

Appendix A

RF Test Data for BT V4.0(BDR/EDR) (Conducted Measurement)

Product Name: Digital Audio Player

Trade Mark: N/A

Test Model: PAW Gold Touch

Environmental Conditions

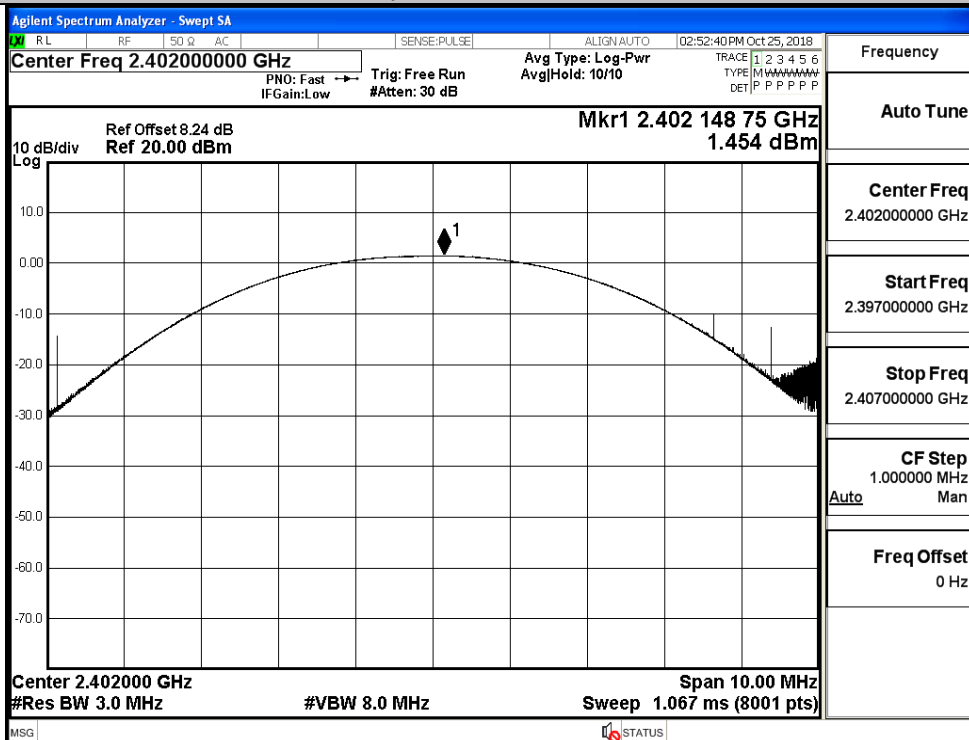
Temperature:	24.1 ° C
Relative Humidity:	53.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond.Lu
Supervised by:	Jayden.Zhuo

A.1 Maximum Conducted Peak Output Power

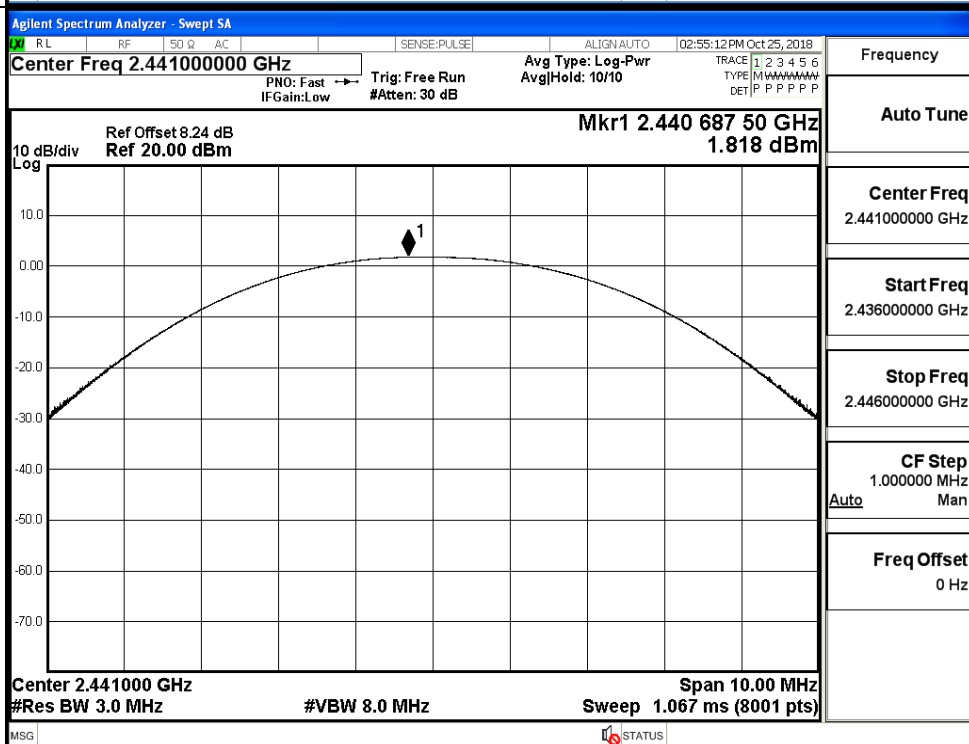
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.454	30	PASS
	MCH	1.818	30	PASS
	HCH	0.942	30	PASS
$\pi/4$ DQPSK	LCH	0.643	21	PASS
	MCH	-0.194	21	PASS
	HCH	0.575	21	PASS
8DPSK	LCH	0.847	21	PASS
	MCH	1.237	21	PASS
	HCH	0.424	21	PASS

Test Graphs

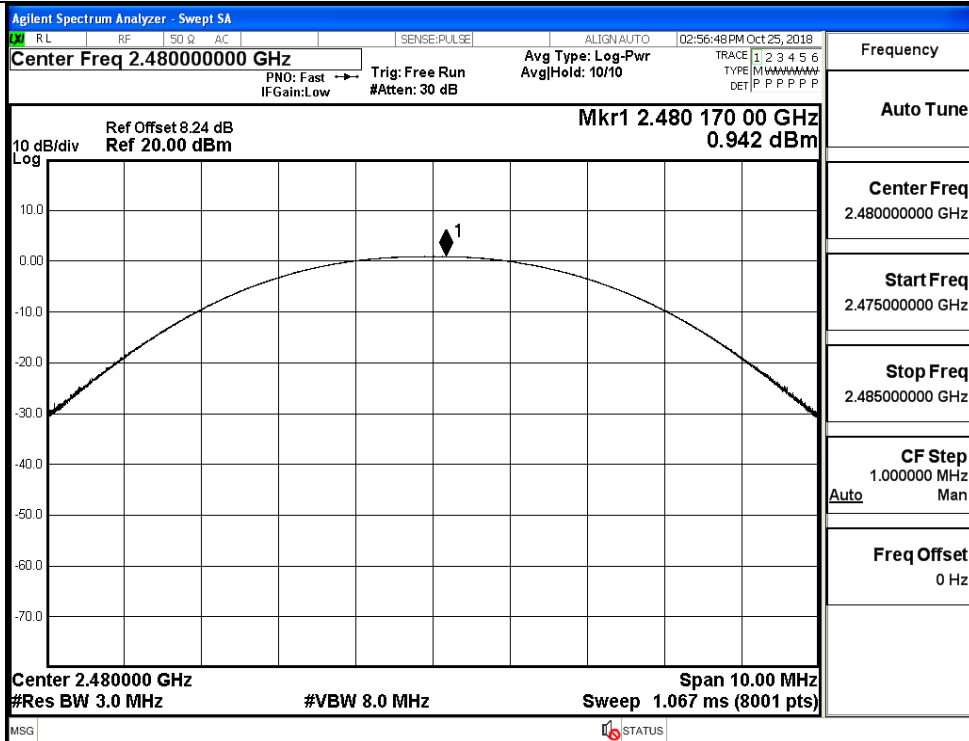
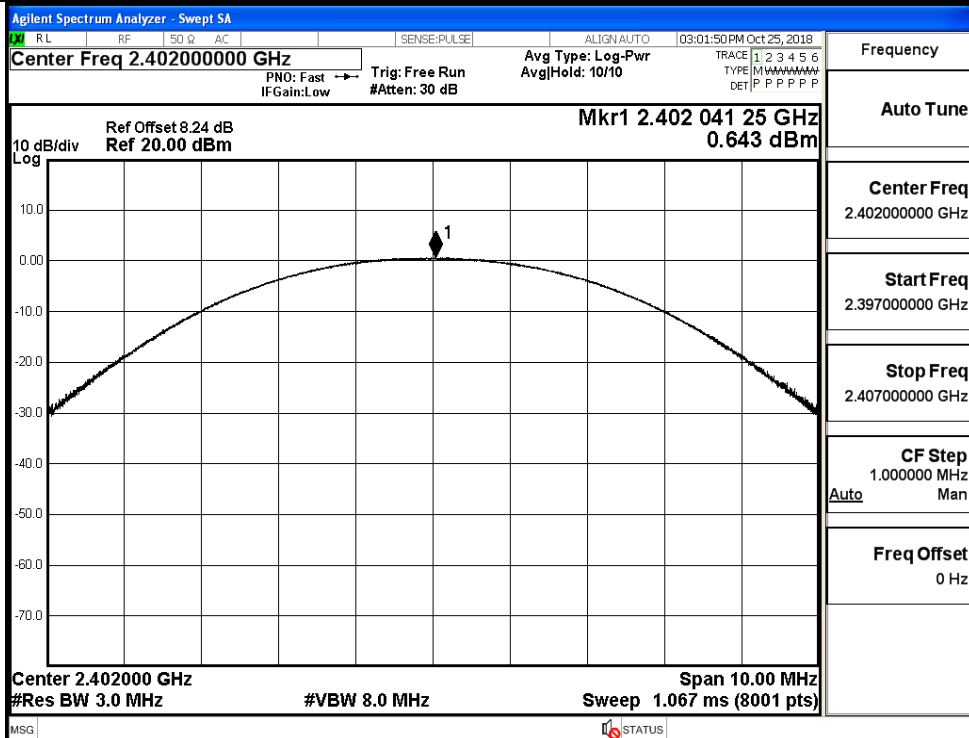
GFSK/LCH

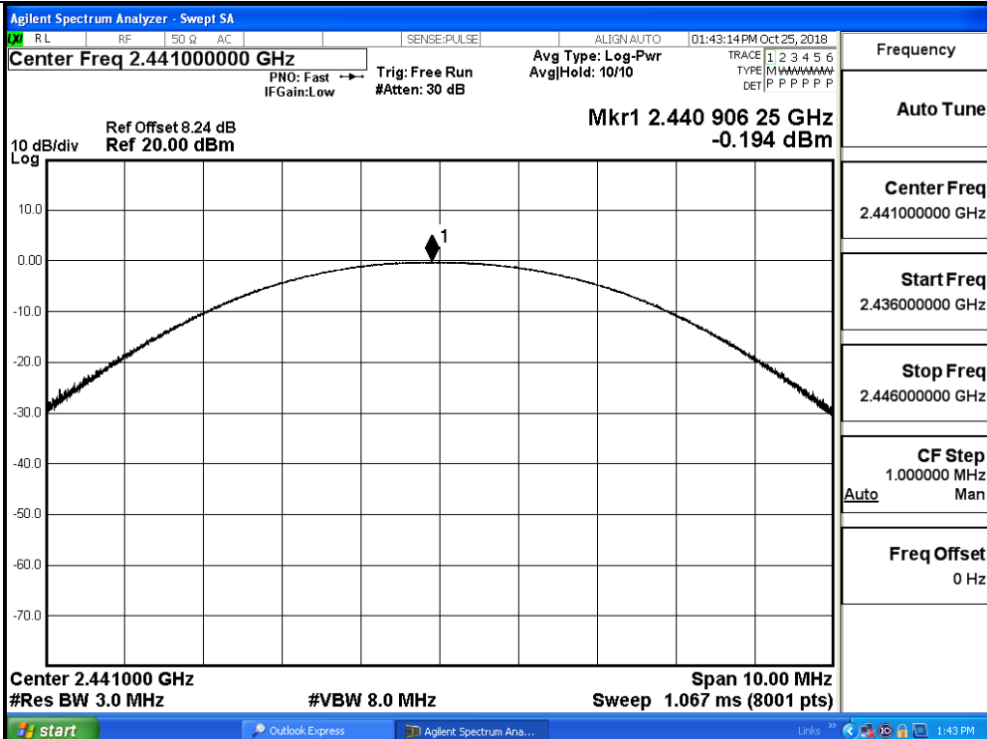
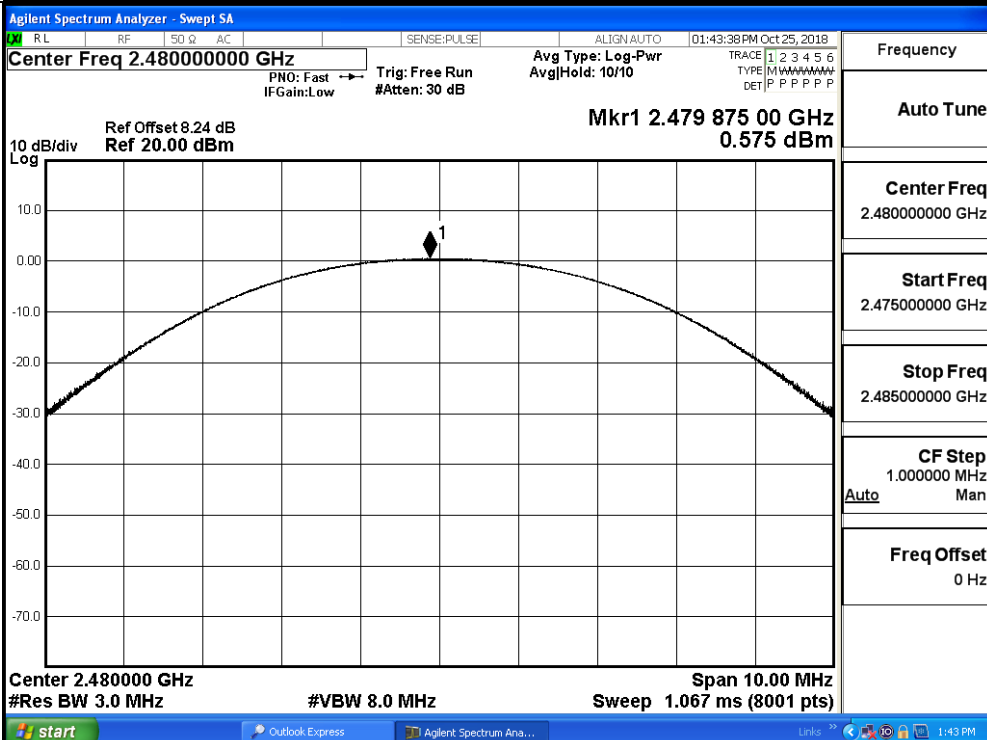


GFSK/MCH

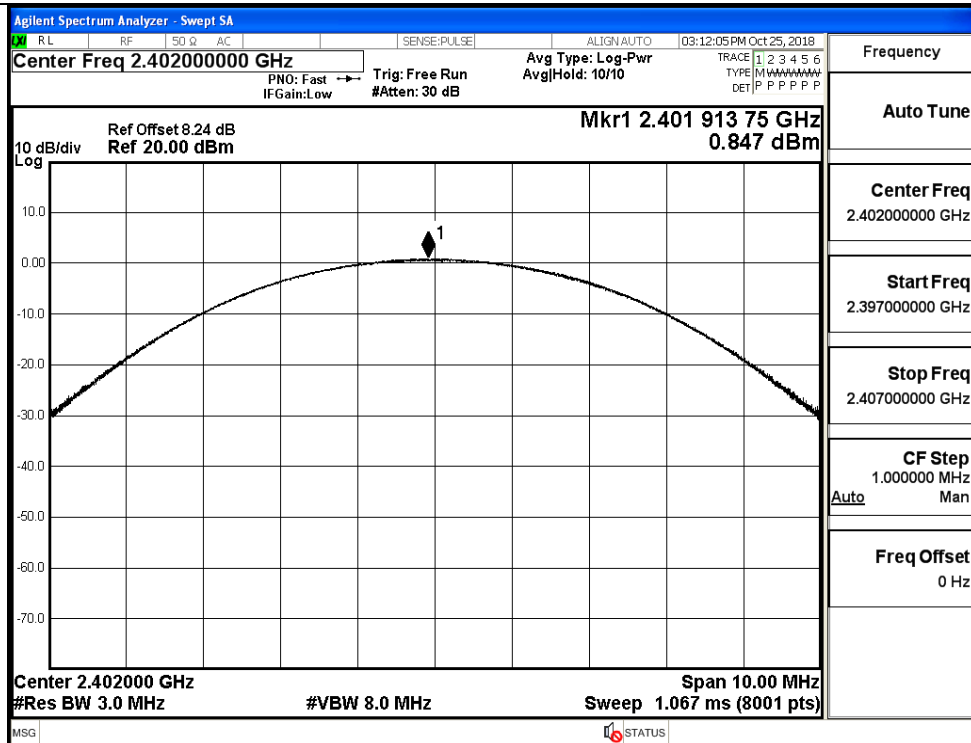


GFSK/HCH

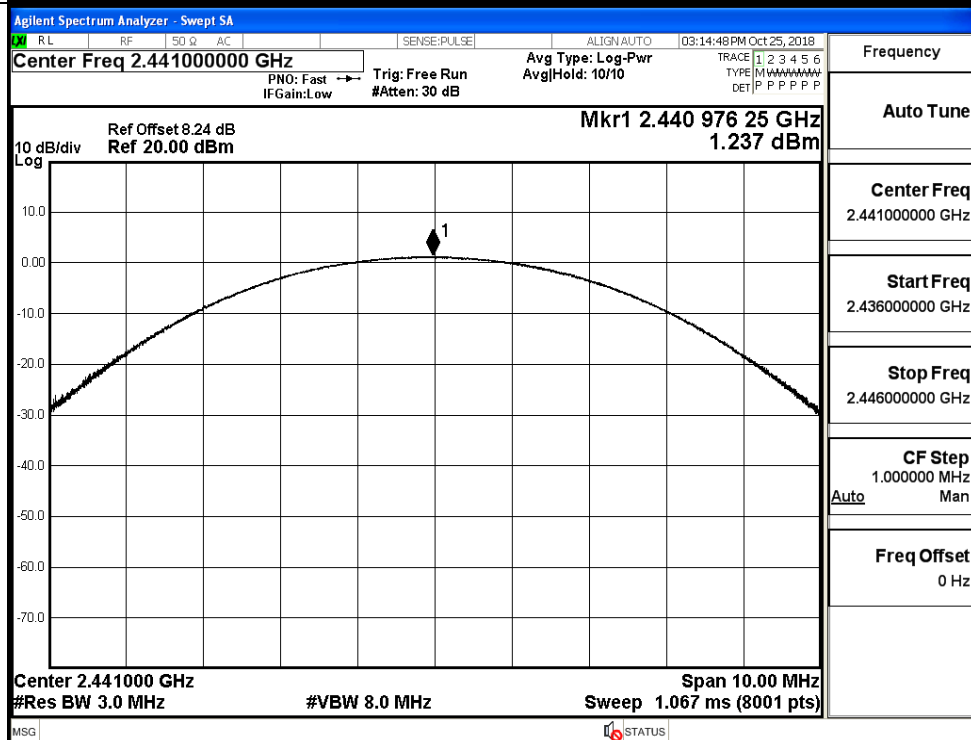
 π /4DQPSK/LCH

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

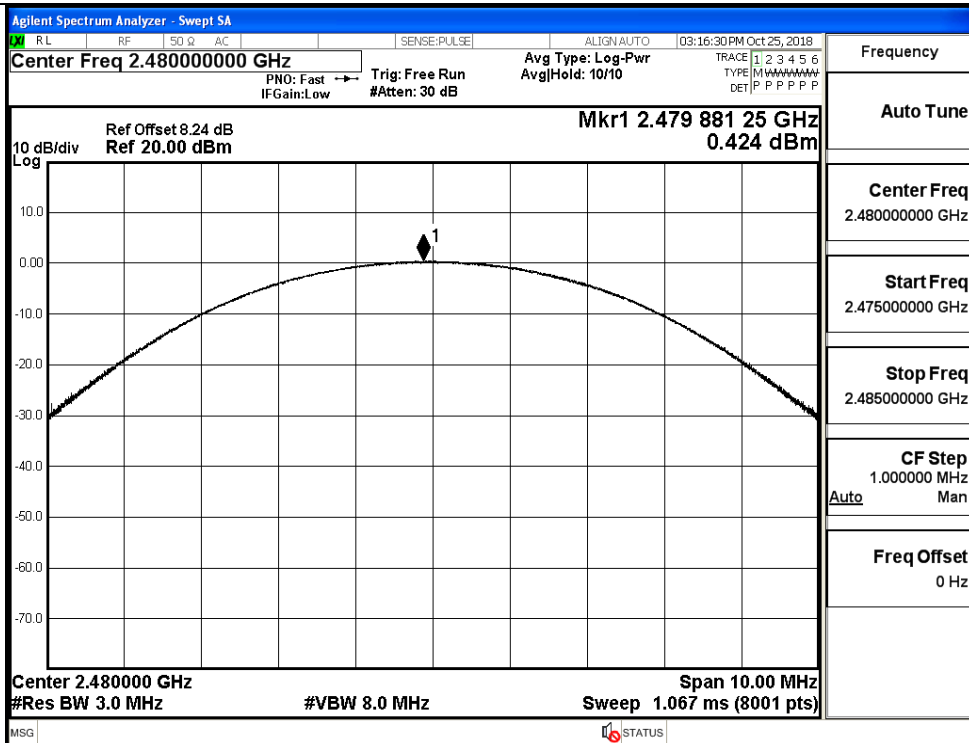
8DPSK/LCH



8DPSK/MCH



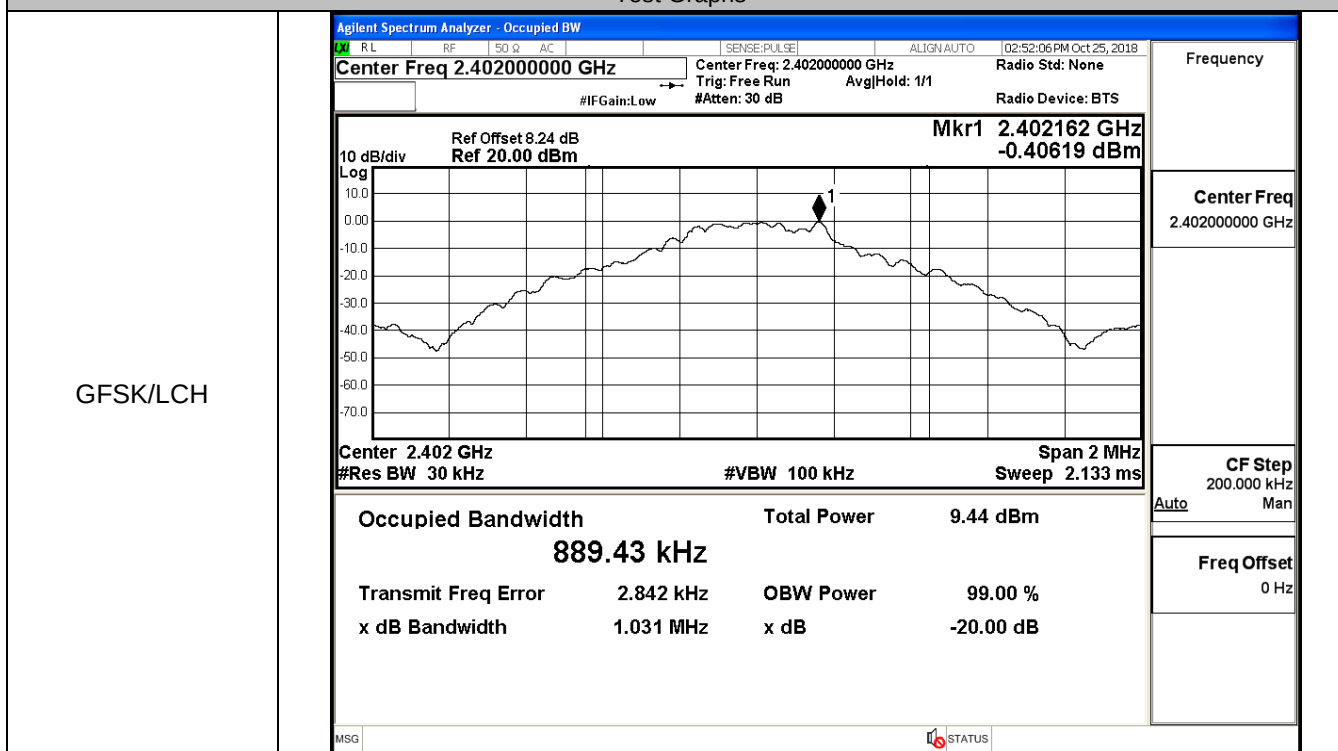
8DPSK/HCH



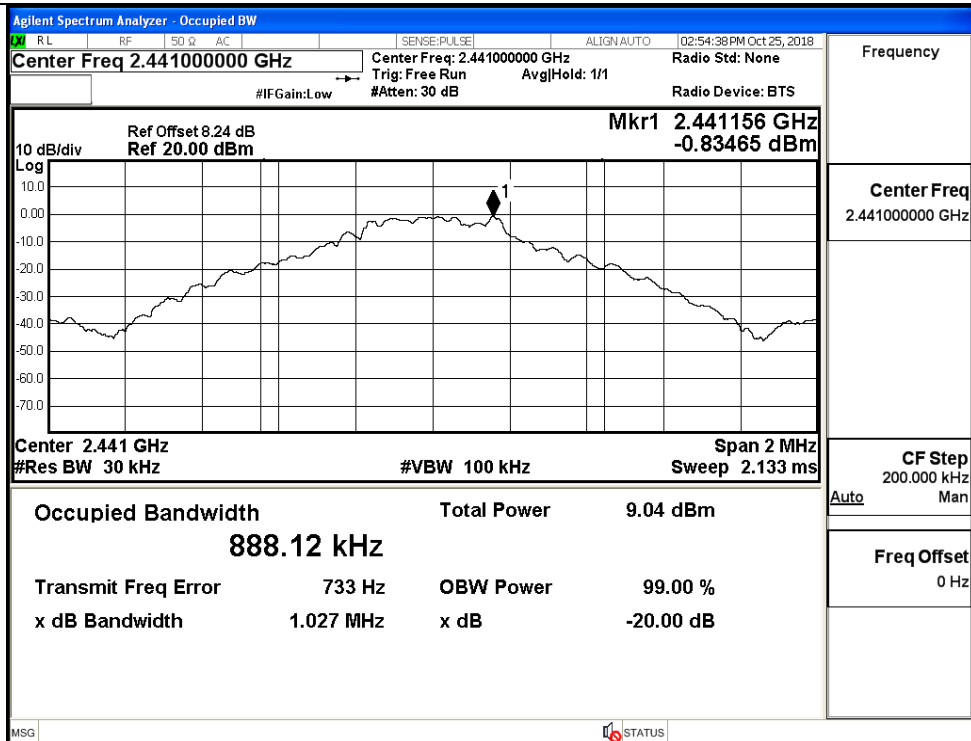
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.031	Not Specified	PASS
	MCH	1.027	Not Specified	PASS
	HCH	0.9747	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.289	Not Specified	PASS
	MCH	1.313	Not Specified	PASS
	HCH	1.289	Not Specified	PASS
8DPSK	LCH	1.294	Not Specified	PASS
	MCH	1.298	Not Specified	PASS
	HCH	1.295	Not Specified	PASS

