

Appendix A

RF Test Data for BT V5.0(BDR/EDR) (Conducted Measurement)

Product Name: Projector

Trade Mark: DBPOWER, TENKER, SPACEKEY

Test Model: Q6

Environmental Conditions

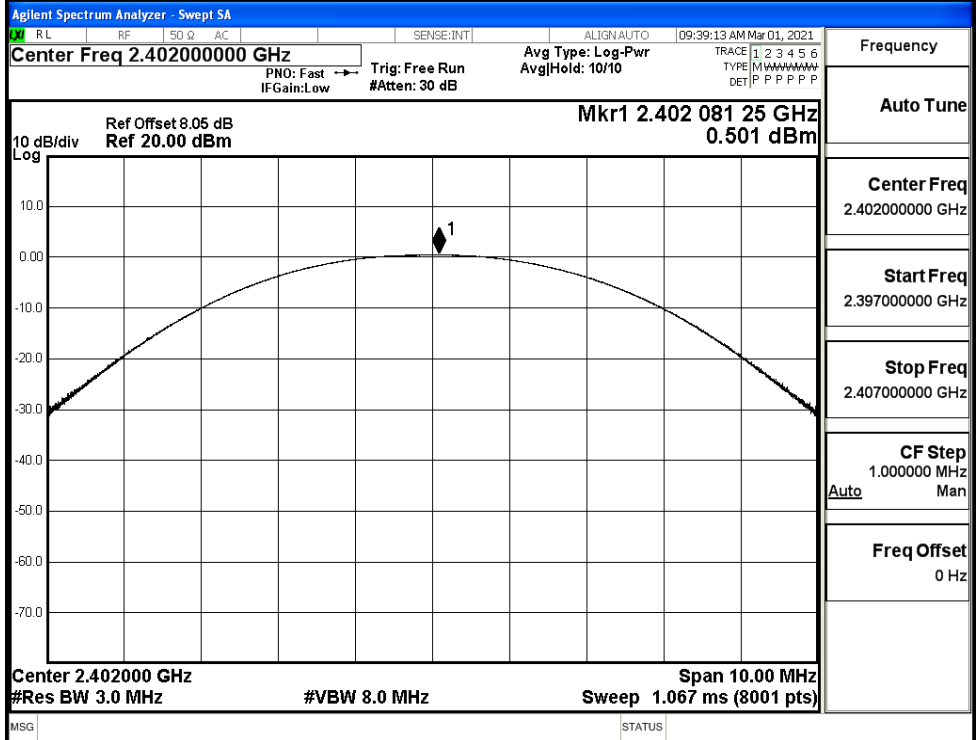
Temperature:	23.2° C
Relative Humidity:	51.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Ken He
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

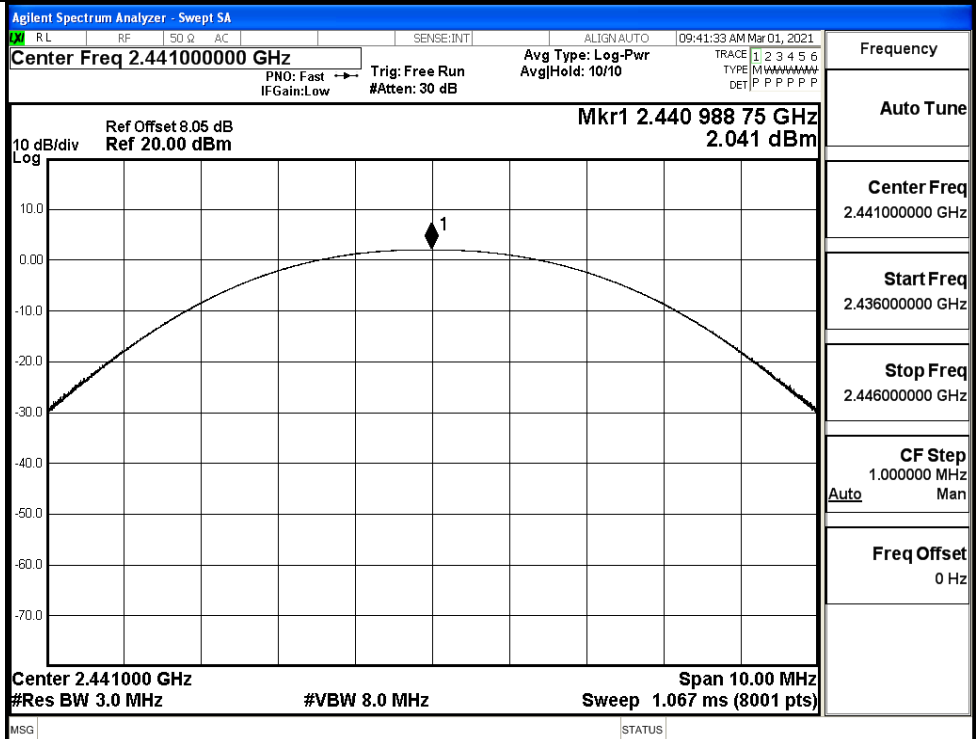
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.501	21	PASS
	MCH	2.041	21	PASS
	HCH	0.502	21	PASS
$\pi/4$ DQPSK	LCH	-0.298	21	PASS
	MCH	1.192	21	PASS
	HCH	-0.271	21	PASS

