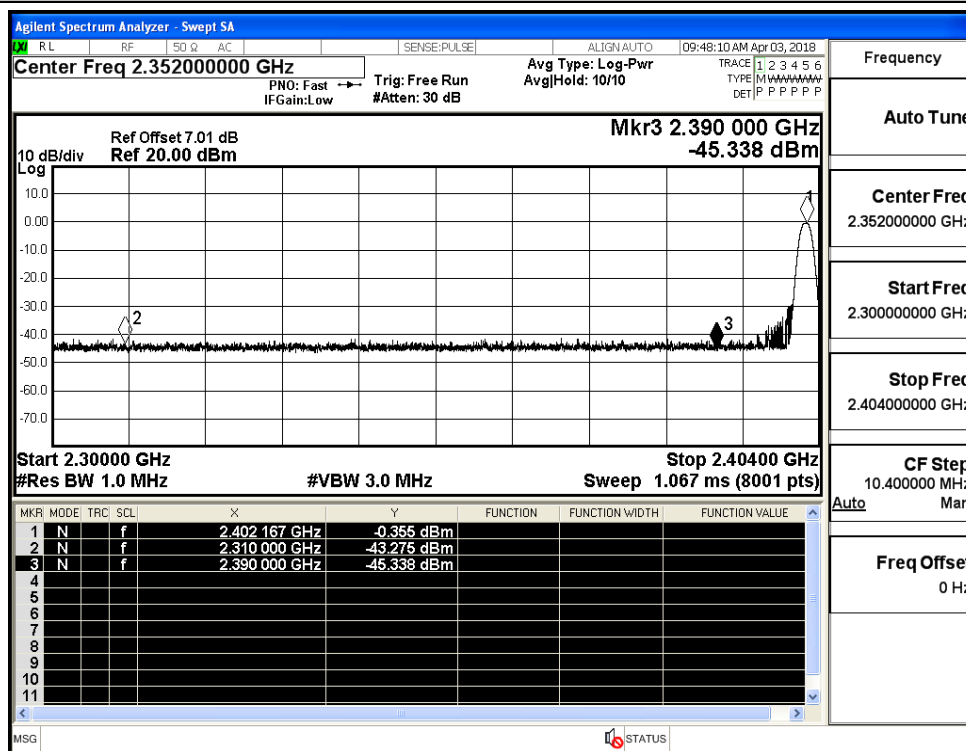
8DPSK/HCH/Hop



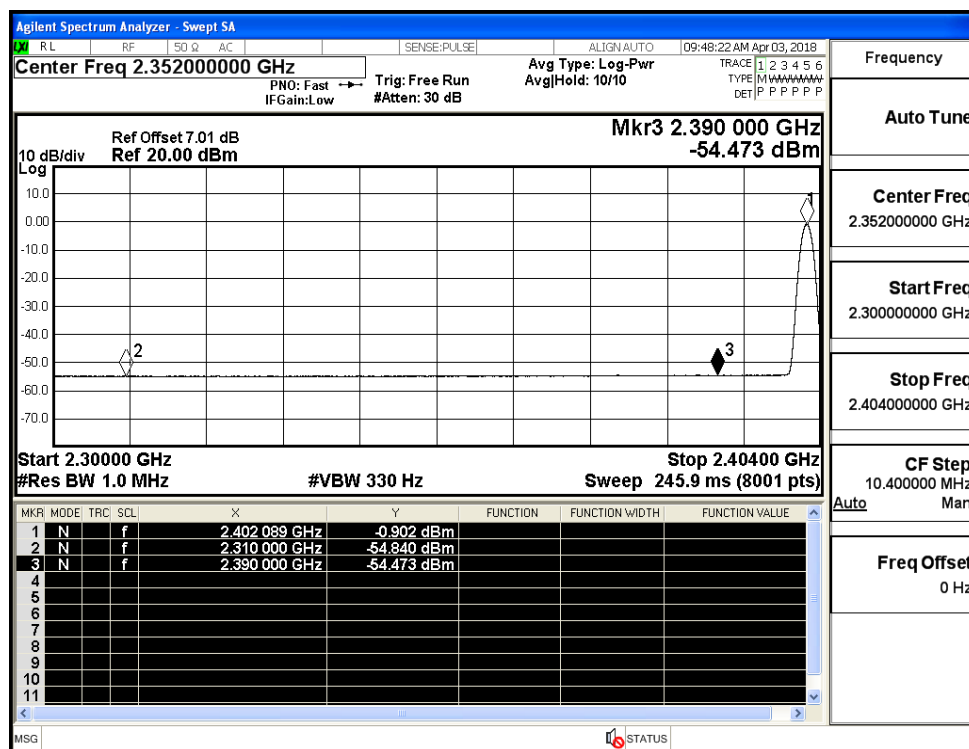
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.28	3.0	0	54.98	PEAK	74	PASS
	Off	2310.0	-54.84	3.0	0	43.42	AV	54	PASS
	Off	2390.0	-45.34	3.0	0	52.92	PEAK	74	PASS
	Off	2390.0	-54.47	3.0	0	43.79	AV	54	PASS
