

Appendix A

RF Test Data for BT V2.1+EDR (Conducted Measurement)

Product Name: 2G mobile phone

Trade Mark: GOL

Test Model: S1 Barcelona

Environmental Conditions

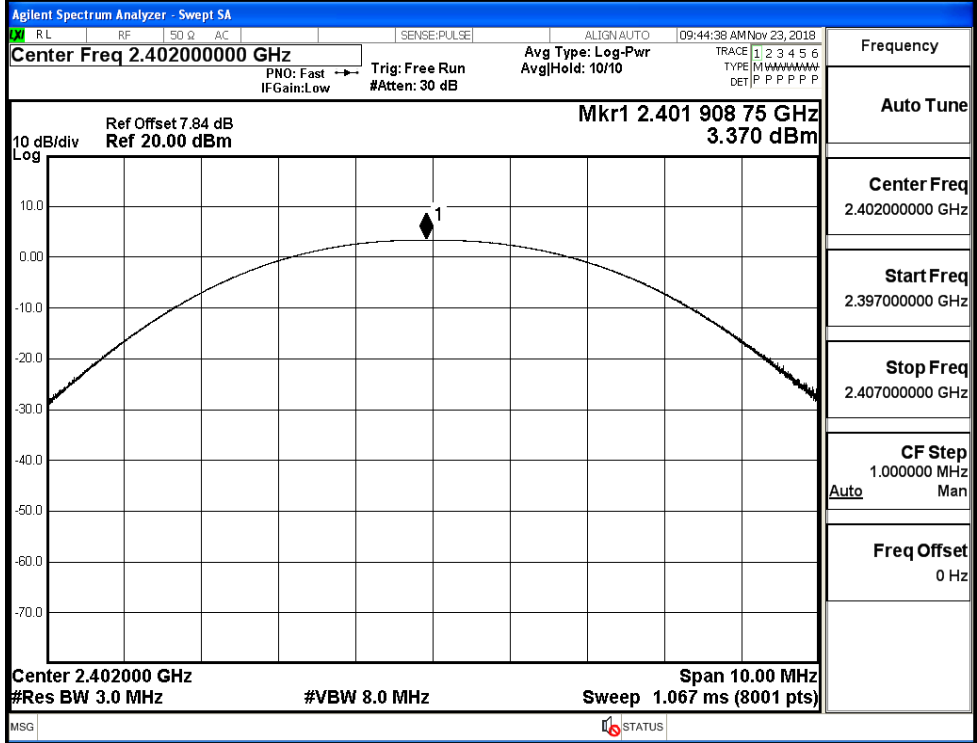
Temperature:	23.4 °C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom Liu
Supervised by:	Jayden Zhuo

A.1 Maxmum Conducted Peak Output Power

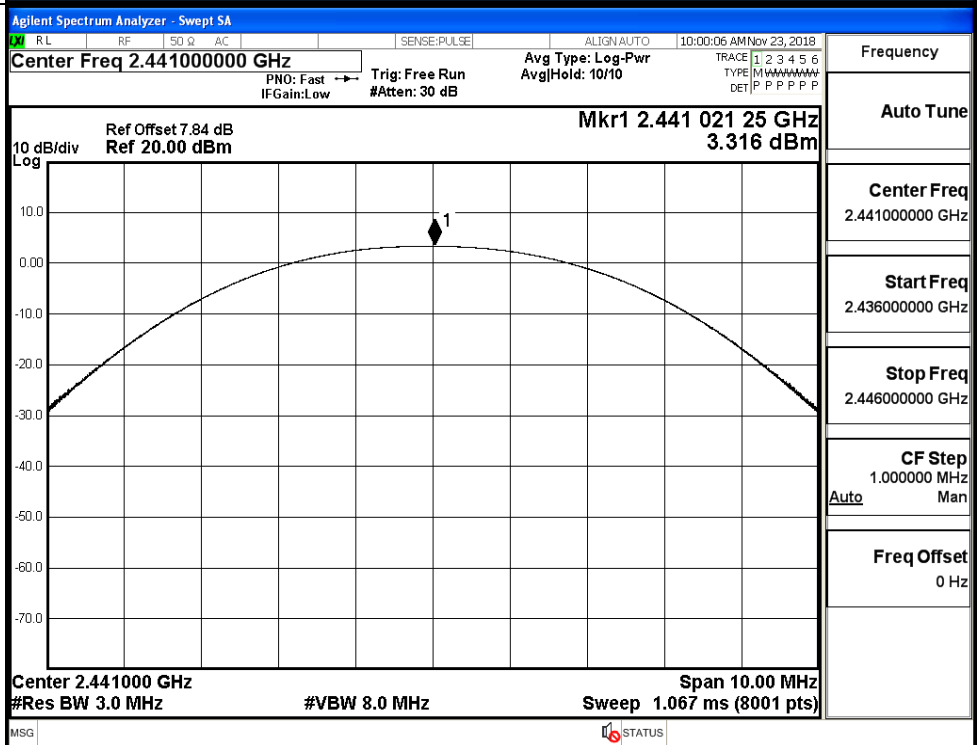
Mode	Channel.	Maximum Peak Output Power [dBm]	Maximum Average Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.370	3.195	21	PASS
	MCH	3.316	3.139	21	PASS
	HCH	2.880	2.706	21	PASS
π/4DQPSK	LCH	2.711	2.496	21	PASS
	MCH	2.613	2.426	21	PASS
	HCH	2.091	1.944	21	PASS
8DPSK	LCH	2.827	2.656	21	PASS
	MCH	2.750	2.556	21	PASS
	HCH	2.294	2.125	21	PASS

Test Graphs

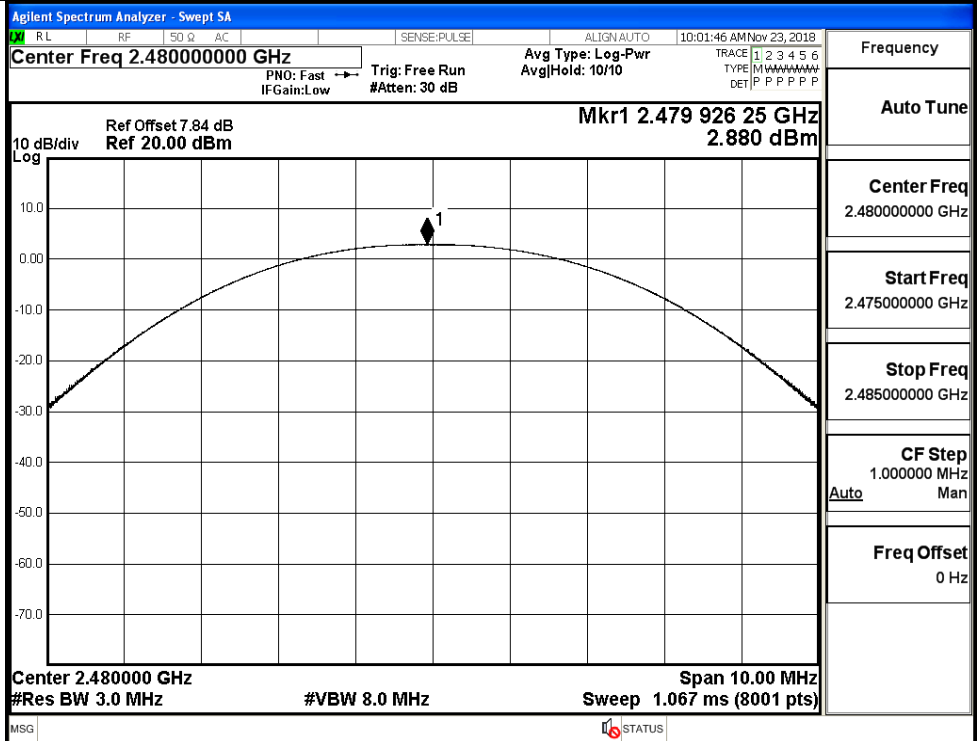
GFSK/LCH



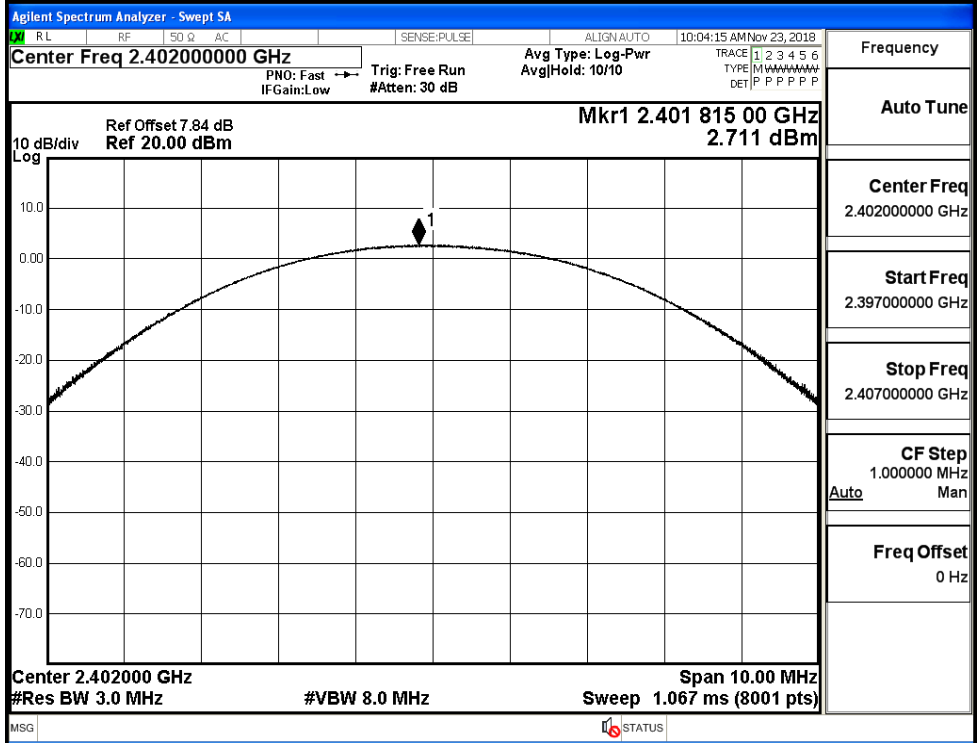
GFSK/MCH



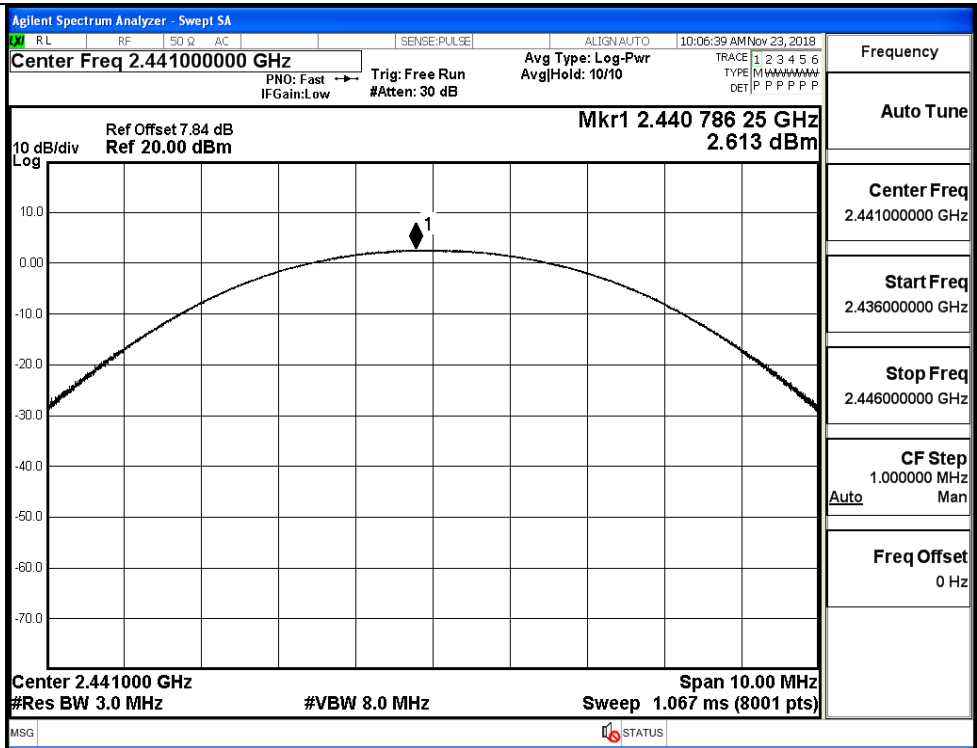
GFSK/HCH



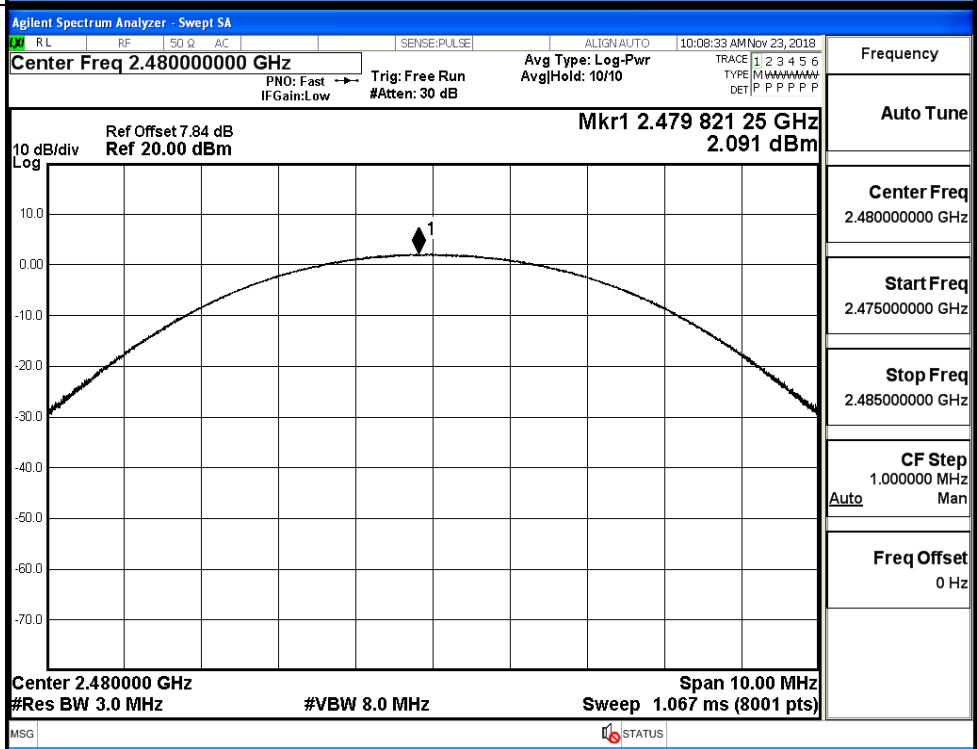
π /4DQPSK/LCH



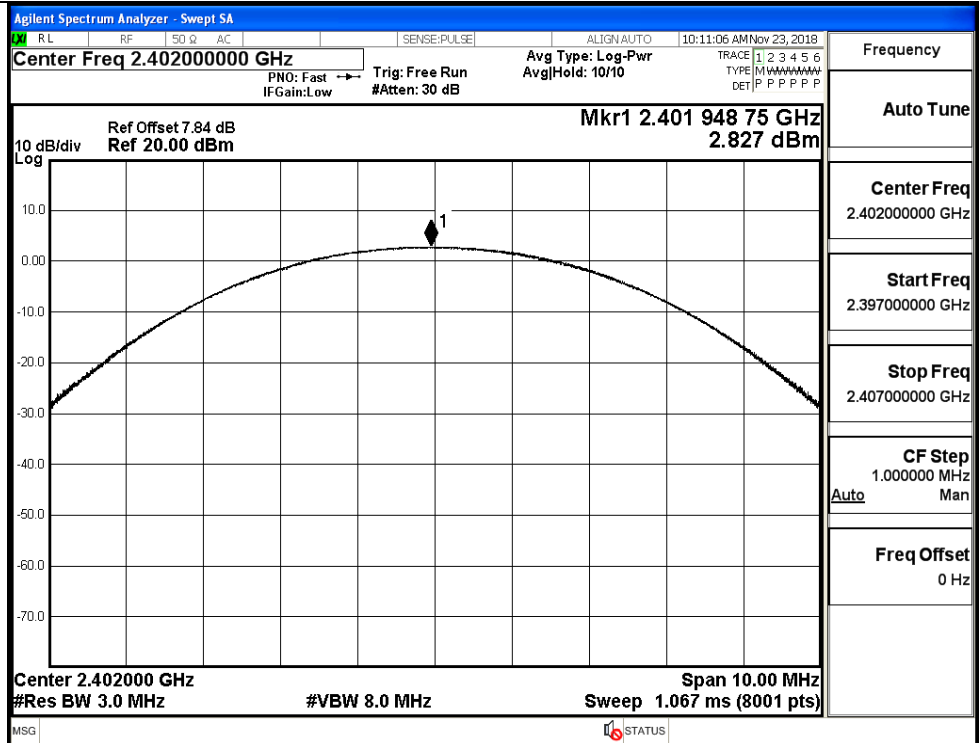
π /4DQPSK/MCH



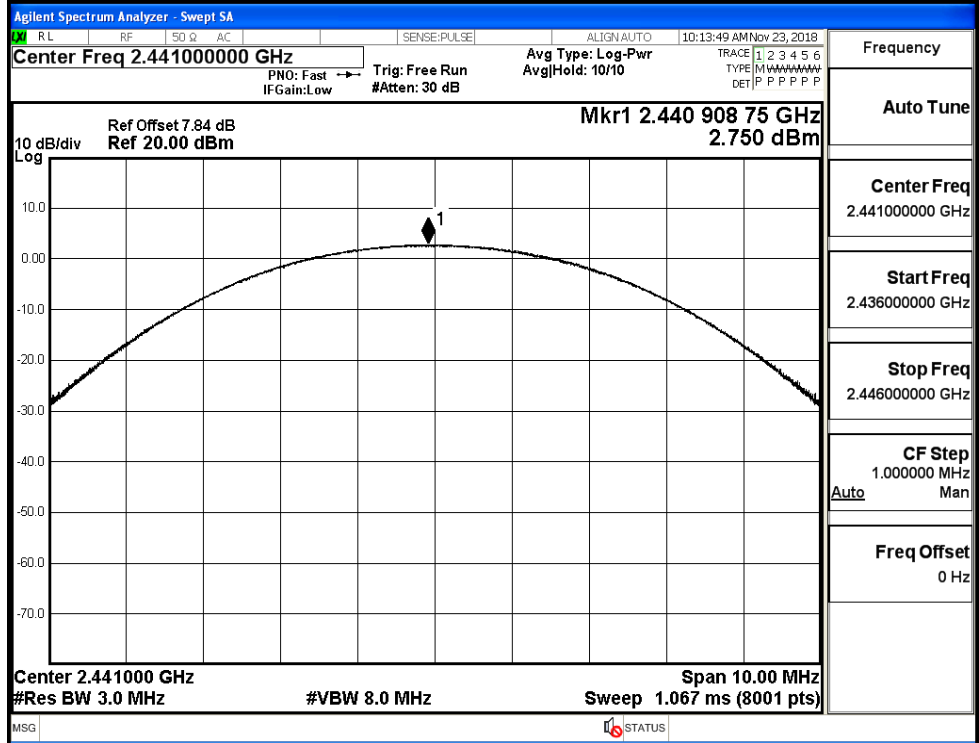
π /4DQPSK/HCH



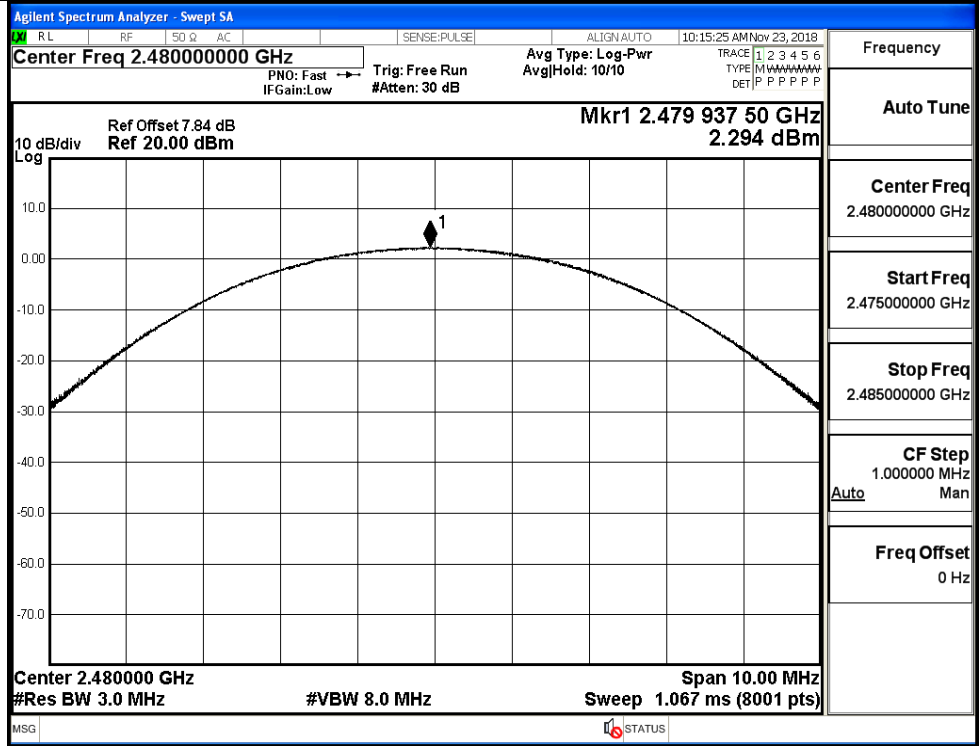
8DPSK/LCH



8DPSK/MCH

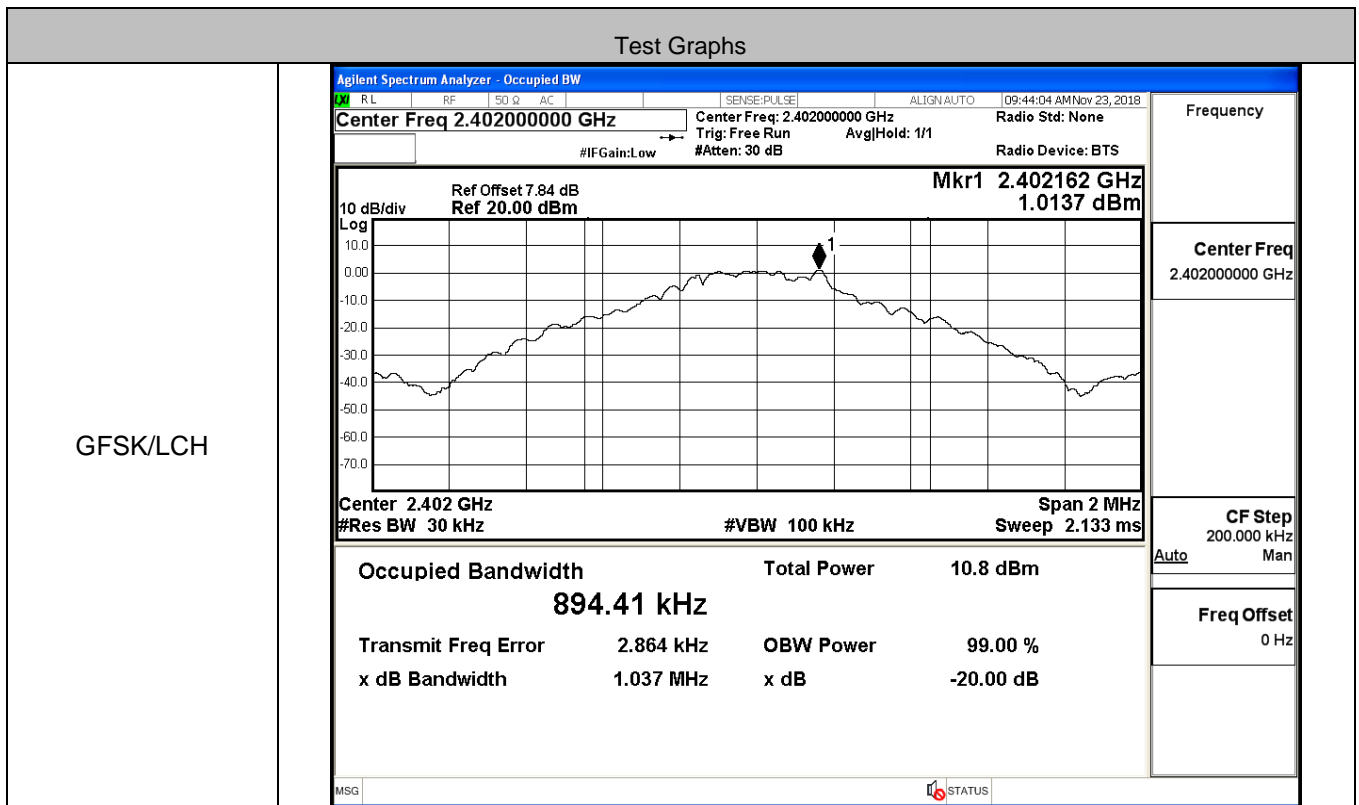


8DPSK/HCH

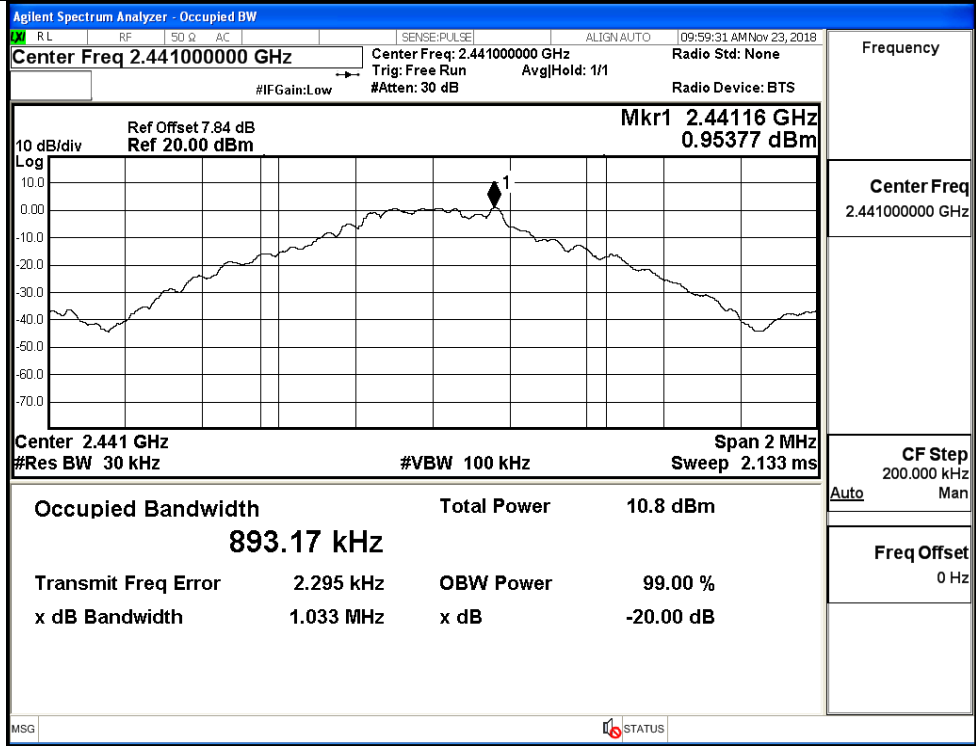


A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.037	Not Specified	PASS
	MCH	1.033	Not Specified	PASS
	HCH	1.036	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.291	Not Specified	PASS
	MCH	1.293	Not Specified	PASS
	HCH	1.290	Not Specified	PASS
8DPSK	LCH	1.297	Not Specified	PASS
	MCH	1.293	Not Specified	PASS
	HCH	1.295	Not Specified	PASS

