

Appendix A

RF Test Data for BT V5.0(BDR/EDR) (Conducted Measurement)

Product Name: Wireless headphone

Trade Mark: N/A

Test Model: PBT669

Environmental Conditions

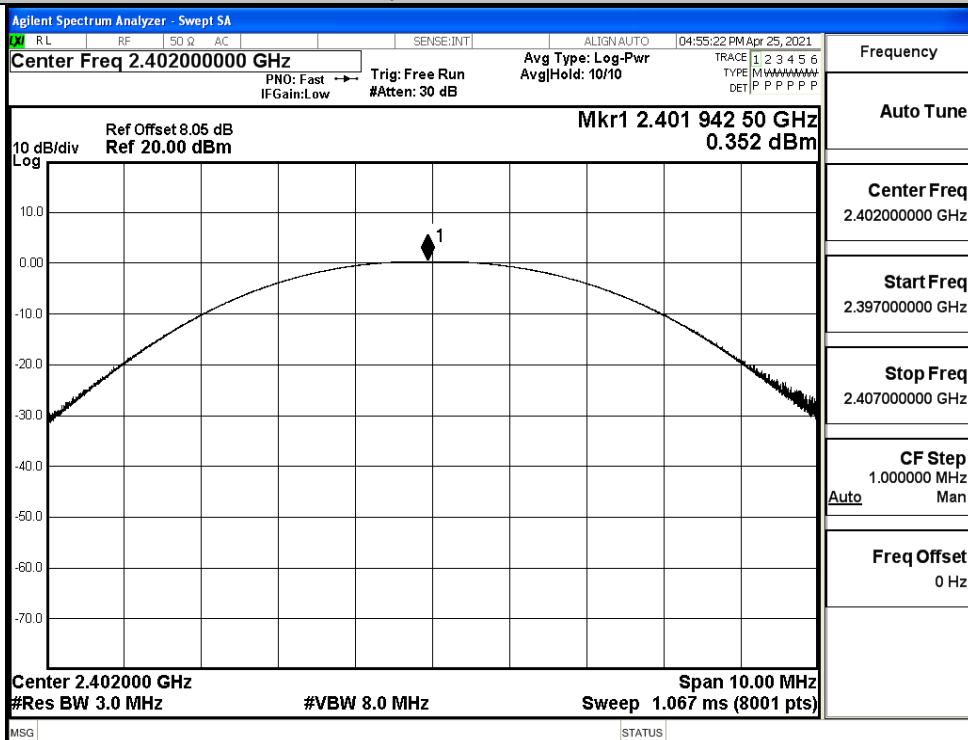
Temperature:	25.1 ° C
Relative Humidity:	50.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Li
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

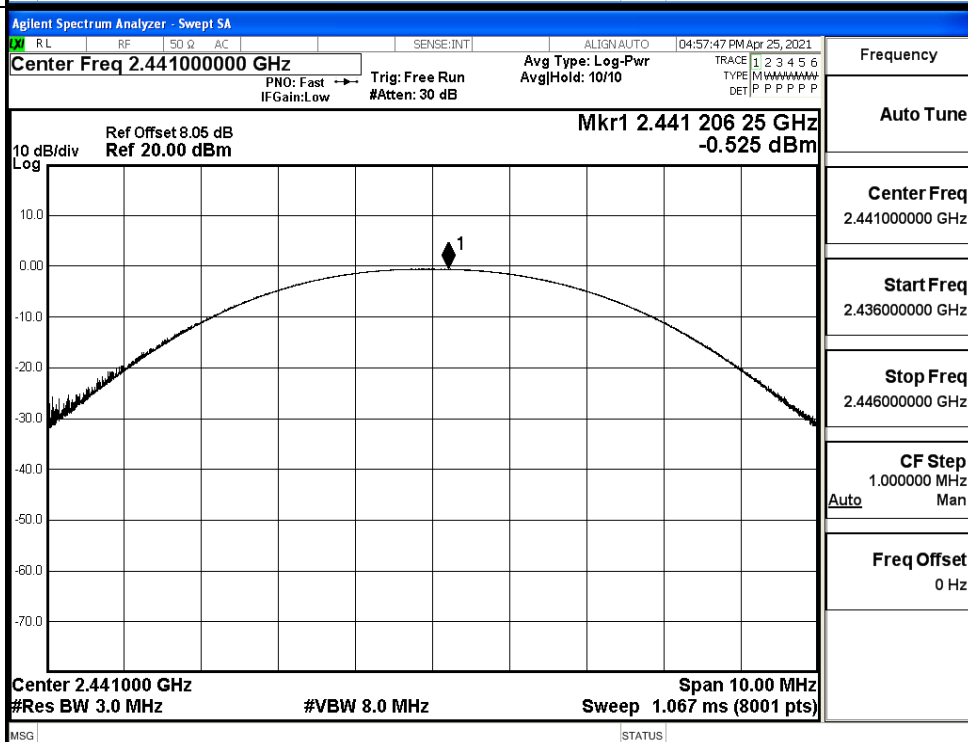
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.352	30	PASS
	MCH	-0.525	30	PASS
	HCH	-1.815	30	PASS
$\pi/4$ DQPSK	LCH	1.063	21	PASS
	MCH	0.183	21	PASS
	HCH	-1.096	21	PASS
8DPSK	LCH	1.498	21	PASS
	MCH	0.598	21	PASS
	HCH	-0.658	21	PASS

Test Graphs

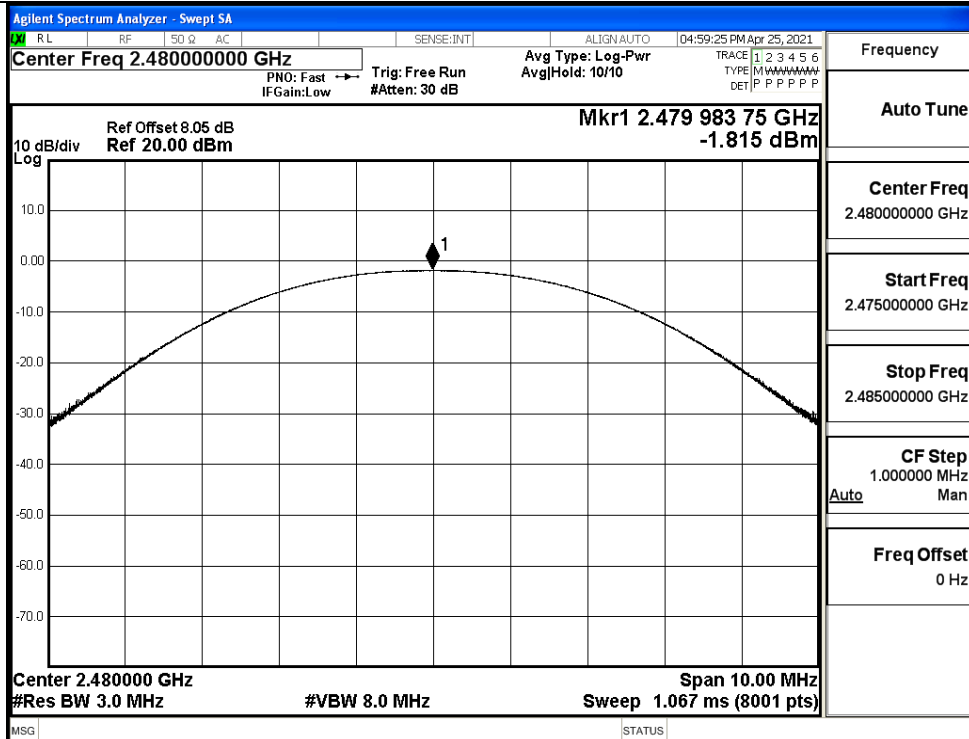
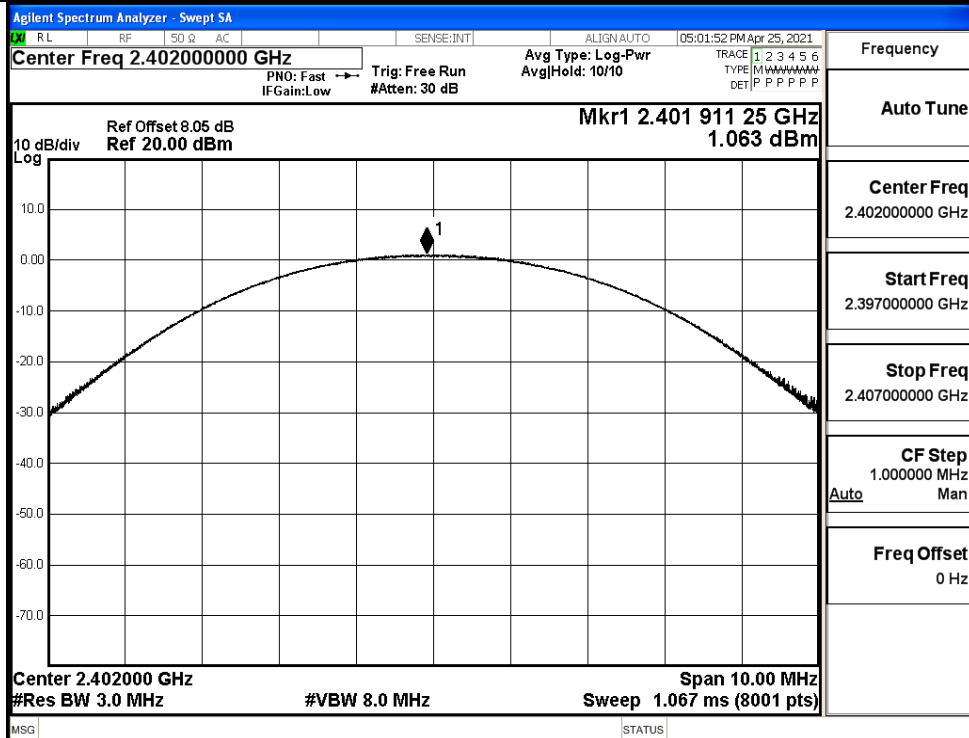
GFSK/LCH

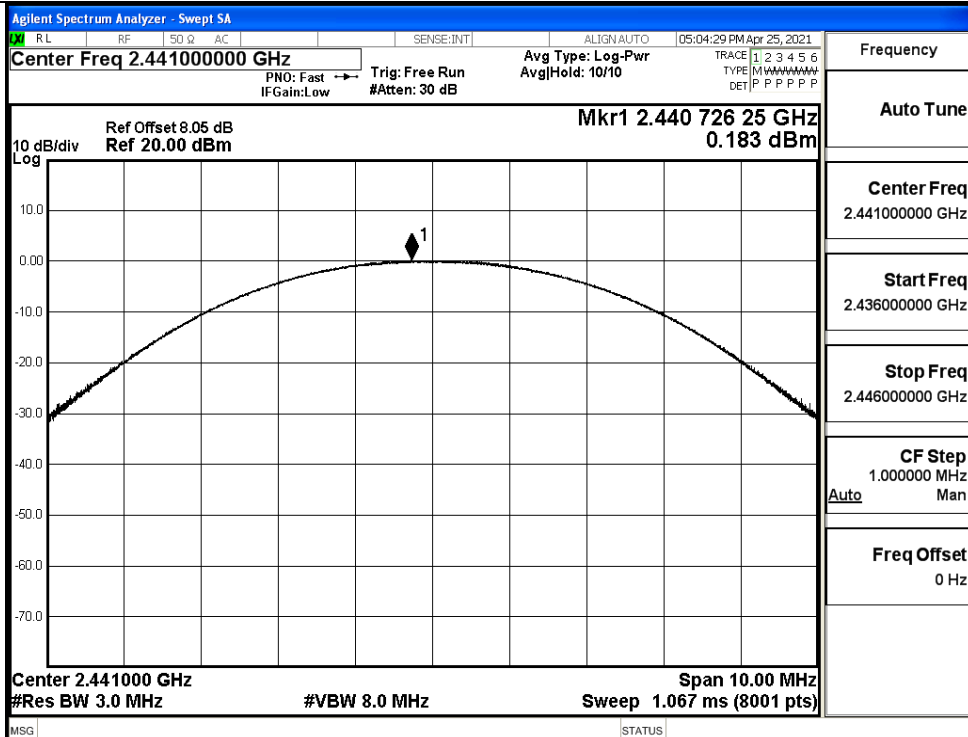
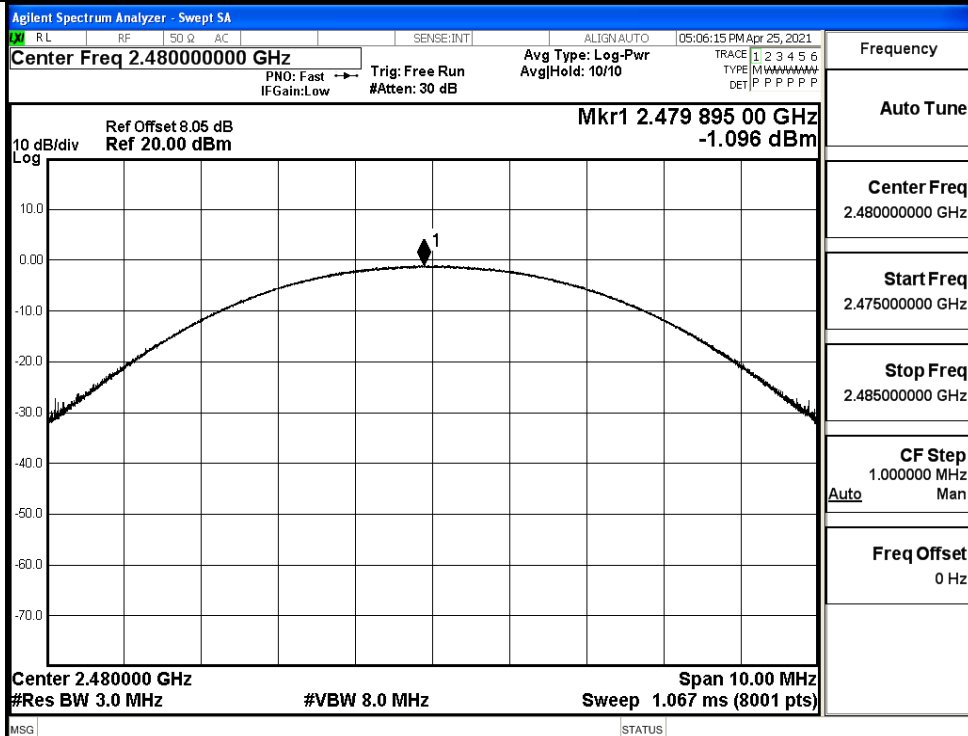


GFSK/MCH

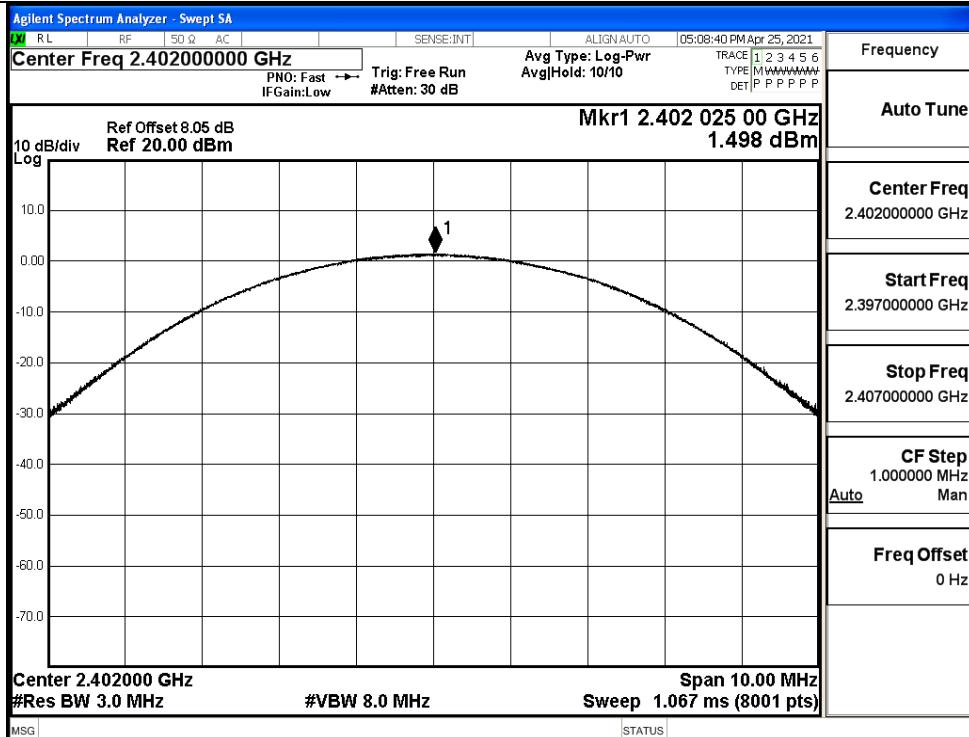


GFSK/HCH

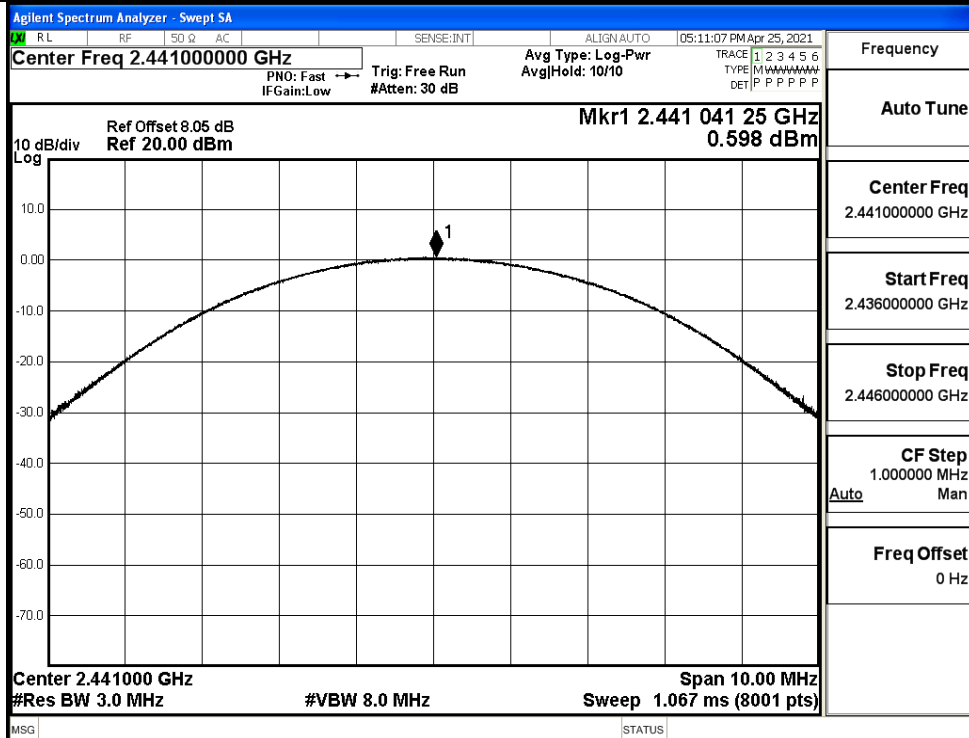
 π /4DQPSK/LCH

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

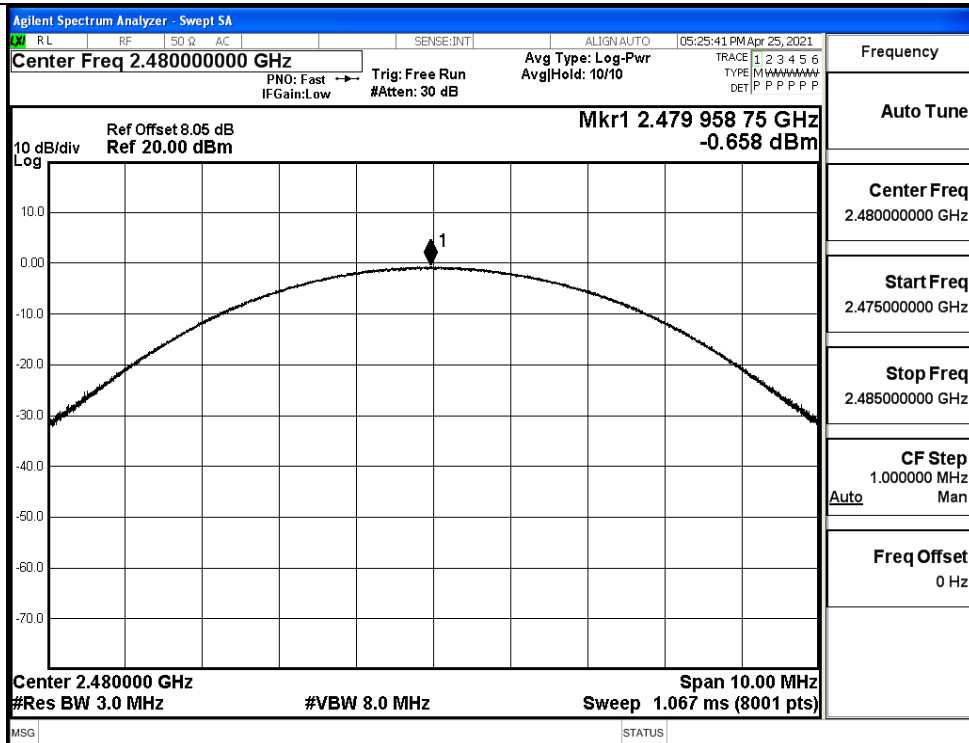
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

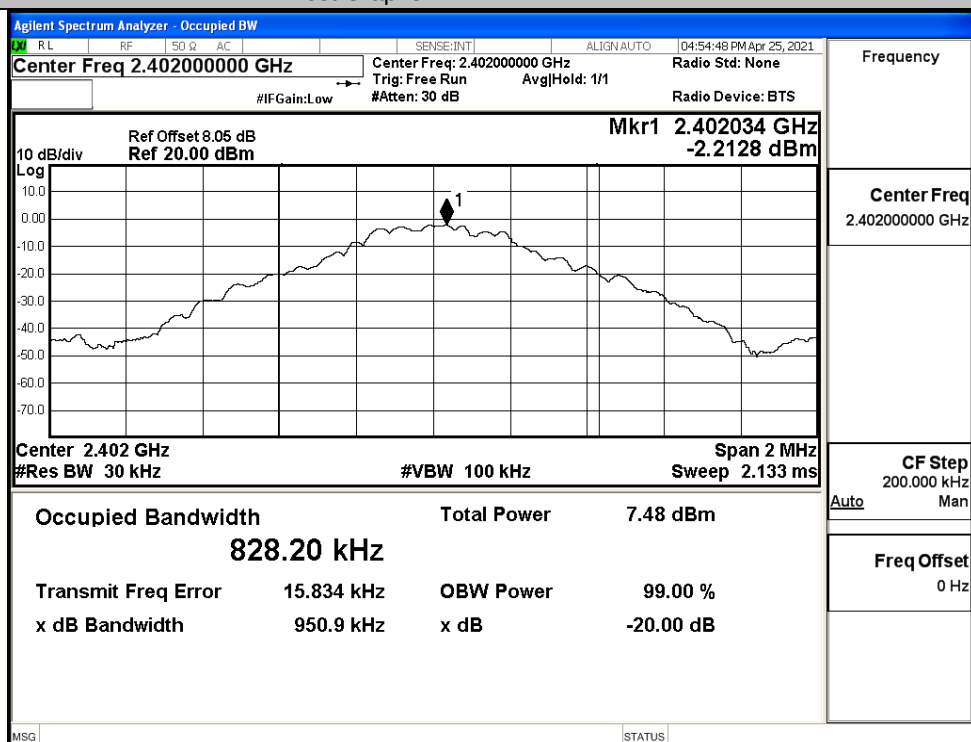


A.2 20dB Bandwidth

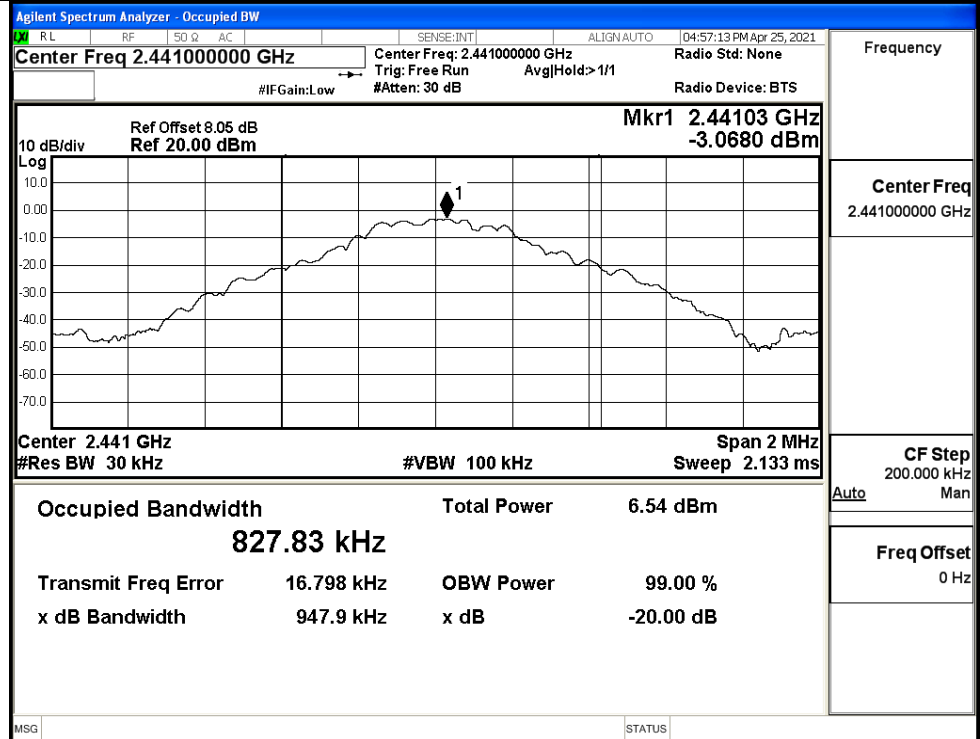
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9509	Not Specified	PASS
	MCH	0.9479	Not Specified	PASS
	HCH	0.9490	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.314	Not Specified	PASS
	MCH	1.312	Not Specified	PASS
	HCH	1.311	Not Specified	PASS
8DPSK	LCH	1.300	Not Specified	PASS
	MCH	1.299	Not Specified	PASS
	HCH	1.300	Not Specified	PASS

