

Appendix A

RF Test Data for BT V4.1(BDR/EDR) (Conducted Measurement)

Product Name: Enjoy TV

Trade Mark: /

Test Model: ATV496

Environmental Conditions

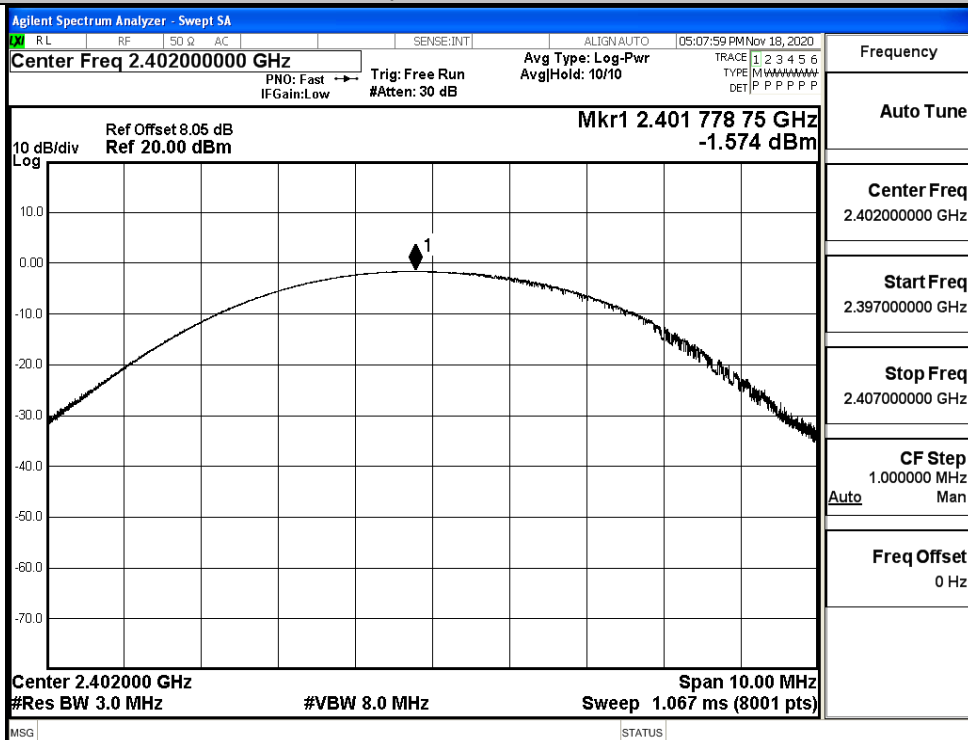
Temperature:	22.6°C
Relative Humidity:	51.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Ben Jin
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

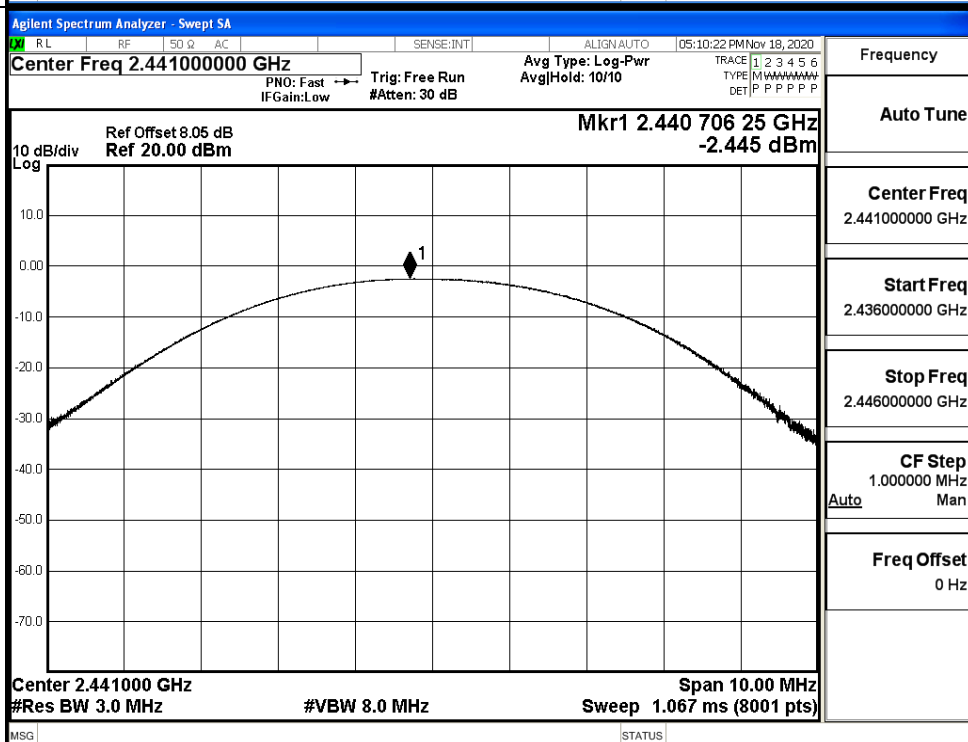
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-1.574	30	PASS
	MCH	-2.445	30	PASS
	HCH	-3.938	30	PASS
$\pi/4$ DQPSK	LCH	-1.397	21	PASS
	MCH	-2.207	21	PASS
	HCH	-3.689	21	PASS
8DPSK	LCH	-0.999	21	PASS
	MCH	-1.795	21	PASS
	HCH	-3.117	21	PASS

Test Graphs

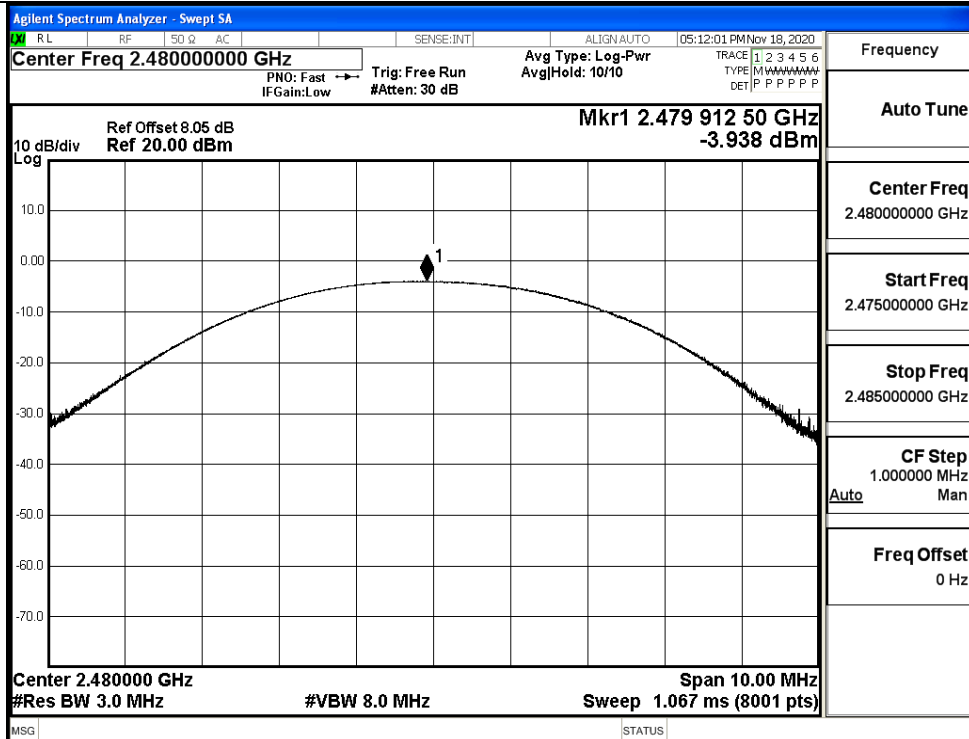
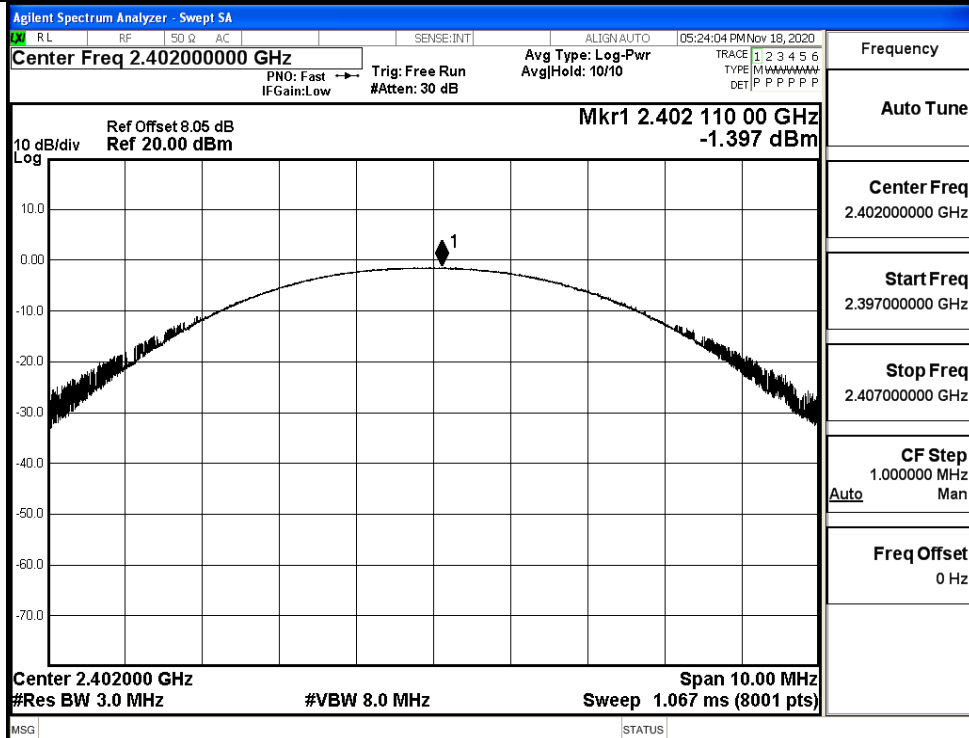
GFSK/LCH

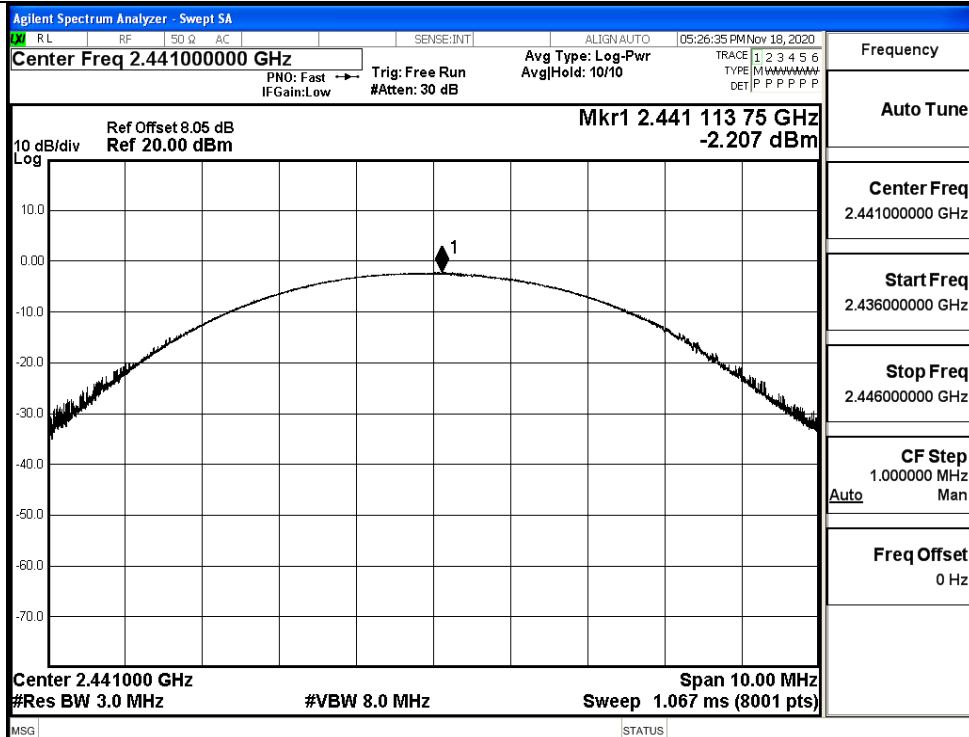
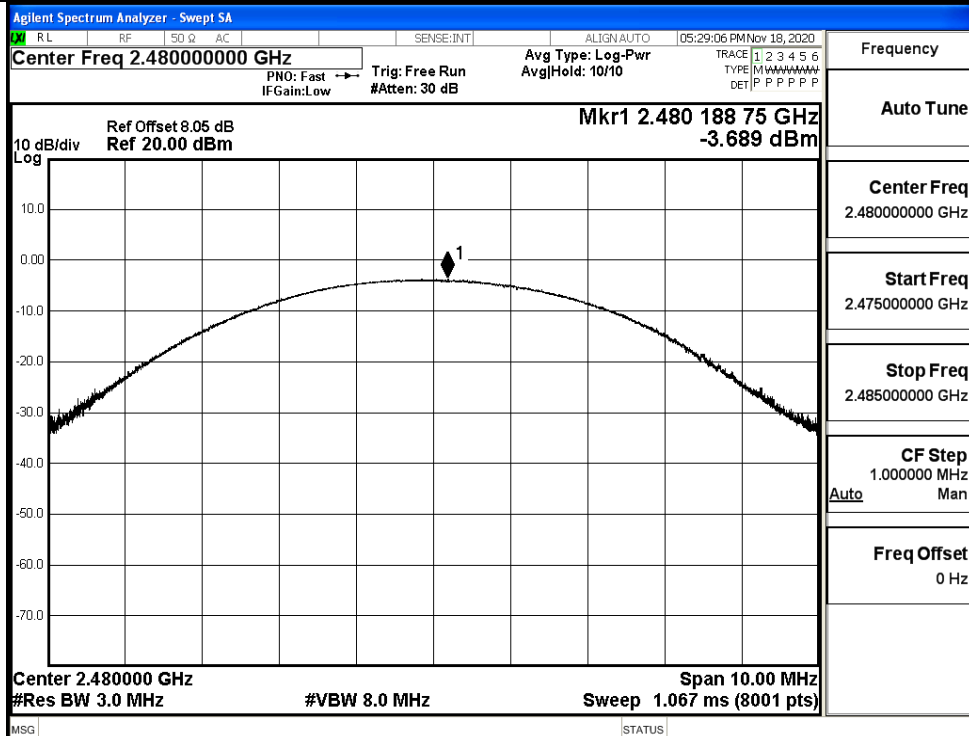


GFSK/MCH

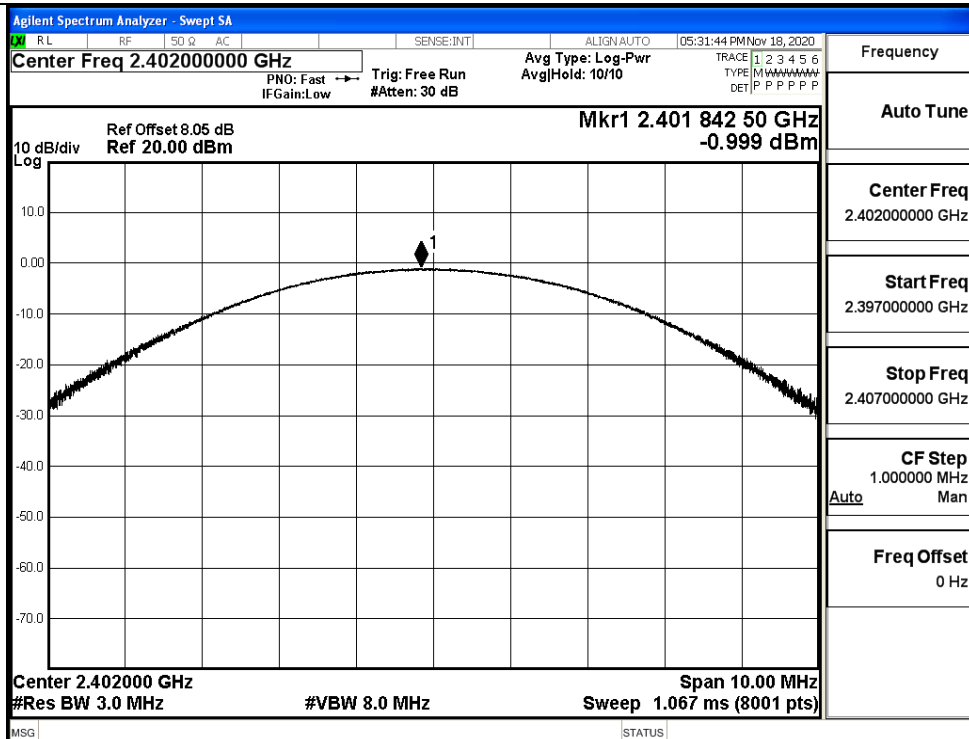


GFSK/HCH

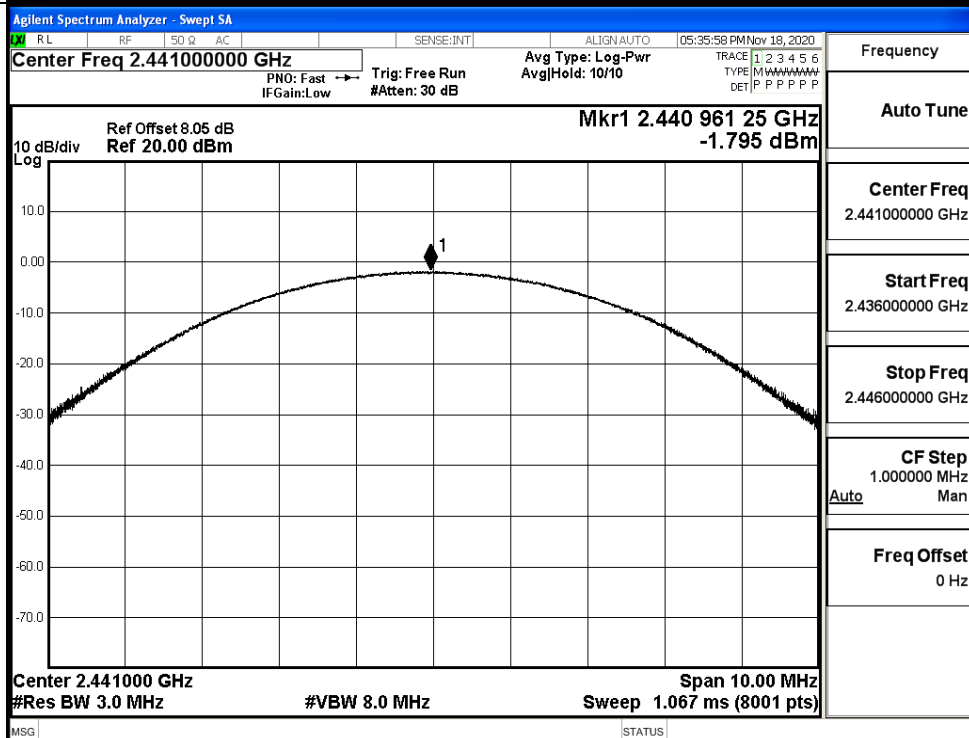
 $\pi/4$ DQPSK/LCH

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

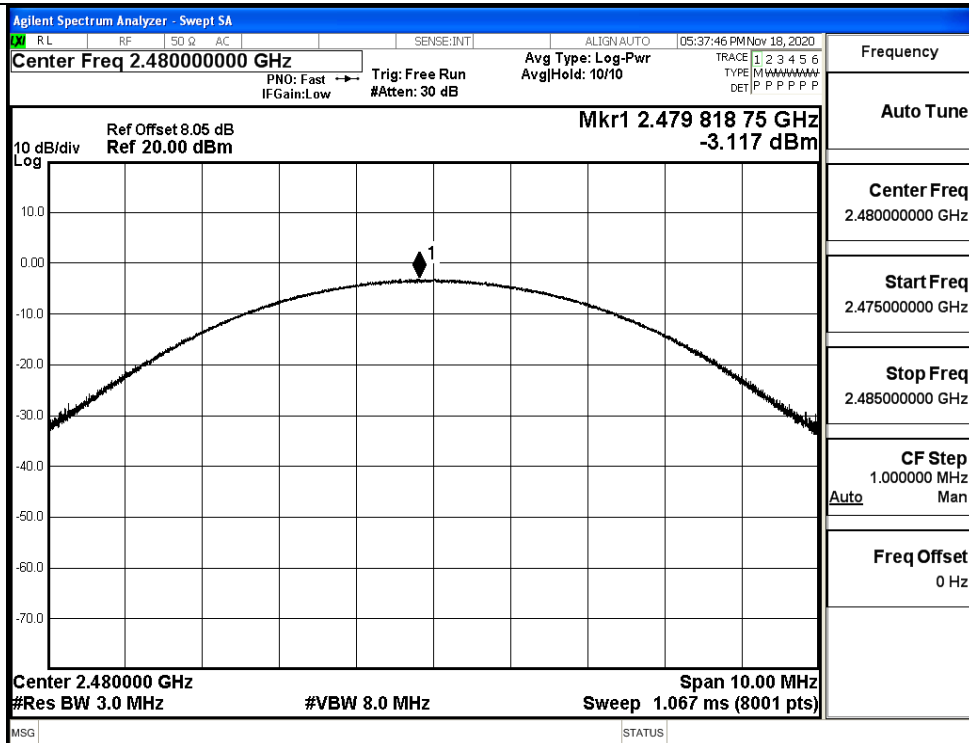
8DPSK/LCH



8DPSK/MCH



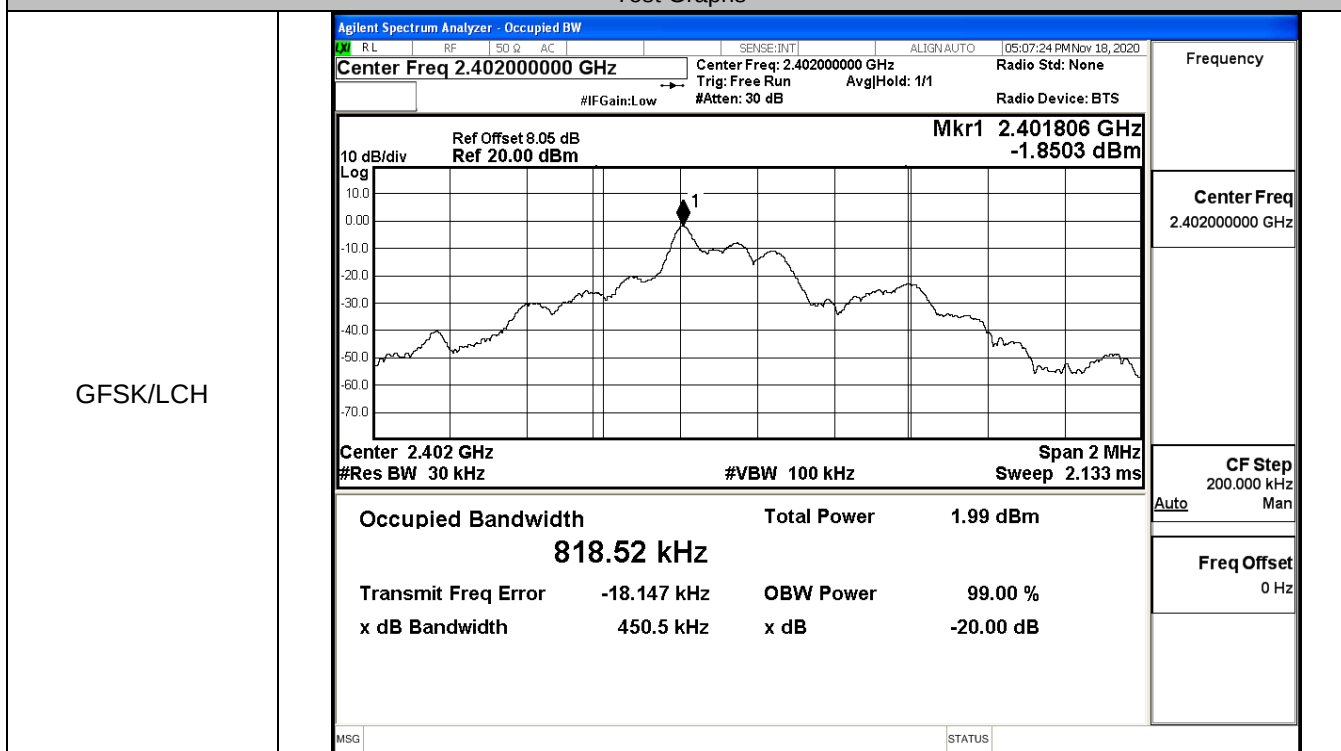
8DPSK/HCH



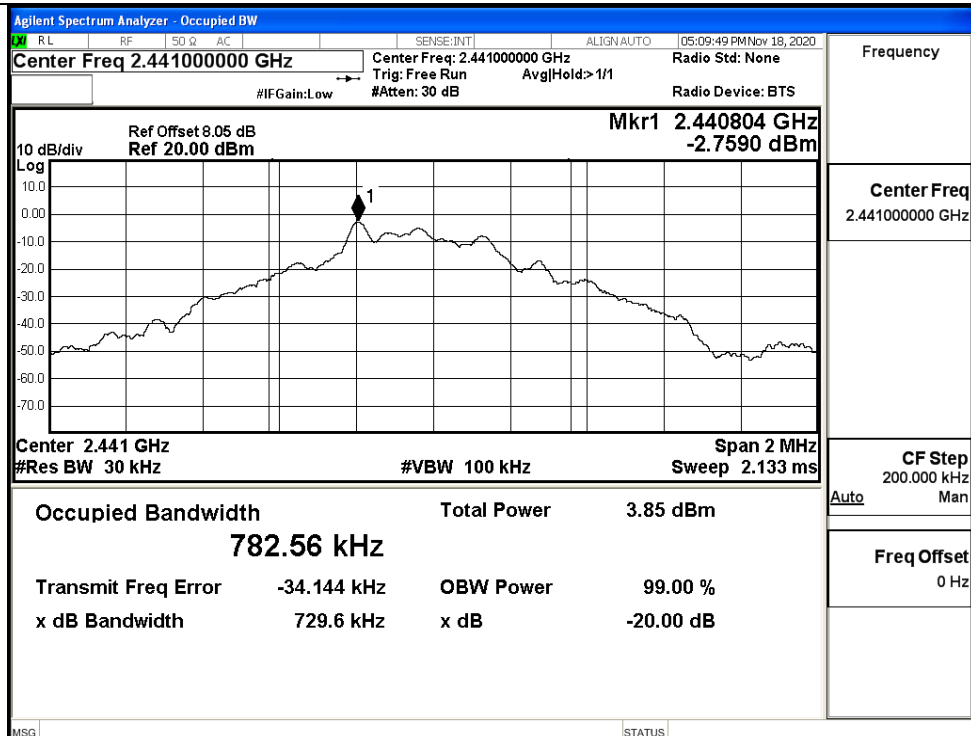
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.4505	Not Specified	PASS
	MCH	0.7296	Not Specified	PASS
	HCH	0.7242	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.114	Not Specified	PASS
	MCH	1.112	Not Specified	PASS
	HCH	1.117	Not Specified	PASS
8DPSK	LCH	1.265	Not Specified	PASS
	MCH	1.240	Not Specified	PASS
	HCH	1.235	Not Specified	PASS

