

Appendix A

RF Test Data for BT V2.1(BDR/EDR) (Conducted Measurement)

Product Name: tablet

Trade Mark: TOPELOTEK, UJoyFeel

Test Model: KIDS706

Environmental Conditions

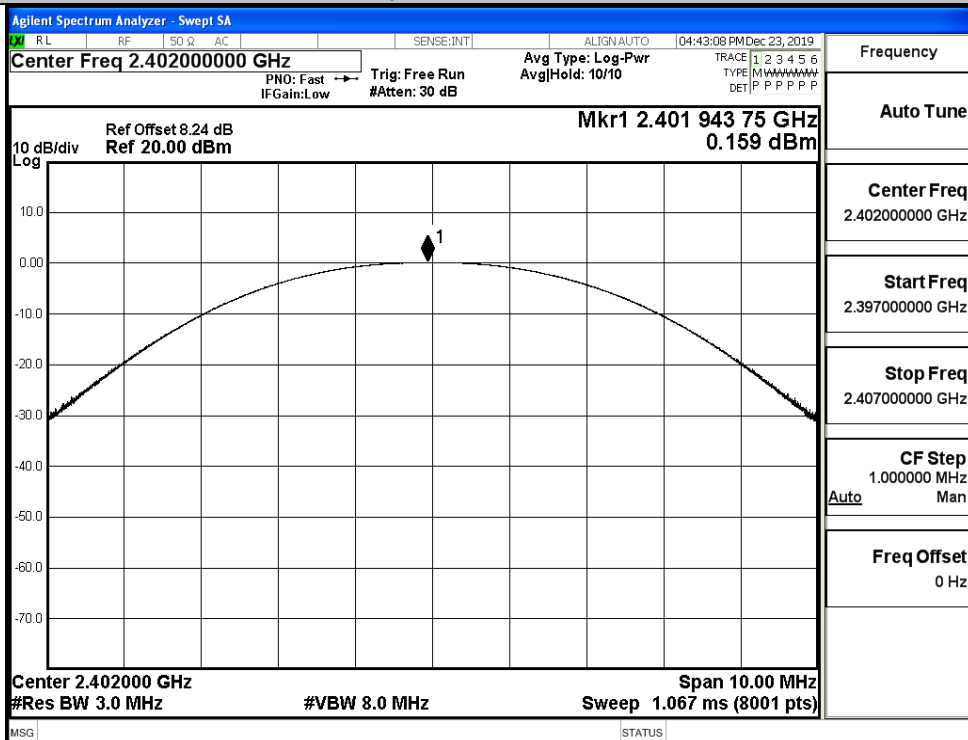
Temperature:	23.8°C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Alisa Huang
Supervised by:	Wang Chuang

A.1 Maximum Conducted Peak Output Power

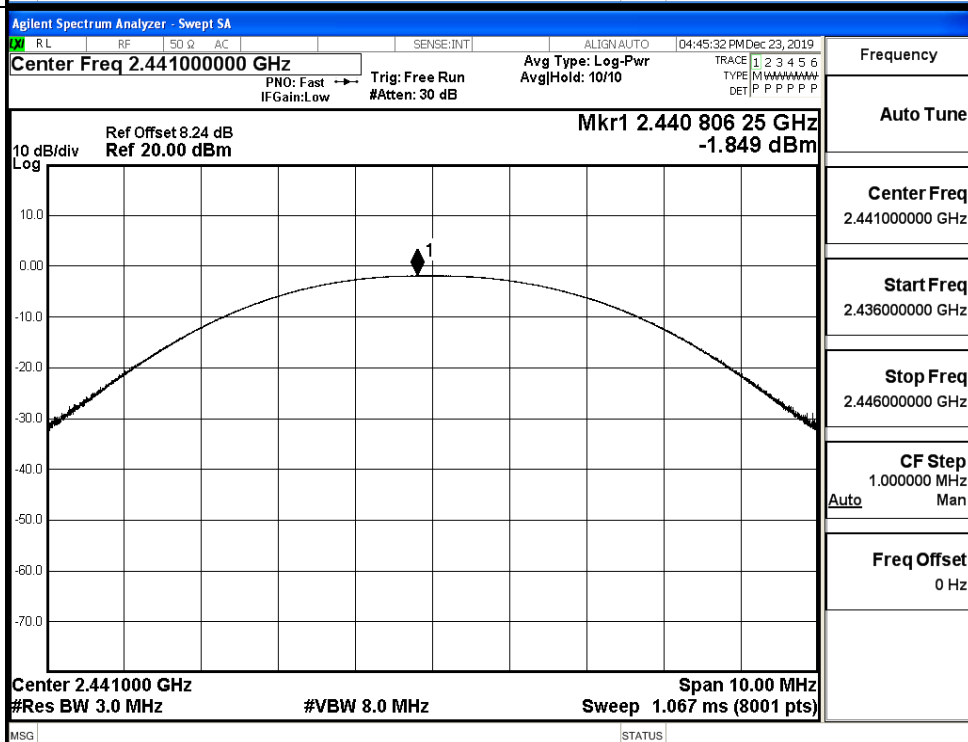
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.159	21	PASS
	MCH	-1.849	21	PASS
	HCH	-0.627	21	PASS
$\pi/4$ DQPSK	LCH	-0.575	21	PASS
	MCH	-2.486	21	PASS
	HCH	-1.342	21	PASS
8DPSK	LCH	-0.431	21	PASS
	MCH	-2.148	21	PASS
	HCH	-1.133	21	PASS

Test Graphs

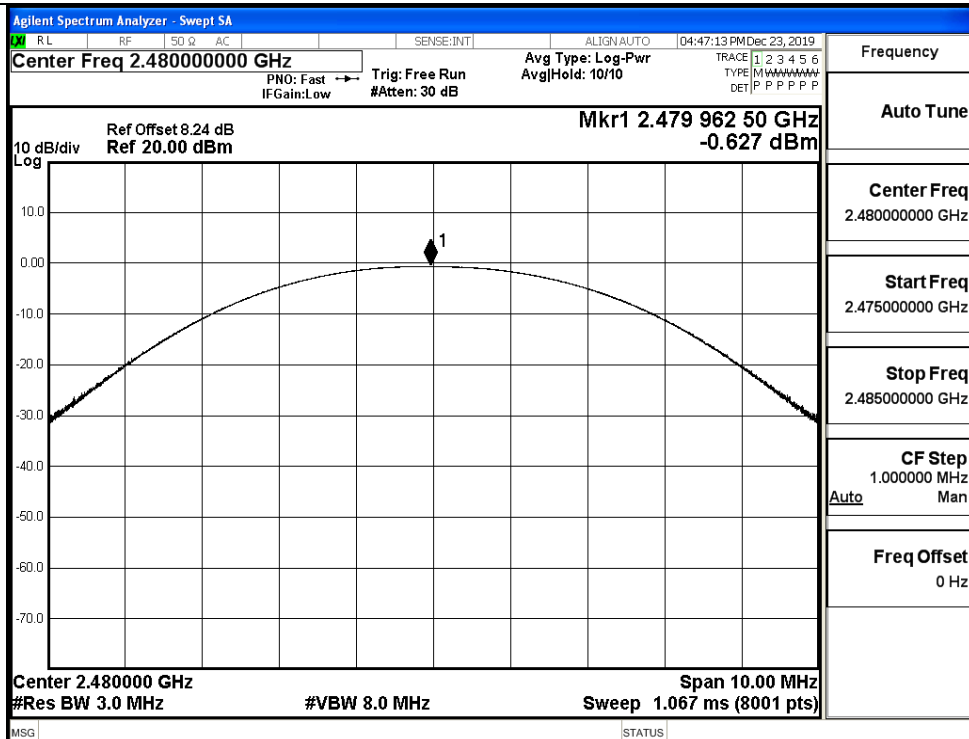
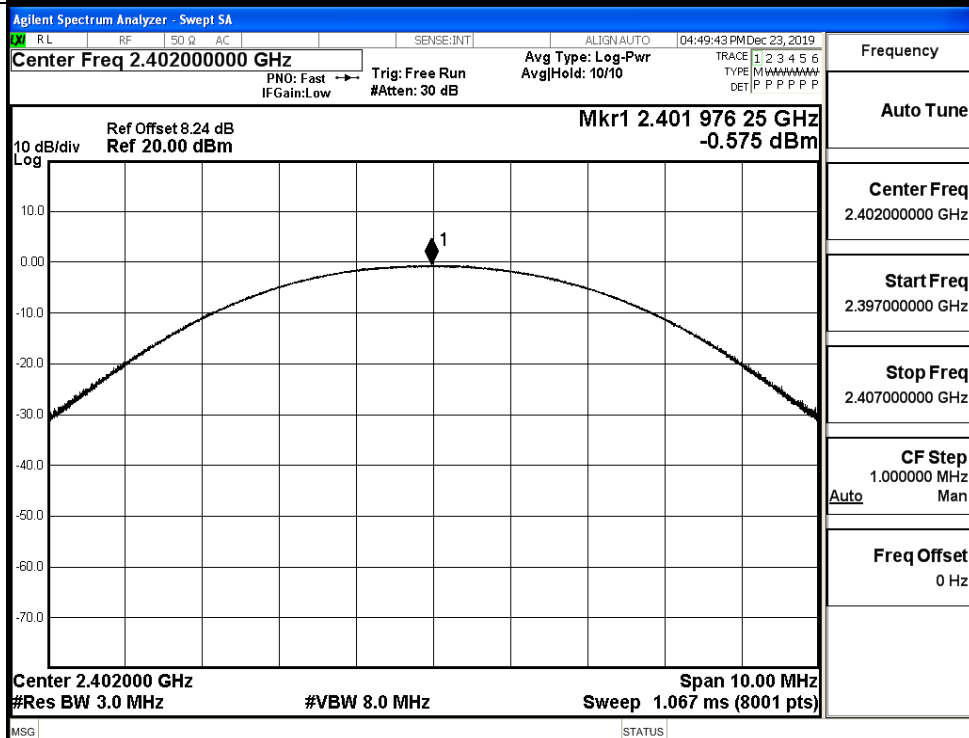
GFSK/LCH

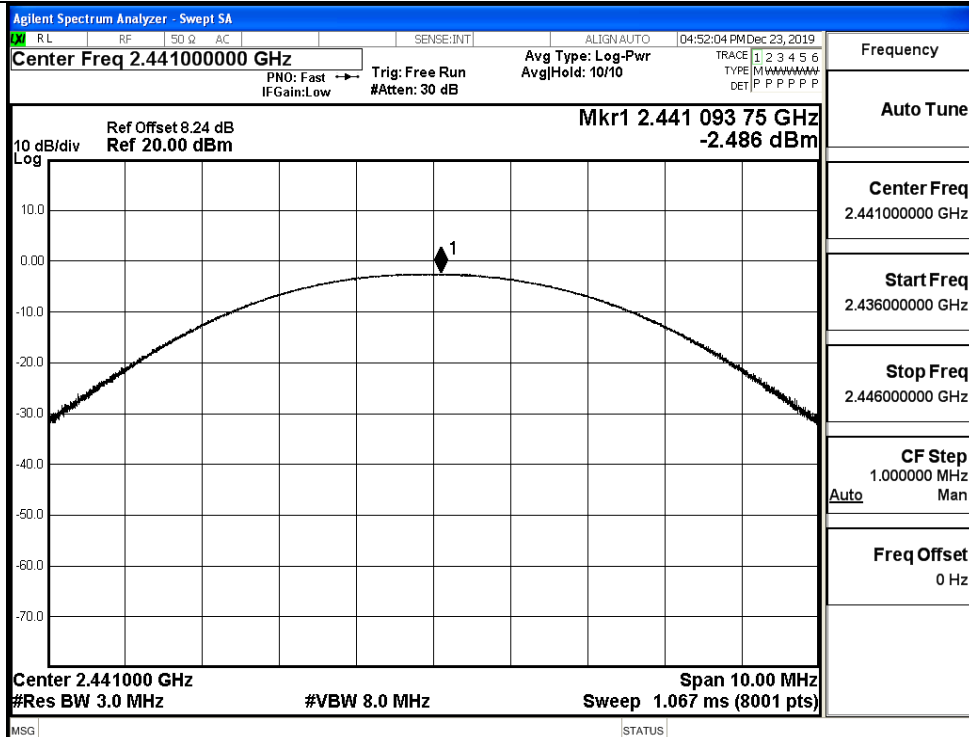
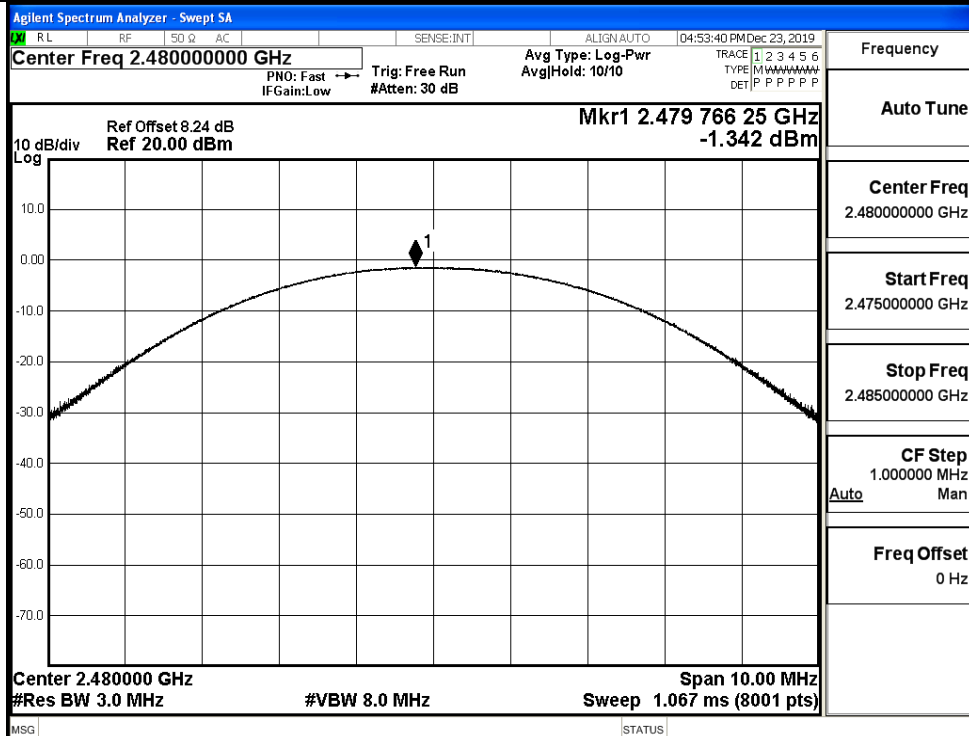


GFSK/MCH

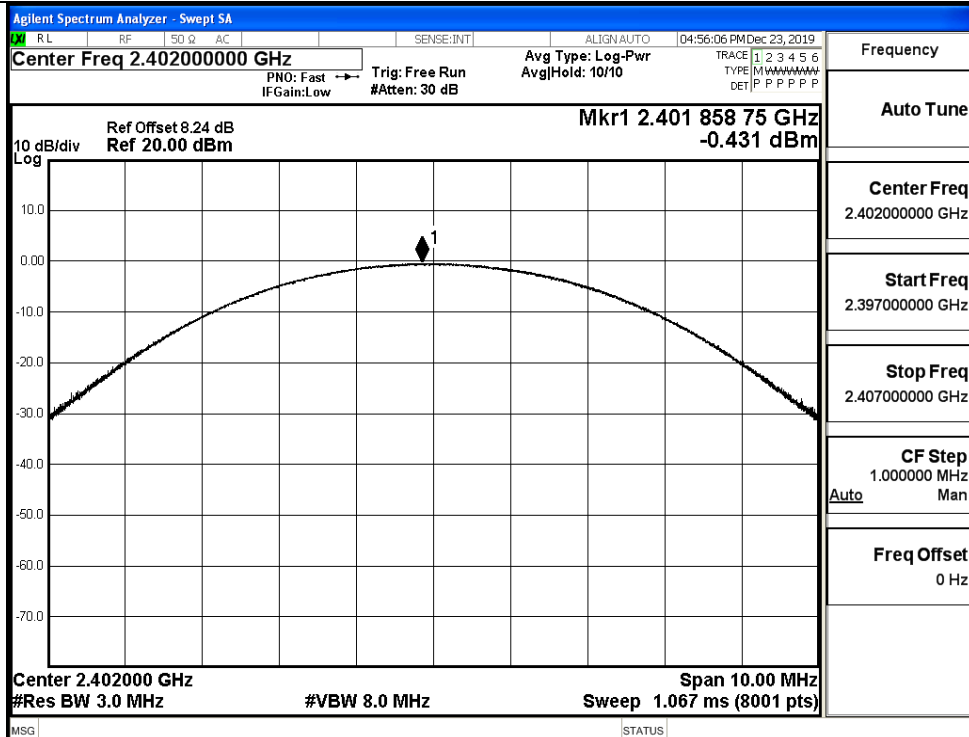


GFSK/HCH

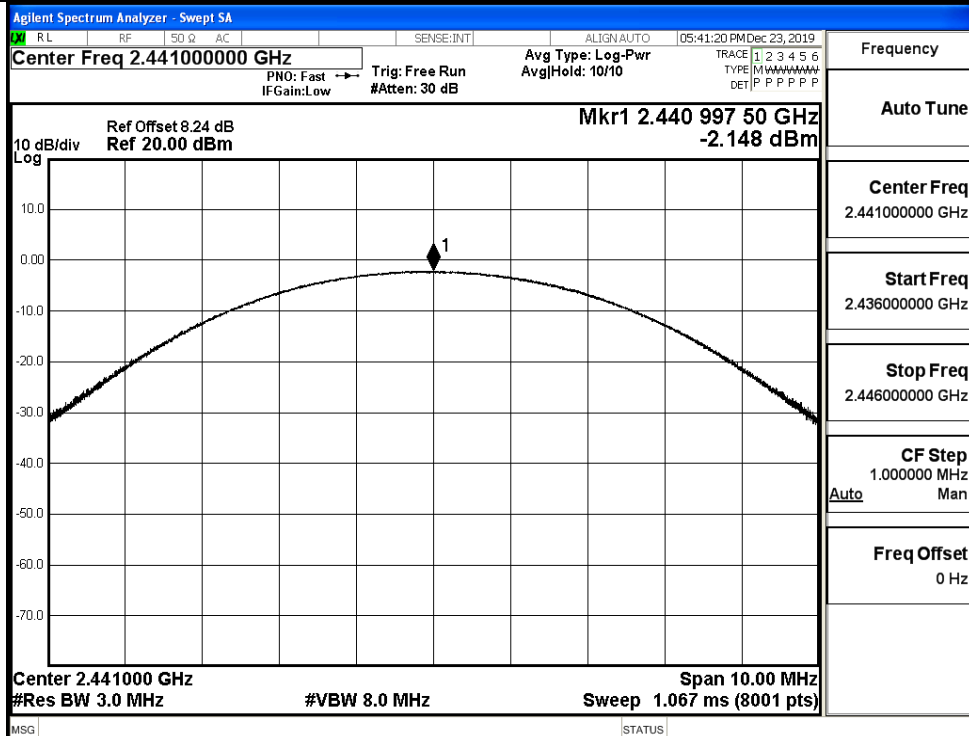
 $\pi/4$ DQPSK/LCH

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

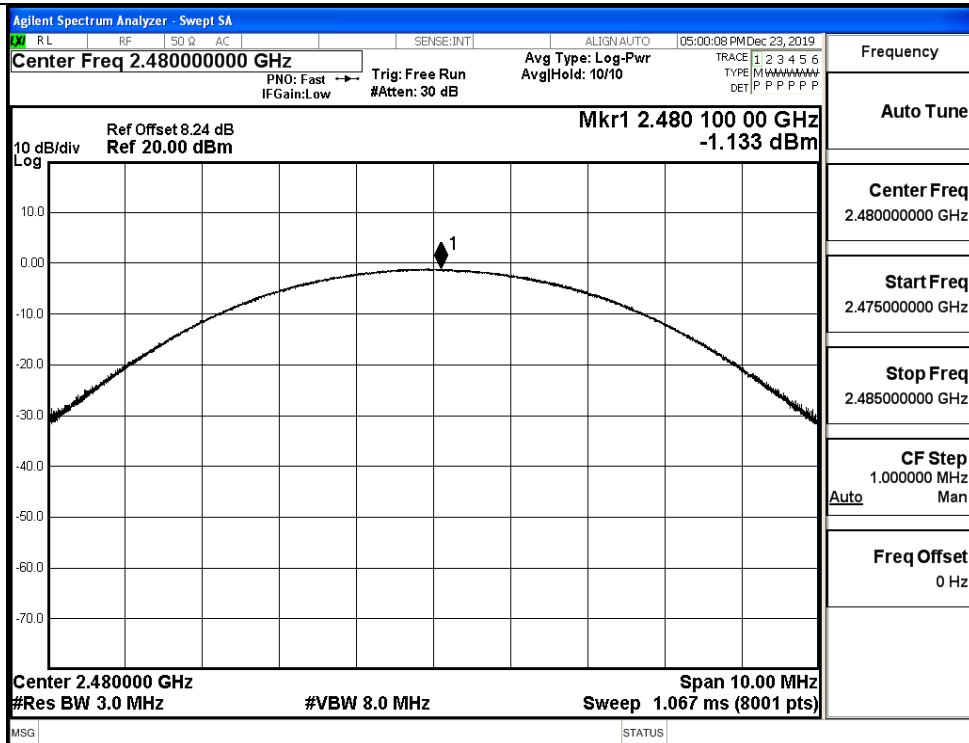
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

