

Appendix A

RF Test Data for BT V3.0(Classics) (Conducted Measurement)

Product Name: TRIPOD SELFIE STICK

Trade Mark: humixx

Test Model: SKBZ04

Environmental Conditions

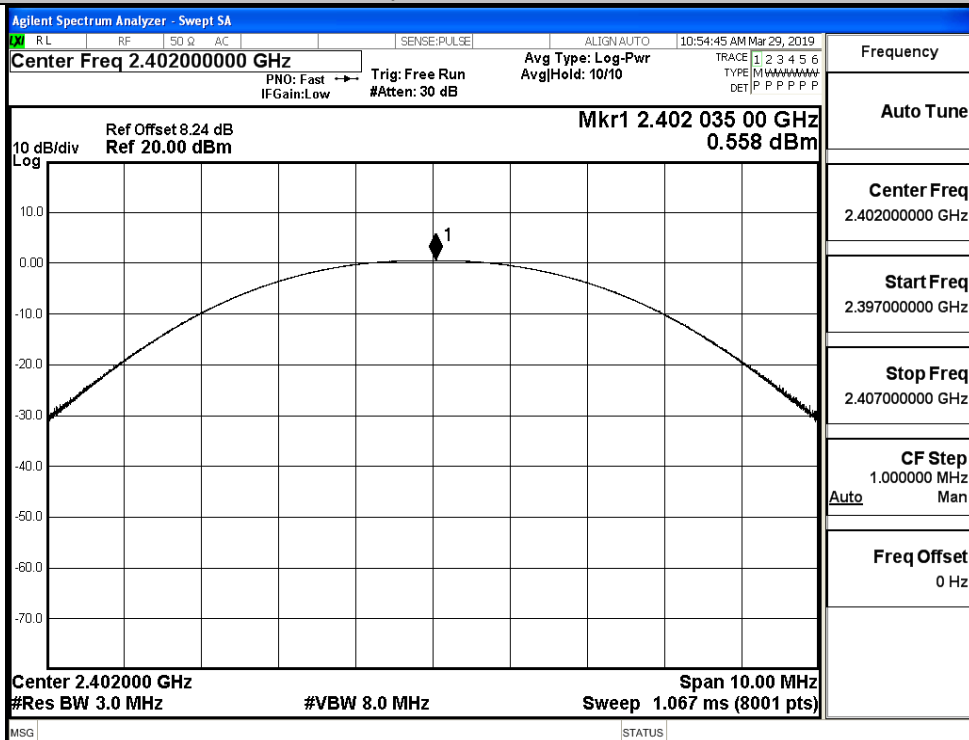
Temperature:	23.1 ° C
Relative Humidity:	53.8%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond.Lu
Supervised by:	Tom.Liu

A.1 Maximum Conducted Peak Output Power

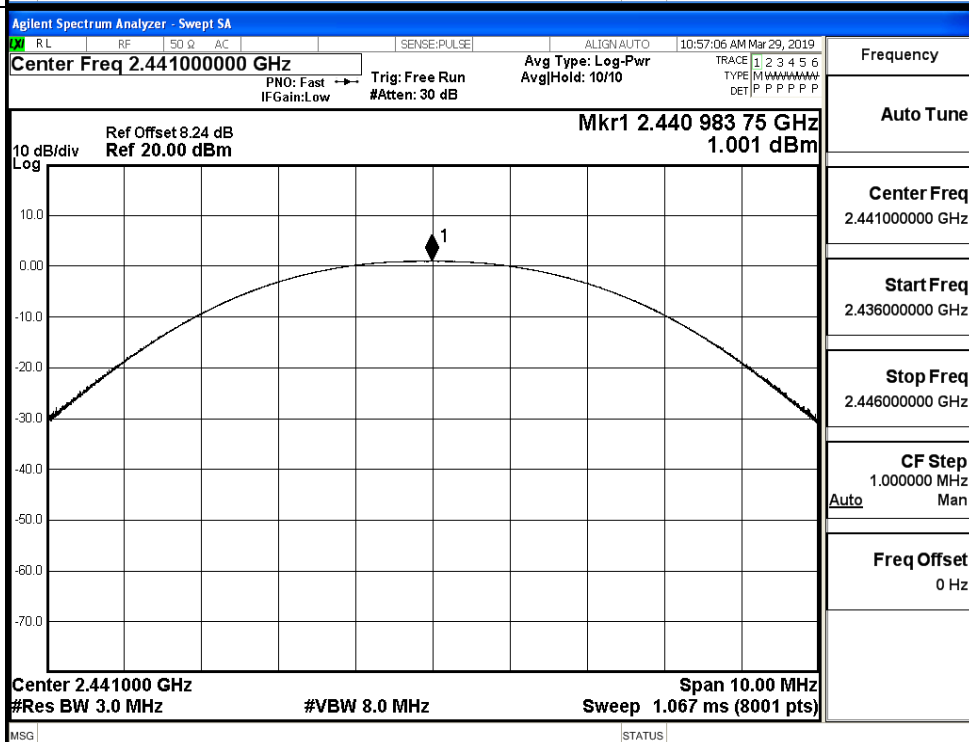
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.558	21	PASS
	MCH	1.001	21	PASS
	HCH	0.189	21	PASS
$\pi/4$ DQPSK	LCH	-0.063	21	PASS
	MCH	0.358	21	PASS
	HCH	-0.516	21	PASS

Test Graphs

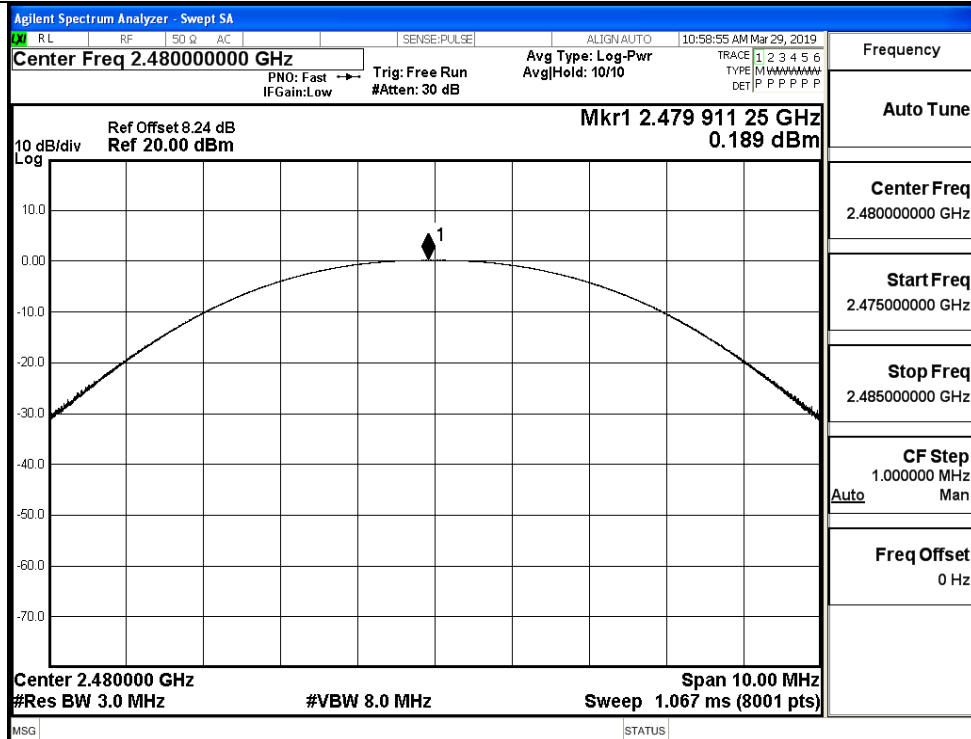
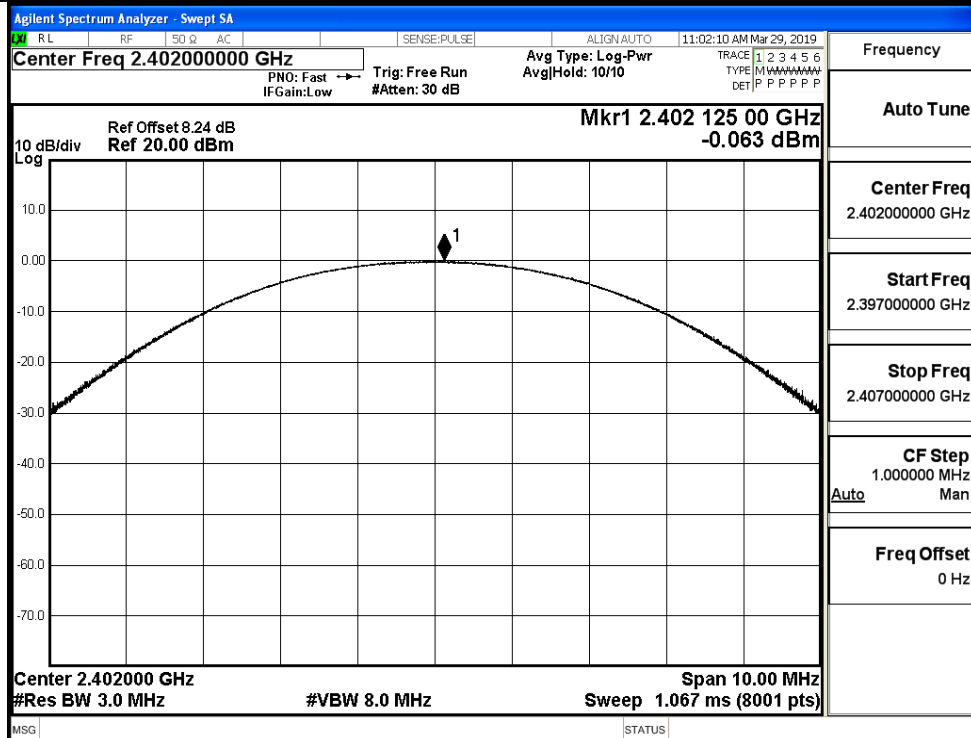
GFSK/LCH

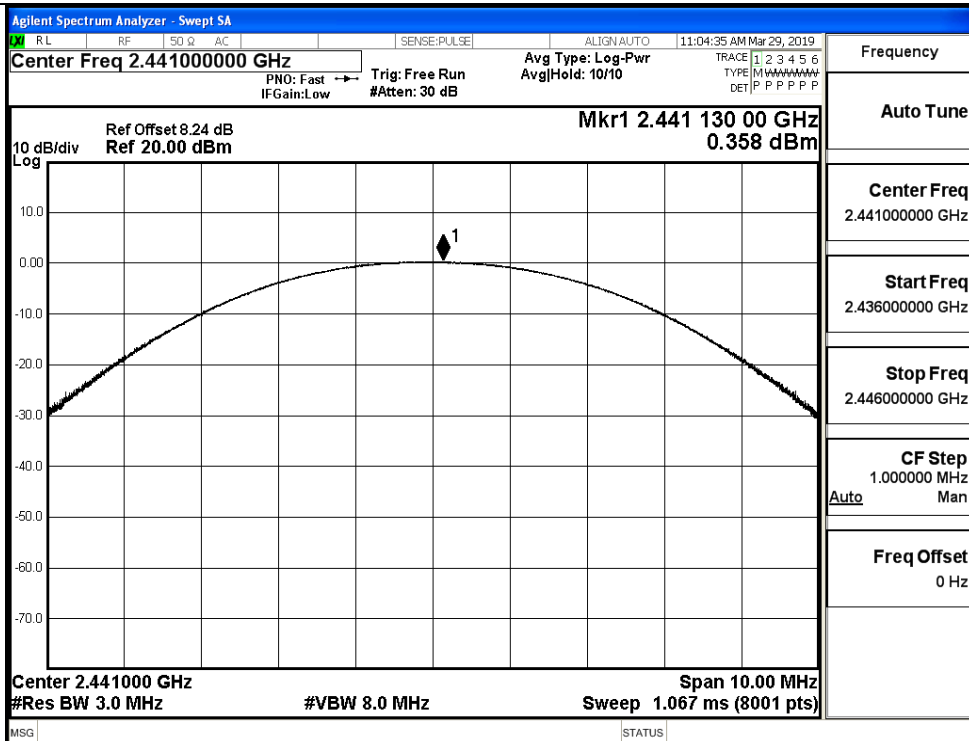
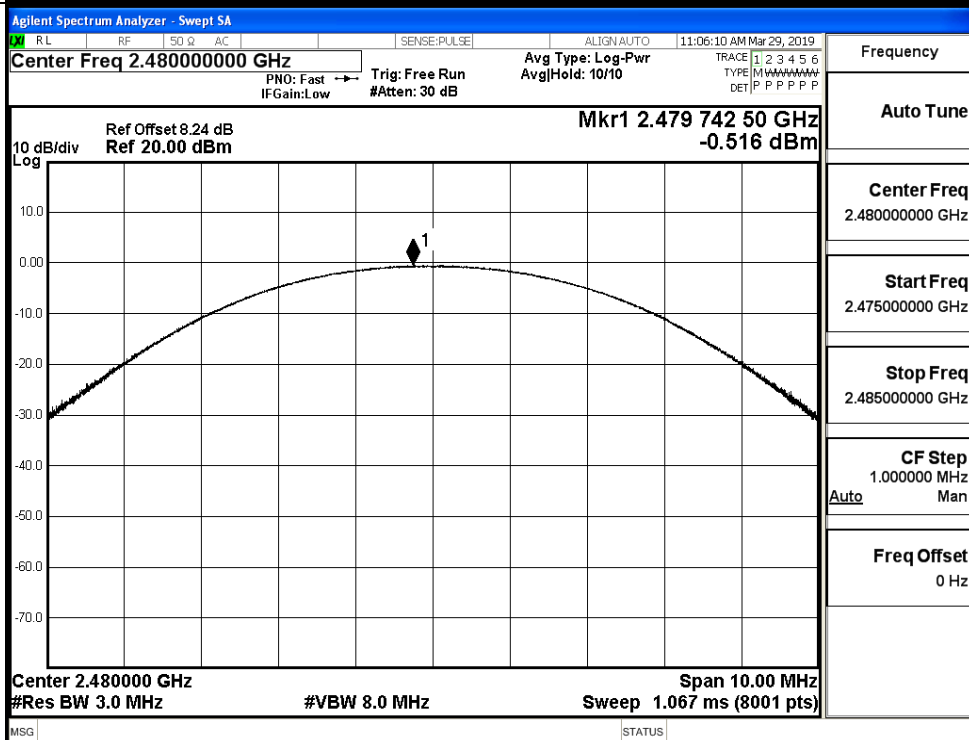


