

Appendix A

RF Test Data for BT V3.0(BDR/EDR) (Conducted Measurement)

Product Name: Android TV Box

Trade Mark: N/A

Test Model: ABOX

Environmental Conditions

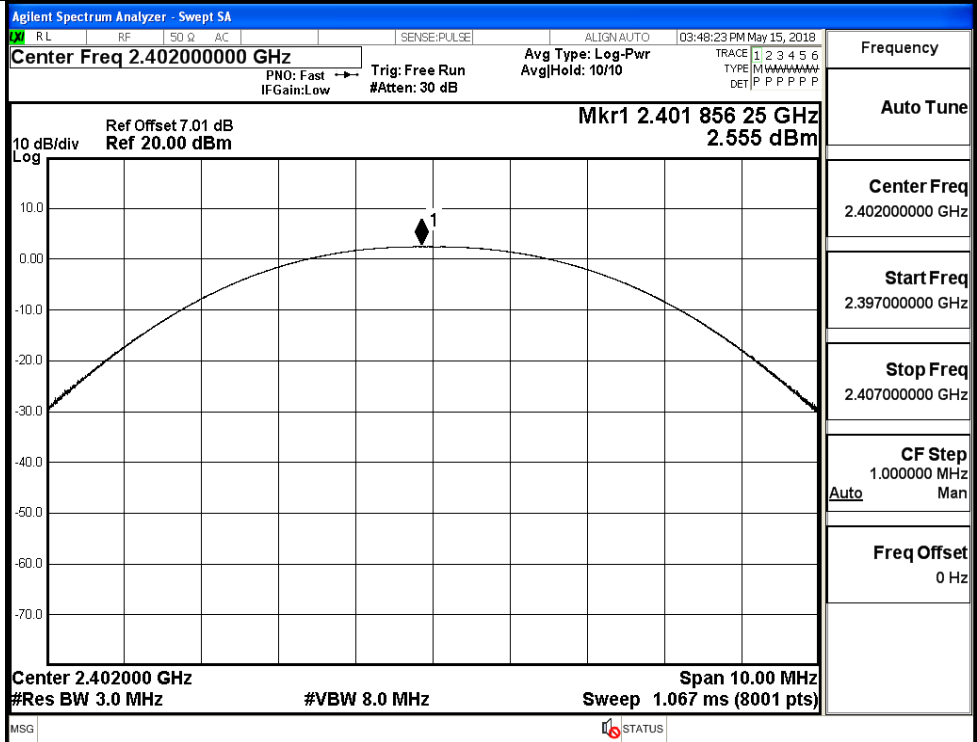
Temperature:	22.5 ° C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Ryan.Hu
Supervised by:	Jayden.Zhuo

A.1 Maxmum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.555	30	PASS
	MCH	1.984	30	PASS
	HCH	1.623	30	PASS
$\pi/4$ DQPSK	LCH	1.605	21	PASS
	MCH	0.806	21	PASS
	HCH	0.252	21	PASS
8DPSK	LCH	1.992	21	PASS
	MCH	1.178	21	PASS
	HCH	0.637	21	PASS

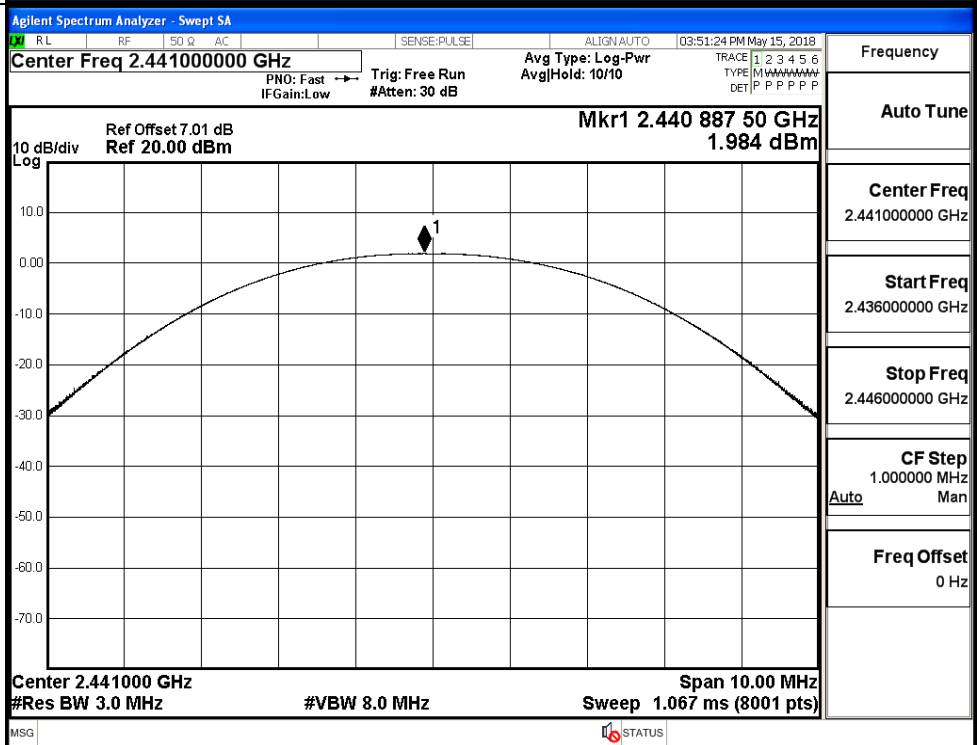
Test Graphs

GFSK/LCH



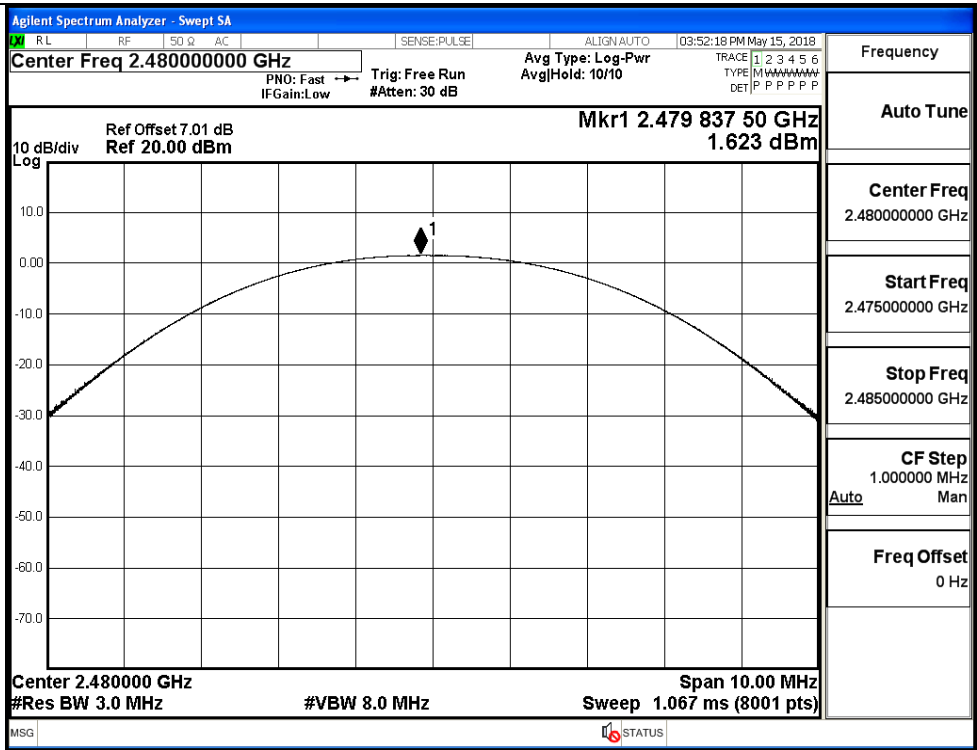
Frequency	2.402000000 GHz
Auto Tune	
Center Freq	2.402000000 GHz
Start Freq	2.397000000 GHz
Stop Freq	2.407000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

GFSK/MCH

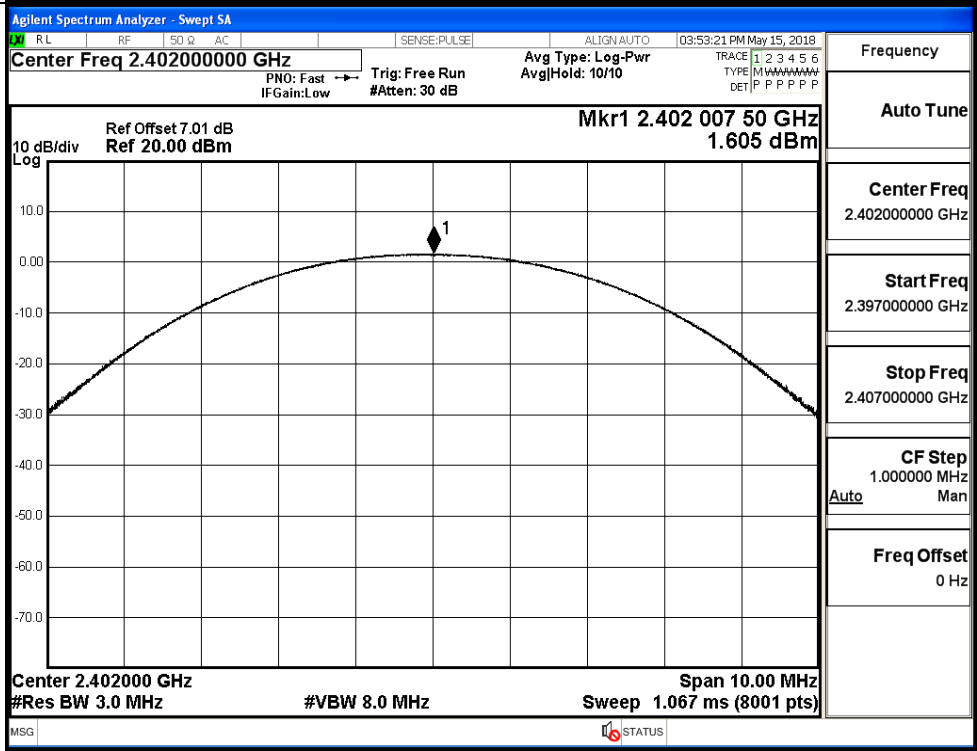


Frequency	2.441000000 GHz
Auto Tune	
Center Freq	2.441000000 GHz
Start Freq	2.436000000 GHz
Stop Freq	2.446000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