Test Graphs

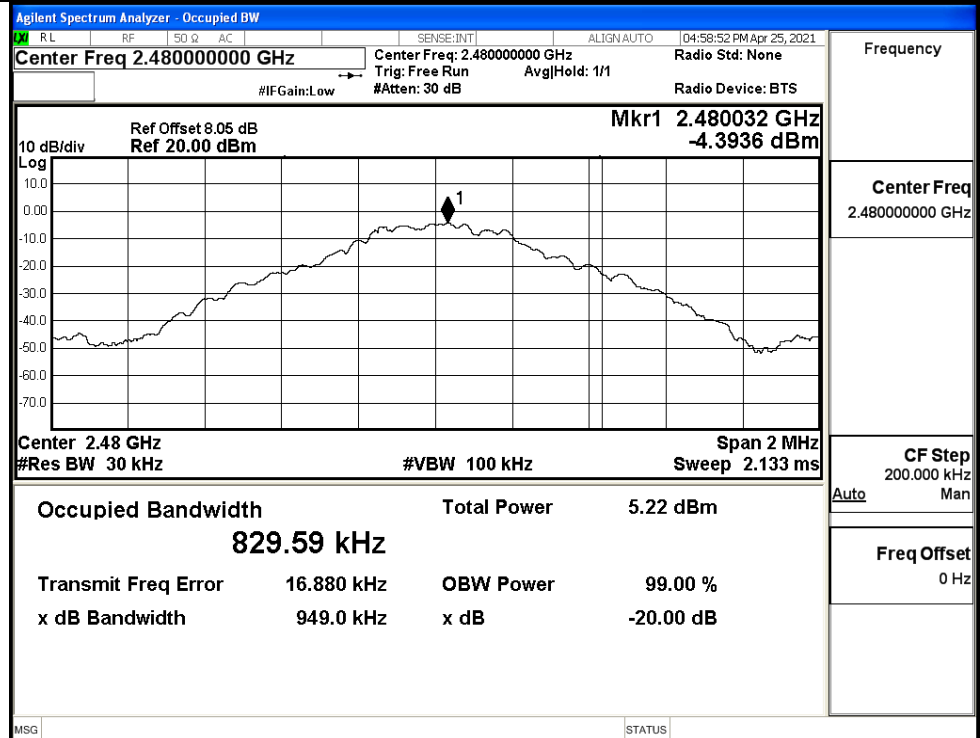
GFSK/LCH

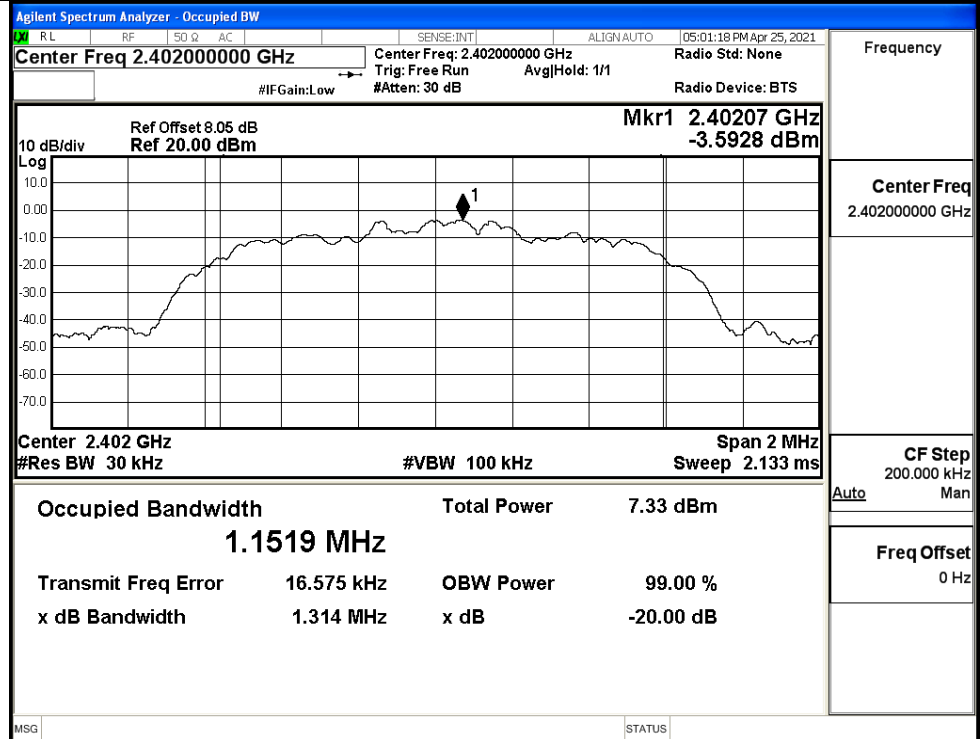
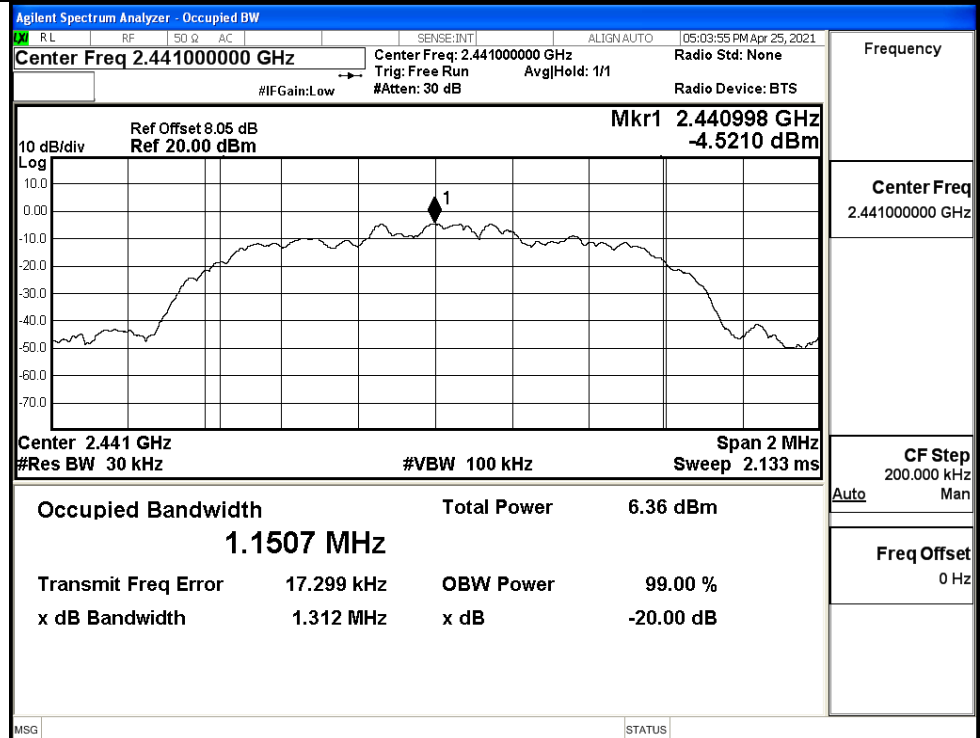


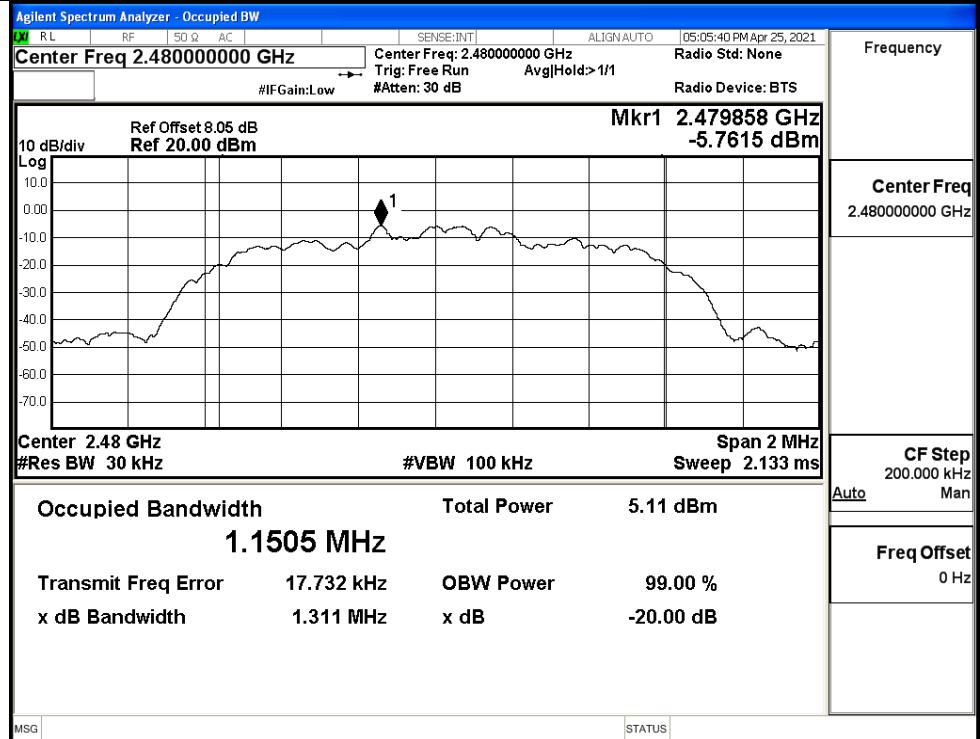
GFSK/MCH



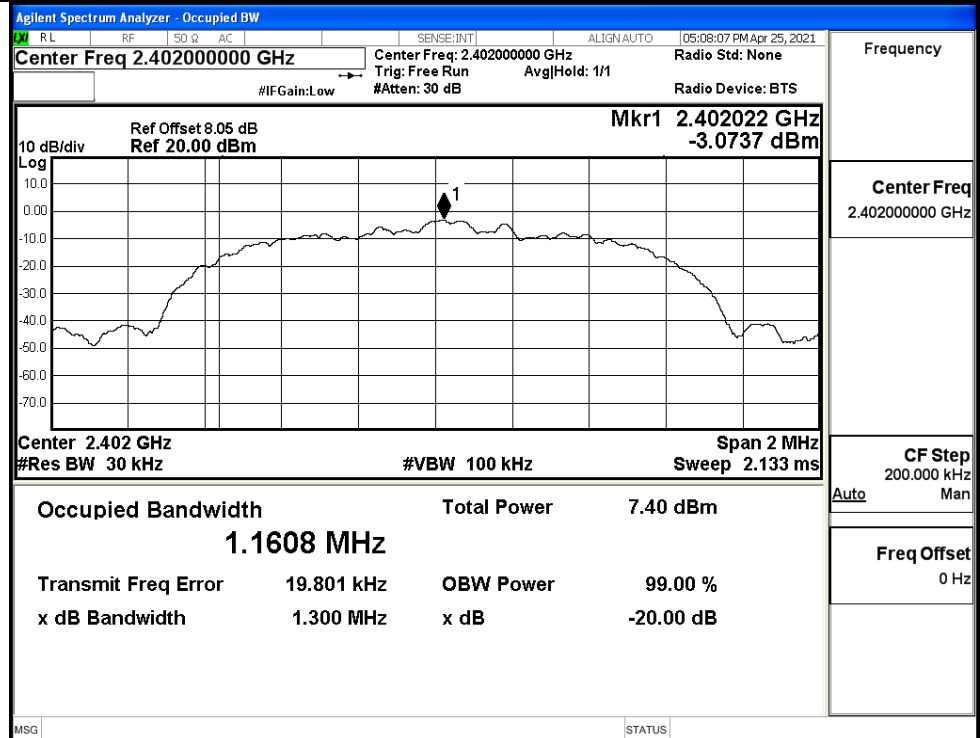
GFSK/HCH



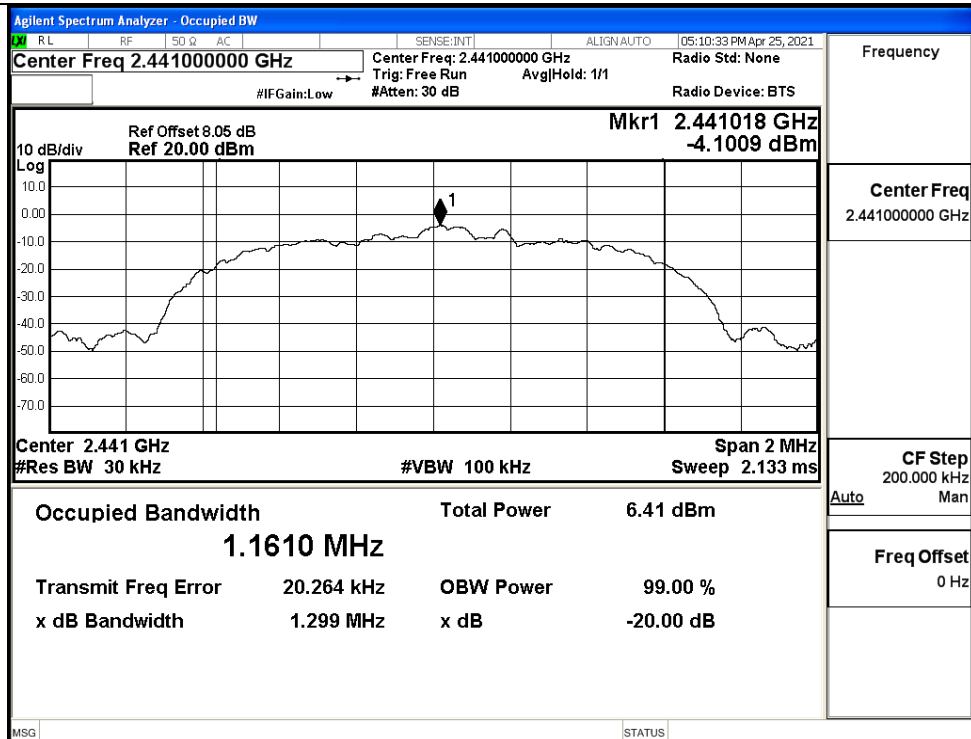
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

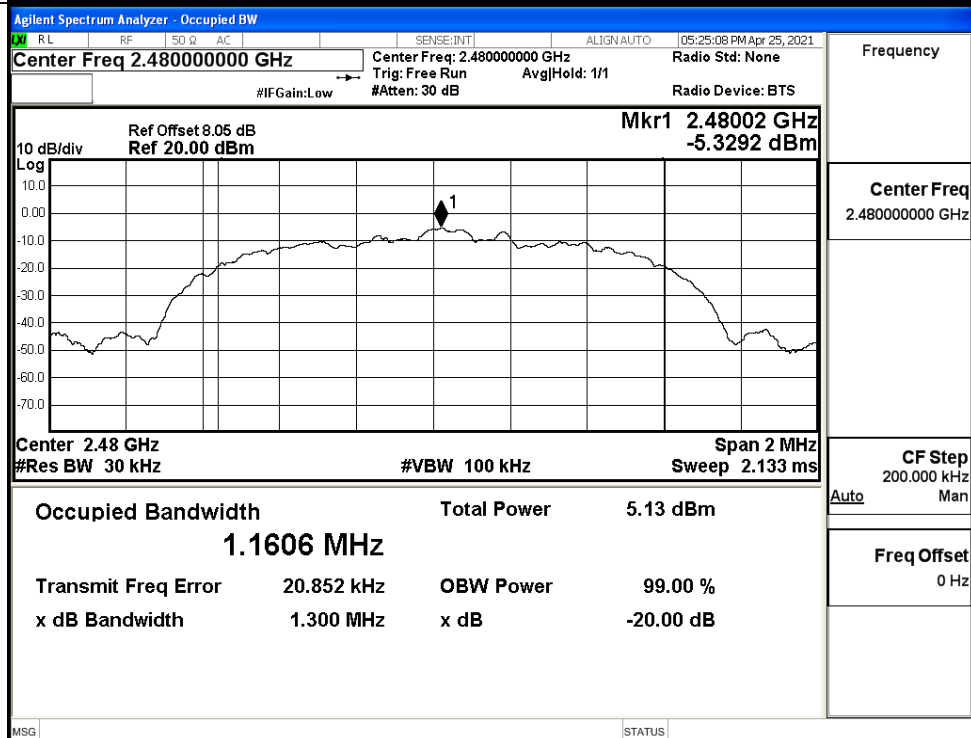
8DPSK/LCH



8DPSK/MCH



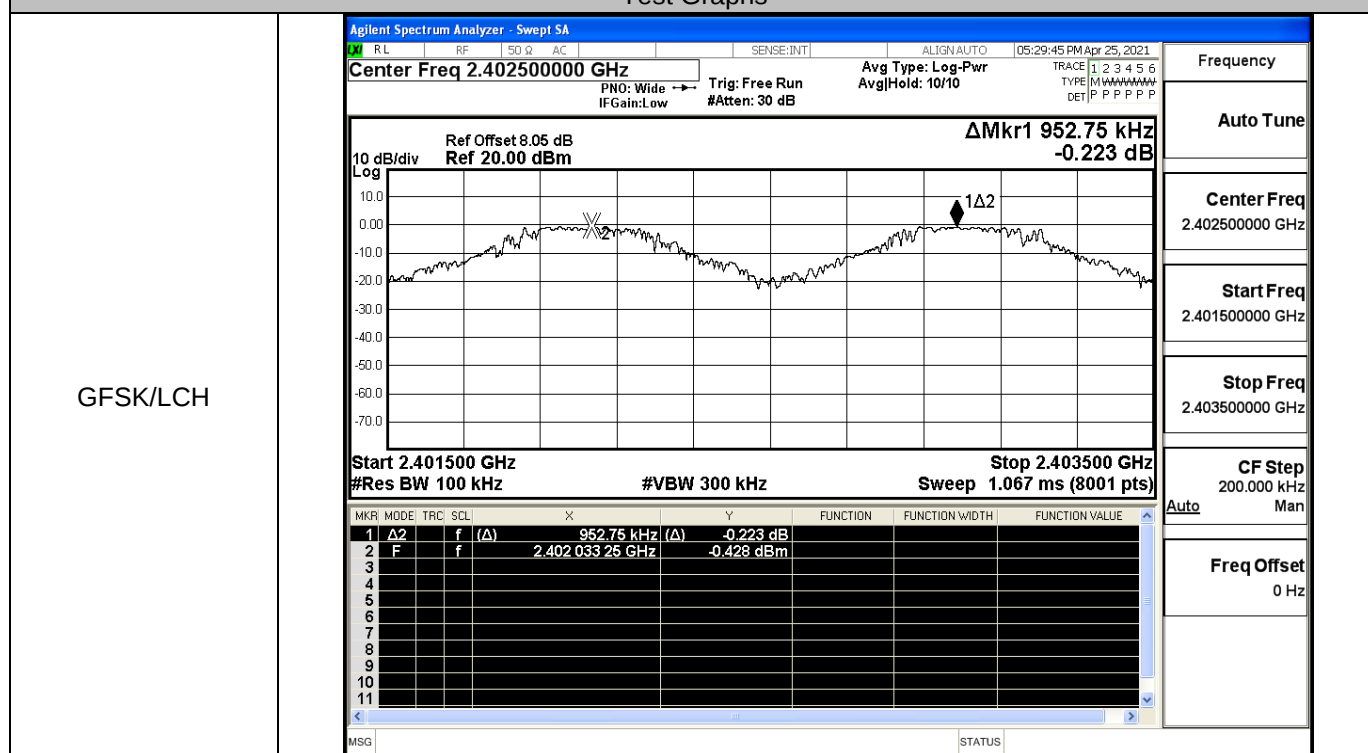
8DPSK/HCH



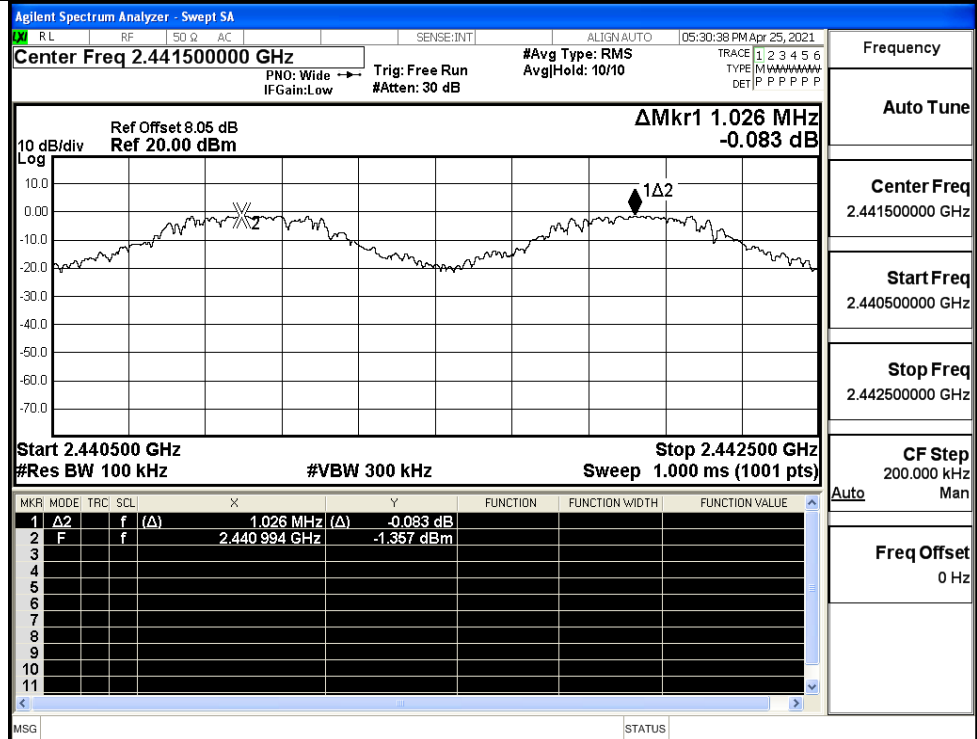
A.3 Carrier Frequency Separation

Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.953	0.634	PASS
	MCH	1.026	0.634	PASS
	HCH	1.000	0.634	PASS
$\pi/4$ DQPSK	LCH	1.134	0.876	PASS
	MCH	1.036	0.876	PASS
	HCH	1.030	0.876	PASS
8DPSK	LCH	1.188	0.867	PASS
	MCH	1.296	0.867	PASS
	HCH	1.046	0.867	PASS

