

Appendix A

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

Product Name: 3G/4G Smart Phone

Trade Mark: DOOGEE

Test Model: S88Plus

Environmental Conditions

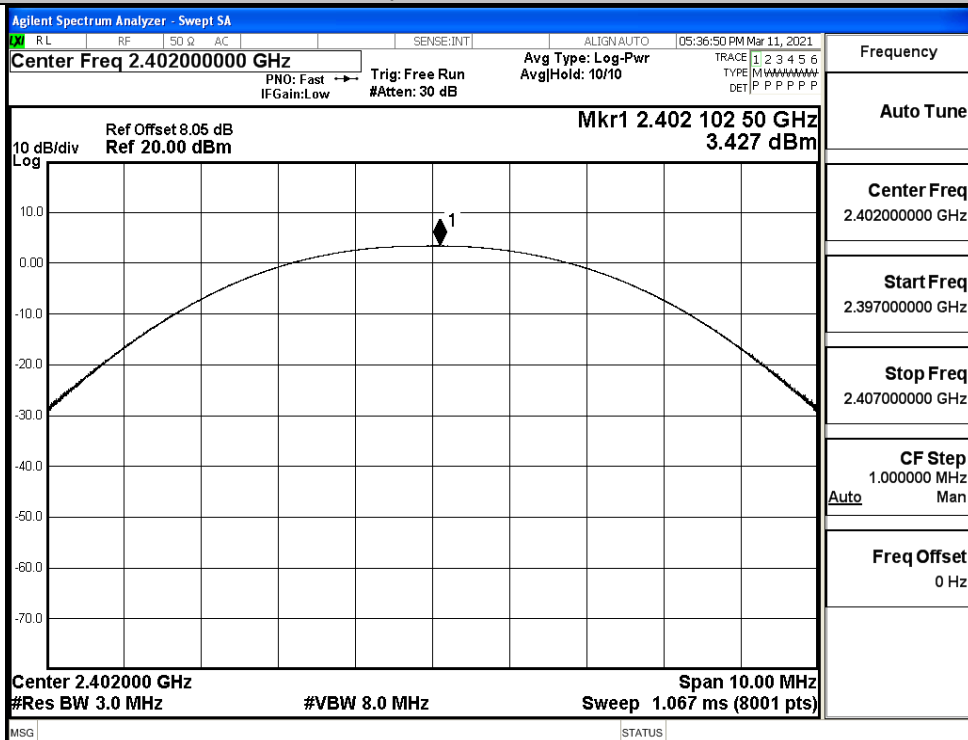
Temperature:	22.9° C
Relative Humidity:	53.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

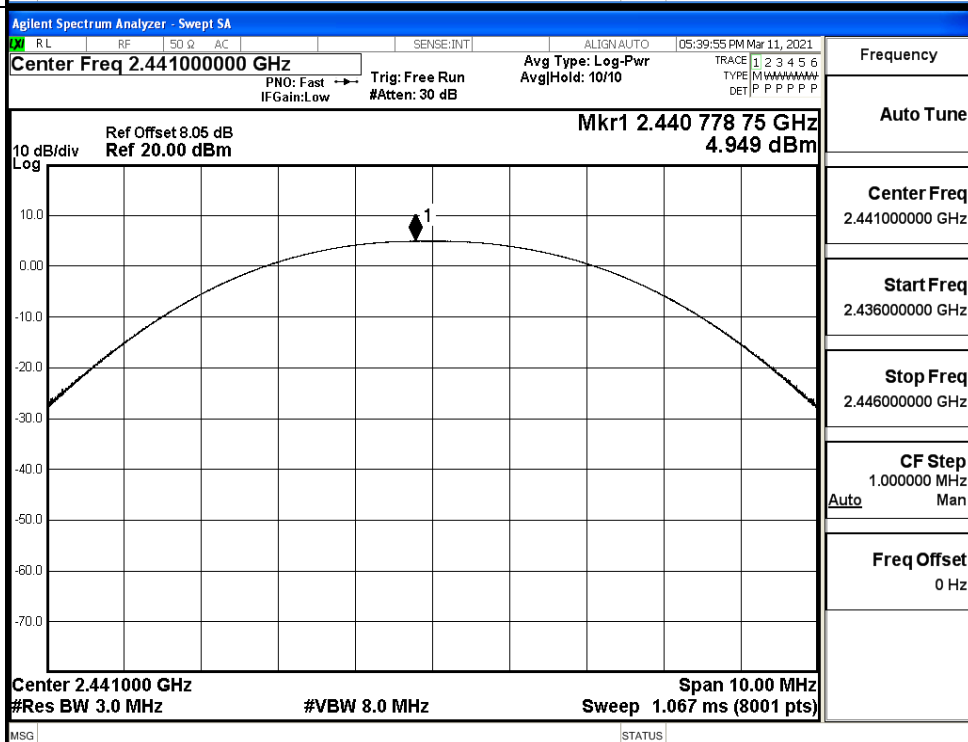
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.427	21	PASS
	MCH	4.949	21	PASS
	HCH	3.364	21	PASS
$\pi/4$ DQPSK	LCH	2.588	21	PASS
	MCH	4.155	21	PASS
	HCH	2.678	21	PASS
8DPSK	LCH	2.741	21	PASS
	MCH	4.351	21	PASS
	HCH	2.854	21	PASS

Test Graphs

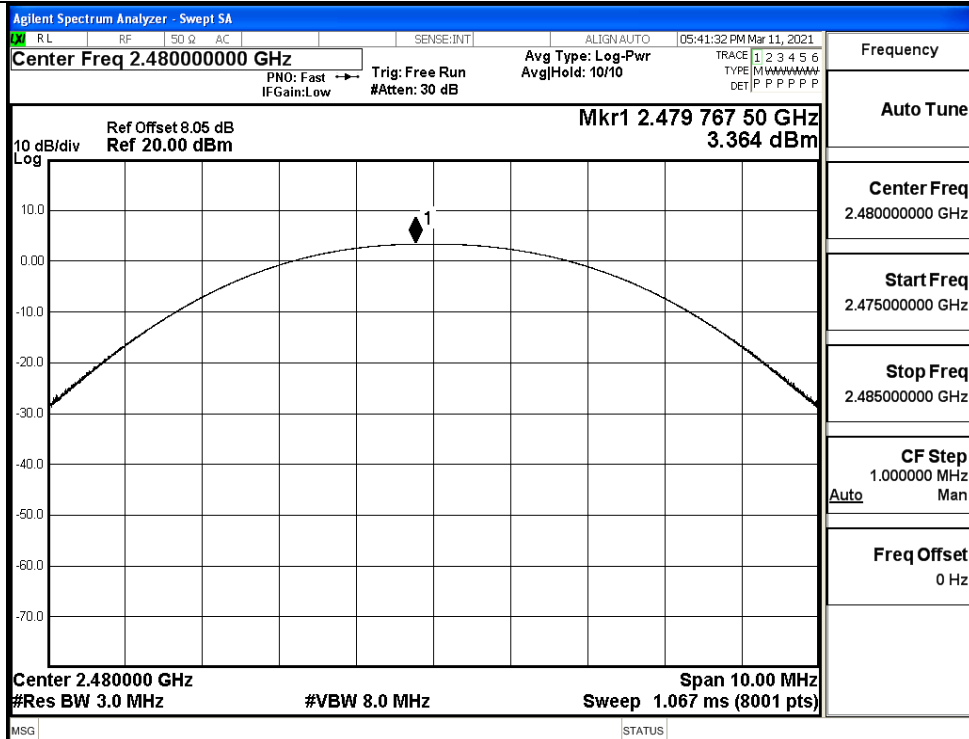
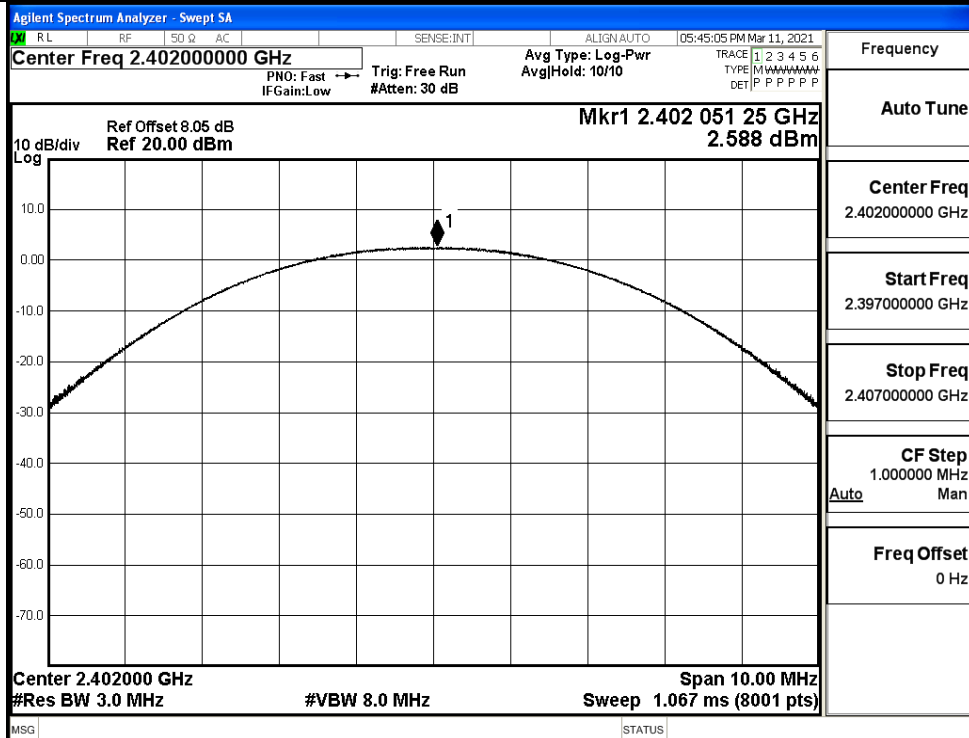
GFSK/LCH

