

Appendix A

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

Product Name: Bluetooth Speaker

Trade Mark: N/A

Test Model: ZQS-6201

Environmental Conditions

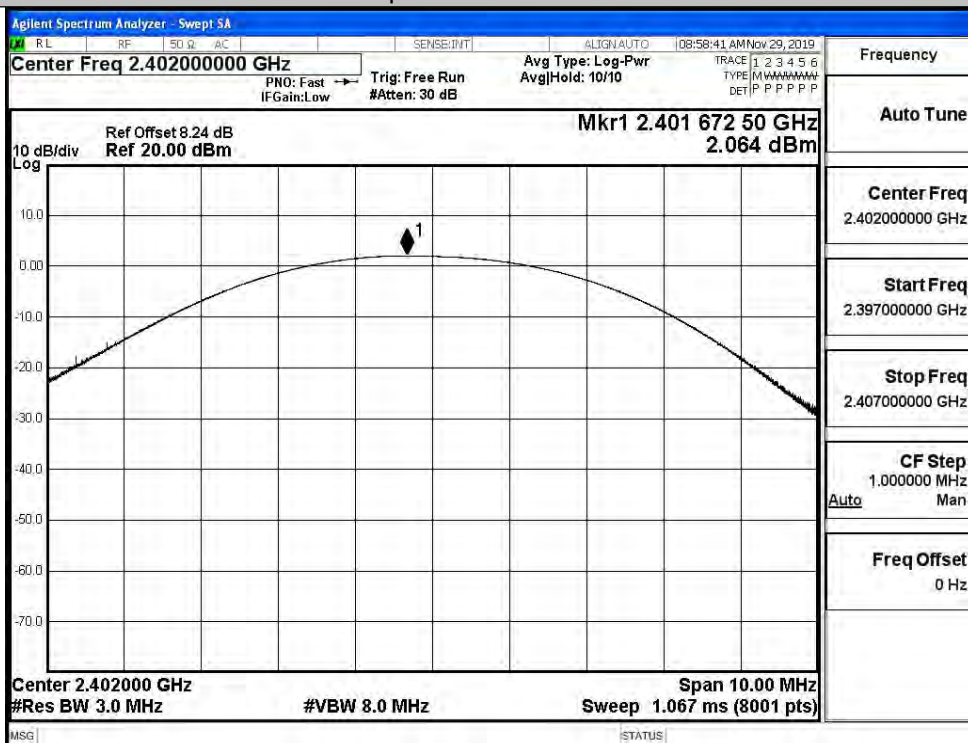
Temperature:	22.6 ° C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Scout Wu
Supervised by:	Tom.Liu

A.1 Maximum Conducted Peak Output Power

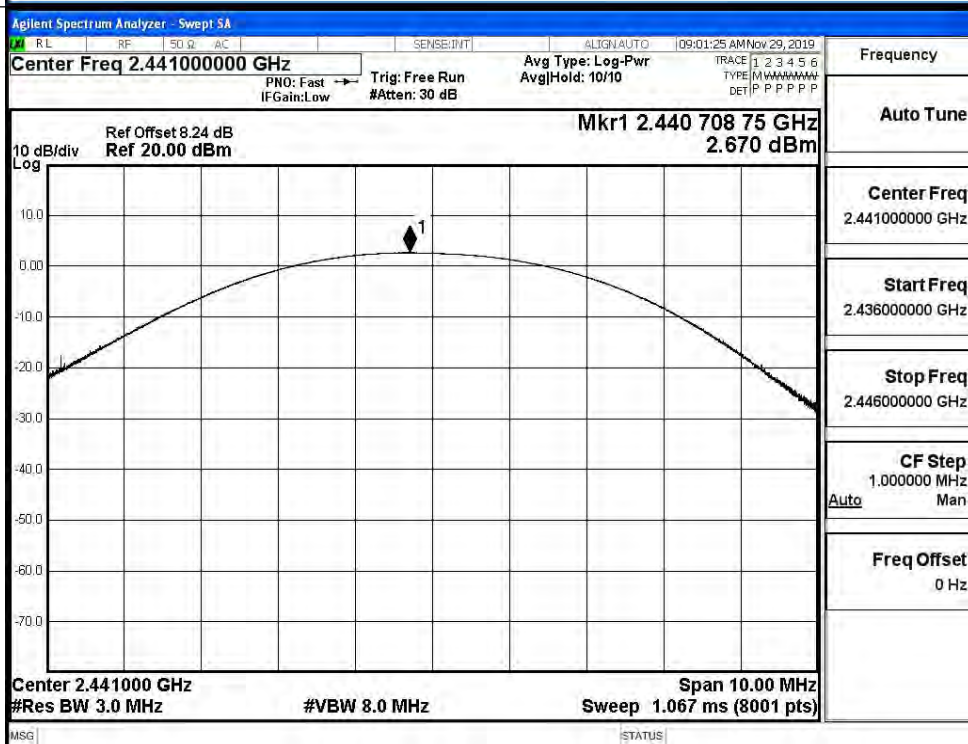
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.064	30	PASS
	MCH	2.670	30	PASS
	HCH	1.876	30	PASS
$\pi/4$ DQPSK	LCH	3.738	21	PASS
	MCH	3.284	21	PASS
	HCH	2.490	21	PASS

Test Graphs

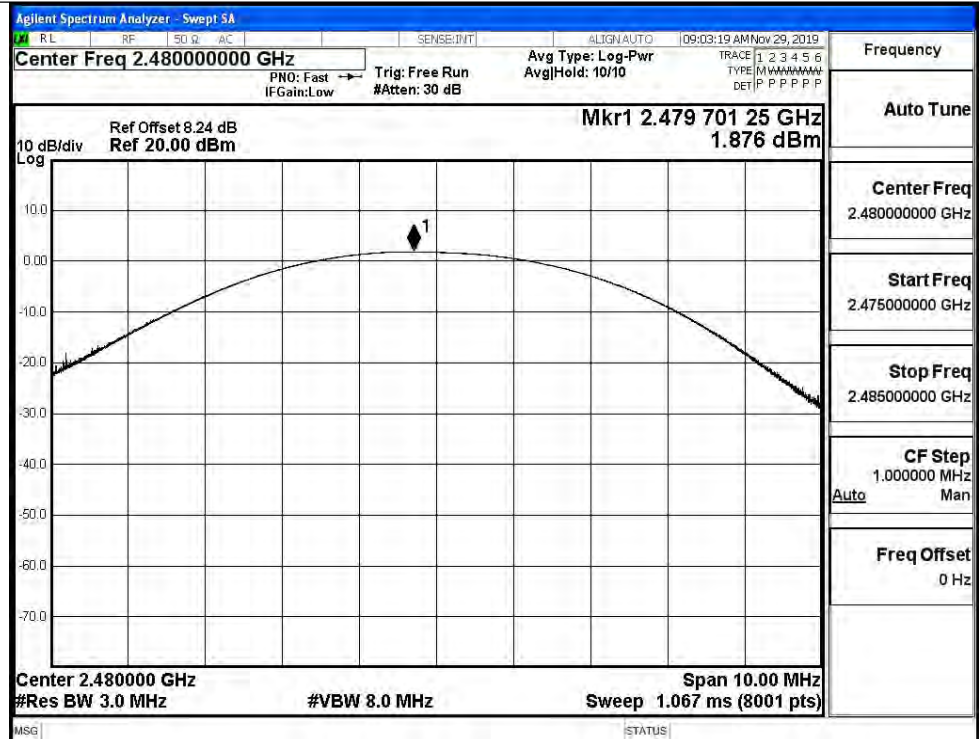
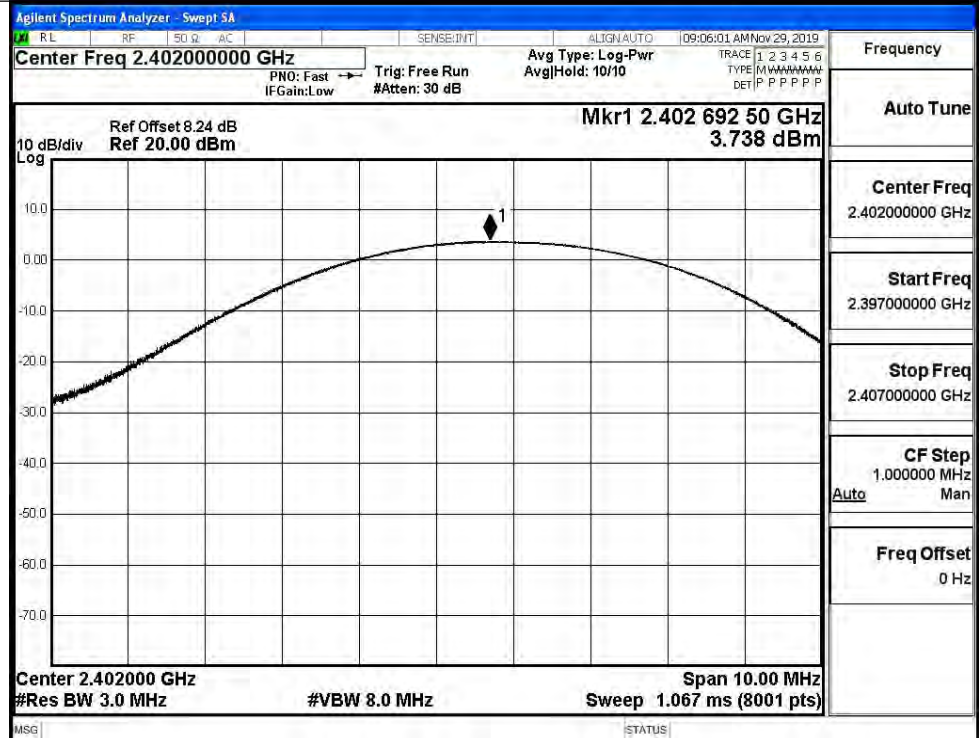
GFSK/LCH

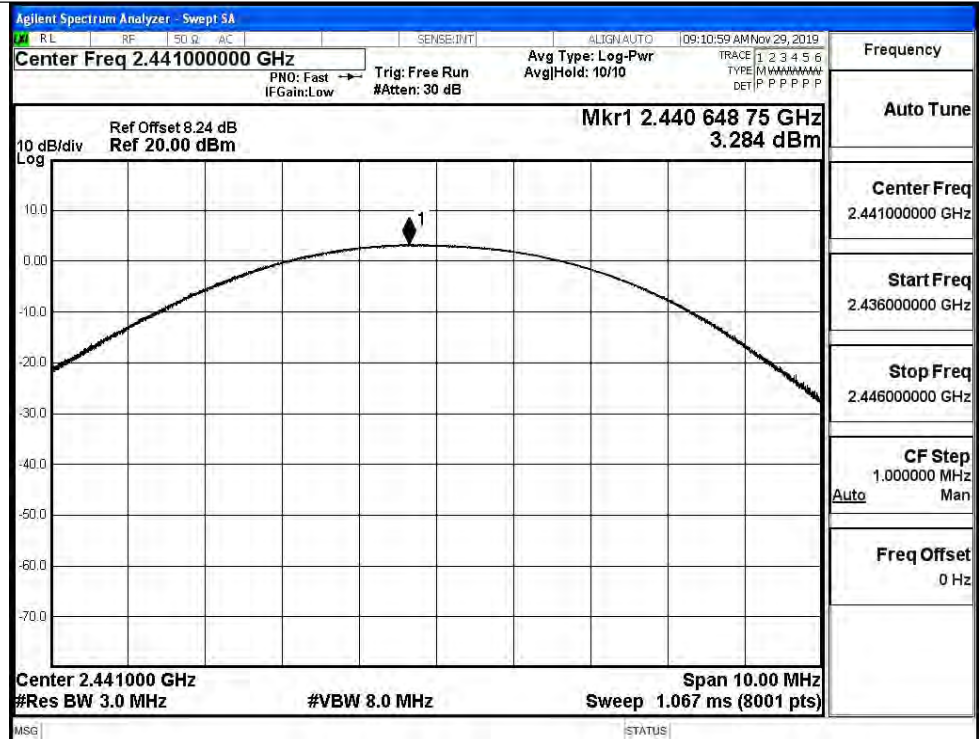
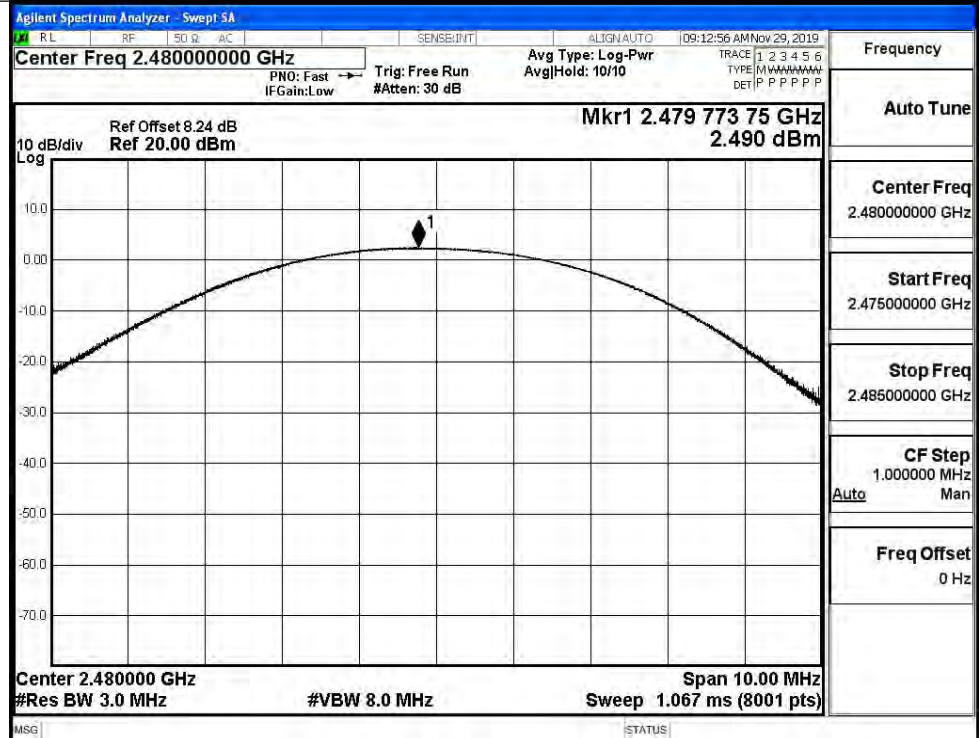


