

Appendix A

RF Test Data for BT V4.2 (BDR/EDR) (Conducted Measurement)

Product Name: Bluetooth Earphone

Trade Mark: Lectronic

Test Model: S801

Environmental Conditions

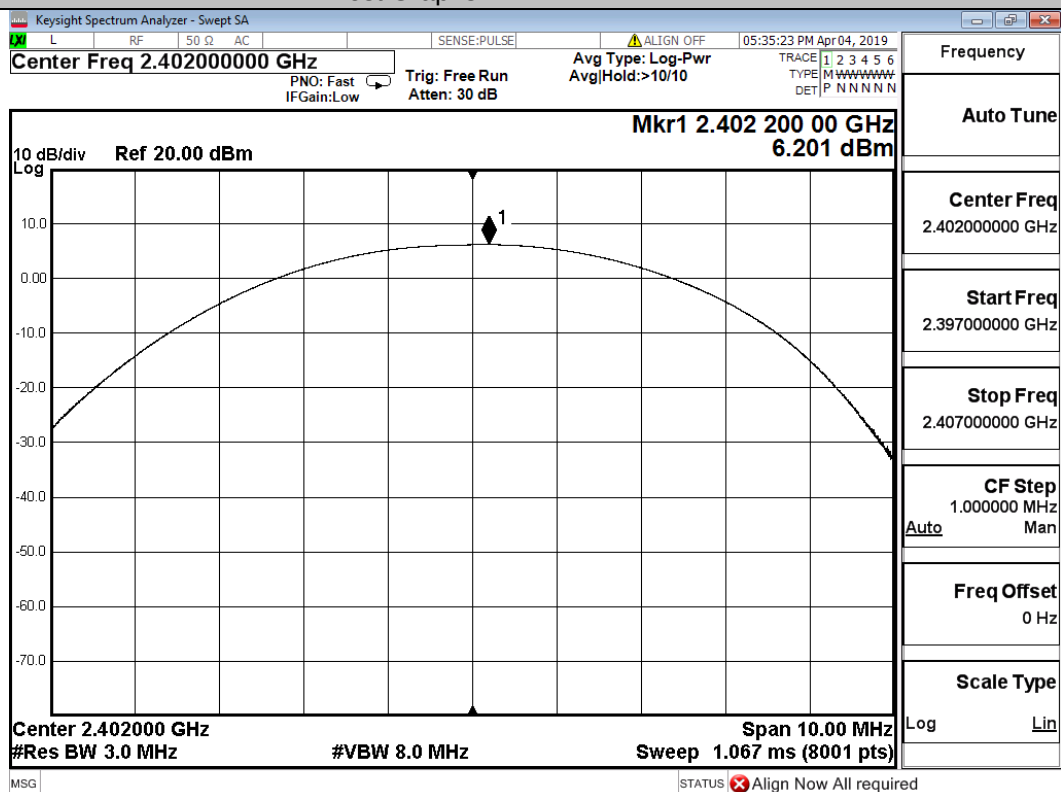
Temperature:	23.5 ° C
Relative Humidity:	66%
ATM Pressure:	100.0 kPa
Test Engineer:	CHUANG WANG
Supervised by:	JAYDEN ZHUO

A.1 Maximum Conducted Peak Output Power

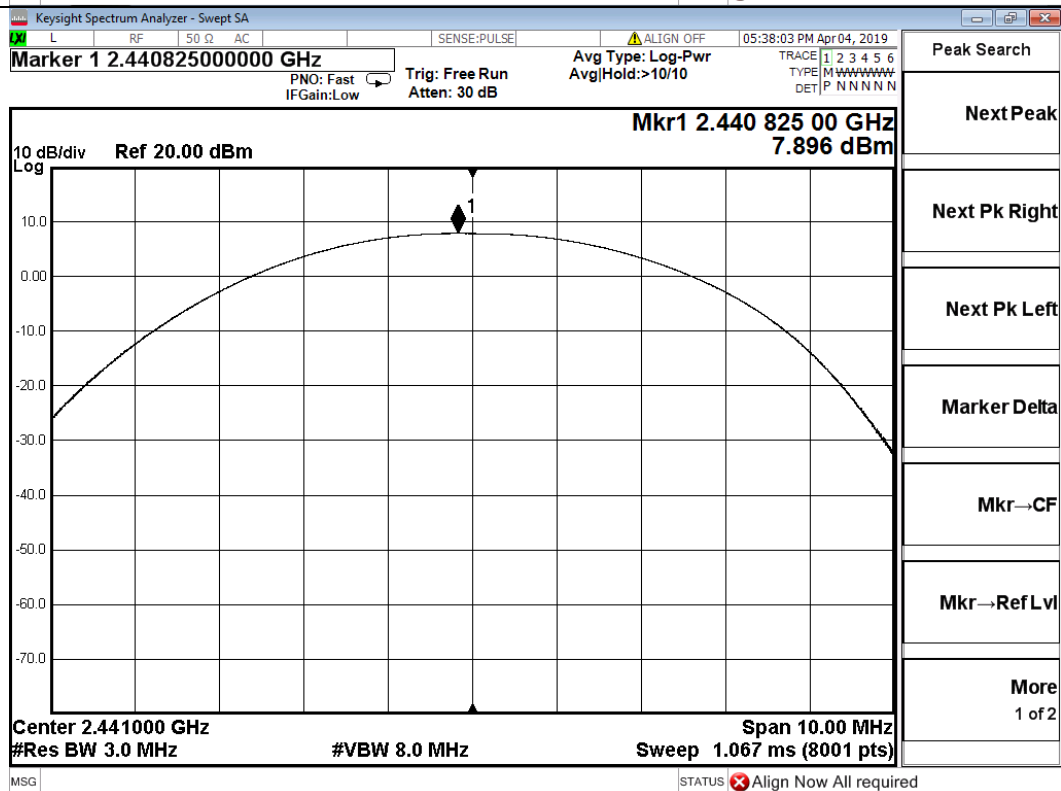
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	6.201	21	PASS
	MCH	7.896	21	PASS
	HCH	8.700	21	PASS
$\pi/4$ DQPSK	LCH	4.839	21	PASS
	MCH	7.123	21	PASS
	HCH	7.970	21	PASS
8DPSK	LCH	5.153	21	PASS
	MCH	7.252	21	PASS
	HCH	8.103	21	PASS

Test Graphs

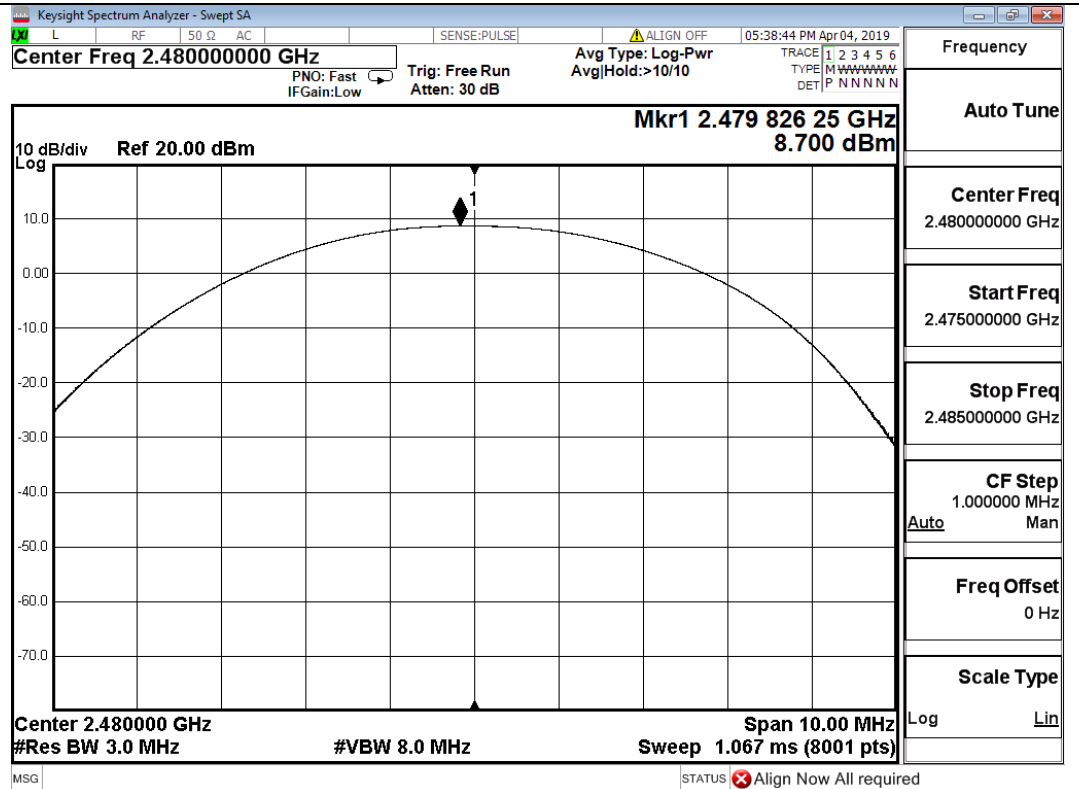
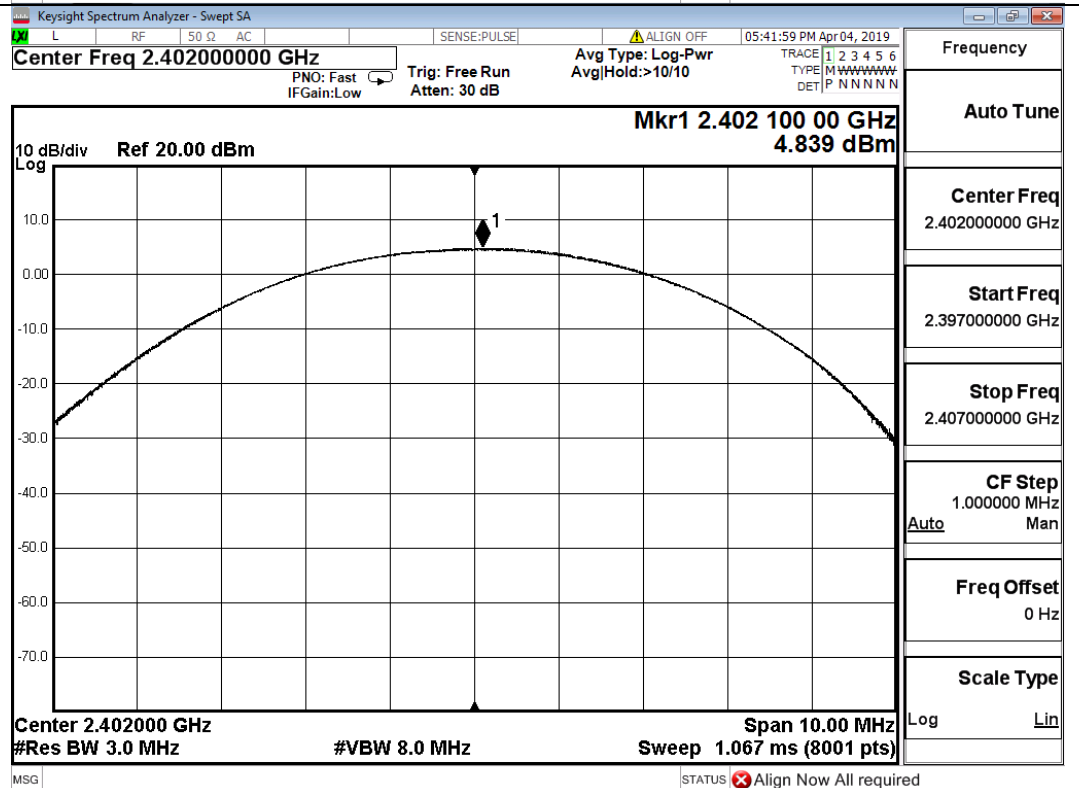
GFSK/LCH

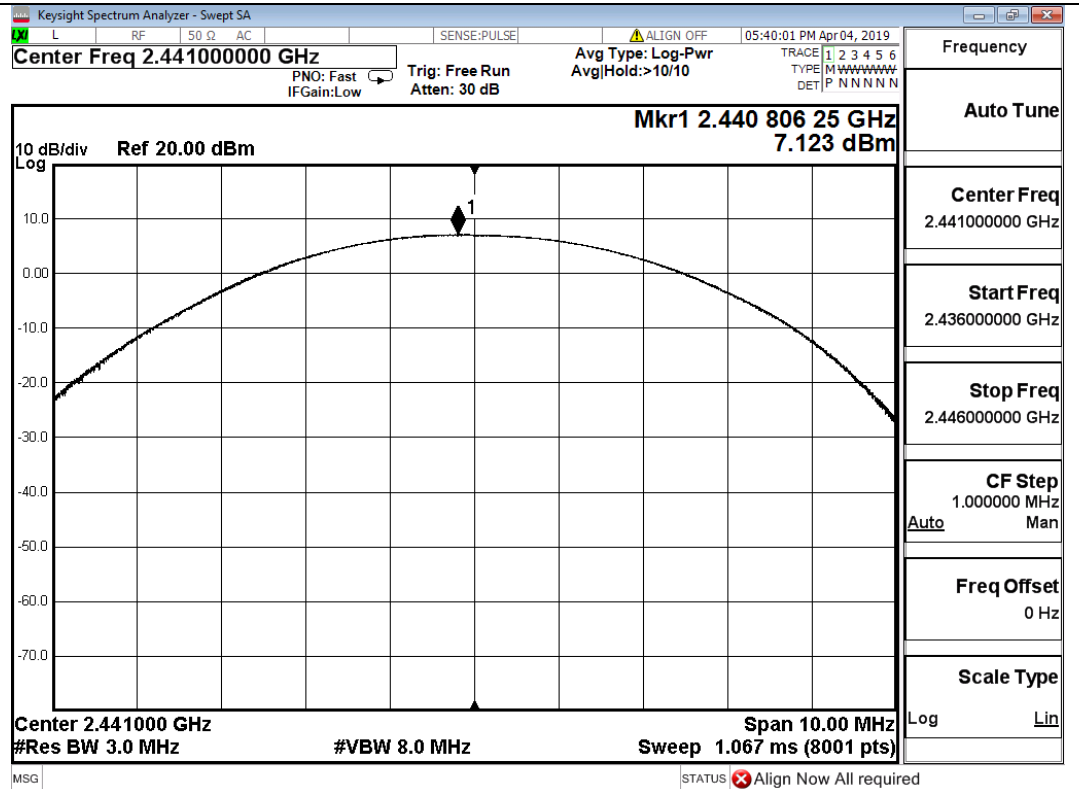
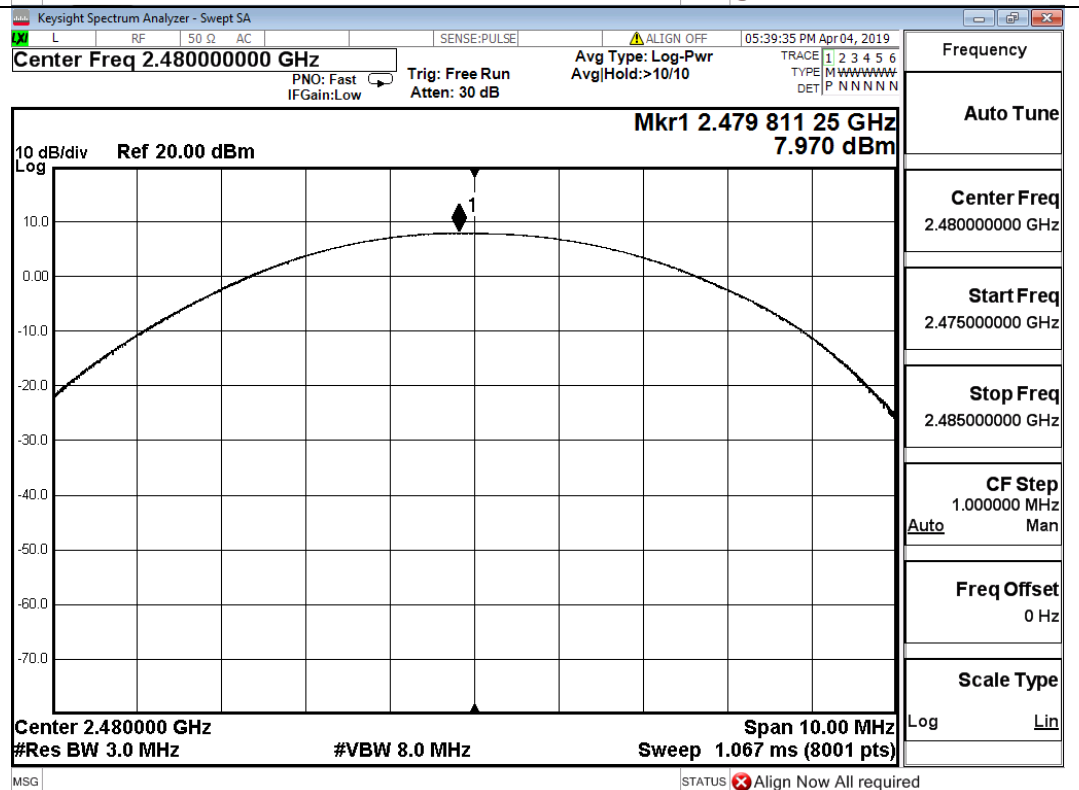


