

## Appendix A

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

Product Name: Bluetooth headphones



Trade Mark:

Test Model: FS-BTWS582

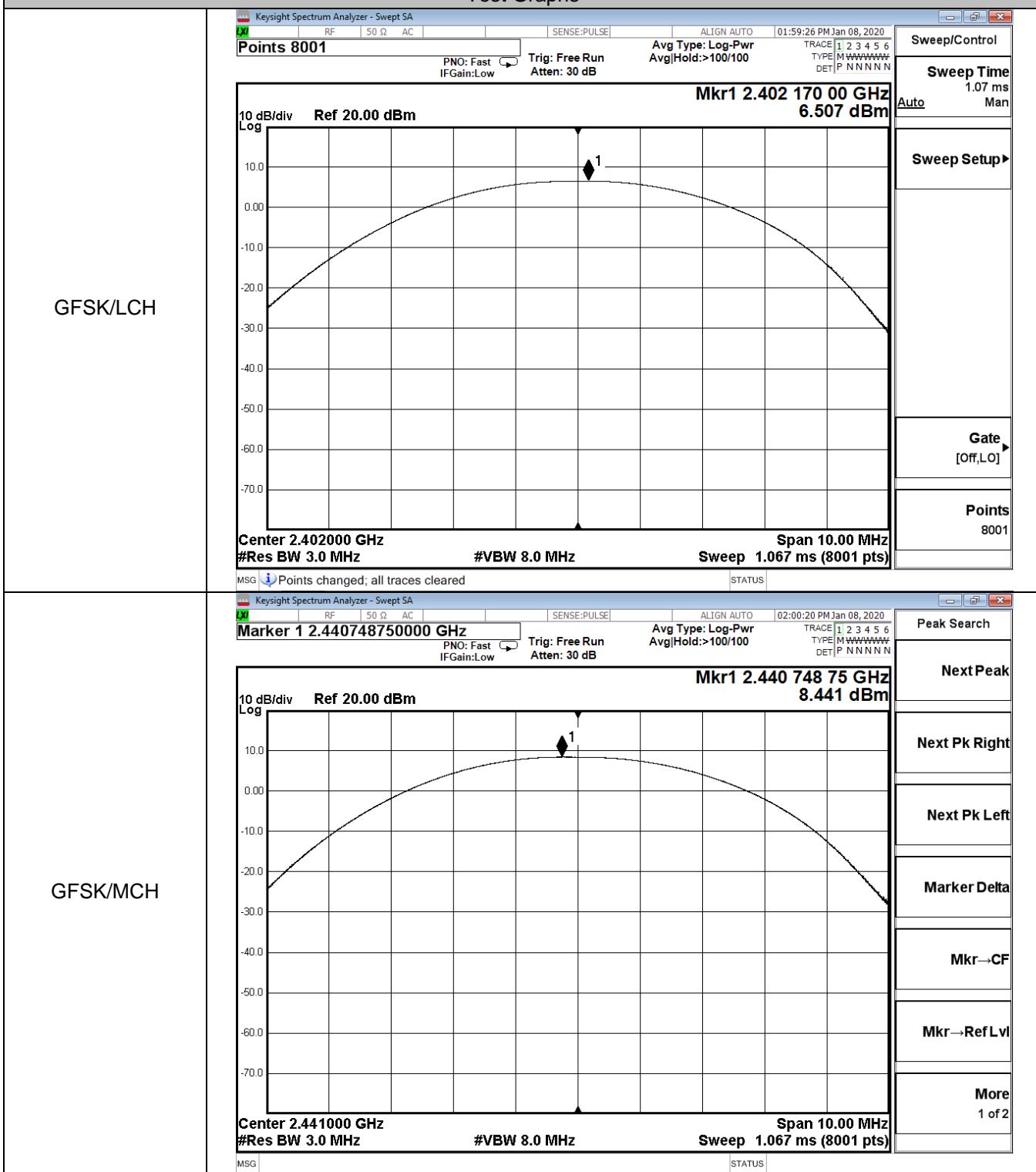
#### Environmental Conditions

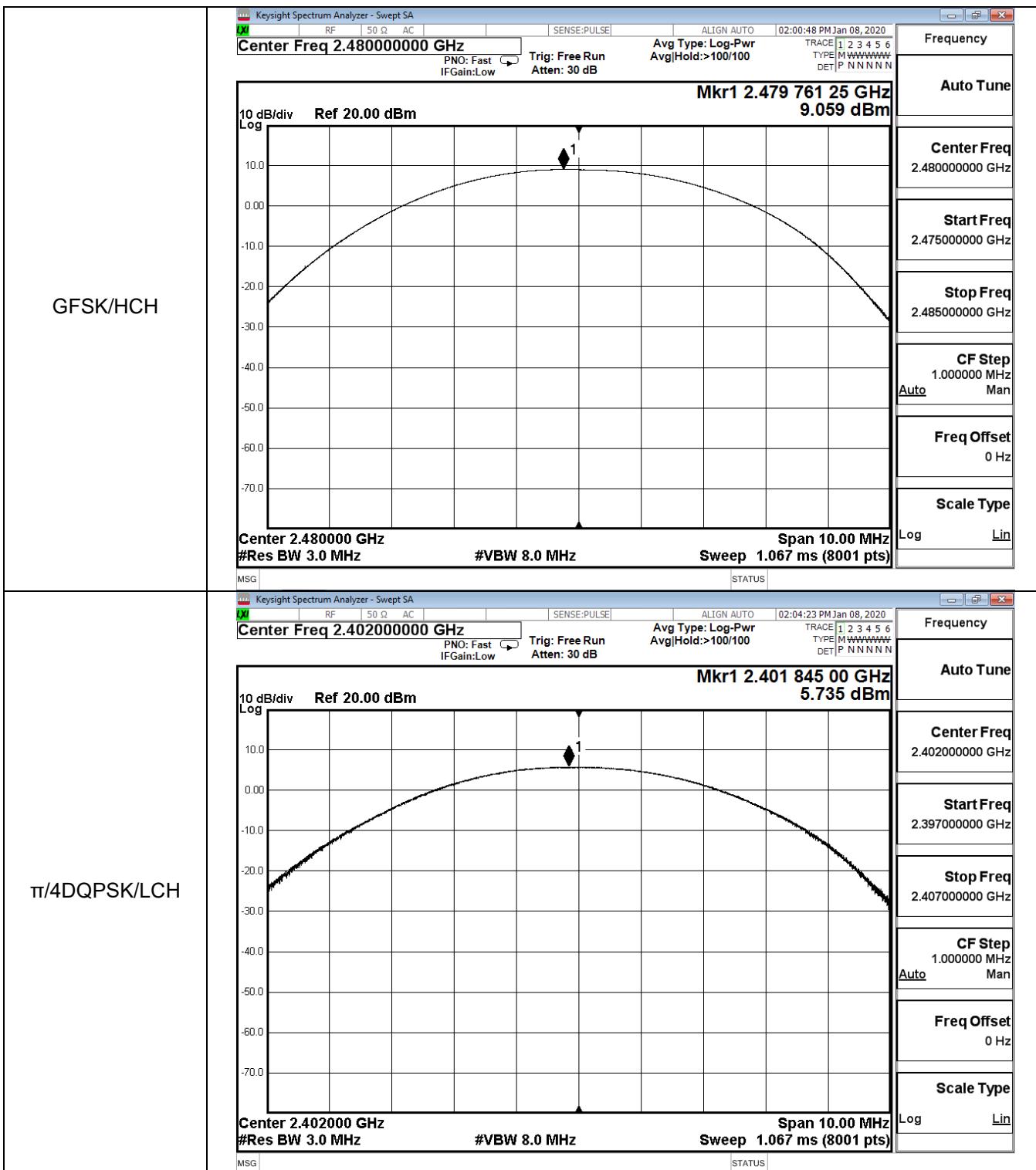
Temperature:	23.5 °C
Relative Humidity:	55%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom Liu
Supervised by:	Jayden.Zhuo

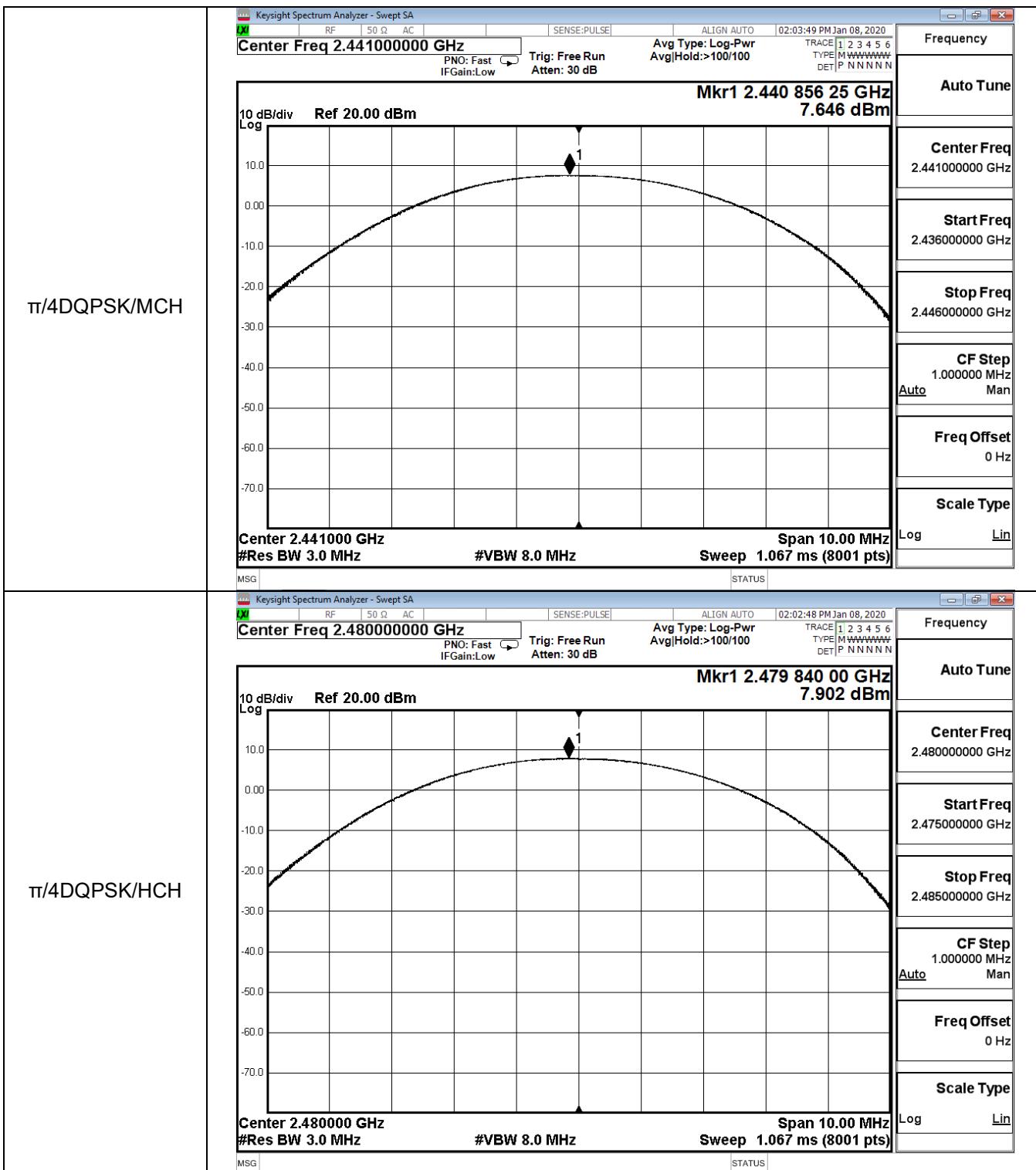
#### A.1 Maximum Conducted Peak Output Power

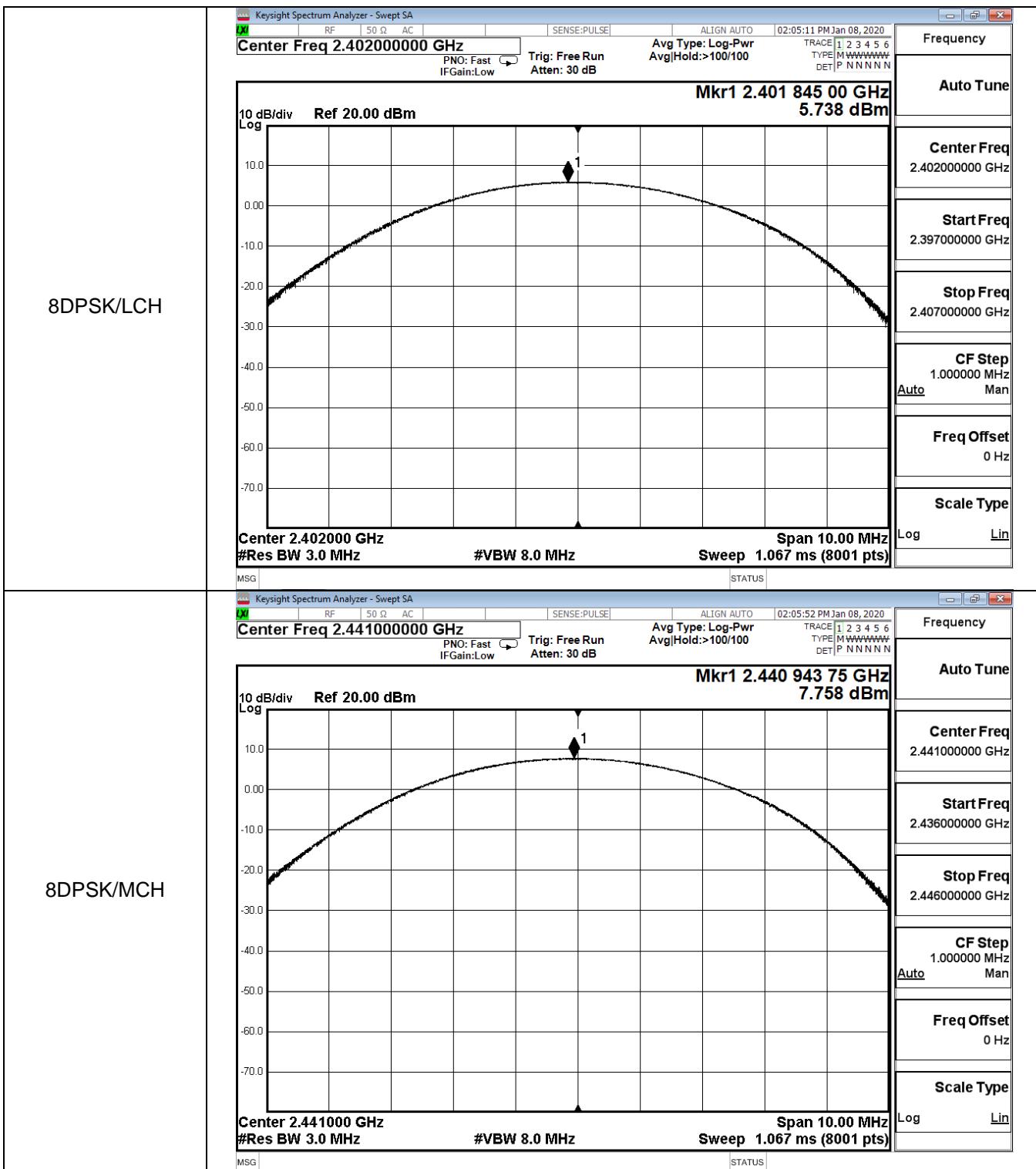
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	6.507	21	PASS
	MCH	8.441	21	PASS
	HCH	9.059	21	PASS
$\pi/4$ DQPSK	LCH	5.735	21	PASS
	MCH	7.646	21	PASS
	HCH	7.902	21	PASS
8DPSK	LCH	5.738	21	PASS
	MCH	7.758	21	PASS
	HCH	8.142	21	PASS