GFSK/MCH



GFSK/HCH

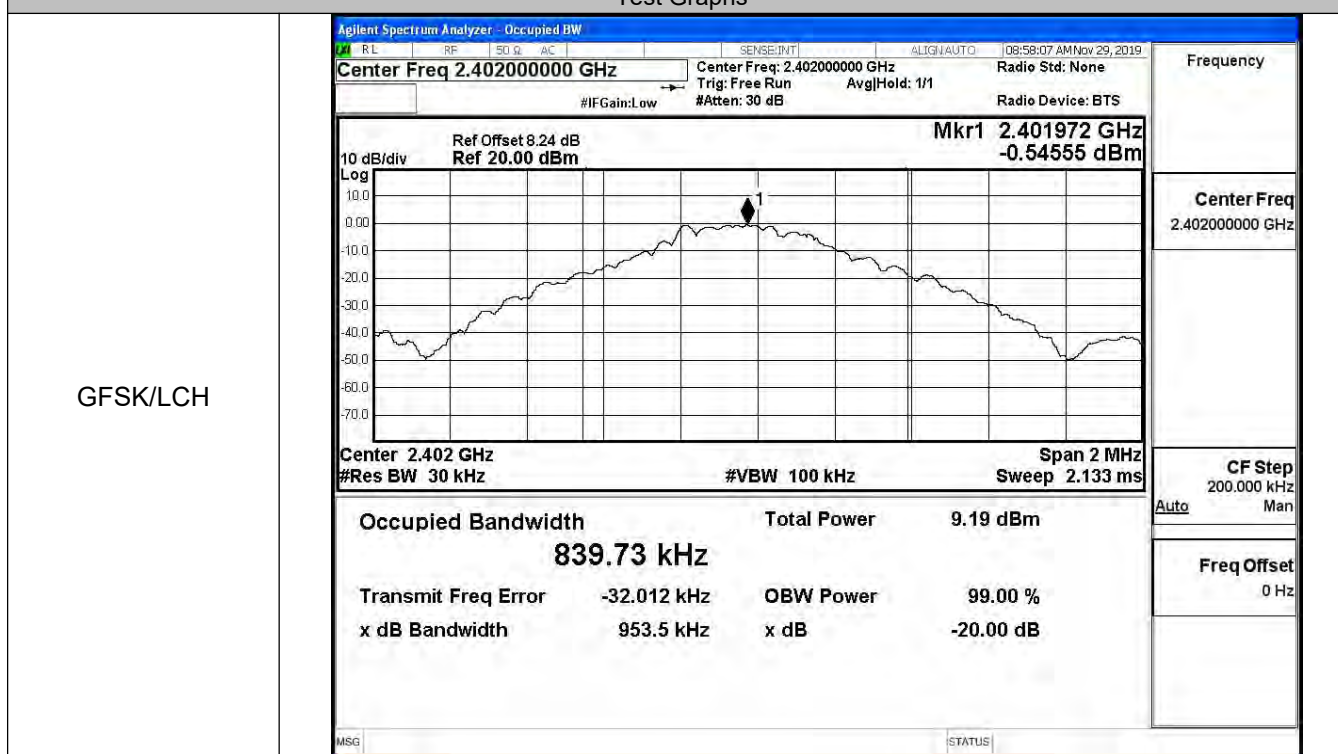
 π /4DQPSK/LCH

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

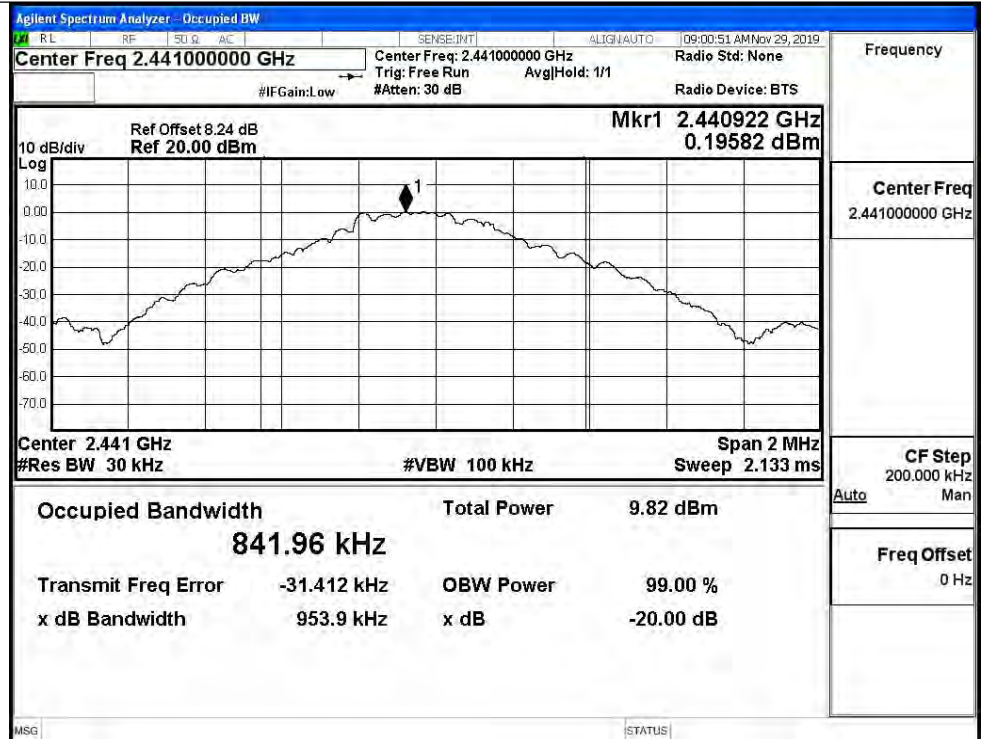
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9535	Not Specified	PASS
	MCH	0.9539	Not Specified	PASS
	HCH	0.9521	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.326	Not Specified	PASS
	MCH	1.313	Not Specified	PASS
	HCH	1.312	Not Specified	PASS

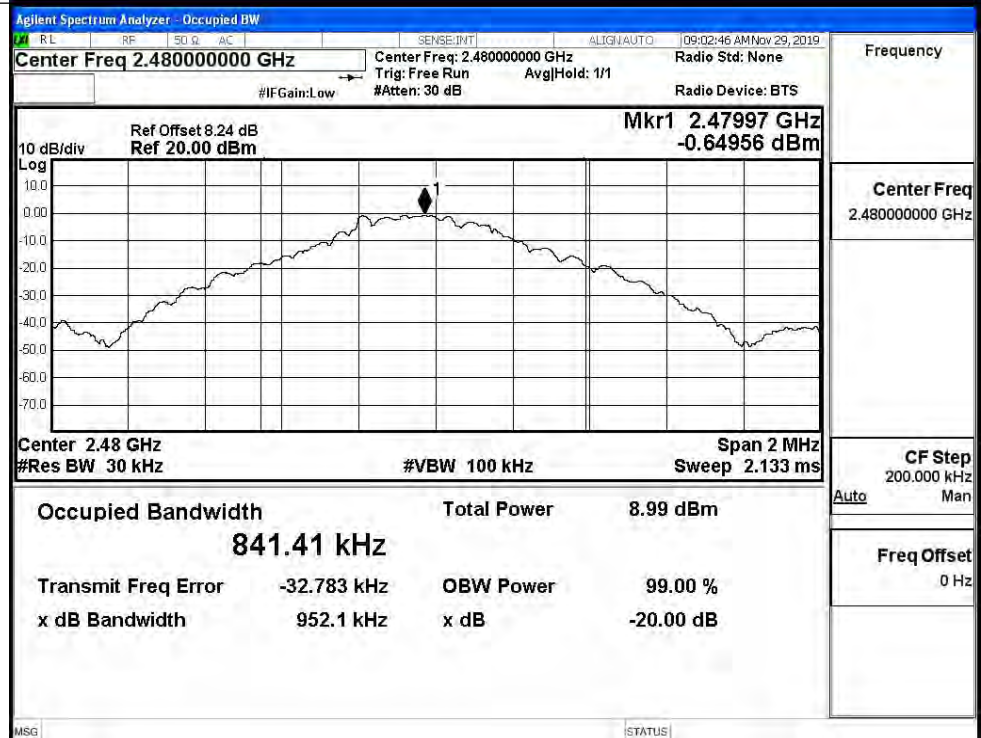
Test Graphs

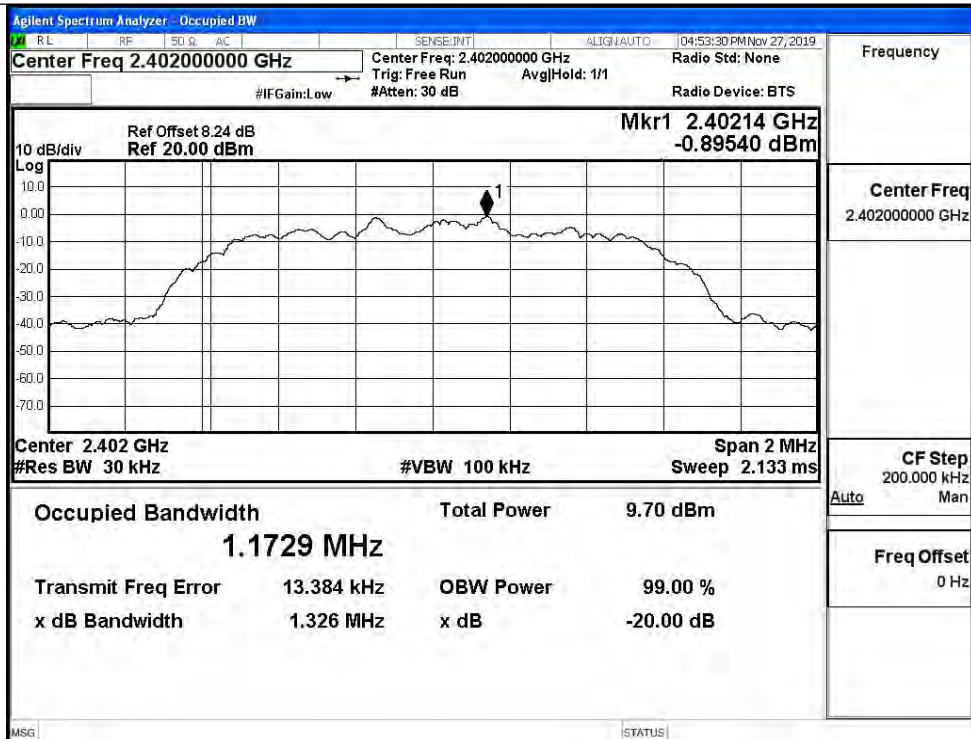
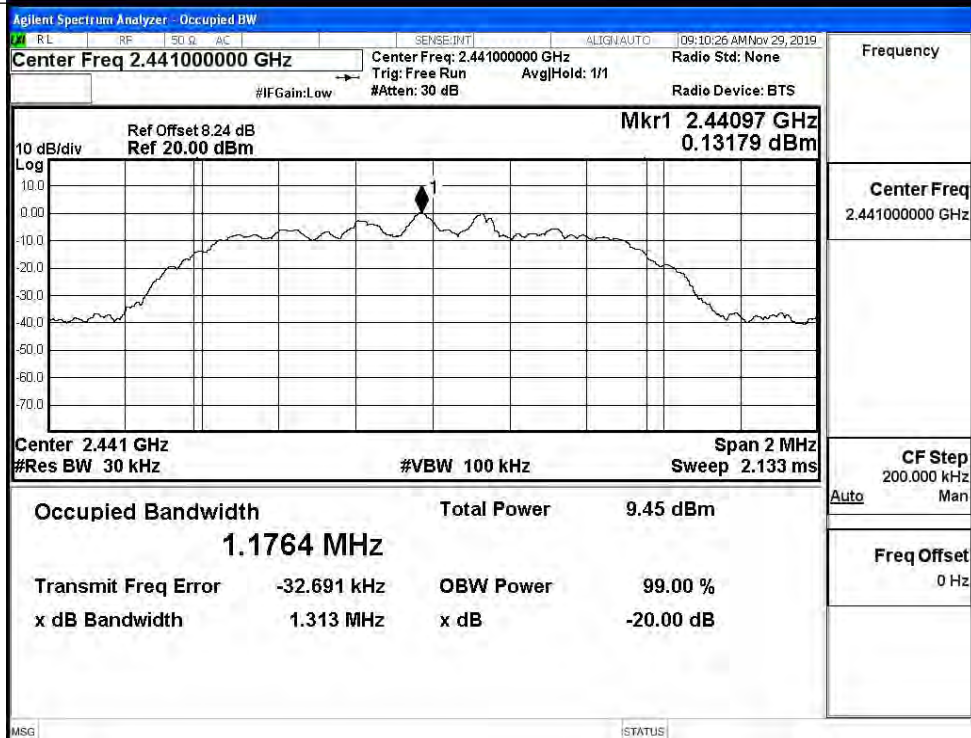


