

Appendix A

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

Product Name: Retro

Trade Mark: Monster

Test Model: MNRETRO-DW

Environmental Conditions

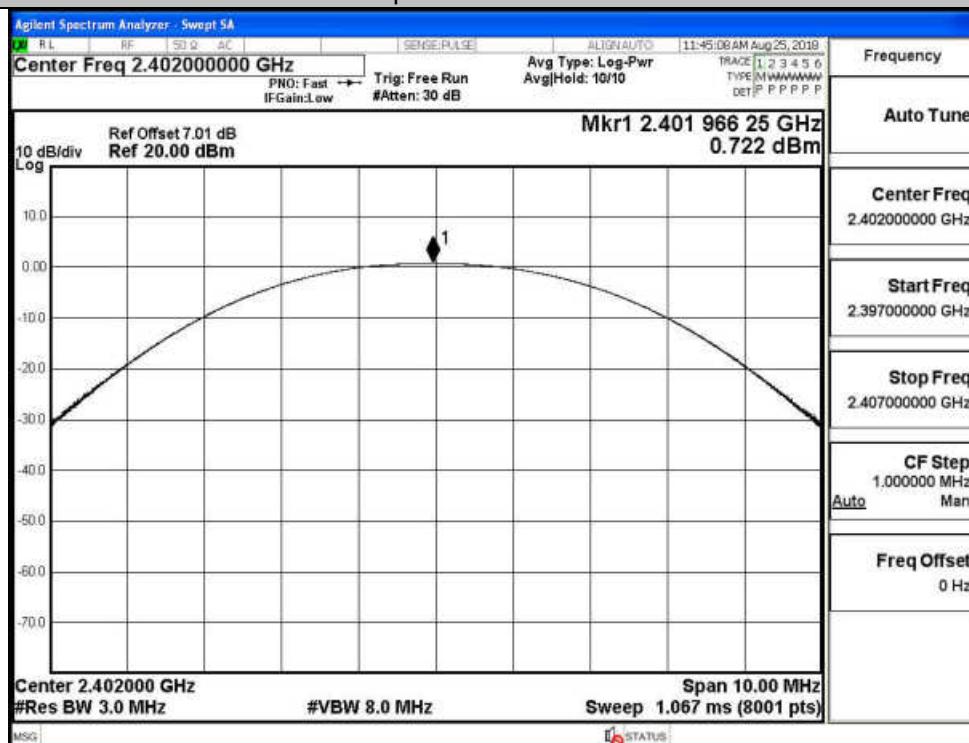
Temperature:	24.1 ° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Jayden.Zhuo

A.1 Maximum Conducted Peak Output Power

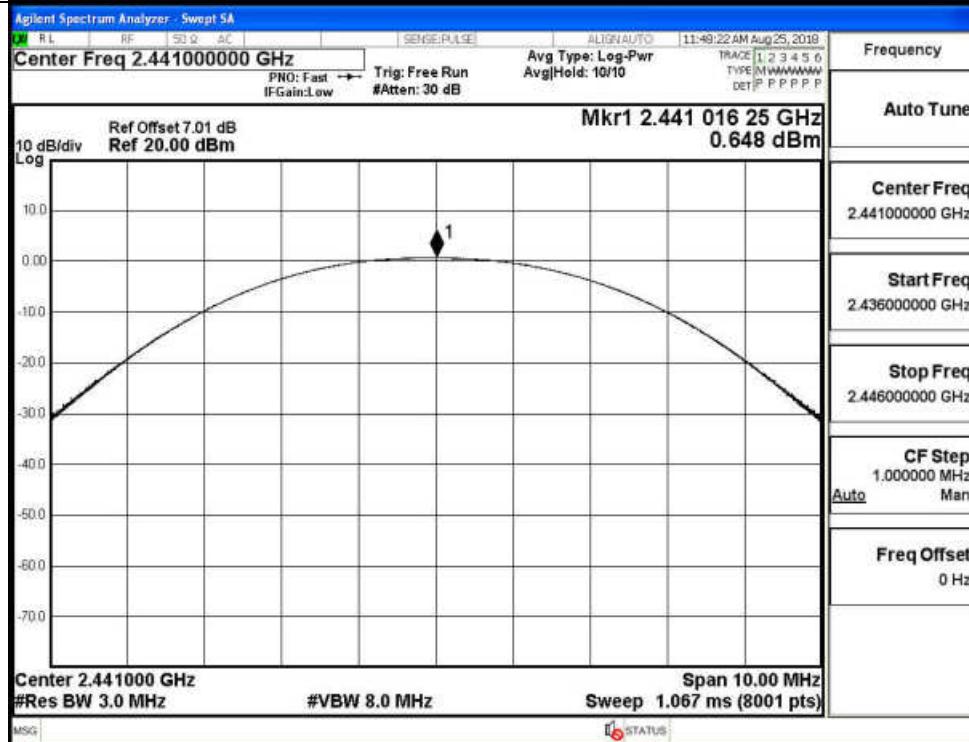
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.722	21	PASS
	MCH	0.648	21	PASS
	HCH	0.491	21	PASS
$\pi/4$ DQPSK	LCH	0.520	21	PASS
	MCH	0.450	21	PASS
	HCH	0.282	21	PASS
8DPSK	LCH	0.708	21	PASS
	MCH	0.650	21	PASS
	HCH	0.485	21	PASS

