

Appendix A

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

Product Name: LED Wireless Speaker

Trade Mark: N/A

Test Model: XO-9742-2

Environmental Conditions

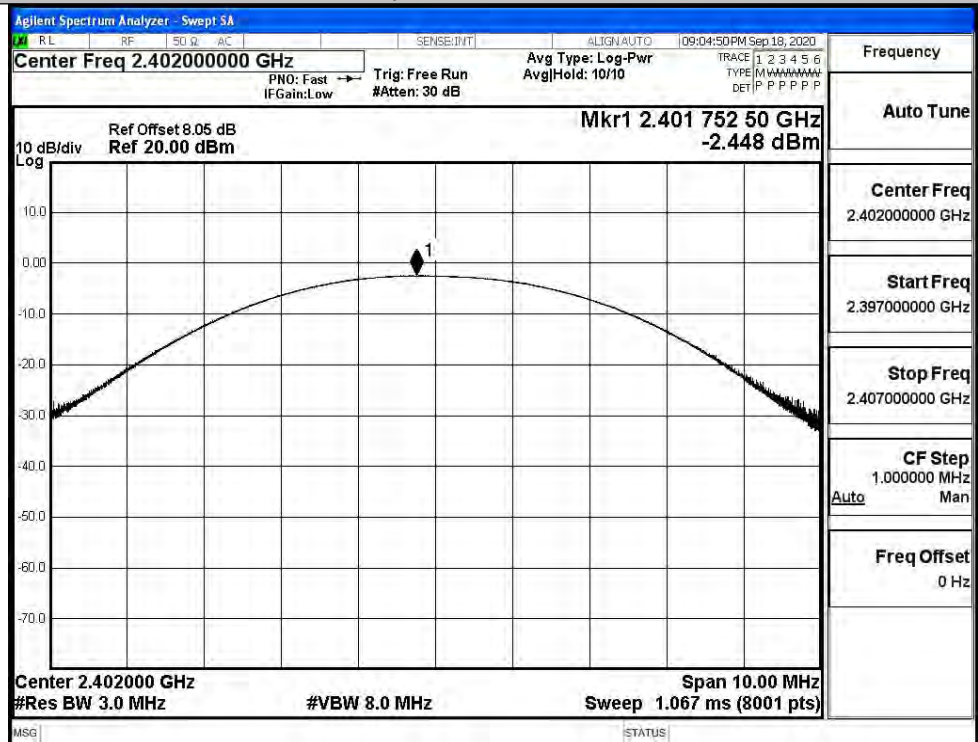
Temperature:	24.6° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Li
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

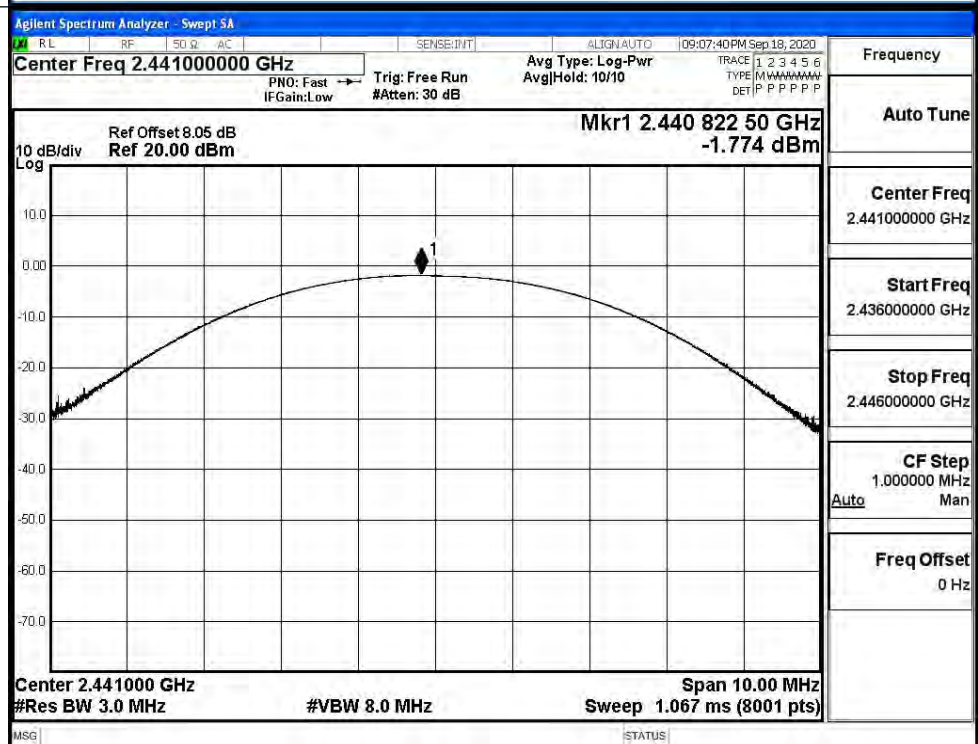
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-2.448	21	PASS
	MCH	-1.774	21	PASS
	HCH	-1.526	21	PASS
$\pi/4$ DQPSK	LCH	1.917	21	PASS
	MCH	0.581	21	PASS
	HCH	-0.867	21	PASS

Test Graphs

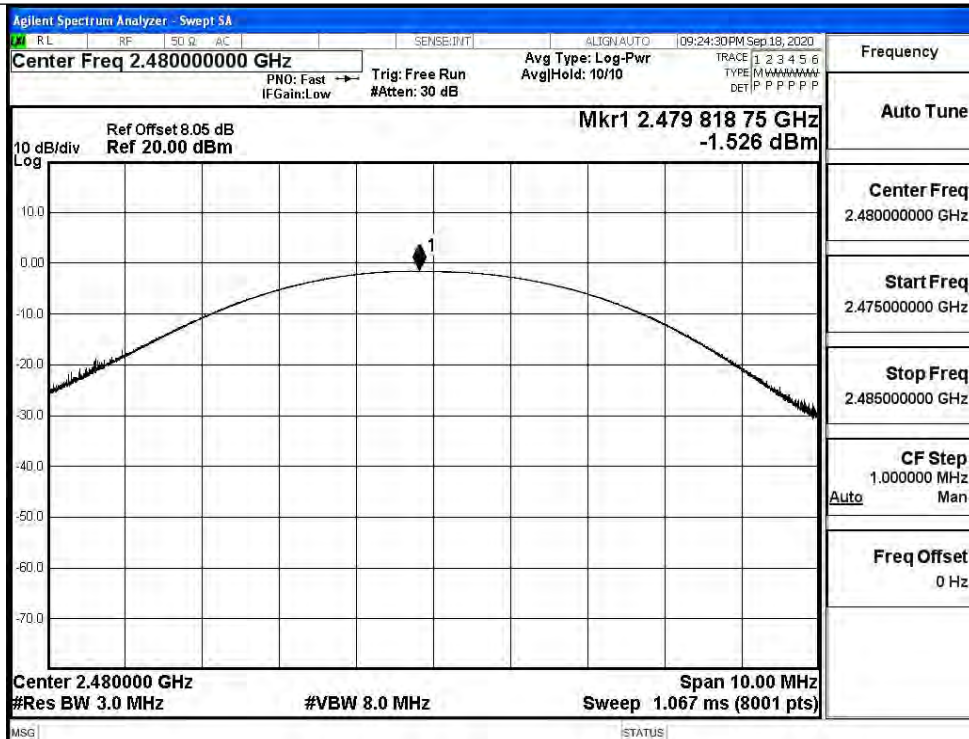
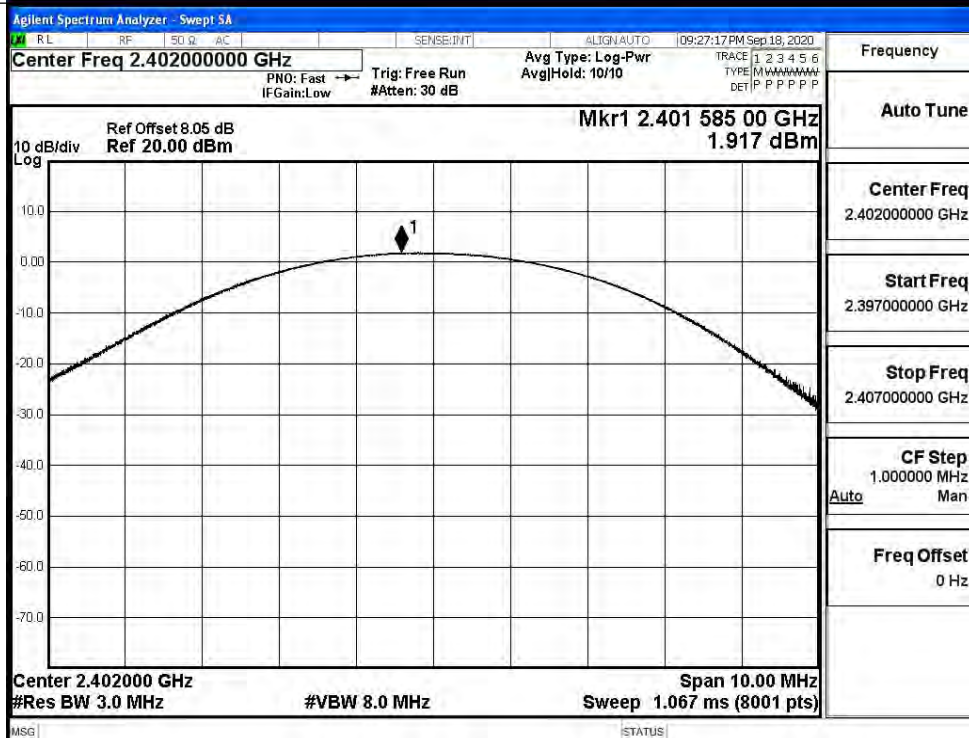
GFSK/LCH

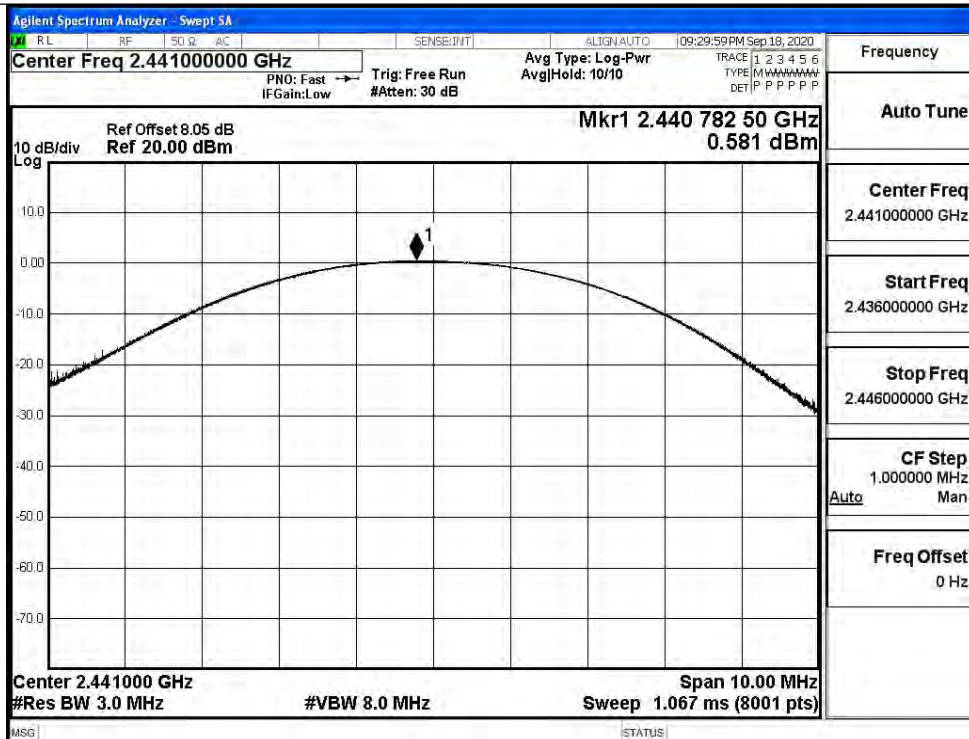
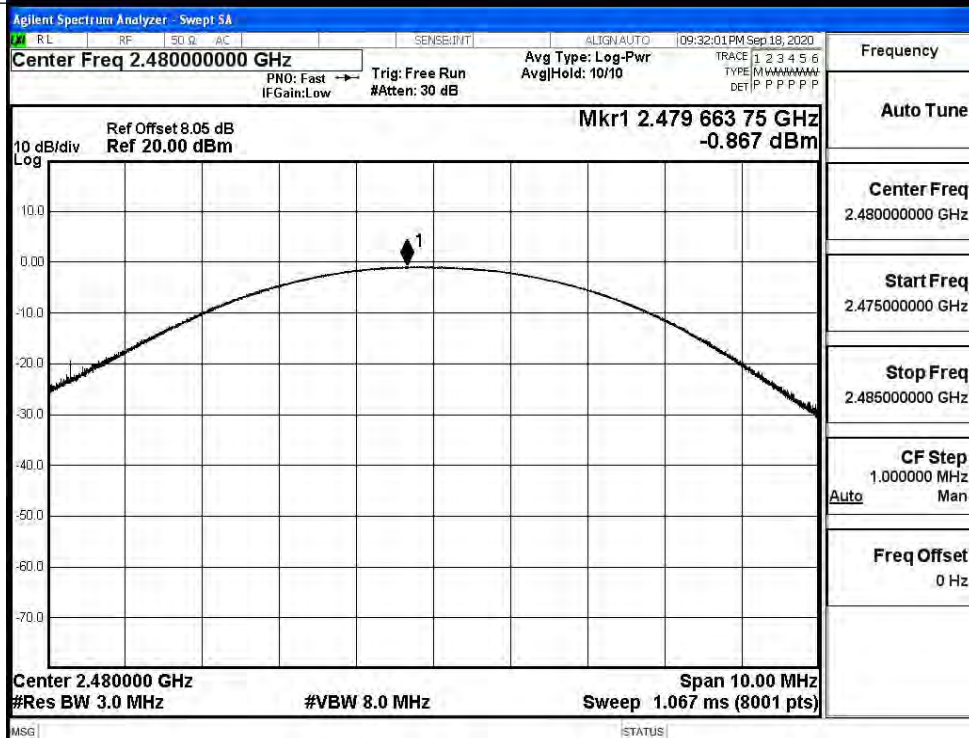