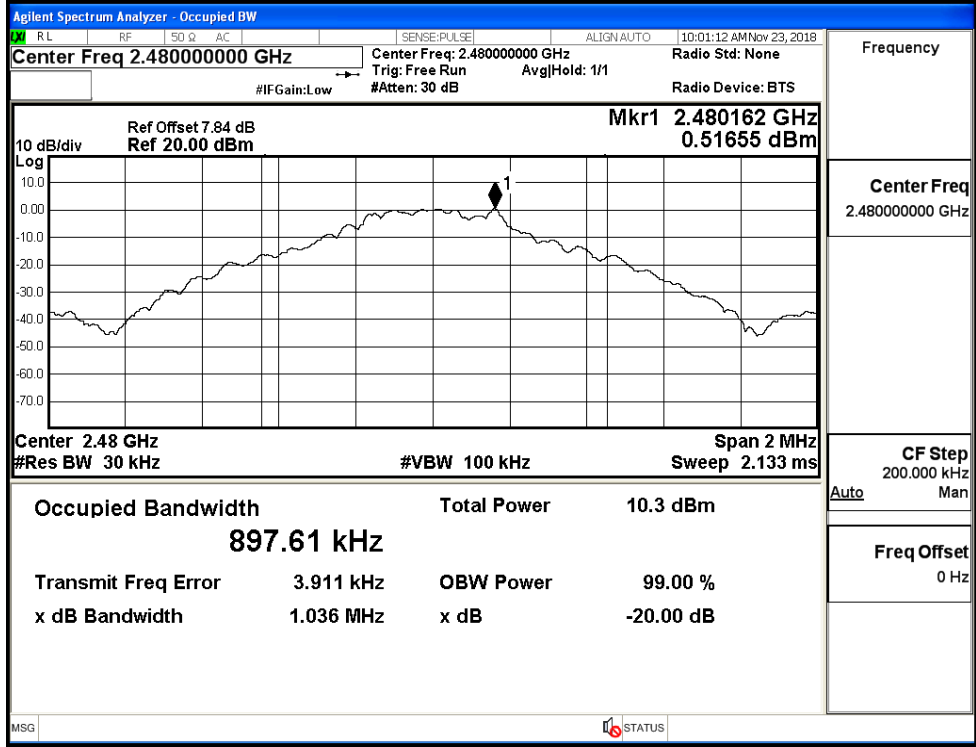


GFSK/MCH



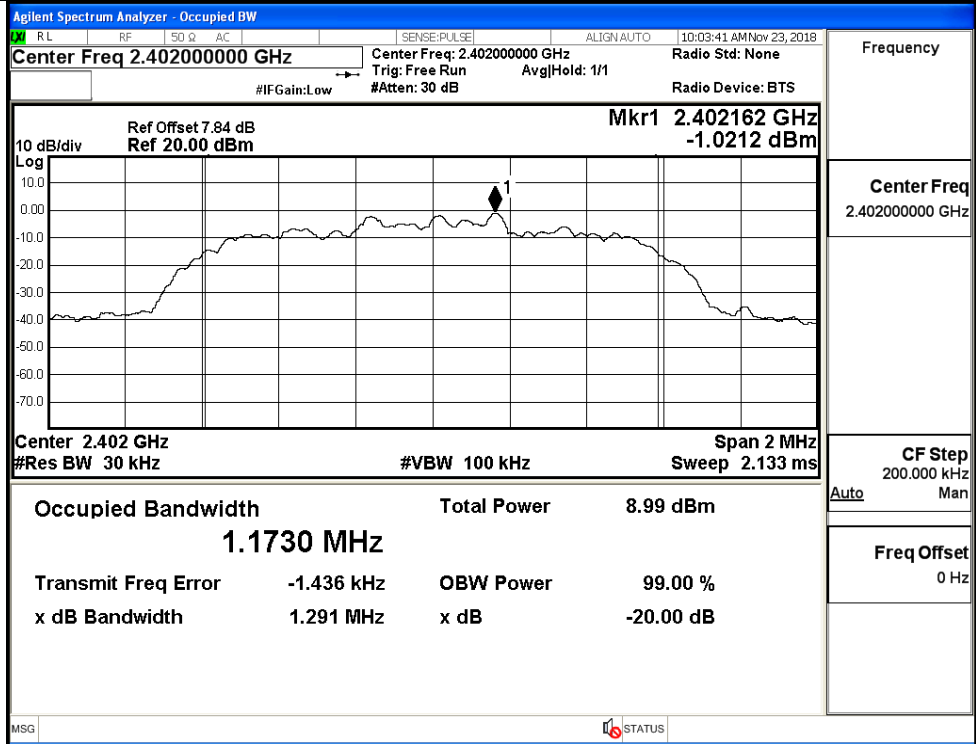
Frequency	2.441000000 GHz
Center Freq	2.441000000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

GFSK/HCH

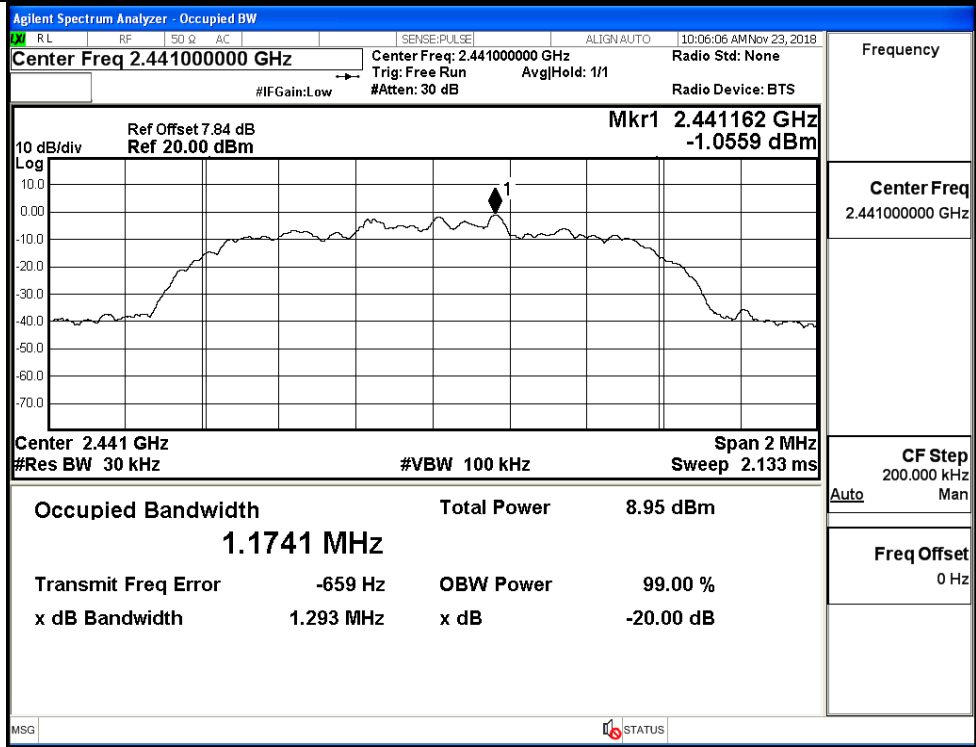


Frequency	2.480000000 GHz
Center Freq	2.480000000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

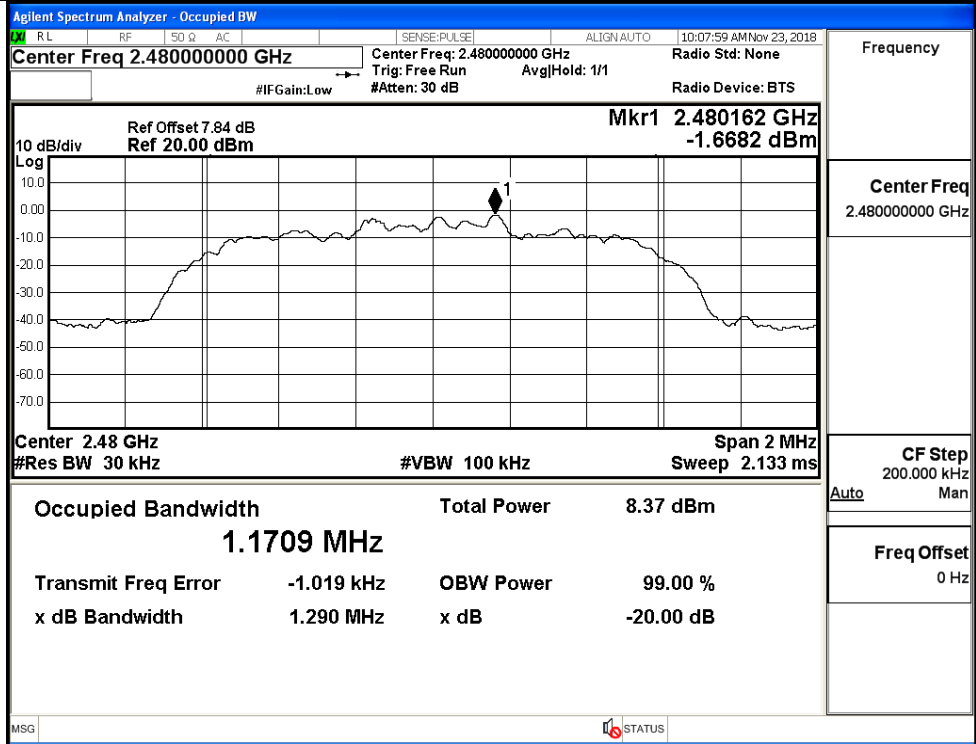
$\pi/4$ DQPSK/LCH



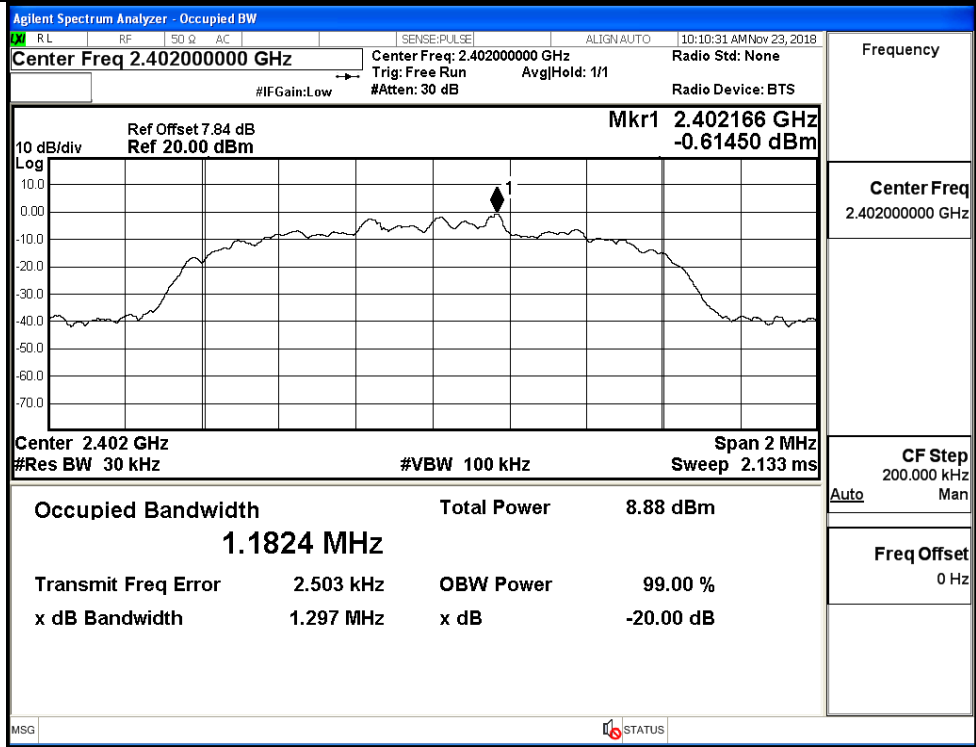
$\pi/4$ DQPSK/MCH



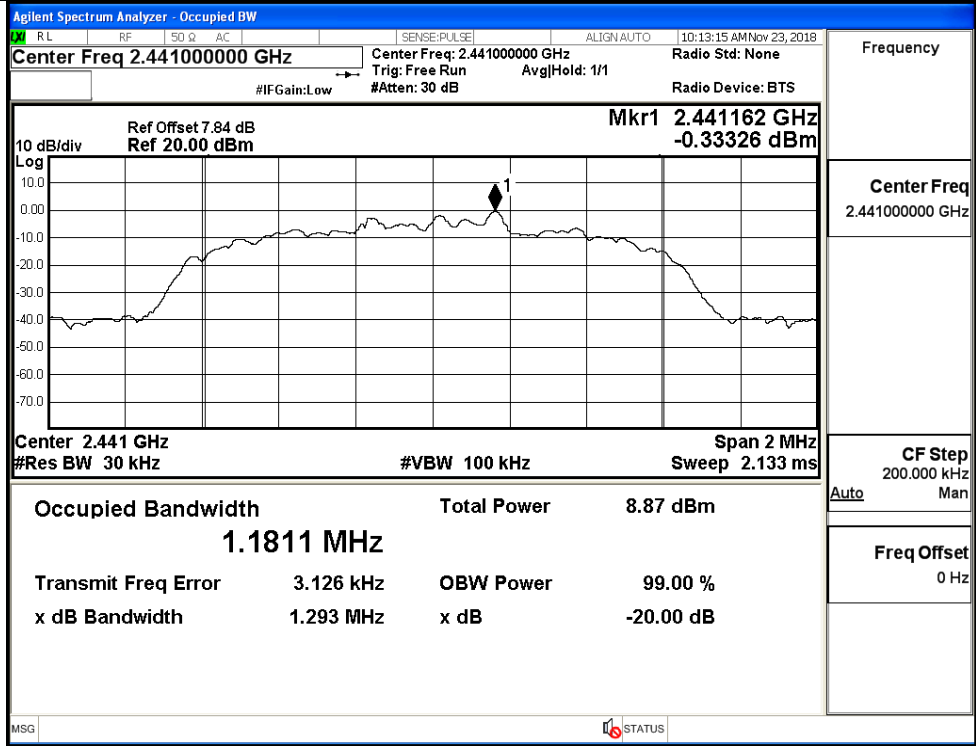
$\pi/4$ DQPSK/HCH



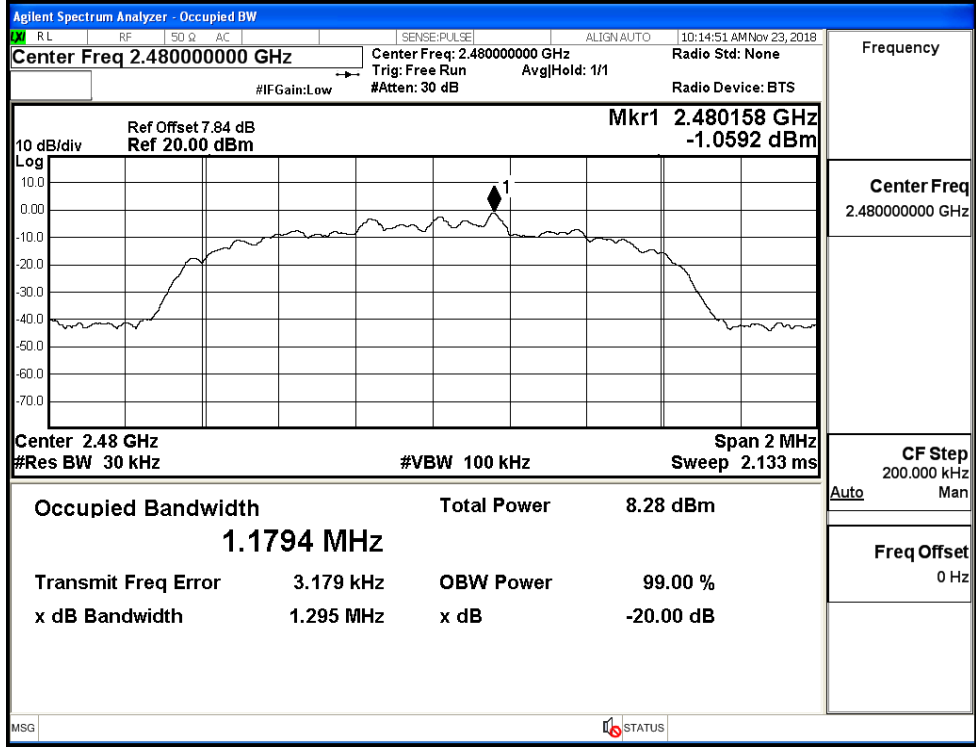
8DPSK/LCH



8DPSK/MCH

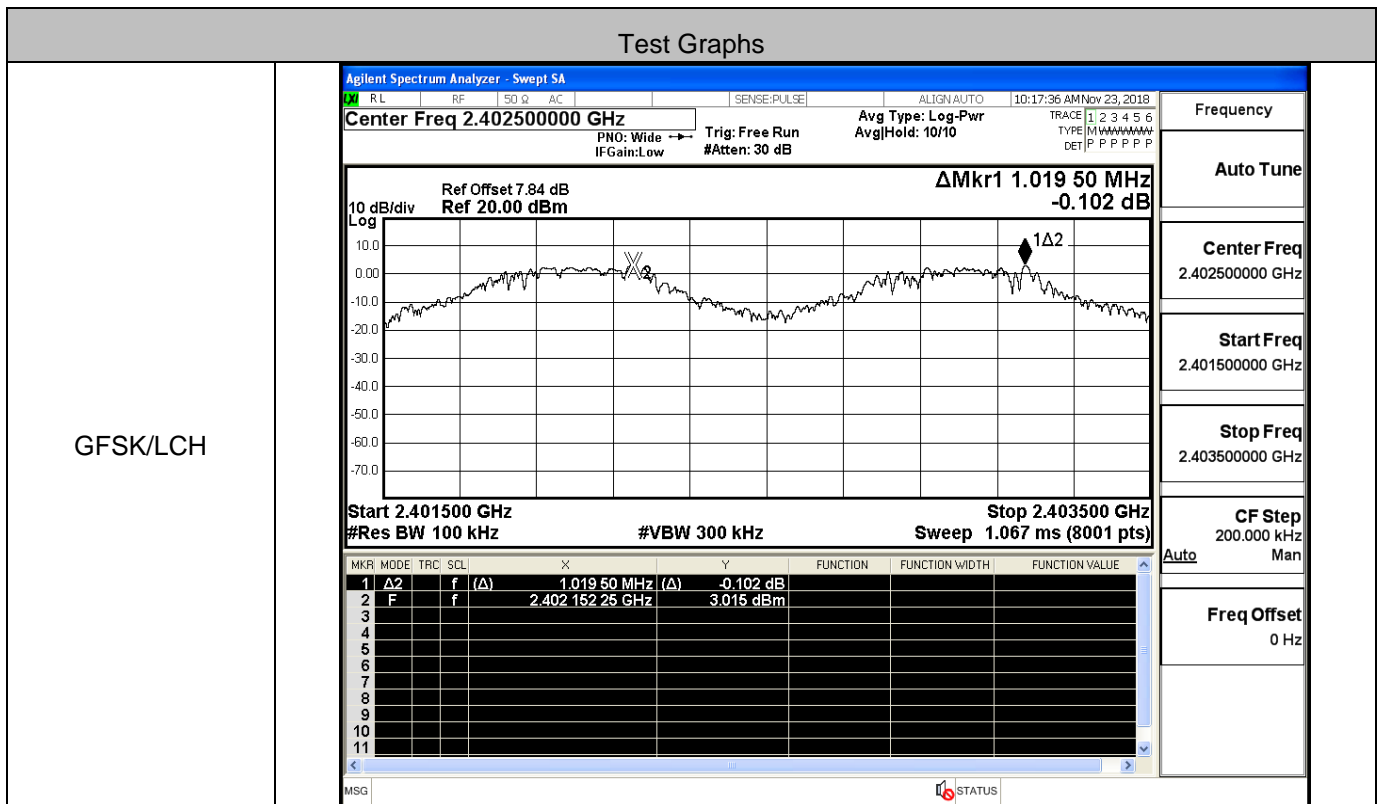


8DPSK/HCH

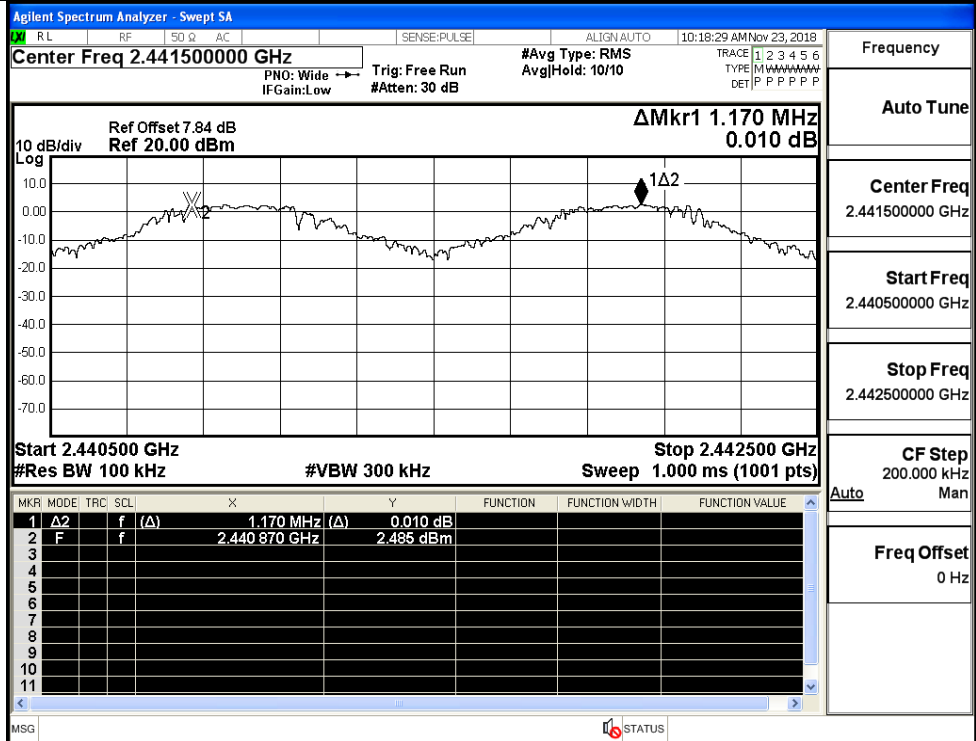


A.3 Carrier Frequency Separation

Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.019	0.691	PASS
	MCH	1.170	0.691	PASS
	HCH	0.894	0.691	PASS
π/4DQPSK	LCH	1.308	0.862	PASS
	MCH	1.020	0.862	PASS
	HCH	0.994	0.862	PASS
8DPSK	LCH	0.994	0.865	PASS
	MCH	1.062	0.865	PASS
	HCH	1.178	0.865	PASS