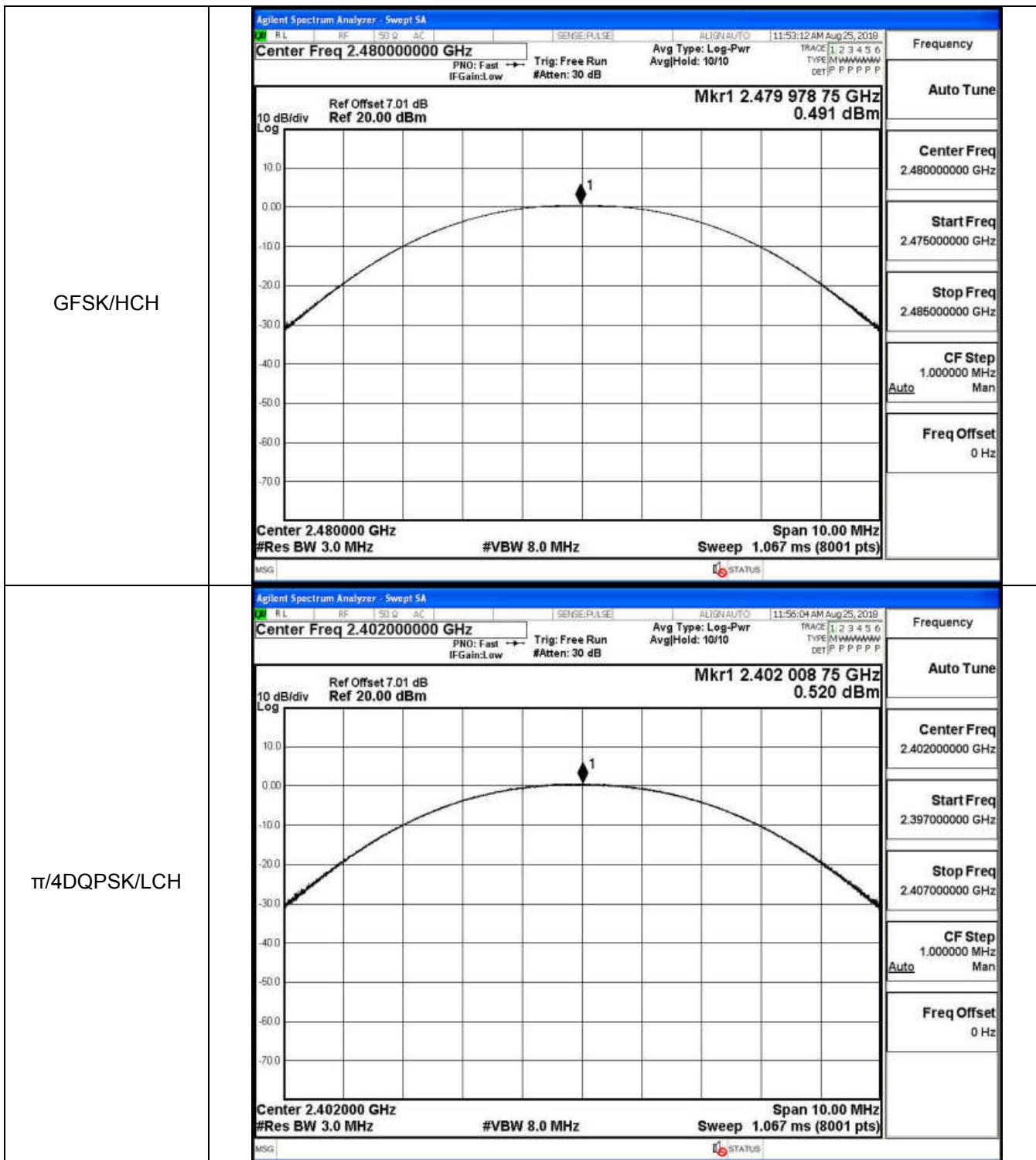
Test Graphs

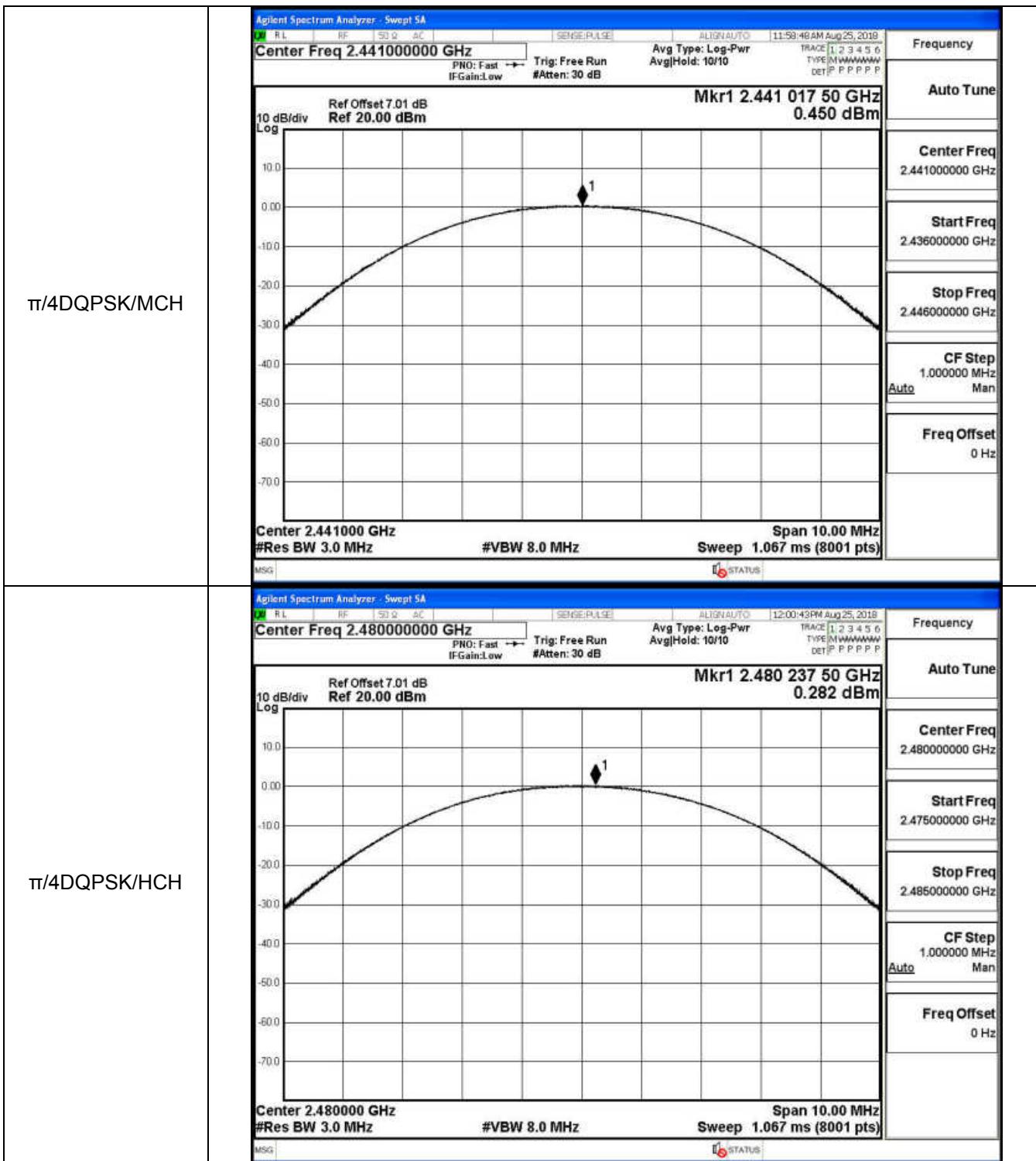
GFSK/LCH

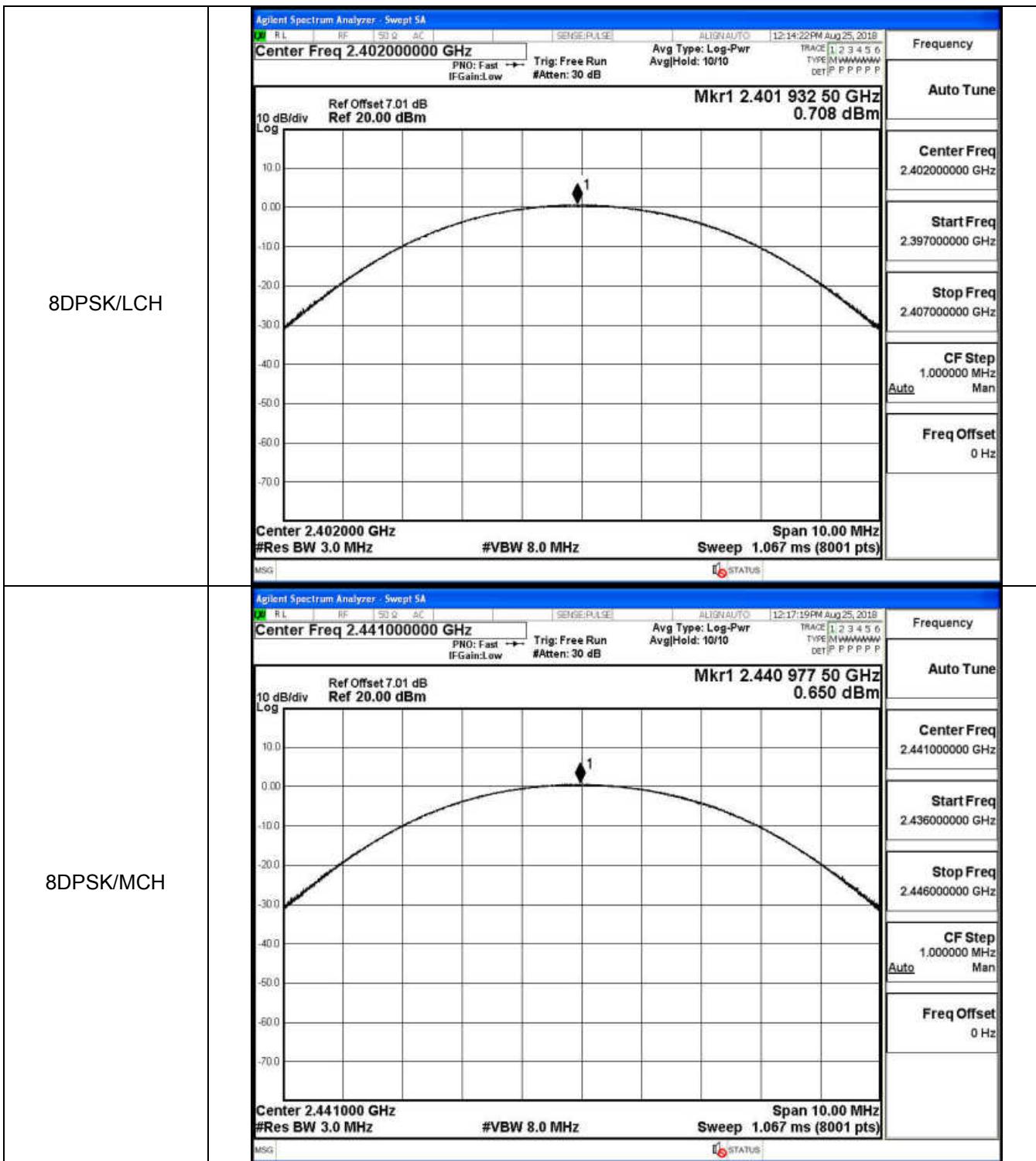


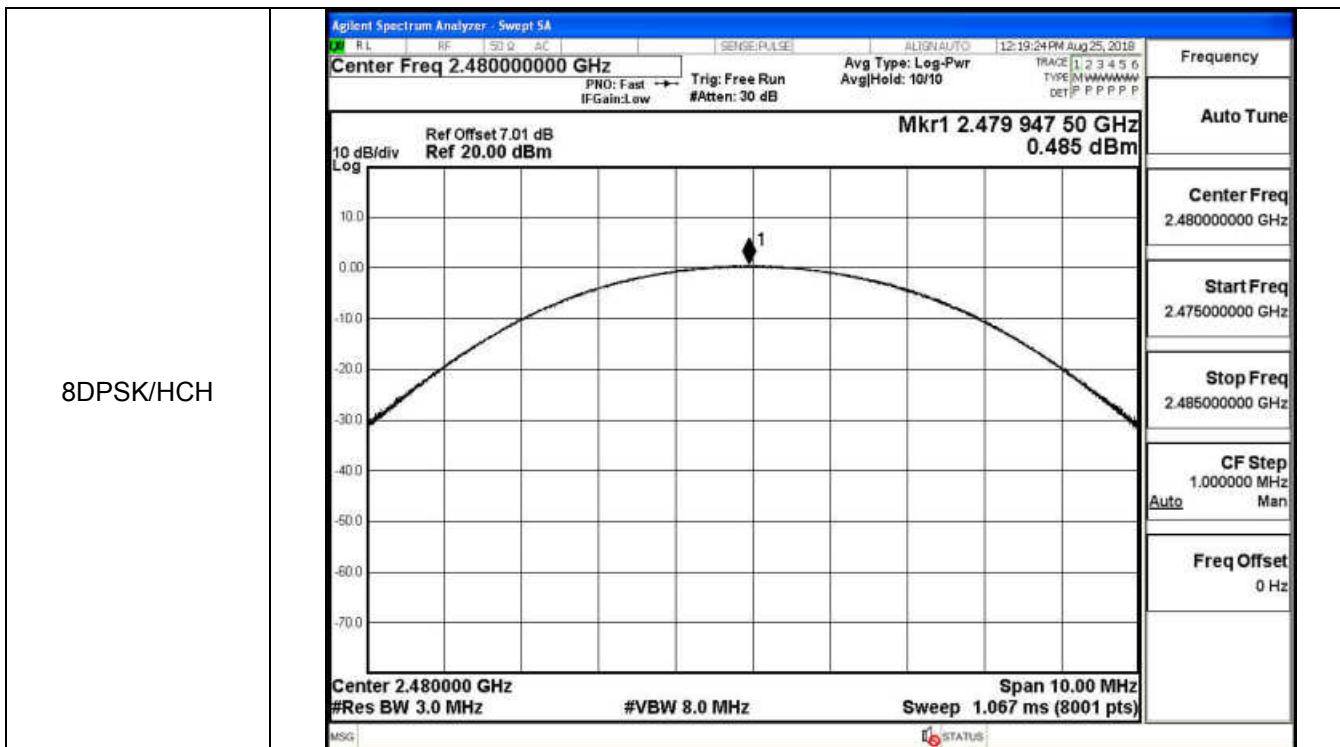
GFSK/MCH





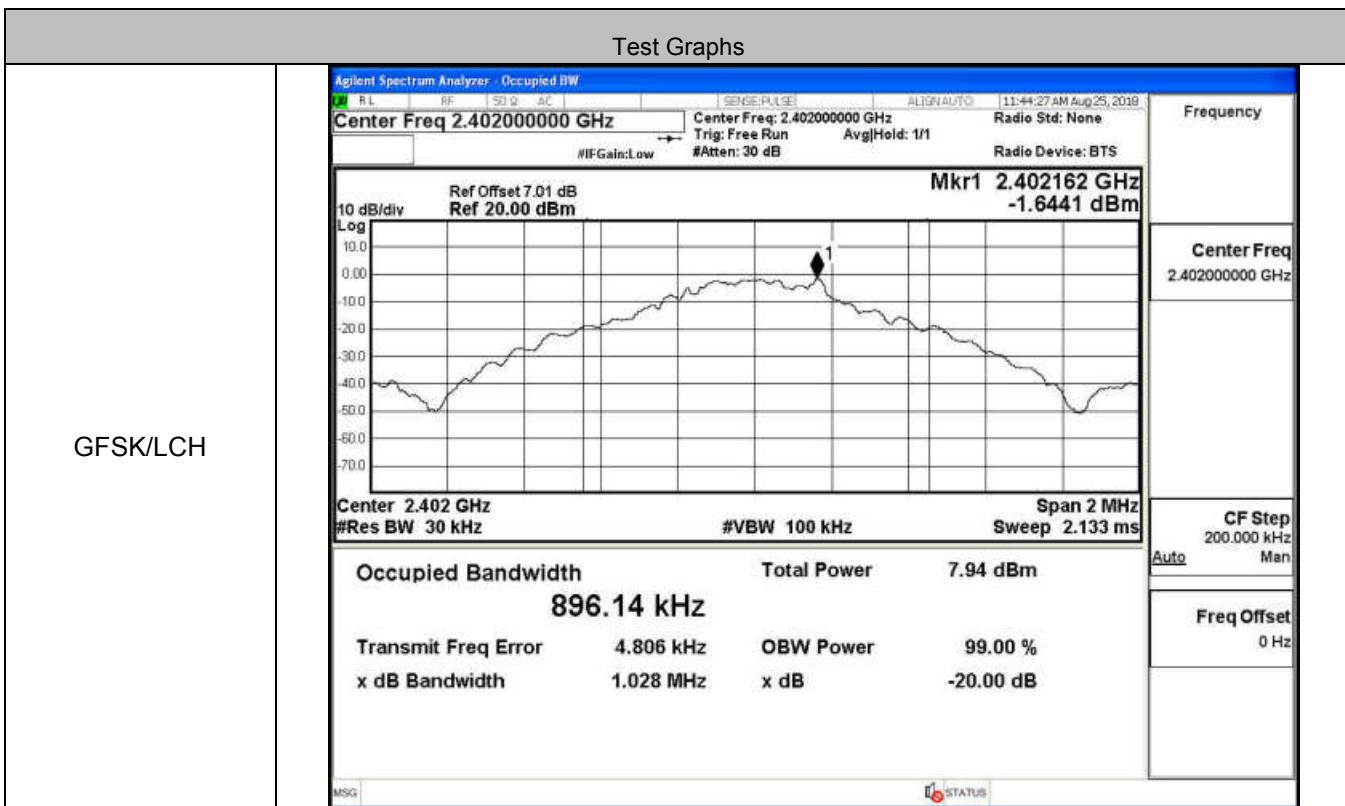


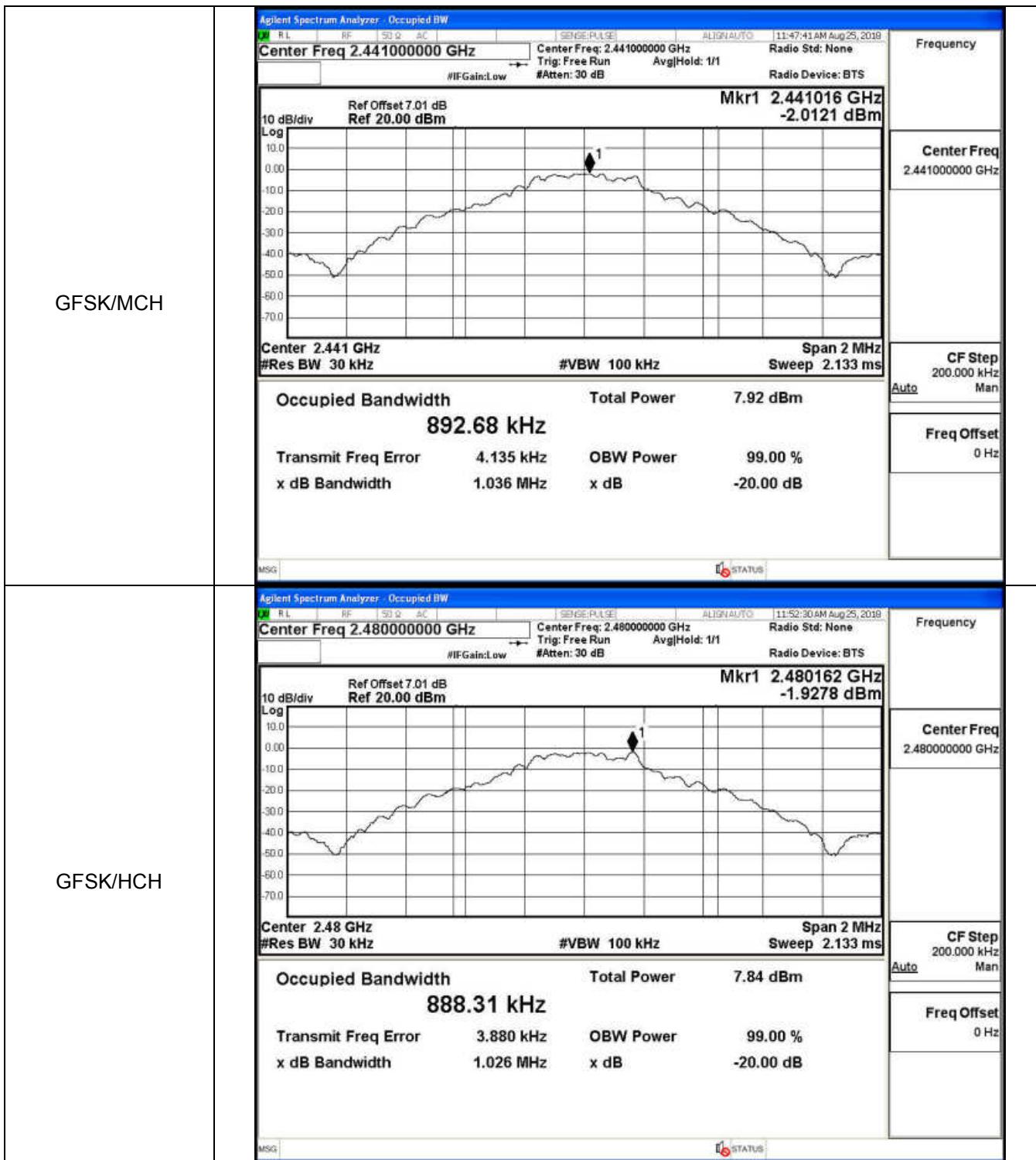


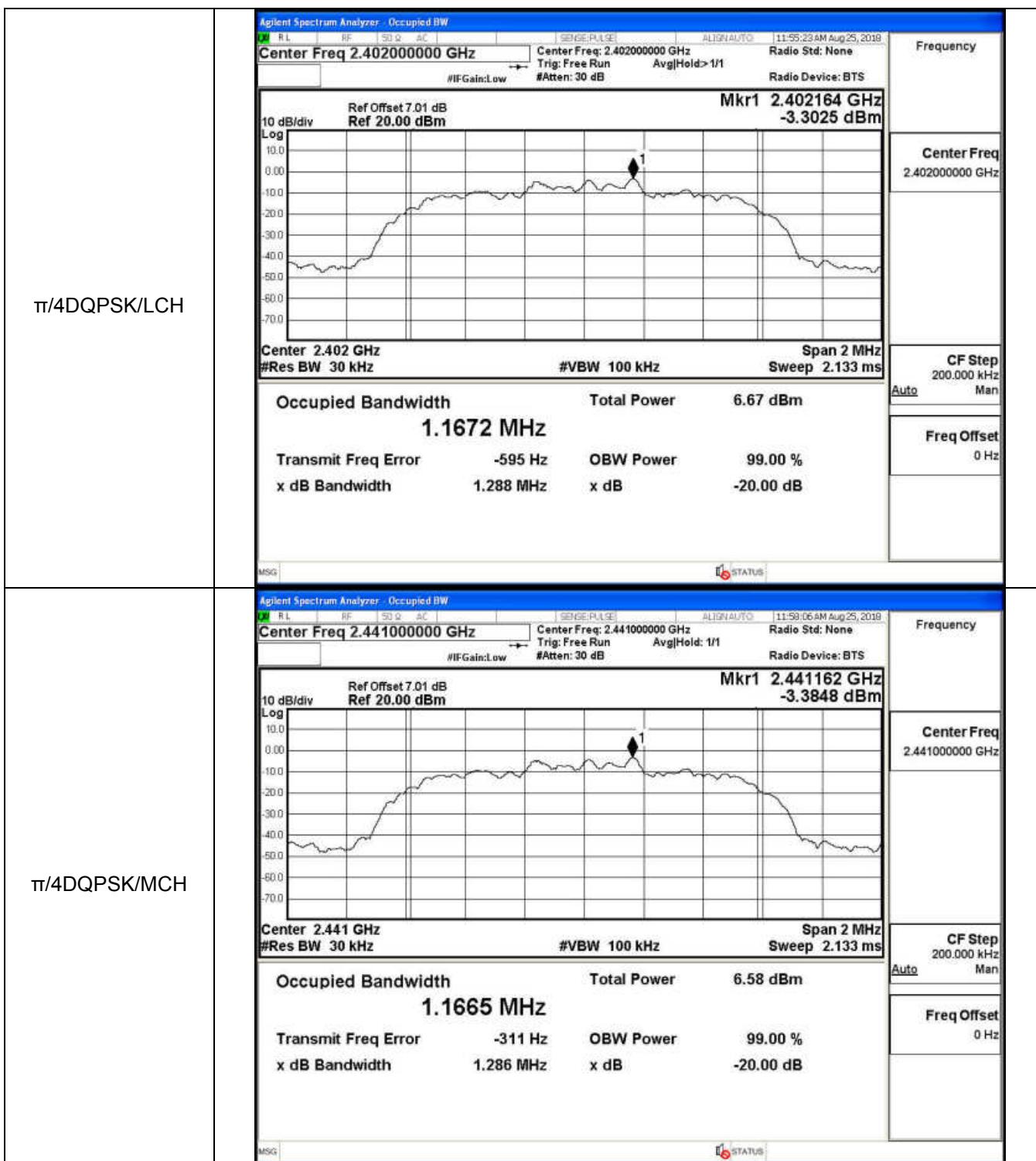


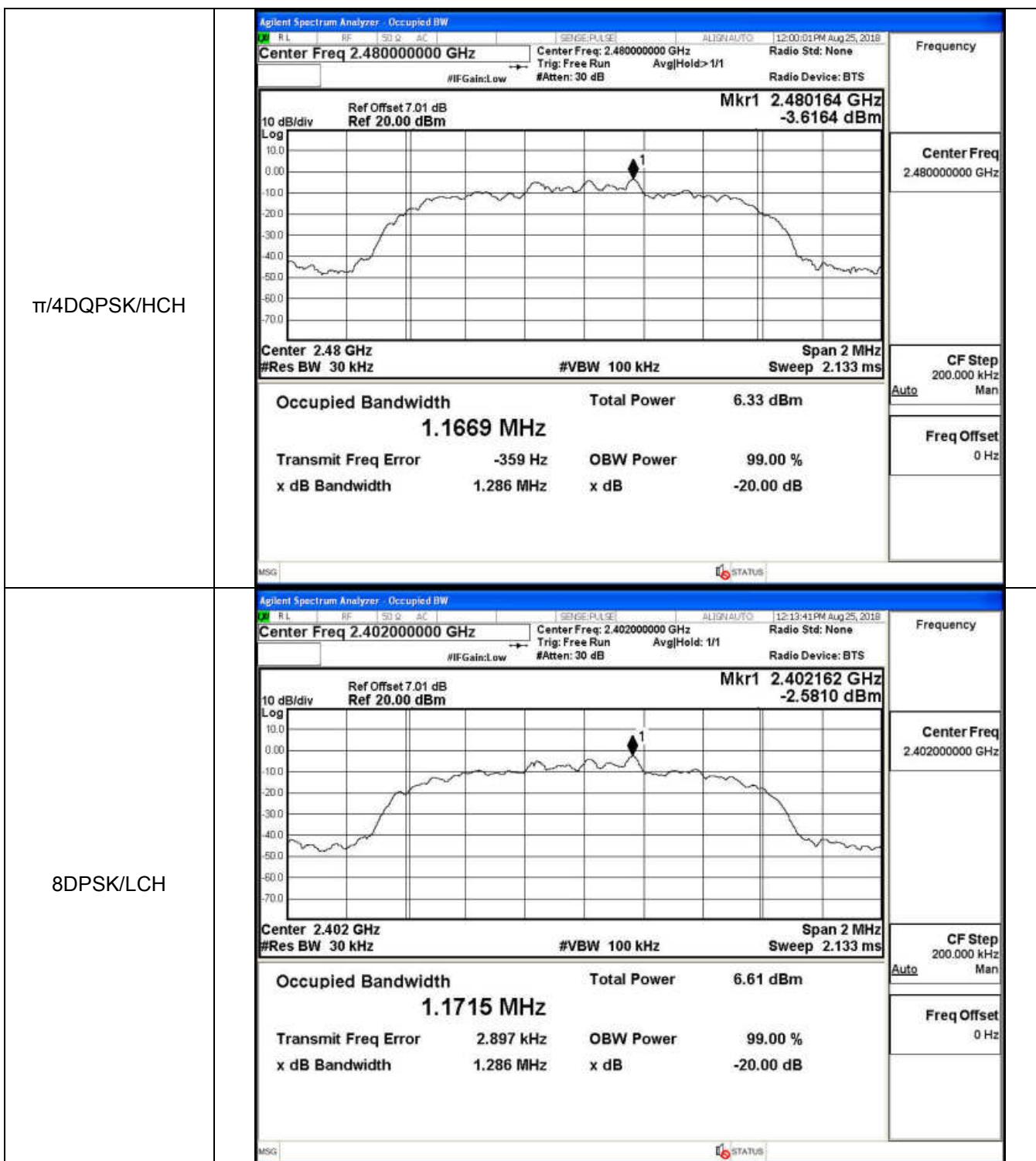
A.2 20dB Bandwidth

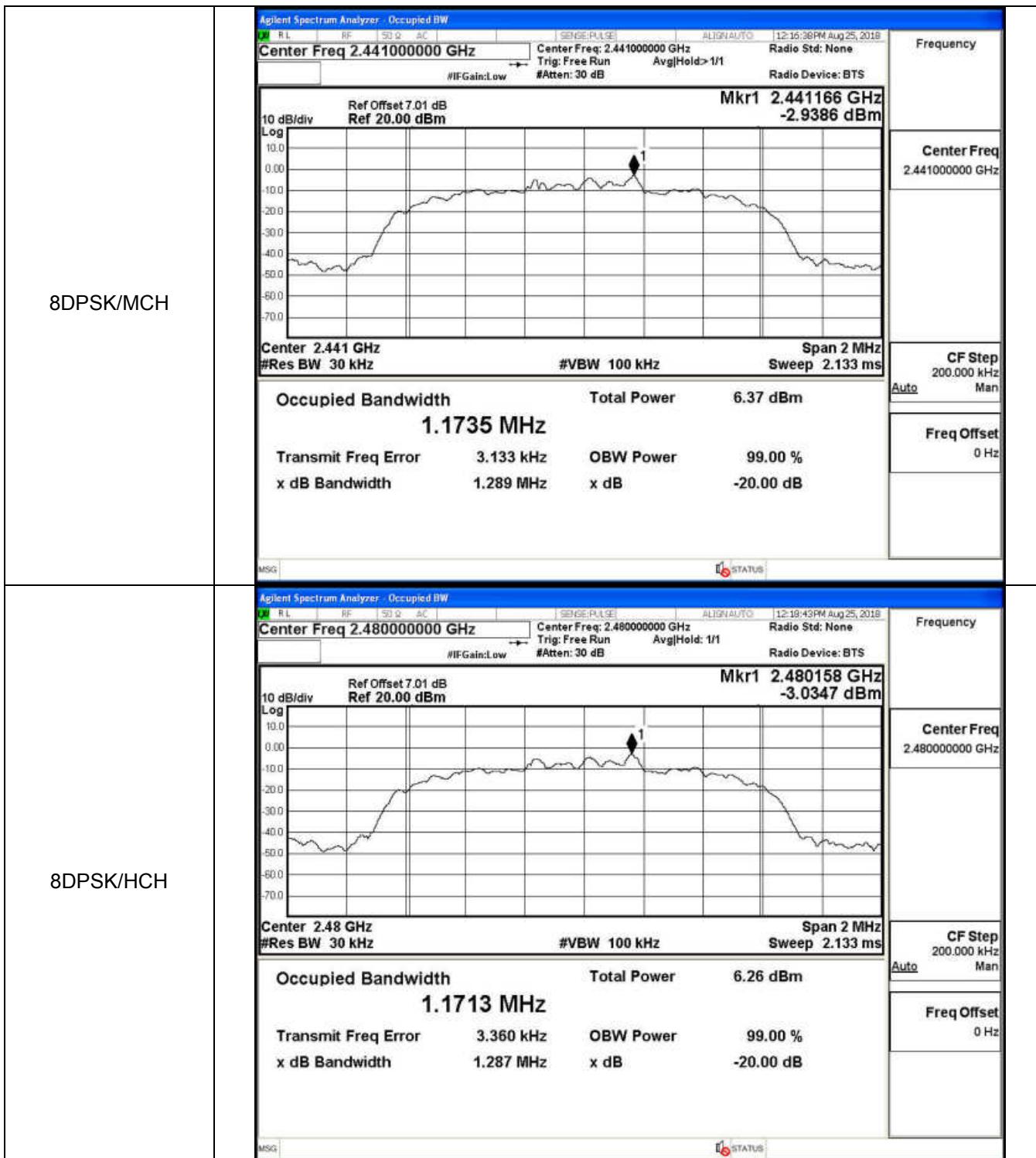
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.028	Not Specified	PASS
	MCH	1.036	Not Specified	PASS
	HCH	1.026	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.288	Not Specified	PASS
	MCH	1.286	Not Specified	PASS
	HCH	1.286	Not Specified	PASS
8DPSK	LCH	1.286	Not Specified	PASS
	MCH	1.289	Not Specified	PASS
	HCH	1.287	Not Specified	PASS





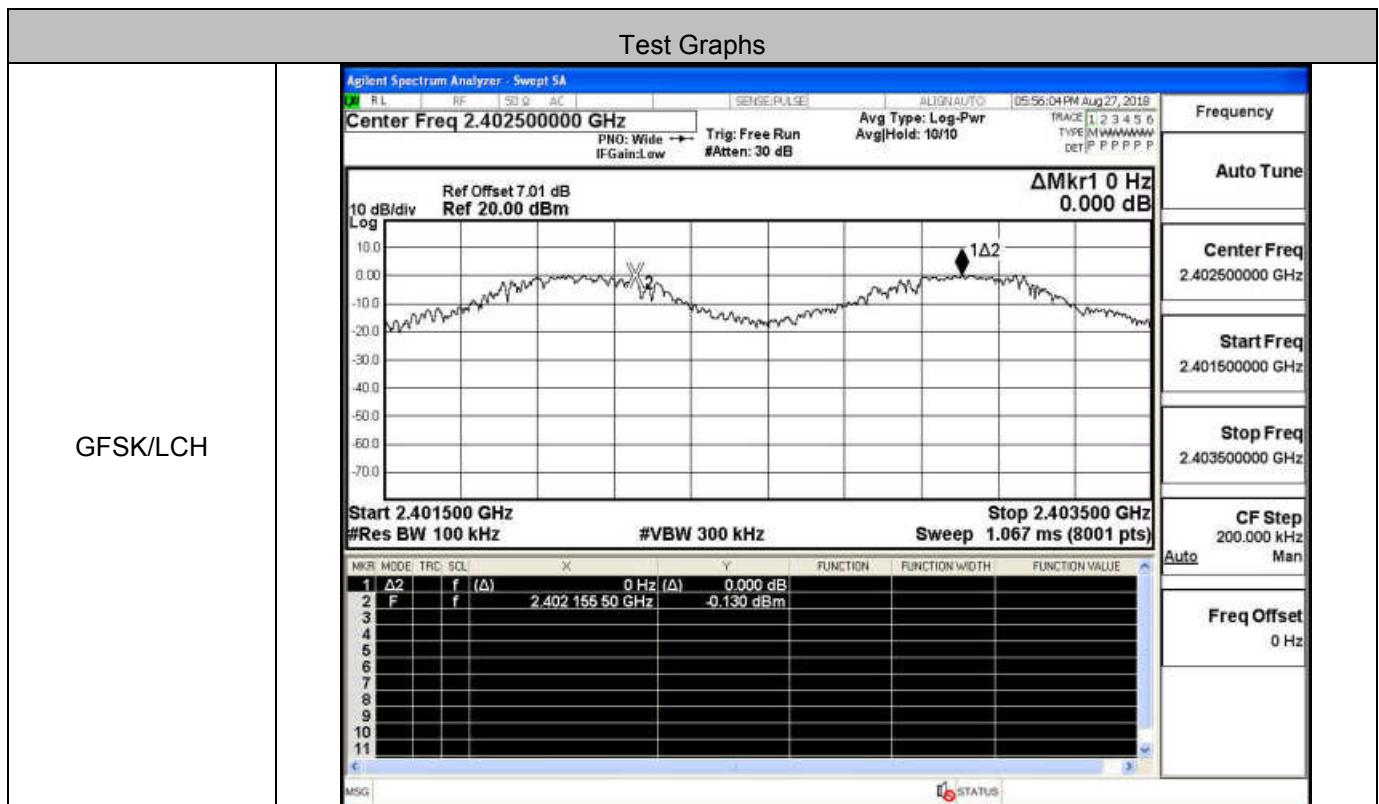




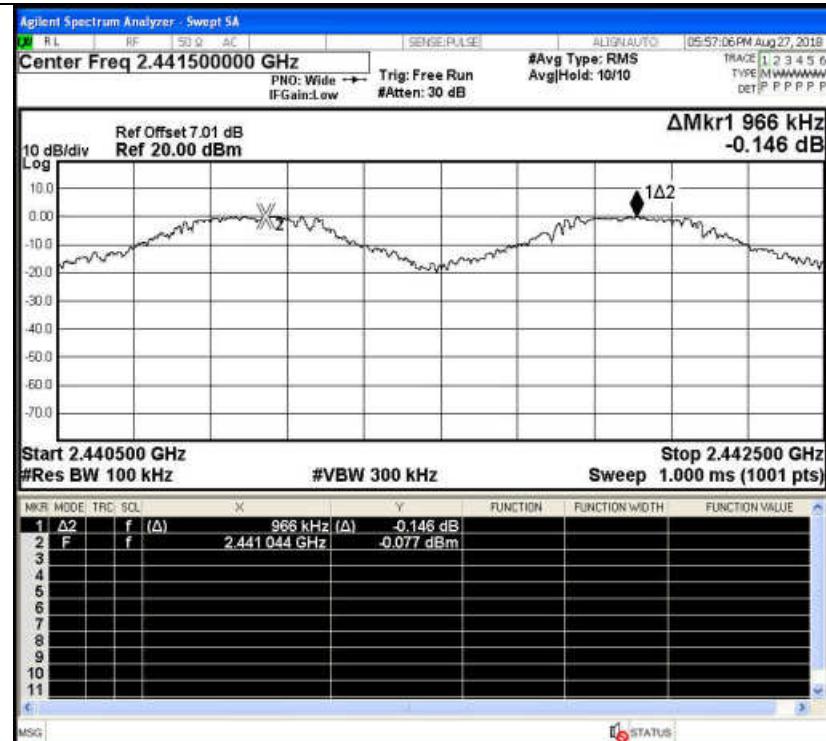


A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.850	0.691	PASS
	MCH	0.966	0.691	PASS
	HCH	1.116	0.691	PASS
$\pi/4$ DQPSK	LCH	1.142	0.859	PASS
	MCH	1.000	0.859	PASS
	HCH	1.028	0.859	PASS
8DPSK	LCH	1.188	0.859	PASS
	MCH	1.038	0.859	PASS
	HCH	1.240	0.859	PASS

