

Appendix A

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

Product Name: Bluetooth Speaker

Trade Mark: N/A

Test Model: BT-1908

Environmental Conditions

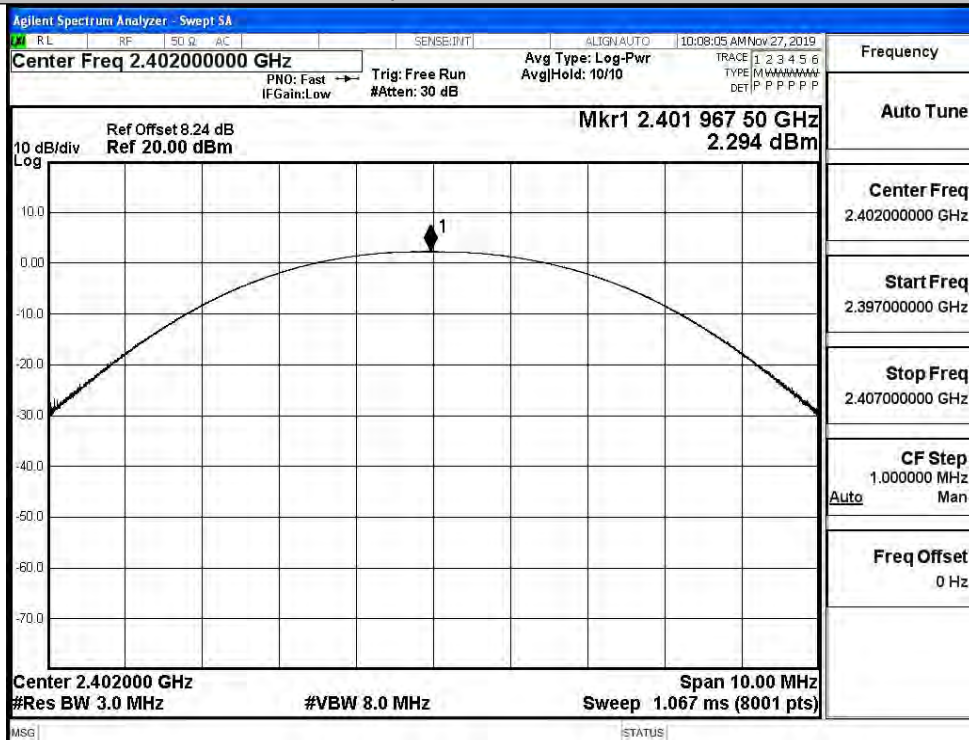
Temperature:	22.6 ° C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Scout Wu
Supervised by:	Tom.Liu

A.1 Maximum Conducted Peak Output Power

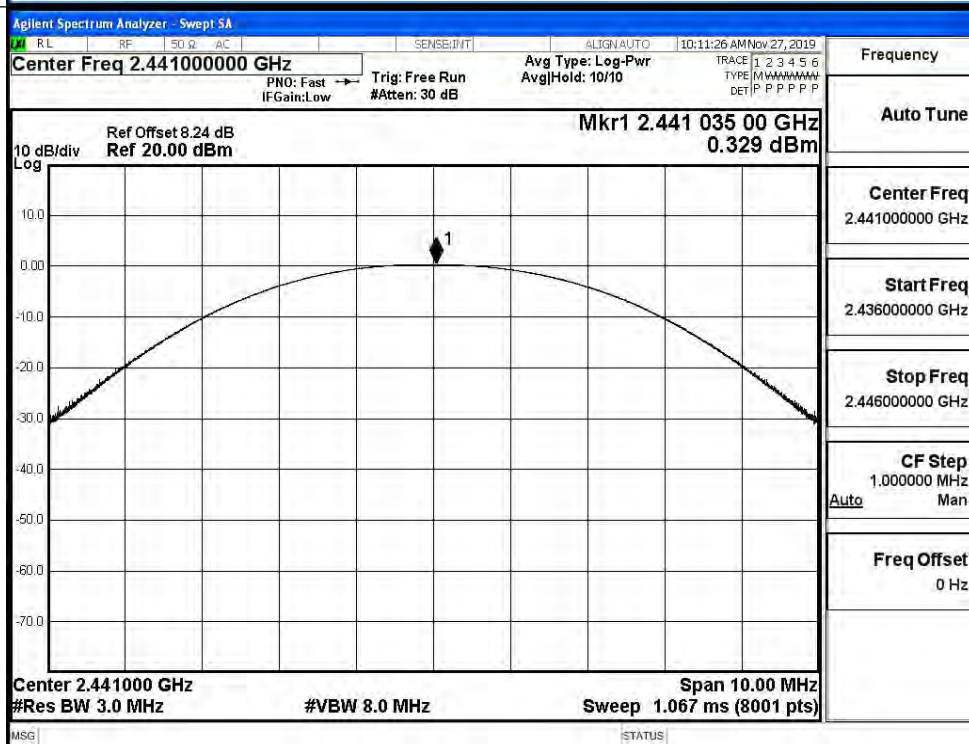
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.294	30	PASS
	MCH	0.329	30	PASS
	HCH	-1.467	30	PASS
$\pi/4$ DQPSK	LCH	1.429	21	PASS
	MCH	-0.471	21	PASS
	HCH	-2.170	21	PASS
8DPSK	LCH	1.837	21	PASS
	MCH	-0.016	21	PASS
	HCH	-1.696	21	PASS

Test Graphs

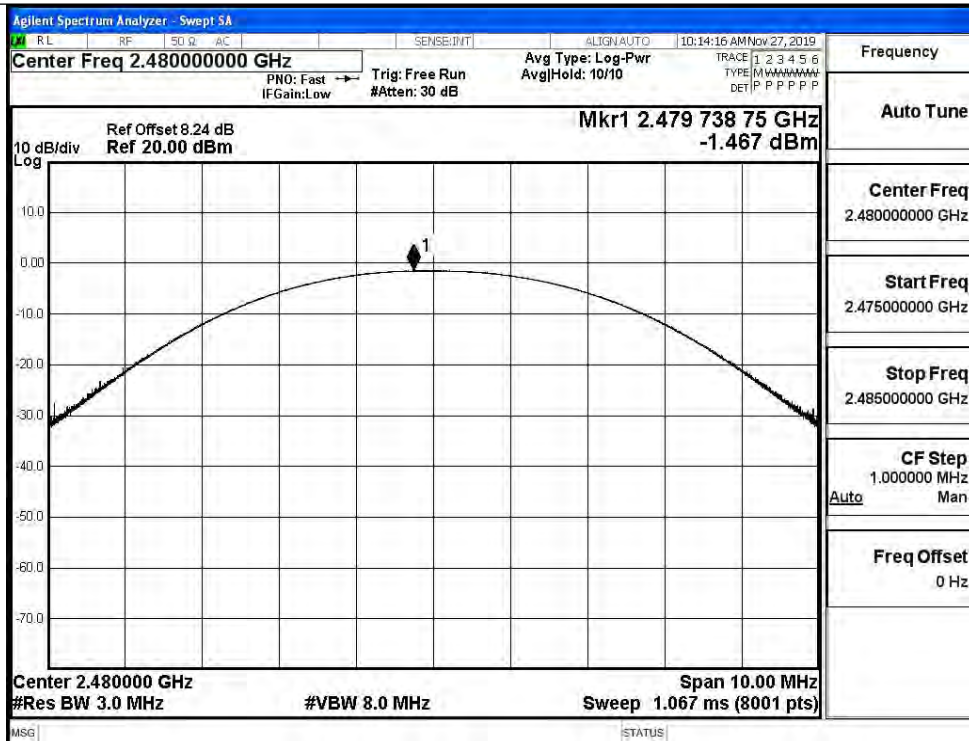
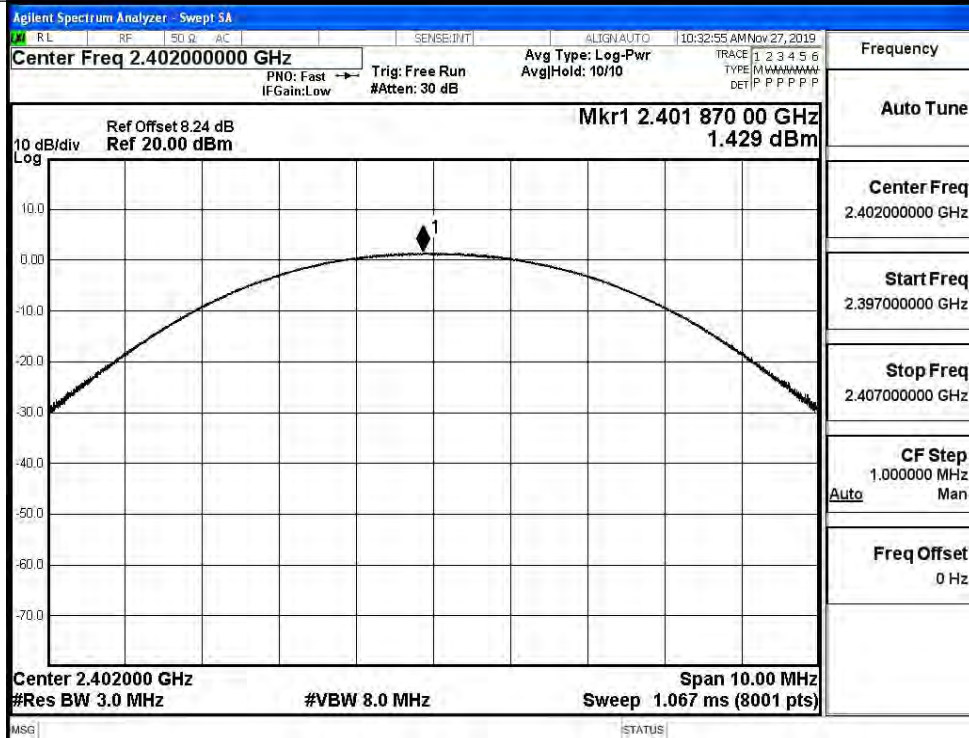
GFSK/LCH

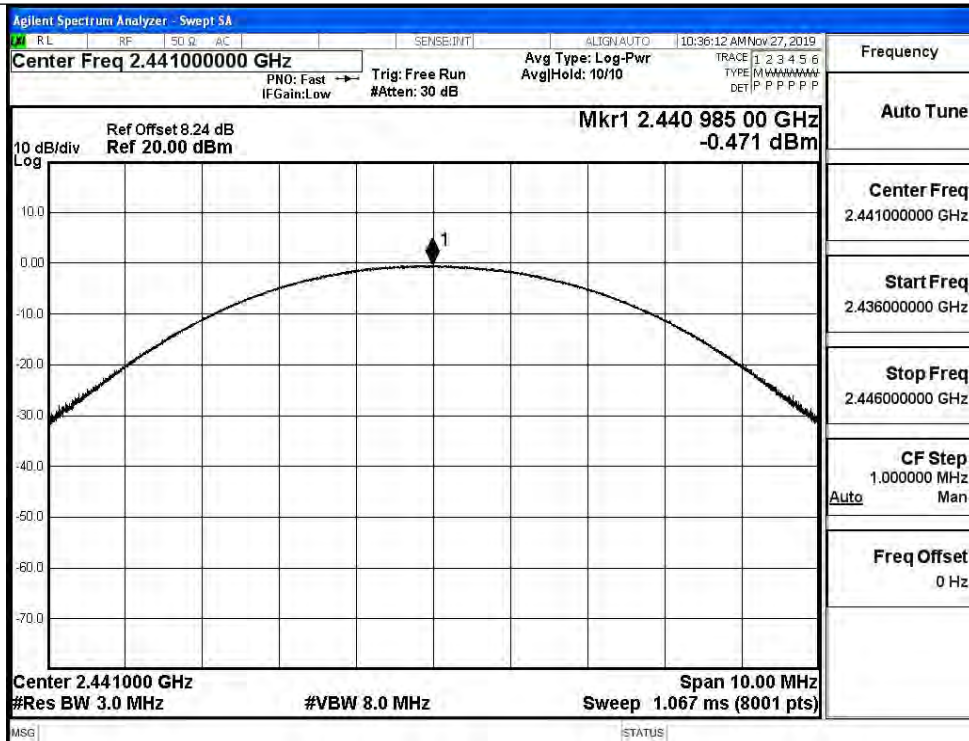
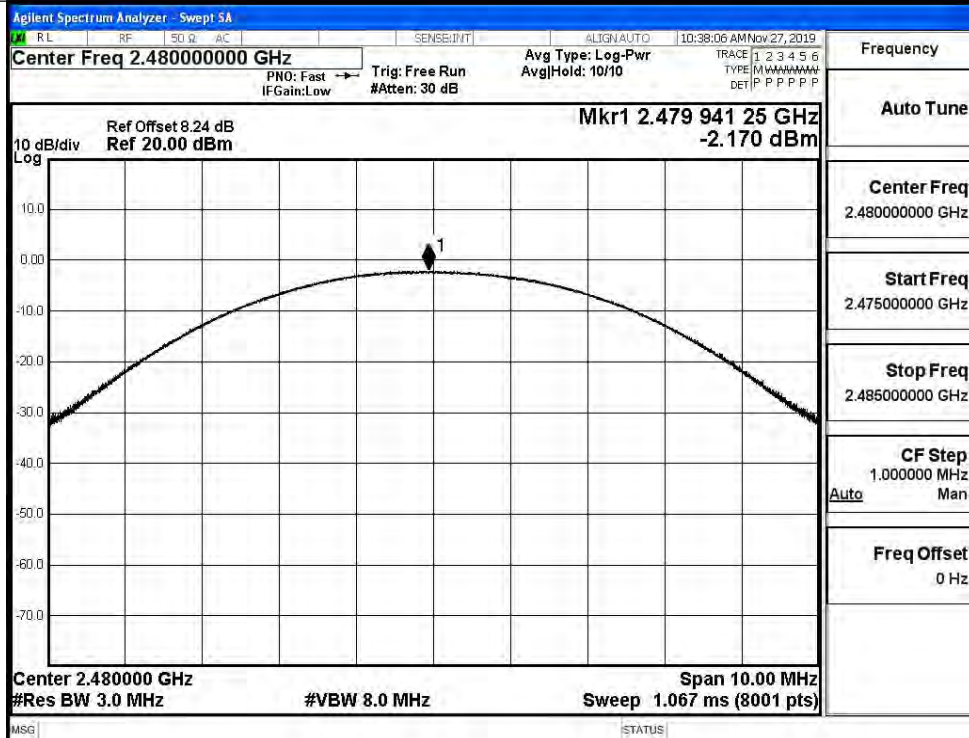


GFSK/MCH

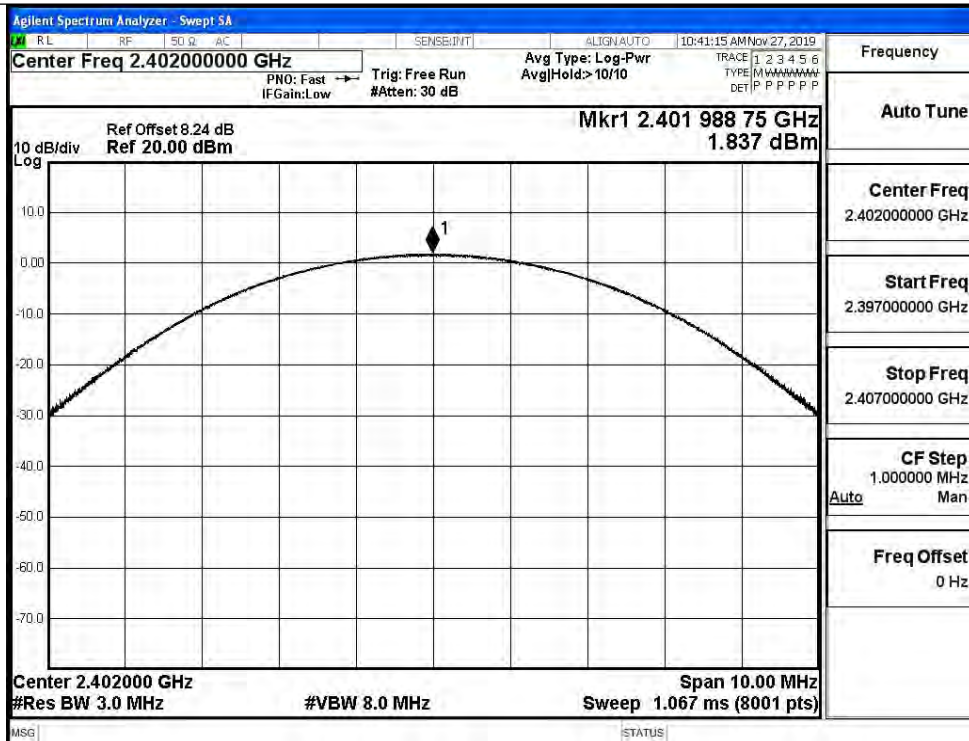


GFSK/HCH

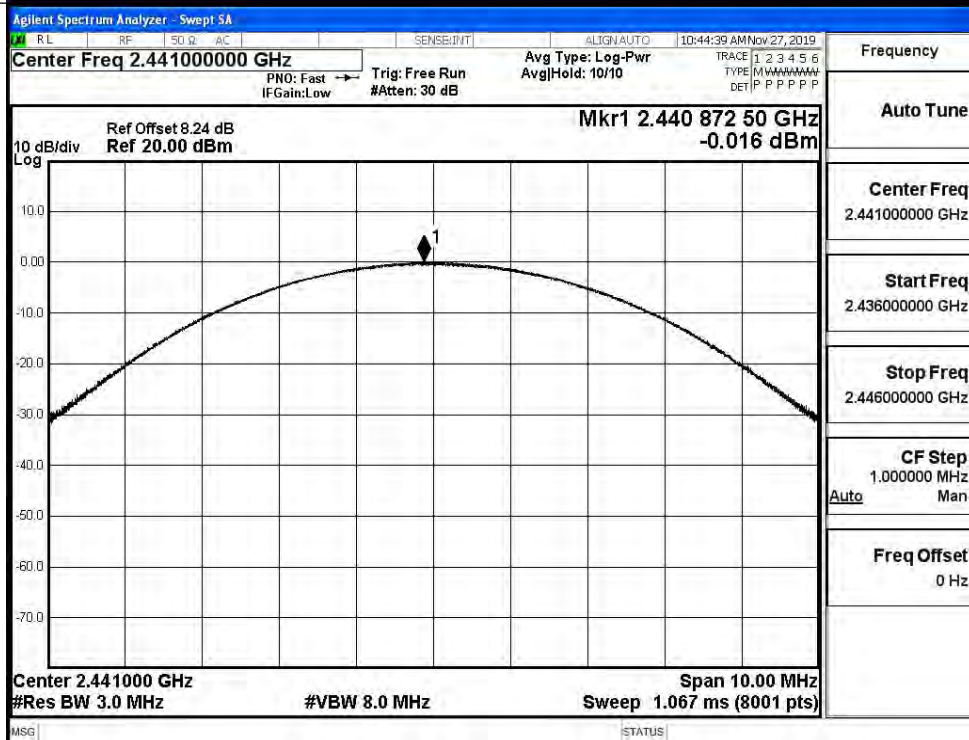
 $\pi/4$ DQPSK/LCH

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

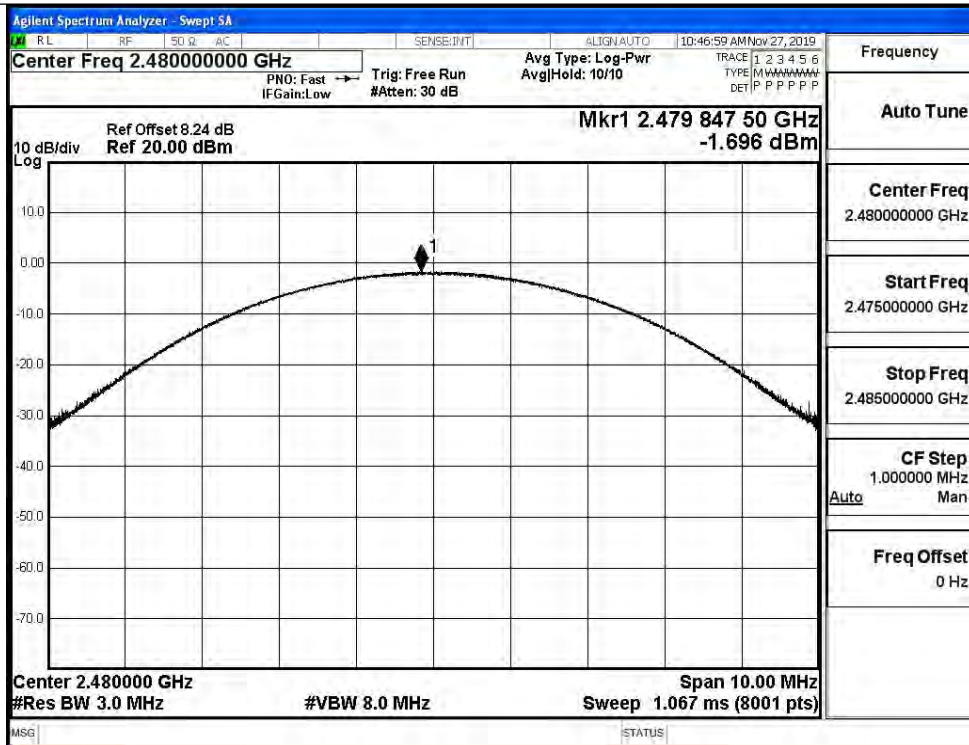
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH



A.2 20dB Bandwidth

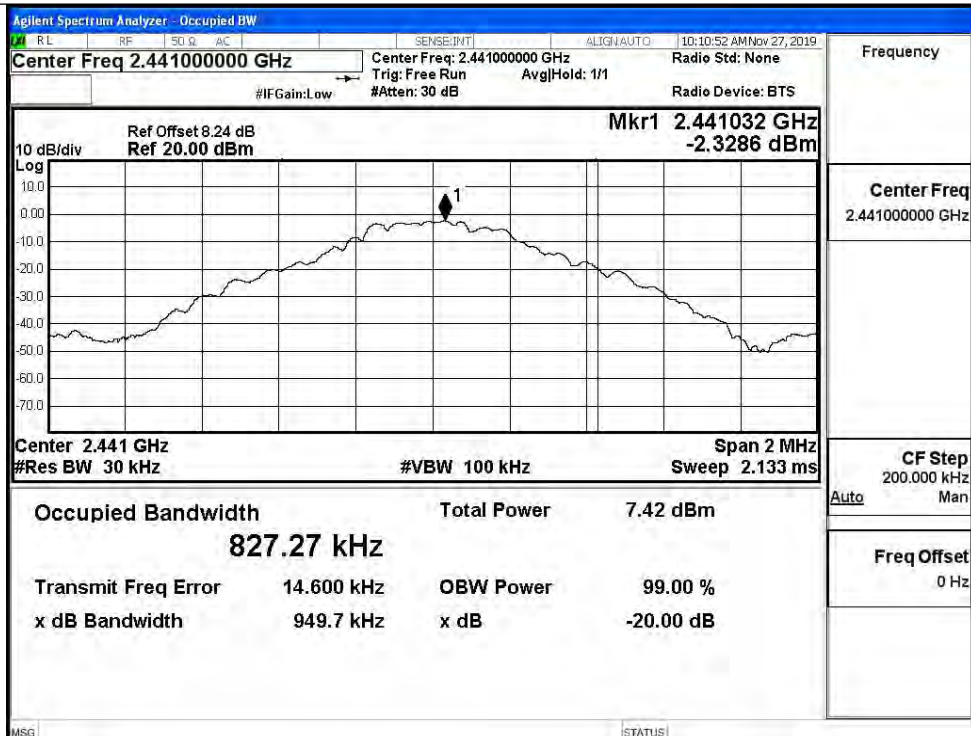
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9505	Not Specified	PASS
	MCH	0.9497	Not Specified	PASS
	HCH	0.9495	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.324	Not Specified	PASS
	MCH	1.325	Not Specified	PASS
	HCH	1.324	Not Specified	PASS
8DPSK	LCH	1.299	Not Specified	PASS
	MCH	1.301	Not Specified	PASS
	HCH	1.300	Not Specified	PASS

