

Appendix A

RF Test Data for BT V3.0 (BDR/EDR) (Conducted Measurement)

Product Name: 5.1 CHANNEL DVD HOME THEATER SYSTEM WITH BLUETOOTH

Trade Mark: IMPECCA

Test Model: HTDS-517BT

Environmental Conditions

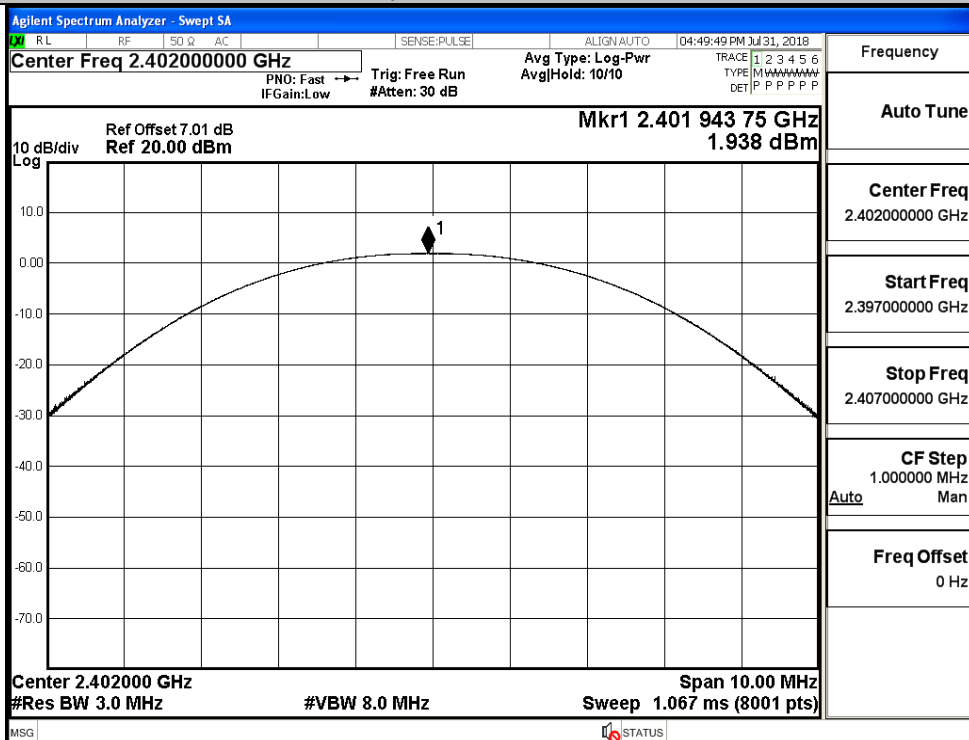
Temperature:	23.3° C
Relative Humidity:	52.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Mina.Xu
Supervised by:	Jayden.Zhuo

A.1 Maximum Conducted Peak Output Power

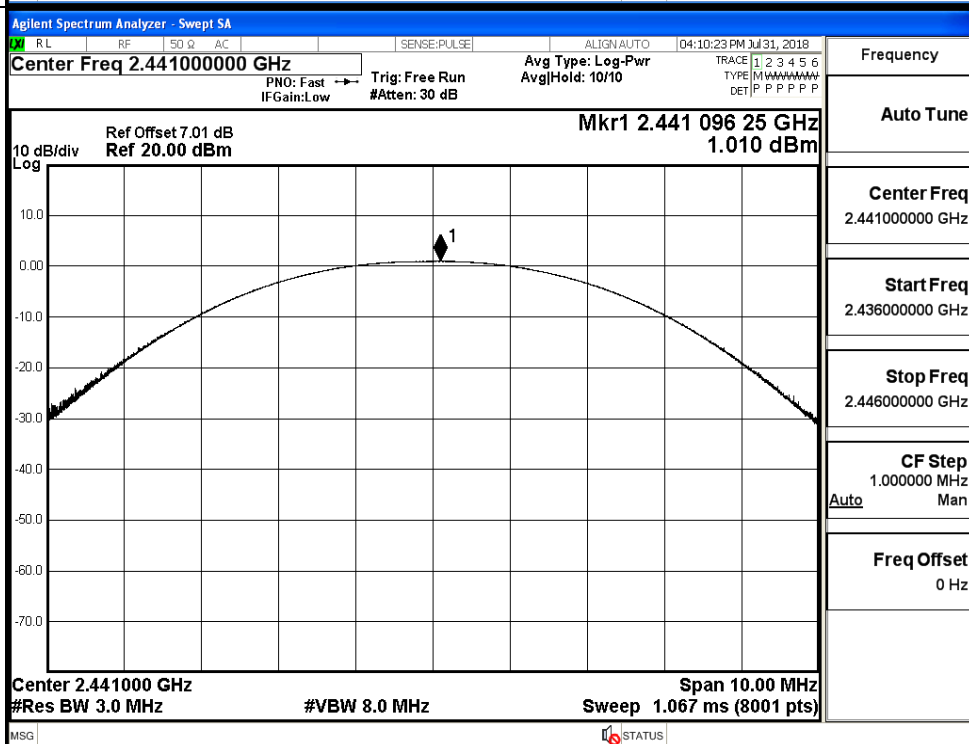
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.938	30	PASS
	MCH	1.010	30	PASS
	HCH	1.755	30	PASS
$\pi/4$ DQPSK	LCH	1.466	21	PASS
	MCH	0.598	21	PASS
	HCH	0.979	21	PASS
8DPSK	LCH	1.486	21	PASS
	MCH	0.669	21	PASS
	HCH	1.169	21	PASS

Test Graphs

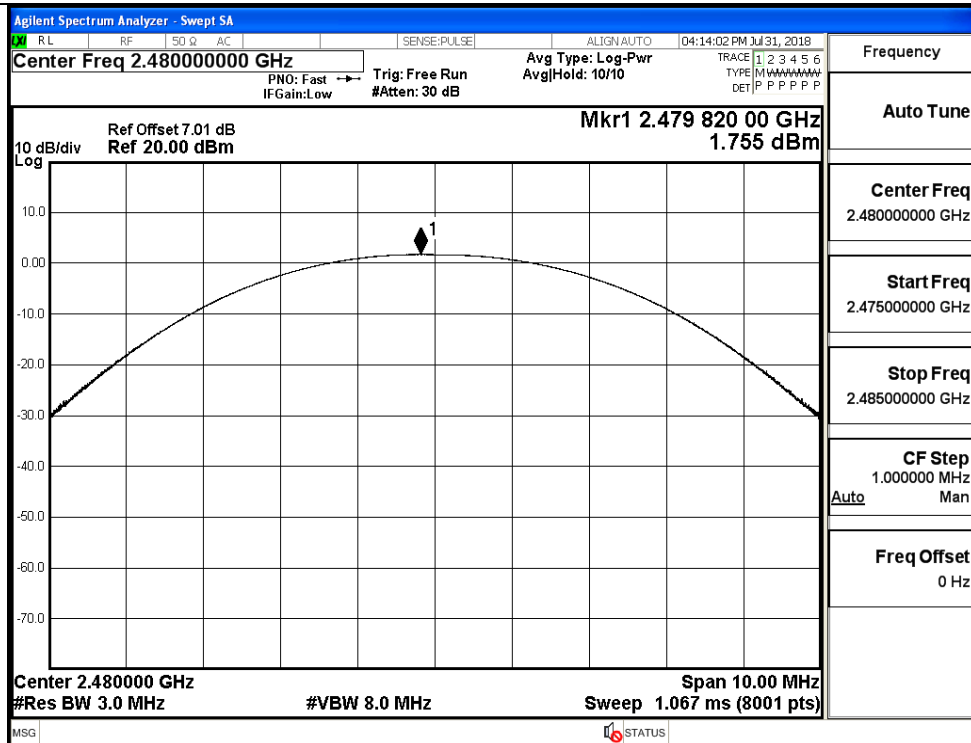
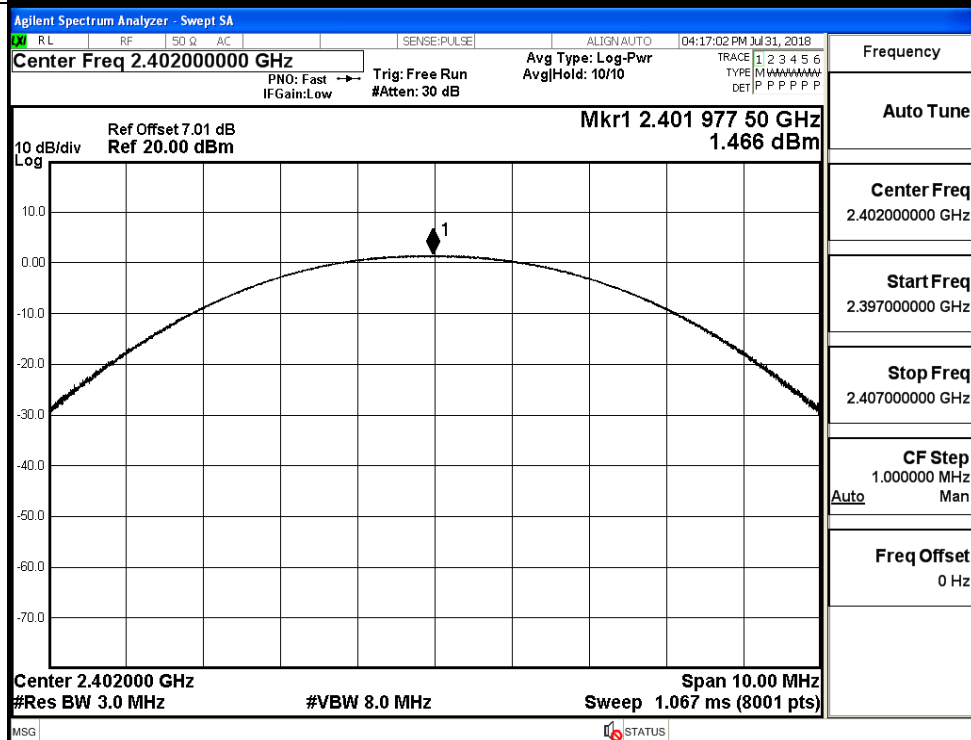
GFSK/LCH

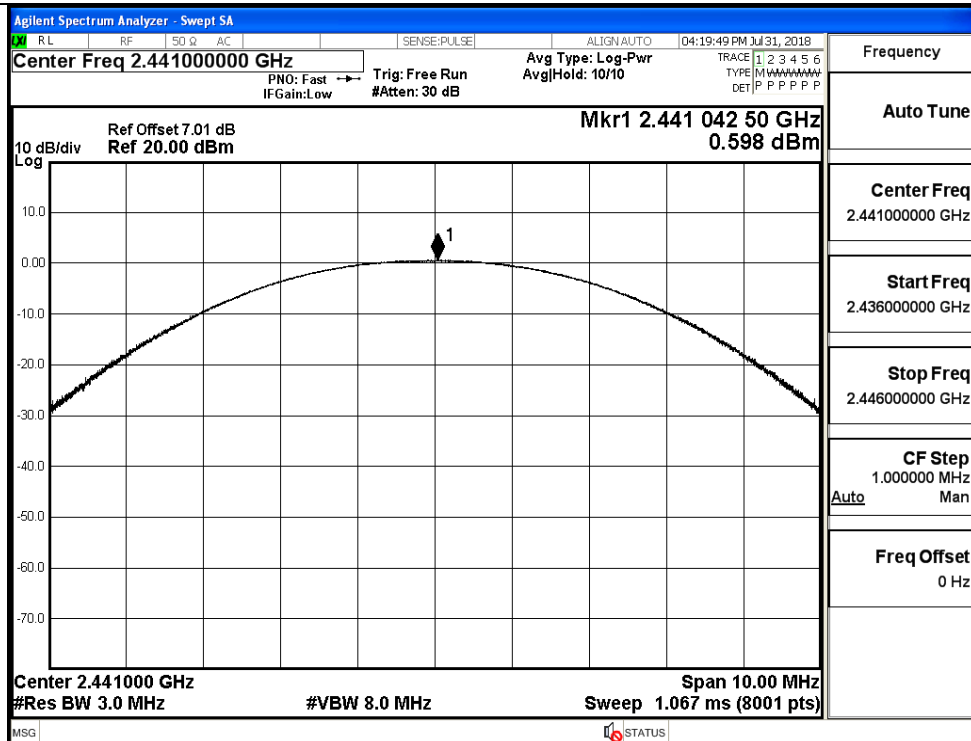
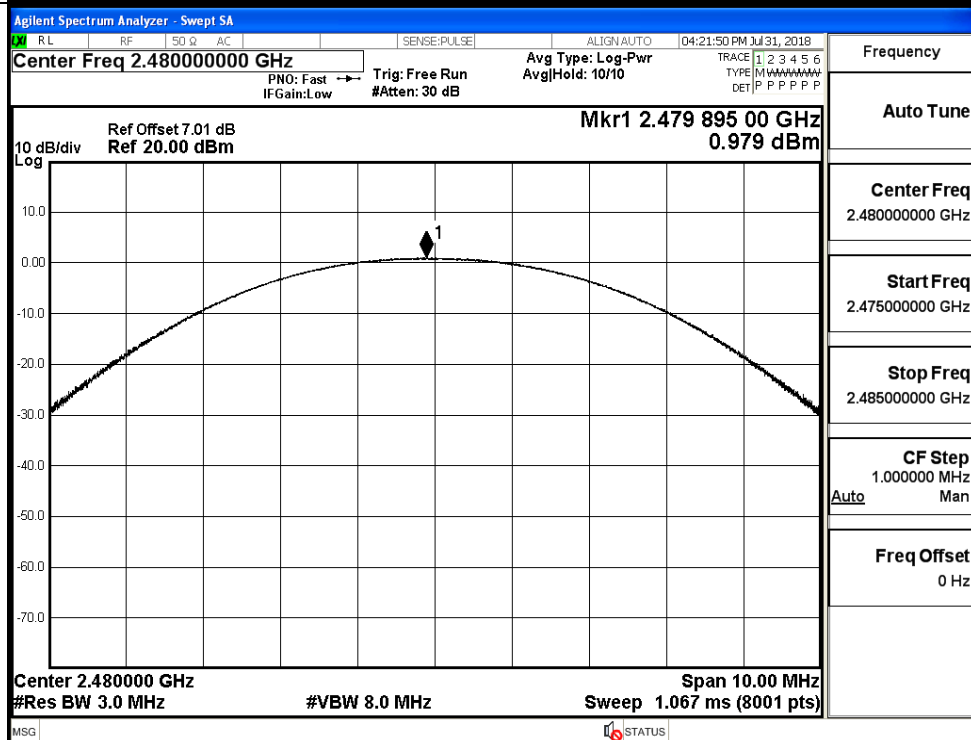


