

Appendix A

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

Product Name: Intelligent Diagnosis System

Trade Mark: XTOOL

Test Model: A80

Environmental Conditions

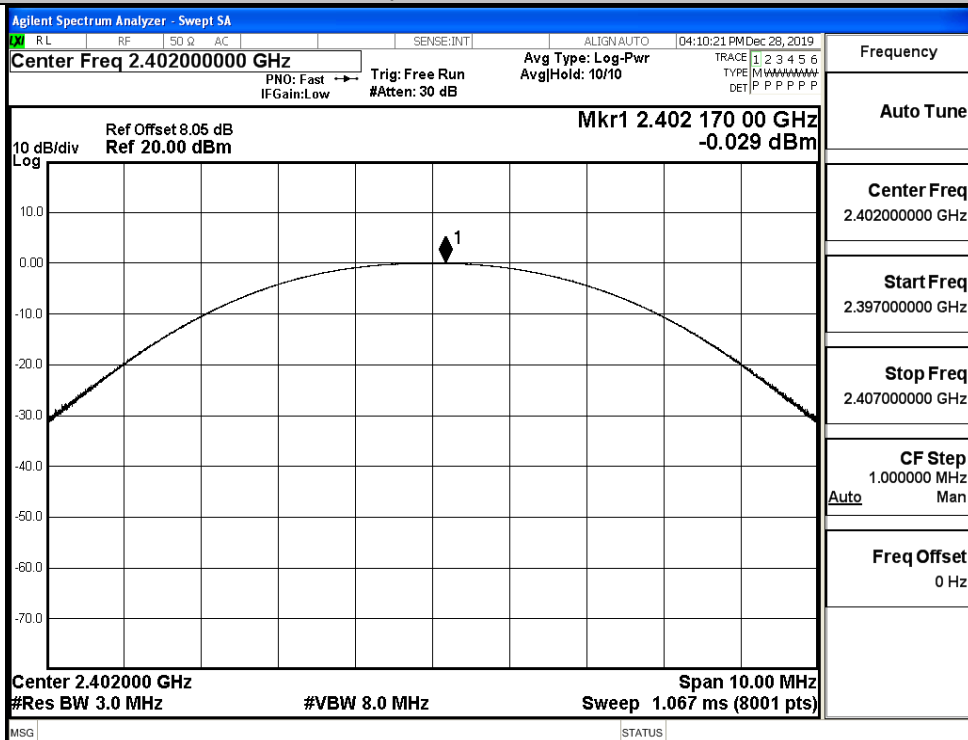
Temperature:	23.2°C
Relative Humidity:	54.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Wang Chuang

A.1 Maximum Conducted Peak Output Power

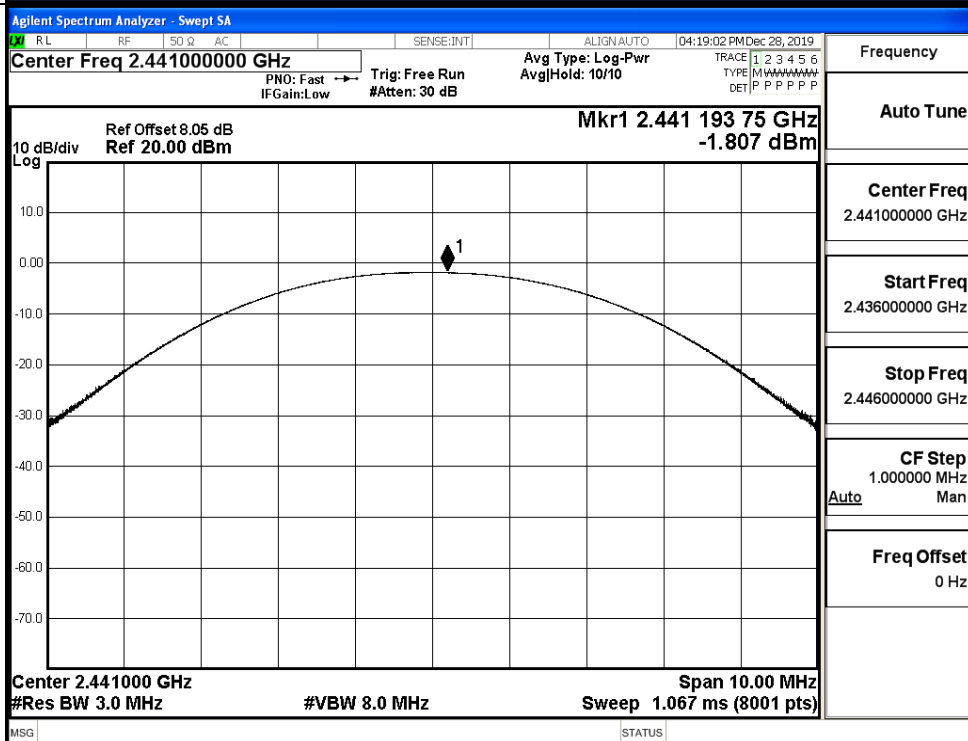
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.029	21	PASS
	MCH	-1.807	21	PASS
	HCH	-0.630	21	PASS
$\pi/4$ DQPSK	LCH	-0.752	21	PASS
	MCH	-2.472	21	PASS
	HCH	-1.396	21	PASS
8DPSK	LCH	-0.569	21	PASS
	MCH	-2.324	21	PASS
	HCH	-1.214	21	PASS

Test Graphs

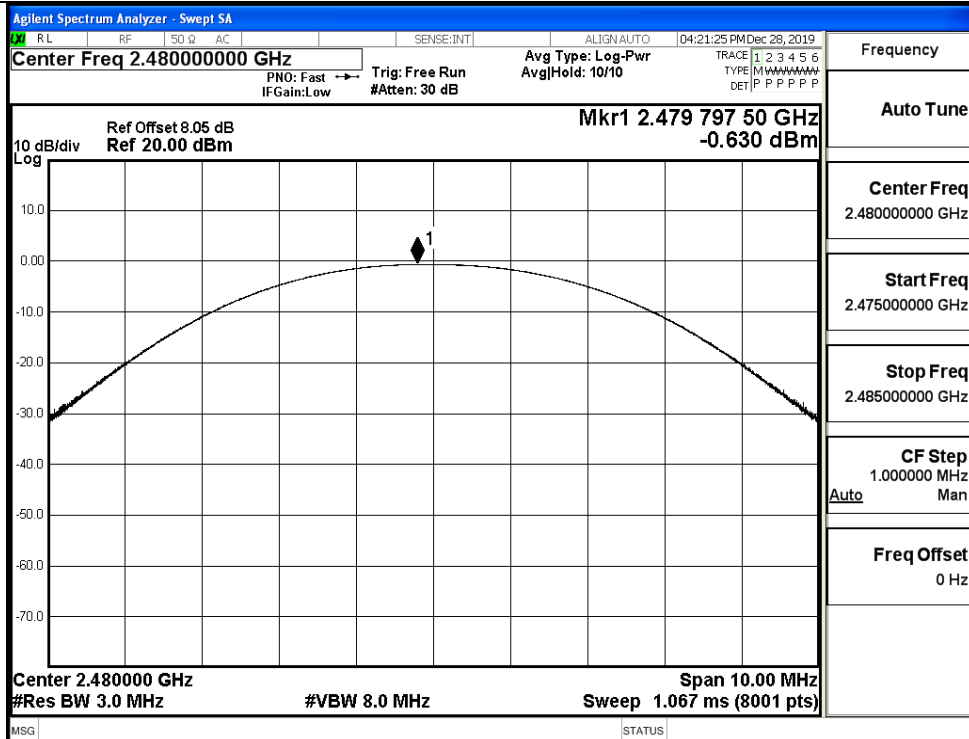
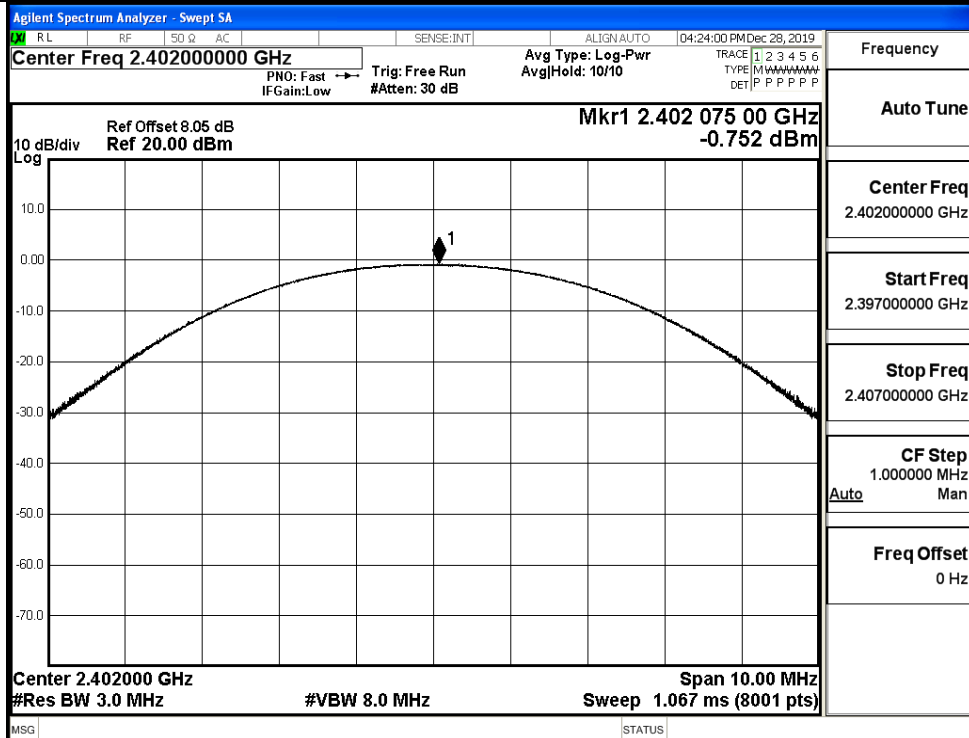
GFSK/LCH

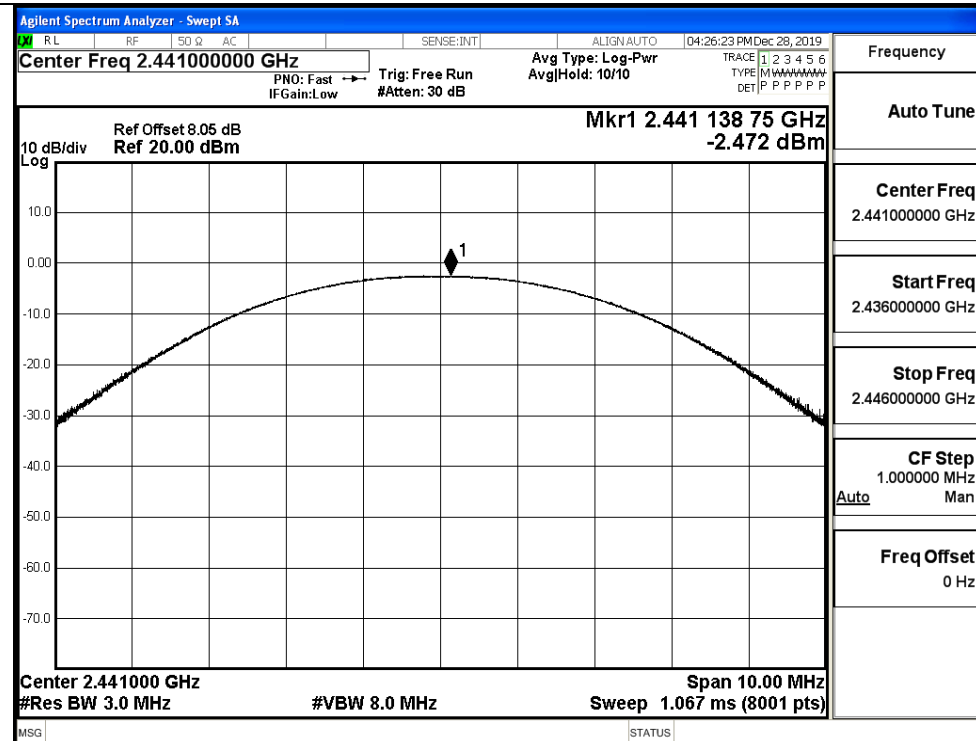
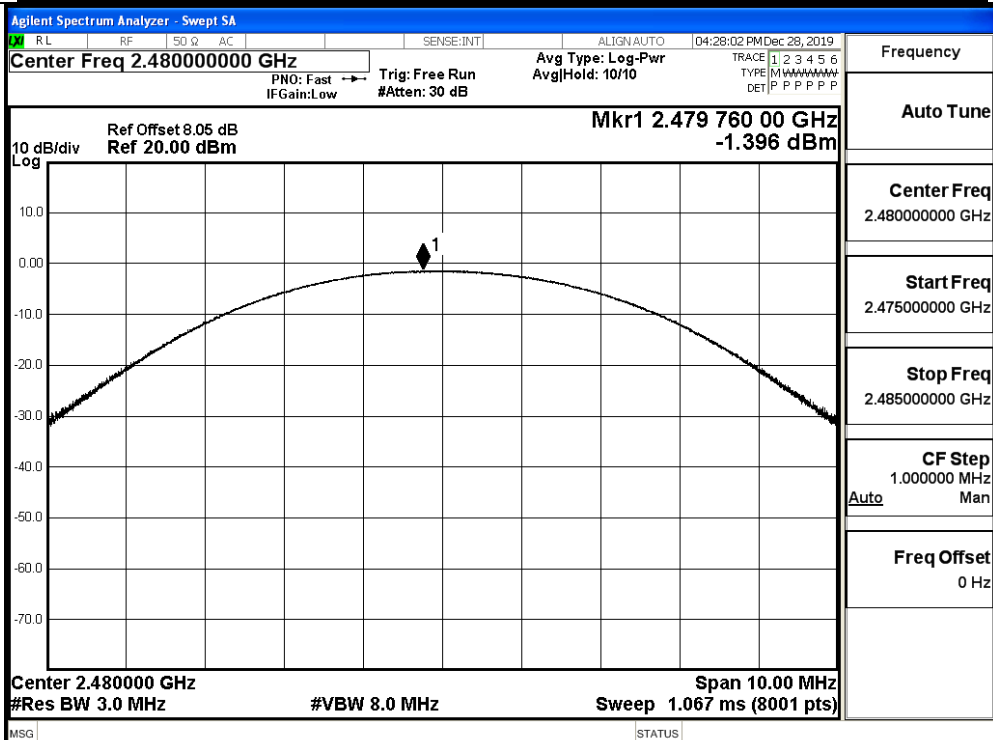


GFSK/MCH

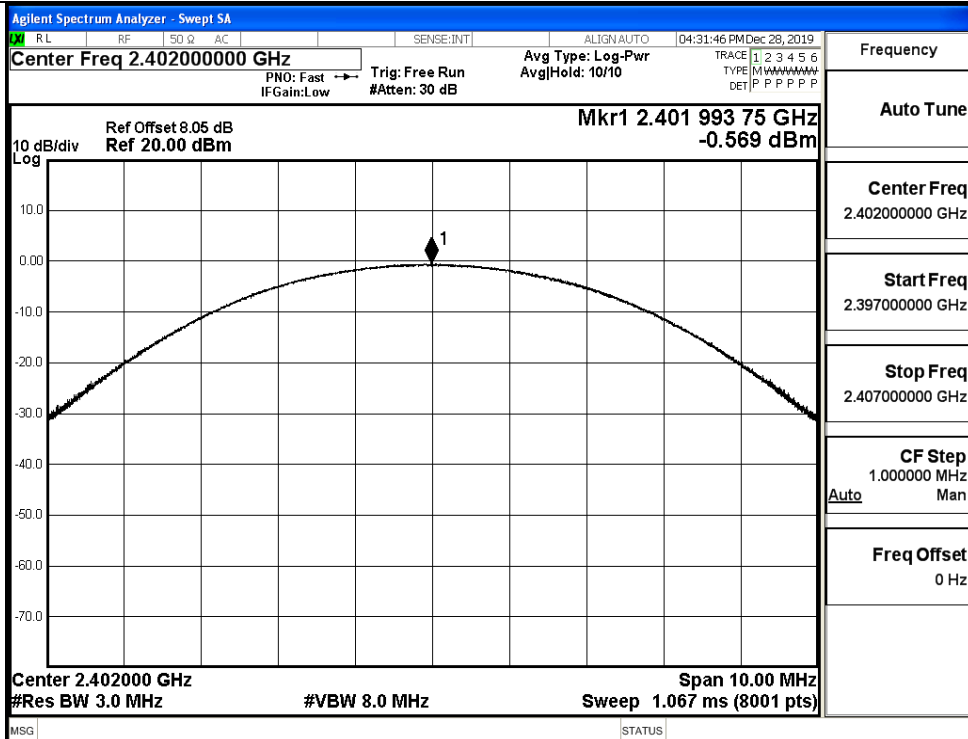


GFSK/HCH

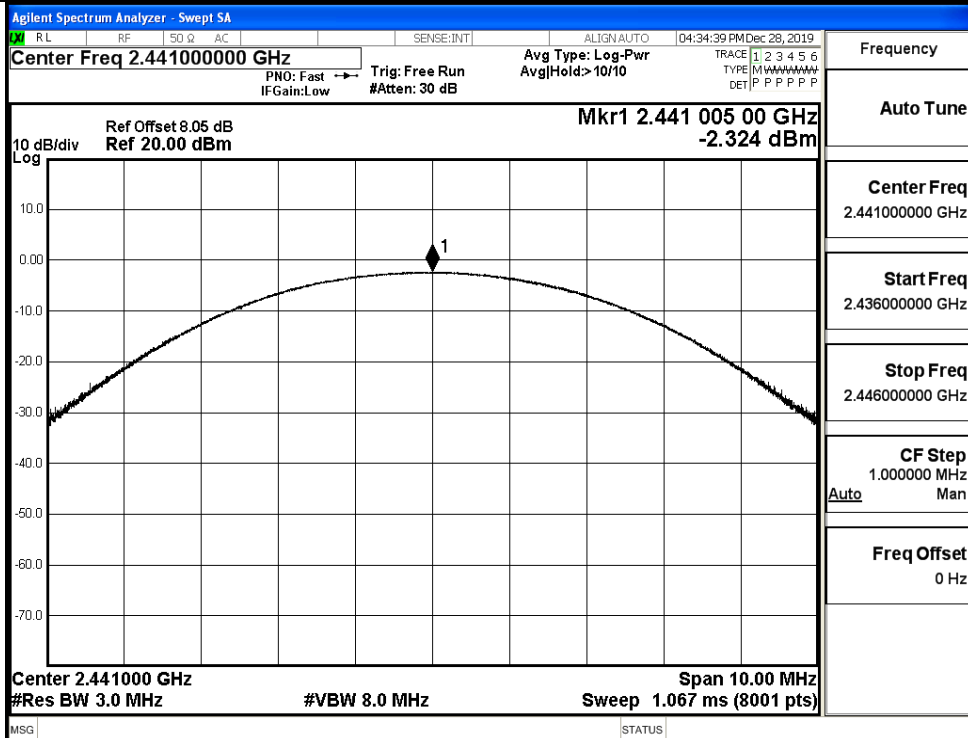
 π /4DQPSK/LCH

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

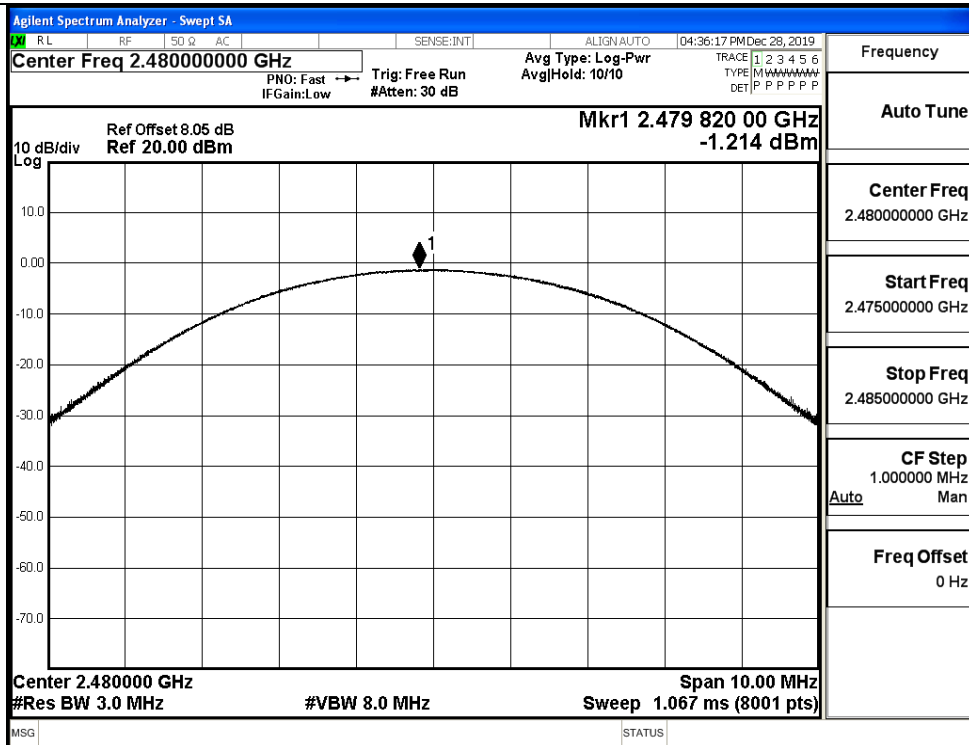
8DPSK/LCH



8DPSK/MCH



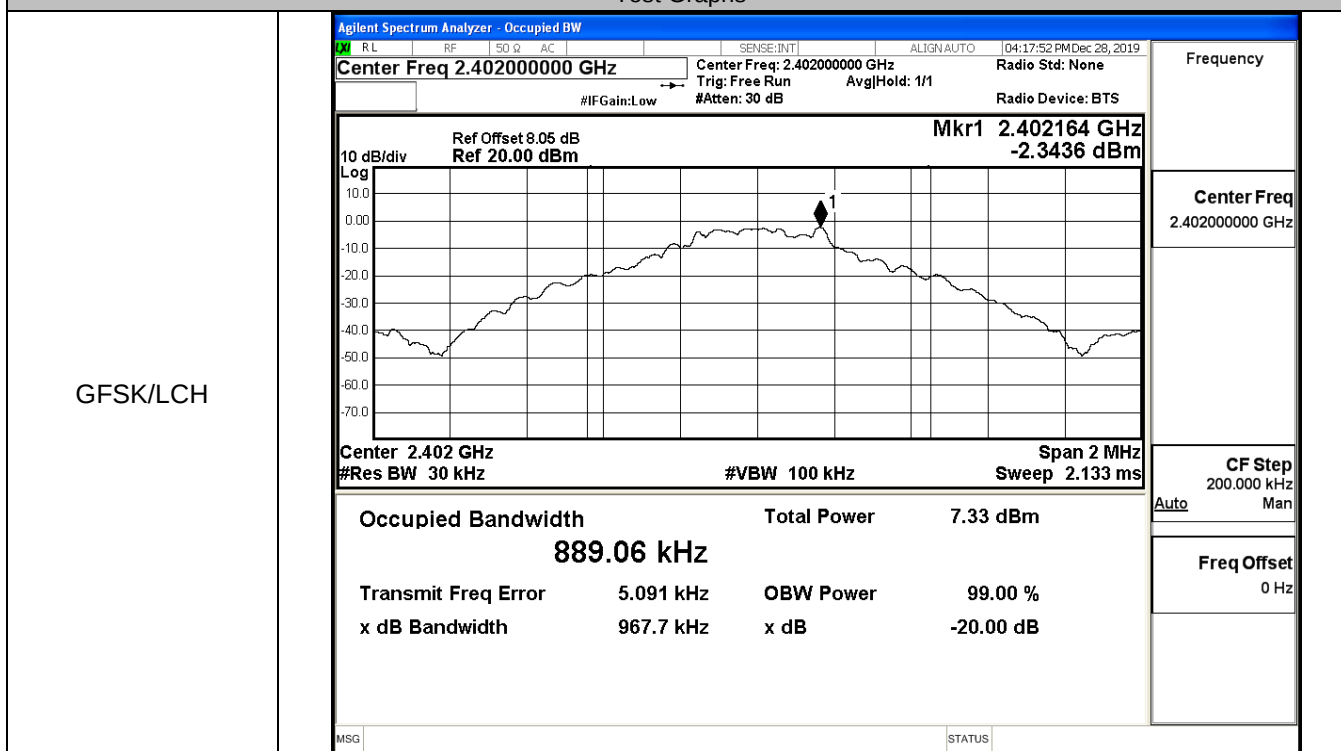
8DPSK/HCH



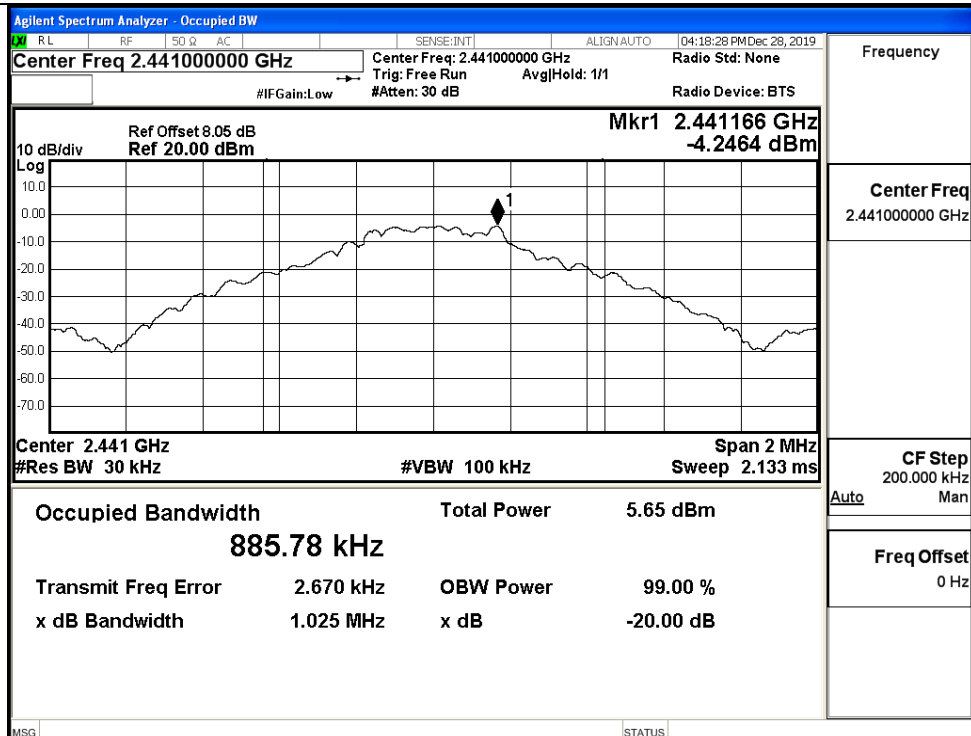
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9677	Not Specified	PASS
	MCH	1.025	Not Specified	PASS
	HCH	1.032	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.287	Not Specified	PASS
	MCH	1.313	Not Specified	PASS
	HCH	1.290	Not Specified	PASS
8DPSK	LCH	1.292	Not Specified	PASS
	MCH	1.298	Not Specified	PASS
	HCH	1.309	Not Specified	PASS