GFSK/MCH



GFSK/HCH

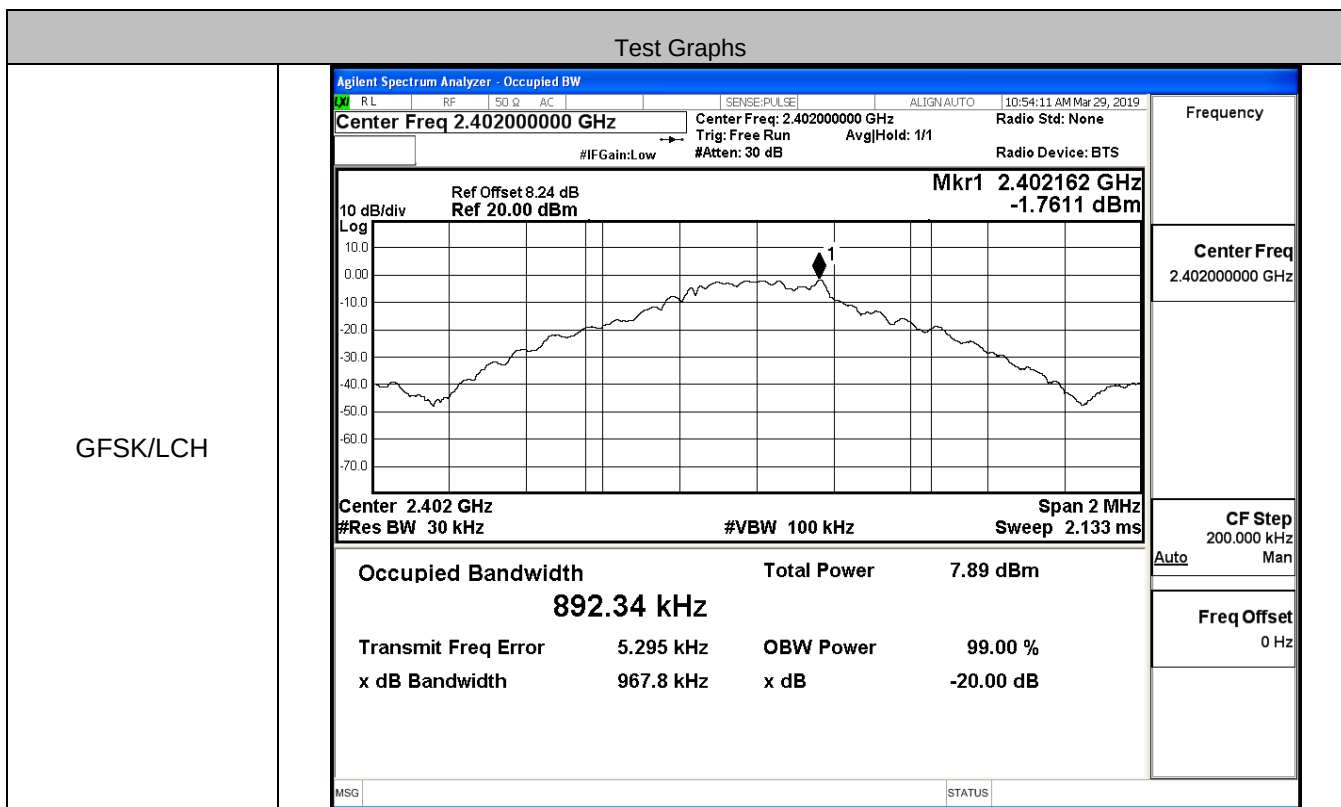
 $\pi/4$ DQPSK/LCH

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

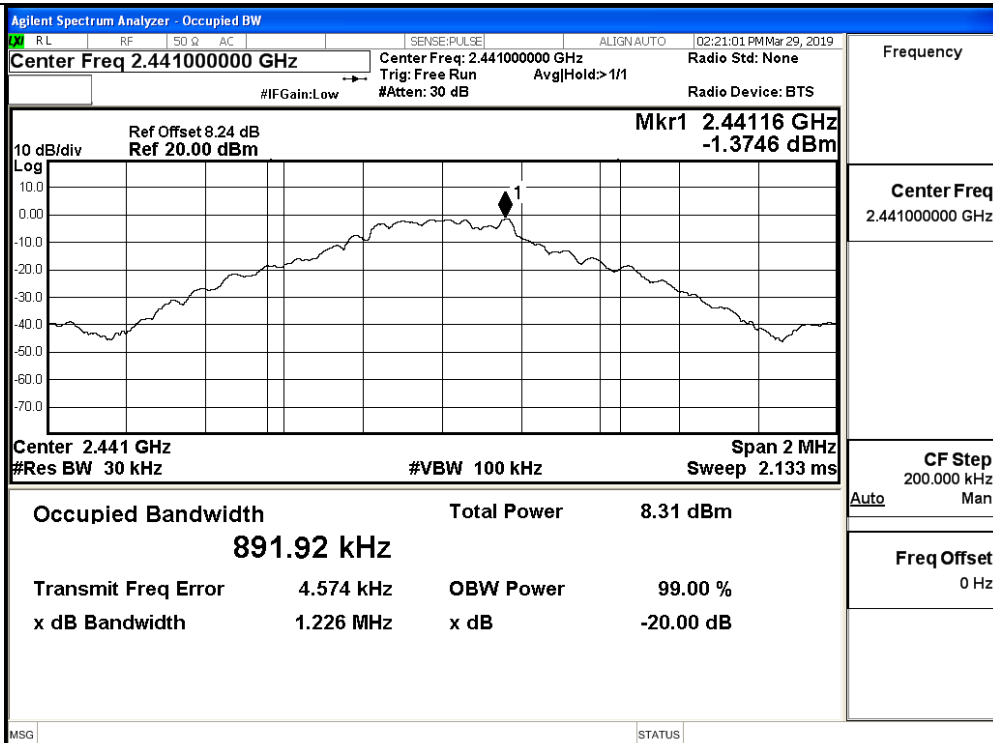
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9678	Not Specified	PASS
	MCH	1.226	Not Specified	PASS
	HCH	1.027	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.309	Not Specified	PASS
	MCH	1.292	Not Specified	PASS
	HCH	1.306	Not Specified	PASS

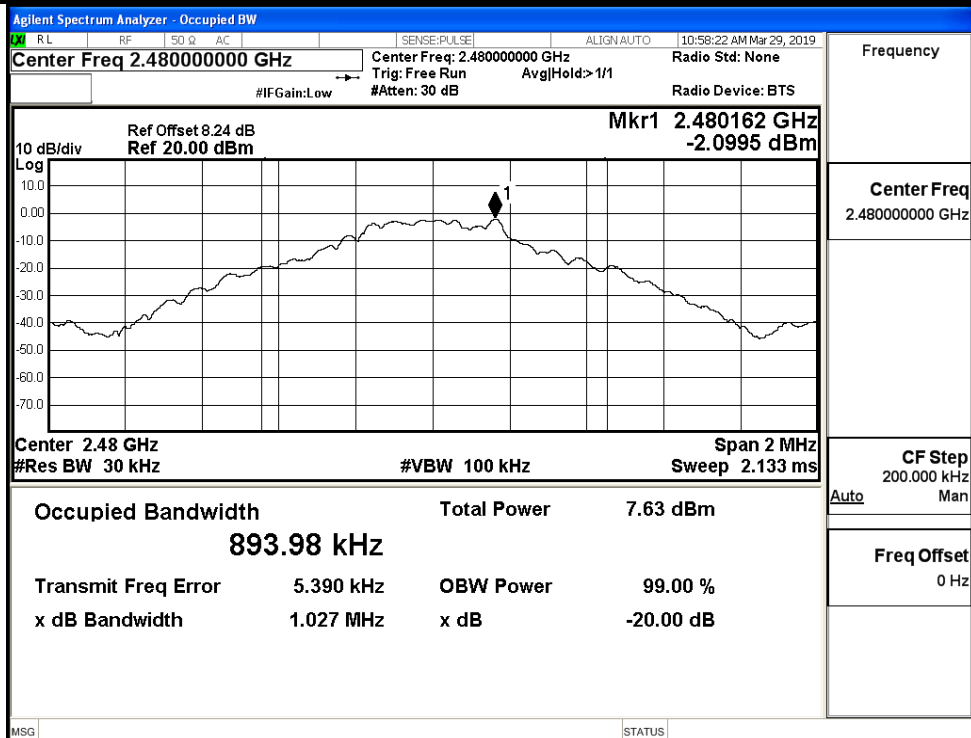
Test Graphs

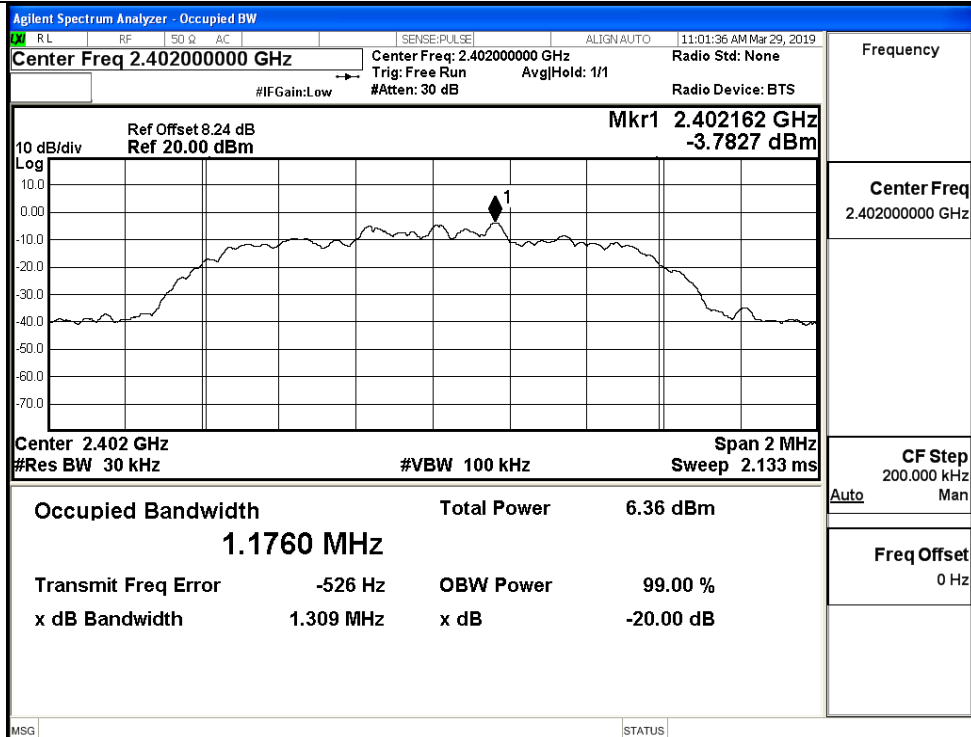
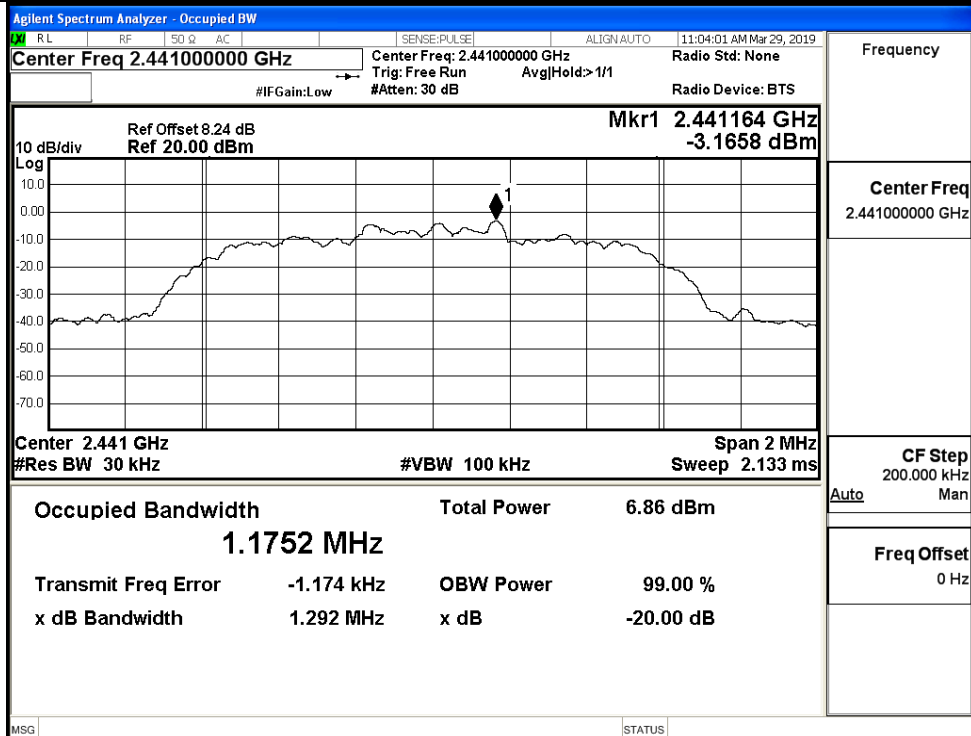


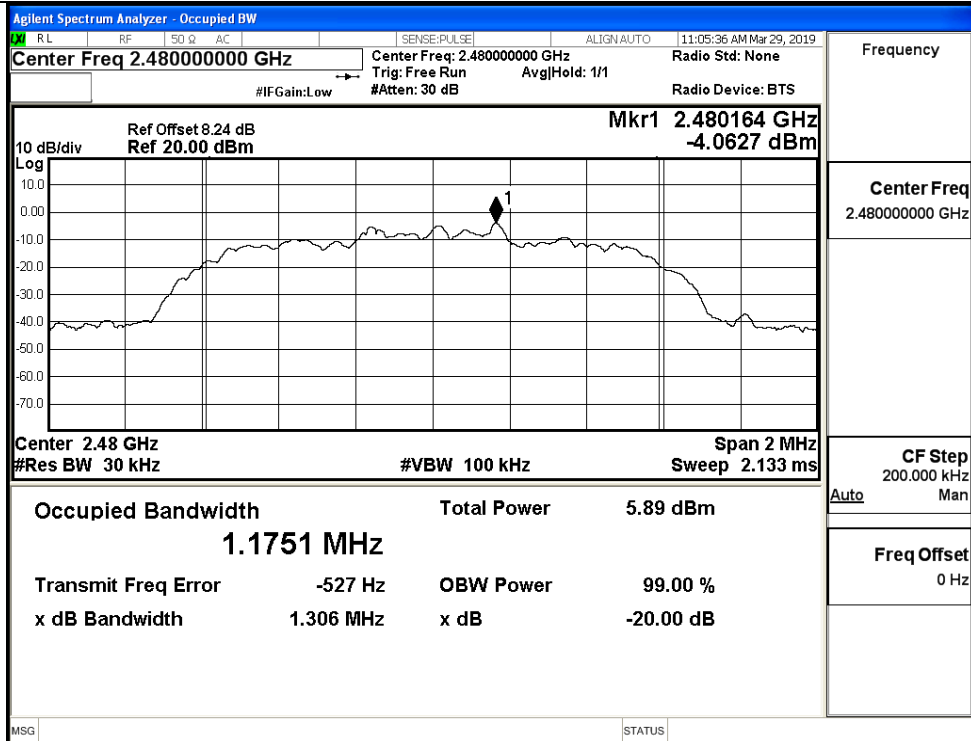
GFSK/MCH



GFSK/HCH



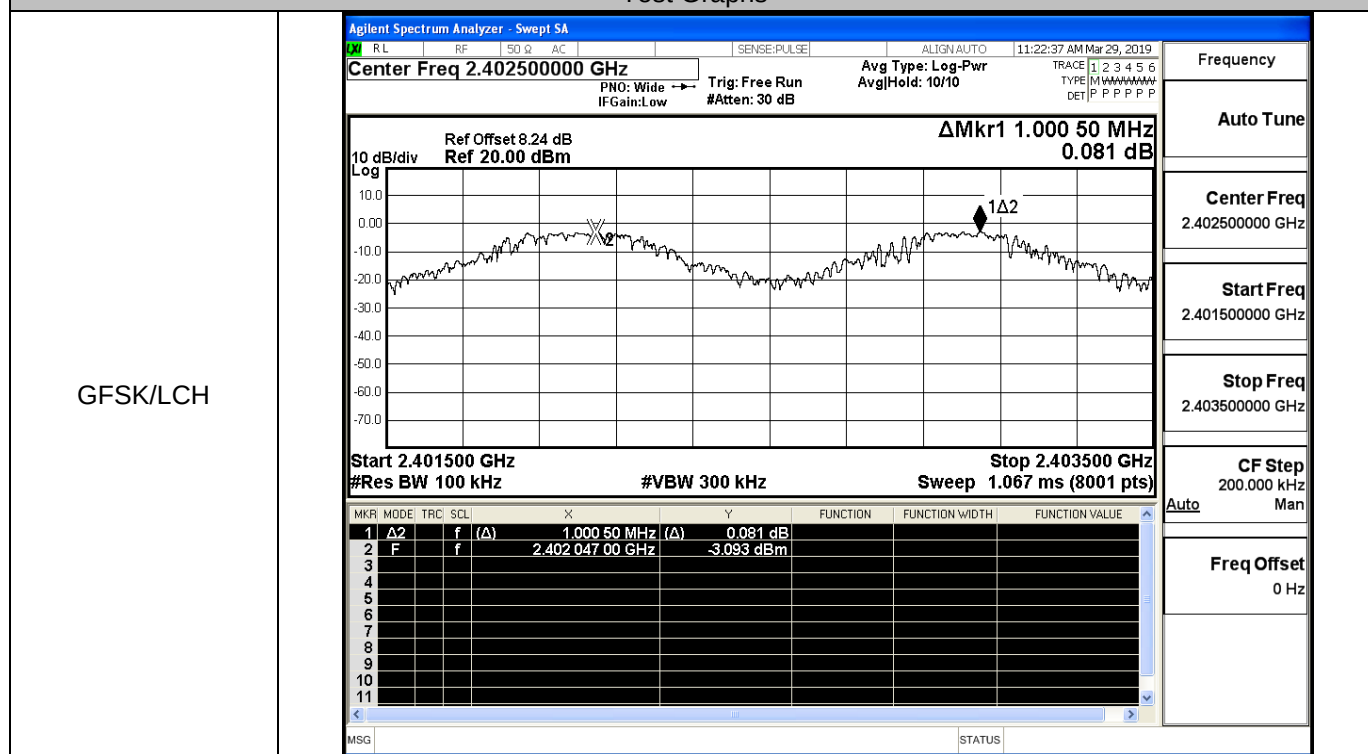
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

