

Appendix A

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

Product Name: Bluetooth Headset Bracelet

Trade Mark: BYS

Test Model: BY51

Environmental Conditions

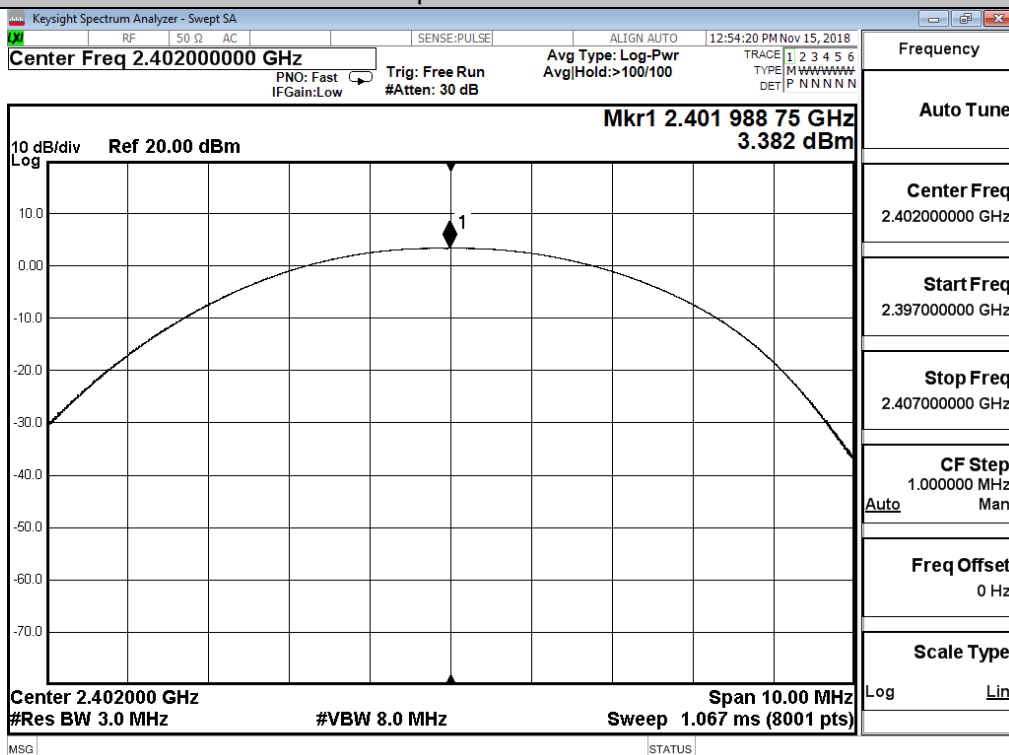
Temperature:	23.9 ° C
Relative Humidity:	54%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom.Liu
Supervised by:	Jayden.Zhuo

A.1 Maximum Conducted Peak Output Power

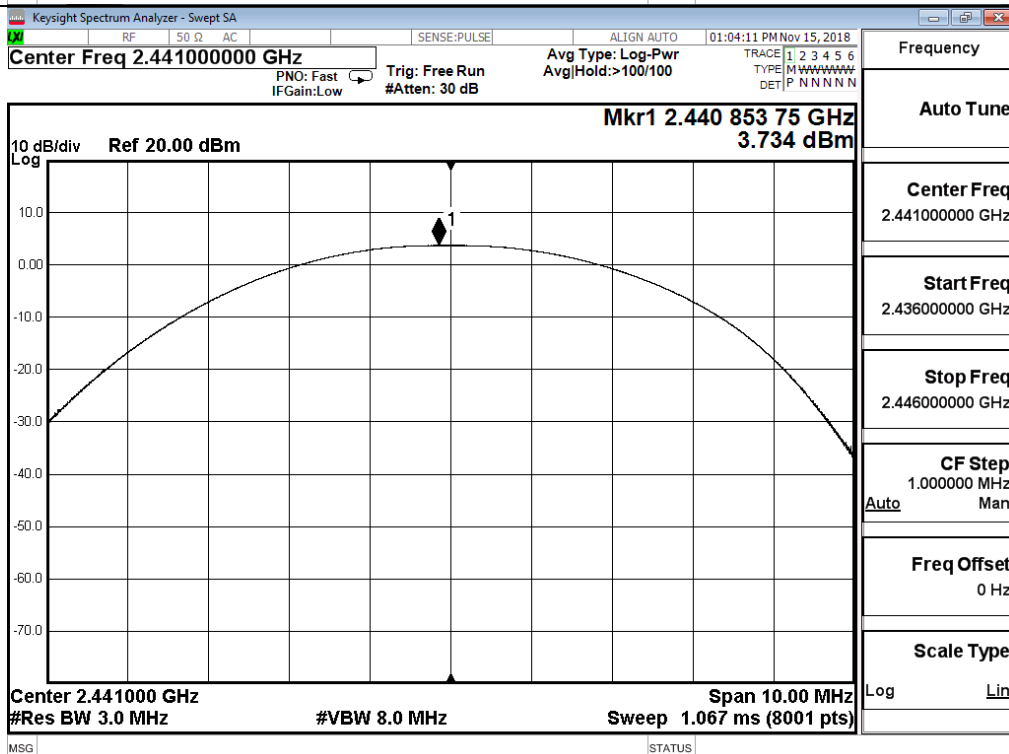
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.382	21	PASS
	MCH	3.734	21	PASS
	HCH	3.391	21	PASS
$\pi/4$ DQPSK	LCH	2.388	21	PASS
	MCH	2.877	21	PASS
	HCH	2.541	21	PASS
8DPSK	LCH	2.654	21	PASS
	MCH	3.103	21	PASS
	HCH	2.780	21	PASS

Test Graphs

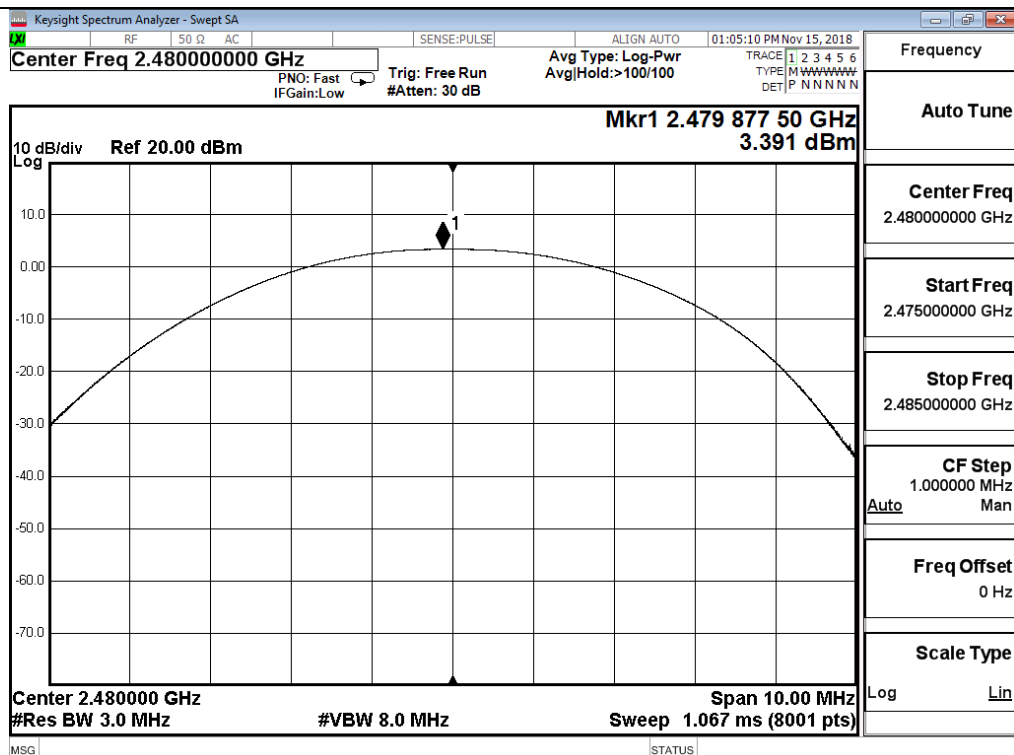
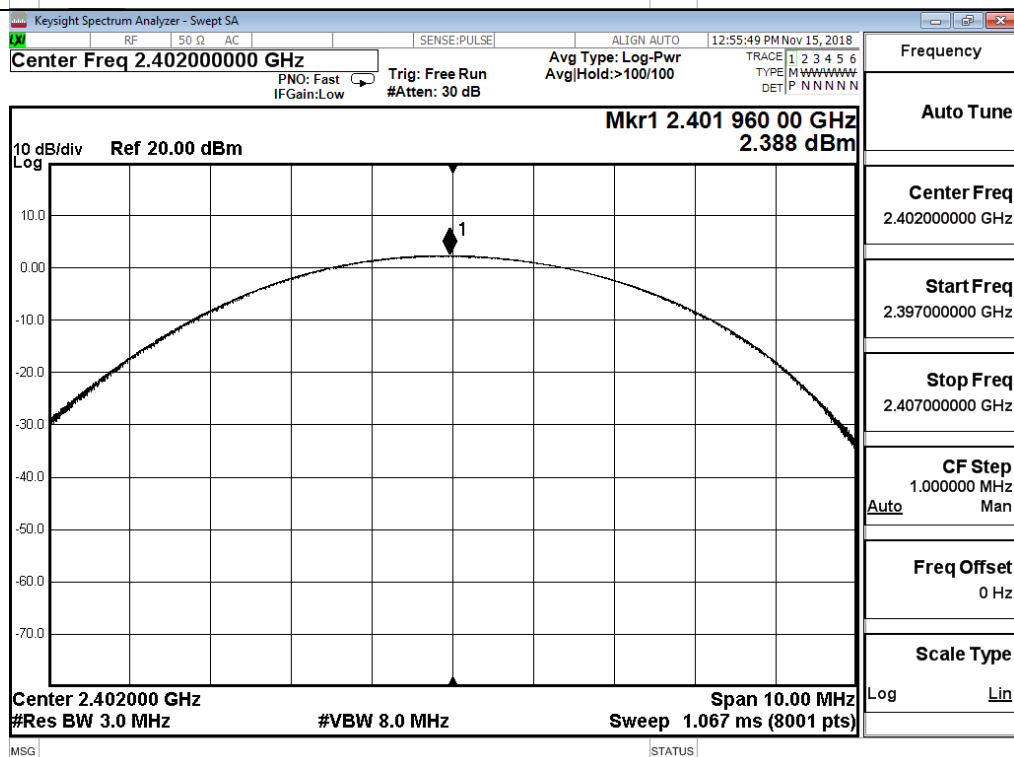
GFSK/LCH

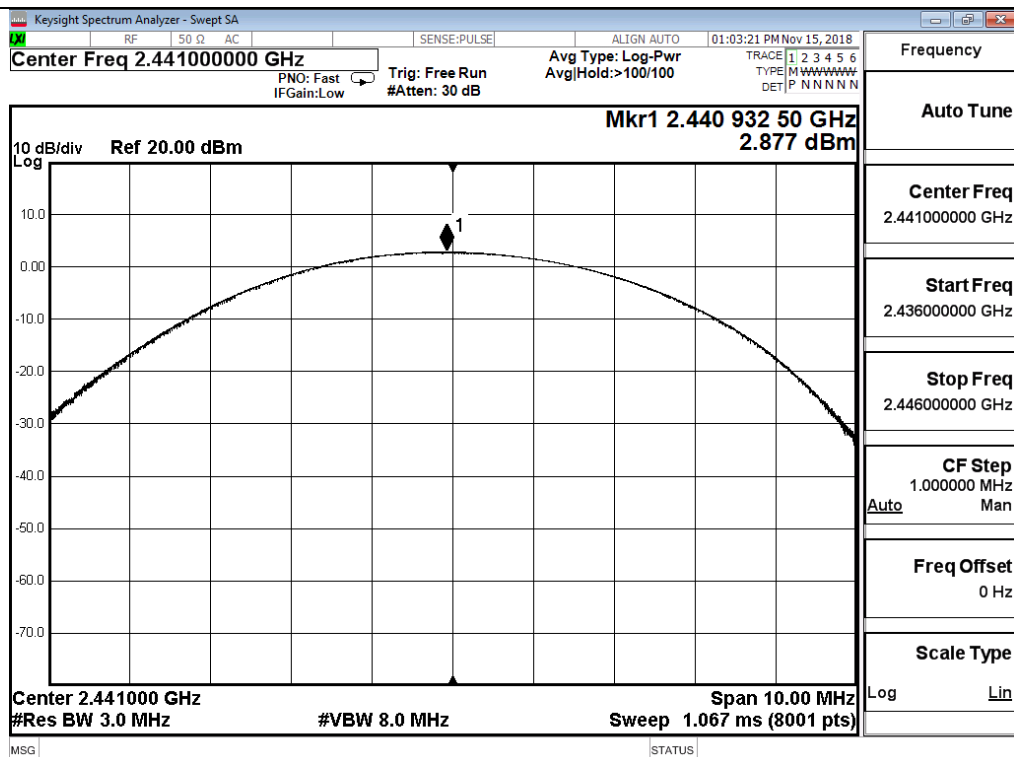
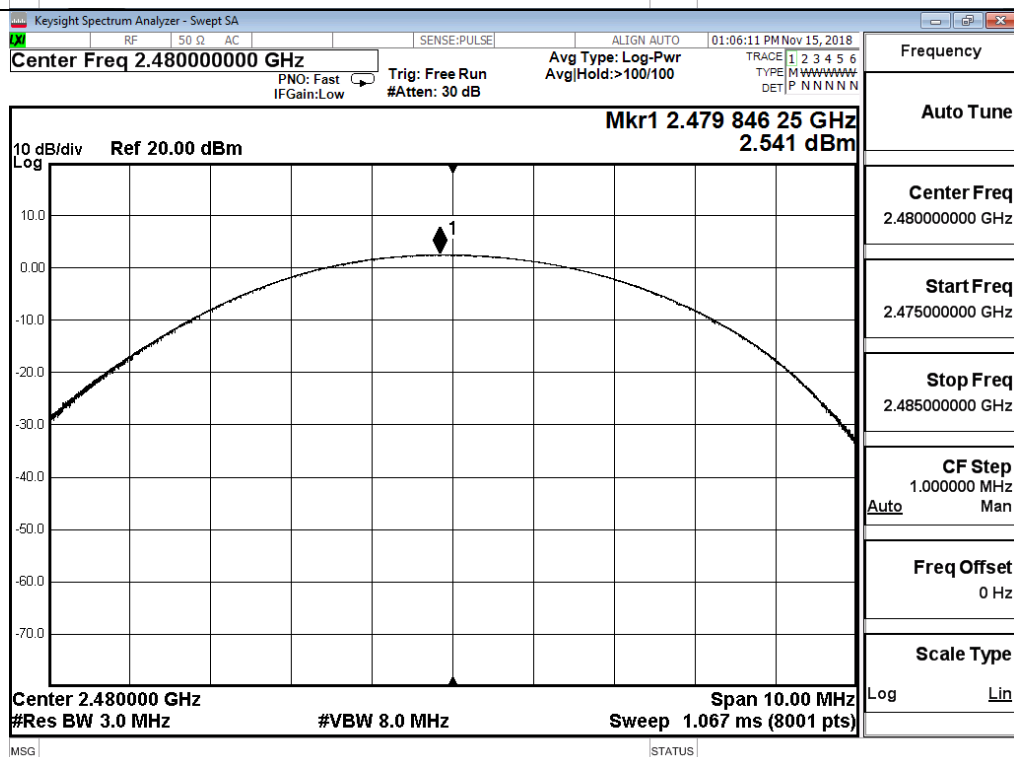


GFSK/MCH

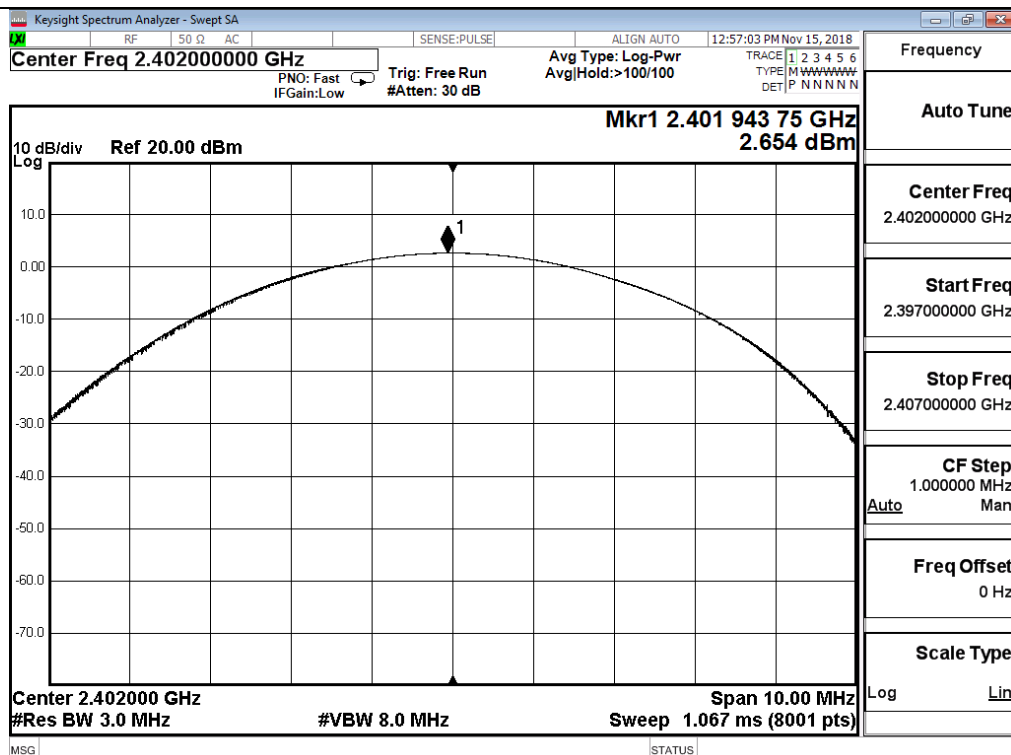


GFSK/HCH

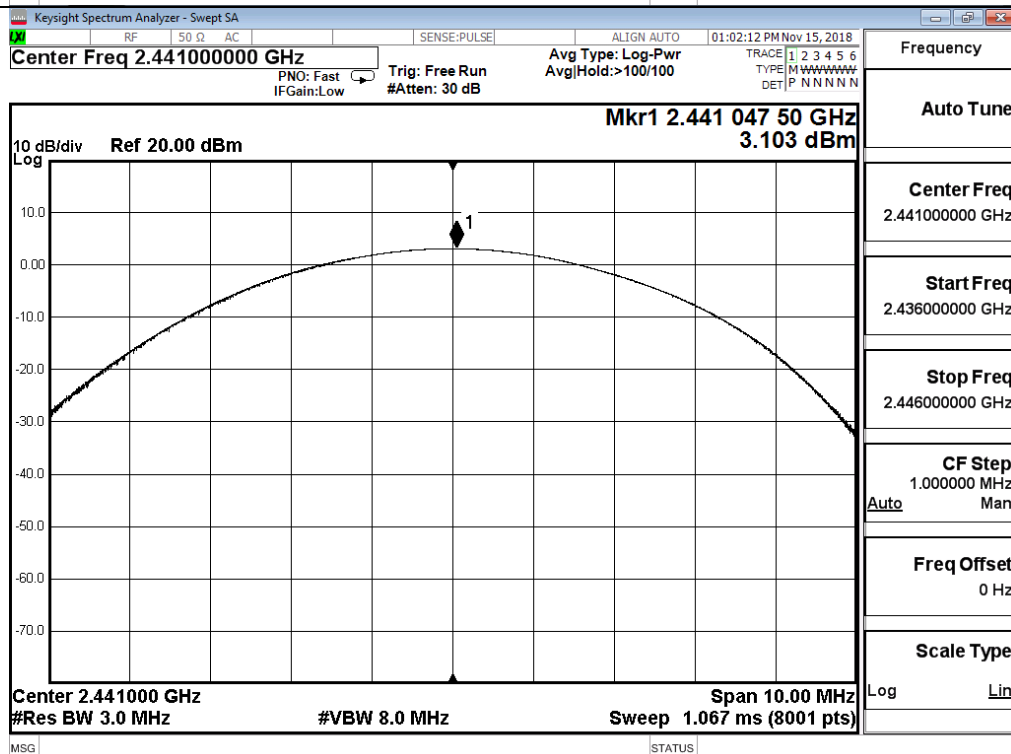
 π /4DQPSK/LCH

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

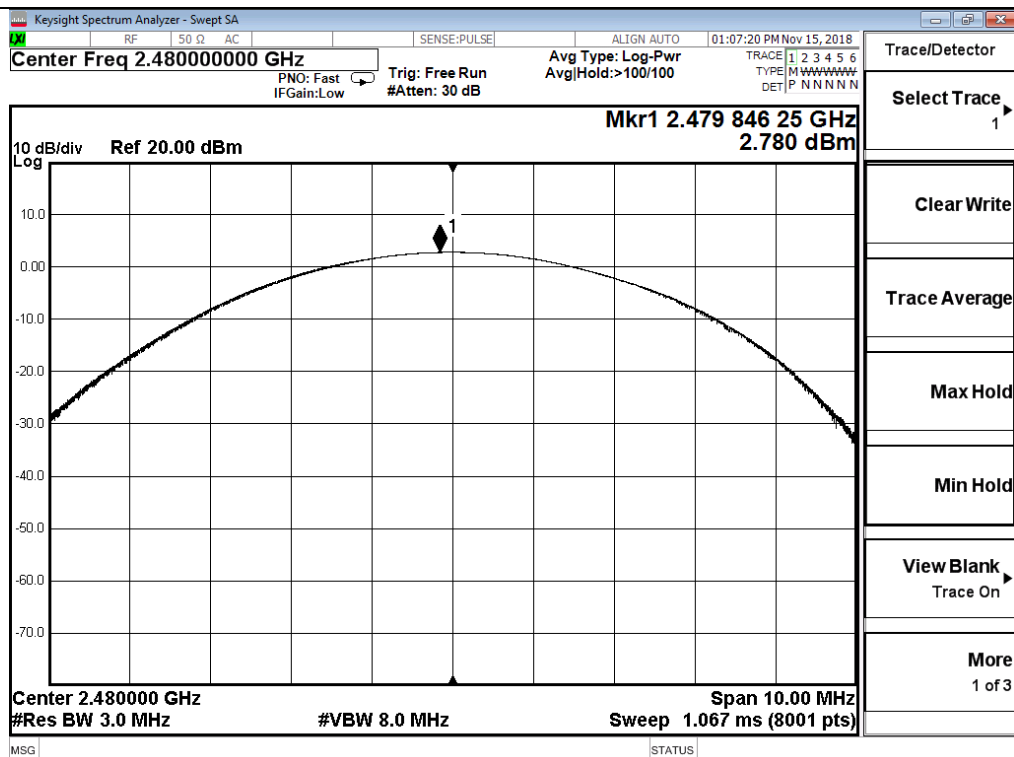
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