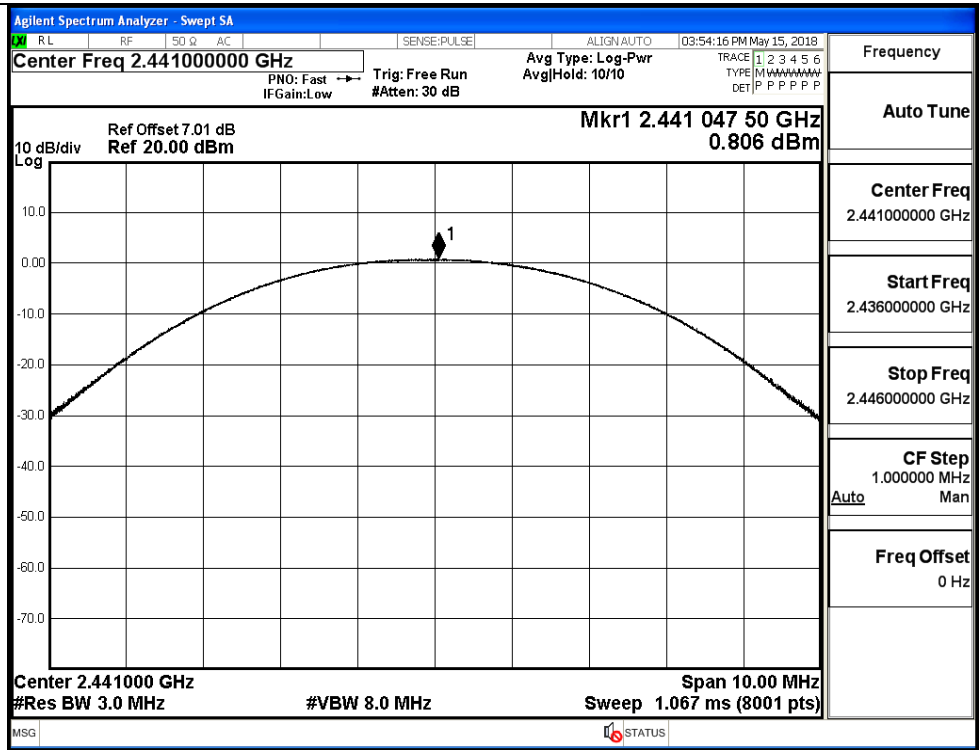
GFSK/HCH



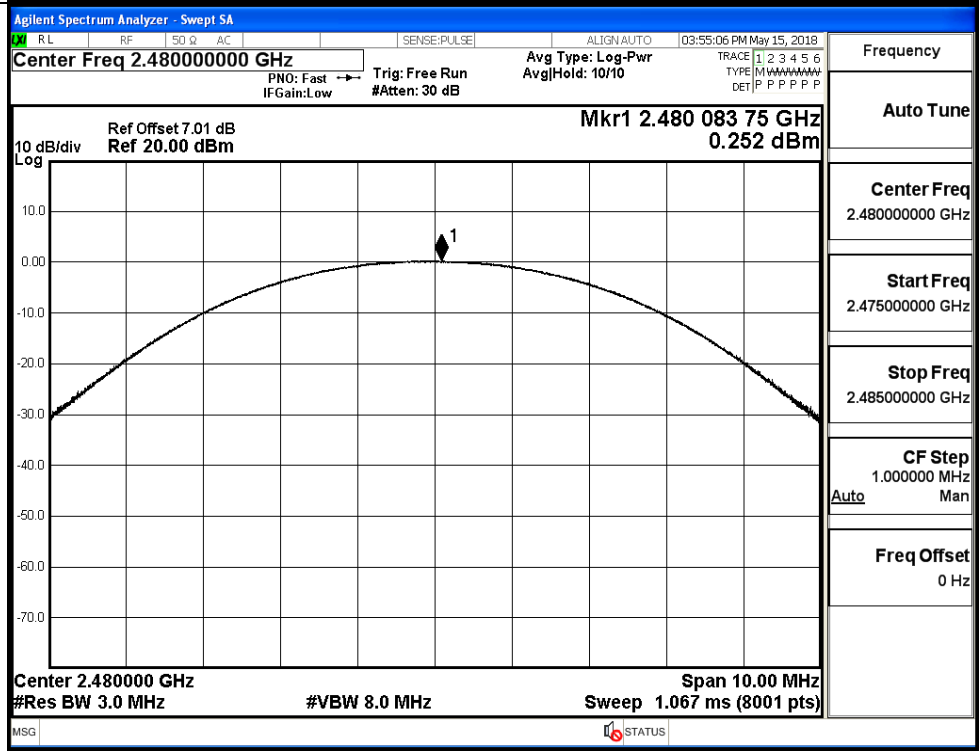
π /4DQPSK/LCH



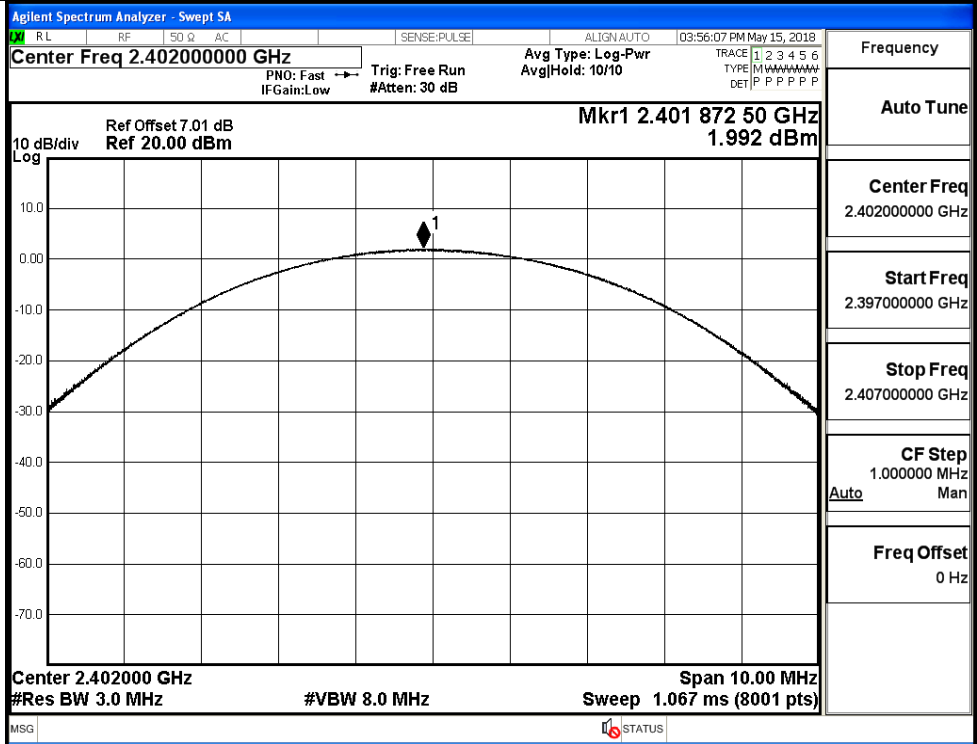
π /4DQPSK/MCH



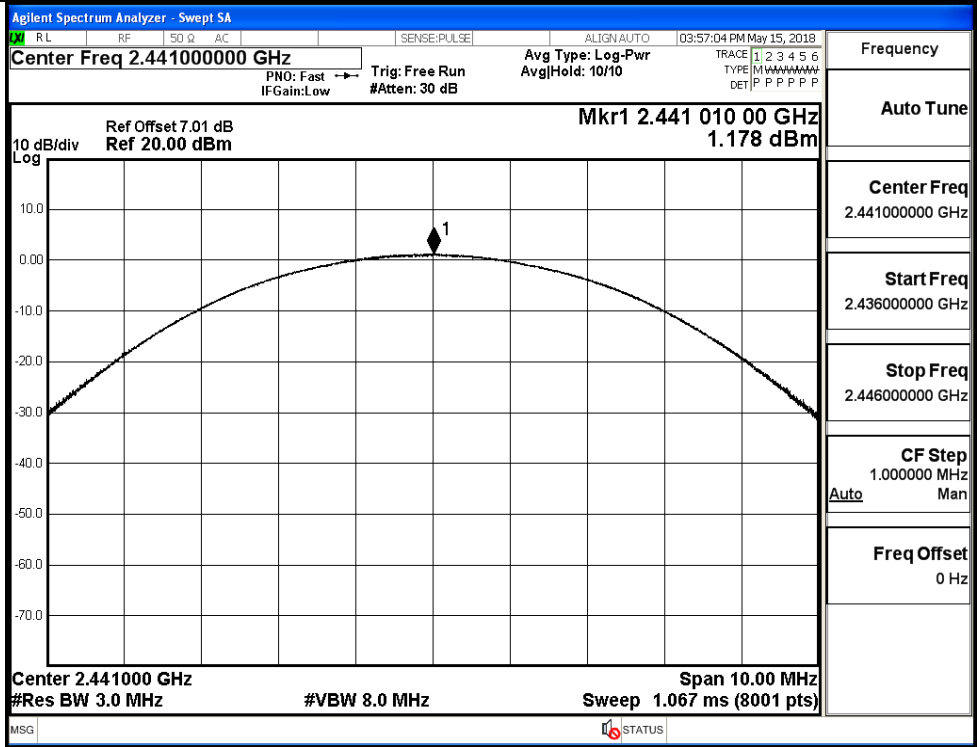
π /4DQPSK/HCH



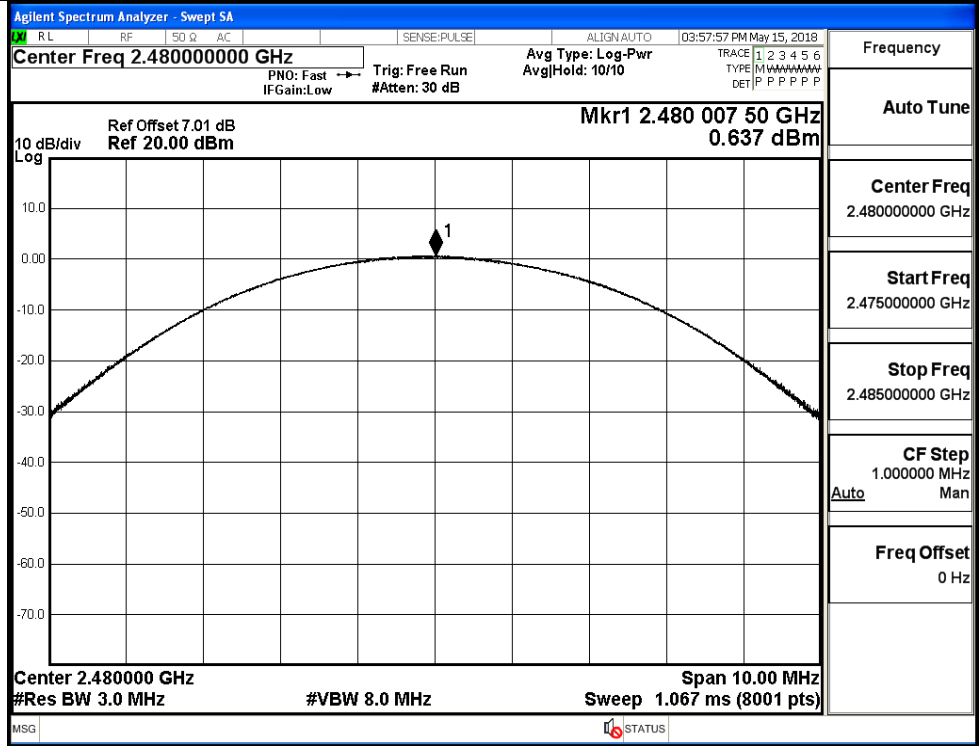
8DPSK/LCH



8DPSK/MCH

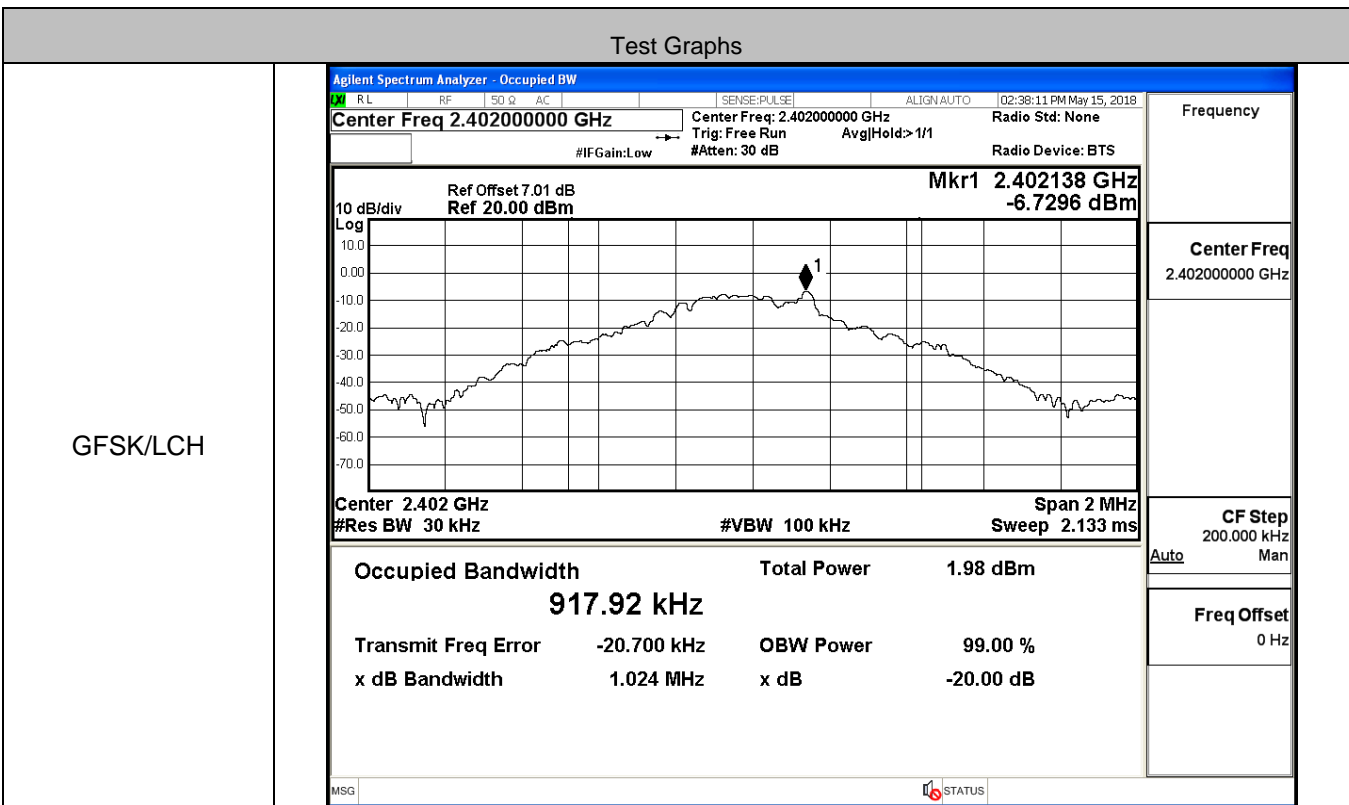


8DPSK/HCH

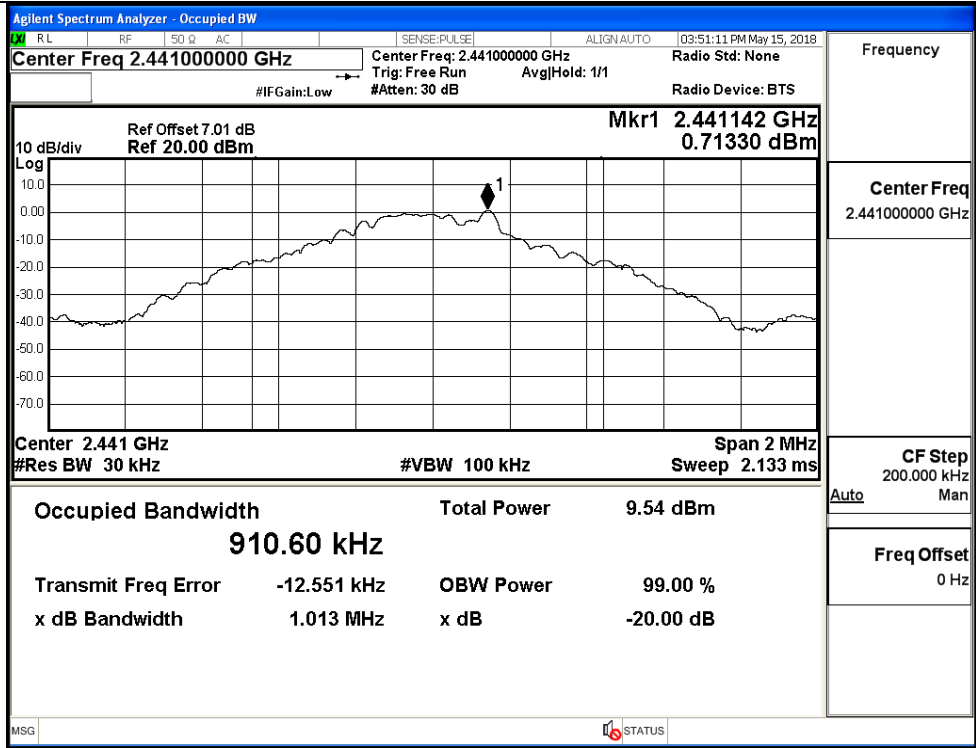


A.2 20dB Bandwidth

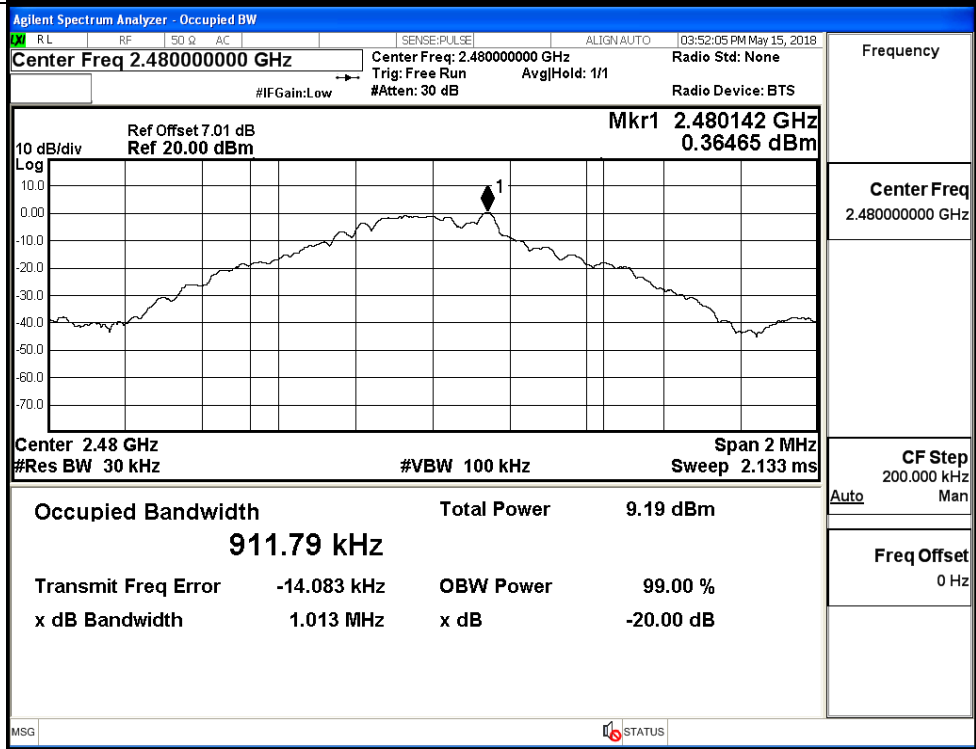
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.024	Not Specified	PASS
	MCH	1.013	Not Specified	PASS
	HCH	1.013	Not Specified	PASS
π/4DQPSK	LCH	1.357	Not Specified	PASS
	MCH	1.357	Not Specified	PASS
	HCH	1.358	Not Specified	PASS
8DPSK	LCH	1.316	Not Specified	PASS
	MCH	1.328	Not Specified	PASS
	HCH	1.316	Not Specified	PASS



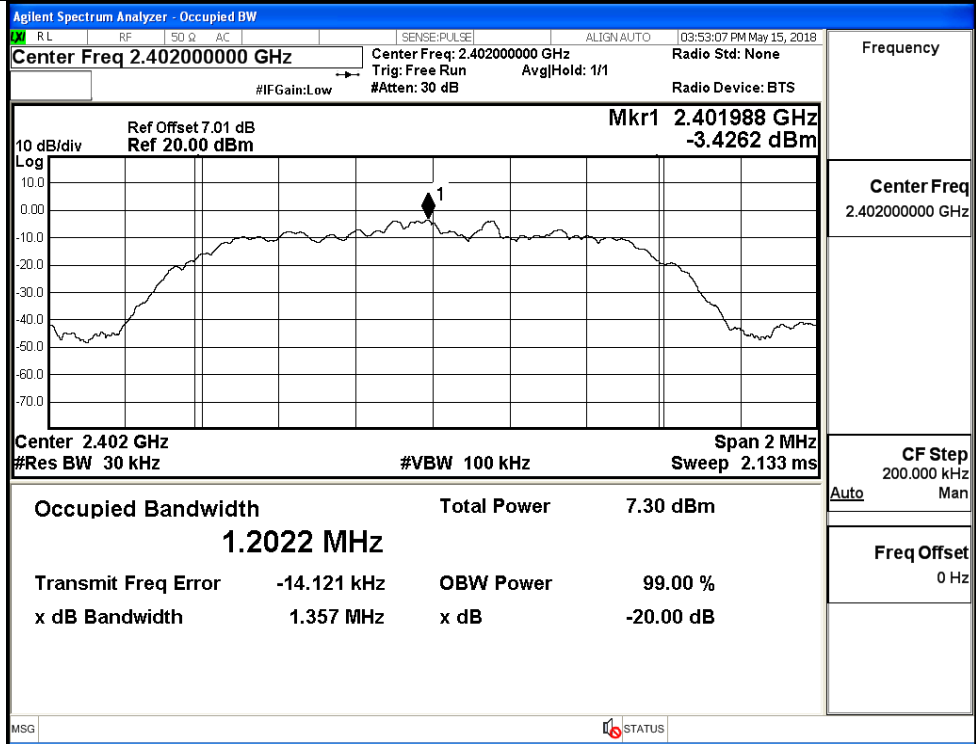
GFSK/MCH



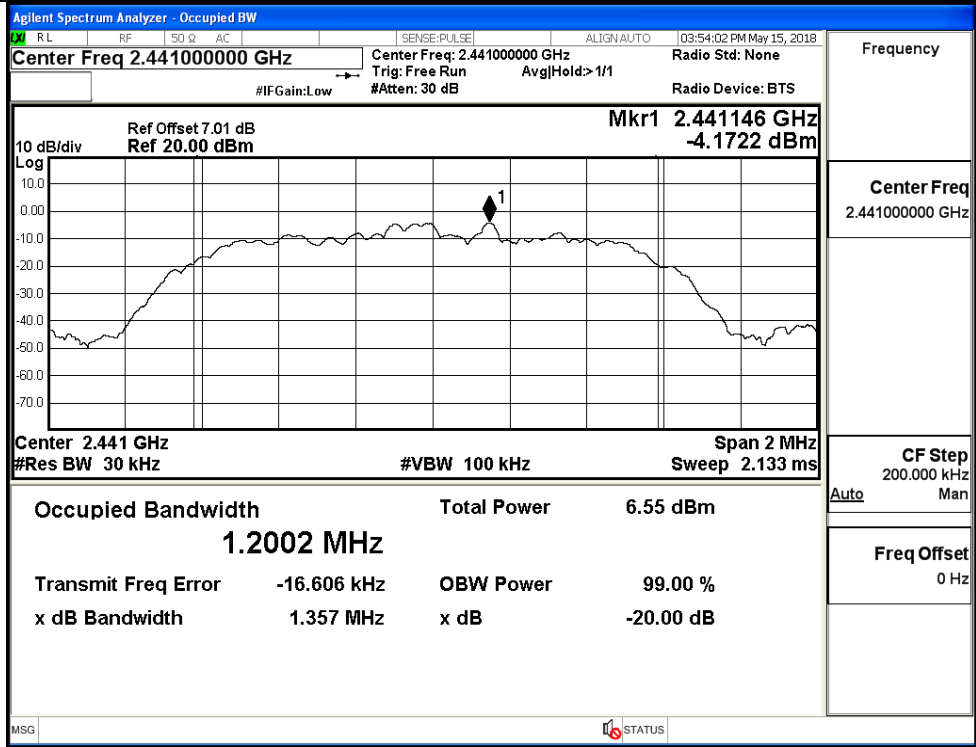
GFSK/HCH



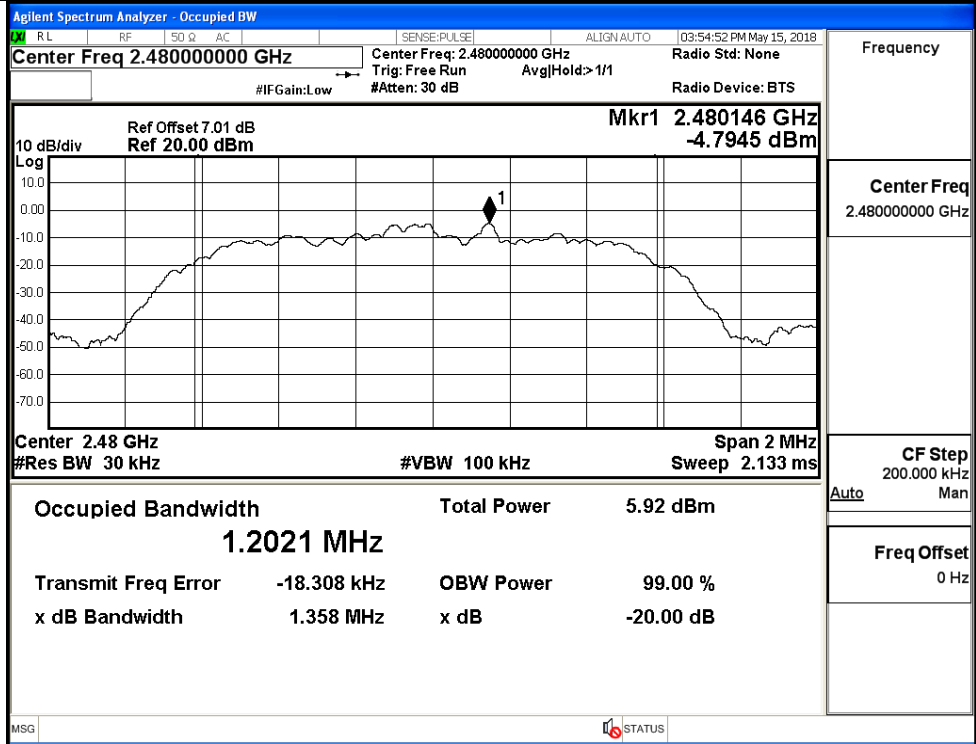
$\pi/4$ DQPSK/LCH



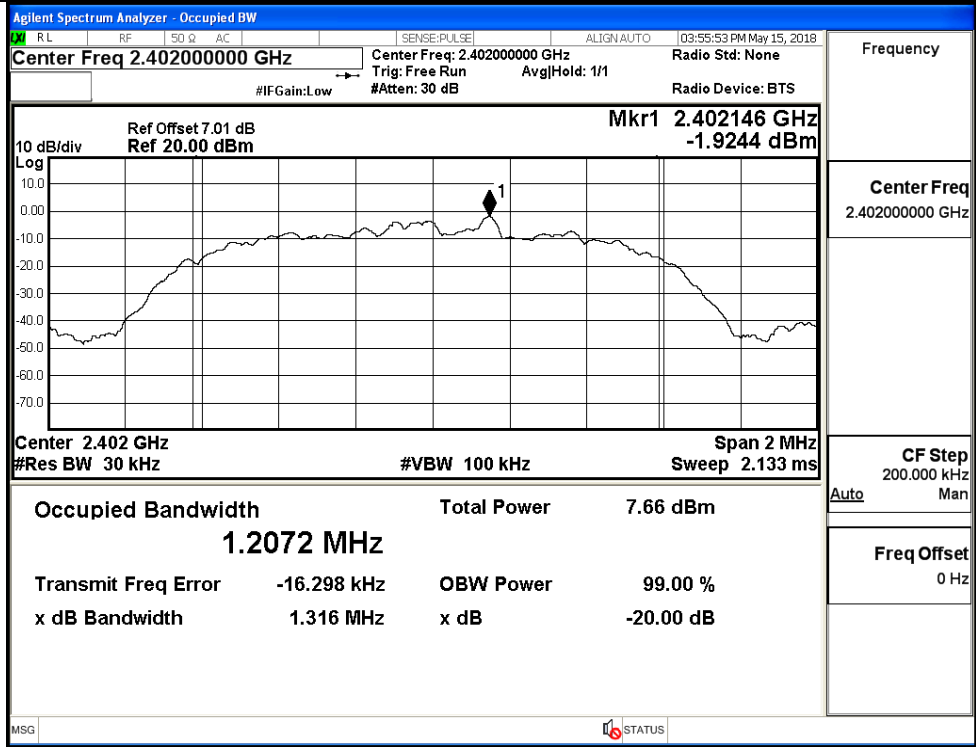
$\pi/4$ DQPSK/MCH



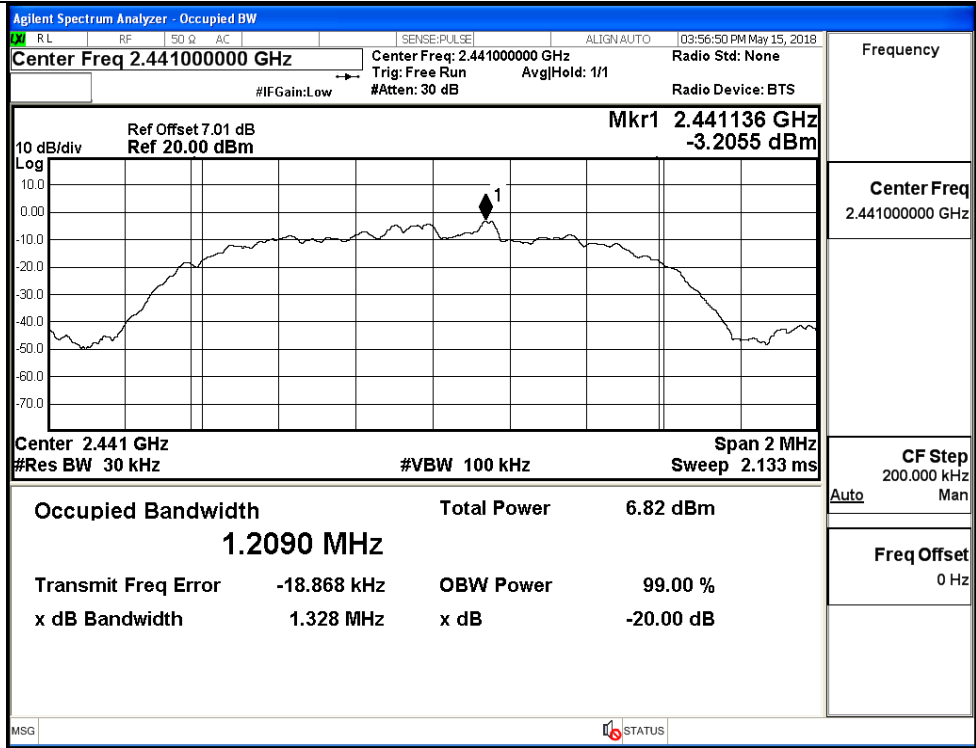
$\pi/4$ DQPSK/HCH



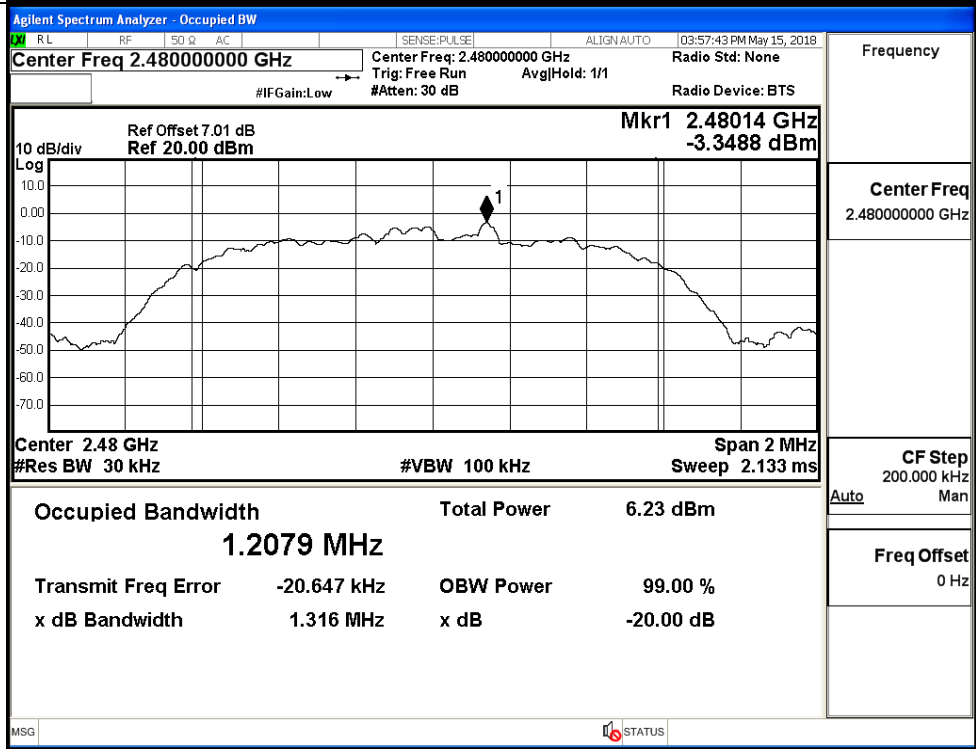
8DPSK/LCH



8DPSK/MCH

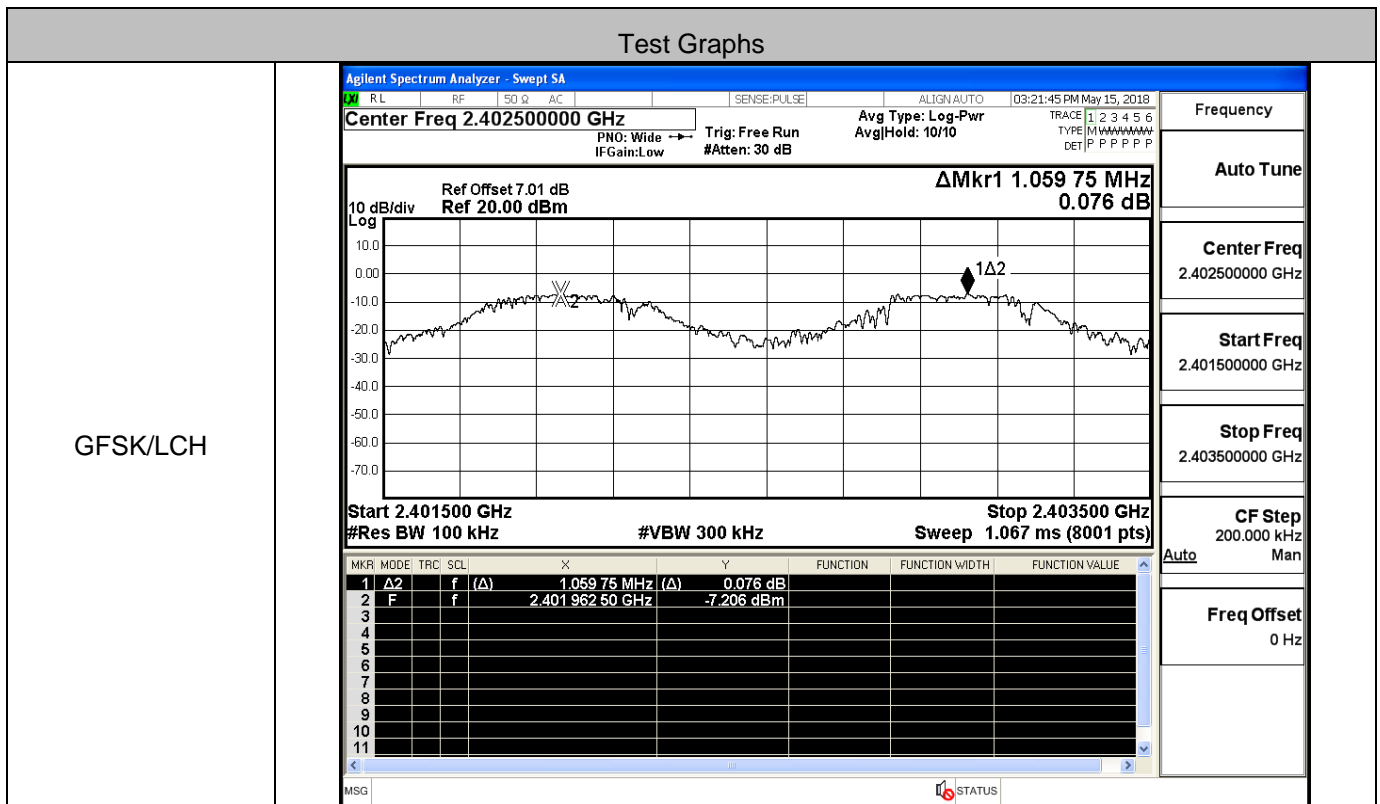


8DPSK/HCH

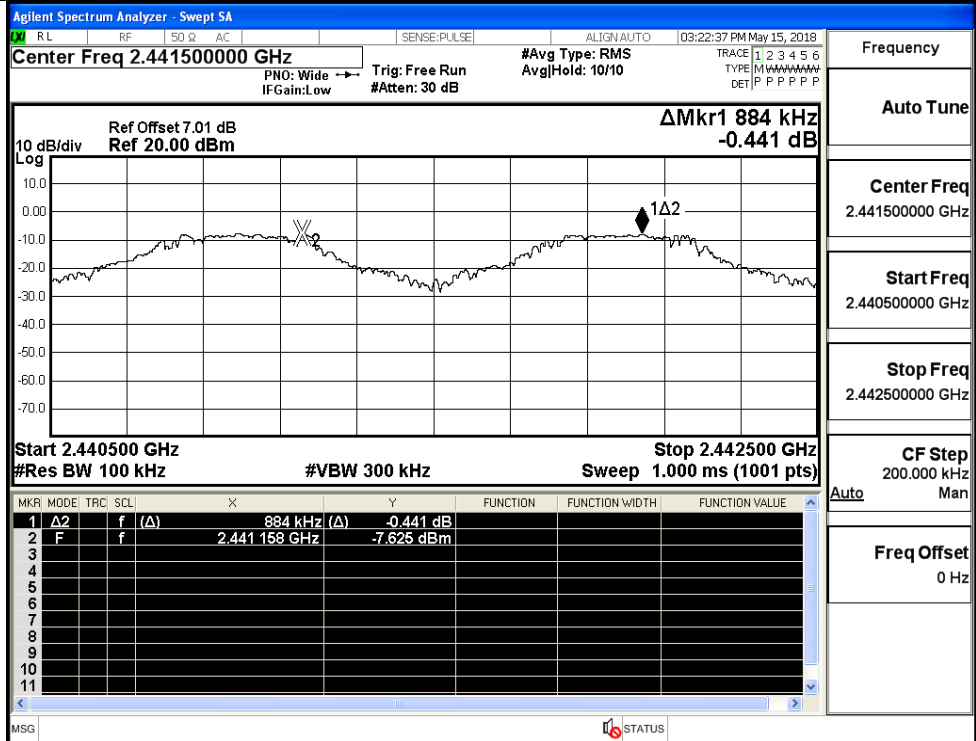


A.3 Carrier Frequency Separation

Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.060	1.024	PASS
	MCH	0.884	1.013	PASS
	HCH	1.150	1.013	PASS
π/4DQPSK	LCH	1.140	0.905	PASS
	MCH	1.002	0.905	PASS
	HCH	1.148	0.905	PASS
8DPSK	LCH	1.016	0.877	PASS
	MCH	1.022	0.885	PASS
	HCH	1.184	0.877	PASS