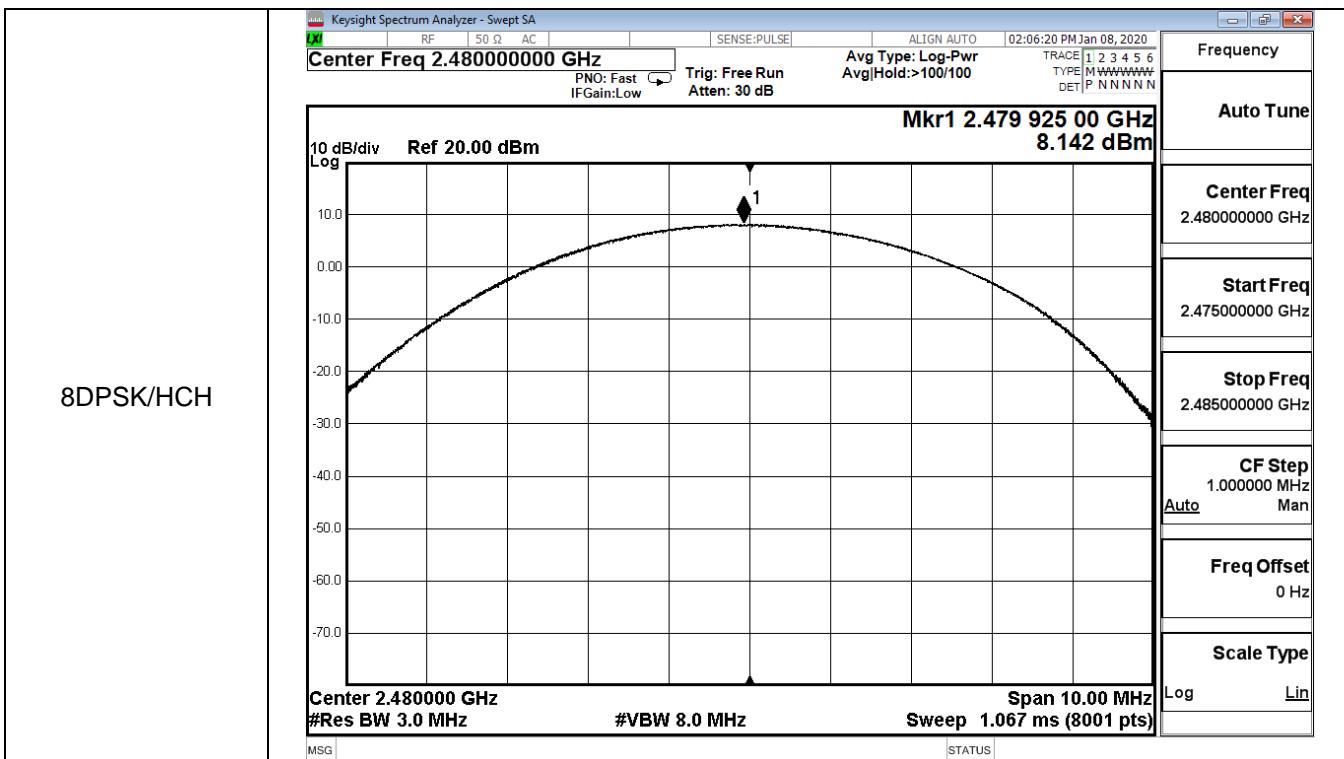
## Test Graphs





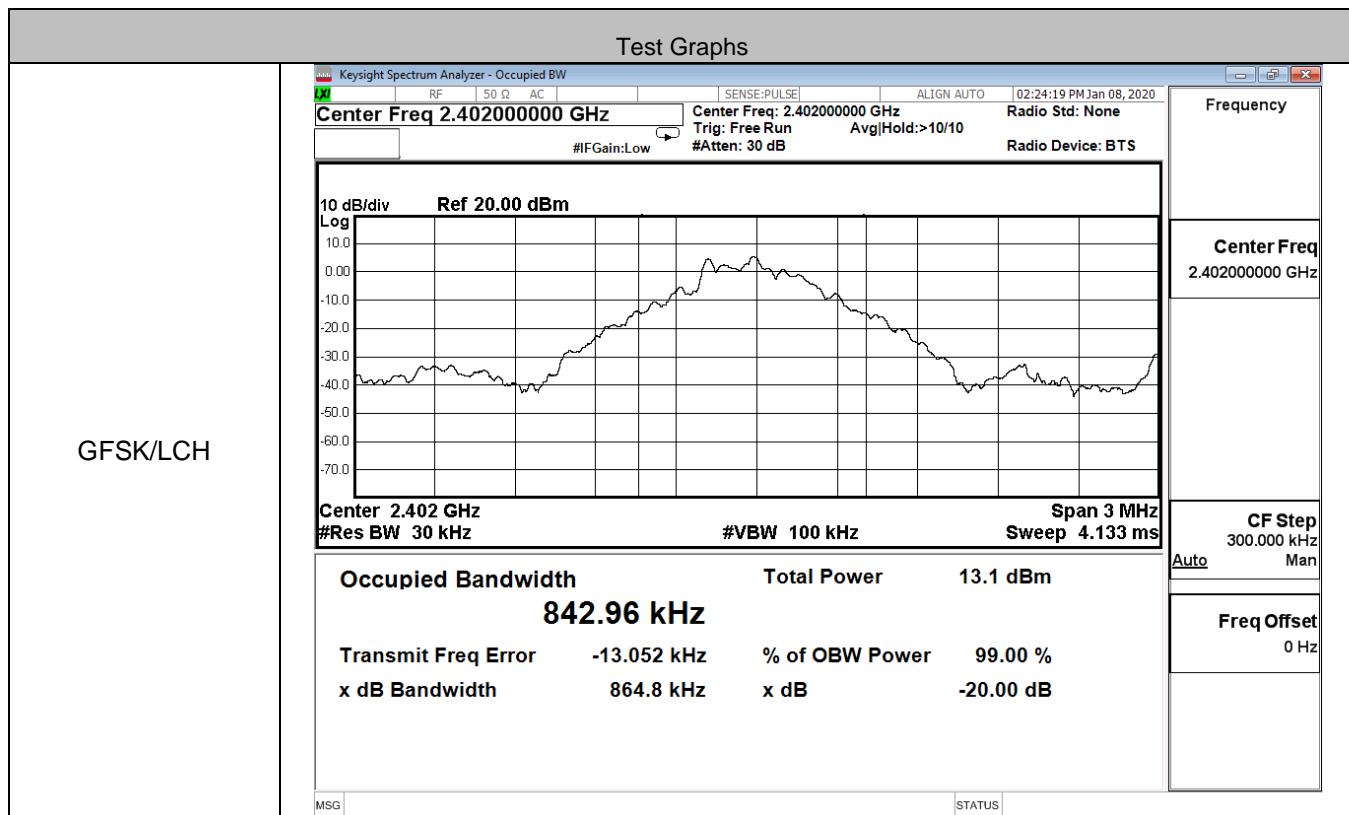


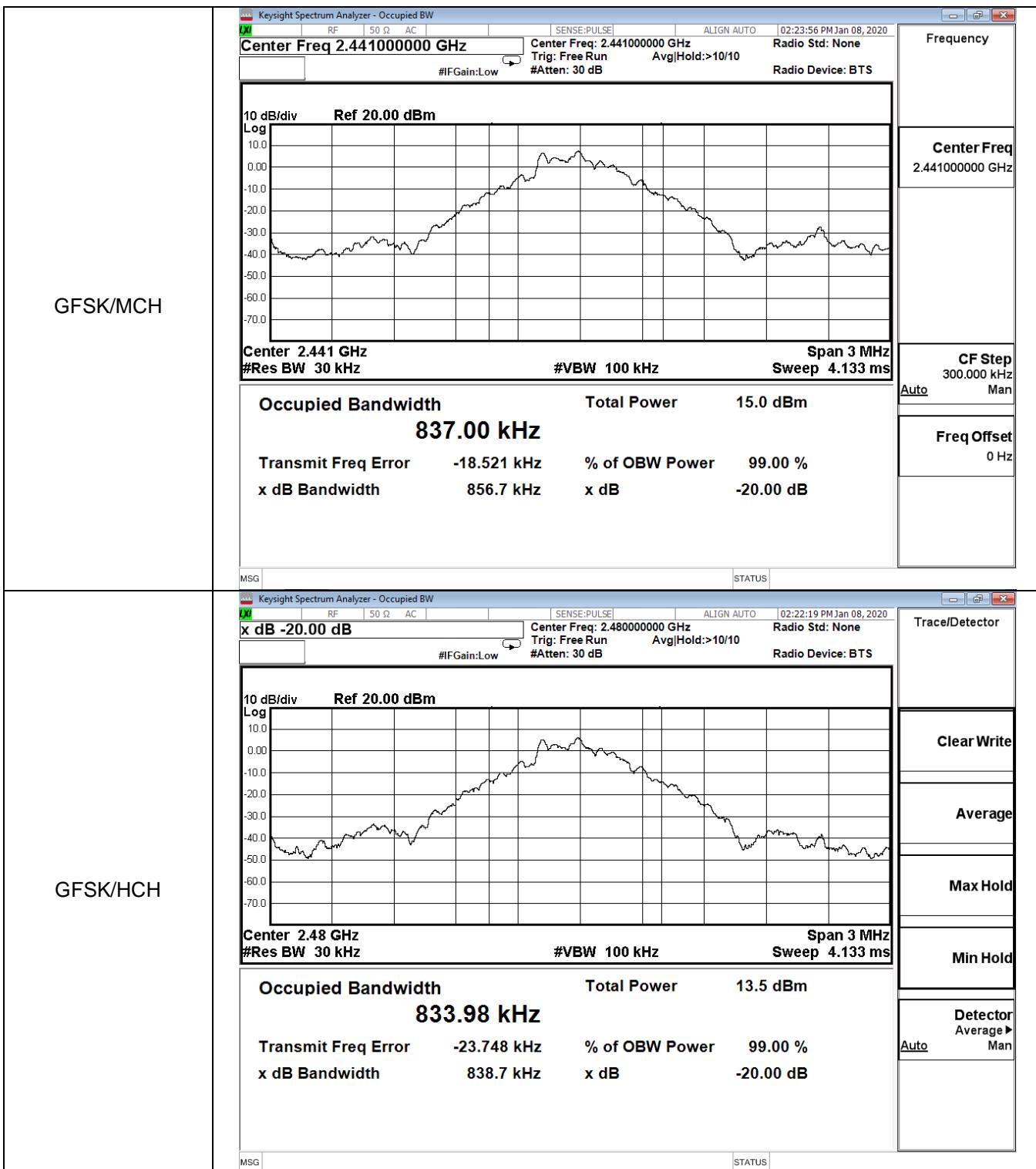


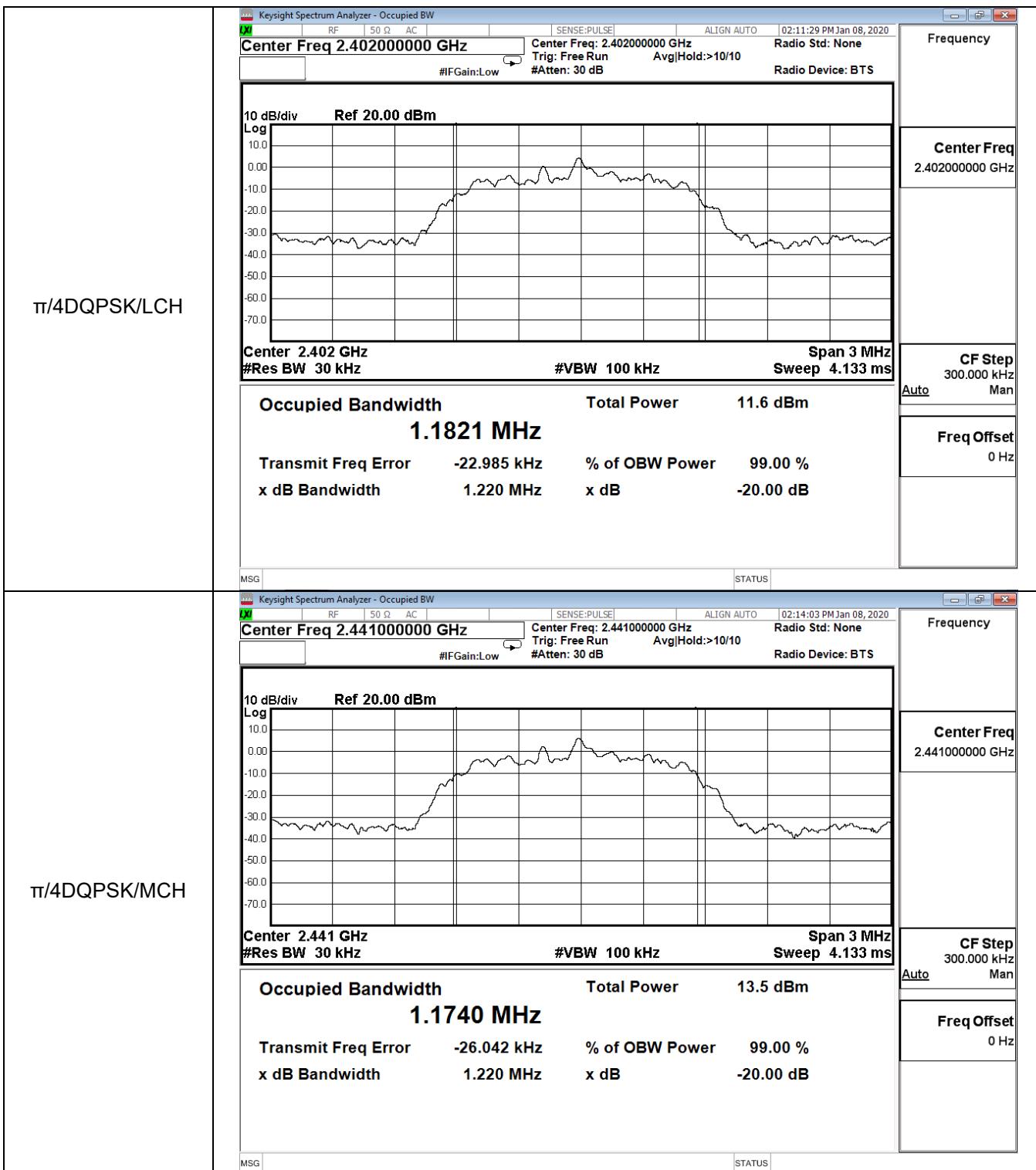


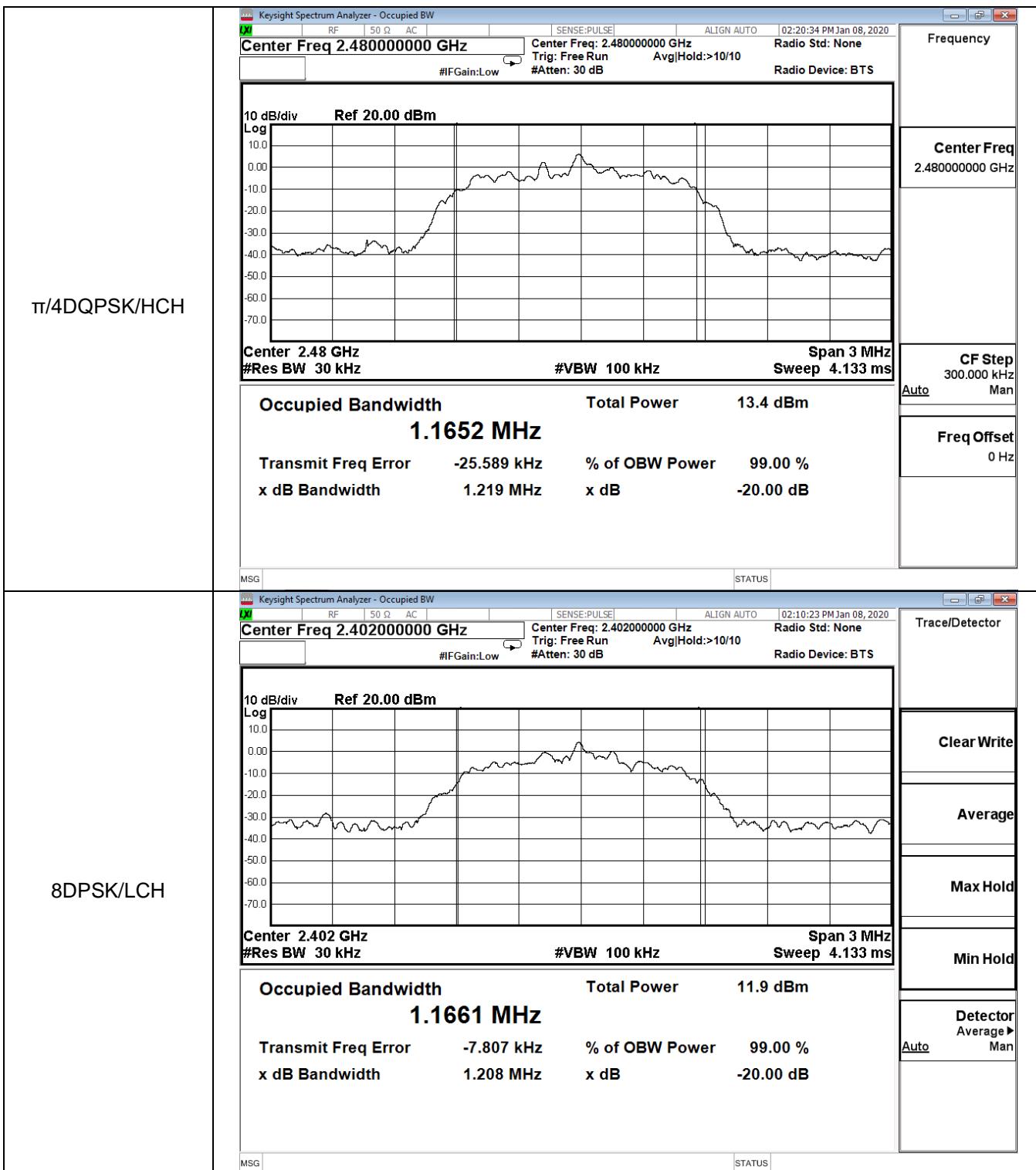
## A.2 99% and 20dB Bandwidth

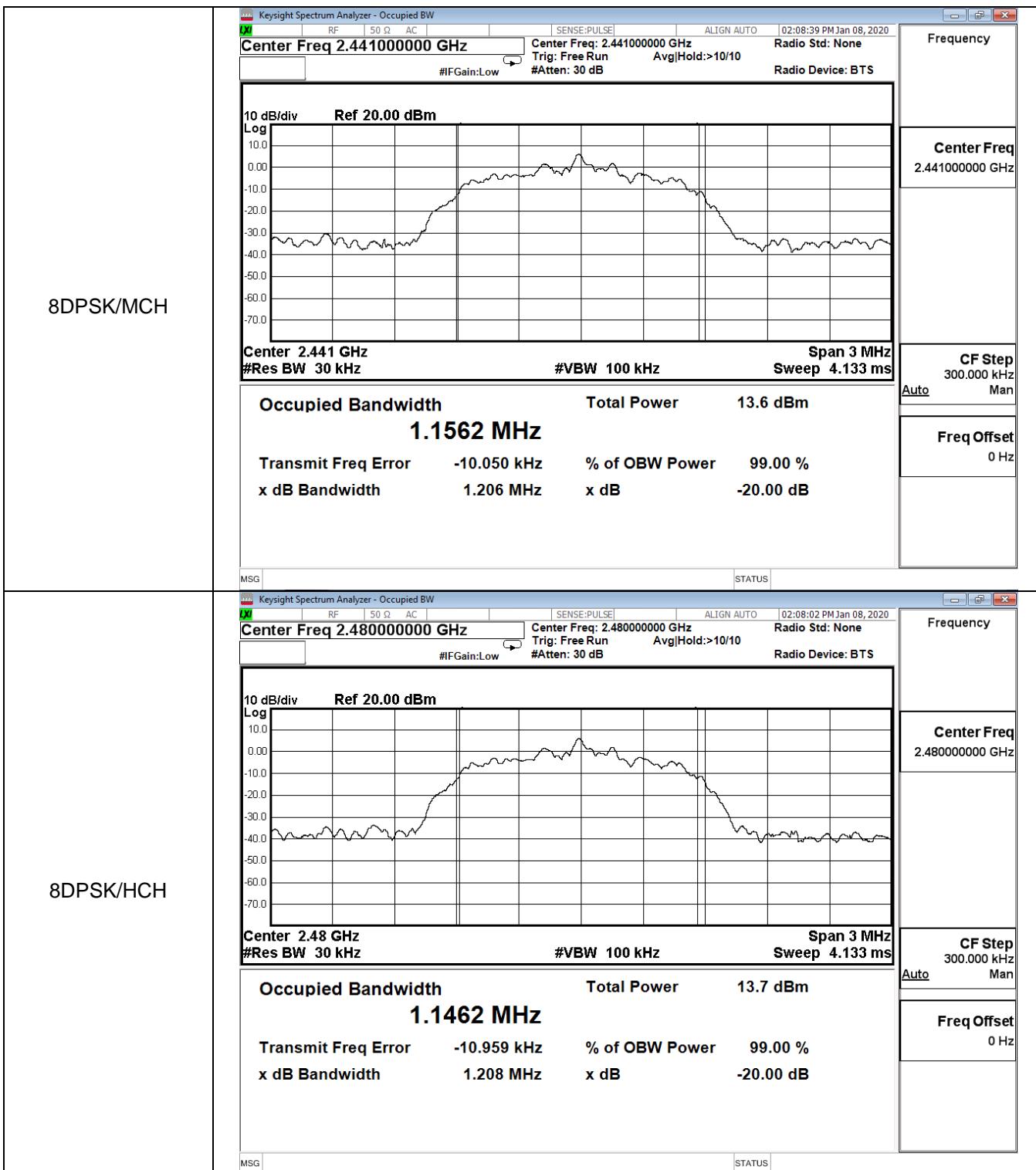
Mode	Channel.	99% Bandwidth [MHz]	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.84296	0.8648	Not Specified	PASS
	MCH	0.83700	0.8567	Not Specified	PASS
	HCH	0.83398	0.8387	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.1821	1.220	Not Specified	PASS
	MCH	1.1740	1.220	Not Specified	PASS
	HCH	1.1652	1.219	Not Specified	PASS
8DPSK	LCH	1.1661	1.208	Not Specified	PASS
	MCH	1.1562	1.206	Not Specified	PASS
	HCH	1.1462	1.208	Not Specified	PASS