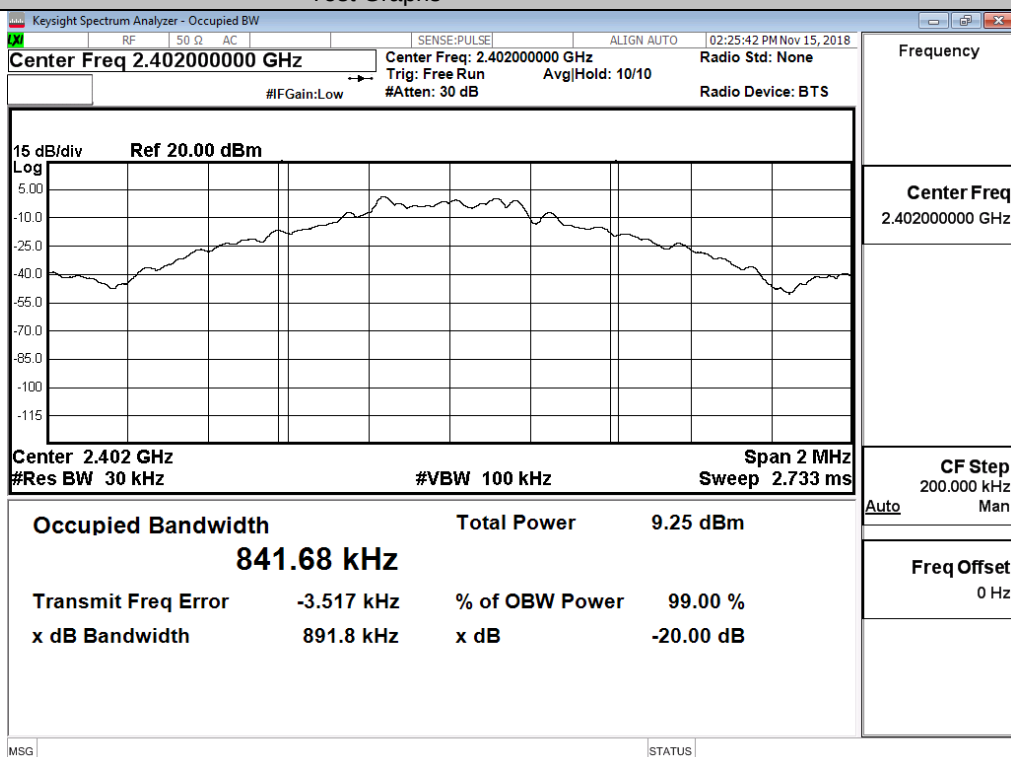


A.2 99% and 20dB Bandwidth

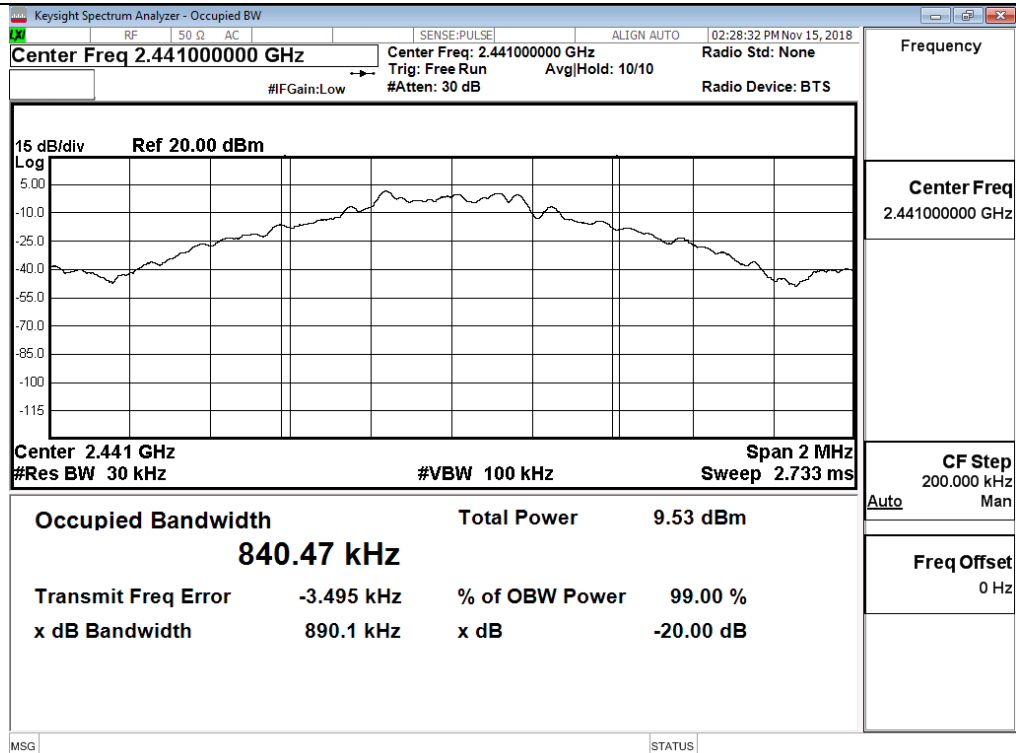
Mode	Channel.	99% Bandwidth [MHz]	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.84168	0.8918	Not Specified	PASS
	MCH	0.84047	0.8901	Not Specified	PASS
	HCH	0.84248	0.8908	Not Specified	PASS
π /4DQPSK	LCH	1.1665	1.287	Not Specified	PASS
	MCH	1.1758	1.287	Not Specified	PASS
	HCH	1.1786	1.288	Not Specified	PASS
8DPSK	LCH	1.1269	1.277	Not Specified	PASS
	MCH	1.1292	1.278	Not Specified	PASS
	HCH	1.1305	1.279	Not Specified	PASS

Test Graphs

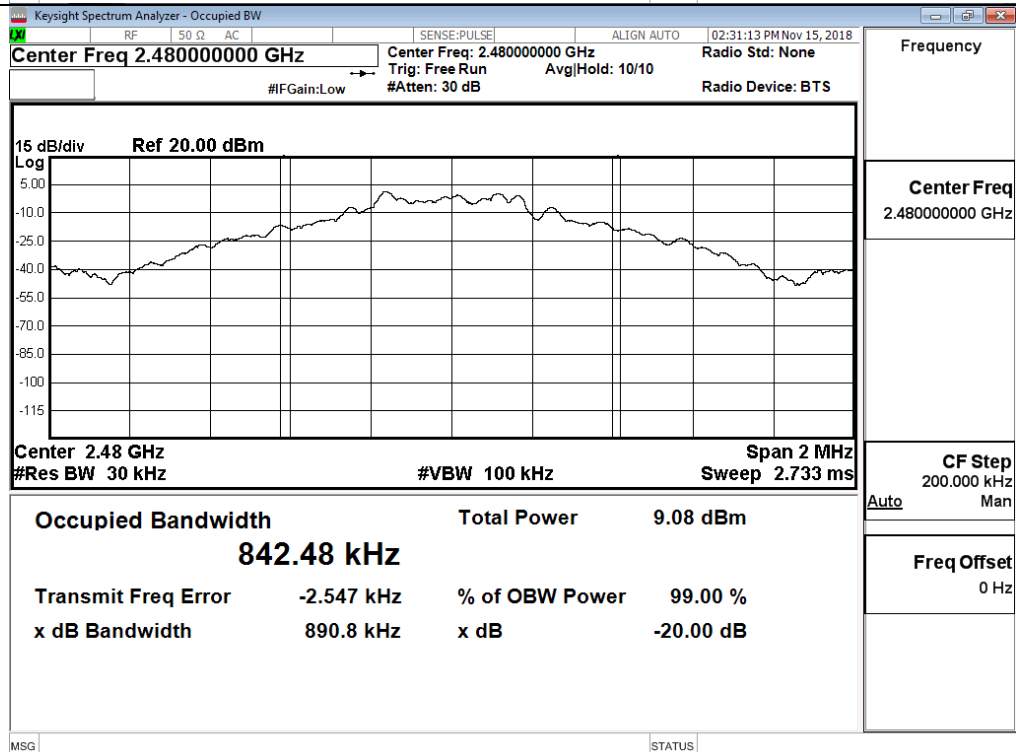
GFSK/LCH

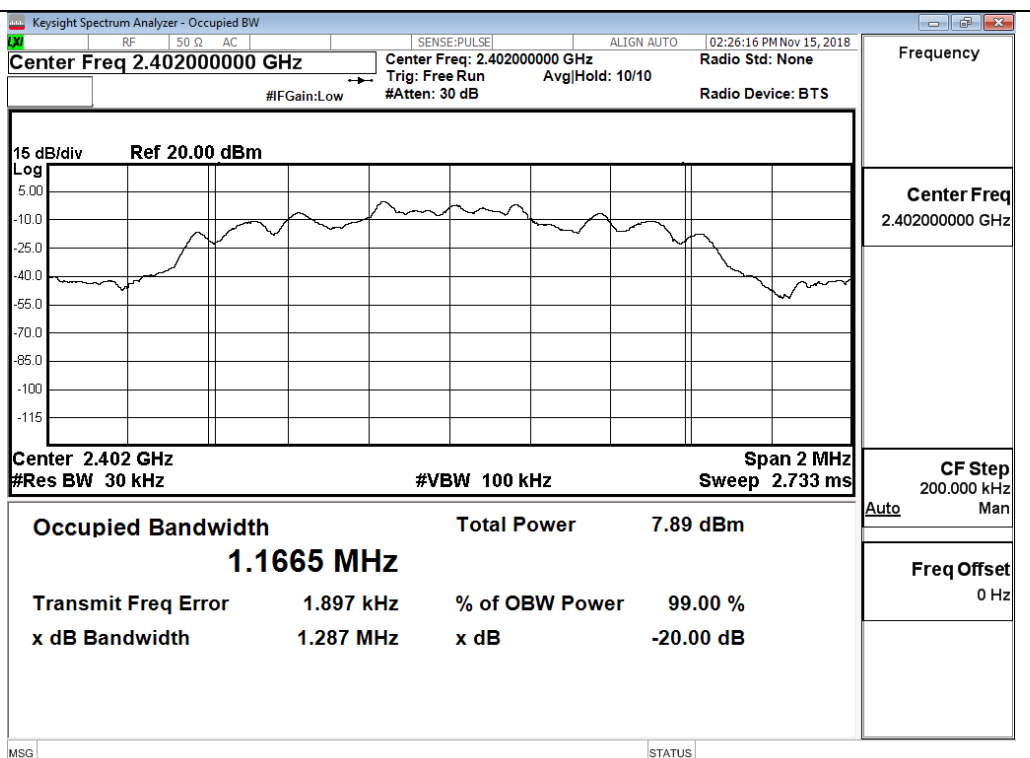
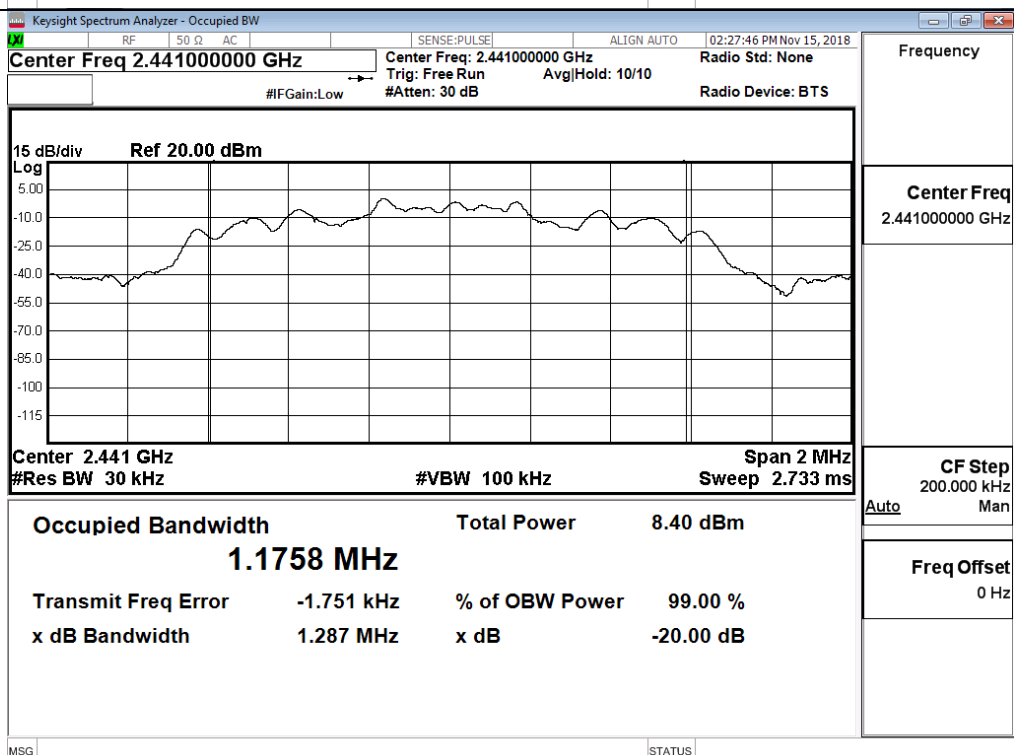


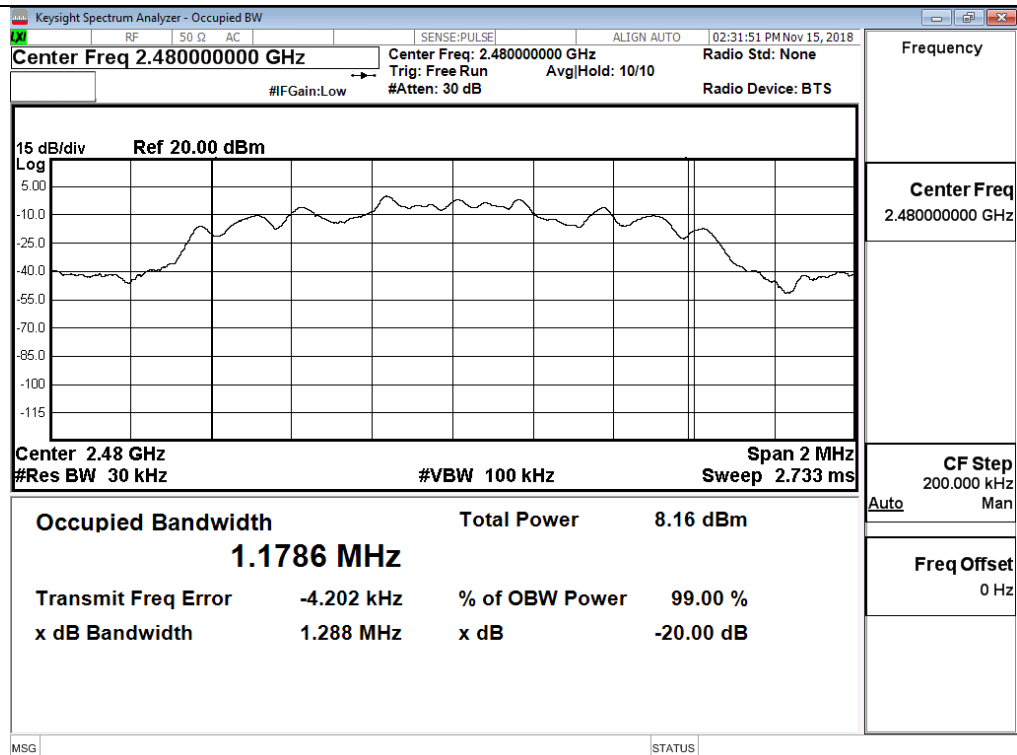
GFSK/MCH



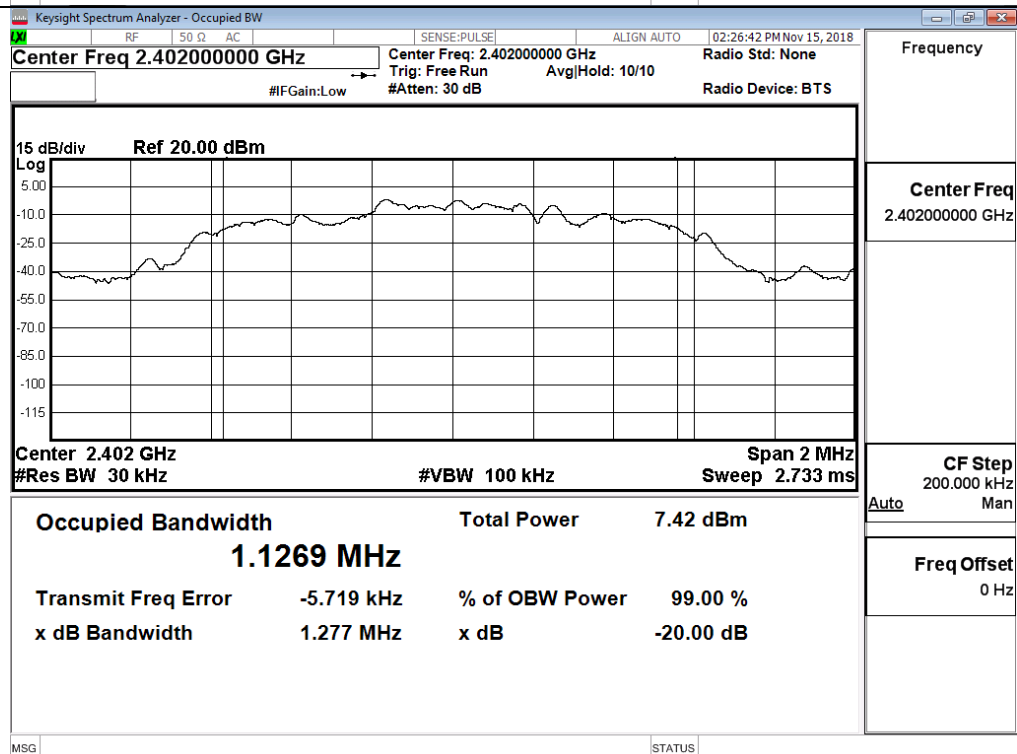
GFSK/HCH



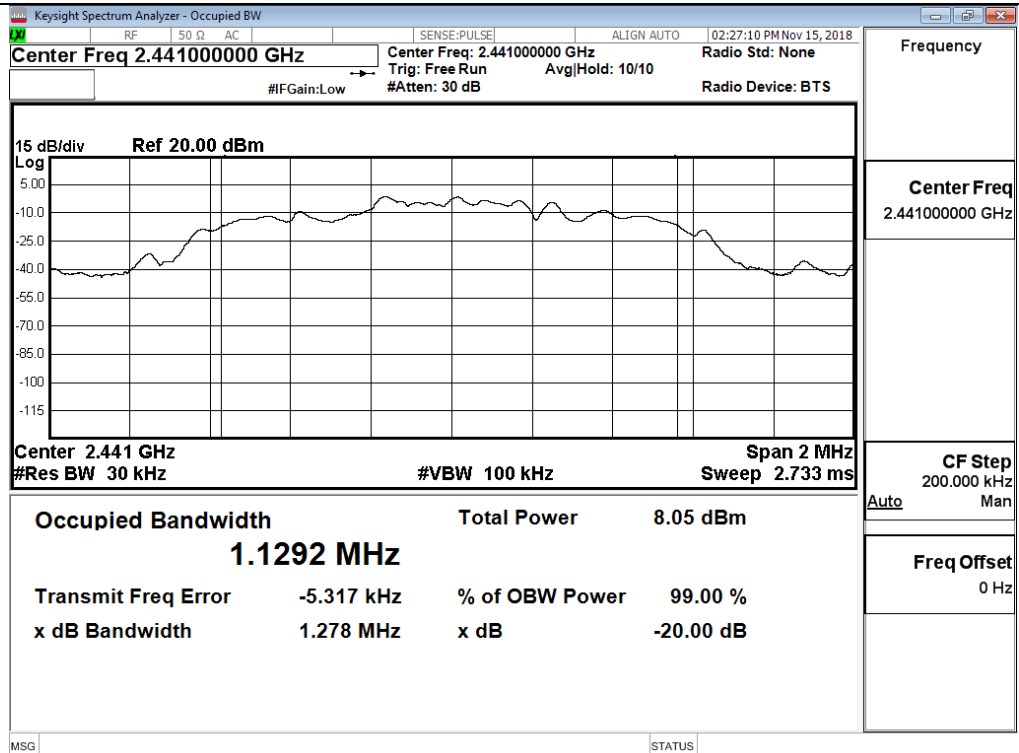
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

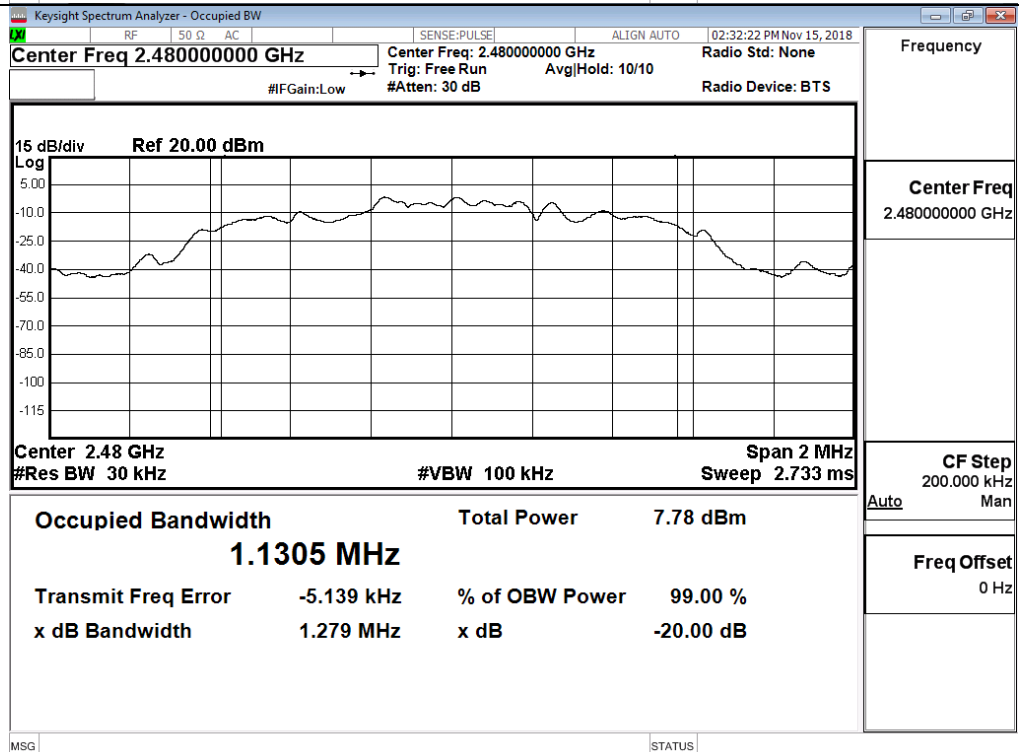
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