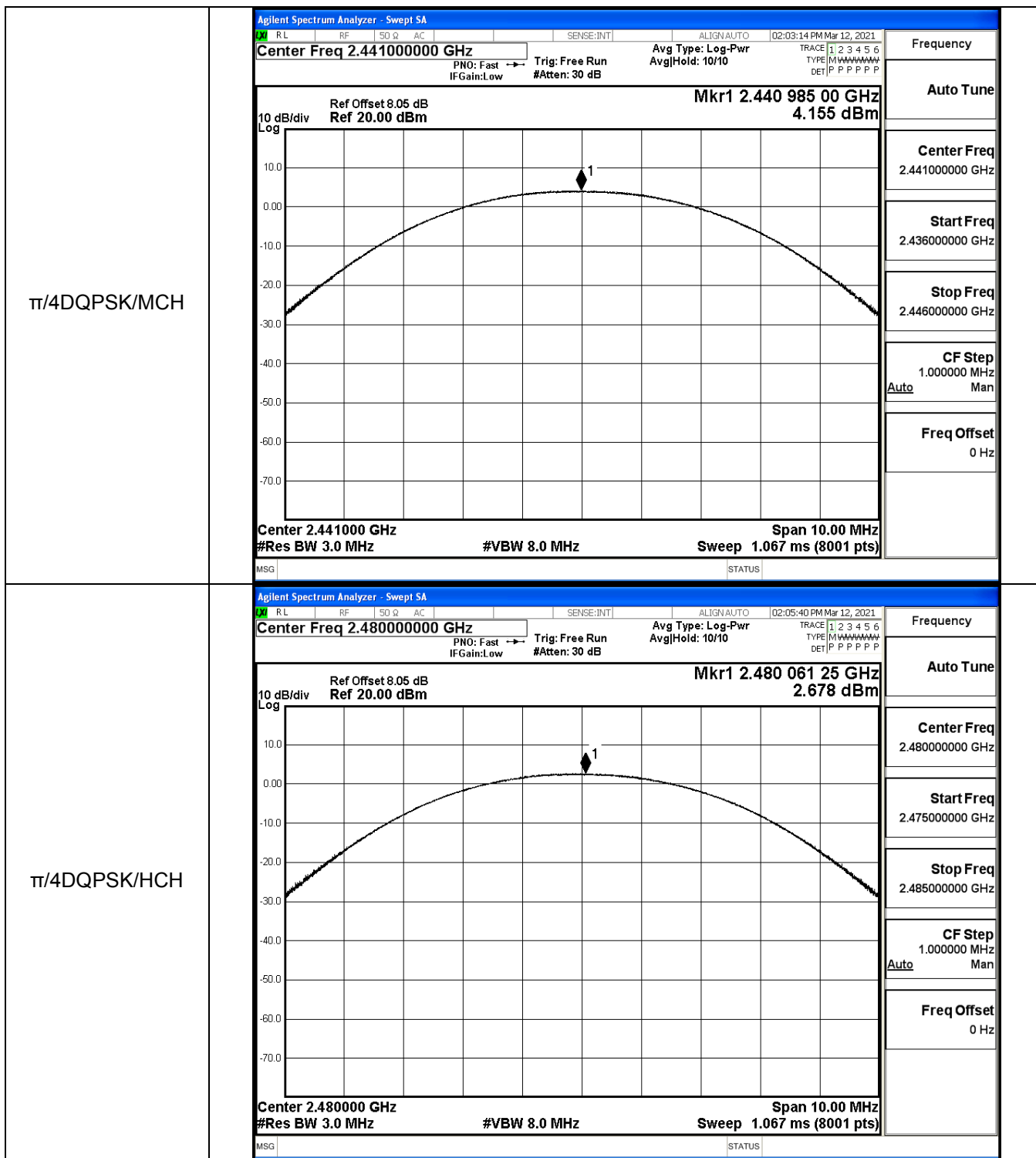


GFSK/MCH

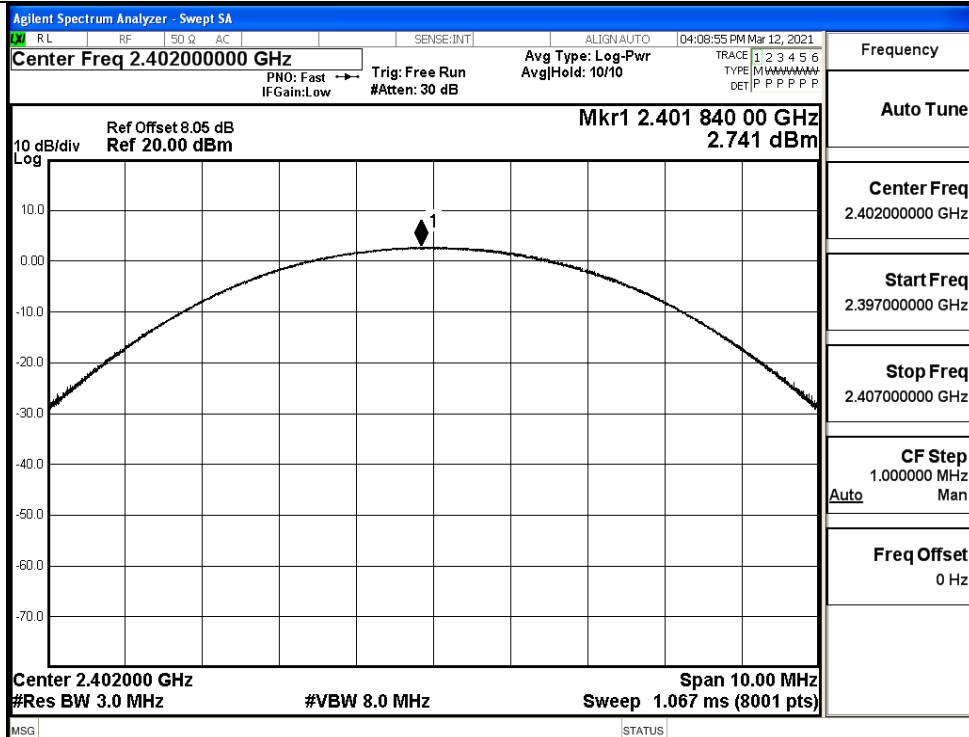


GFSK/HCH

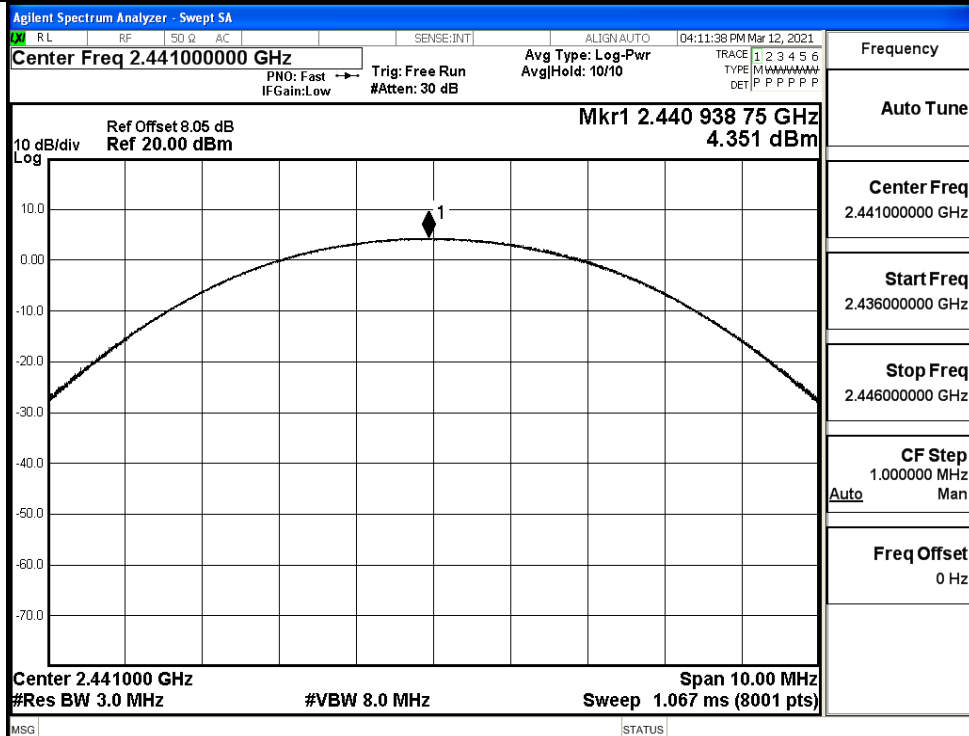
 $\pi/4$ DQPSK/LCH



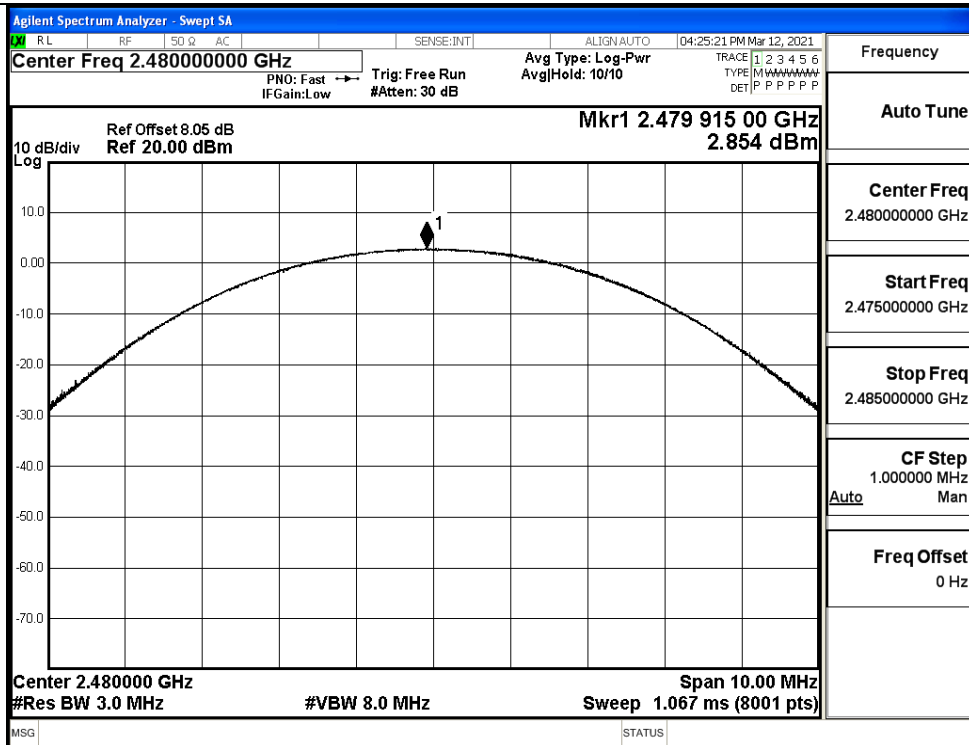
8DPSK/LCH



8DPSK/MCH



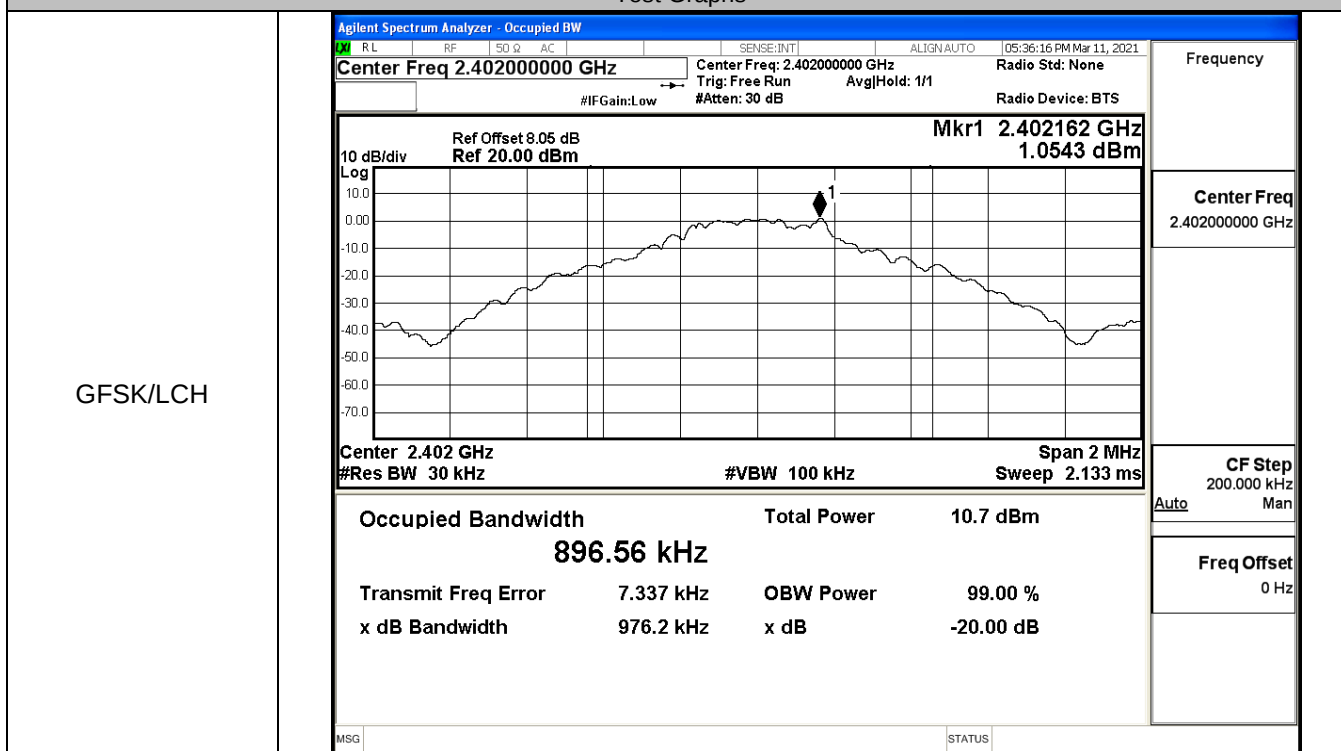
8DPSK/HCH



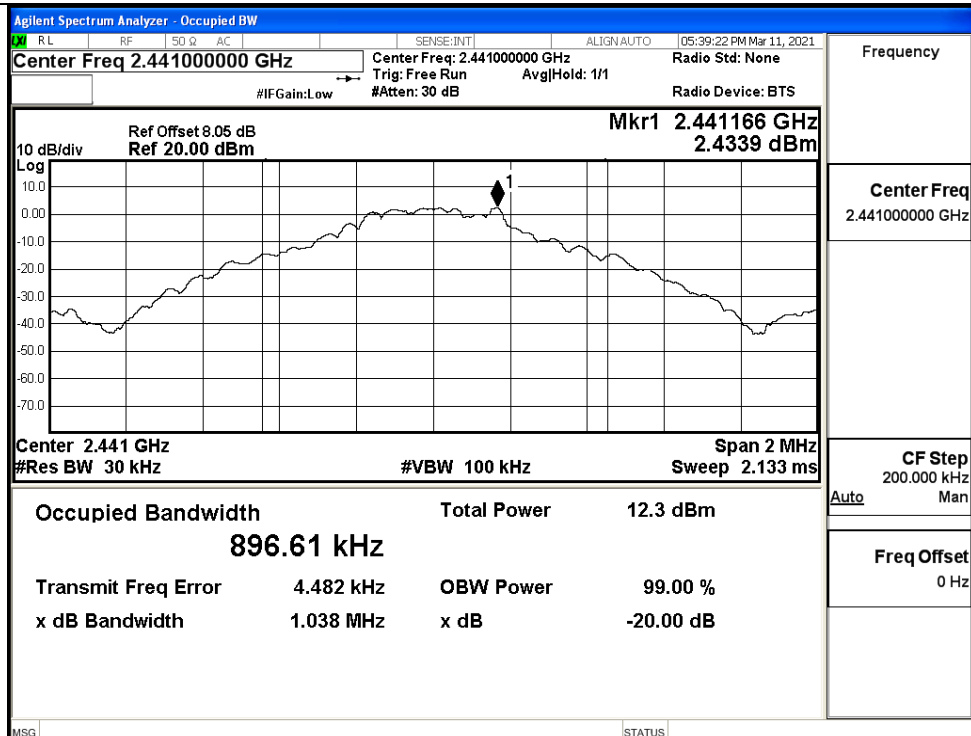
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9762	Not Specified	PASS
	MCH	1.038	Not Specified	PASS
	HCH	1.029	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.290	Not Specified	PASS
	MCH	1.289	Not Specified	PASS
	HCH	1.291	Not Specified	PASS
8DPSK	LCH	1.292	Not Specified	PASS
	MCH	1.291	Not Specified	PASS
	HCH	1.293	Not Specified	PASS

Test Graphs



GFSK/MCH



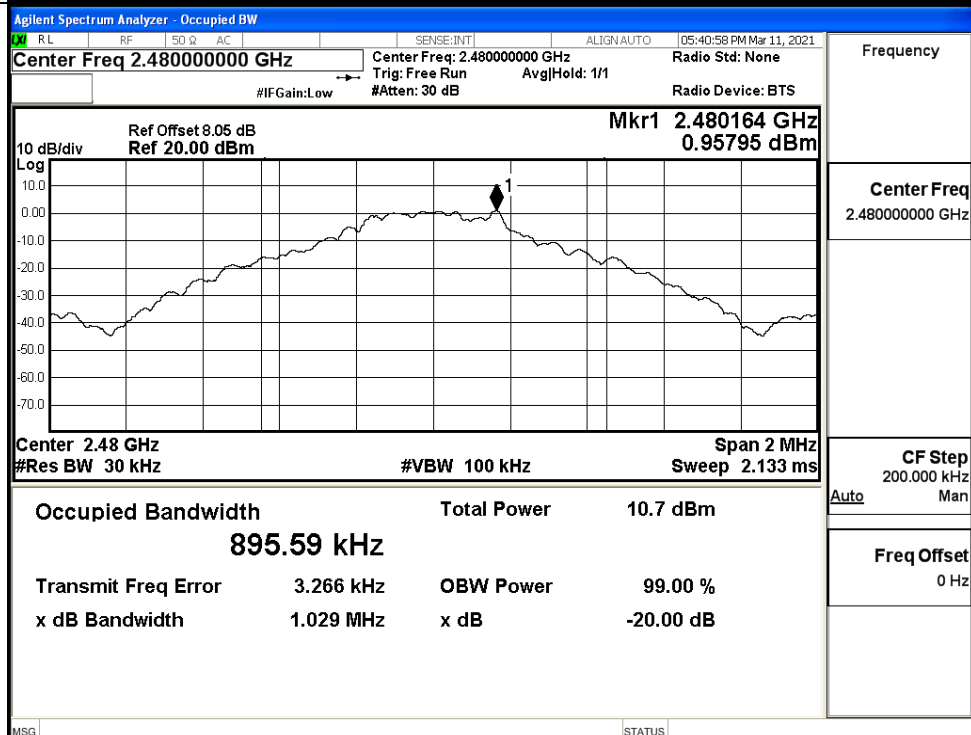
Frequency

Center Freq
2.441000000 GHzCF Step
200.000 kHz
Man

Auto

Freq Offset
0 Hz

GFSK/HCH

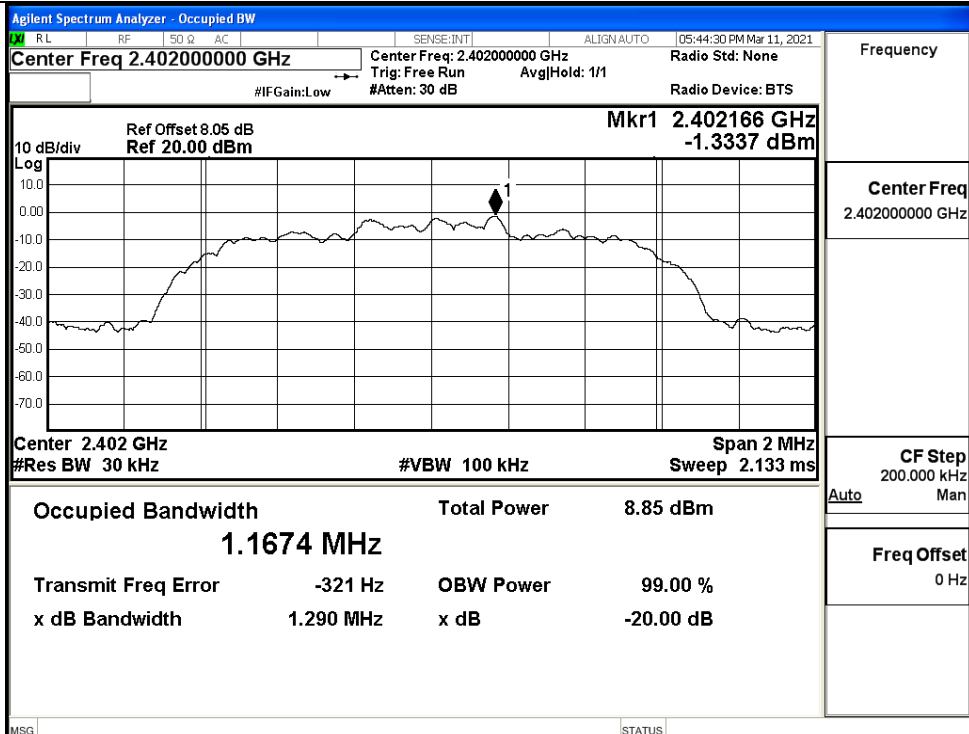
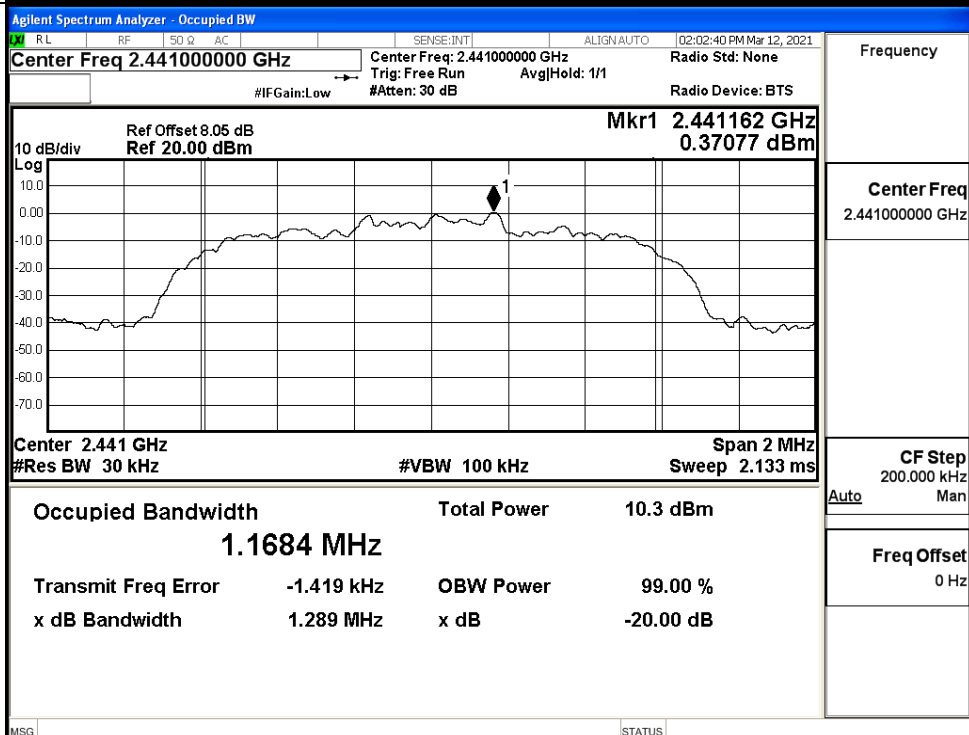


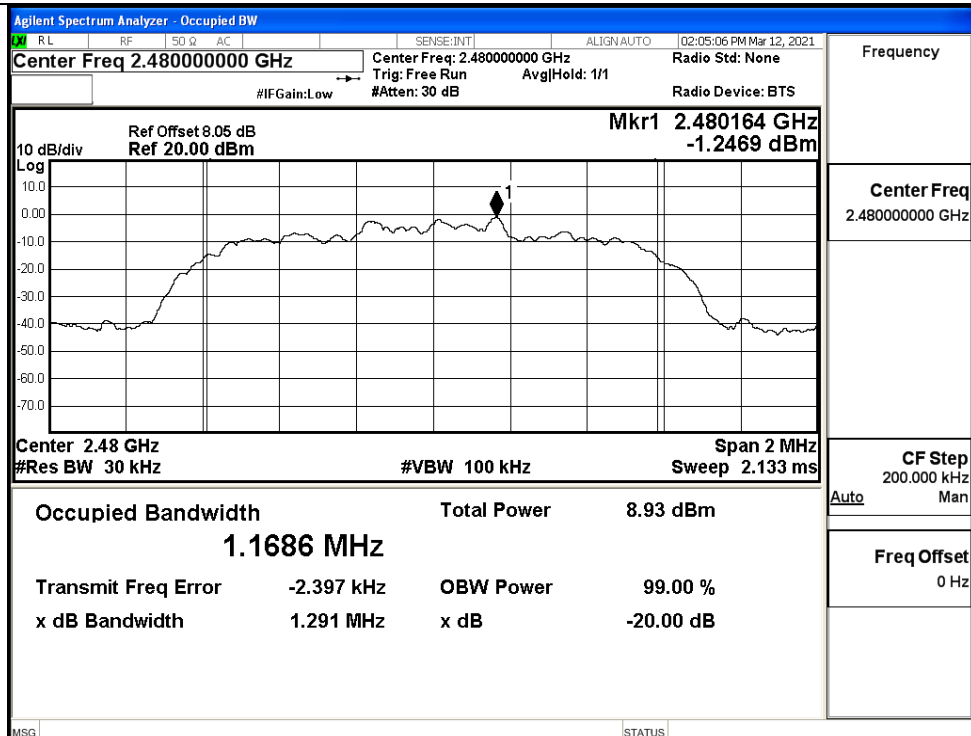
Frequency

Center Freq
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200.000 kHz
Man

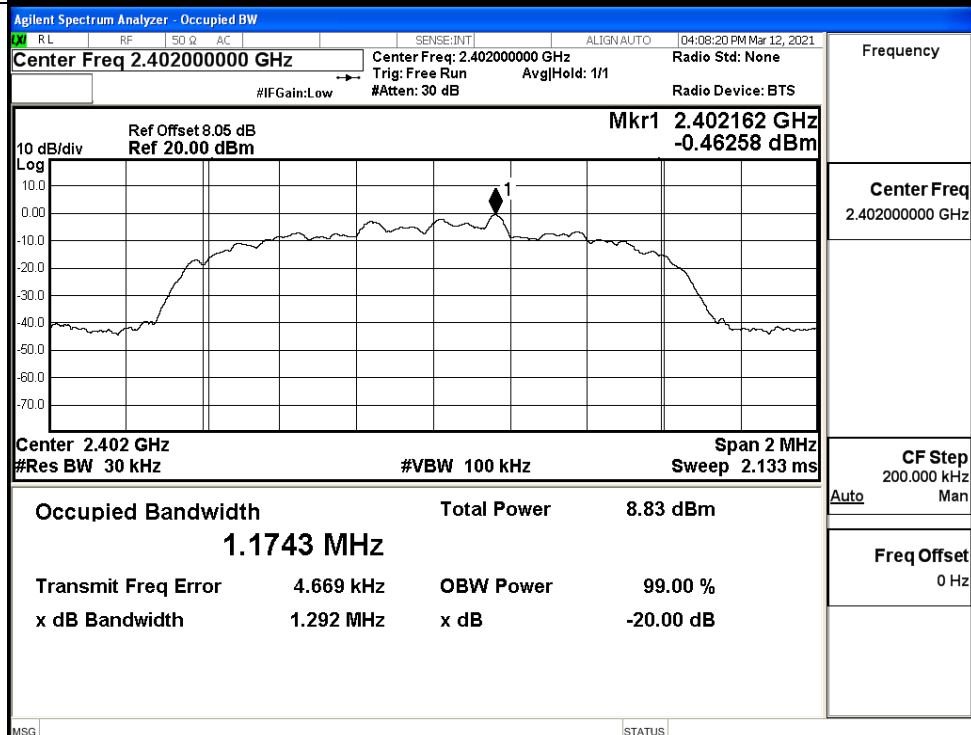
Auto

Freq Offset
0 Hz

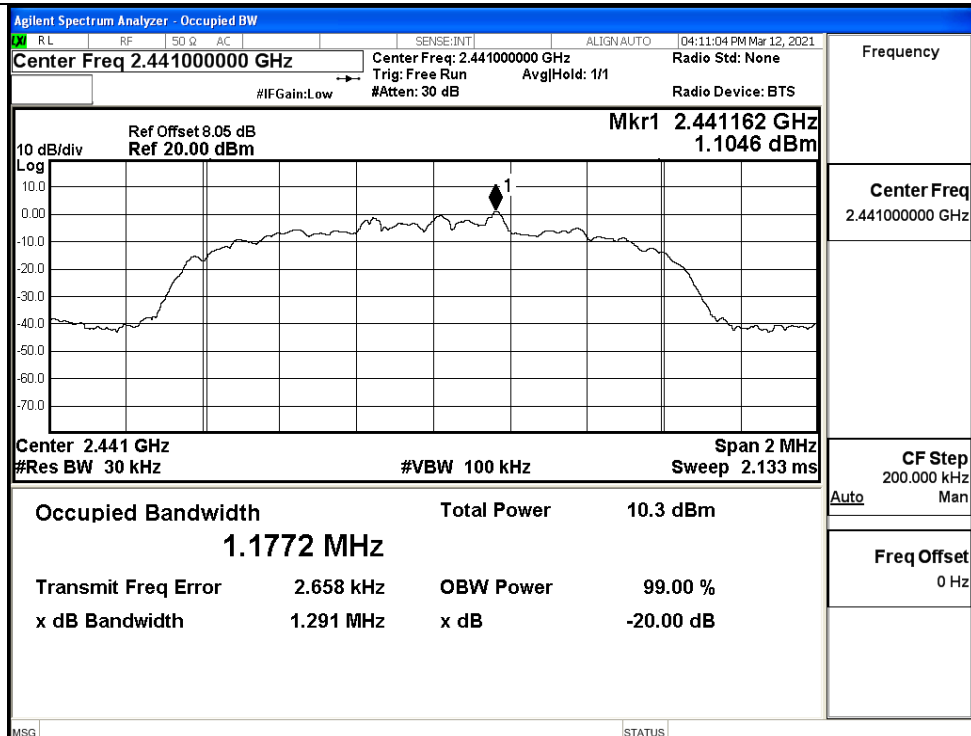
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

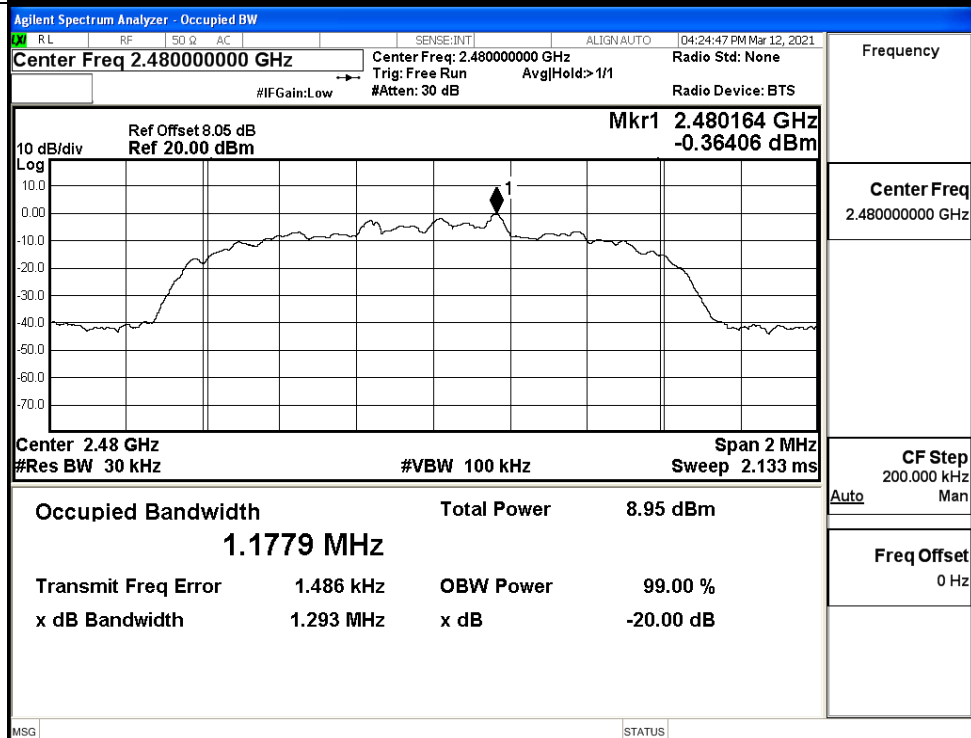
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

