

Appendix A

RF Test Data for BT 2.1+EDR (Conducted Measurement)

Product Name: **Feature phone**

Trade Mark: **KENXINDA (Ken mobile)**

Test Model: **R7720**

Environmental Conditions

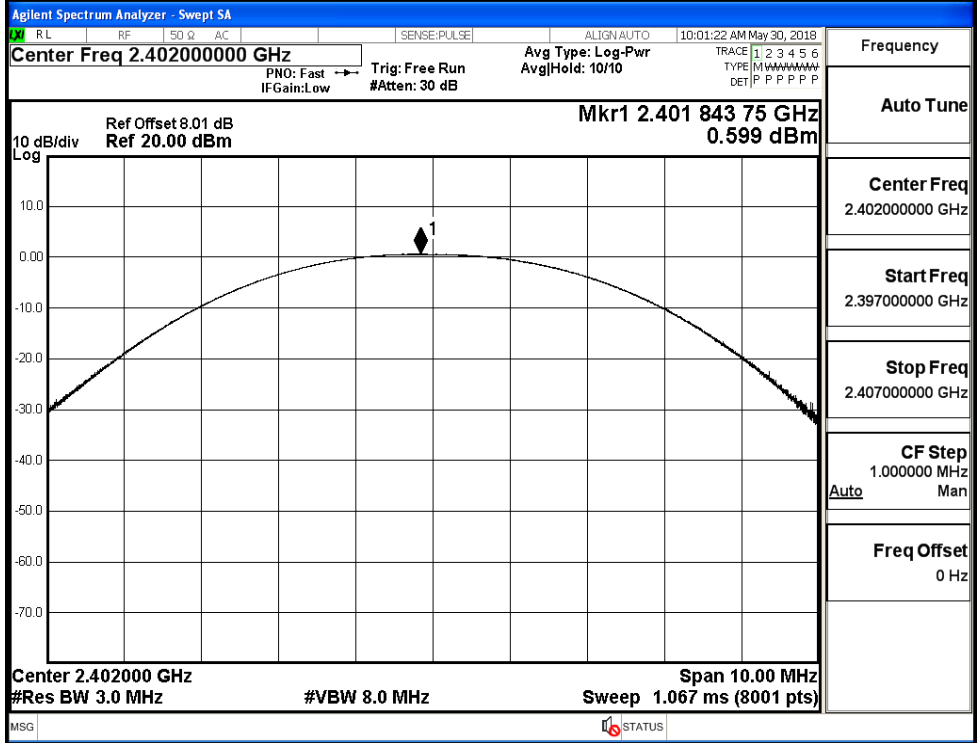
Temperature:	23.5 ° C
Relative Humidity:	52.8%
ATM Pressure:	100.0 kPa
Test Engineer:	Jayden.Zhuo
Supervised by:	Dick.Su

A.1 Maxmum Conducted Peak Output Power

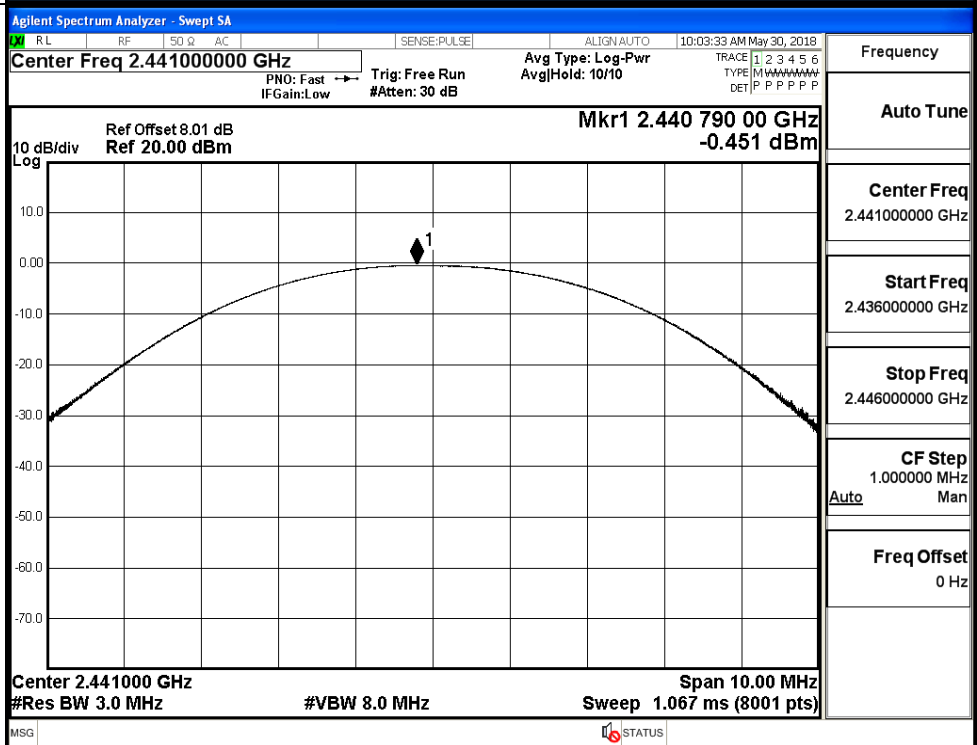
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.599	30	PASS
	MCH	-0.451	30	PASS
	HCH	-0.582	30	PASS
$\pi/4$ DQPSK	LCH	-0.447	21	PASS
	MCH	-1.242	21	PASS
	HCH	-1.459	21	PASS
8DPSK	LCH	-0.415	21	PASS
	MCH	-1.165	21	PASS
	HCH	-1.616	21	PASS