GFSK/MCH

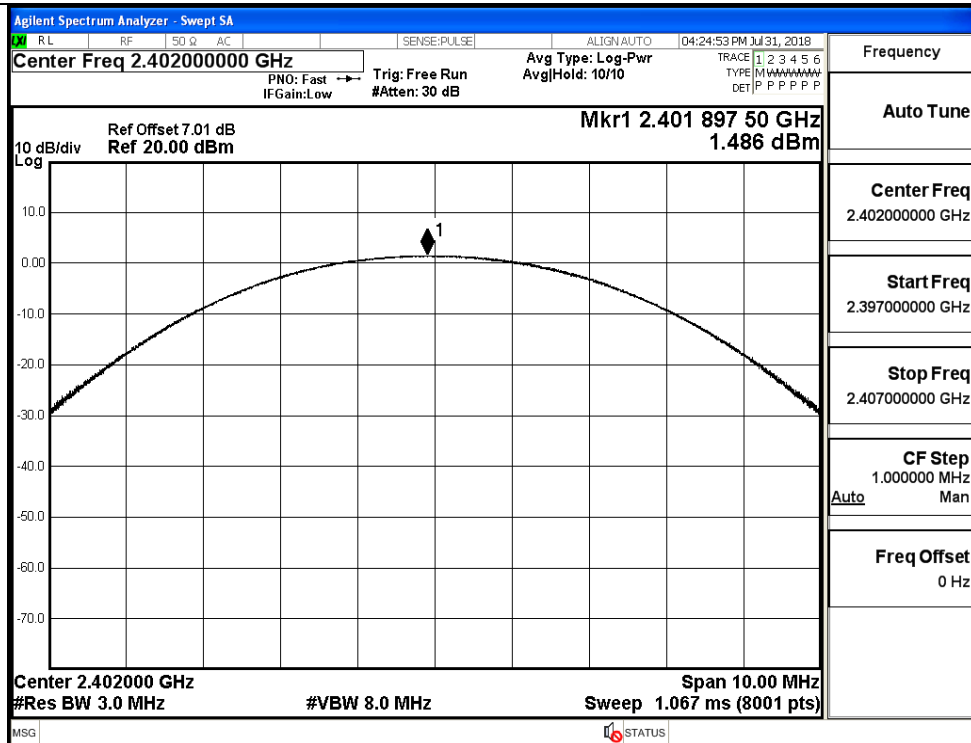


GFSK/HCH

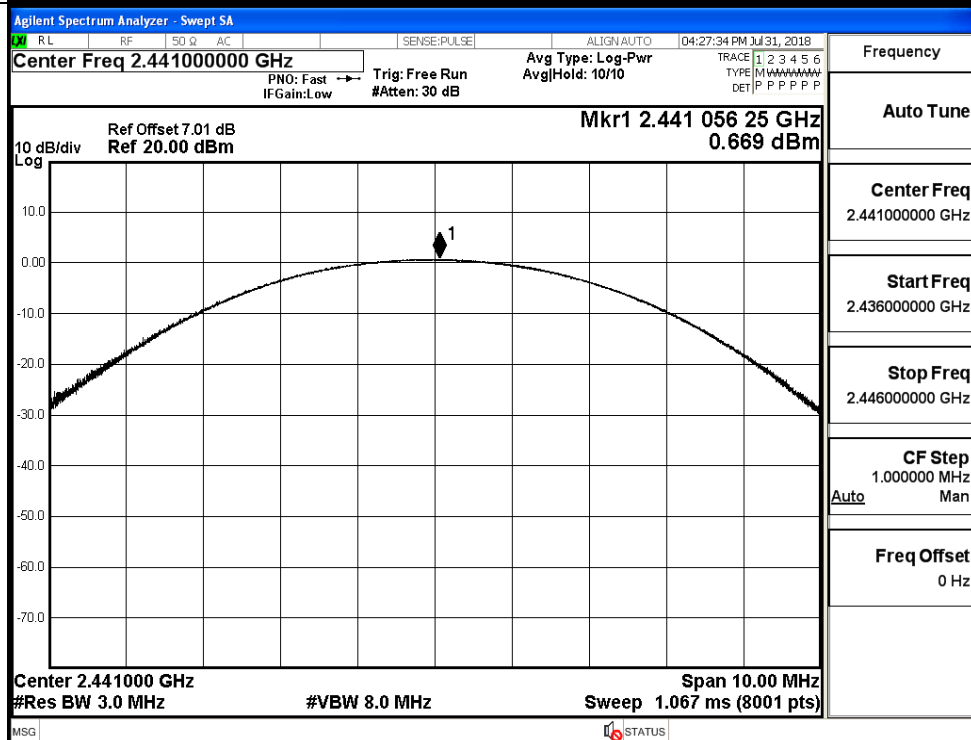
 π /4DQPSK/LCH

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

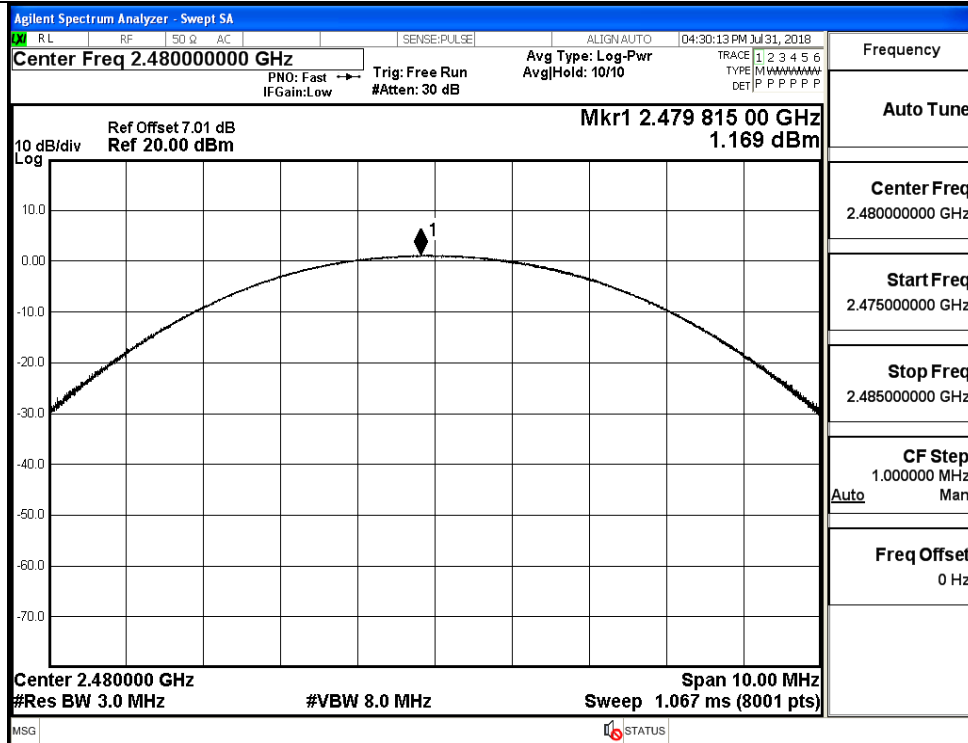
8DPSK/LCH



8DPSK/MCH



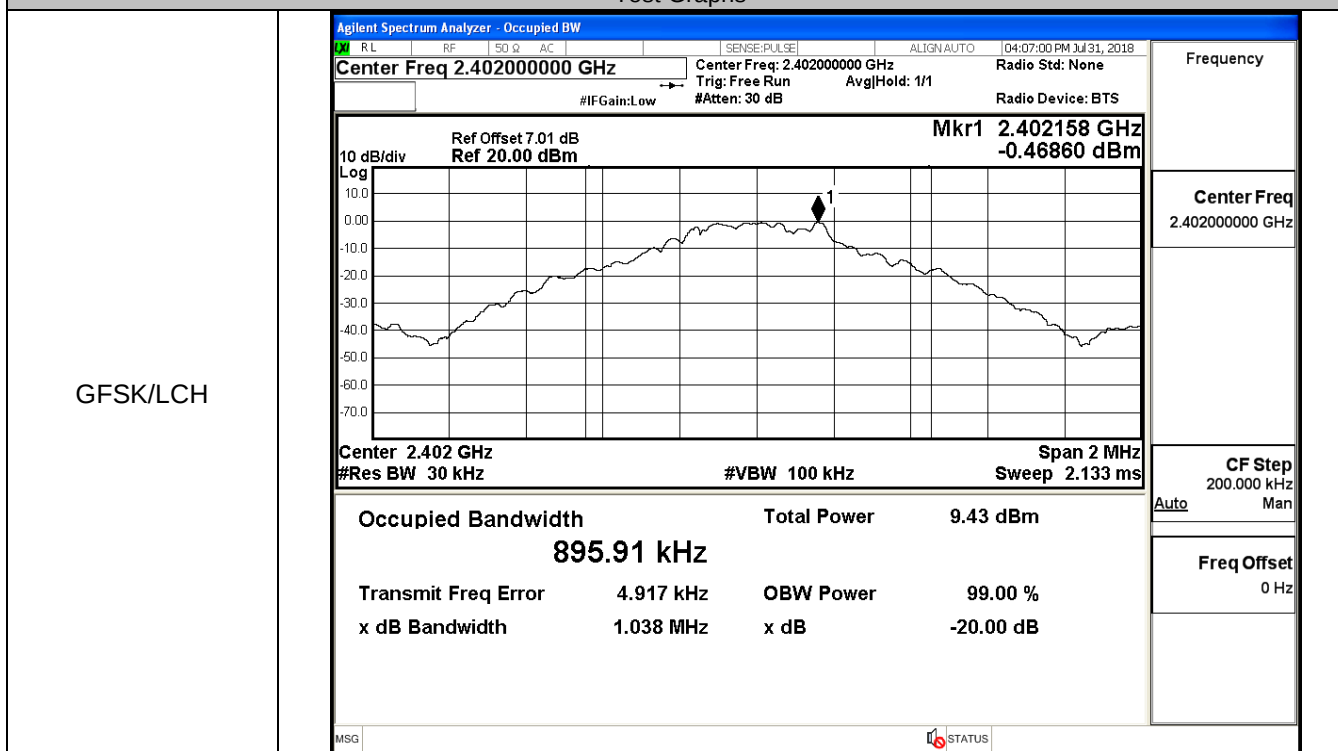
8DPSK/HCH



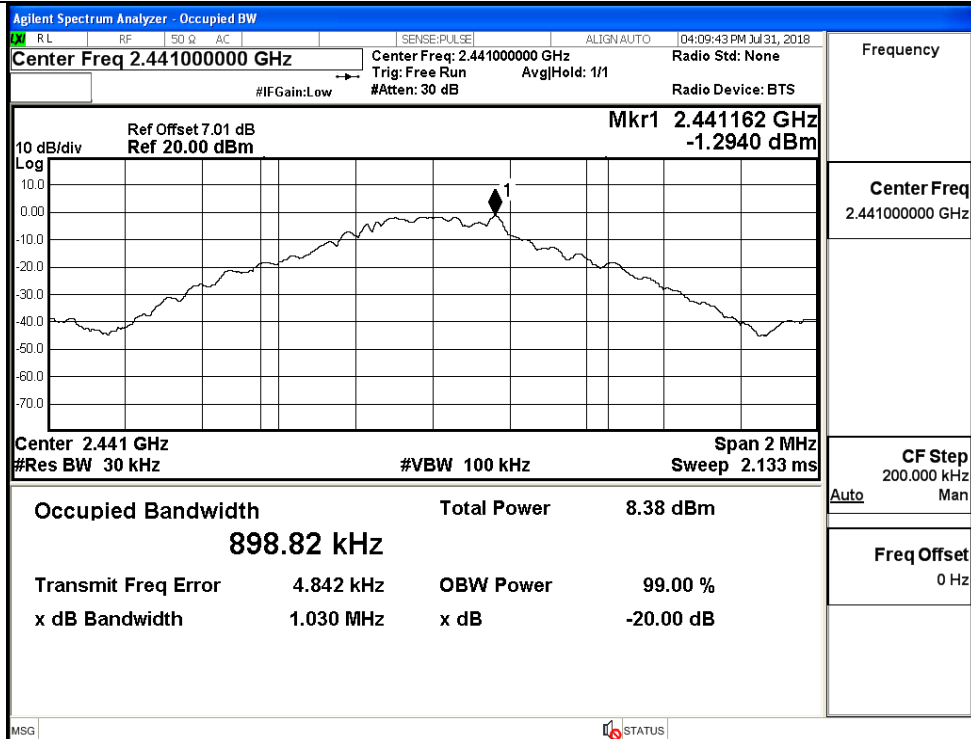
A.2 99% and 20dB Bandwidth

Mode	Channel.	99% Bandwidth [MHz]	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.89591	1.038	Not Specified	PASS
	MCH	0.89882	1.030	Not Specified	PASS
	HCH	0.90242	1.034	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.1782	1.294	Not Specified	PASS
	MCH	1.1874	1.313	Not Specified	PASS
	HCH	1.1775	1.313	Not Specified	PASS
8DPSK	LCH	1.1876	1.296	Not Specified	PASS
	MCH	1.2002	1.315	Not Specified	PASS
	HCH	1.1906	1.297	Not Specified	PASS

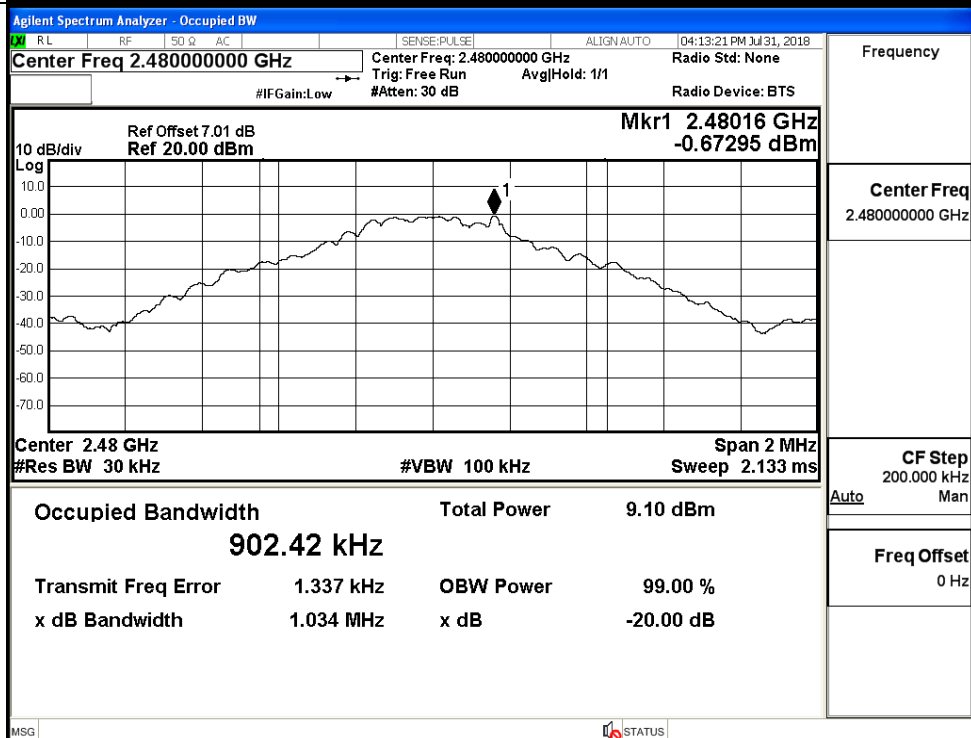
Test Graphs

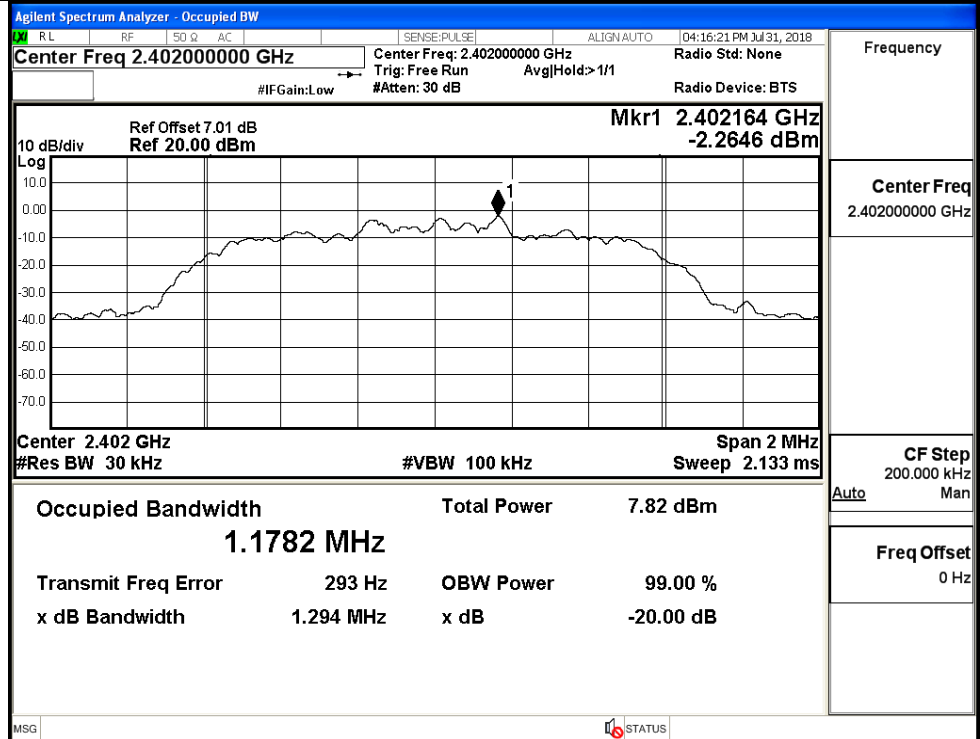
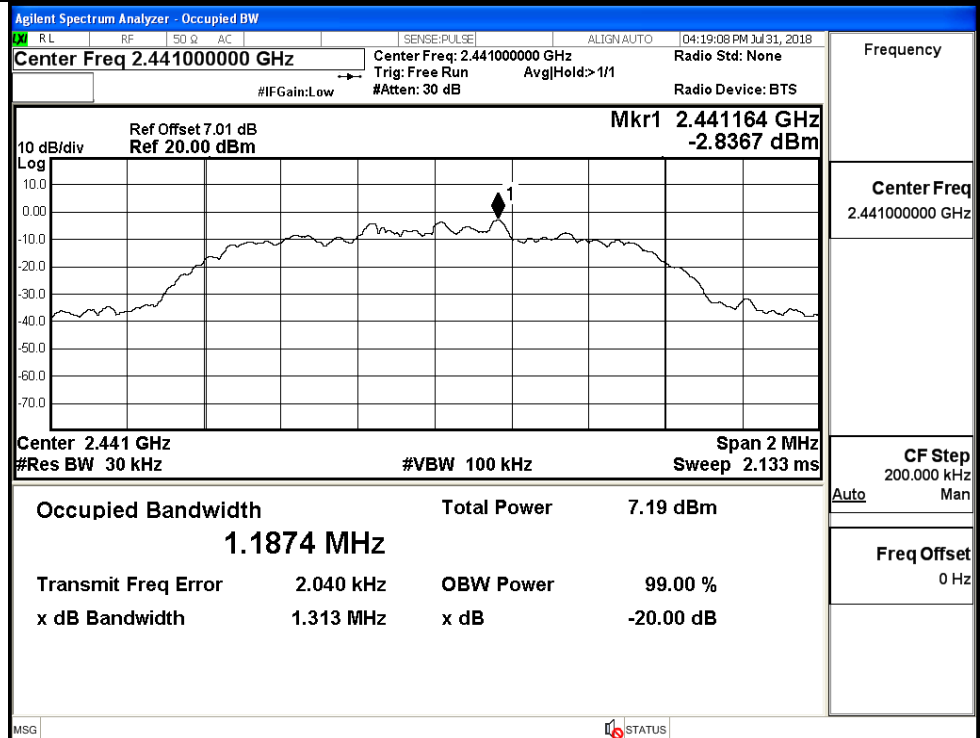


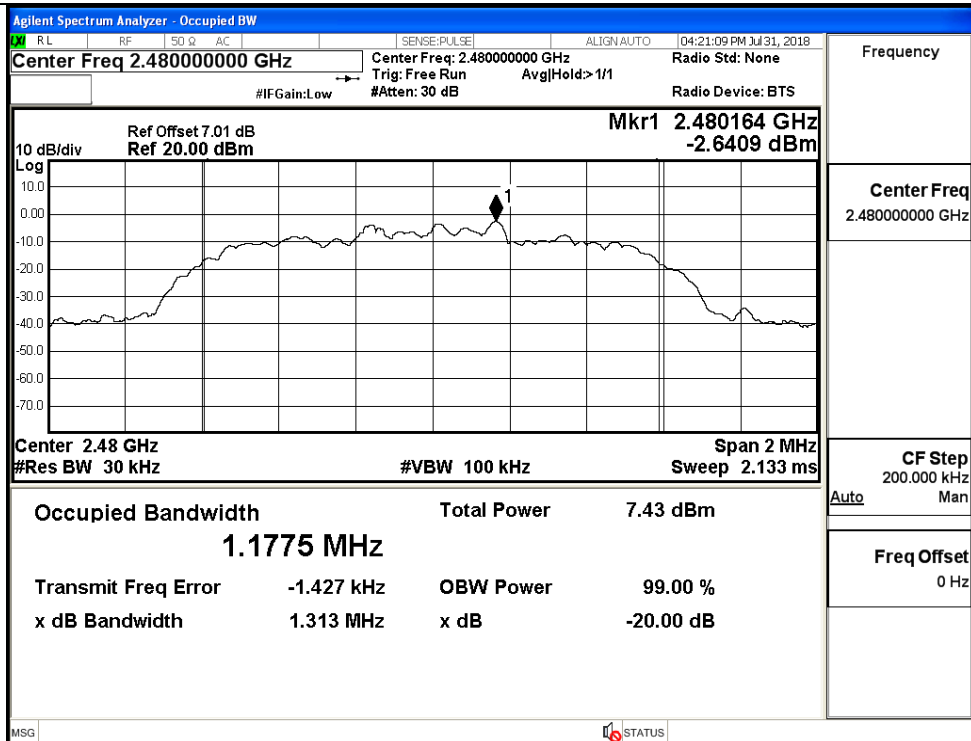
GFSK/MCH



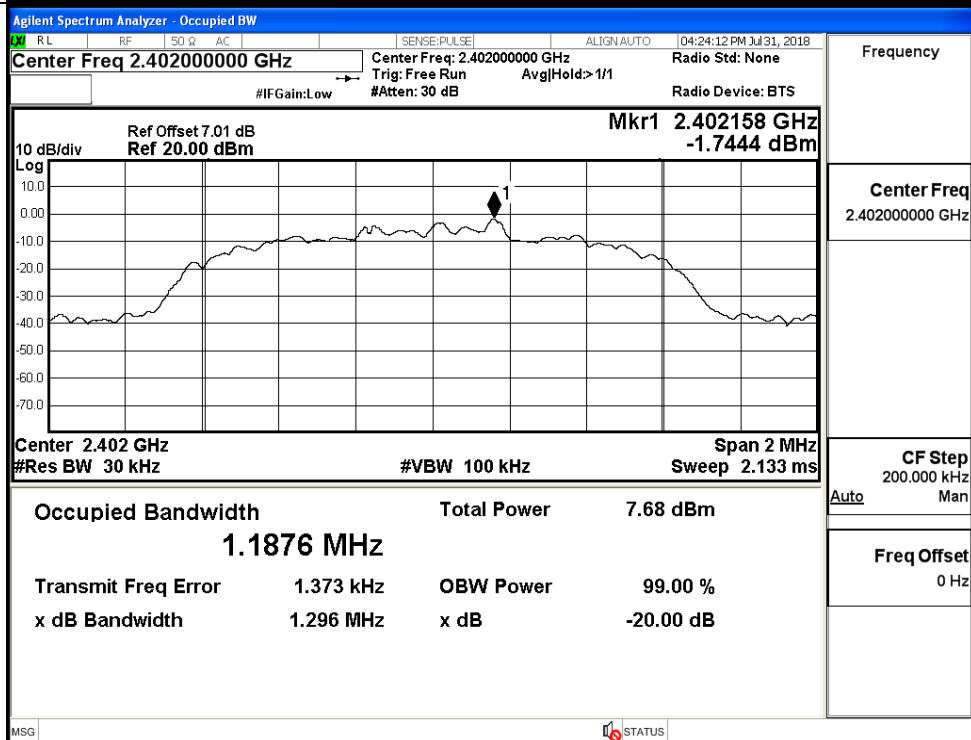
GFSK/HCH



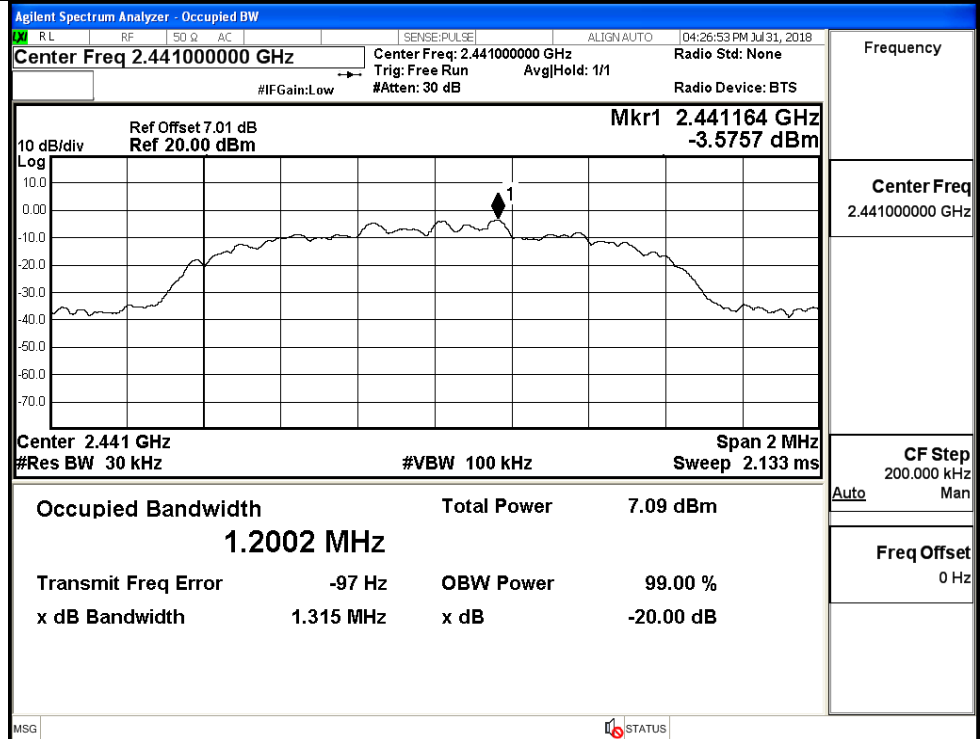
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

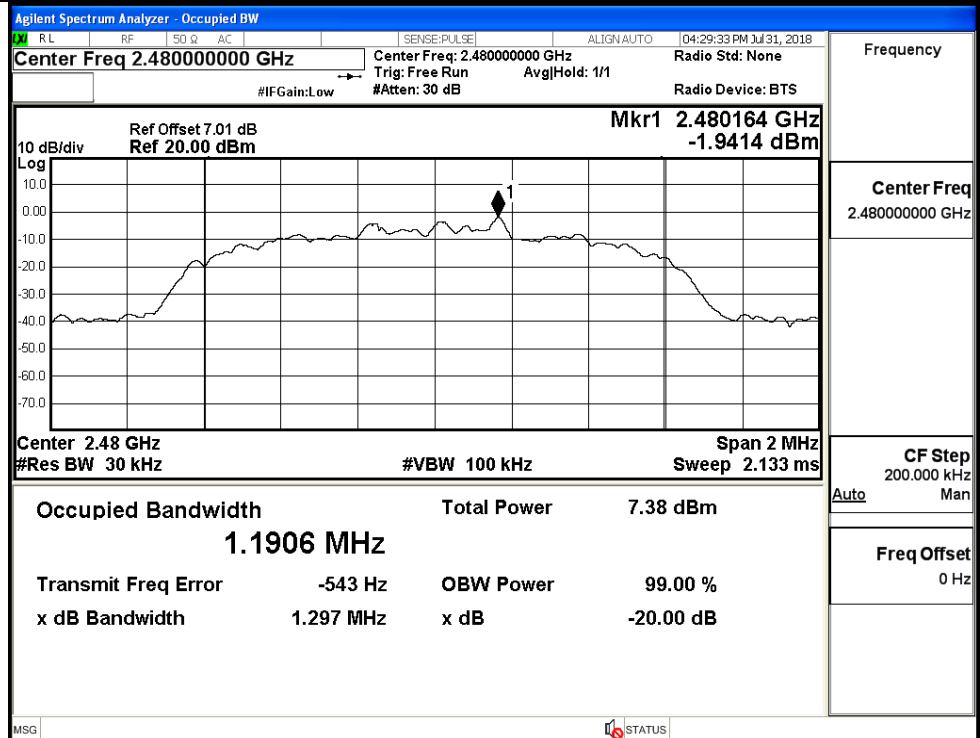
8DPSK/LCH



8DPSK/MCH



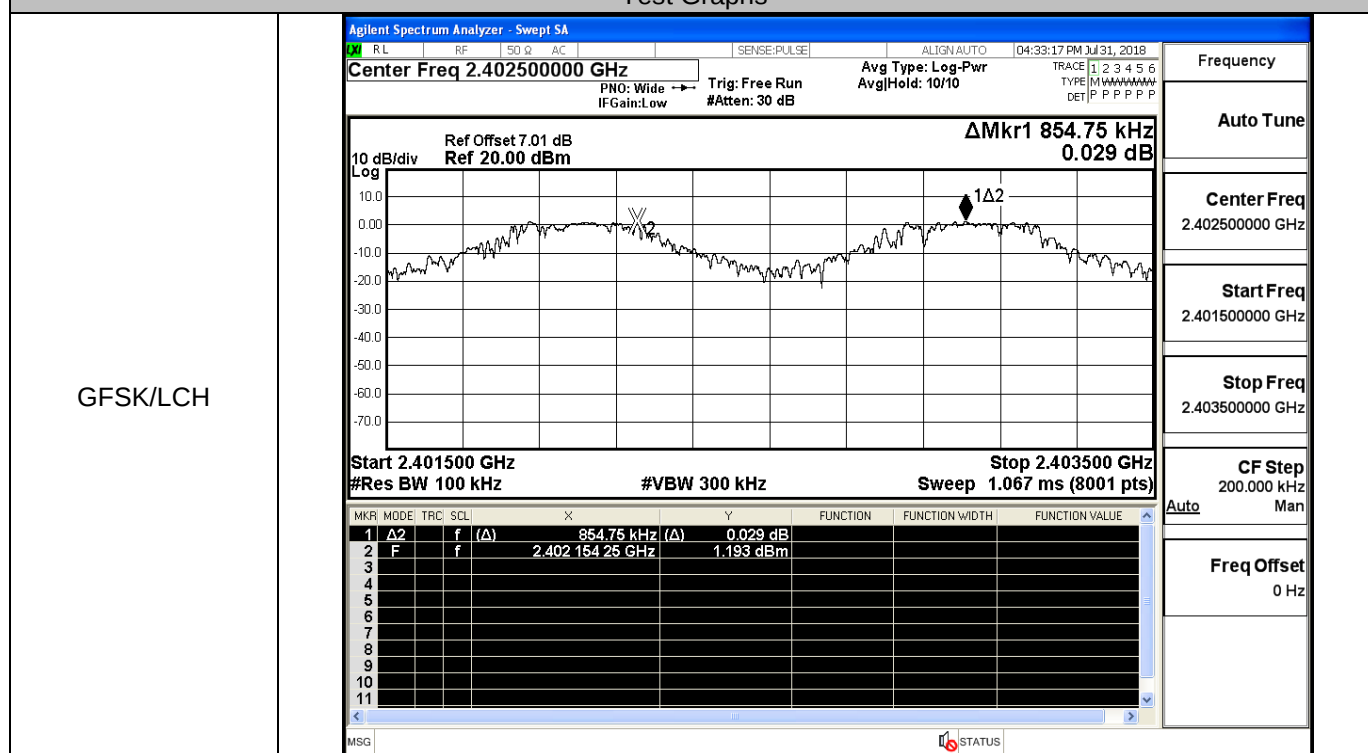
8DPSK/HCH



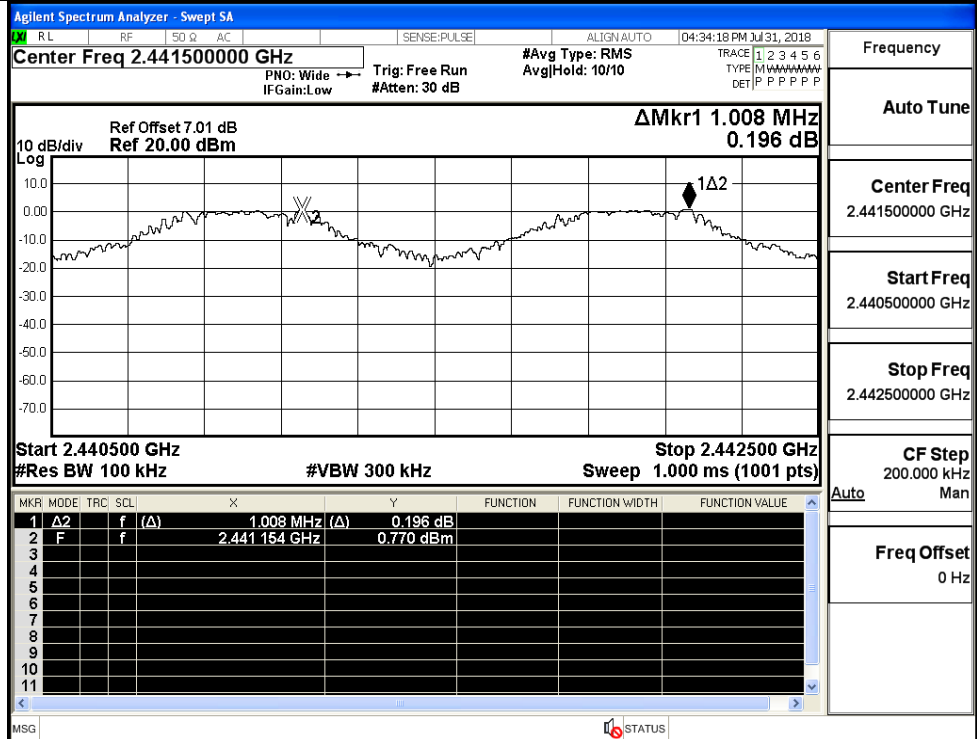
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.855	0.692	PASS
	MCH	1.008	0.692	PASS
	HCH	1.120	0.692	PASS
$\pi/4$ DQPSK	LCH	0.964	0.875	PASS
	MCH	1.164	0.875	PASS
	HCH	0.940	0.875	PASS
8DPSK	LCH	0.996	0.877	PASS
	MCH	1.044	0.877	PASS
	HCH	1.054	0.877	PASS