GFSK/MCH



GFSK/HCH

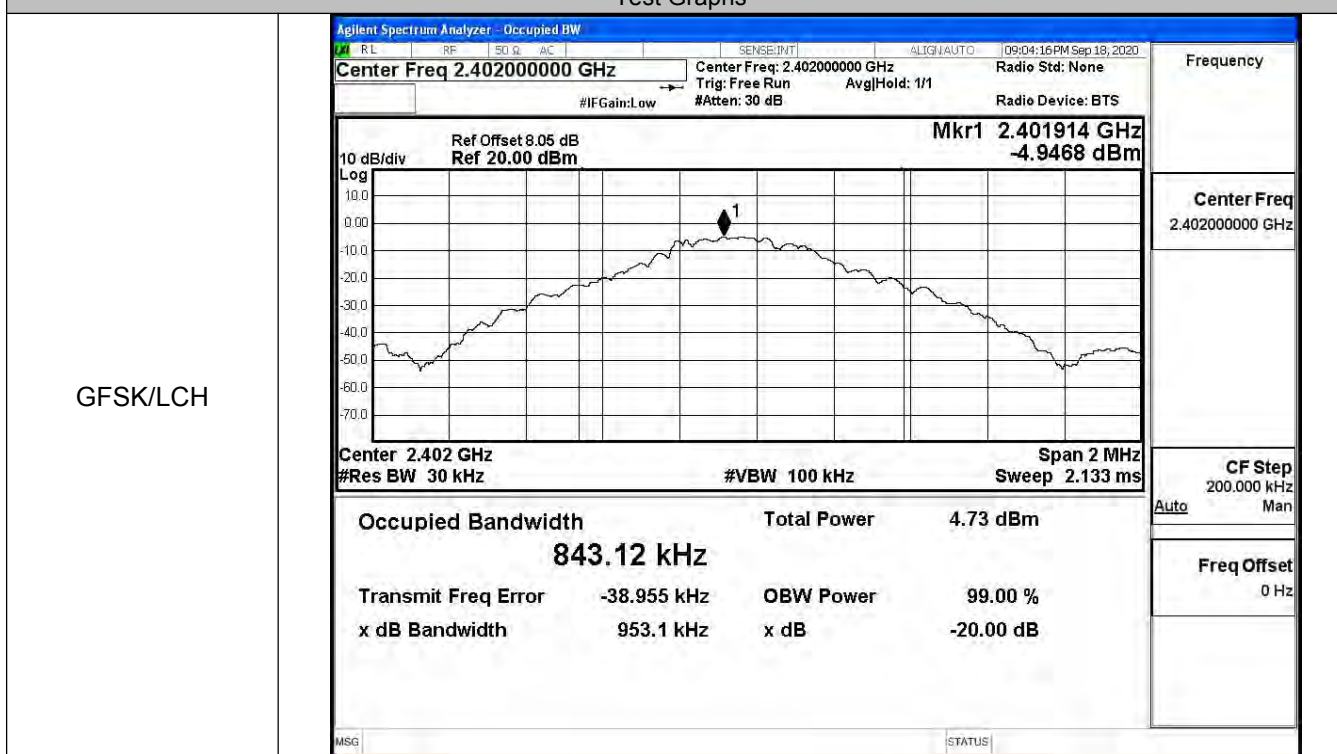
 π /4DQPSK/LCH

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

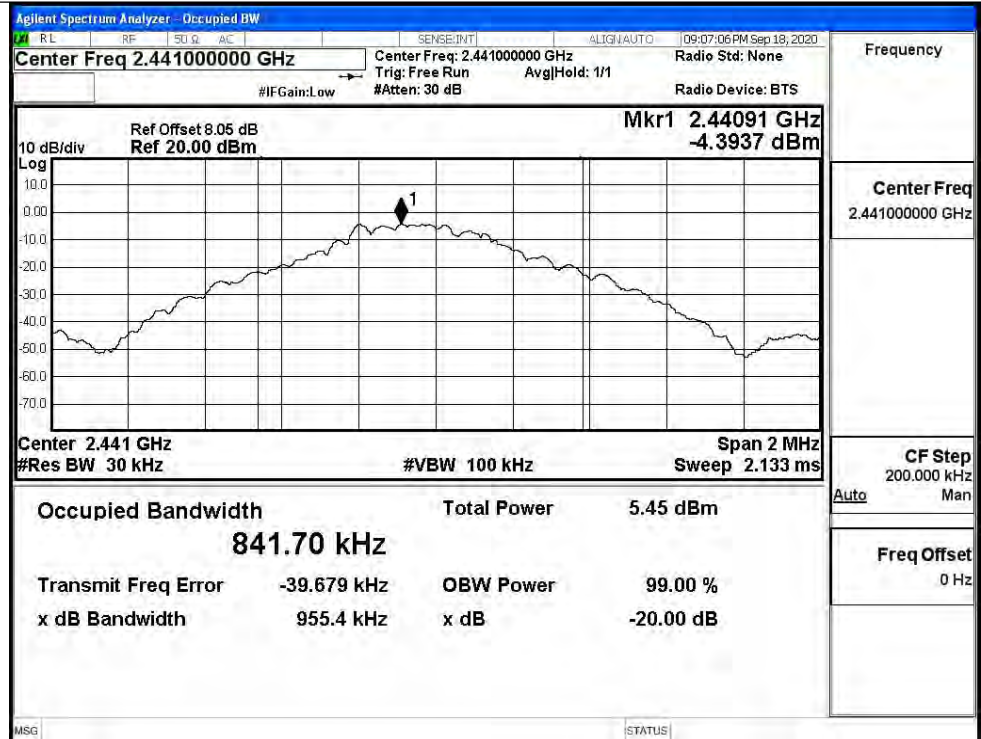
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9531	Not Specified	PASS
	MCH	0.9554	Not Specified	PASS
	HCH	0.9532	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.315	Not Specified	PASS
	MCH	1.316	Not Specified	PASS
	HCH	1.314	Not Specified	PASS

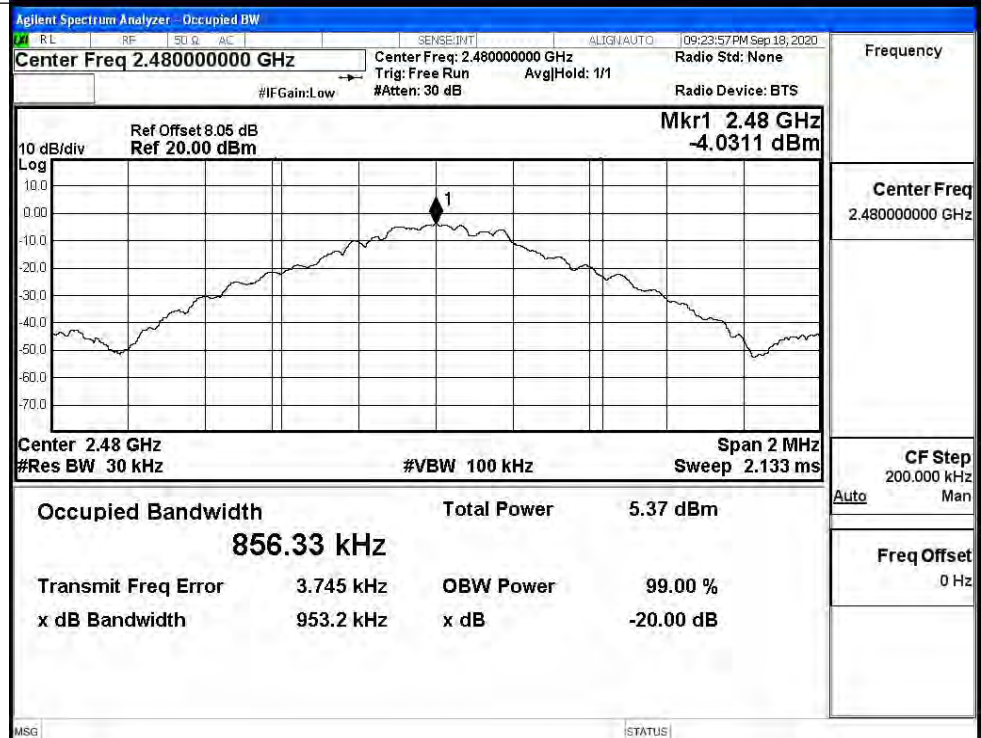
Test Graphs

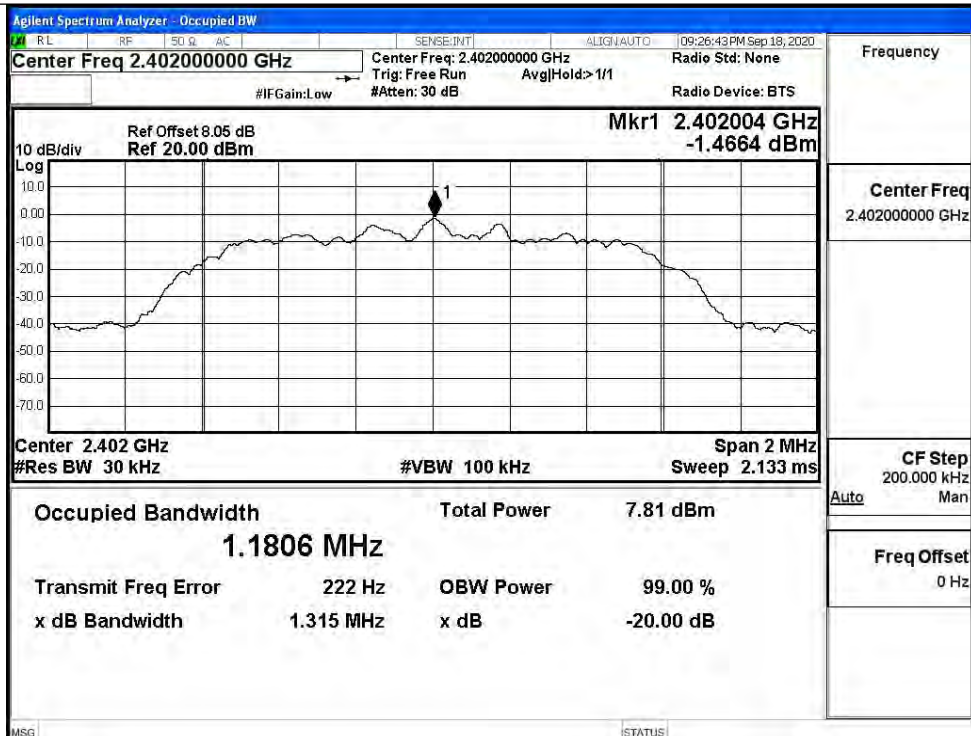
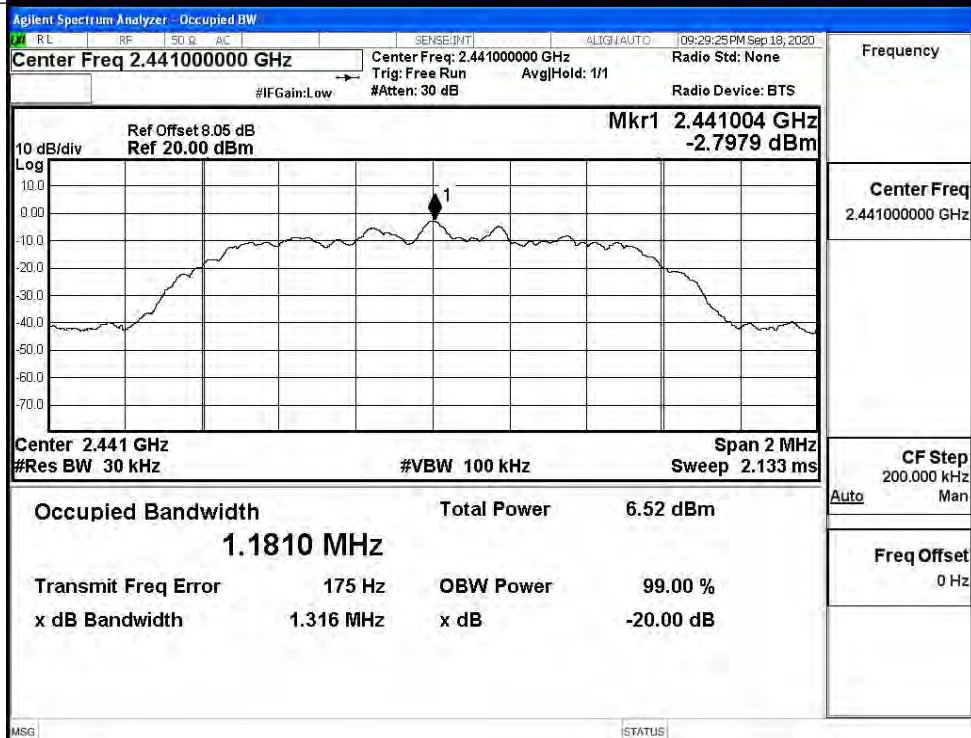


