

Appendix A

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

Product Name: 4G PHONE

Trade Mark: KAPSYS

Test Model: MiniVision2

Environmental Conditions

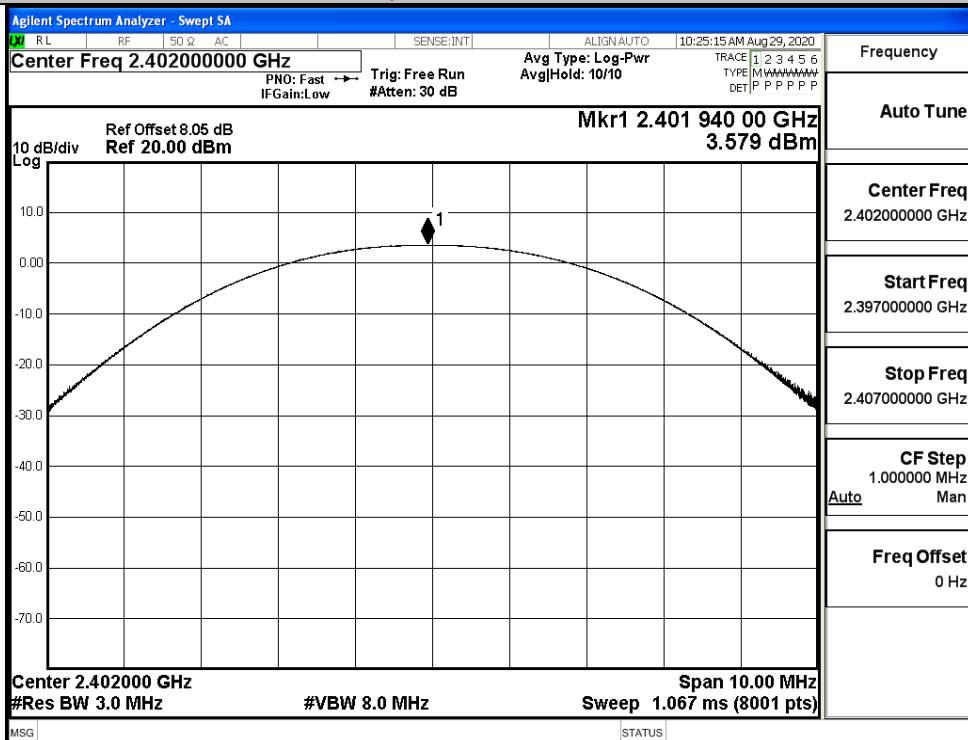
Temperature:	23.6 ° C
Relative Humidity:	54.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

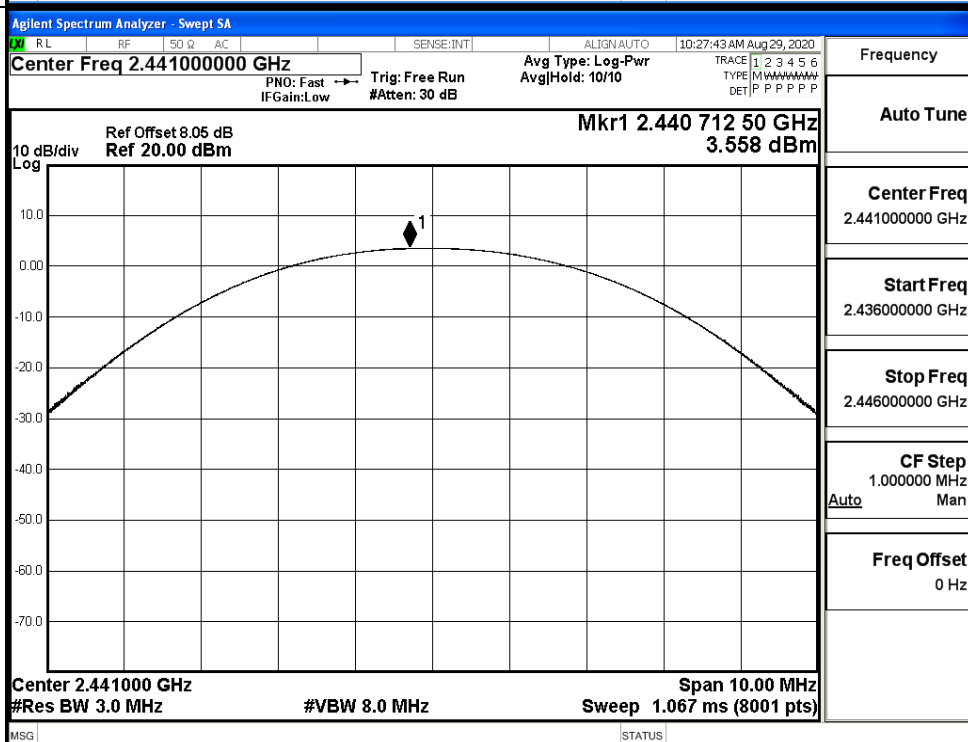
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.579	21	PASS
	MCH	3.558	21	PASS
	HCH	2.188	21	PASS
$\pi/4$ DQPSK	LCH	3.594	21	PASS
	MCH	3.582	21	PASS
	HCH	2.120	21	PASS
8DPSK	LCH	3.468	21	PASS
	MCH	3.356	21	PASS
	HCH	1.965	21	PASS

Test Graphs

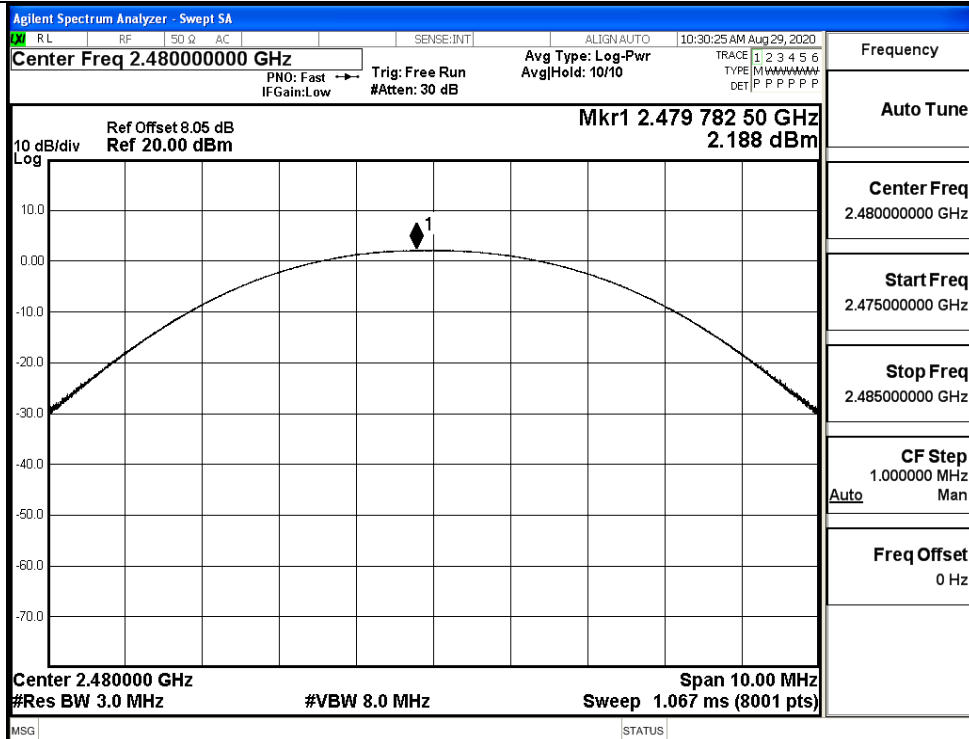
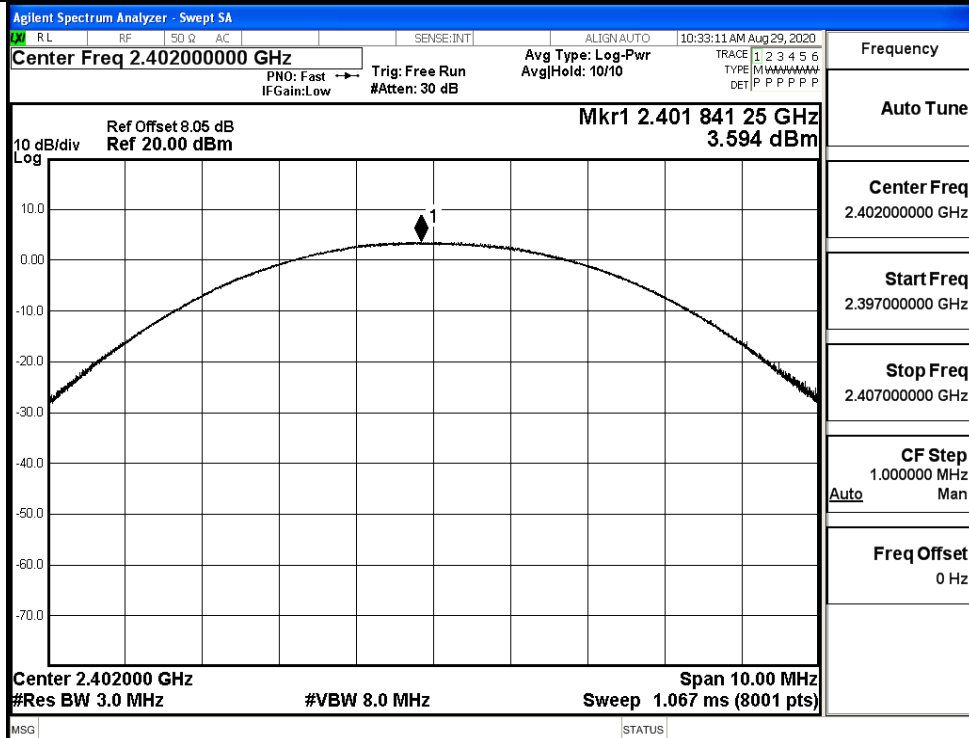
GFSK/LCH

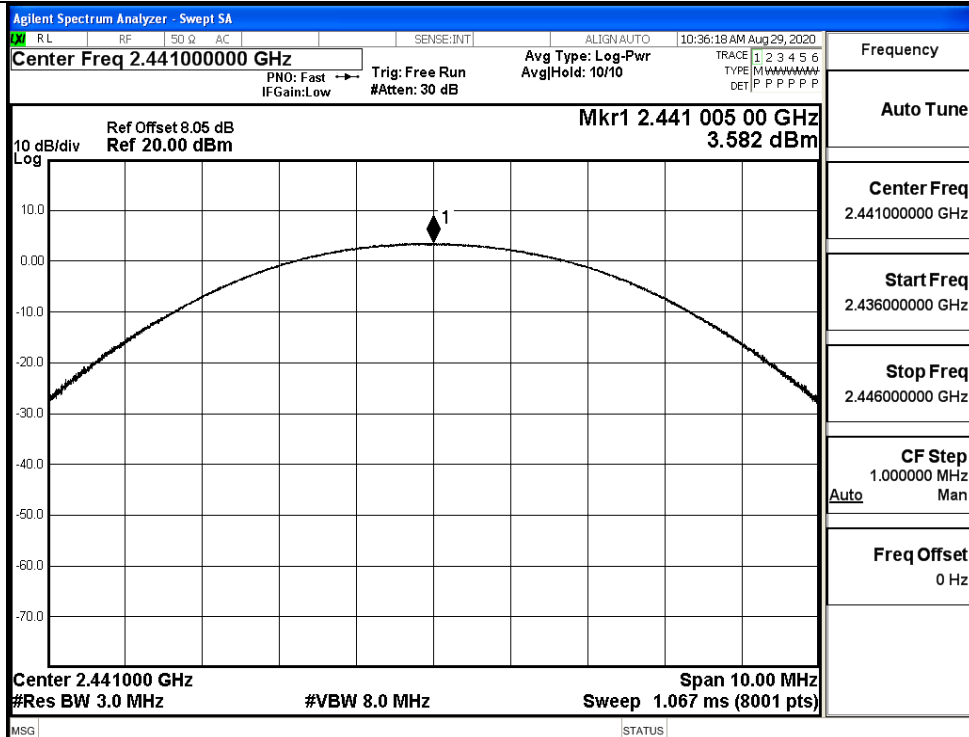
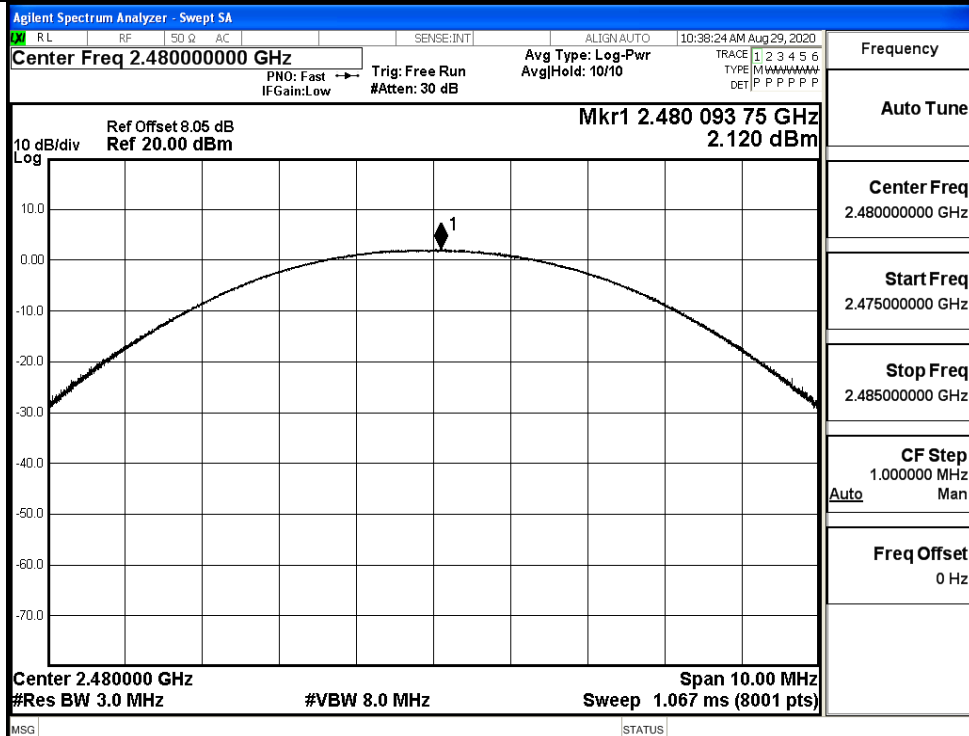


GFSK/MCH

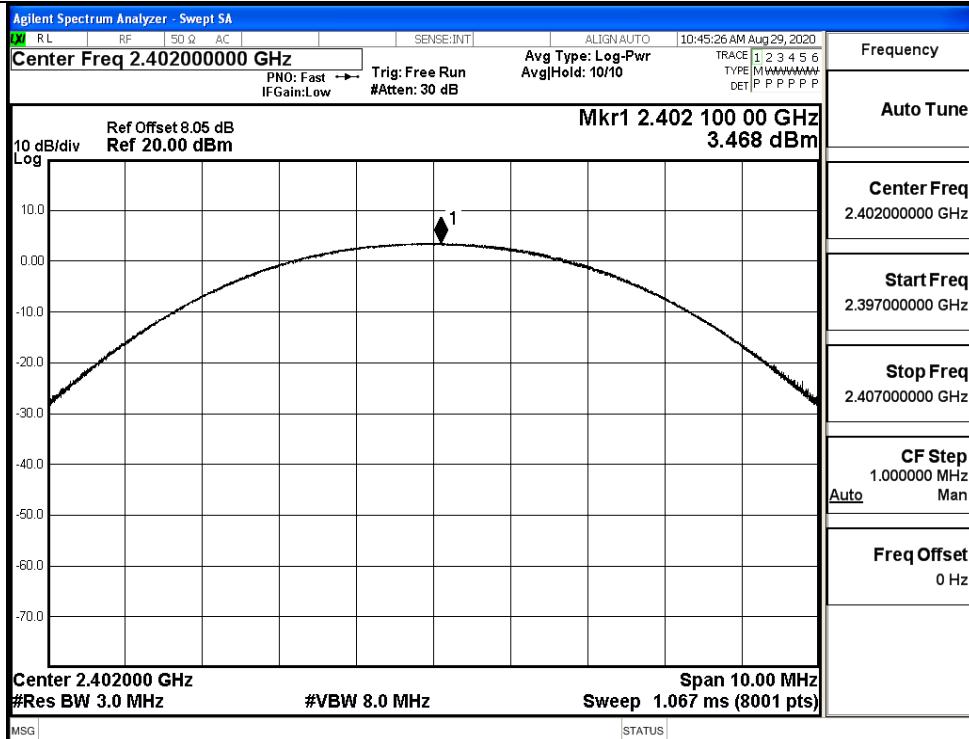


GFSK/HCH

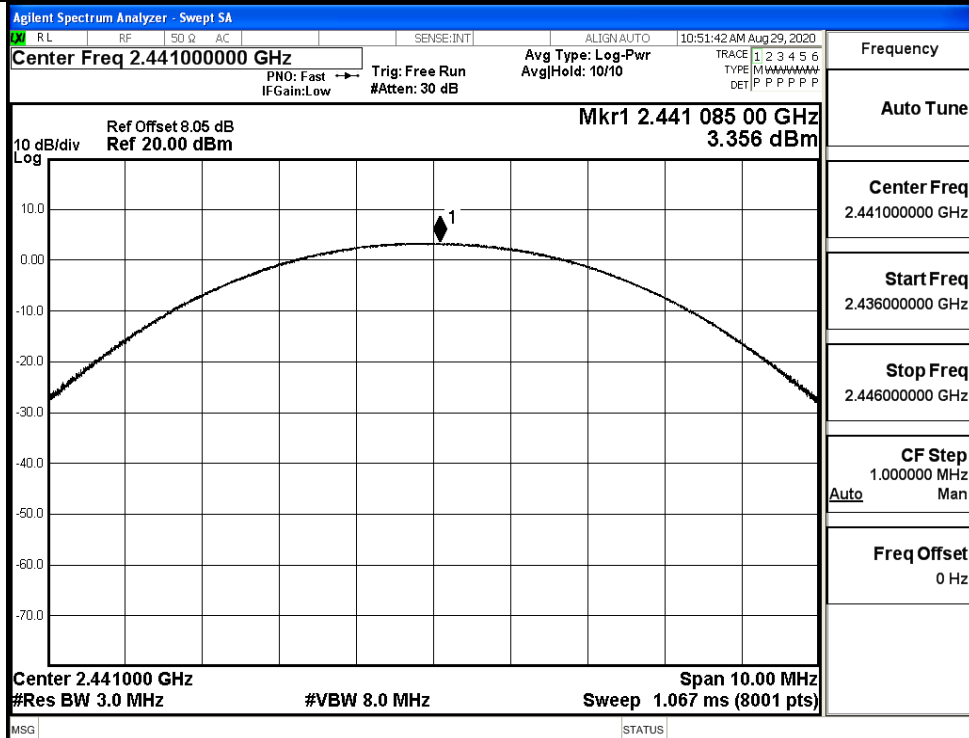
 $\pi/4$ DQPSK/LCH

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

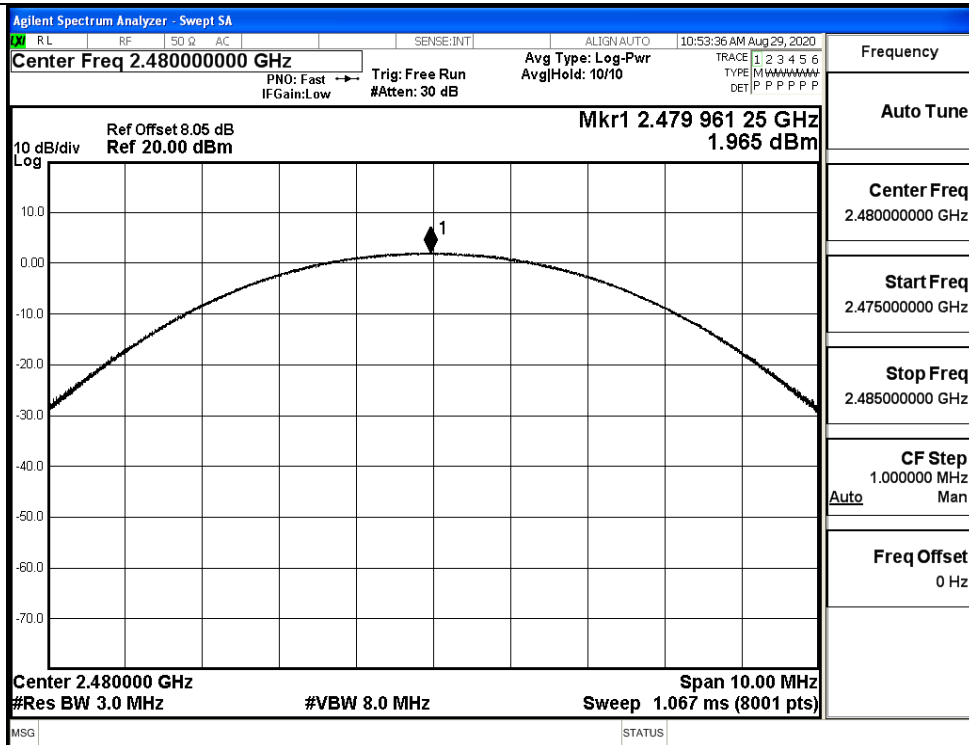
8DPSK/LCH



8DPSK/MCH



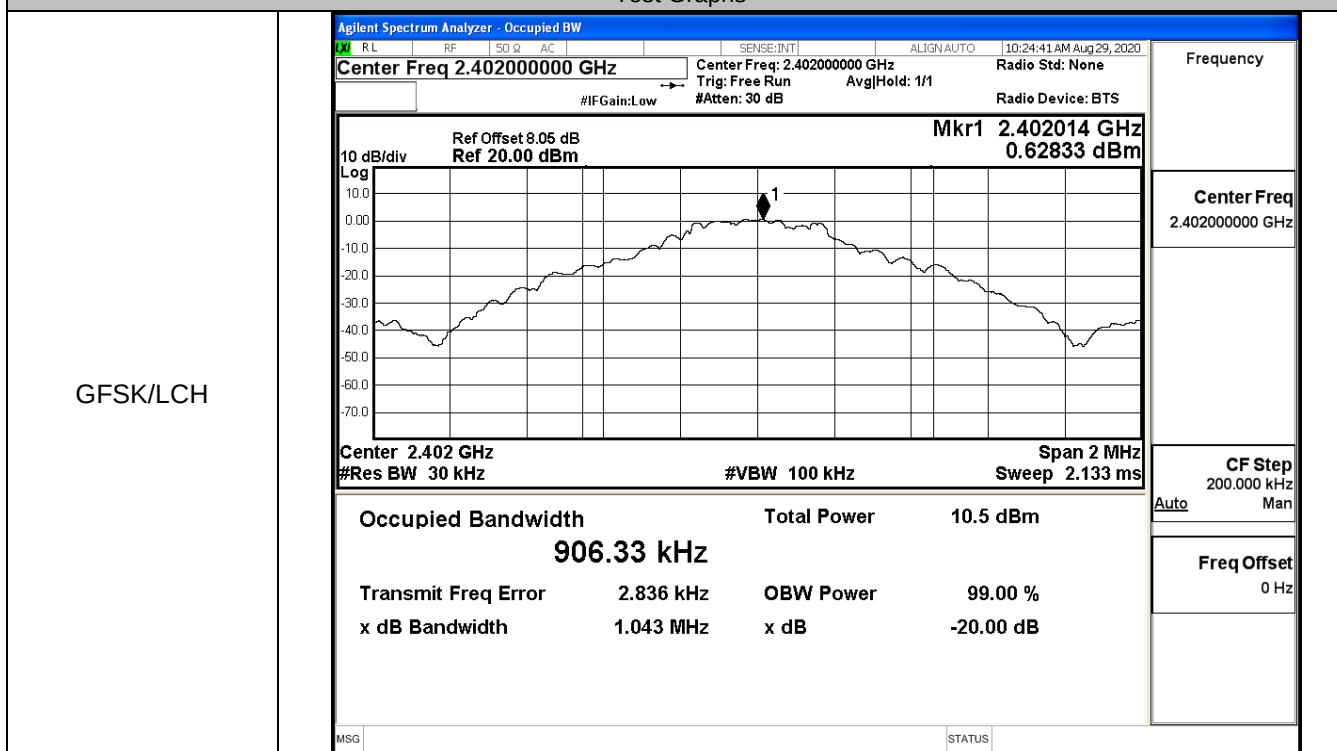
8DPSK/HCH



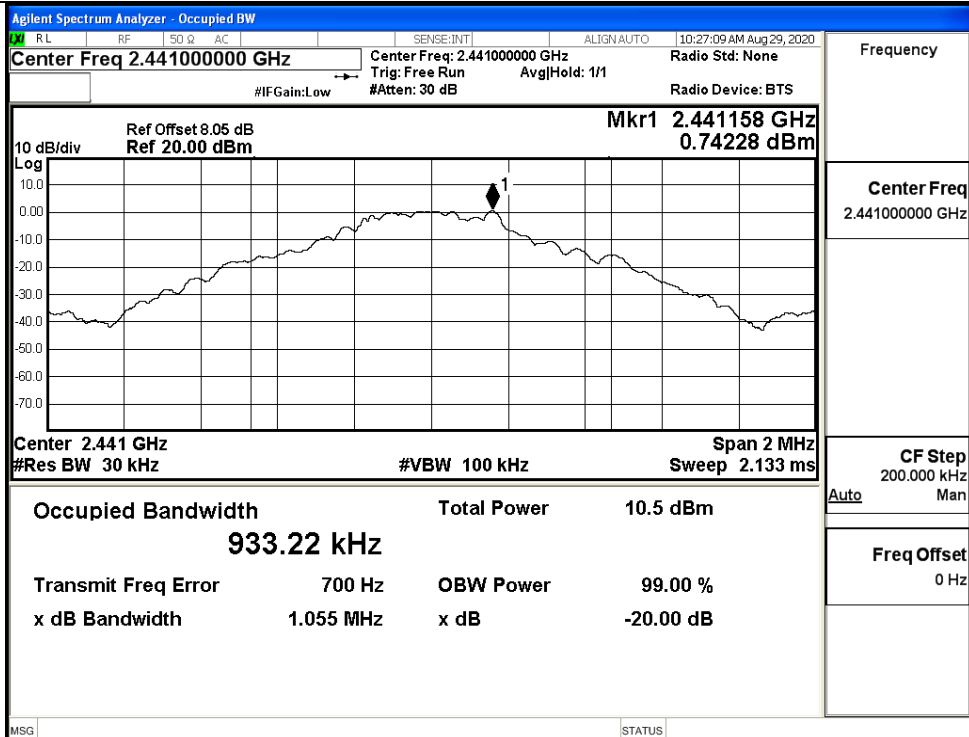
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.043	Not Specified	PASS
	MCH	1.055	Not Specified	PASS
	HCH	1.057	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.289	Not Specified	PASS
	MCH	1.318	Not Specified	PASS
	HCH	1.317	Not Specified	PASS
8DPSK	LCH	1.297	Not Specified	PASS
	MCH	1.307	Not Specified	PASS
	HCH	1.303	Not Specified	PASS