GFSK/MCH



Frequency

Auto Tune

Center Freq

2.441500000 GHz

Start Freq

2.440500000 GHz

Stop Freq

2.442500000 GHz

CF Step

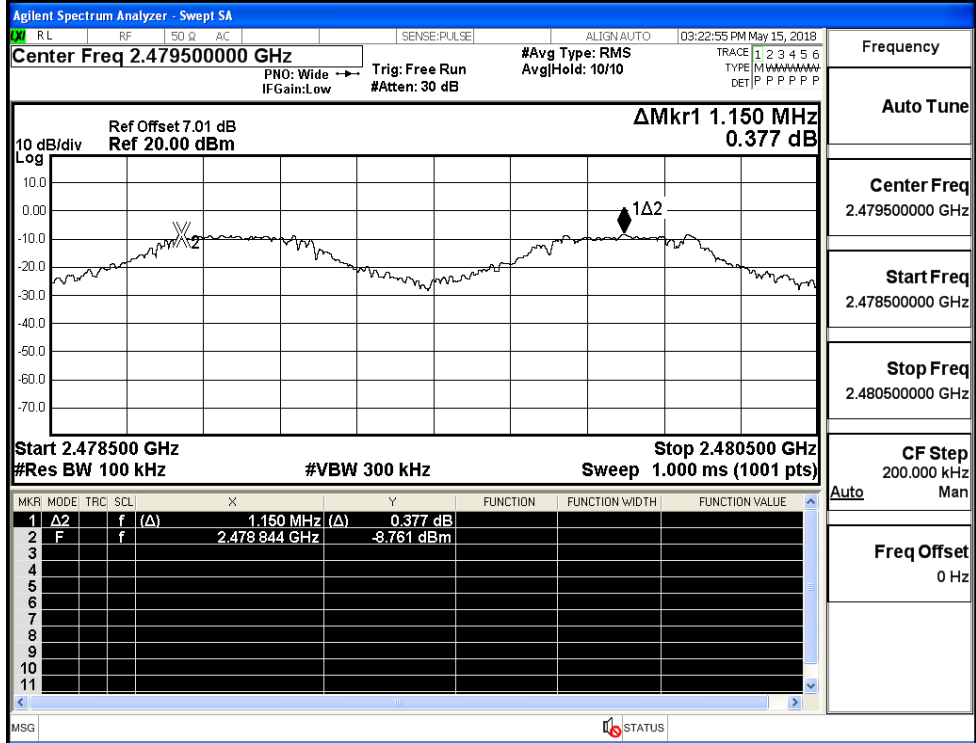
200.000 kHz

Auto

Freq Offset

0 Hz

GFSK/HCH



Frequency

Auto Tune

Center Freq

2.479500000 GHz

Start Freq

2.478500000 GHz

Stop Freq

2.480500000 GHz

CF Step

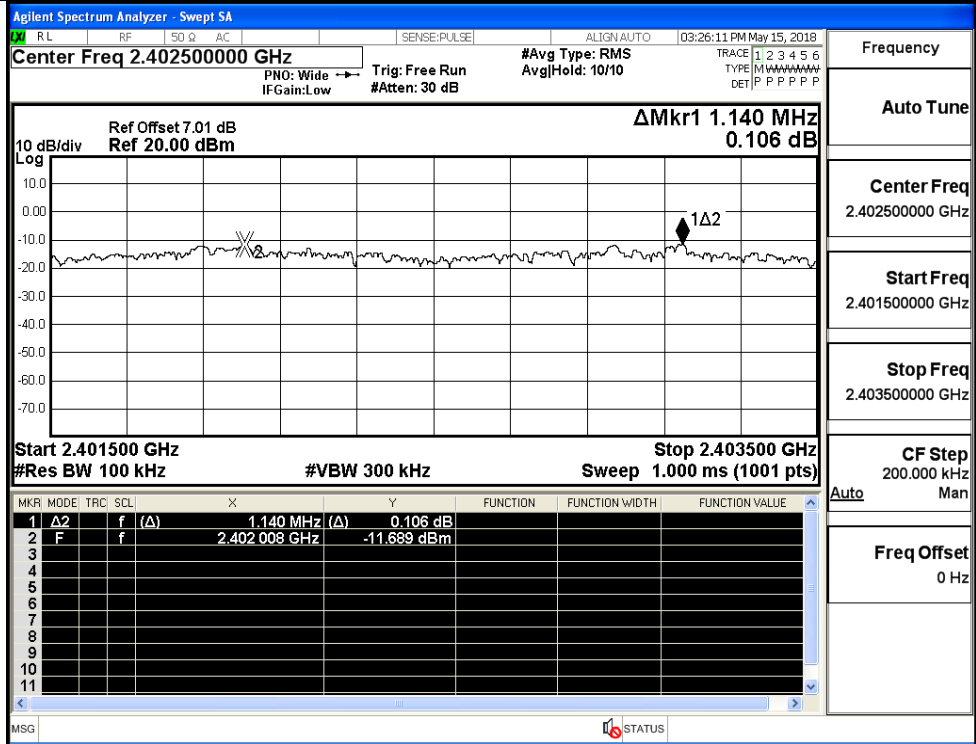
200.000 kHz

Auto

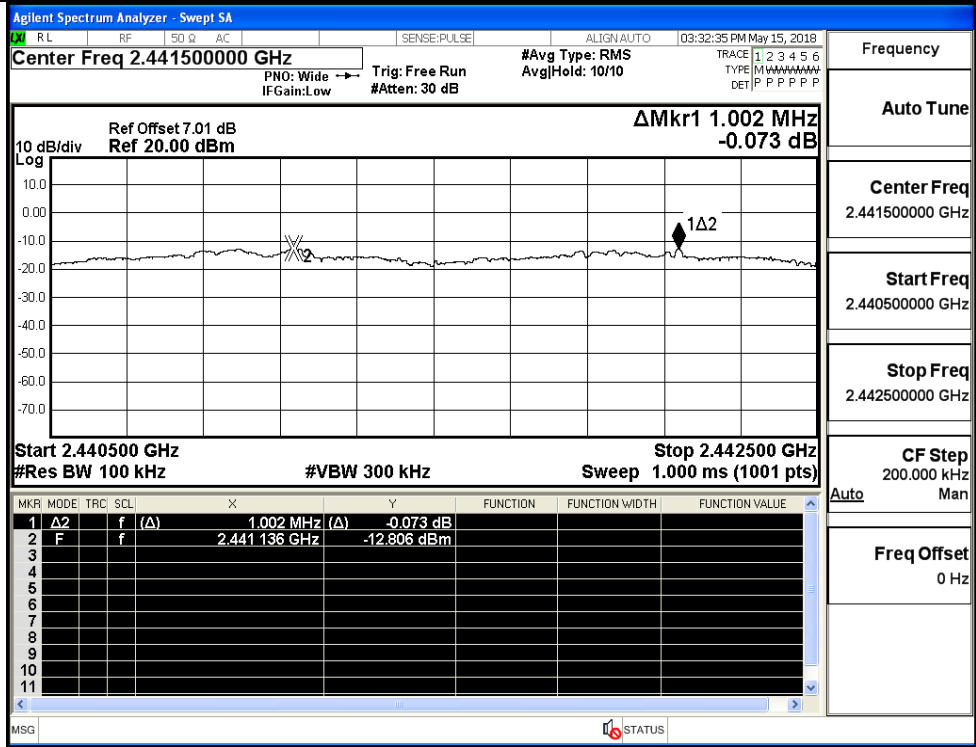
Freq Offset

0 Hz

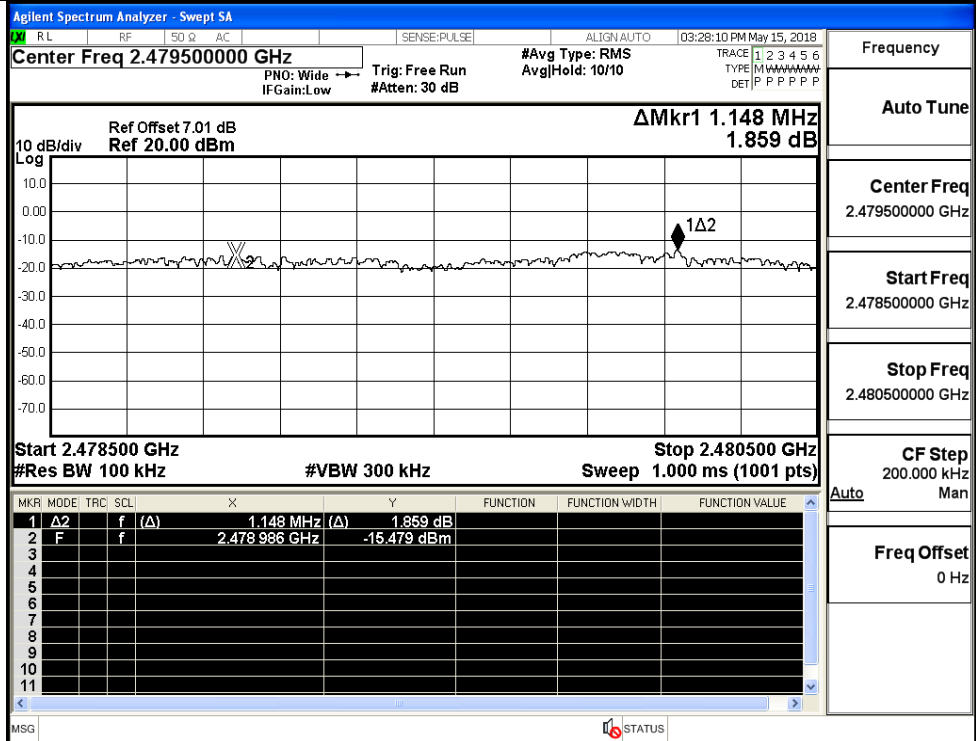
$\pi/4$ DQPSK/LCH



$\pi/4$ DQPSK/MCH



π/4DQPSK/HCH



Frequency

Auto Tune

Center Freq
2.479500000 GHz

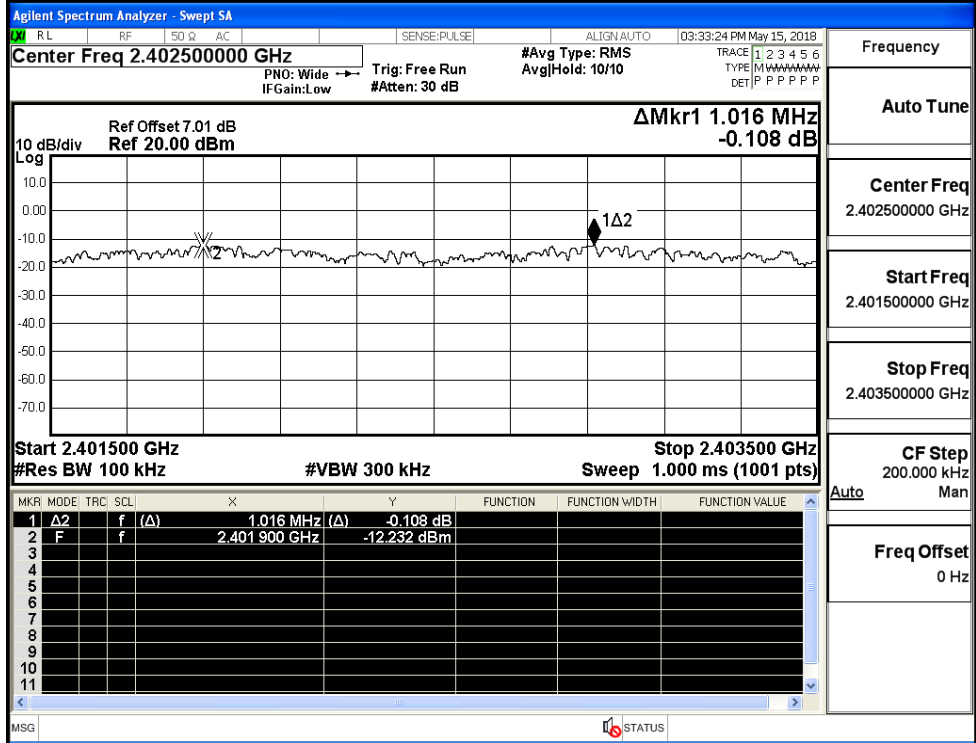
Start Freq
2.478500000 GHz

Stop Freq
2.480500000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

8DPSK/LCH



Frequency

Auto Tune

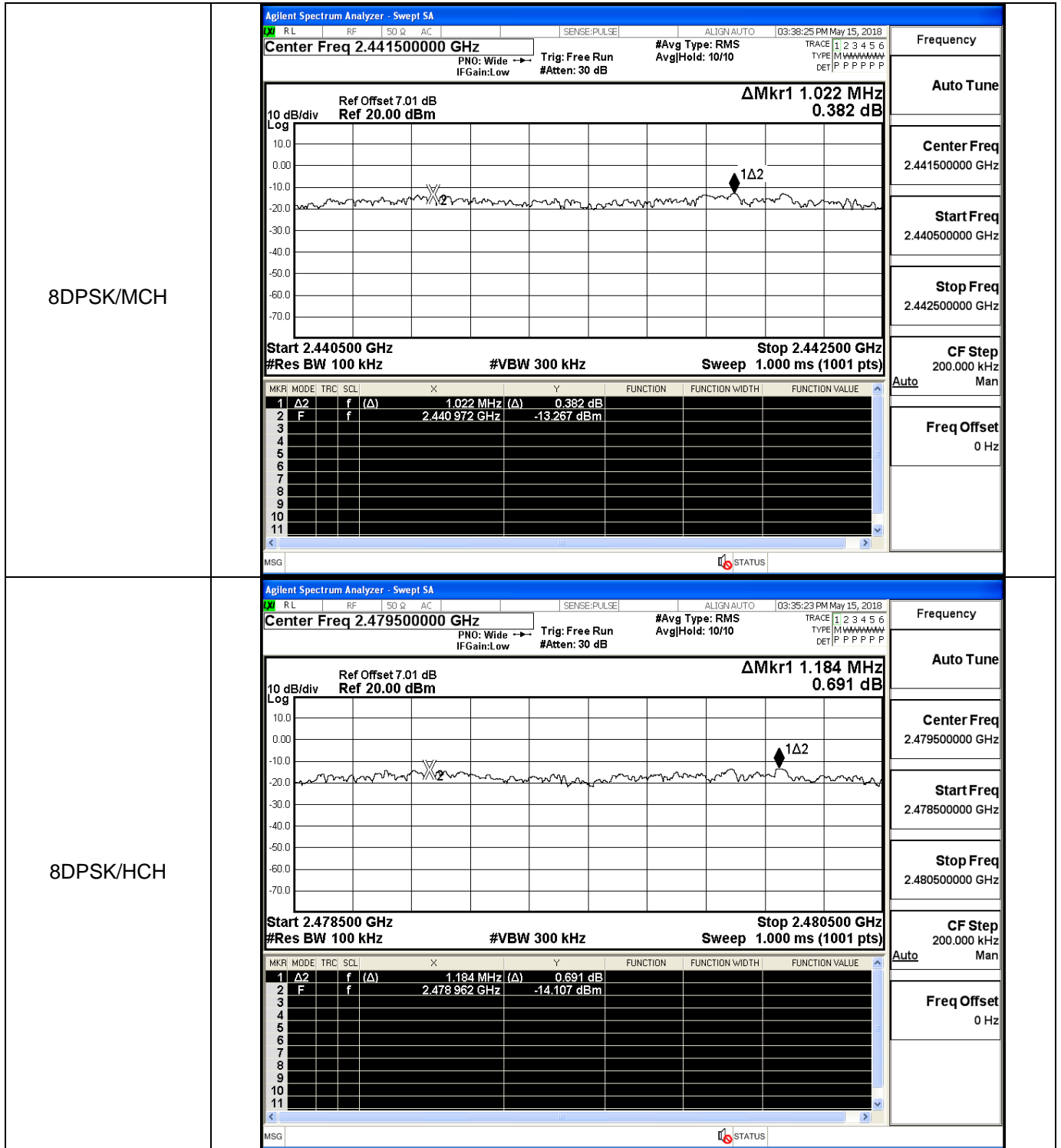
Center Freq
2.402500000 GHz

Start Freq
2.401500000 GHz

Stop Freq
2.403500000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

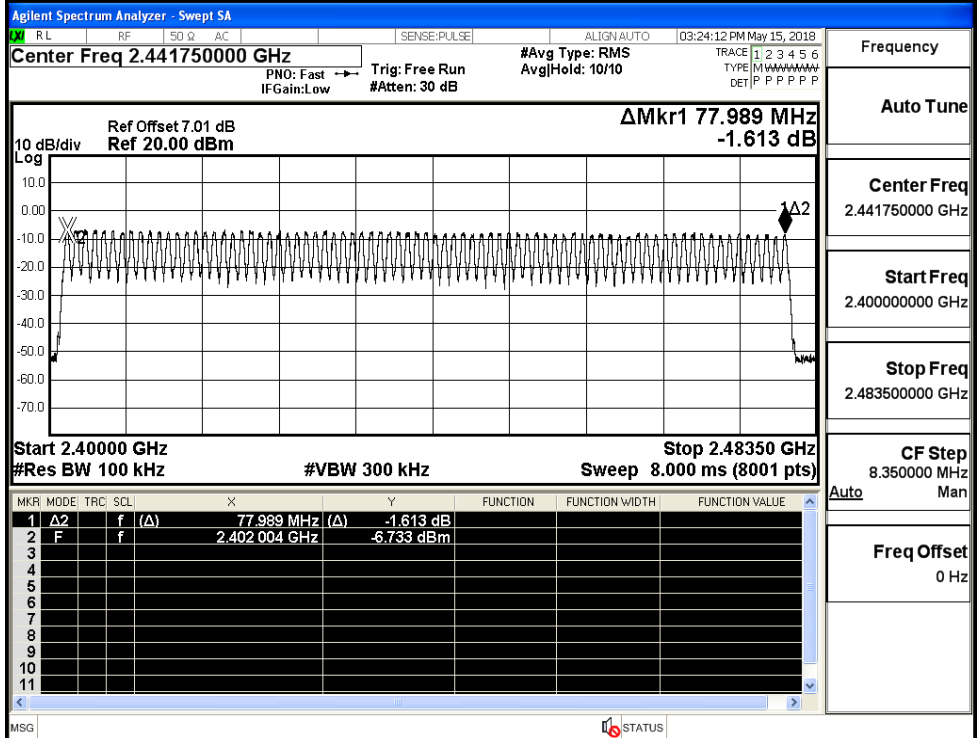


A.4 Hopping Channel Number

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

Test Graphs

GFSK/Hop



Frequency

Auto Tune

Center Freq
2.441750000 GHz

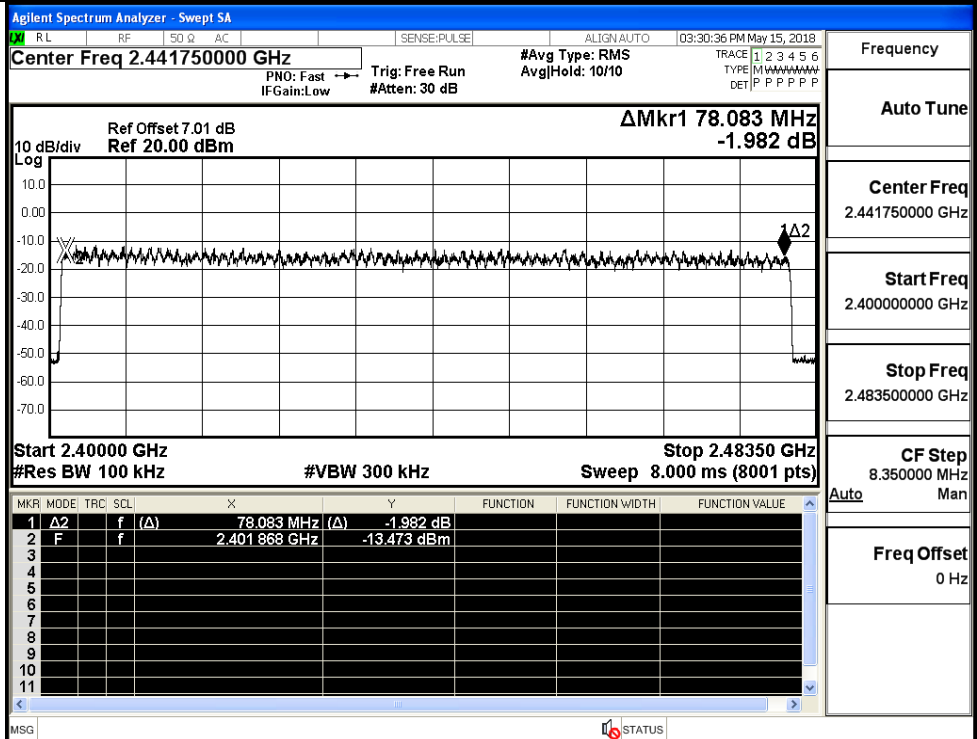
Start Freq
2.400000000 GHz

Stop Freq
2.483500000 GHz

CF Step
8.350000 MHz