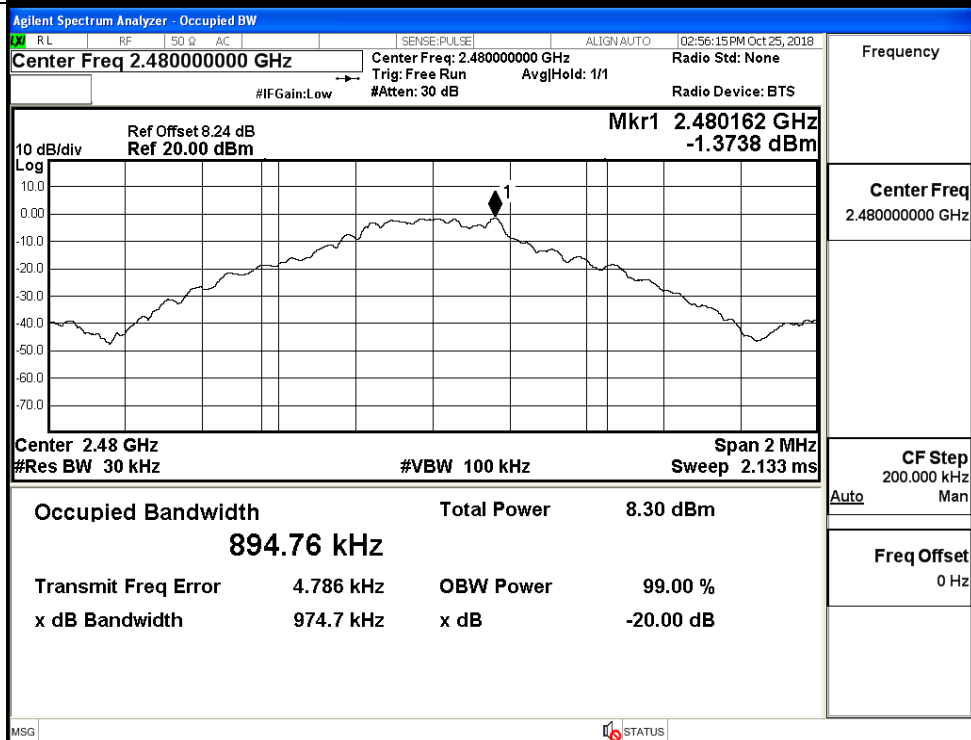
Test Graphs

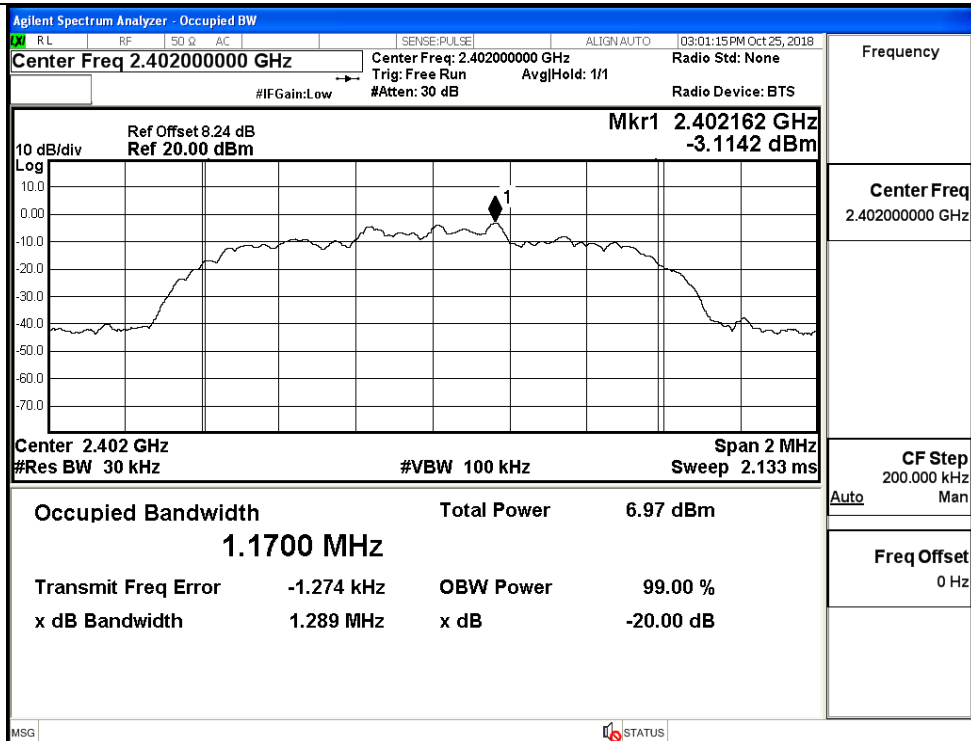
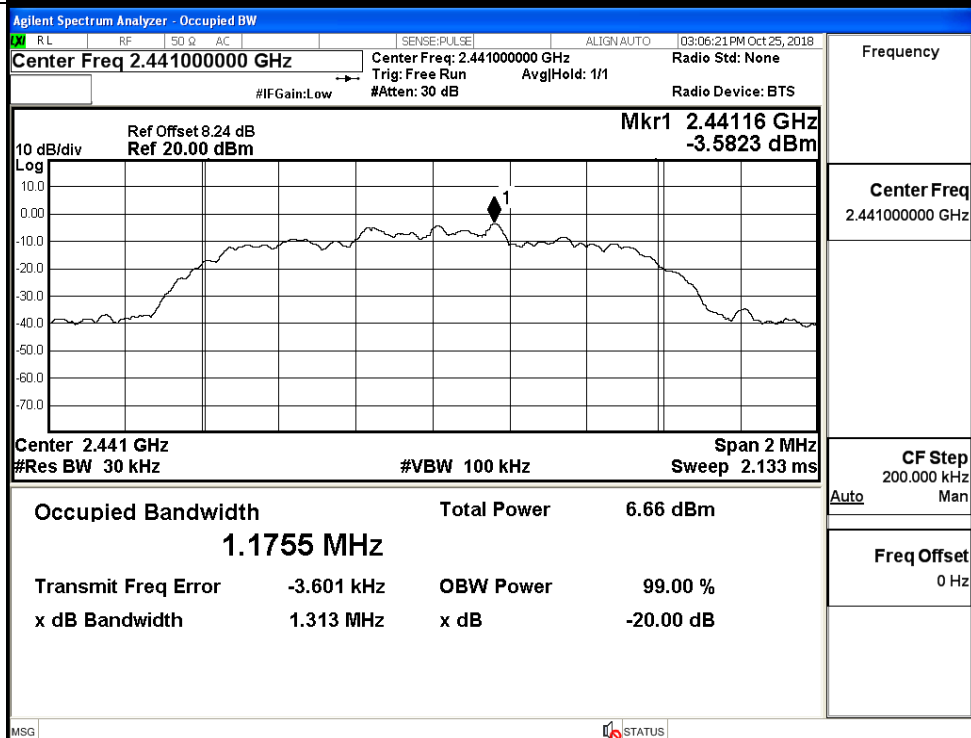


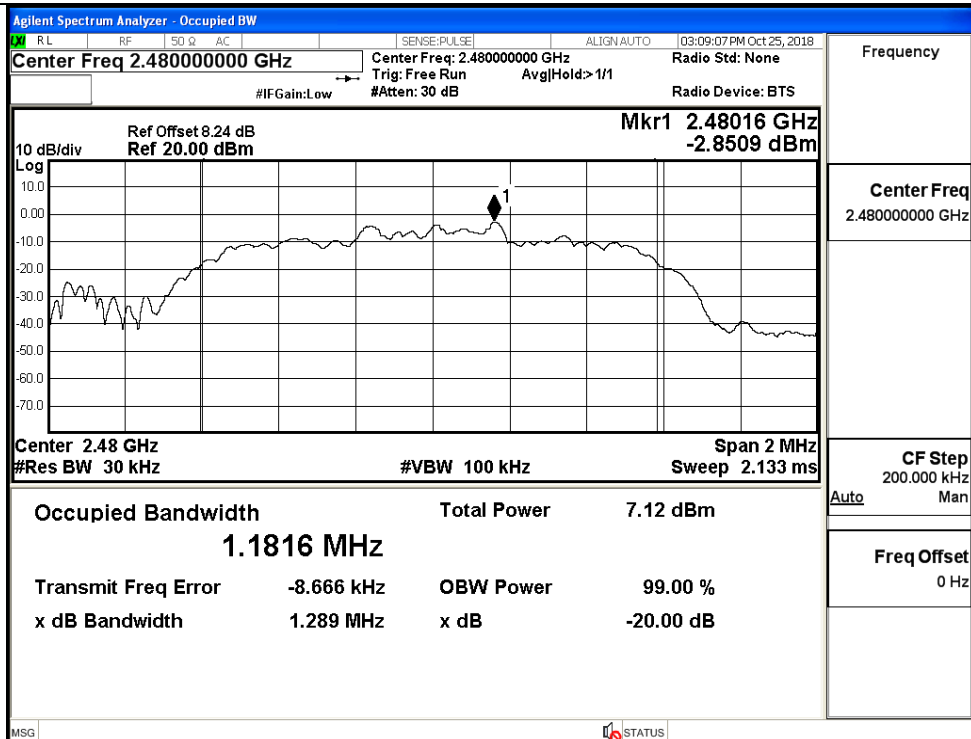
GFSK/MCH



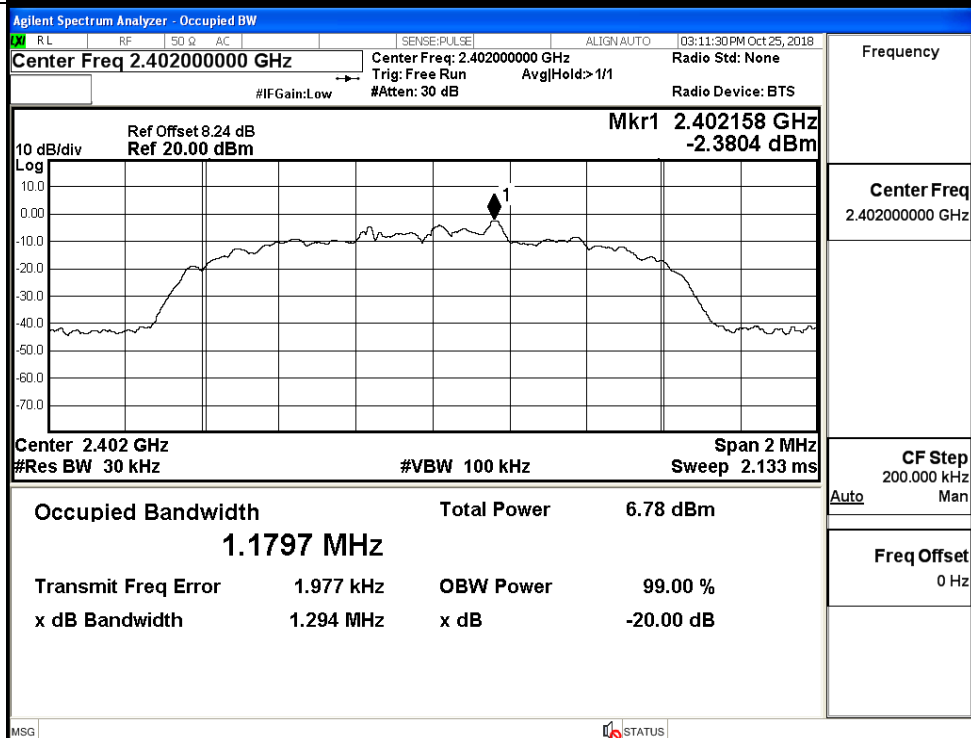
GFSK/HCH



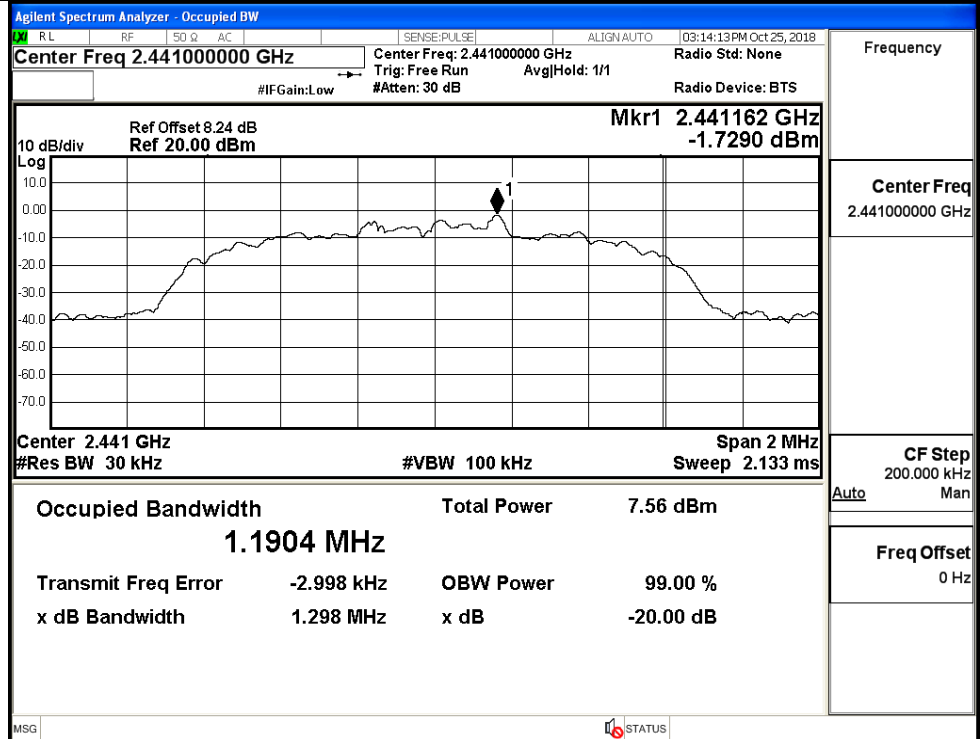
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

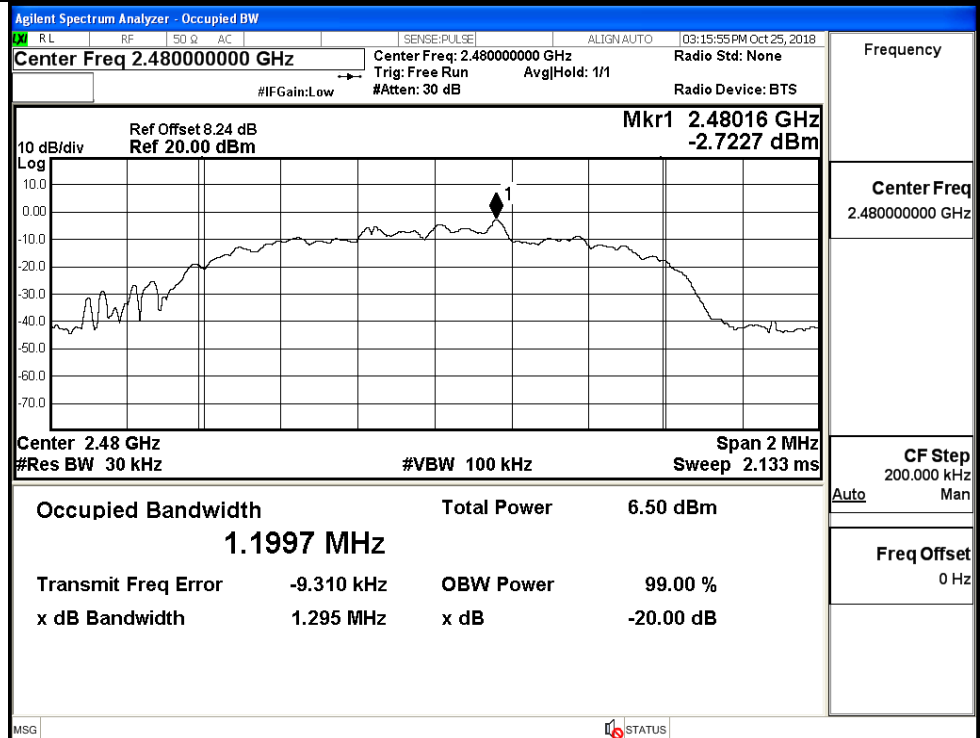
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

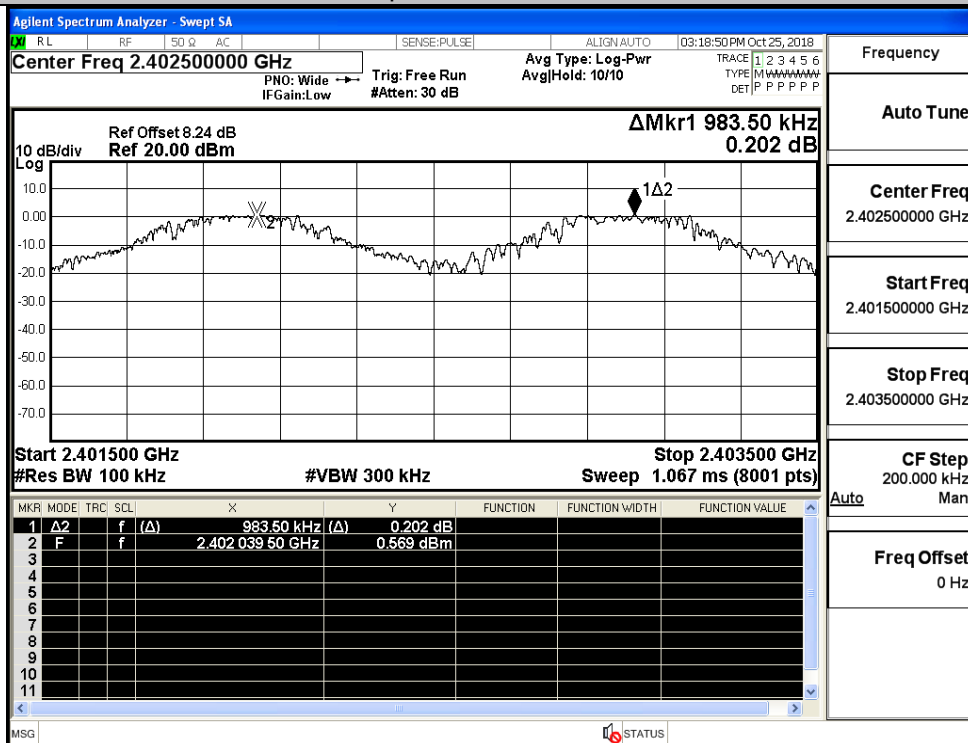


A.3 Carrier Frequency Separation

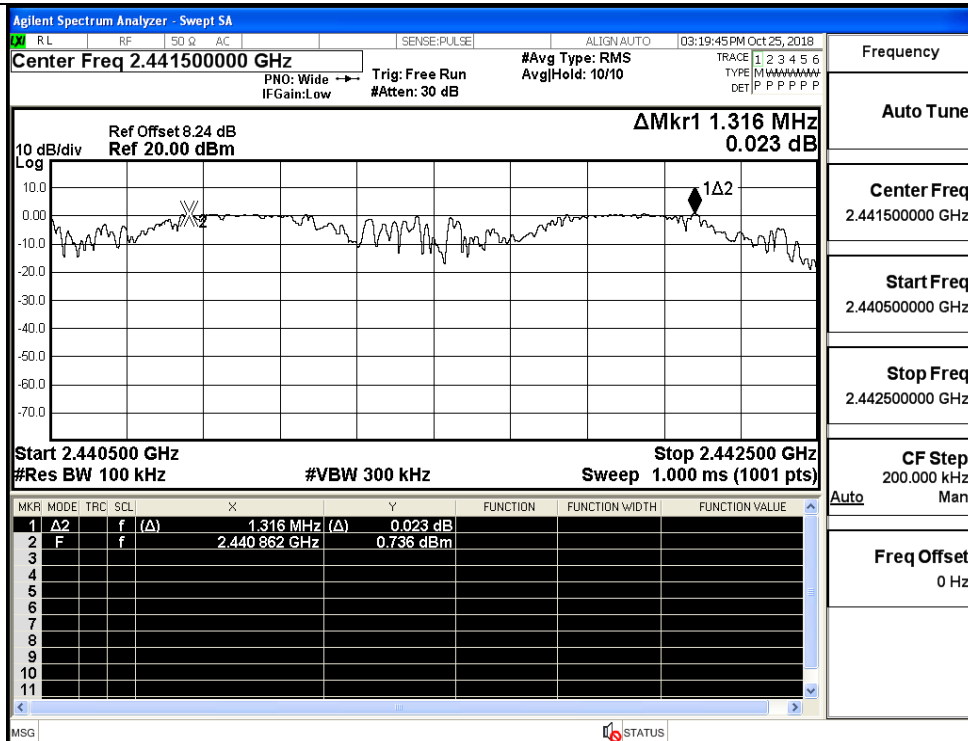
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.984	0.687	PASS
	MCH	1.316	0.687	PASS
	HCH	0.960	0.687	PASS
$\pi/4$ DQPSK	LCH	1.022	0.875	PASS
	MCH	1.058	0.875	PASS
	HCH	1.352	0.875	PASS
8DPSK	LCH	0.940	0.865	PASS
	MCH	1.310	0.865	PASS
	HCH	1.012	0.865	PASS