Test Graphs

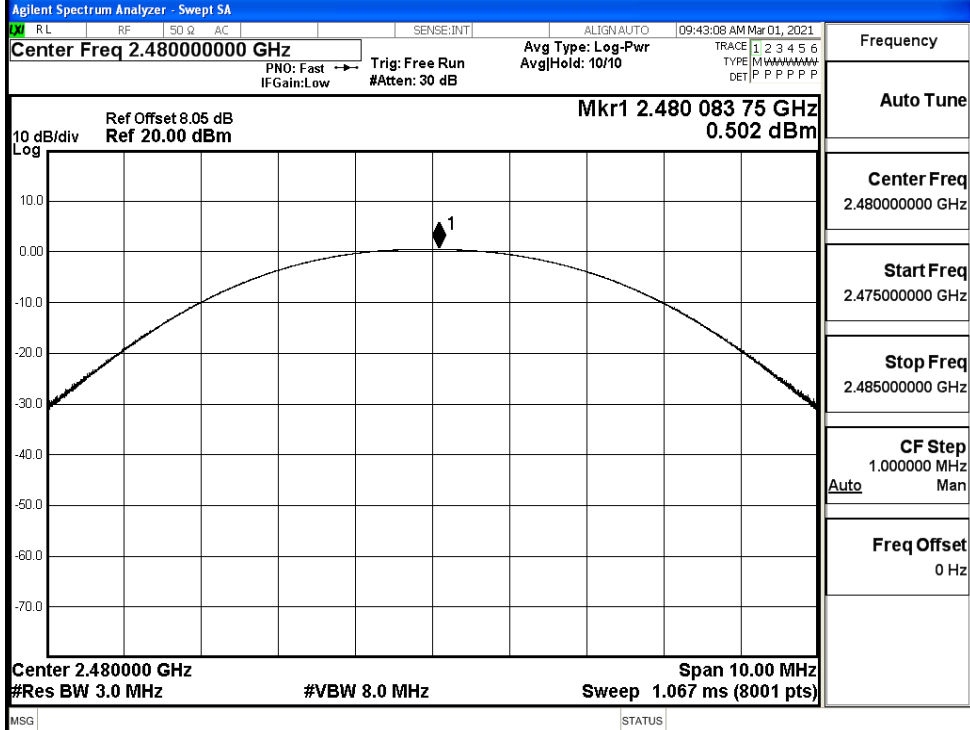
GFSK/LCH



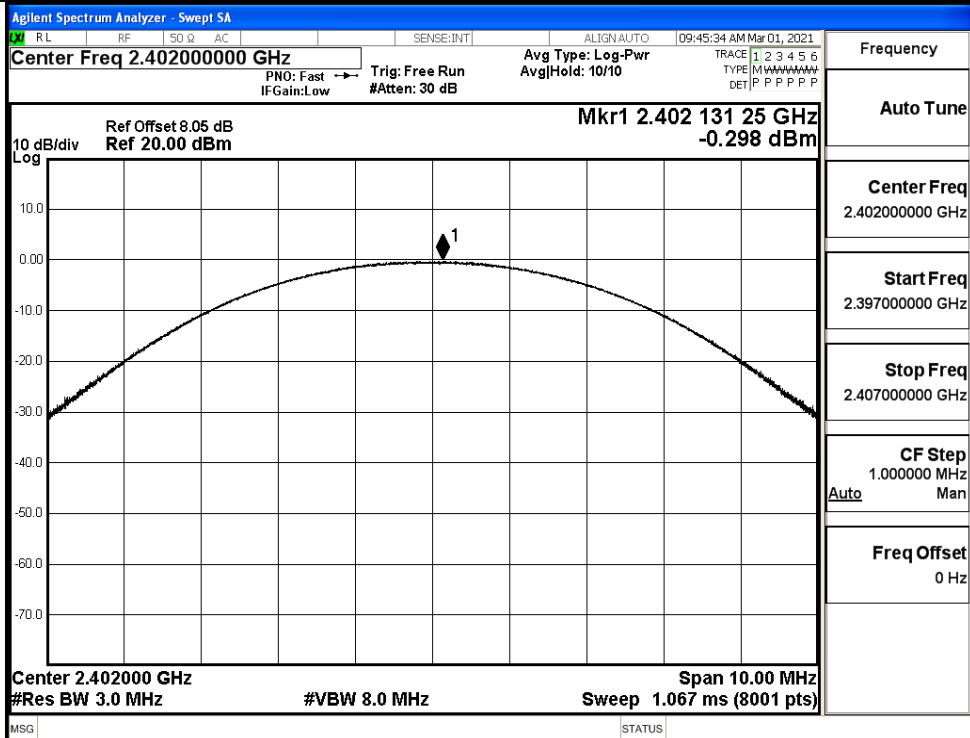
GFSK/MCH



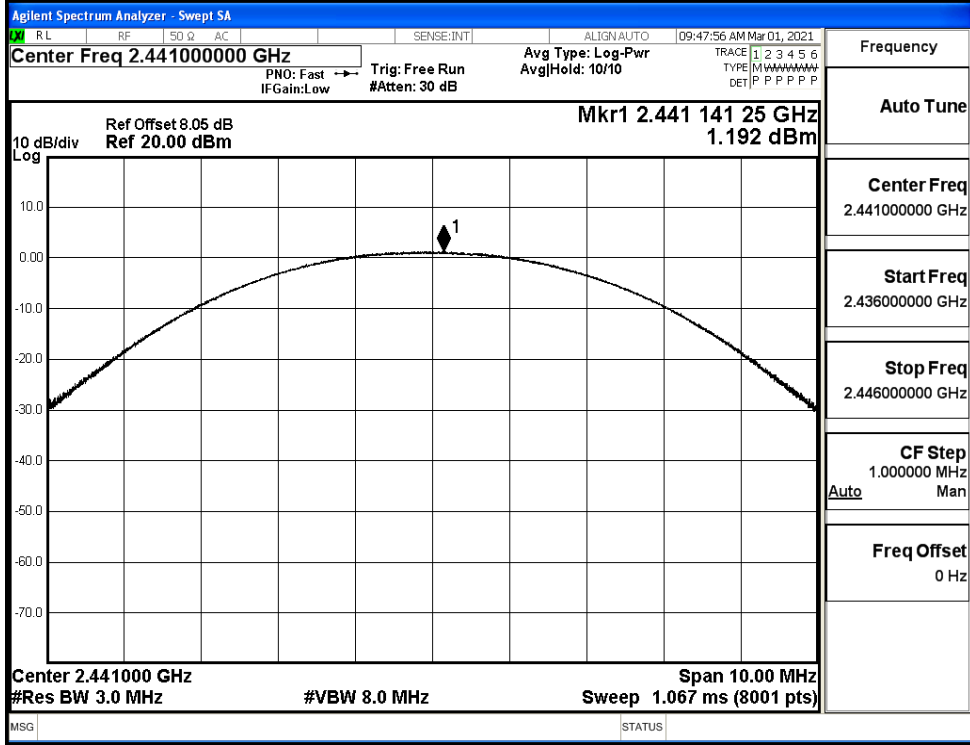
GFSK/HCH



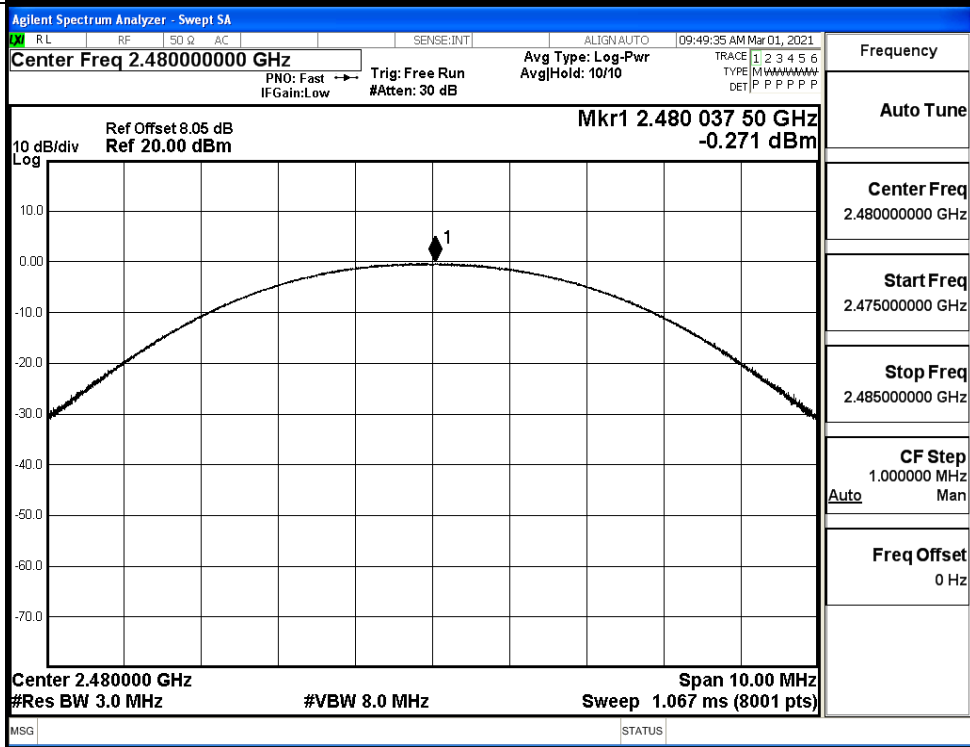
$\pi/4$ DQPSK/LCH



π /4DQPSK/MCH

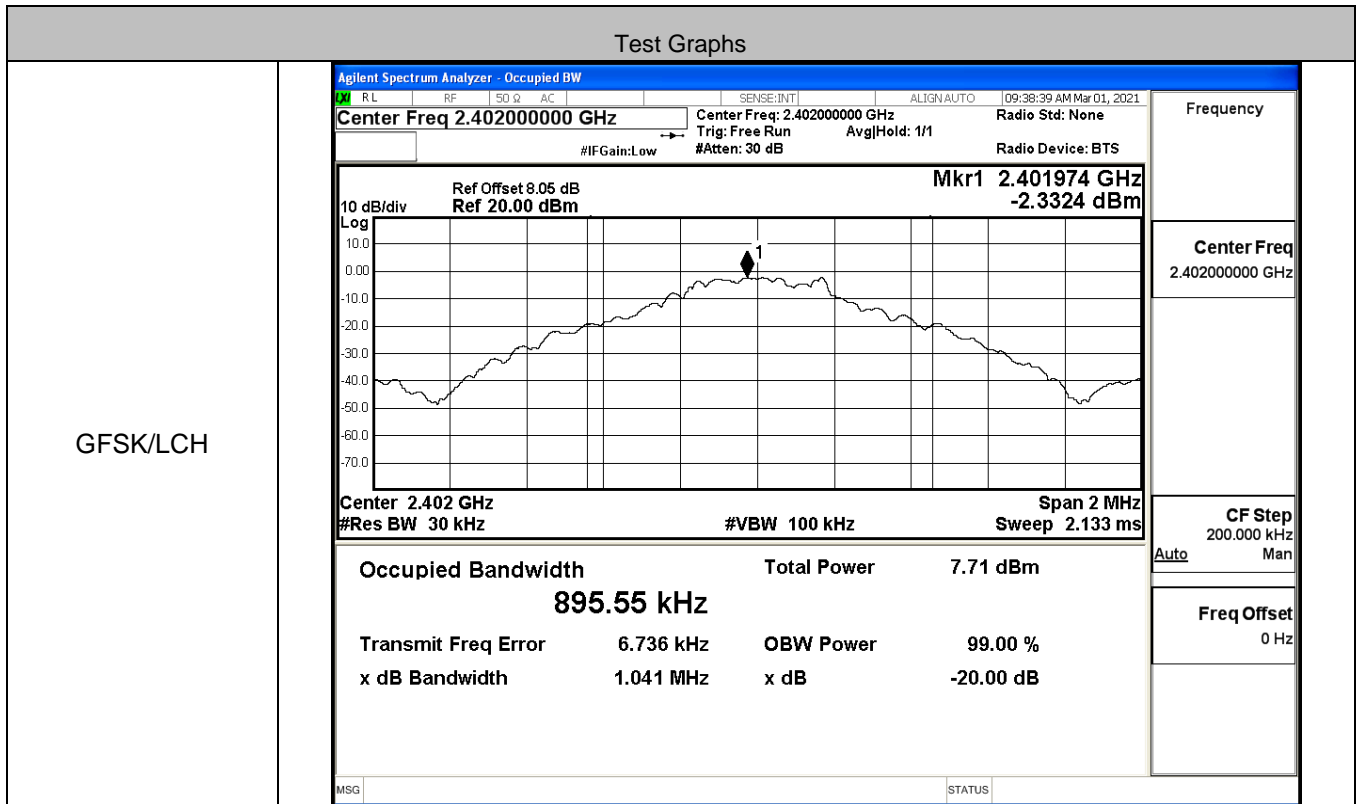


π /4DQPSK/HCH

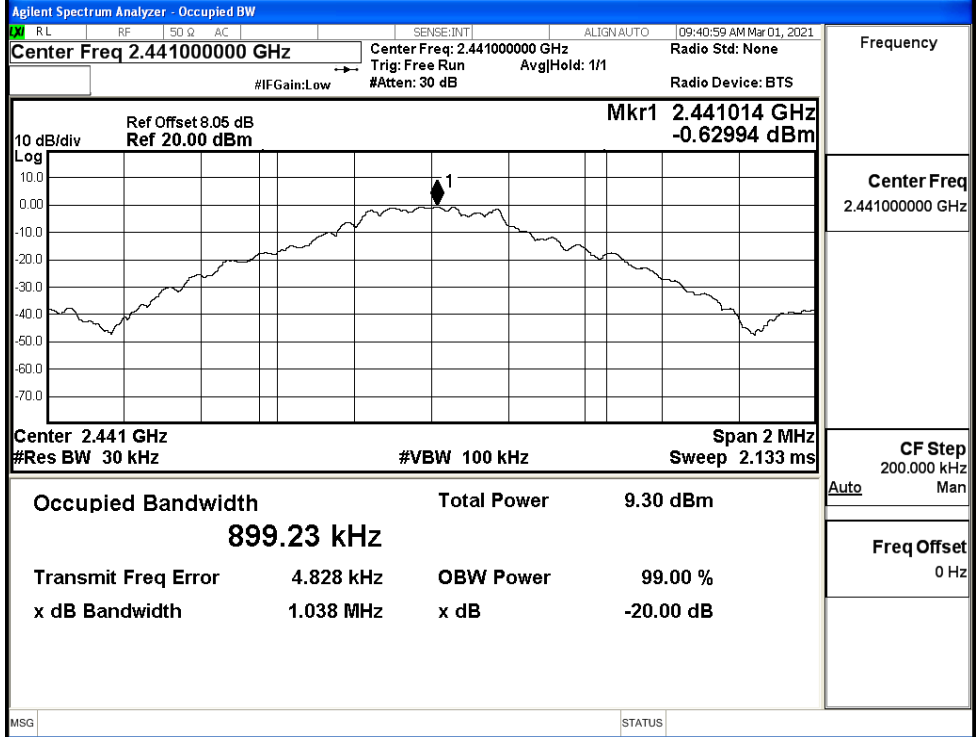


A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.041	Not Specified	PASS
	MCH	1.038	Not Specified	PASS
	HCH	1.033	Not Specified	PASS
π/4DQPSK	LCH	1.288	Not Specified	PASS
	MCH	1.288	Not Specified	PASS
	HCH	1.288	Not Specified	PASS

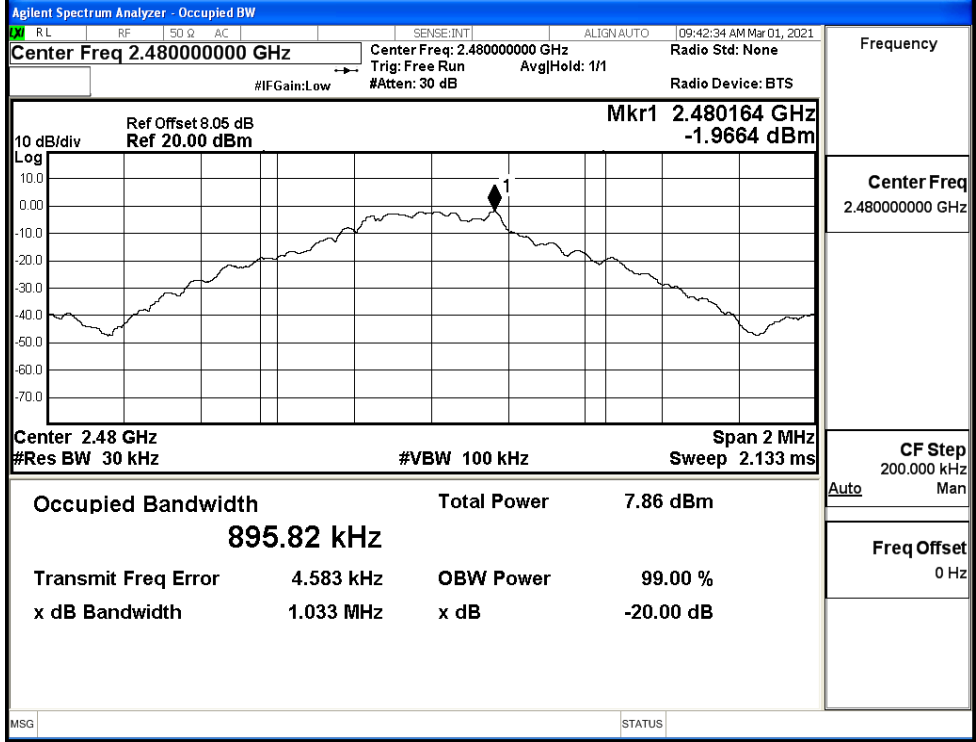


GFSK/MCH



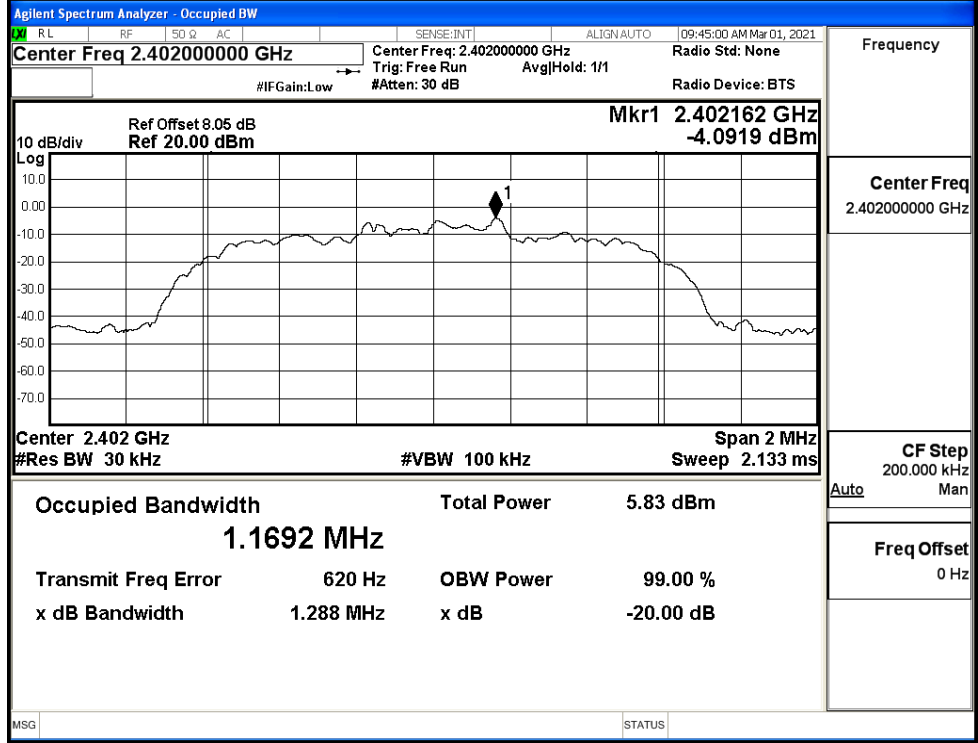
Frequency	2.44100000 GHz
Center Freq	2.44100000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

GFSK/HCH

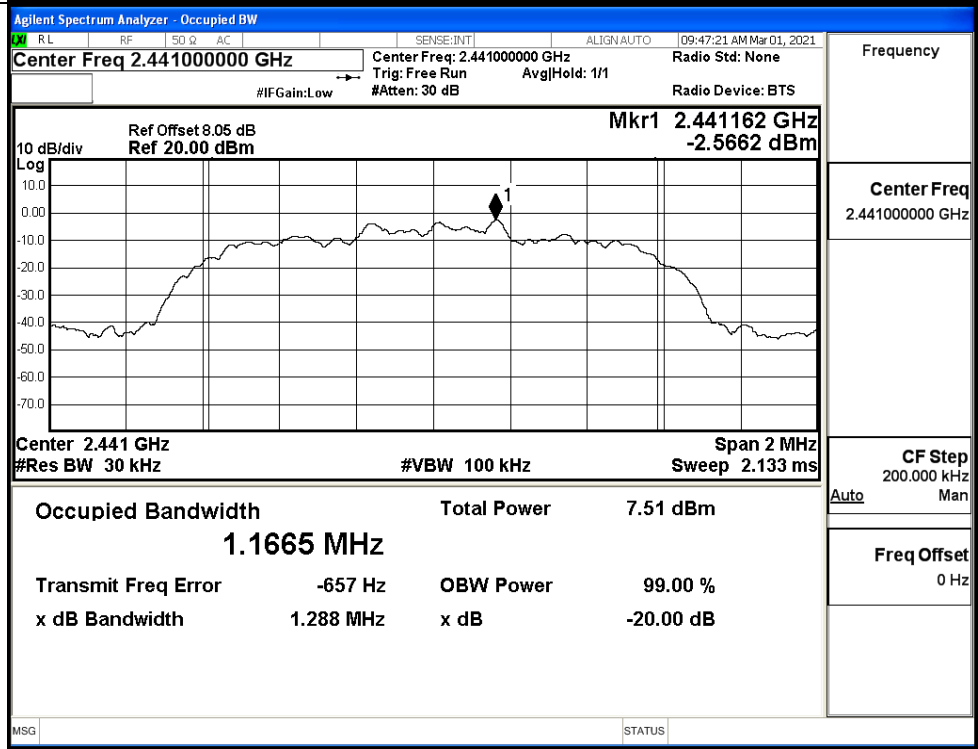


Frequency	2.48000000 GHz
Center Freq	2.48000000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