Auto Man

Freq Offset
0 Hz

$\pi/4$ DQPSK/Hop



Frequency

Auto Tune

Center Freq
2.441750000 GHz

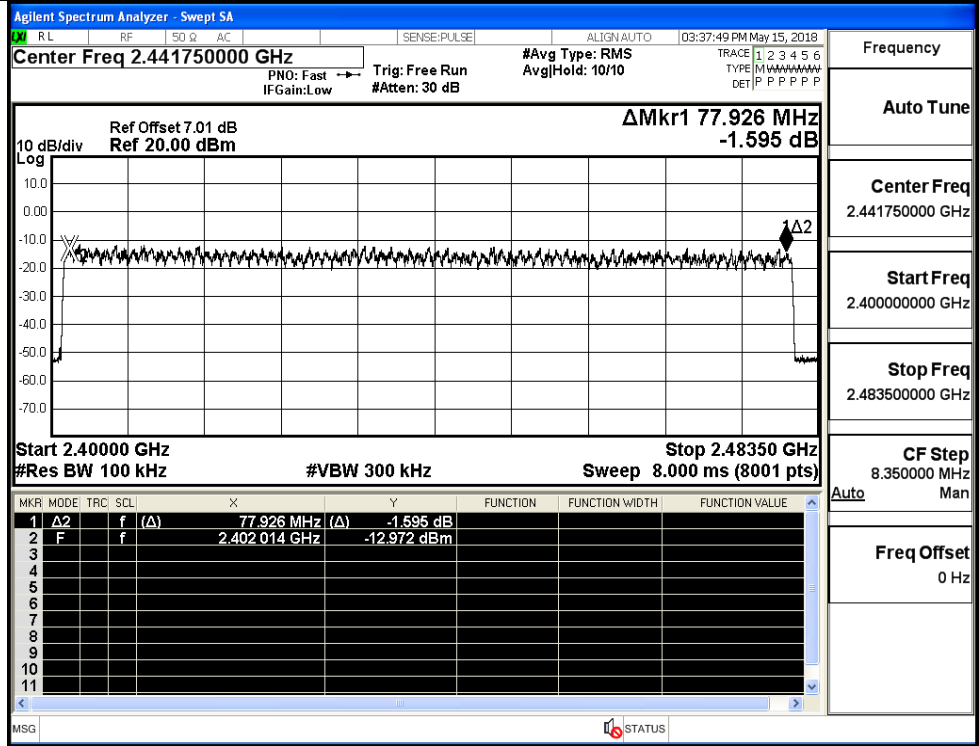
Start Freq
2.400000000 GHz

Stop Freq
2.483500000 GHz

CF Step
8.350000 MHz
Auto Man

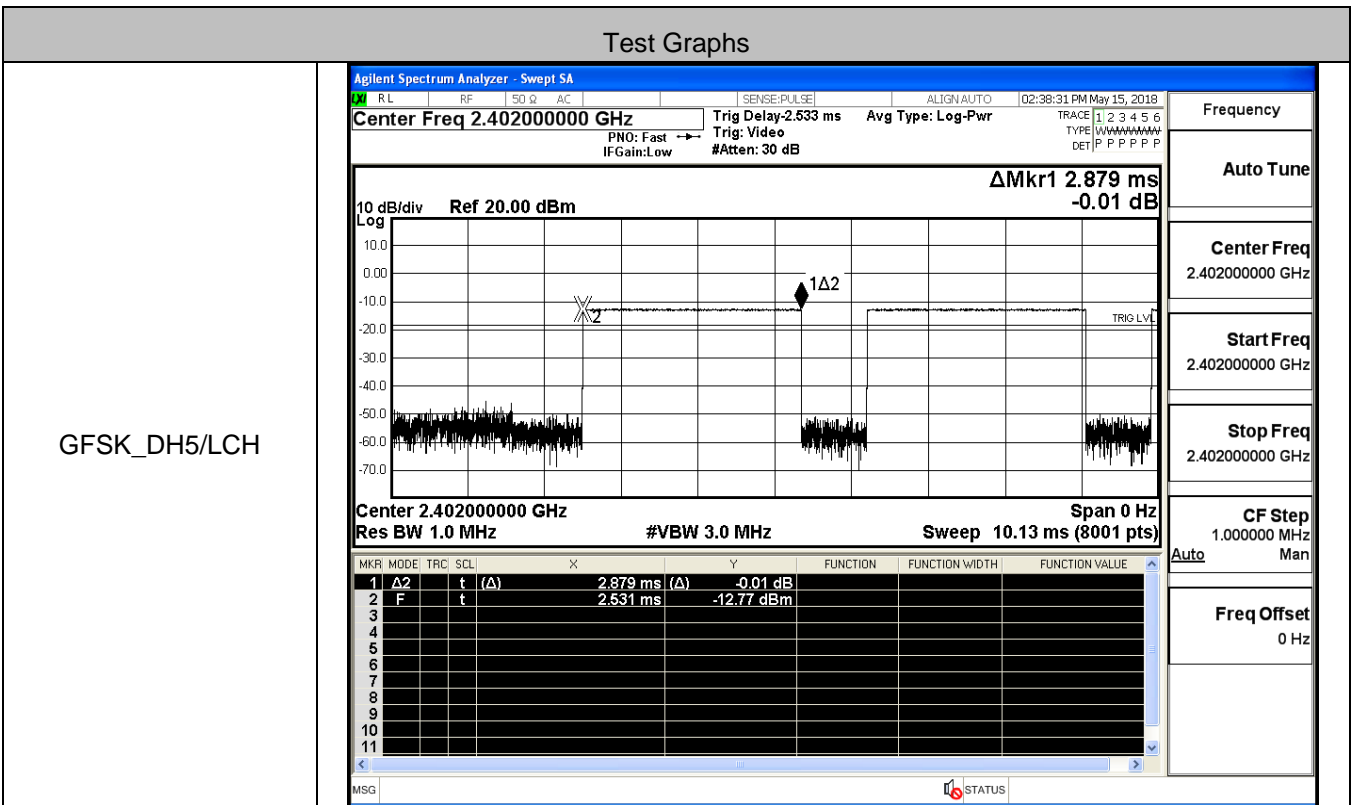
Freq Offset
0 Hz

8DPSK/Hop

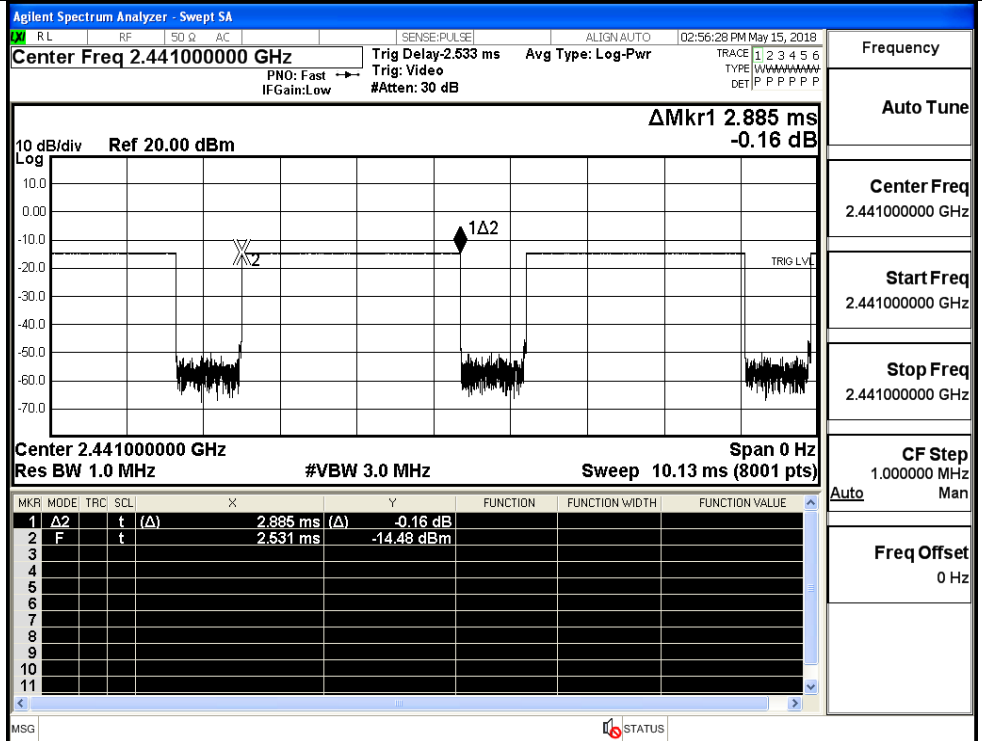


A.5 Dwell Time

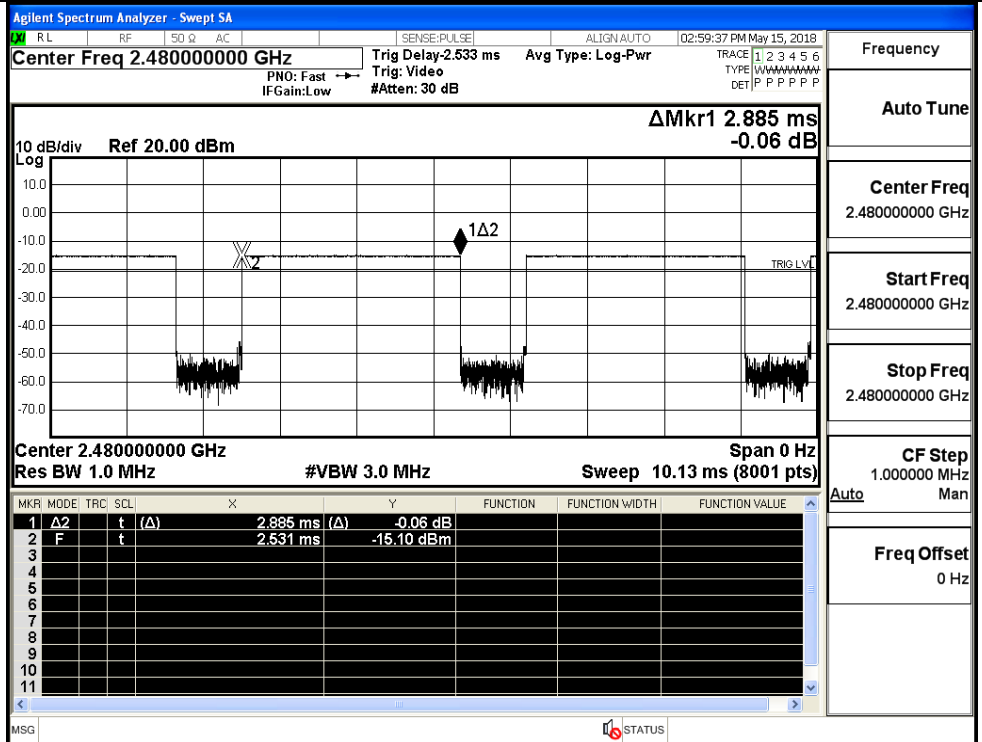
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.89	106.7	0.308	0.4	PASS
	DH5	HCH	2.89	106.7	0.308	0.4	PASS
π/4DQPSK	2DH5	LCH	2.88	106.7	0.308	0.4	PASS
	2DH5	MCH	2.89	106.7	0.308	0.4	PASS
	2DH5	HCH	2.89	106.7	0.308	0.4	PASS
8DPSK	3DH5	LCH	2.88	106.7	0.308	0.4	PASS
	3DH5	MCH	2.89	106.7	0.308	0.4	PASS
	3DH5	HCH	2.89	106.7	0.308	0.4	PASS



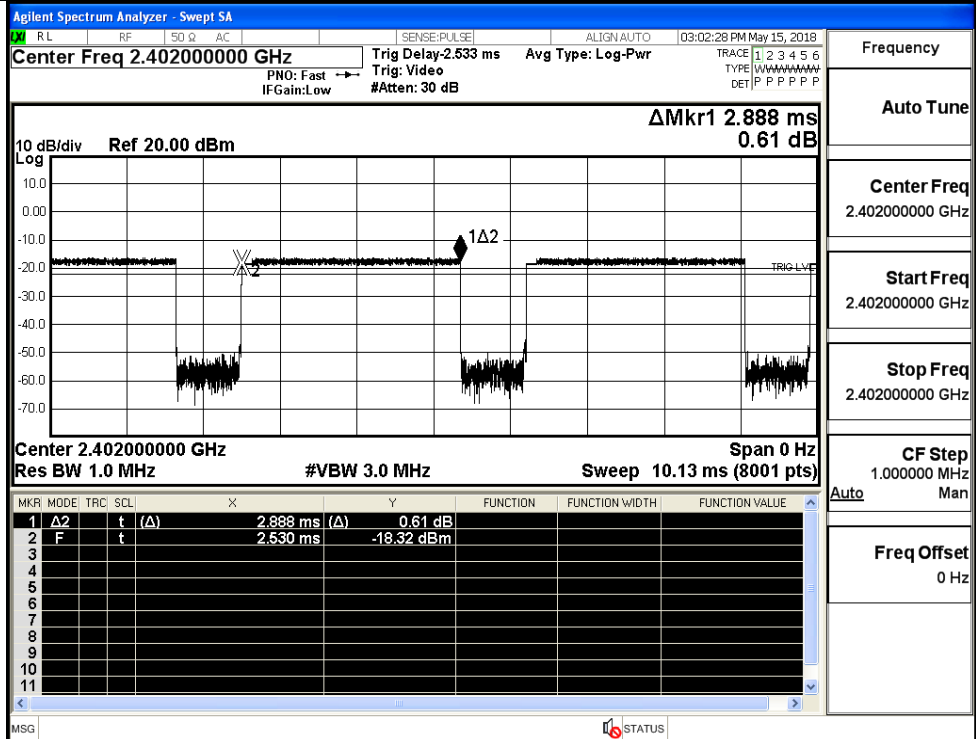
GFSK_DH5/MCH



GFSK_DH5/HCH

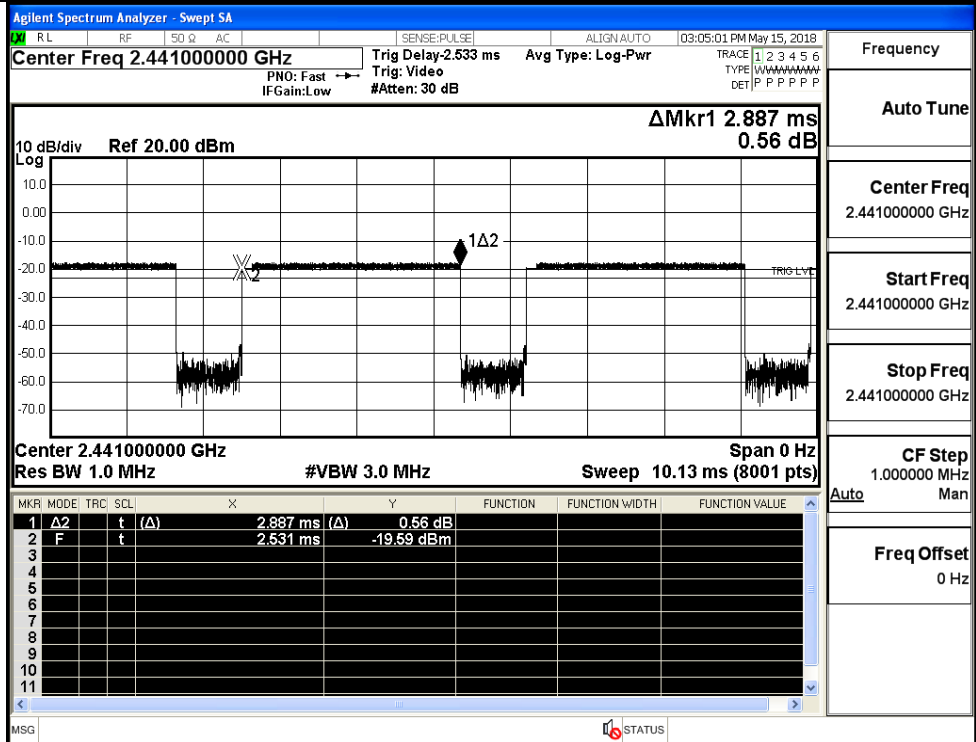


$\pi/4$ DQPSK
_2DH5/LCH



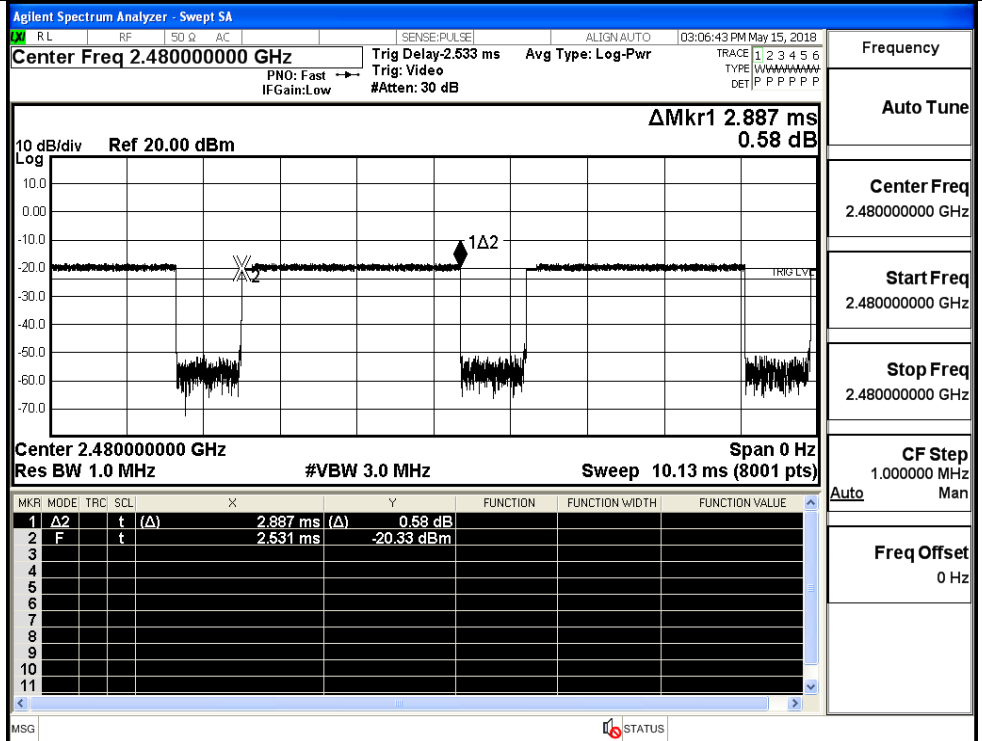
Frequency	
Auto Tune	
Center Freq	2.402000000 GHz
Start Freq	2.402000000 GHz
Stop Freq	2.402000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

$\pi/4$ DQPSK
_2DH5/MCH

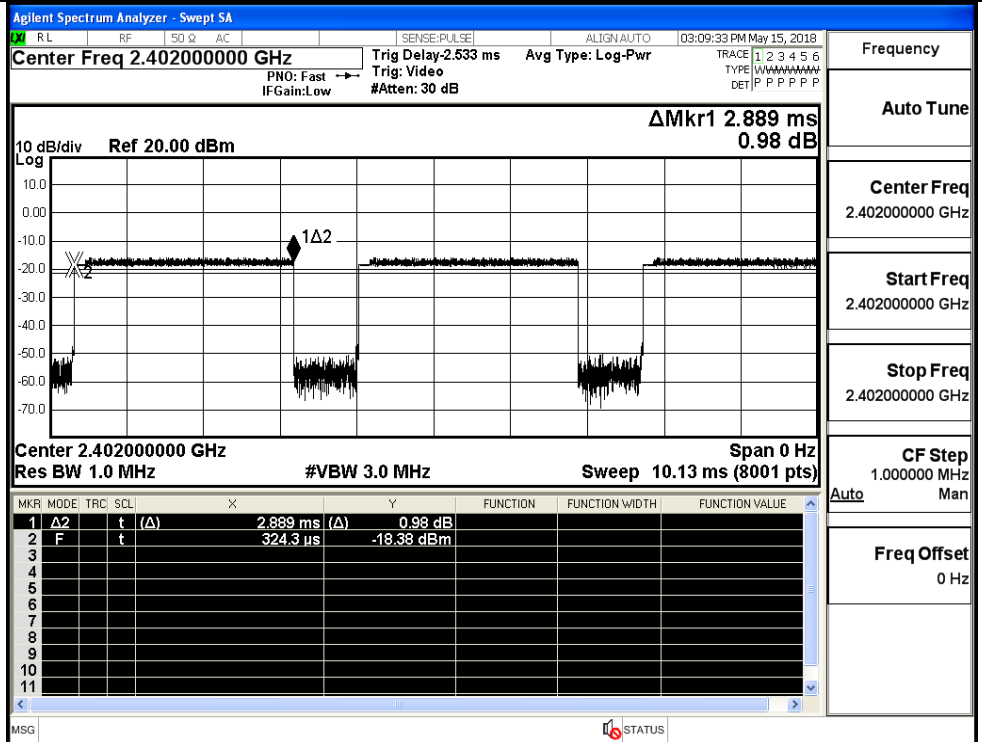


Frequency	
Auto Tune	
Center Freq	2.441000000 GHz
Start Freq	2.441000000 GHz
Stop Freq	2.441000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