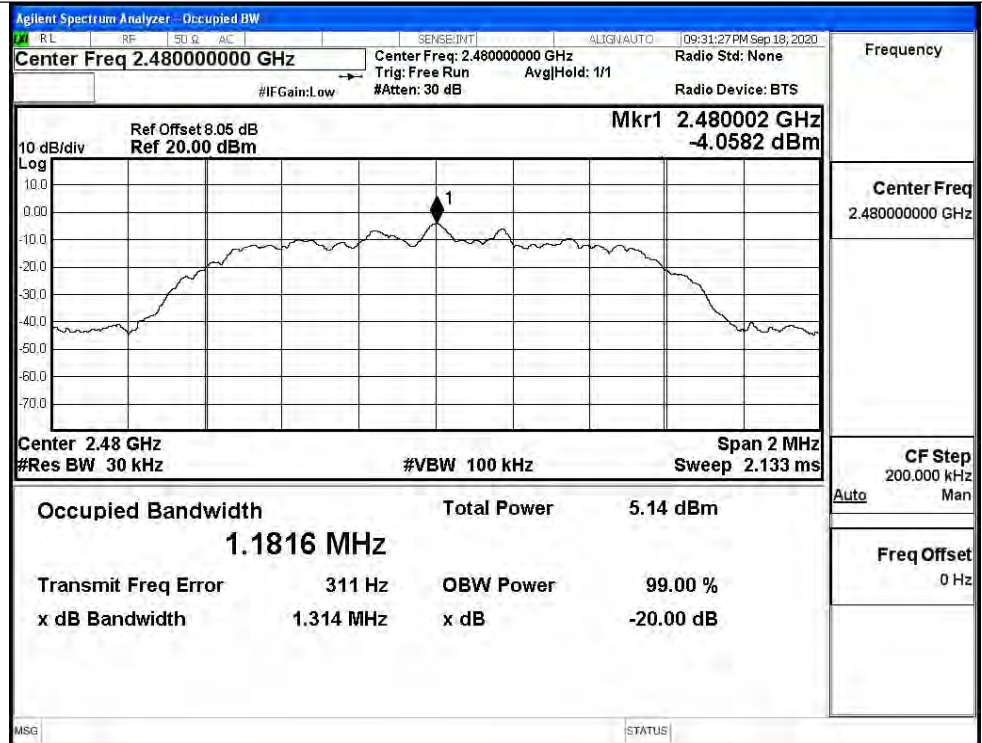
GFSK/MCH



GFSK/HCH



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

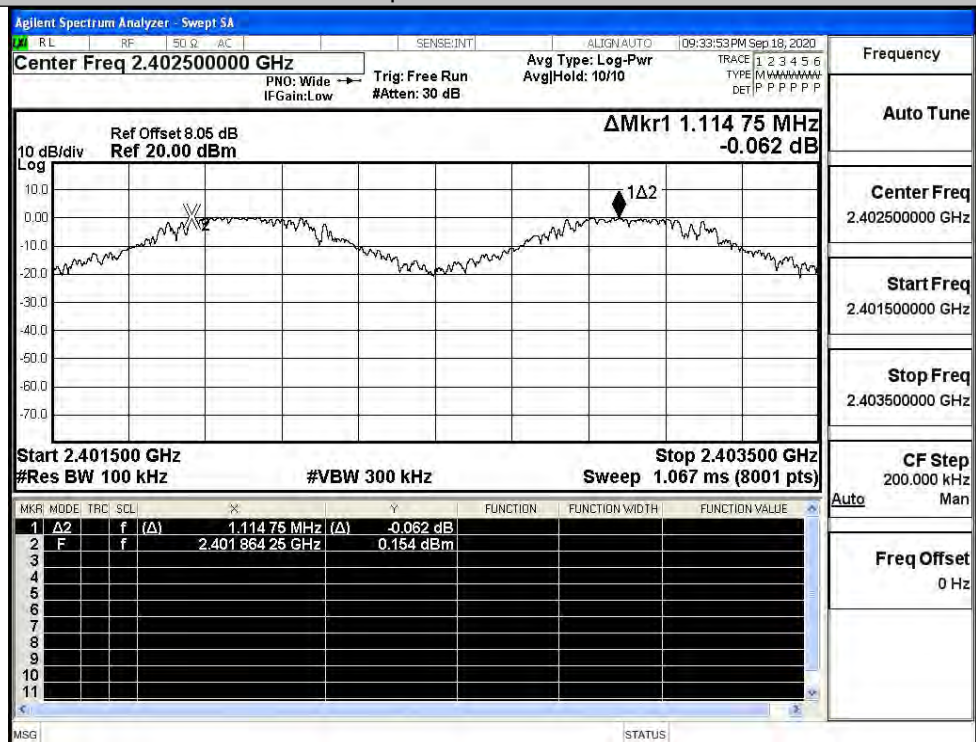
$\pi/4$ DQPSK/HCH

A.3 Carrier Frequency Separation

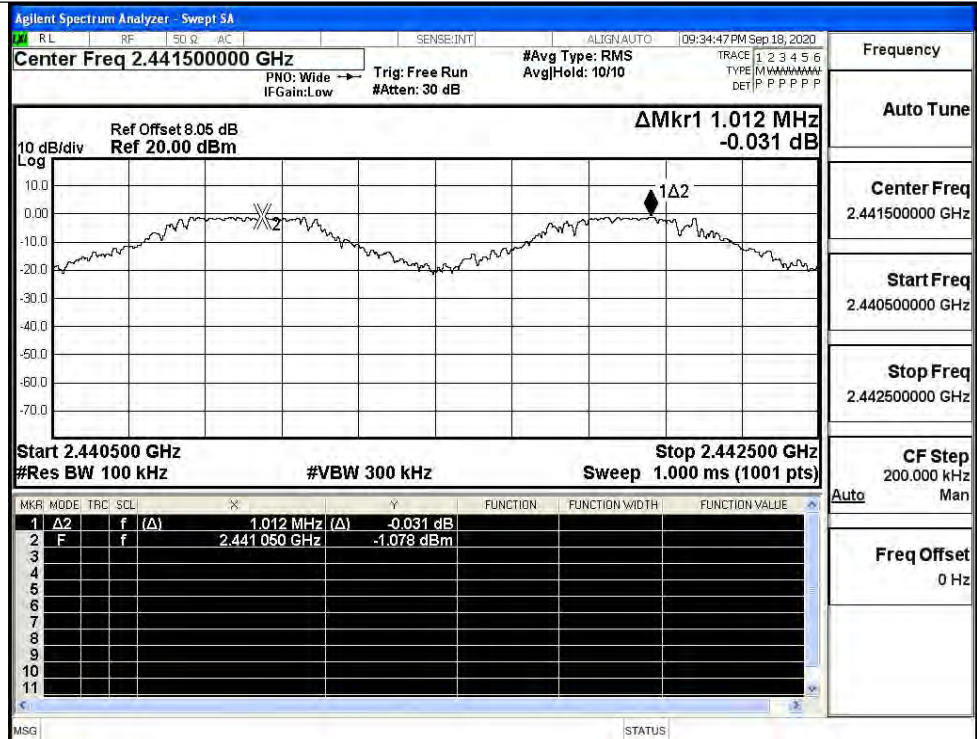
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.115	0.635	PASS
	MCH	1.012	0.637	PASS
	HCH	1.048	0.636	PASS
$\pi/4$ DQPSK	LCH	1.242	0.877	PASS
	MCH	0.958	0.877	PASS
	HCH	1.190	0.876	PASS

Test Graphs

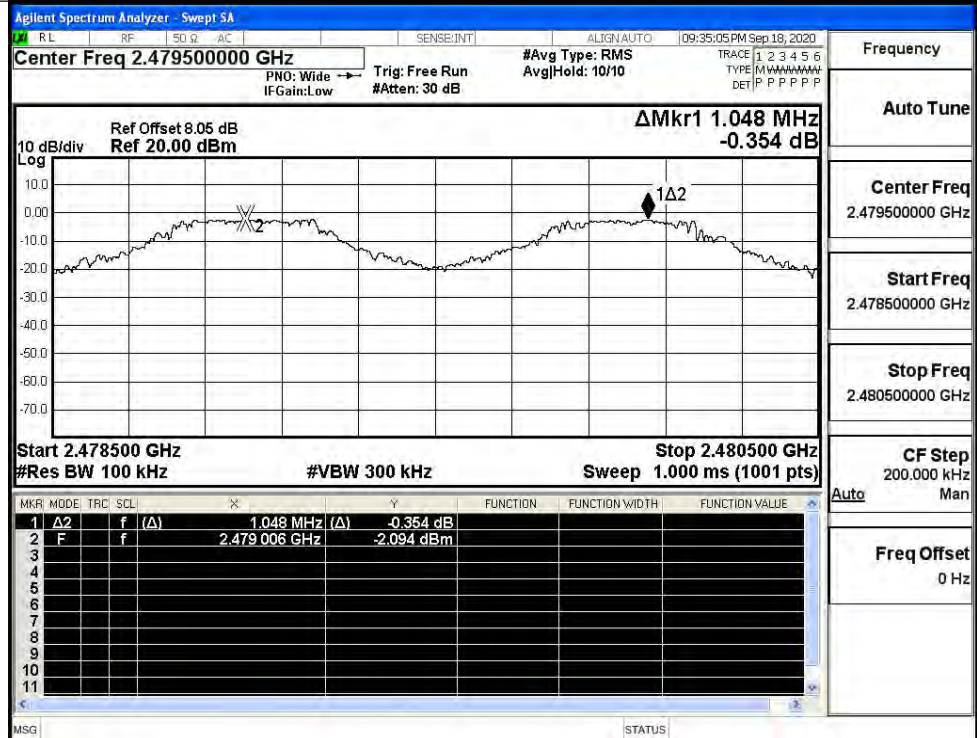
GFSK/LCH

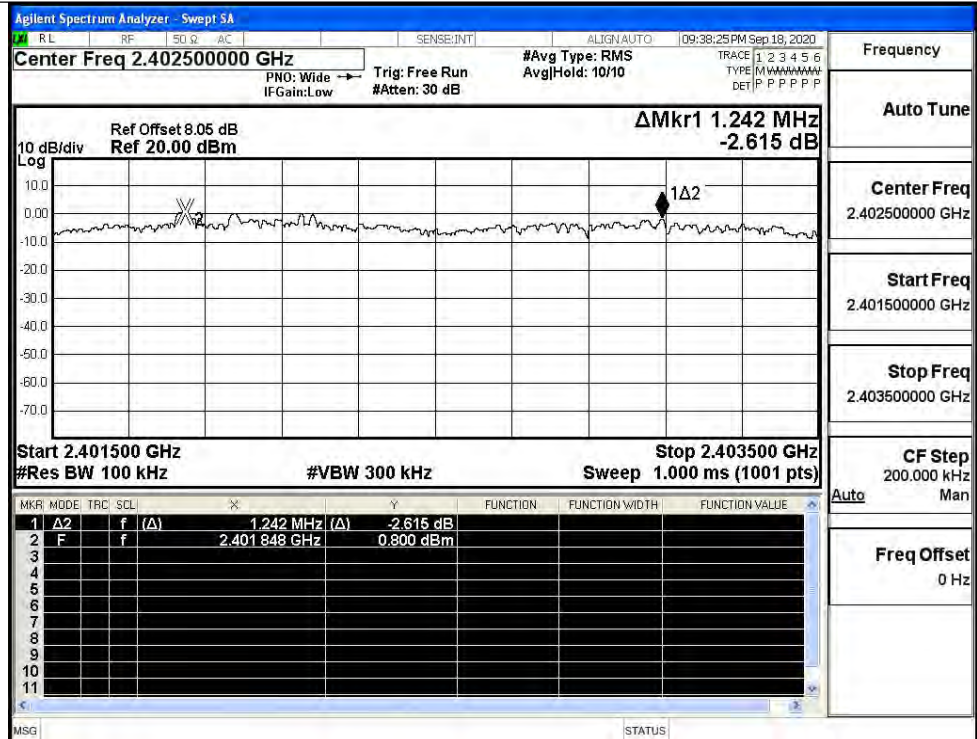
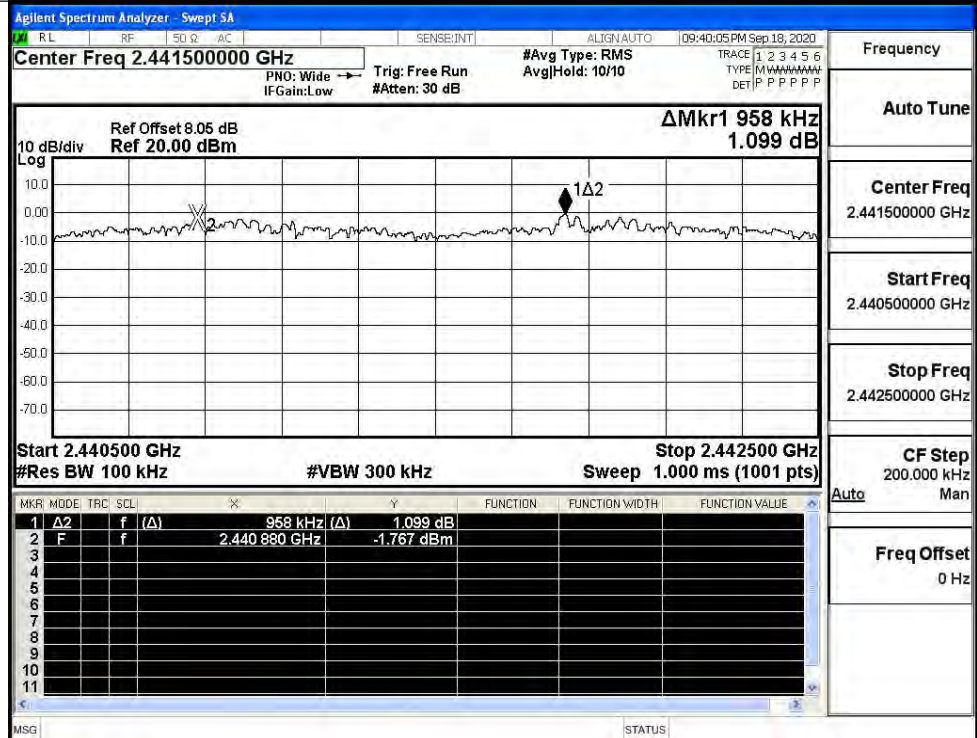


GFSK/MCH

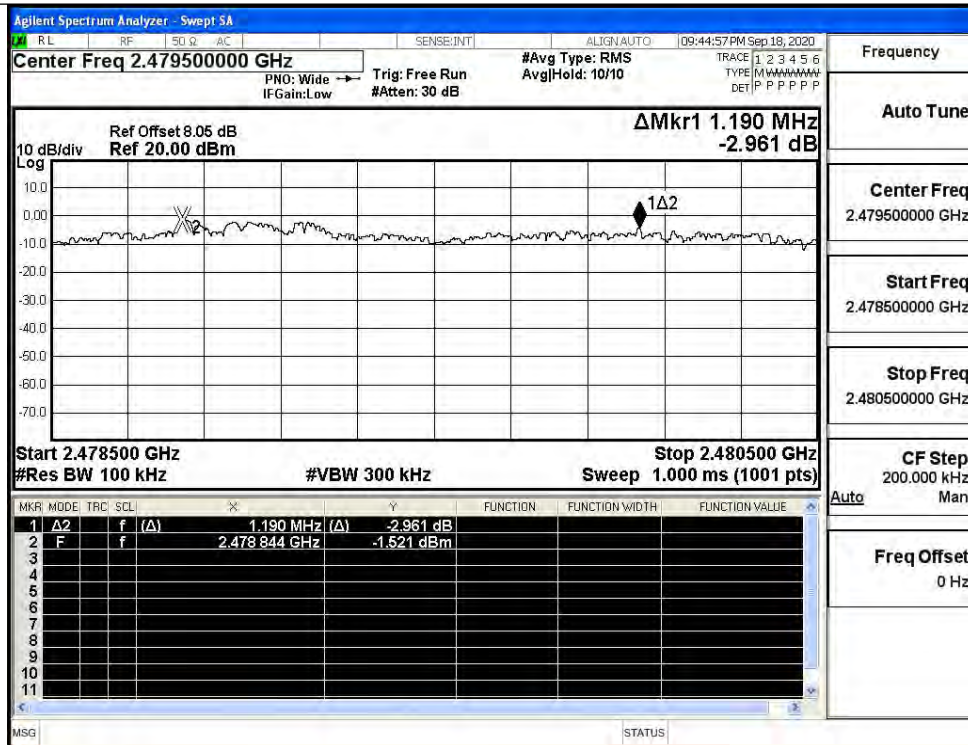


GFSK/HCH



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

$\pi/4$ DQPSK/HCH

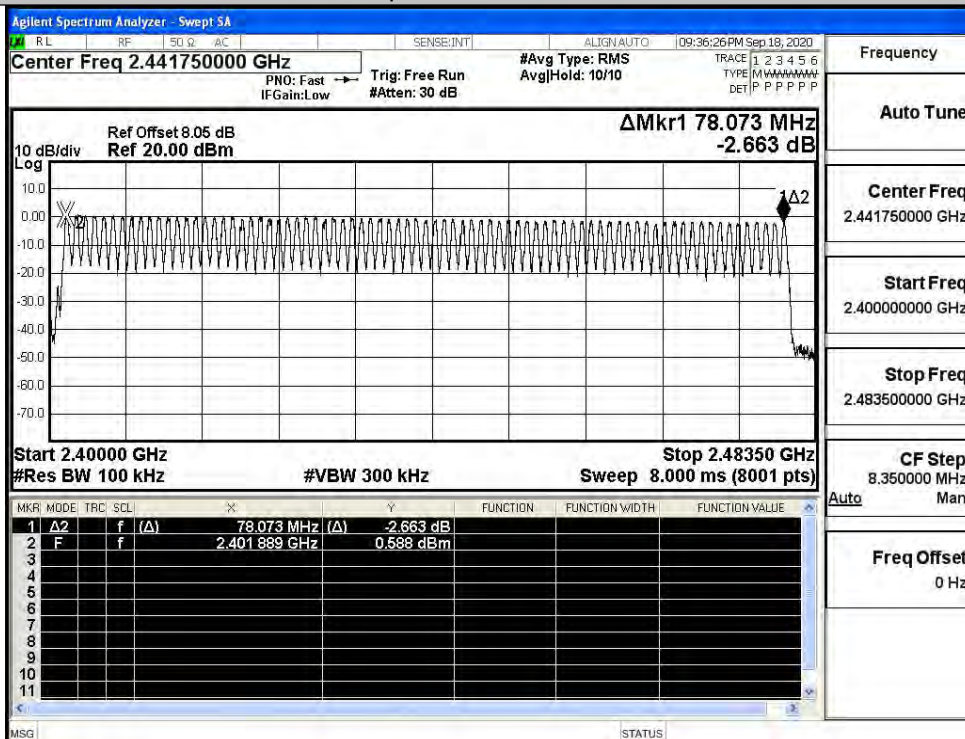
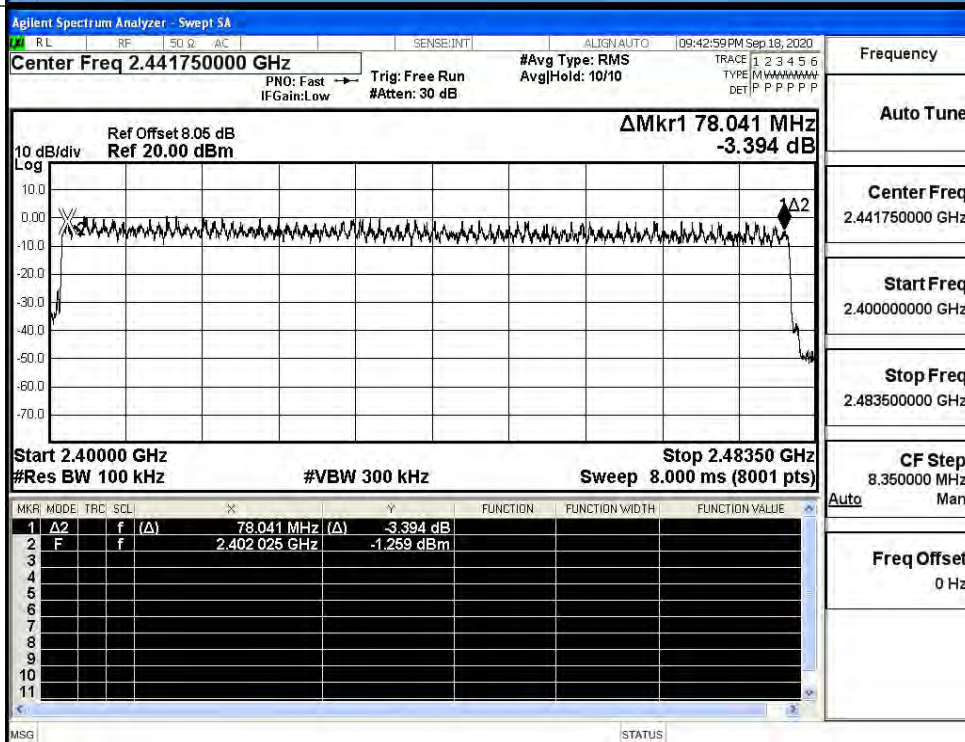