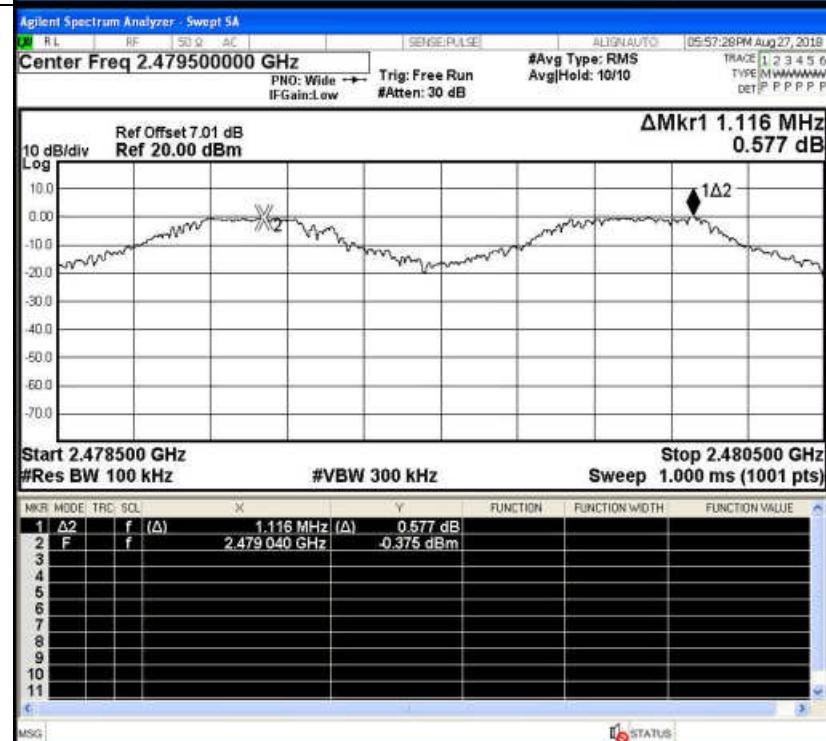


GFSK/MCH

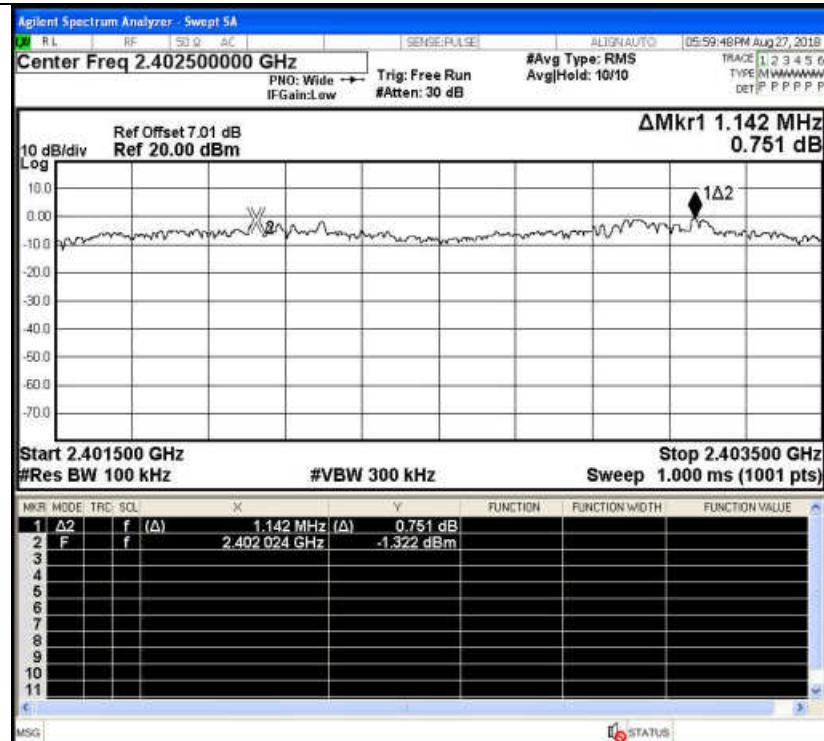
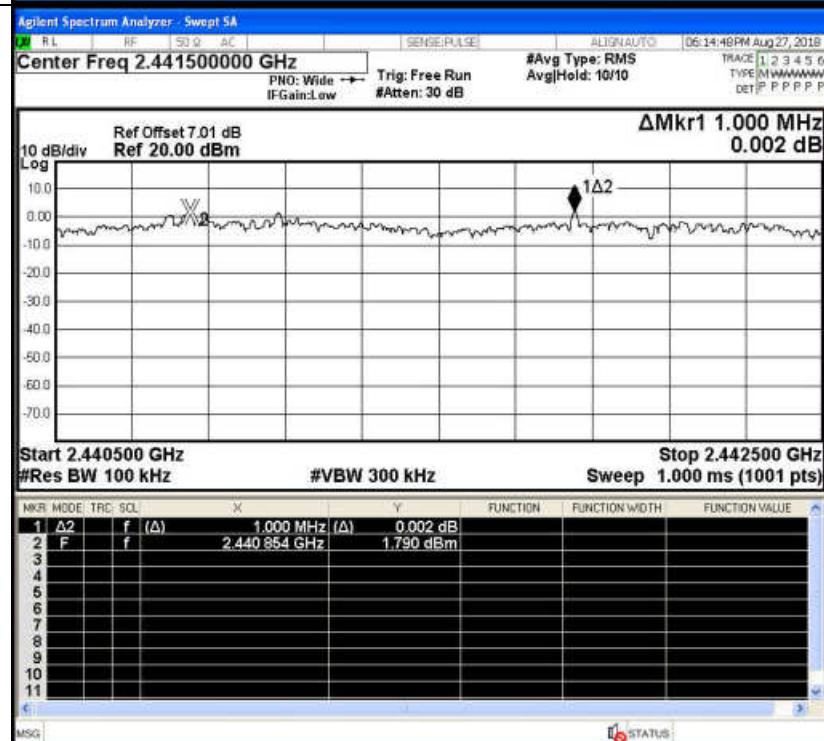


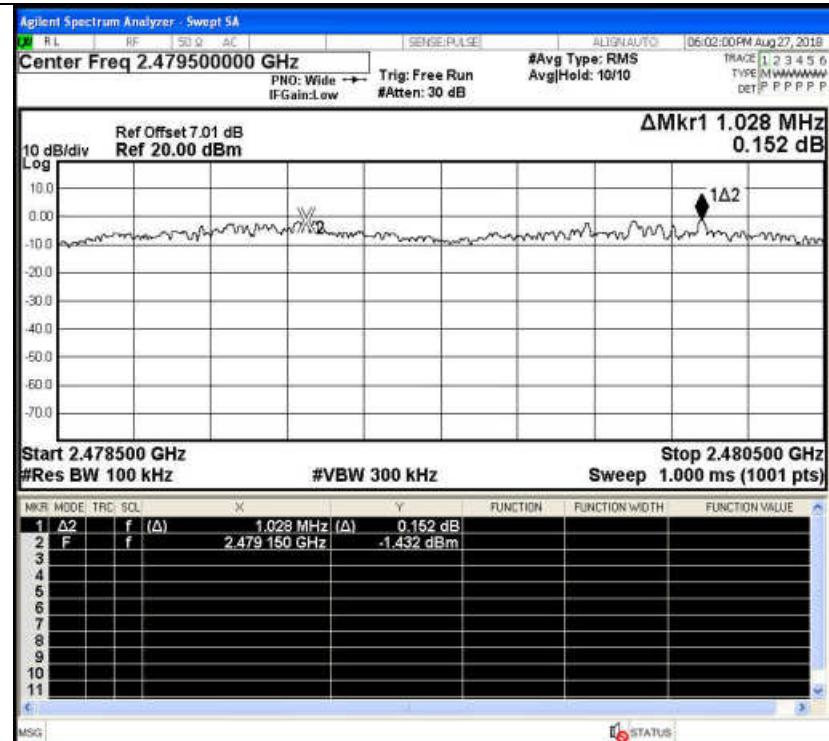
Frequency
Auto Tune
Center Freq 2.441500000 GHz
Start Freq 2.440500000 GHz
Stop Freq 2.442500000 GHz
CF Step 200.000 kHz Auto
Freq Offset 0 Hz

GFSK/HCH



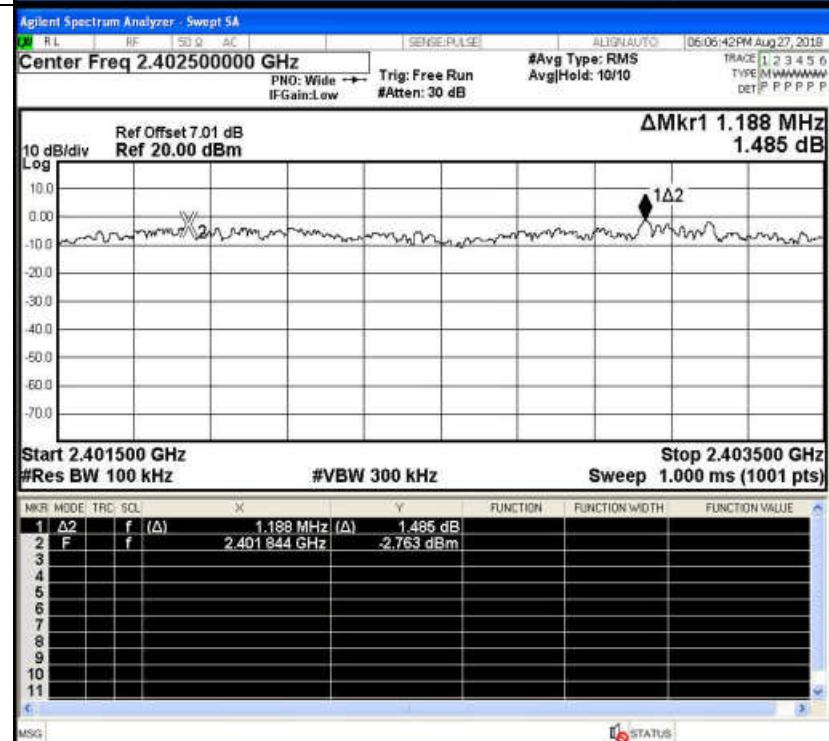
Frequency
Auto Tune
Center Freq 2.479500000 GHz
Start Freq 2.478500000 GHz
Stop Freq 2.480500000 GHz
CF Step 200.000 kHz Auto
Freq Offset 0 Hz

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

$\pi/4$ DQPSK/HCH

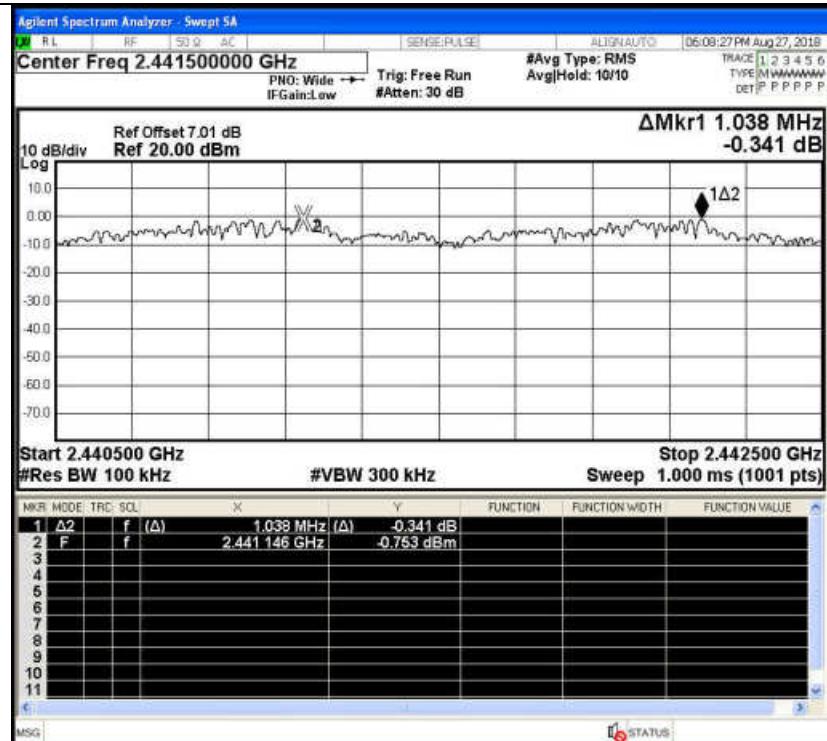
Frequency
Auto Tune
Center Freq 2.479500000 GHz
Start Freq 2.478500000 GHz
Stop Freq 2.480500000 GHz
CF Step 200.000 kHz Auto
Freq Offset 0 Hz

8DPSK/LCH



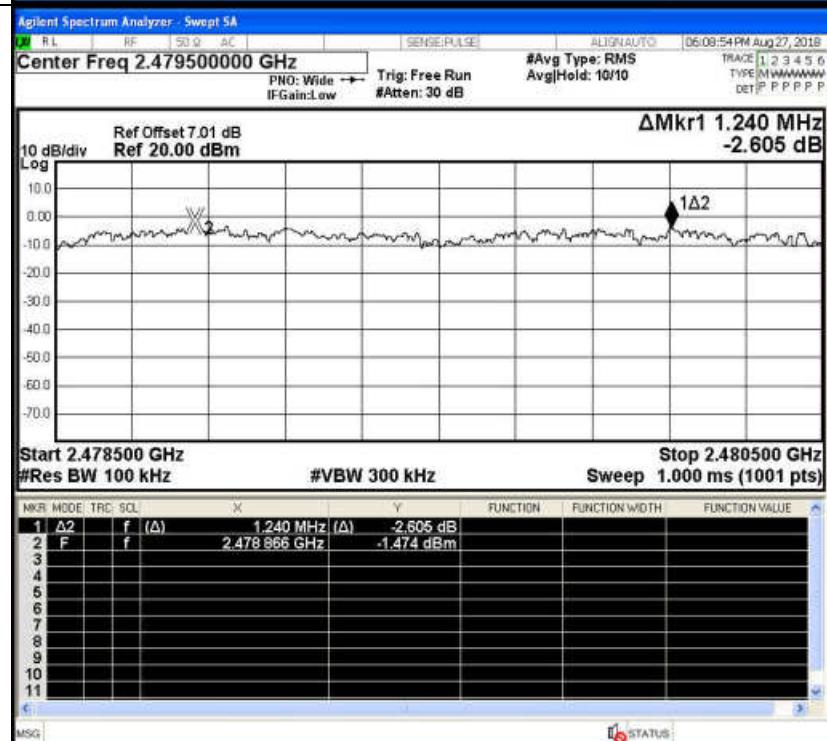
Frequency
Auto Tune
Center Freq 2.402500000 GHz
Start Freq 2.401500000 GHz
Stop Freq 2.403500000 GHz
CF Step 200.000 kHz Auto
Freq Offset 0 Hz

8DPSK/MCH



Frequency
Auto Tune
Center Freq 2.441500000 GHz
Start Freq 2.440500000 GHz
Stop Freq 2.442500000 GHz
CF Step 200.000 kHz Auto
Freq Offset 0 Hz

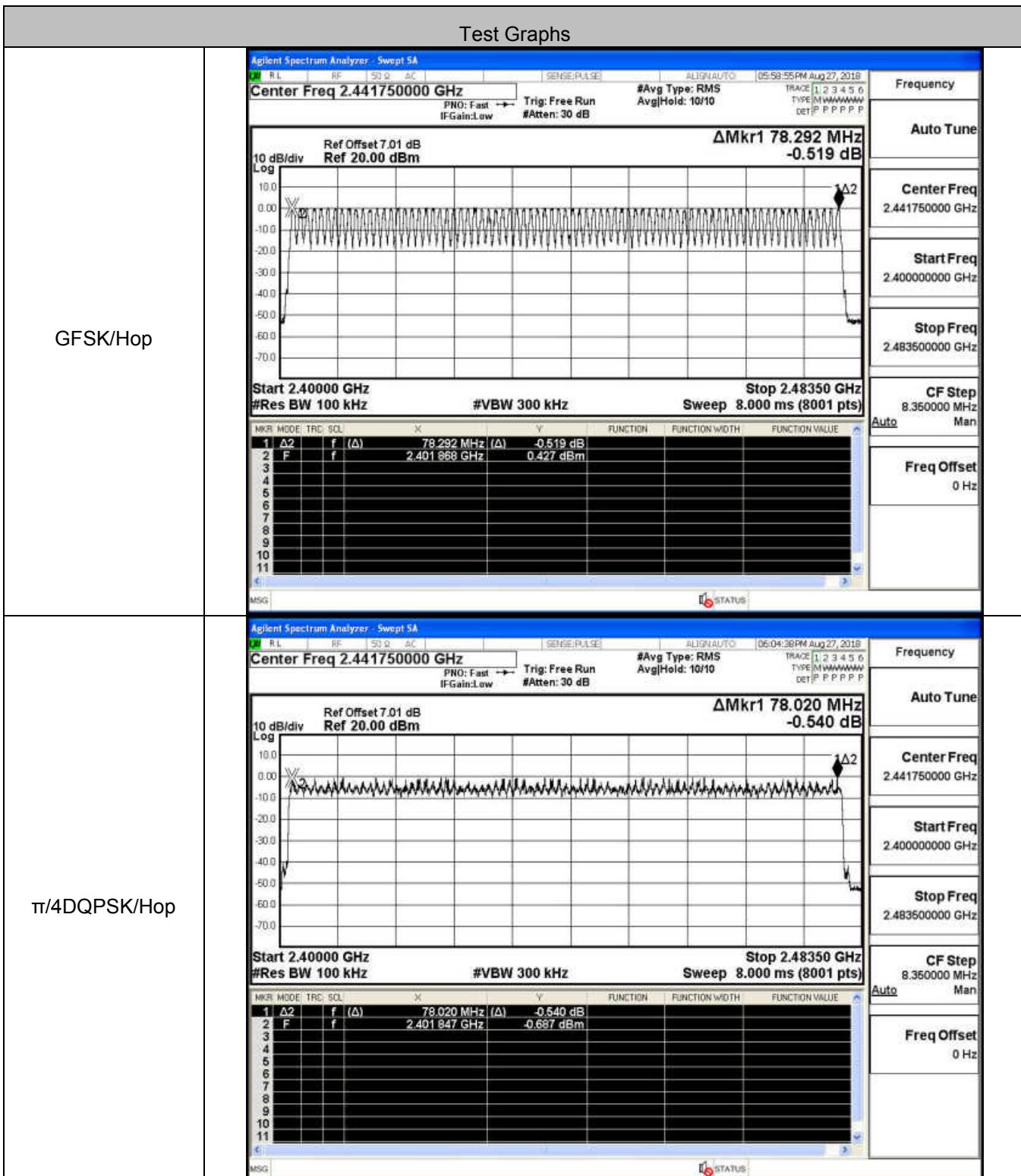
8DPSK/HCH

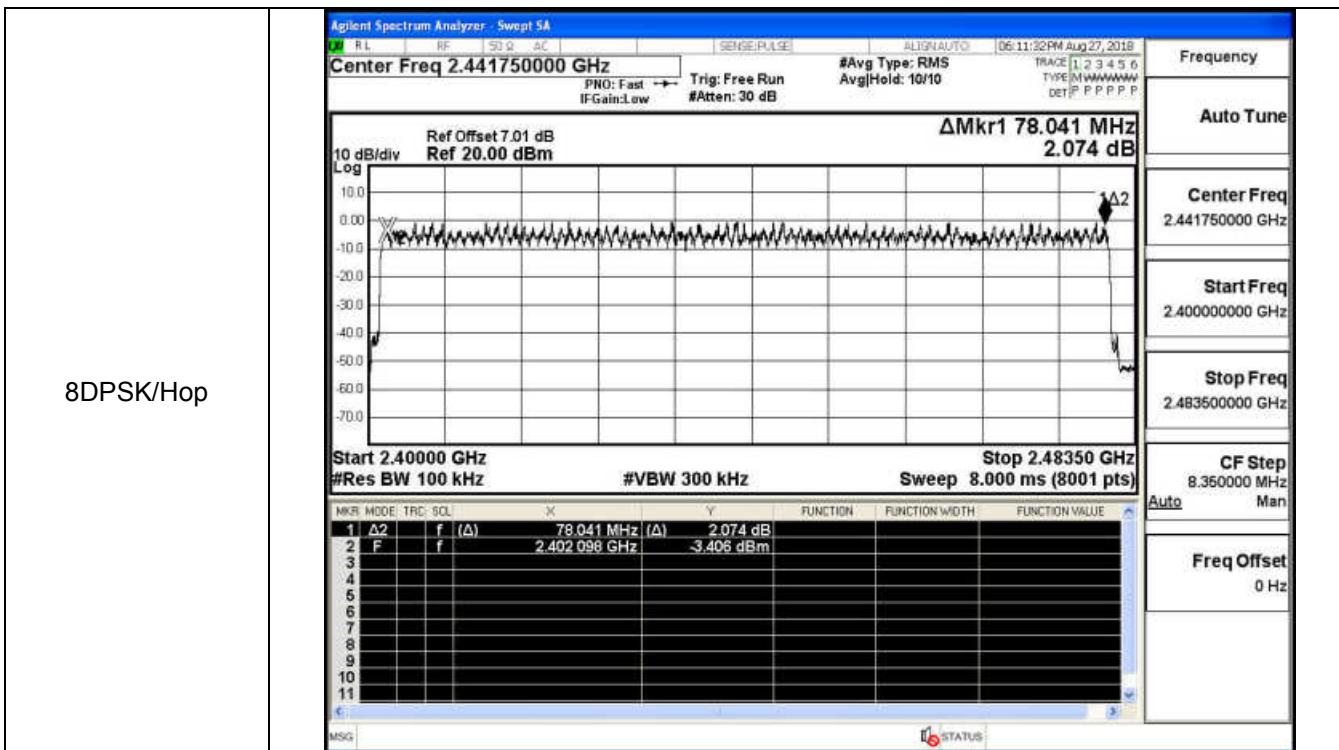


Frequency
Auto Tune
Center Freq 2.479500000 GHz
Start Freq 2.478500000 GHz
Stop Freq 2.480500000 GHz
CF Step 200.000 kHz Auto
Freq Offset 0 Hz