Test Graphs



GFSK/MCH



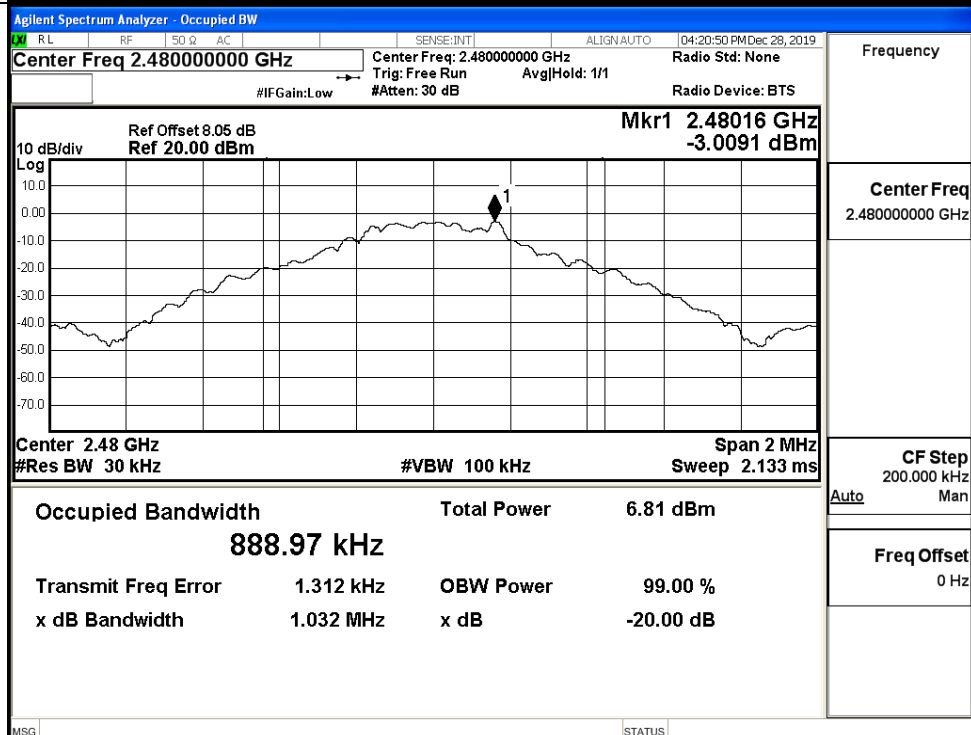
Frequency

Center Freq
2.441000000 GHzCF Step
200.000 kHz
Man

Auto

Freq Offset
0 Hz

GFSK/HCH

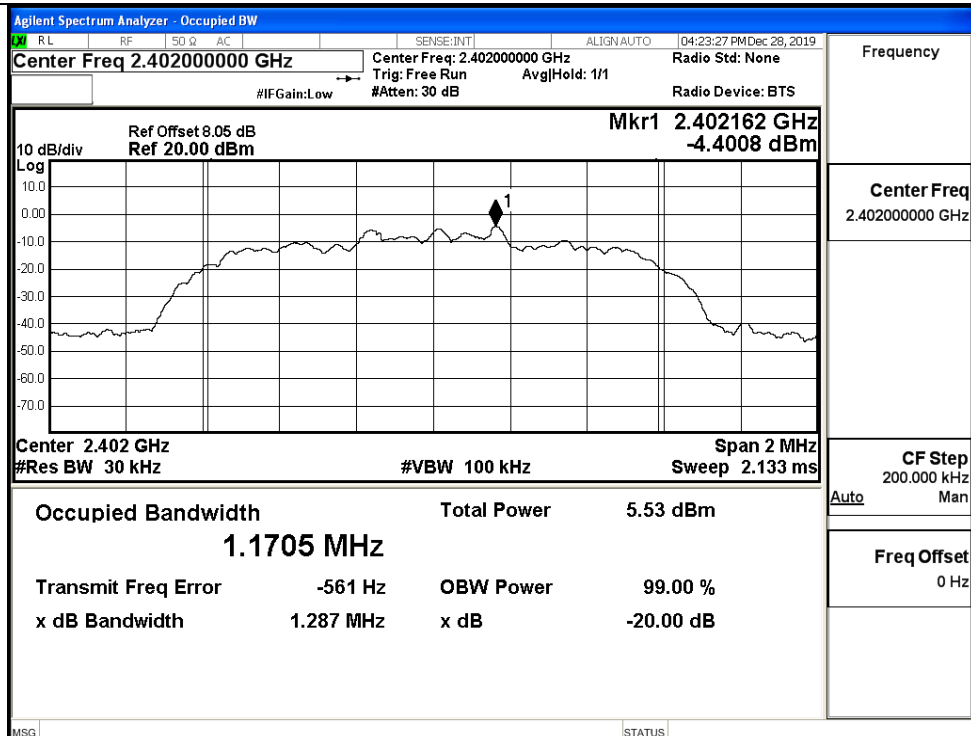
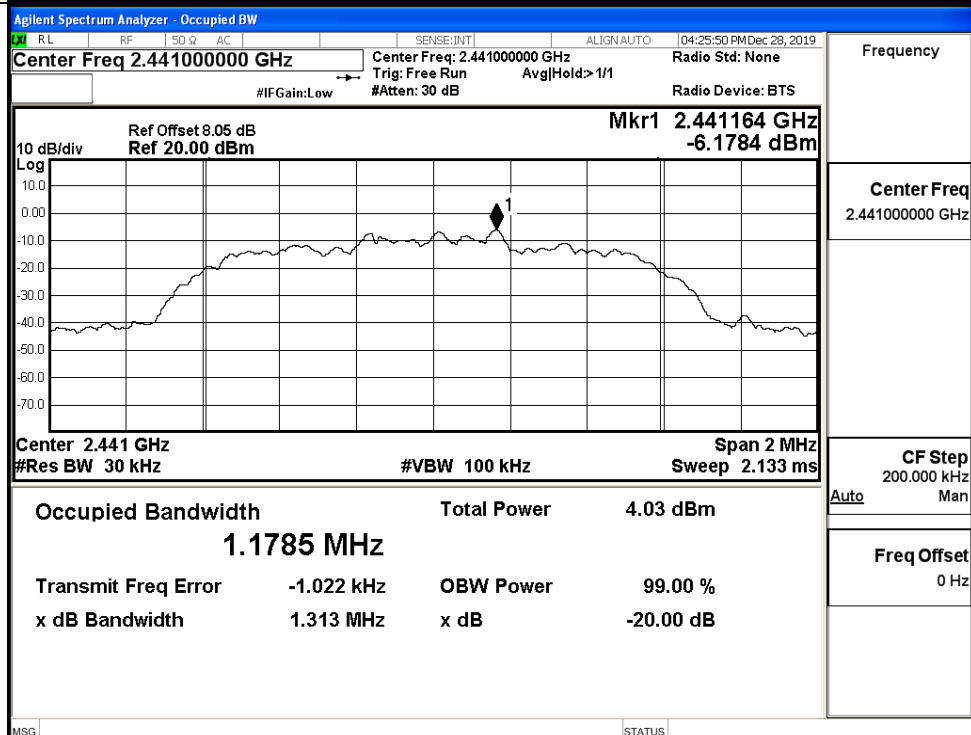


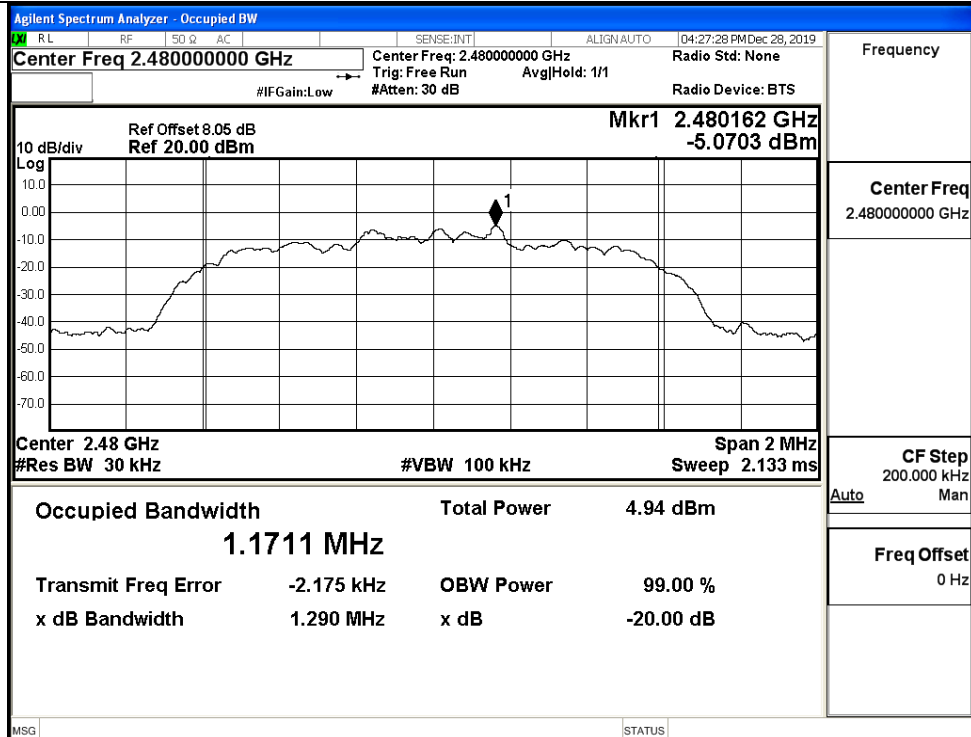
Frequency

Center Freq
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200.000 kHz
Man

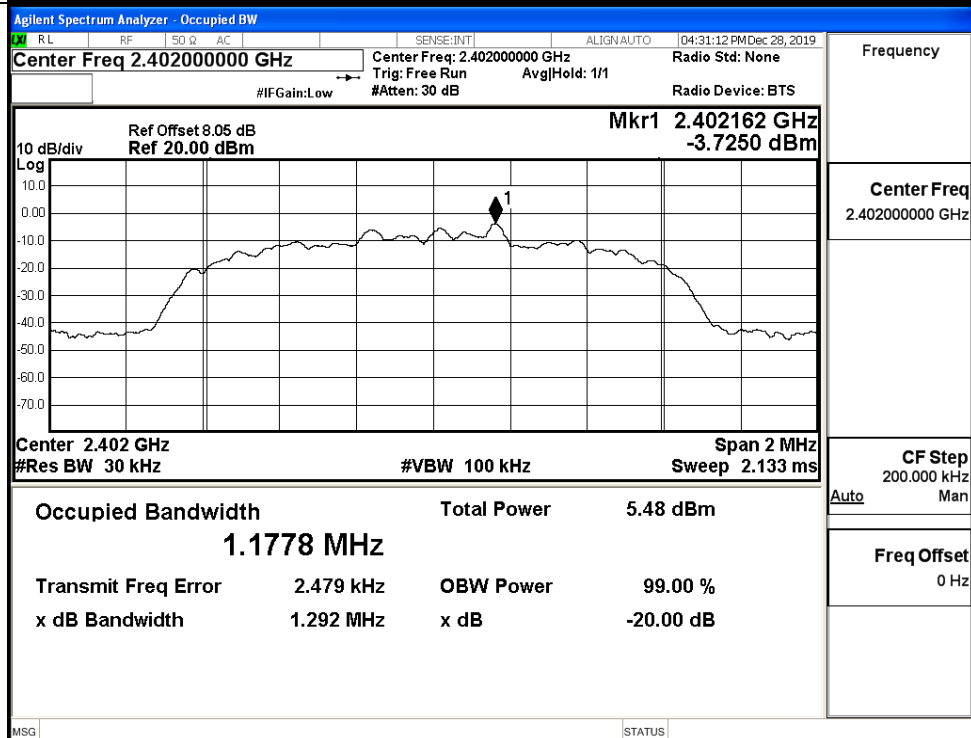
Auto

Freq Offset
0 Hz

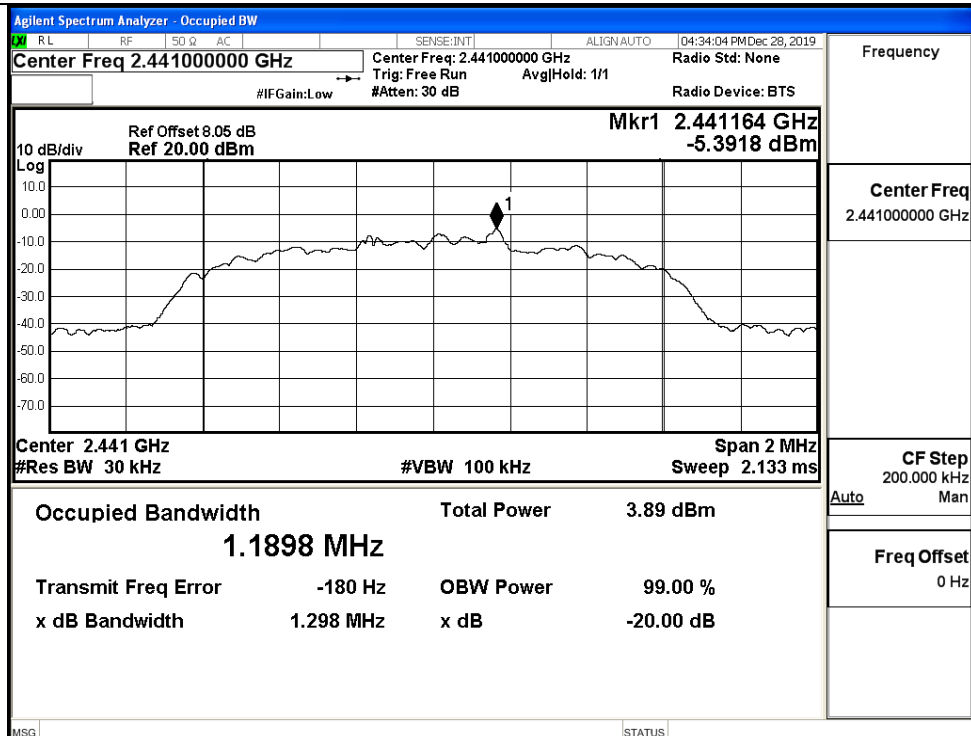
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

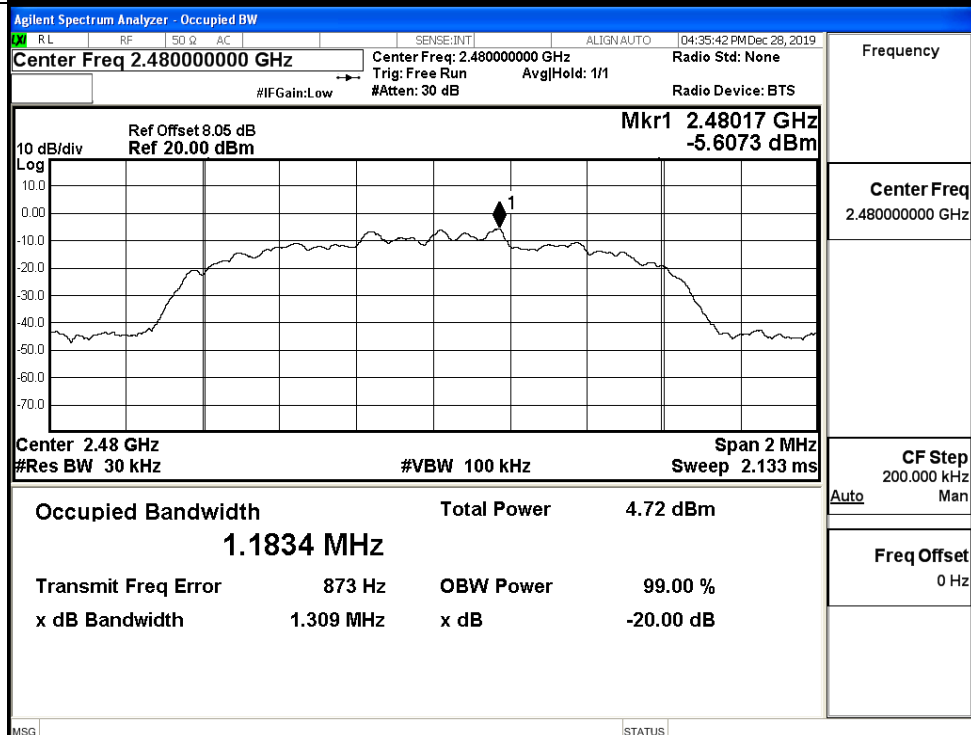
8DPSK/LCH



8DPSK/MCH



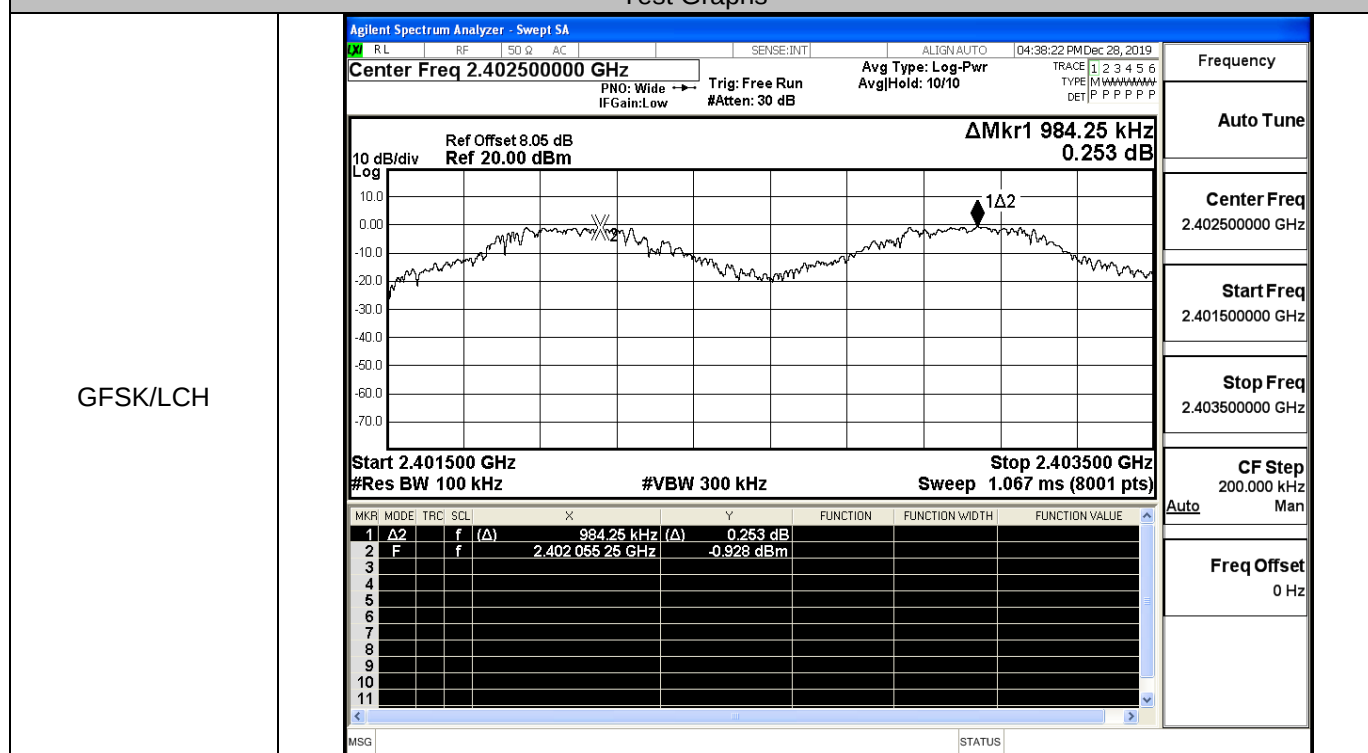
8DPSK/HCH



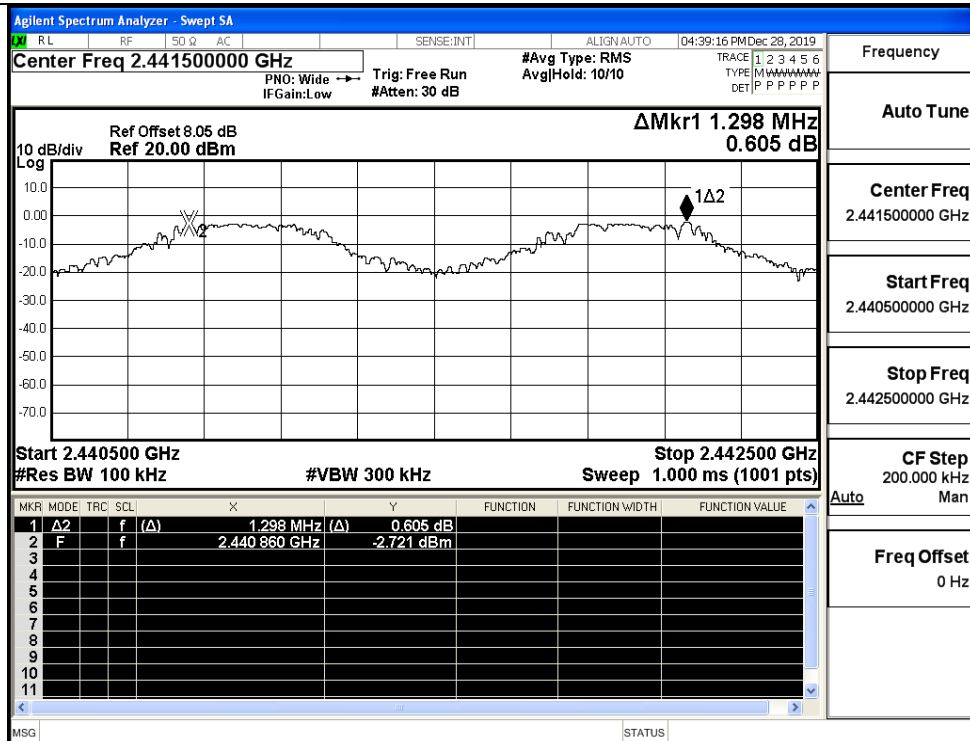
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.984	0.688	PASS
	MCH	1.298	0.688	PASS
	HCH	0.870	0.688	PASS
$\pi/4$ DQPSK	LCH	0.978	0.875	PASS
	MCH	1.236	0.875	PASS
	HCH	1.118	0.875	PASS
8DPSK	LCH	1.050	0.873	PASS
	MCH	0.912	0.873	PASS
	HCH	1.044	0.873	PASS