A.4 Hopping Channel Number

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

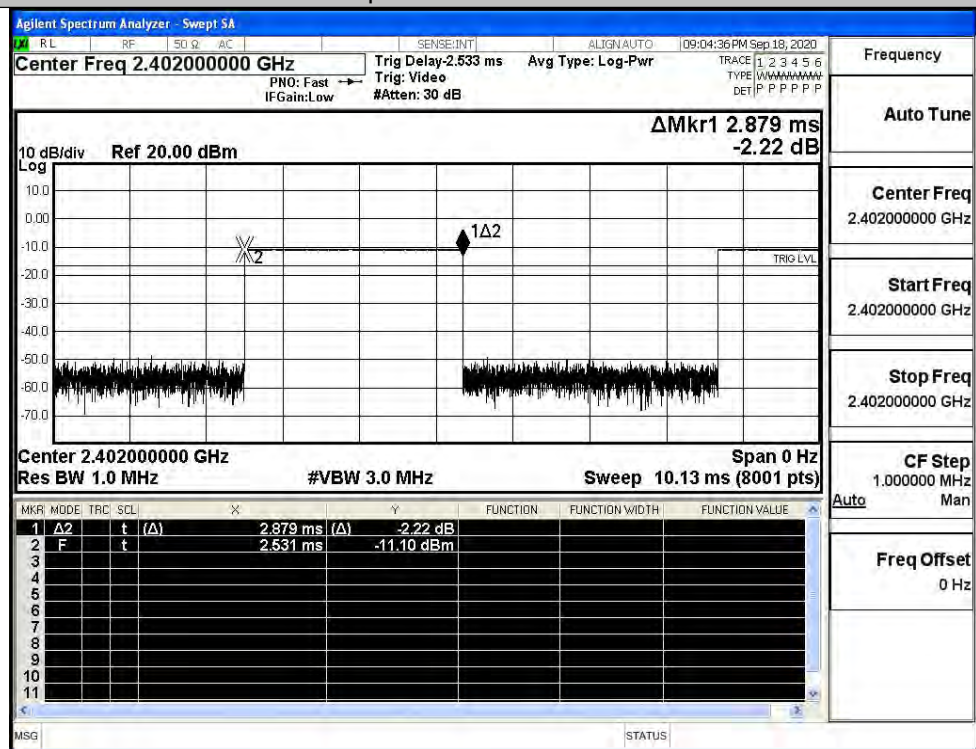
 $\pi/4$ DQPSK/Hop

A.5 Dwell Time

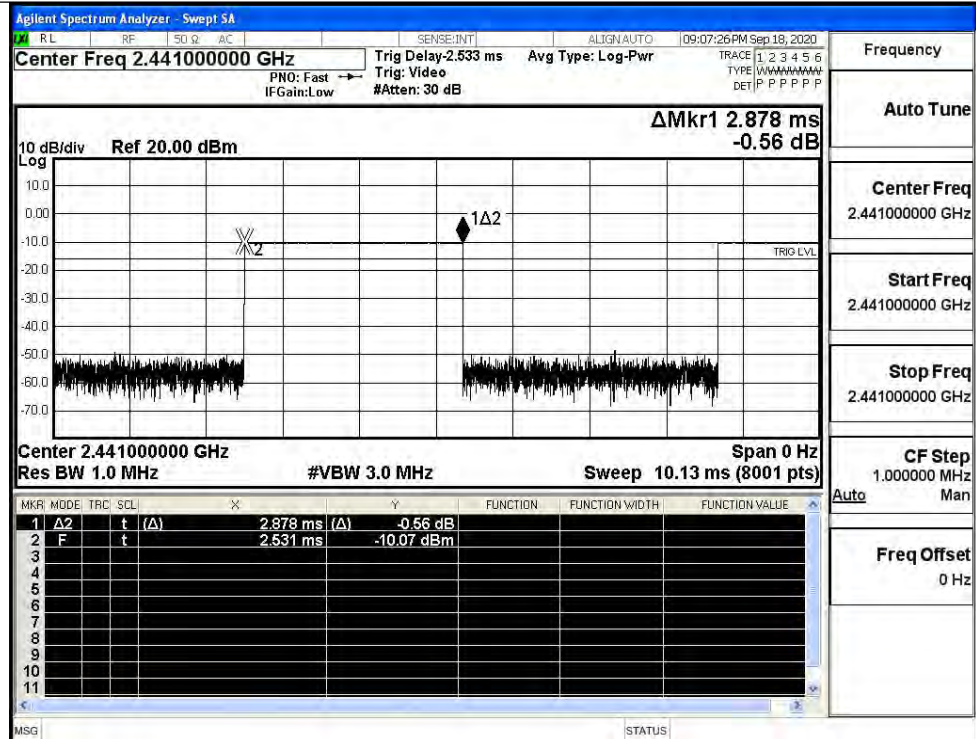
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.308	0.4	PASS
	2DH5	MCH	2.88	106.7	0.308	0.4	PASS
	2DH5	HCH	2.88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