	Off	2483.5	-39.12	3.0	0	59.14	PEAK	74	PASS
	Off	2483.5	-54.26	3.0	0	44.00	AV	54	PASS
	Off	2500.0	-43.52	3.0	0	54.74	PEAK	74	PASS
	Off	2500.0	-54.25	3.0	0	44.01	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-44.19	3.0	0	54.07	PEAK	74	PASS
	Off	2310.0	-54.94	3.0	0	43.32	AV	54	PASS
	Off	2390.0	-44.35	3.0	0	53.91	PEAK	74	PASS
	Off	2390.0	-54.58	3.0	0	43.68	AV	54	PASS
	Off	2483.5	-44.02	3.0	0	54.24	PEAK	74	PASS
	Off	2483.5	-54.22	3.0	0	44.04	AV	54	PASS
	Off	2500.0	-42.89	3.0	0	55.37	PEAK	74	PASS
	Off	2500.0	-54.28	3.0	0	43.98	AV	54	PASS
8DPSK	Off	2310.0	-43.61	3.0	0	54.65	PEAK	74	PASS
	Off	2310.0	-54.98	3.0	0	43.28	AV	54	PASS
	Off	2390.0	-45.05	3.0	0	53.21	PEAK	74	PASS
	Off	2390.0	-54.65	3.0	0	43.61	AV	54	PASS
	Off	2483.5	-39.97	3.0	0	58.29	PEAK	74	PASS
	Off	2483.5	-54.21	3.0	0	44.05	AV	54	PASS
	Off	2500.0	-44.58	3.0	0	53.68	PEAK	74	PASS