Test Graphs



GFSK/MCH



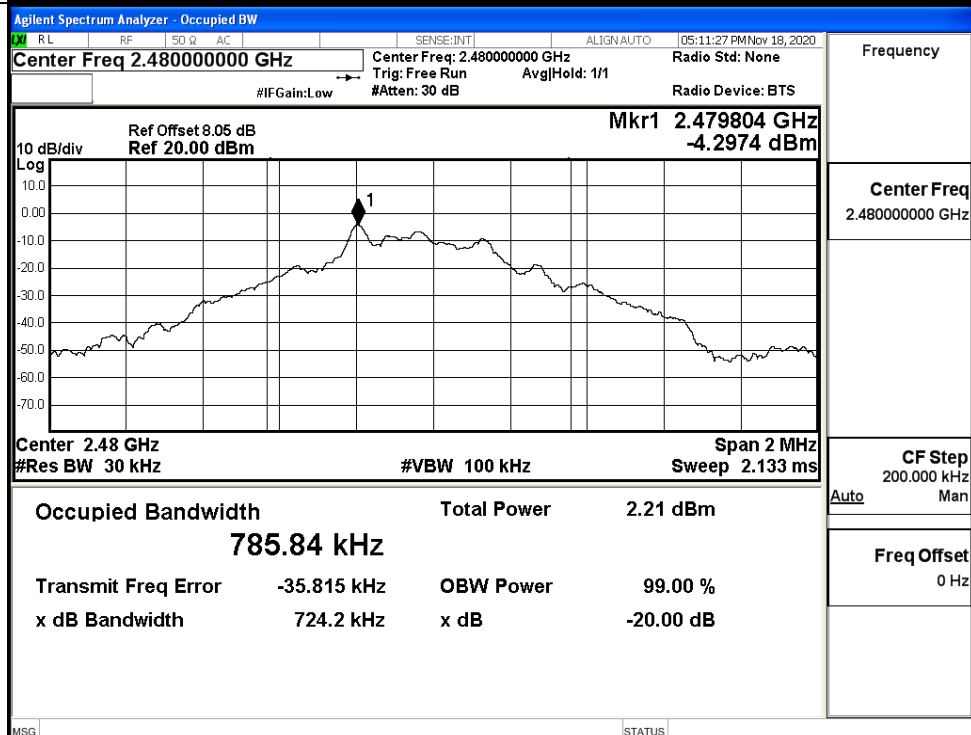
Frequency

Center Freq
2.441000000 GHzCF Step
200.000 kHz
Man

Auto

Freq Offset
0 Hz

GFSK/HCH

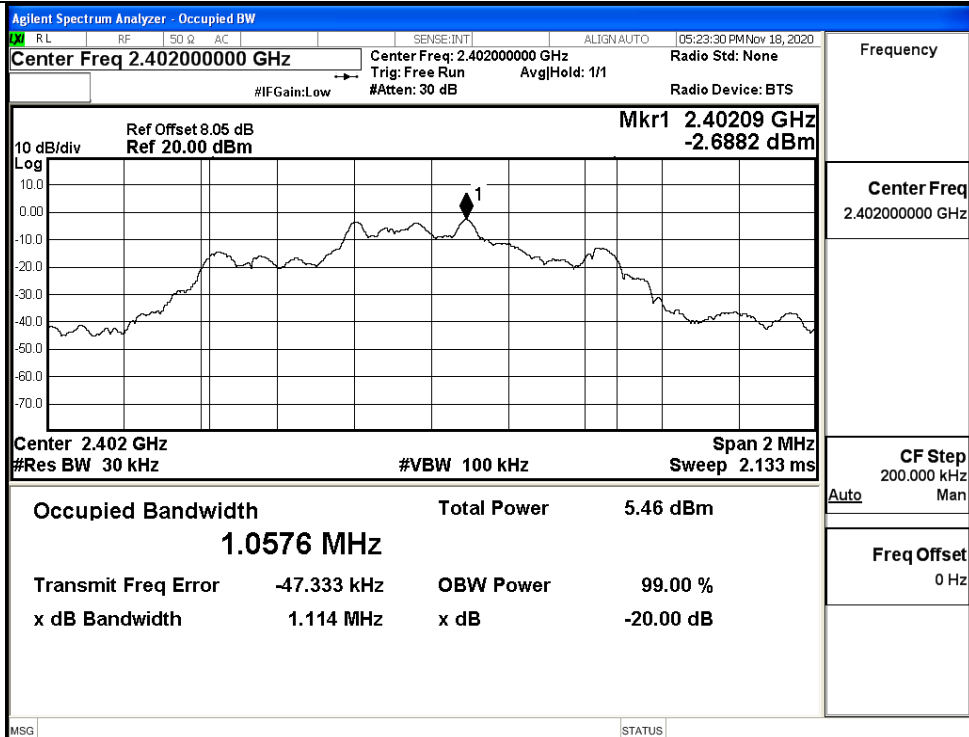
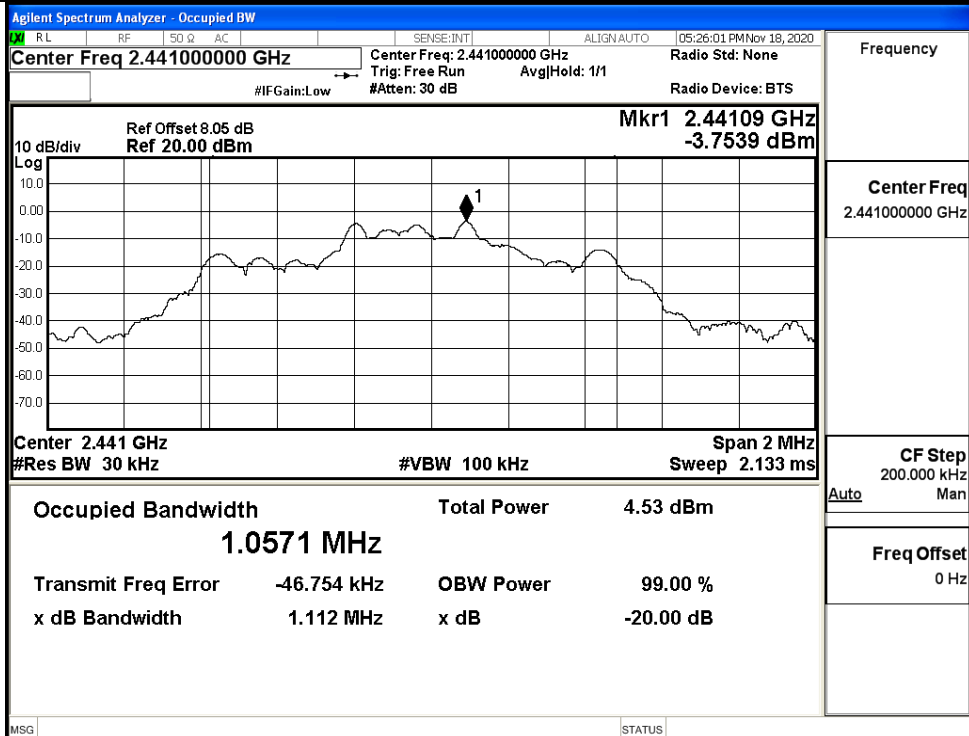


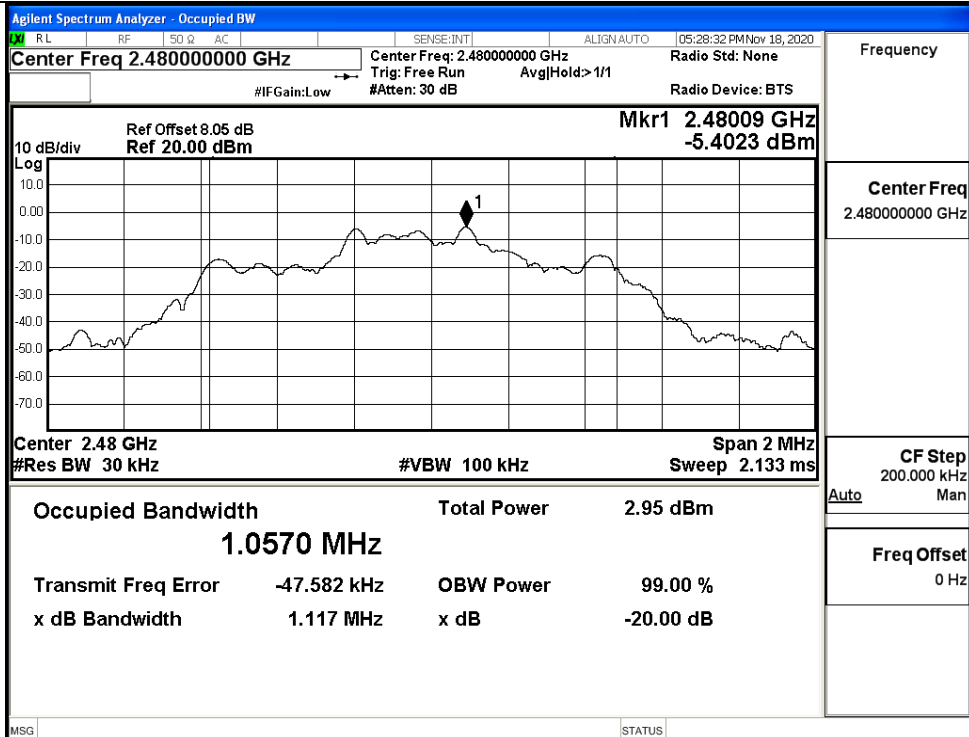
Frequency

Center Freq
2.480000000 GHzCF Step
200.000 kHz
Man

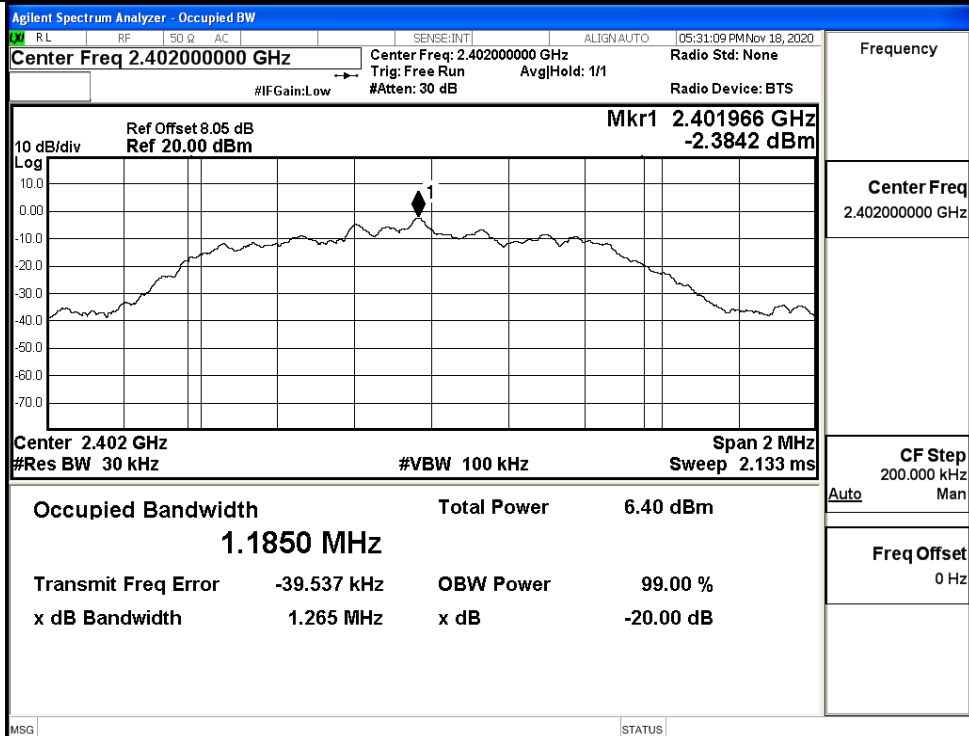
Auto

Freq Offset
0 Hz

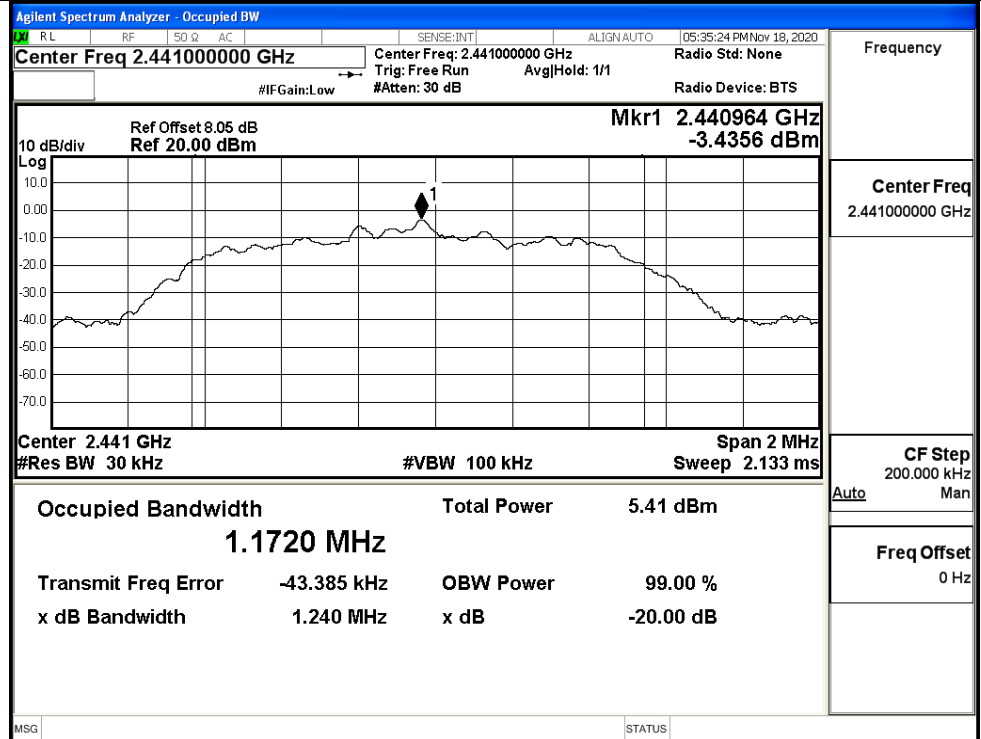
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

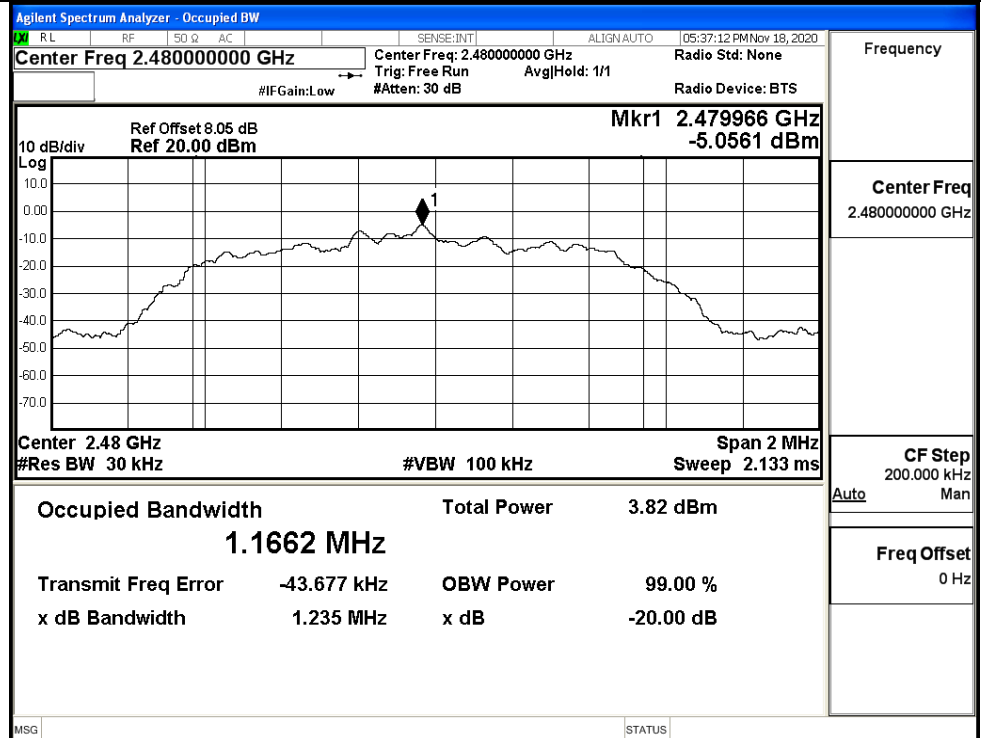
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

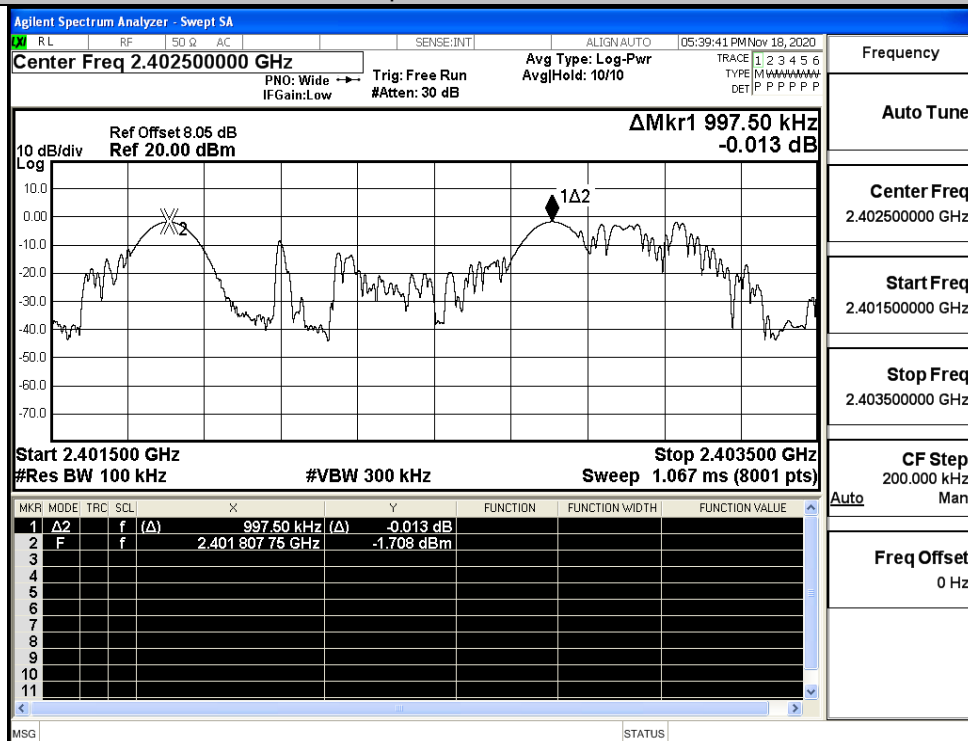


A.3 Carrier Frequency Separation

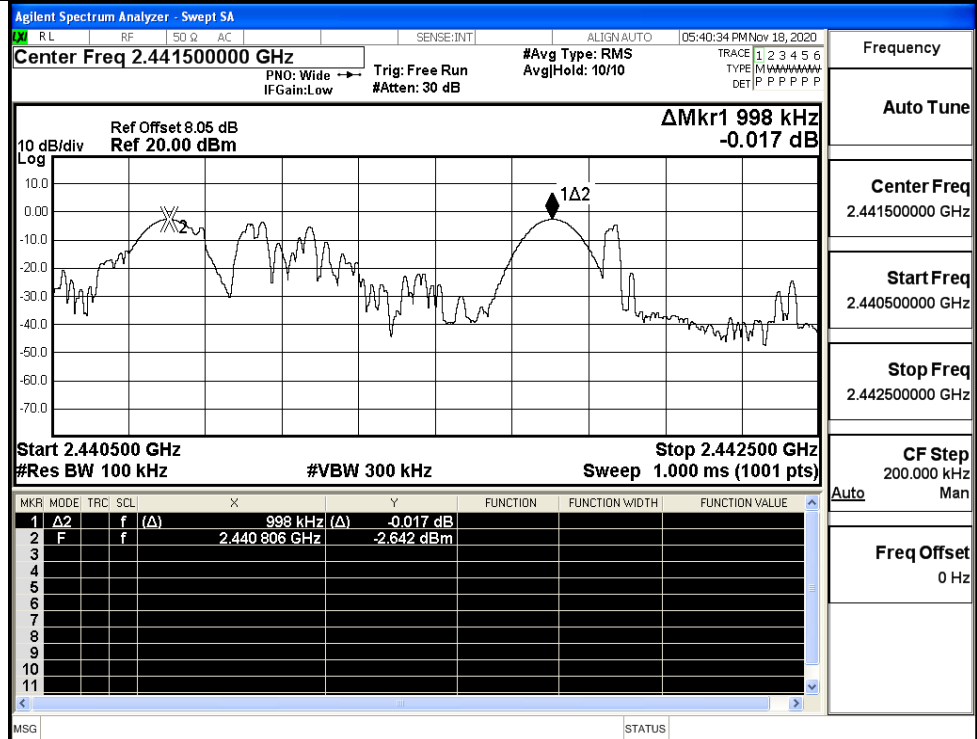
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.997	0.486	PASS
	MCH	0.998	0.486	PASS
	HCH	1.000	0.486	PASS
$\pi/4$ DQPSK	LCH	0.896	0.745	PASS
	MCH	1.272	0.745	PASS
	HCH	1.000	0.745	PASS
8DPSK	LCH	1.026	0.843	PASS
	MCH	1.000	0.843	PASS
	HCH	0.970	0.843	PASS