Test Graphs

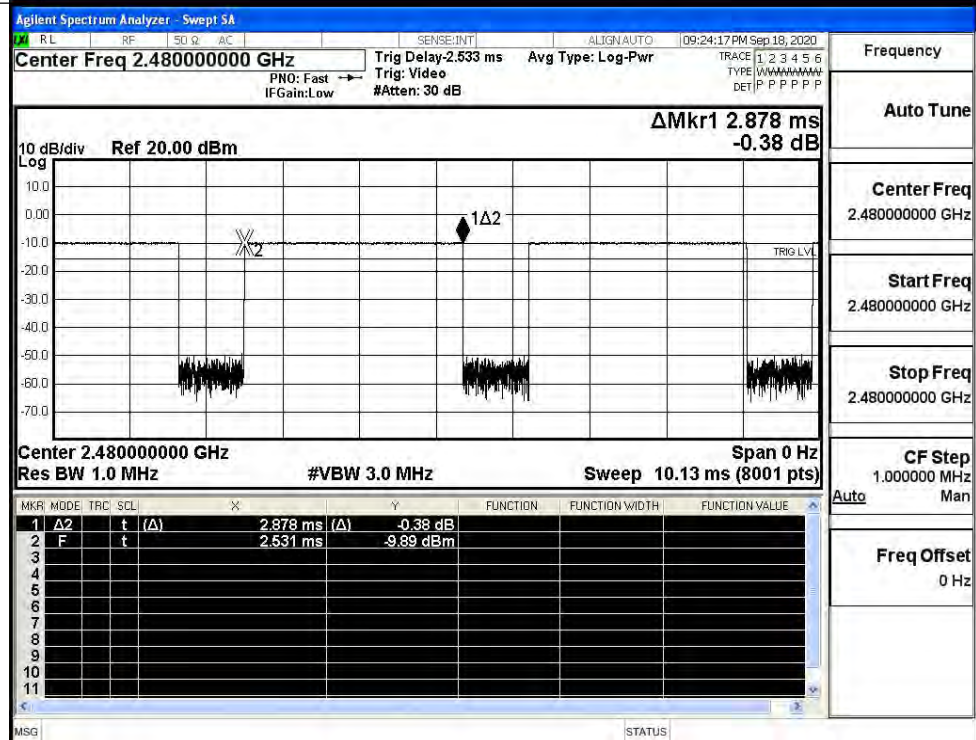
GFSK_DH5/LCH



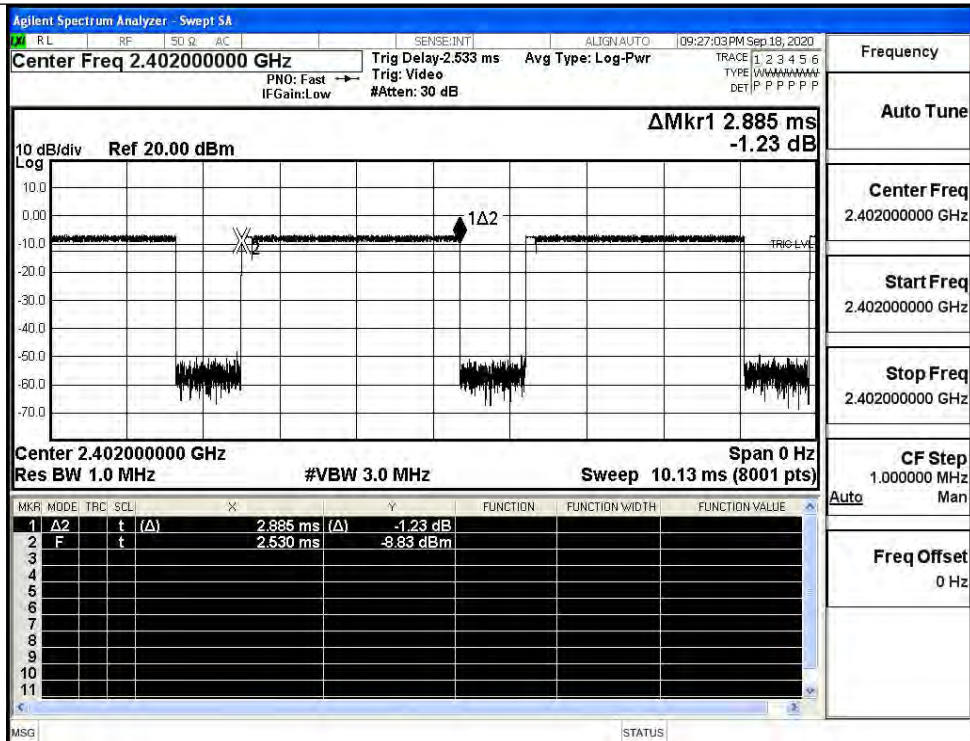
GFSK_DH5/MCH



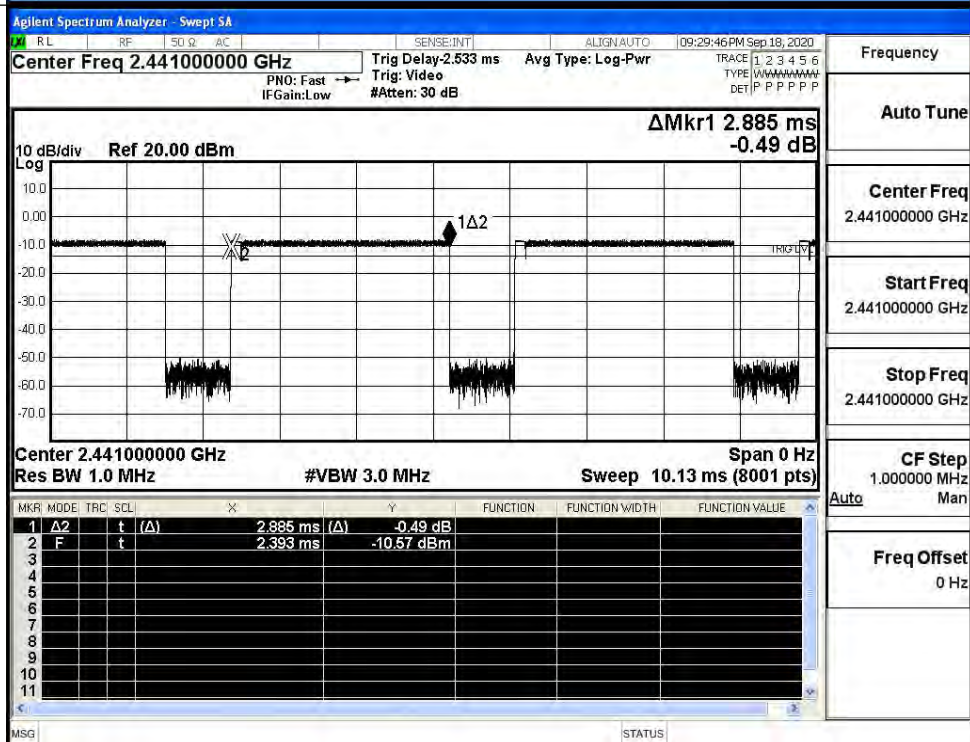
GFSK_DH5/HCH



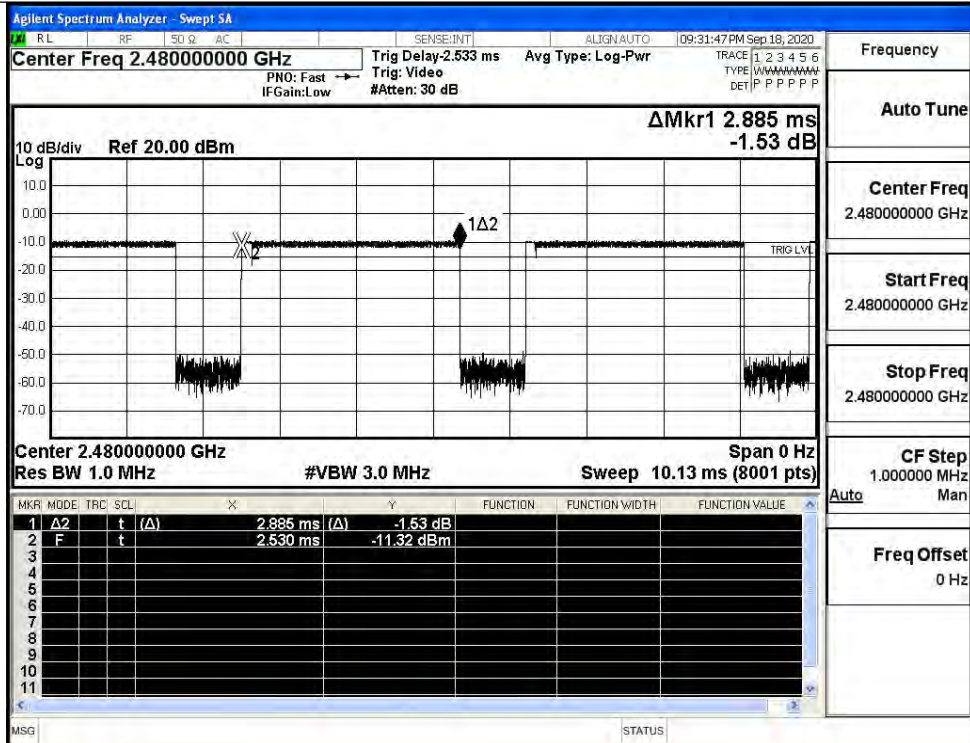
$\pi/4$ DQPSK
_2DH5/LCH



$\pi/4$ DQPSK
_2DH5/MCH



$\pi/4$ DQPSK
_2DH5/HCH

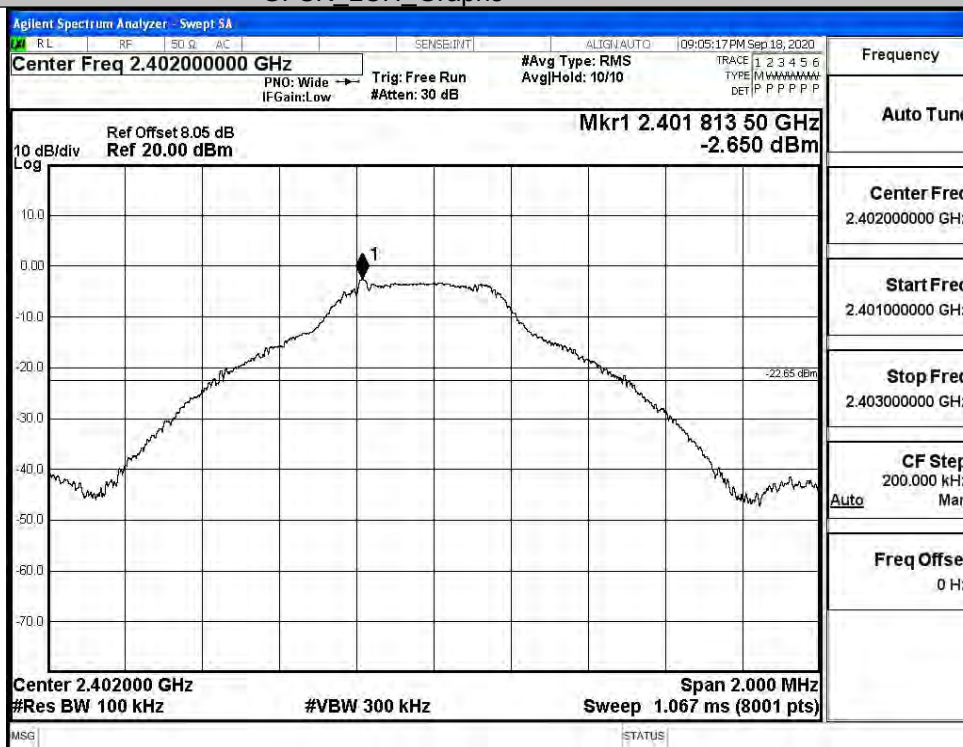


A.6 RF Conducted Spurious Emissions

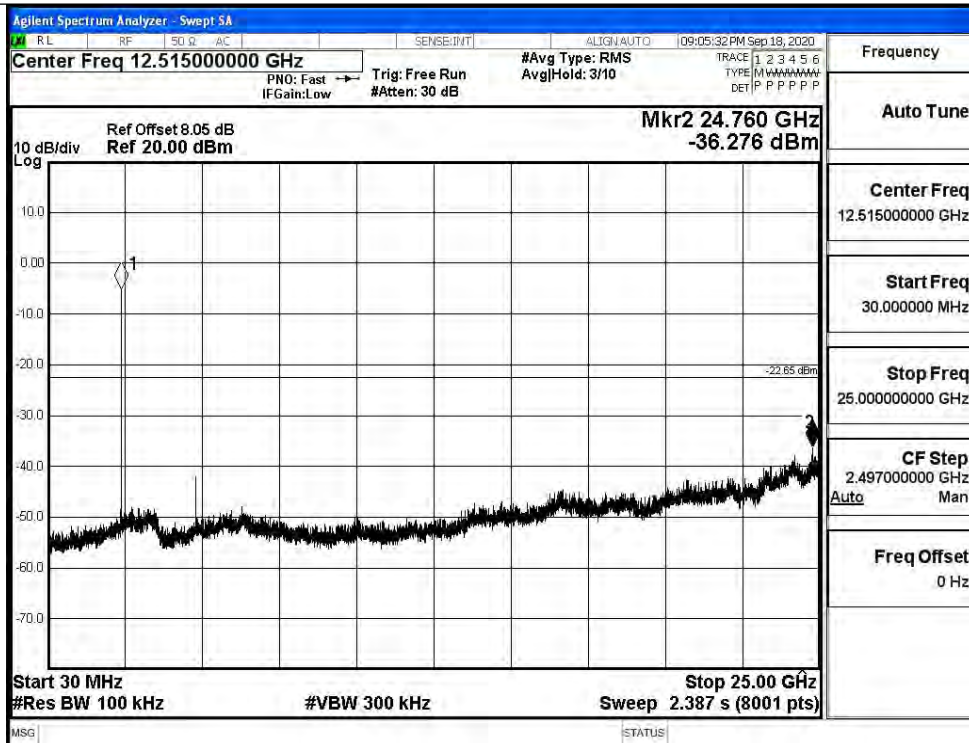
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-2.65	-36.276	-22.650	PASS
	MCH	-2.086	-37.448	-22.086	PASS
	HCH	-2.311	-37.408	-22.311	PASS
$\pi/4$ DQPSK	LCH	0.729	-38.032	-19.271	PASS
	MCH	-0.872	-38.009	-20.872	PASS
	HCH	-2.084	-37.994	-22.084	PASS