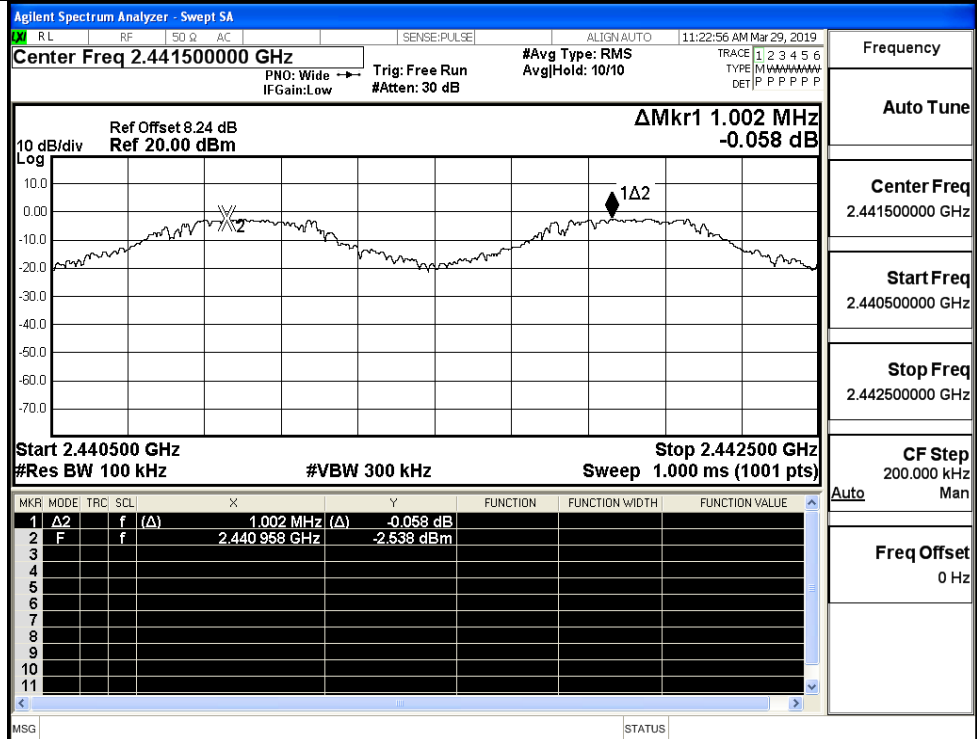
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.001	0.817	PASS
	MCH	1.002	0.817	PASS
	HCH	1.220	0.817	PASS
π /4DQPSK	LCH	1.026	0.873	PASS
	MCH	1.008	0.873	PASS
	HCH	0.908	0.873	PASS

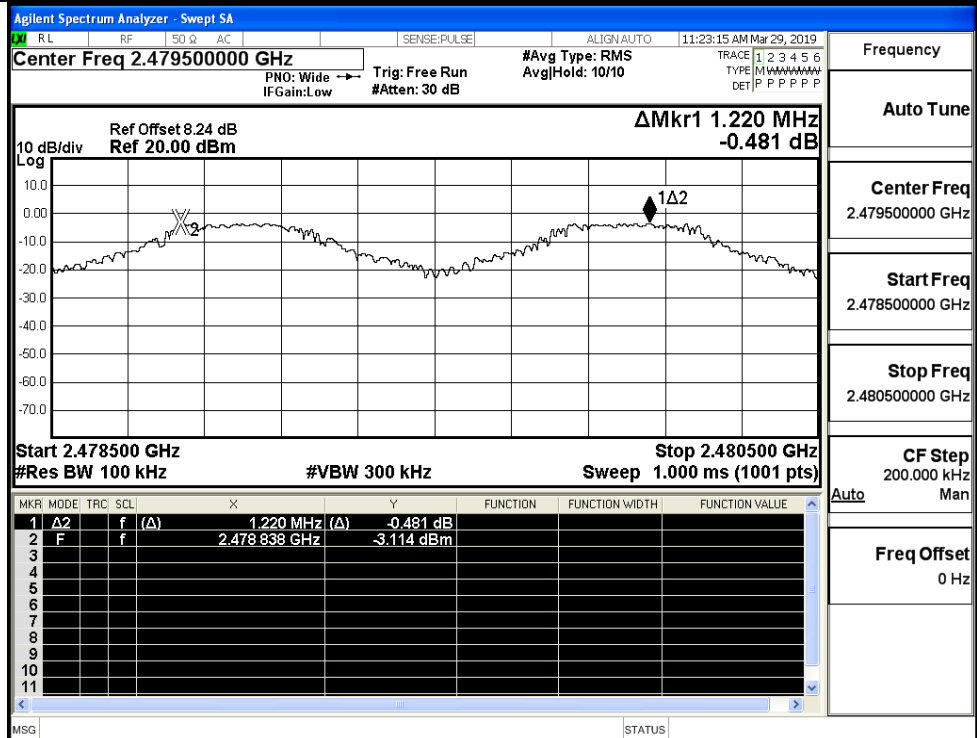
Test Graphs

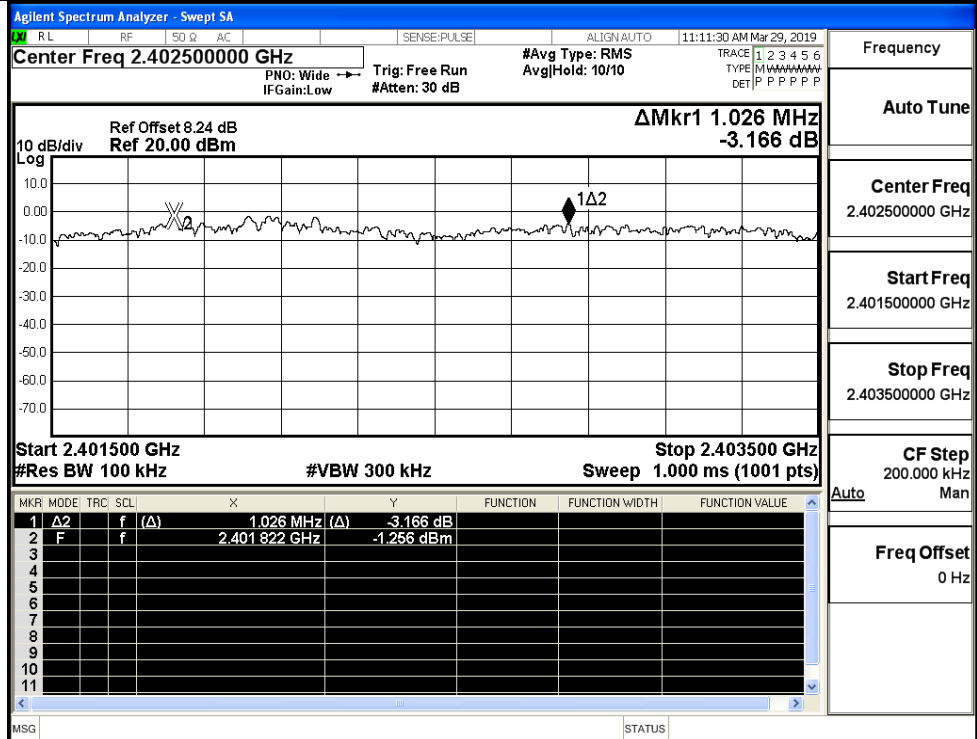
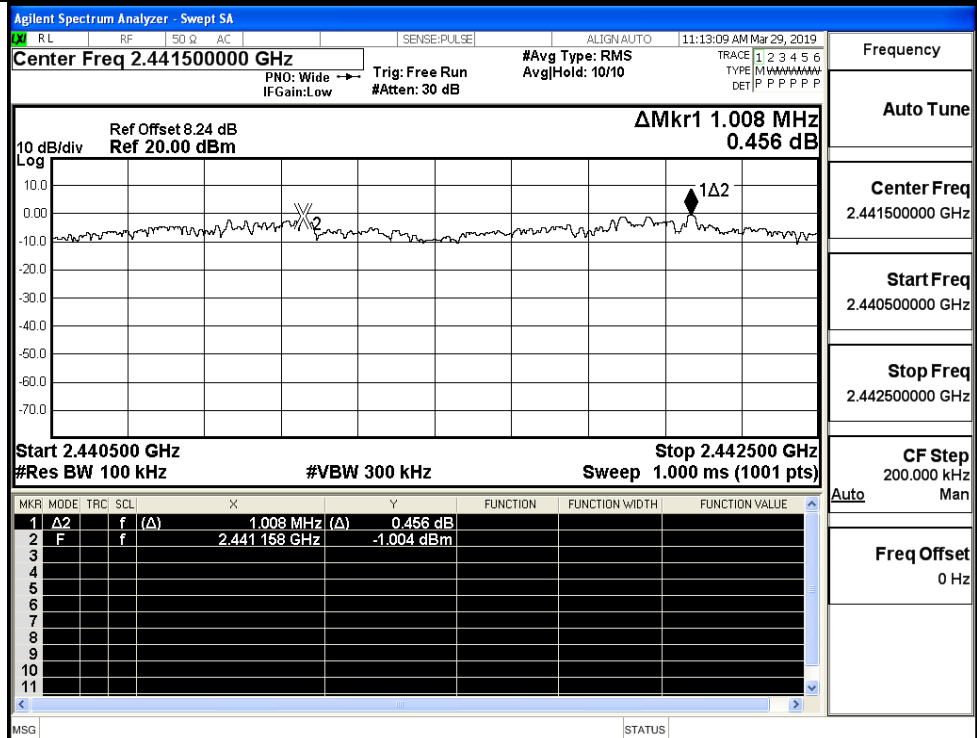