Test Graphs

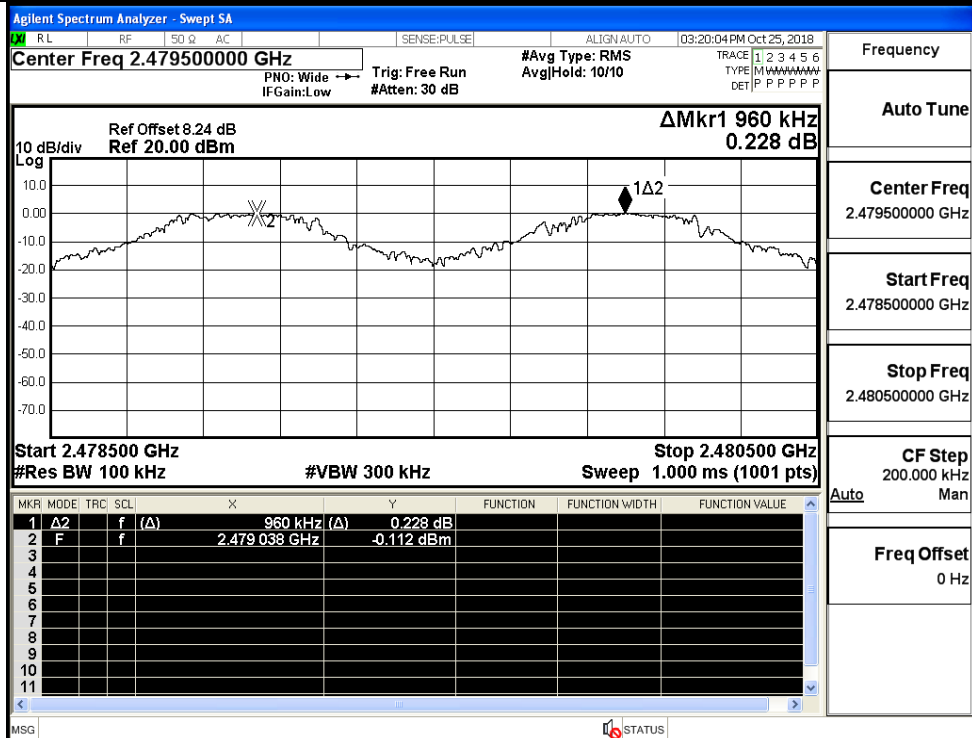
GFSK/LCH

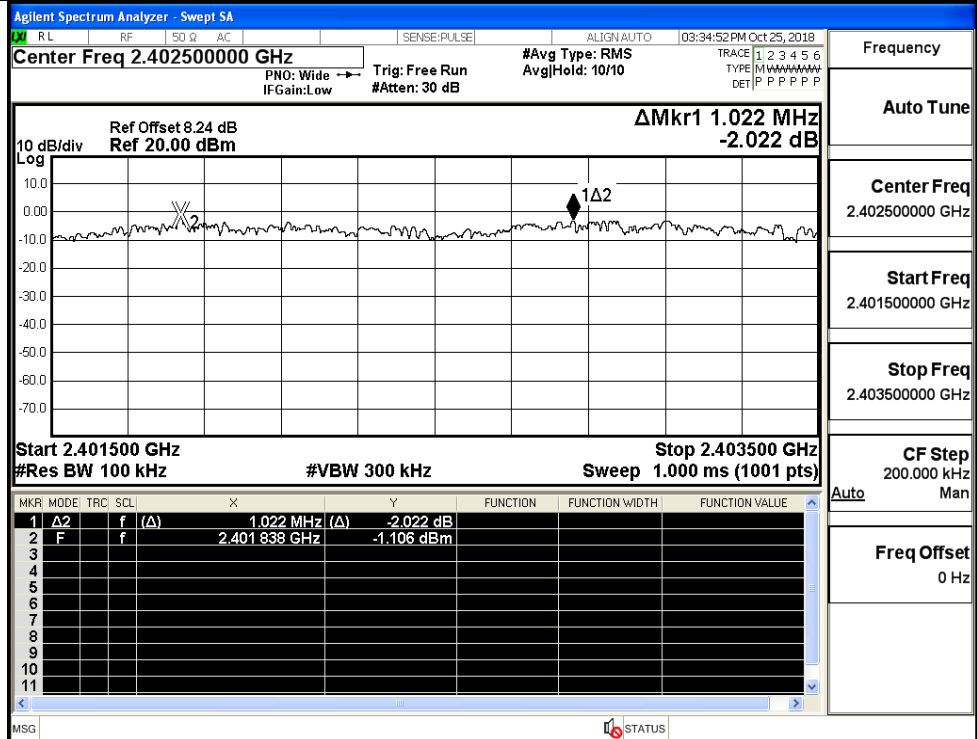
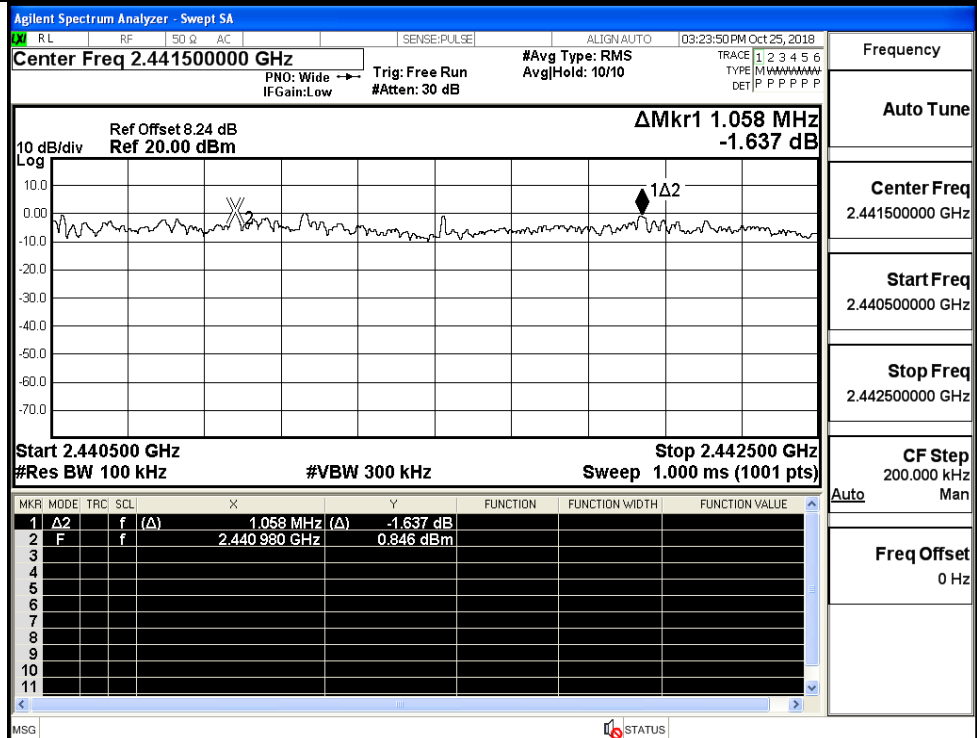


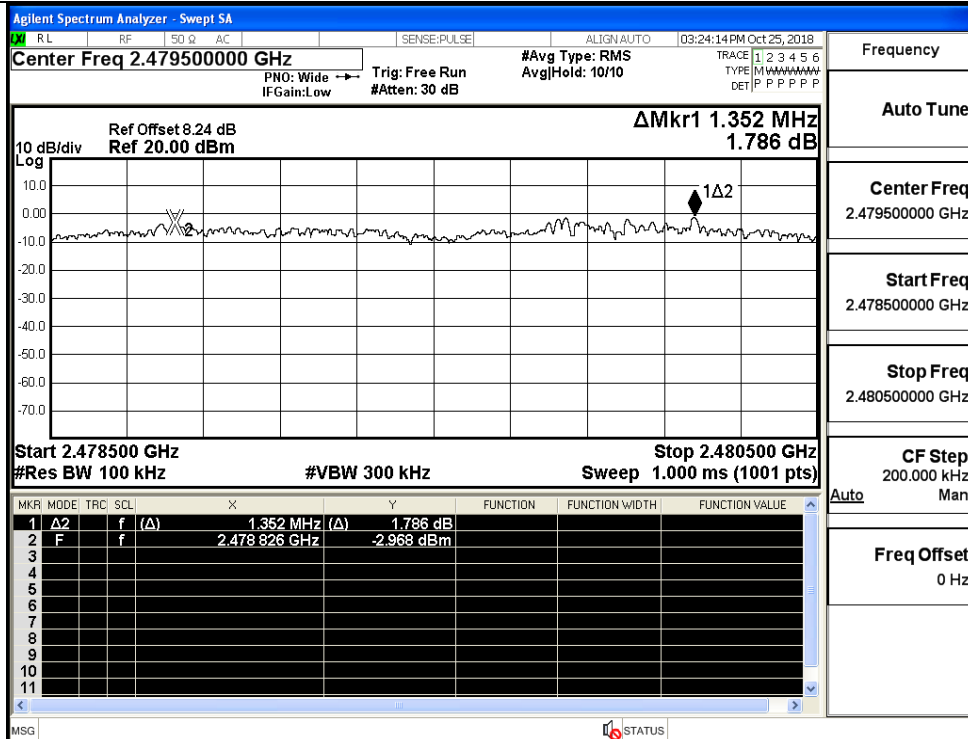
GFSK/MCH



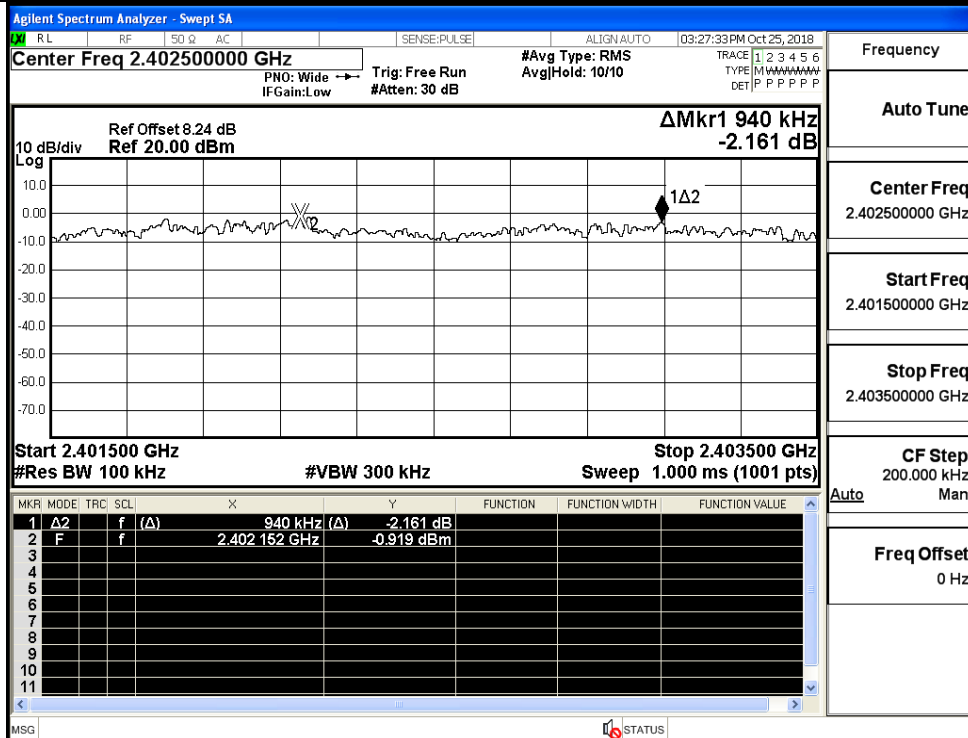
GFSK/HCH



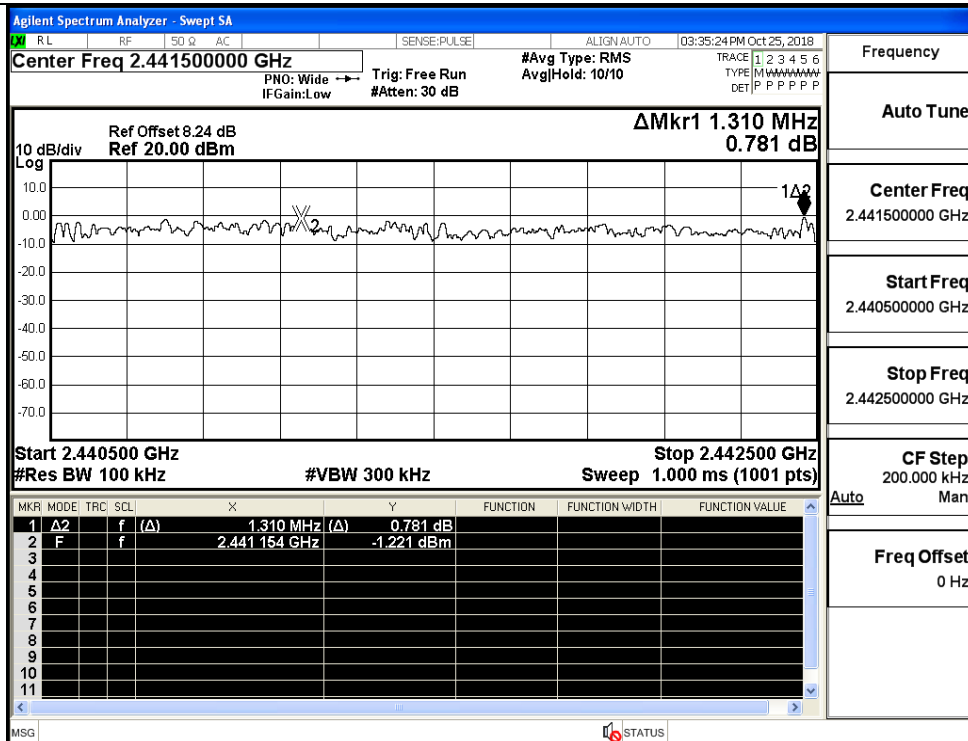
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

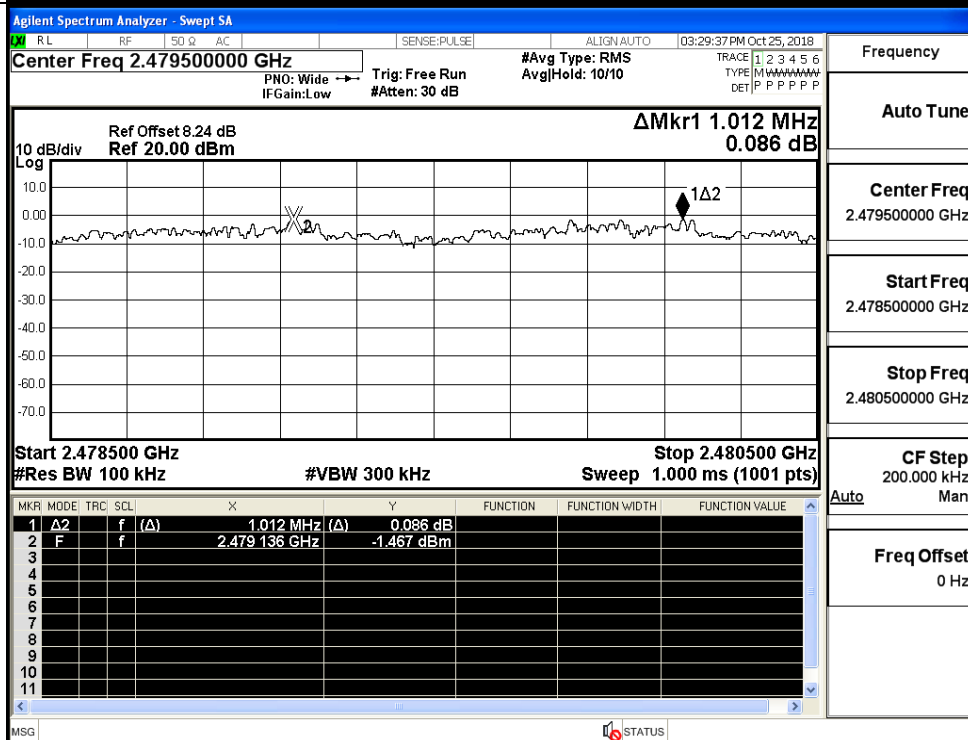
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

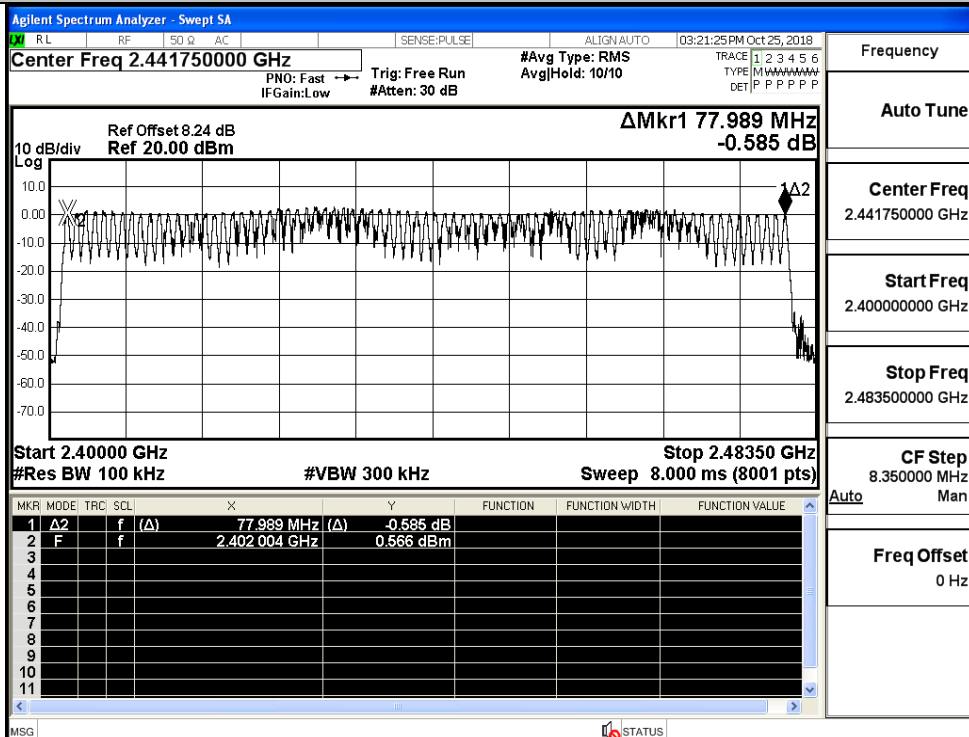
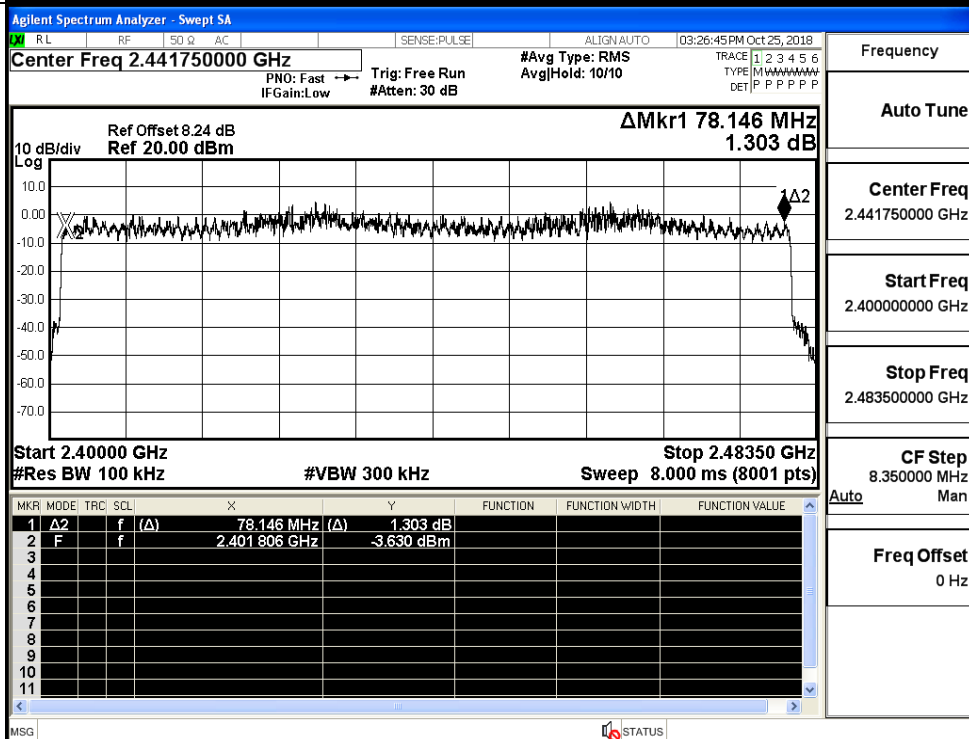


A.4 Hopping Channel Number

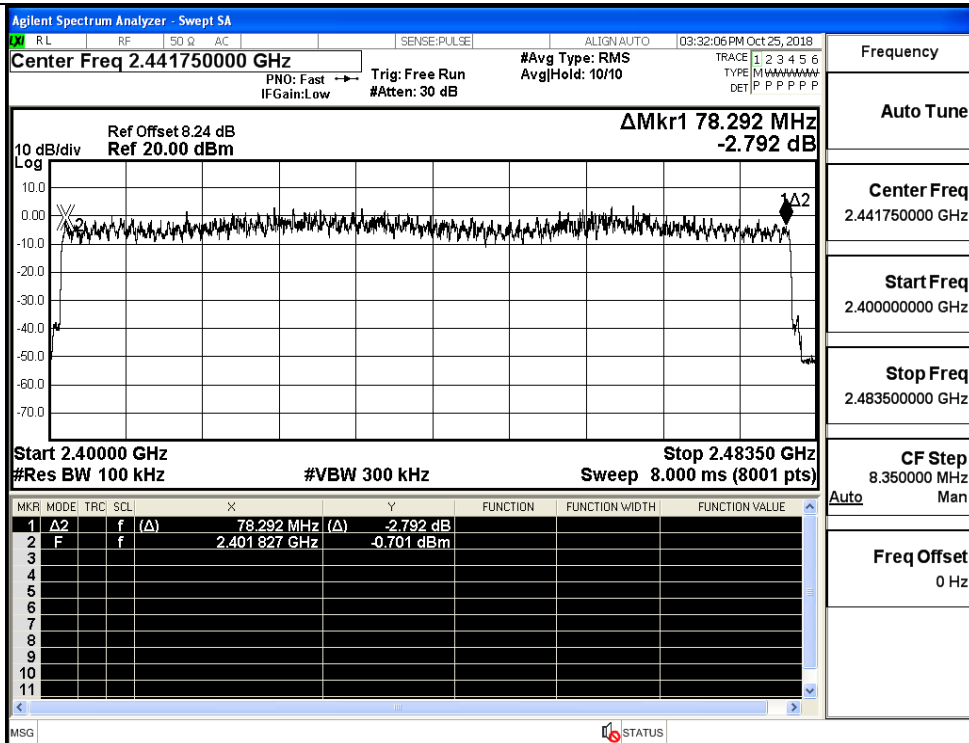
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