Test Graphs



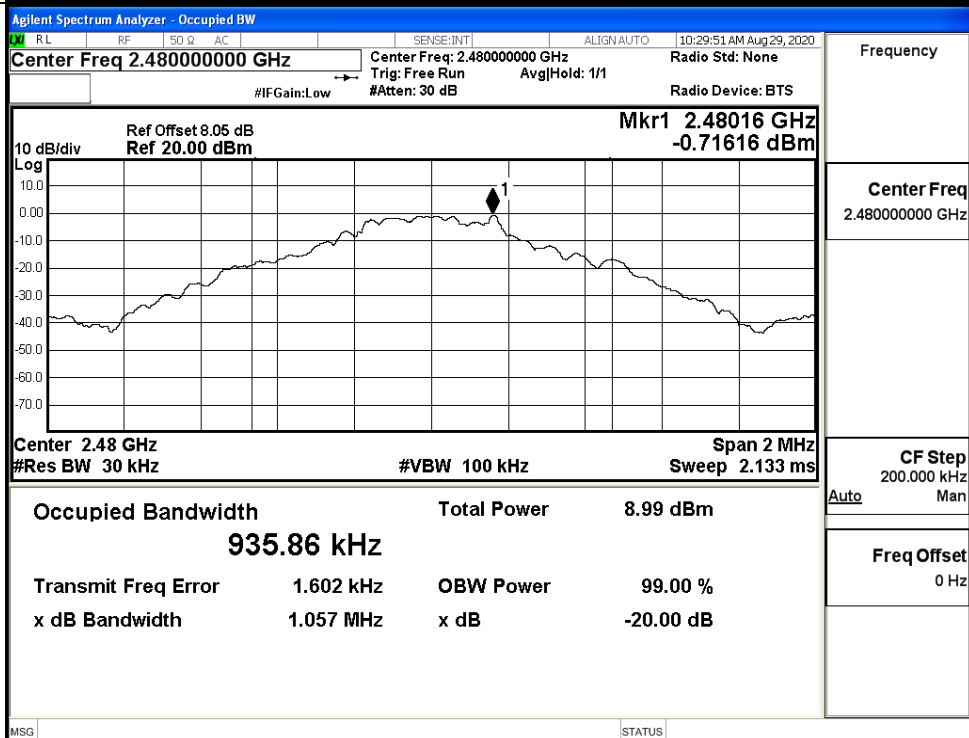
GFSK/MCH



Frequency

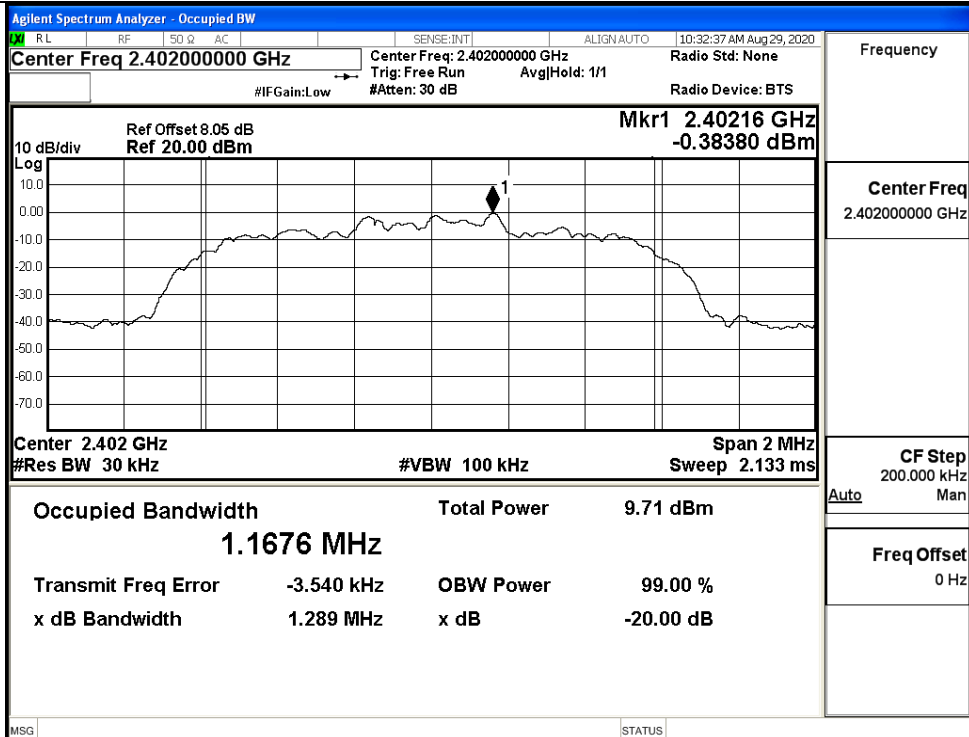
Center Freq
2.441000000 GHzCF Step
200.000 kHz
Auto ManFreq Offset
0 Hz

GFSK/HCH

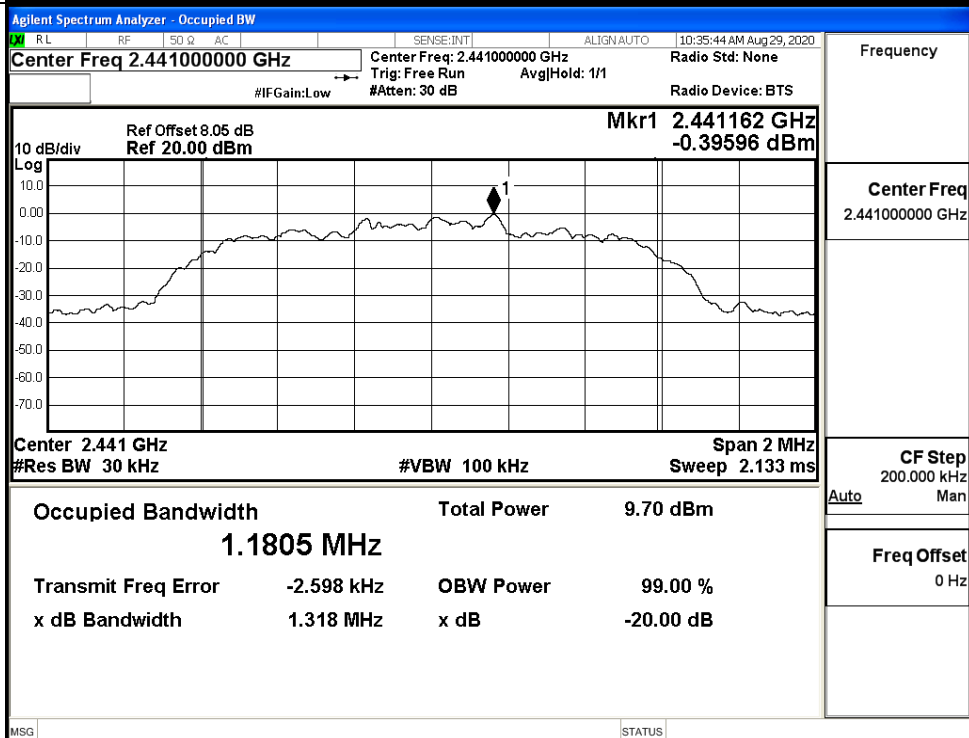


Frequency

Center Freq
2.480000000 GHzCF Step
200.000 kHz
Auto ManFreq Offset
0 Hz

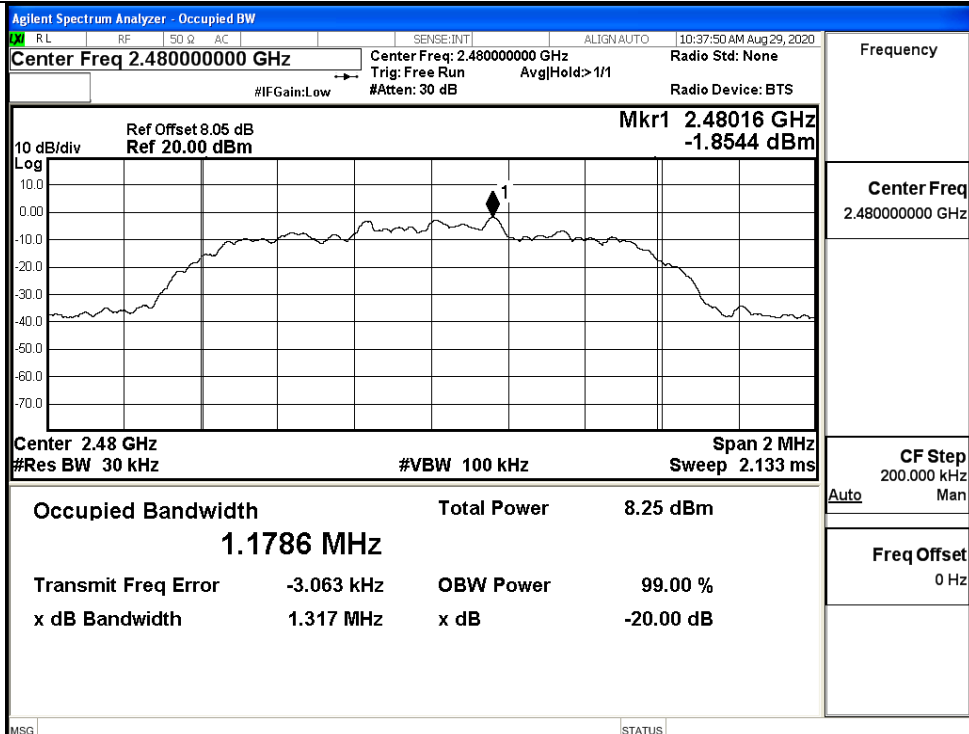
$\pi/4$ DQPSK/LCH

Frequency

Center Freq
2.402000000 GHzCF Step
200.000 kHz
ManFreq Offset
0 Hz $\pi/4$ DQPSK/MCH

Frequency

Center Freq
2.441000000 GHzCF Step
200.000 kHz
ManFreq Offset
0 Hz

$\pi/4$ DQPSK/HCH

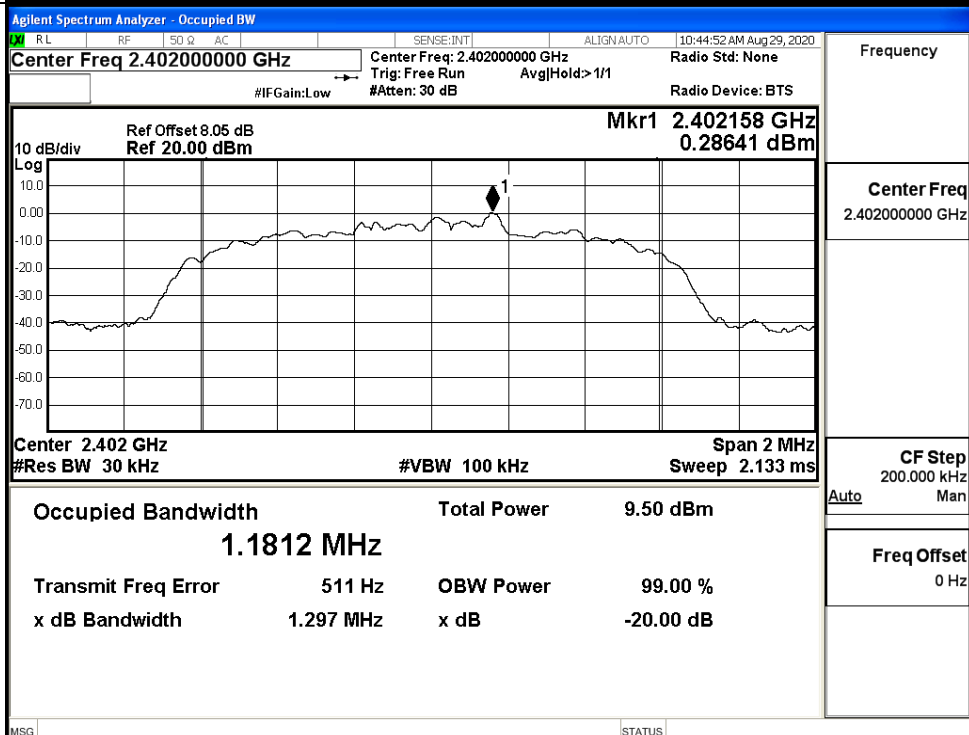
Frequency

Center Freq
2.480000000 GHzCF Step
200.000 kHz
Man

Auto

Freq Offset
0 Hz

8DPSK/LCH



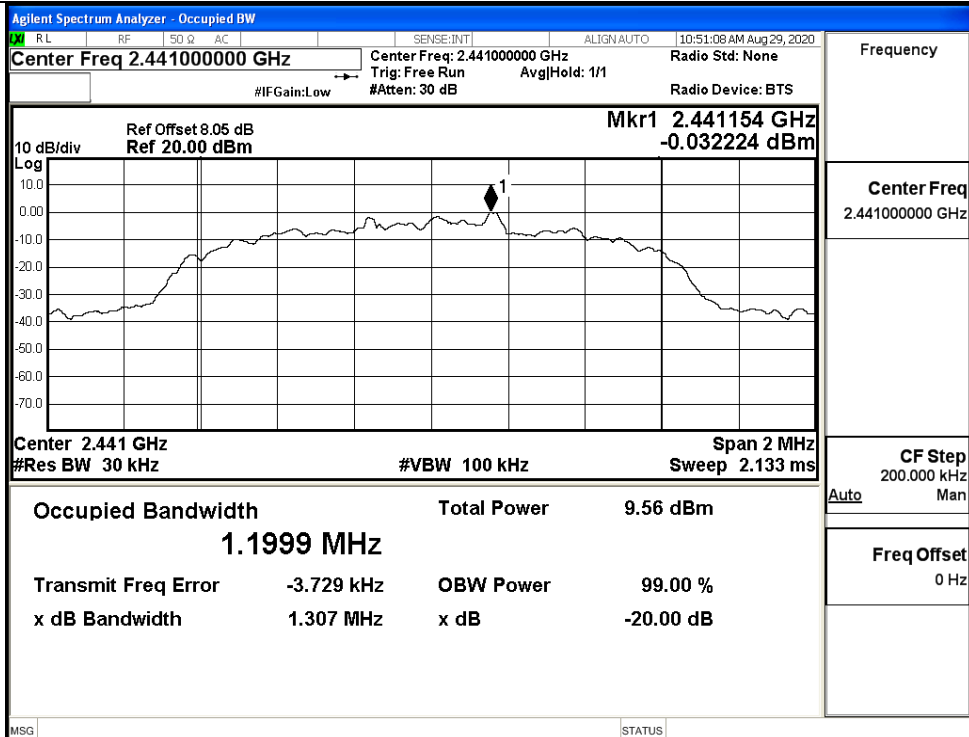
Frequency

Center Freq
2.402000000 GHzCF Step
200.000 kHz
Man

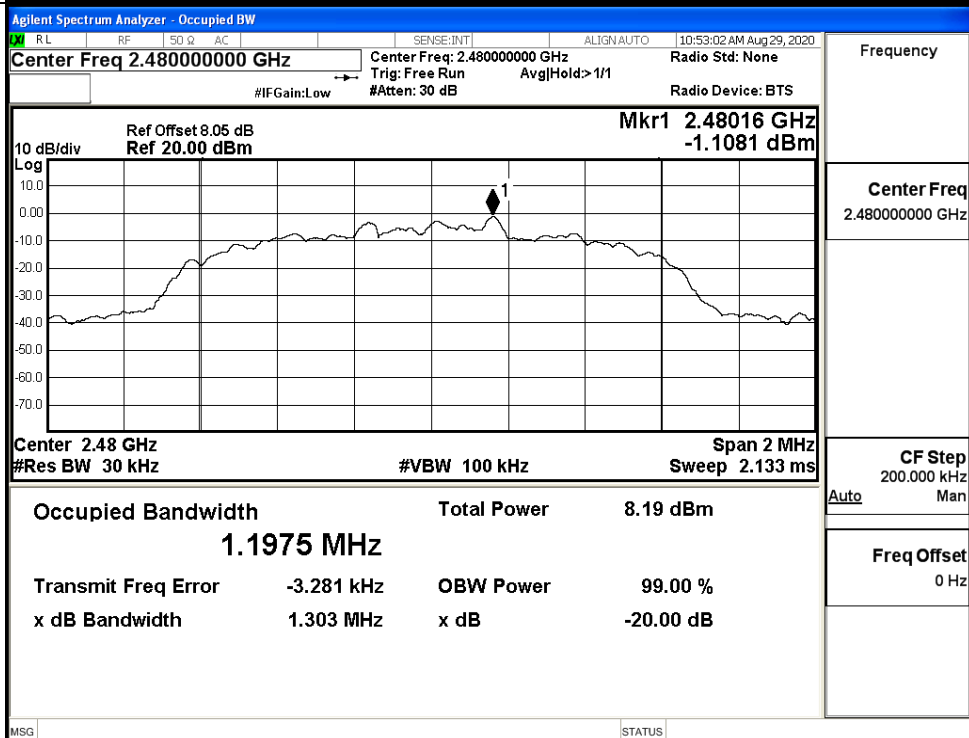
Auto

Freq Offset
0 Hz

8DPSK/MCH



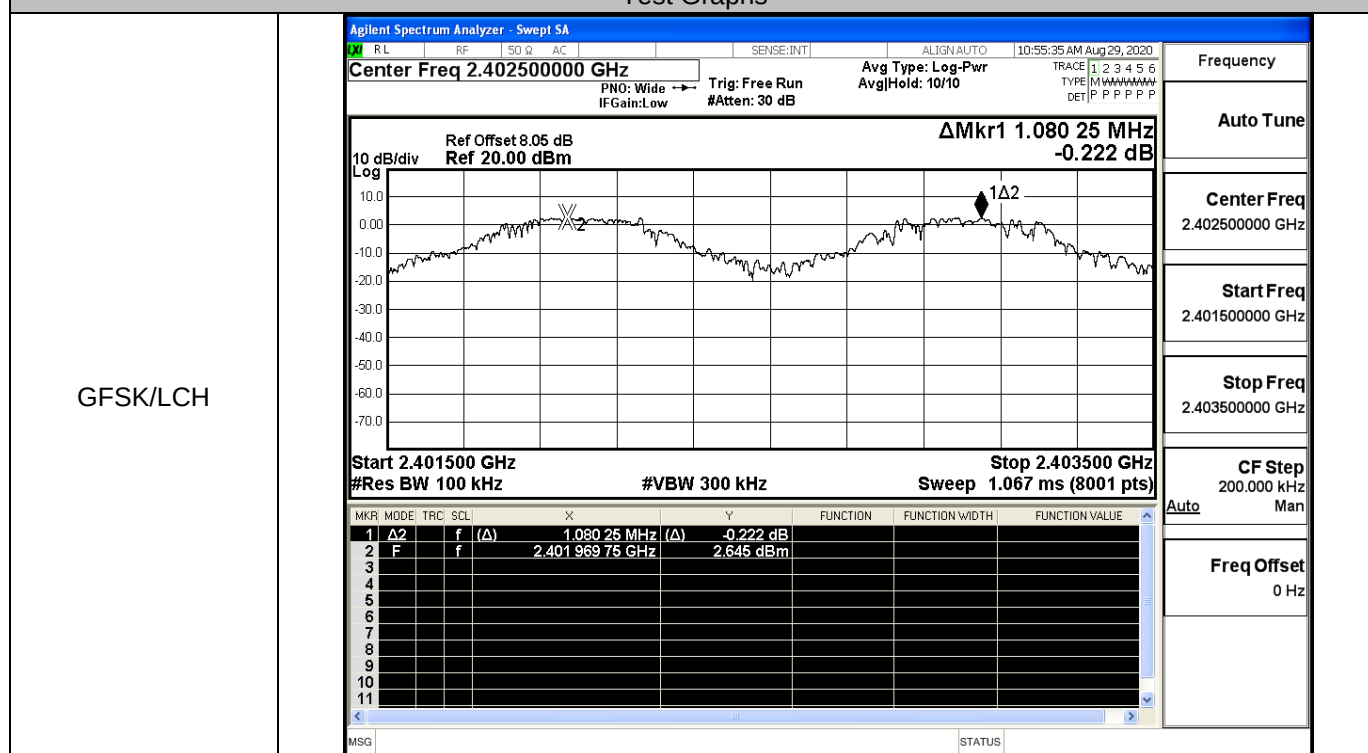
8DPSK/HCH



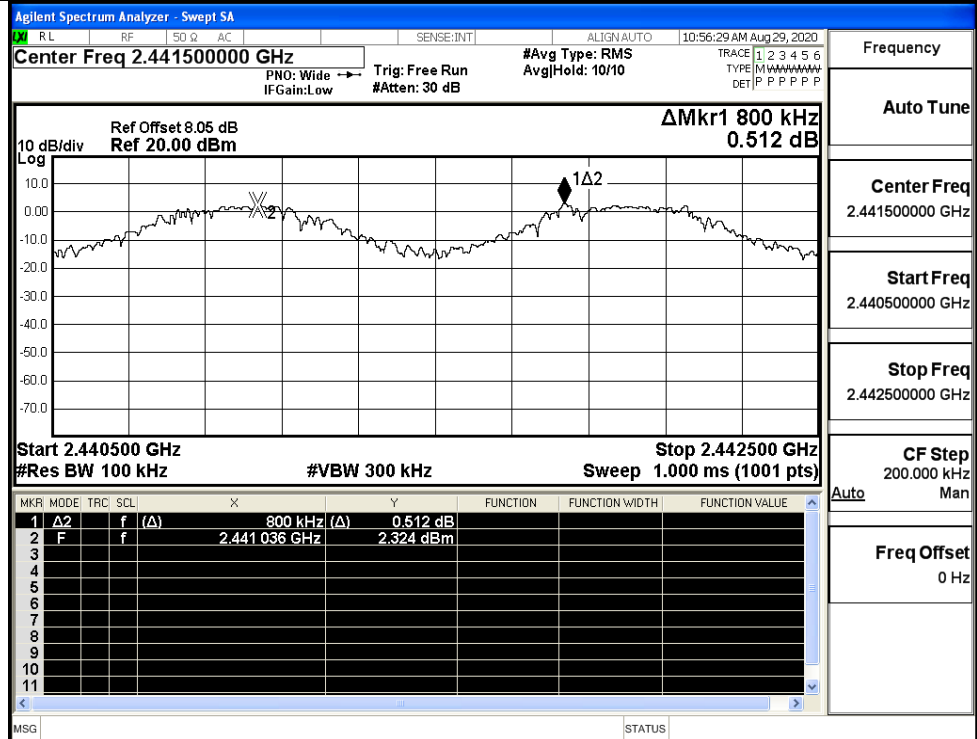
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.080	0.705	PASS
	MCH	0.800	0.705	PASS
	HCH	1.158	0.705	PASS
$\pi/4$ DQPSK	LCH	1.092	0.879	PASS
	MCH	1.102	0.879	PASS
	HCH	0.988	0.879	PASS
8DPSK	LCH	1.318	0.871	PASS
	MCH	0.962	0.871	PASS
	HCH	1.192	0.871	PASS