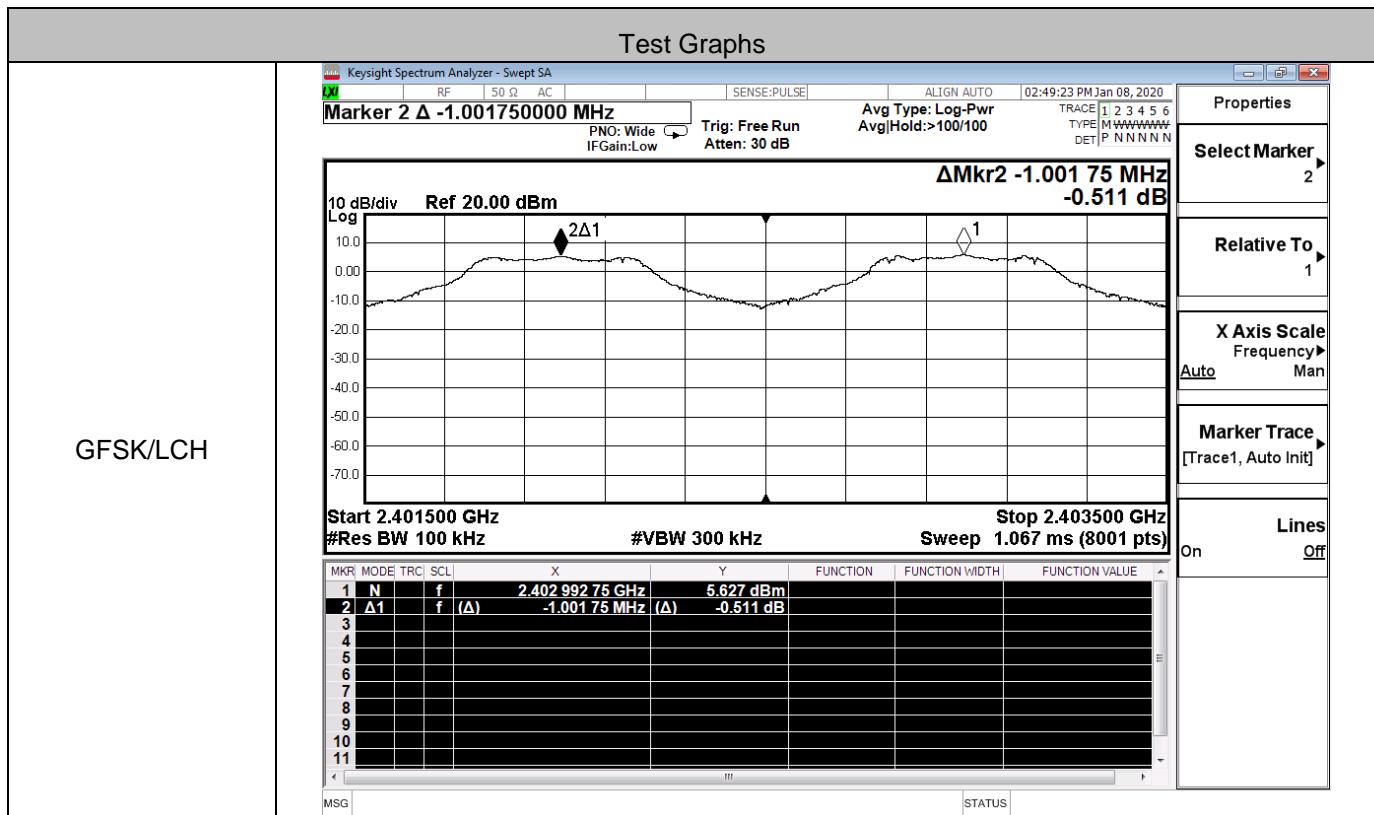


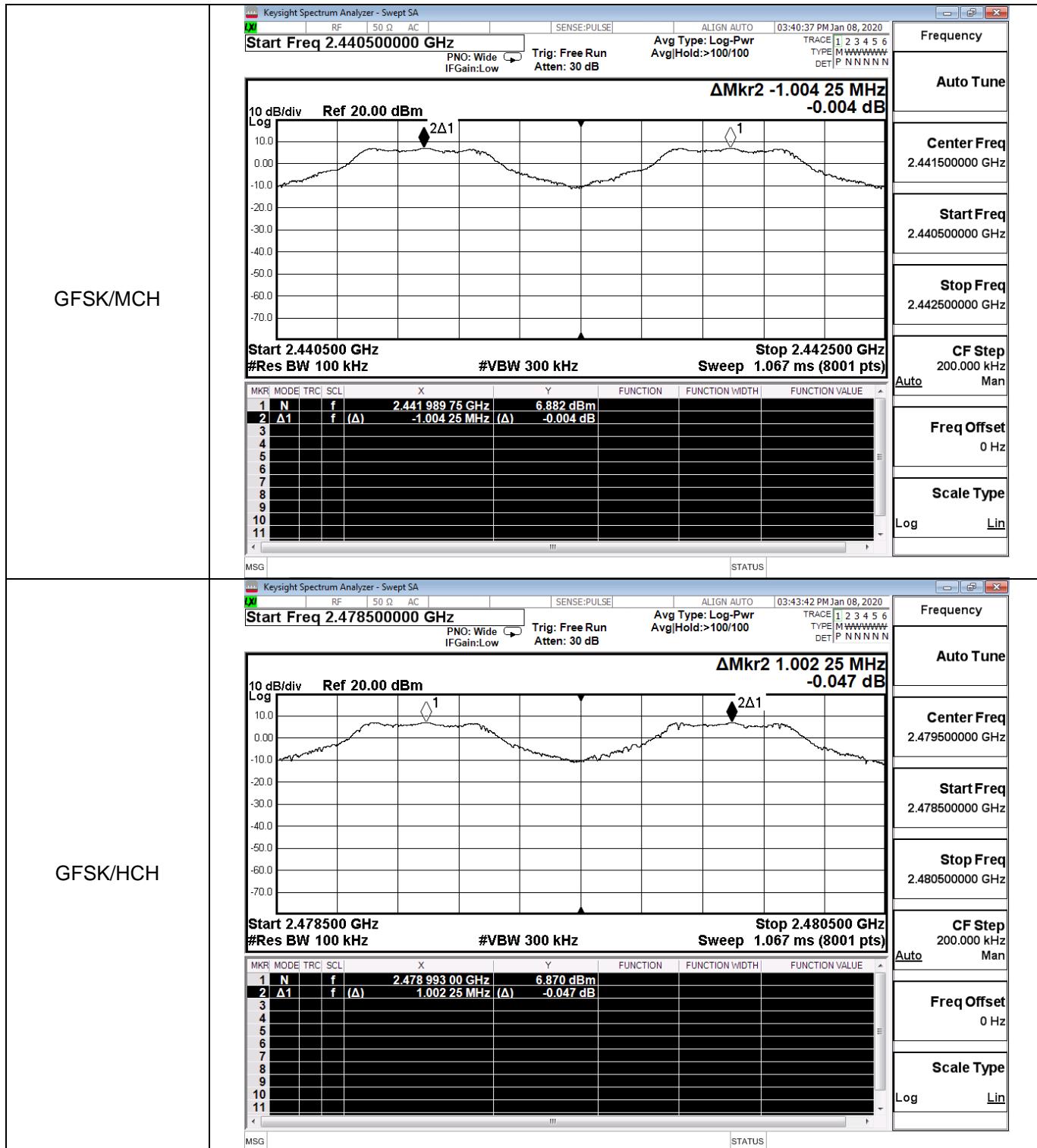


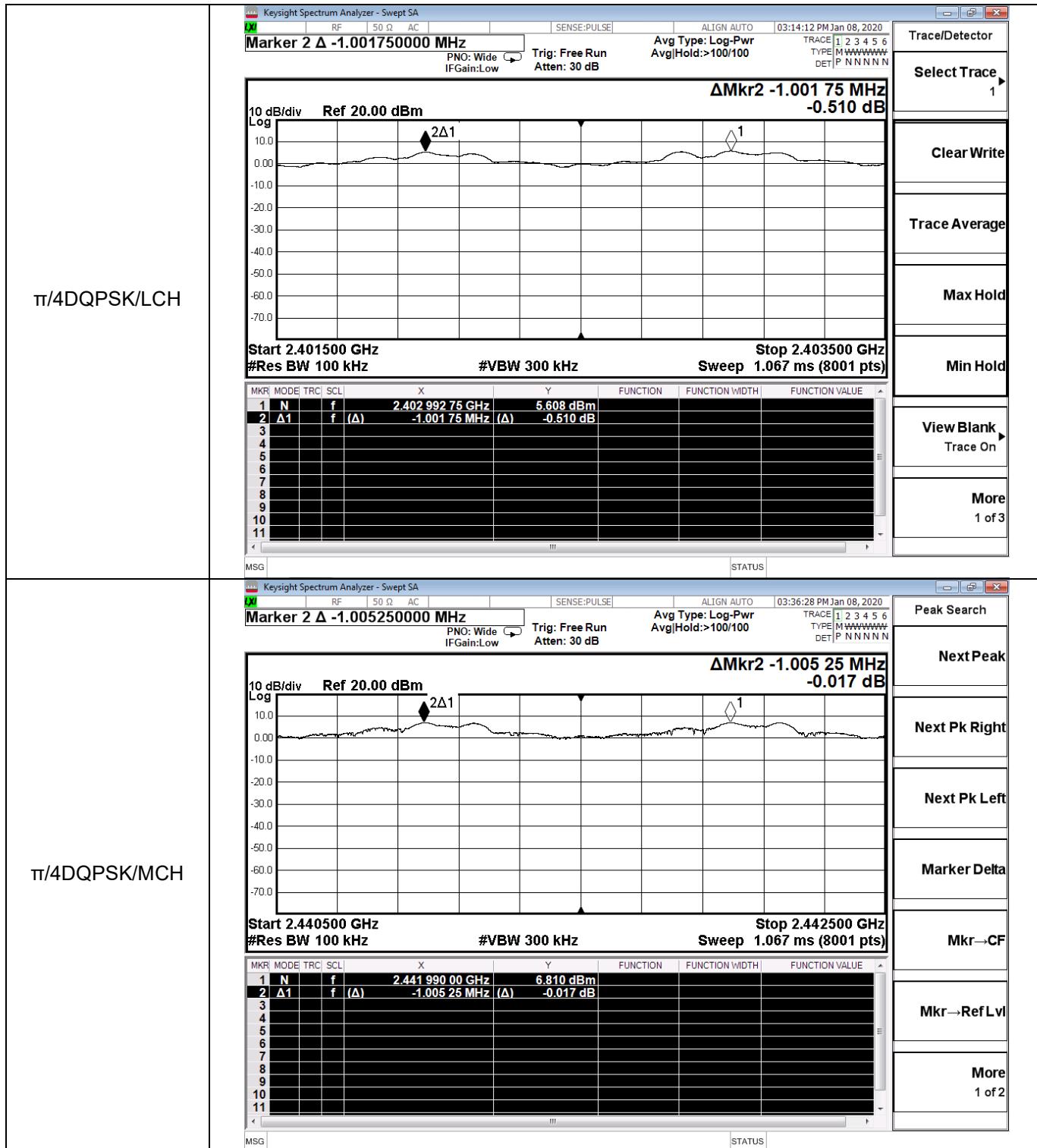


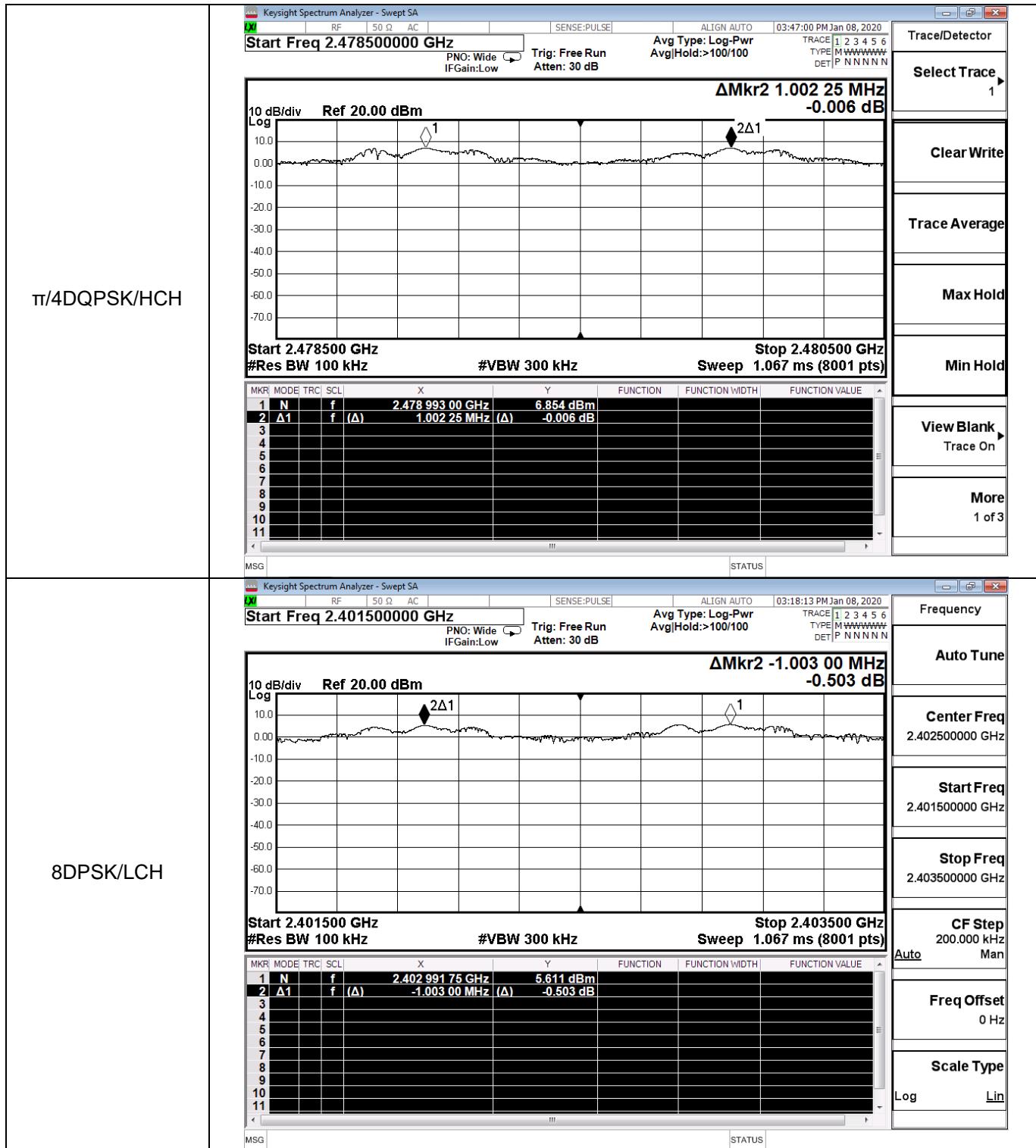
### A.3 Carrier Frequency Separation

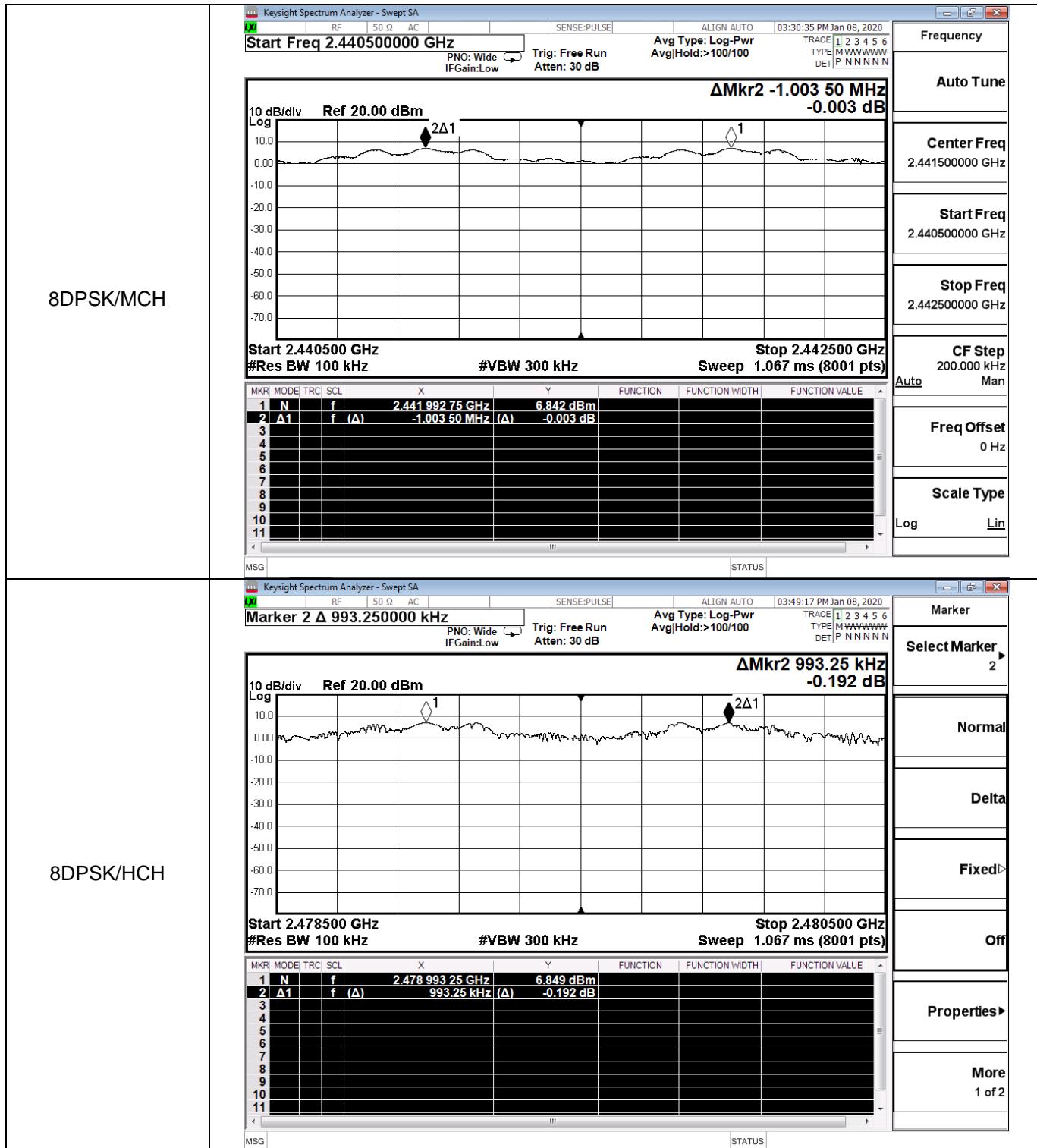
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.002	0.58	PASS
	MCH	1.004	0.57	PASS
	HCH	1.002	0.56	PASS
$\pi/4$ DQPSK	LCH	1.002	0.81	PASS
	MCH	1.005	0.81	PASS
	HCH	1.002	0.81	PASS
8DPSK	LCH	1.003	0.81	PASS
	MCH	0.993	0.80	PASS
	HCH	1.002	0.81	PASS





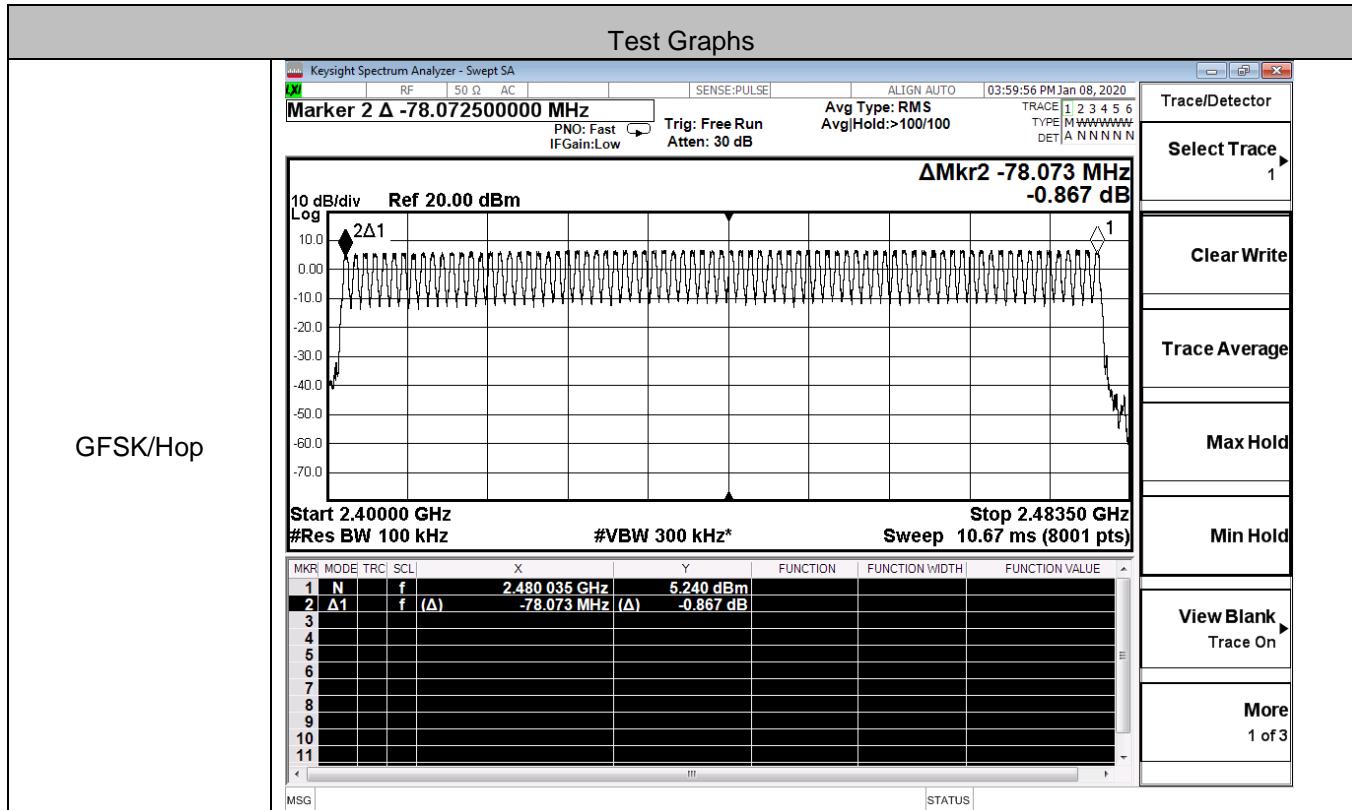


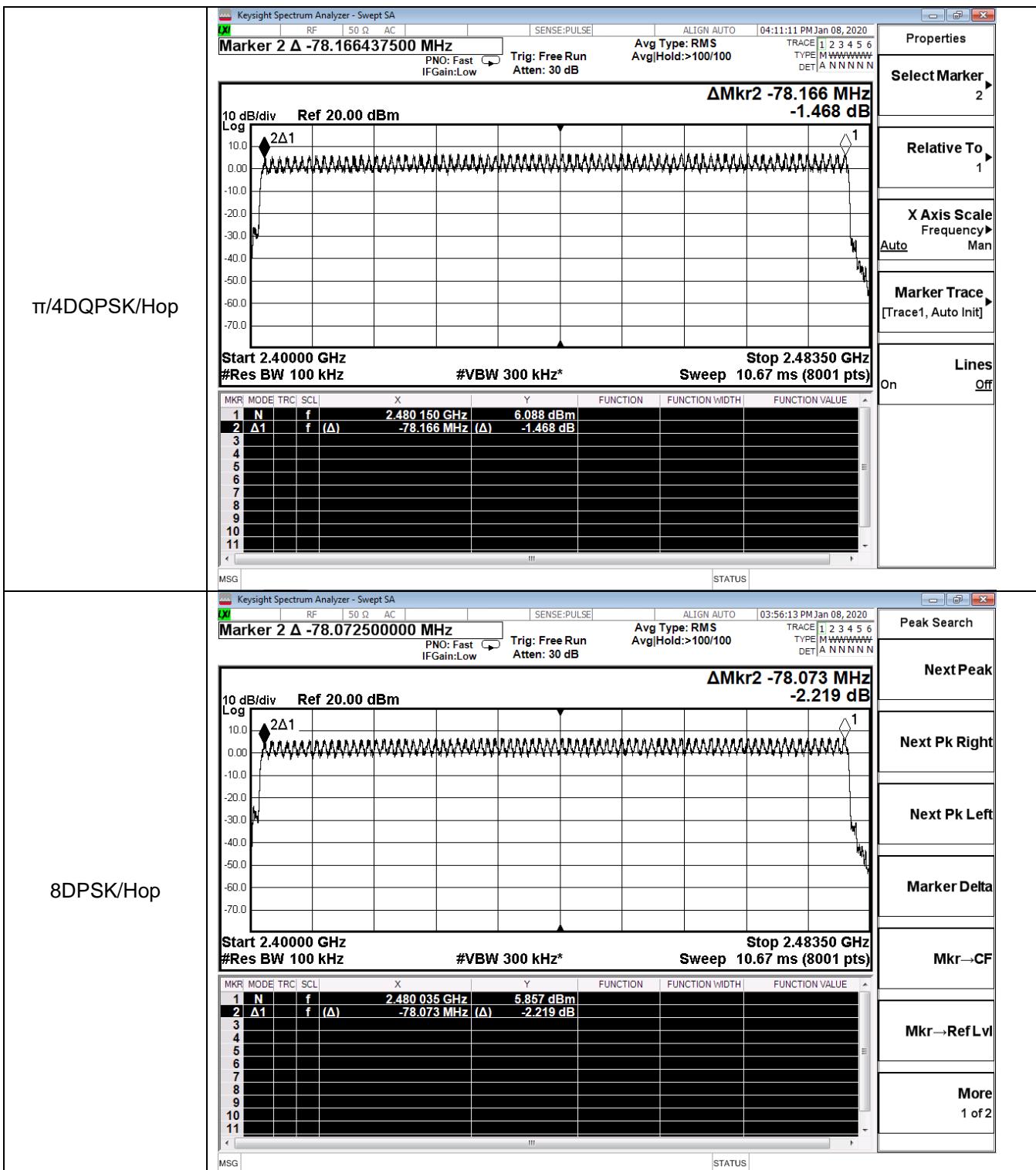




#### A.4 Hopping Channel Number

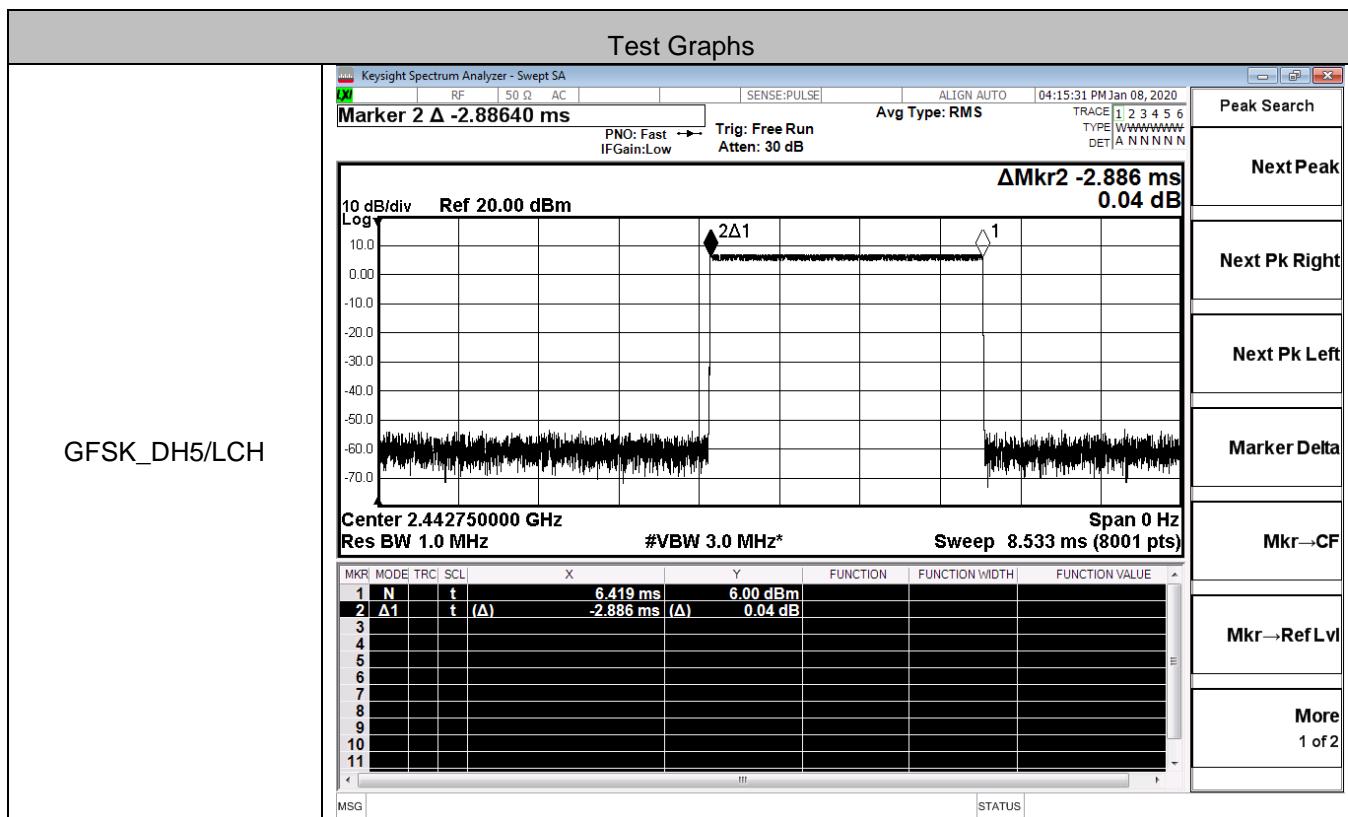
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