	Off	2500.0	-54.25	3.0	0	44.01	AV	54	PASS

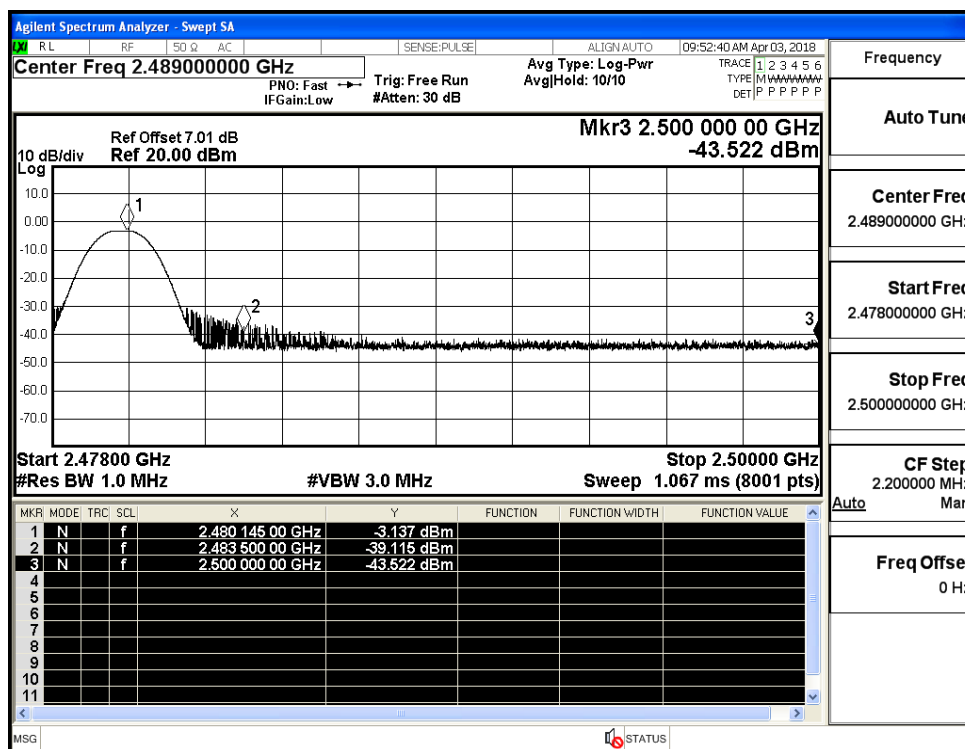
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



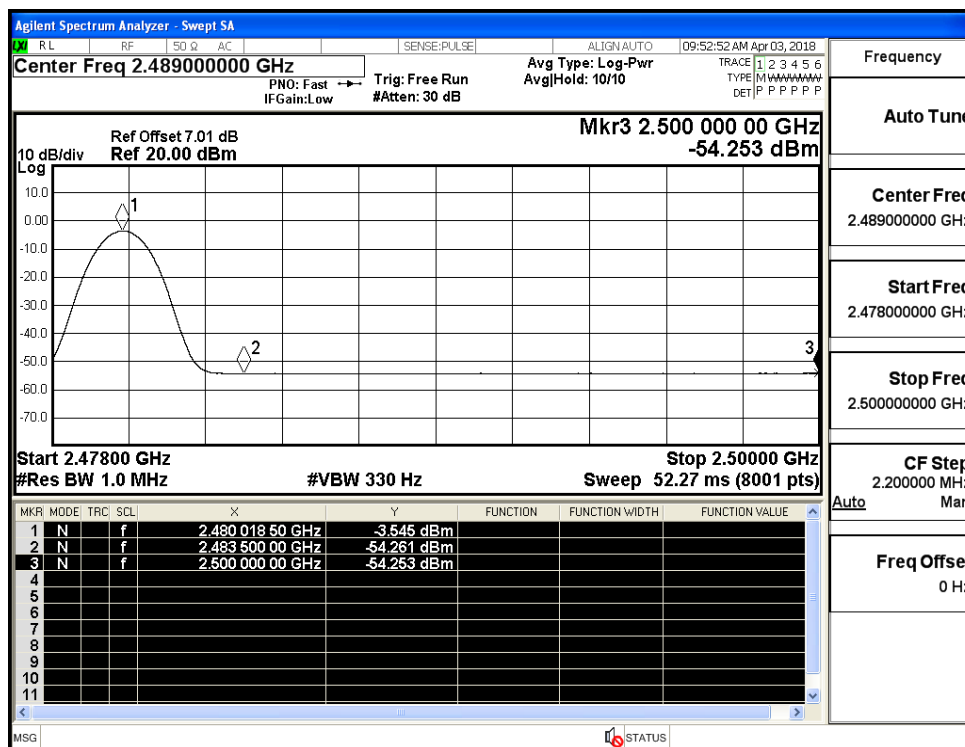
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

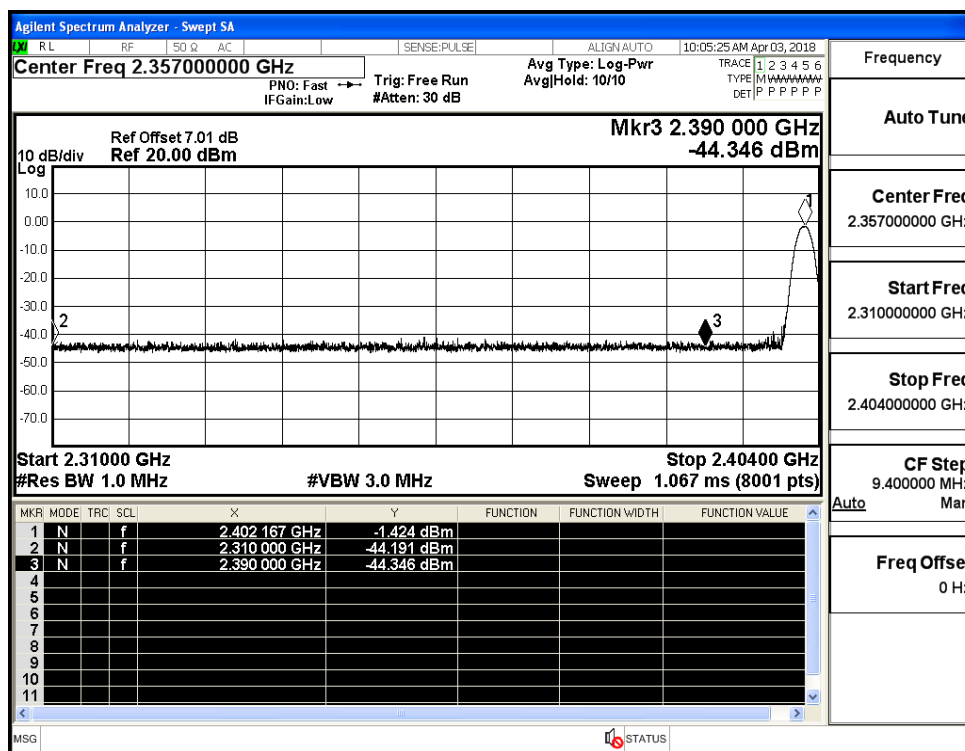