GFSK/MCH



Frequency

Auto Tune

Center Freq

2.441500000 GHz

Start Freq

2.440500000 GHz

Stop Freq

2.442500000 GHz

CF Step

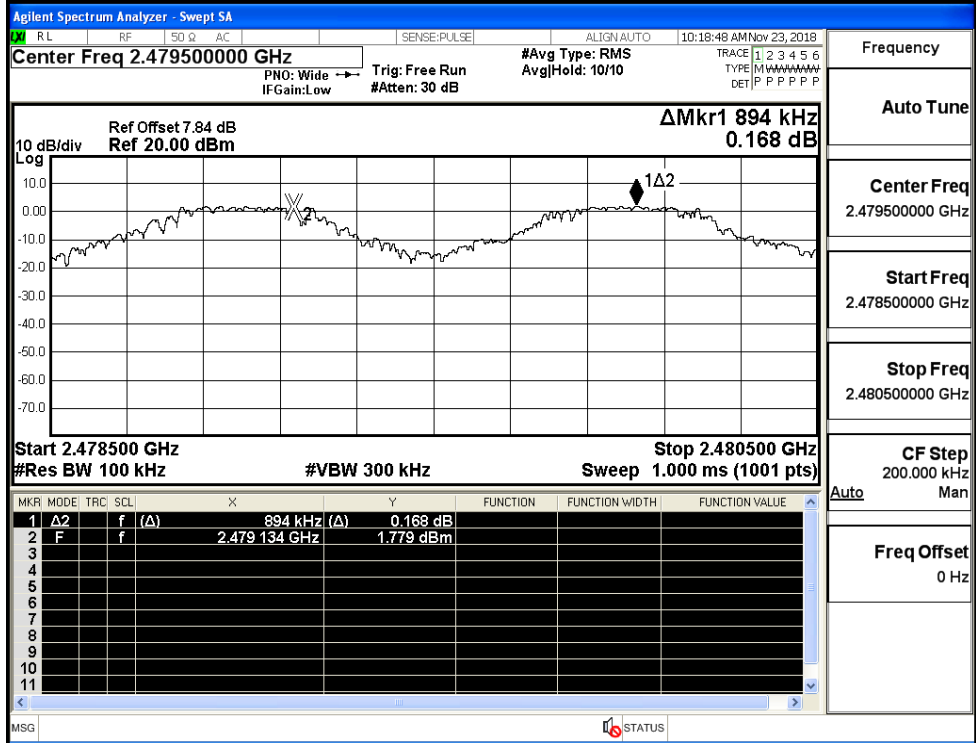
200.000 kHz

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

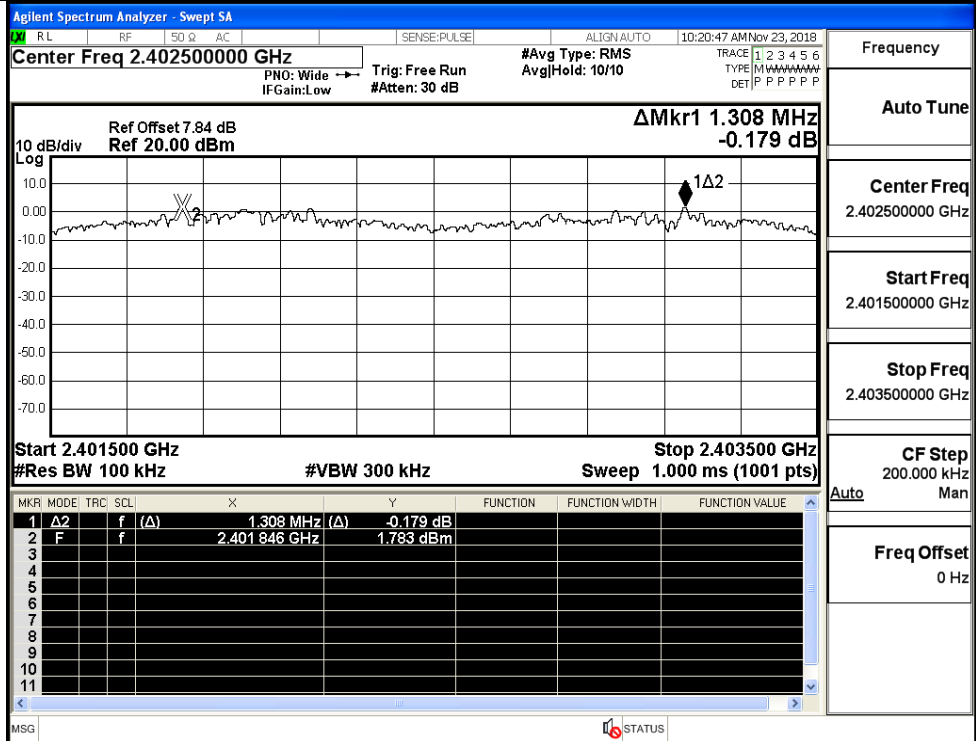
200.000 kHz

Auto

Freq Offset

0 Hz

$\pi/4$ DQPSK/LCH



Frequency

Auto Tune

Center Freq
2.402500000 GHz

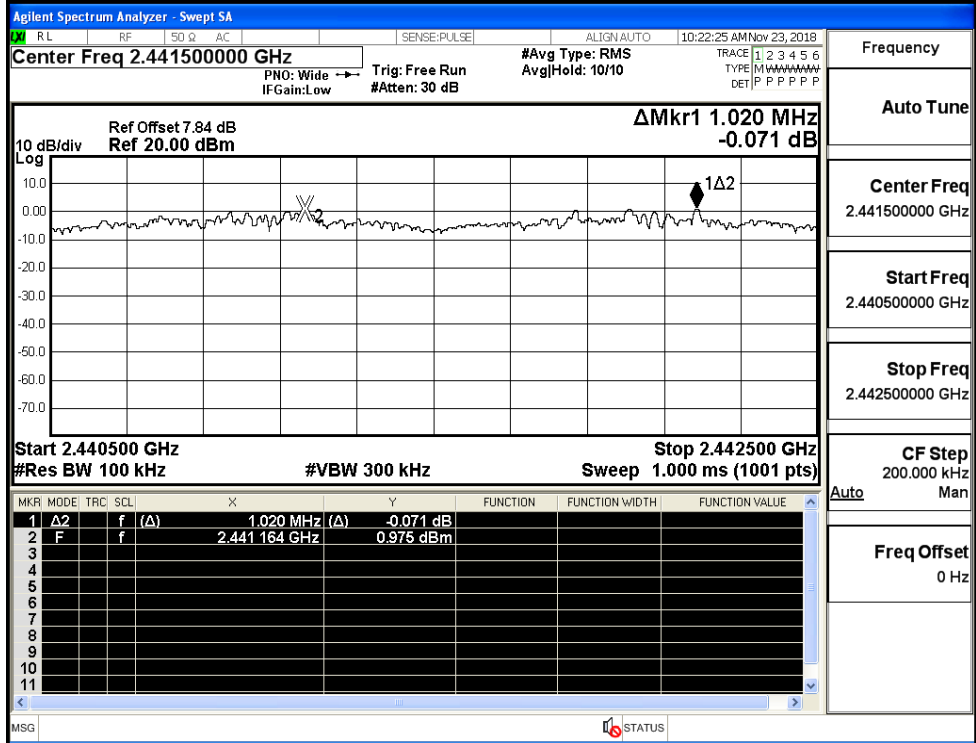
Start Freq
2.401500000 GHz

Stop Freq
2.403500000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

$\pi/4$ DQPSK/MCH



Frequency

Auto Tune

Center Freq
2.441500000 GHz

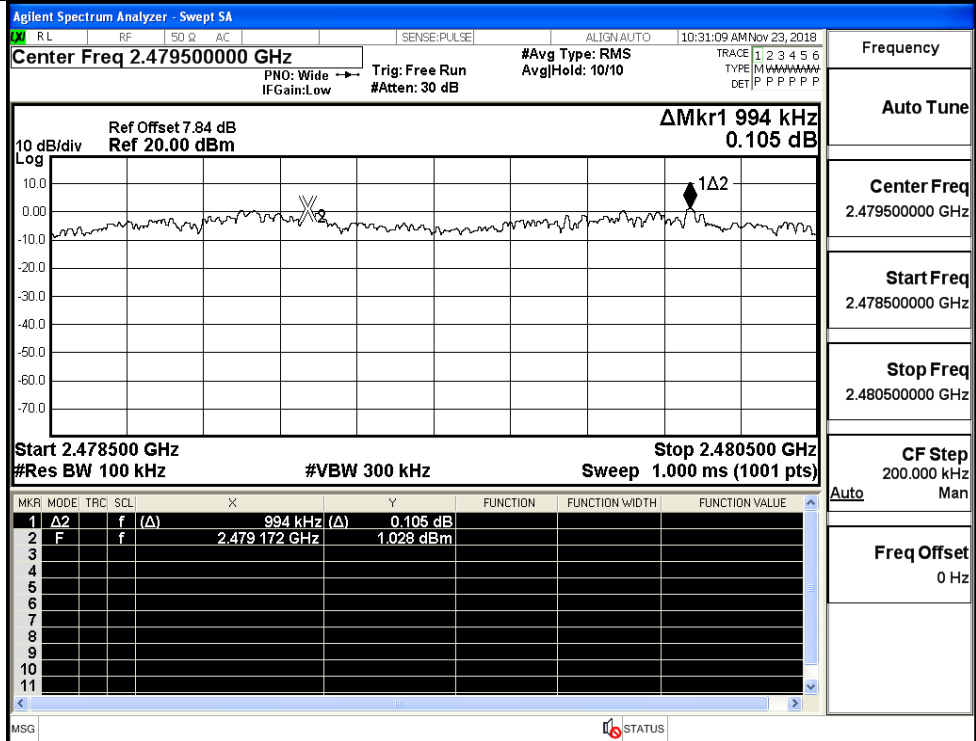
Start Freq
2.440500000 GHz

Stop Freq
2.442500000 GHz

CF Step
200.000 kHz
Auto Man

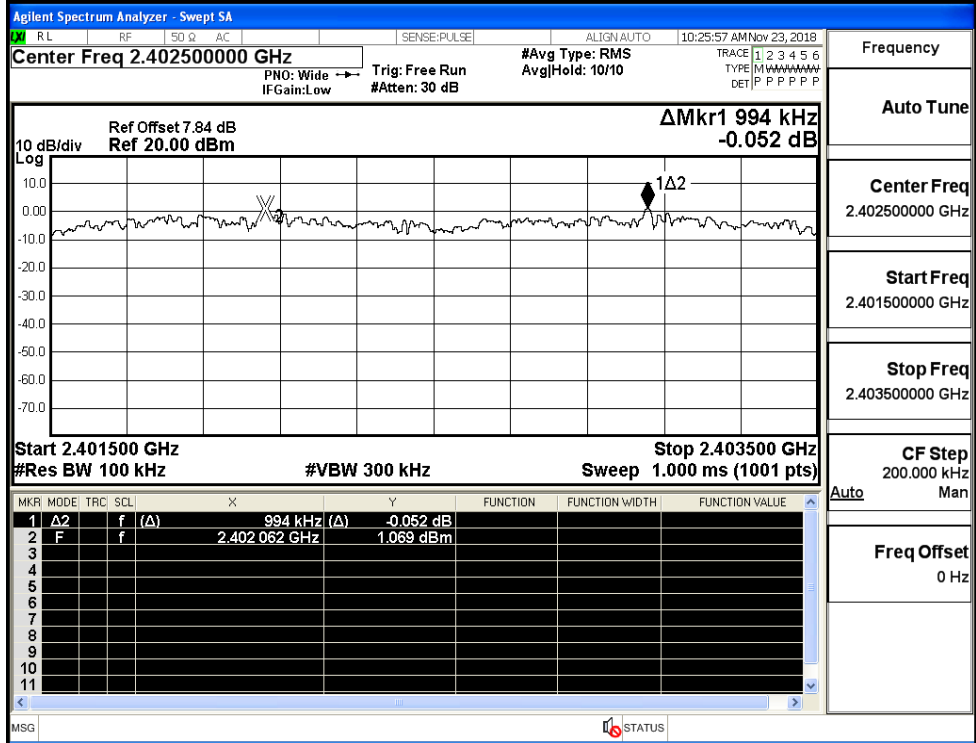
Freq Offset
0 Hz

π/4DQPSK/HCH



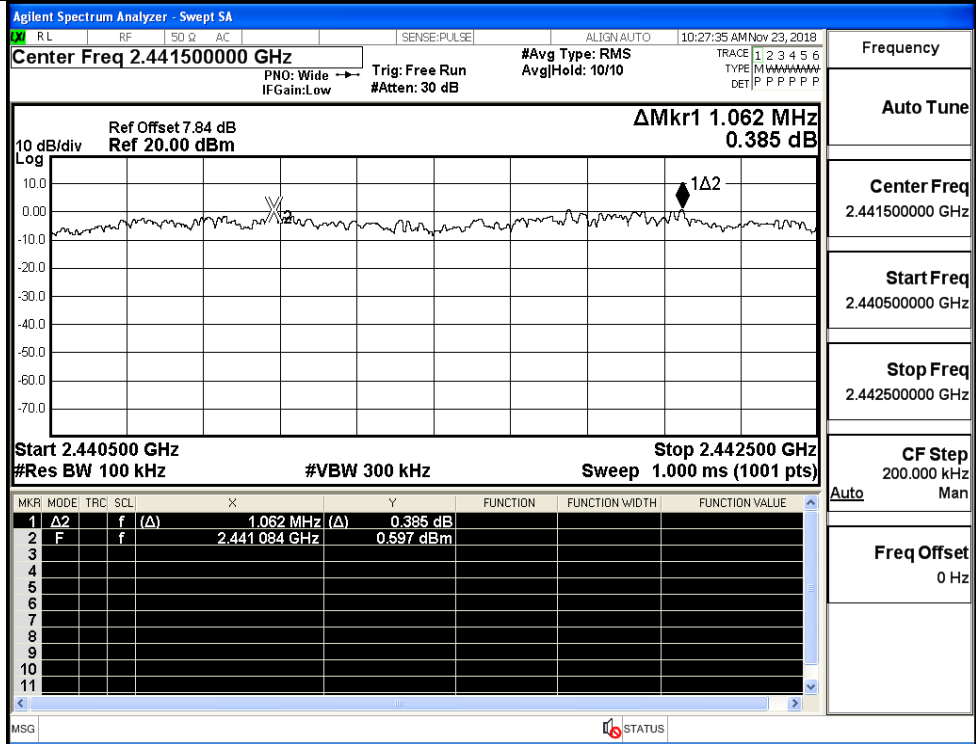
Frequency
Auto Tune
Center Freq
2.479500000 GHz
Start Freq
2.478500000 GHz
Stop Freq
2.480500000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

8DPSK/LCH

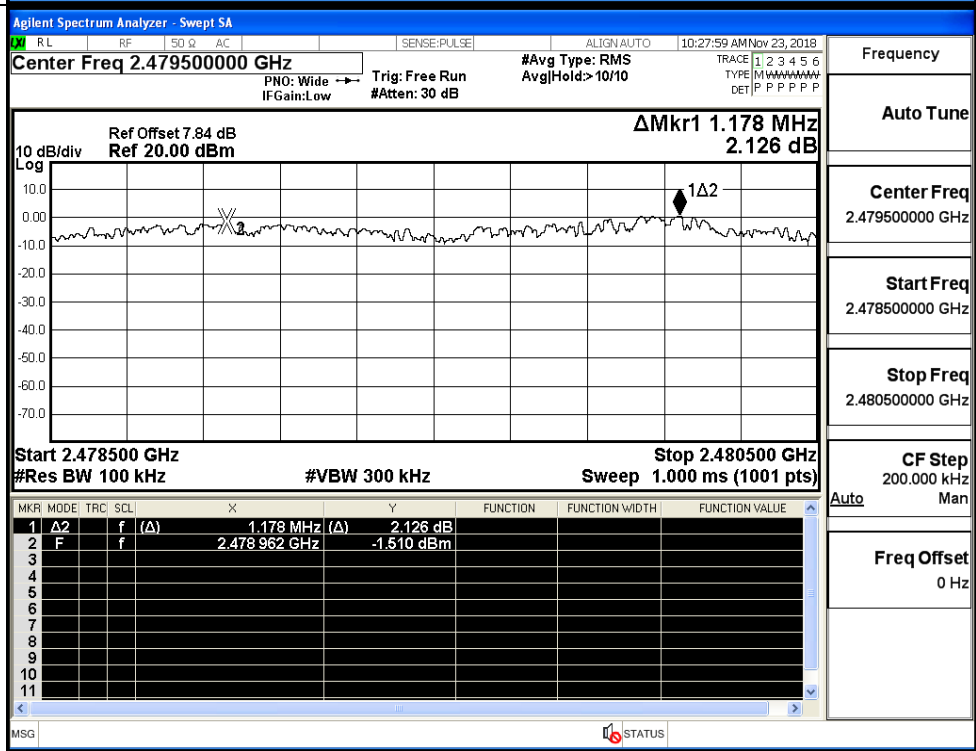


Frequency
Auto Tune
Center Freq
2.402500000 GHz
Start Freq
2.401500000 GHz
Stop Freq
2.403500000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

8DPSK/MCH



8DPSK/HCH

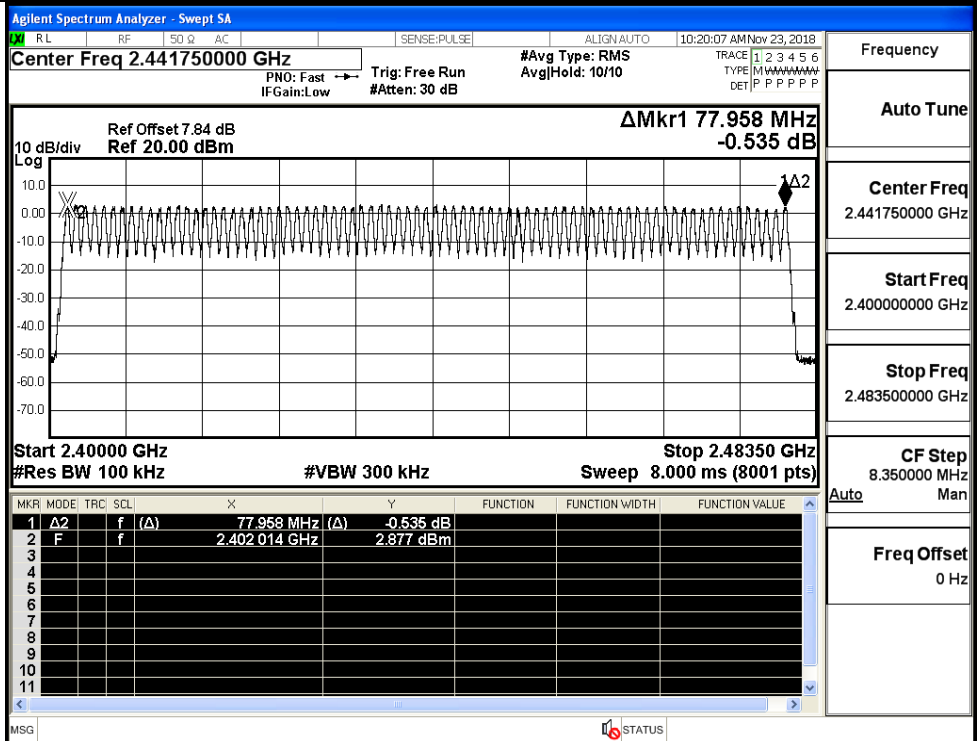


A.4 Hopping Channel Number

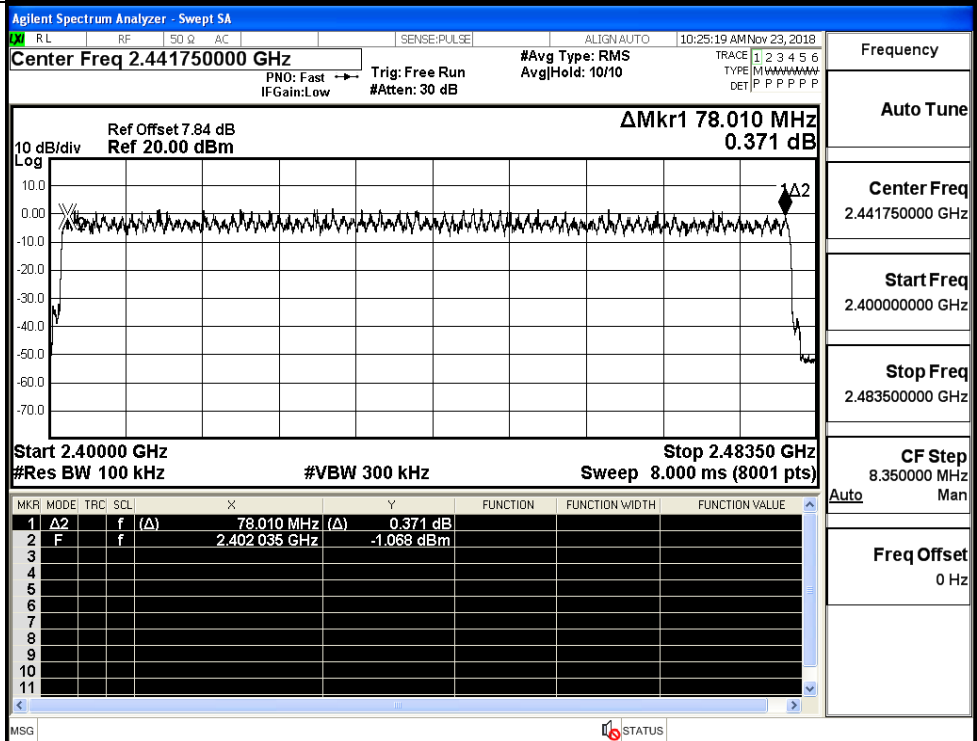
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