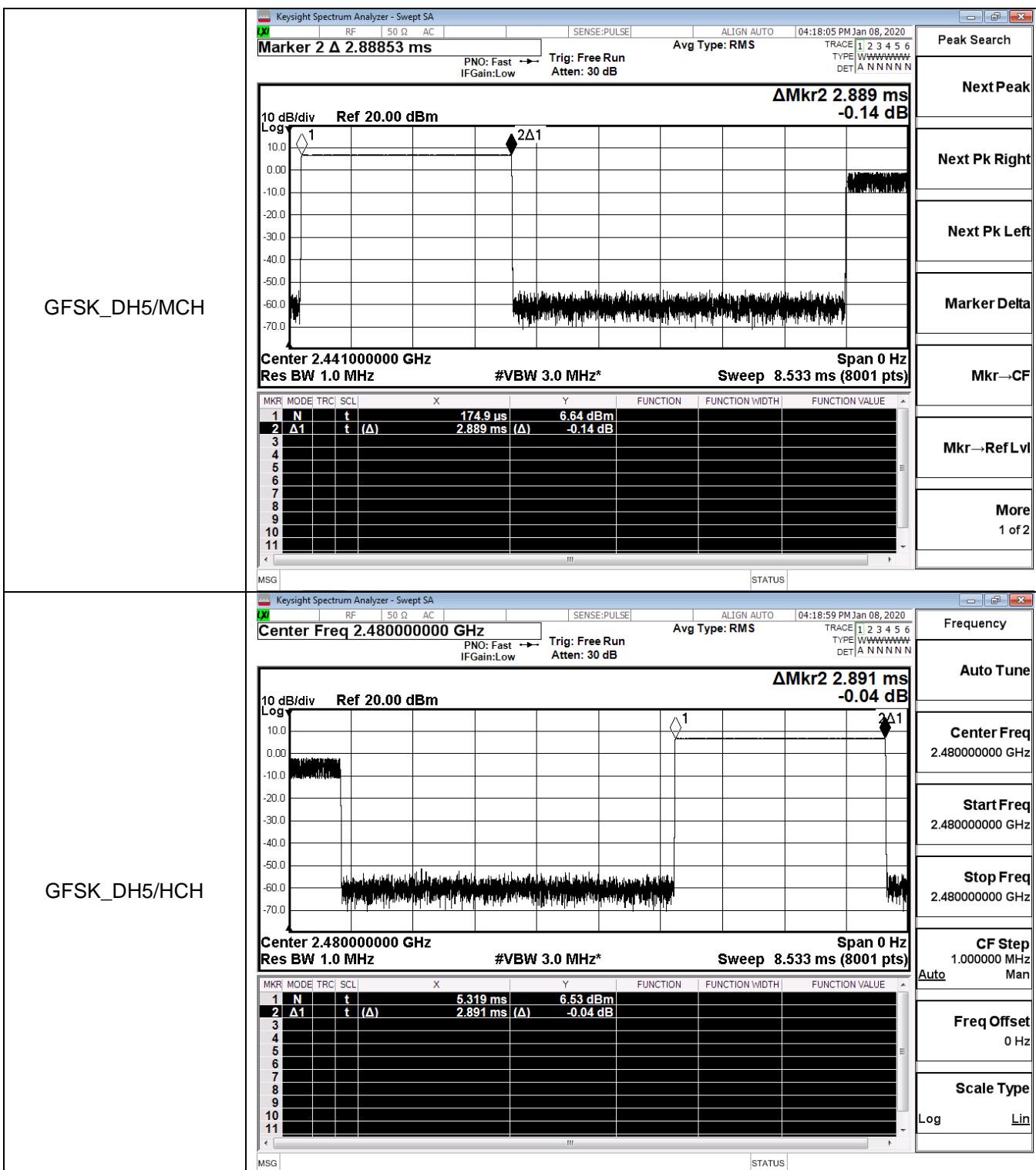




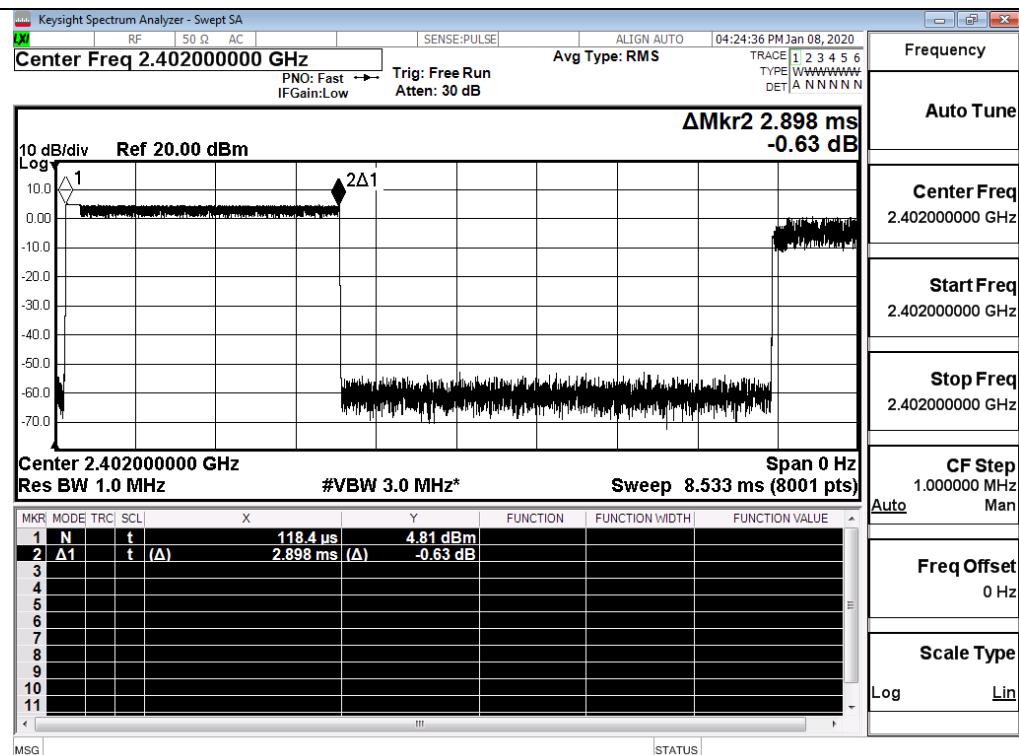
## A.5 Dwell Time

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.886	106.7	0.31	0.4	PASS
	DH5	MCH	2.889	106.7	0.31	0.4	PASS
	DH5	HCH	2.891	106.7	0.31	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.898	106.7	0.30	0.4	PASS
	2DH5	MCH	2.898	106.7	0.31	0.4	PASS
	2DH5	HCH	2.899	106.7	0.31	0.4	PASS
8DPSK	3DH5	LCH	2.898	106.7	0.31	0.4	PASS
	3DH5	MCH	2.901	106.7	0.31	0.4	PASS
	3DH5	HCH	2.895	106.7	0.31	0.4	PASS