Test Graphs

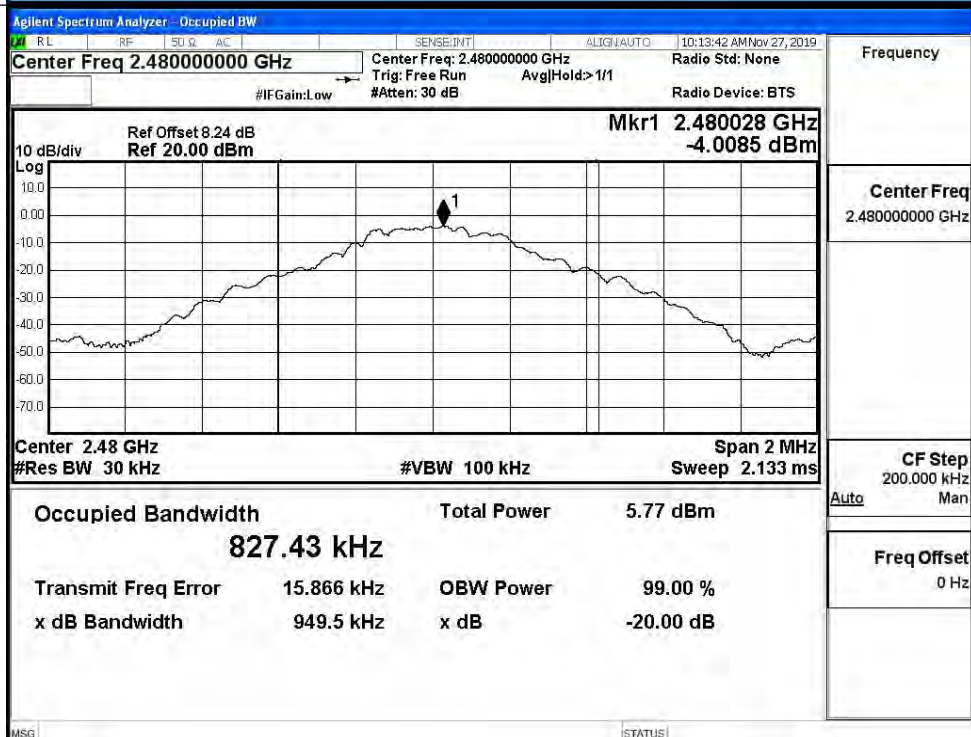
GFSK/LCH

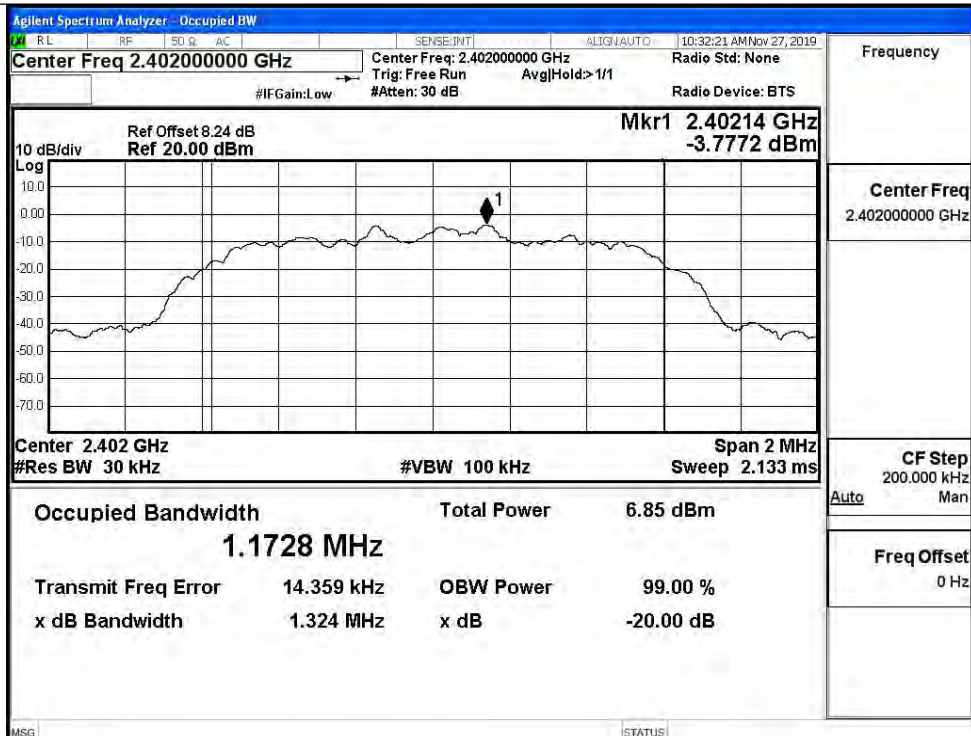
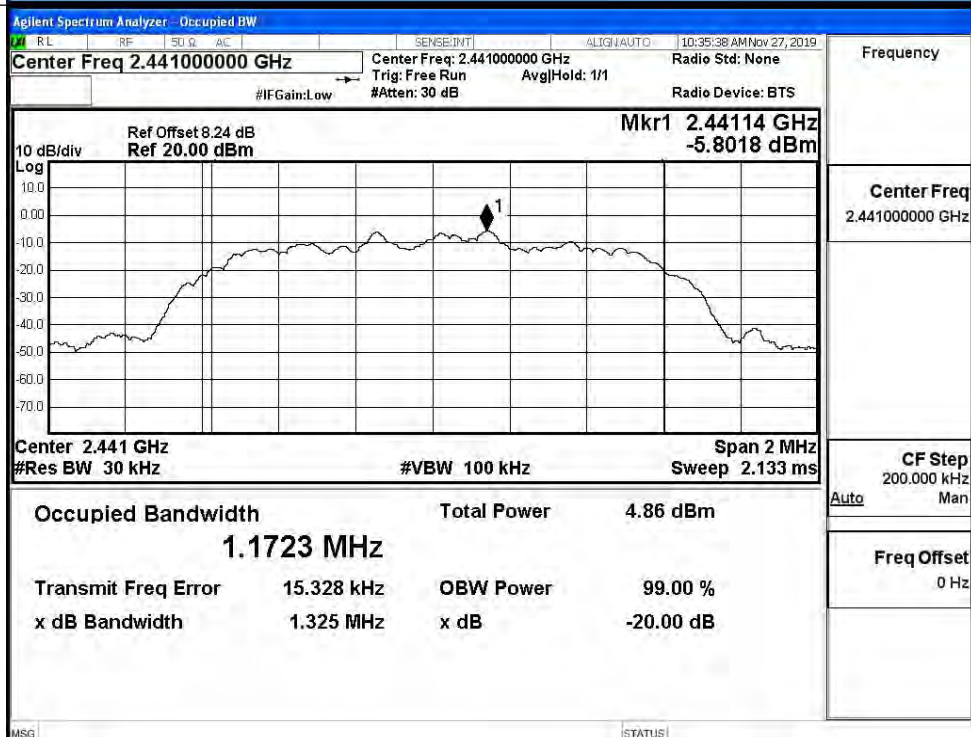


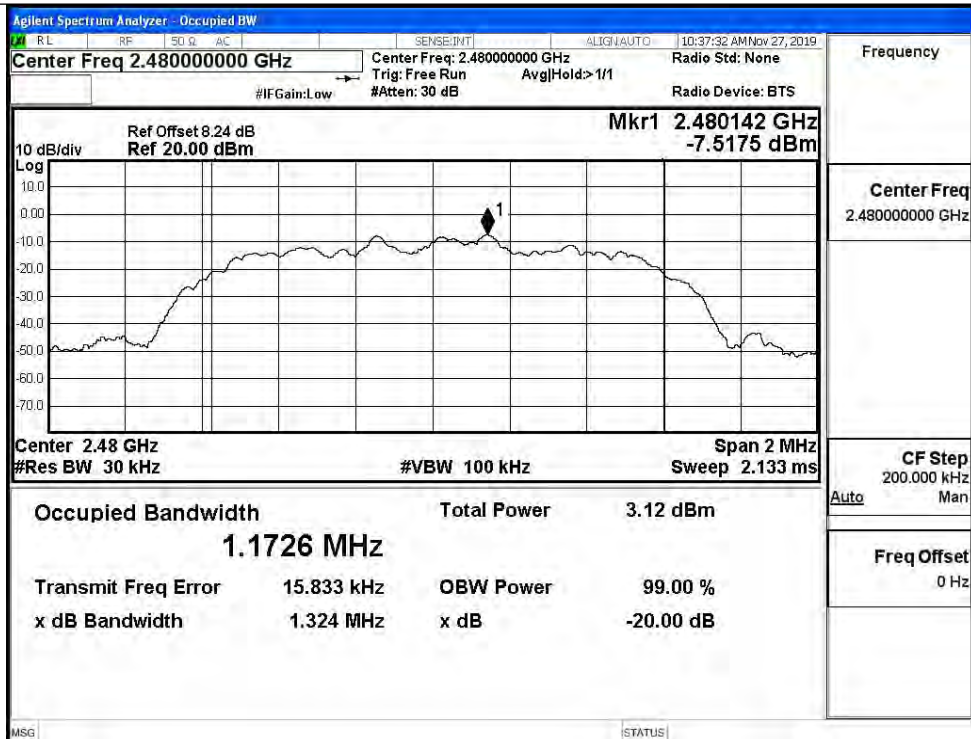
GFSK/MCH



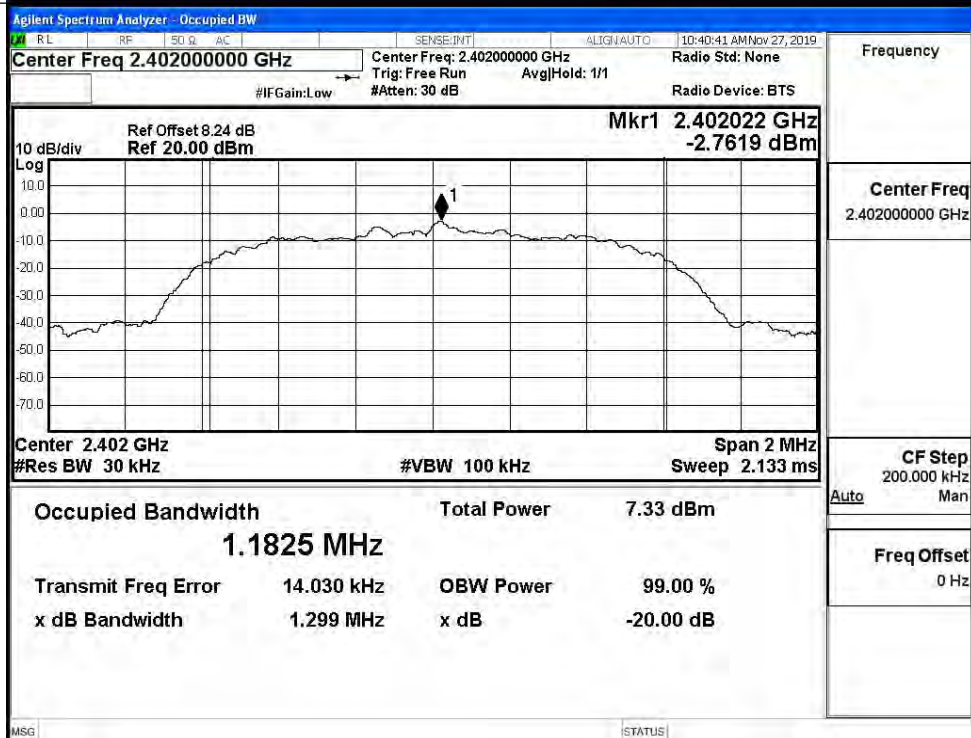
GFSK/HCH



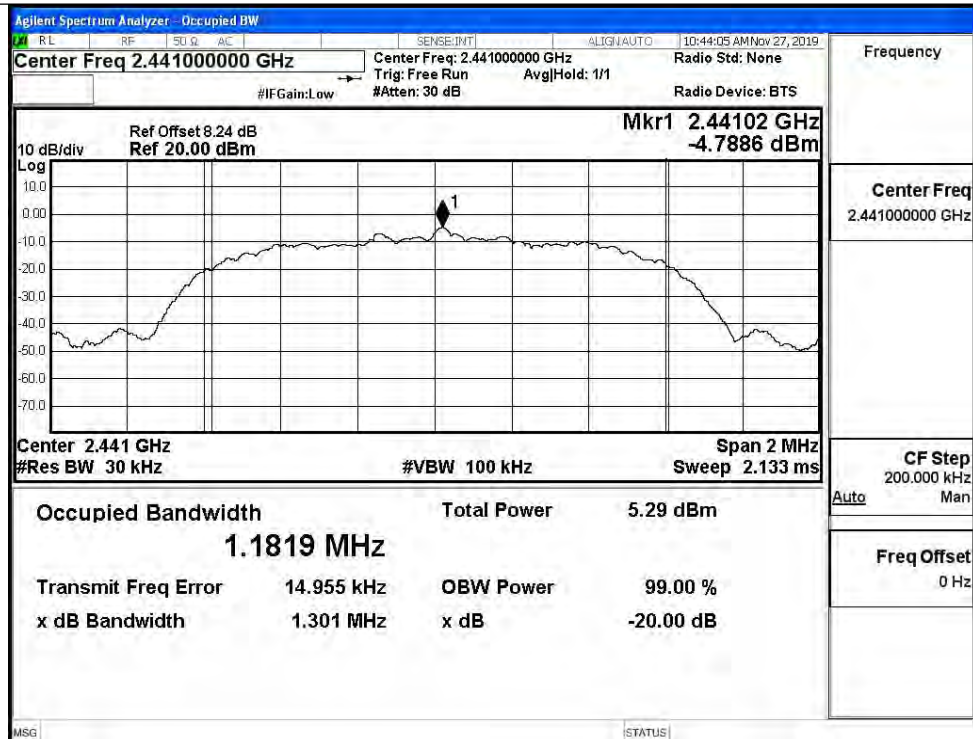
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

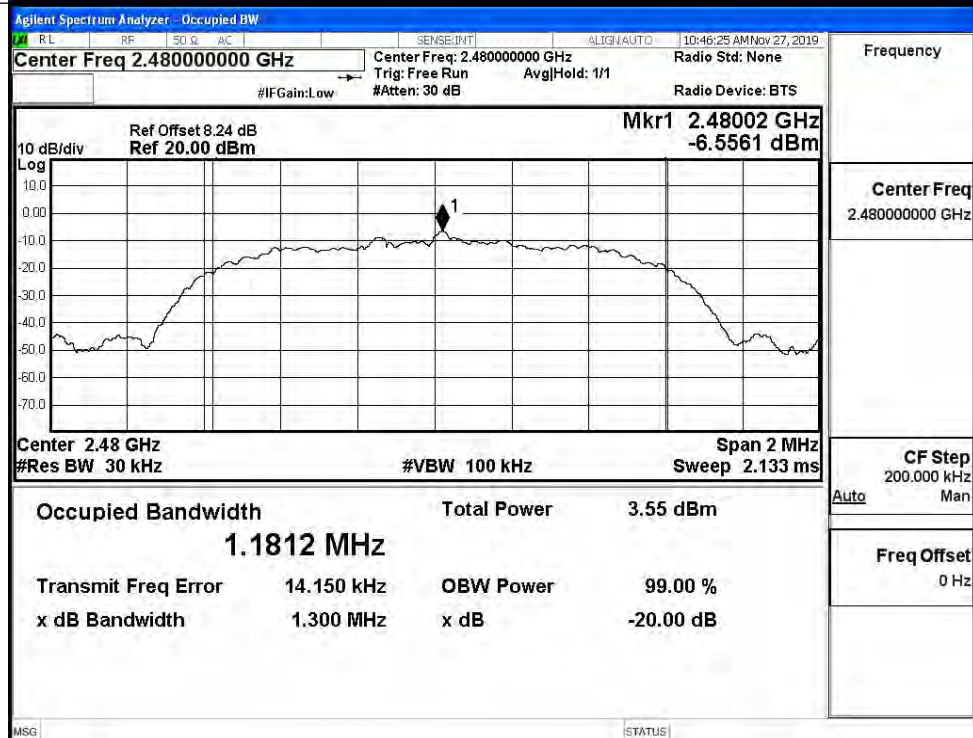
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

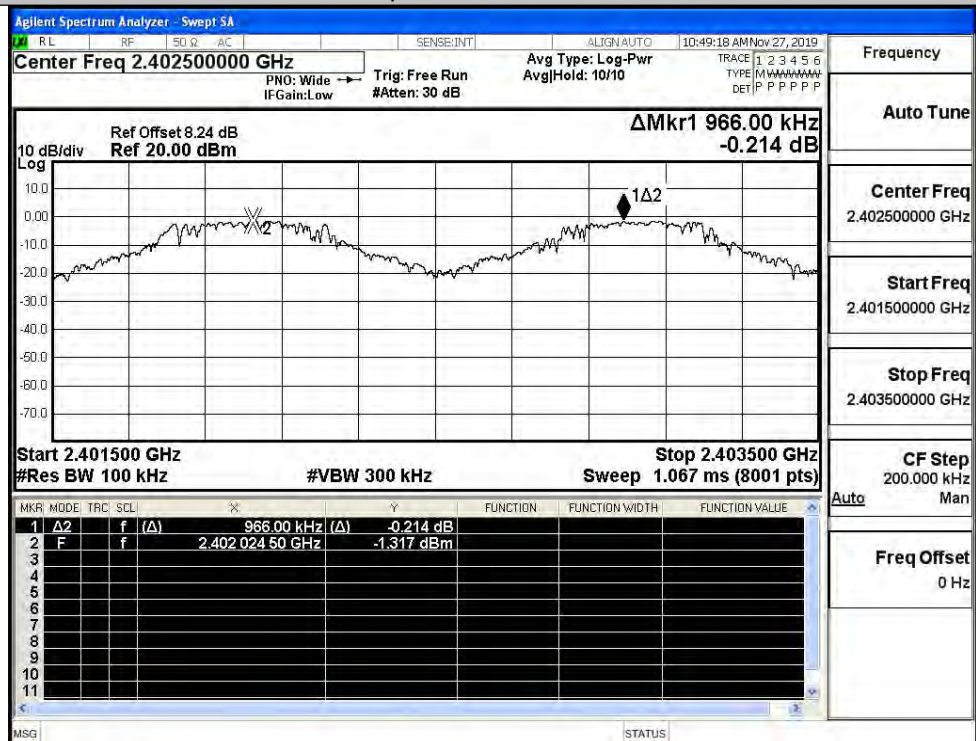


A.3 Carrier Frequency Separation

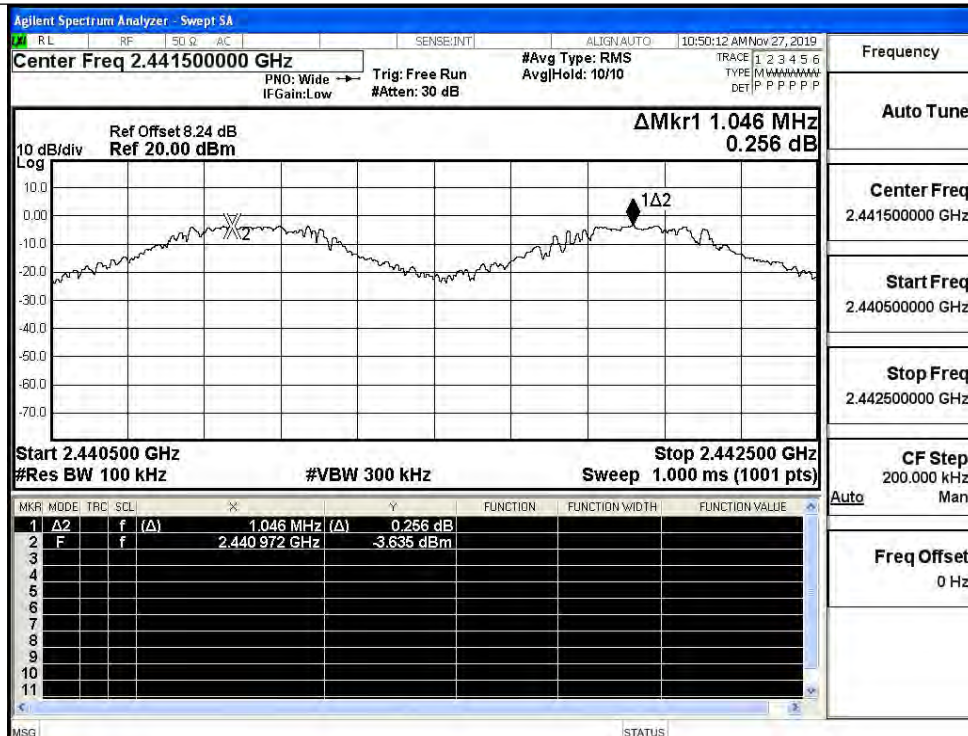
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.966	0.634	PASS
	MCH	1.046	0.634	PASS
	HCH	0.842	0.634	PASS
$\pi/4$ DQPSK	LCH	1.158	0.883	PASS
	MCH	1.268	0.883	PASS
	HCH	0.888	0.883	PASS
8DPSK	LCH	0.974	0.867	PASS
	MCH	1.020	0.867	PASS
	HCH	0.932	0.867	PASS