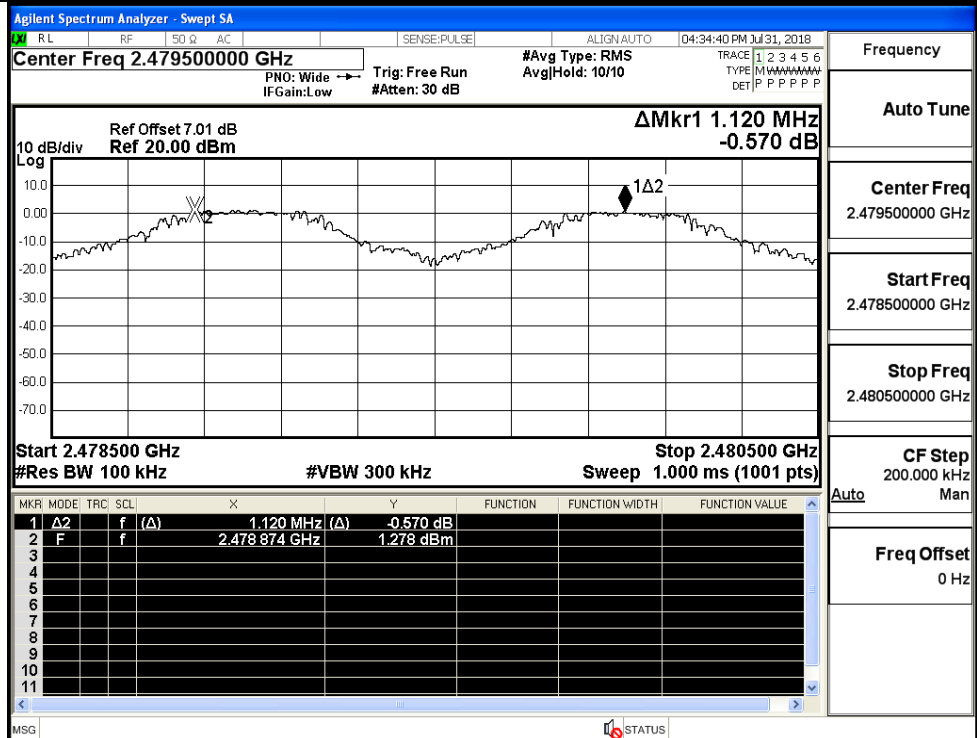
Test Graphs

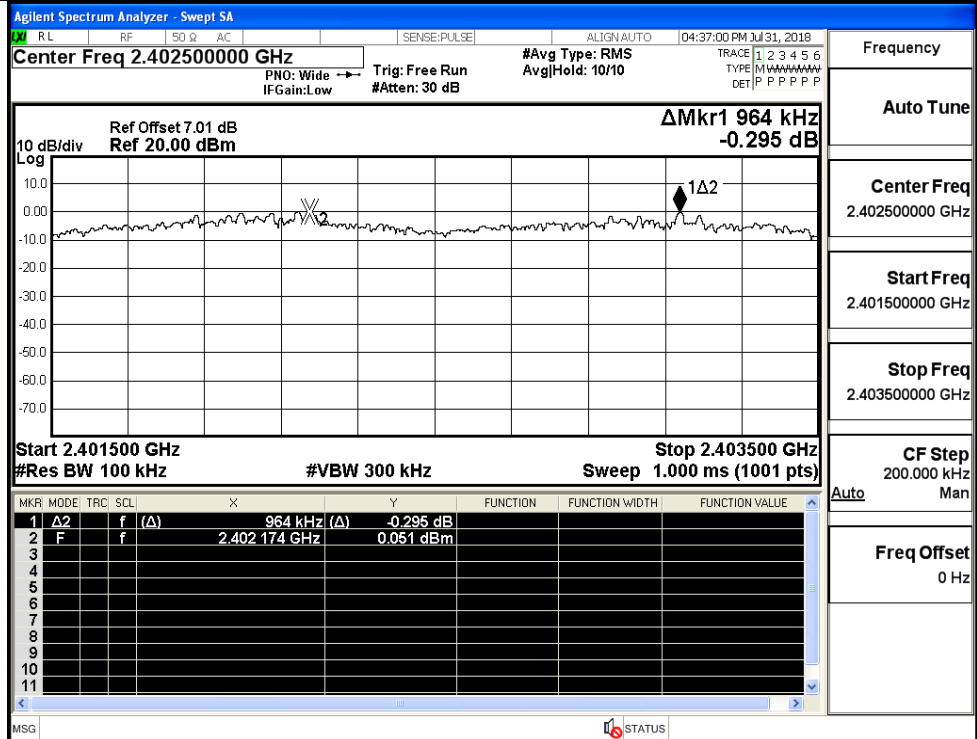
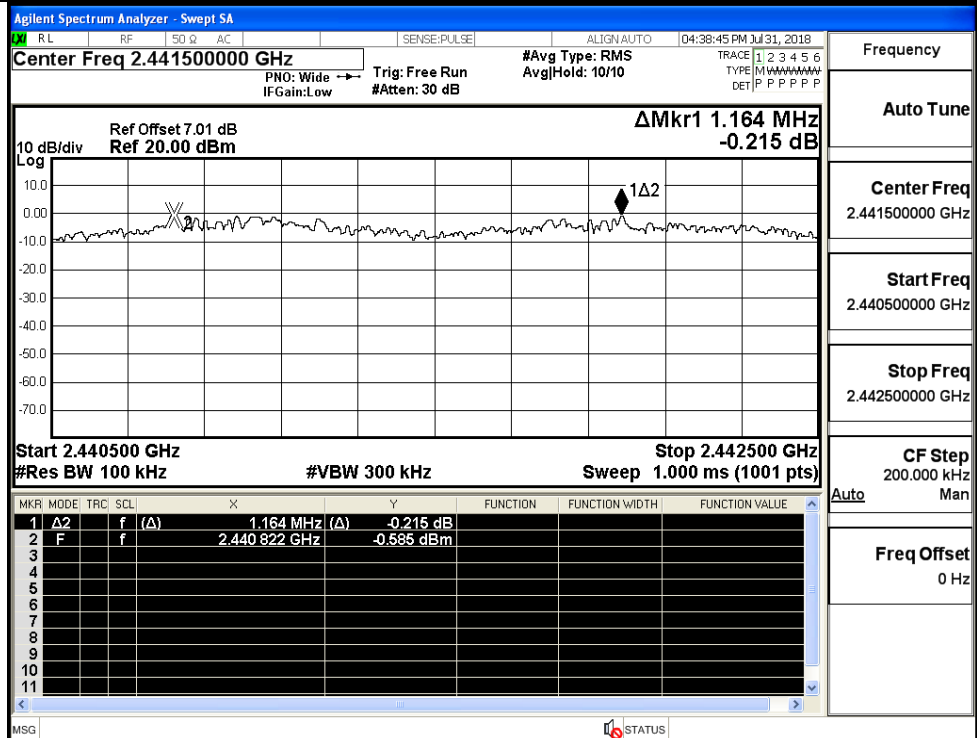


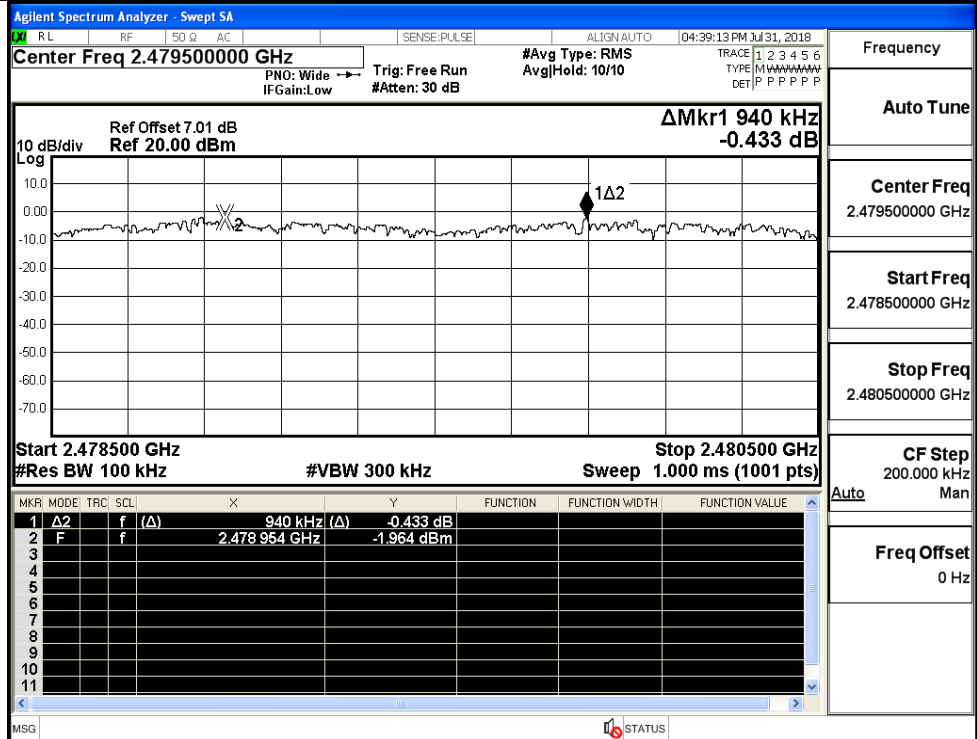
GFSK/MCH



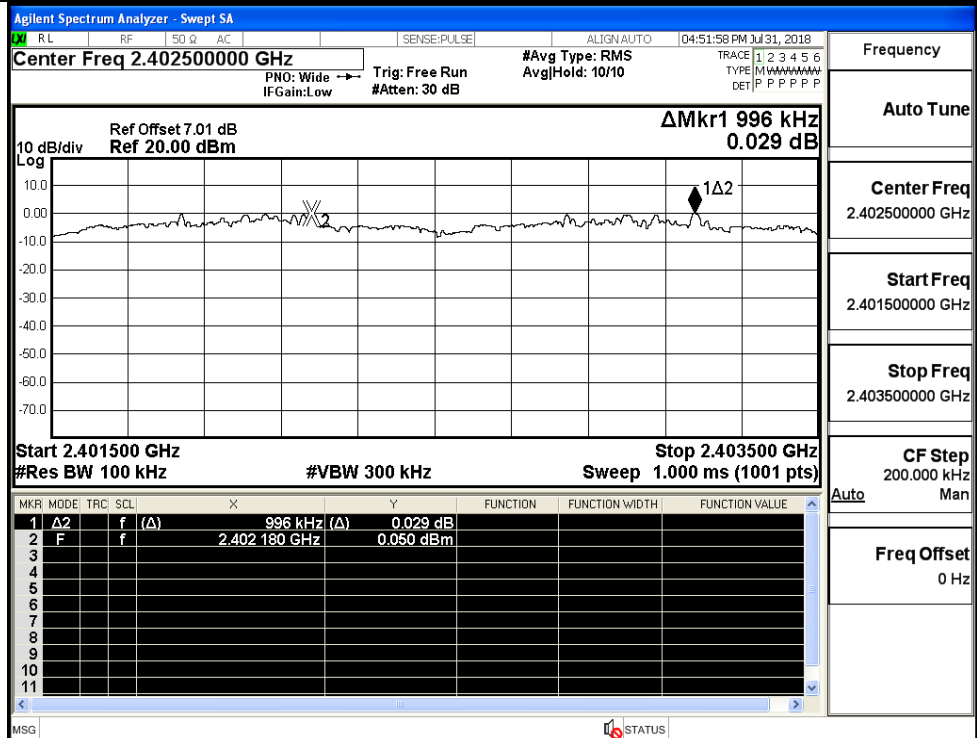
GFSK/HCH



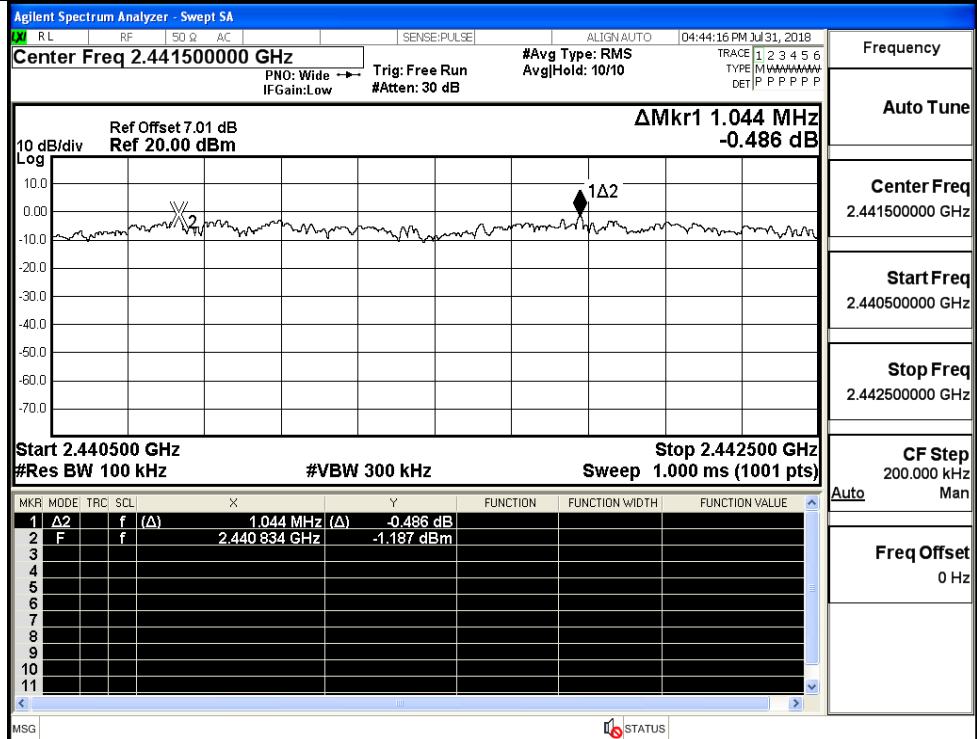
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

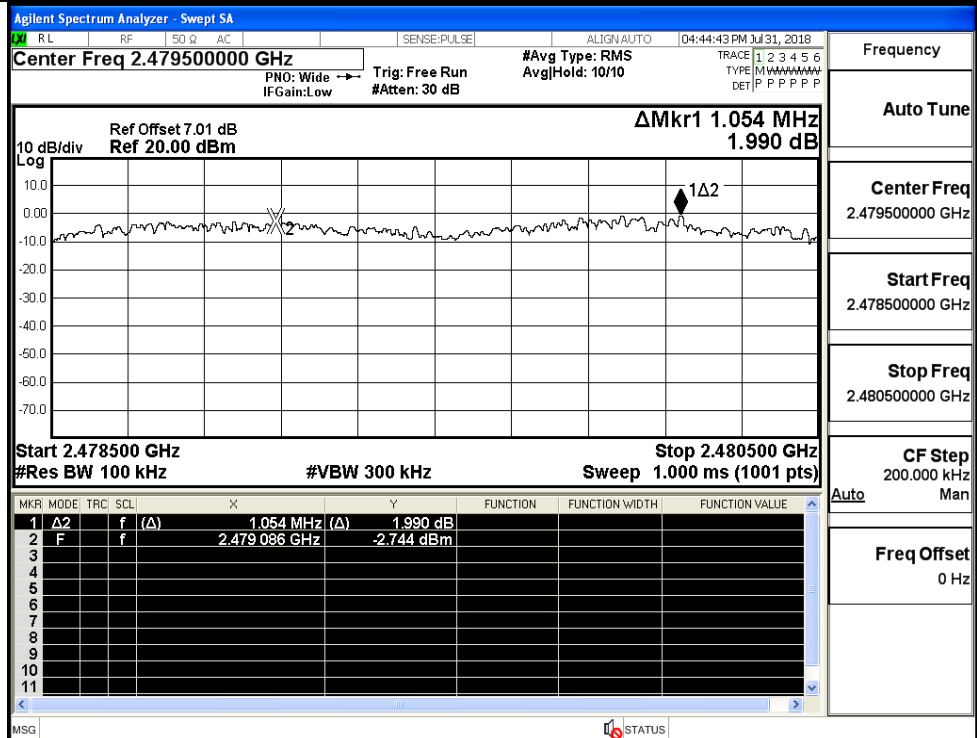
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

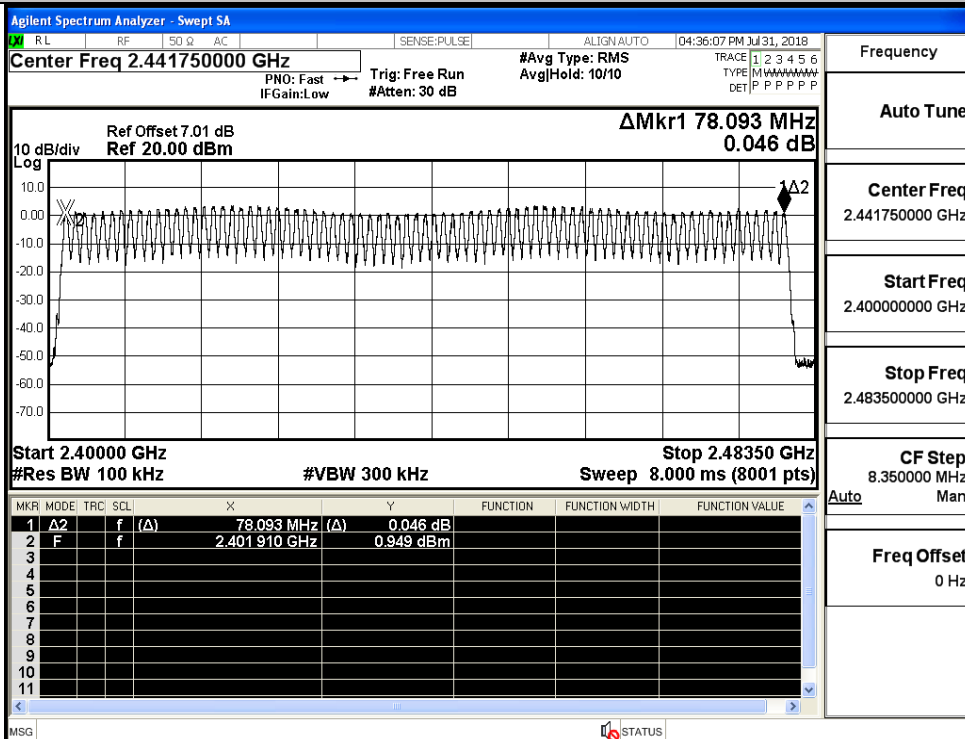


A.4 Hopping Channel Number

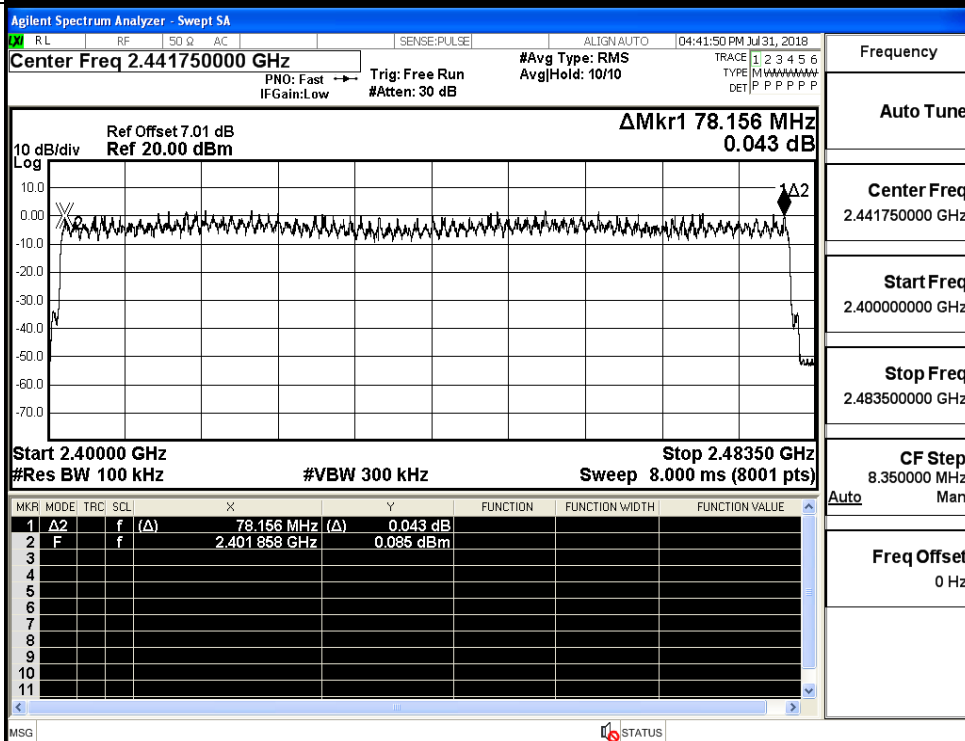
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