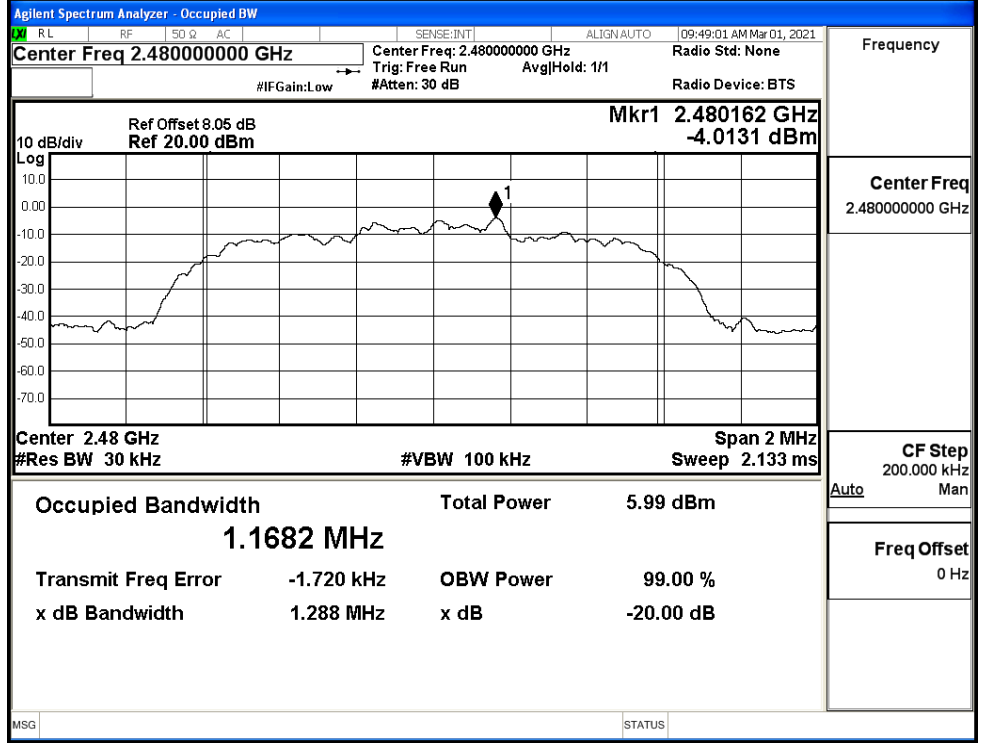
$\pi/4$ DQPSK/LCH



$\pi/4$ DQPSK/MCH

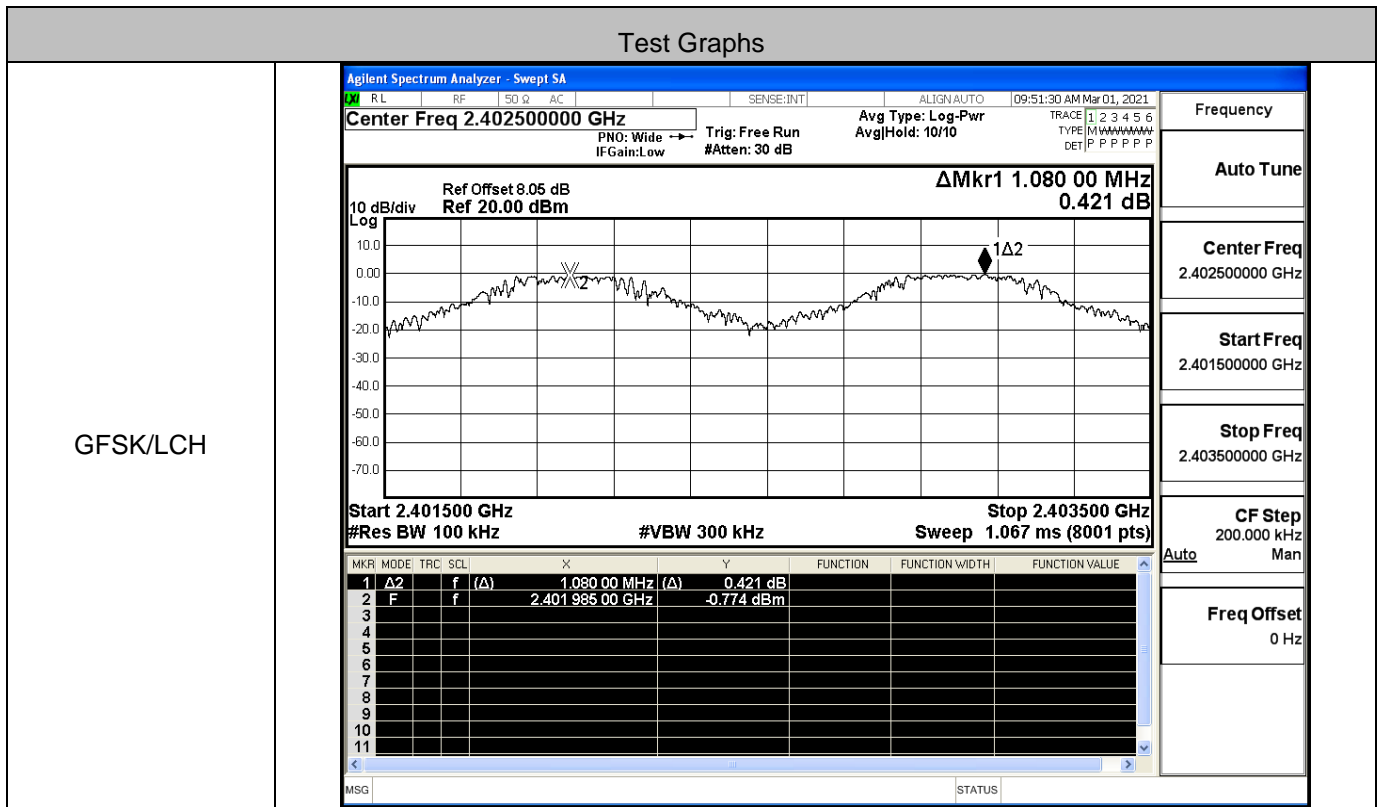


$\pi/4$ DQPSK/HCH

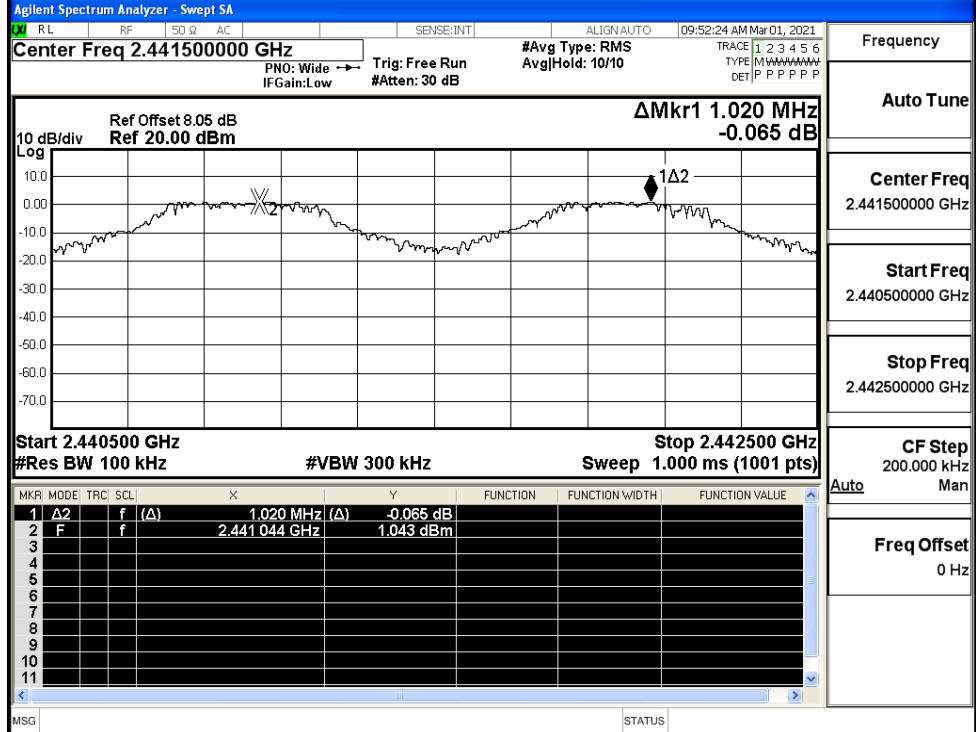


A.3 Carrier Frequency Separation

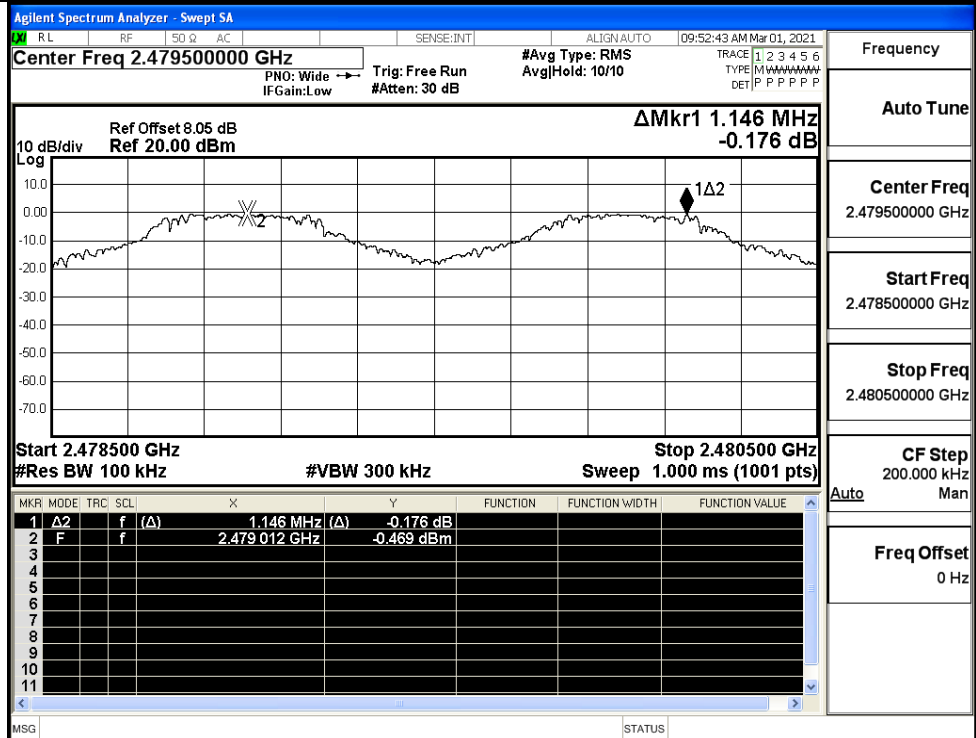
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.080	0.694	PASS
	MCH	1.020	0.694	PASS
	HCH	1.146	0.694	PASS
π/4DQPSK	LCH	1.012	0.859	PASS
	MCH	1.040	0.859	PASS
	HCH	1.002	0.859	PASS



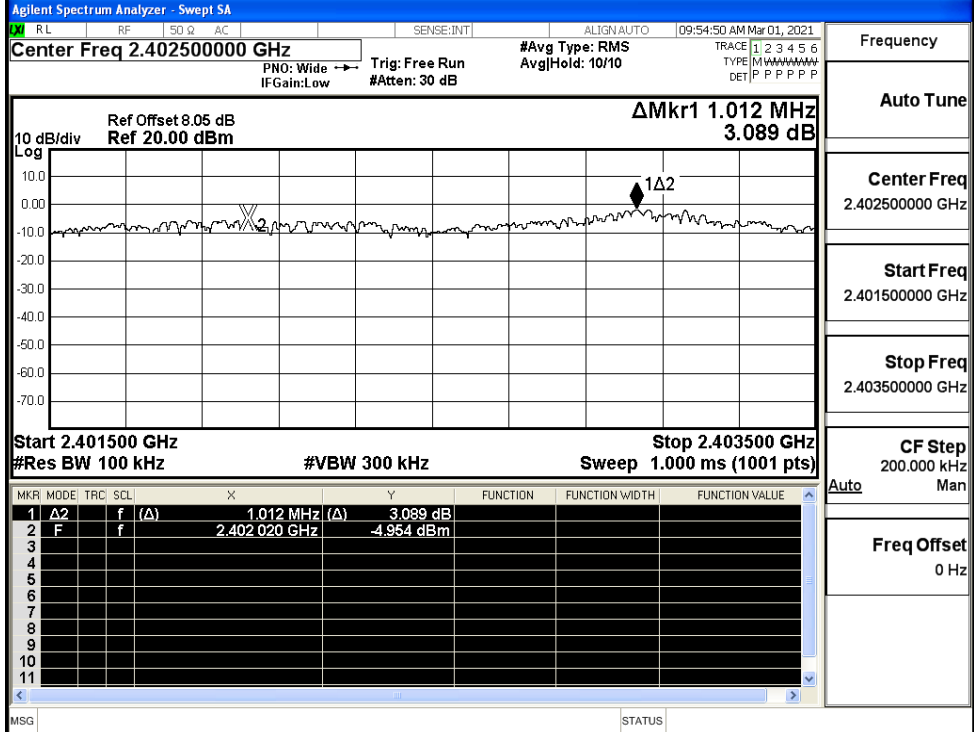
GFSK/MCH



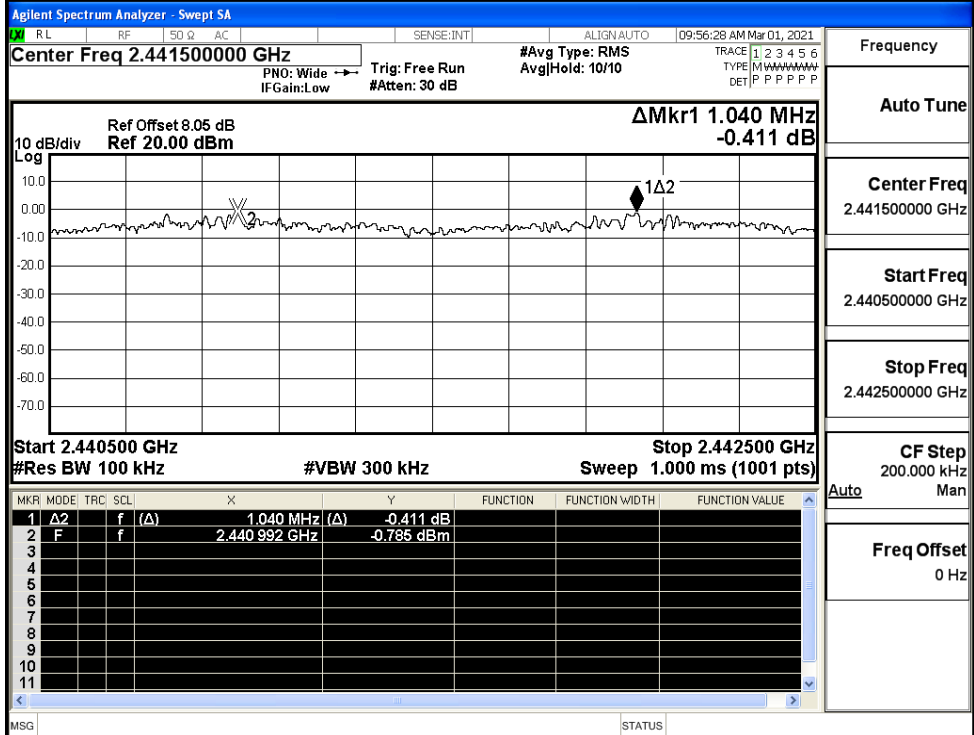
GFSK/HCH



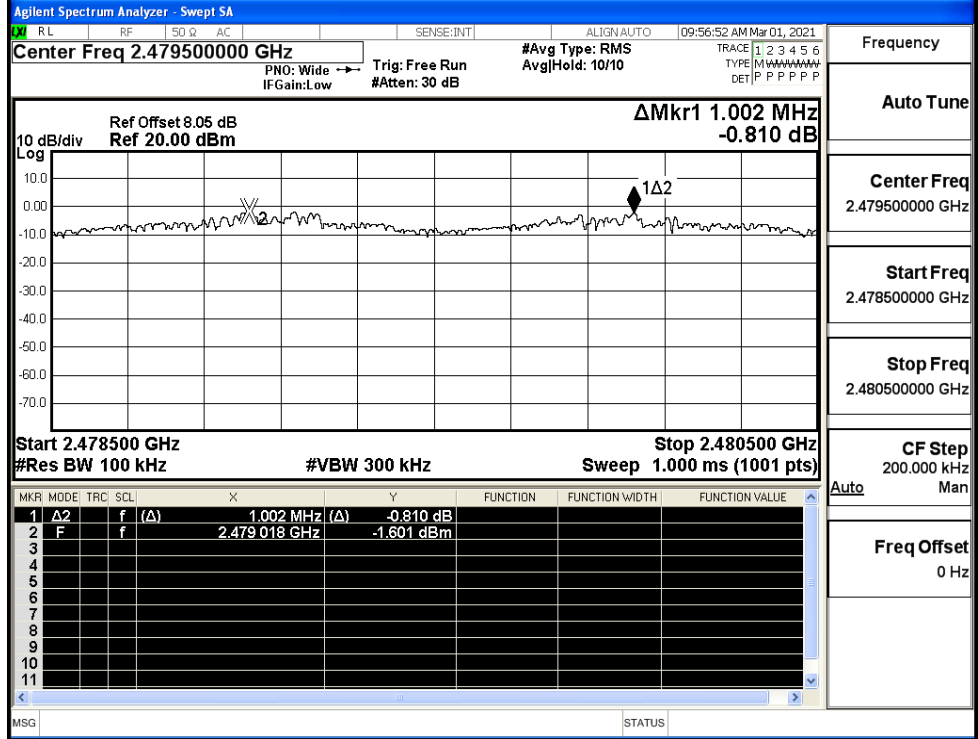
$\pi/4$ DQPSK/LCH



$\pi/4$ DQPSK/MCH



$\pi/4$ DQPSK/HCH



A.4 Hopping Channel Number

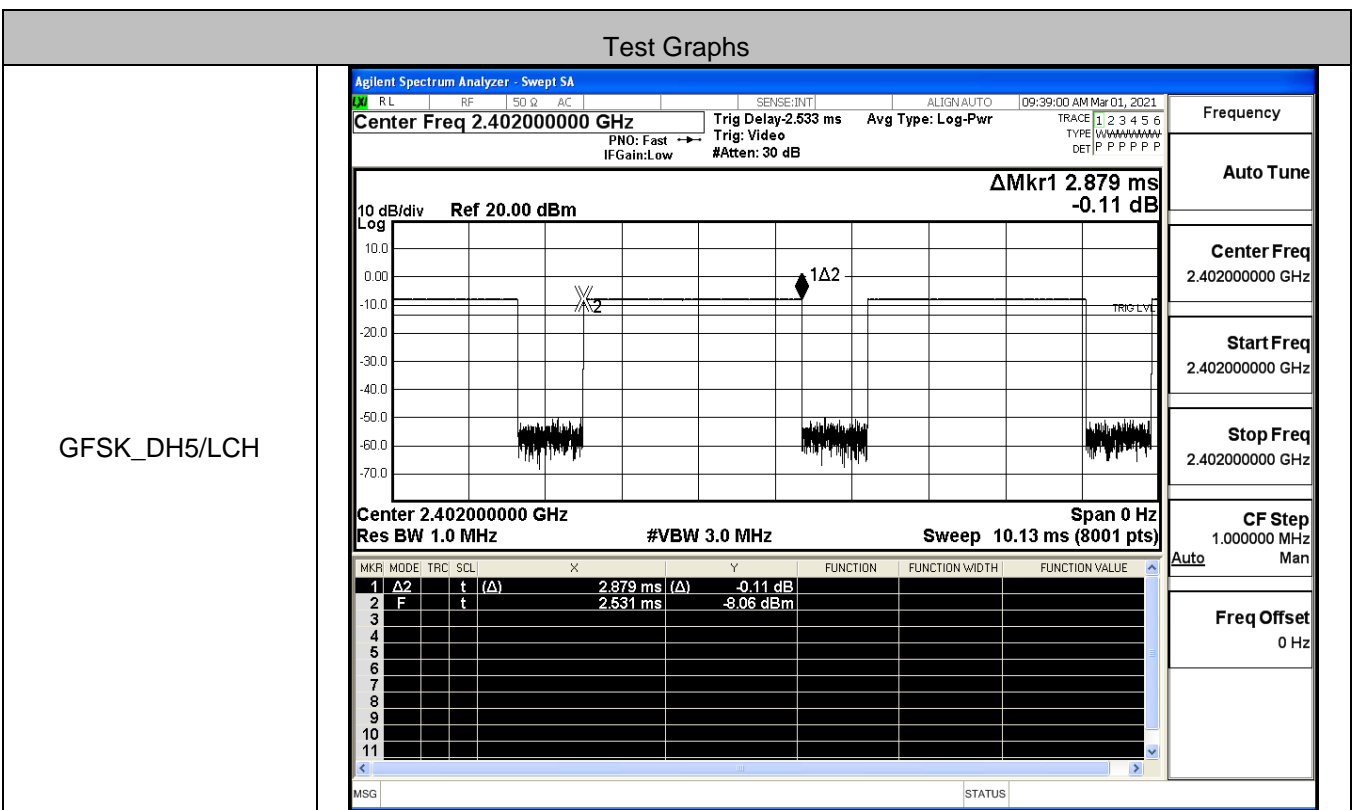
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS

Test Graphs

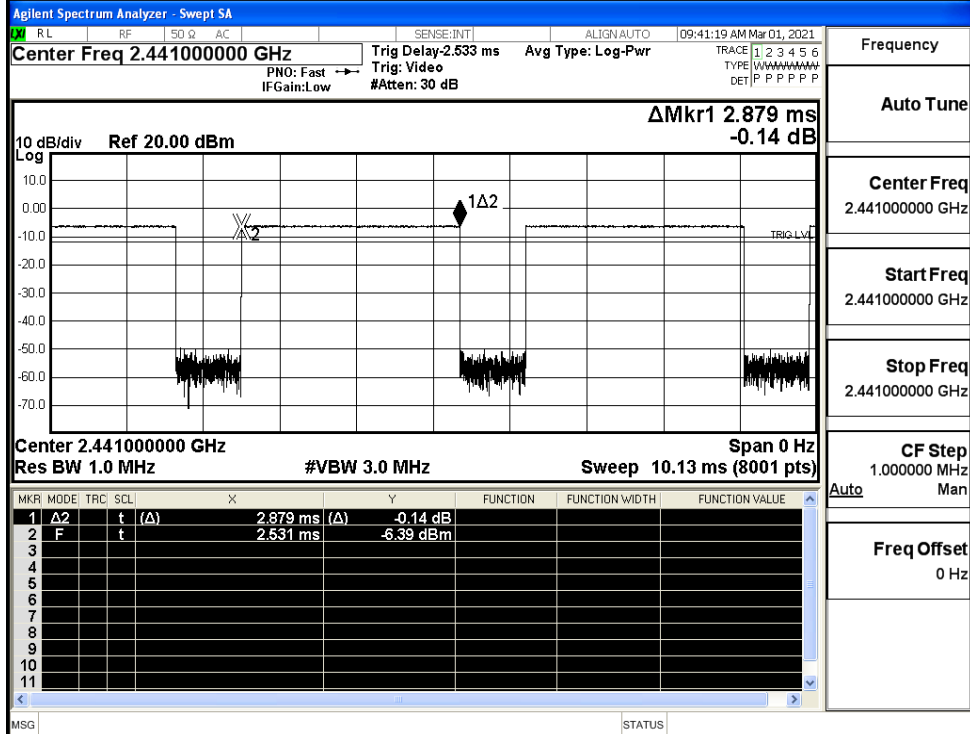
GFSK/Hop		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.441750000 GHz</p> <p>Start Freq 2.400000000 GHz</p> <p>Stop Freq 2.483500000 GHz</p> <p>CF Step 8.350000 MHz</p> <p>Freq Offset 0 Hz</p>
$\pi/4$ DQPSK/Hop		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.441750000 GHz</p> <p>Start Freq 2.400000000 GHz</p> <p>Stop Freq 2.483500000 GHz</p> <p>CF Step 8.350000 MHz</p> <p>Freq Offset 0 Hz</p>

A.5 Dwell Time

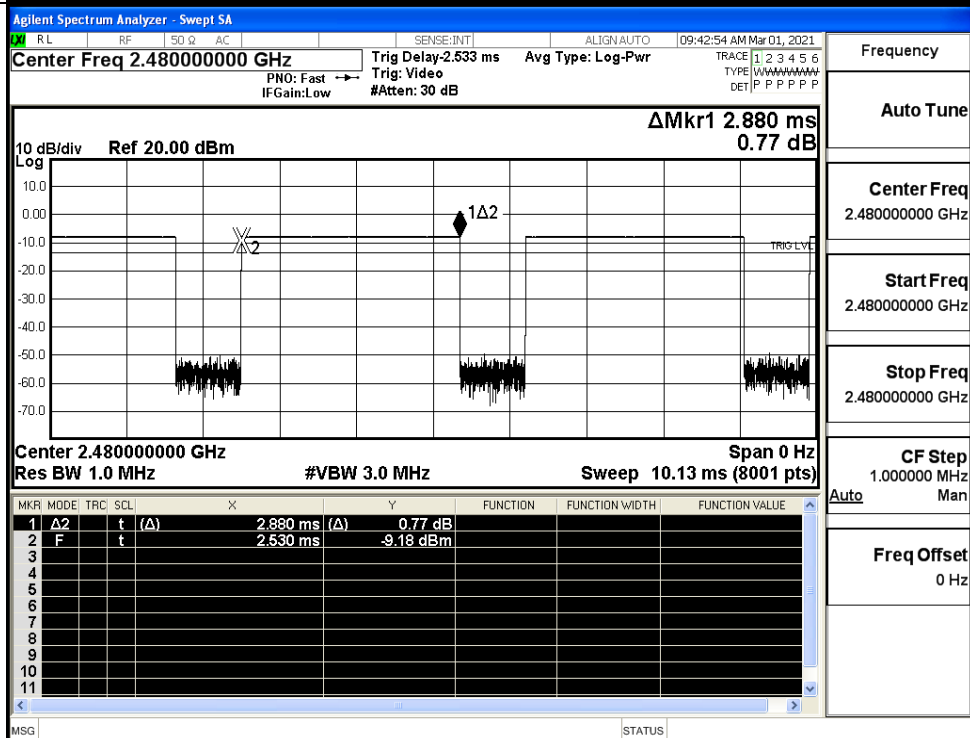
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
π/4DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7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