A.4 Hopping Channel Number

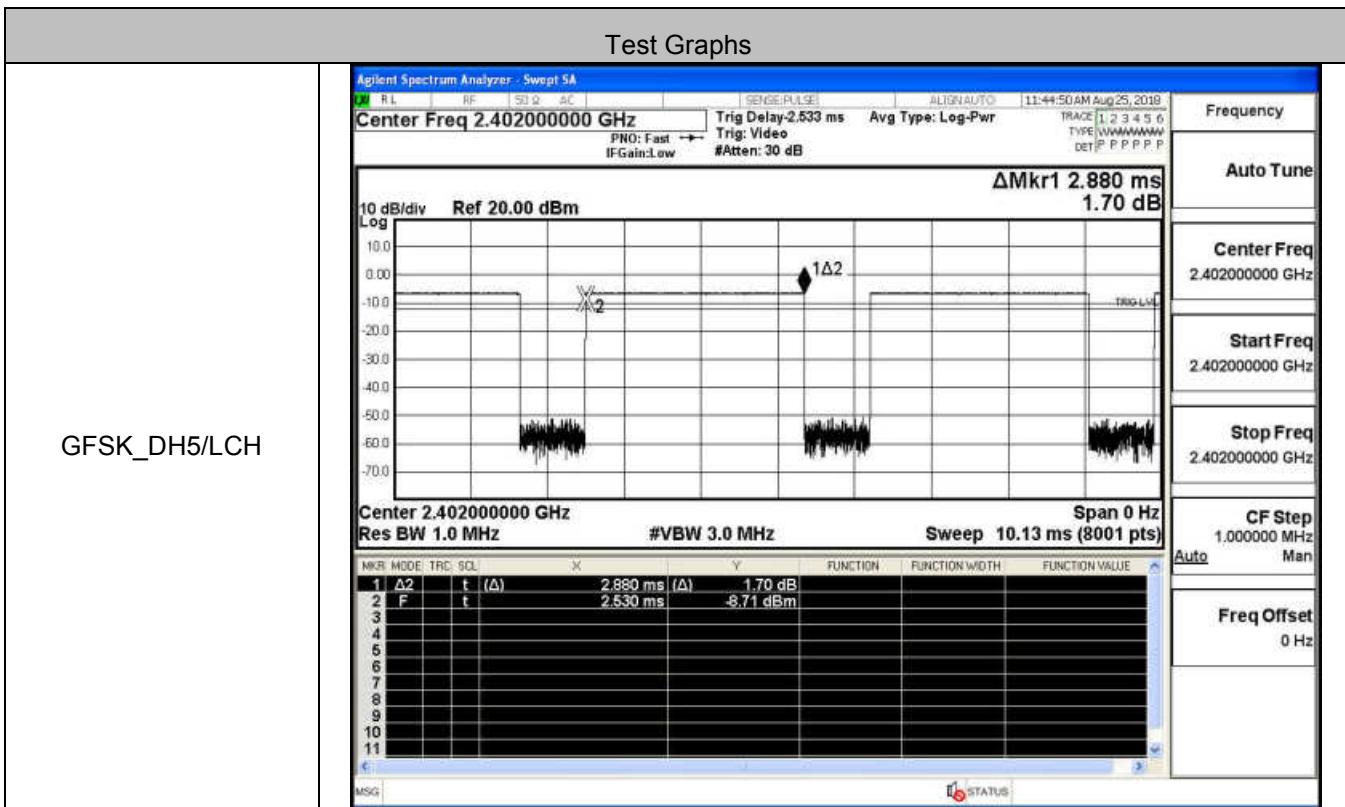
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS



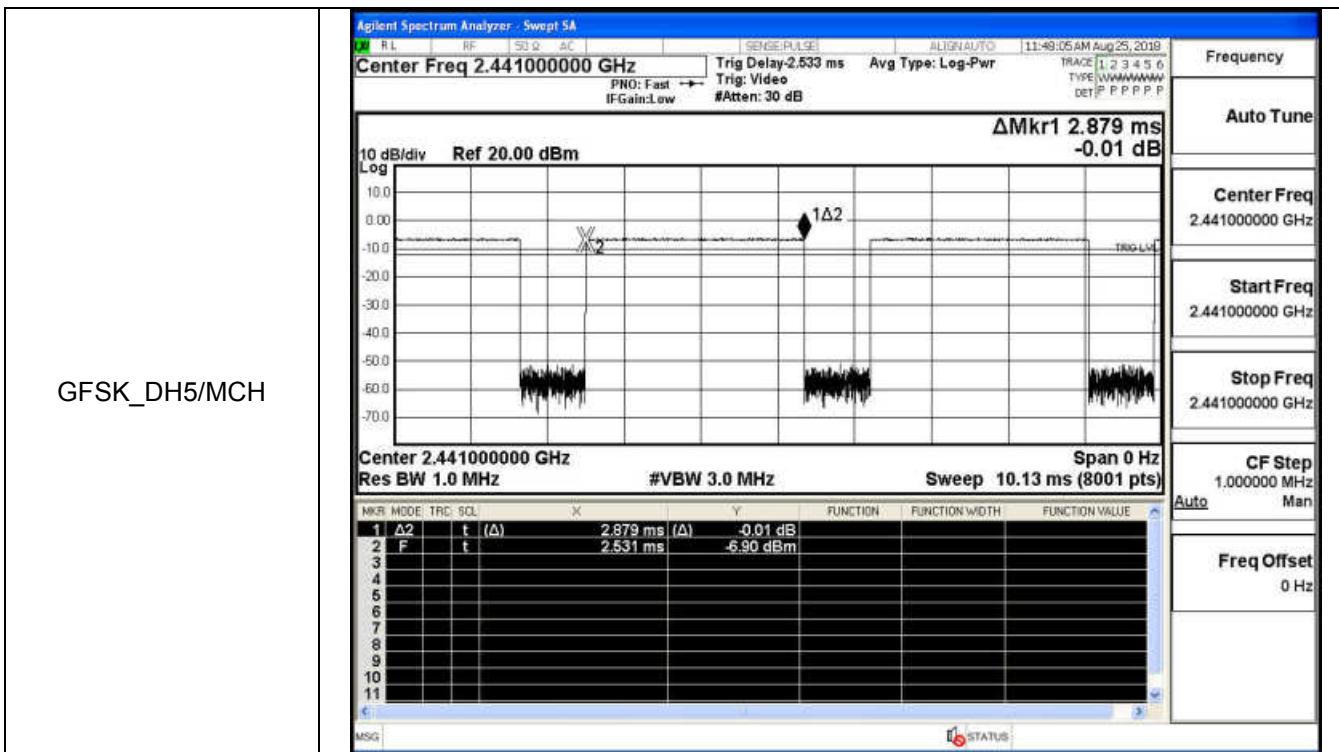


A.5 Dwell Time

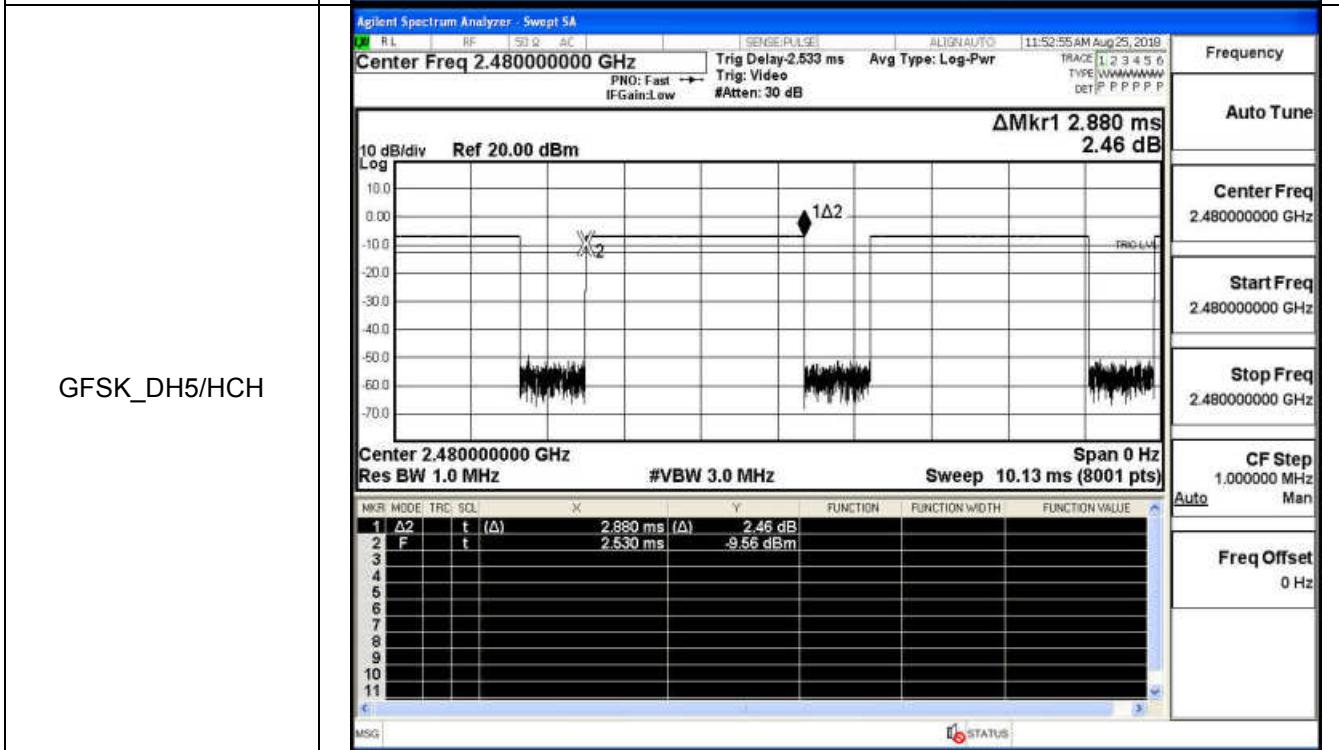
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7	0.307	0.4	PASS
8DPSK	3DH5	LCH	2.88	106.7	0.308	0.4	PASS
	3DH5	MCH	2.88	106.7	0.308	0.4	PASS
	3DH5	HCH	2.88	106.7	0.308	0.4	PASS