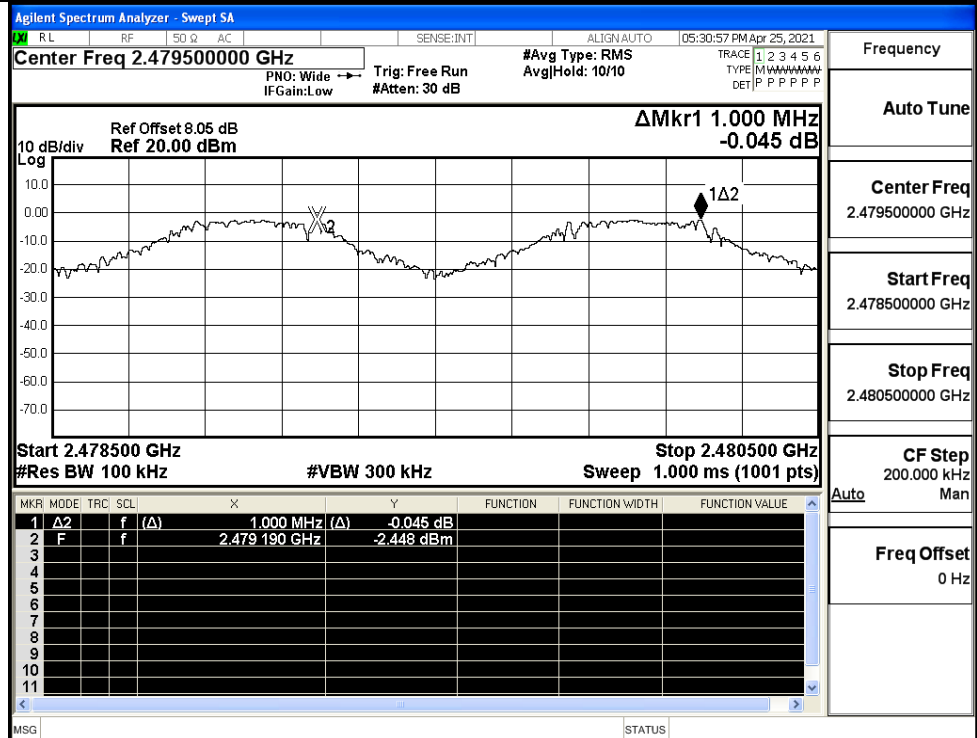
Test Graphs

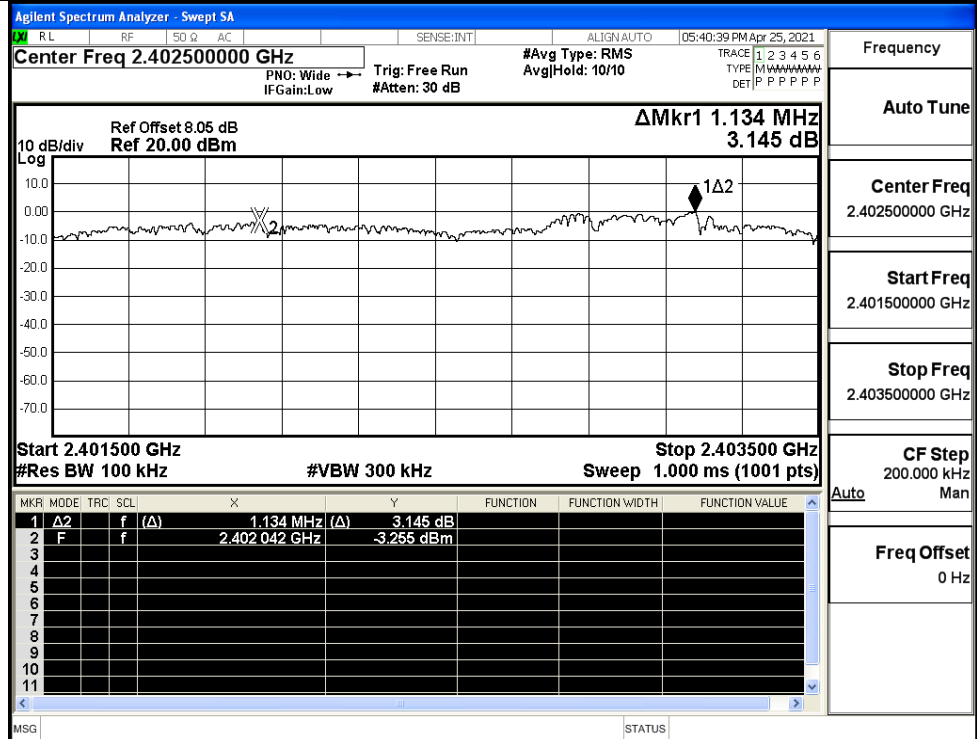
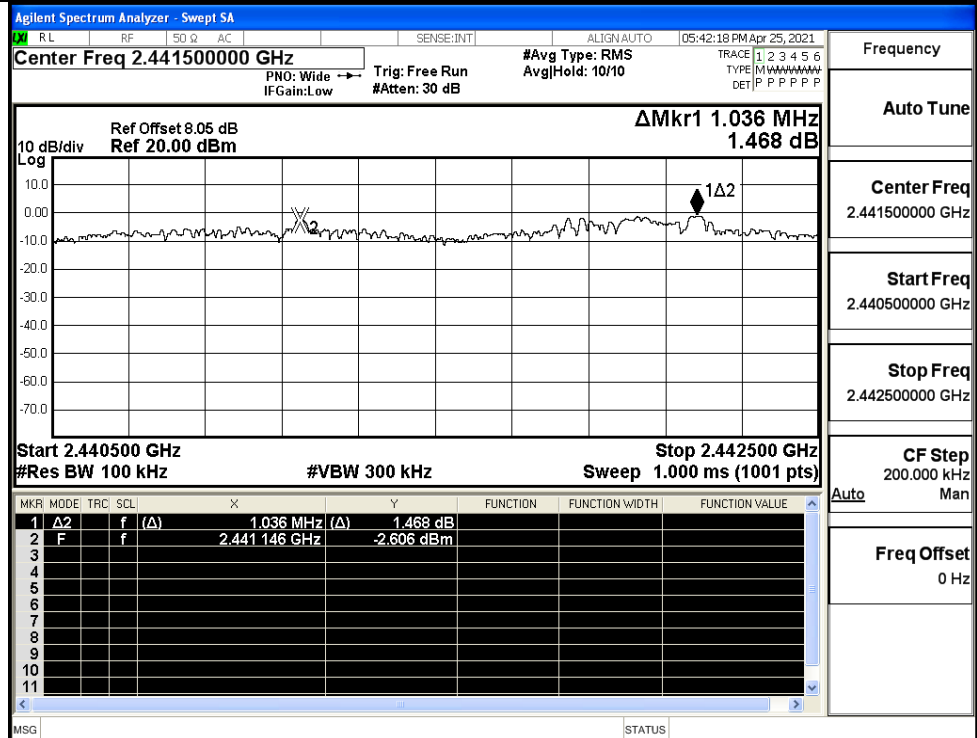


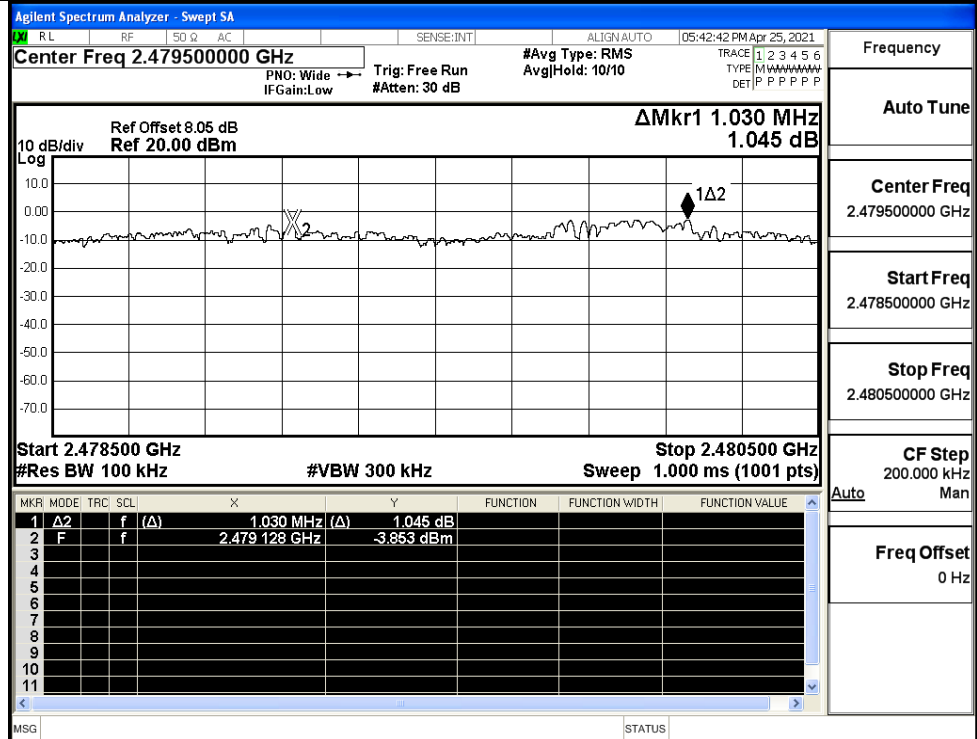
GFSK/MCH



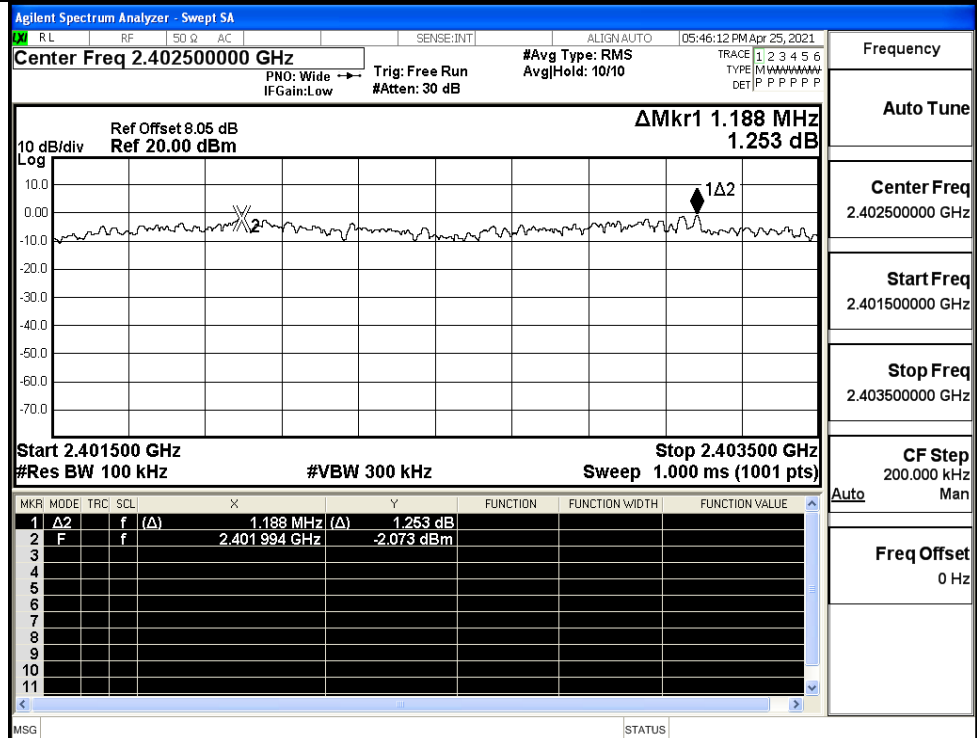
GFSK/HCH



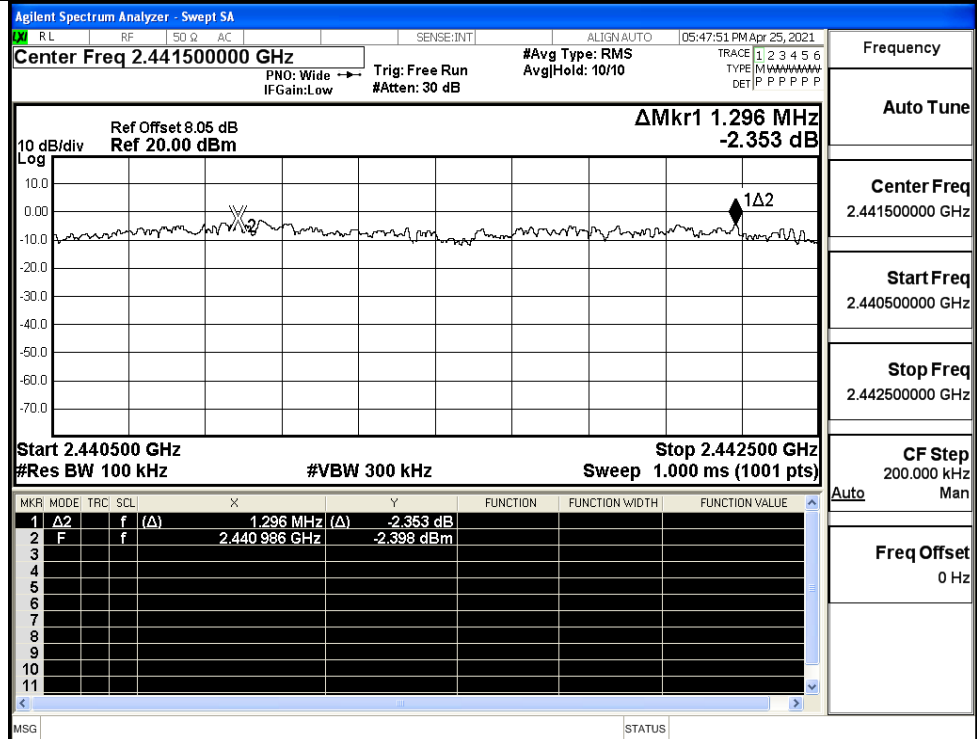
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

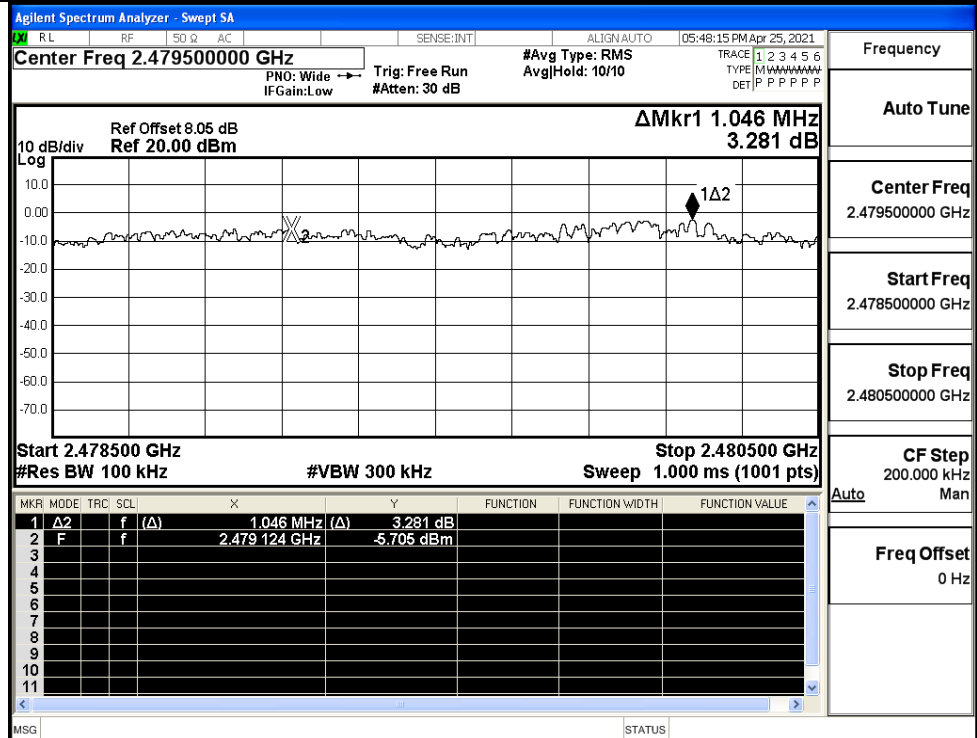
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

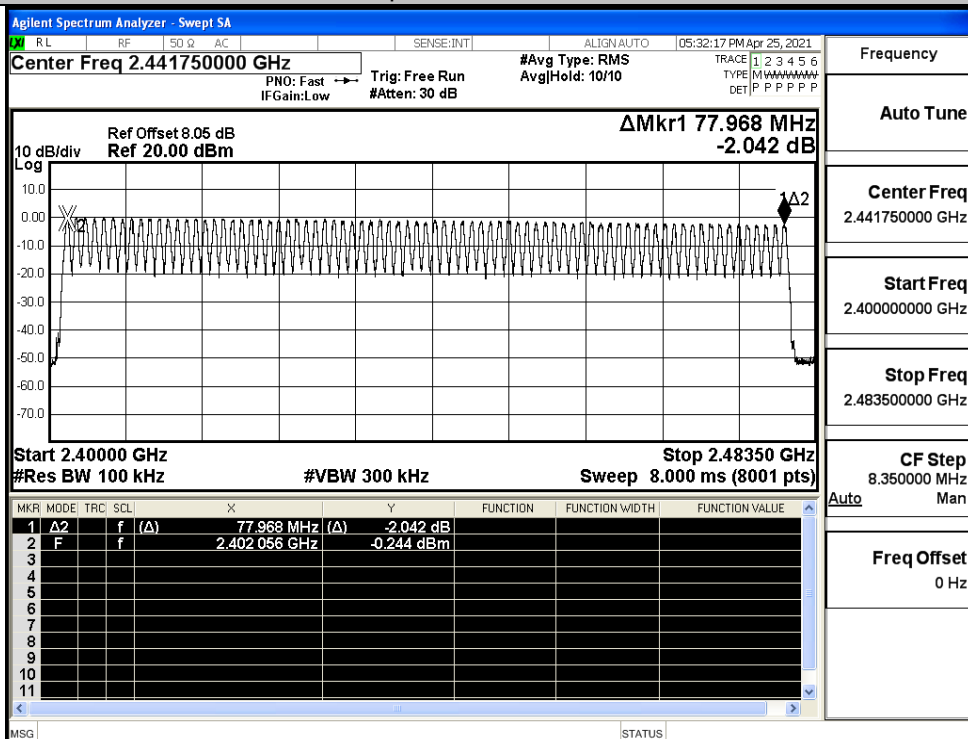
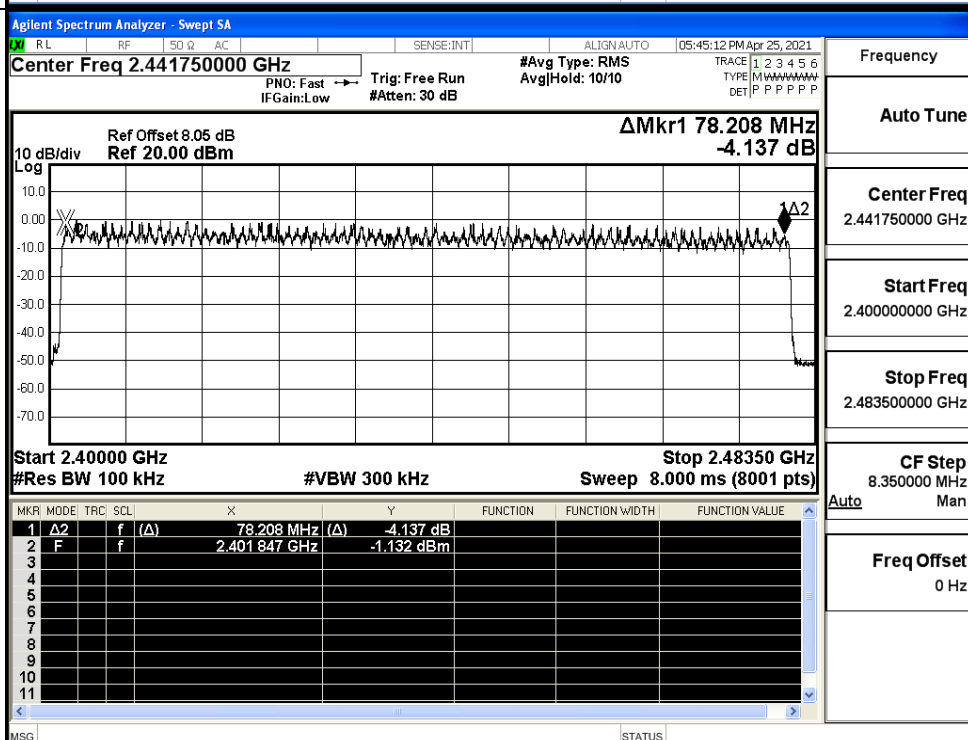


A.4 Hopping Channel Number

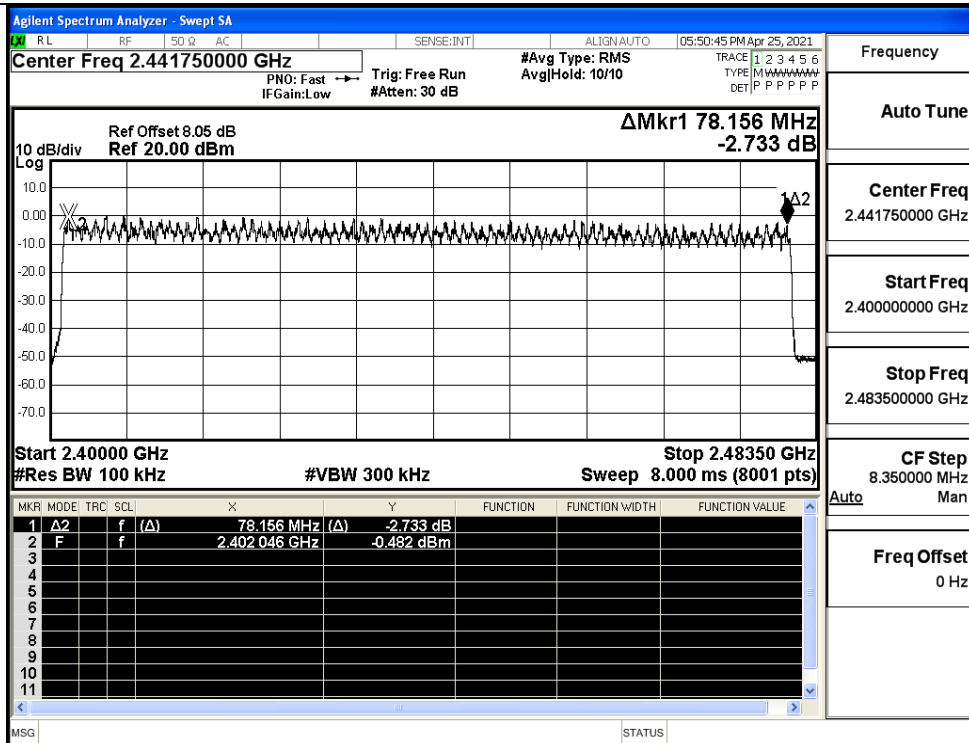
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	≥ 15	PASS
$\pi/4$ DQPSK	Hop	79	≥ 15	PASS
8DPSK	Hop	79	≥ 15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