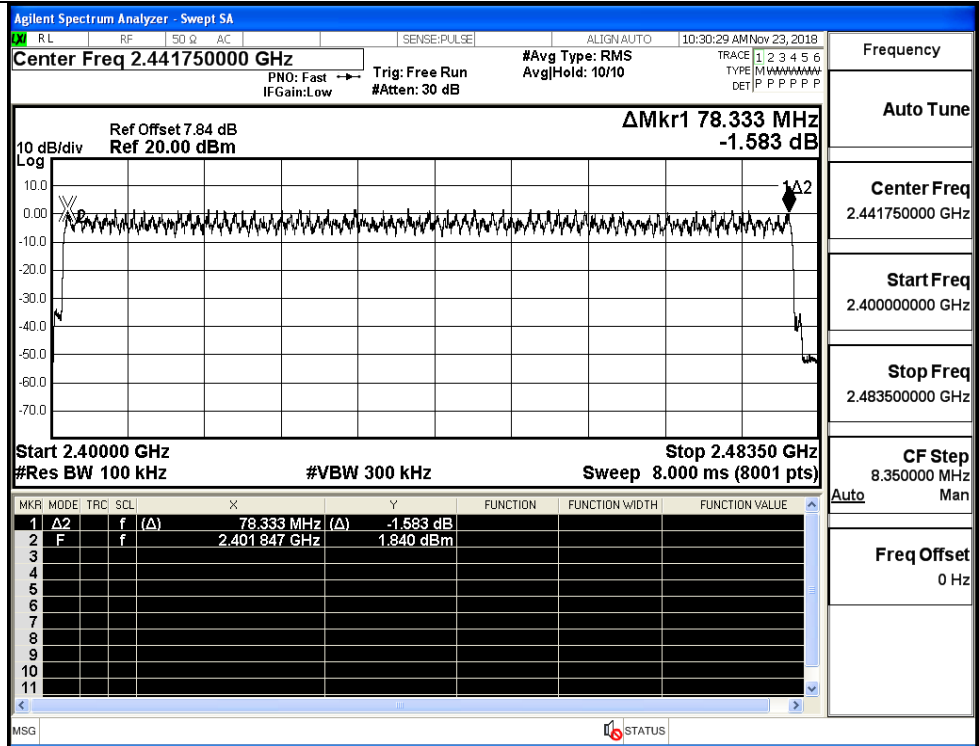
GFSK/Hop



$\pi/4$ DQPSK/Hop

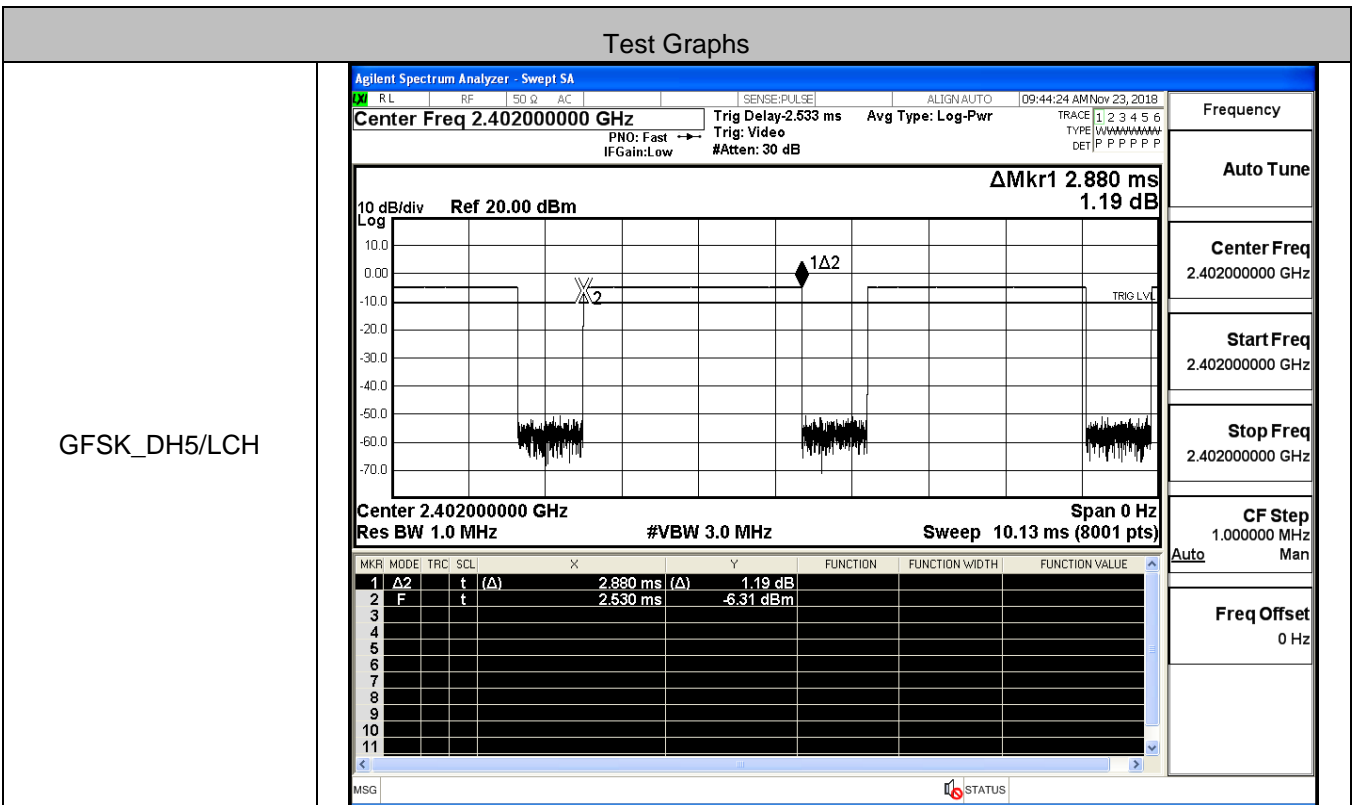


8DPSK/Hop

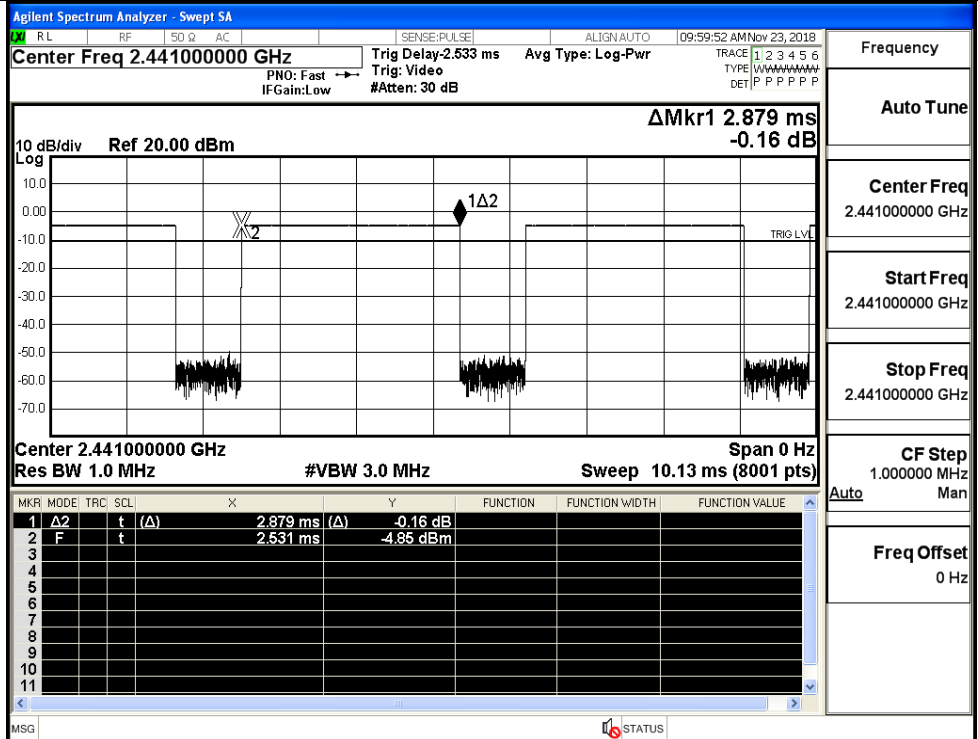


A.5 Dwell Time

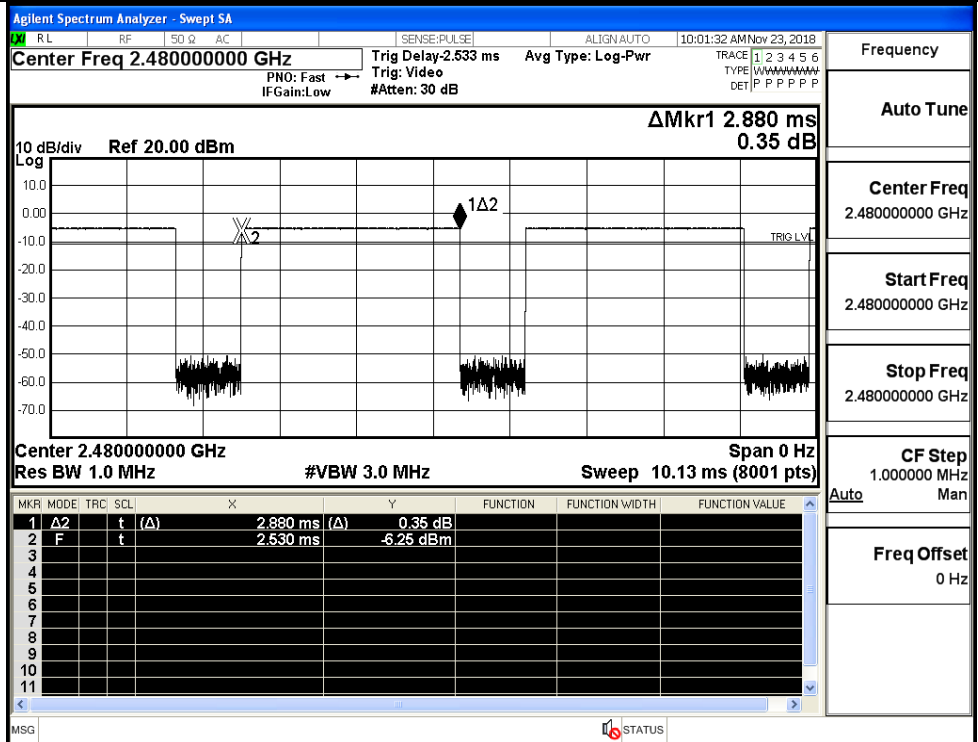
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
π/4DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7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



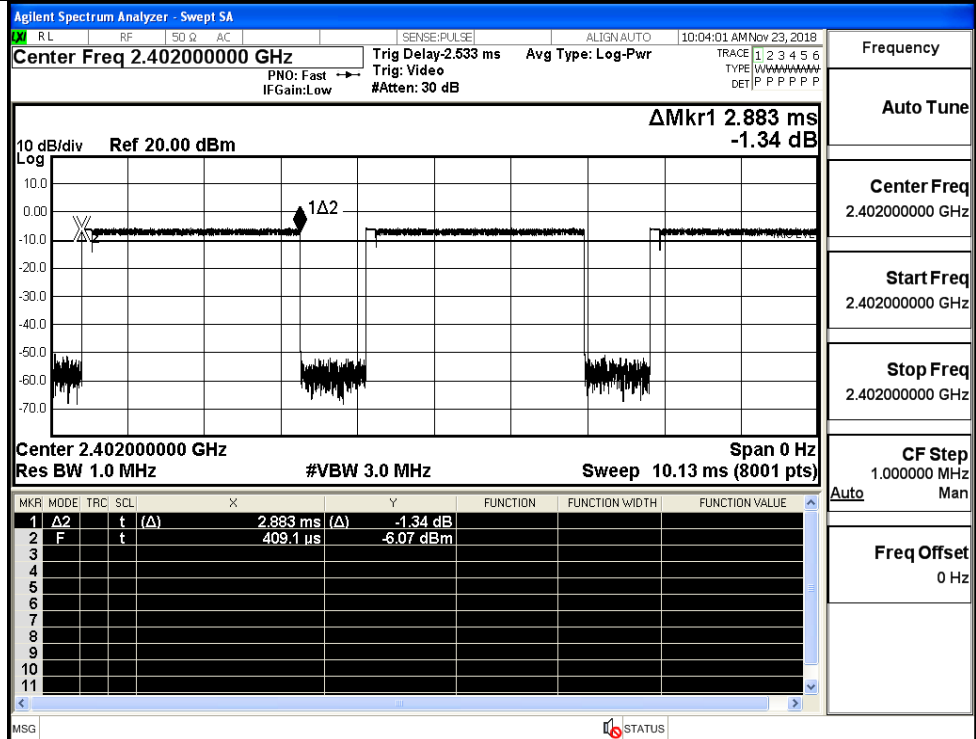
GFSK_DH5/MCH



GFSK_DH5/HCH

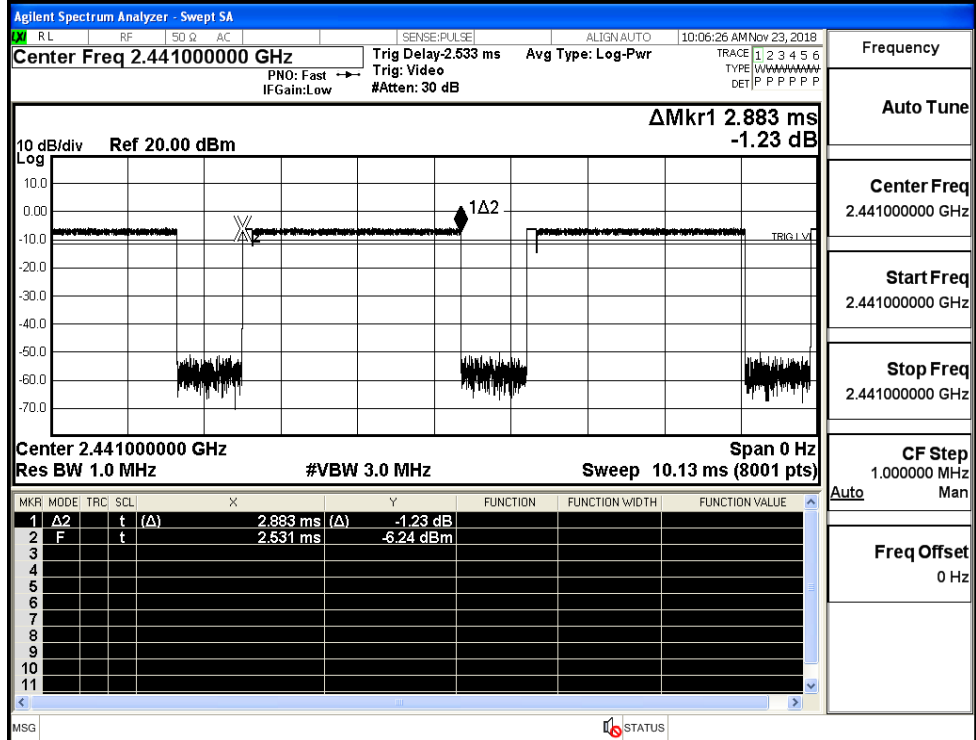


$\pi/4$ DQPSK
_2DH5/LCH



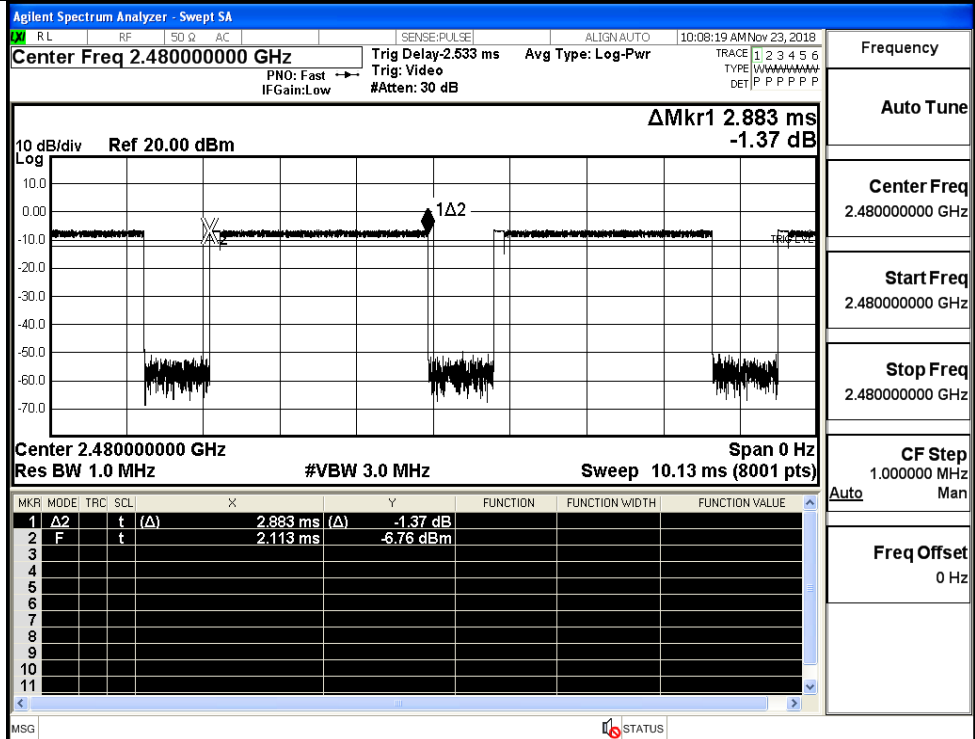
Frequency	2.40200000 GHz
Auto Tune	
Center Freq	2.40200000 GHz
Start Freq	2.40200000 GHz
Stop Freq	2.40200000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

$\pi/4$ DQPSK
_2DH5/MCH



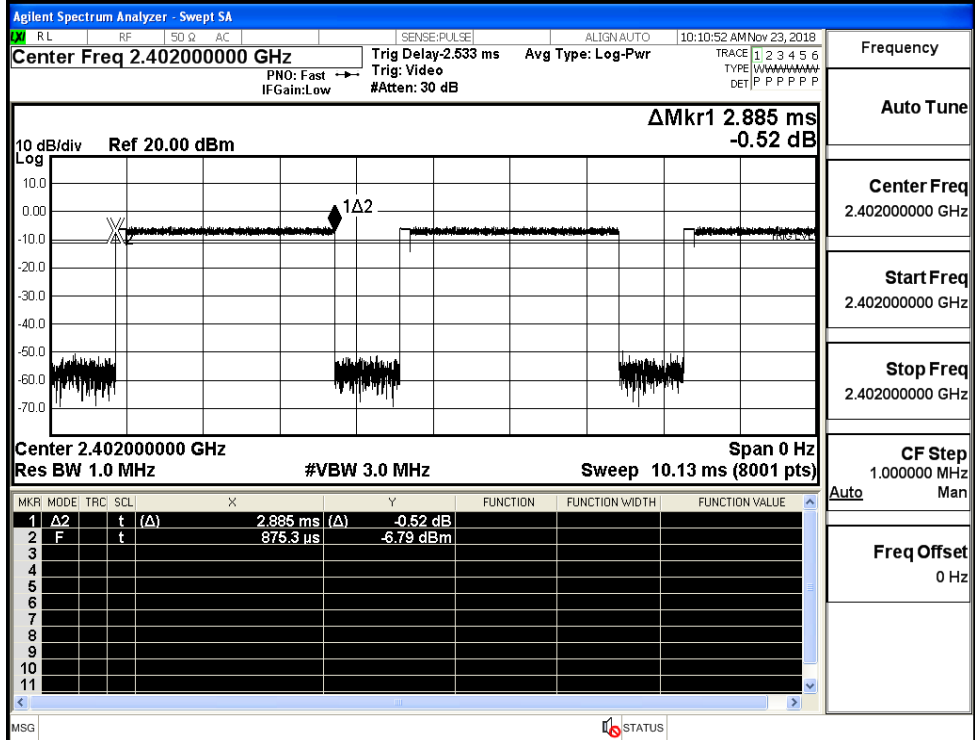
Frequency	2.44100000 GHz
Auto Tune	
Center Freq	2.44100000 GHz
Start Freq	2.44100000 GHz
Stop Freq	2.44100000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

$\pi/4$ DQPSK
_2DH5/HCH



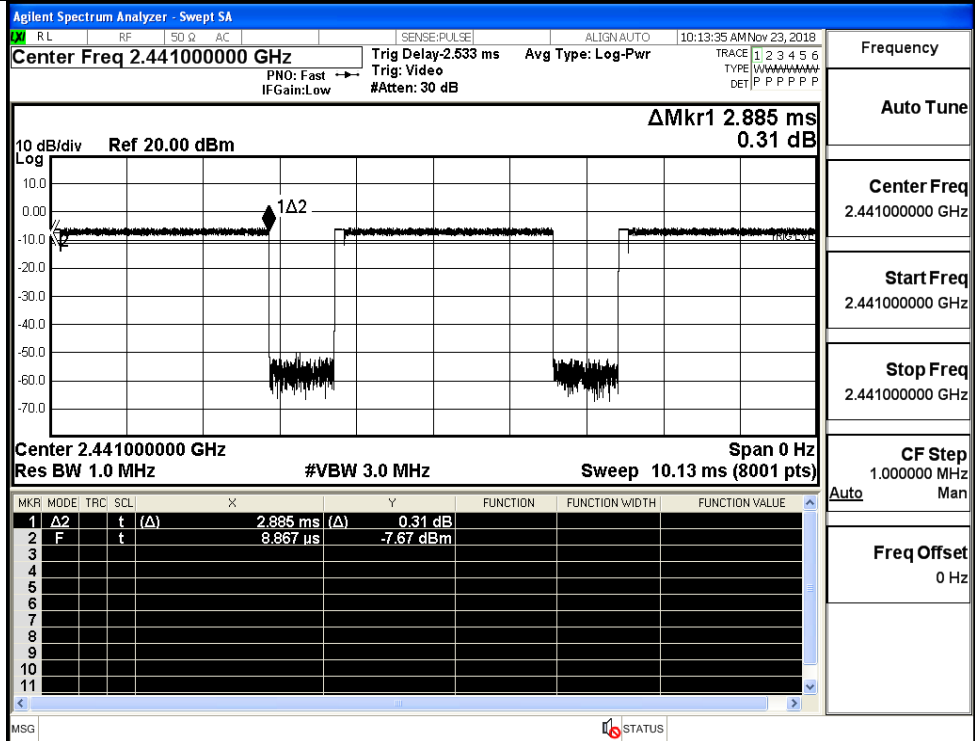
Frequency	
Auto Tune	
Center Freq	2.480000000 GHz
Start Freq	2.480000000 GHz
Stop Freq	2.480000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

8DPSK_3DH5/LCH



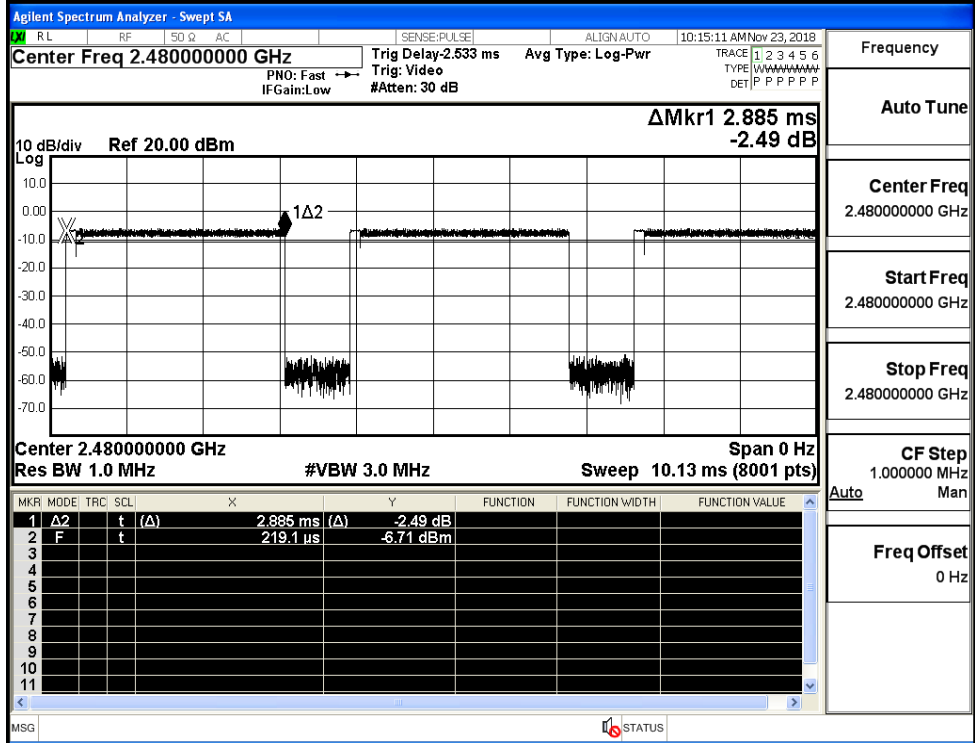
Frequency	
Auto Tune	
Center Freq	2.402000000 GHz
Start Freq	2.402000000 GHz
Stop Freq	2.402000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