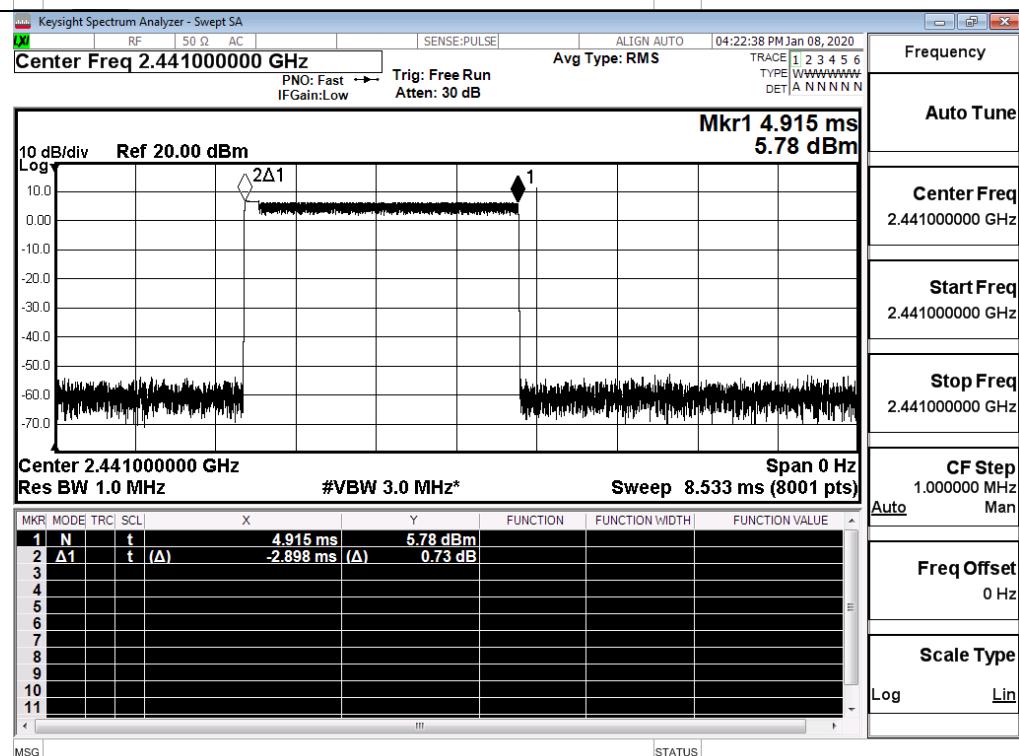




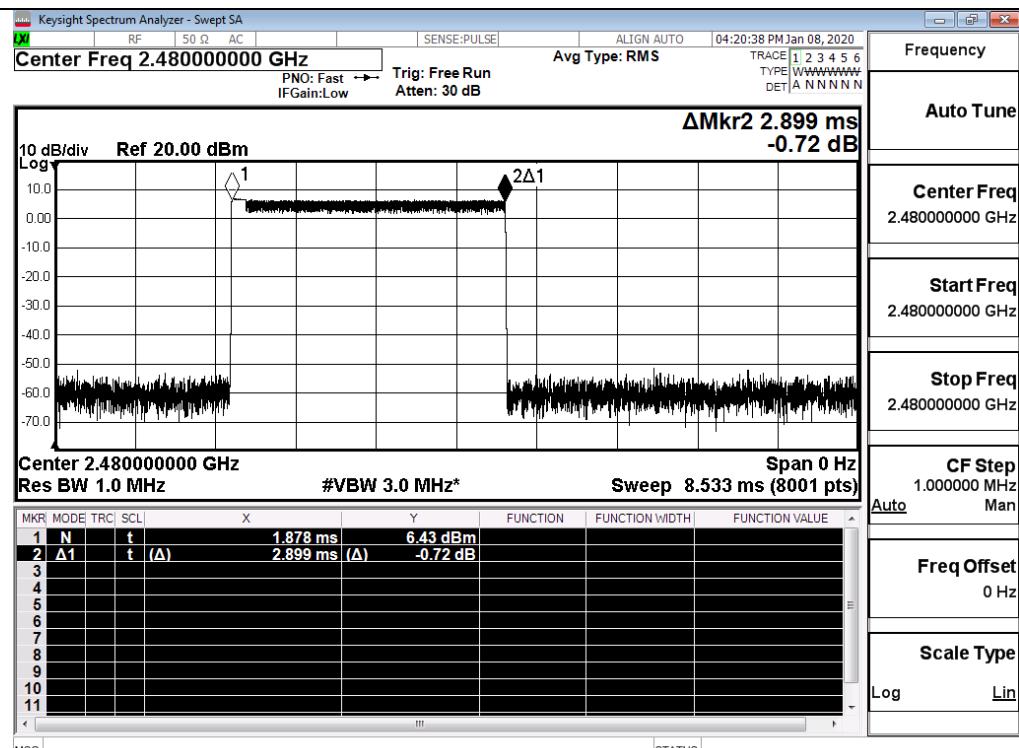
π/4DQPSK  
2DH5/LCH



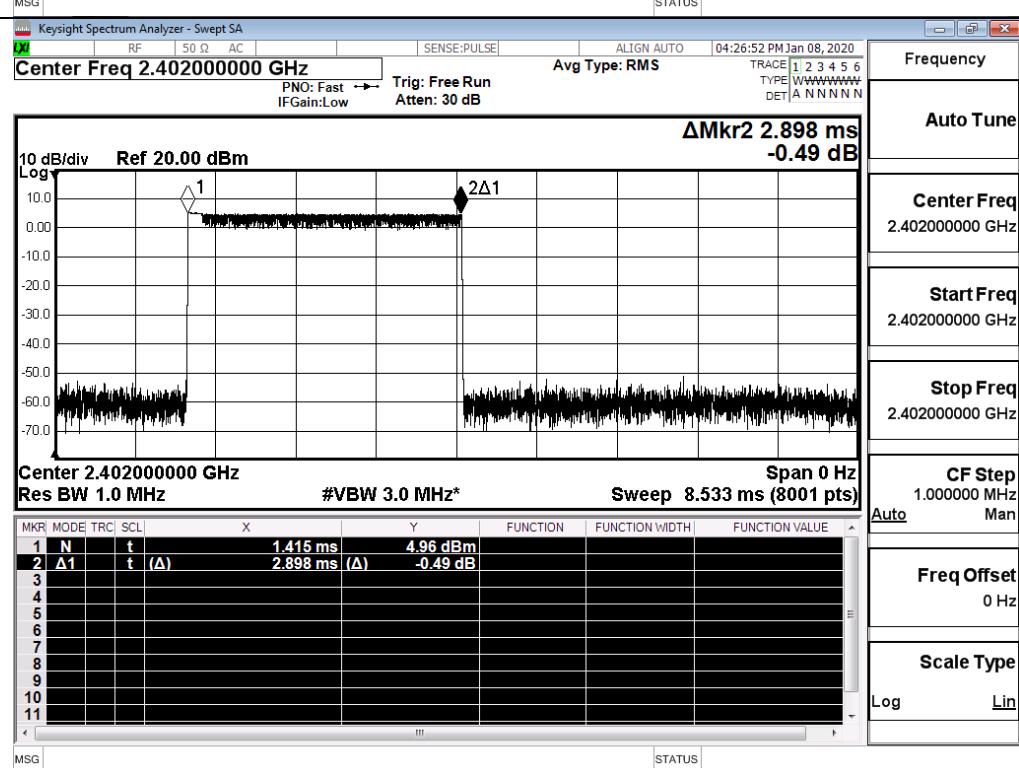
π/4DQPSK  
2DH5/MCH

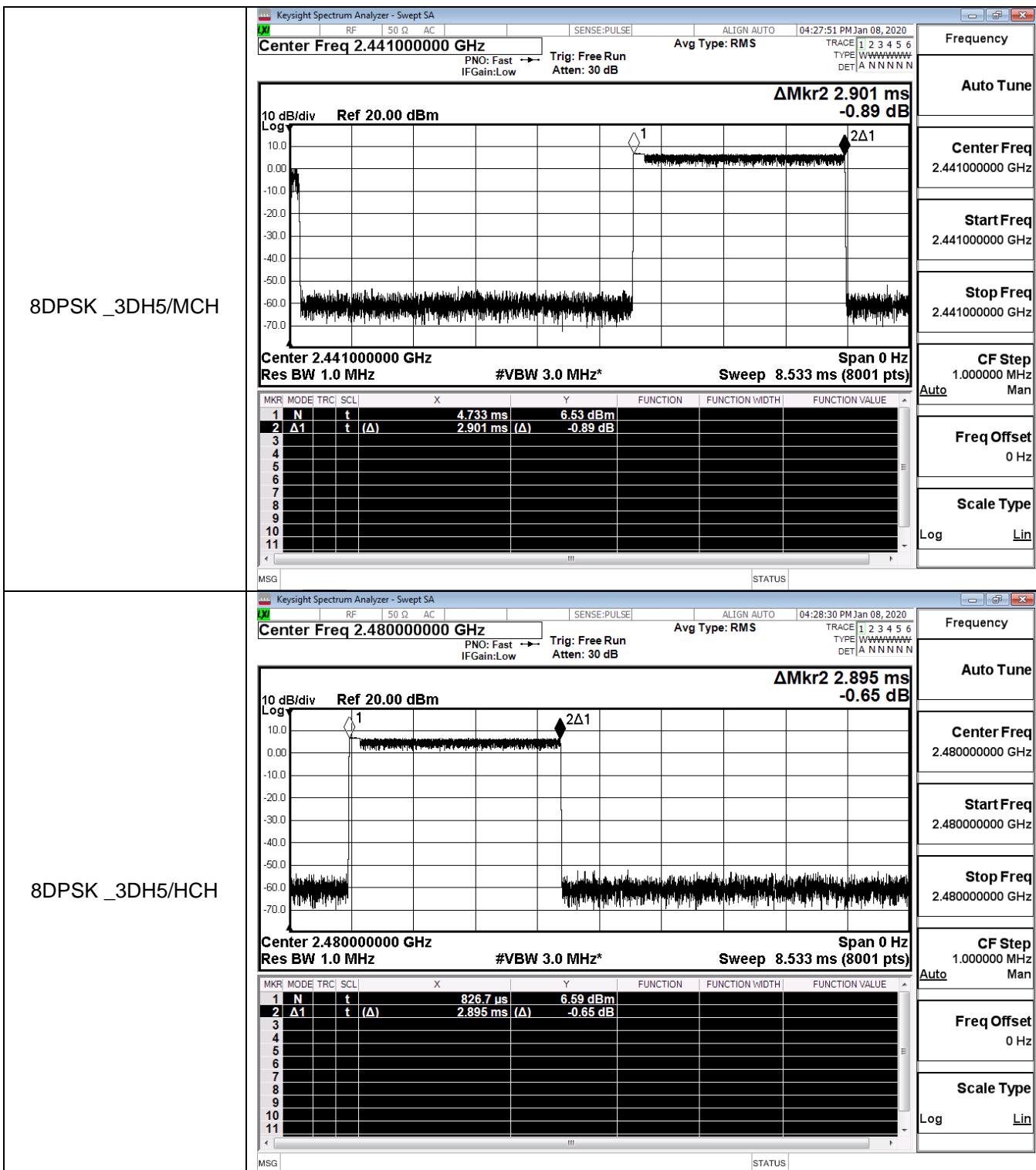


$\pi/4$ DQPSK  
\_2DH5/HCH



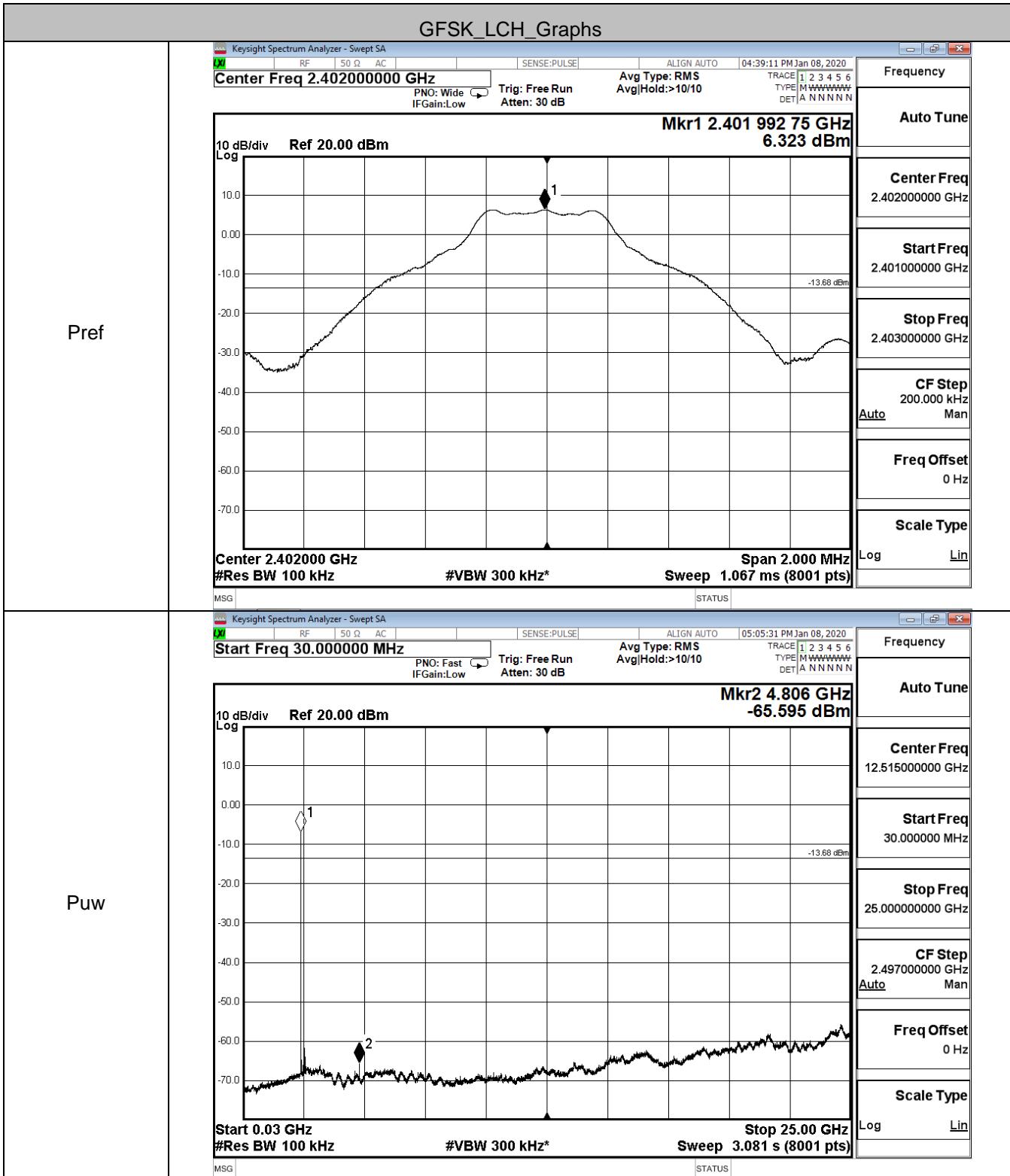
8DPSK \_3DH5/LCH

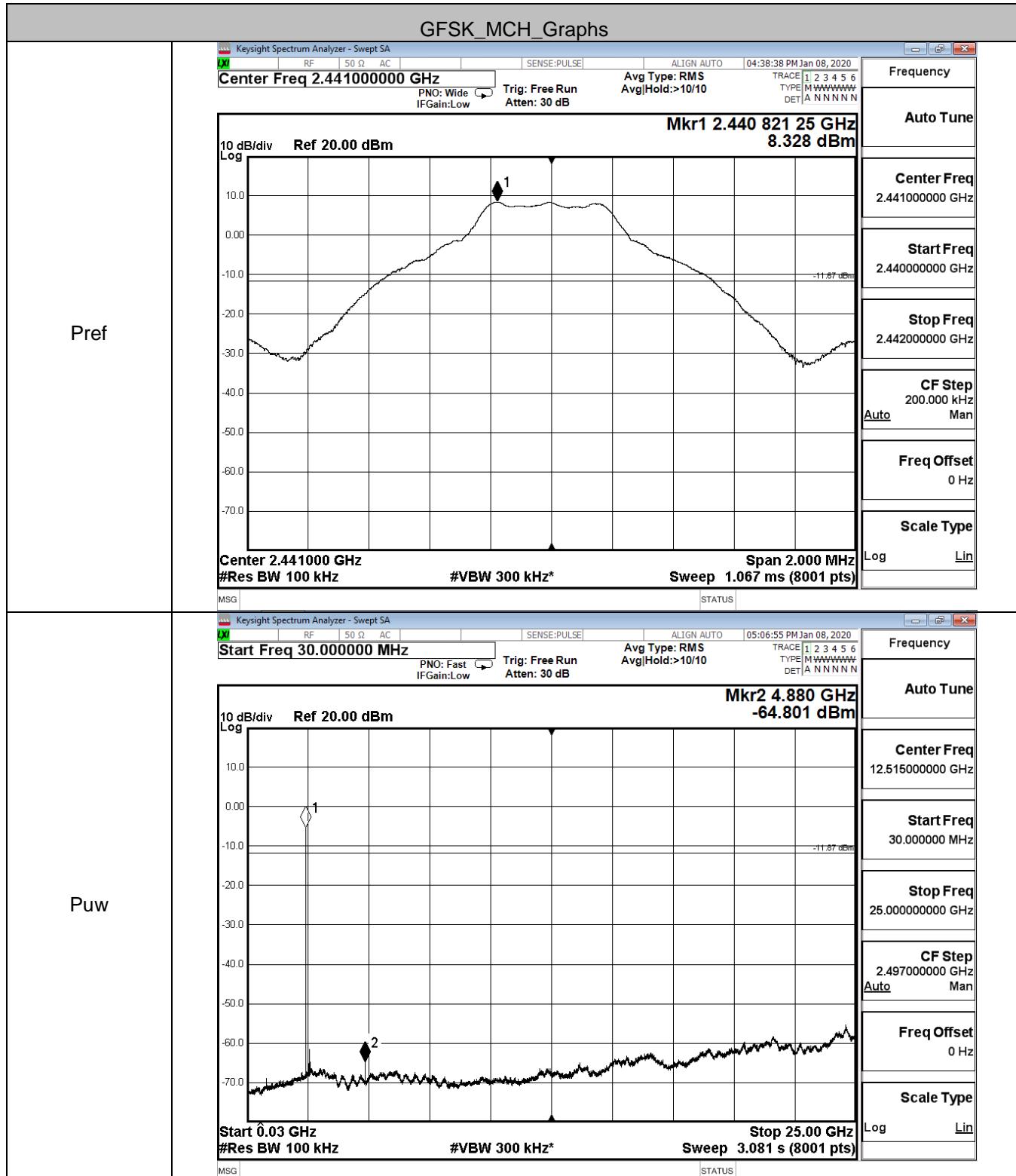


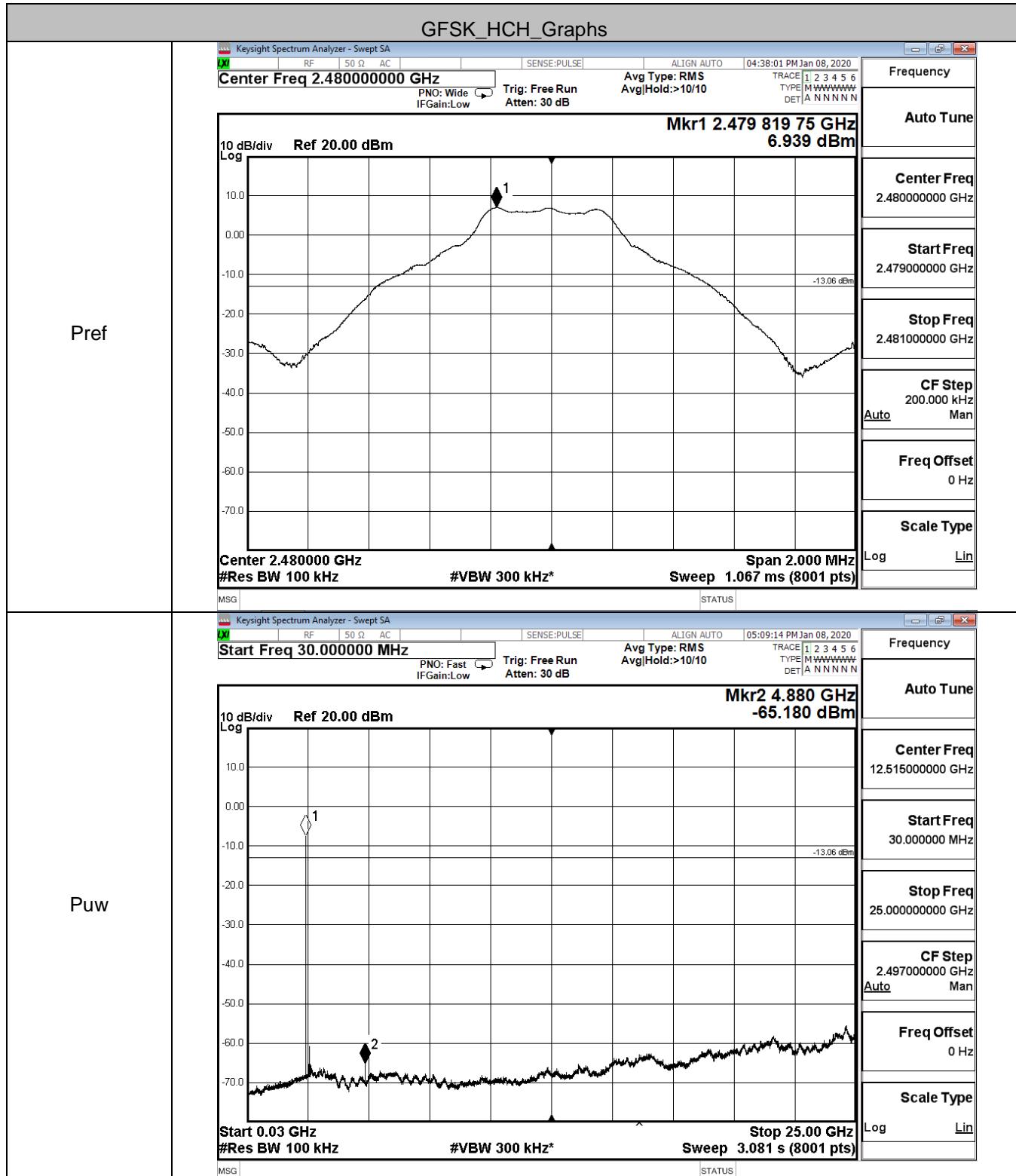


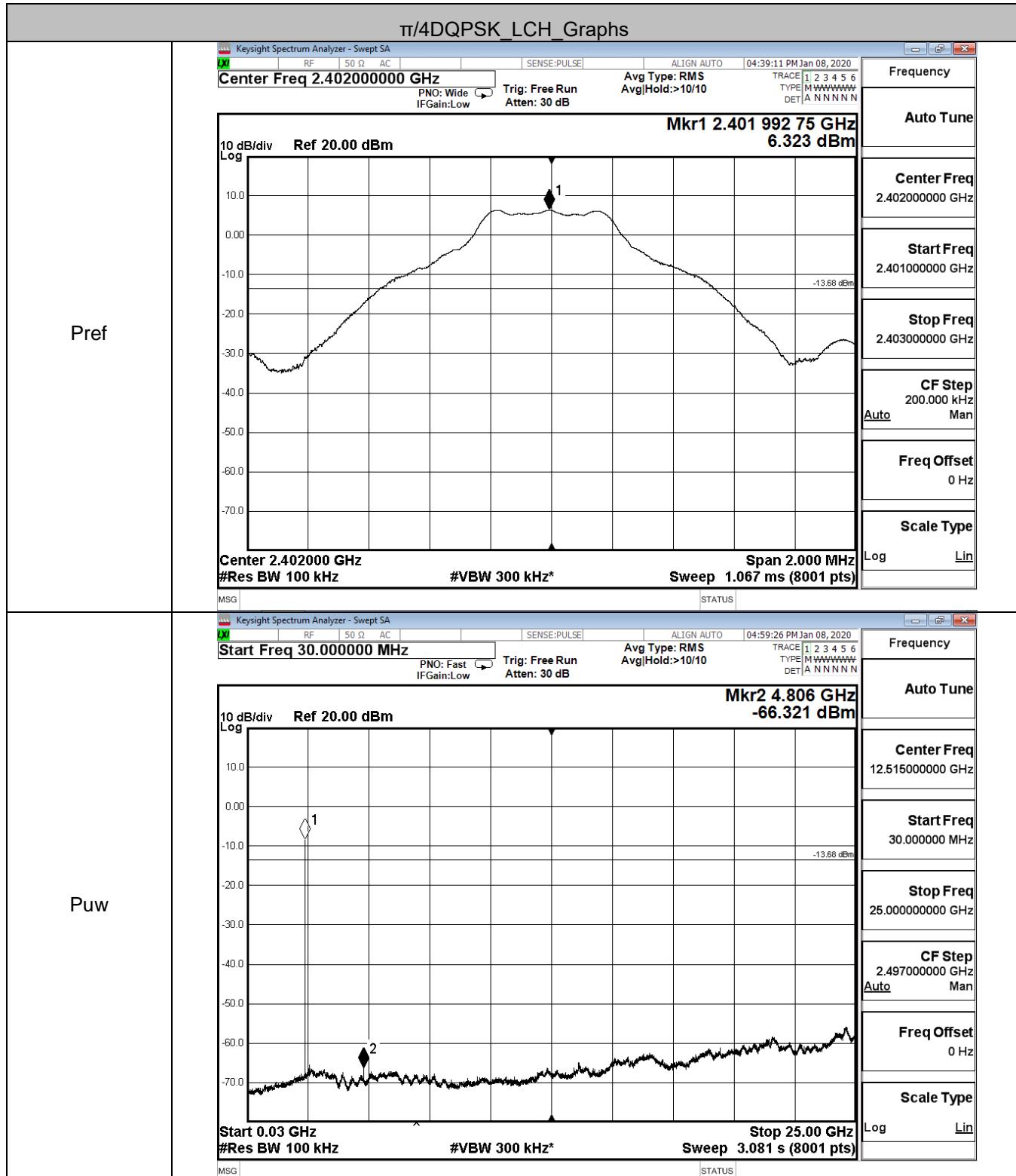
## A.6 RF Conducted Spurious Emissions

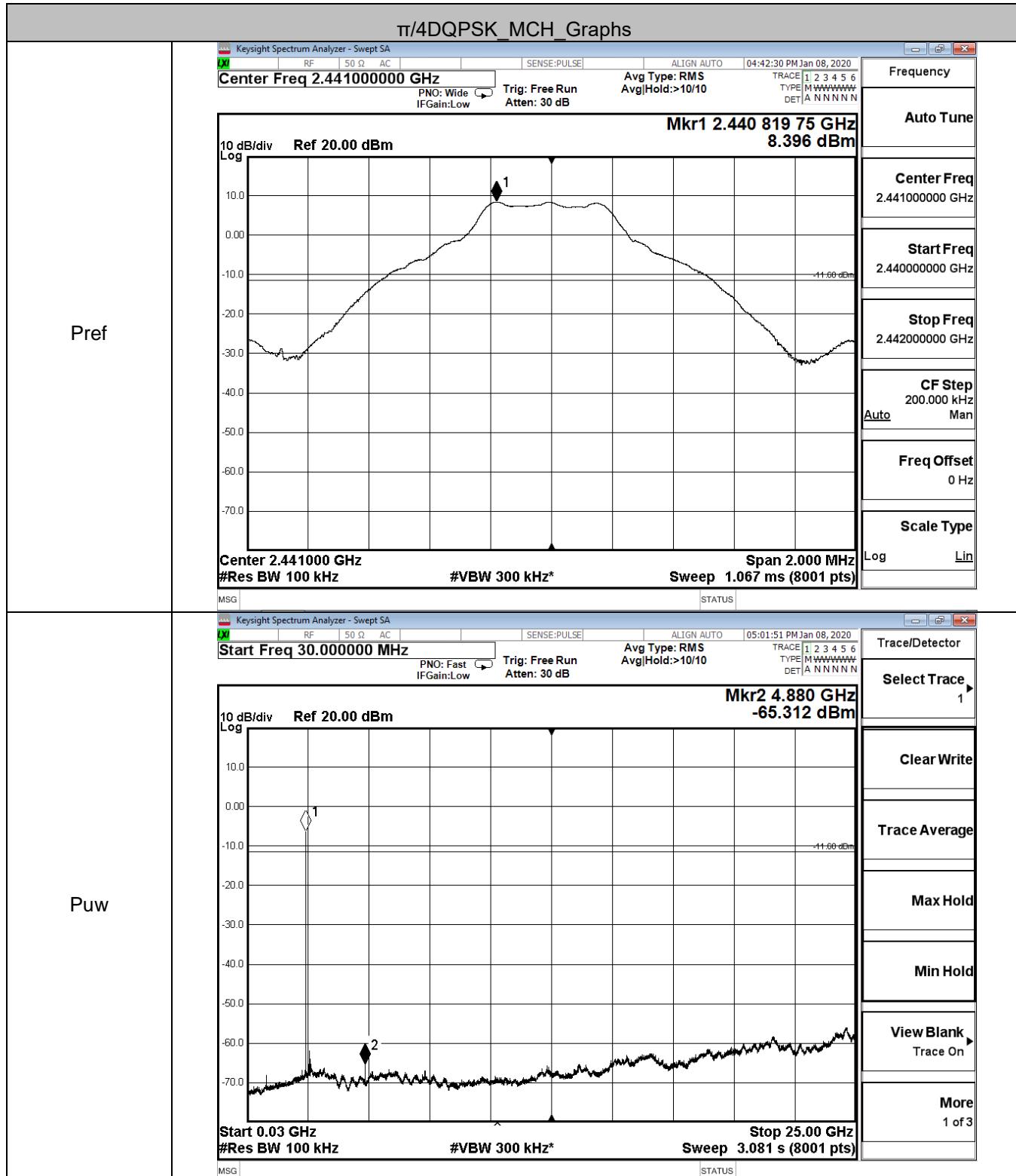
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	6.323	-65.595	-13.68	PASS
	MCH	8.328	-64.801	-11.87	PASS
	HCH	6.939	-65.180	-13.06	PASS
$\pi/4$ DQPSK	LCH	6.323	-66.321	-13.68	PASS
	MCH	8.396	-65.312	-11.60	PASS
	HCH	6.852	-63.244	-13.15	PASS
8DPSK	LCH	5.153	-64.151	-14.85	PASS
	MCH	6.826	-66.038	-13.17	PASS
	HCH	6.921	-66.331	-11.08	PASS