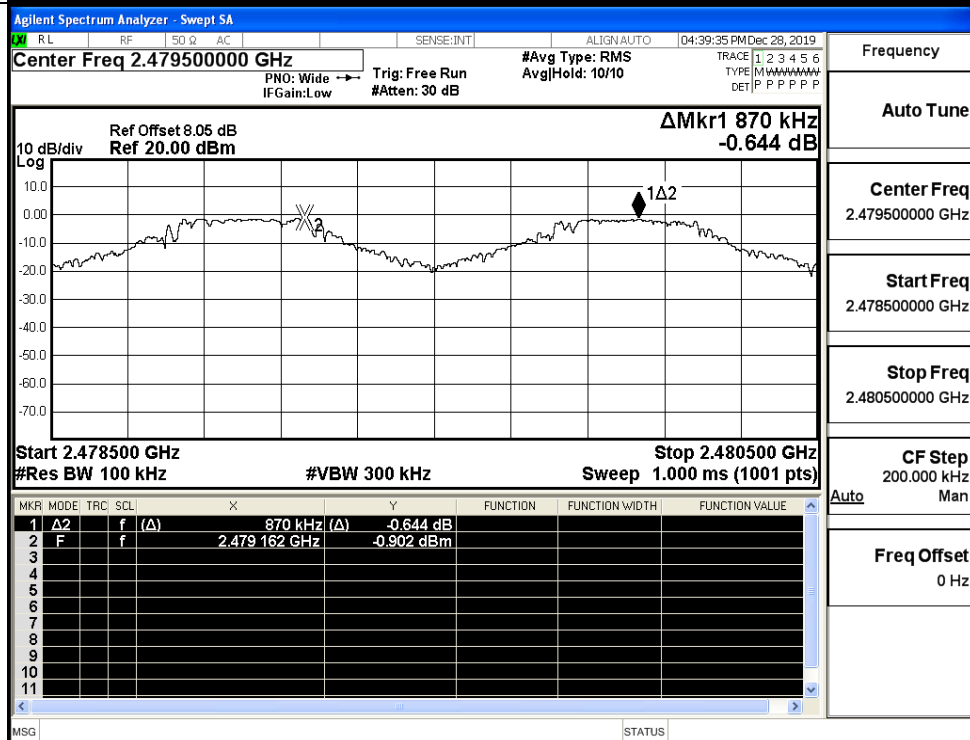
Test Graphs

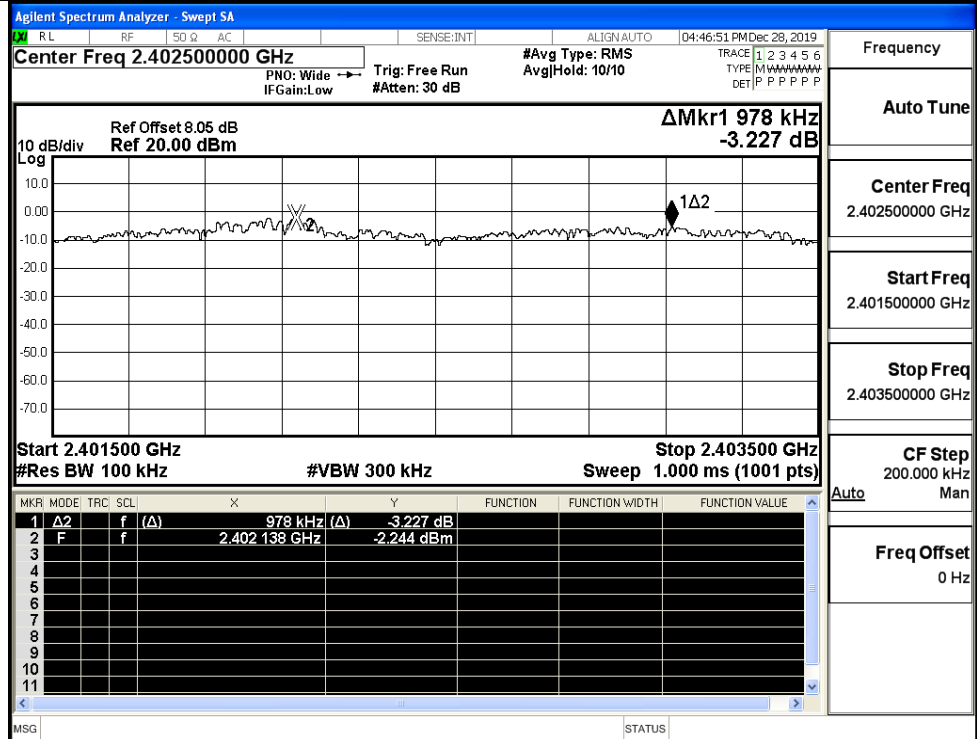
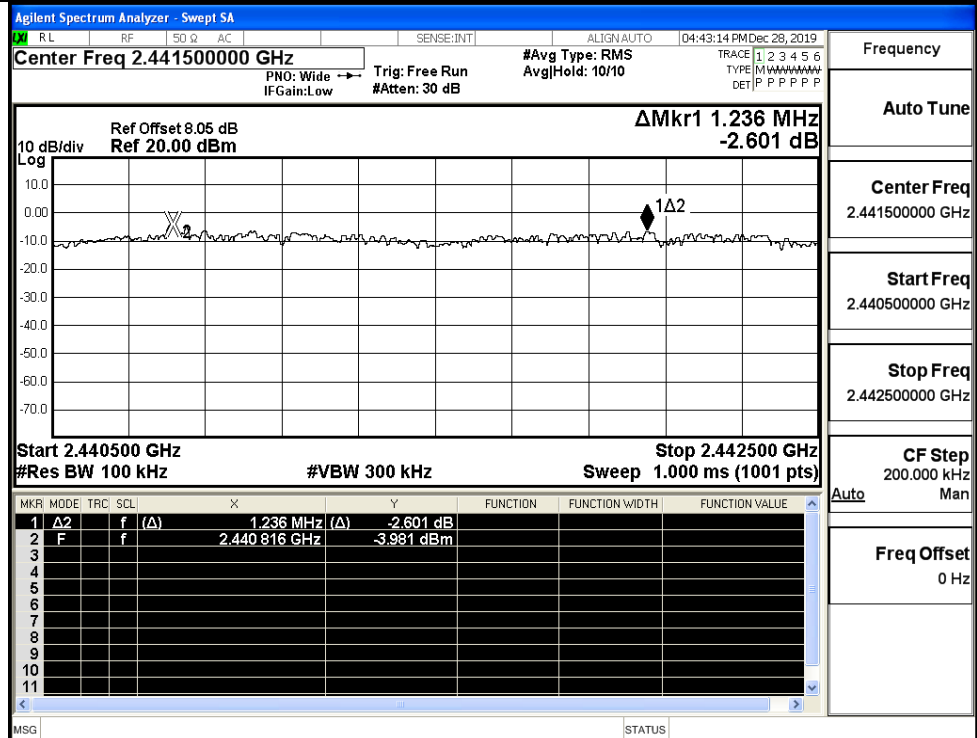


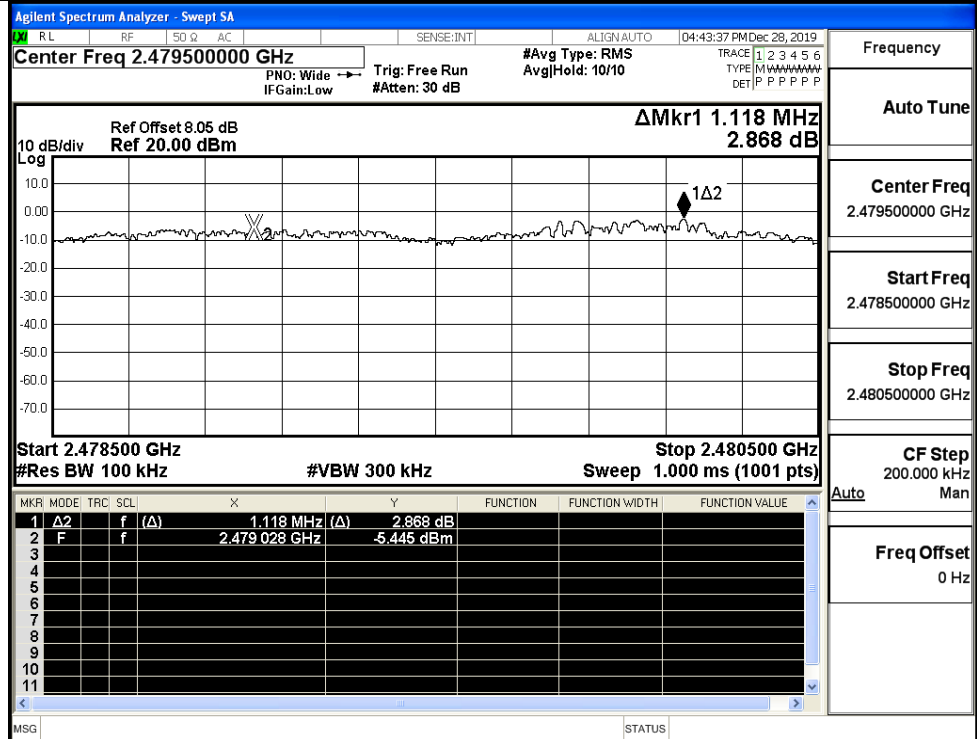
GFSK/MCH



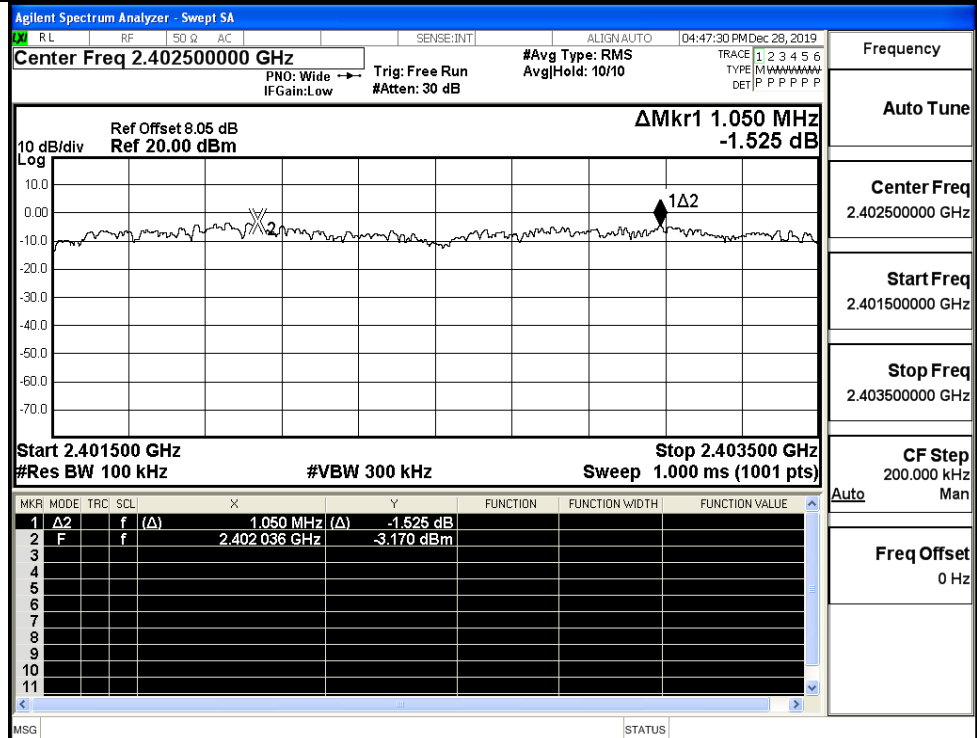
GFSK/HCH



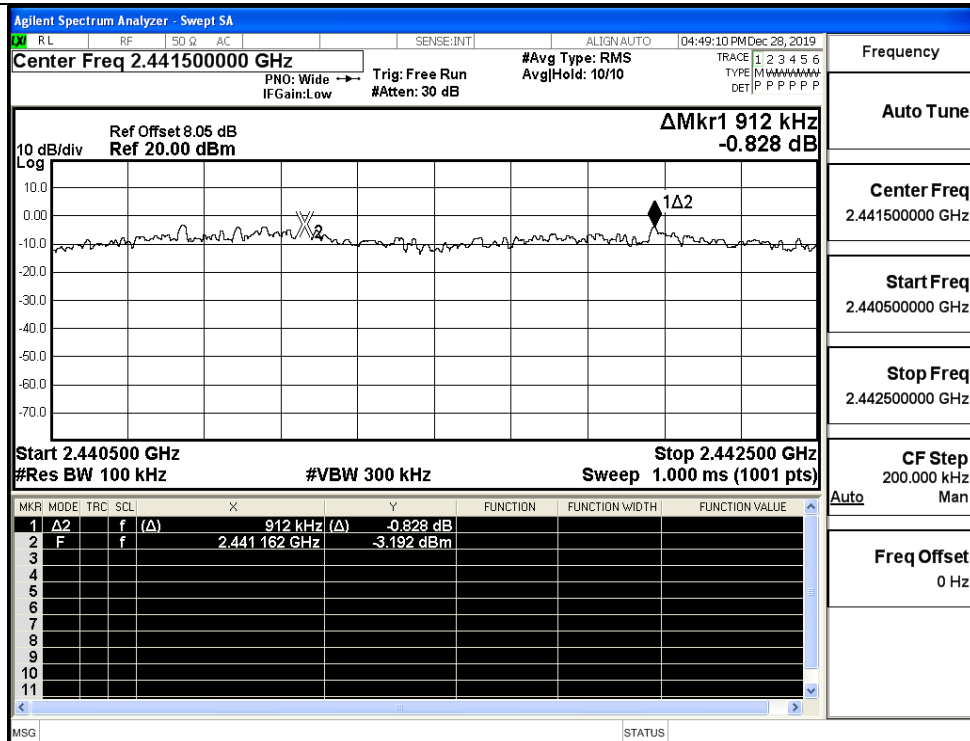
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

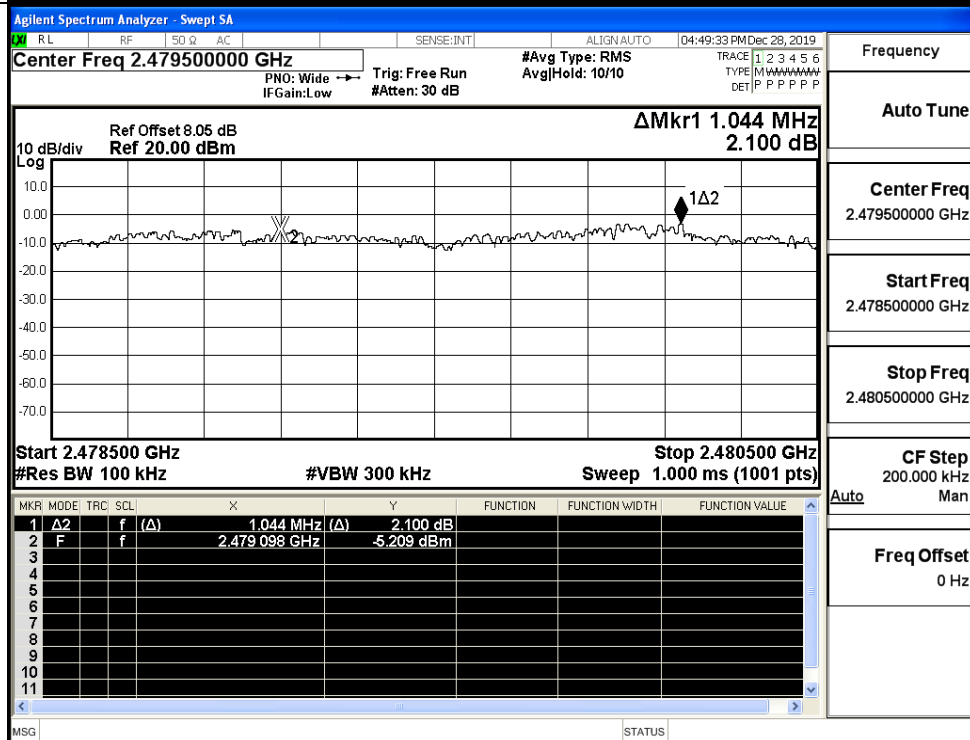
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

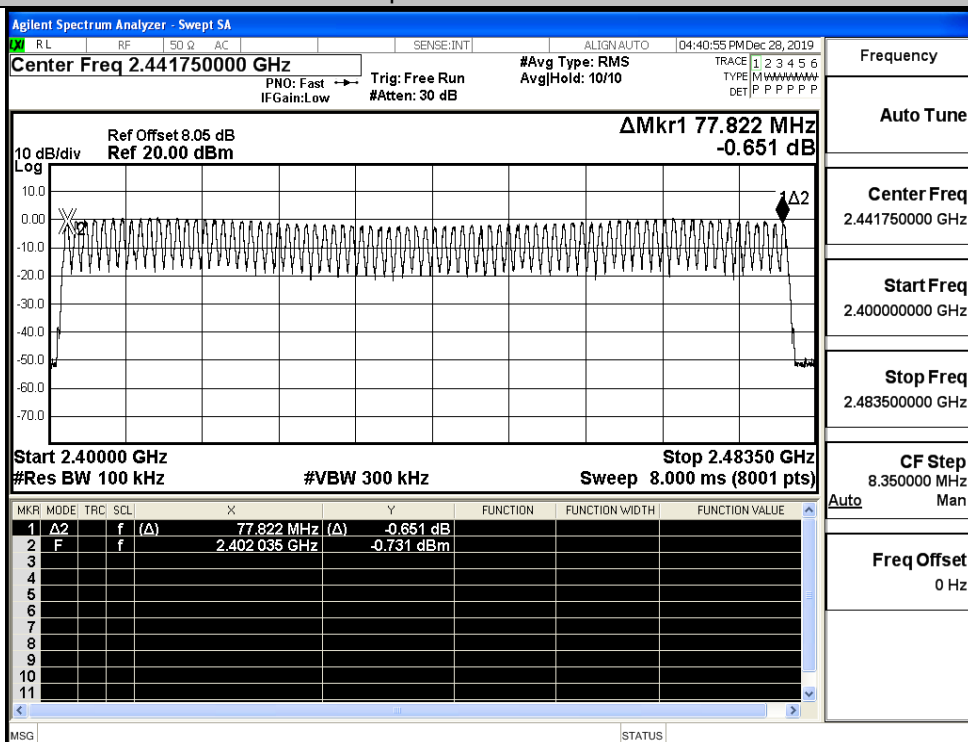


A.4 Hopping Channel Number

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

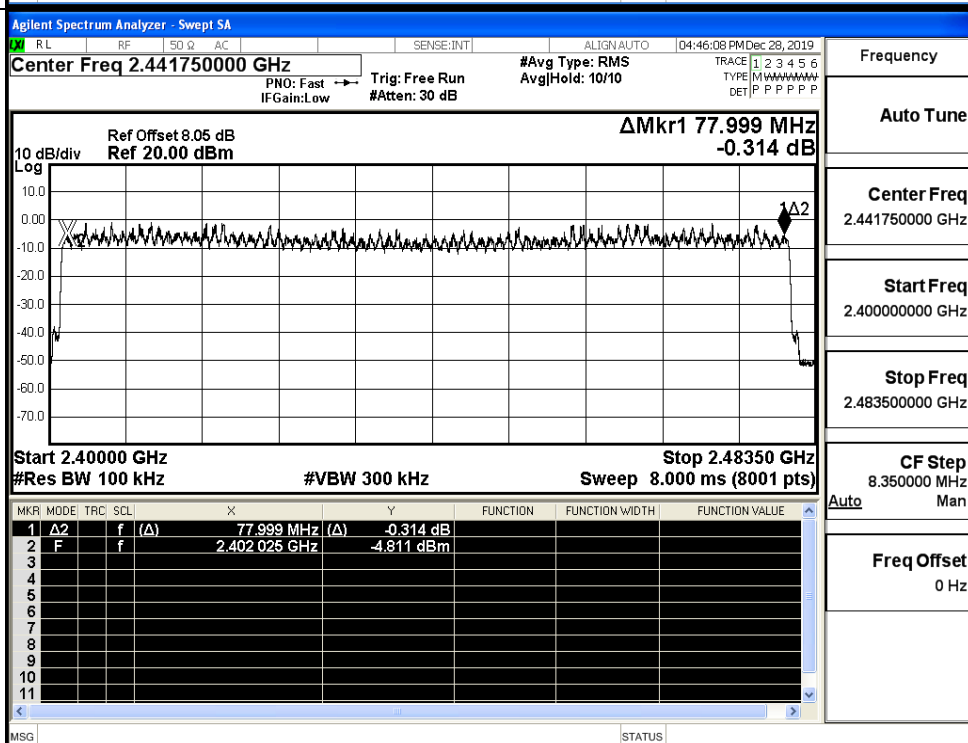
Test Graphs

GFSK/Hop



Frequency

Auto Tune

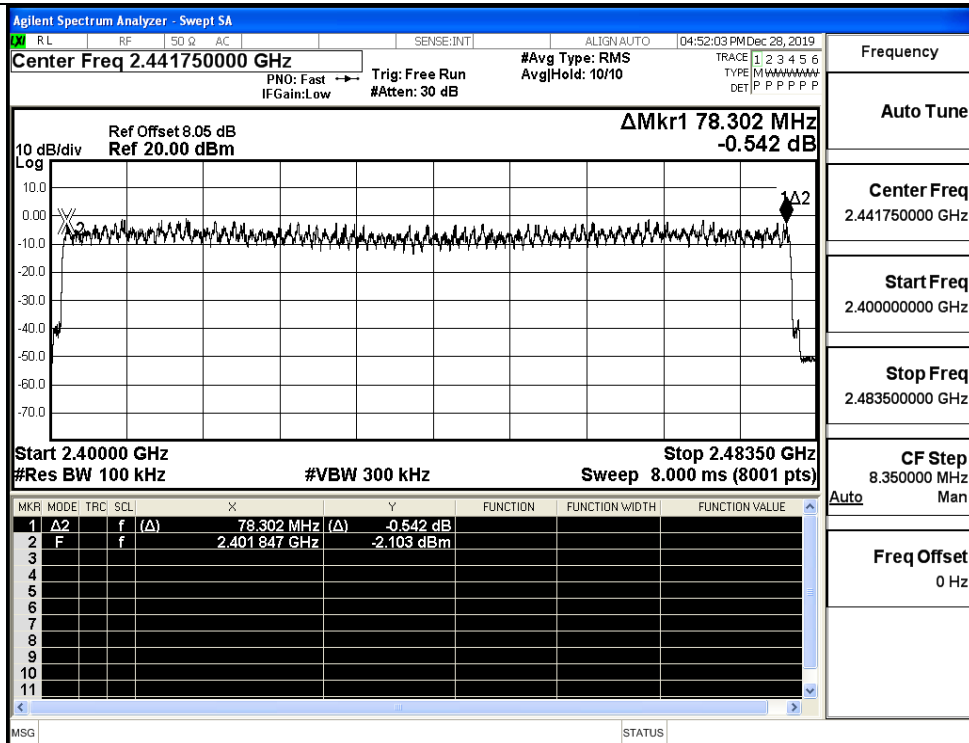
Center Freq
2.441750000 GHzStart Freq
2.400000000 GHzStop Freq
2.483500000 GHzCF Step
8.350000 MHz
ManFreq Offset
0 Hz $\pi/4$ DQPSK/Hop