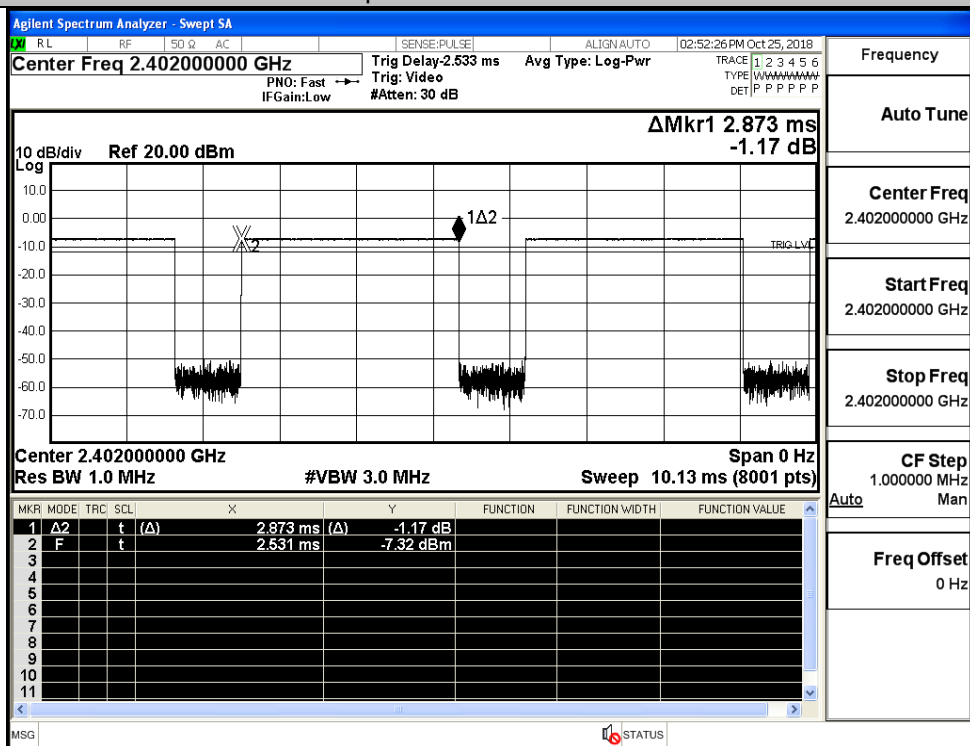


A.5 Dwell Time

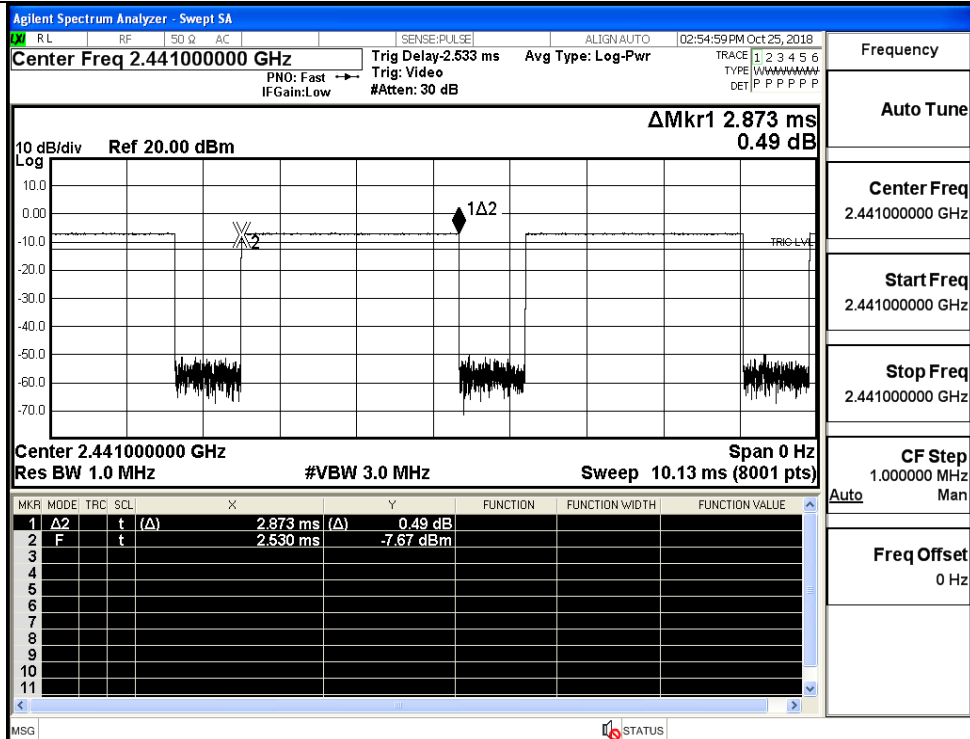
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.87	106.7	0.306	0.4	PASS
	DH5	MCH	2.87	106.7	0.306	0.4	PASS
	DH5	HCH	2.87	106.7	0.306	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.87	106.7	0.307	0.4	PASS
	2DH5	MCH	2.87	106.7	0.307	0.4	PASS
	2DH5	HCH	2.87	106.7	0.307	0.4	PASS
8DPSK	3DH5	LCH	2.87	106.7	0.307	0.4	PASS
	3DH5	MCH	2.87	106.7	0.307	0.4	PASS
	3DH5	HCH	2.87	106.7	0.307	0.4	PASS

Test Graphs

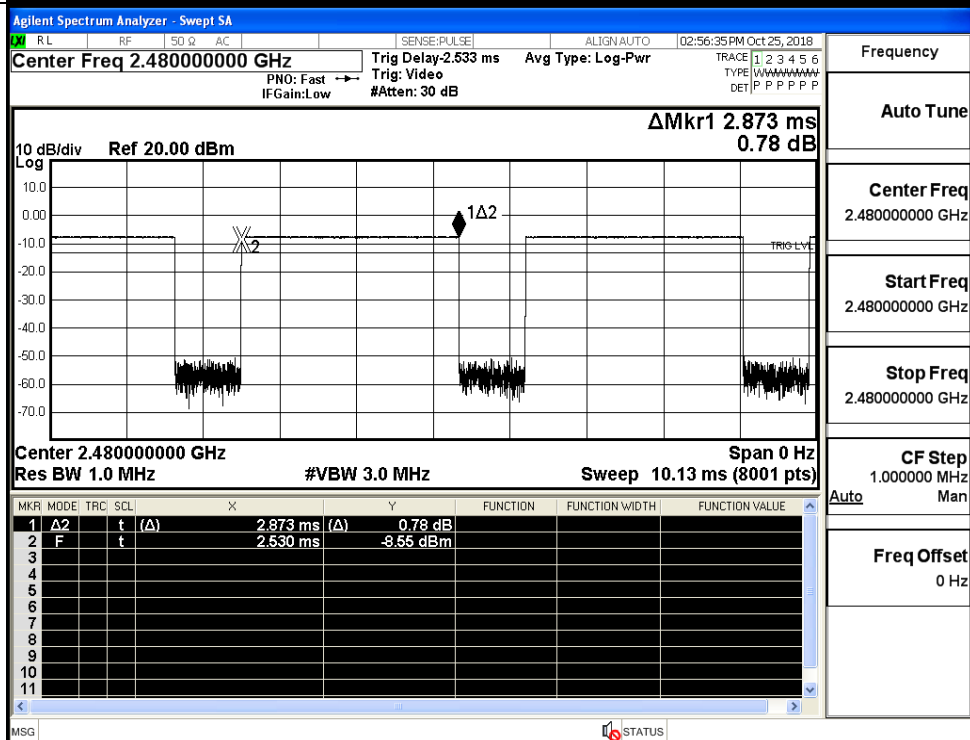
GFSK_DH5/LCH



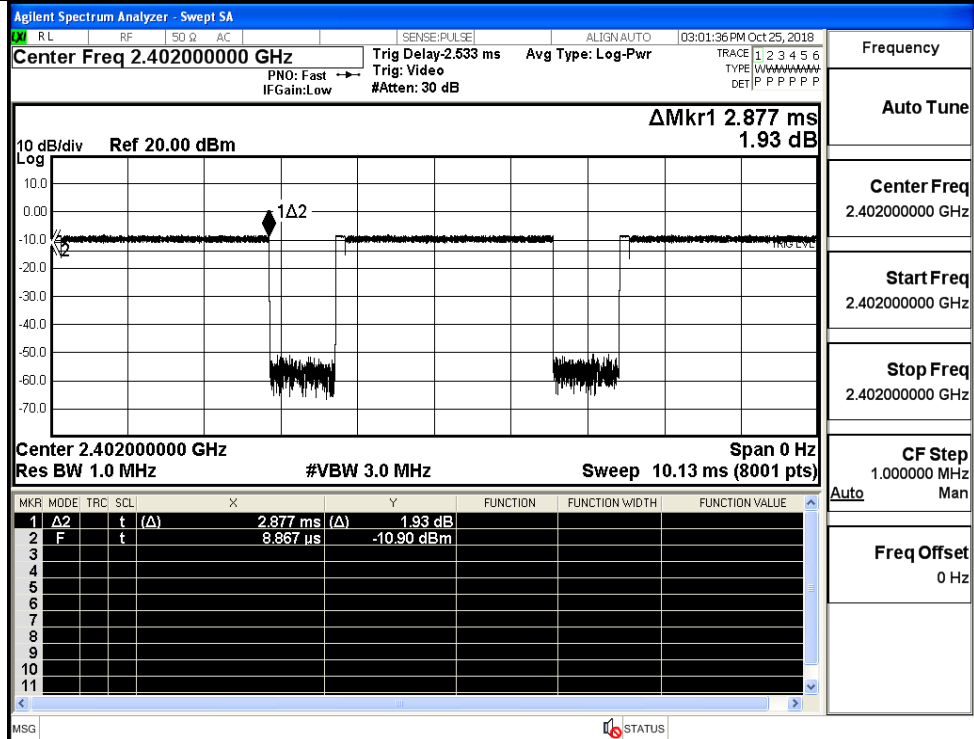
GFSK_DH5/MCH



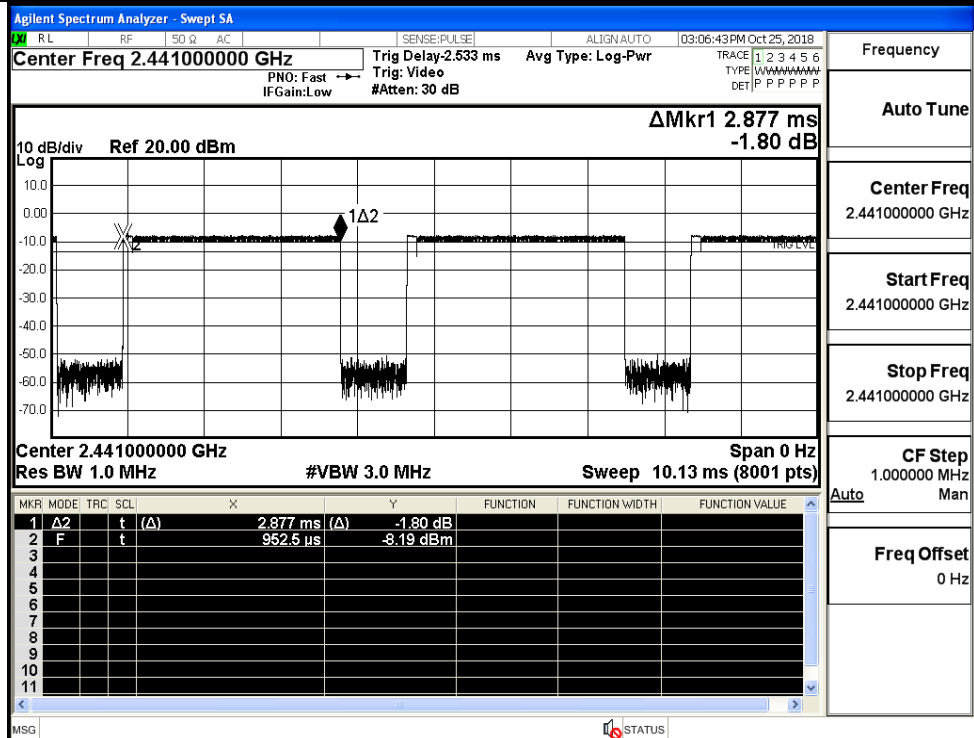
GFSK_DH5/HCH



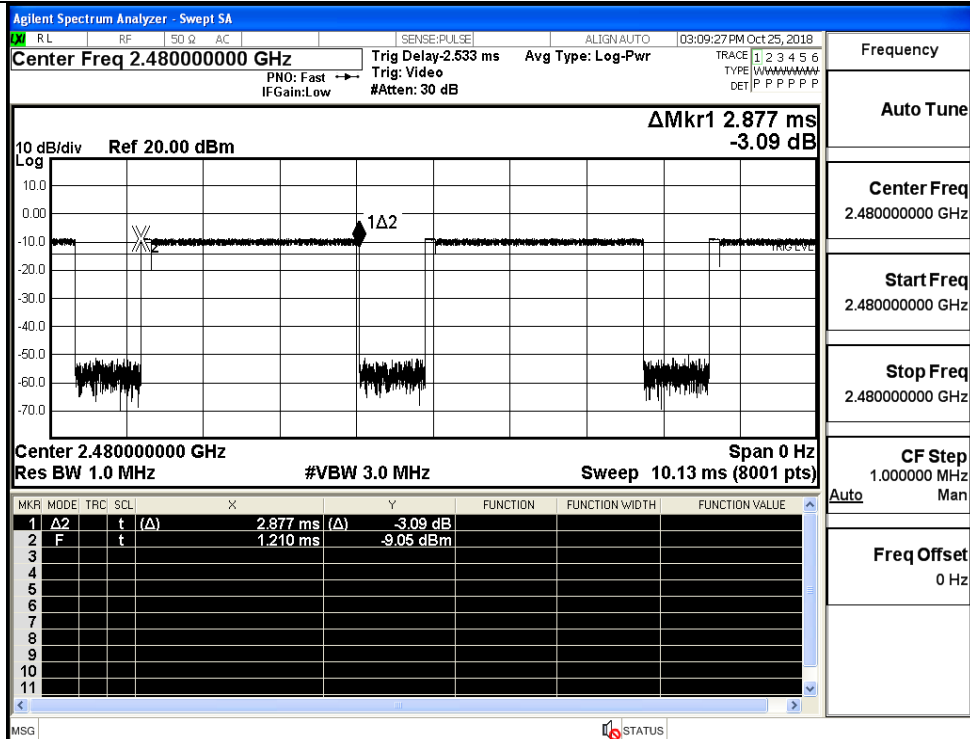
$\pi/4$ DQPSK
_2DH5/LCH



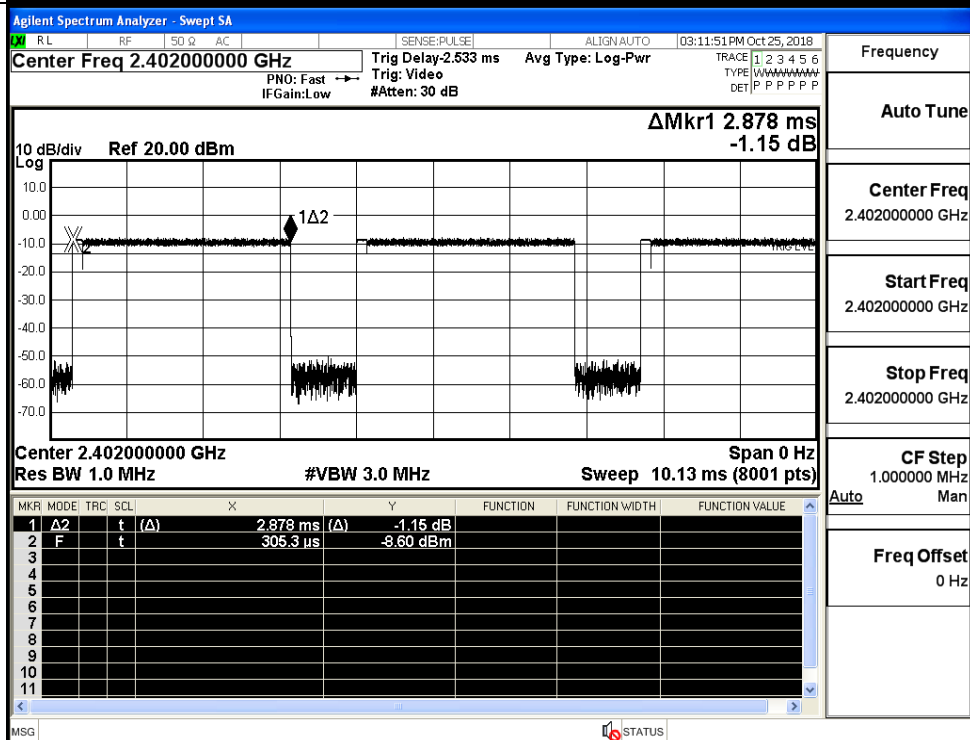
$\pi/4$ DQPSK
_2DH5/MCH



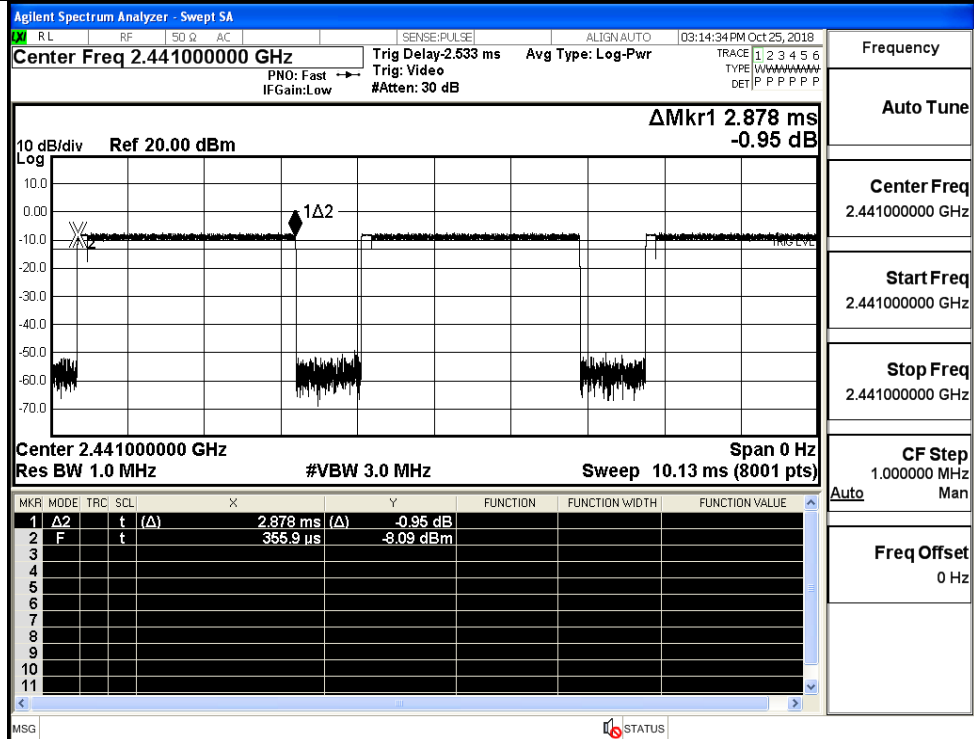
$\pi/4$ DQPSK
_2DH5/HCH



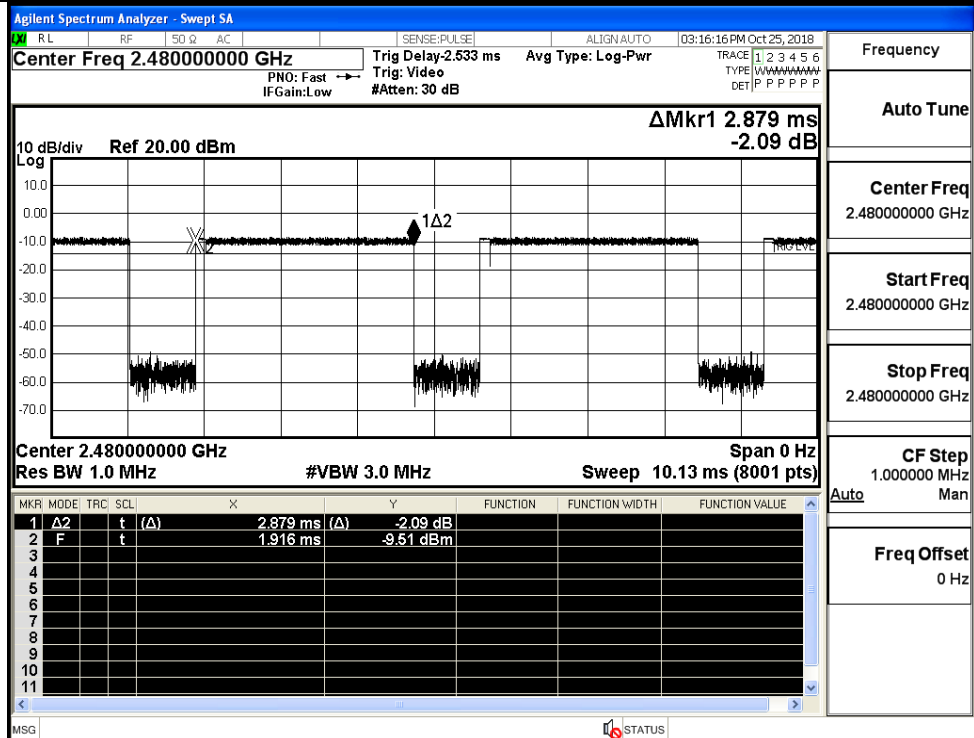
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