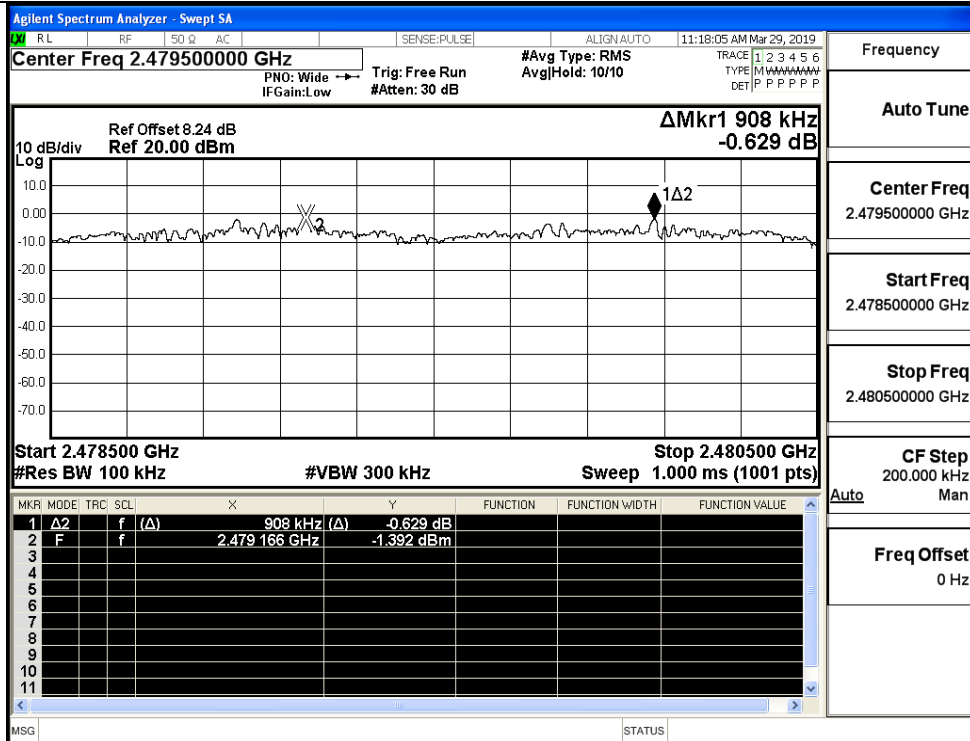
GFSK/MCH



GFSK/HCH



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

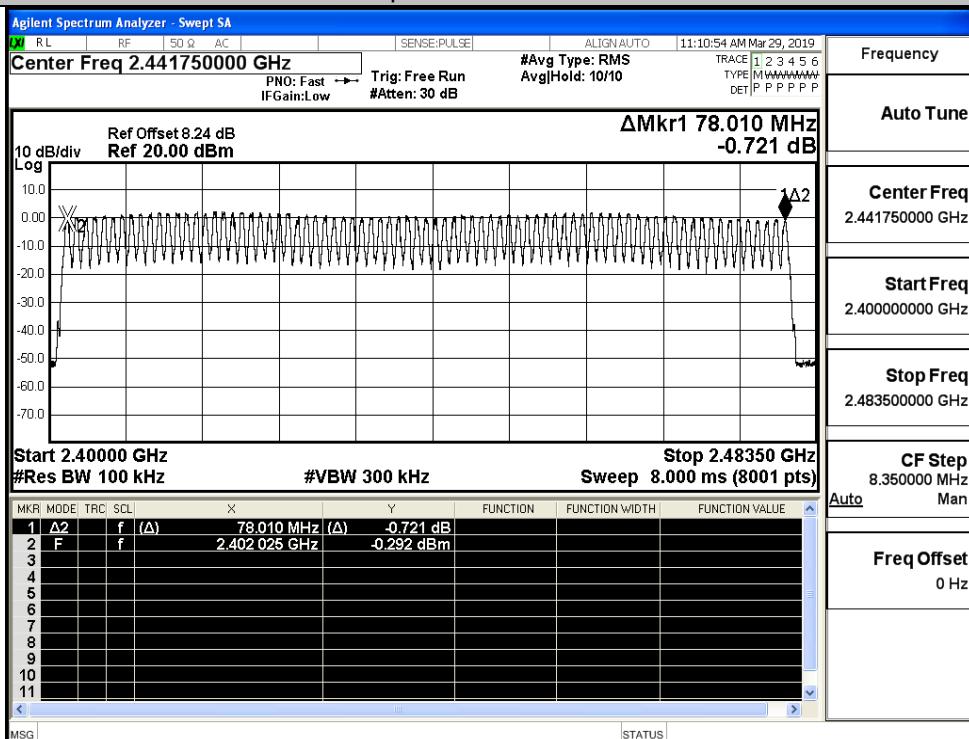
$\pi/4$ DQPSK/HCH

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

Test Graphs

GFSK/Hop



Frequency

Auto Tune

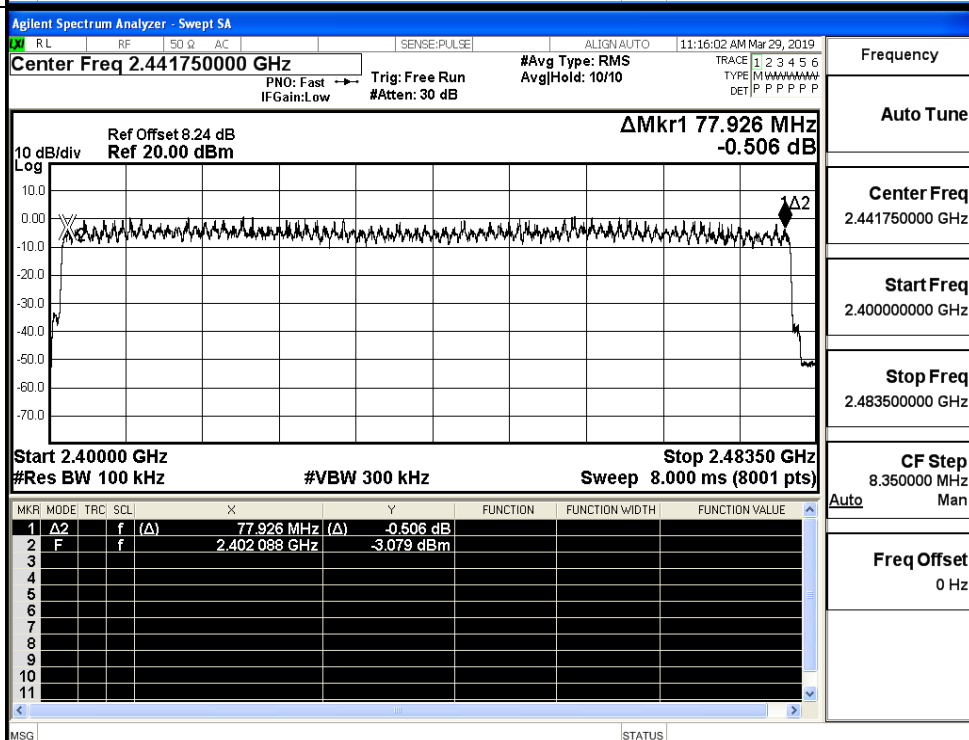
Center Freq
2.441750000 GHz

Start Freq
2.400000000 GHz

Stop Freq
2.483500000 GHz

CF Step
8.350000 MHz
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
Man

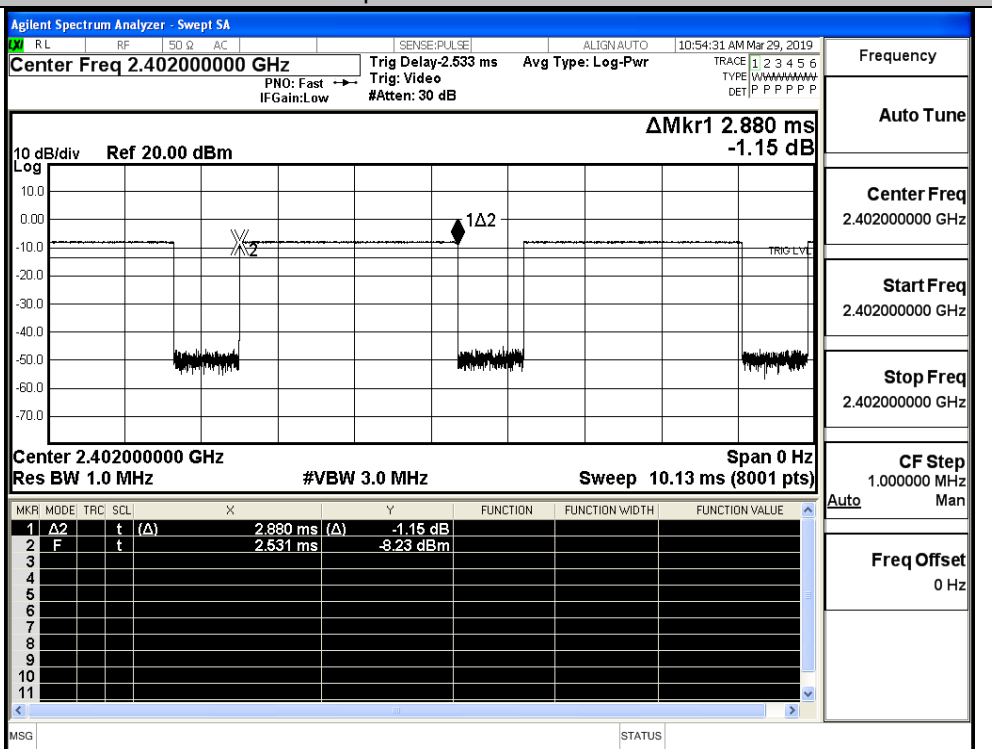
Freq Offset
0 Hz

A.5 Dwell Time

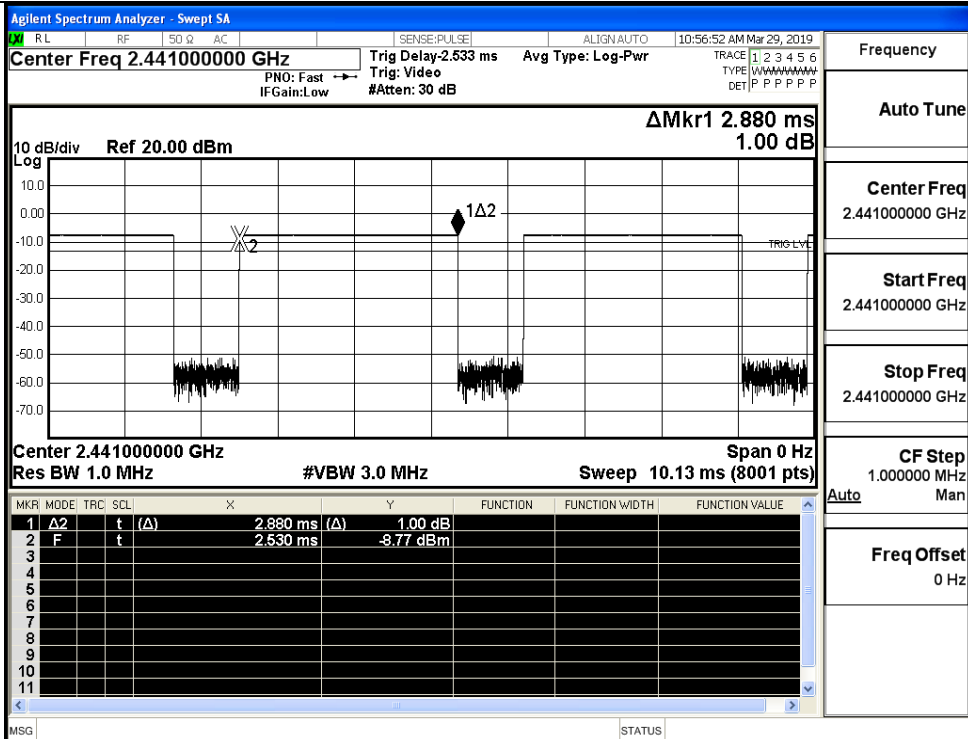
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88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