Frequency

Auto Tune

Center Freq
2.441750000 GHzStart Freq
2.400000000 GHzStop Freq
2.483500000 GHzCF Step
8.350000 MHz
ManFreq Offset
0 Hz

8DPSK/Hop

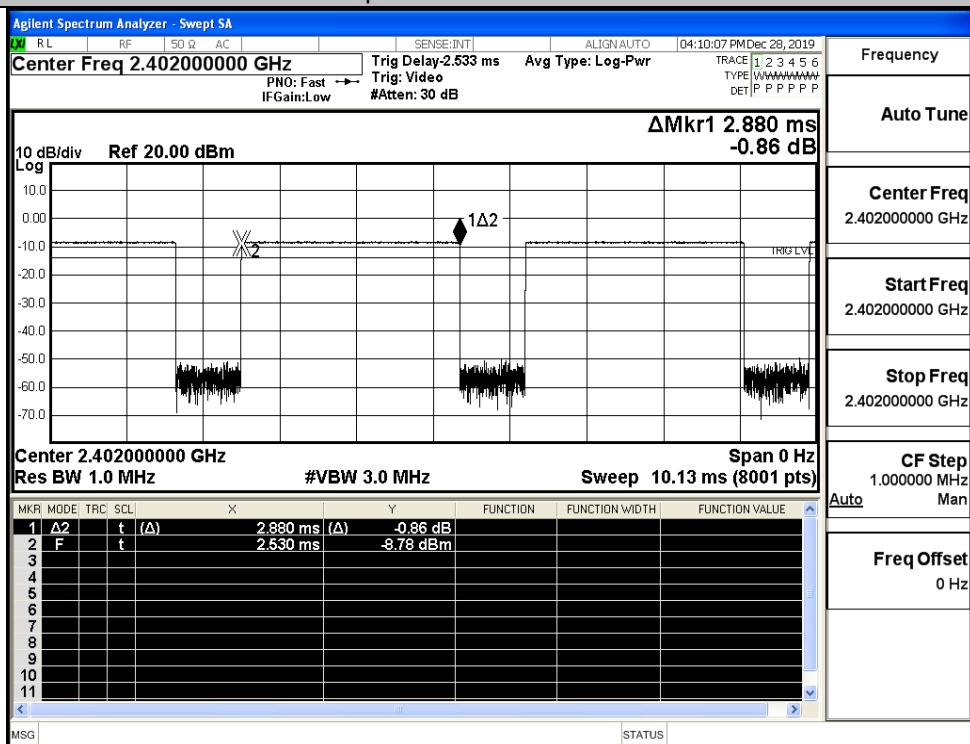


A.5 Dwell Time

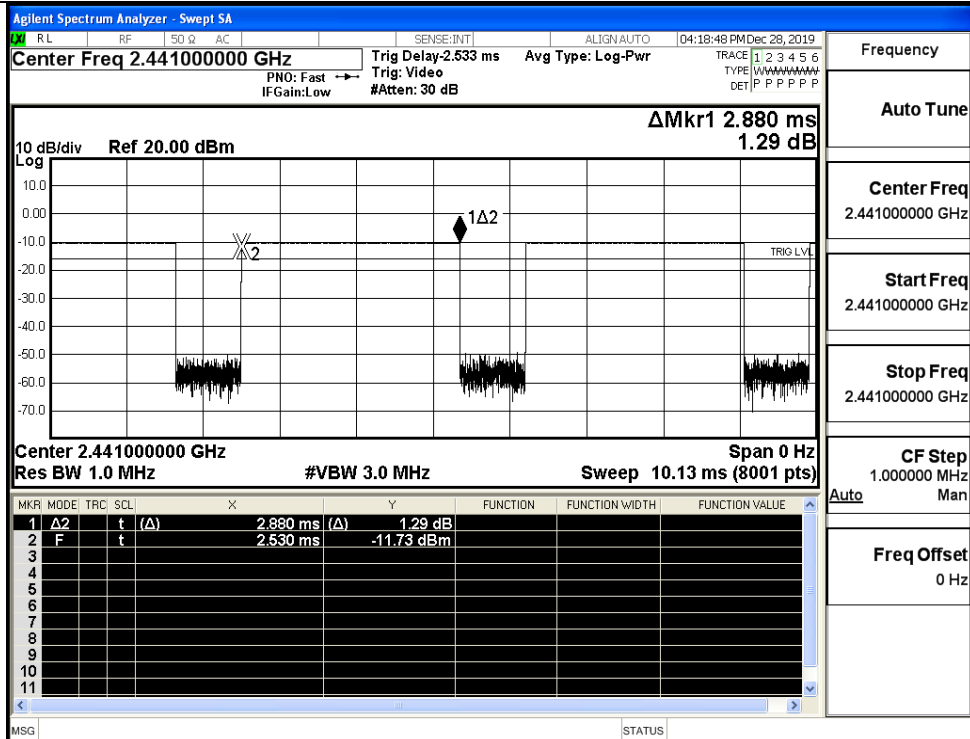
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88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

Test Graphs

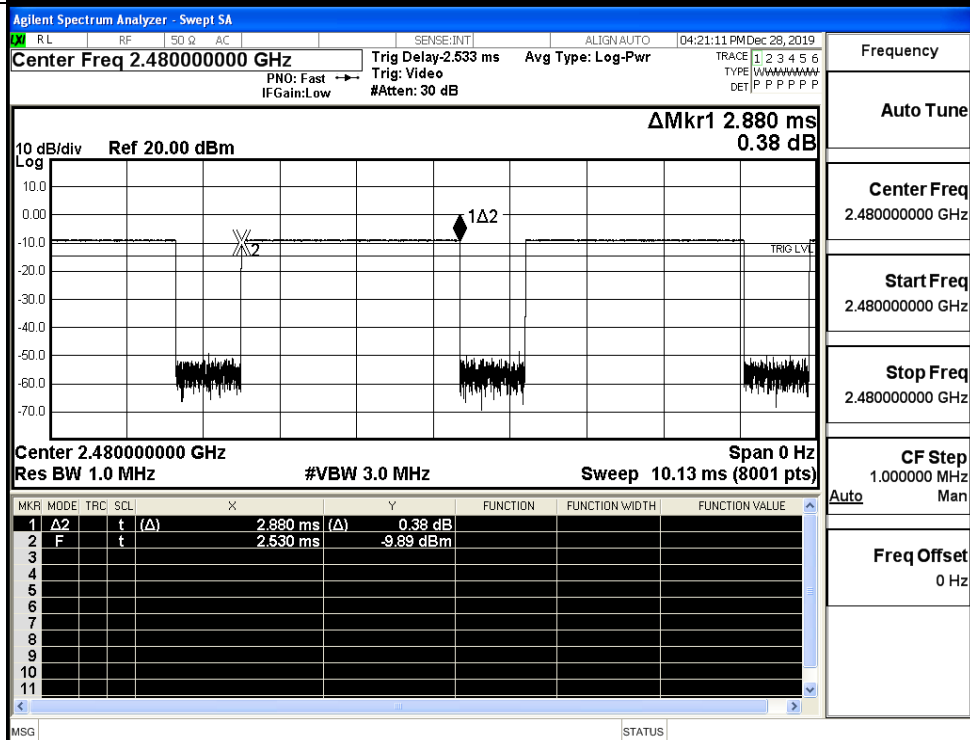
GFSK_DH5/LCH



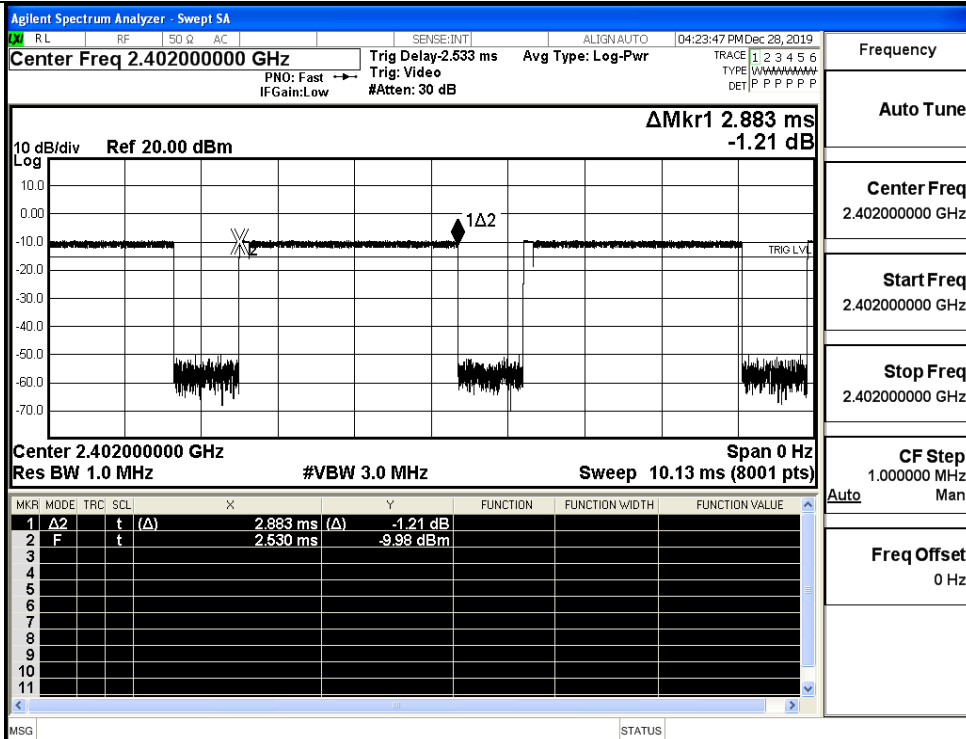
GFSK_DH5/MCH



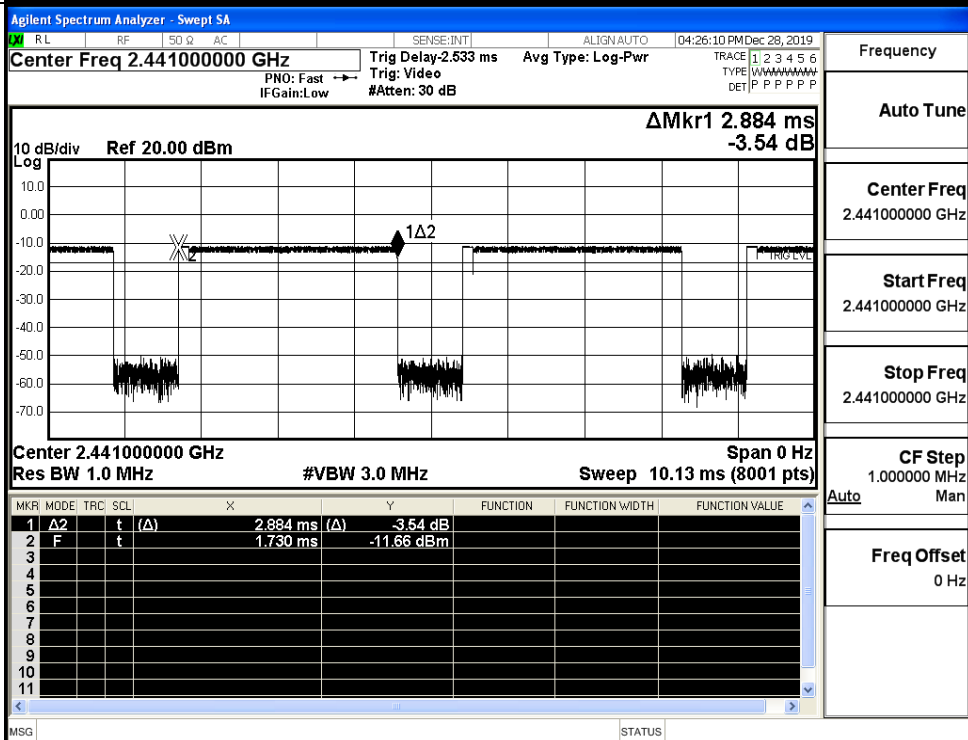
GFSK_DH5/HCH



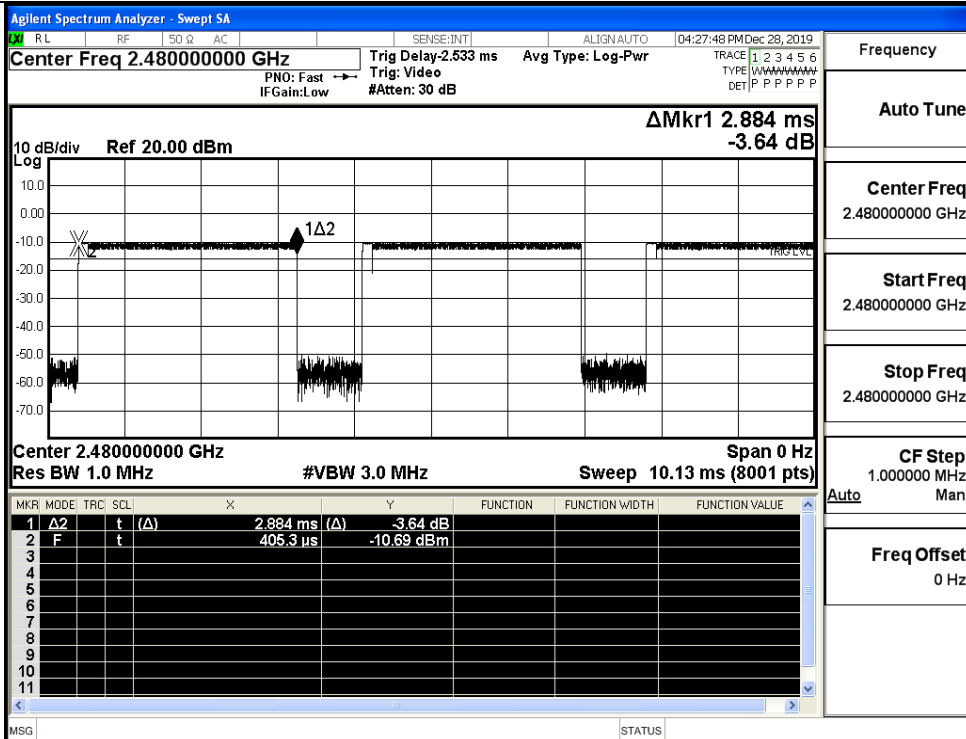
$\pi/4$ DQPSK
_2DH5/LCH



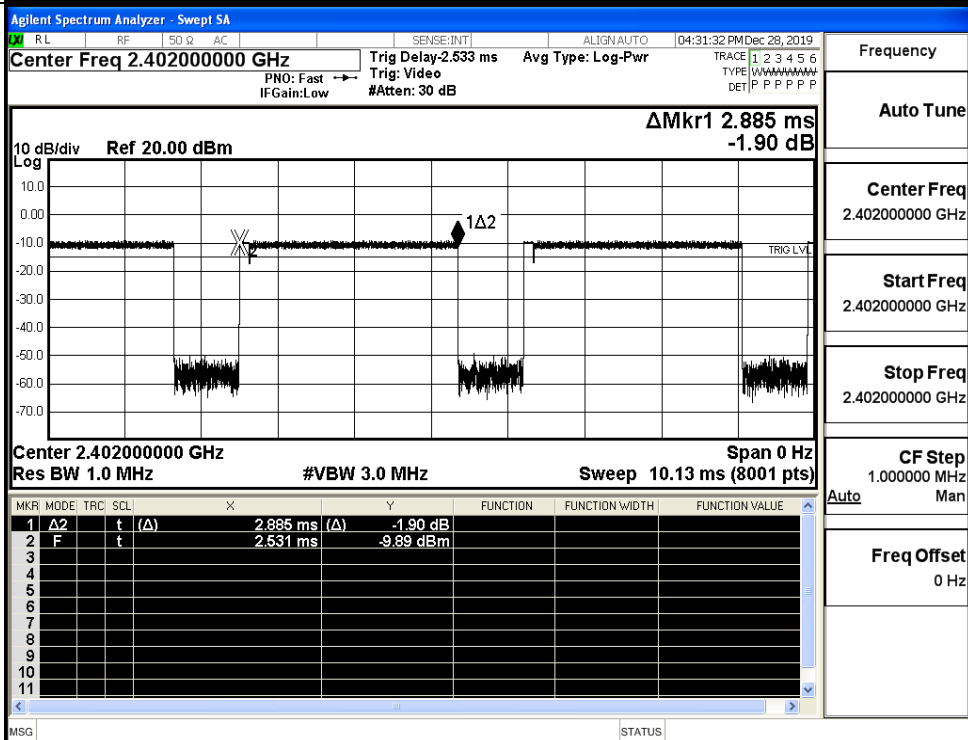
$\pi/4$ DQPSK
_2DH5/MCH



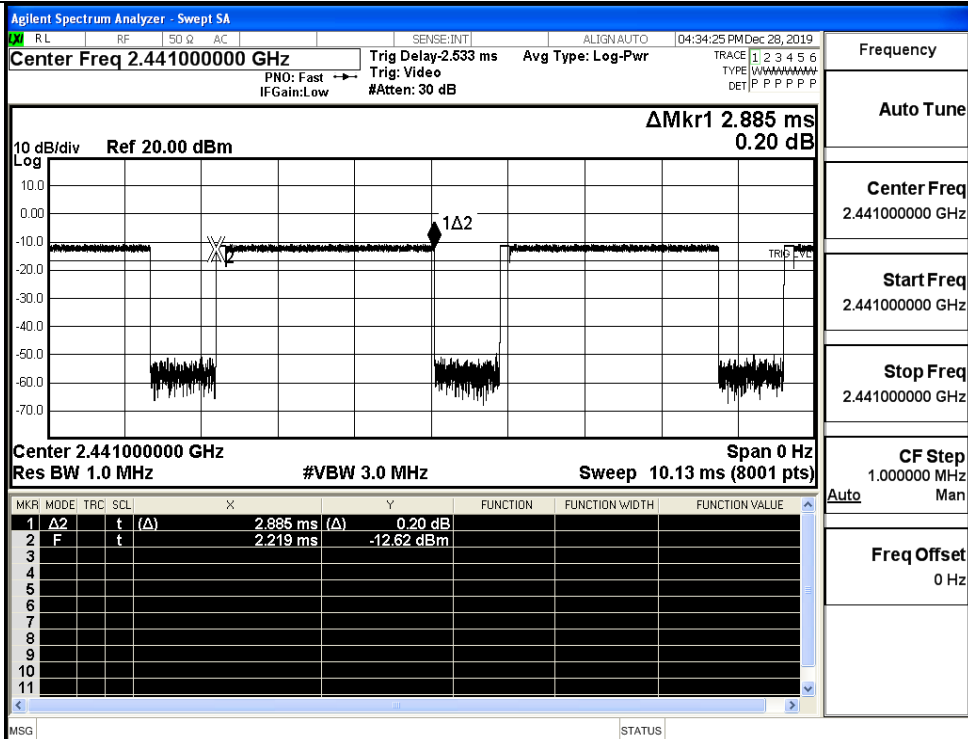
$\pi/4$ DQPSK
_2DH5/HCH



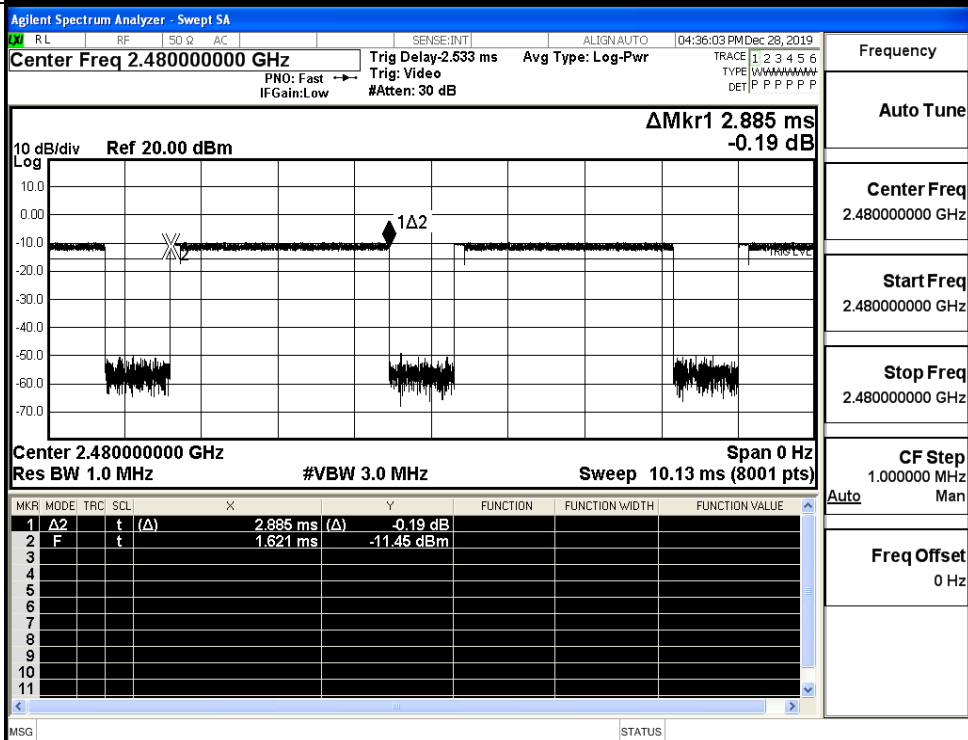
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