8DPSK_3DH5/MCH



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

8DPSK_3DH5/HCH

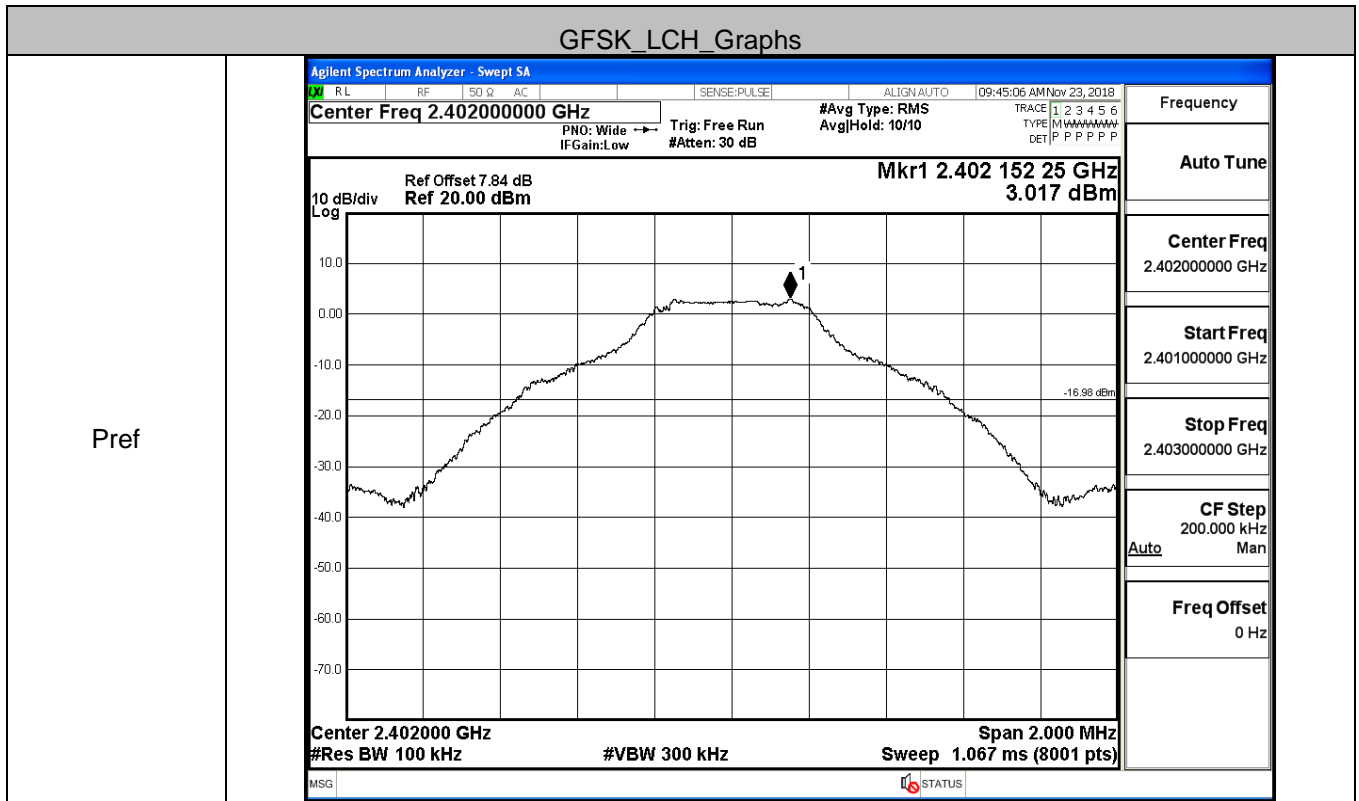


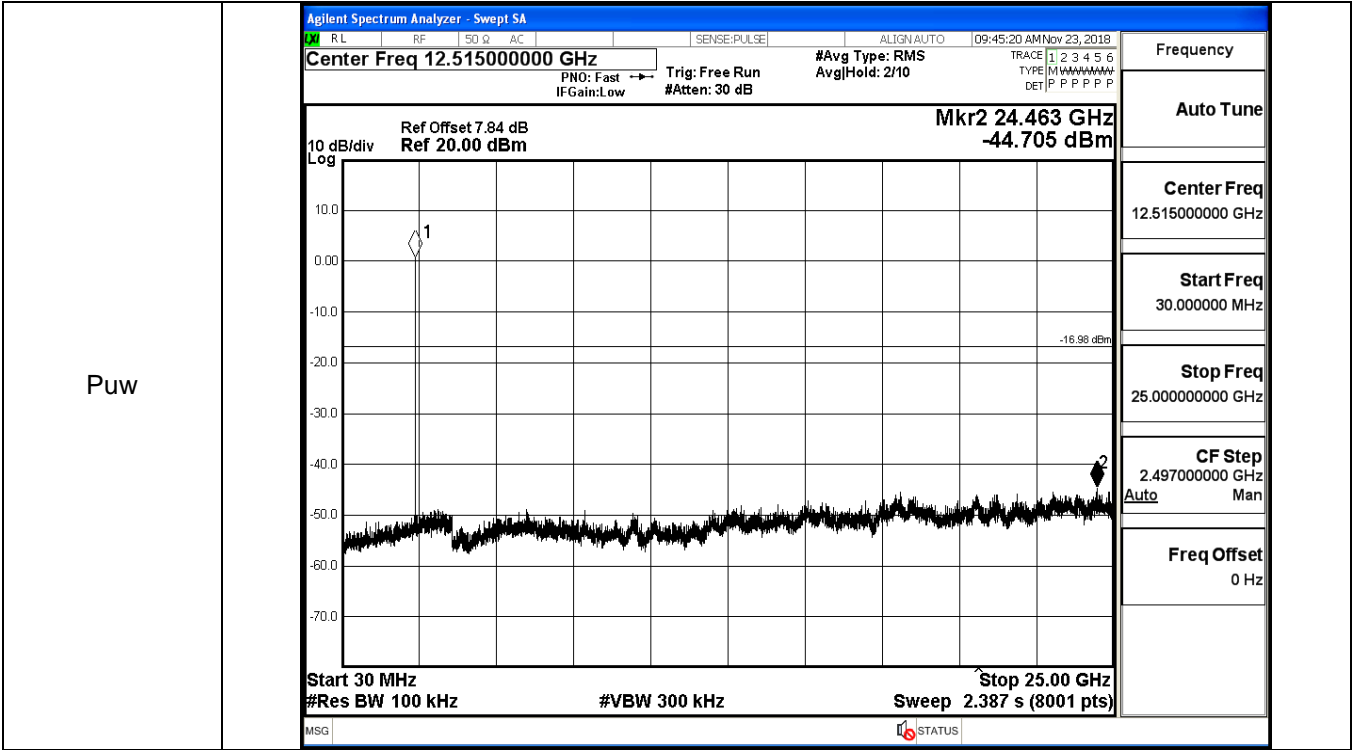
Frequency	
Auto Tune	
Center Freq	2.480000000 GHz
Start Freq	2.480000000 GHz
Stop Freq	2.480000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

A.6 RF Conducted Spurious Emissions

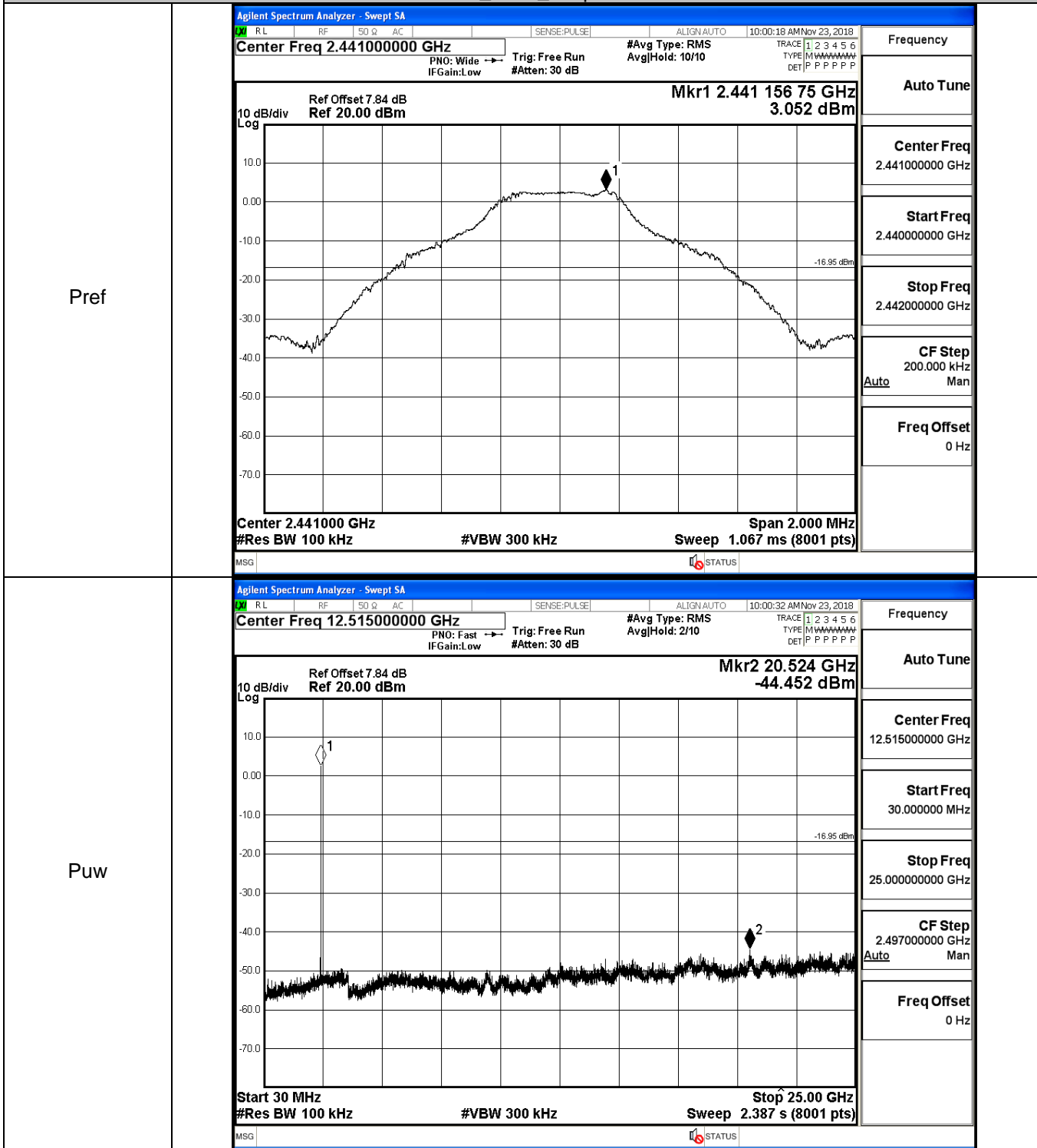
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.017	-44.705	-16.983	PASS
	MCH	3.052	-44.452	-16.948	PASS
	HCH	2.438	-44.177	-17.562	PASS
π /4DQPSK	LCH	1.623	-44.377	-18.377	PASS
	MCH	1.609	-43.661	-18.391	PASS
	HCH	1.183	-44.760	-18.817	PASS
8DPSK	LCH	1.606	-44.671	-18.394	PASS
	MCH	1.649	-44.299	-18.351	PASS
	HCH	1.193	-45.053	-18.807	PASS