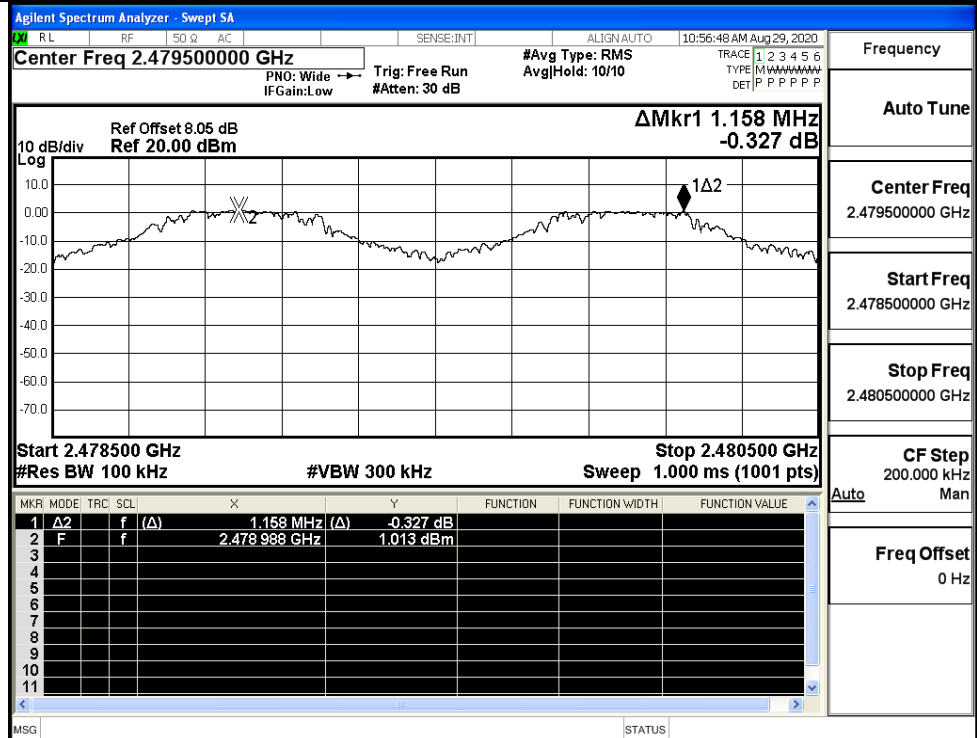
Test Graphs

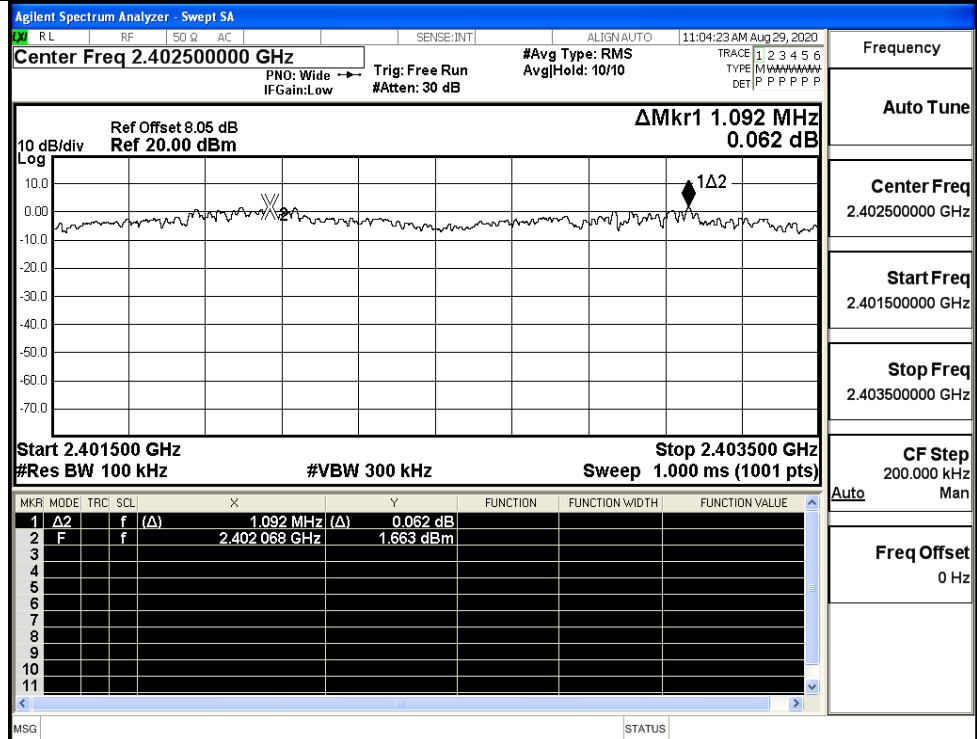
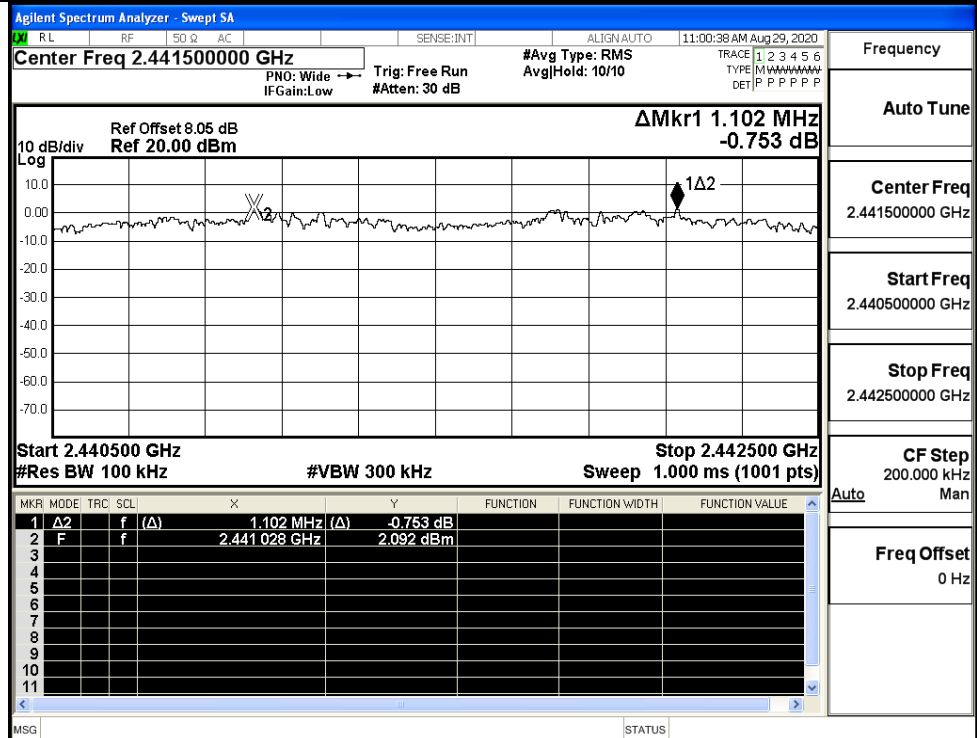


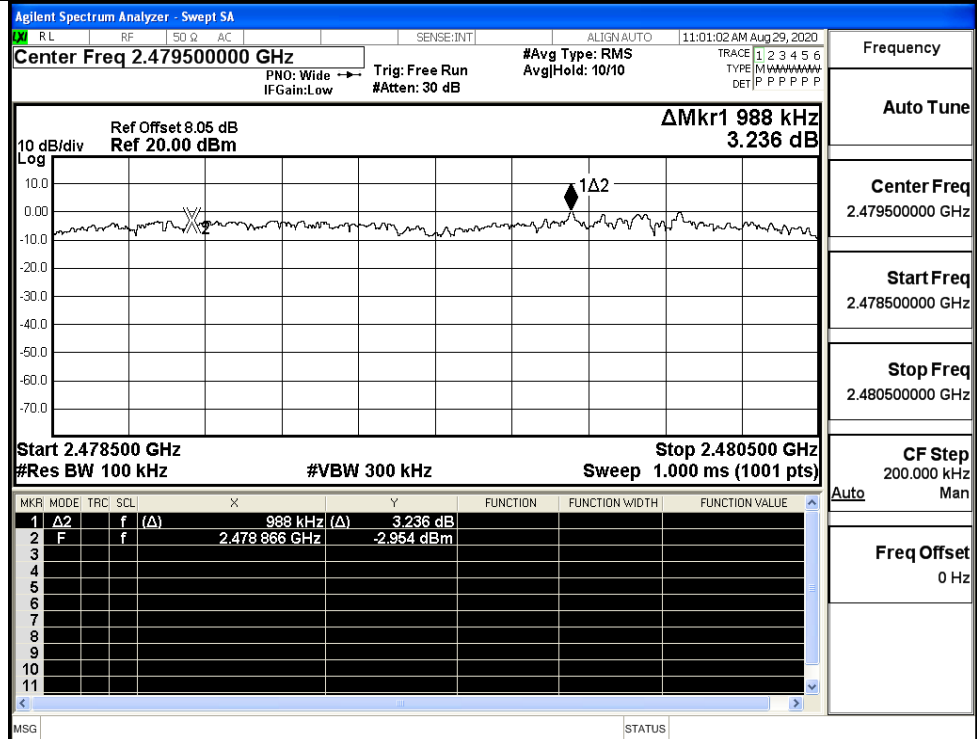
GFSK/MCH



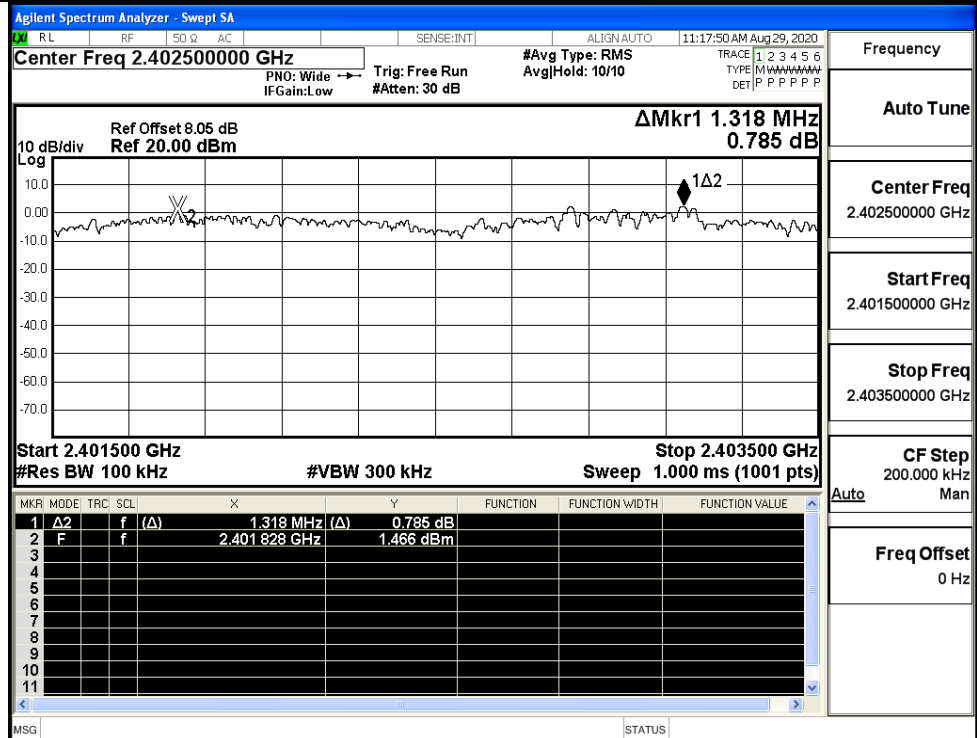
GFSK/HCH



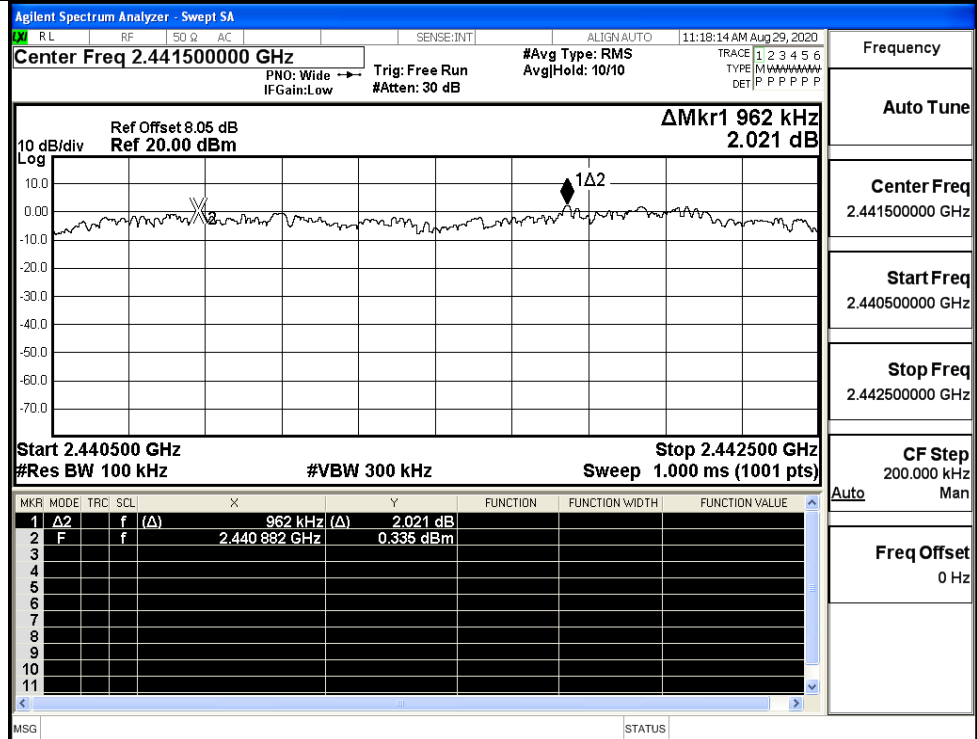
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

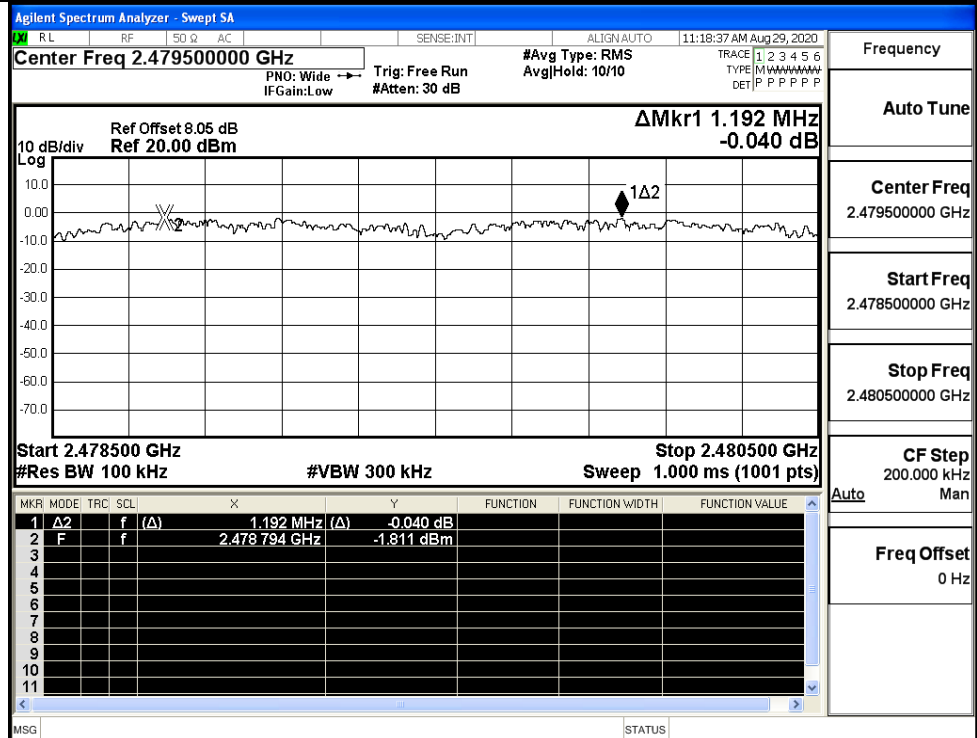
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

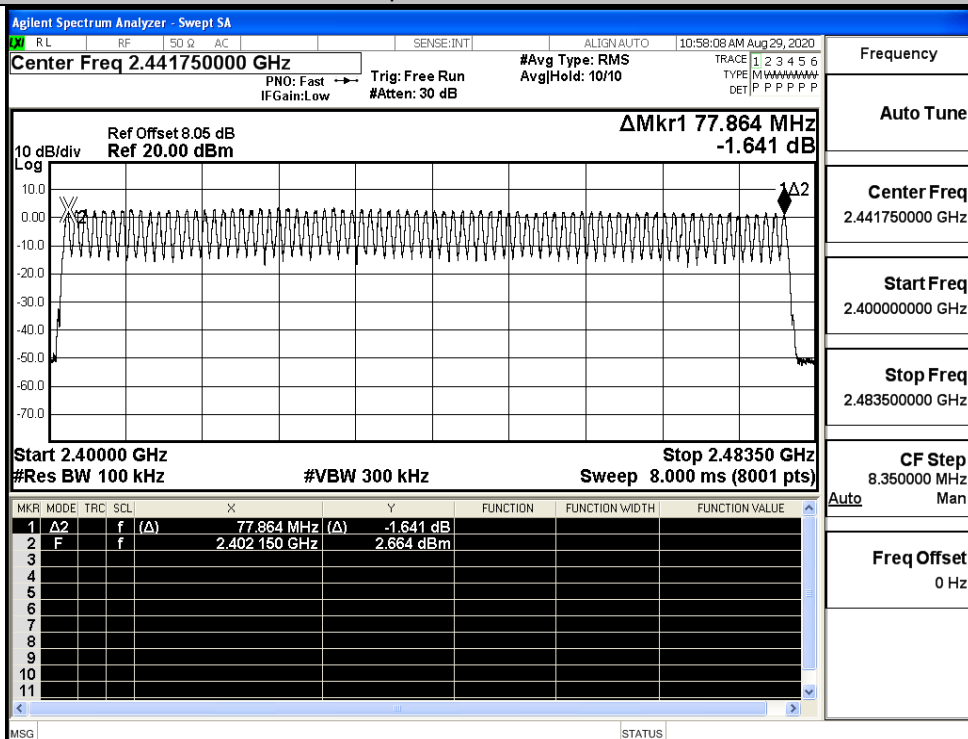
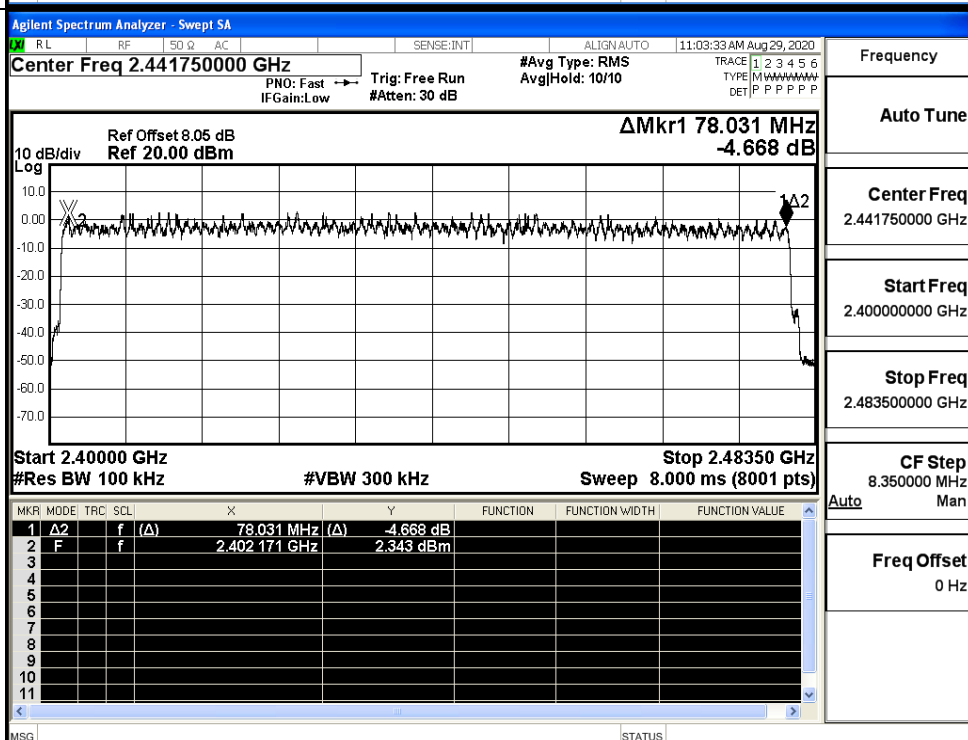