Test Graphs

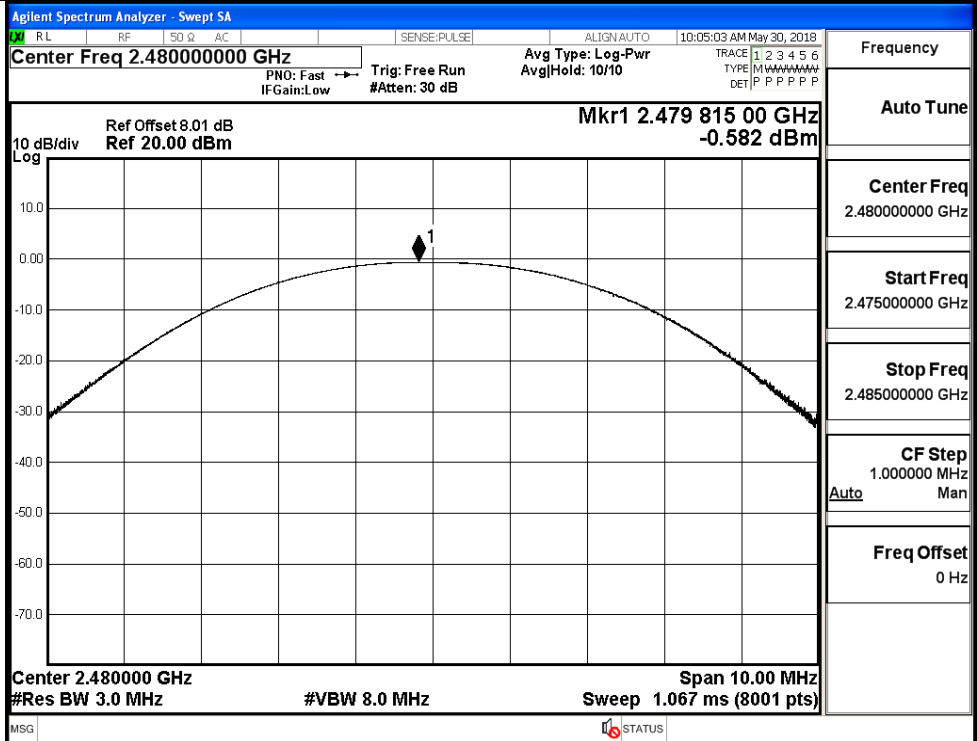
GFSK/LCH



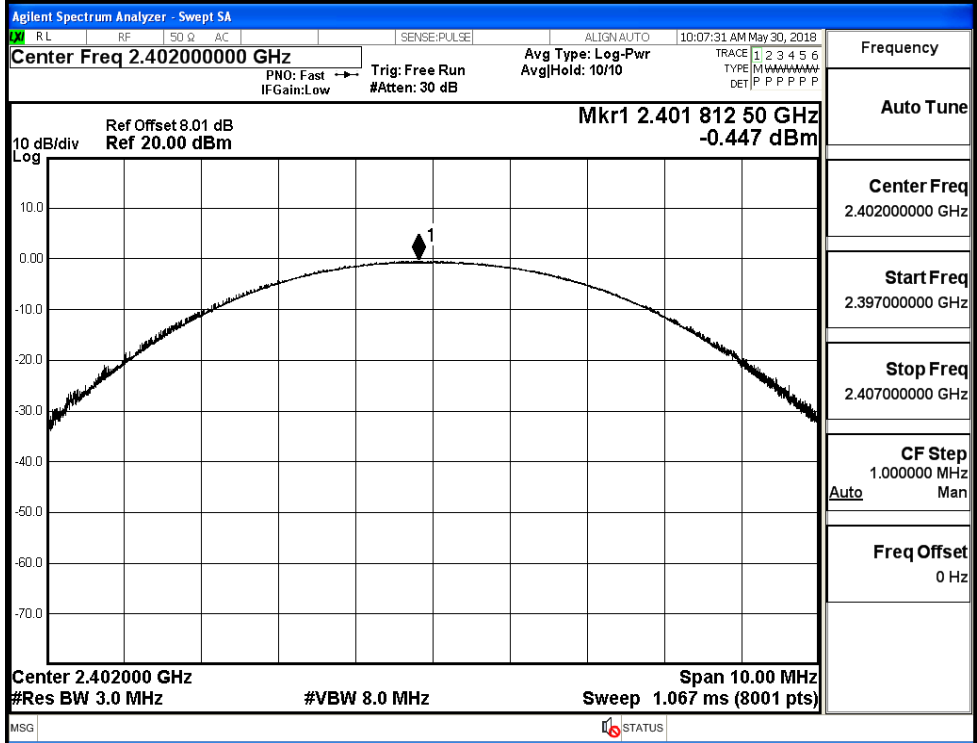
GFSK/MCH



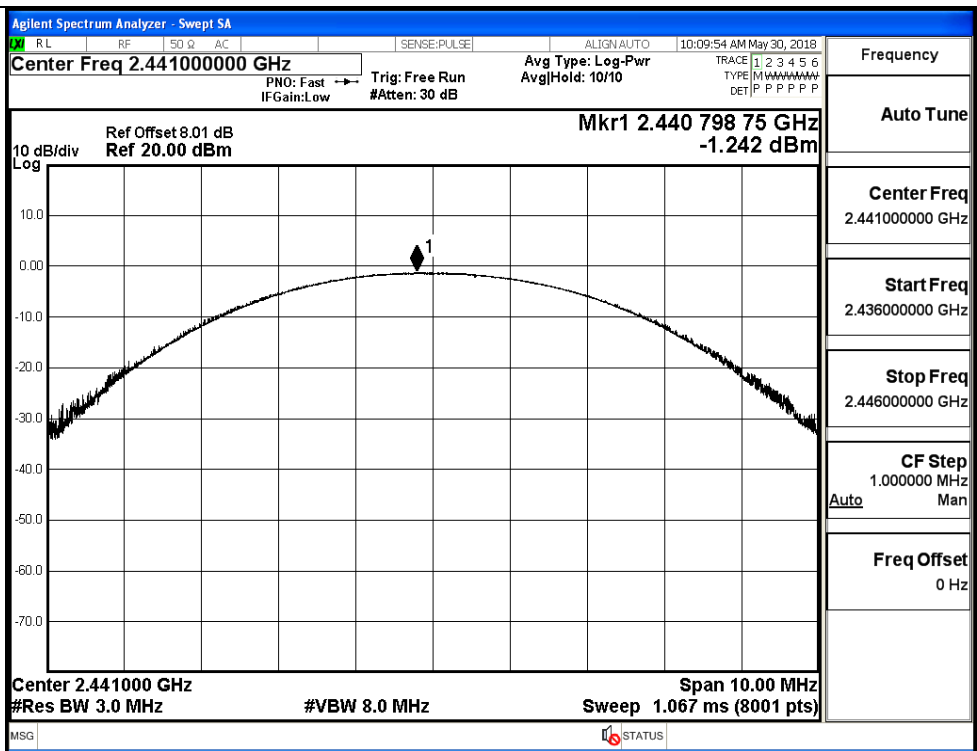
GFSK/HCH



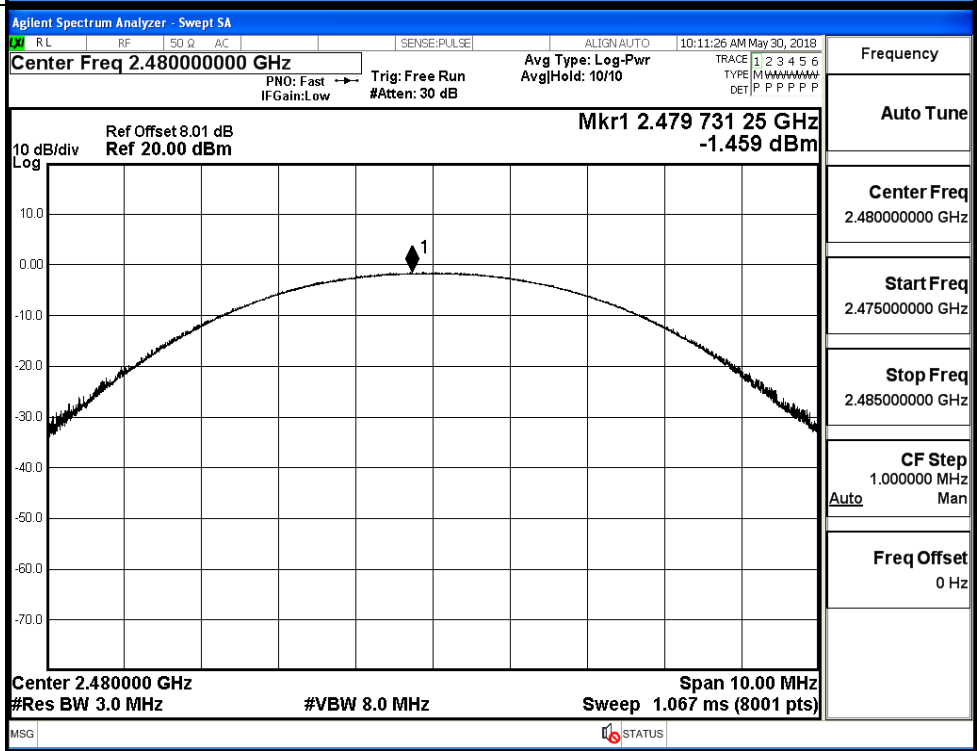
π /4DQPSK/LCH



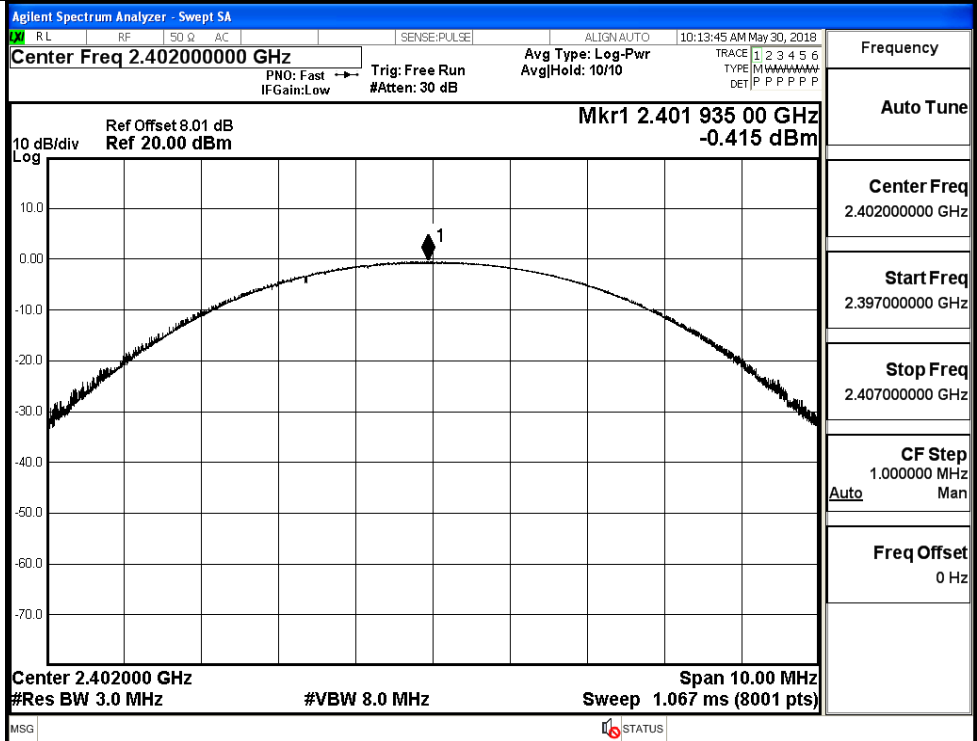
π /4DQPSK/MCH



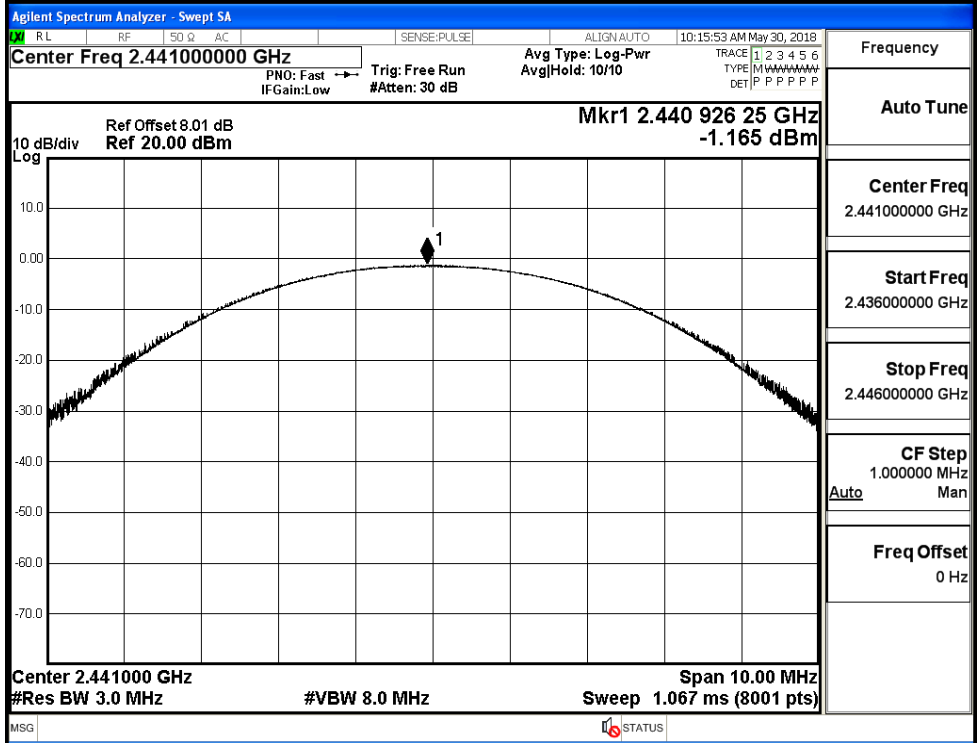
π /4DQPSK/HCH



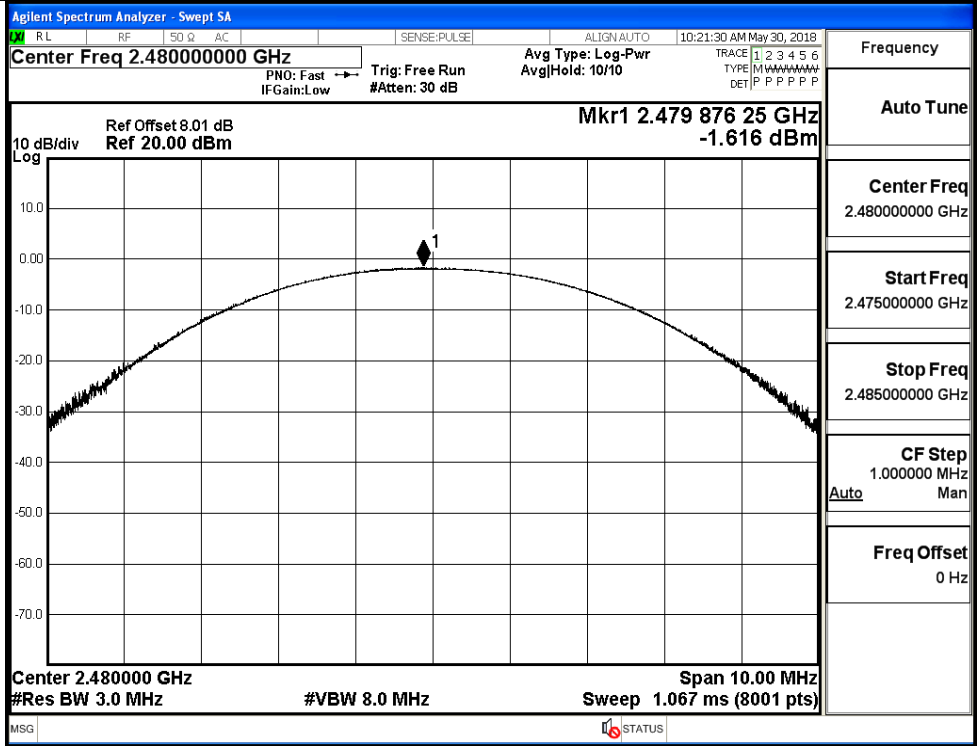
8DPSK/LCH



8DPSK/MCH

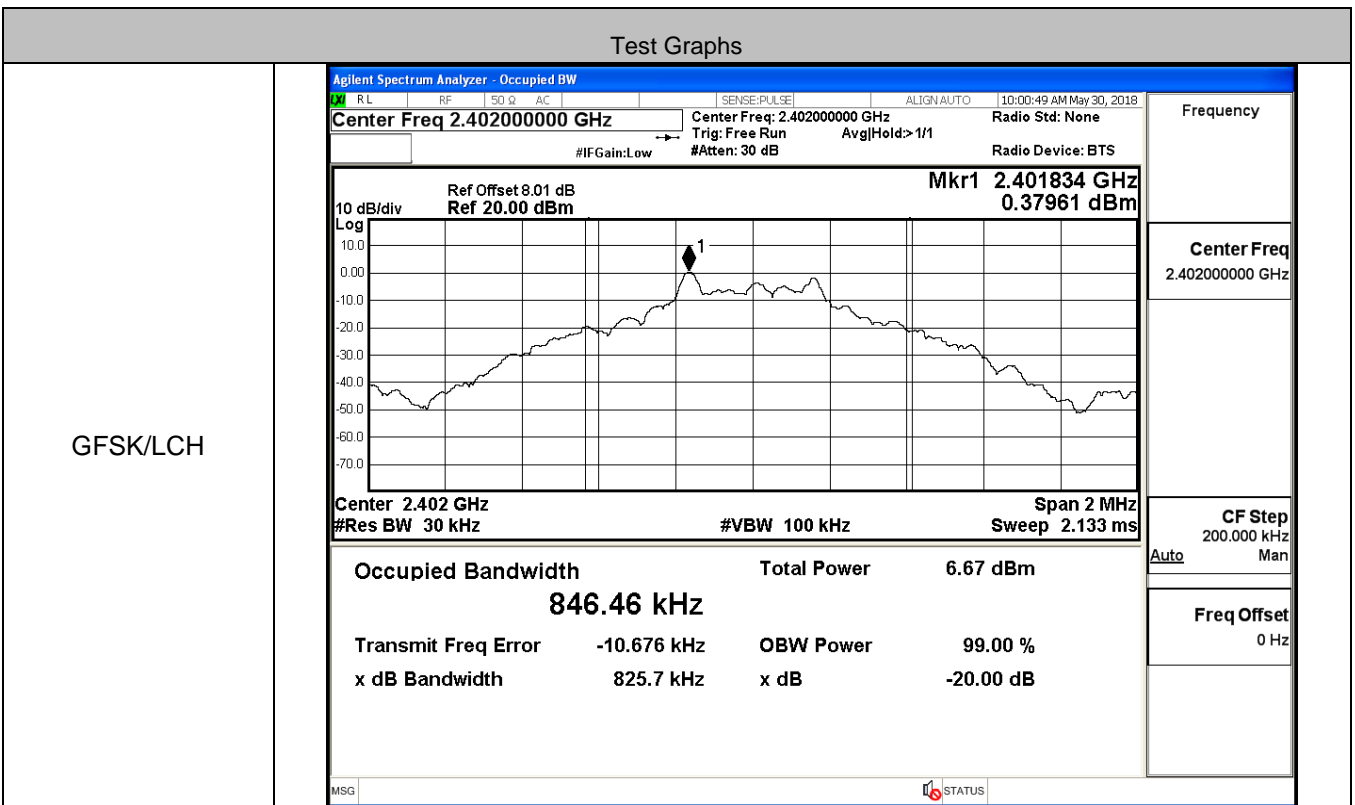


8DPSK/HCH

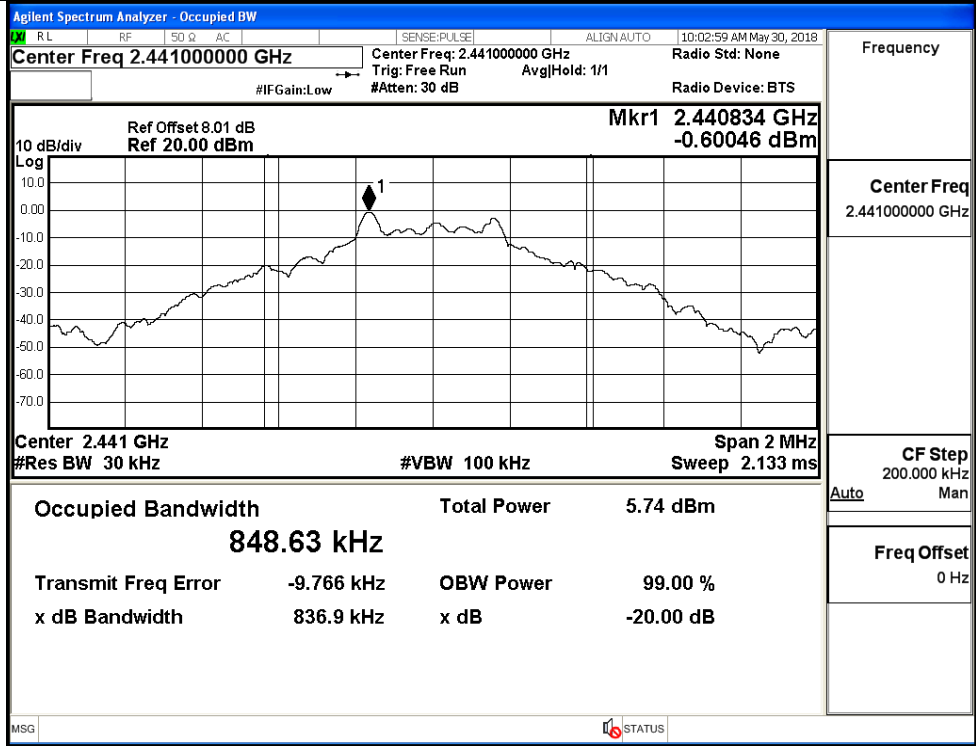


A.2 20dB Bandwidth

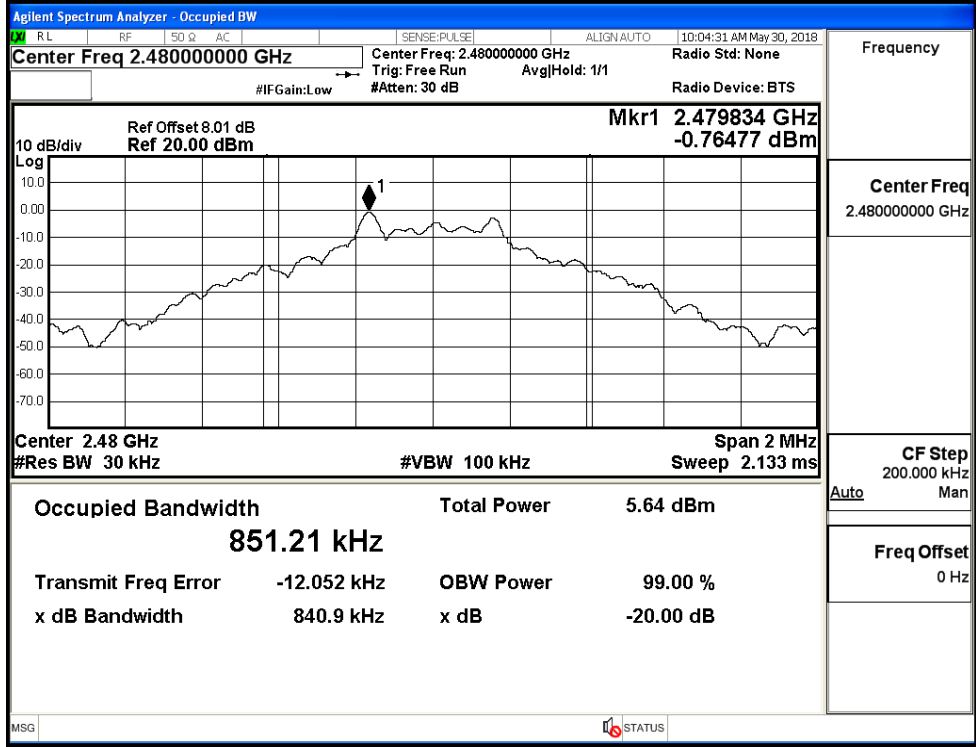
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.8257	Not Specified	PASS
	MCH	0.8369	Not Specified	PASS
	HCH	0.8409	Not Specified	PASS
π/4DQPSK	LCH	1.122	Not Specified	PASS
	MCH	1.116	Not Specified	PASS
	HCH	1.117	Not Specified	PASS
8DPSK	LCH	1.134	Not Specified	PASS
	MCH	1.119	Not Specified	PASS
	HCH	1.120	Not Specified	PASS



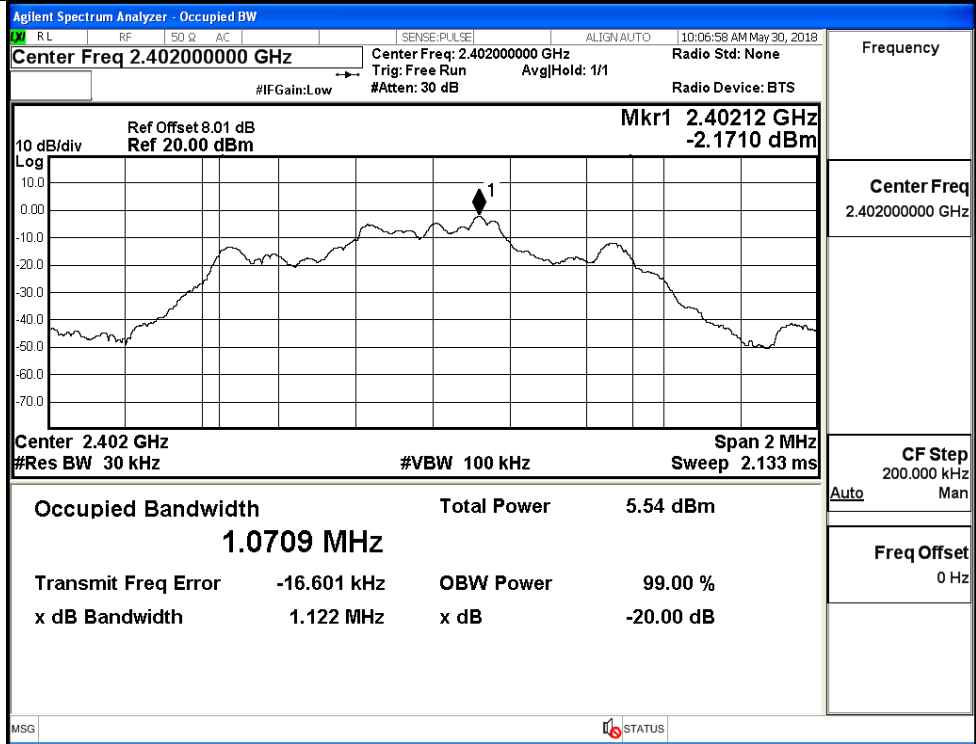
GFSK/MCH



GFSK/HCH

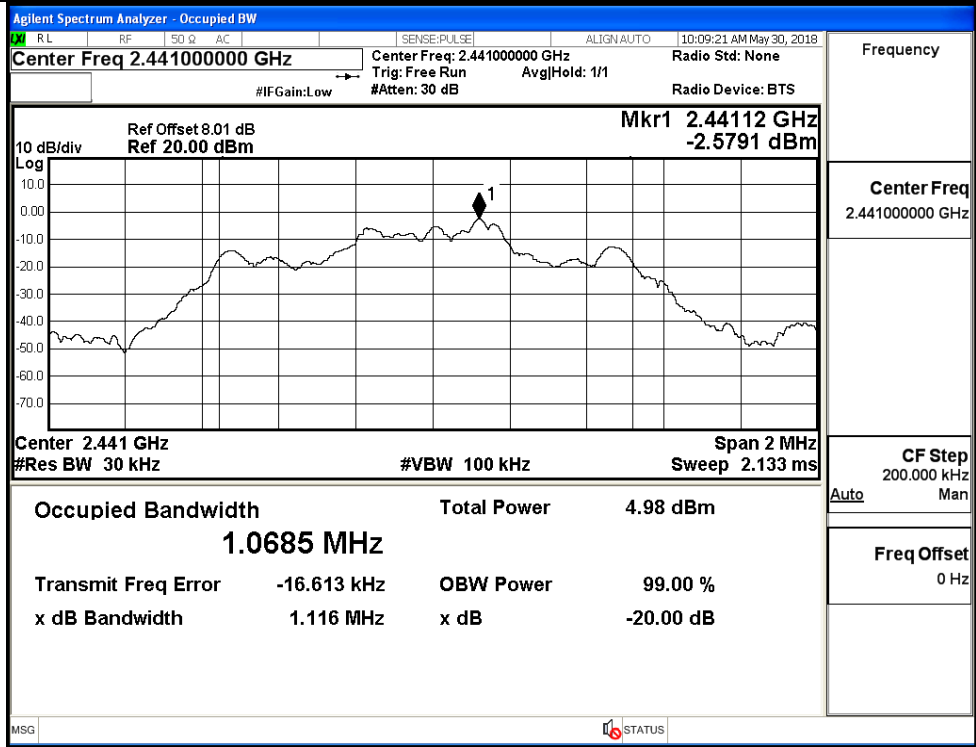


$\pi/4$ DQPSK/LCH



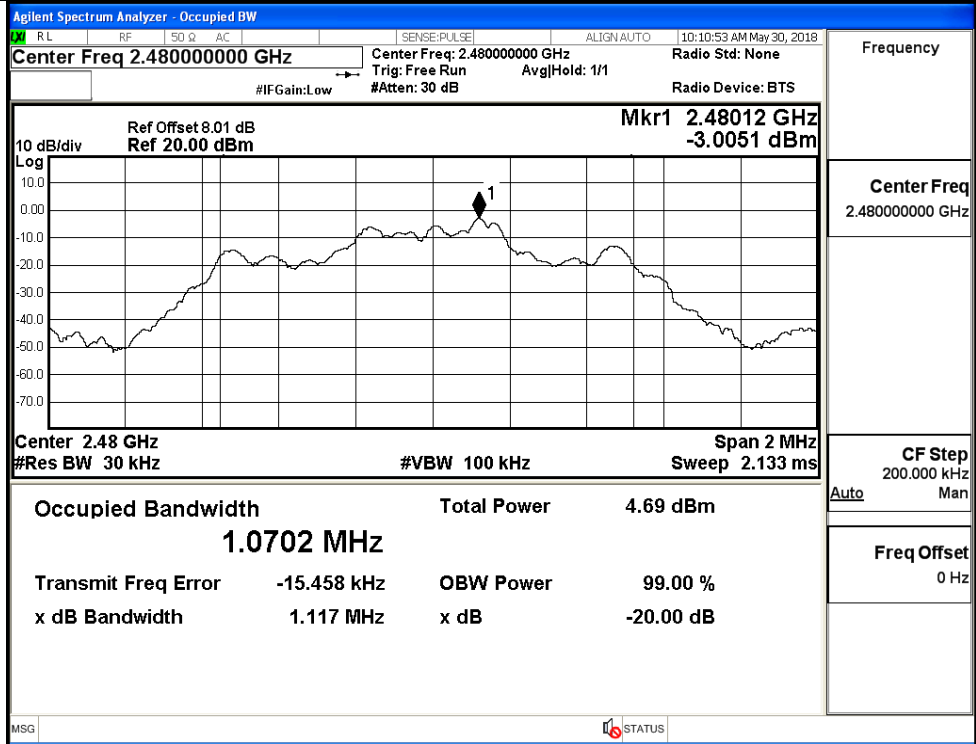
Frequency	2.40200000 GHz
Center Freq	2.40200000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

$\pi/4$ DQPSK/MCH



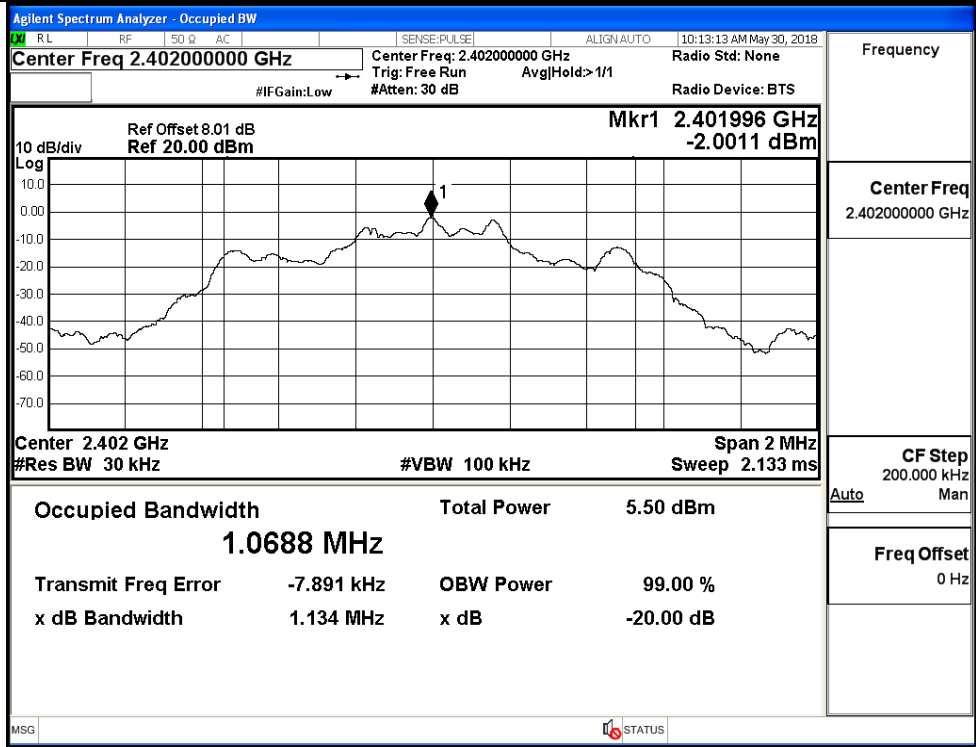
Frequency	2.44100000 GHz
Center Freq	2.44100000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

$\pi/4$ DQPSK/HCH



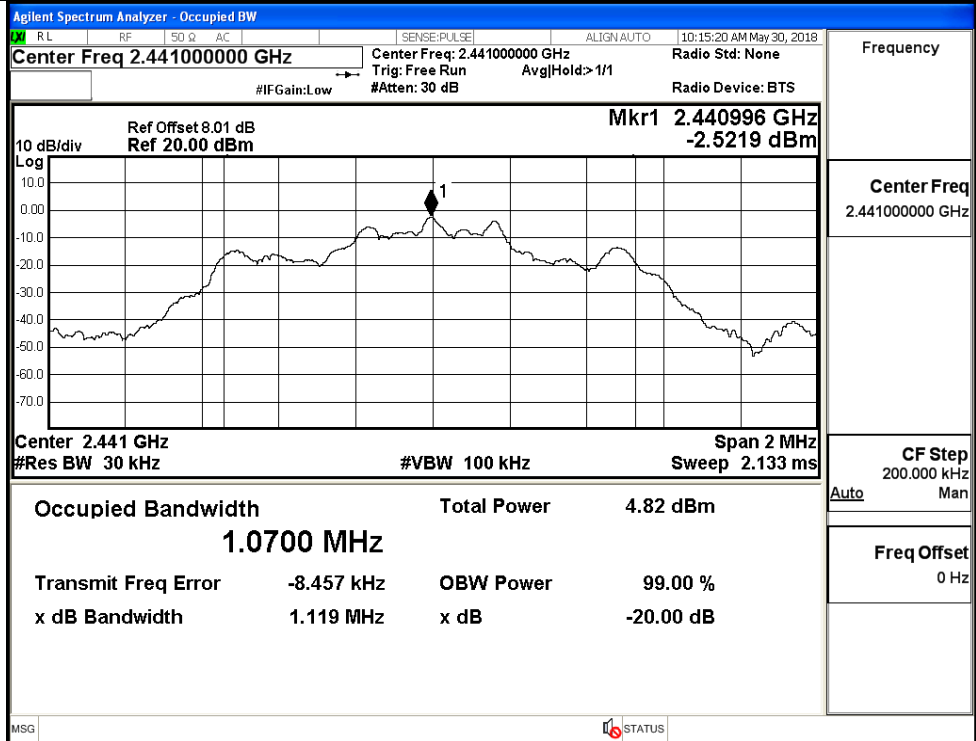
Frequency	2.48000000 GHz
Center Freq	2.48000000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

8DPSK/LCH



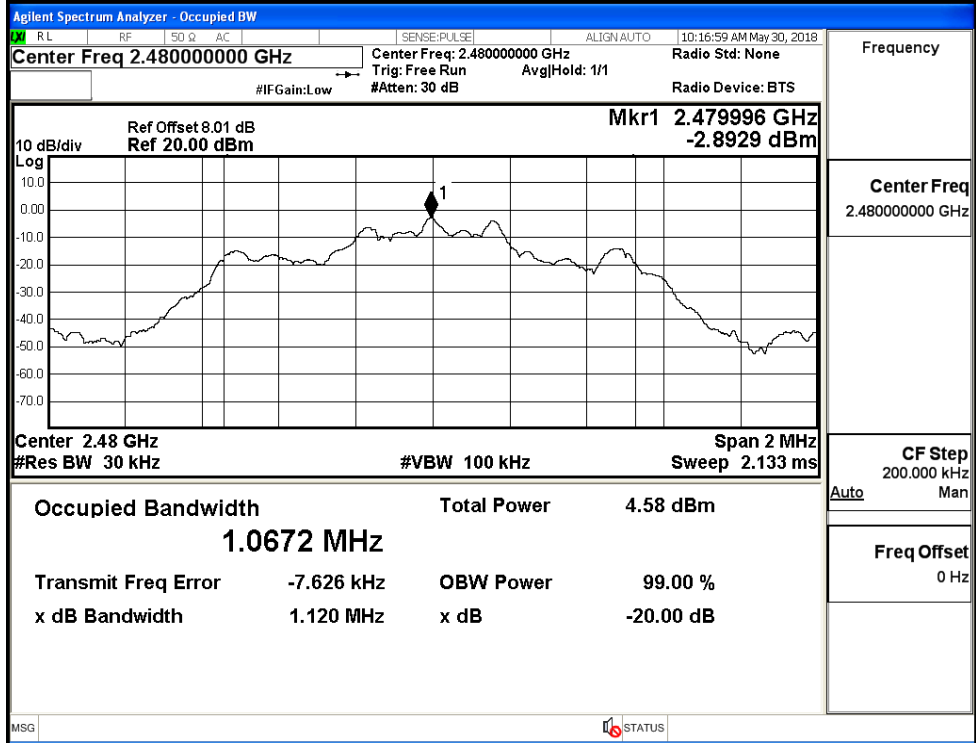
Frequency	2.40200000 GHz
Center Freq	2.40200000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

8DPSK/MCH



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

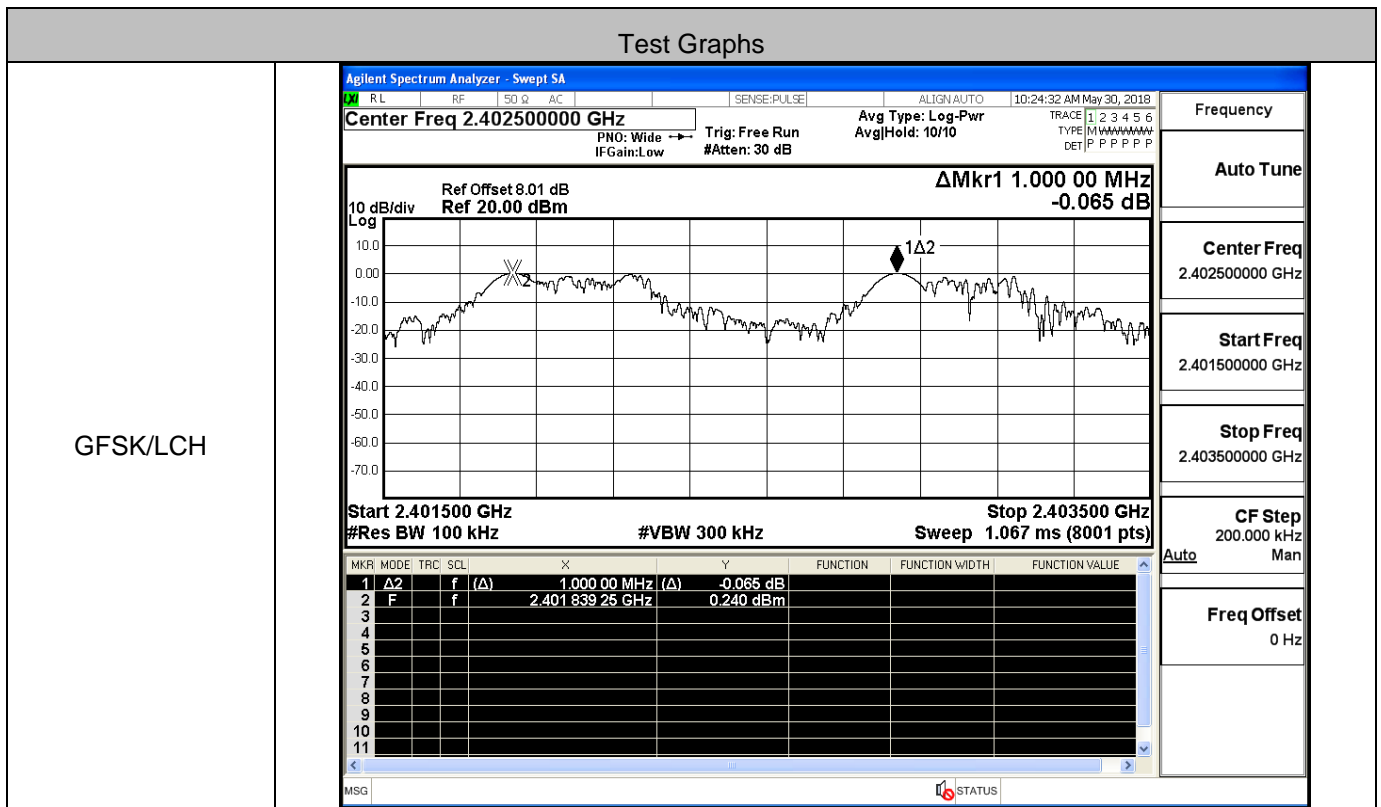
8DPSK/HCH



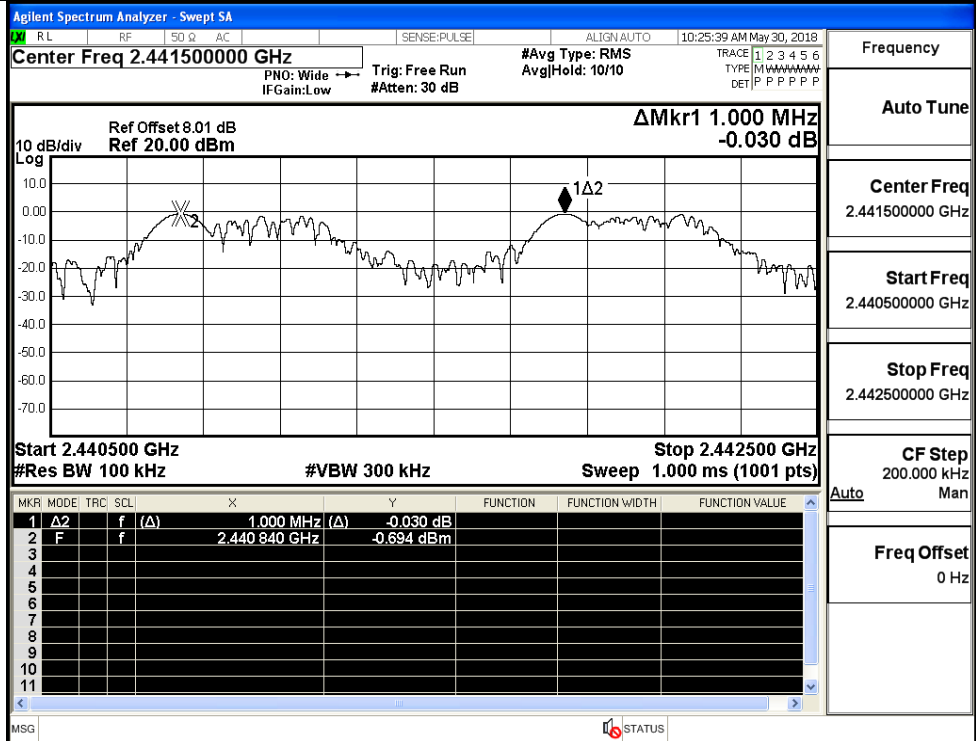
Frequency	2.480000000 GHz
Center Freq	2.480000000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