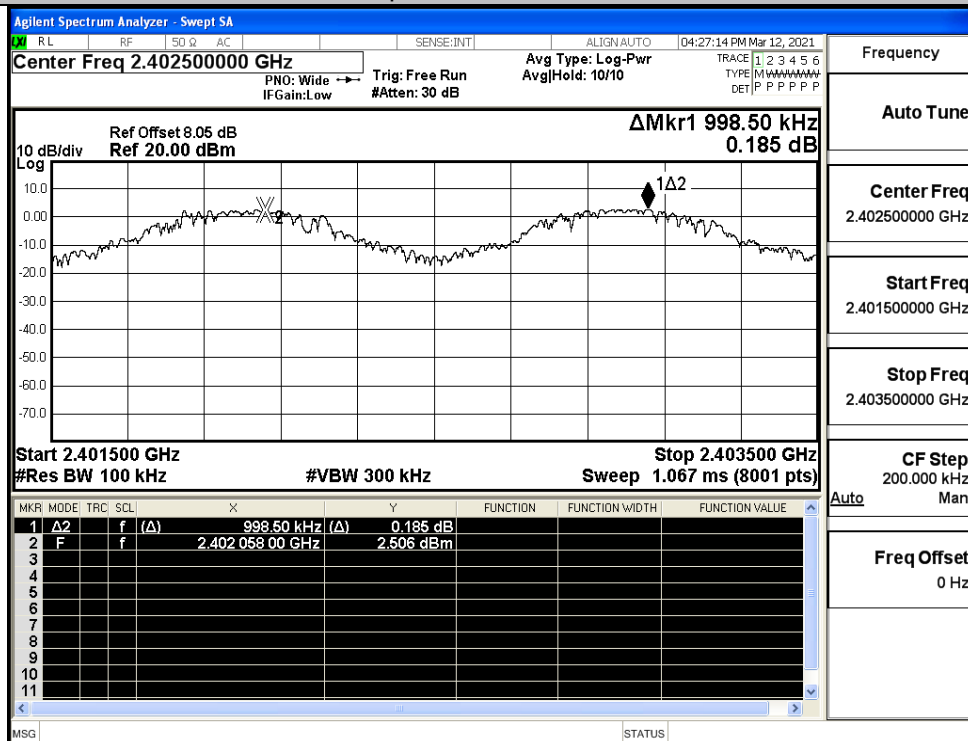


A.3 Carrier Frequency Separation

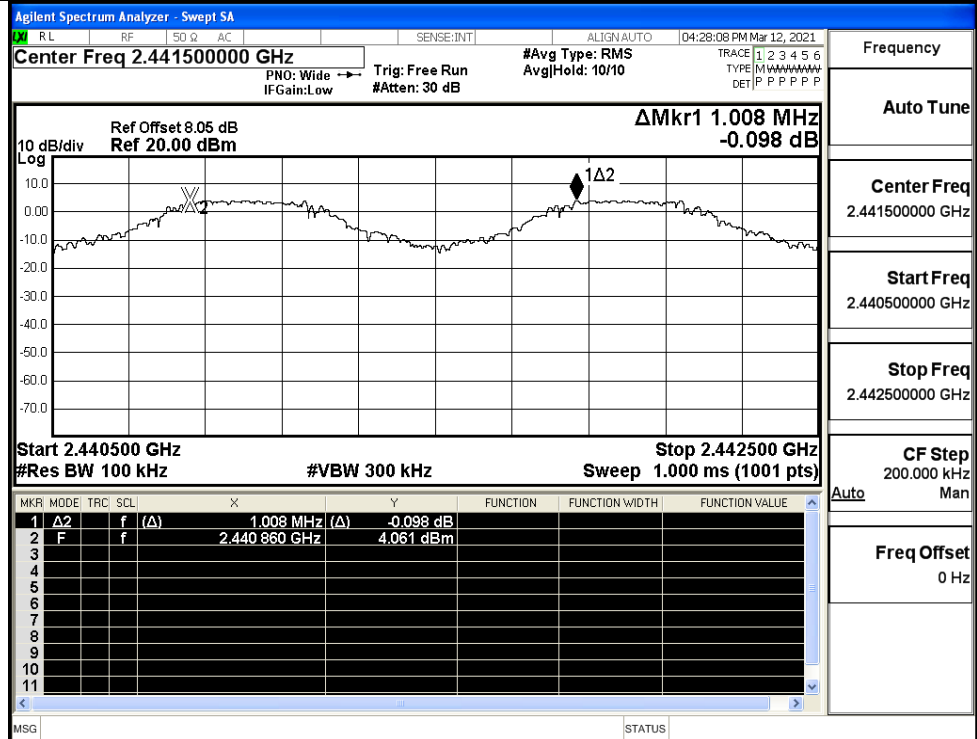
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.999	0.692	PASS
	MCH	1.008	0.692	PASS
	HCH	1.050	0.692	PASS
$\pi/4$ DQPSK	LCH	1.004	0.861	PASS
	MCH	1.118	0.861	PASS
	HCH	1.132	0.861	PASS
8DPSK	LCH	0.778	0.862	PASS
	MCH	1.162	0.862	PASS
	HCH	1.054	0.862	PASS

Test Graphs

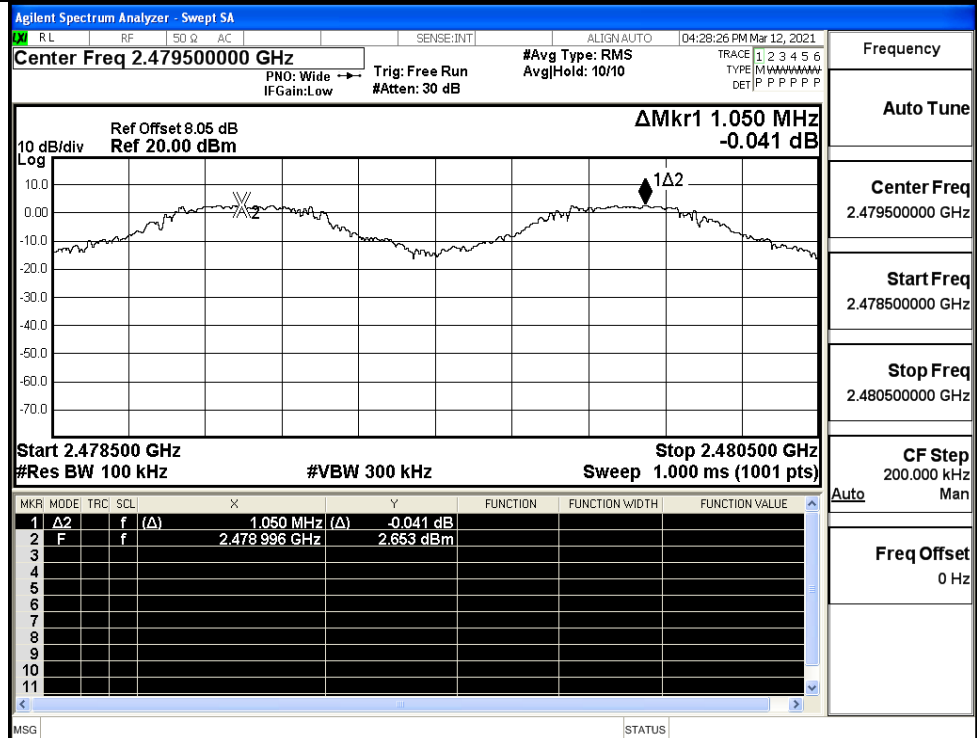
GFSK/LCH

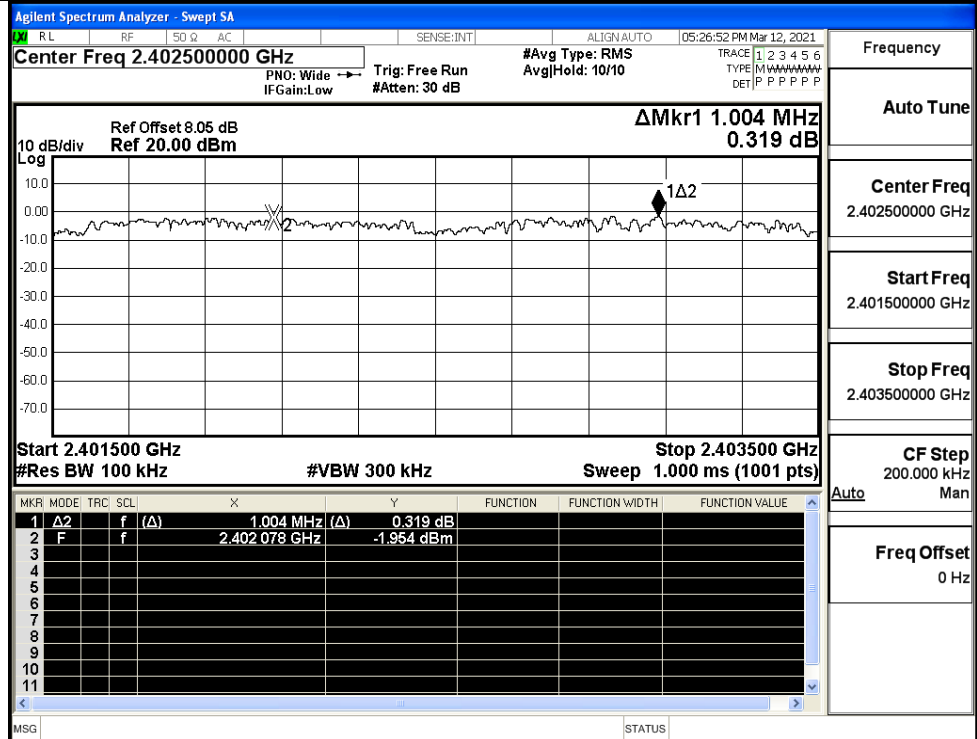
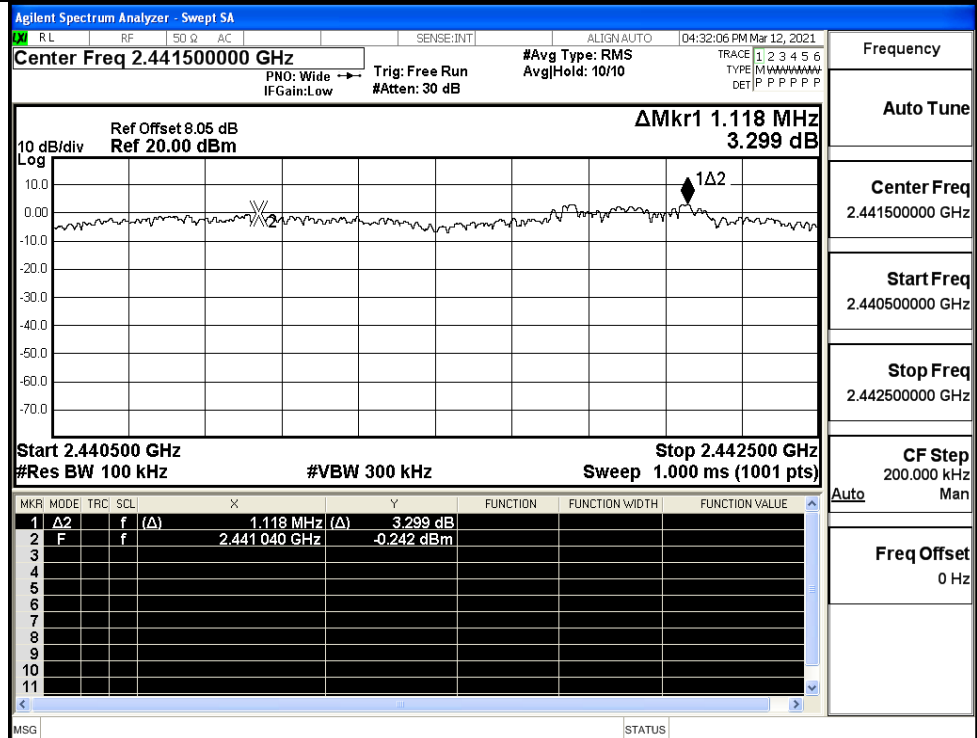


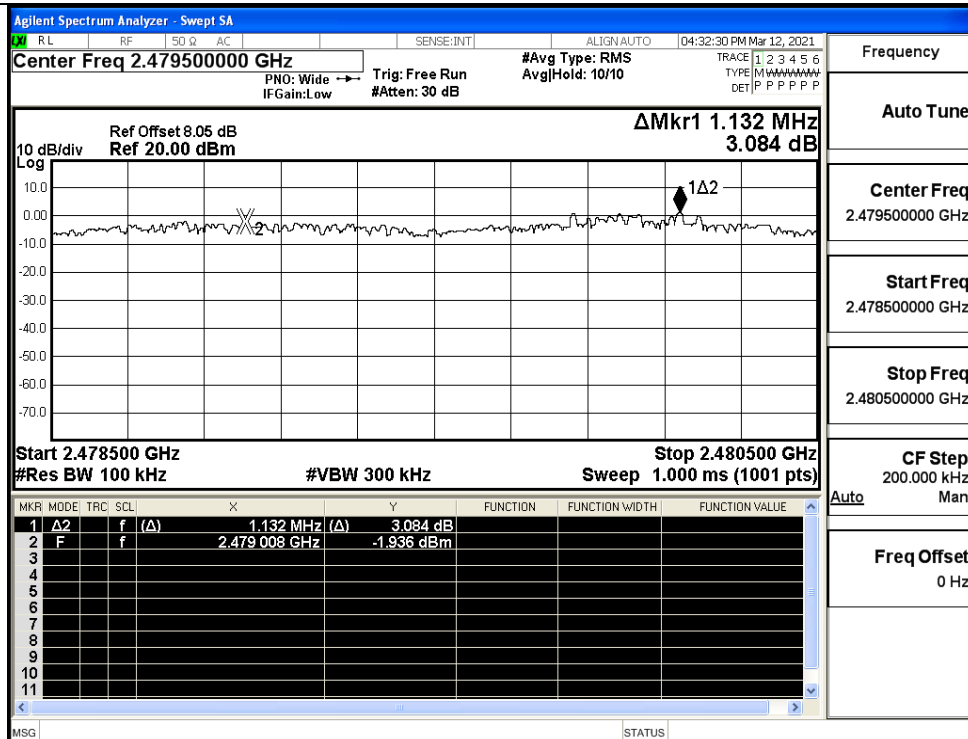
GFSK/MCH



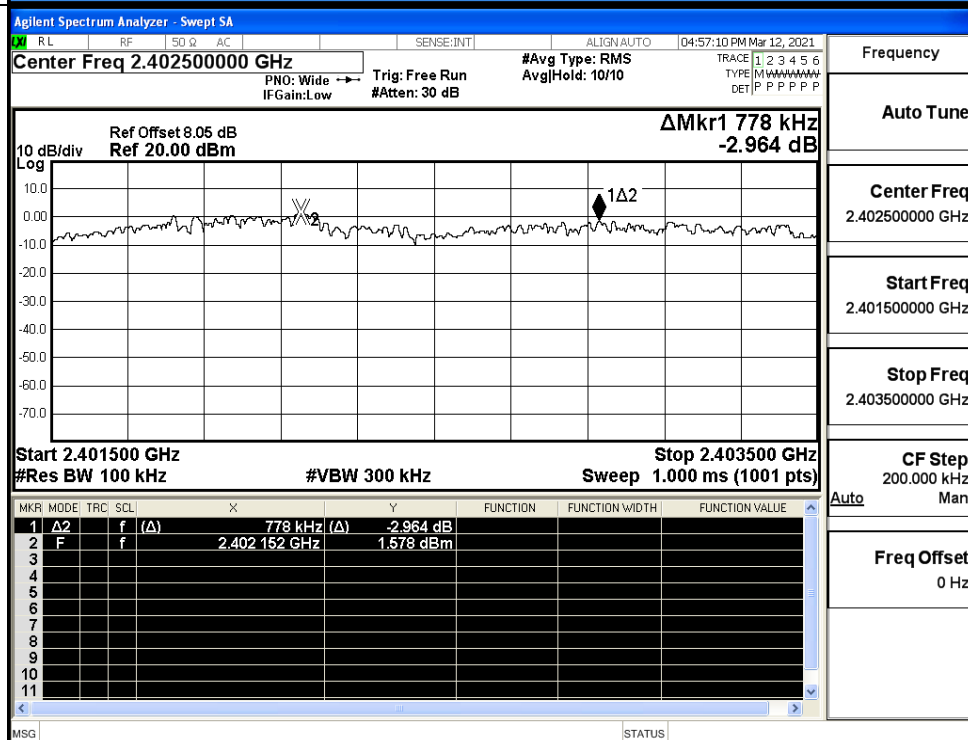
GFSK/HCH



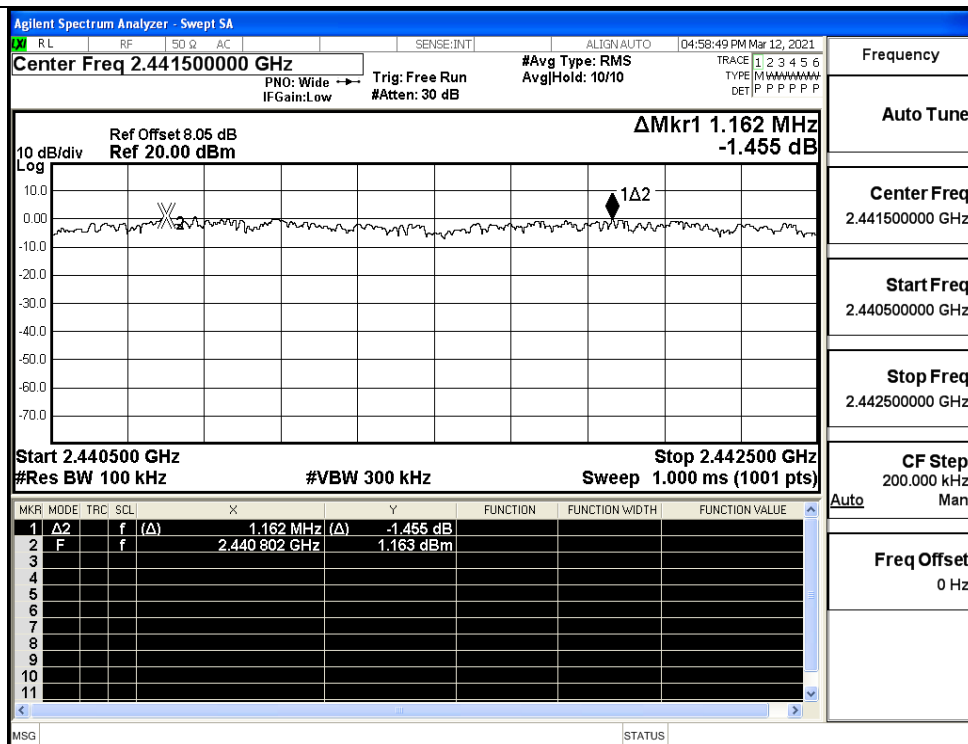
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

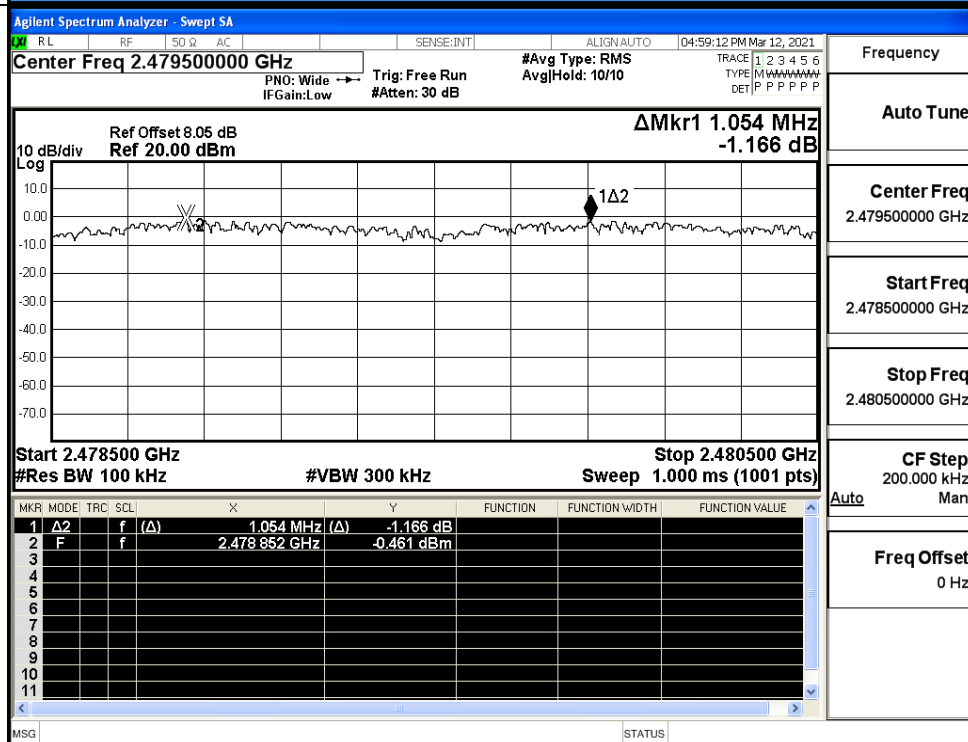
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