GFSK/MCH

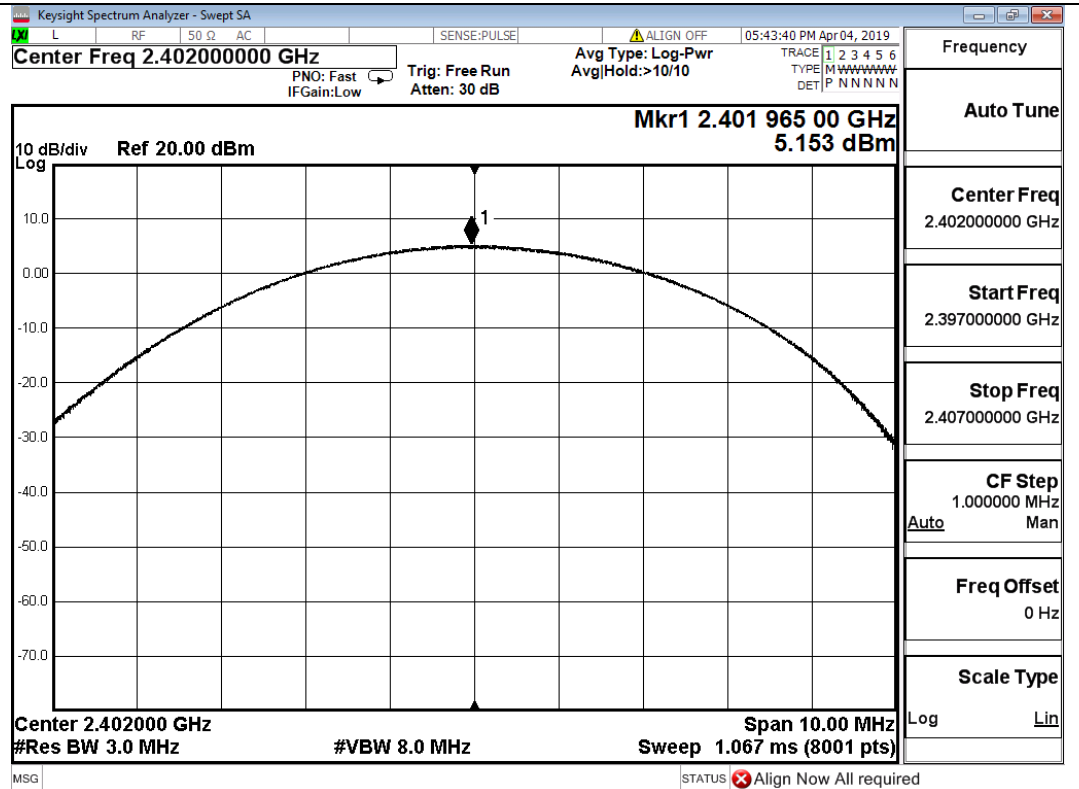


GFSK/HCH

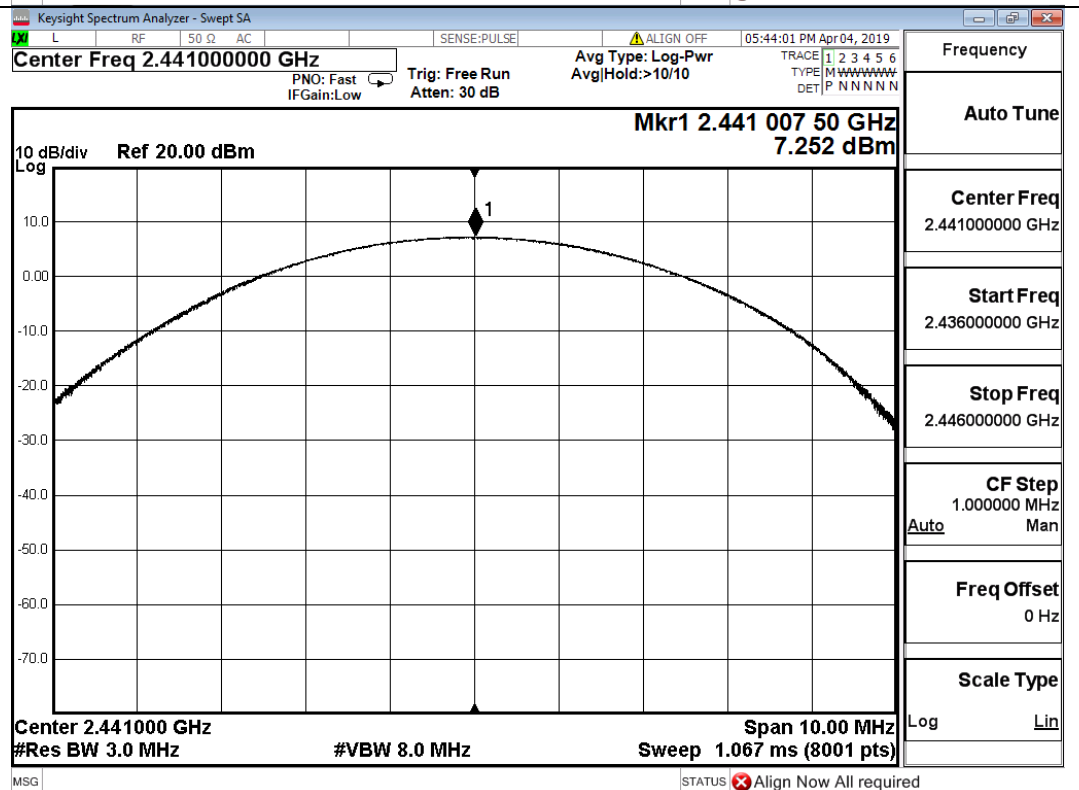
 π /4DQPSK/LCH

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

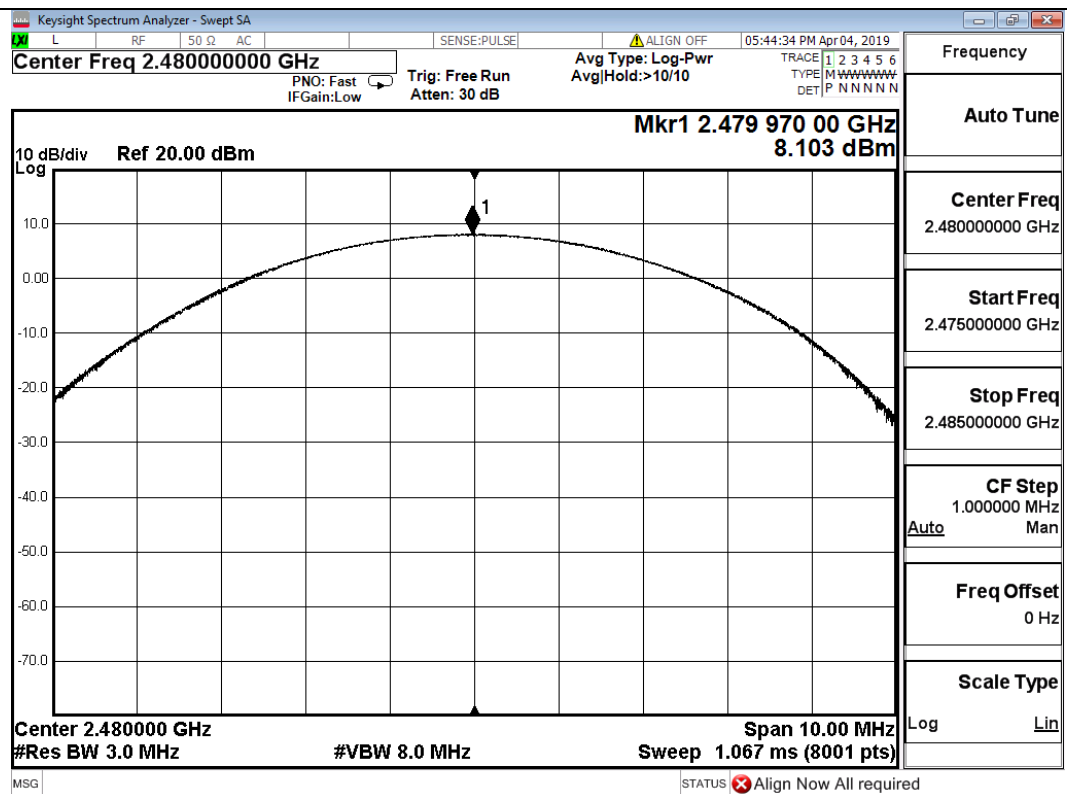
8DPSK/LCH



8DPSK/MCH

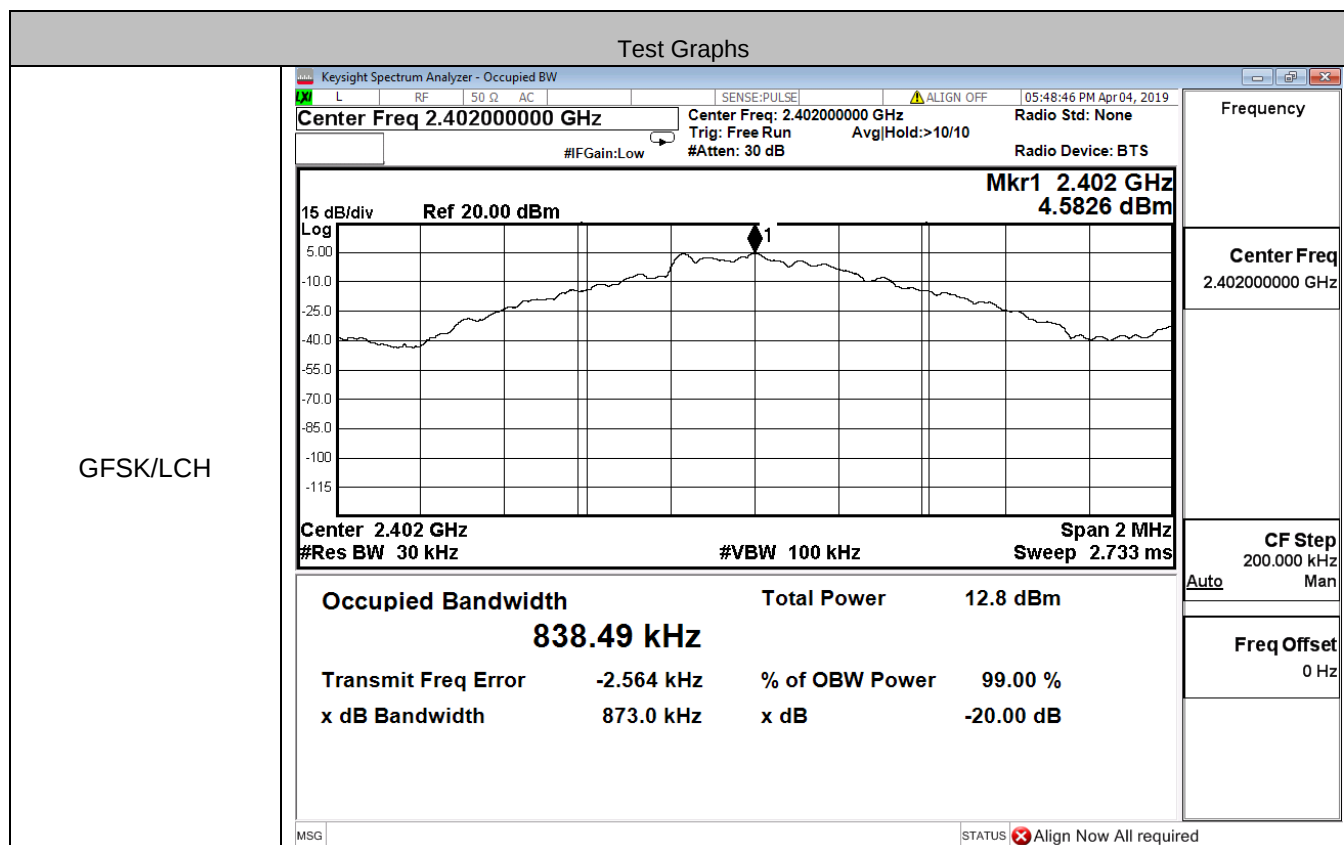


8DPSK/HCH

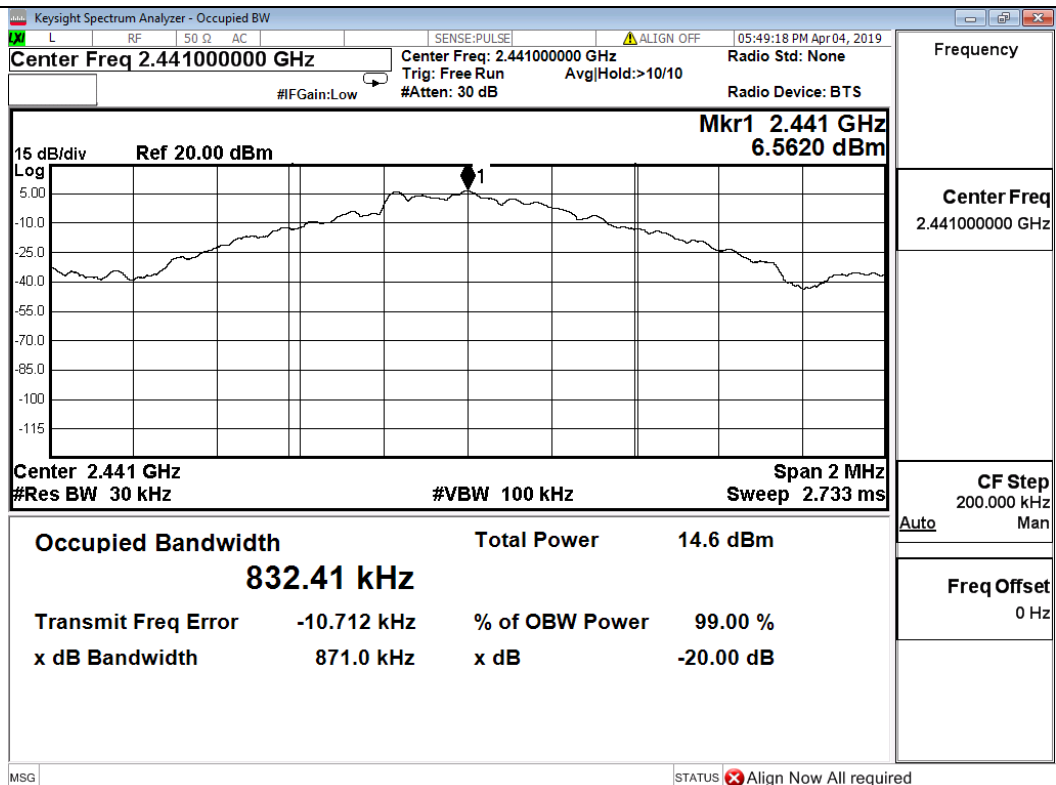


A.2 99% and 20dB Bandwidth

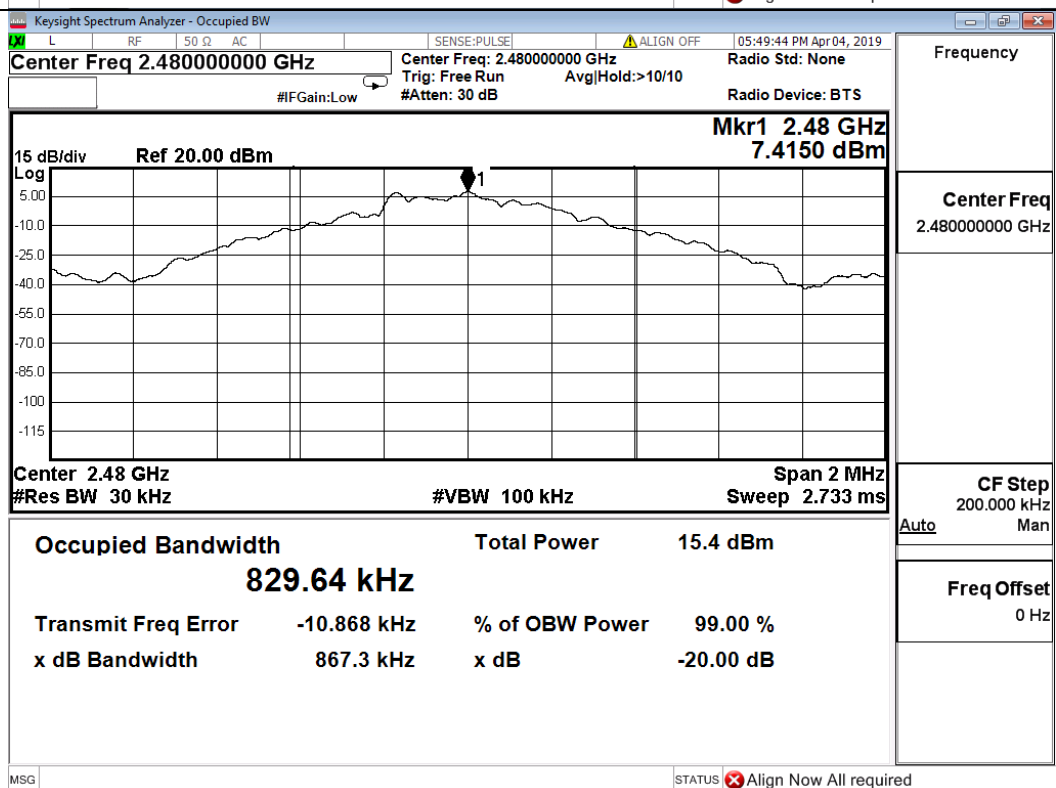
Mode	Channel.	99% Bandwidth [MHz]	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.83849	0.8730	Not Specified	PASS
	MCH	0.83241	0.8710	Not Specified	PASS
	HCH	0.82964	0.8673	Not Specified	PASS
π /4DQPSK	LCH	1.1628	1.217	Not Specified	PASS
	MCH	1.1726	1.223	Not Specified	PASS
	HCH	1.1727	1.221	Not Specified	PASS
8DPSK	LCH	1.1493	1.207	Not Specified	PASS
	MCH	1.1539	1.208	Not Specified	PASS
	HCH	1.1595	1.211	Not Specified	PASS

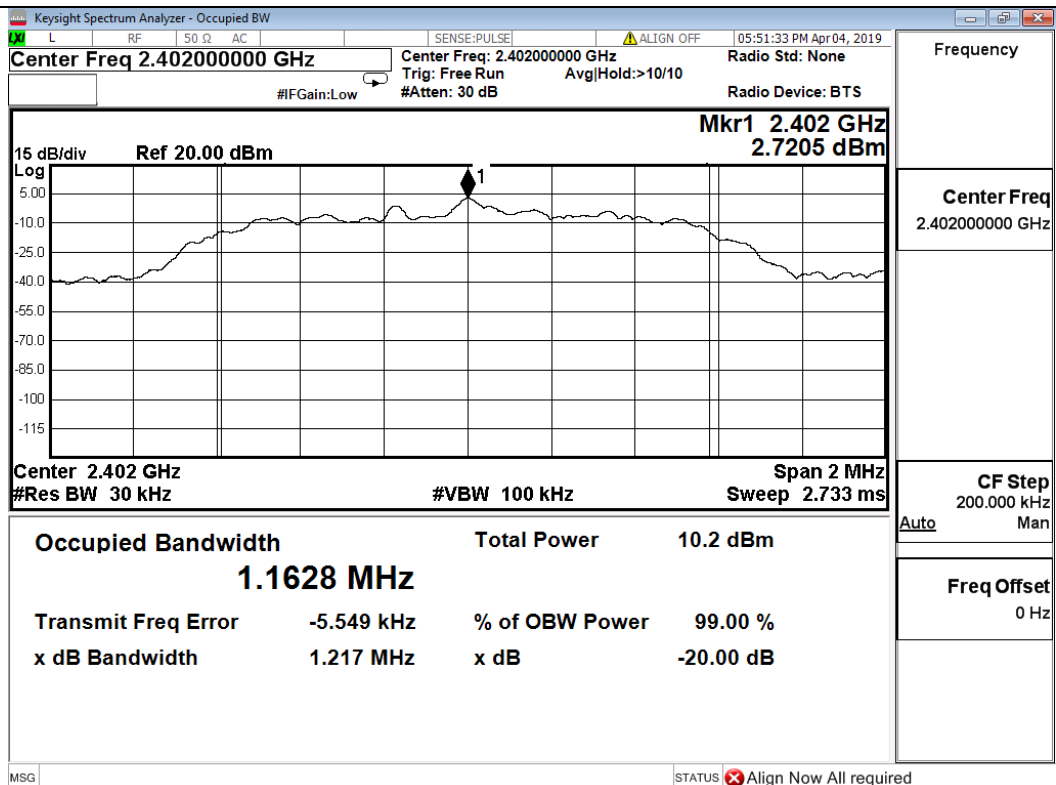
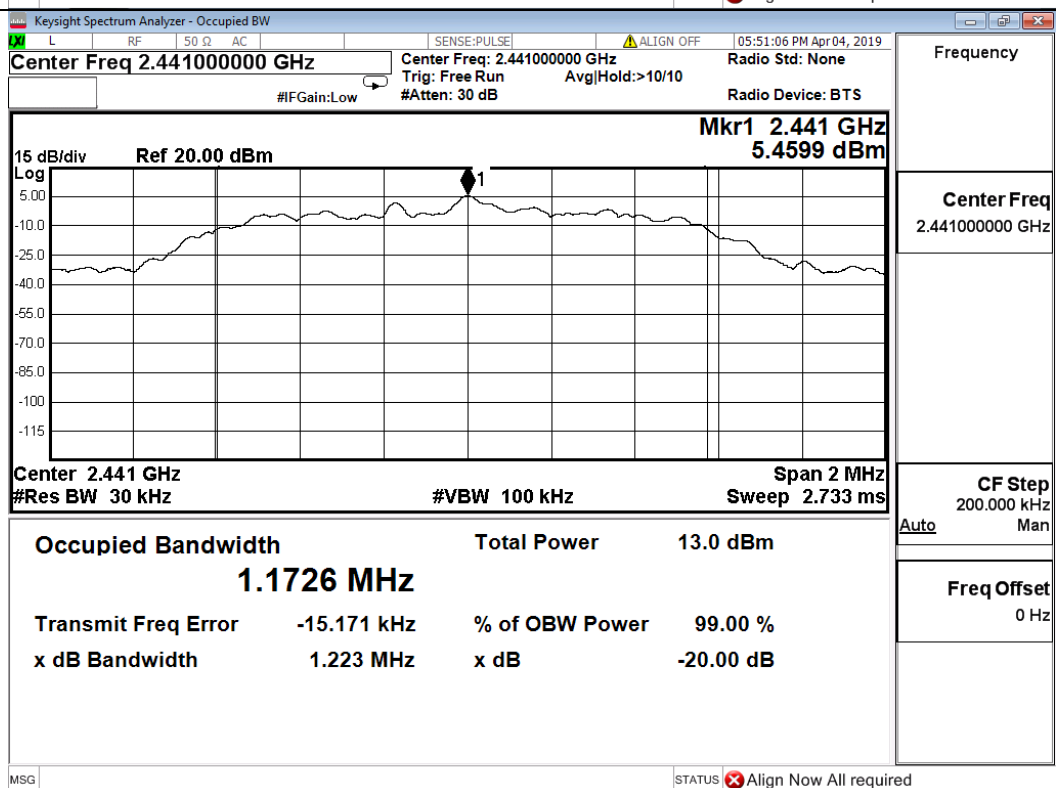


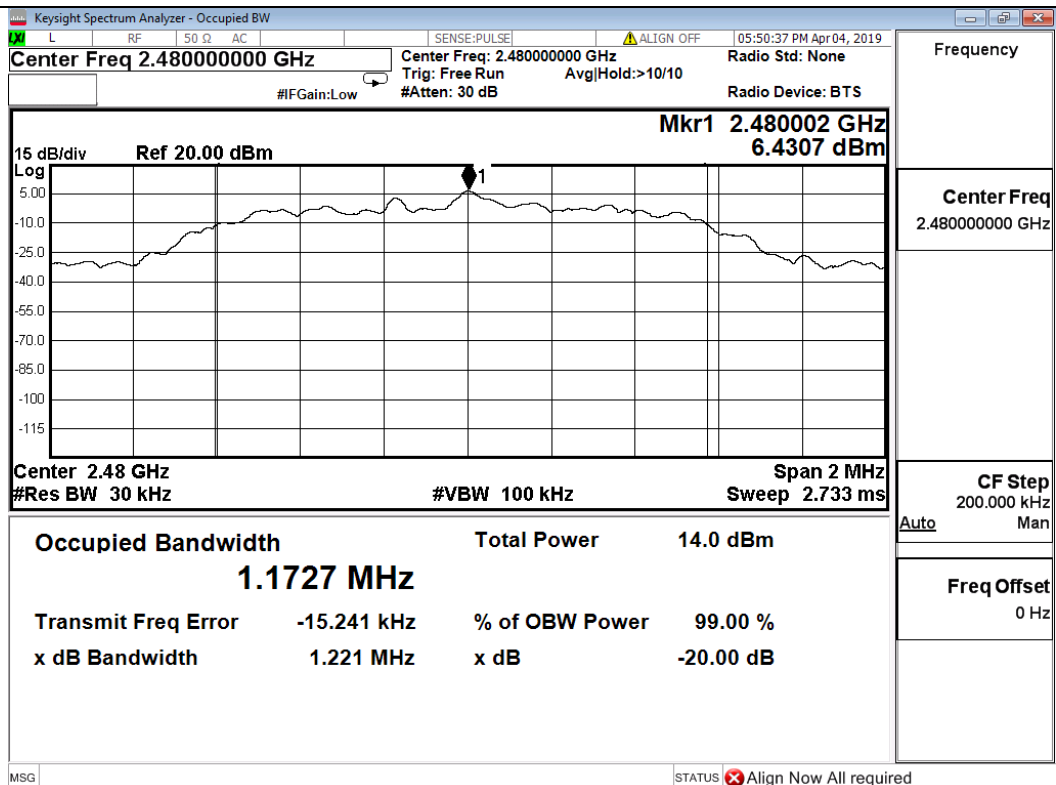
GFSK/MCH



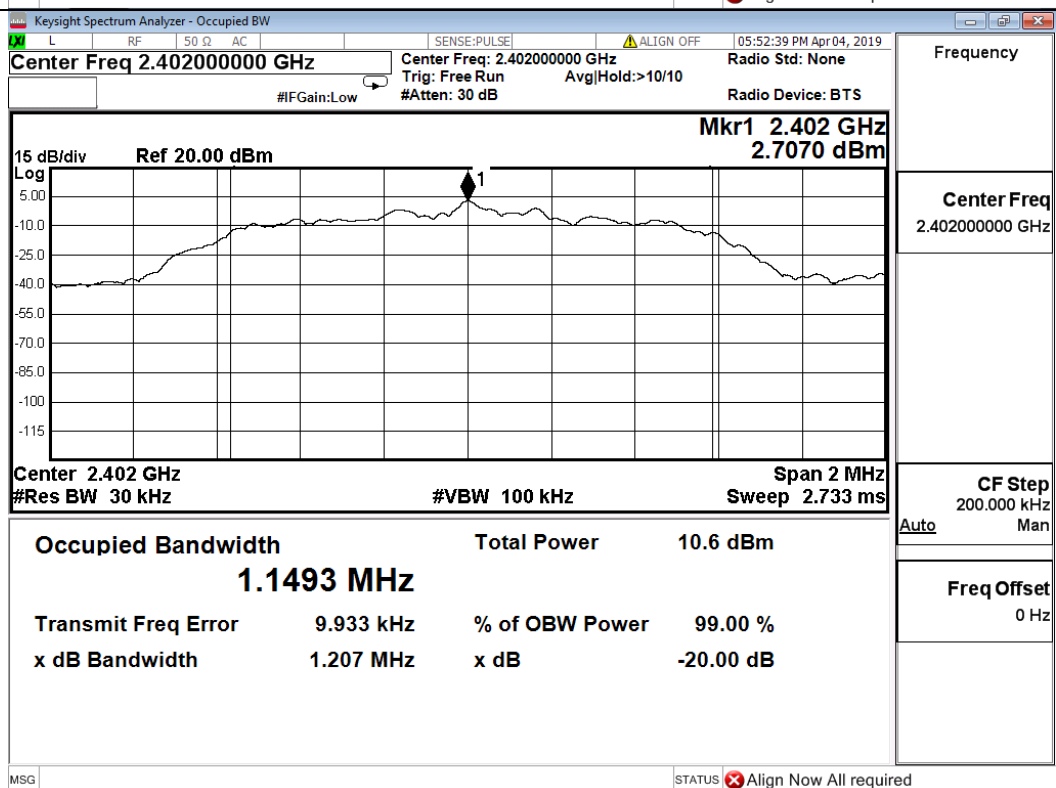
GFSK/HCH



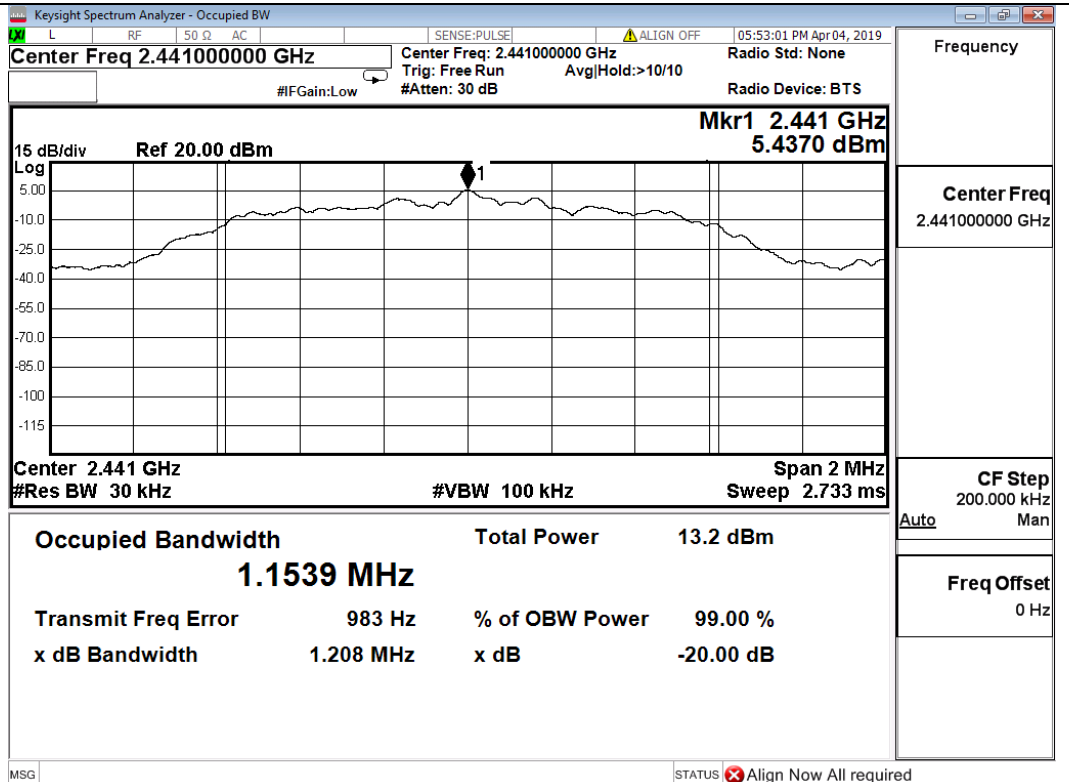
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