A.3 Carrier Frequency Separation

Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.000	0.561	PASS
	MCH	1.000	0.561	PASS
	HCH	1.000	0.561	PASS
π/4DQPSK	LCH	0.992	0.748	PASS
	MCH	1.008	0.748	PASS
	HCH	0.996	0.748	PASS
8DPSK	LCH	0.832	0.756	PASS
	MCH	1.008	0.756	PASS
	HCH	1.086	0.756	PASS

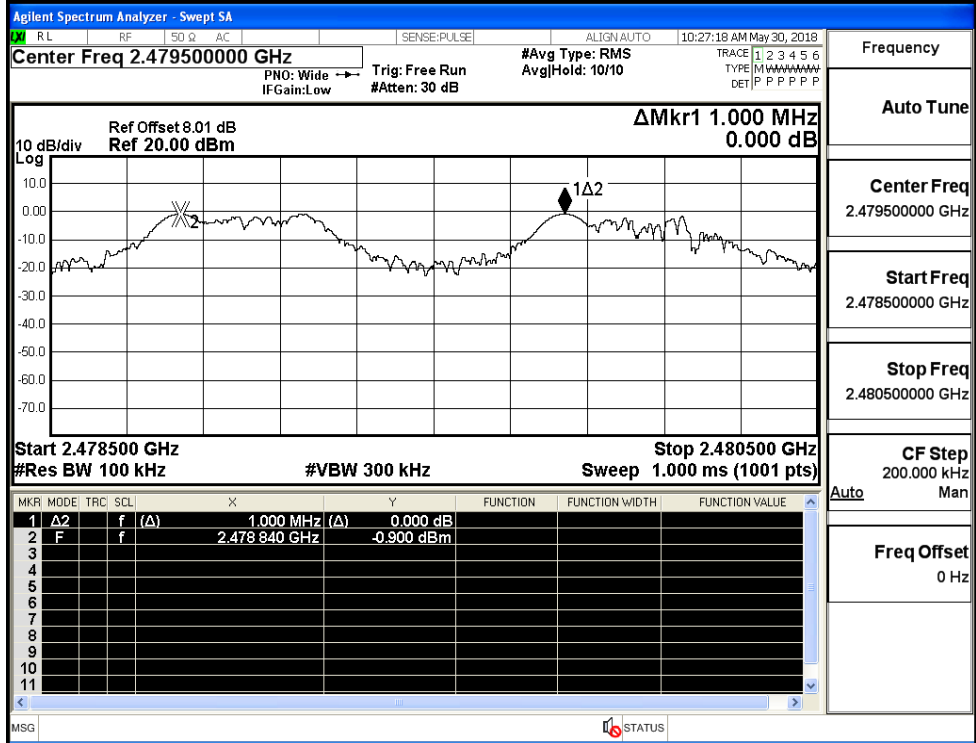


GFSK/MCH



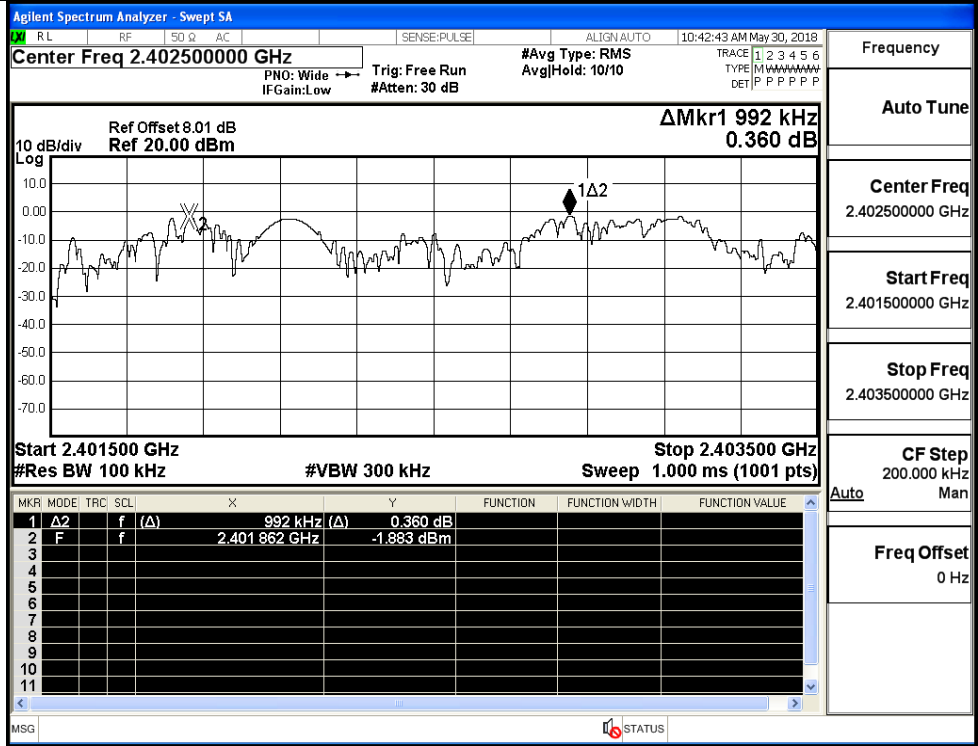
Frequency
Auto Tune
Center Freq
2.441500000 GHz
Start Freq
2.440500000 GHz
Stop Freq
2.442500000 GHz
CF Step
200.000 kHz
Auto Man
Freq Offset
0 Hz

GFSK/HCH

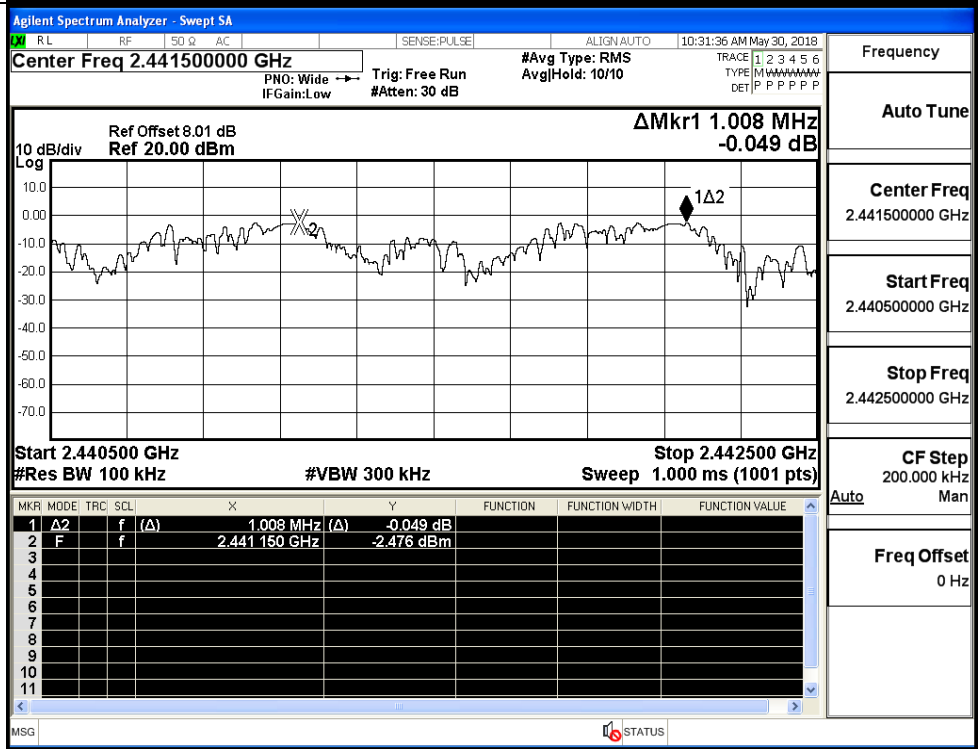


Frequency
Auto Tune
Center Freq
2.479500000 GHz
Start Freq
2.478500000 GHz
Stop Freq
2.480500000 GHz
CF Step
200.000 kHz
Auto Man
Freq Offset
0 Hz

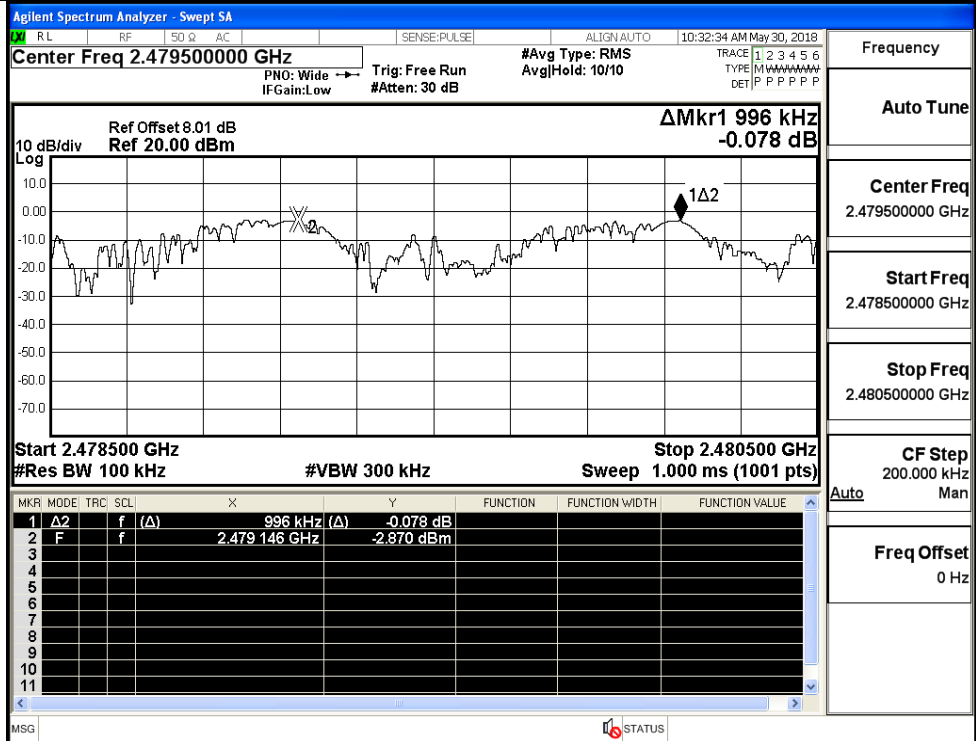
$\pi/4$ DQPSK/LCH



$\pi/4$ DQPSK/MCH



π/4DQPSK/HCH



Frequency

Auto Tune

Center Freq
2.479500000 GHz

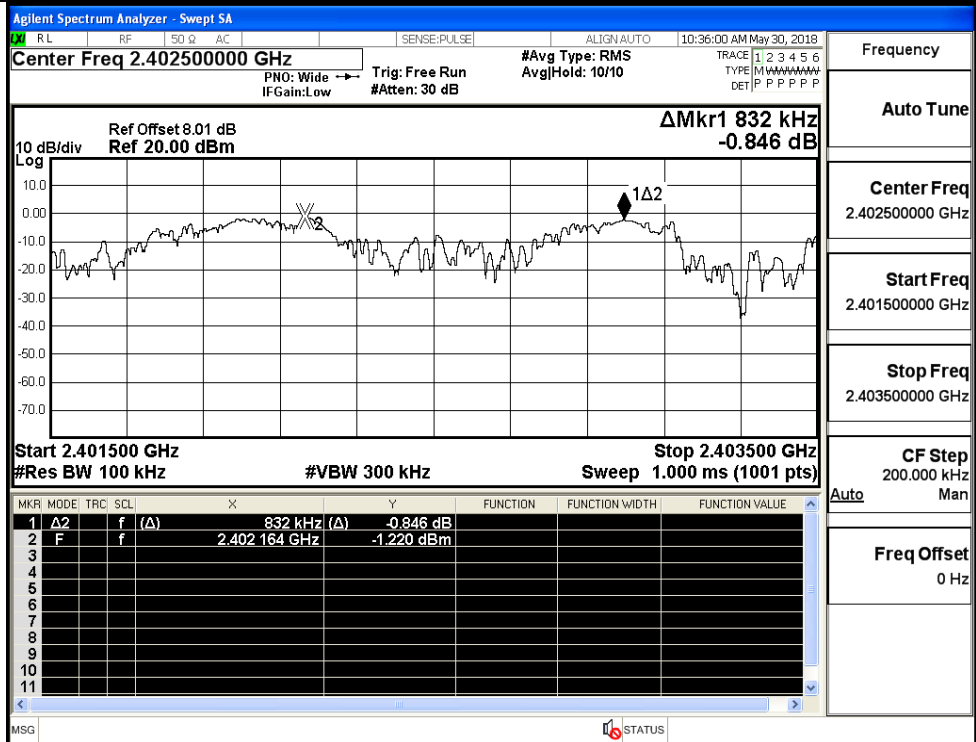
Start Freq
2.478500000 GHz

Stop Freq
2.480500000 GHz

CF Step
200.000 kHz
Man

Freq Offset
0 Hz

8DPSK/LCH



Frequency

Auto Tune

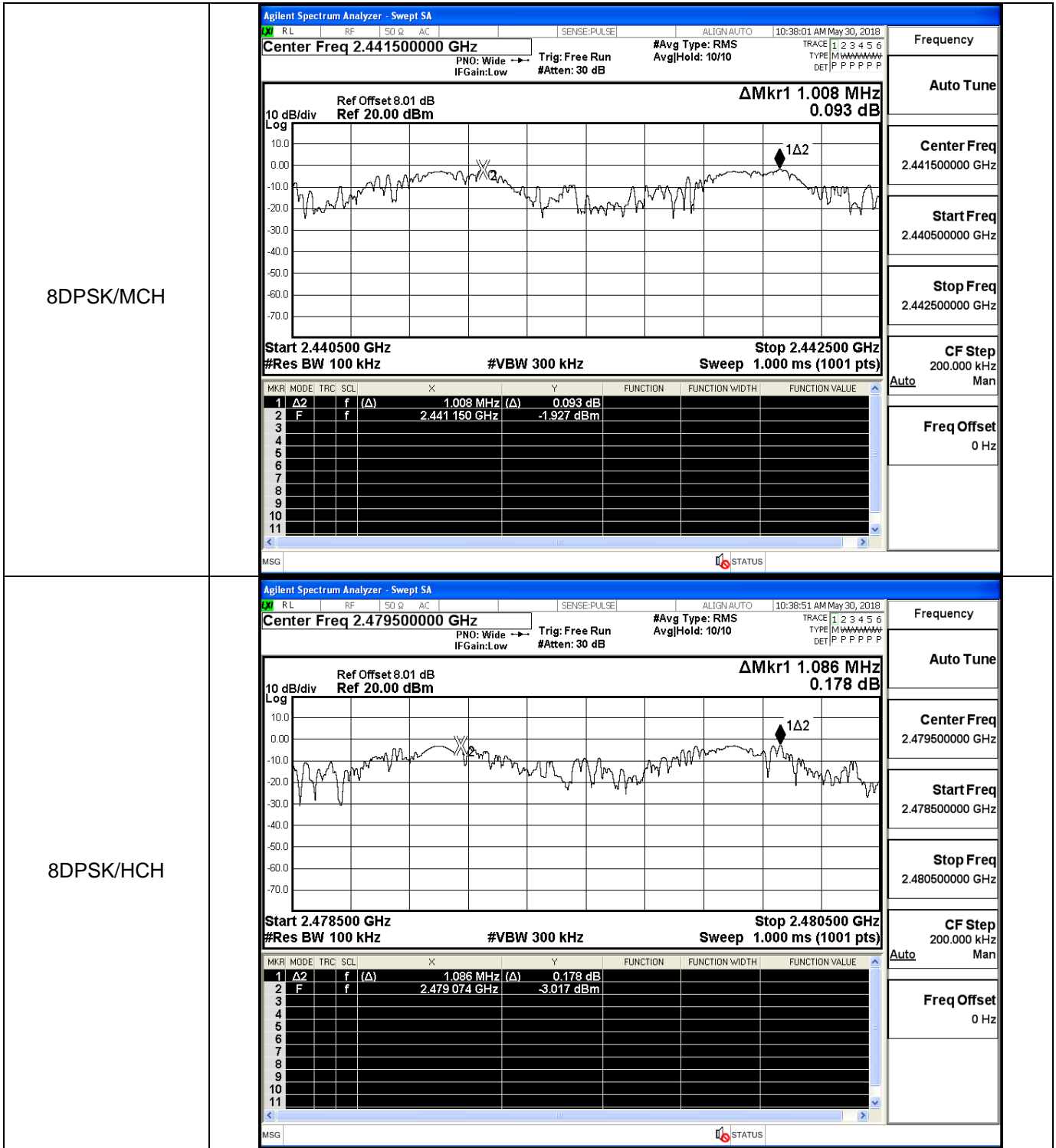
Center Freq
2.402500000 GHz

Start Freq
2.401500000 GHz

Stop Freq
2.403500000 GHz

CF Step
200.000 kHz
Man

Freq Offset
0 Hz

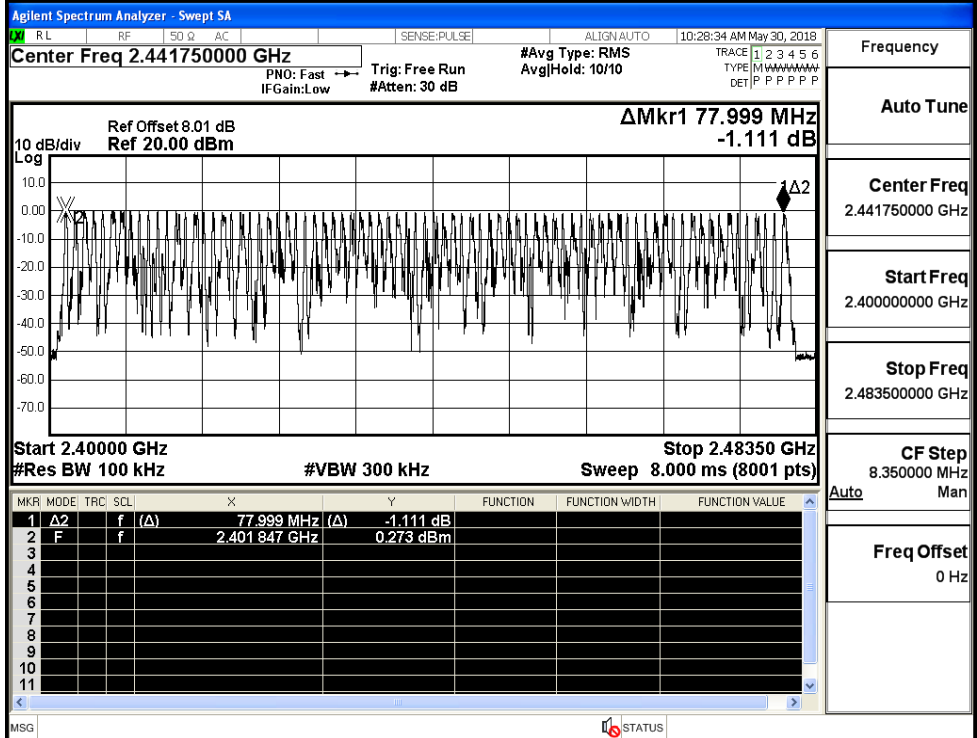


A.4 Hopping Channel Number

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

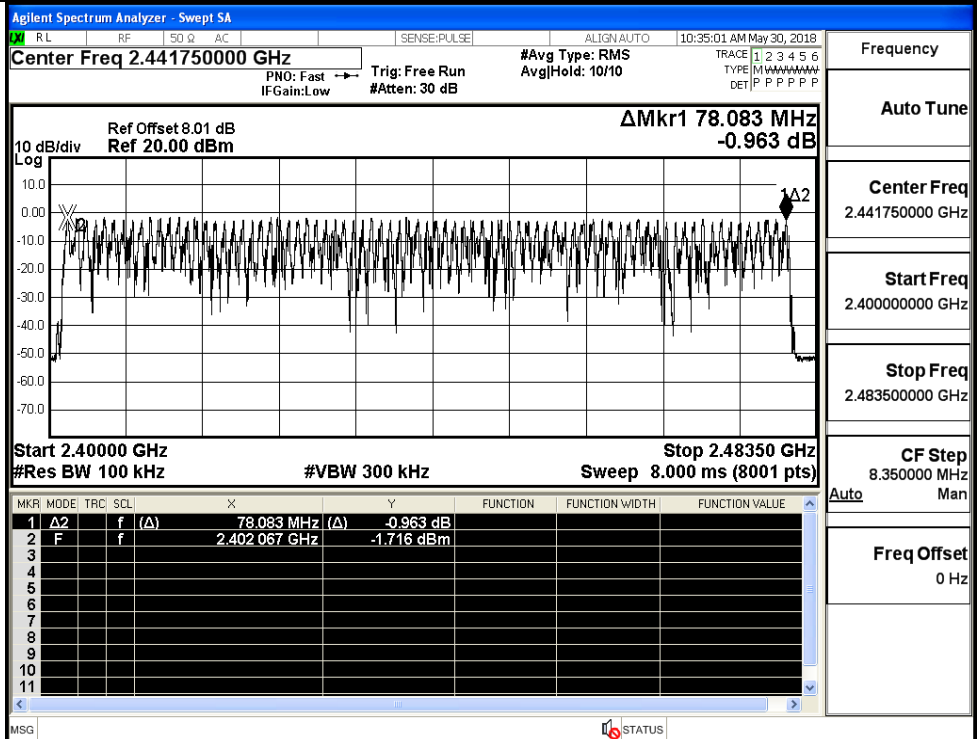
Test Graphs

GFSK/Hop



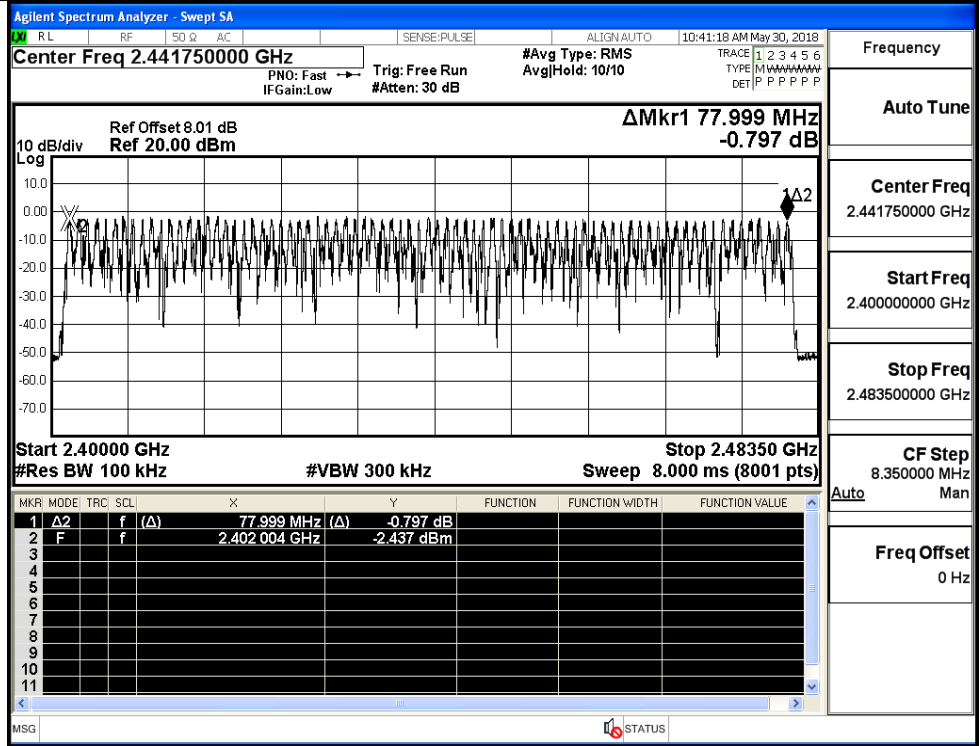
Frequency
Auto Tune
Center Freq 2.441750000 GHz
Start Freq 2.400000000 GHz
Stop Freq 2.483500000 GHz
CF Step 8.350000 MHz
Auto Man
Freq Offset 0 Hz