GFSK_LCH_Graphs



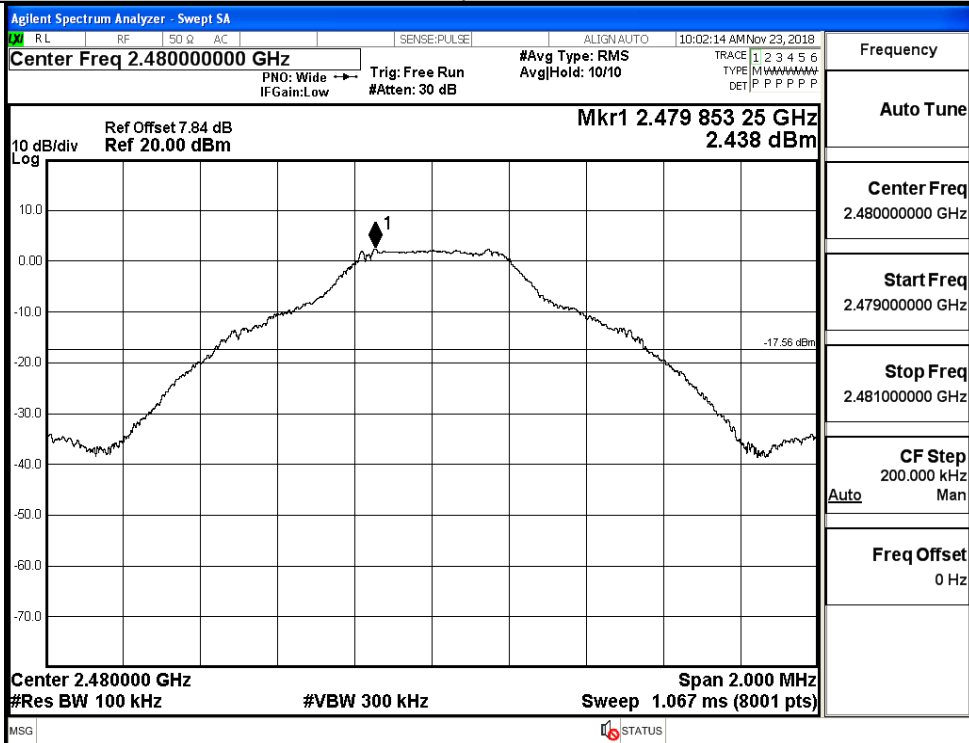


GFSK_MCH_Graphs

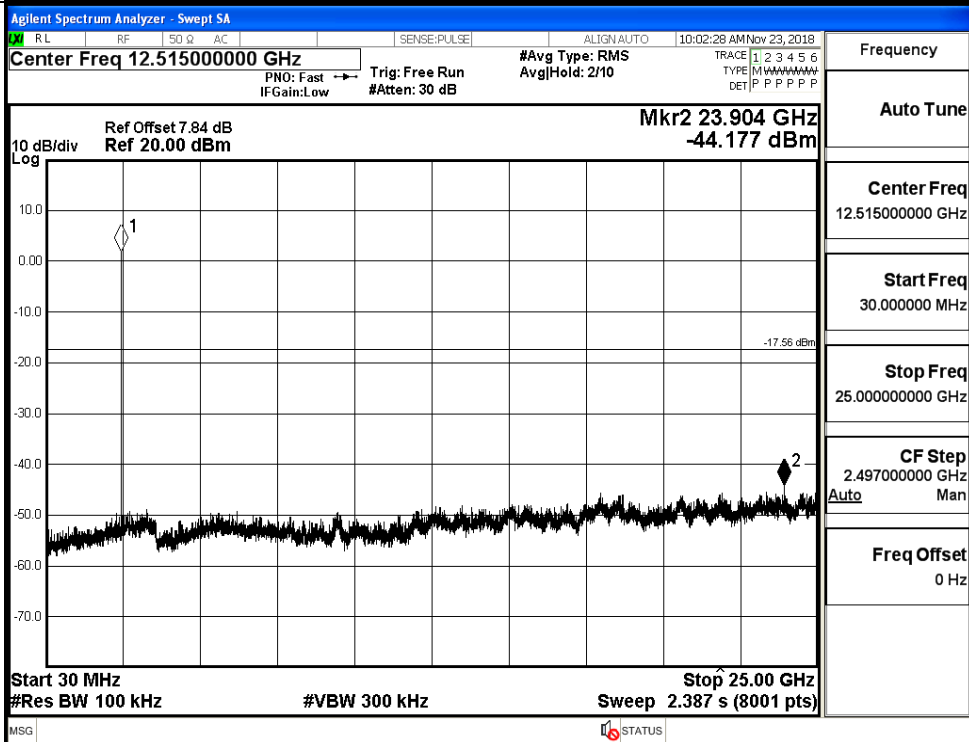


GFSK_HCH_Graphs

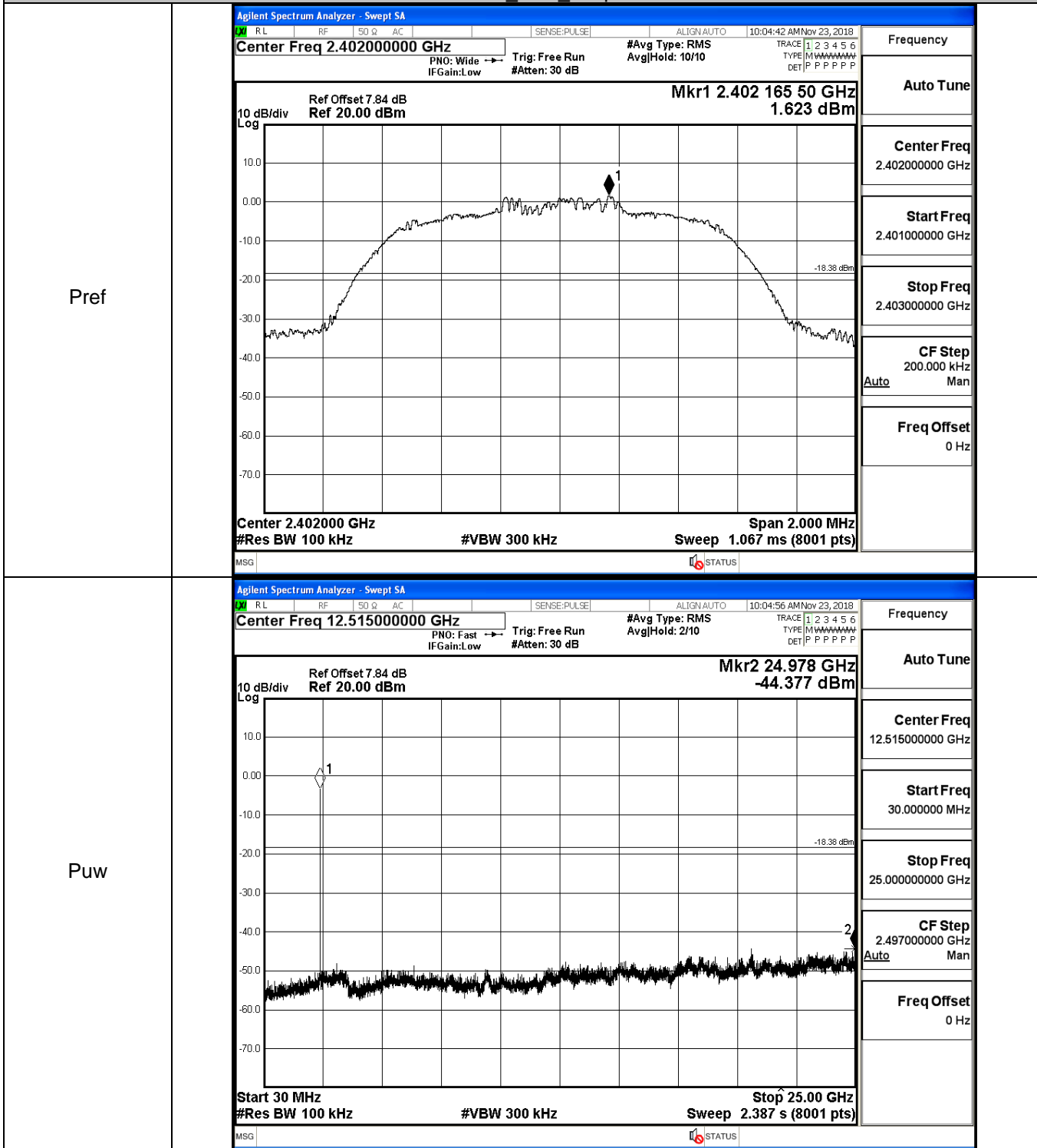
Pref



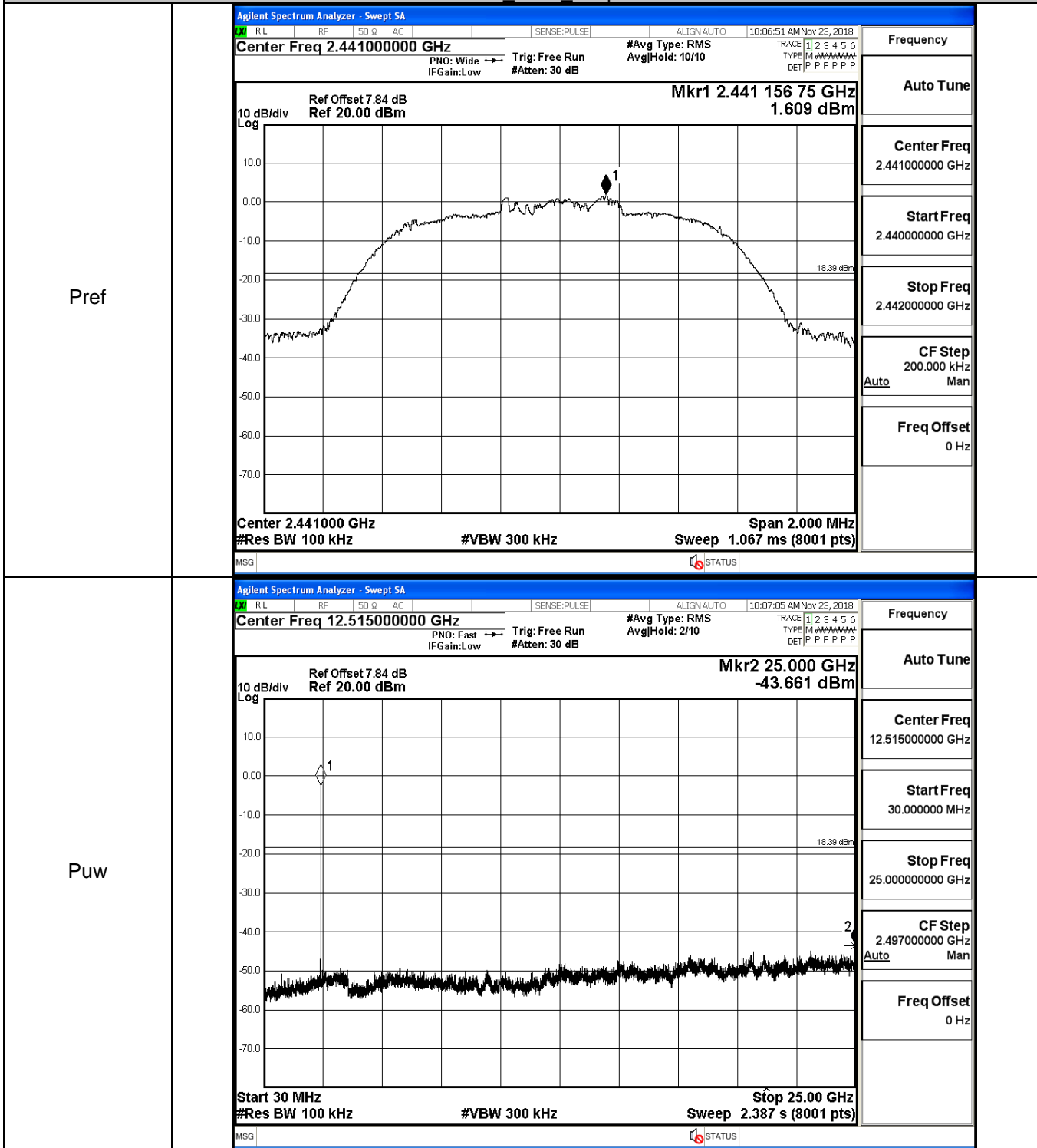
Puw



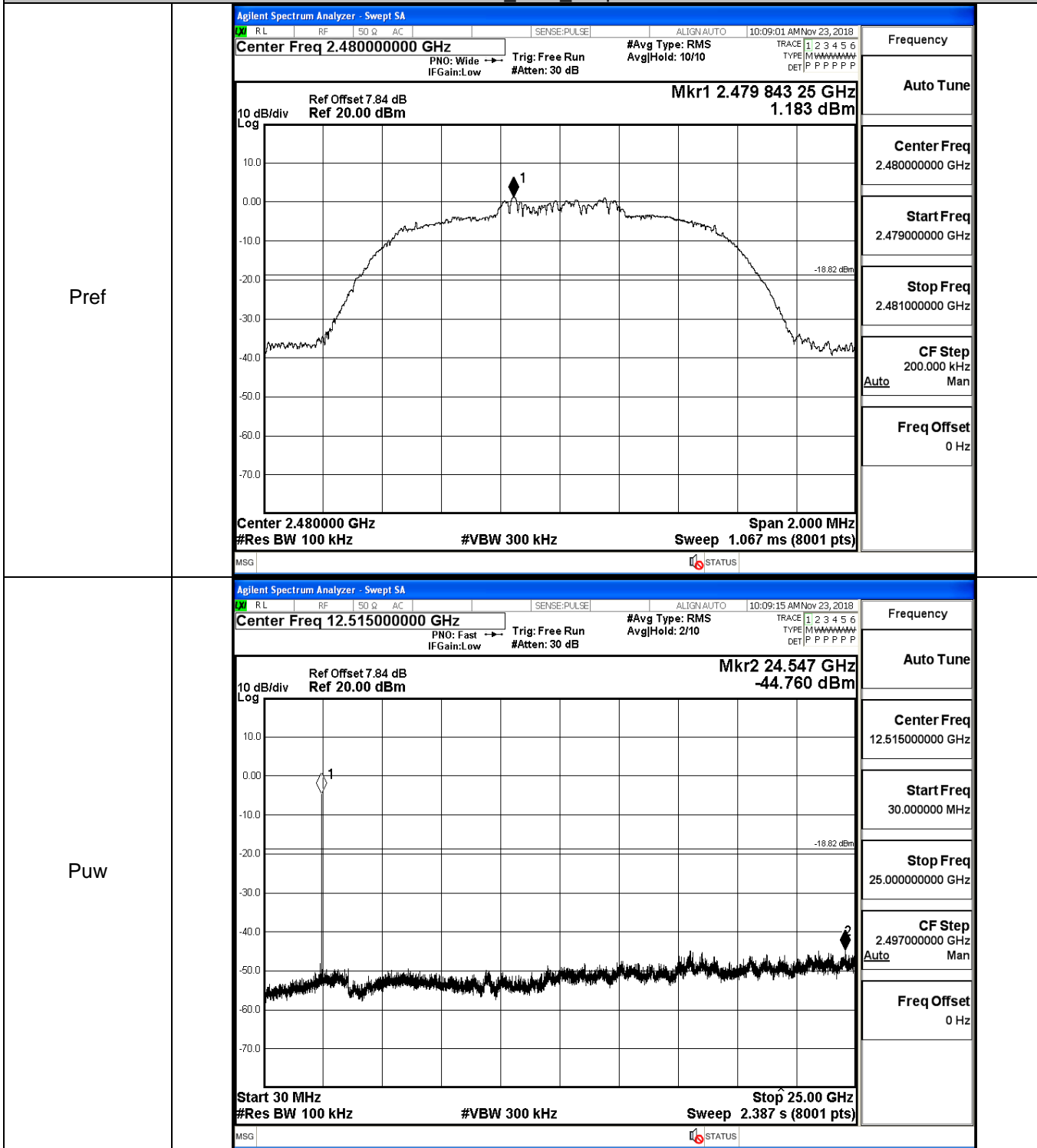
$\pi/4$ DQPSK_LCH_Graphs



$\pi/4$ DQPSK_MCH_Graphs

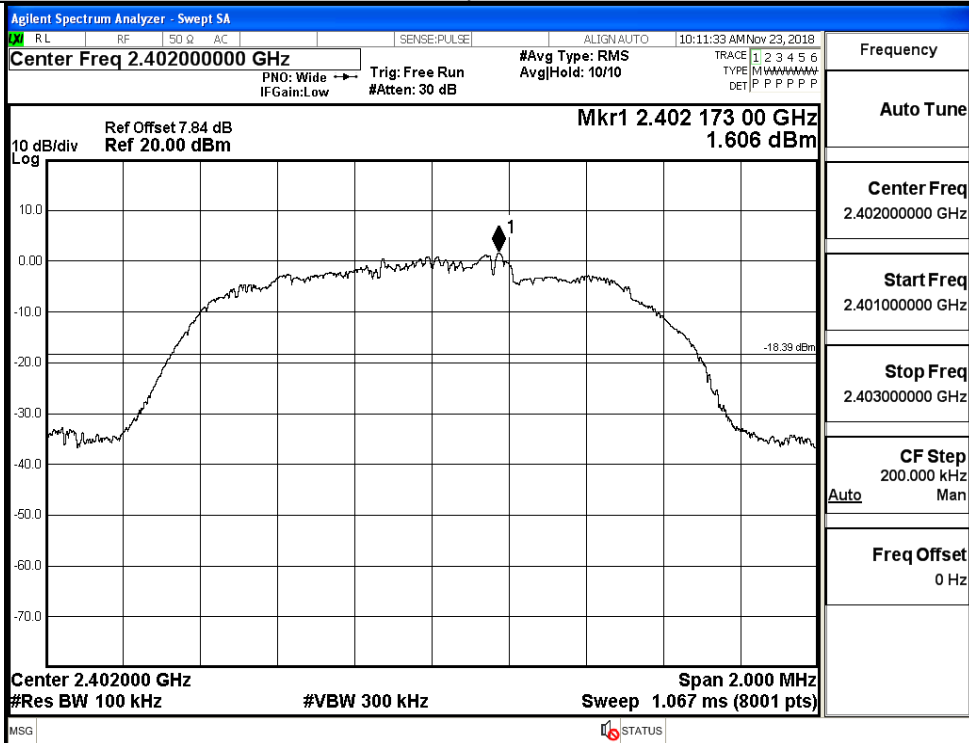


$\pi/4$ DQPSK_HCH_Graphs

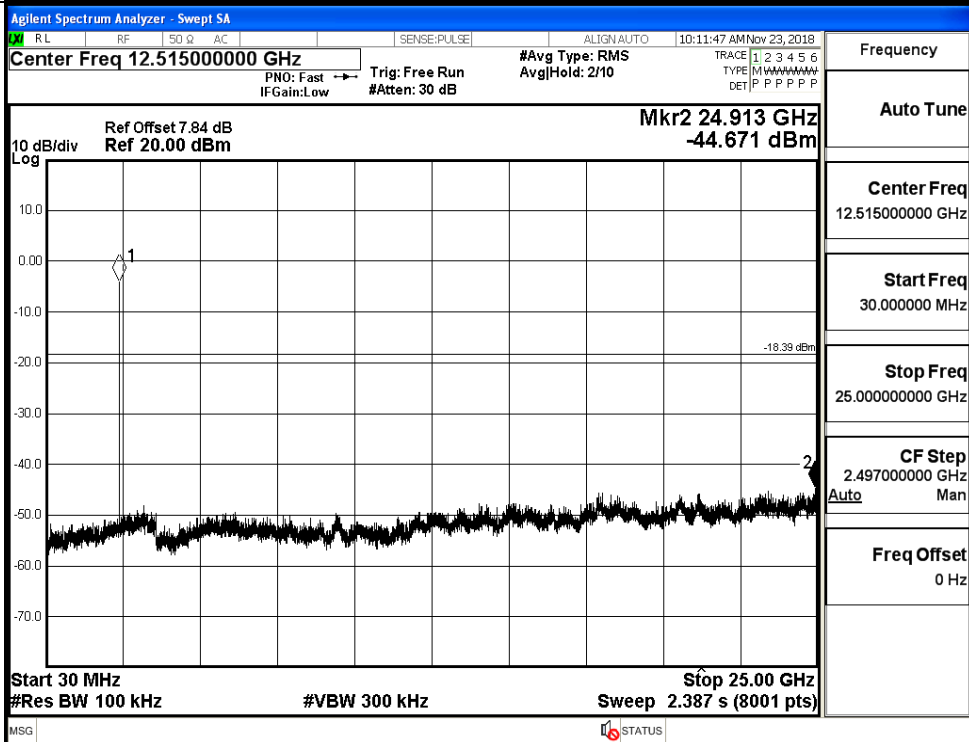


8DPSK_LCH_Graphs

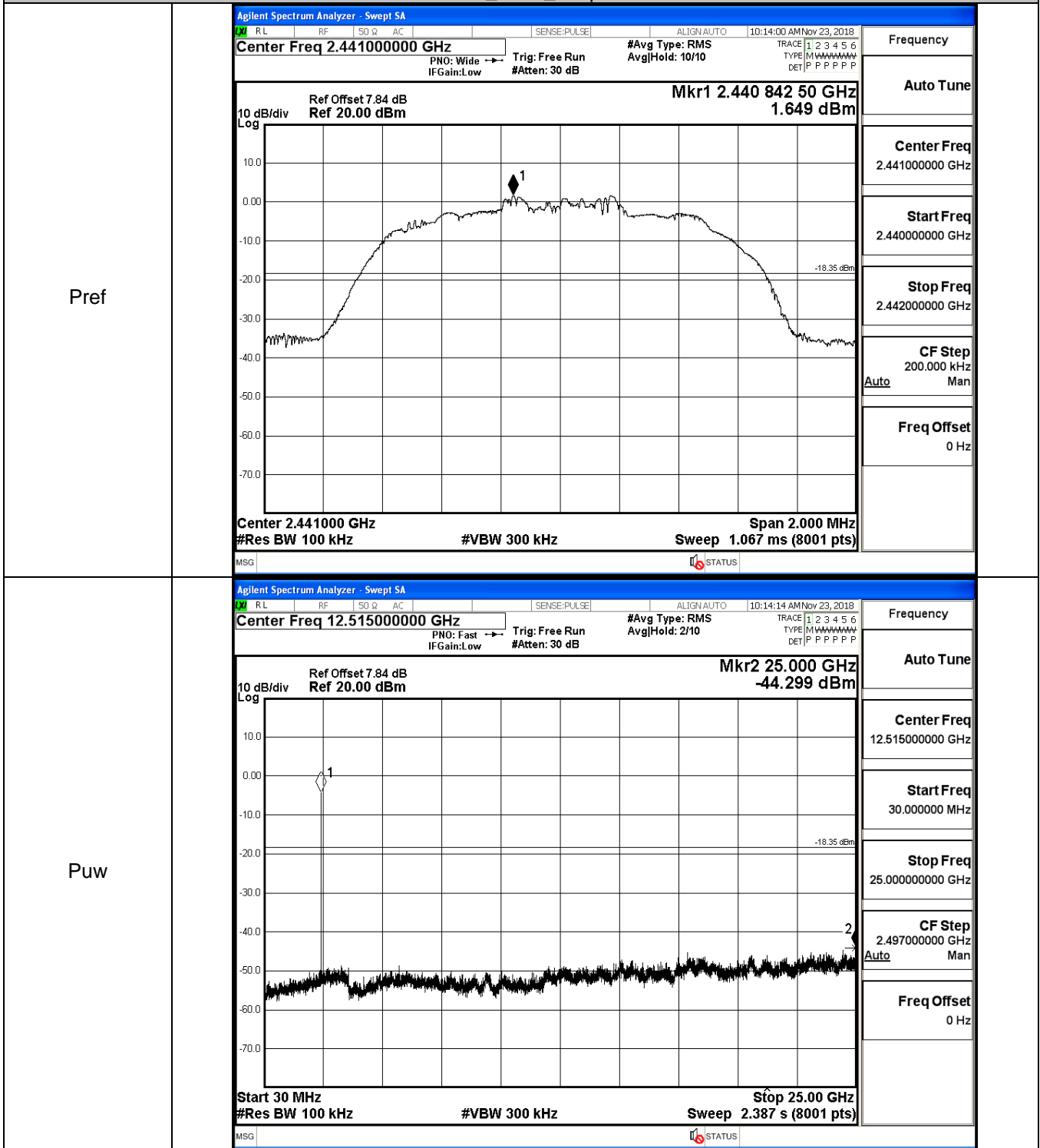
Pref



Puw

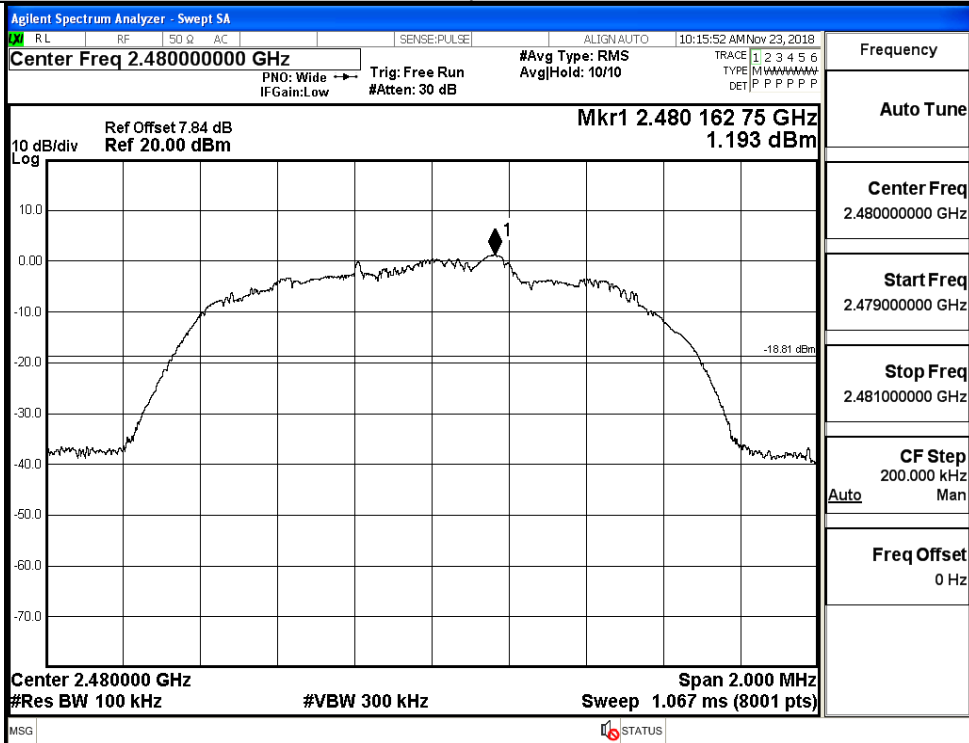


8DPSK_MCH_Graphs

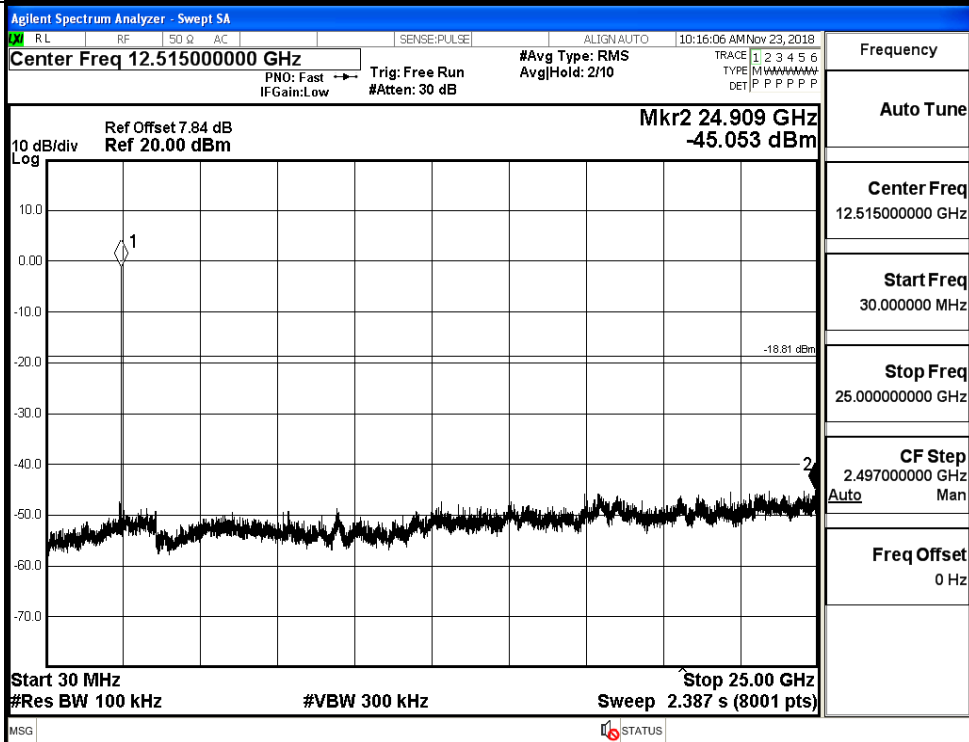


8DPSK_HCH_Graphs

Pref



Puw

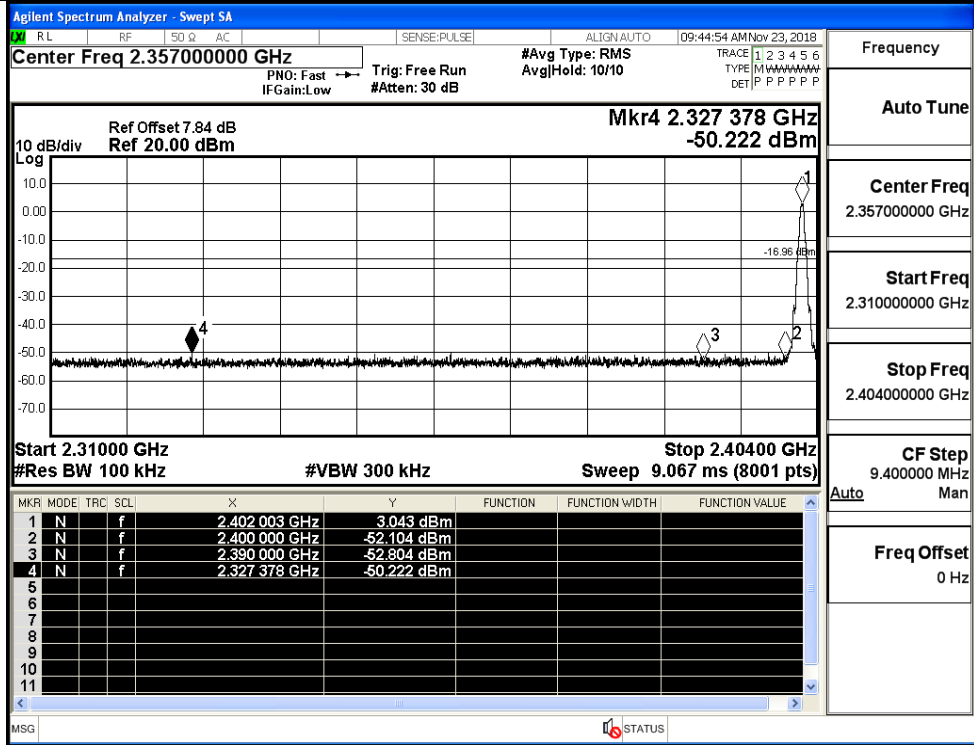


A.7 Band-edge for RF Conducted Emissions

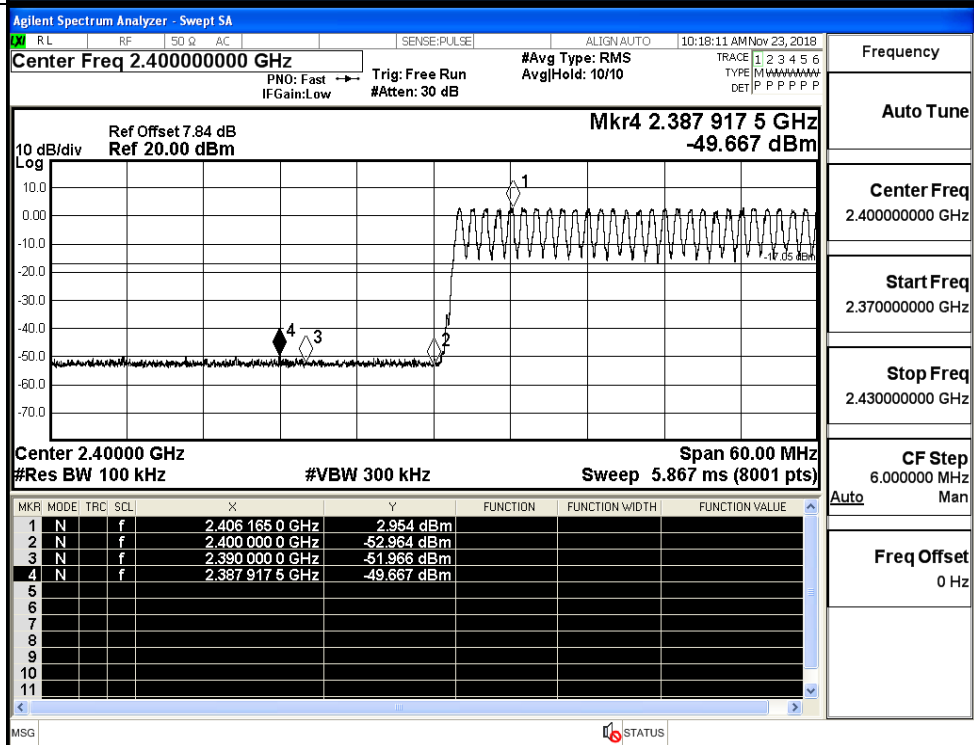
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	3.043	Off	-50.222	-16.96	PASS
			2.954	On	-49.667	-17.05	PASS
	HCH	2480	2.558	Off	-49.481	-17.44	PASS
			2.766	On	-49.743	-17.23	PASS
π/4DQPSK	LCH	2402	1.845	Off	-49.982	-18.16	PASS
			1.686	On	-49.789	-18.31	PASS
	HCH	2480	1.227	Off	-50.104	-18.77	PASS
			1.395	On	-49.077	-18.61	PASS
8DPSK	LCH	2402	1.119	Off	-49.434	-18.88	PASS
			1.690	On	-49.903	-18.31	PASS
	HCH	2480	1.207	Off	-50.611	-18.79	PASS
			1.353	On	-49.477	-18.65	PASS