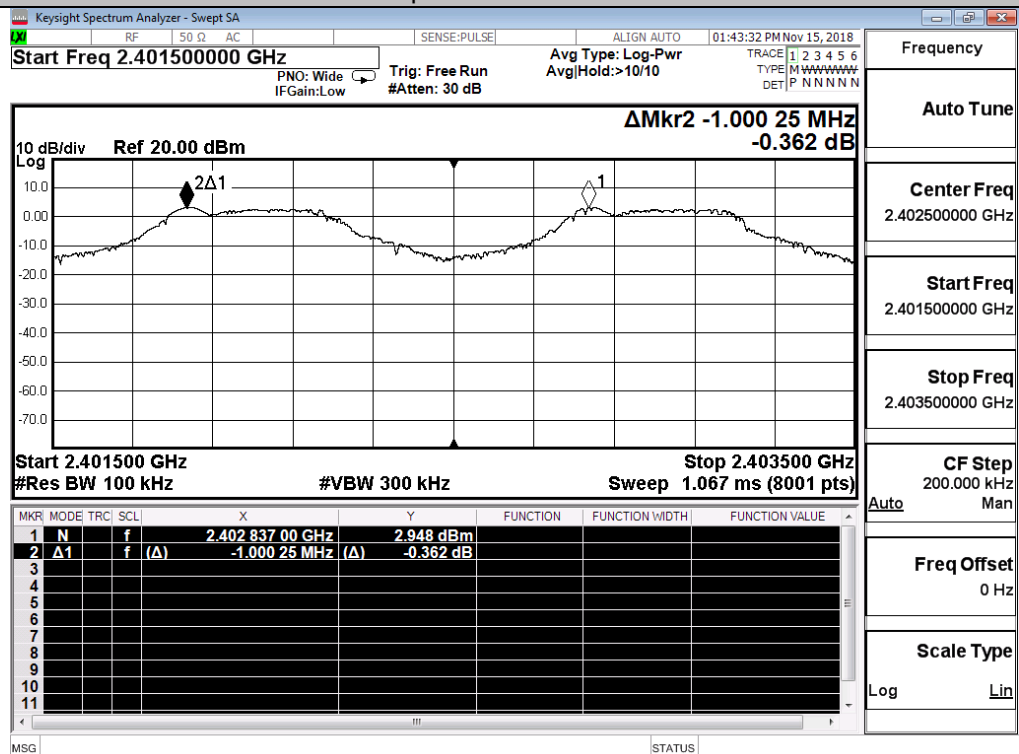


A.3 Carrier Frequency Separation

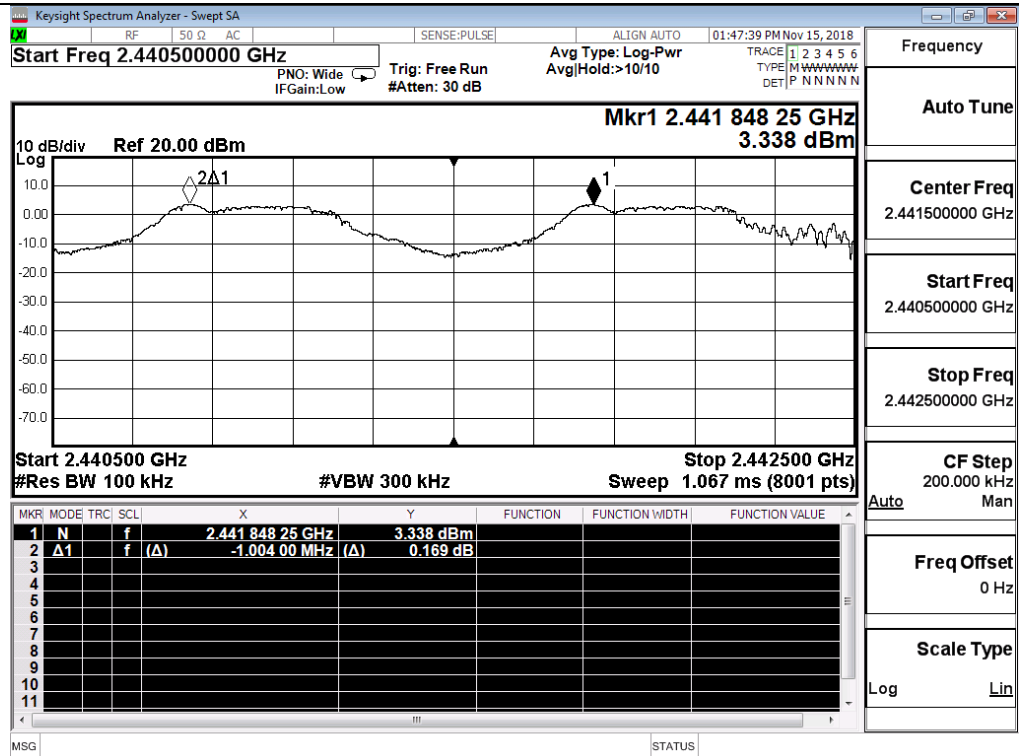
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.000	0.5945	PASS
	MCH	1.004	0.5934	PASS
	HCH	1.001	0.5939	PASS
π /4DQPSK	LCH	1.001	0.858	PASS
	MCH	1.001	0.858	PASS
	HCH	1.001	0.859	PASS
8DPSK	LCH	1.001	0.851	PASS
	MCH	1.000	0.852	PASS
	HCH	1.001	0.853	PASS

Test Graphs

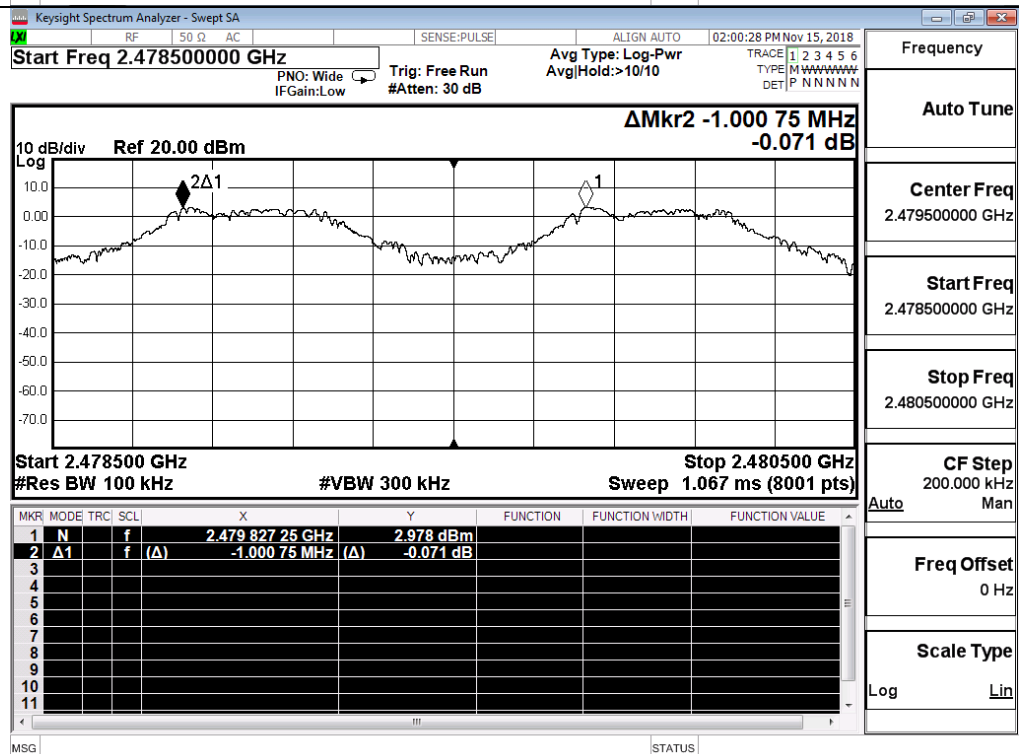
GFSK/LCH

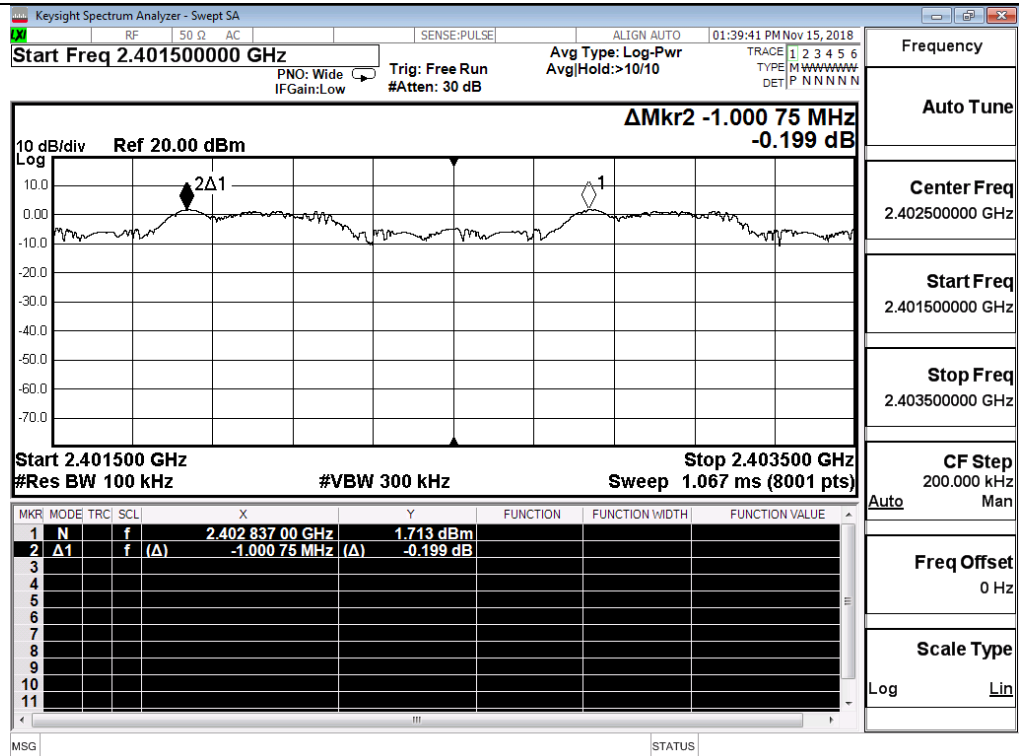
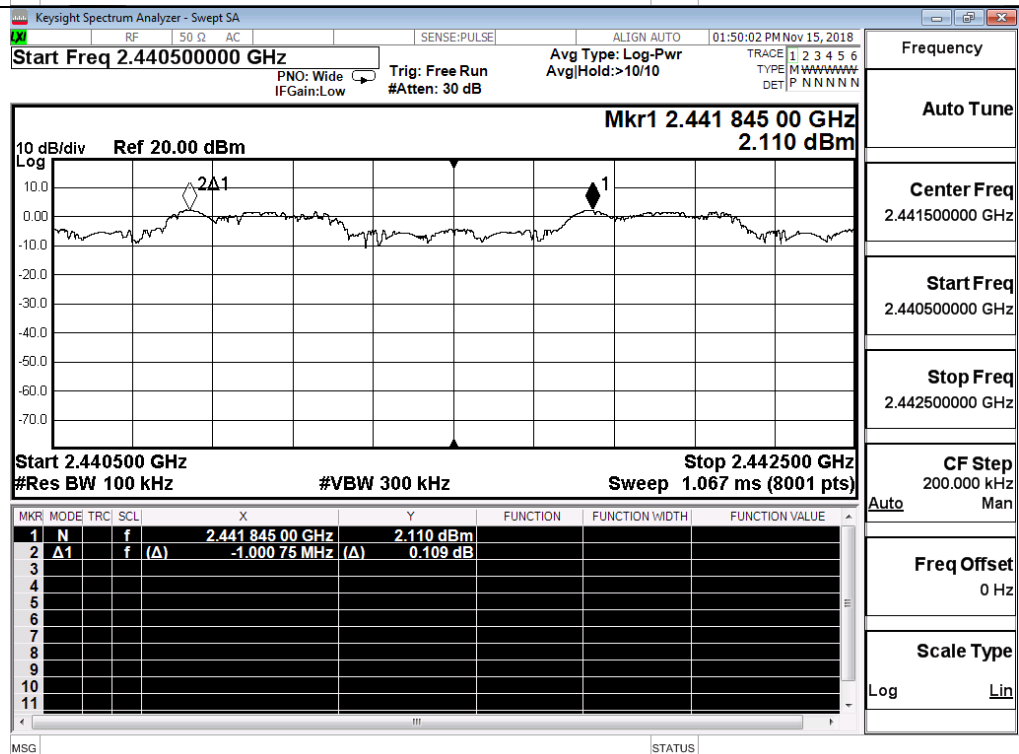


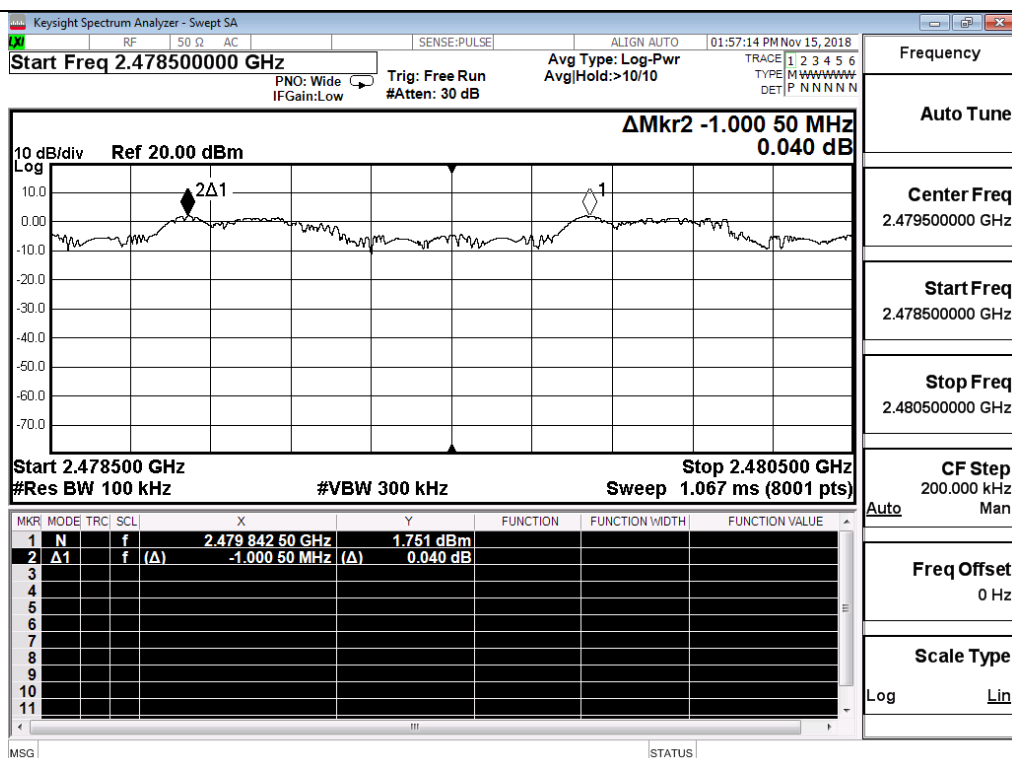
GFSK/MCH



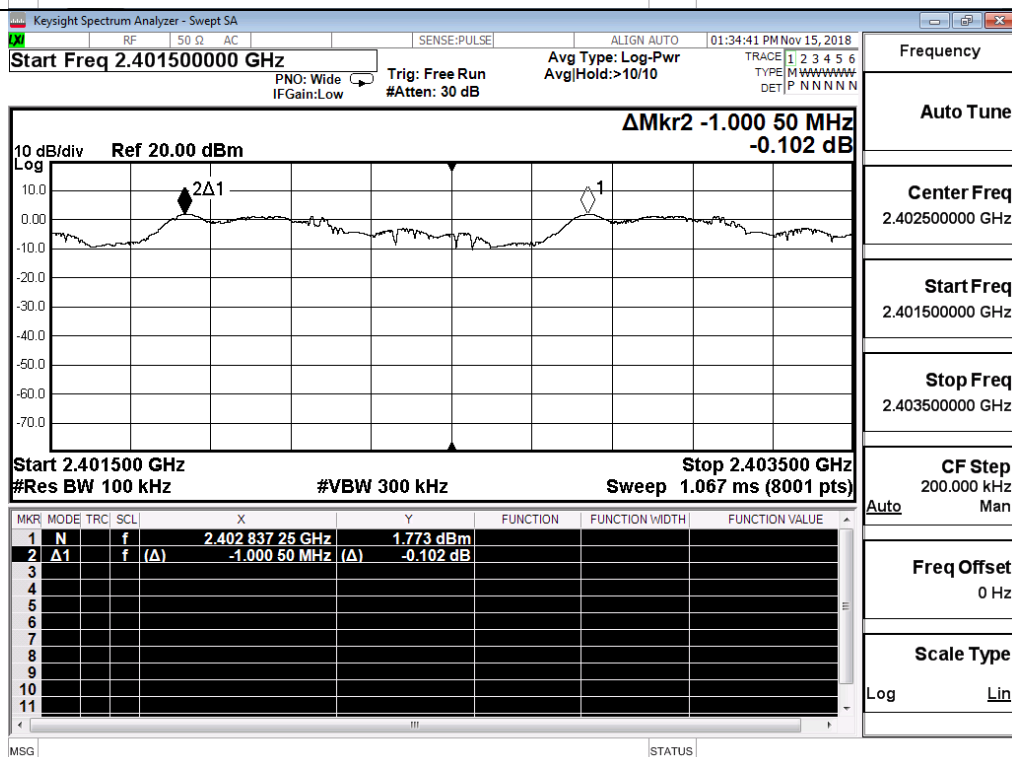
GFSK/HCH



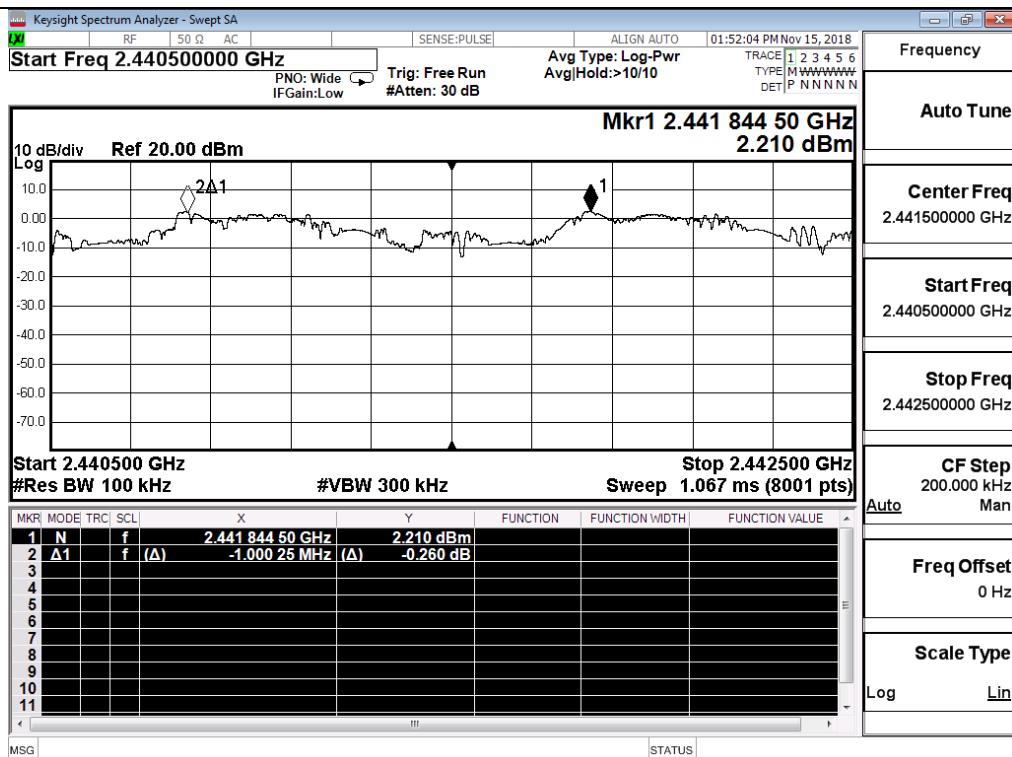
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