$\pi/4$ DQPSK/Hop



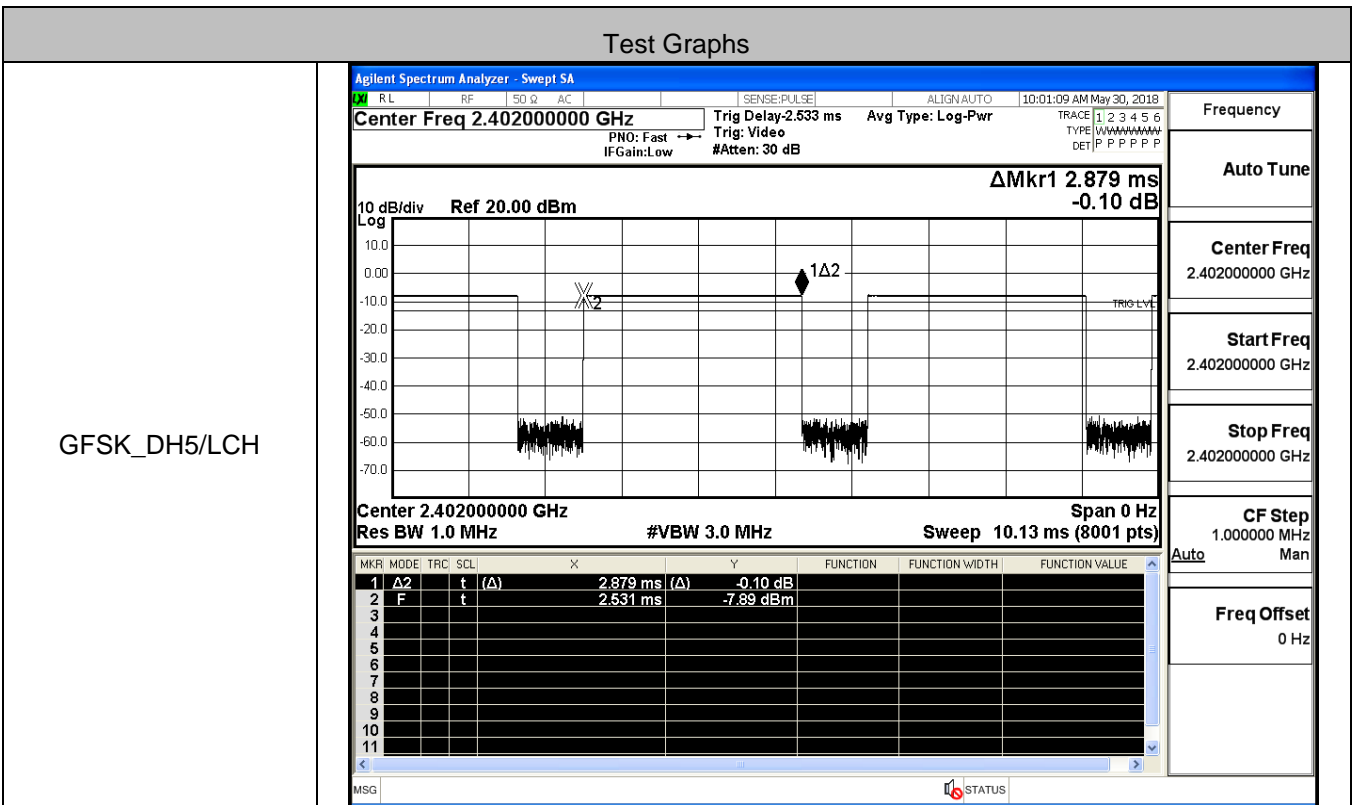
Frequency
Auto Tune
Center Freq 2.441750000 GHz
Start Freq 2.400000000 GHz
Stop Freq 2.483500000 GHz
CF Step 8.350000 MHz
Auto Man
Freq Offset 0 Hz

8DPSK/Hop

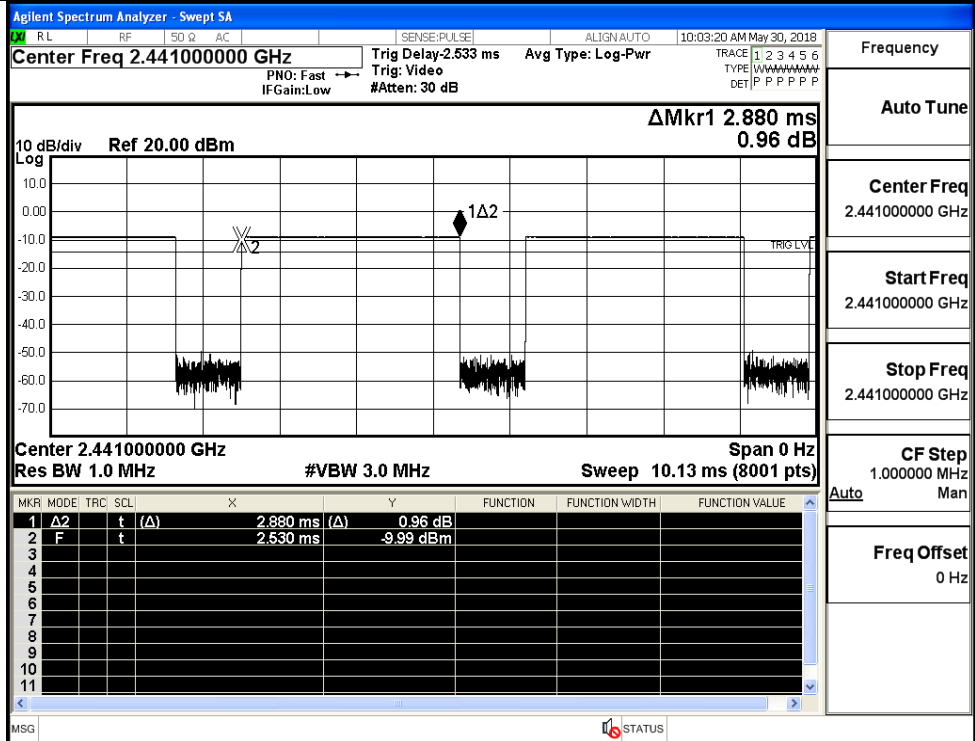


A.5 Dwell Time

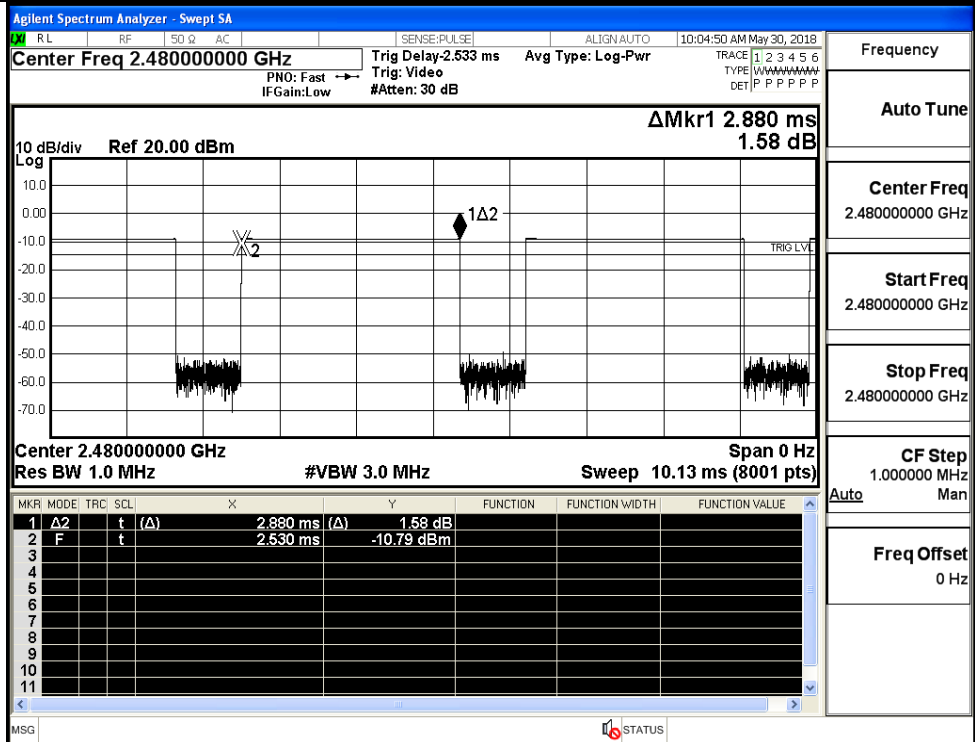
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
π/4DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7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