Test Graphs

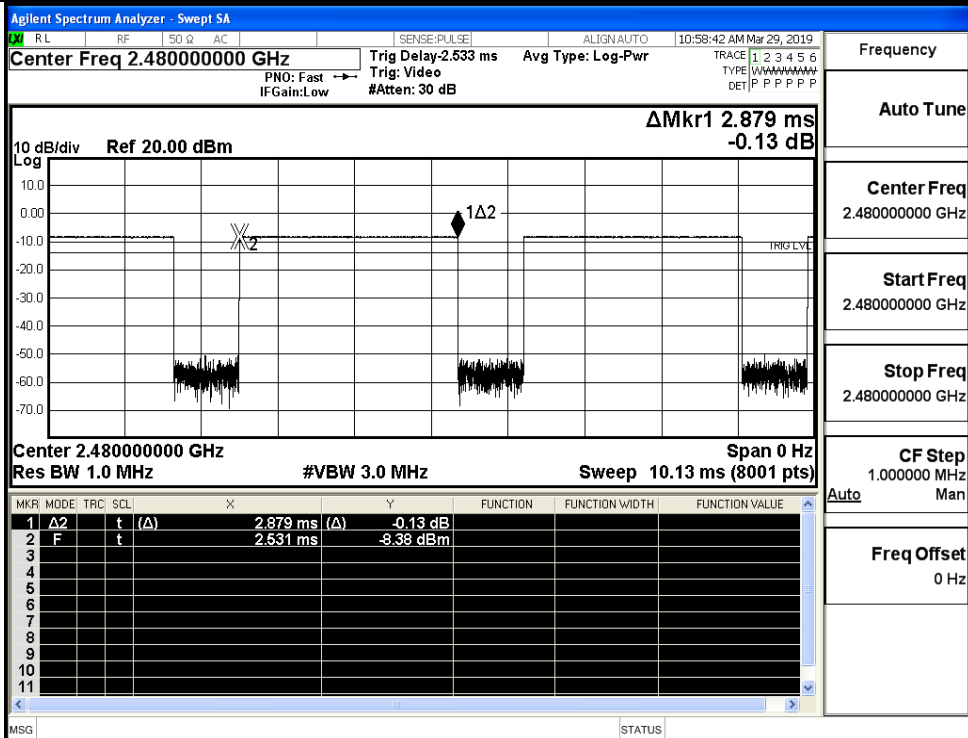
GFSK_DH5/LCH



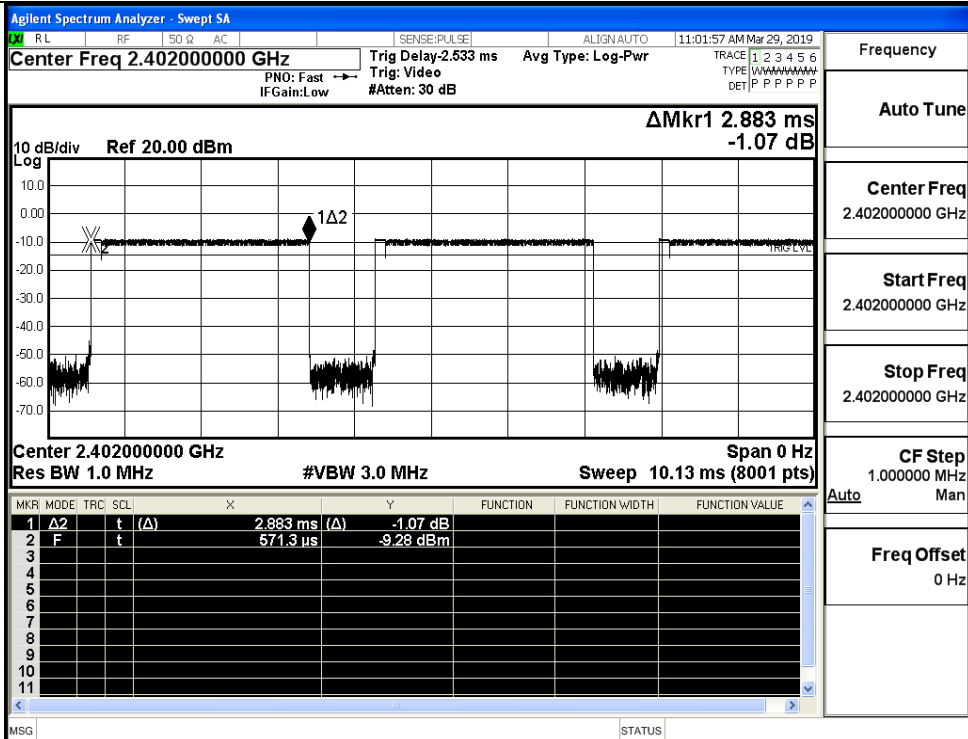
GFSK_DH5/MCH



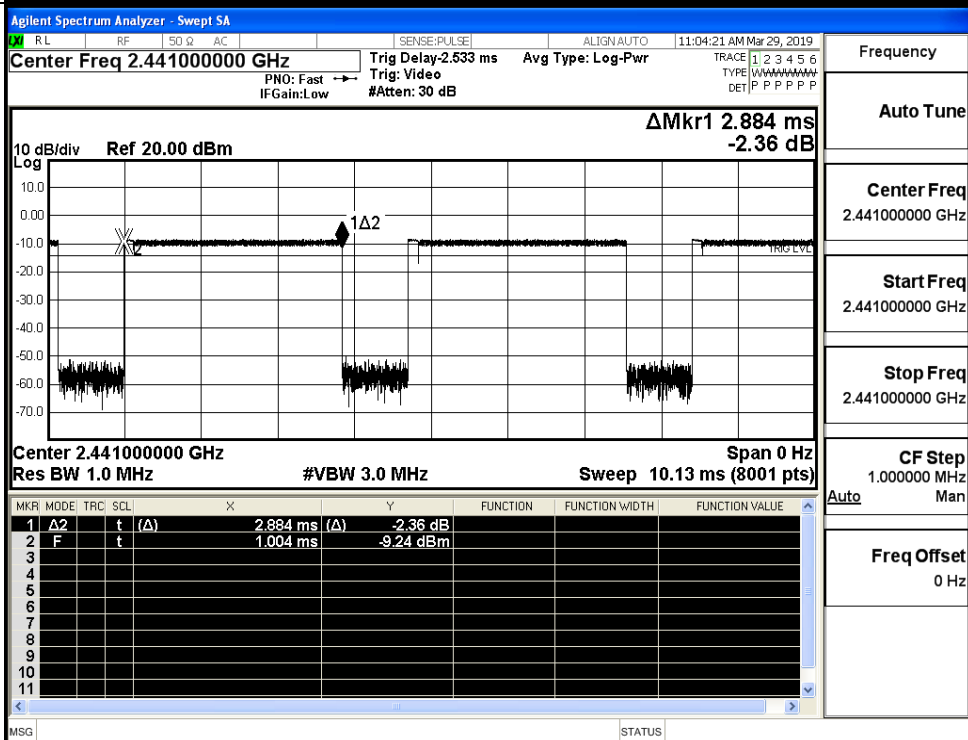
GFSK_DH5/HCH



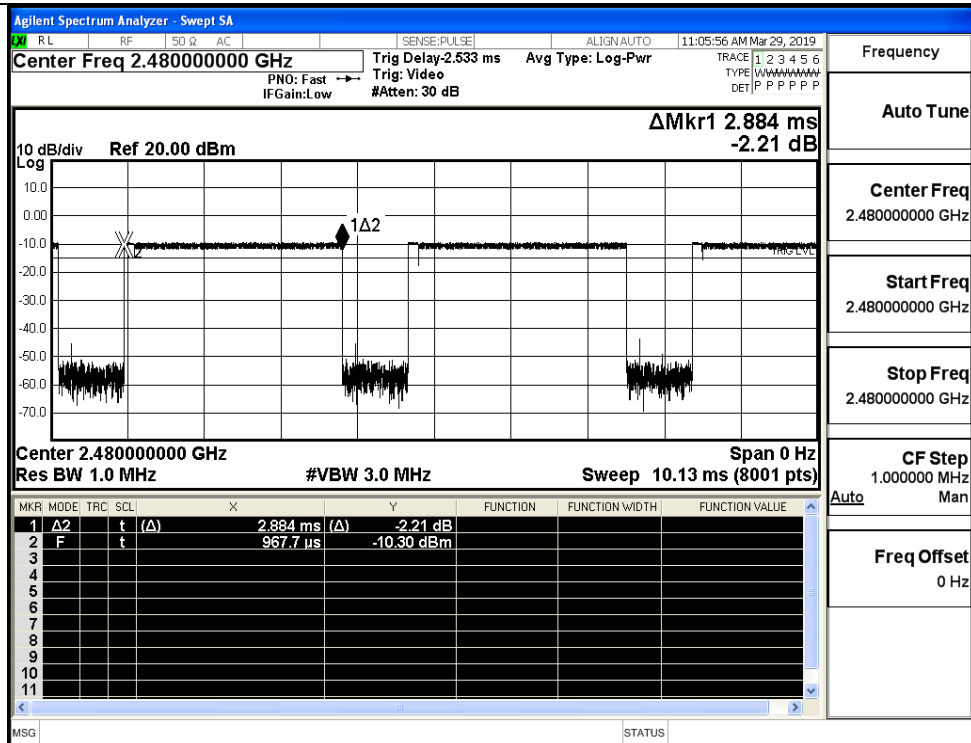
$\pi/4$ DQPSK
_2DH5/LCH



$\pi/4$ DQPSK
_2DH5/MCH

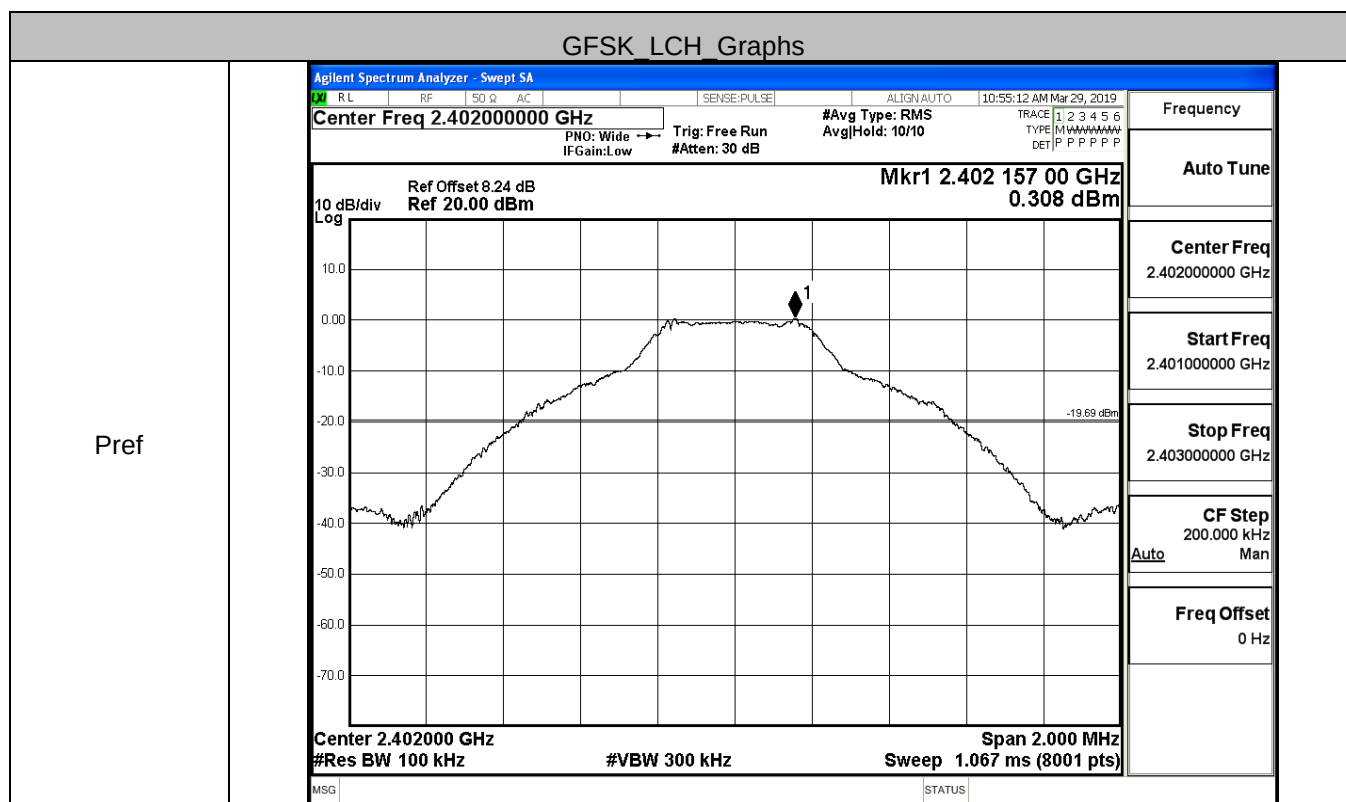


π/4DQPSK
_2DH5/HCH

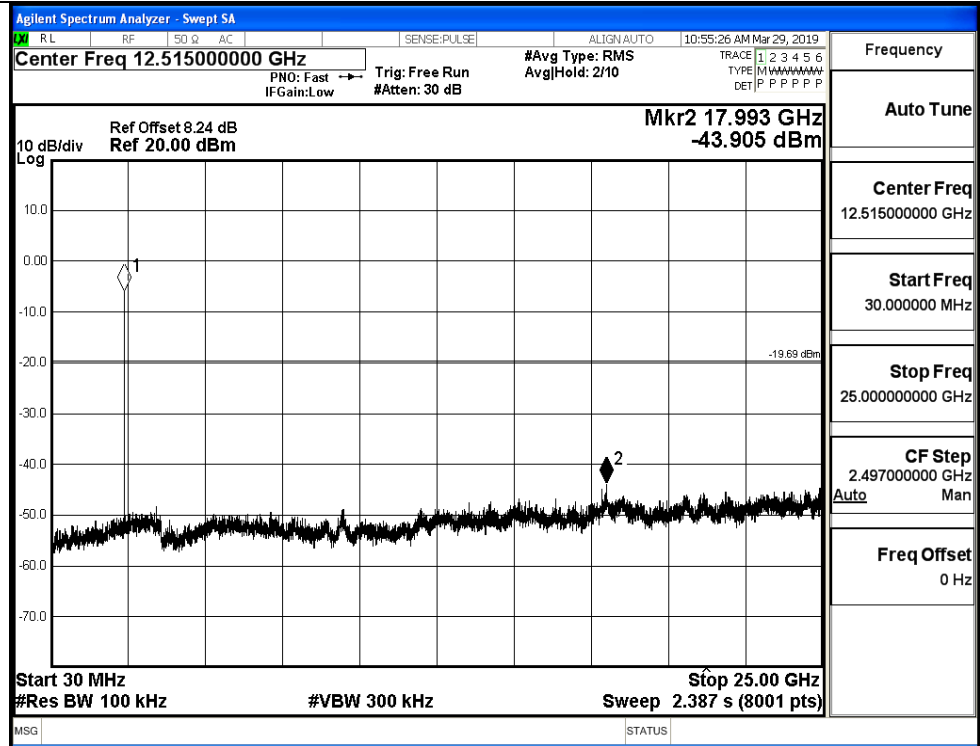


A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.308	-43.905	-19.692	PASS
	MCH	0.701	-44.421	-19.299	PASS
	HCH	-0.128	-28.025	-20.128	PASS
$\pi/4$ DQPSK	LCH	-1.051	-44.061	-21.051	PASS
	MCH	-0.539	-44.855	-20.539	PASS
	HCH	-1.469	-43.951	-21.469	PASS