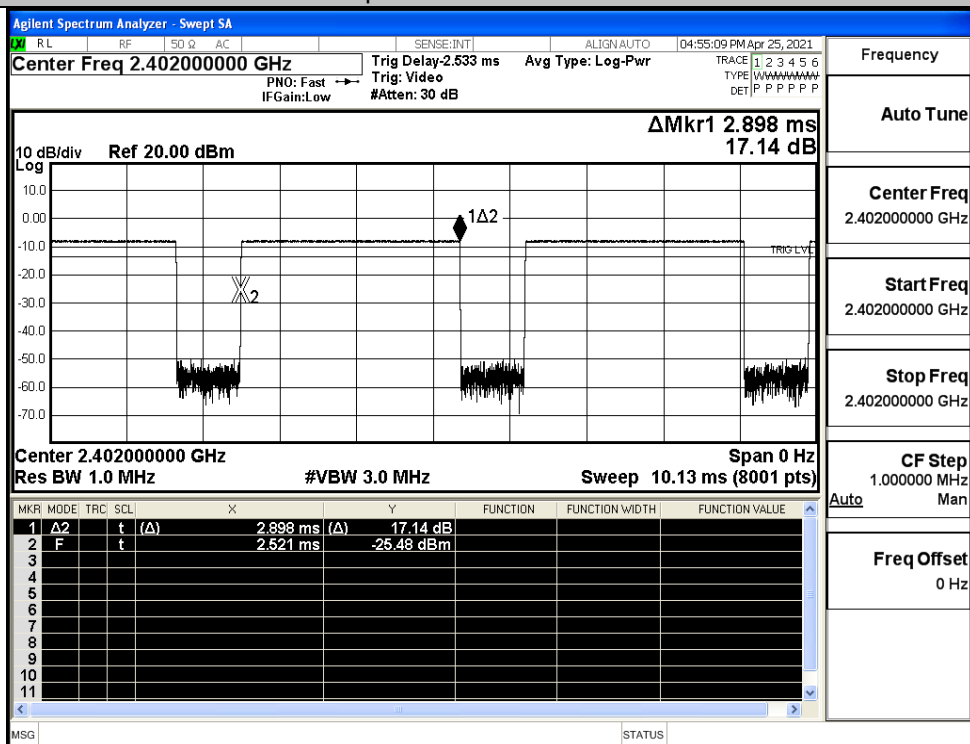


A.5 Dwell Time

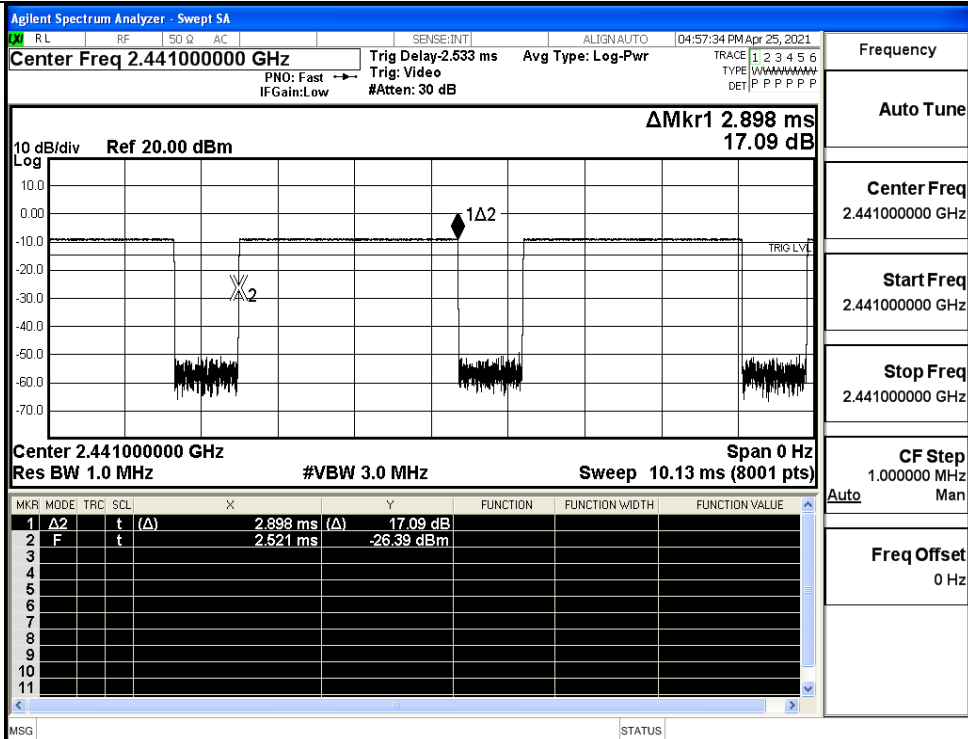
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.9	106.7	0.309	0.4	PASS
	DH5	MCH	2.9	106.7	0.309	0.4	PASS
	DH5	HCH	2.9	106.7	0.309	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.9	106.7	0.309	0.4	PASS
	2DH5	MCH	2.9	106.7	0.309	0.4	PASS
	2DH5	HCH	2.9	106.7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

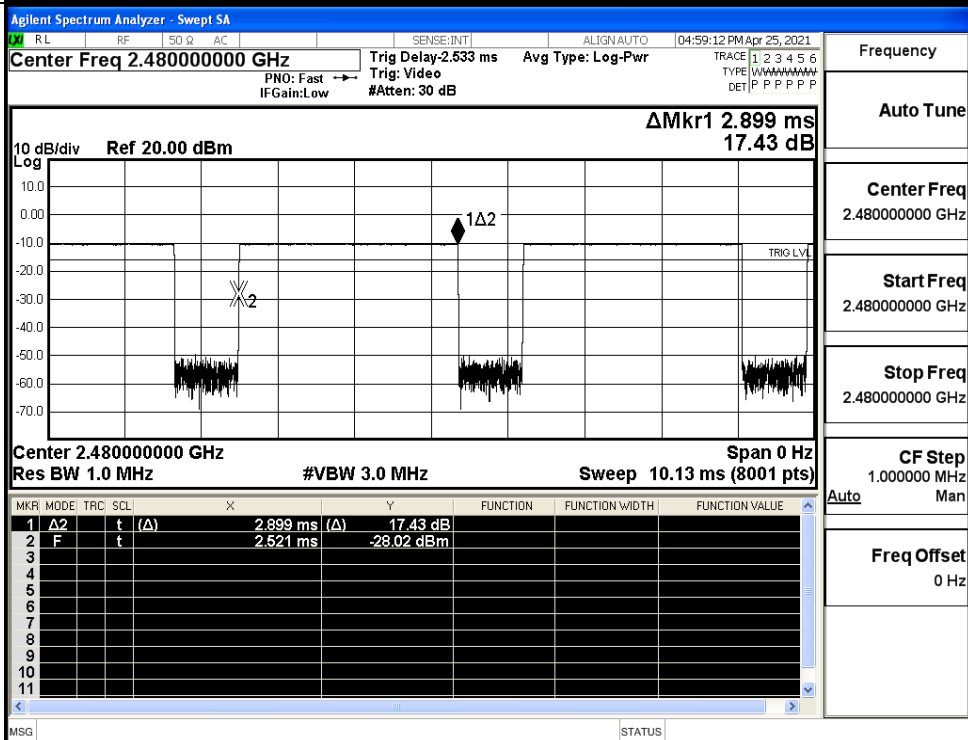
GFSK_DH5/LCH



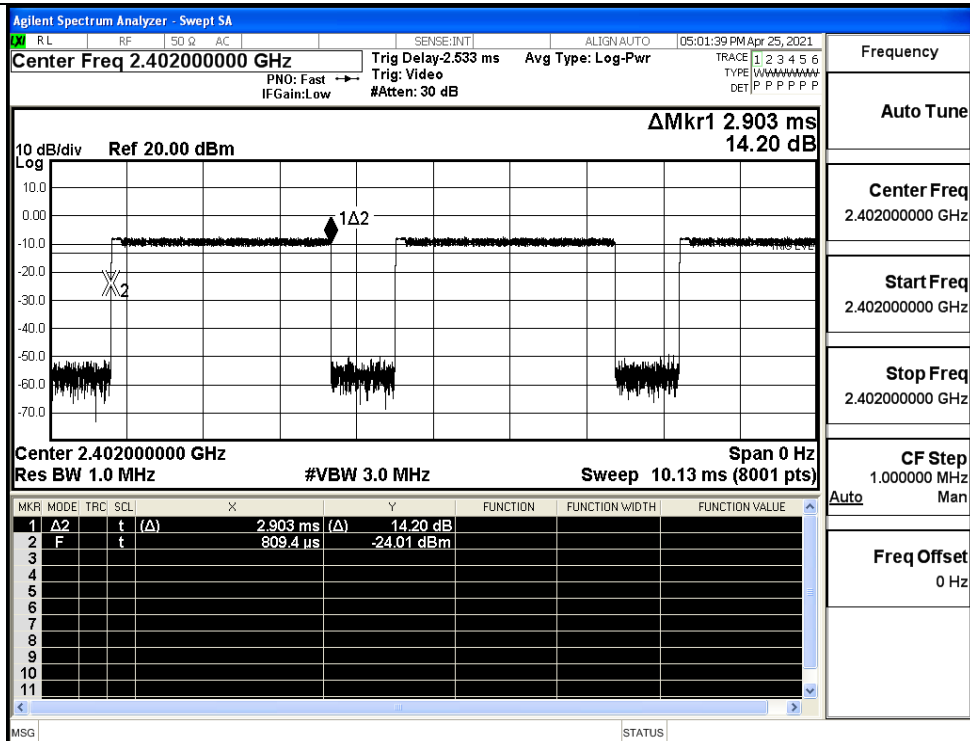
GFSK_DH5/MCH



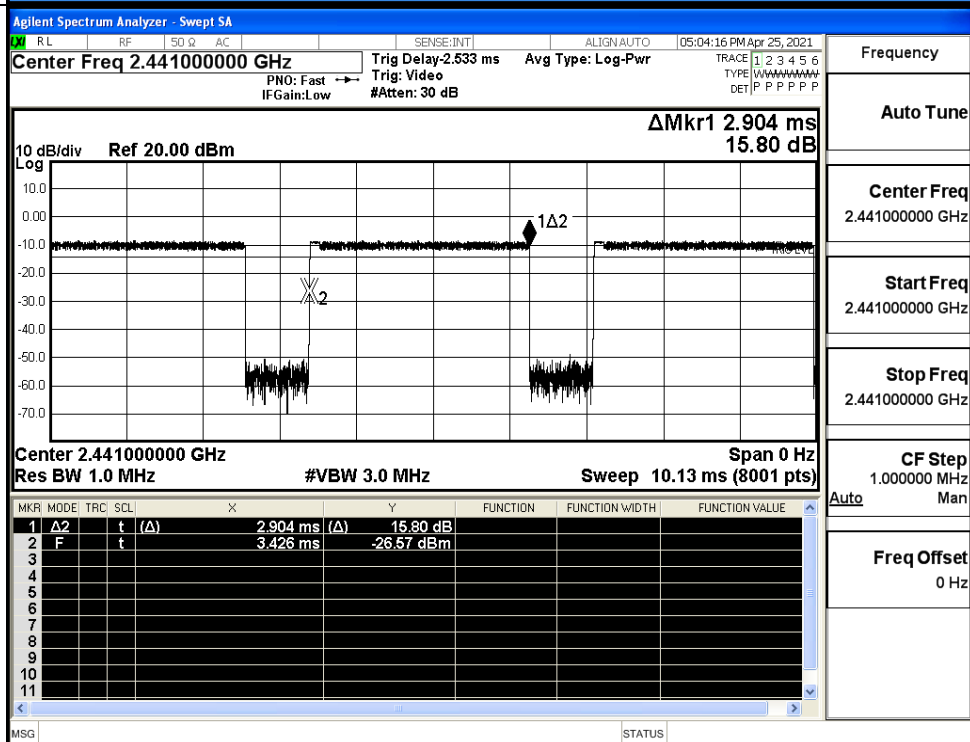
GFSK_DH5/HCH



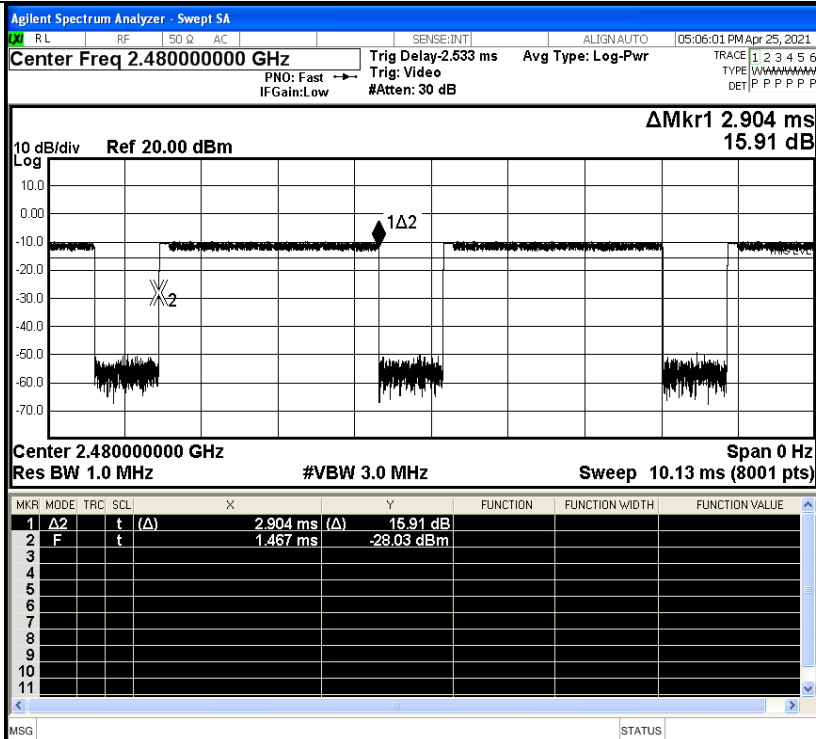
$\pi/4$ DQPSK
_2DH5/LCH



$\pi/4$ DQPSK
_2DH5/MCH



$\pi/4$ DQPSK
_2DH5/HCH

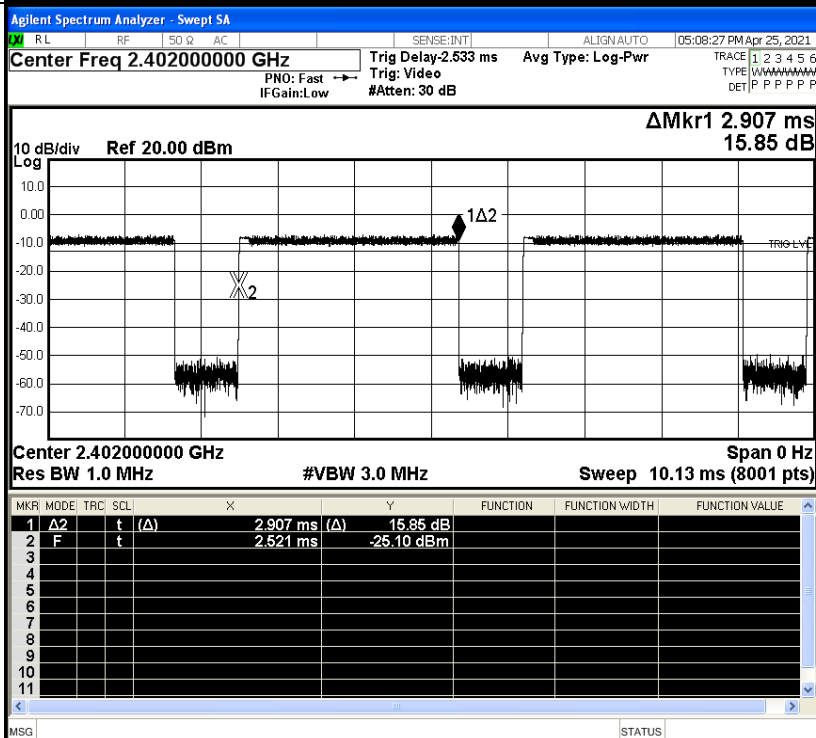


Frequency

Auto Tune

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

8DPSK _3DH5/LCH

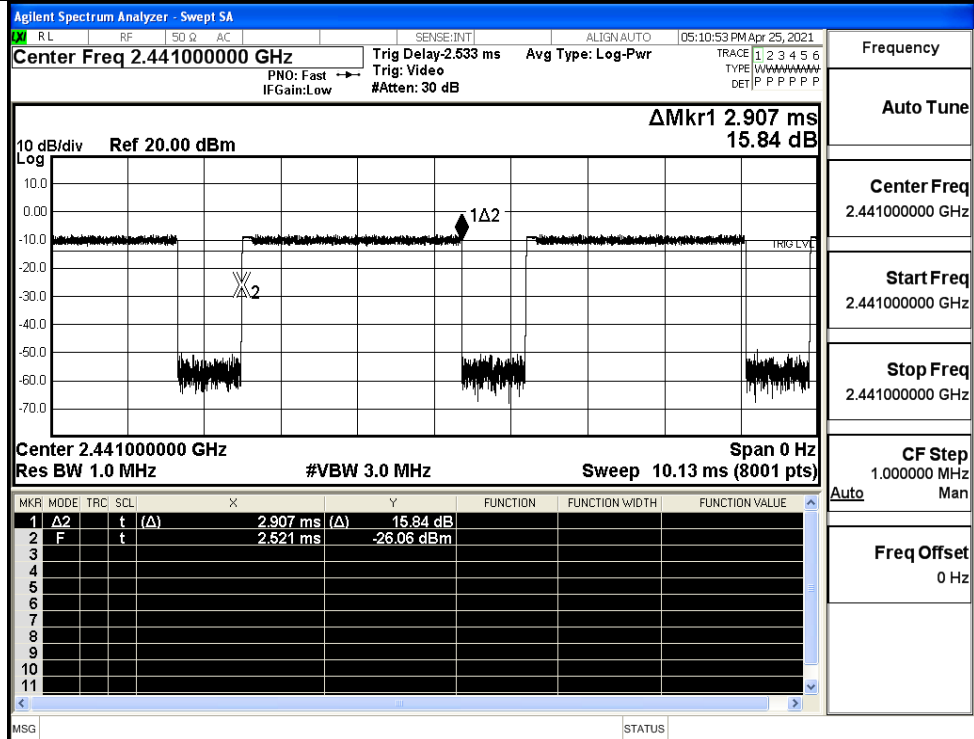


Frequency

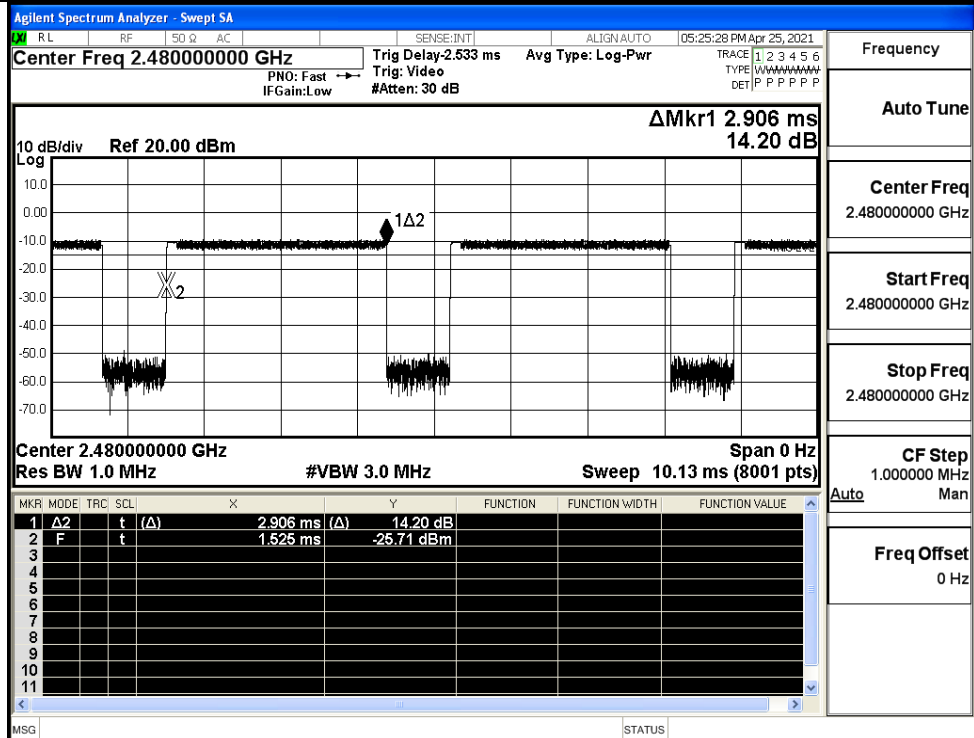
Auto Tune

Center Freq
2.402000000 GHzStart Freq
2.402000000 GHzStop Freq
2.402000000 GHzCF Step
1.000000 MHz
Auto ManFreq Offset
0 Hz

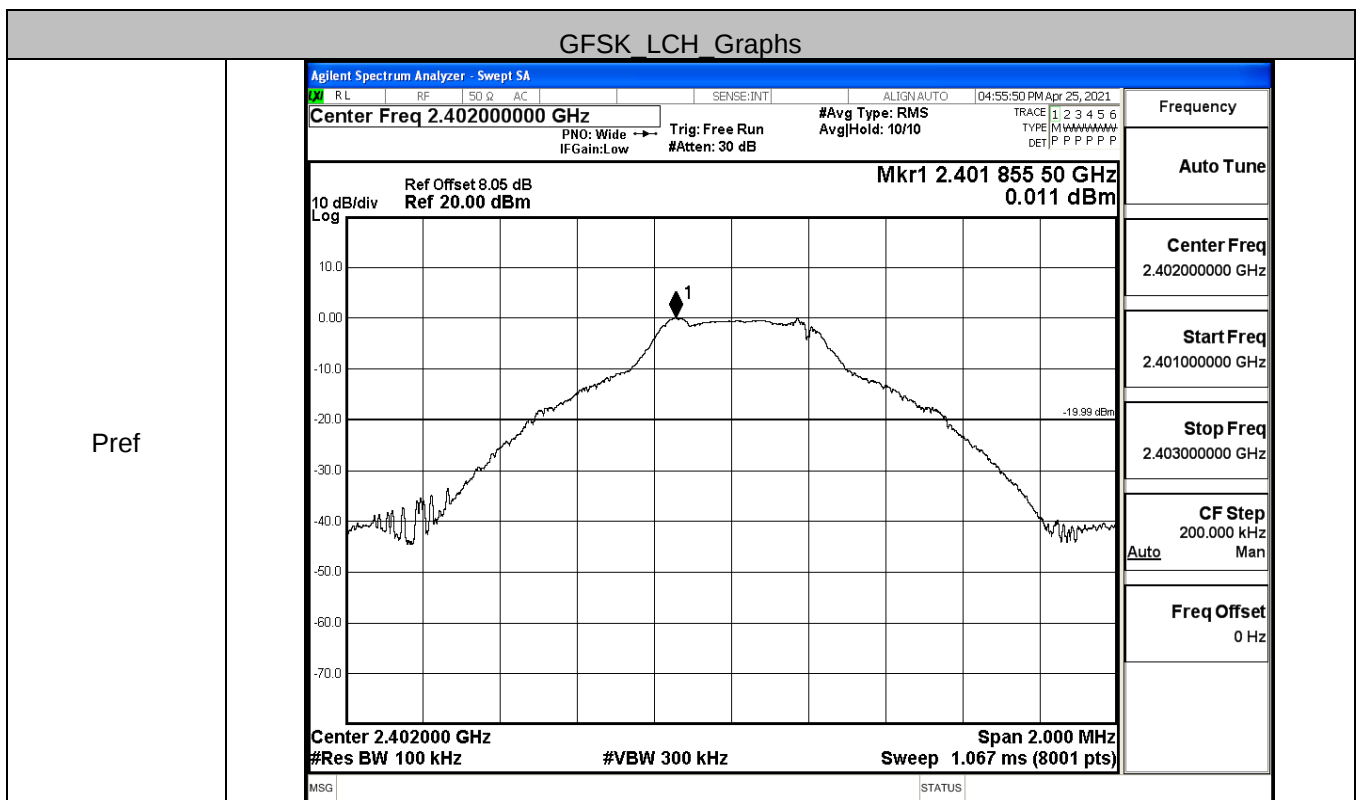
8DPSK_3DH5/MCH



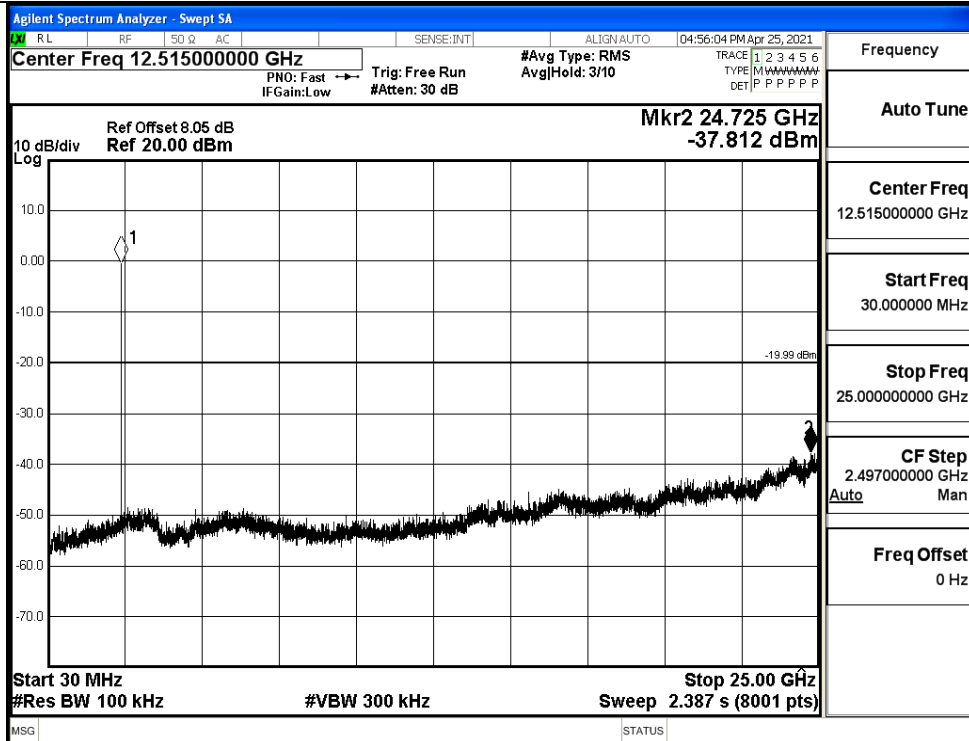
8DPSK_3DH5/HCH



Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.011	-37.812	-19.989	PASS
	MCH	-0.938	-37.264	-20.938	PASS
	HCH	-2.248	-37.944	-22.248	PASS
$\pi/4$ DQPSK	LCH	-0.682	-37.621	-20.682	PASS
	MCH	-1.335	-38.179	-21.335	PASS
	HCH	-2.338	-38.057	-22.338	PASS
8DPSK	LCH	-0.085	-37.965	-20.085	PASS
	MCH	-1.052	-38.387	-21.052	PASS
	HCH	-2.86	-37.995	-22.860	PASS