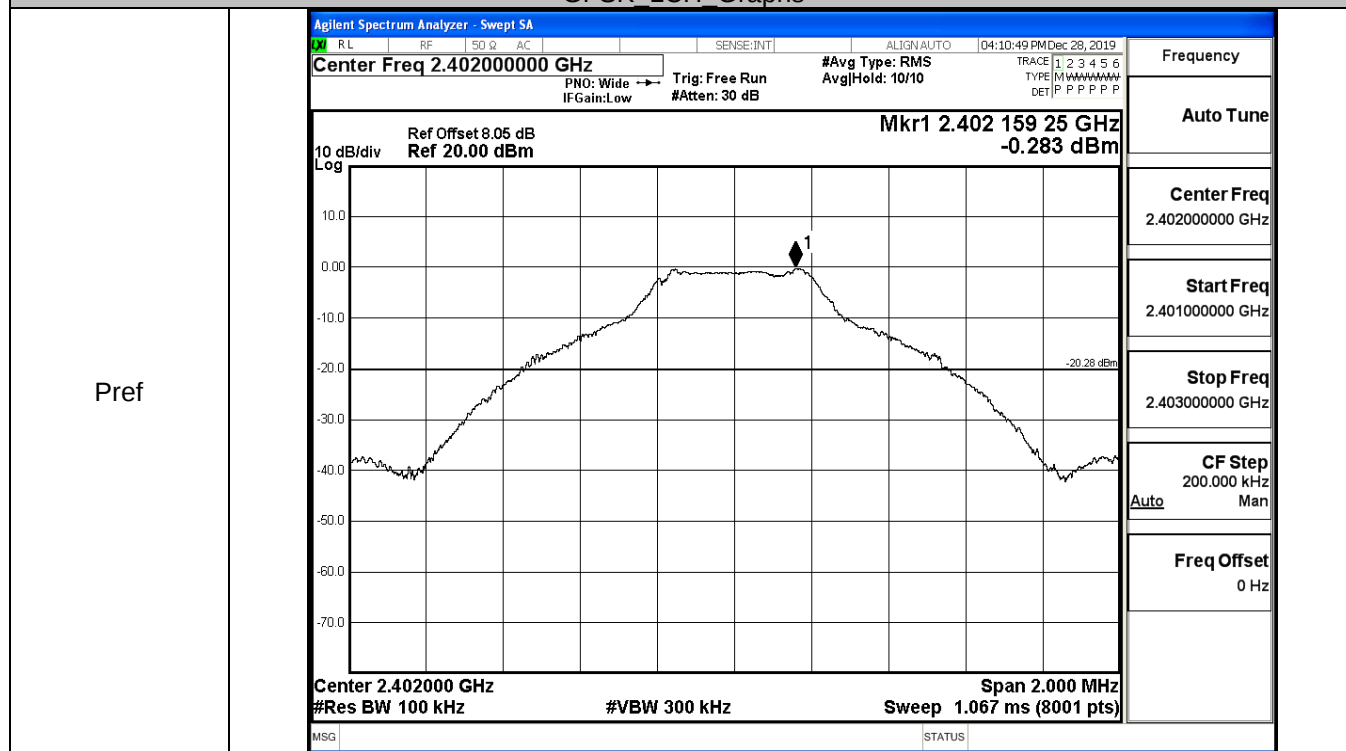
8DPSK_3DH5/HCH



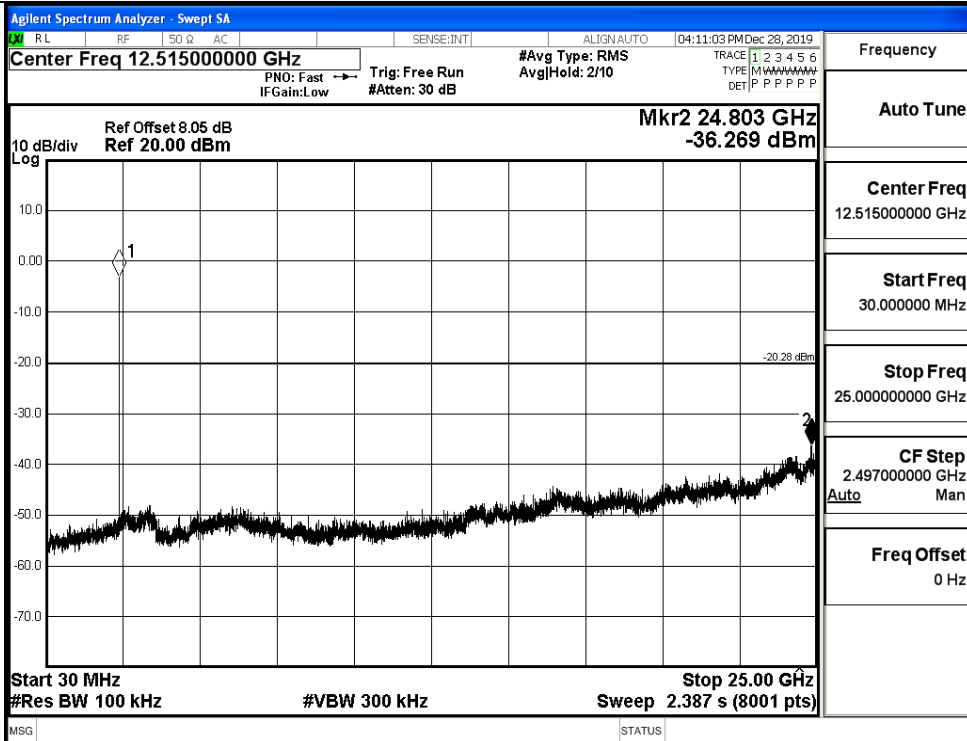
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.283	-36.269	-20.283	PASS
	MCH	-2.11	-37.507	-22.110	PASS
	HCH	-0.989	-37.854	-20.989	PASS
$\pi/4$ DQPSK	LCH	-1.702	-38.120	-21.702	PASS
	MCH	-3.248	-37.325	-23.248	PASS
	HCH	-2.547	-38.094	-22.547	PASS
8DPSK	LCH	-1.64	-37.914	-21.640	PASS
	MCH	-3.277	-37.939	-23.277	PASS
	HCH	-2.314	-38.051	-22.314	PASS