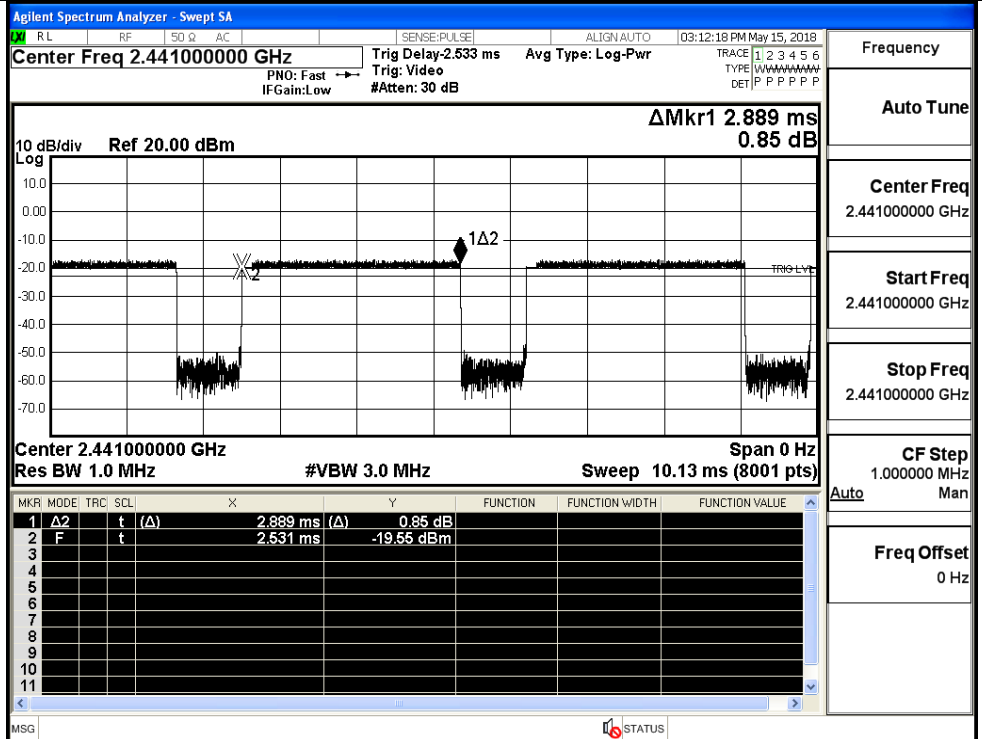
$\pi/4$ DQPSK
_2DH5/HCH



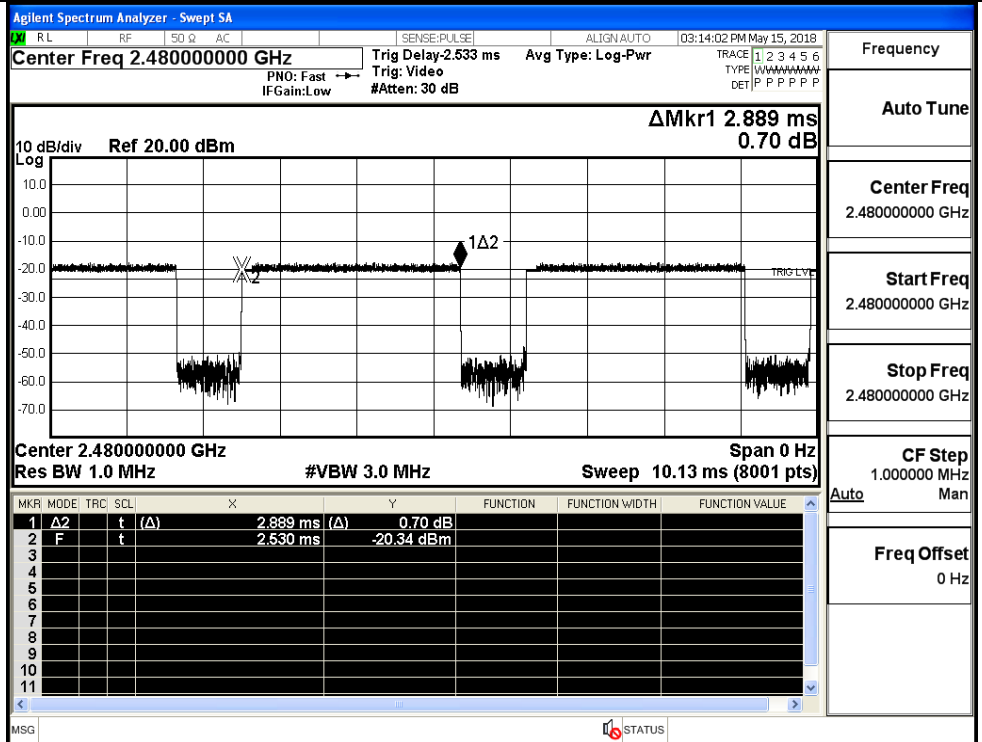
8DPSK_3DH5/LCH



8DPSK_3DH5/MCH



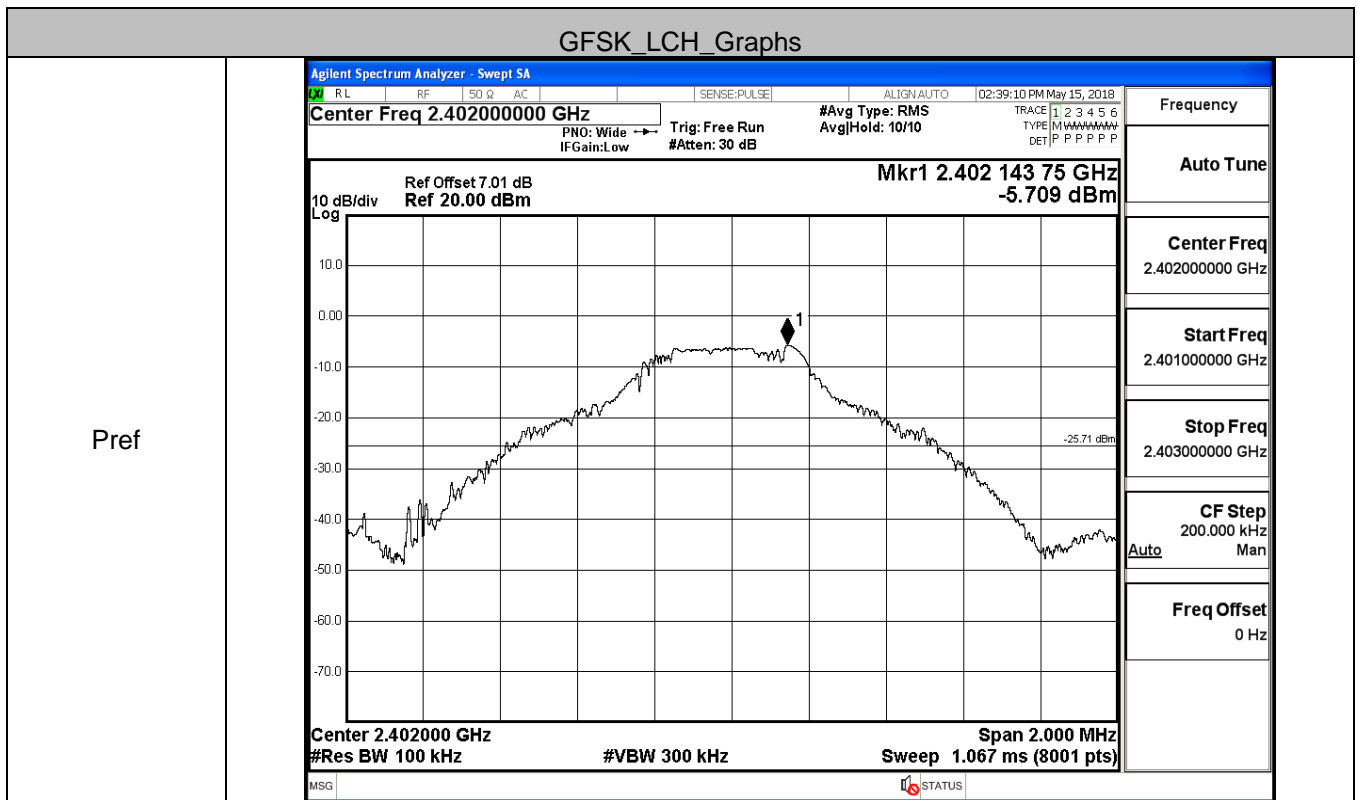
8DPSK_3DH5/HCH



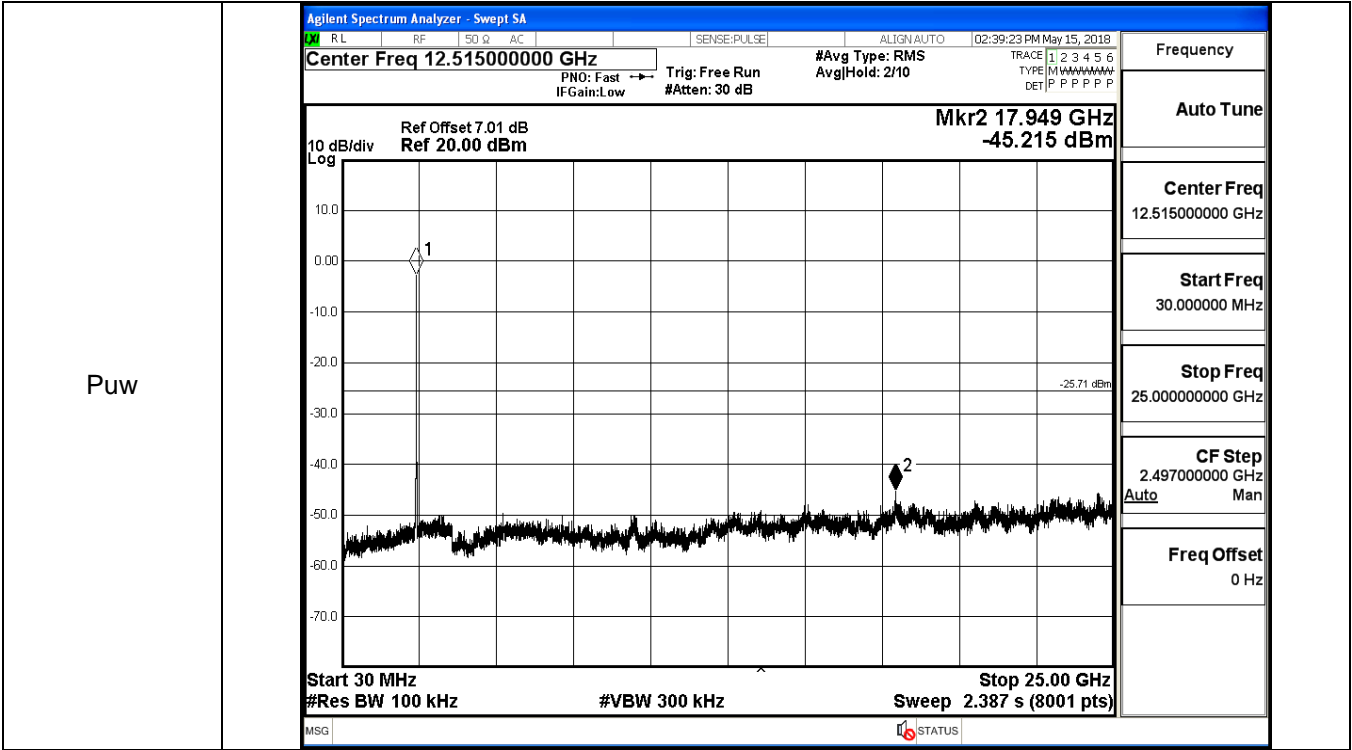
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-5.709	-45.215	-25.709	PASS
	MCH	-7.576	-45.762	-27.576	PASS
	HCH	-8.241	-45.547	-28.241	PASS
π /4DQPSK	LCH	-12.019	-44.928	-32.019	PASS
	MCH	-12.9	-45.317	-32.900	PASS
	HCH	-13.642	-46.065	-33.642	PASS
8DPSK	LCH	-11.345	-45.461	-31.345	PASS
	MCH	-12.837	-45.957	-32.837	PASS
	HCH	-13.435	-46.206	-33.435	PASS