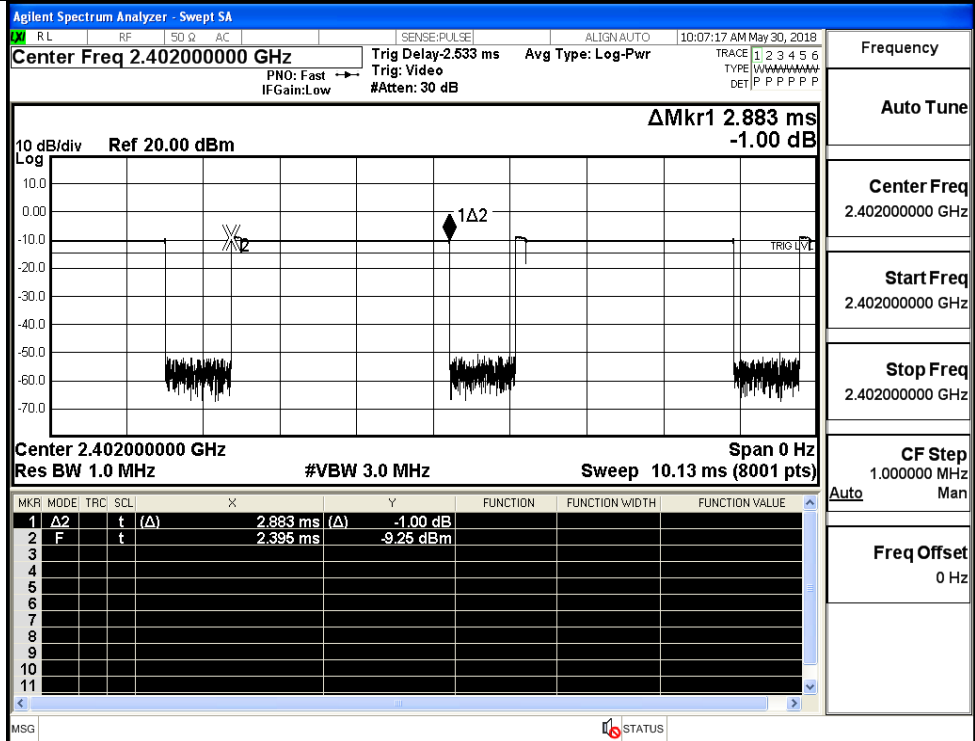
GFSK_DH5/MCH



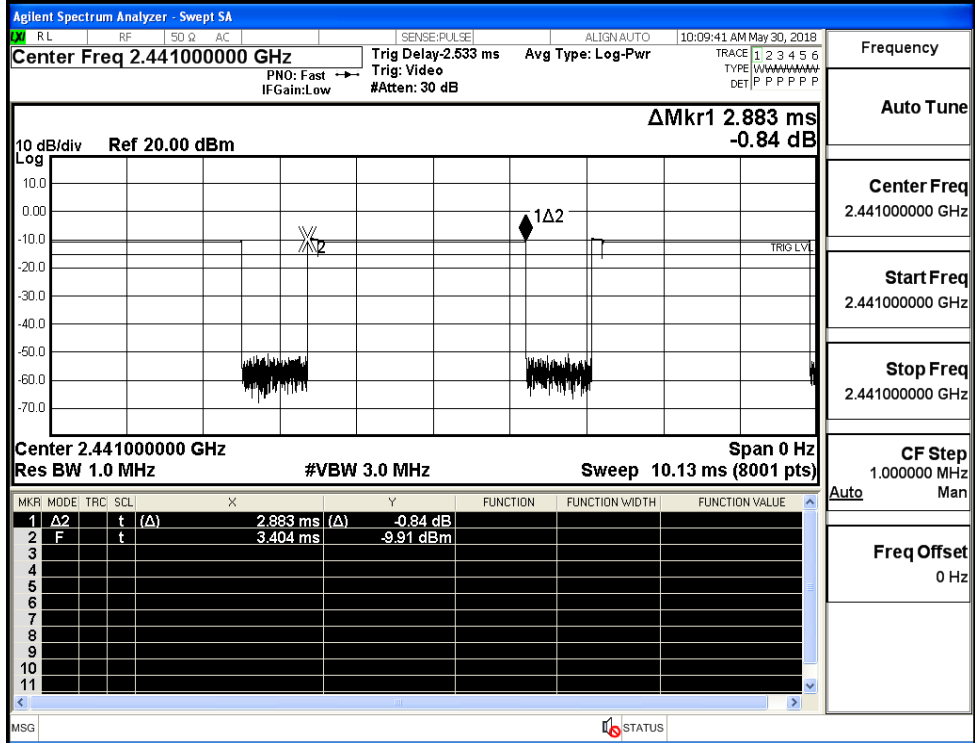
GFSK_DH5/HCH



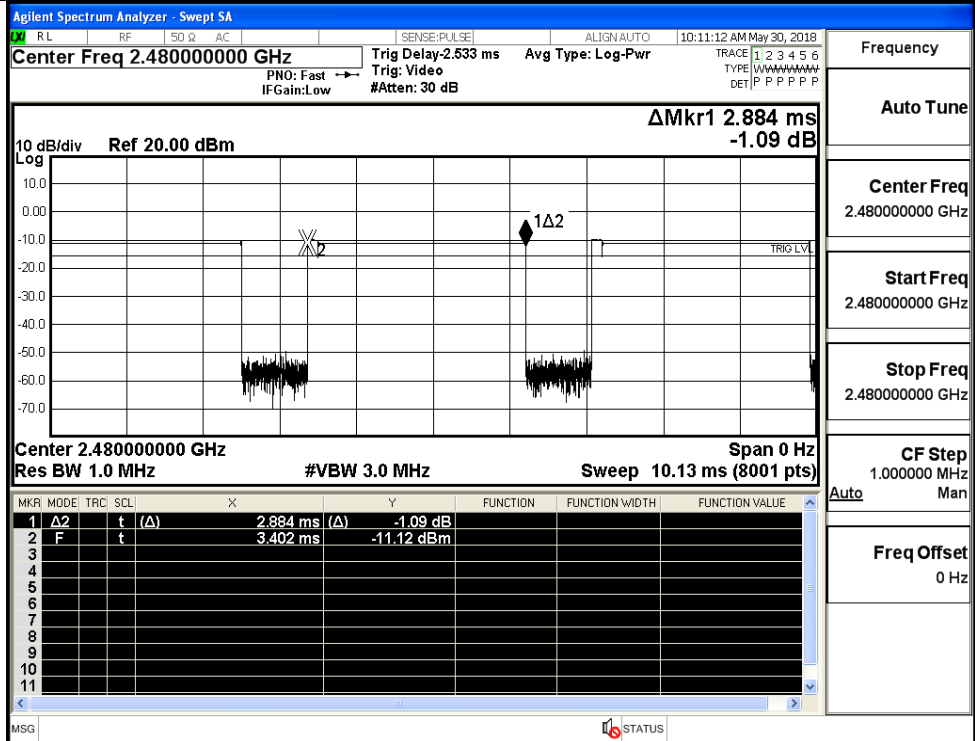
$\pi/4$ DQPSK
_2DH5/LCH



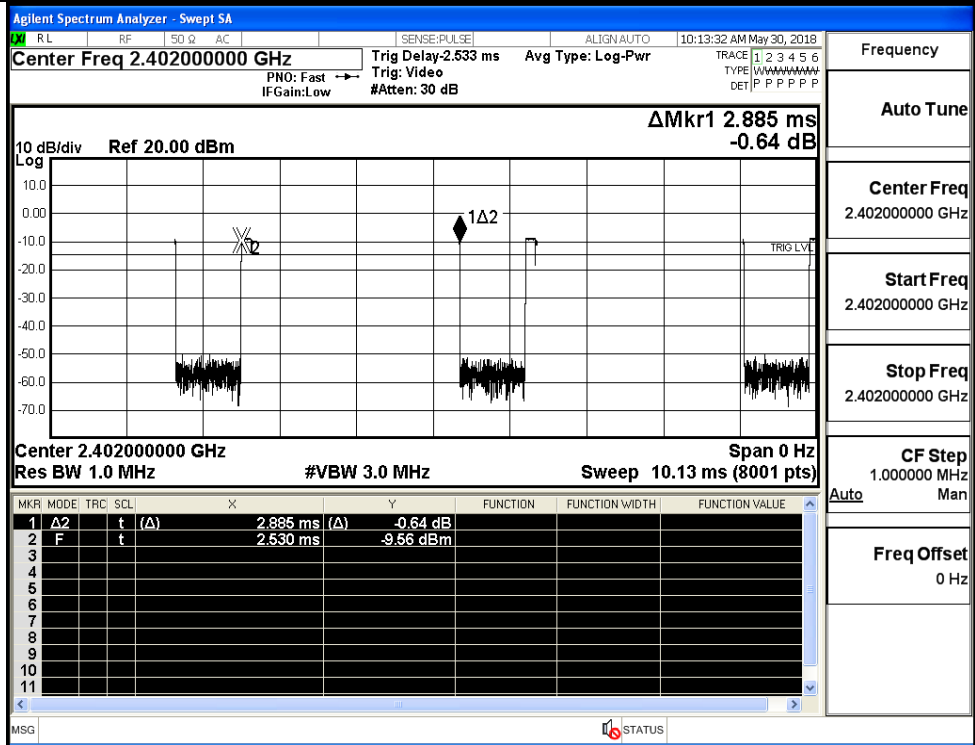
$\pi/4$ DQPSK
_2DH5/MCH



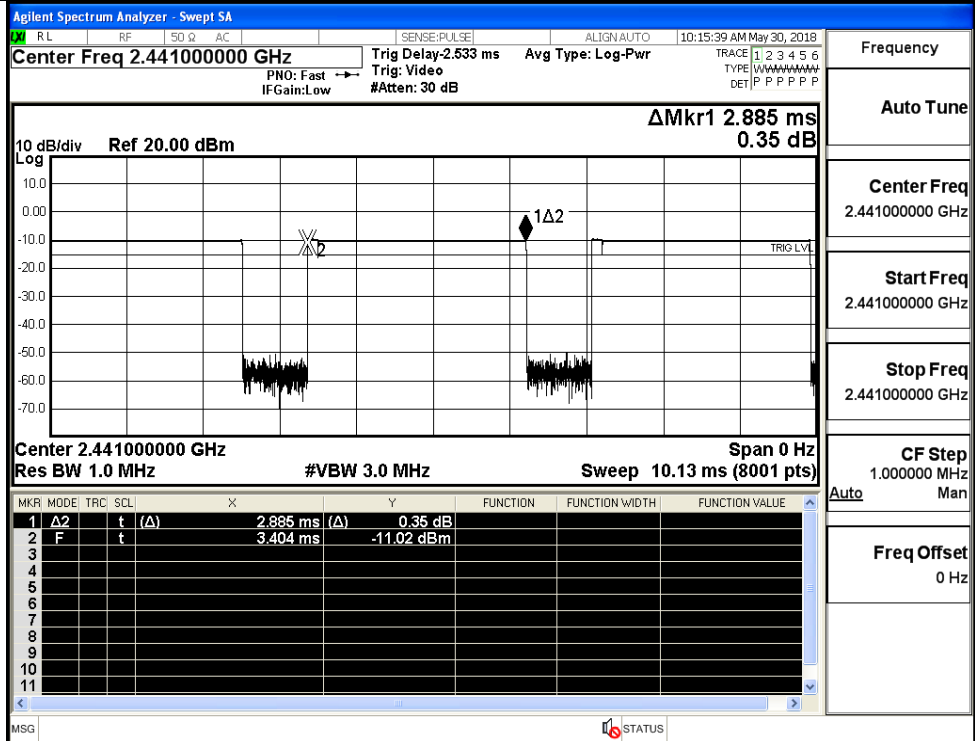
$\pi/4$ DQPSK
_2DH5/HCH



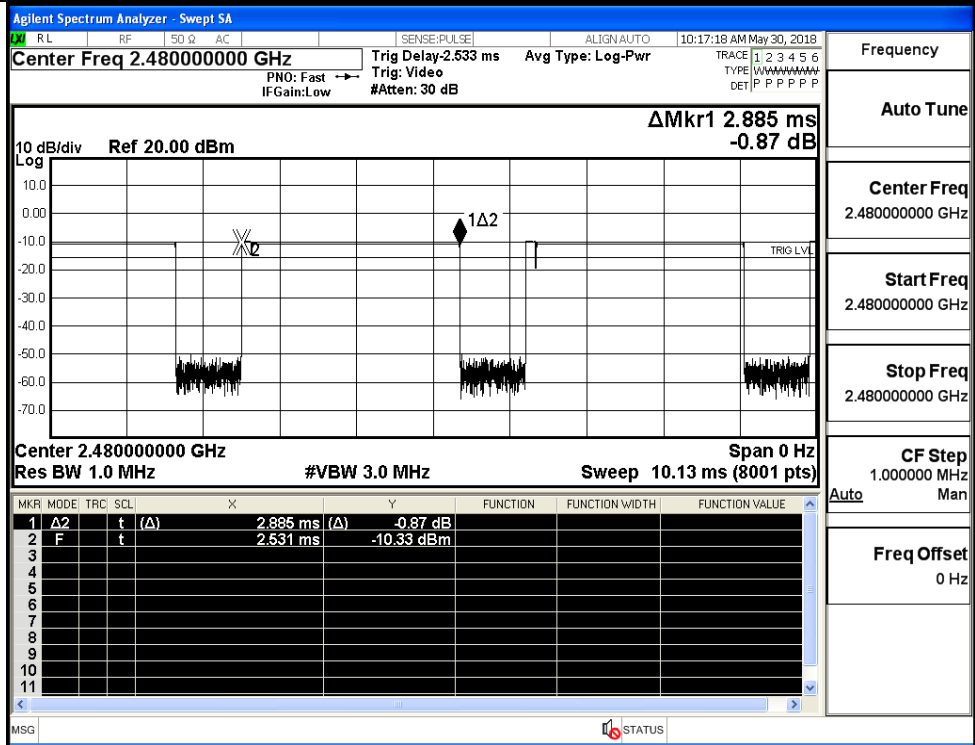
8DPSK_3DH5/LCH



8DPSK_3DH5/MCH



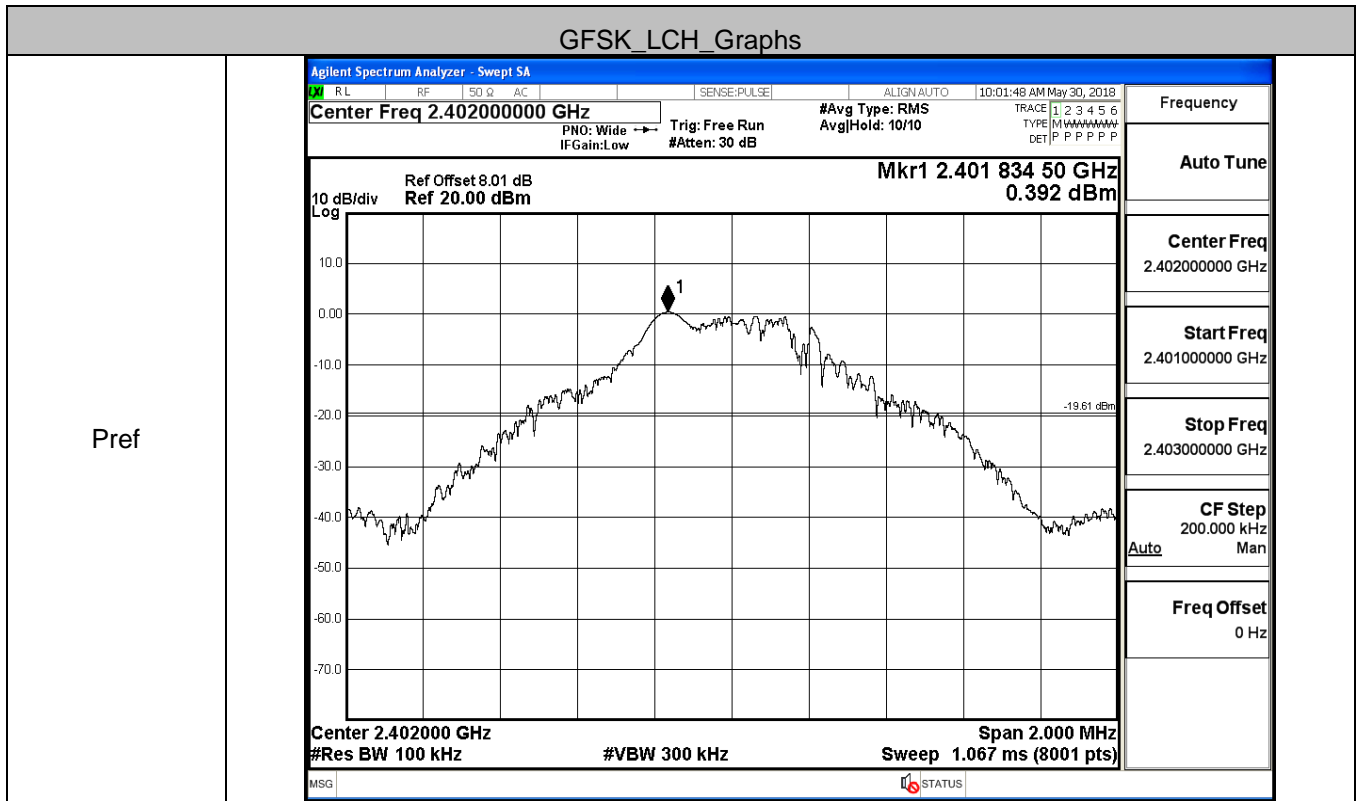
8DPSK_3DH5/HCH

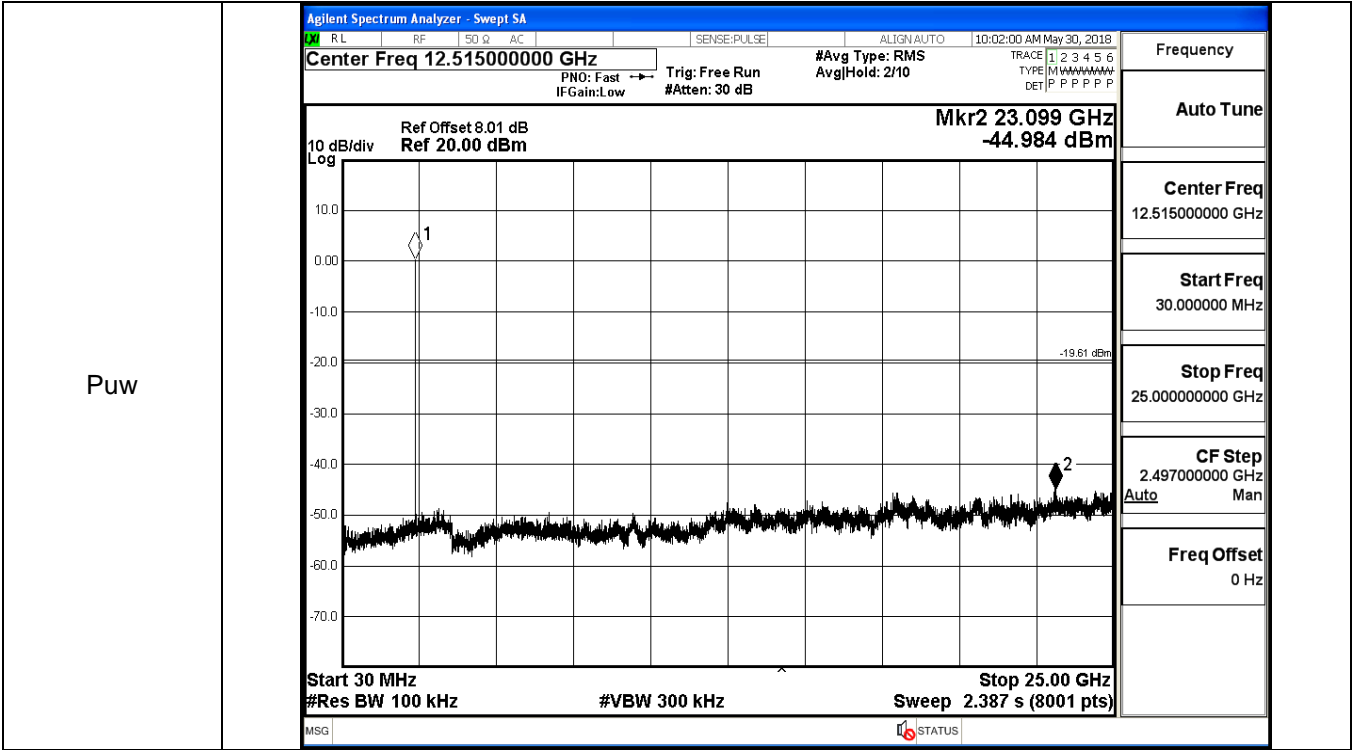


A.6 RF Conducted Spurious Emissions

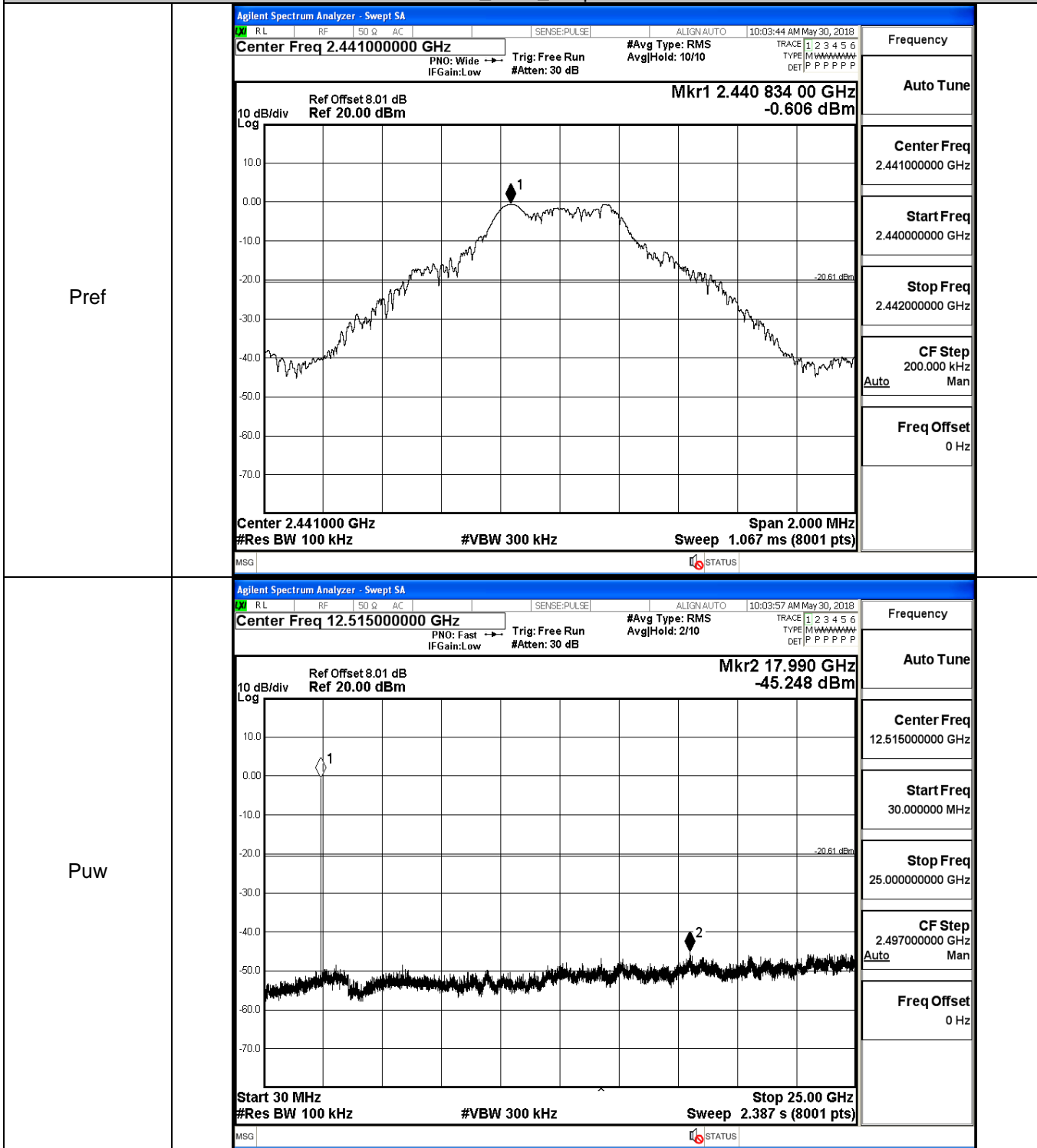
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.392	-44.984	-19.608	PASS
	MCH	-0.606	-45.248	-20.606	PASS
	HCH	-0.764	-45.078	-20.764	PASS
π/4DQPSK	LCH	-0.988	-45.151	-20.988	PASS
	MCH	-1.768	-44.024	-21.768	PASS
	HCH	-1.996	-43.929	-21.996	PASS
8DPSK	LCH	-0.946	-44.424	-20.946	PASS
	MCH	-1.761	-43.301	-21.761	PASS
	HCH	-2.192	-44.897	-22.192	PASS