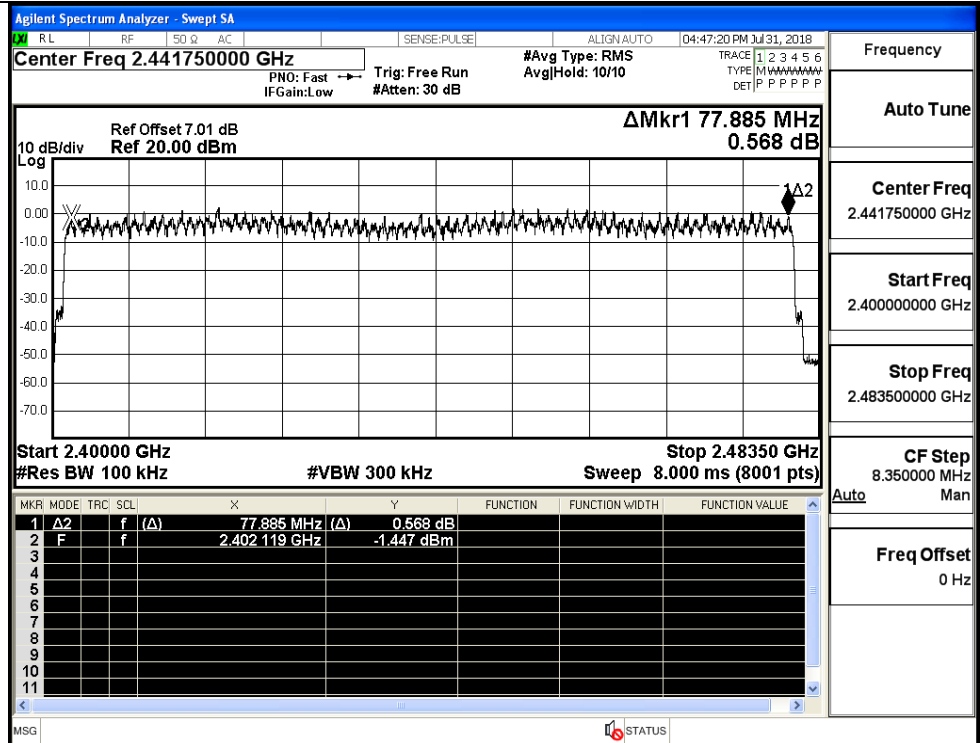
GFSK/Hop



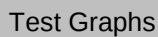
$\pi/4$ DQPSK/Hop



8DPSK/Hop

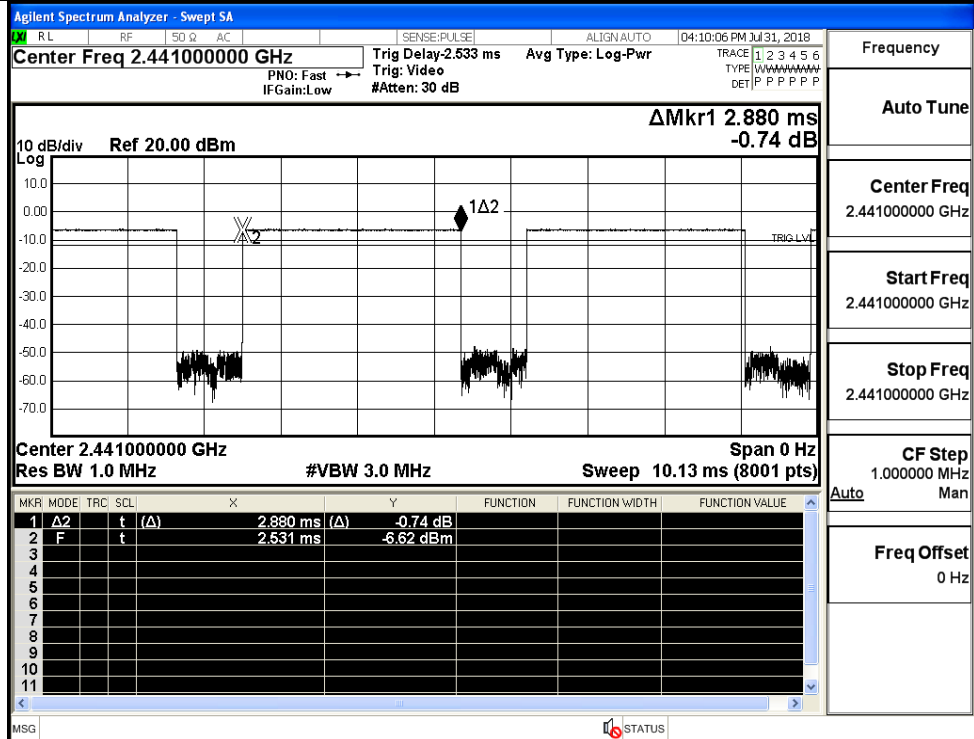


Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7	0.307	0.4	PASS
8DPSK	3DH5	LCH	2.89	106.7	0.308	0.4	PASS
	3DH5	MCH	2.89	106.7	0.308	0.4	PASS
	3DH5	HCH	2.89	106.7	0.308	0.4	PASS

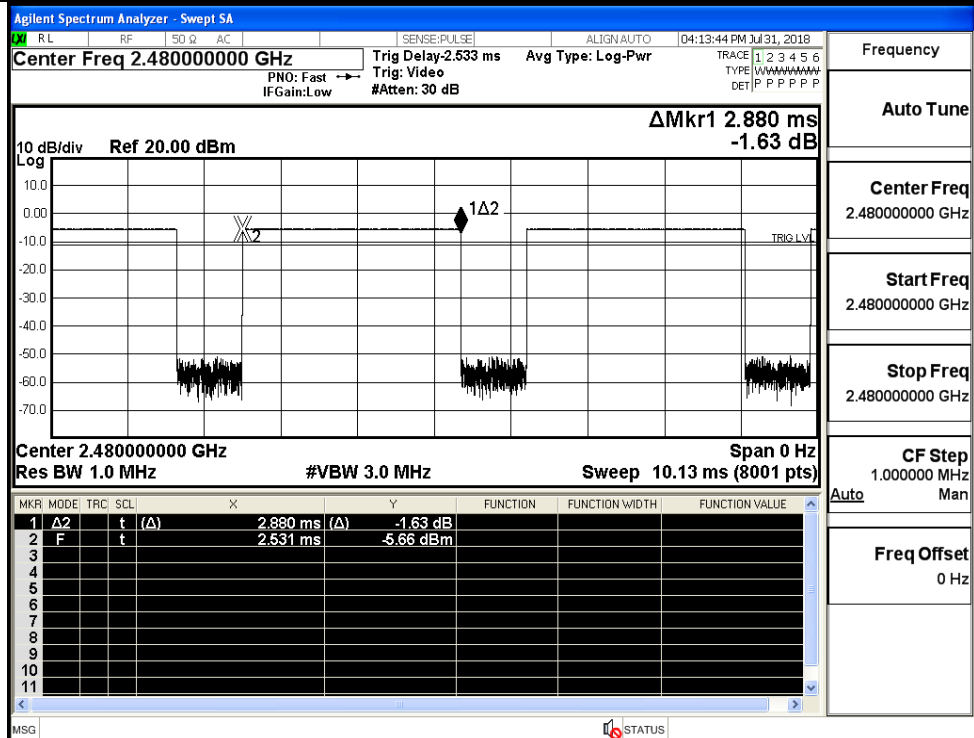


GFSK_DH5/LCH

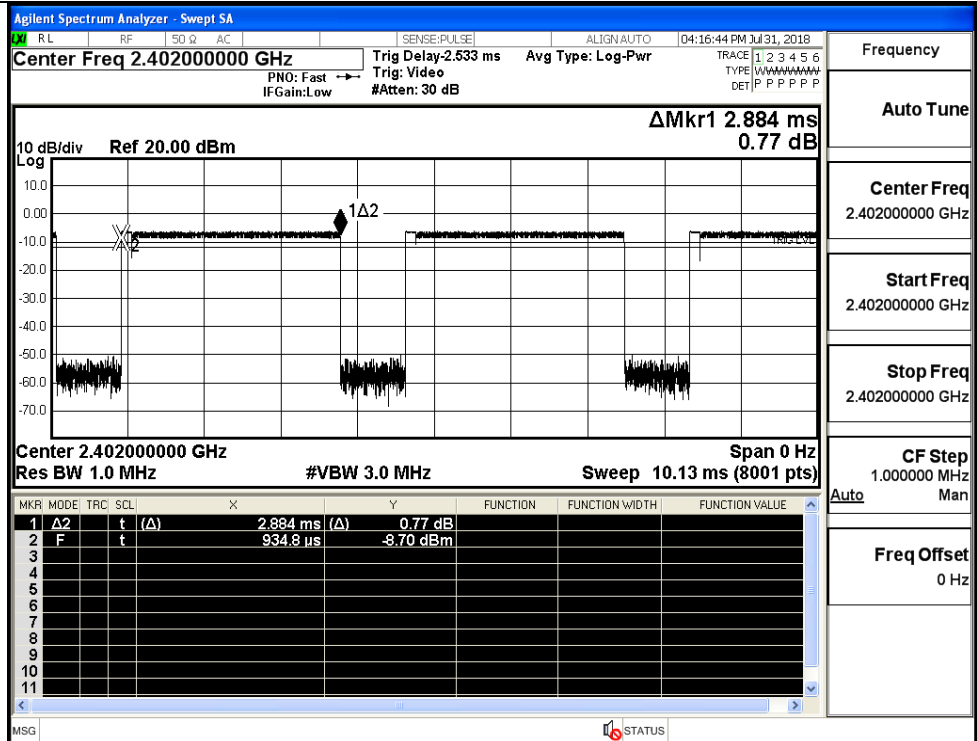
GFSK_DH5/MCH



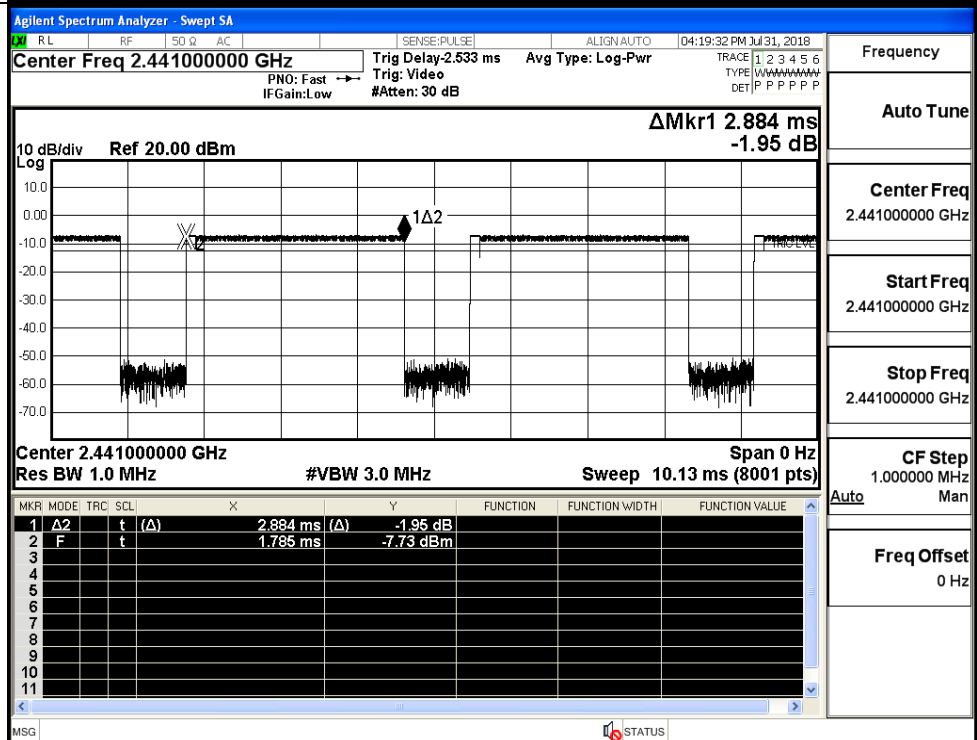
GFSK_DH5/HCH



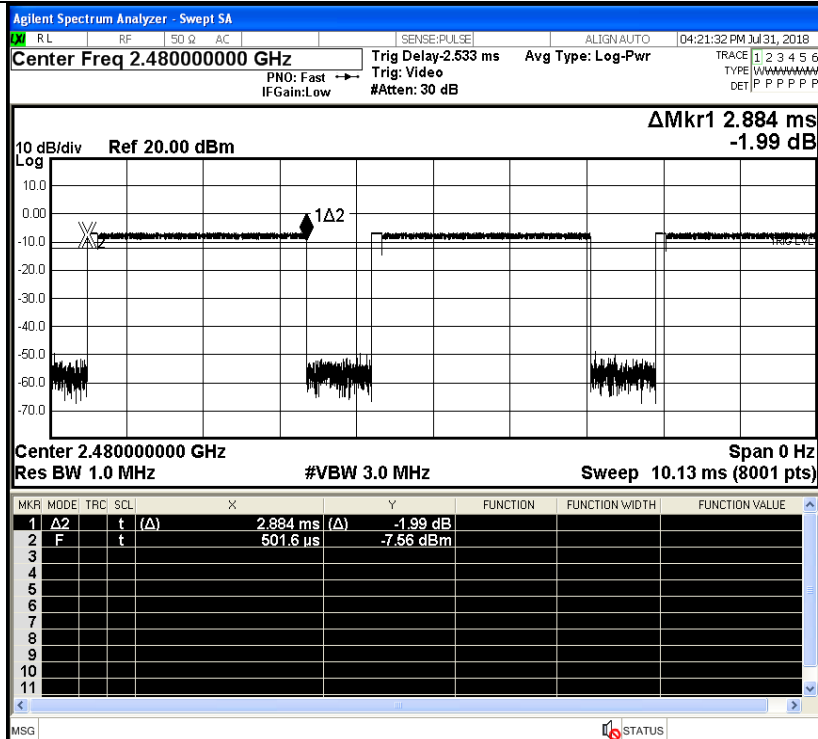
π/4DQPSK
_2DH5/LCH



$\pi/4$ DQPSK
_2DH5/MCH



$\pi/4$ DQPSK
_2DH5/HCH



Frequency

Auto Tune

Center Freq
2.480000000 GHz

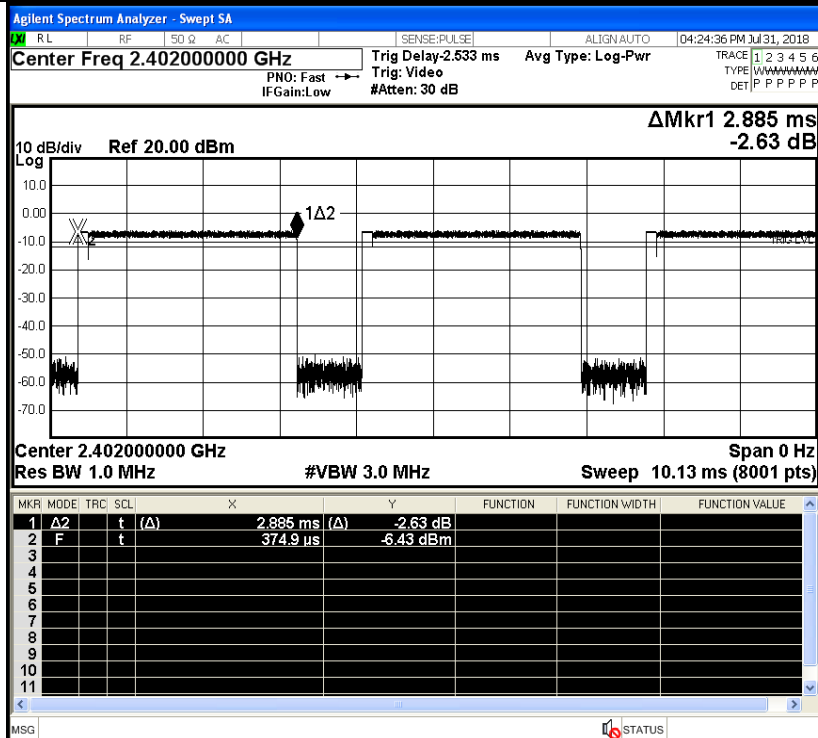
Start Freq
2.480000000 GHz

Stop Freq
2.480000000 GHz

CF Step
1.000000 MHz
Auto Man

Freq Offset
0 Hz

8DPSK _3DH5/LCH



Frequency

Auto Tune

Center Freq
2.402000000 GHz

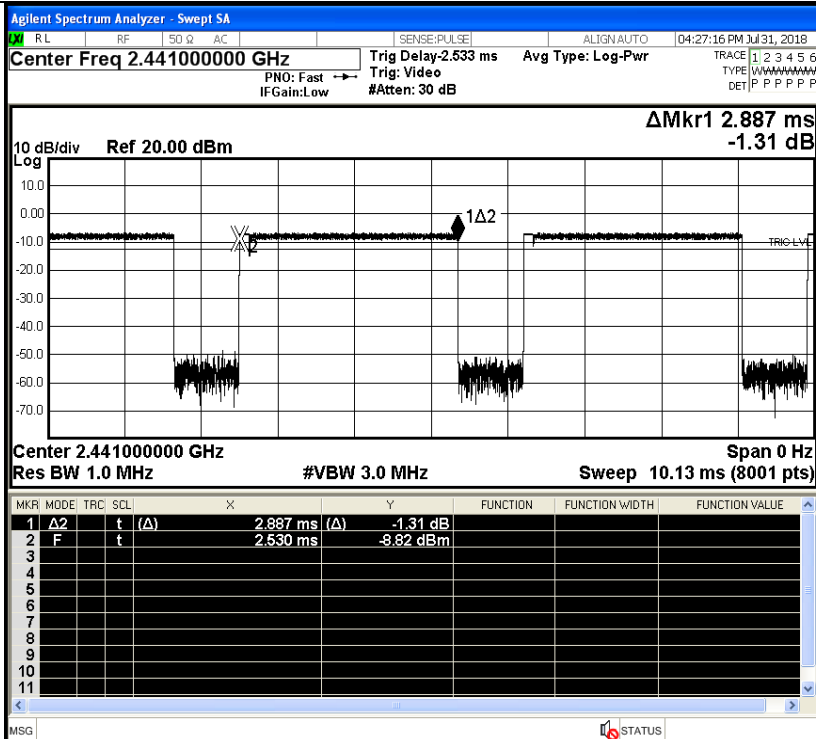
Start Freq
2.402000000 GHz

Stop Freq
2.402000000 GHz

CF Step
1.000000 MHz
Auto Man

Freq Offset
0 Hz

8DPSK_3DH5/MCH

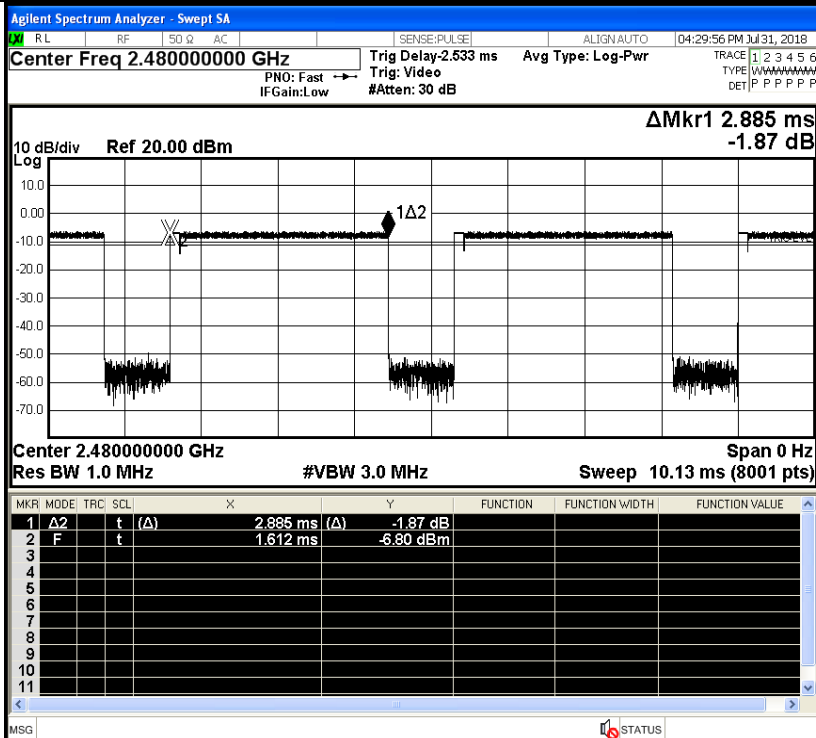


Frequency

Auto Tune

Center Freq
2.441000000 GHzStart Freq
2.441000000 GHzStop Freq
2.441000000 GHzCF Step
1.000000 MHz
Auto ManFreq Offset
0 Hz

8DPSK_3DH5/HCH



Frequency

Auto Tune

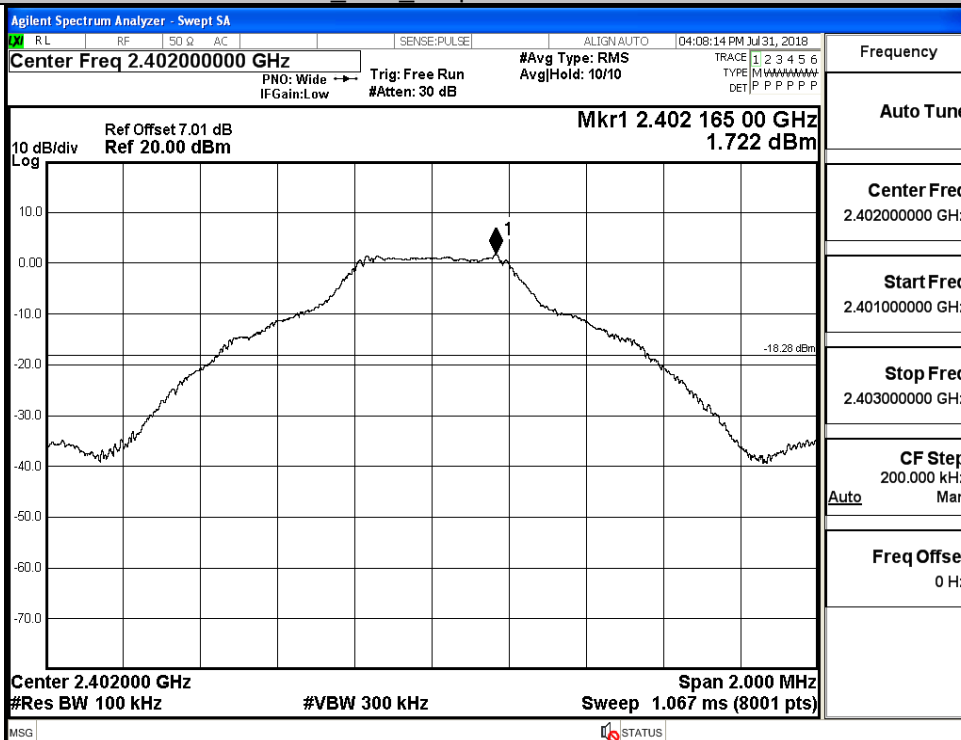
Center Freq
2.480000000 GHzStart Freq
2.480000000 GHzStop Freq
2.480000000 GHzCF Step
1.000000 MHz
Auto ManFreq Offset
0 Hz