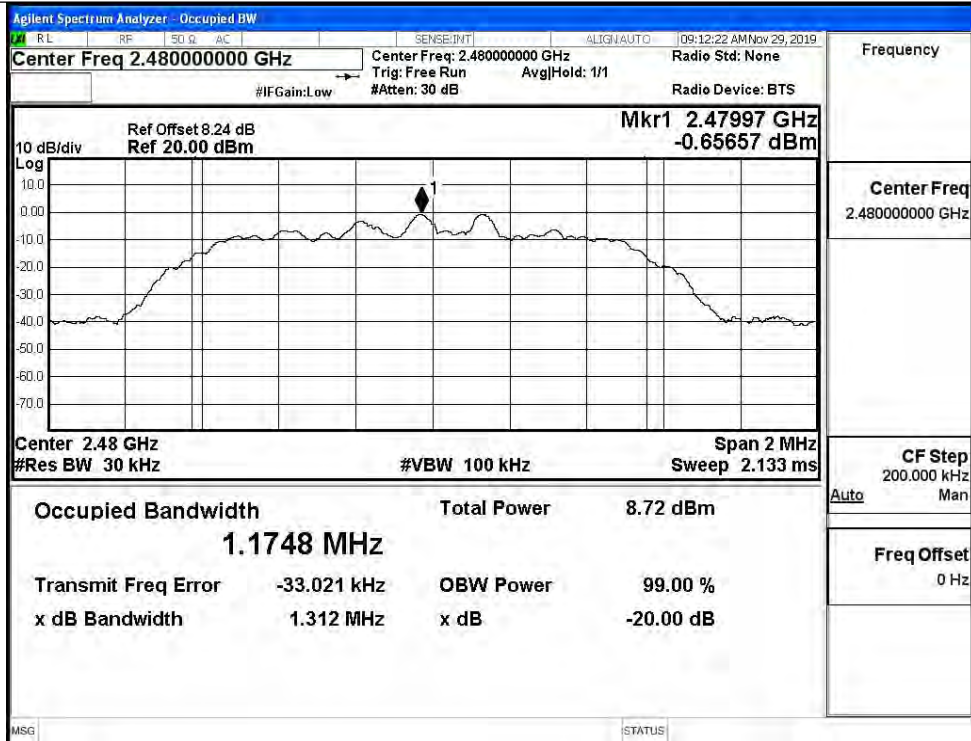
GFSK/MCH



GFSK/HCH



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

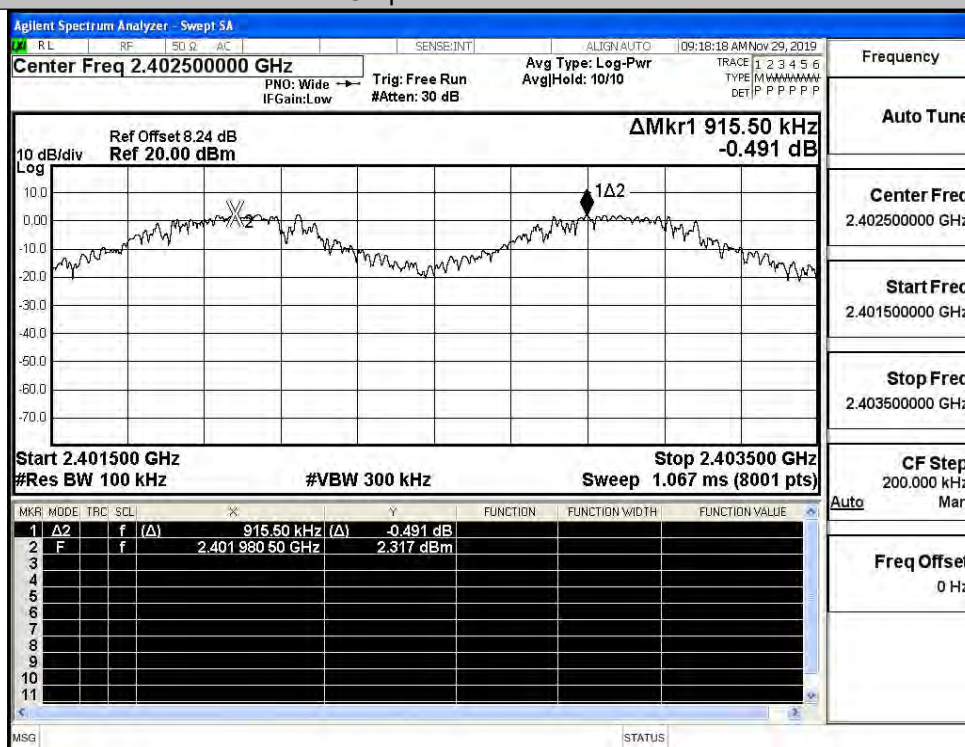
$\pi/4$ DQPSK/HCH

A.3 Carrier Frequency Separation

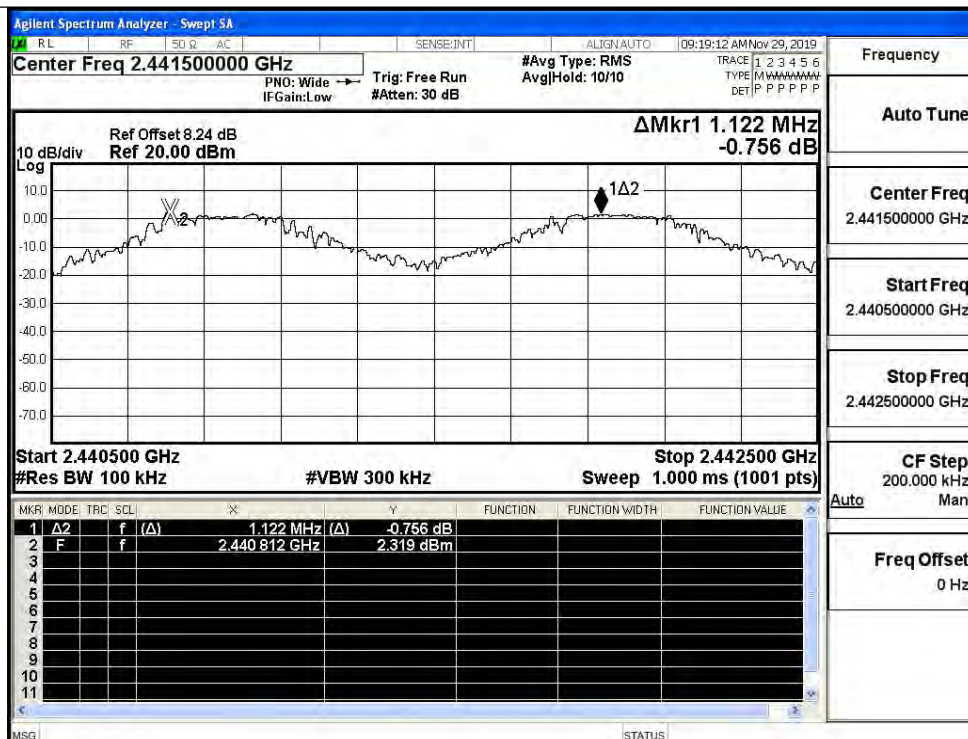
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.916	0.636	PASS
	MCH	1.122	0.636	PASS
	HCH	0.796	0.636	PASS
$\pi/4$ DQPSK	LCH	1.106	0.875	PASS
	MCH	0.990	0.875	PASS
	HCH	1.126	0.875	PASS

Test Graphs

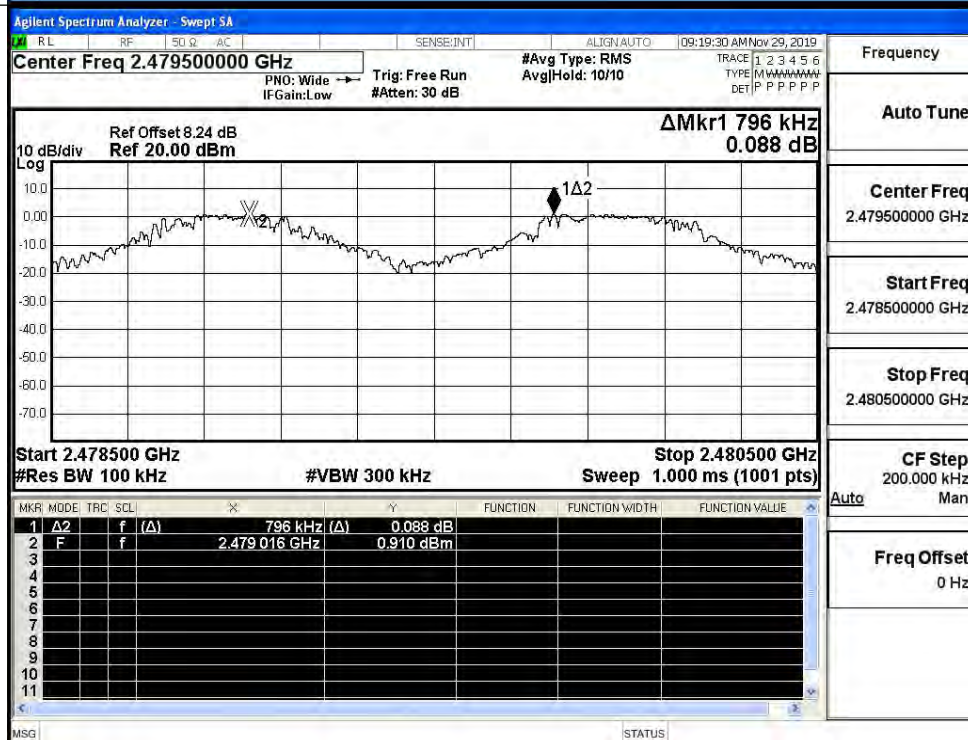
GFSK/LCH

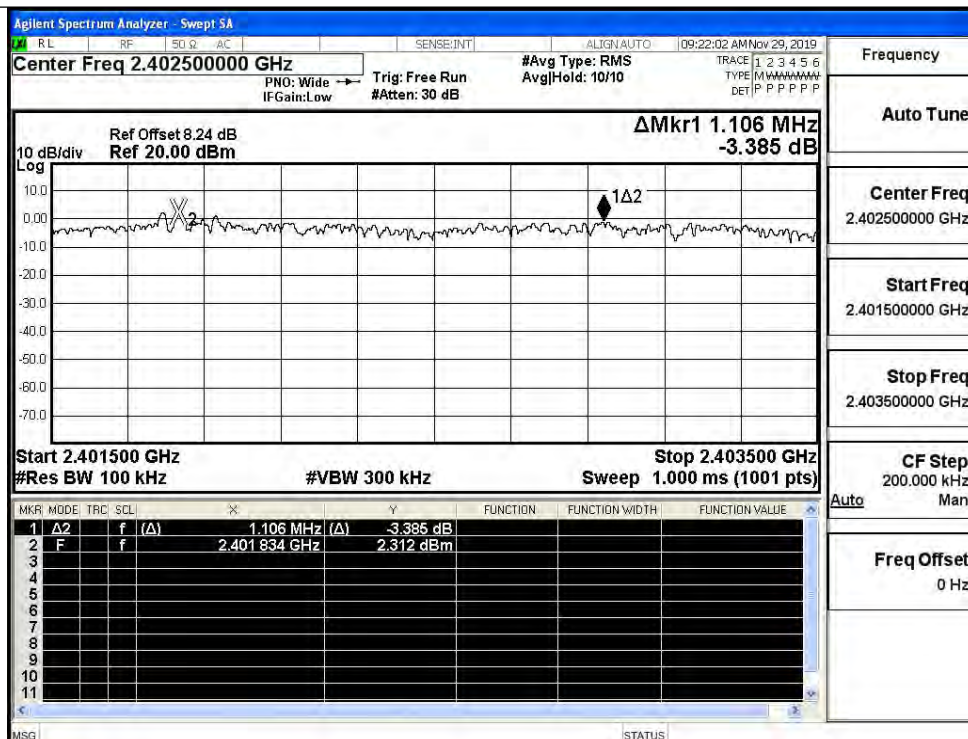
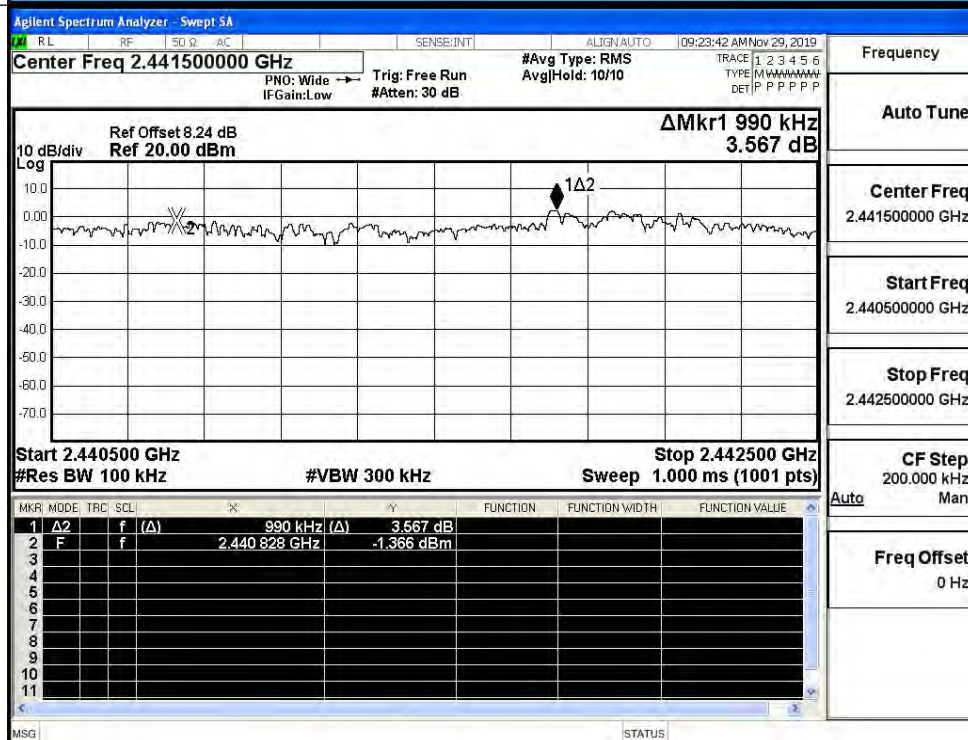


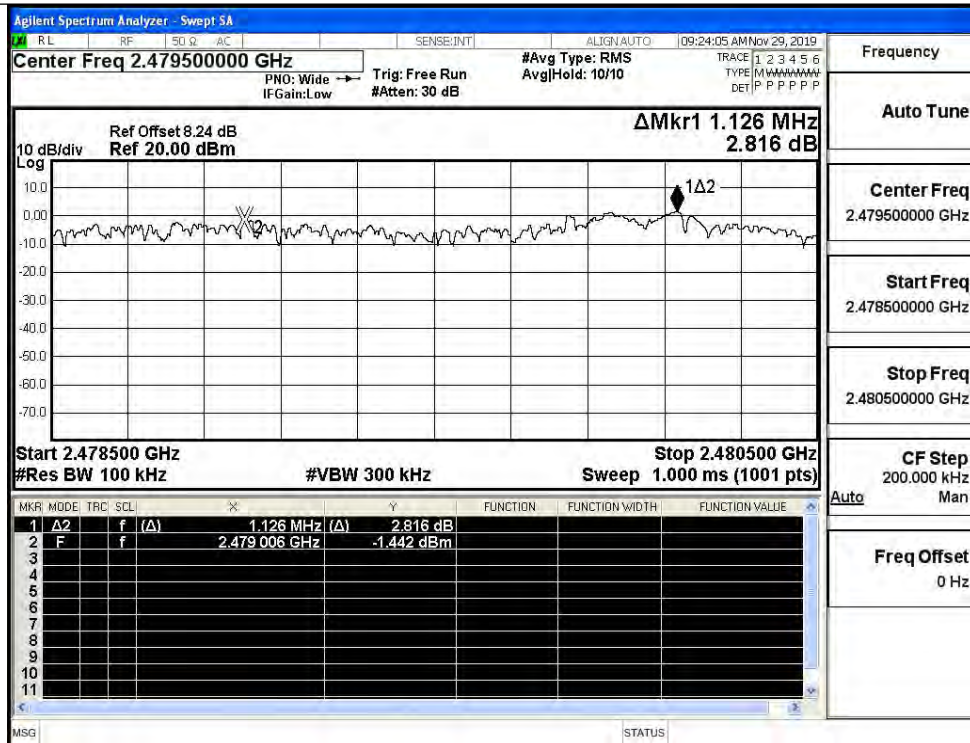
GFSK/MCH



GFSK/HCH



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

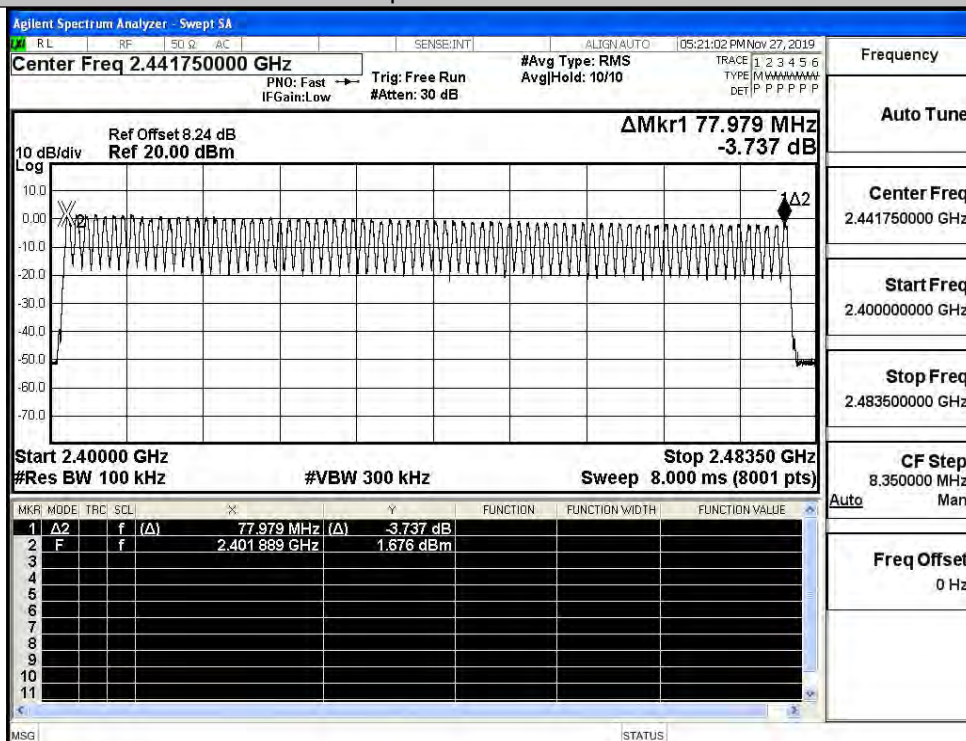
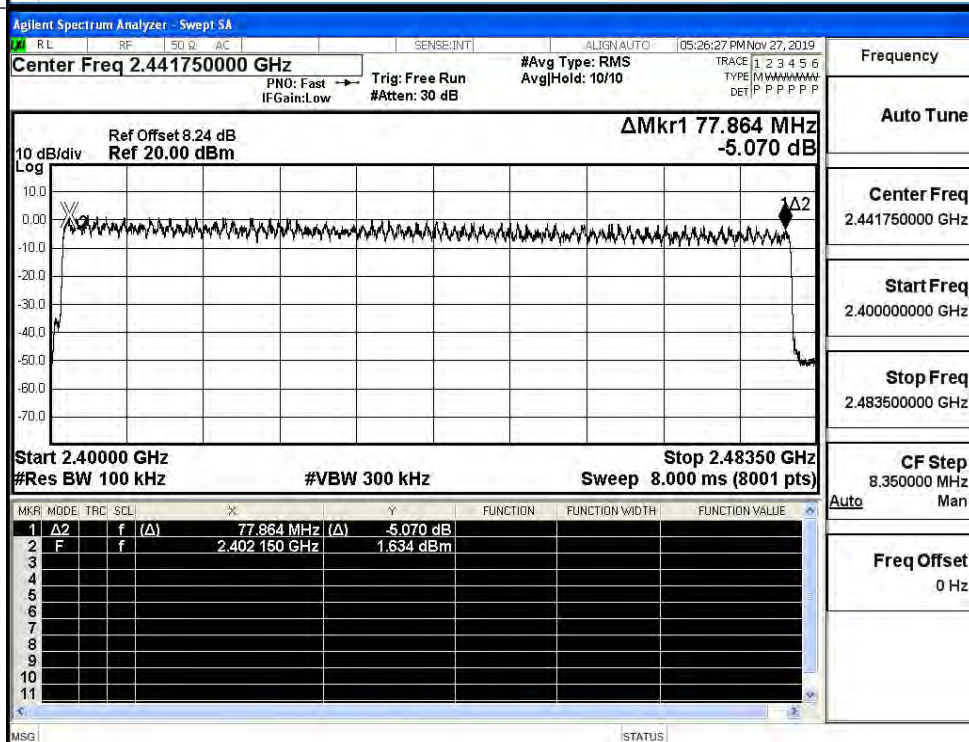
$\pi/4$ DQPSK/HCH