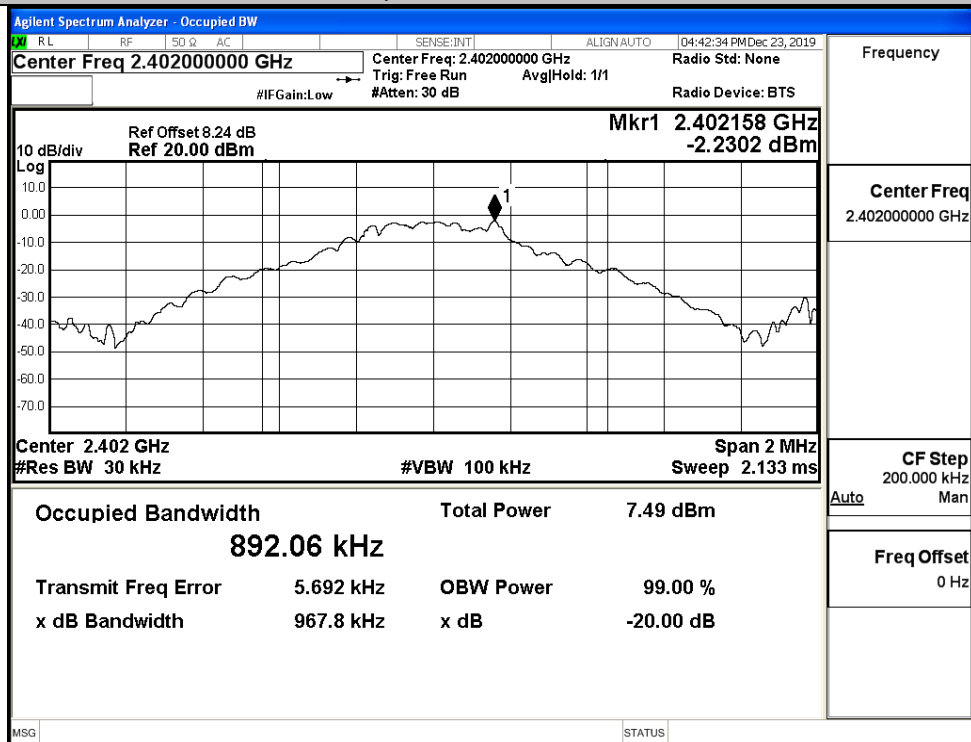


A.2 20dB Bandwidth and 99% Bandwidth

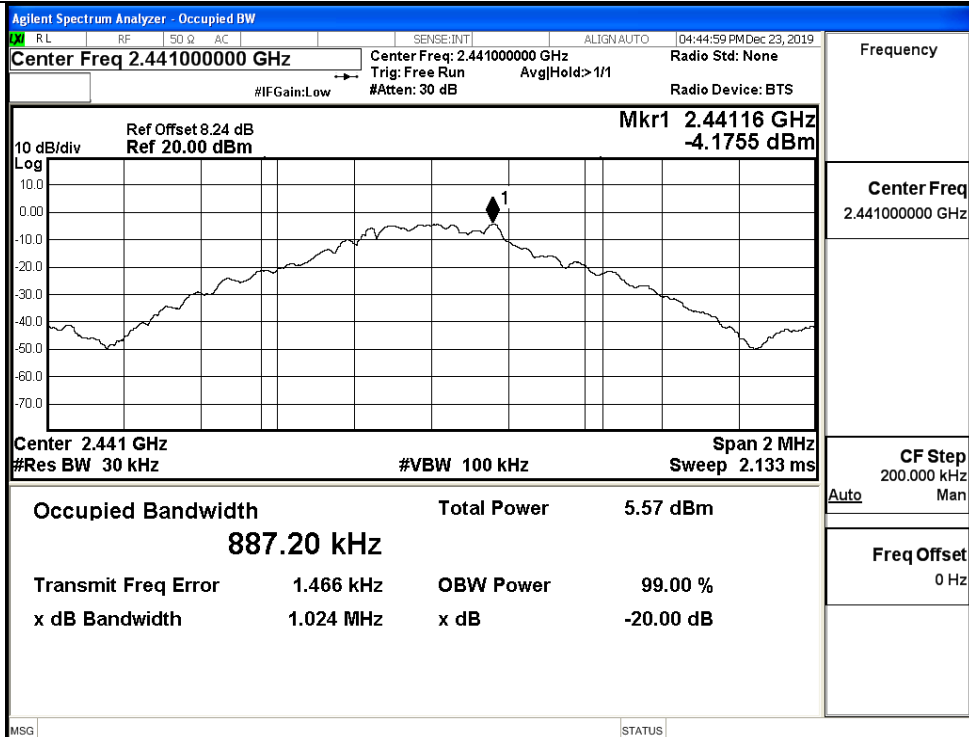
Mode	Channel.	20dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9678	0.8921	Not Specified	PASS
	MCH	1.024	0.8872	Not Specified	PASS
	HCH	1.030	0.8882	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.288	1.170	Not Specified	PASS
	MCH	1.315	1.177	Not Specified	PASS
	HCH	1.289	1.171	Not Specified	PASS
8DPSK	LCH	1.296	1.179	Not Specified	PASS
	MCH	1.297	1.187	Not Specified	PASS
	HCH	1.295	1.181	Not Specified	PASS

Test Graphs

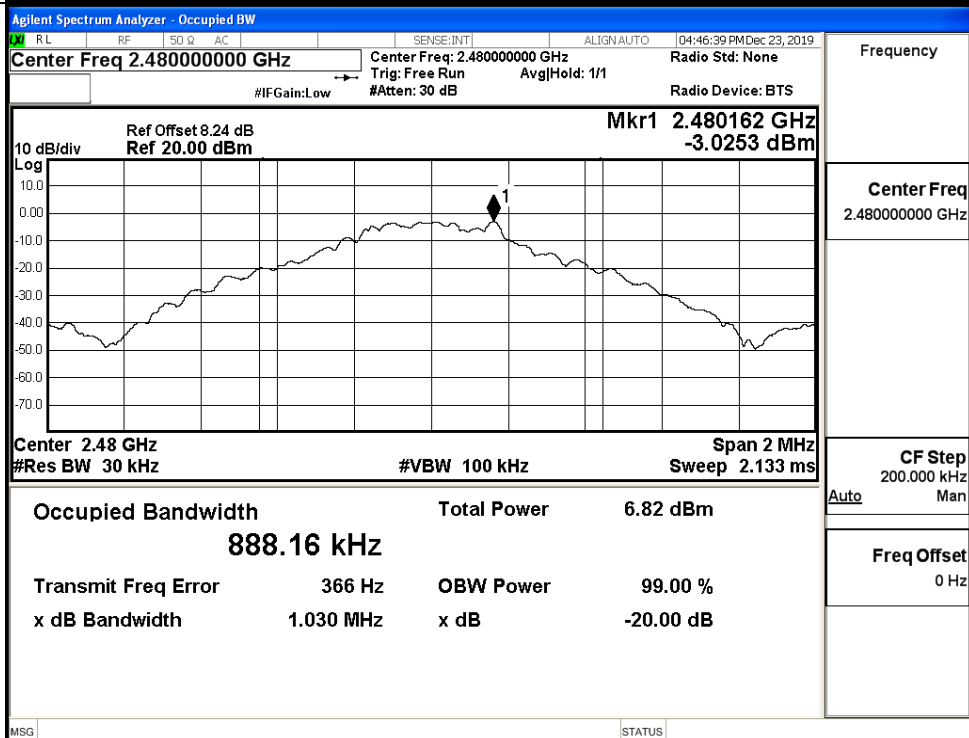
GFSK/LCH

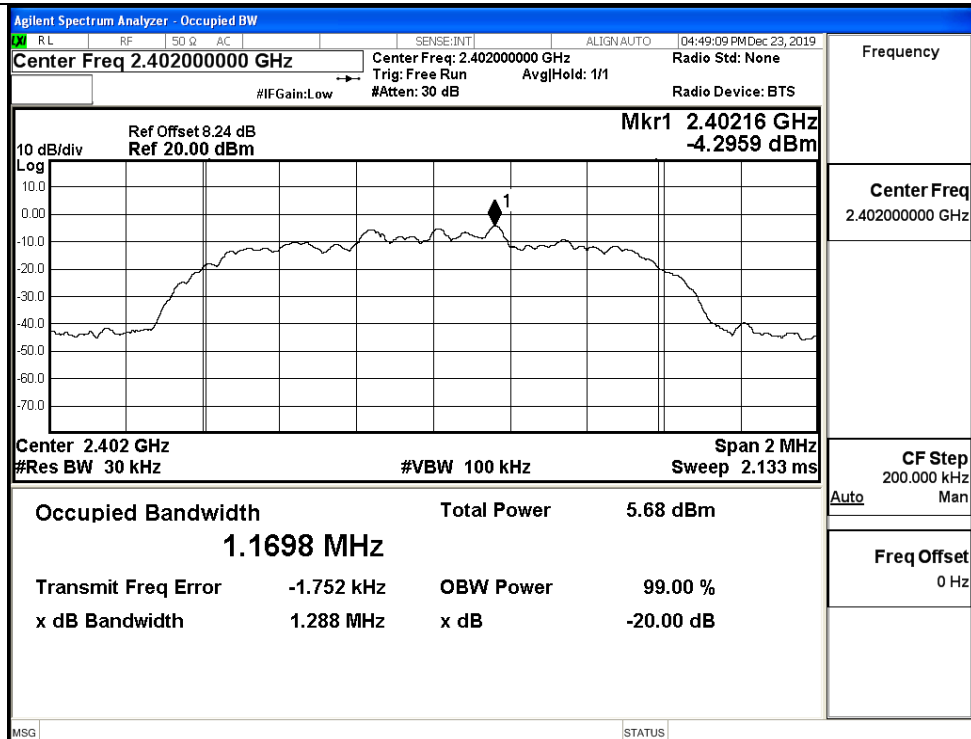


GFSK/MCH

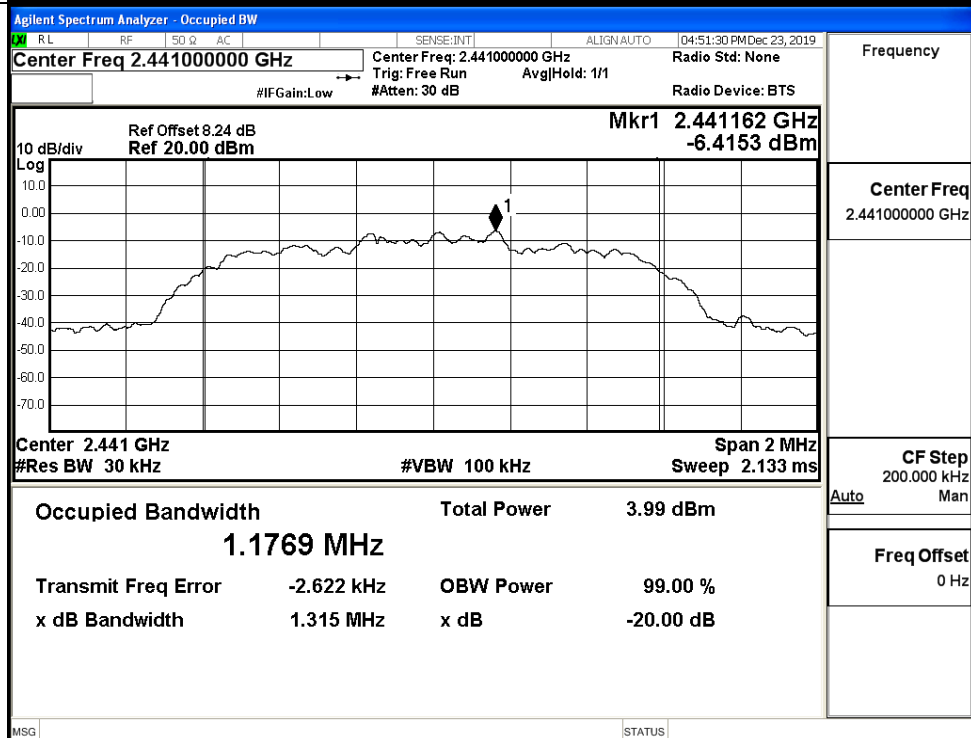


GFSK/HCH



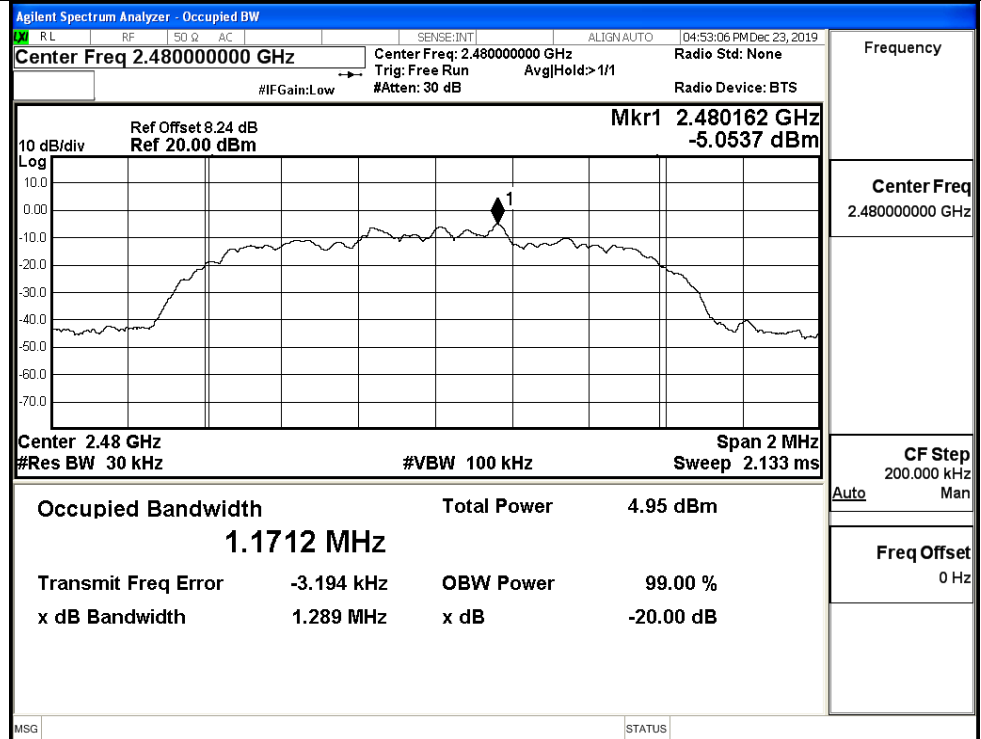
$\pi/4$ DQPSK/LCH

Frequency

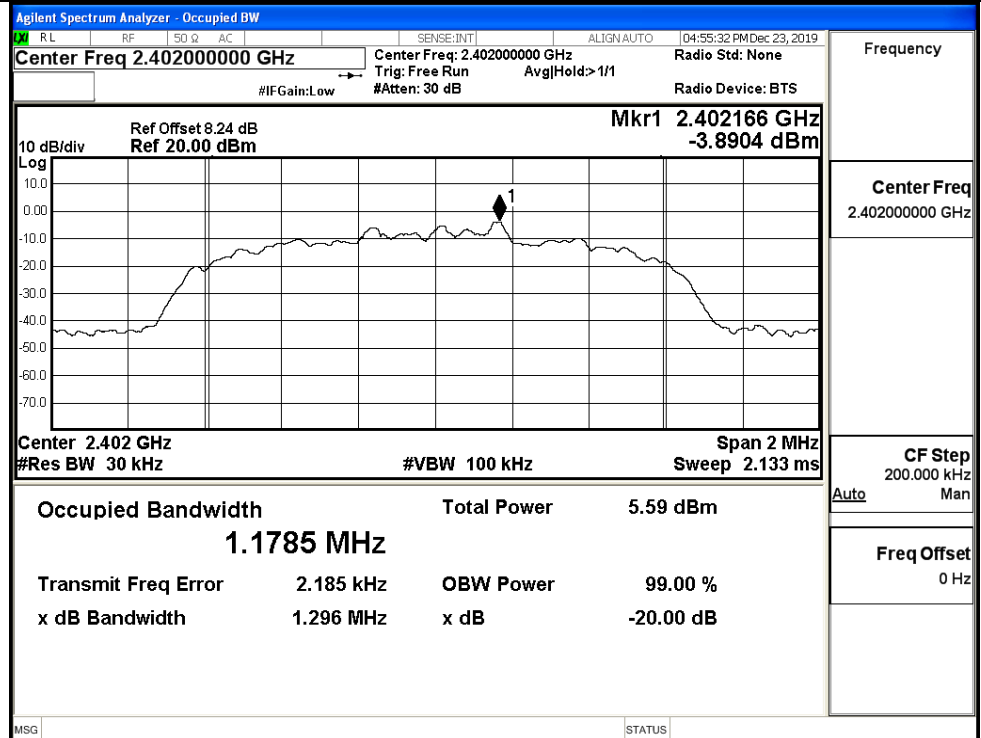
Center Freq
2.40200000 GHzCF Step
200.000 kHz
ManFreq Offset
0 Hz $\pi/4$ DQPSK/MCH

Frequency

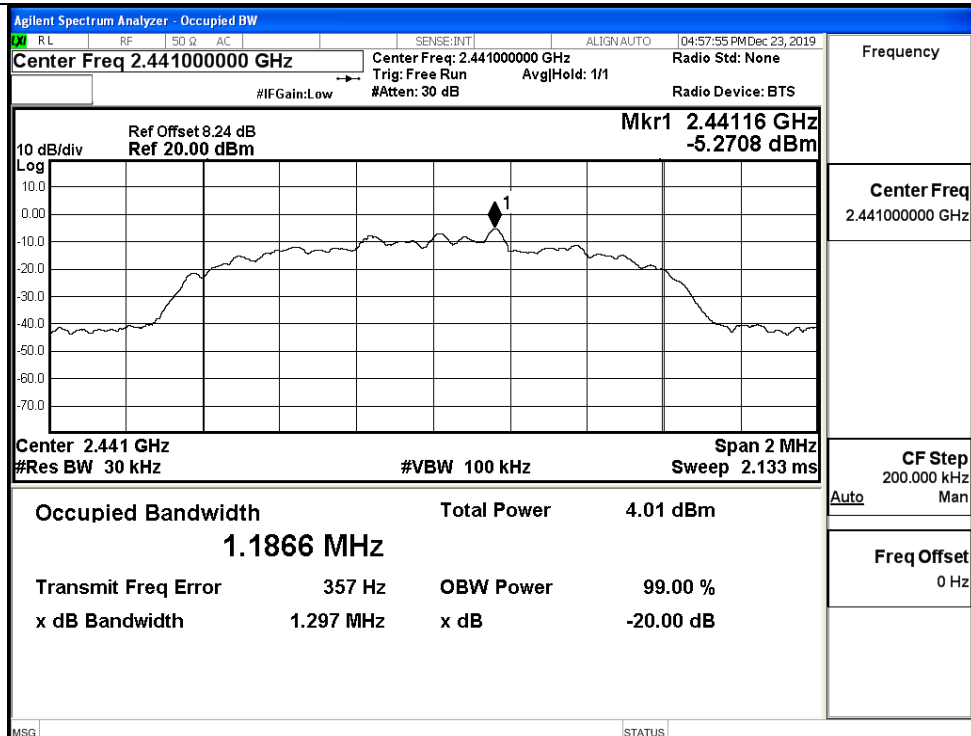
Center Freq
2.44100000 GHzCF Step
200.000 kHz
ManFreq Offset
0 Hz

$\pi/4$ DQPSK/HCH

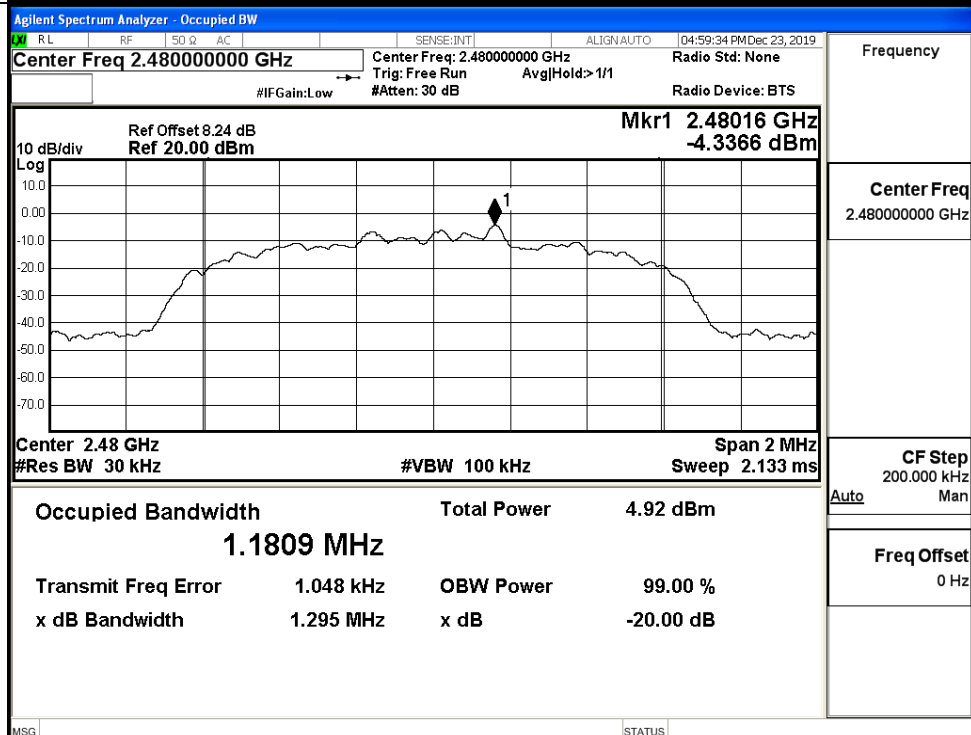
8DPSK/LCH



8DPSK/MCH



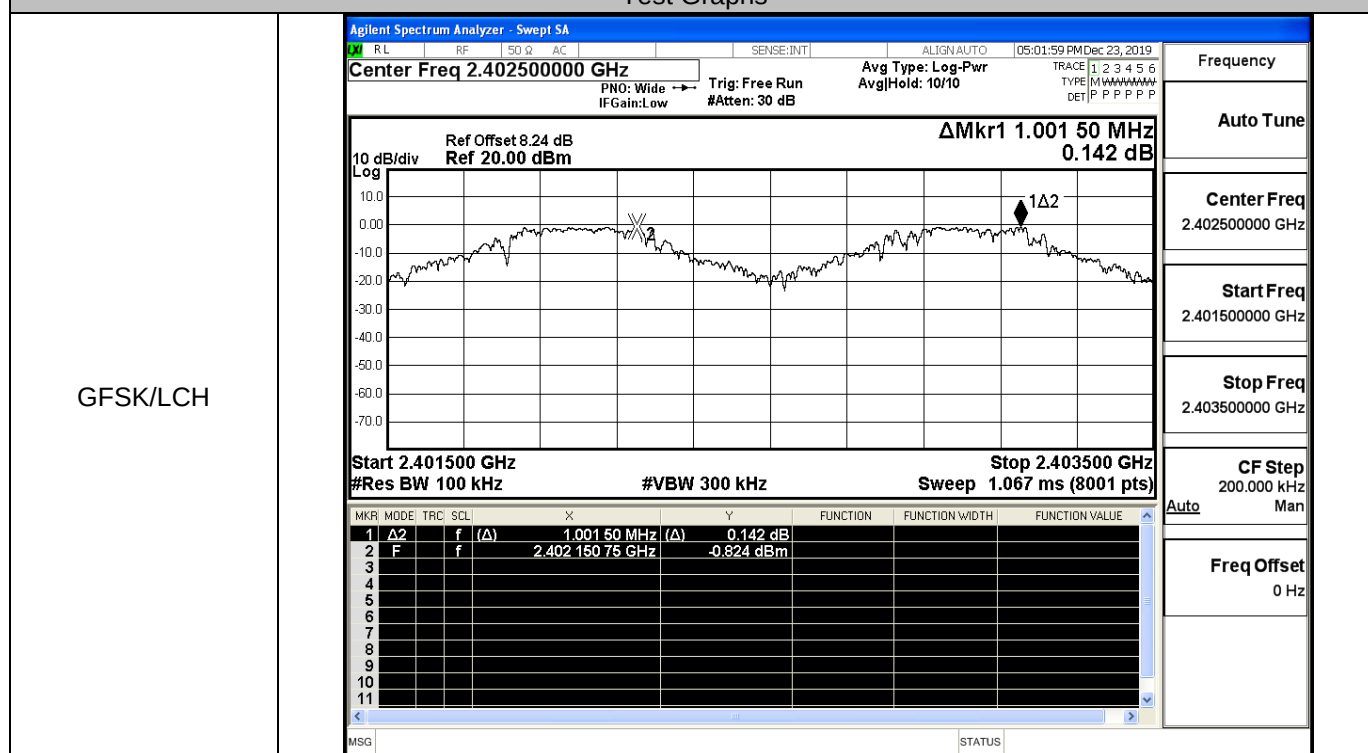
8DPSK/HCH



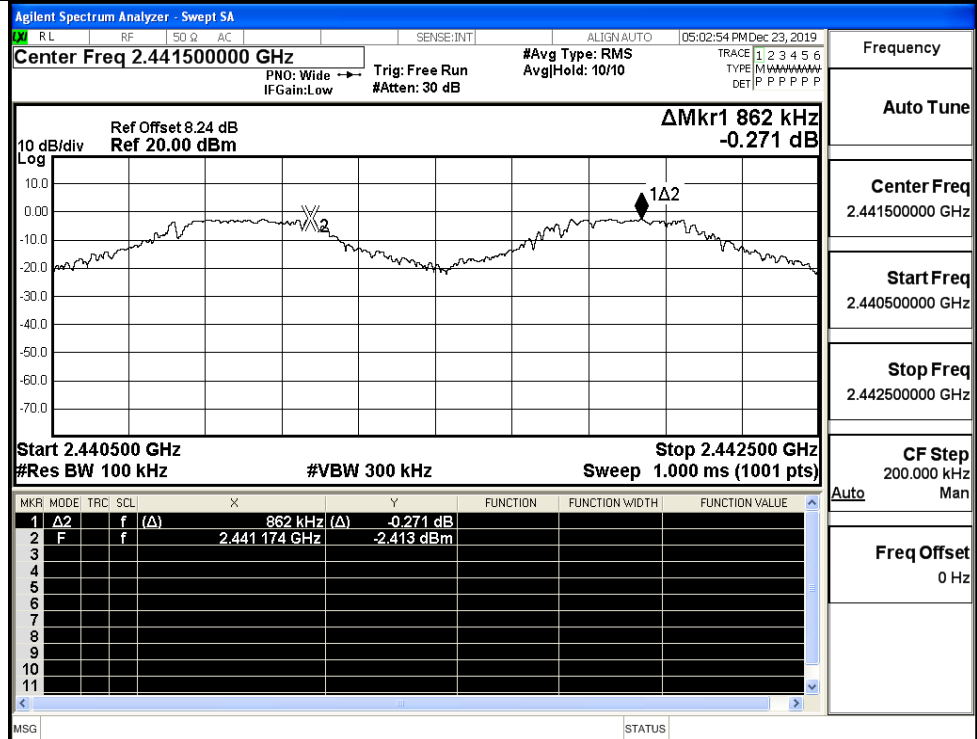
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.002	0.687	PASS
	MCH	0.862	0.687	PASS
	HCH	1.210	0.687	PASS
$\pi/4$ DQPSK	LCH	0.900	0.877	PASS
	MCH	1.130	0.877	PASS
	HCH	1.146	0.877	PASS
8DPSK	LCH	1.020	0.865	PASS
	MCH	0.990	0.865	PASS
	HCH	1.246	0.865	PASS