A.6 RF Conducted Spurious Emissions

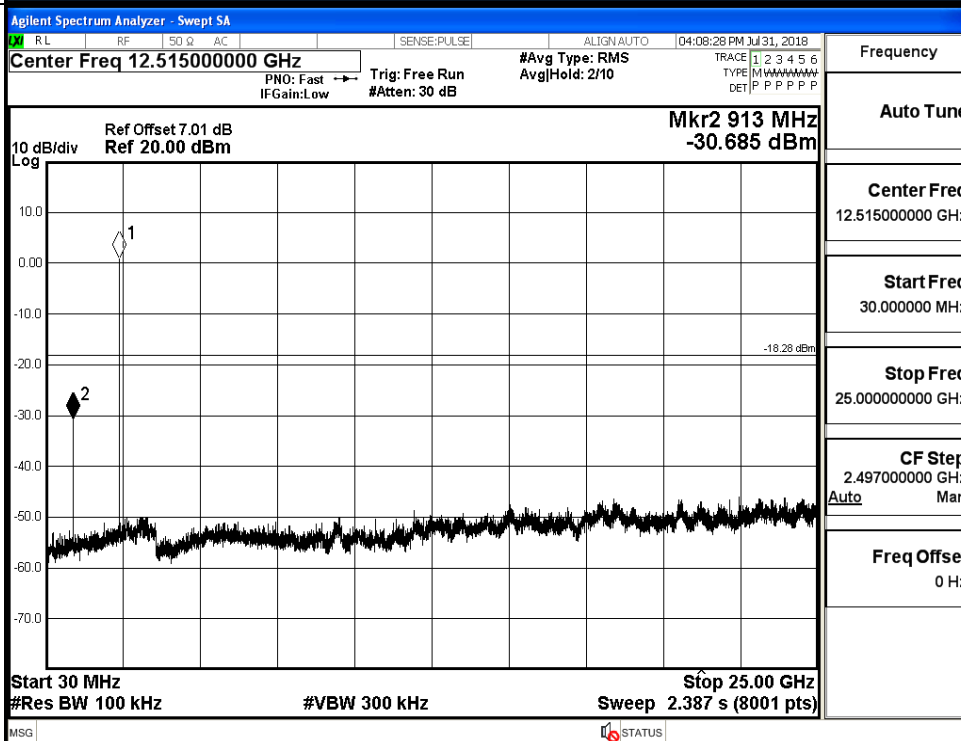
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.722	-30.685	-18.278	PASS
	MCH	0.761	-45.559	-19.239	PASS
	HCH	1.417	-45.242	-18.583	PASS
$\pi/4$ DQPSK	LCH	0.459	-42.757	-19.541	PASS
	MCH	-0.665	-45.148	-20.665	PASS
	HCH	-0.013	-46.054	-20.013	PASS
8DPSK	LCH	0.623	-42.969	-19.377	PASS
	MCH	-0.166	-34.465	-20.166	PASS
	HCH	0.296	-45.139	-19.704	PASS