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

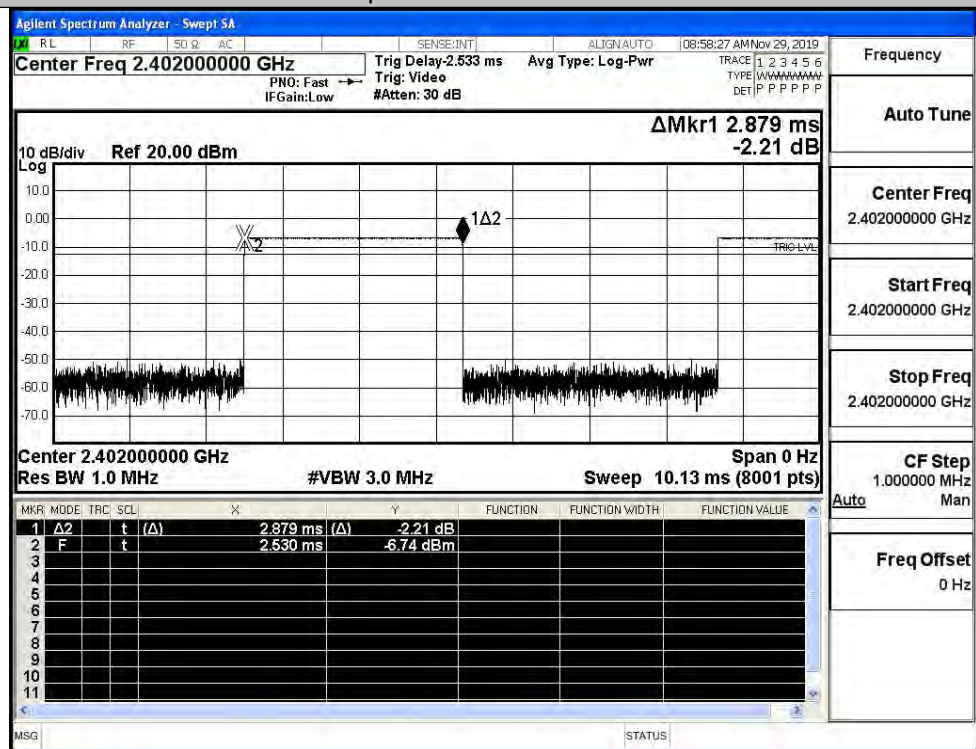
 $\pi/4$ DQPSK/Hop

A.5 Dwell Time

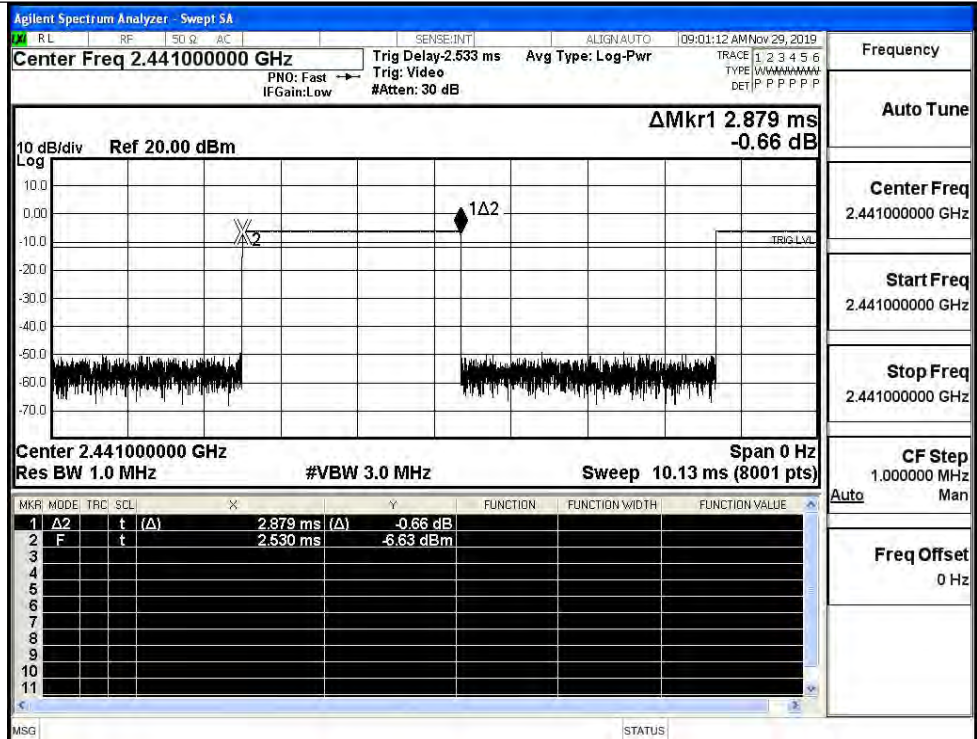
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.308	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88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