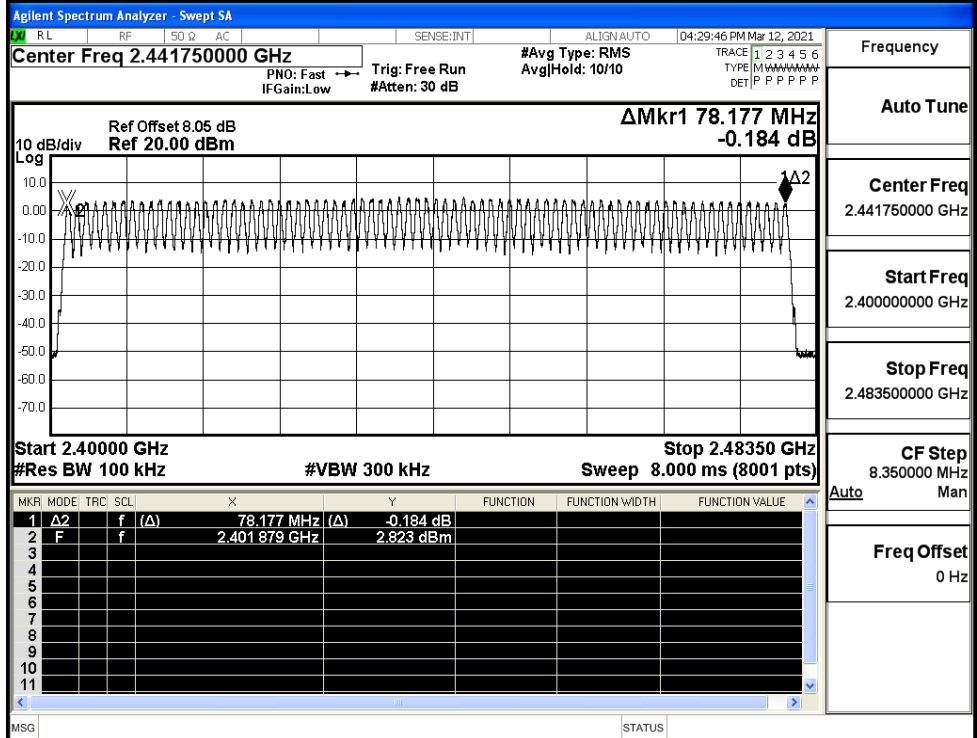
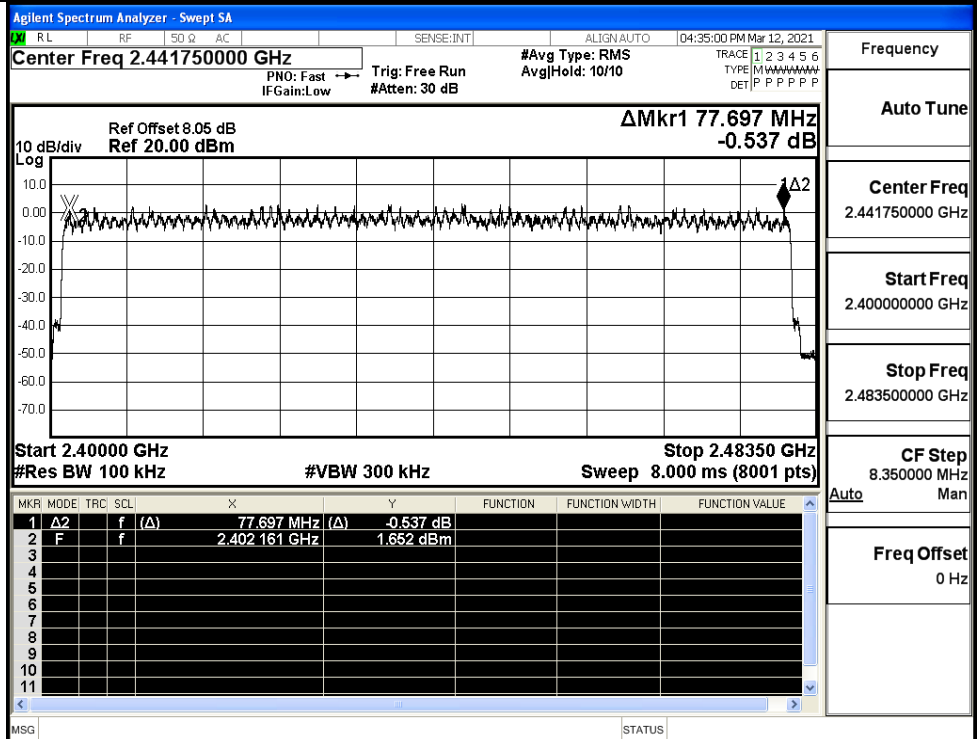


A.4 Hopping Channel Number

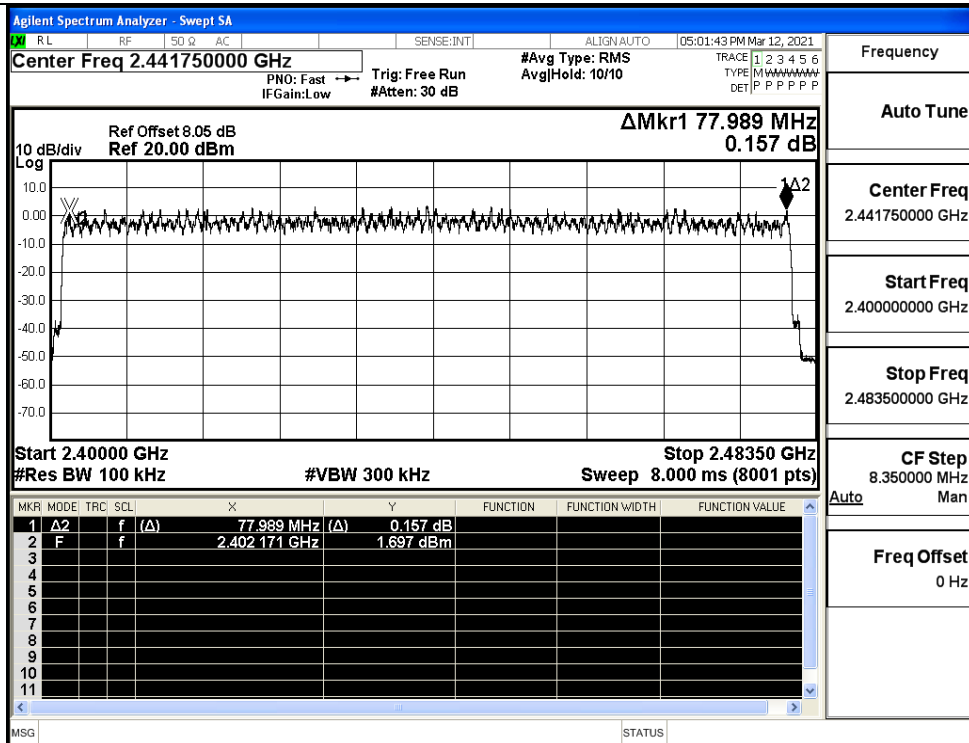
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

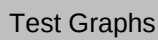
GFSK/Hop

 $\pi/4$ DQPSK/Hop

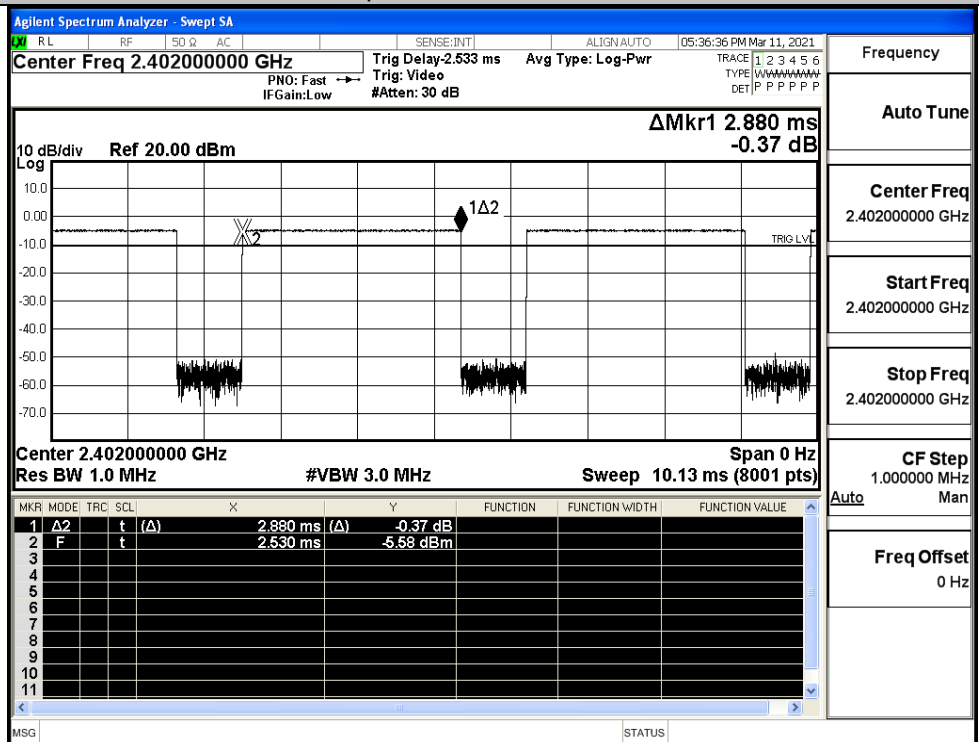
8DPSK/Hop



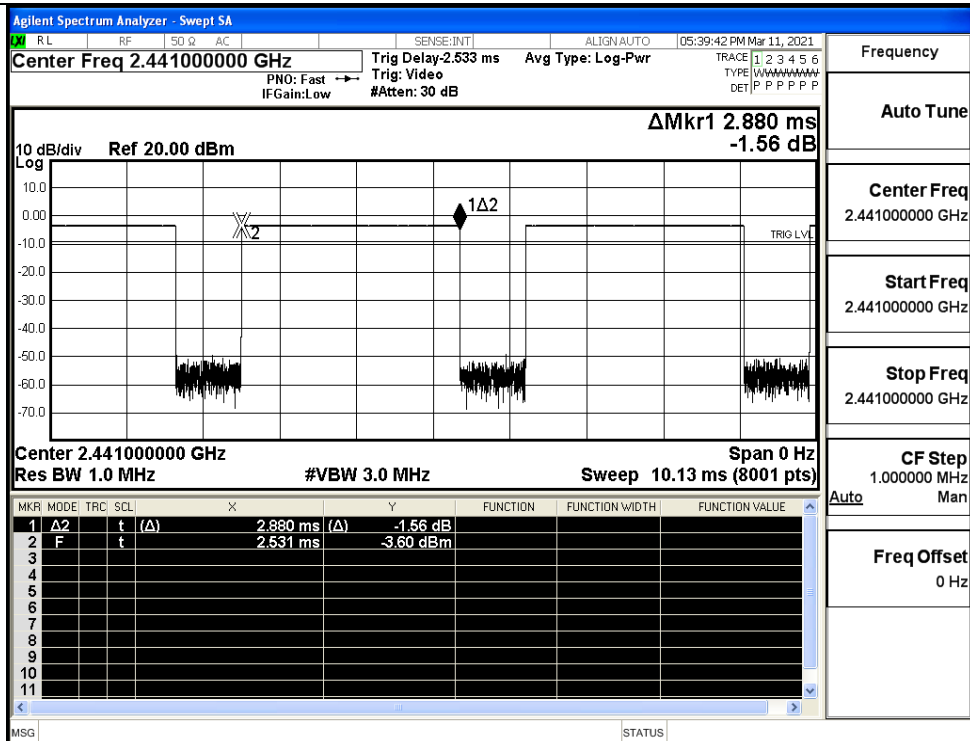
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88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