A.4 Hopping Channel Number

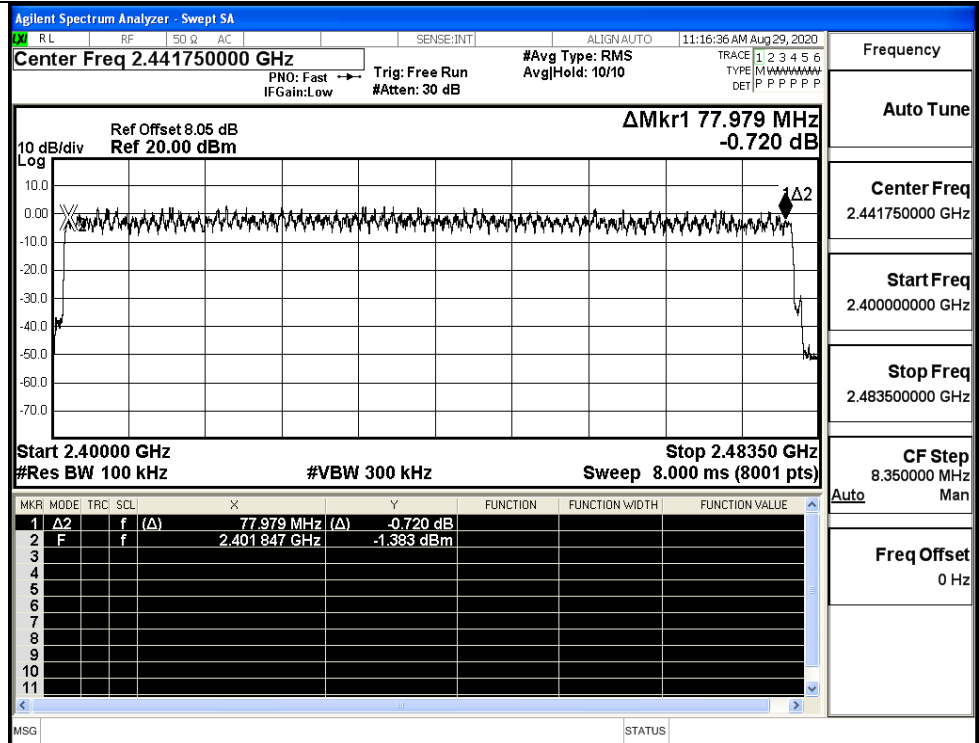
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	≥ 15	PASS
$\pi/4$ DQPSK	Hop	79	≥ 15	PASS
8DPSK	Hop	79	≥ 15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

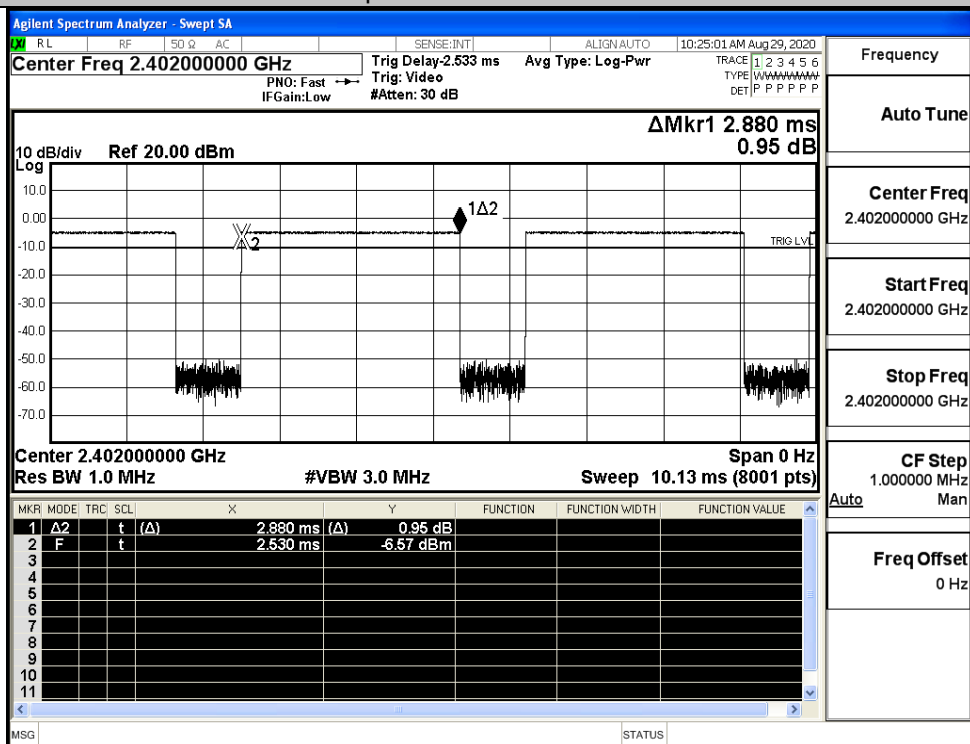


A.5 Dwell Time

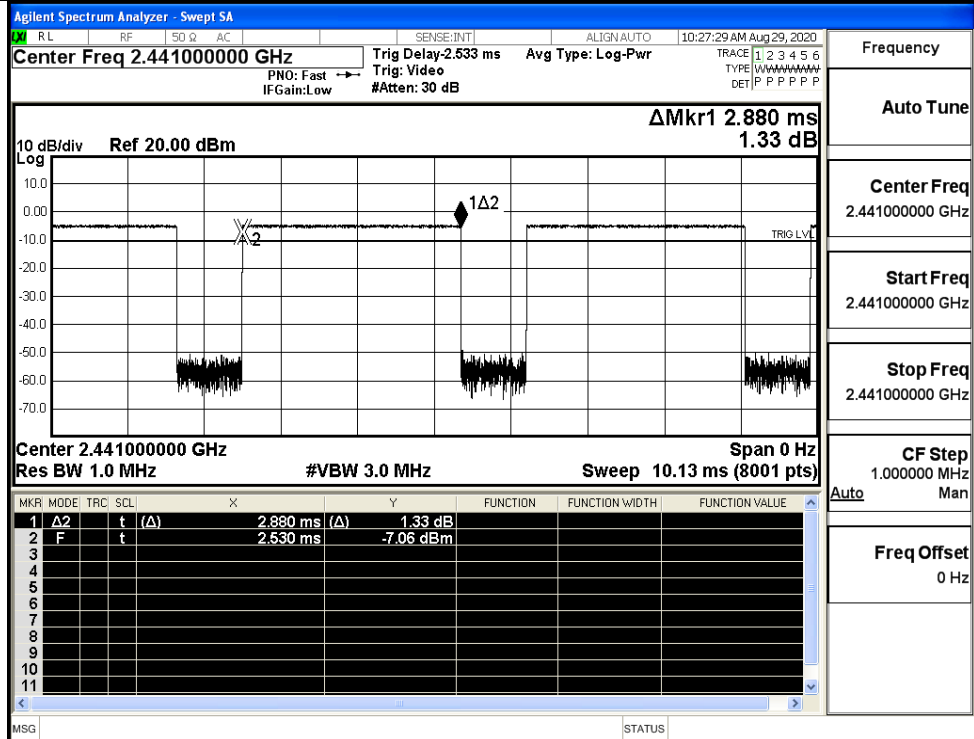
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88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

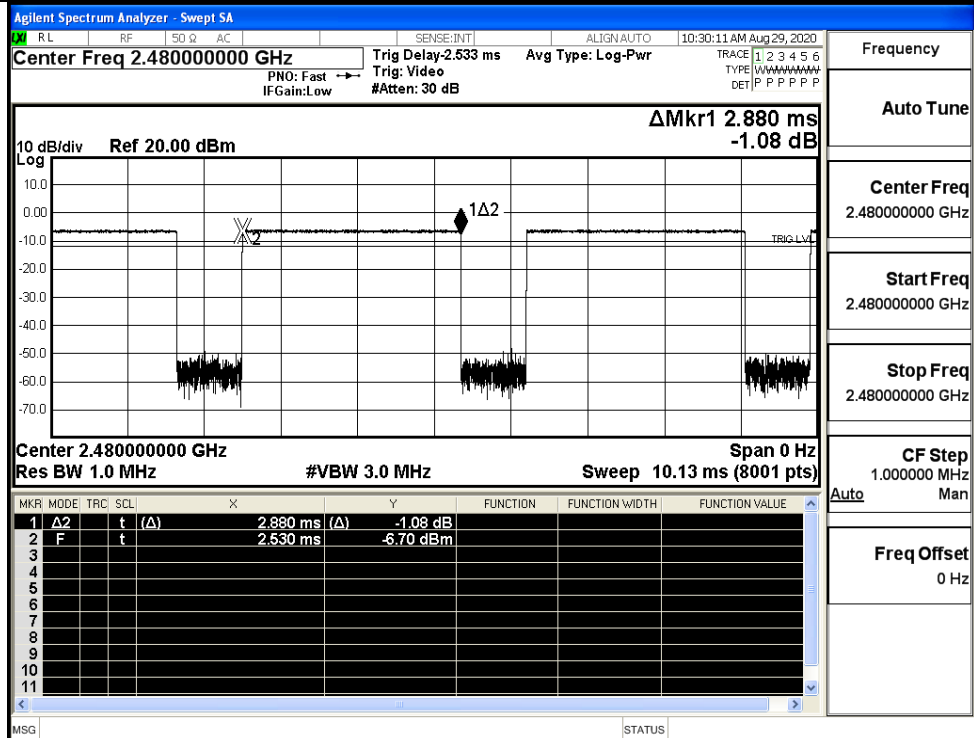
GFSK_DH5/LCH



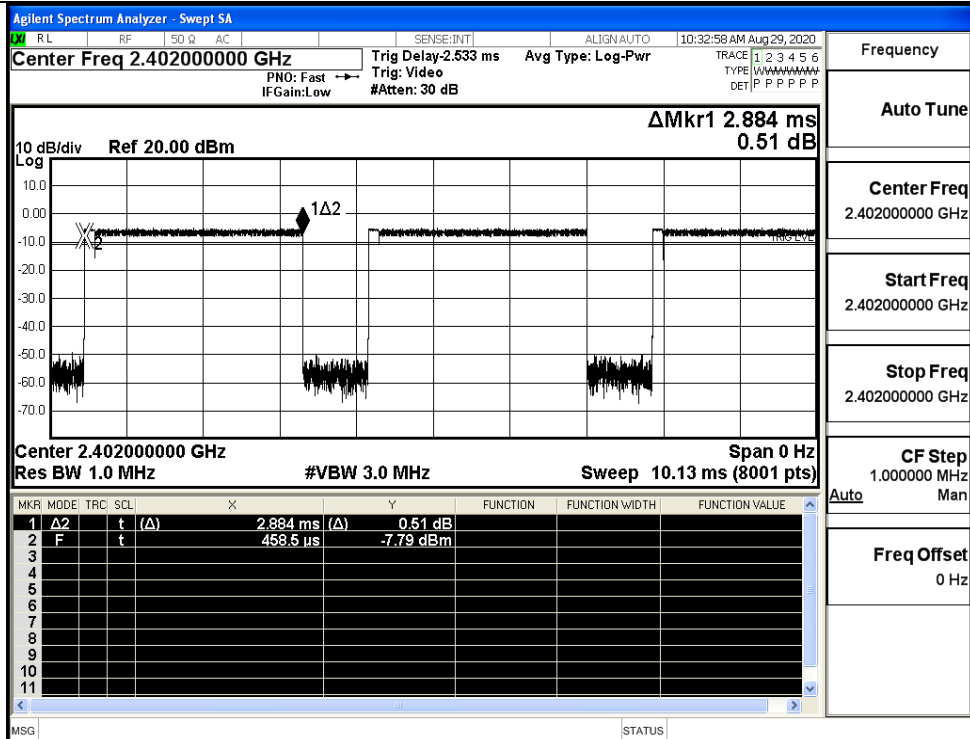
GFSK_DH5/MCH



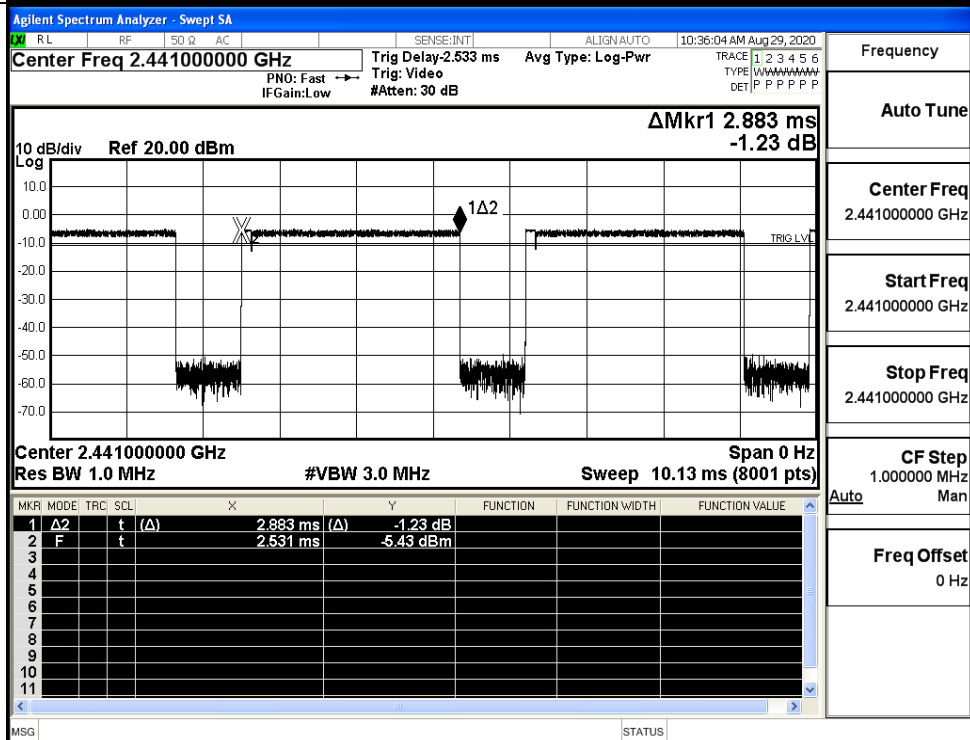
GFSK_DH5/HCH



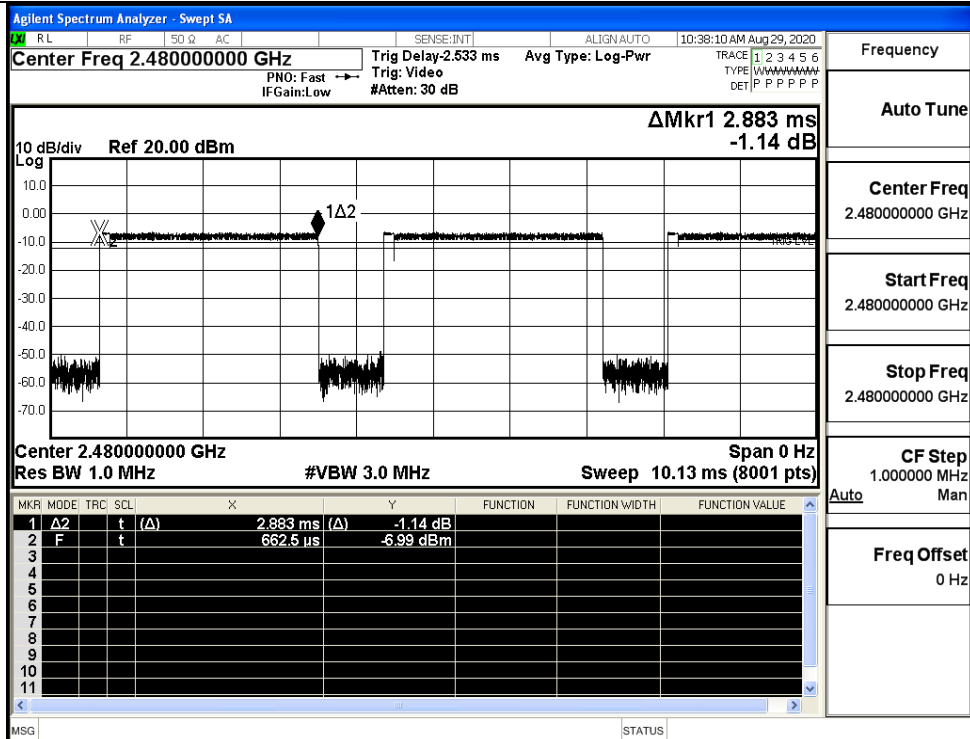
$\pi/4$ DQPSK
_2DH5/LCH



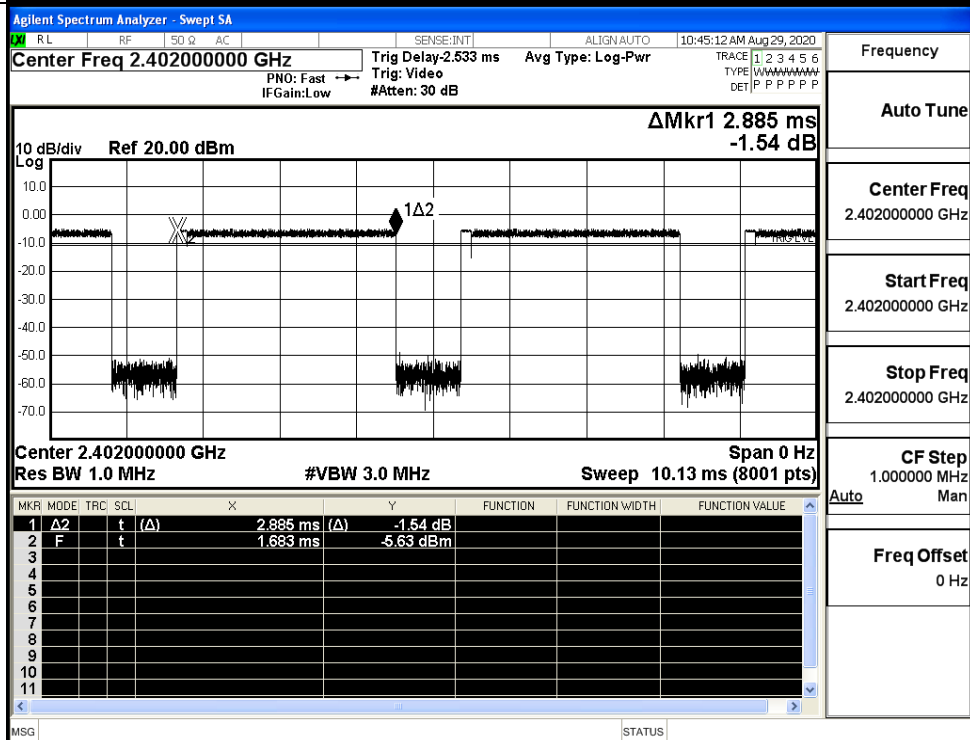
$\pi/4$ DQPSK
_2DH5/MCH



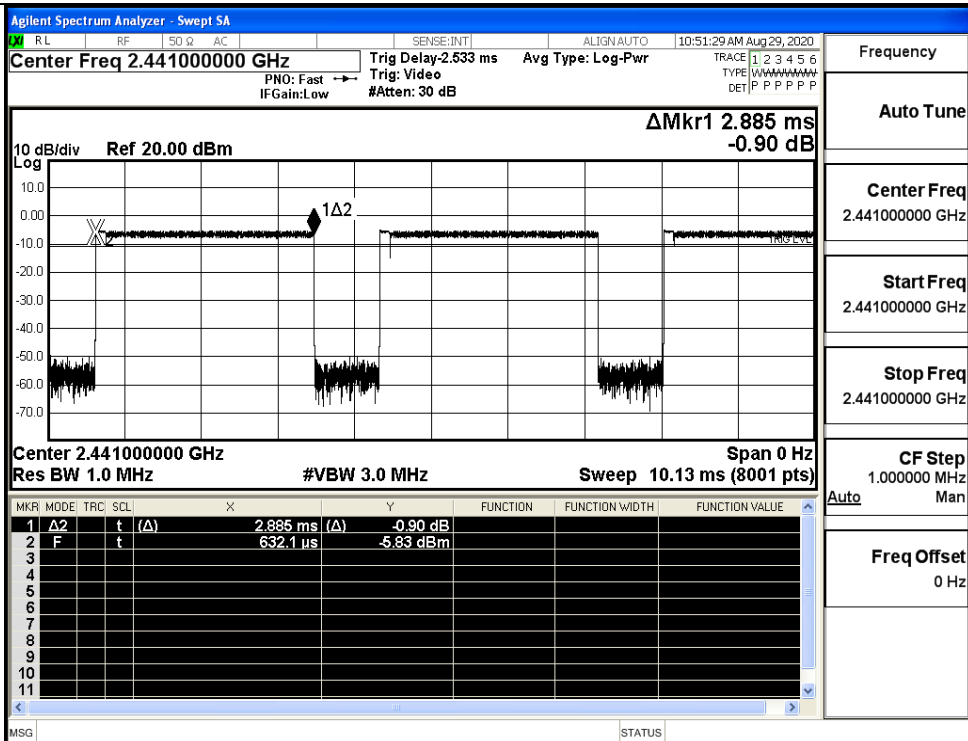
$\pi/4$ DQPSK
_2DH5/HCH



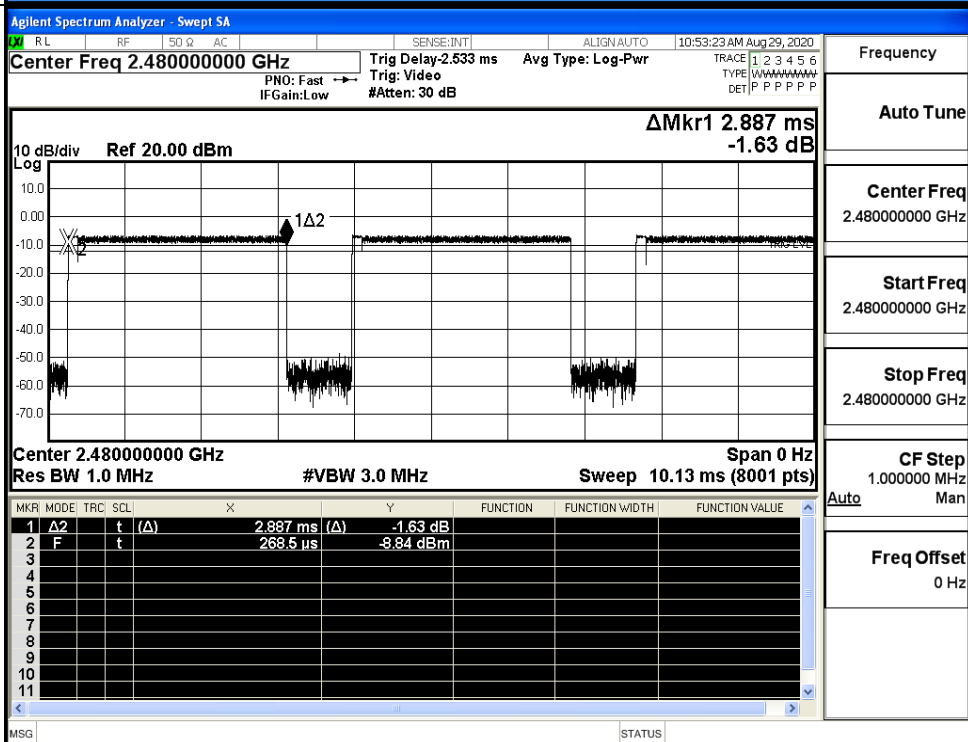
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