Test Graphs

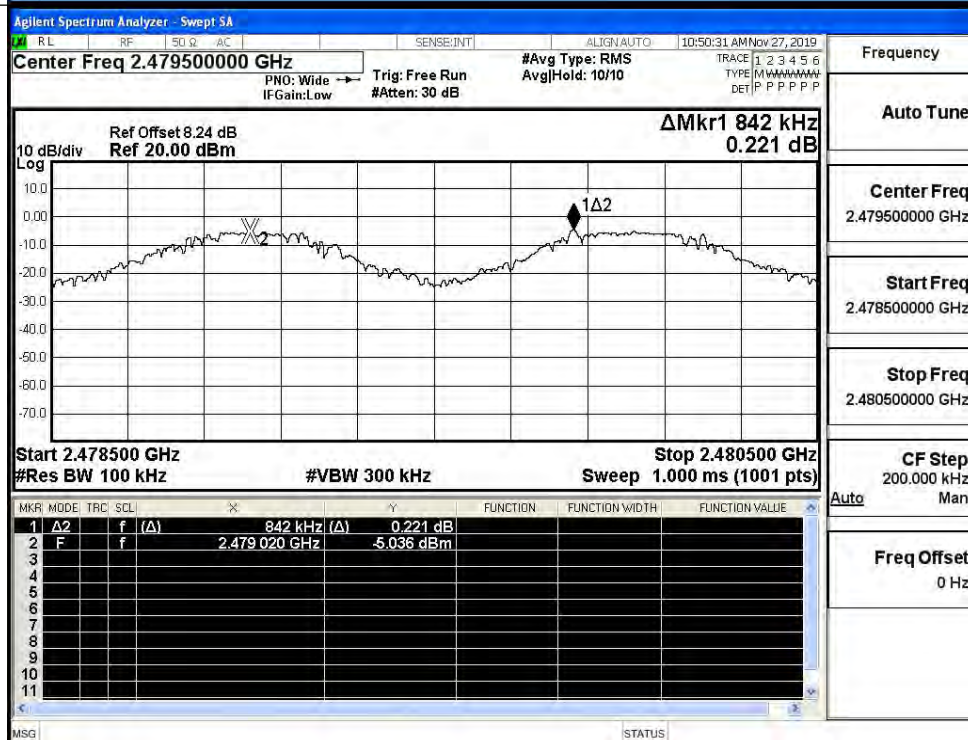
GFSK/LCH

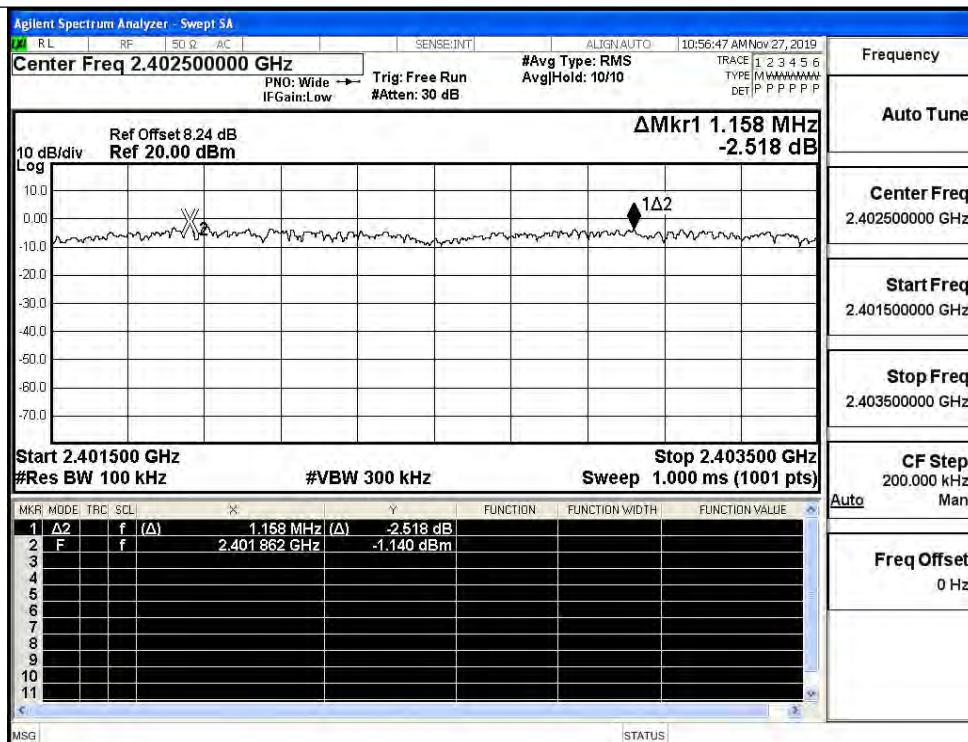
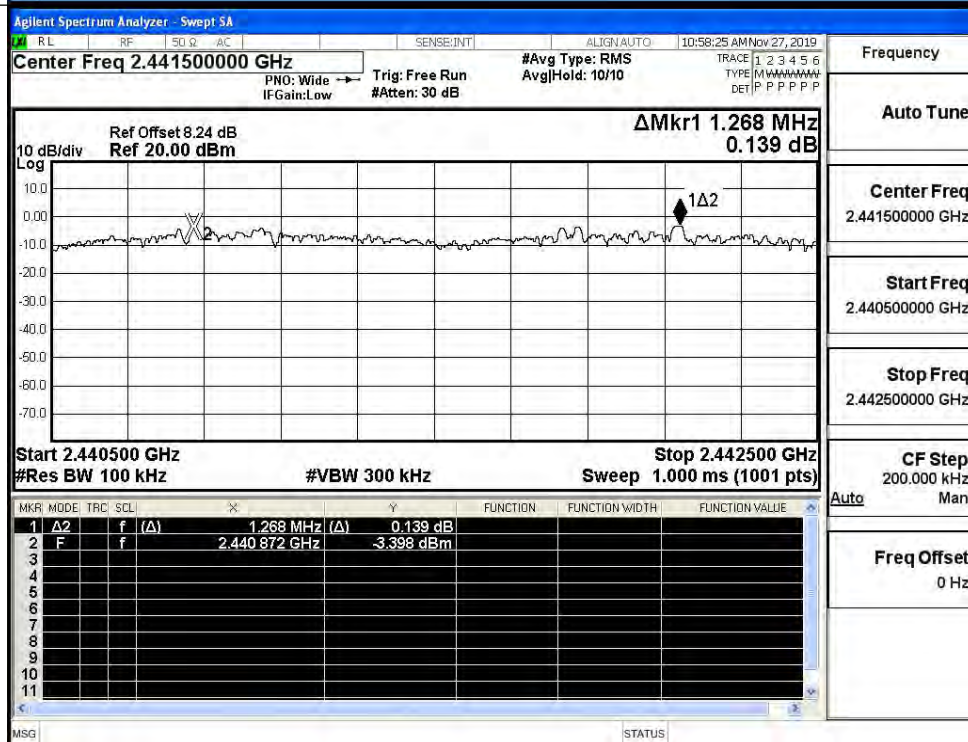


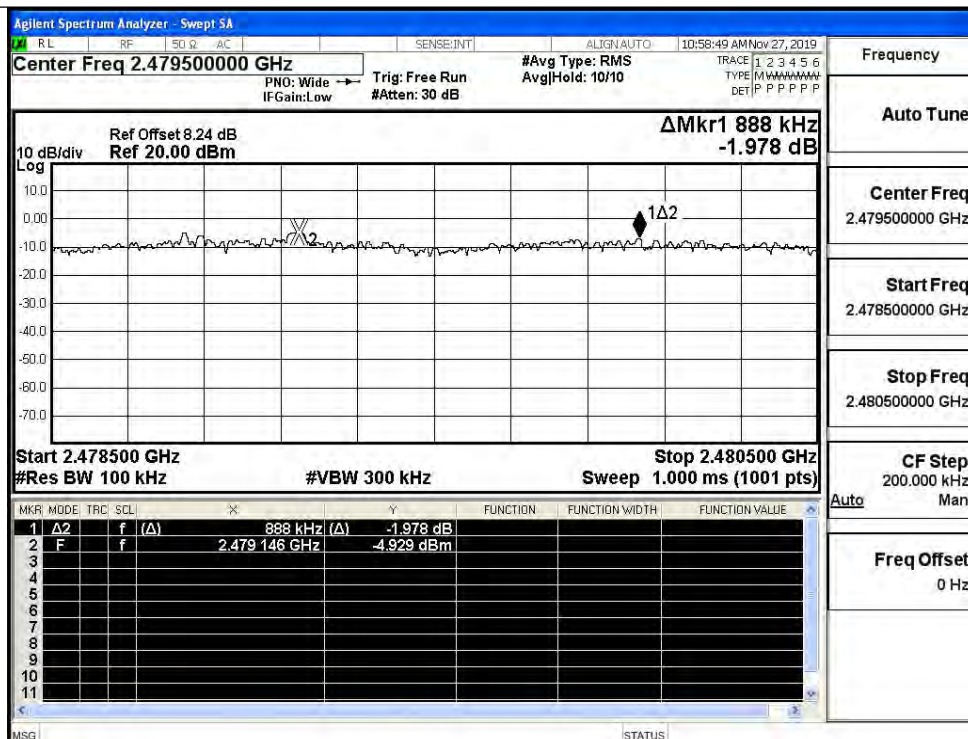
GFSK/MCH



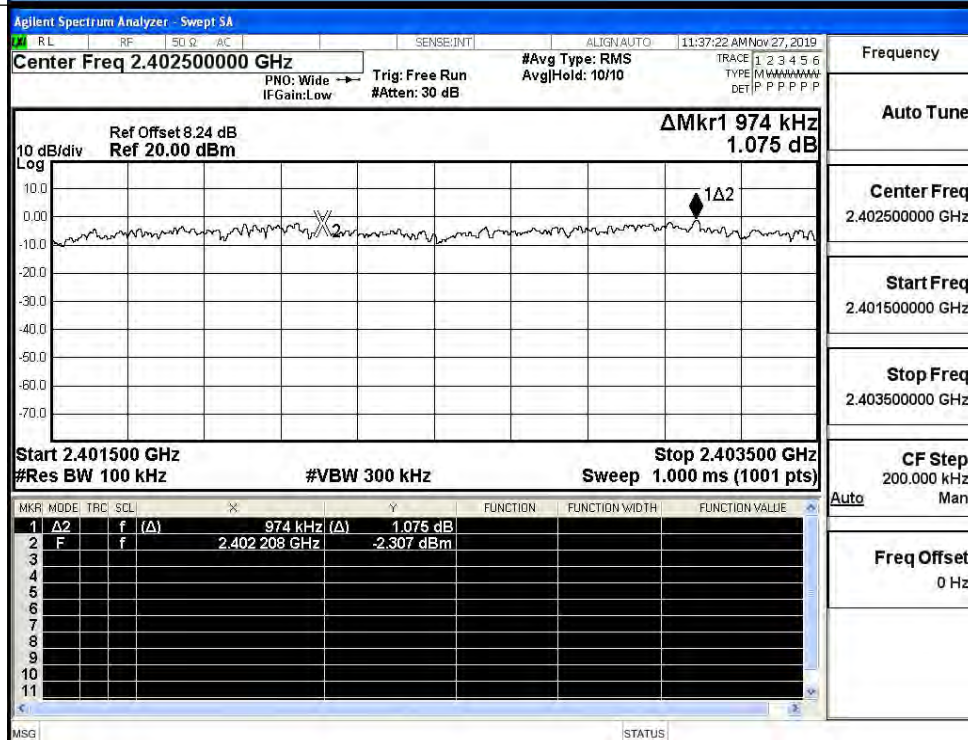
GFSK/HCH



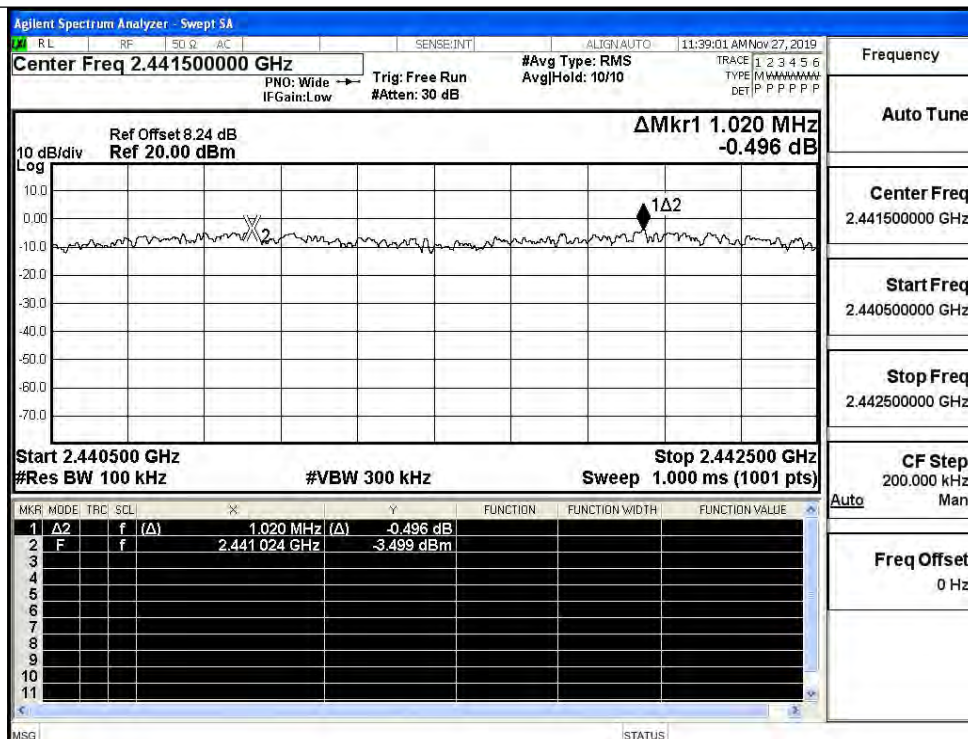
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

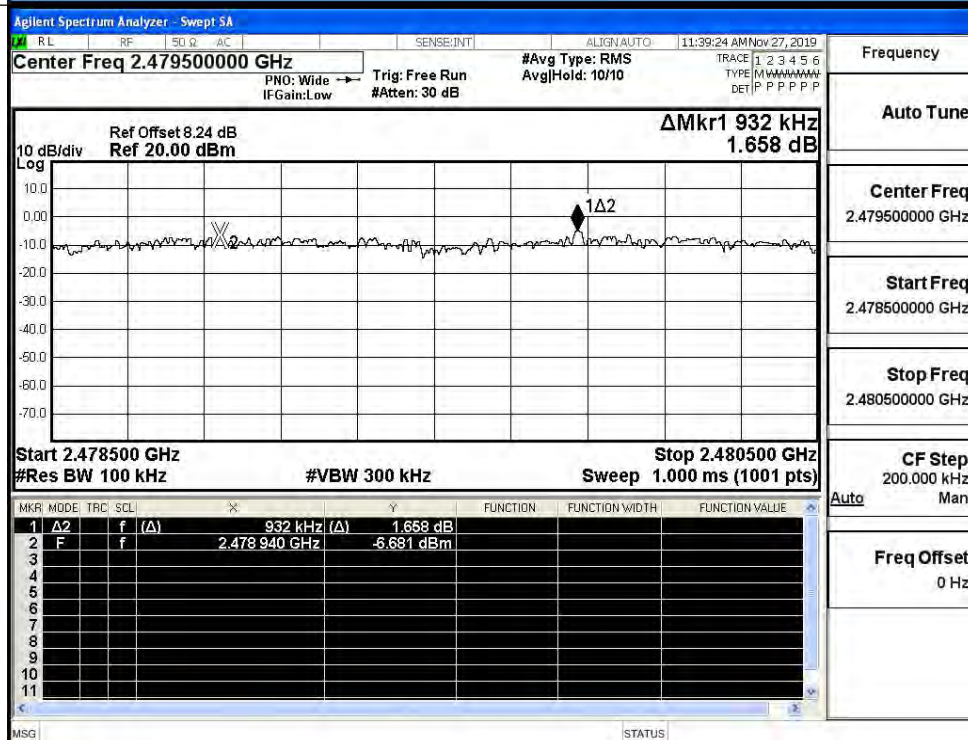
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

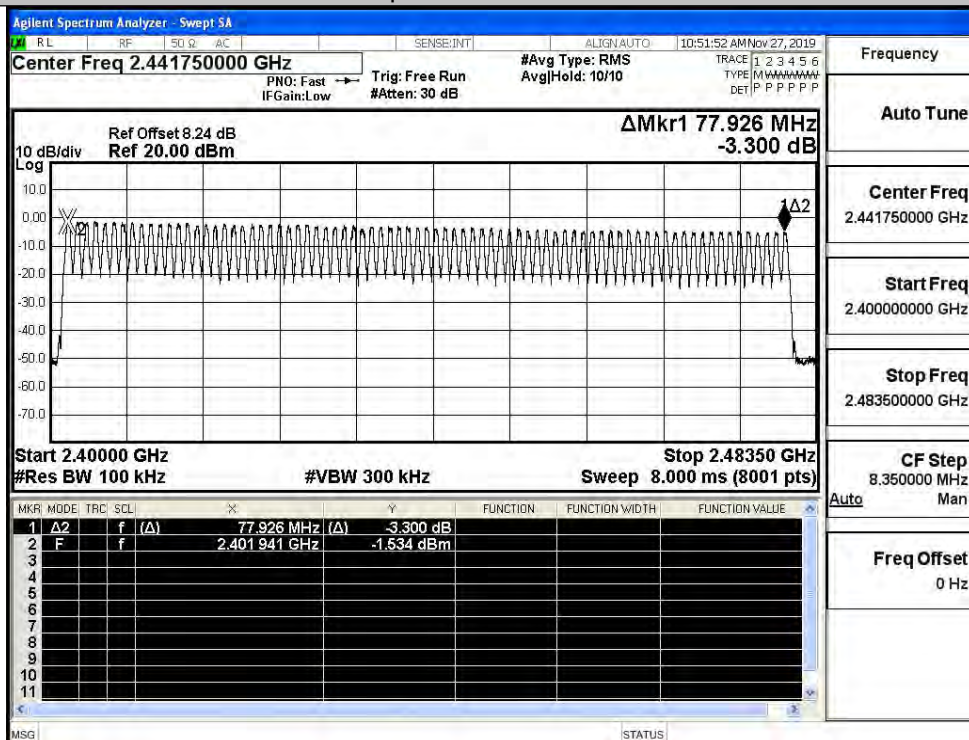
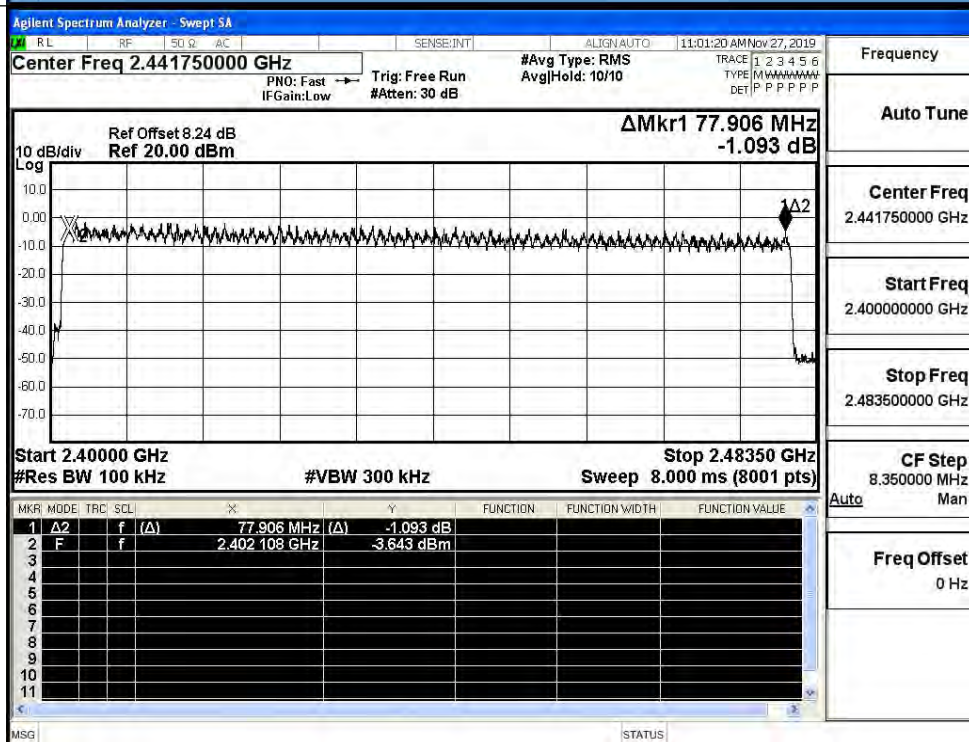


A.4 Hopping Channel Number

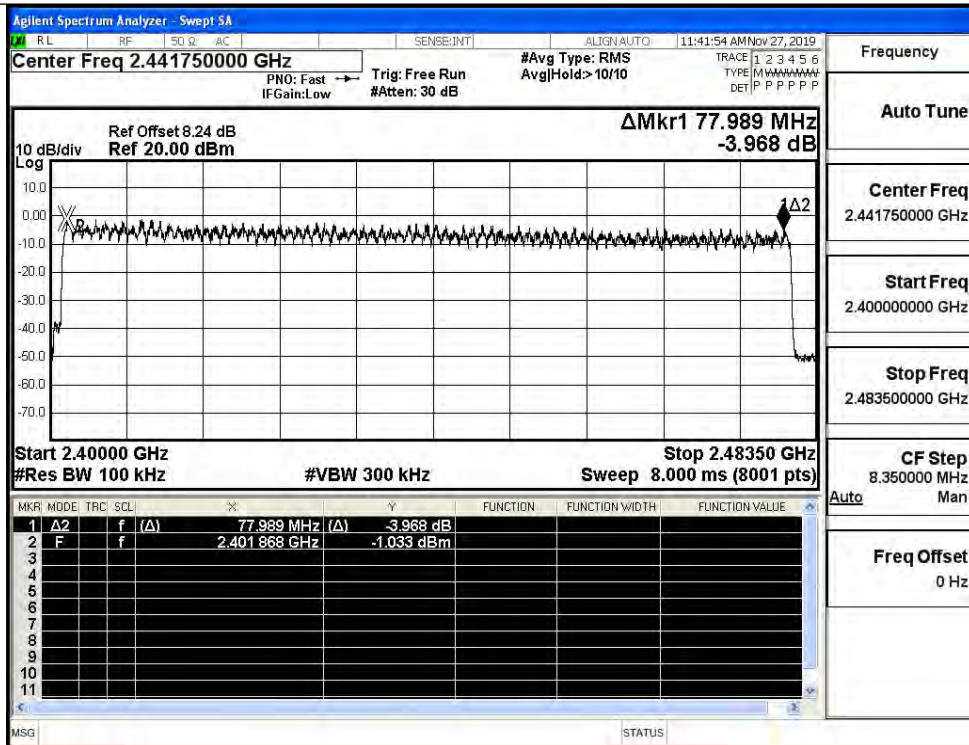
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