Test Graphs

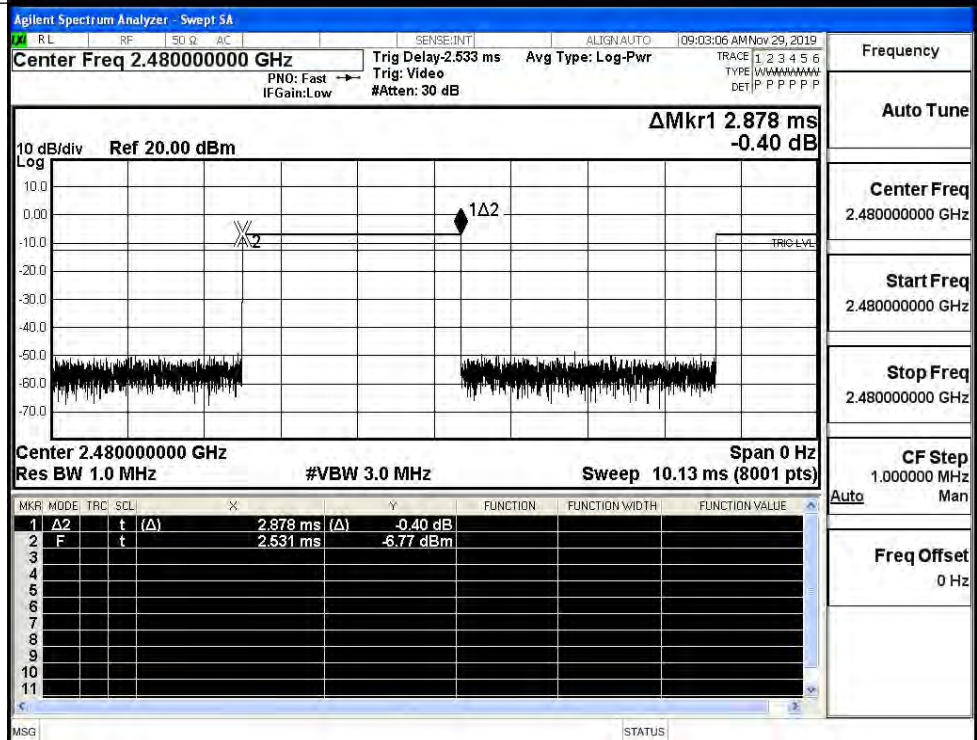
GFSK_DH5/LCH



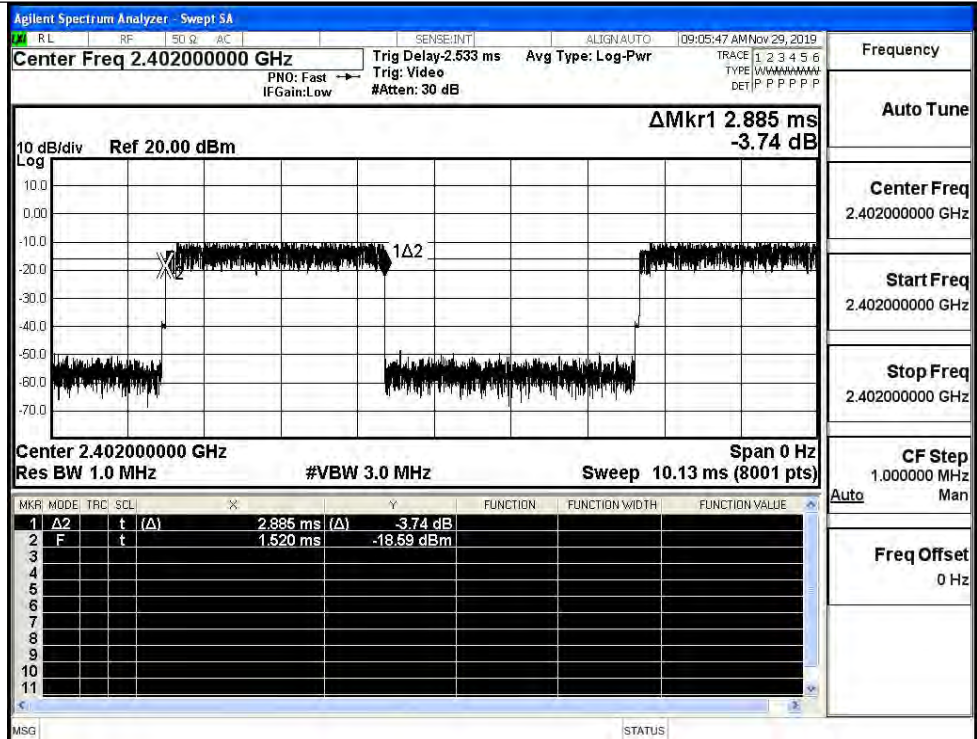
GFSK_DH5/MCH



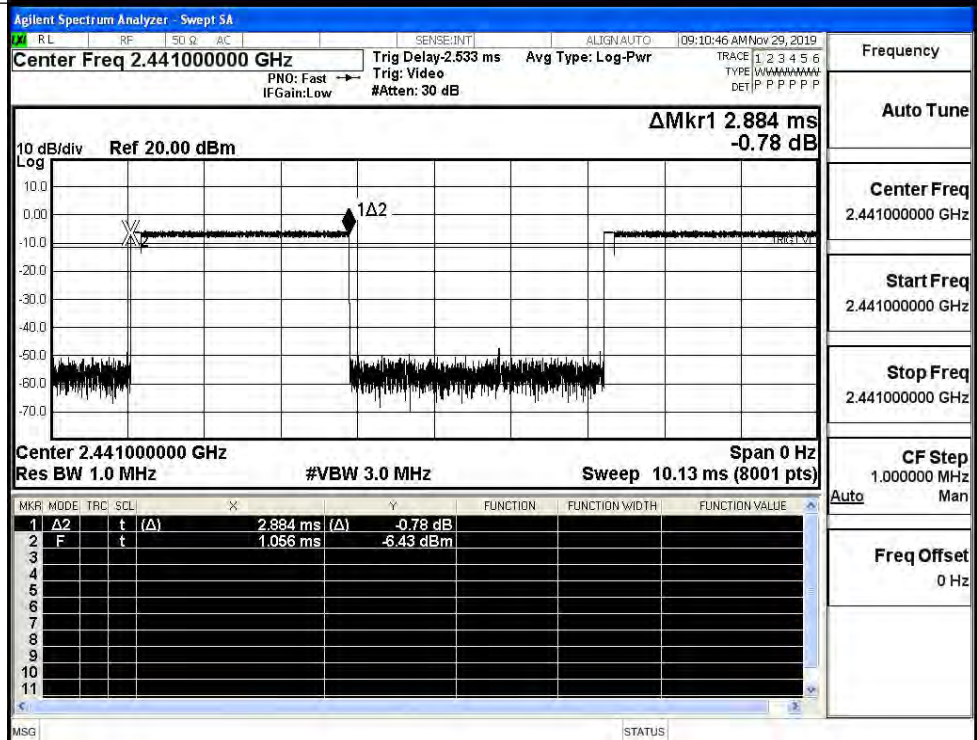
GFSK_DH5/HCH



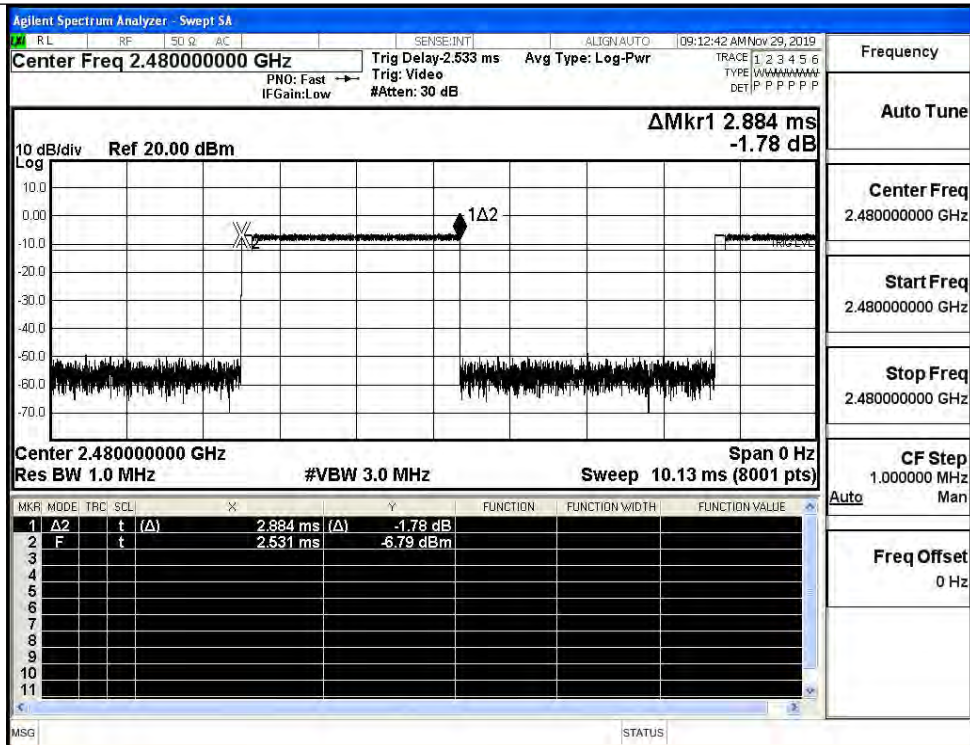
$\pi/4$ DQPSK
_2DH5/LCH



$\pi/4$ DQPSK
_2DH5/MCH

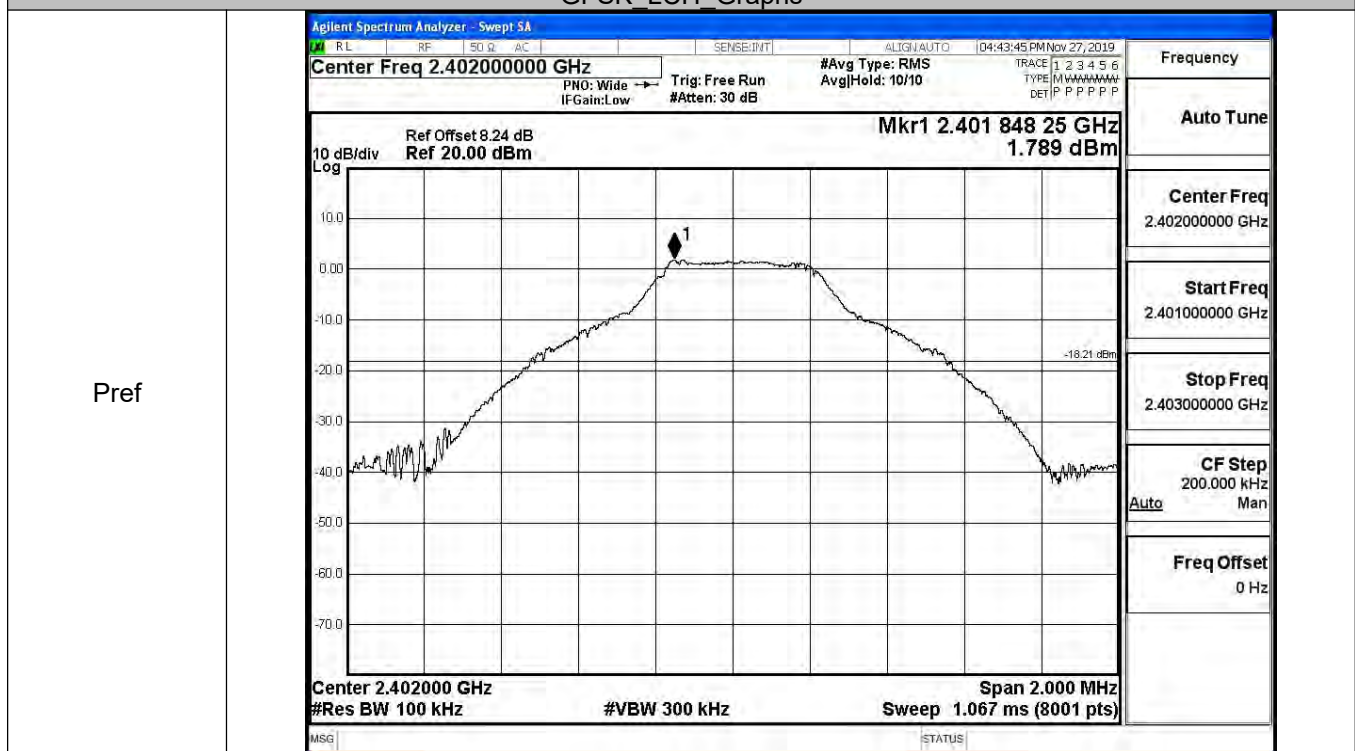


$\pi/4$ DQPSK
_2DH5/HCH



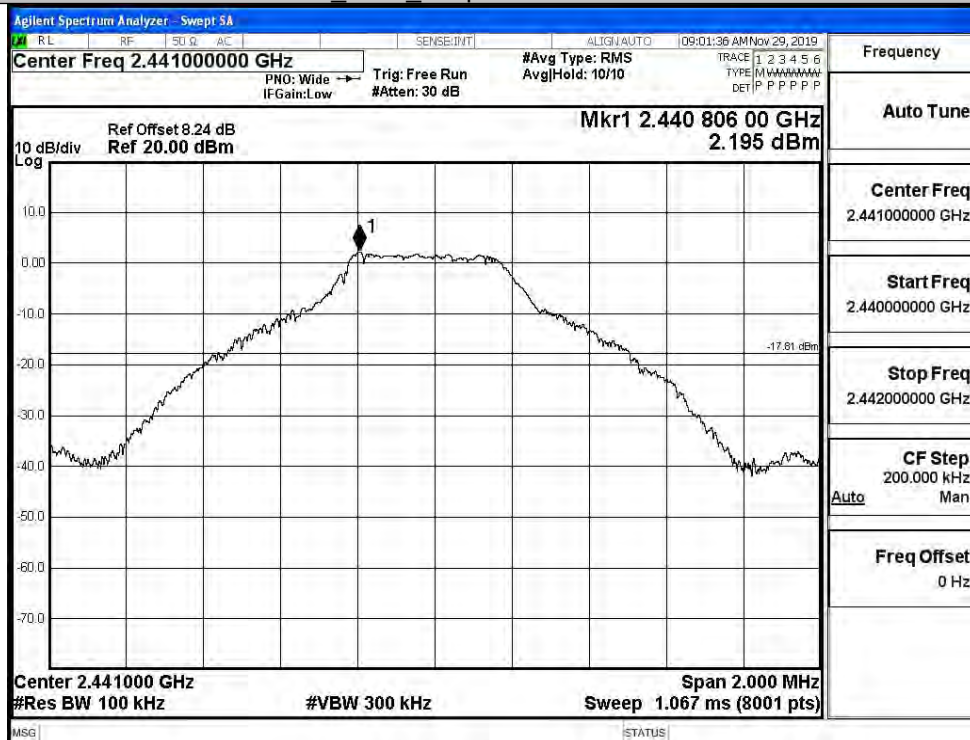
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.789	-37.891	-18.211	PASS
	MCH	2.195	-37.665	-17.805	PASS
	HCH	1.522	-37.592	-18.478	PASS
$\pi/4$ DQPSK	LCH	2.35	-38.349	-17.650	PASS
	MCH	1.892	-37.242	-18.108	PASS
	HCH	1.358	-37.741	-18.642	PASS