GFSK_LCH_Graphs

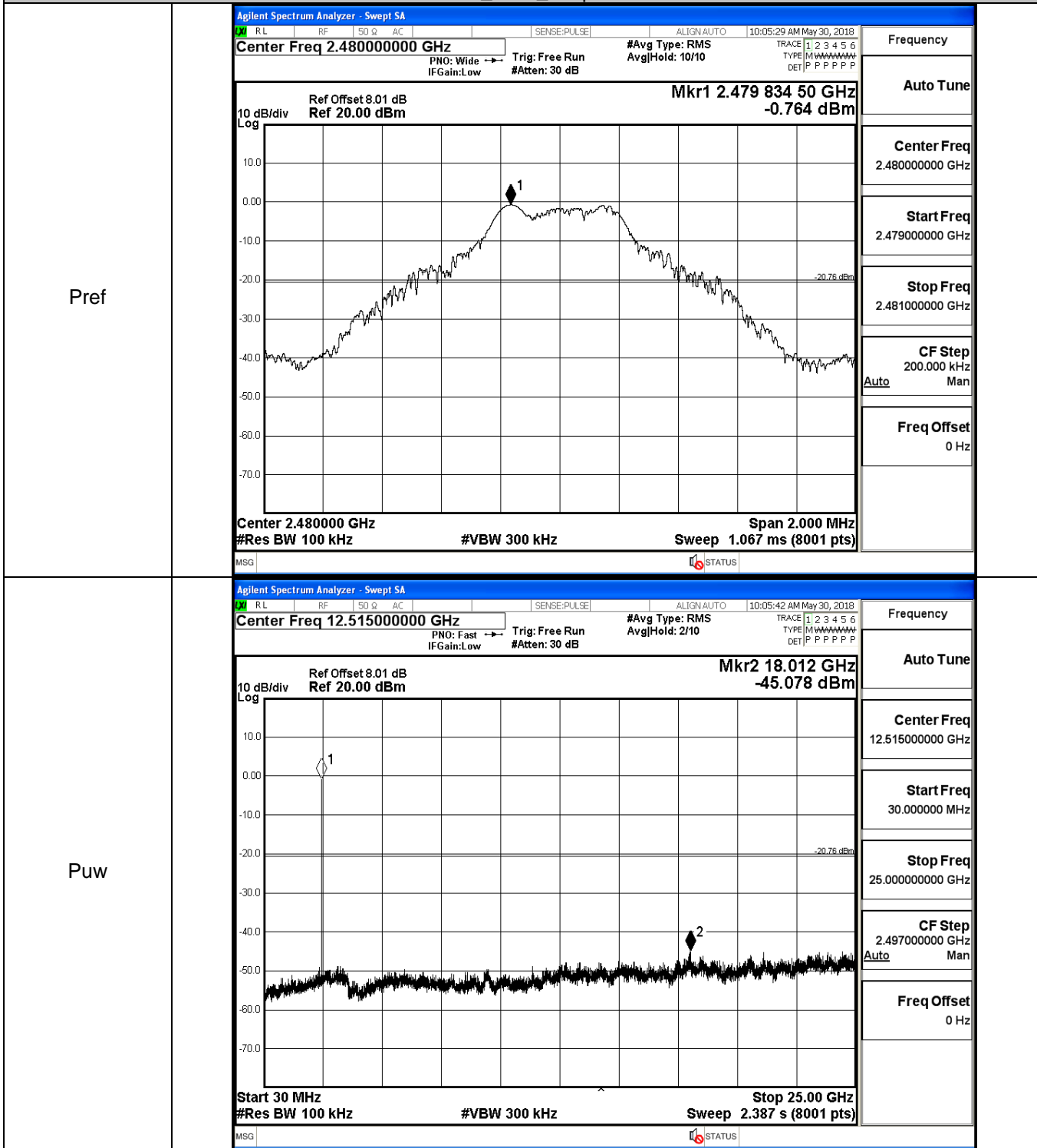




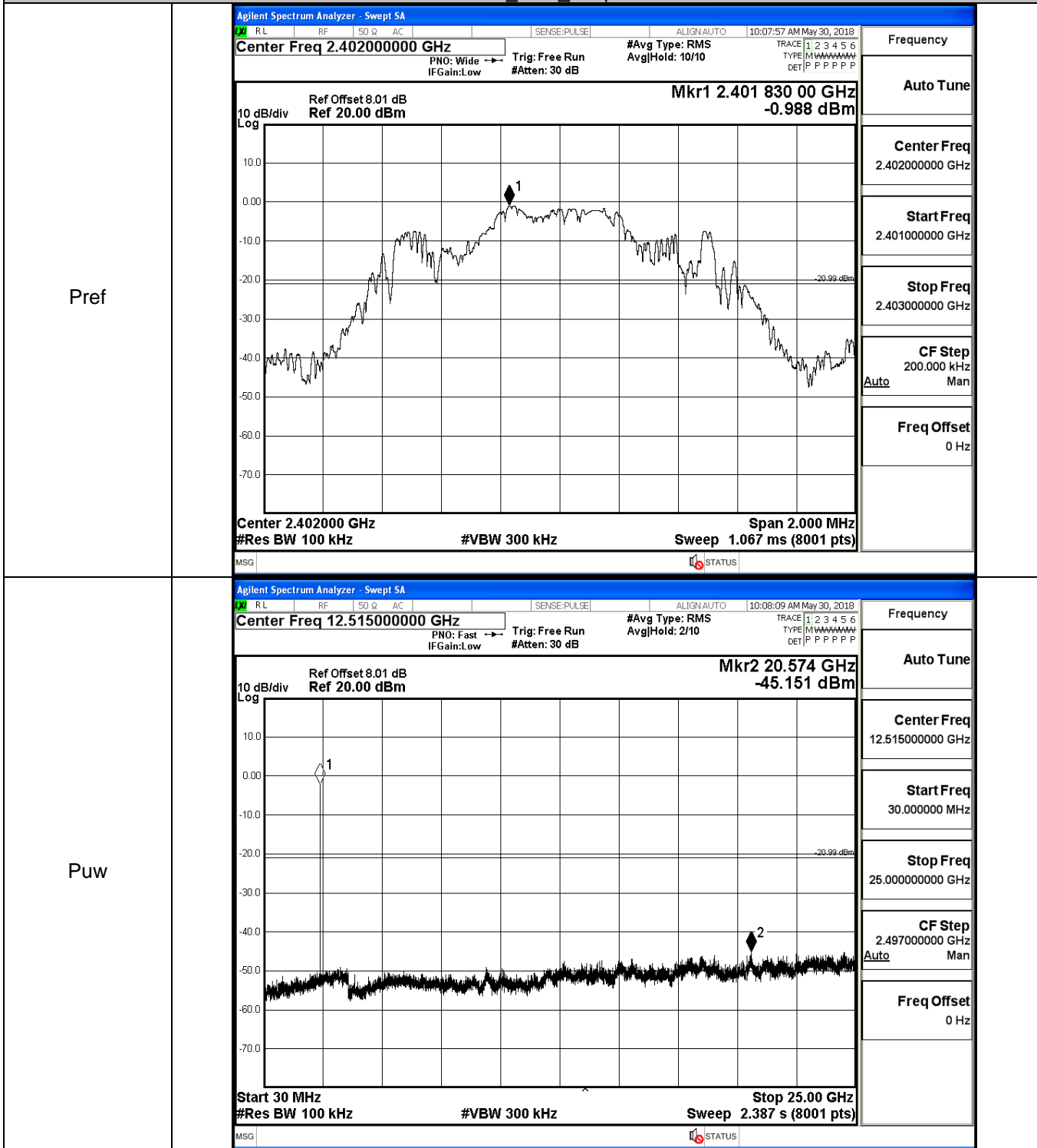
GFSK_MCH_Graphs



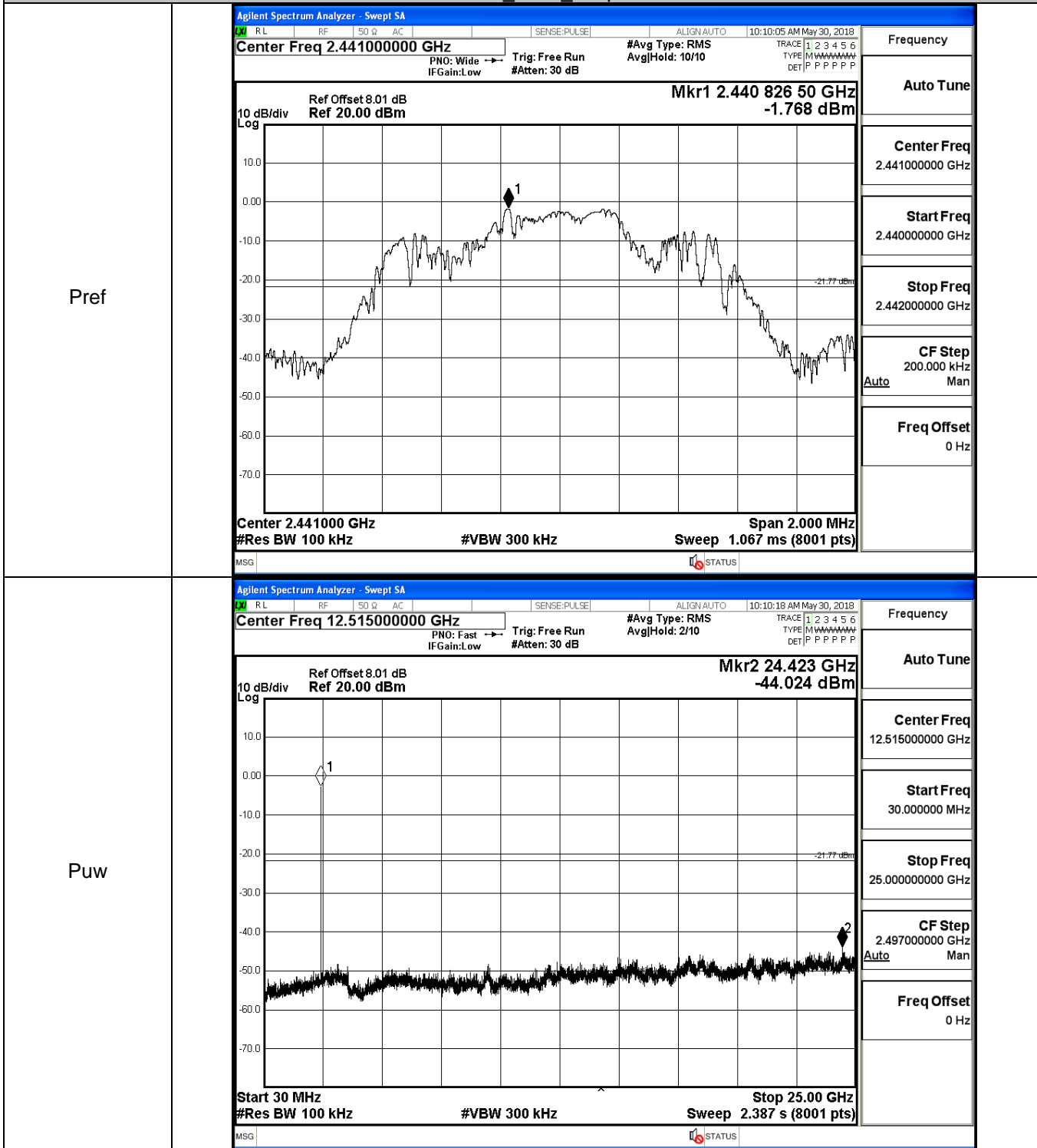
GFSK_HCH_Graphs



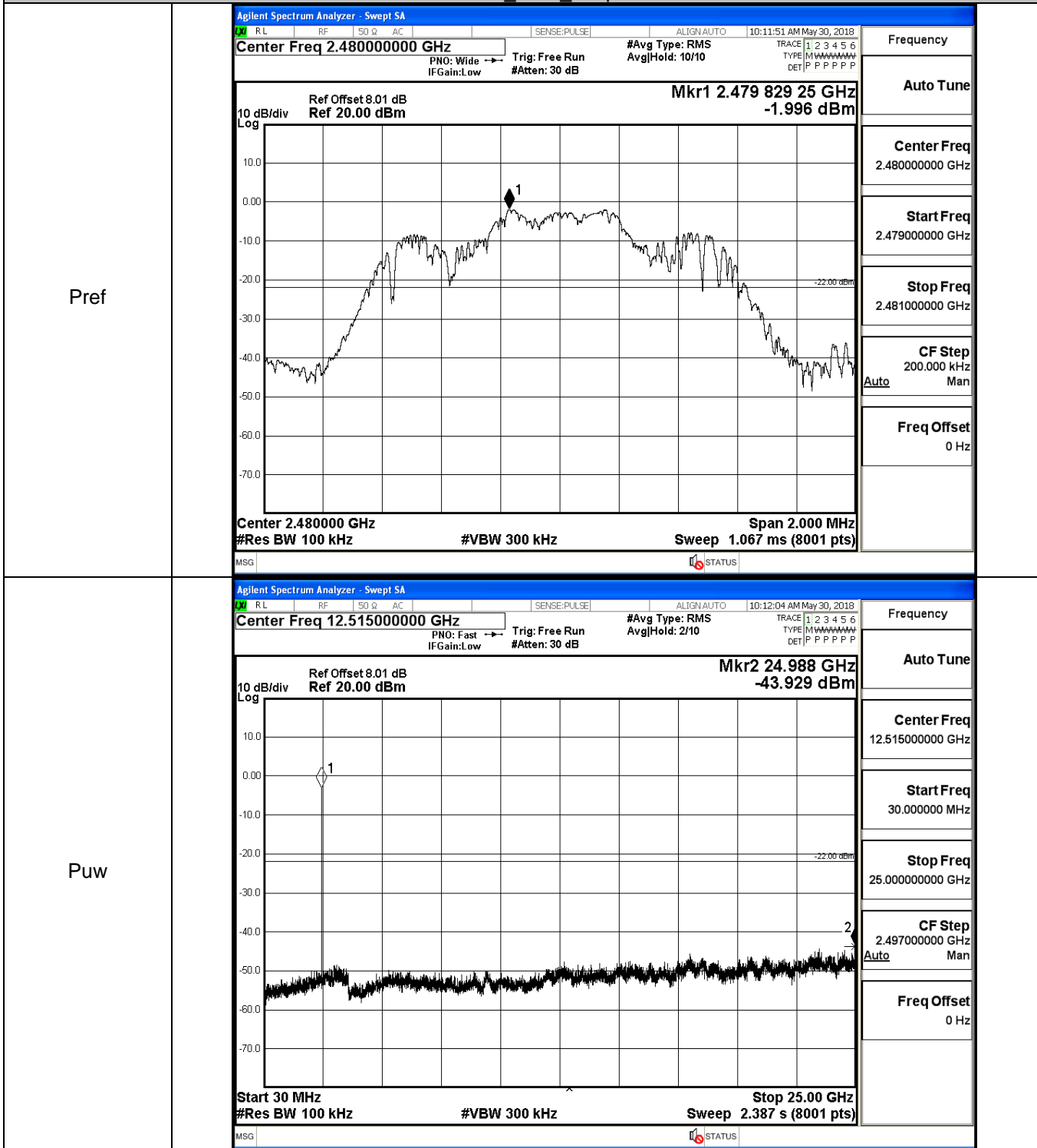
$\pi/4$ DQPSK_LCH_Graphs



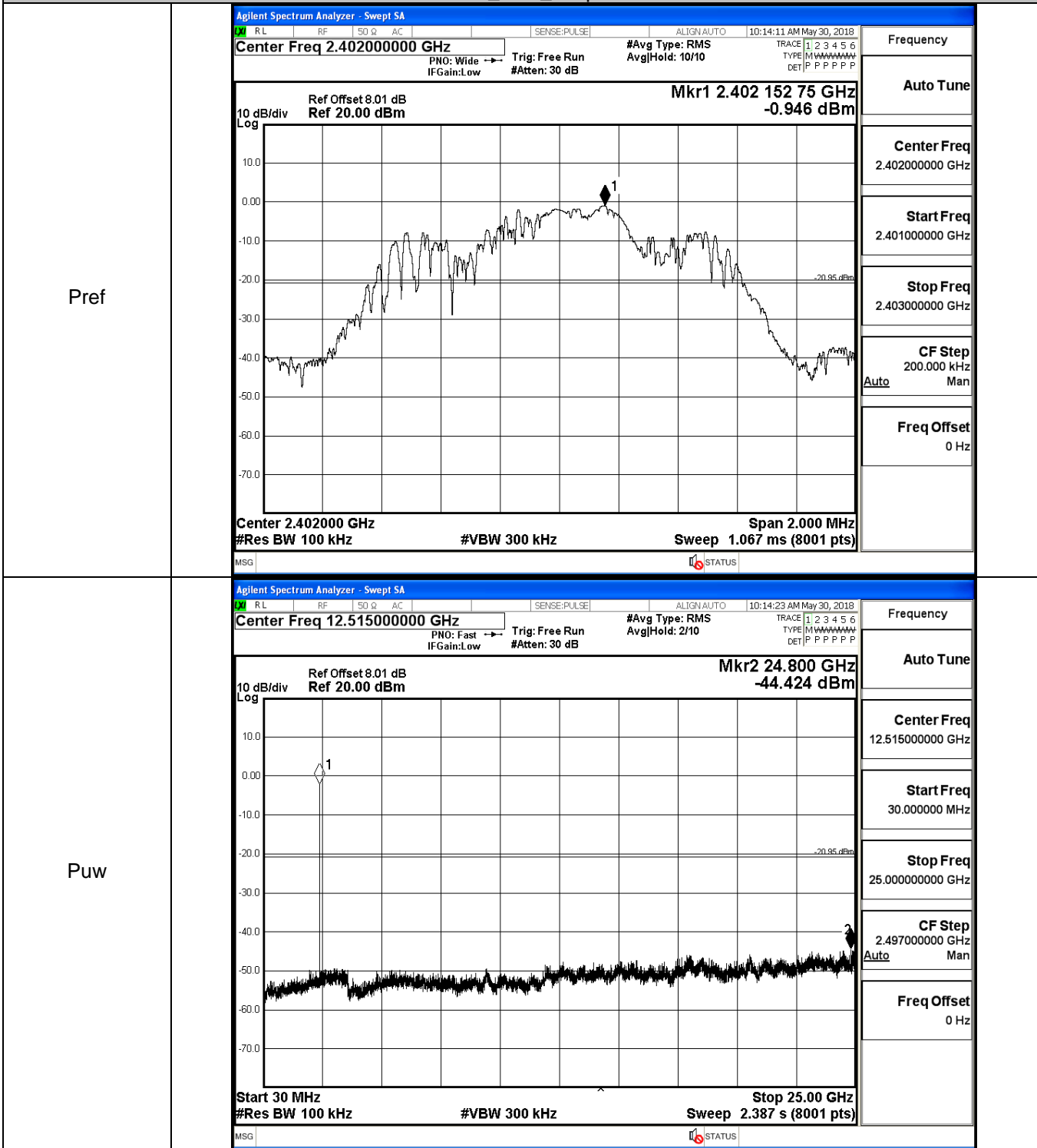
$\pi/4$ DQPSK_MCH_Graphs



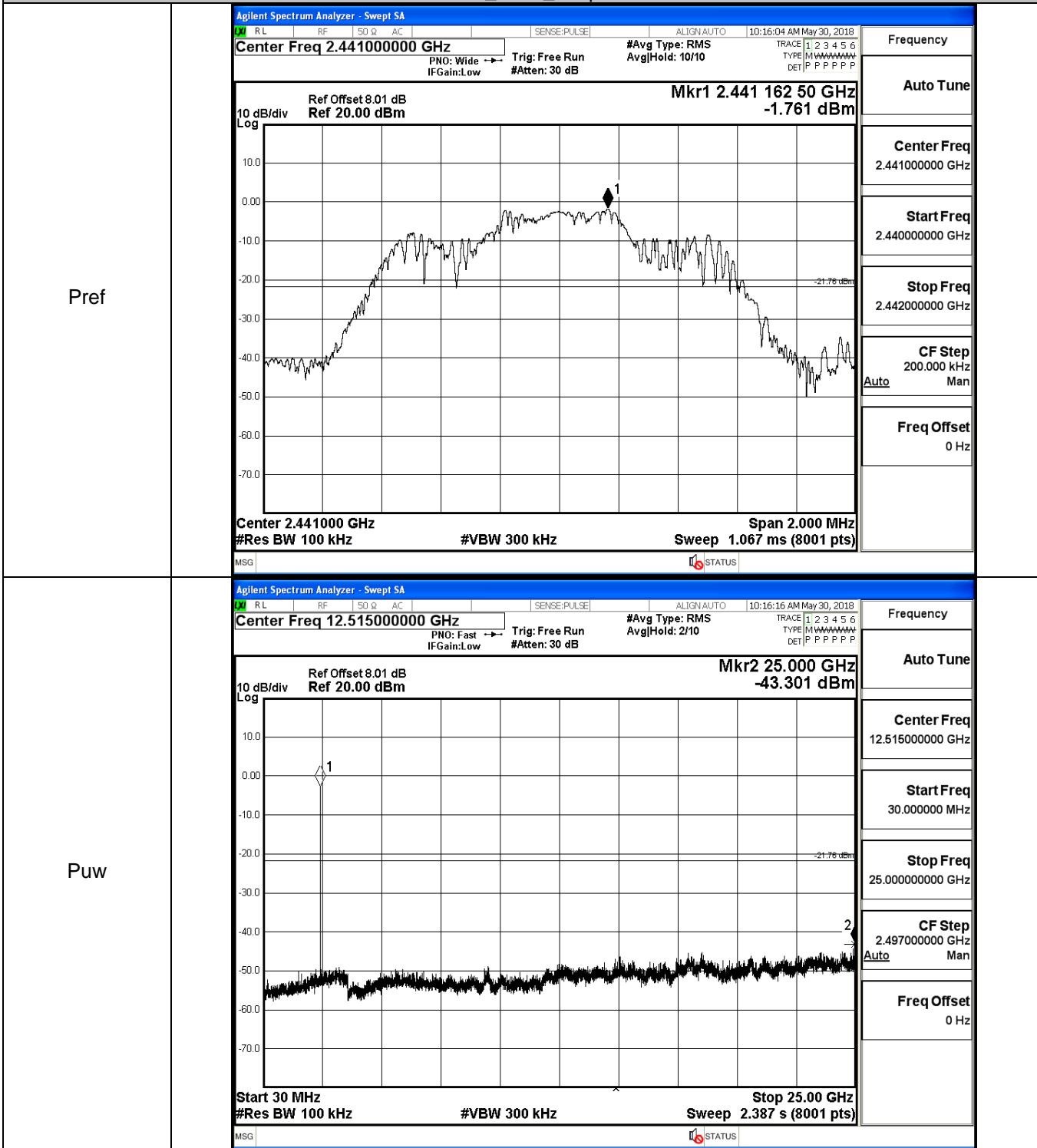
$\pi/4$ DQPSK_HCH_Graphs



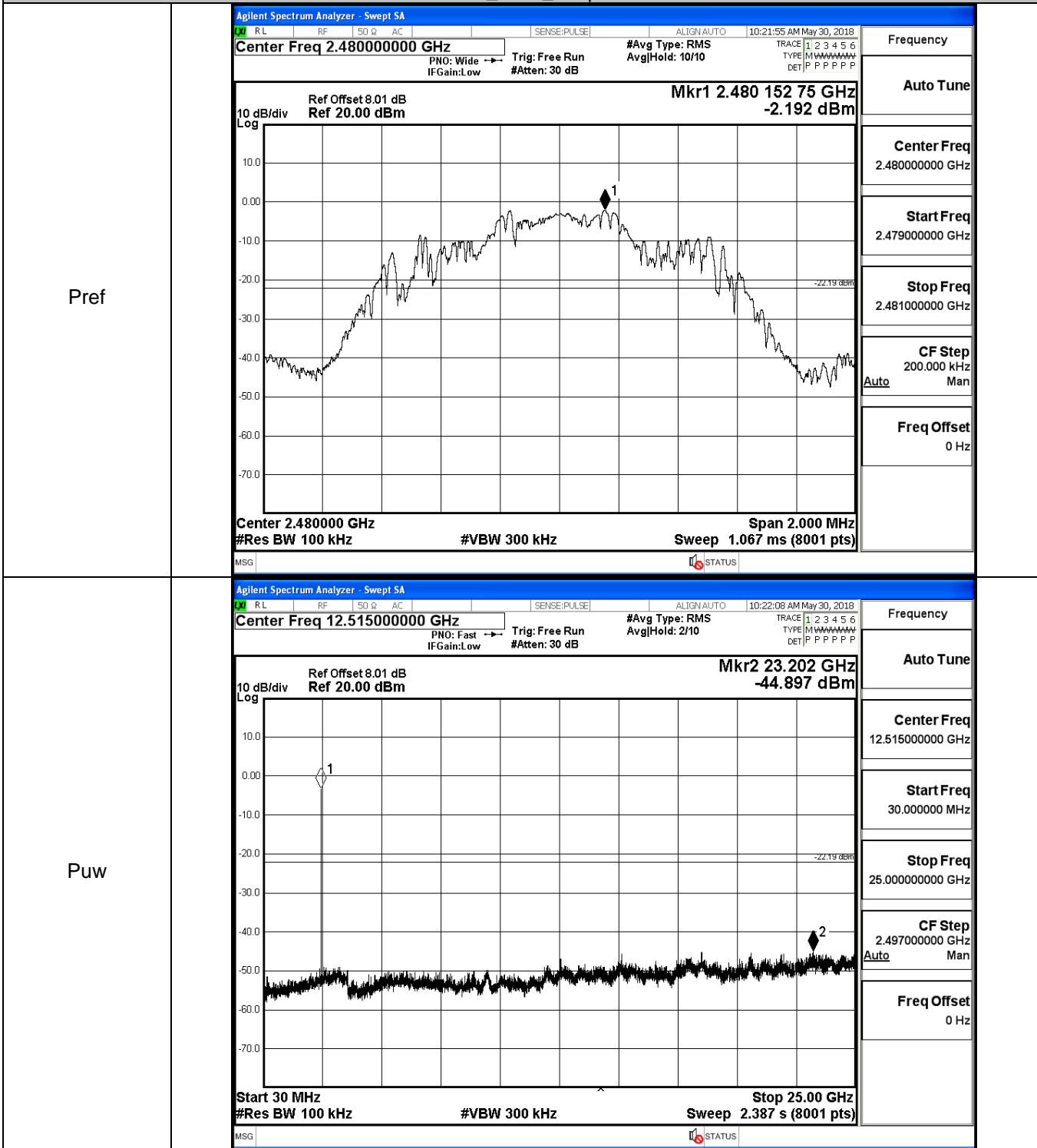
8DPSK_LCH_Graphs



8DPSK_MCH_Graphs



8DPSK_HCH_Graphs

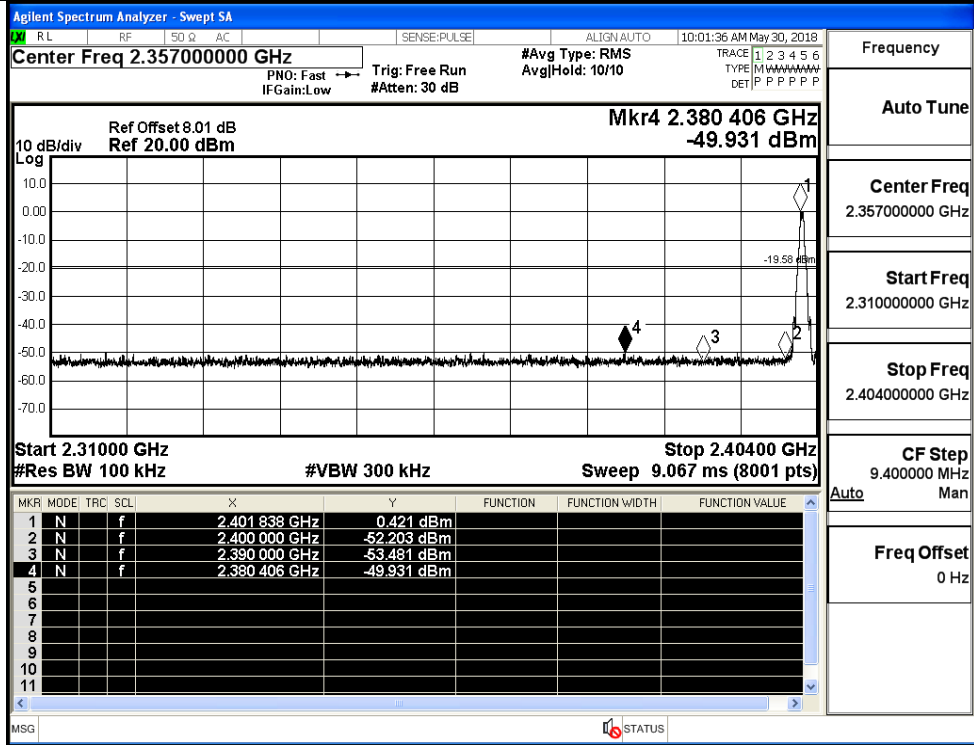


A.7 Band-edge for RF Conducted Emissions

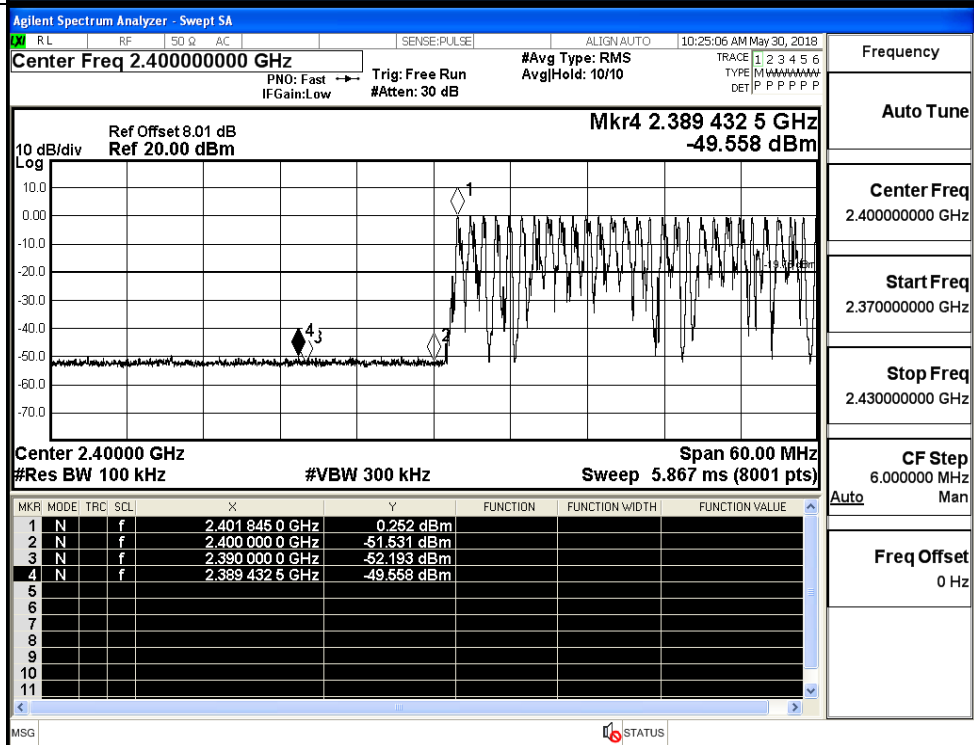
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.421	Off	-49.931	-19.58	PASS
			0.252	On	-49.558	-19.75	PASS
	HCH	2480	-0.714	Off	-50.134	-20.71	PASS
			-0.847	On	-49.739	-20.85	PASS
$\pi/4$ DQPSK	LCH	2402	-1.322	Off	-49.736	-21.32	PASS
			-1.385	On	-48.798	-21.39	PASS
	HCH	2480	-1.866	Off	-49.345	-21.87	PASS
			-2.163	On	-49.264	-22.16	PASS
8DPSK	LCH	2402	-0.940	Off	-49.349	-20.94	PASS
			-1.380	On	-49.930	-21.38	PASS
	HCH	2480	-2.198	Off	-49.399	-22.2	PASS
			-2.122	On	-48.715	-22.12	PASS