Test Graphs



GFSK/MCH

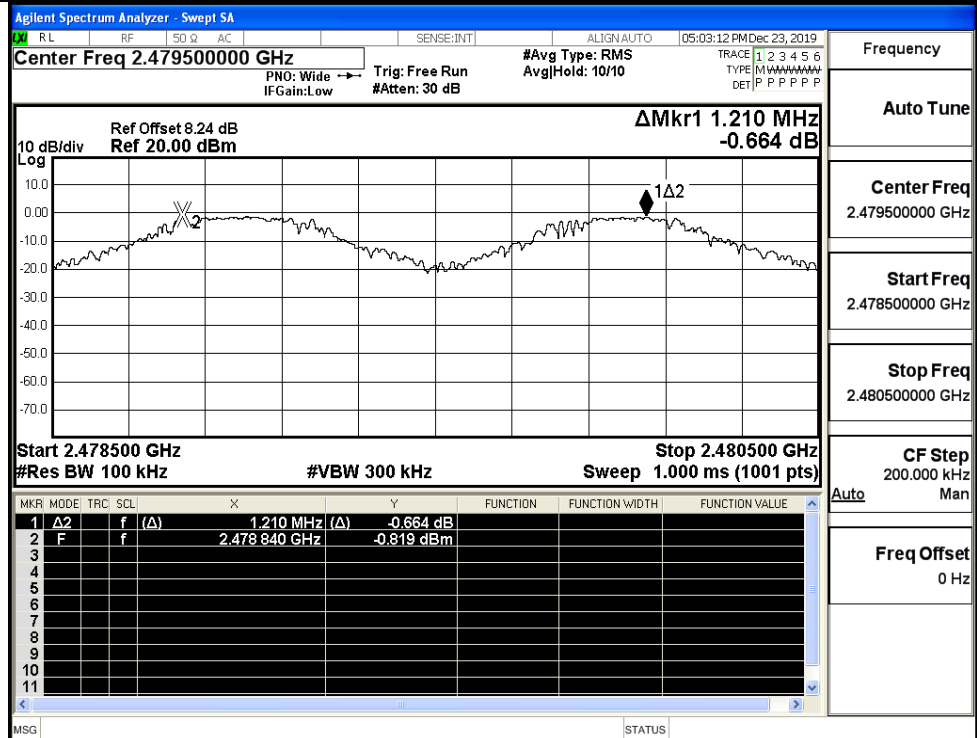


Frequency

Auto Tune

Center Freq
2.441500000 GHzStart Freq
2.440500000 GHzStop Freq
2.442500000 GHzCF Step
200.000 kHz
ManFreq Offset
0 Hz

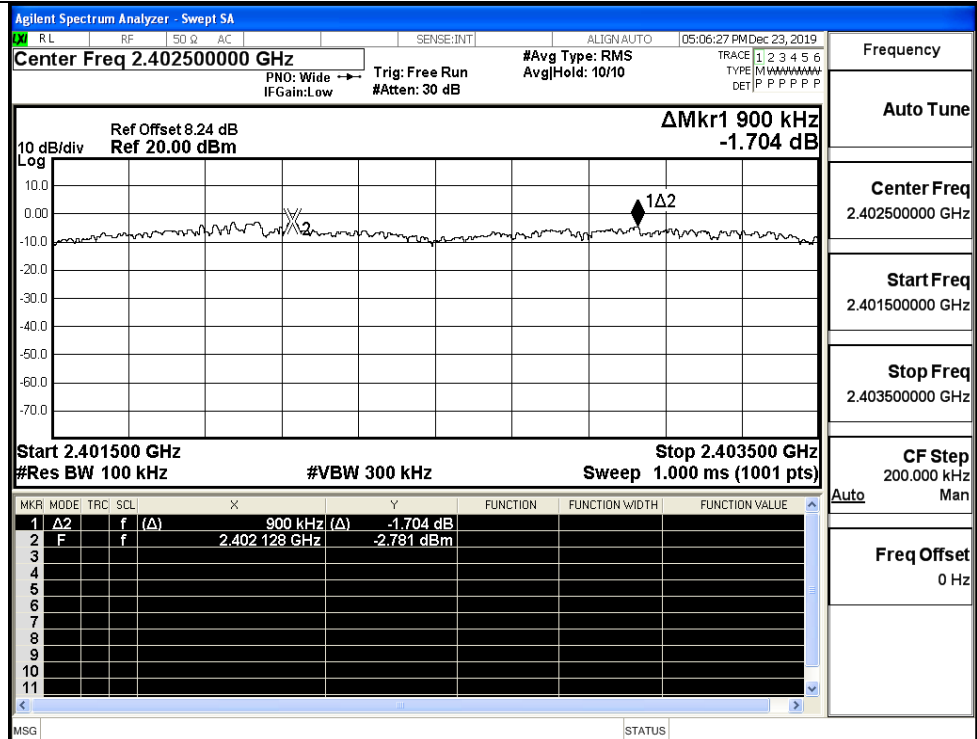
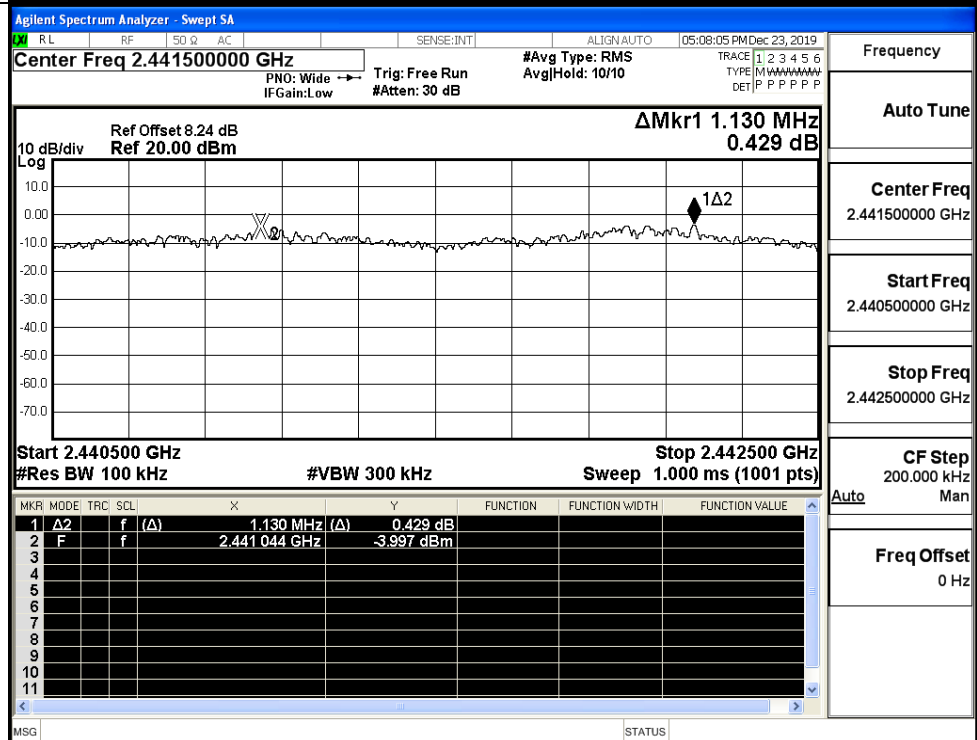
GFSK/HCH

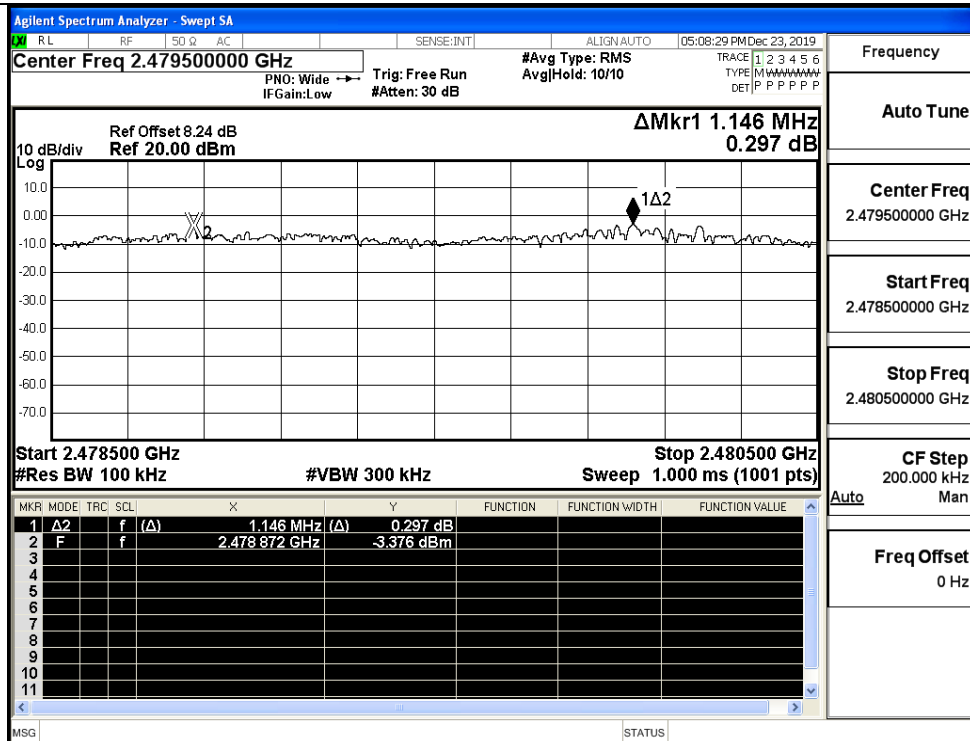


Frequency

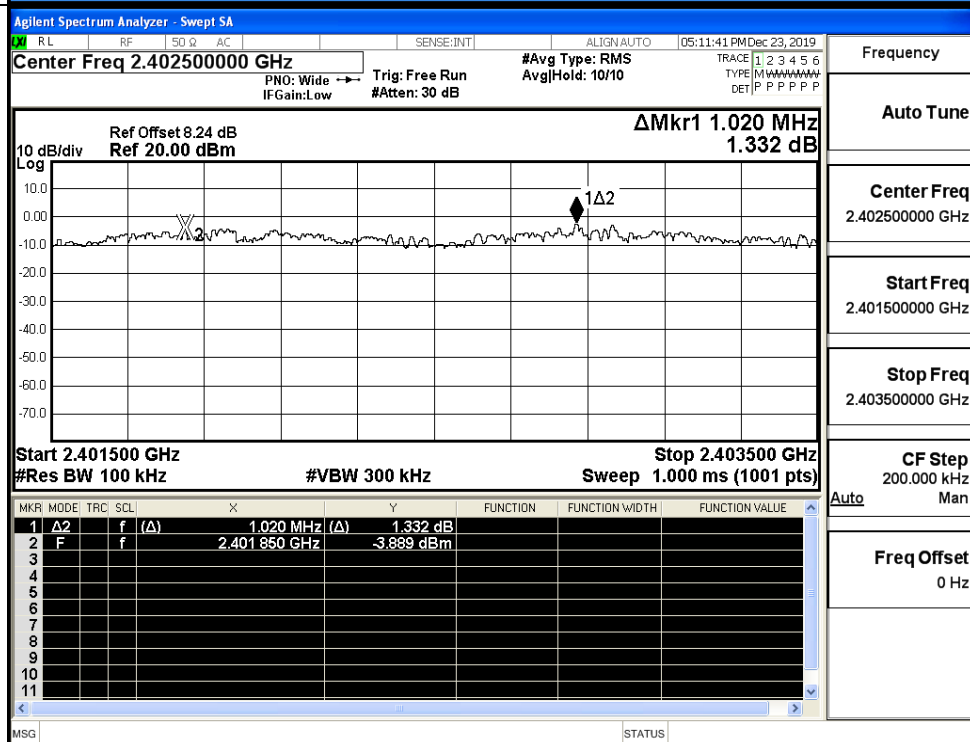
Auto Tune

Center Freq
2.479500000 GHzStart Freq
2.478500000 GHzStop Freq
2.480500000 GHzCF Step
200.000 kHz
ManFreq Offset
0 Hz

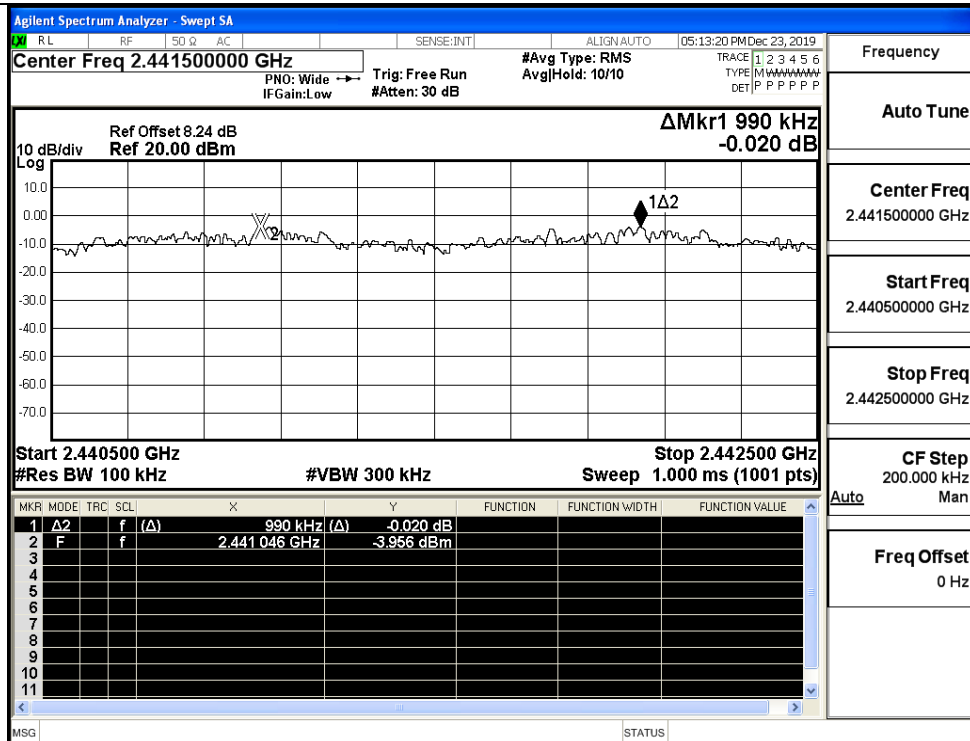
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

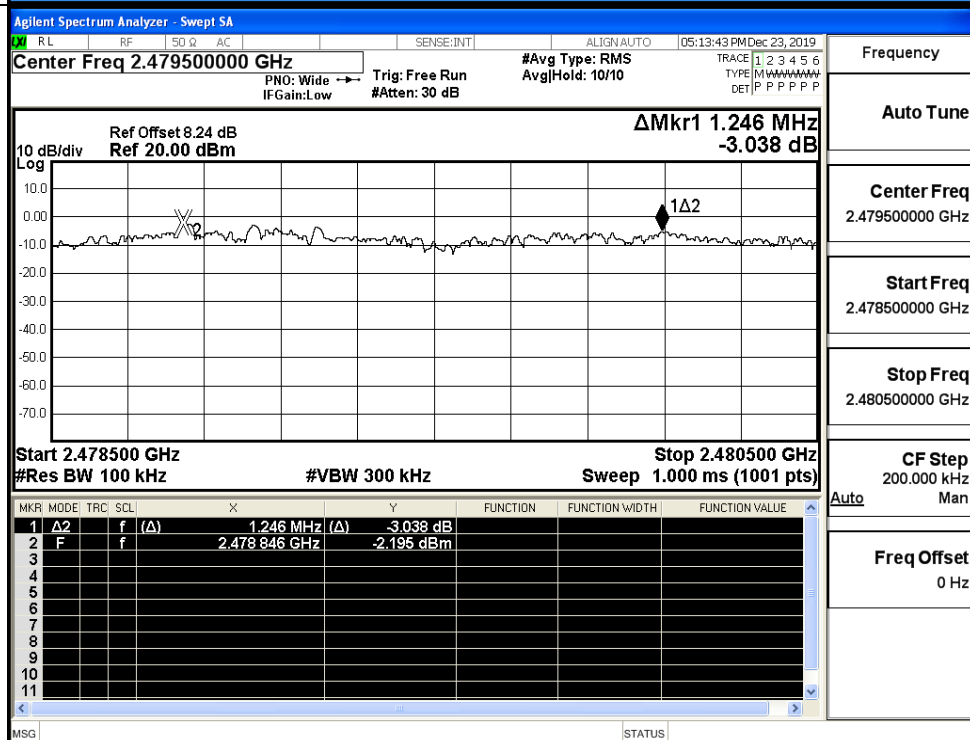
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

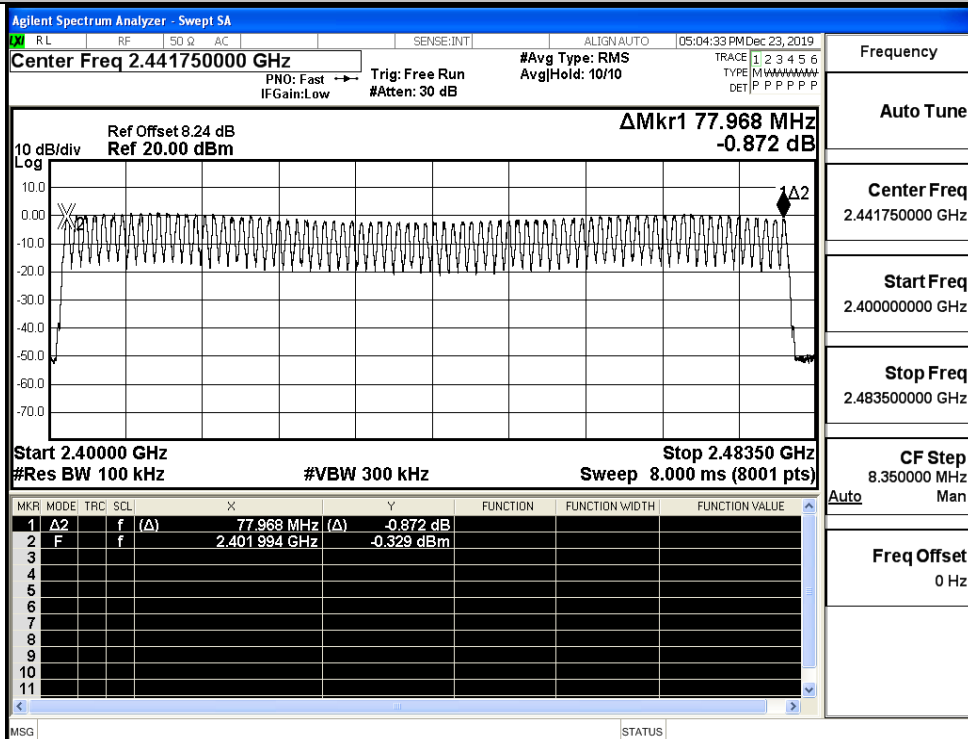
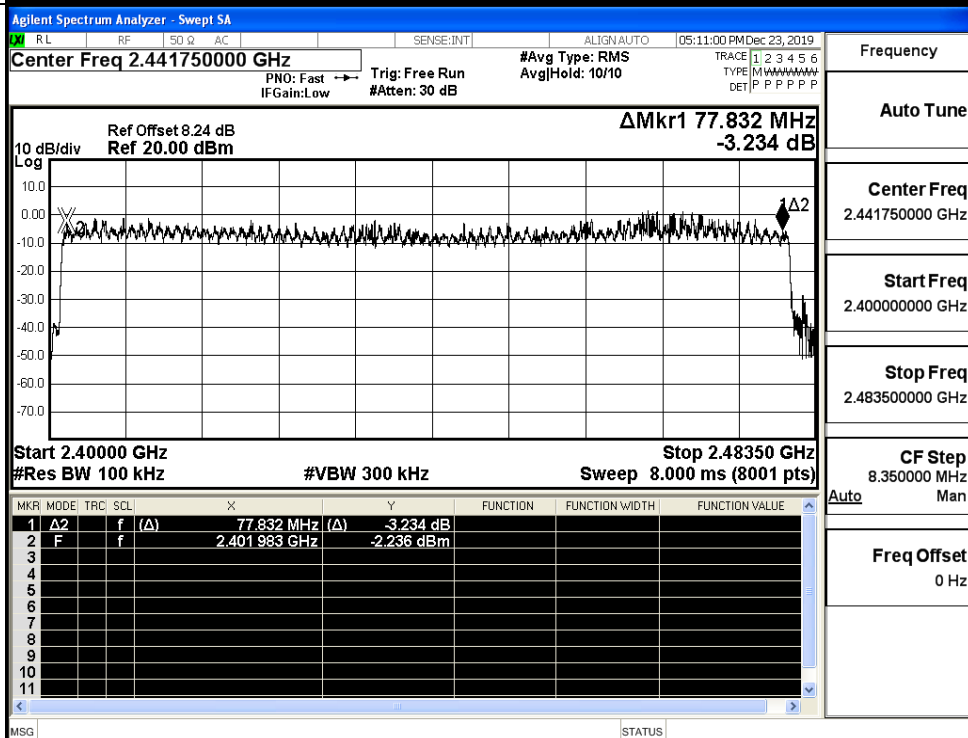


A.4 Hopping Channel Number

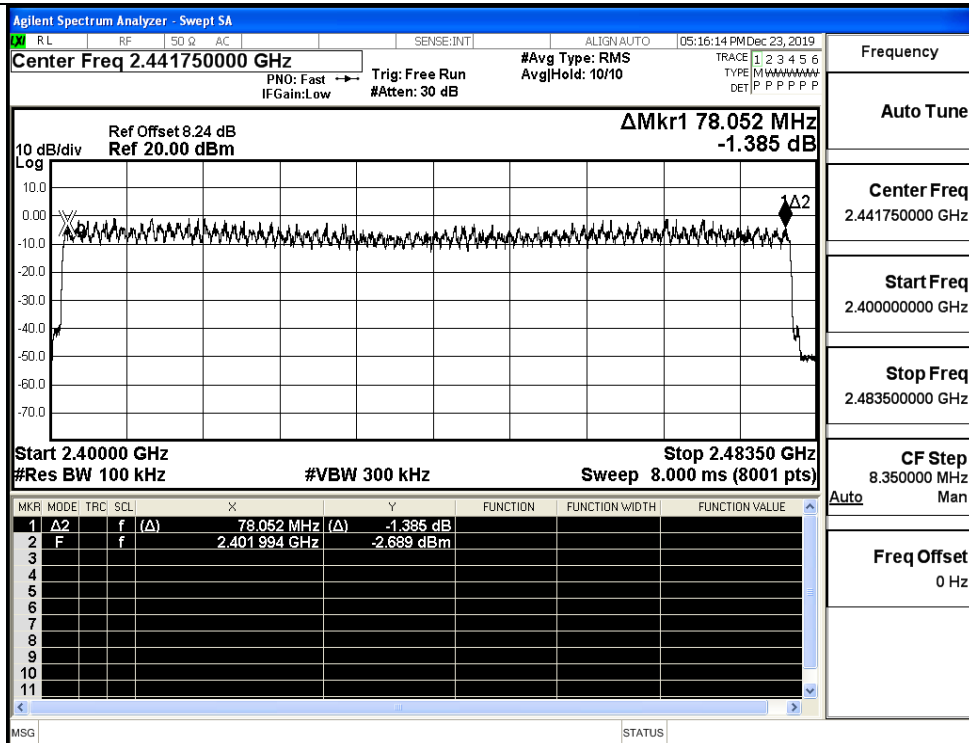
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	≥ 15	PASS
$\pi/4$ DQPSK	Hop	79	≥ 15	PASS
8DPSK	Hop	79	≥ 15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