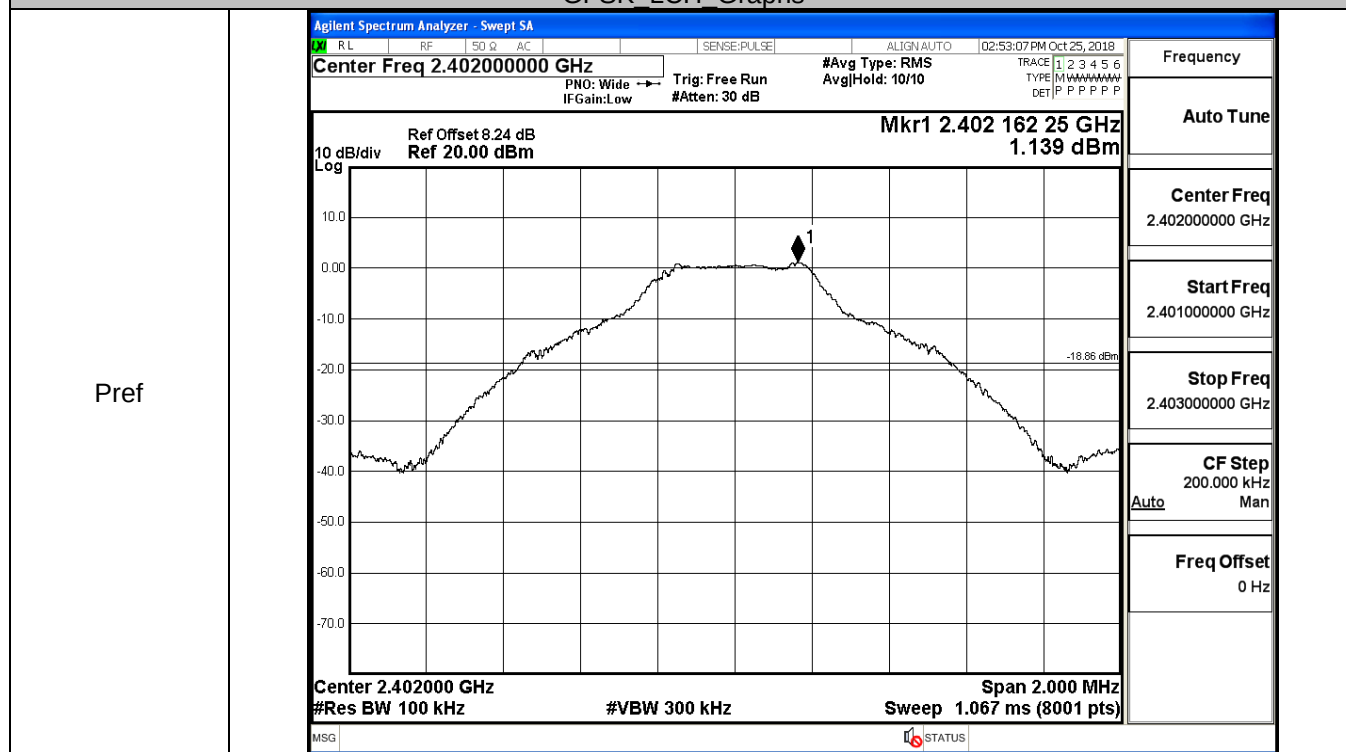
8DPSK_3DH5/HCH



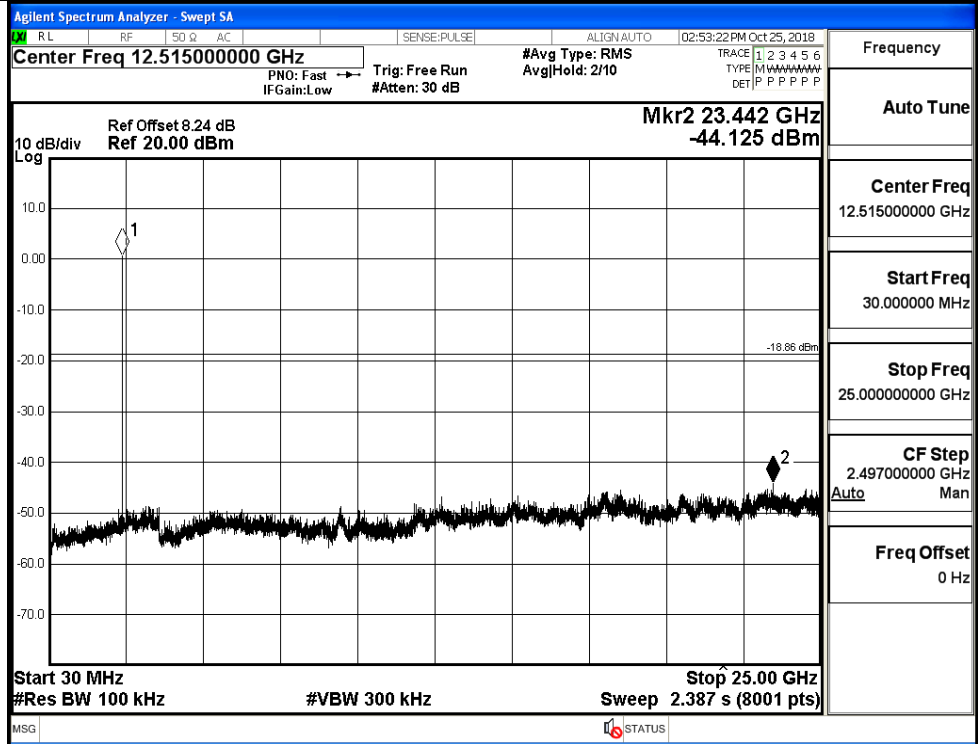
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.139	-44.125	-18.861	PASS
	MCH	-50.473	-44.284	-70.473	PASS
	HCH	0.713	-44.756	-19.287	PASS
$\pi/4$ DQPSK	LCH	-0.338	-43.576	-20.338	PASS
	MCH	-0.141	-44.838	-20.141	PASS
	HCH	-0.131	-44.391	-20.131	PASS
8DPSK	LCH	-0.359	-44.568	-20.359	PASS
	MCH	0.09	-43.907	-19.910	PASS
	HCH	-0.866	-43.466	-20.866	PASS