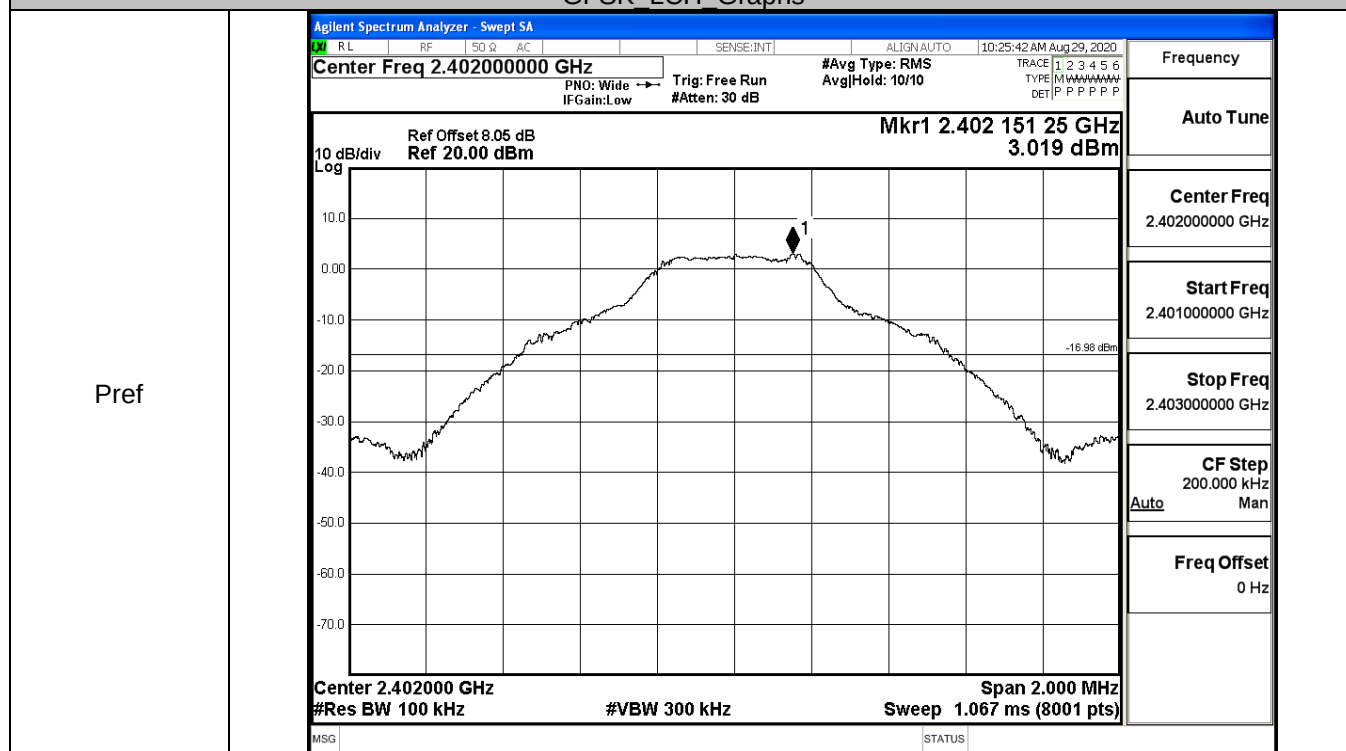
8DPSK_3DH5/HCH



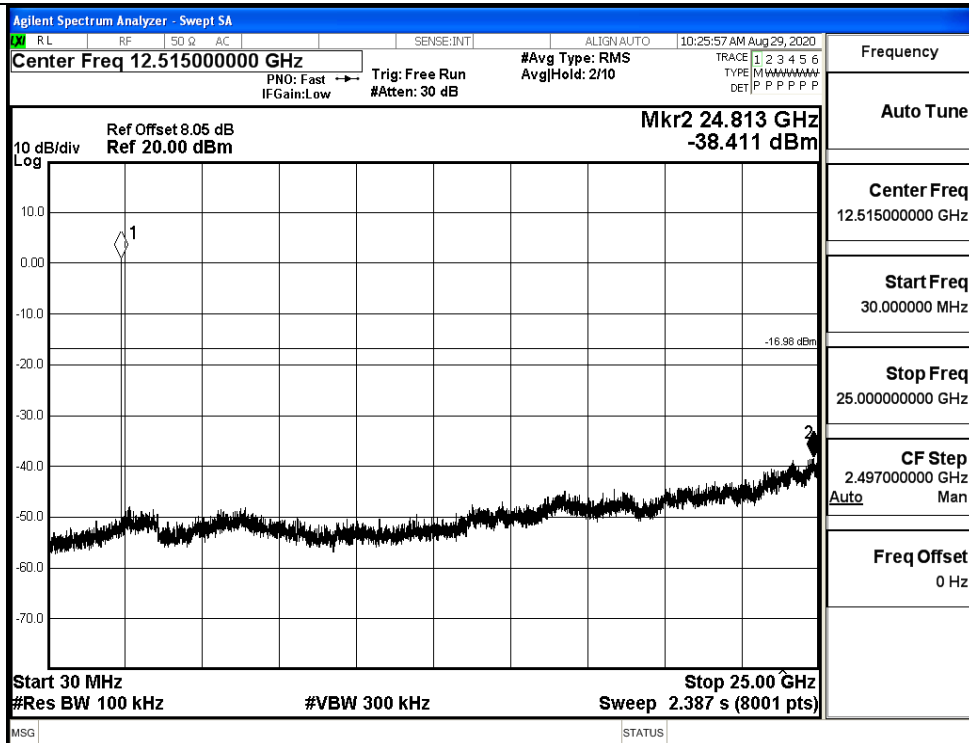
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.019	-38.411	-16.981	PASS
	MCH	2.842	-37.641	-17.158	PASS
	HCH	1.392	-37.636	-18.608	PASS
$\pi/4$ DQPSK	LCH	2.366	-37.575	-17.634	PASS
	MCH	2.367	-38.068	-17.633	PASS
	HCH	0.89	-37.186	-19.110	PASS
8DPSK	LCH	2.464	-37.574	-17.536	PASS
	MCH	1.949	-37.454	-18.051	PASS
	HCH	0.992	-37.903	-19.008	PASS