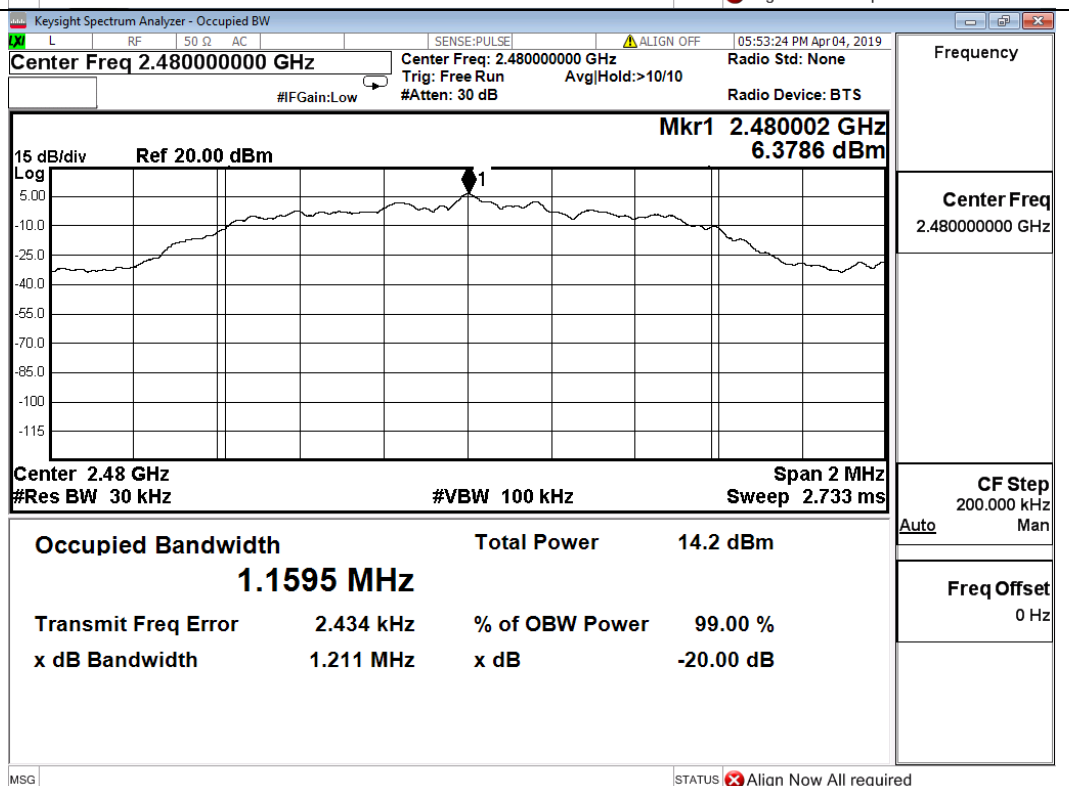
8DPSK/LCH



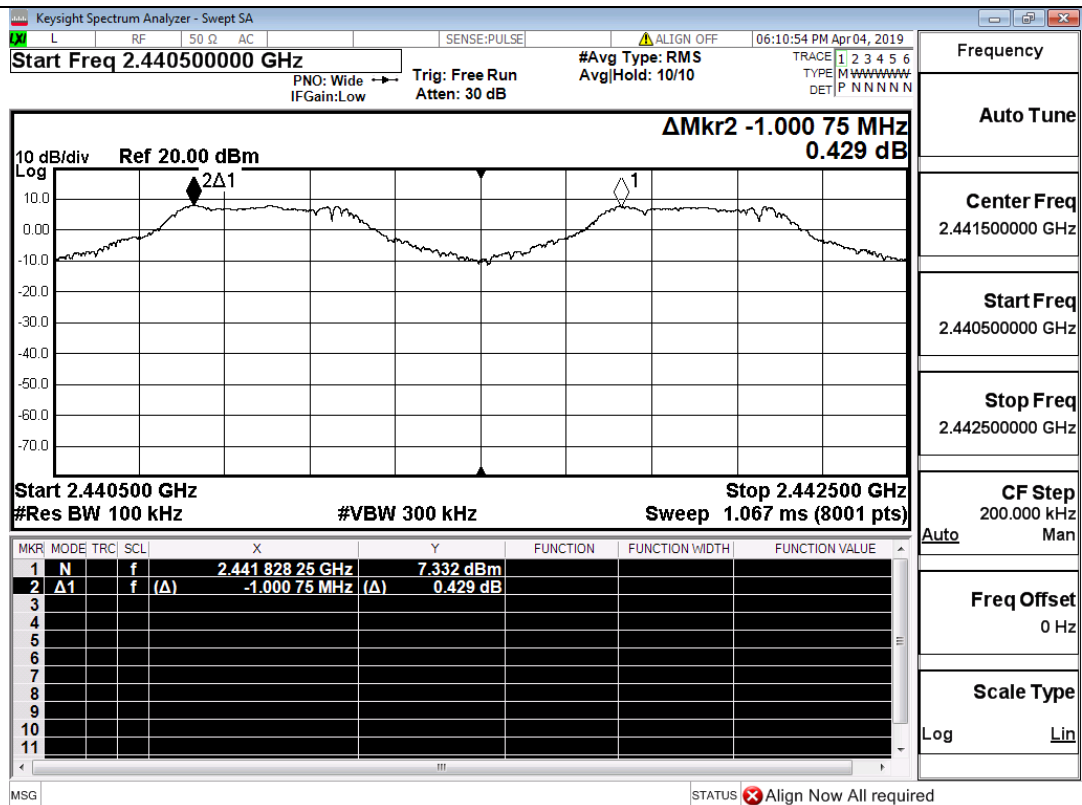
8DPSK/MCH



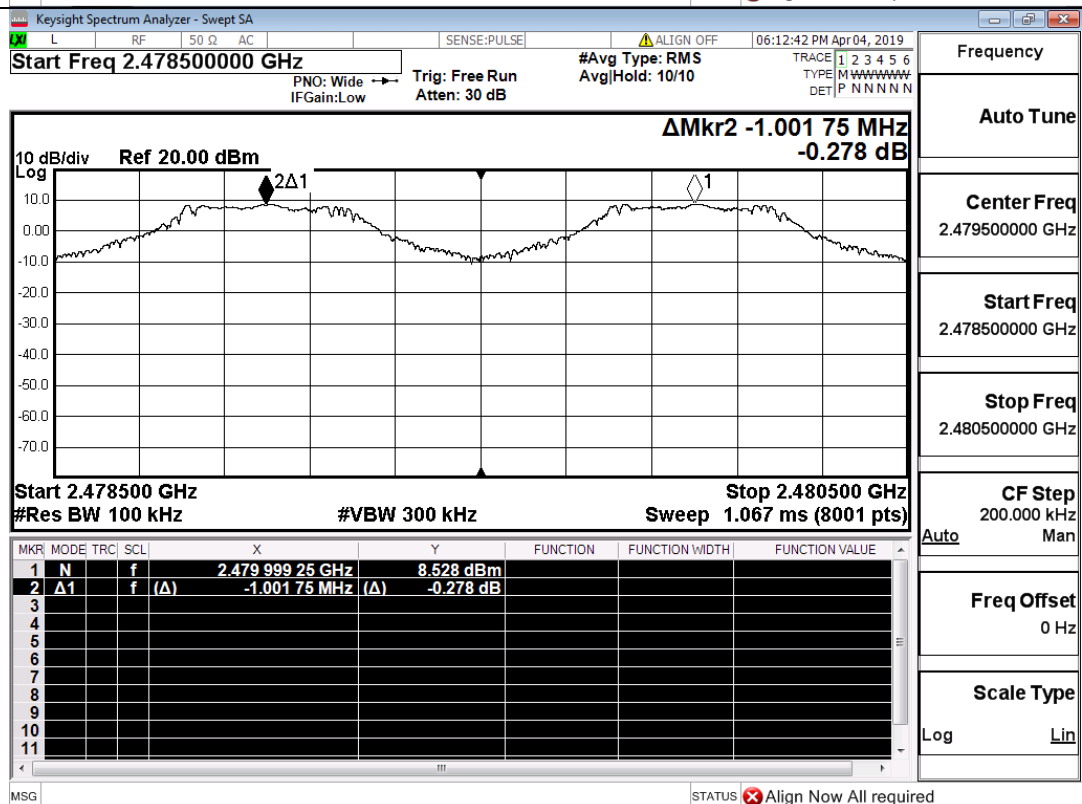
8DPSK/HCH

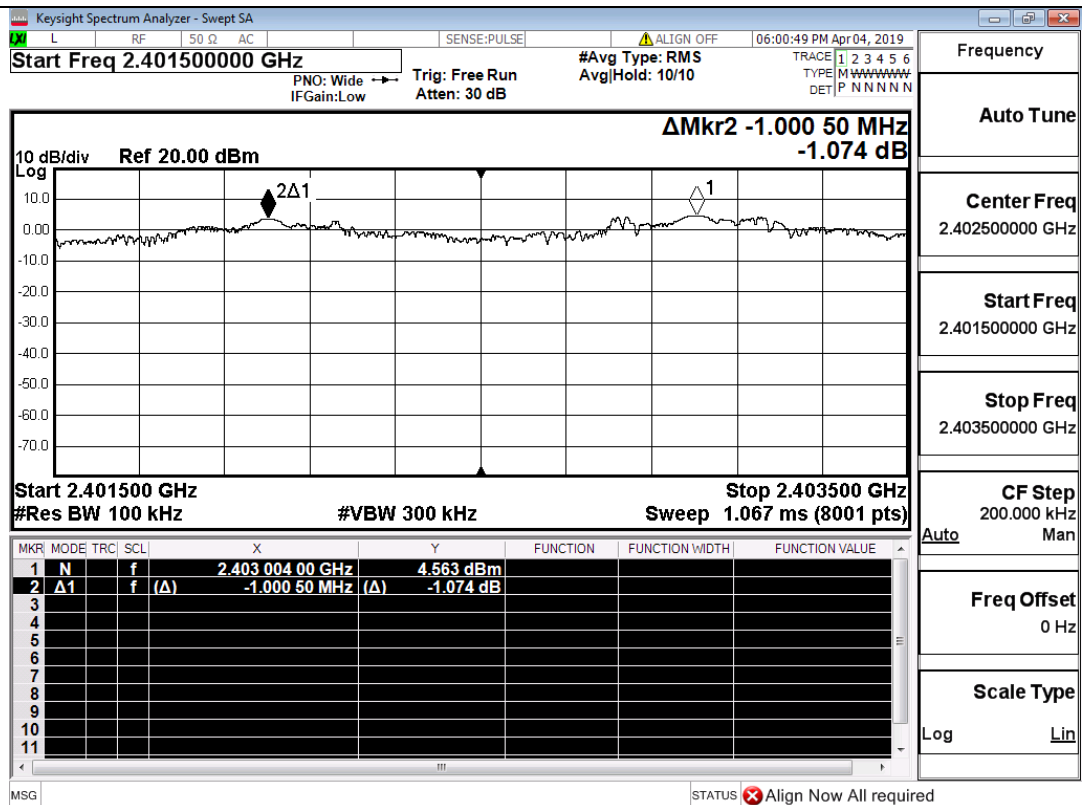
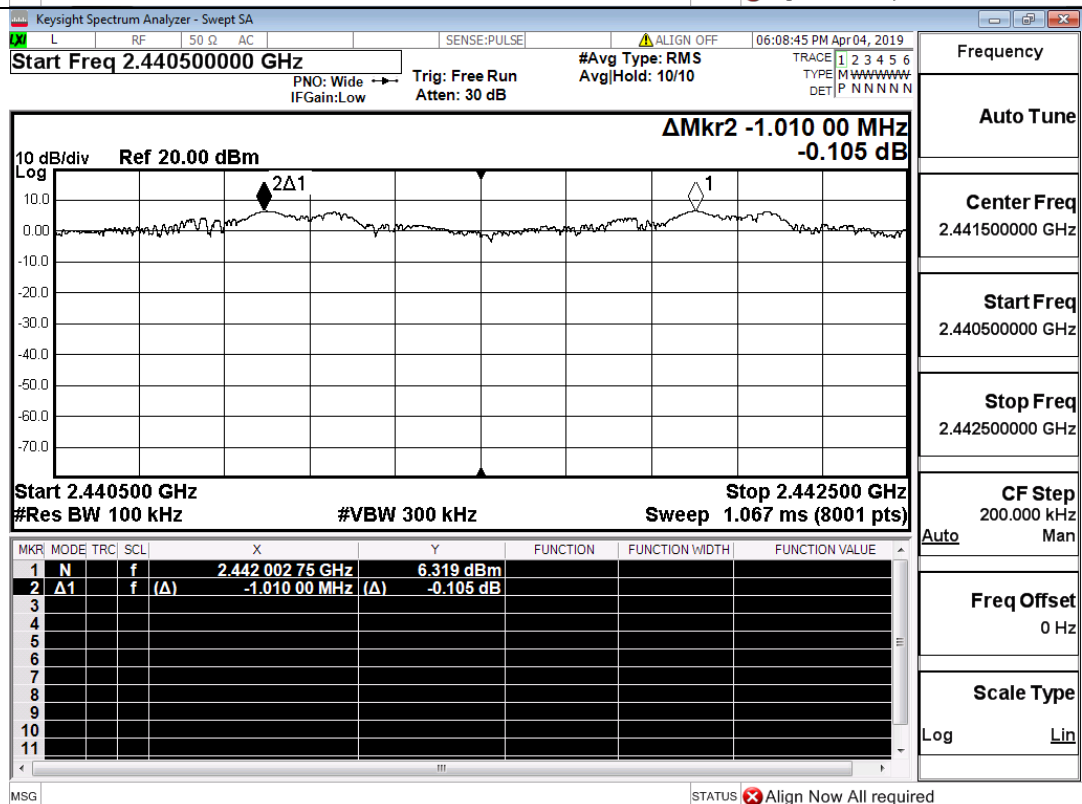


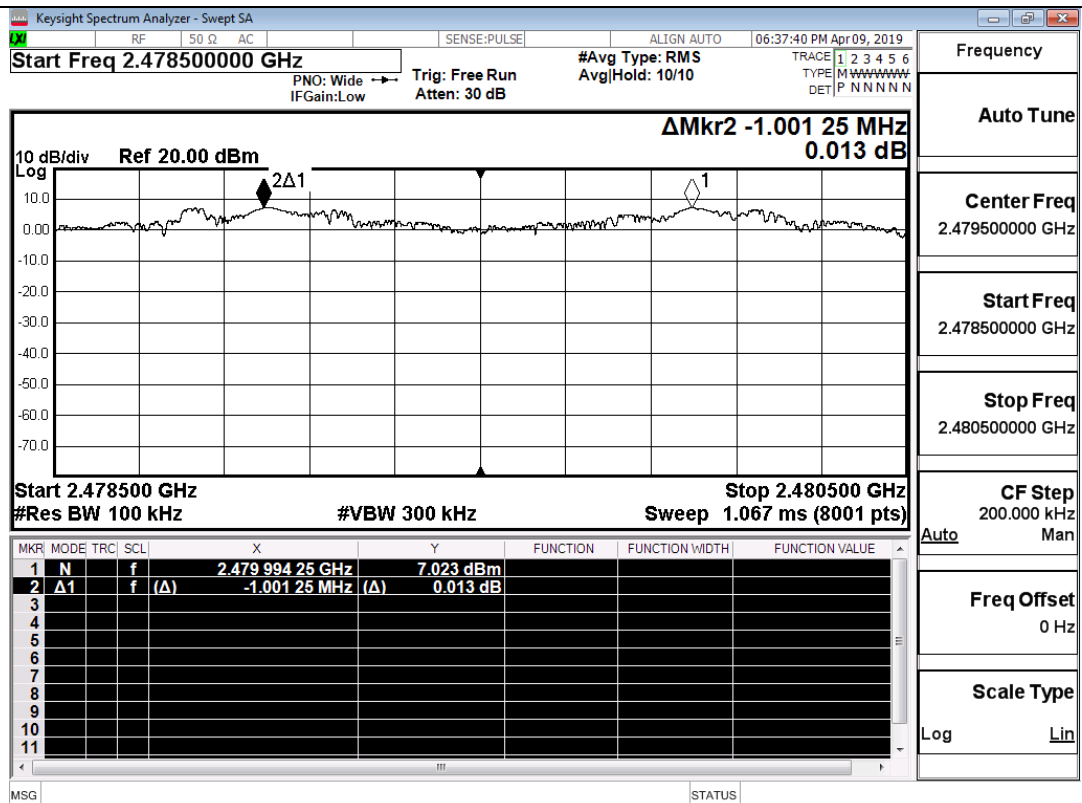
GFSK/MCH



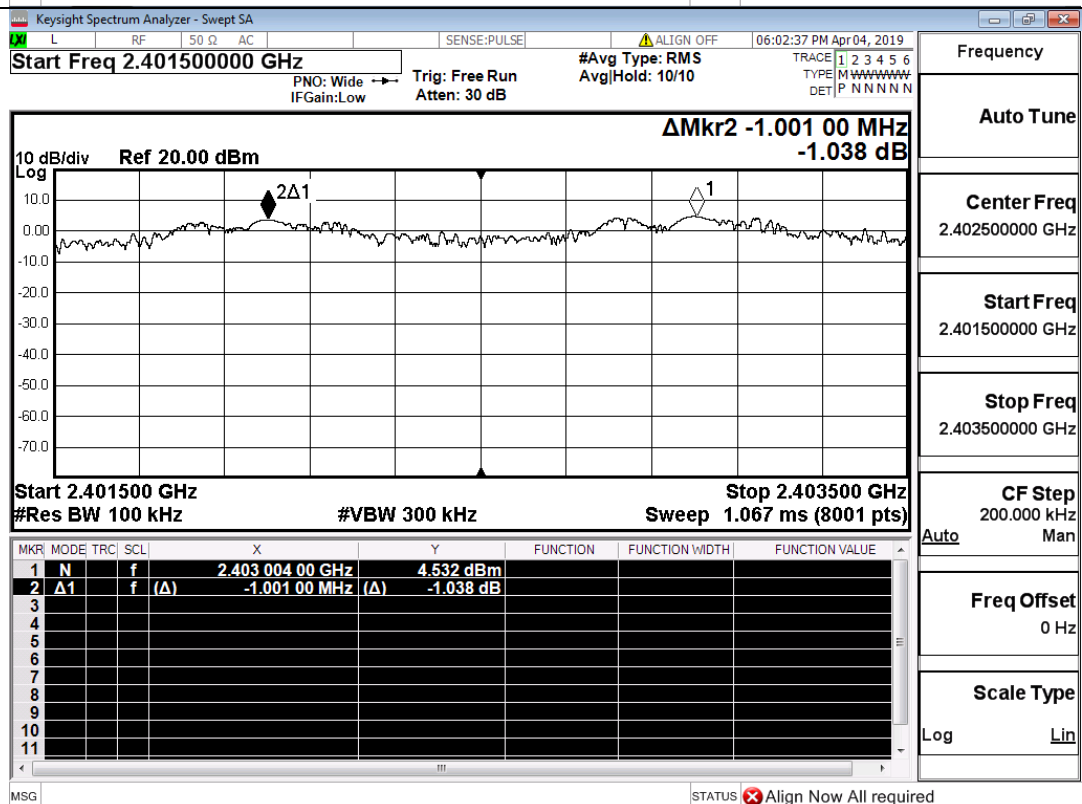
GFSK/HCH



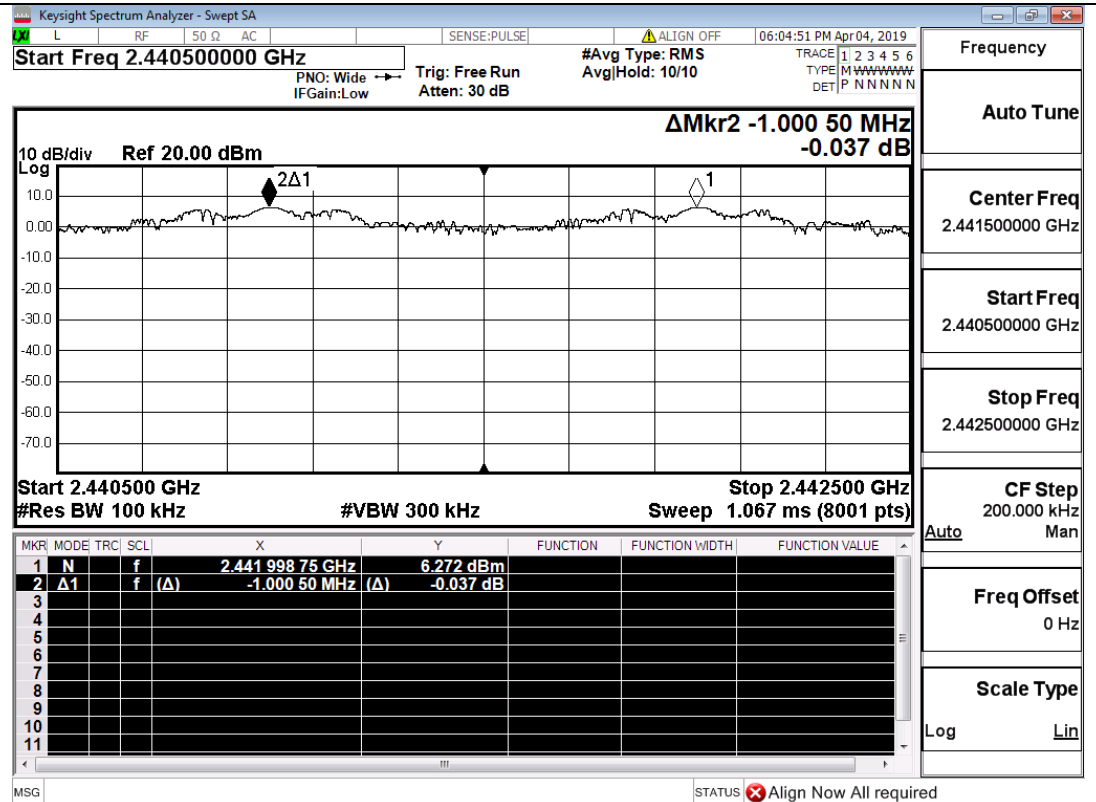
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