GFSK LCH Graphs

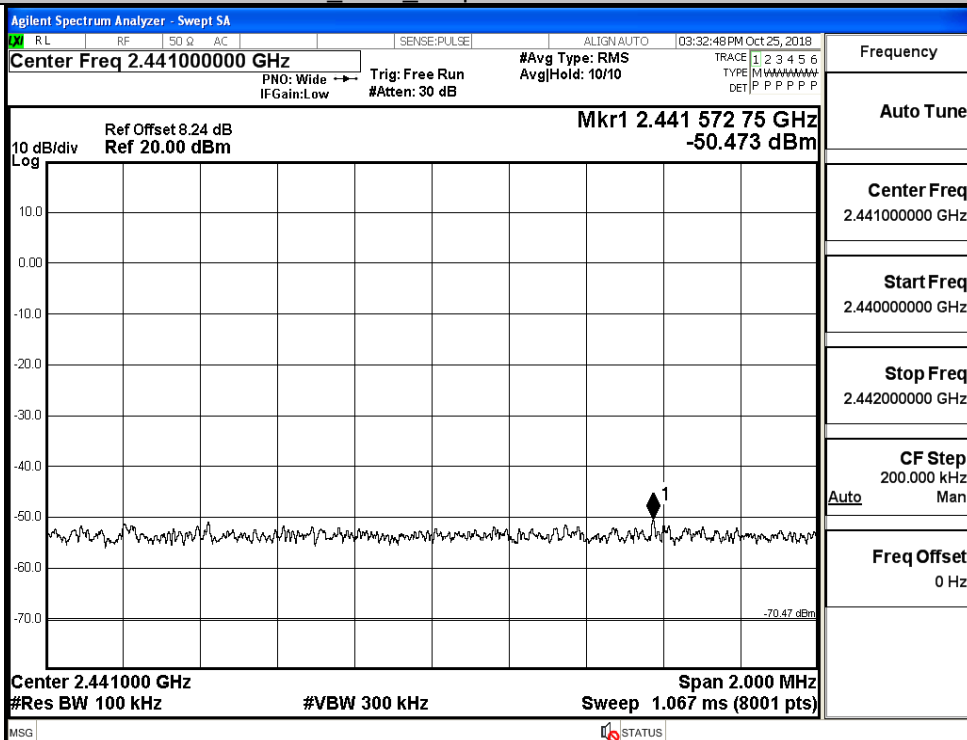


Puw

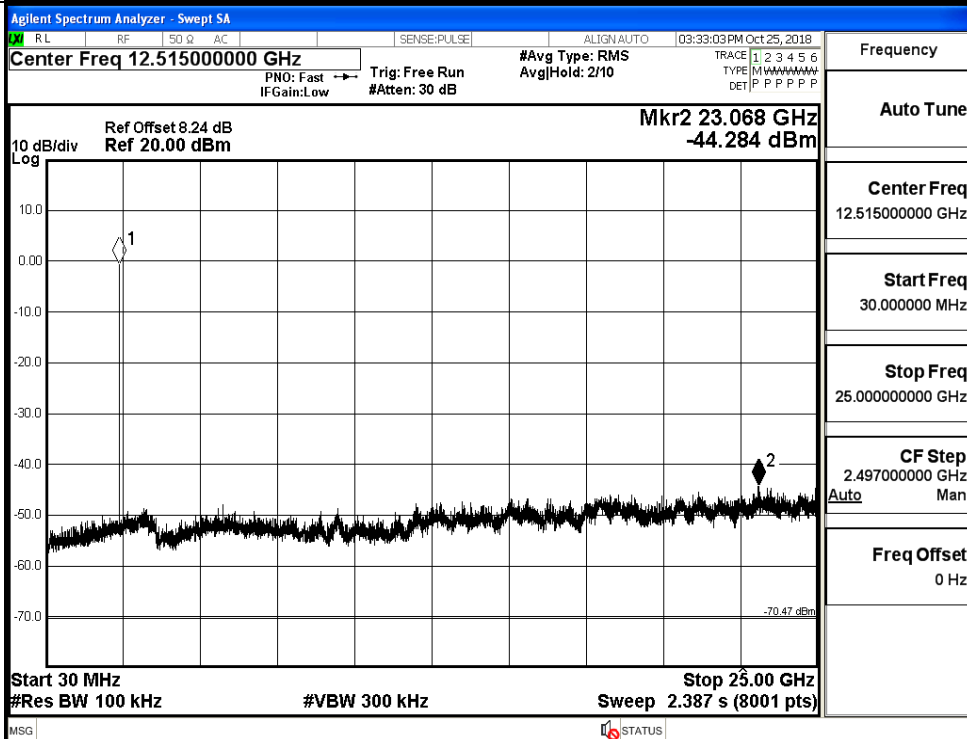


GFSK_MCH_Graphs

Pref

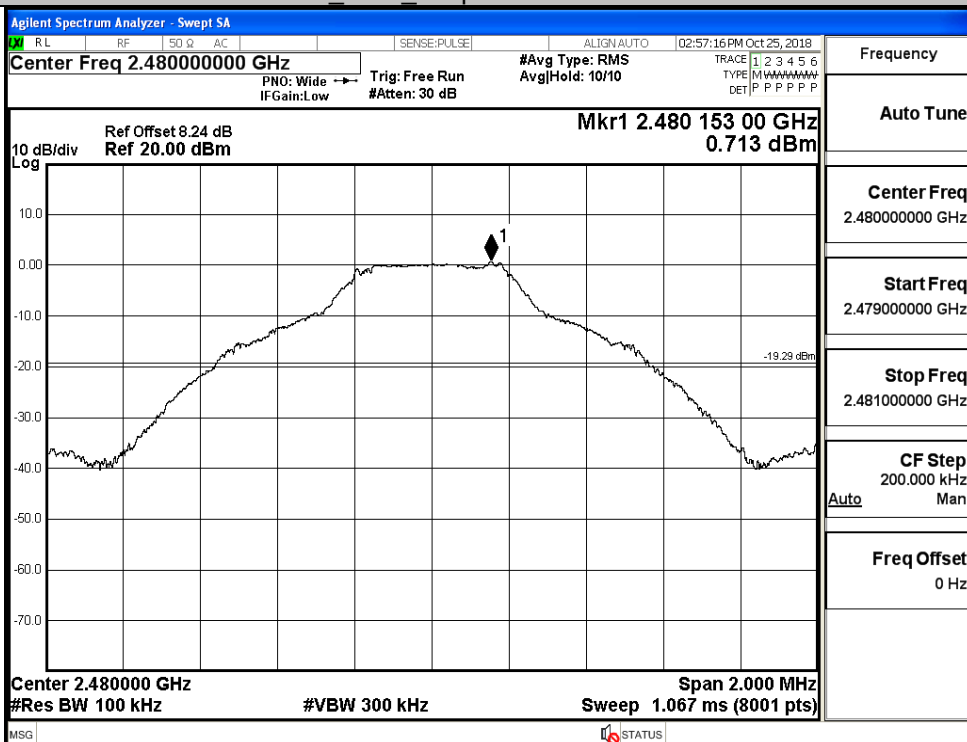


Puw

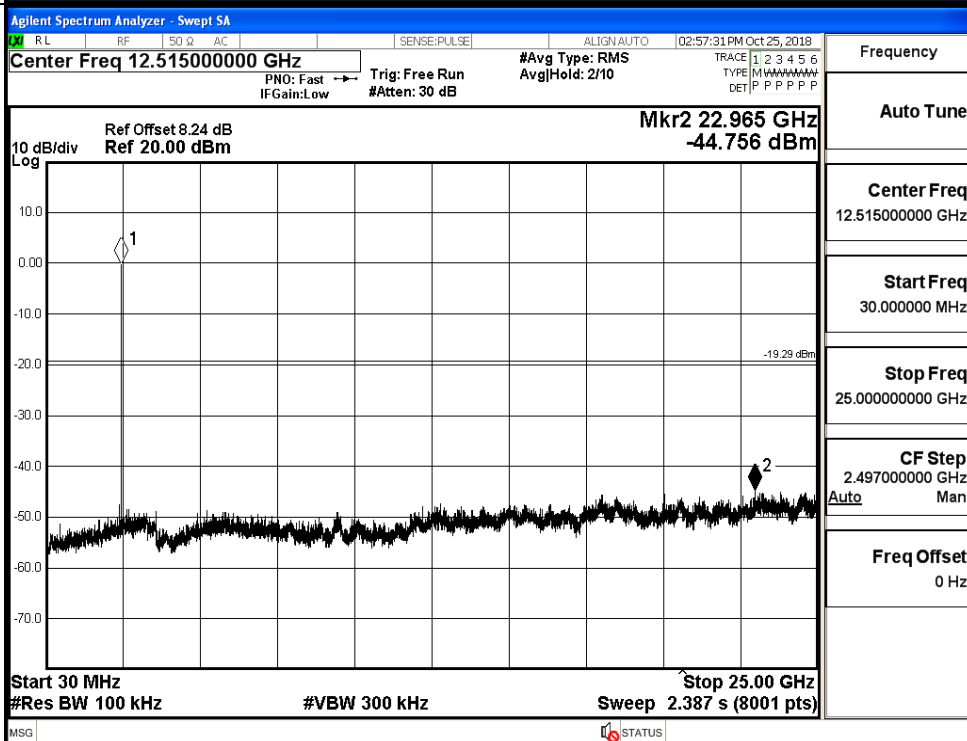


GFSK HCH_Graphs

Pref

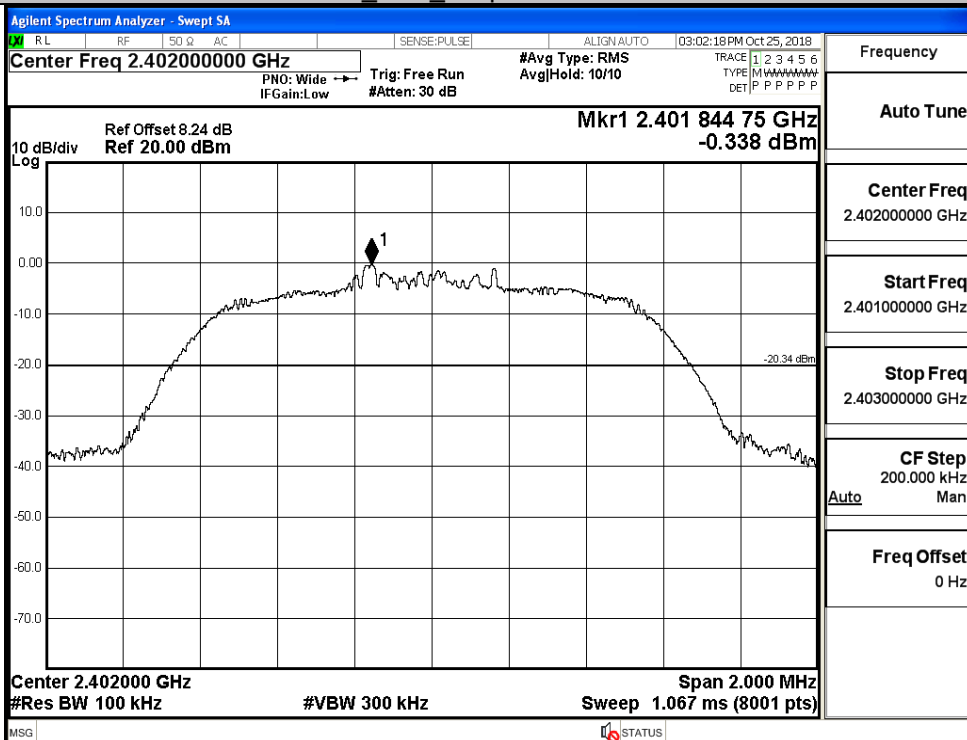


Puw

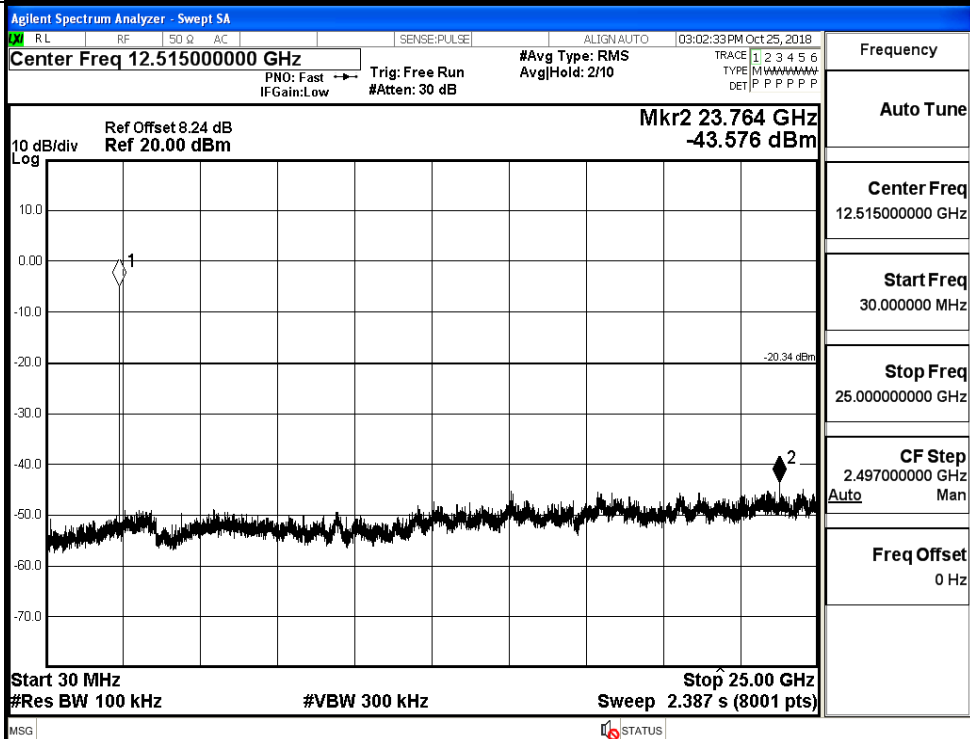


$\pi/4$ DQPSK_LCH_Graphs

Pref

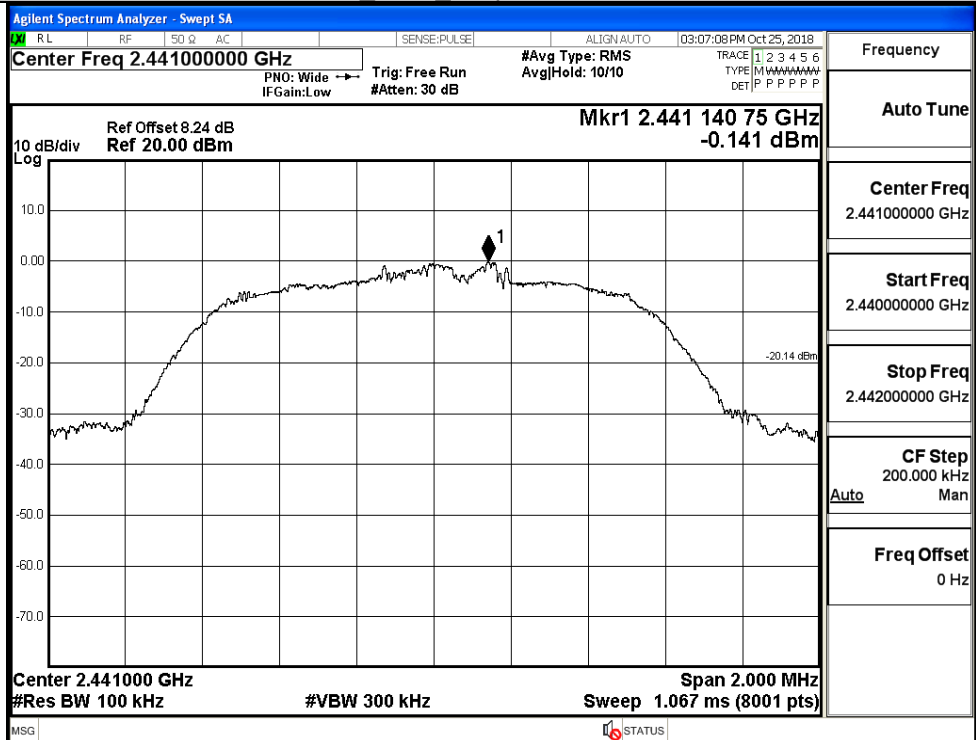


Puw

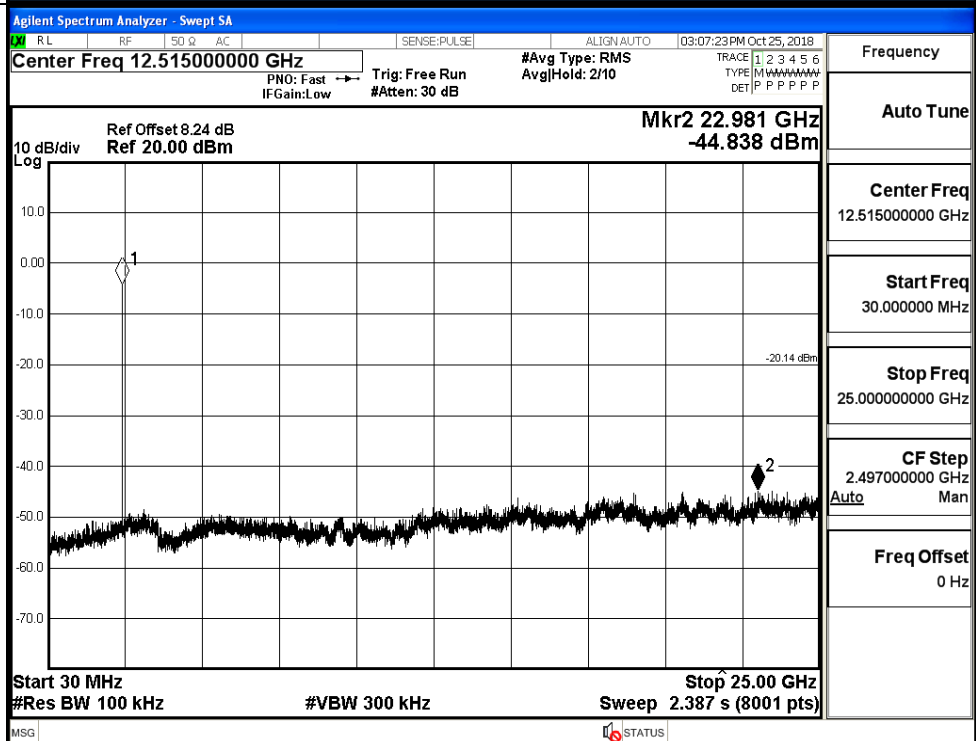


π /4DQPSK_MCH_Graphs

Pref

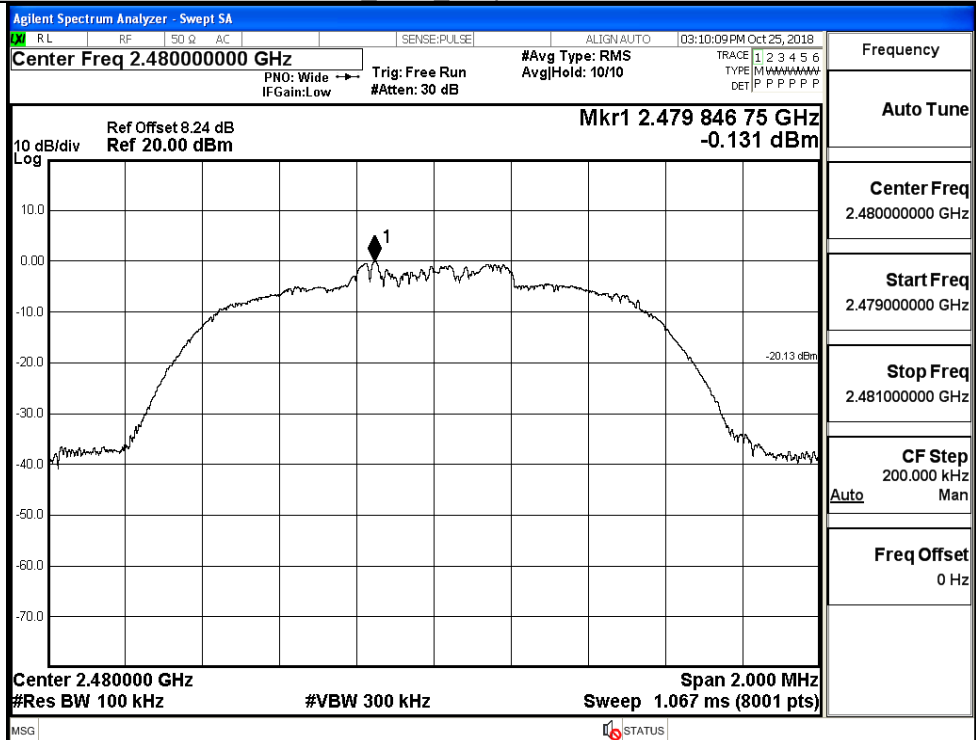


Puw

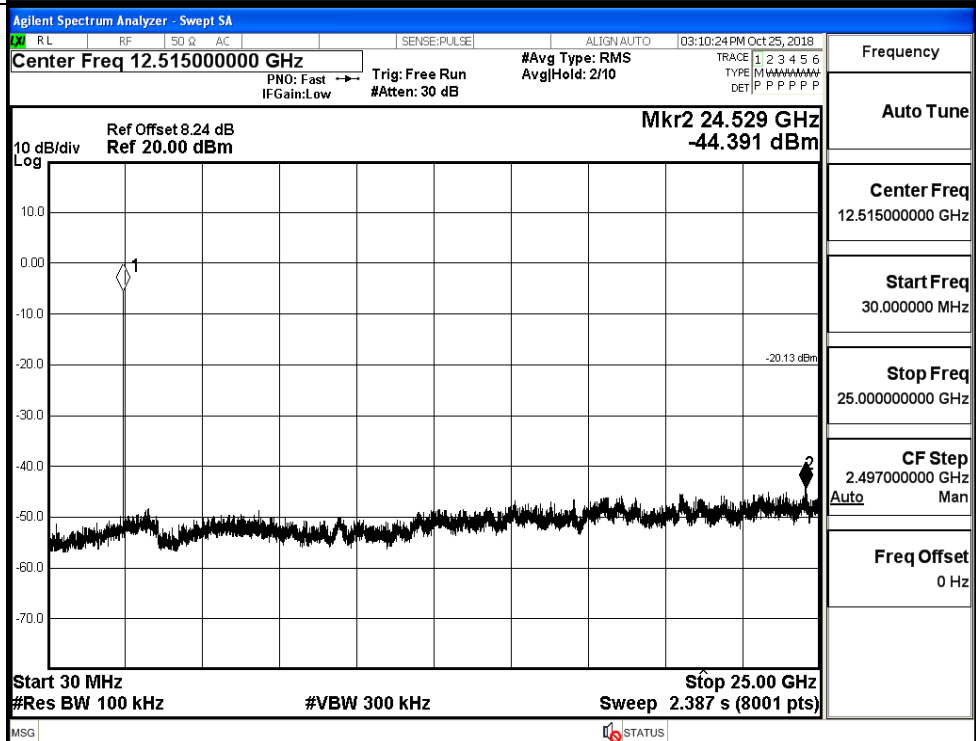


$\pi/4$ DQPSK_HCH_Graphs

Pref

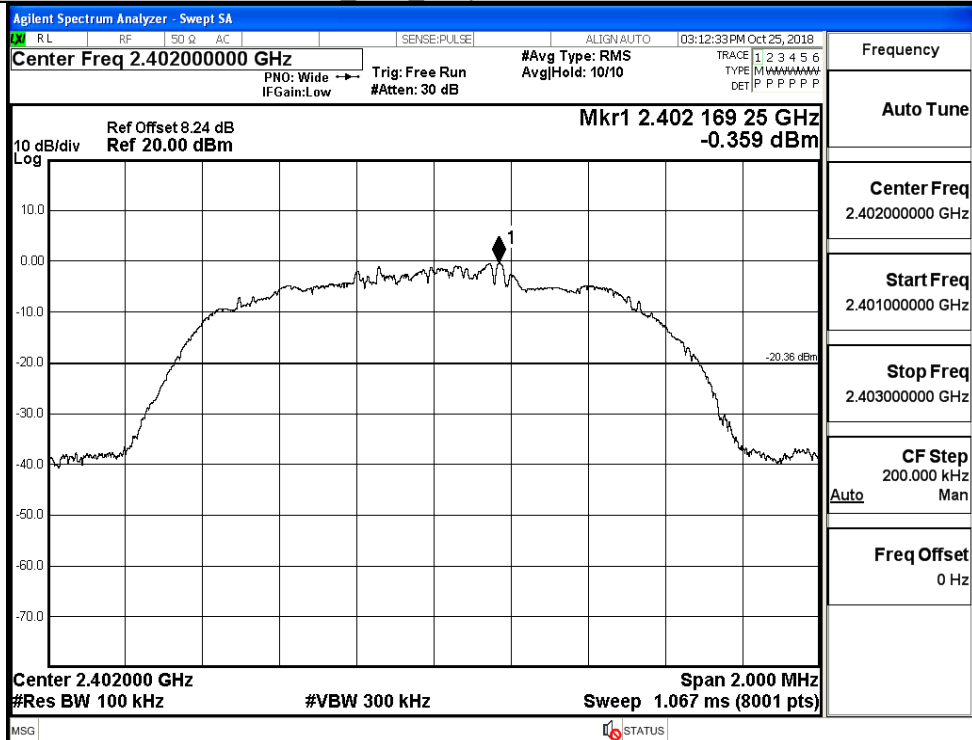


Puw

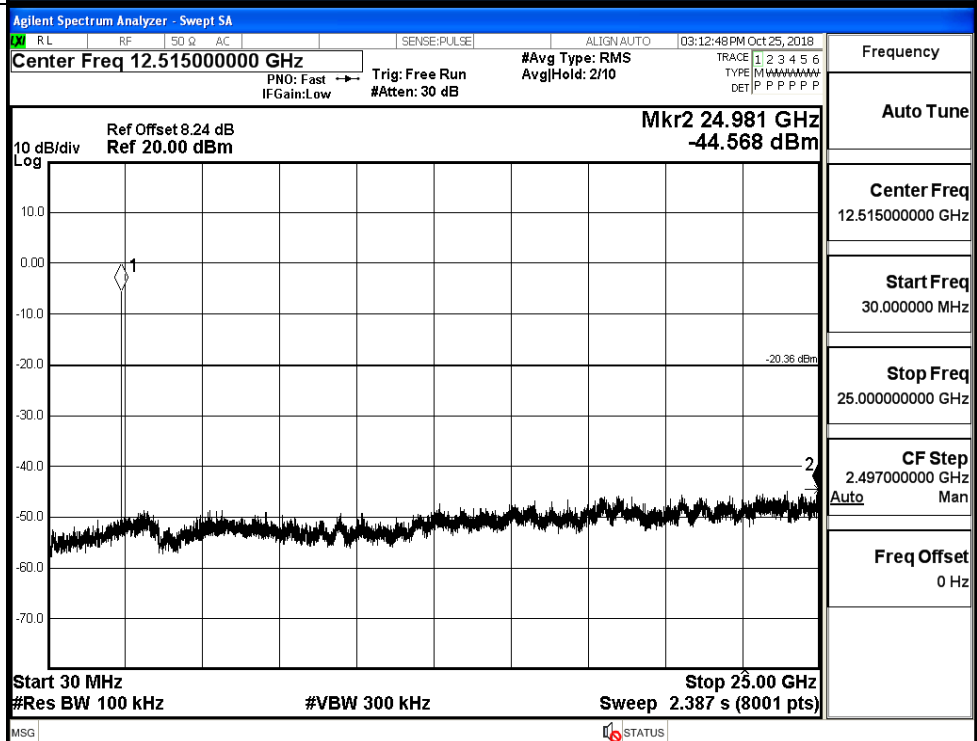


8DPSK_LCH_Graphs

Pref

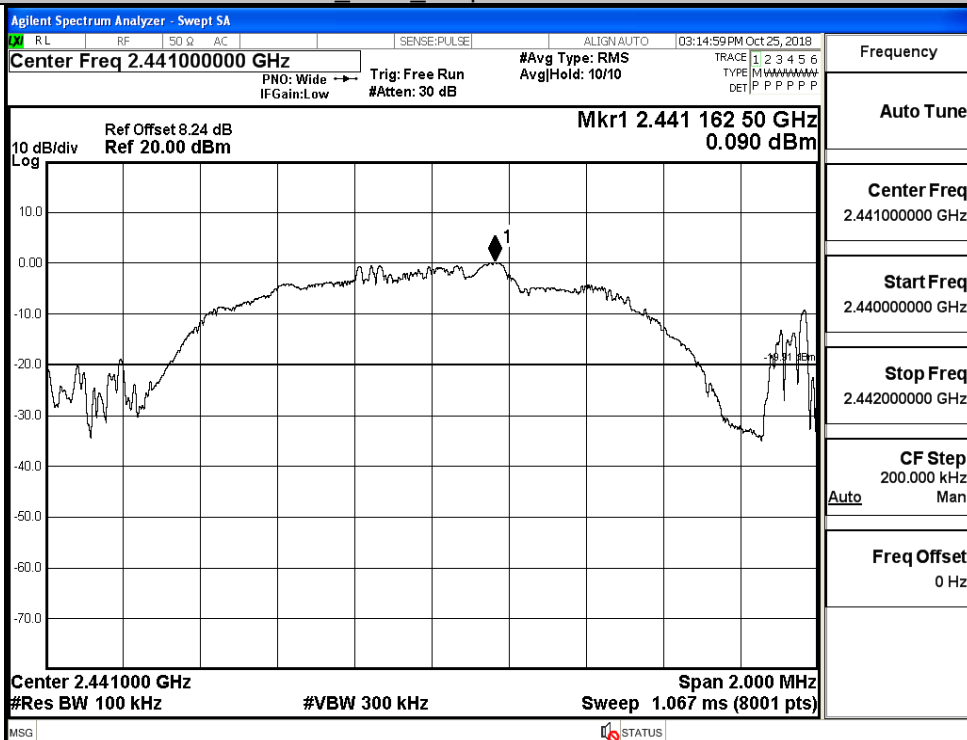


Puw

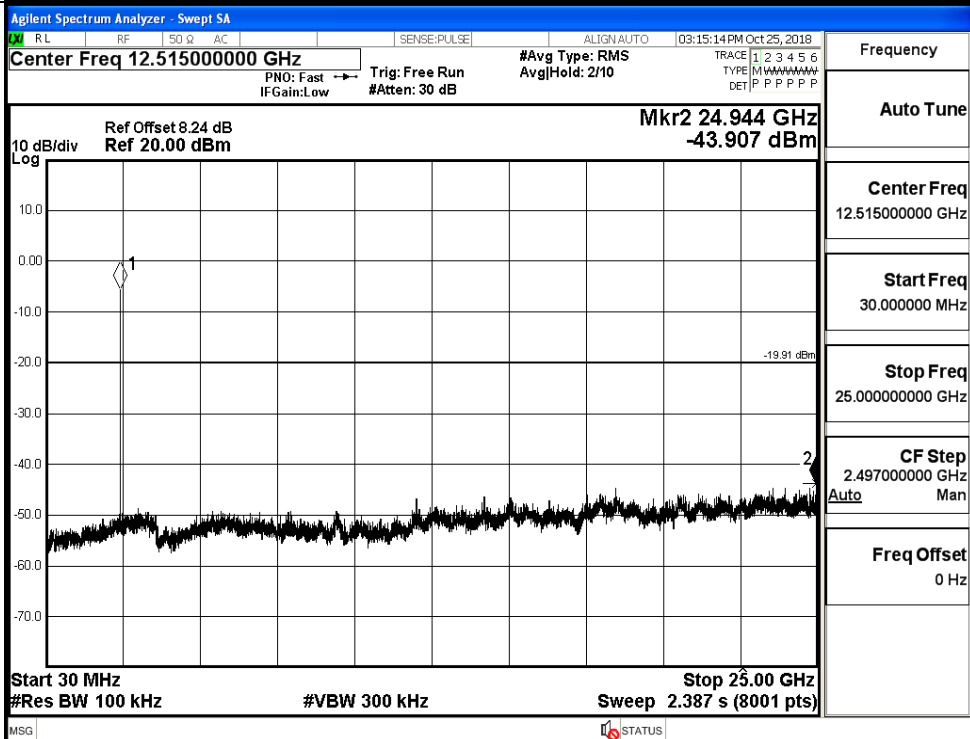


8DPSK_MCH_Graphs

Pref

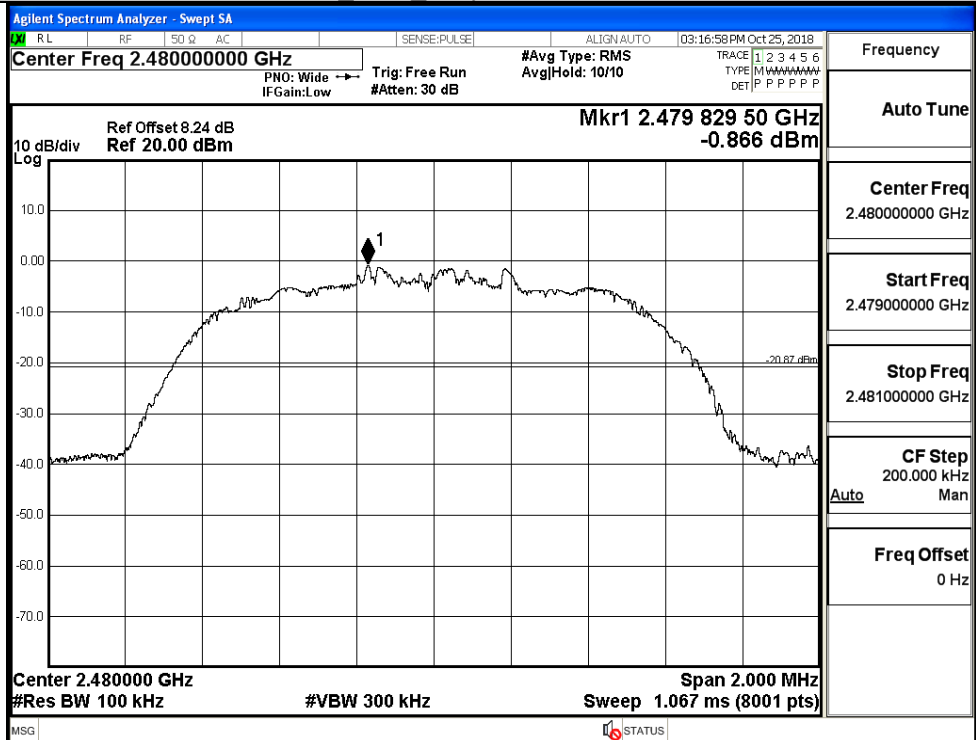


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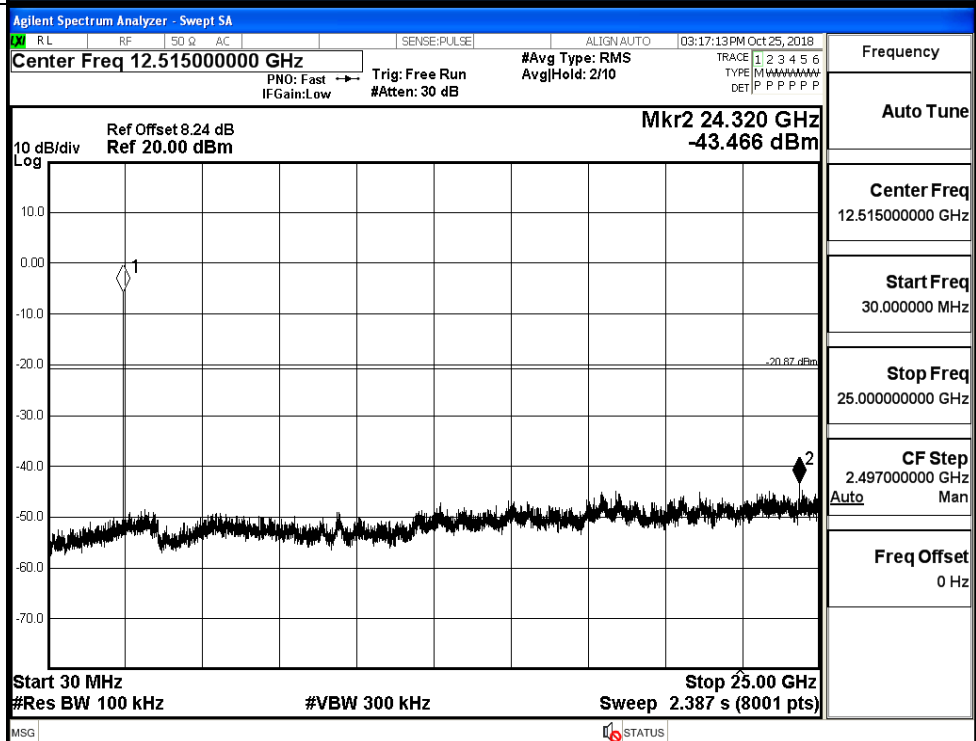


8DPSK_HCH_Graphs

Pref



Puw

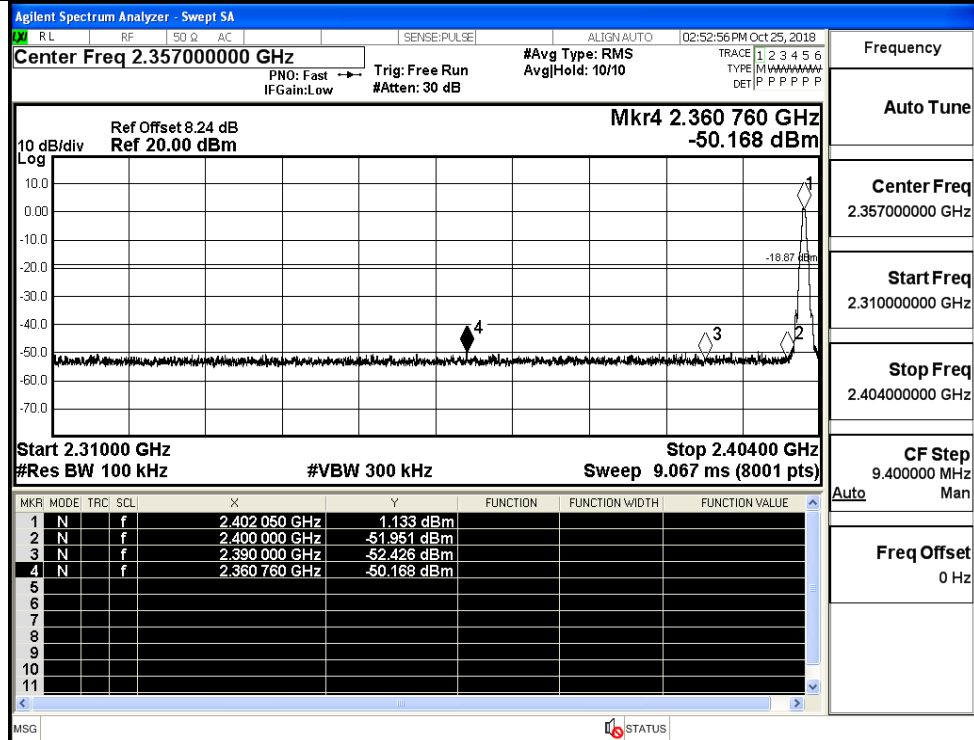


A.7 Band-edge for RF Conducted Emissions

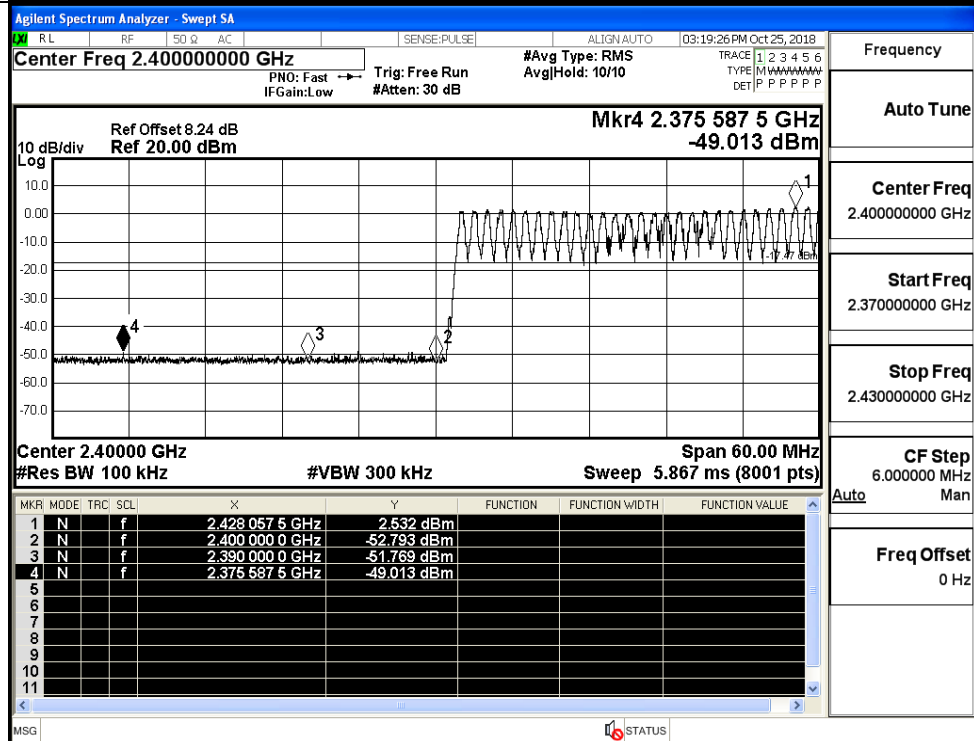
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	1.133	Off	-50.168	-18.87	PASS
			2.532	On	-49.013	-17.47	PASS
	HCH	2480	0.714	Off	-45.012	-19.29	PASS
			1.884	On	-49.132	-18.12	PASS
$\pi/4$ DQPSK	LCH	2402	-1.548	Off	-49.274	-21.55	PASS
			4.136	On	-49.605	-15.86	PASS
	HCH	2480	-0.942	Off	-50.034	-20.94	PASS
			2.879	On	-45.604	-17.12	PASS
8DPSK	LCH	2402	-0.205	Off	-50.047	-20.21	PASS
			4.928	On	-48.843	-15.07	PASS
	HCH	2480	-1.064	Off	-47.977	-21.06	PASS
			5.150	On	-46.869	-14.85	PASS