Test Graphs

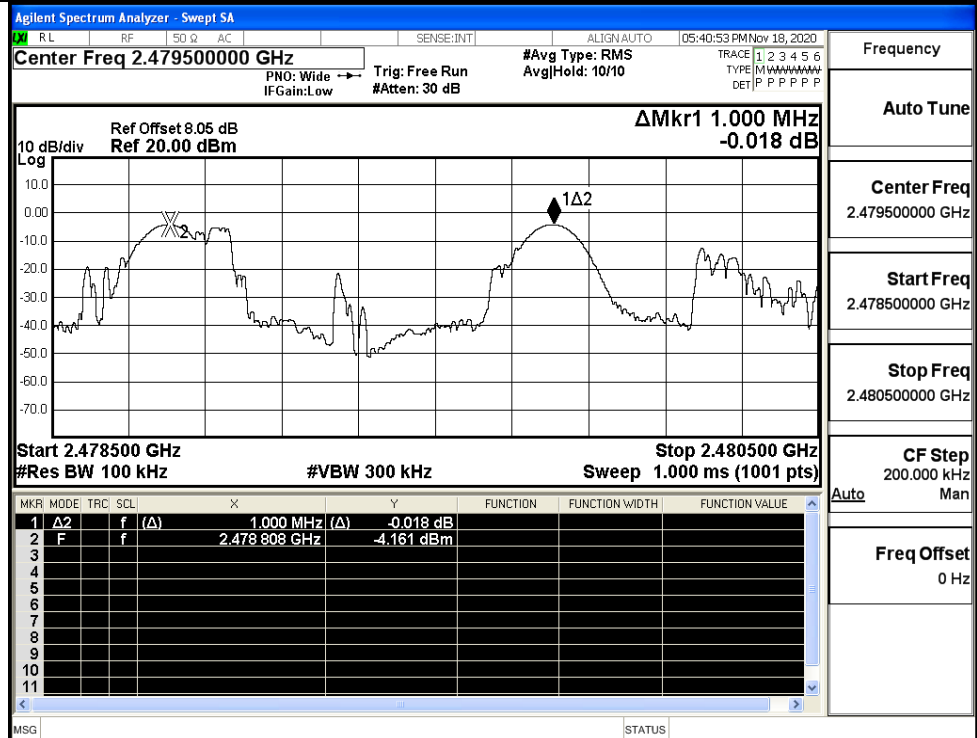
GFSK/LCH

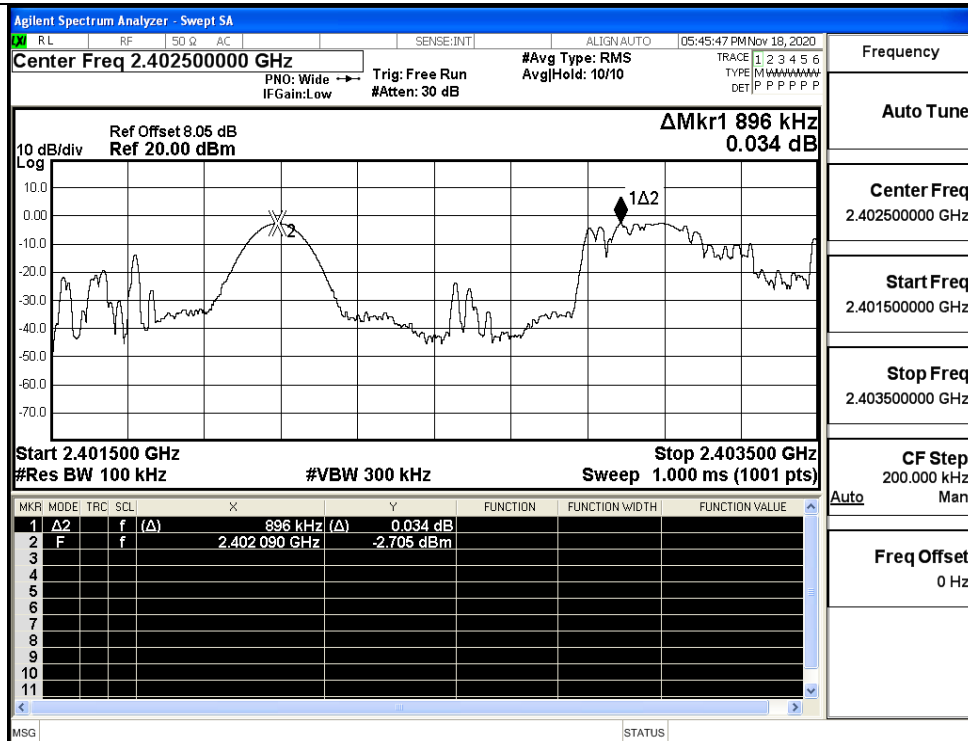


GFSK/MCH



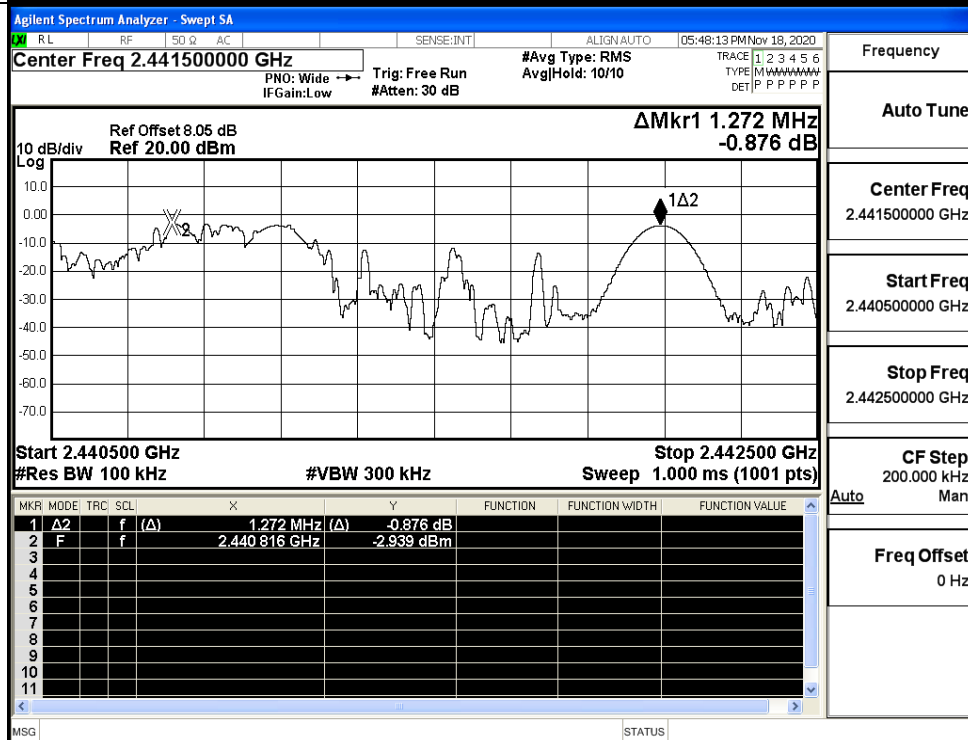
GFSK/HCH



$\pi/4$ DQPSK/LCH

Frequency

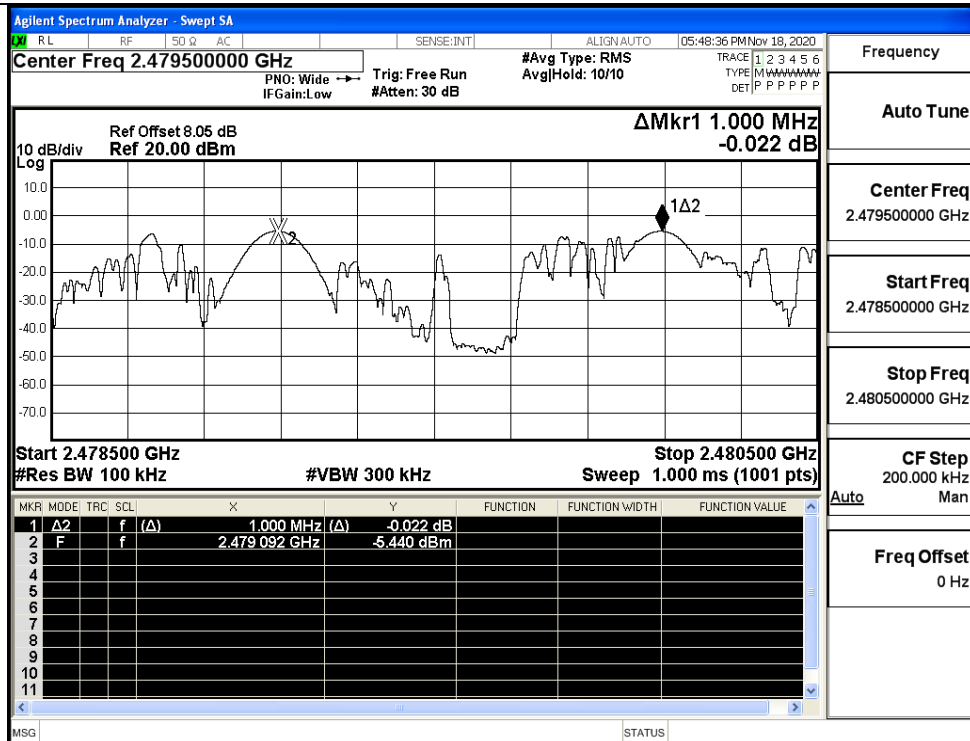
Auto Tune

Center Freq
2.402500000 GHzStart Freq
2.401500000 GHzStop Freq
2.403500000 GHzCF Step
200.000 kHz
ManFreq Offset
0 Hz $\pi/4$ DQPSK/MCH

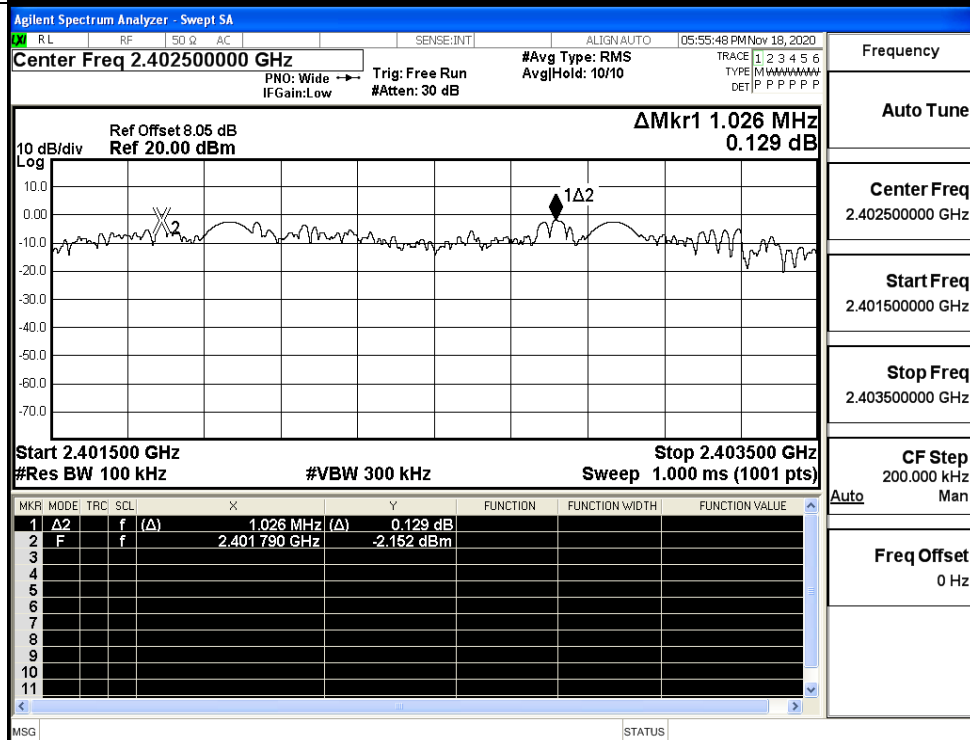
Frequency

Auto Tune

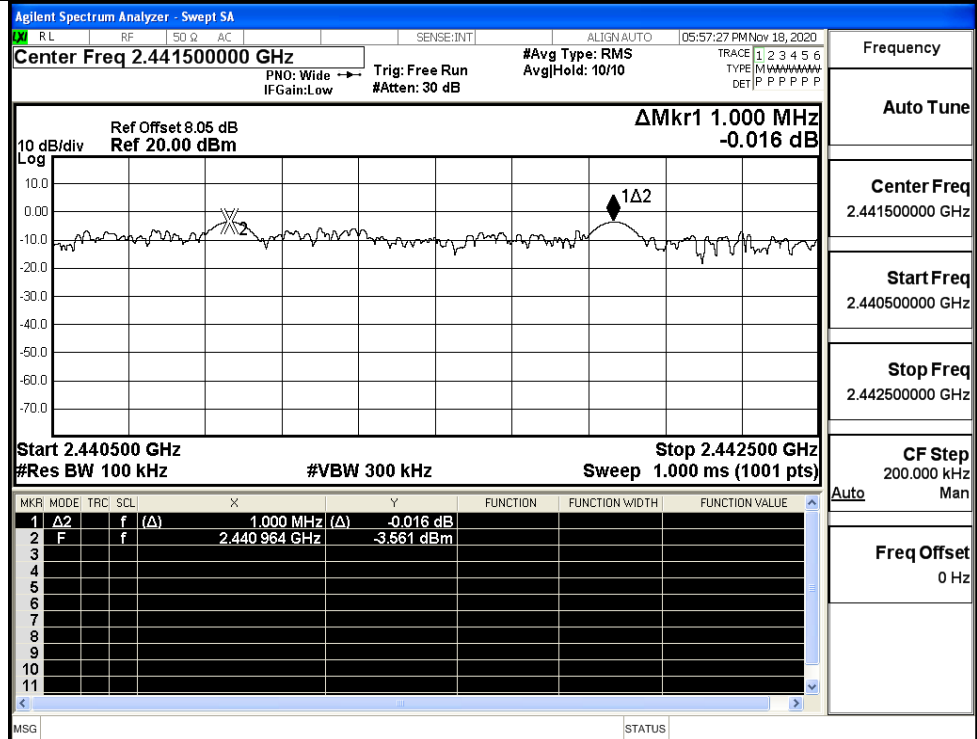
Center Freq
2.441500000 GHzStart Freq
2.440500000 GHzStop Freq
2.442500000 GHzCF Step
200.000 kHz
ManFreq Offset
0 Hz

$\pi/4$ DQPSK/HCH

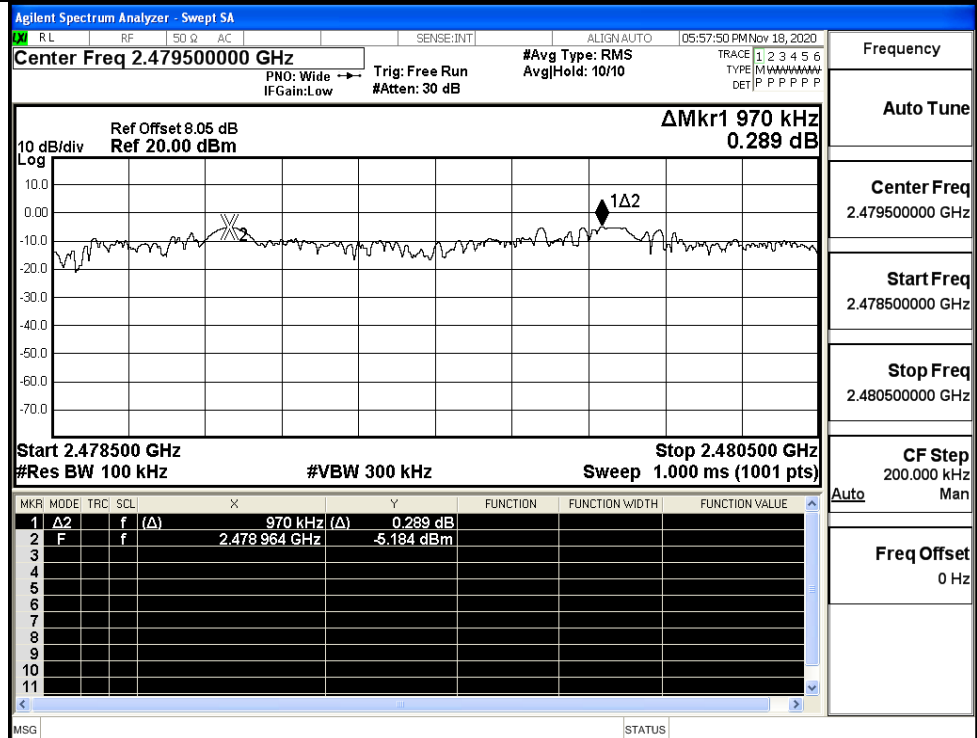
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

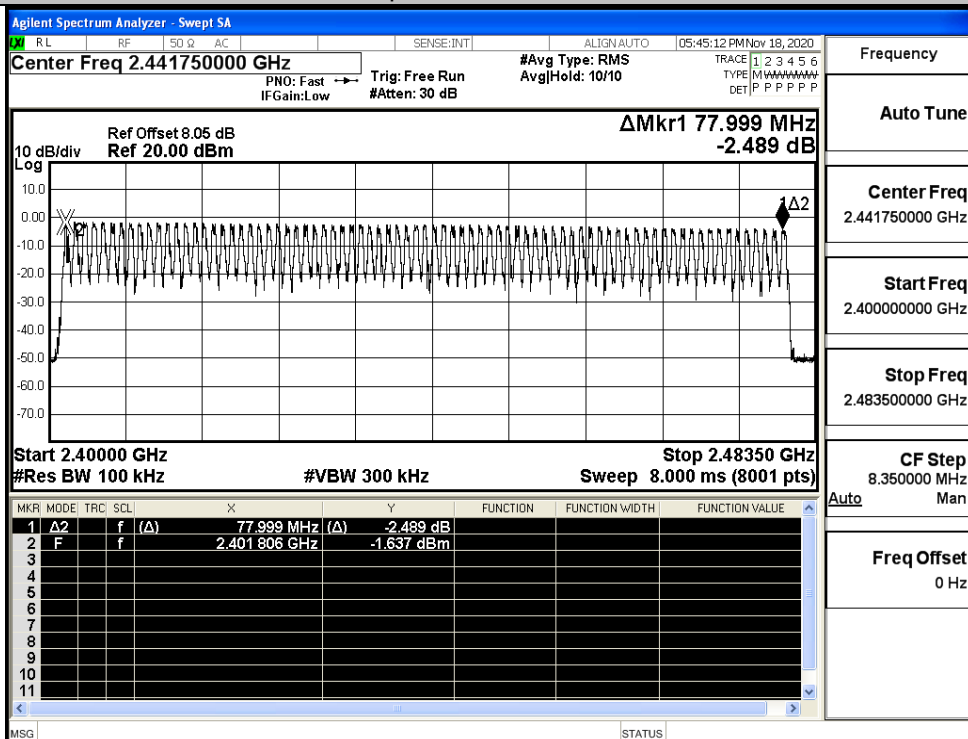
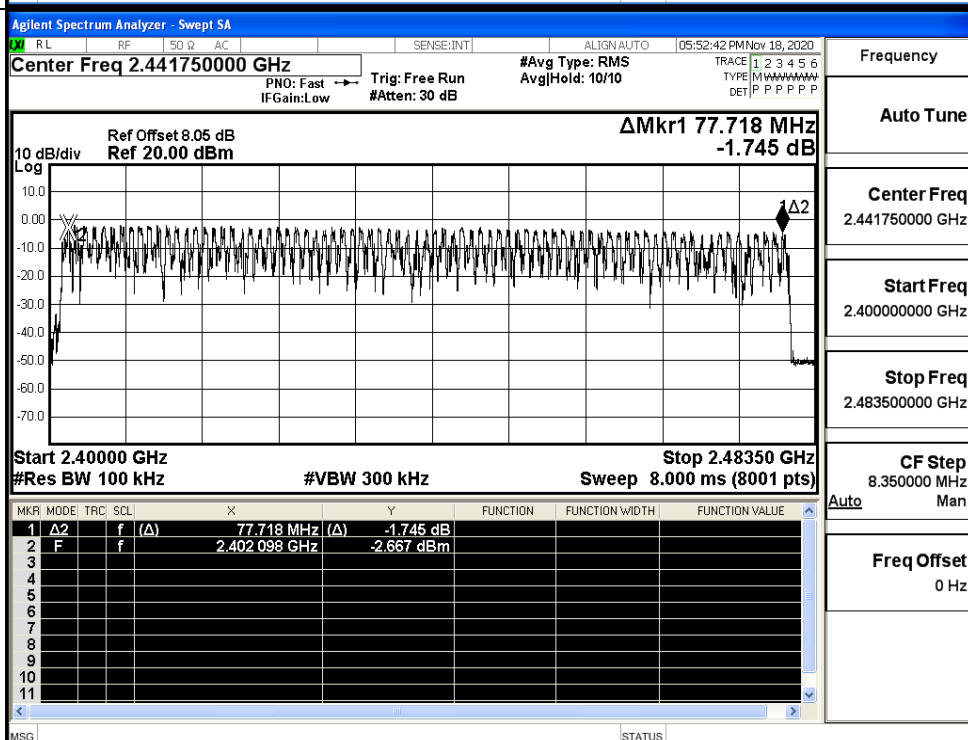


A.4 Hopping Channel Number

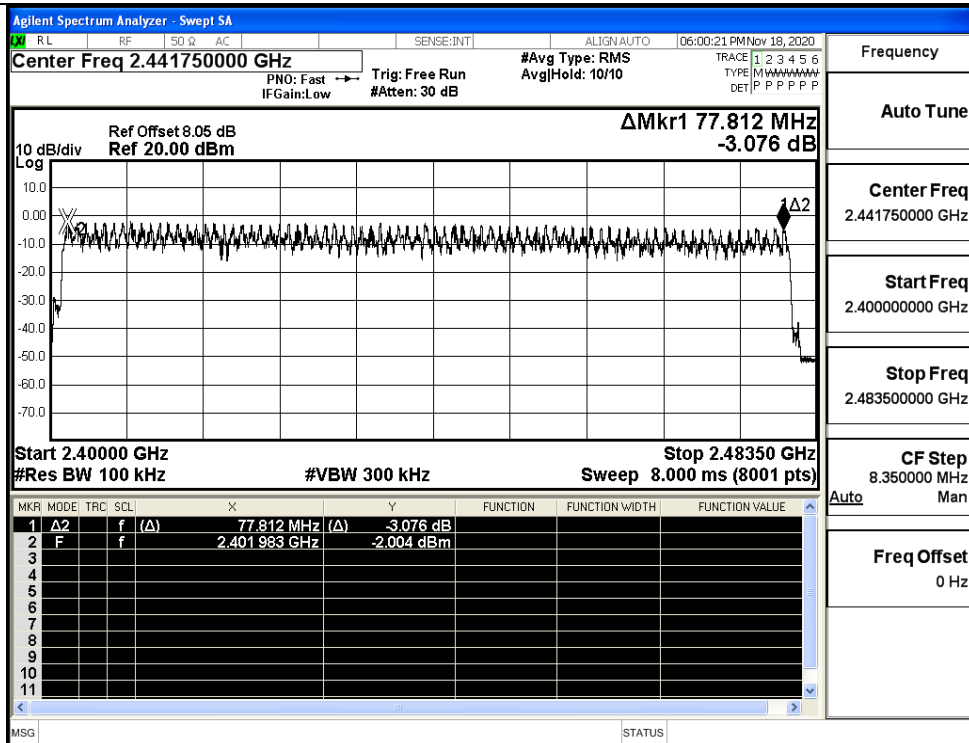
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	≥ 15	PASS
$\pi/4$ DQPSK	Hop	79	≥ 15	PASS
8DPSK	Hop	79	≥ 15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