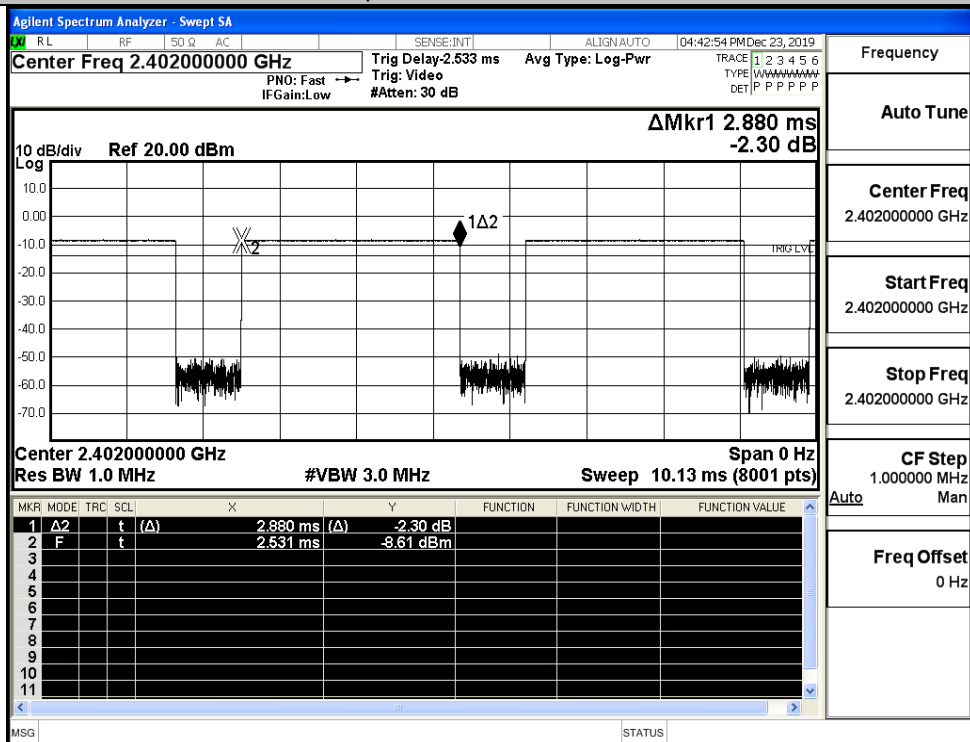


A.5 Dwell Time

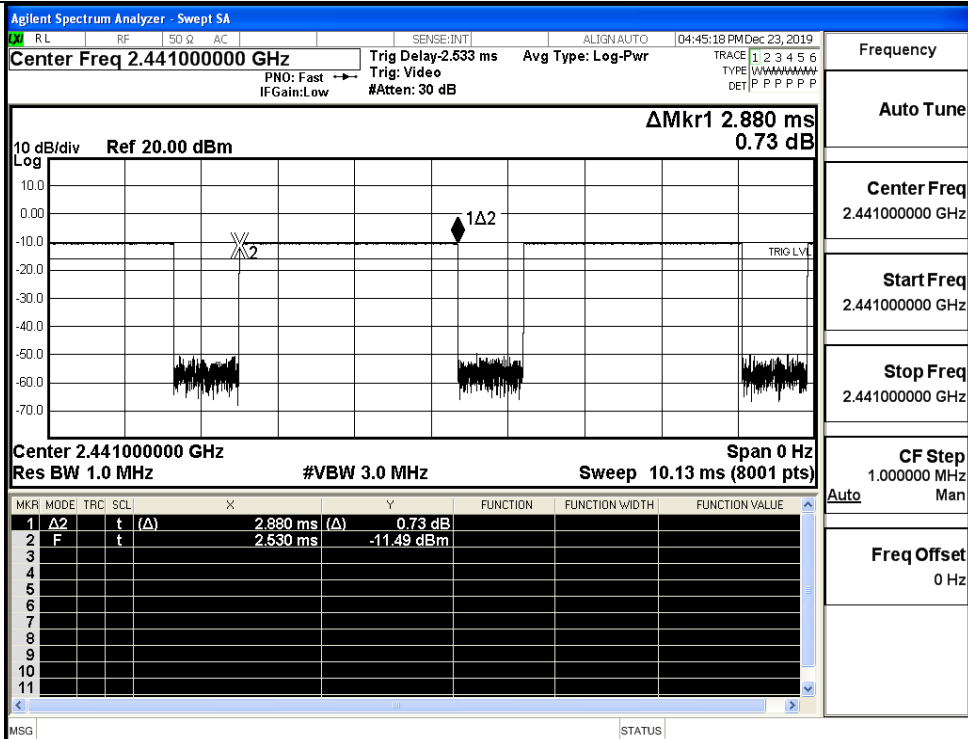
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88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

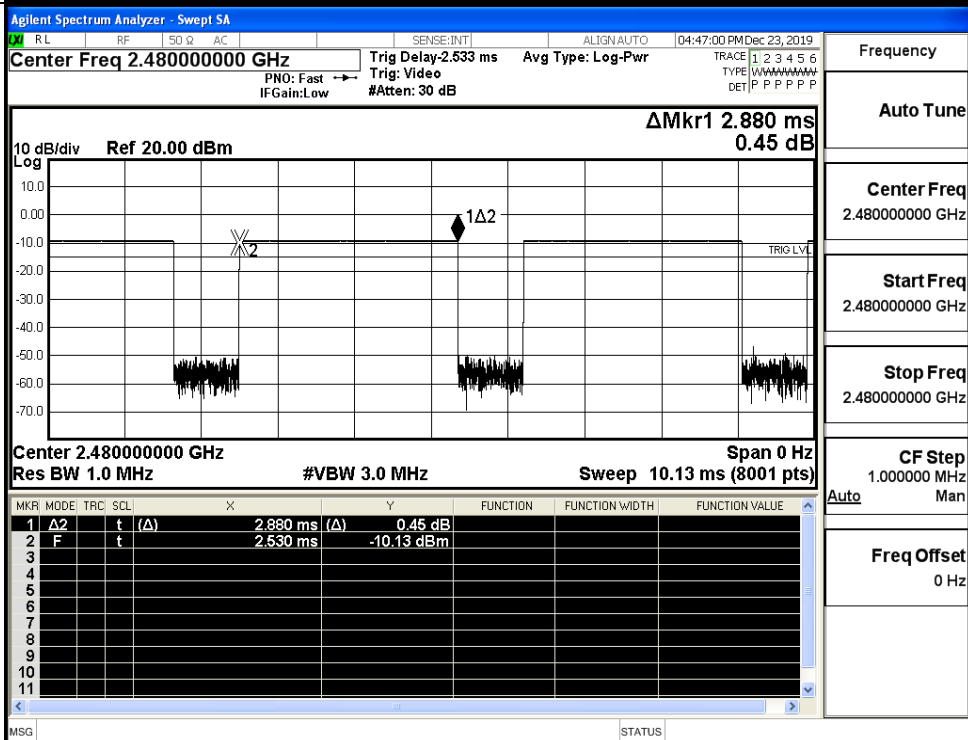
GFSK_DH5/LCH



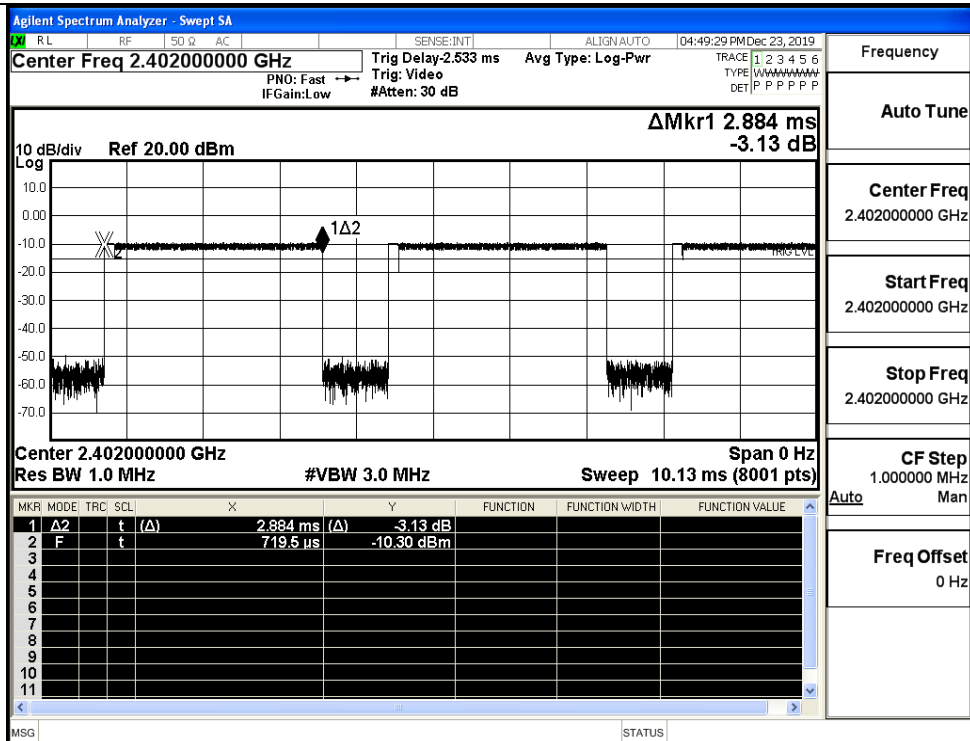
GFSK_DH5/MCH



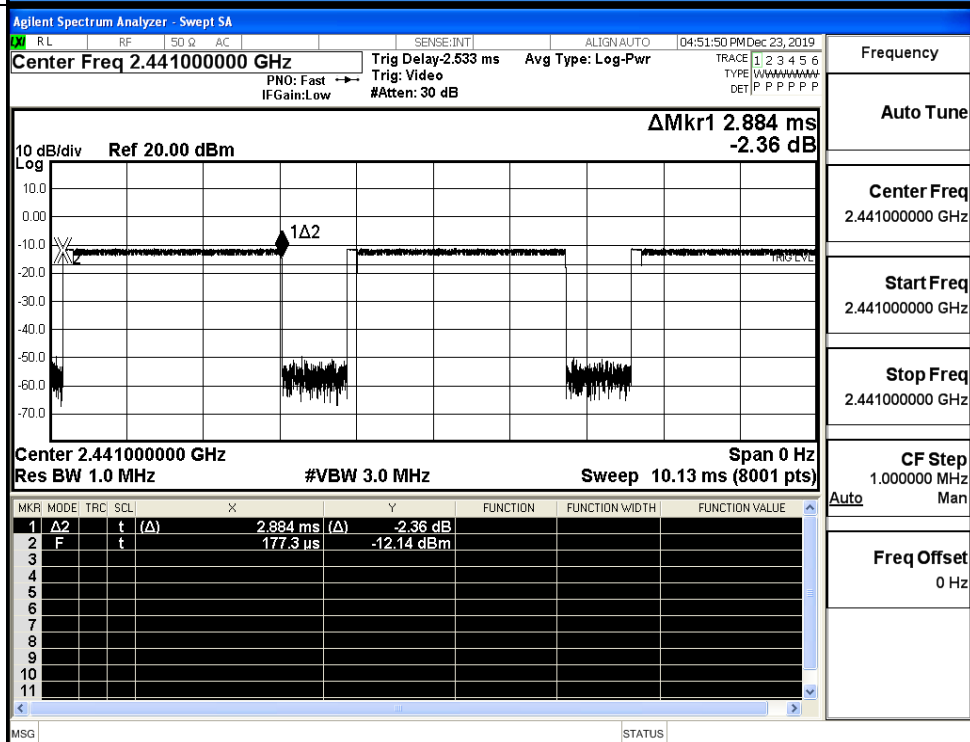
GFSK_DH5/HCH



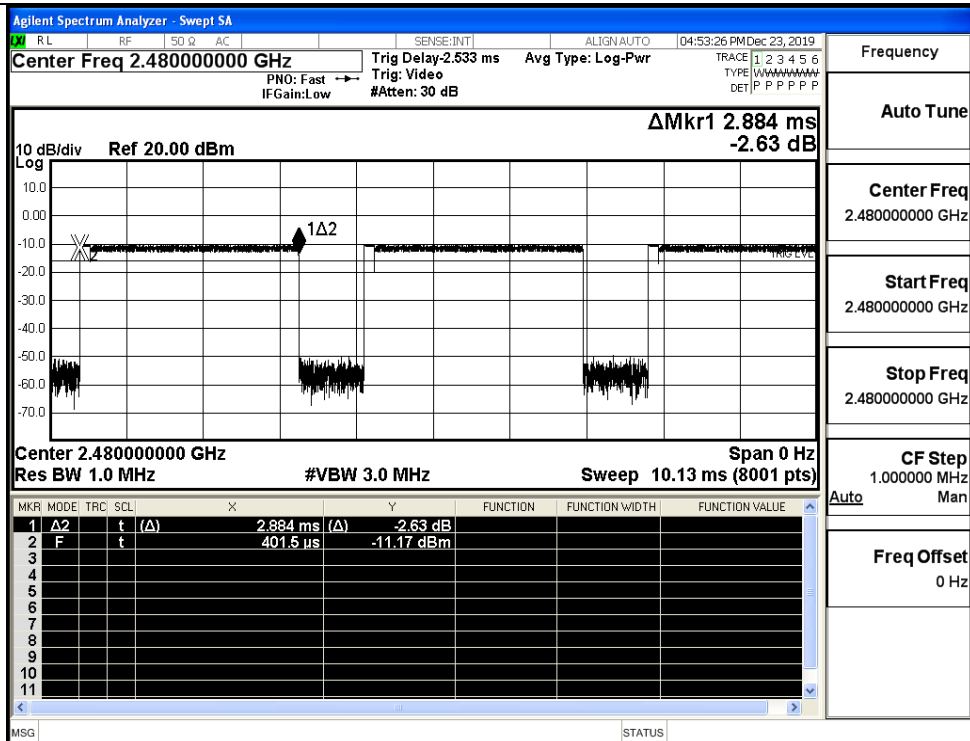
$\pi/4$ DQPSK
_2DH5/LCH



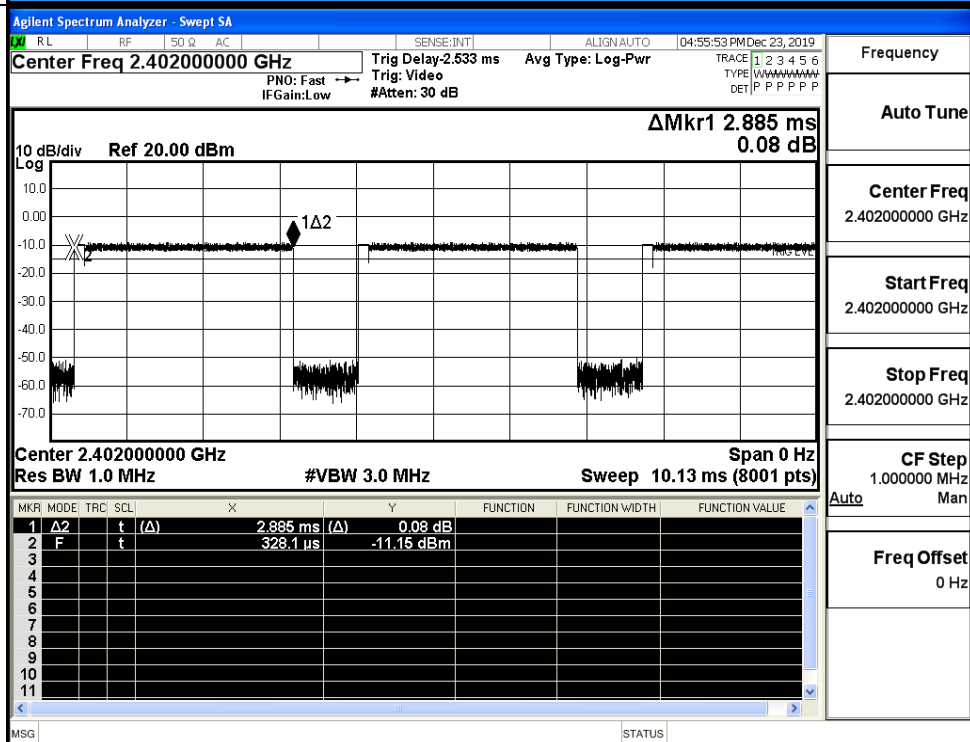
$\pi/4$ DQPSK
_2DH5/MCH



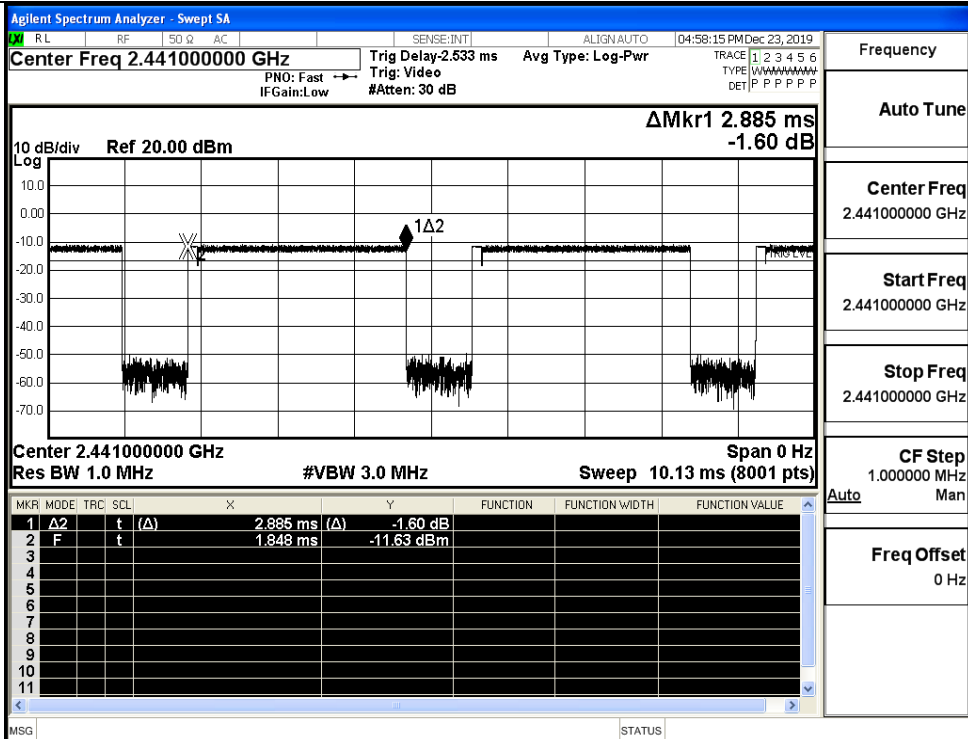
$\pi/4$ DQPSK
_2DH5/HCH



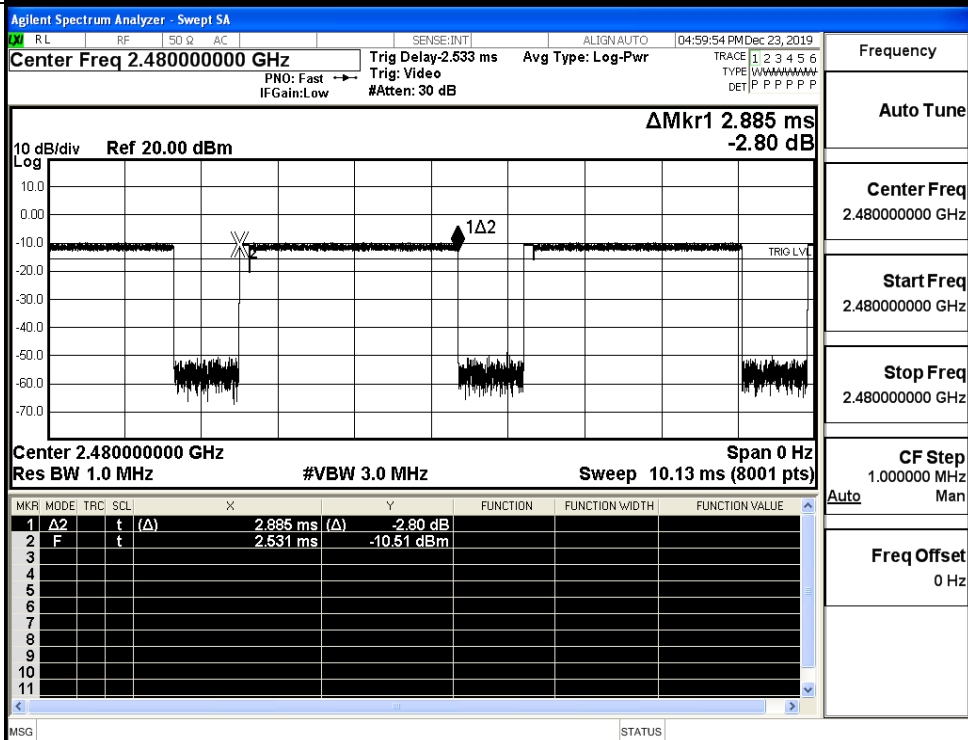
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