GFSK LCH Graphs

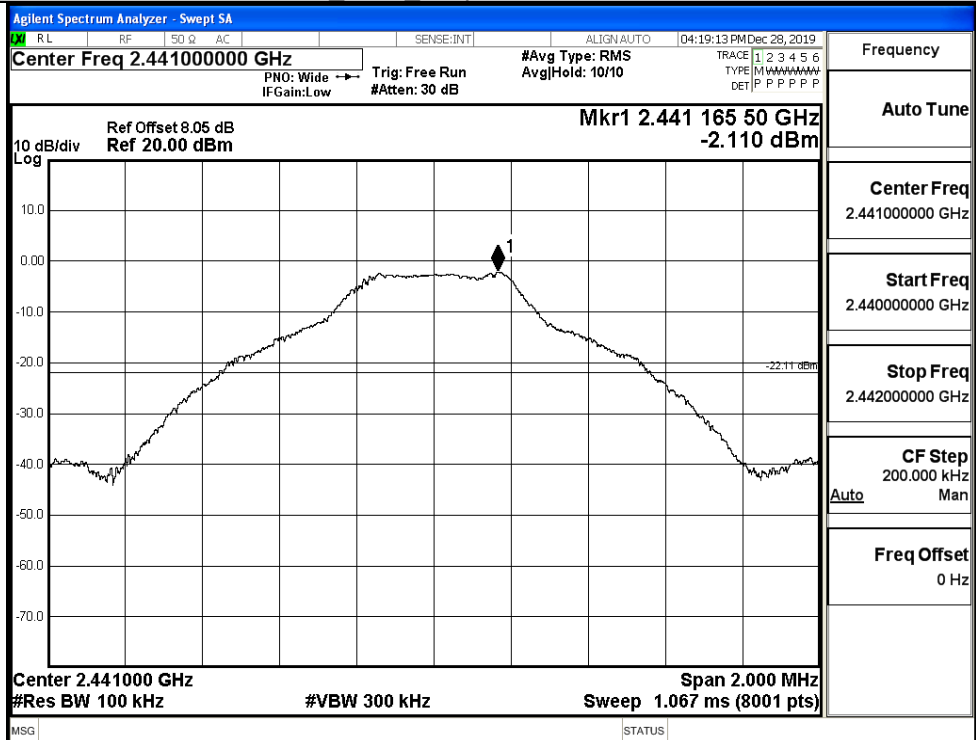


Puw

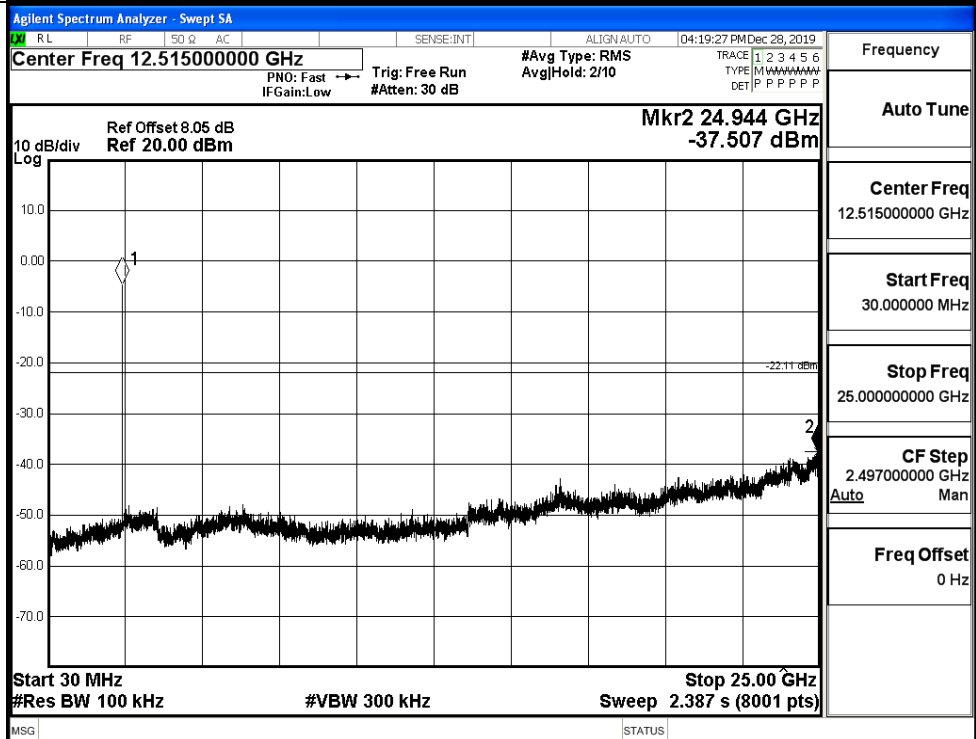


GFSK_MCH_Graphs

Pref

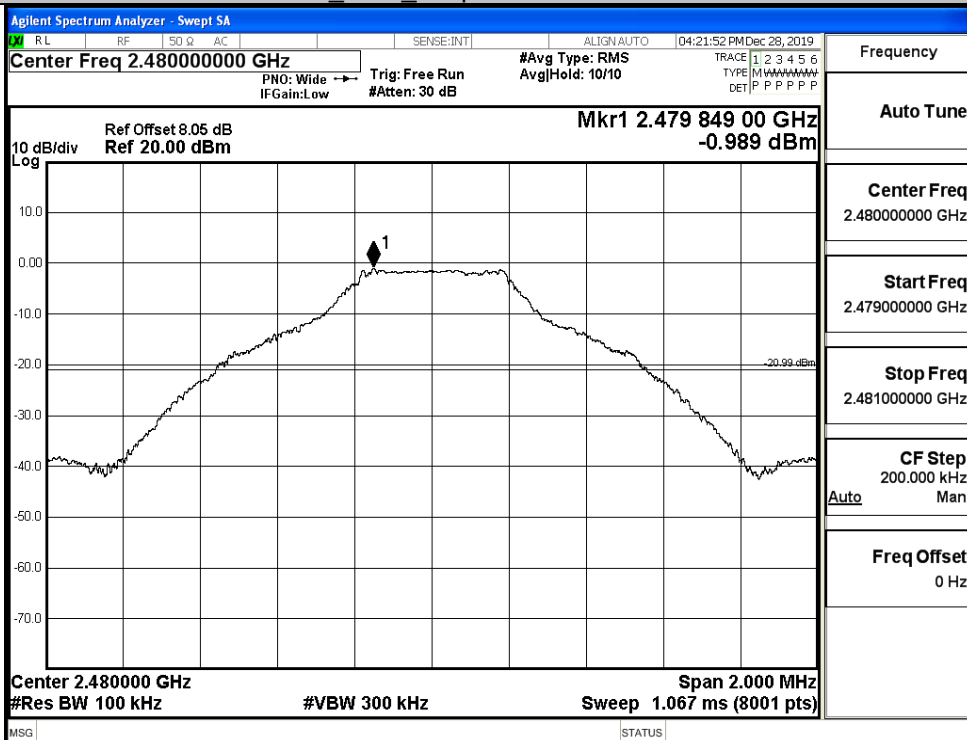


Puw

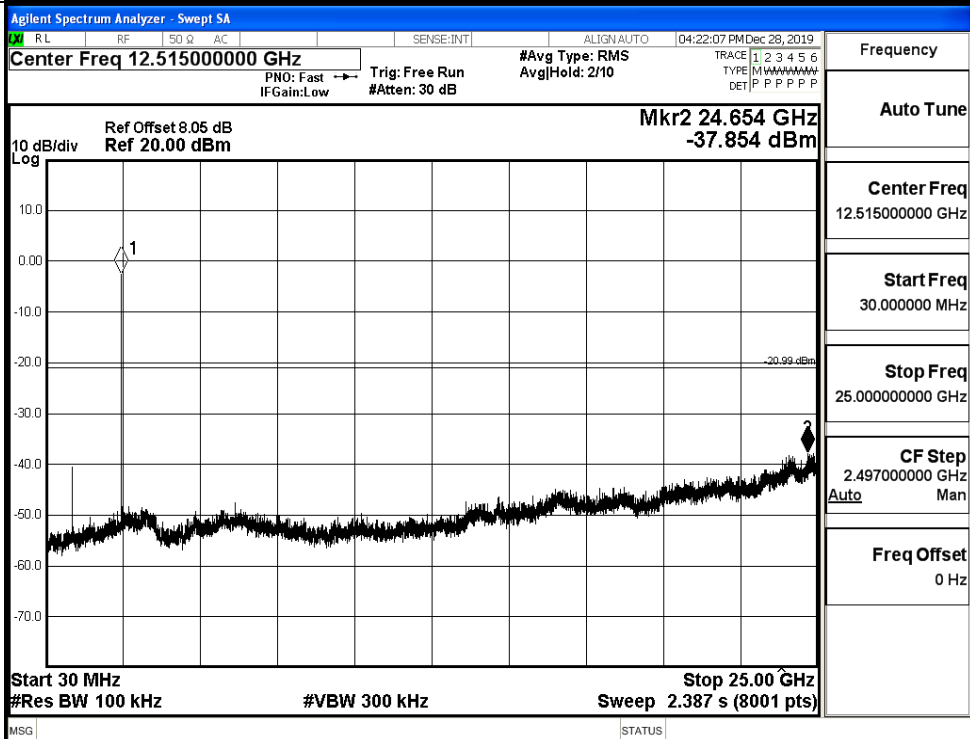


GFSK HCH_Graphs

Pref

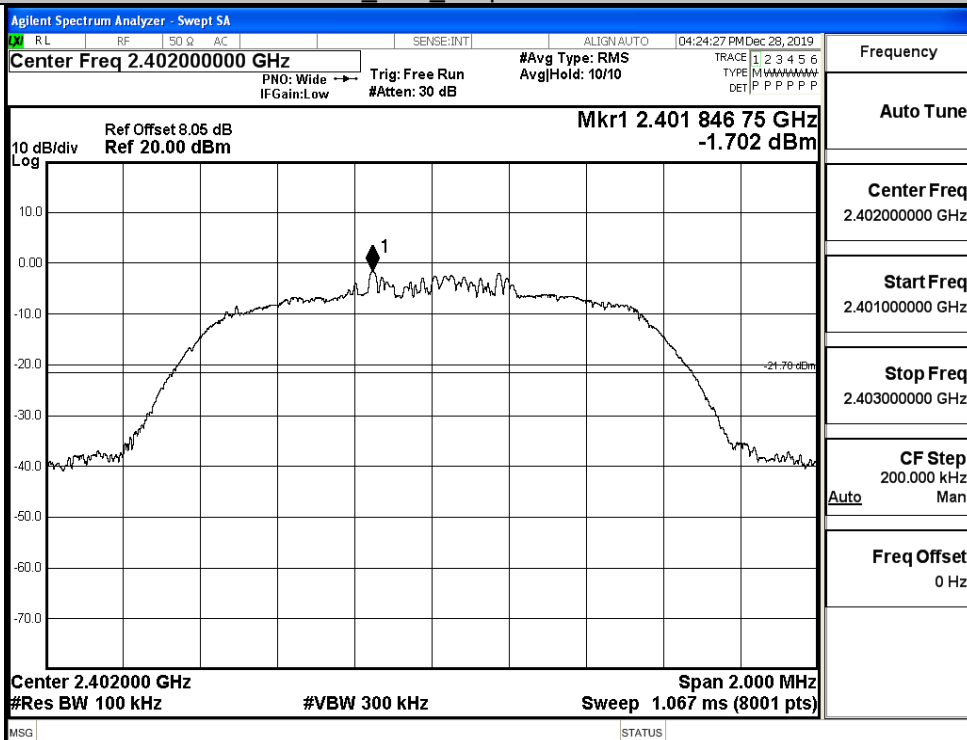


Puw

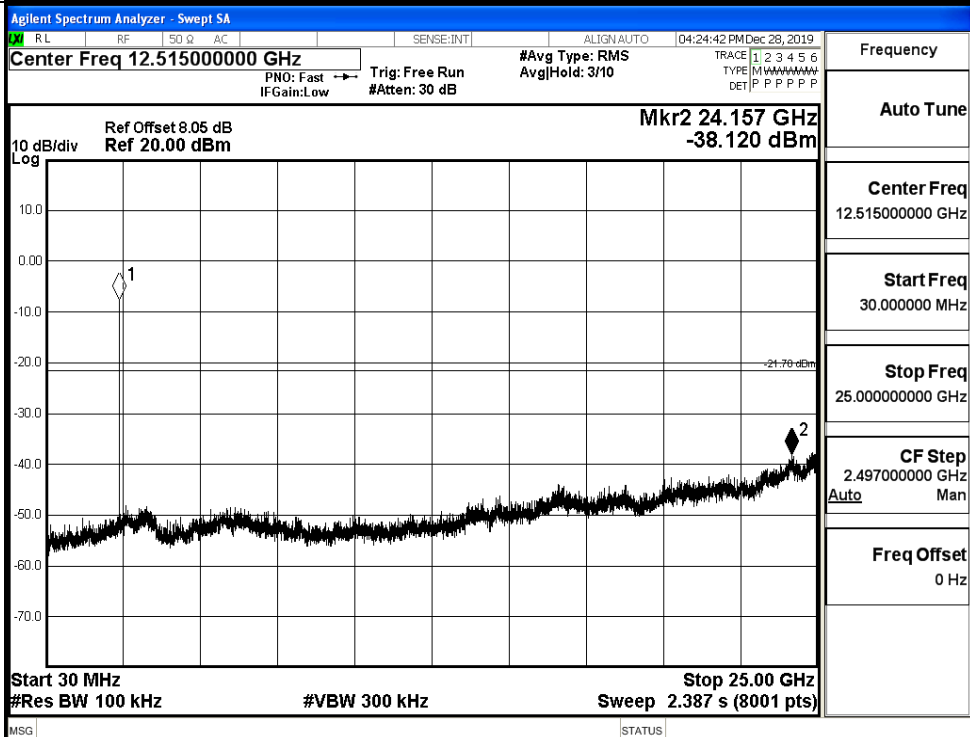


$\pi/4$ DQPSK_LCH_Graphs

Pref

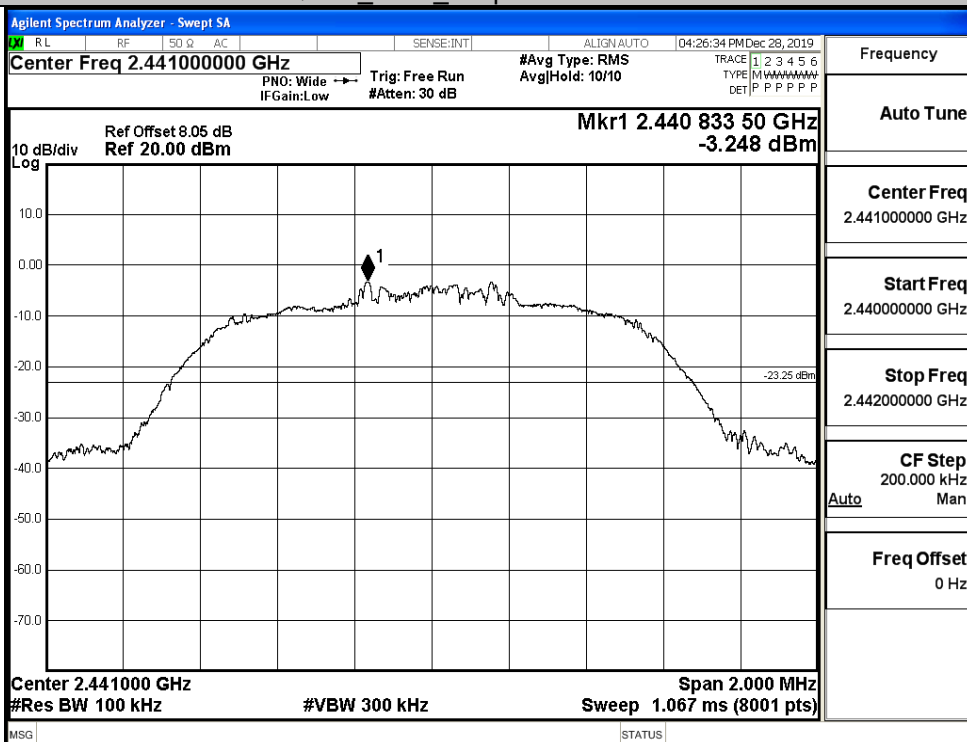


Puw

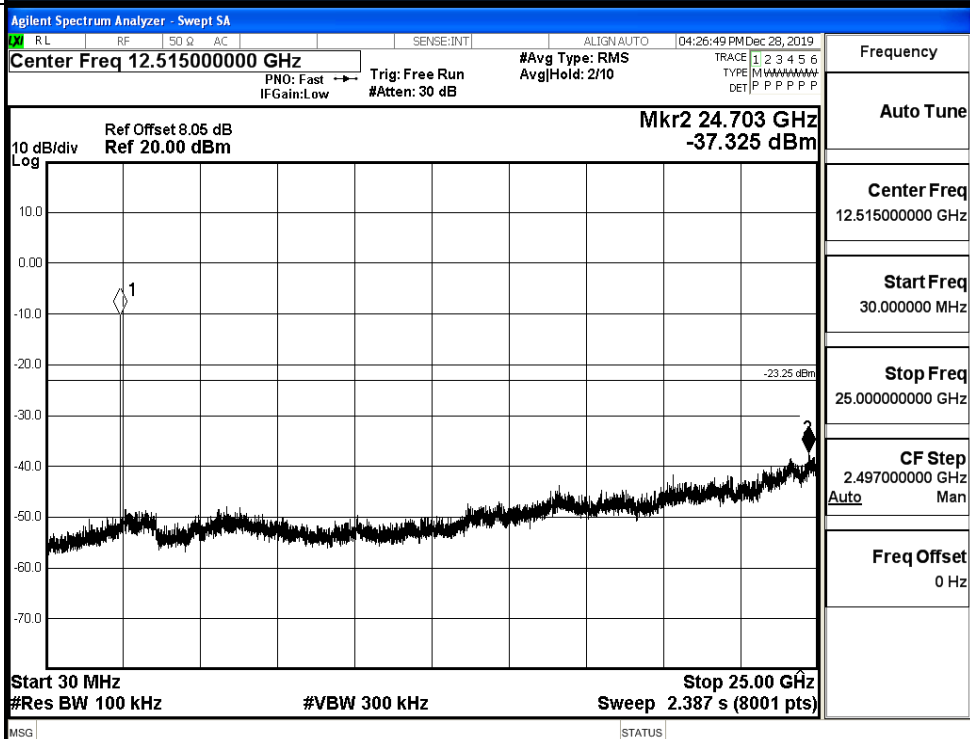


π /4DQPSK_MCH_Graphs

Pref

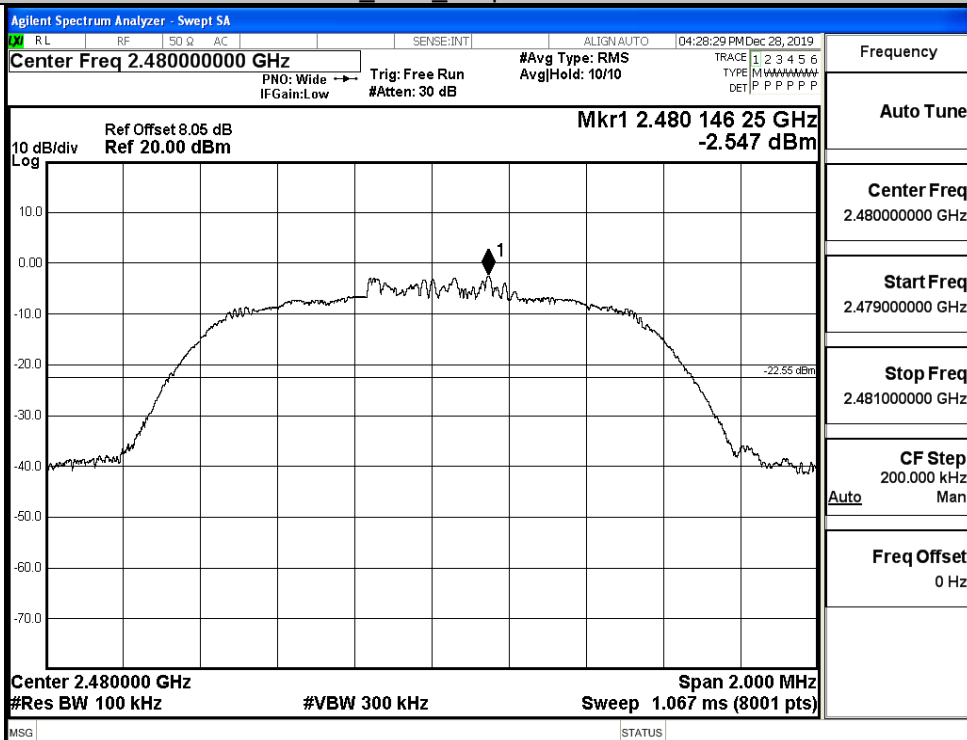


Puw

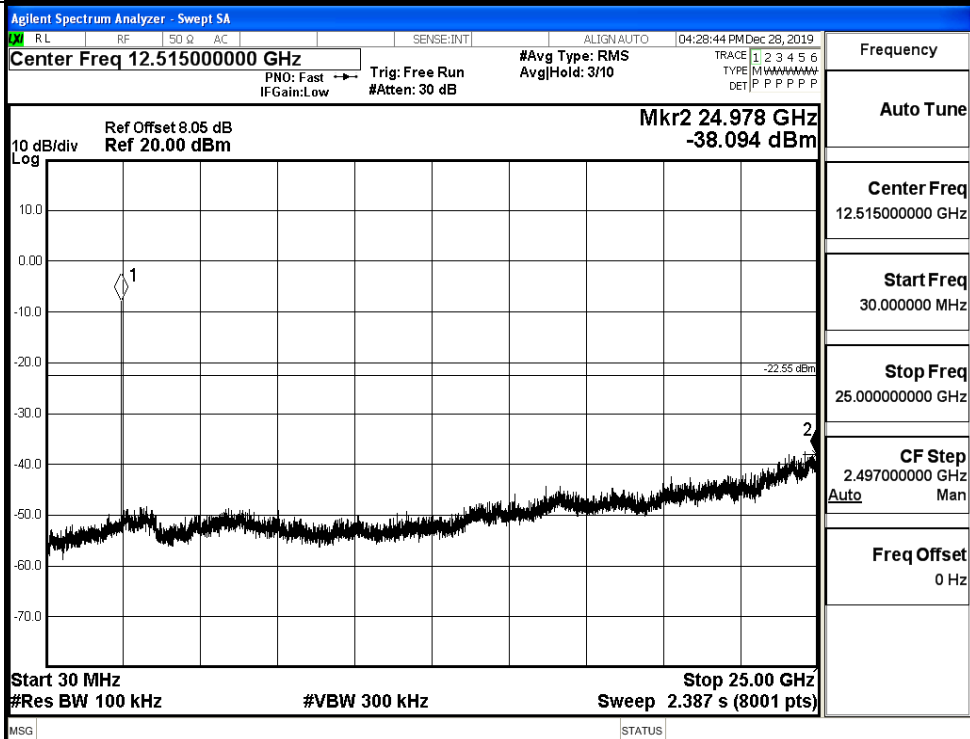


π /4DQPSK_HCH_Graphs

Pref

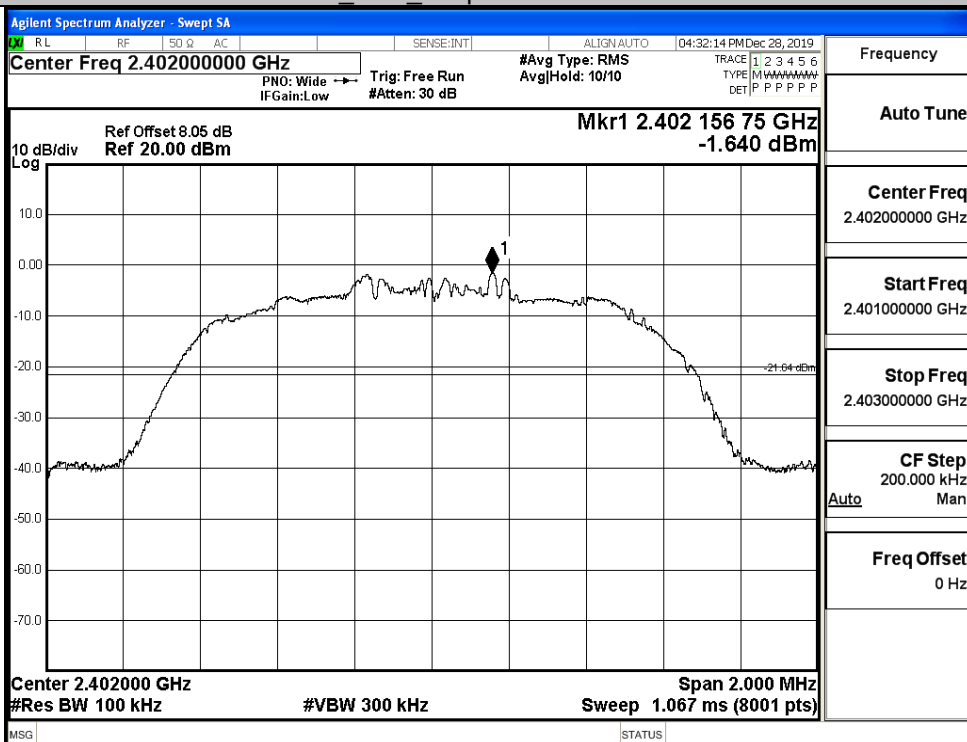


Puw

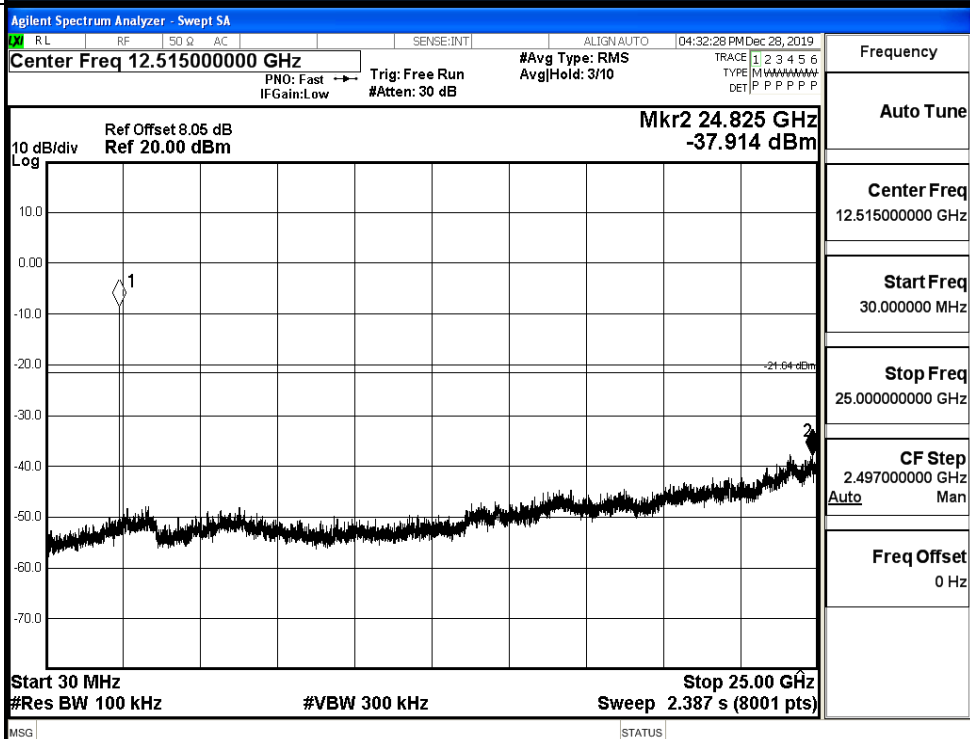


8DPSK_LCH_Graphs

Pref

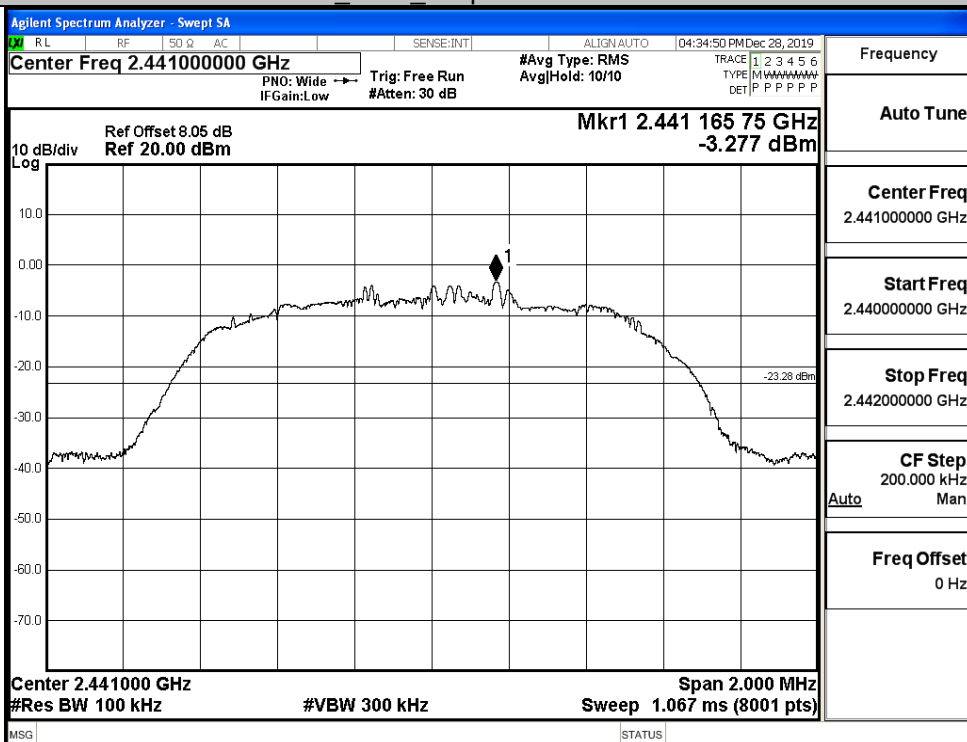


Puw

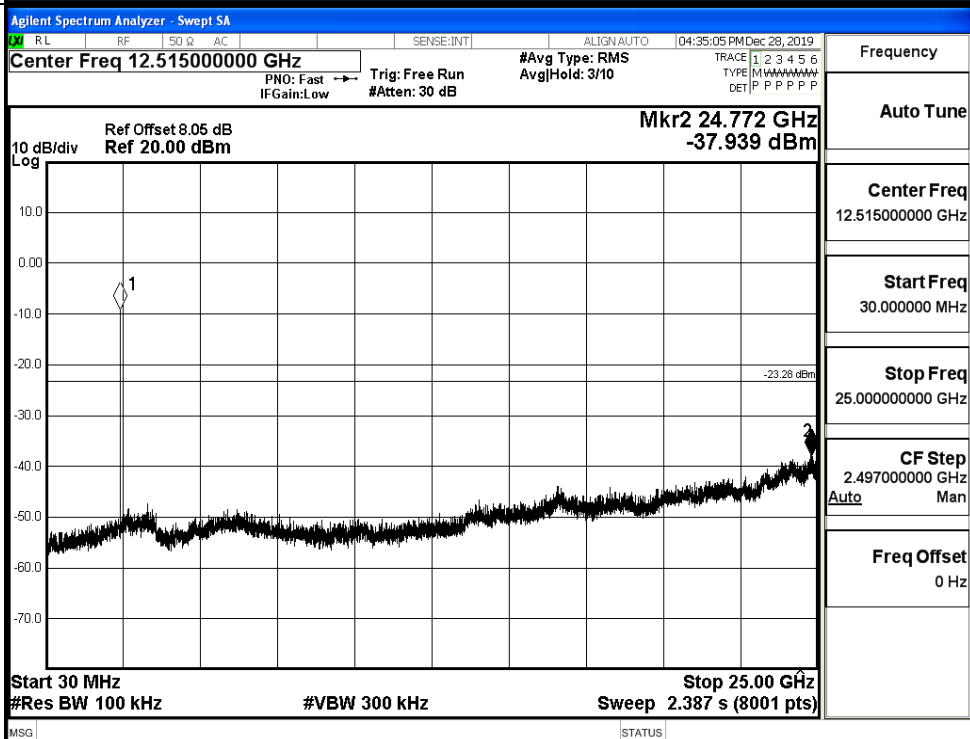


8DPSK_MCH_Graphs

Pref

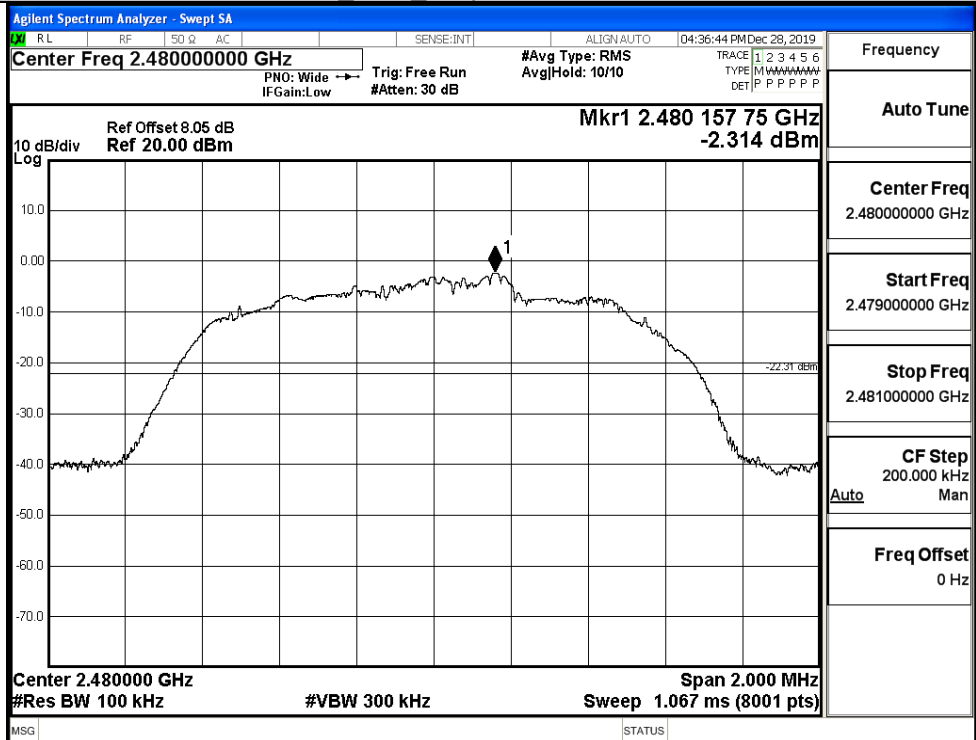


Puw



8DPSK_HCH_Graphs

Pref



Puw

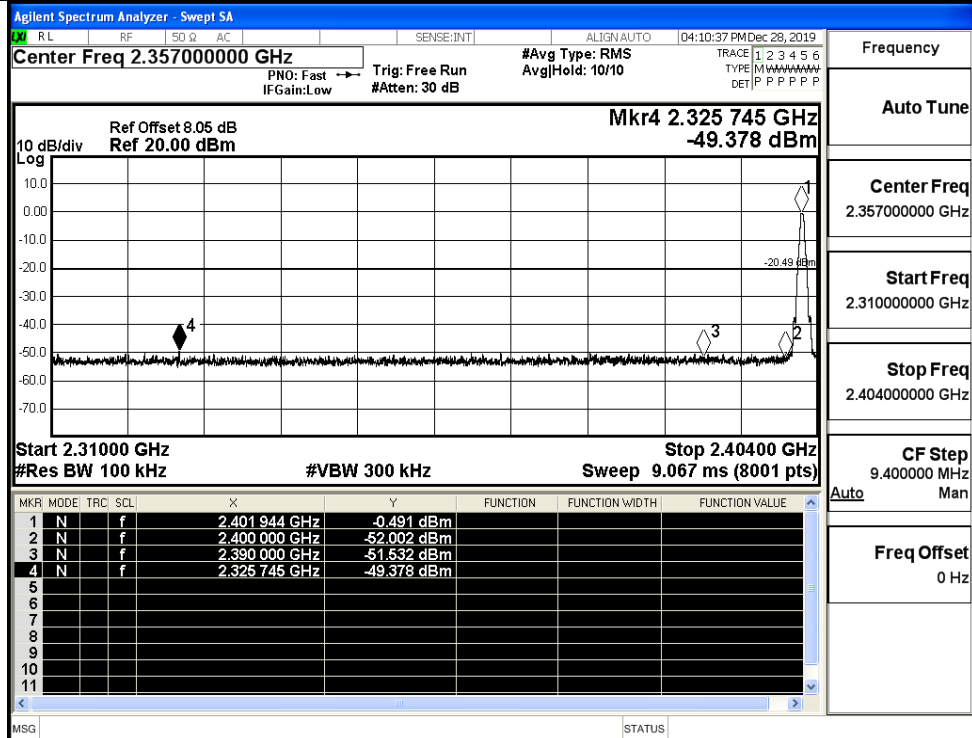


A.7 Band-edge for RF Conducted Emissions

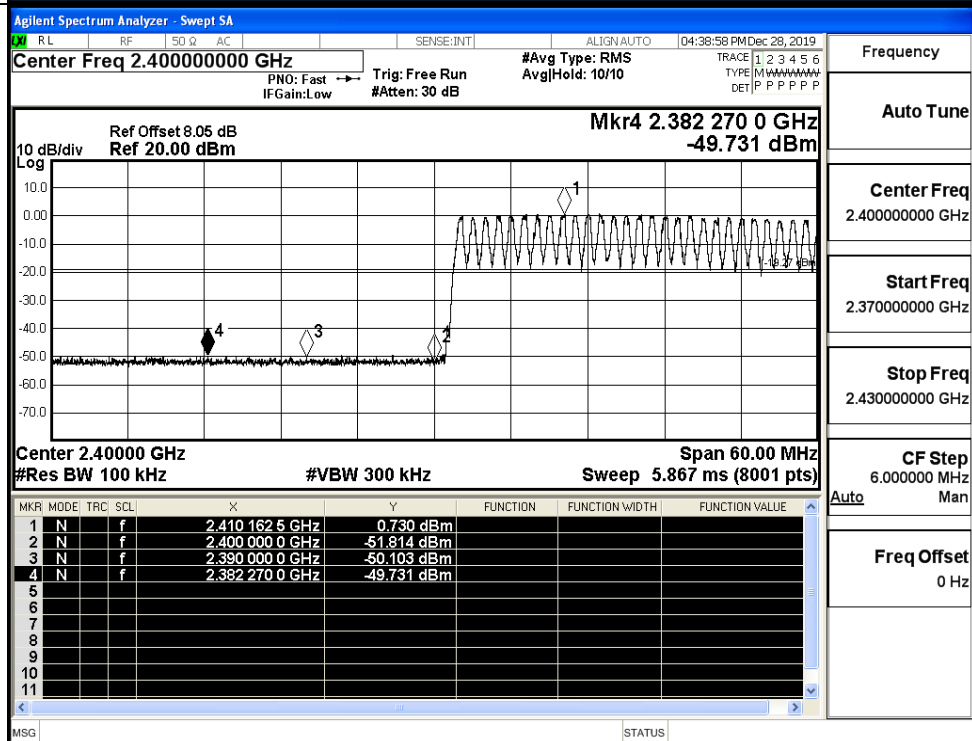
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-0.491	Off	-49.378	-20.49	PASS
			0.730	On	-49.731	-19.27	PASS
	HCH	2480	-0.894	Off	-49.305	-20.89	PASS
			0.363	On	-48.410	-19.64	PASS
$\pi/4$ DQPSK	LCH	2402	-1.921	Off	-49.848	-21.92	PASS
			-0.977	On	-48.704	-20.98	PASS
	HCH	2480	-2.115	Off	-49.313	-22.12	PASS
			-1.169	On	-48.738	-21.17	PASS
8DPSK	LCH	2402	-1.831	Off	-49.448	-21.83	PASS
			-0.798	On	-49.480	-20.8	PASS
	HCH	2480	-2.348	Off	-48.000	-22.35	PASS
			-1.288	On	-48.784	-21.29	PASS