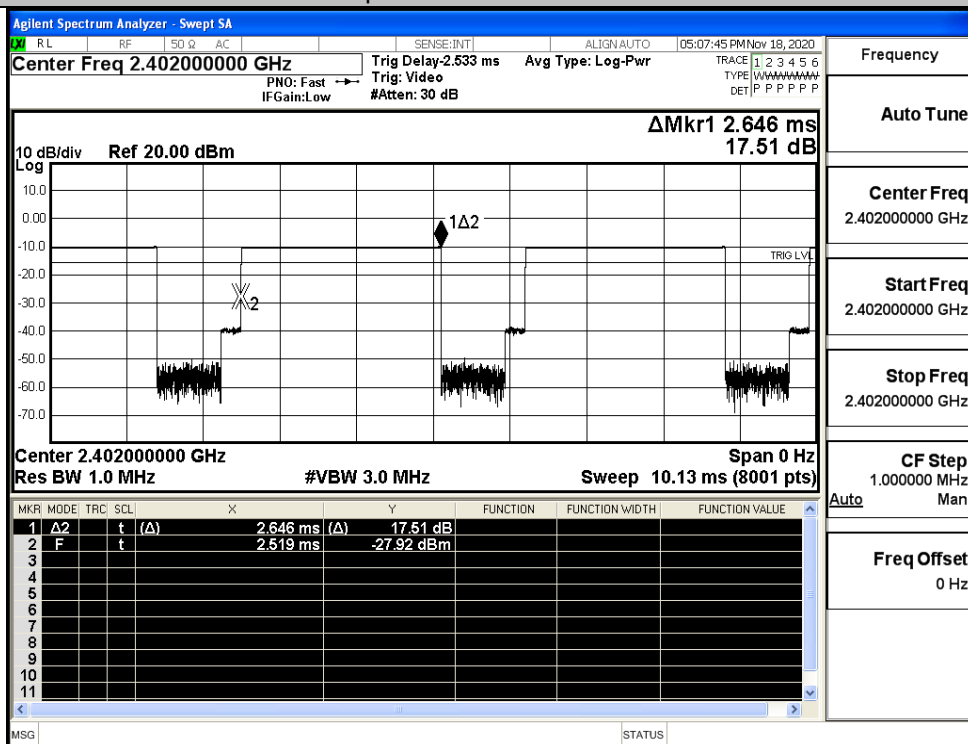


A.5 Dwell Time

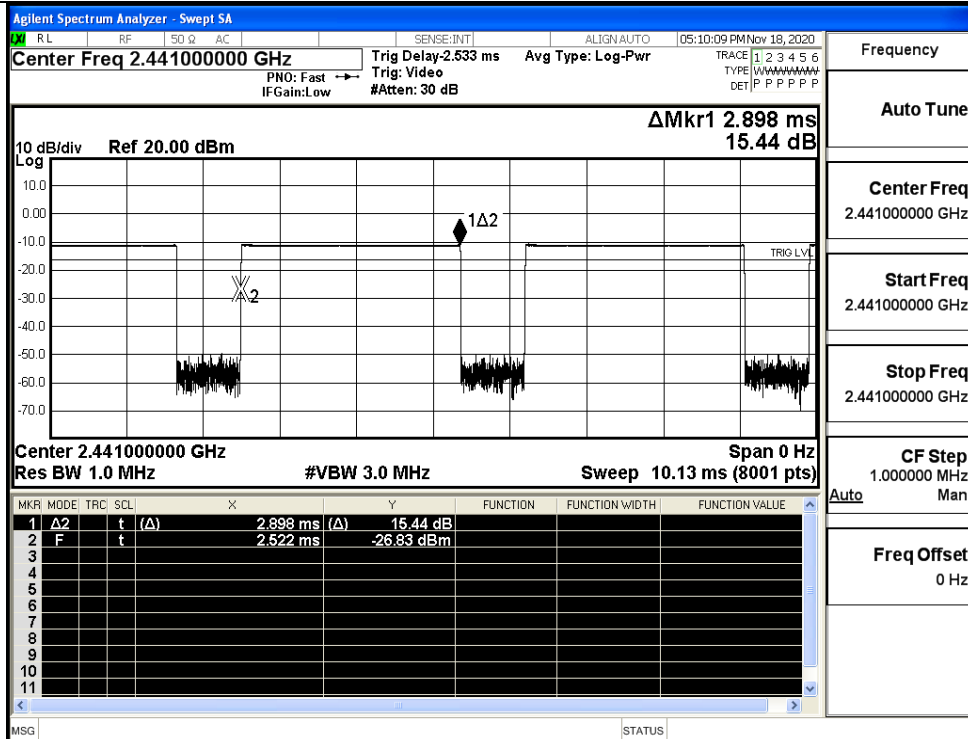
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.65	106.7	0.283	0.4	PASS
	DH5	MCH	2.9	106.7	0.309	0.4	PASS
	DH5	HCH	2.9	106.7	0.309	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.65	106.7	0.309	0.4	PASS
	2DH5	MCH	2.9	106.7	0.31	0.4	PASS
	2DH5	HCH	2.9	106.7	0.309	0.4	PASS
8DPSK	3DH5	LCH	2.65	106.7	0.31	0.4	PASS
	3DH5	MCH	2.9	106.7	0.31	0.4	PASS
	3DH5	HCH	2.9	106.7	0.31	0.4	PASS

Test Graphs

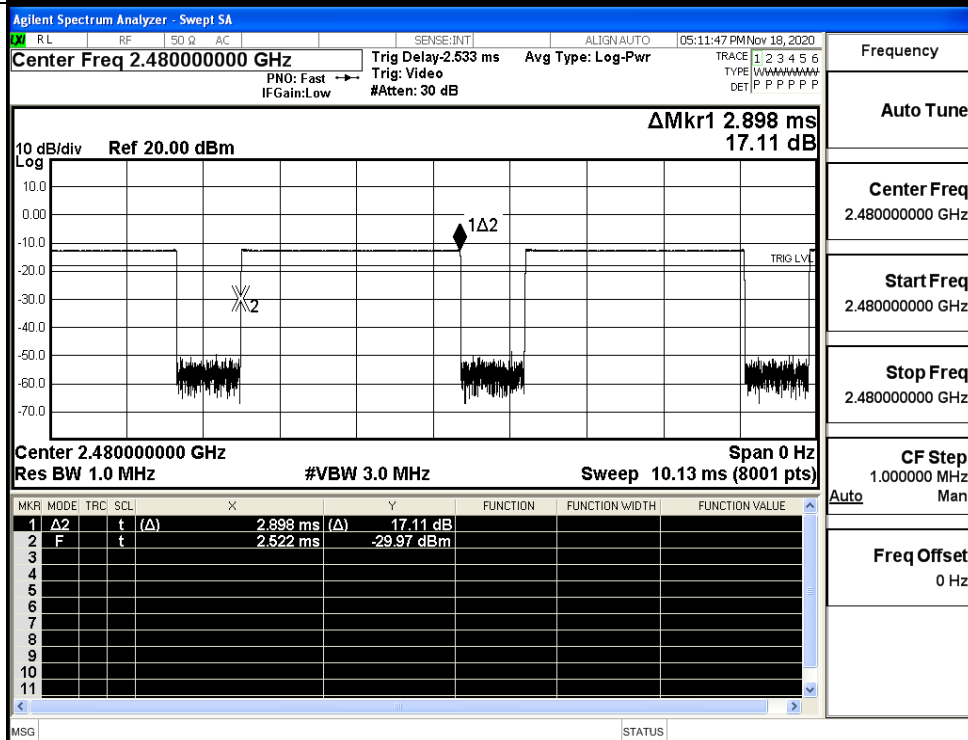
GFSK_DH5/LCH



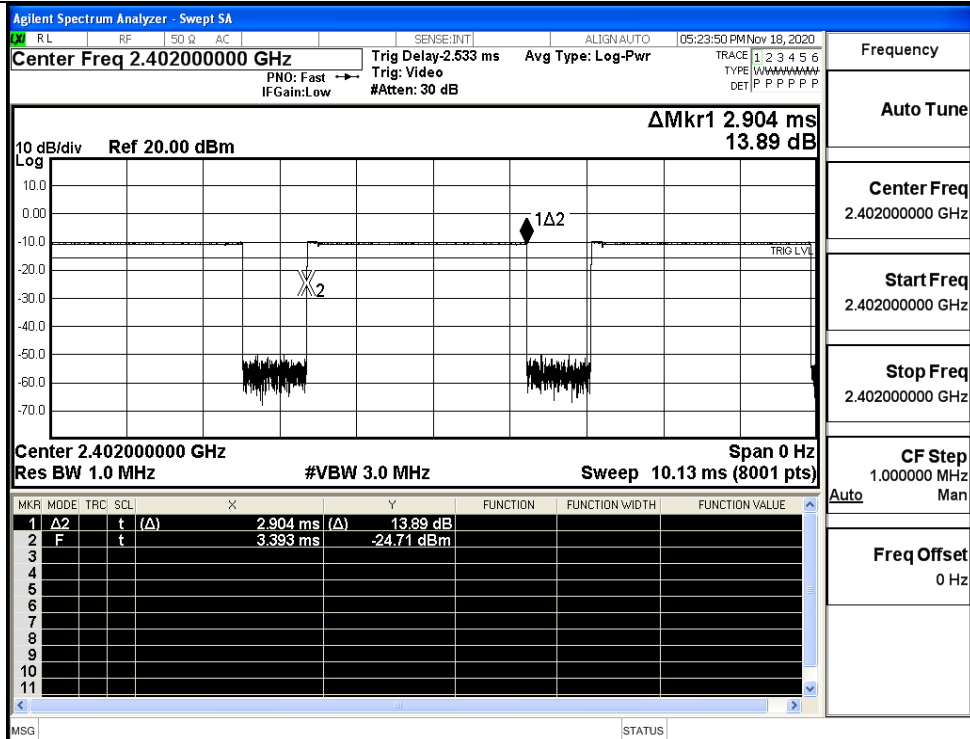
GFSK_DH5/MCH



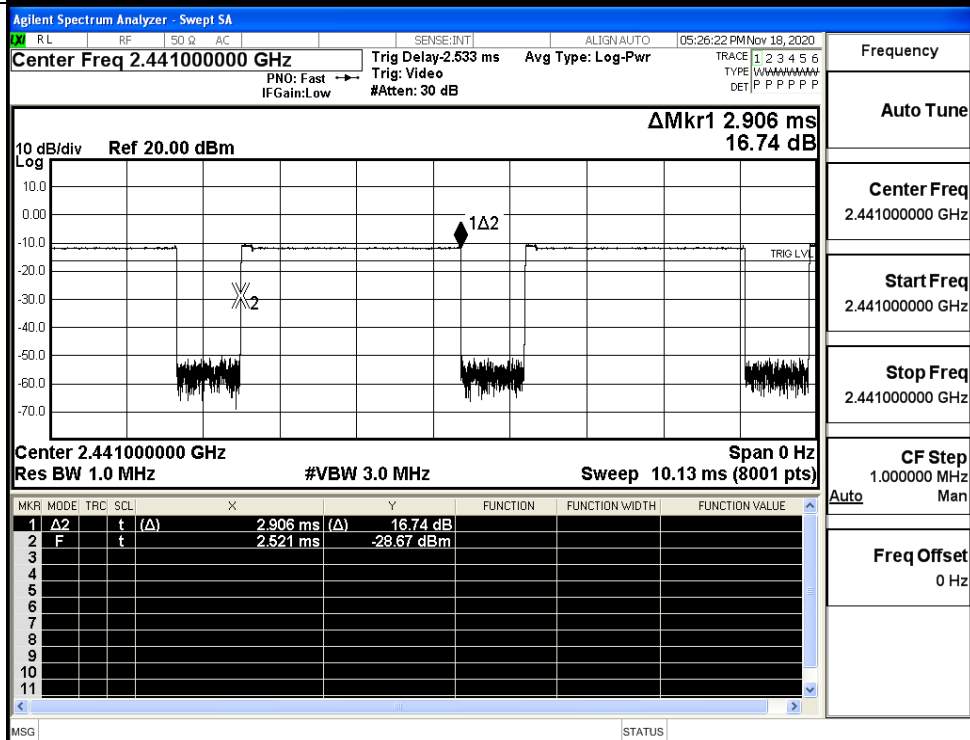
GFSK_DH5/HCH



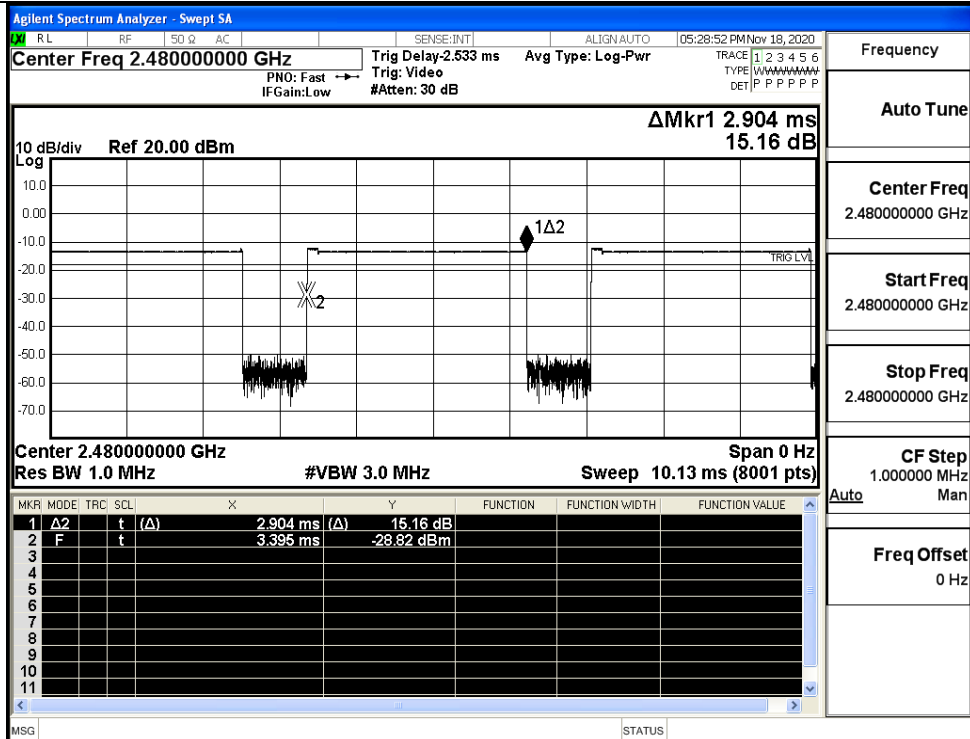
$\pi/4$ DQPSK
_2DH5/LCH



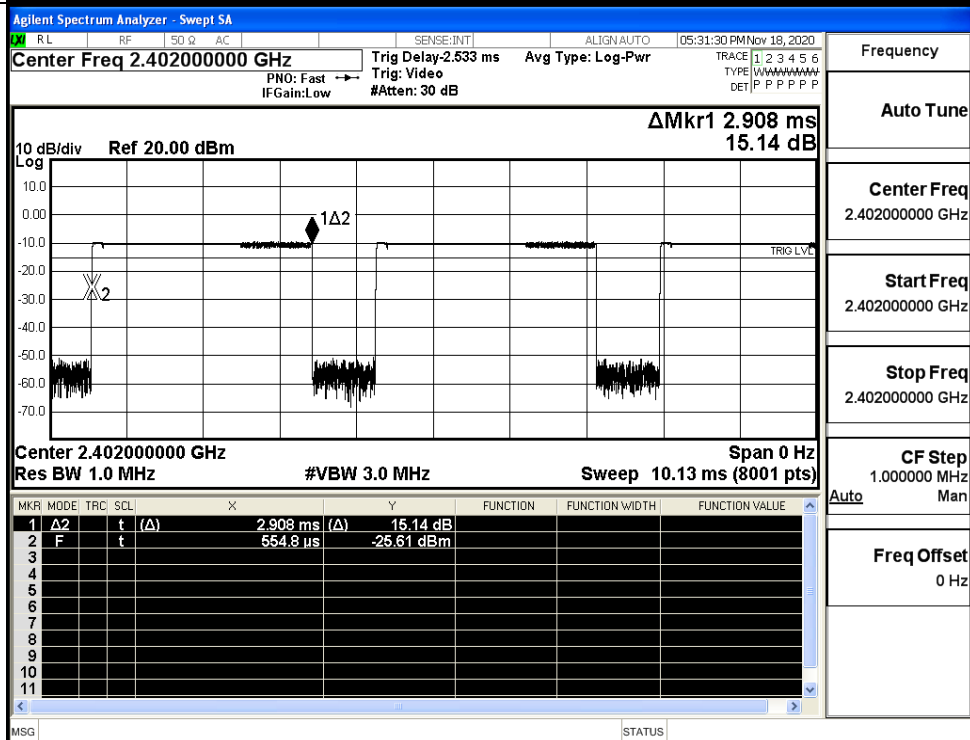
$\pi/4$ DQPSK
_2DH5/MCH



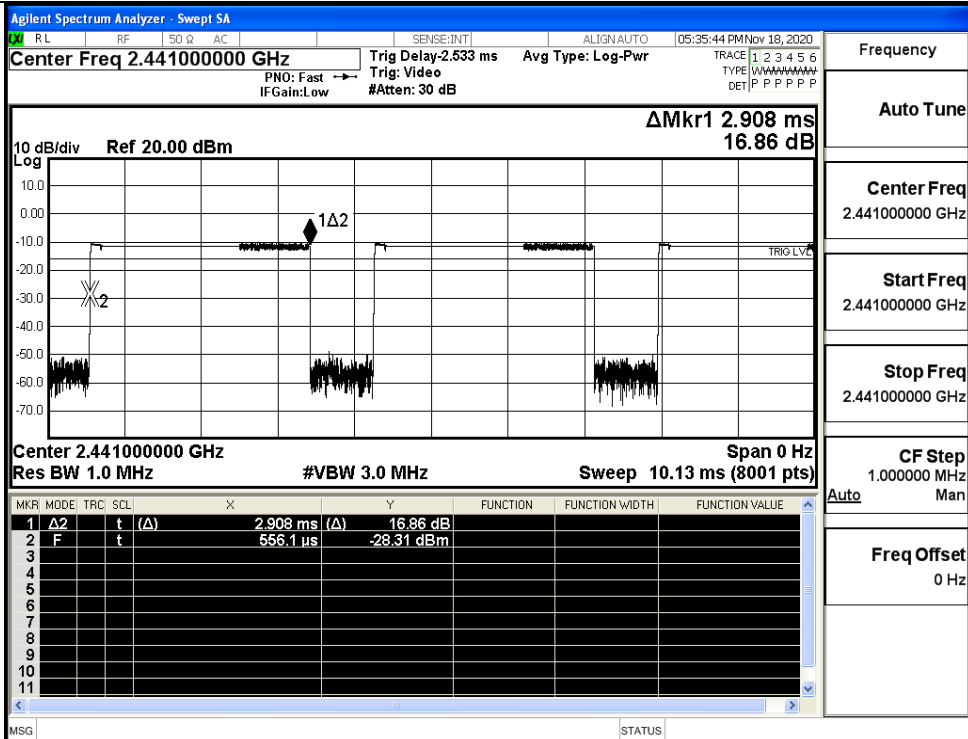
$\pi/4$ DQPSK
_2DH5/HCH



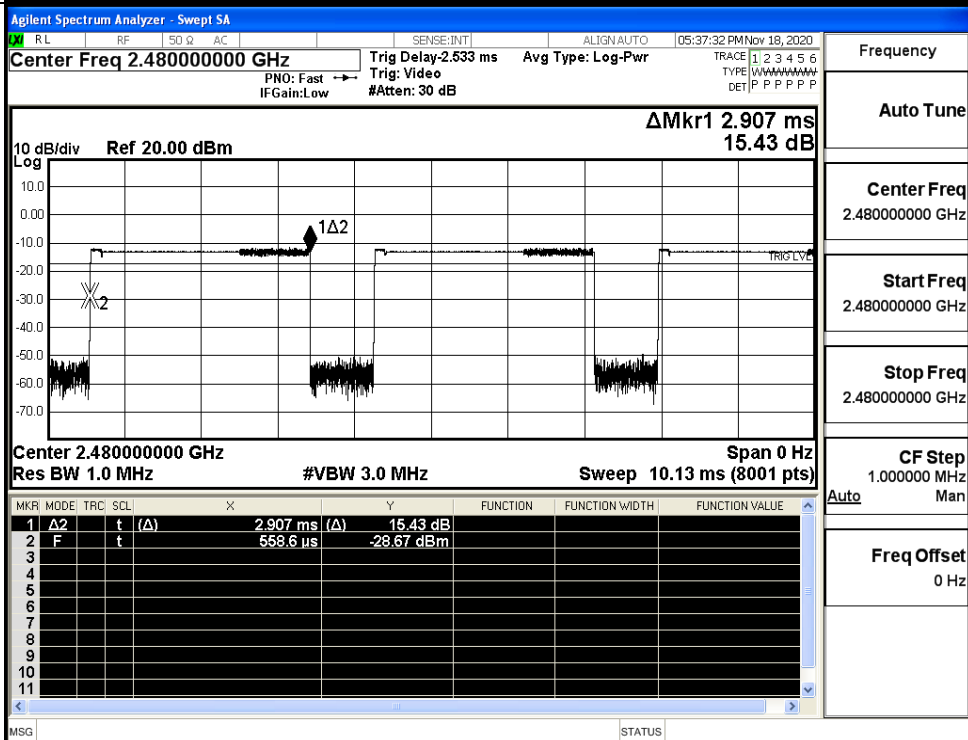
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