GFSK_LCH_Graphs

Pref

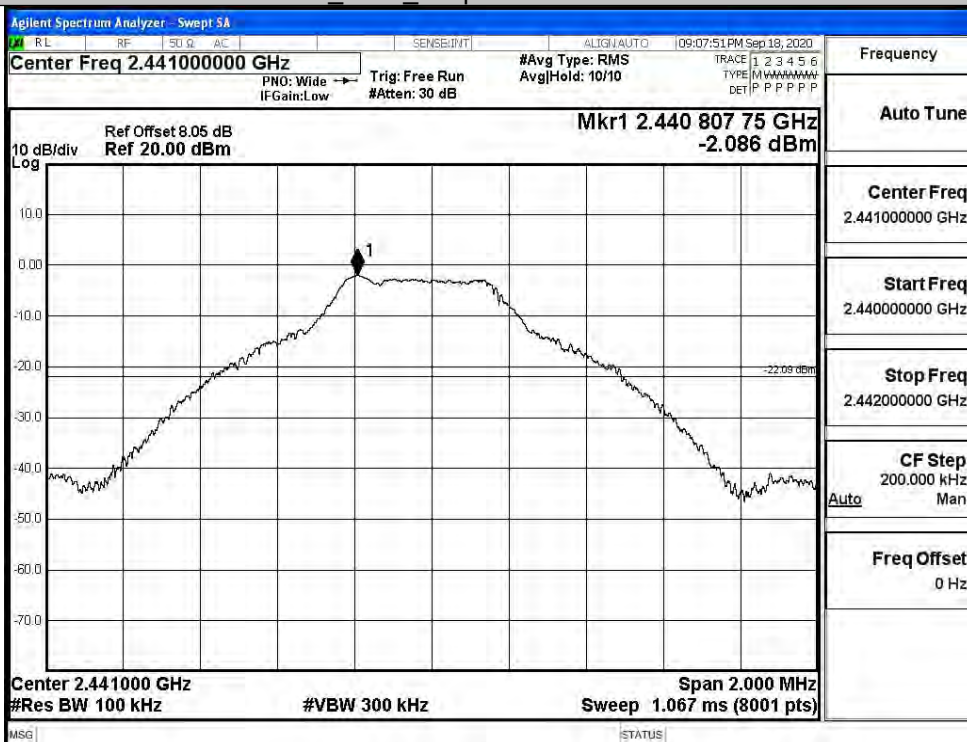


Puw

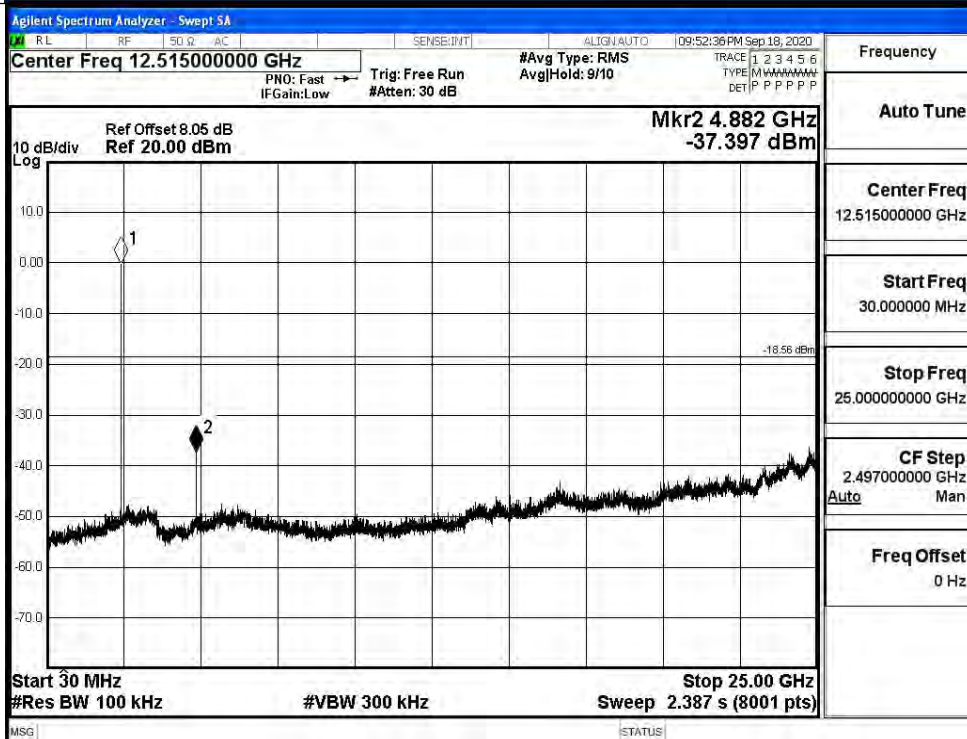


GFSK_MCH_Graphs

Pref

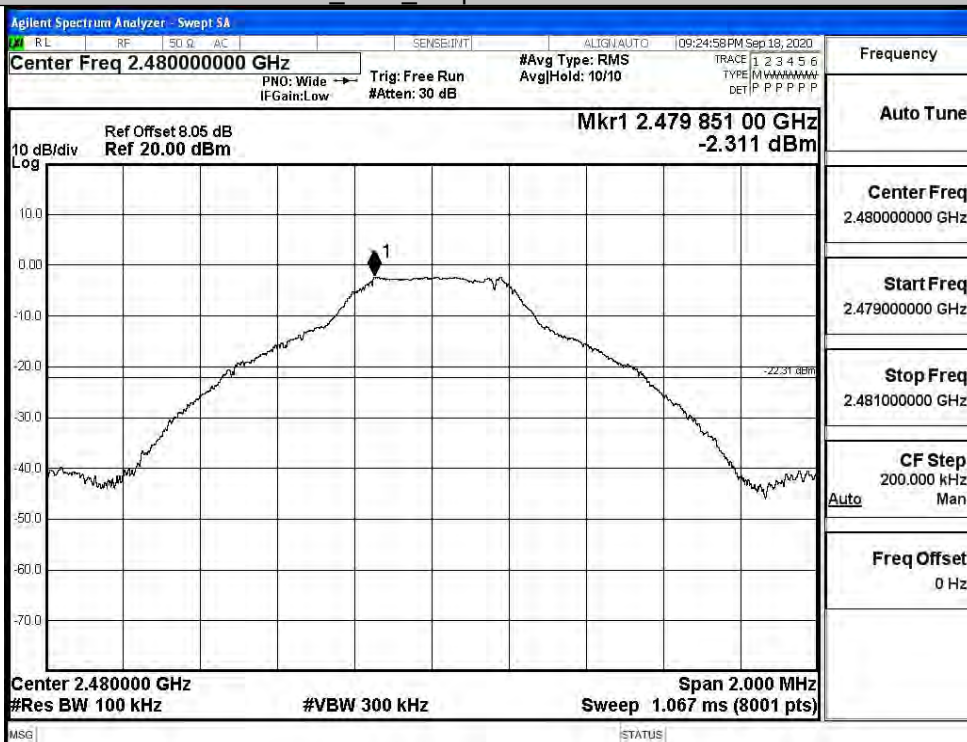


Puw

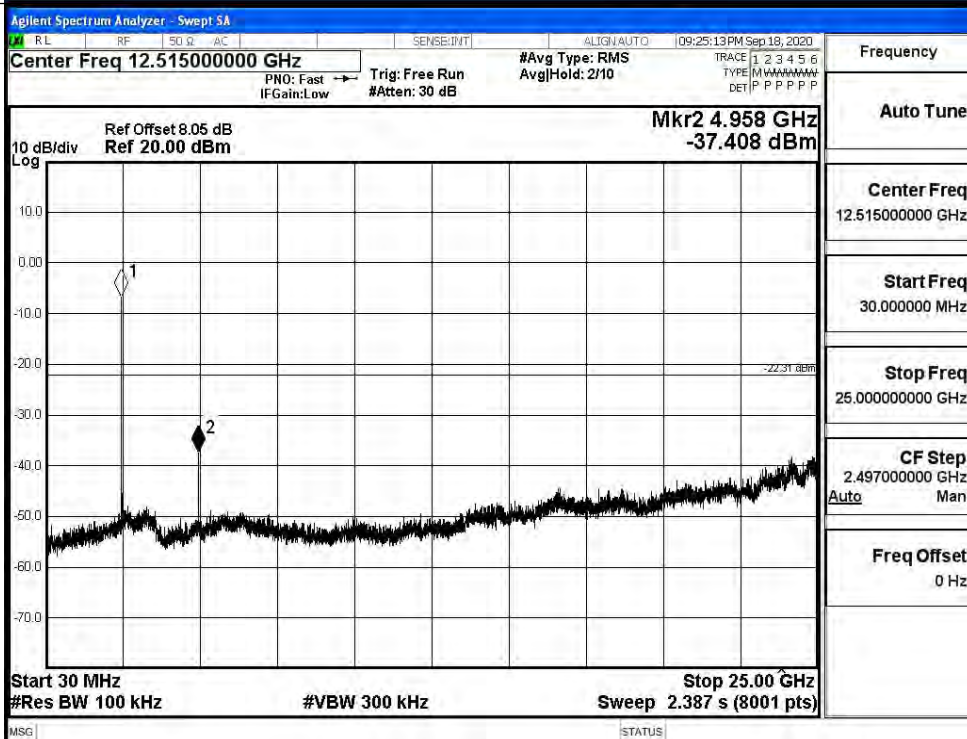


GFSK_HCH_Graphs

Pref

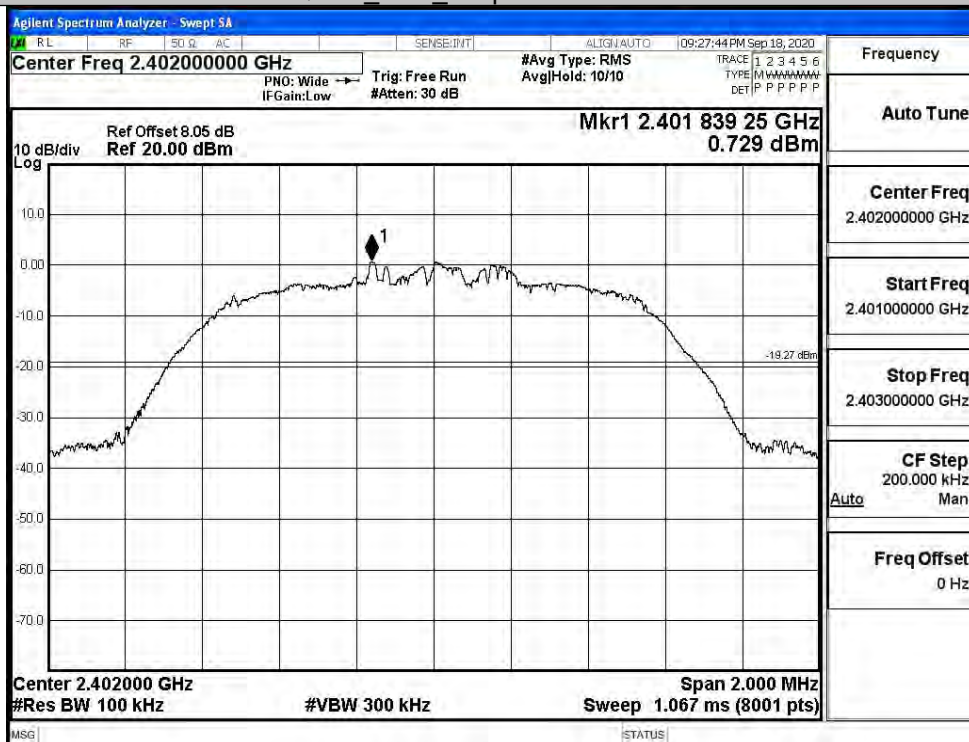


Puw

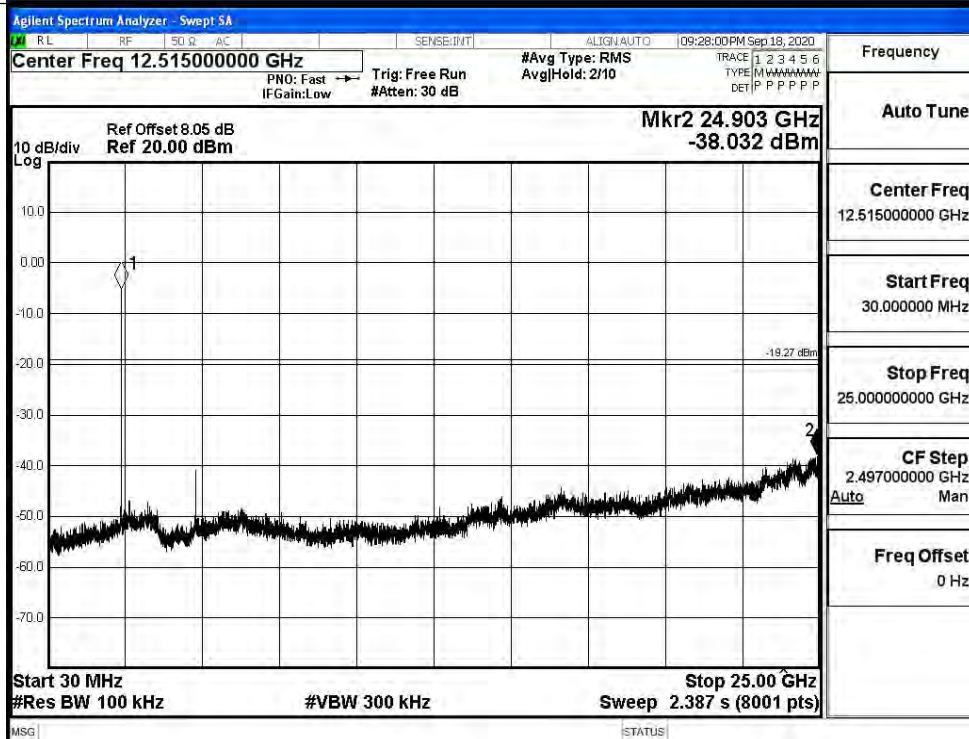


$\pi/4$ DQPSK_LCH_Graphs

Pref

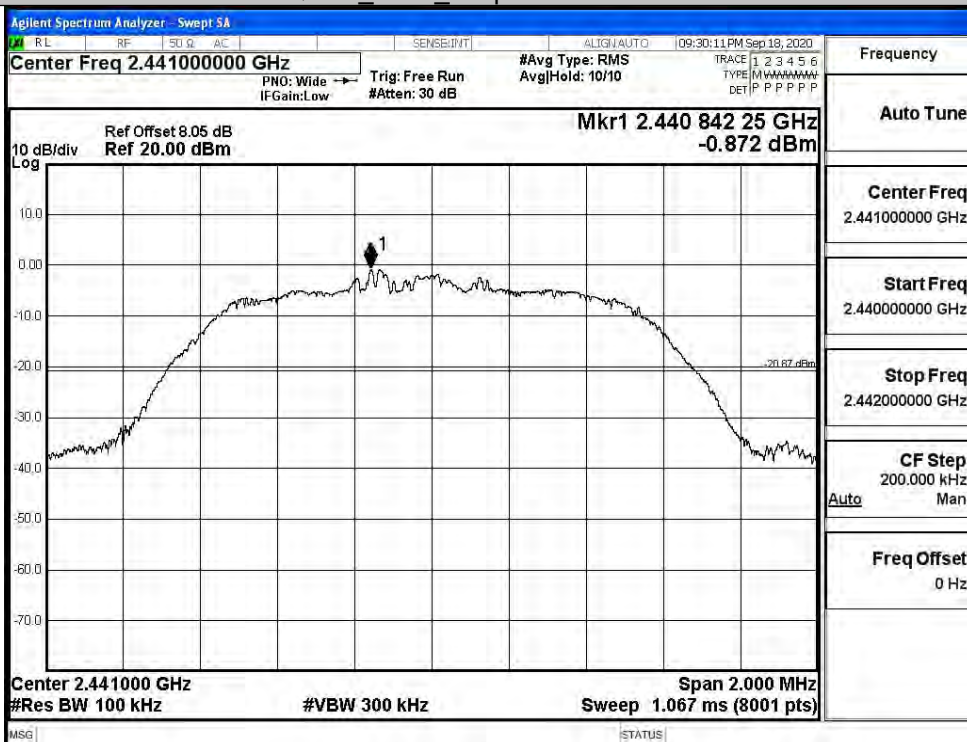


Puw

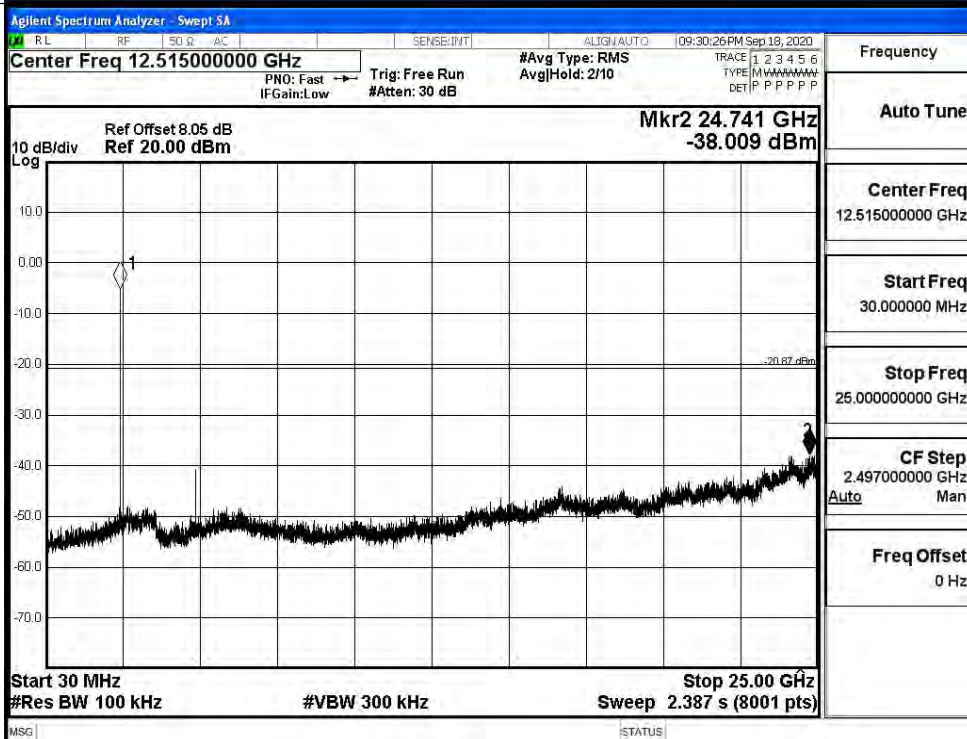


π /4DQPSK_MCH_Graphs

Pref

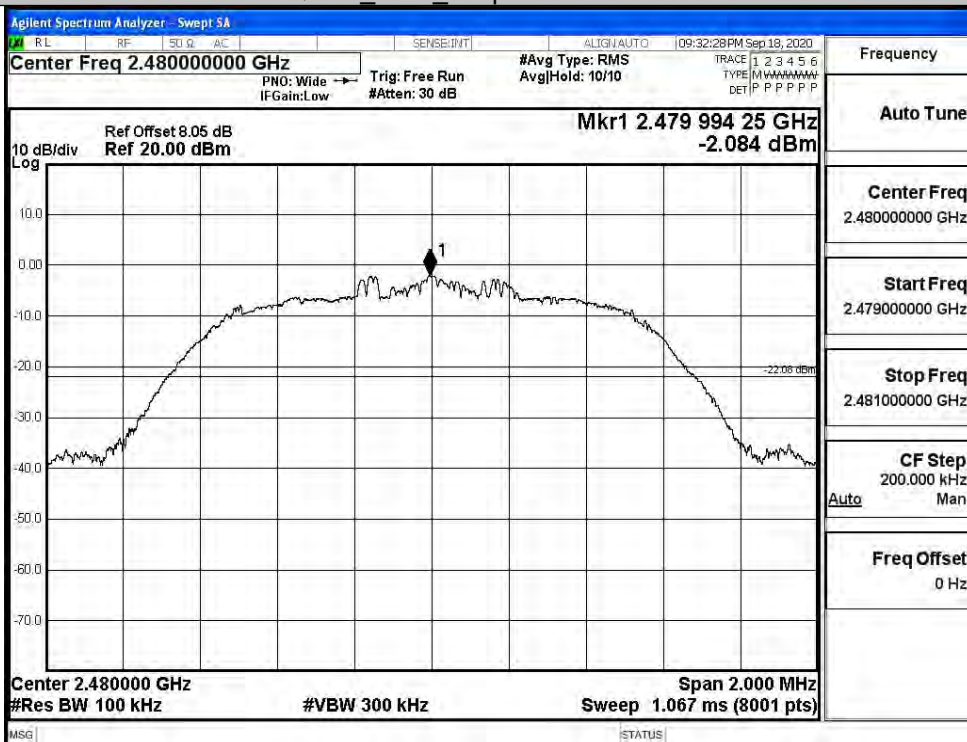


Puw