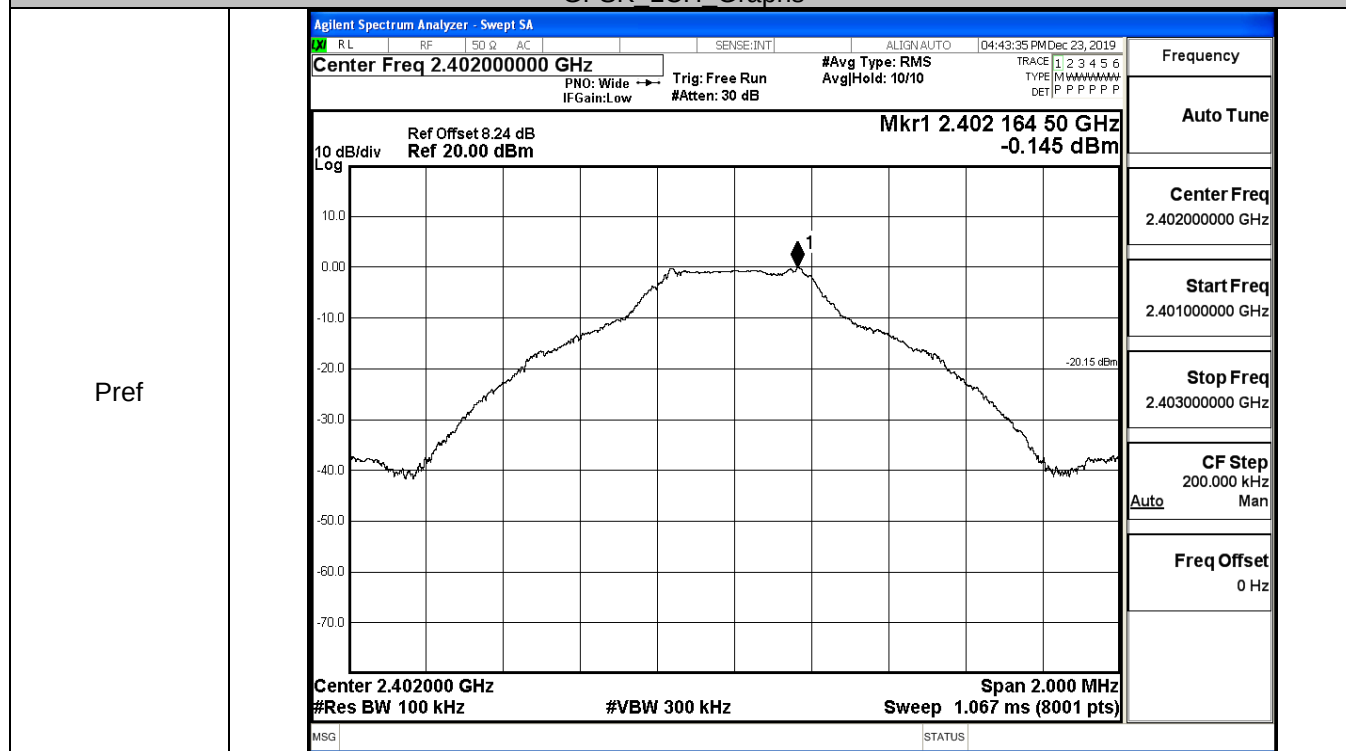
8DPSK_3DH5/HCH

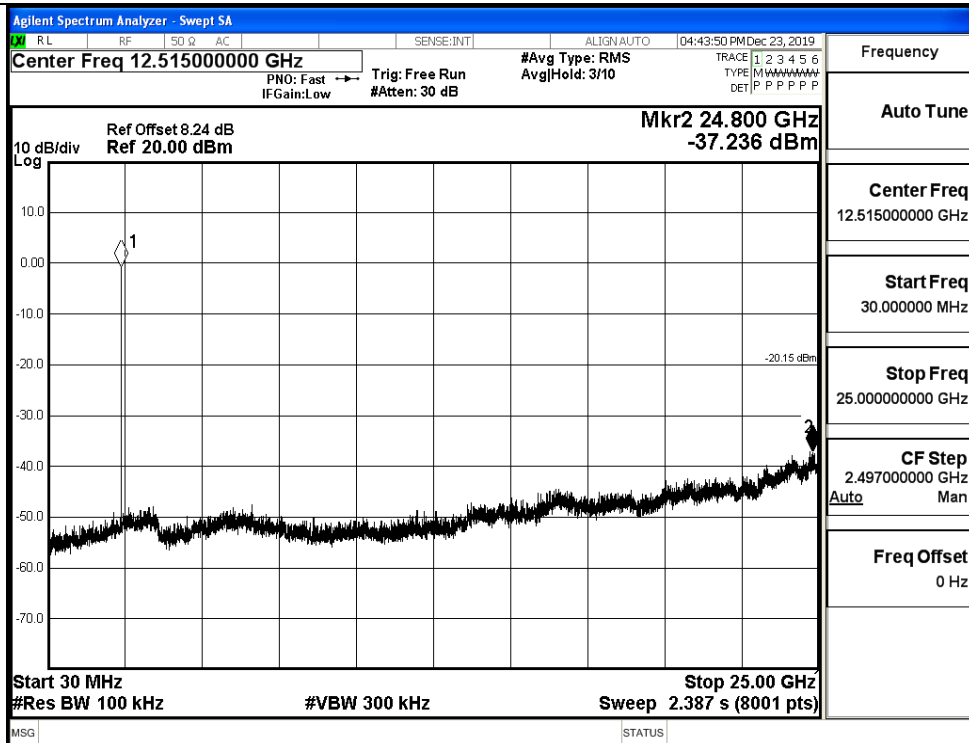


A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.145	-37.236	-20.145	PASS
	MCH	-2.119	-37.633	-22.119	PASS
	HCH	-0.959	-36.977	-20.959	PASS
$\pi/4$ DQPSK	LCH	-1.594	-33.046	-21.594	PASS
	MCH	-3.94	-37.168	-23.940	PASS
	HCH	-2.243	-37.387	-22.243	PASS
8DPSK	LCH	-2.382	-37.190	-22.382	PASS
	MCH	-3.269	-36.560	-23.269	PASS
	HCH	-2.239	-37.189	-22.239	PASS