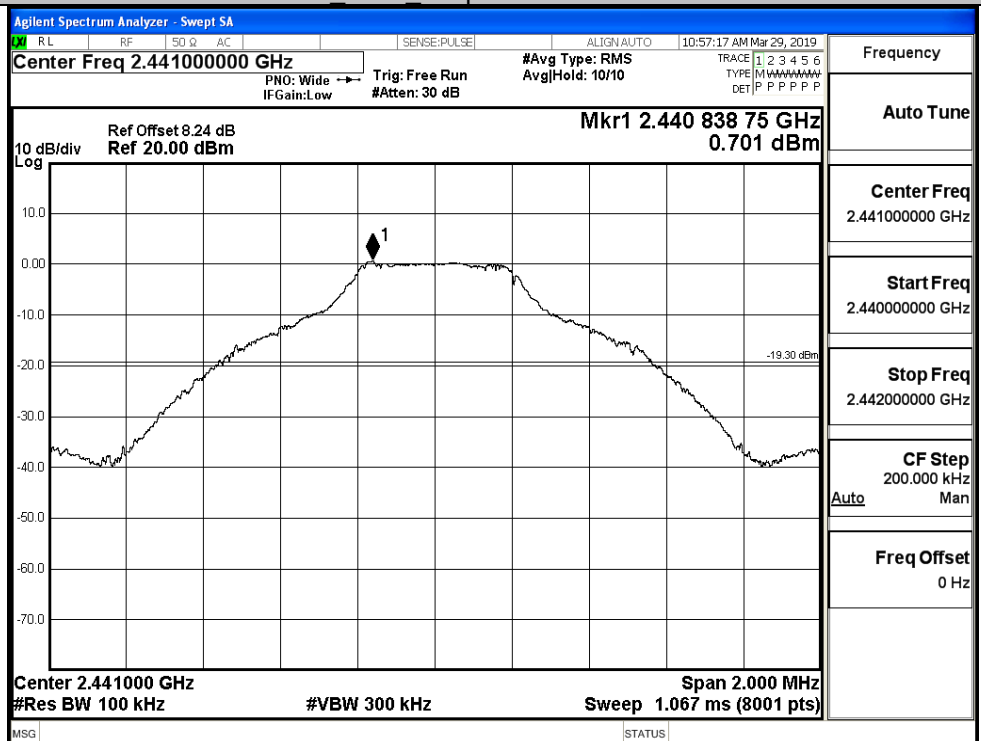


Puw

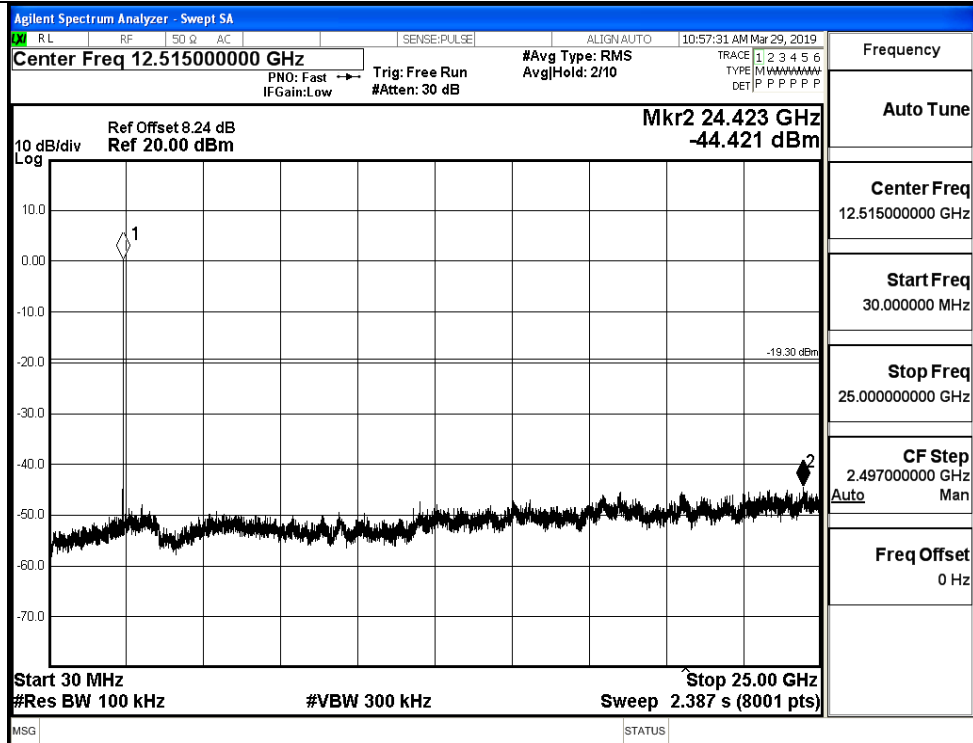


GFSK MCH Graphs

Pref

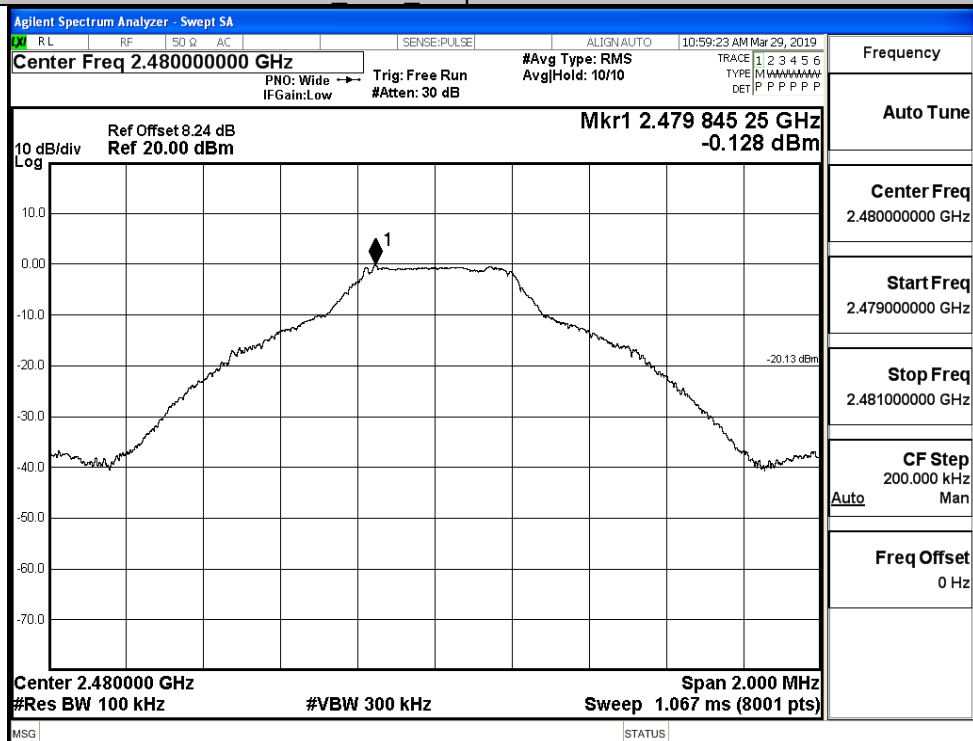


Puw

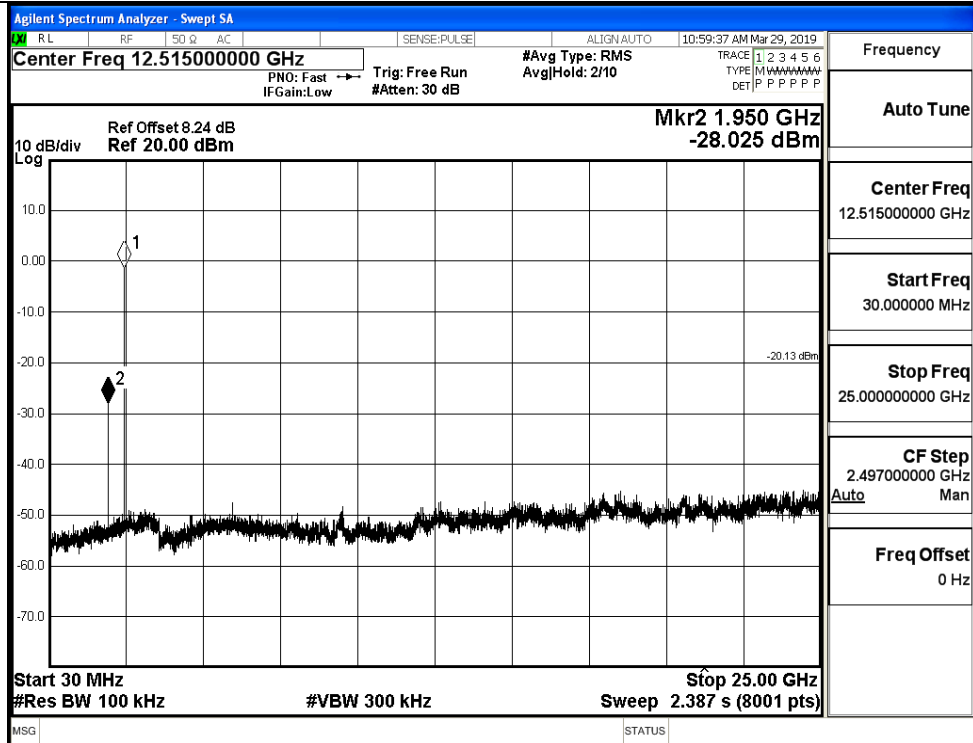


GFSK HCH Graphs

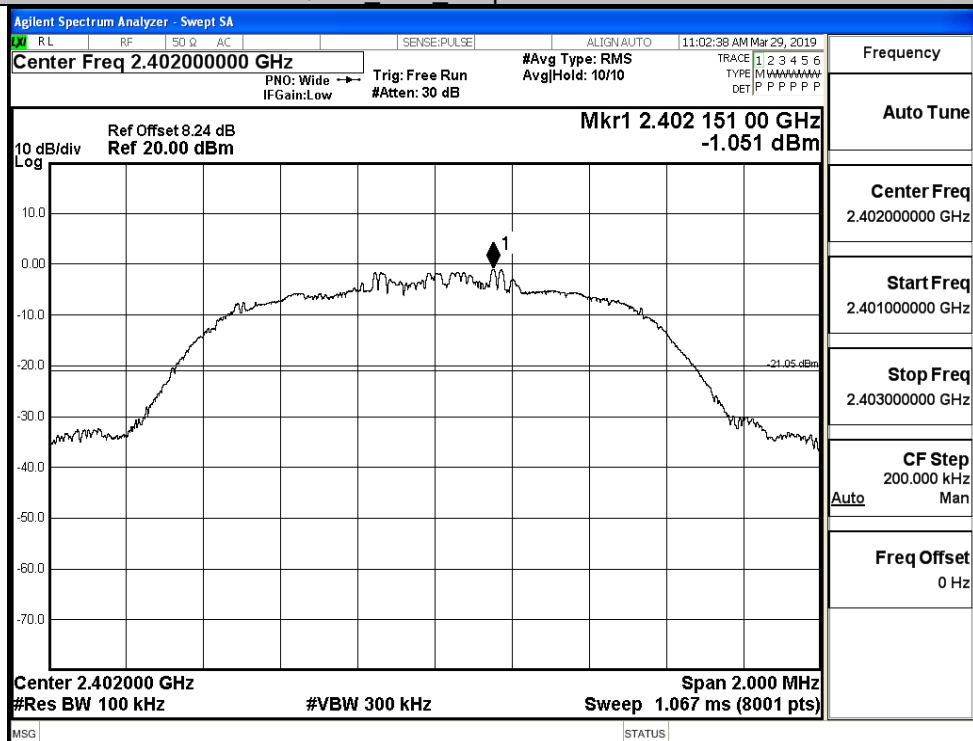
Pref



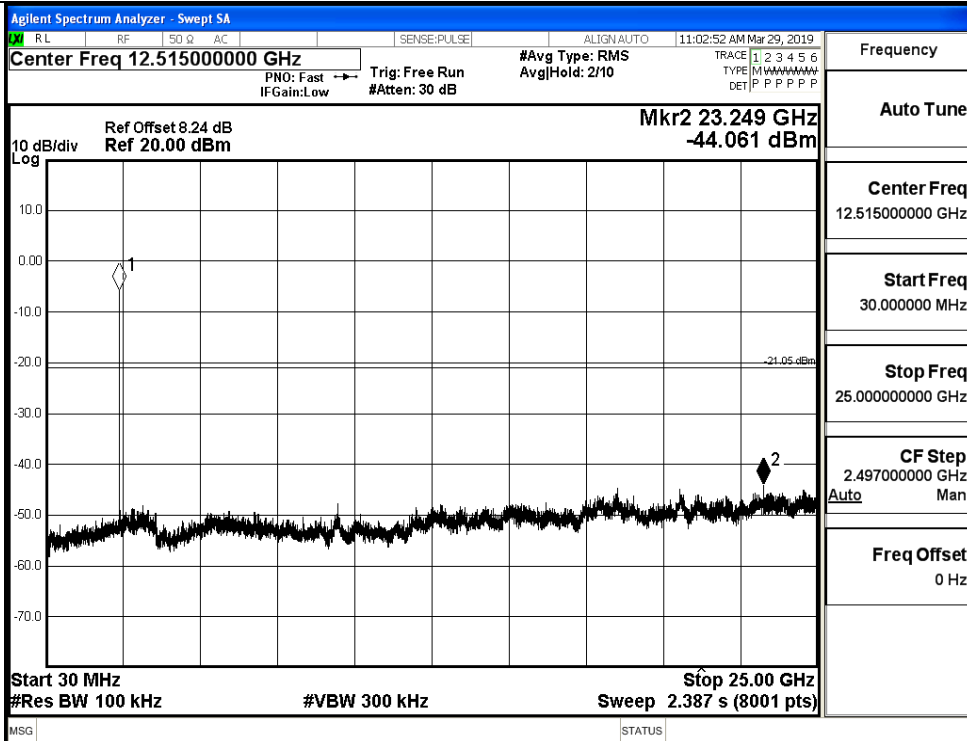
Puw

 $\pi/4$ DQPSK LCH Graphs

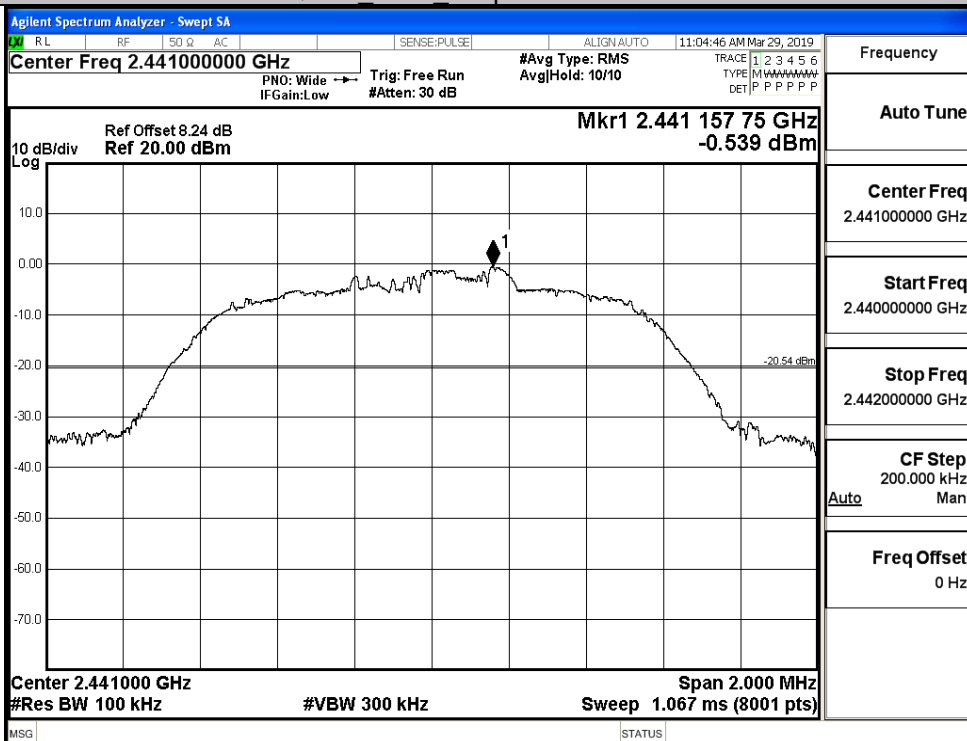
Pref



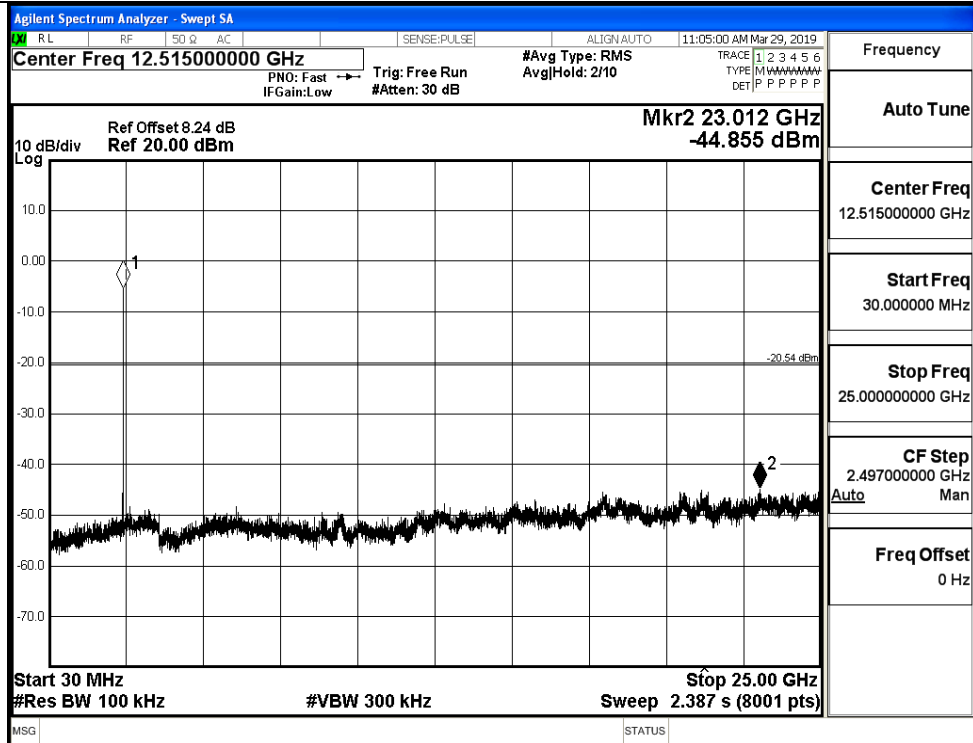
Puw

 $\pi/4$ DQPSK MCH Graphs

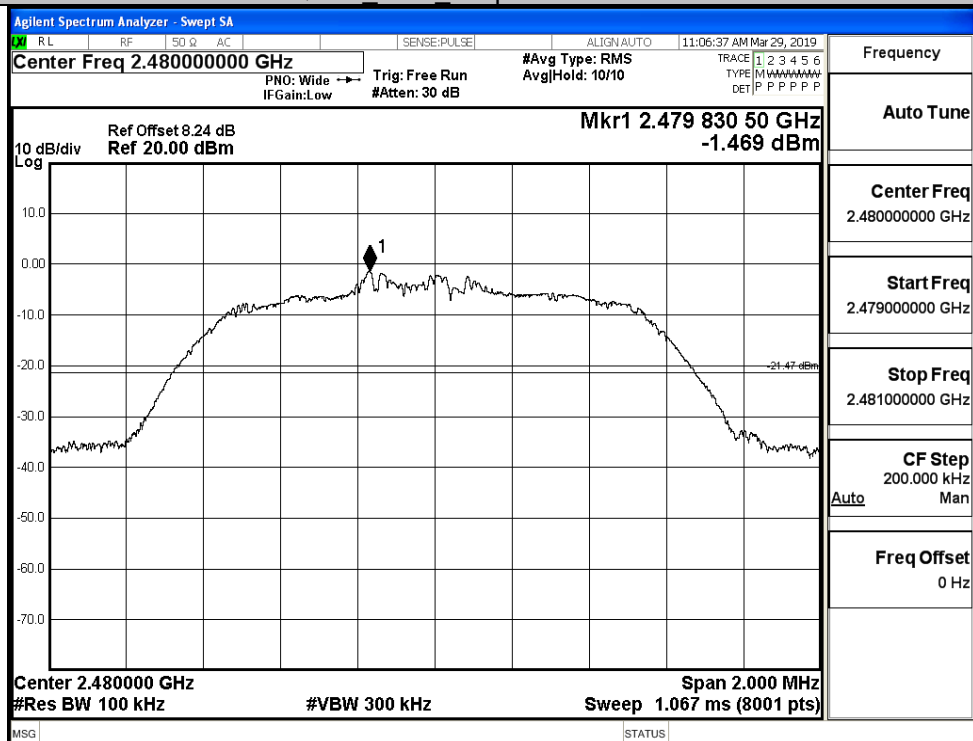
Pref

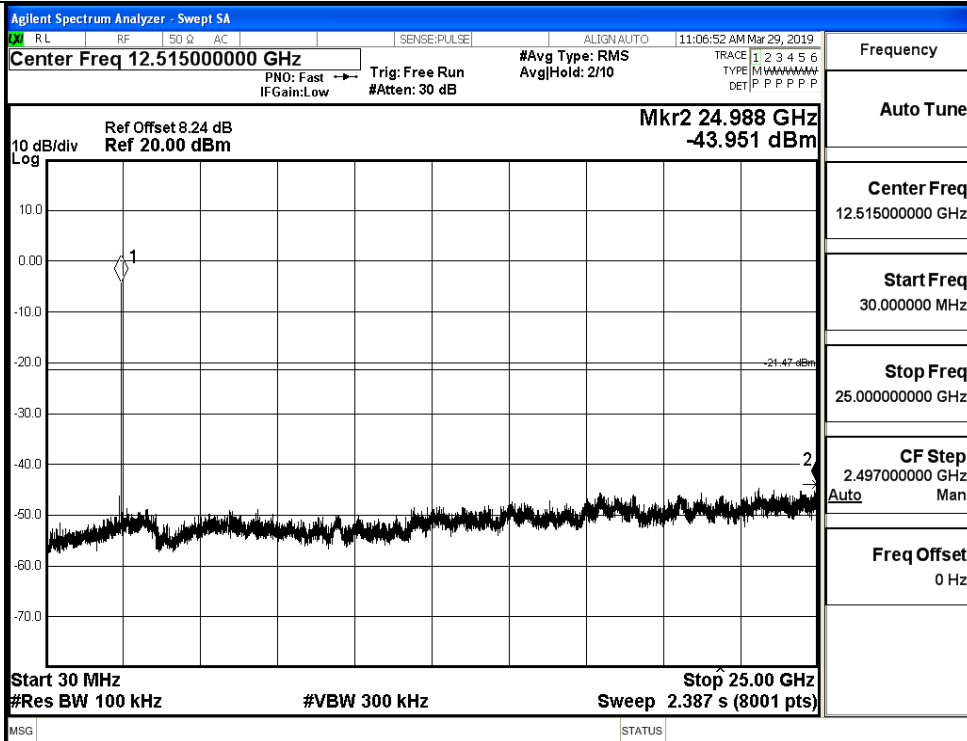


Puw

 $\pi/4$ DQPSK HCH Graphs

Pref



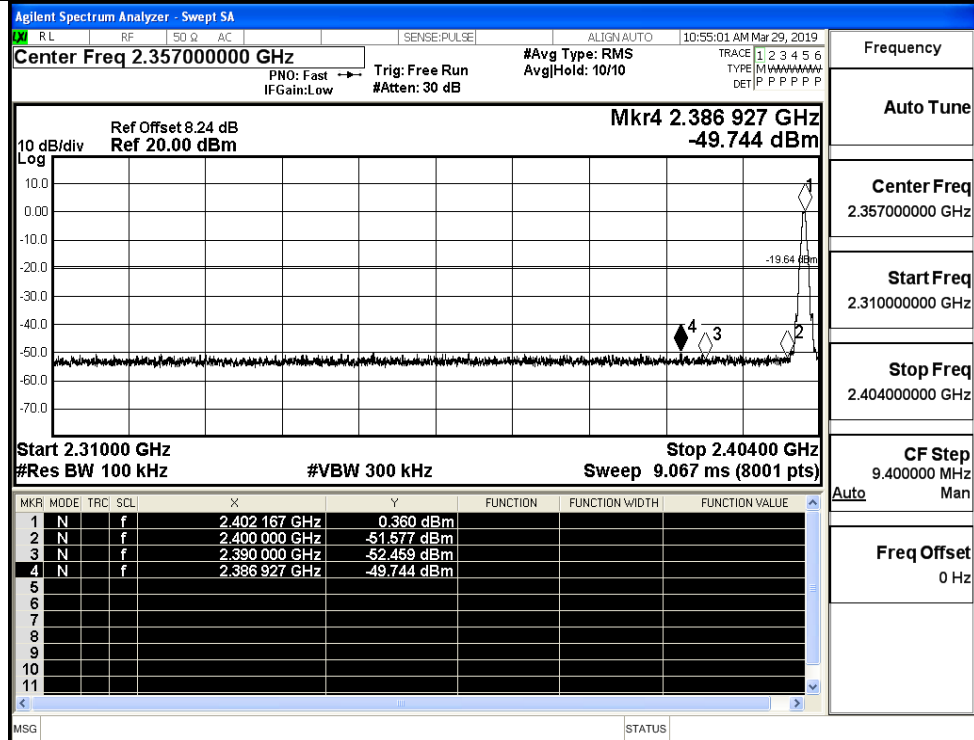
P_uw

A.7 Band-edge for RF Conducted Emissions

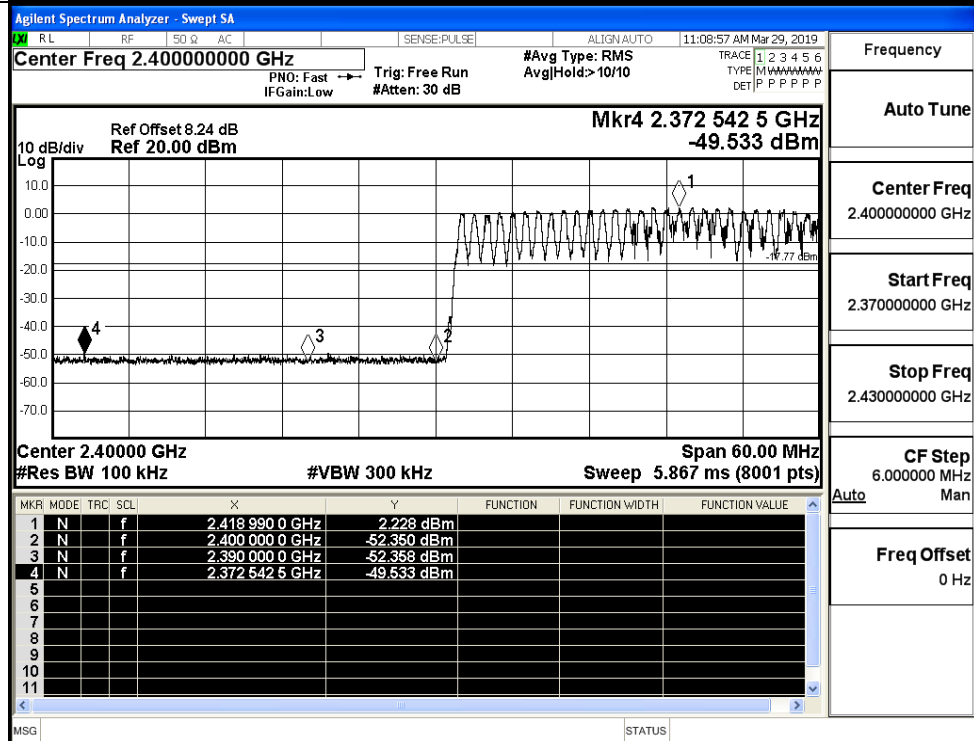
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.360	Off	-49.744	-19.64	PASS
			2.228	On	-49.533	-17.77	PASS
	HCH	2480	-0.149	Off	-49.394	-20.15	PASS
			2.164	On	-49.503	-17.84	PASS
$\pi/4$ DQPSK	LCH	2402	-0.929	Off	-49.362	-20.93	PASS
			0.989	On	-49.143	-19.01	PASS
	HCH	2480	-1.360	Off	-49.699	-21.36	PASS
			0.858	On	-43.389	-19.14	PASS