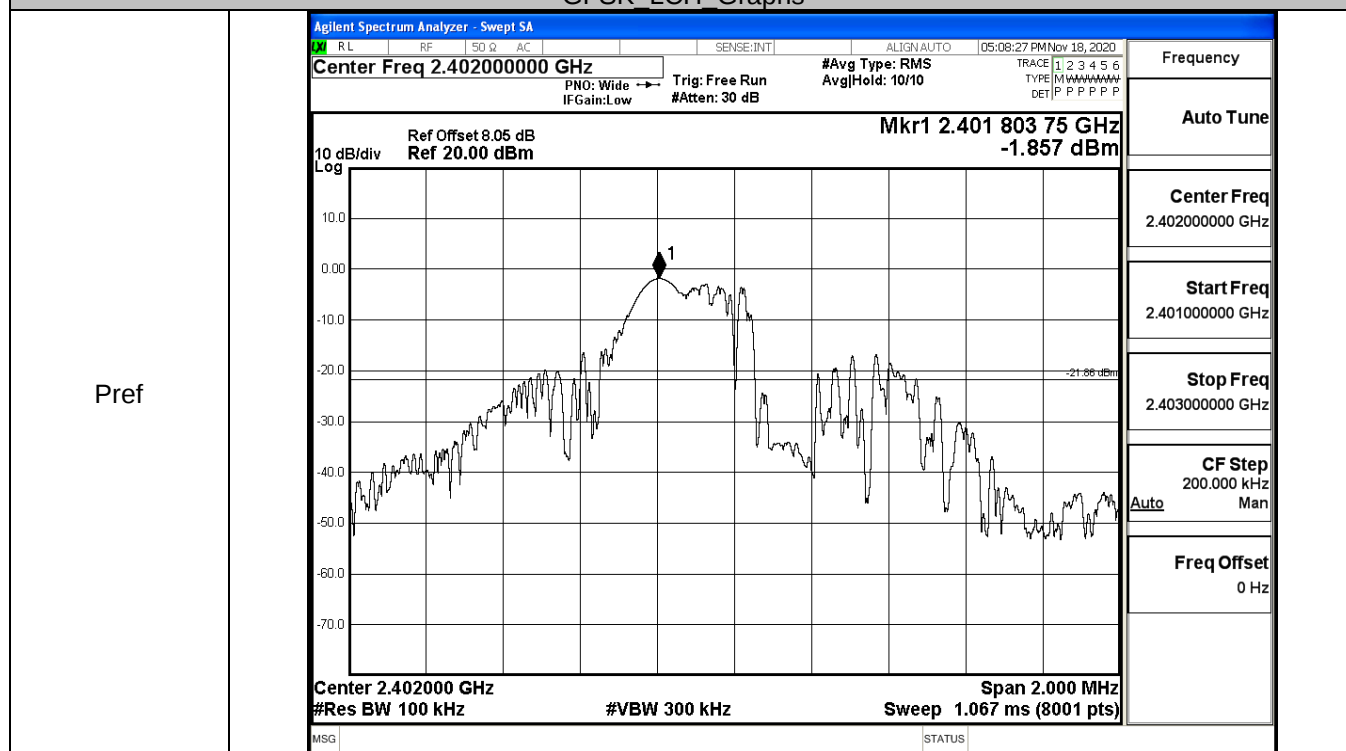
8DPSK_3DH5/HCH



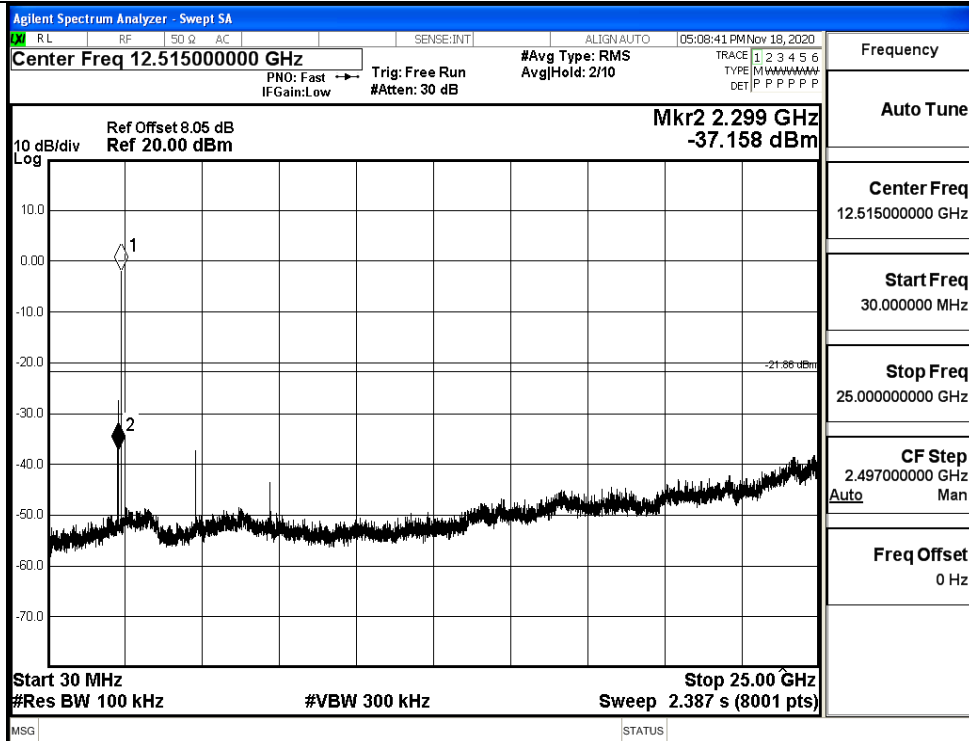
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-1.857	-37.158	-21.857	PASS
	MCH	-2.793	-32.634	-22.793	PASS
	HCH	-4.318	-32.405	-24.318	PASS
$\pi/4$ DQPSK	LCH	-1.81	-37.997	-21.810	PASS
	MCH	-2.792	-36.986	-22.792	PASS
	HCH	-4.327	-26.792	-24.327	PASS
8DPSK	LCH	-1.958	-37.566	-21.958	PASS
	MCH	-2.857	-37.259	-22.857	PASS
	HCH	-4.414	-35.152	-24.414	PASS