GFSK LCH Graphs

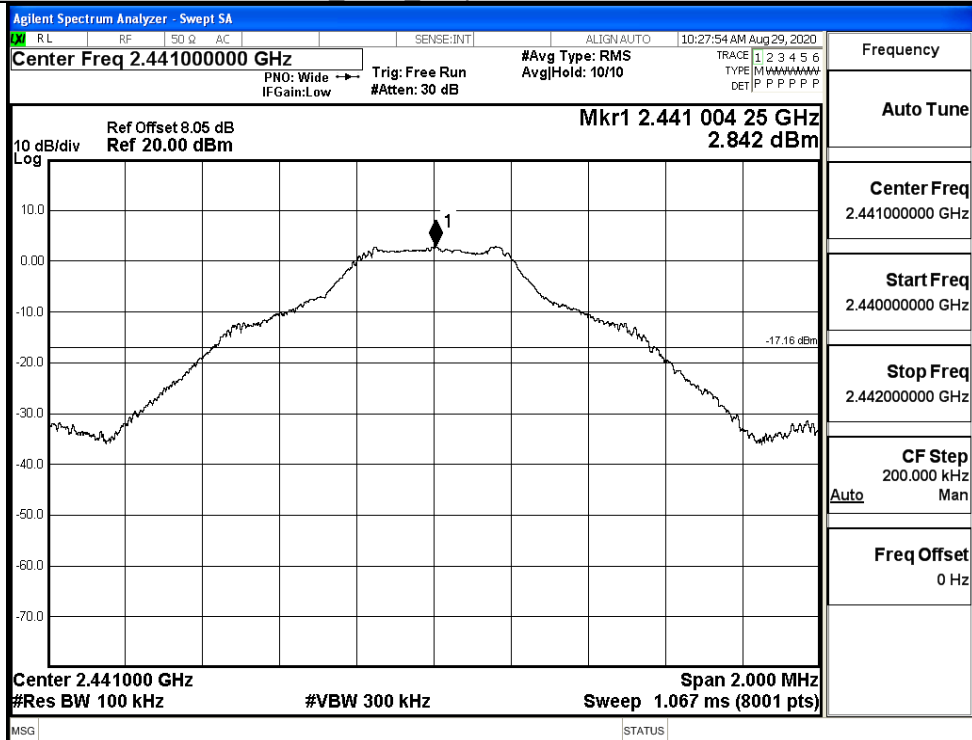


Puw

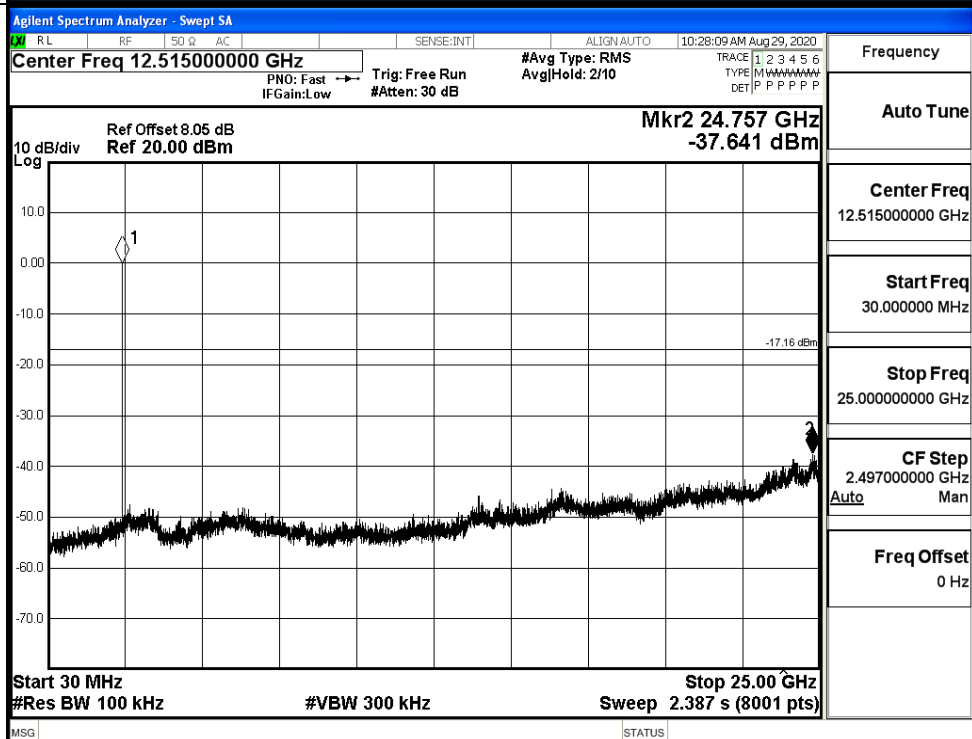


GFSK_MCH_Graphs

Pref

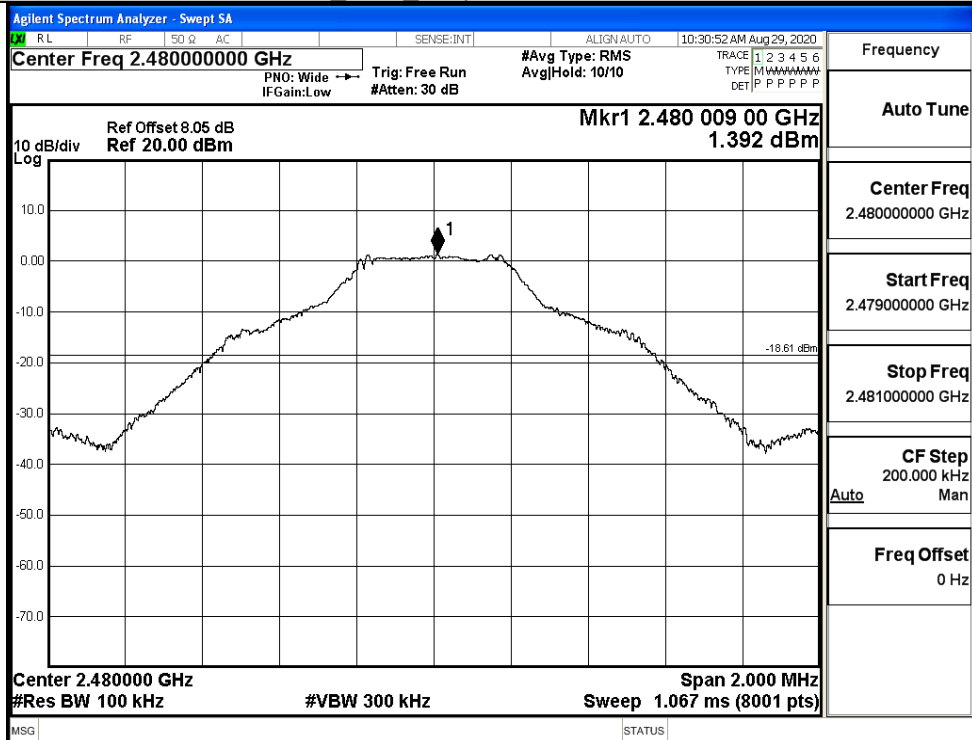


Puw

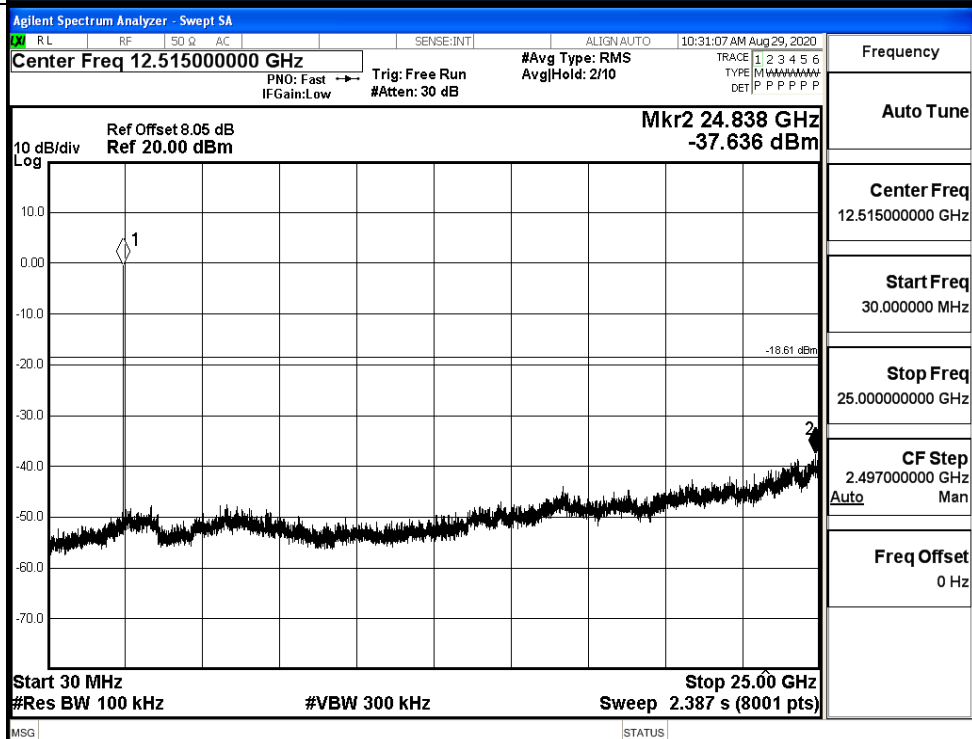


GFSK HCH_Graphs

Pref

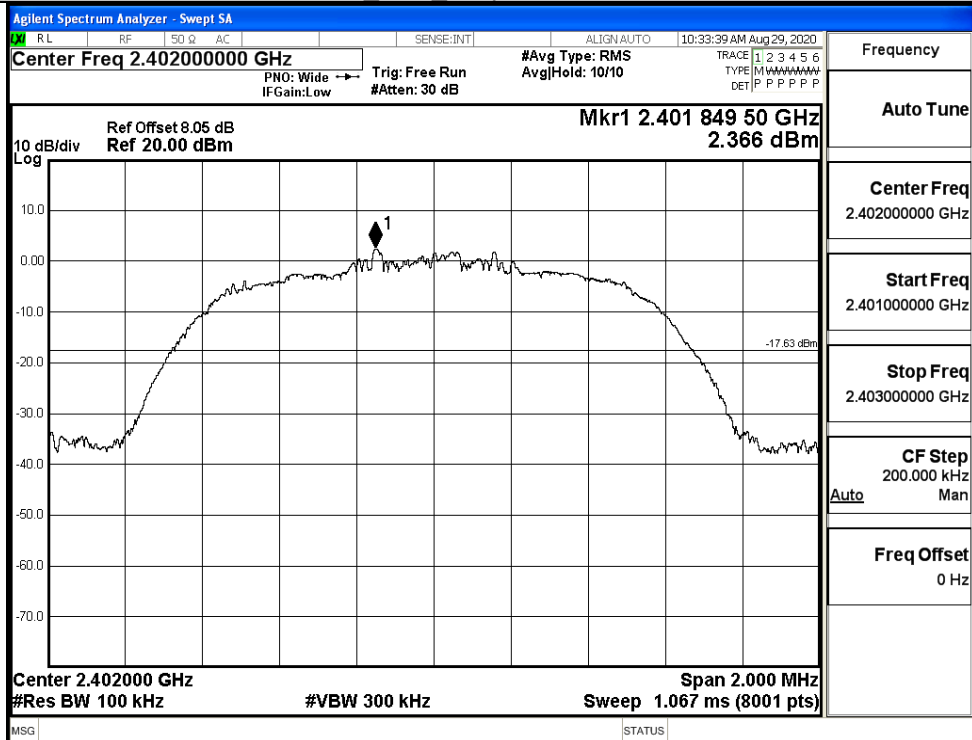


Puw

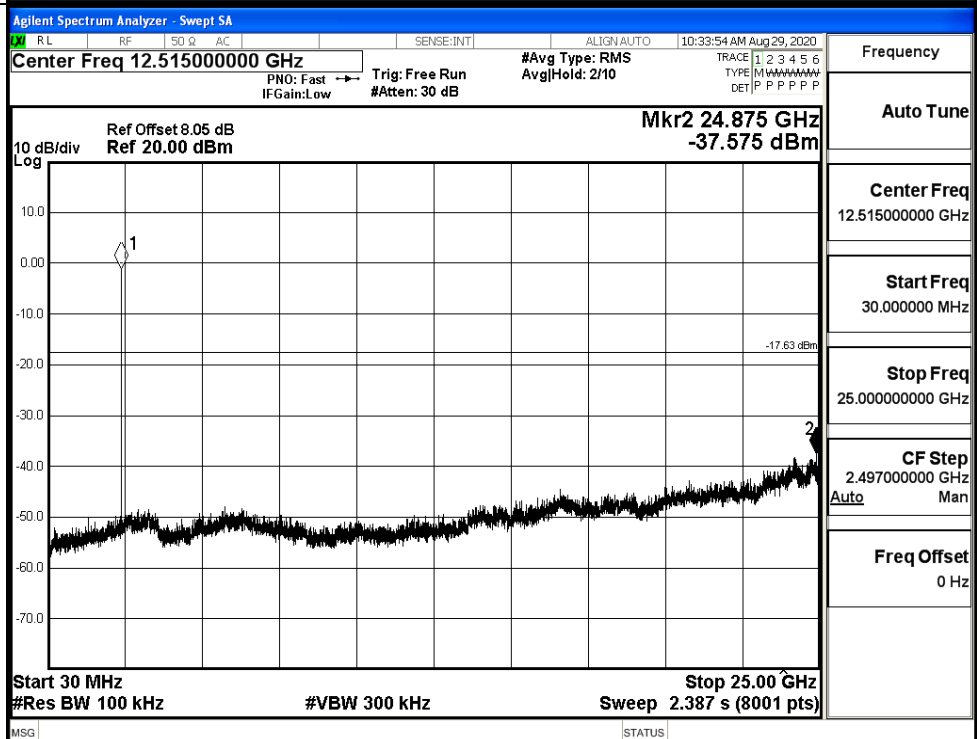


$\pi/4$ DQPSK_LCH_Graphs

Pref

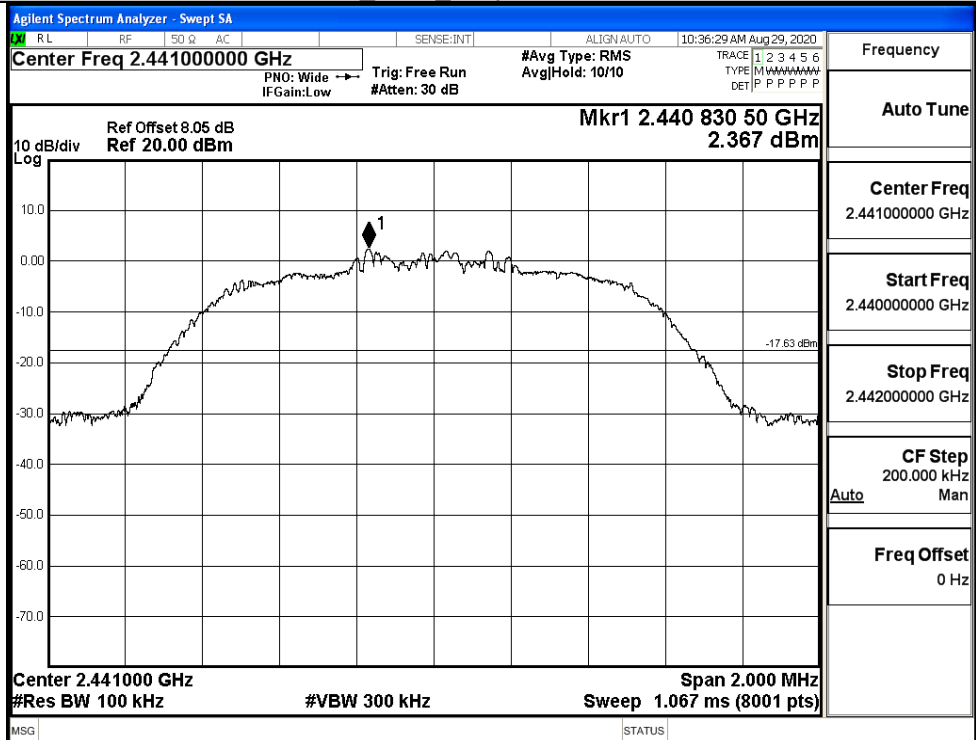


Puw



π /4DQPSK_MCH_Graphs

Pref

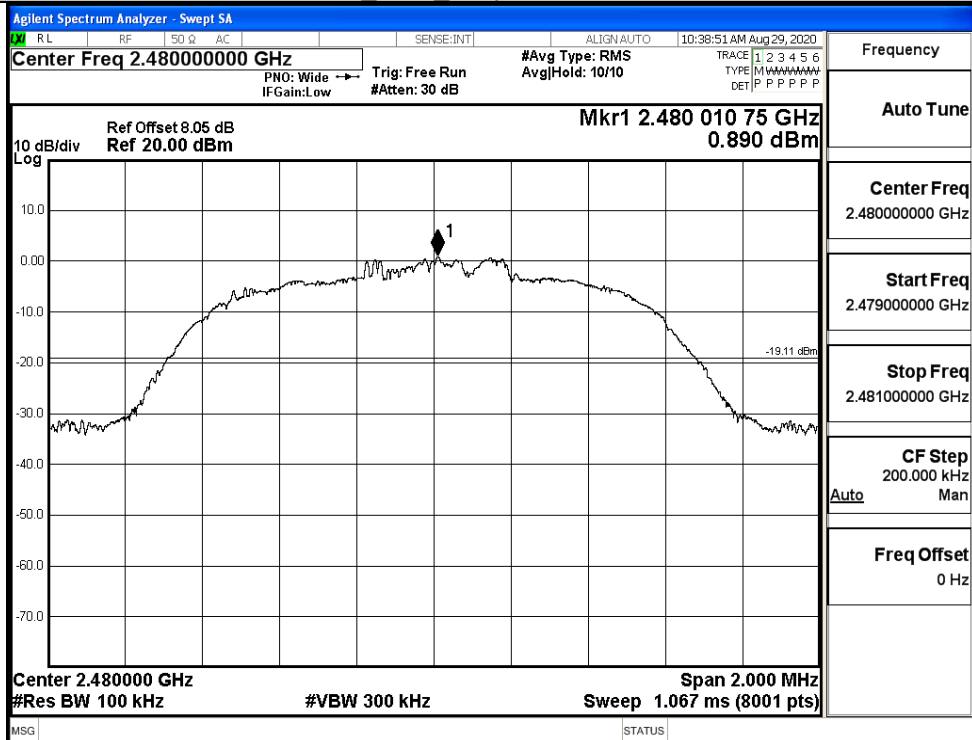


Puw

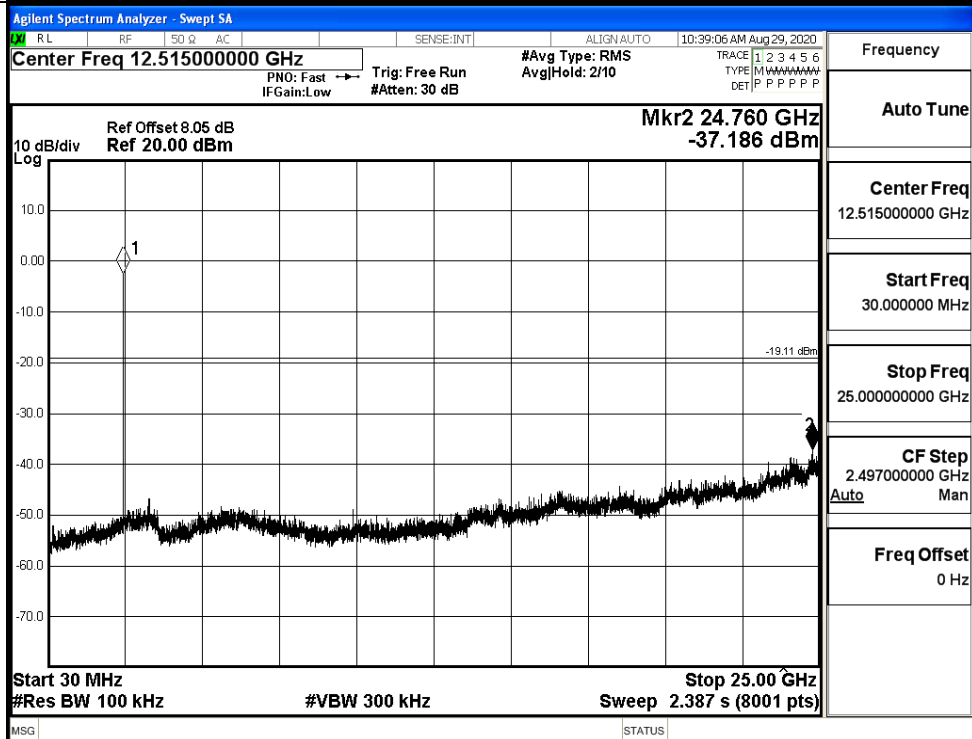


π /4DQPSK_HCH_Graphs

Pref

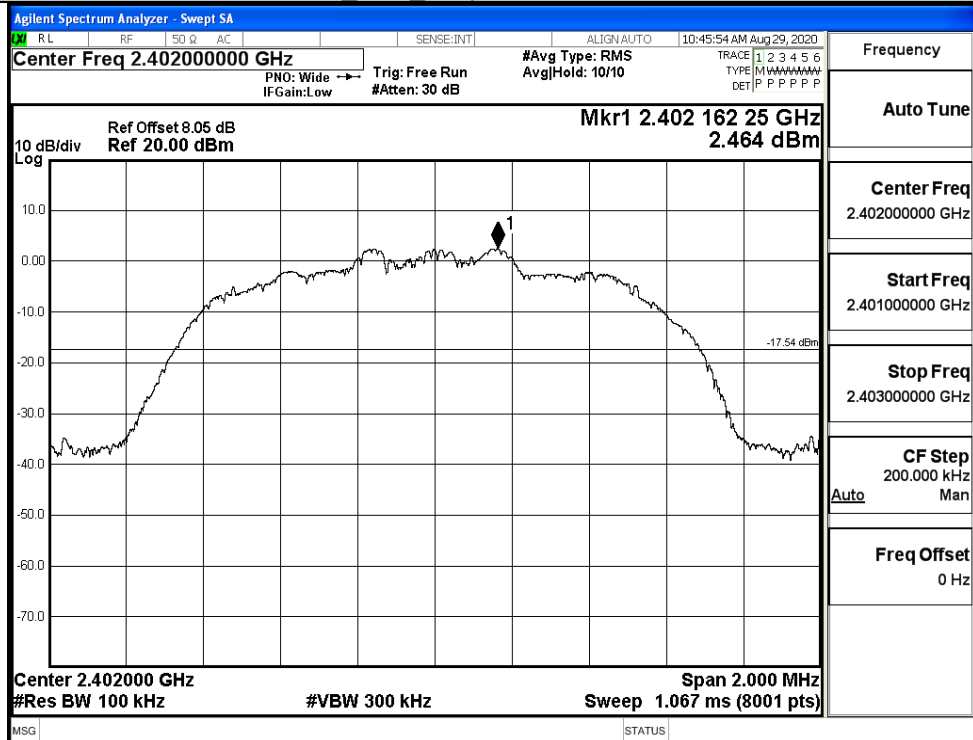


Puw

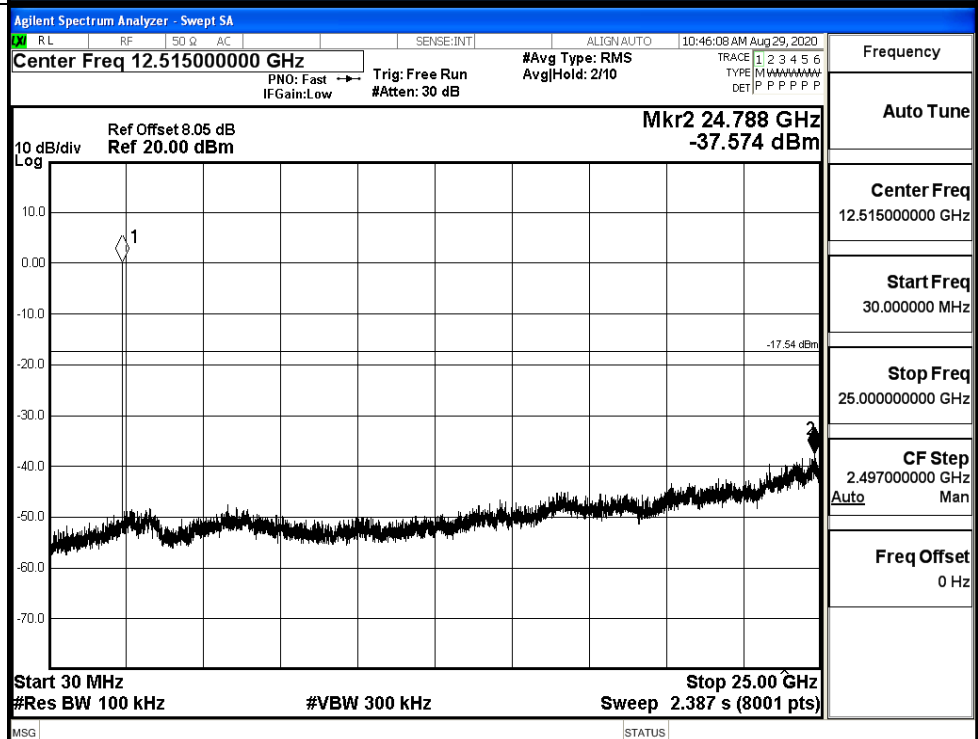


8DPSK_LCH_Graphs

Pref

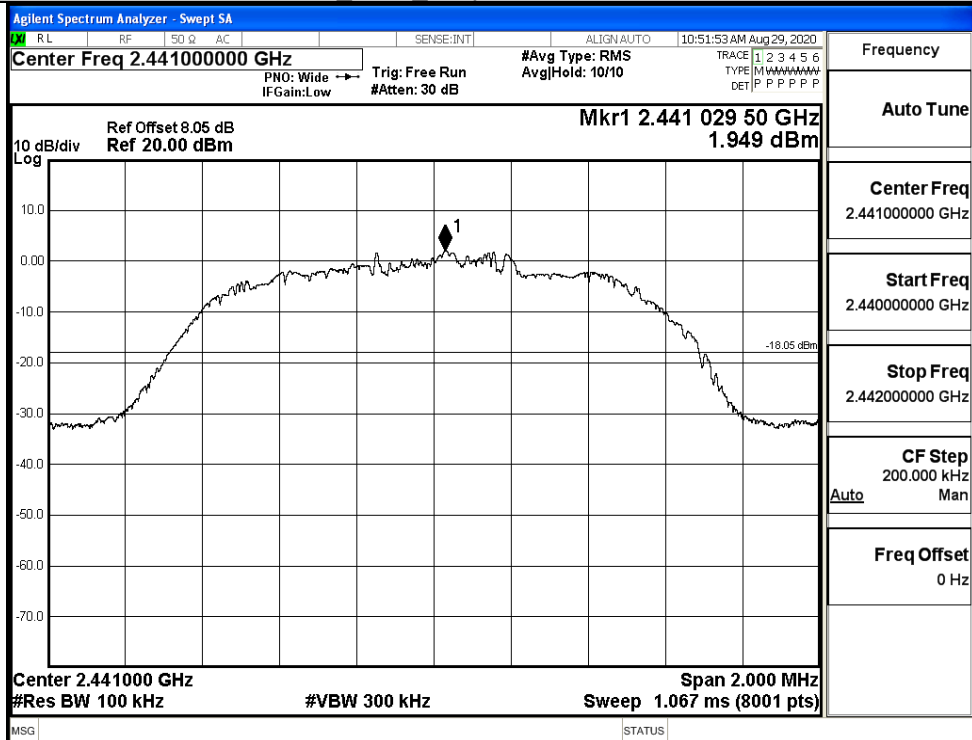


Puw

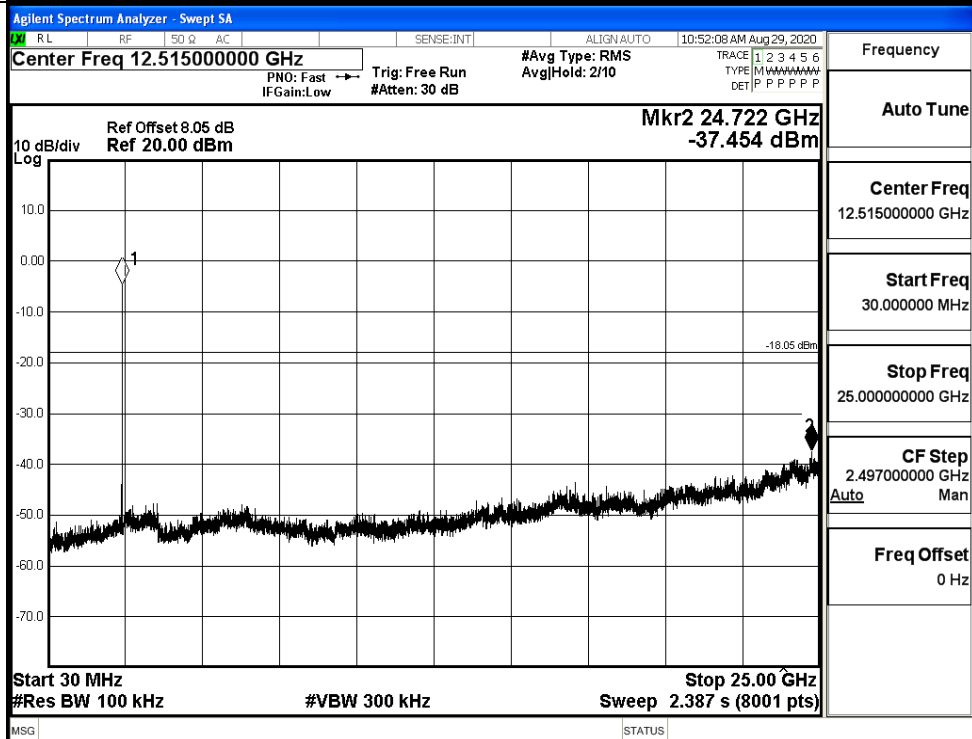


8DPSK_MCH_Graphs

Pref

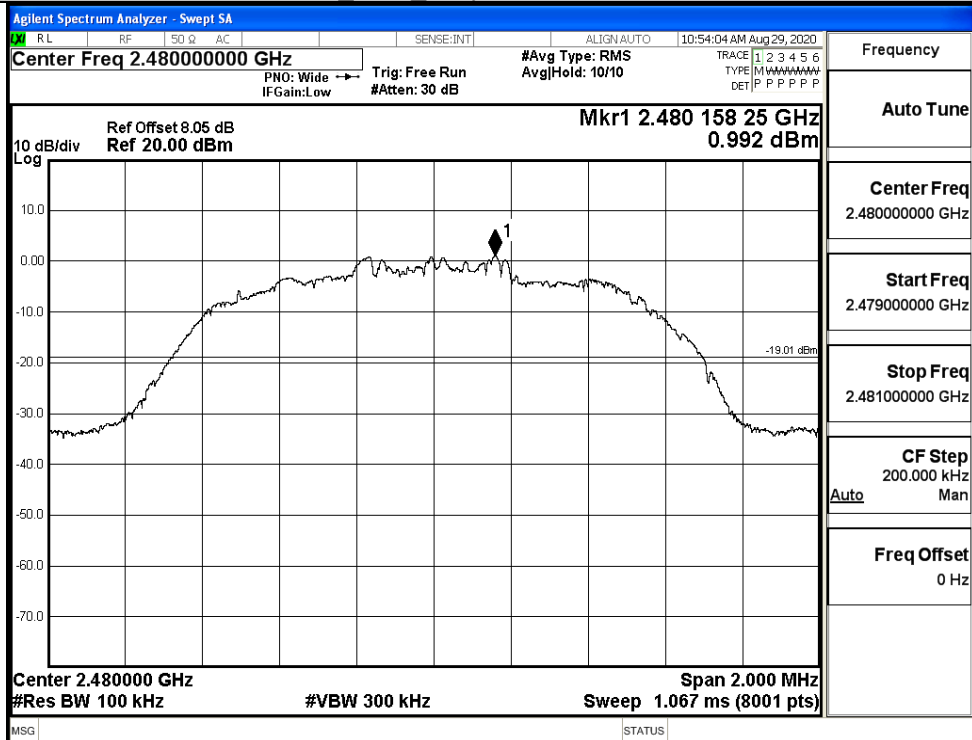


Puw

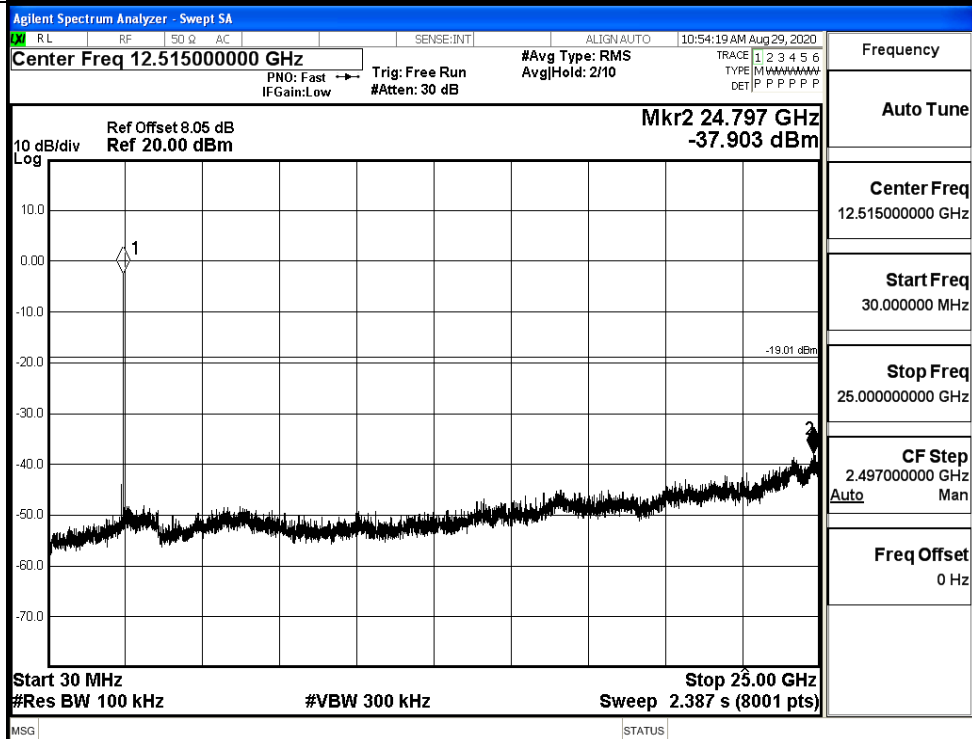


8DPSK_HCH_Graphs

Pref



Puw

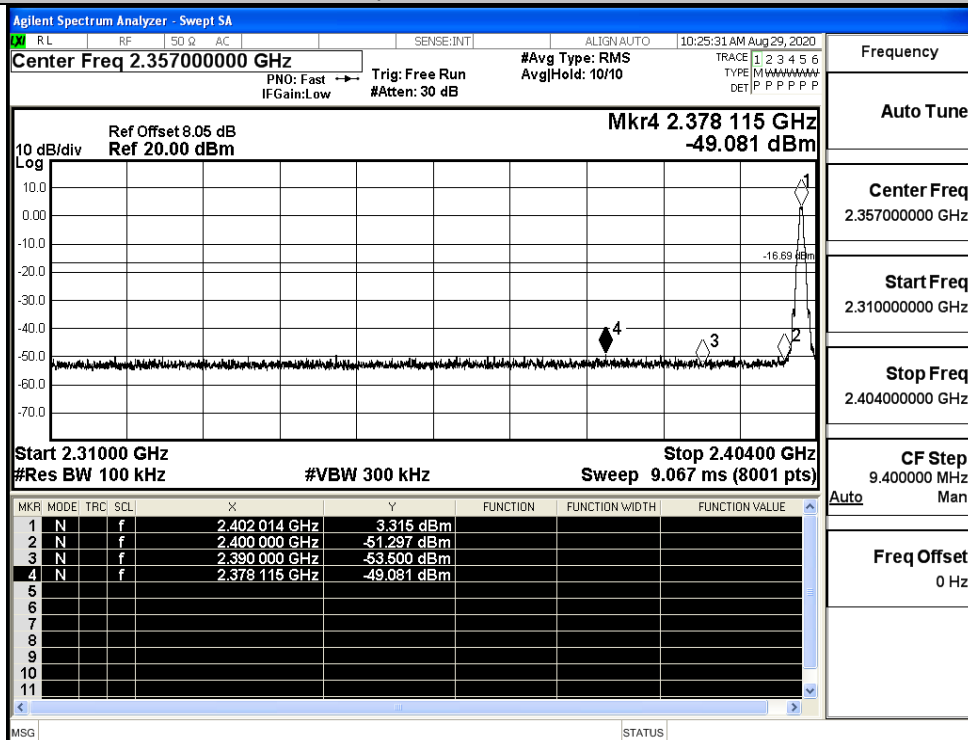


A.7 Band-edge for RF Conducted Emissions

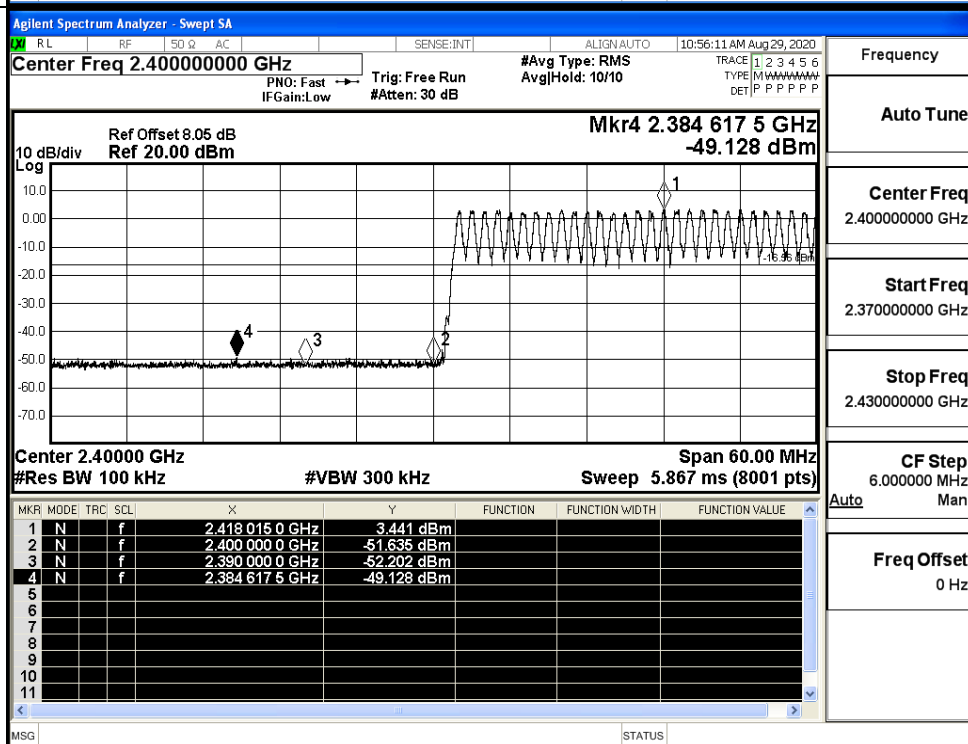
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	3.315	Off	-49.081	-16.69	PASS
			3.441	On	-49.128	-16.56	PASS
	HCH	2480	1.511	Off	-48.993	-18.49	PASS
			2.604	On	-48.975	-17.4	PASS
$\pi/4$ DQPSK	LCH	2402	-0.499	Off	-49.912	-20.5	PASS
			3.139	On	-49.027	-16.86	PASS
	HCH	2480	1.341	Off	-49.156	-18.66	PASS
			1.739	On	-49.043	-18.26	PASS
8DPSK	LCH	2402	2.166	Off	-49.473	-17.83	PASS
			3.148	On	-49.396	-16.85	PASS
	HCH	2480	1.061	Off	-48.876	-18.94	PASS
			2.390	On	-47.717	-17.61	PASS