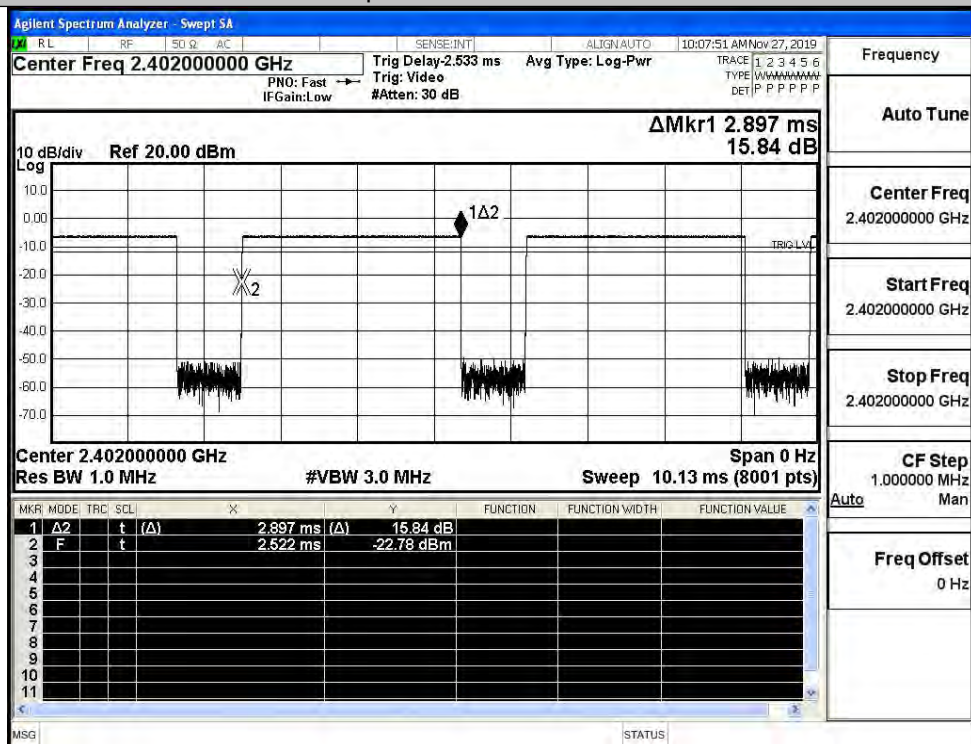


A.5 Dwell Time

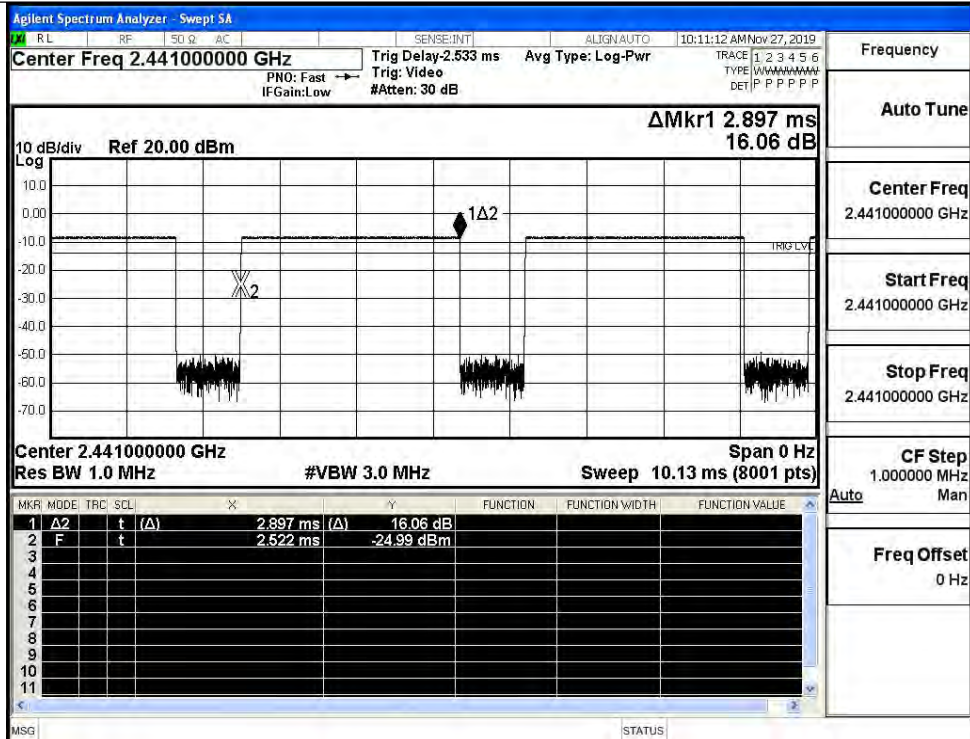
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.9	106.7	0.309	0.4	PASS
	DH5	MCH	2.9	106.7	0.309	0.4	PASS
	DH5	HCH	2.9	106.7	0.309	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.9	106.7	0.309	0.4	PASS
	2DH5	MCH	2.9	106.7	0.309	0.4	PASS
	2DH5	HCH	2.9	106.7	0.309	0.4	PASS
8DPSK	3DH5	LCH	2.9	106.7	0.309	0.4	PASS
	3DH5	MCH	2.9	106.7	0.309	0.4	PASS
	3DH5	HCH	2.9	106.7	0.309	0.4	PASS

Test Graphs

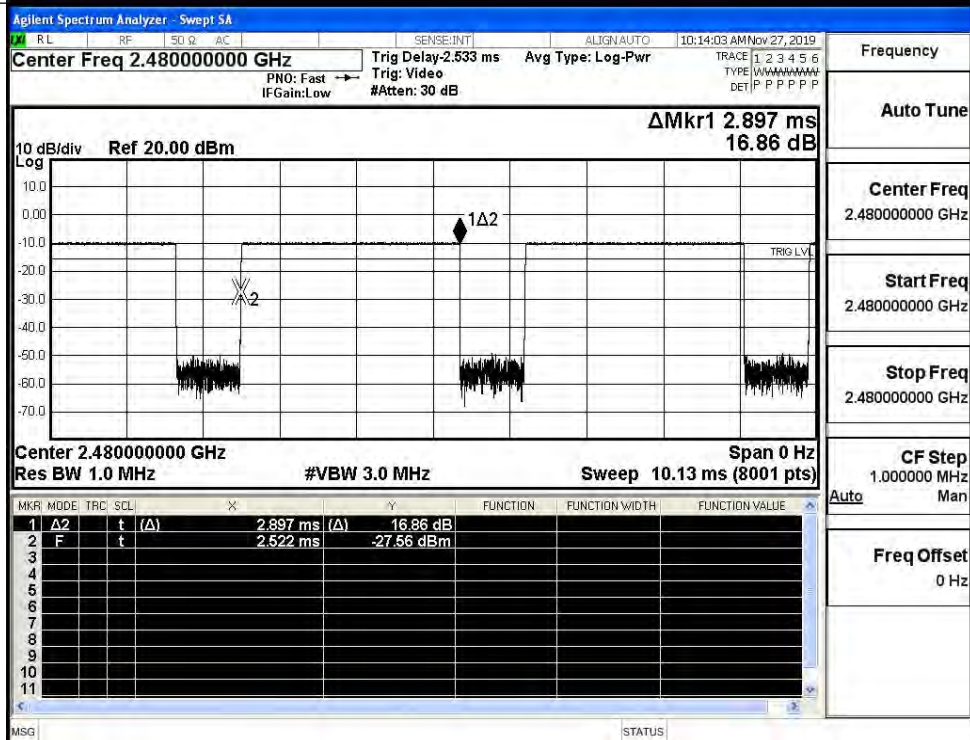
GFSK_DH5/LCH



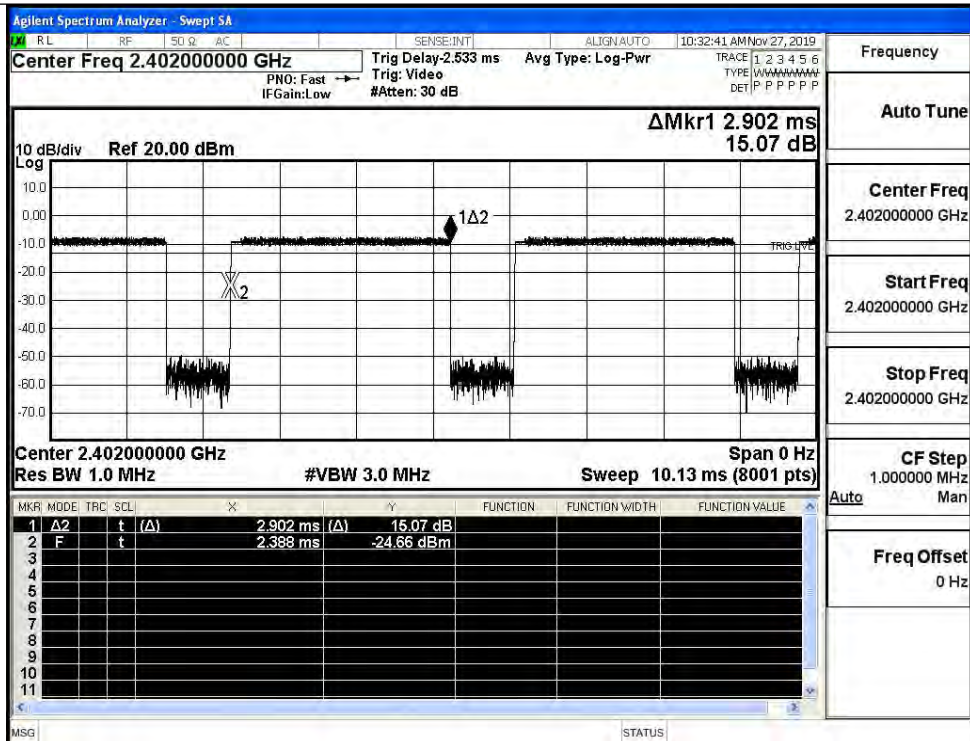
GFSK_DH5/MCH



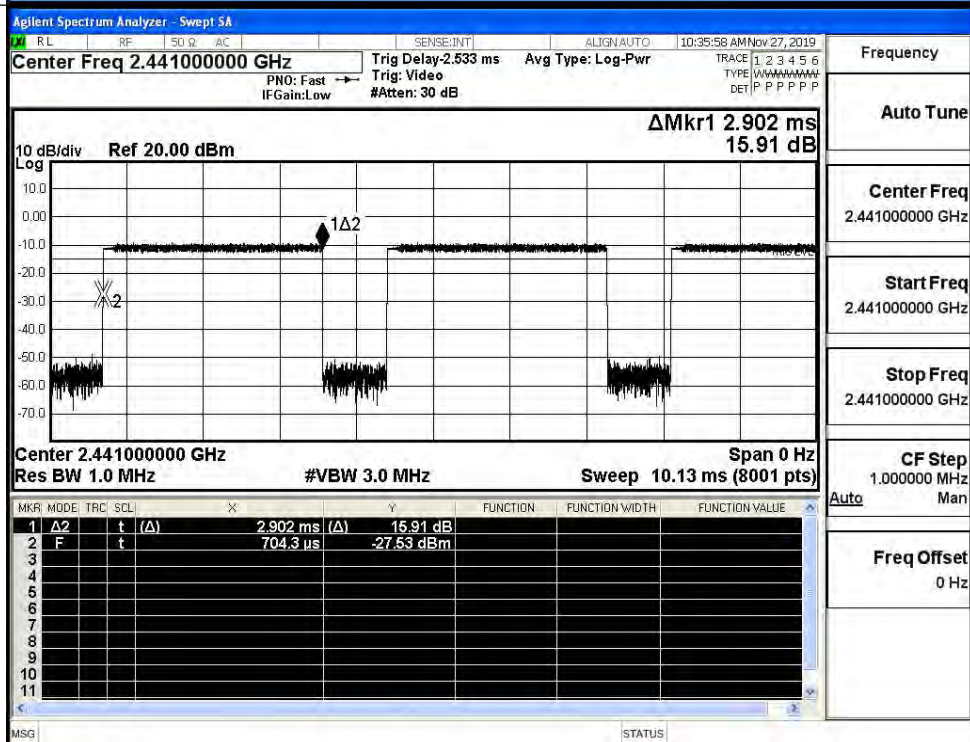
GFSK_DH5/HCH



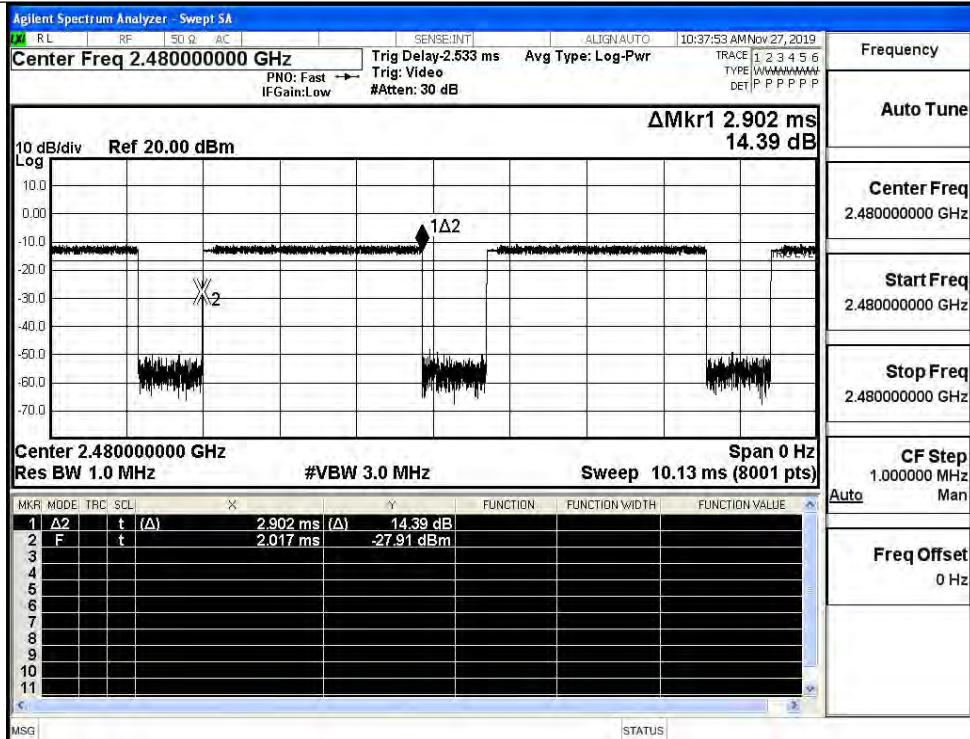
$\pi/4$ DQPSK
_2DH5/LCH



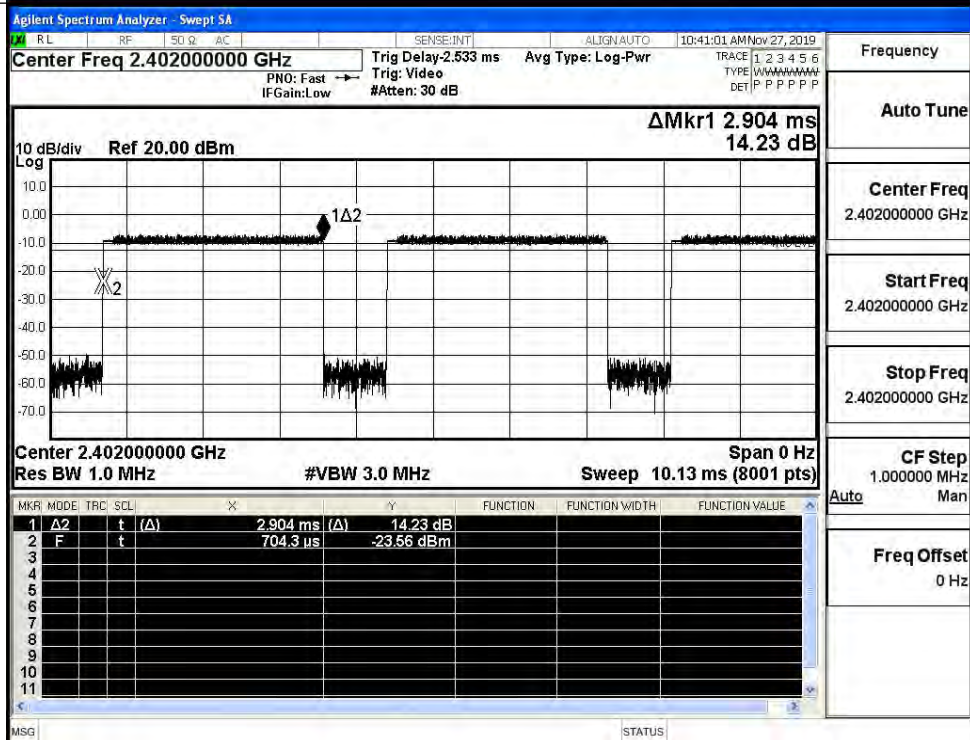
$\pi/4$ DQPSK
_2DH5/MCH



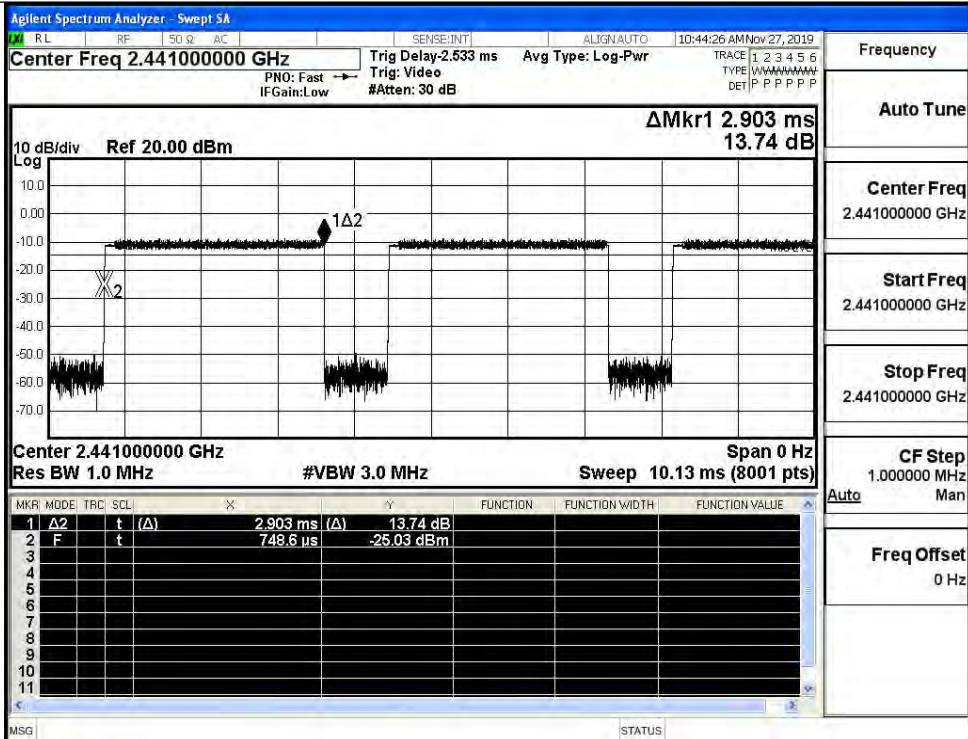
$\pi/4$ DQPSK
_2DH5/HCH



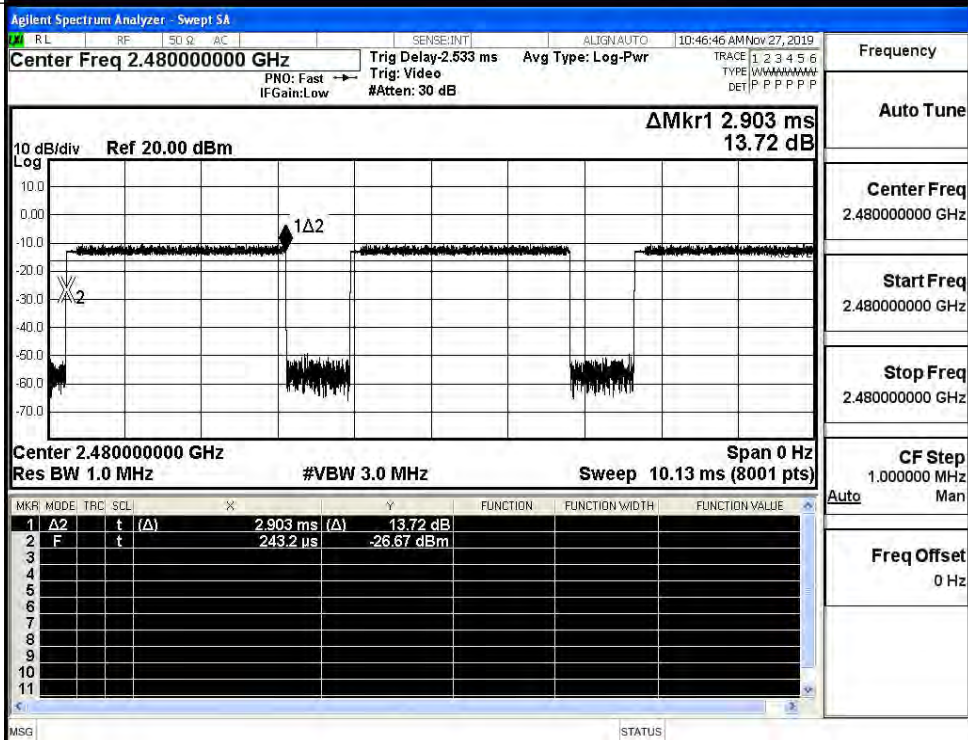
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



8DPSK_3DH5/HCH

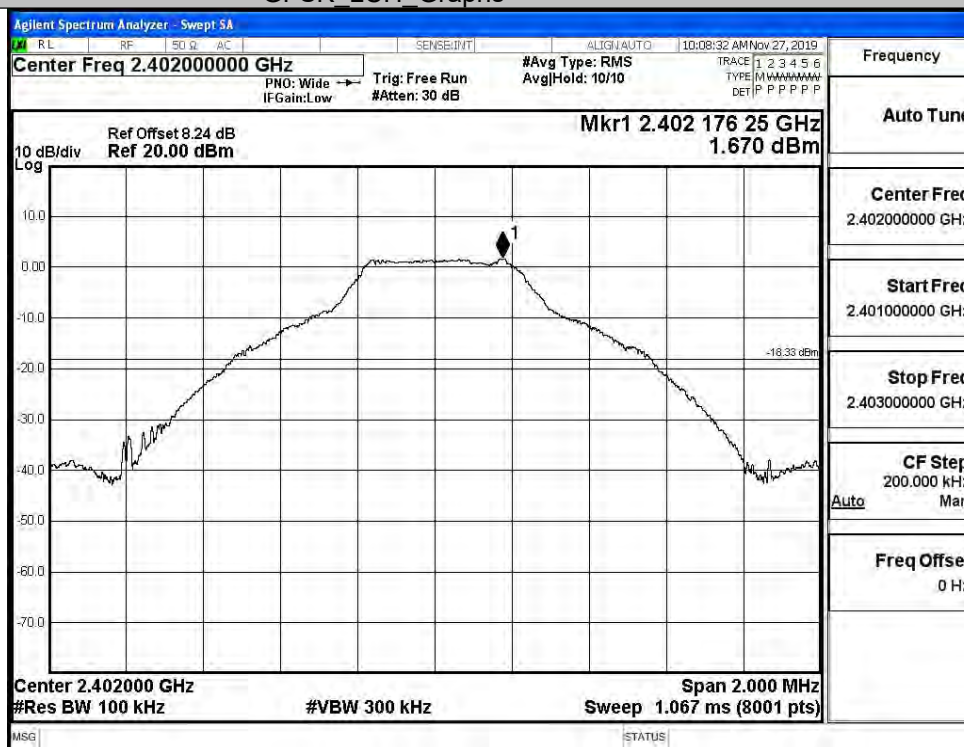


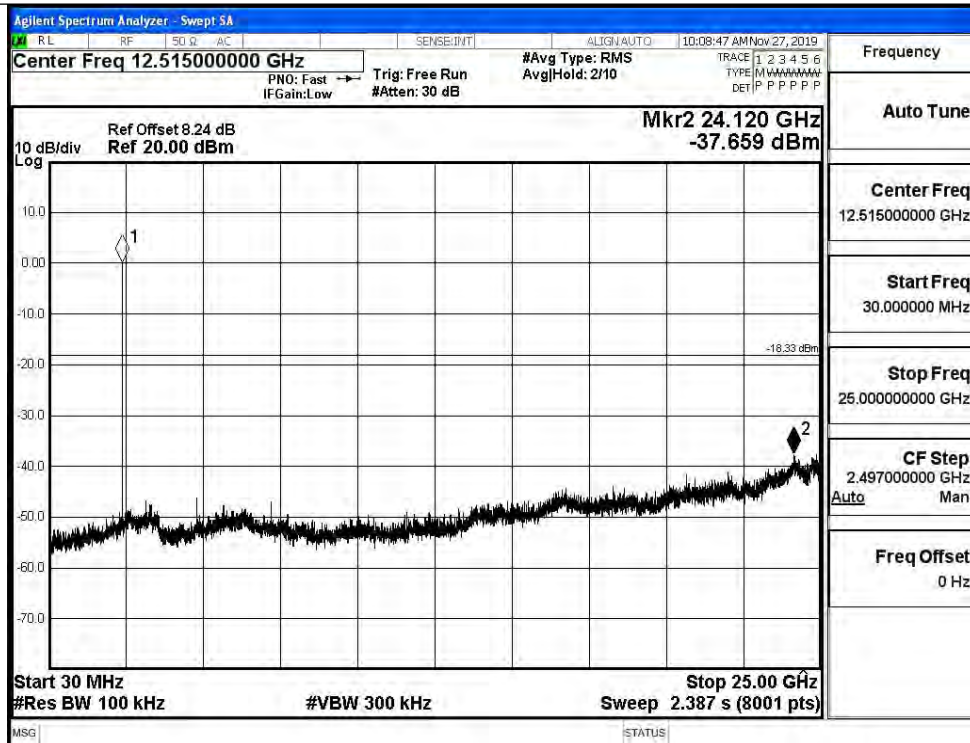
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.67	-37.659	-18.330	PASS
	MCH	-0.138	-36.016	-20.138	PASS
	HCH	-2.031	-37.711	-22.031	PASS
$\pi/4$ DQPSK	LCH	-1.185	-37.284	-21.185	PASS
	MCH	-3.21	-37.543	-23.210	PASS
	HCH	-4.946	-37.089	-24.946	PASS
8DPSK	LCH	-1.107	-37.498	-21.107	PASS
	MCH	-3.056	-36.383	-23.056	PASS
	HCH	-4.818	-37.377	-24.818	PASS