GFSK LCH Graphs

Pref

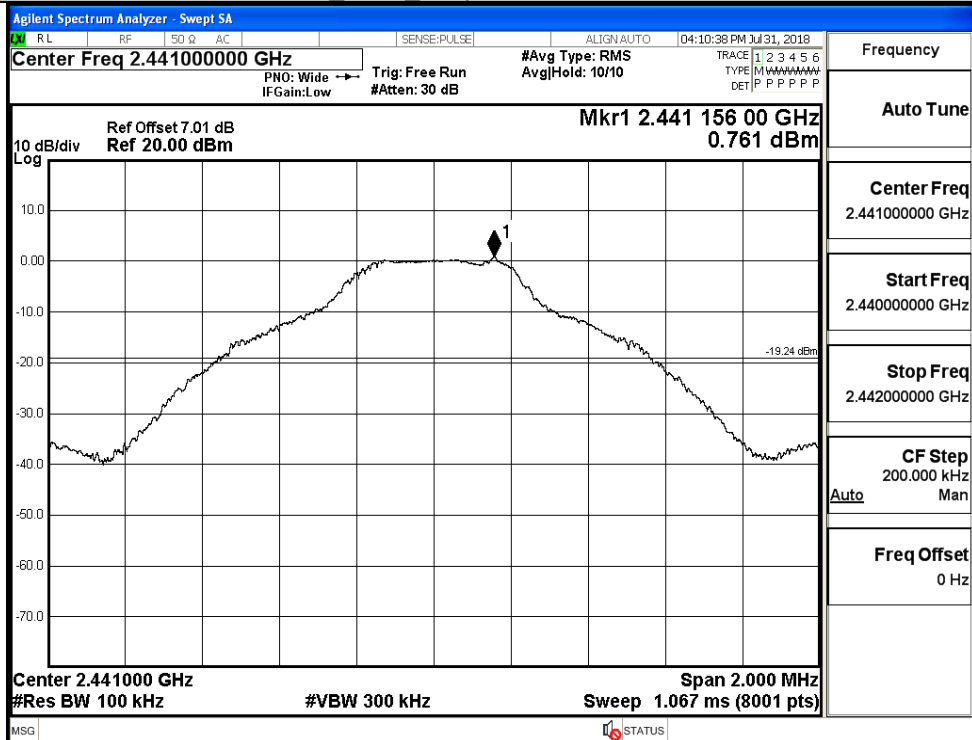


Puw

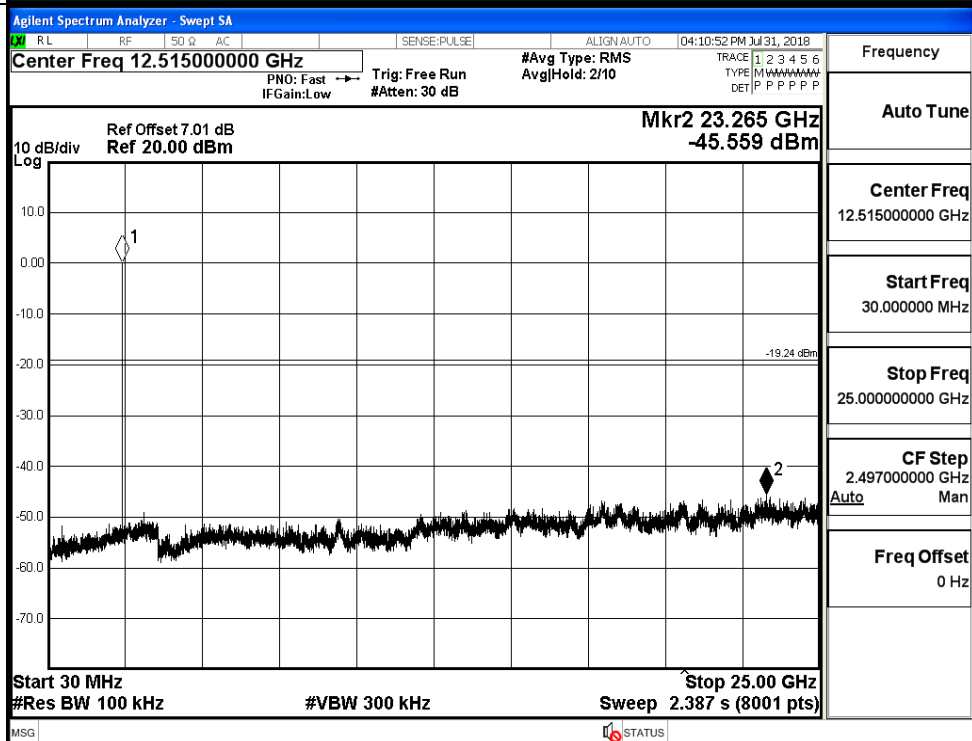


GFSK_MCH_Graphs

Pref

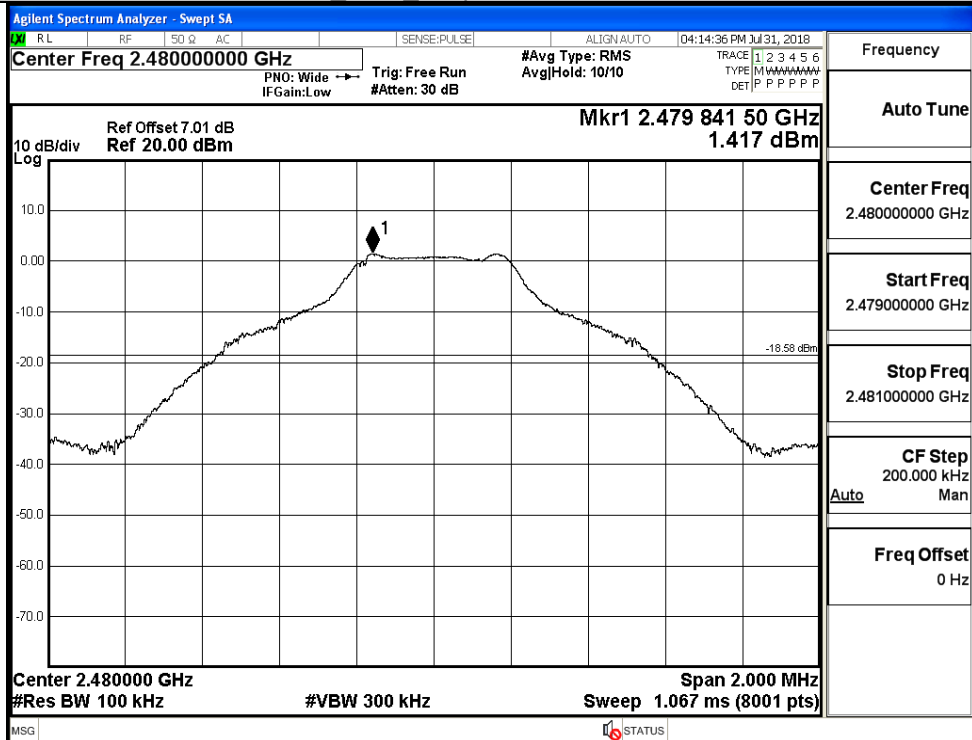


Puw

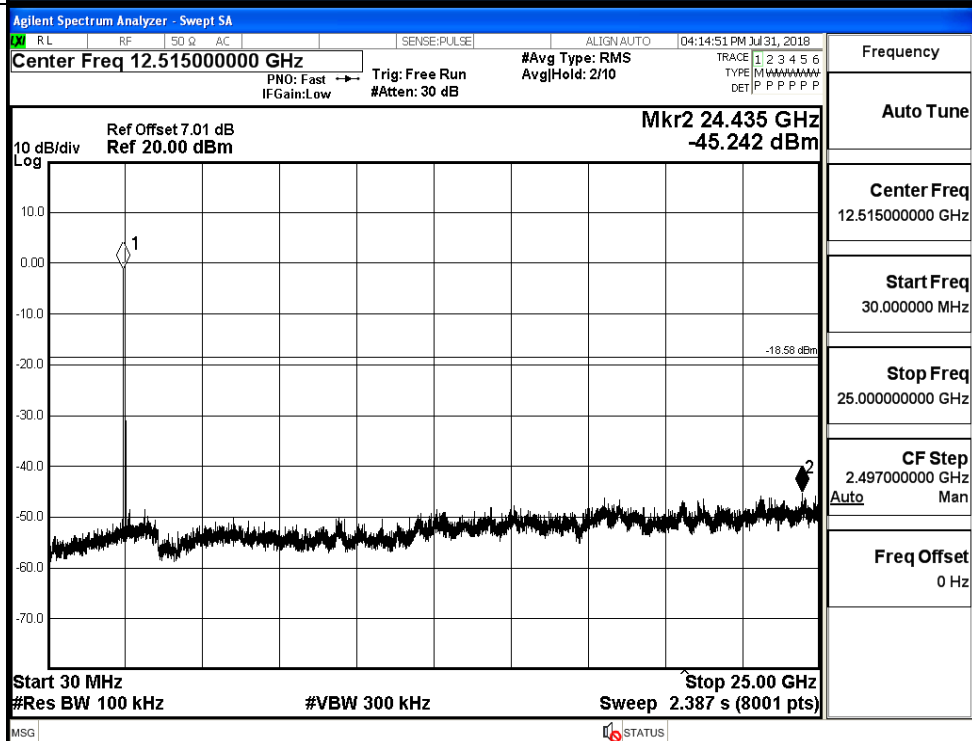


GFSK HCH_Graphs

Pref

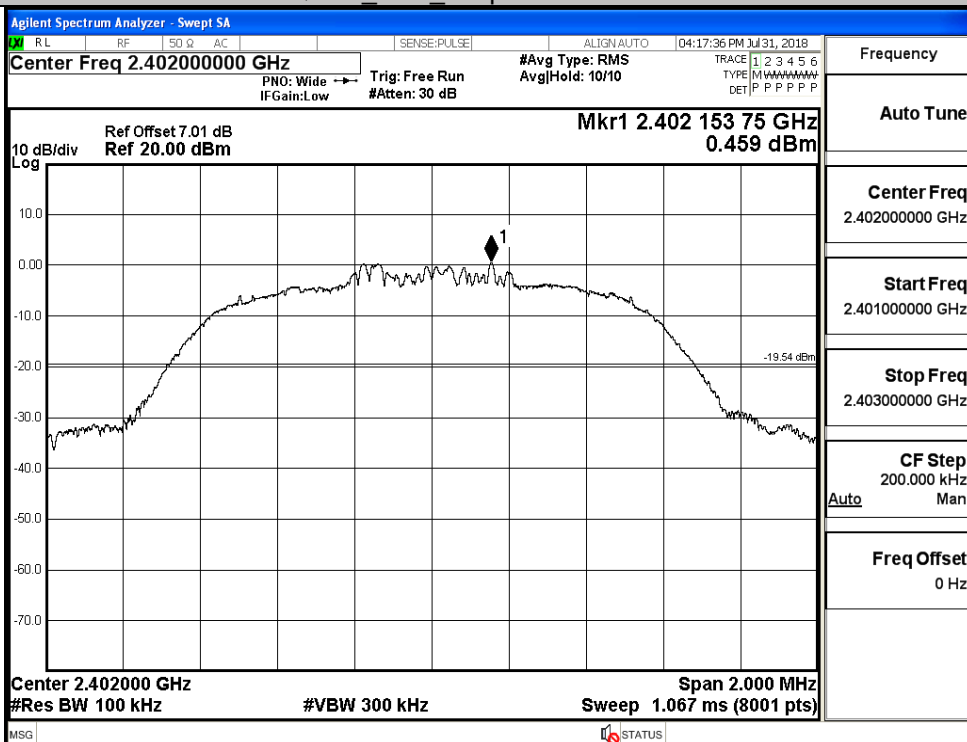


Puw

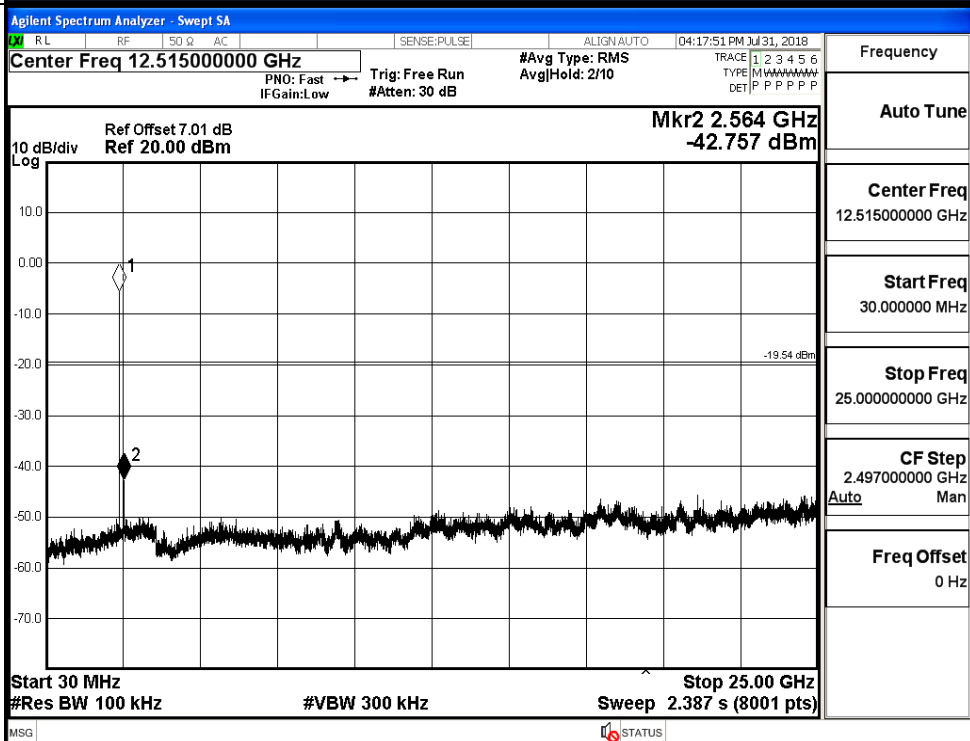


π /4DQPSK LCH_Graphs

Pref

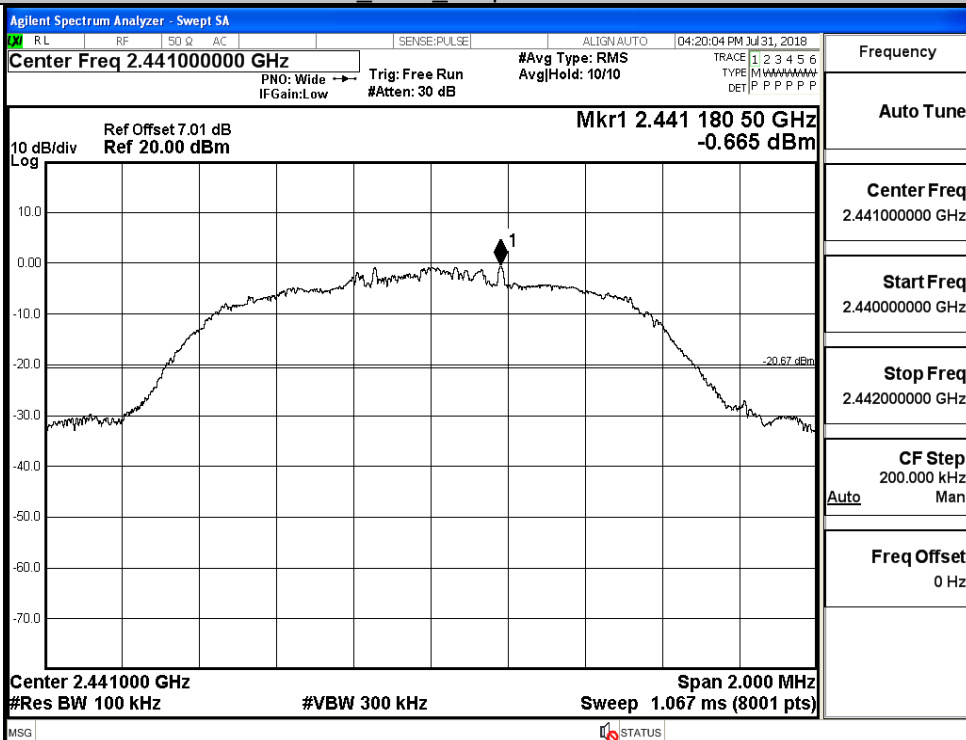


Puw

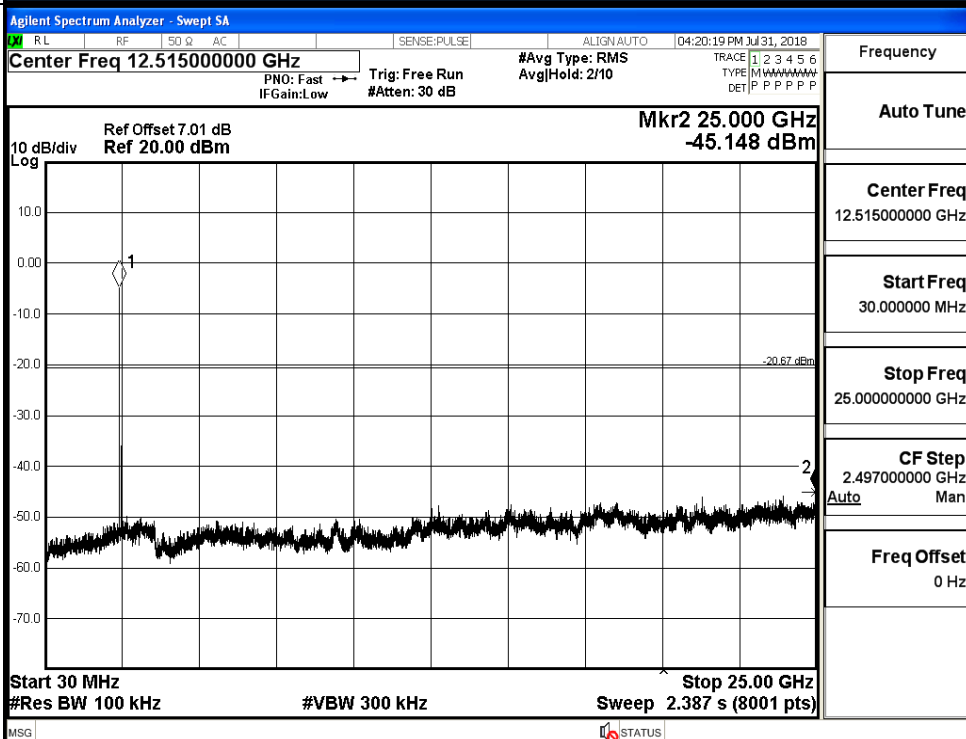


$\pi/4$ DQPSK_MCH_Graphs

Pref

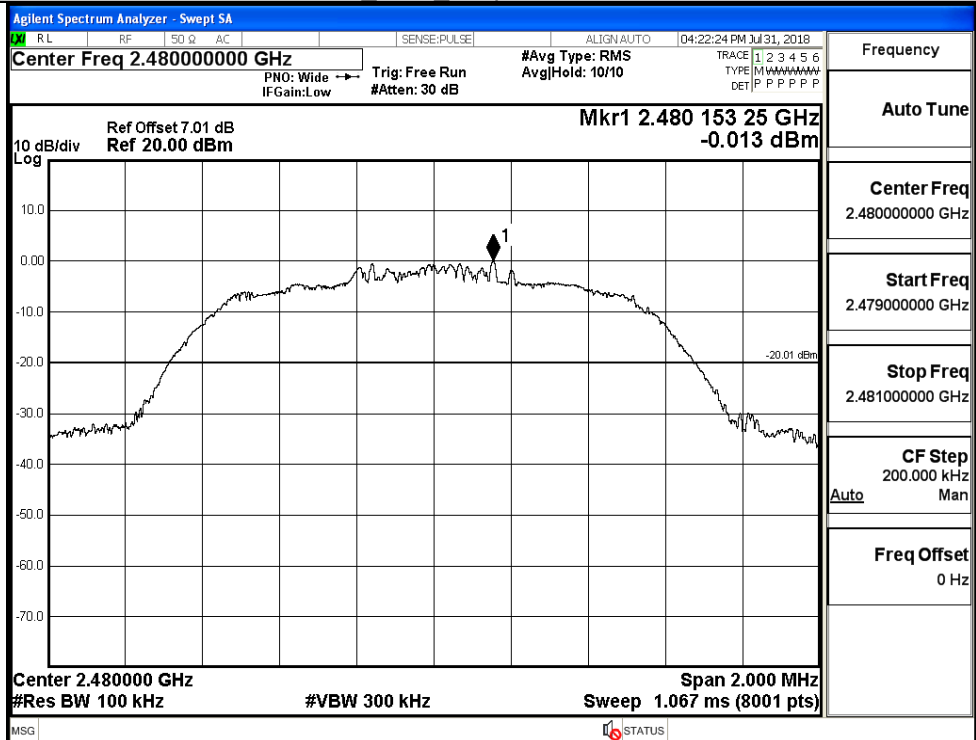


Puw

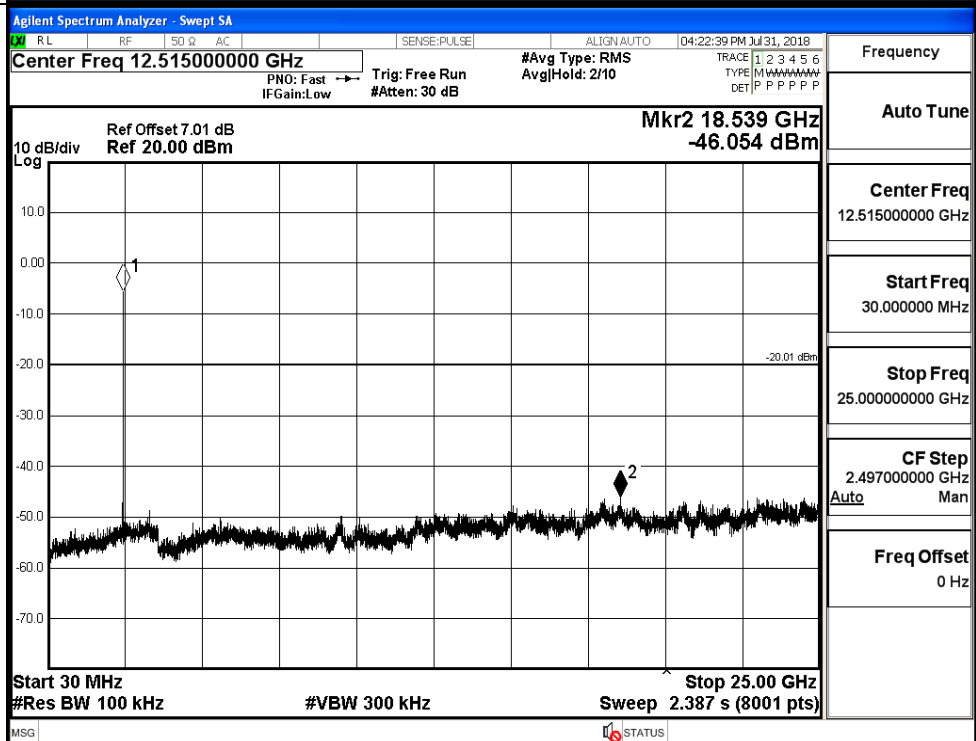


$\pi/4$ DQPSK_HCH_Graphs

Pref

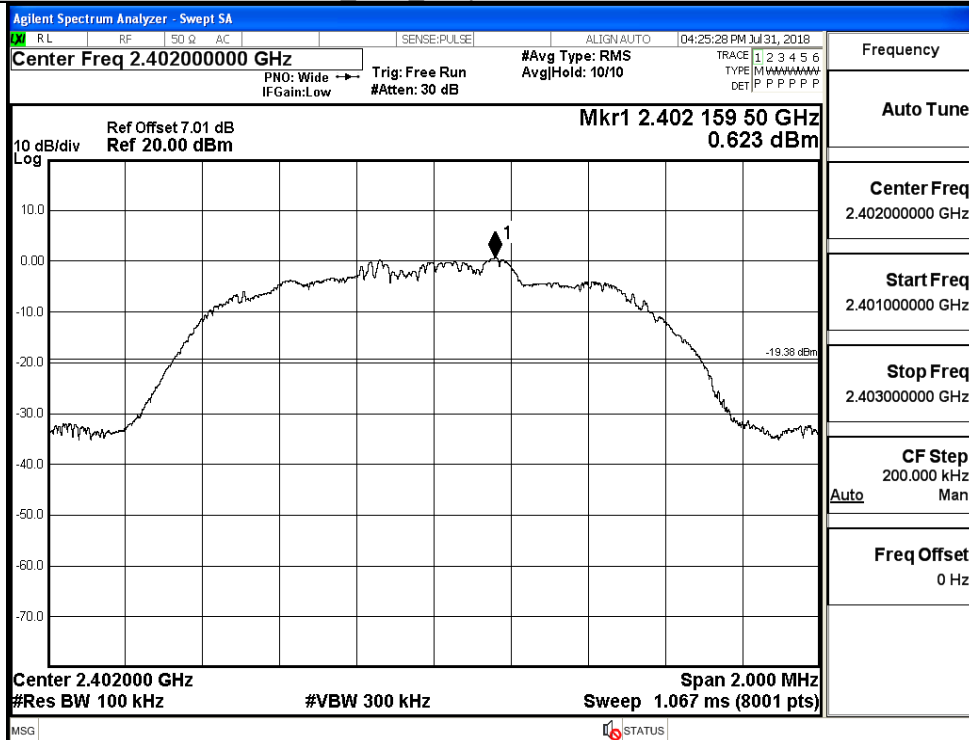


Puw

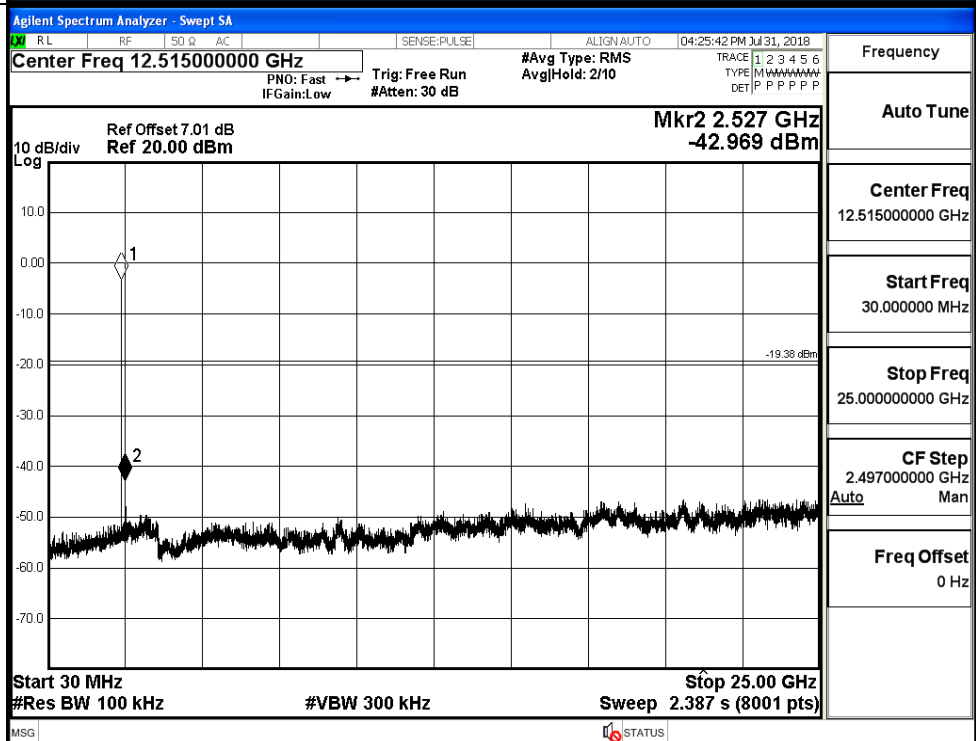


8DPSK_LCH_Graphs

Pref

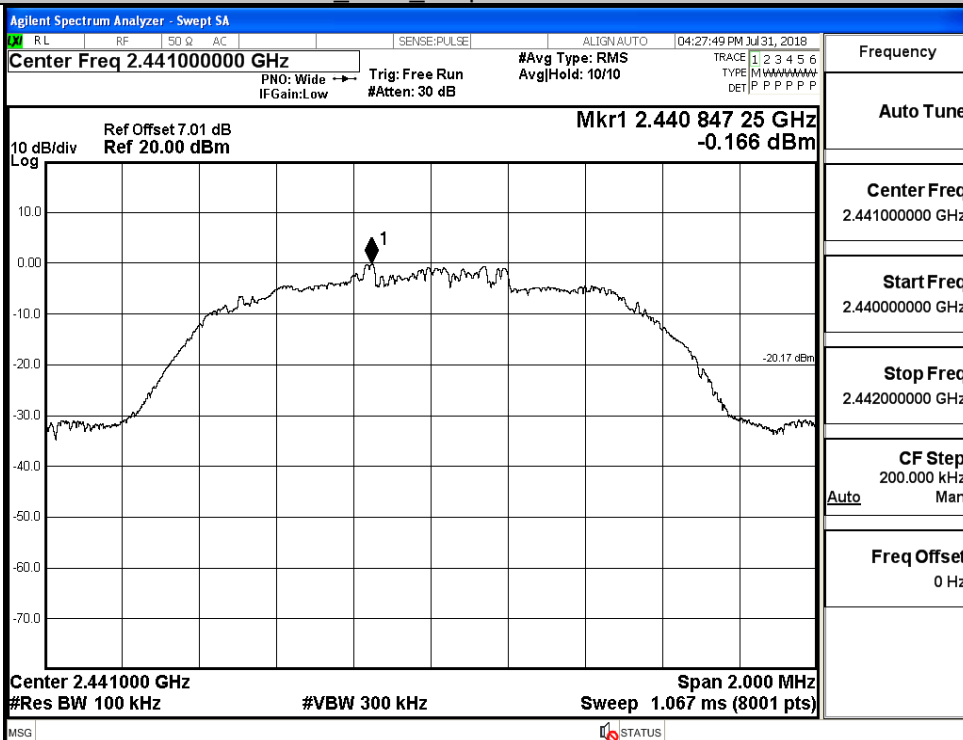


Puw

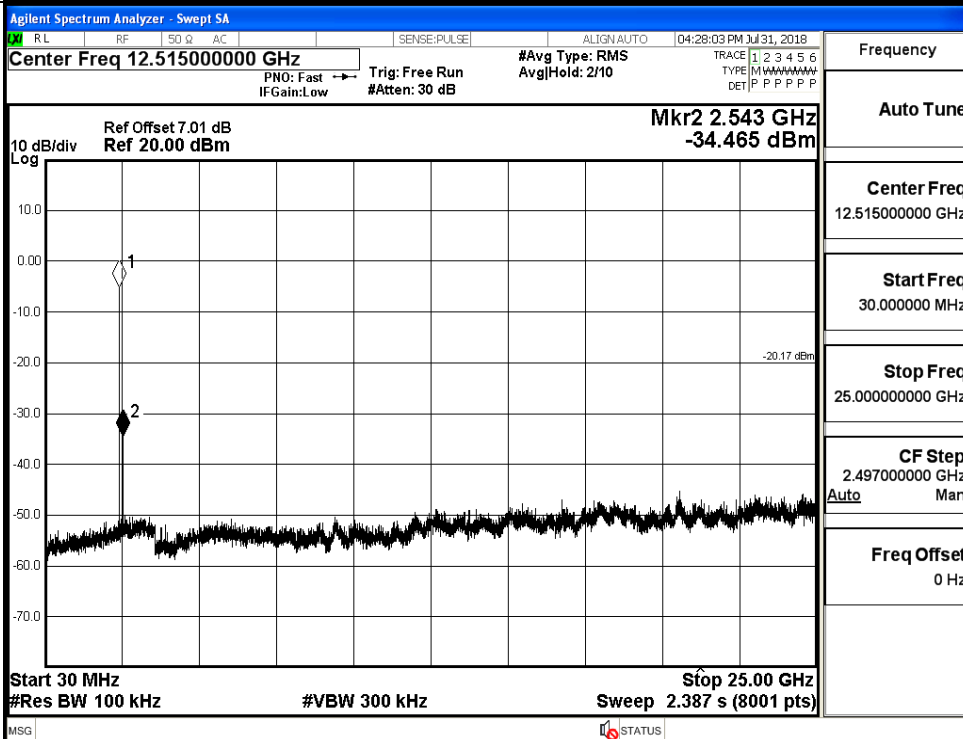


8DPSK_MCH_Graphs

Pref

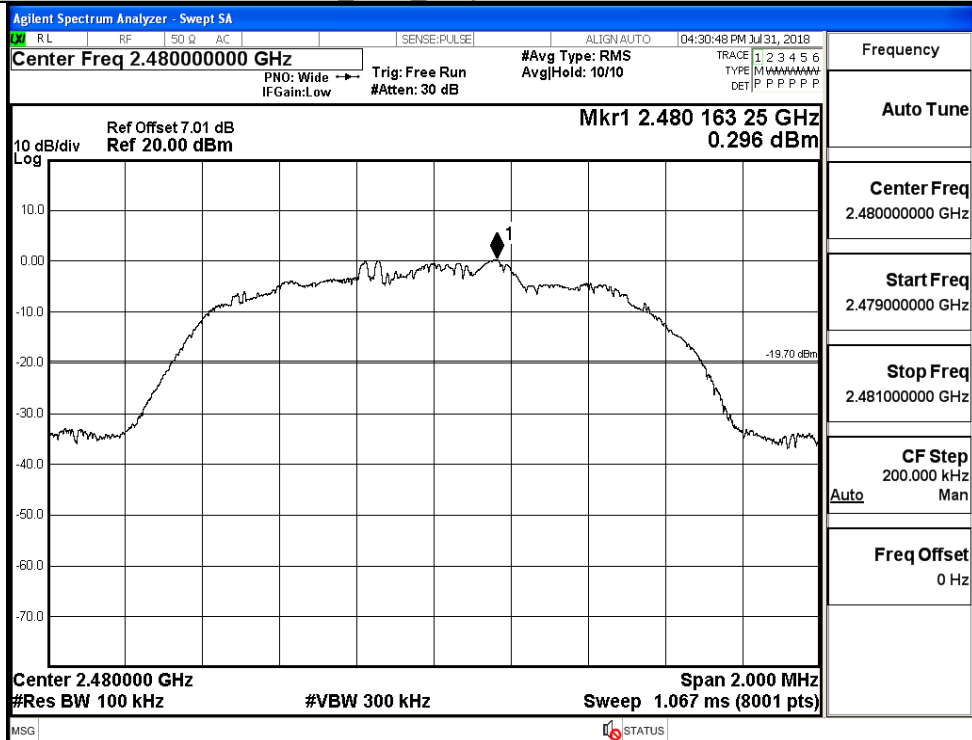


Puw

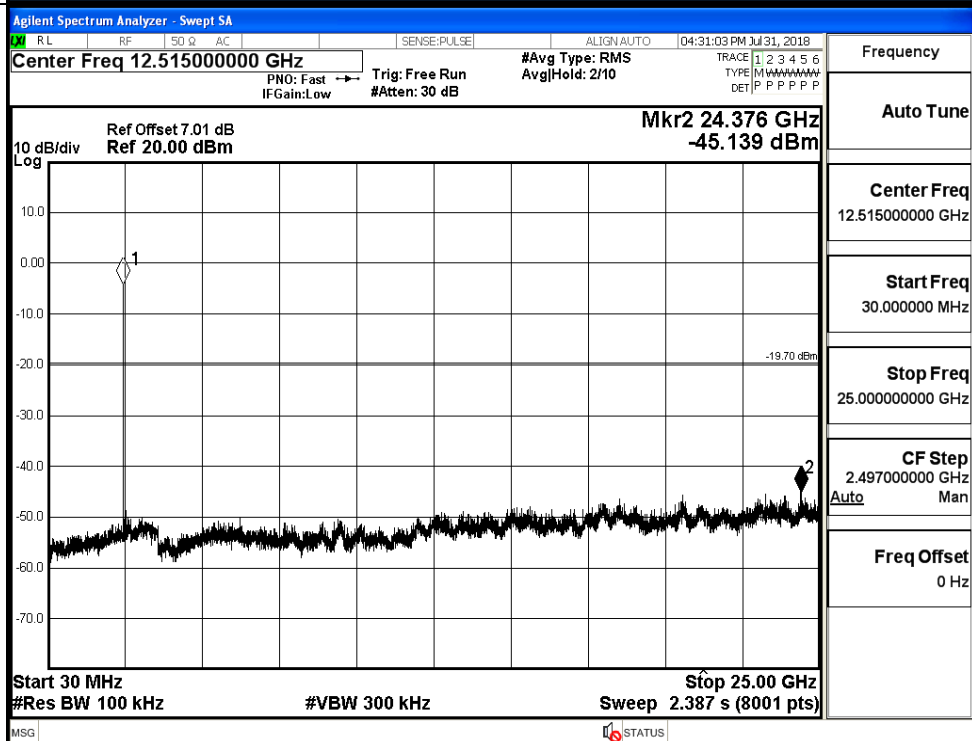


8DPSK_HCH_Graphs

Pref



Puw

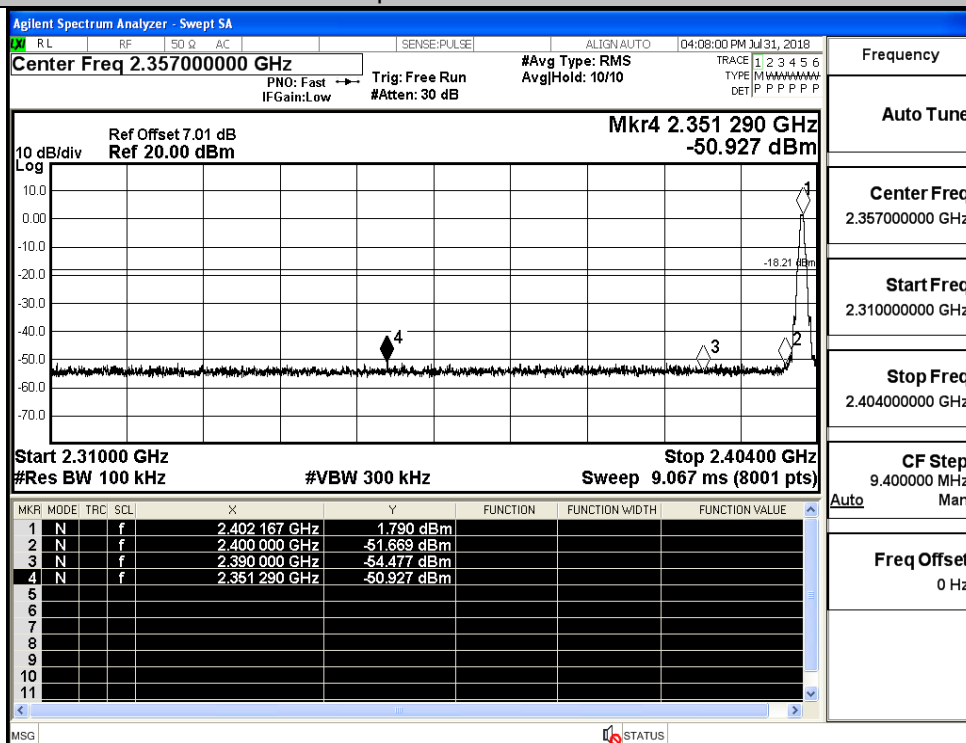


A.7 Band-edge for RF Conducted Emissions

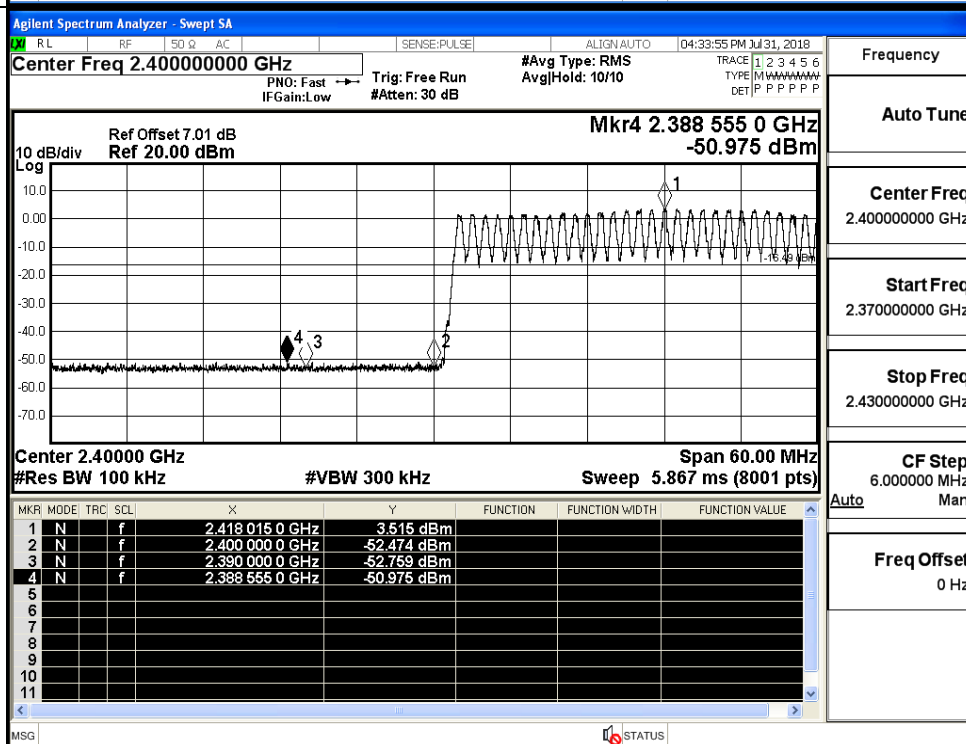
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	1.790	Off	-50.927	-18.21	PASS
			3.515	On	-50.975	-16.49	PASS
	HCH	2480	1.404	Off	-50.961	-18.6	PASS
			3.302	On	-50.223	-16.7	PASS
$\pi/4$ DQPSK	LCH	2402	-1.243	Off	-50.825	-21.24	PASS
			1.950	On	-50.360	-18.05	PASS
	HCH	2480	-0.142	Off	-50.309	-20.14	PASS
			1.289	On	-50.231	-18.71	PASS
8DPSK	LCH	2402	0.585	Off	-50.837	-19.42	PASS
			2.027	On	-50.358	-17.97	PASS
	HCH	2480	0.290	Off	-50.299	-19.71	PASS
			1.899	On	-50.132	-18.1	PASS