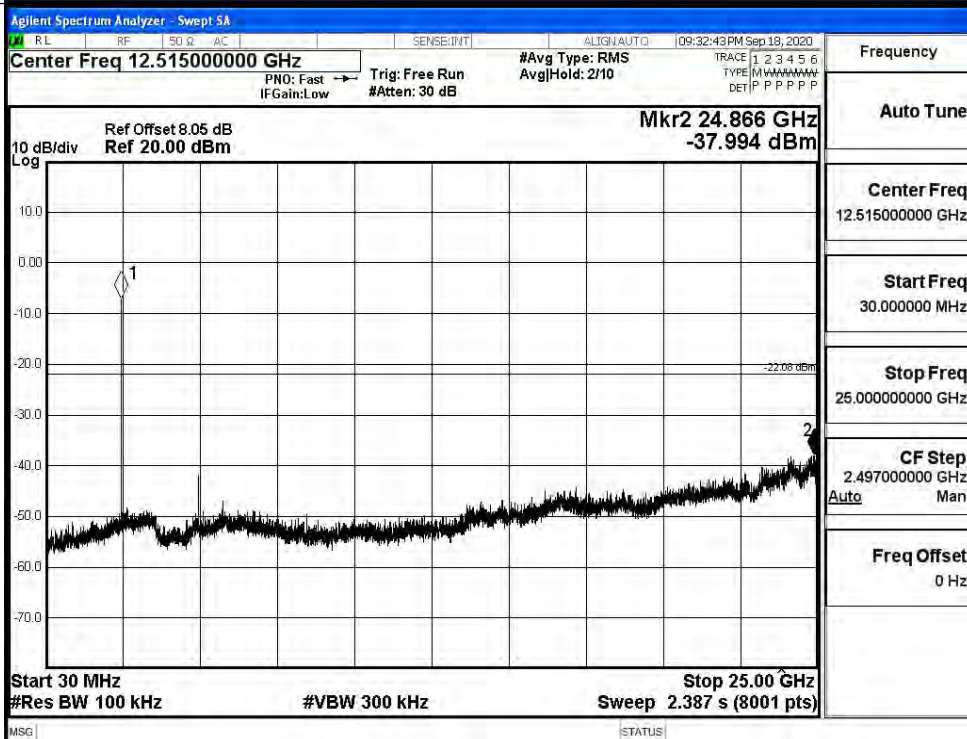


π /4DQPSK_HCH_Graphs

Pref



Puw

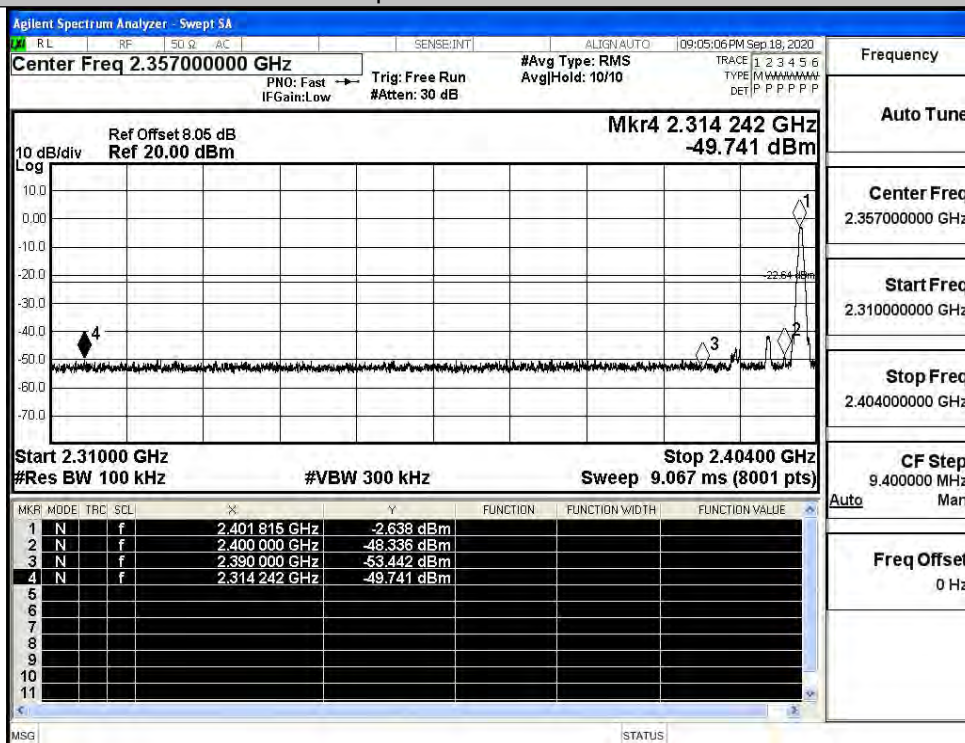


A.7 Band-edge for RF Conducted Emissions

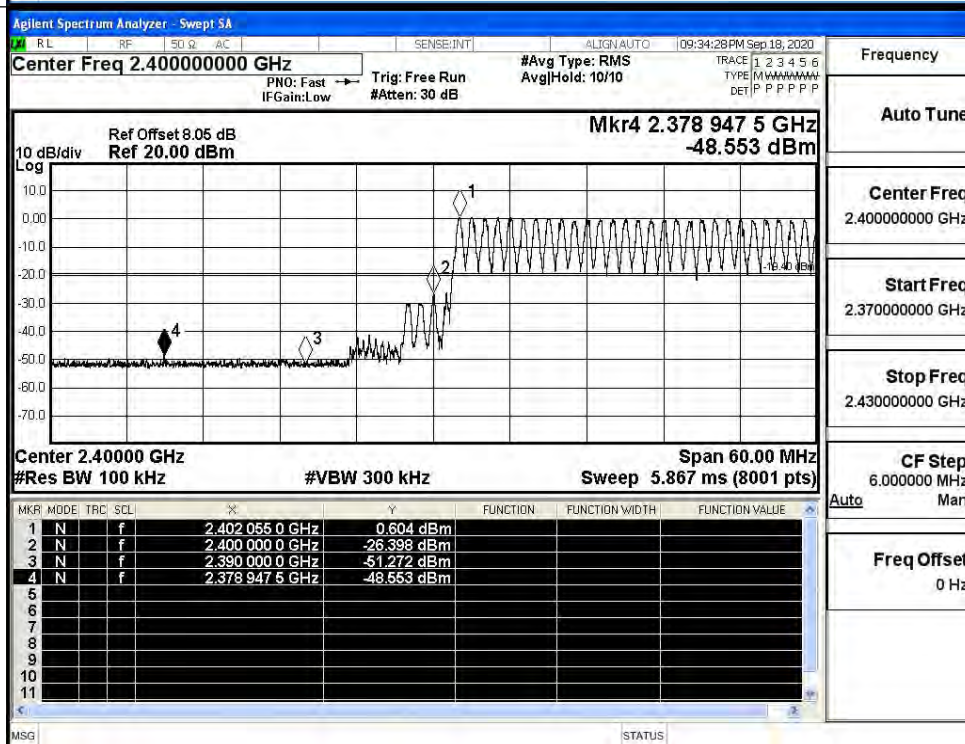
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-2.638	Off	-49.741	-22.64	PASS
			0.604	On	-48.553	-19.4	PASS
	HCH	2480	-2.029	Off	-43.978	-22.03	PASS
			-1.169	On	-44.863	-21.17	PASS
$\pi/4$ DQPSK	LCH	2402	0.151	Off	-49.215	-19.85	PASS
			0.654	On	-48.007	-19.35	PASS
	HCH	2480	-1.778	Off	-45.504	-21.78	PASS
			-1.029	On	-46.755	-21.03	PASS