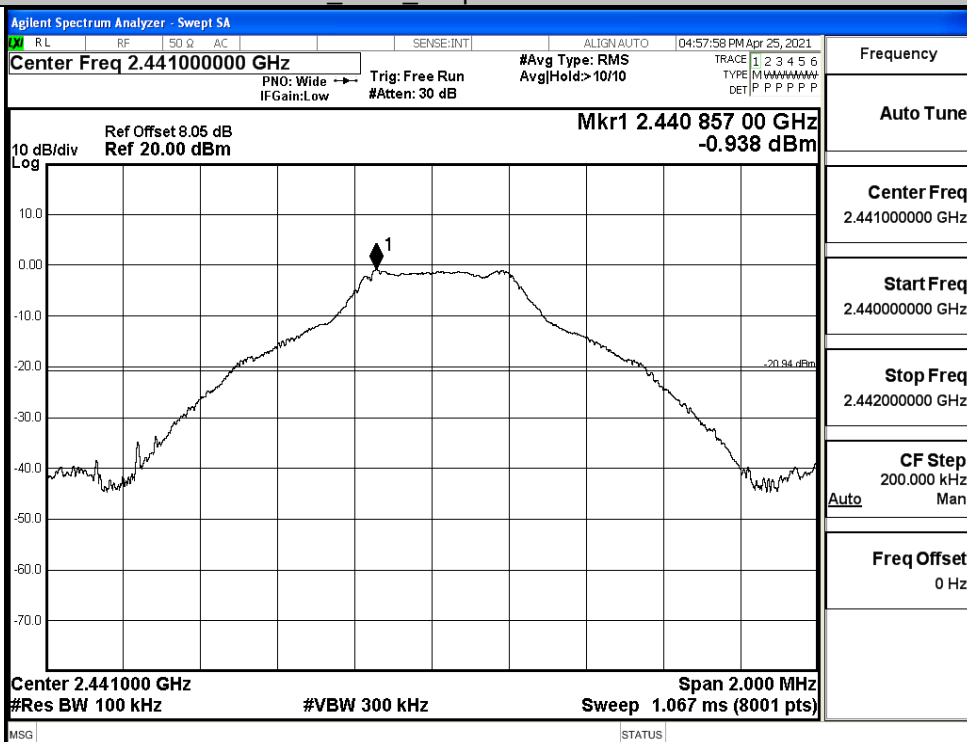


Puw

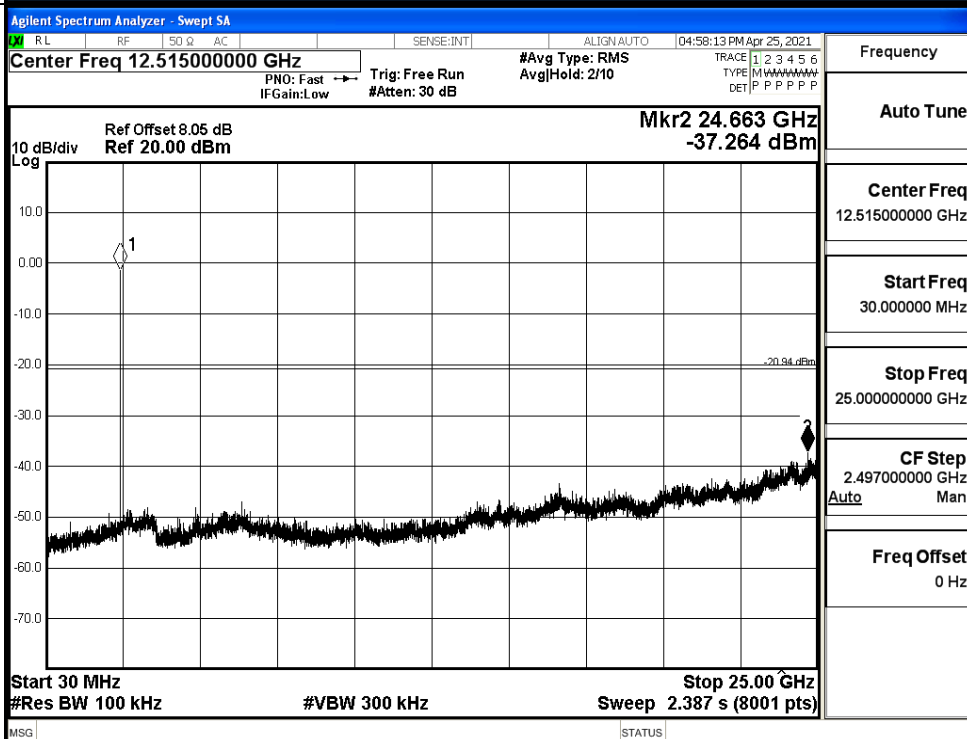


GFSK_MCH_Graphs

Pref

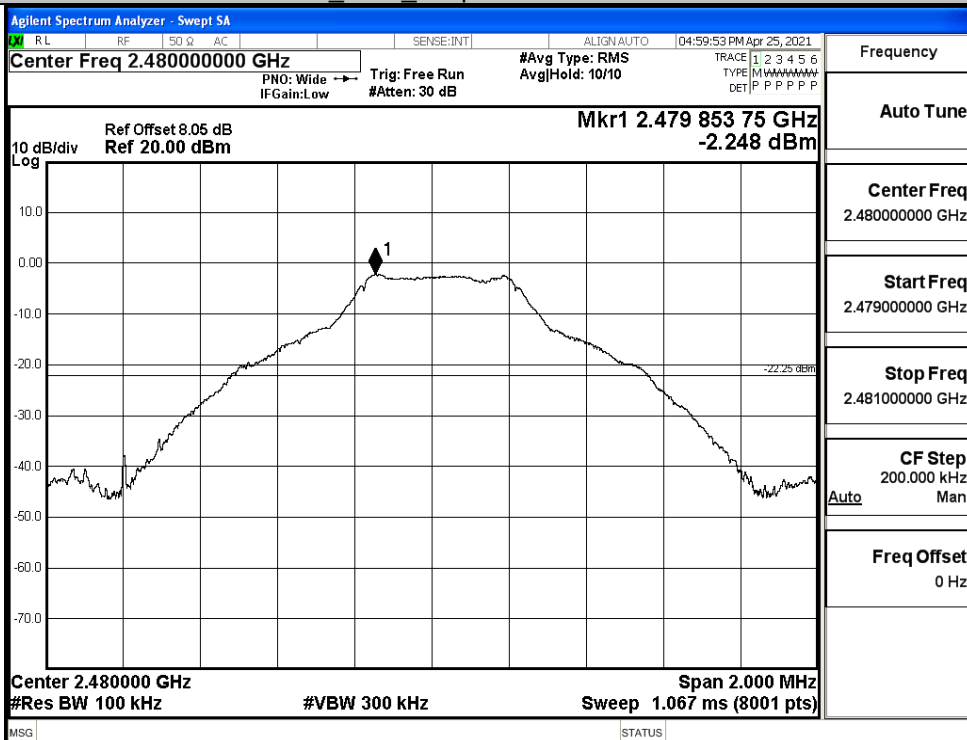


Puw

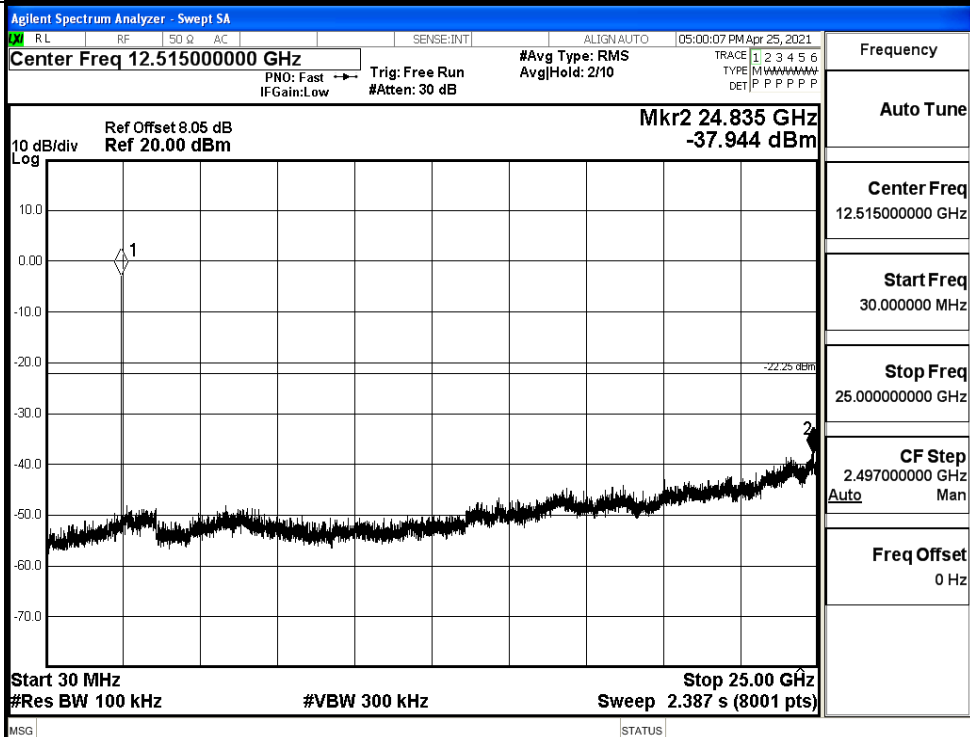


GFSK HCH_Graphs

Pref

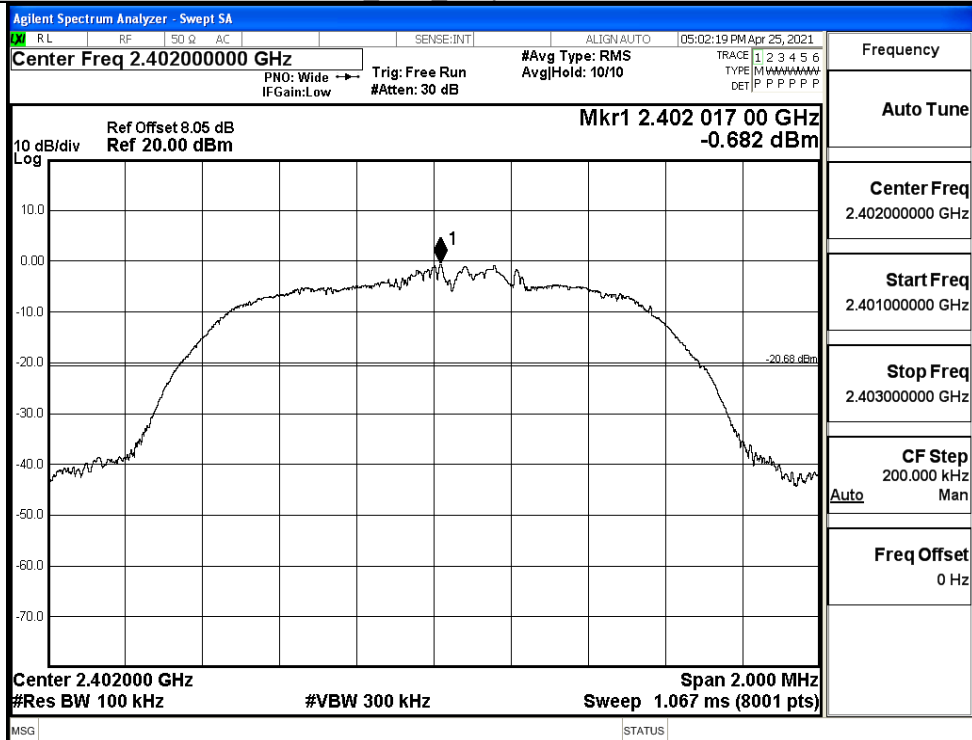


Puw

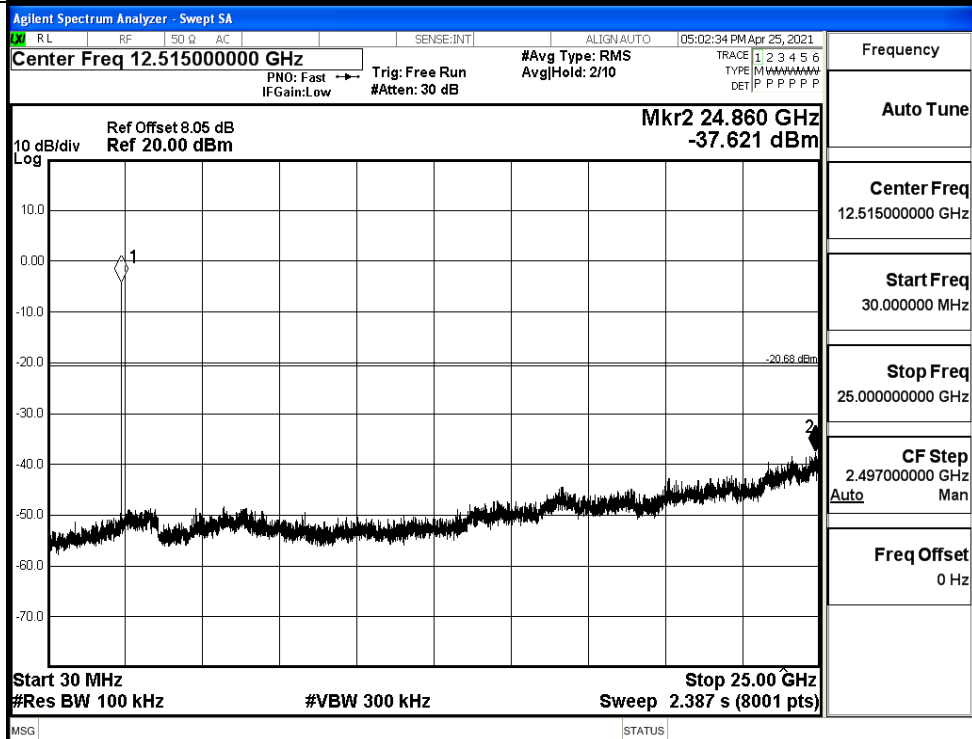


$\pi/4$ DQPSK_LCH_Graphs

Pref

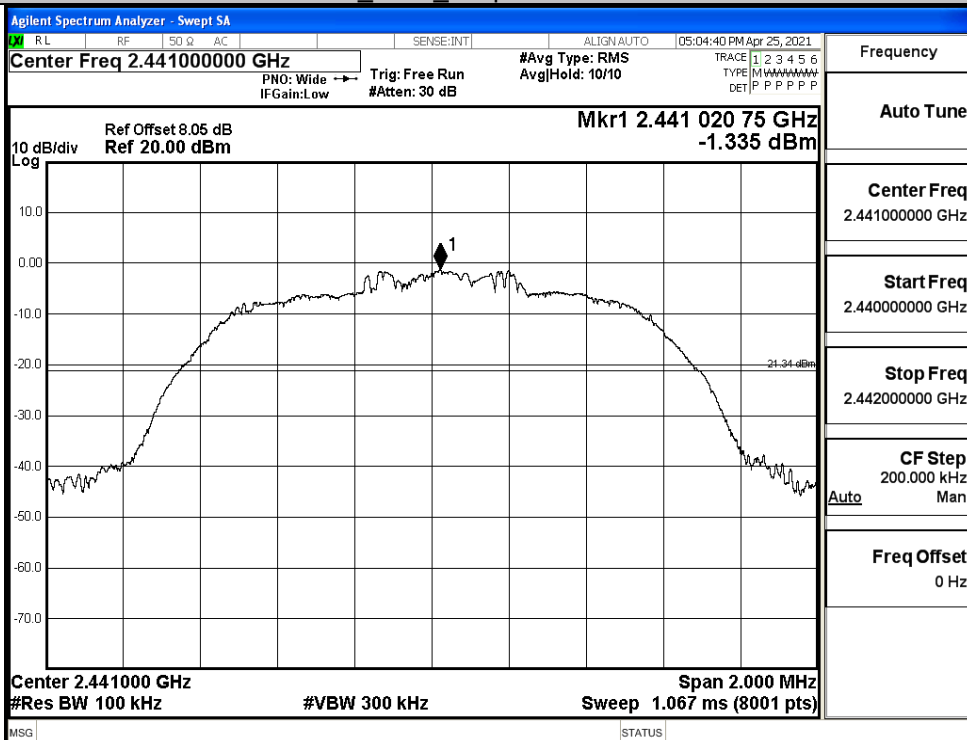


Puw

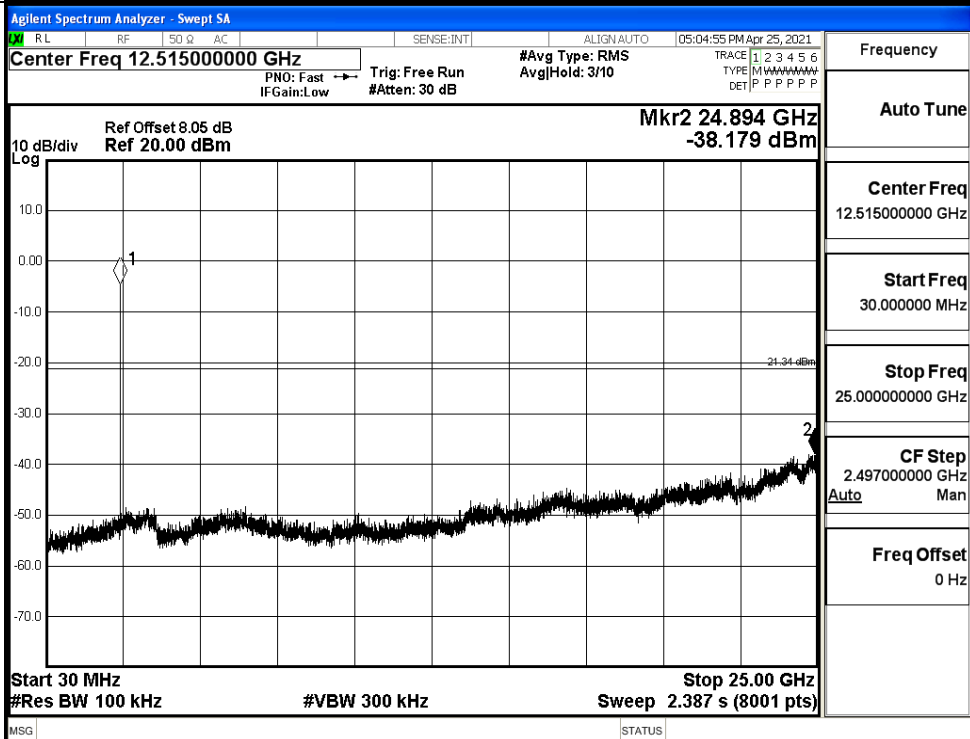


π /4DQPSK_MCH_Graphs

Pref

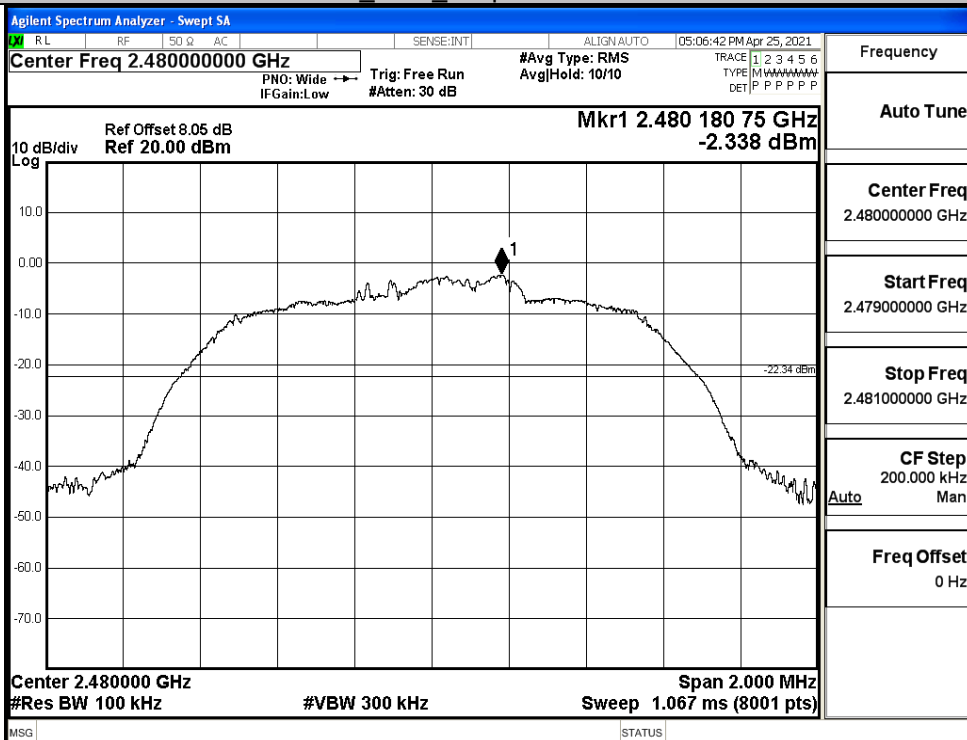


Puw

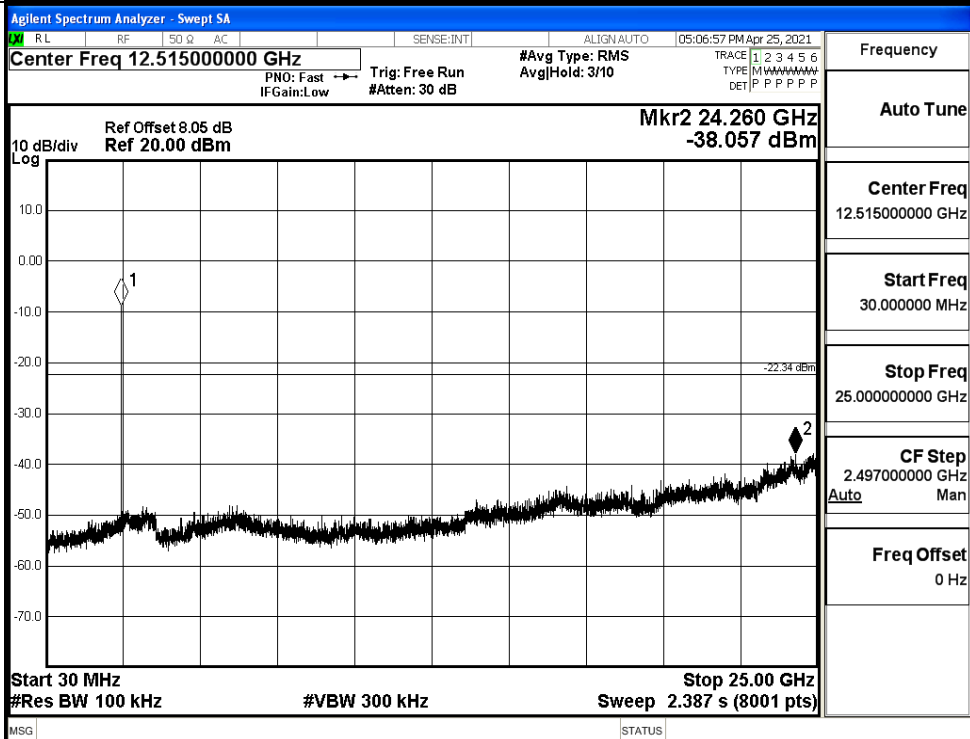


$\pi/4$ DQPSK_HCH_Graphs

Pref

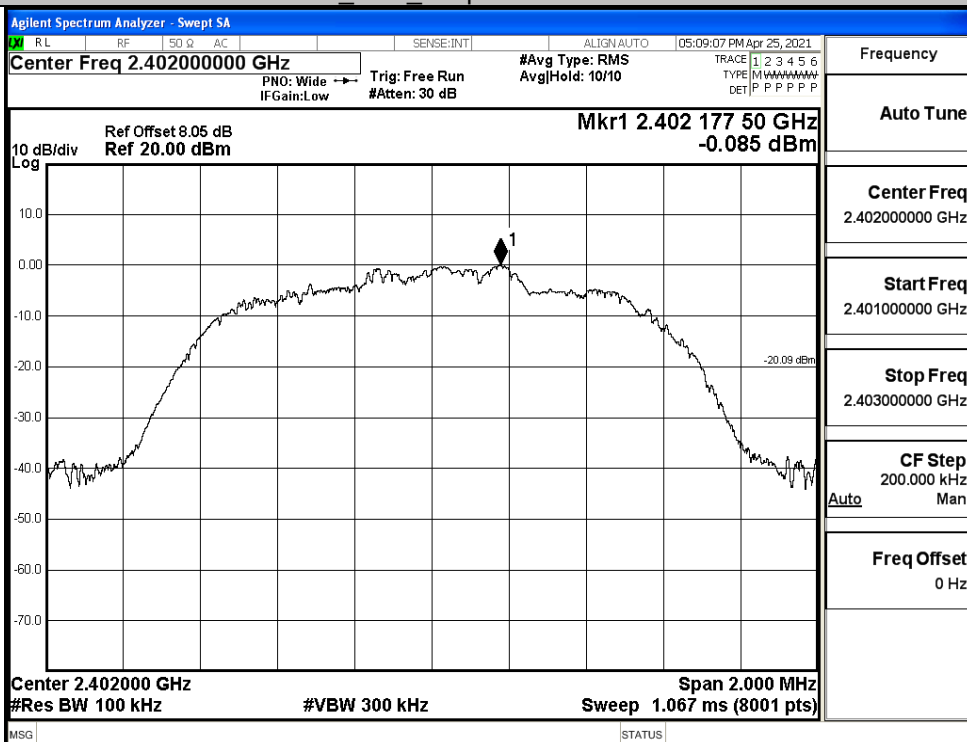


Puw

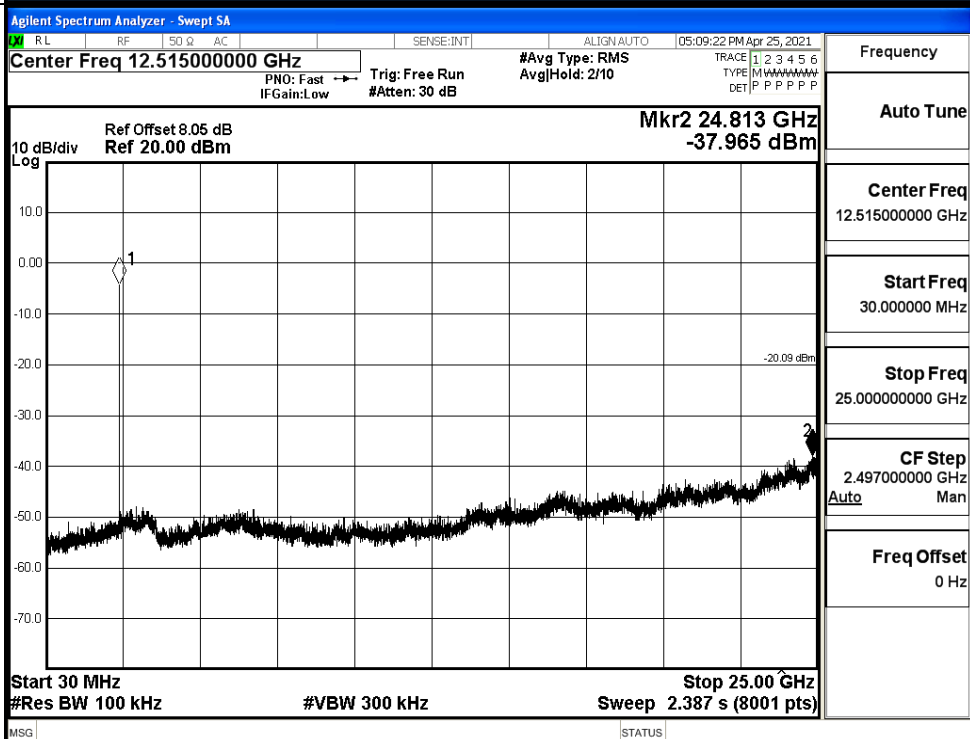


8DPSK_LCH_Graphs

Pref

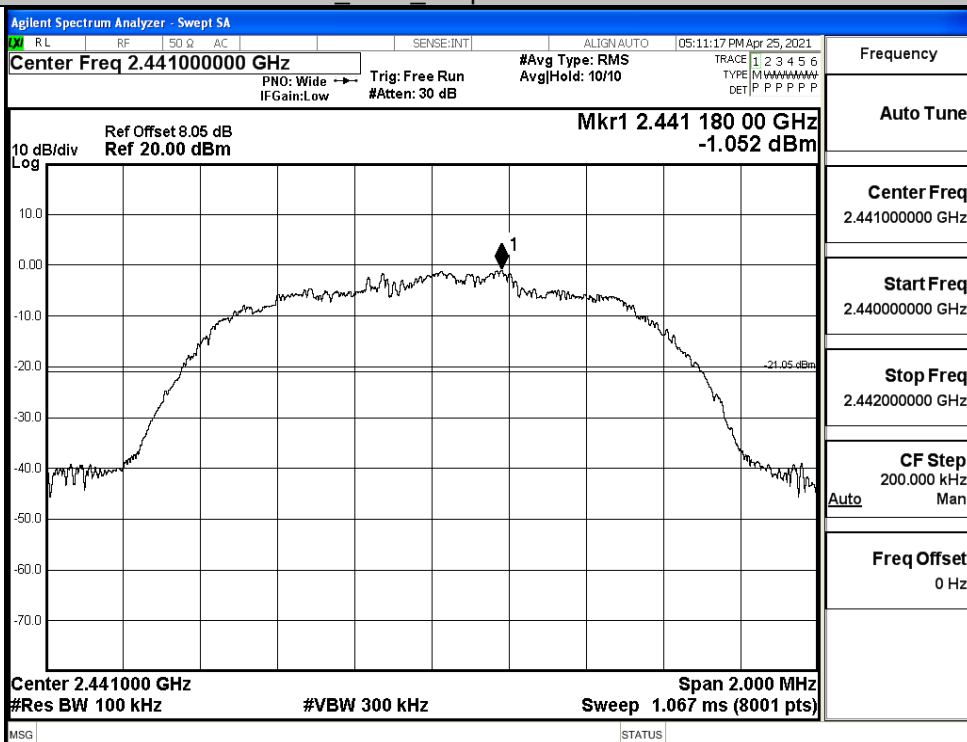


Puw

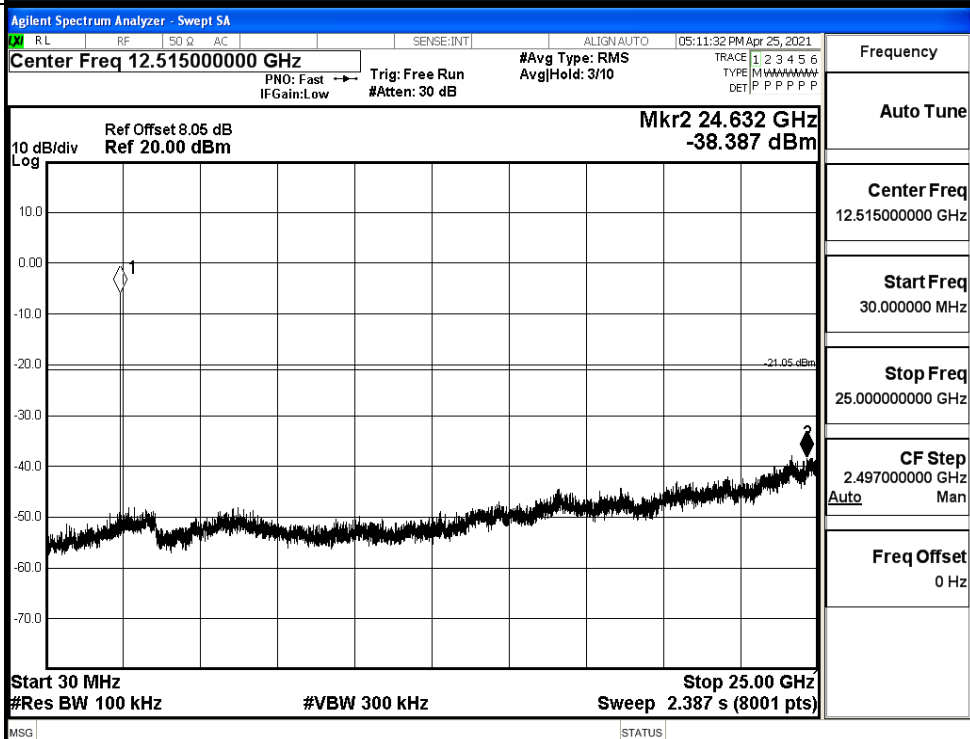