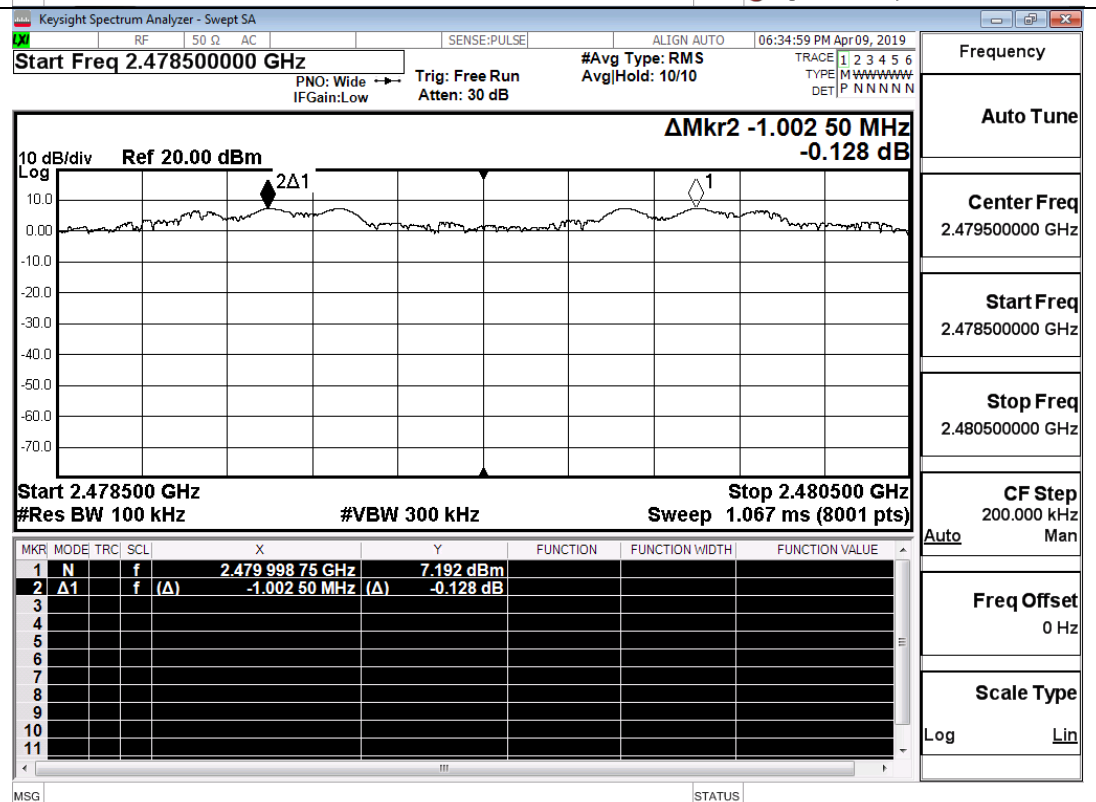
8DPSK/LCH



8DPSK/MCH

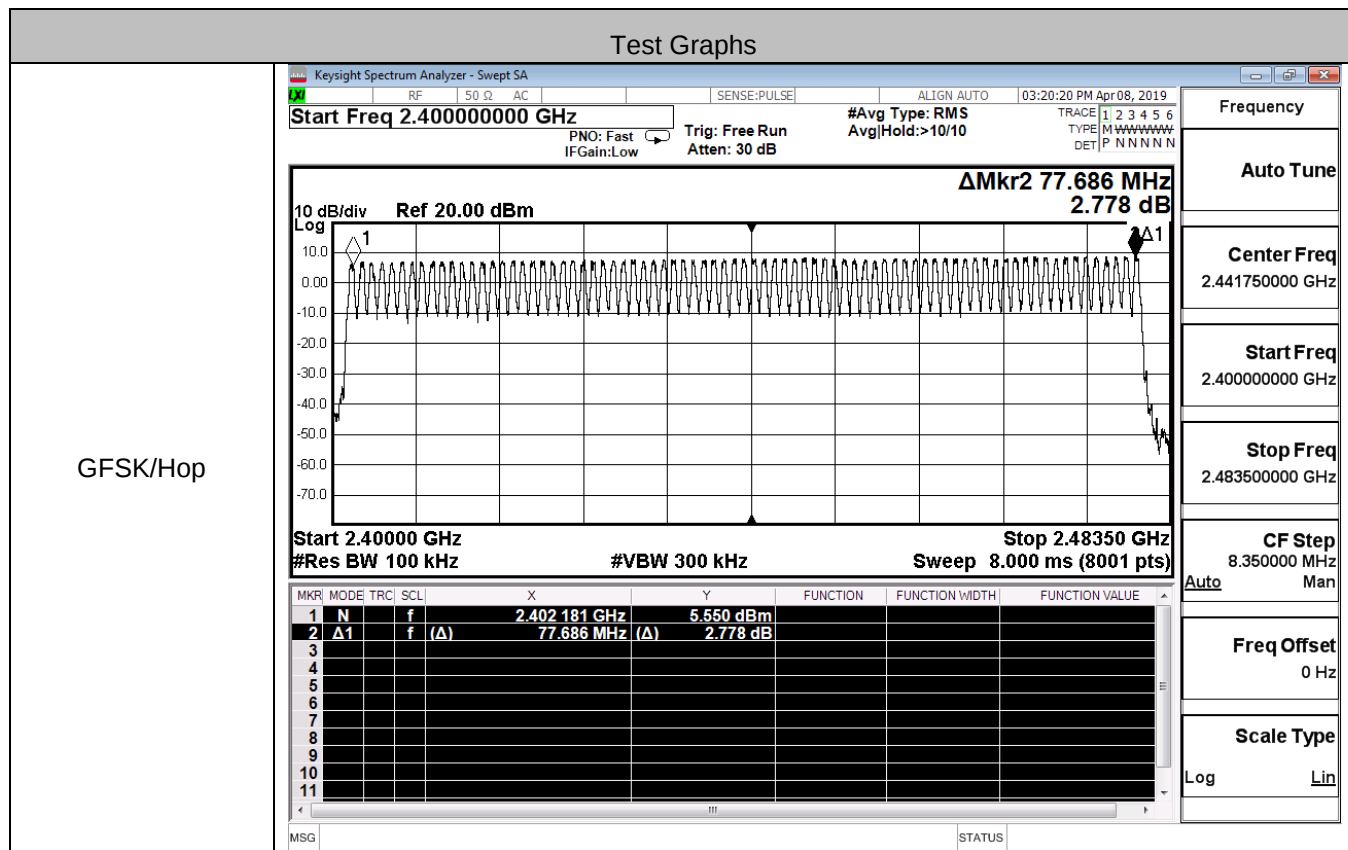


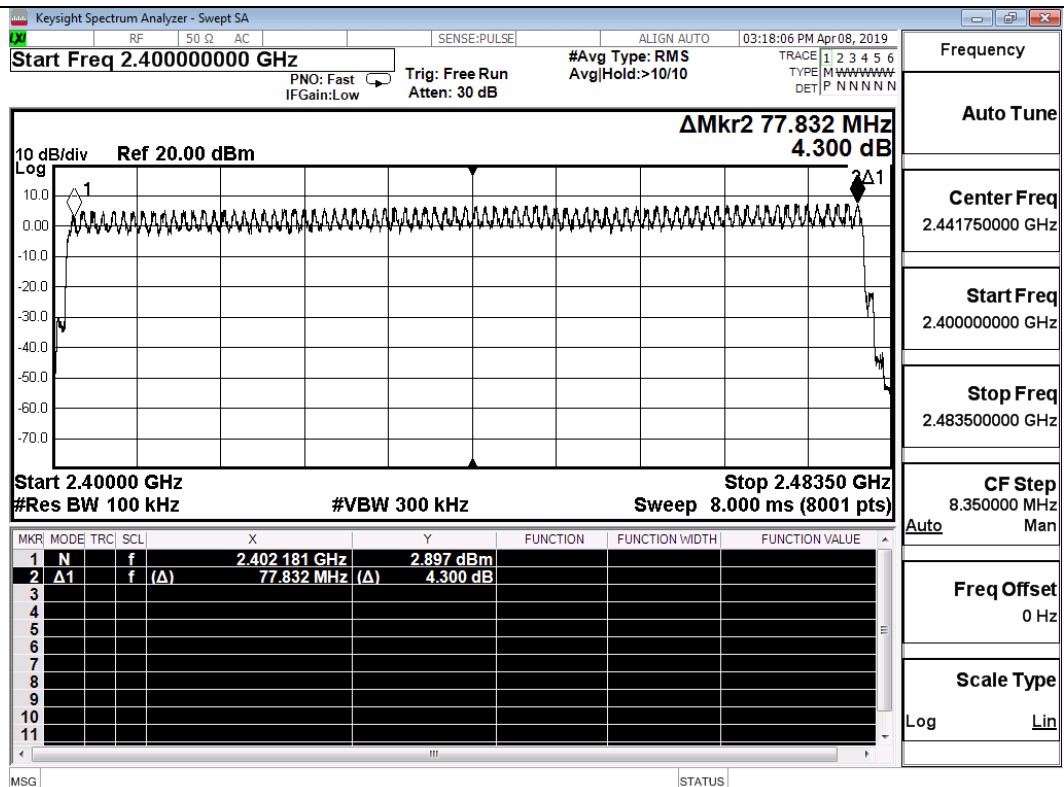
8DPSK/HCH



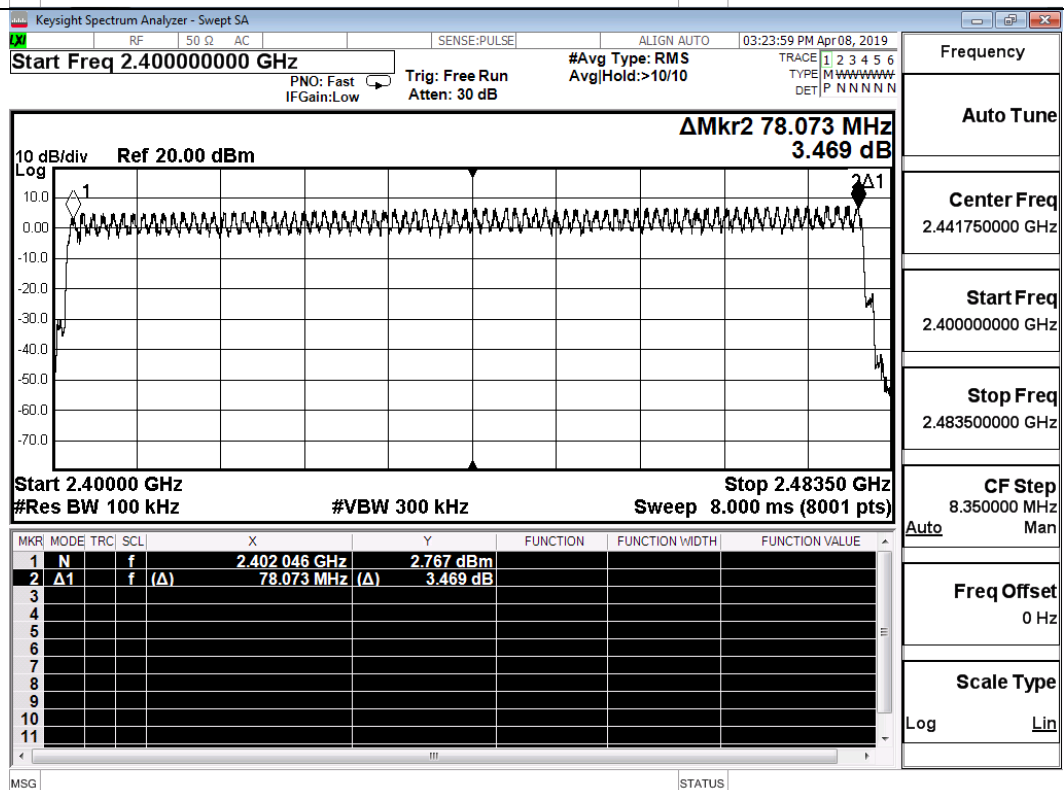
A.4 Hopping Channel Number

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



$\pi/4$ DQPSK/Hop

8DPSK/Hop

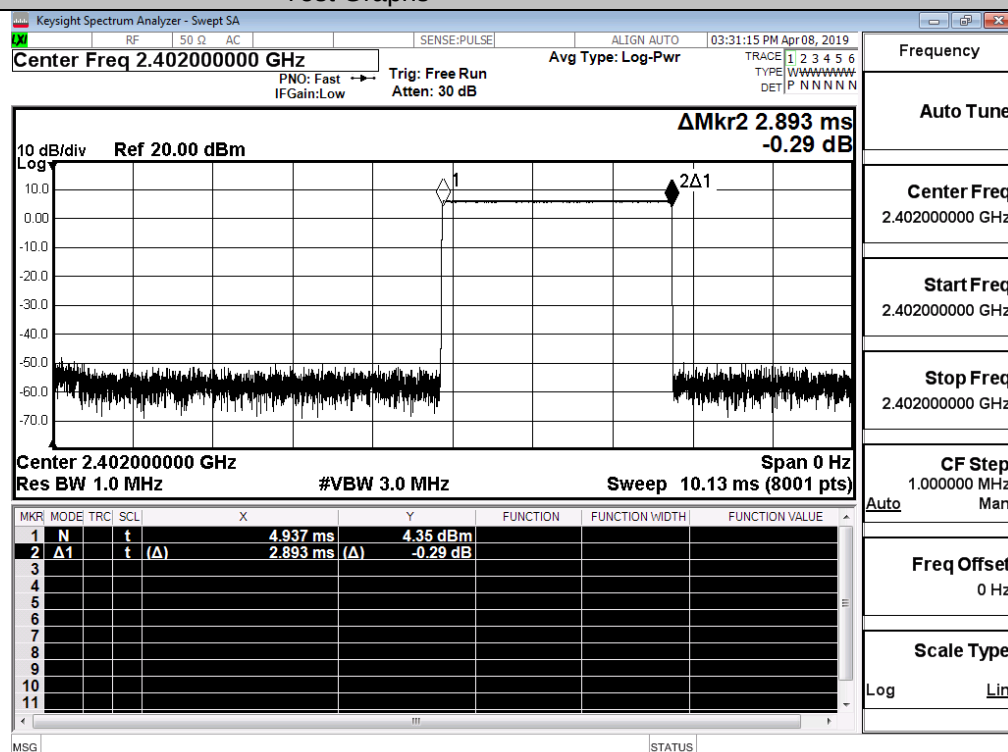


A.5 Dwell Time

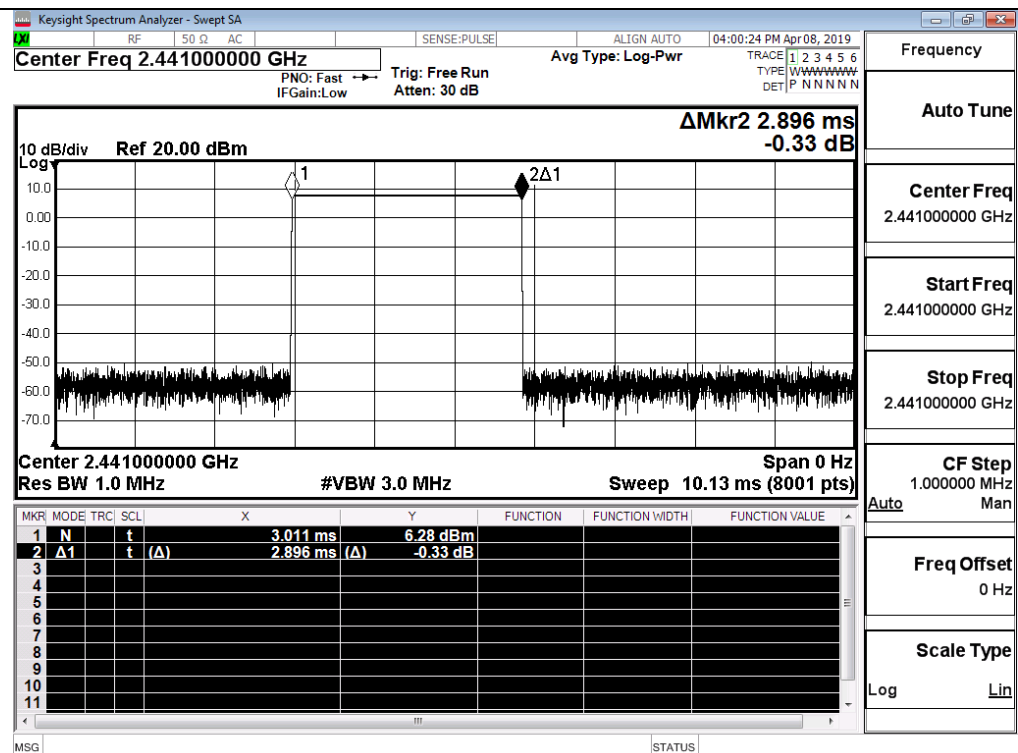
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.89	106.7	0.308	0.4	PASS
	DH5	MCH	2.90	106.7	0.309	0.4	PASS
	DH5	HCH	2.90	106.7	0.309	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.91	106.7	0.310	0.4	PASS
	2DH5	MCH	2.90	106.7	0.309	0.4	PASS
	2DH5	HCH	2.91	106.7	0.310	0.4	PASS
8DPSK	3DH5	LCH	2.91	106.7	0.310	0.4	PASS
	3DH5	MCH	2.91	106.7	0.310	0.4	PASS
	3DH5	HCH	2.91	106.7	0.310	0.4	PASS

Test Graphs

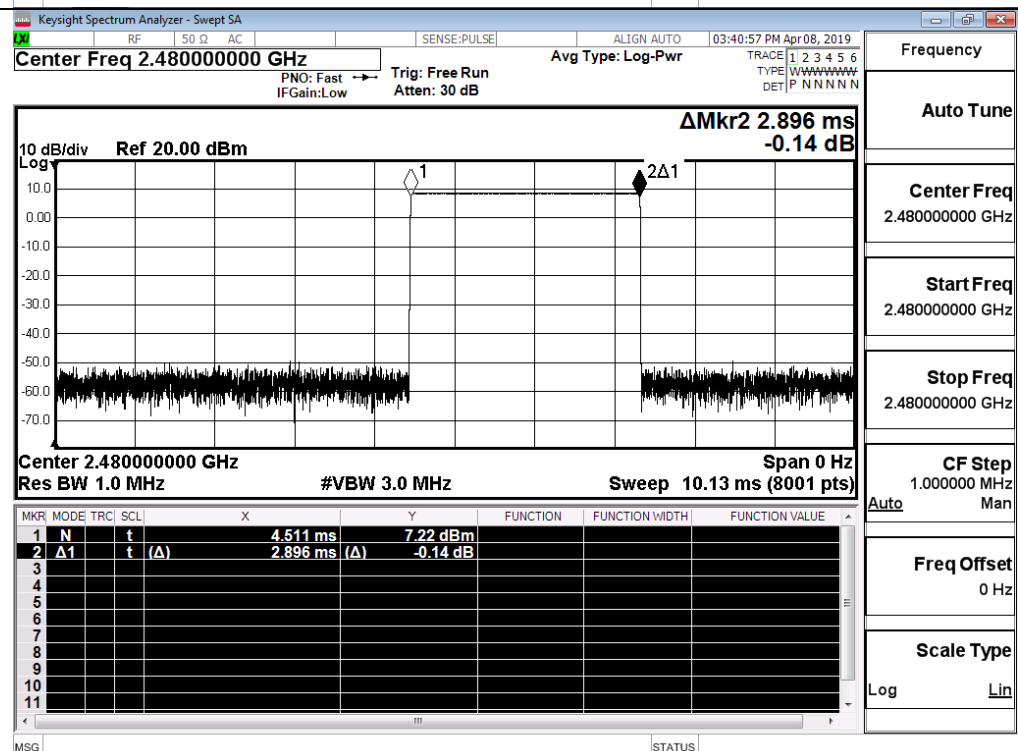
GFSK_DH5/LCH

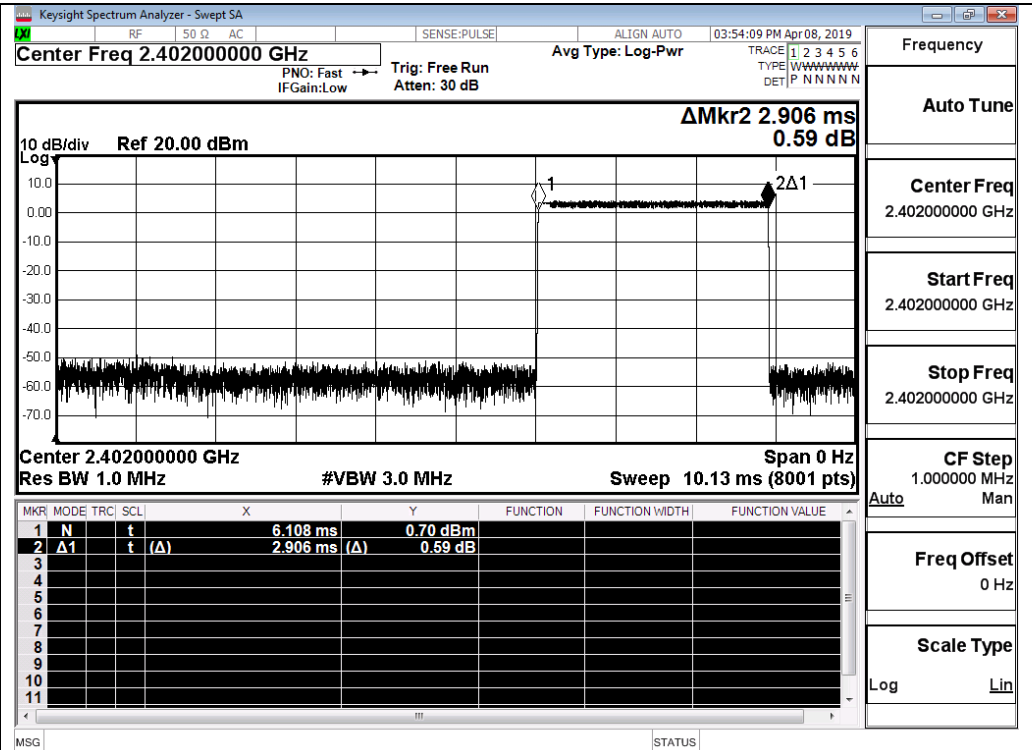
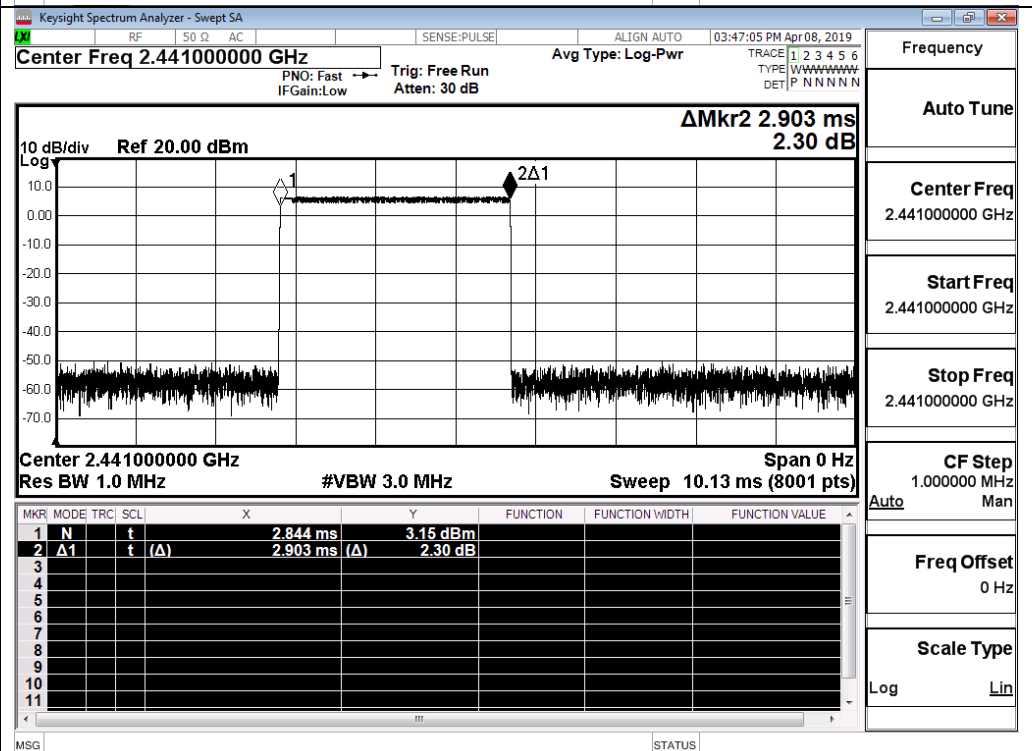


GFSK_DH5/MCH

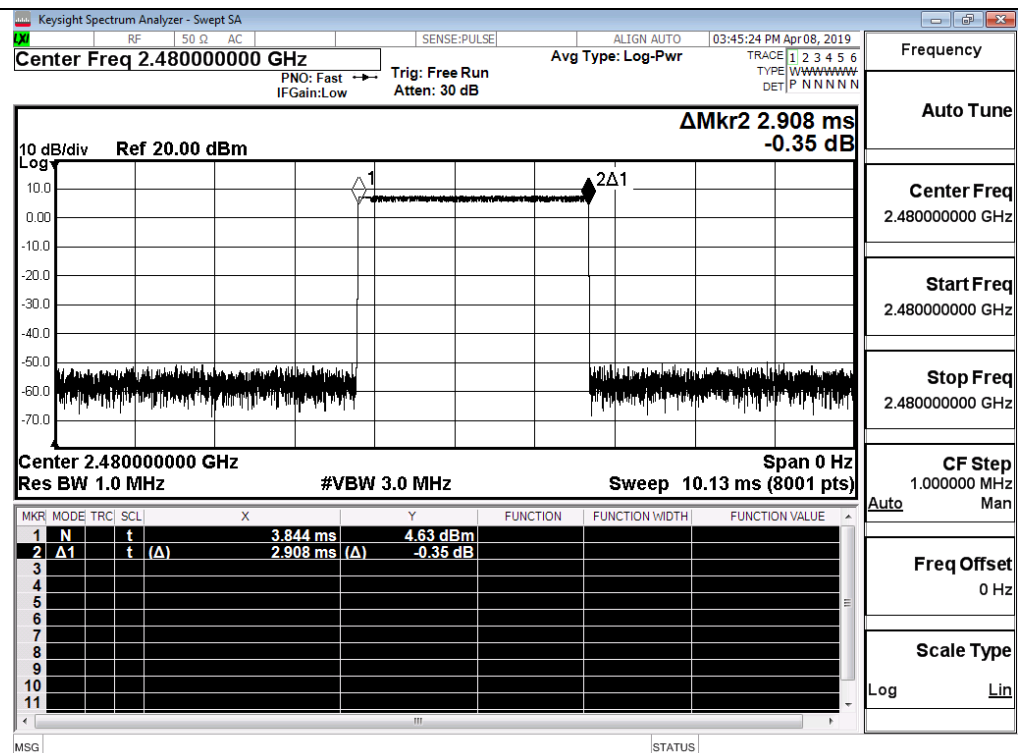


GFSK_DH5/HCH

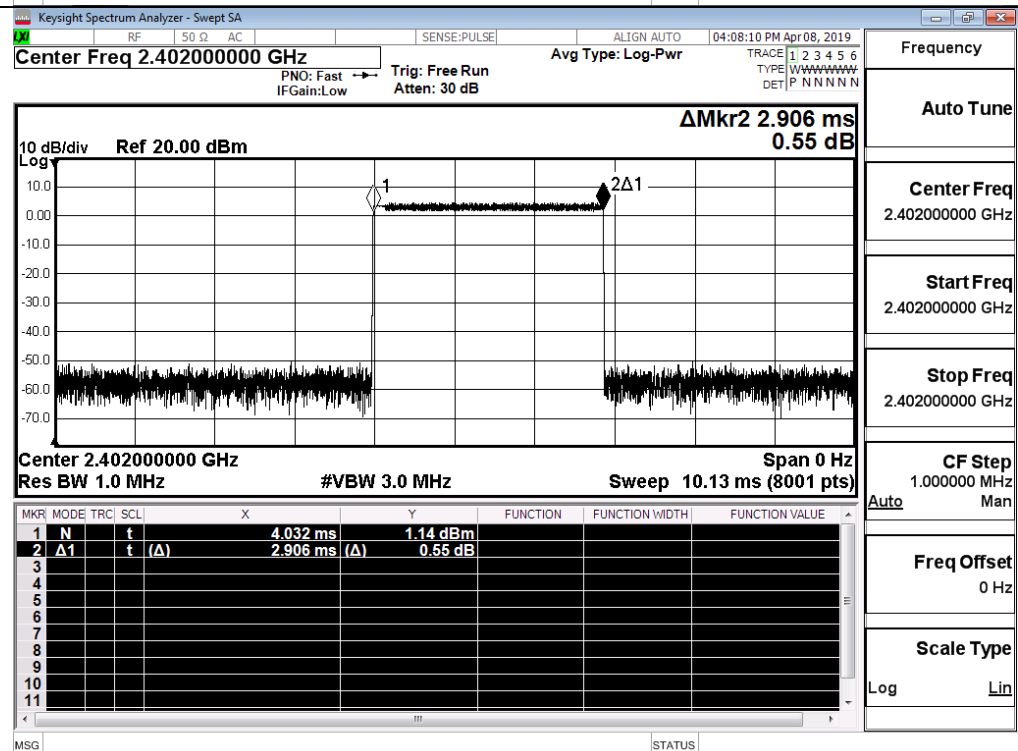


$\pi/4$ DQPSK
_2DH5/LCH $\pi/4$ DQPSK
_2DH5/MCH

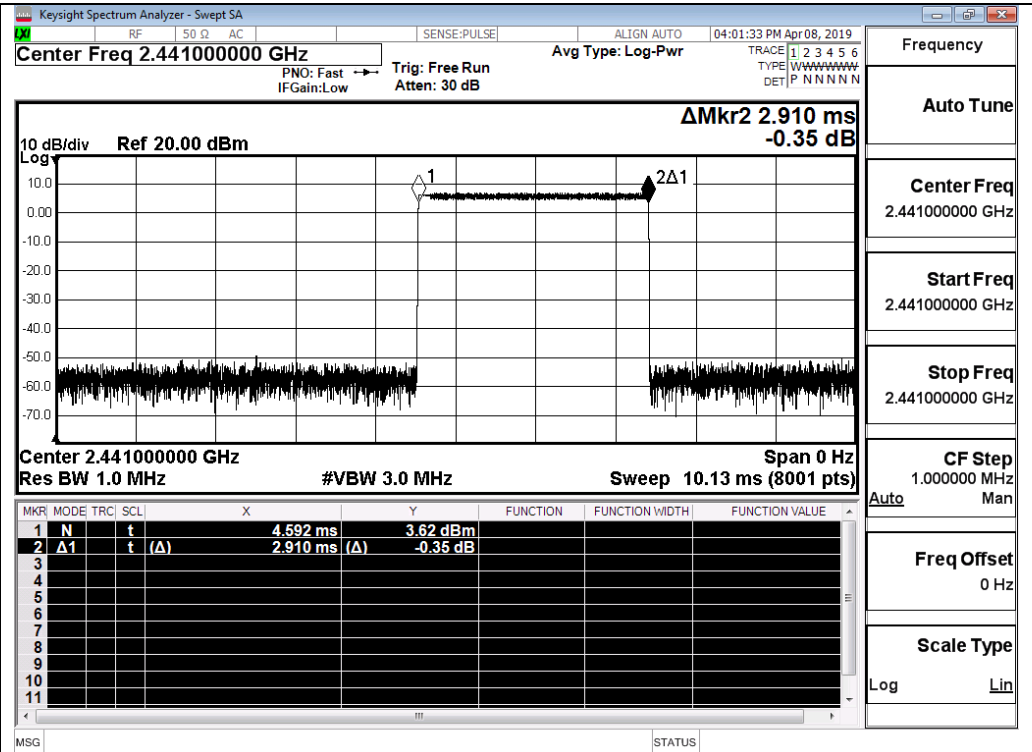
$\pi/4$ DQPSK
_2DH5/HCH



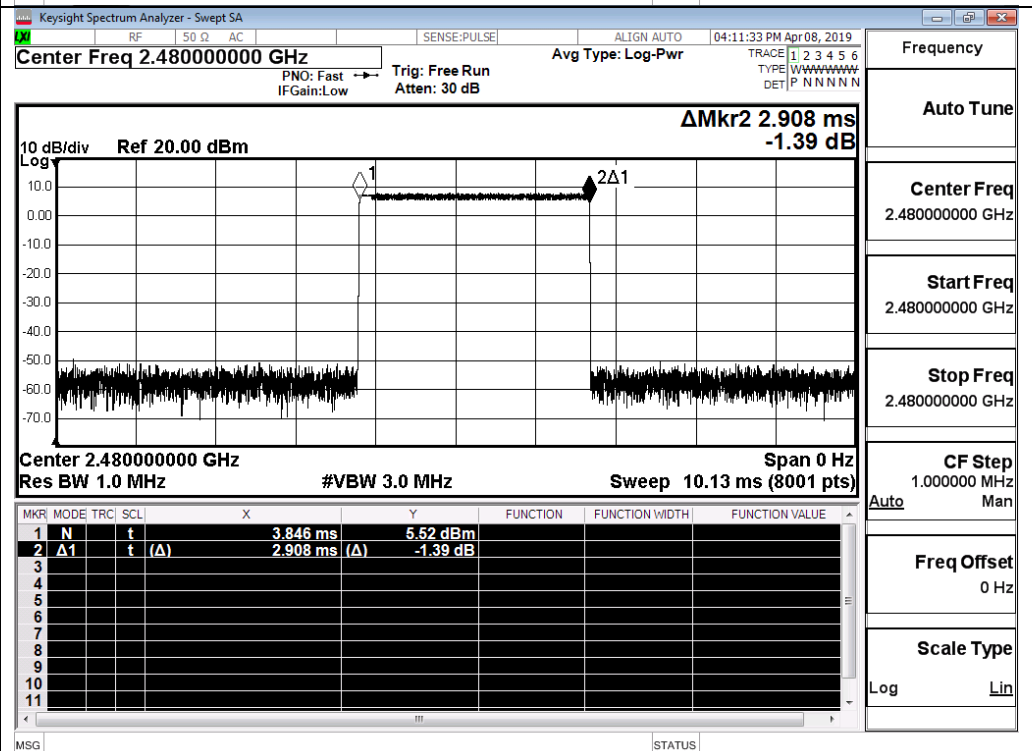
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



8DPSK_3DH5/HCH

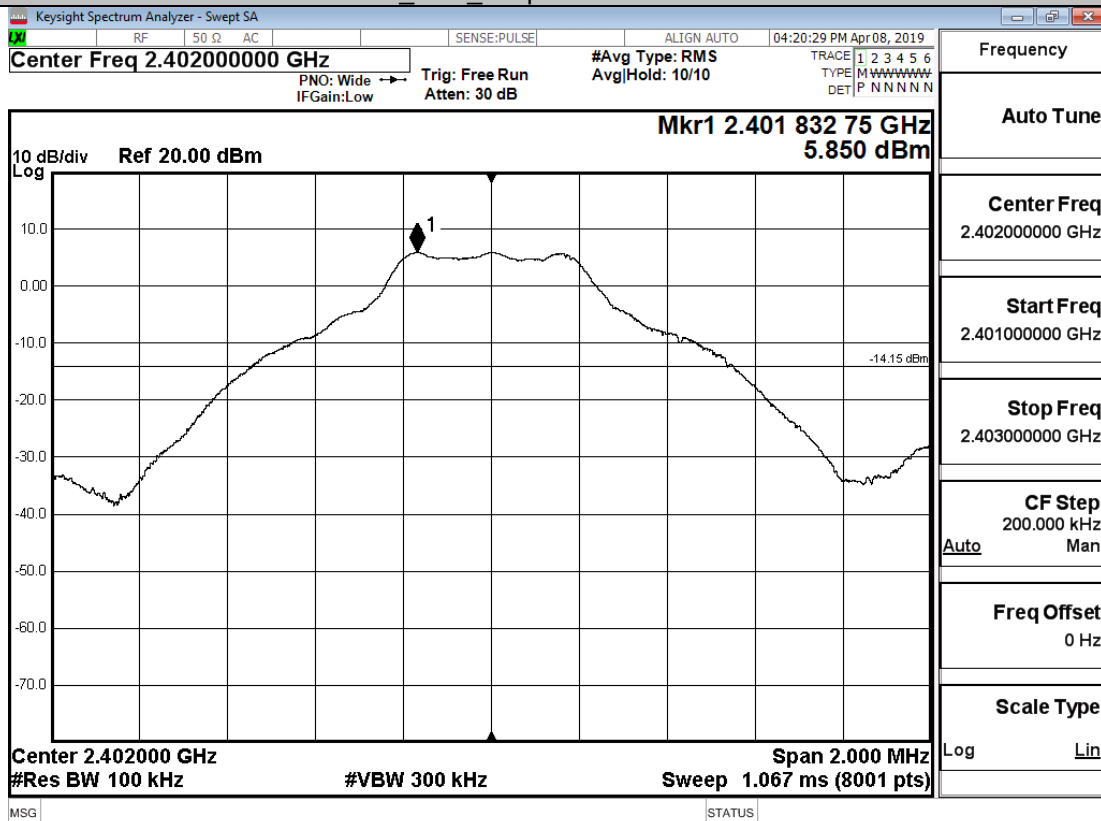


A.6 RF Conducted Spurious Emissions

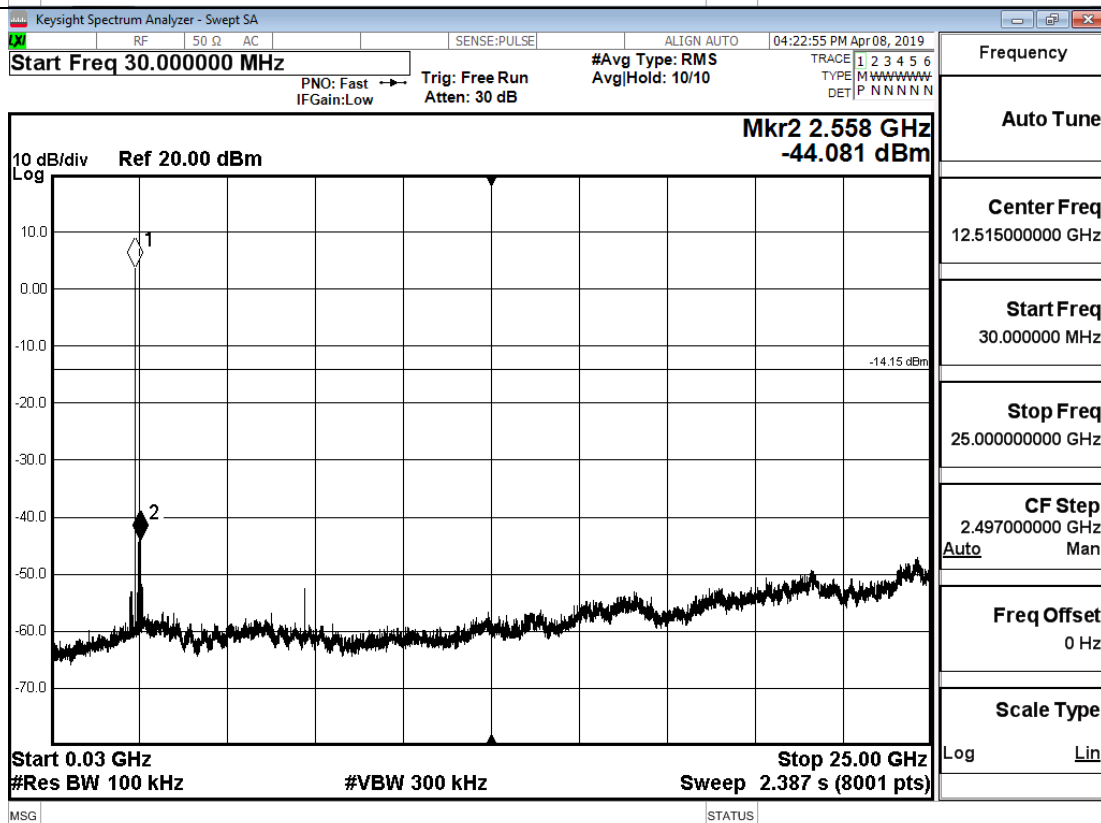
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	5.850	-44.081	-14.15	PASS
	MCH	7.661	-47.035	-12.34	PASS
	HCH	8.570	-44.064	-11.43	PASS
$\pi/4$ DQPSK	LCH	3.485	-43.633	-16.52	PASS
	MCH	6.172	-45.808	-13.83	PASS
	HCH	7.132	-42.165	-12.87	PASS
8DPSK	LCH	3.535	-43.186	-16.47	PASS
	MCH	6.246	-45.305	-13.75	PASS
	HCH	7.194	-40.911	-12.81	PASS