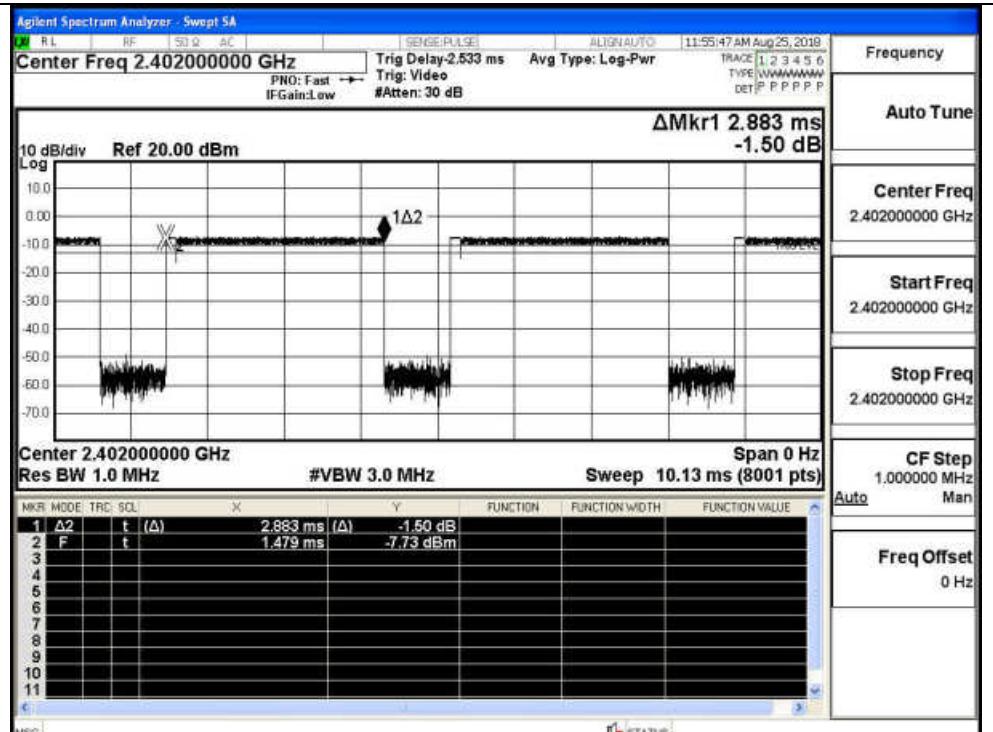
GFSK_DH5/MCH



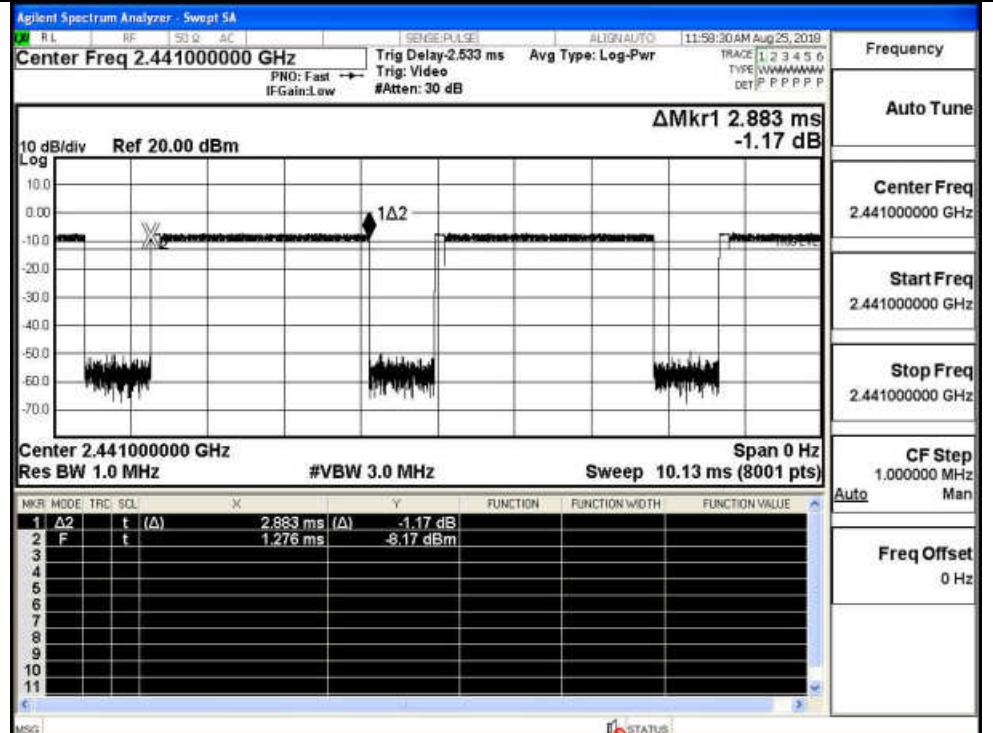
GFSK_DH5/HCH



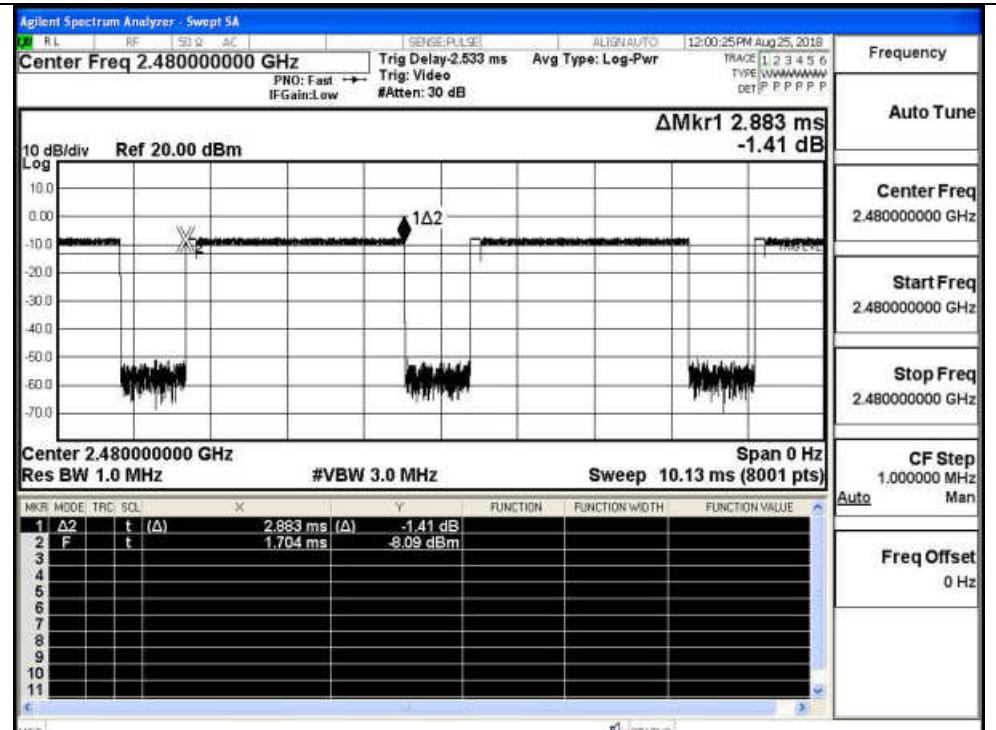
$\pi/4$ DQPSK
_2DH5/LCH



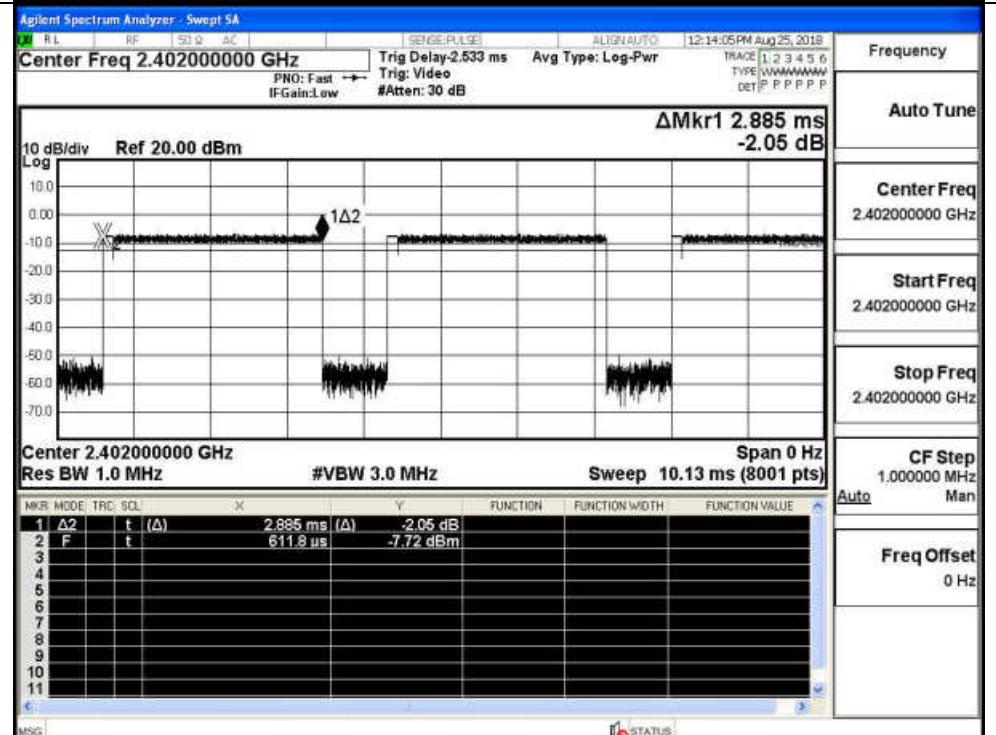
$\pi/4$ DQPSK
_2DH5/MCH



$\pi/4$ DQPSK
_2DH5/HCH



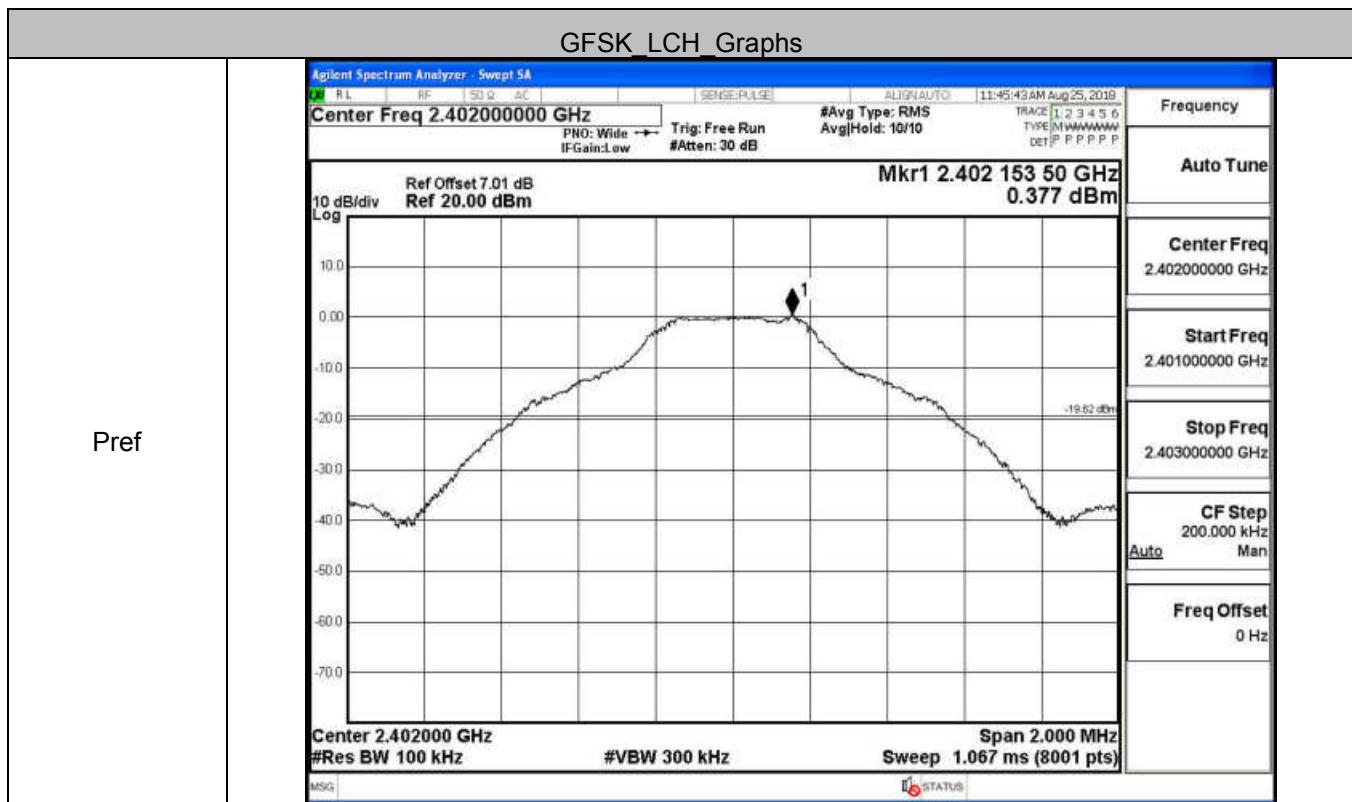
8DPSK _3DH5/LCH

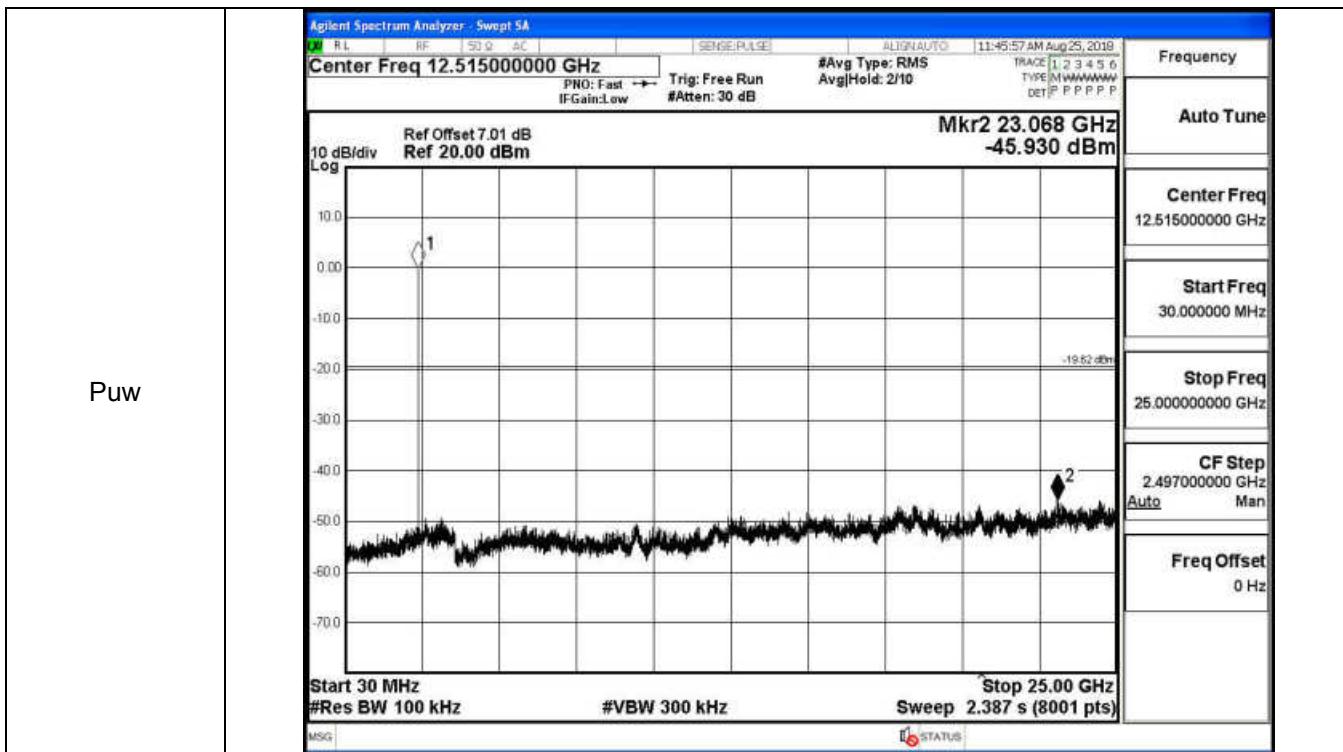


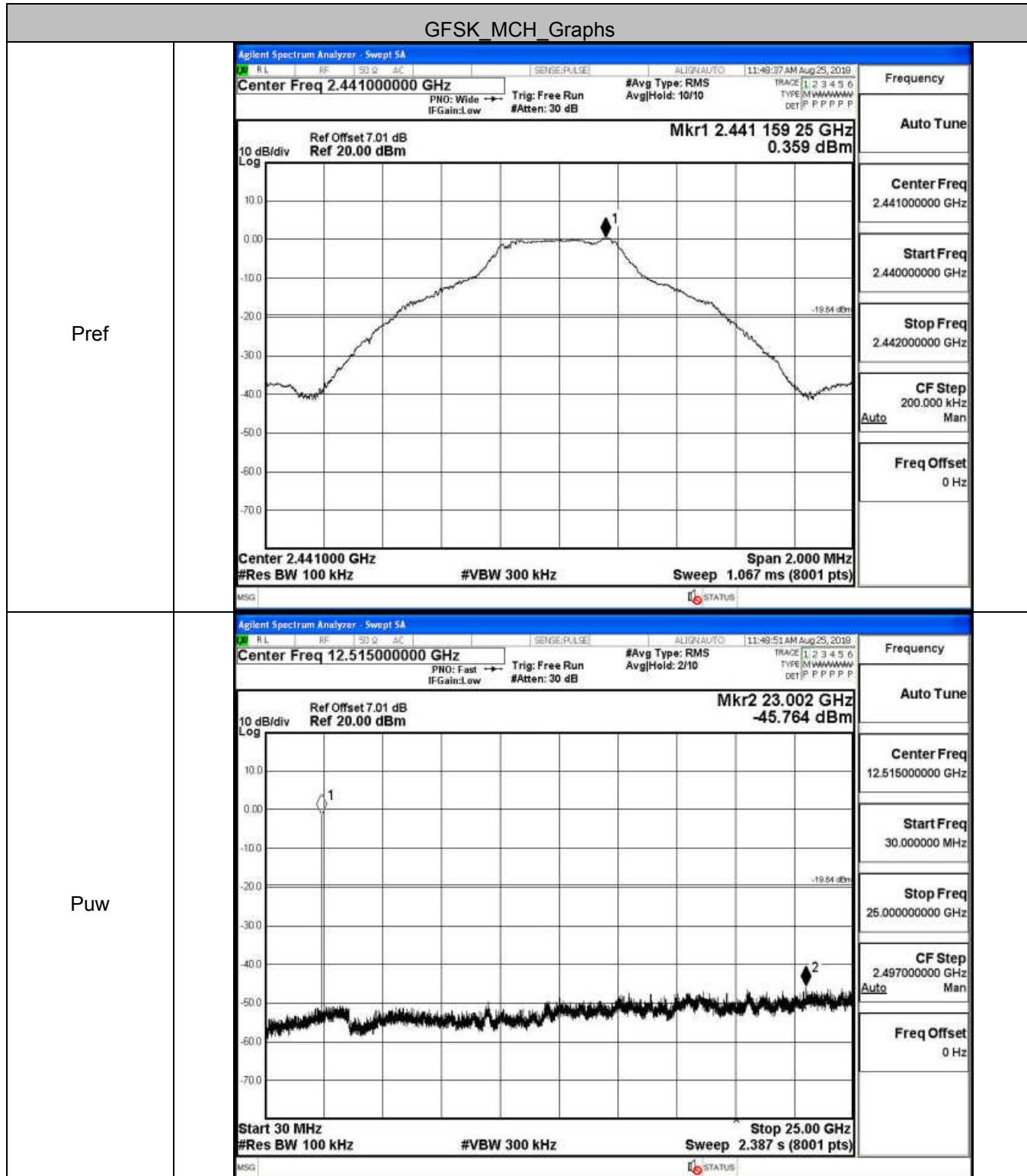


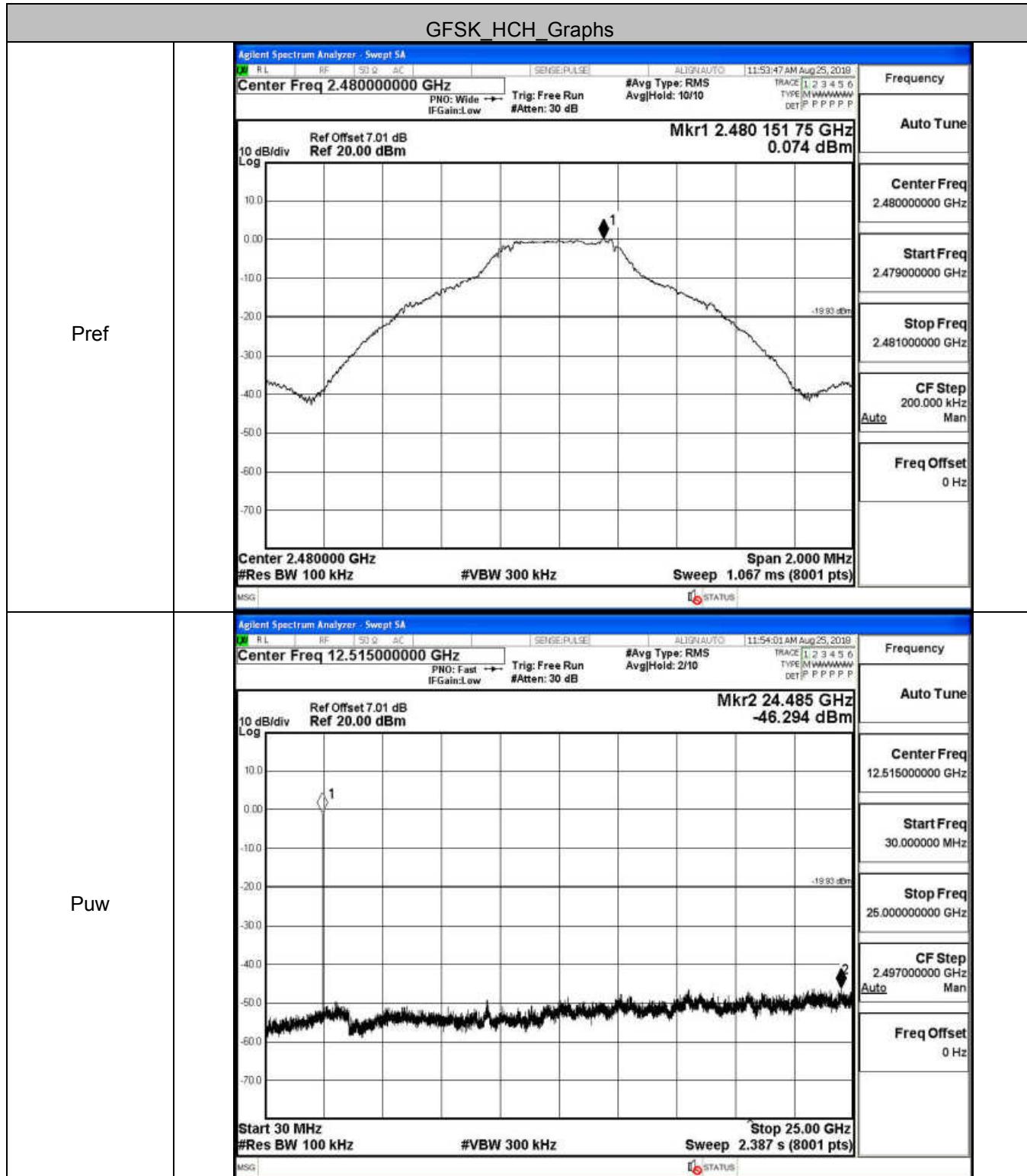
A.6 RF Conducted Spurious Emissions

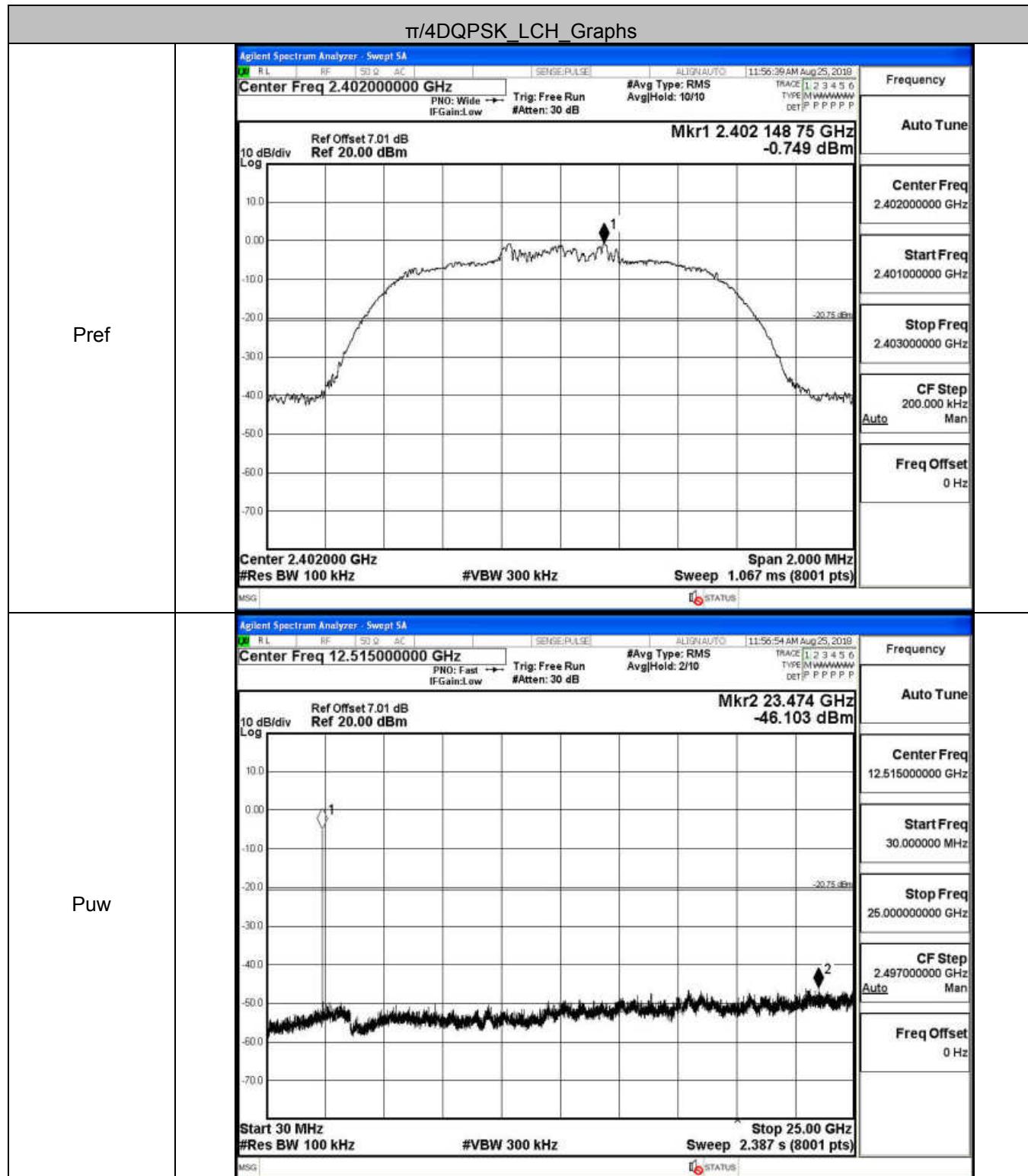
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.377	-45.930	-19.623	PASS
	MCH	0.359	-45.764	-19.641	PASS
	HCH	0.074	-46.294	-19.926	PASS
$\pi/4$ DQPSK	LCH	-0.749	-46.103	-20.749	PASS
	MCH	-1.327	-45.420	-21.327	PASS
	HCH	-1.552	-45.638	-21.552	PASS
8DPSK	LCH	-0.723	-45.438	-20.723	PASS
	MCH	-0.63	-45.697	-20.630	PASS
	HCH	-1.522	-46.379	-21.522	PASS