GFSK LCH Graphs

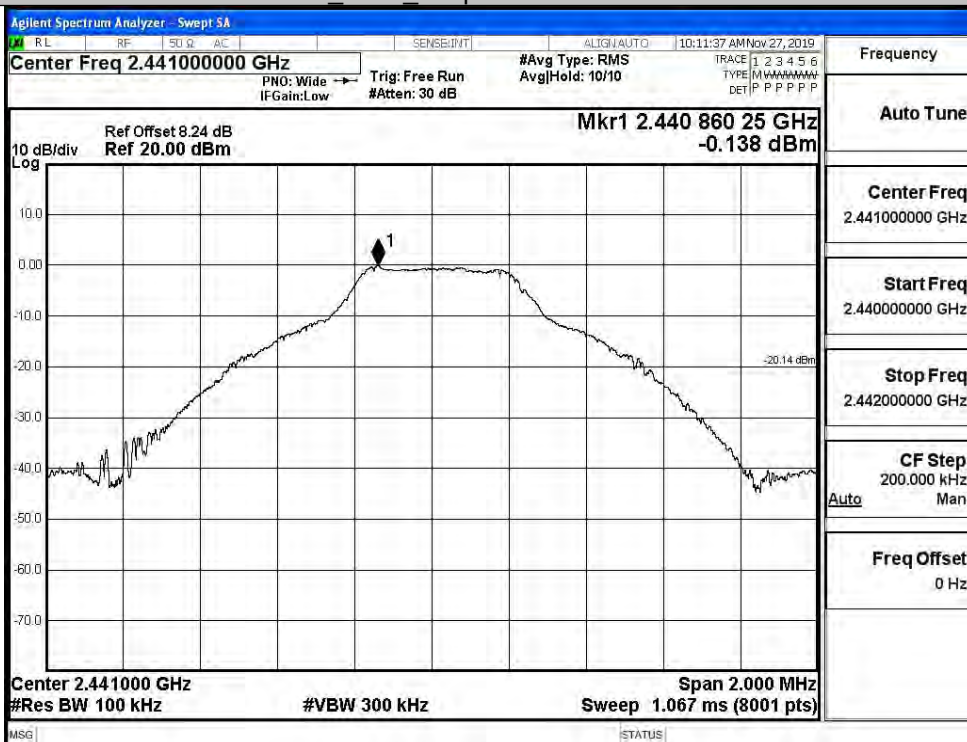
Pref



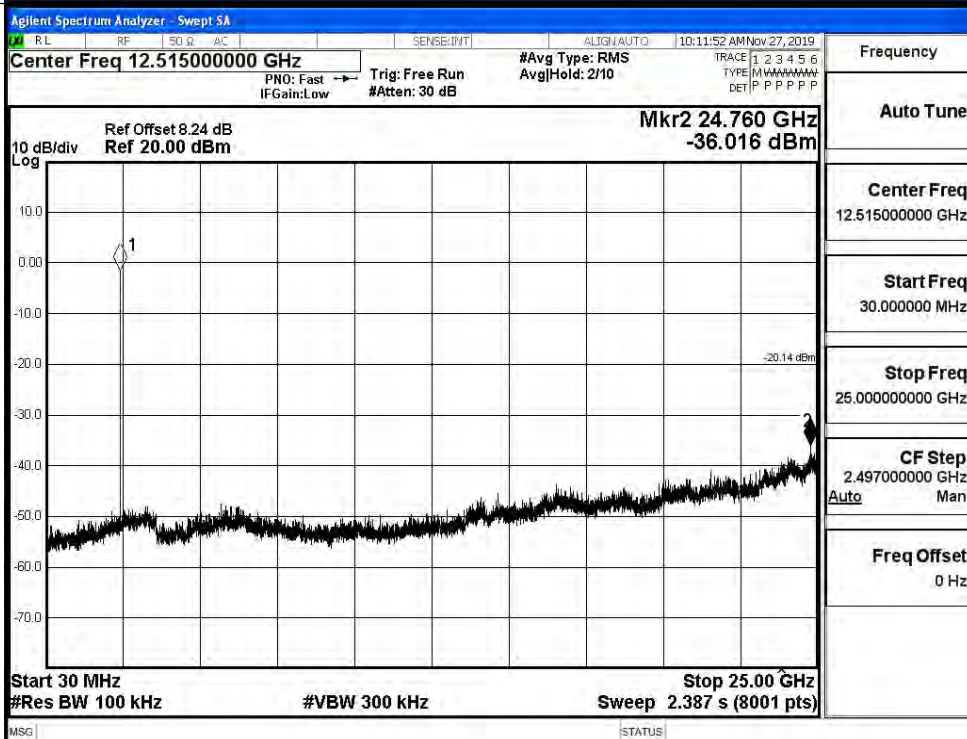


GFSK_MCH_Graphs

Pref

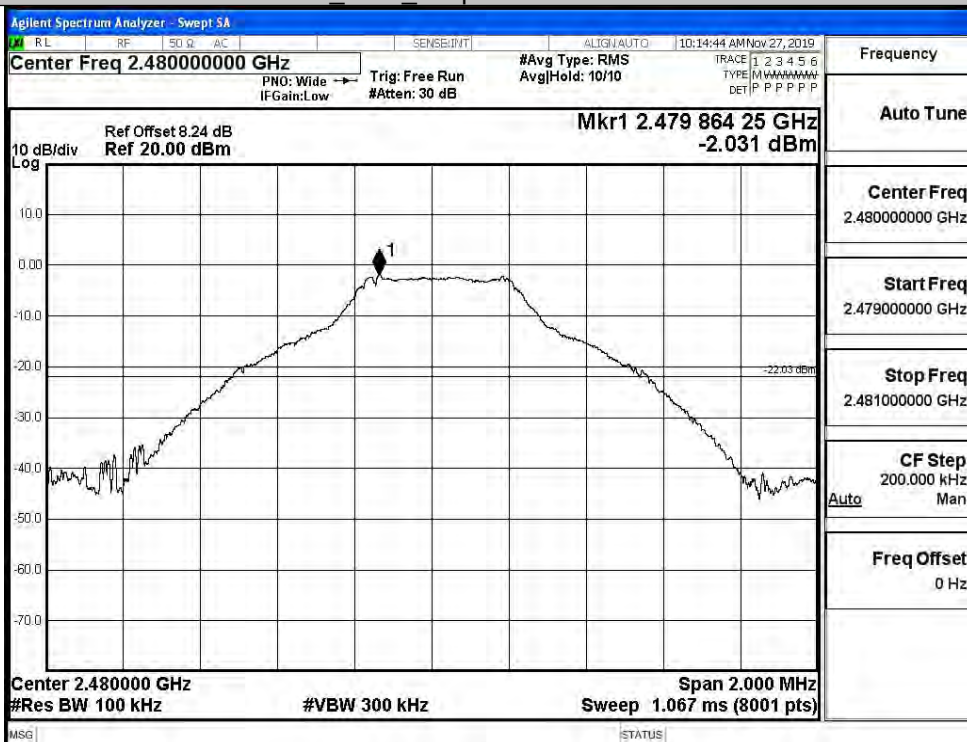


Puw

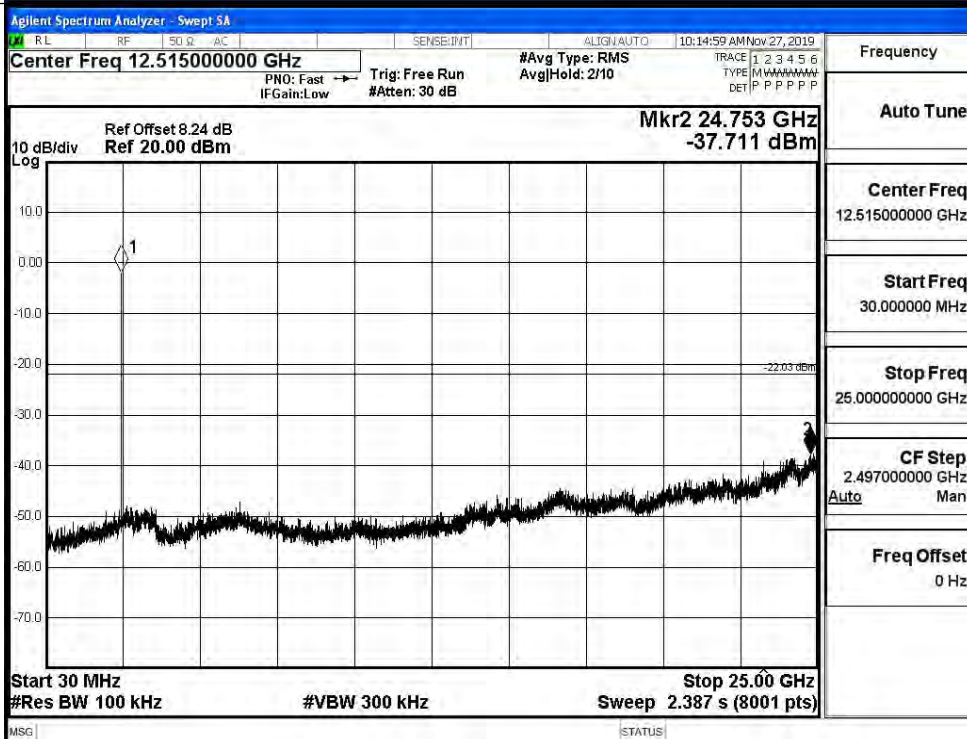


GFSK HCH Graphs

Pref

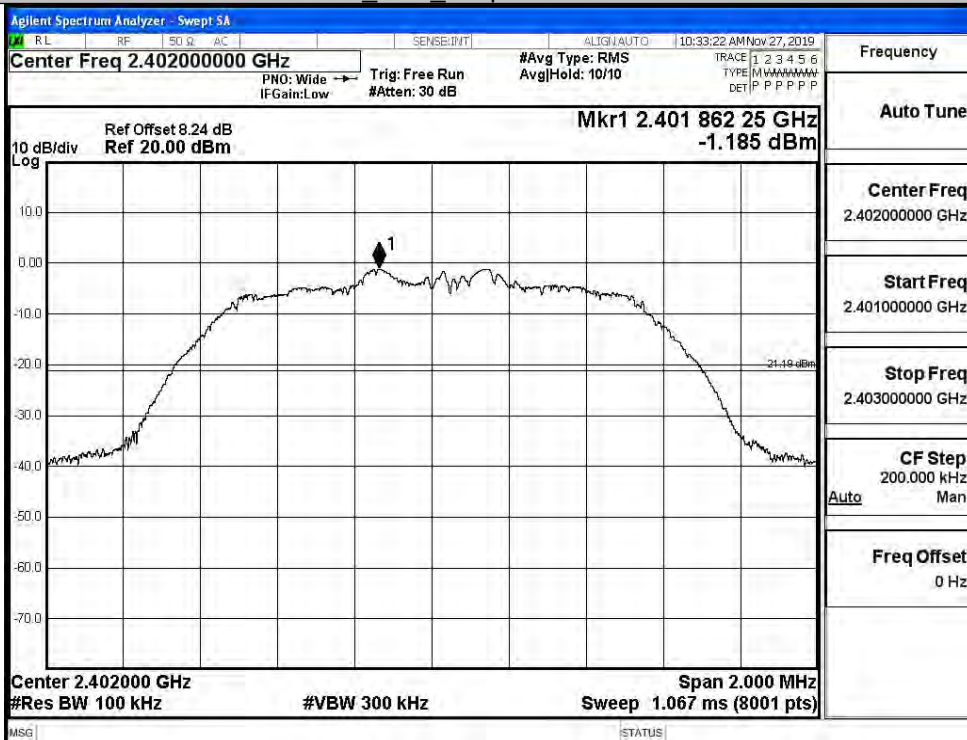


Puw

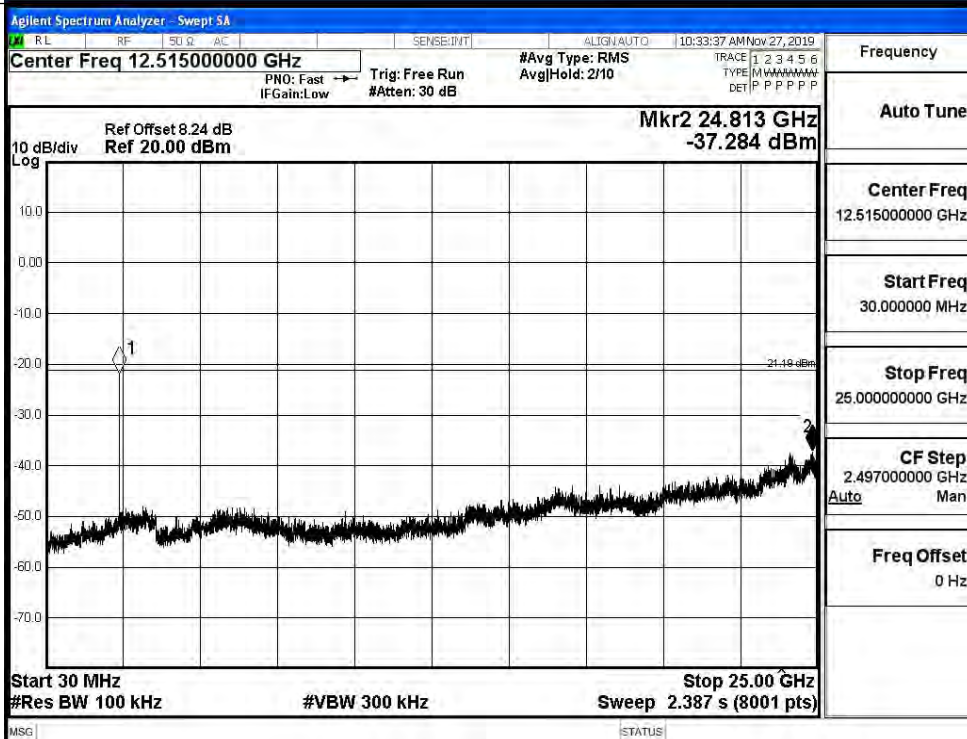


π /4DQPSK LCH_Graphs

Pref

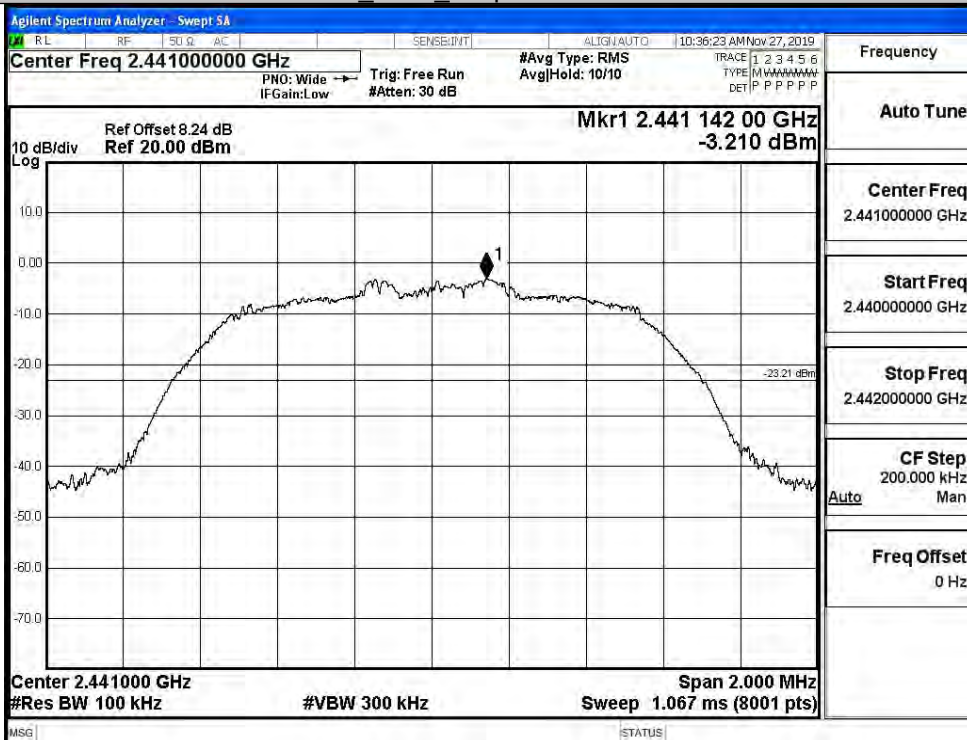


Puw

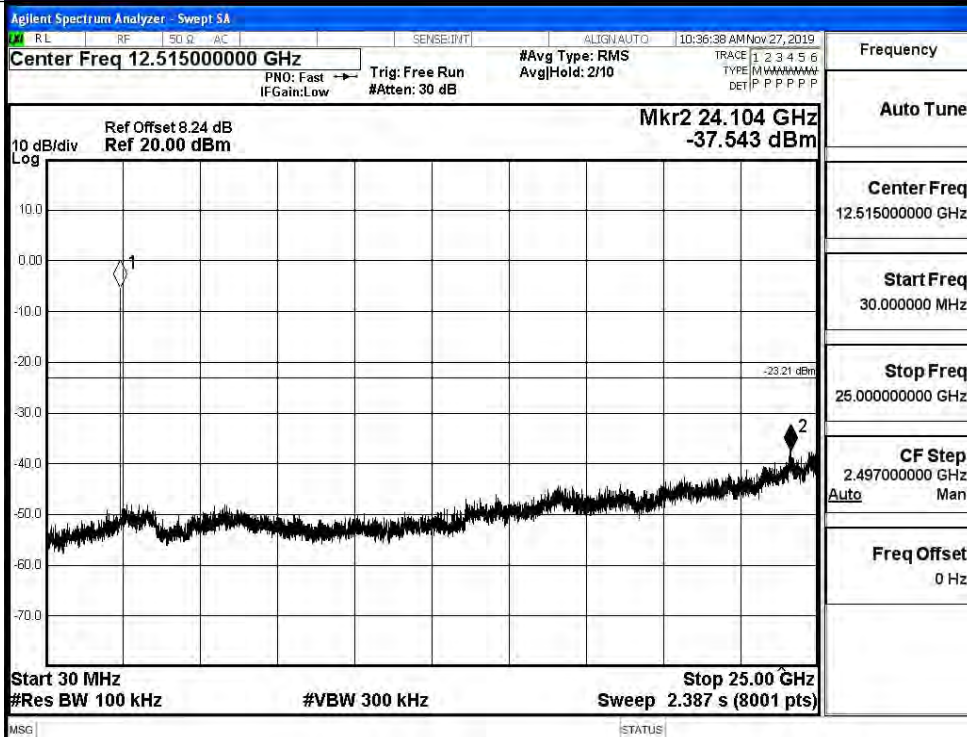


π /4DQPSK_MCH_Graphs

Pref

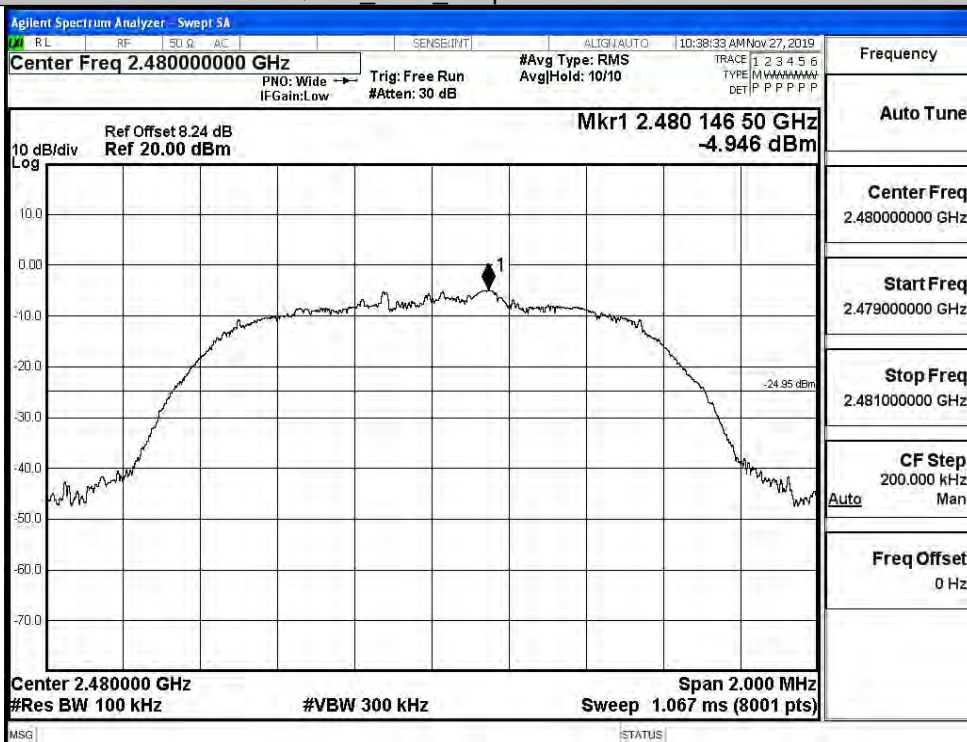


Puw

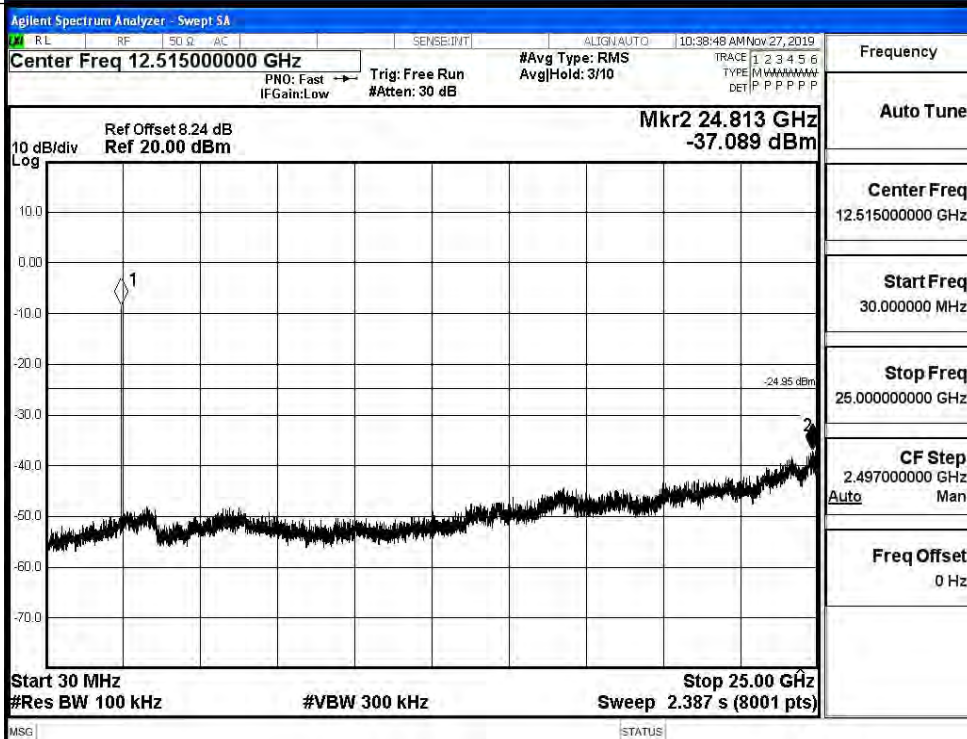


π /4DQPSK HCH_Graphs

Pref

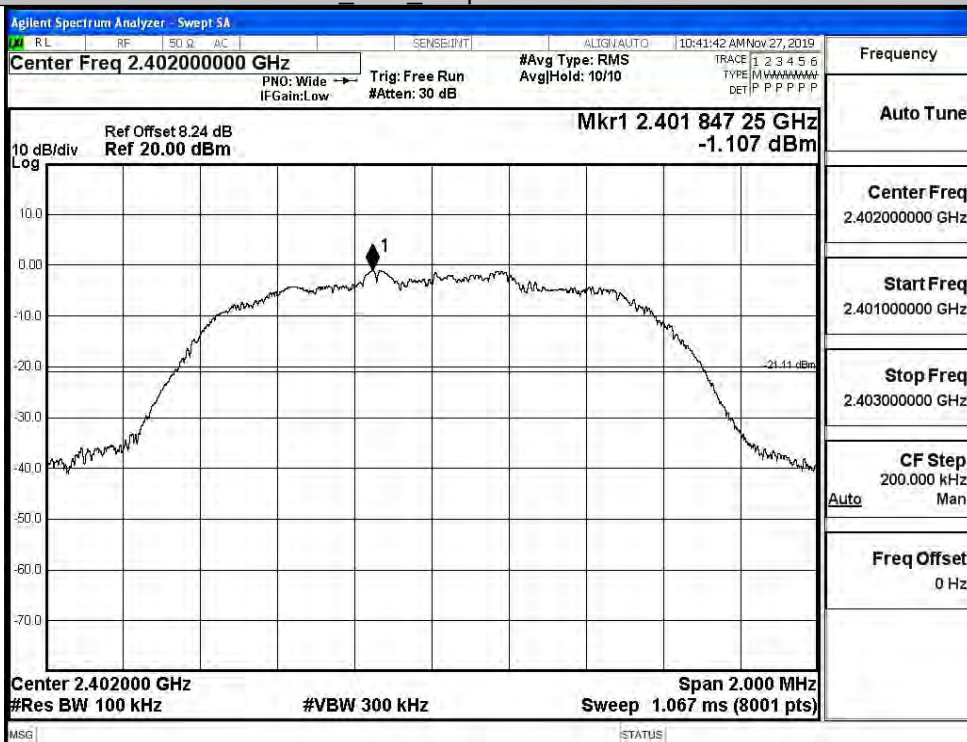


Puw

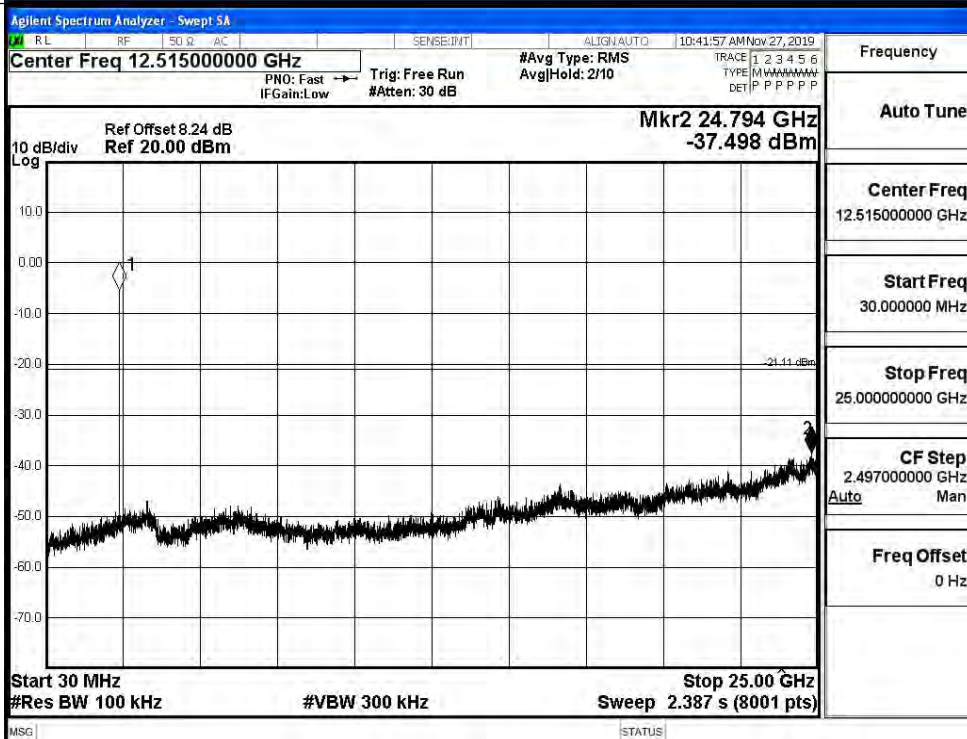


8DPSK_LCH_Graphs

Pref

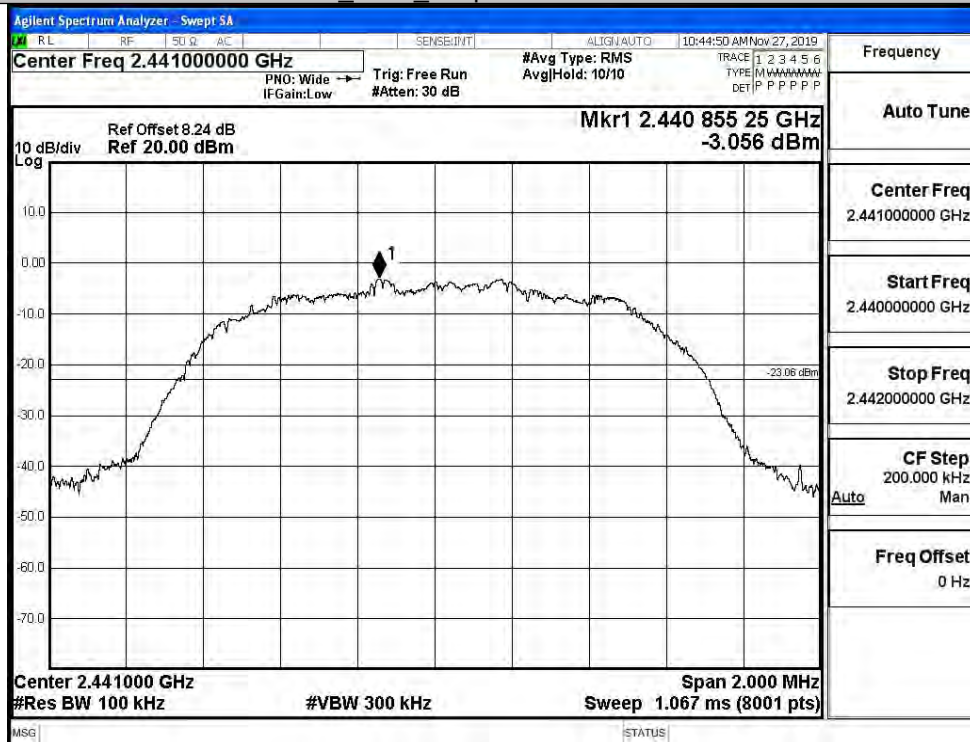


Puw

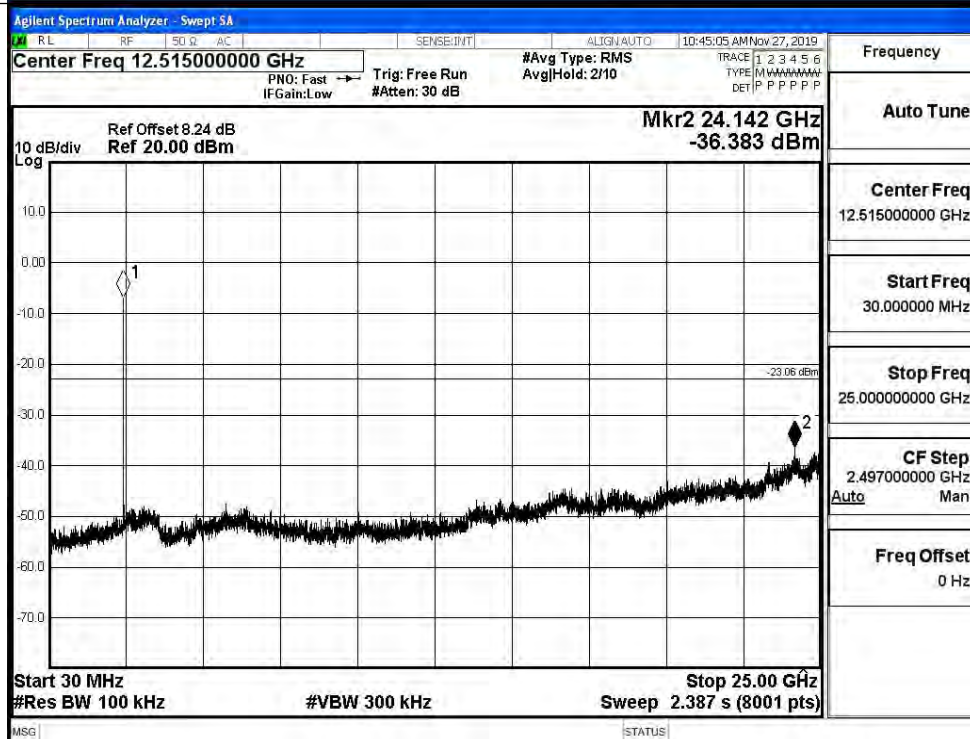