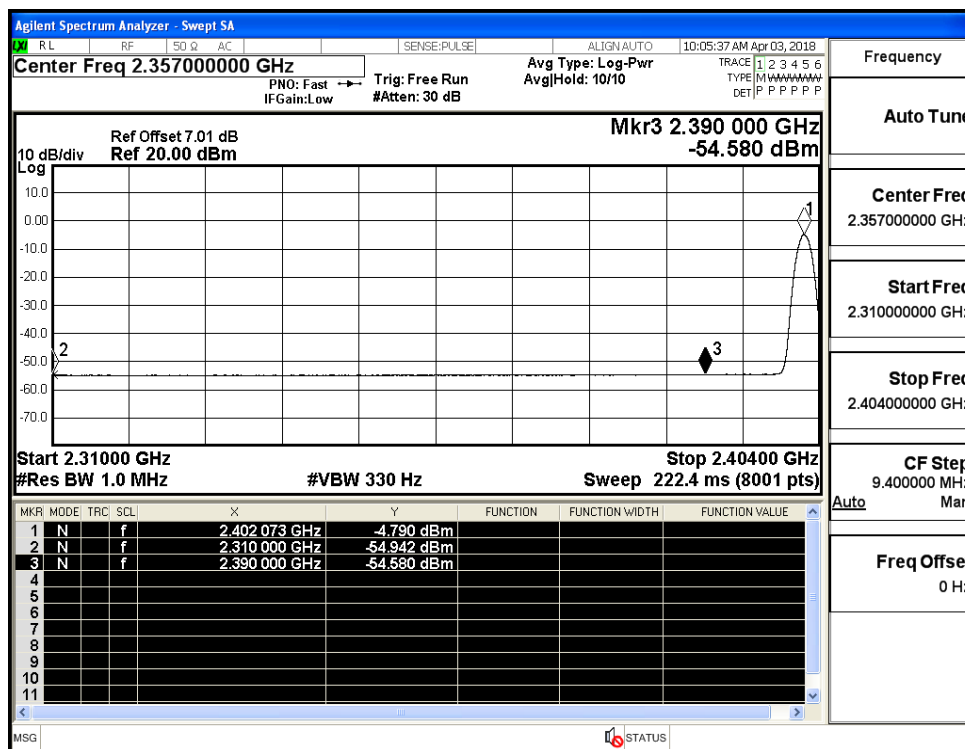


Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)

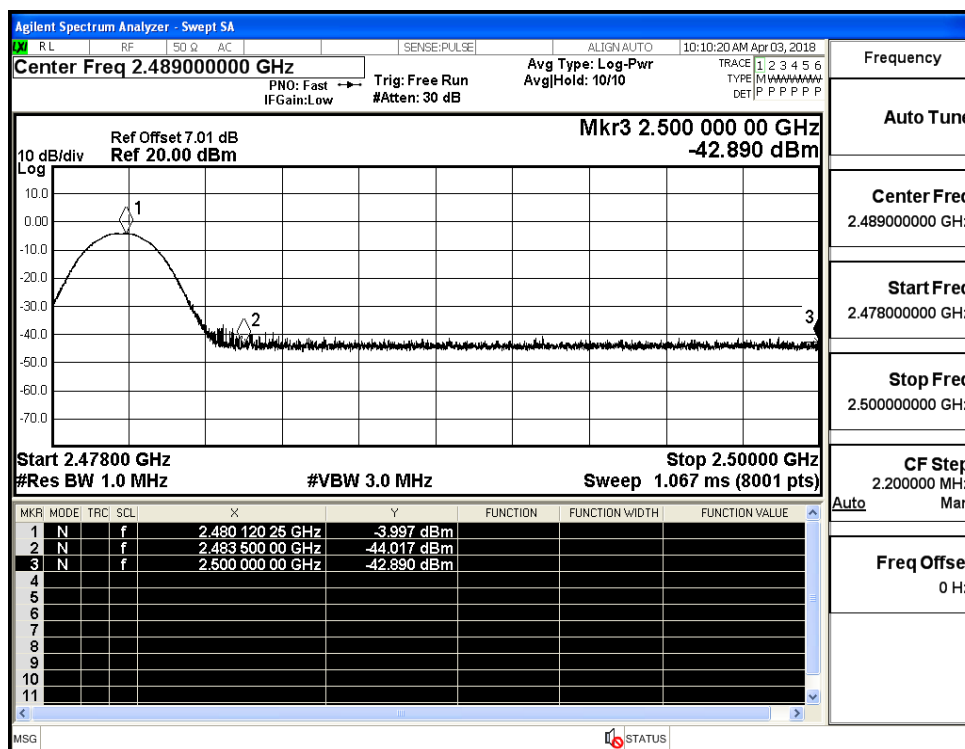


Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)

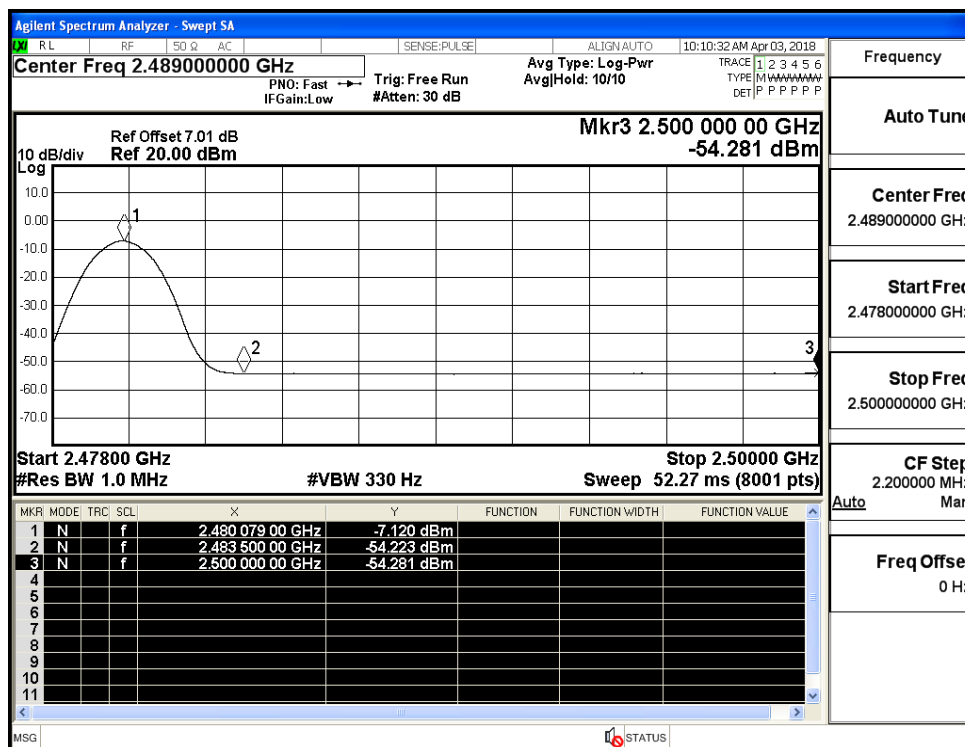


Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