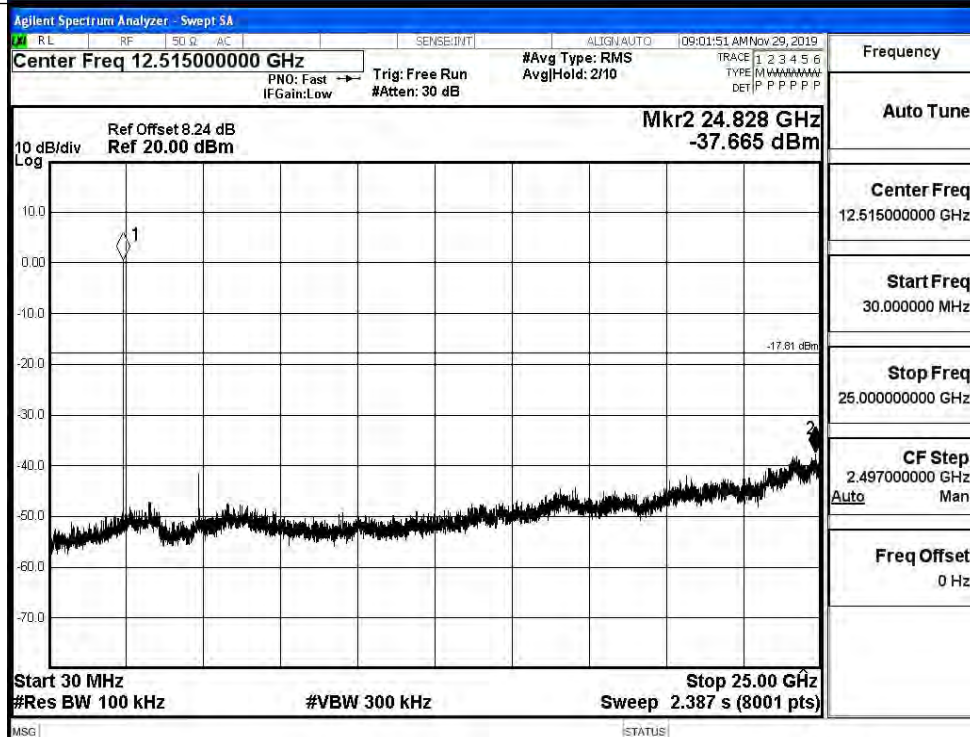
GFSK LCH Graphs

GFSK MCH Graphs

Pref

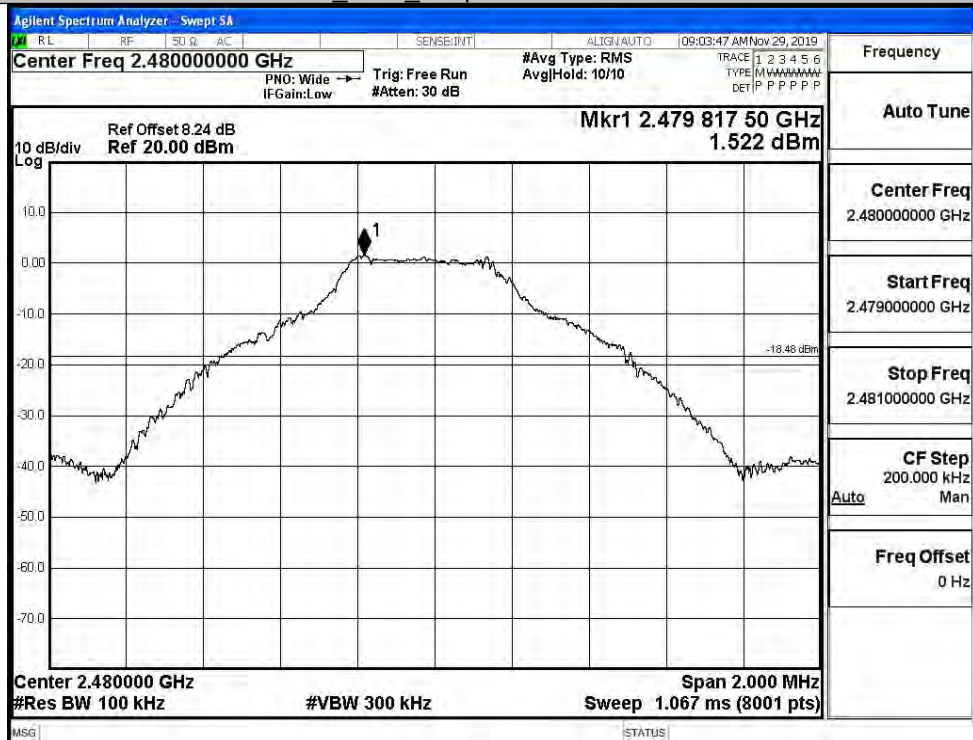


Puw

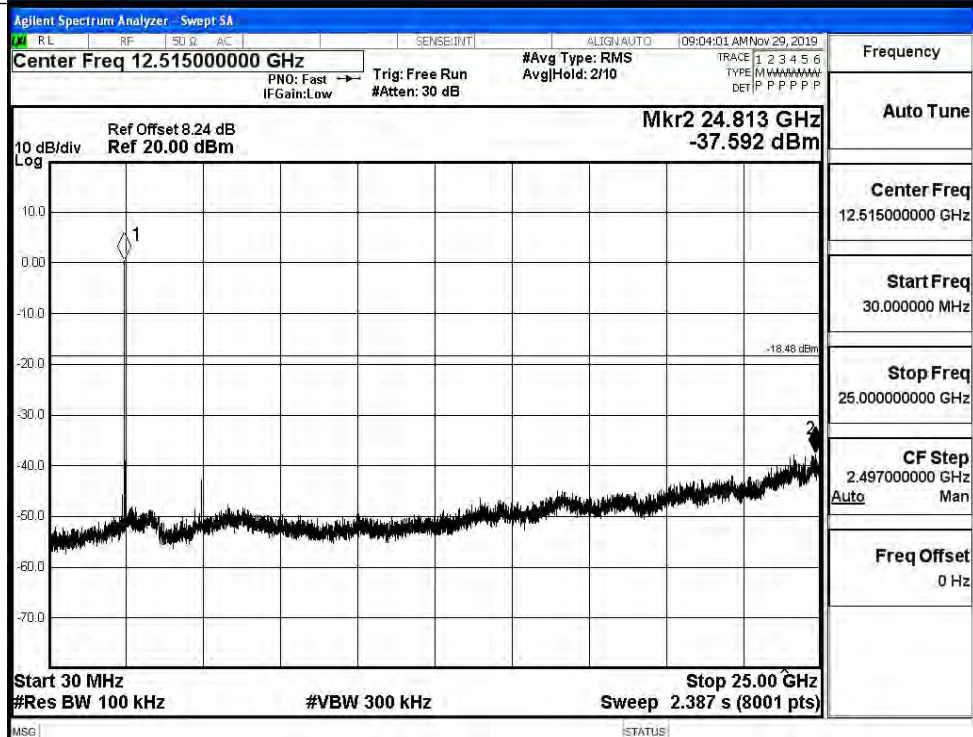


GFSK HCH Graphs

Pref

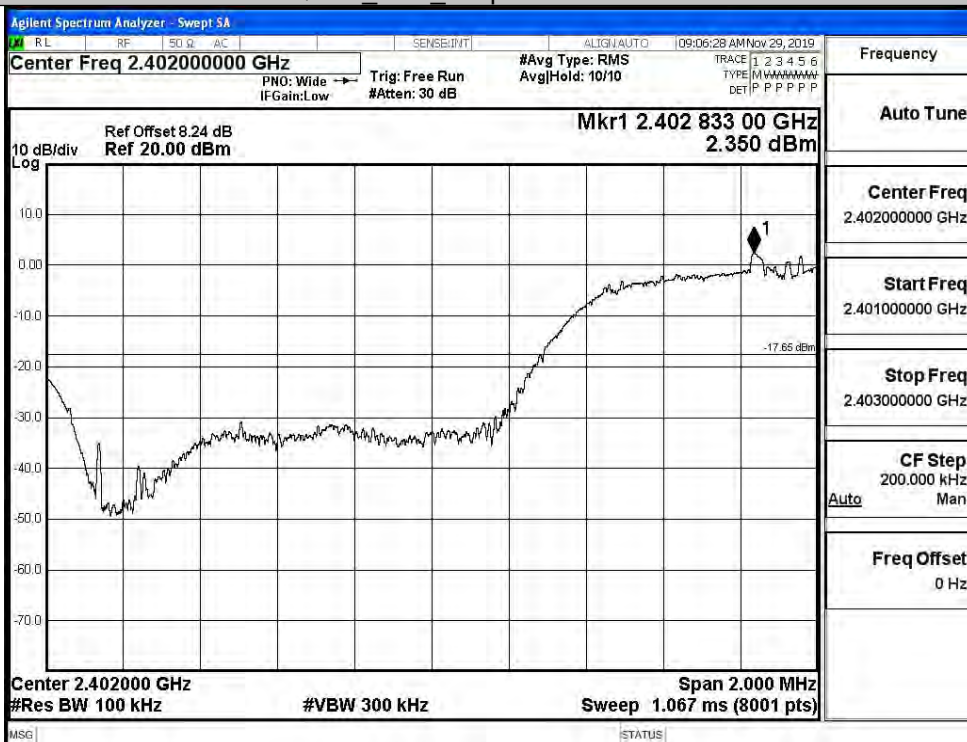


Puw

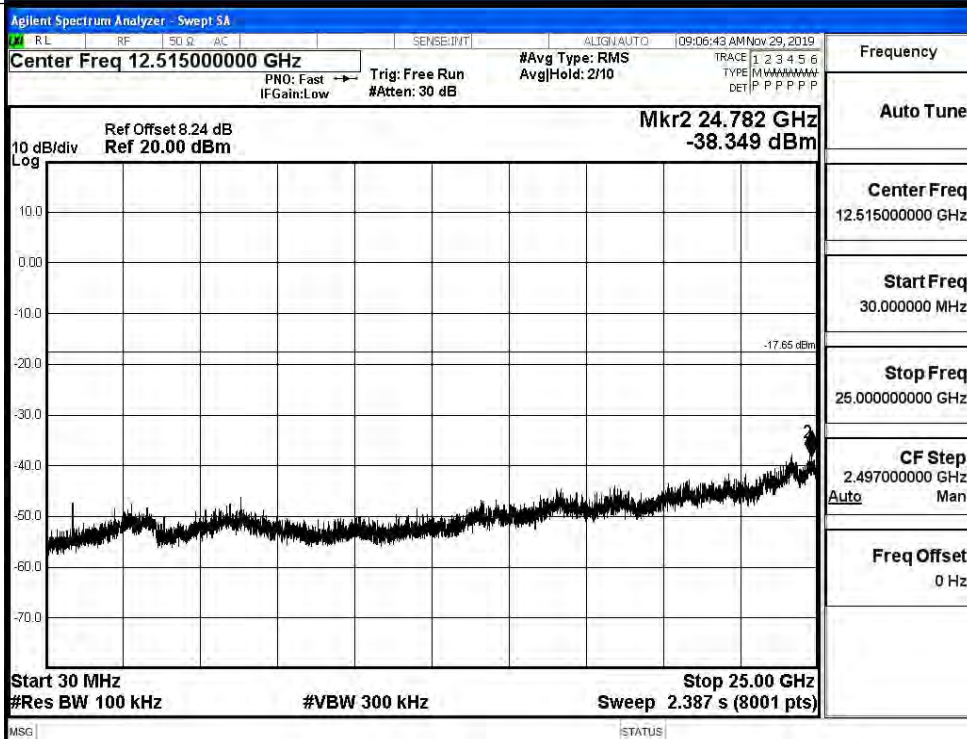


$\pi/4$ DQPSK LCH_Graphs

Pref

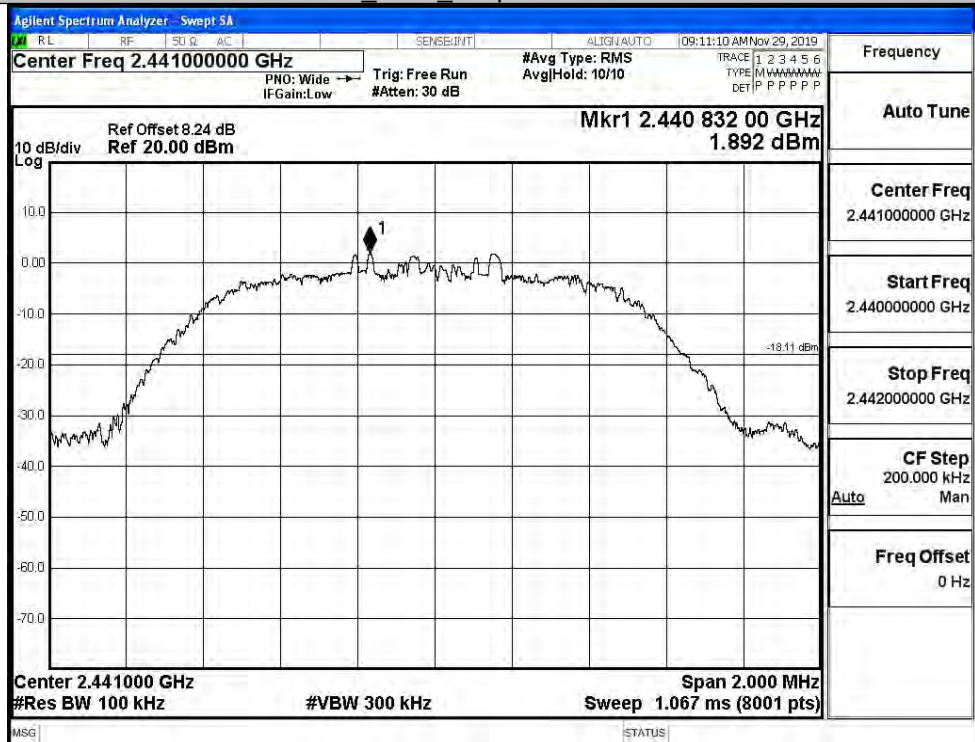


Puw

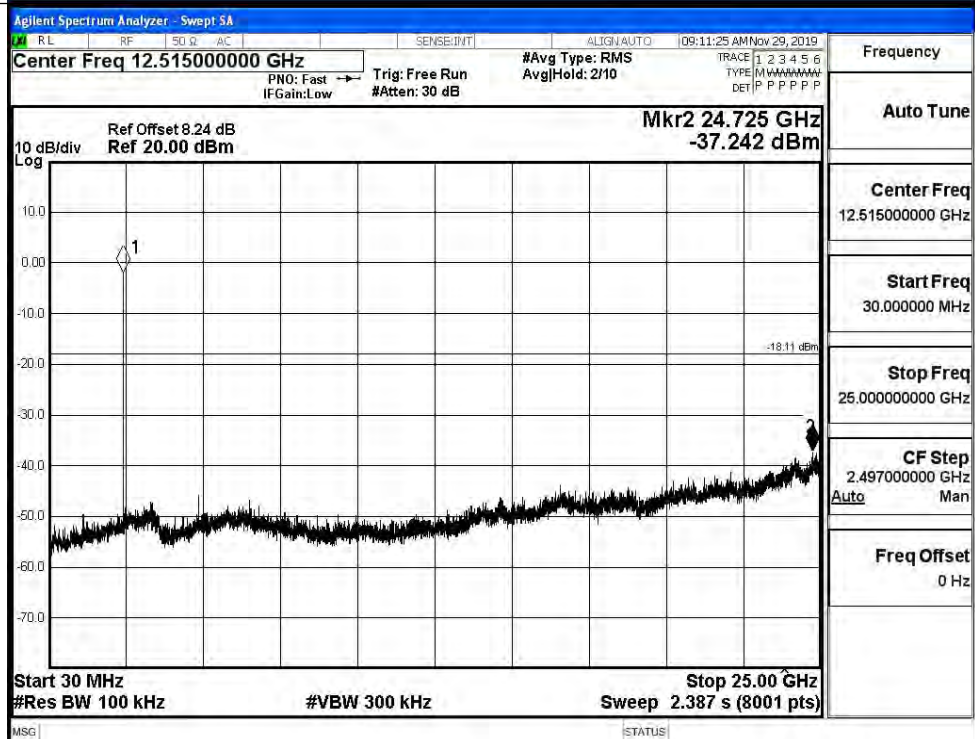


π /4DQPSK_MCH_Graphs

Pref

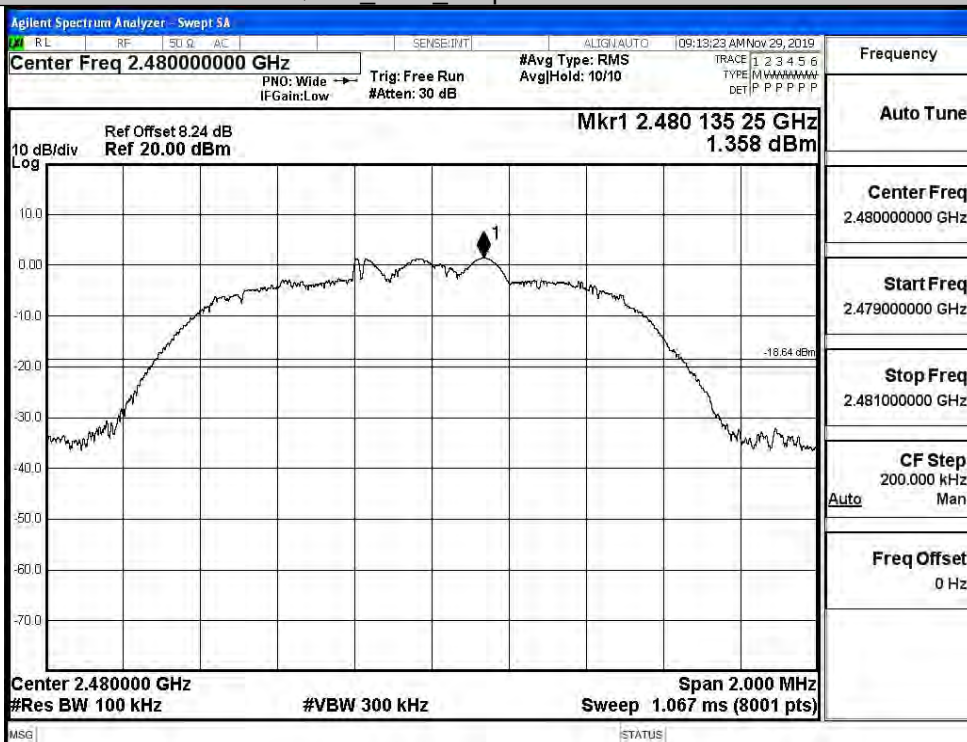


Puw

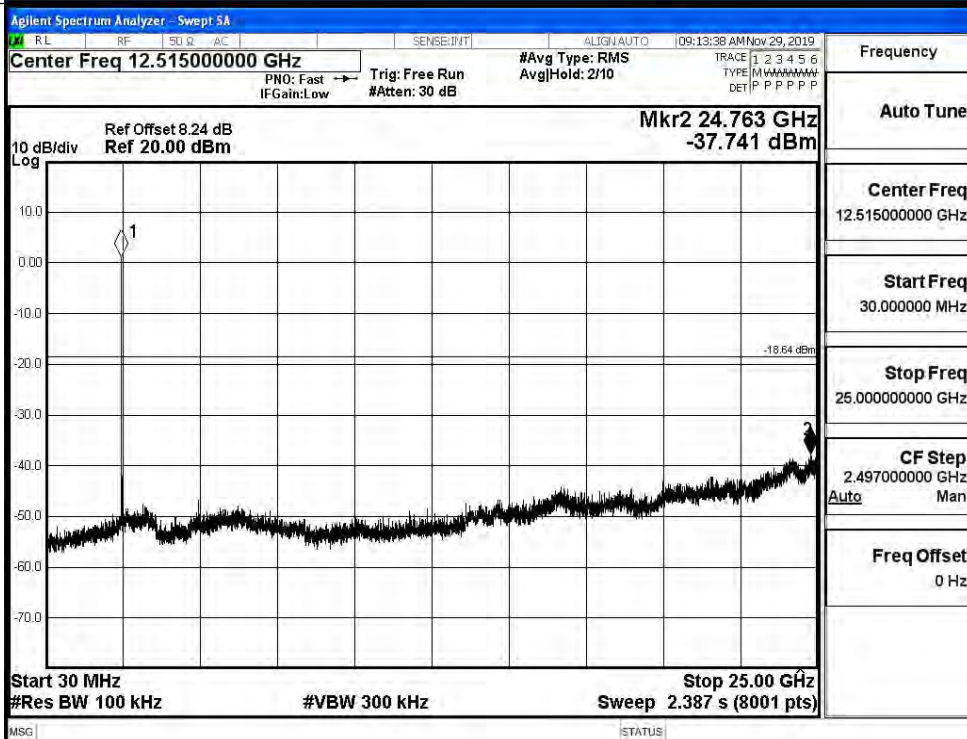


π /4DQPSK HCH_Graphs

Pref



Puw

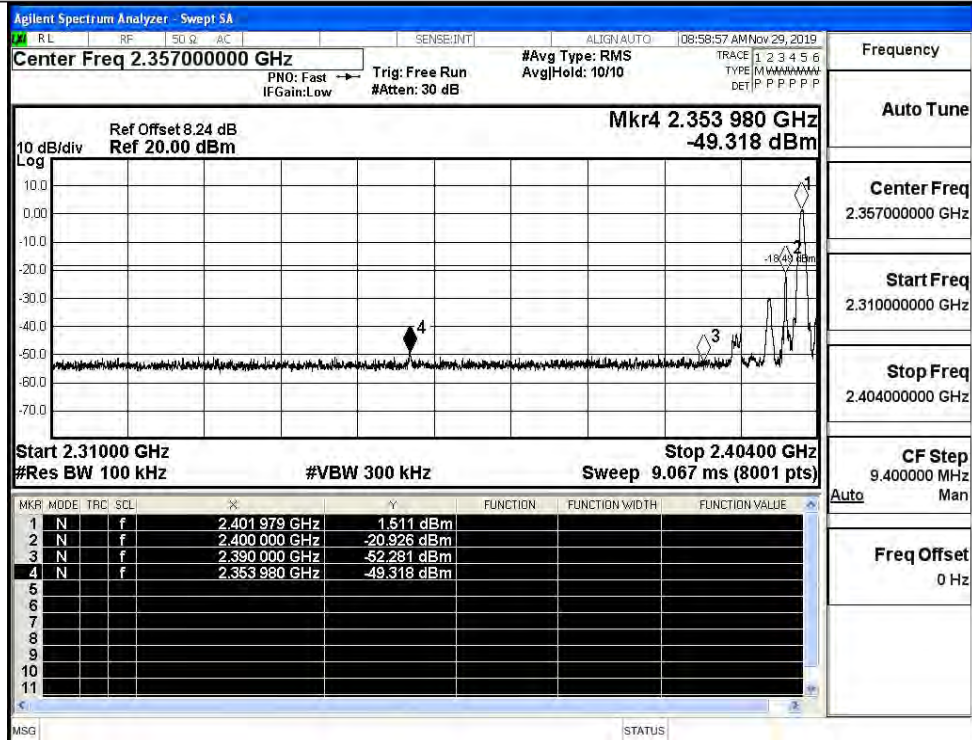


A.7 Band-edge for RF Conducted Emissions

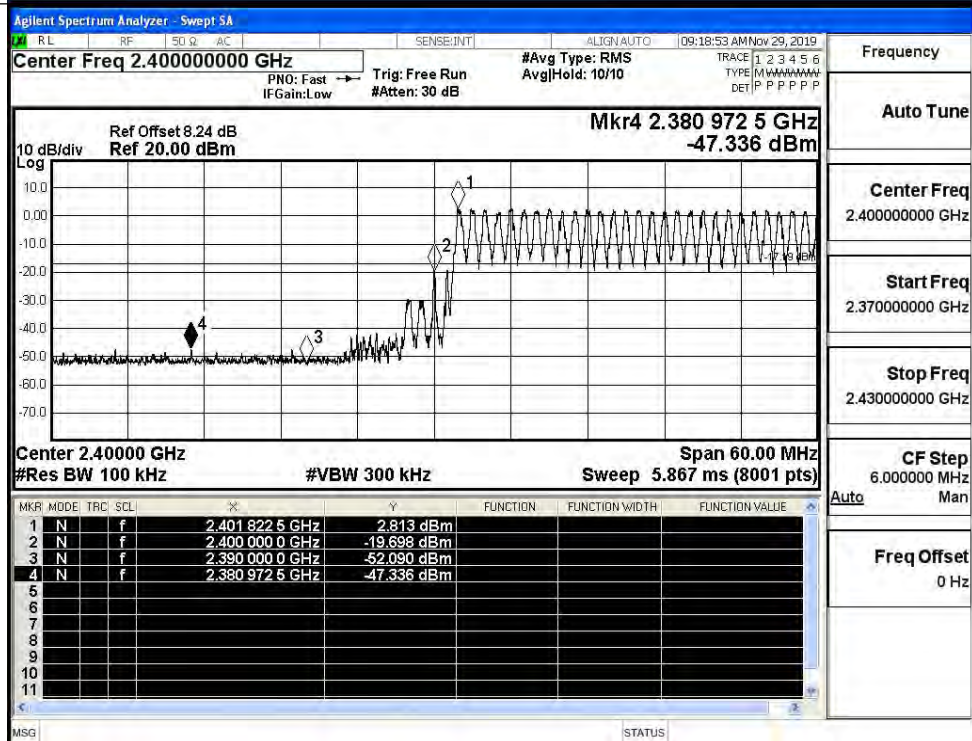
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	1.511	Off	-49.318	-18.49	PASS
			2.813	On	-47.336	-17.19	PASS
	HCH	2480	1.573	Off	-42.029	-18.43	PASS
			1.871	On	-45.591	-18.13	PASS
$\pi/4$ DQPSK	LCH	2402	0.644	Off	-48.940	-19.36	PASS
			2.551	On	-46.962	-17.45	PASS
	HCH	2480	1.506	Off	-44.831	-18.49	PASS
			1.841	On	-46.107	-18.16	PASS