8DPSK_MCH_Graphs

Pref

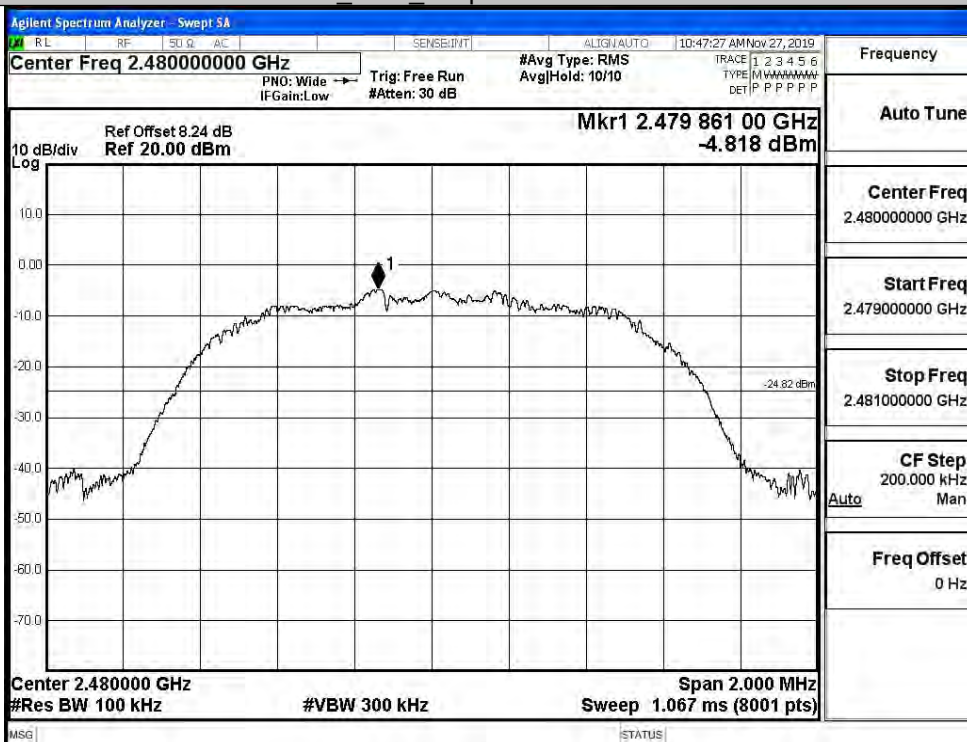


Puw

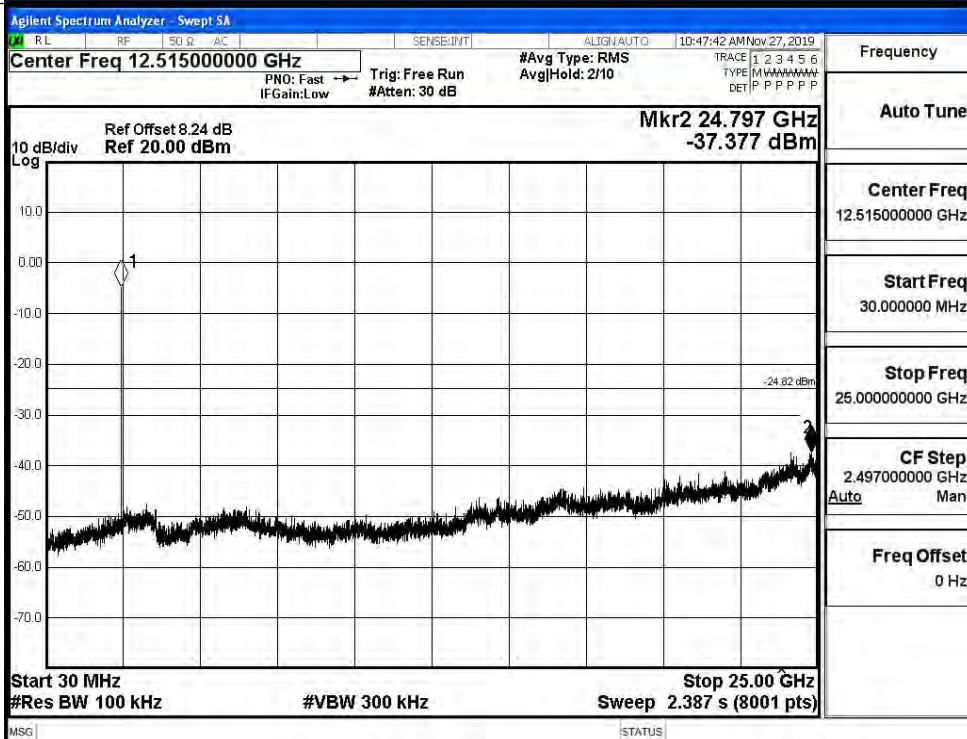


8DPSK_HCH_Graphs

Pref



Puw

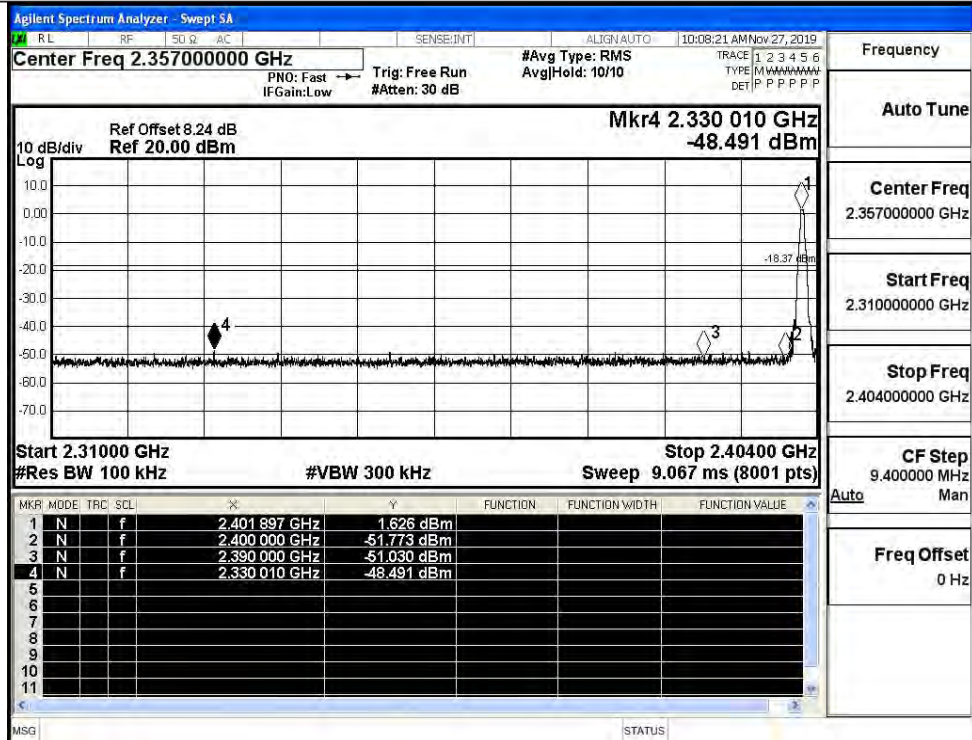


A.7 Band-edge for RF Conducted Emissions

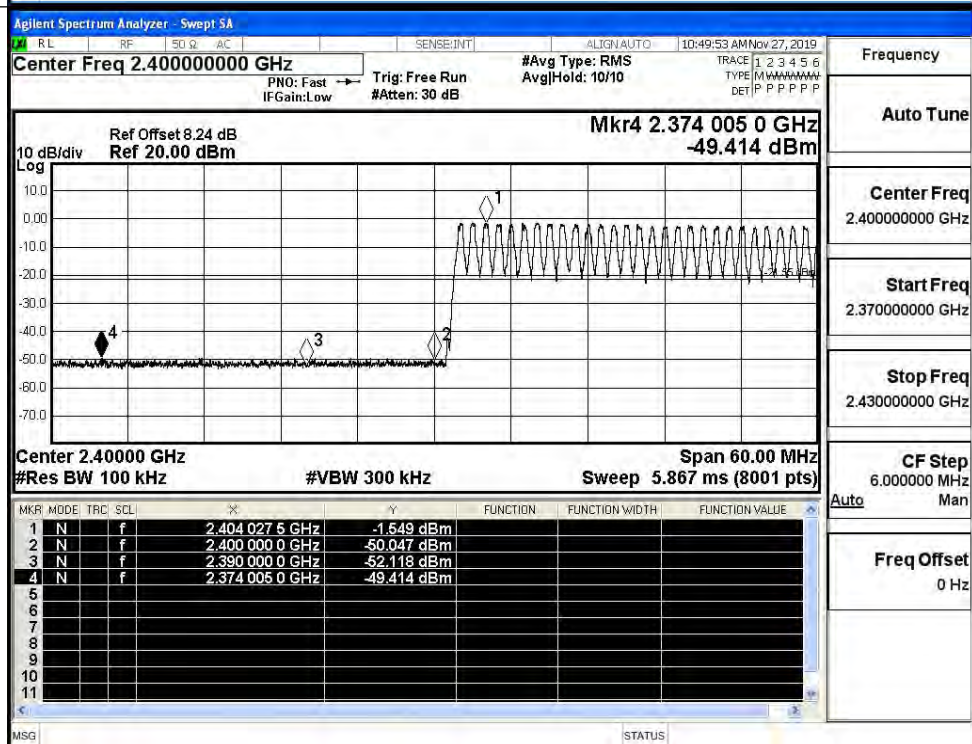
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	1.626	Off	-48.491	-18.37	PASS
			-1.549	On	-49.414	-21.55	PASS
	HCH	2480	-1.925	Off	-48.685	-21.93	PASS
			-4.343	On	-48.675	-24.34	PASS
$\pi/4$ DQPSK	LCH	2402	-1.178	Off	-49.070	-21.18	PASS
			-1.115	On	-48.580	-21.12	PASS
	HCH	2480	-5.135	Off	-48.850	-25.14	PASS
			-3.935	On	-48.544	-23.94	PASS
8DPSK	LCH	2402	-1.130	Off	-49.441	-21.13	PASS
			-0.997	On	-48.588	-21	PASS
	HCH	2480	-4.707	Off	-49.263	-24.71	PASS
			-4.060	On	-48.144	-24.06	PASS