Test Graphs

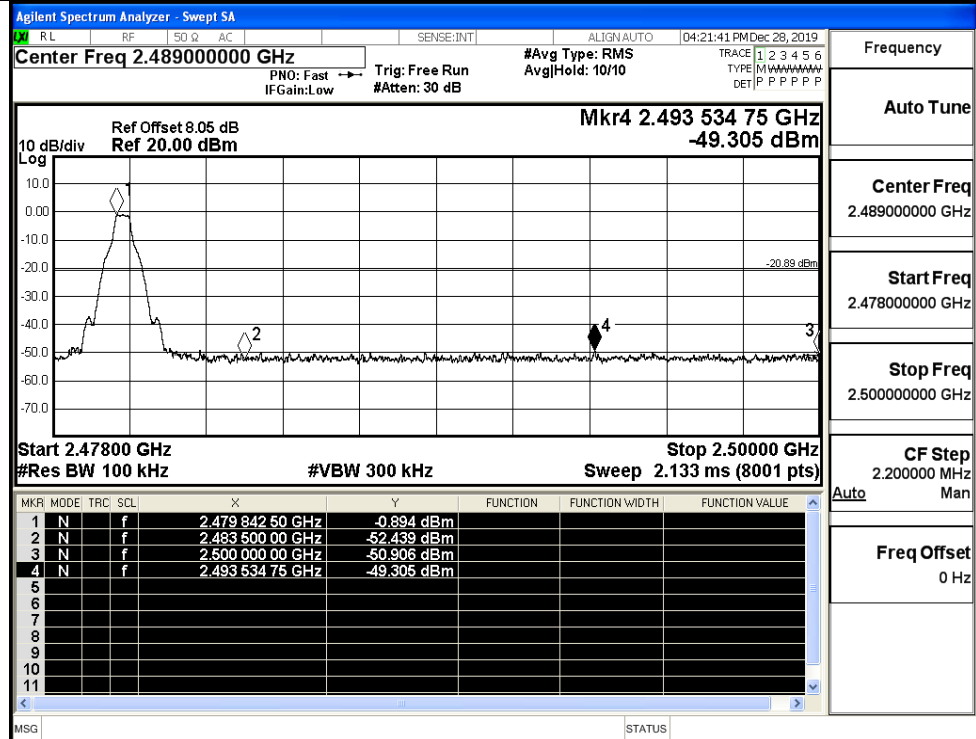
GFSK/LCH/No Hop



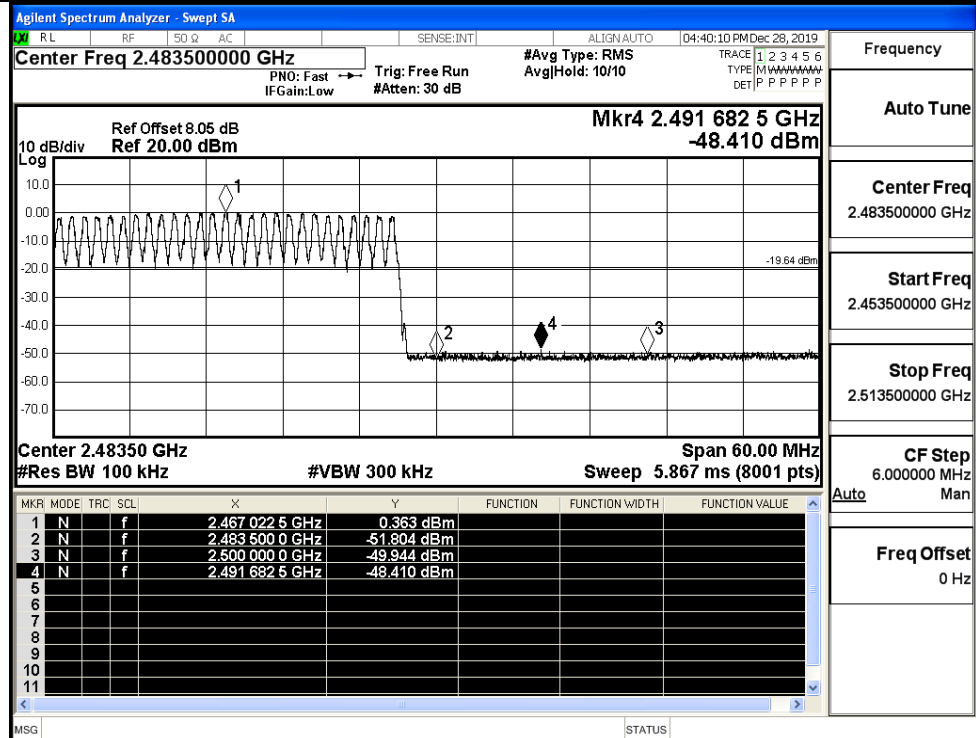
GFSK/LCH/Hop



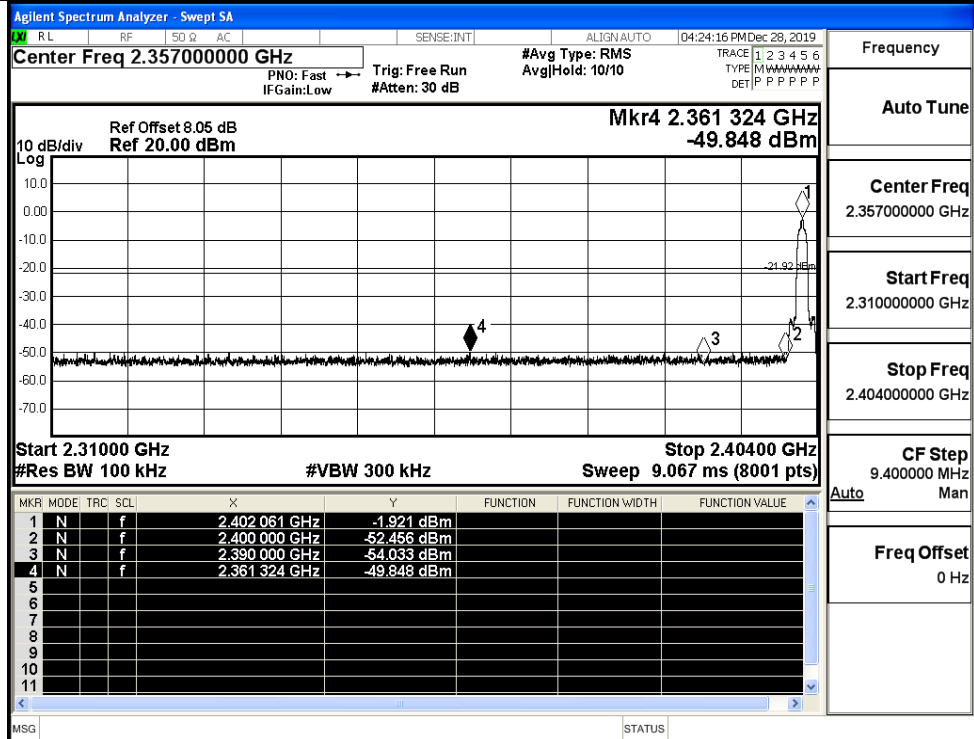
GFSK/HCH/No Hop



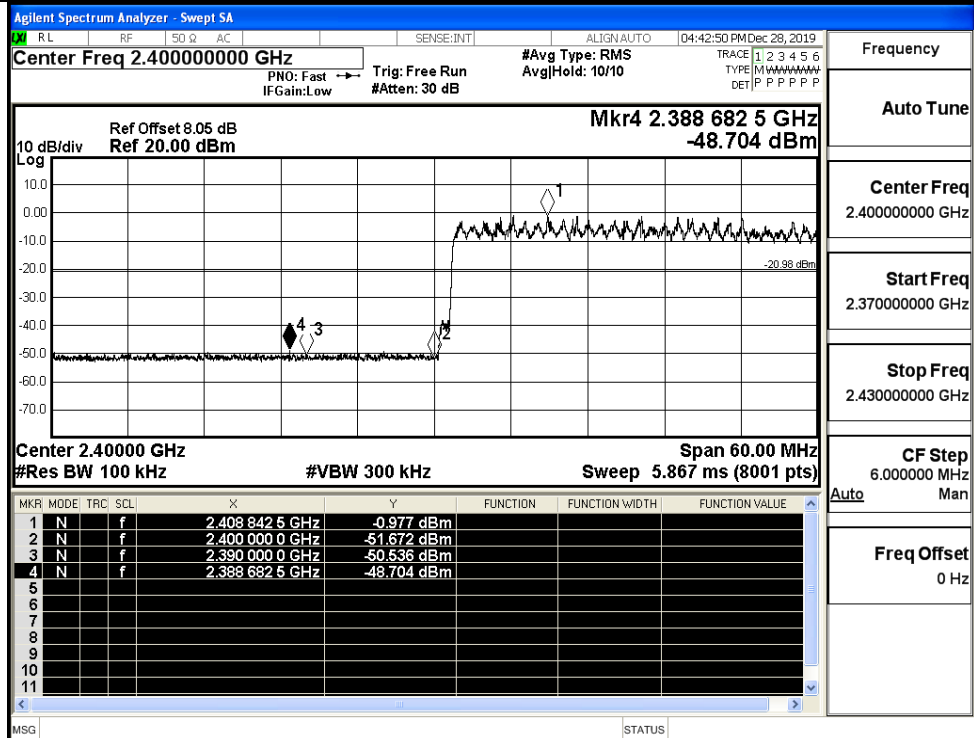
GFSK/HCH/Hop



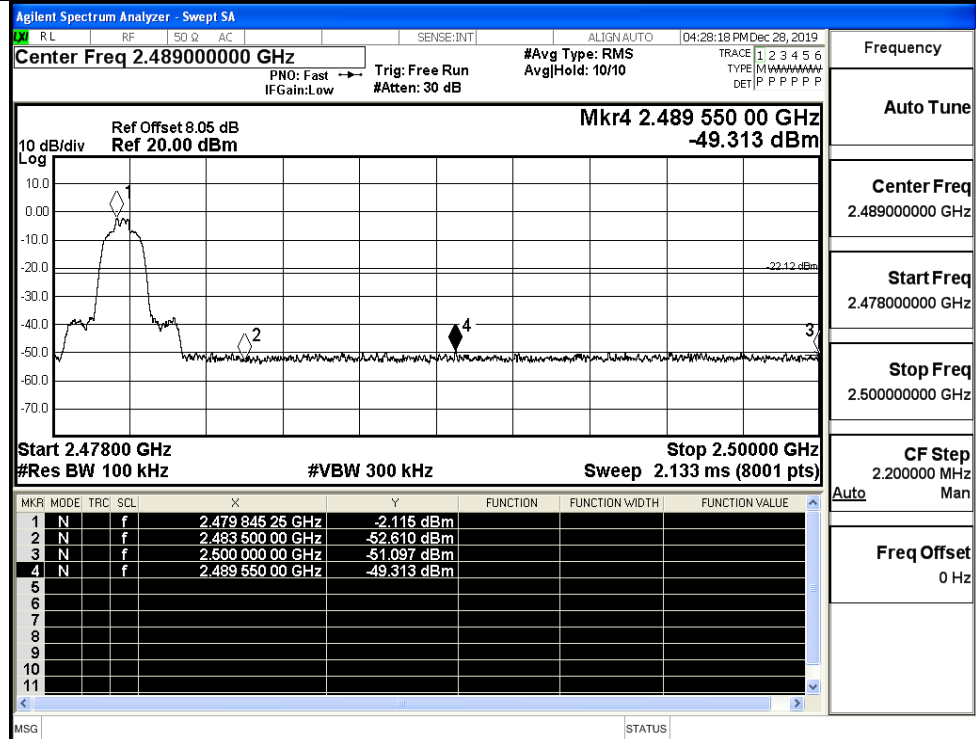
$\pi/4$ DQPSK/LCH/No
Hop



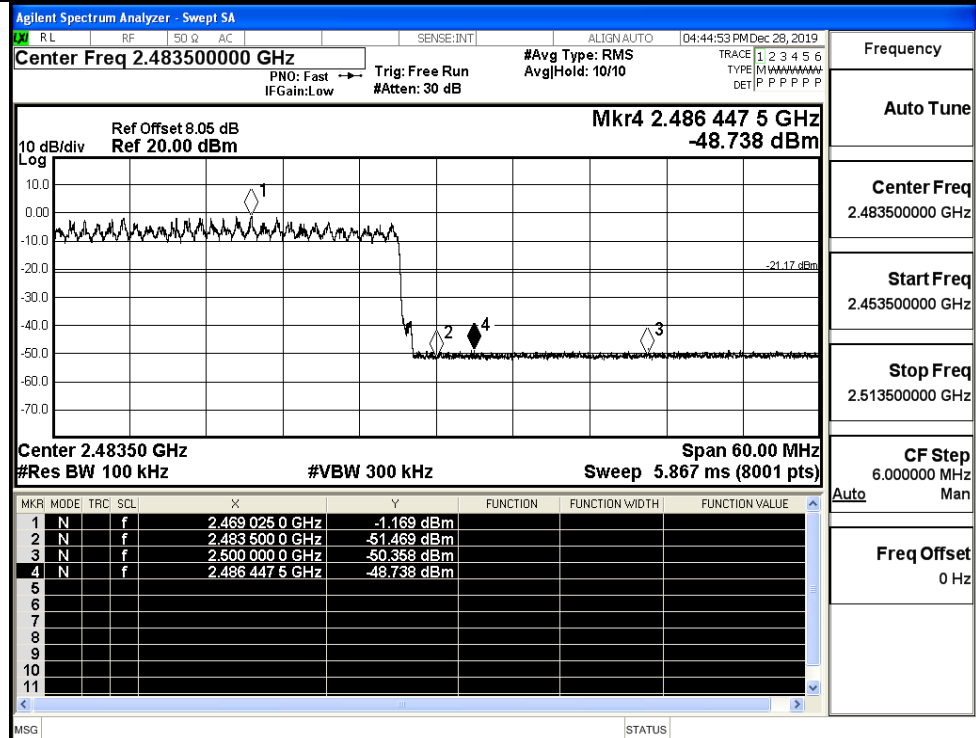
$\pi/4$ DQPSK/LCH/Hop



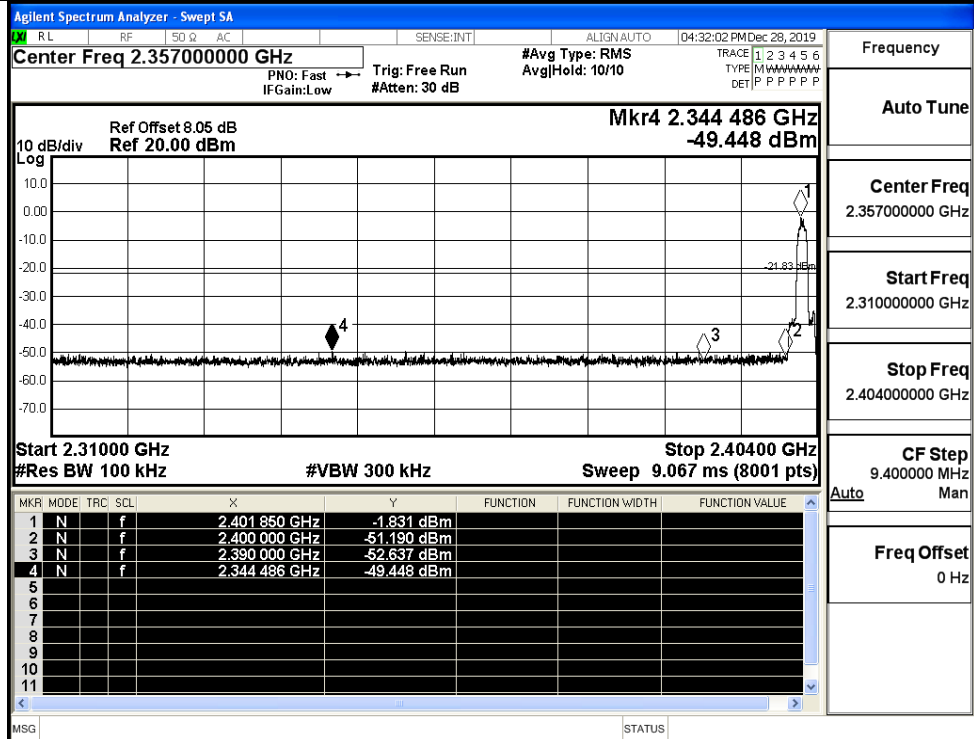
$\pi/4$ DQPSK/HCH/No
Hop



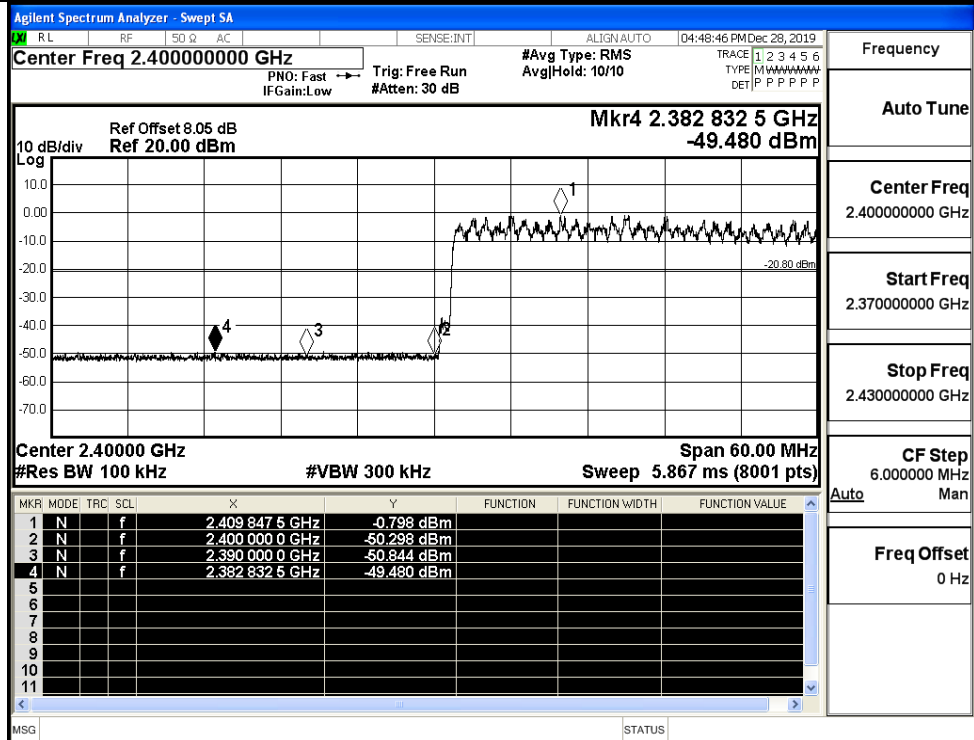
$\pi/4$ DQPSK/HCH/Hop



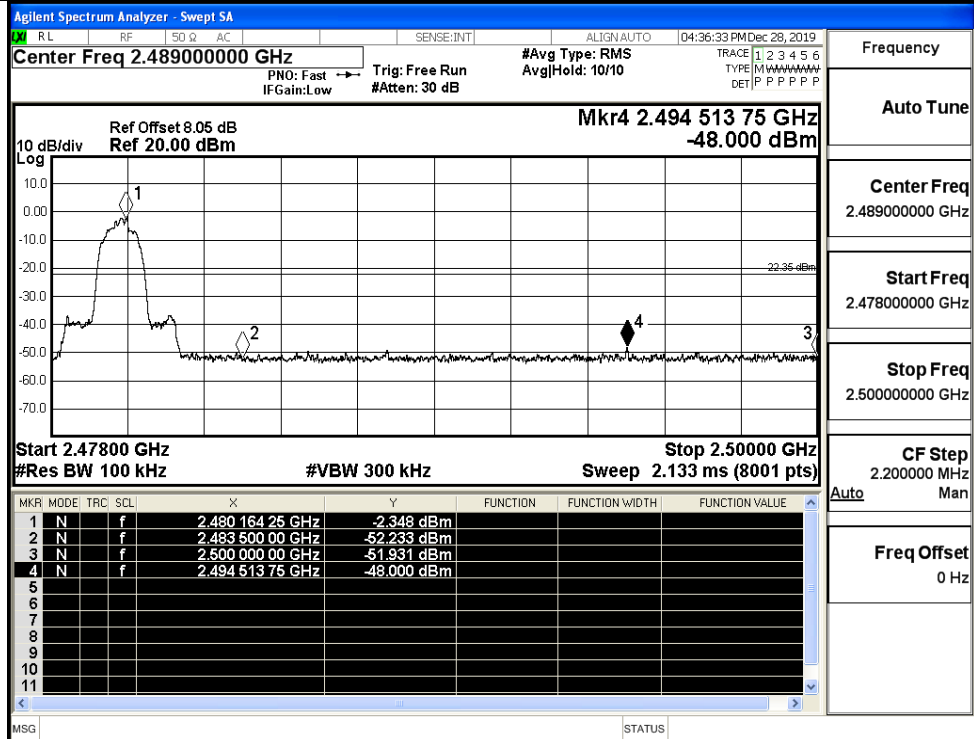
8DPSK/LCH/No Hop



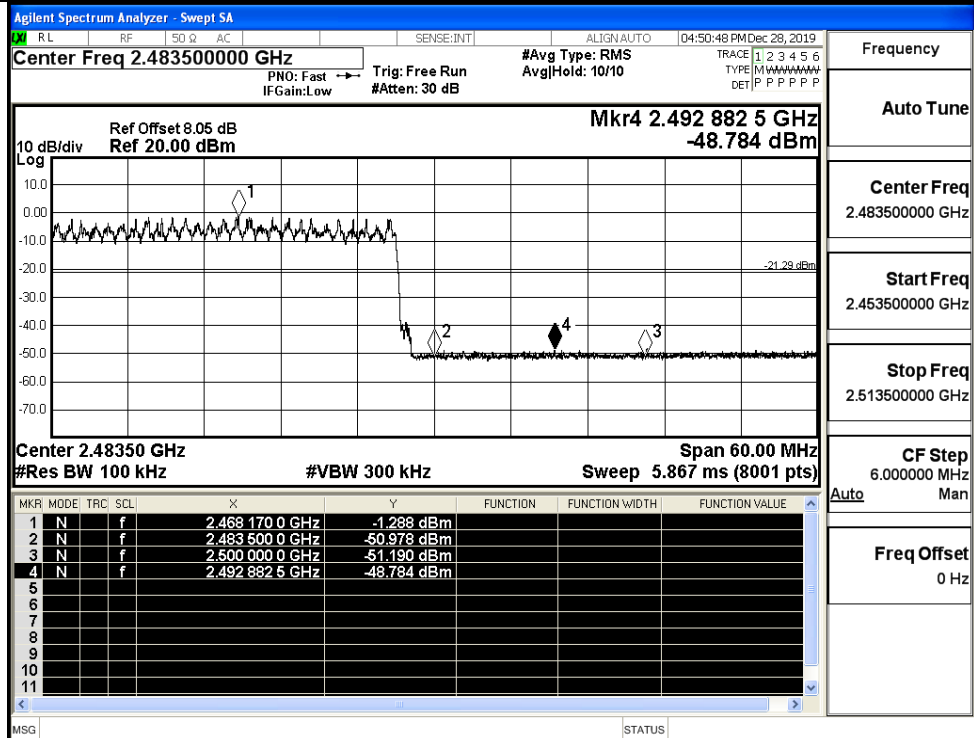
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



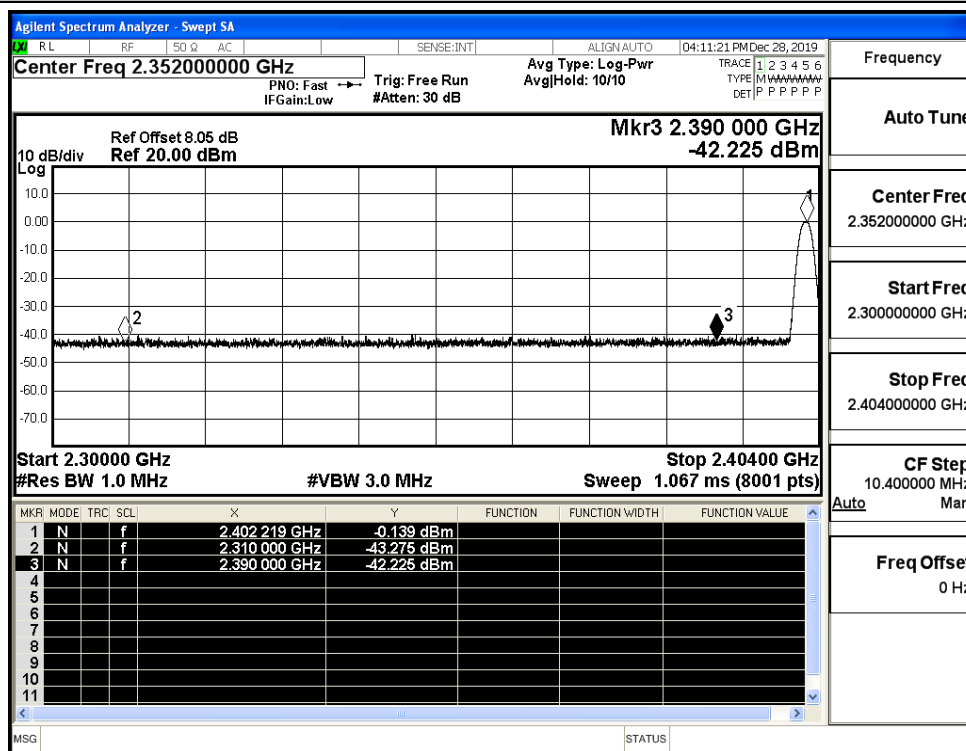
8DPSK/HCH/Hop



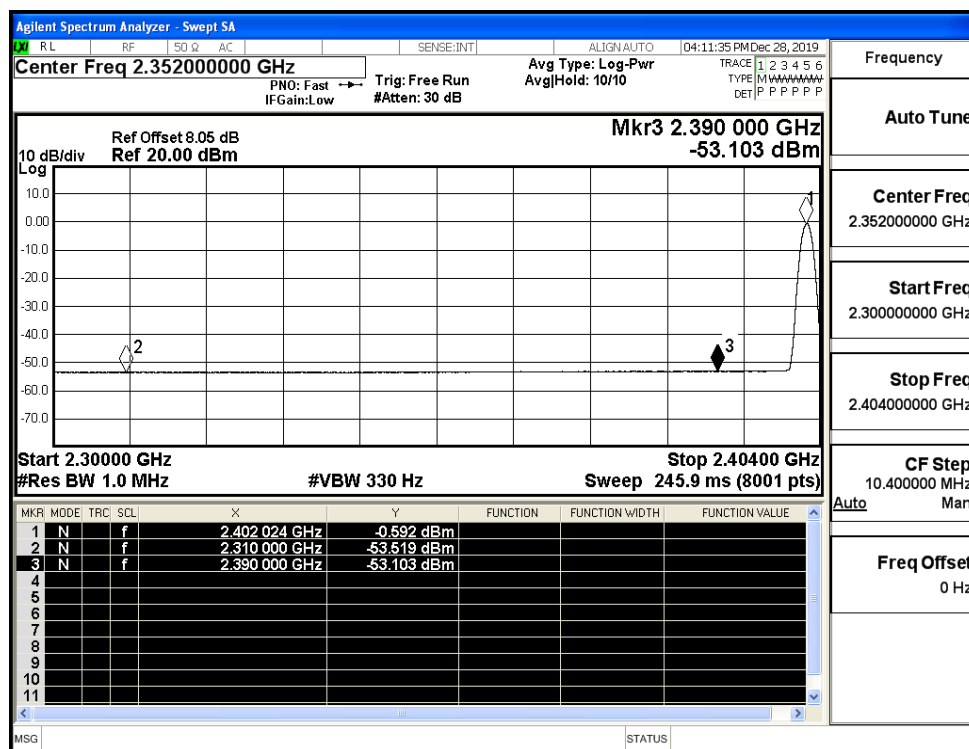
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.28	2.0	0	53.98	PEAK	74	PASS
	Off	2310.0	-53.52	2.0	0	43.74	AV	54	PASS
	Off	2390.0	-42.23	2.0	0	55.03	PEAK	74	PASS
	Off	2390.0	-53.10	2.0	0	44.15	AV	54	PASS
	Off	2483.5	-42.34	2.0	0	54.92	PEAK	74	PASS
	Off	2483.5	-52.61	2.0	0	44.64	AV	54	PASS
	Off	2500.0	-43.29	2.0	0	53.97	PEAK	74	PASS
	Off	2500.0	-52.46	2.0	0	44.80	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-42.83	2.0	0	54.42	PEAK	74	PASS
	Off	2310.0	-53.42	2.0	0	43.84	AV	54	PASS
	Off	2390.0	-42.31	2.0	0	54.95	PEAK	74	PASS
	Off	2390.0	-53.00	2.0	0	44.26	AV	54	PASS
	Off	2483.5	-41.57	2.0	0	55.69	PEAK	74	PASS
	Off	2483.5	-52.52	2.0	0	44.73	AV	54	PASS
	Off	2500.0	-43.01	2.0	0	54.25	PEAK	74	PASS
	Off	2500.0	-52.45	2.0	0	44.81	AV	54	PASS
8DPSK	Off	2310.0	-42.15	2.0	0	55.11	PEAK	74	PASS
	Off	2310.0	-53.49	2.0	0	43.77	AV	54	PASS
	Off	2390.0	-42.67	2.0	0	54.59	PEAK	74	PASS
	Off	2390.0	-53.11	2.0	0	44.15	AV	54	PASS
	Off	2483.5	-42.72	2.0	0	54.54	PEAK	74	PASS
	Off	2483.5	-52.59	2.0	0	44.67	AV	54	PASS
	Off	2500.0	-42.10	2.0	0	55.16	PEAK	74	PASS
	Off	2500.0	-52.51	2.0	0	44.74	AV	54	PASS