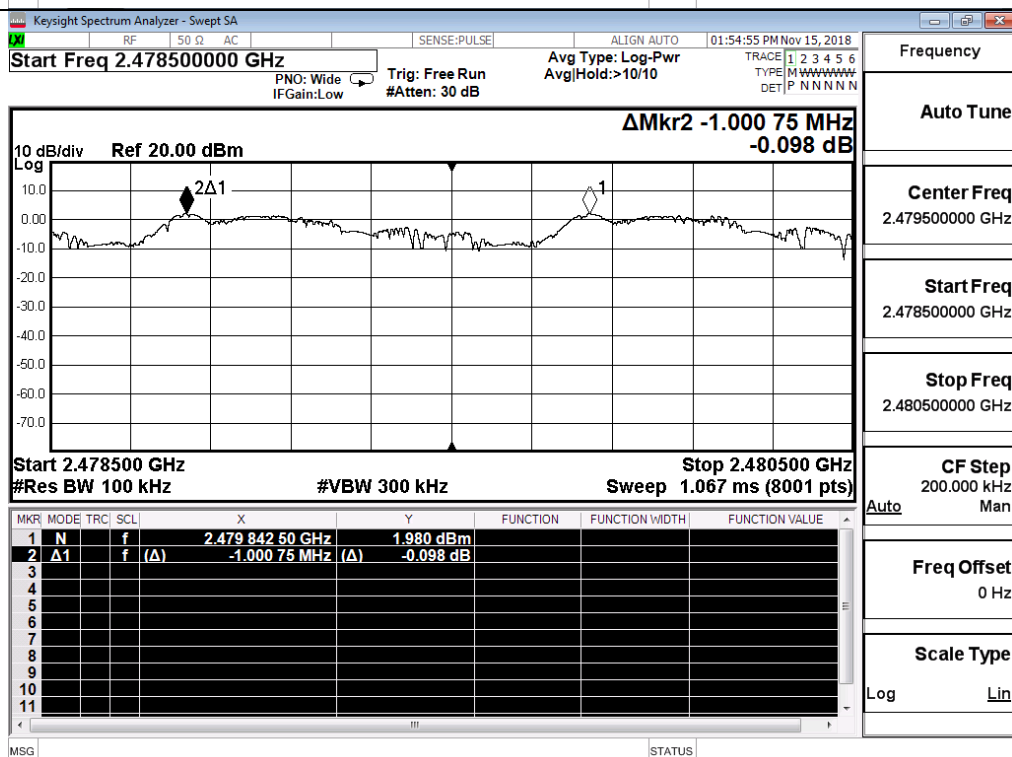
8DPSK/LCH



8DPSK/MCH

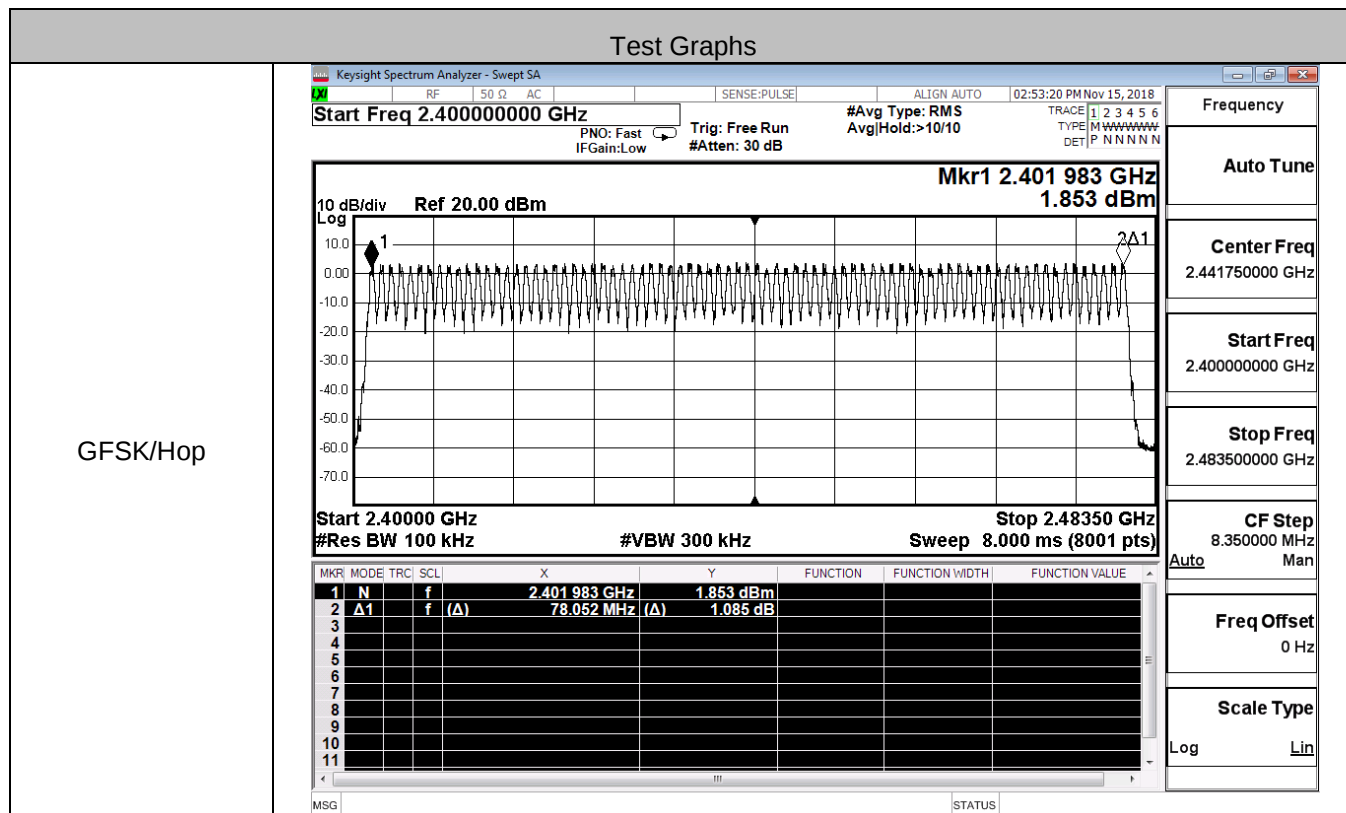


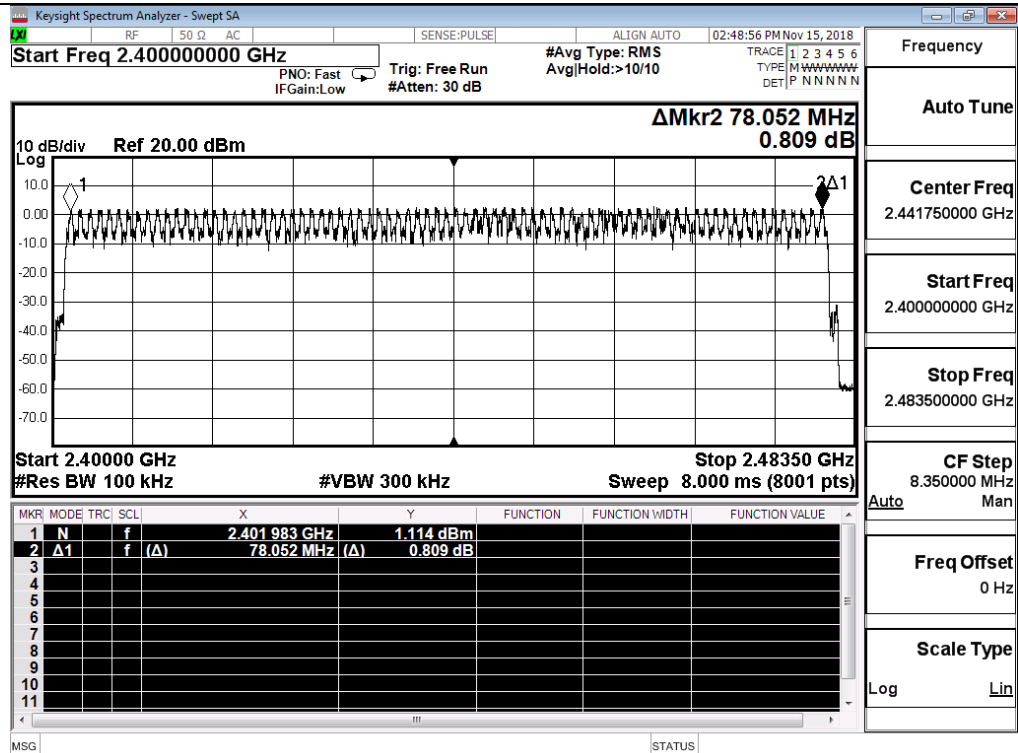
8DPSK/HCH



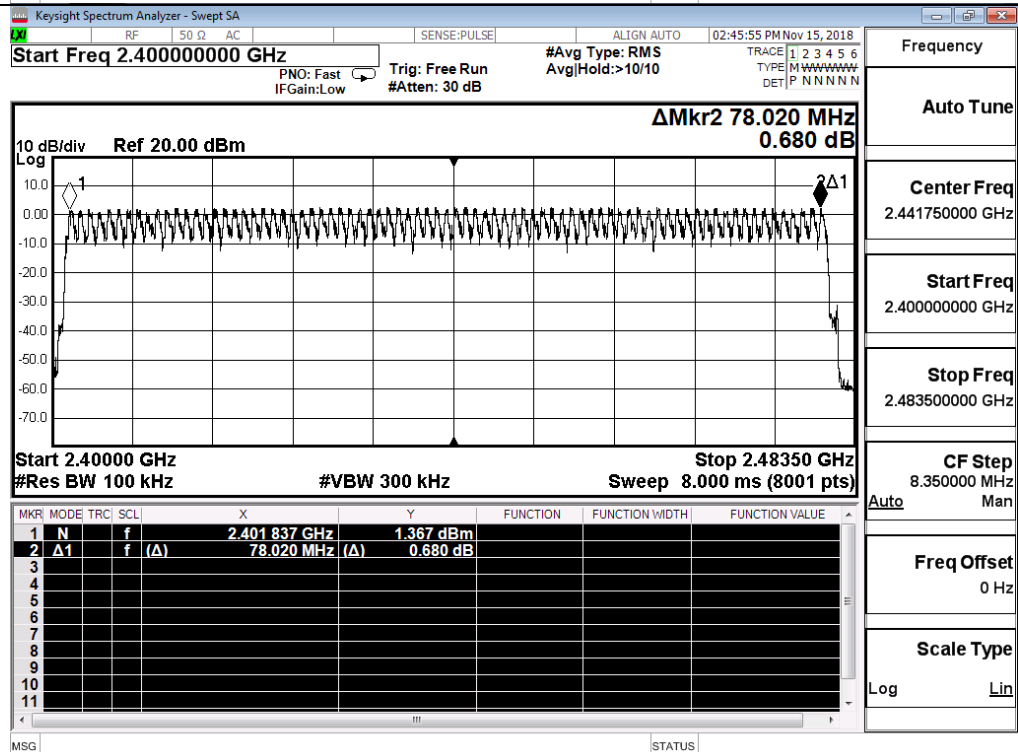
A.4 Hopping Channel Number

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



$\pi/4$ DQPSK/Hop

8DPSK/Hop

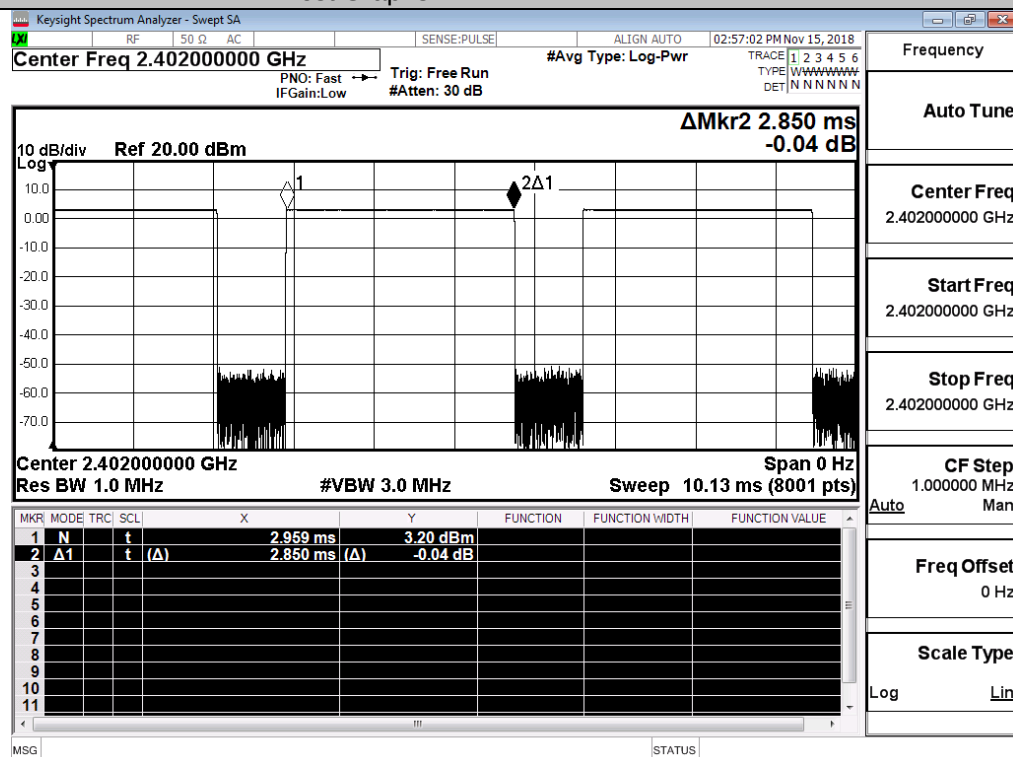


A.5 Dwell Time

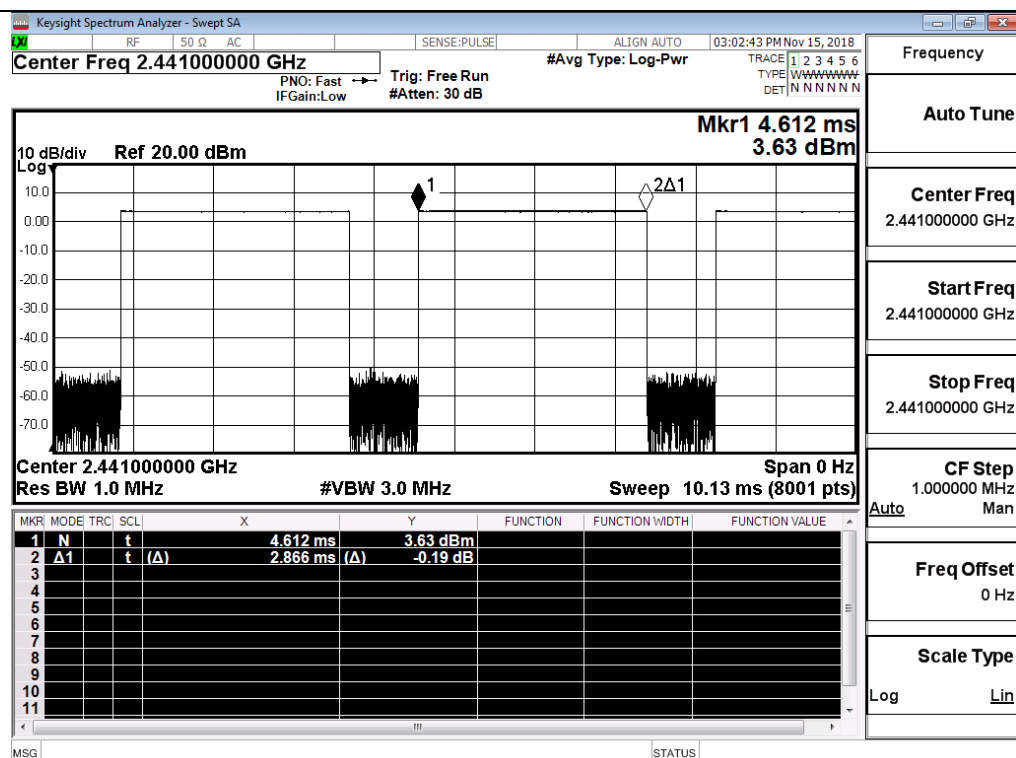
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.850	106.7	0.304	0.4	PASS
	DH5	MCH	2.866	106.7	0.306	0.4	PASS
	DH5	HCH	2.873	106.7	0.306	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.872	106.7	0.306	0.4	PASS
	2DH5	MCH	2.874	106.7	0.307	0.4	PASS
	2DH5	HCH	2.877	106.7	0.307	0.4	PASS
8DPSK	3DH5	LCH	2.850	106.7	0.304	0.4	PASS
	3DH5	MCH	2.869	106.7	0.306	0.4	PASS
	3DH5	HCH	2.850	106.7	0.304	0.4	PASS