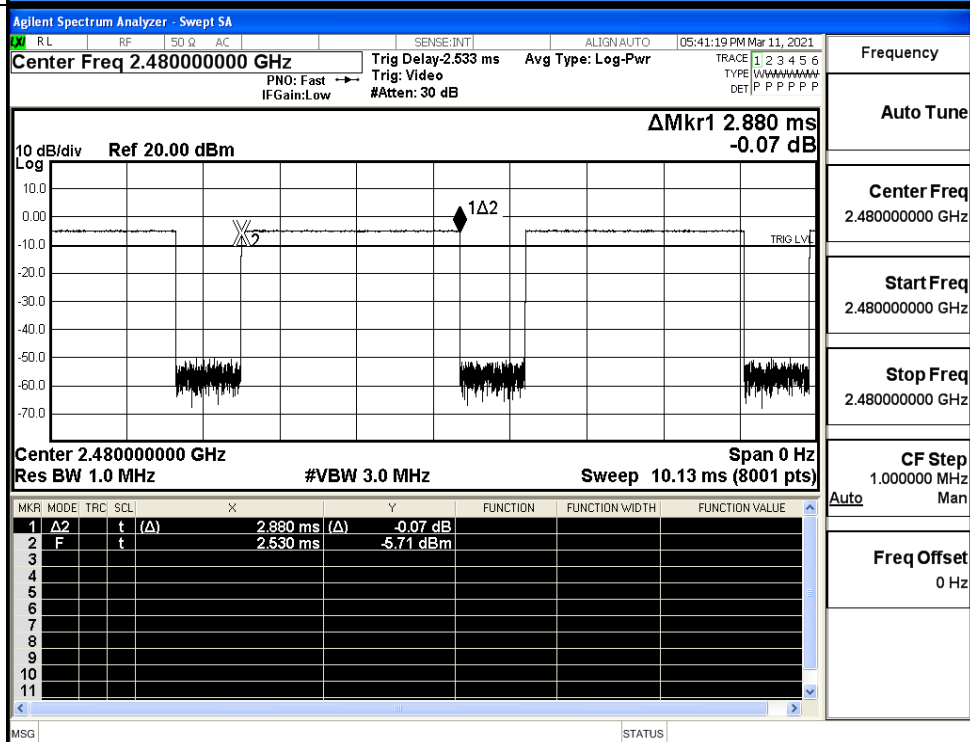
GFSK_DH5/LCH



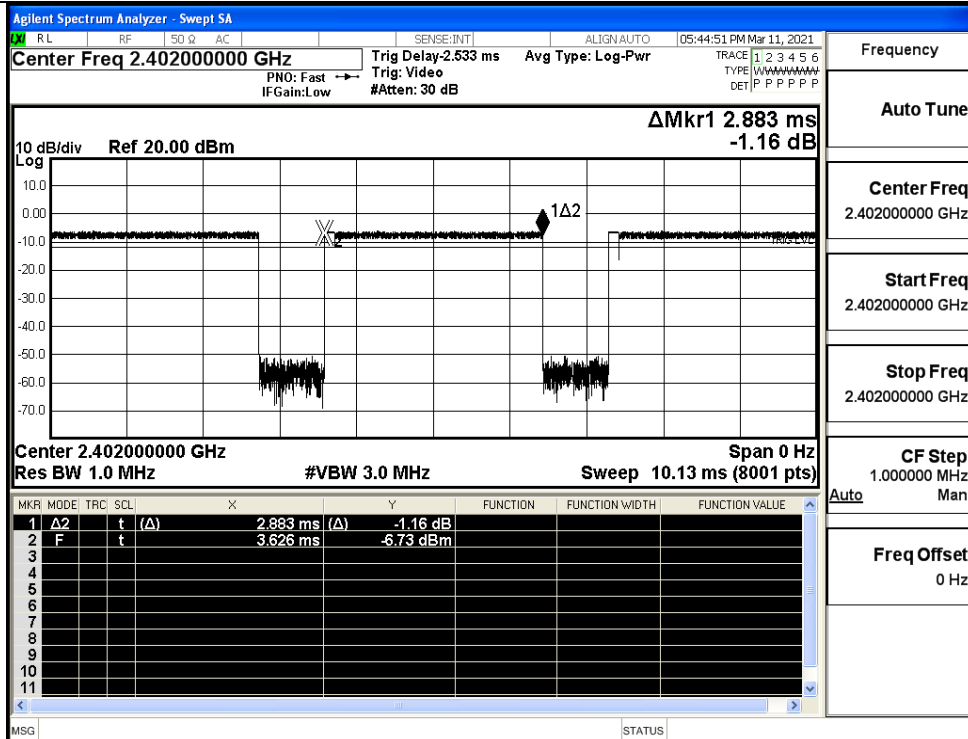
GFSK_DH5/MCH



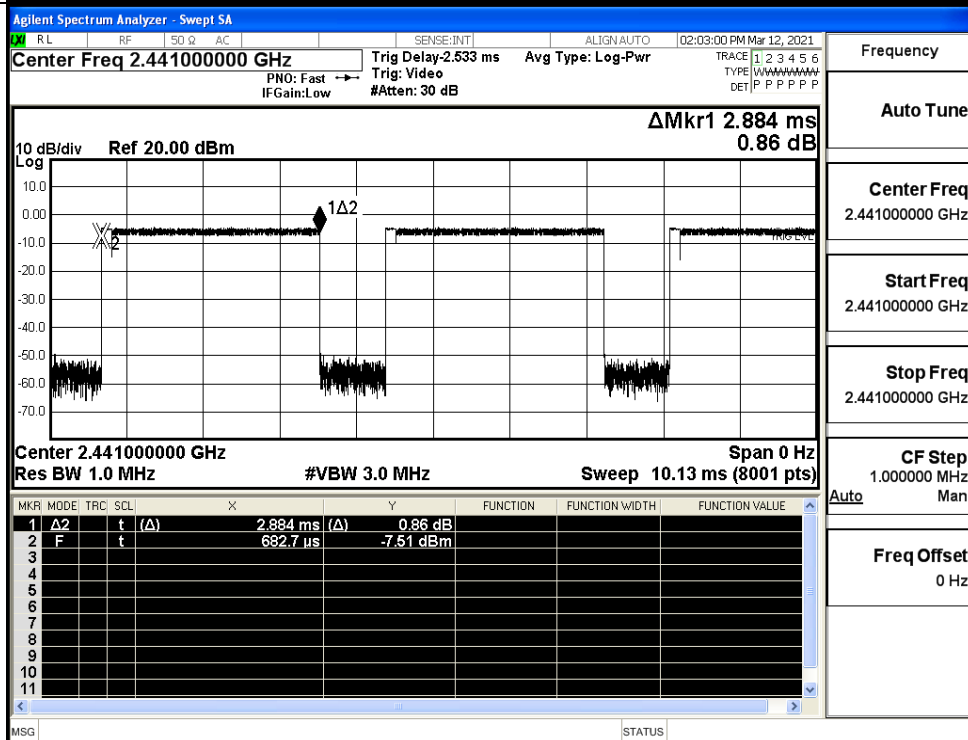
GFSK_DH5/HCH



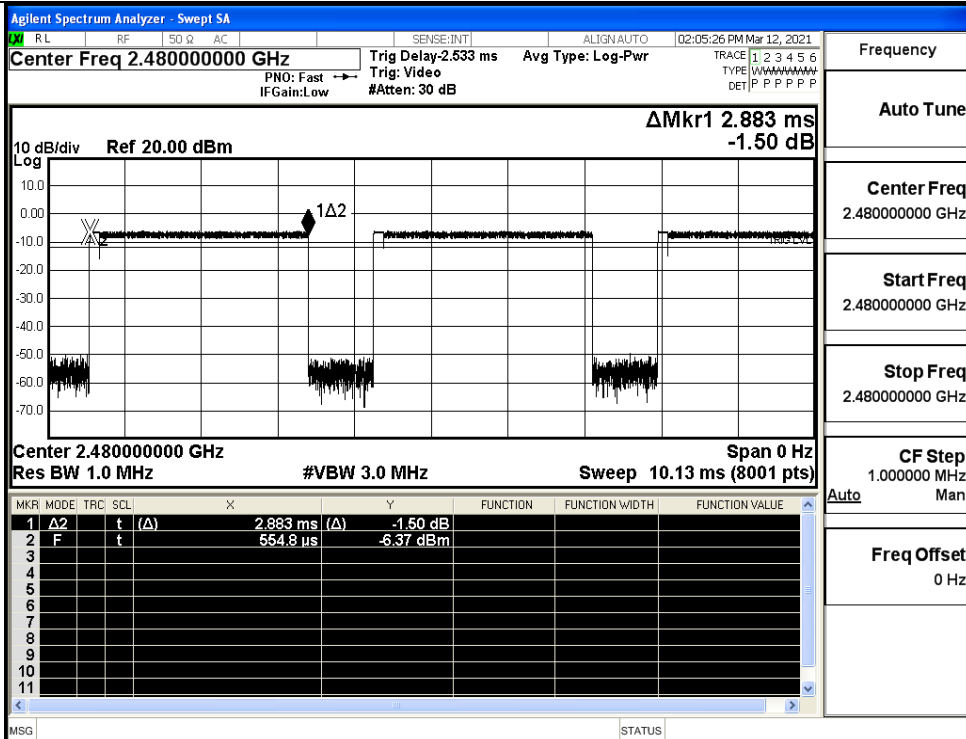
$\pi/4$ DQPSK
_2DH5/LCH



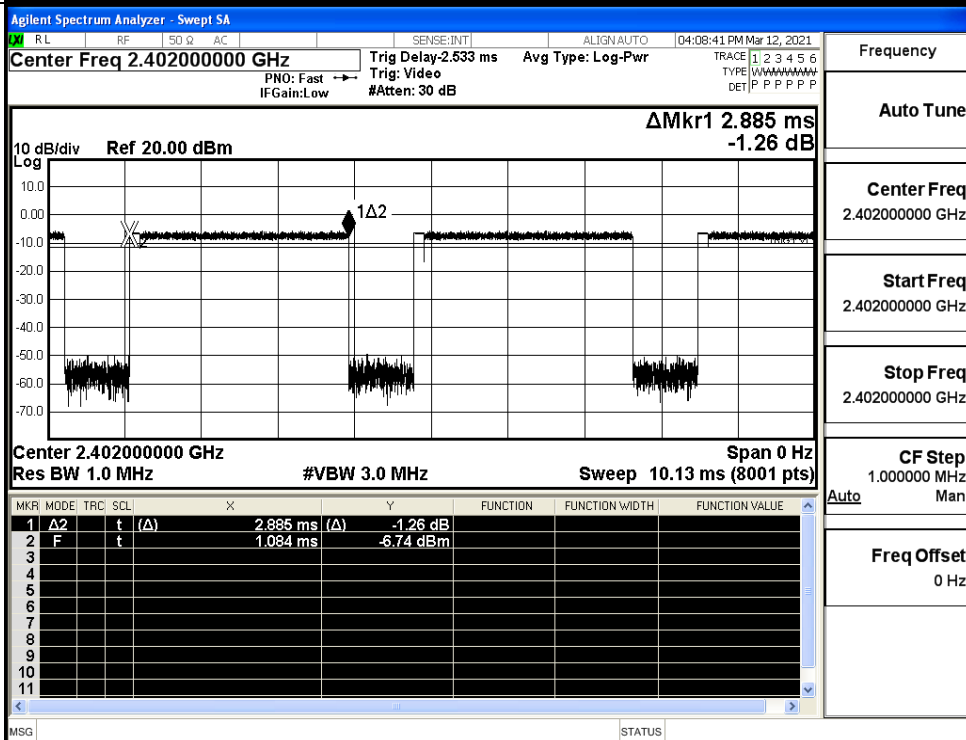
$\pi/4$ DQPSK
_2DH5/MCH



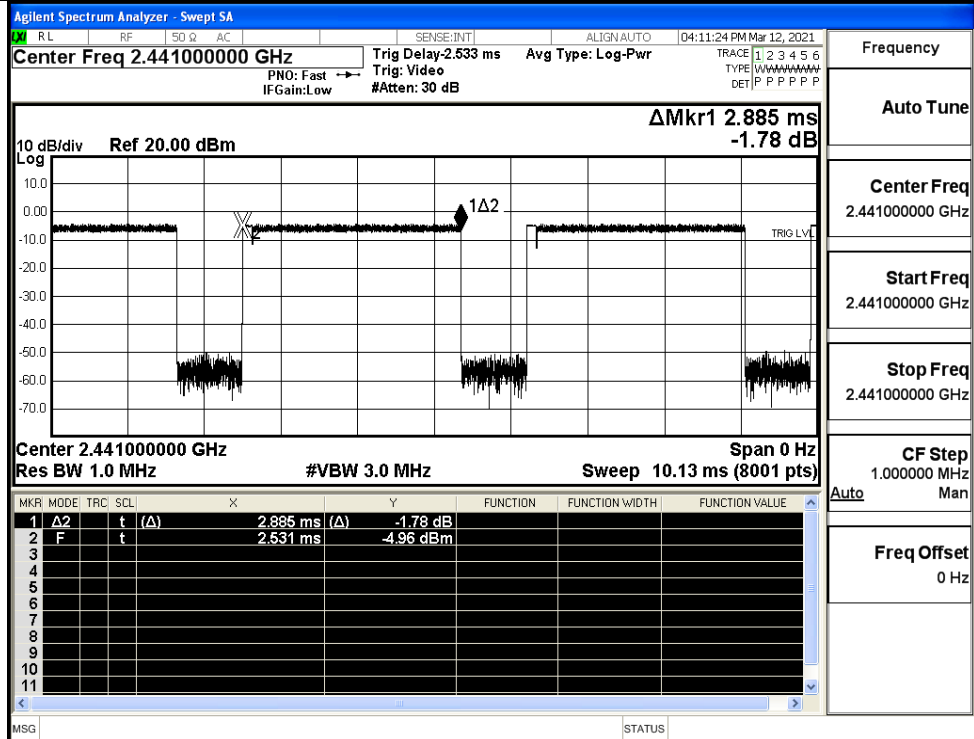
$\pi/4$ DQPSK
_2DH5/HCH



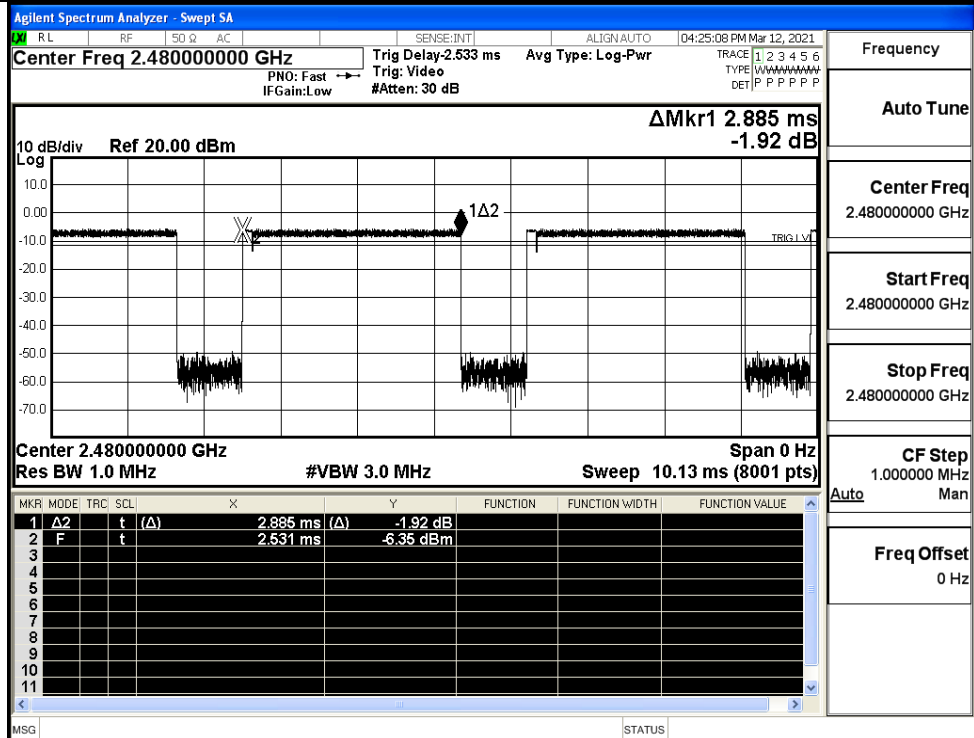
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



8DPSK_3DH5/HCH

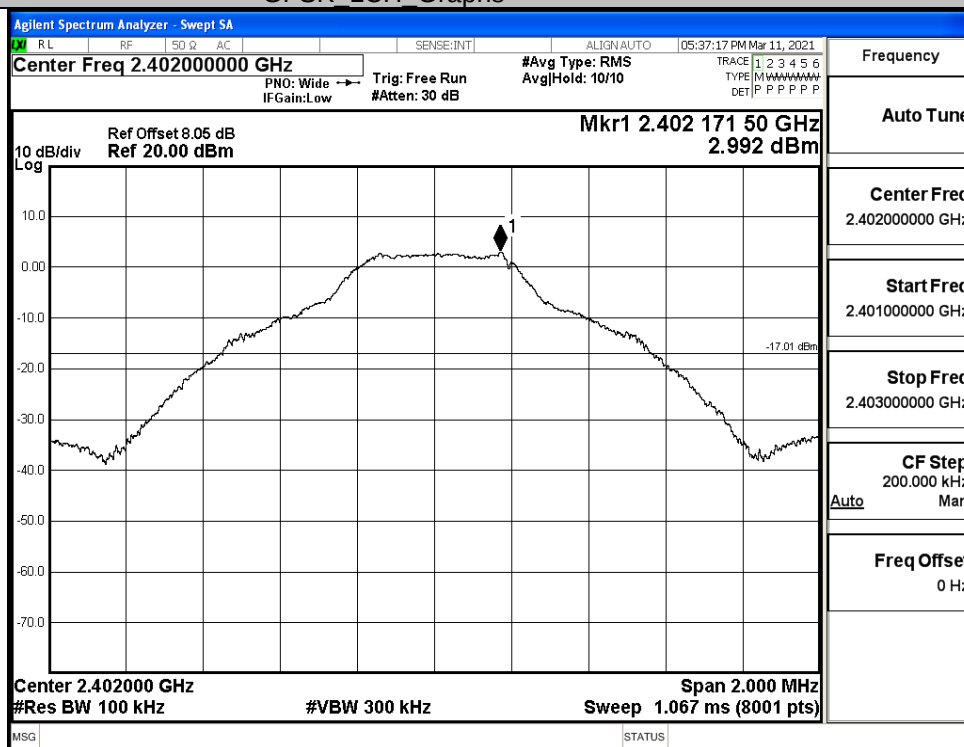


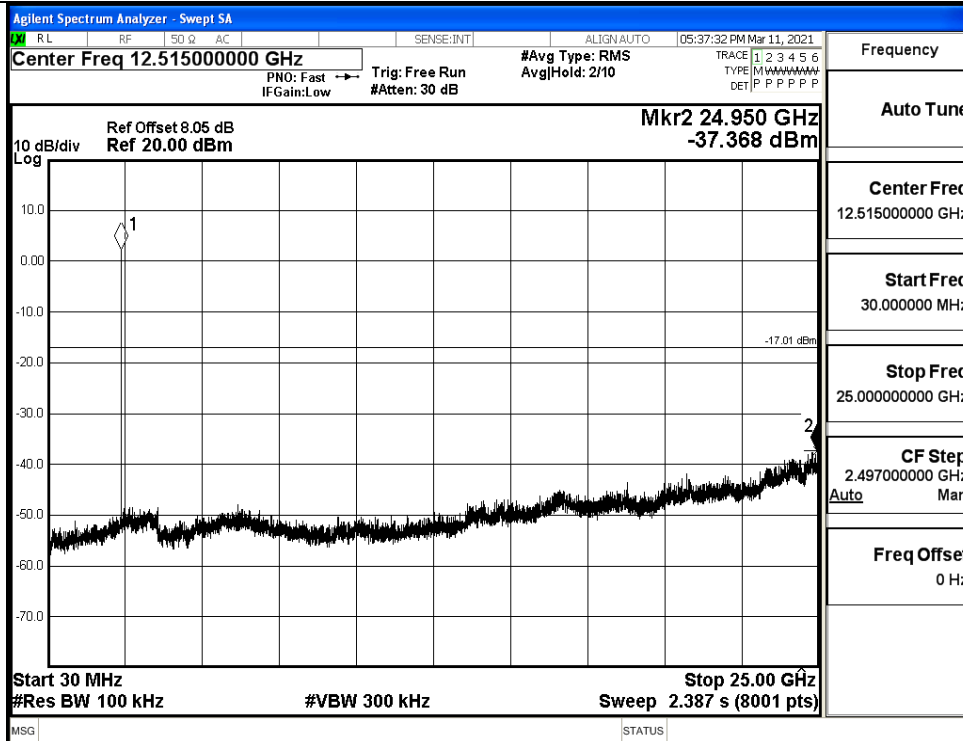
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.992	-37.368	-17.008	PASS
	MCH	4.633	-37.223	-15.367	PASS
	HCH	3.057	-38.193	-16.943	PASS
$\pi/4$ DQPSK	LCH	1.485	-37.040	-18.515	PASS
	MCH	2.988	-38.370	-17.012	PASS
	HCH	1.317	-37.380	-18.683	PASS
8DPSK	LCH	1.63	-37.249	-18.370	PASS
	MCH	3.218	-37.521	-16.782	PASS
	HCH	1.466	-38.399	-18.534	PASS