GFSK LCH Graphs

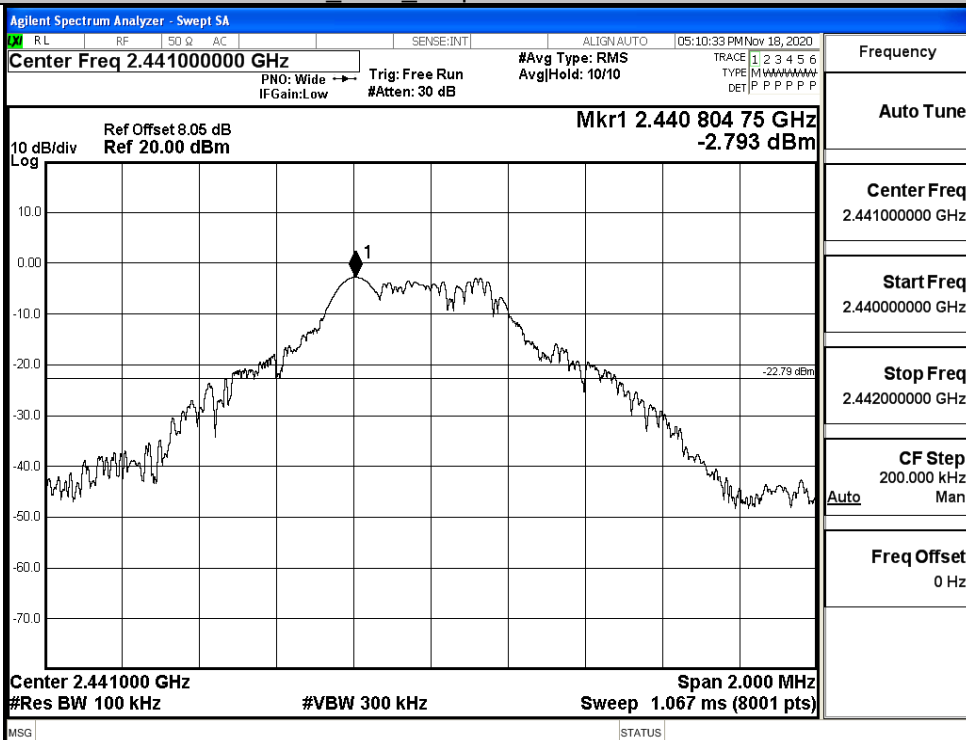


Puw

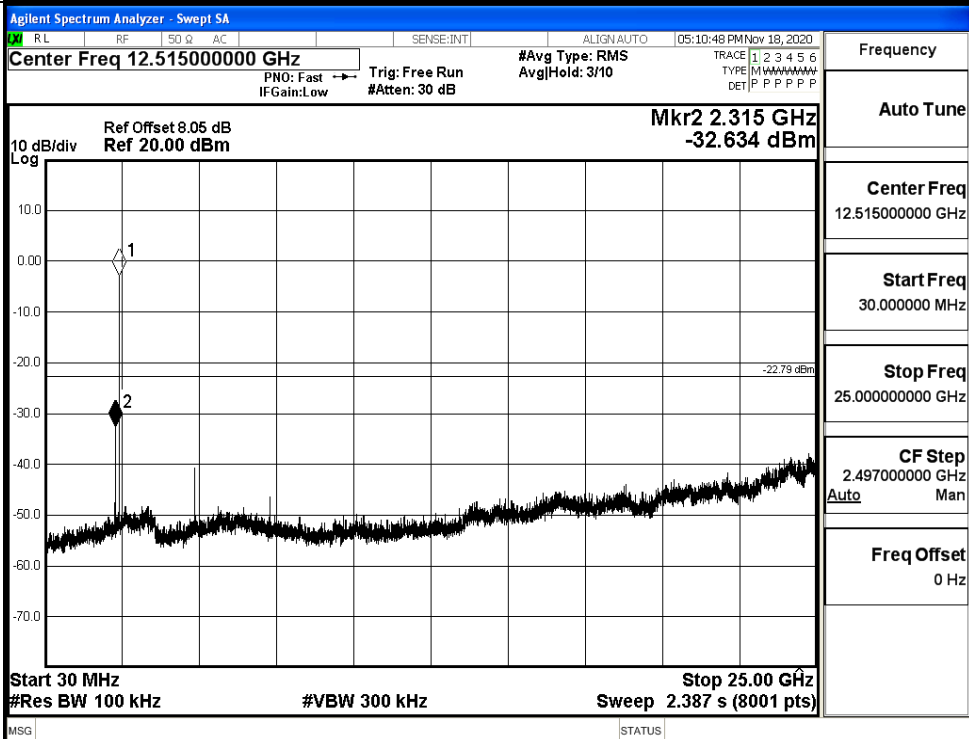


GFSK_MCH_Graphs

Pref

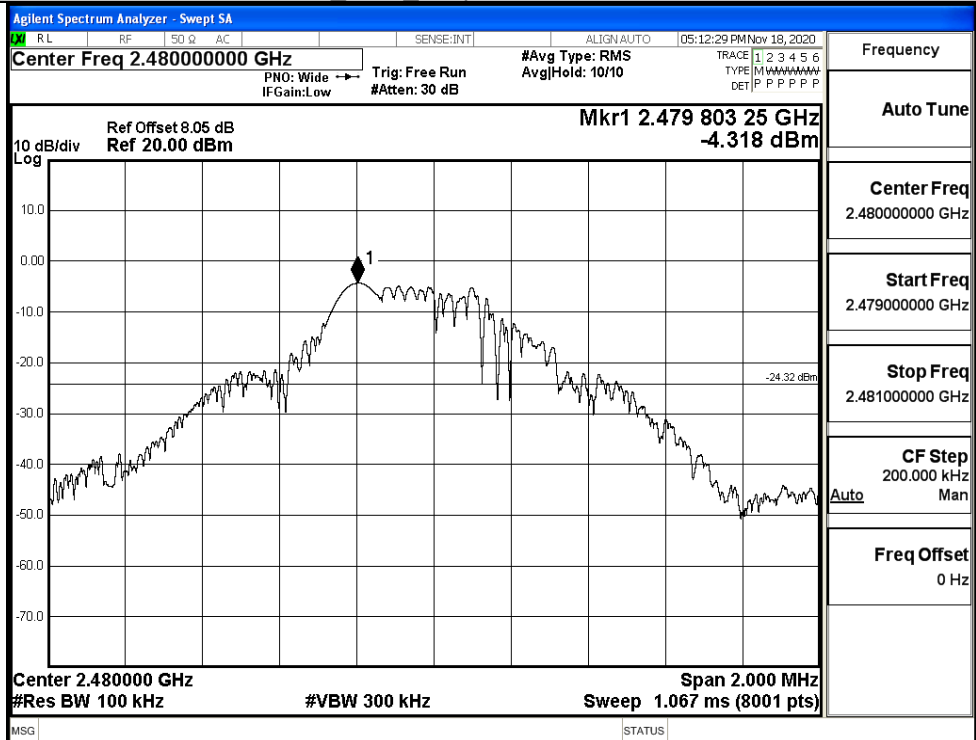


Puw

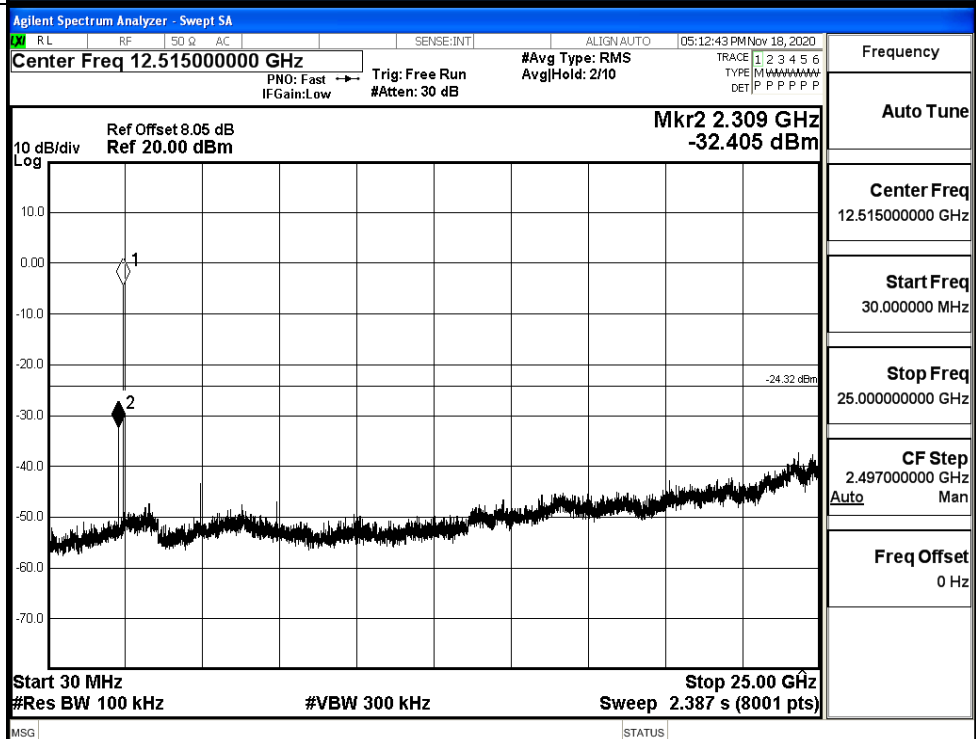


GFSK HCH_Graphs

Pref

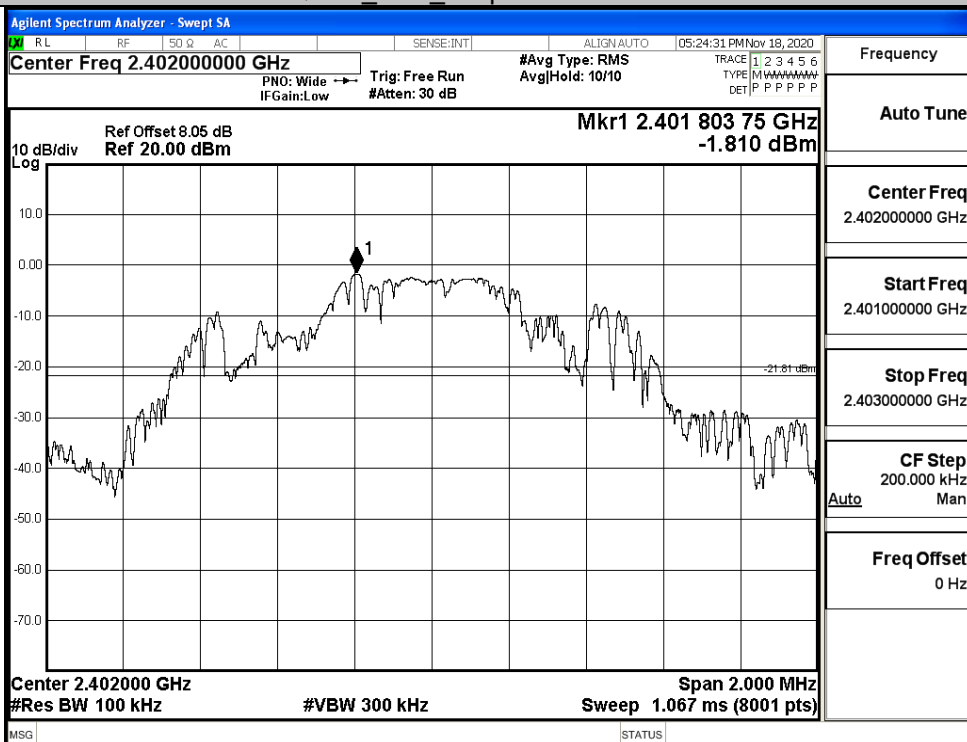


Puw

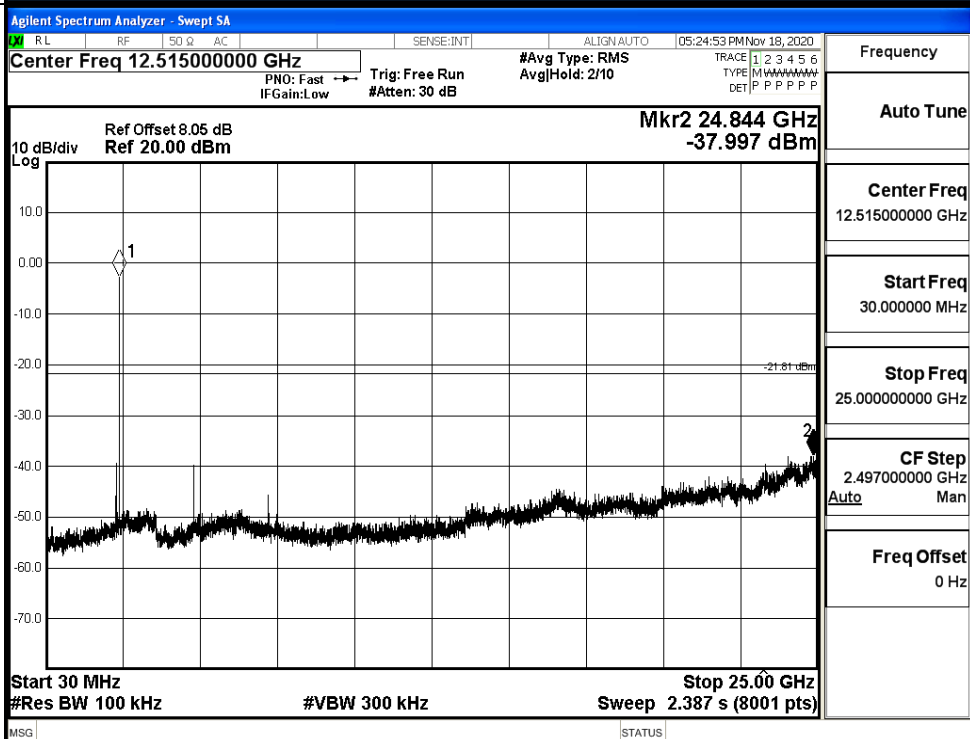


$\pi/4$ DQPSK_LCH_Graphs

Pref

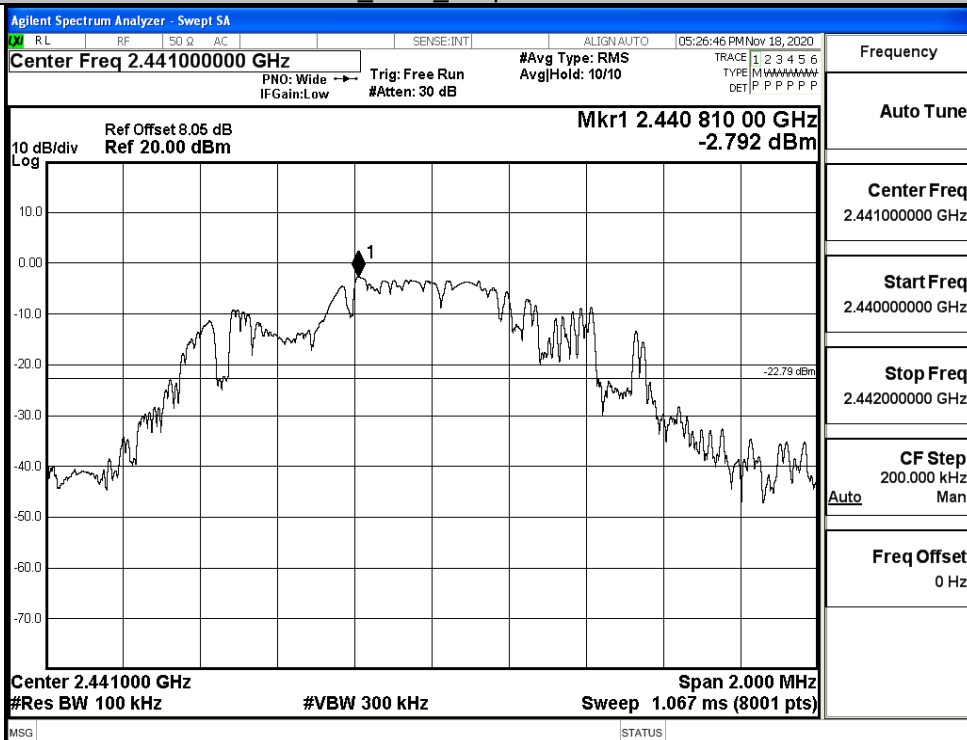


Puw

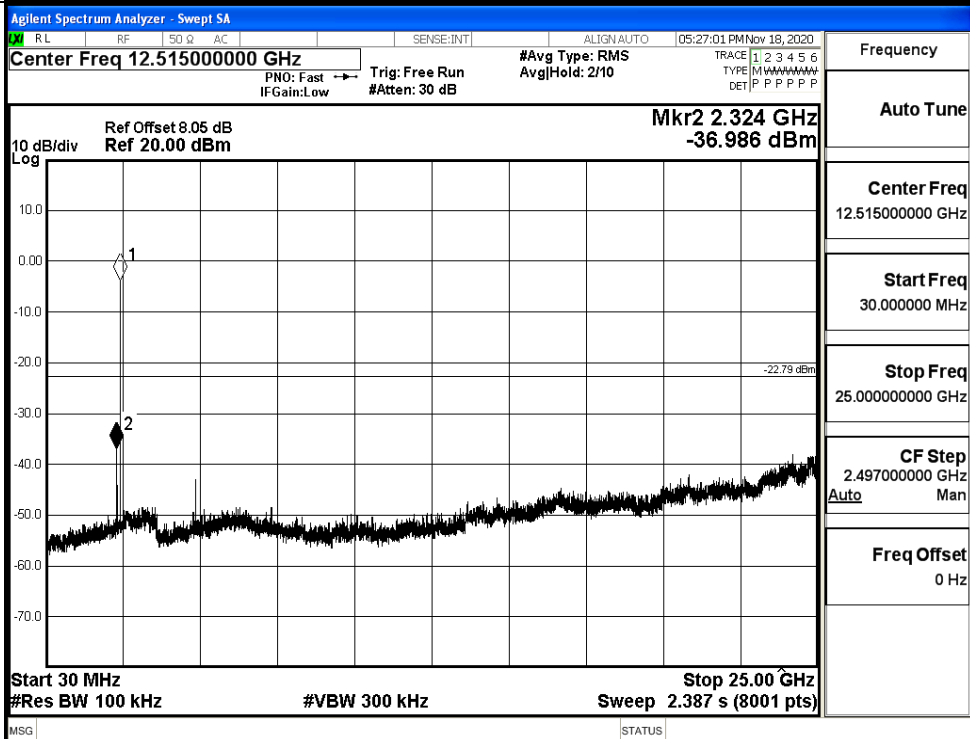


$\pi/4$ DQPSK_MCH_Graphs

Pref

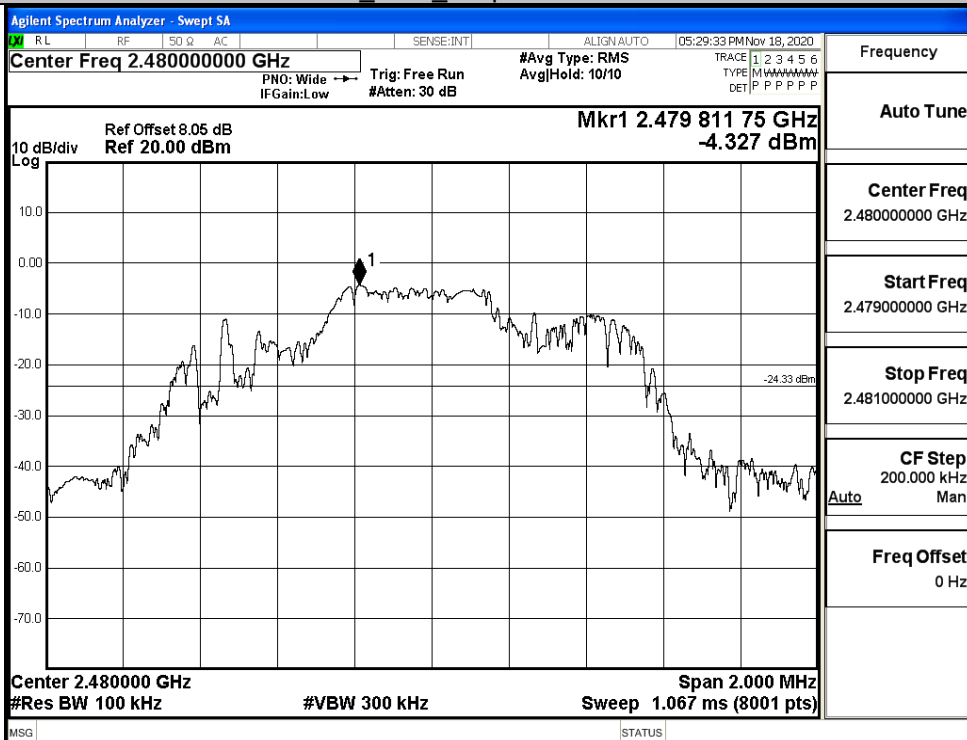


Puw

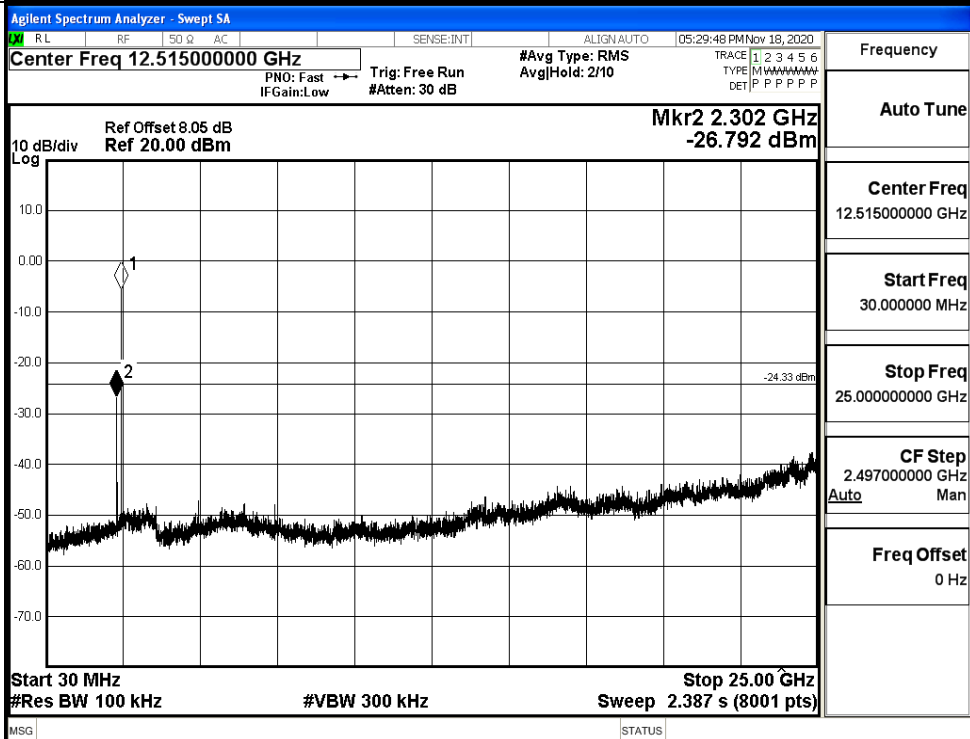


$\pi/4$ DQPSK_HCH_Graphs

Pref

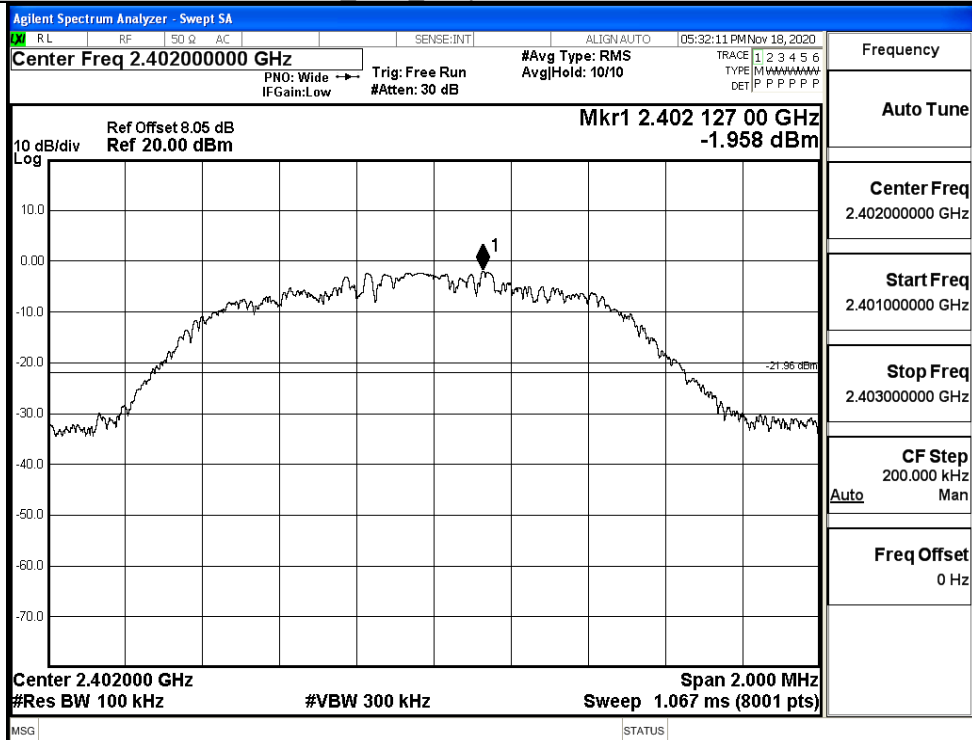


Puw

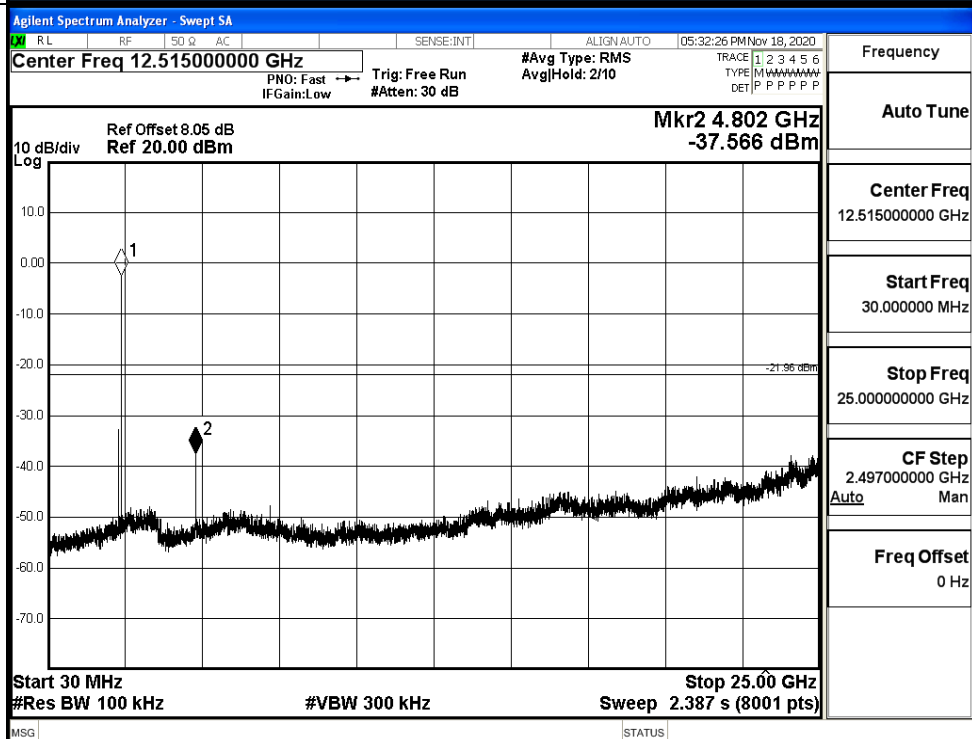


8DPSK_LCH_Graphs

Pref

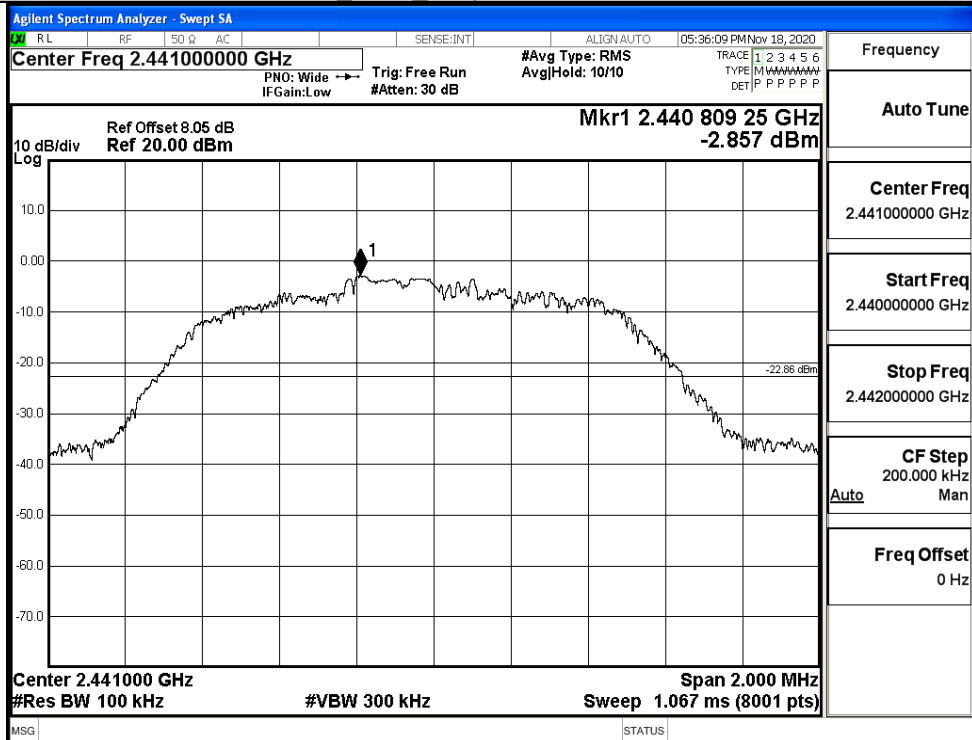


Puw

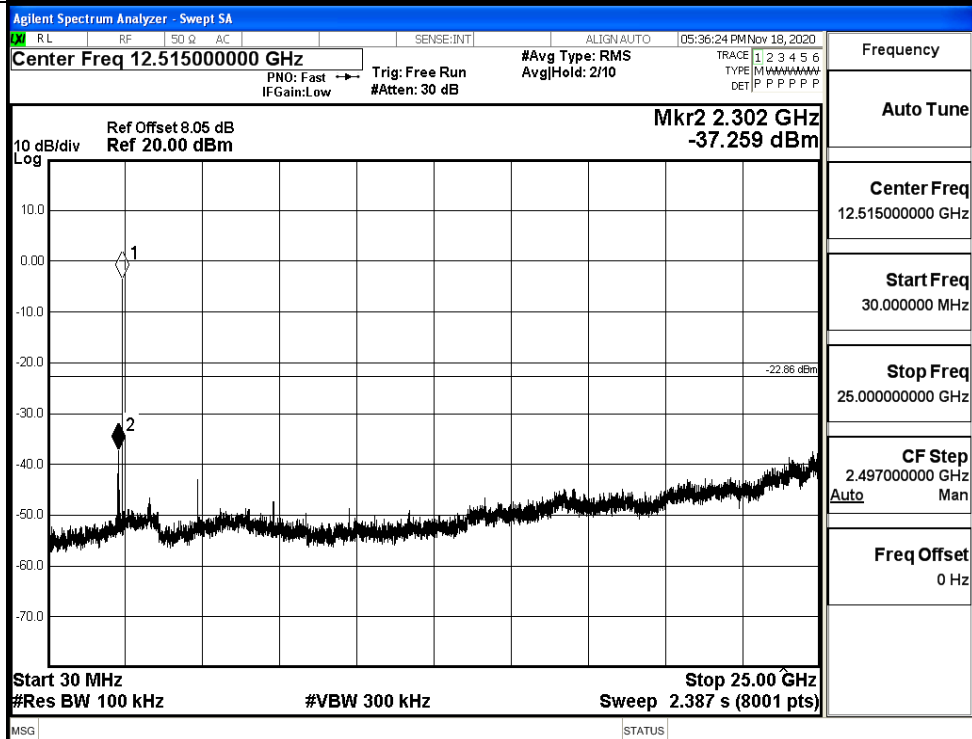


8DPSK_MCH_Graphs

Pref

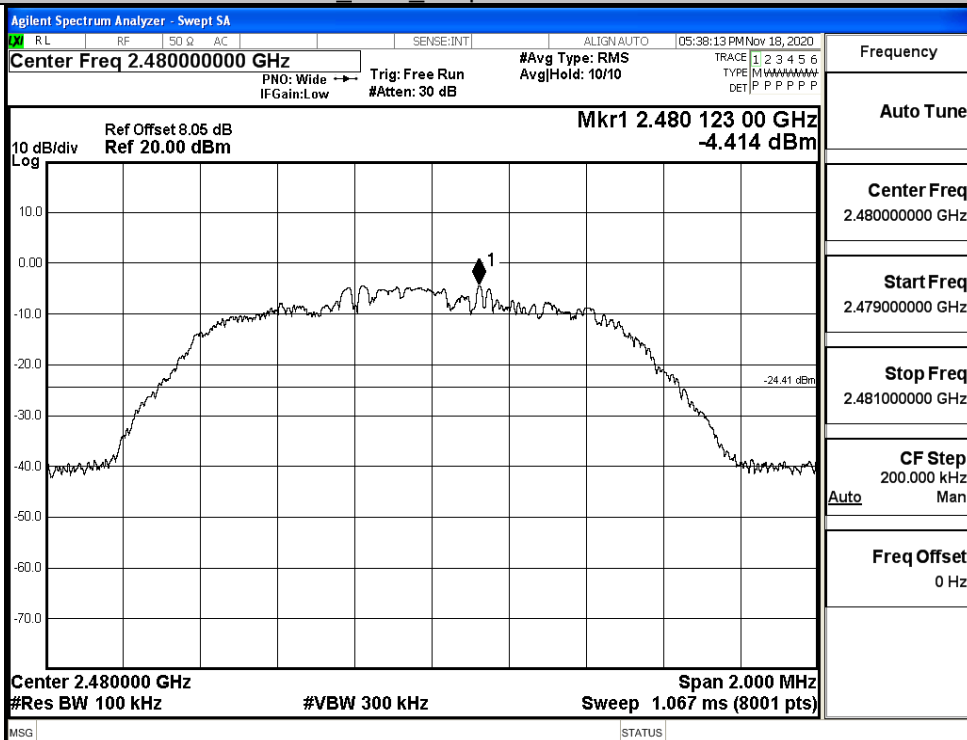


Puw

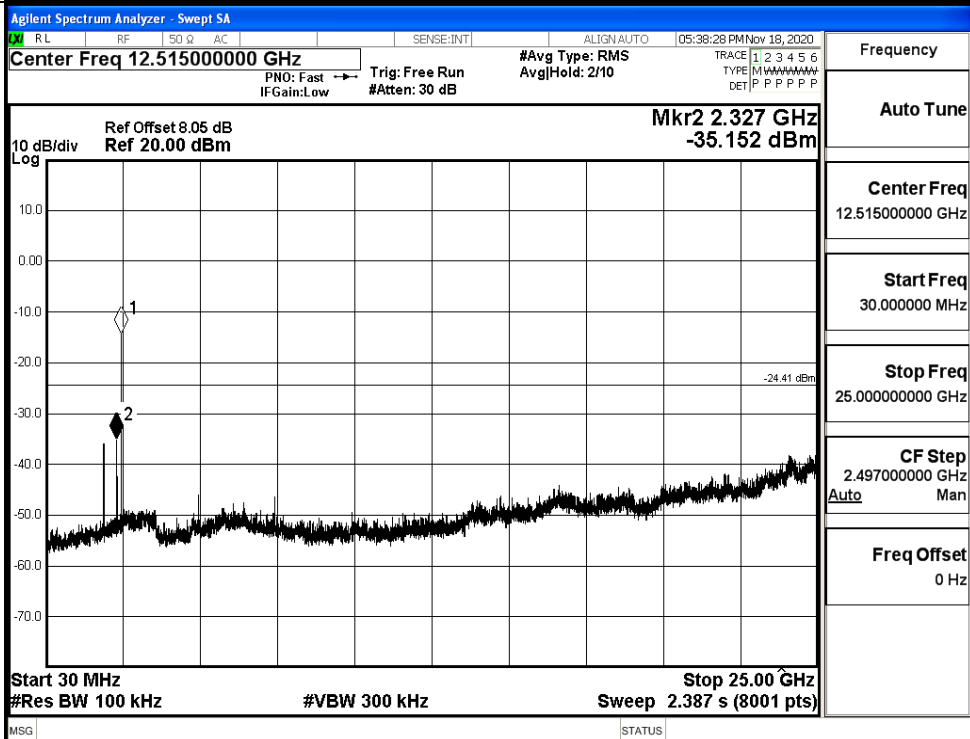


8DPSK_HCH_Graphs

Pref



Puw

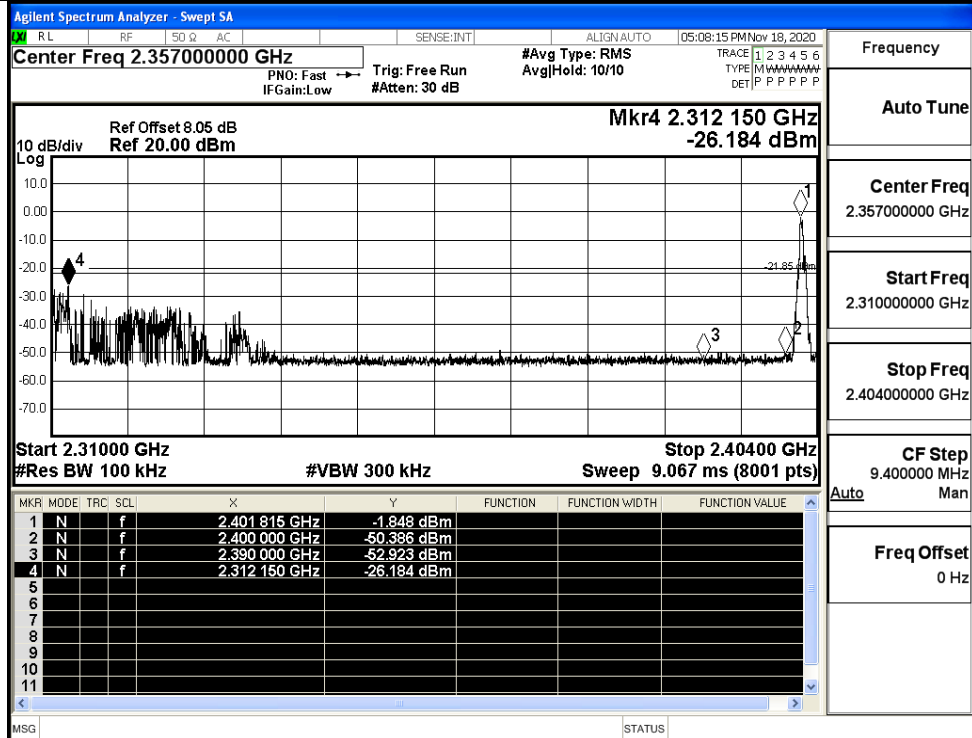


A.7 Band-edge for RF Conducted Emissions

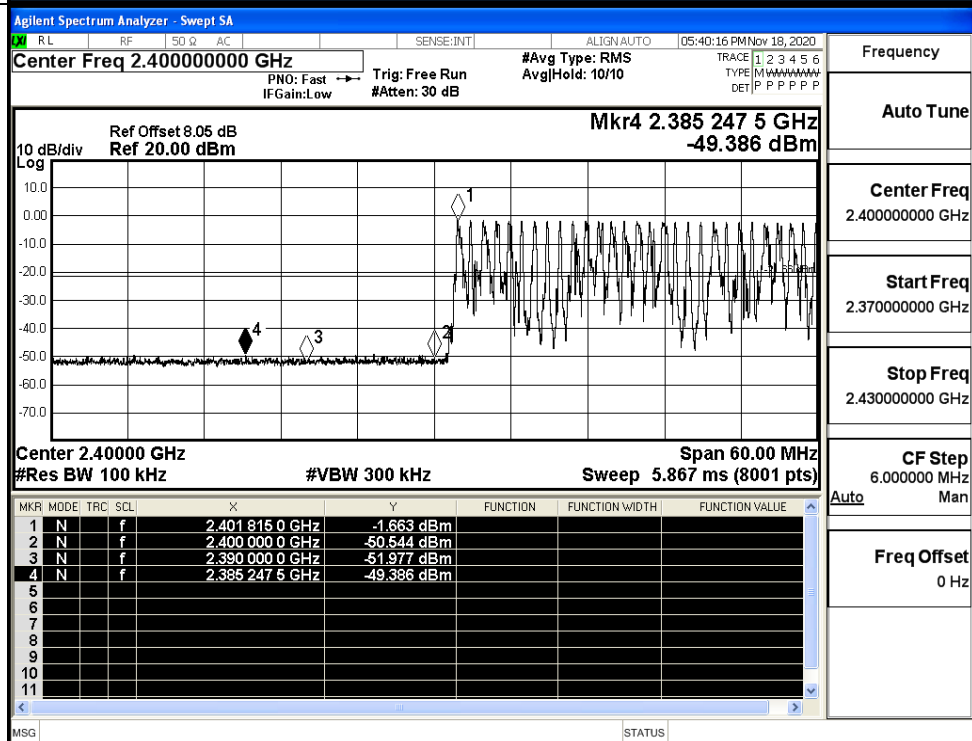
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-1.848	Off	-26.184	-21.85	PASS
			-1.663	On	-49.386	-21.66	PASS
	HCH	2480	-4.281	Off	-48.621	-24.28	PASS
			-3.075	On	-48.427	-23.08	PASS
$\pi/4$ DQPSK	LCH	2402	-1.810	Off	-25.483	-21.81	PASS
			-1.945	On	-48.992	-21.95	PASS
	HCH	2480	-4.186	Off	-48.321	-24.19	PASS
			-3.615	On	-48.321	-23.62	PASS
8DPSK	LCH	2402	-1.668	Off	-30.409	-21.67	PASS
			-1.836	On	-49.477	-21.84	PASS
	HCH	2480	-4.094	Off	-49.298	-24.09	PASS
			-3.553	On	-48.885	-23.55	PASS