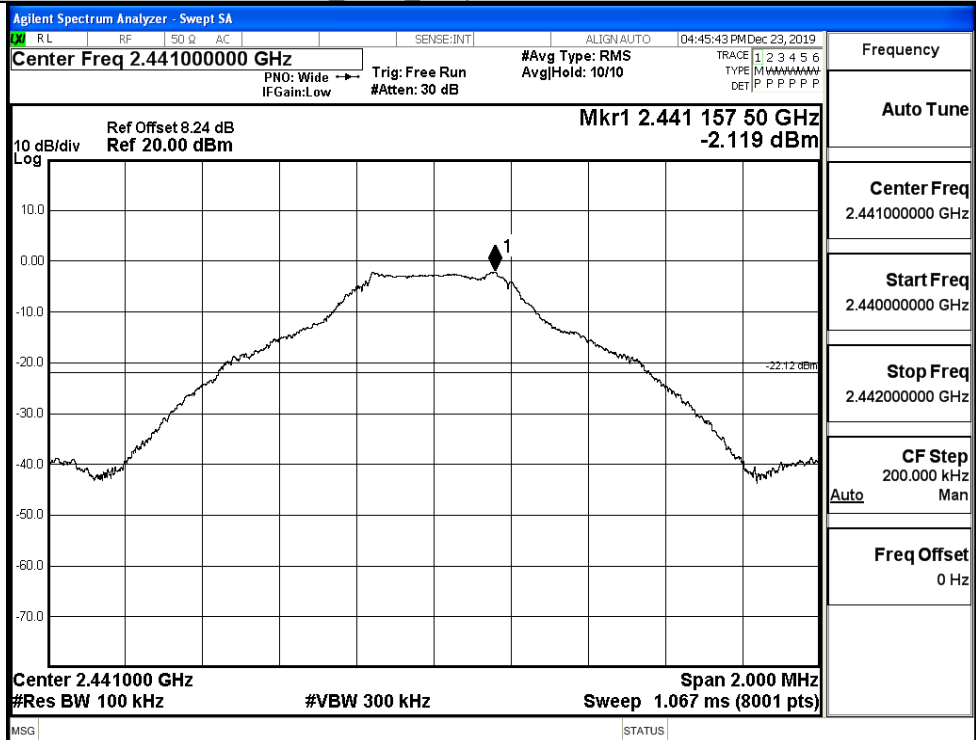
GFSK LCH Graphs



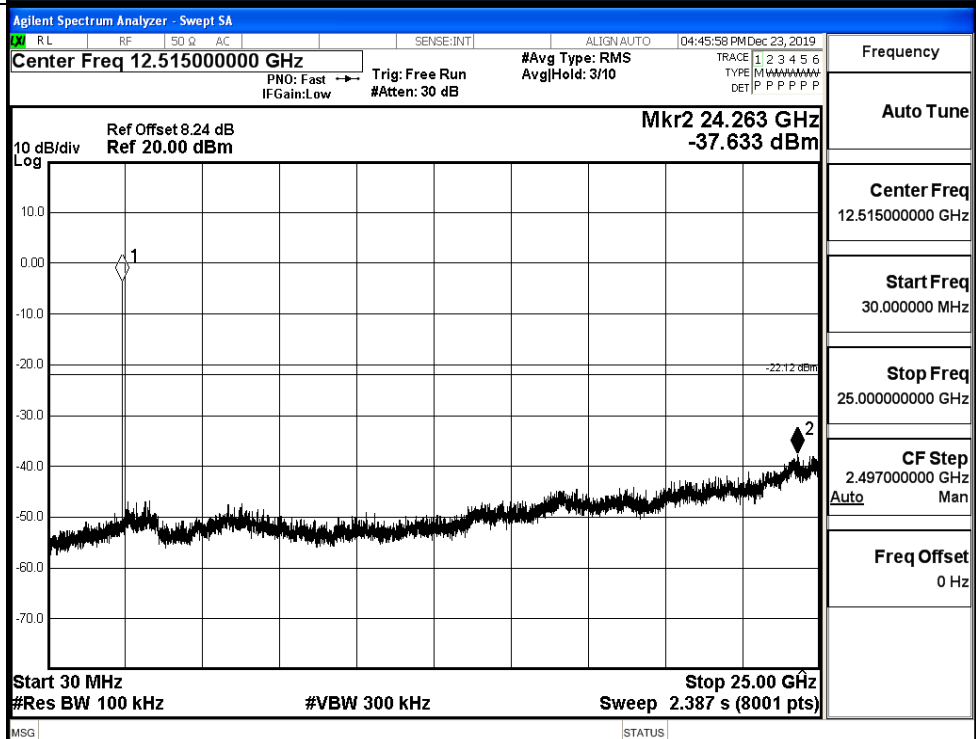
P_{uw}

GFSK_MCH_Graphs

Pref

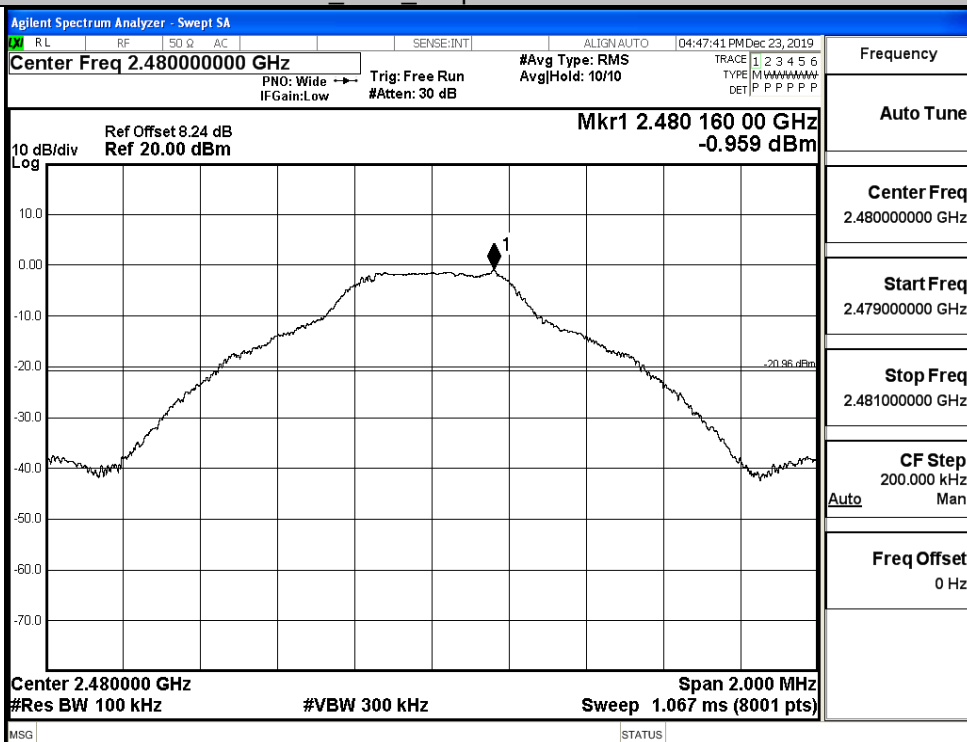


Puw

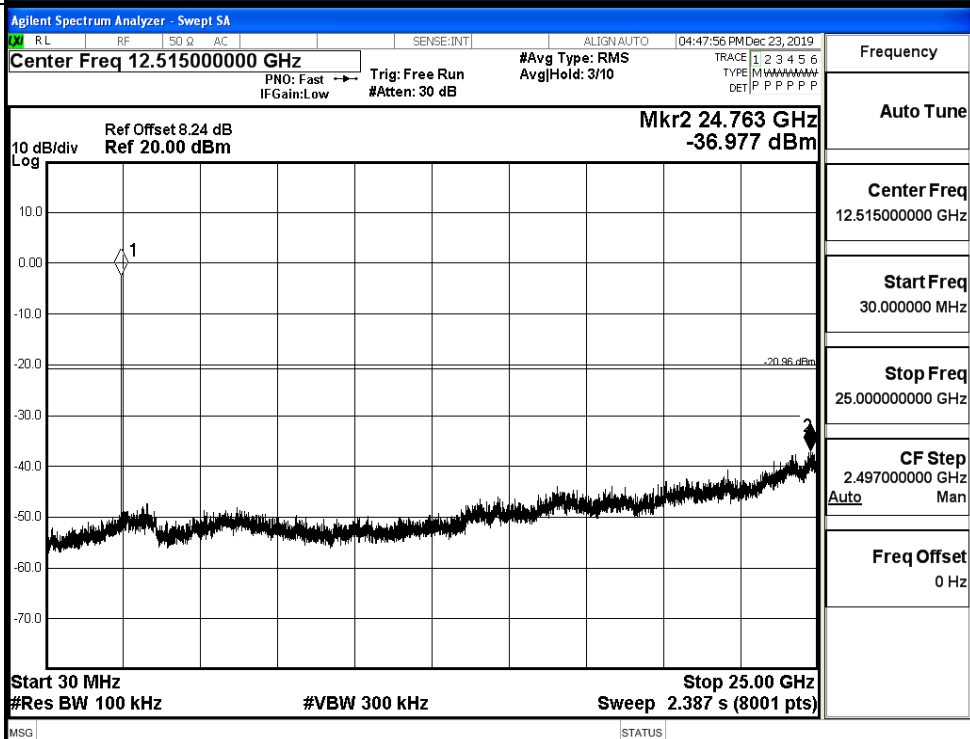


GFSK HCH_Graphs

Pref

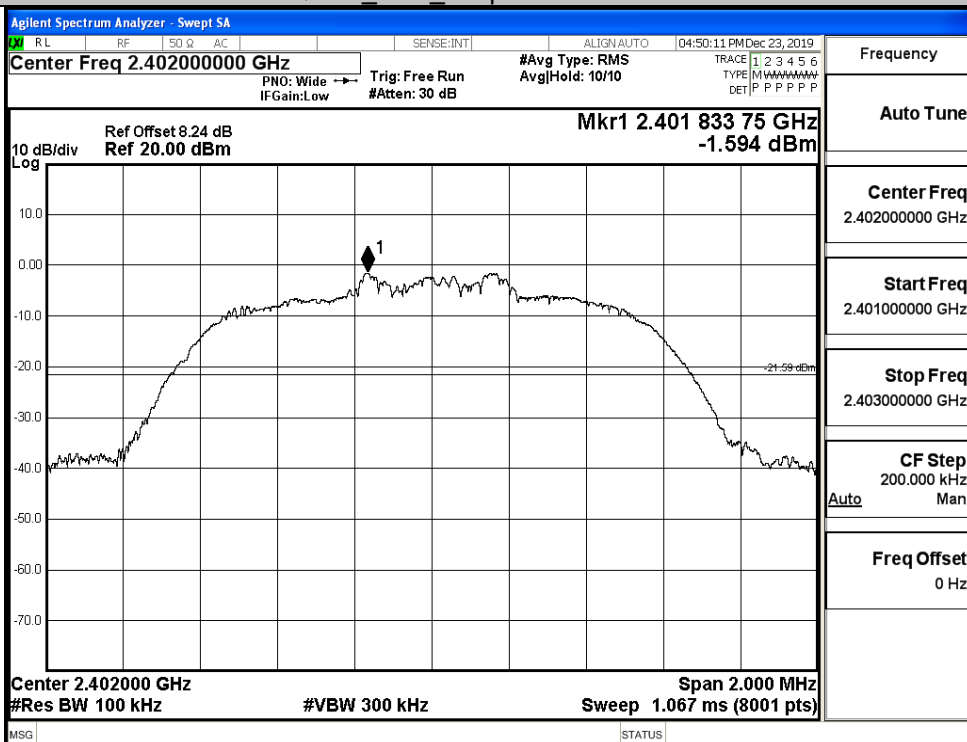


Puw

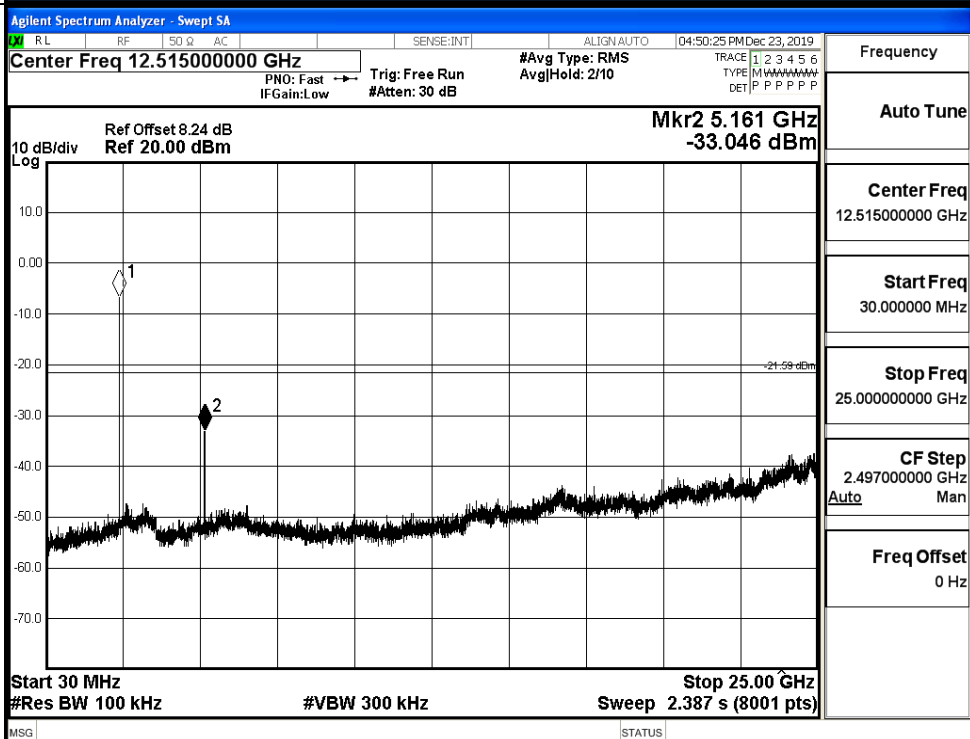


$\pi/4$ DQPSK_LCH_Graphs

Pref

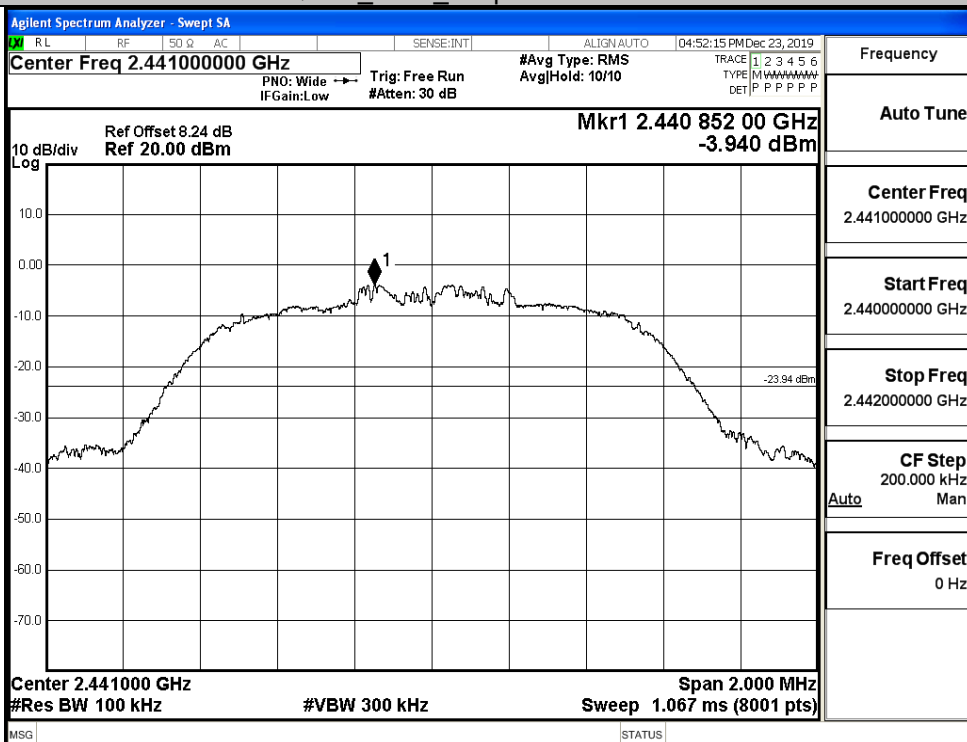


Puw

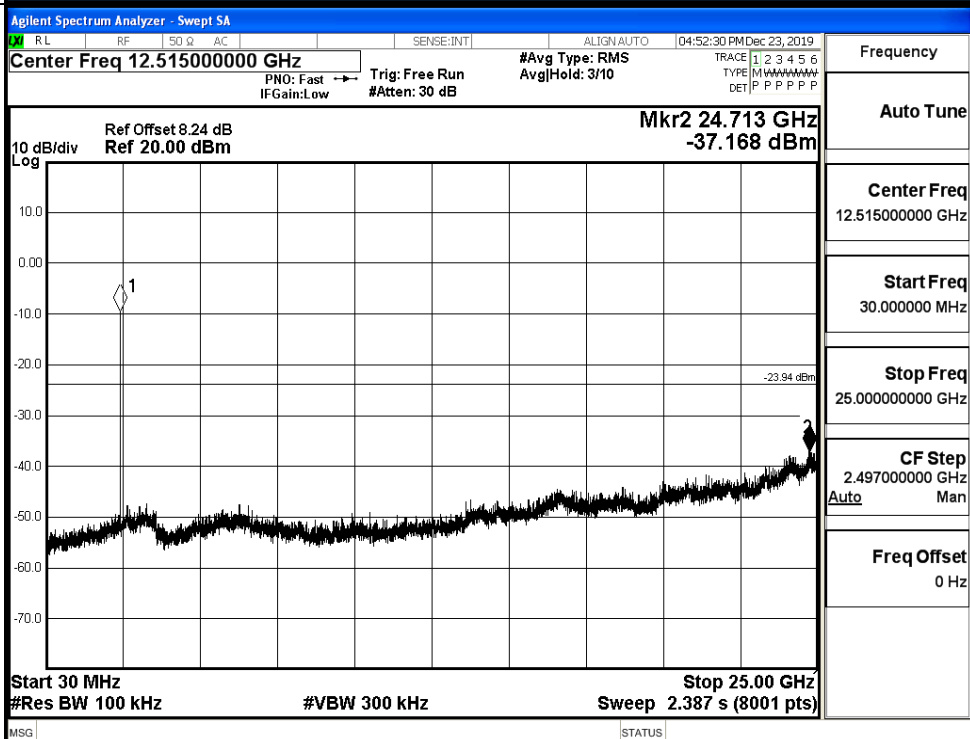


π /4DQPSK_MCH_Graphs

Pref

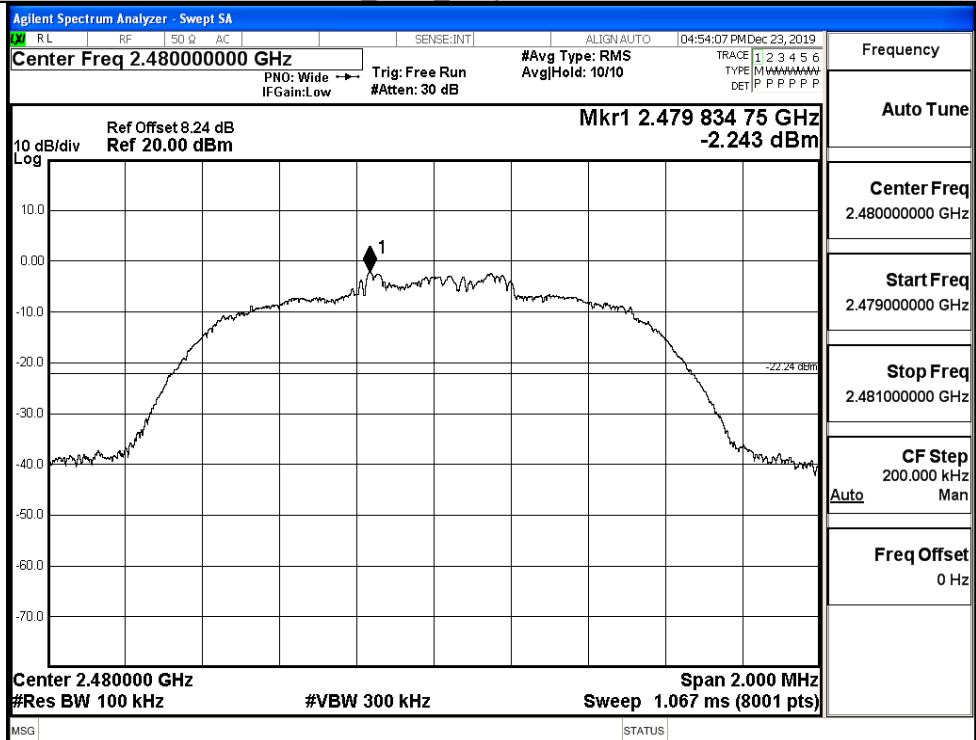


Puw



π /4DQPSK_HCH_Graphs

Pref

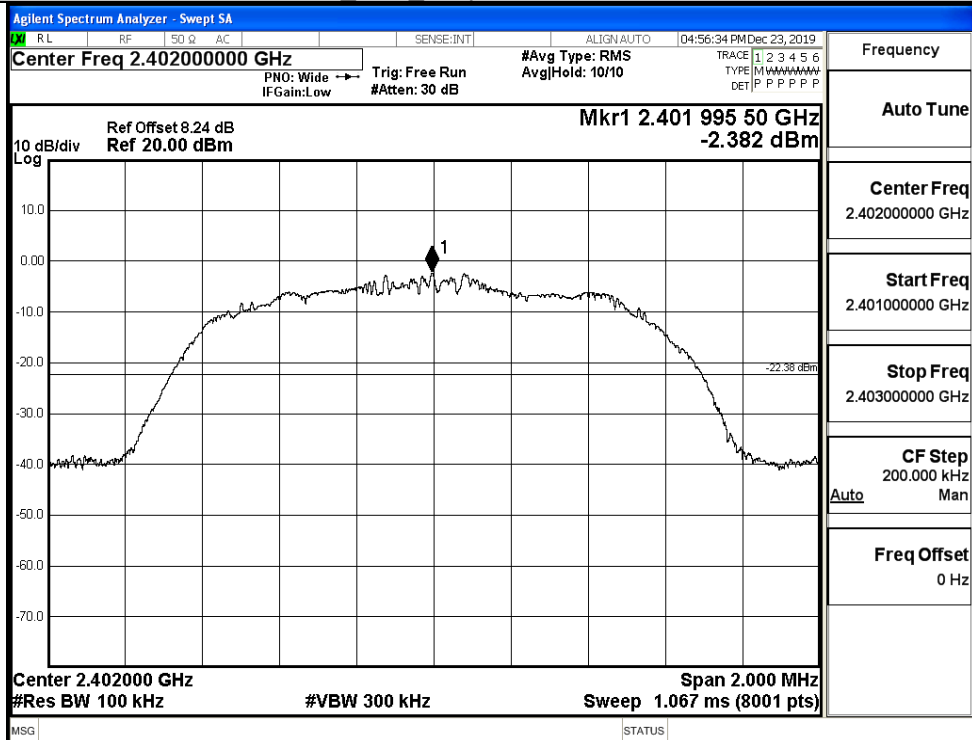


Puw

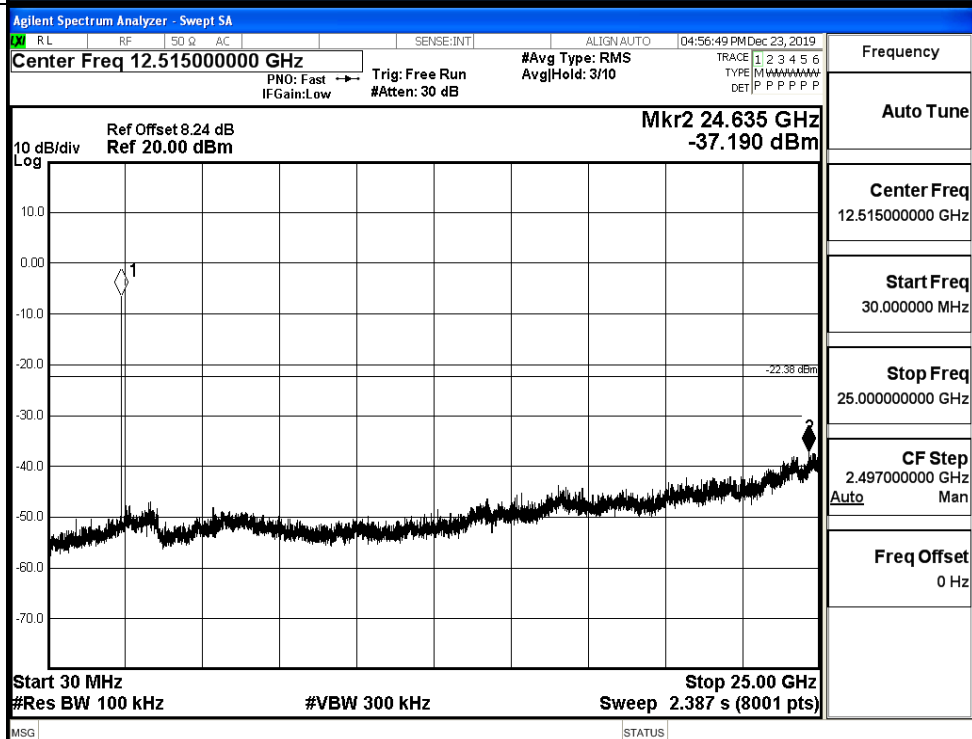


8DPSK_LCH_Graphs

Pref

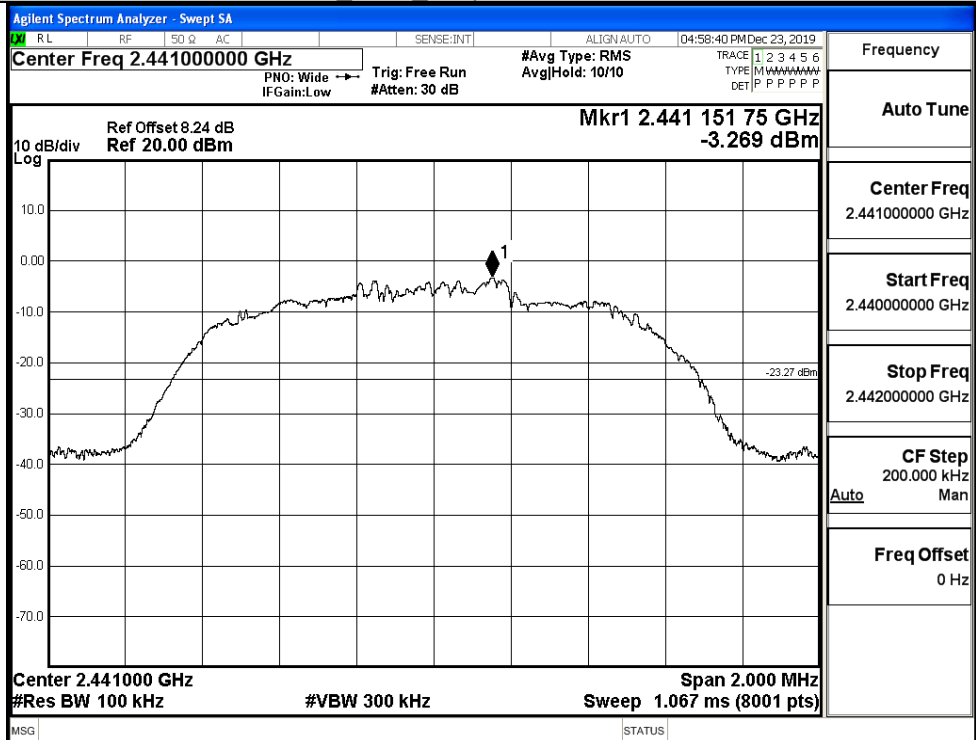


Puw

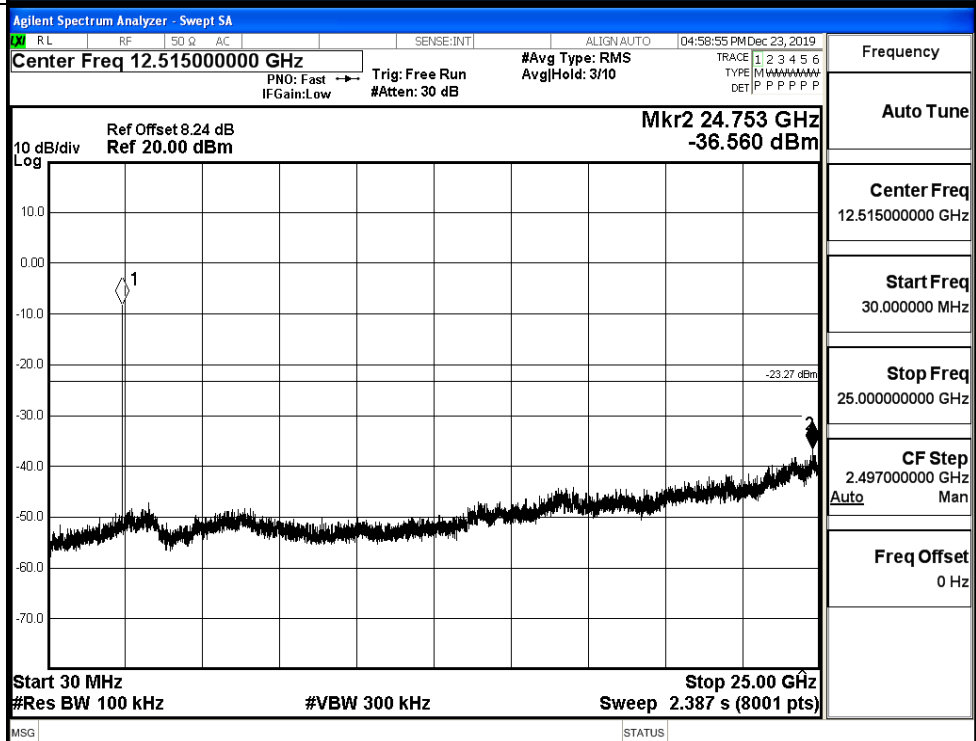


8DPSK_MCH_Graphs

Pref

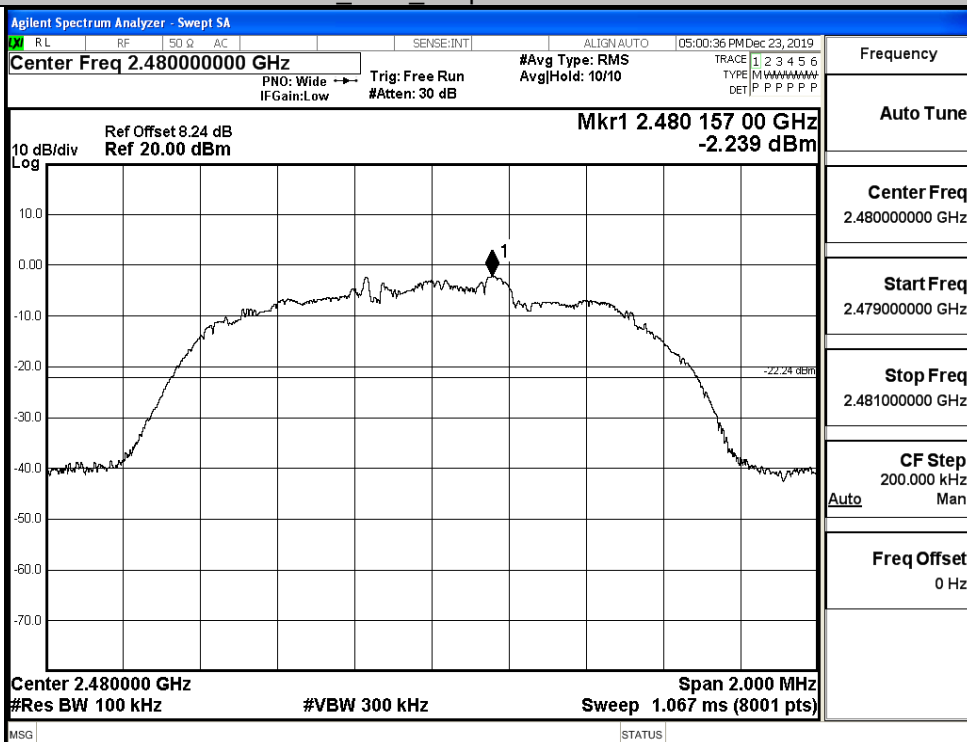


Puw

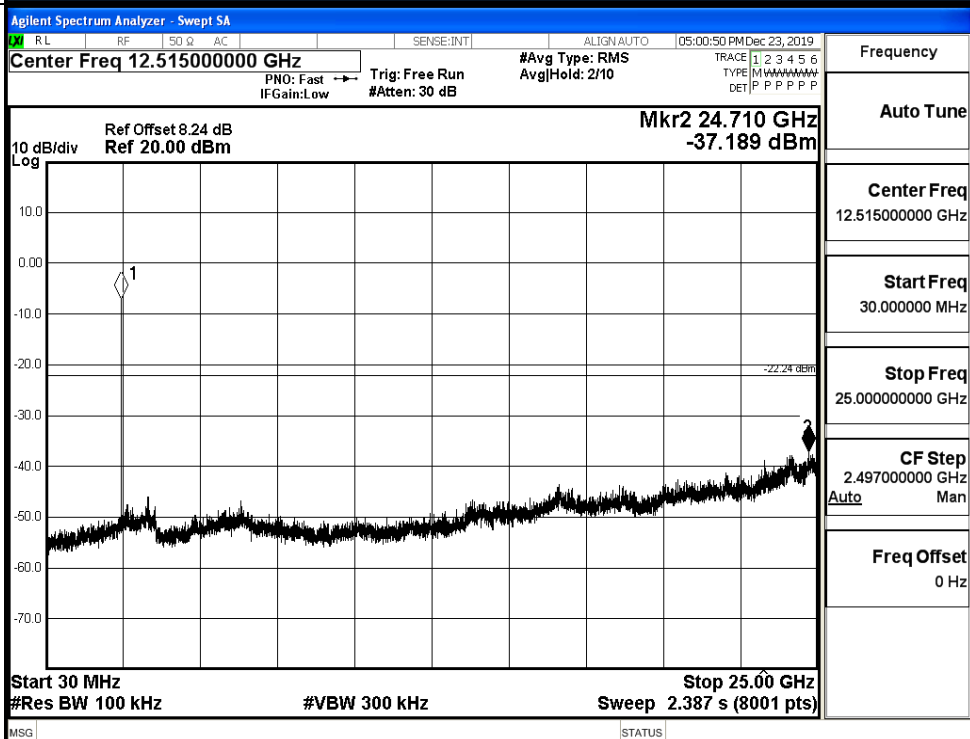


8DPSK_HCH_Graphs

Pref



Puw

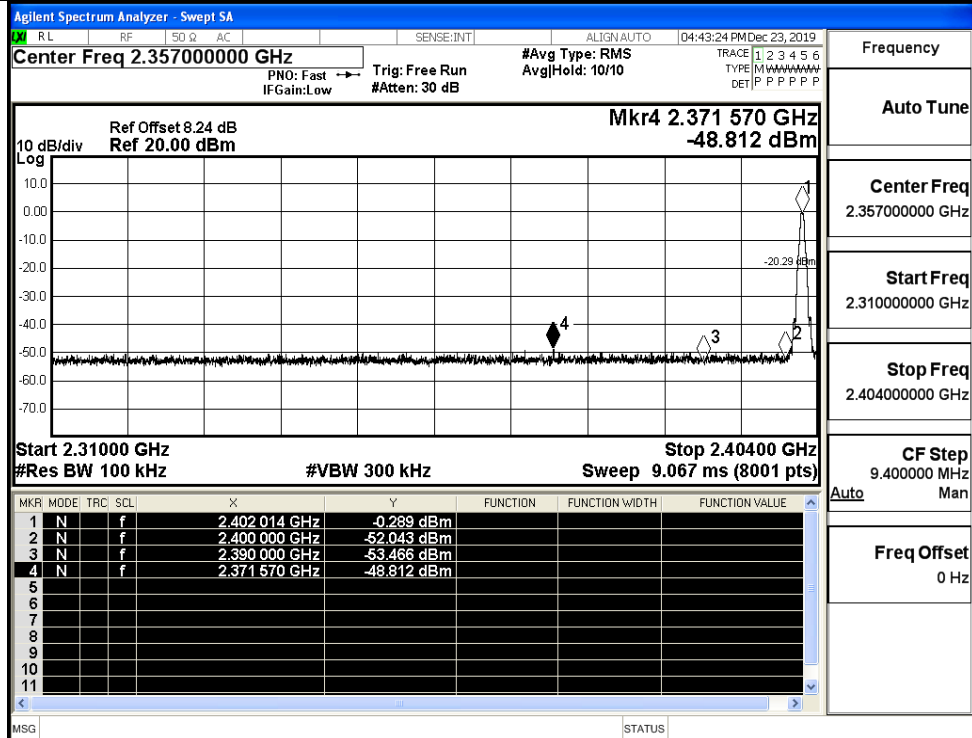


A.7 Band-edge for RF Conducted Emissions

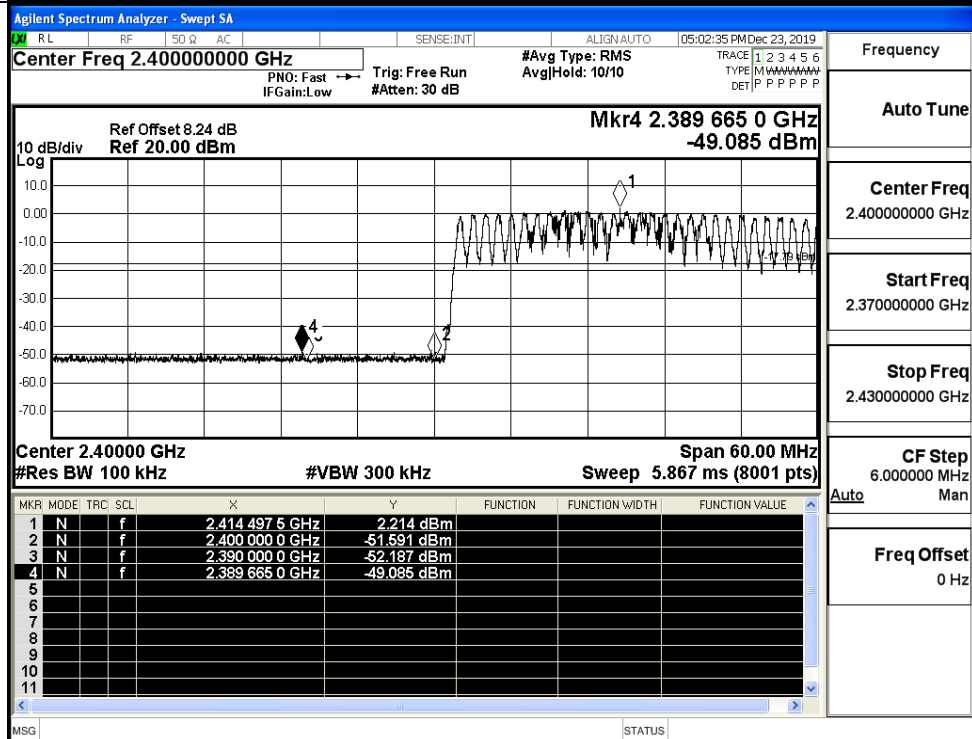
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-0.289	Off	-48.812	-20.29	PASS
			2.214	On	-49.085	-17.79	PASS
	HCH	2480	-0.986	Off	-48.786	-20.99	PASS
			1.678	On	-34.360	-18.32	PASS
$\pi/4$ DQPSK	LCH	2402	-2.035	Off	-49.603	-22.04	PASS
			-0.655	On	-48.345	-20.66	PASS
	HCH	2480	-2.233	Off	-48.647	-22.23	PASS
			-0.971	On	-48.362	-20.97	PASS
8DPSK	LCH	2402	-1.980	Off	-49.224	-21.98	PASS
			-0.530	On	-48.740	-20.53	PASS
	HCH	2480	-2.218	Off	-48.525	-22.22	PASS
			-0.997	On	-48.247	-21	PASS