GFSK_LCH_Graphs

Pref

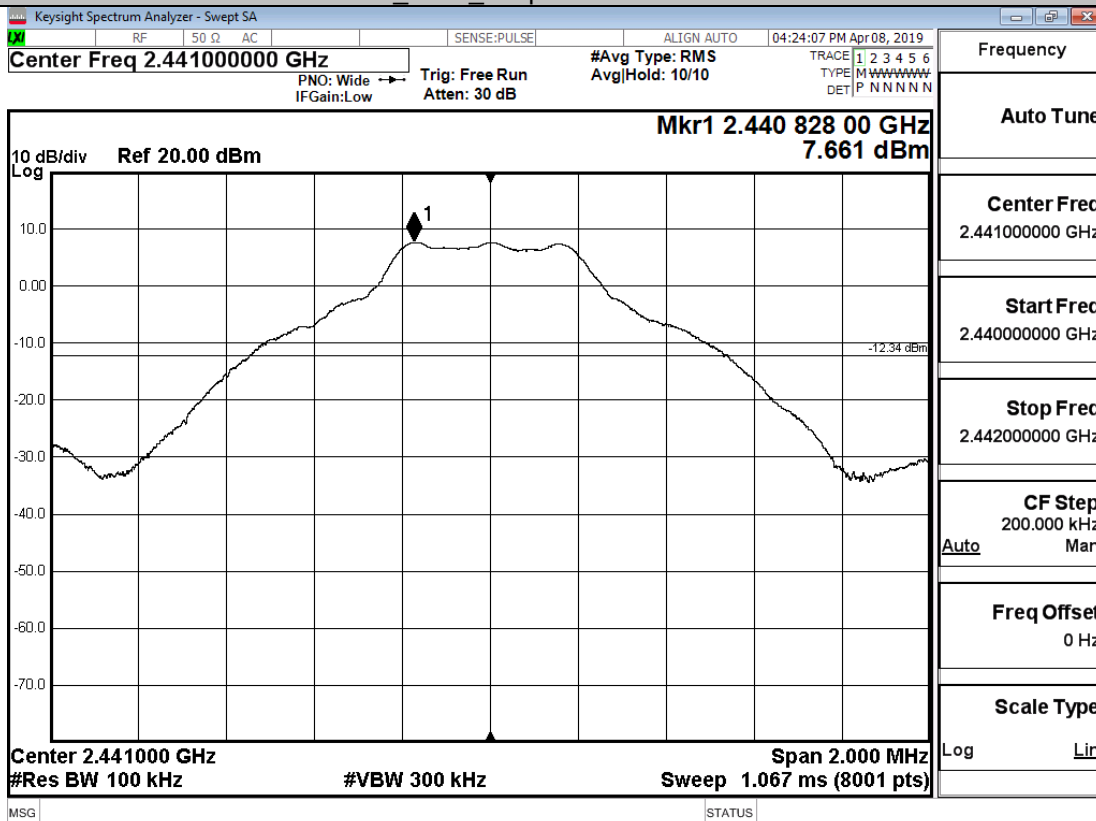


Puw

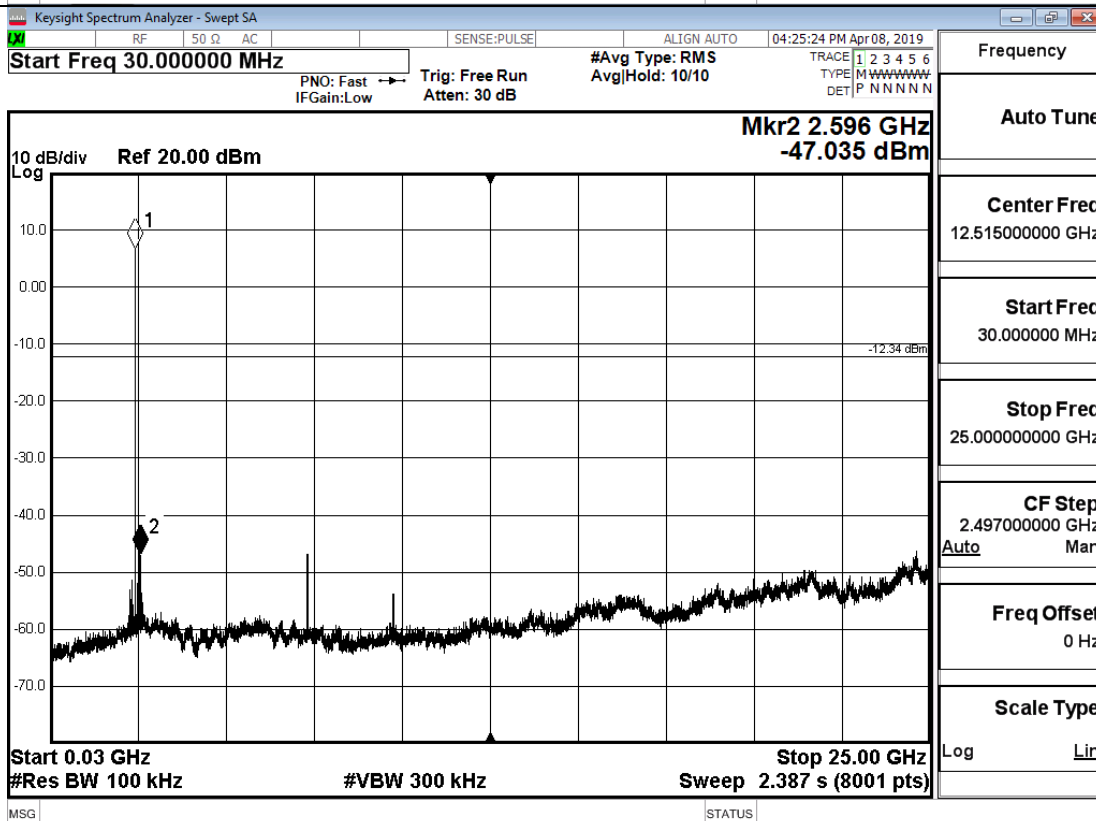


GFSK_MCH_Graphs

Pref

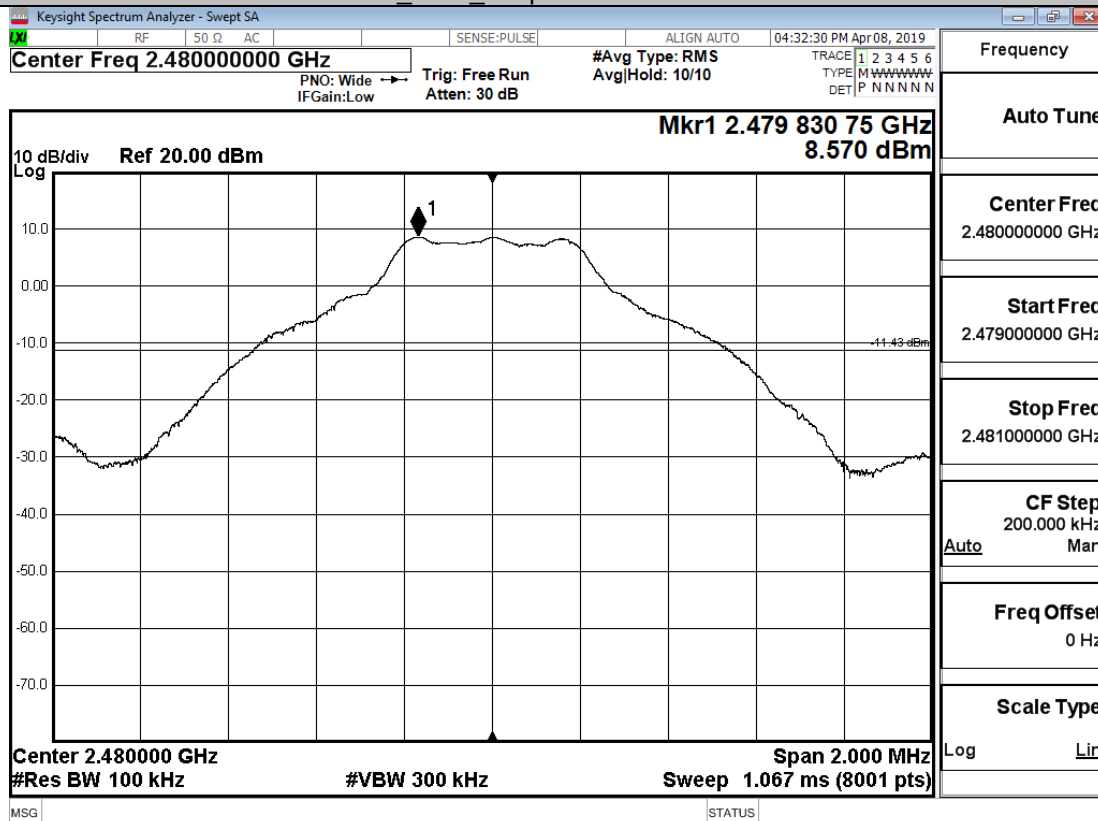


Puw

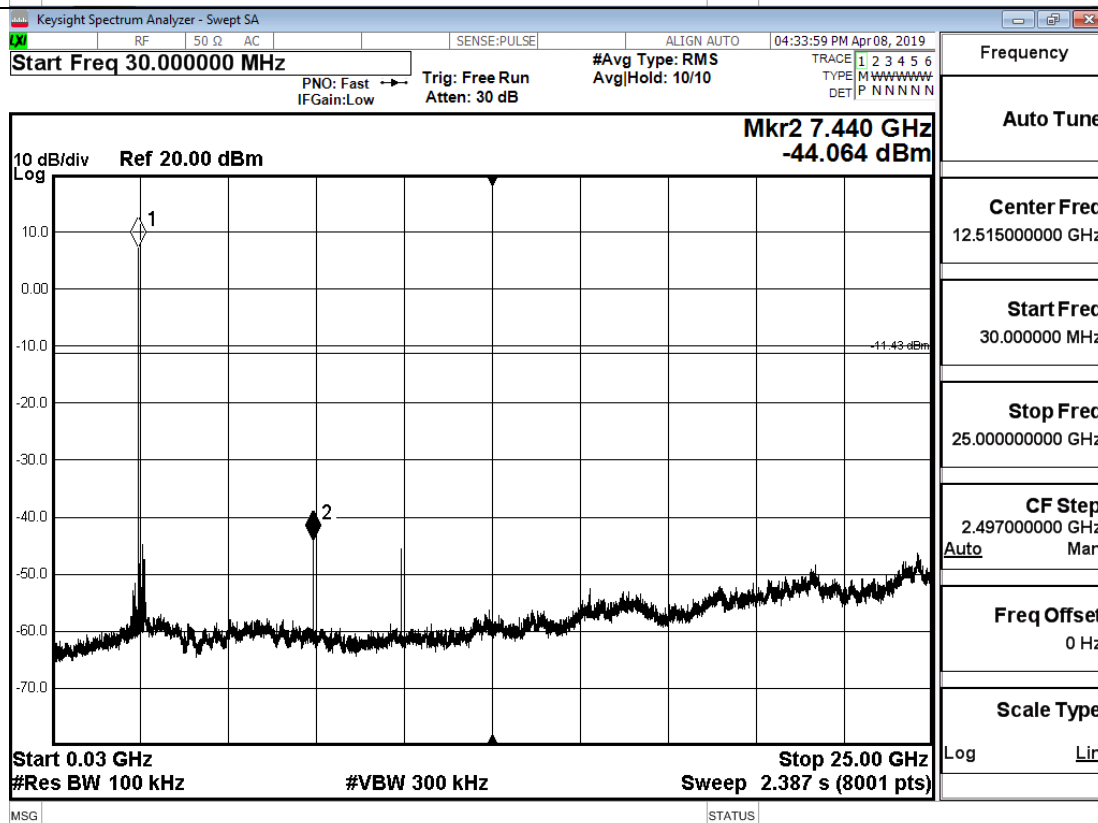


GFSK_HCH_Graphs

Pref

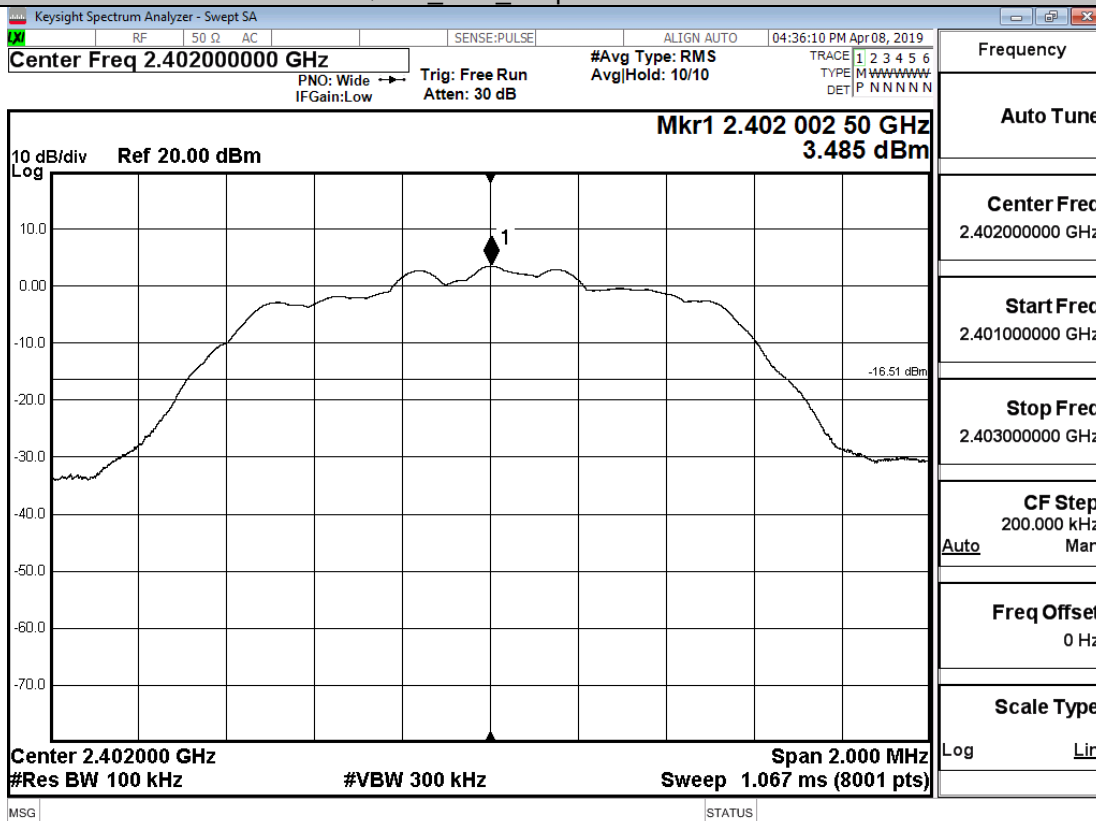


Puw

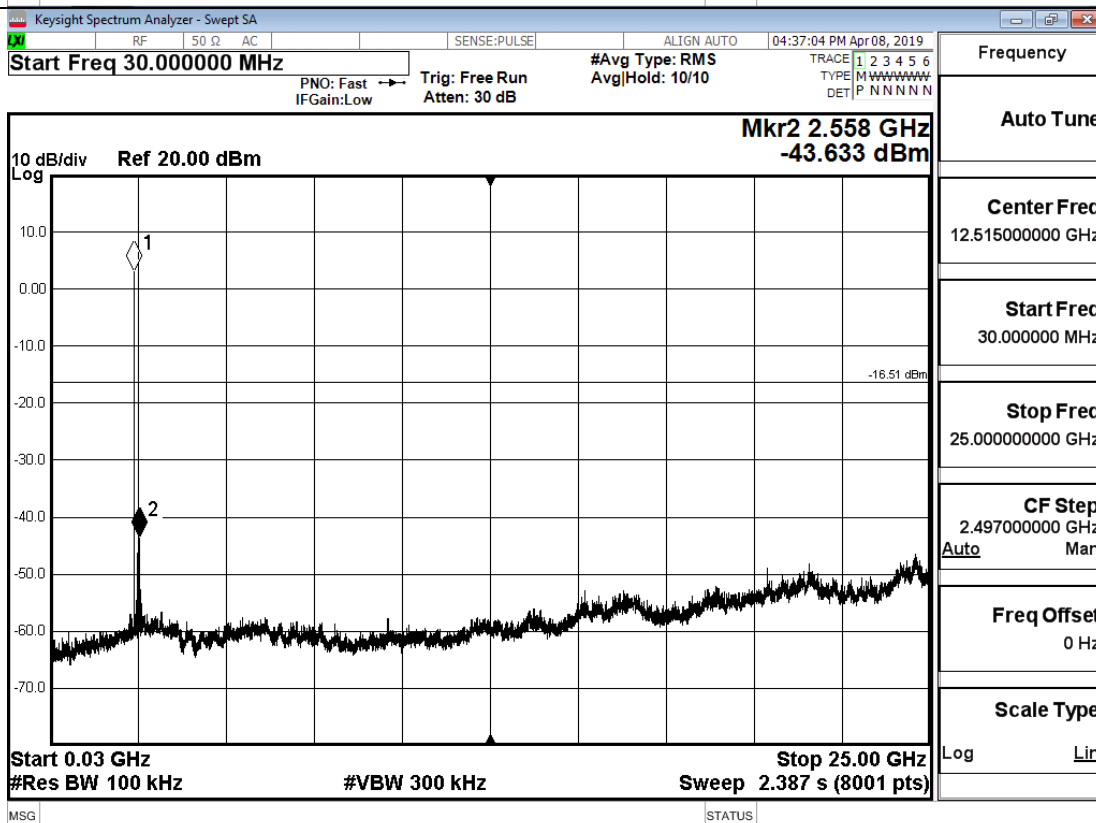


$\pi/4$ DQPSK_LCH_Graphs

Pref

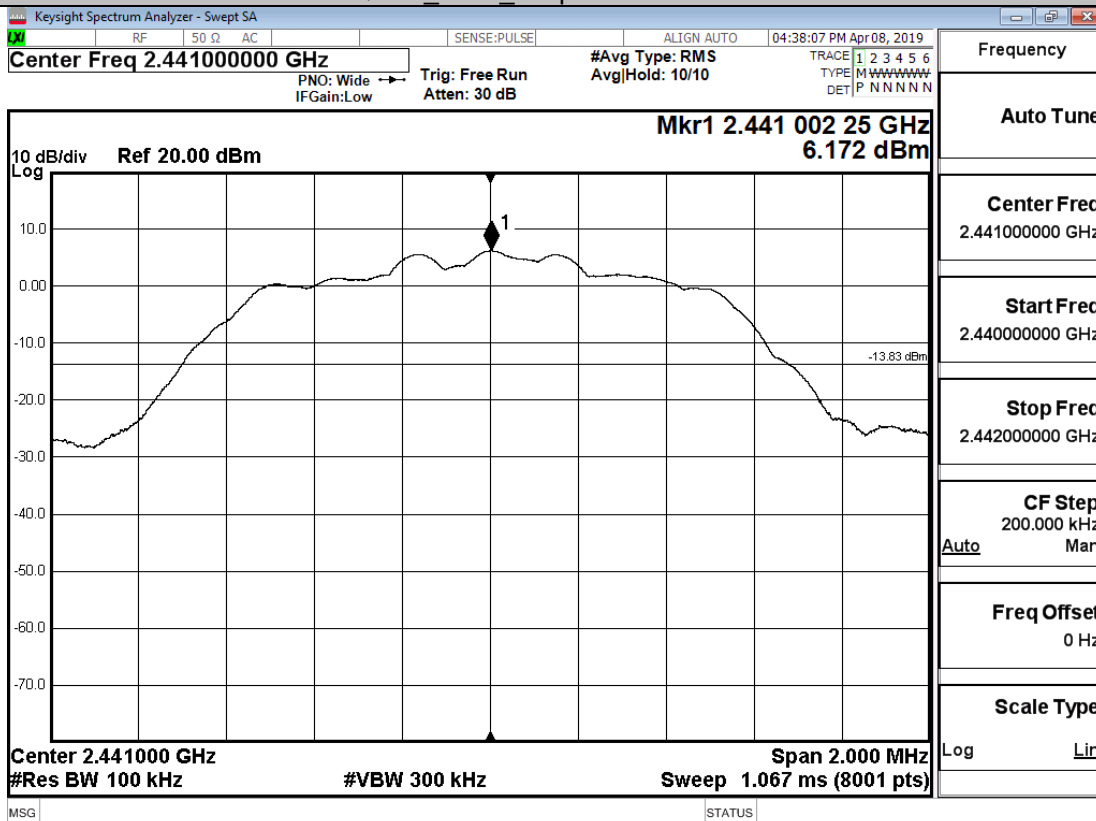


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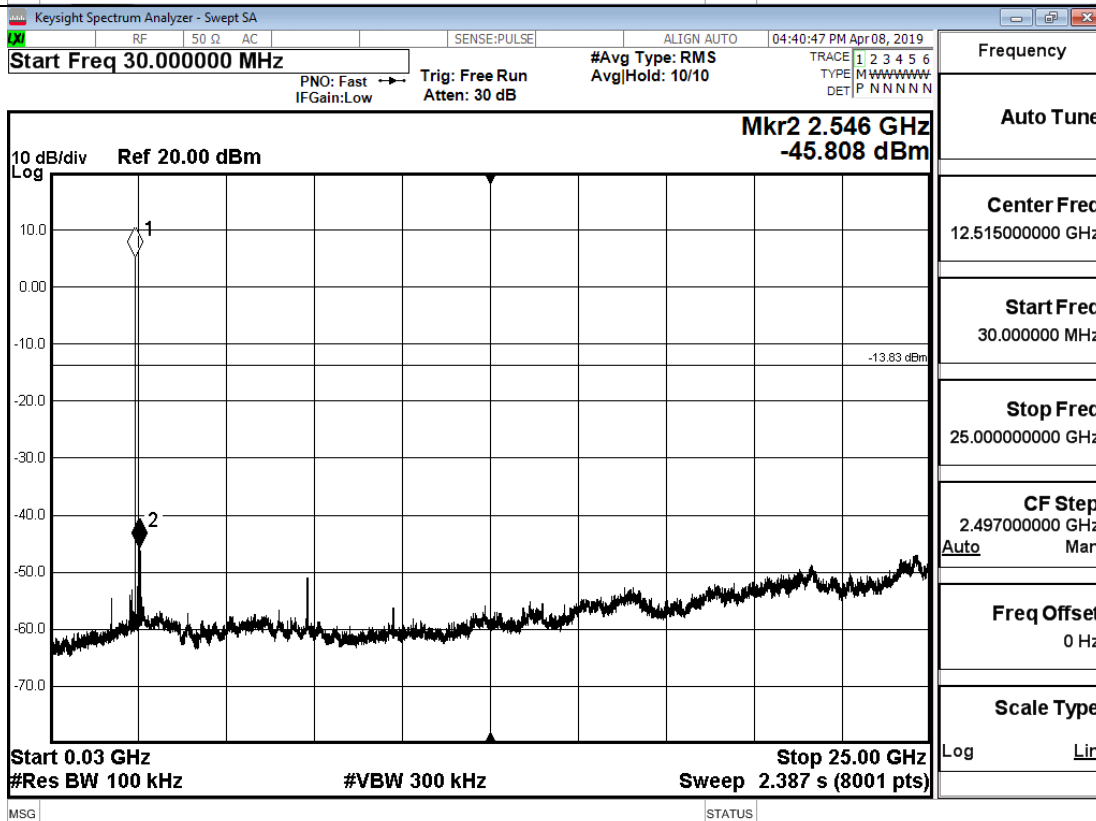