Test Graphs

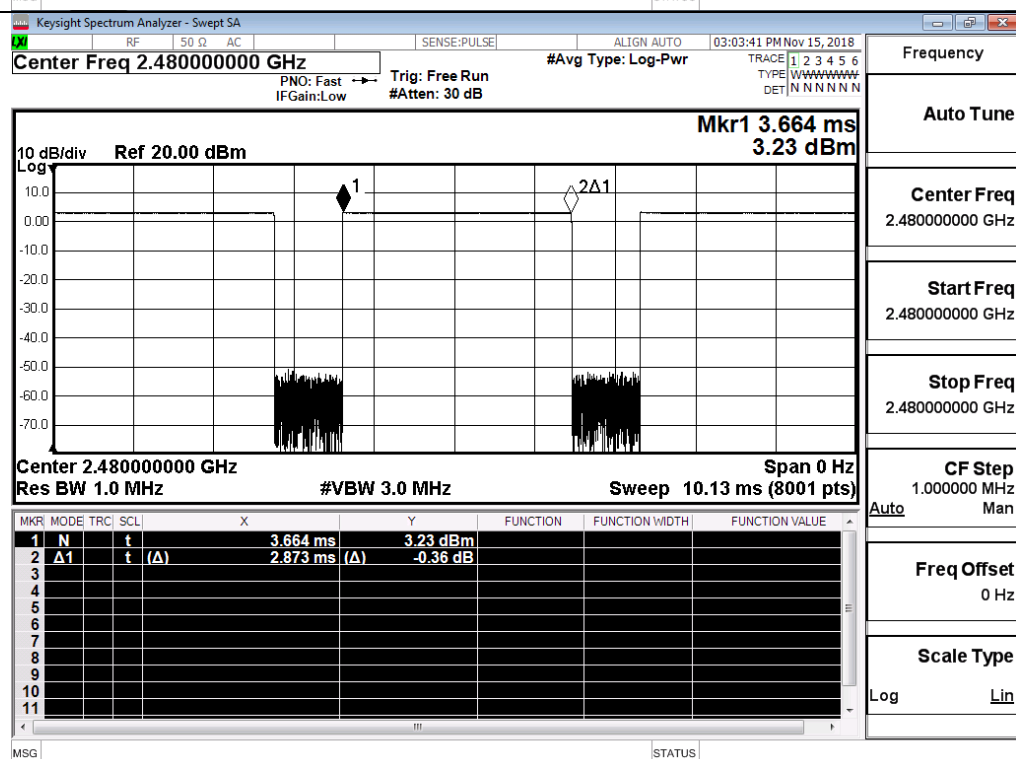
GFSK_DH5/LCH



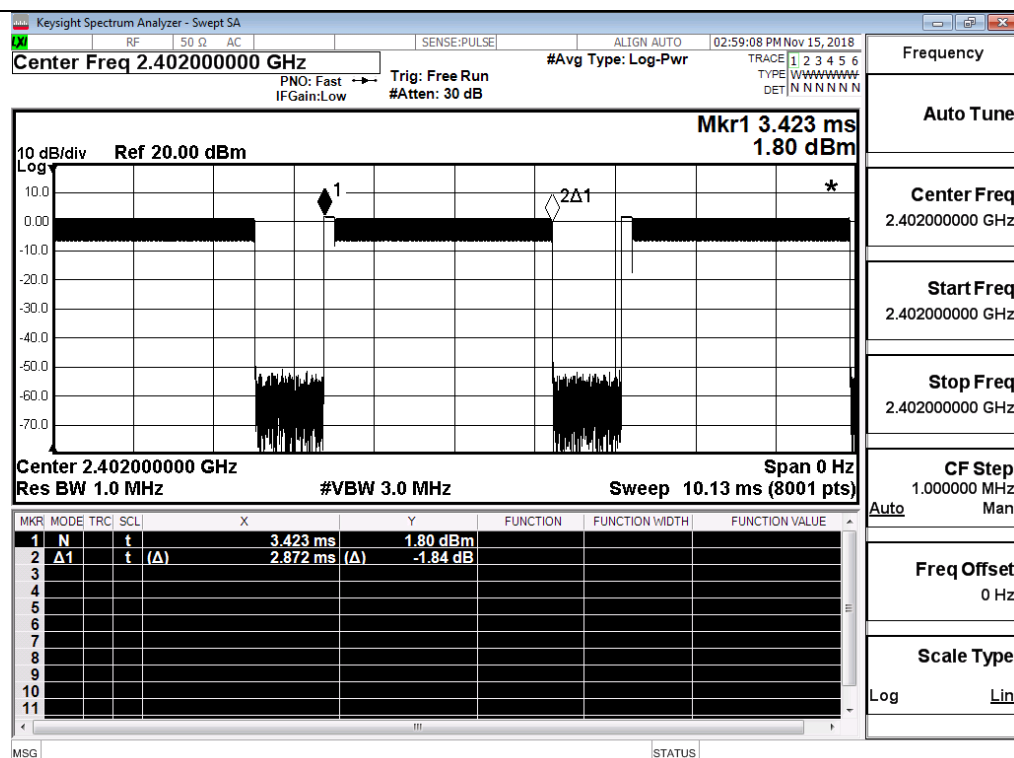
GFSK_DH5/MCH



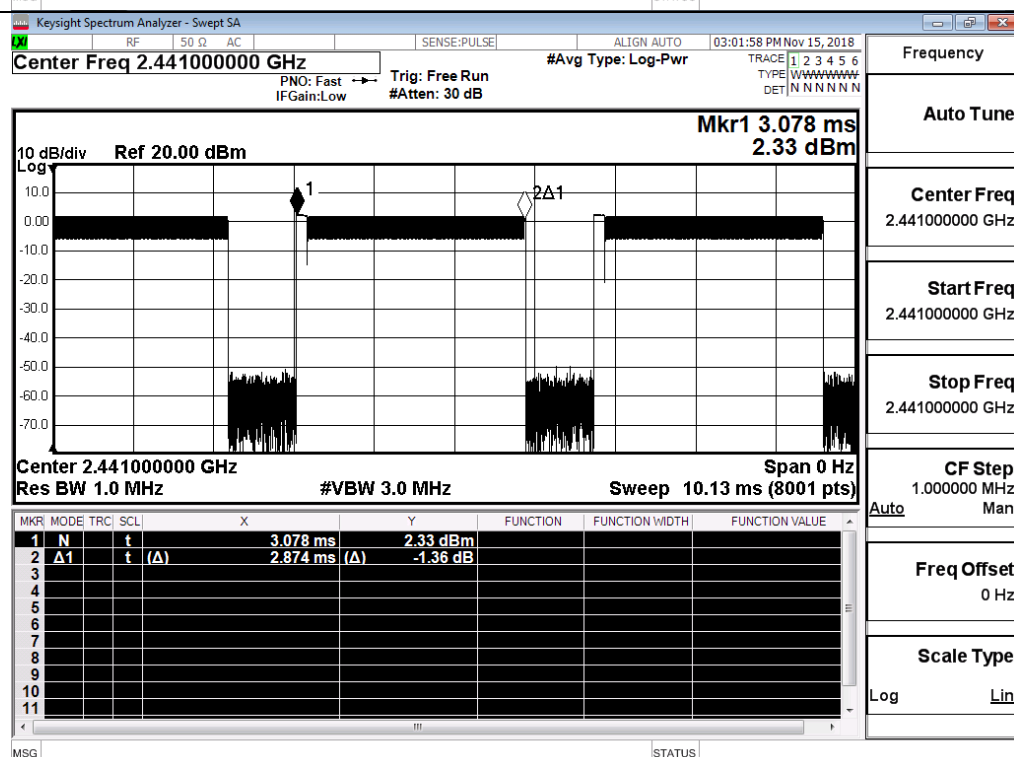
GFSK_DH5/HCH



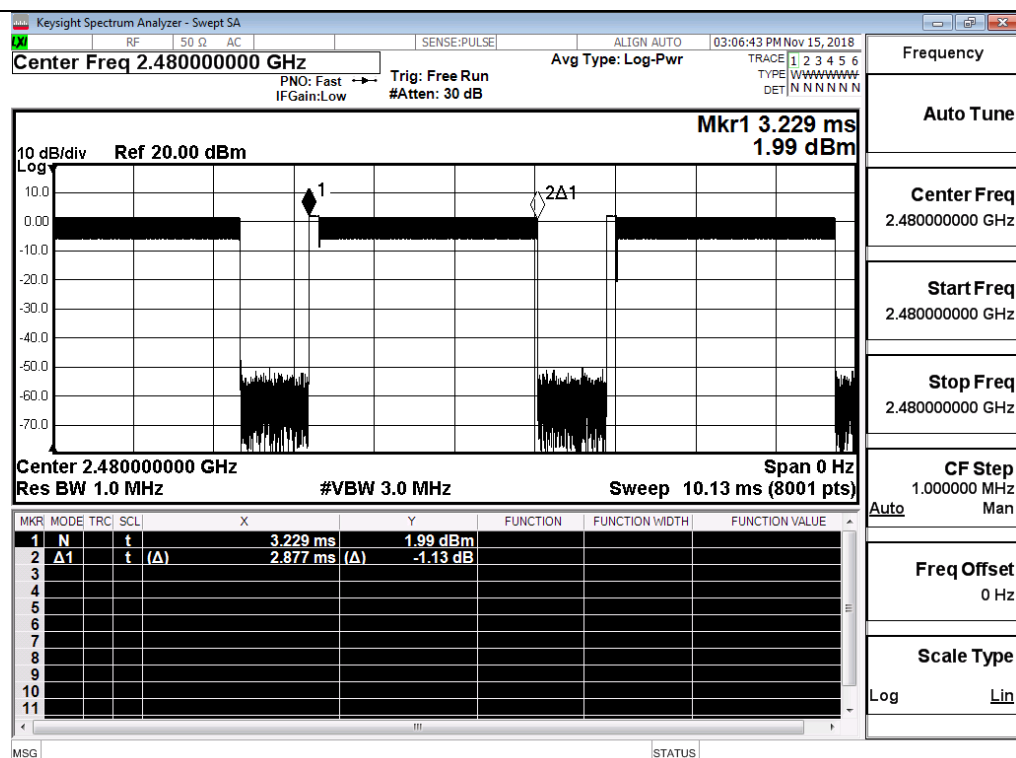
$\pi/4$ DQPSK
_2DH5/LCH



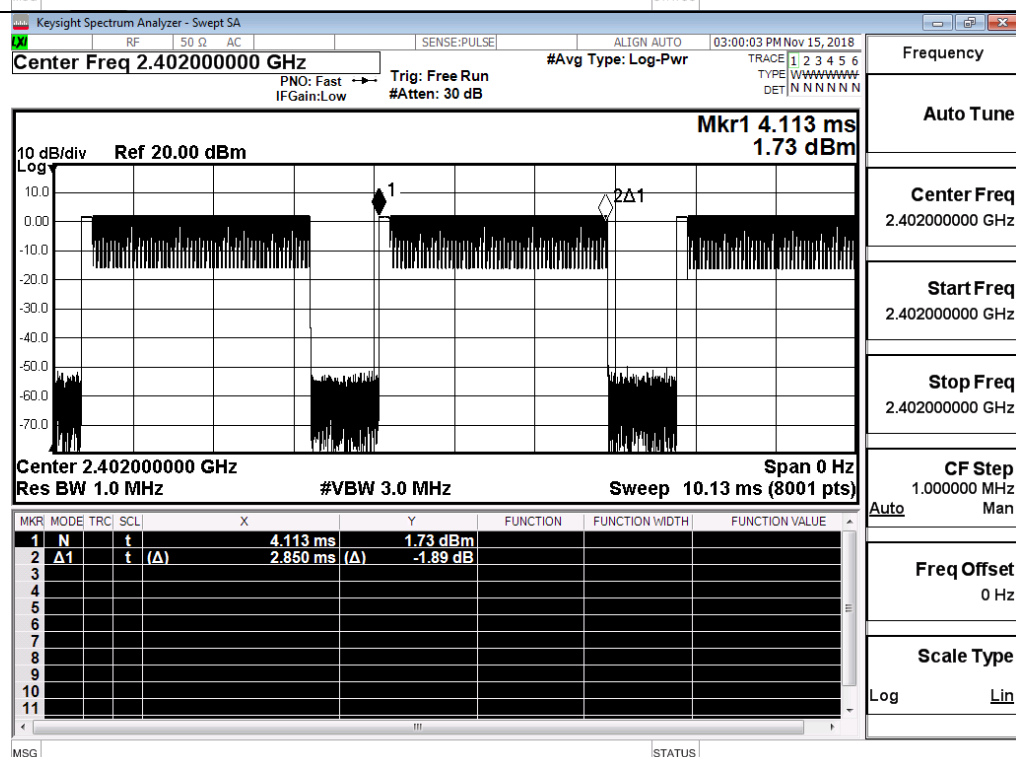
$\pi/4$ DQPSK
_2DH5/MCH



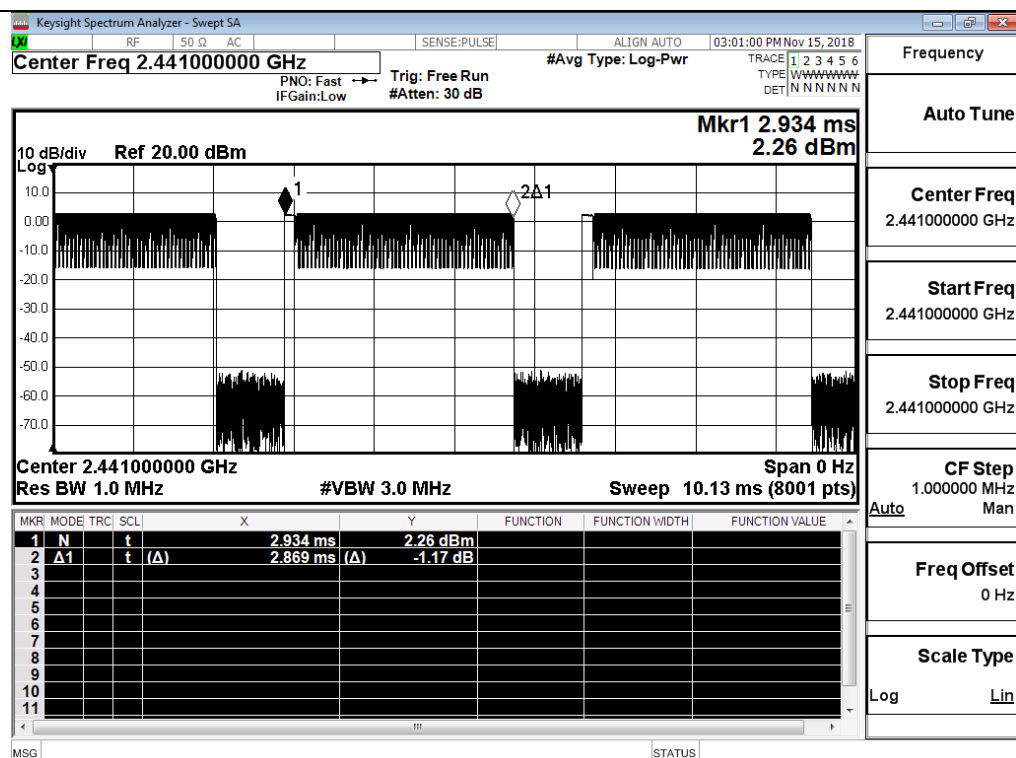
$\pi/4$ DQPSK
_2DH5/HCH



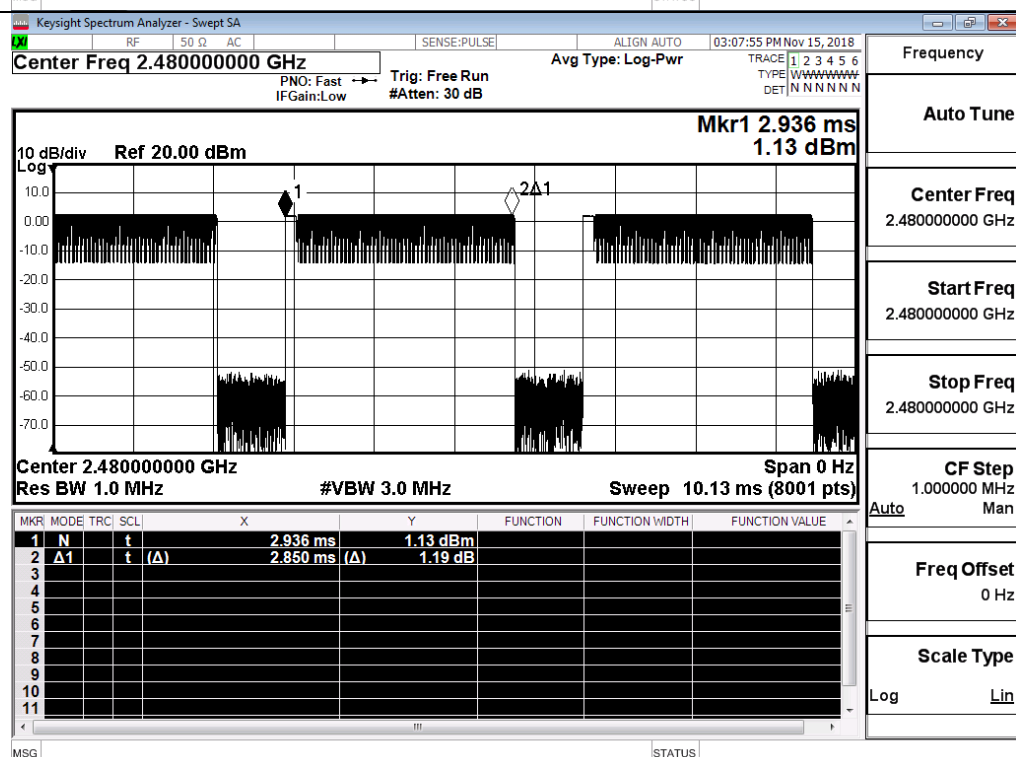
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



8DPSK_3DH5/HCH

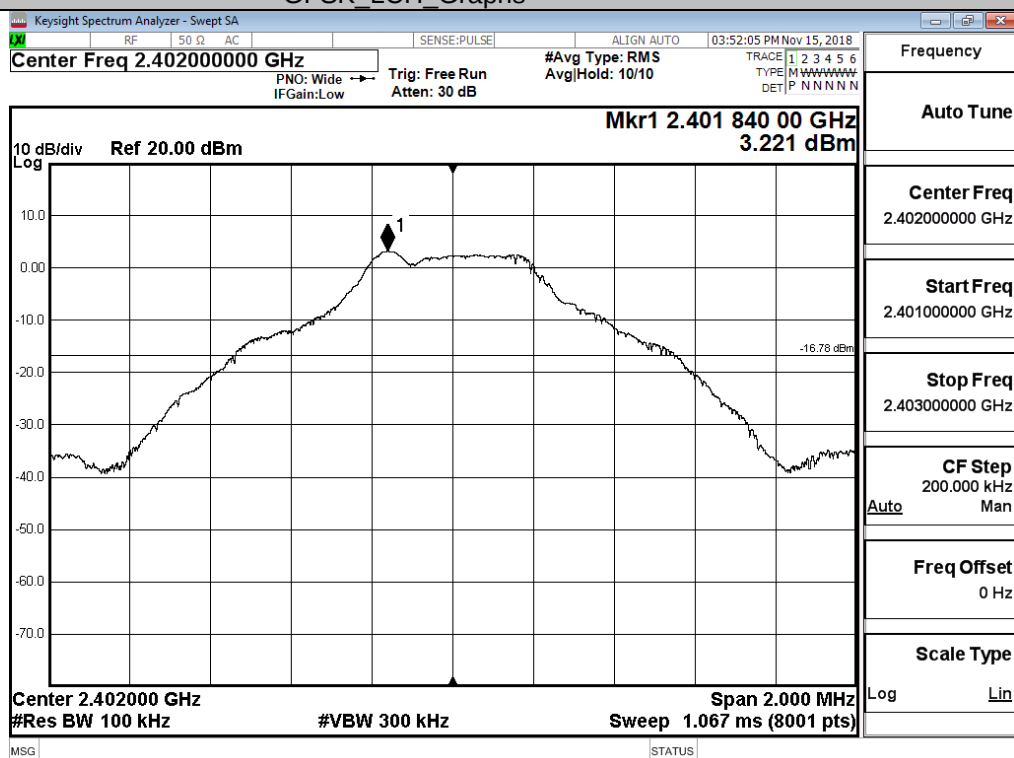


A.6 RF Conducted Spurious Emissions

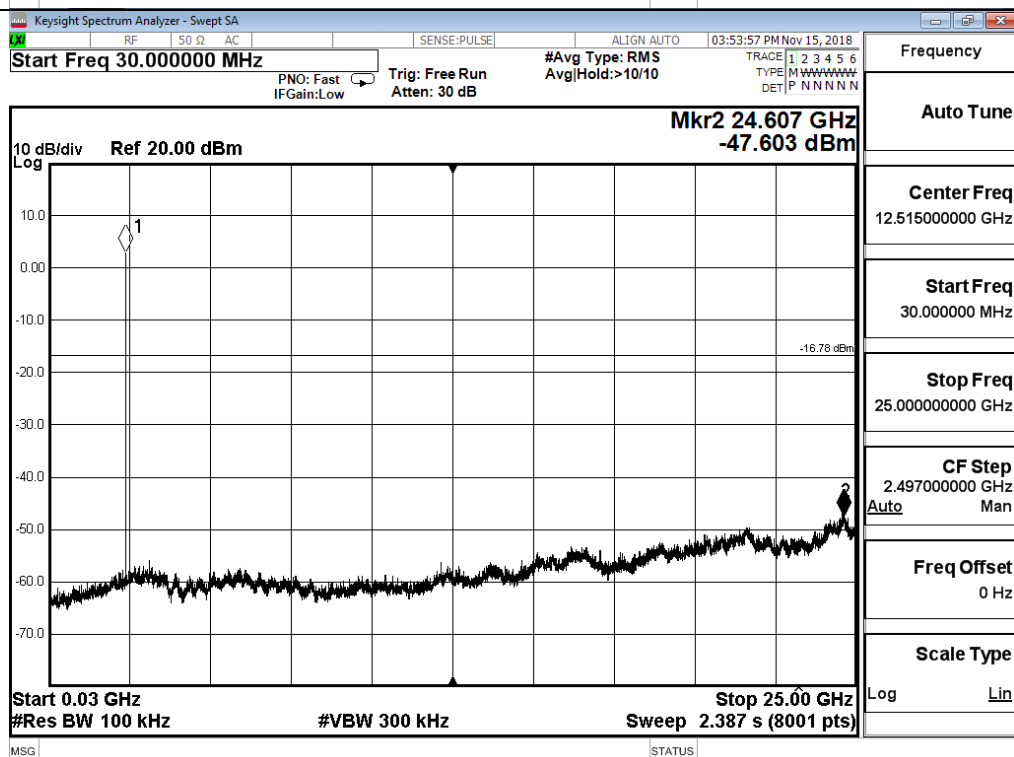
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.221	-47.603	-16.78	PASS
	MCH	3.389	-48.131	-16.61	PASS
	HCH	3.280	-48.166	-16.72	PASS
$\pi/4$ DQPSK	LCH	1.956	-48.564	-18.04	PASS
	MCH	2.419	-48.413	-17.58	PASS
	HCH	2.046	-49.405	-17.95	PASS
8DPSK	LCH	1.981	-48.063	-18.02	PASS
	MCH	2.416	-47.918	-17.58	PASS
	HCH	1.770	-49.053	-18.23	PASS