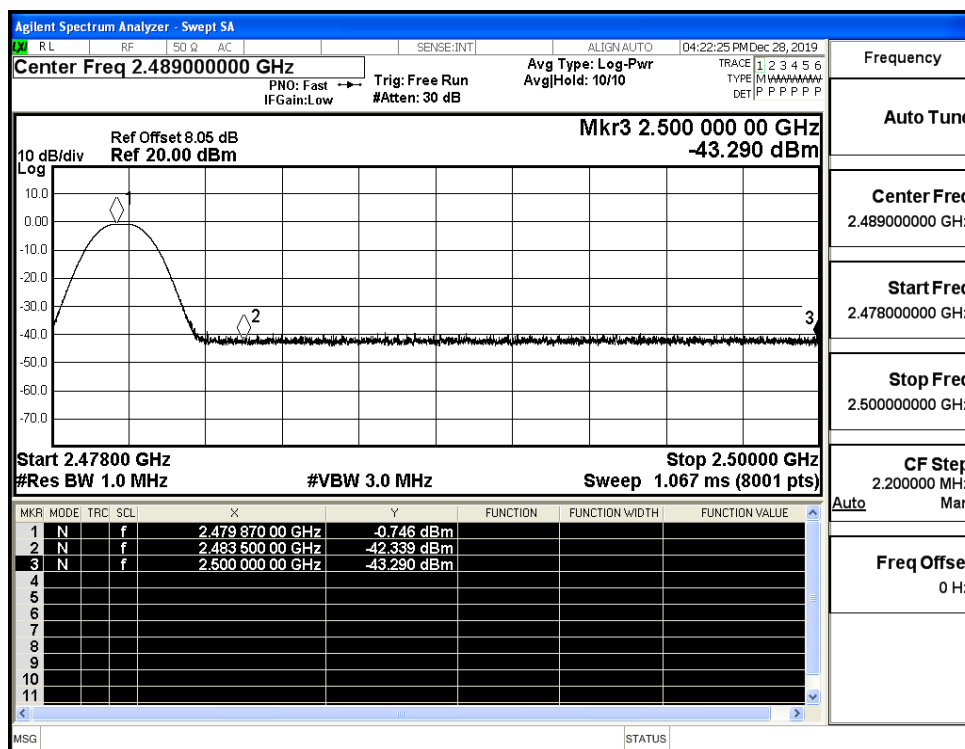
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



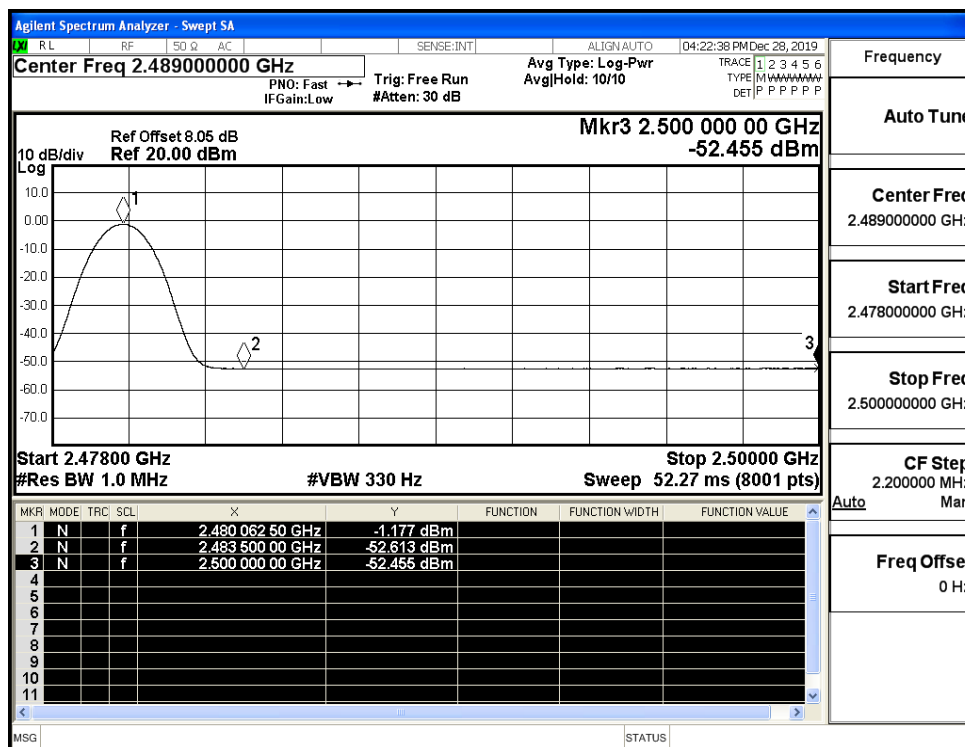
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

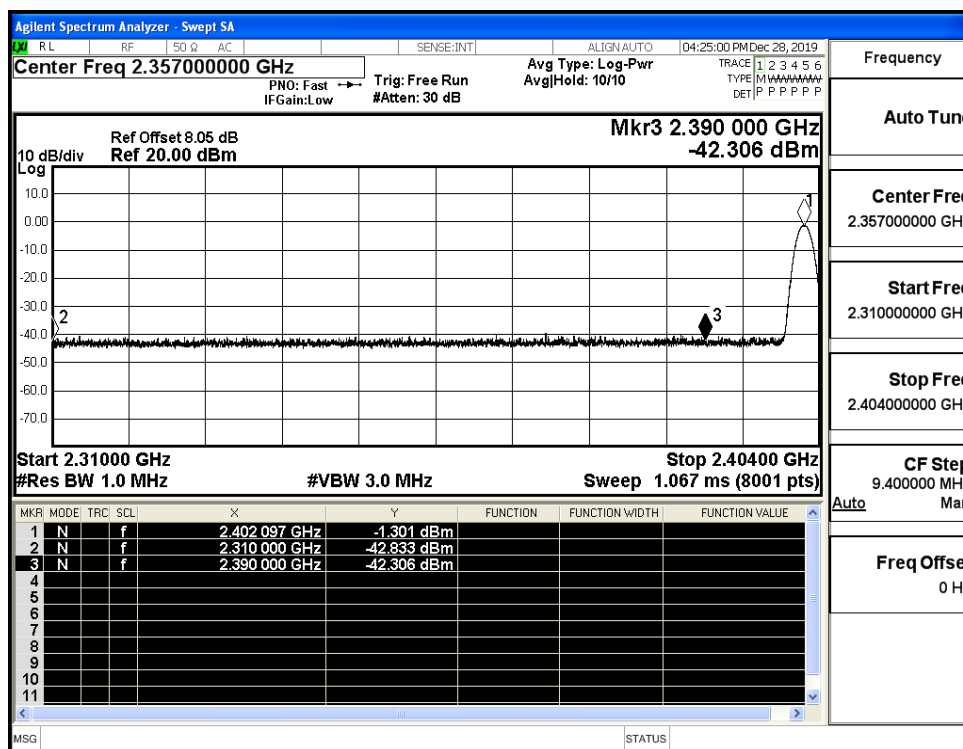
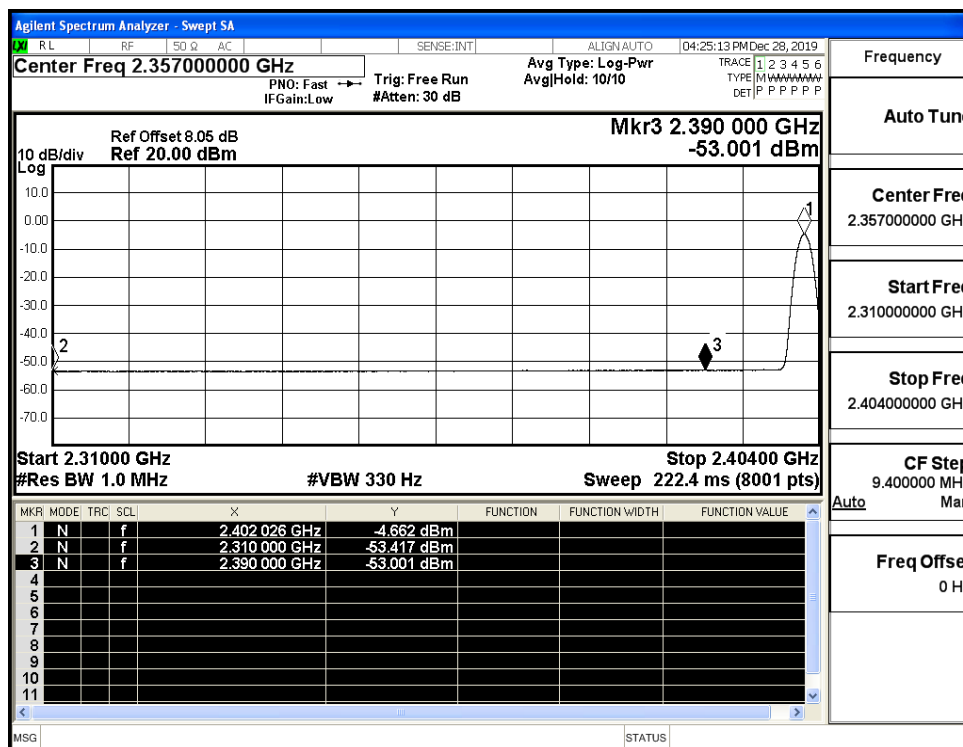


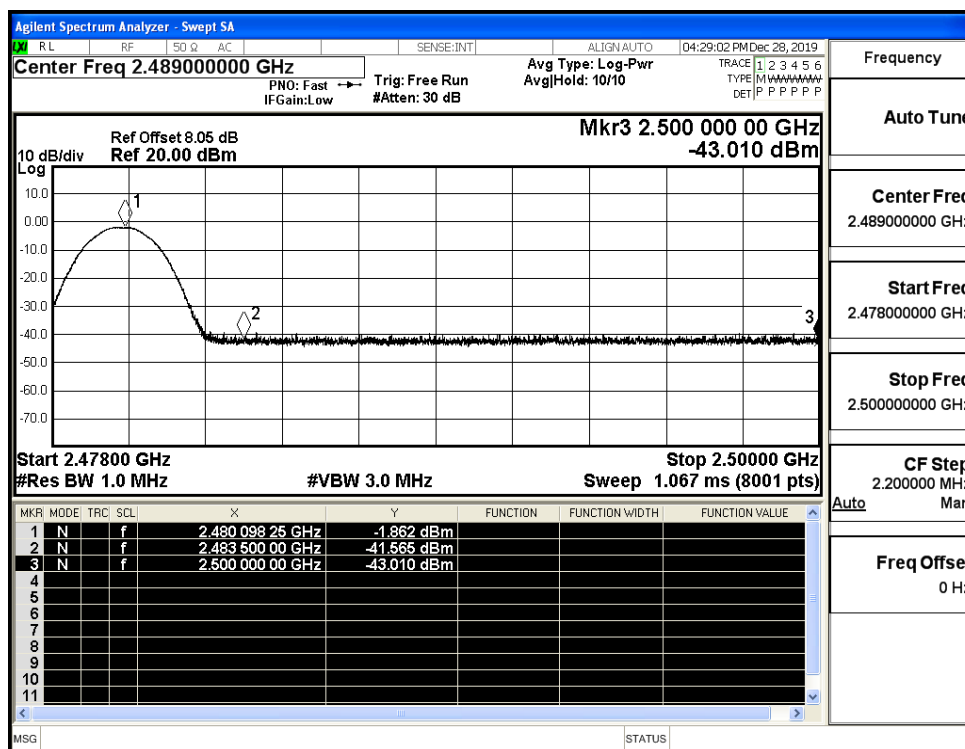
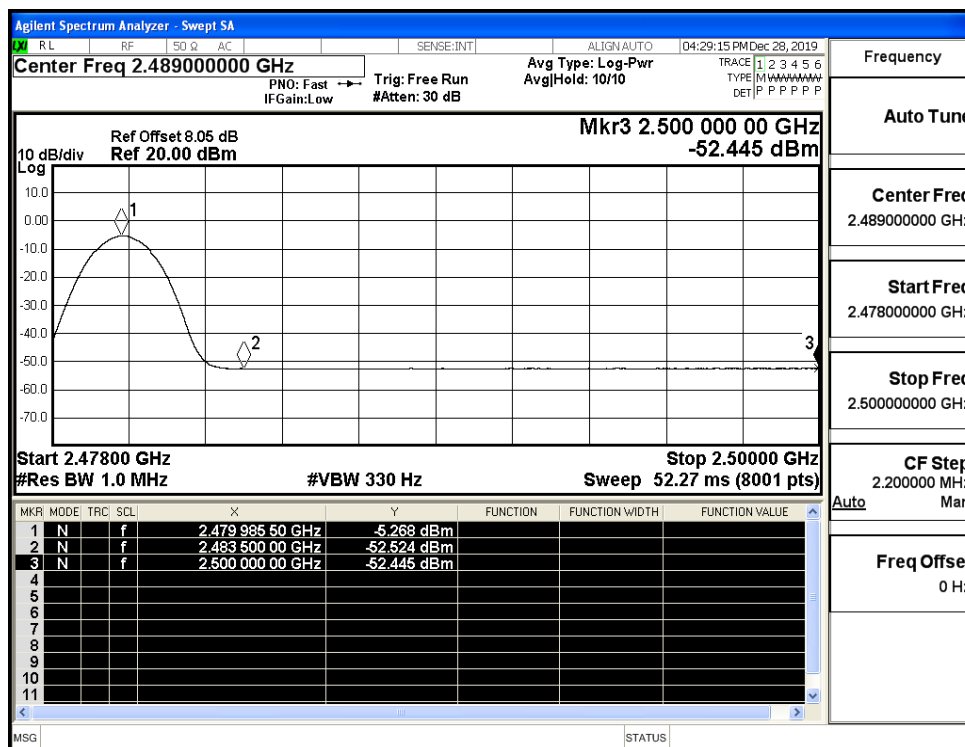
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



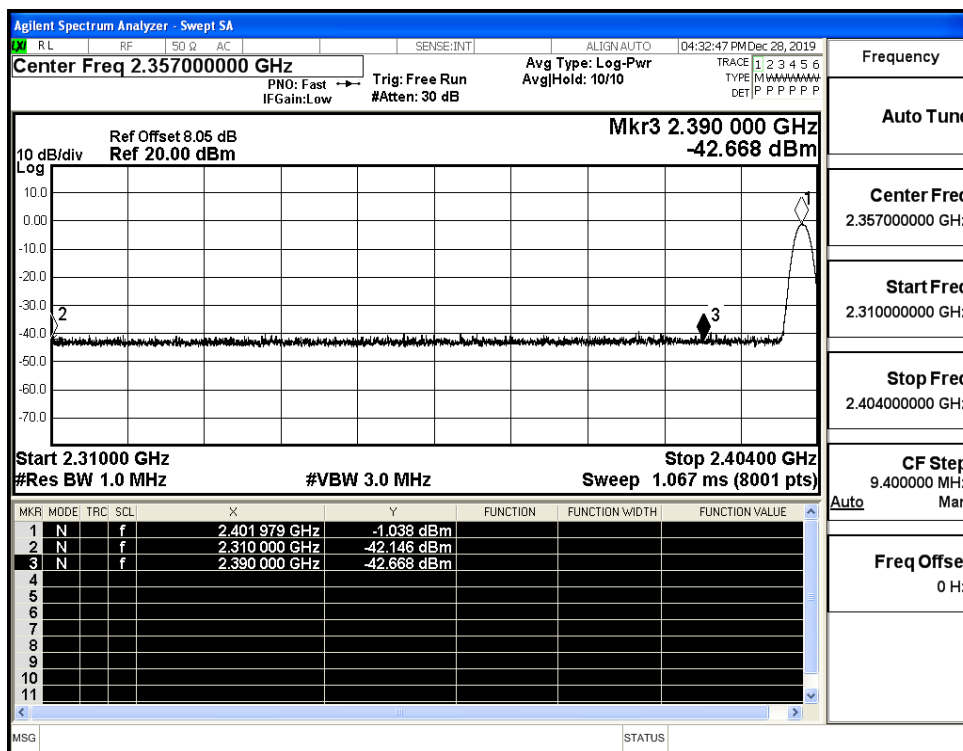
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



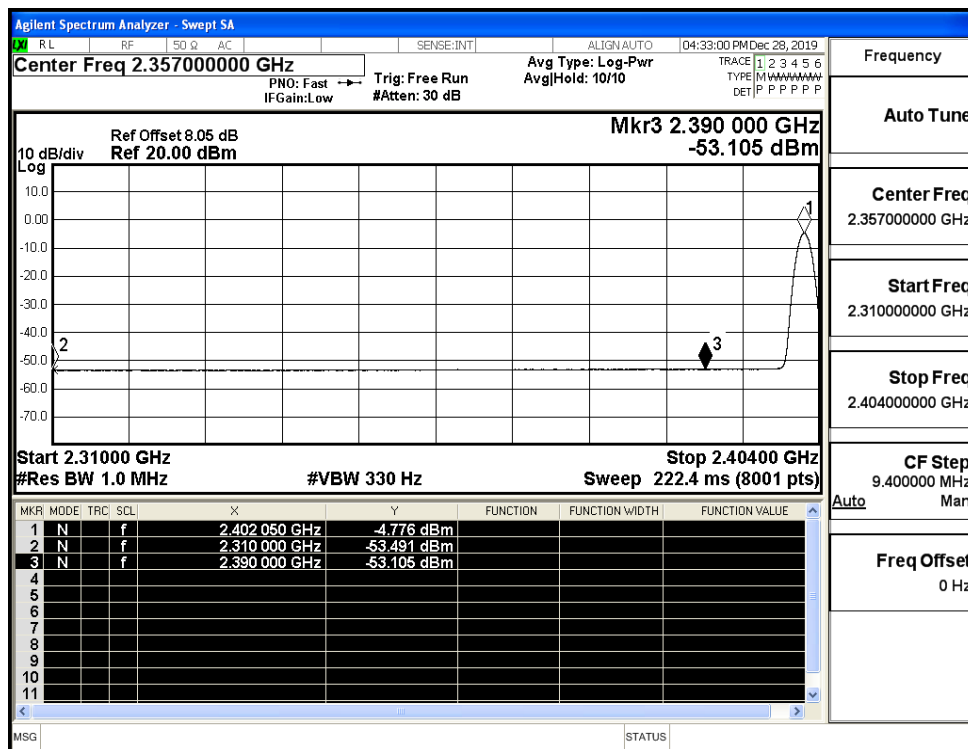
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

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

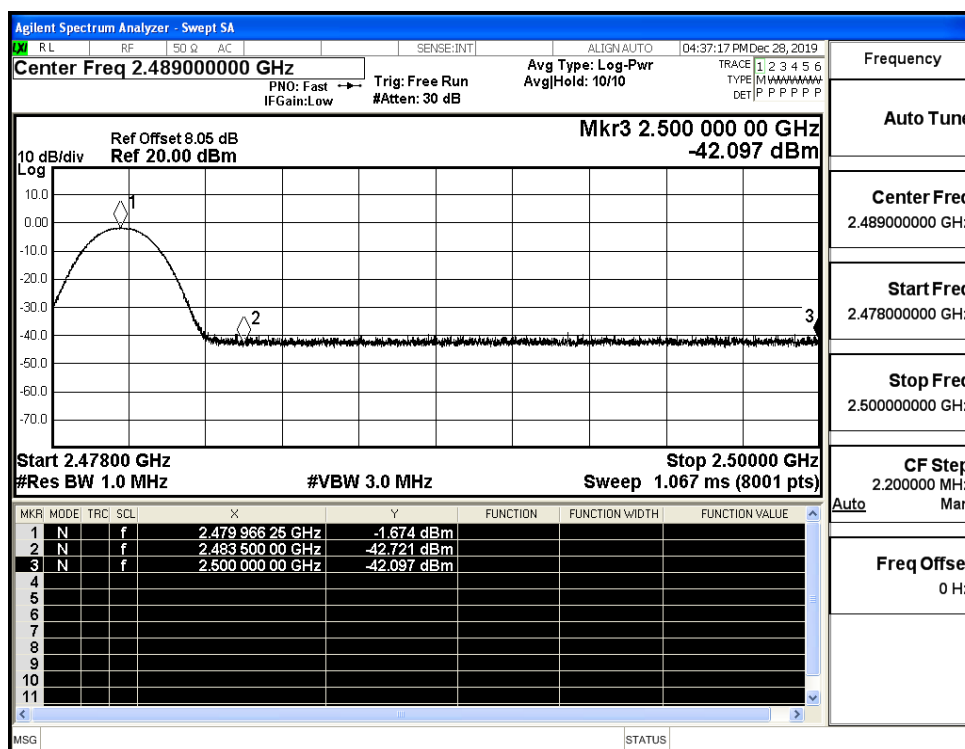
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