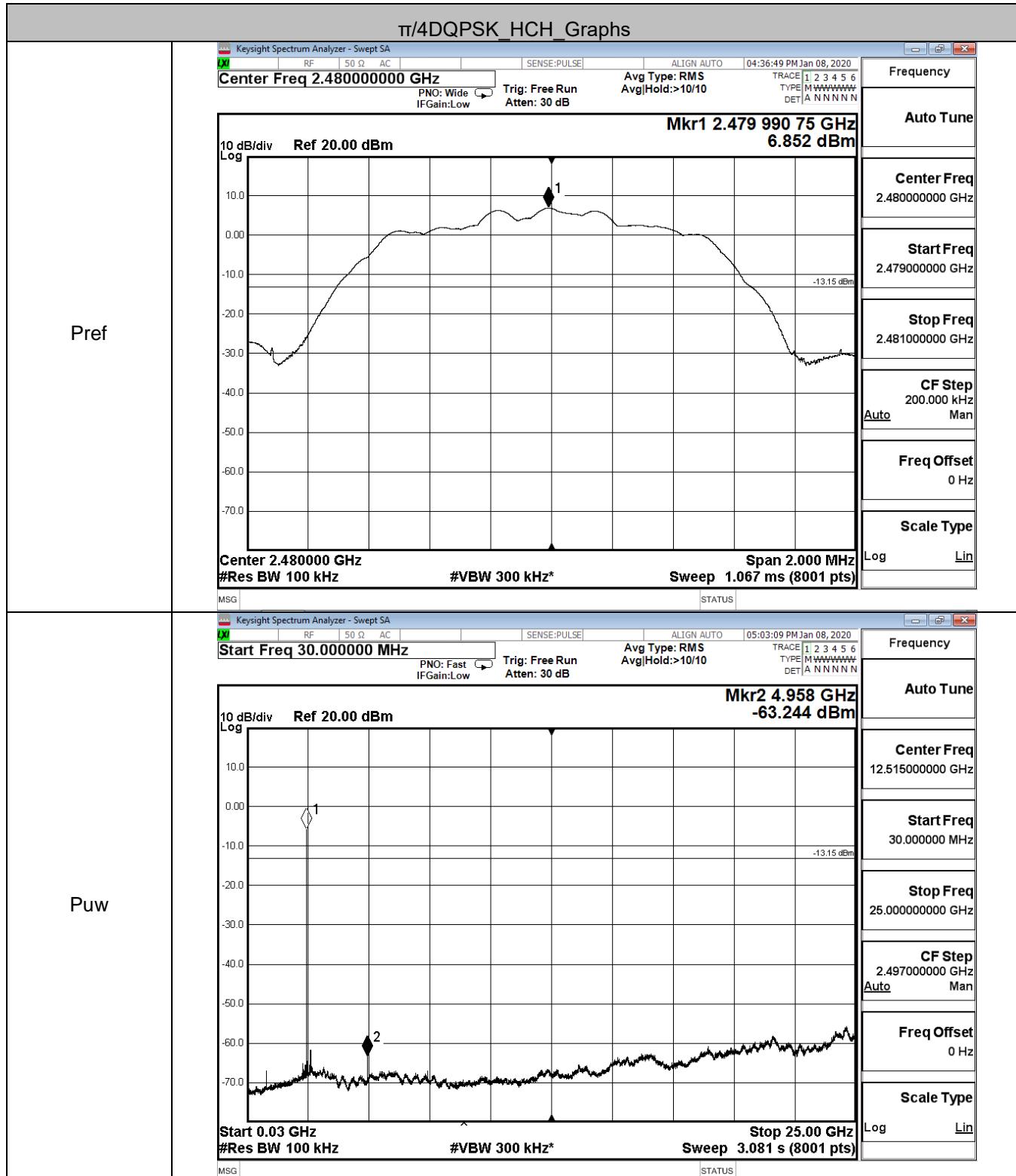


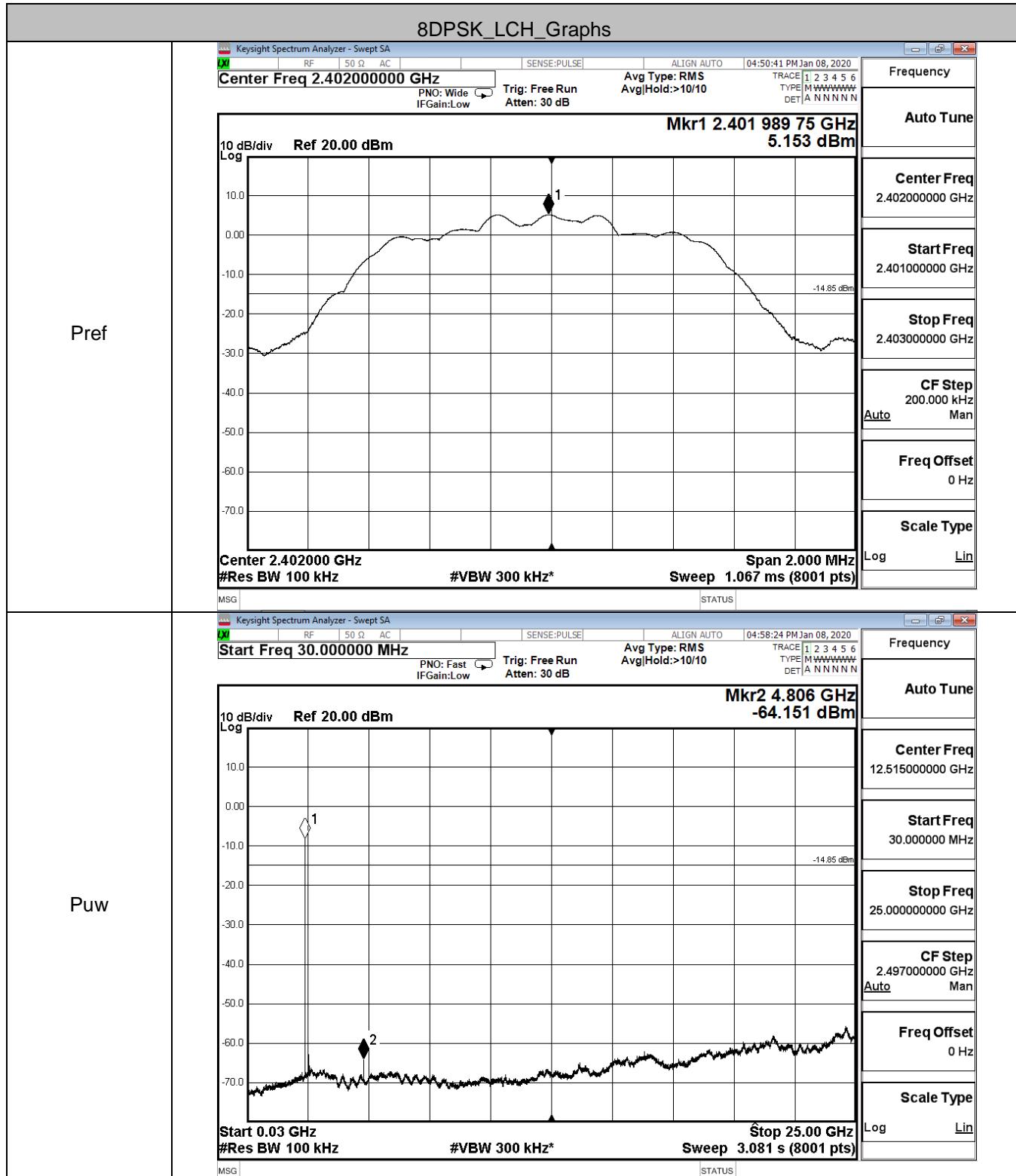


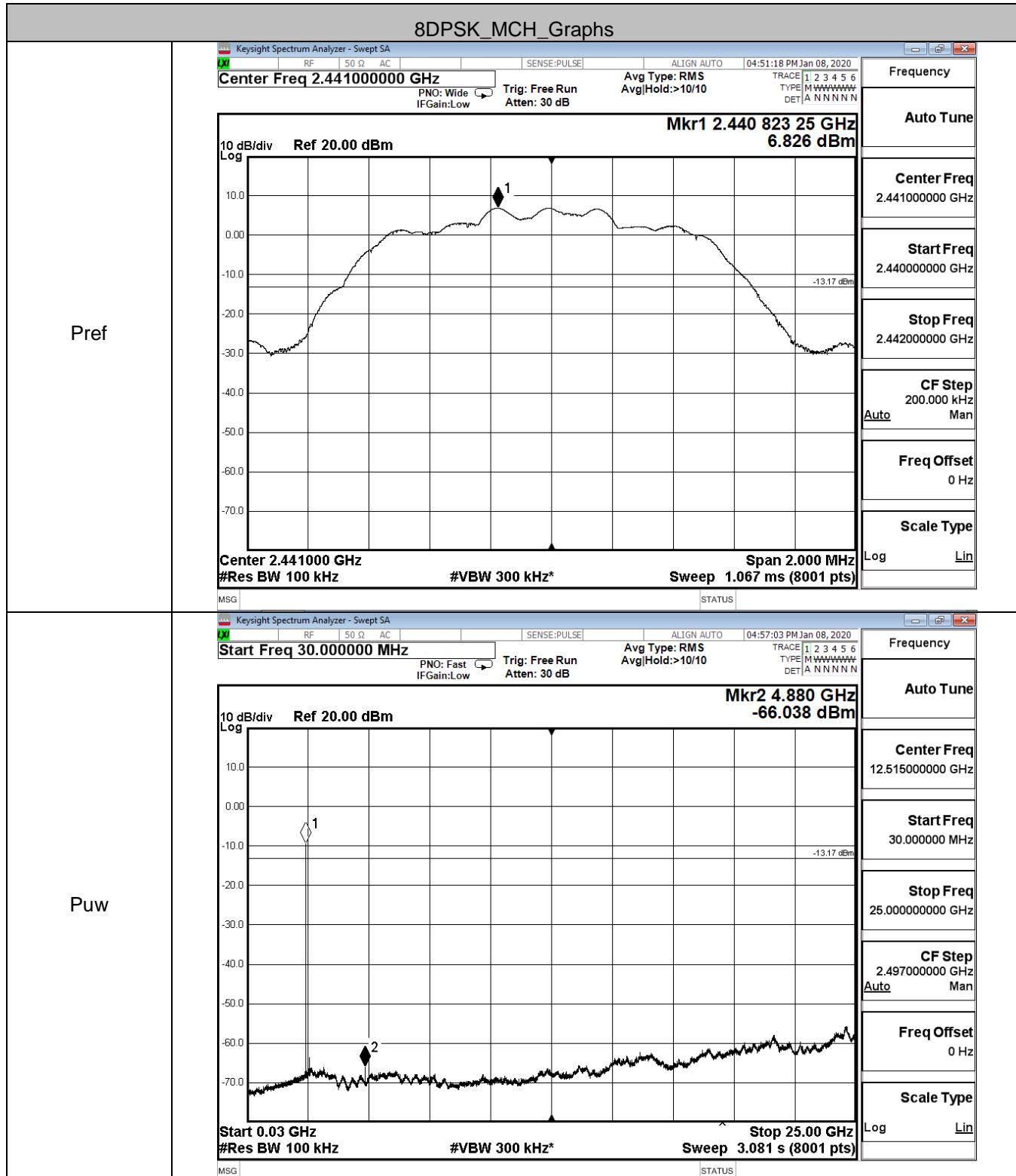


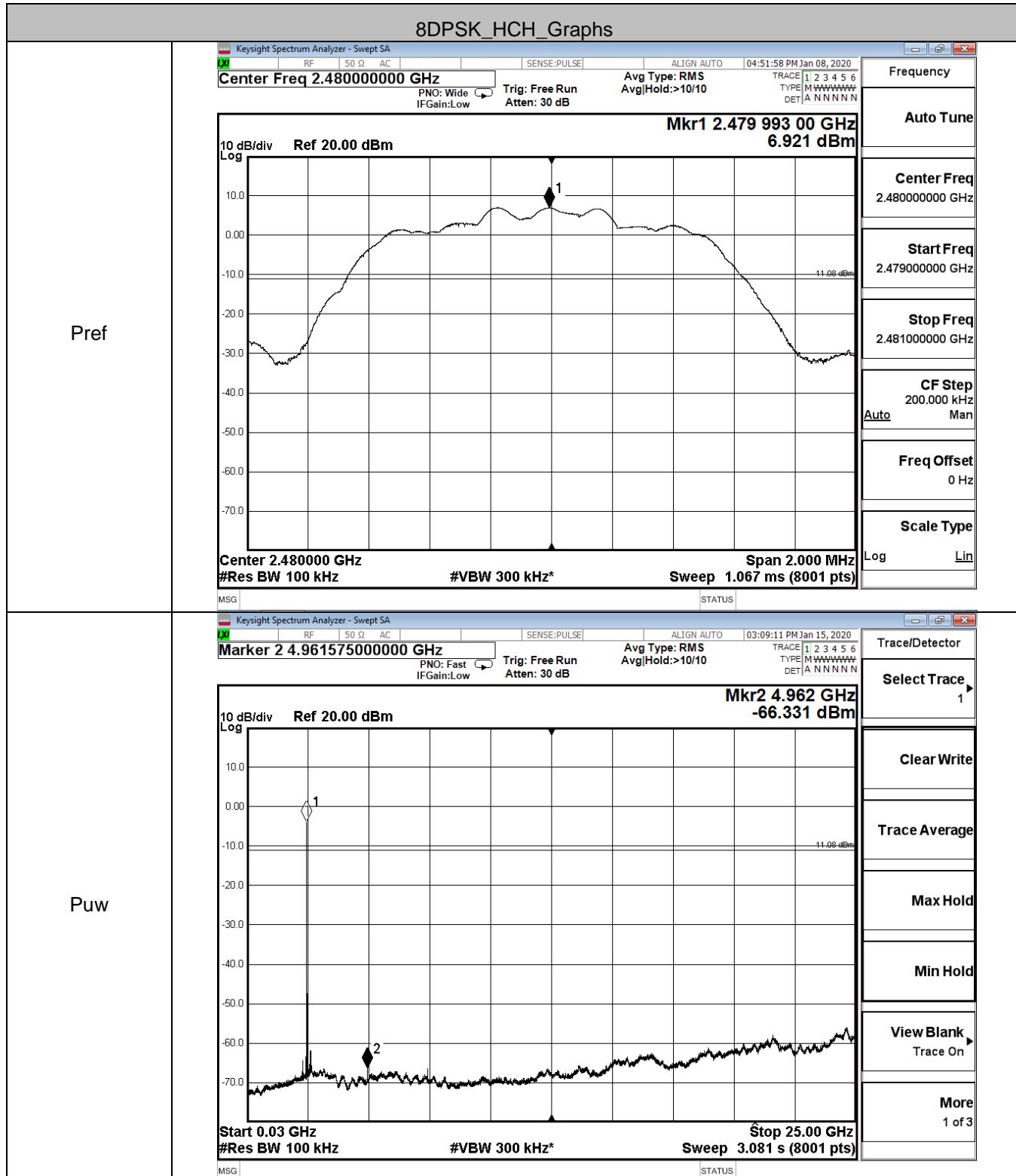






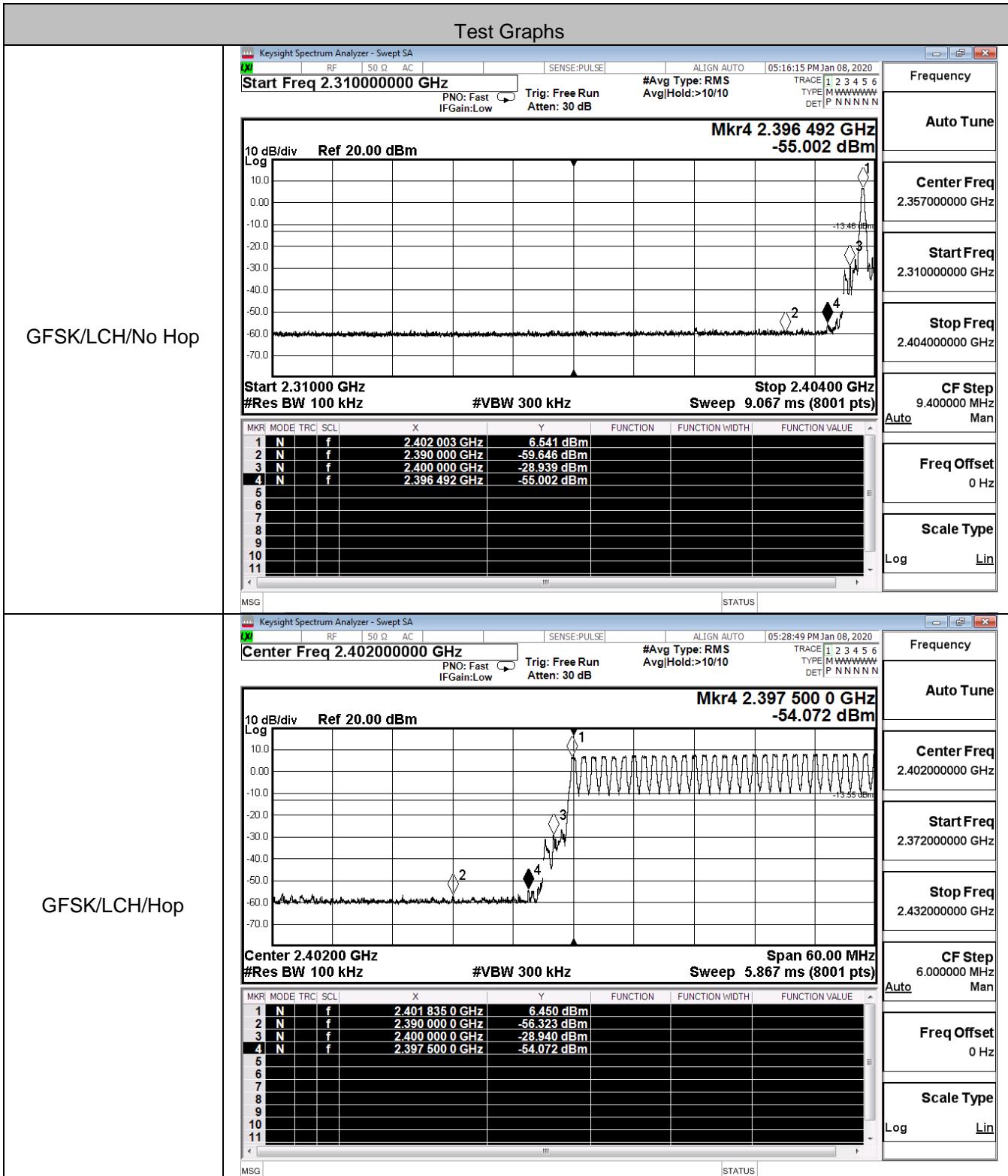


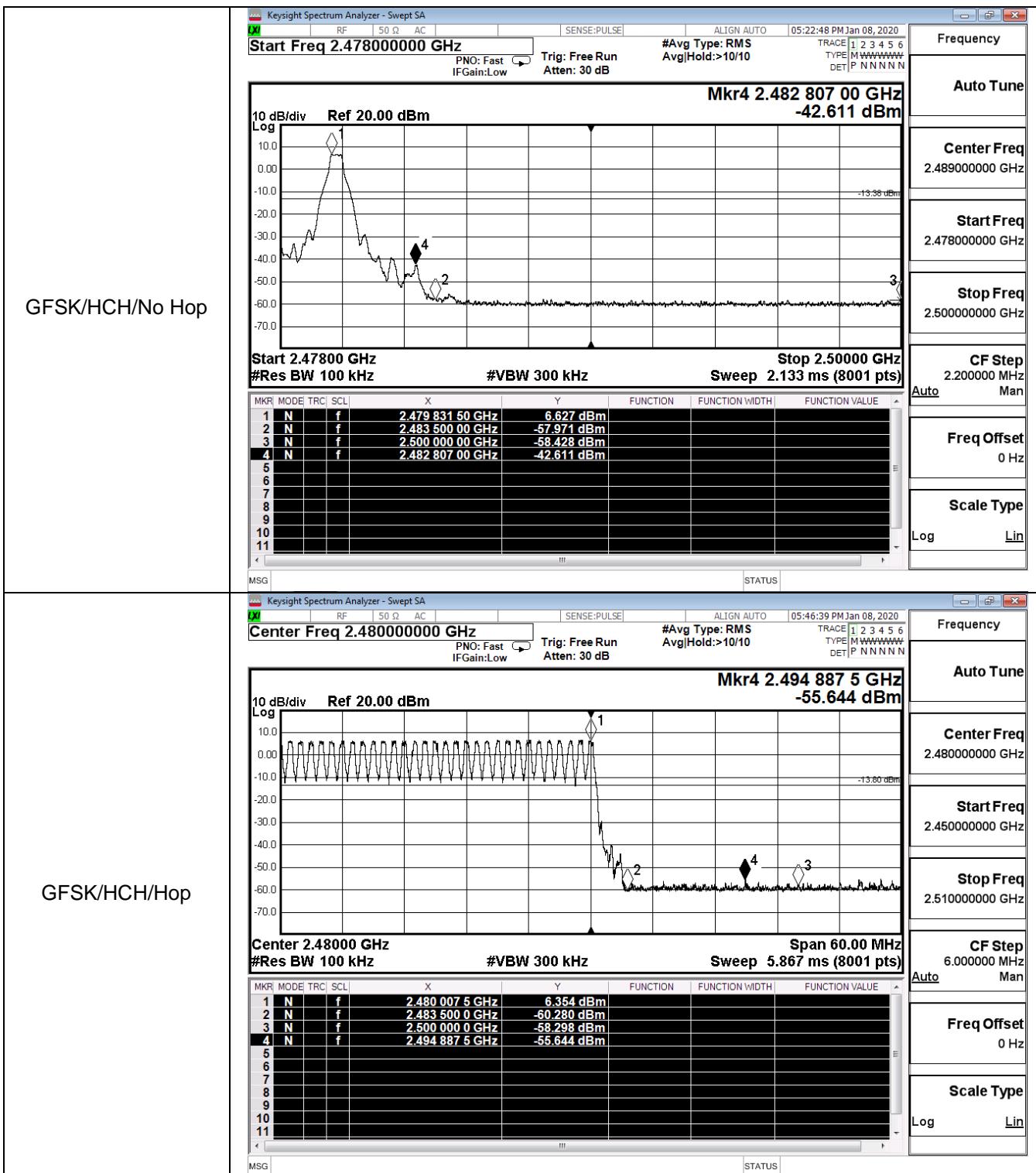


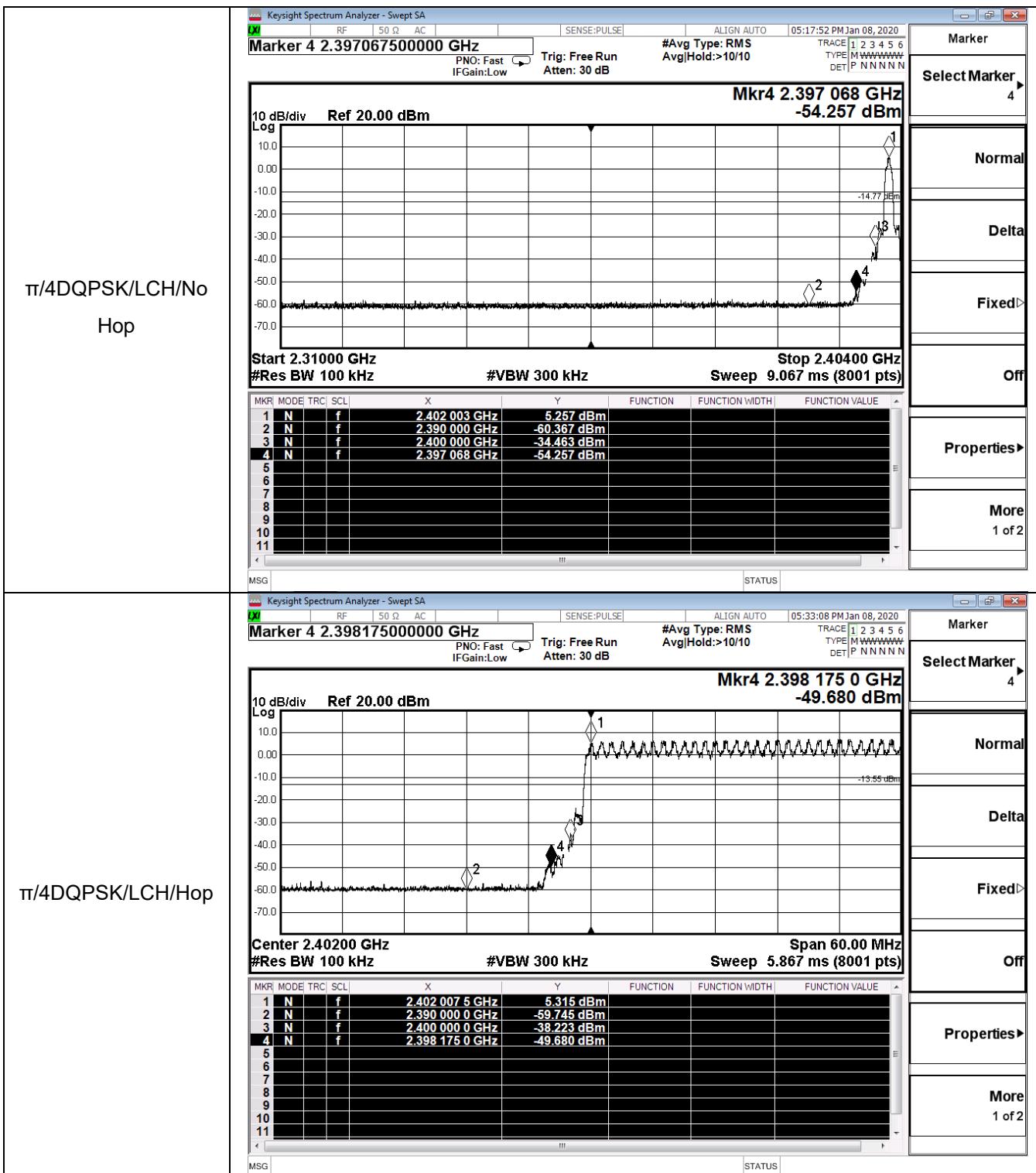


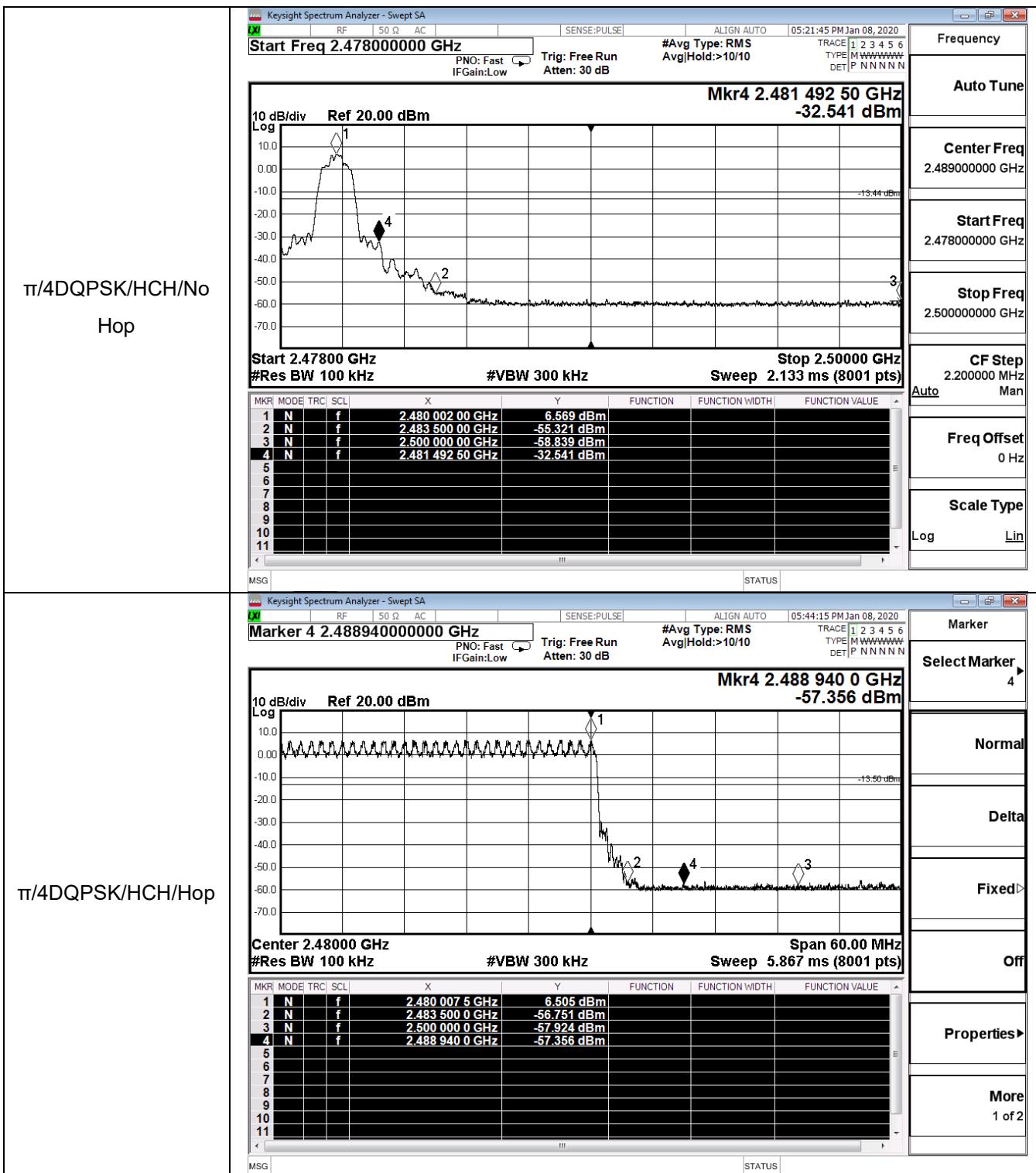
### A.7 Band-edge for RF Conducted Emissions

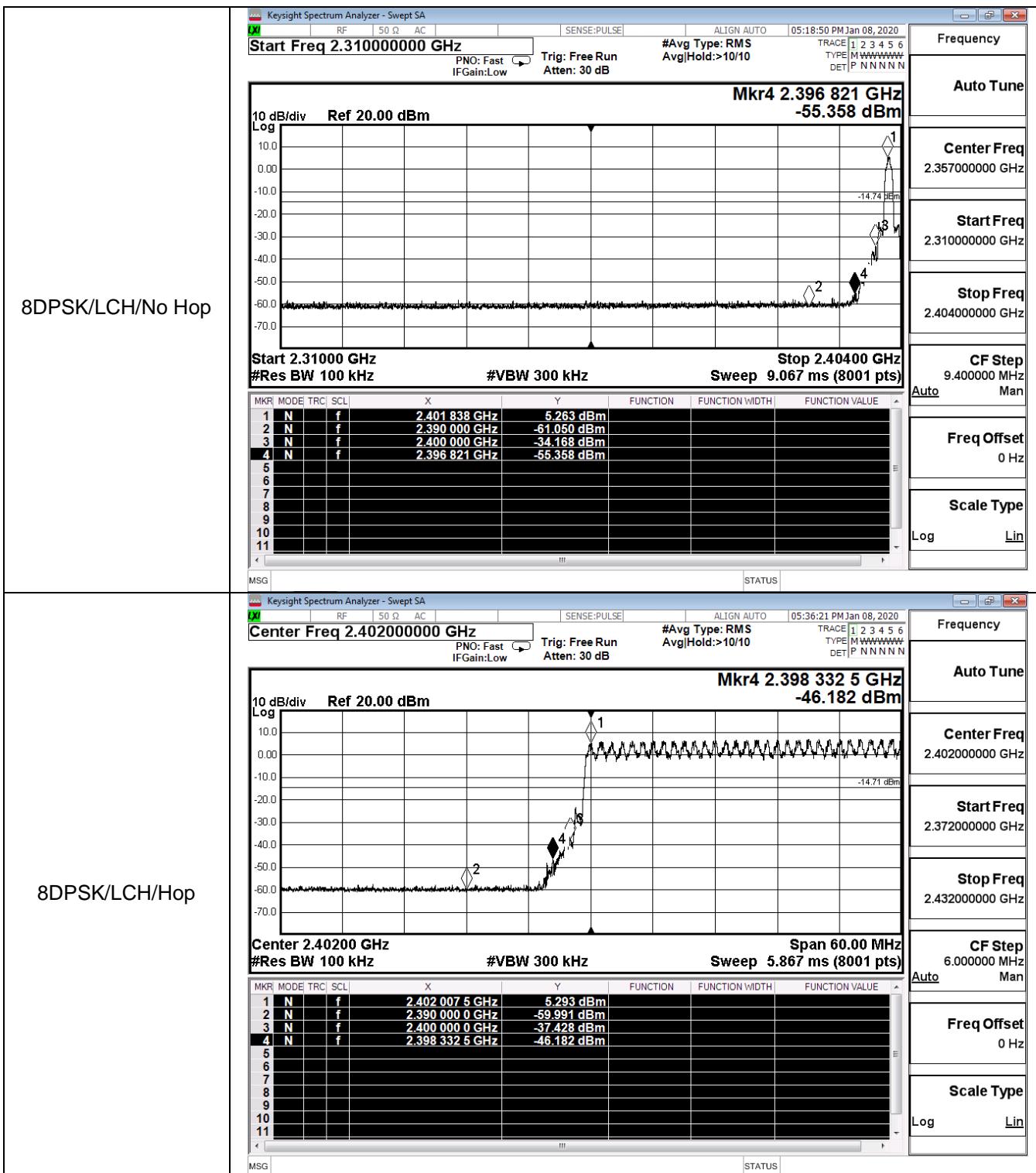
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	6.541	Off	-55.002	-13.46	PASS
			6.450	On	-54.072	-13.55	PASS
	HCH	2480	6.627	Off	-42.611	-13.37	PASS
			6.354	On	-55.644	-13.65	PASS
$\pi/4$ DQPSK	LCH	2402	5.257	Off	-54.257	-14.74	PASS
			5.315	On	-49.680	-14.68	PASS
	HCH	2480	6.569	Off	-32.541	-13.43	PASS
			6.505	On	-57.356	-13.49	PASS
8DPSK	LCH	2402	5.263	Off	-55.358	-14.74	PASS
			5.293	On	-46.182	-14.71	PASS
	HCH	2480	6.623	Off	-32.149	-13.38	PASS
			6.290	On	-56.940	-13.71	PASS

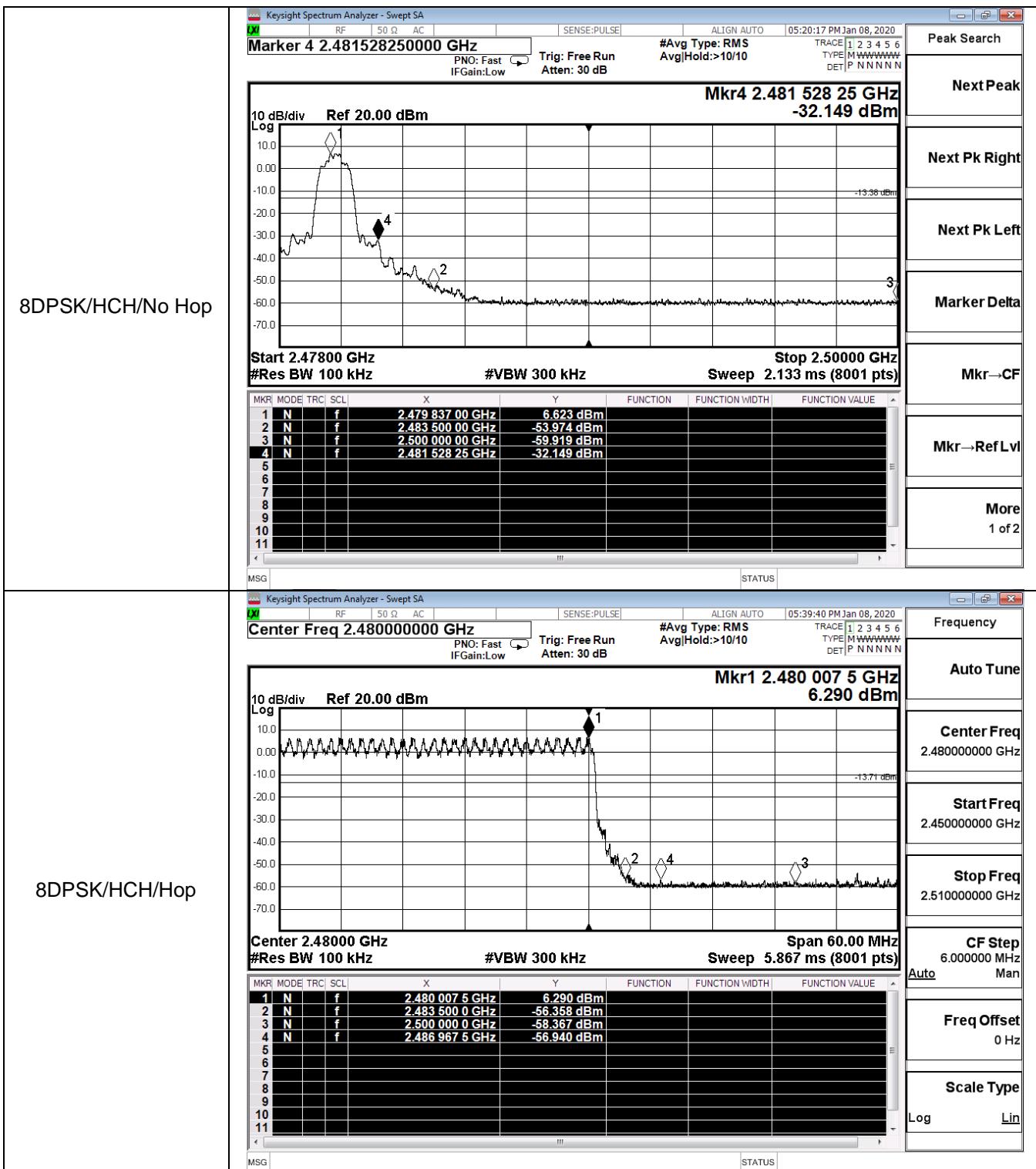








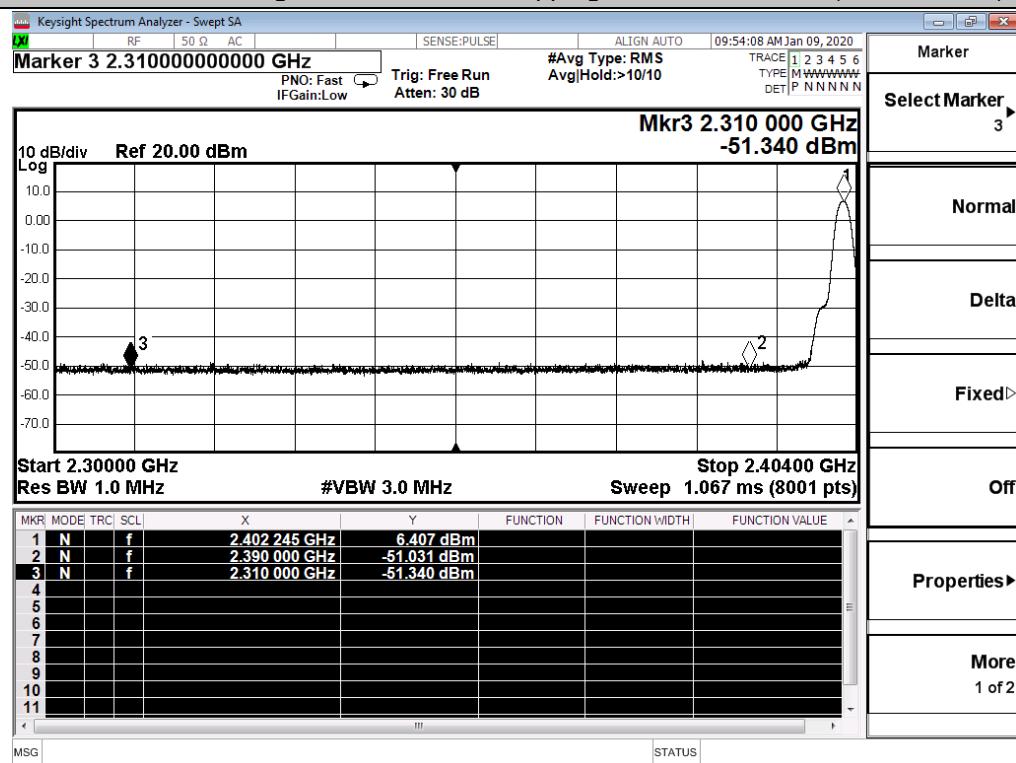




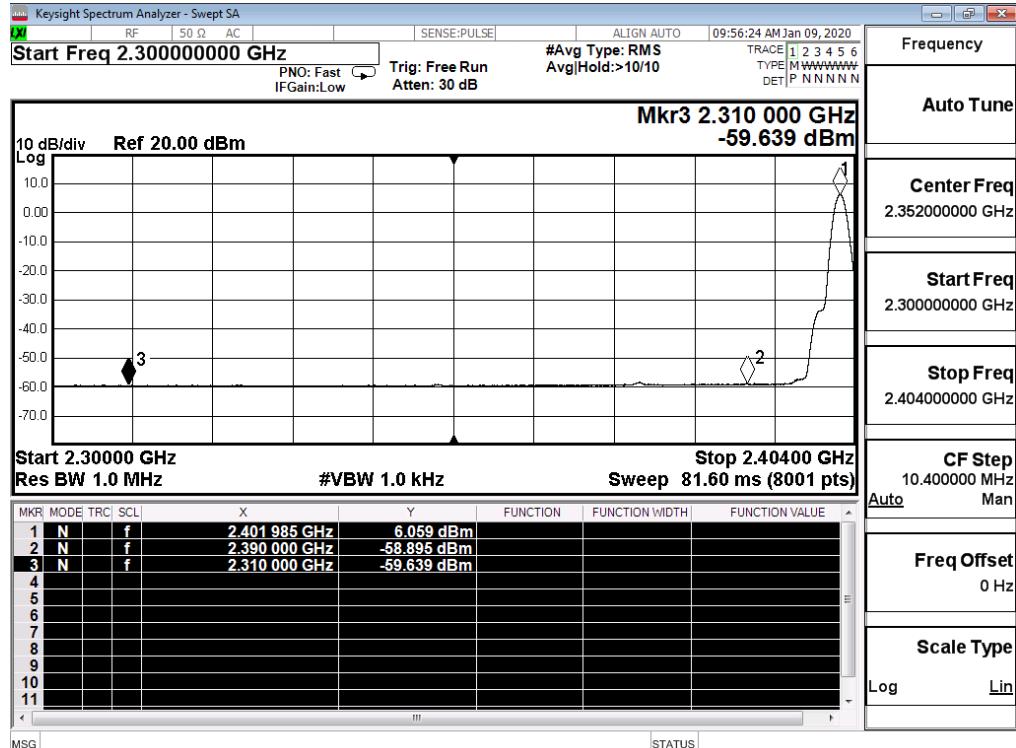