Test Graphs

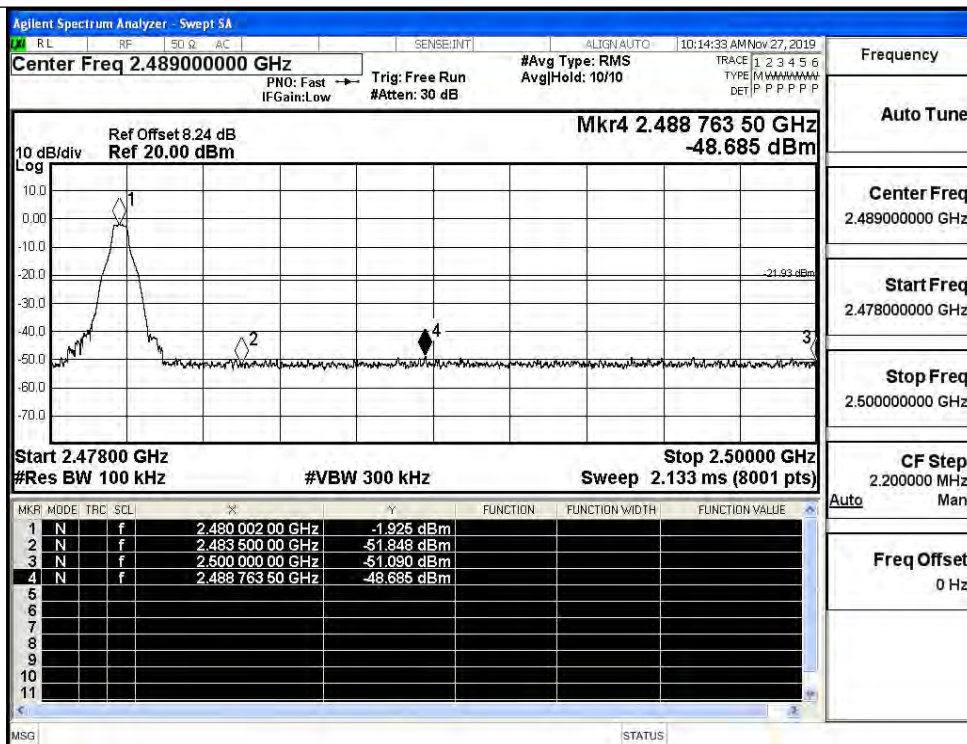
GFSK/LCH/No Hop



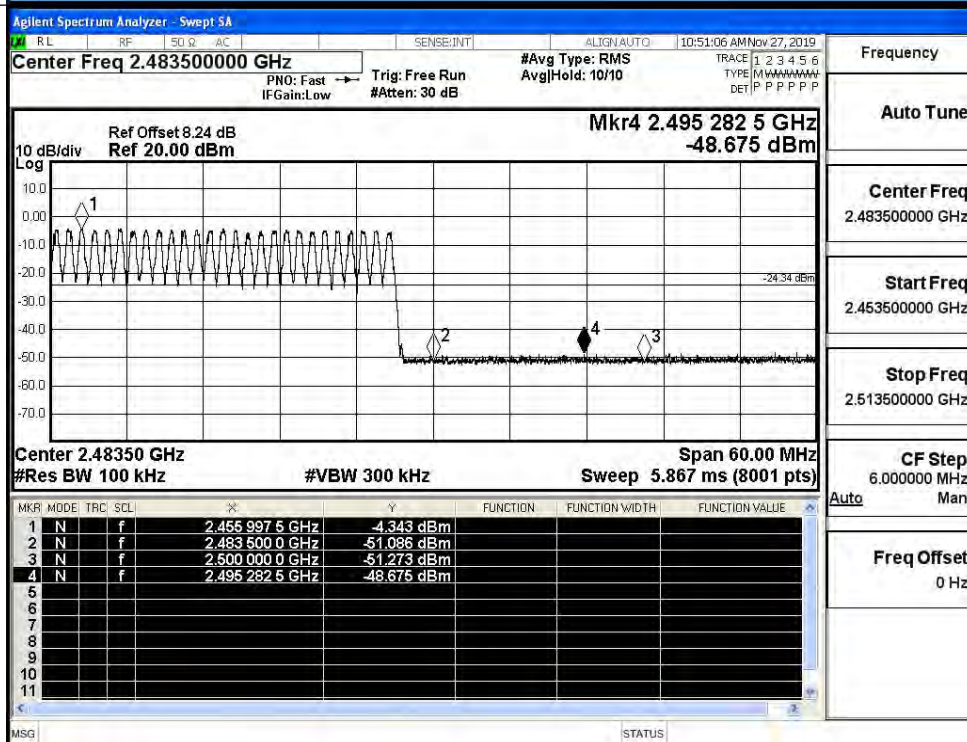
GFSK/LCH/Hop



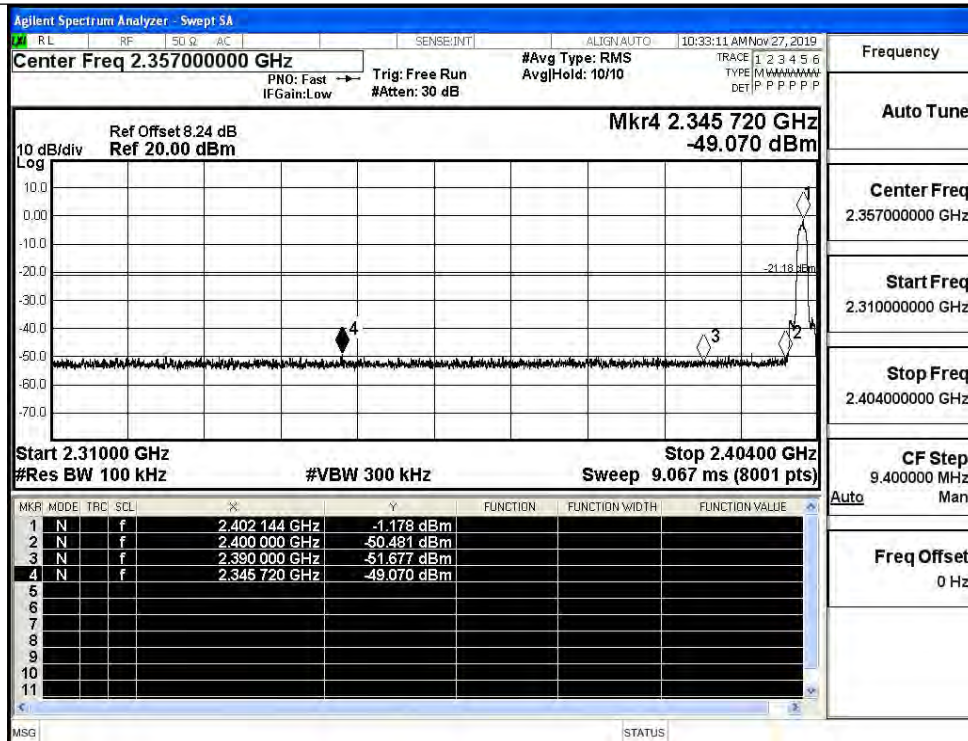
GFSK/HCH/No Hop



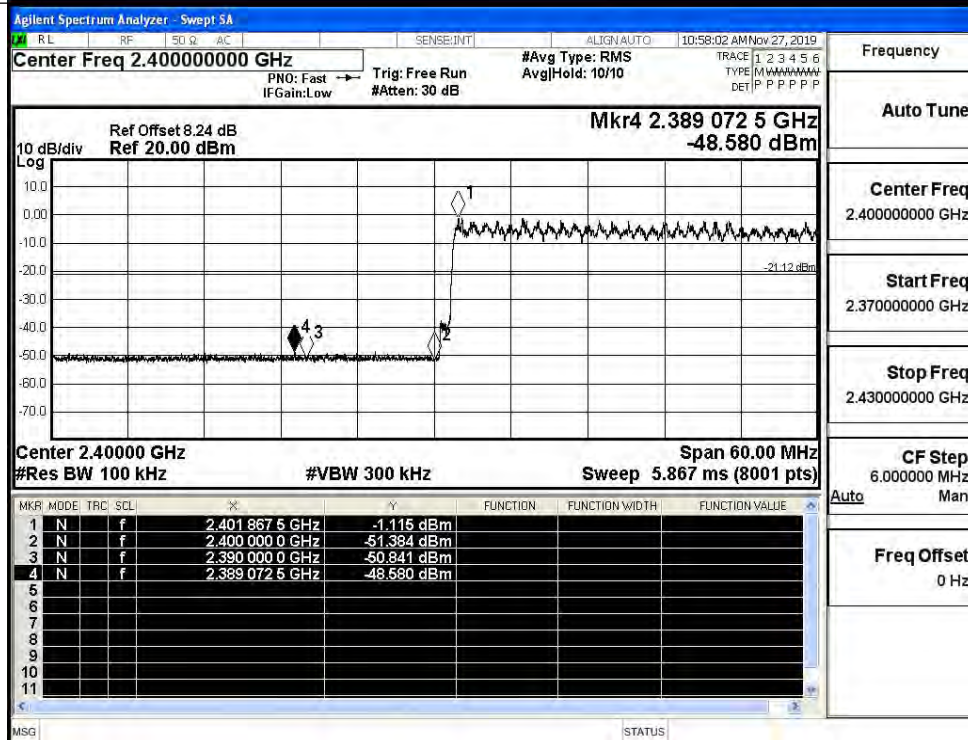
GFSK/HCH/Hop



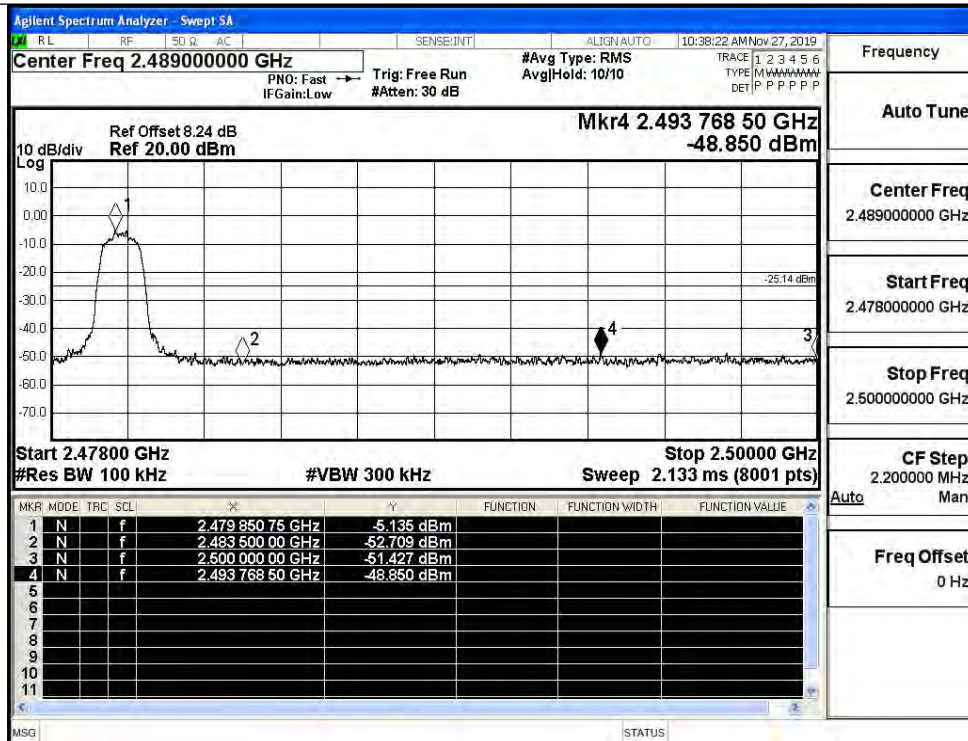
$\pi/4$ DQPSK/LCH/No
Hop



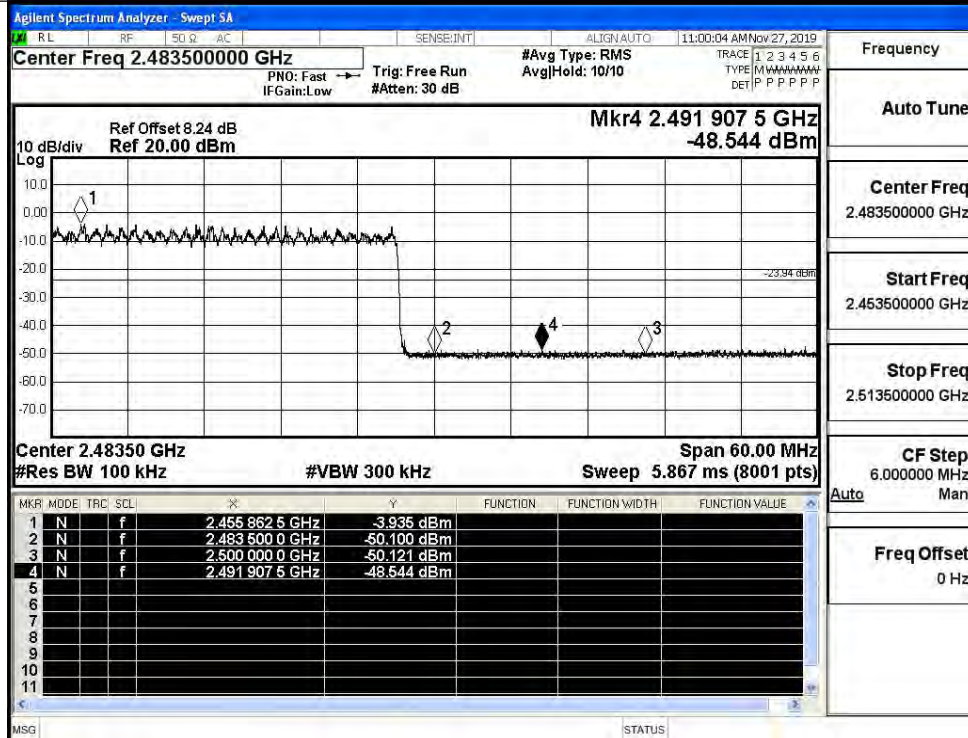
$\pi/4$ DQPSK/LCH/Hop



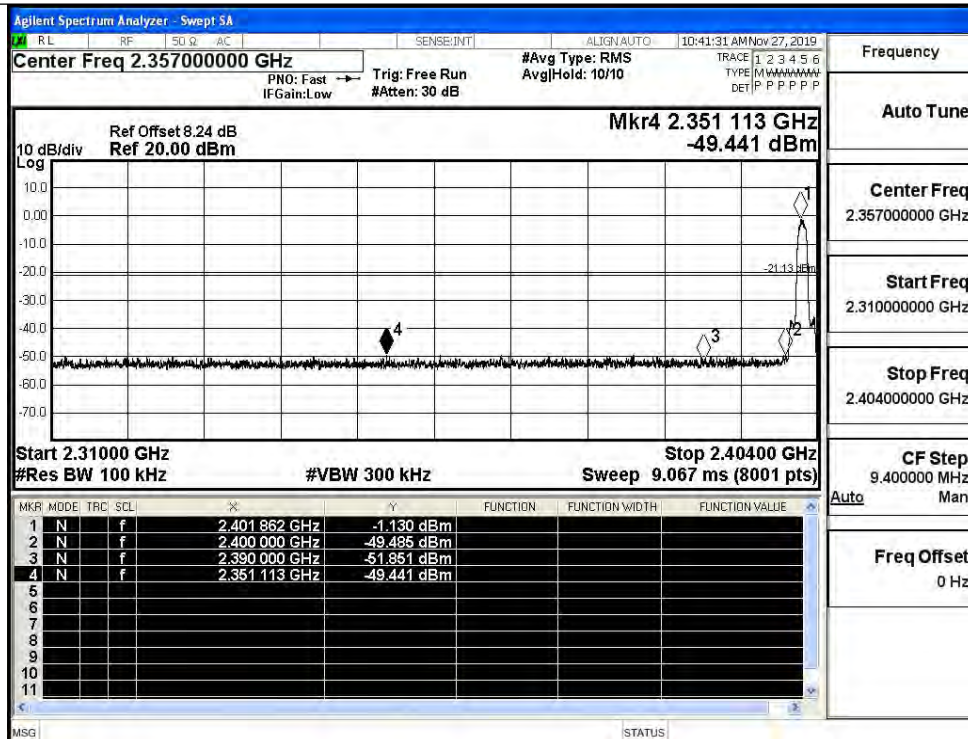
$\pi/4$ DQPSK/HCH/No
Hop



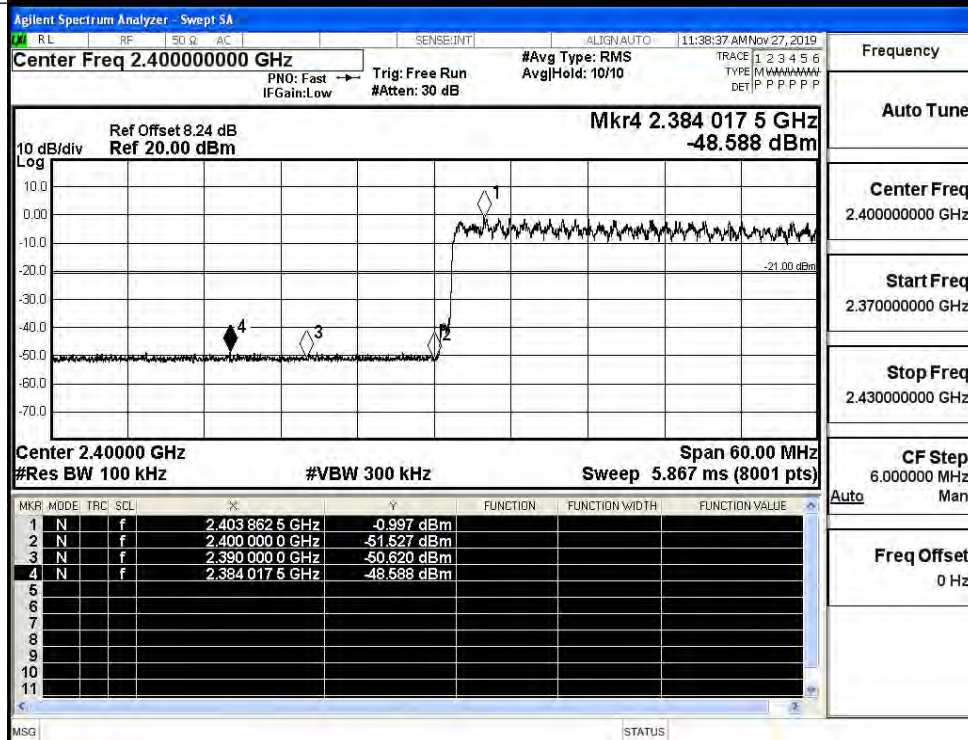
$\pi/4$ DQPSK/HCH/Hop



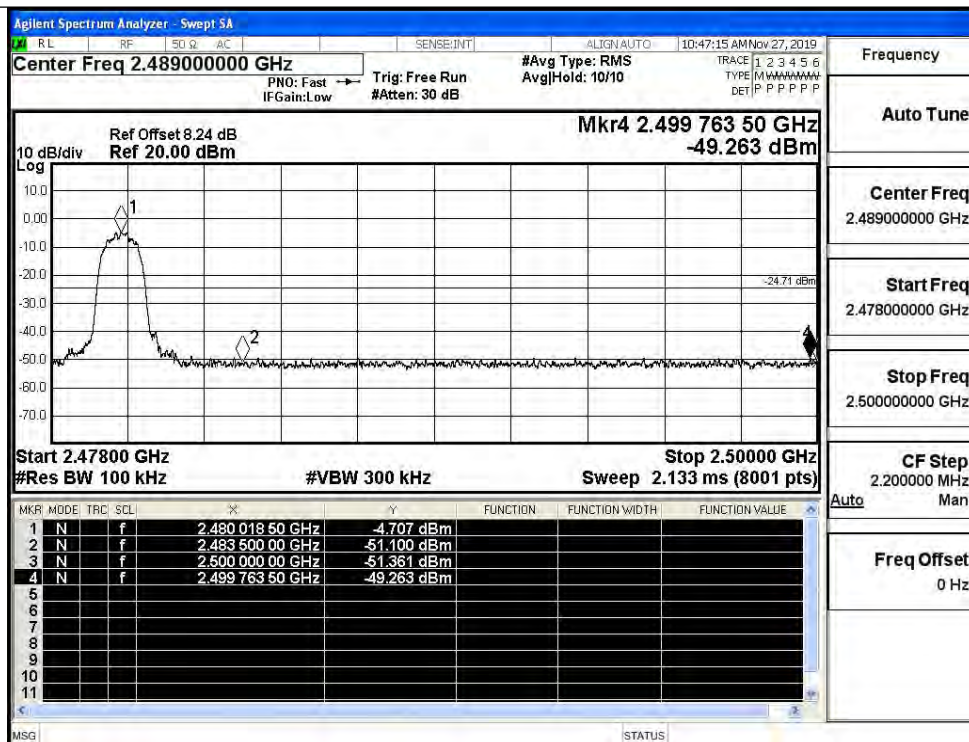
8DPSK/LCH/No Hop



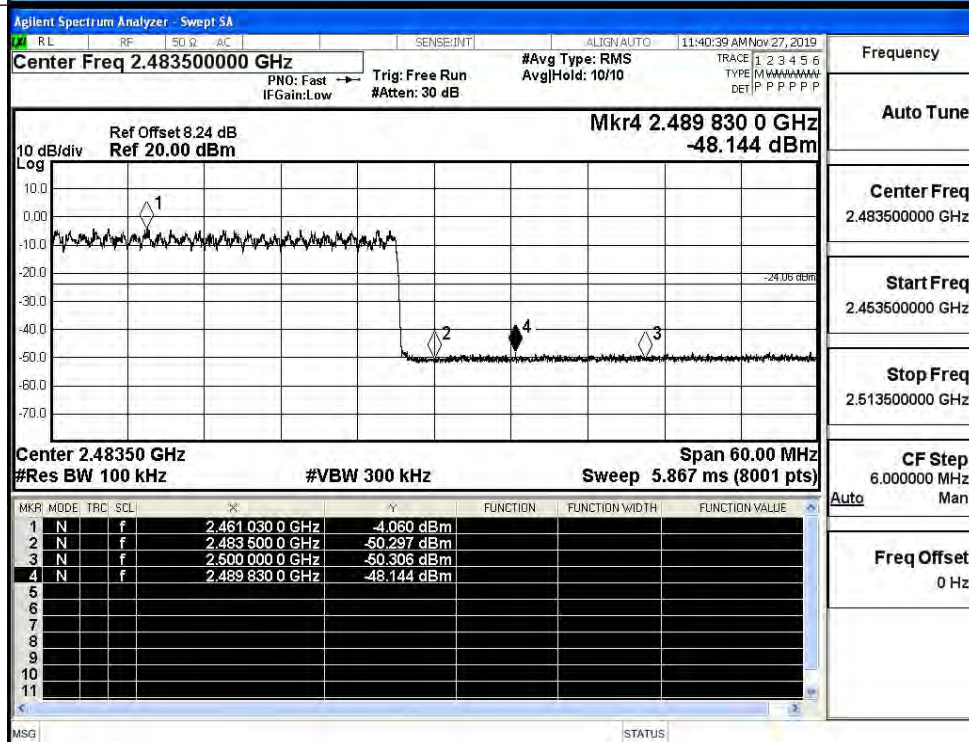
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



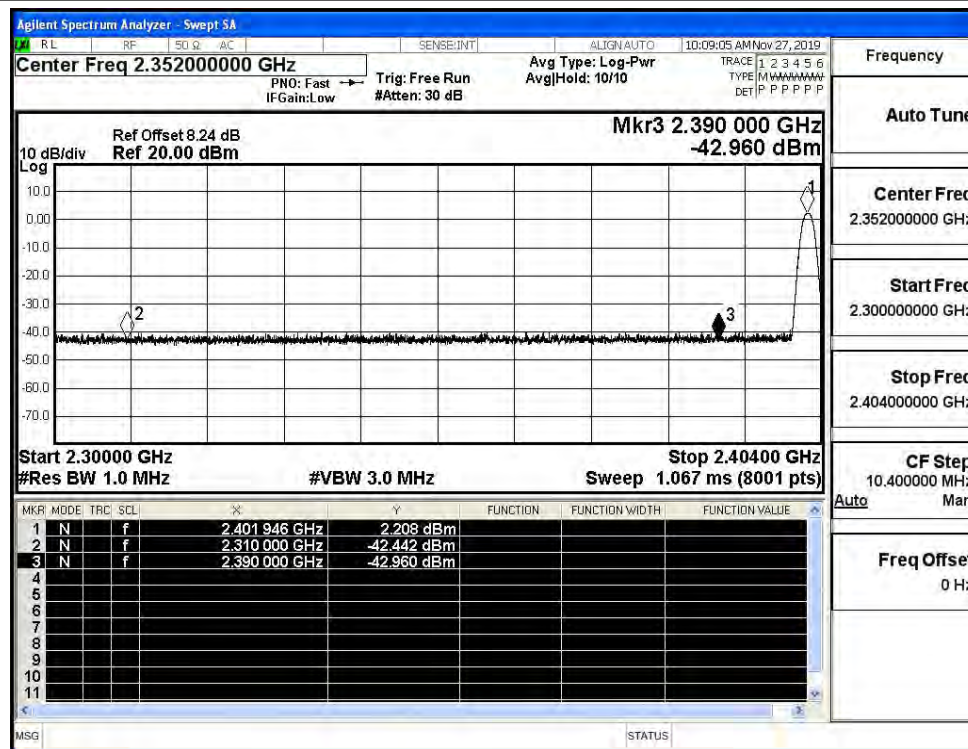
8DPSK/HCH/Hop



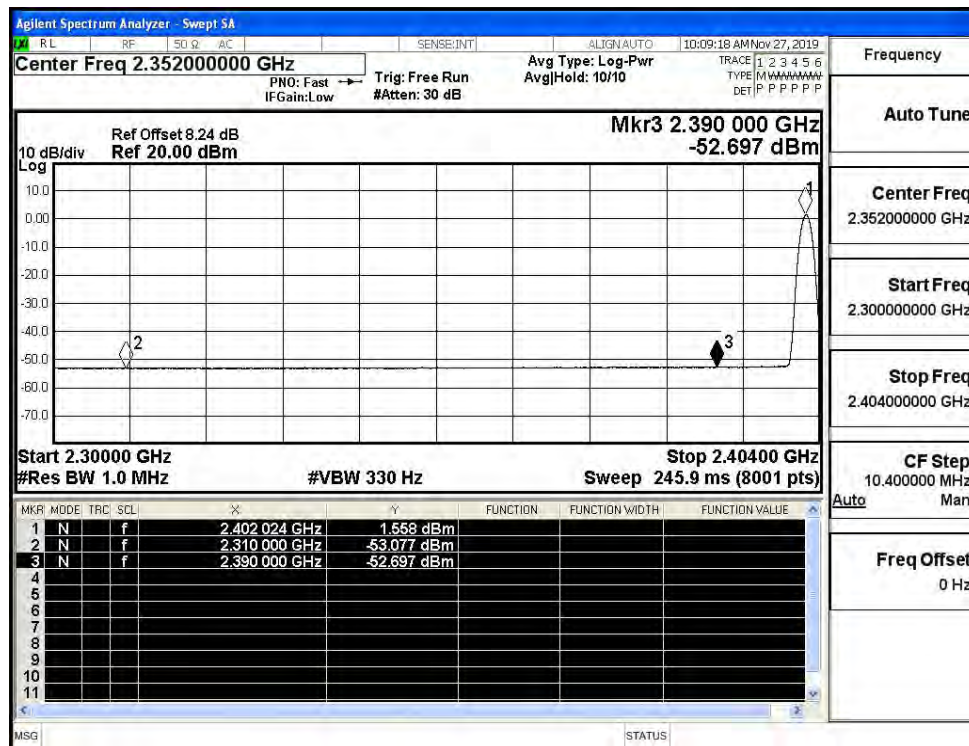
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.44	2.0	0	52.82	PEAK	74	PASS
	Off	2310.0	-53.08	2.0	0	42.18	AV	54	PASS
	Off	2390.0	-42.96	2.0	0	52.30	PEAK	74	PASS
	Off	2390.0	-52.70	2.0	0	42.56	AV	54	PASS
	Off	2483.5	-40.91	2.0	0	54.35	PEAK	74	PASS
	Off	2483.5	-52.22	2.0	0	43.04	AV	54	PASS
	Off	2500.0	-42.26	2.0	0	53.00	PEAK	74	PASS
	Off	2500.0	-52.05	2.0	0	43.21	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.05	2.0	0	52.21	PEAK	74	PASS
	Off	2310.0	-53.02	2.0	0	42.24	AV	54	PASS
	Off	2390.0	-42.68	2.0	0	52.58	PEAK	74	PASS
	Off	2390.0	-52.74	2.0	0	42.52	AV	54	PASS
	Off	2483.5	-42.66	2.0	0	52.60	PEAK	74	PASS
	Off	2483.5	-52.32	2.0	0	42.94	AV	54	PASS
	Off	2500.0	-41.81	2.0	0	53.45	PEAK	74	PASS
	Off	2500.0	-52.13	2.0	0	43.13	AV	54	PASS
8DPSK	Off	2310.0	-42.26	2.0	0	52.99	PEAK	74	PASS
	Off	2310.0	-53.14	2.0	0	42.11	AV	54	PASS
	Off	2390.0	-42.16	2.0	0	53.10	PEAK	74	PASS
	Off	2390.0	-52.59	2.0	0	42.67	AV	54	PASS
	Off	2483.5	-42.71	2.0	0	52.55	PEAK	74	PASS
	Off	2483.5	-52.28	2.0	0	42.98	AV	54	PASS
	Off	2500.0	-42.22	2.0	0	53.04	PEAK	74	PASS
	Off	2500.0	-52.09	2.0	0	43.17	AV	54	PASS