Test Graphs

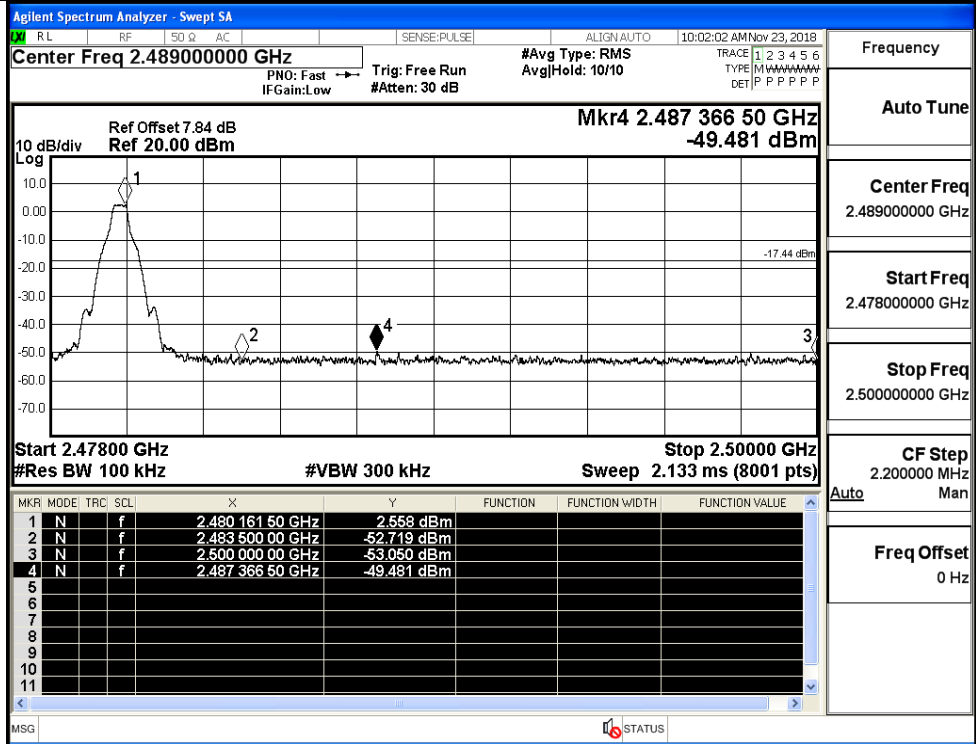
GFSK/LCH/No Hop



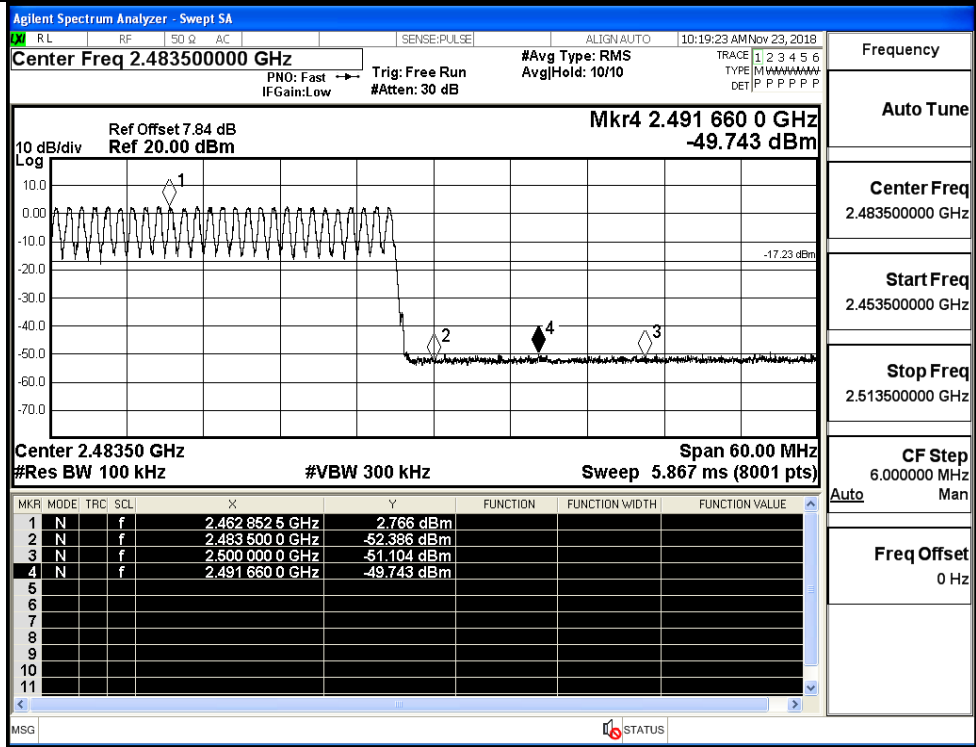
GFSK/LCH/Hop



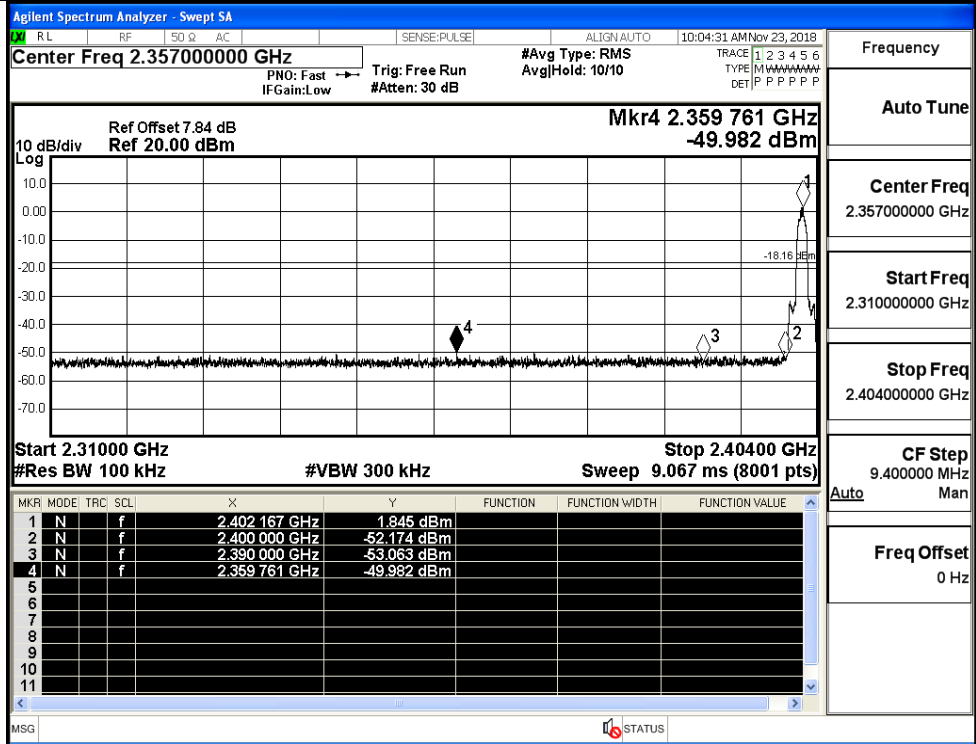
GFSK/HCH/No Hop



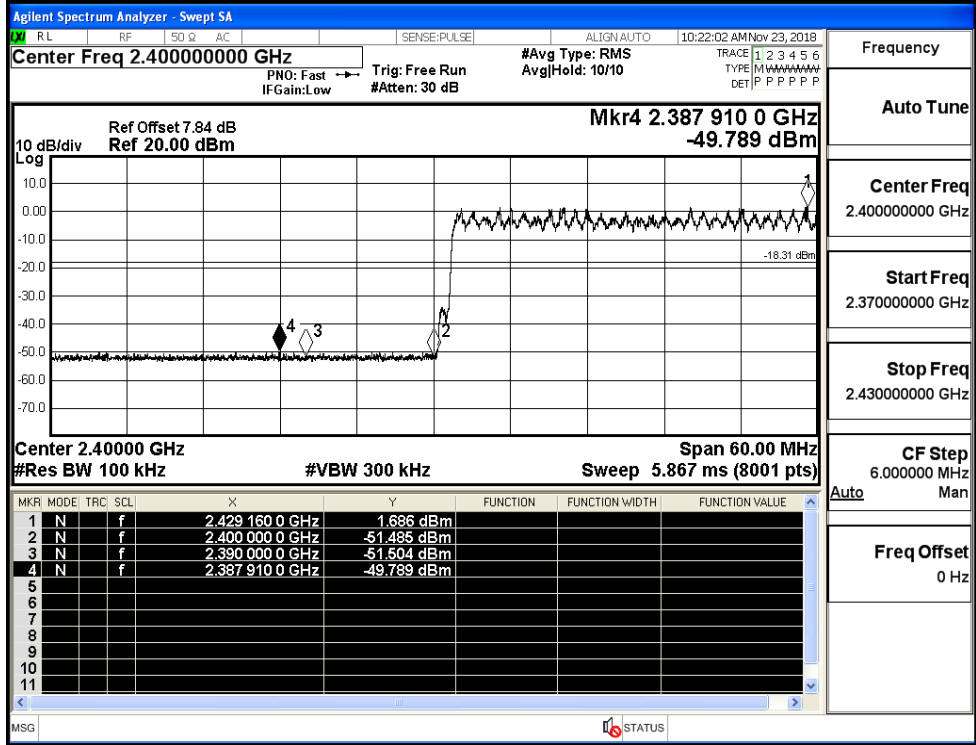
GFSK/HCH/Hop



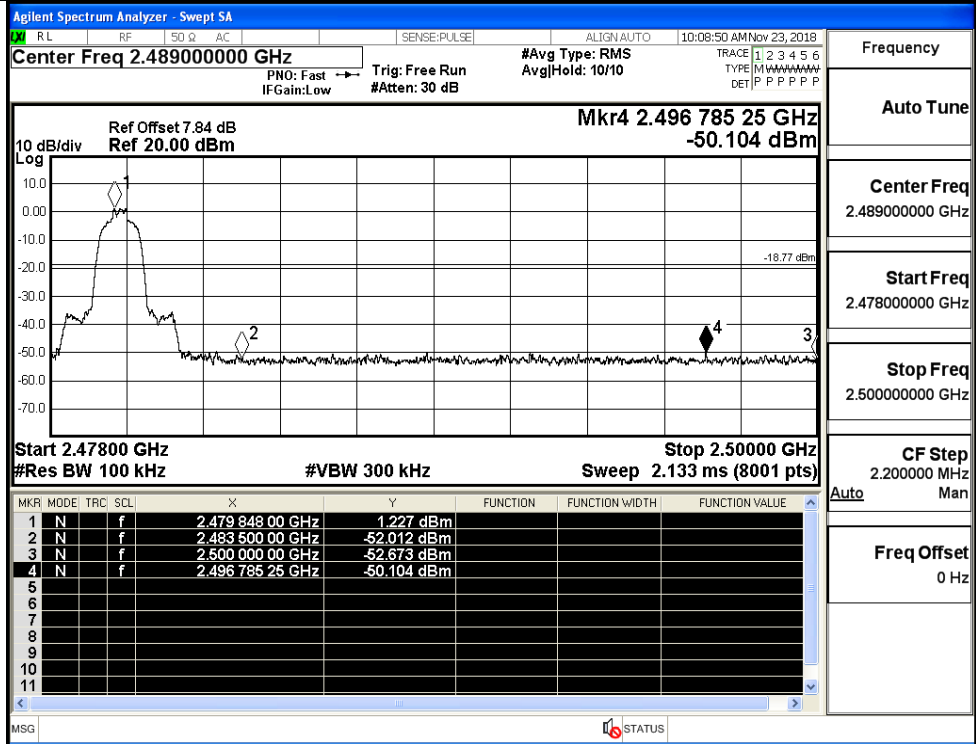
$\pi/4$ DQPSK/LCH/No
Hop



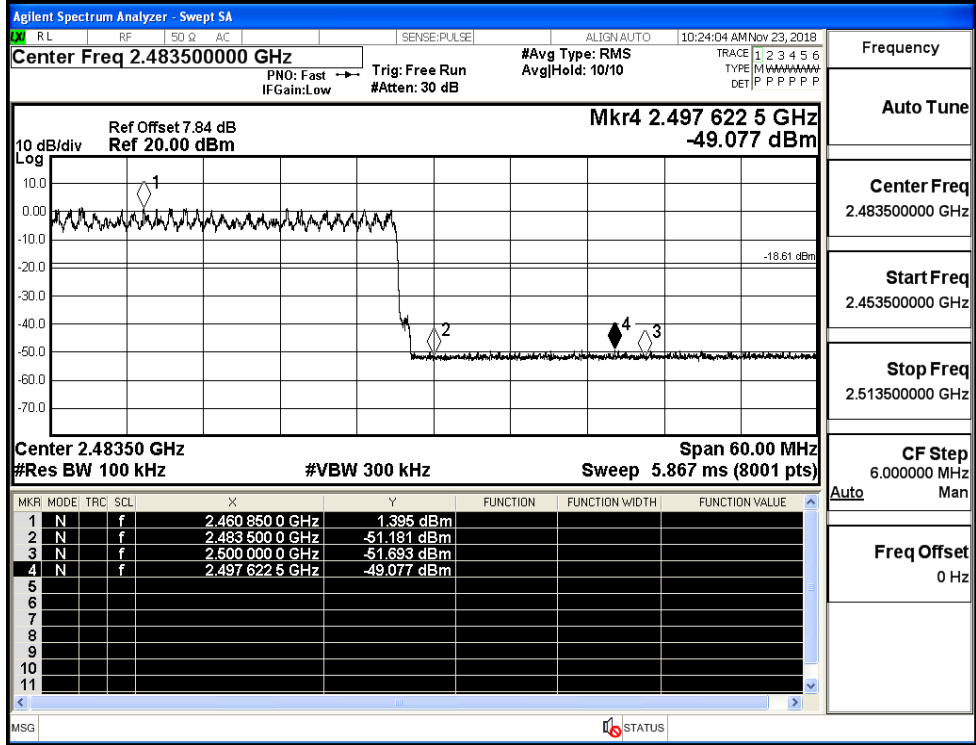
$\pi/4$ DQPSK/LCH/Hop



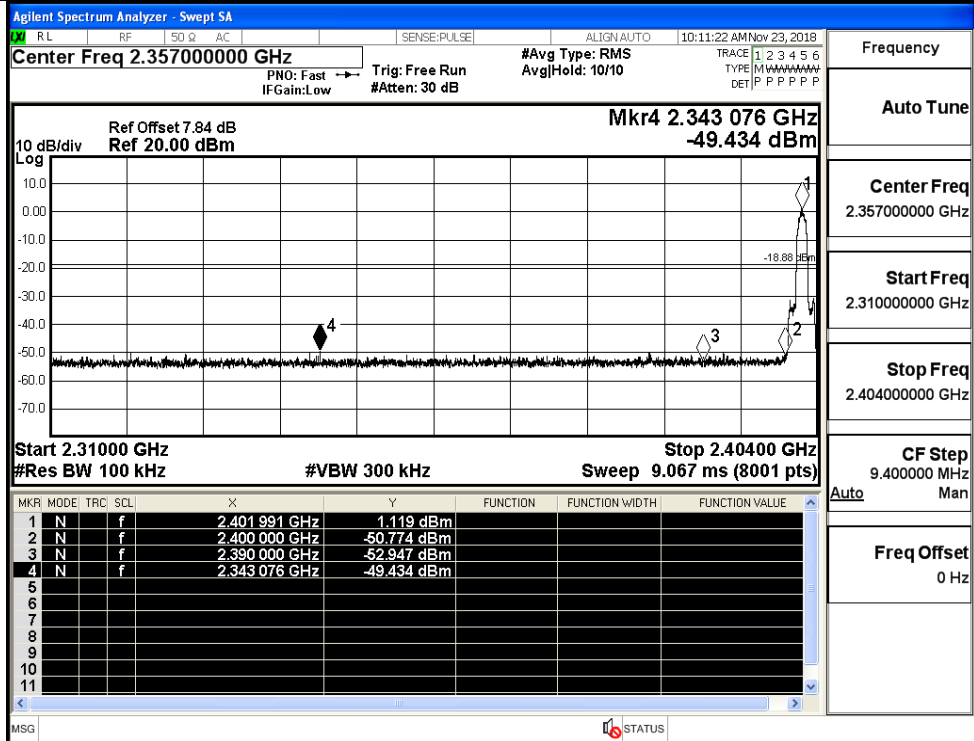
$\pi/4$ DQPSK/HCH/No Hop



$\pi/4$ DQPSK/HCH/Hop

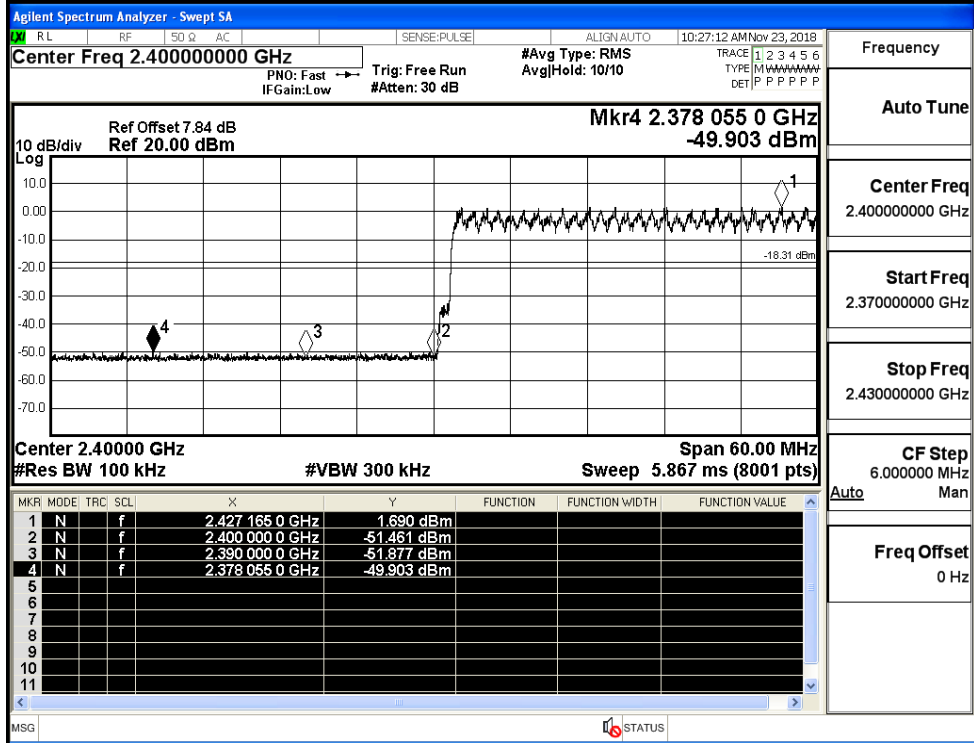


8DPSK/LCH/No Hop



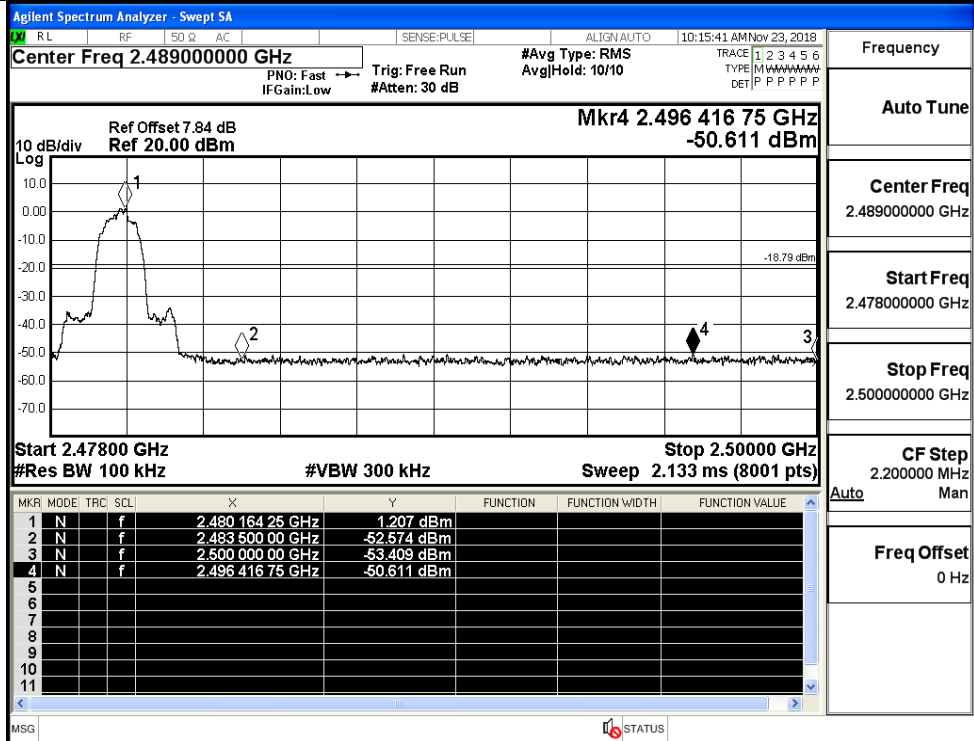
Frequency	
Auto Tune	
Center Freq	2.357000000 GHz
Start Freq	2.310000000 GHz
Stop Freq	2.404000000 GHz
CF Step	9.400000 MHz
Auto	Man
Freq Offset	0 Hz

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

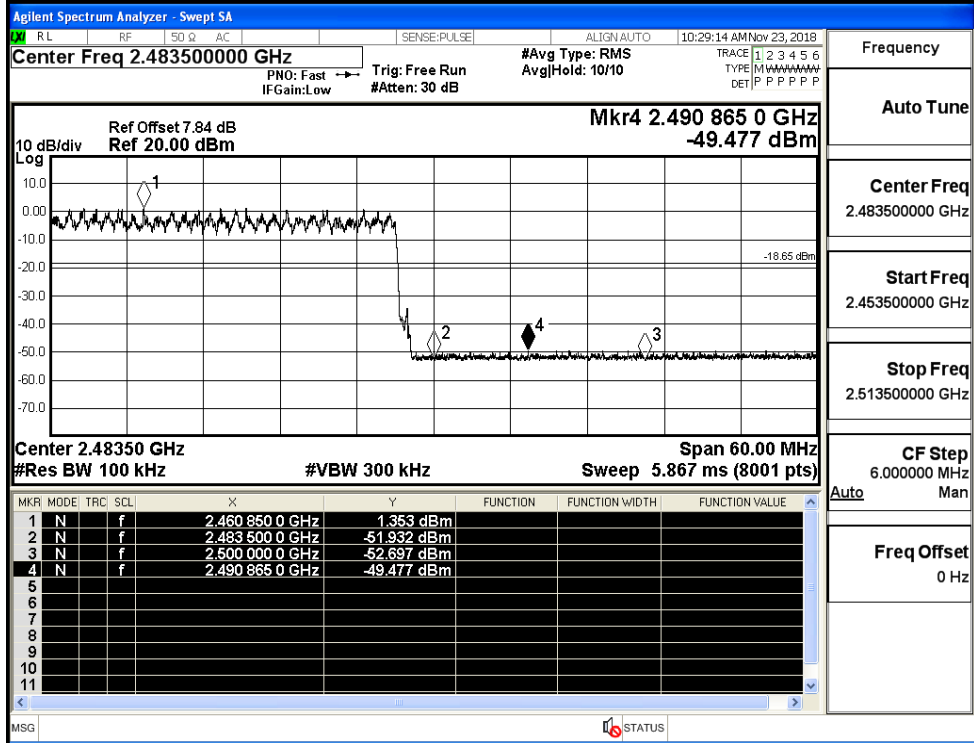
Start Freq
2.478000000 GHz

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
2.453500000 GHz

Stop Freq
2.513500000 GHz

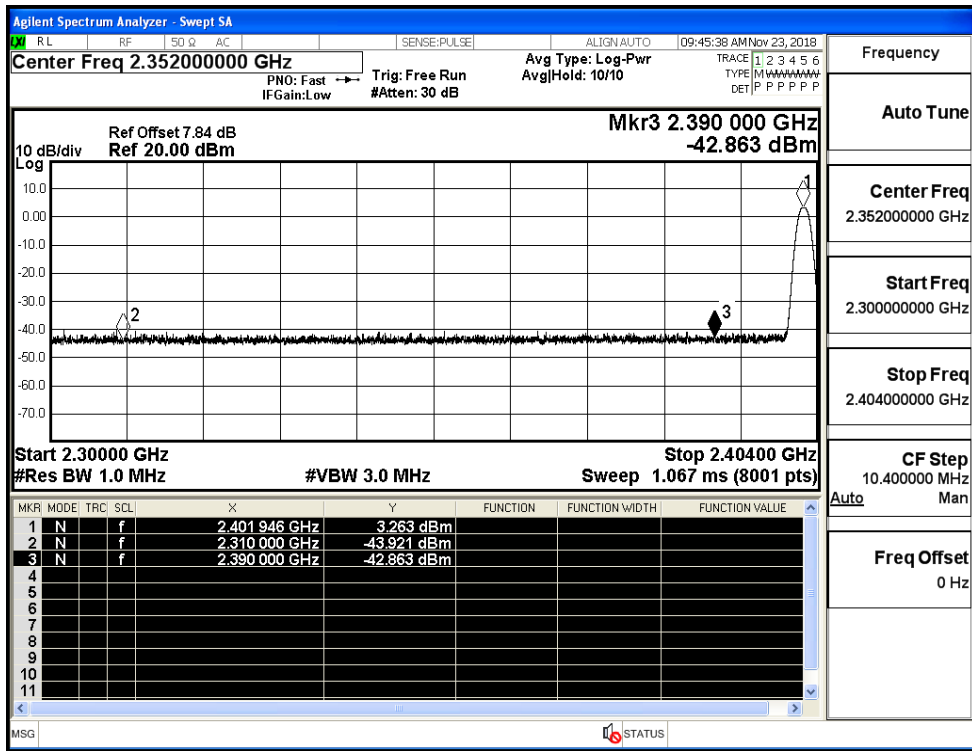
CF Step
6.000000 MHz

Freq Offset
0 Hz

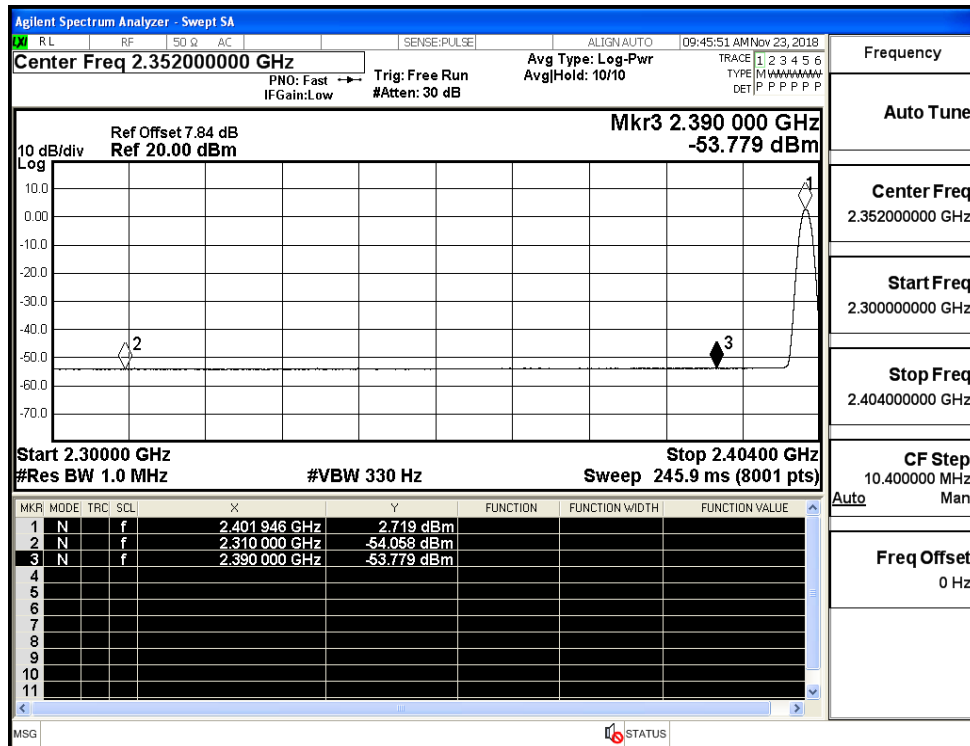
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.92	2.0	0	53.34	PEAK	74	PASS
	Off	2310.0	-54.06	2.0	0	43.20	AV	54	PASS
	Off	2390.0	-42.86	2.0	0	54.39	PEAK	74	PASS
	Off	2390.0	-53.78	2.0	0	43.48	AV	54	PASS
	Off	2483.5	-43.68	2.0	0	53.58	PEAK	74	PASS
	Off	2483.5	-53.42	2.0	0	43.84	AV	54	PASS
	Off	2500.0	-41.84	2.0	0	55.42	PEAK	74	PASS
	Off	2500.0	-53.33	2.0	0	43.92	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-44.23	2.0	0	53.03	PEAK	74	PASS
	Off	2310.0	-53.98	2.0	0	43.28	AV	54	PASS
	Off	2390.0	-43.38	2.0	0	53.88	PEAK	74	PASS
	Off	2390.0	-53.72	2.0	0	43.54	AV	54	PASS
	Off	2483.5	-43.00	2.0	0	54.26	PEAK	74	PASS
	Off	2483.5	-53.39	2.0	0	43.87	AV	54	PASS
	Off	2500.0	-42.20	2.0	0	55.06	PEAK	74	PASS
	Off	2500.0	-53.42	2.0	0	43.84	AV	54	PASS
8DPSK	Off	2310.0	-43.26	2.0	0	54.00	PEAK	74	PASS
	Off	2310.0	-54.10	2.0	0	43.15	AV	54	PASS
	Off	2390.0	-43.32	2.0	0	53.94	PEAK	74	PASS
	Off	2390.0	-53.72	2.0	0	43.53	AV	54	PASS
	Off	2483.5	-42.61	2.0	0	54.65	PEAK	74	PASS
	Off	2483.5	-53.32	2.0	0	43.94	AV	54	PASS
	Off	2500.0	-43.36	2.0	0	53.90	PEAK	74	PASS
	Off	2500.0	-53.36	2.0	0	43.90	AV	54	PASS