Test Graphs

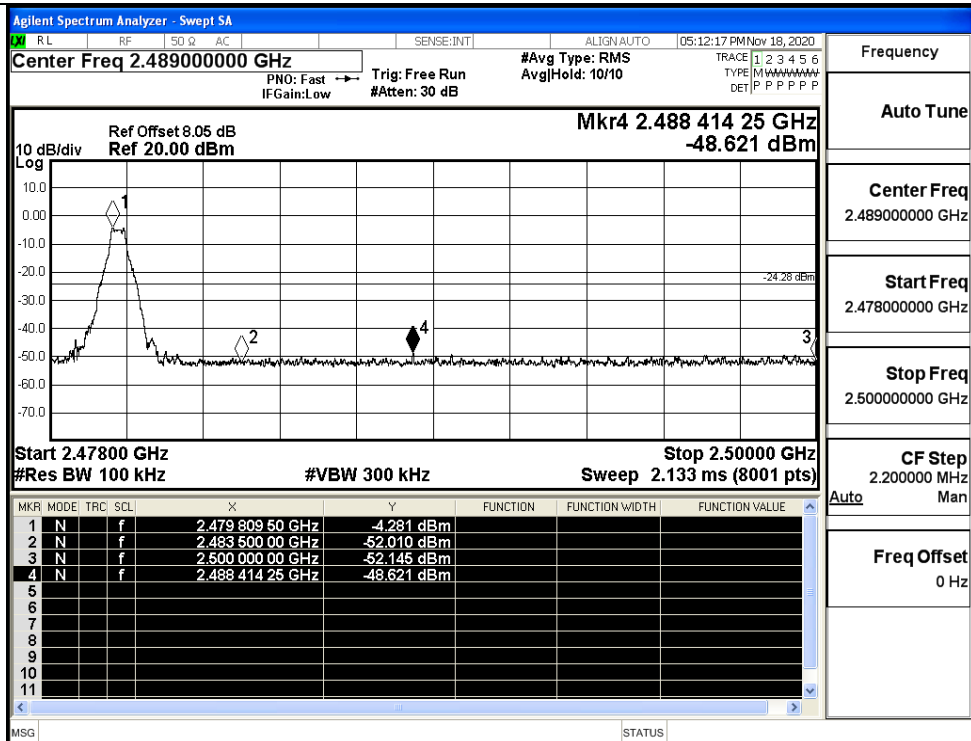
GFSK/LCH/No Hop



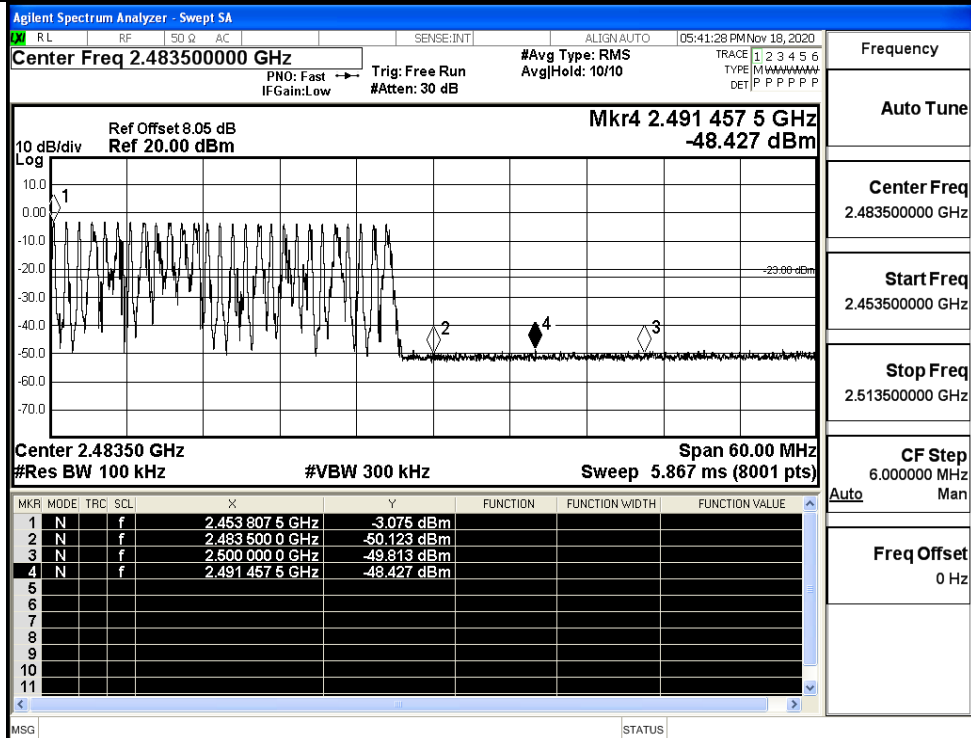
GFSK/LCH/Hop



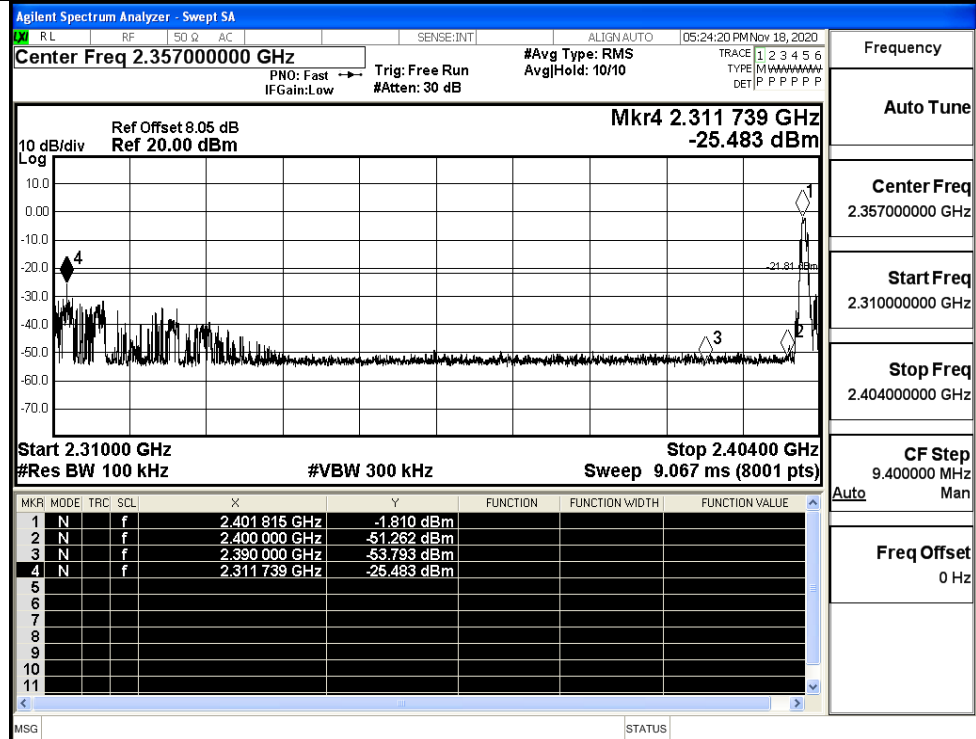
GFSK/HCH/No Hop



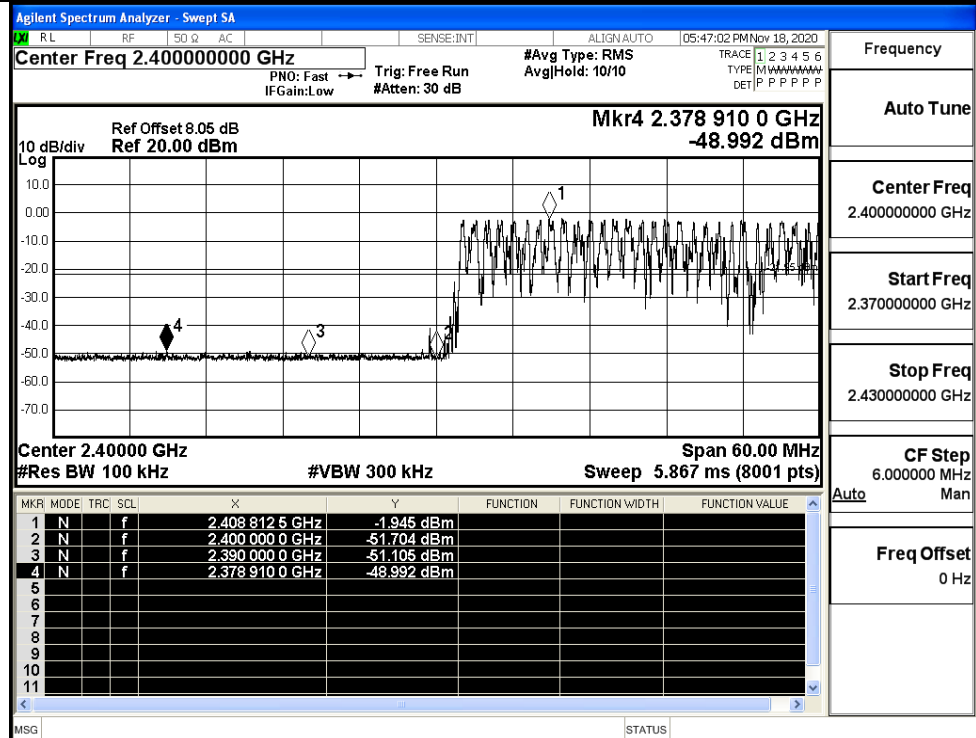
GFSK/HCH/Hop



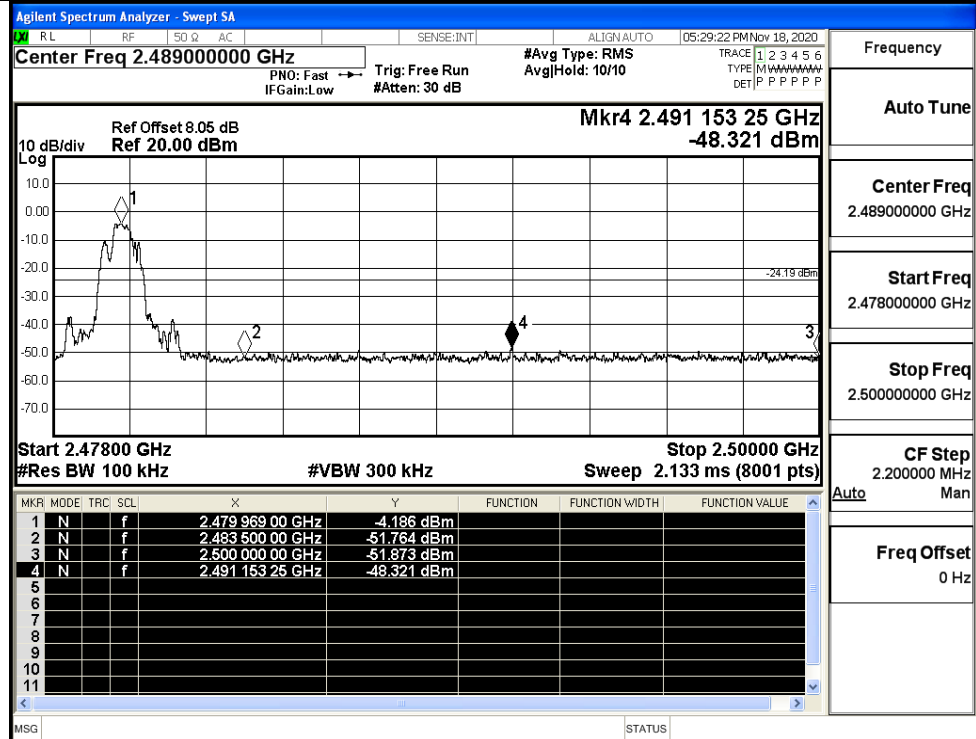
$\pi/4$ DQPSK/LCH/No
Hop



$\pi/4$ DQPSK/LCH/Hop



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

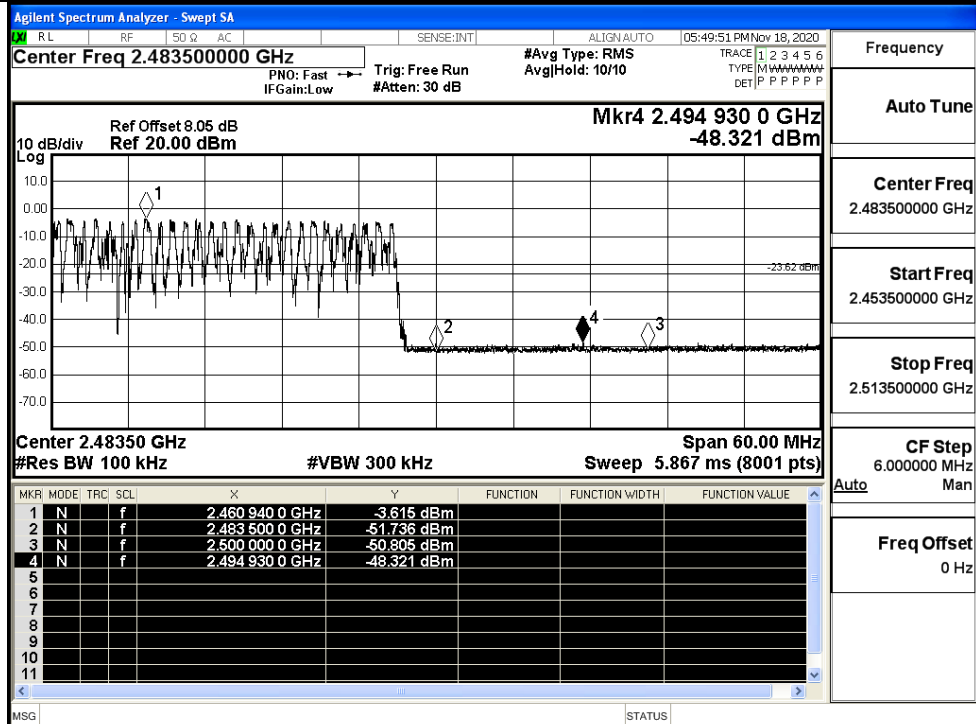


Frequency

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

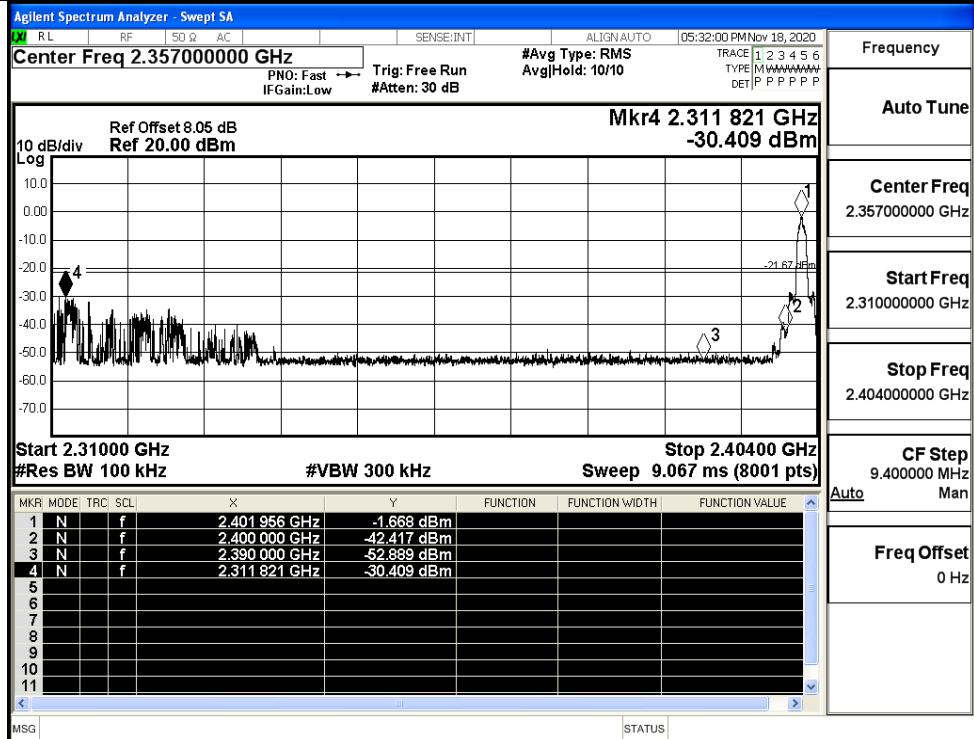


Frequency

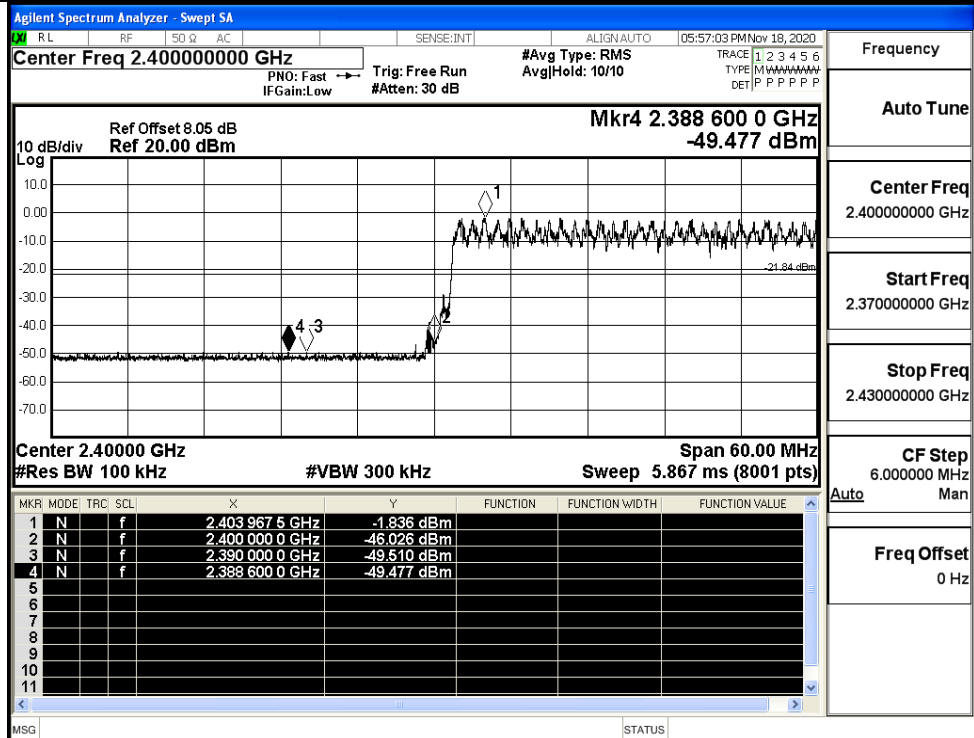
Auto Tune

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

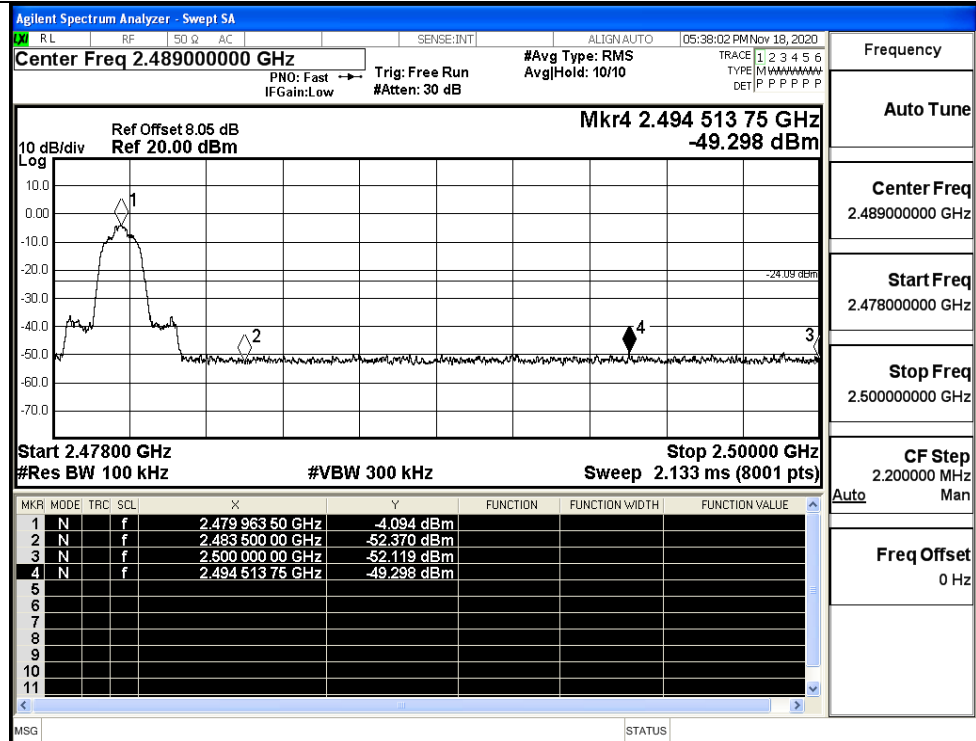
8DPSK/LCH/No Hop



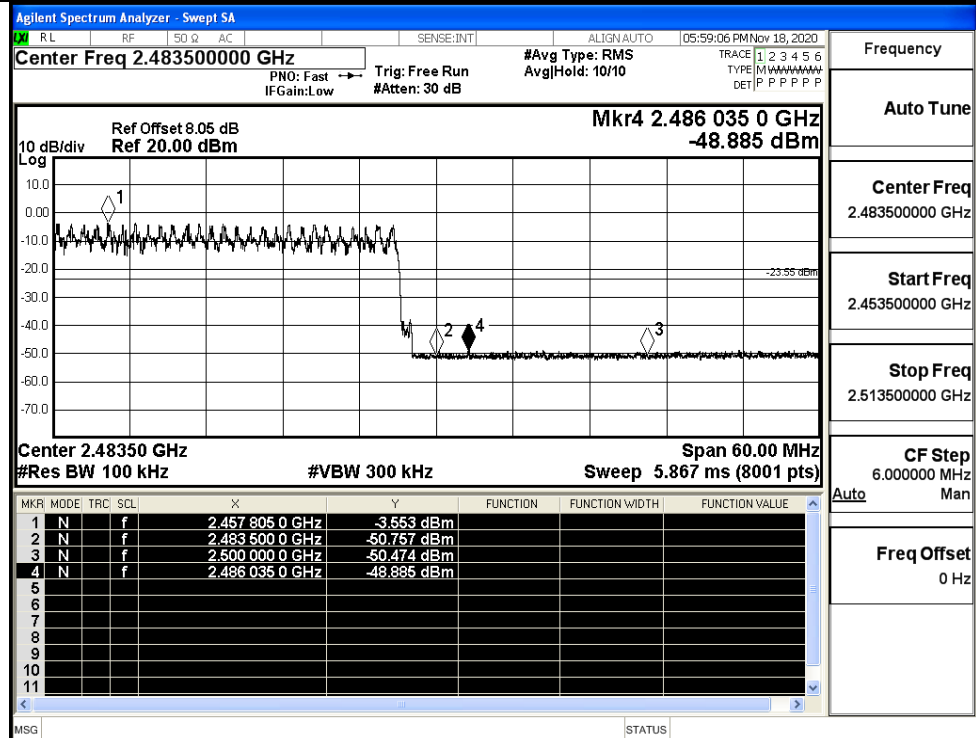
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