GFSK_LCH_Graphs

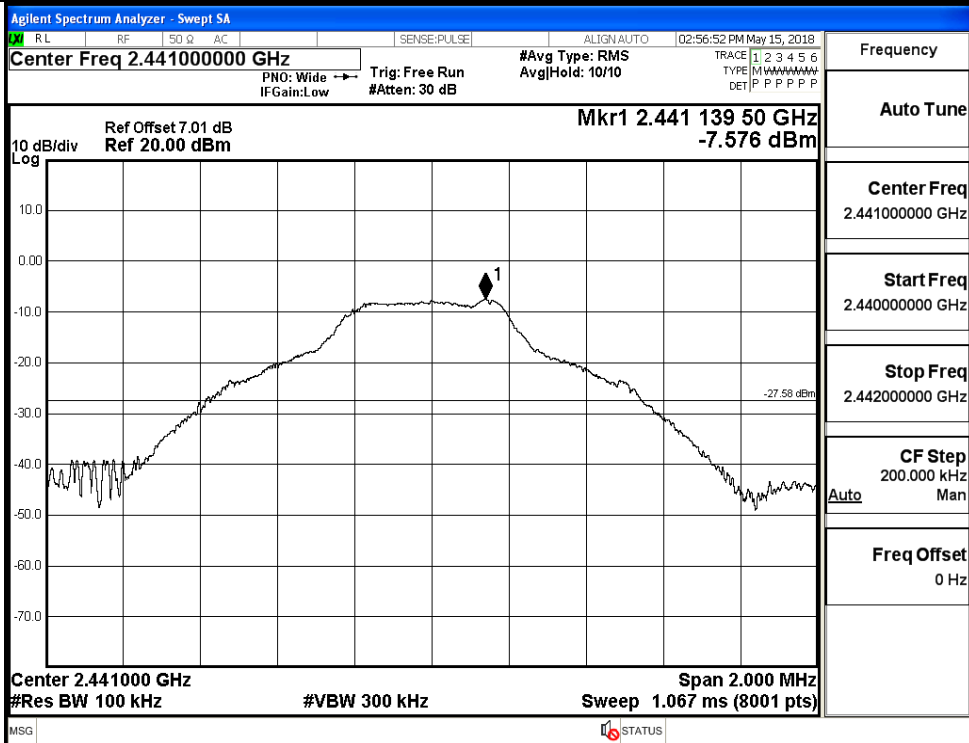


Pref

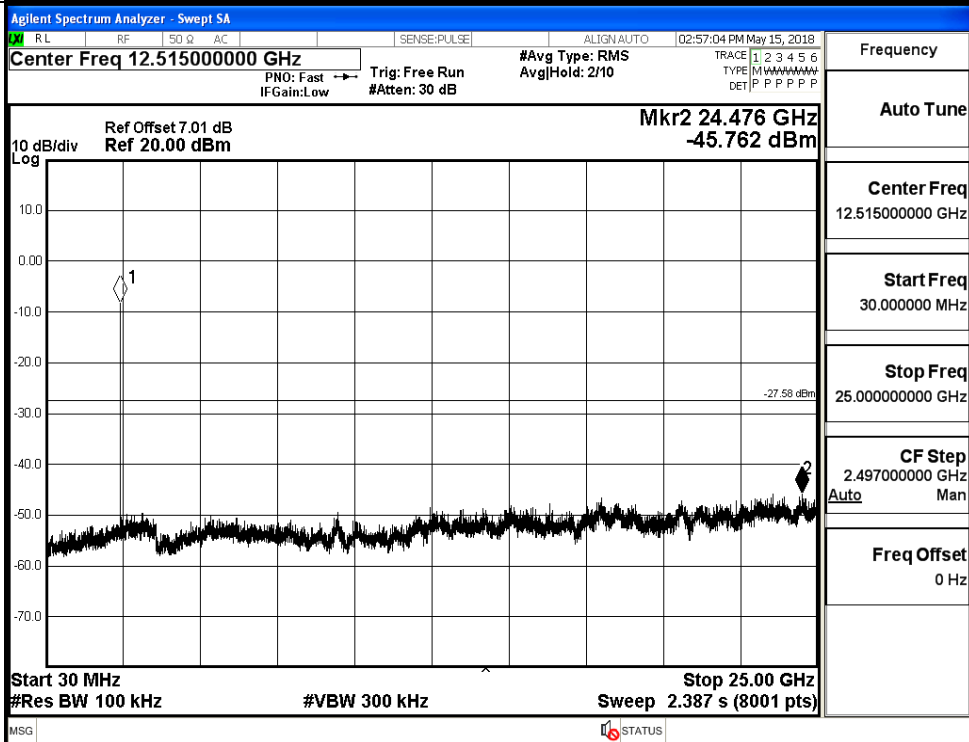


GFSK_MCH_Graphs

Pref

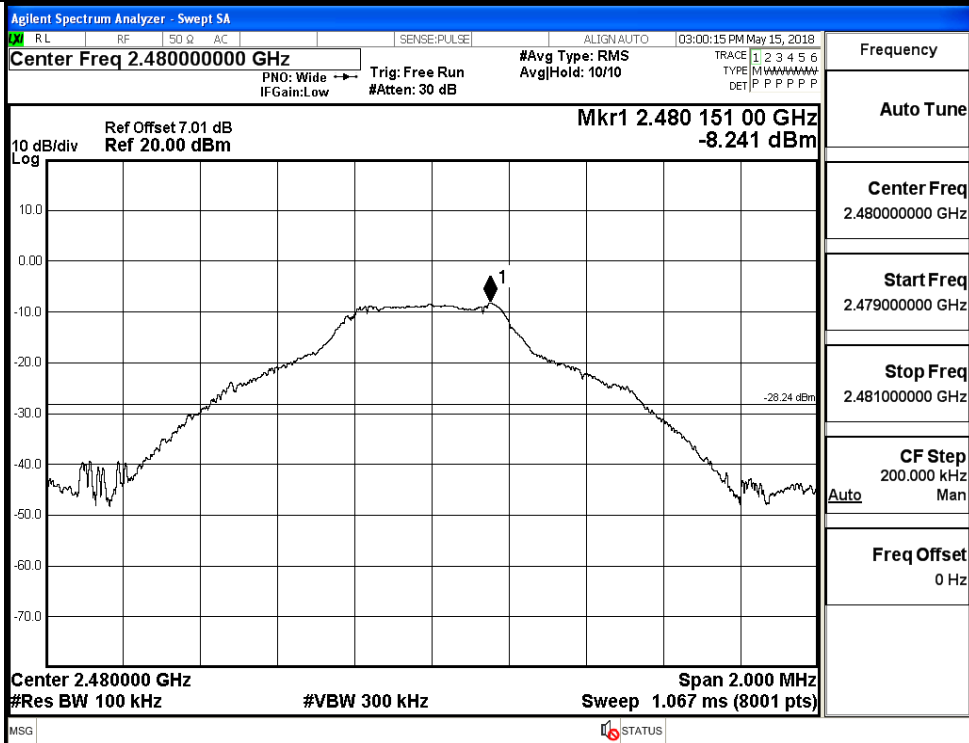


Puw

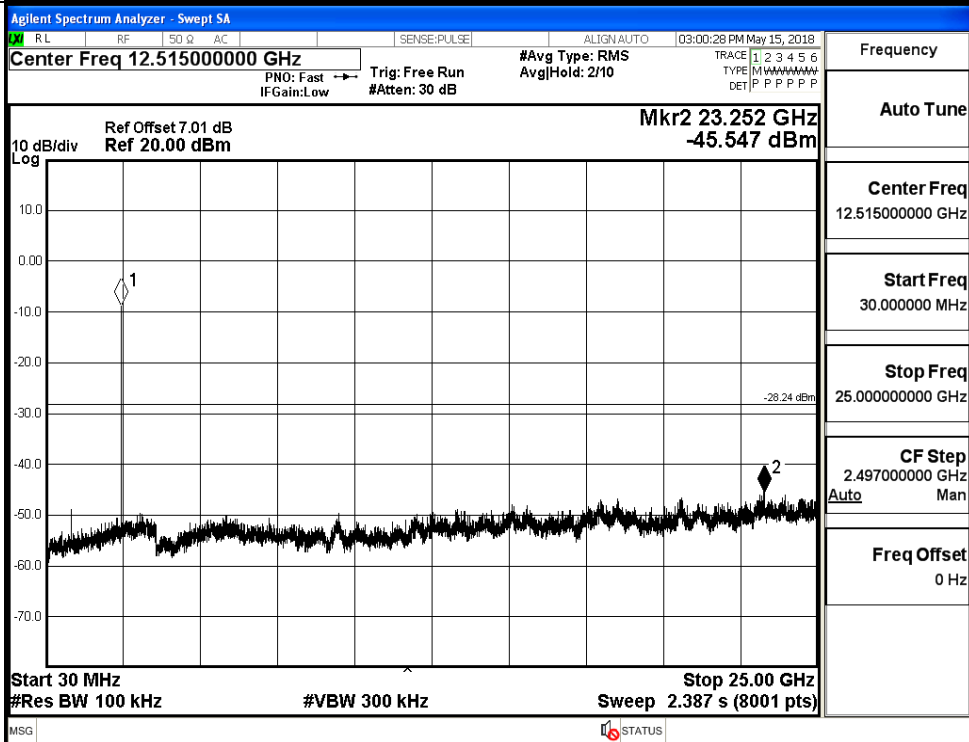


GFSK_HCH_Graphs

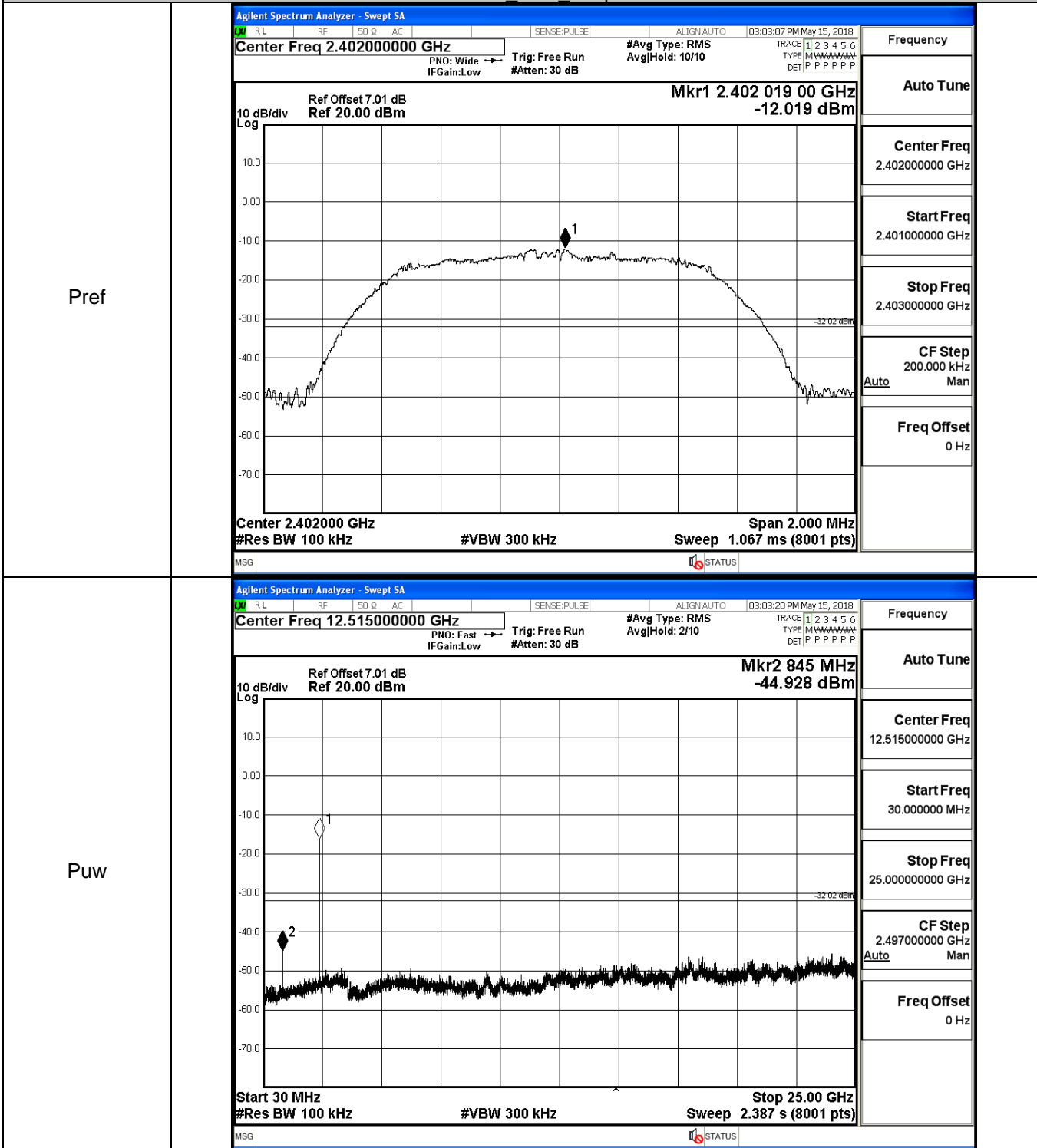
Pref



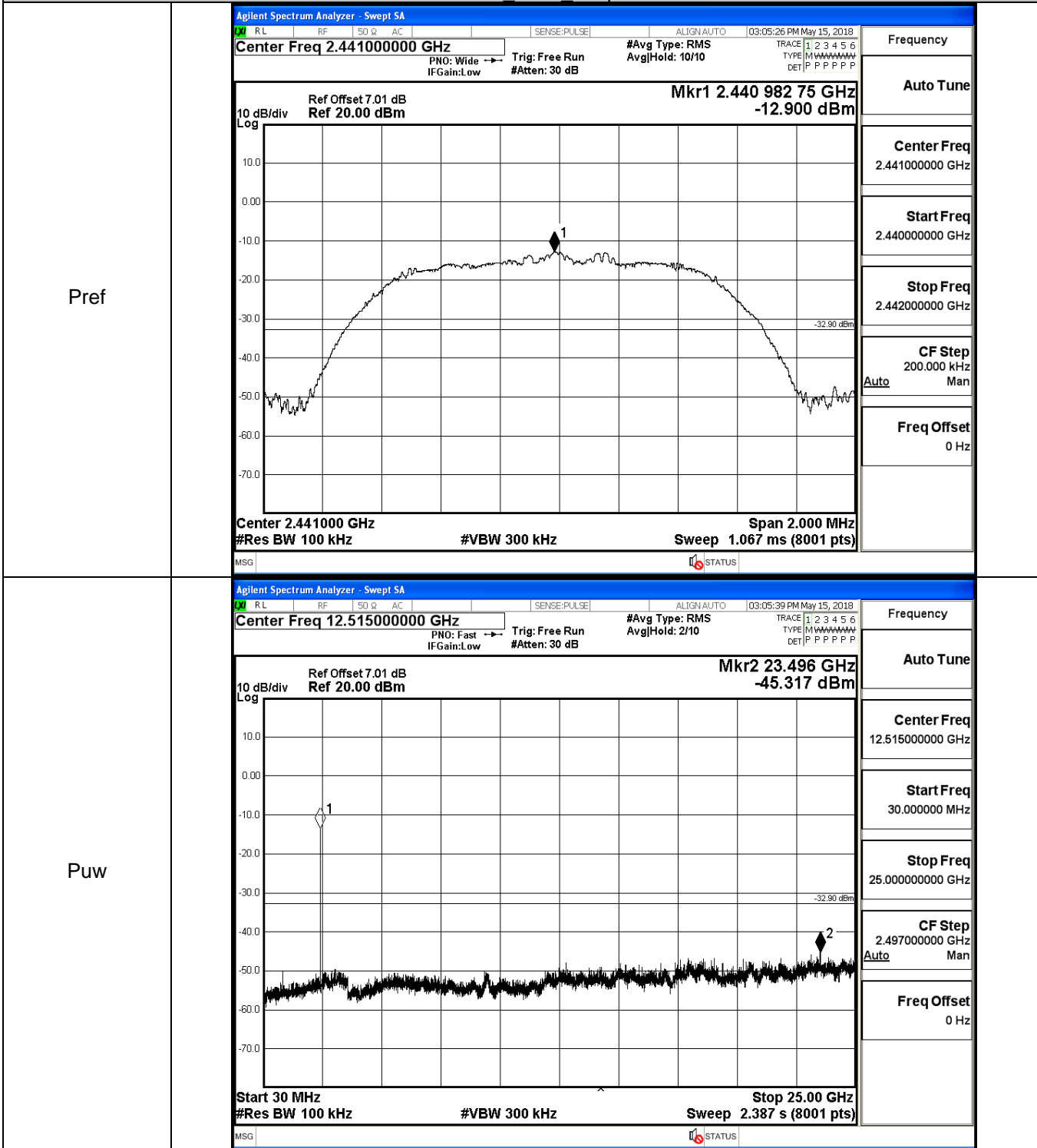
Puw



$\pi/4$ DQPSK LCH Graphs

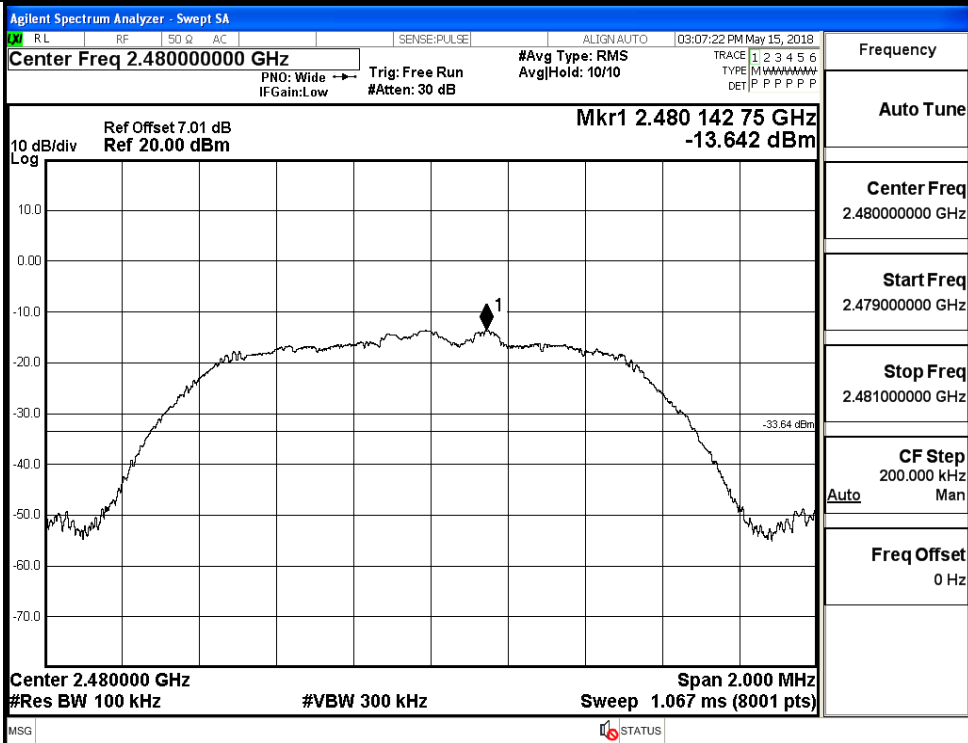


$\pi/4$ DQPSK MCH Graphs

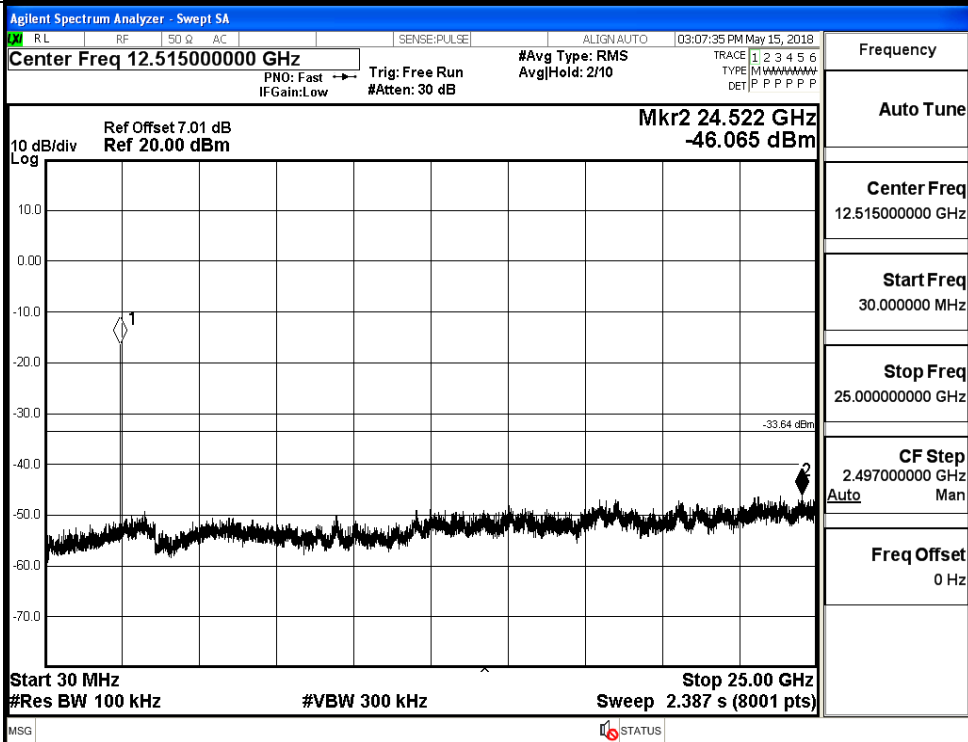


$\pi/4$ DQPSK HCH Graphs

Pref

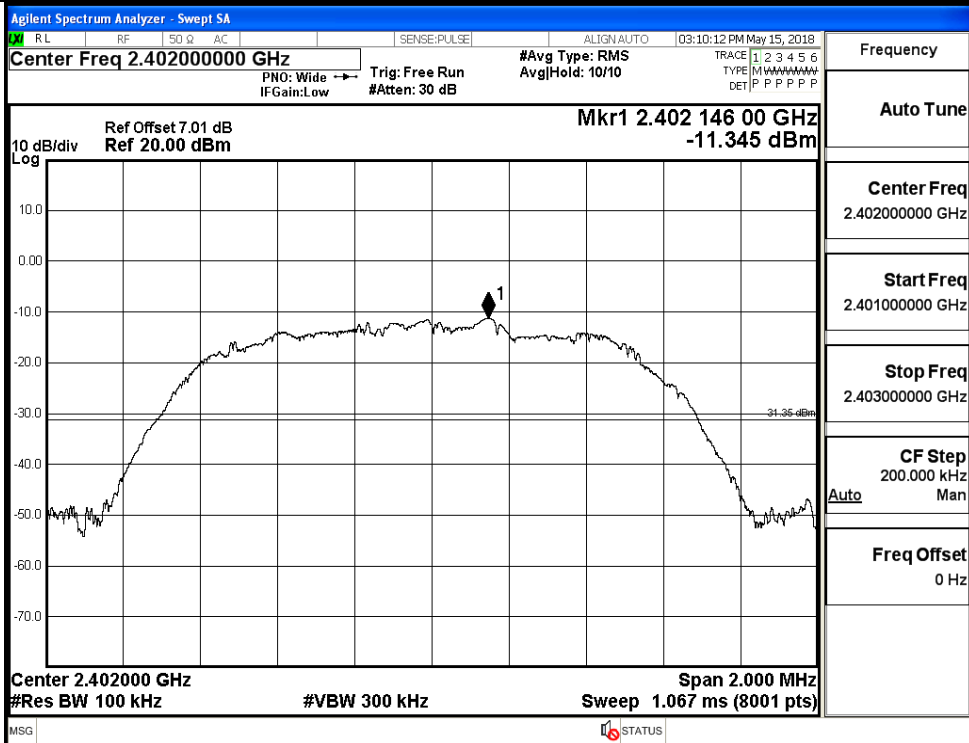


Puw

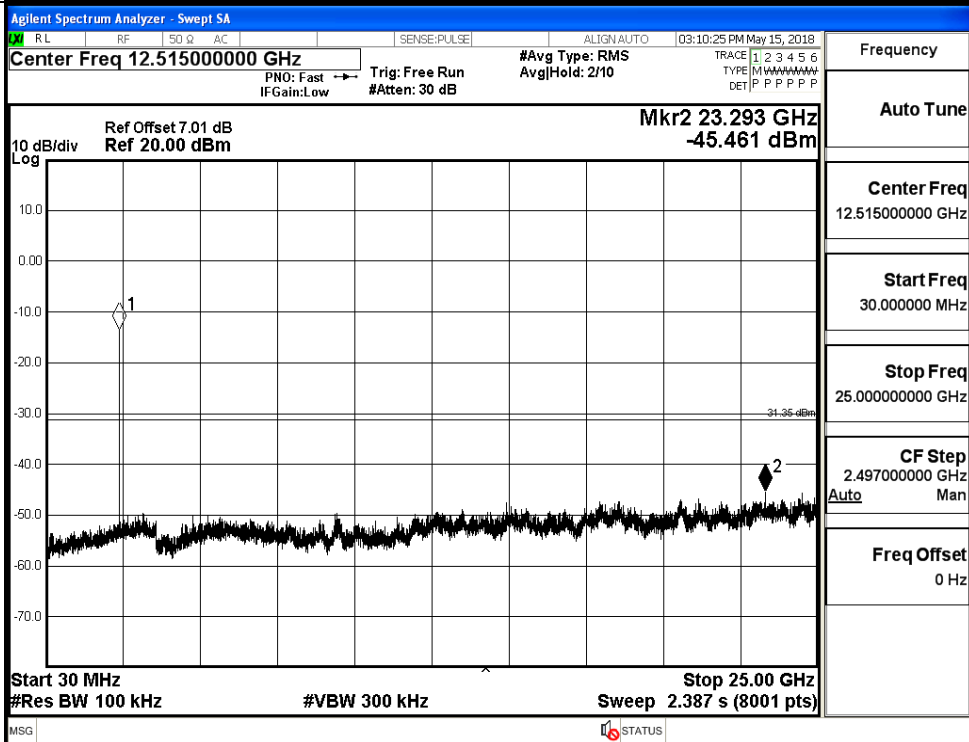


8DPSK_LCH_Graphs

Pref

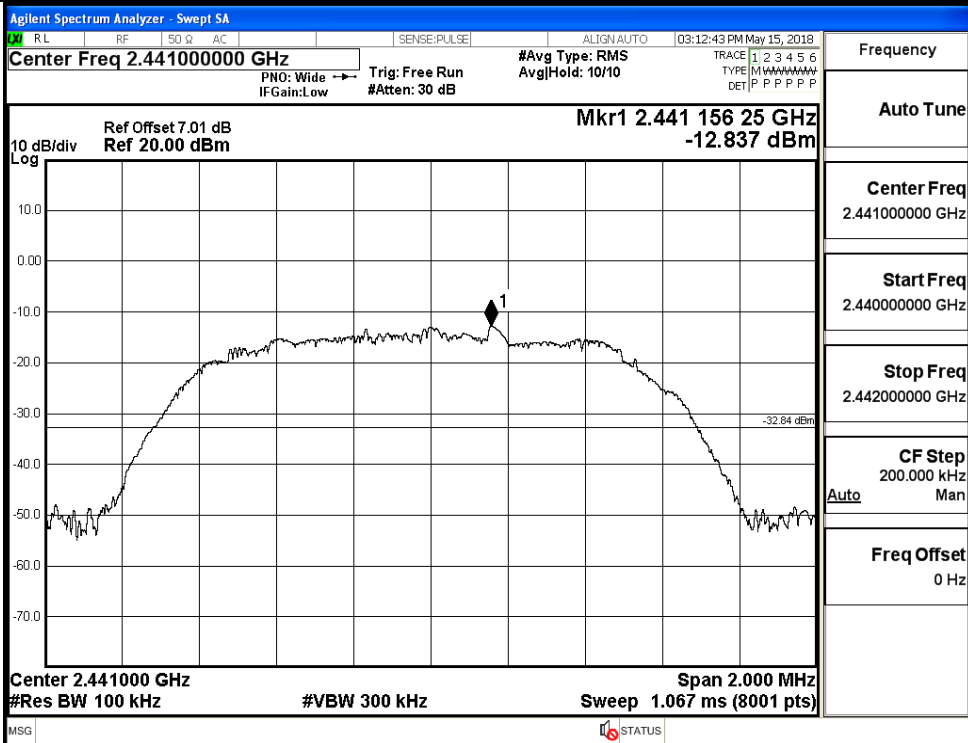


Puw

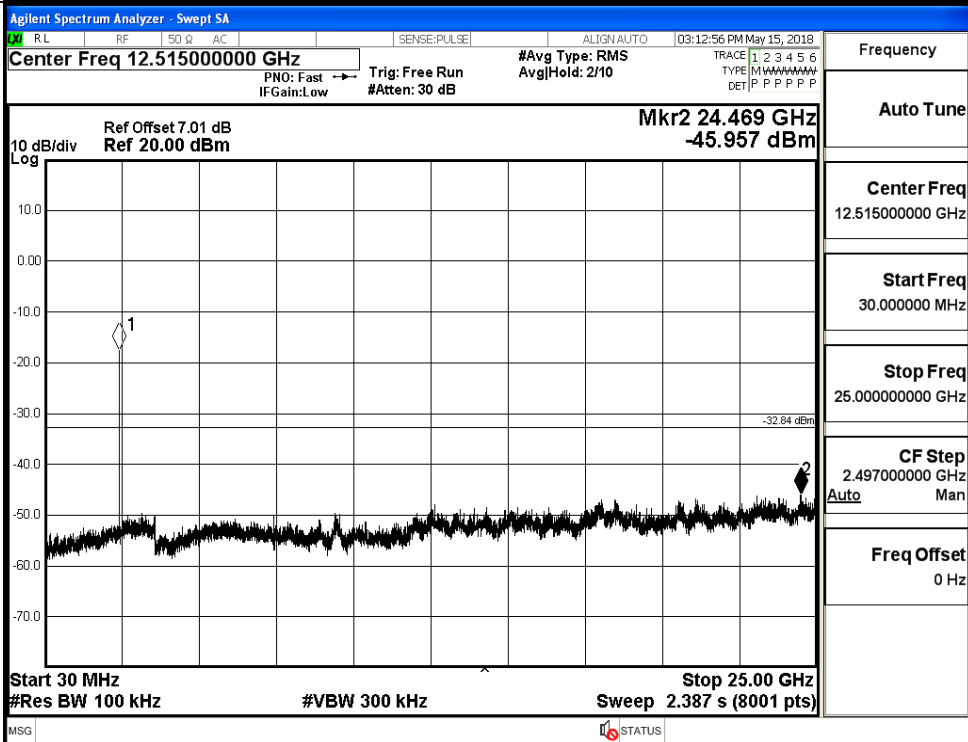


8DPSK_MCH_Graphs

Pref

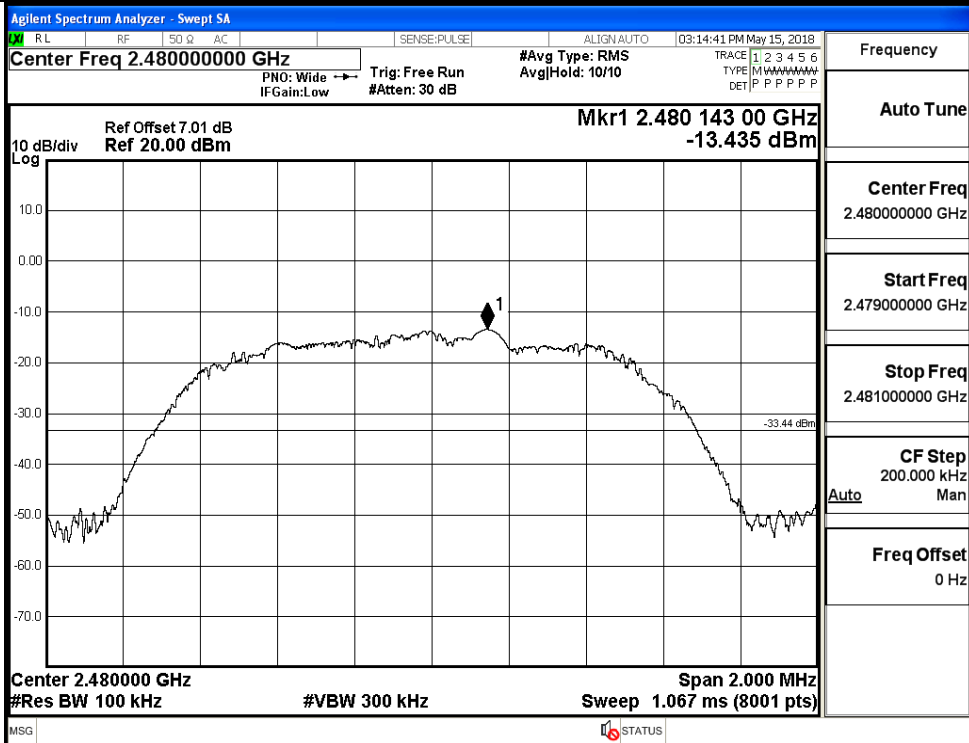


Puw

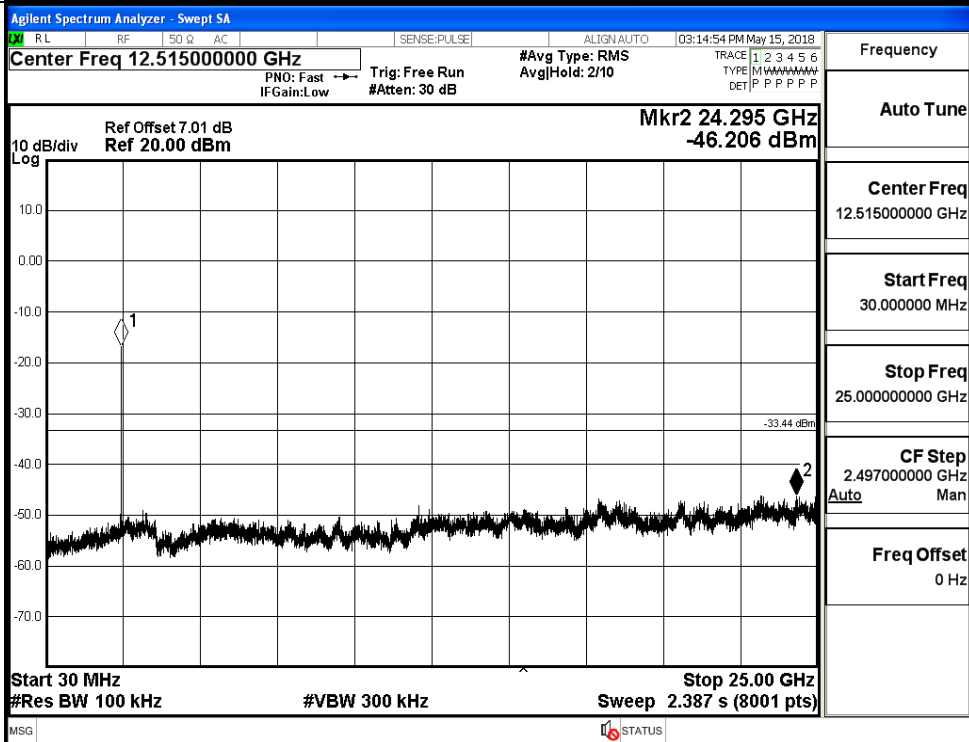


8DPSK_HCH_Graphs

Pref



Puw

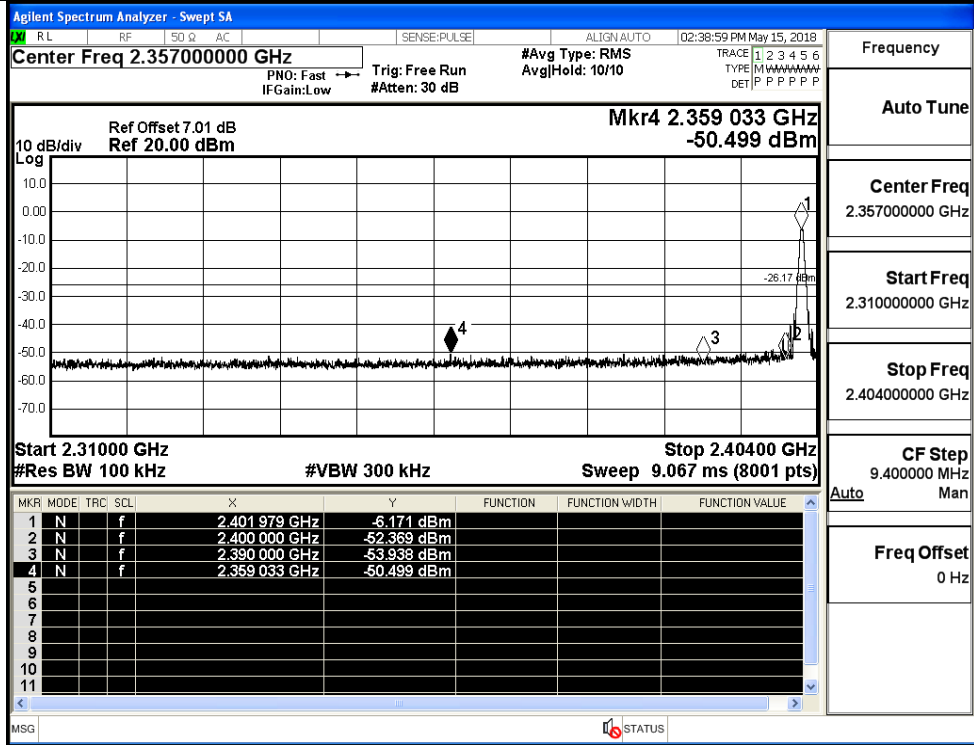


A.7 Band-edge for RF Conducted Emissions

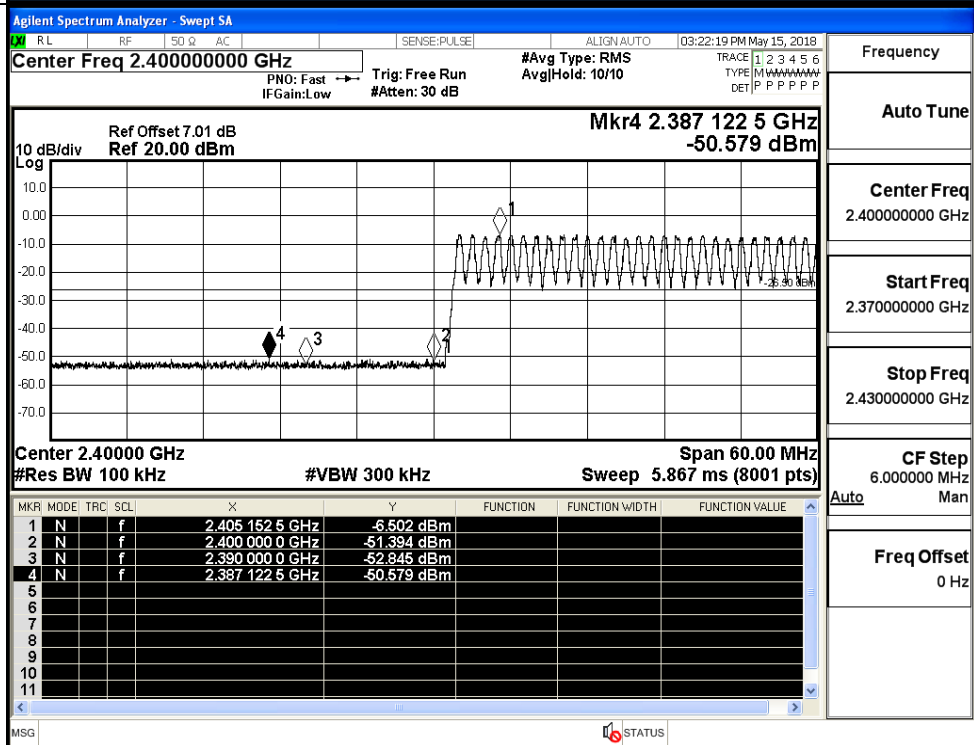
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-6.171	Off	-50.499	-26.17	PASS
			-6.502	On	-50.579	-26.5	PASS
	HCH	2480	-8.139	Off	-50.549	-28.14	PASS
			-7.729	On	-49.219	-27.73	PASS
$\pi/4$ DQPSK	LCH	2402	-11.646	Off	-50.896	-31.65	PASS
			-11.438	On	-49.807	-31.44	PASS
	HCH	2480	-13.728	Off	-50.774	-33.73	PASS
			-13.055	On	-49.960	-33.06	PASS
8DPSK	LCH	2402	-11.773	Off	-49.918	-31.77	PASS
			-11.623	On	-50.485	-31.62	PASS
	HCH	2480	-13.401	Off	-50.558	-33.4	PASS
			-13.071	On	-50.002	-33.07	PASS