$\pi/4$ DQPSK_MCH_Graphs

Pref

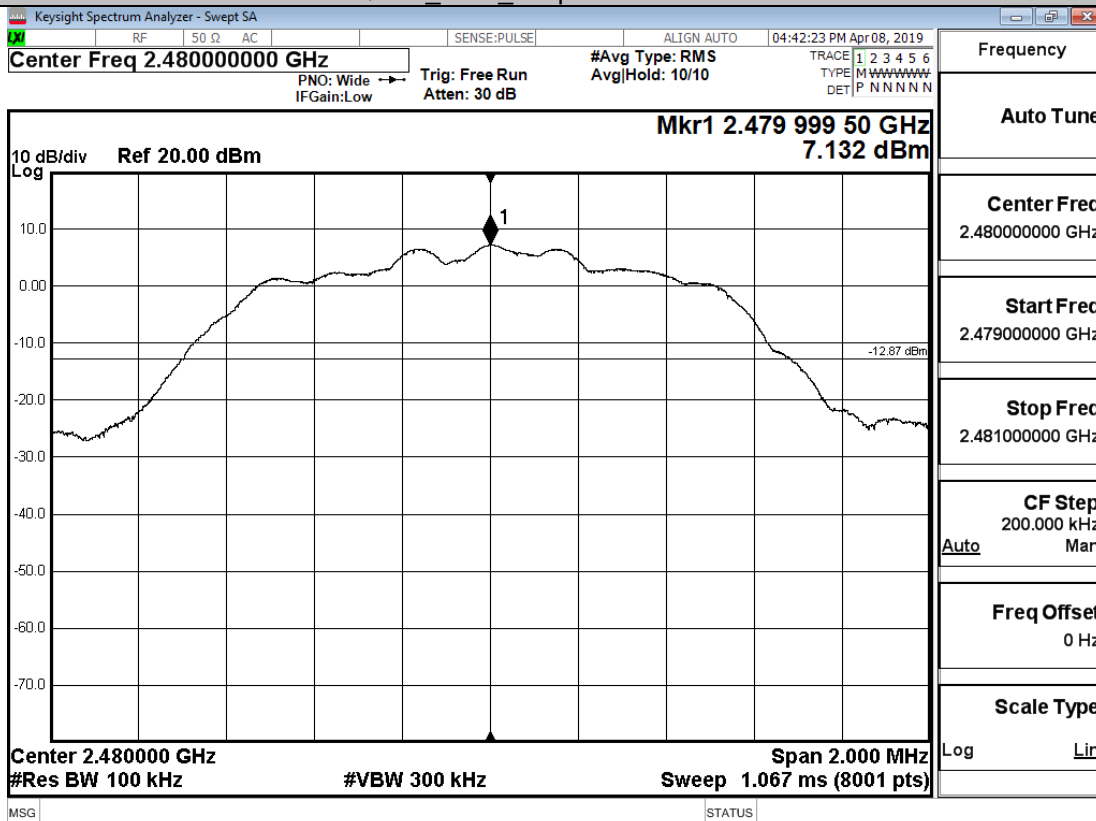


Puw

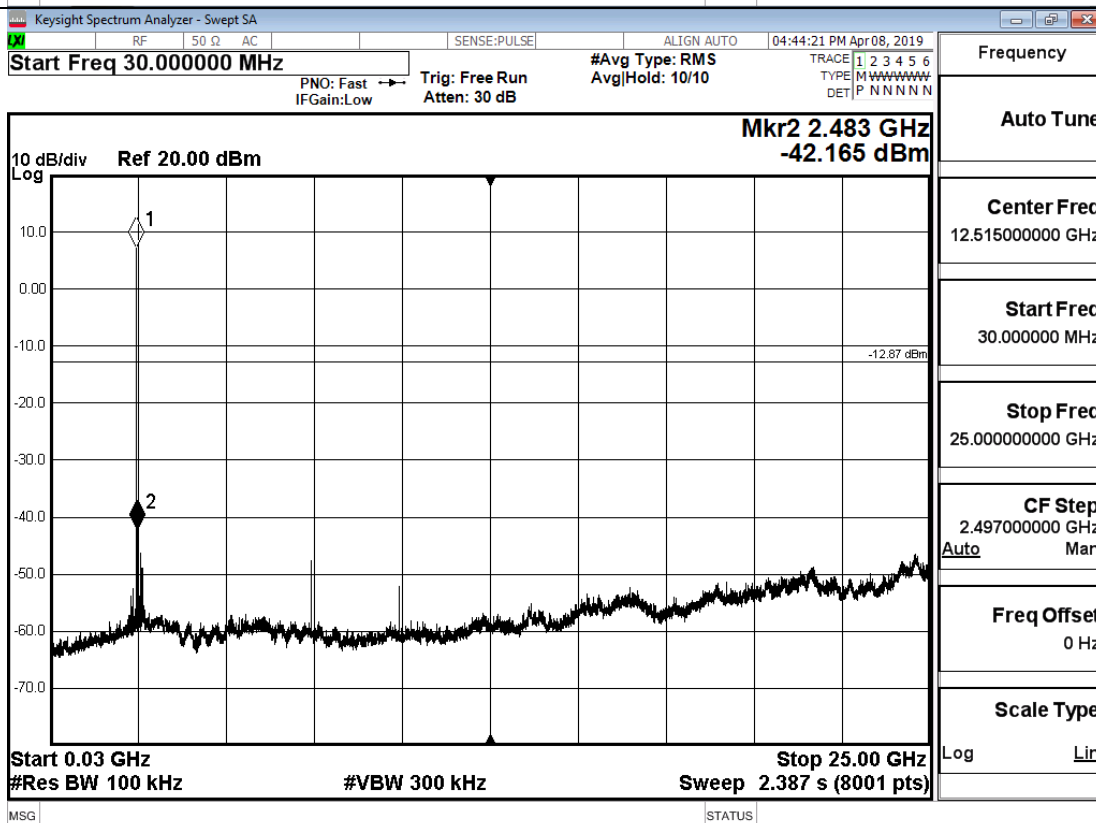


$\pi/4$ DQPSK_HCH_Graphs

Pref

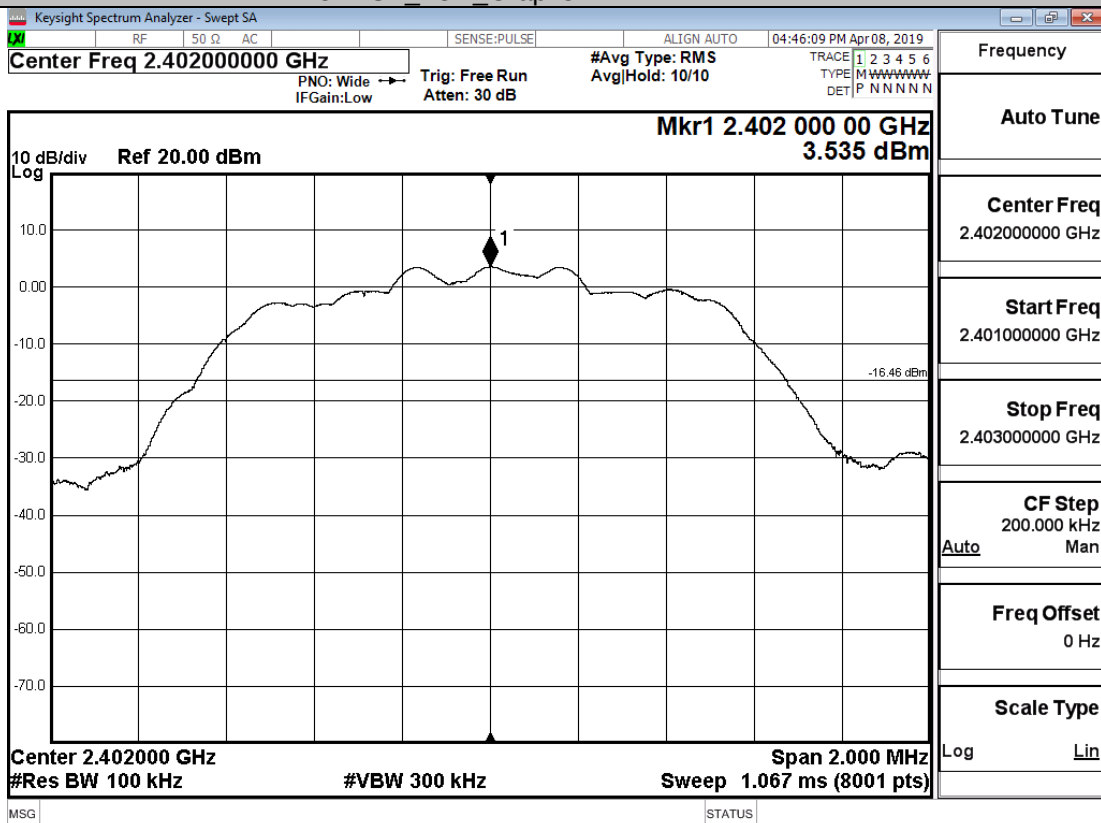


Puw

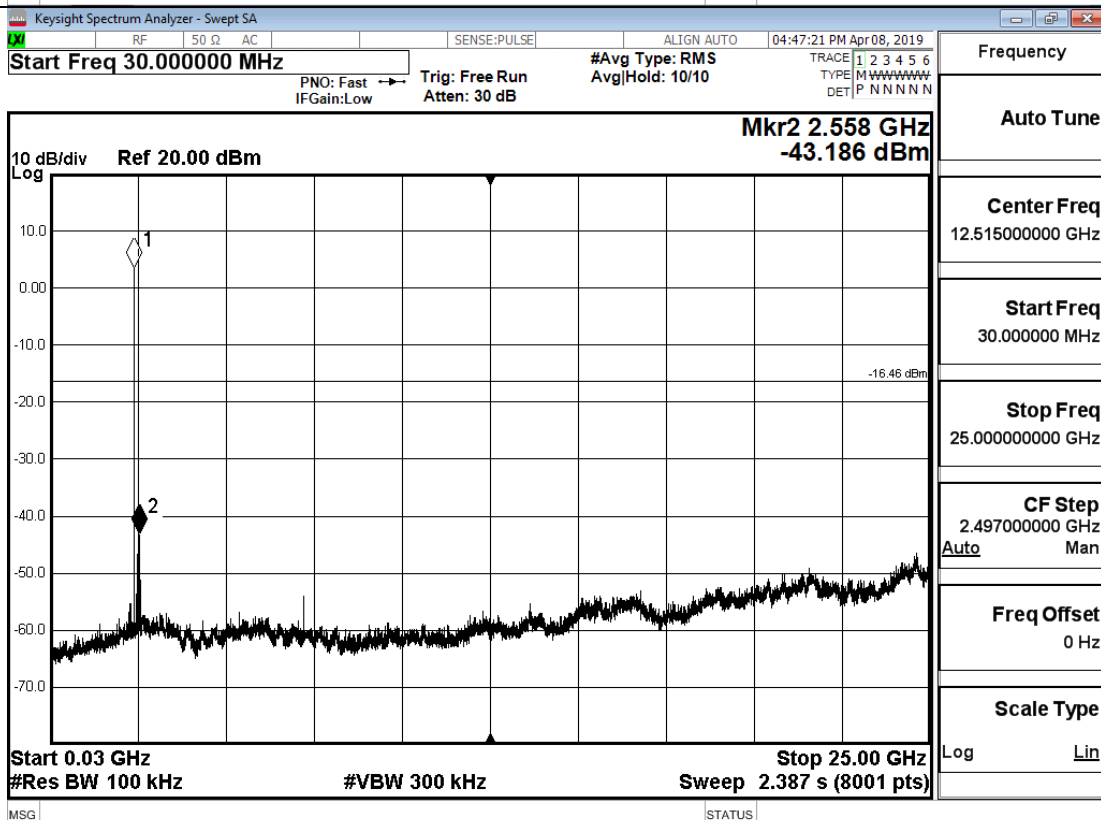


8DPSK_LCH_Graphs

Pref

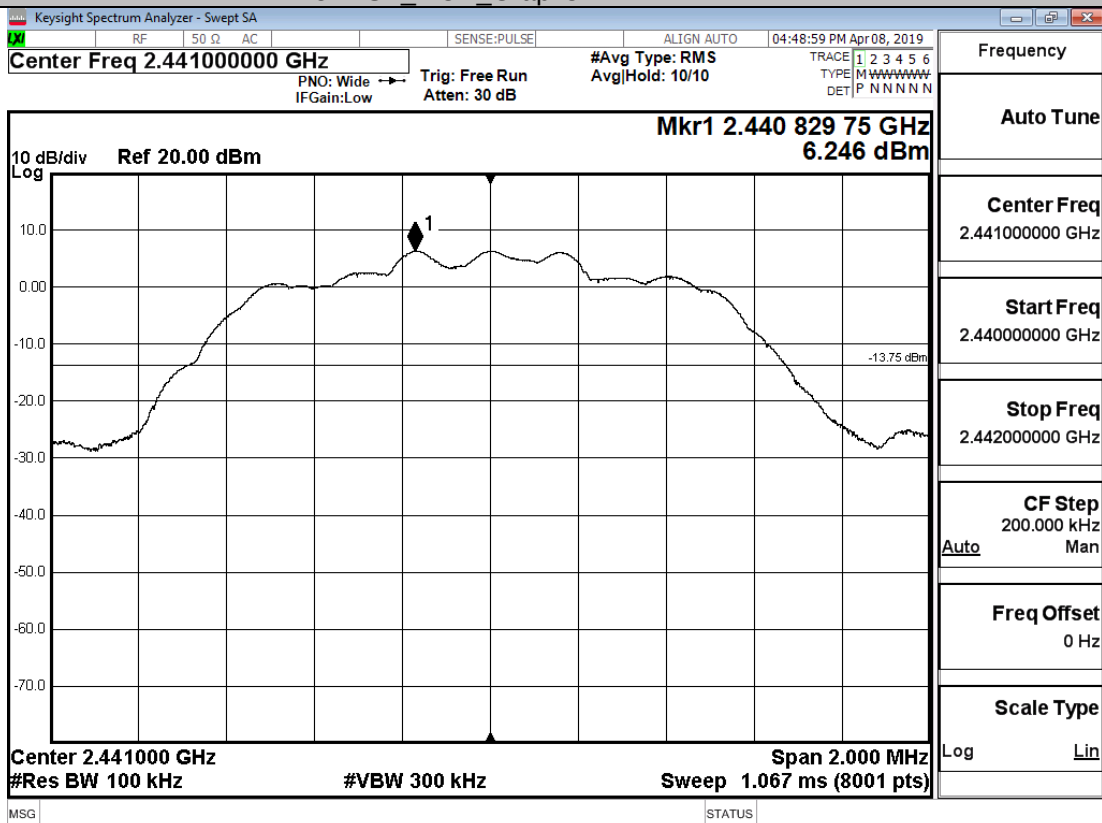


Puw

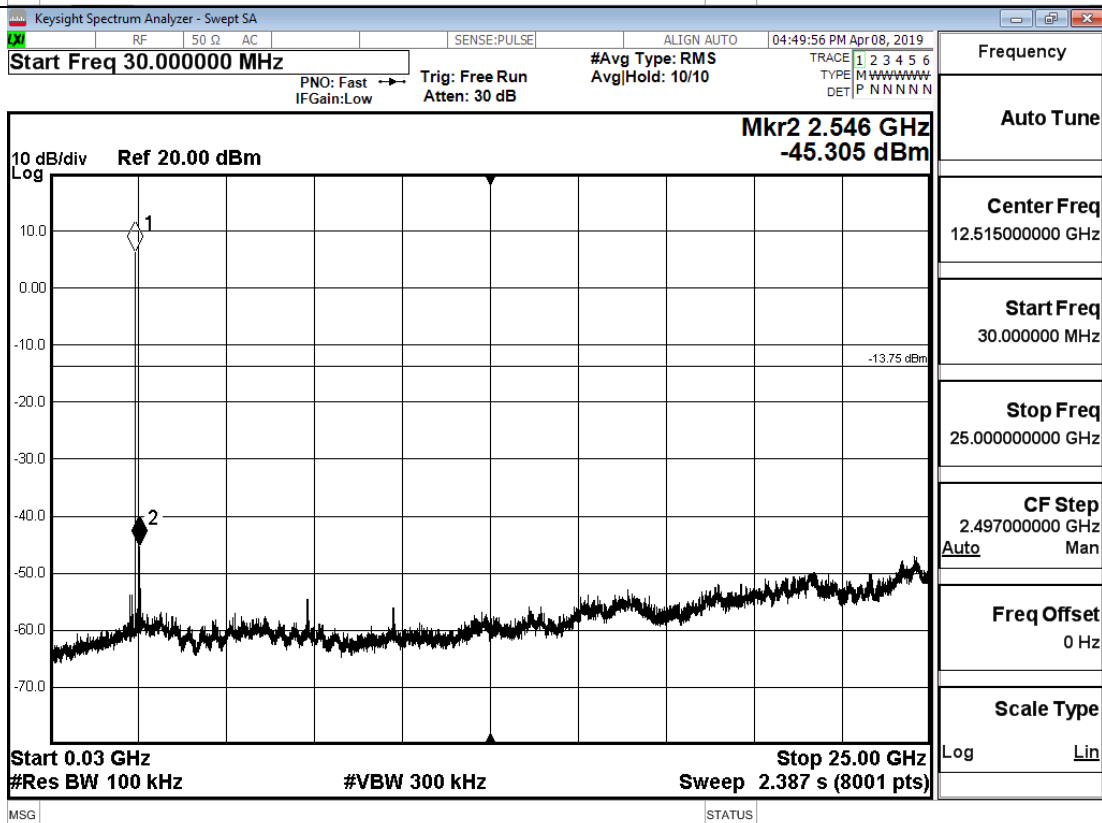


8DPSK_MCH_Graphs

Pref

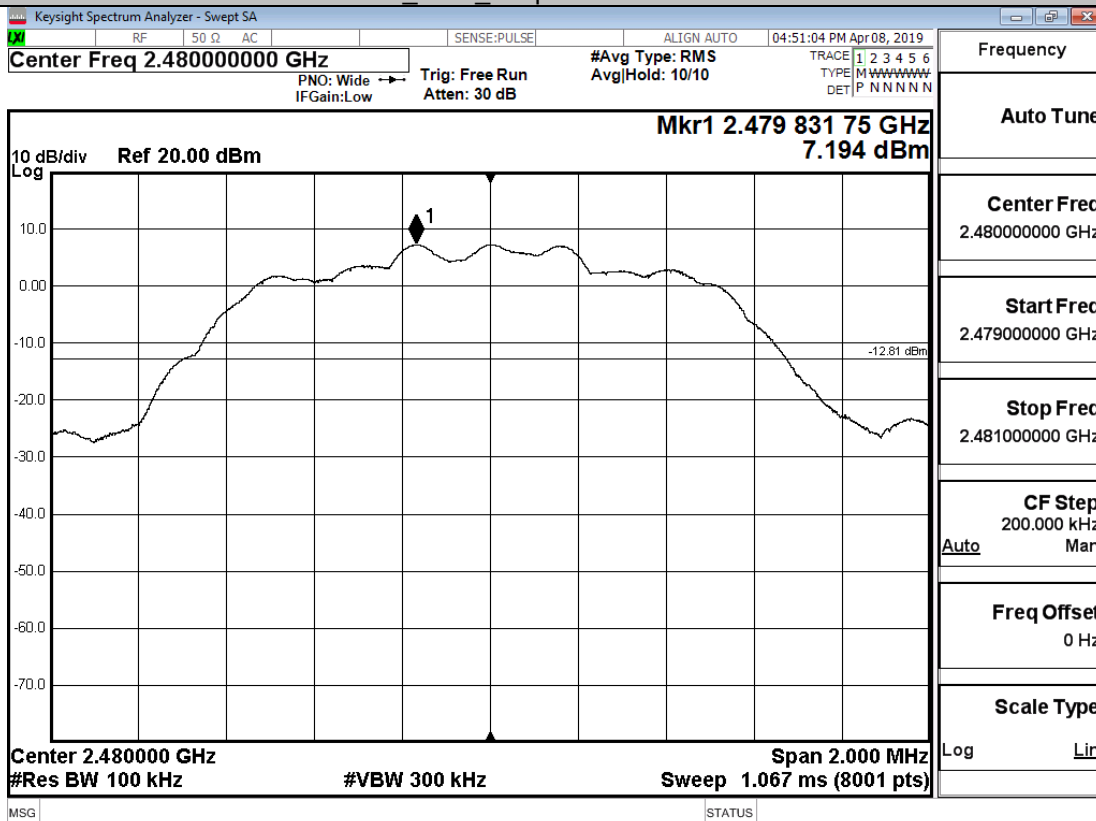


Puw

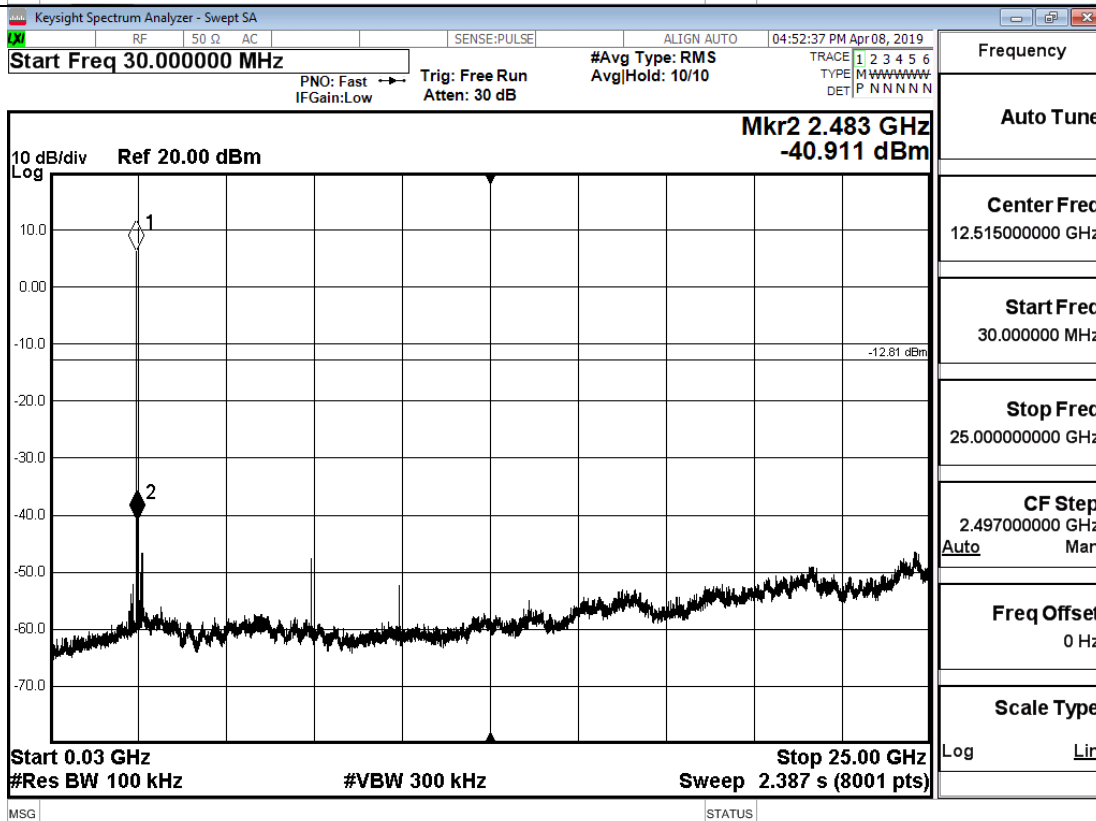


8DPSK_HCH_Graphs

Pref



Puw

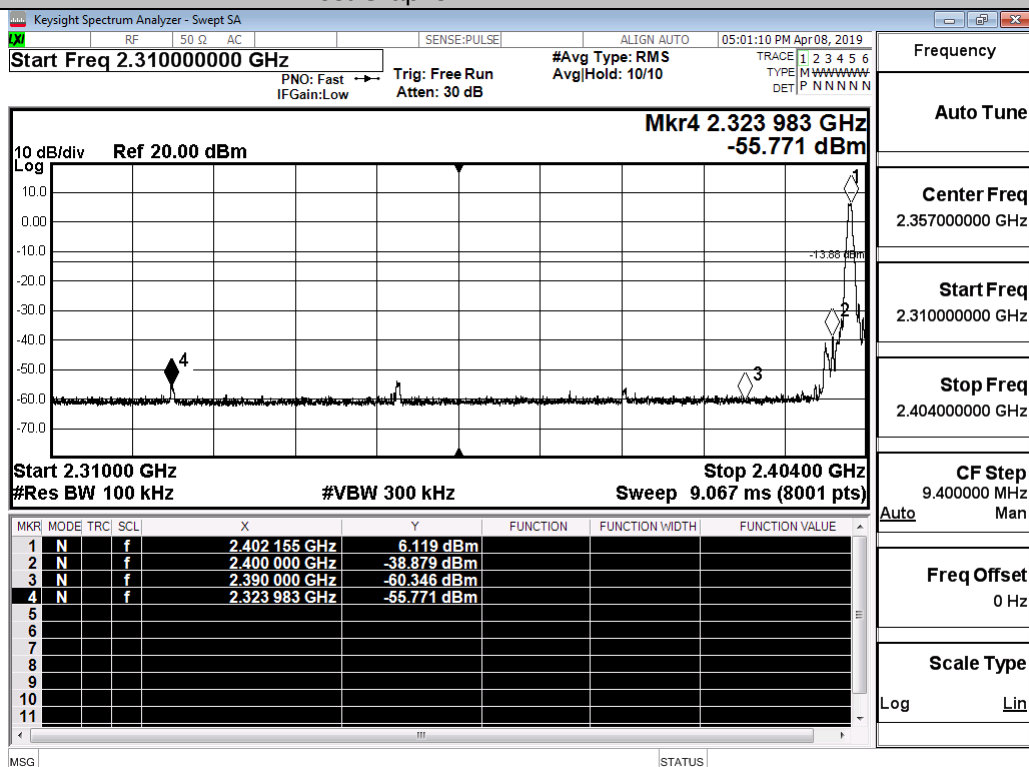


A.7 Band-edge for RF Conducted Emissions

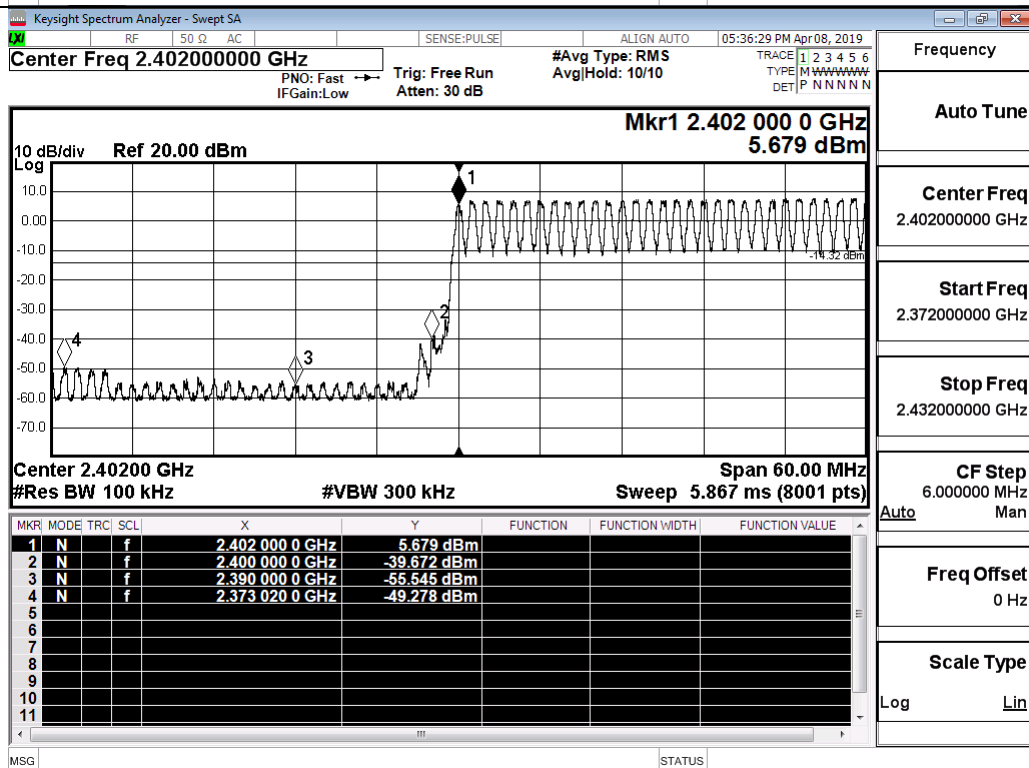
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	6.119	Off	-38.879	-13.88	PASS
			5.679	On	-39.672	-14.32	PASS
	HCH	2480	8.663	Off	-50.072	-11.34	PASS
			8.553	On	-43.602	-11.45	PASS
$\pi/4$ DQPSK	LCH	2402	3.613	Off	-46.732	-16.39	PASS
			3.277	On	-47.641	-16.72	PASS
	HCH	2480	7.338	Off	-57.243	-12.66	PASS
			6.869	On	-45.006	-13.13	PASS
8DPSK	LCH	2402	3.634	Off	-45.791	-16.37	PASS
			3.388	On	-46.584	-16.61	PASS
	HCH	2480	7.365	Off	-55.383	-12.64	PASS
			7.272	On	-44.773	-12.73	PASS