GFSK LCH Graphs

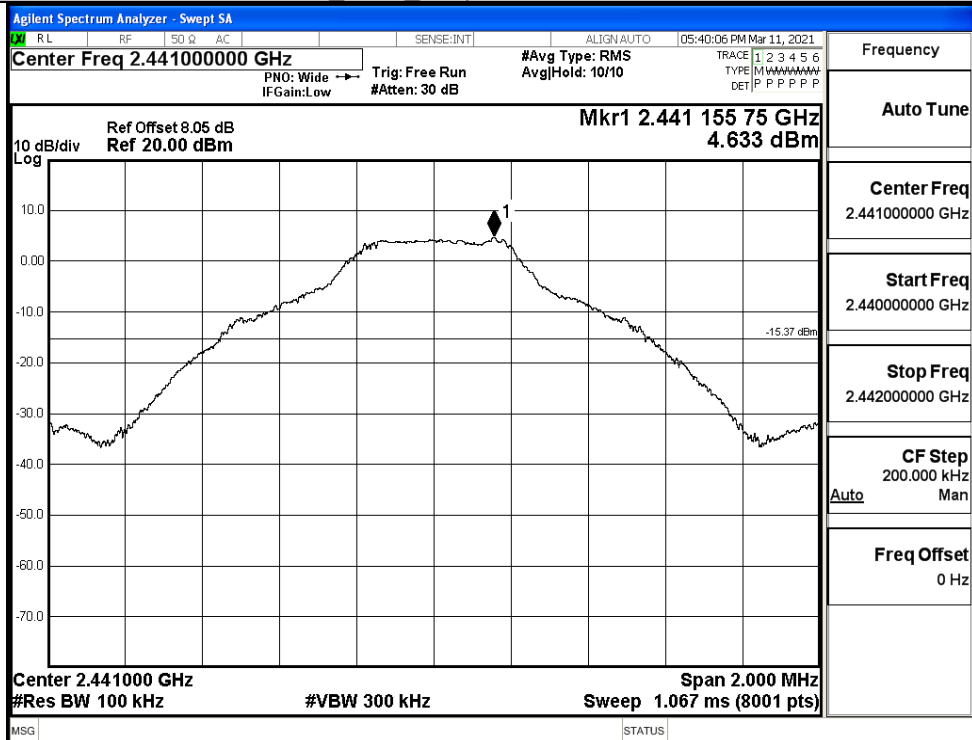
Pref



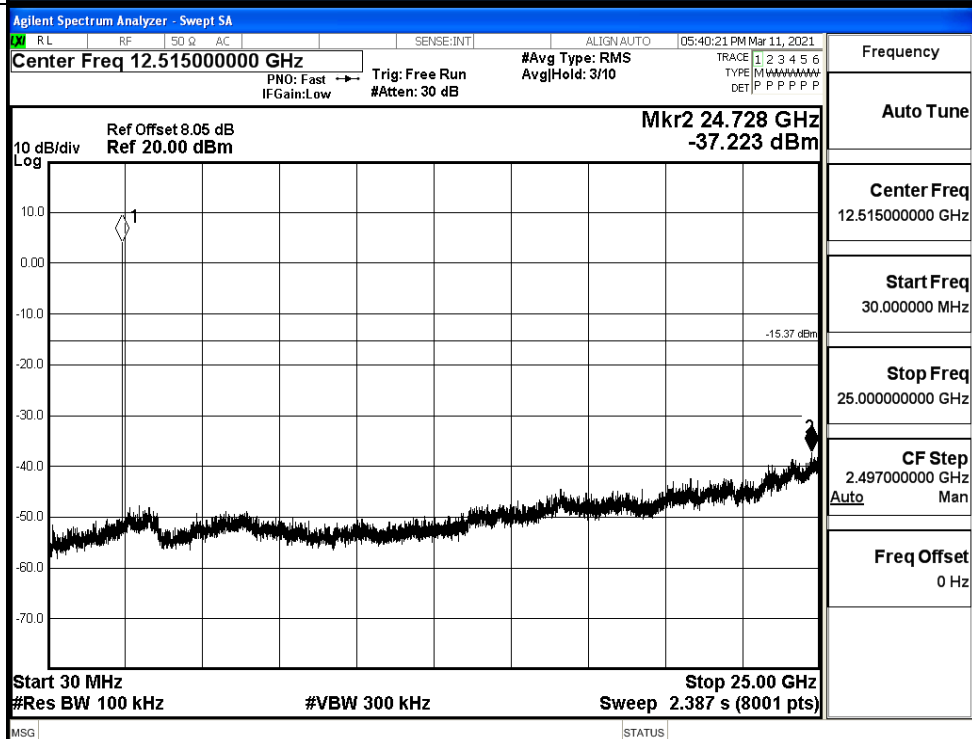
P_uw

GFSK_MCH_Graphs

Pref

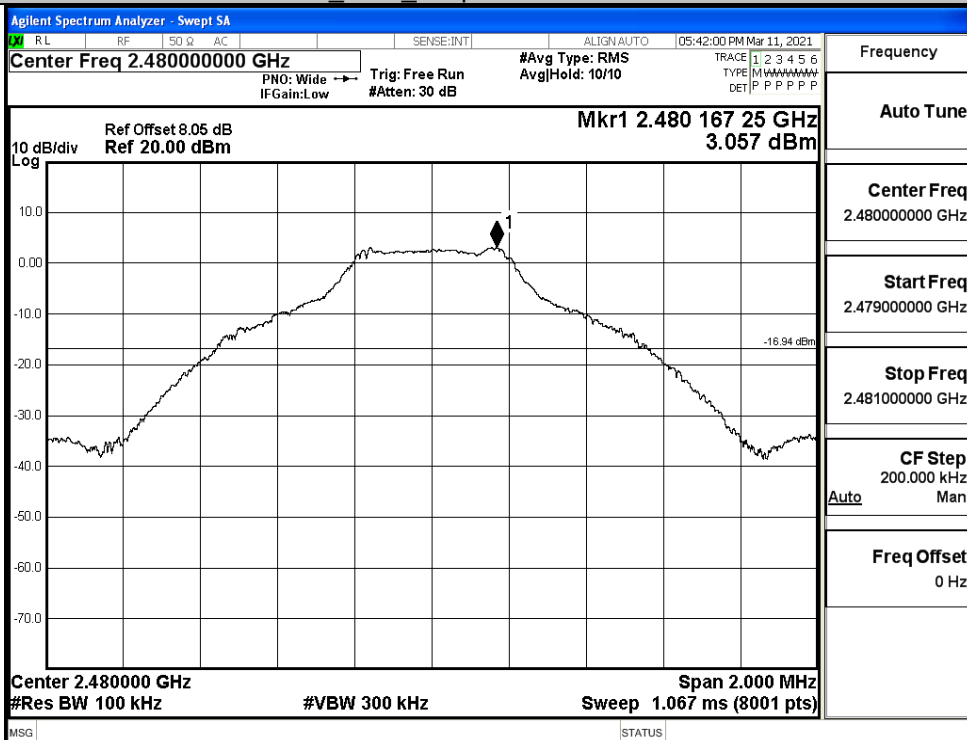


Puw

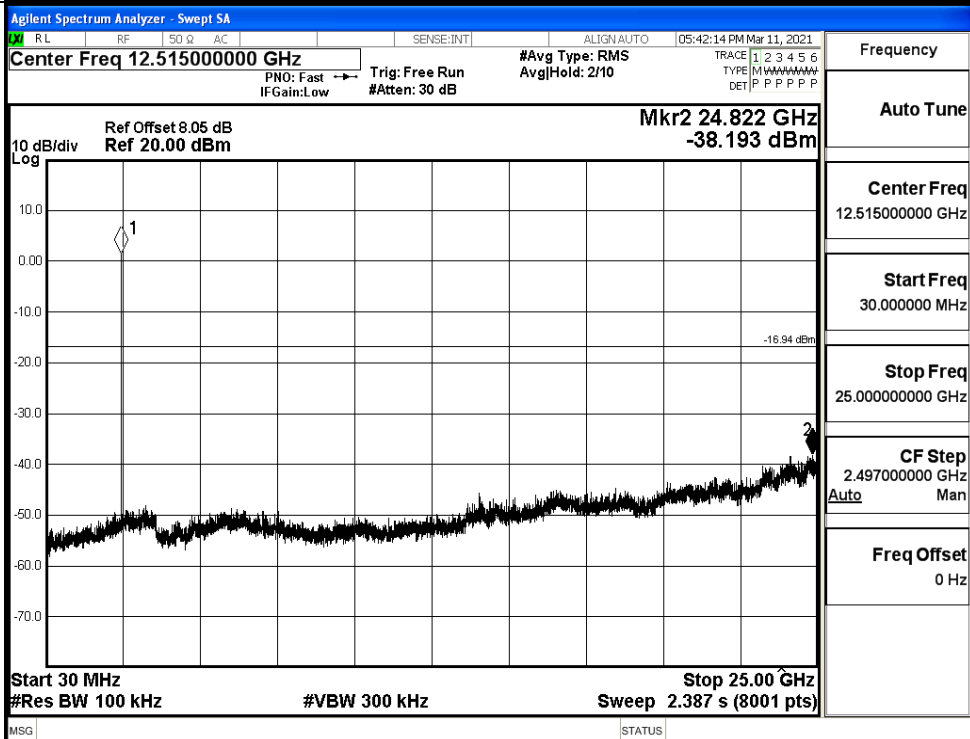


GFSK HCH_Graphs

Pref

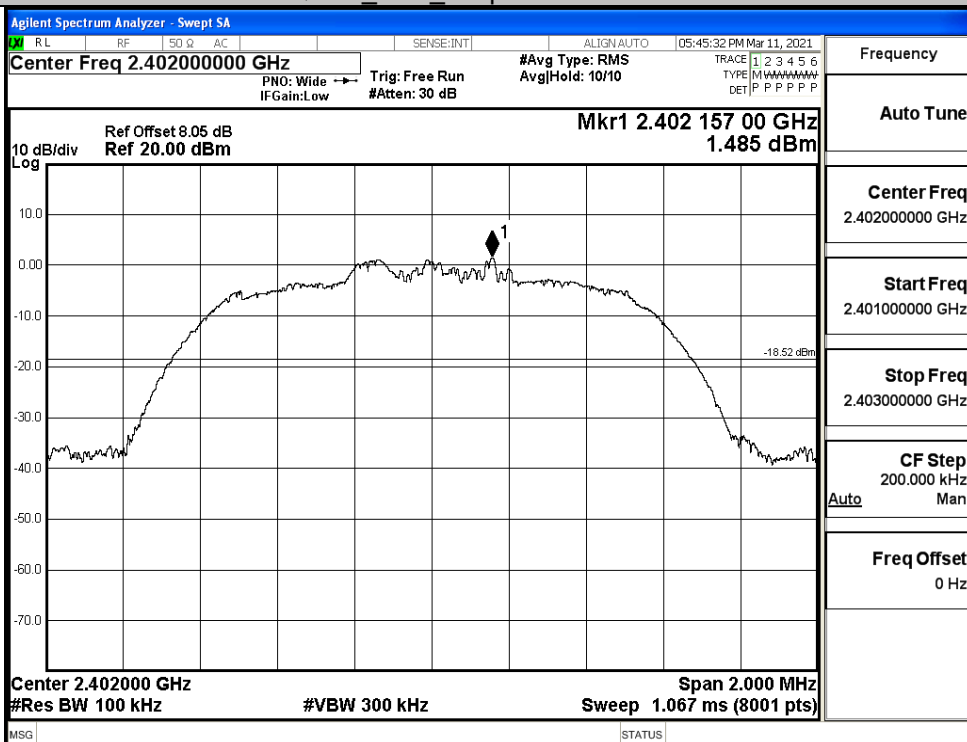


Puw

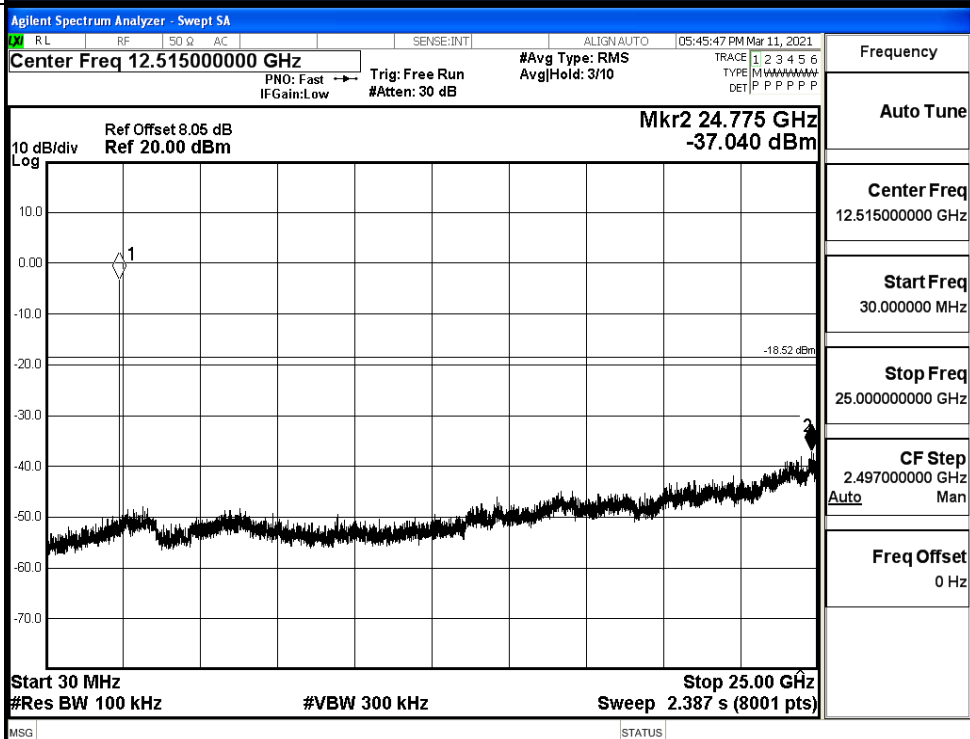


$\pi/4$ DQPSK_LCH_Graphs

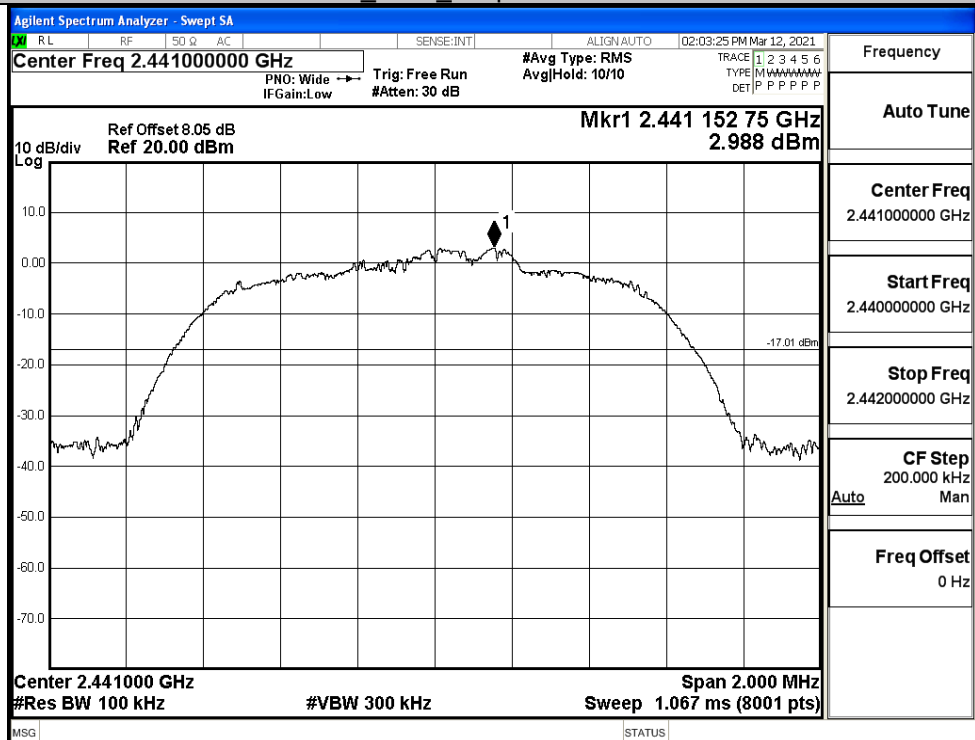
Pref



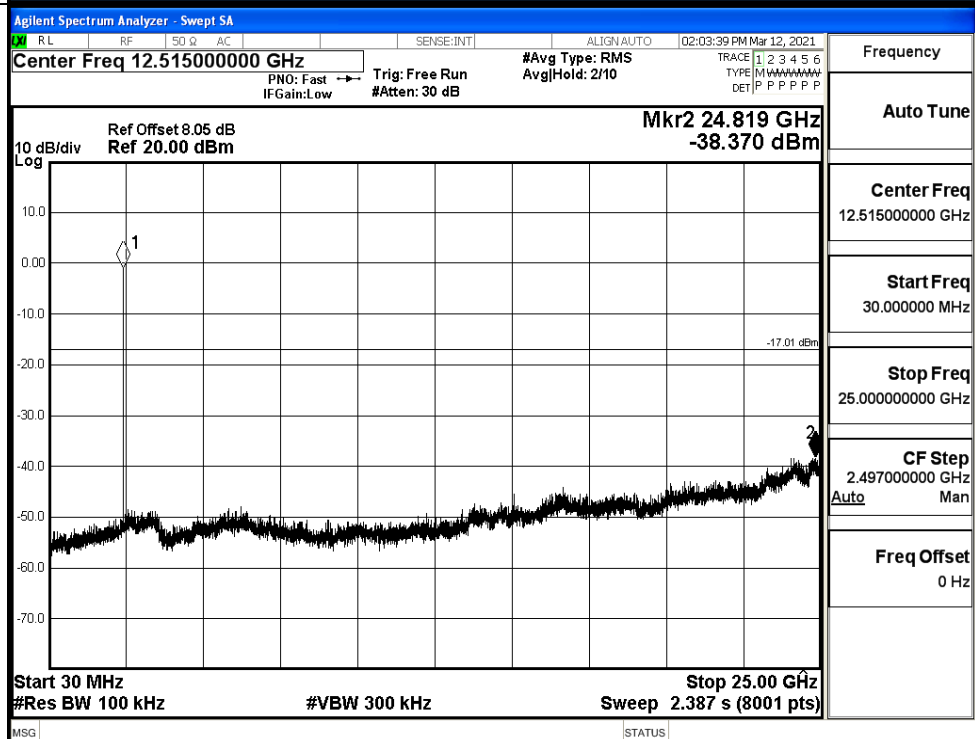
Puw



Pref

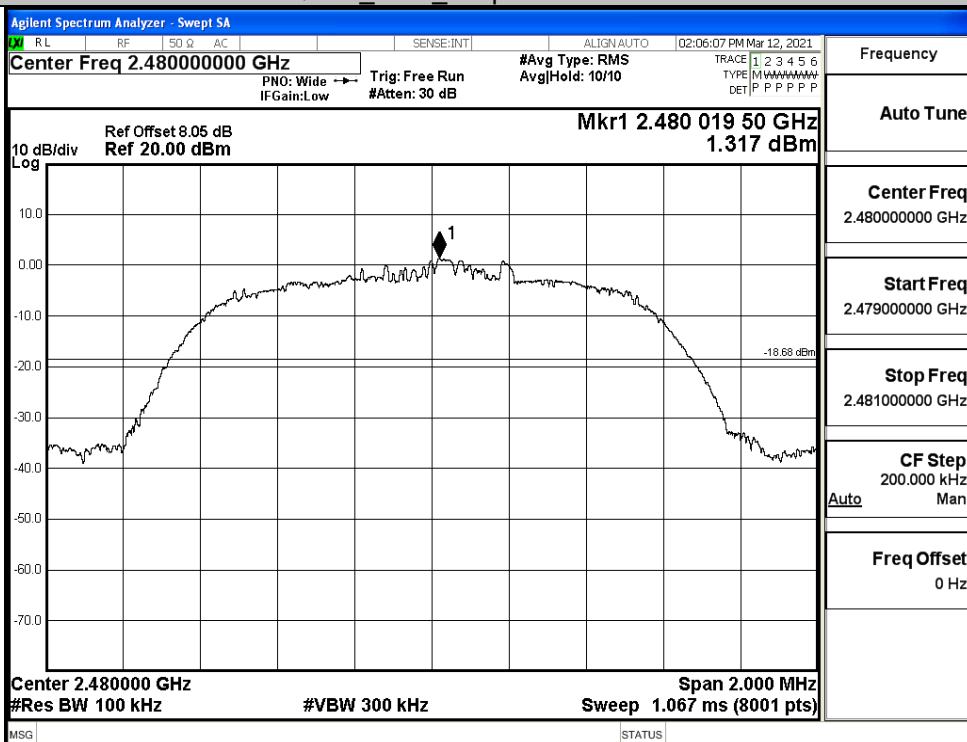


PuW

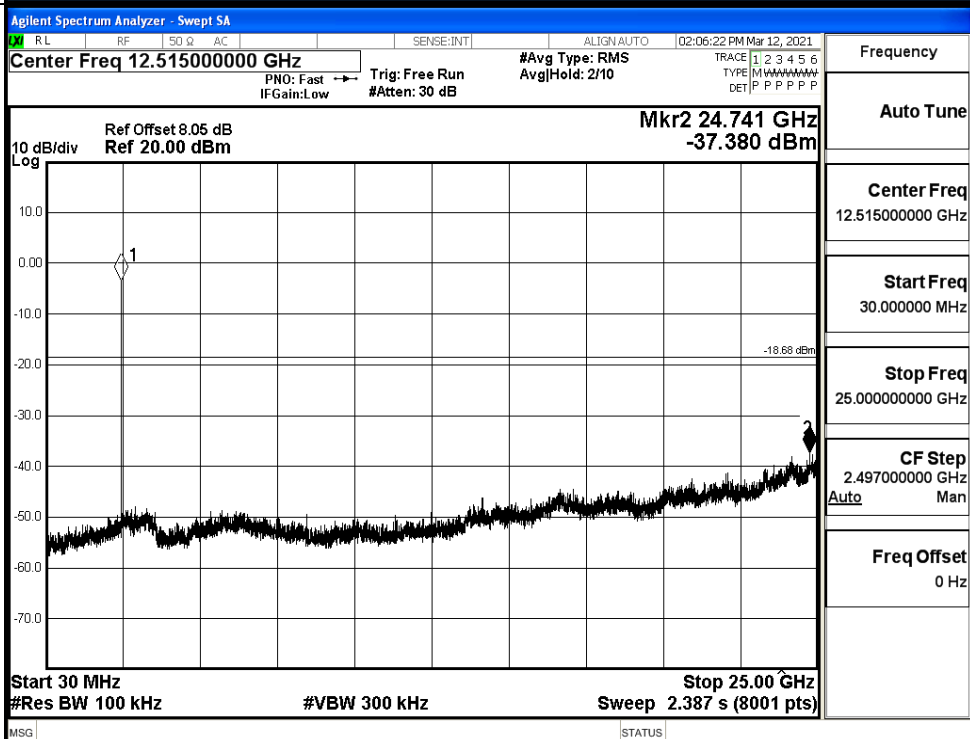


$\pi/4$ DQPSK_HCH_Graphs

Pref

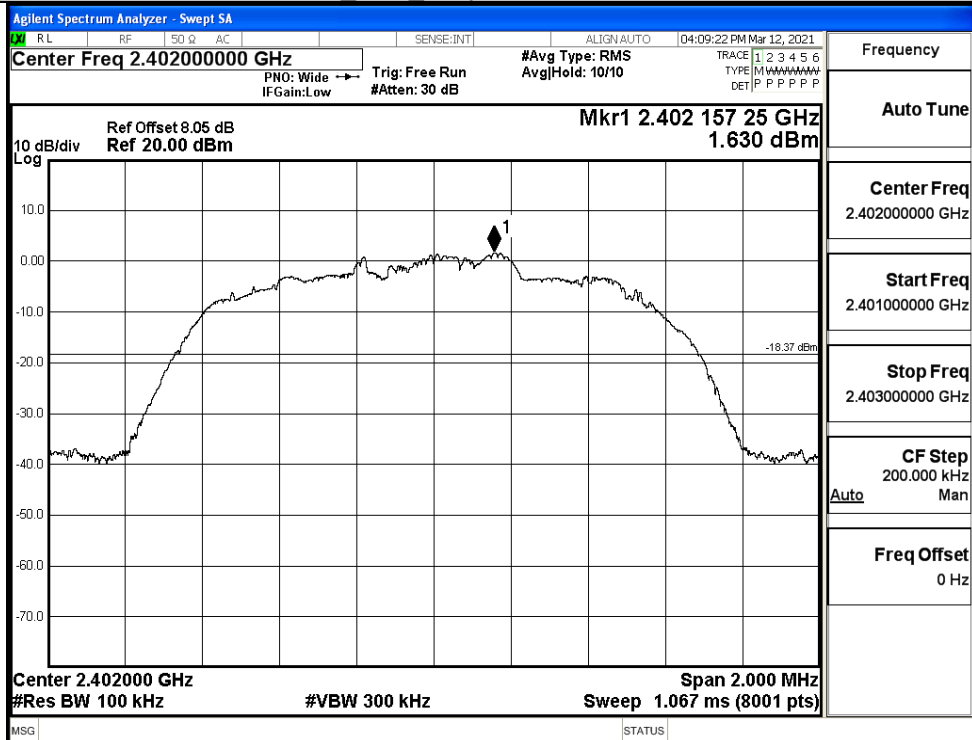


Puw

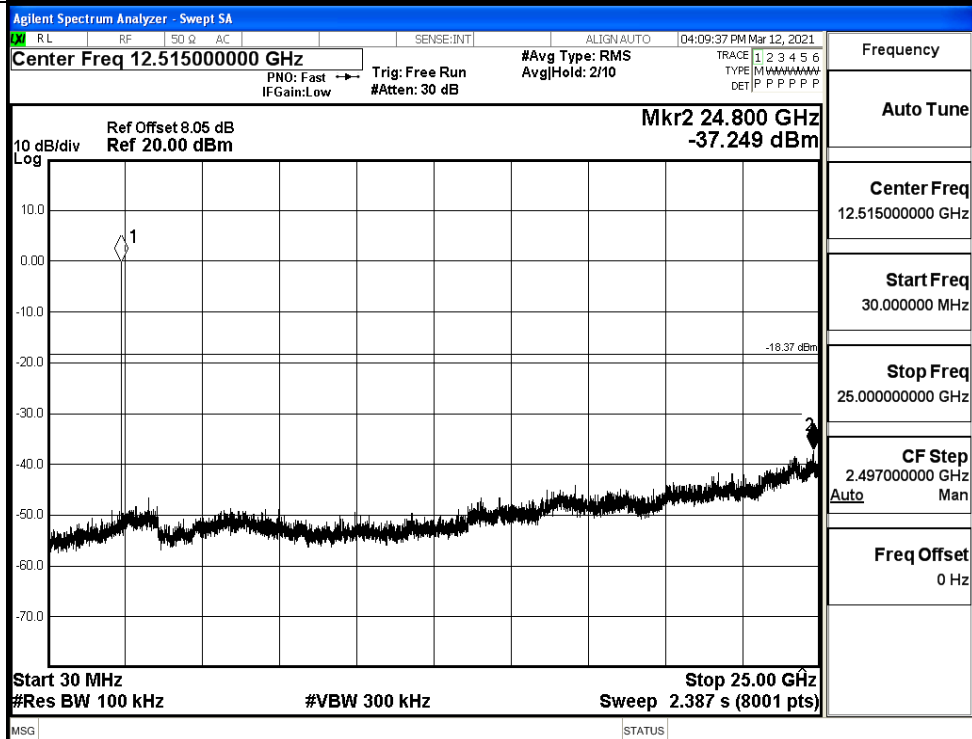


8DPSK_LCH_Graphs

Pref

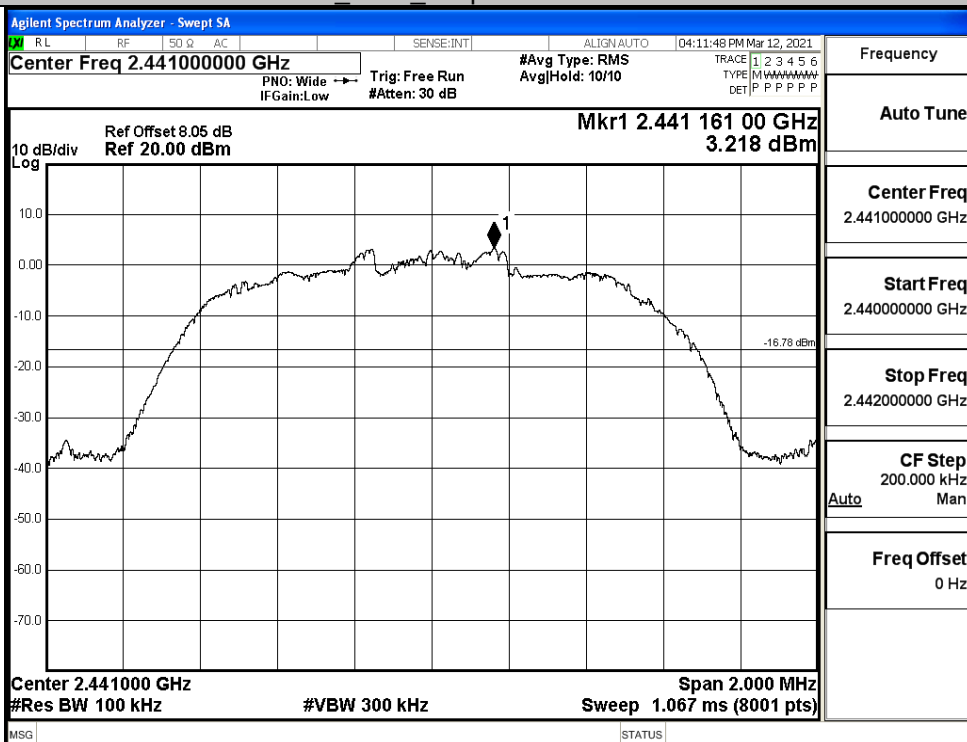


Puw

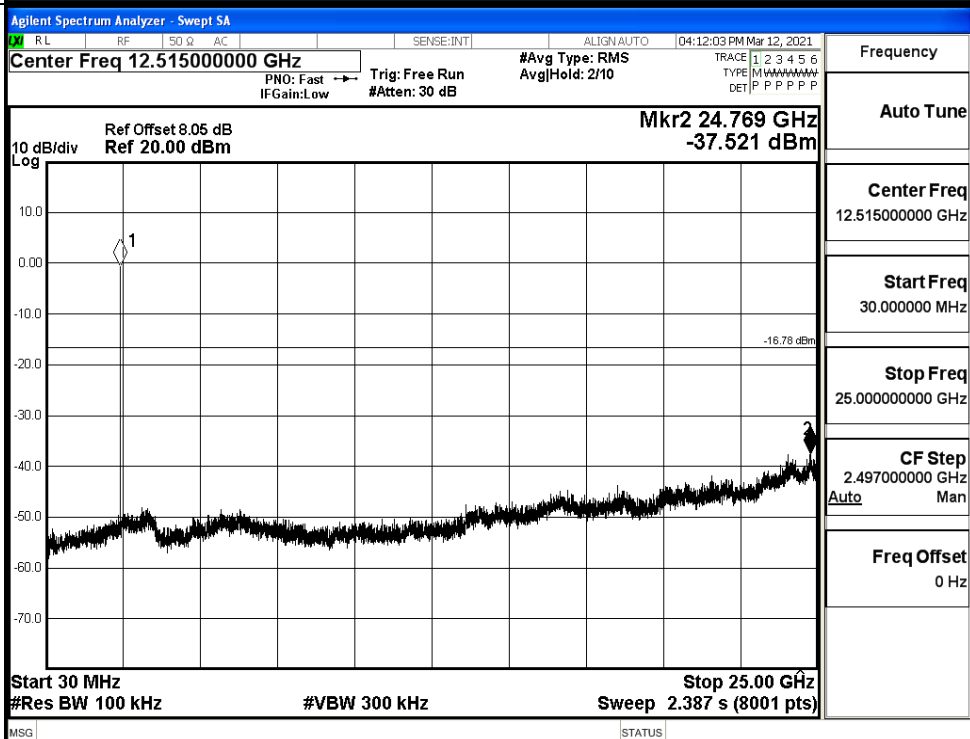


8DPSK_MCH_Graphs

Pref

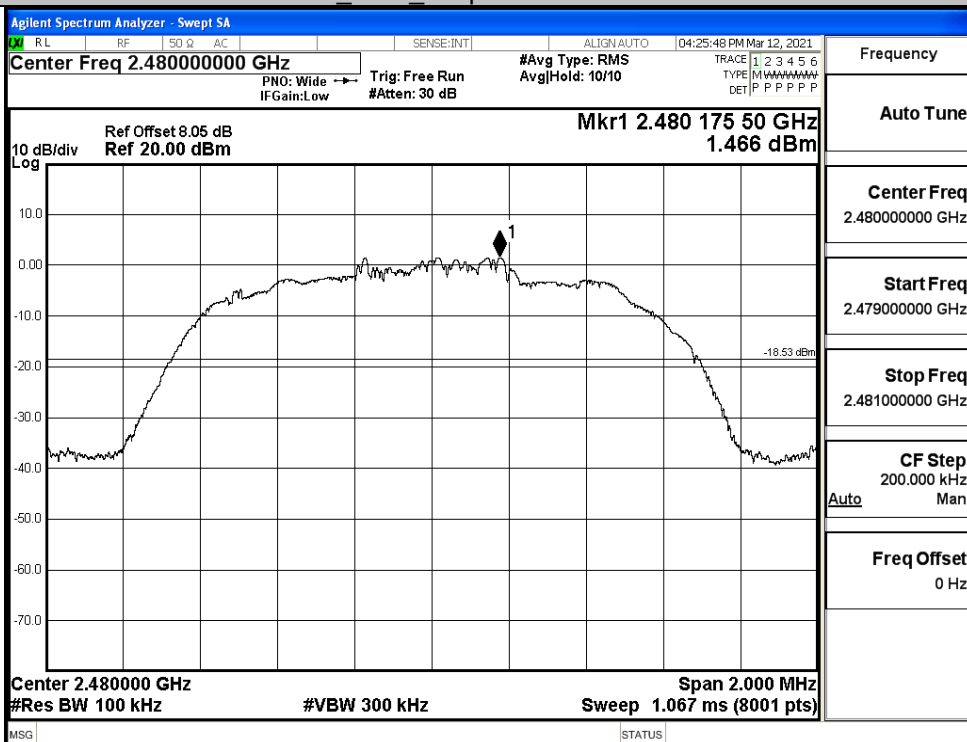


Puw

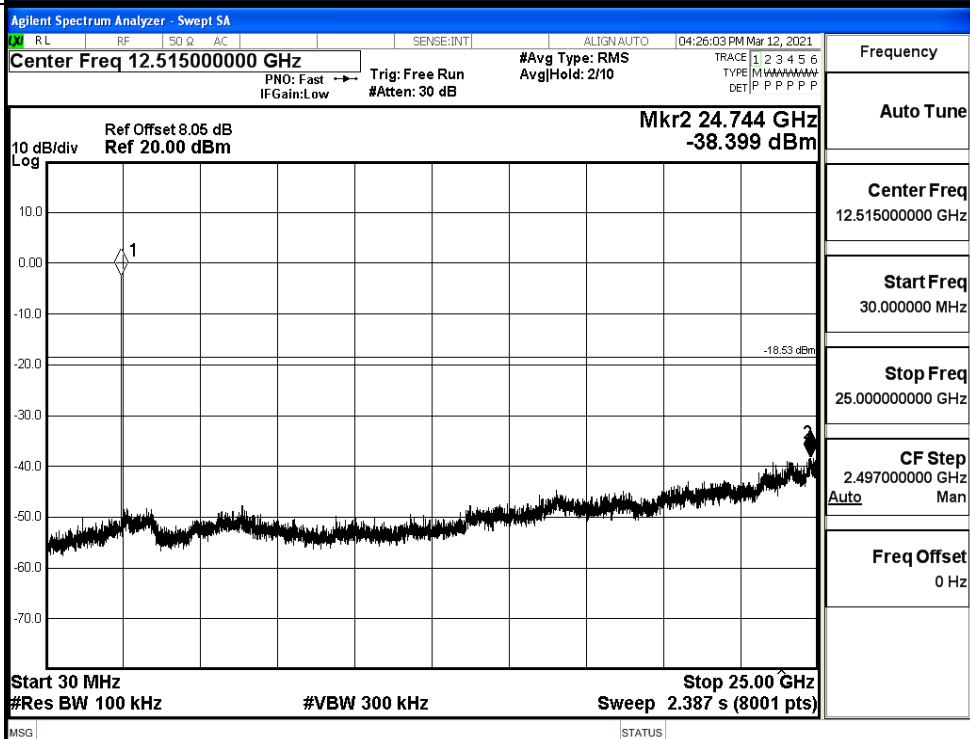


8DPSK_HCH_Graphs

Pref



Puw

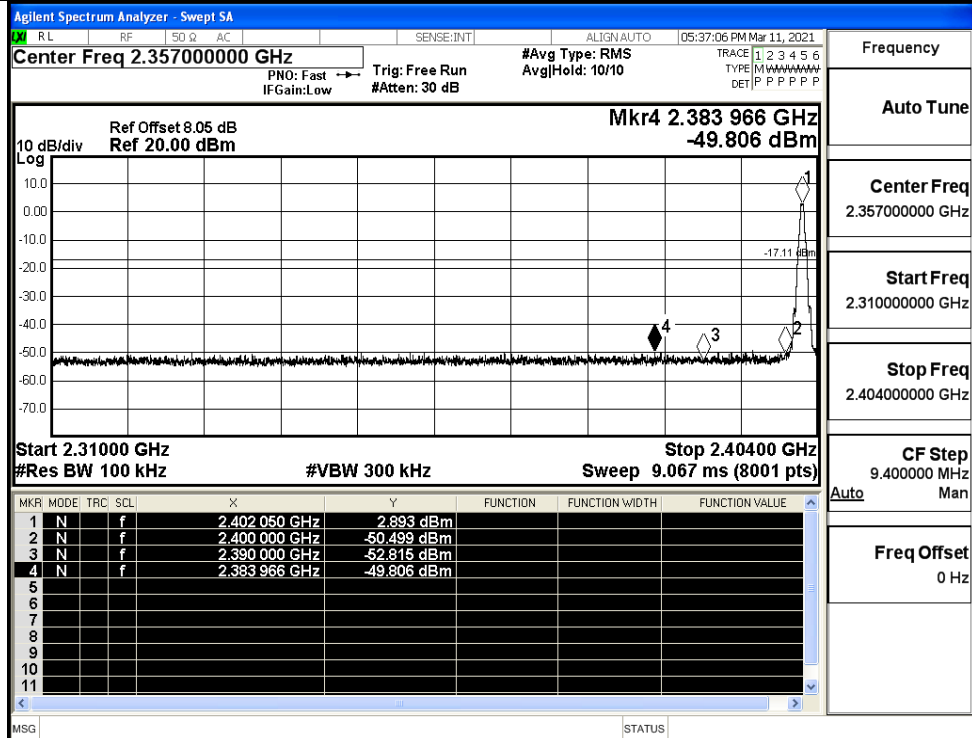


A.7 Band-edge for RF Conducted Emissions

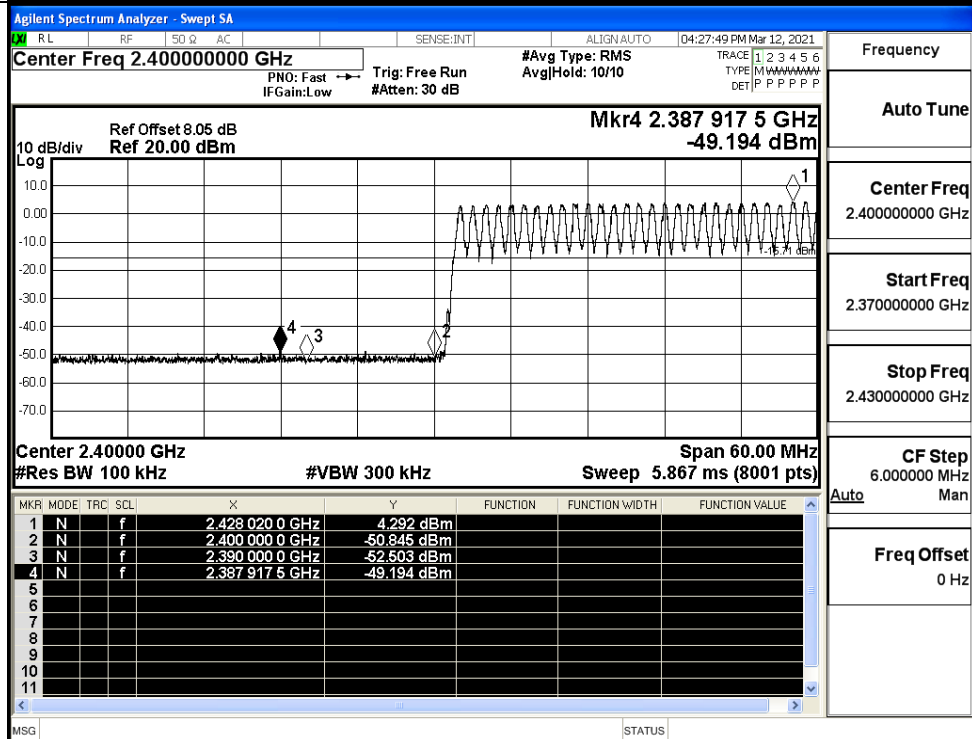
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	2.893	Off	-49.806	-17.11	PASS