Test Graphs

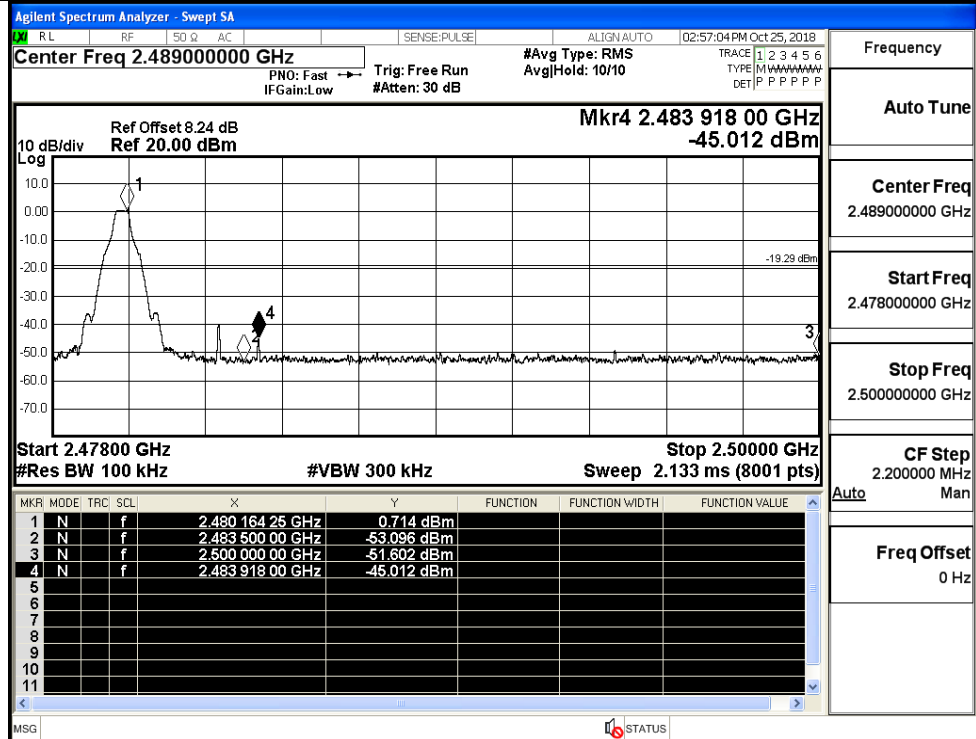
GFSK/LCH/No Hop



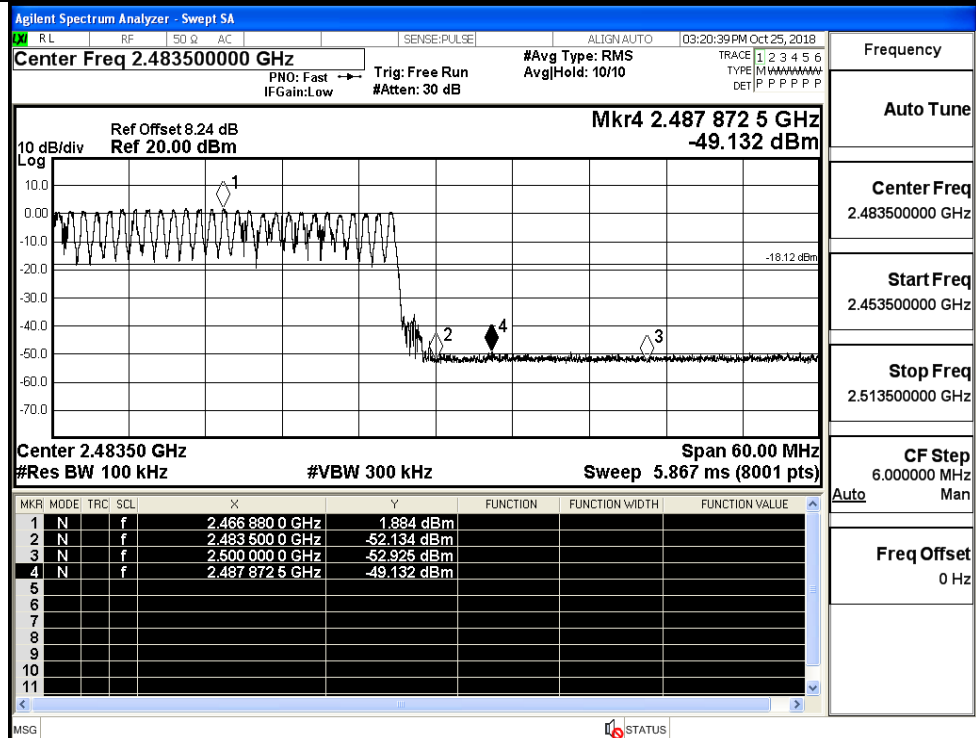
GFSK/LCH/Hop



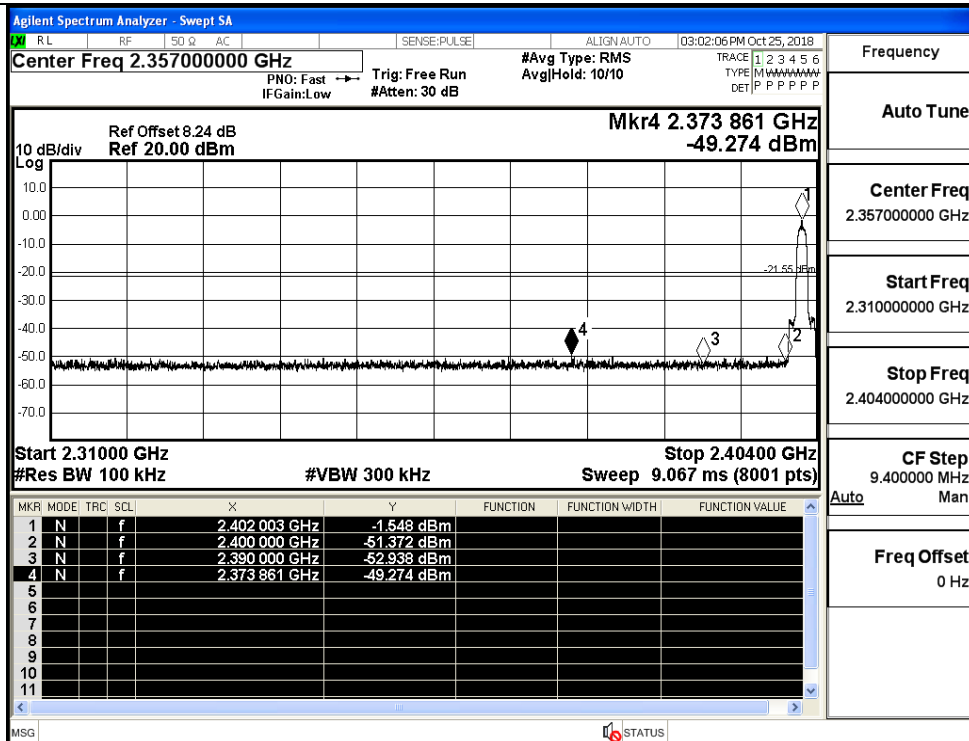
GFSK/HCH/No Hop



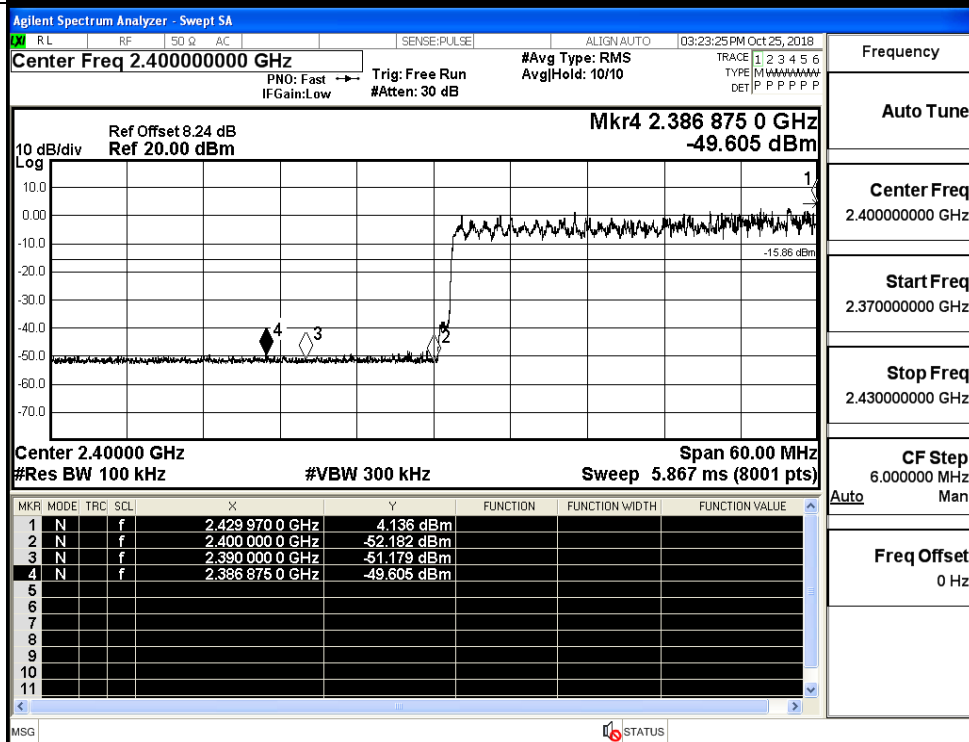
GFSK/HCH/Hop



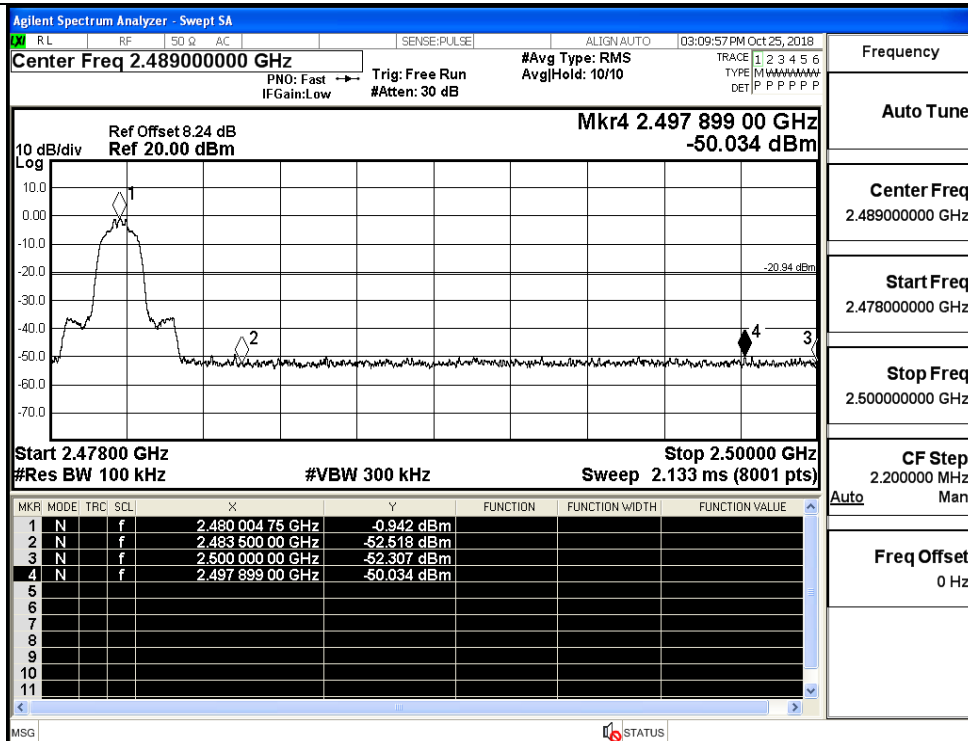
$\pi/4$ DQPSK/LCH/No
Hop



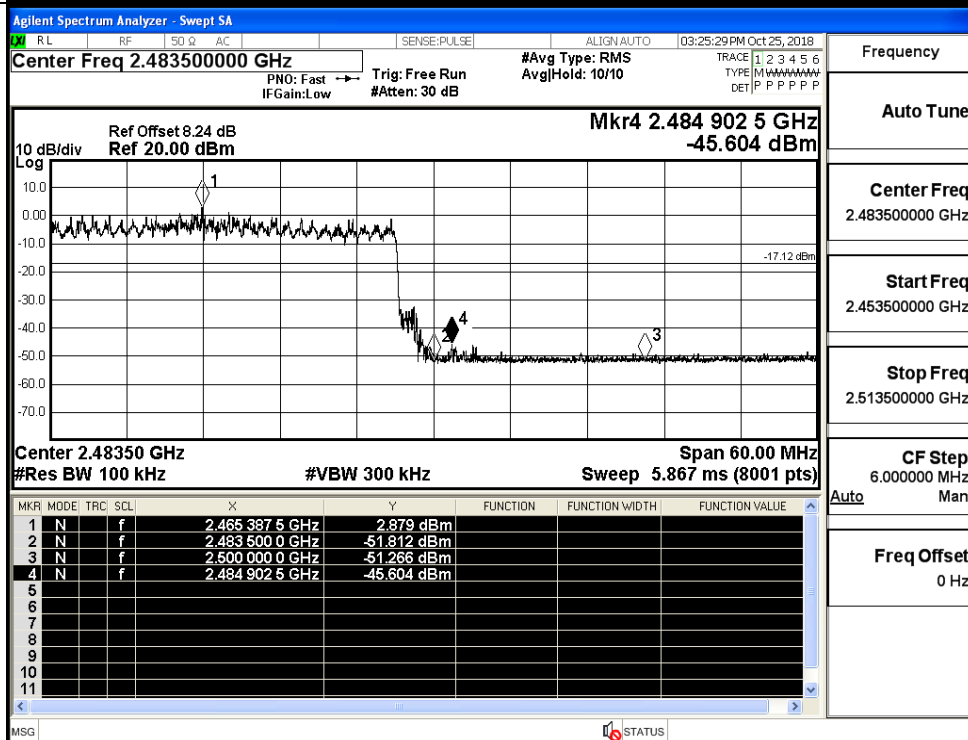
$\pi/4$ DQPSK/LCH/Hop



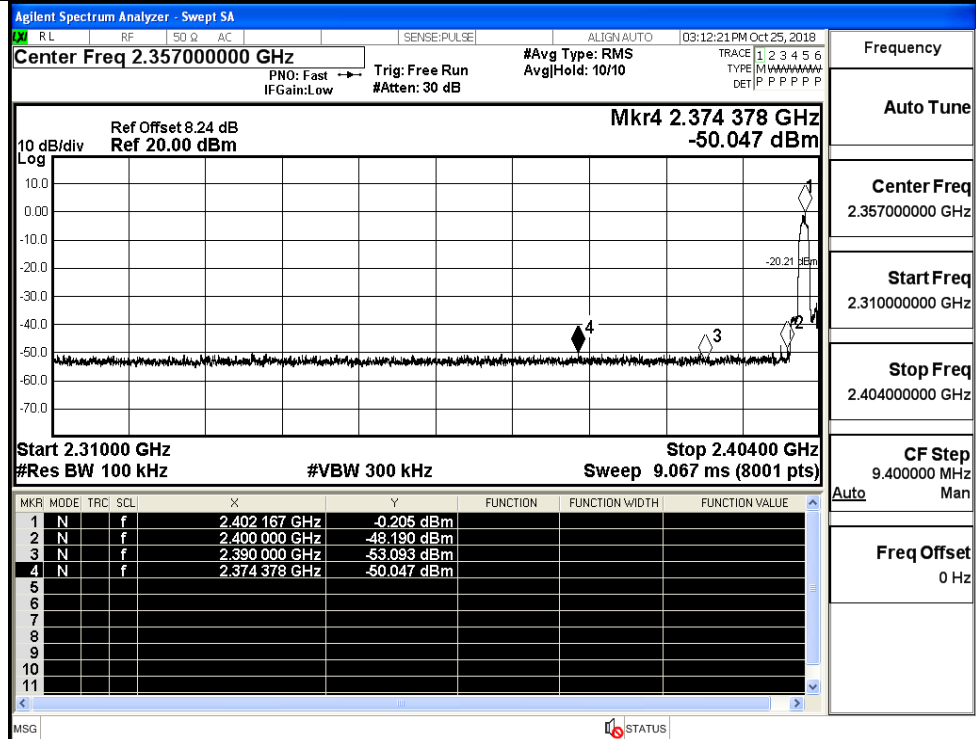
$\pi/4$ DQPSK/HCH/No
Hop



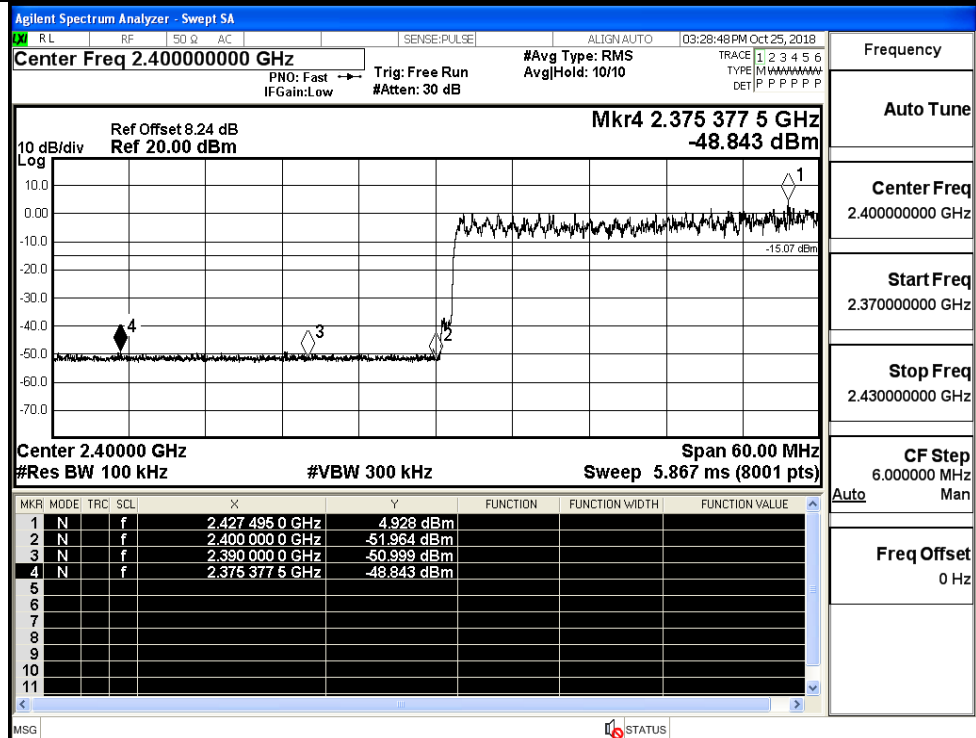
$\pi/4$ DQPSK/HCH/Hop



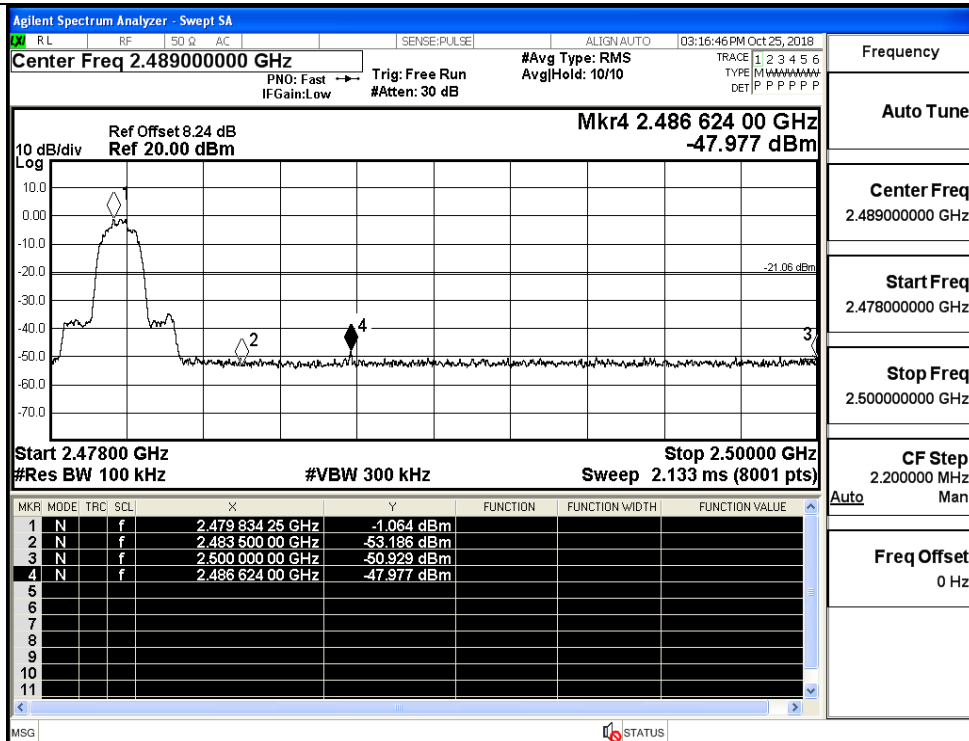
8DPSK/LCH/No Hop



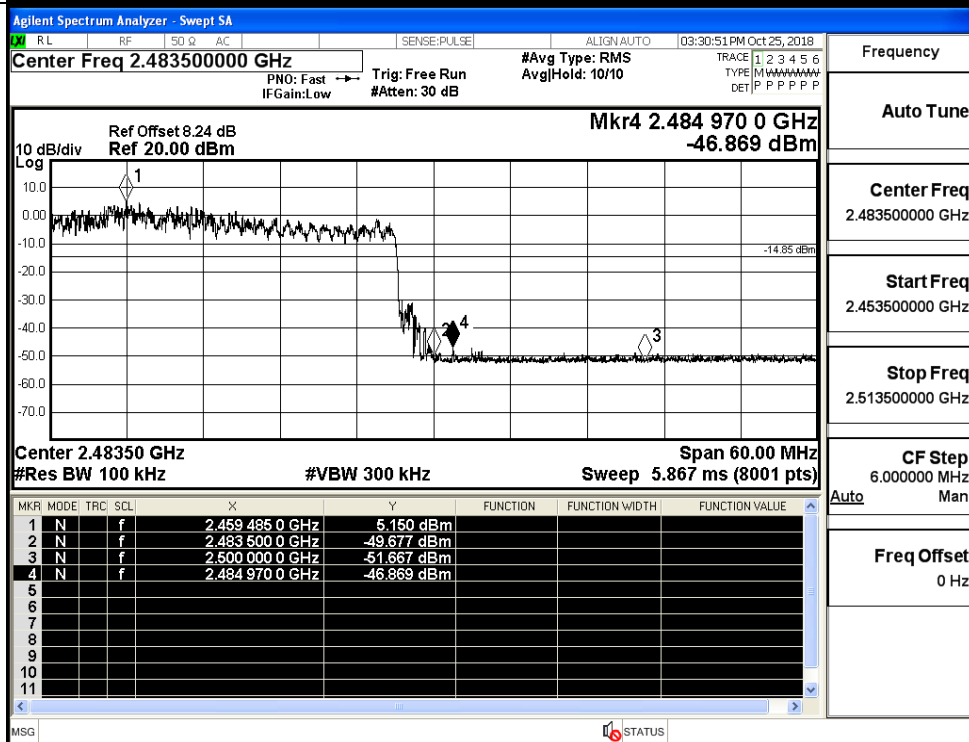
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