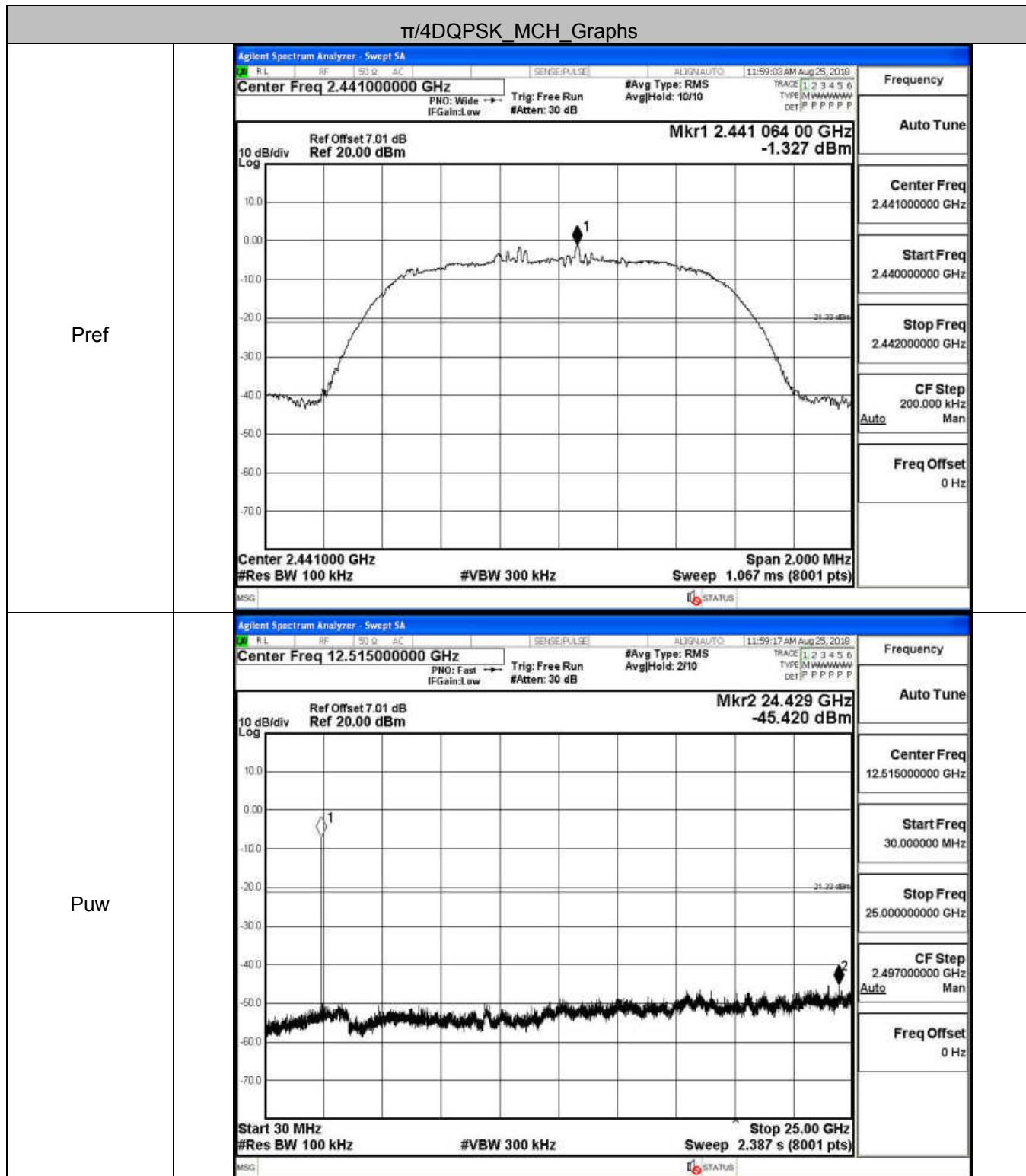


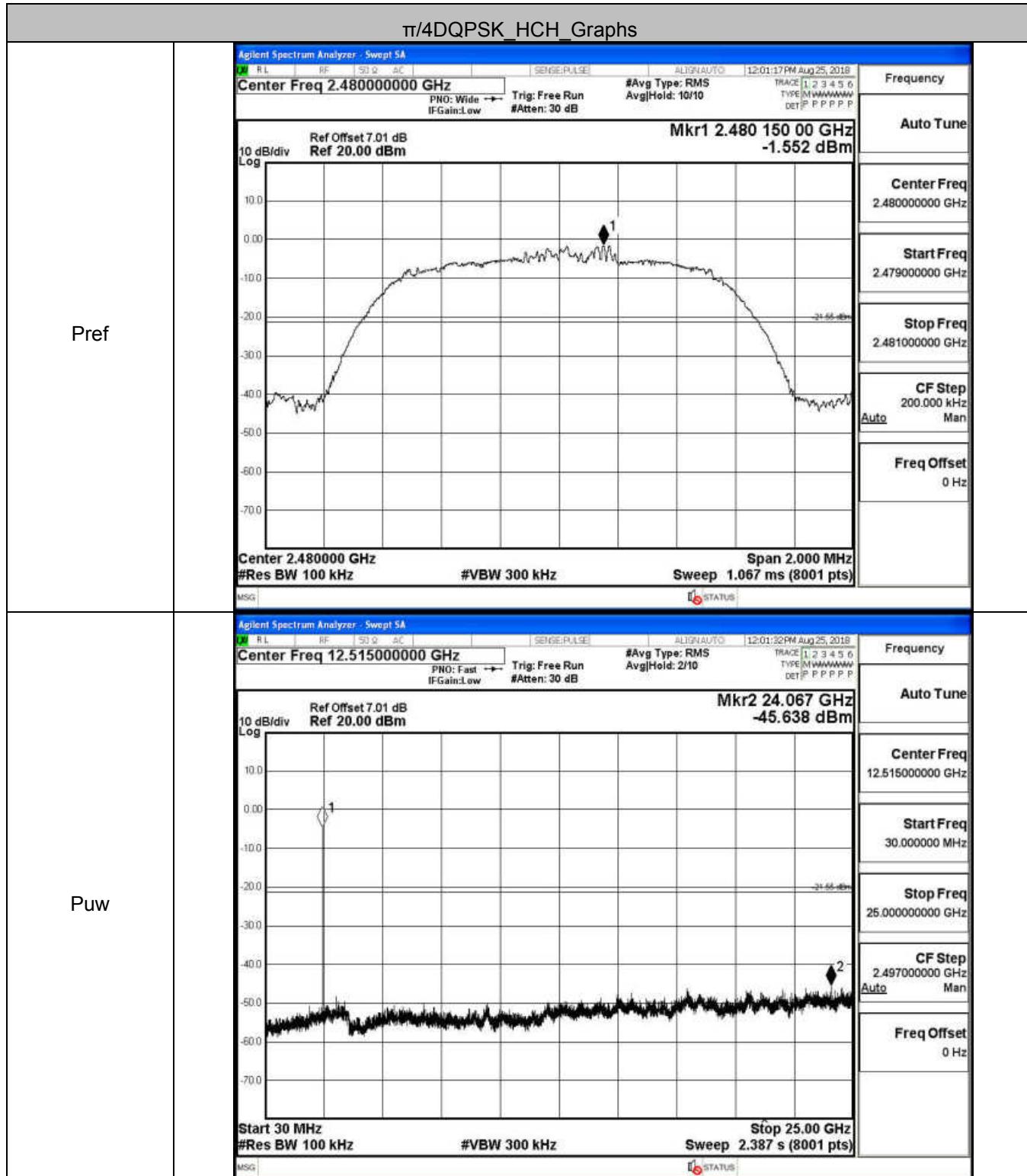


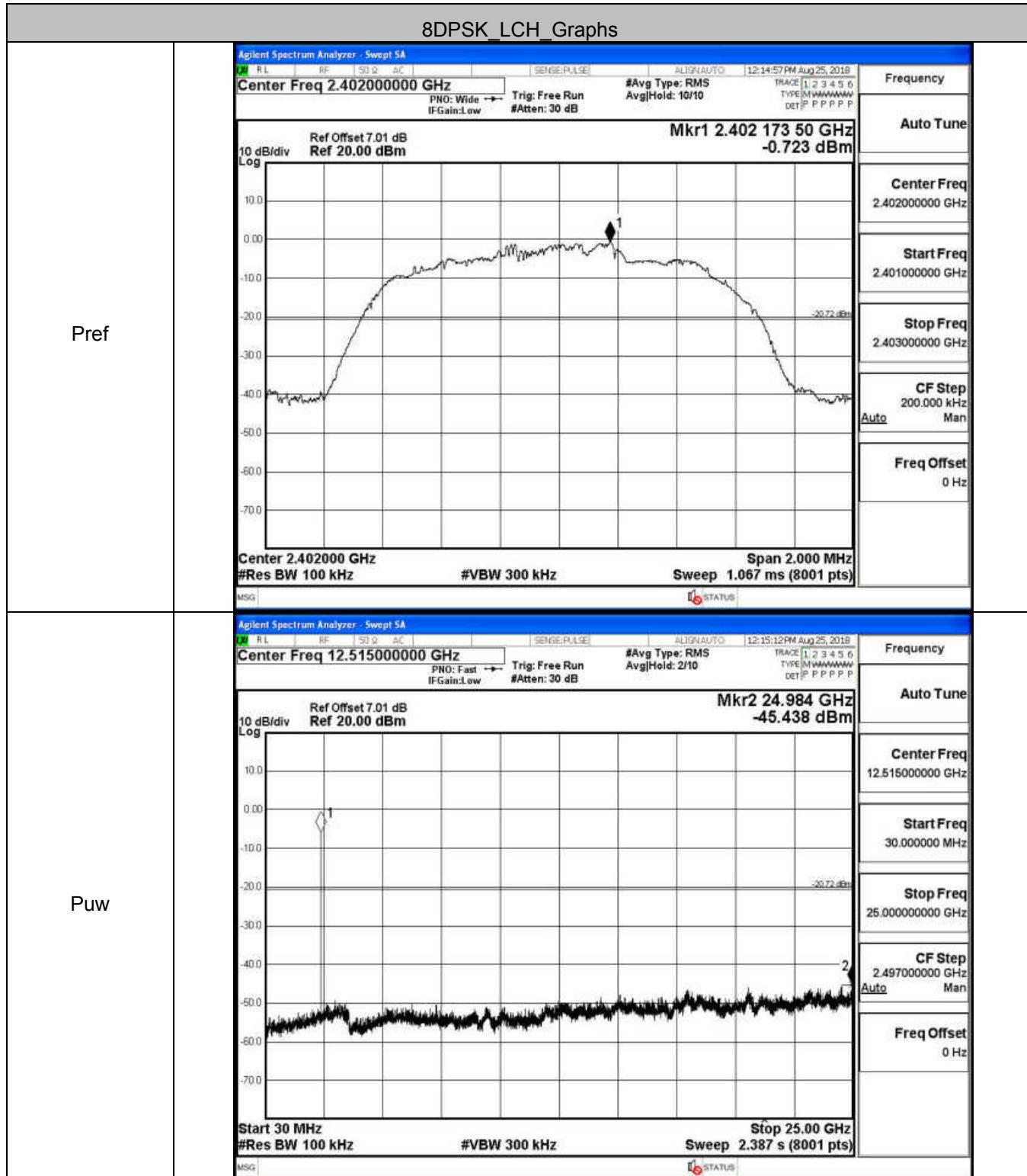


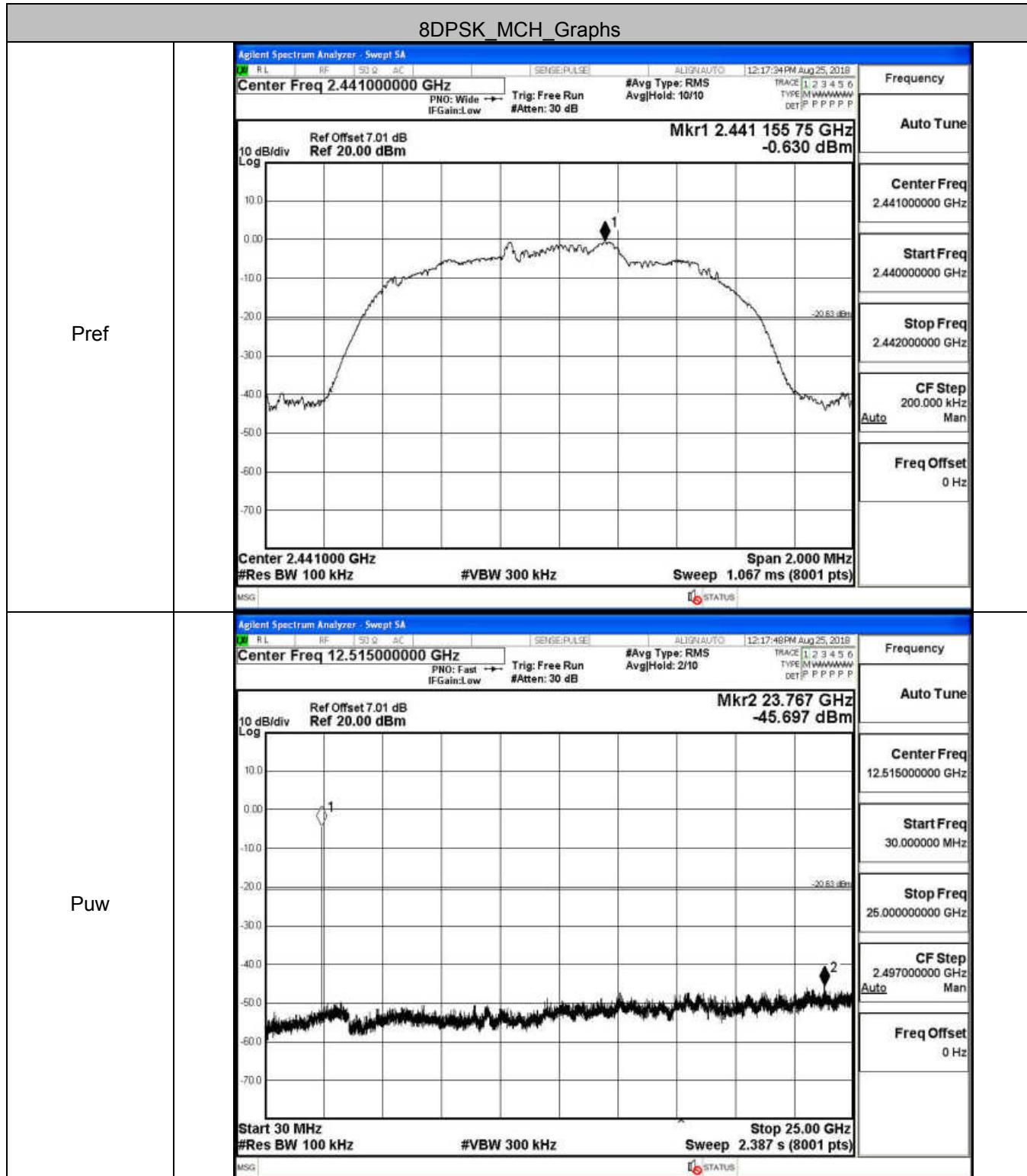


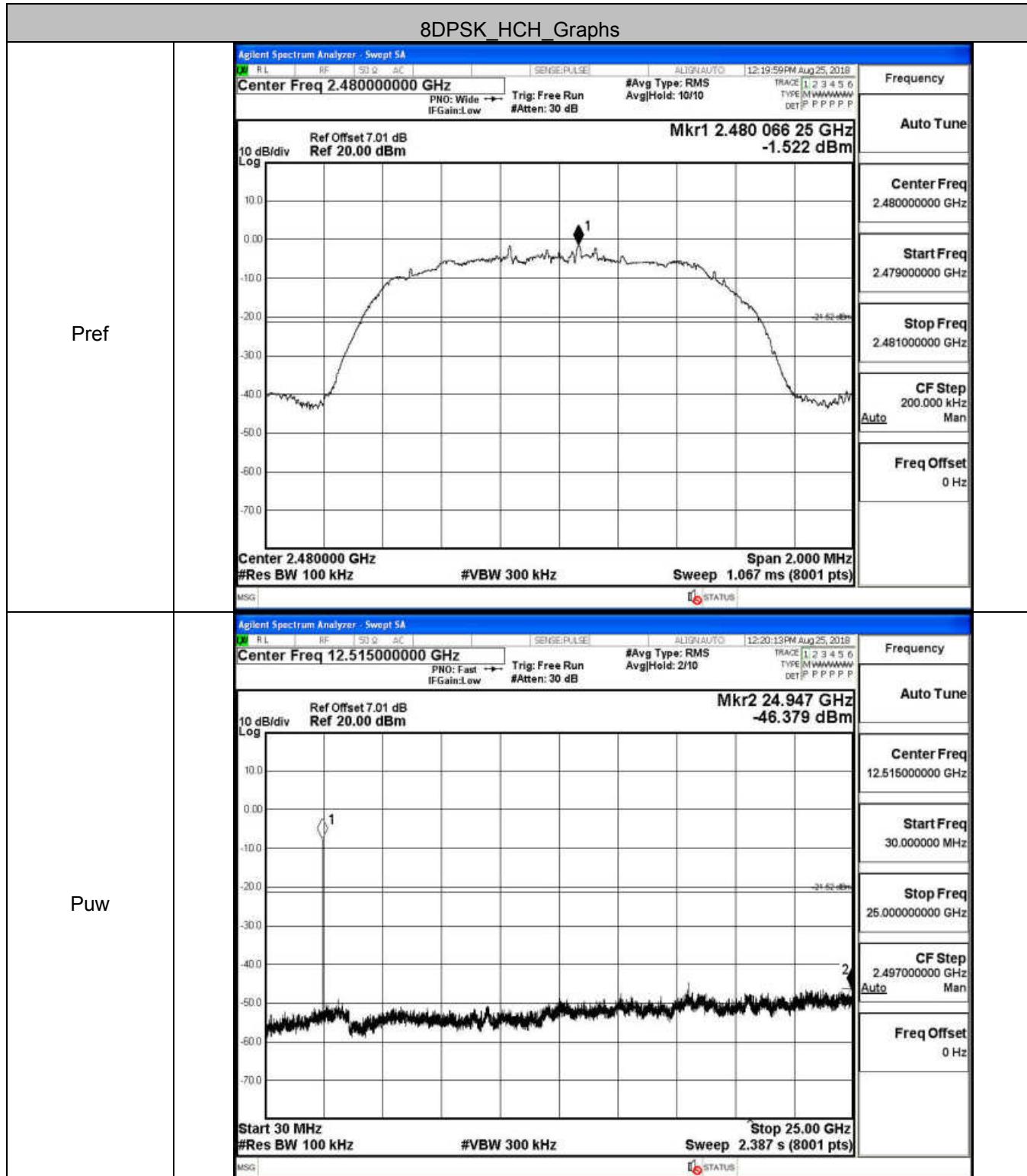










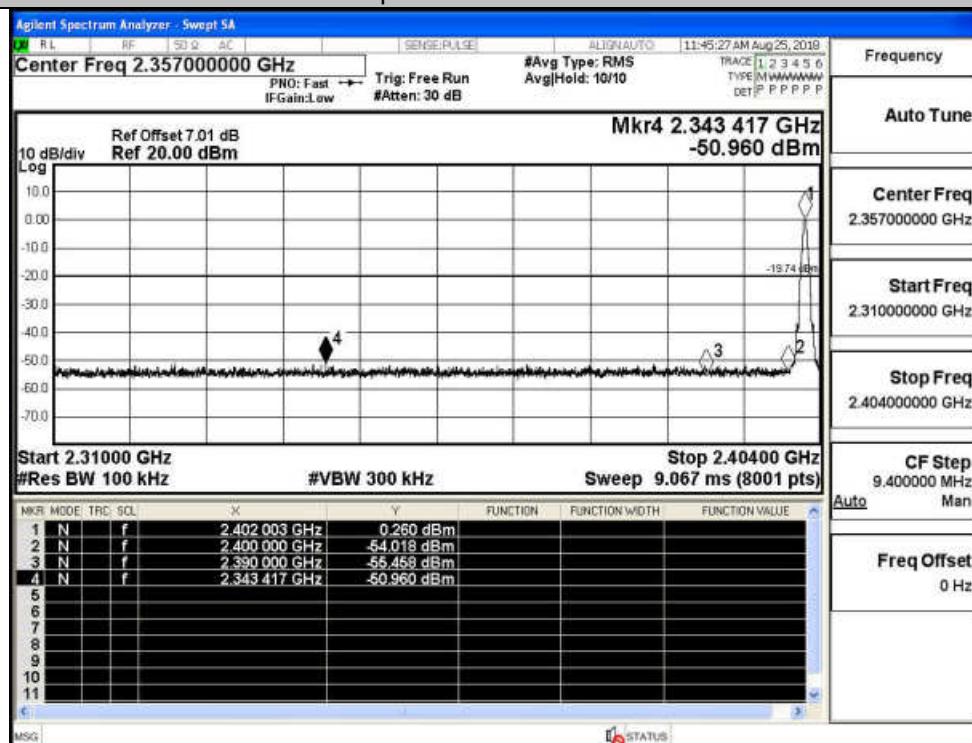


A.7 Band-edge for RF Conducted Emissions

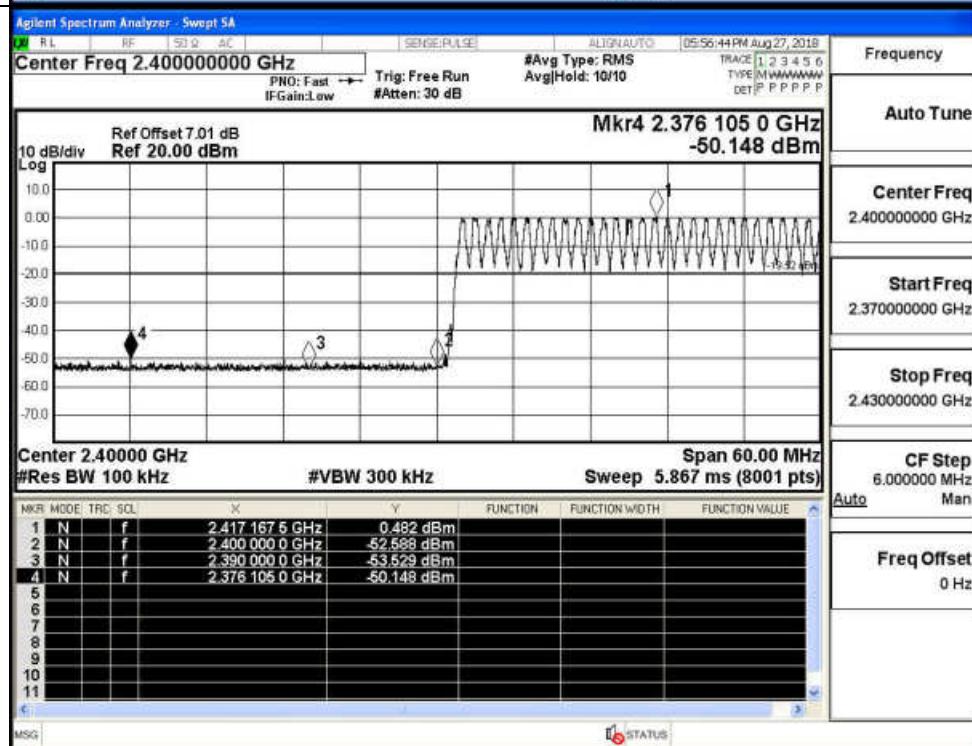
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.260	Off	-50.960	-19.74	PASS
			0.482	On	-50.148	-19.52	PASS
	HCH	2480	0.176	Off	-50.511	-19.82	PASS
			0.217	On	-49.731	-19.78	PASS
$\pi/4$ DQPSK	LCH	2402	-0.659	Off	-51.021	-20.66	PASS
			-0.447	On	-50.513	-20.45	PASS
	HCH	2480	-0.881	Off	-50.423	-20.88	PASS
			-0.693	On	-49.176	-20.69	PASS
8DPSK	LCH	2402	-0.423	Off	-50.914	-20.42	PASS
			-0.303	On	-50.414	-20.3	PASS
	HCH	2480	-0.821	Off	-50.461	-20.82	PASS
			-0.570	On	-50.322	-20.57	PASS