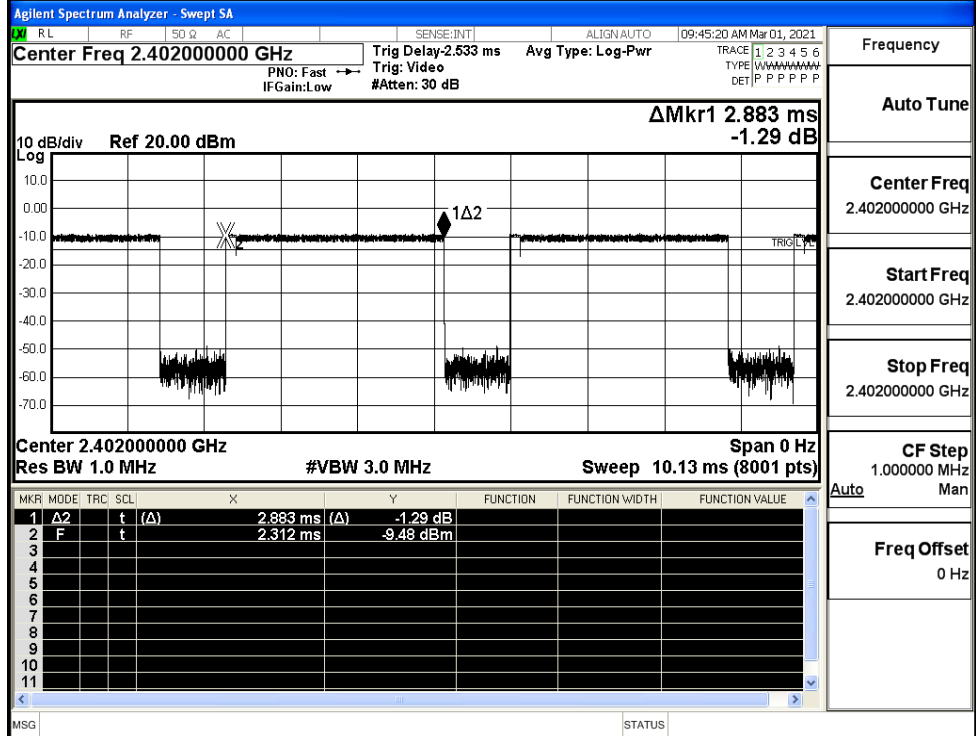
GFSK_DH5/MCH



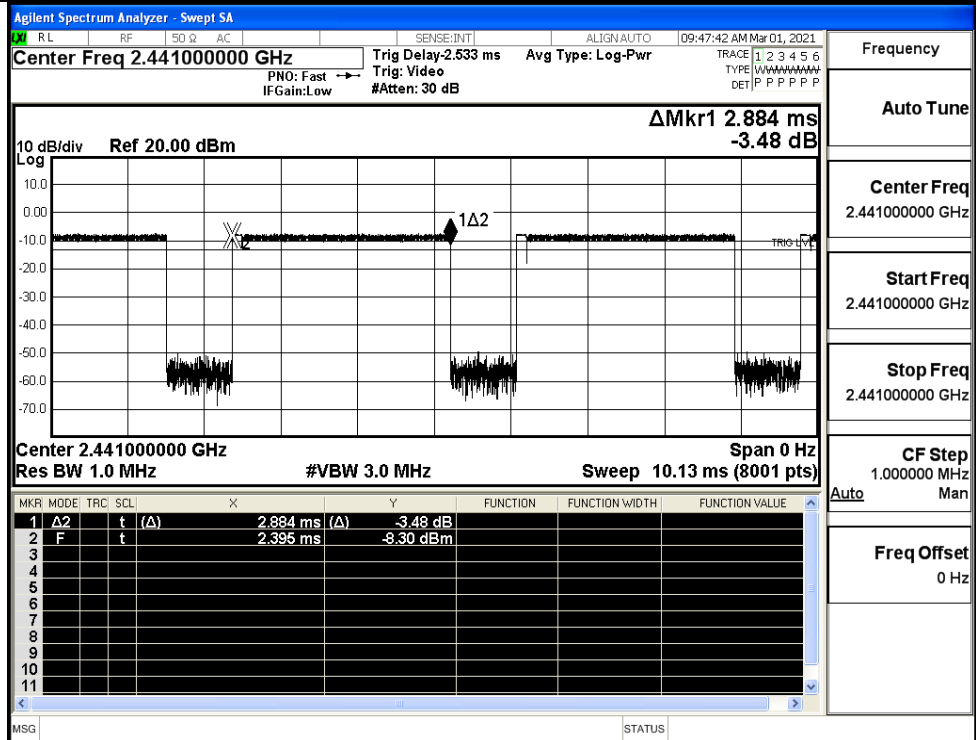
GFSK_DH5/HCH



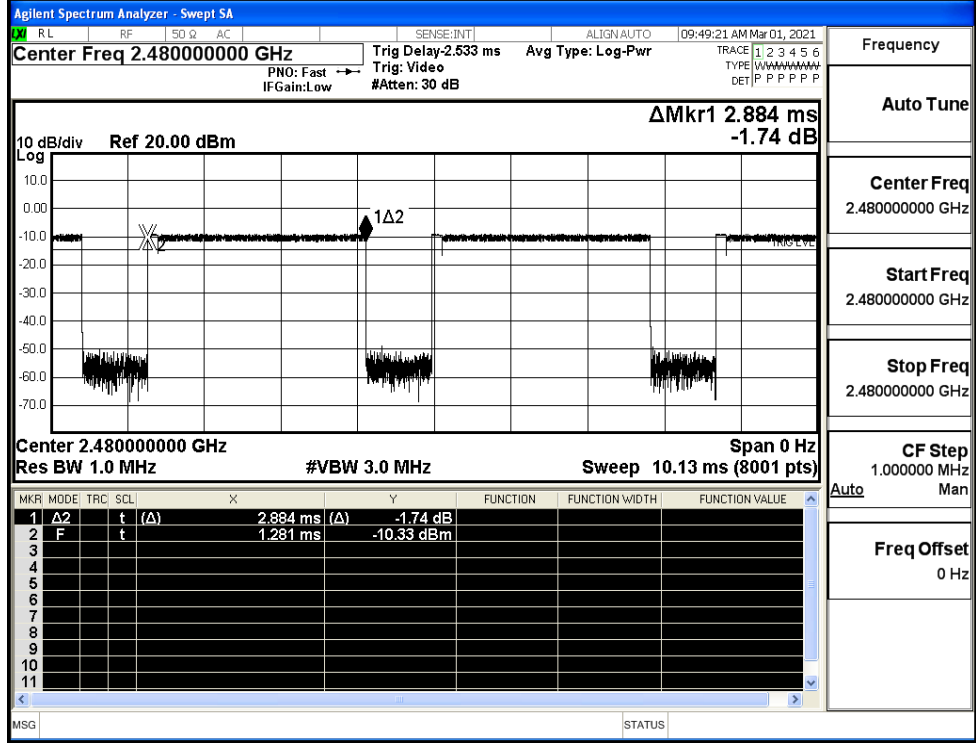
$\pi/4$ DQPSK
_2DH5/LCH



$\pi/4$ DQPSK
_2DH5/MCH

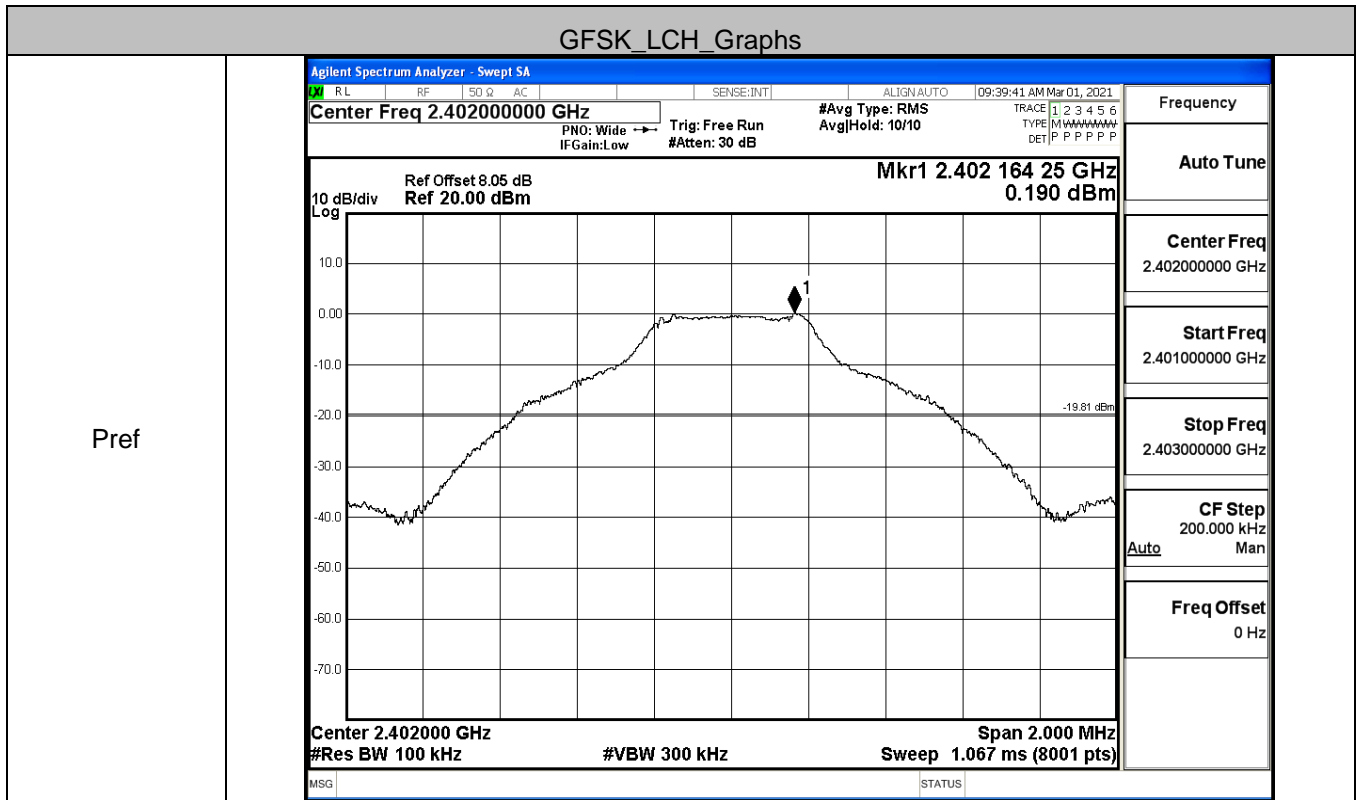


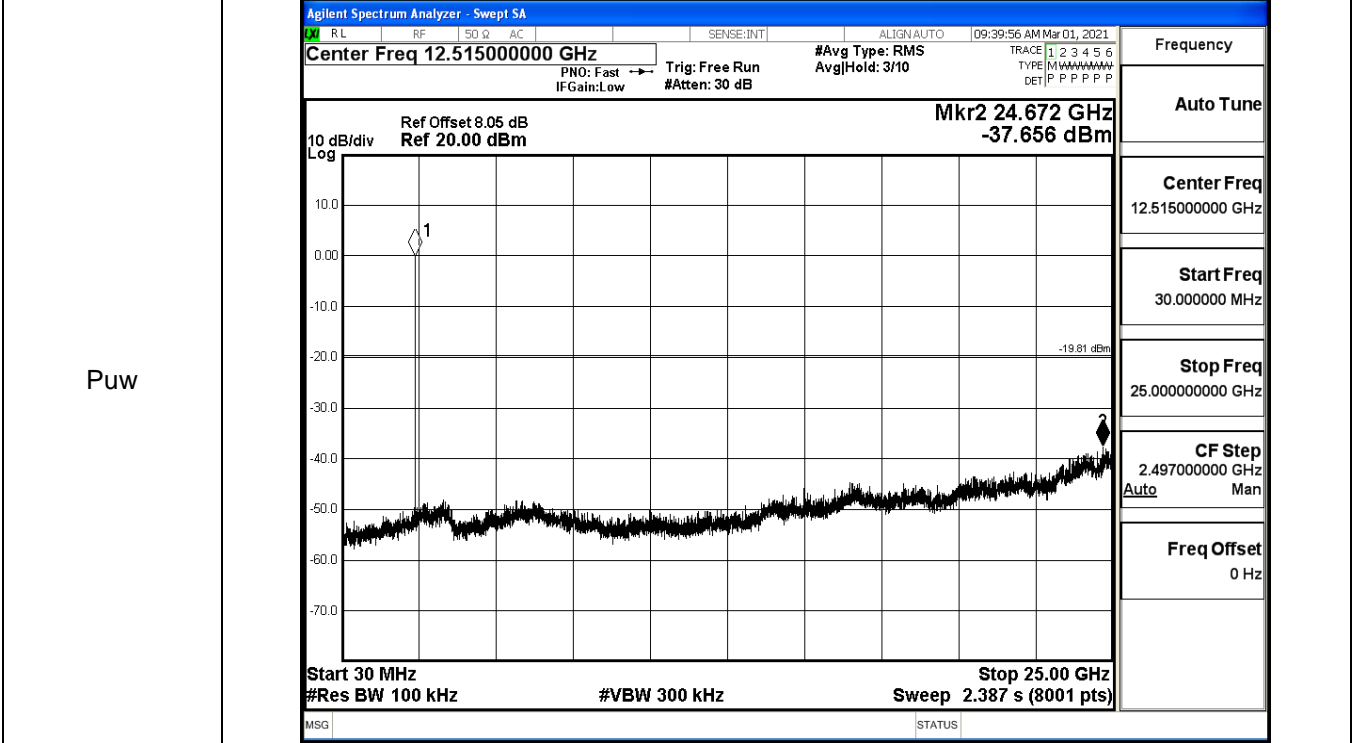
$\pi/4$ DQPSK
_2DH5/HCH



A.6 RF Conducted Spurious Emissions

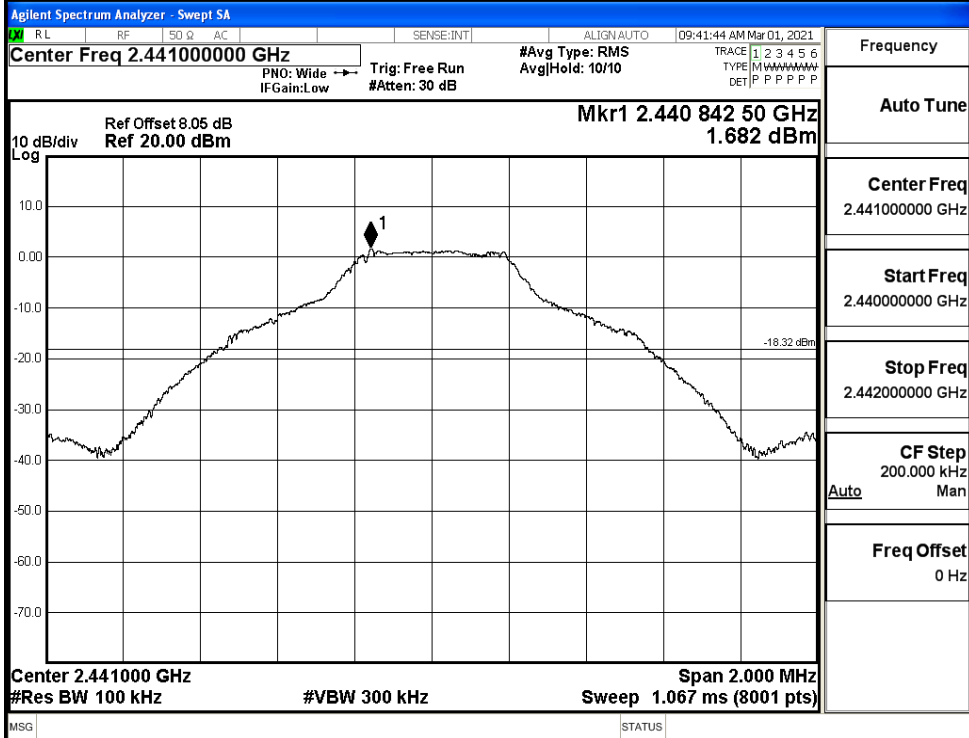
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.19	-37.656	-19.810	PASS
	MCH	1.682	-37.643	-18.318	PASS
	HCH	0.192	-37.931	-19.808	PASS
π/4DQPSK	LCH	-1.687	-38.192	-21.687	PASS
	MCH	0.156	-38.075	-19.844	PASS
	HCH	-1.452	-38.048	-21.452	PASS