Test Graphs

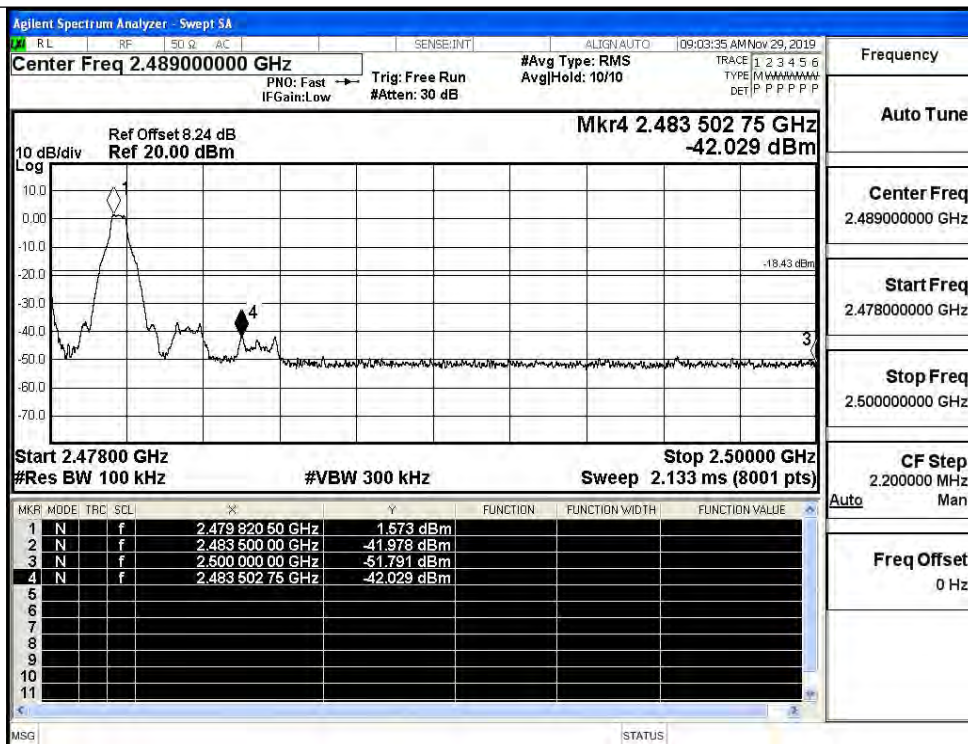
GFSK/LCH/No Hop



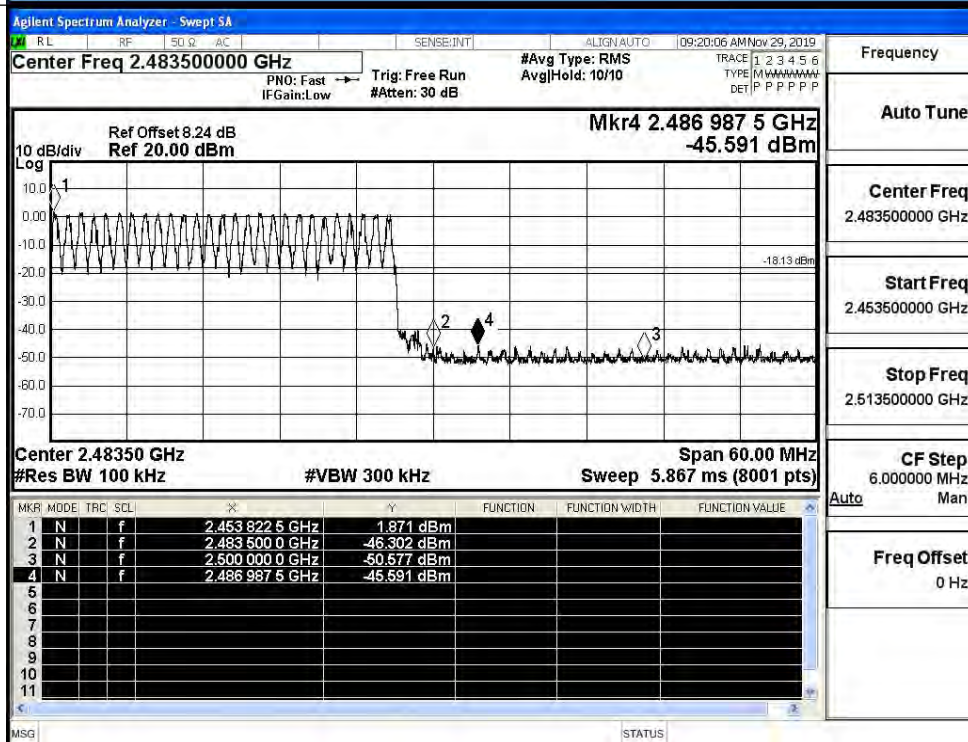
GFSK/LCH/Hop



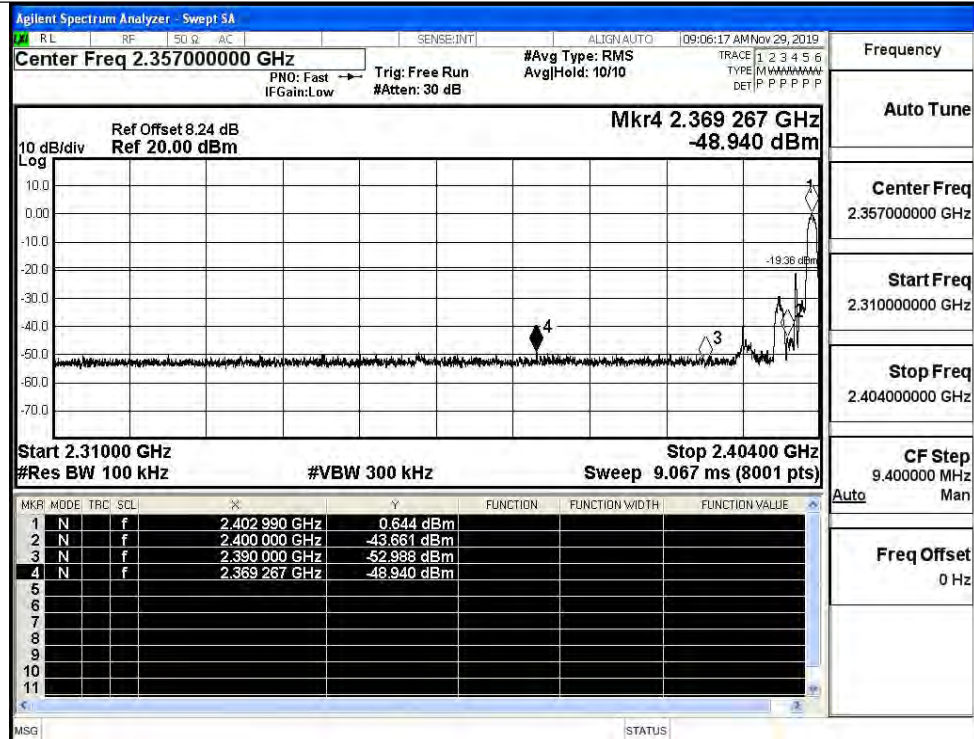
GFSK/HCH/No Hop



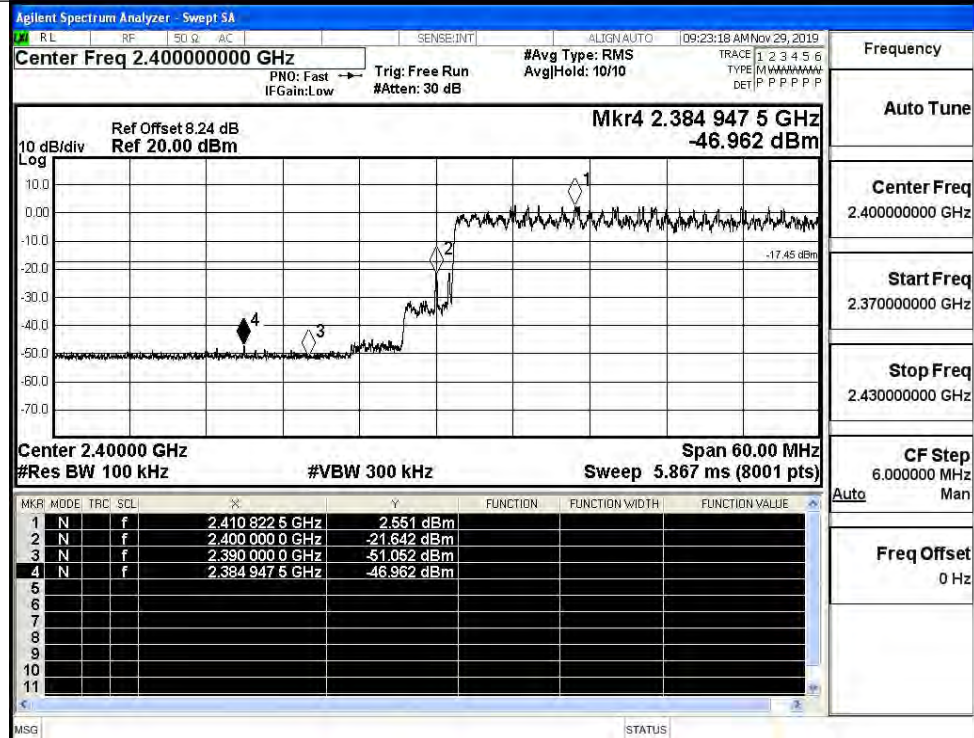
GFSK/HCH/Hop



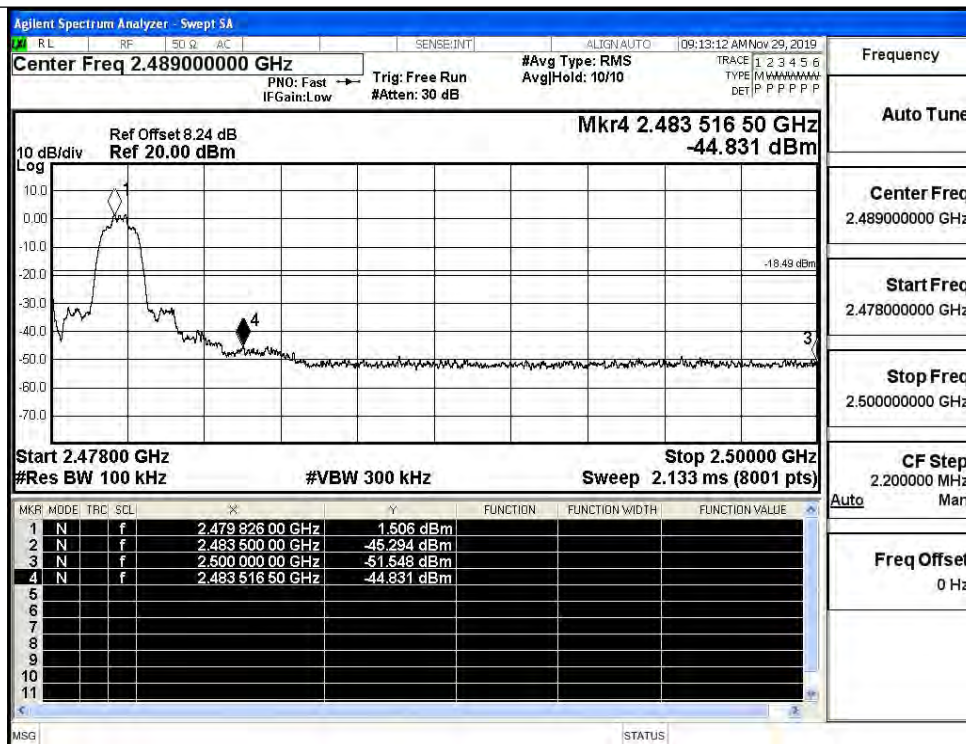
$\pi/4$ DQPSK/LCH/No
Hop



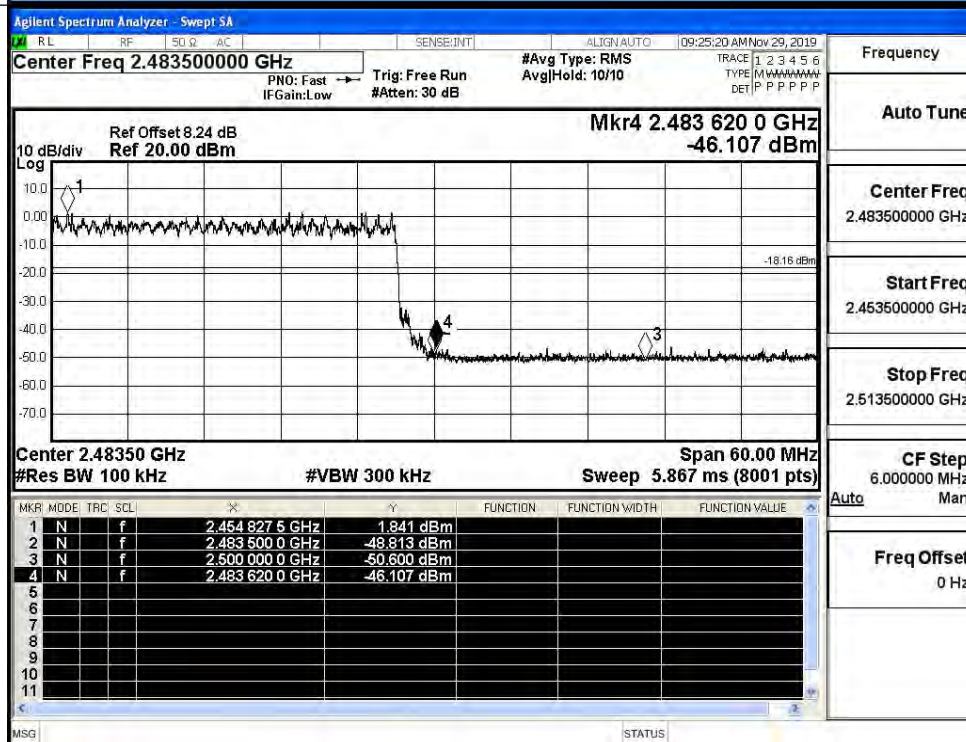
$\pi/4$ DQPSK/LCH/Hop



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



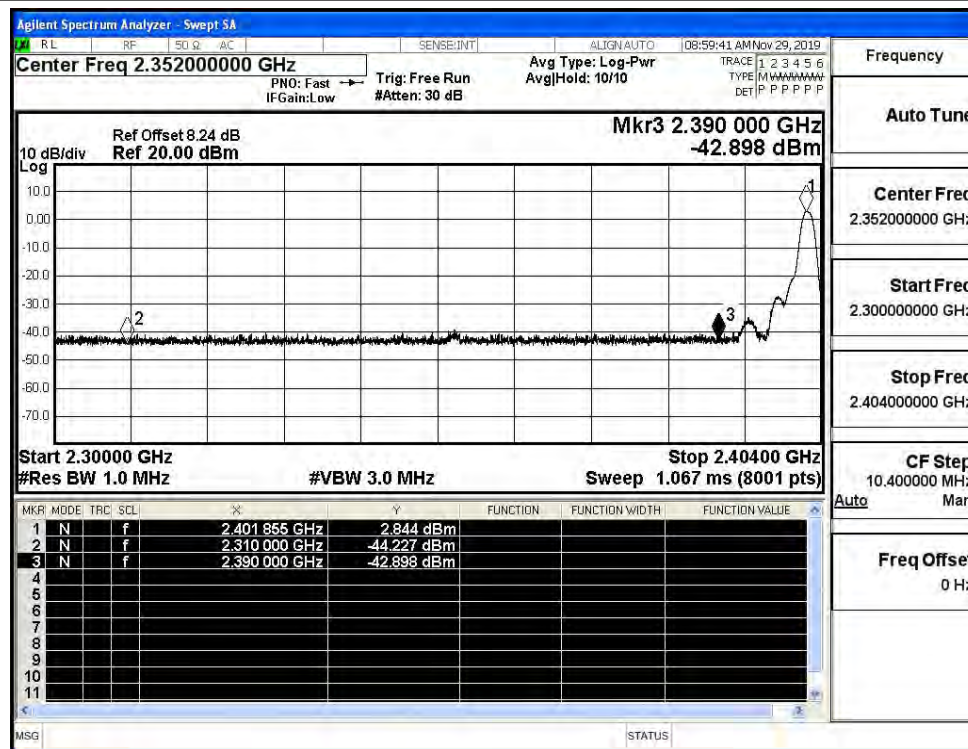
$\pi/4$ DQPSK/HCH/Hop



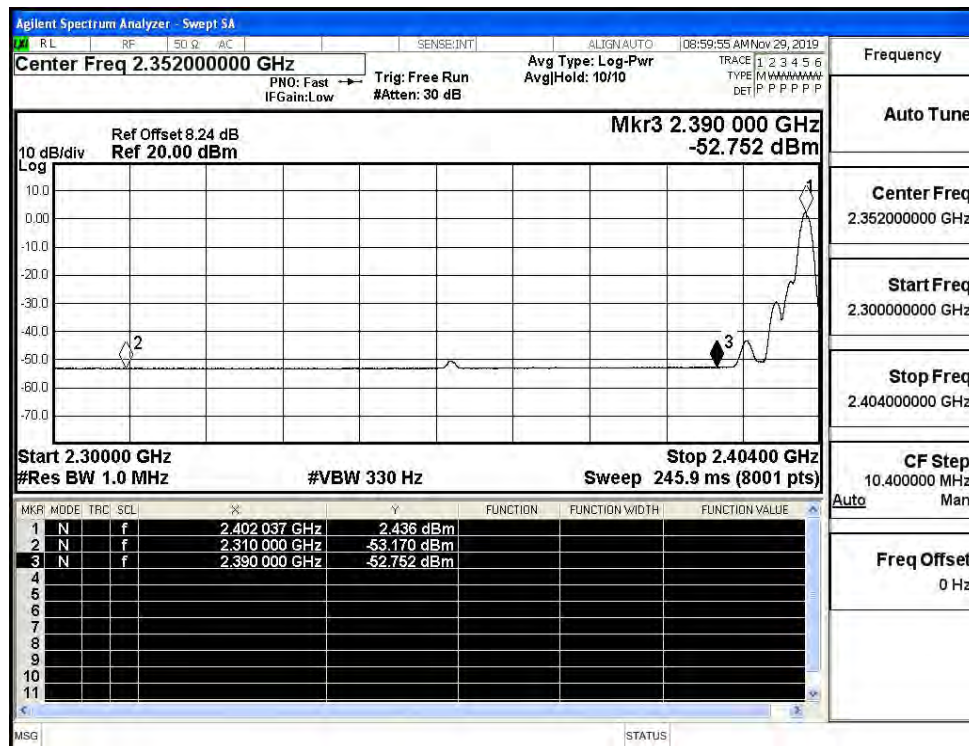
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-44.23	2.0	0	51.03	PEAK	74	PASS
	Off	2310.0	-53.17	2.0	0	42.09	AV	54	PASS
	Off	2390.0	-42.90	2.0	0	52.36	PEAK	74	PASS
	Off	2390.0	-52.75	2.0	0	42.51	AV	54	PASS
	Off	2483.5	-37.27	2.0	0	57.99	PEAK	74	PASS
	Off	2483.5	-45.83	2.0	0	49.42	AV	54	PASS
	Off	2500.0	-41.46	2.0	0	53.80	PEAK	74	PASS