Test Graphs

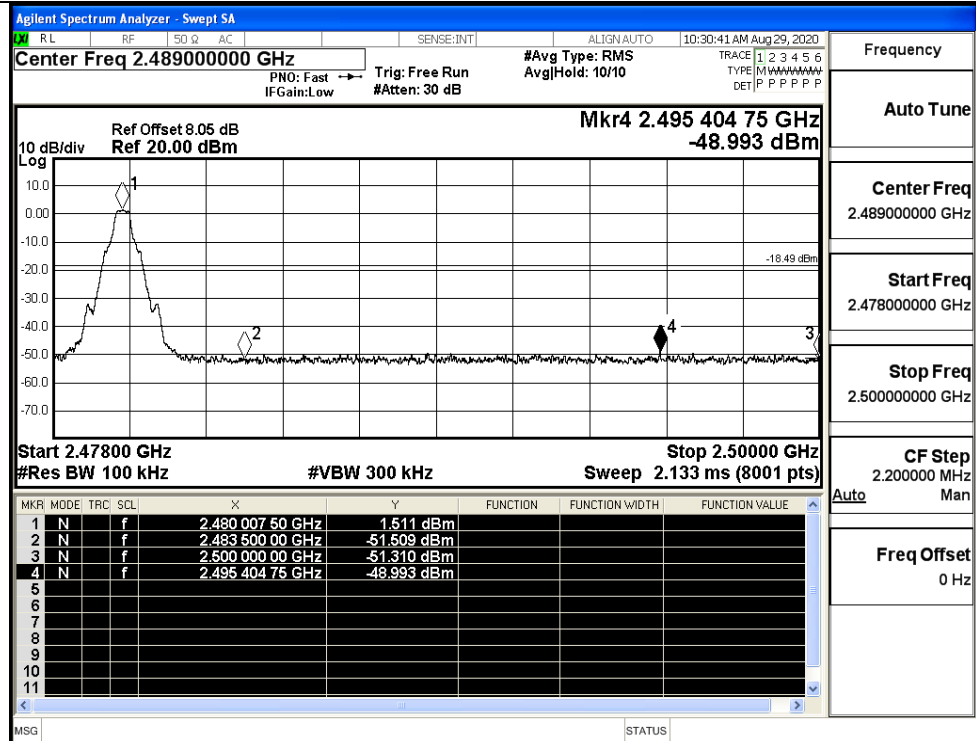
GFSK/LCH/No Hop



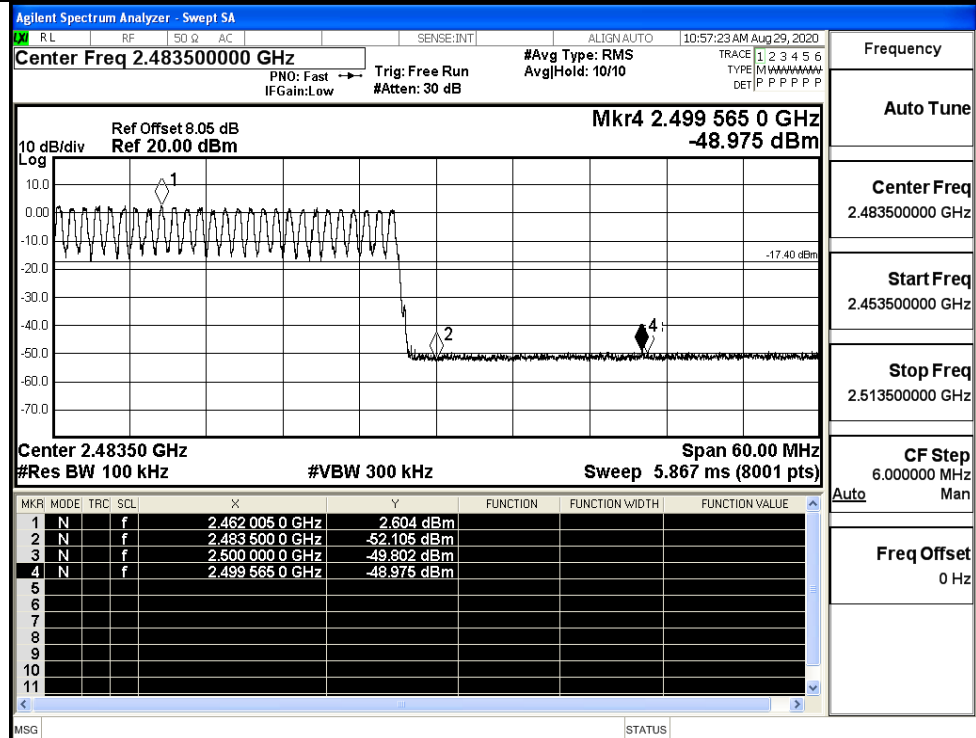
GFSK/LCH/Hop



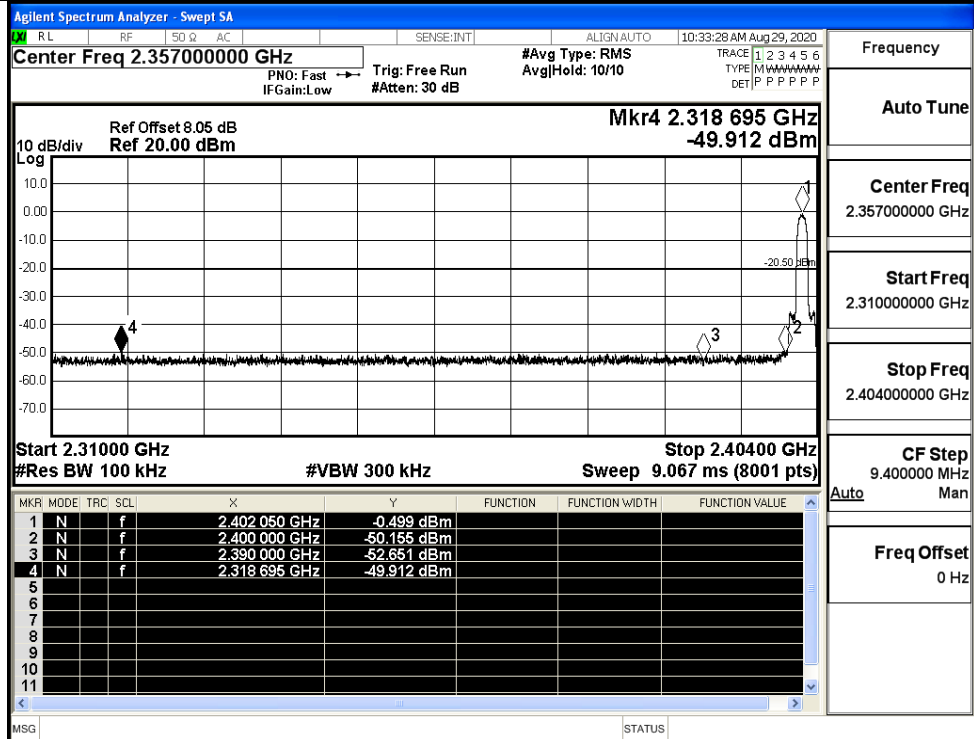
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq
2.357000000 GHz

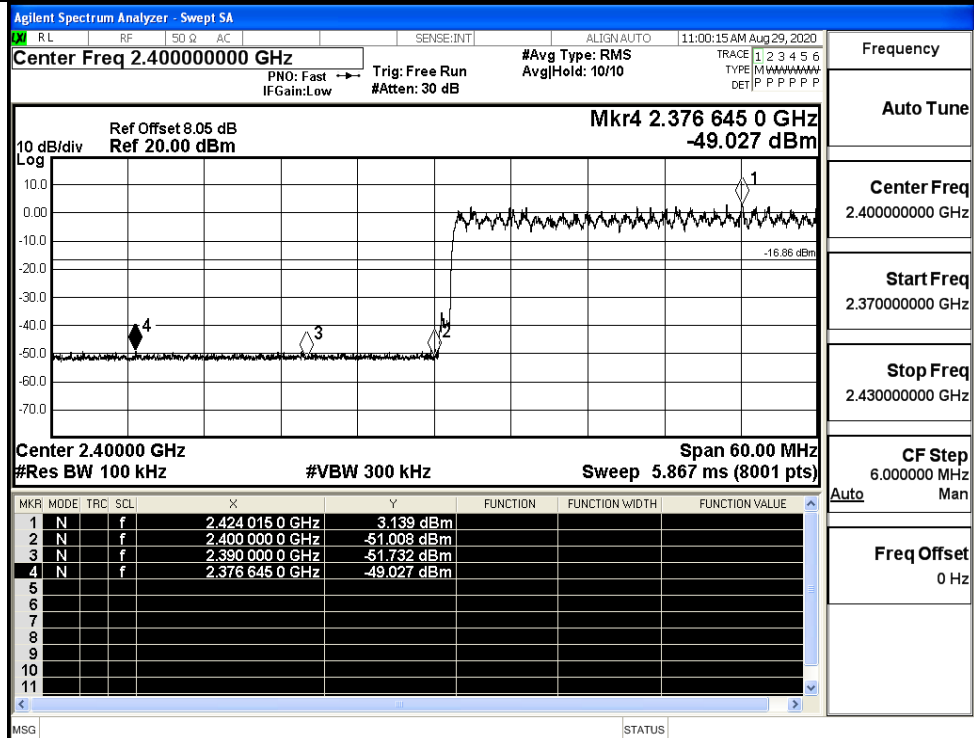
Start Freq
2.310000000 GHz

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

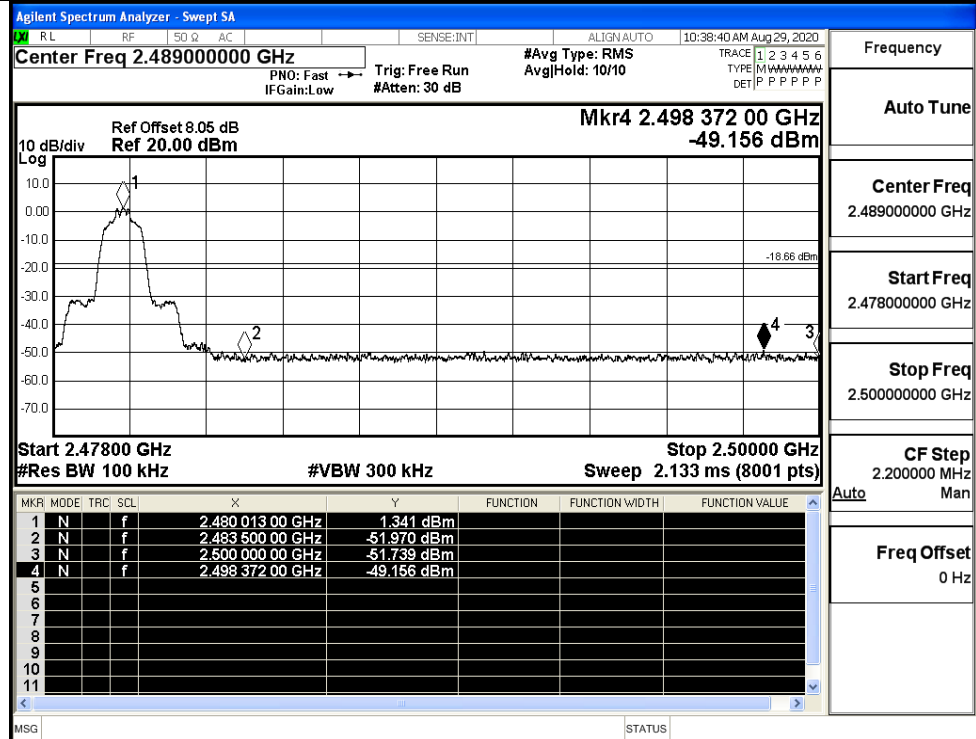
Start Freq
2.370000000 GHz

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

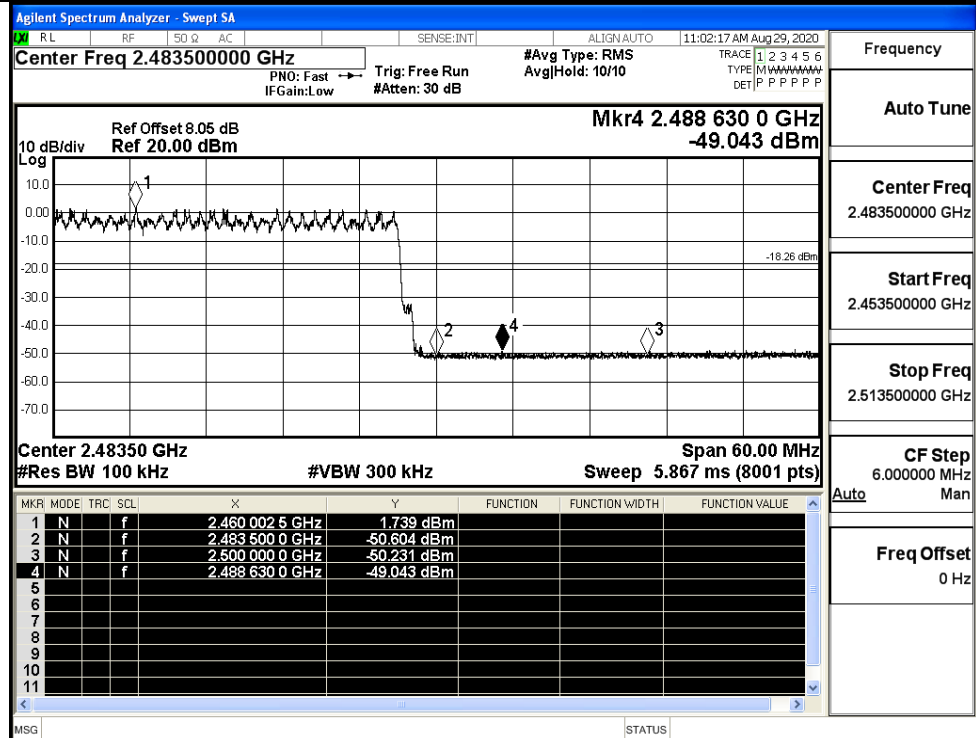
Stop Freq
2.500000000 GHz

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

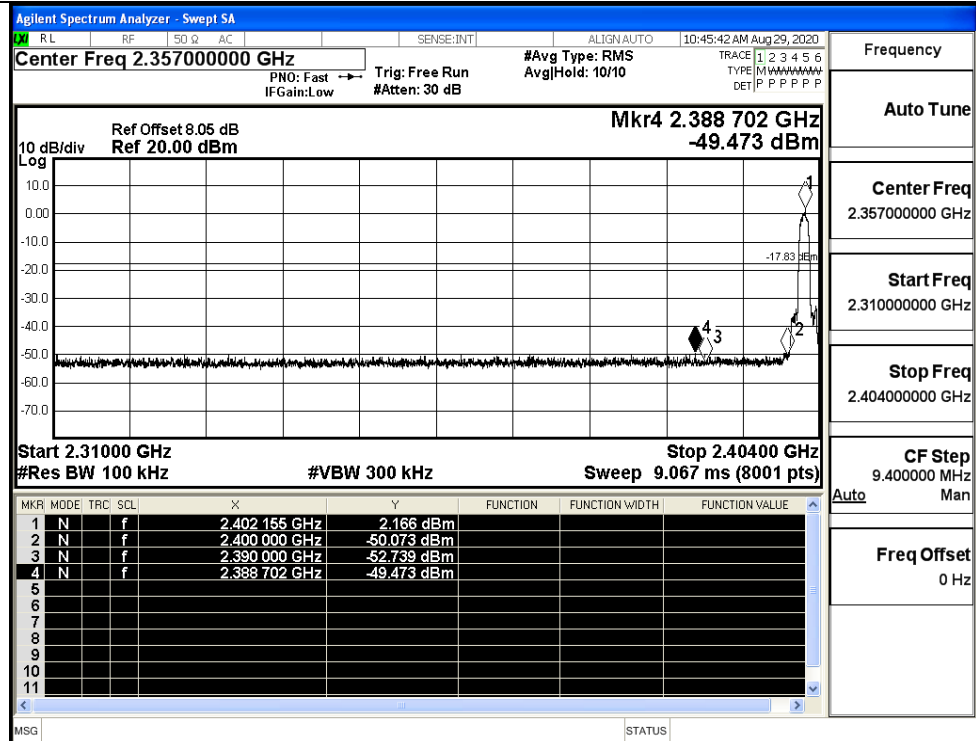
Stop Freq
2.513500000 GHz

CF Step
6.000000 MHz

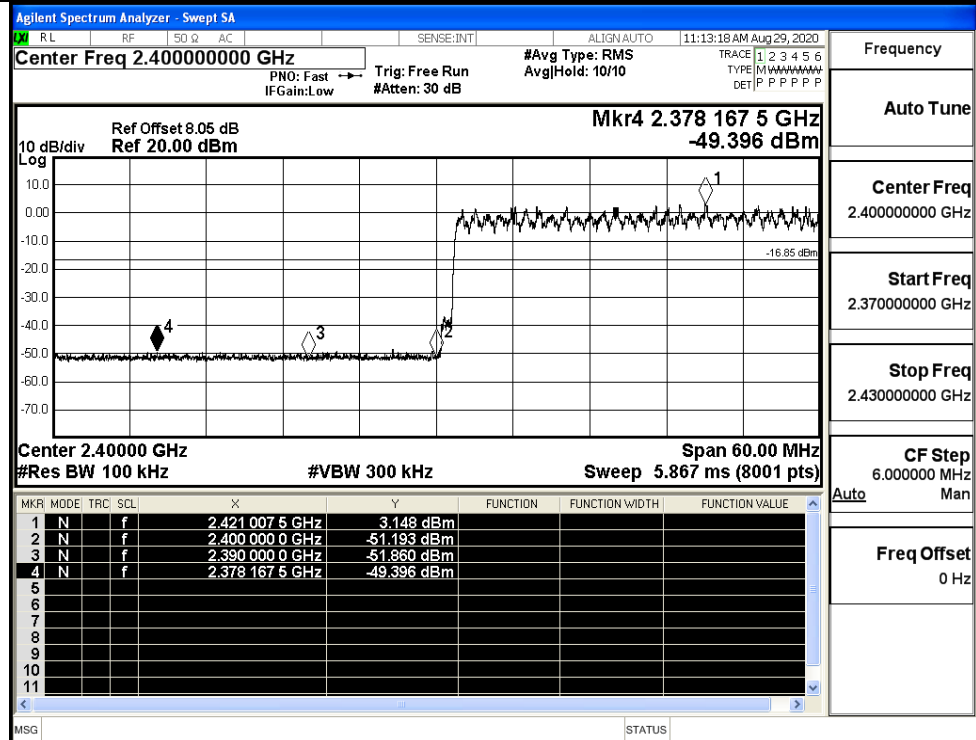
Auto Man

Freq Offset
0 Hz

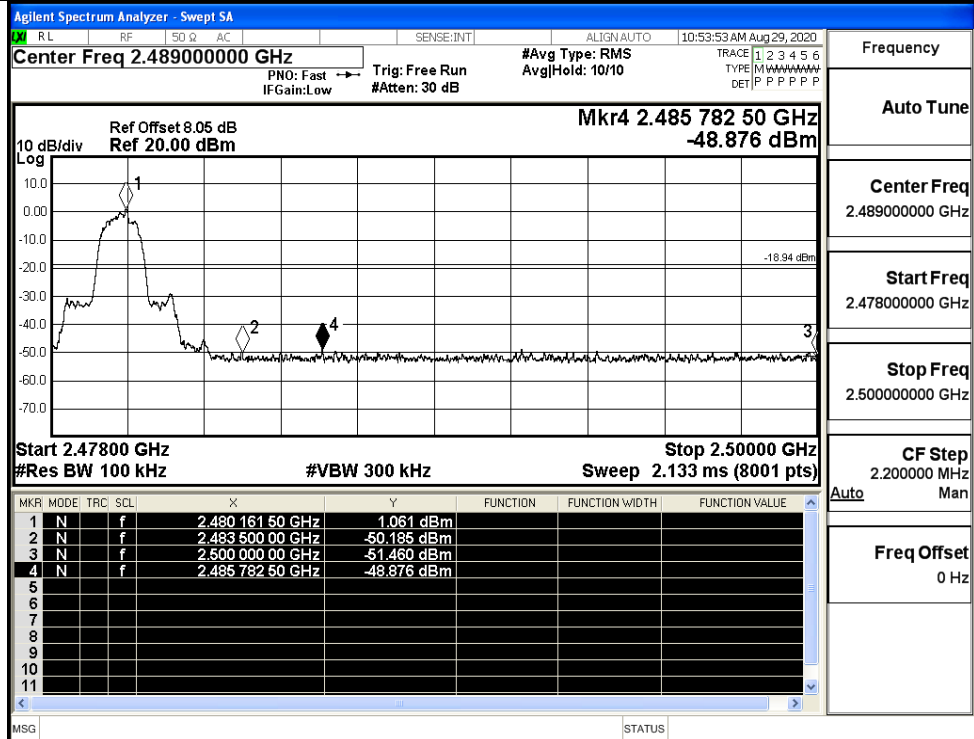
8DPSK/LCH/No Hop



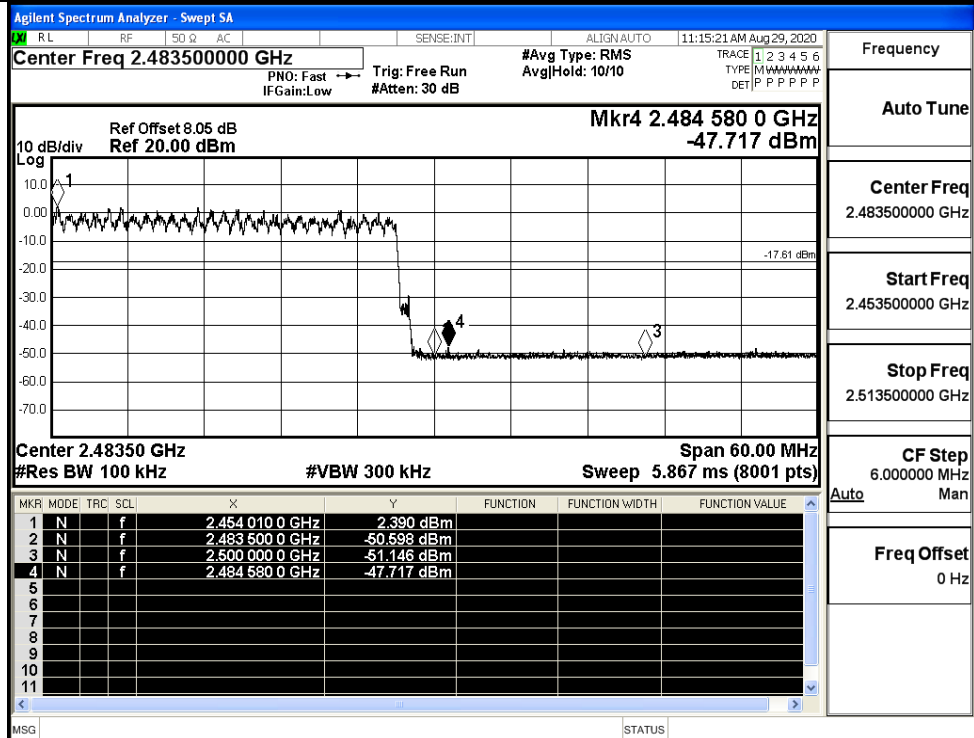
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



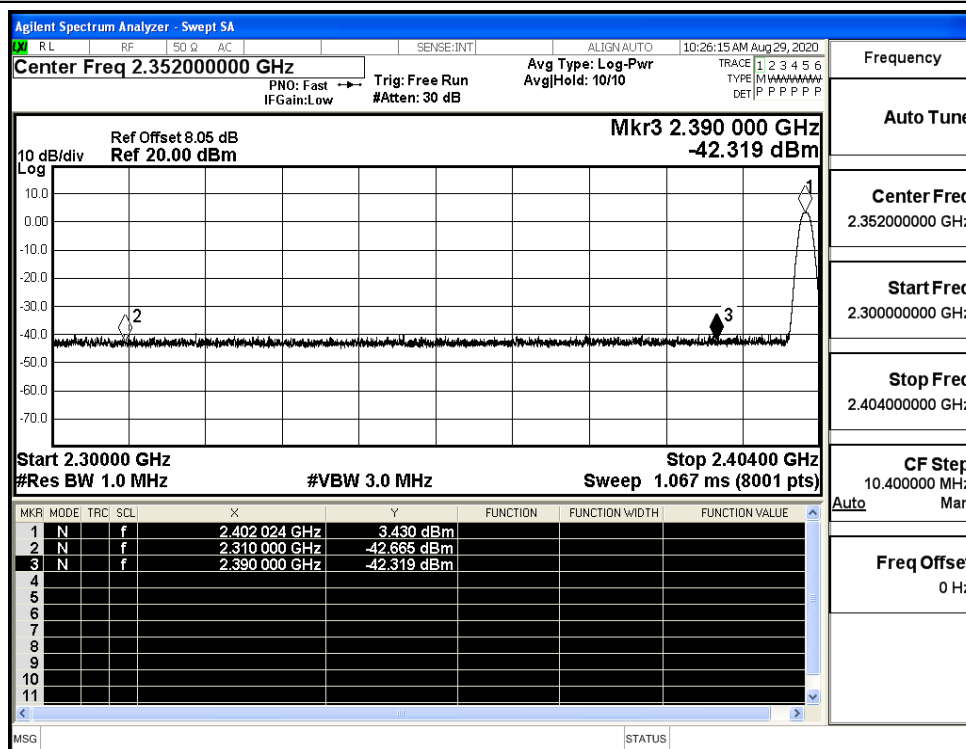
8DPSK/HCH/Hop



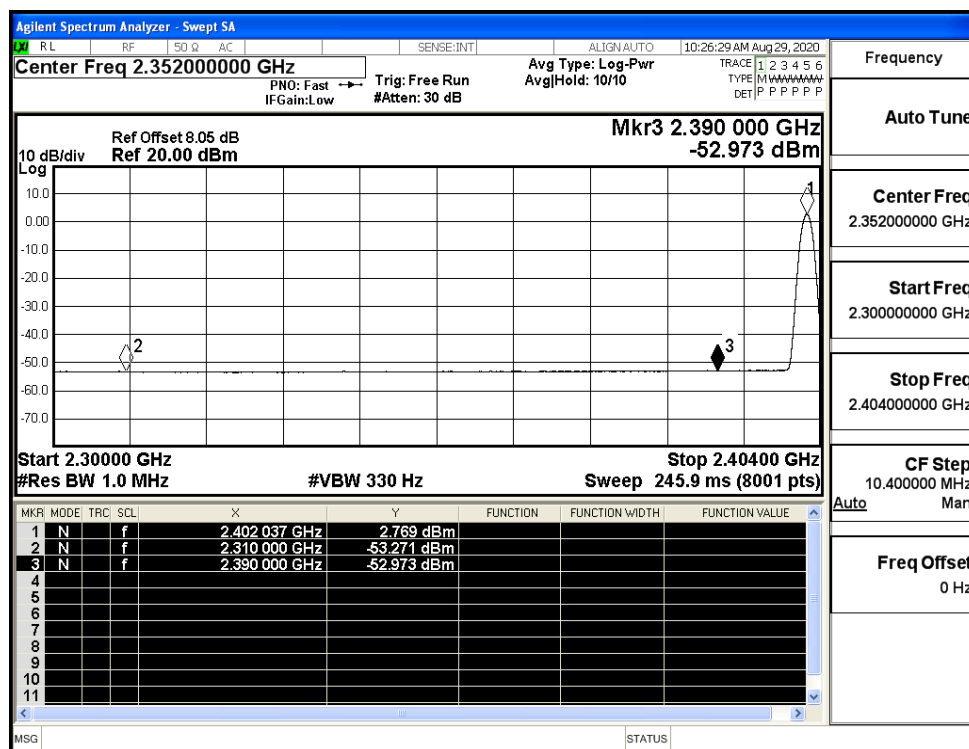
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.67	2.0	0	54.56	PEAK	74	PASS
	Off	2310.0	-53.27	2.0	0	43.96	AV	54	PASS
	Off	2390.0	-42.32	2.0	0	54.91	PEAK	74	PASS
	Off	2390.0	-52.97	2.0	0	44.26	AV	54	PASS
	Off	2483.5	-42.15	2.0	0	55.08	PEAK	74	PASS
	Off	2483.5	-52.46	2.0	0	44.77	AV	54	PASS
	Off	2500.0	-41.15	2.0	0	56.08	PEAK	74	PASS
	Off	2500.0	-52.23	2.0	0	45.00	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.55	2.0	0	53.68	PEAK	74	PASS
	Off	2310.0	-53.29	2.0	0	43.94	AV	54	PASS
	Off	2390.0	-42.77	2.0	0	54.46	PEAK	74	PASS
	Off	2390.0	-52.88	2.0	0	44.35	AV	54	PASS
	Off	2483.5	-41.06	2.0	0	56.17	PEAK	74	PASS
	Off	2483.5	-52.16	2.0	0	45.07	AV	54	PASS
	Off	2500.0	-43.04	2.0	0	54.19	PEAK	74	PASS
	Off	2500.0	-52.25	2.0	0	44.98	AV	54	PASS
8DPSK	Off	2310.0	-41.05	2.0	0	56.18	PEAK	74	PASS
	Off	2310.0	-53.46	2.0	0	43.77	AV	54	PASS
	Off	2390.0	-42.95	2.0	0	54.28	PEAK	74	PASS
	Off	2390.0	-53.05	2.0	0	44.18	AV	54	PASS
	Off	2483.5	-40.59	2.0	0	56.64	PEAK	74	PASS
	Off	2483.5	-52.33	2.0	0	44.90	AV	54	PASS
	Off	2500.0	-42.29	2.0	0	54.94	PEAK	74	PASS
	Off	2500.0	-52.44	2.0	0	44.79	AV	54	PASS