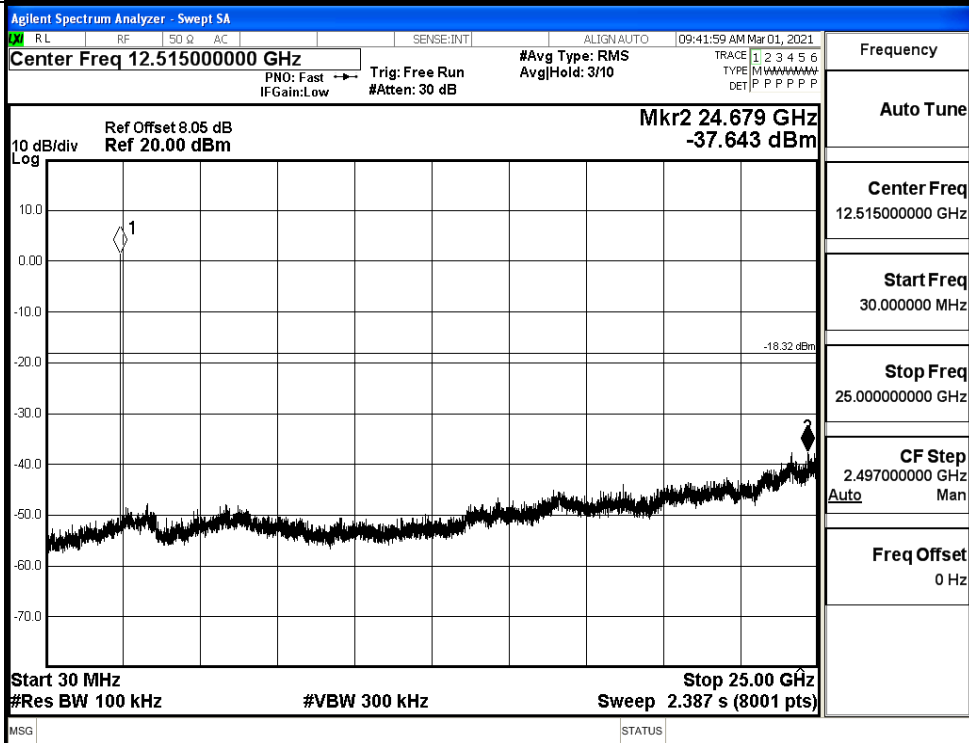


GFSK_MCH_Graphs

Pref

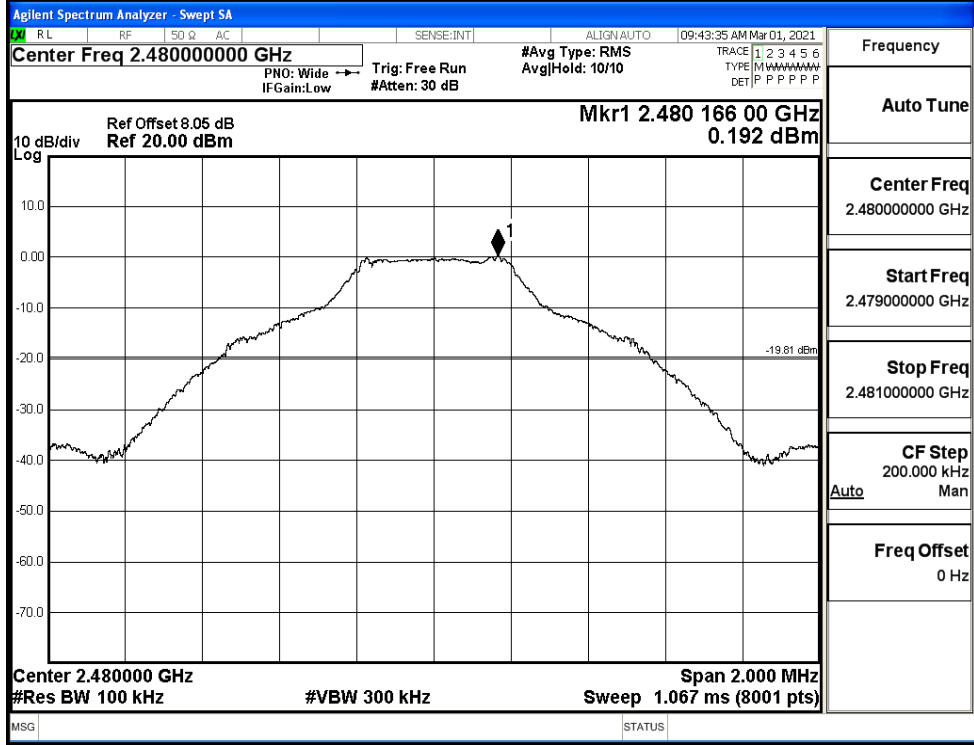


Puw

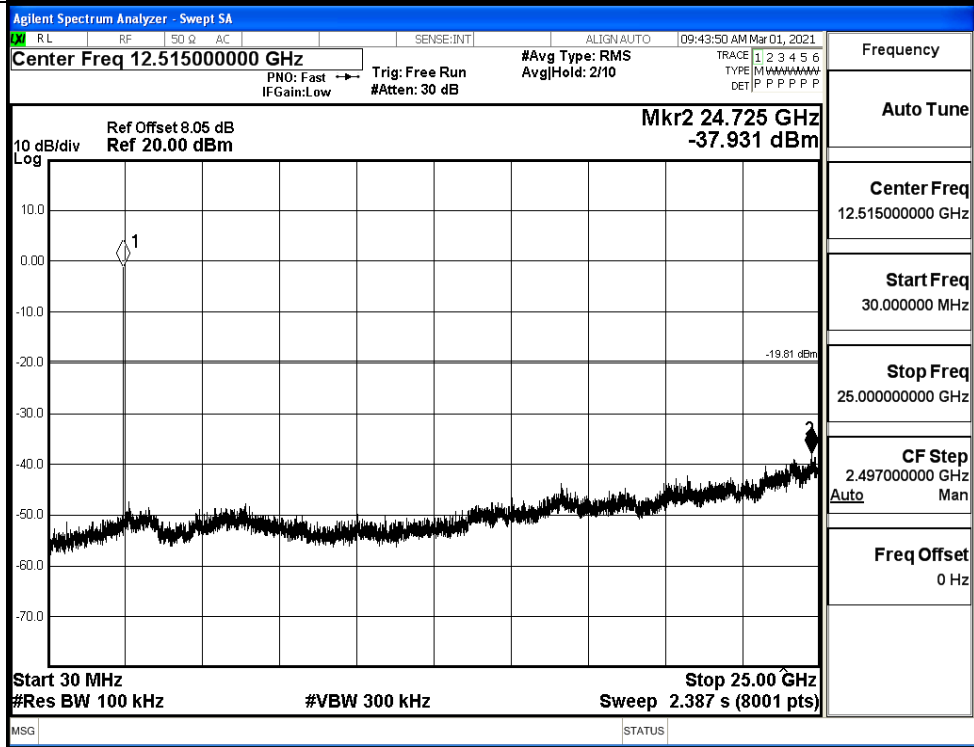


GFSK_HCH_Graphs

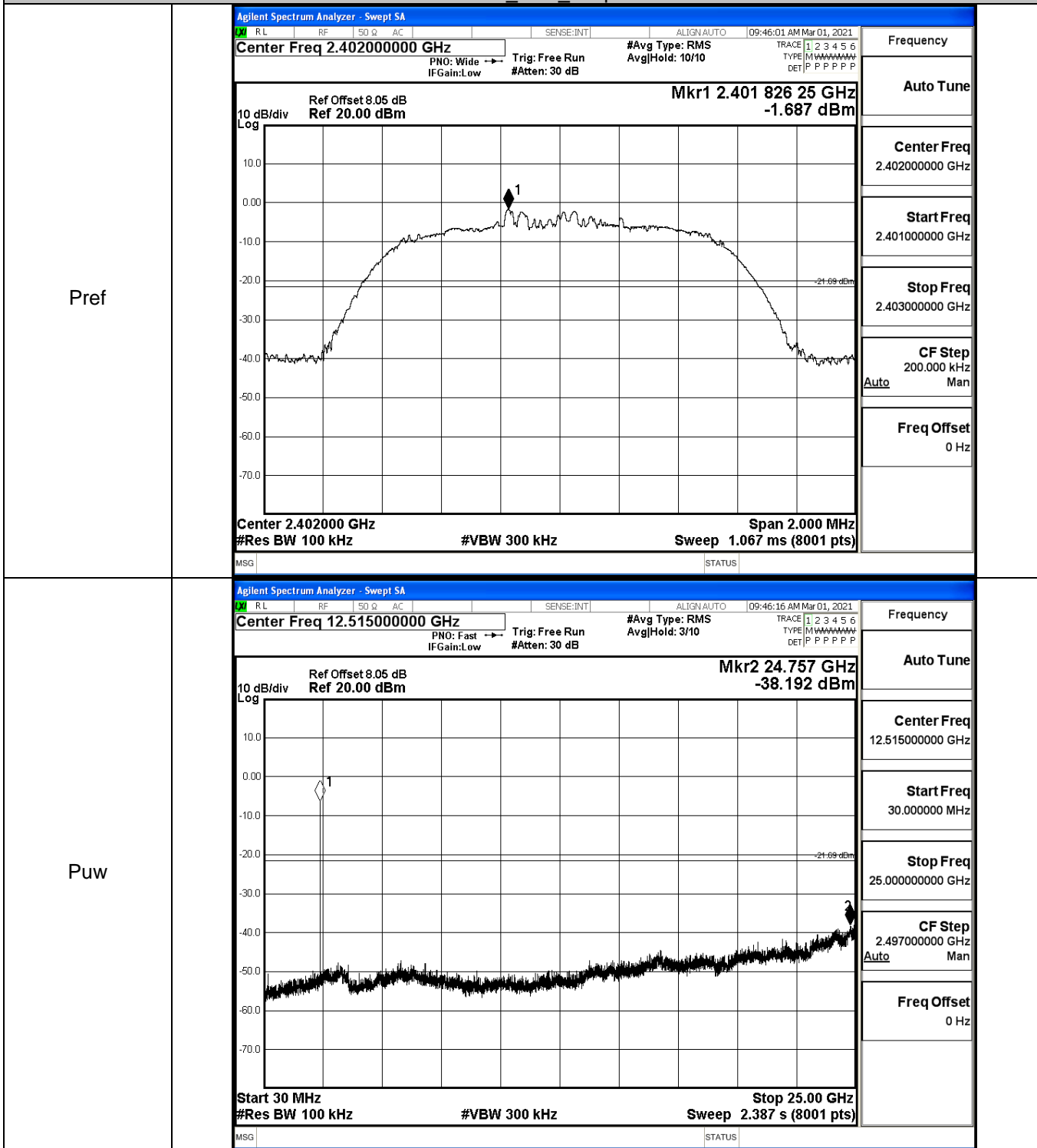
Pref



Puw

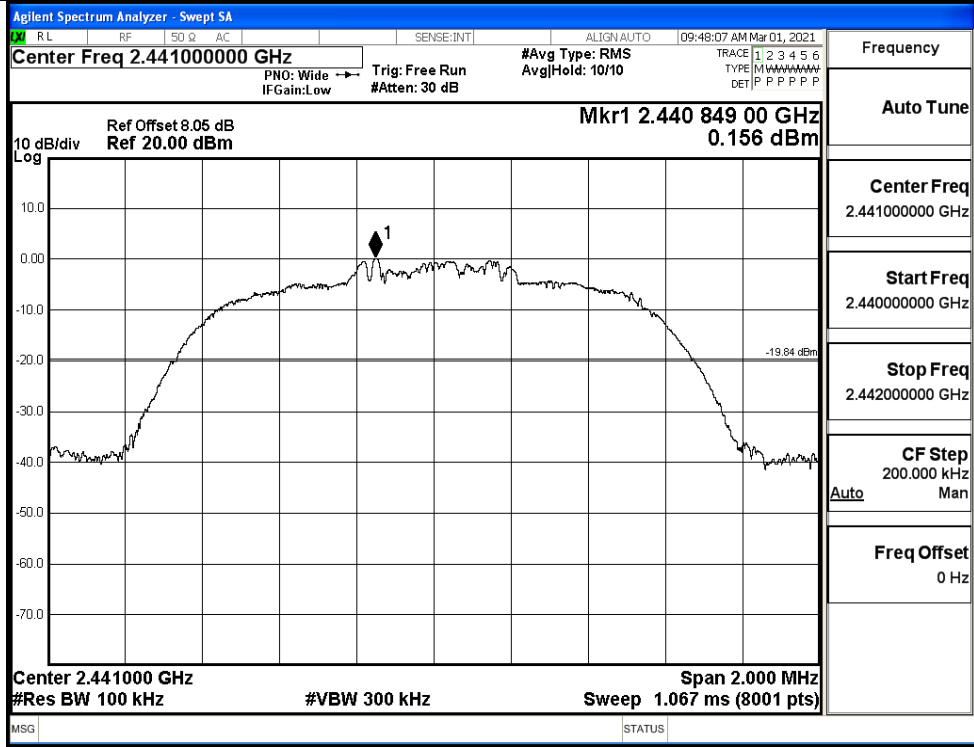


π /4DQPSK_LCH_Graphs

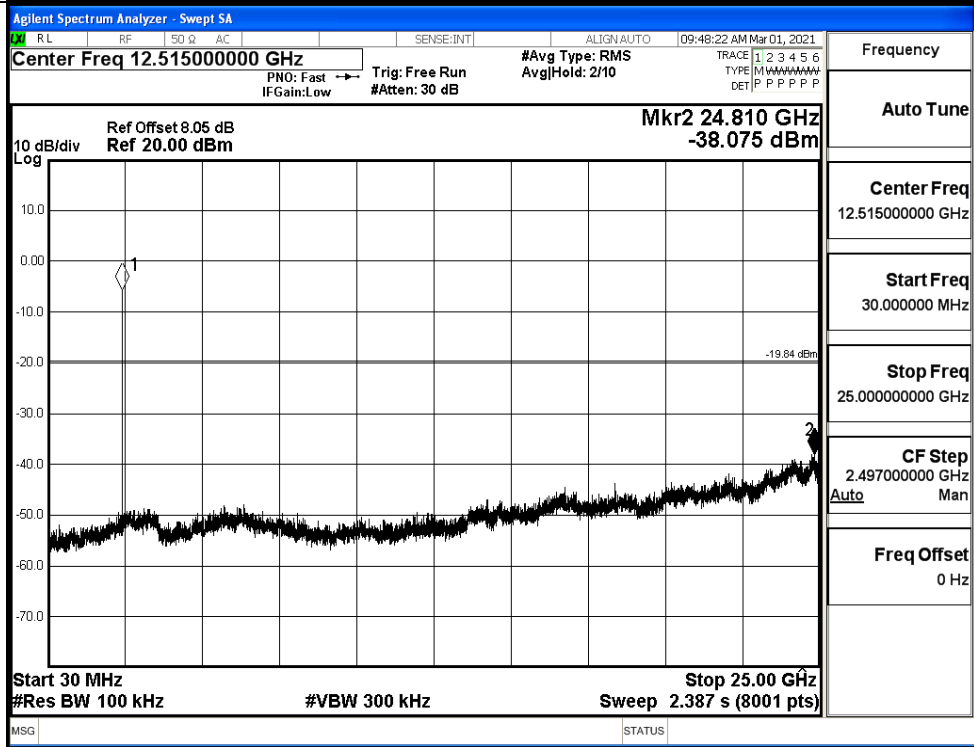


π /4DQPSK_MCH_Graphs

Pref

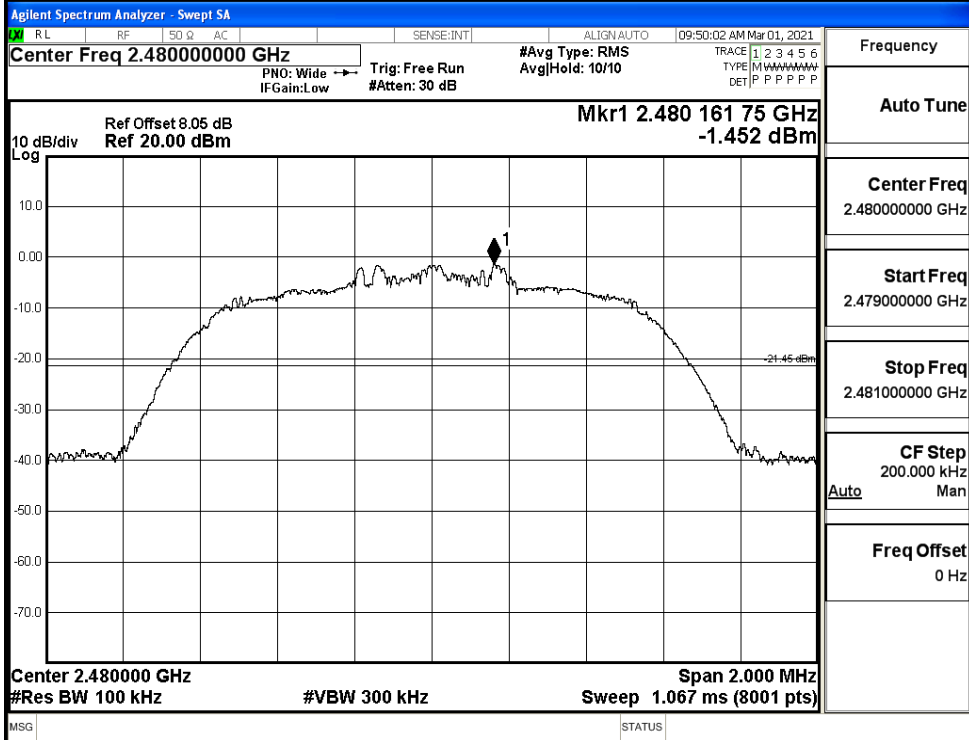


Puw

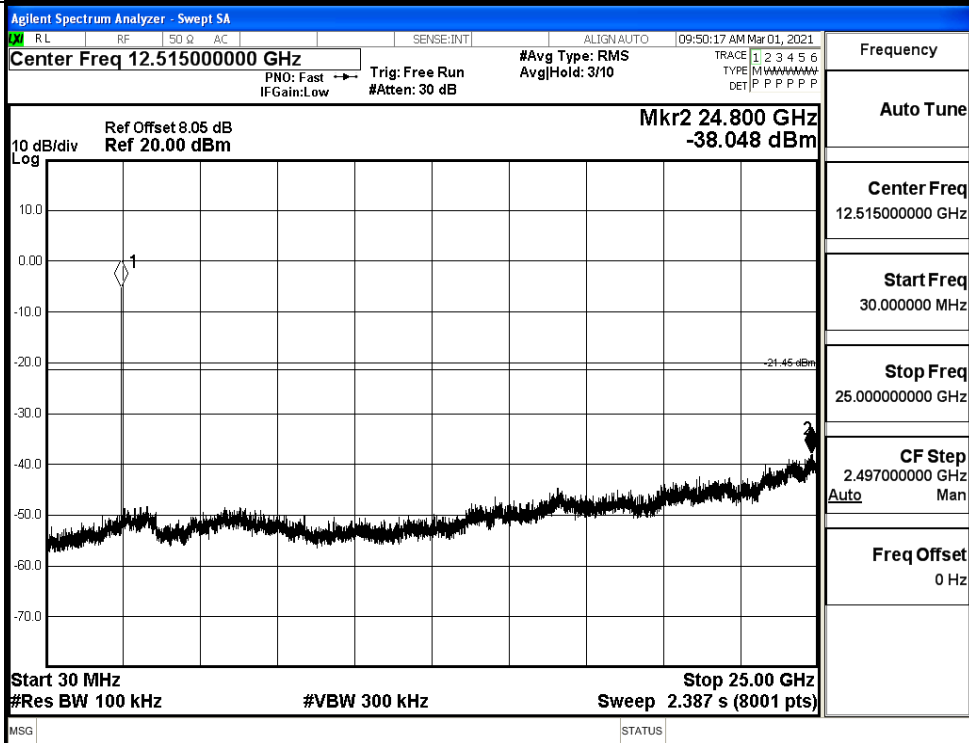


$\pi/4$ DQPSK_HCH_Graphs

Pref



Puw

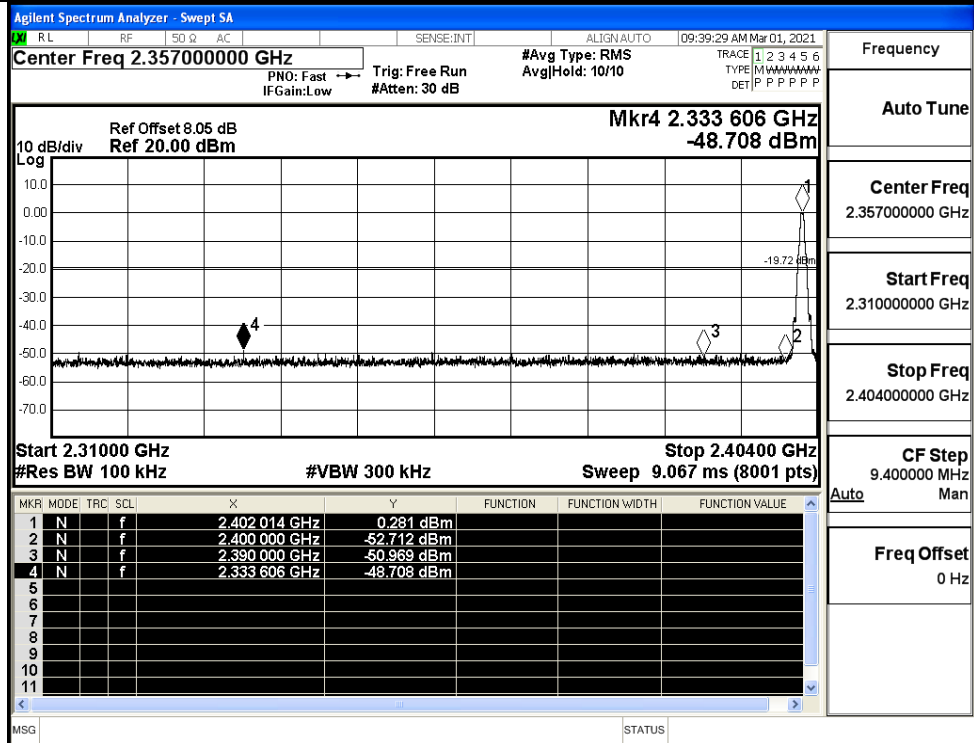


A.7 Band-edge for RF Conducted Emissions

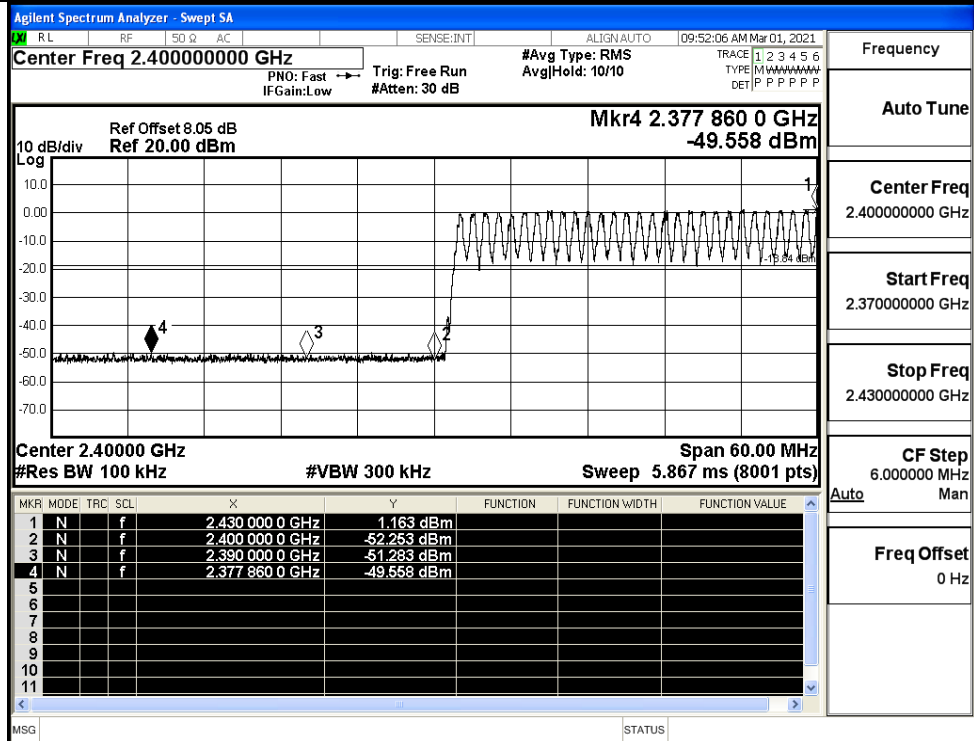
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.281	Off	-48.708	-19.72	PASS
			1.163	On	-49.558	-18.84	PASS
	HCH	2480	0.279	Off	-48.719	-19.72	PASS
			0.873	On	-48.906	-19.13	PASS
π /4DQPSK	LCH	2402	-3.392	Off	-50.239	-23.39	PASS
			-0.182	On	-49.395	-20.18	PASS
	HCH	2480	-1.231	Off	-49.377	-21.23	PASS
			-0.279	On	-48.434	-20.28	PASS