Test Graphs

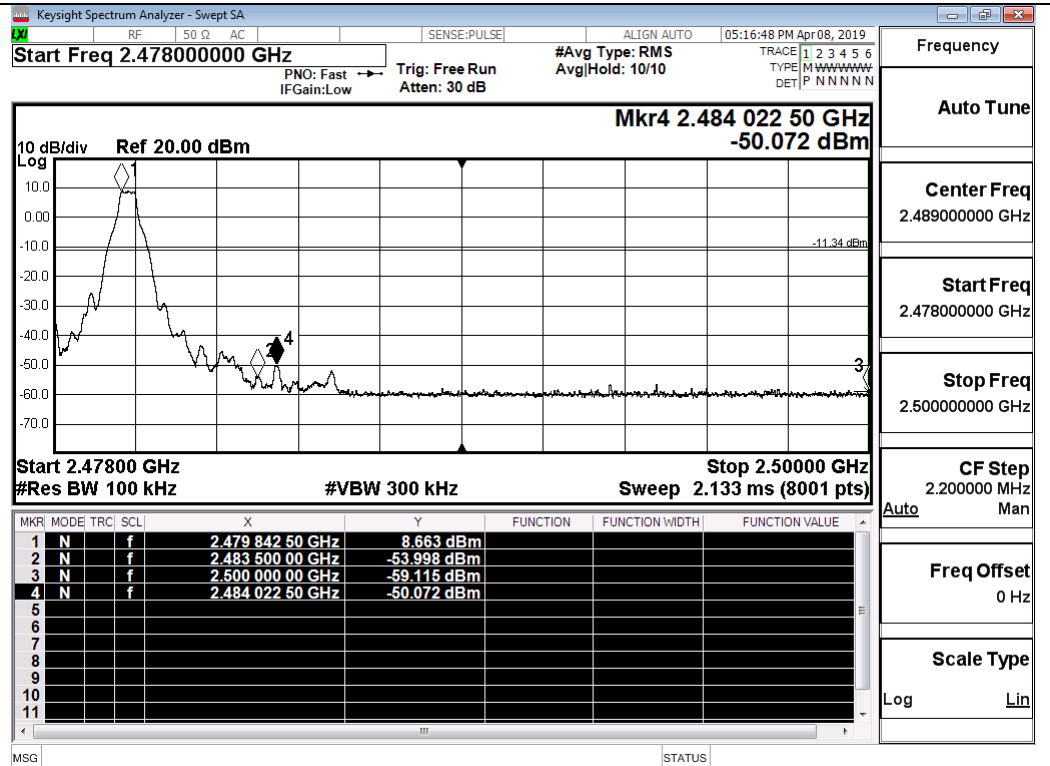
GFSK/LCH/No Hop



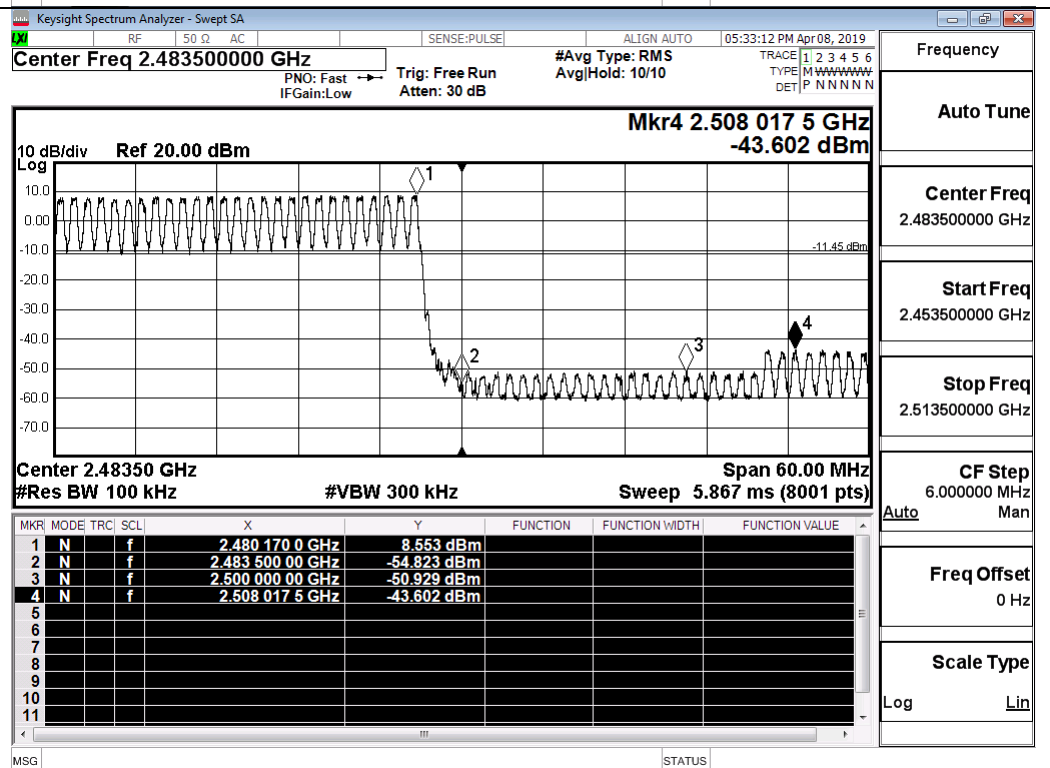
GFSK/LCH/Hop



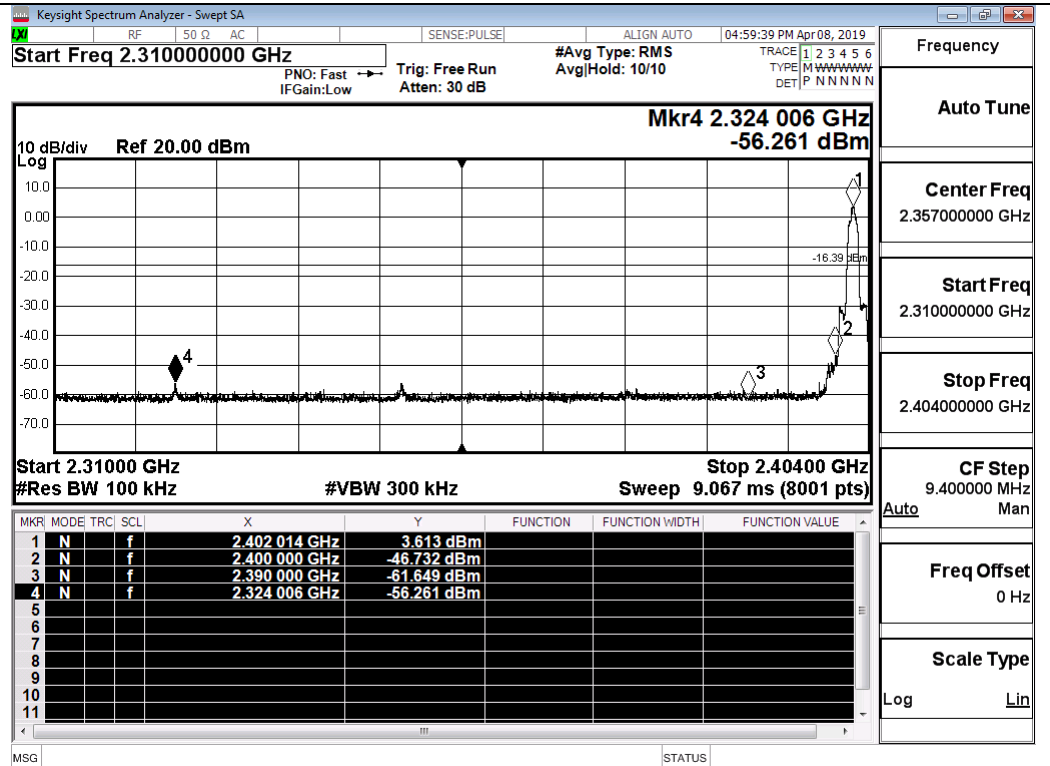
GFSK/HCH/No Hop



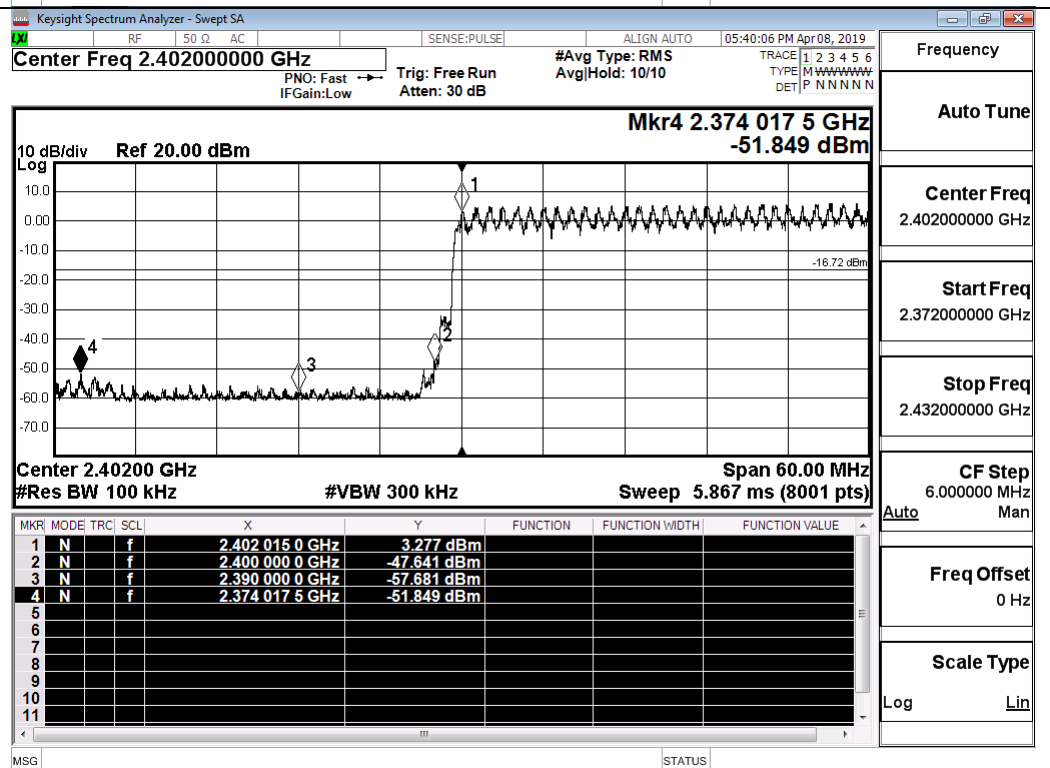
GFSK/HCH/Hop



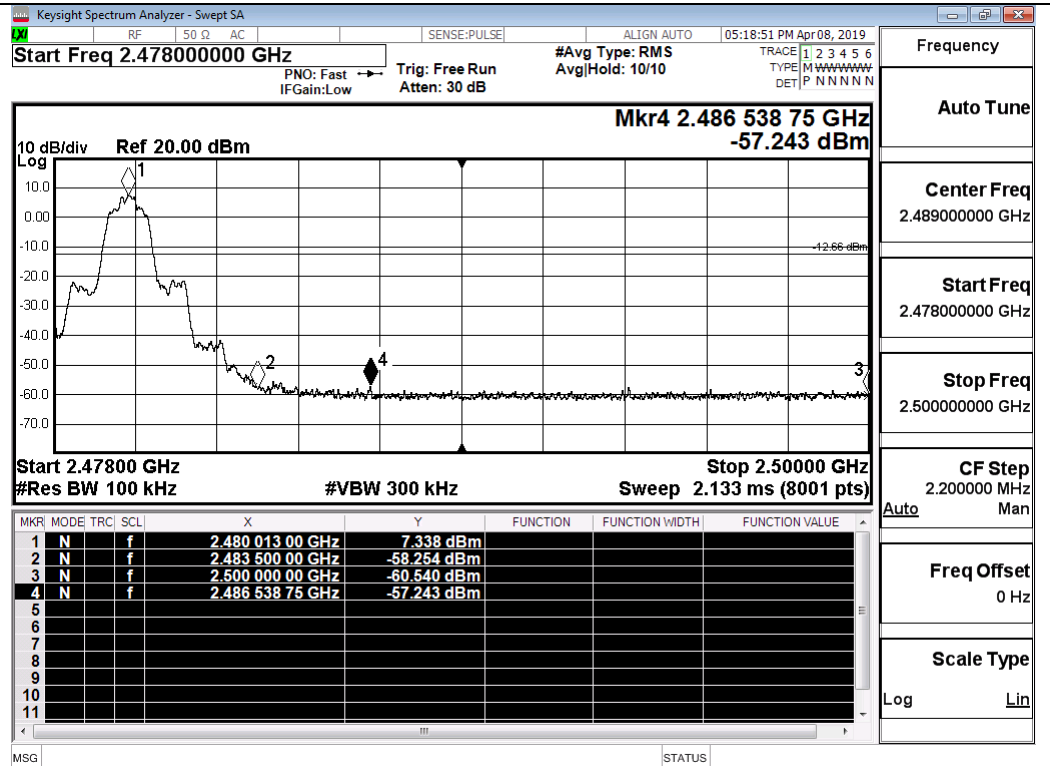
$\pi/4$ DQPSK/LCH/No
Hop



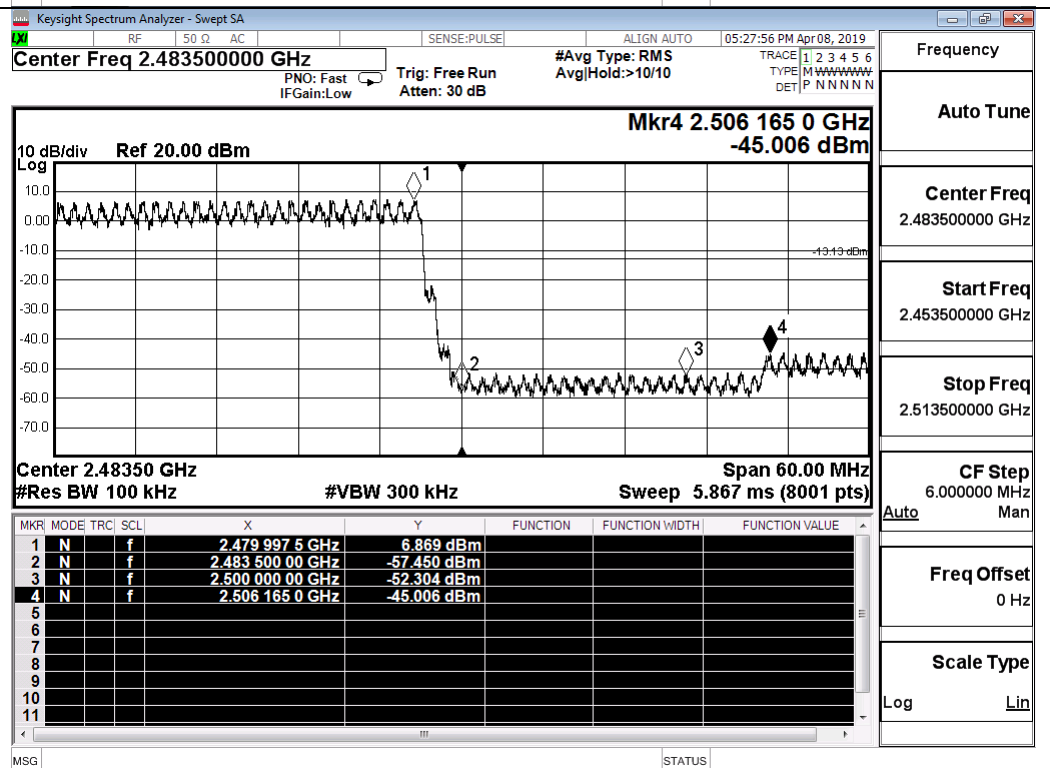
$\pi/4$ DQPSK/LCH/Hop



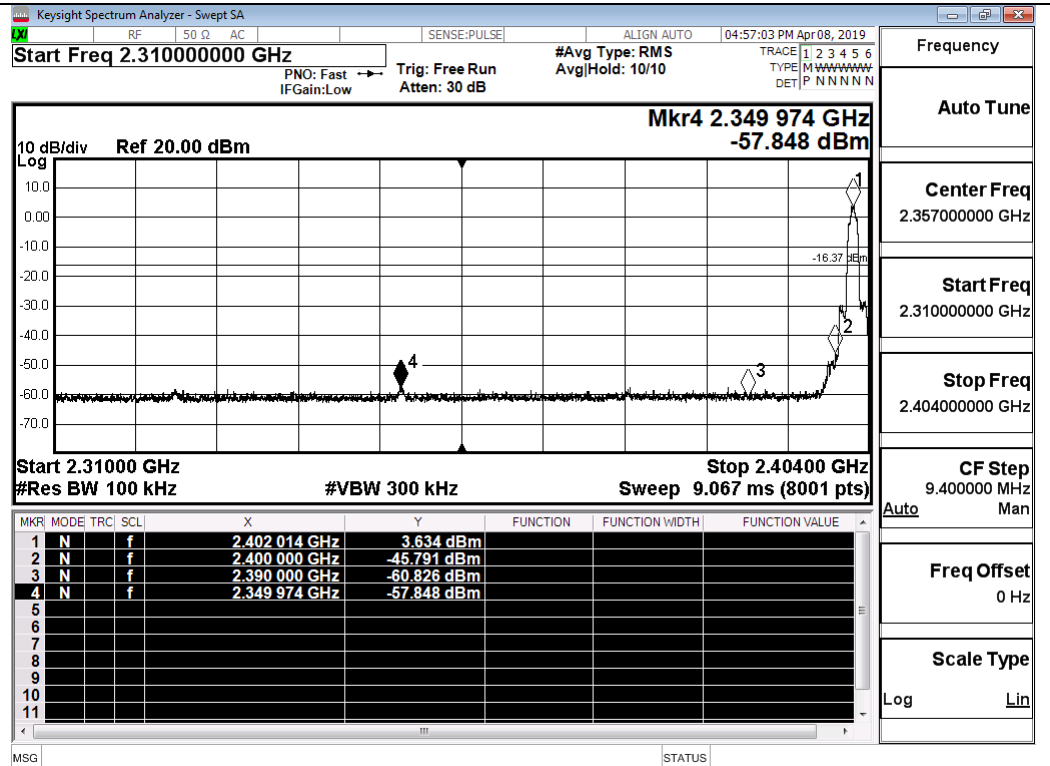
$\pi/4$ DQPSK/HCH/No
Hop



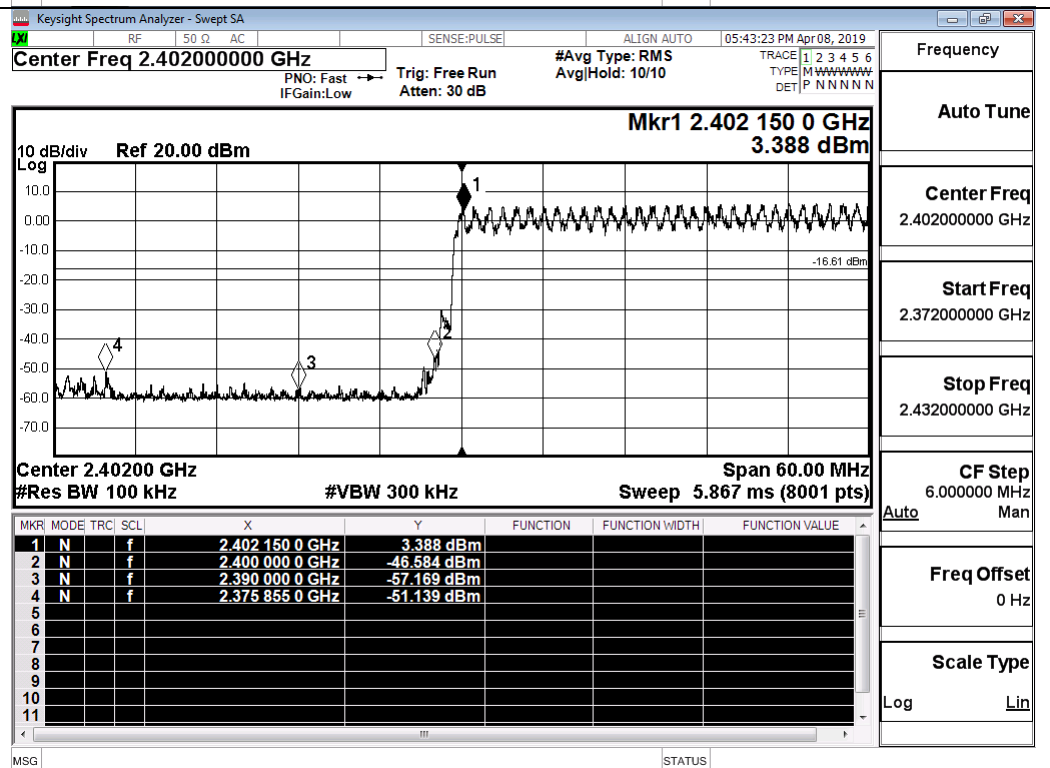
$\pi/4$ DQPSK/HCH/Hop



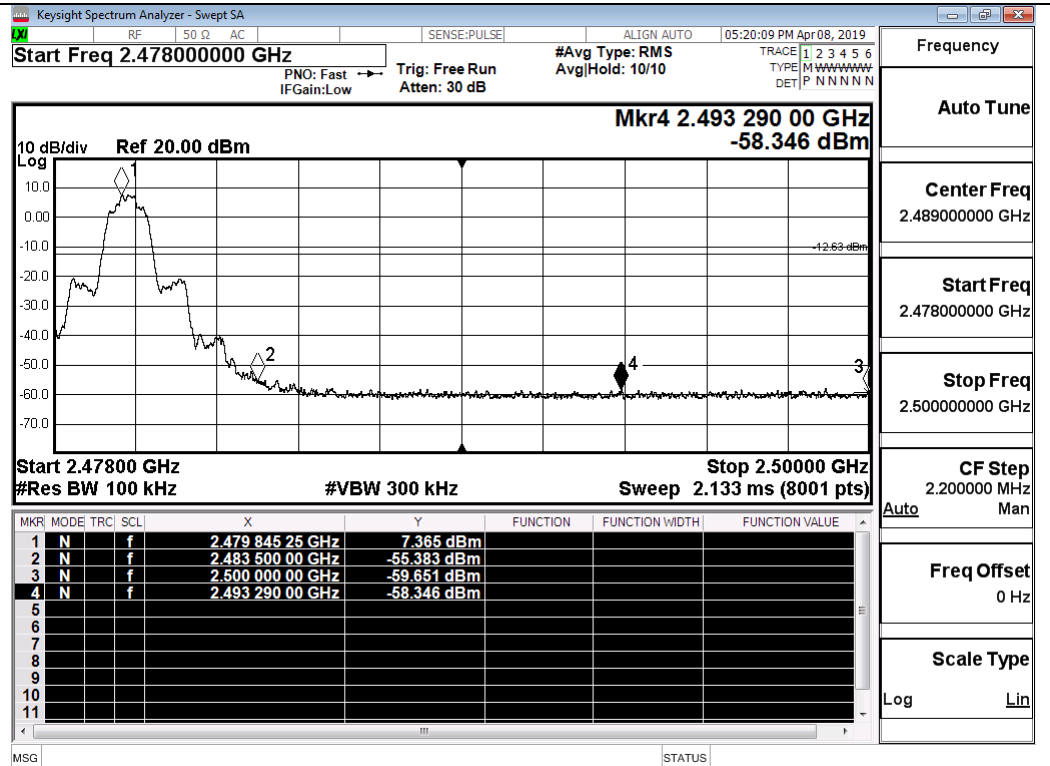
8DPSK/LCH/No Hop



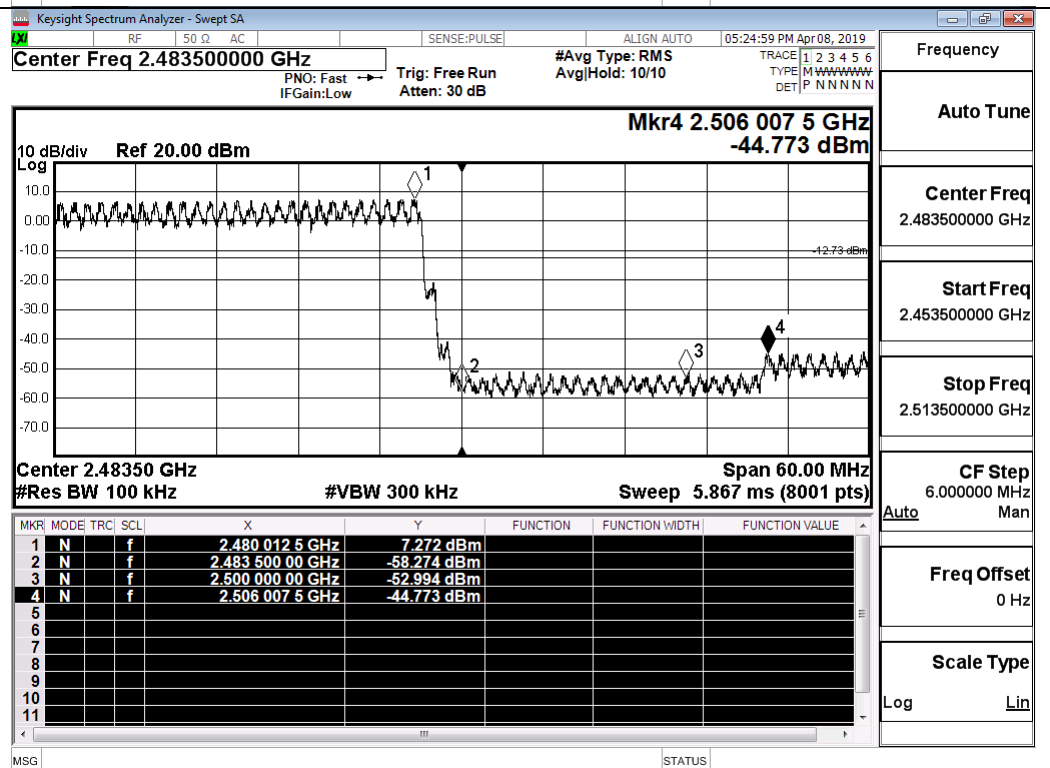
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



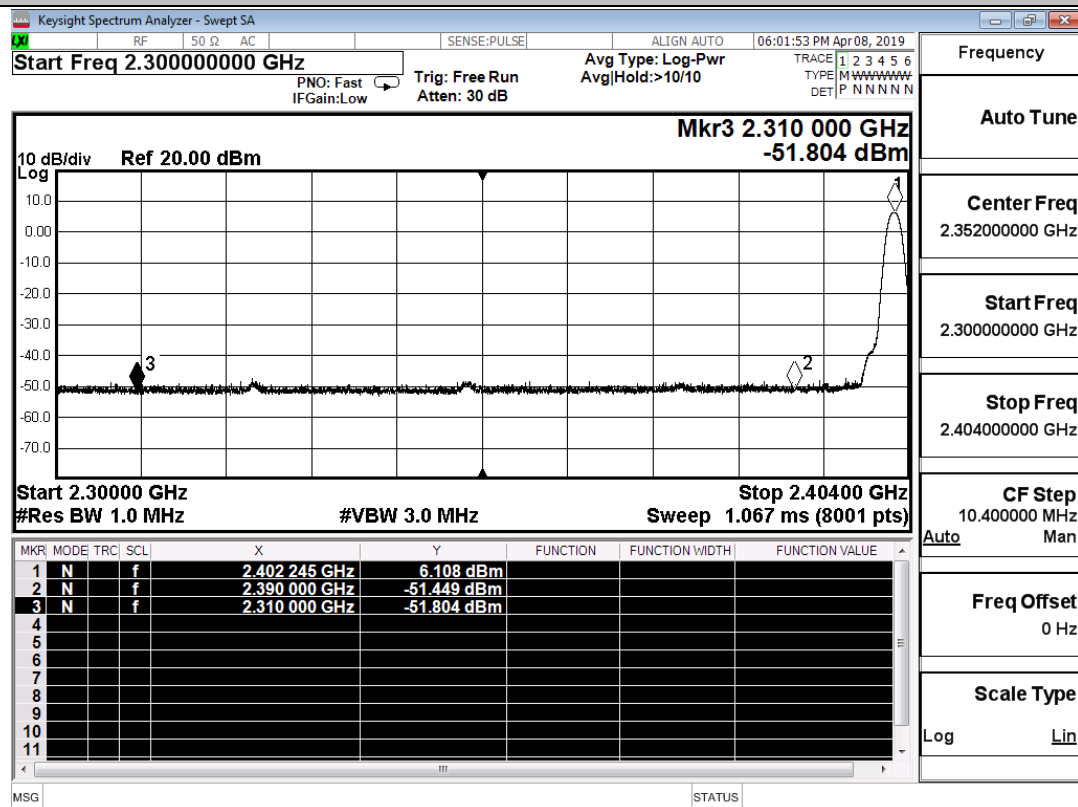
8DPSK/HCH/Hop



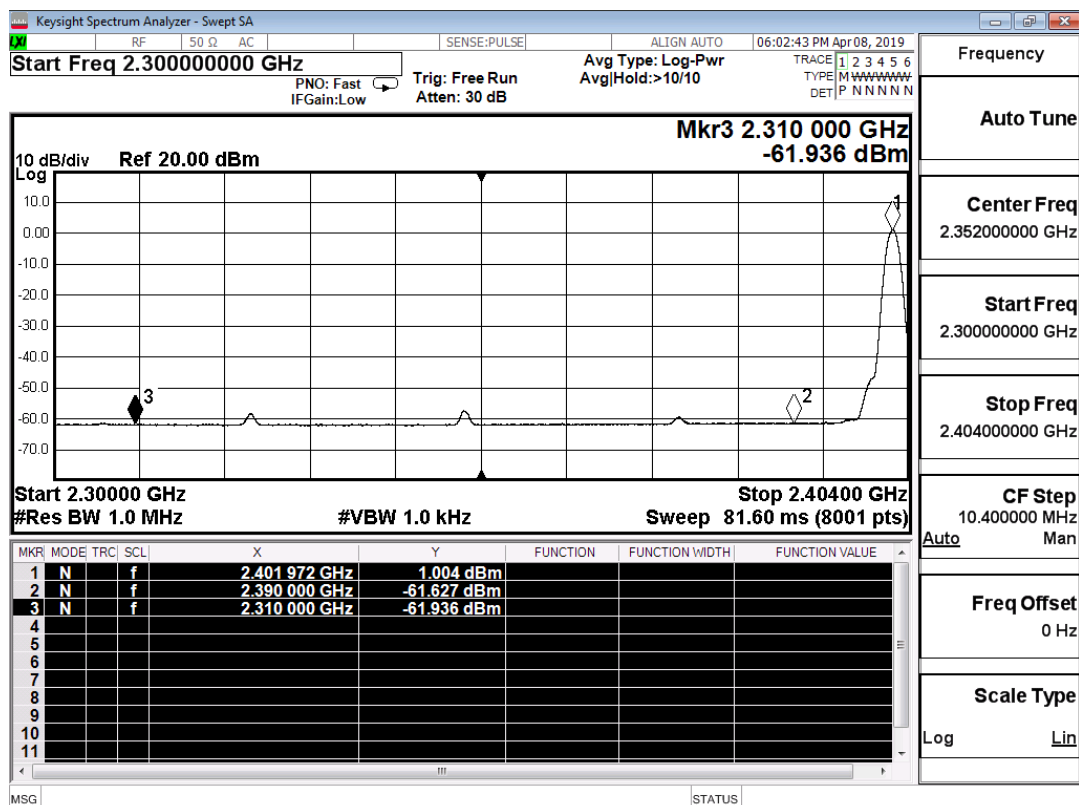
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-51.804	2.0	0	45.43	PEAK	74	PASS
	Off	2310.0	-61.936	2.0	0	35.29	AV	54	PASS
	Off	2390.0	-51.449	2.0	0	45.78	PEAK	74	PASS
	Off	2390.0	-61.627	2.0	0	35.60	AV	54	PASS
	Off	2483.5	-45.021	2.0	0	52.21	PEAK	74	PASS
	Off	2483.5	-55.044	2.0	0	42.19	AV	54	PASS
	Off	2500.0	-51.220	2.0	0	46.01	PEAK	74	PASS
	Off	2500.0	-61.211	2.0	0	36.02	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-51.468	2.0	0	45.76	PEAK	74	PASS
	Off	2310.0	-62.076	2.0	0	35.15	AV	54	PASS
	Off	2390.0	-50.984	2.0	0	46.25	PEAK	74	PASS
	Off	2390.0	-61.631	2.0	0	35.60	AV	54	PASS
	Off	2483.5	-42.228	2.0	0	55.00	PEAK	74	PASS
	Off	2483.5	-55.987	2.0	0	41.24	AV	54	PASS
	Off	2500.0	-49.581	2.0	0	47.65	PEAK	74	PASS
	Off	2500.0	-61.094	2.0	0	36.14	AV	54	PASS
8DPSK	Off	2310.0	-50.628	2.0	0	46.60	PEAK	74	PASS
	Off	2310.0	-61.916	2.0	0	35.31	AV	54	PASS
	Off	2390.0	-50.499	2.0	0	46.73	PEAK	74	PASS
	Off	2390.0	-61.581	2.0	0	35.65	AV	54	PASS
	Off	2483.5	-42.839	2.0	0	54.39	PEAK	74	PASS
	Off	2483.5	-55.971	2.0	0	41.26	AV	54	PASS
	Off	2500.0	-50.373	2.0	0	46.86	PEAK	74	PASS
	Off	2500.0	-61.071	2.0	0	36.16	AV	54	PASS