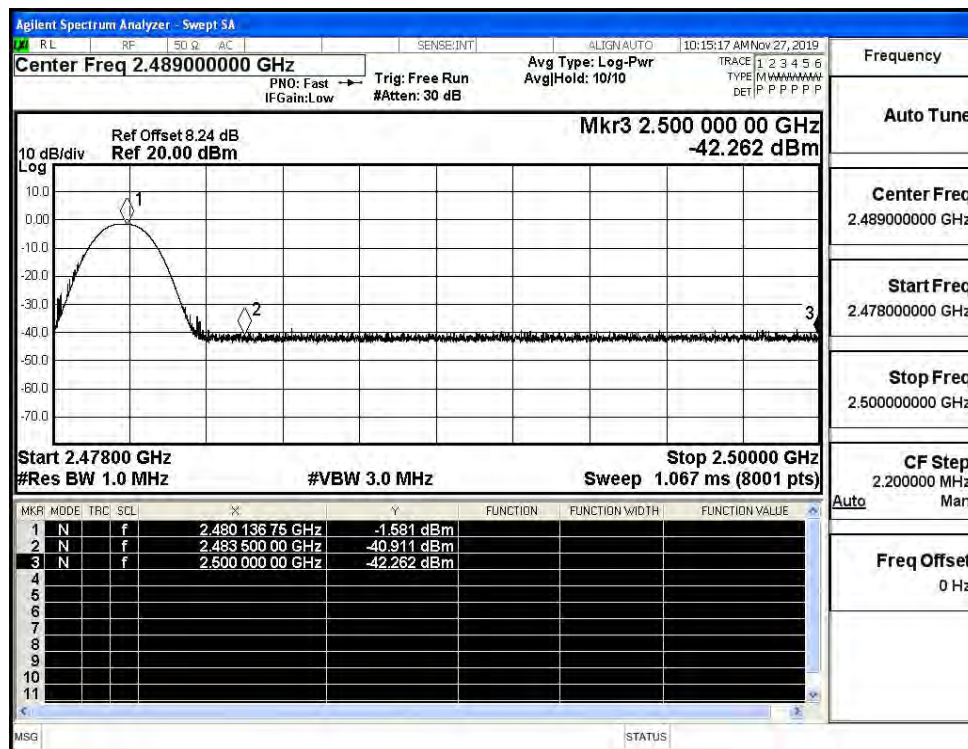
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



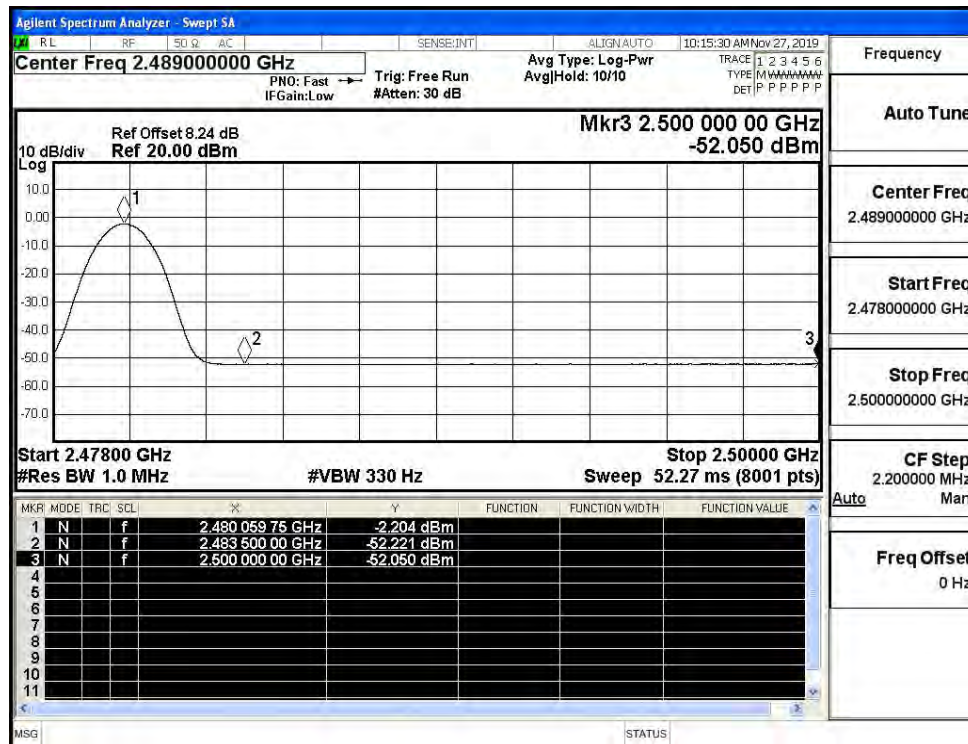
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

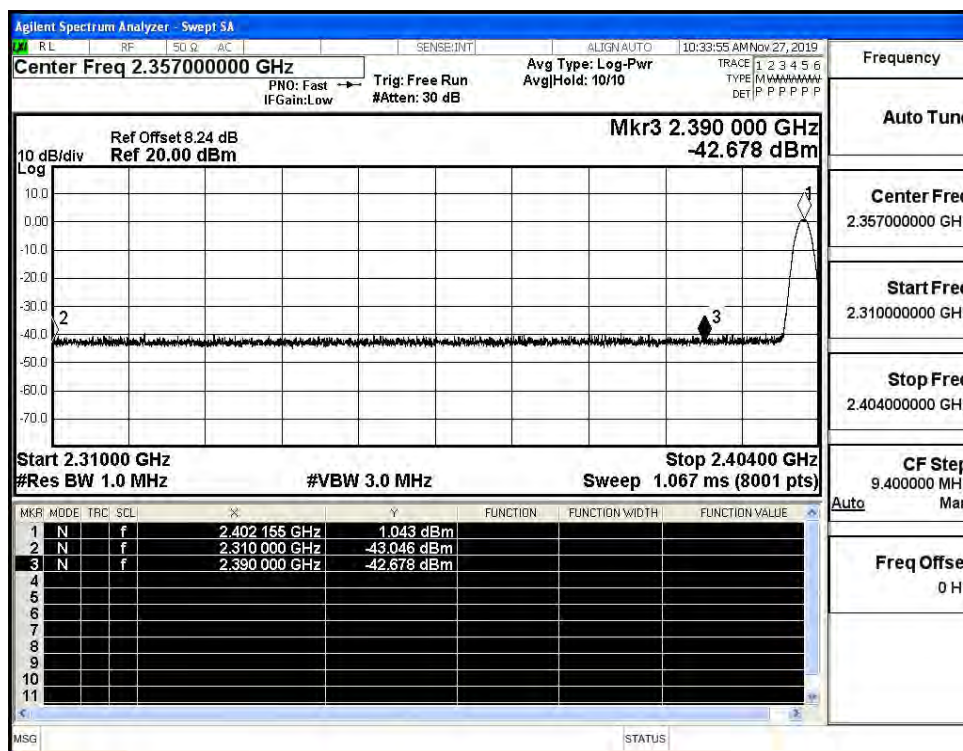
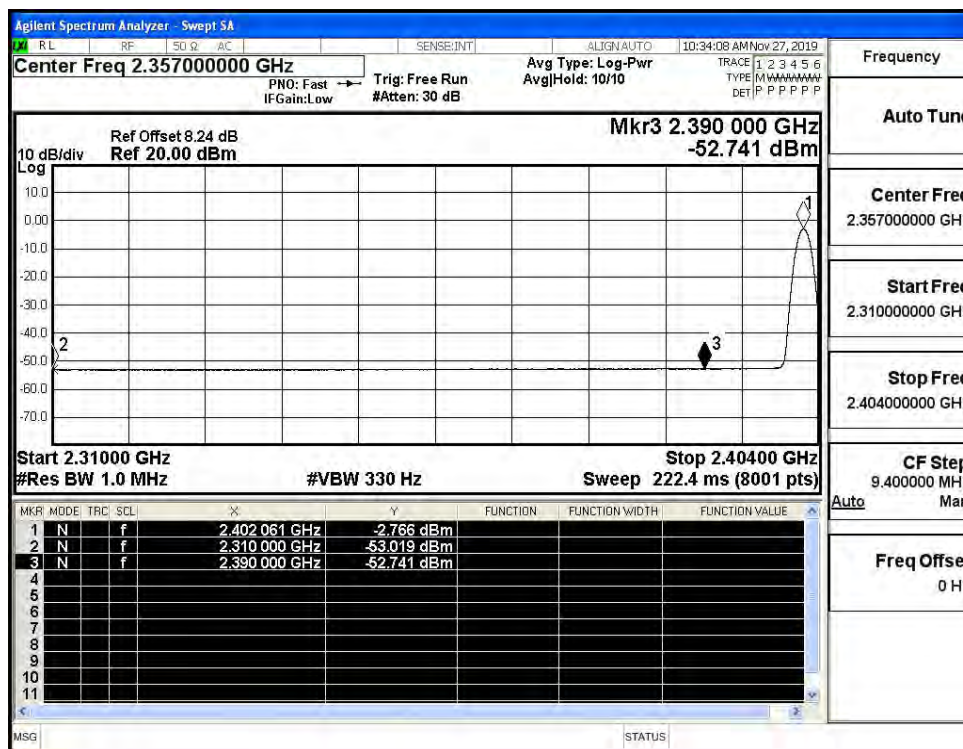


Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)

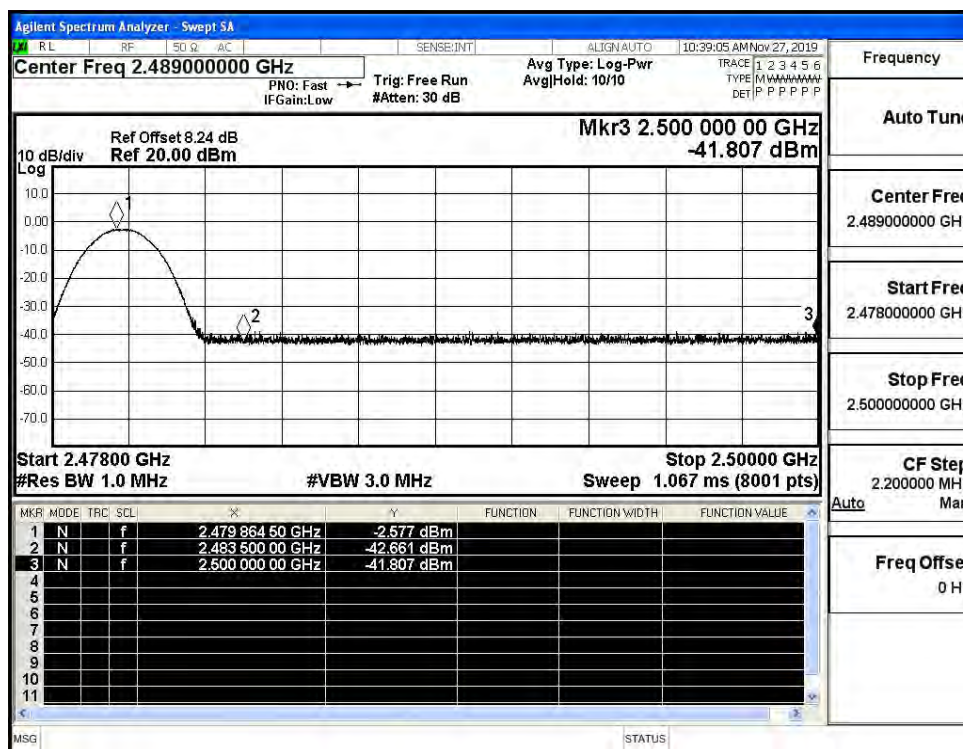


Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)

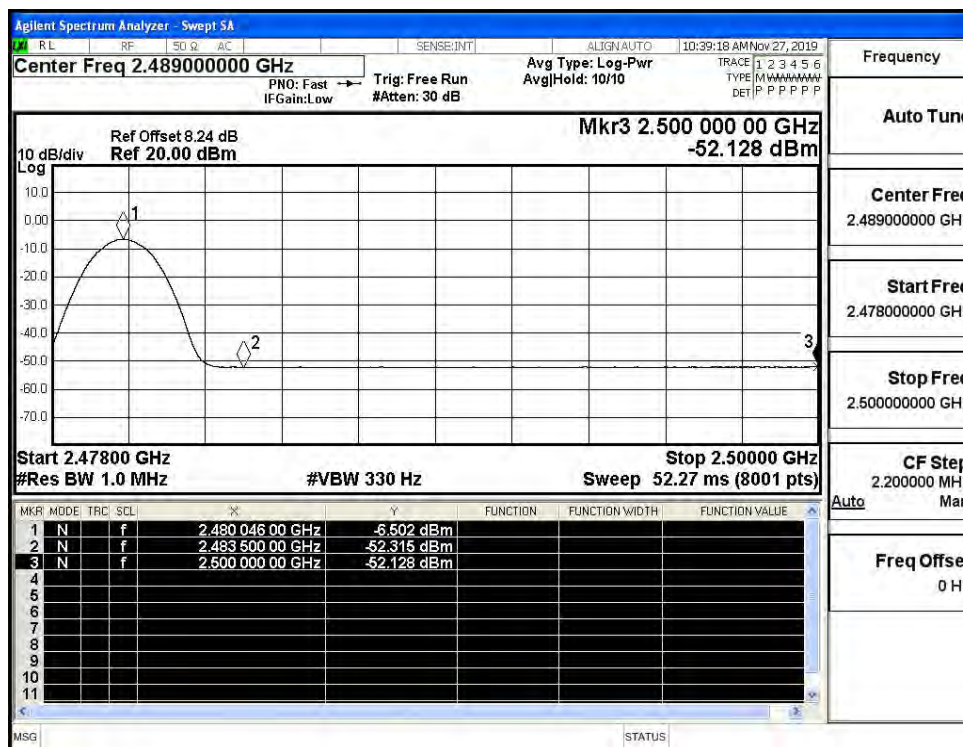


Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

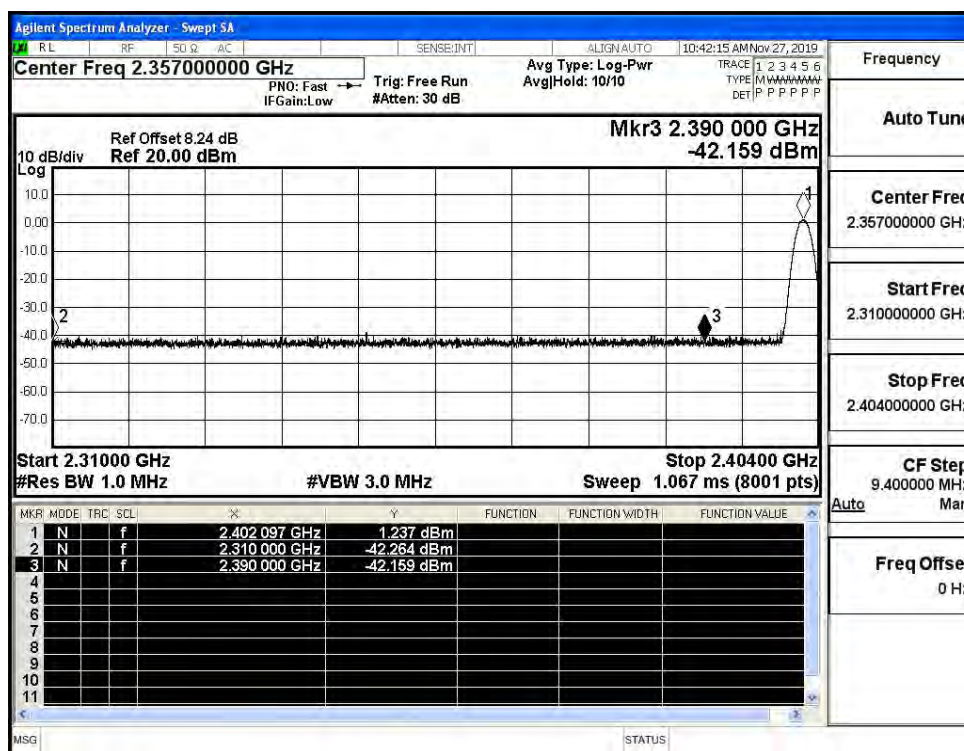
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



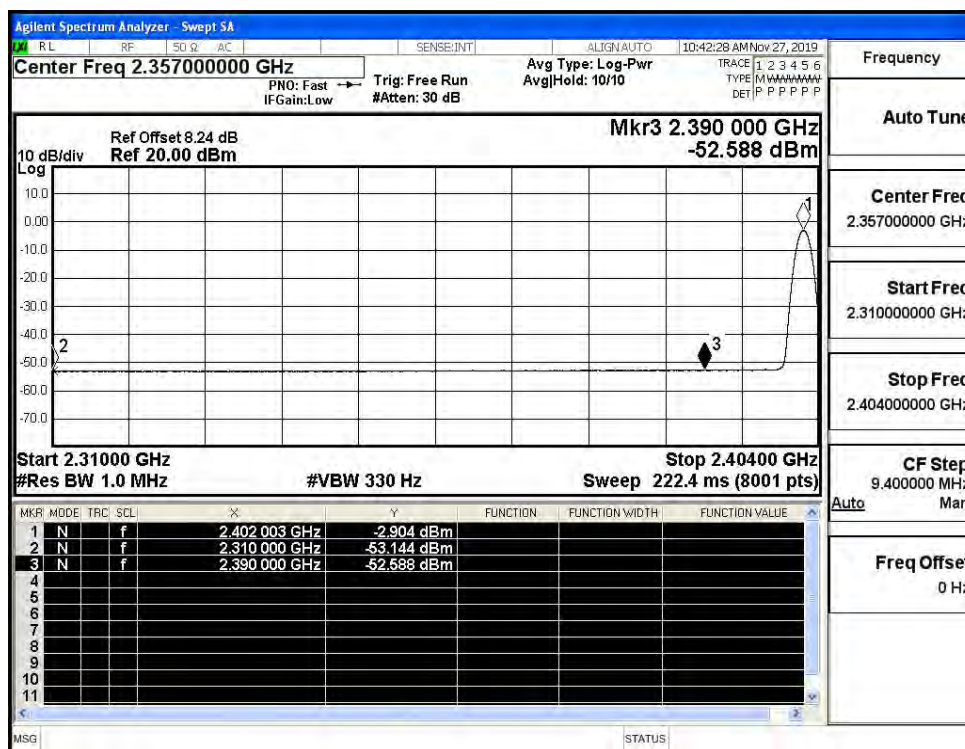
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



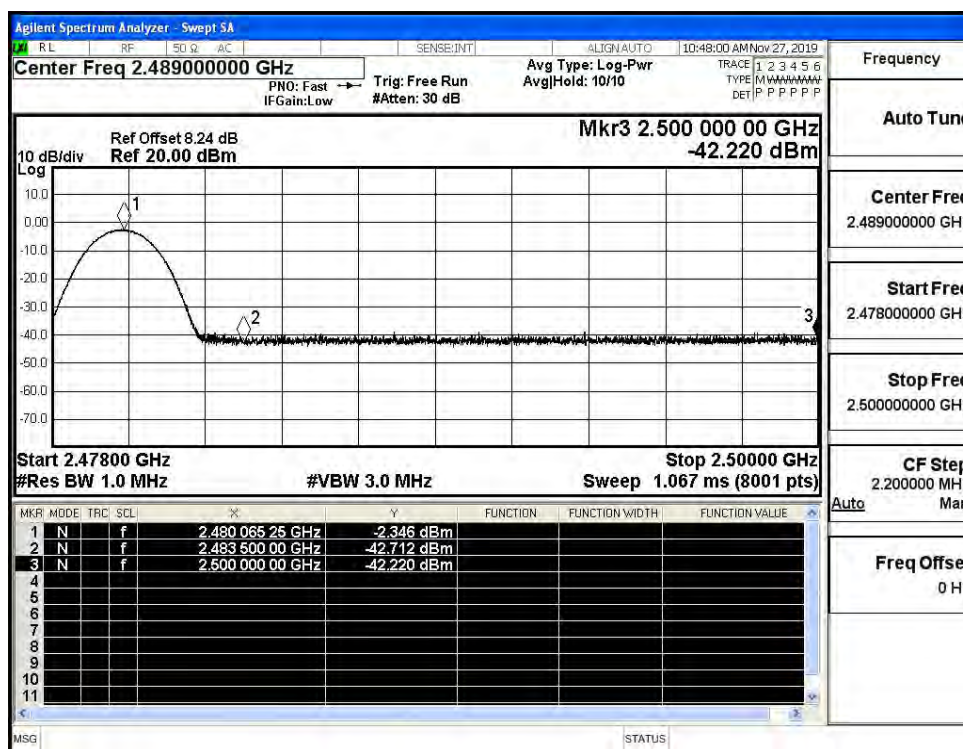
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