Test Graphs

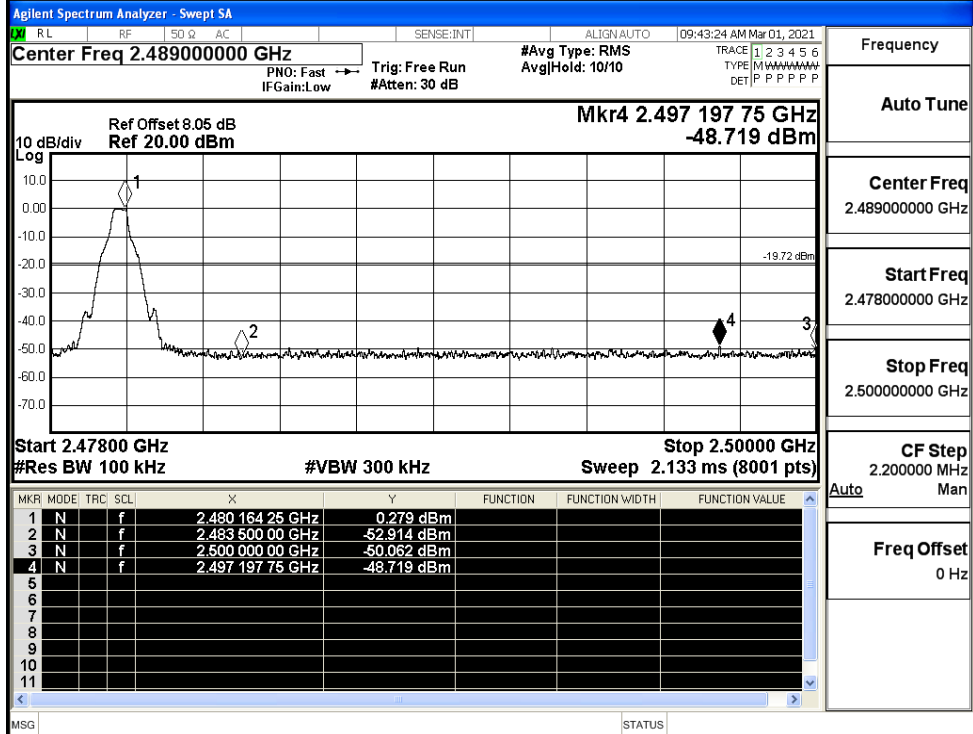
GFSK/LCH/No Hop



GFSK/LCH/Hop

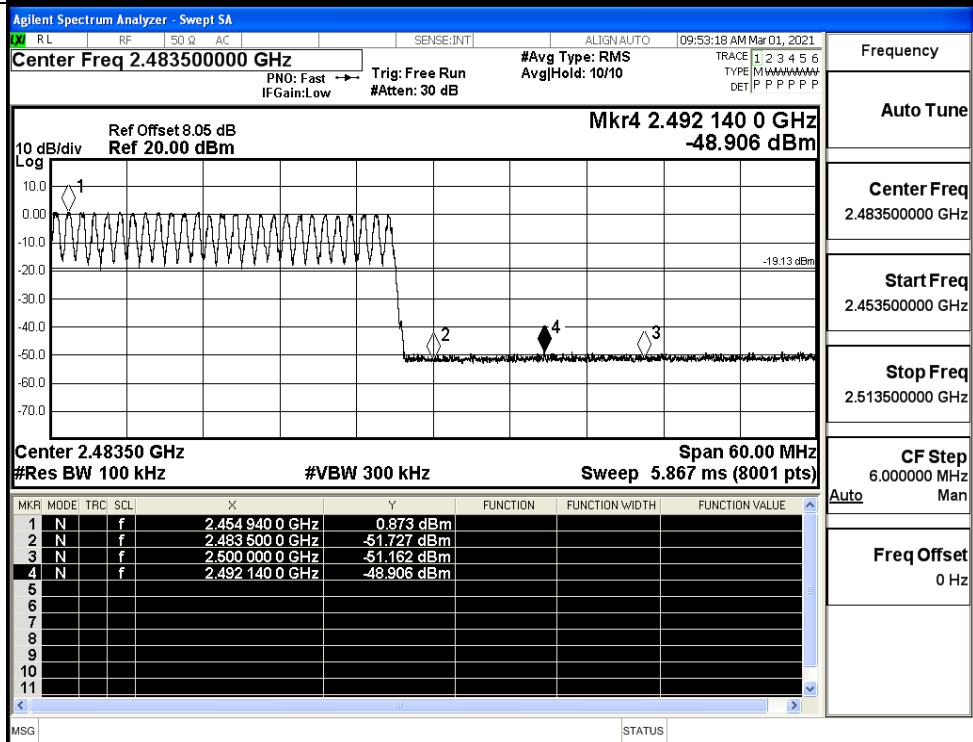


GFSK/HCH/No Hop



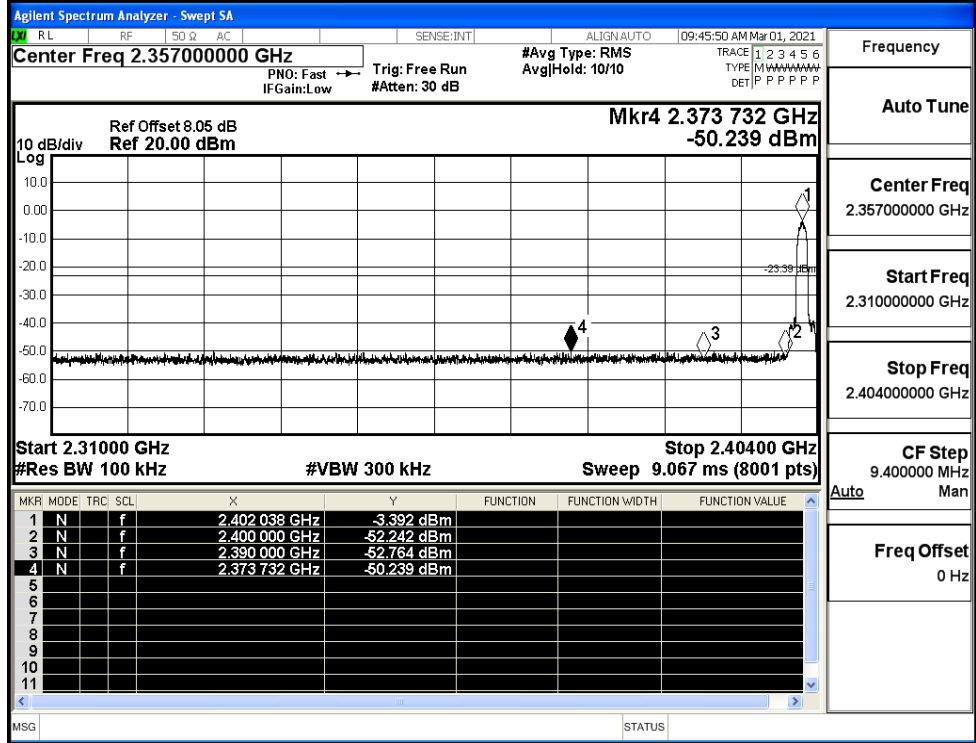
Frequency	
Auto Tune	
Center Freq	2.489000000 GHz
Start Freq	2.478000000 GHz
Stop Freq	2.500000000 GHz
CF Step	2.200000 MHz
Freq Offset	0 Hz

GFSK/HCH/Hop

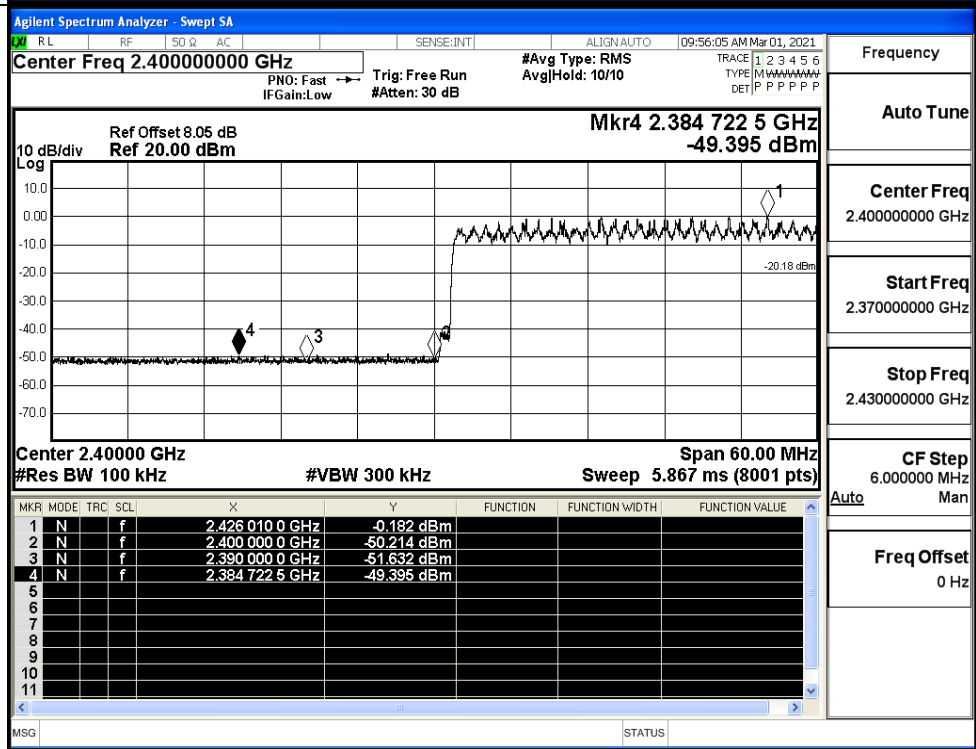


Frequency	
Auto Tune	
Center Freq	2.483500000 GHz
Start Freq	2.453500000 GHz
Stop Freq	2.513500000 GHz
CF Step	6.000000 MHz
Freq Offset	0 Hz

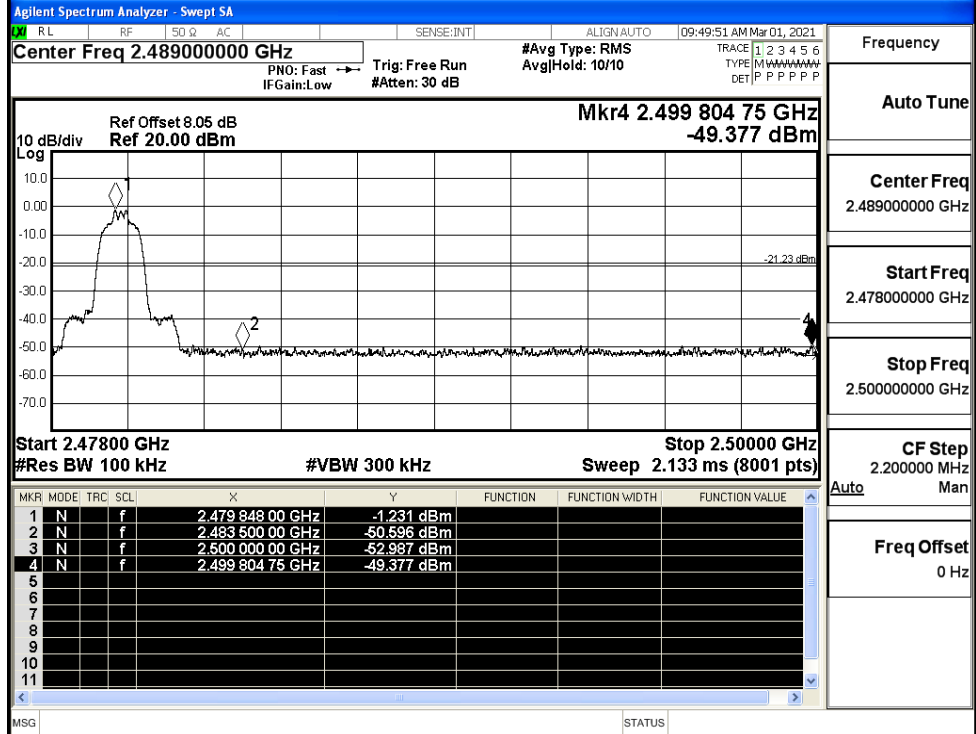
$\pi/4$ DQPSK/LCH/No Hop



$\pi/4$ DQPSK/LCH/Hop

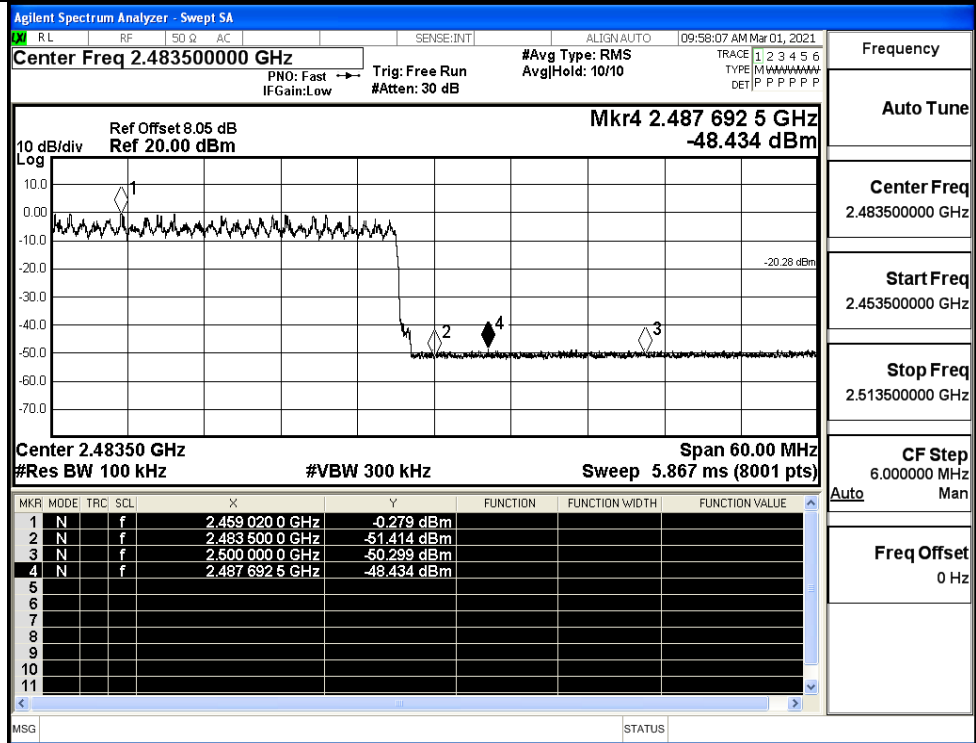


$\pi/4$ DQPSK/HCH/No Hop



Frequency	
Auto Tune	
Center Freq	2.48900000 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

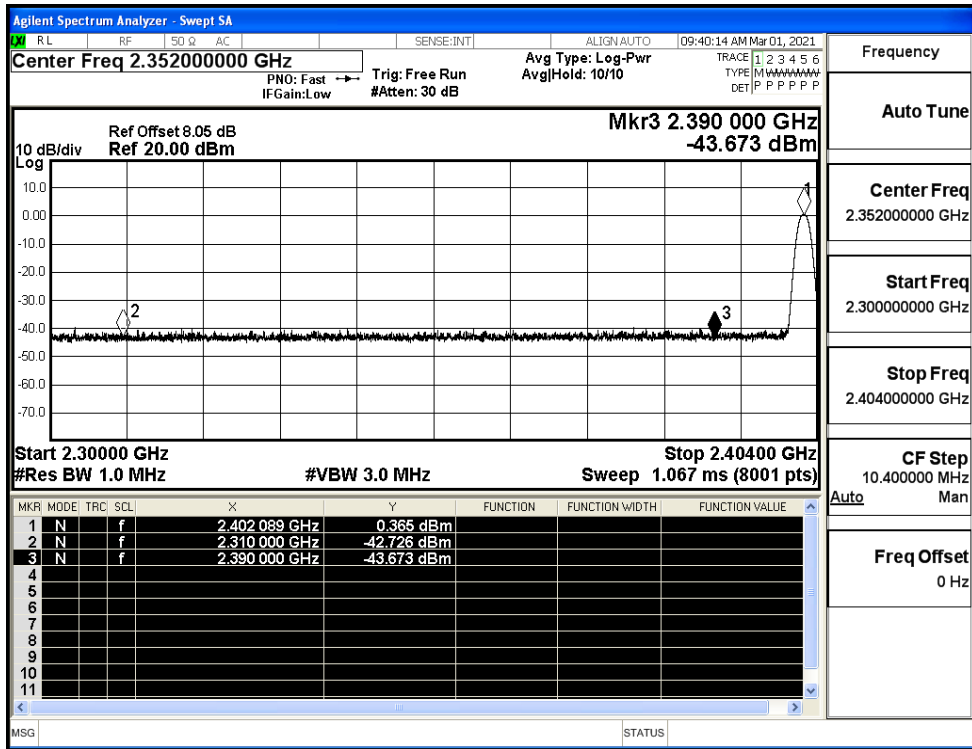


Frequency	
Auto Tune	
Center Freq	2.483500000 GHz
Start Freq	2.453500000 GHz
Stop Freq	2.513500000 GHz
CF Step	6.000000 MHz
Freq Offset	0 Hz