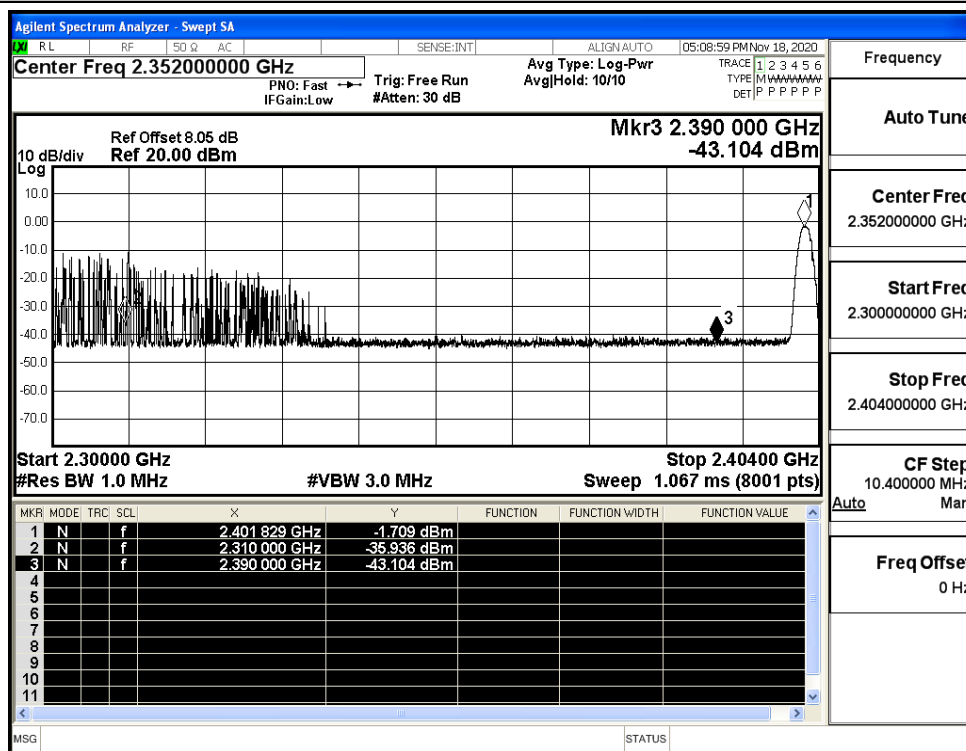
8DPSK/HCH/Hop



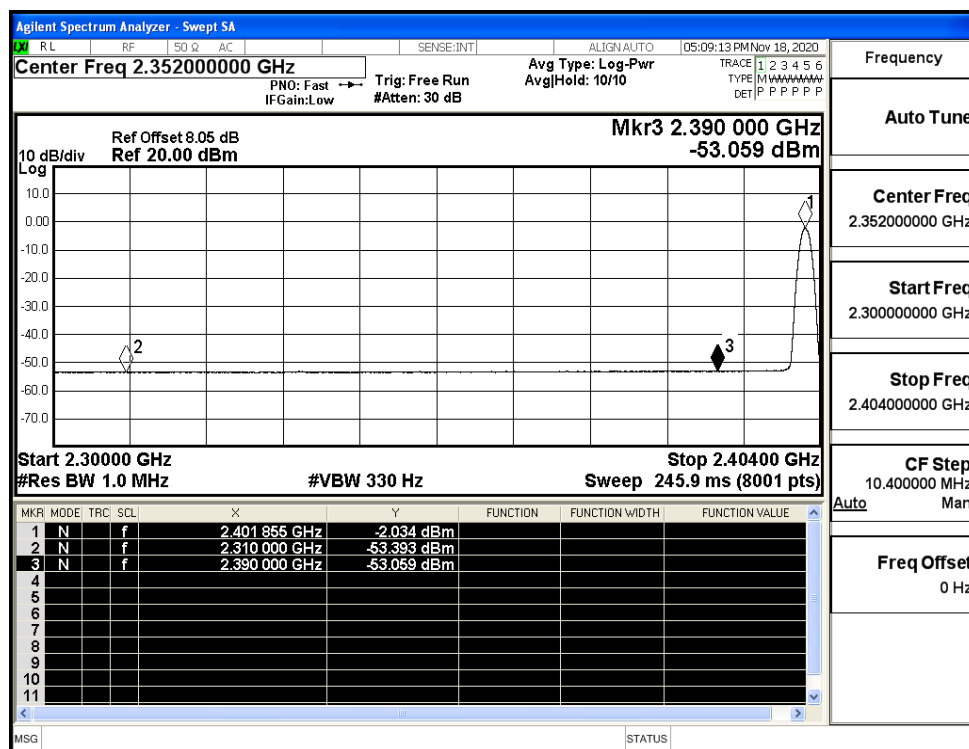
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-35.94	2.0	0	61.32	PEAK	74	PASS
	Off	2310.0	-53.39	2.0	0	43.86	AV	54	PASS
	Off	2390.0	-43.10	2.0	0	54.15	PEAK	74	PASS
	Off	2390.0	-53.06	2.0	0	44.2	AV	54	PASS
	Off	2483.5	-41.80	2.0	0	55.46	PEAK	74	PASS
	Off	2483.5	-52.54	2.0	0	44.72	AV	54	PASS
	Off	2500.0	-41.88	2.0	0	55.38	PEAK	74	PASS
	Off	2500.0	-52.38	2.0	0	44.88	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-42.54	2.0	0	54.72	PEAK	74	PASS
	Off	2310.0	-53.20	2.0	0	44.06	AV	54	PASS
	Off	2390.0	-43.44	2.0	0	53.82	PEAK	74	PASS
	Off	2390.0	-53.06	2.0	0	44.2	AV	54	PASS
	Off	2483.5	-42.02	2.0	0	55.24	PEAK	74	PASS
	Off	2483.5	-52.49	2.0	0	44.77	AV	54	PASS
	Off	2500.0	-41.12	2.0	0	56.14	PEAK	74	PASS
	Off	2500.0	-52.24	2.0	0	45.02	AV	54	PASS
8DPSK	Off	2310.0	-43.89	2.0	0	53.37	PEAK	74	PASS
	Off	2310.0	-53.29	2.0	0	43.97	AV	54	PASS
	Off	2390.0	-43.20	2.0	0	54.06	PEAK	74	PASS
	Off	2390.0	-52.95	2.0	0	44.31	AV	54	PASS
	Off	2483.5	-42.23	2.0	0	55.03	PEAK	74	PASS
	Off	2483.5	-52.49	2.0	0	44.77	AV	54	PASS
	Off	2500.0	-42.37	2.0	0	54.88	PEAK	74	PASS
	Off	2500.0	-52.33	2.0	0	44.93	AV	54	PASS

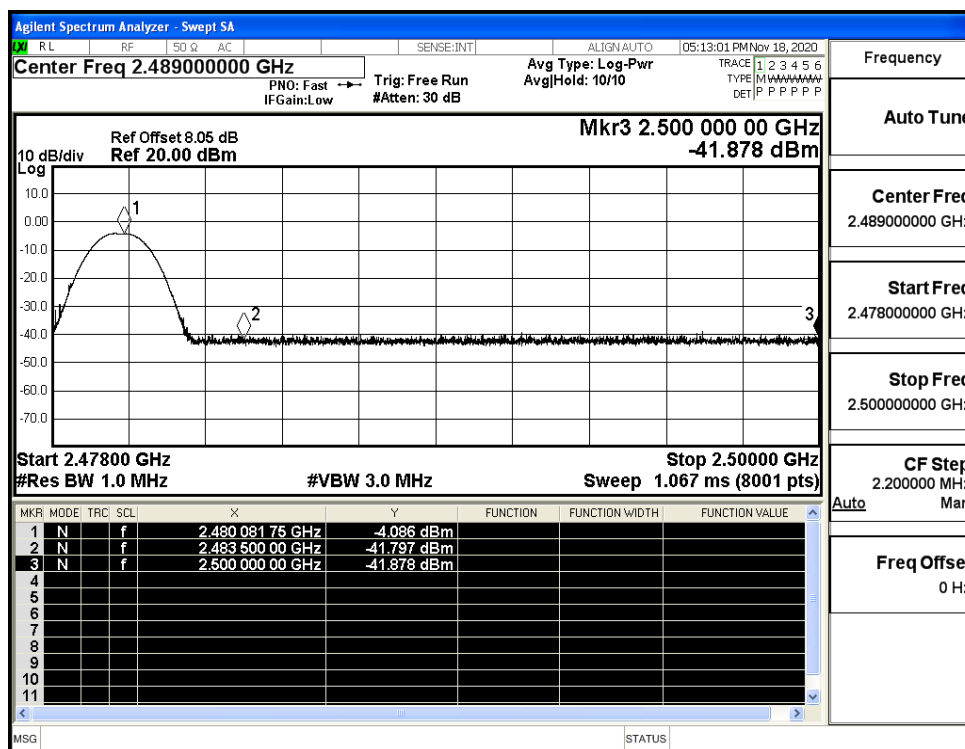
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



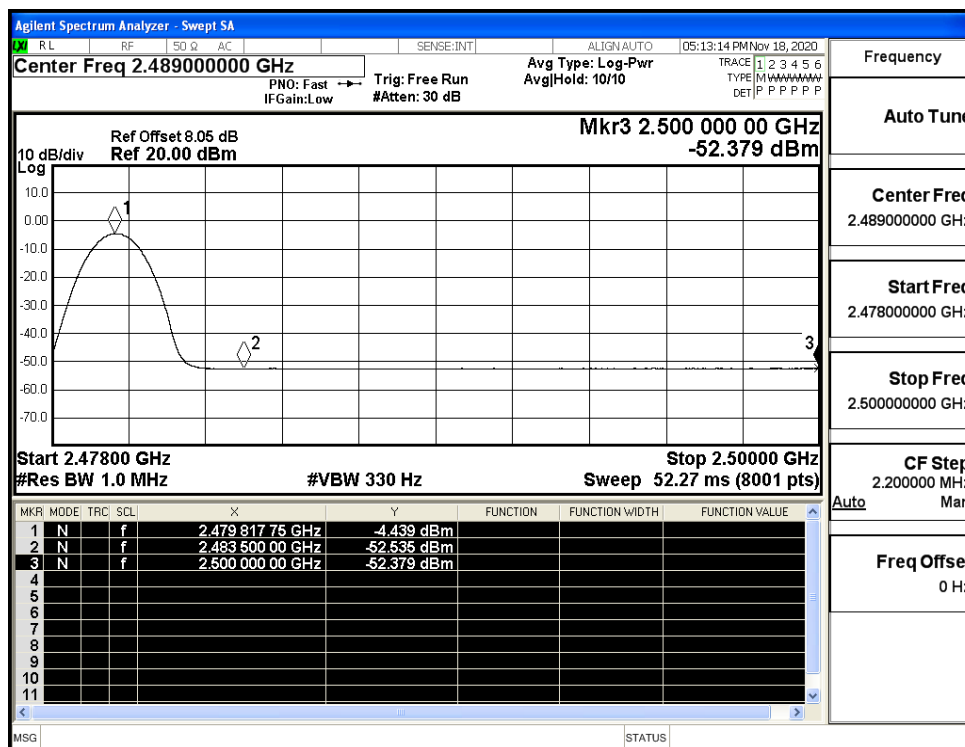
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

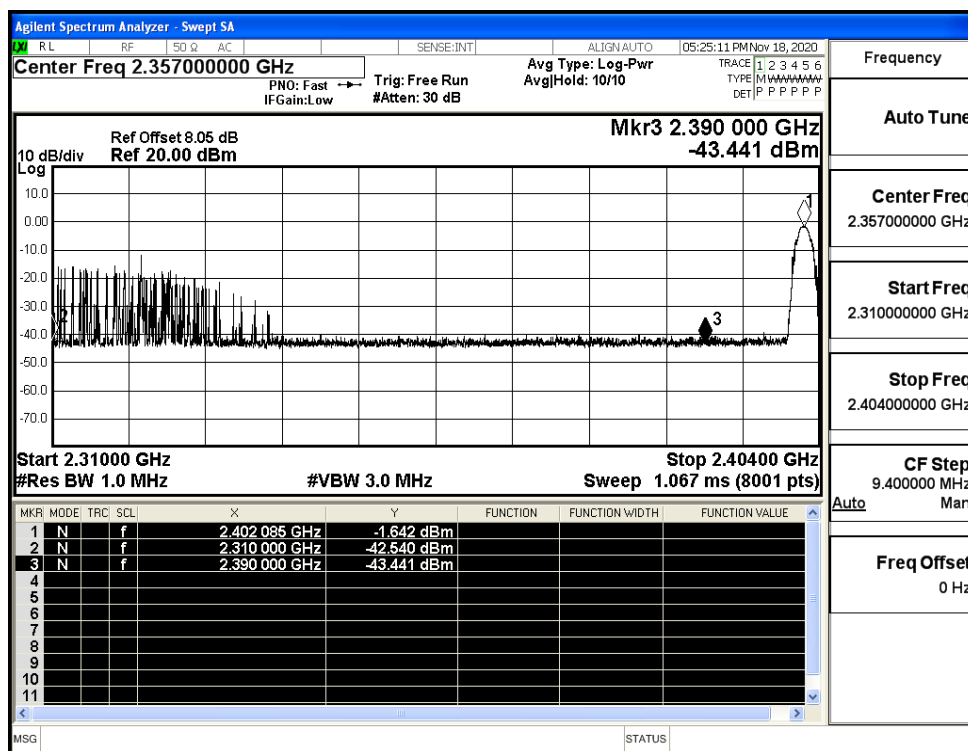
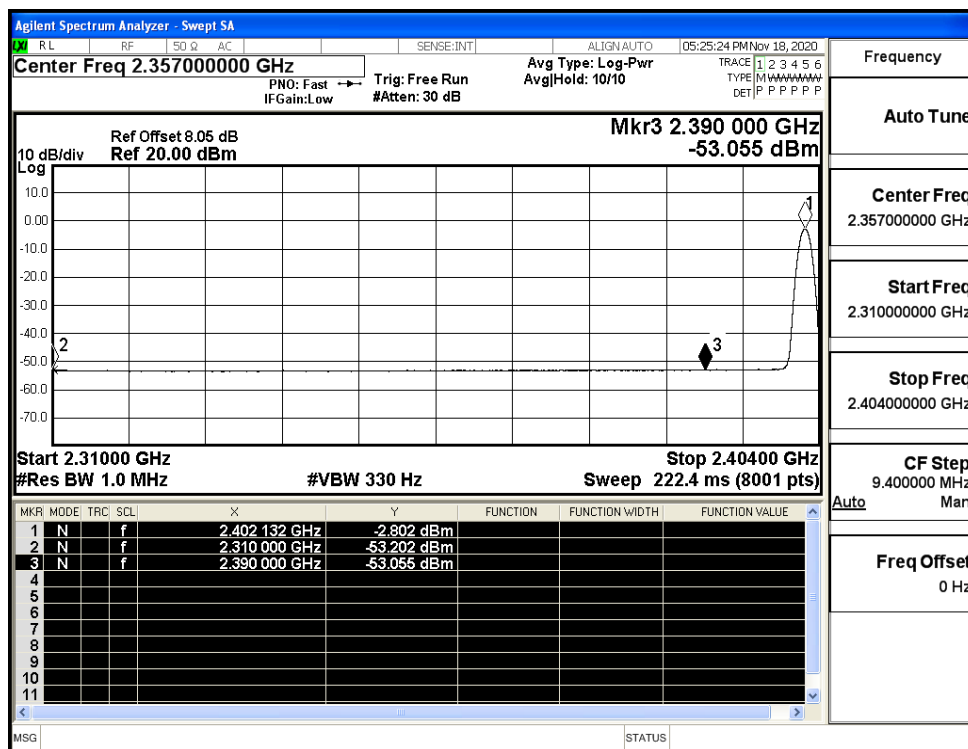


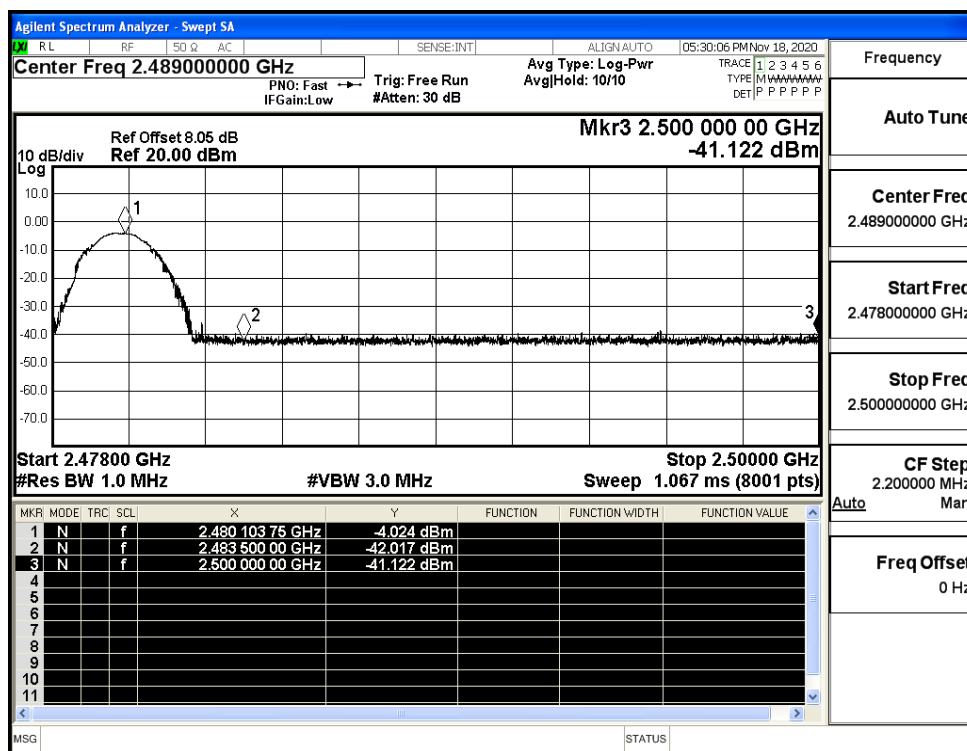
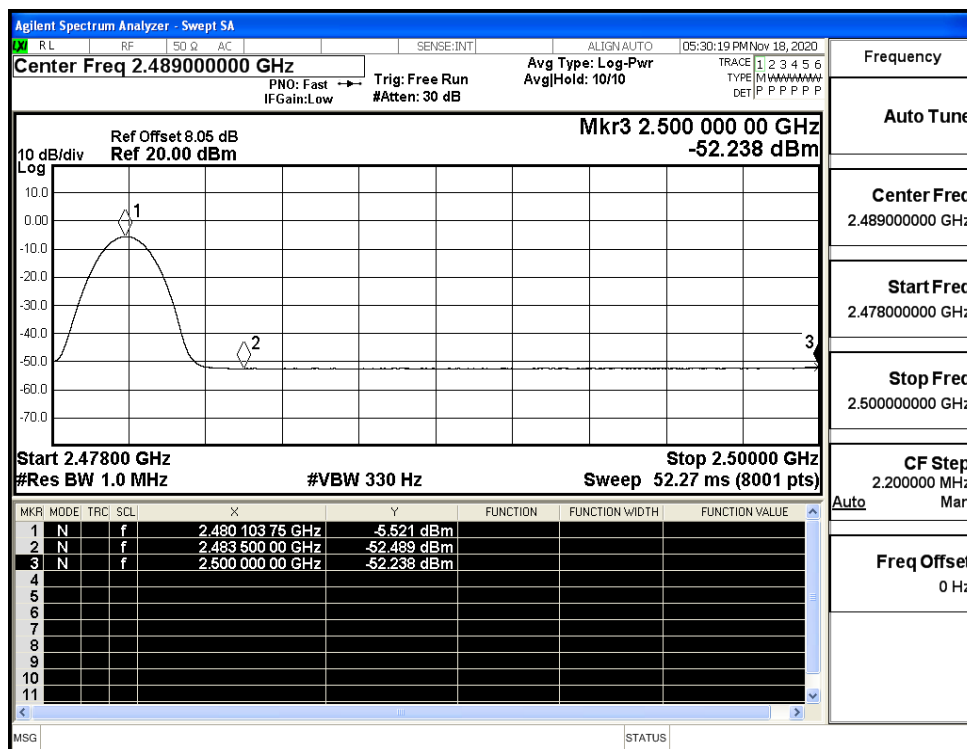
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



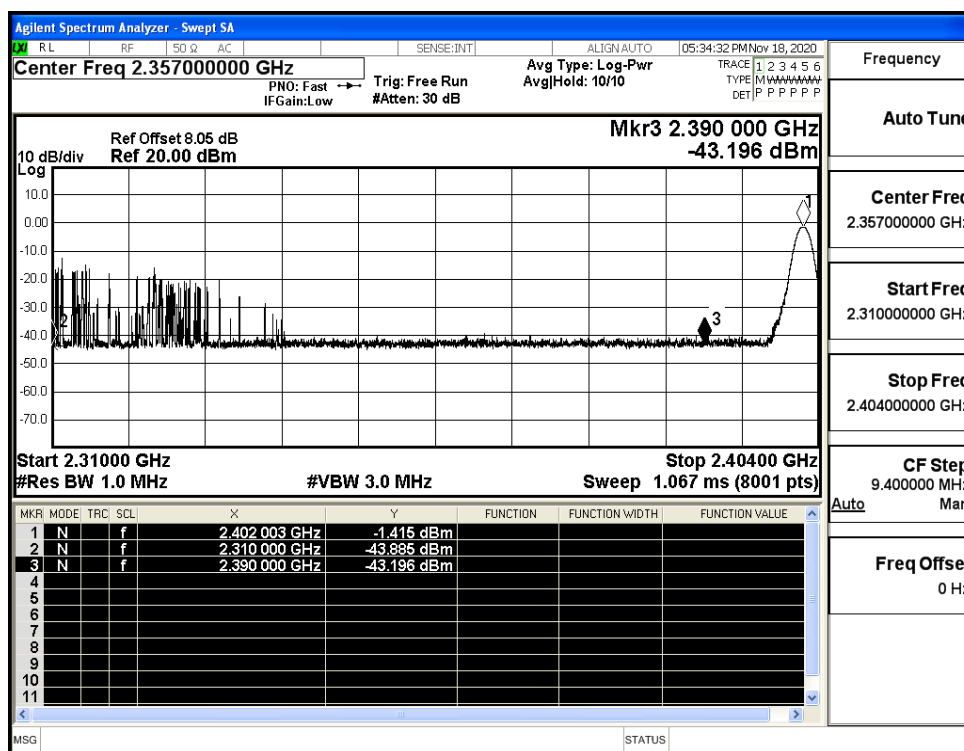
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



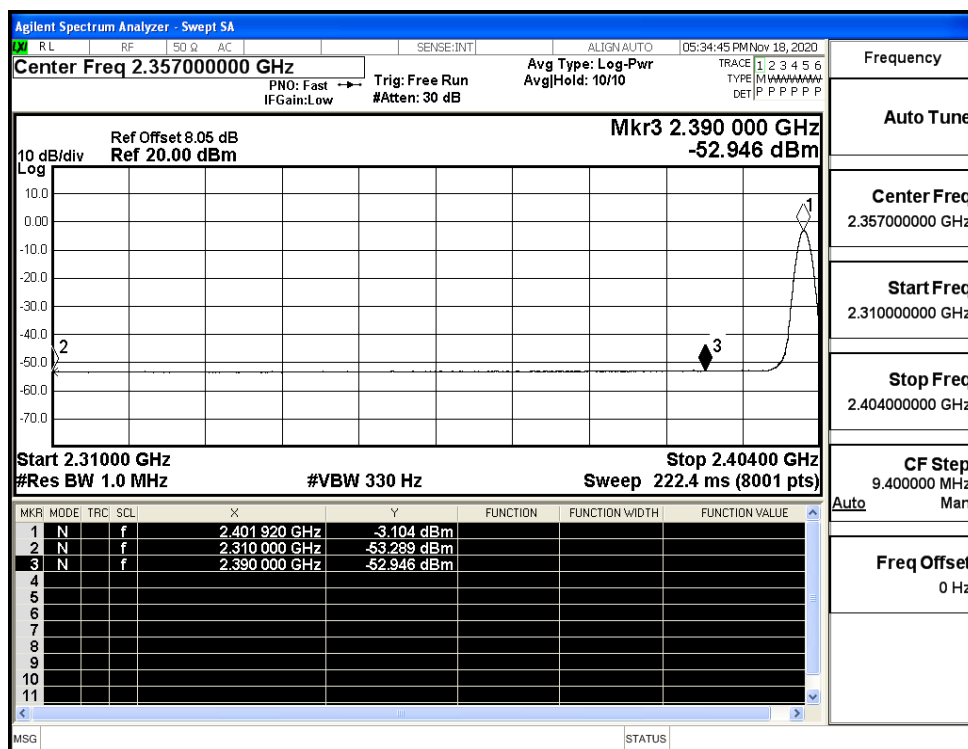
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

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)

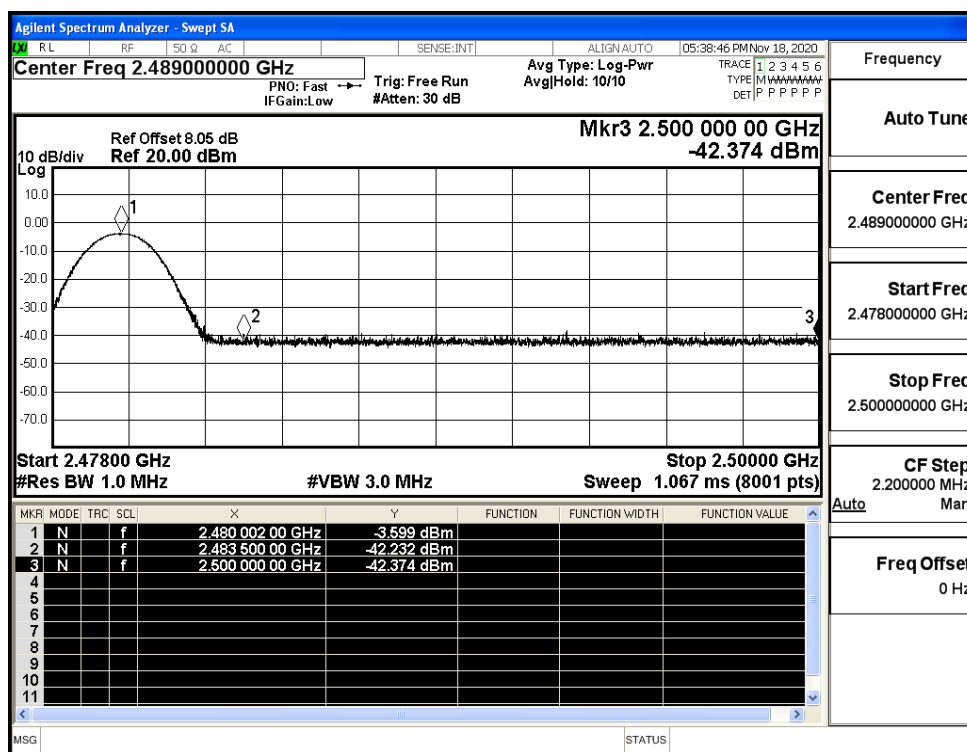
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