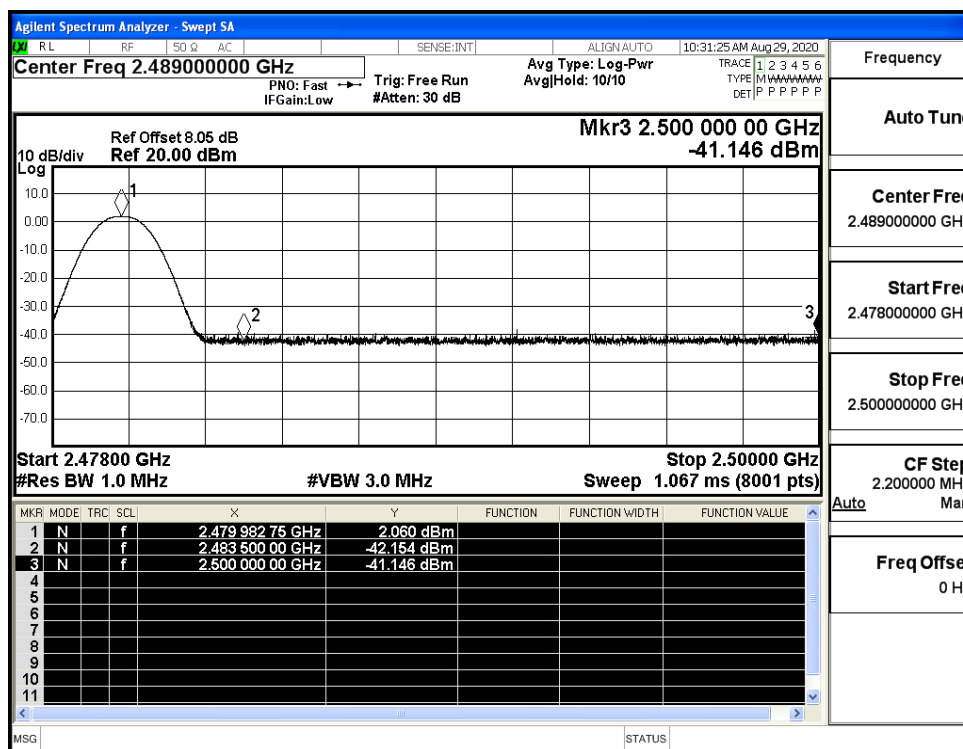
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



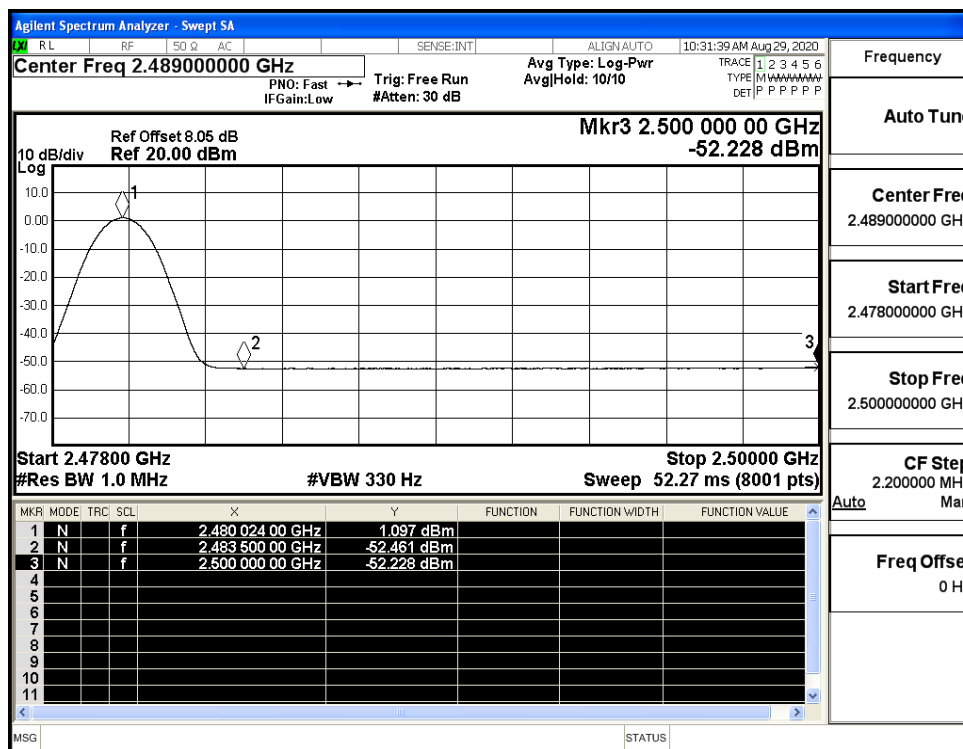
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



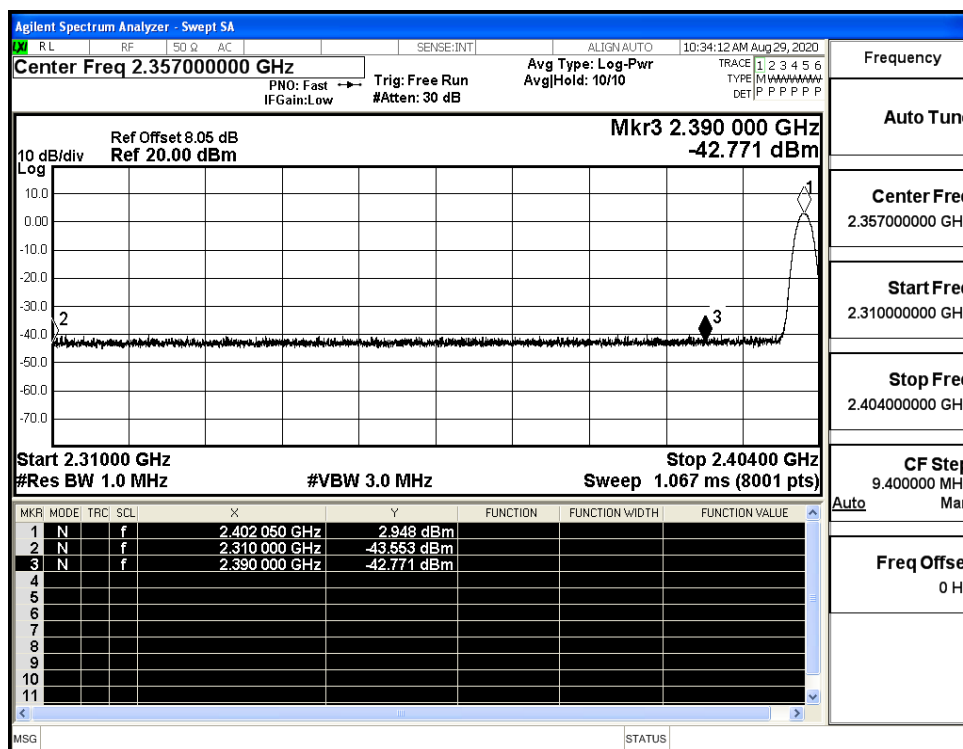
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



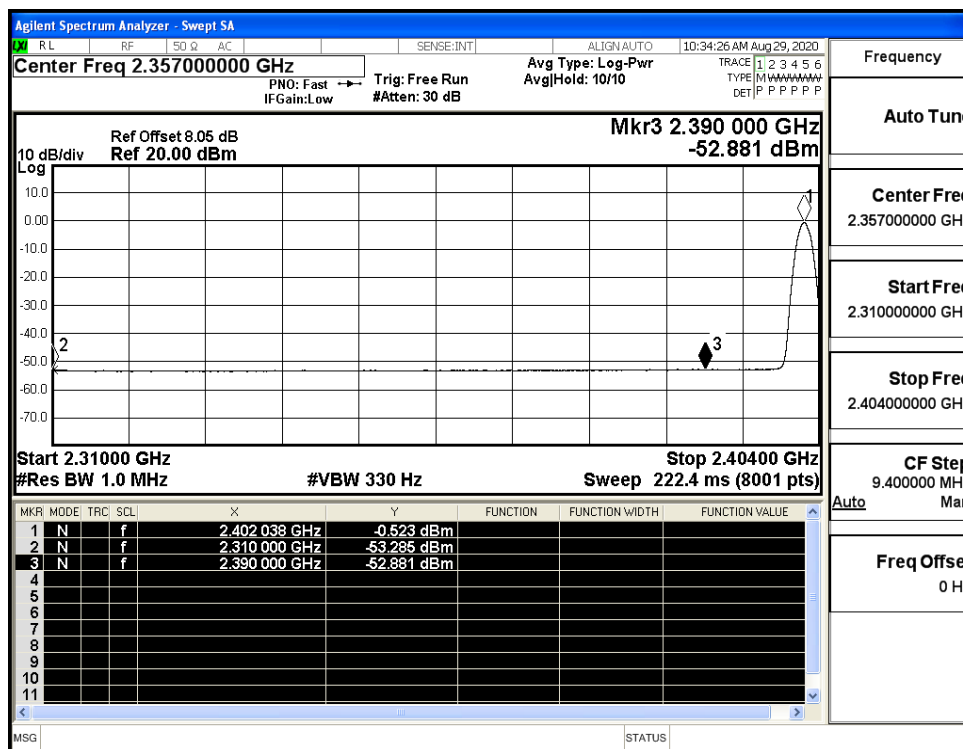
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



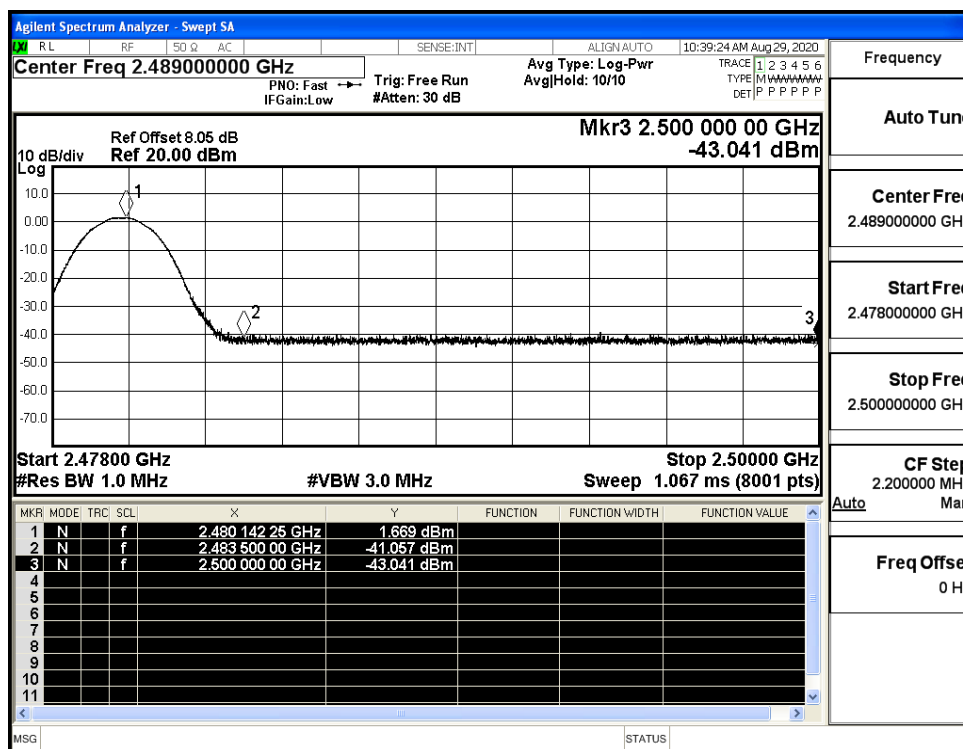
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)



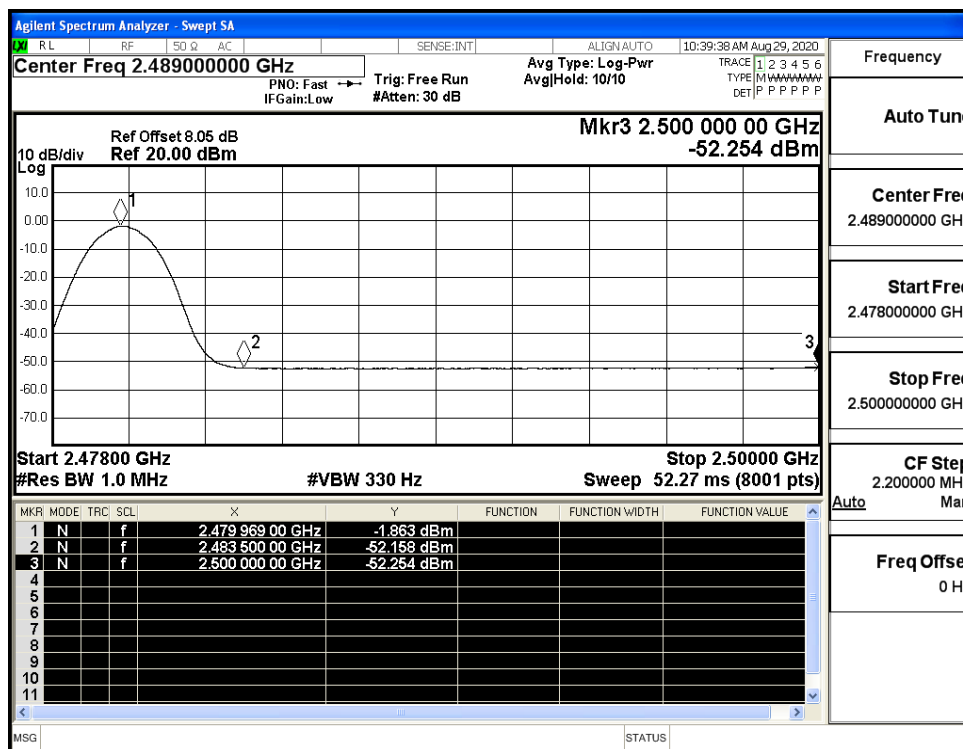
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)



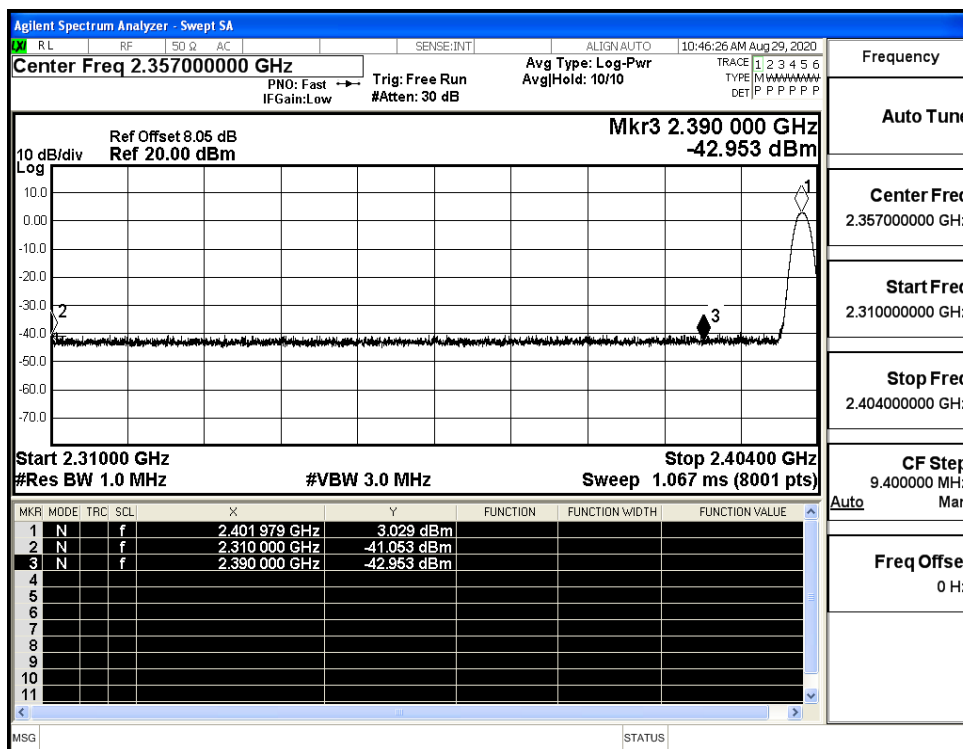
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



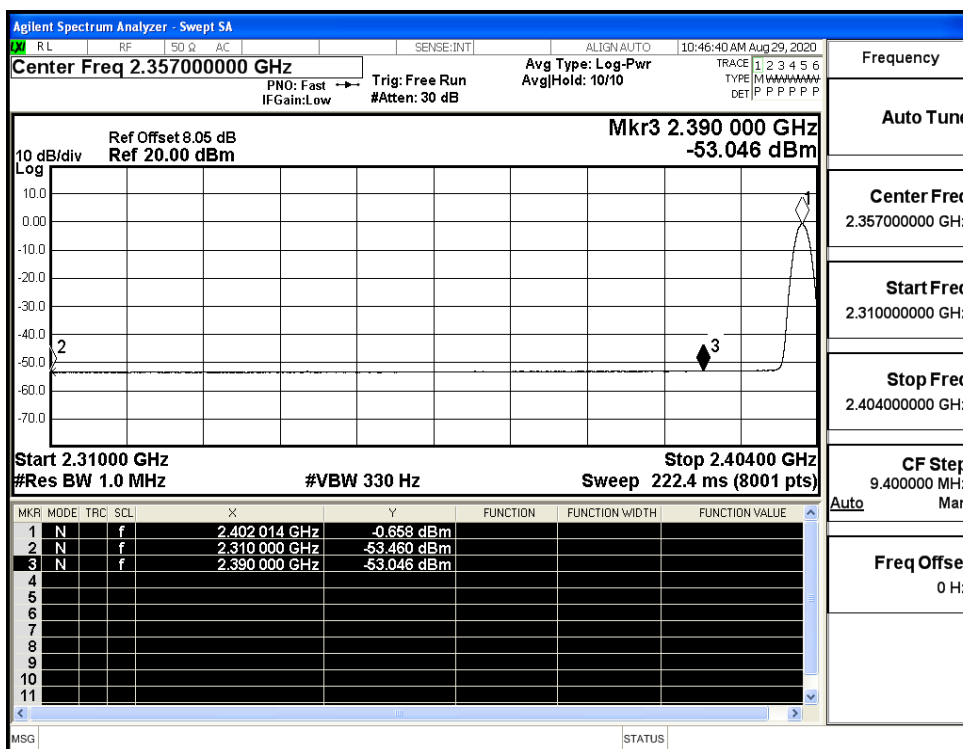
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



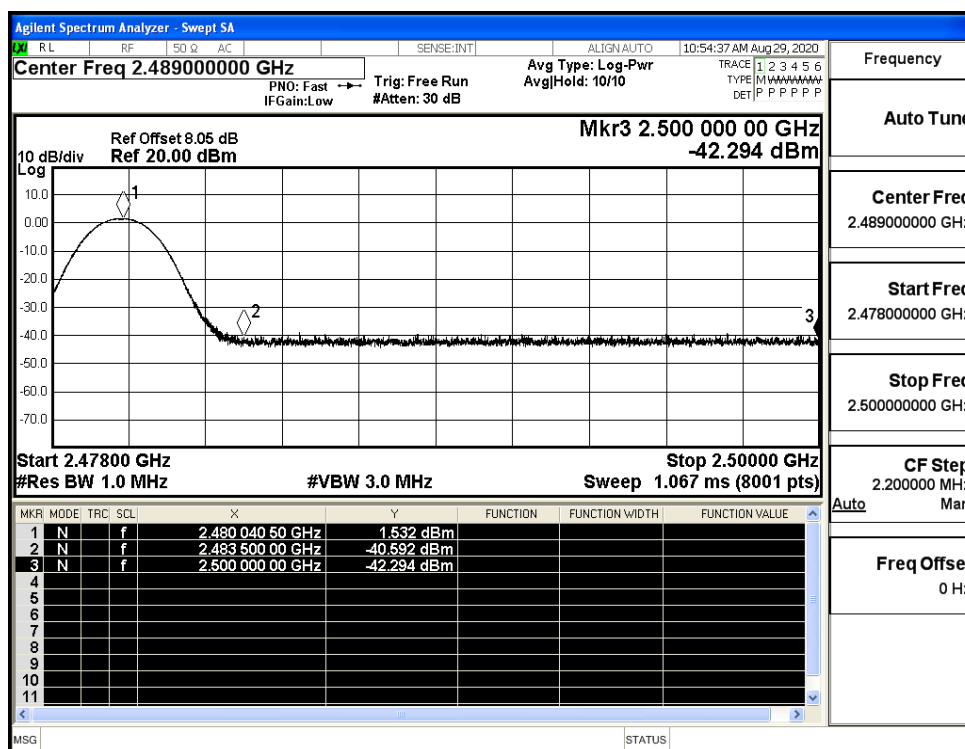
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