			4.292	On	-49.194	-15.71	PASS
	HCH	2480	3.177	Off	-48.750	-16.82	PASS
			4.034	On	-48.718	-15.97	PASS
$\pi/4$ DQPSK	LCH	2402	1.276	Off	-49.719	-18.72	PASS
			3.150	On	-48.682	-16.85	PASS
	HCH	2480	1.800	Off	-48.738	-18.2	PASS
			2.557	On	-48.132	-17.44	PASS
8DPSK	LCH	2402	0.373	Off	-49.958	-19.63	PASS
			2.947	On	-48.663	-17.05	PASS
	HCH	2480	1.869	Off	-49.185	-18.13	PASS
			2.830	On	-48.808	-17.17	PASS

Test Graphs

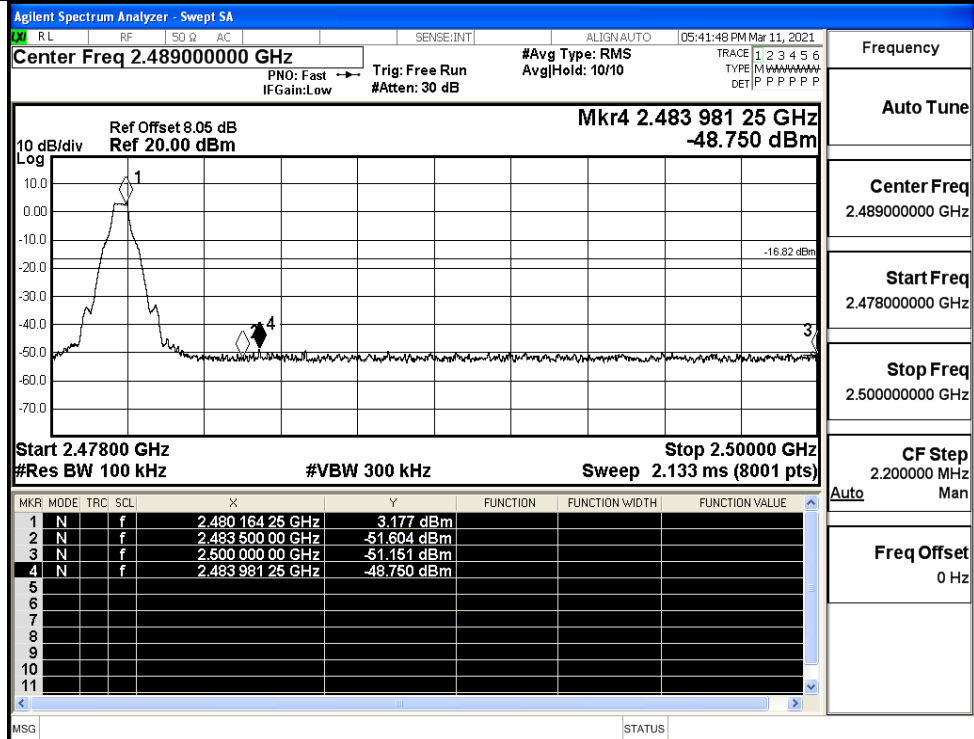
GFSK/LCH/No Hop



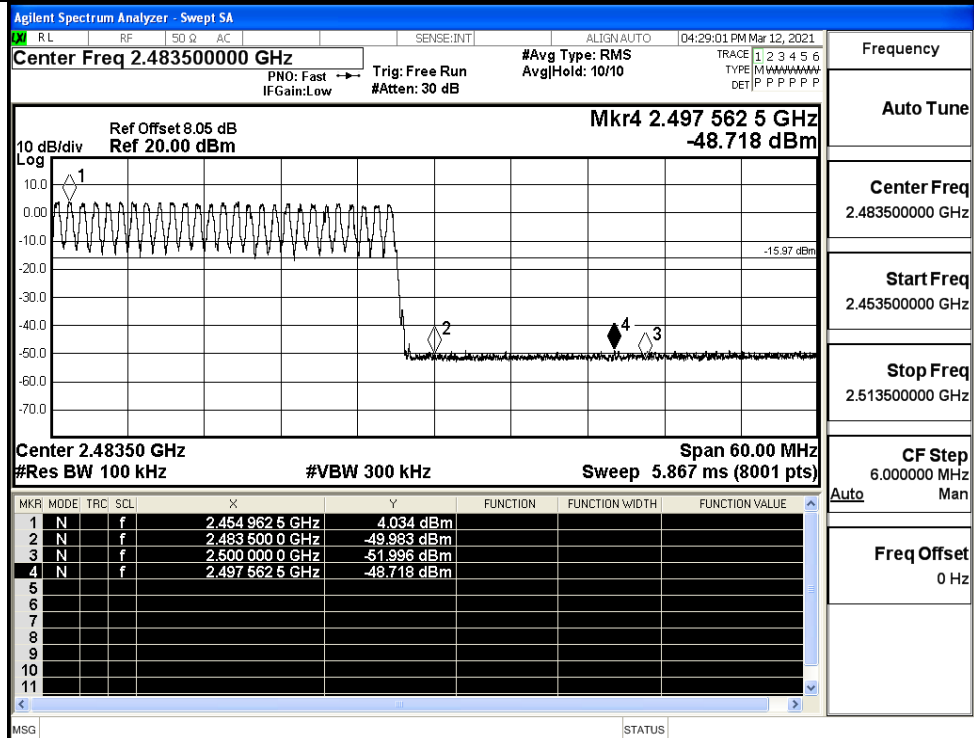
GFSK/LCH/Hop



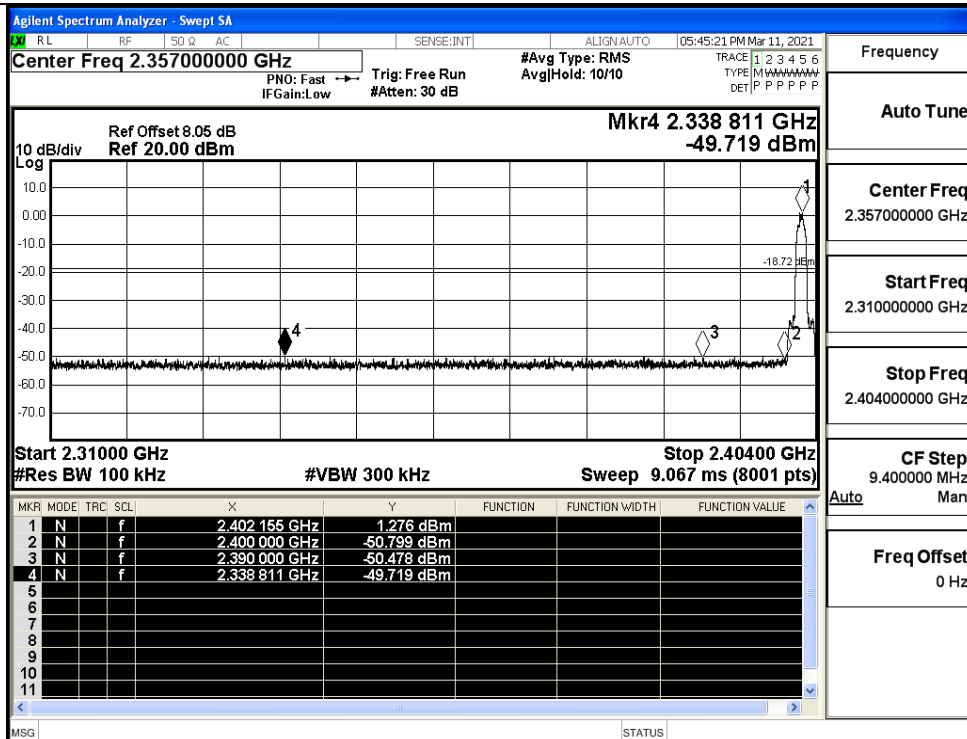
GFSK/HCH/No Hop



GFSK/HCH/Hop



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



Frequency

Auto Tune

Center Freq
2.357000000 GHz

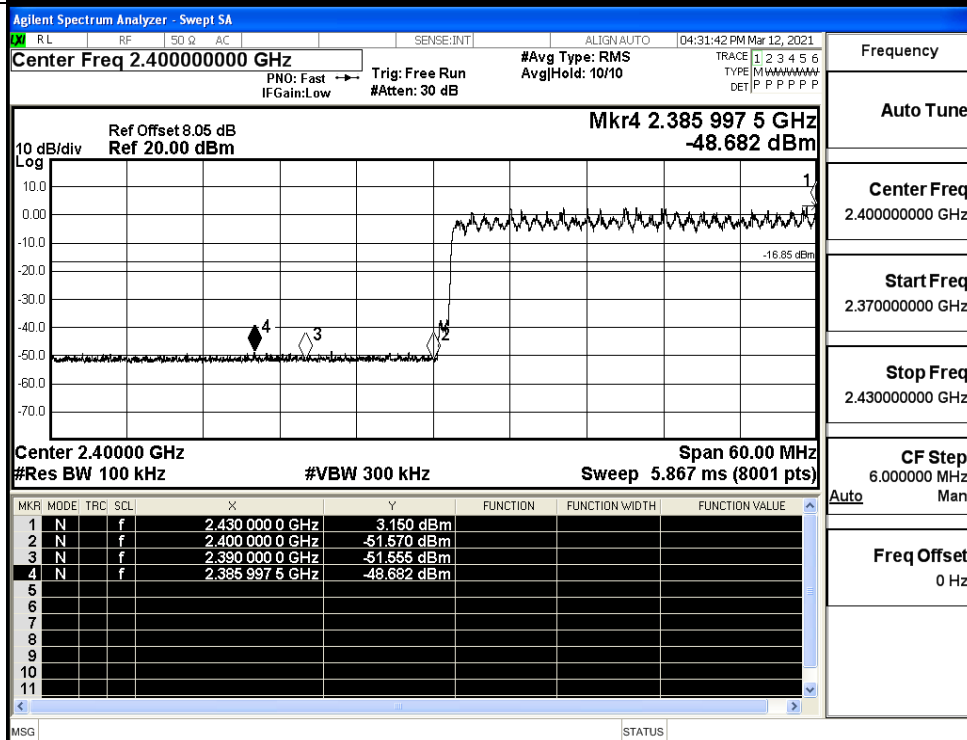
Start Freq
2.310000000 GHz

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

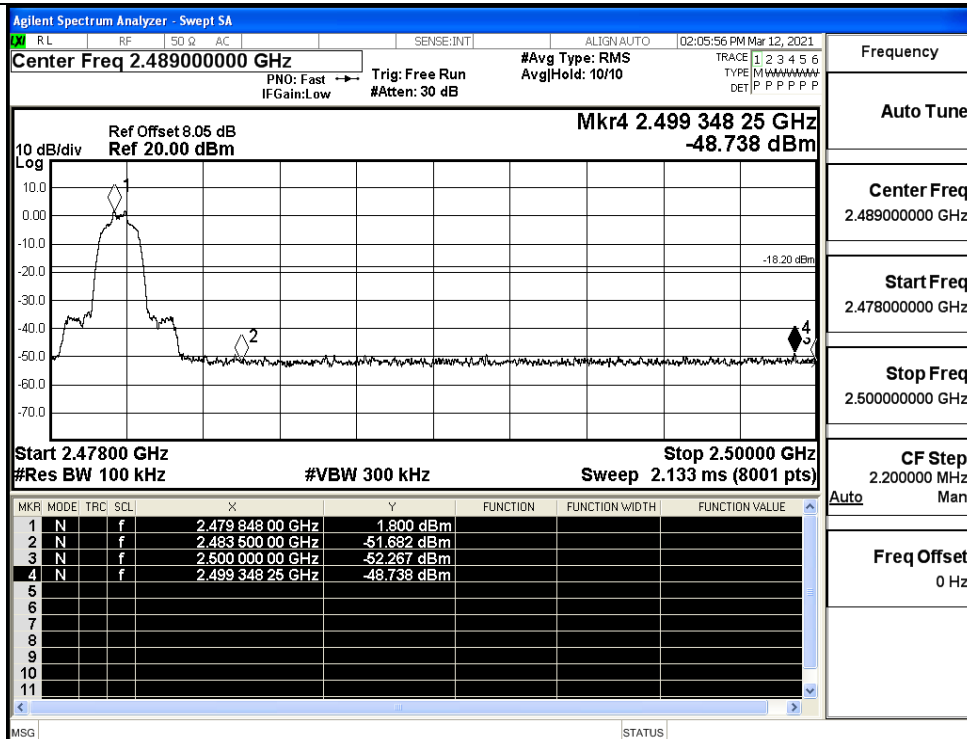
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

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

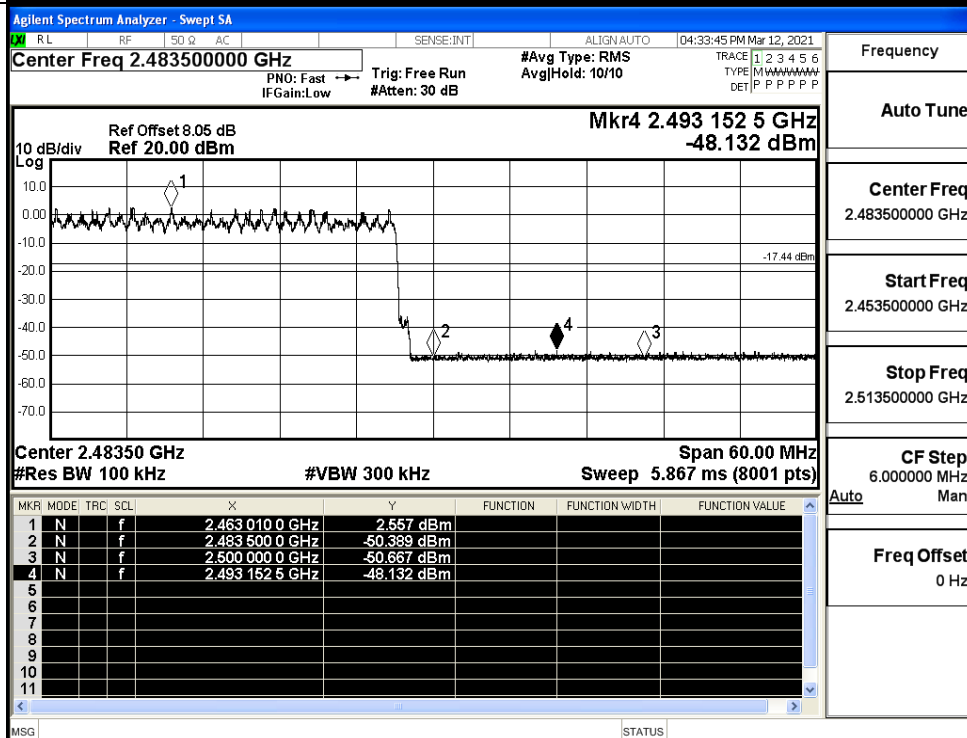


Frequency

Auto Tune

Center Freq
2.489000000 GHzStart Freq
2.478000000 GHzStop Freq
2.500000000 GHzCF Step
2.200000 MHzFreq Offset
0 Hz