GFSK LCH Graphs

Pref

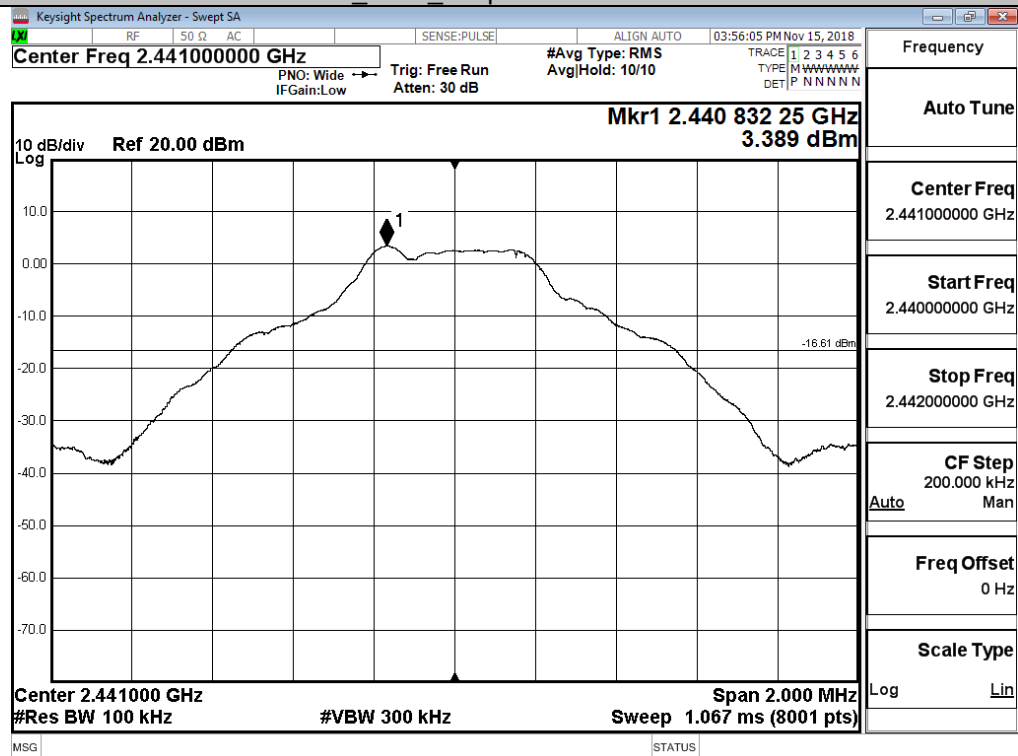


Puw

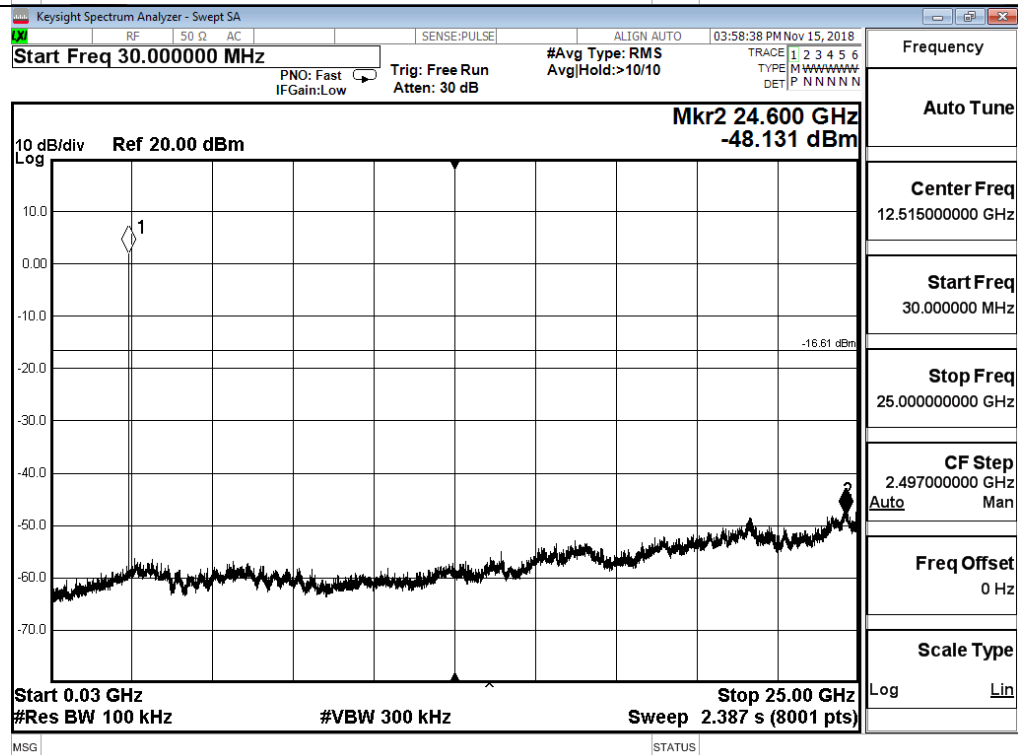


GFSK_MCH_Graphs

Pref

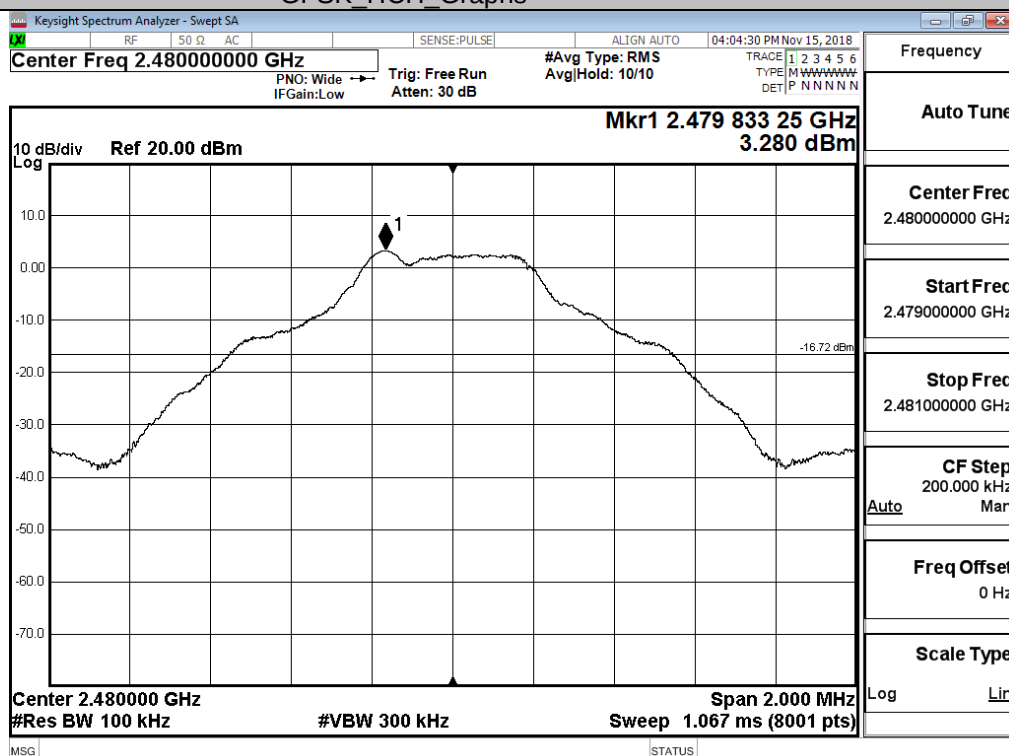


Puw

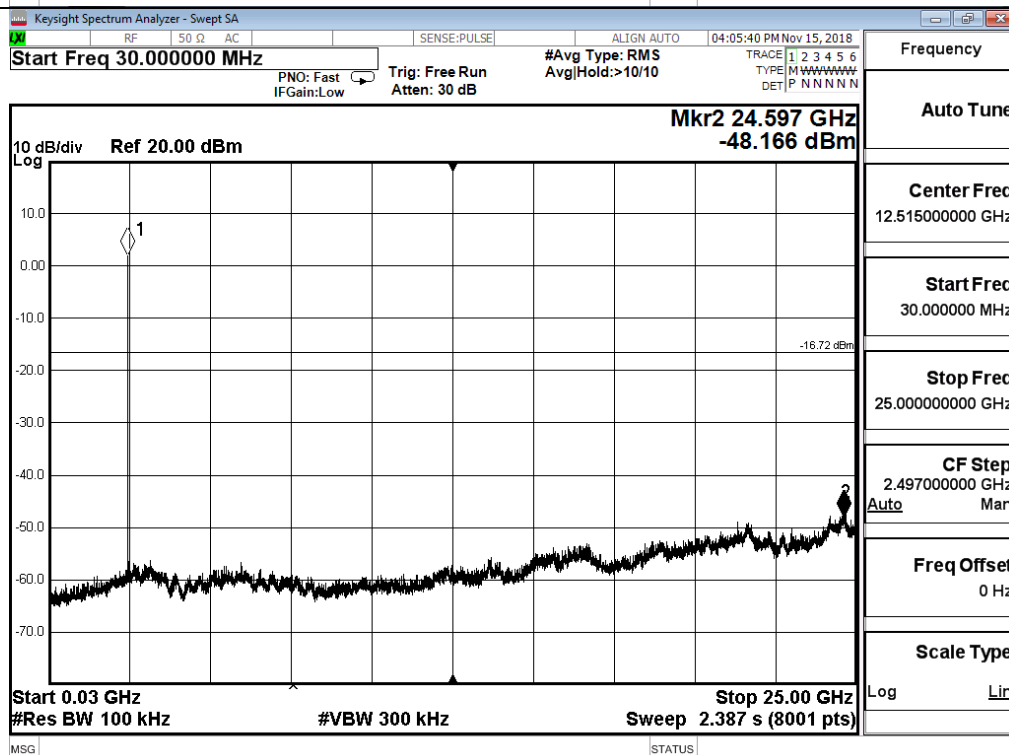


GFSK_HCH_Graphs

Pref

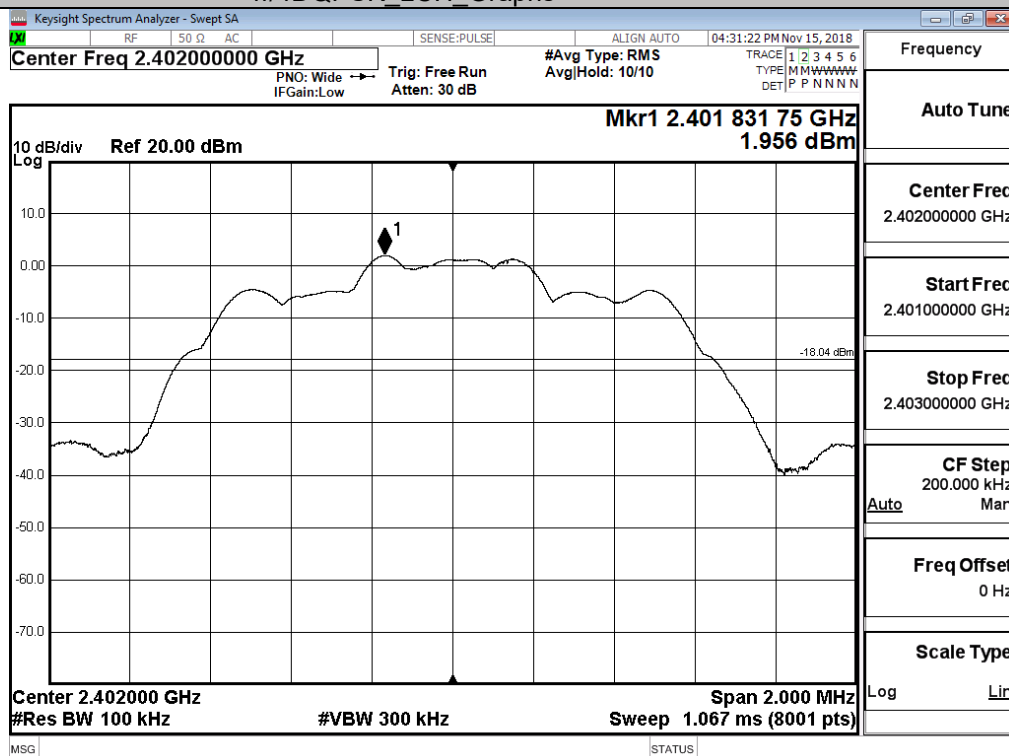


Puw

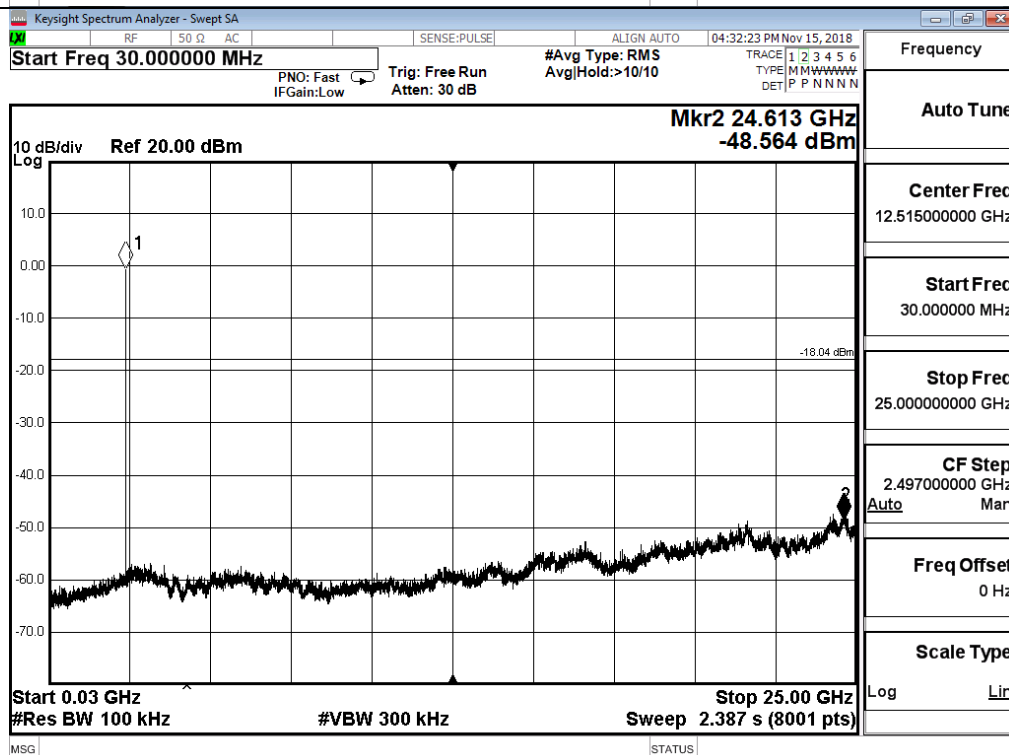


$\pi/4$ DQPSK LCH_Graphs

Pref

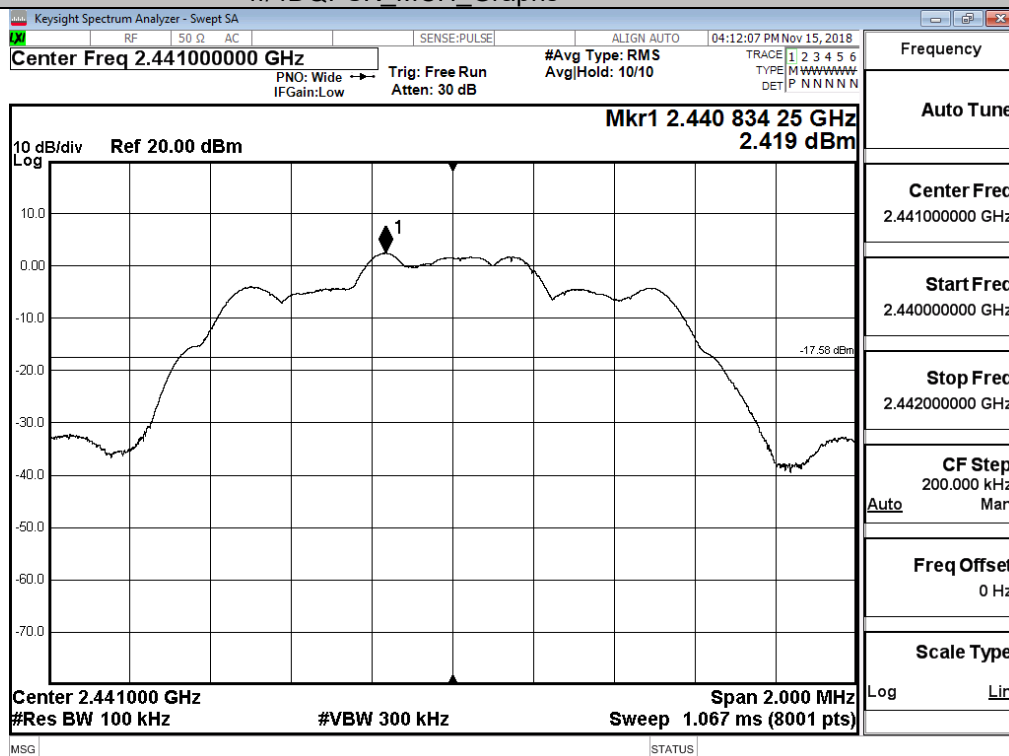


Puw

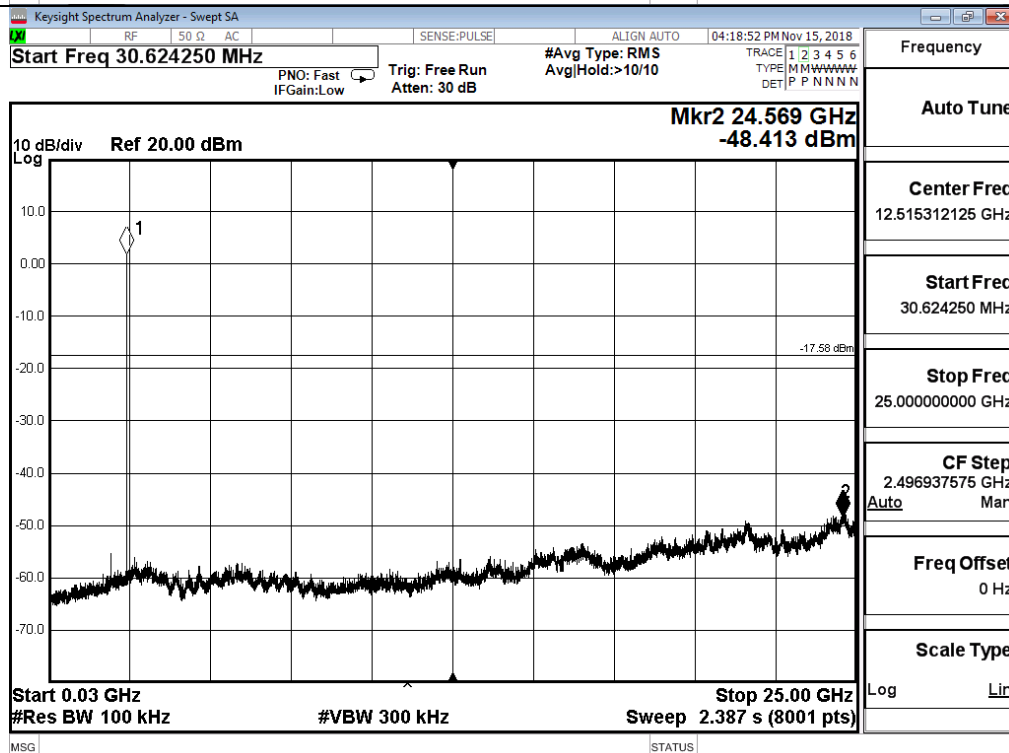


$\pi/4$ DQPSK MCH Graphs

Pref

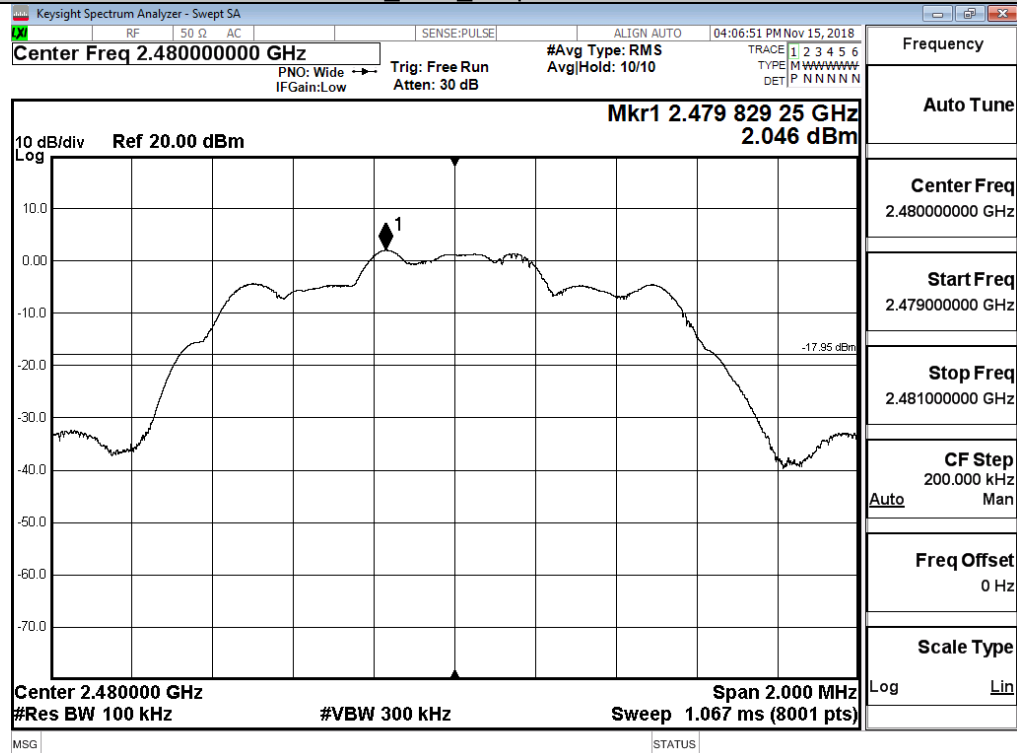


Puw

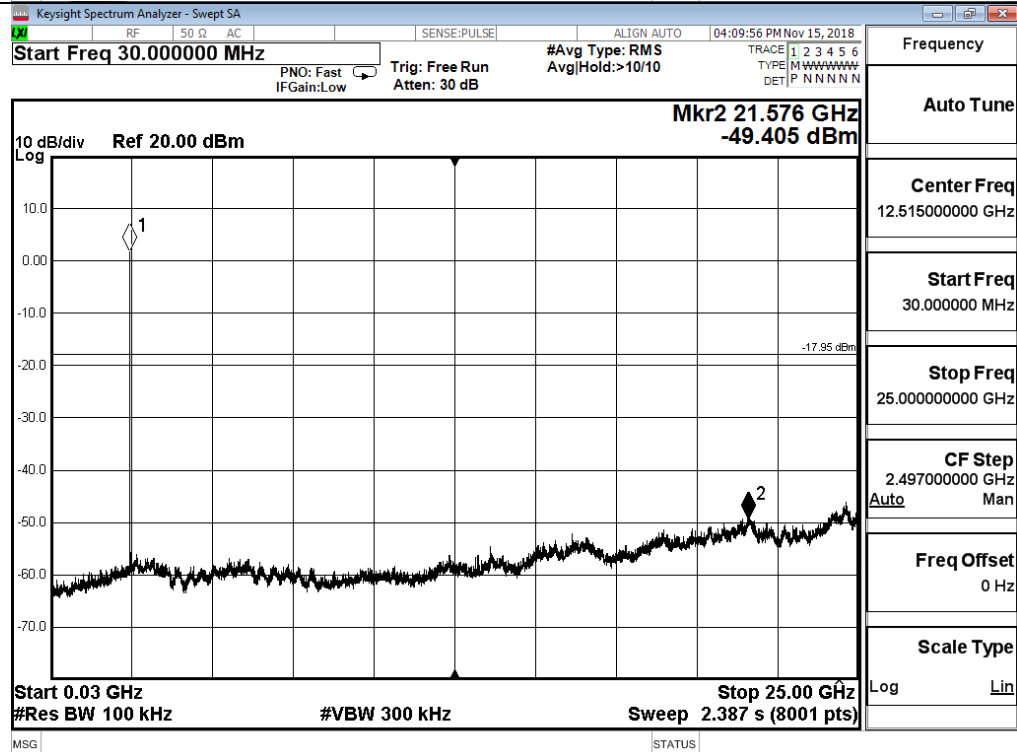


$\pi/4$ DQPSK HCH Graphs

Pref

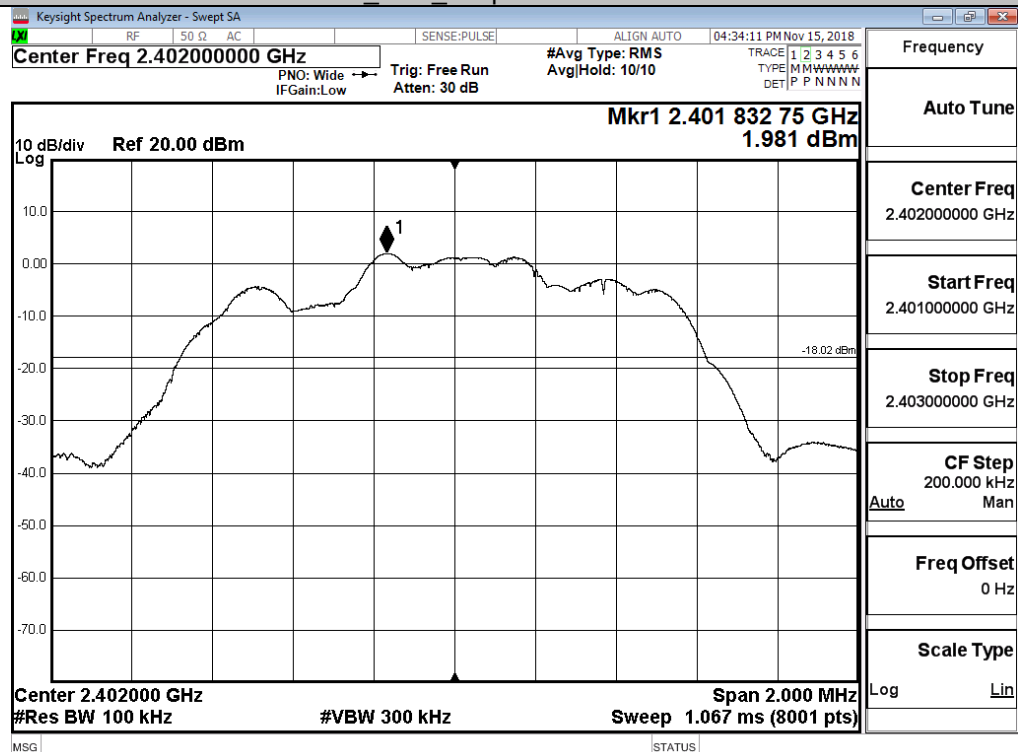


Puw

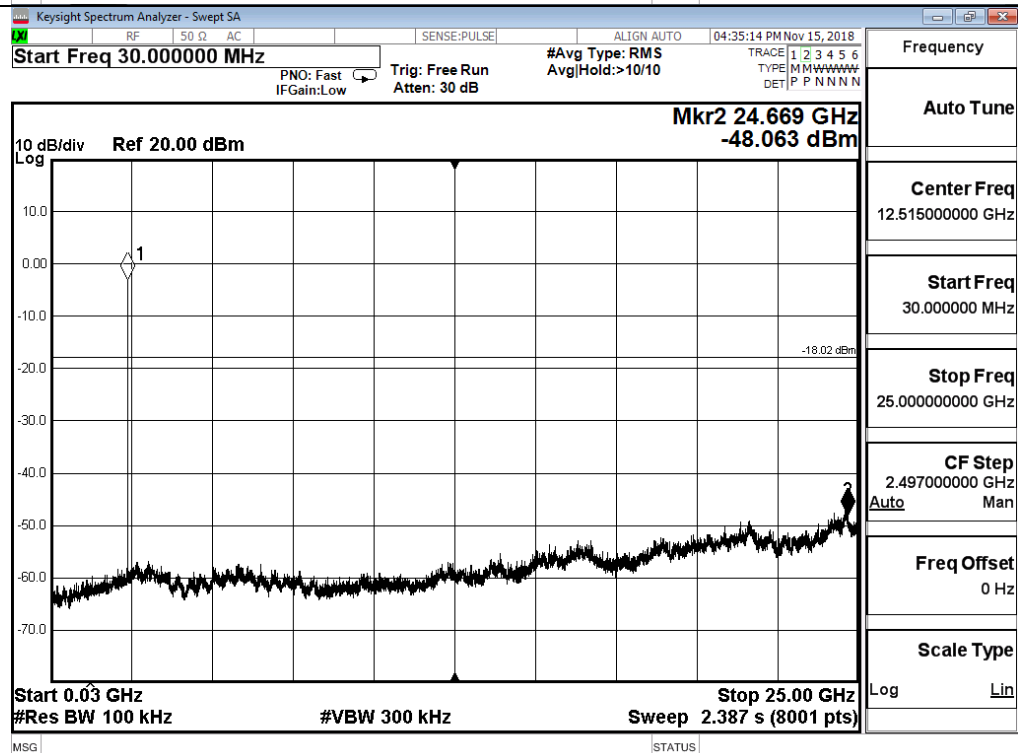


8DPSK_LCH_Graphs

Pref

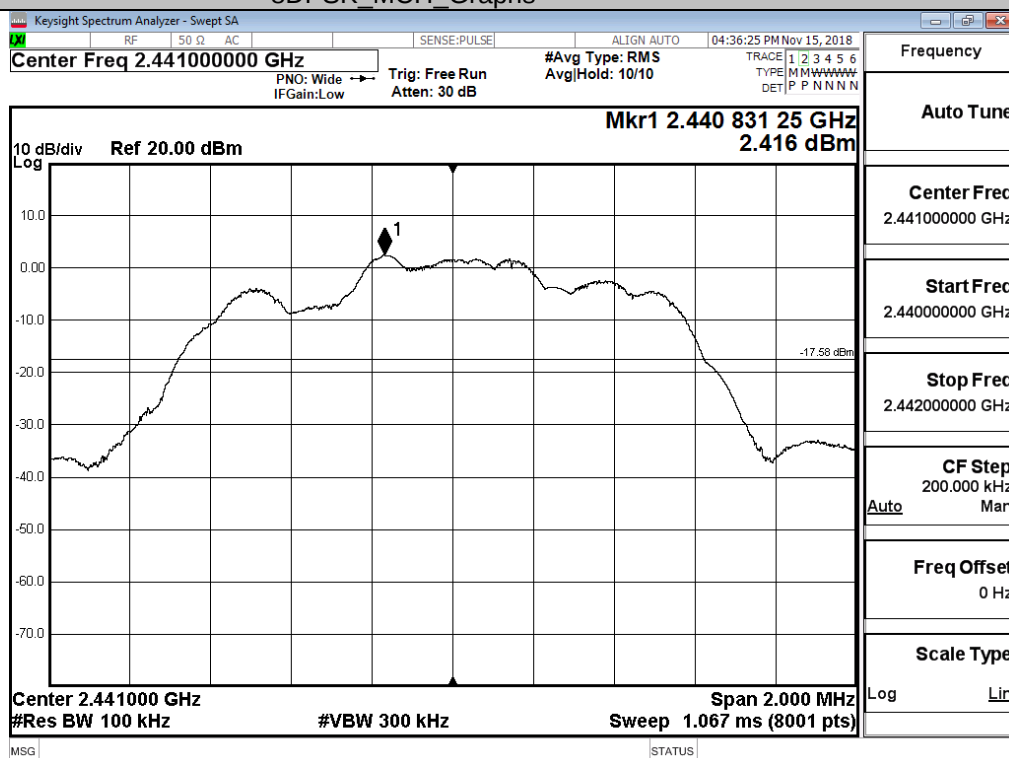


Puw