8DPSK_MCH_Graphs

Pref

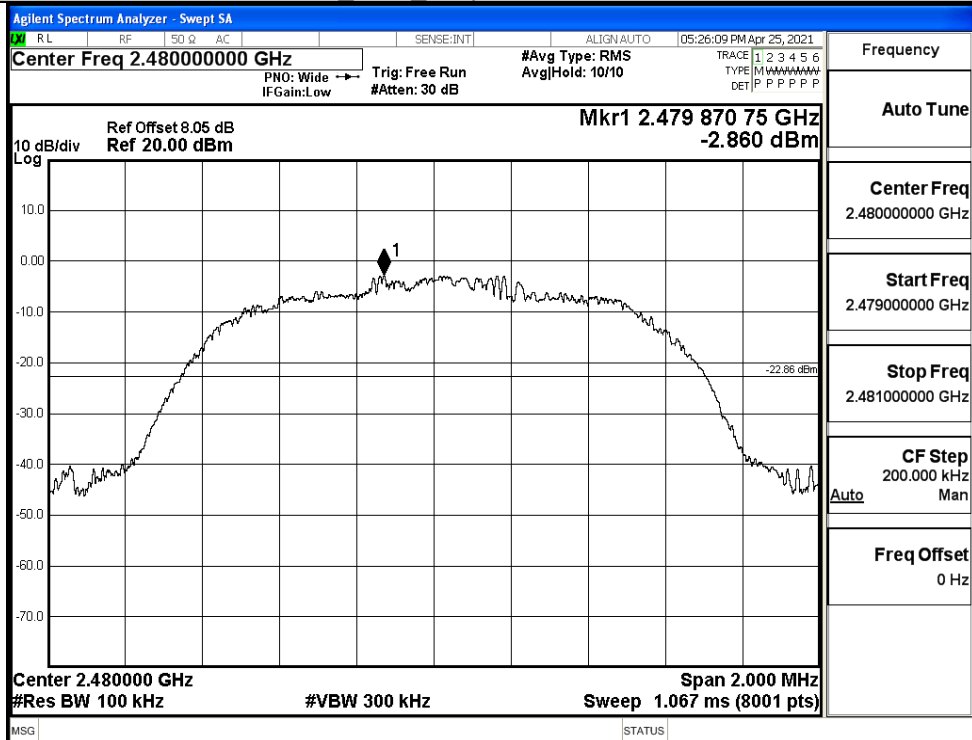


Puw

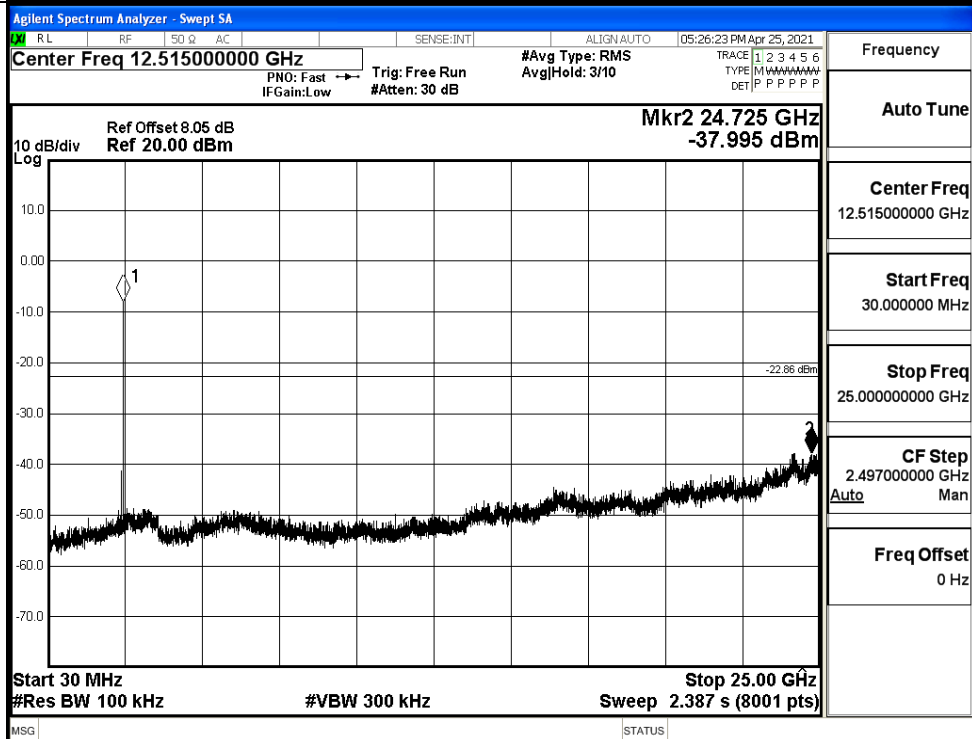


8DPSK_HCH_Graphs

Pref



Puw

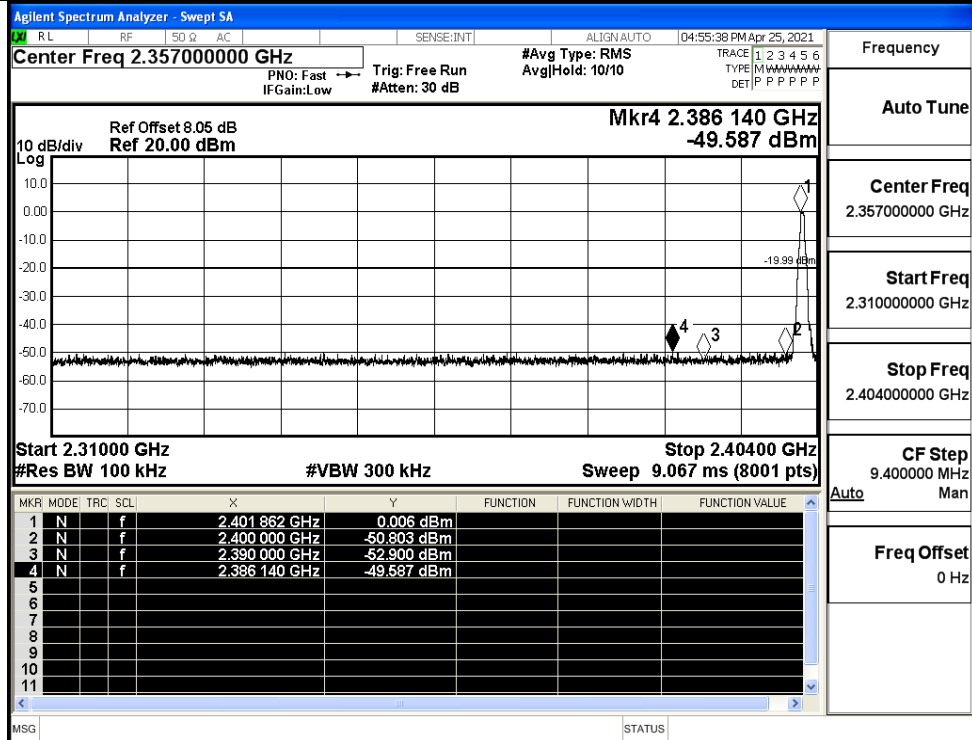


A.7 Band-edge for RF Conducted Emissions

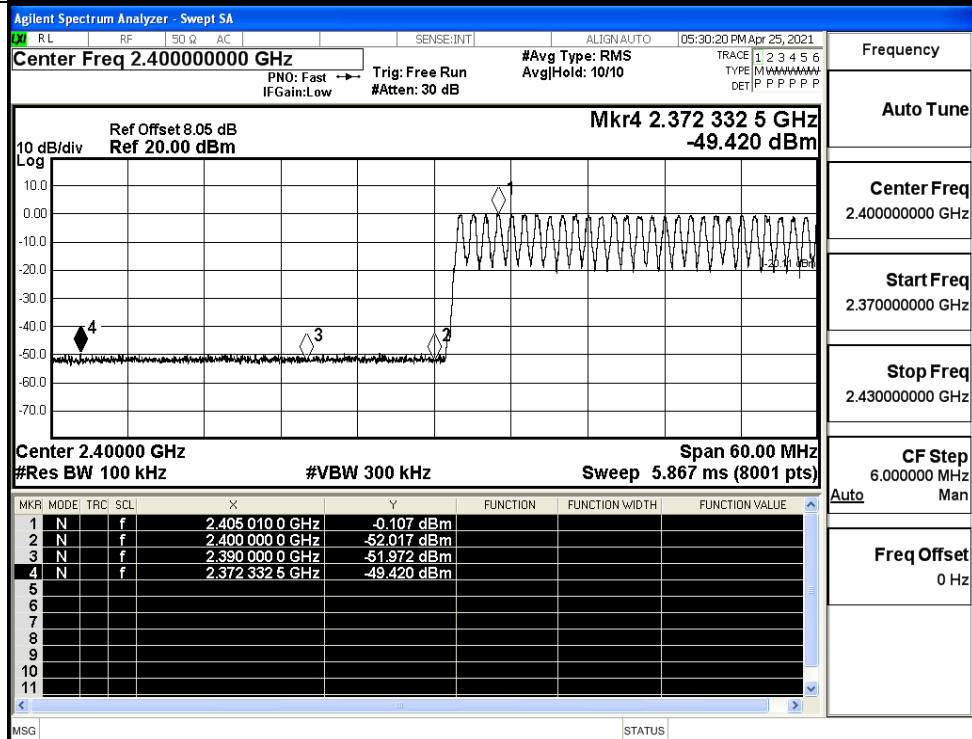
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.006	Off	-49.587	-19.99	PASS
			-0.107	On	-49.420	-20.11	PASS
	HCH	2480	-2.224	Off	-49.184	-22.22	PASS
			-1.514	On	-48.554	-21.51	PASS
$\pi/4$ DQPSK	LCH	2402	-0.118	Off	-49.628	-20.12	PASS
			-0.349	On	-49.119	-20.35	PASS
	HCH	2480	-2.794	Off	-48.377	-22.79	PASS
			-1.547	On	-48.390	-21.55	PASS
8DPSK	LCH	2402	-0.319	Off	-49.805	-20.32	PASS
			-0.179	On	-48.963	-20.18	PASS
	HCH	2480	-2.185	Off	-49.259	-22.19	PASS
			-1.404	On	-48.851	-21.4	PASS