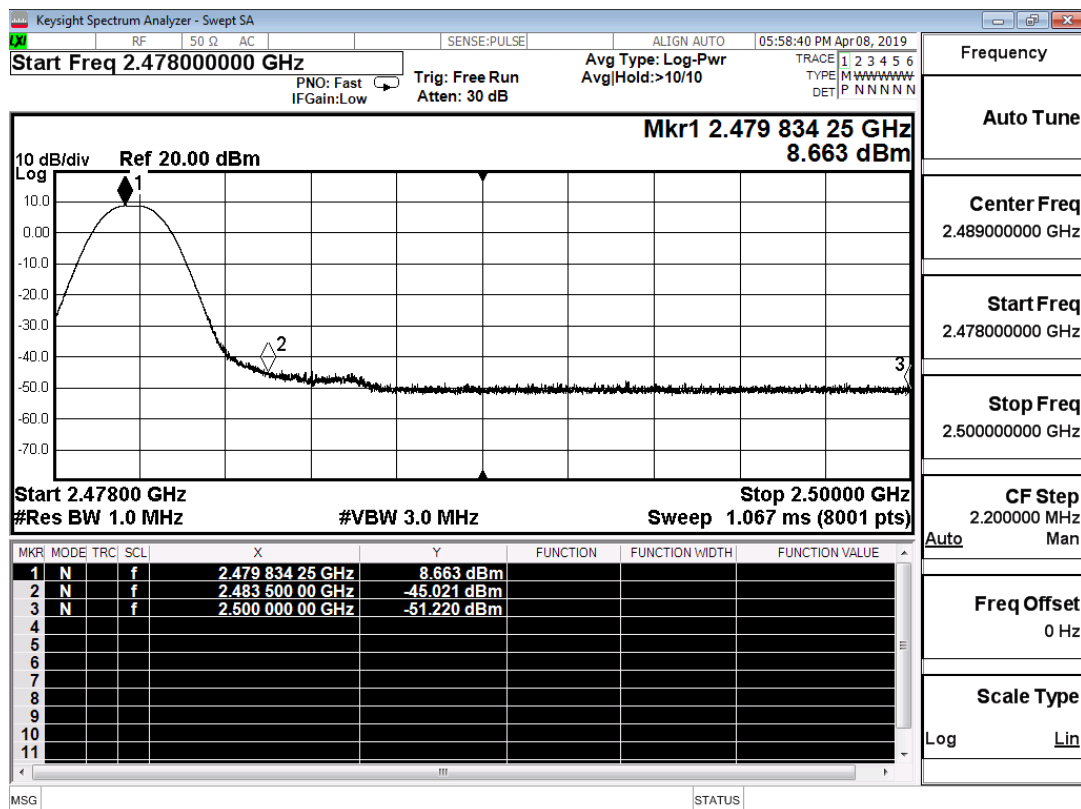
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



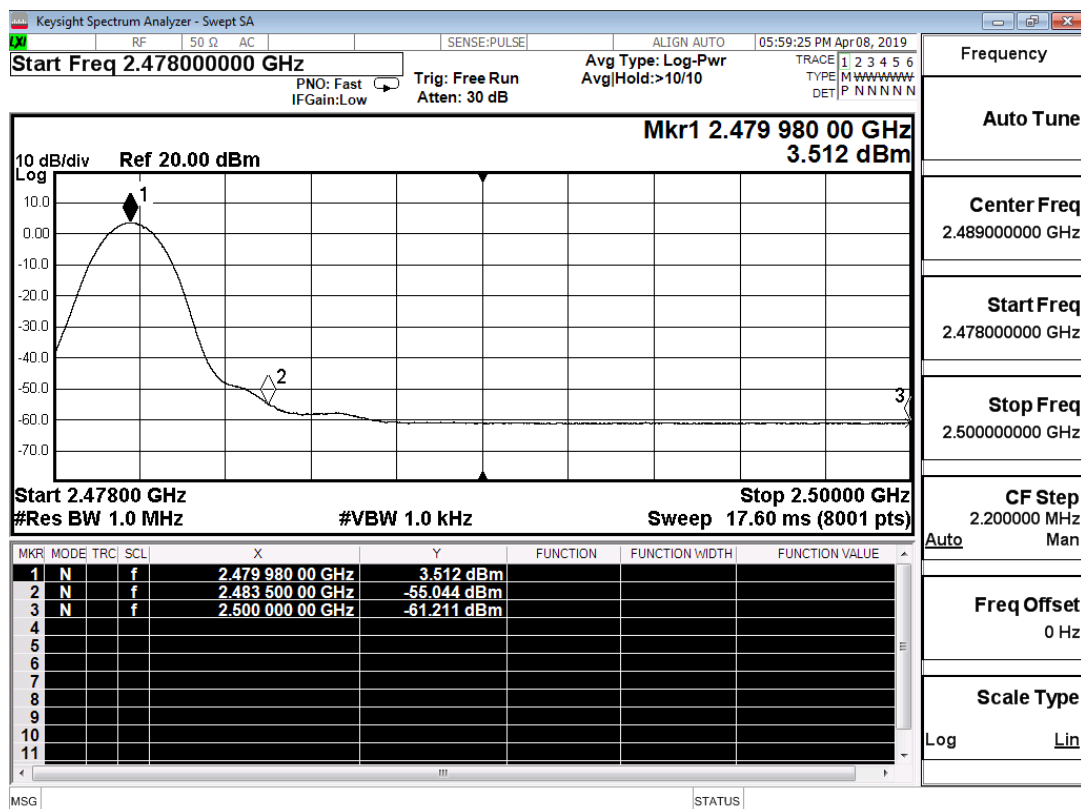
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



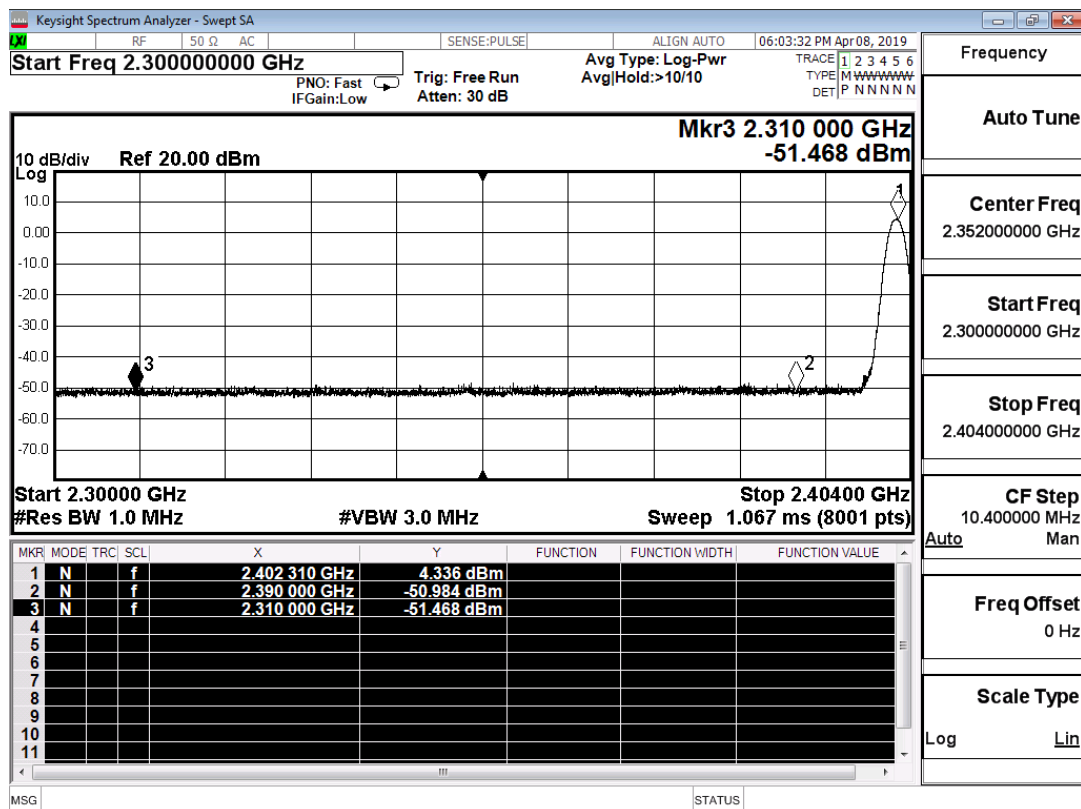
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



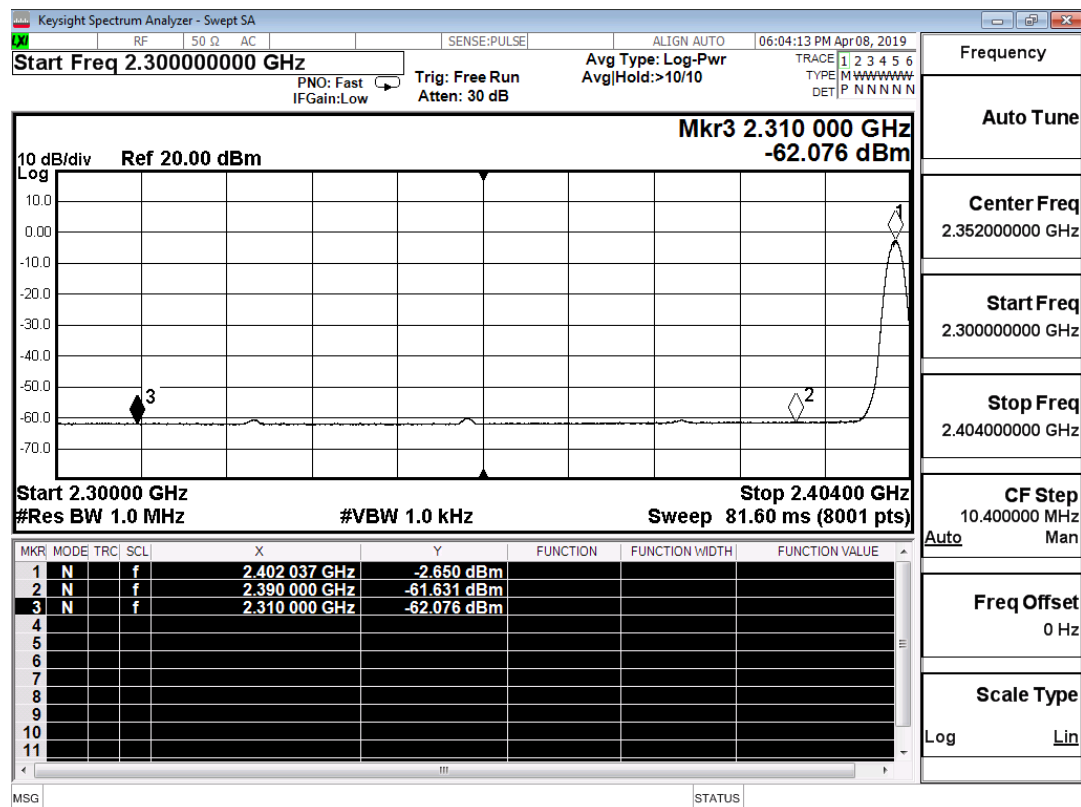
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



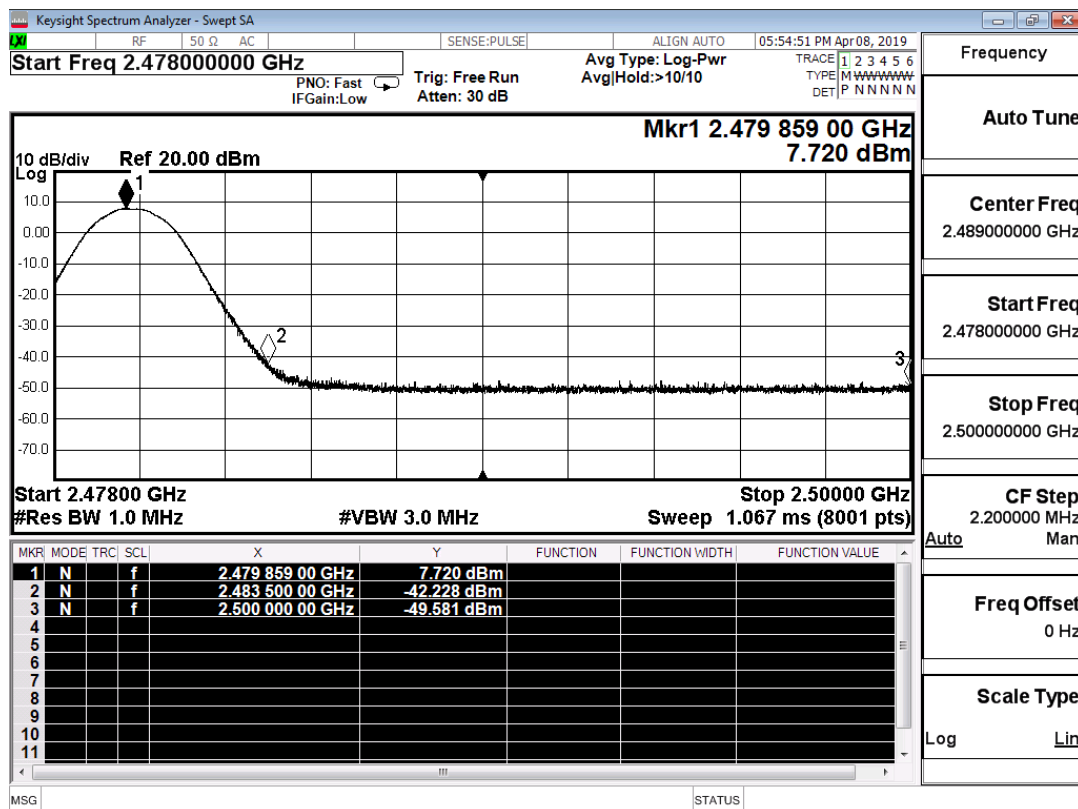
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



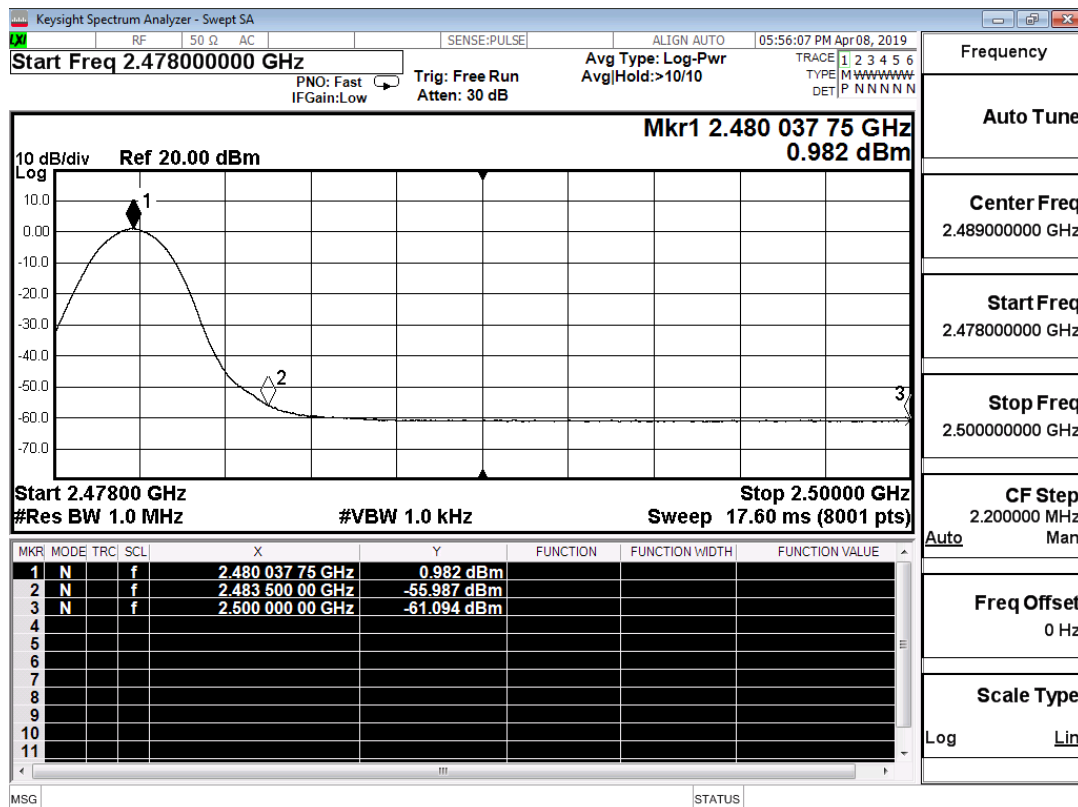
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



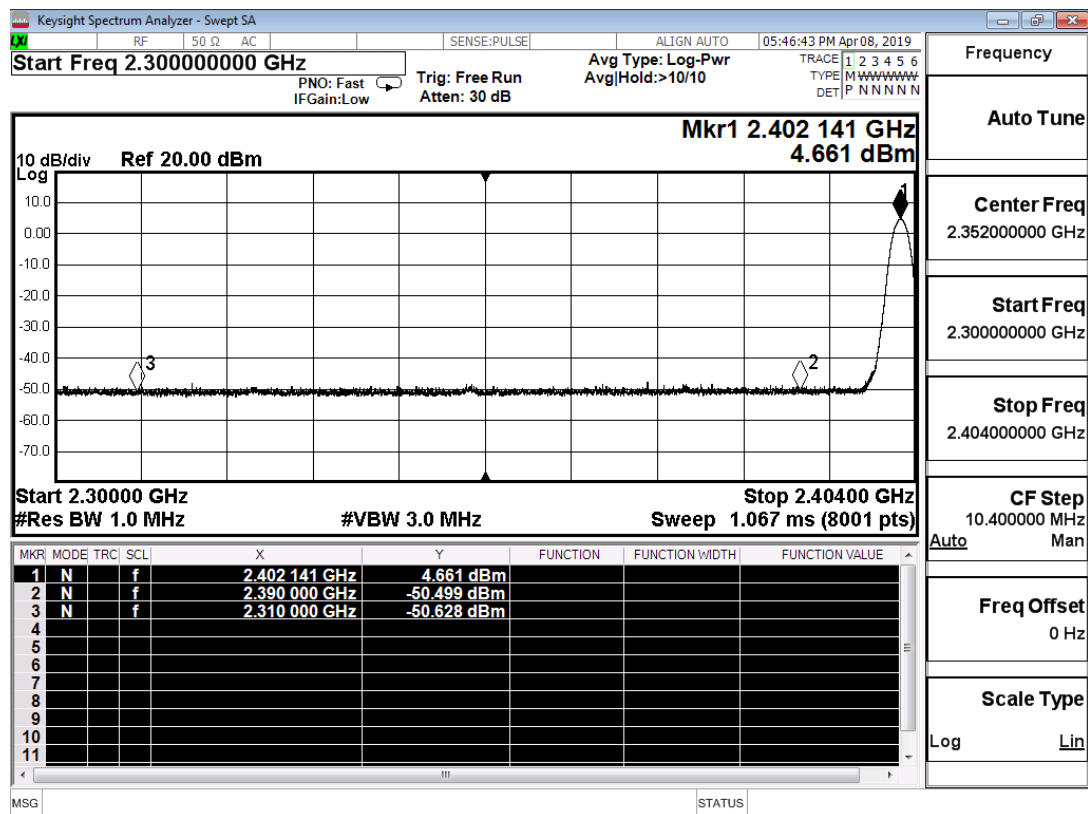
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



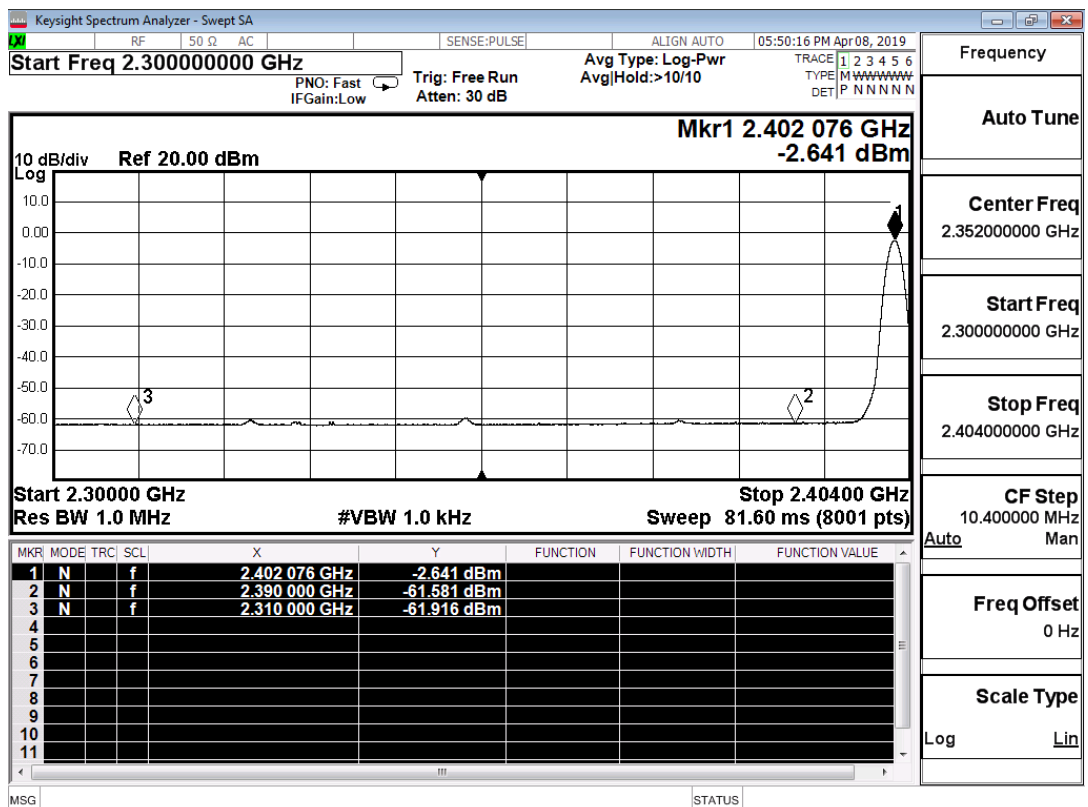
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



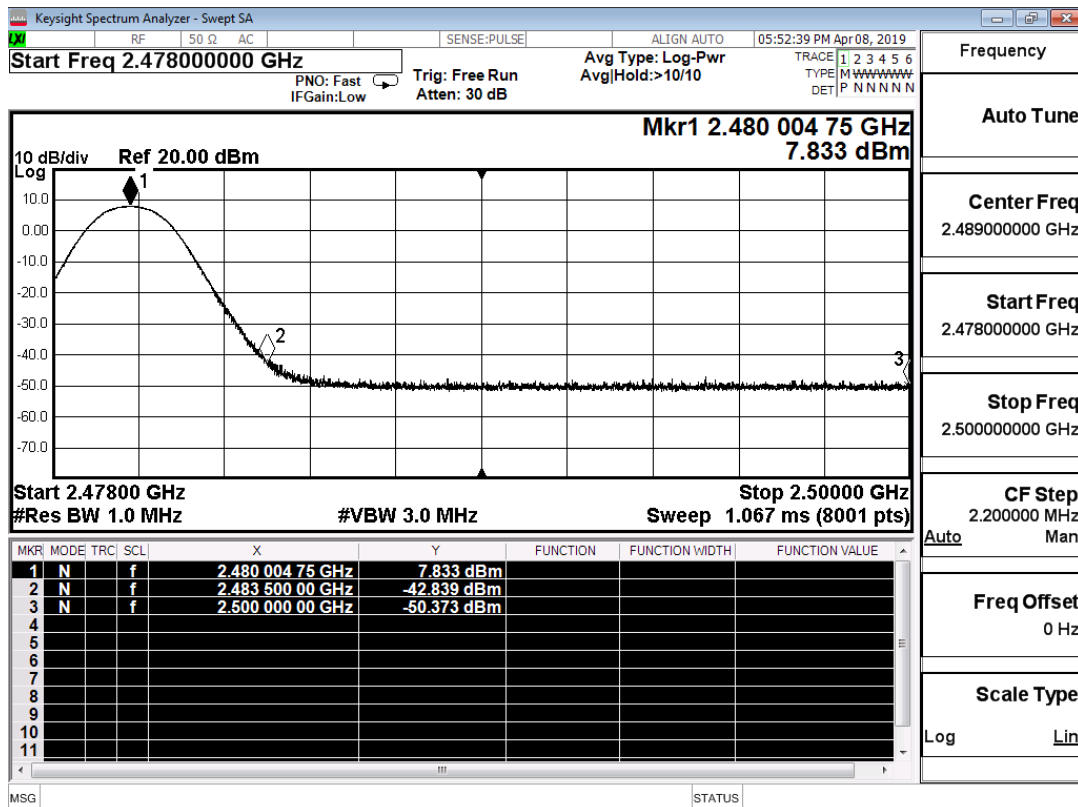
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