Test Graphs

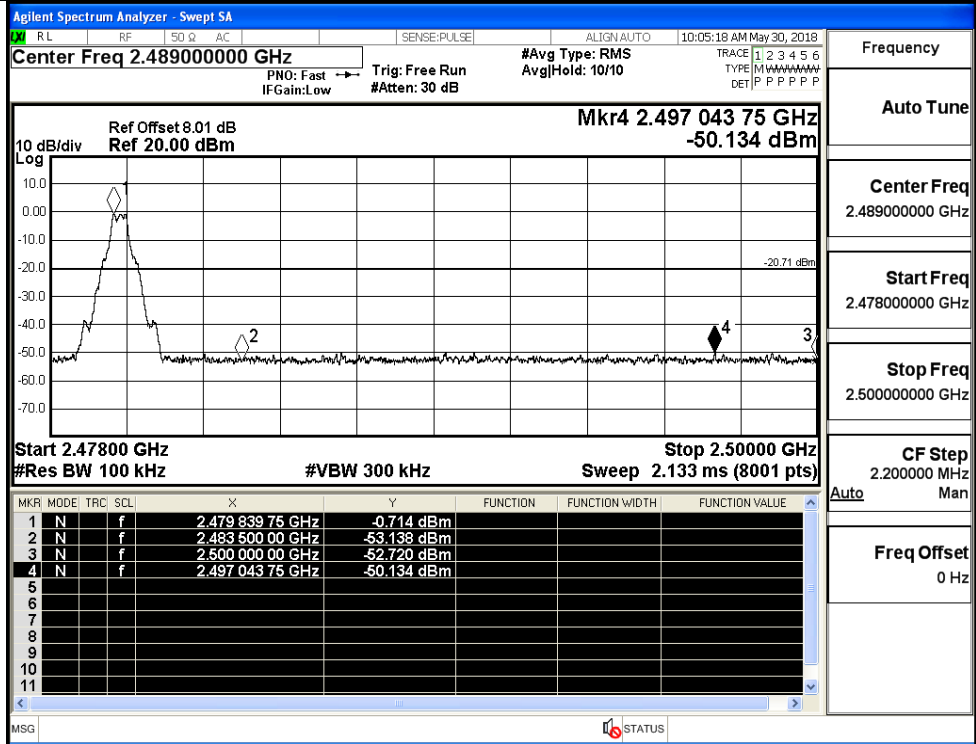
GFSK/LCH/No Hop



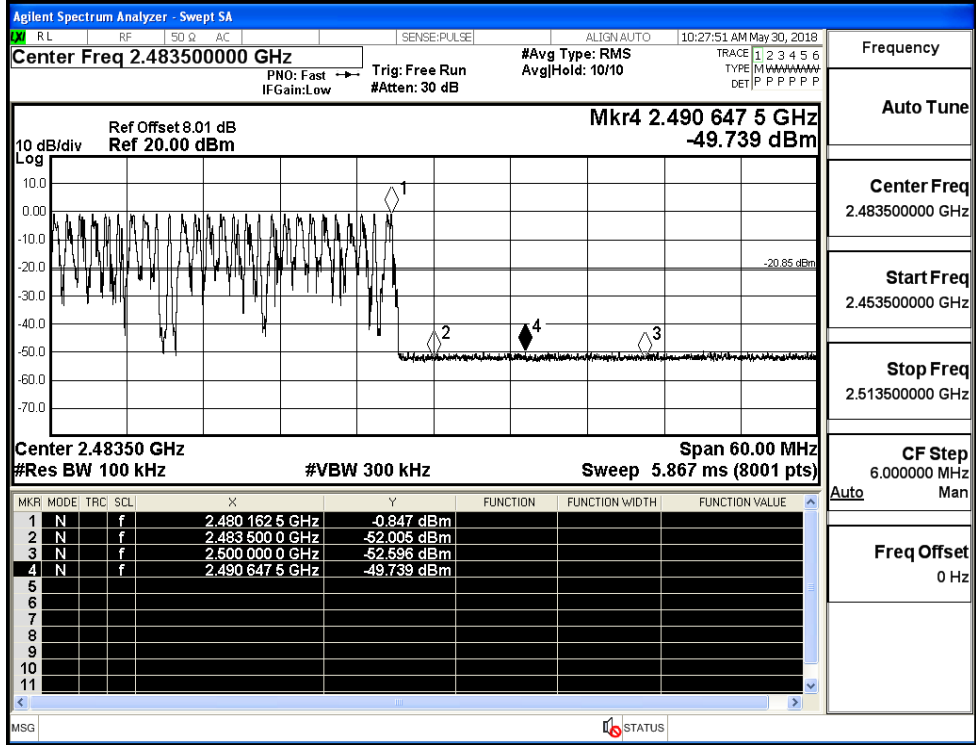
GFSK/LCH/Hop



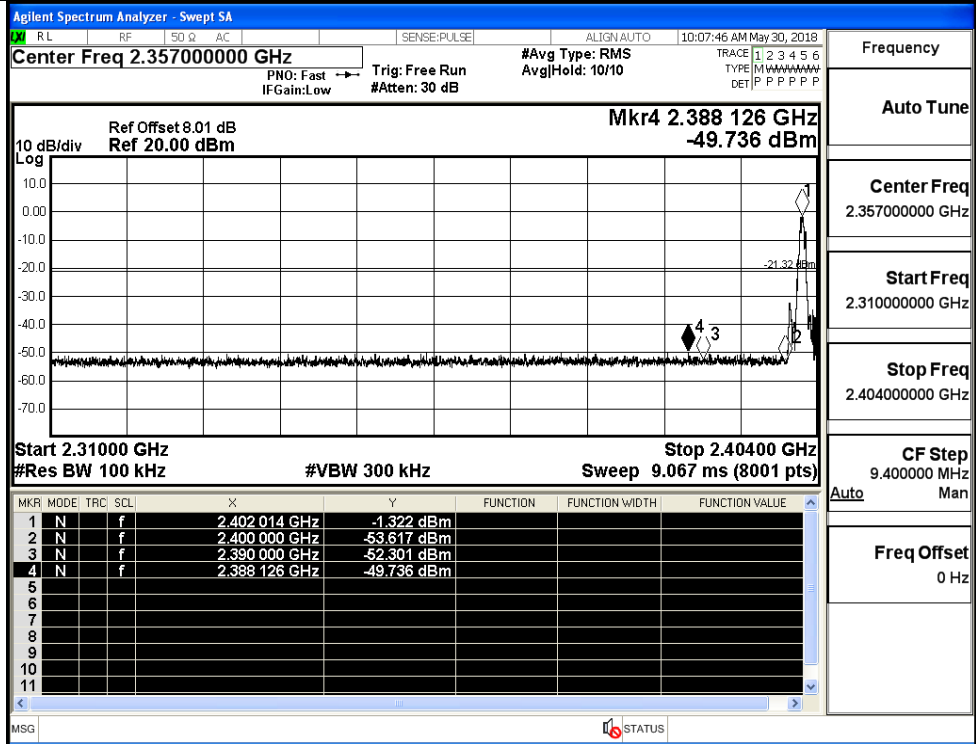
GFSK/HCH/No Hop



GFSK/HCH/Hop

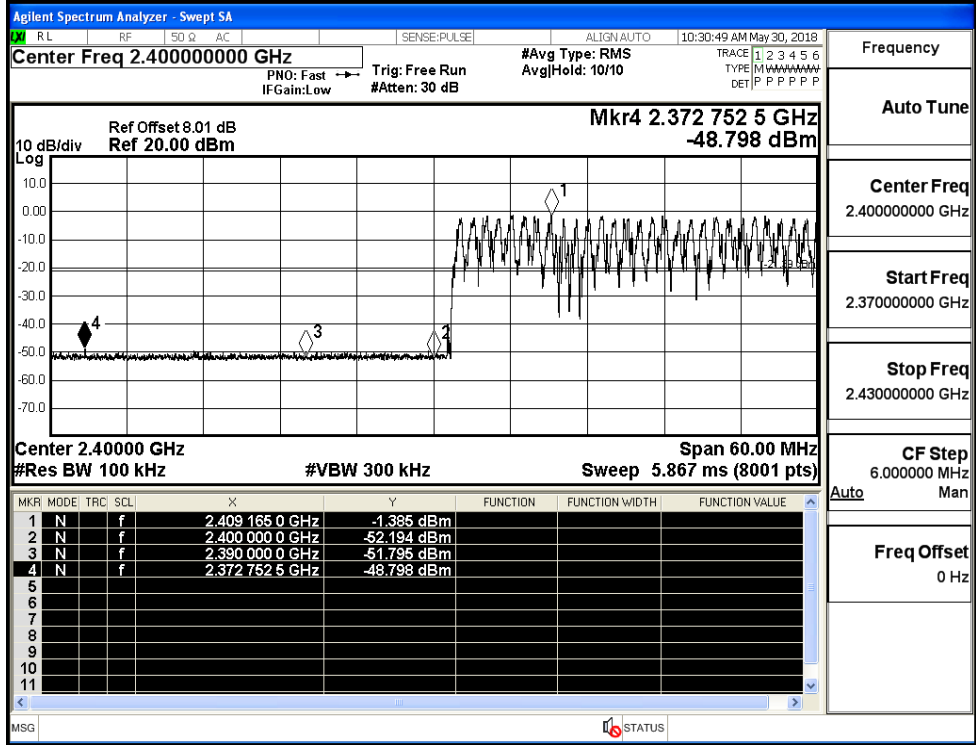


$\pi/4$ DQPSK/LCH/No
Hop



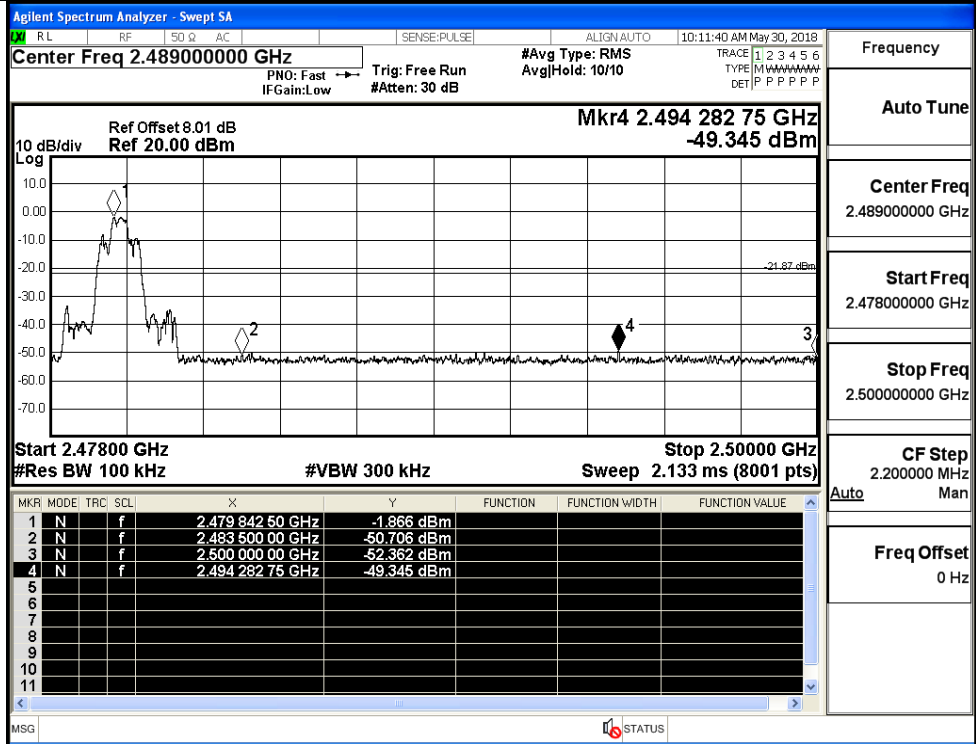
Frequency
Auto Tune
Center Freq
2.357000000 GHz
Start Freq
2.310000000 GHz
Stop Freq
2.404000000 GHz
CF Step
9.400000 MHz
Auto Man
Freq Offset
0 Hz

$\pi/4$ DQPSK/LCH/Hop

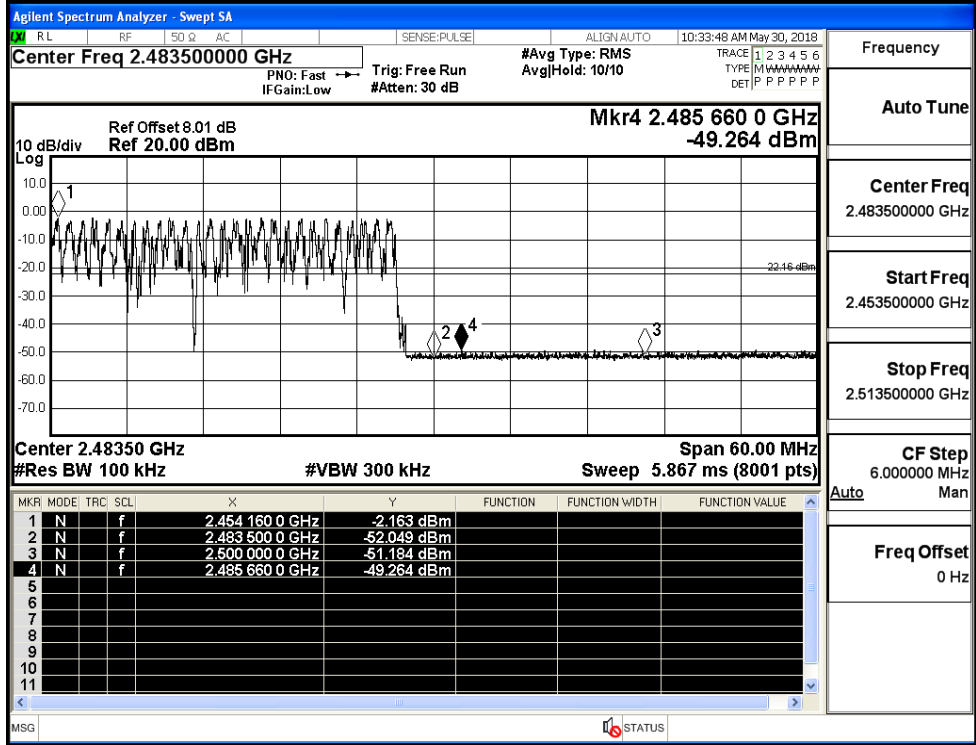


Frequency
Auto Tune
Center Freq
2.400000000 GHz
Start Freq
2.370000000 GHz
Stop Freq
2.430000000 GHz
CF Step
6.000000 MHz
Auto Man
Freq Offset
0 Hz

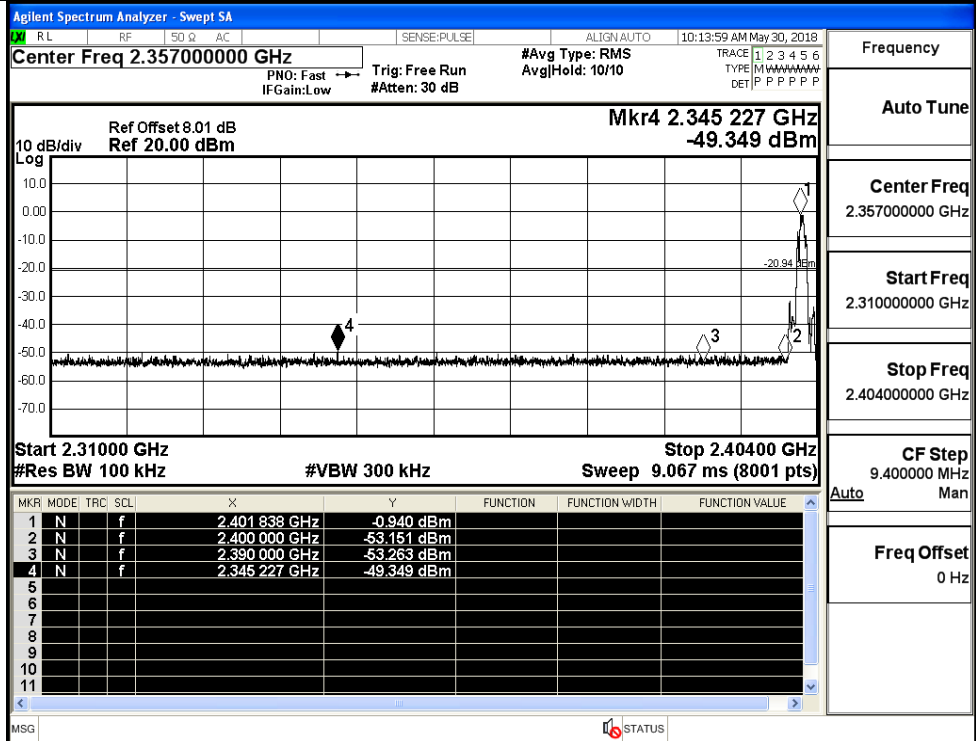
π /4DQPSK/HCH/No
Hop



π /4DQPSK/HCH/Hop



8DPSK/LCH/No Hop



Frequency

Auto Tune

Center Freq
2.357000000 GHz

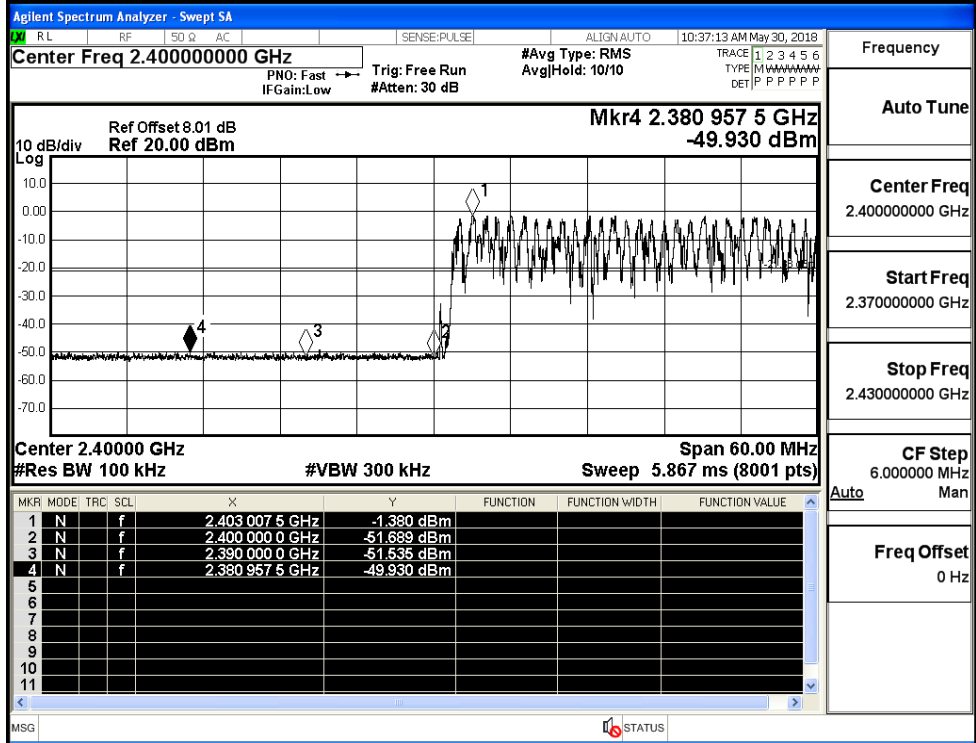
Start Freq
2.310000000 GHz

Stop Freq
2.404000000 GHz

CF Step
9.400000 MHz

Freq Offset
0 Hz

8DPSK/LCH/Hop



Frequency

Auto Tune

Center Freq
2.400000000 GHz

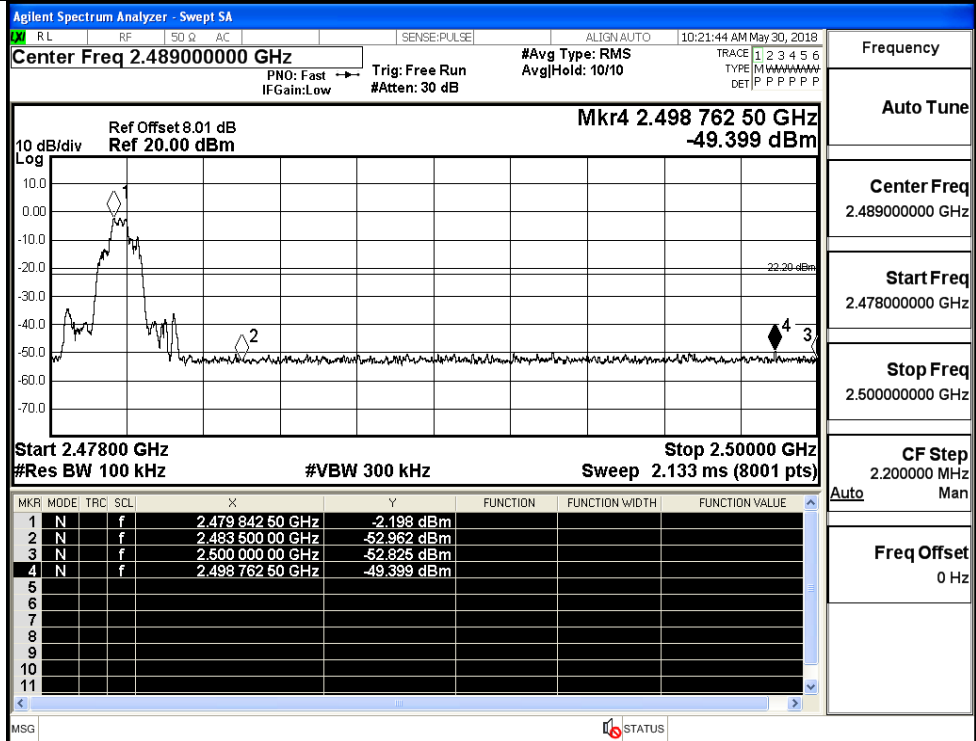
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

CF Step
6.000000 MHz

Freq Offset
0 Hz

8DPSK/HCH/No Hop



Frequency

Auto Tune

Center Freq
2.489000000 GHz

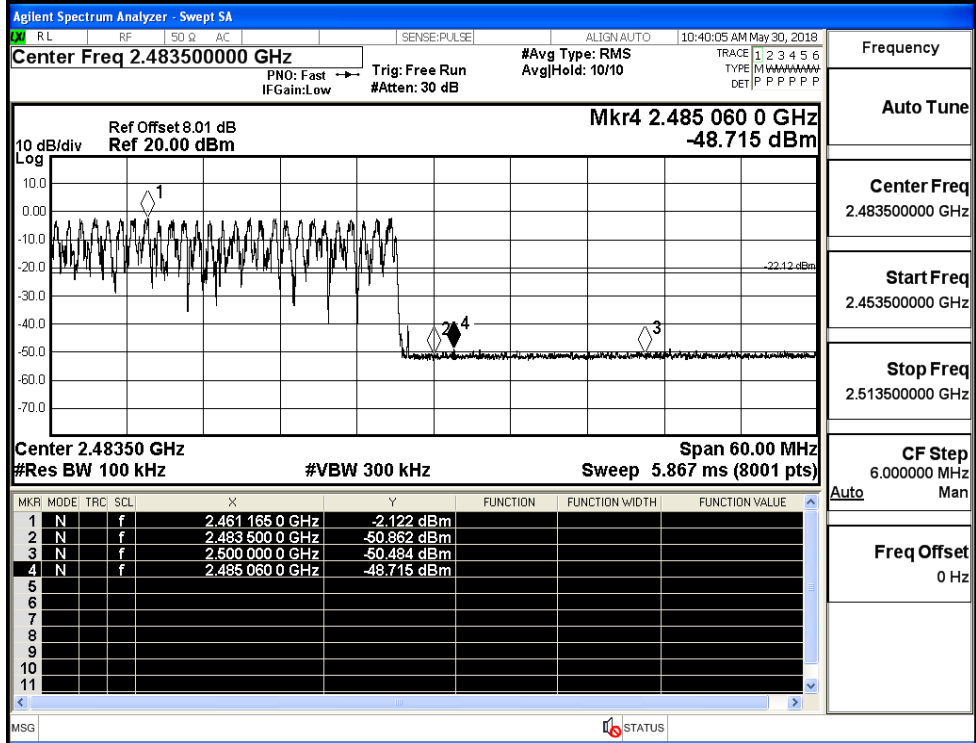
Start Freq
2.478000000 GHz

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

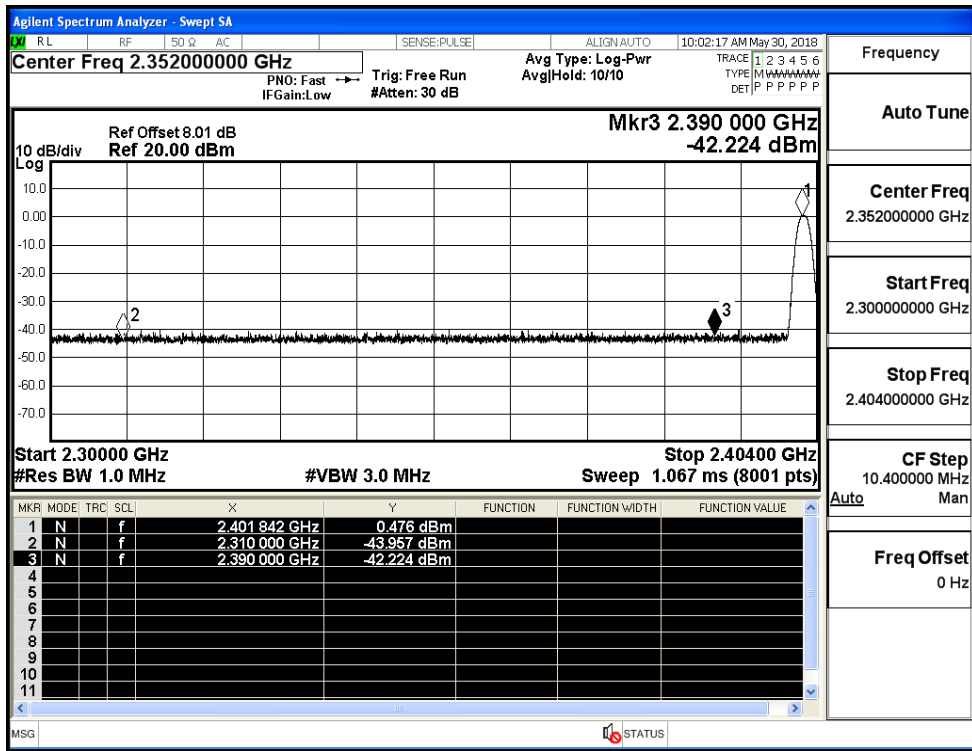
CF Step
6.000000 MHz

Freq Offset
0 Hz

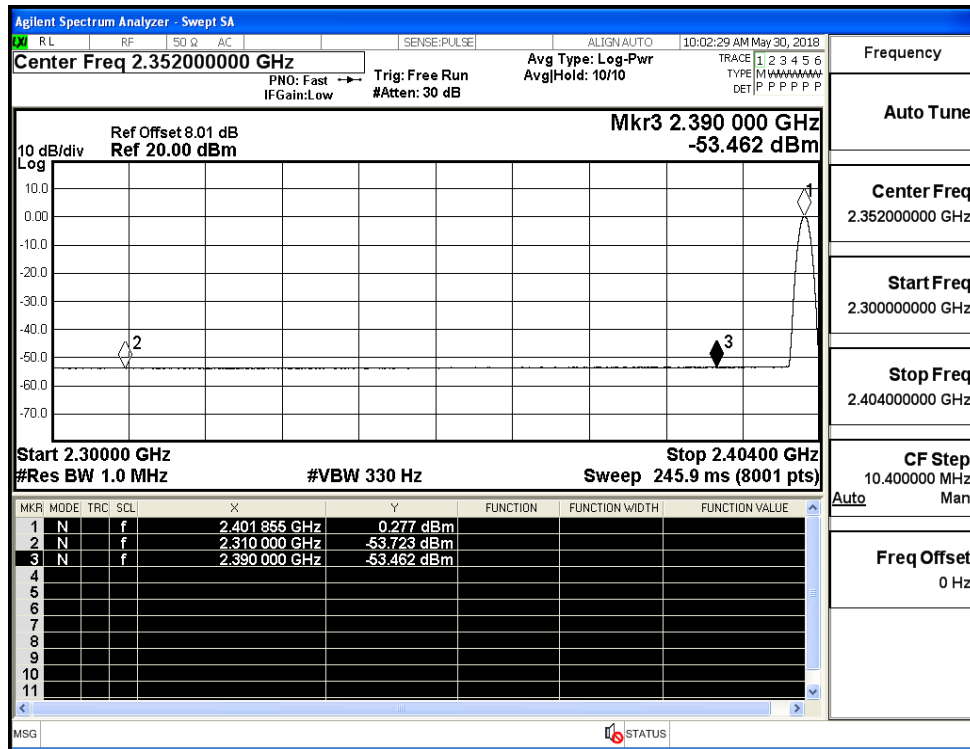
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.96	2.0	0	53.30	PEAK	74	PASS
	Off	2310.0	-53.72	2.0	0	43.53	AV	54	PASS
	Off	2390.0	-42.22	2.0	0	55.03	PEAK	74	PASS
	Off	2390.0	-53.46	2.0	0	43.80	AV	54	PASS
	Off	2483.5	-42.26	2.0	0	55.00	PEAK	74	PASS
	Off	2483.5	-53.24	2.0	0	44.02	AV	54	PASS
	Off	2500.0	-42.24	2.0	0	55.02	PEAK	74	PASS
	Off	2500.0	-53.08	2.0	0	44.18	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-44.16	2.0	0	53.09	PEAK	74	PASS
	Off	2310.0	-53.61	2.0	0	43.64	AV	54	PASS
	Off	2390.0	-42.99	2.0	0	54.27	PEAK	74	PASS
	Off	2390.0	-53.48	2.0	0	43.77	AV	54	PASS
	Off	2483.5	-43.27	2.0	0	53.99	PEAK	74	PASS
	Off	2483.5	-53.17	2.0	0	44.09	AV	54	PASS
	Off	2500.0	-43.21	2.0	0	54.05	PEAK	74	PASS
	Off	2500.0	-52.95	2.0	0	44.30	AV	54	PASS
8DPSK	Off	2310.0	-44.27	2.0	0	52.99	PEAK	74	PASS
	Off	2310.0	-53.76	2.0	0	43.50	AV	54	PASS
	Off	2390.0	-42.55	2.0	0	54.71	PEAK	74	PASS
	Off	2390.0	-53.50	2.0	0	43.76	AV	54	PASS
	Off	2483.5	-42.92	2.0	0	54.33	PEAK	74	PASS
	Off	2483.5	-53.21	2.0	0	44.05	AV	54	PASS
	Off	2500.0	-42.97	2.0	0	54.29	PEAK	74	PASS
	Off	2500.0	-53.06	2.0	0	44.19	AV	54	PASS