Test Graphs

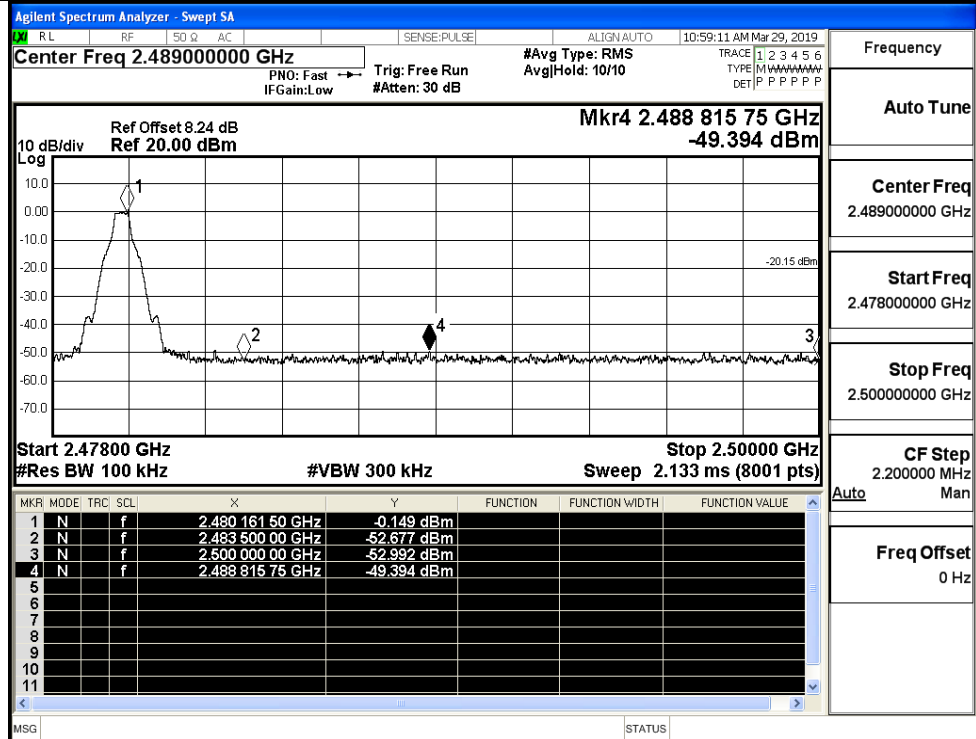
GFSK/LCH/No Hop



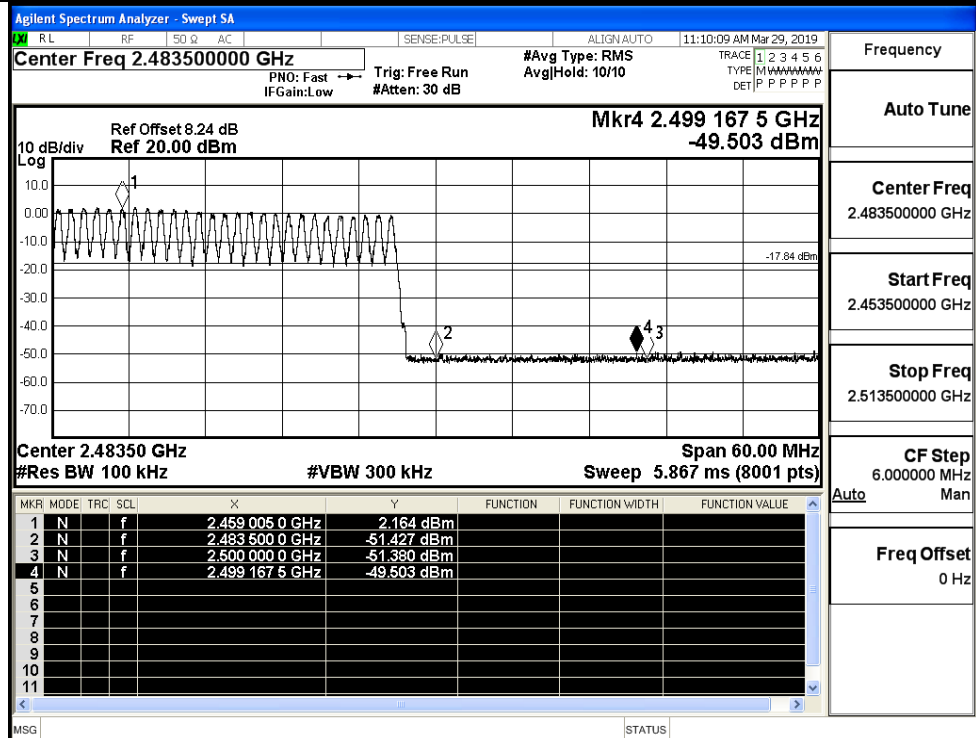
GFSK/LCH/Hop



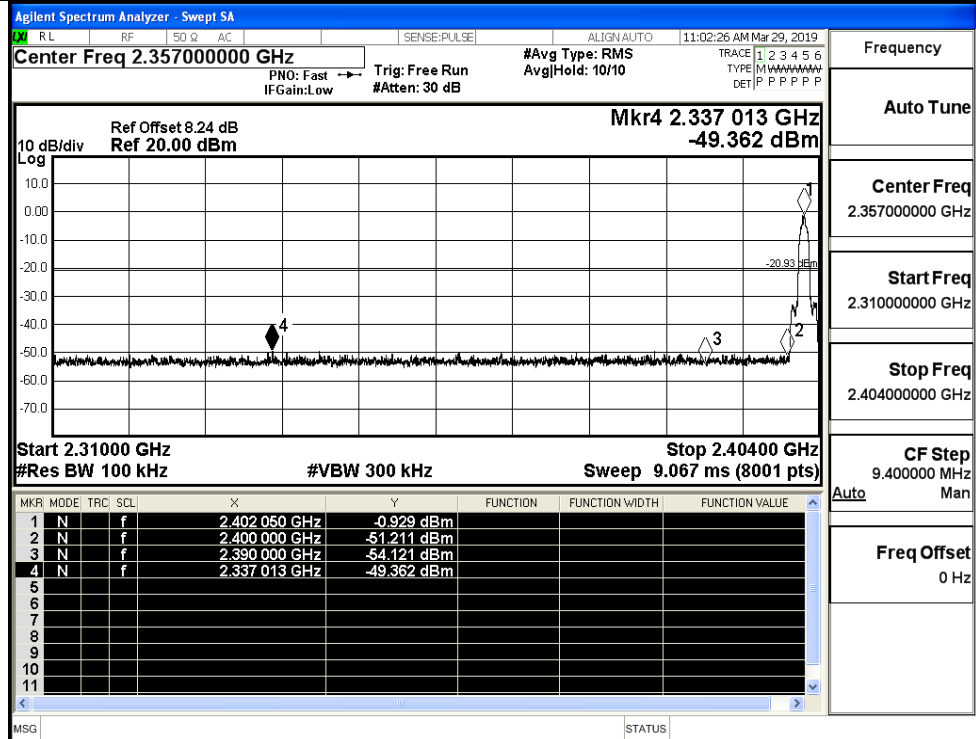
GFSK/HCH/No Hop



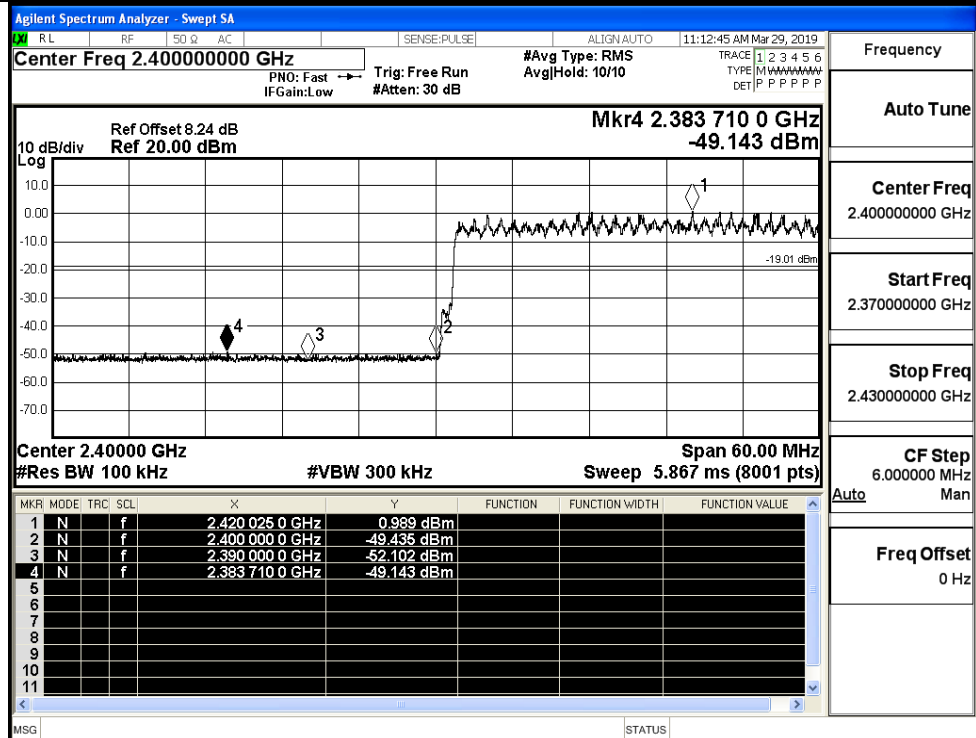
GFSK/HCH/Hop



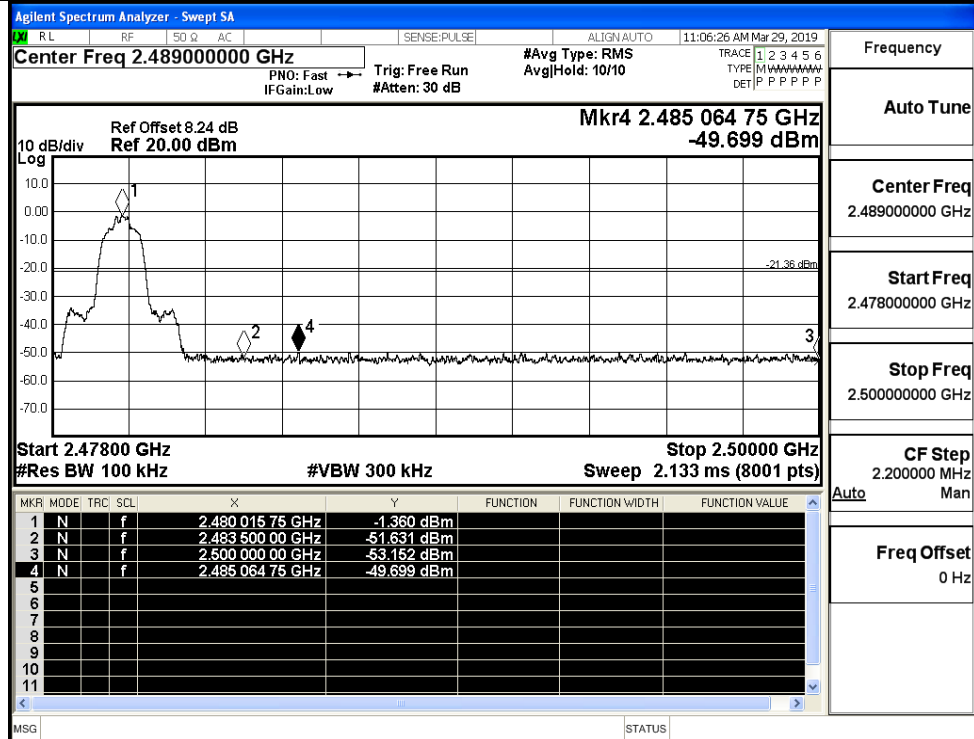
$\pi/4$ DQPSK/LCH/No
Hop



$\pi/4$ DQPSK/LCH/Hop



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



Frequency

Auto Tune

Center Freq
2.489000000 GHz

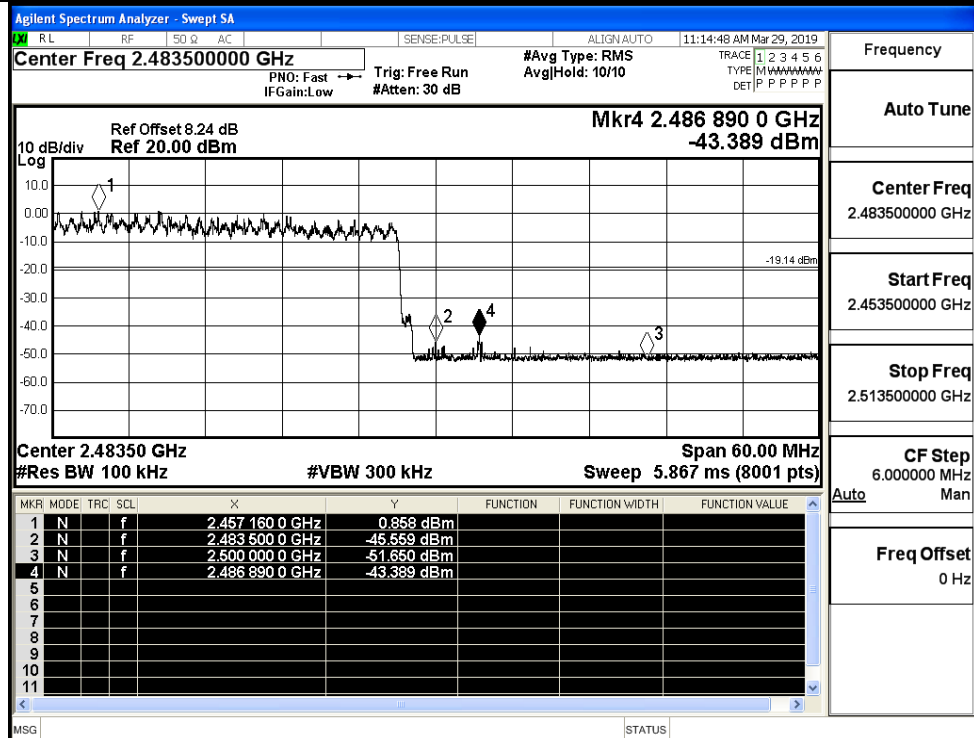
Start Freq
2.478000000 GHz

Stop Freq
2.500000000 GHz

CF Step
2.200000 MHz

Freq Offset
0 Hz

$\pi/4$ DQPSK/HCH/Hop



Frequency

Auto Tune

Center Freq
2.483500000 GHz

Start Freq
2.453500000 GHz

Stop Freq
2.513500000 GHz

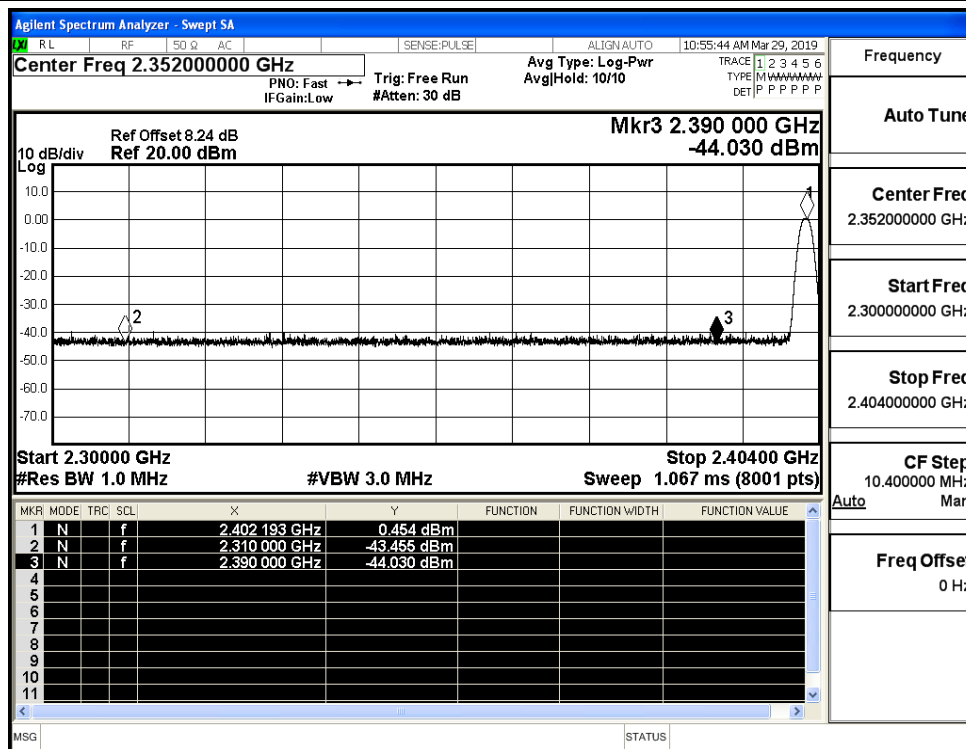
CF Step
6.000000 MHz

Freq Offset
0 Hz

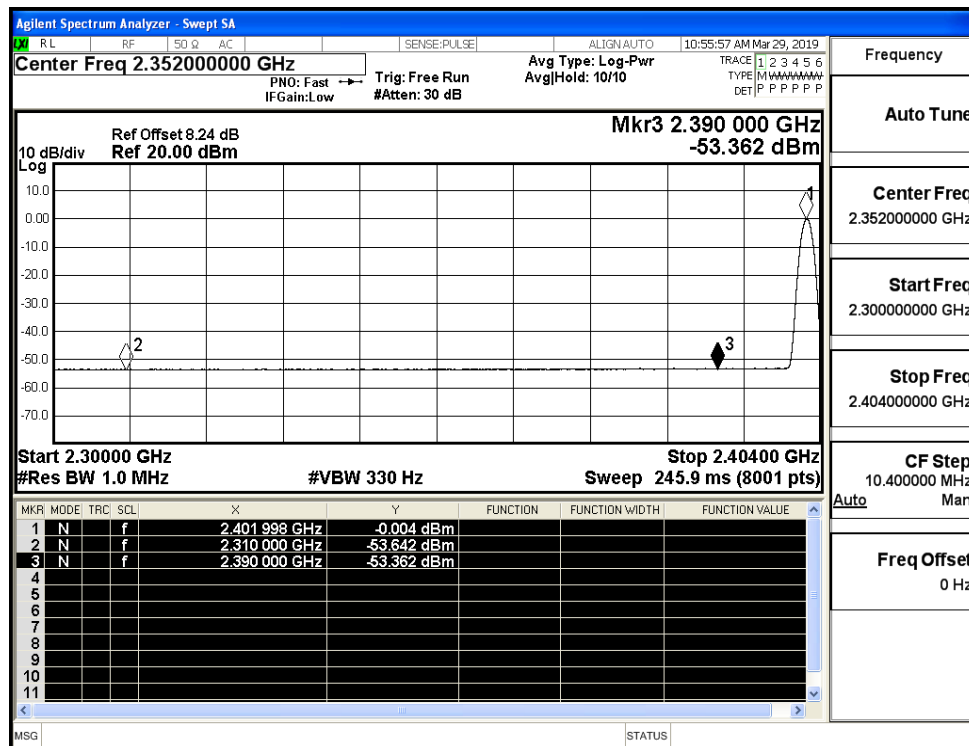
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.46	2.0	0	51.80	PEAK	74	PASS
	Off	2310.0	-53.64	2.0	0	41.62	AV	54	PASS
	Off	2390.0	-44.03	2.0	0	51.23	PEAK	74	PASS
	Off	2390.0	-53.36	2.0	0	41.90	AV	54	PASS