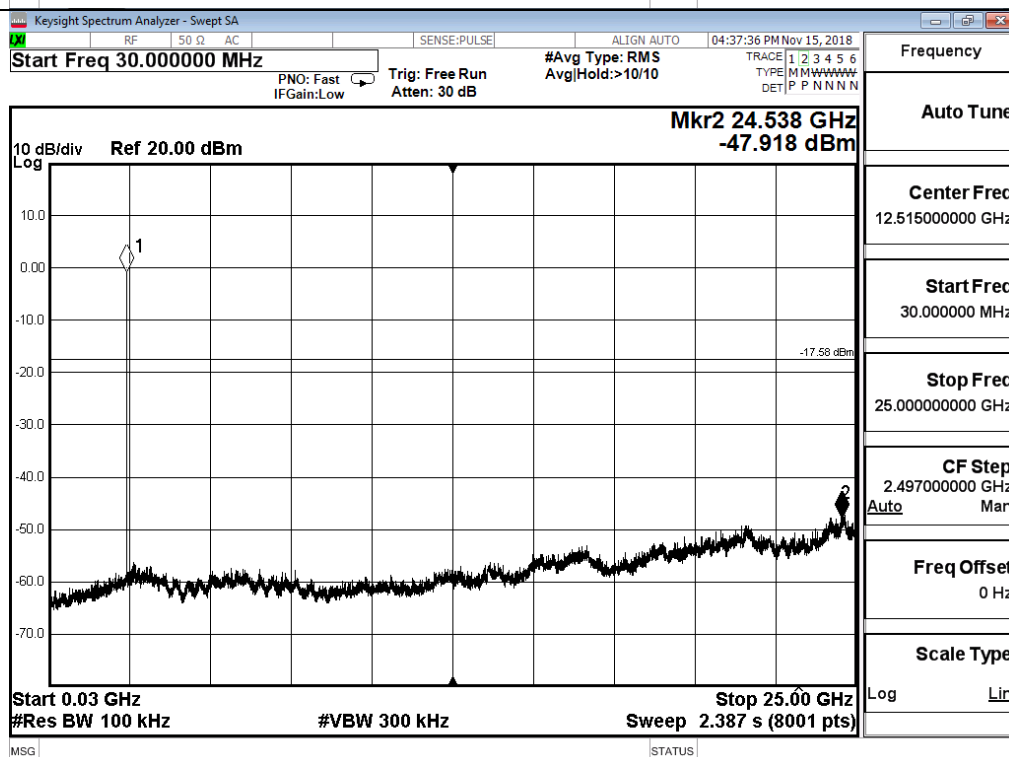


8DPSK MCH Graphs

Pref

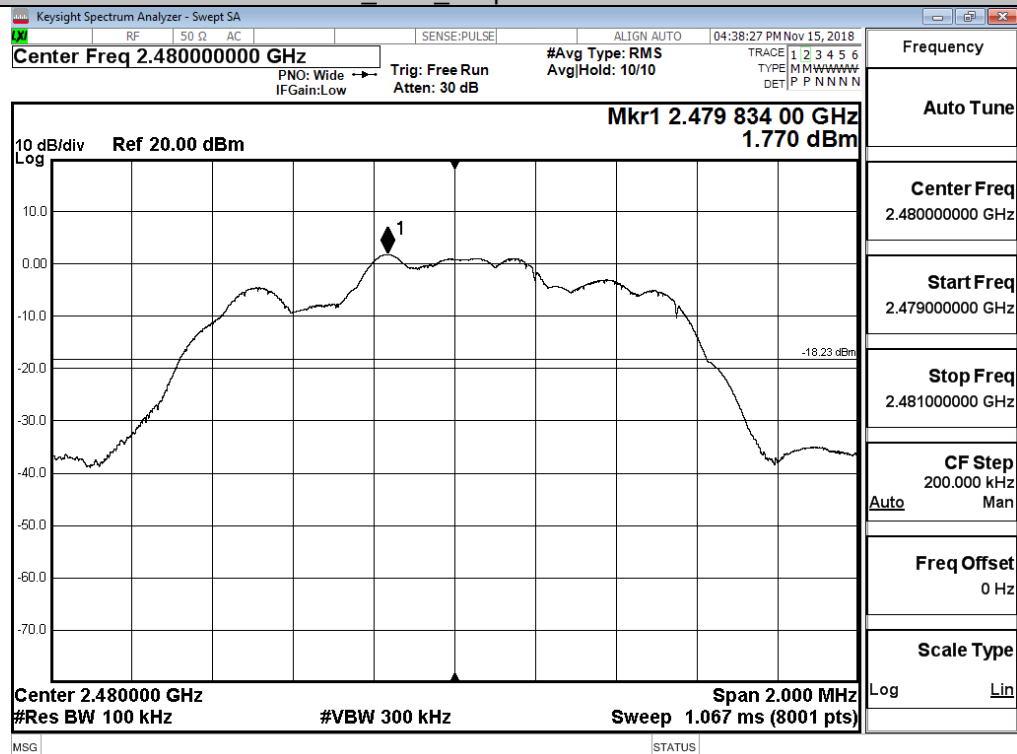


Puw

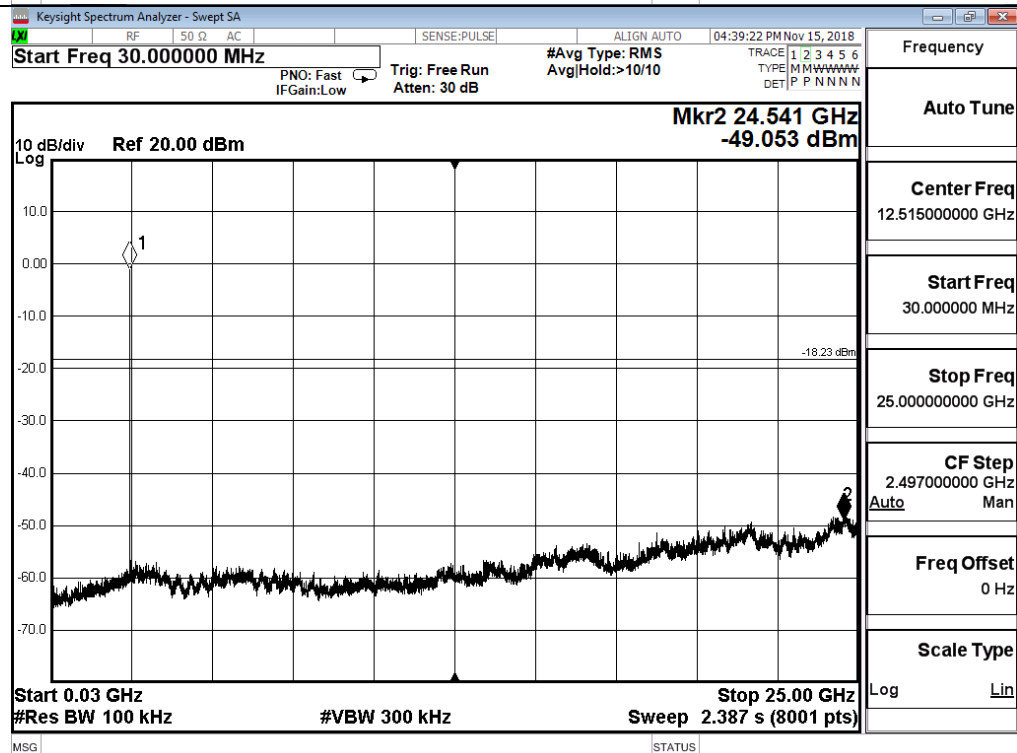


8DPSK_HCH Graphs

Pref



Puw

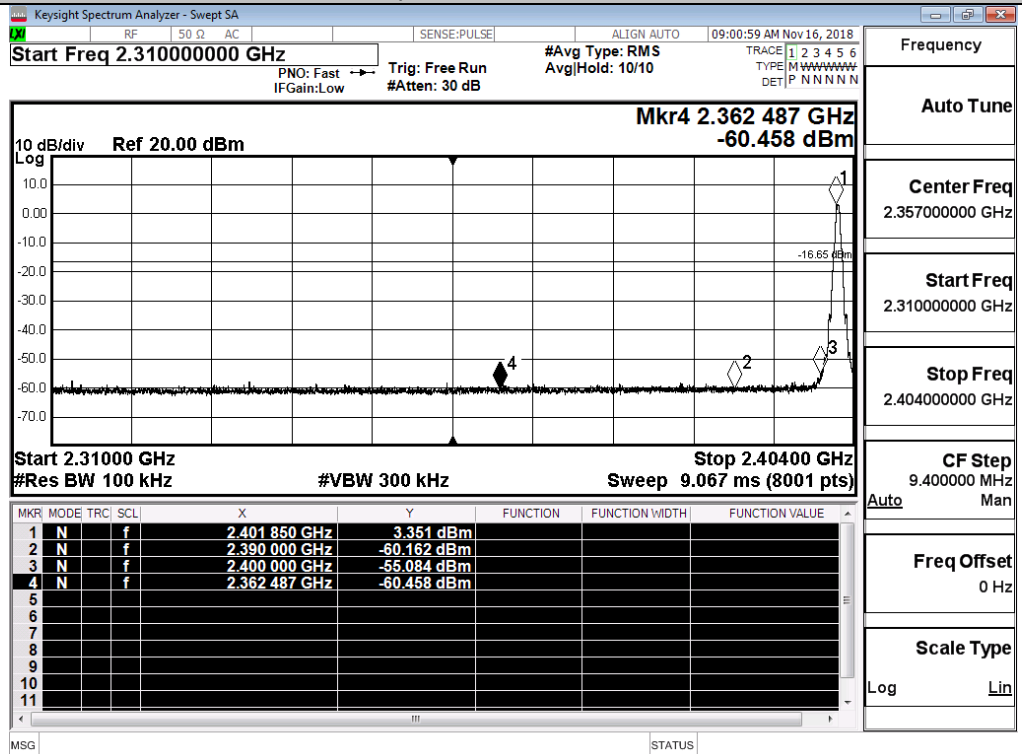


A.7 Band-edge for RF Conducted Emissions

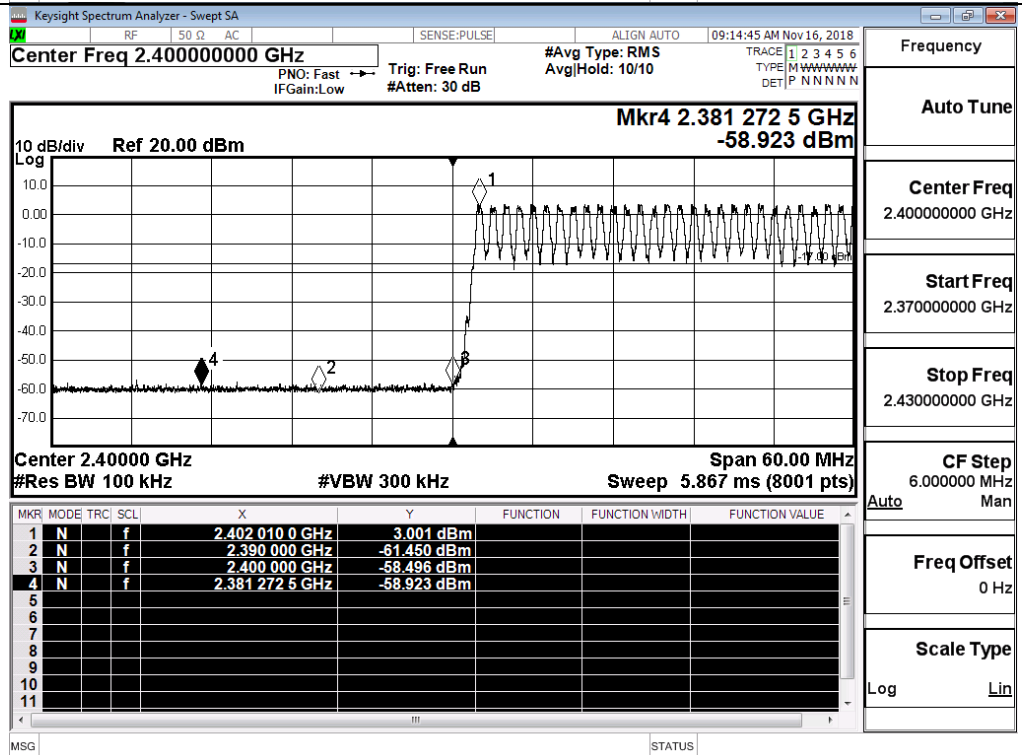
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	3.351	Off	-60.458	-16.65	PASS
			3.001	On	-58.923	-17.00	PASS
	HCH	2480	3.331	Off	-58.616	-16.67	PASS
			3.139	On	-58.149	-16.86	PASS
π /4DQPSK	LCH	2402	1.877	Off	-58.187	-18.12	PASS
			1.426	On	-60.282	-18.57	PASS
	HCH	2480	2.131	Off	-57.584	-17.87	PASS
			1.208	On	-59.030	-18.88	PASS
8DPSK	LCH	2402	1.788	Off	-60.077	-18.21	PASS
			1.025	On	-59.393	-18.98	PASS
	HCH	2480	2.102	Off	-57.231	-17.90	PASS
			1.345	On	-60.074	-18.66	PASS