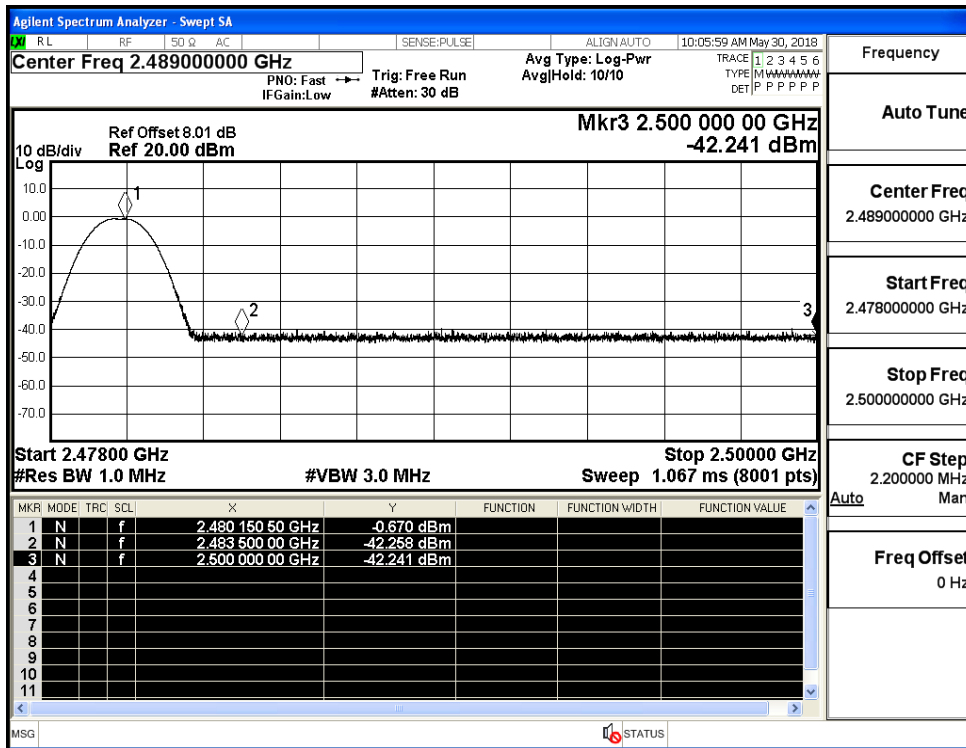
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



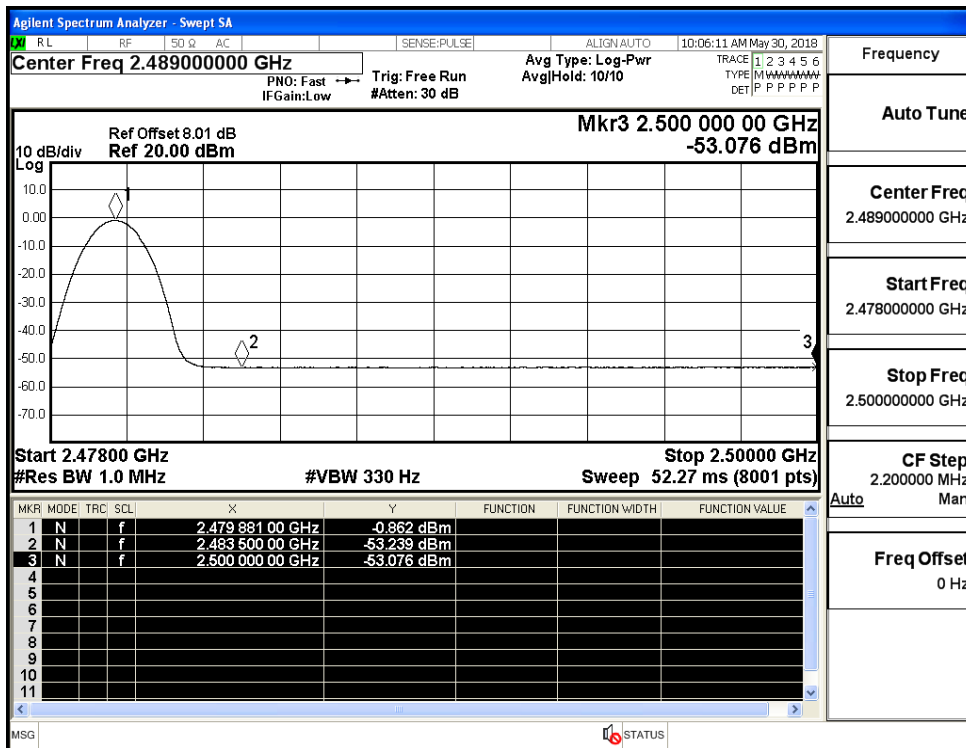
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



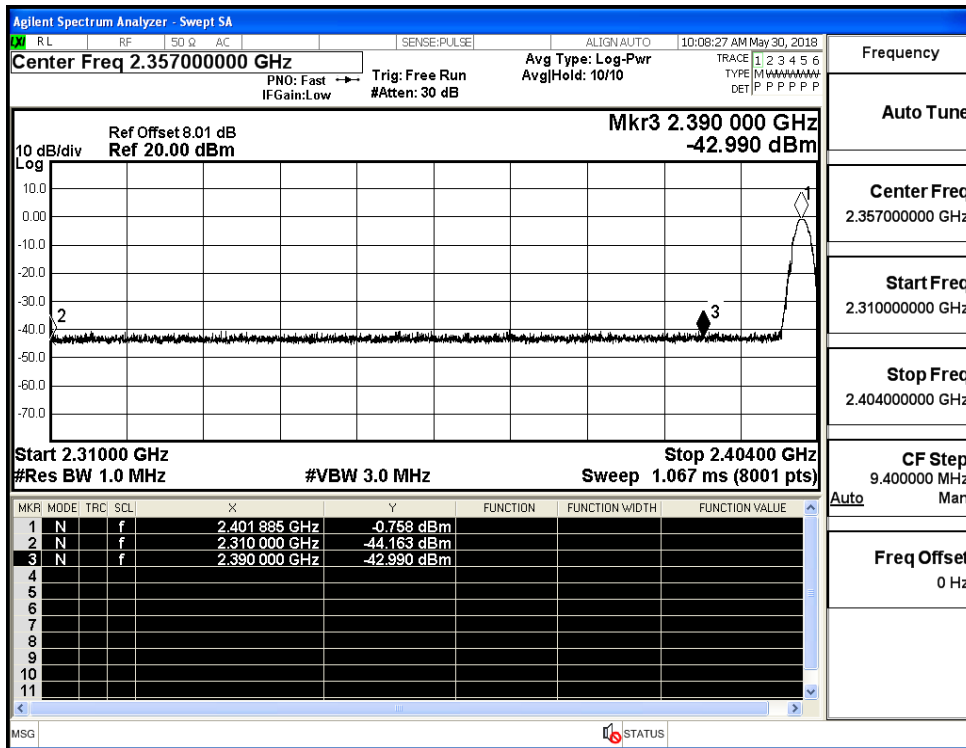
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



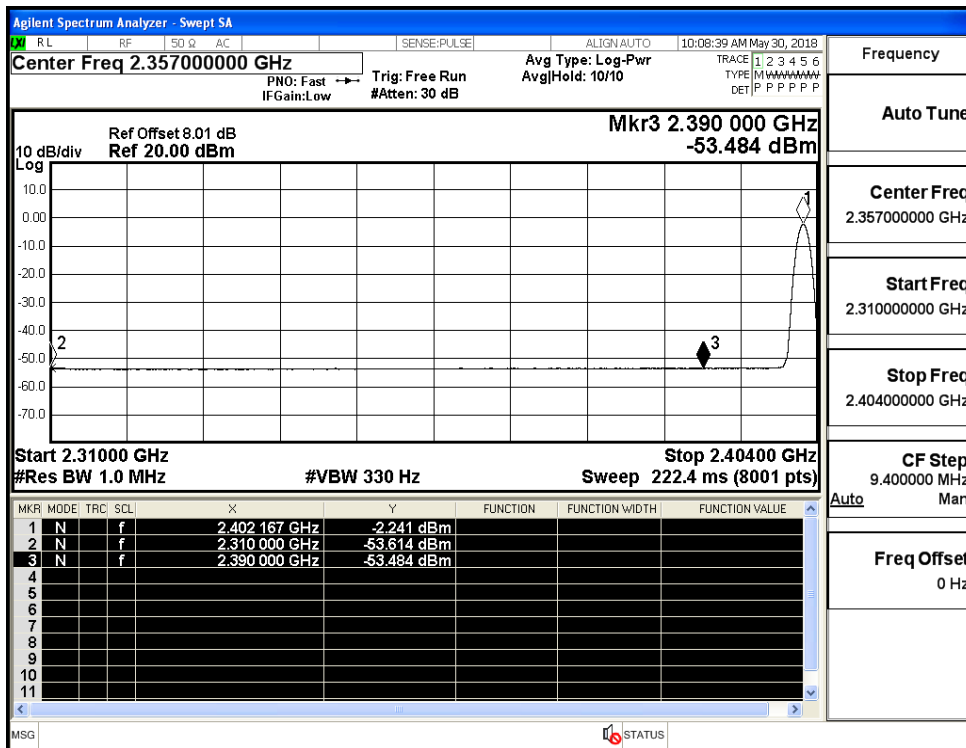
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



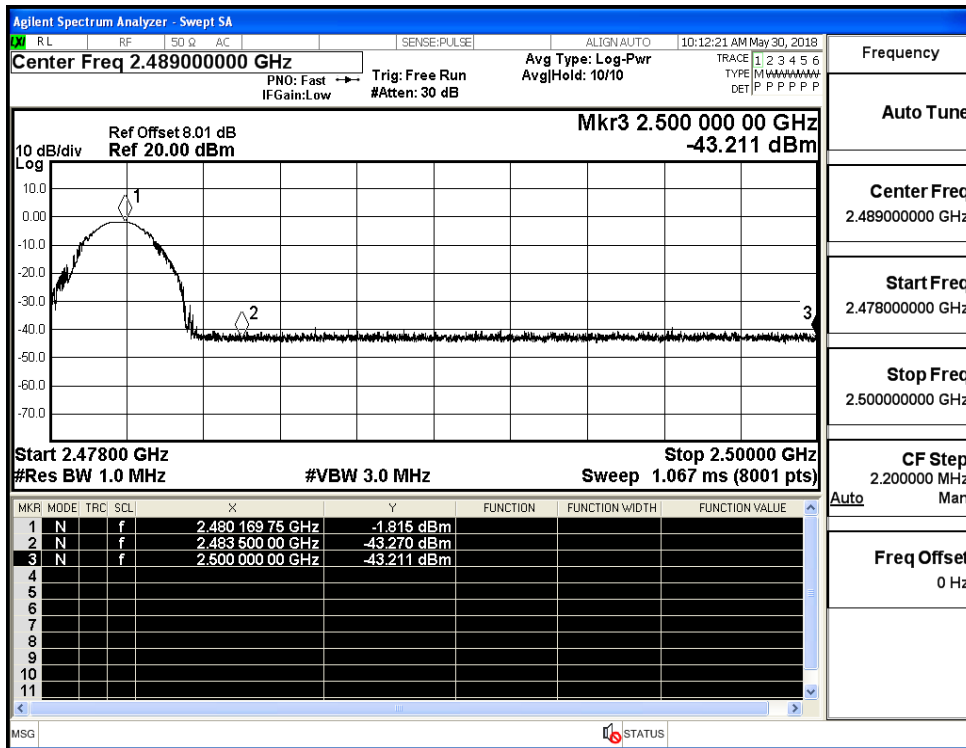
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)



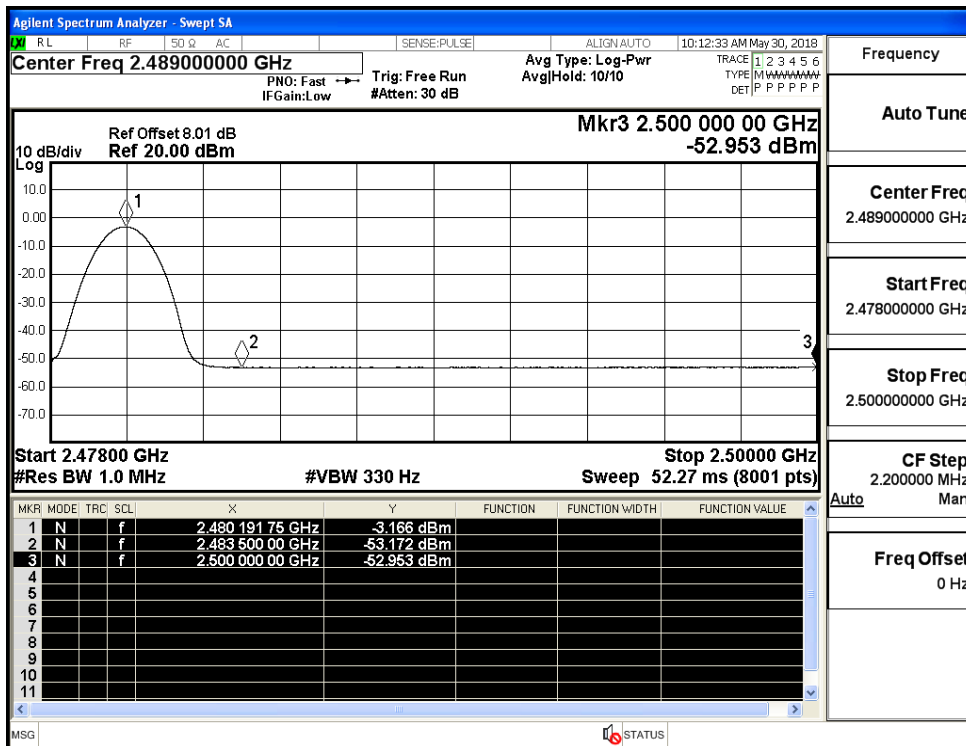
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)



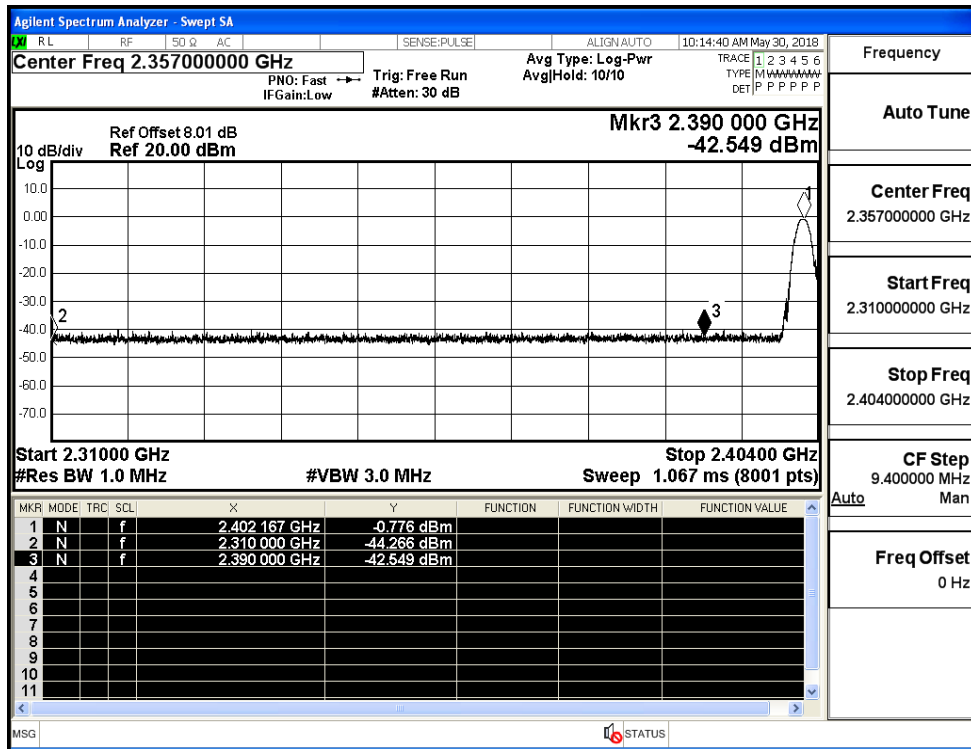
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



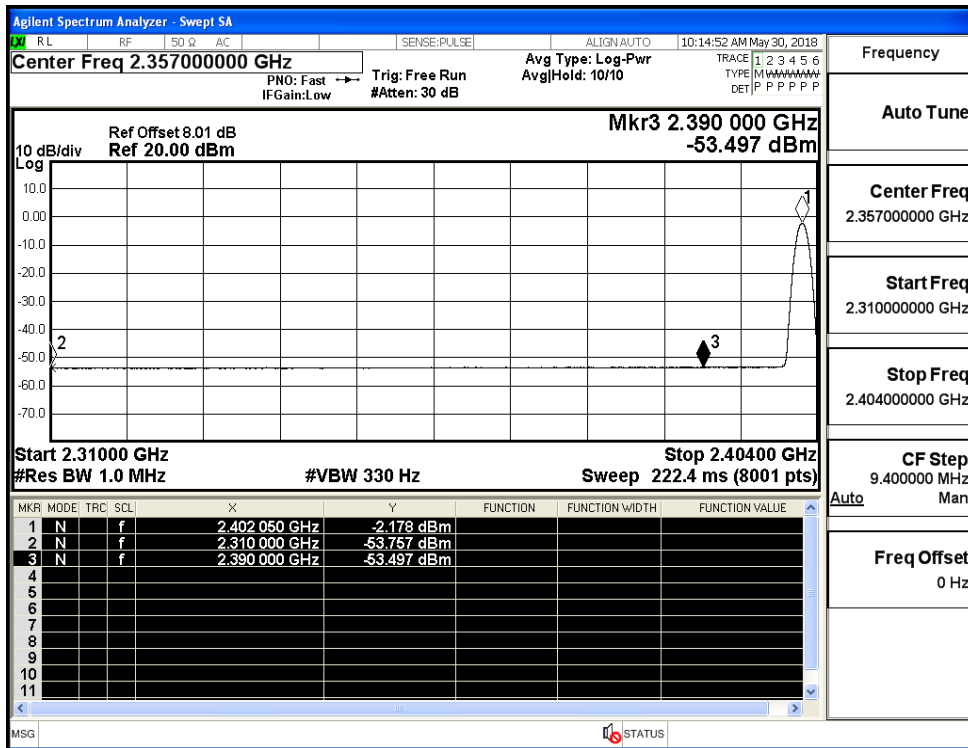
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



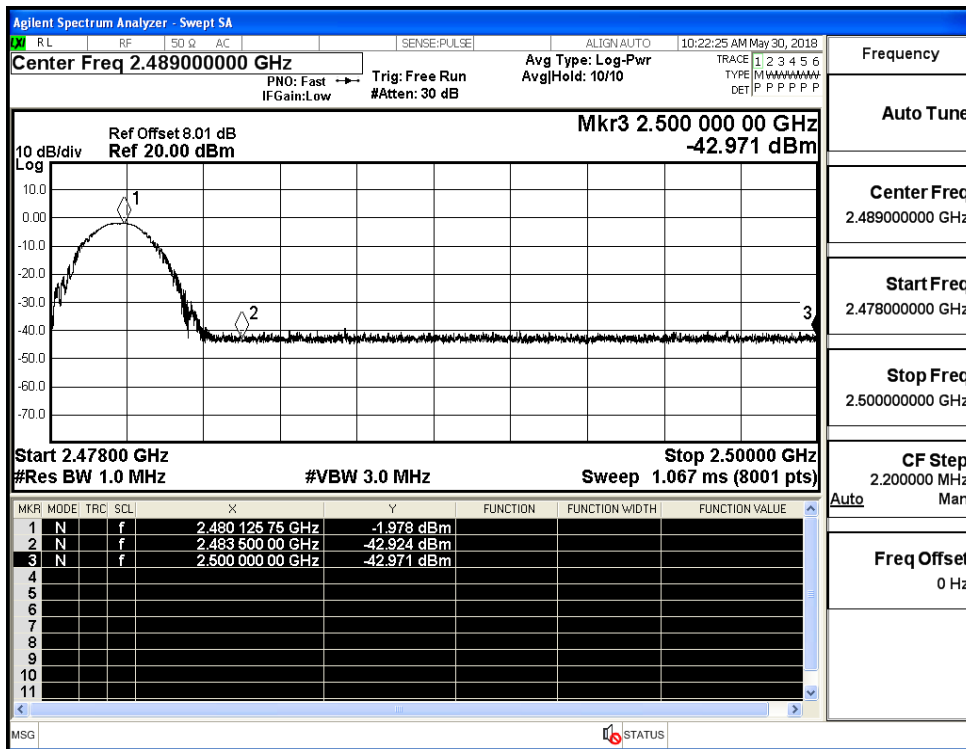
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