	Off	2500.0	-52.12	2.0	0	43.14	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-41.29	2.0	0	53.97	PEAK	74	PASS
	Off	2310.0	-53.18	2.0	0	42.07	AV	54	PASS
	Off	2390.0	-42.78	2.0	0	52.47	PEAK	74	PASS
	Off	2390.0	-52.78	2.0	0	42.48	AV	54	PASS
	Off	2483.5	-37.78	2.0	0	57.48	PEAK	74	PASS
	Off	2483.5	-47.23	2.0	0	48.03	AV	54	PASS
	Off	2500.0	-41.66	2.0	0	53.59	PEAK	74	PASS
	Off	2500.0	-52.13	2.0	0	43.13	AV	54	PASS

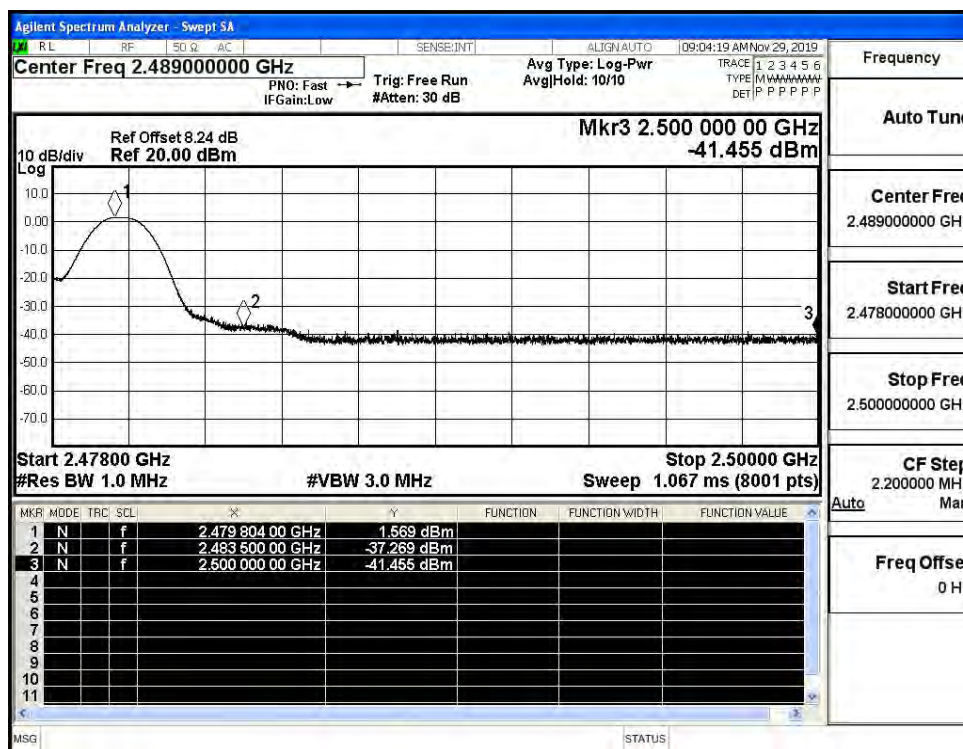
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



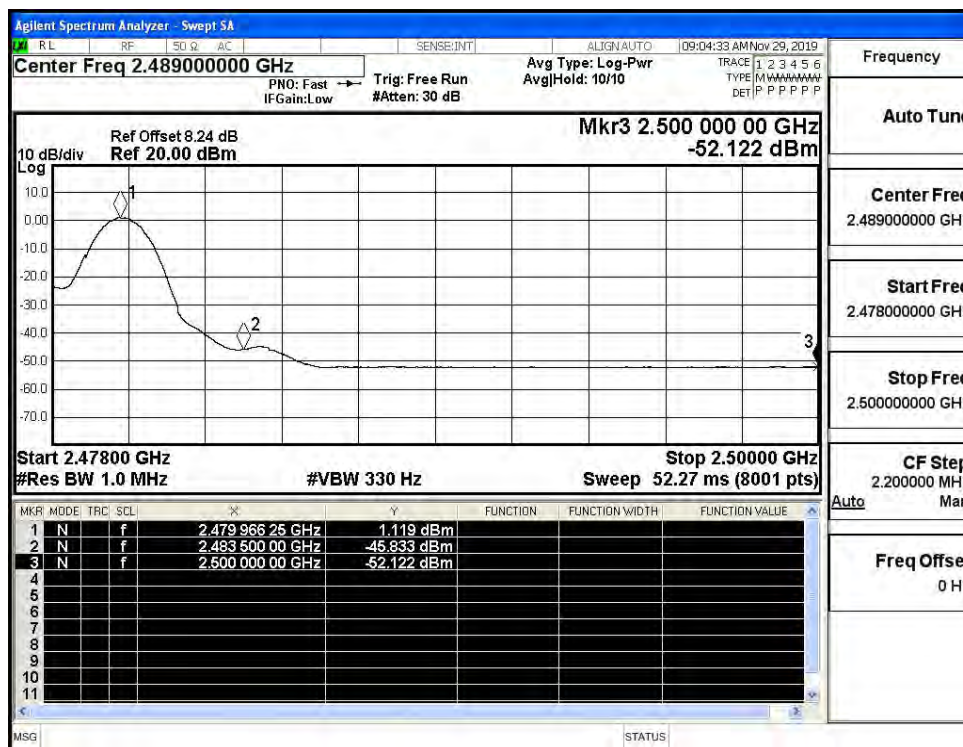
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

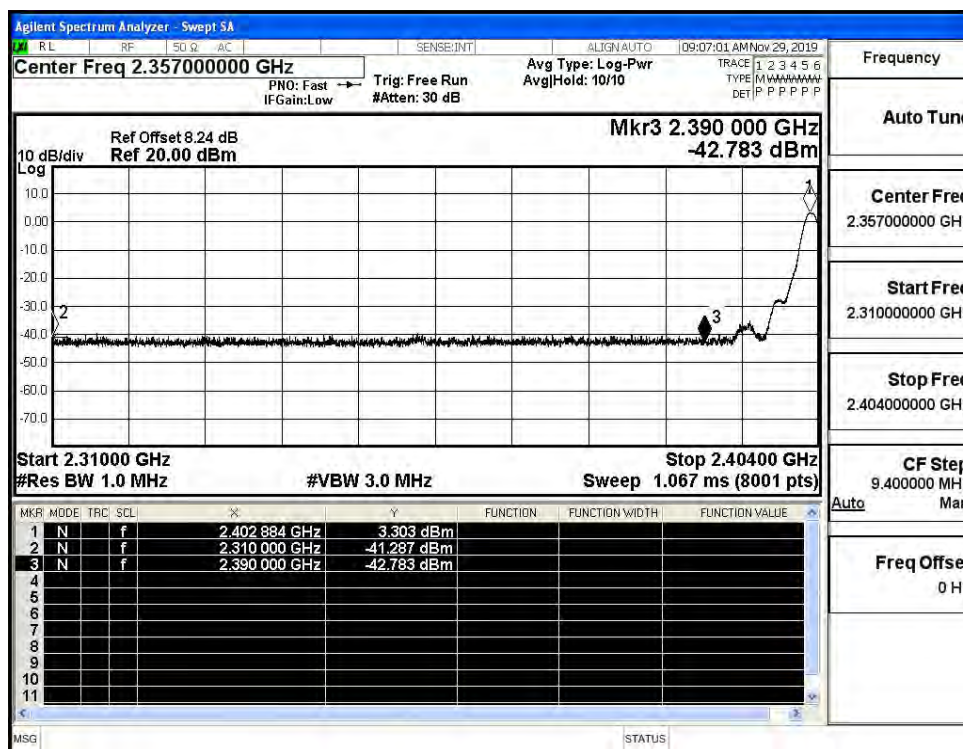
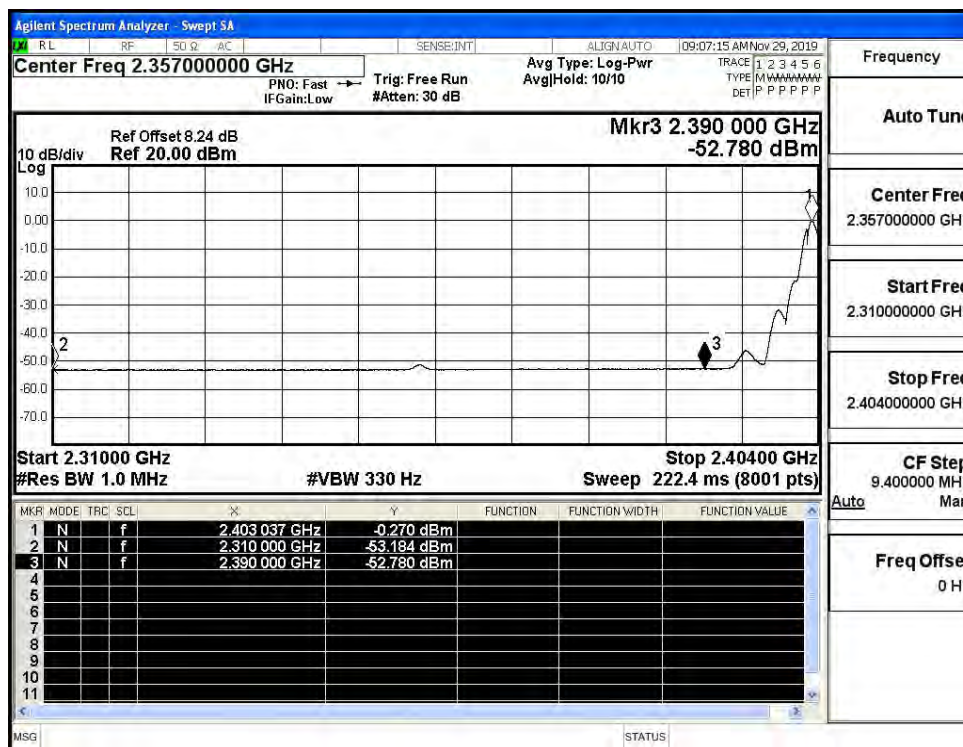


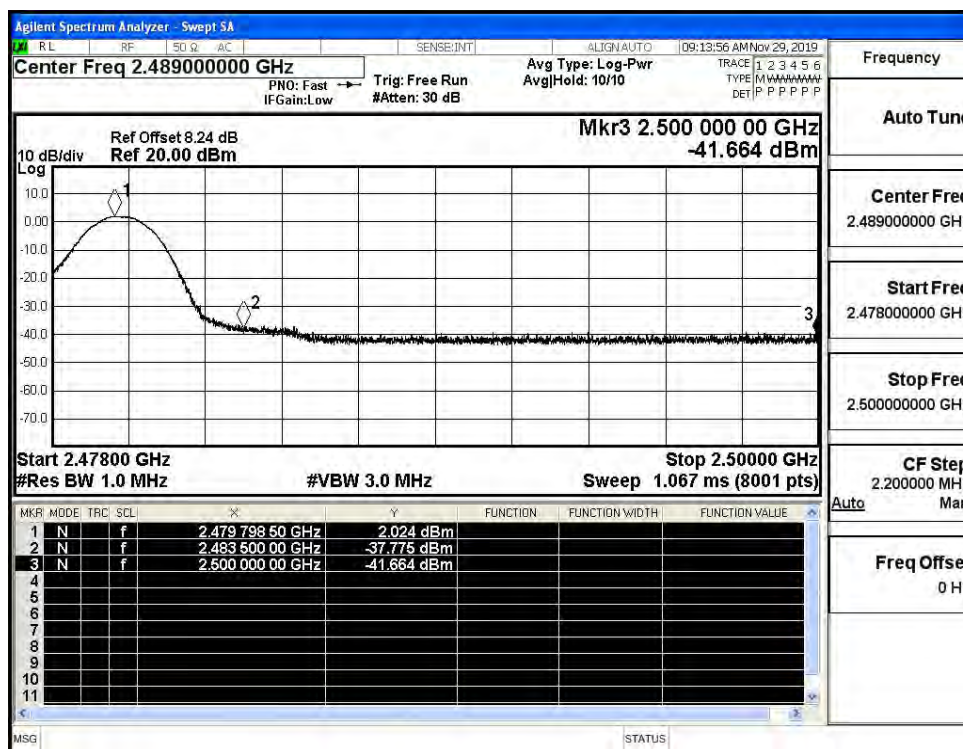
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



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