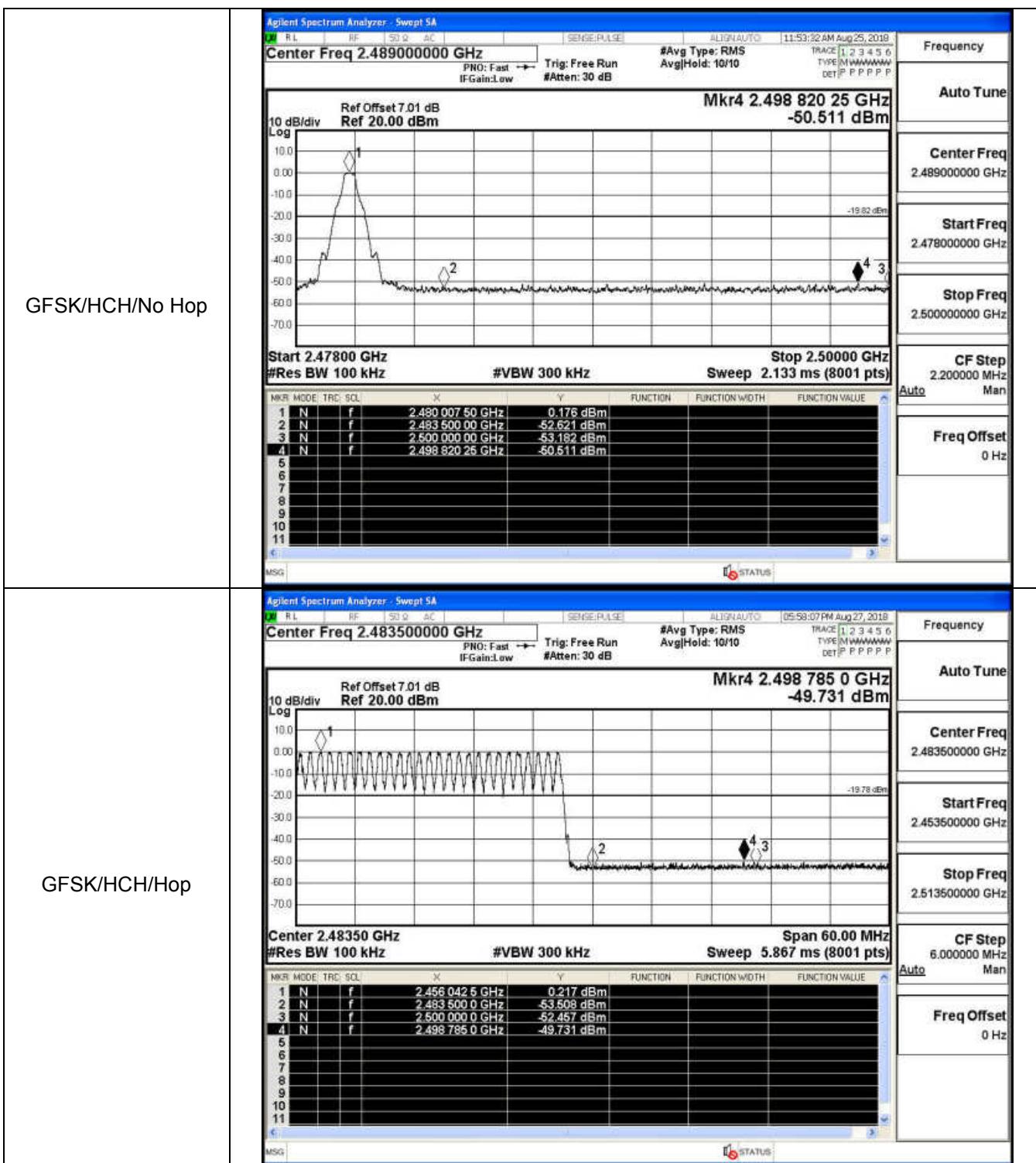
Test Graphs

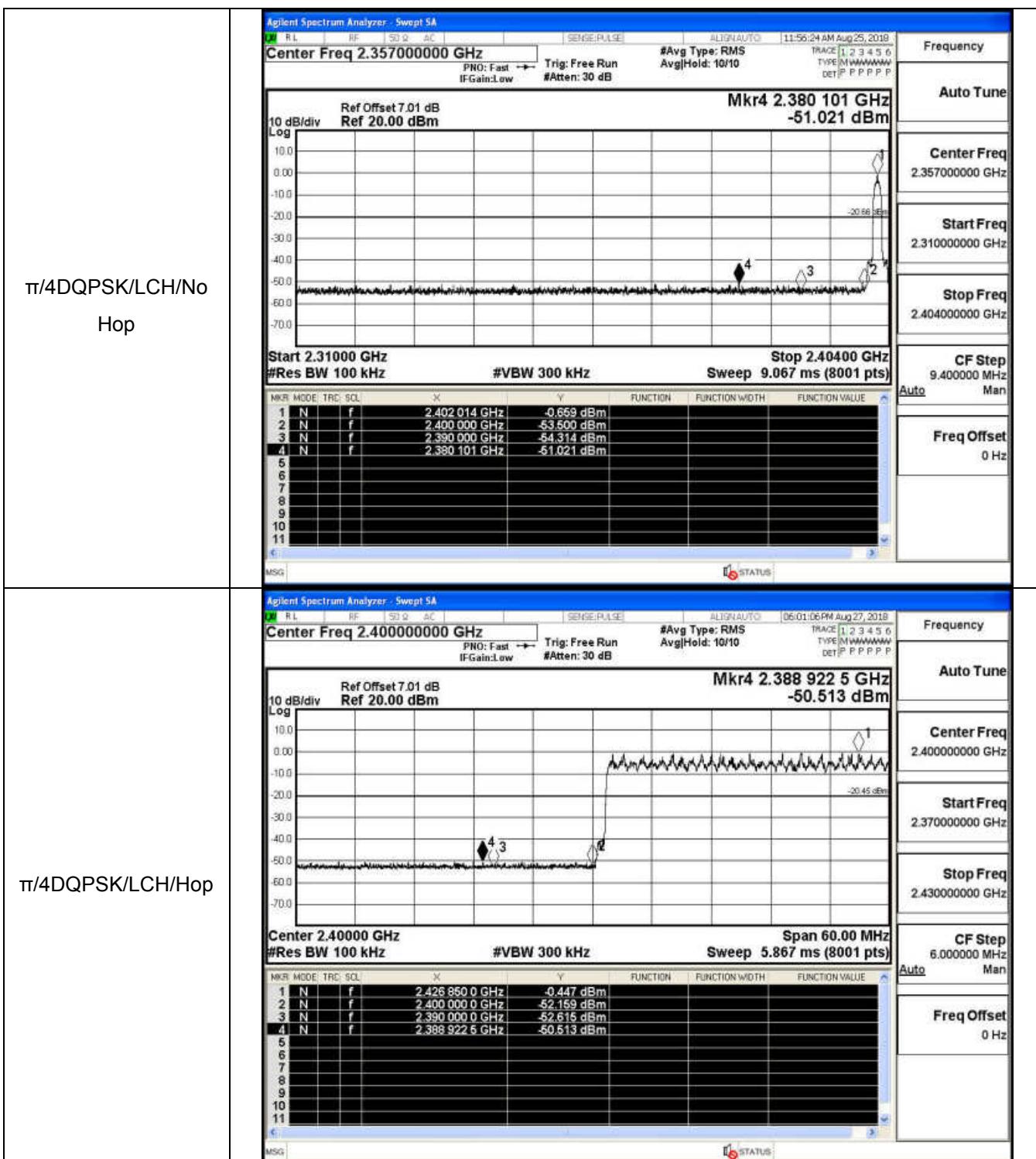
GFSK/LCH/No Hop

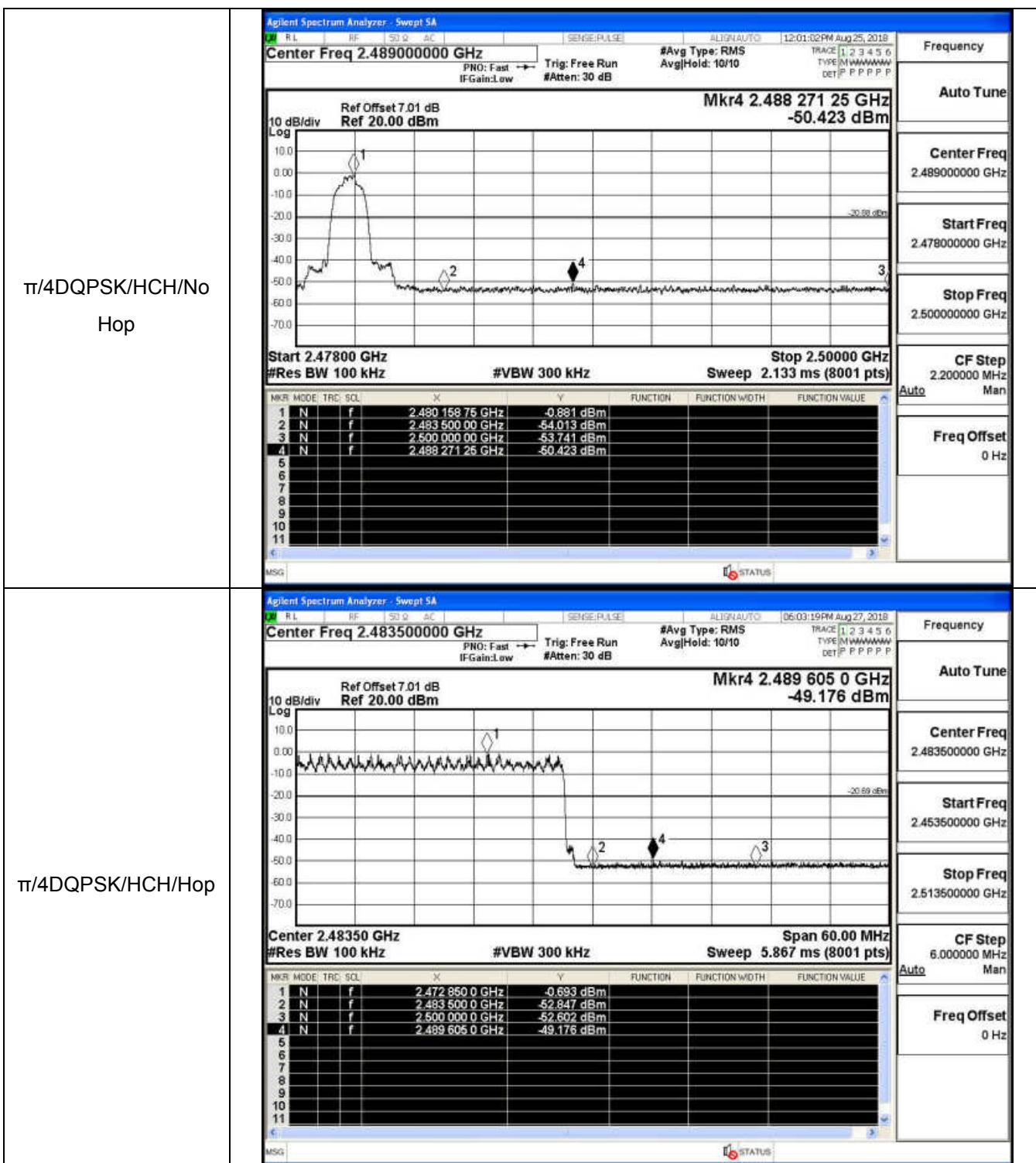


GFSK/LCH/Hop

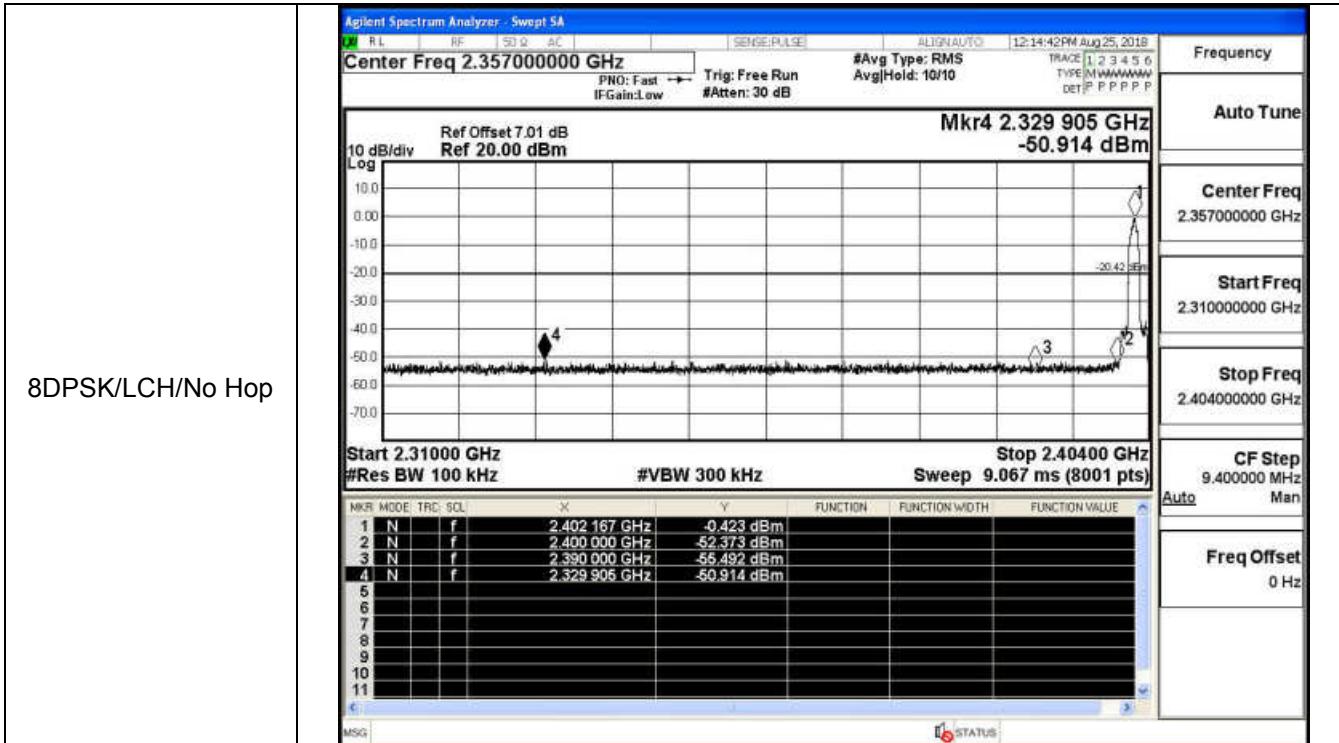




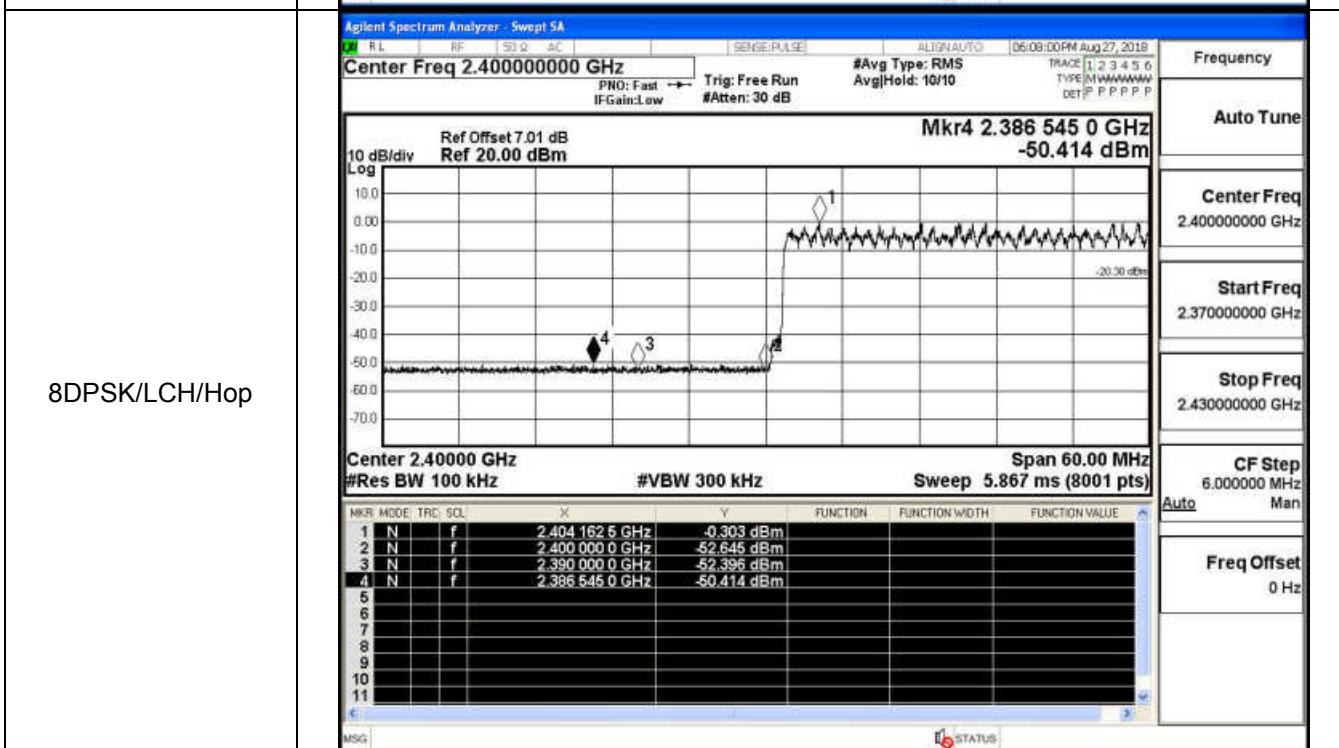


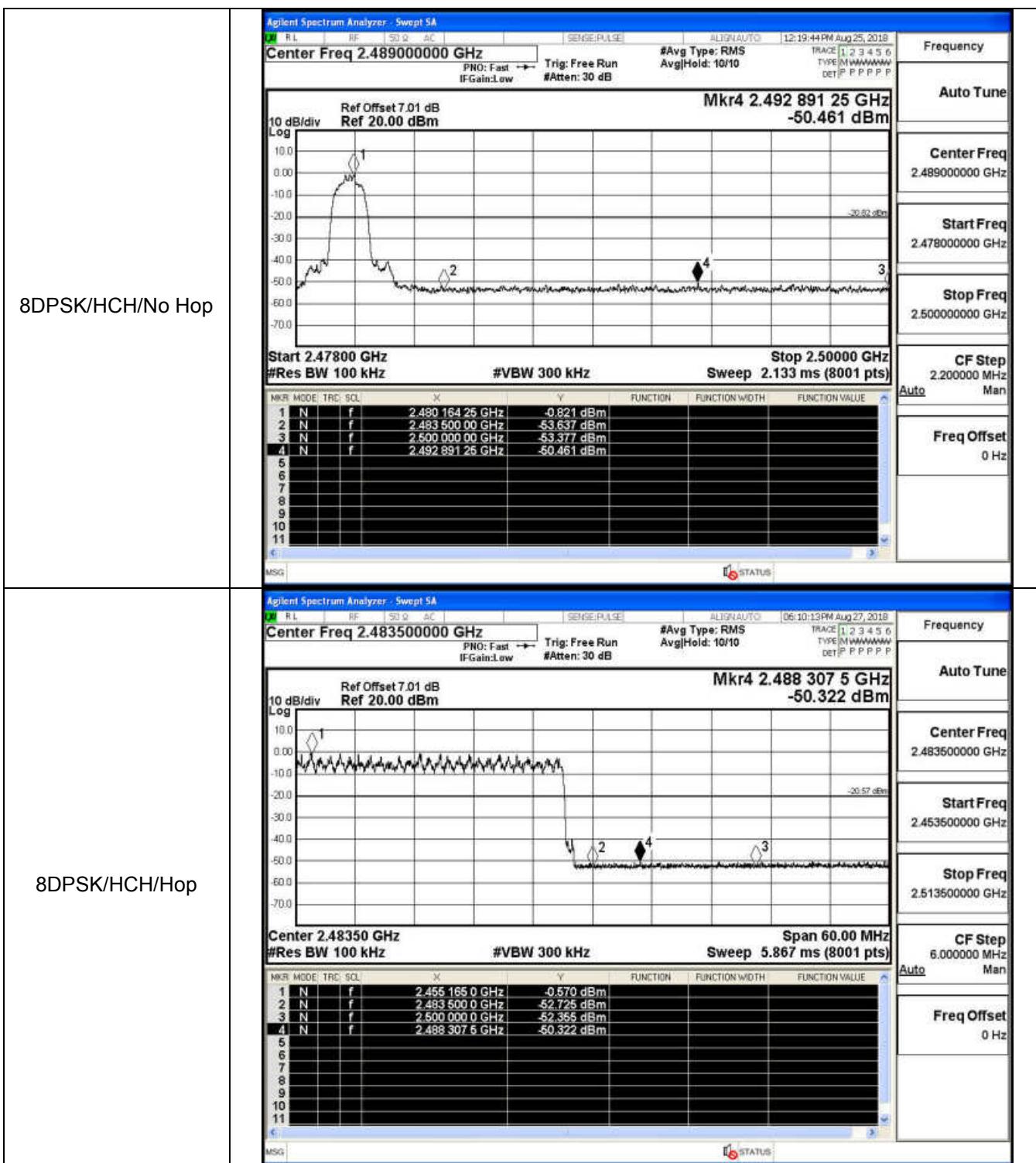


8DPSK/LCH/No Hop



8DPSK/LCH/Hop

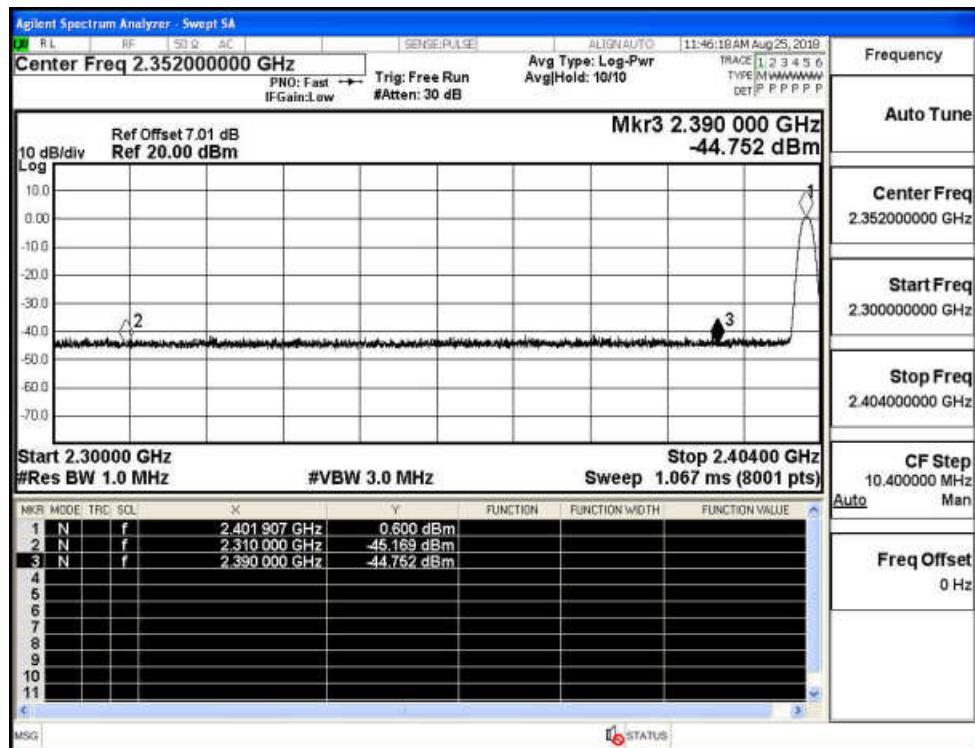




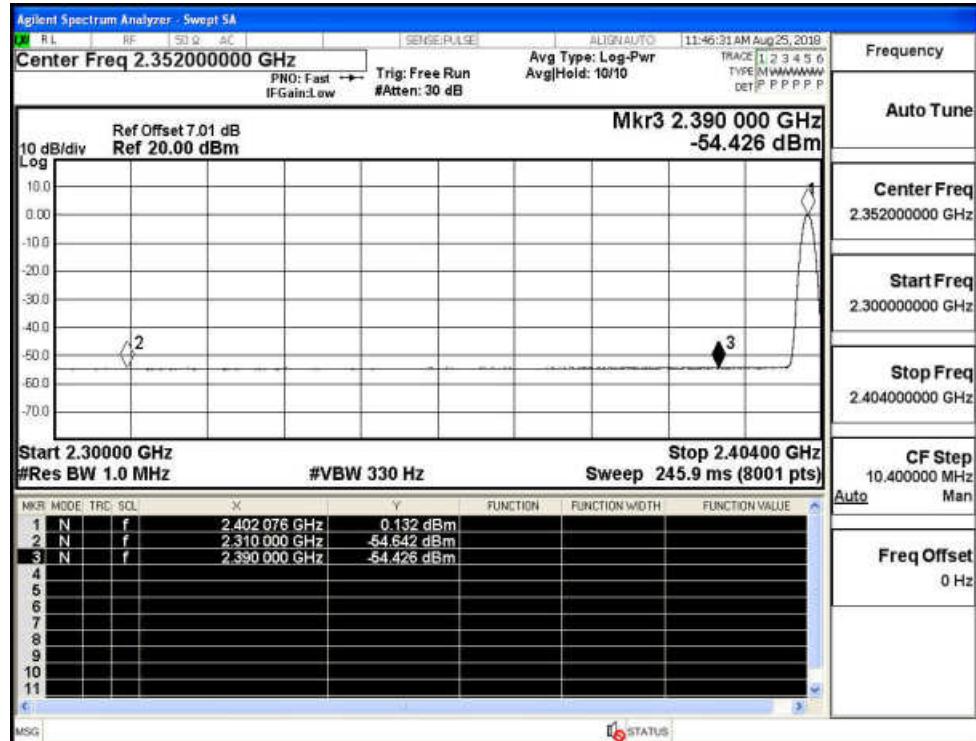
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-45.17	2.0	0	52.06	PEAK	74	PASS
	Off	2310.0	-54.64	2.0	0	42.59	AV	54	PASS
	Off	2390.0	-44.75	2.0	0	52.48	PEAK	74	PASS
	Off	2390.0	-54.43	2.0	0	42.80	AV	54	PASS
	Off	2483.5	-45.35	2.0	0	51.88	PEAK	74	PASS
	Off	2483.5	-54.19	2.0	0	43.04	AV	54	PASS
	Off	2500.0	-44.56	2.0	0	52.67	PEAK	74	PASS
	Off	2500.0	-54.08	2.0	0	43.15	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-45.13	2.0	0	52.10	PEAK	74	PASS
	Off	2310.0	-54.65	2.0	0	42.58	AV	54	PASS
	Off	2390.0	-44.27	2.0	0	52.96	PEAK	74	PASS
	Off	2390.0	-54.46	2.0	0	42.77	AV	54	PASS
	Off	2483.5	-43.77	2.0	0	53.46	PEAK	74	PASS
	Off	2483.5	-54.17	2.0	0	43.06	AV	54	PASS
	Off	2500.0	-44.26	2.0	0	52.97	PEAK	74	PASS
	Off	2500.0	-54.09	2.0	0	43.14	AV	54	PASS
8DPSK	Off	2310.0	-43.66	2.0	0	53.57	PEAK	74	PASS
	Off	2310.0	-54.70	2.0	0	42.53	AV	54	PASS
	Off	2390.0	-43.27	2.0	0	53.96	PEAK	74	PASS
	Off	2390.0	-54.41	2.0	0	42.82	AV	54	PASS
	Off	2483.5	-44.12	2.0	0	53.11	PEAK	74	PASS
	Off	2483.5	-54.19	2.0	0	43.04	AV	54	PASS
	Off	2500.0	-43.63	2.0	0	53.60	PEAK	74	PASS
	Off	2500.0	-54.12	2.0	0	43.11	AV	54	PASS