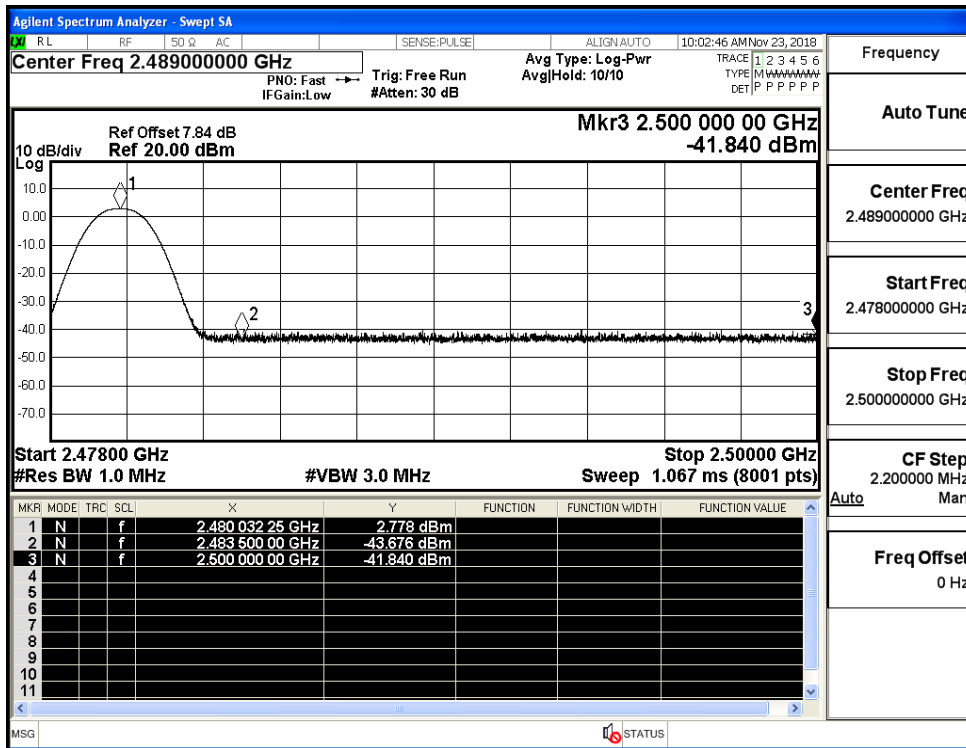
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



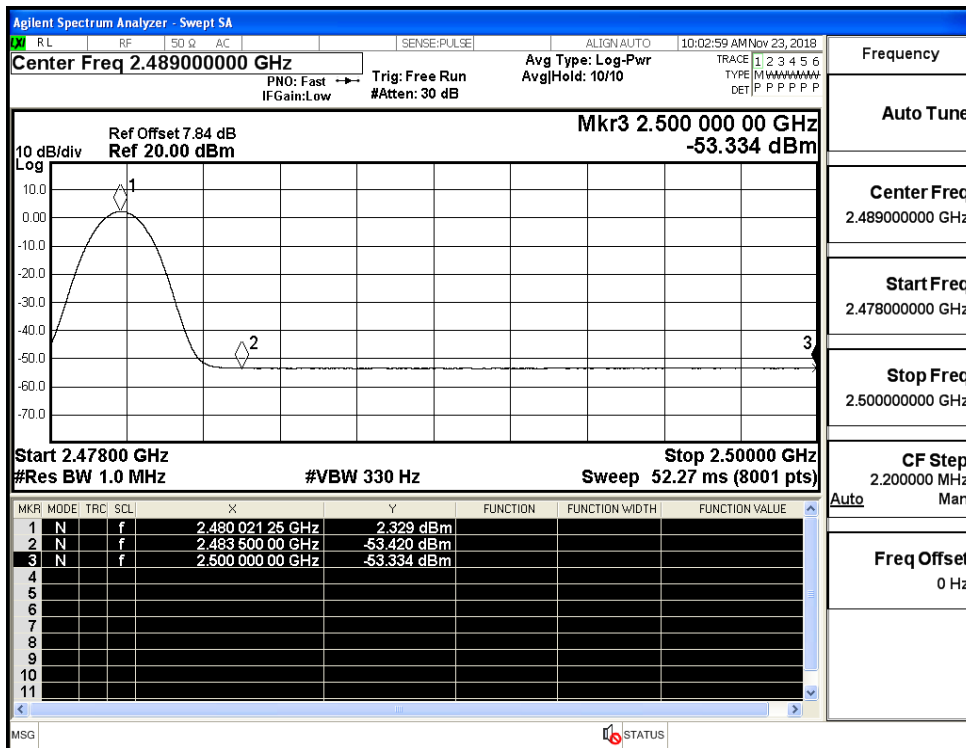
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



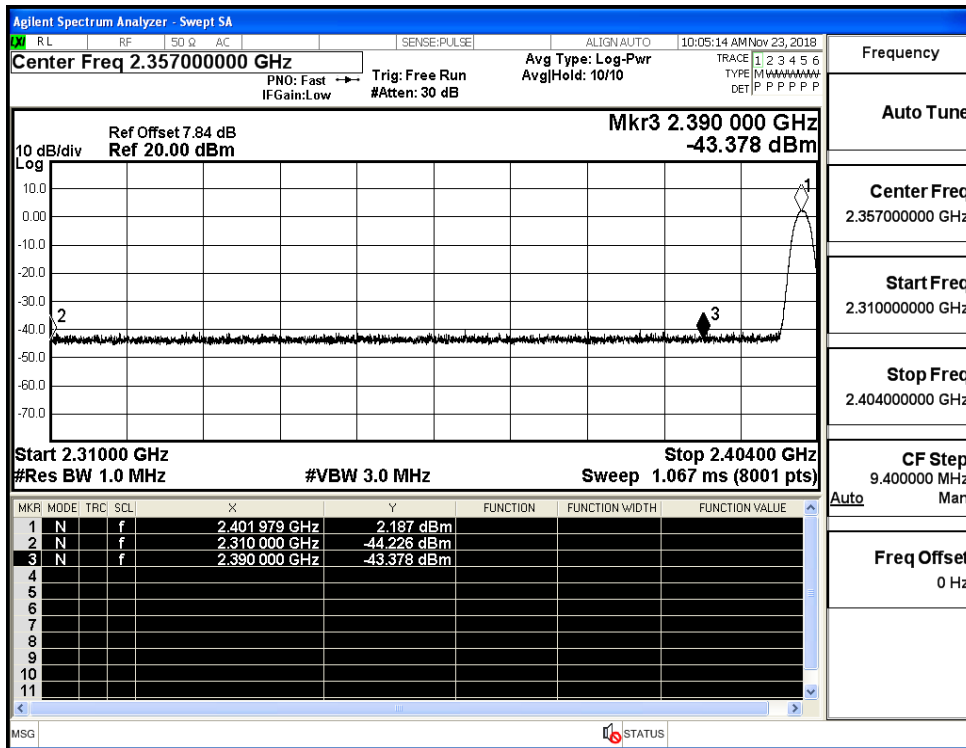
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



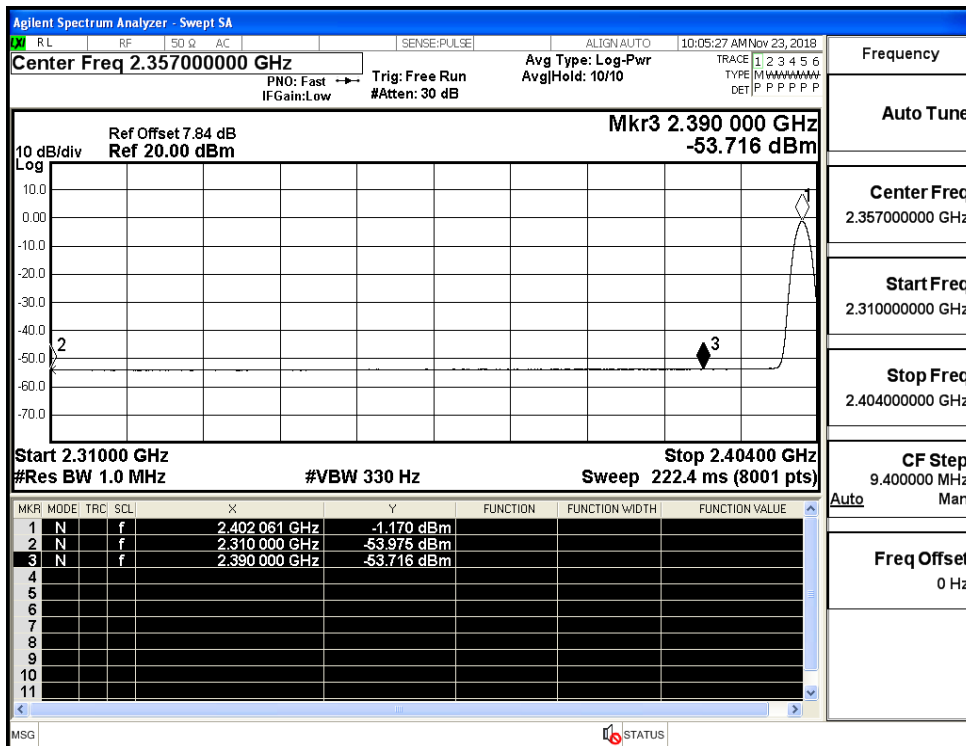
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



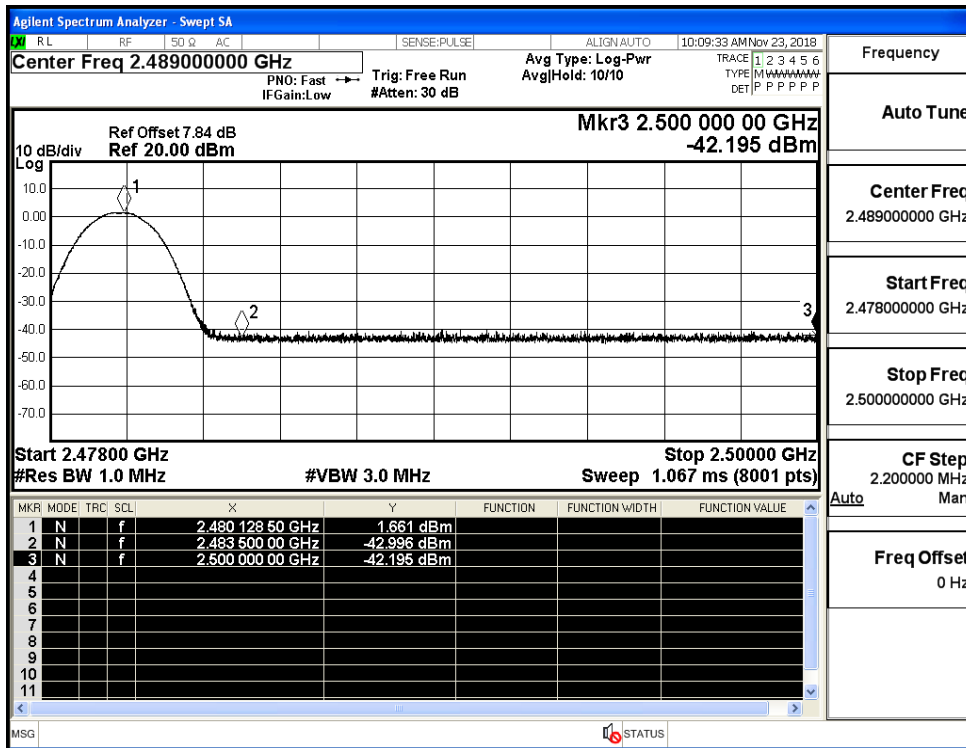
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)



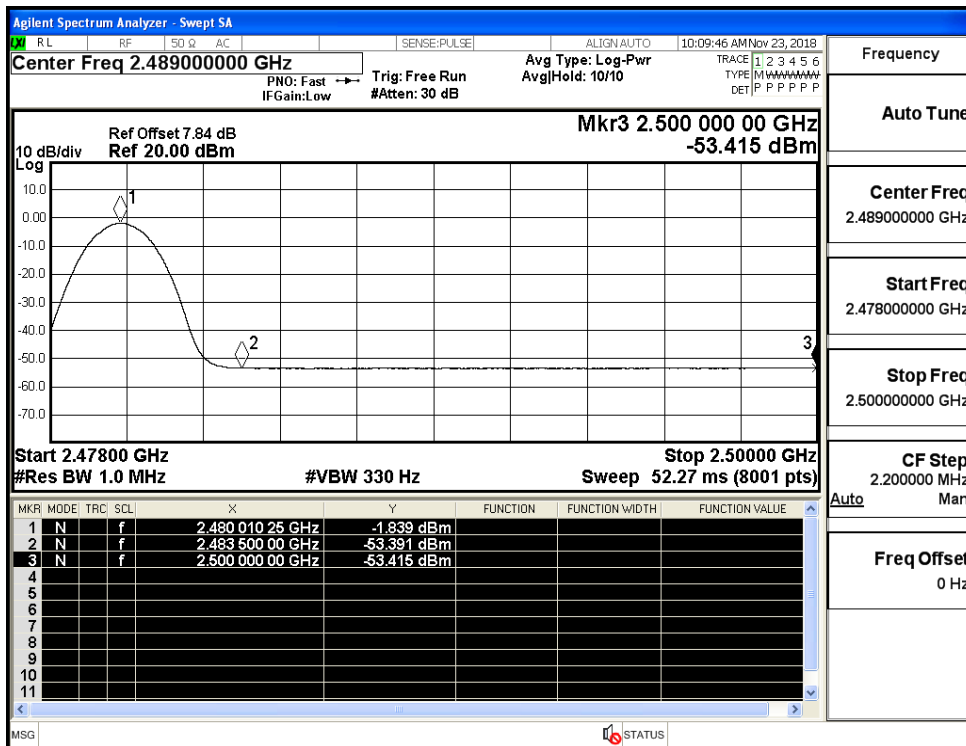
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)



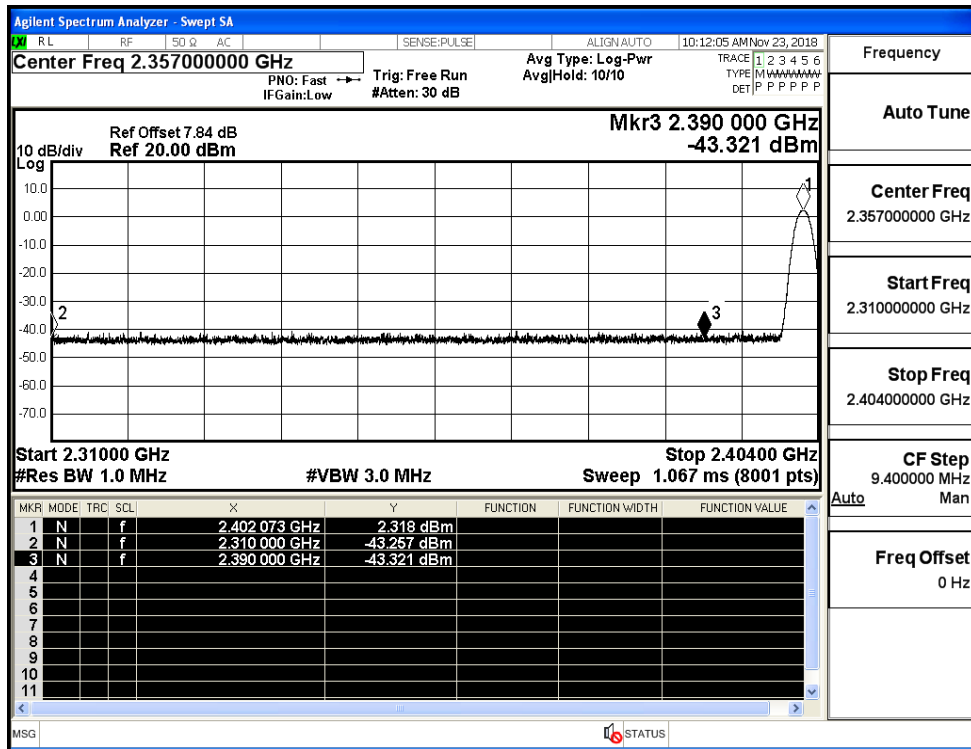
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



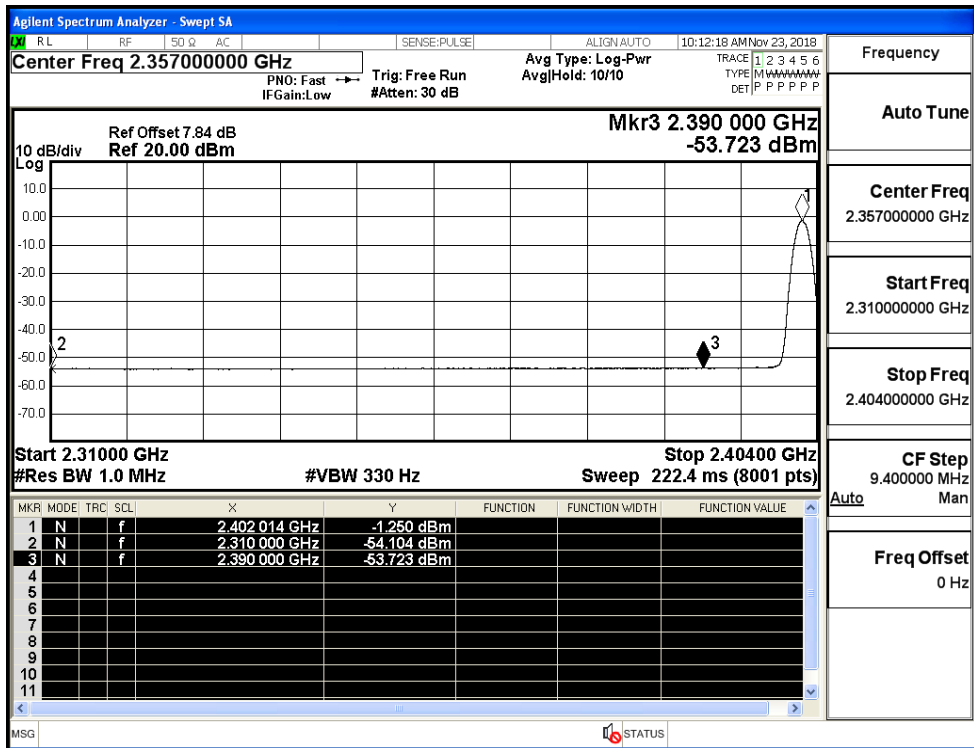
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



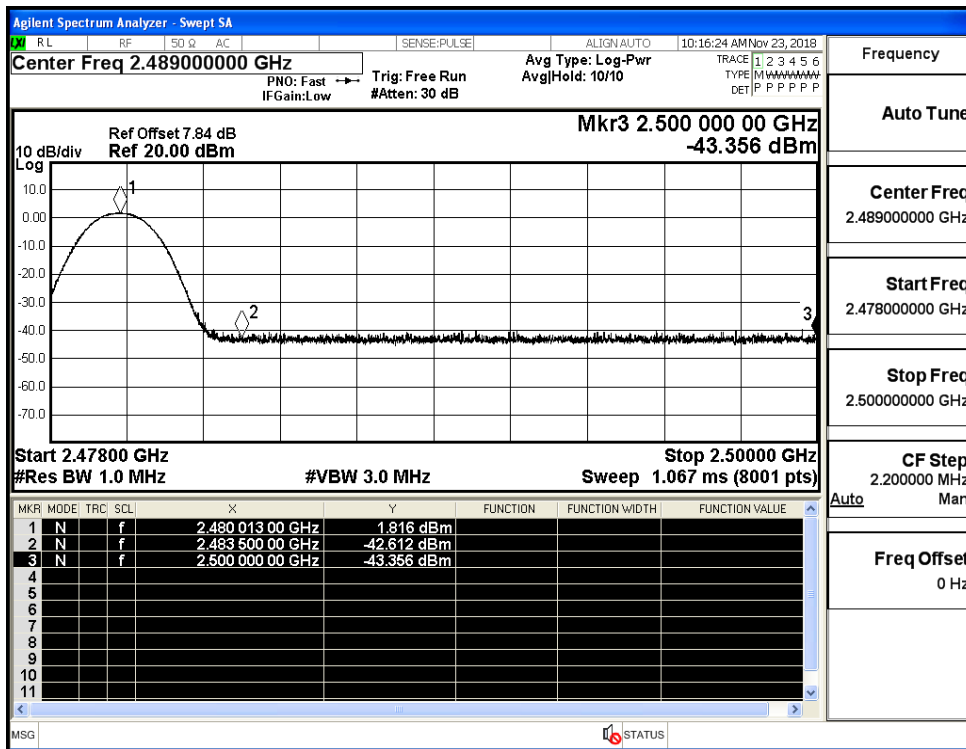
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