	Off	2483.5	-42.54	2.0	0	52.72	PEAK	74	PASS
	Off	2483.5	-53.00	2.0	0	42.26	AV	54	PASS
	Off	2500.0	-43.26	2.0	0	51.99	PEAK	74	PASS
	Off	2500.0	-52.84	2.0	0	42.41	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.88	2.0	0	51.37	PEAK	74	PASS
	Off	2310.0	-53.56	2.0	0	41.70	AV	54	PASS
	Off	2390.0	-42.61	2.0	0	52.64	PEAK	74	PASS
	Off	2390.0	-53.34	2.0	0	41.92	AV	54	PASS
	Off	2483.5	-43.46	2.0	0	51.79	PEAK	74	PASS
	Off	2483.5	-52.95	2.0	0	42.31	AV	54	PASS
	Off	2500.0	-41.85	2.0	0	53.41	PEAK	74	PASS
	Off	2500.0	-52.90	2.0	0	42.36	AV	54	PASS

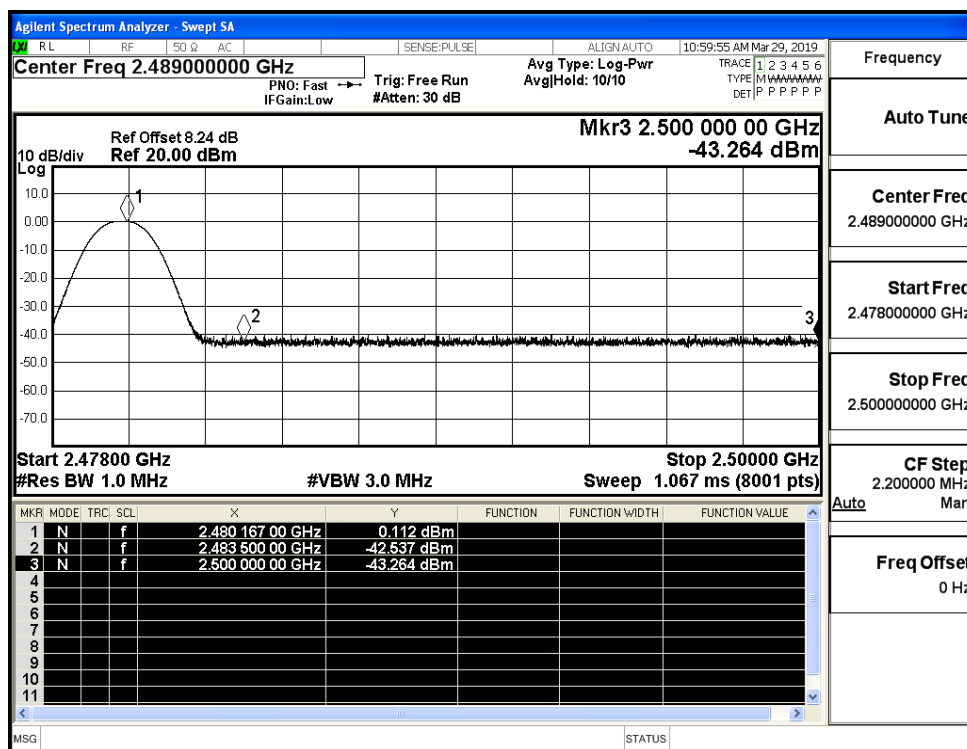
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



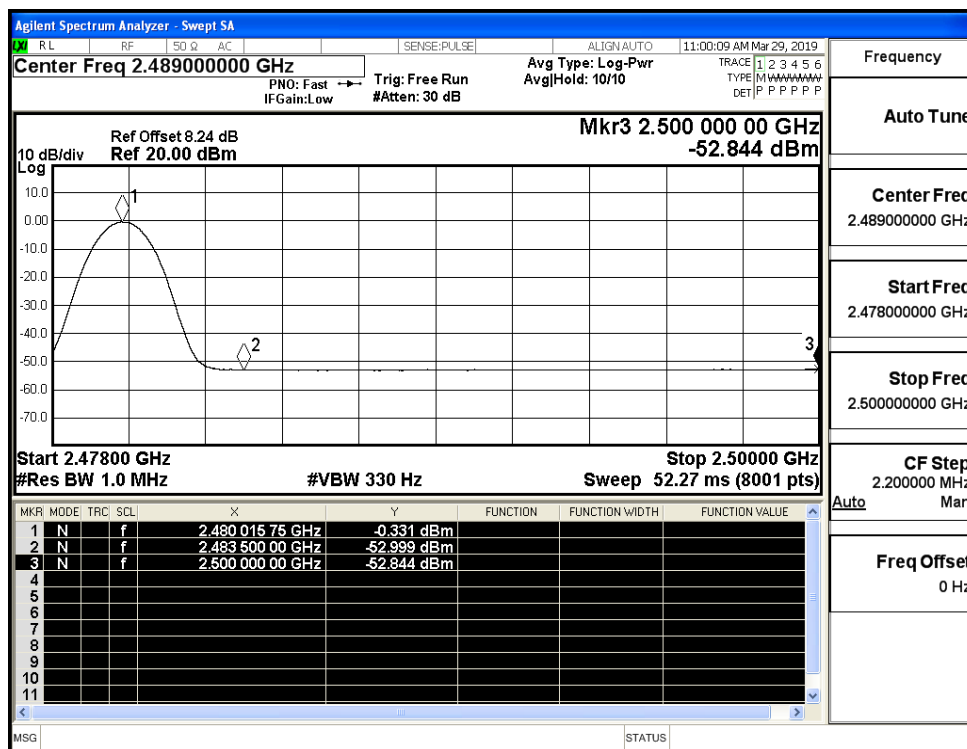
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

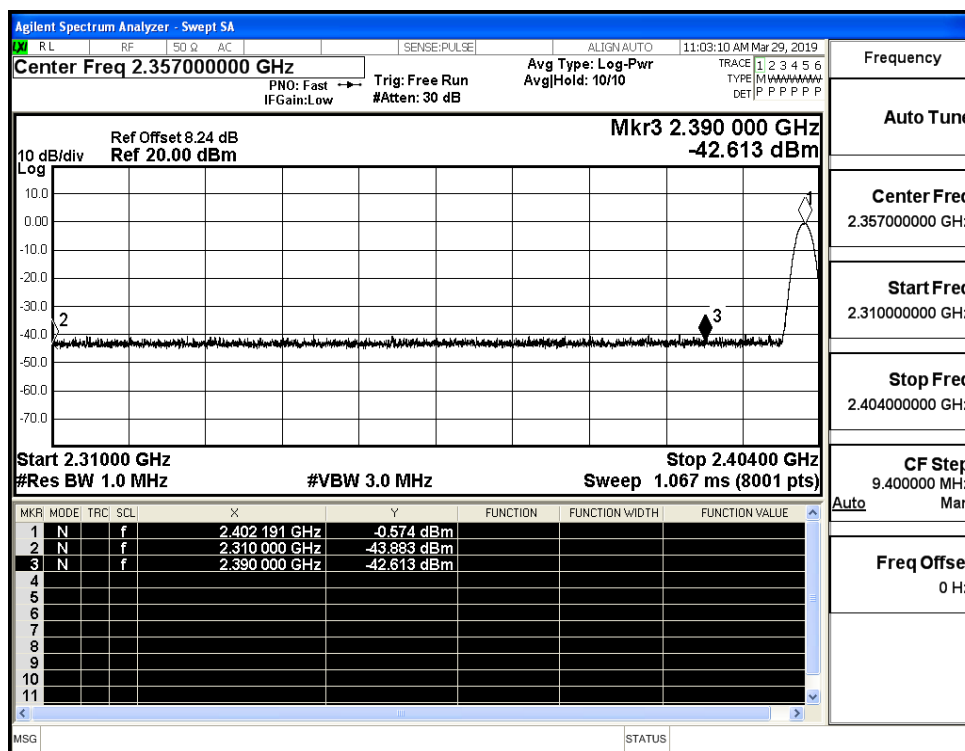
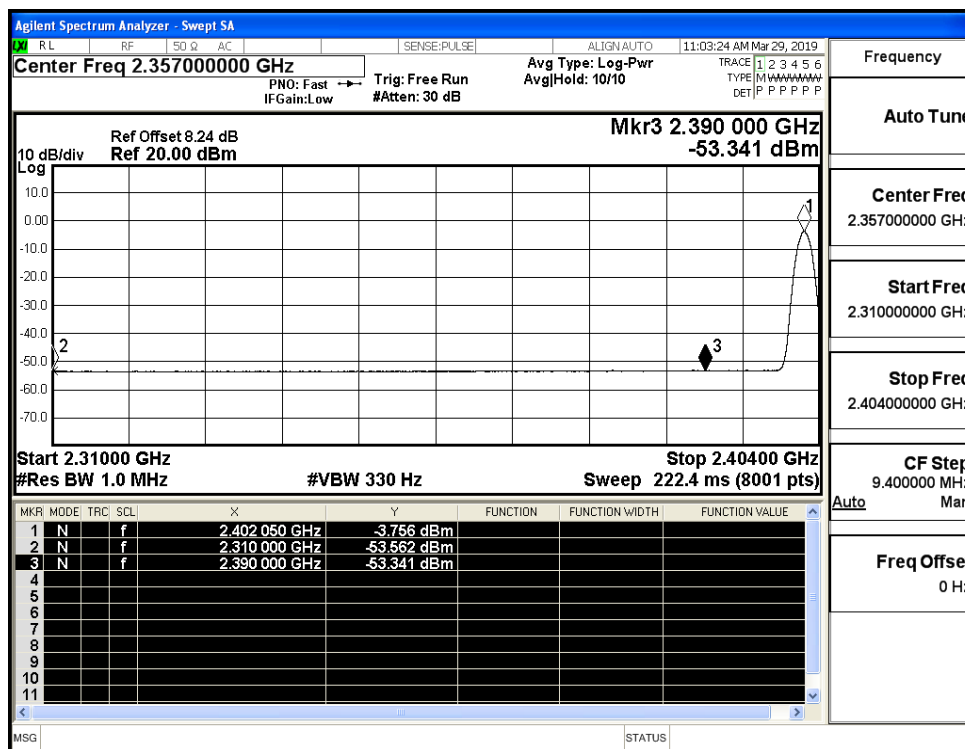


Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)

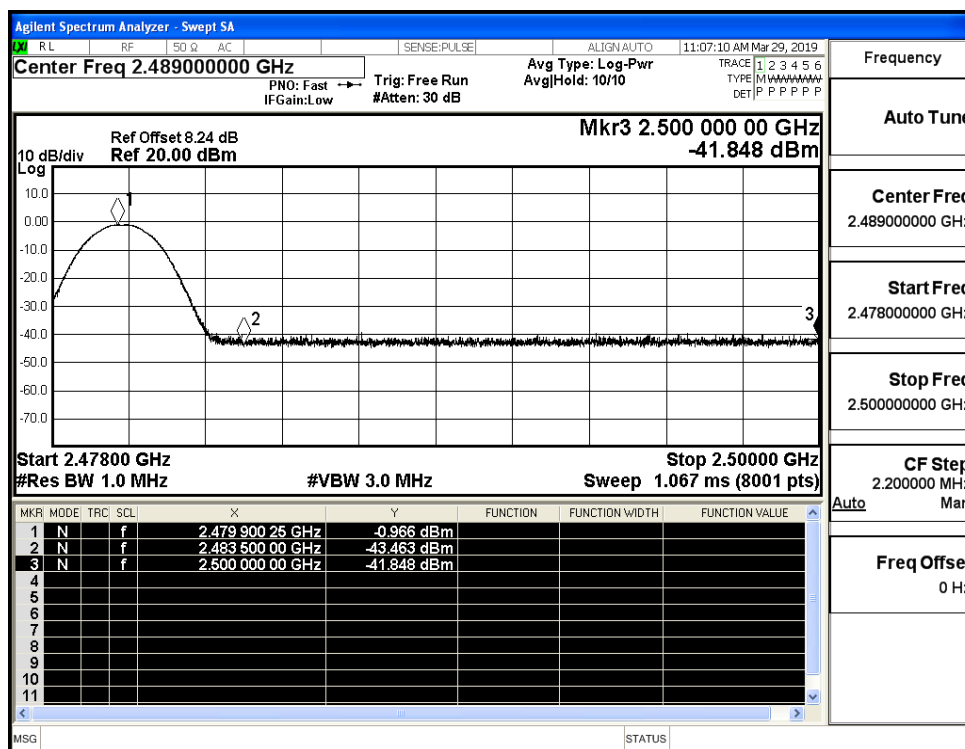


Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



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)