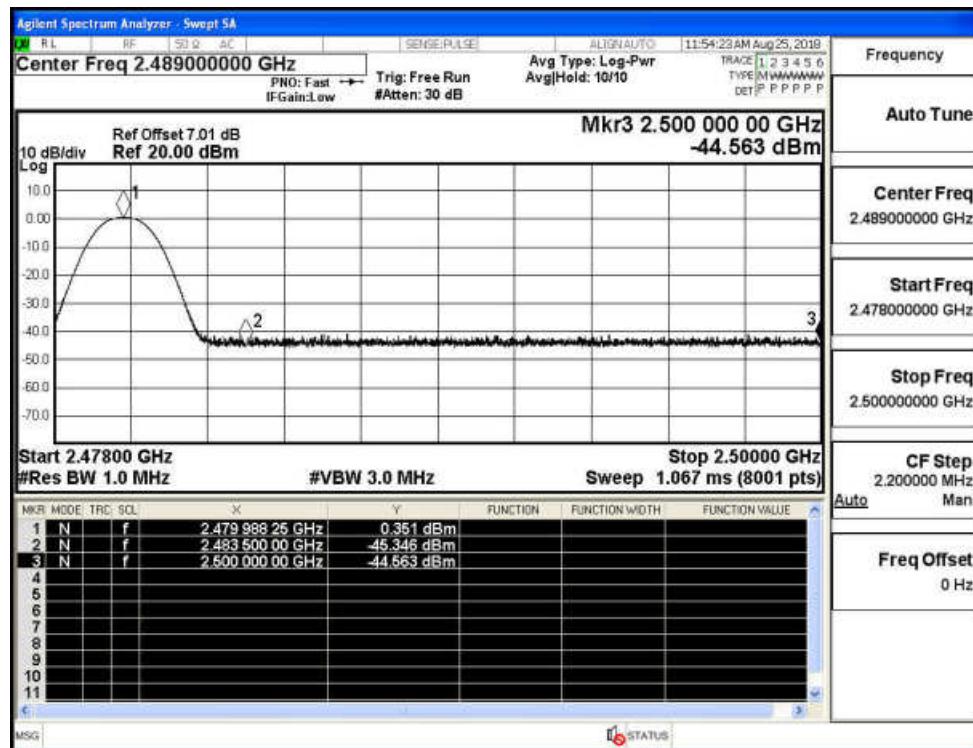
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



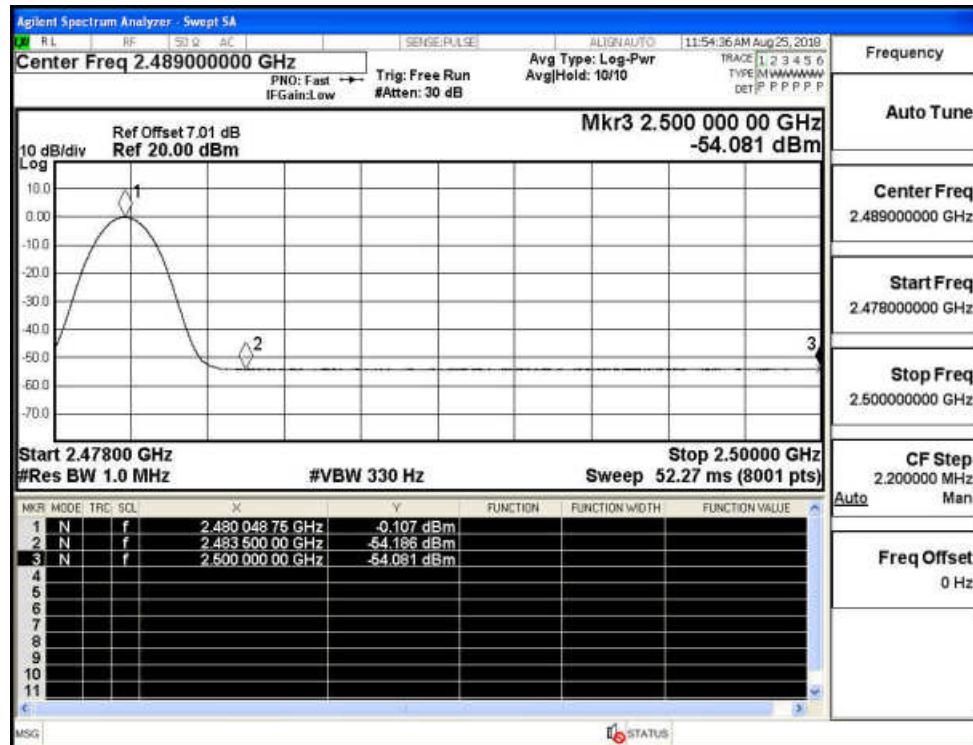
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



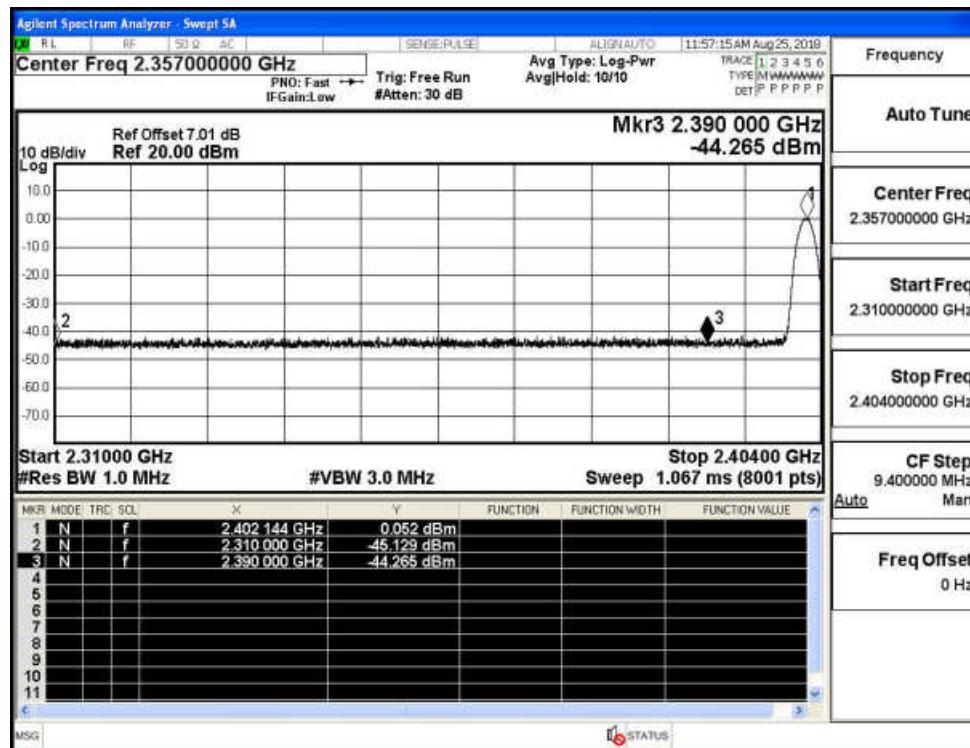
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



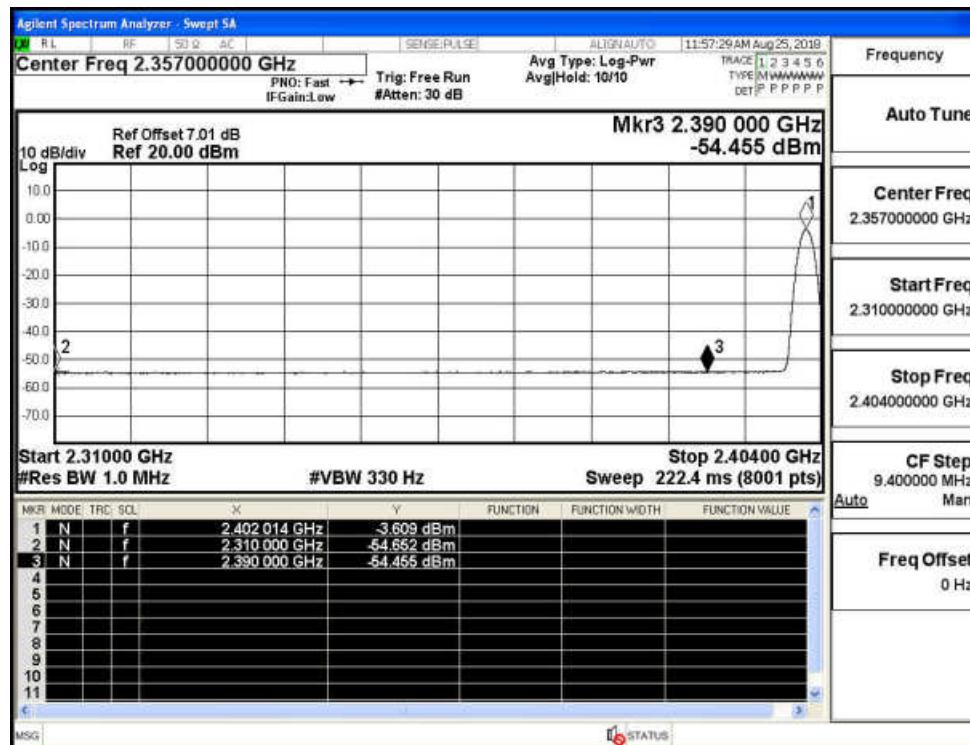
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



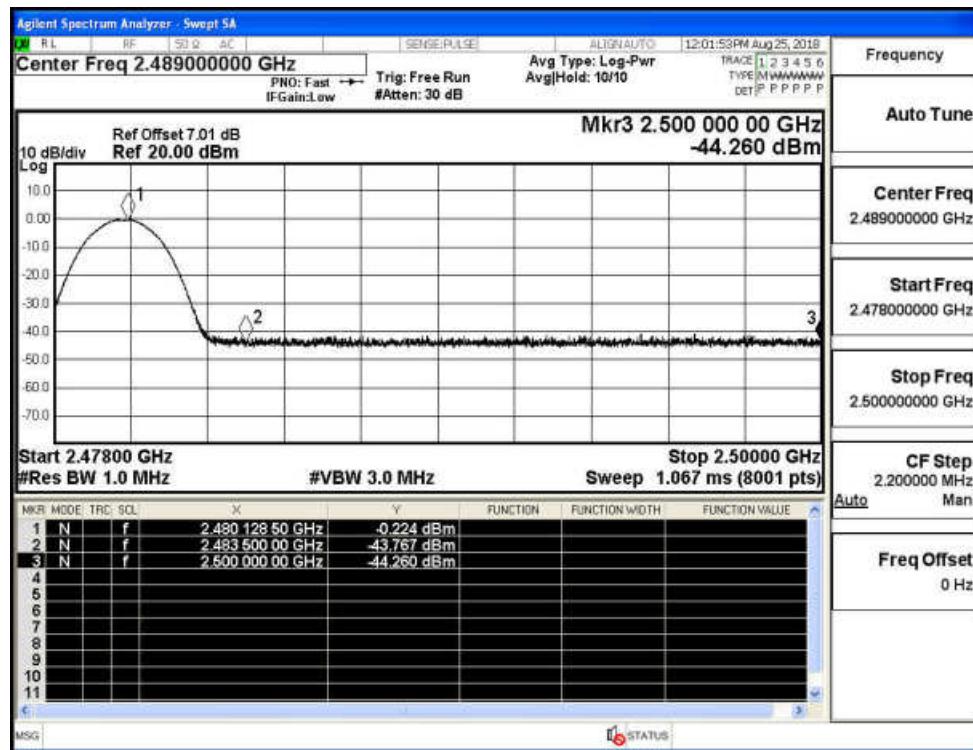
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



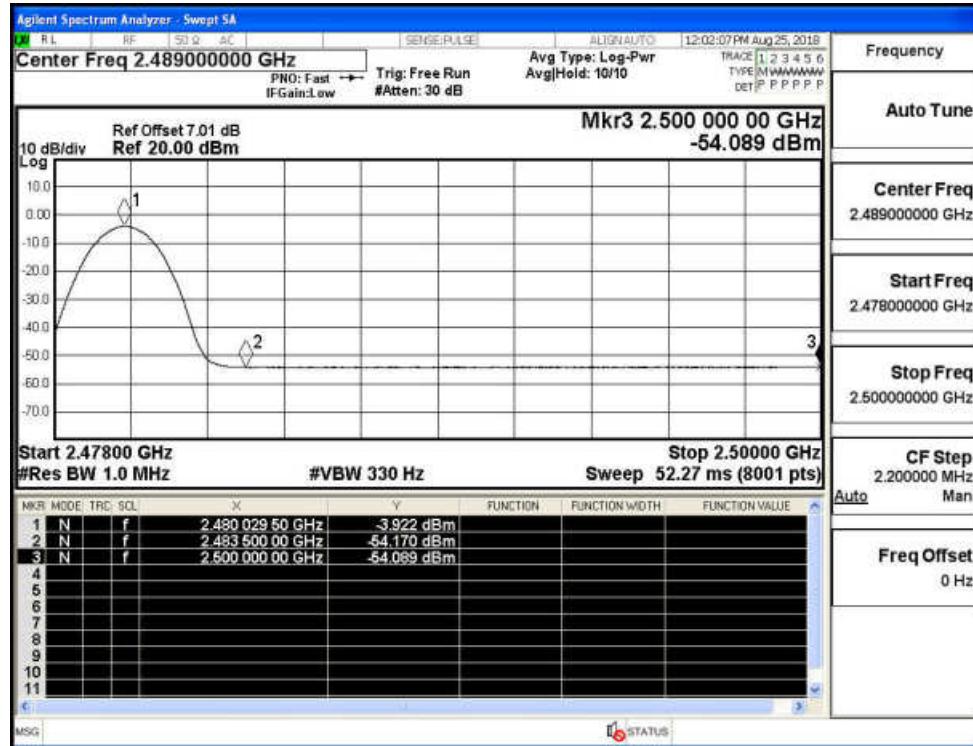
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



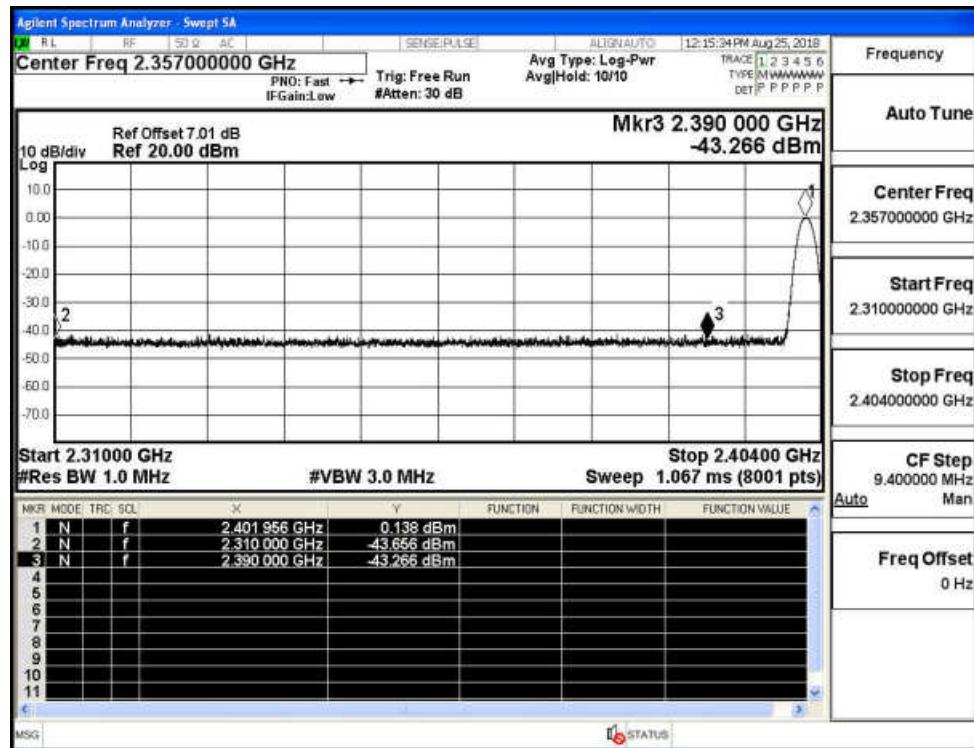
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



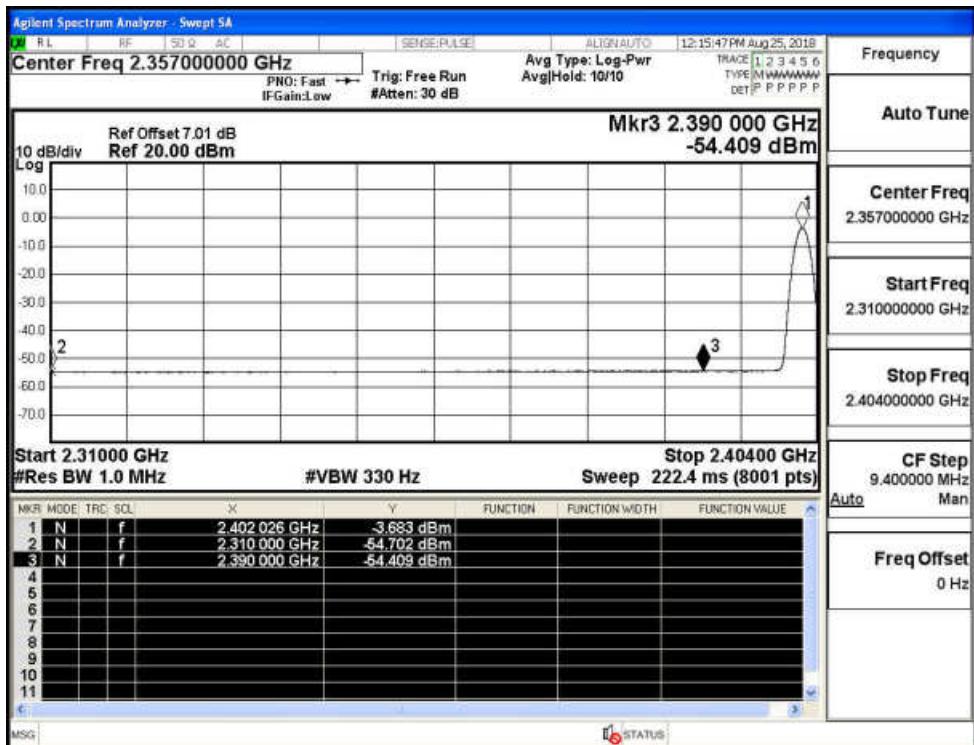
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



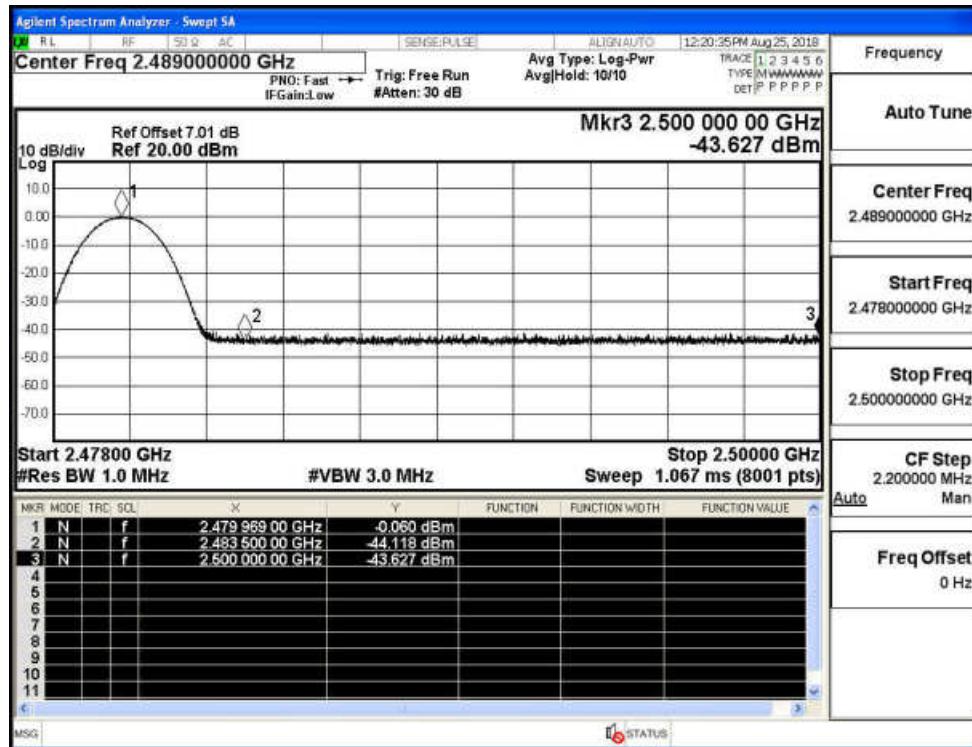
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