Test Graphs

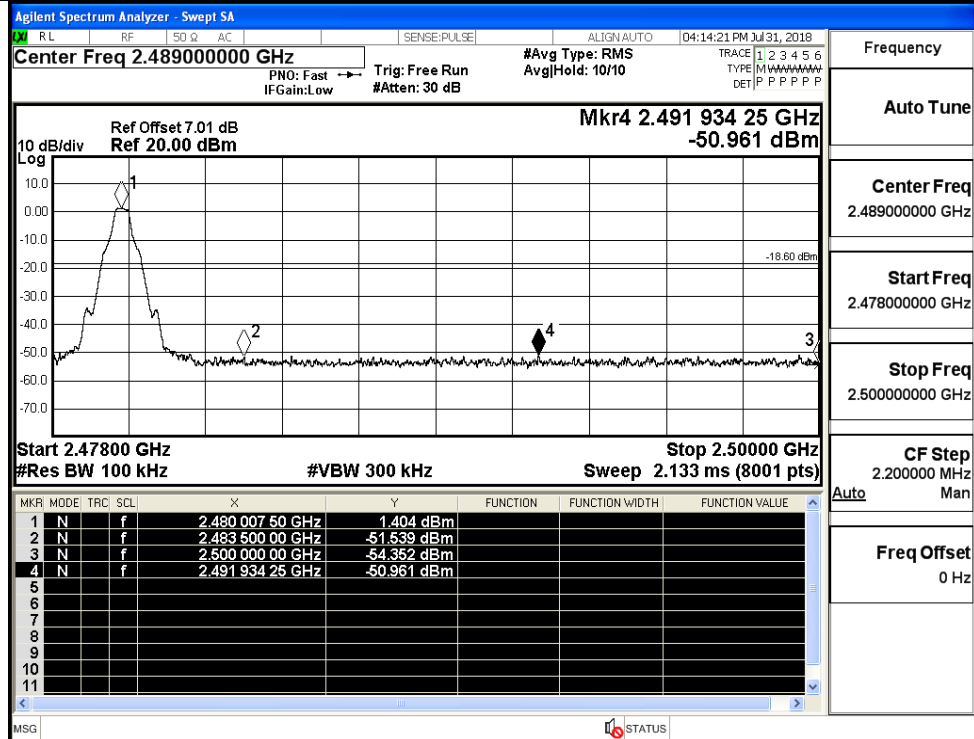
GFSK/LCH/No Hop



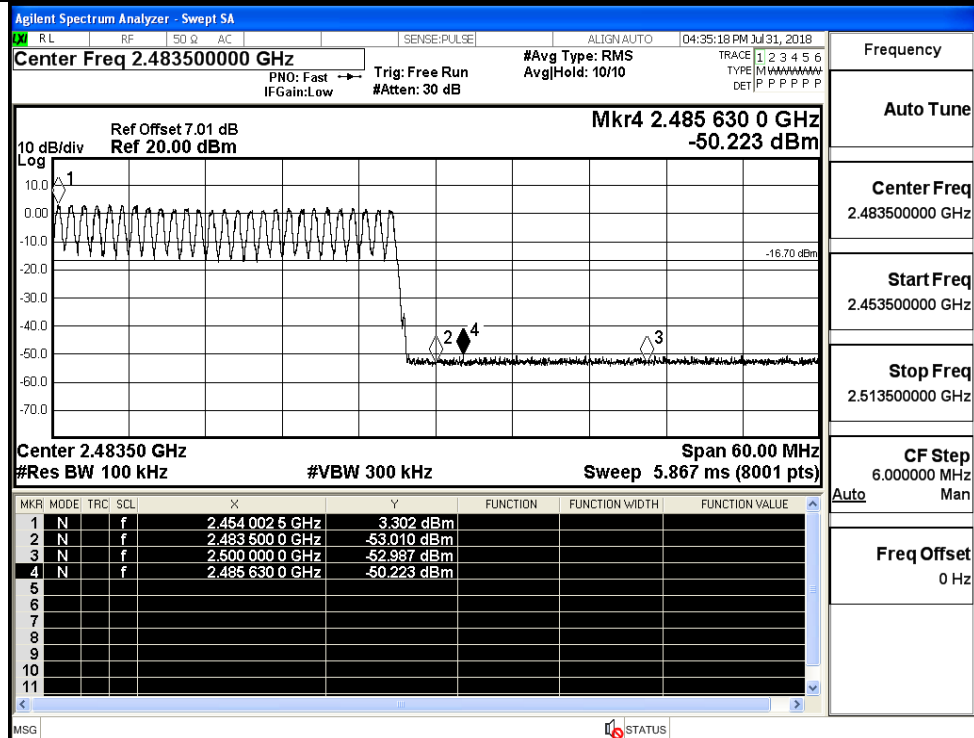
GFSK/LCH/Hop



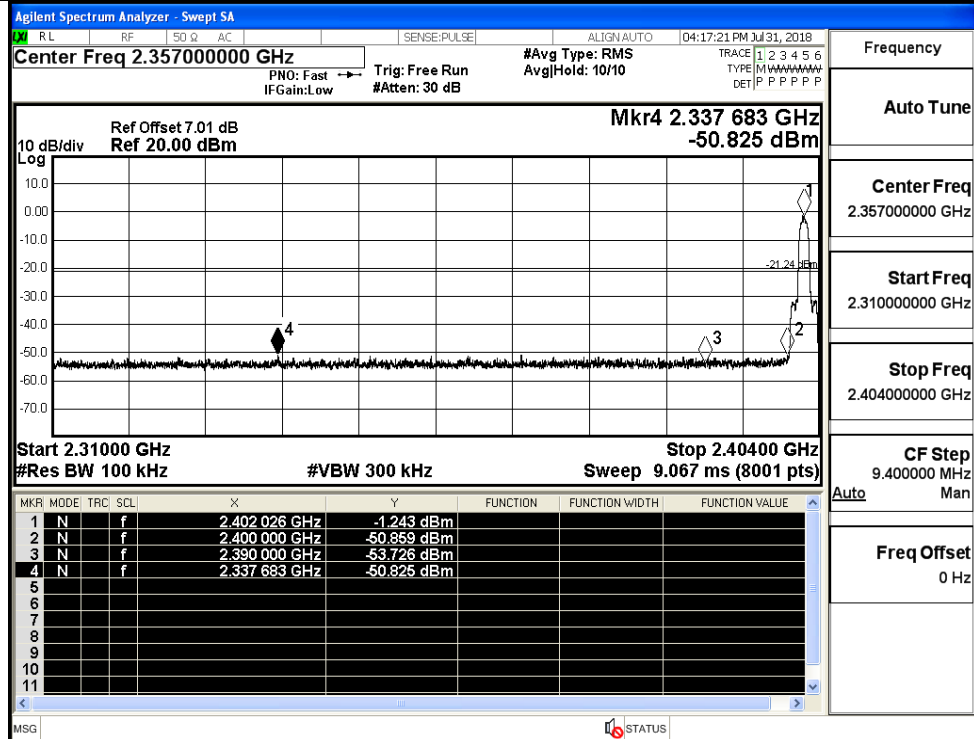
GFSK/HCH/No Hop



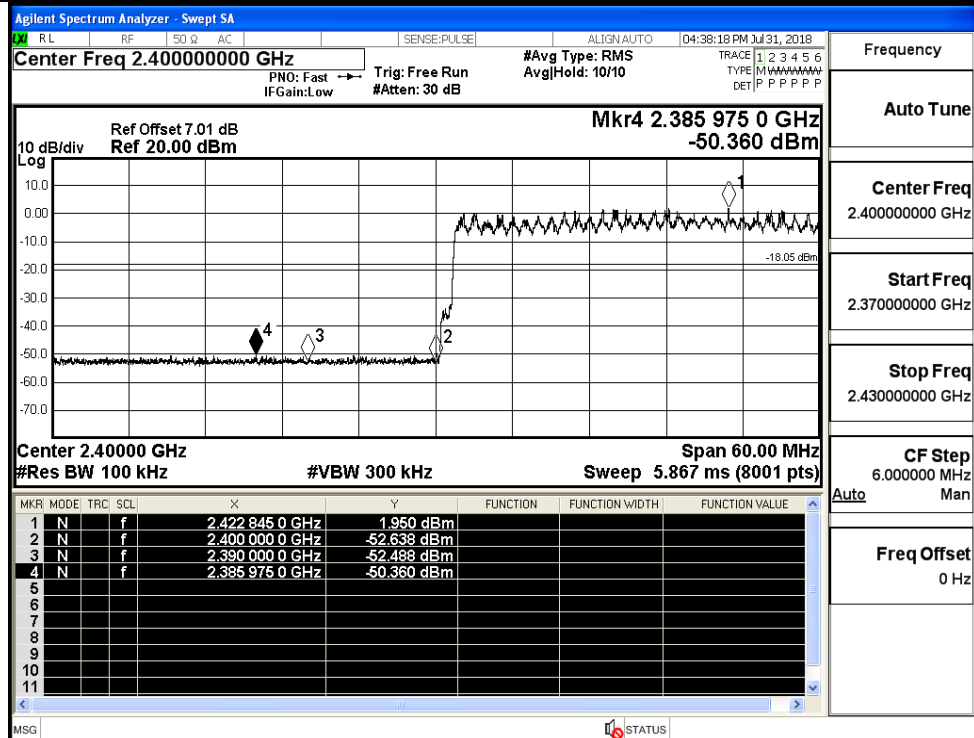
GFSK/HCH/Hop



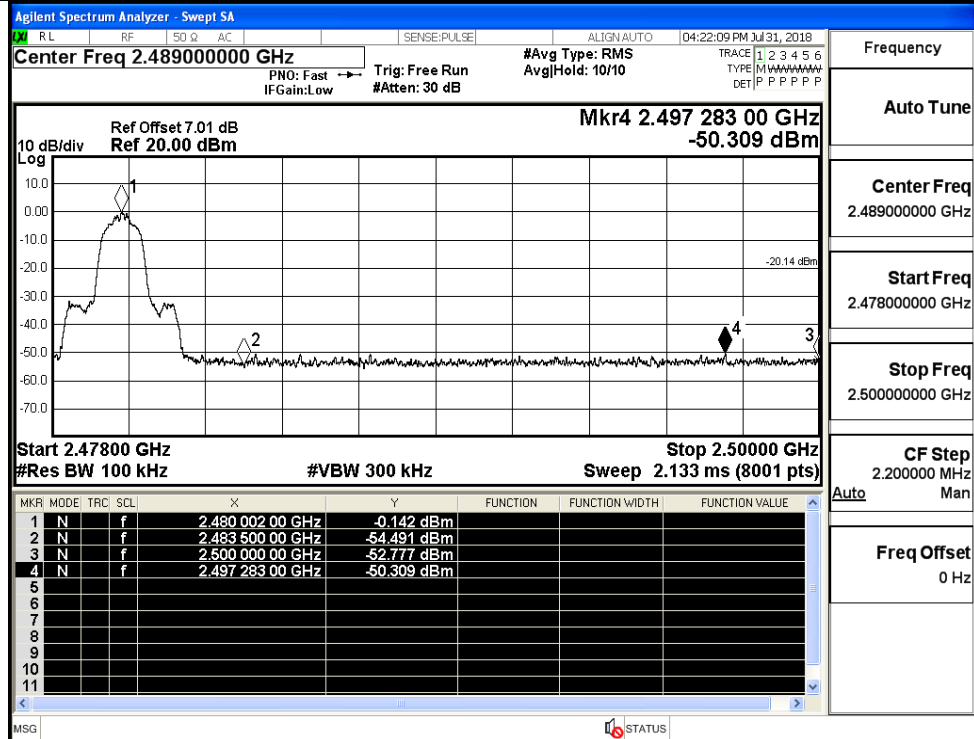
$\pi/4$ DQPSK/LCH/No
Hop



$\pi/4$ DQPSK/LCH/Hop



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

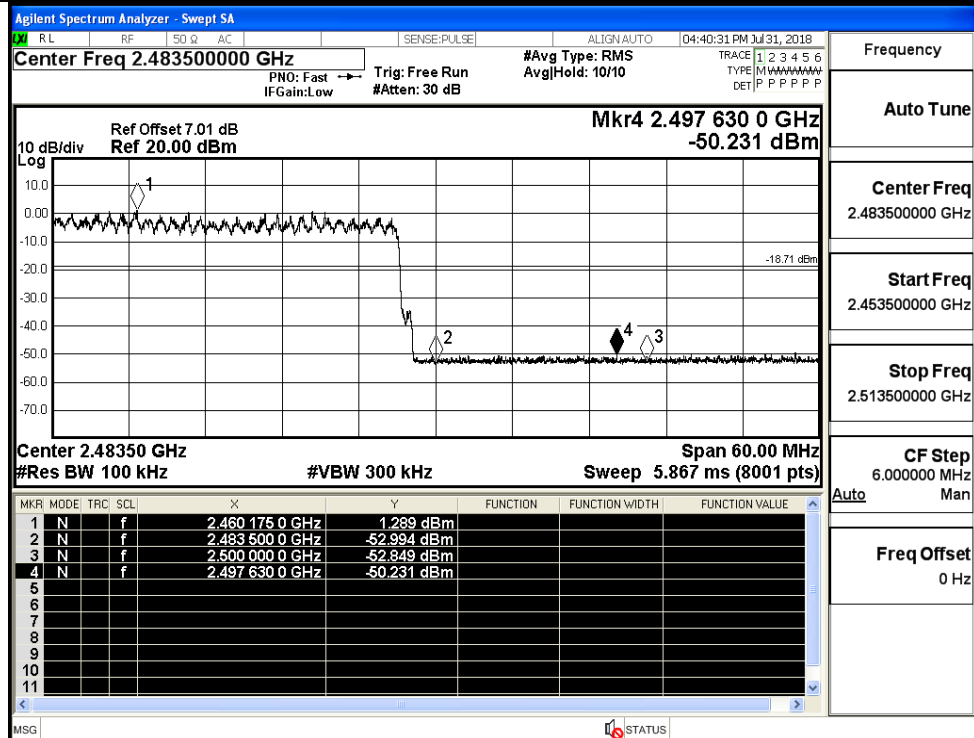


Frequency

Auto Tune

Center Freq
2.489000000 GHzStart Freq
2.478000000 GHzStop Freq
2.500000000 GHzCF Step
2.200000 MHz
Auto ManFreq Offset
0 Hz

$\pi/4$ DQPSK/HCH/Hop

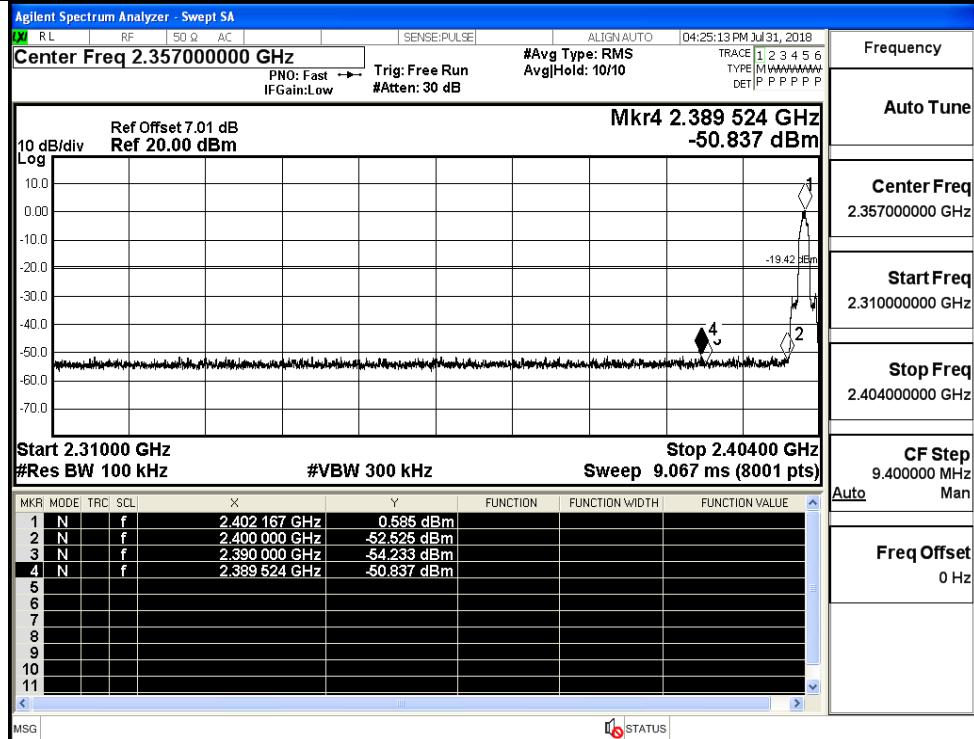


Frequency

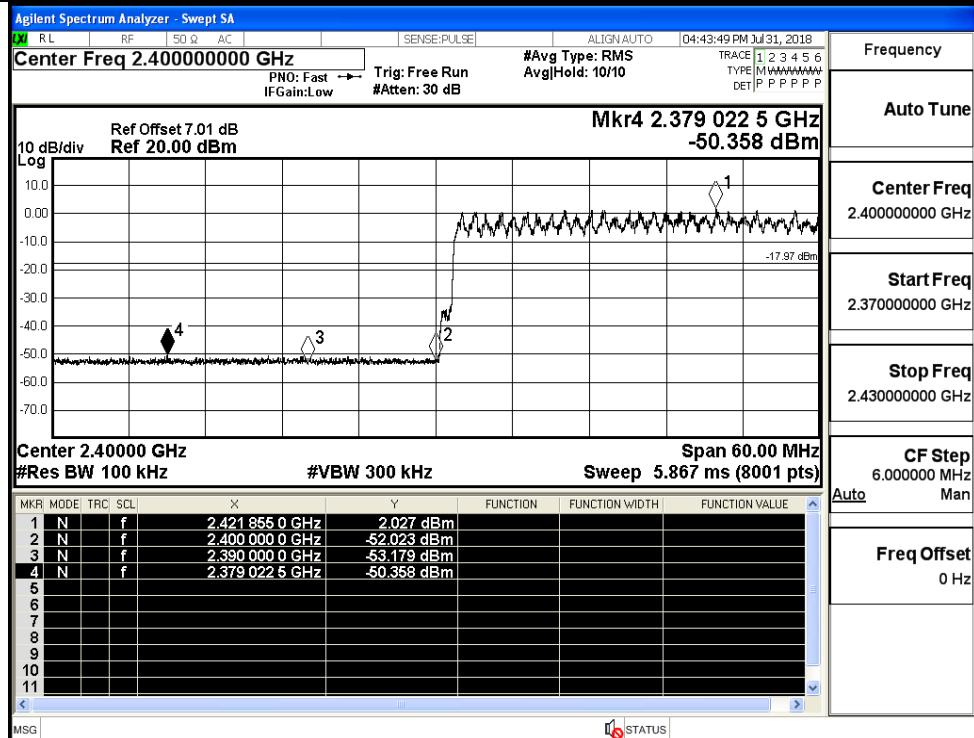
Auto Tune

Center Freq
2.483500000 GHzStart Freq
2.453500000 GHzStop Freq
2.513500000 GHzCF Step
6.000000 MHz
Auto ManFreq Offset
0 Hz

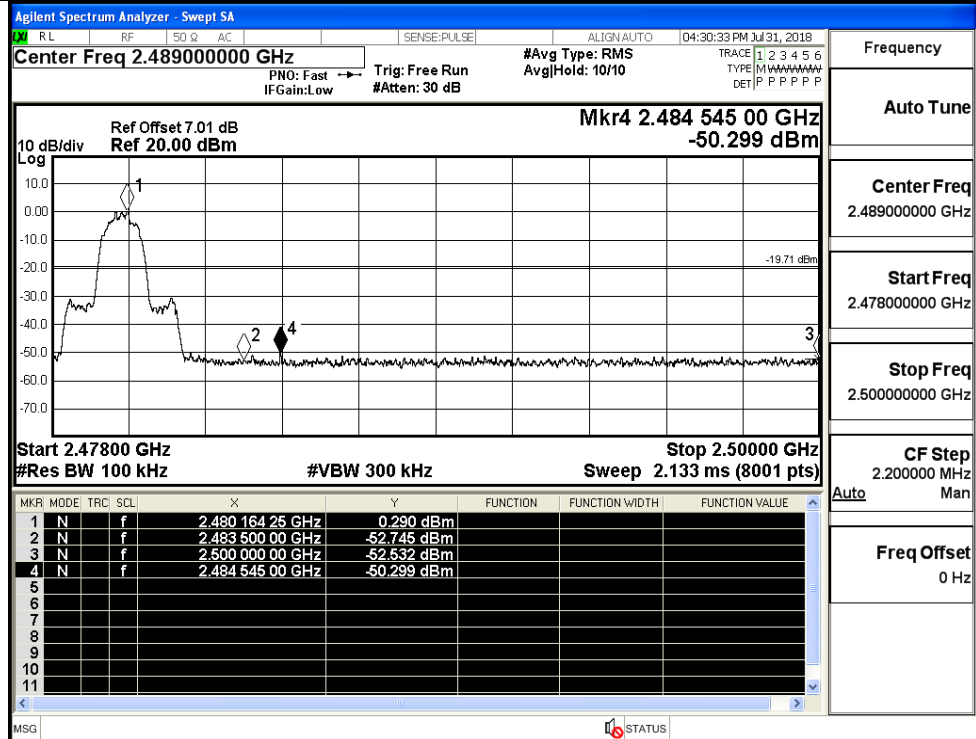
8DPSK/LCH/No Hop



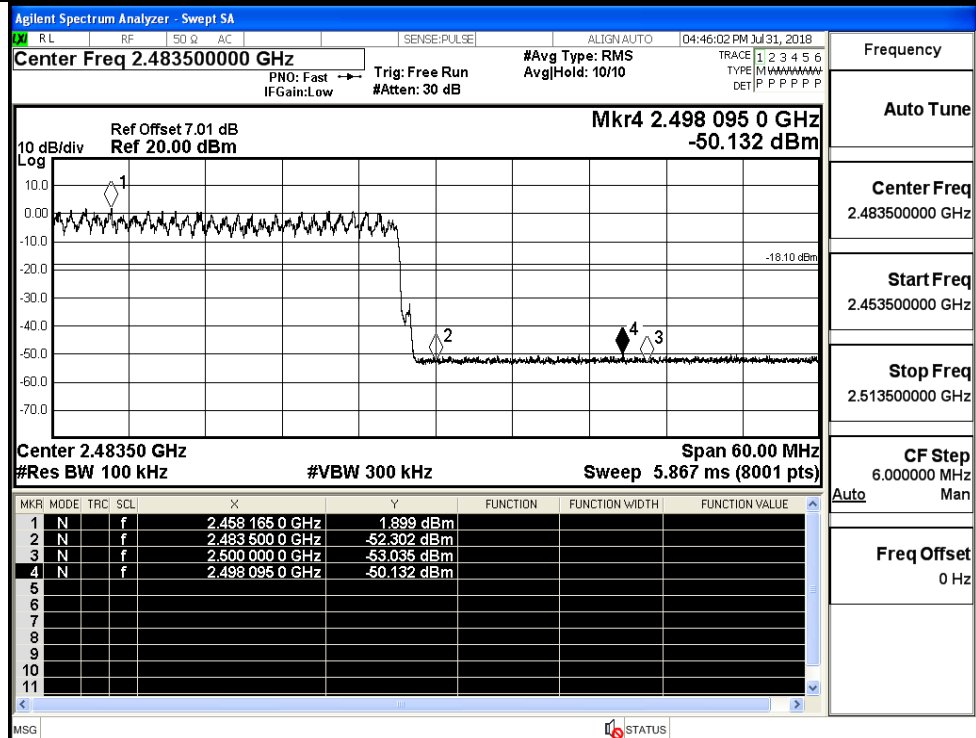
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



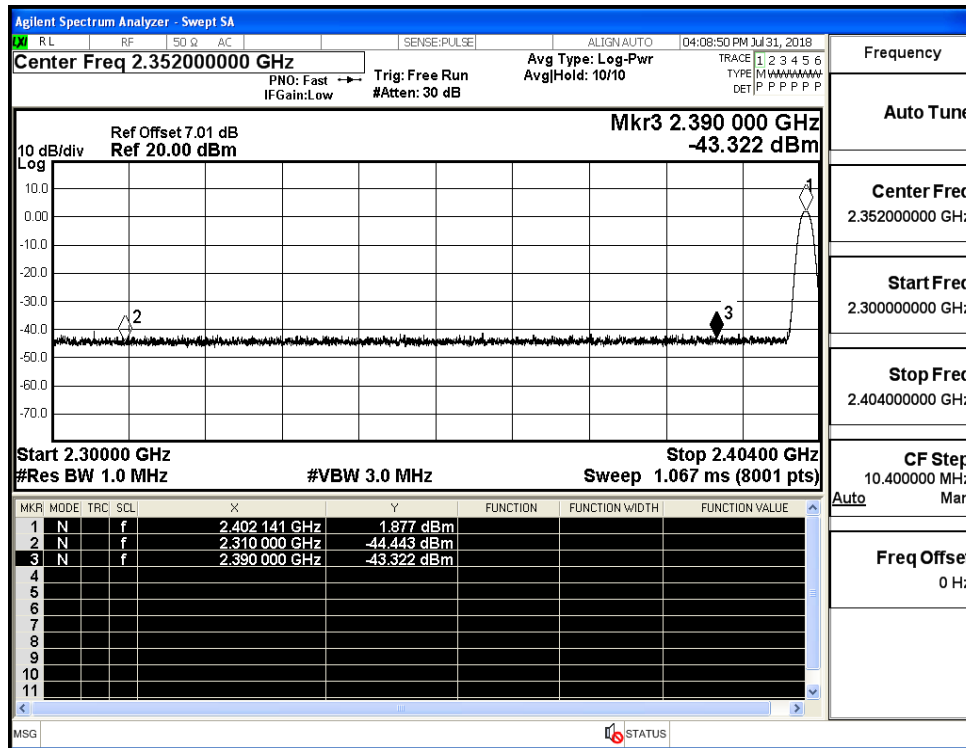
8DPSK/HCH/Hop



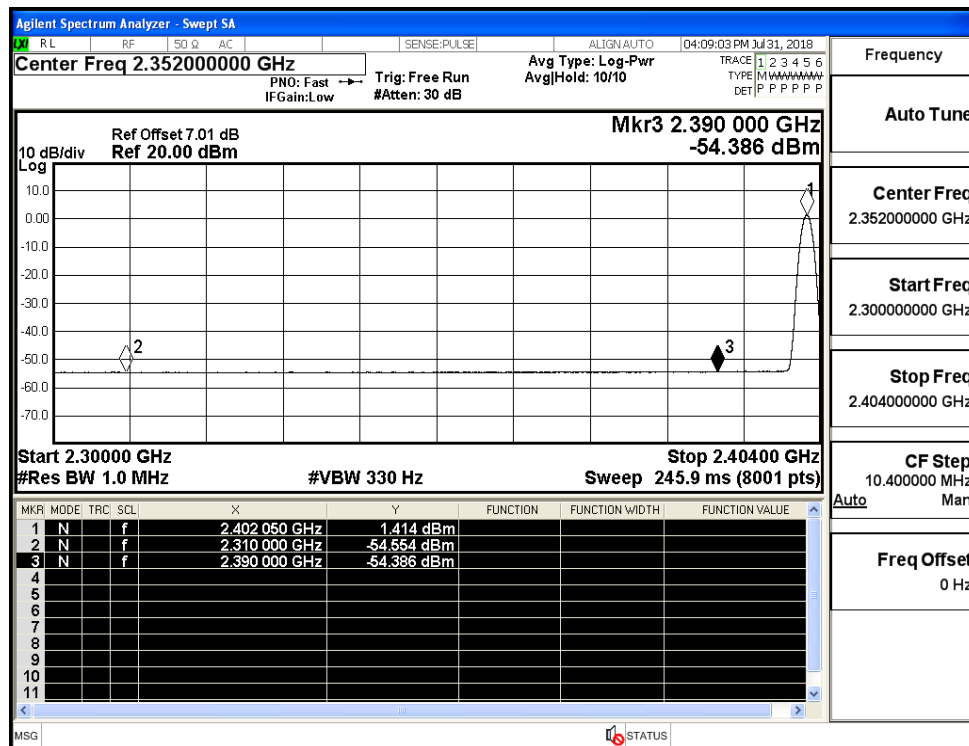
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-44.44	2.0	0	52.81	PEAK	74	PASS
	Off	2310.0	-54.55	2.0	0	42.70	AV	54	PASS
	Off	2390.0	-43.32	2.0	0	53.94	PEAK	74	PASS
	Off	2390.0	-54.39	2.0	0	42.87	AV	54	PASS
	Off	2483.5	-44.81	2.0	0	52.45	PEAK	74	PASS
	Off	2483.5	-54.00	2.0	0	43.26	AV	54	PASS
	Off	2500.0	-44.38	2.0	0	52.88	PEAK	74	PASS
	Off	2500.0	-54.02	2.0	0	43.24	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-44.38	2.0	0	52.88	PEAK	74	PASS
	Off	2310.0	-54.44	2.0	0	42.82	AV	54	PASS
	Off	2390.0	-43.76	2.0	0	53.49	PEAK	74	PASS
	Off	2390.0	-54.35	2.0	0	42.91	AV	54	PASS
	Off	2483.5	-43.47	2.0	0	53.79	PEAK	74	PASS
	Off	2483.5	-53.99	2.0	0	43.27	AV	54	PASS
	Off	2500.0	-42.54	2.0	0	54.72	PEAK	74	PASS
	Off	2500.0	-54.02	2.0	0	43.24	AV	54	PASS
8DPSK	Off	2310.0	-44.41	2.0	0	52.85	PEAK	74	PASS
	Off	2310.0	-54.61	2.0	0	42.65	AV	54	PASS
	Off	2390.0	-44.00	2.0	0	53.26	PEAK	74	PASS
	Off	2390.0	-54.35	2.0	0	42.91	AV	54	PASS
	Off	2483.5	-43.09	2.0	0	54.17	PEAK	74	PASS
	Off	2483.5	-53.81	2.0	0	43.45	AV	54	PASS
	Off	2500.0	-44.51	2.0	0	52.75	PEAK	74	PASS
	Off	2500.0	-53.93	2.0	0	43.32	AV	54	PASS