Test Graphs

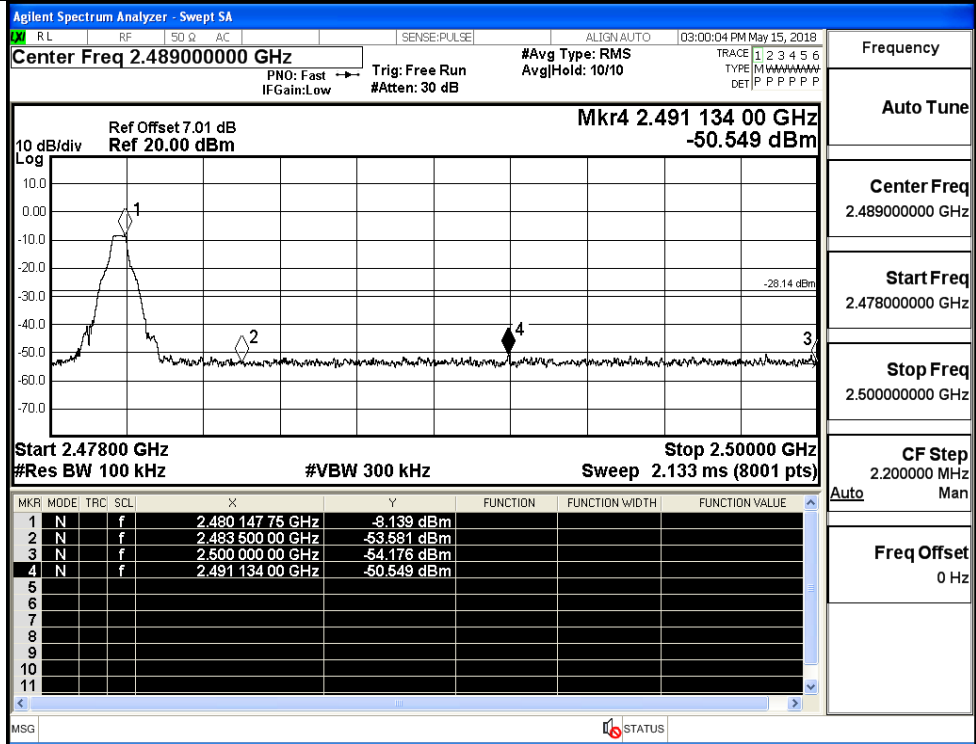
GFSK/LCH/No Hop



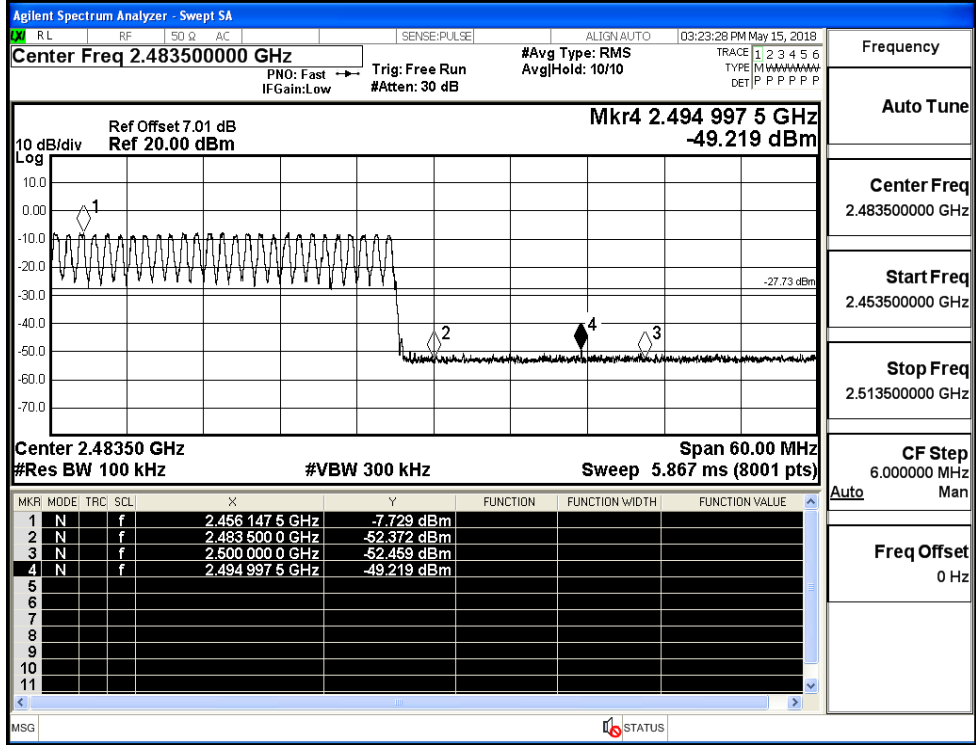
GFSK/LCH/Hop



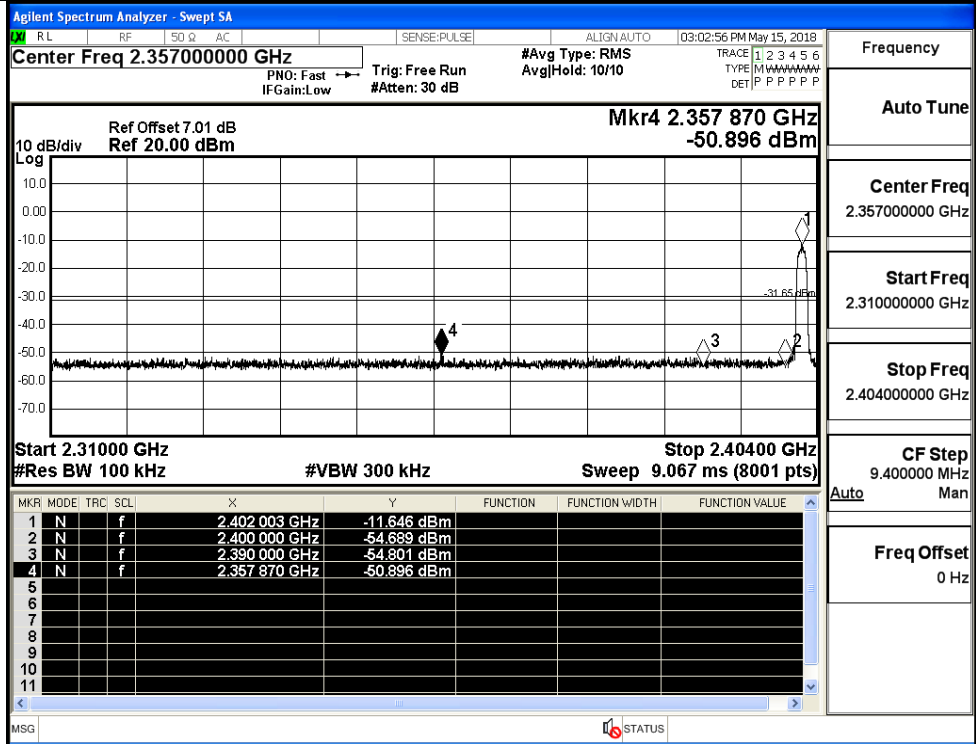
GFSK/HCH/No Hop



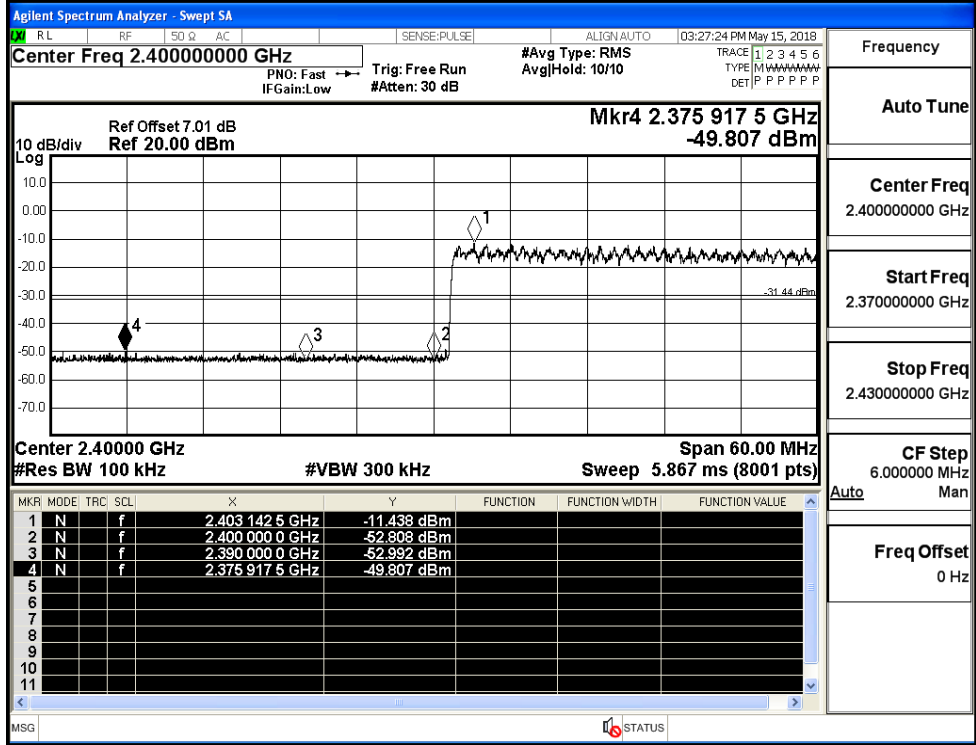
GFSK/HCH/Hop



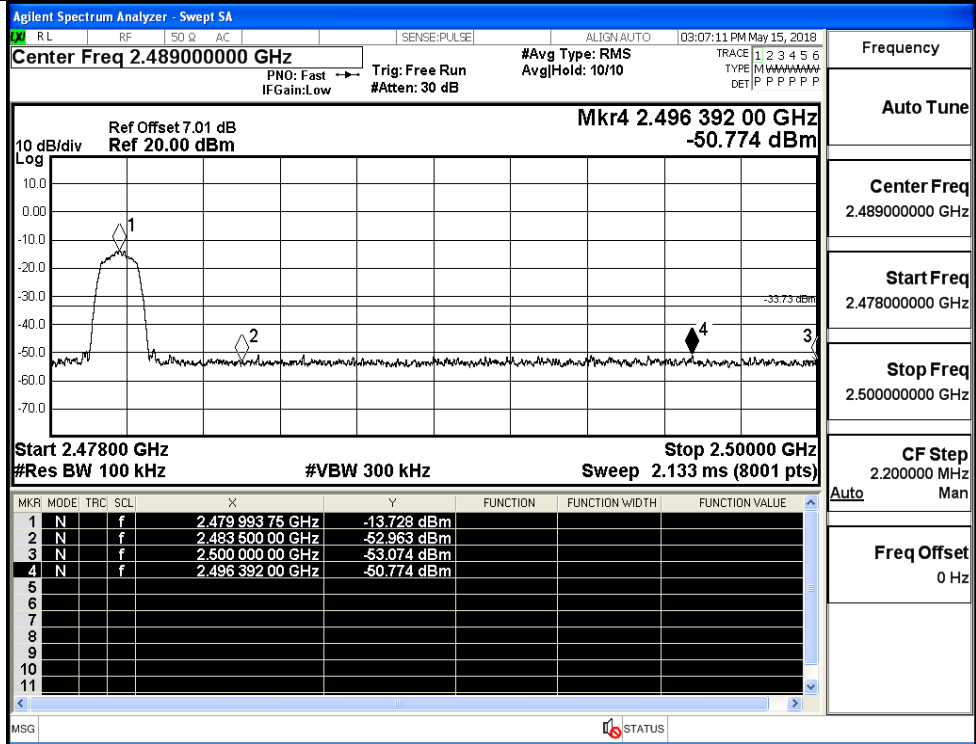
$\pi/4$ DQPSK/LCH/No
Hop



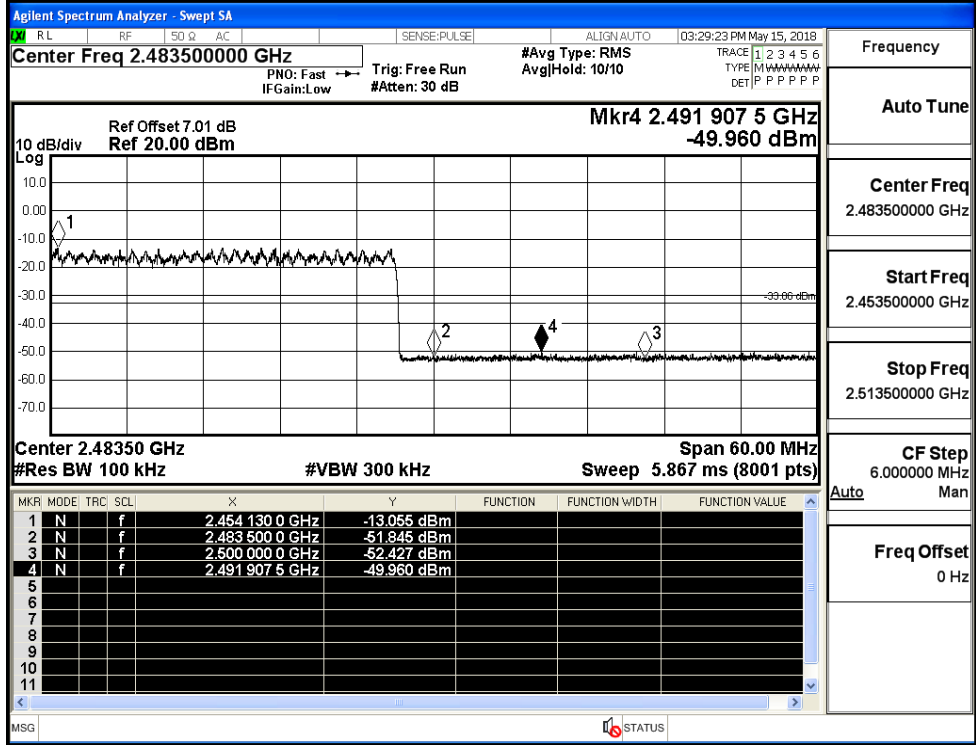
$\pi/4$ DQPSK/LCH/Hop



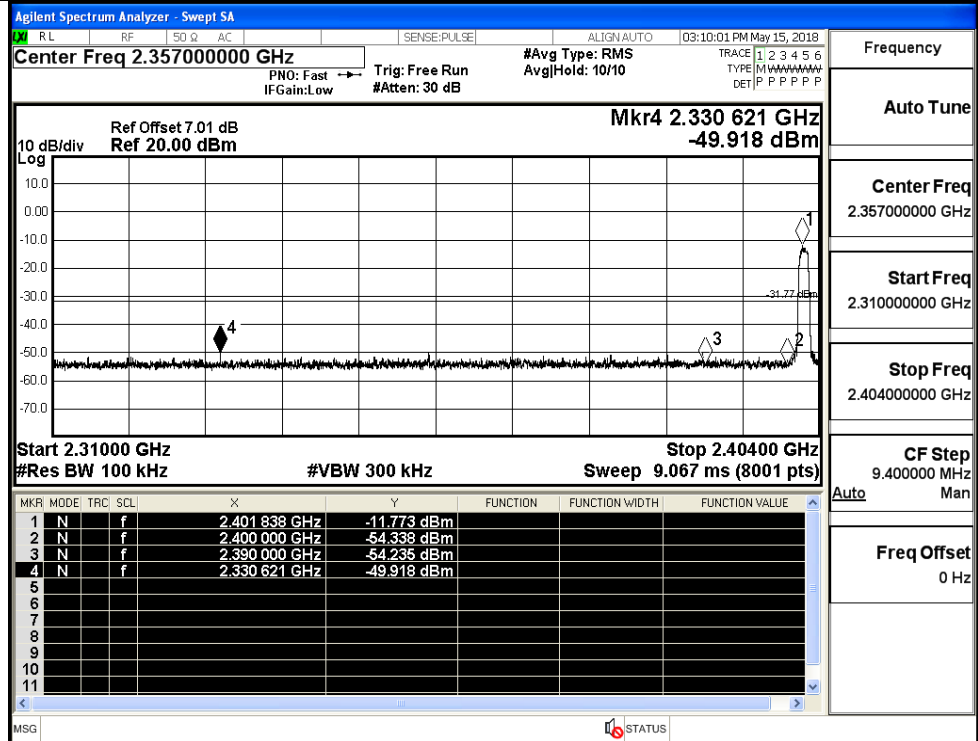
π /4DQPSK/HCH/No
Hop



π /4DQPSK/HCH/Hop

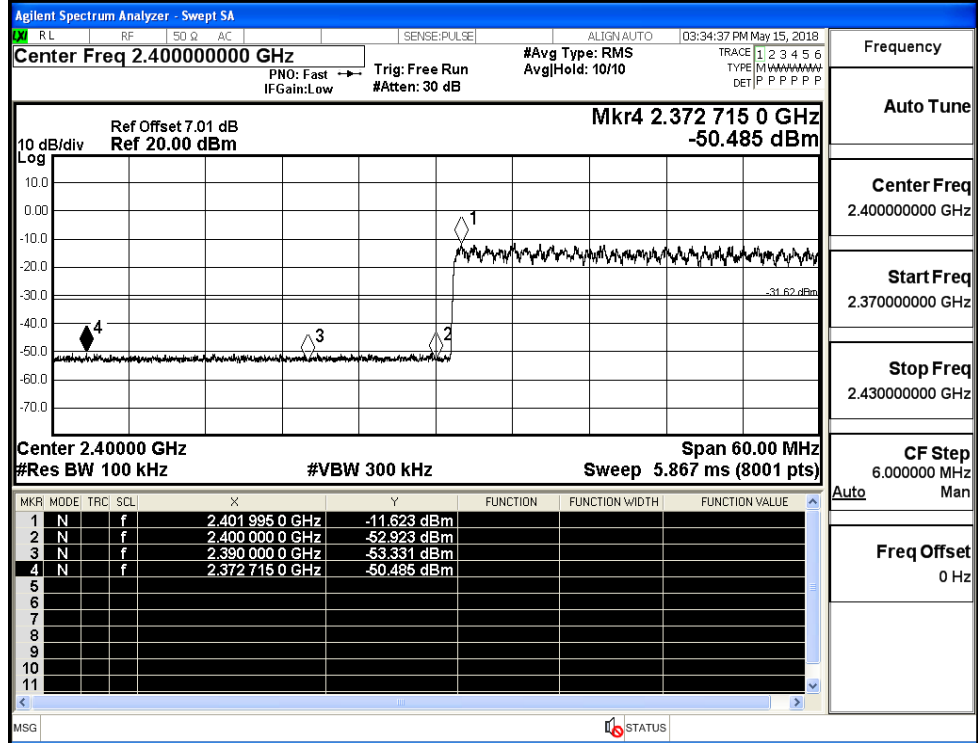


8DPSK/LCH/No Hop



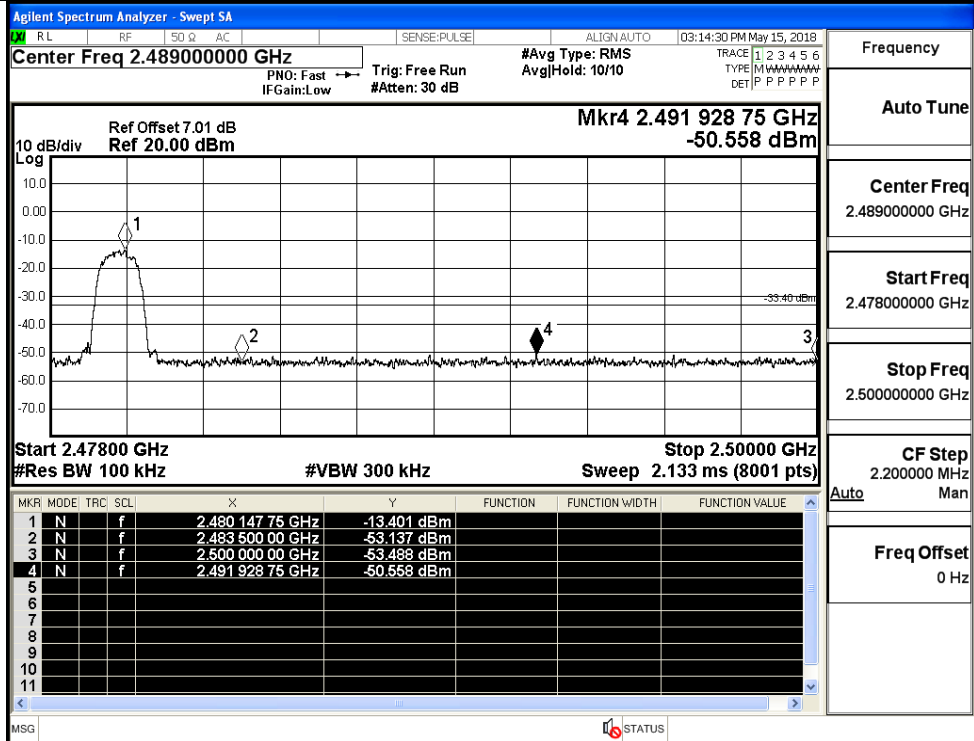
Frequency
Auto Tune
Center Freq
2.357000000 GHz
Start Freq
2.310000000 GHz
Stop Freq
2.404000000 GHz
CF Step
9.400000 MHz
Auto Man
Freq Offset
0 Hz