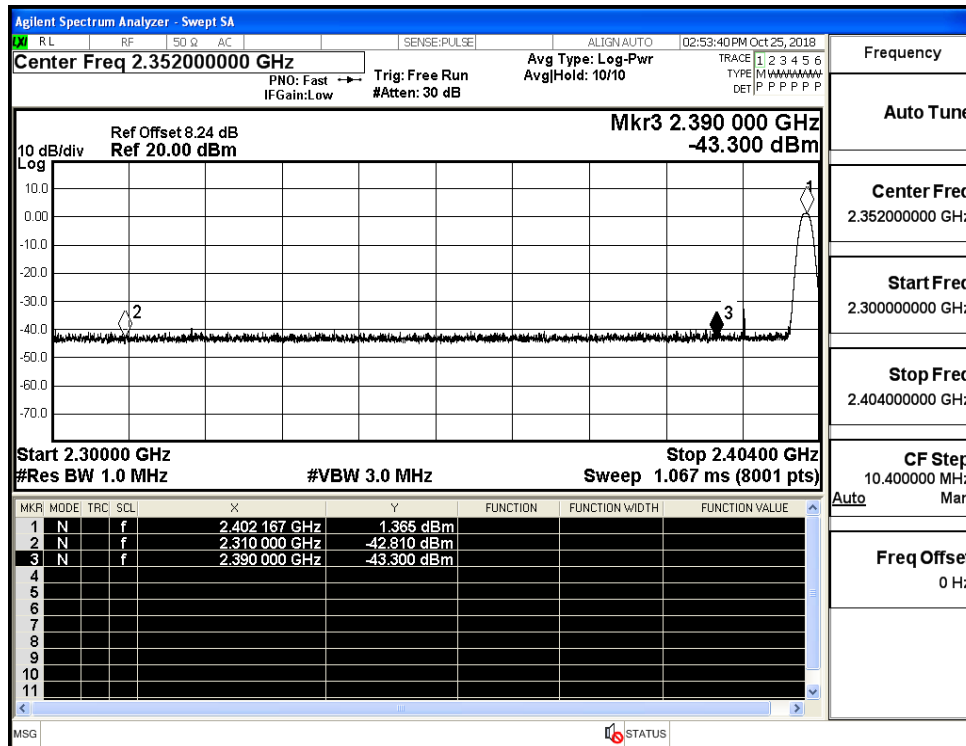
8DPSK/HCH/Hop



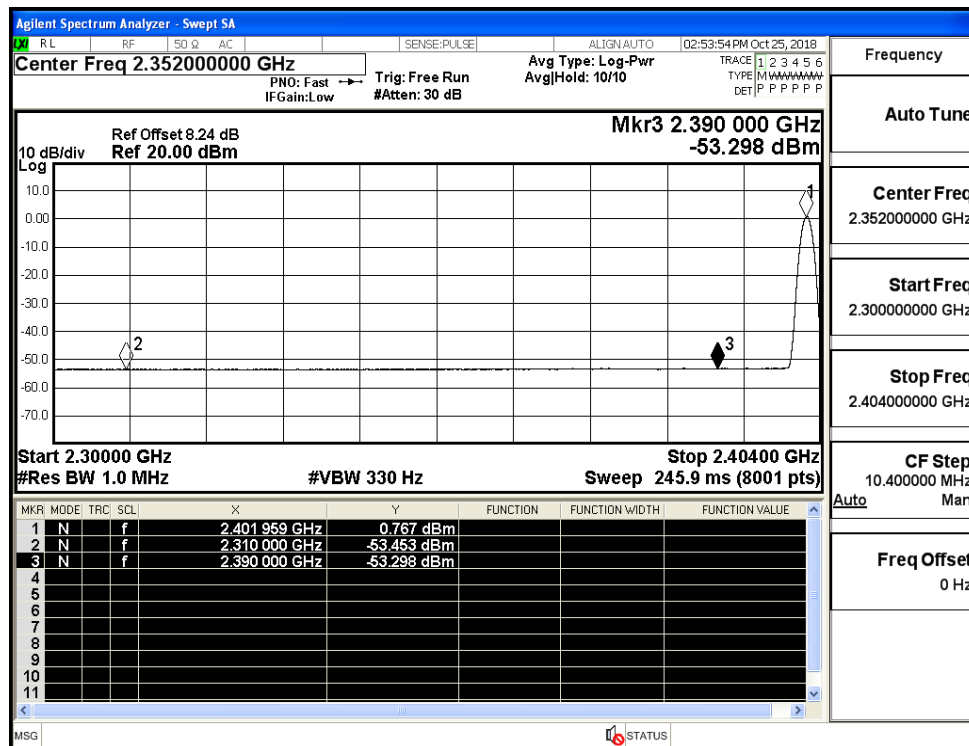
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.81	2.0	0	52.45	PEAK	74	PASS
	Off	2310.0	-53.45	2.0	0	41.80	AV	54	PASS
	Off	2390.0	-43.30	2.0	0	51.96	PEAK	74	PASS
	Off	2390.0	-53.30	2.0	0	41.96	AV	54	PASS
	Off	2483.5	-43.47	2.0	0	51.78	PEAK	74	PASS
	Off	2483.5	-52.96	2.0	0	42.29	AV	54	PASS
	Off	2500.0	-43.02	2.0	0	52.24	PEAK	74	PASS
	Off	2500.0	-52.78	2.0	0	42.47	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-42.84	2.0	0	52.42	PEAK	74	PASS
	Off	2310.0	-53.45	2.0	0	41.81	AV	54	PASS
	Off	2390.0	-41.84	2.0	0	53.42	PEAK	74	PASS
	Off	2390.0	-53.23	2.0	0	42.02	AV	54	PASS
	Off	2483.5	-41.32	2.0	0	53.94	PEAK	74	PASS
	Off	2483.5	-52.87	2.0	0	42.39	AV	54	PASS
	Off	2500.0	-43.41	2.0	0	51.85	PEAK	74	PASS
	Off	2500.0	-52.87	2.0	0	42.39	AV	54	PASS
8DPSK	Off	2310.0	-41.88	2.0	0	53.38	PEAK	74	PASS
	Off	2310.0	-53.47	2.0	0	41.79	AV	54	PASS
	Off	2390.0	-42.84	2.0	0	52.41	PEAK	74	PASS
	Off	2390.0	-53.26	2.0	0	41.99	AV	54	PASS
	Off	2483.5	-41.88	2.0	0	53.38	PEAK	74	PASS
	Off	2483.5	-52.92	2.0	0	42.33	AV	54	PASS
	Off	2500.0	-42.91	2.0	0	52.35	PEAK	74	PASS
	Off	2500.0	-52.87	2.0	0	42.39	AV	54	PASS

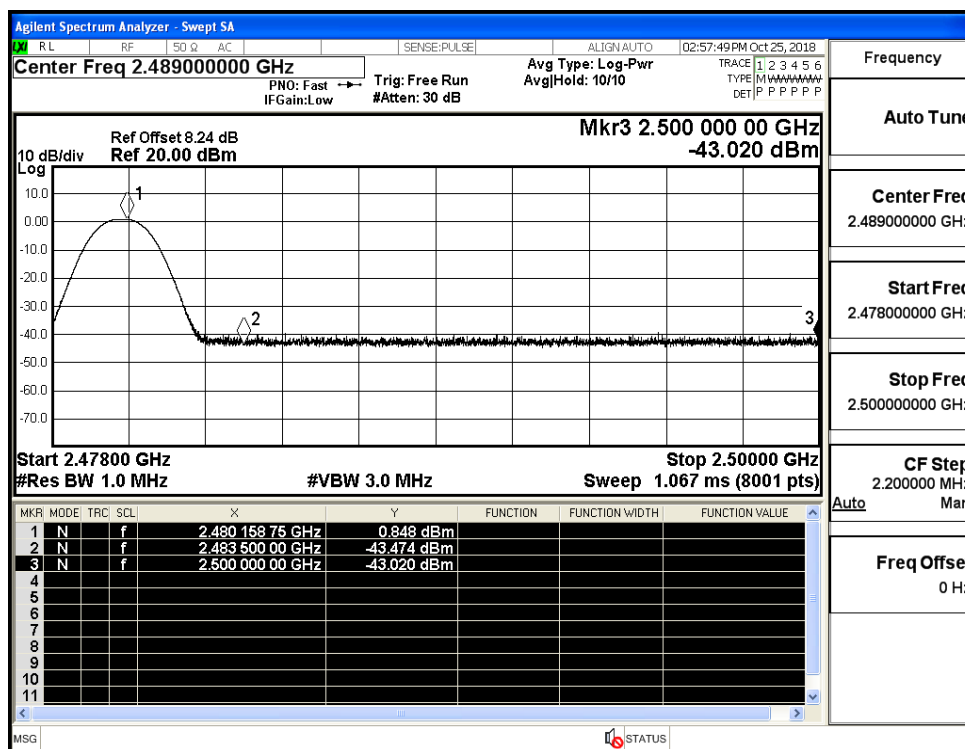
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



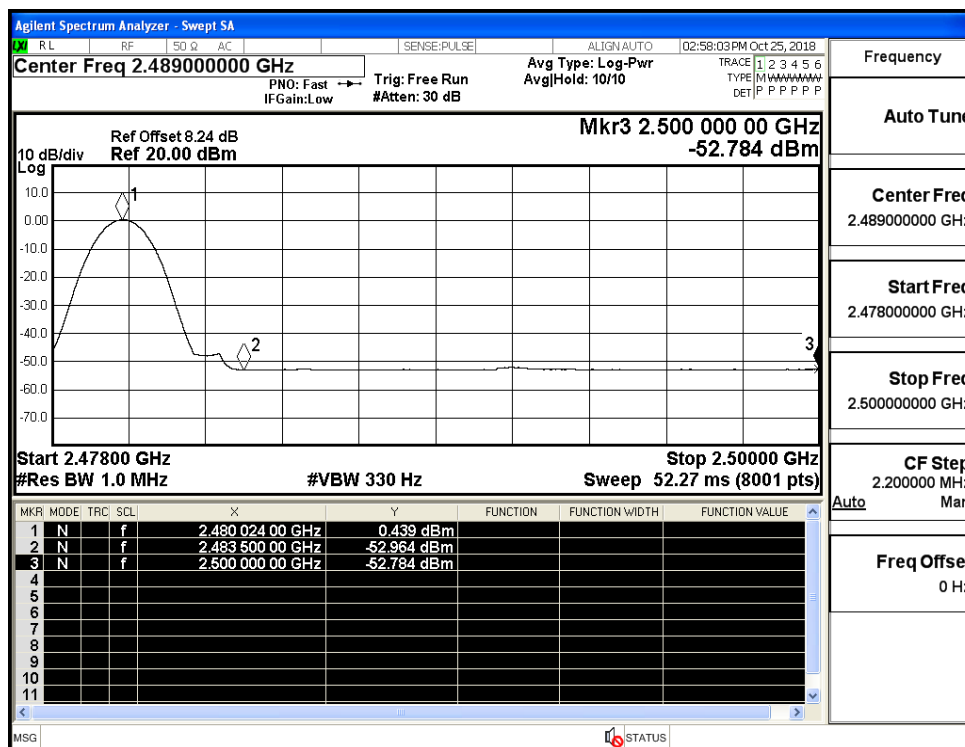
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

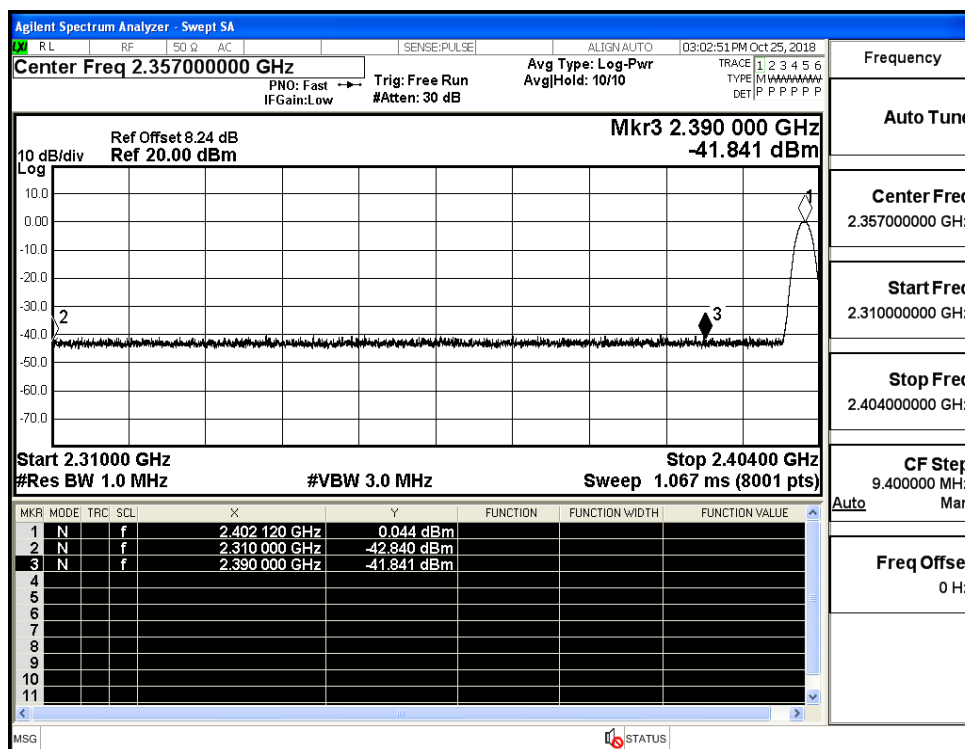
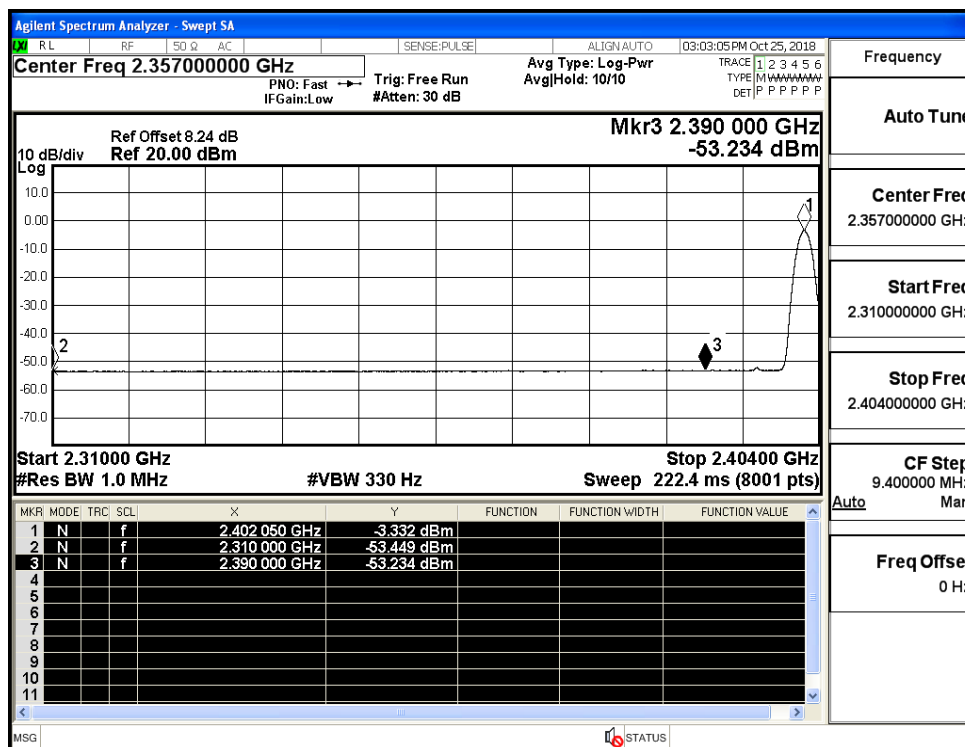


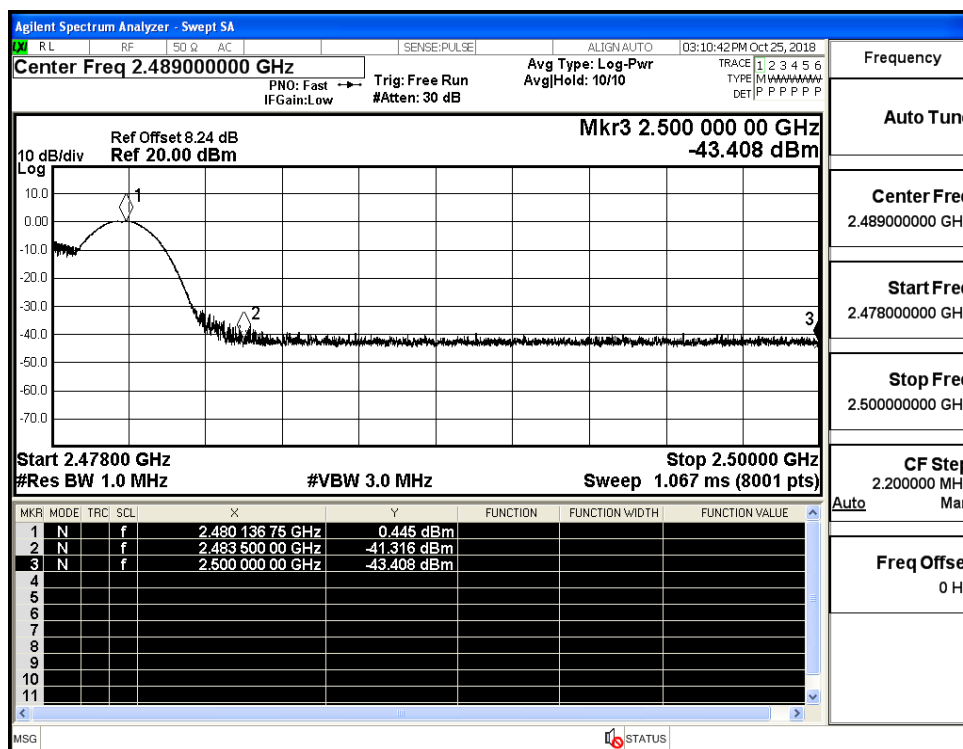
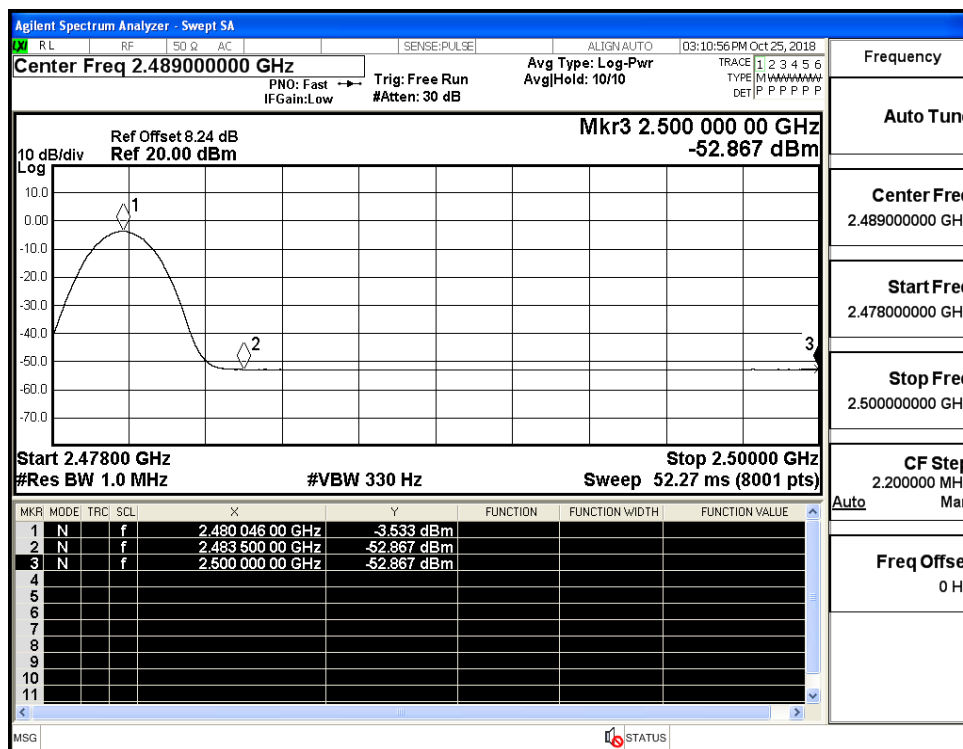
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



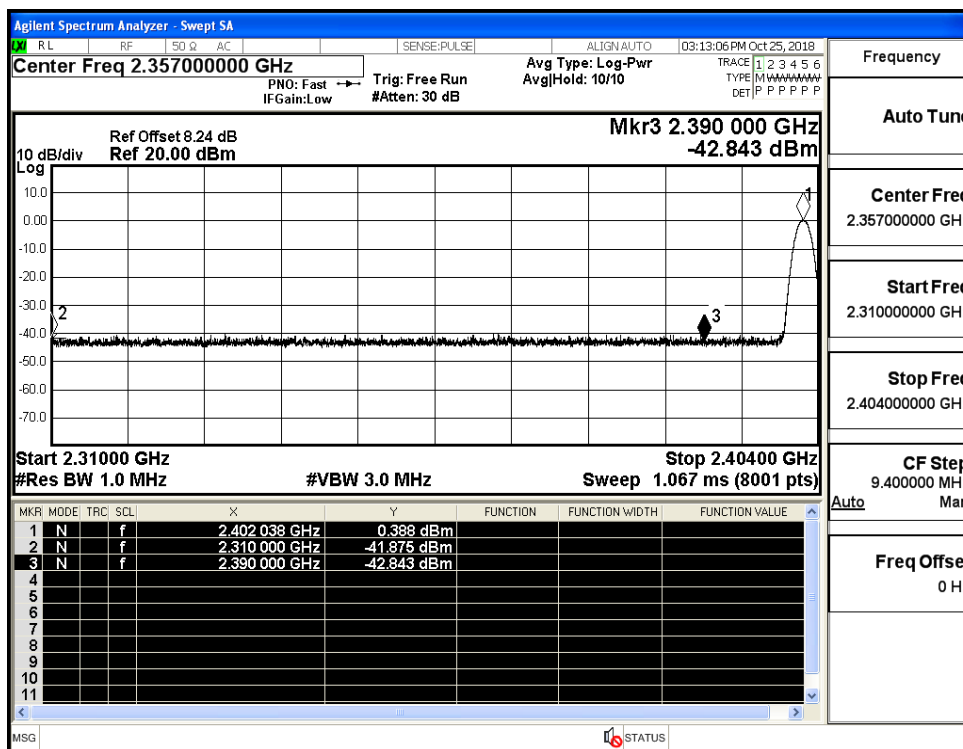
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



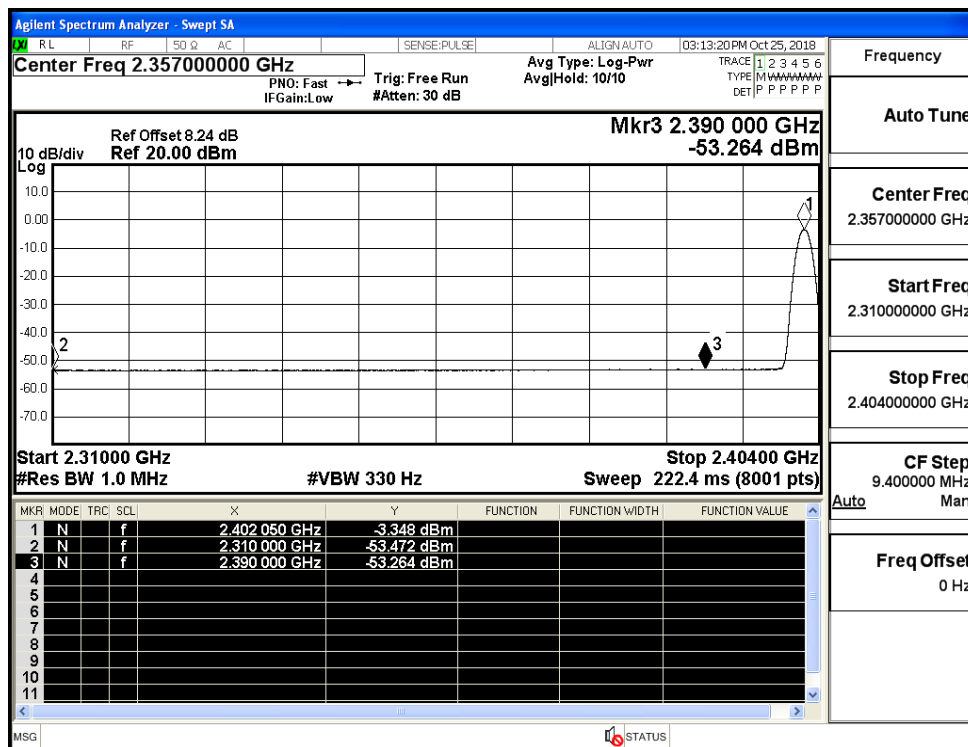
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

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)

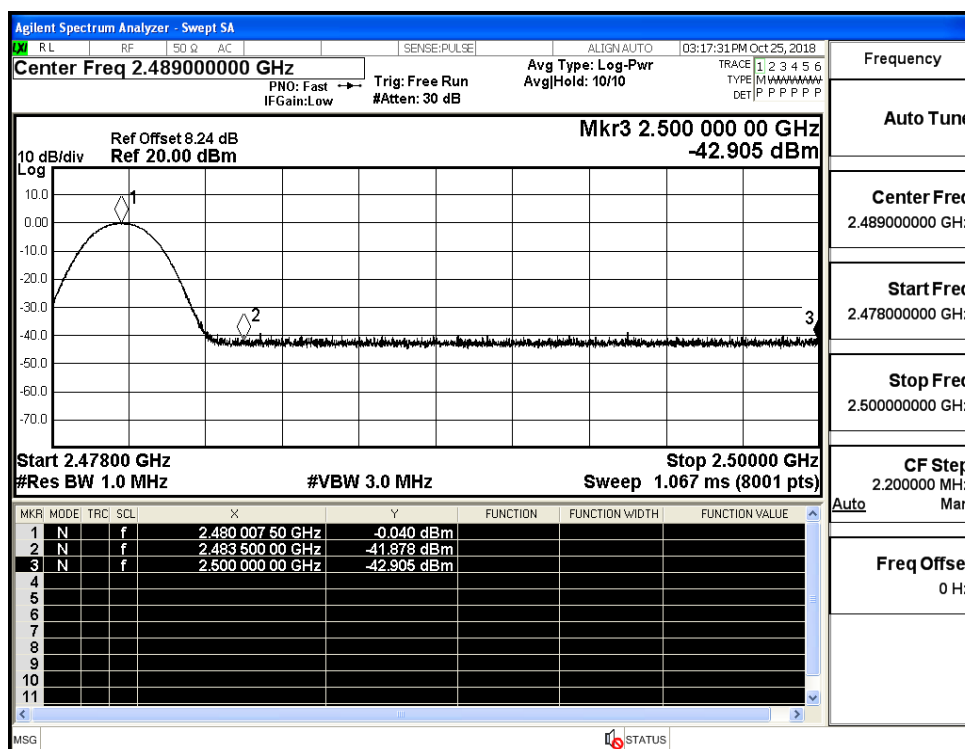
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