Test Graphs

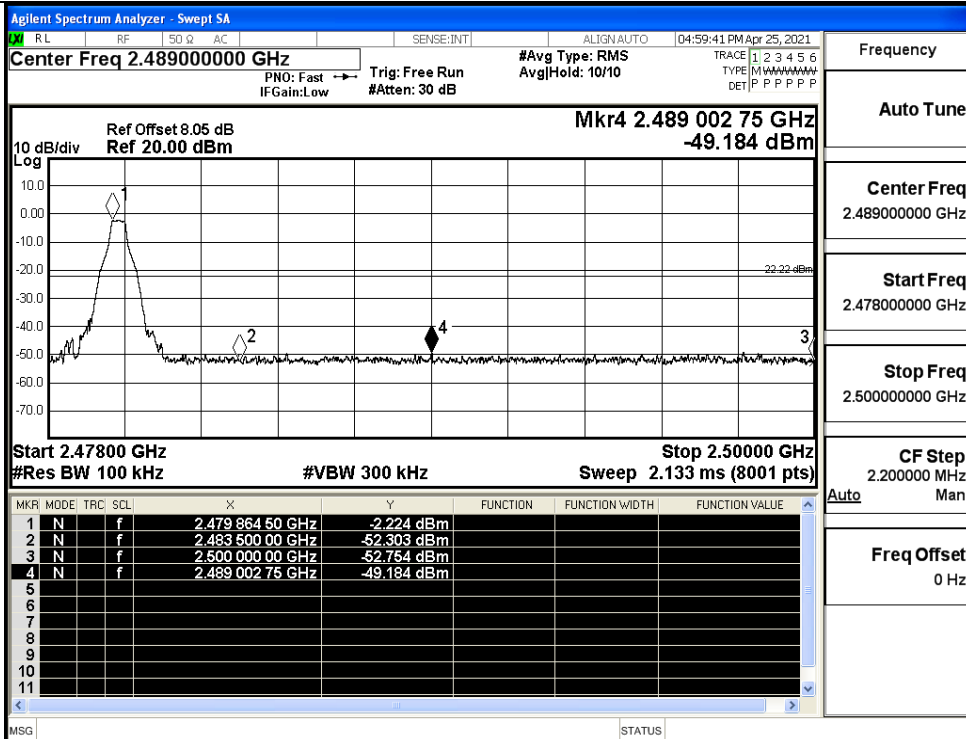
GFSK/LCH/No Hop



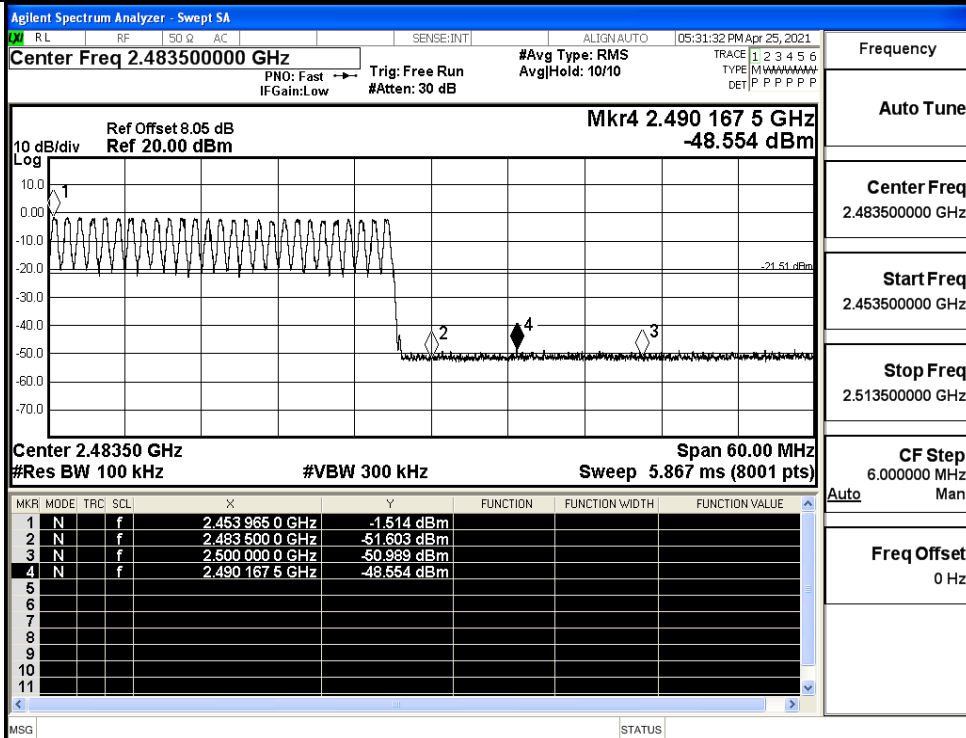
GFSK/LCH/Hop



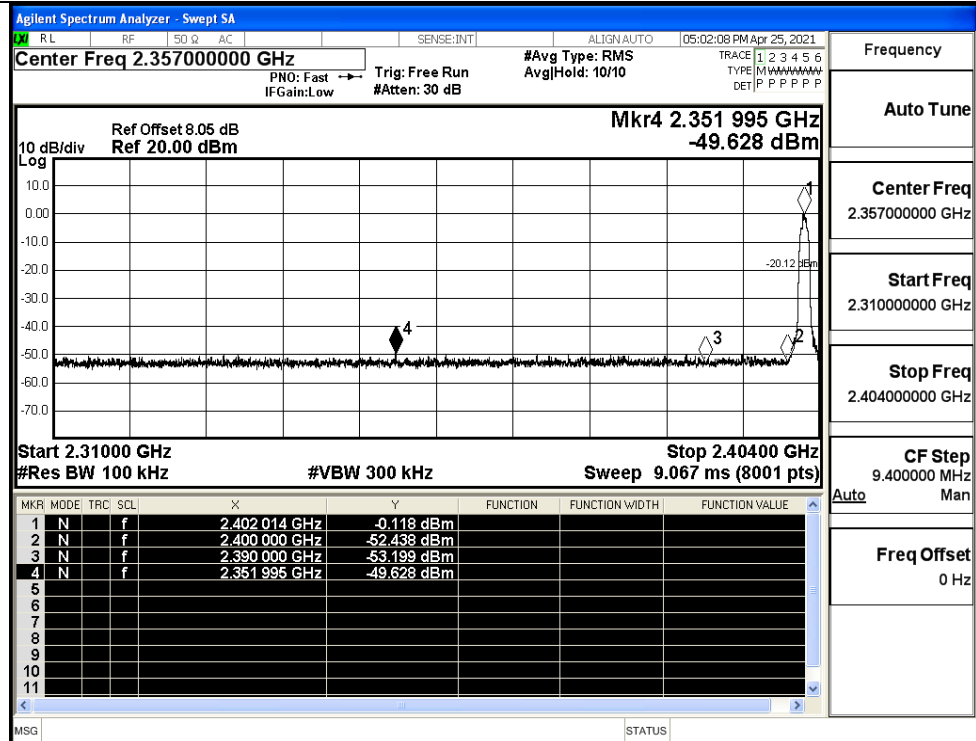
GFSK/HCH/No Hop



GFSK/HCH/Hop



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

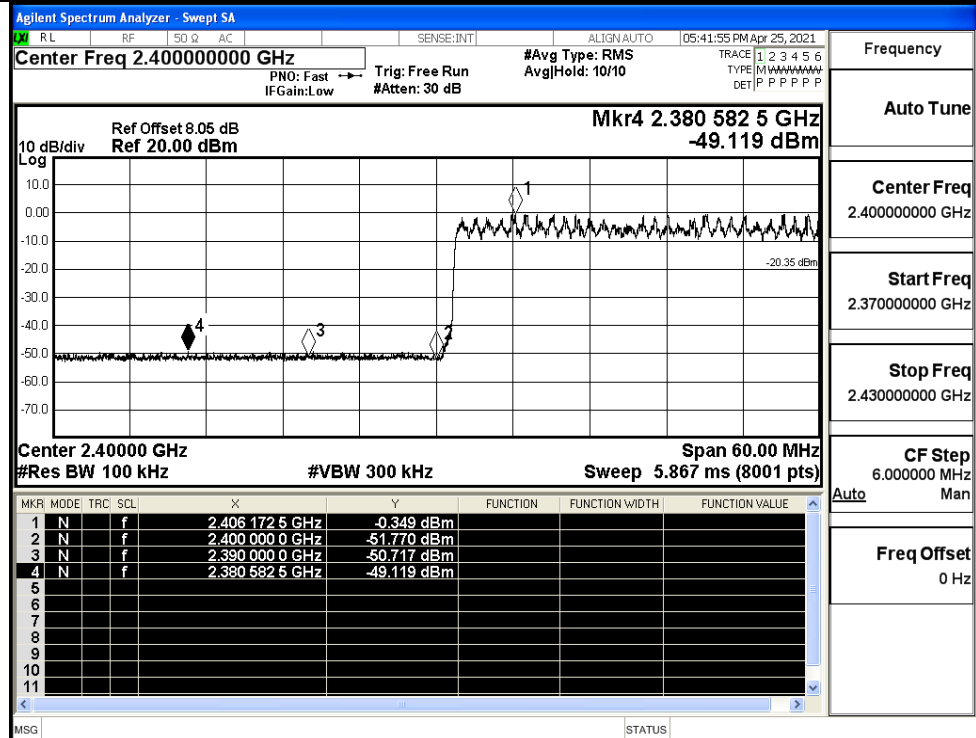


Frequency

Auto Tune

Center Freq
2.357000000 GHzStart Freq
2.310000000 GHzStop Freq
2.404000000 GHzCF Step
9.400000 MHz
Auto ManFreq Offset
0 Hz

$\pi/4$ DQPSK/LCH/Hop

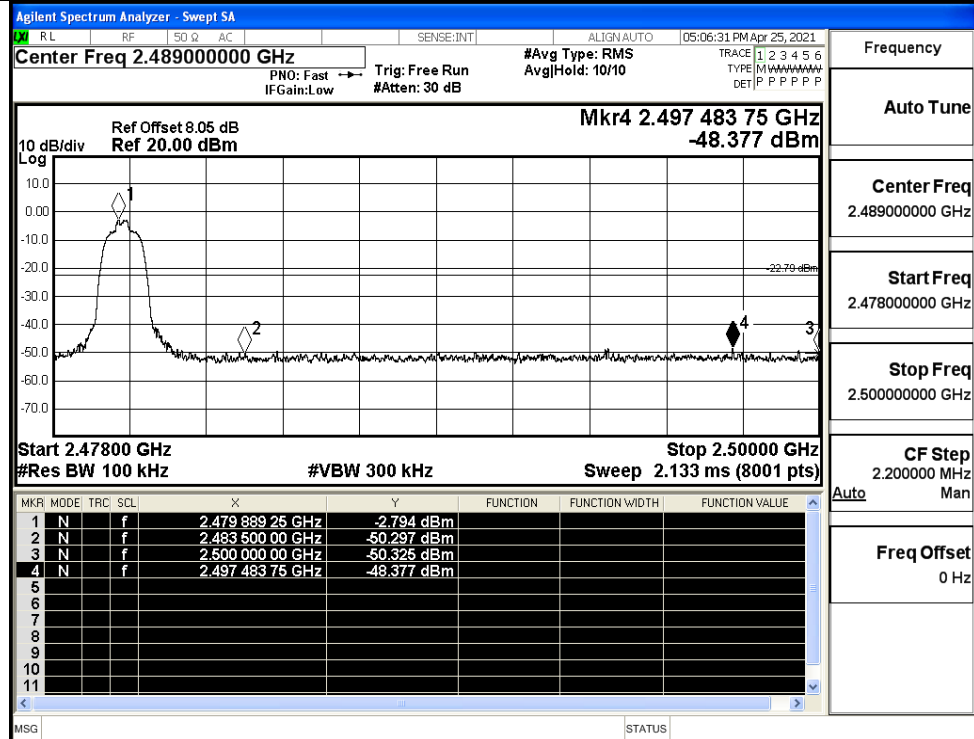


Frequency

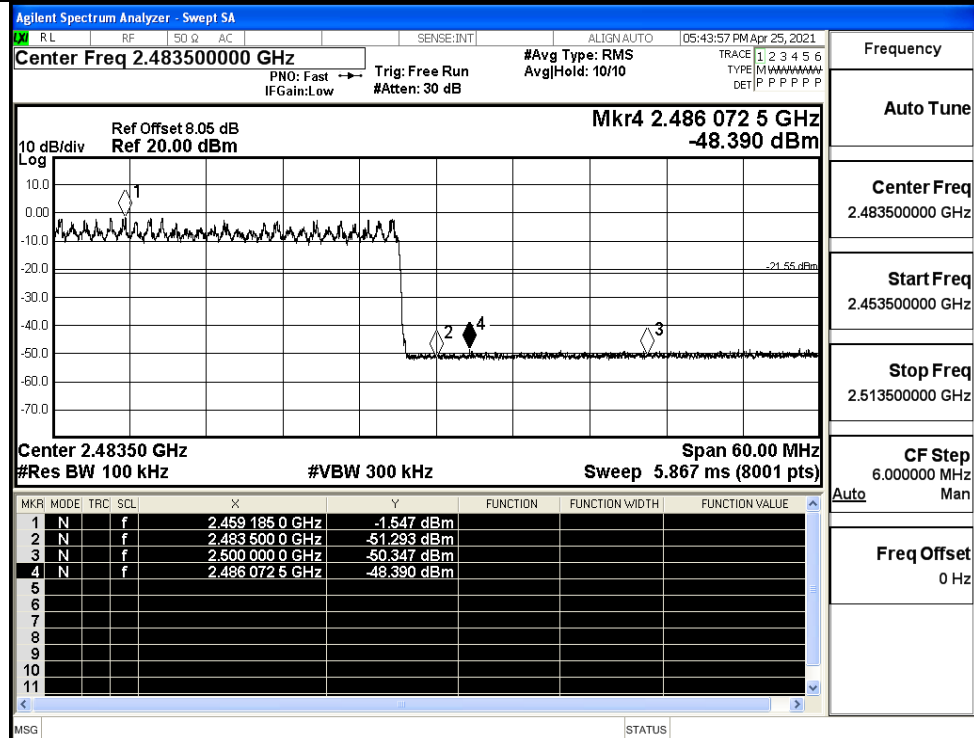
Auto Tune

Center Freq
2.400000000 GHzStart Freq
2.370000000 GHzStop Freq
2.430000000 GHzCF Step
6.000000 MHz
Auto ManFreq Offset
0 Hz

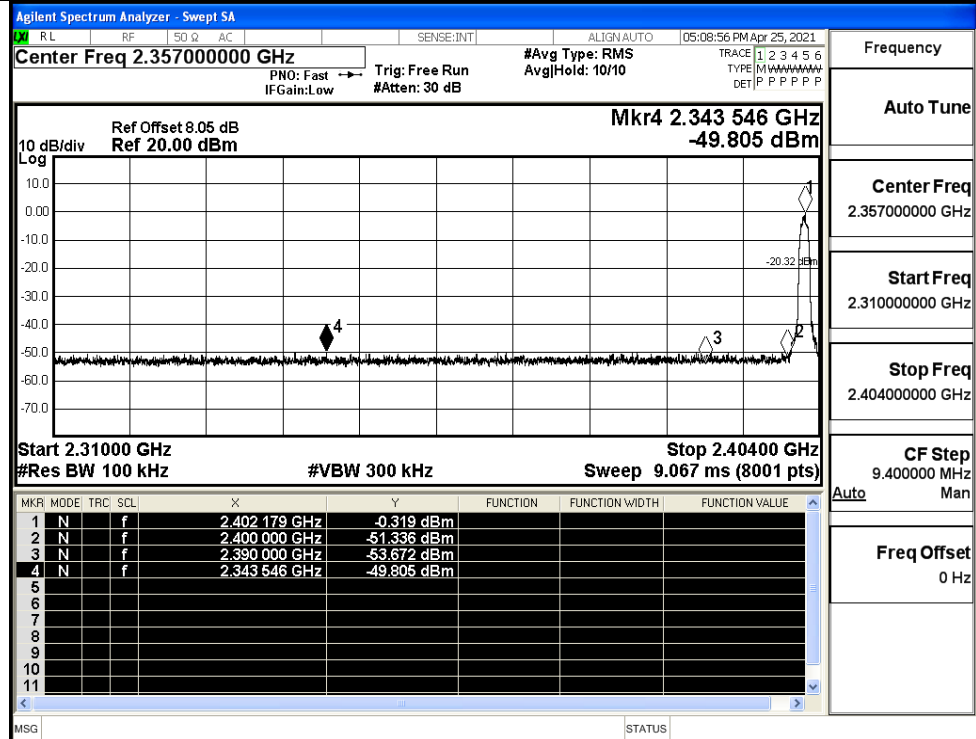
$\pi/4$ DQPSK/HCH/No
Hop



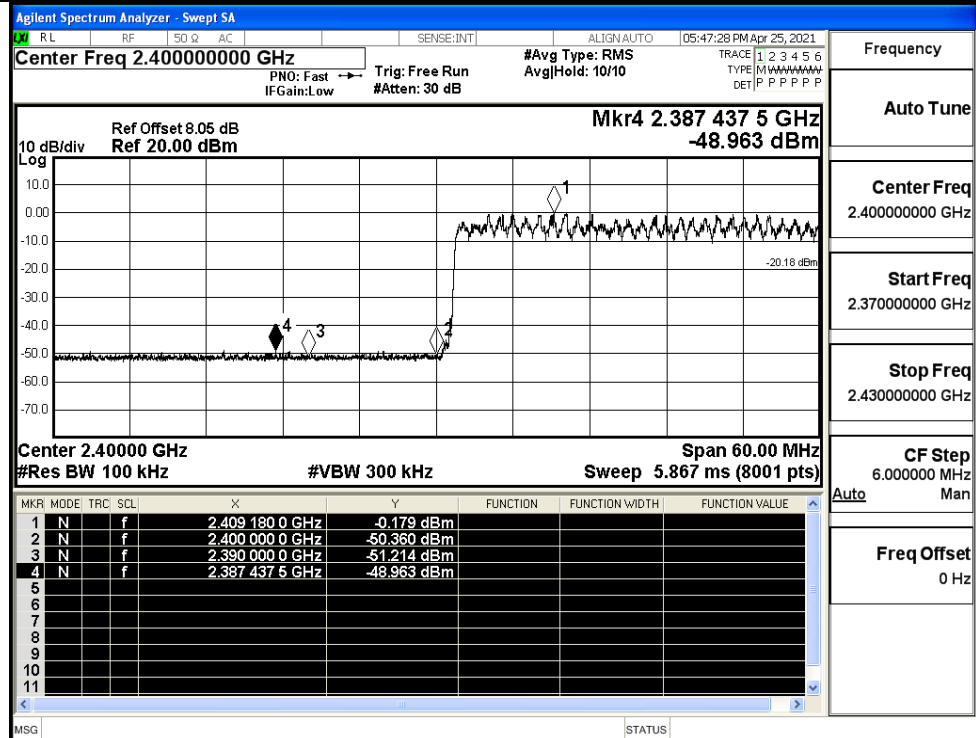
$\pi/4$ DQPSK/HCH/Hop



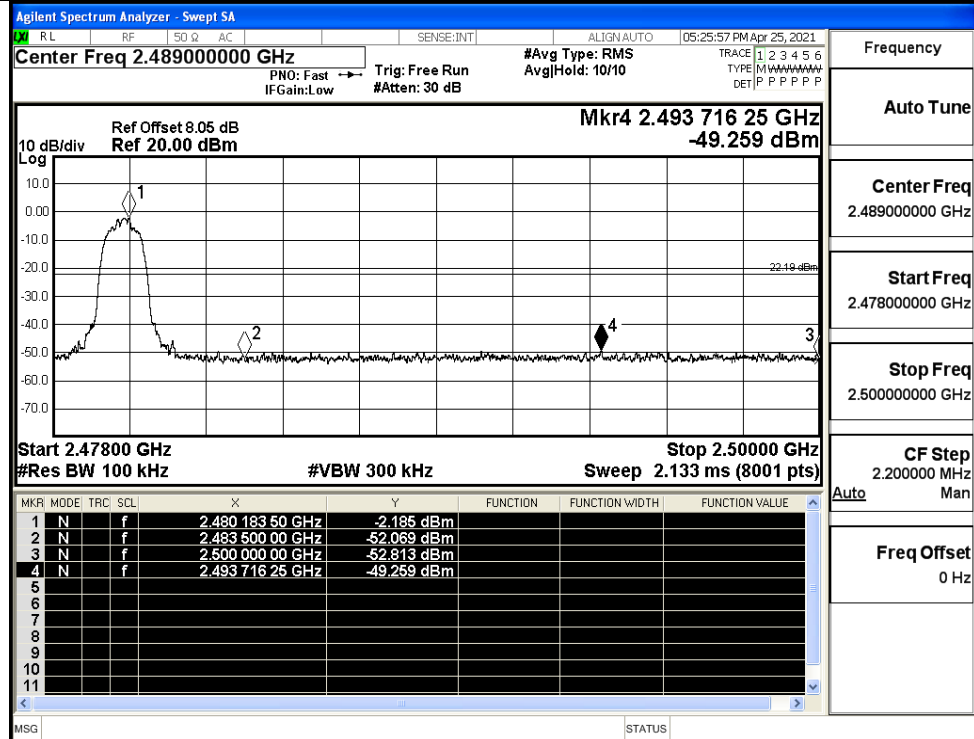
8DPSK/LCH/No Hop



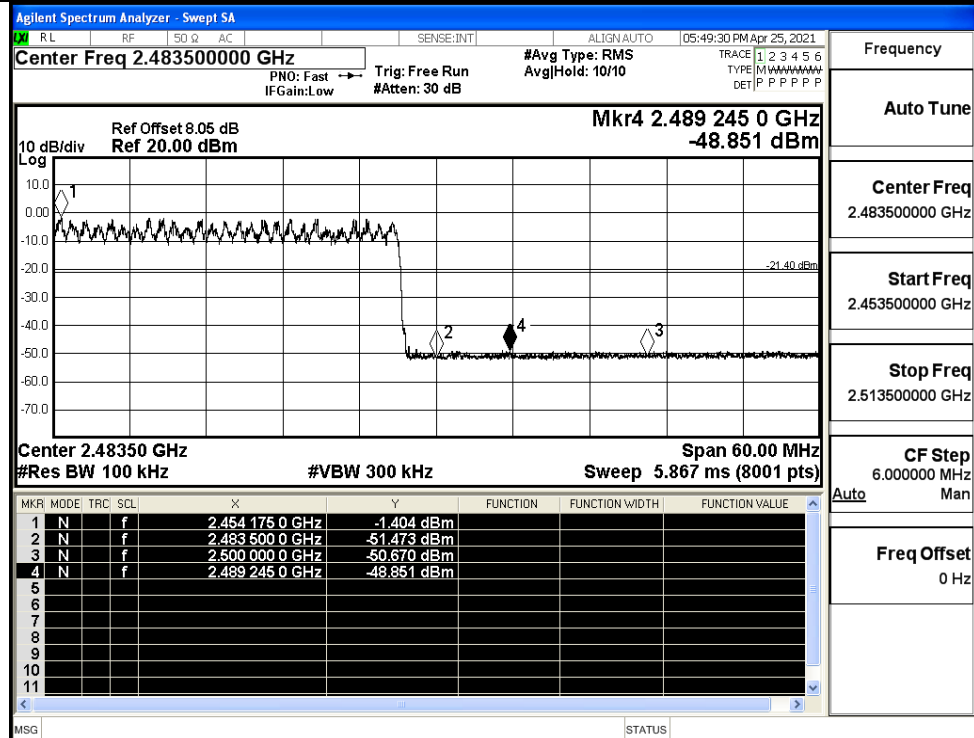
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