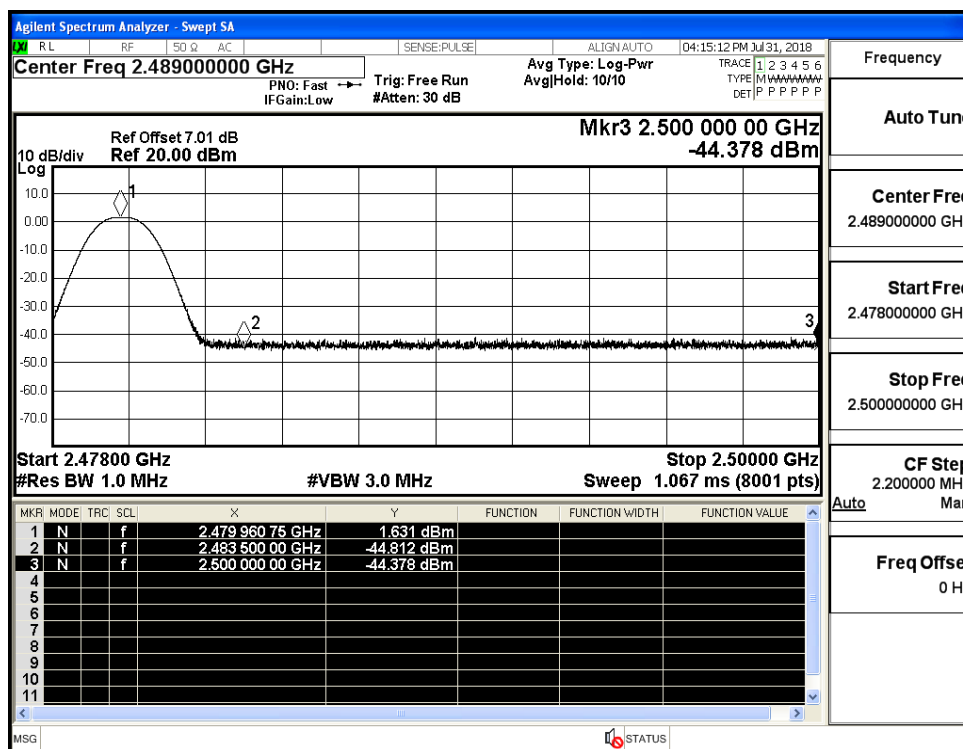
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



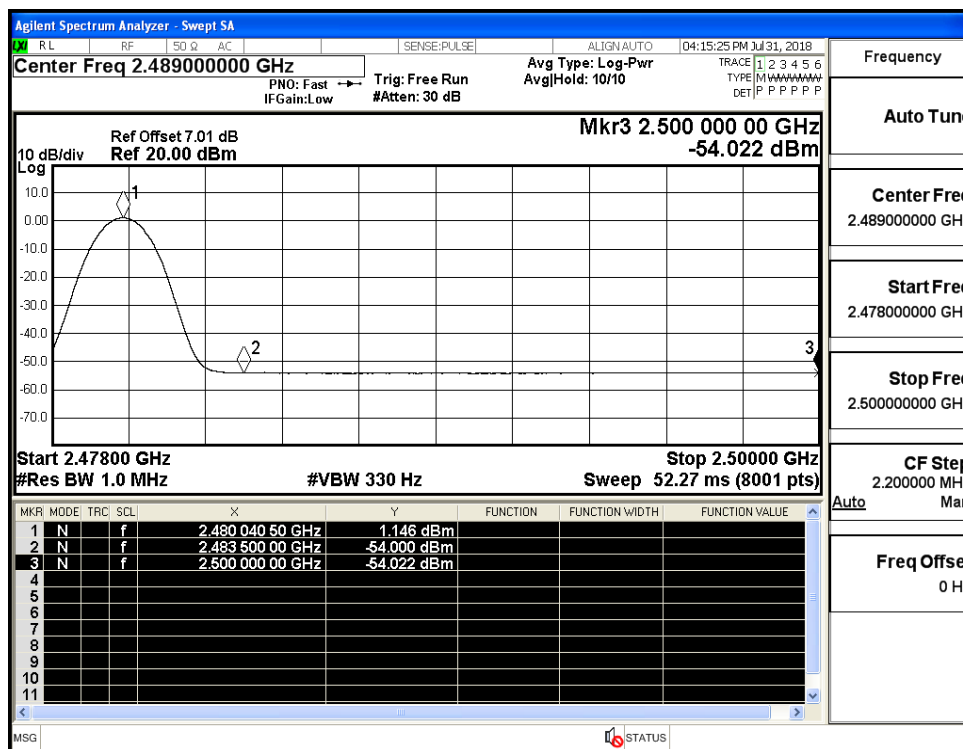
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

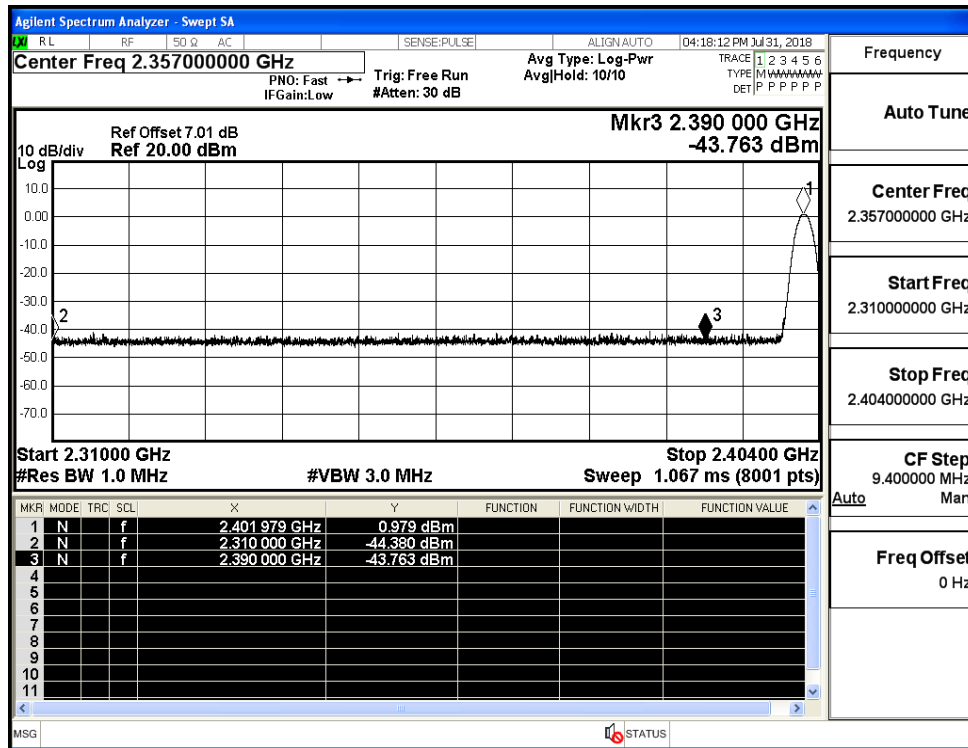
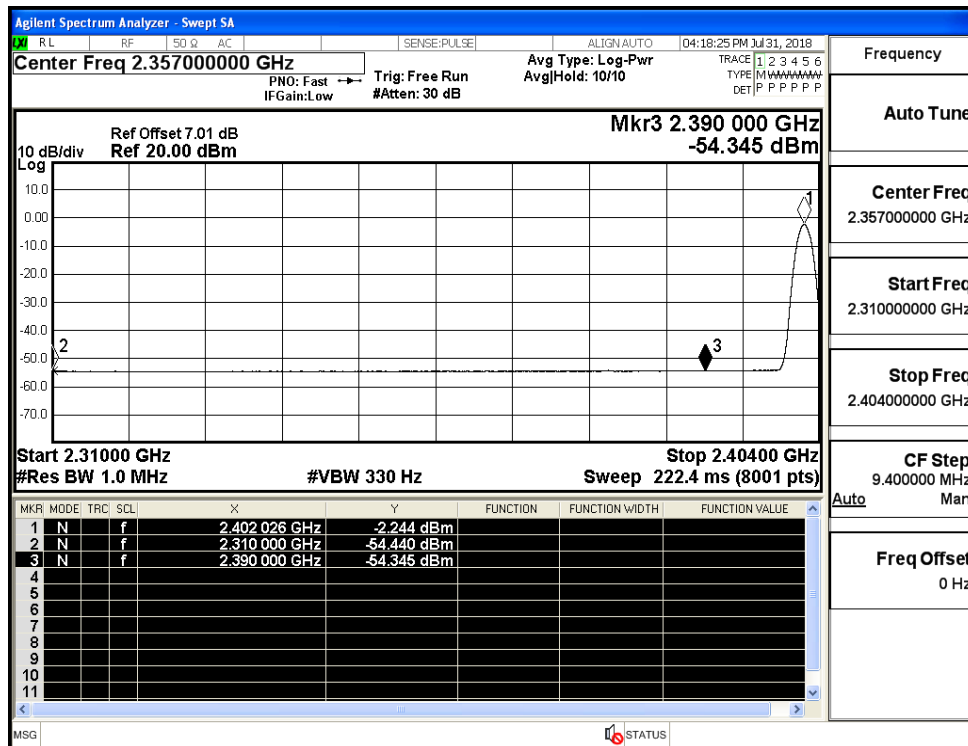


Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)

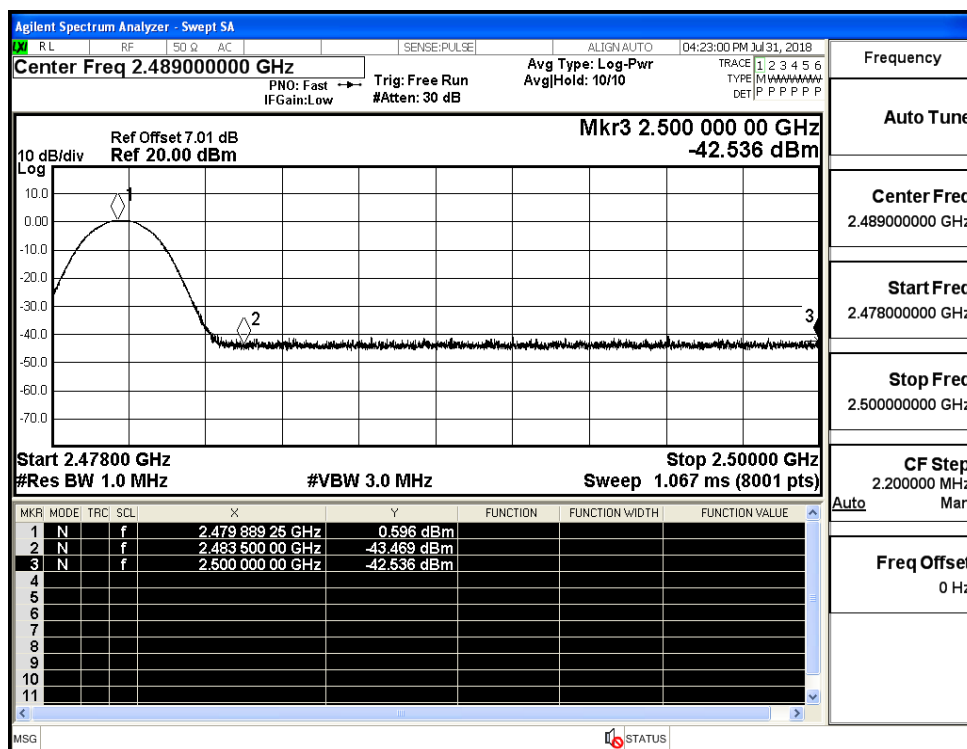


Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)

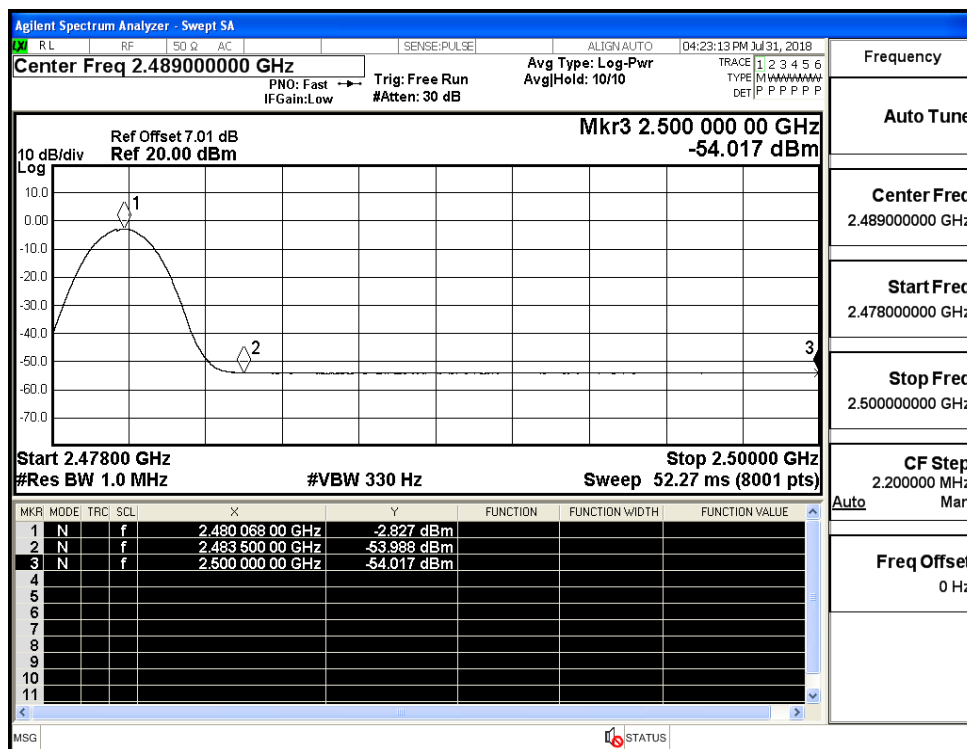


Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

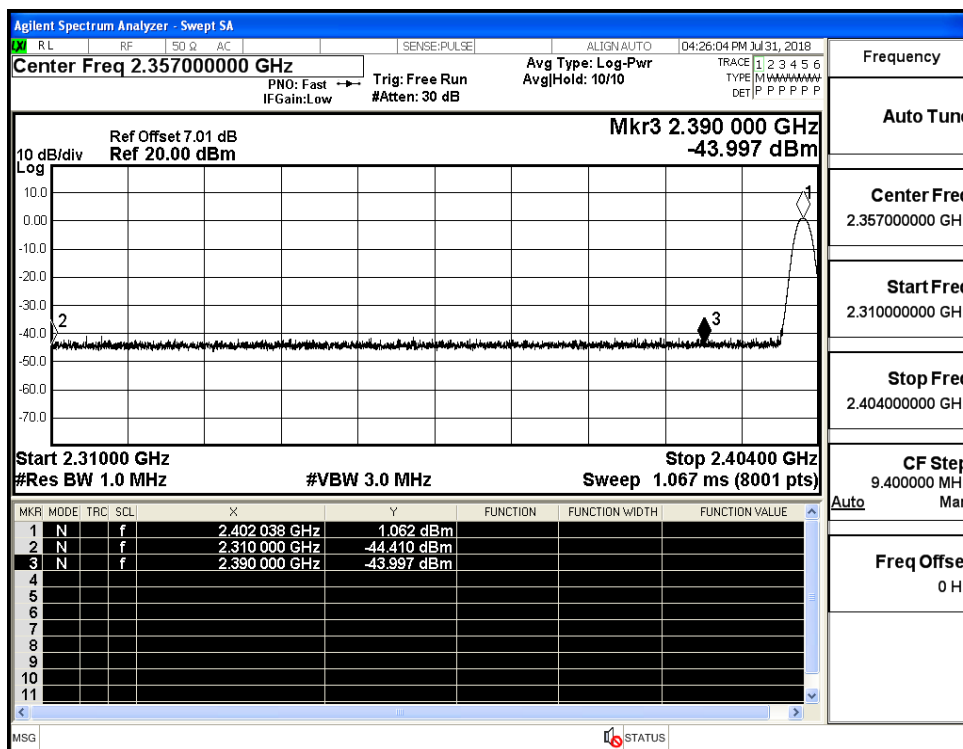
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



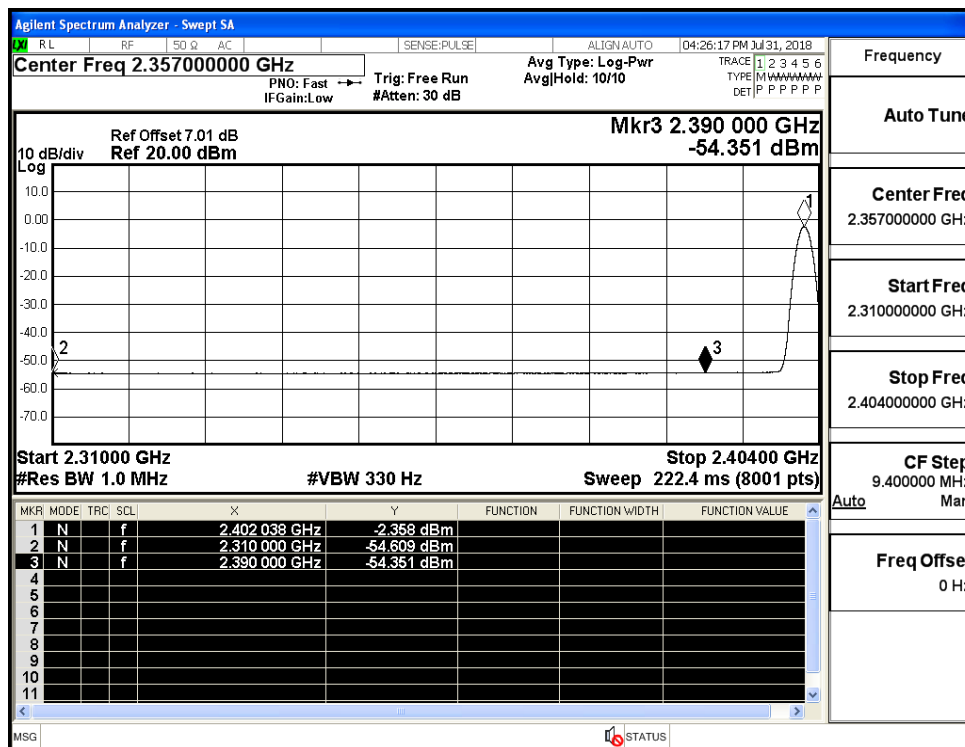
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



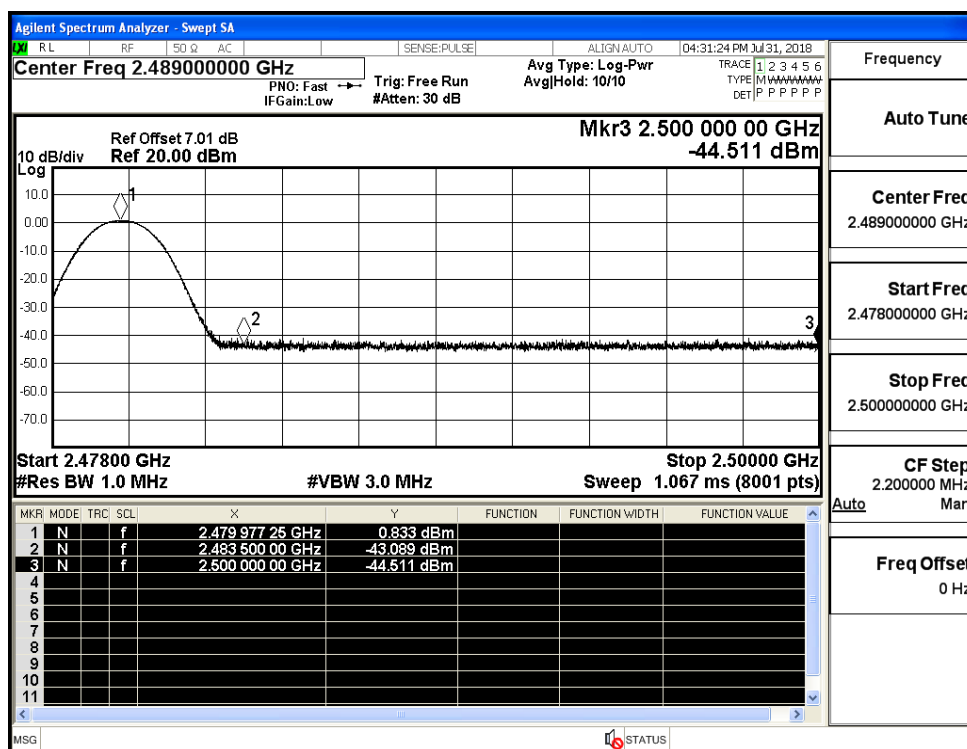
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