Test Graphs

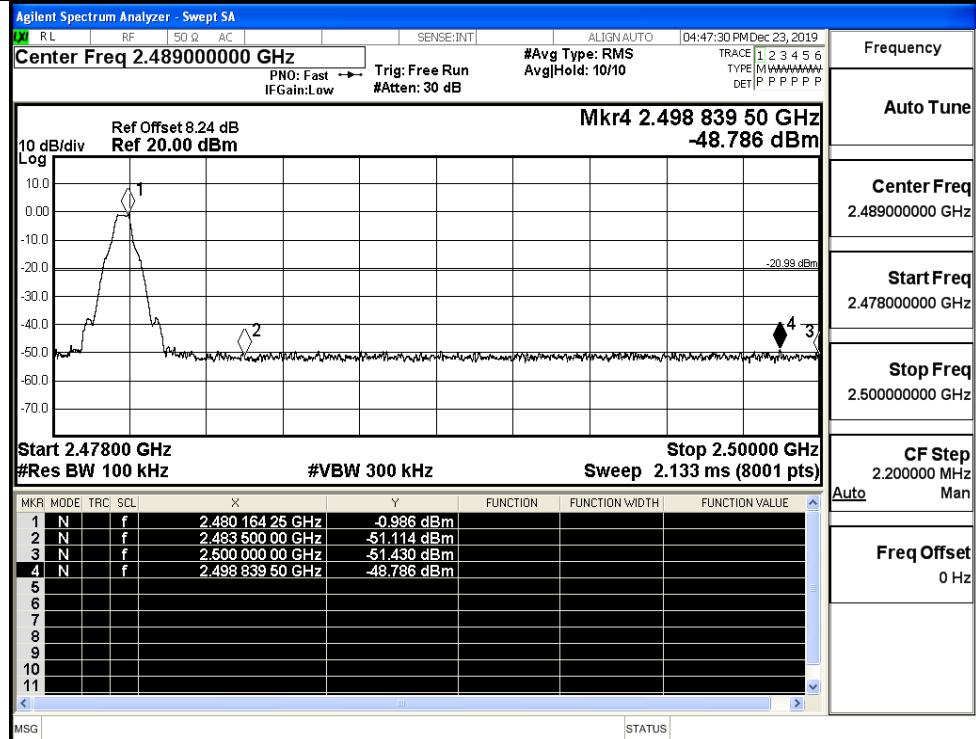
GFSK/LCH/No Hop



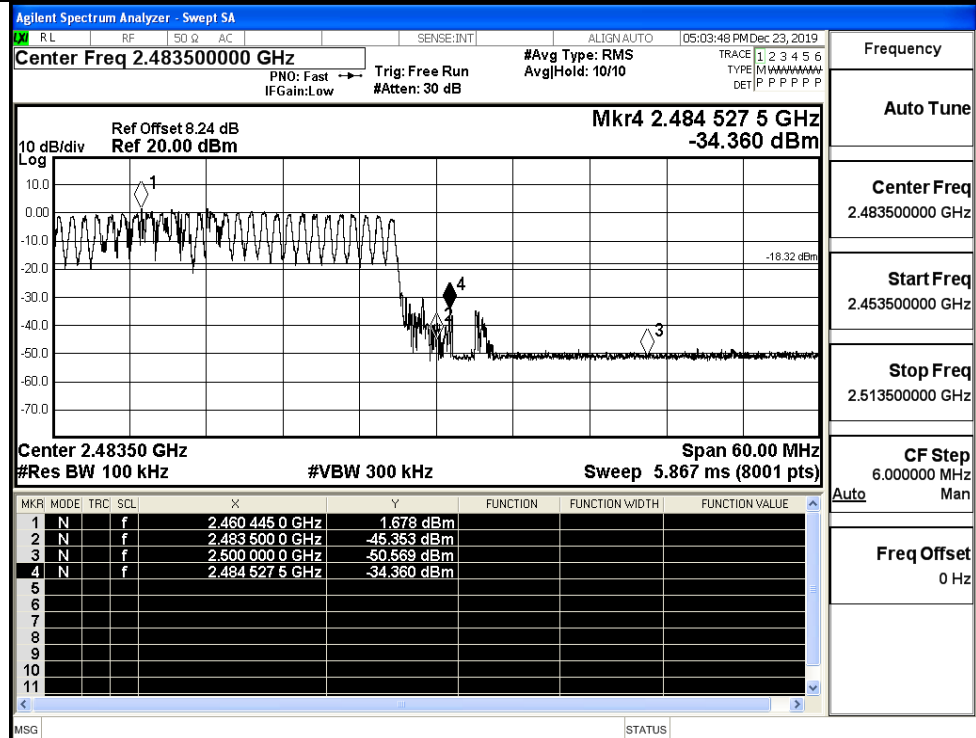
GFSK/LCH/Hop



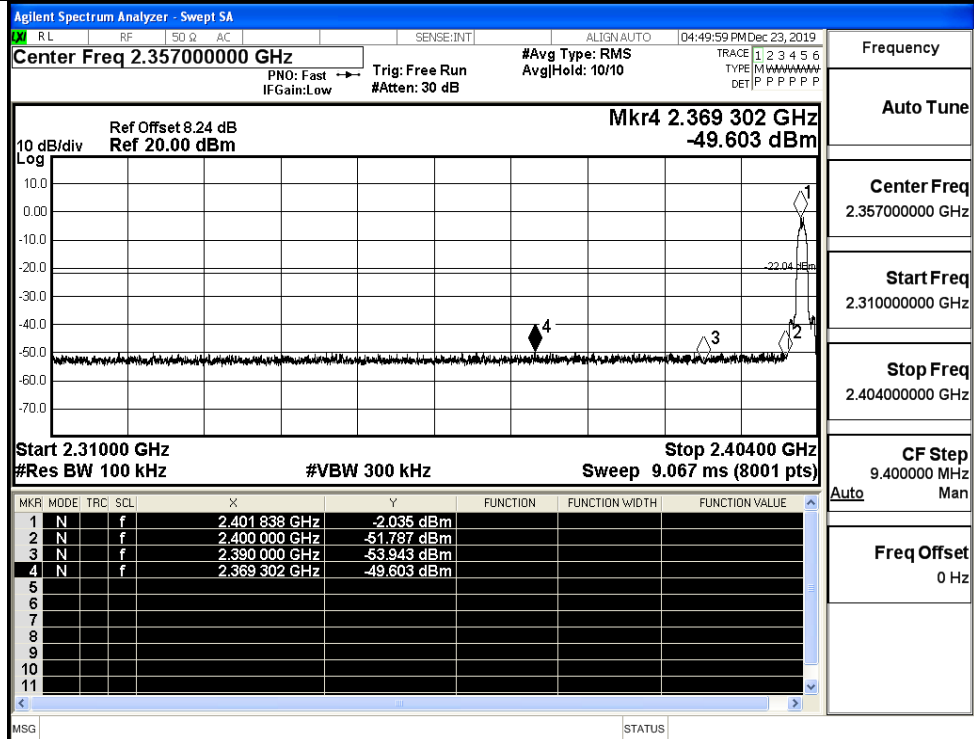
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq
2.357000000 GHz

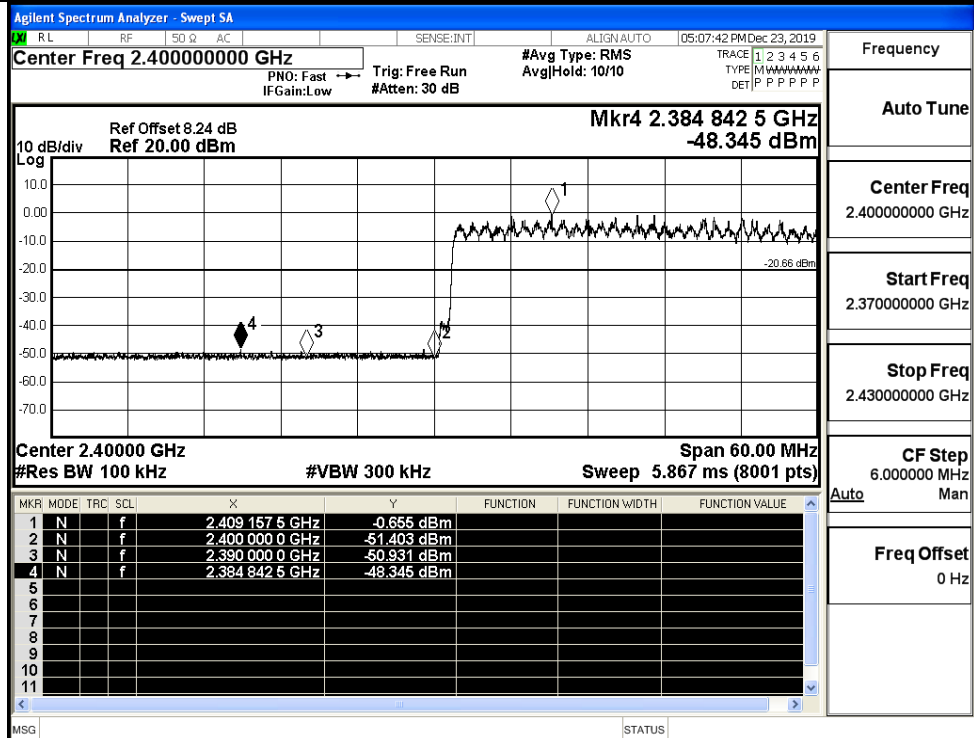
Start Freq
2.310000000 GHz

Stop Freq
2.404000000 GHz

CF Step
9.400000 MHz
Auto Man

Freq Offset
0 Hz

$\pi/4$ DQPSK/LCH/Hop



Frequency

Auto Tune

Center Freq
2.400000000 GHz

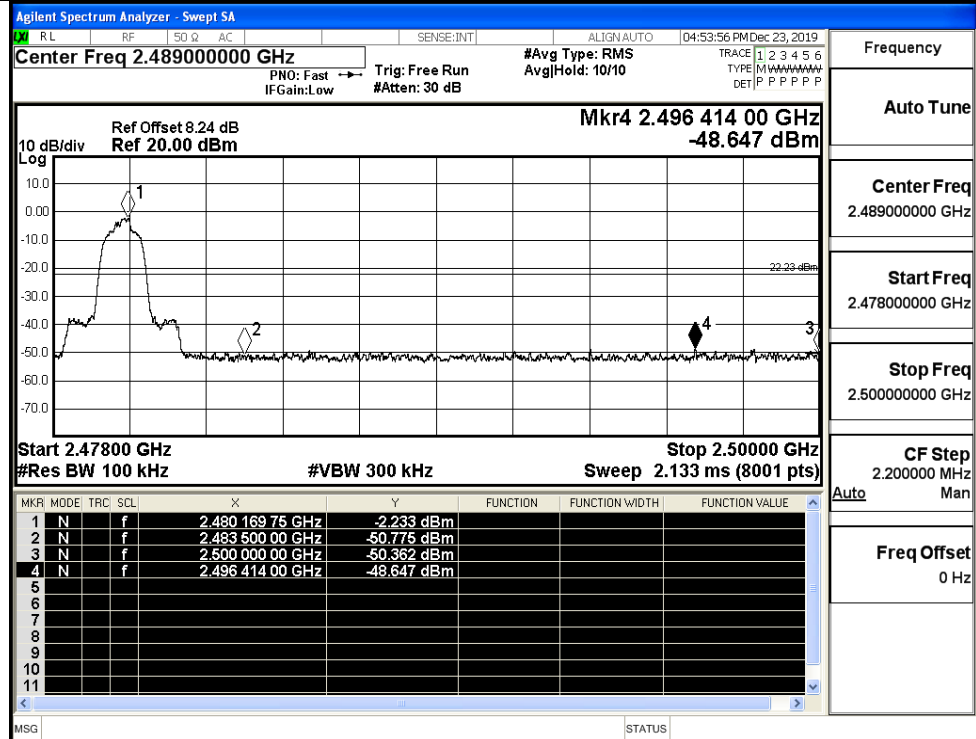
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

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



Frequency

Auto Tune

Center Freq
2.489000000 GHz

Start Freq
2.478000000 GHz

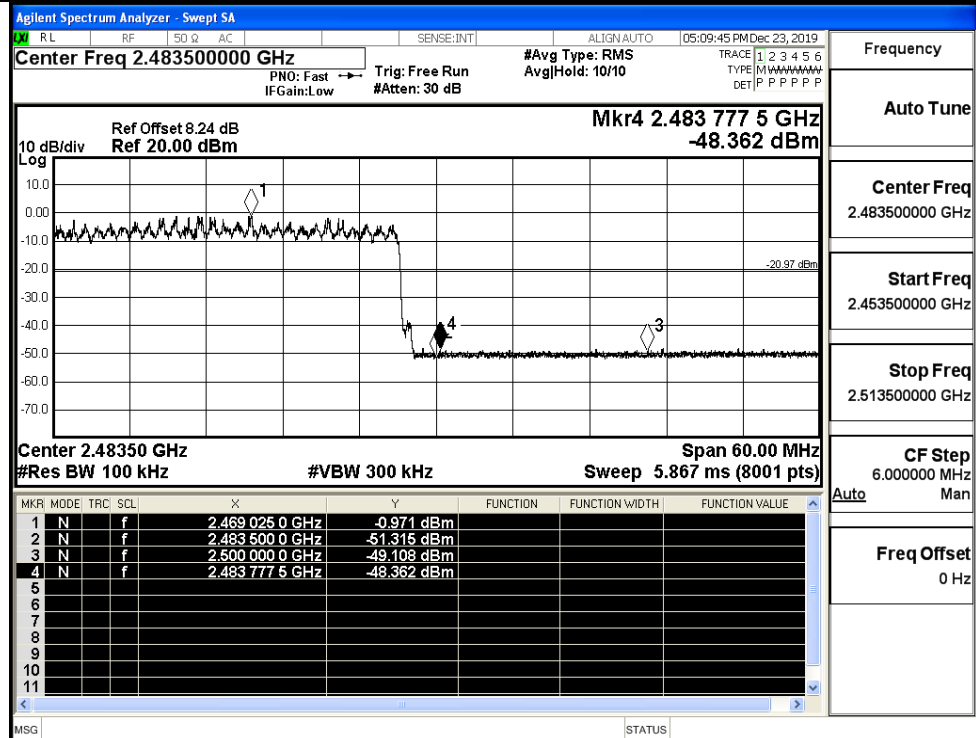
Stop Freq
2.500000000 GHz

CF Step
2.200000 MHz

Auto Man

Freq Offset
0 Hz

$\pi/4$ DQPSK/HCH/Hop



Frequency

Auto Tune

Center Freq
2.483500000 GHz

Start Freq
2.453500000 GHz

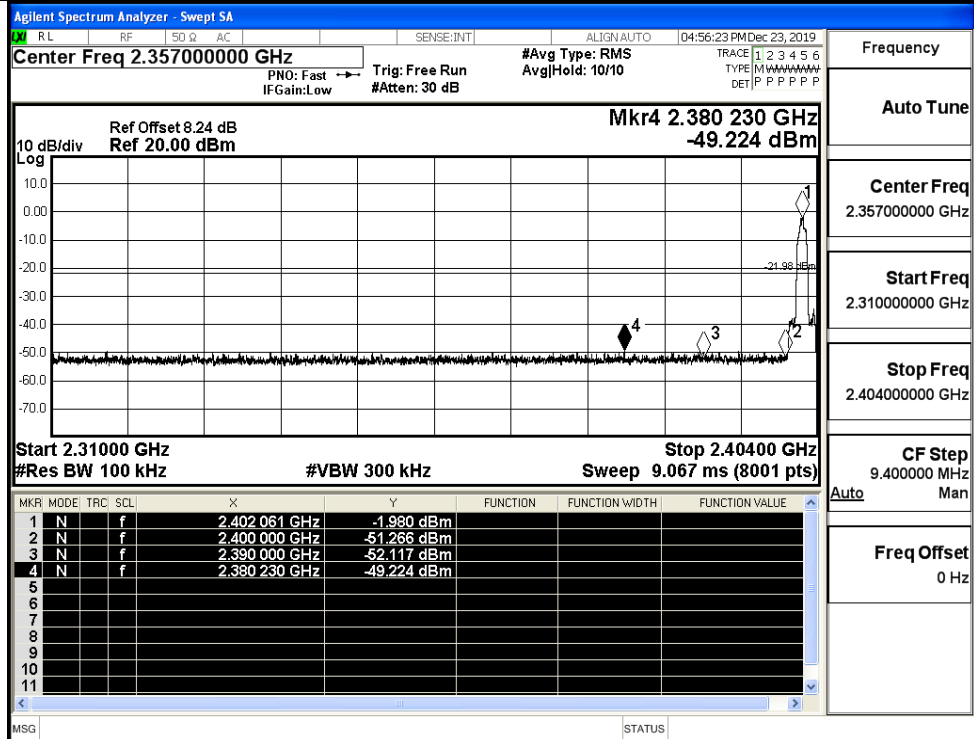
Stop Freq
2.513500000 GHz

CF Step
6.000000 MHz

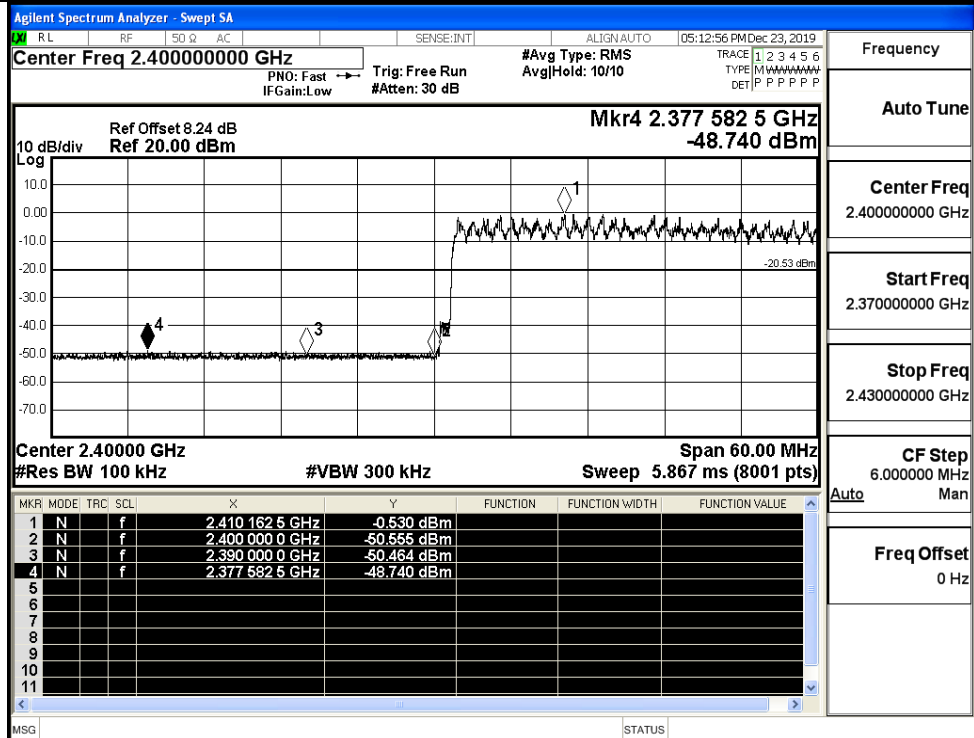
Auto Man

Freq Offset
0 Hz

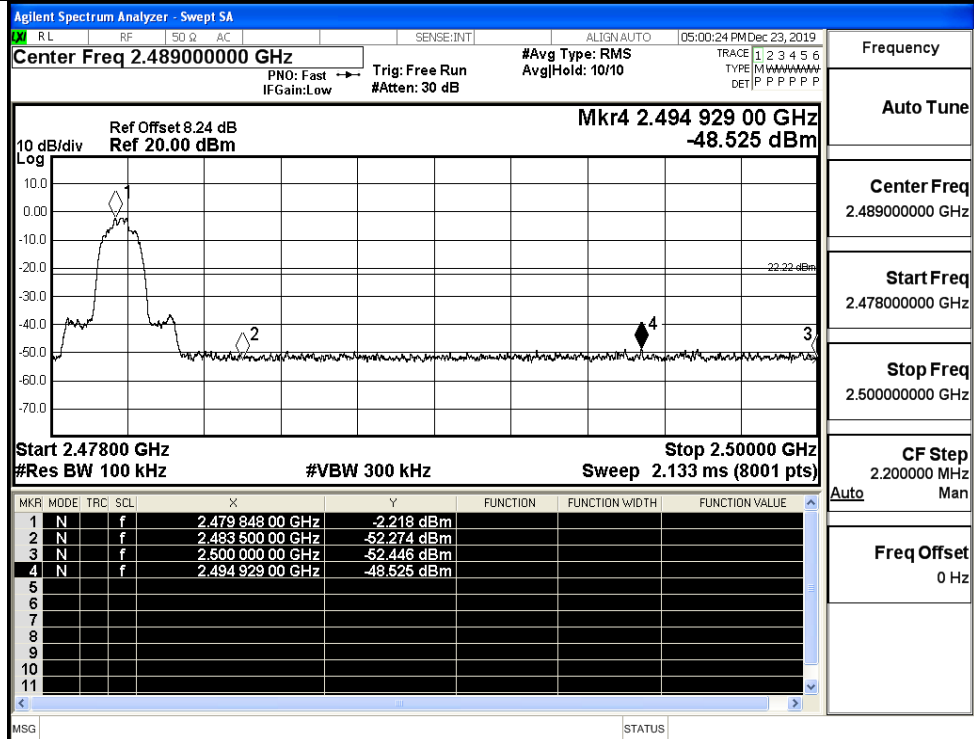
8DPSK/LCH/No Hop



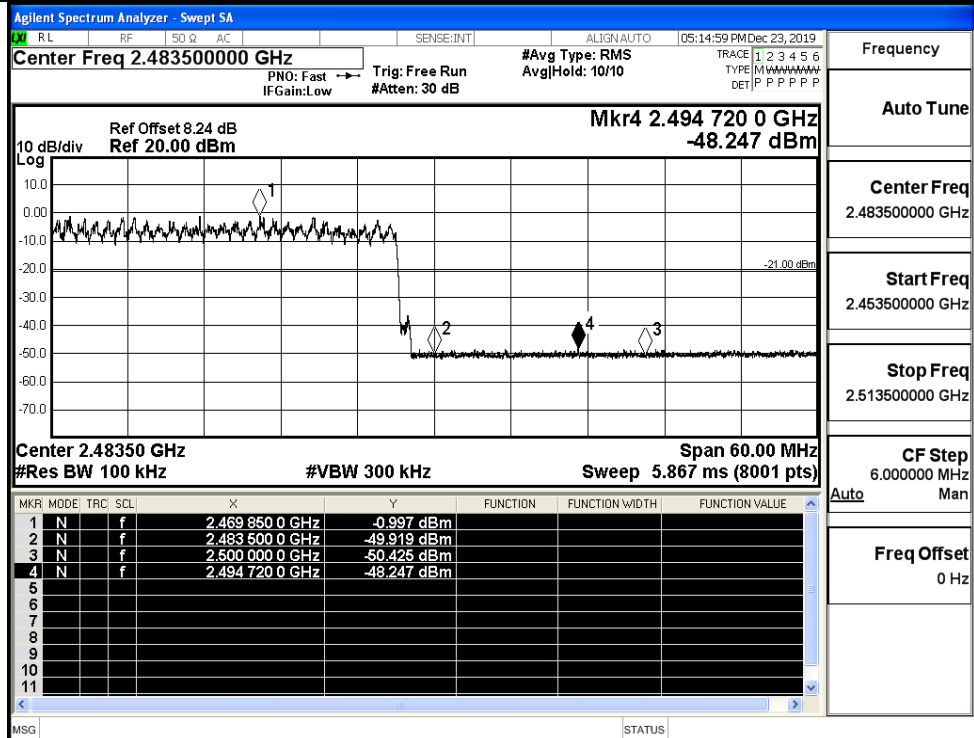
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



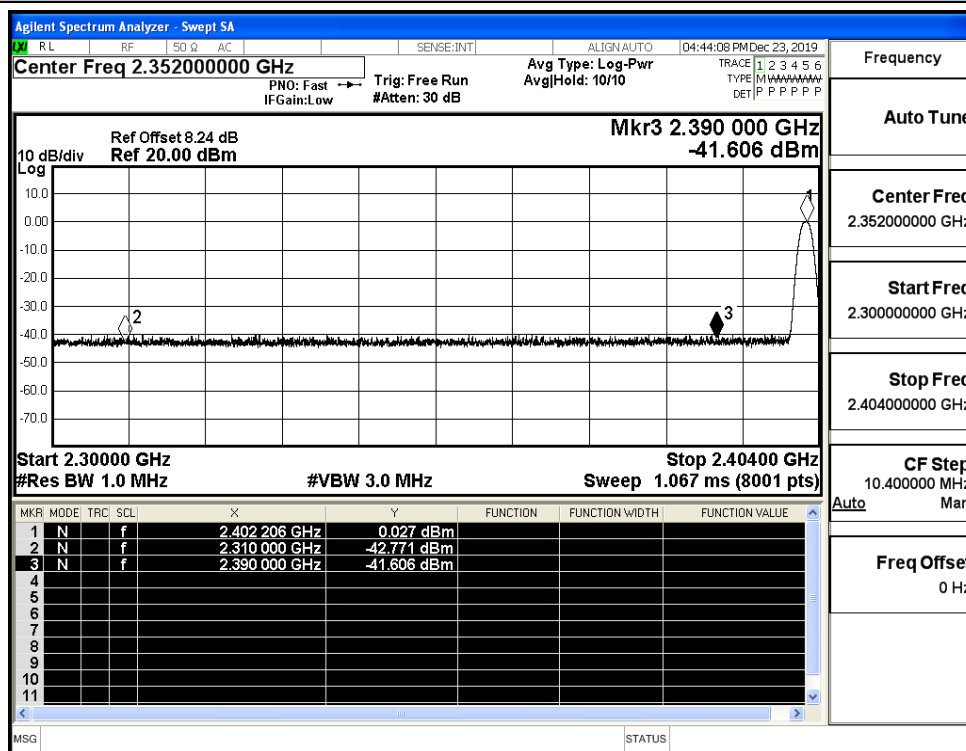
8DPSK/HCH/Hop



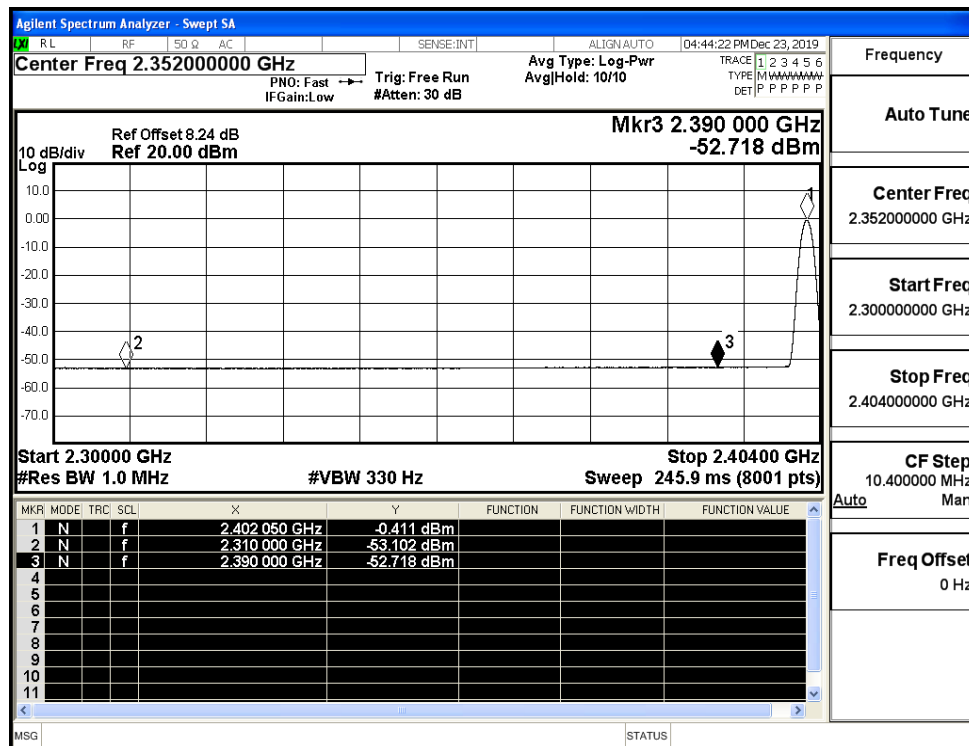
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.77	2.0	0	54.49	PEAK	74	PASS
	Off	2310.0	-53.10	2.0	0	44.16	AV	54	PASS
	Off	2390.0	-41.61	2.0	0	55.65	PEAK	74	PASS
	Off	2390.0	-52.72	2.0	0	44.54	AV	54	PASS
	Off	2483.5	-41.52	2.0	0	55.73	PEAK	74	PASS
	Off	2483.5	-52.16	2.0	0	45.10	AV	54	PASS
	Off	2500.0	-40.84	2.0	0	56.42	PEAK	74	PASS
	Off	2500.0	-52.19	2.0	0	45.06	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-42.22	2.0	0	55.04	PEAK	74	PASS
	Off	2310.0	-53.15	2.0	0	44.11	AV	54	PASS
	Off	2390.0	-41.50	2.0	0	55.75	PEAK	74	PASS
	Off	2390.0	-52.80	2.0	0	44.46	AV	54	PASS
	Off	2483.5	-42.85	2.0	0	54.41	PEAK	74	PASS
	Off	2483.5	-52.24	2.0	0	45.02	AV	54	PASS
	Off	2500.0	-42.17	2.0	0	55.09	PEAK	74	PASS
	Off	2500.0	-52.10	2.0	0	45.16	AV	54	PASS
8DPSK	Off	2310.0	-42.66	2.0	0	54.60	PEAK	74	PASS
	Off	2310.0	-53.13	2.0	0	44.13	AV	54	PASS
	Off	2390.0	-40.57	2.0	0	56.69	PEAK	74	PASS
	Off	2390.0	-52.77	2.0	0	44.49	AV	54	PASS
	Off	2483.5	-42.10	2.0	0	55.16	PEAK	74	PASS
	Off	2483.5	-52.27	2.0	0	44.99	AV	54	PASS
	Off	2500.0	-41.60	2.0	0	55.66	PEAK	74	PASS
	Off	2500.0	-52.20	2.0	0	45.06	AV	54	PASS