Test Graphs

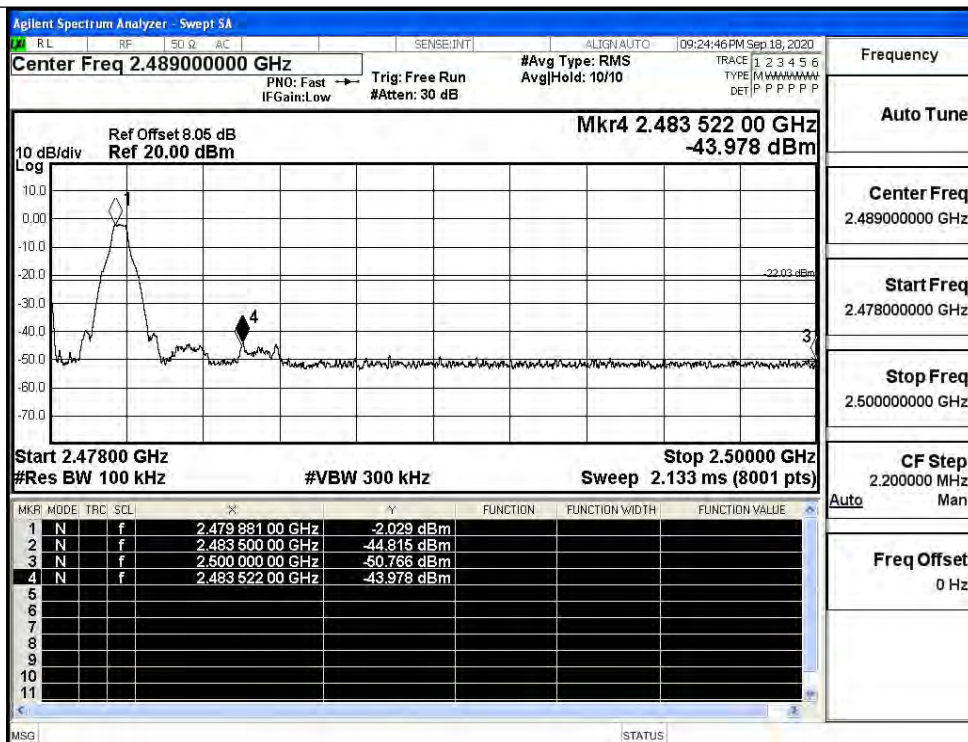
GFSK/LCH/No Hop



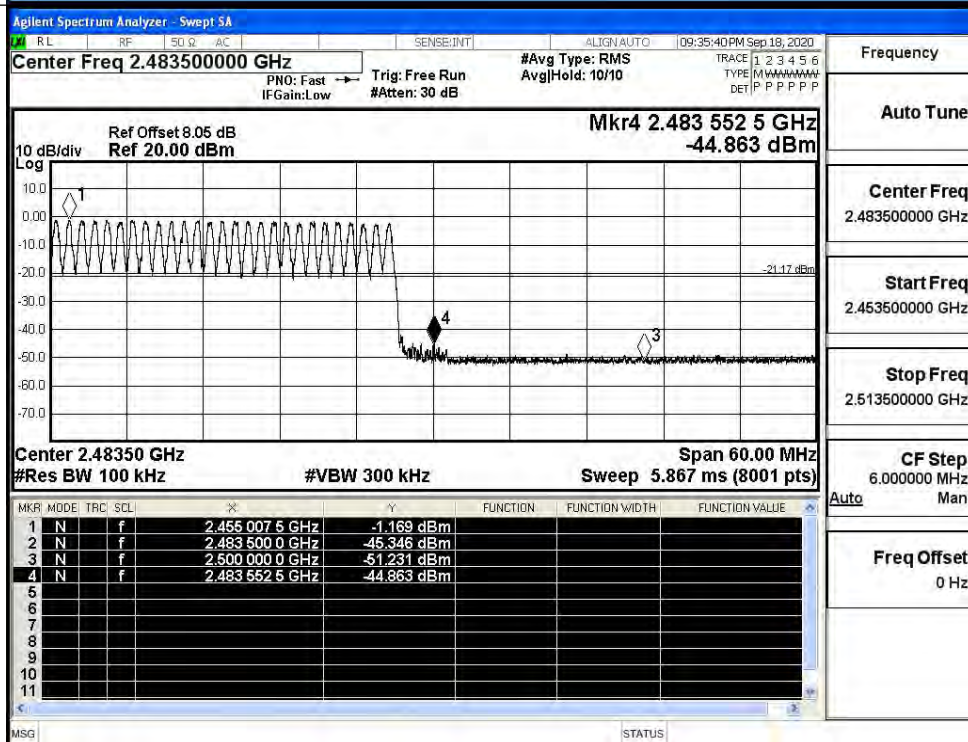
GFSK/LCH/Hop



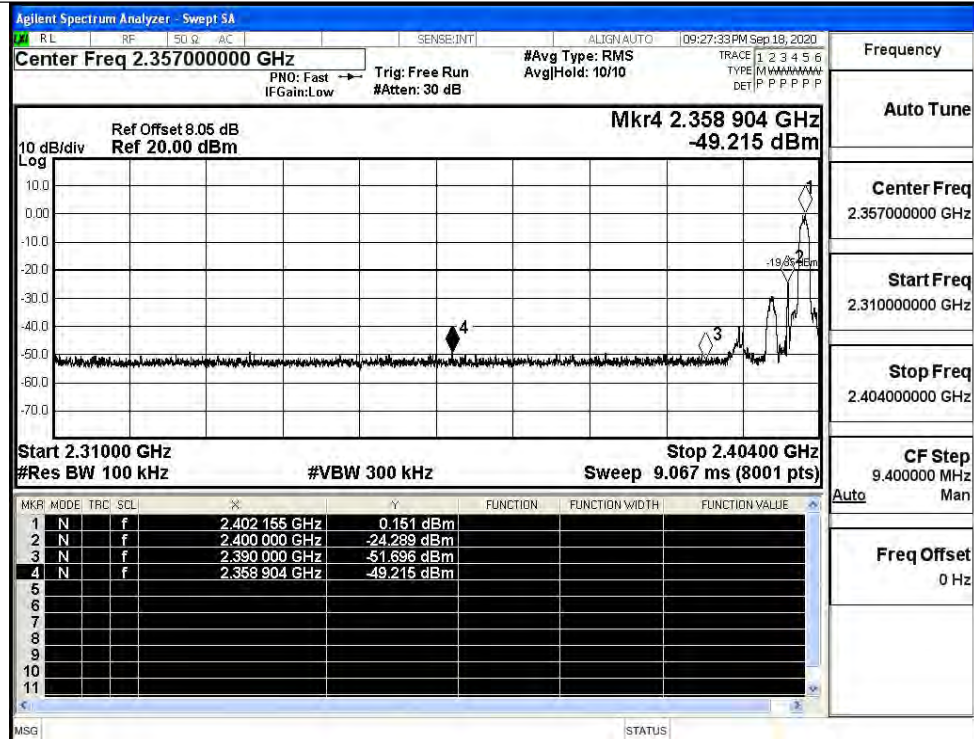
GFSK/HCH/No Hop



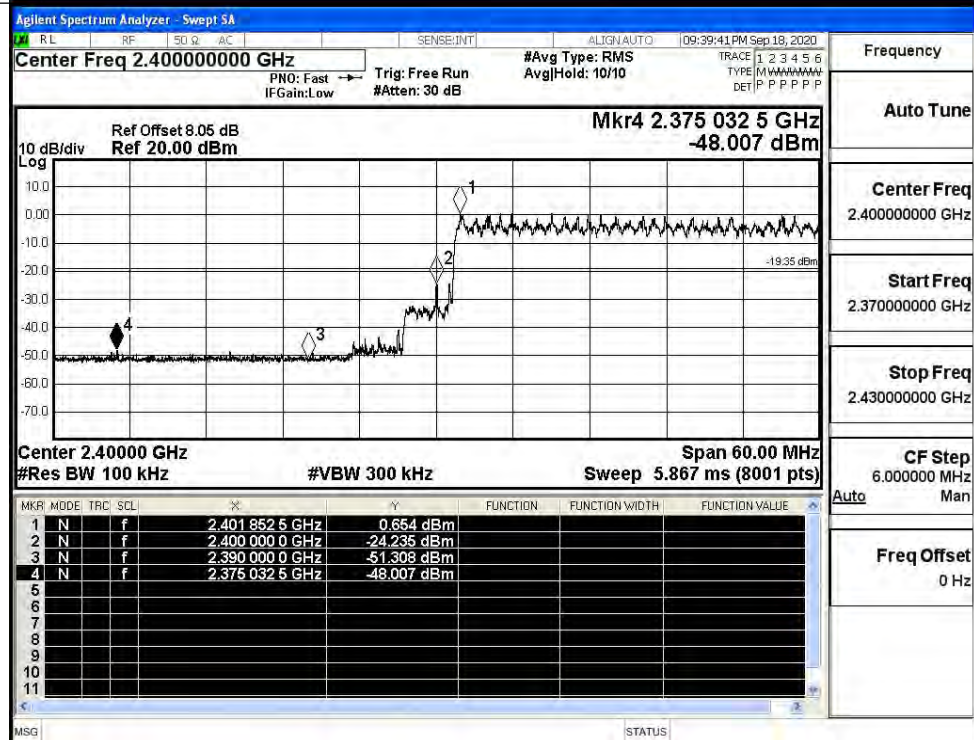
GFSK/HCH/Hop



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



$\pi/4$ DQPSK/LCH/Hop

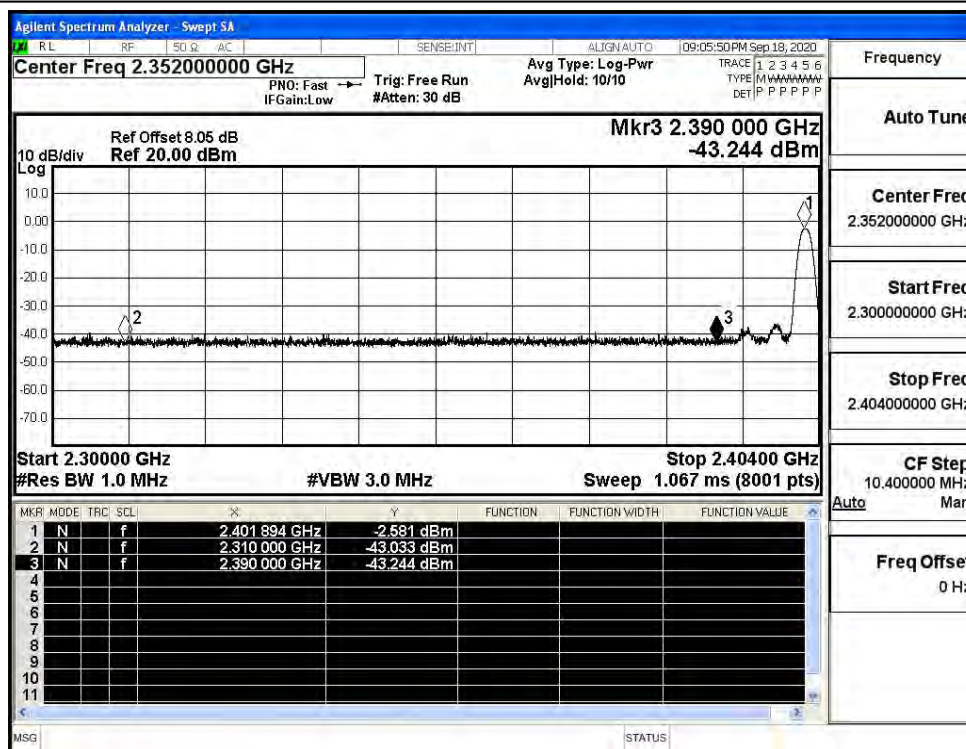


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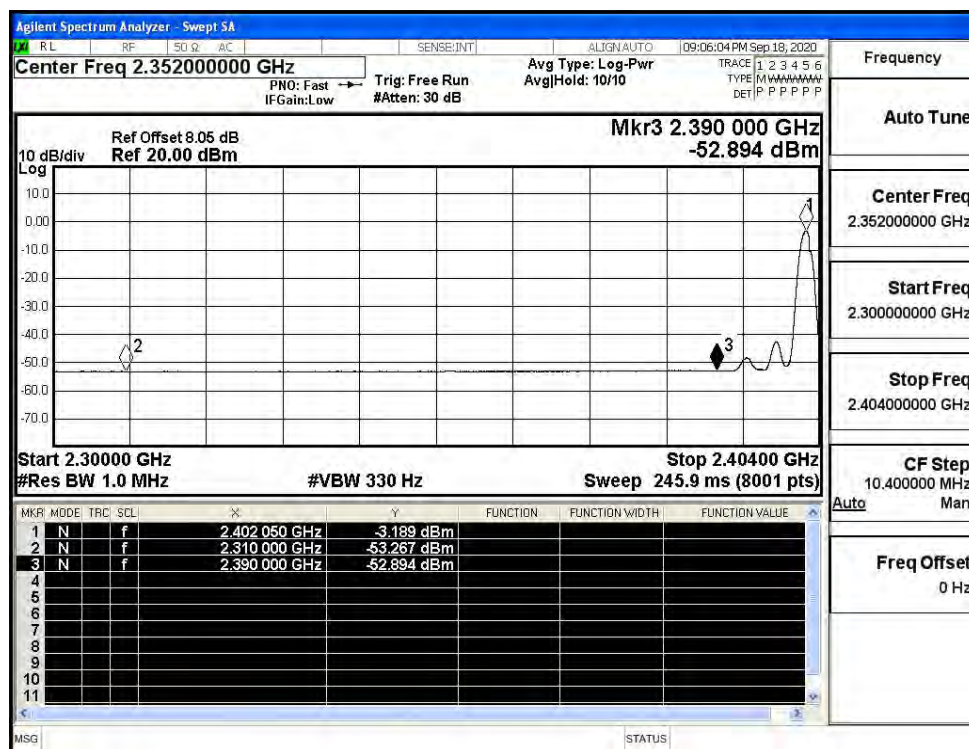
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.03	2.0	0	54.20	PEAK	74	PASS
	Off	2310.0	-53.27	2.0	0	43.96	AV	54	PASS
	Off	2390.0	-43.24	2.0	0	53.99	PEAK	74	PASS
	Off	2390.0	-52.89	2.0	0	44.34	AV	54	PASS
	Off	2483.5	-39.07	2.0	0	58.16	PEAK	74	PASS
	Off	2483.5	-47.81	2.0	0	49.42	AV	54	PASS
	Off	2500.0	-42.60	2.0	0	54.63	PEAK	74	PASS
	Off	2500.0	-52.11	2.0	0	45.12	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-44.14	2.0	0	53.09	PEAK	74	PASS
	Off	2310.0	-53.24	2.0	0	43.99	AV	54	PASS
	Off	2390.0	-42.14	2.0	0	55.09	PEAK	74	PASS
	Off	2390.0	-52.85	2.0	0	44.38	AV	54	PASS
	Off	2483.5	-39.55	2.0	0	57.68	PEAK	74	PASS
	Off	2483.5	-49.13	2.0	0	48.10	AV	54	PASS
	Off	2500.0	-41.28	2.0	0	55.95	PEAK	74	PASS
	Off	2500.0	-52.16	2.0	0	45.07	AV	54	PASS

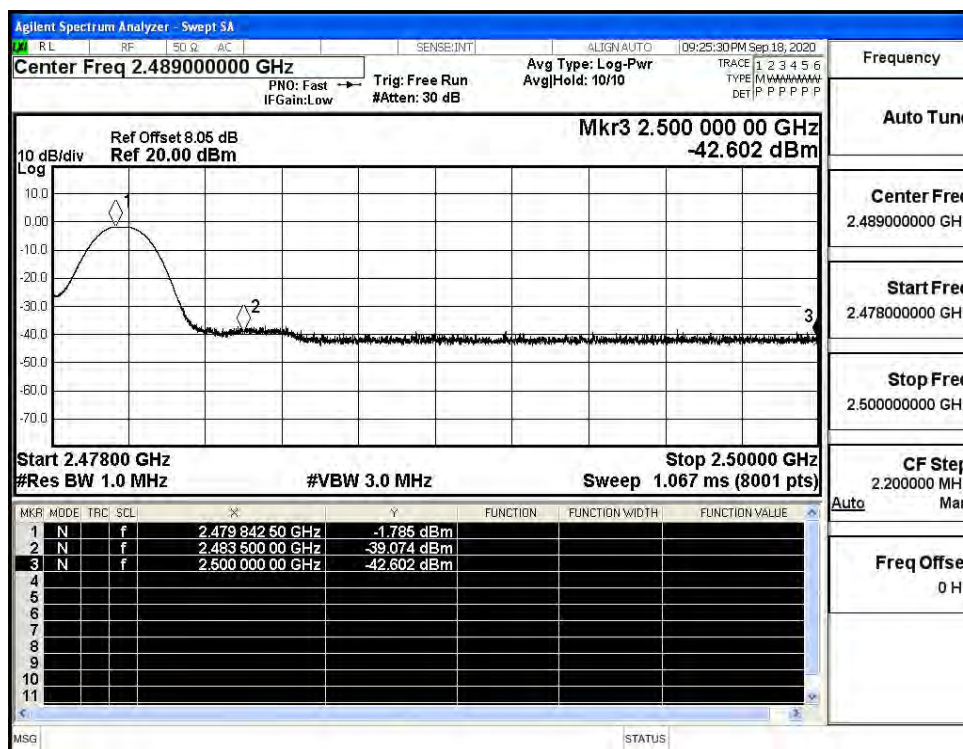
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



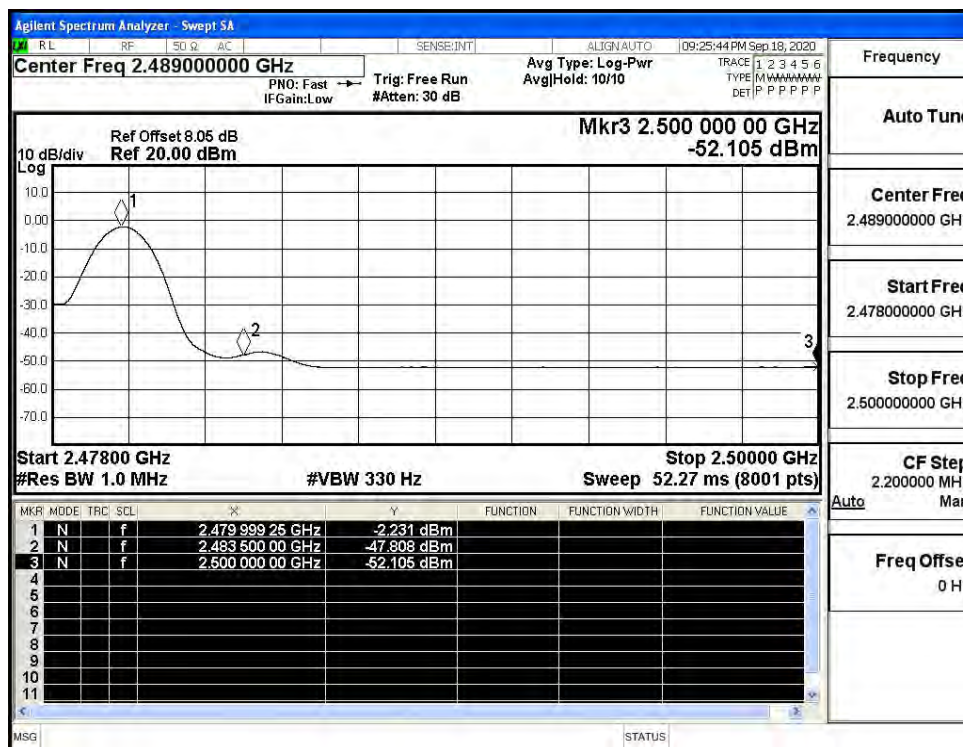
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

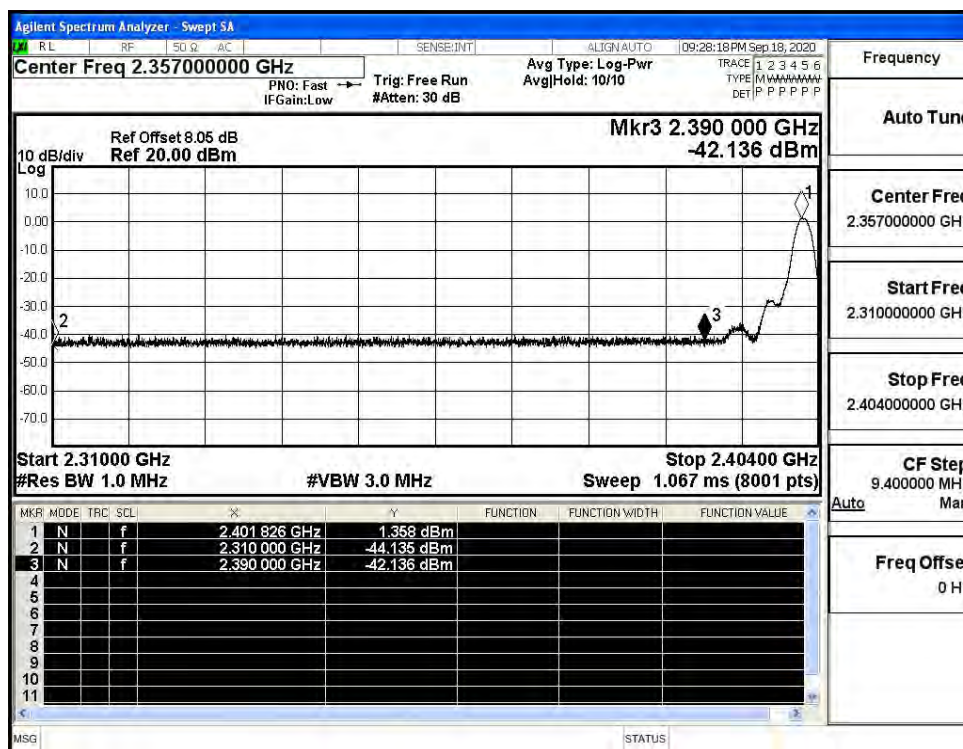
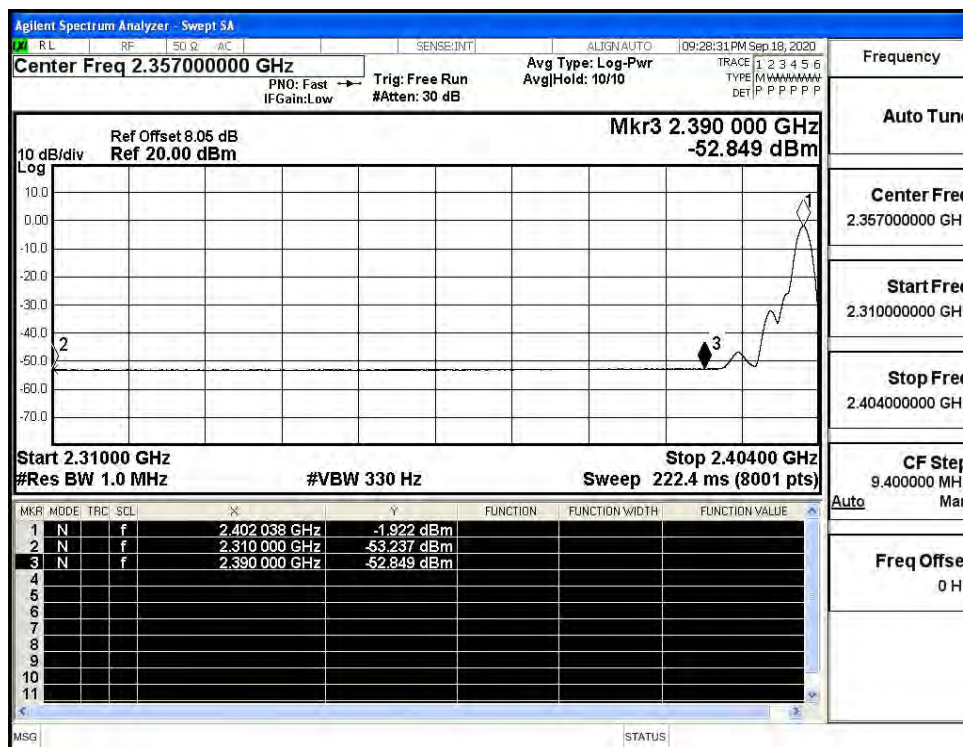


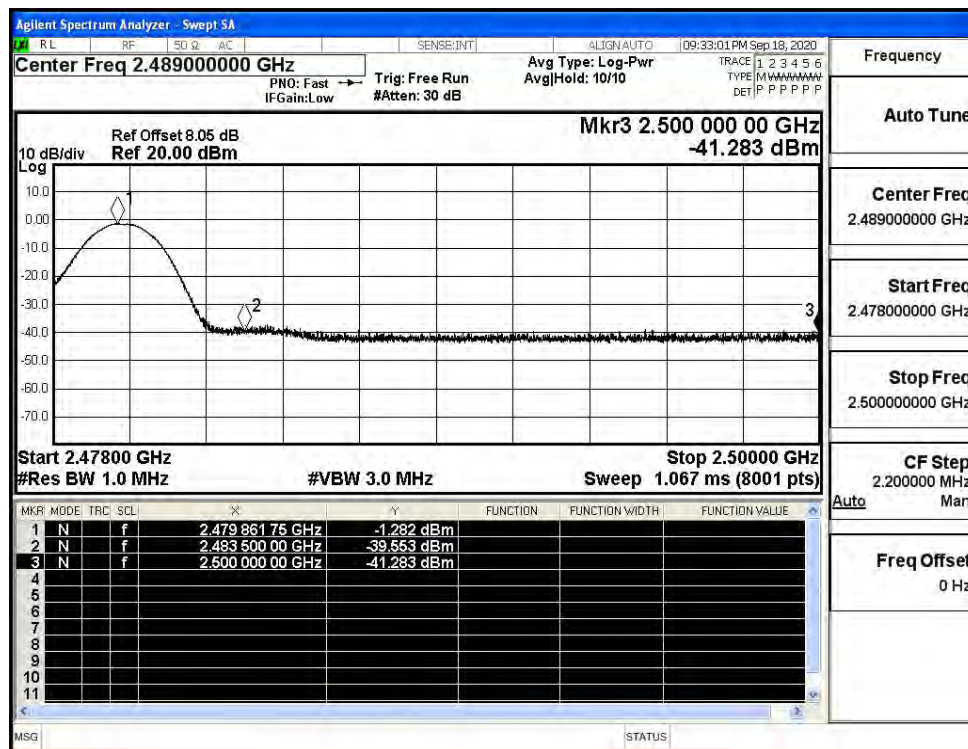
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



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)