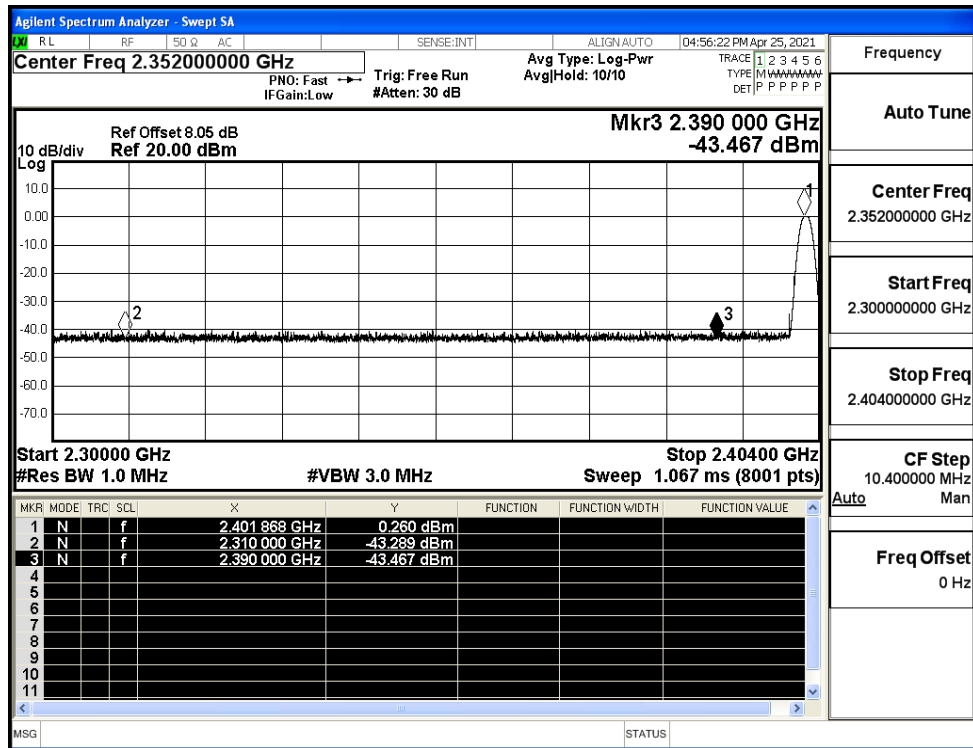
8DPSK/HCH/Hop



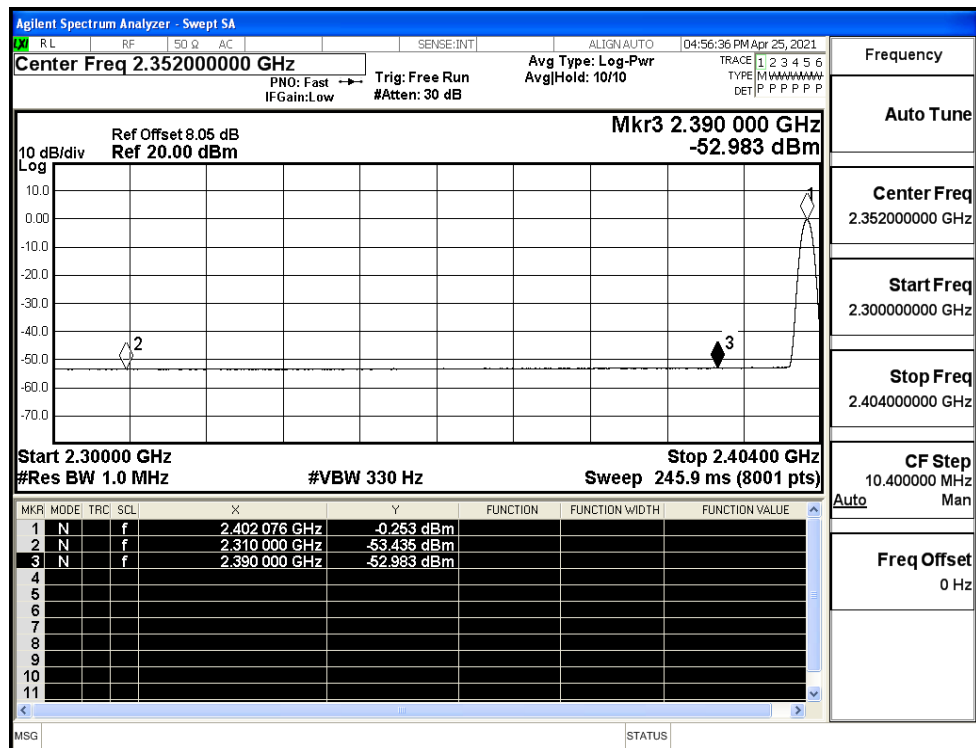
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.29	2.0	0	51.97	PEAK	74	PASS
	Off	2310.0	-53.44	2.0	0	41.82	AV	54	PASS
	Off	2390.0	-43.47	2.0	0	51.79	PEAK	74	PASS
	Off	2390.0	-52.98	2.0	0	42.27	AV	54	PASS
	Off	2483.5	-41.45	2.0	0	53.81	PEAK	74	PASS
	Off	2483.5	-52.40	2.0	0	42.86	AV	54	PASS
	Off	2500.0	-41.21	2.0	0	54.05	PEAK	74	PASS
	Off	2500.0	-52.41	2.0	0	42.84	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.06	2.0	0	52.19	PEAK	74	PASS
	Off	2310.0	-53.35	2.0	0	41.91	AV	54	PASS
	Off	2390.0	-41.95	2.0	0	53.31	PEAK	74	PASS
	Off	2390.0	-53.01	2.0	0	42.24	AV	54	PASS
	Off	2483.5	-42.70	2.0	0	52.56	PEAK	74	PASS
	Off	2483.5	-52.47	2.0	0	42.79	AV	54	PASS
	Off	2500.0	-41.66	2.0	0	53.60	PEAK	74	PASS
	Off	2500.0	-52.36	2.0	0	42.90	AV	54	PASS
8DPSK	Off	2310.0	-42.90	2.0	0	52.35	PEAK	74	PASS
	Off	2310.0	-53.30	2.0	0	41.96	AV	54	PASS
	Off	2390.0	-43.10	2.0	0	52.16	PEAK	74	PASS
	Off	2390.0	-52.97	2.0	0	42.28	AV	54	PASS
	Off	2483.5	-43.29	2.0	0	51.97	PEAK	74	PASS
	Off	2483.5	-52.49	2.0	0	42.77	AV	54	PASS
	Off	2500.0	-42.79	2.0	0	52.47	PEAK	74	PASS
	Off	2500.0	-52.31	2.0	0	42.95	AV	54	PASS

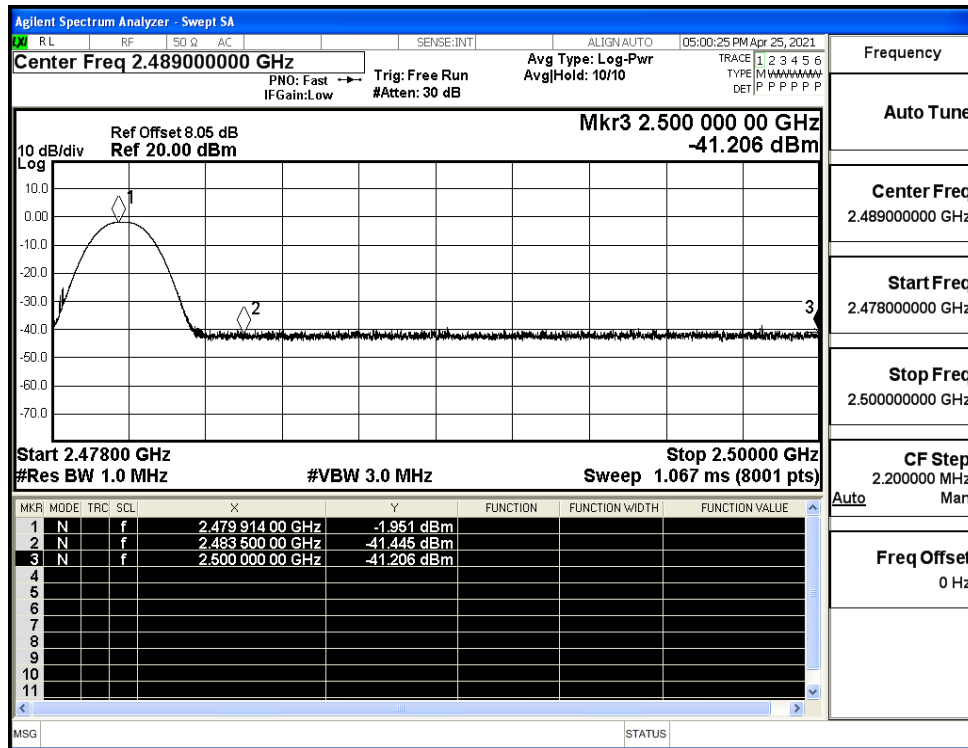
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



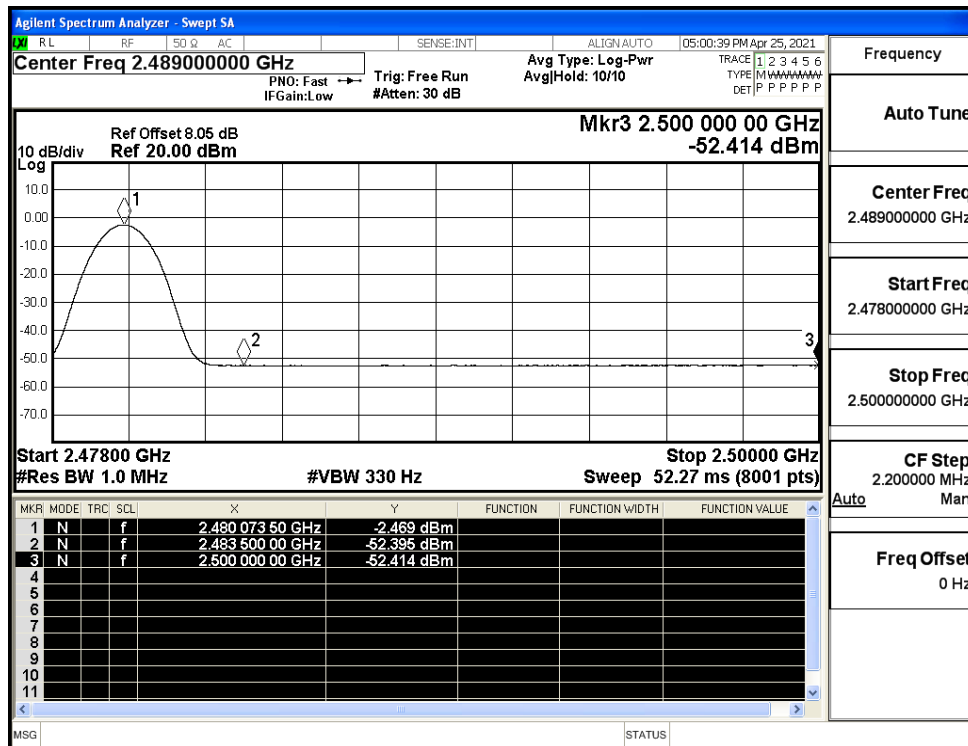
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

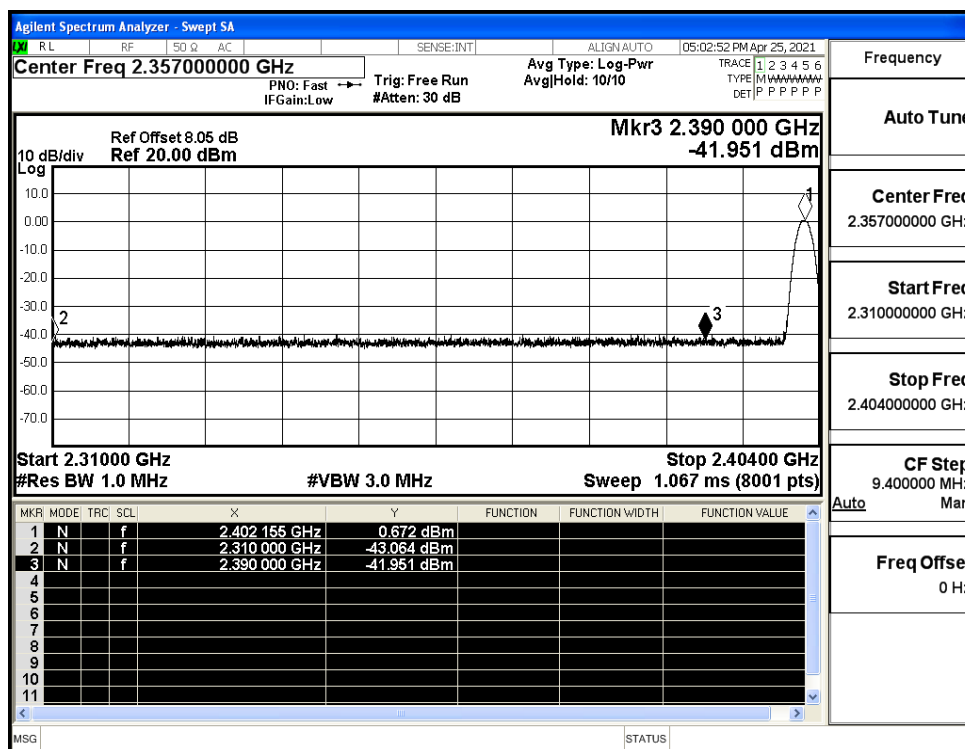
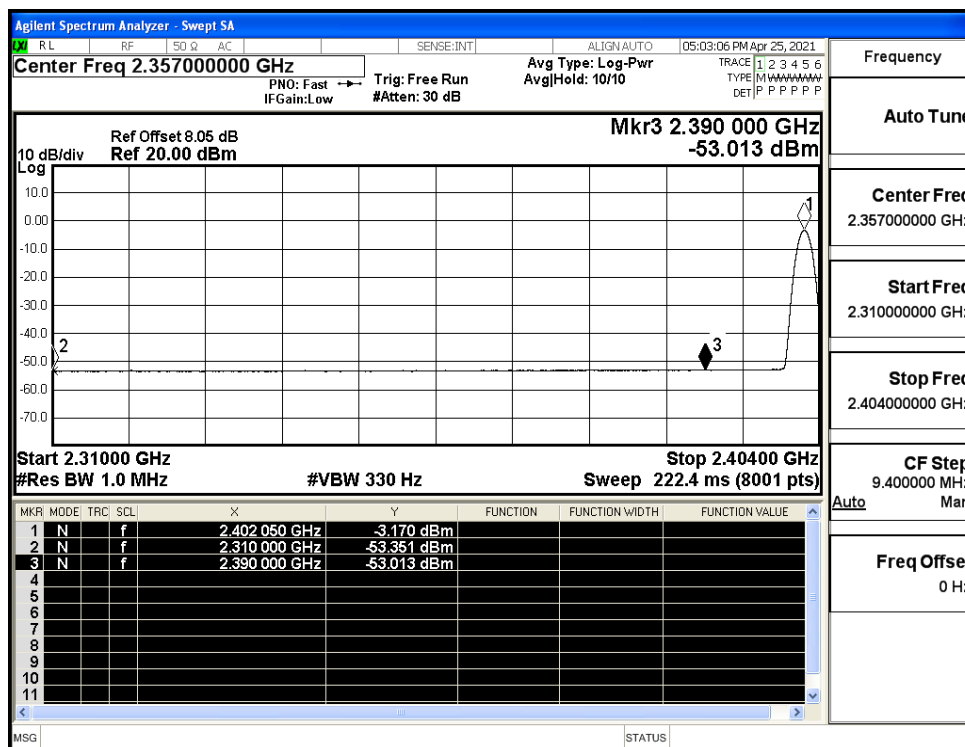


Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)

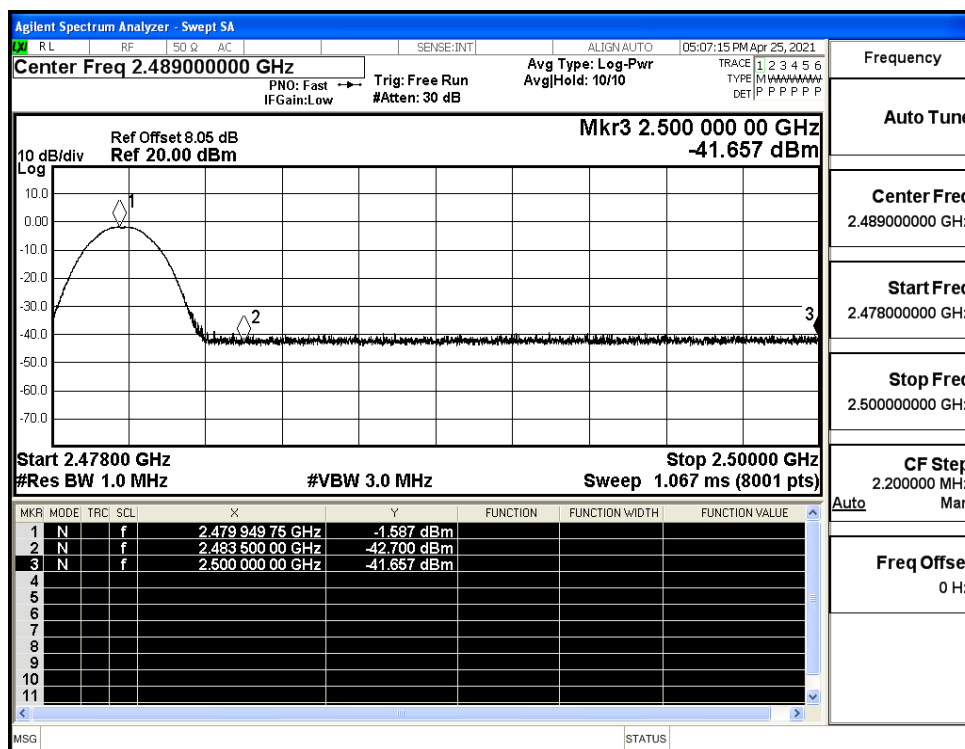


Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)

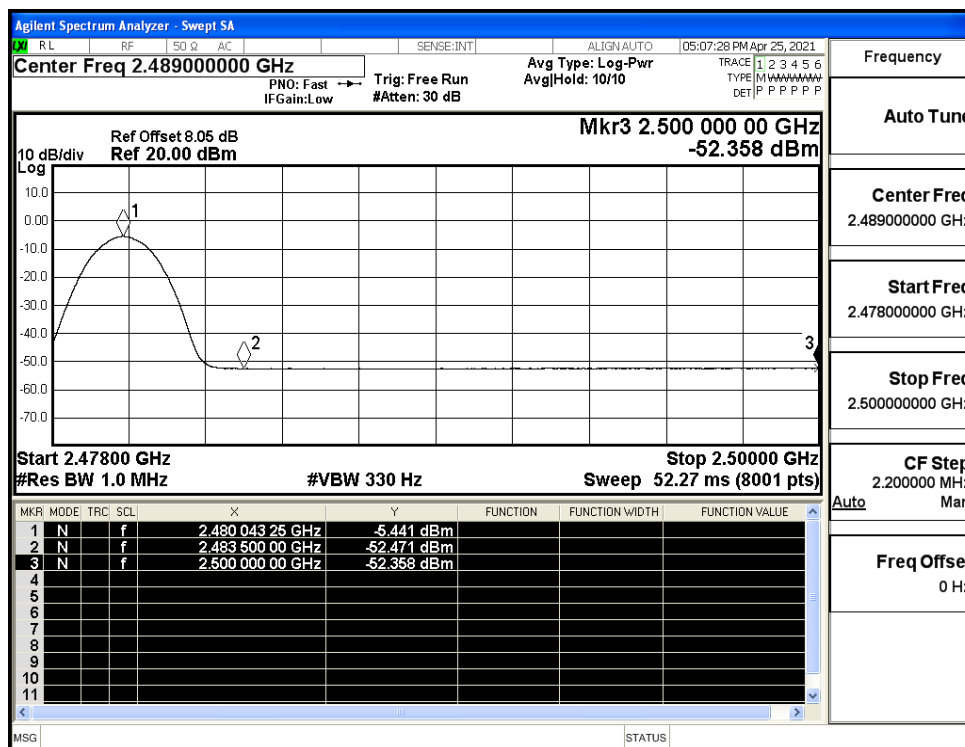


Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

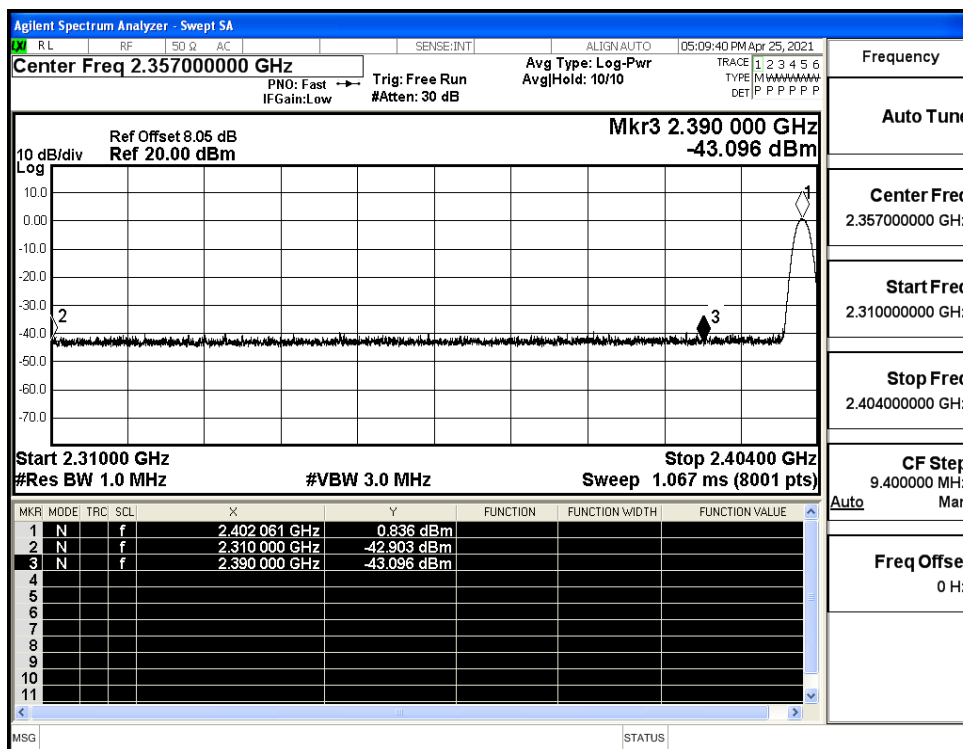
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



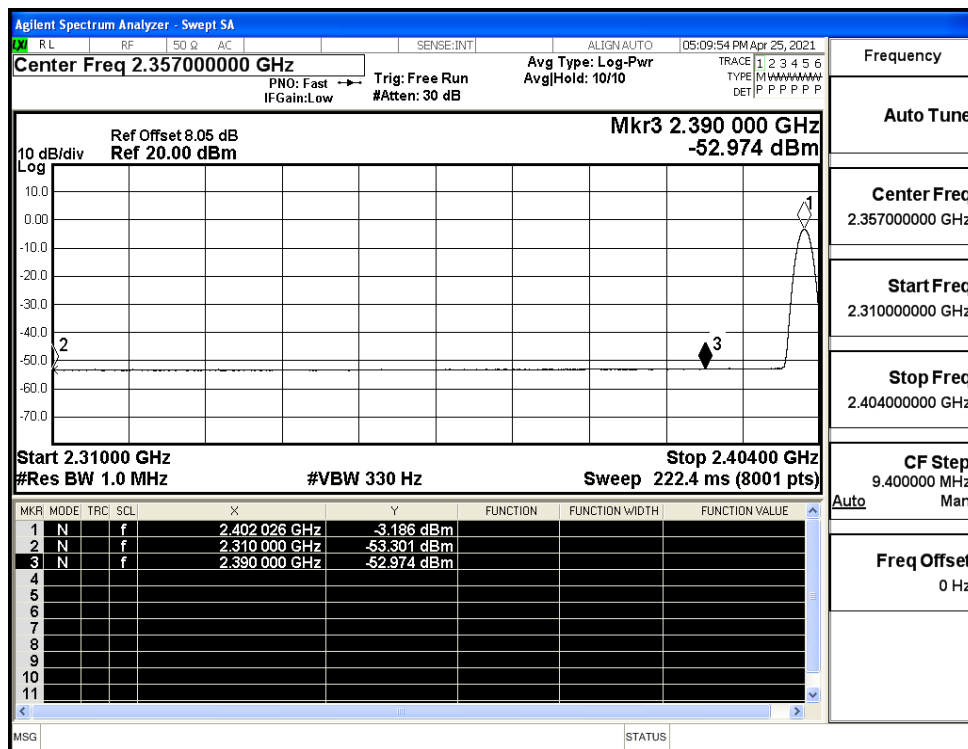
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



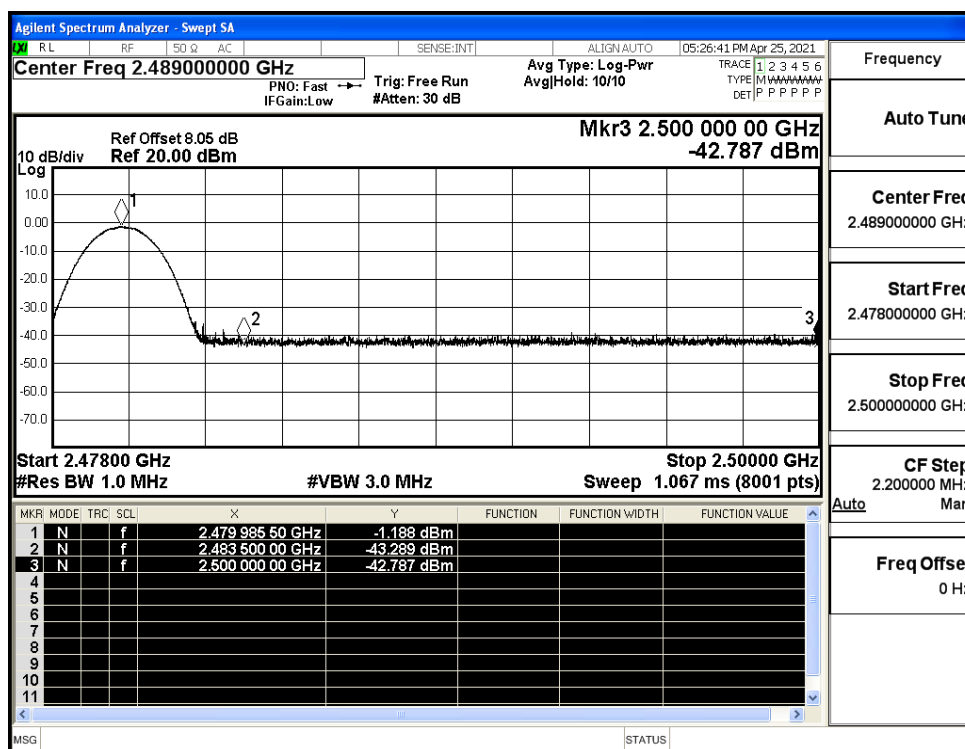
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