Test Graphs

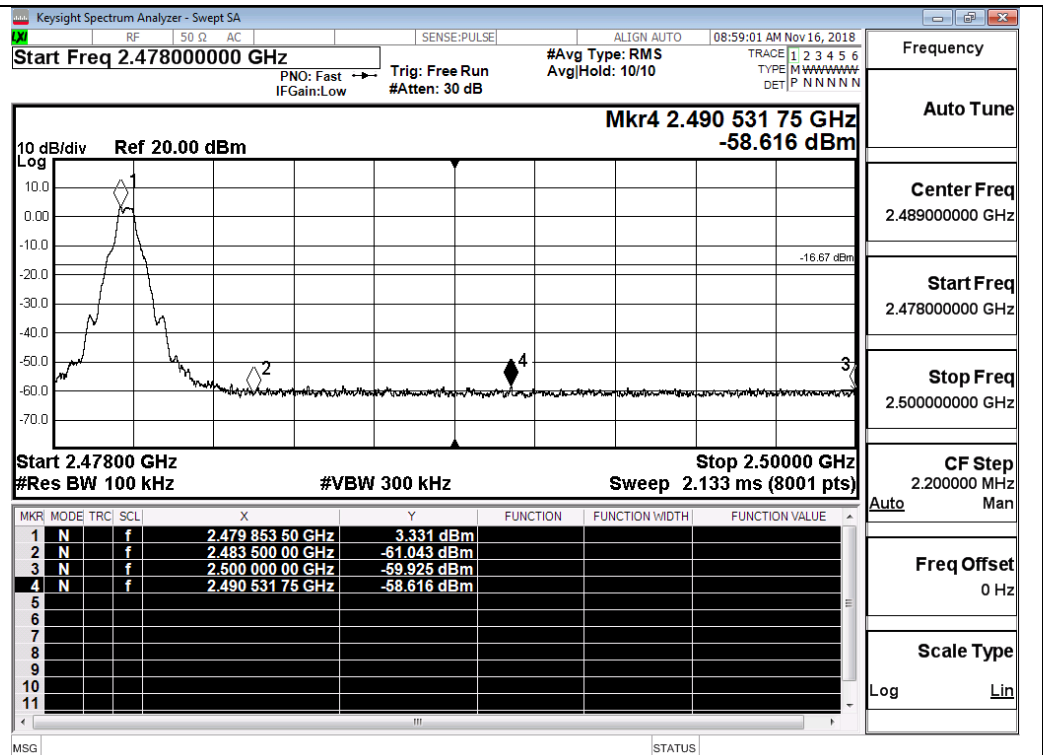
GFSK/LCH/No Hop



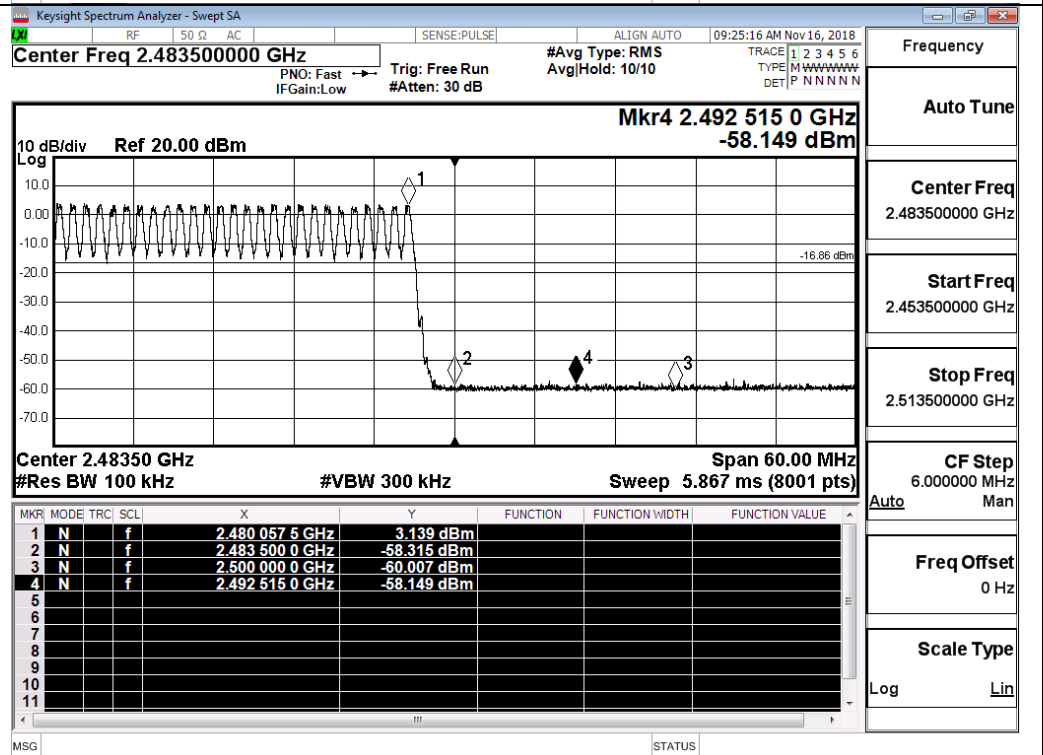
GFSK/LCH/Hop



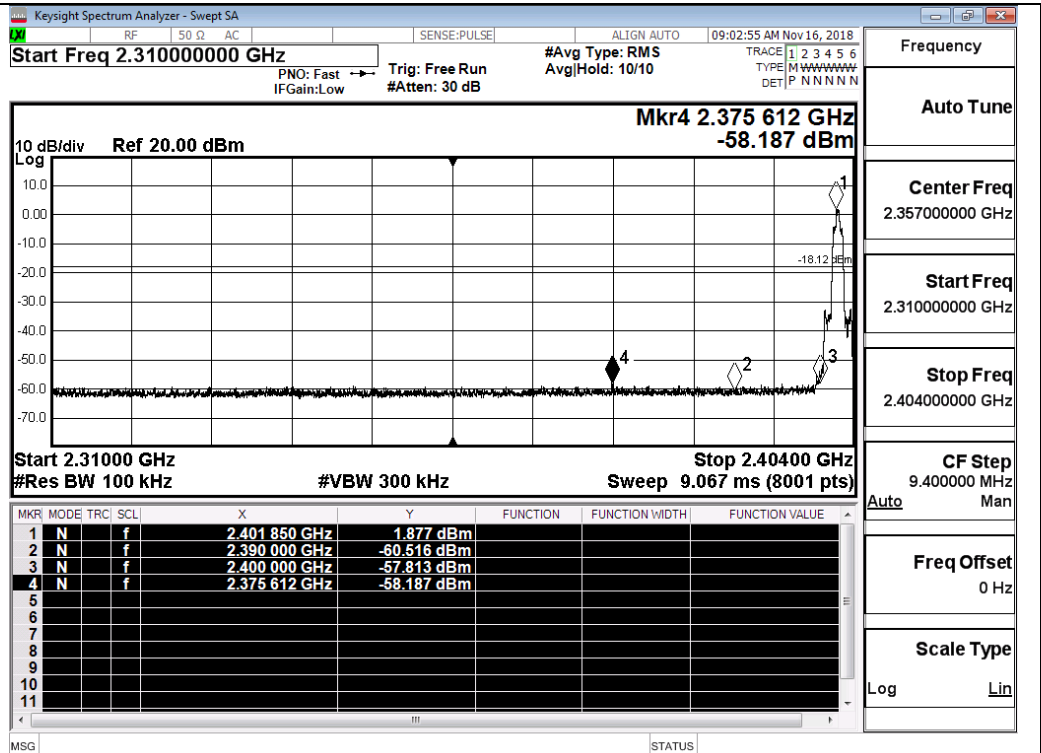
GFSK/HCH/No Hop



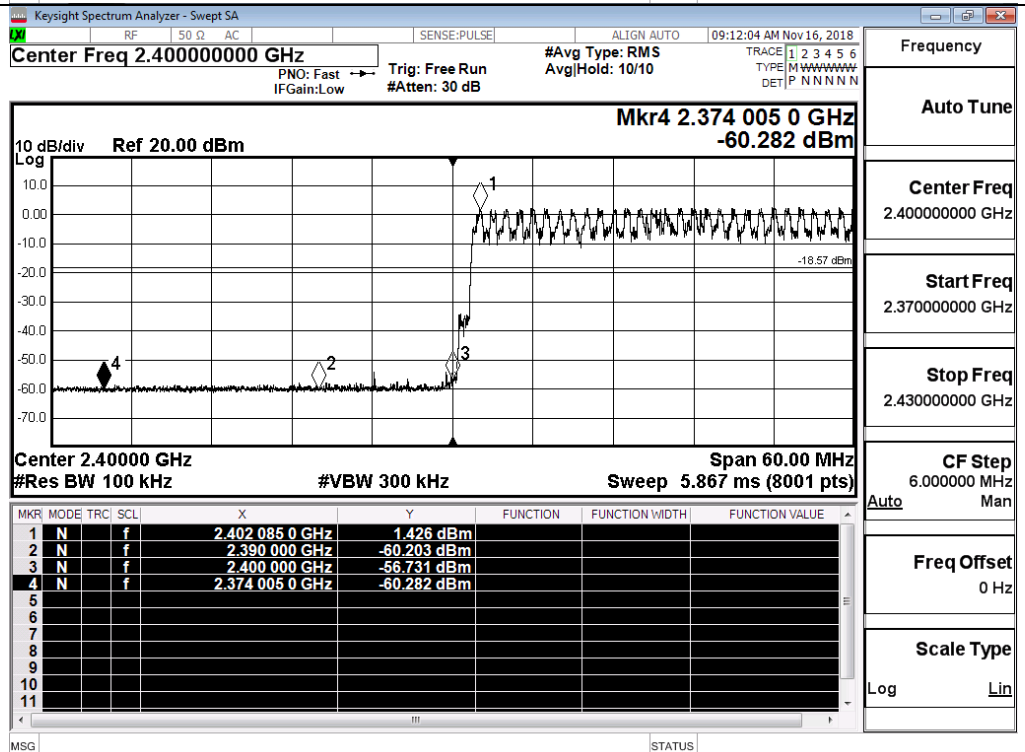
GFSK/HCH/Hop



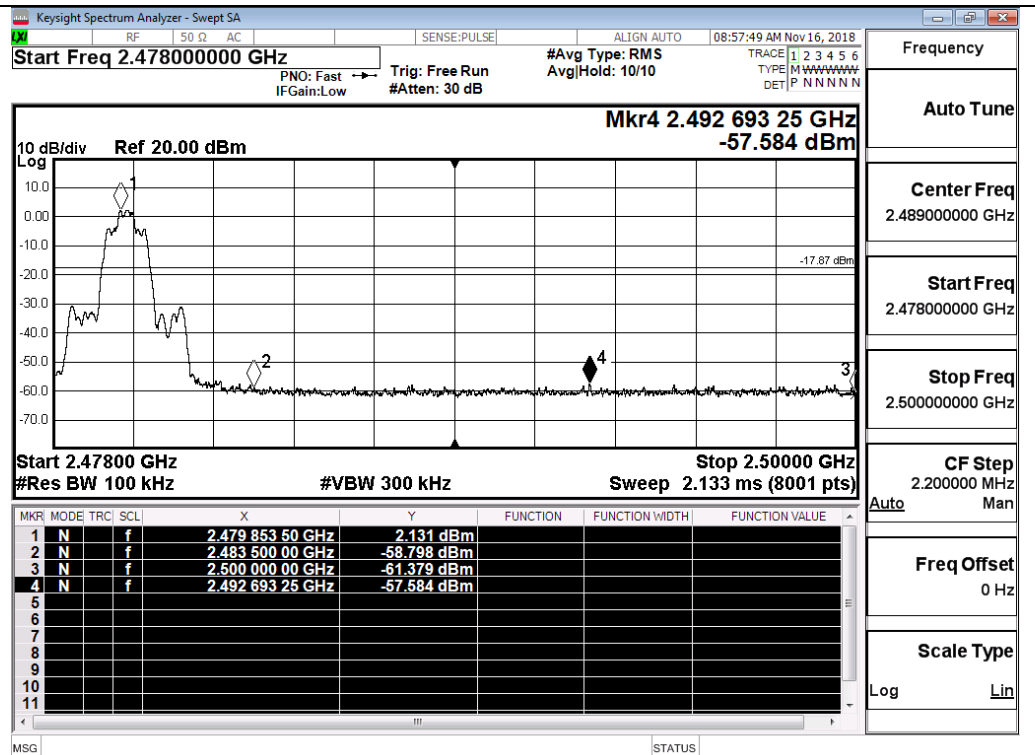
$\pi/4$ DQPSK/LCH/No
Hop



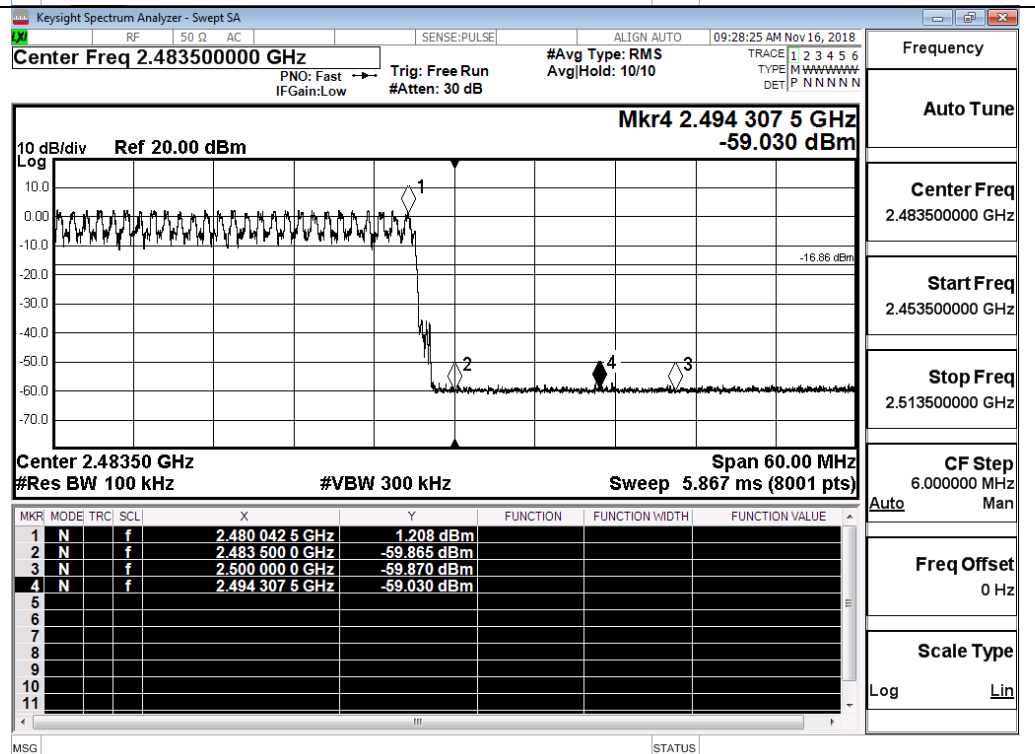
$\pi/4$ DQPSK/LCH/Hop



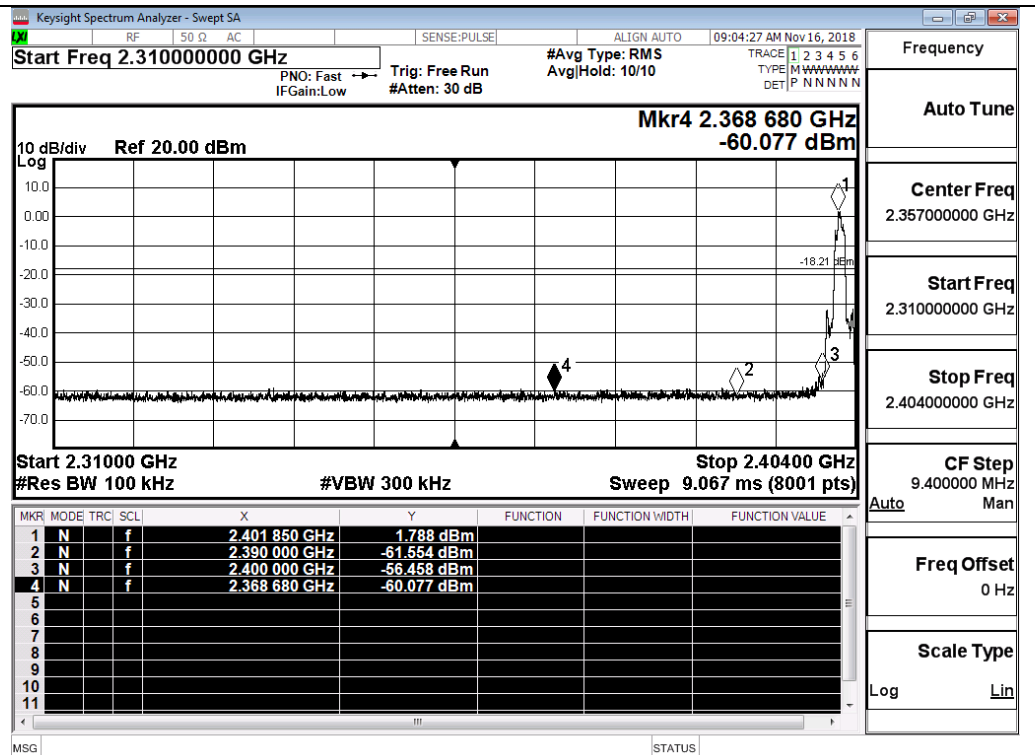
$\pi/4$ DQPSK/HCH/No
Hop



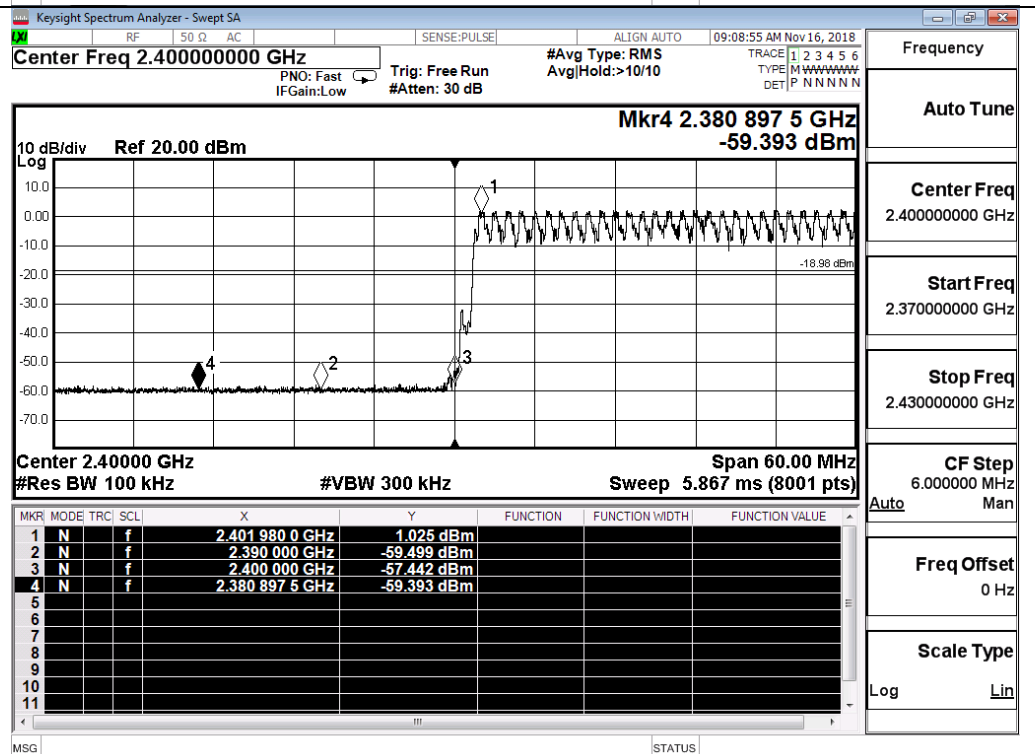
$\pi/4$ DQPSK/HCH/Hop



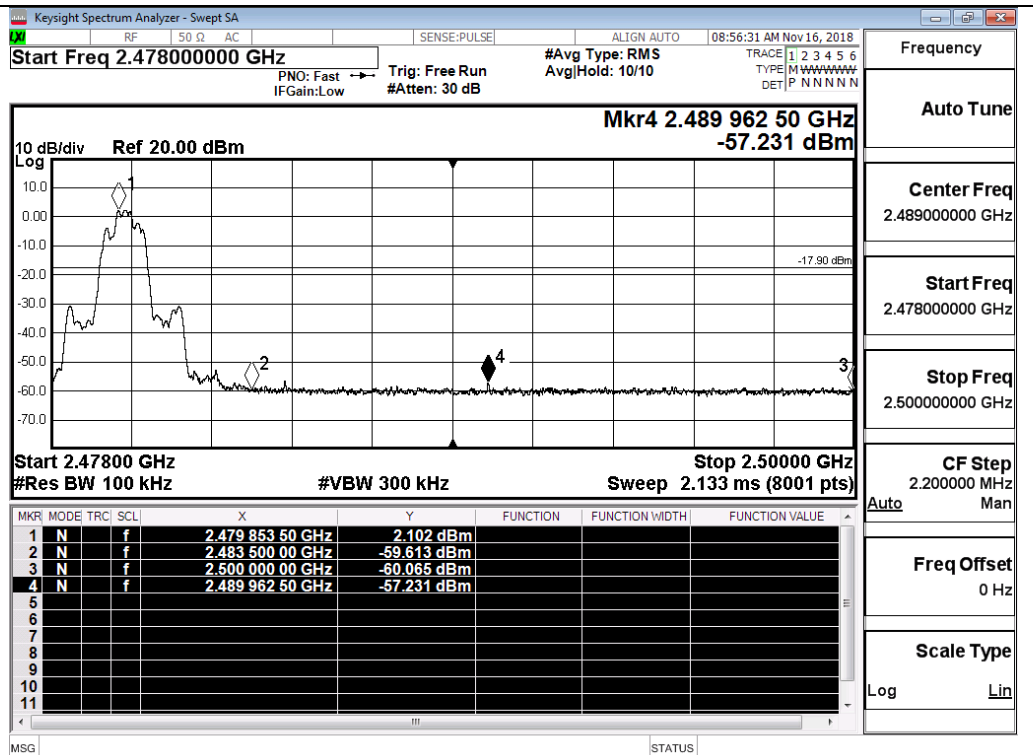
8DPSK/LCH/No Hop



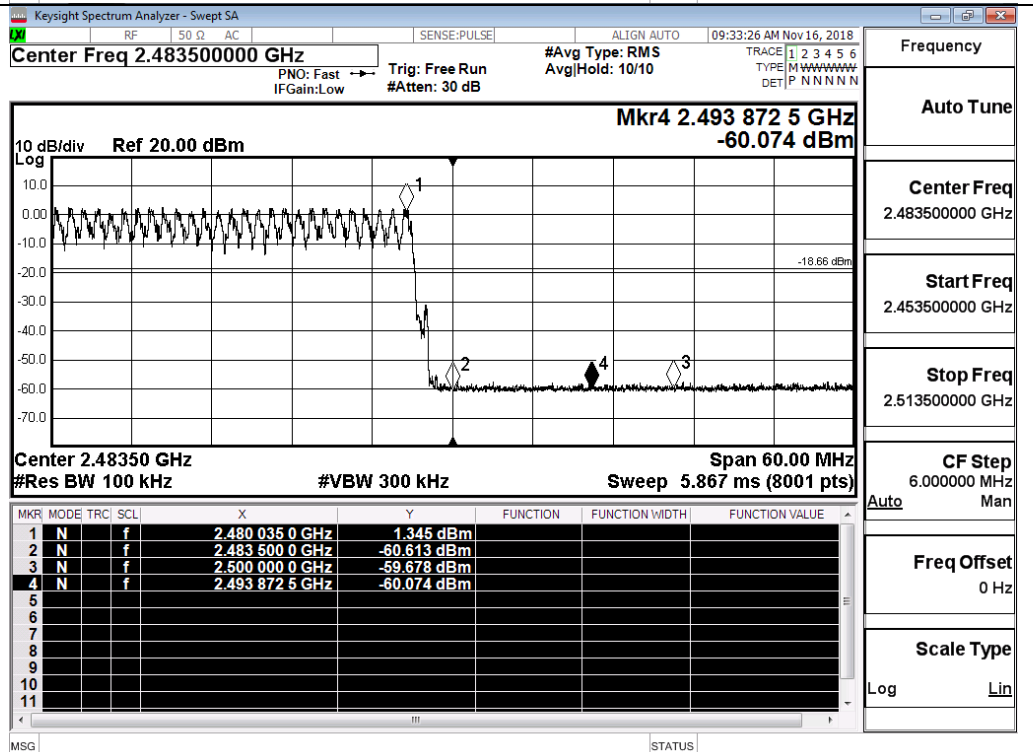
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



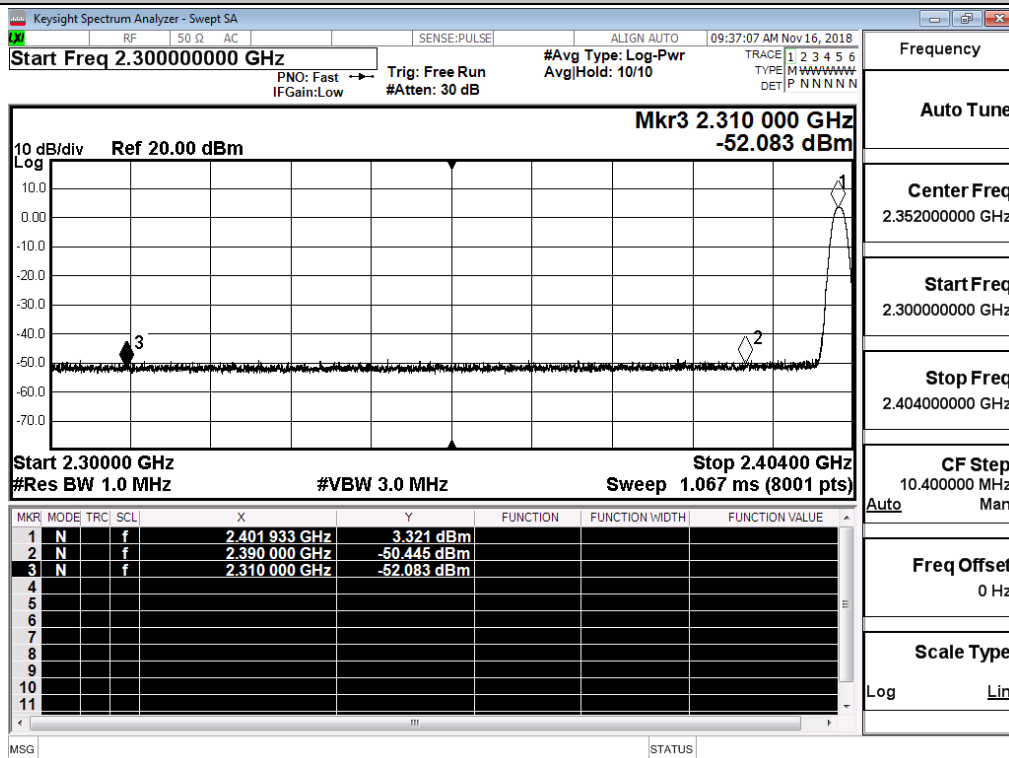
8DPSK/HCH/Hop



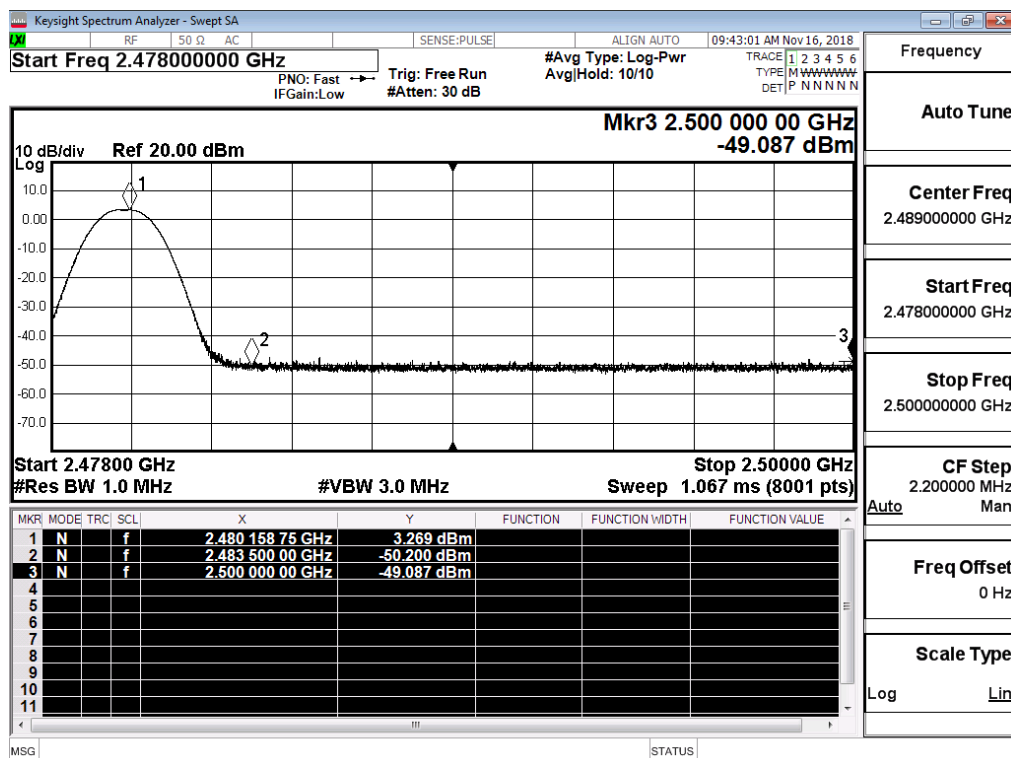
A.8 Restrict-band band-edge measurements

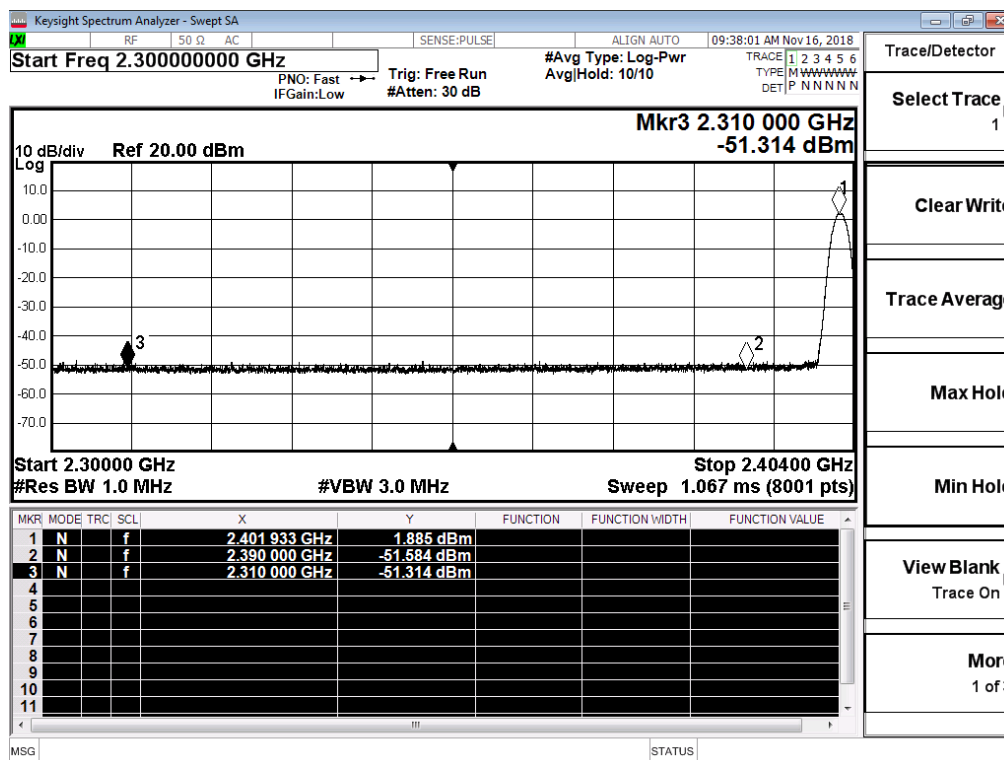
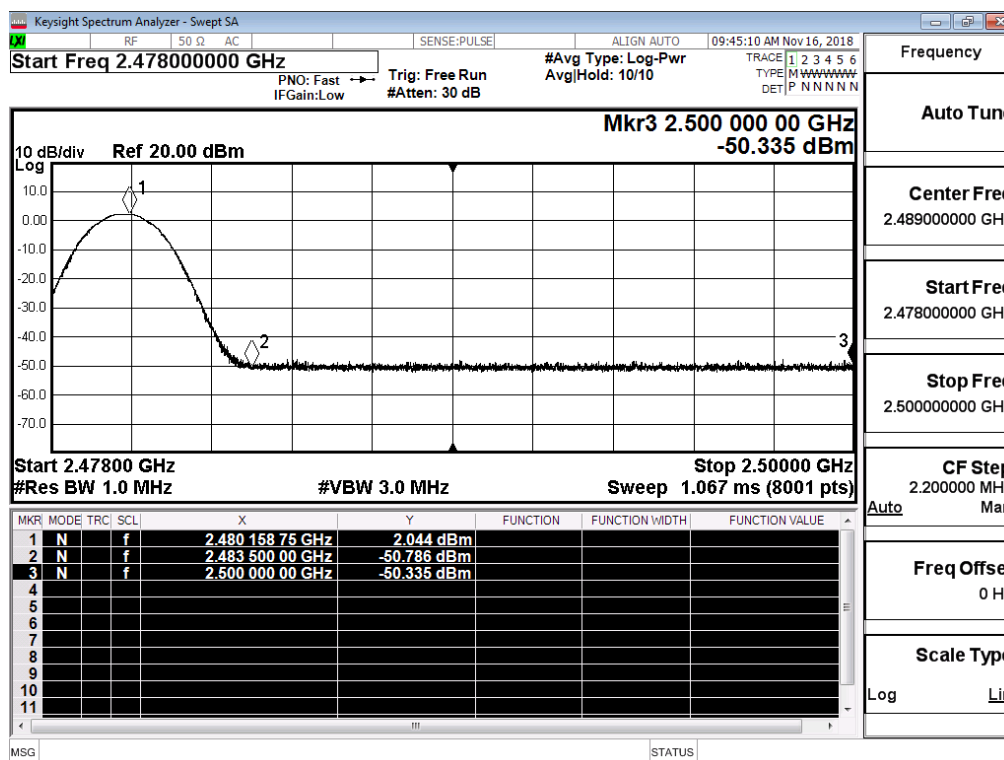
Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-52.083	2.0	0	45.18	PEAK	74	PASS
	Off	2390.0	-50.445	2.0	0	46.82	PEAK	74	PASS
	Off	2483.5	-50.200	2.0	0	47.06	PEAK	74	PASS
	Off	2500.0	-49.087	2.0	0	48.17	PEAK	74	PASS
$\pi/4$ DQPSK	Off	2310.0	-51.314	2.0	0	45.95	PEAK	74	PASS
	Off	2390.0	-51.584	2.0	0	45.68	PEAK	74	PASS
	Off	2483.5	-50.786	2.0	0	46.47	PEAK	74	PASS
	Off	2500.0	-50.335	2.0	0	46.93	PEAK	74	PASS
8DPSK	Off	2310.0	-50.834	2.0	0	46.43	PEAK	74	PASS
	Off	2390.0	-50.778	2.0	0	46.48	PEAK	74	PASS
	Off	2483.5	-48.074	2.0	0	49.19	PEAK	74	PASS
	Off	2500.0	-50.558	2.0	0	46.70	PEAK	74	PASS

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

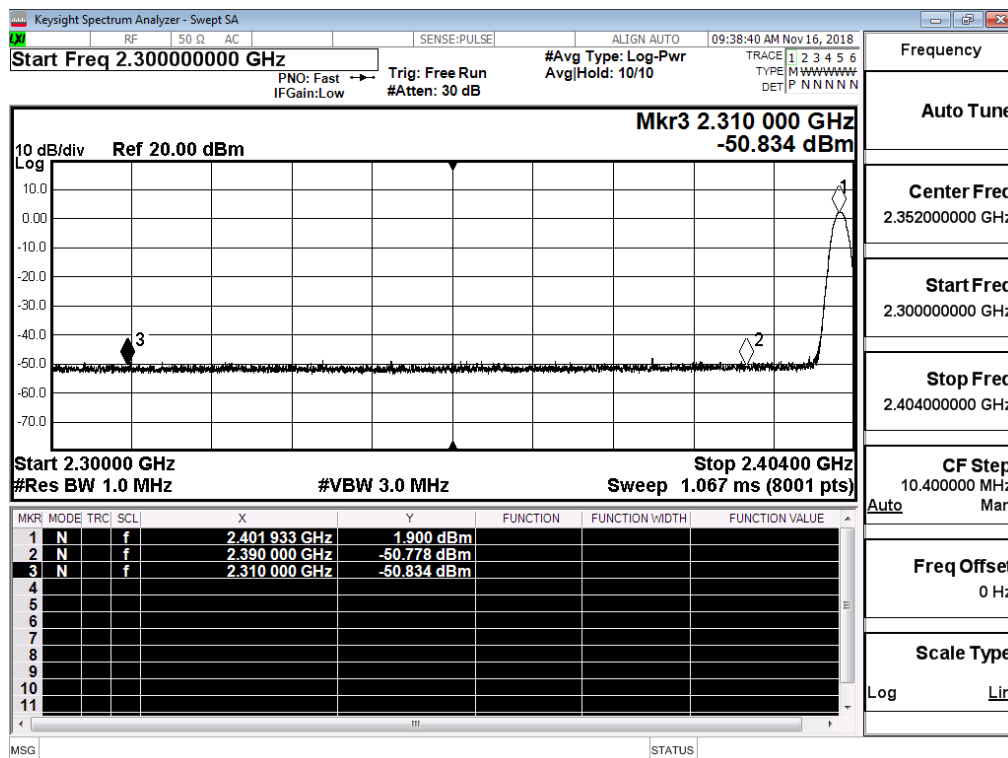


Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



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

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



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