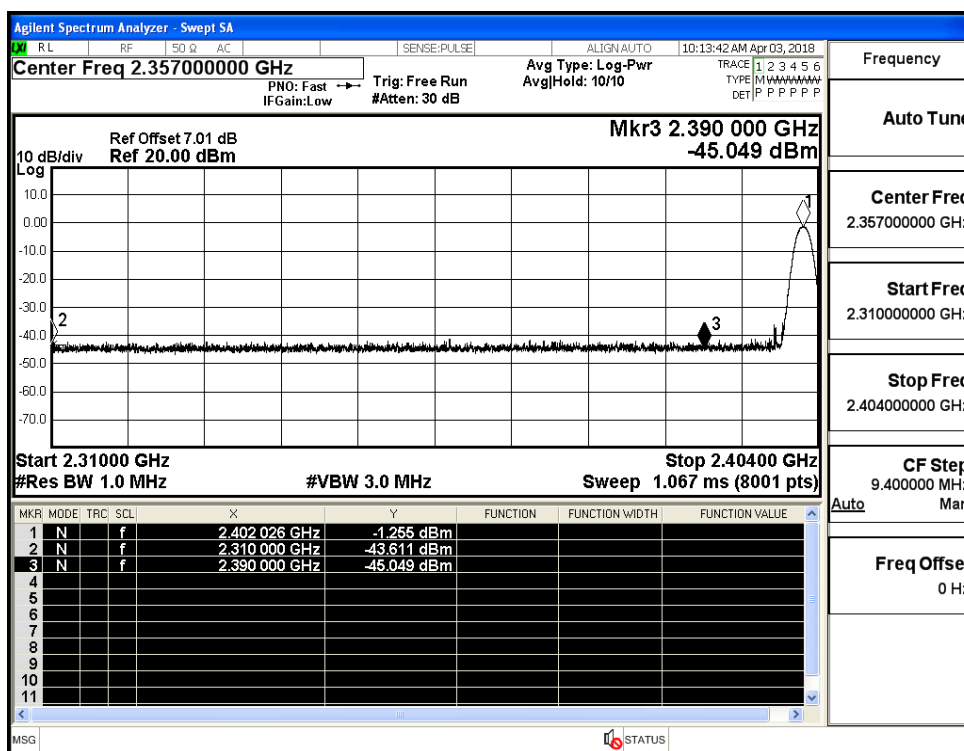
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



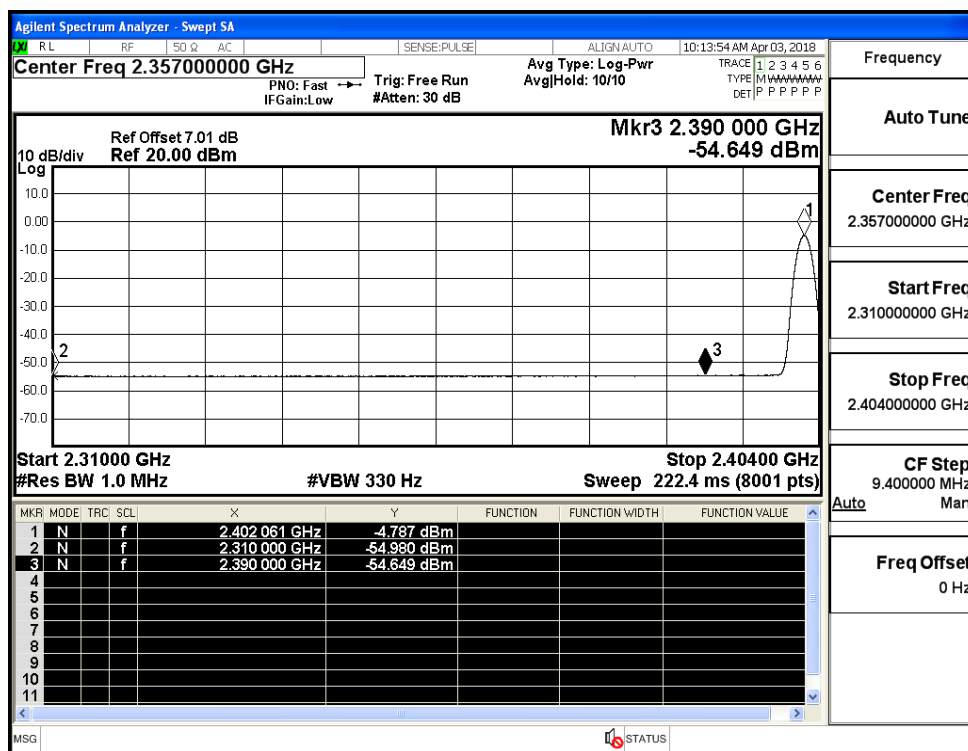
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



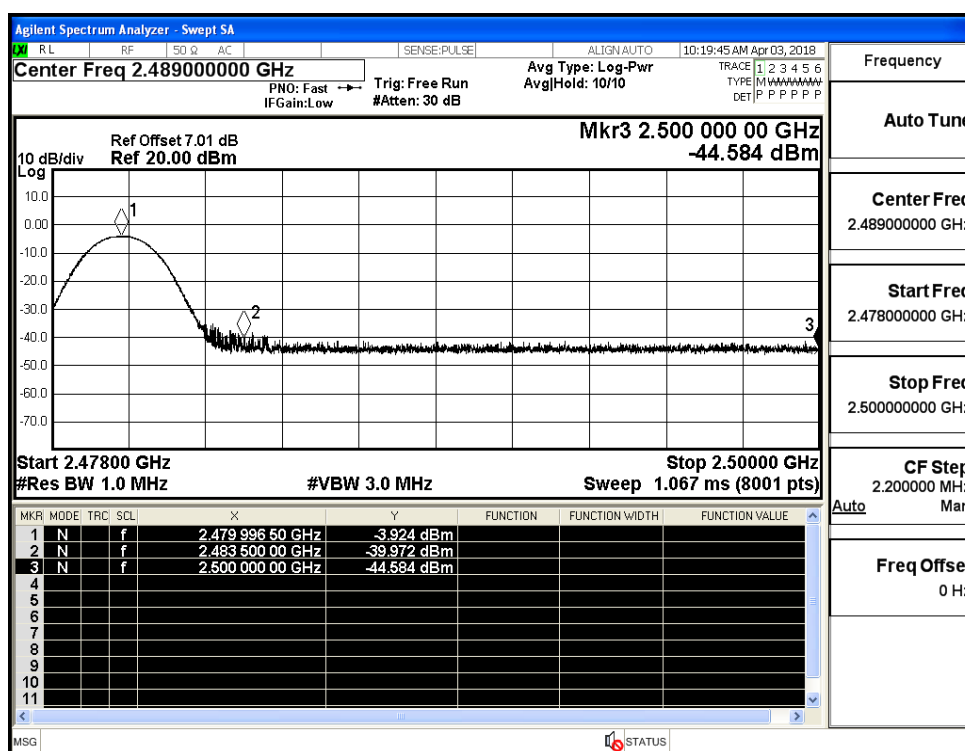
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