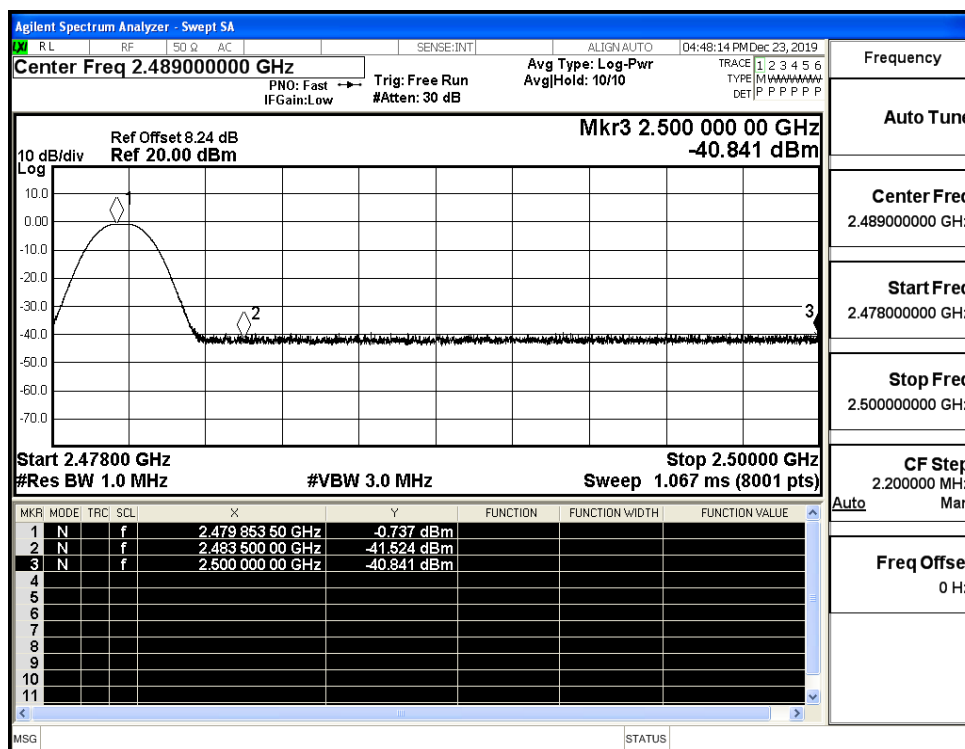
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



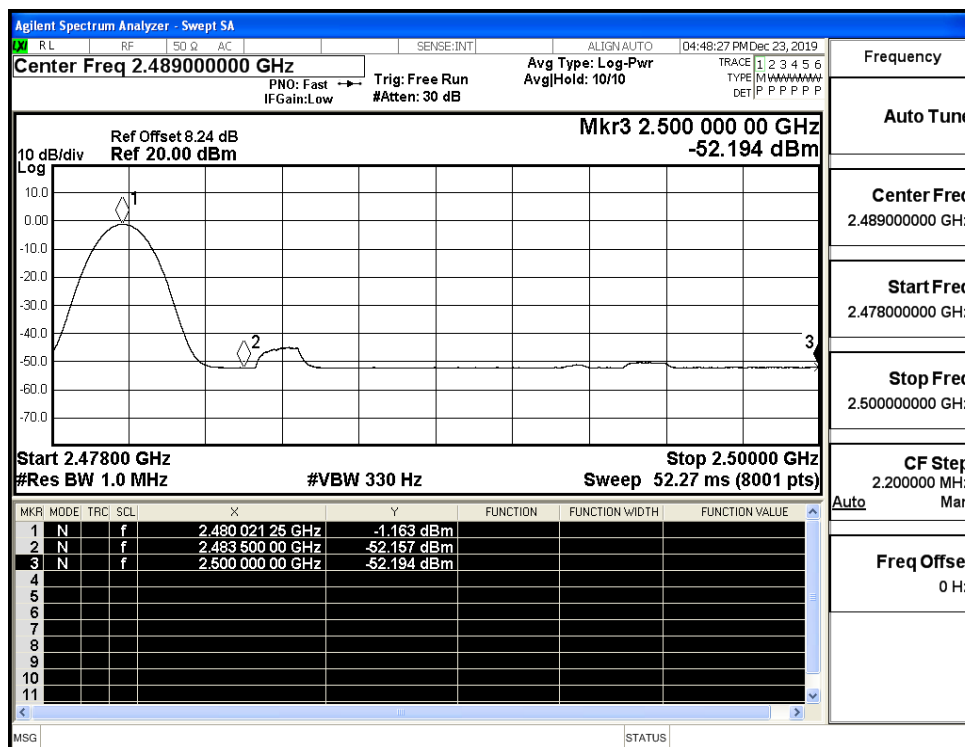
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

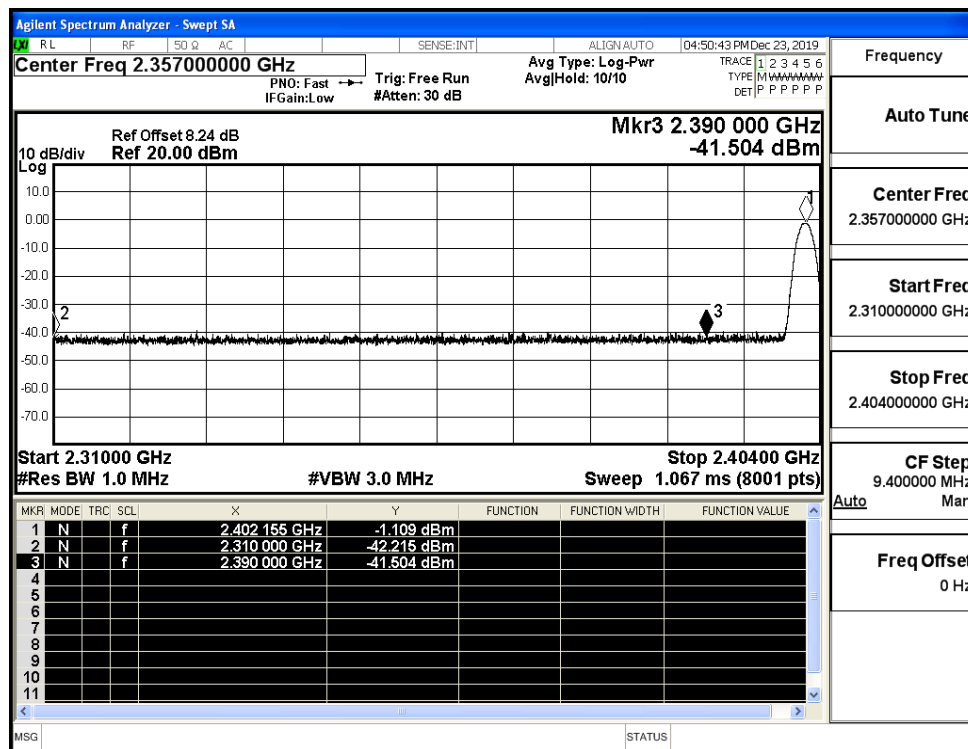
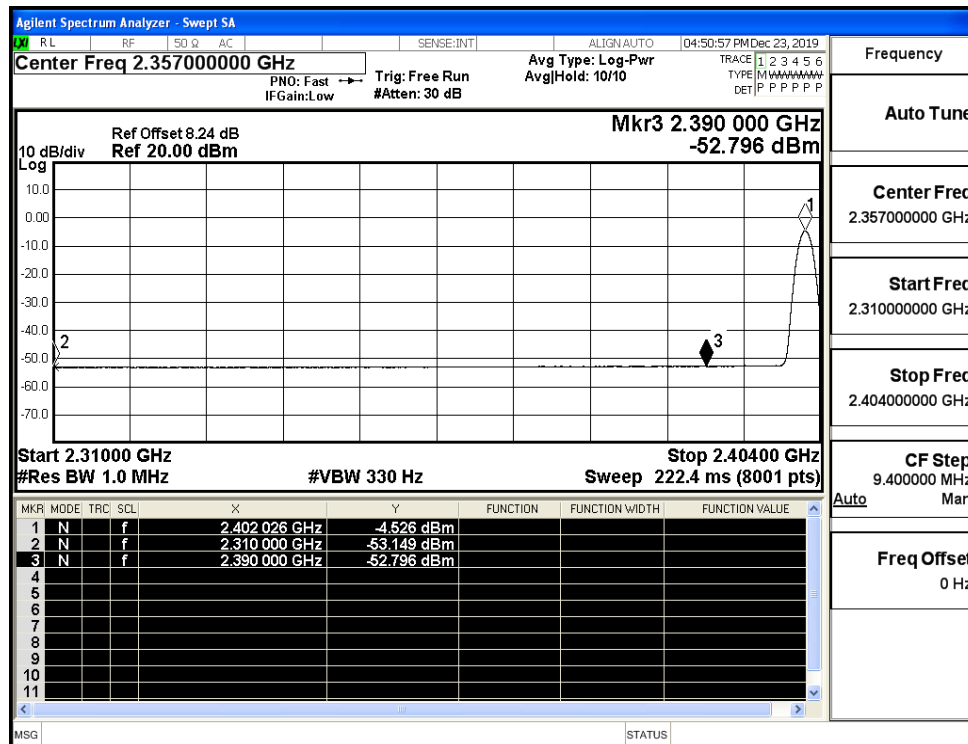


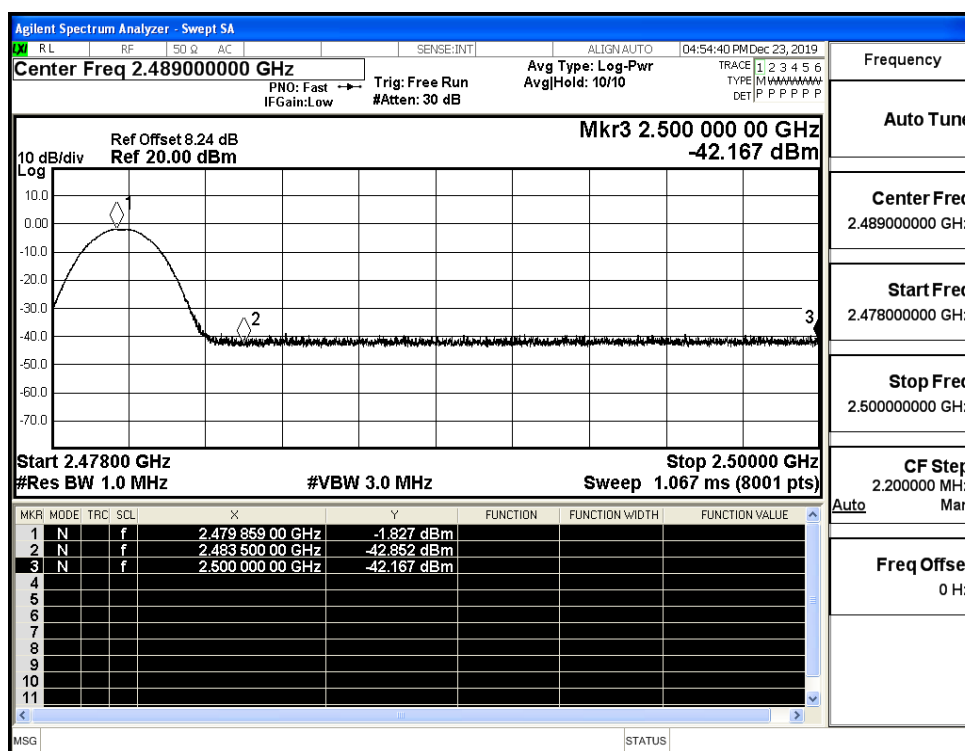
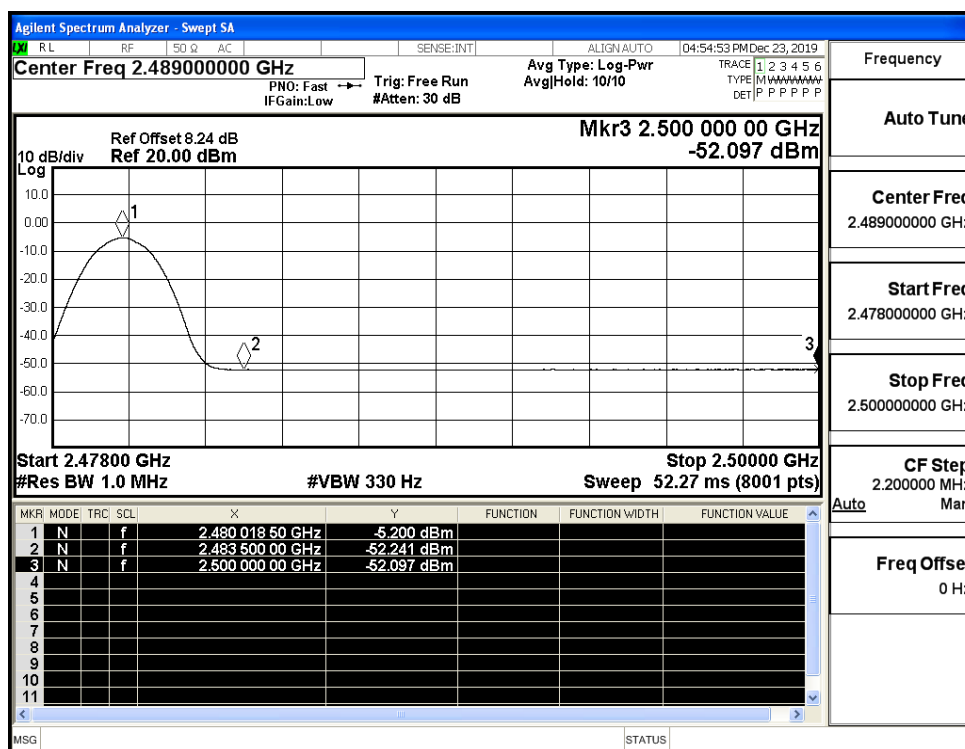
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



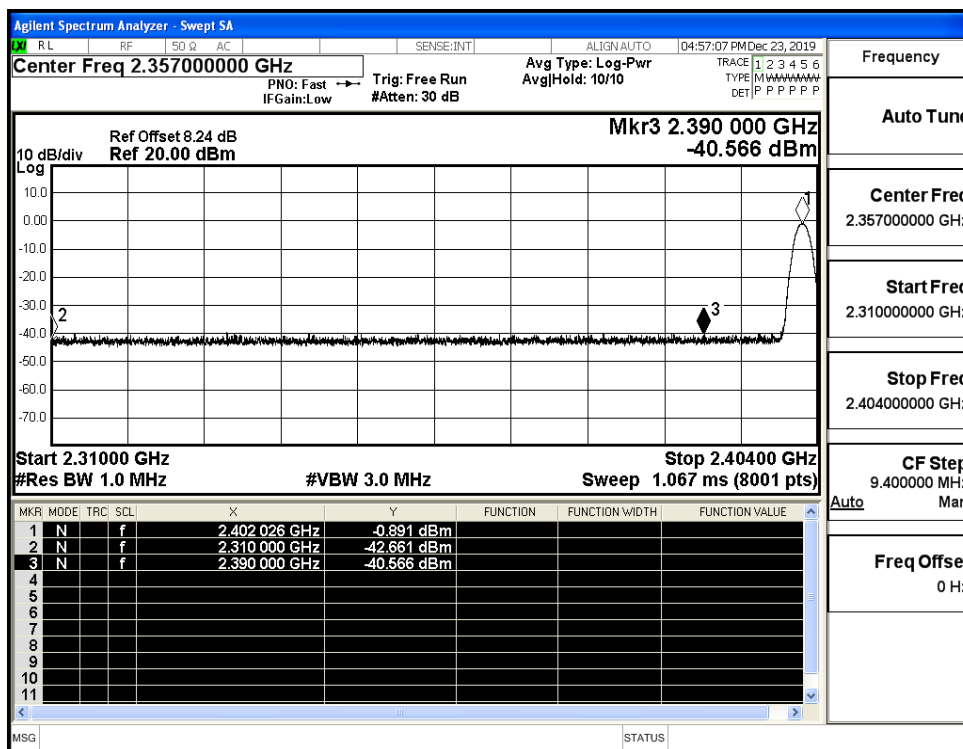
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



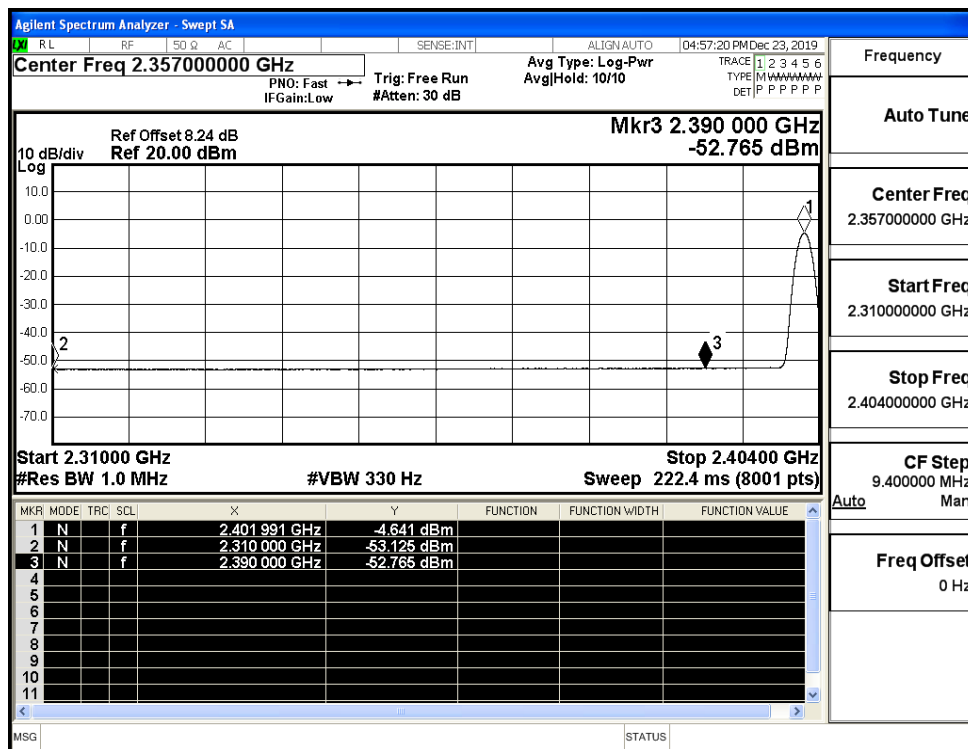
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

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)

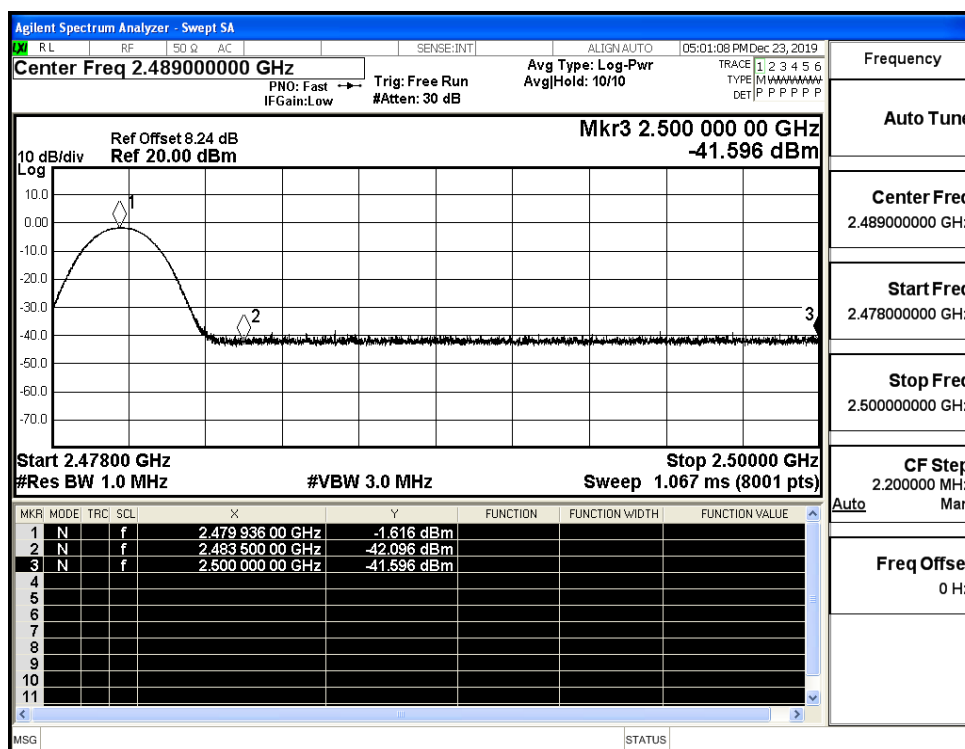
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