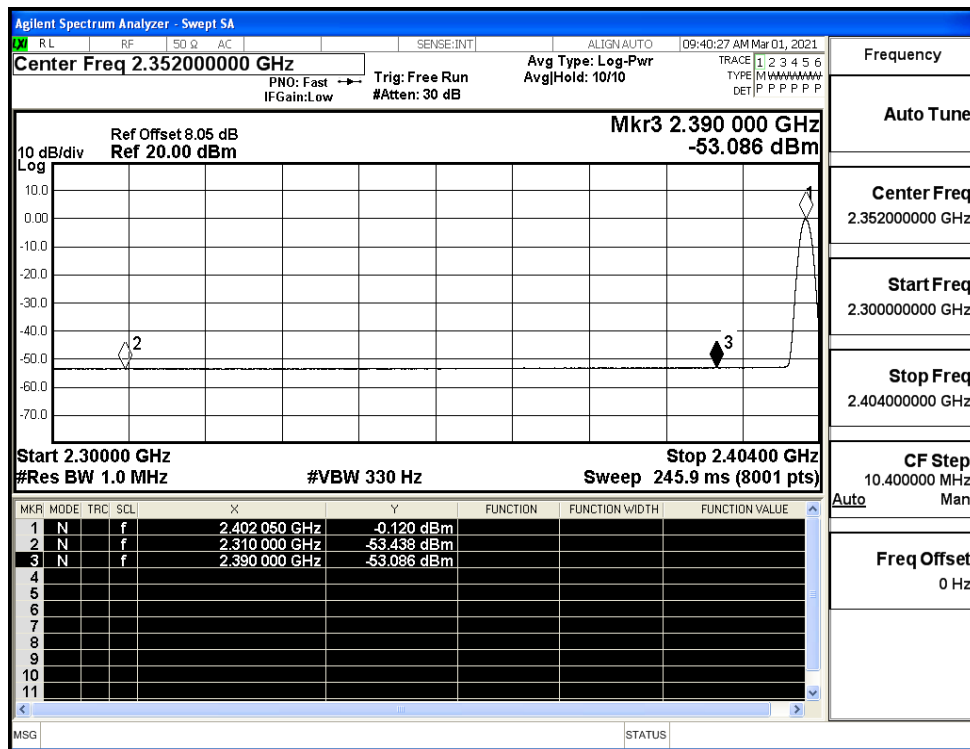
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.73	2.0	0	52.53	PEAK	74	PASS
	Off	2310.0	-53.44	2.0	0	41.82	AV	54	PASS
	Off	2390.0	-43.67	2.0	0	51.58	PEAK	74	PASS
	Off	2390.0	-53.09	2.0	0	42.17	AV	54	PASS
	Off	2483.5	-42.52	2.0	0	52.74	PEAK	74	PASS
	Off	2483.5	-52.59	2.0	0	42.67	AV	54	PASS
	Off	2500.0	-42.39	2.0	0	52.87	PEAK	74	PASS
	Off	2500.0	-52.41	2.0	0	42.85	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-42.89	2.0	0	52.37	PEAK	74	PASS
	Off	2310.0	-53.49	2.0	0	41.77	AV	54	PASS
	Off	2390.0	-41.92	2.0	0	53.34	PEAK	74	PASS
	Off	2390.0	-53.14	2.0	0	42.12	AV	54	PASS
	Off	2483.5	-41.34	2.0	0	53.92	PEAK	74	PASS
	Off	2483.5	-52.60	2.0	0	42.66	AV	54	PASS
	Off	2500.0	-42.13	2.0	0	53.13	PEAK	74	PASS
	Off	2500.0	-52.41	2.0	0	42.85	AV	54	PASS

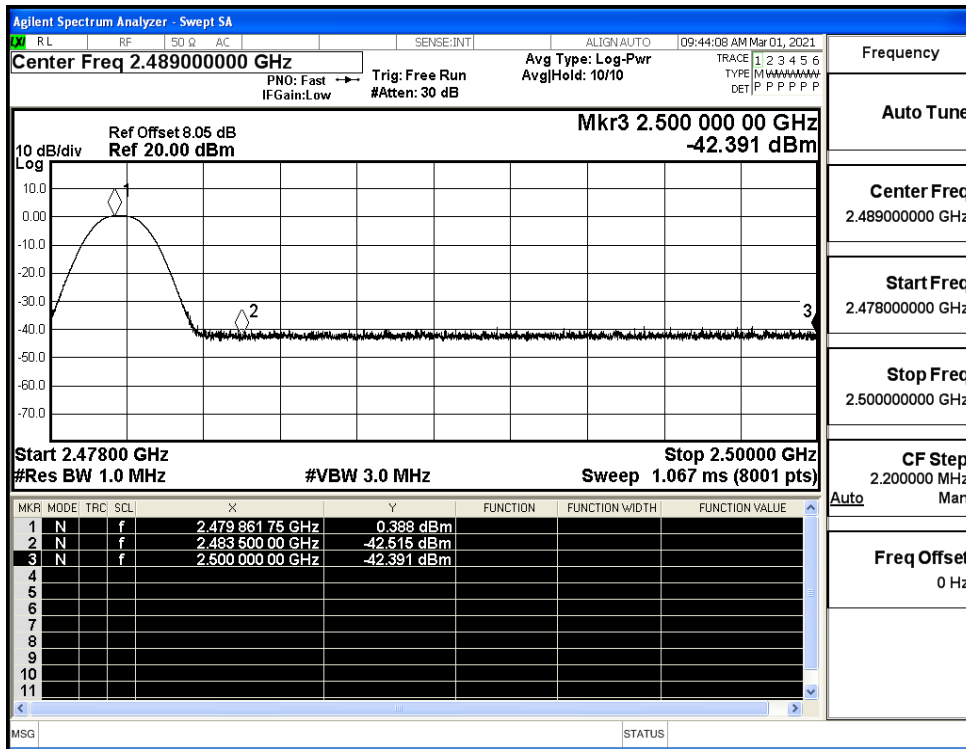
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



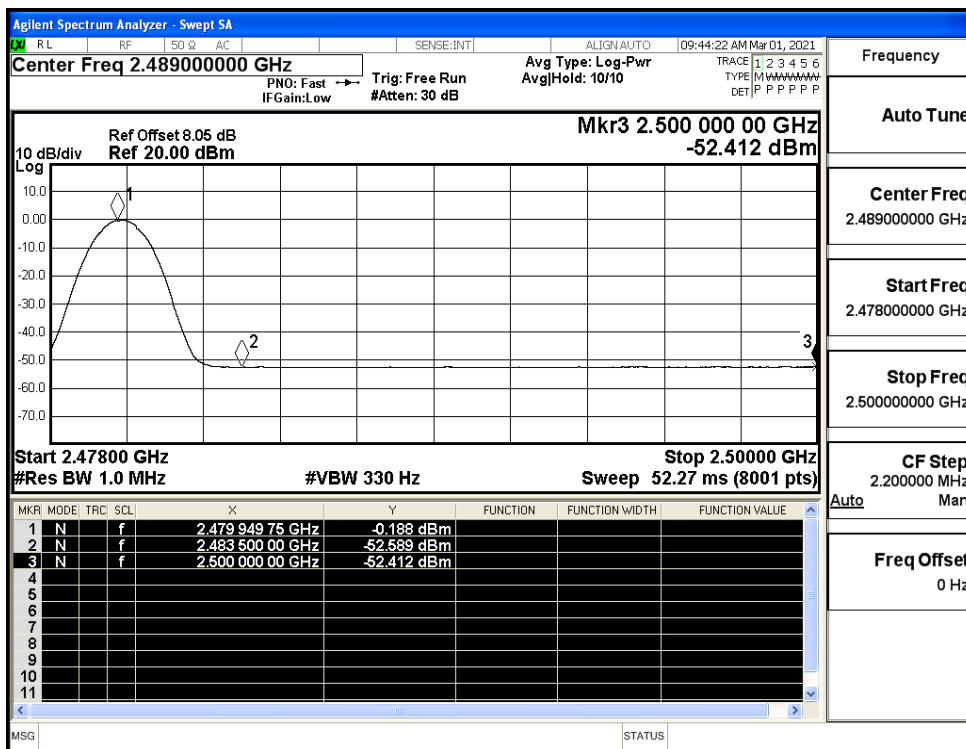
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



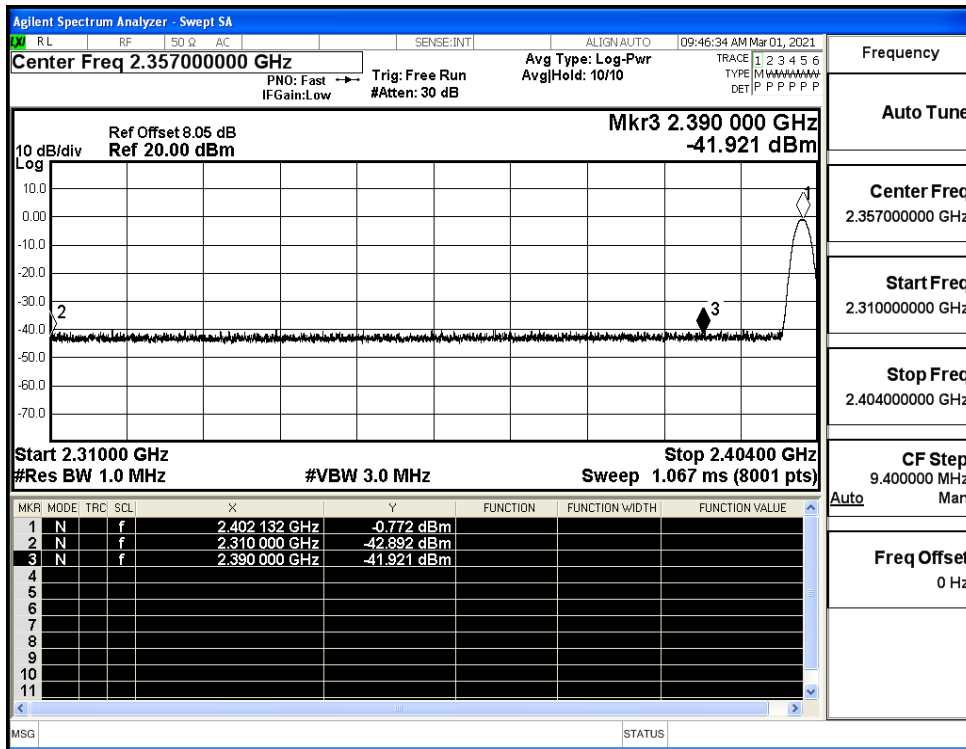
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



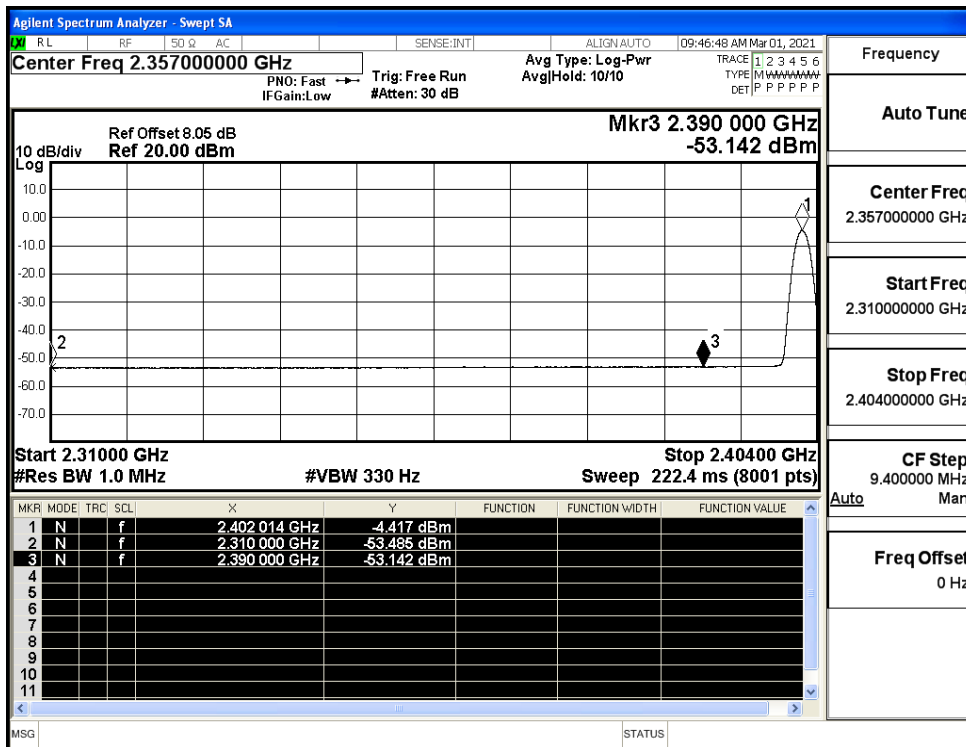
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



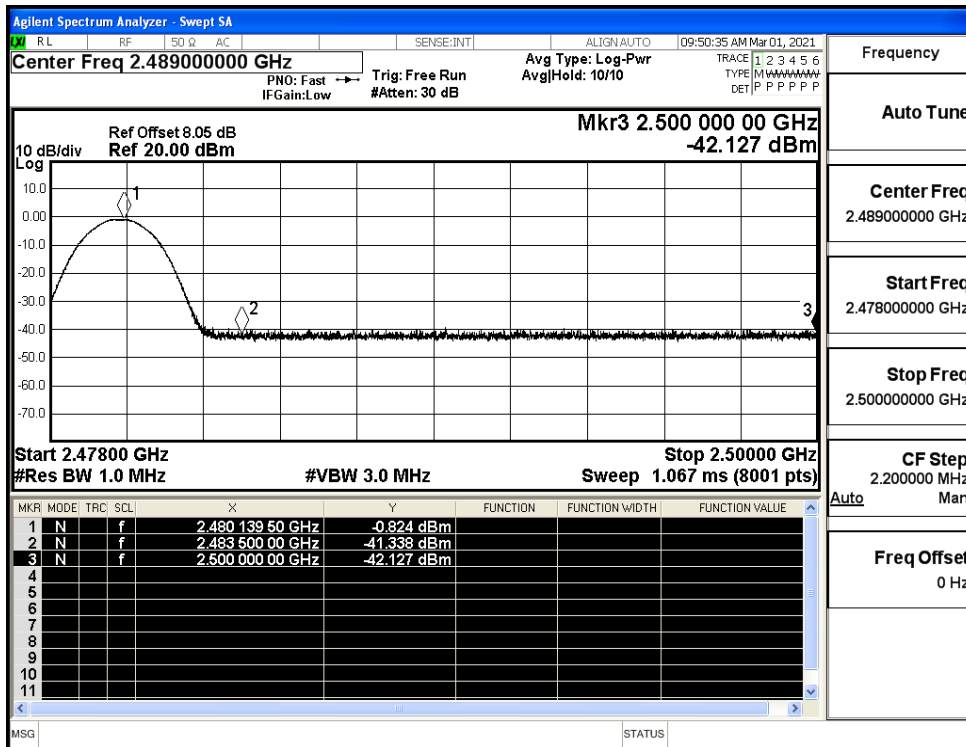
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



Restrict-band band-edge measurements_Hopping Off_π/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)