## A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-51.340	4	0	47.92	PEAK	74	PASS
	Off	2310.0	-59.639	4	0	39.62	AV	54	PASS
	Off	2390.0	-51.031	4	0	48.23	PEAK	74	PASS
	Off	2390.0	-58.895	4	0	40.37	AV	54	PASS
	Off	2483.5	-43.538	4	0	55.72	PEAK	74	PASS
	Off	2483.5	-55.706	4	0	43.55	AV	54	PASS
	Off	2500.0	-50.468	4	0	48.79	PEAK	74	PASS
	Off	2500.0	-60.848	4	0	38.41	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-54.155	4	0	45.11	PEAK	74	PASS
	Off	2310.0	-59.636	4	0	39.62	AV	54	PASS
	Off	2390.0	-53.138	4	0	46.12	PEAK	74	PASS
	Off	2390.0	-59.161	4	0	40.10	AV	54	PASS
	Off	2483.5	-42.118	4	0	57.14	PEAK	74	PASS
	Off	2483.5	-54.083	4	0	45.18	AV	54	PASS
	Off	2500.0	-49.783	4	0	49.48	PEAK	74	PASS
	Off	2500.0	-60.998	4	0	38.26	AV	54	PASS
8DPSK	Off	2310.0	-51.554	4	0	47.71	PEAK	74	PASS
	Off	2310.0	-61.885	4	0	37.38	AV	54	PASS
	Off	2390.0	-50.170	4	0	49.09	PEAK	74	PASS
	Off	2390.0	-61.610	4	0	37.65	AV	54	PASS
	Off	2483.5	-40.609	4	0	58.65	PEAK	74	PASS
	Off	2483.5	-54.006	4	0	45.25	AV	54	PASS
	Off	2500.0	-50.338	4	0	48.92	PEAK	74	PASS
	Off	2500.0	-60.862	4	0	38.40	AV	54	PASS