8DPSK/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

8DPSK/HCH/No Hop



Frequency

Auto Tune

Center Freq
2.489000000 GHz

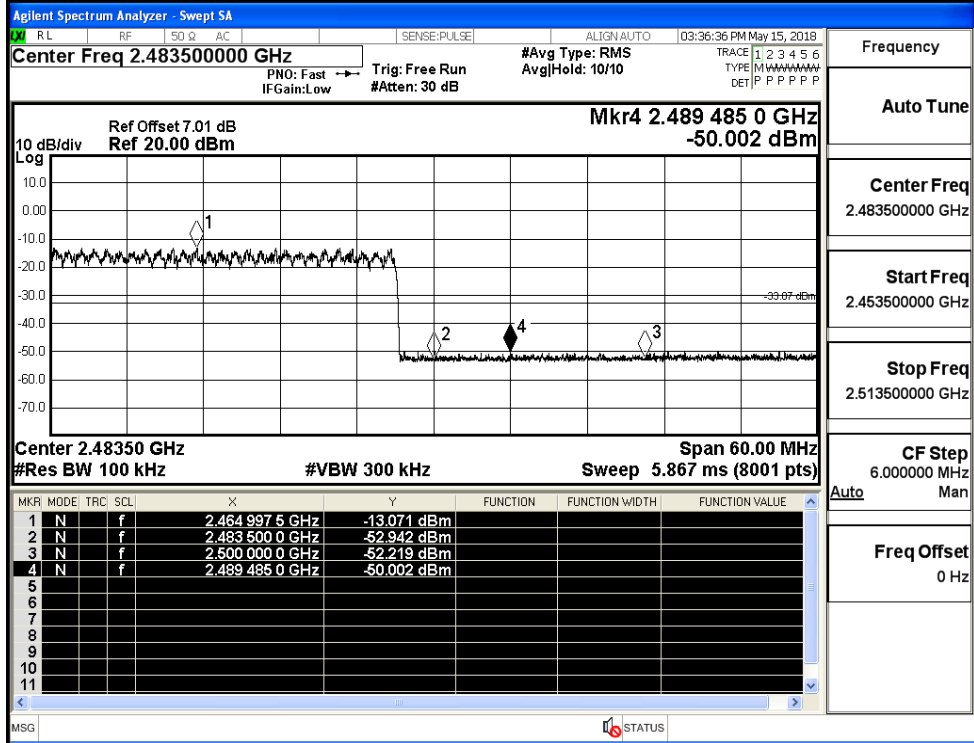
Start Freq
2.478000000 GHz

Stop Freq
2.500000000 GHz

CF Step
2.200000 MHz

Freq Offset
0 Hz

8DPSK/HCH/Hop



Frequency

Auto Tune

Center Freq
2.483500000 GHz

Start Freq
2.463500000 GHz

Stop Freq
2.513500000 GHz

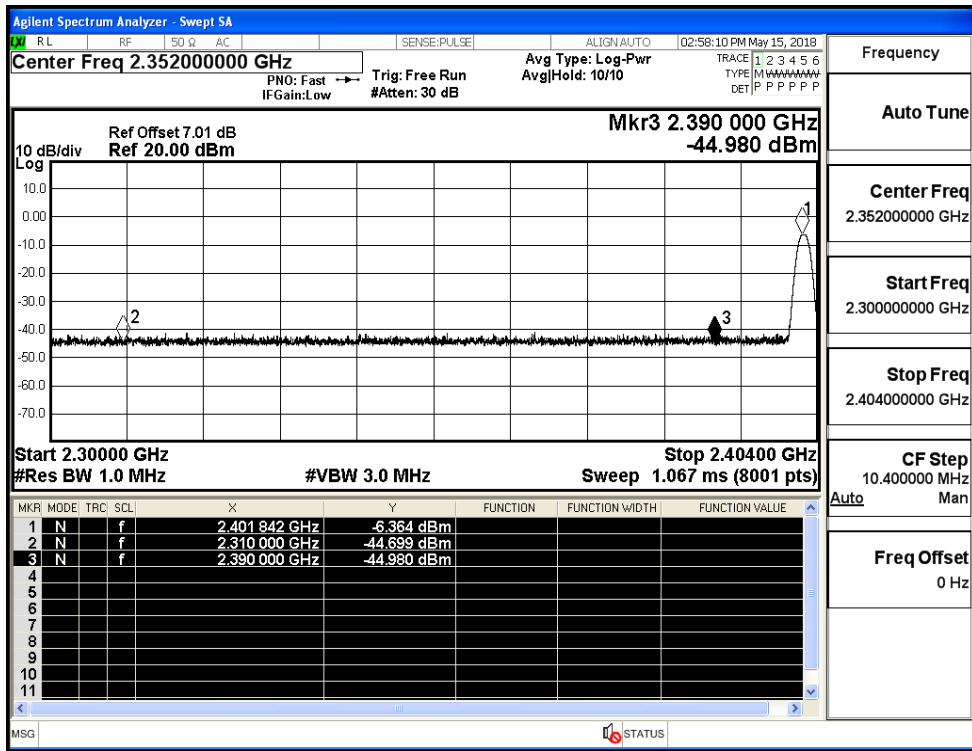
CF Step
6.000000 MHz

Freq Offset
0 Hz

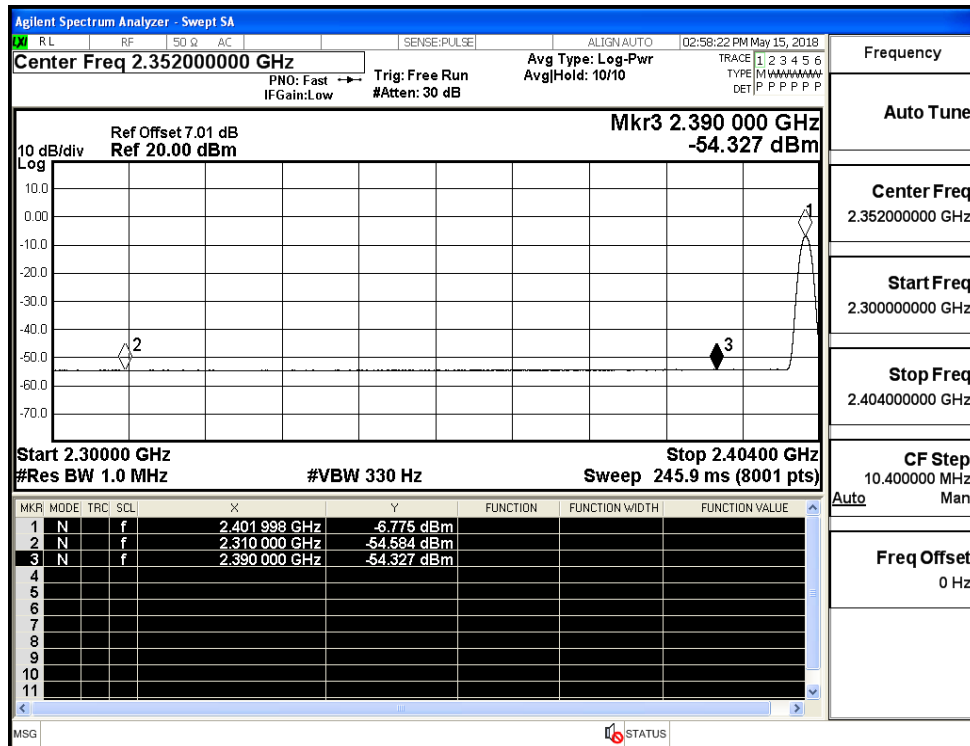
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-44.70	2.0	0	52.56	PEAK	74	PASS
	Off	2310.0	-54.58	2.0	0	42.67	AV	54	PASS
	Off	2390.0	-44.98	2.0	0	52.28	PEAK	74	PASS
	Off	2390.0	-54.33	2.0	0	42.93	AV	54	PASS
	Off	2483.5	-44.43	2.0	0	52.82	PEAK	74	PASS
	Off	2483.5	-54.01	2.0	0	43.24	AV	54	PASS
	Off	2500.0	-42.65	2.0	0	54.61	PEAK	74	PASS
	Off	2500.0	-53.91	2.0	0	43.35	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.52	2.0	0	53.74	PEAK	74	PASS
	Off	2310.0	-54.59	2.0	0	42.67	AV	54	PASS
	Off	2390.0	-42.98	2.0	0	54.28	PEAK	74	PASS
	Off	2390.0	-54.21	2.0	0	43.05	AV	54	PASS
	Off	2483.5	-42.62	2.0	0	54.63	PEAK	74	PASS
	Off	2483.5	-54.17	2.0	0	43.09	AV	54	PASS
	Off	2500.0	-43.51	2.0	0	53.75	PEAK	74	PASS
	Off	2500.0	-53.95	2.0	0	43.31	AV	54	PASS
8DPSK	Off	2310.0	-45.40	2.0	0	51.86	PEAK	74	PASS
	Off	2310.0	-54.62	2.0	0	42.64	AV	54	PASS
	Off	2390.0	-43.72	2.0	0	53.54	PEAK	74	PASS
	Off	2390.0	-54.26	2.0	0	43.00	AV	54	PASS
	Off	2483.5	-43.05	2.0	0	54.20	PEAK	74	PASS
	Off	2483.5	-54.12	2.0	0	43.14	AV	54	PASS
	Off	2500.0	-44.04	2.0	0	53.22	PEAK	74	PASS
	Off	2500.0	-54.00	2.0	0	43.25	AV	54	PASS

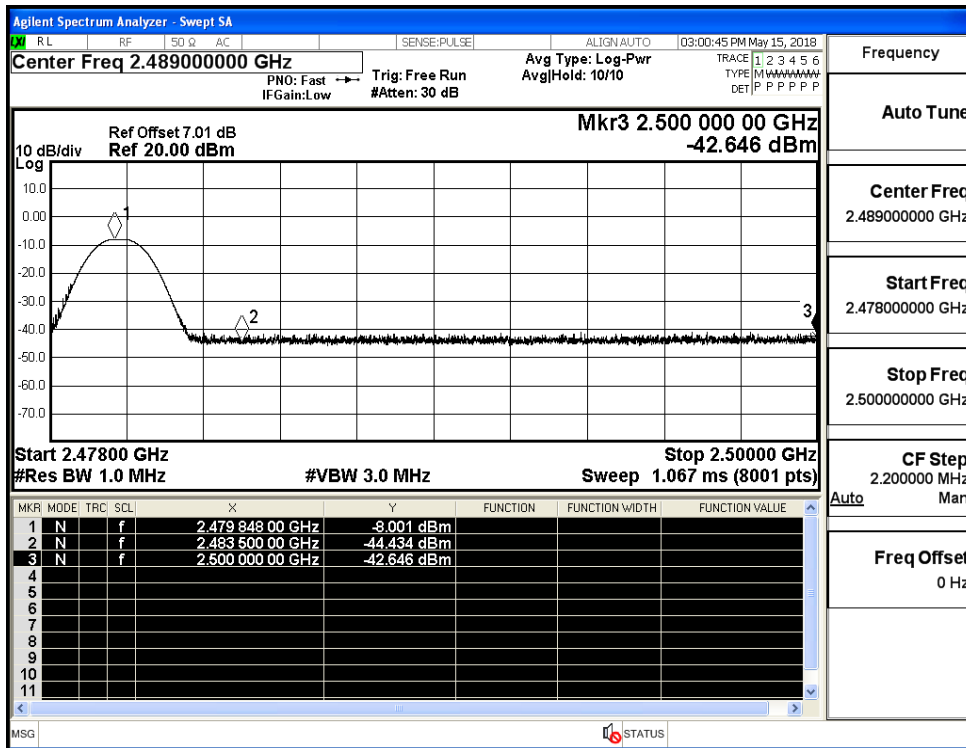
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



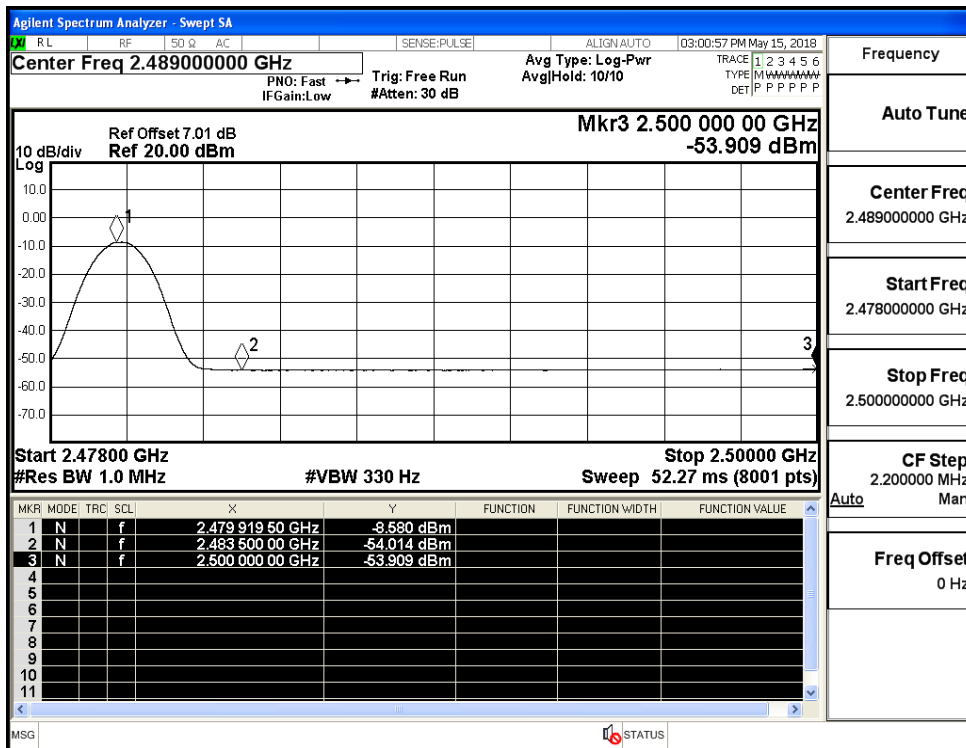
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



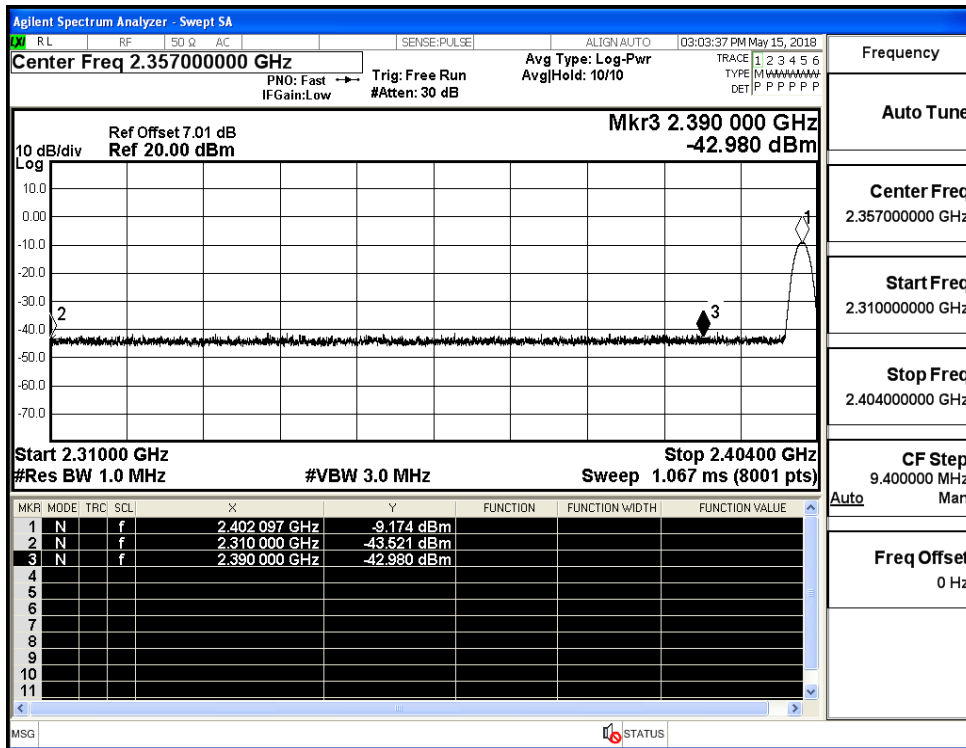
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



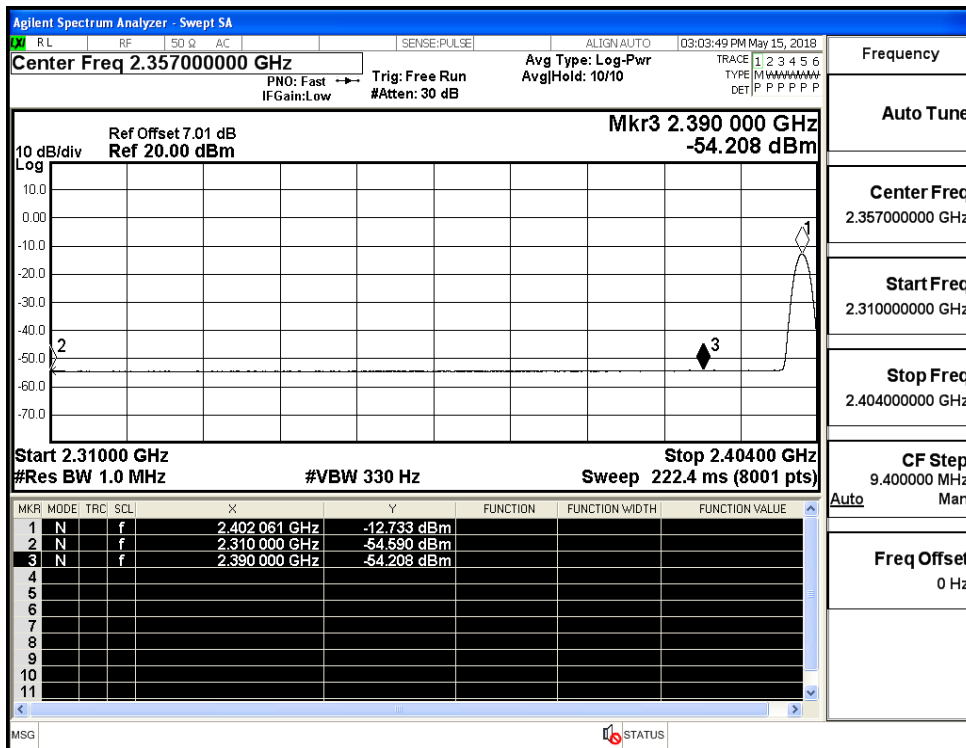
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



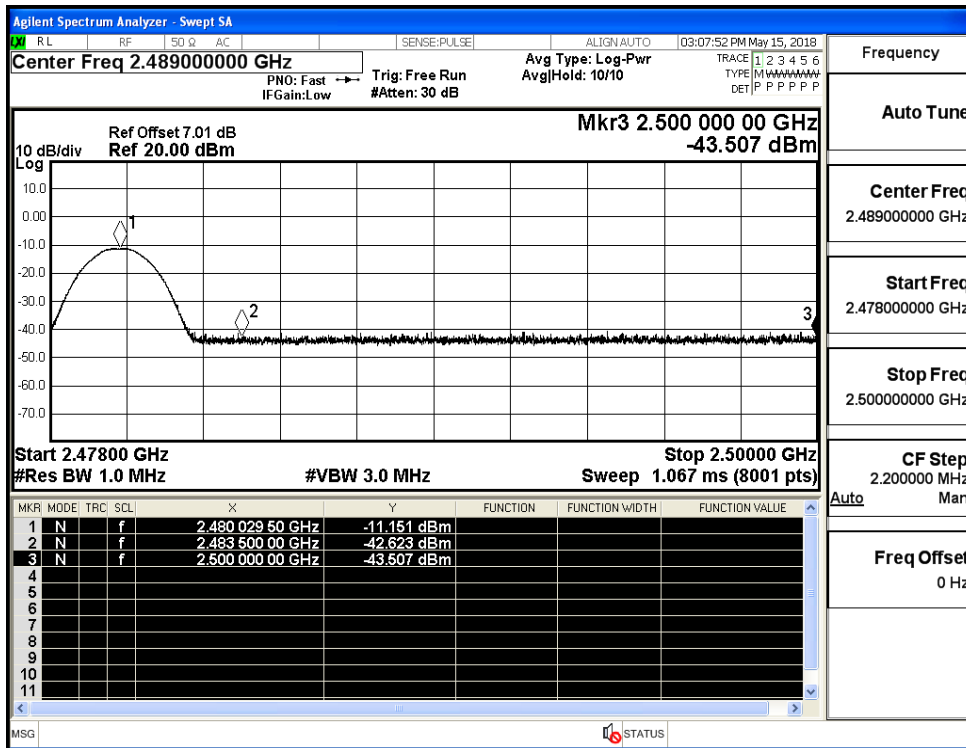
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)



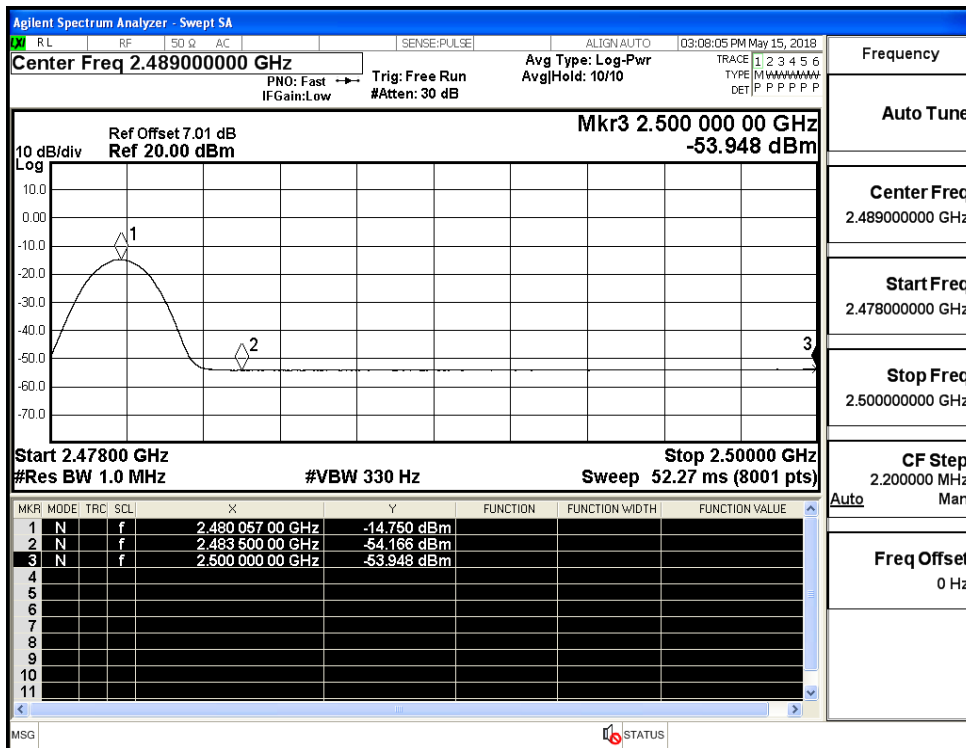
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)



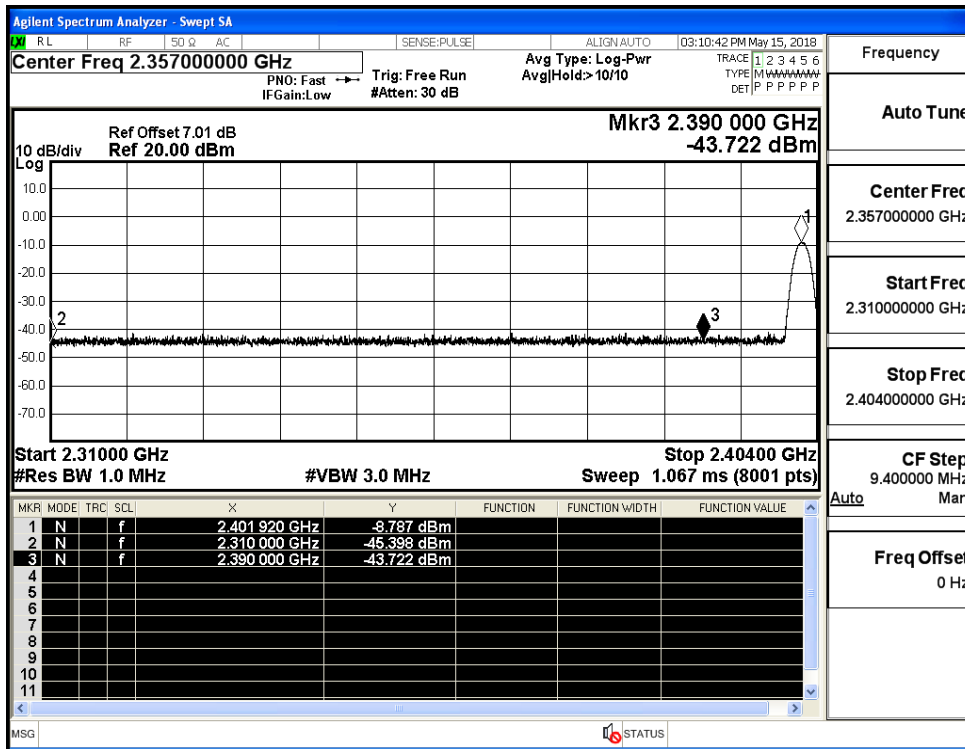
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



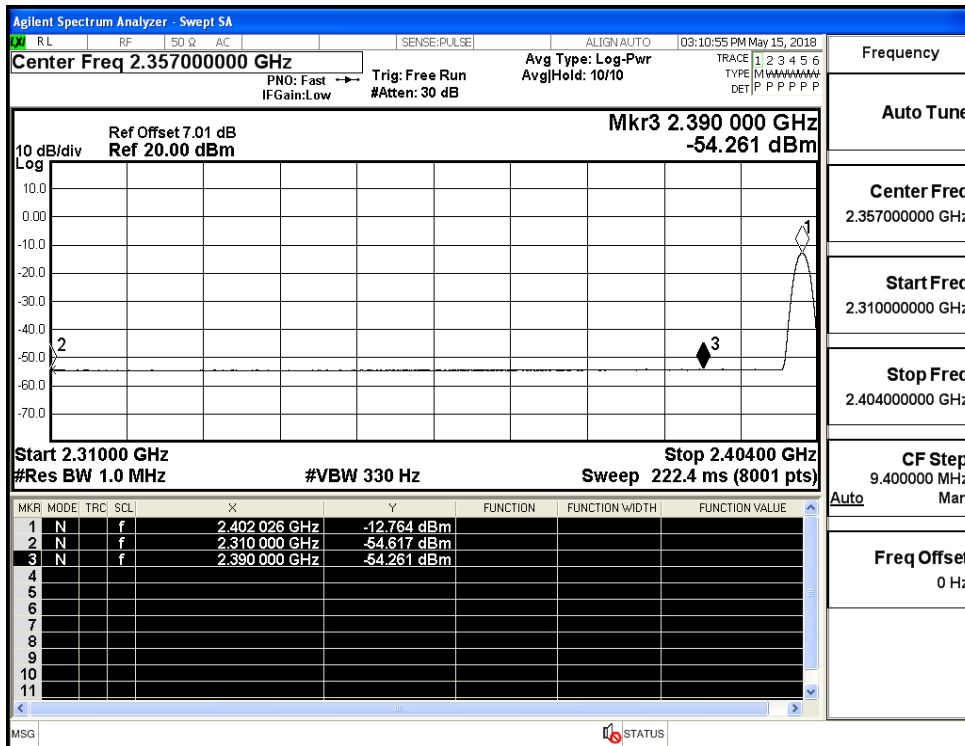
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



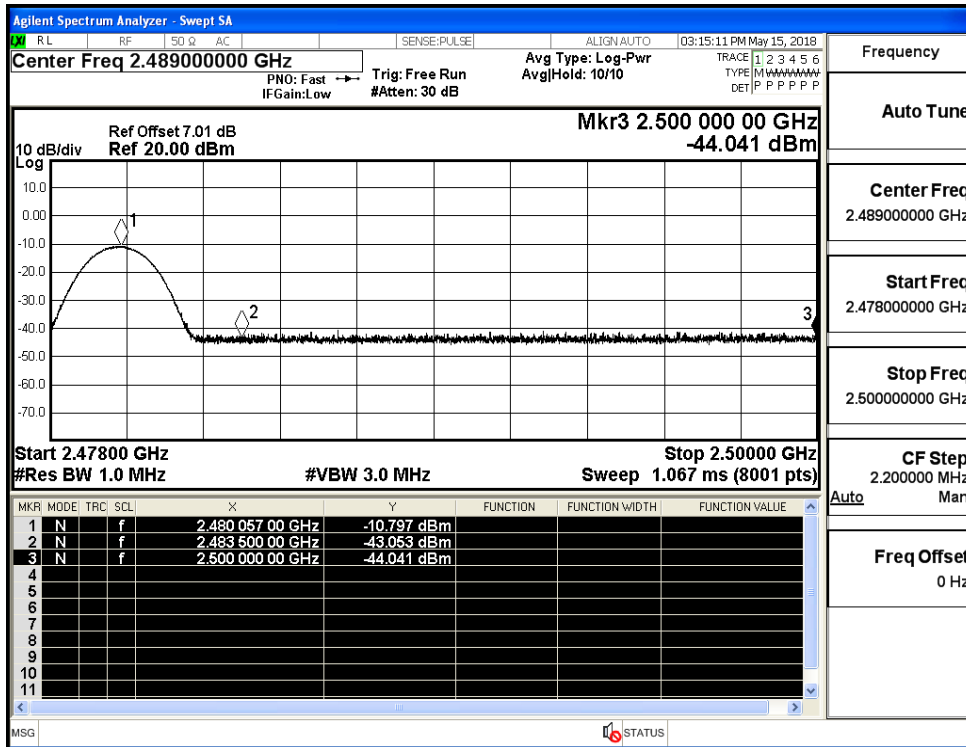
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