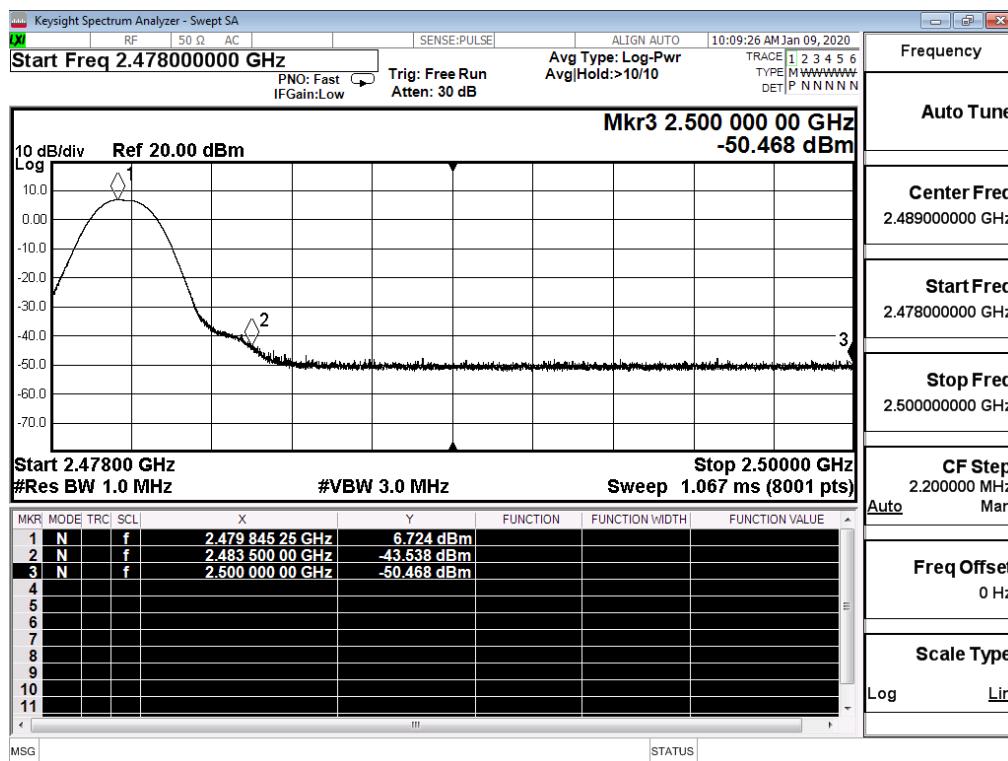
## Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (Low Channel)



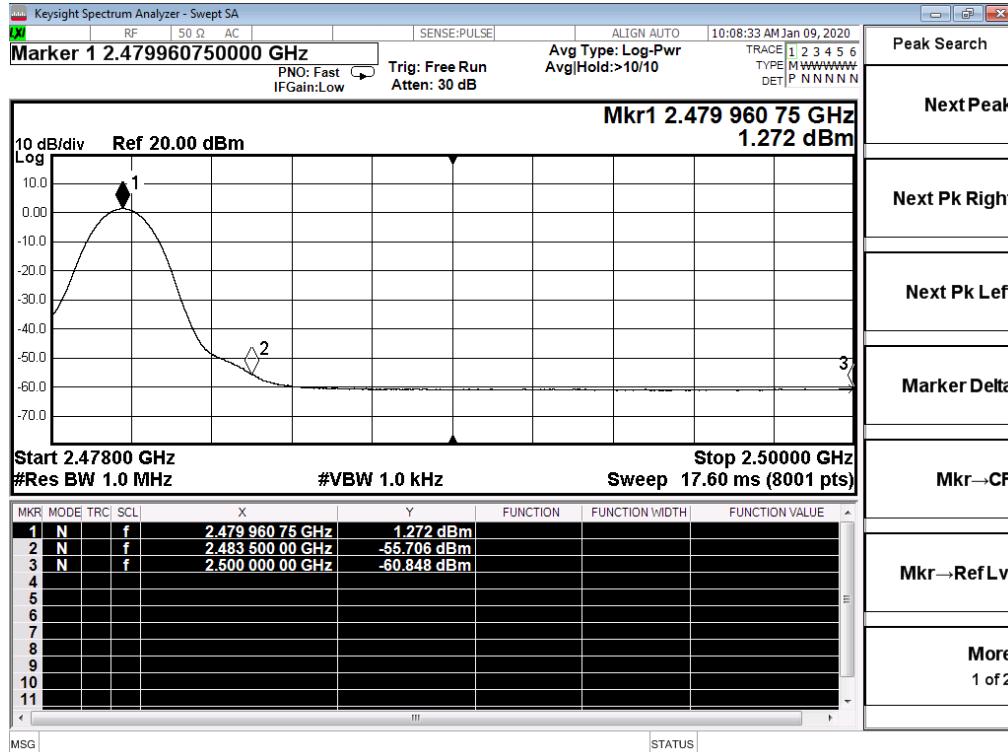
## Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (Low Channel)



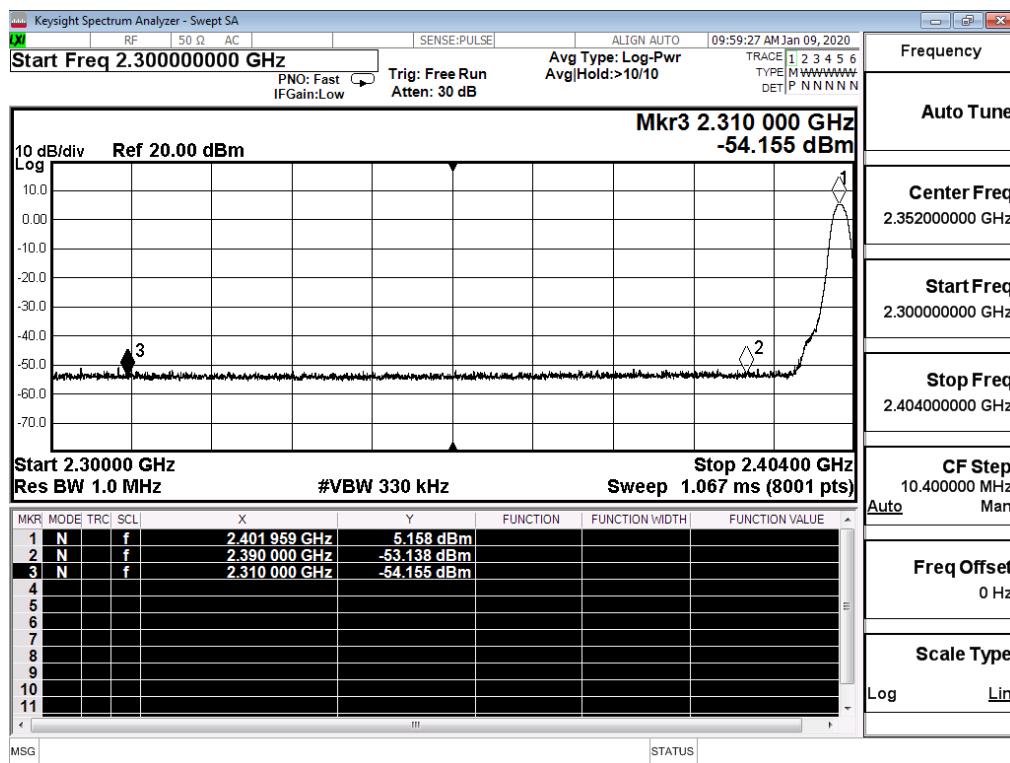
## Restrict-band band-edge measurements\_Hopping Off\_ GFSK\_PEAK (High Channel)



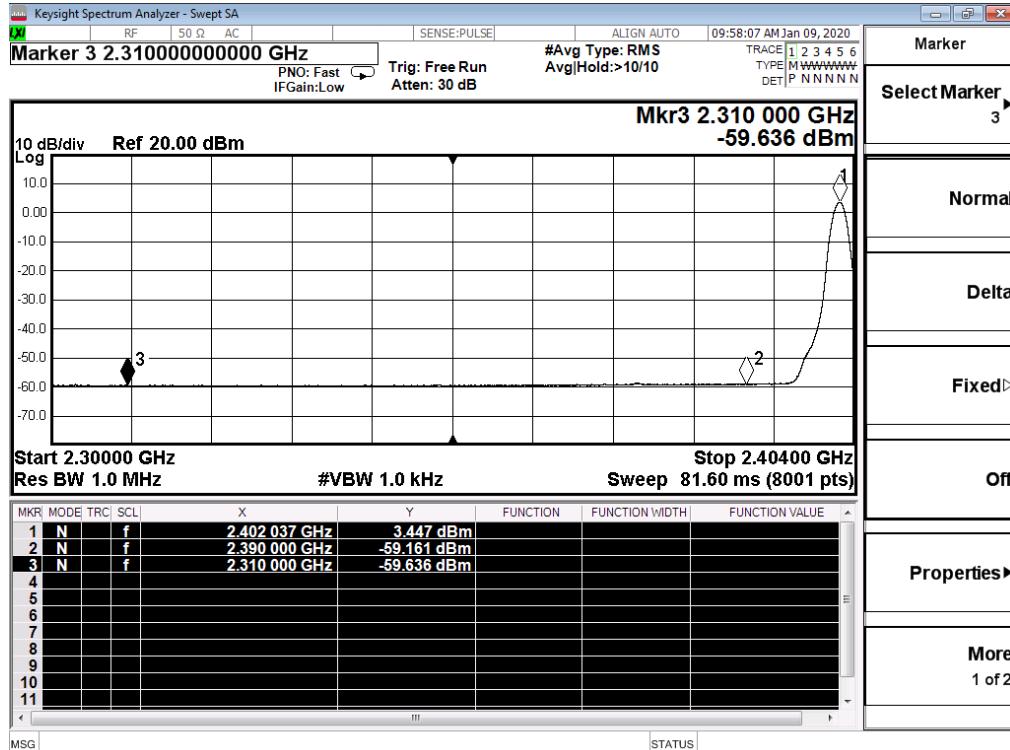
## Restrict-band band-edge measurements\_Hopping Off\_ GFSK\_Average (High Channel)



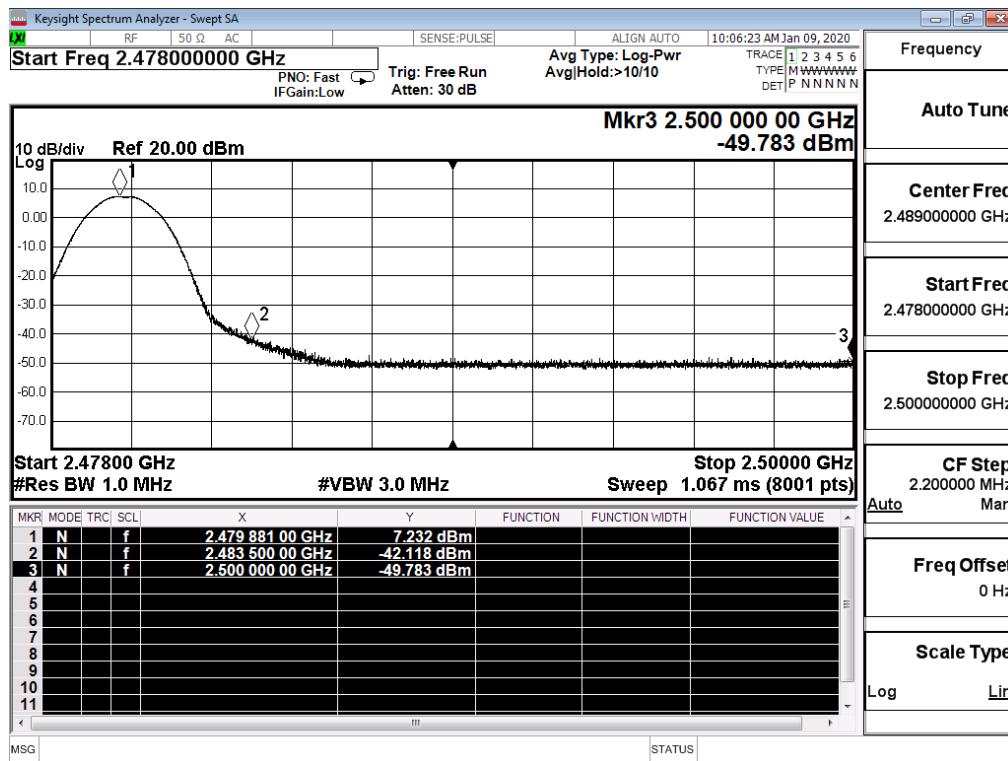
## Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_PEAK (Low Channel)



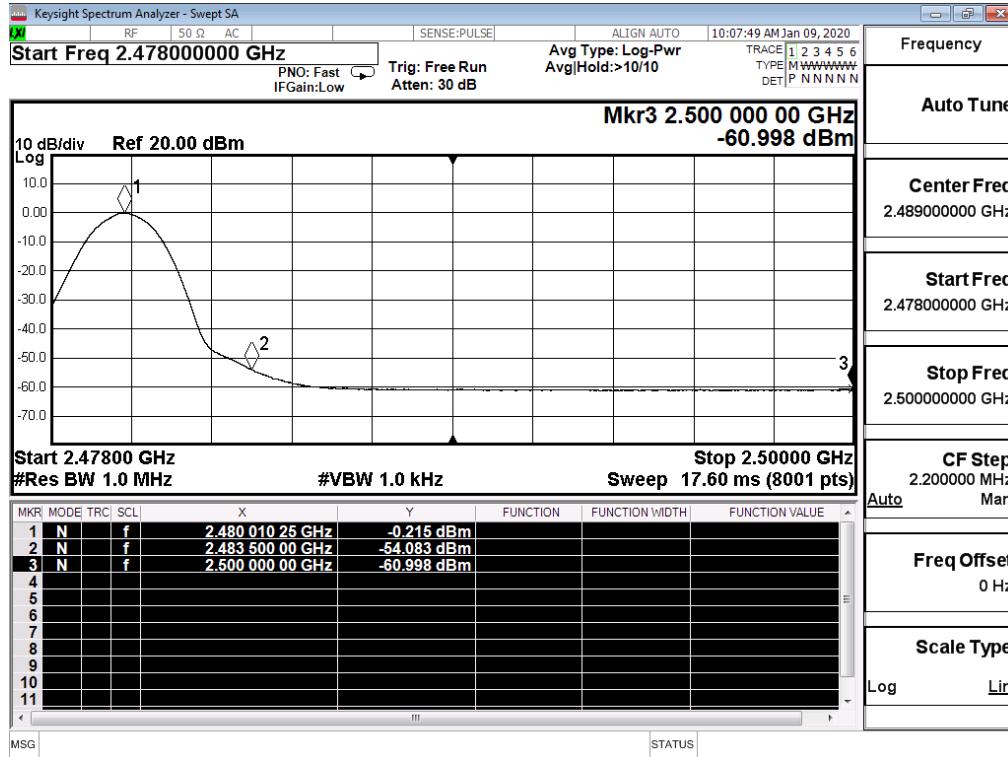
## Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_Average (Low Channel)



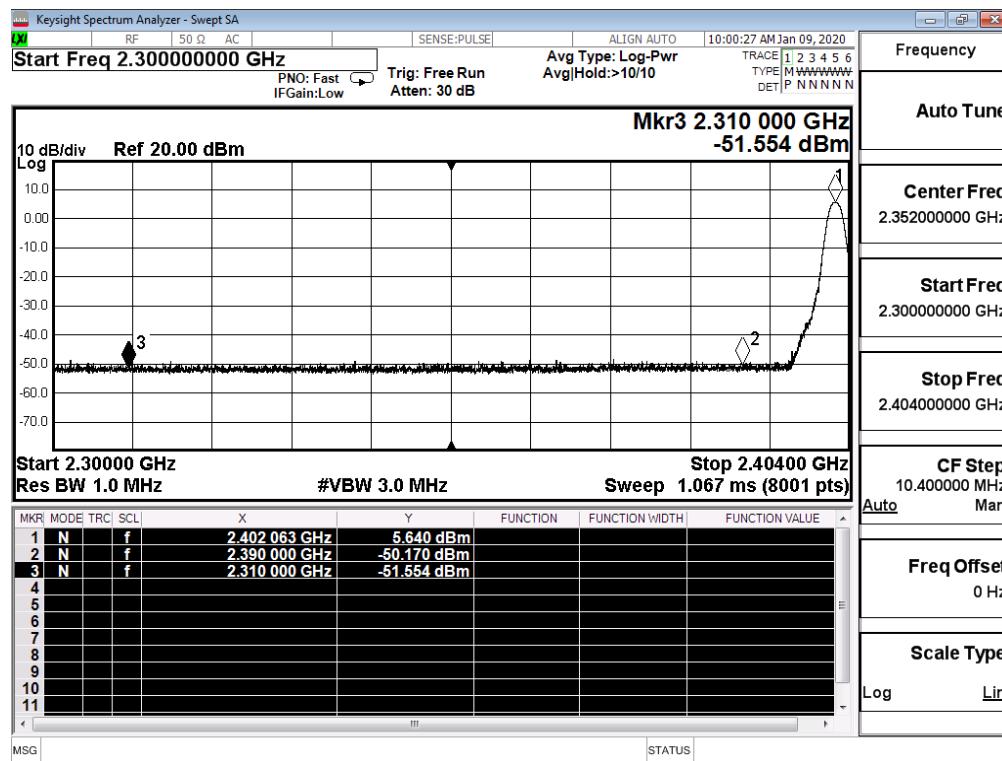
## Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_PEAK (High Channel)



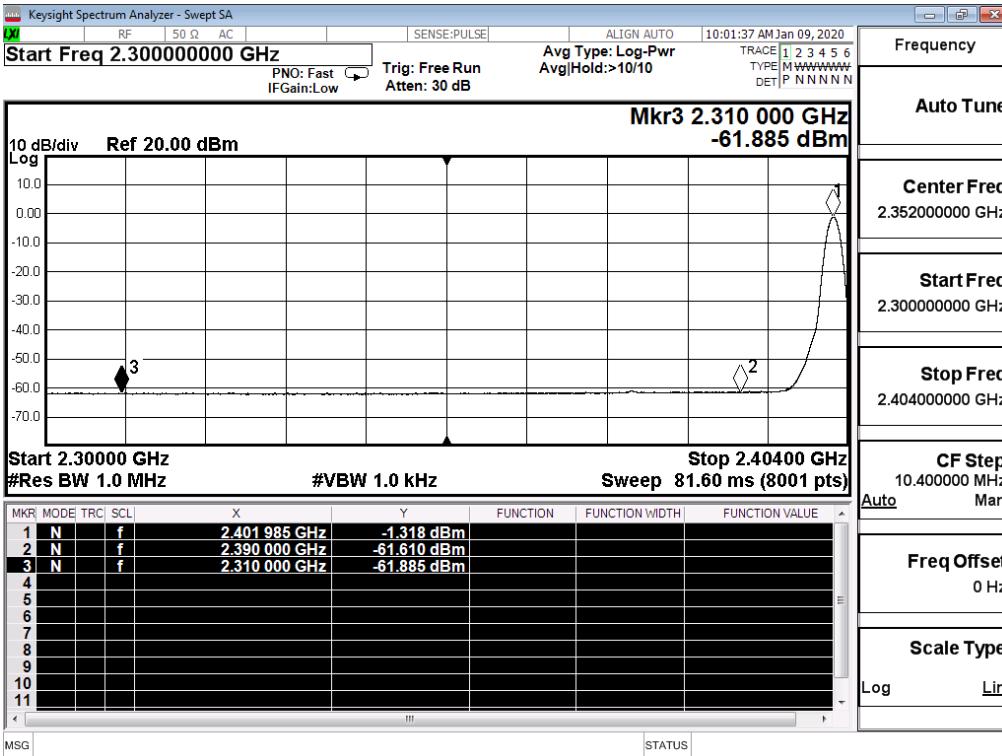
## Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_Average (High Channel)



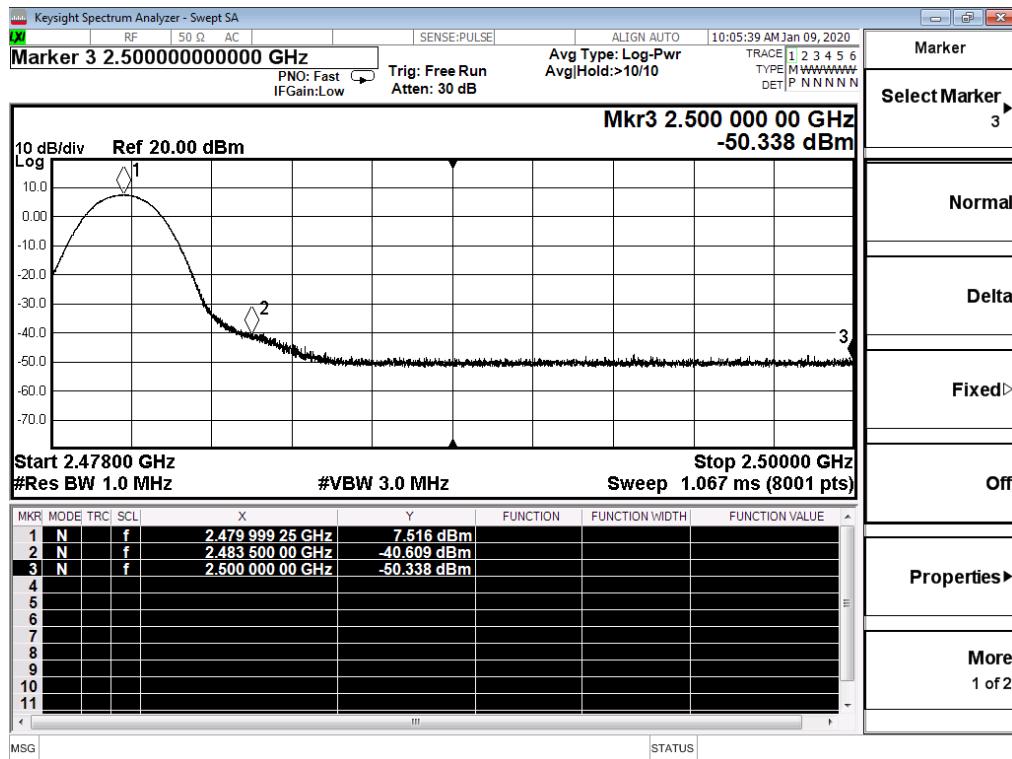
## Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_PEAK (Low Channel)



## 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)