$\pi/4$ DQPSK/HCH/Hop

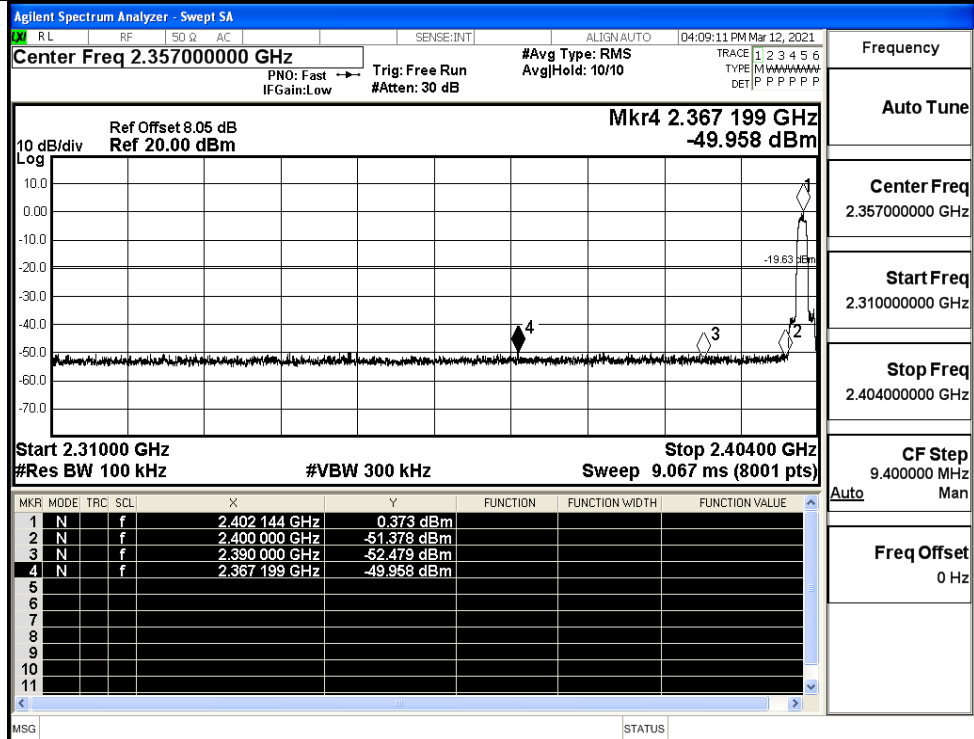


Frequency

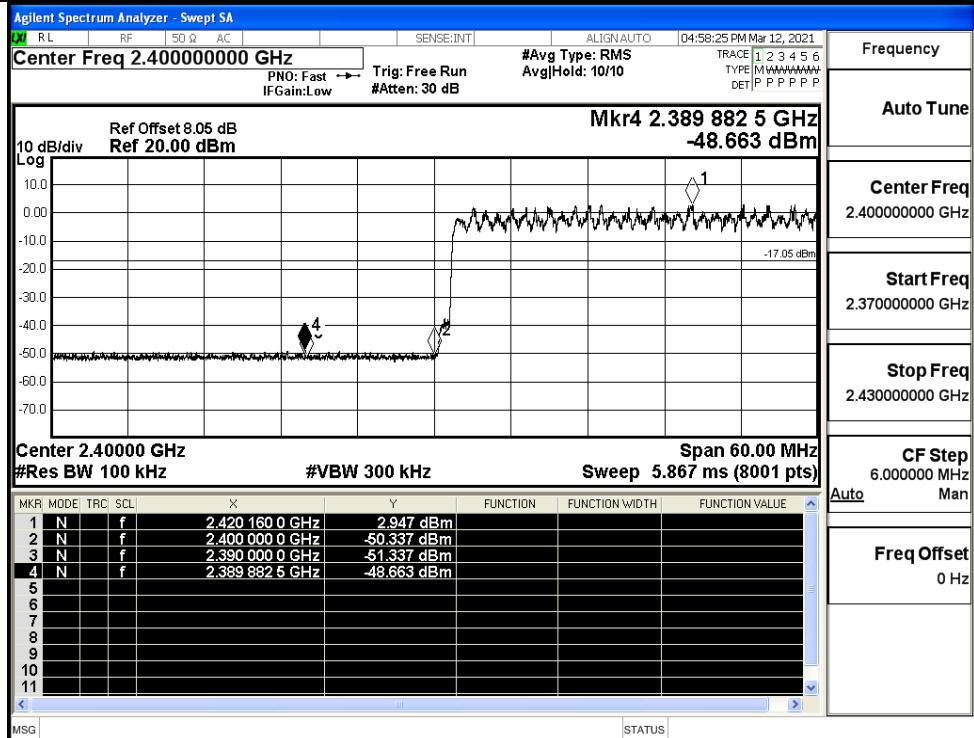
Auto Tune

Center Freq
2.483500000 GHzStart Freq
2.453500000 GHzStop Freq
2.513500000 GHzCF Step
6.000000 MHzFreq Offset
0 Hz

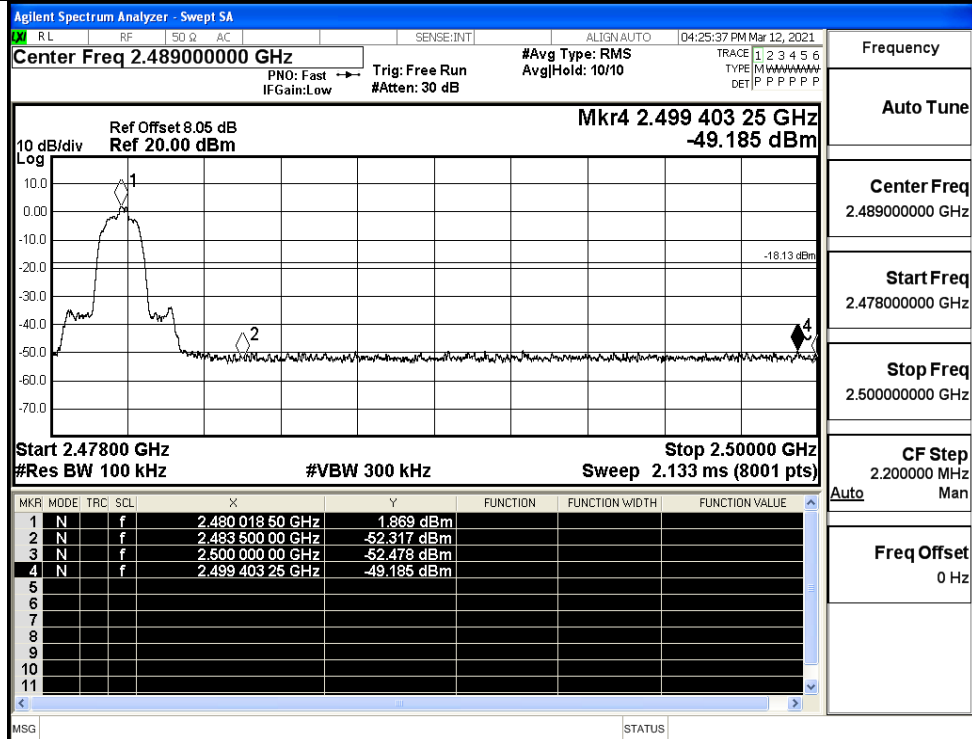
8DPSK/LCH/No Hop



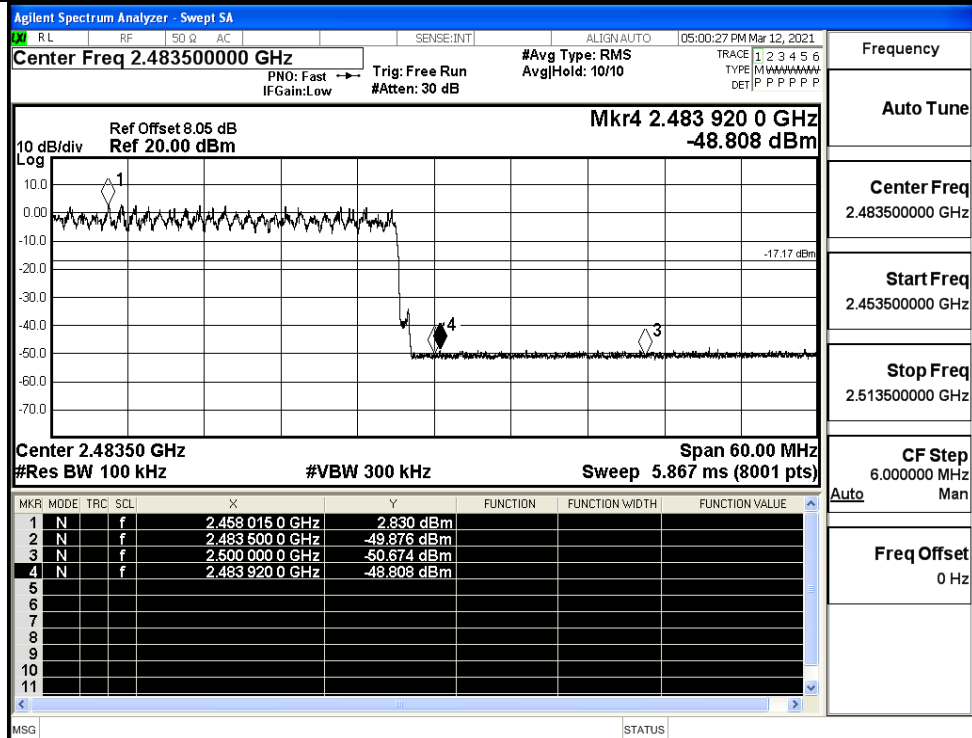
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



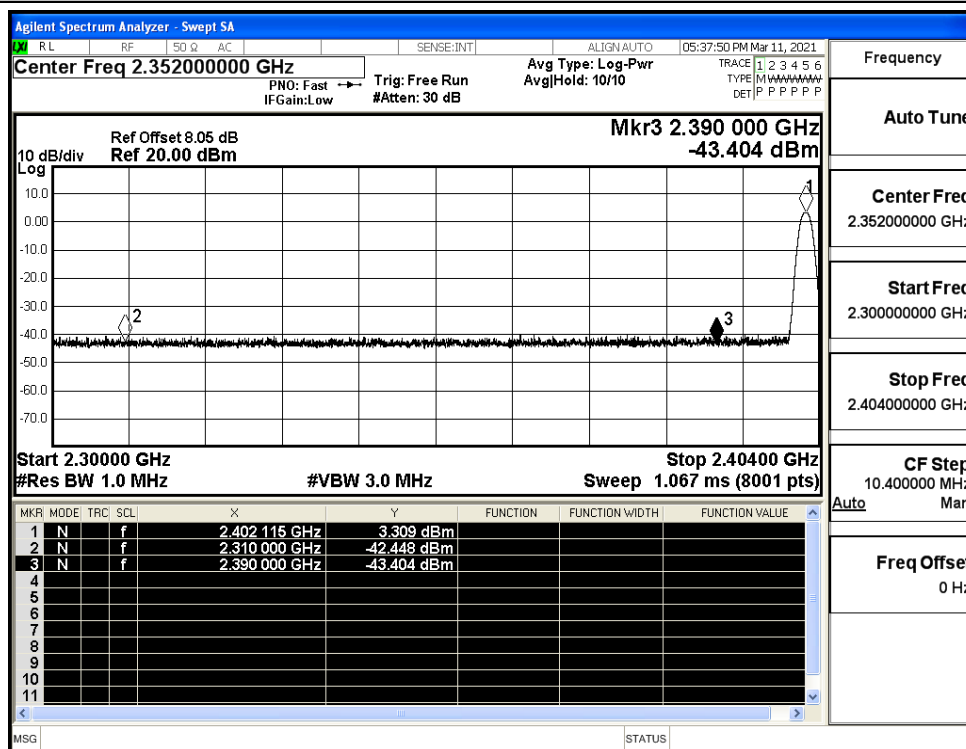
8DPSK/HCH/Hop



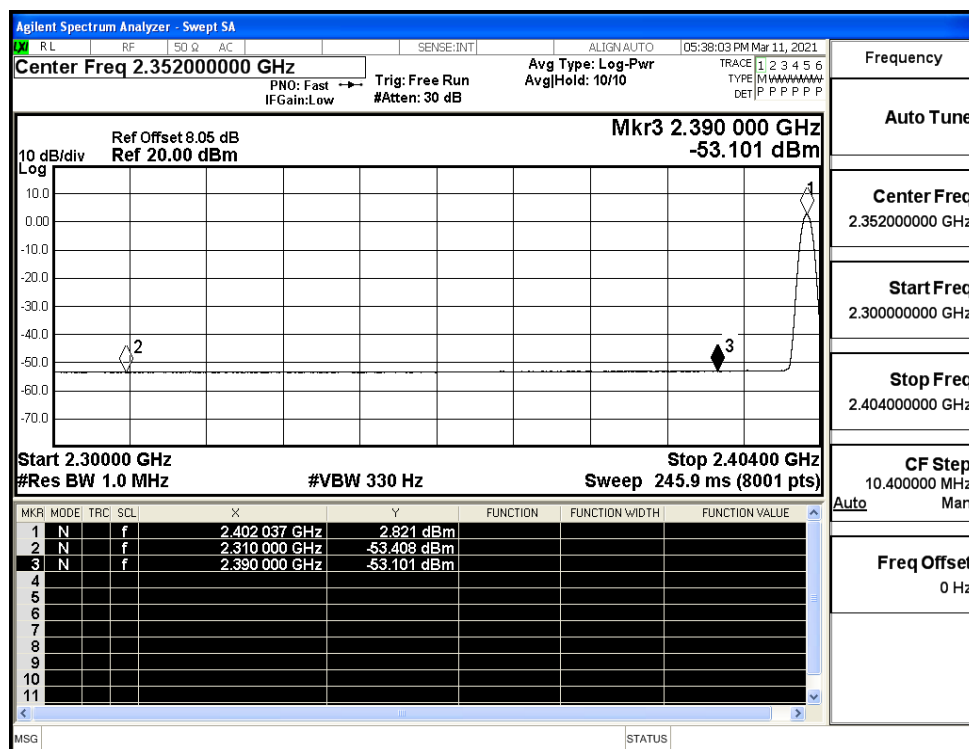
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.45	2.0	0	52.81	PEAK	74	PASS
	Off	2310.0	-53.41	2.0	0	41.85	AV	54	PASS
	Off	2390.0	-43.40	2.0	0	51.85	PEAK	74	PASS
	Off	2390.0	-53.10	2.0	0	42.16	AV	54	PASS
	Off	2483.5	-42.20	2.0	0	53.06	PEAK	74	PASS
	Off	2483.5	-52.51	2.0	0	42.75	AV	54	PASS
	Off	2500.0	-42.43	2.0	0	52.83	PEAK	74	PASS
	Off	2500.0	-52.43	2.0	0	42.83	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-41.80	2.0	0	53.46	PEAK	74	PASS
	Off	2310.0	-53.36	2.0	0	41.90	AV	54	PASS
	Off	2390.0	-42.90	2.0	0	52.35	PEAK	74	PASS
	Off	2390.0	-53.10	2.0	0	42.16	AV	54	PASS
	Off	2483.5	-42.22	2.0	0	53.04	PEAK	74	PASS
	Off	2483.5	-52.37	2.0	0	42.88	AV	54	PASS
	Off	2500.0	-41.53	2.0	0	53.73	PEAK	74	PASS
	Off	2500.0	-52.29	2.0	0	42.97	AV	54	PASS
8DPSK	Off	2310.0	-44.17	2.0	0	51.09	PEAK	74	PASS
	Off	2310.0	-53.34	2.0	0	41.91	AV	54	PASS
	Off	2390.0	-42.21	2.0	0	53.05	PEAK	74	PASS
	Off	2390.0	-53.04	2.0	0	42.22	AV	54	PASS
	Off	2483.5	-41.80	2.0	0	53.46	PEAK	74	PASS
	Off	2483.5	-52.36	2.0	0	42.90	AV	54	PASS
	Off	2500.0	-41.21	2.0	0	54.05	PEAK	74	PASS
	Off	2500.0	-52.29	2.0	0	42.97	AV	54	PASS

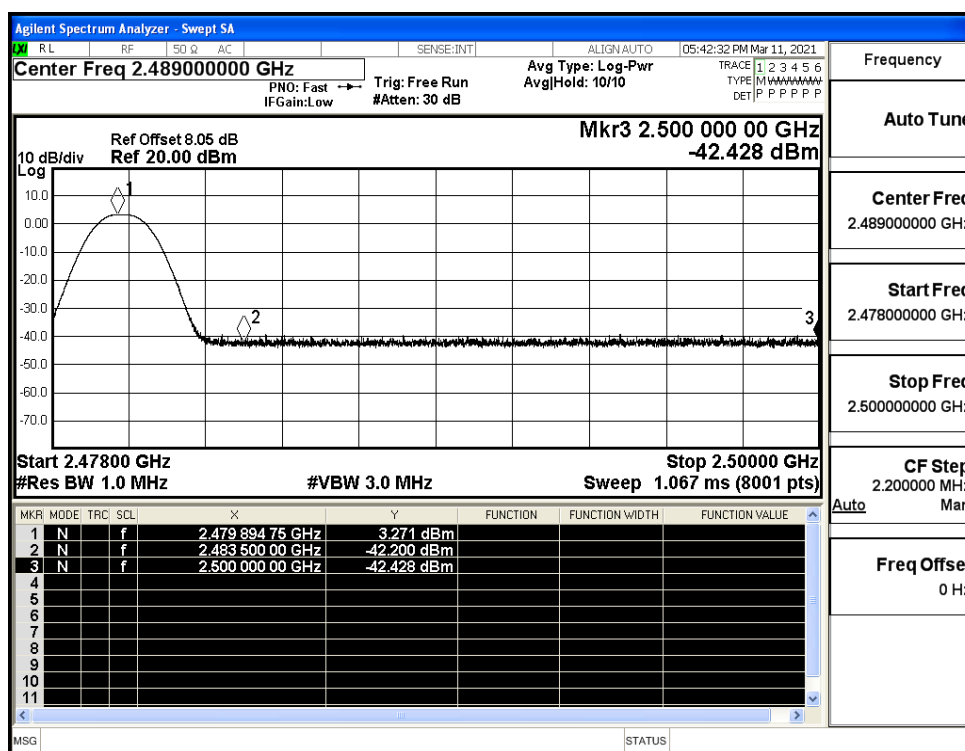
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



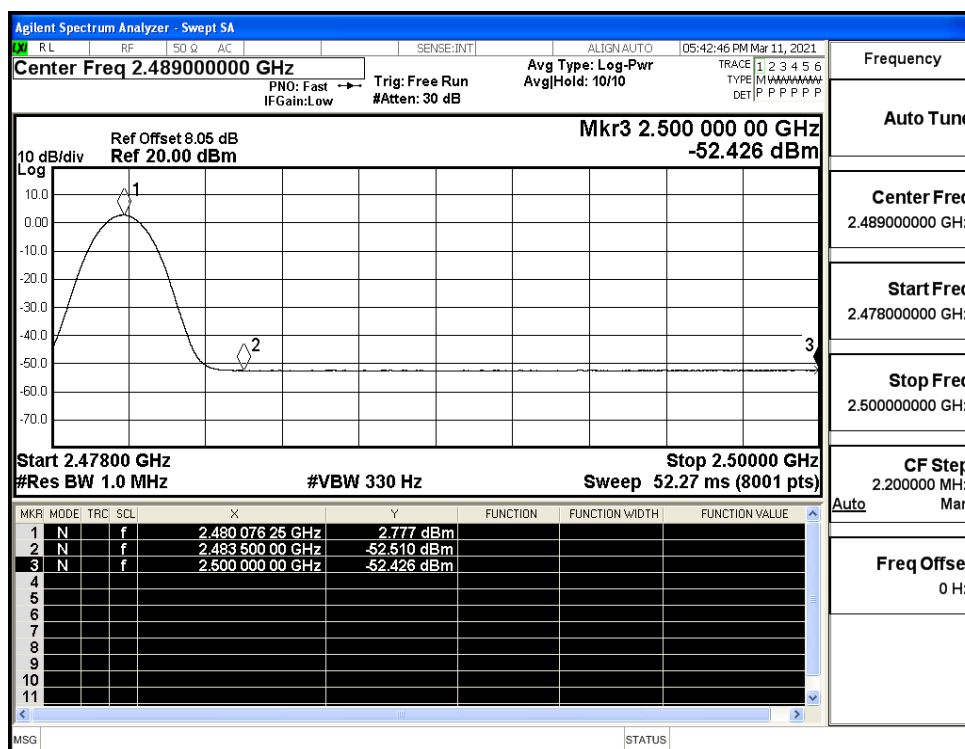
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

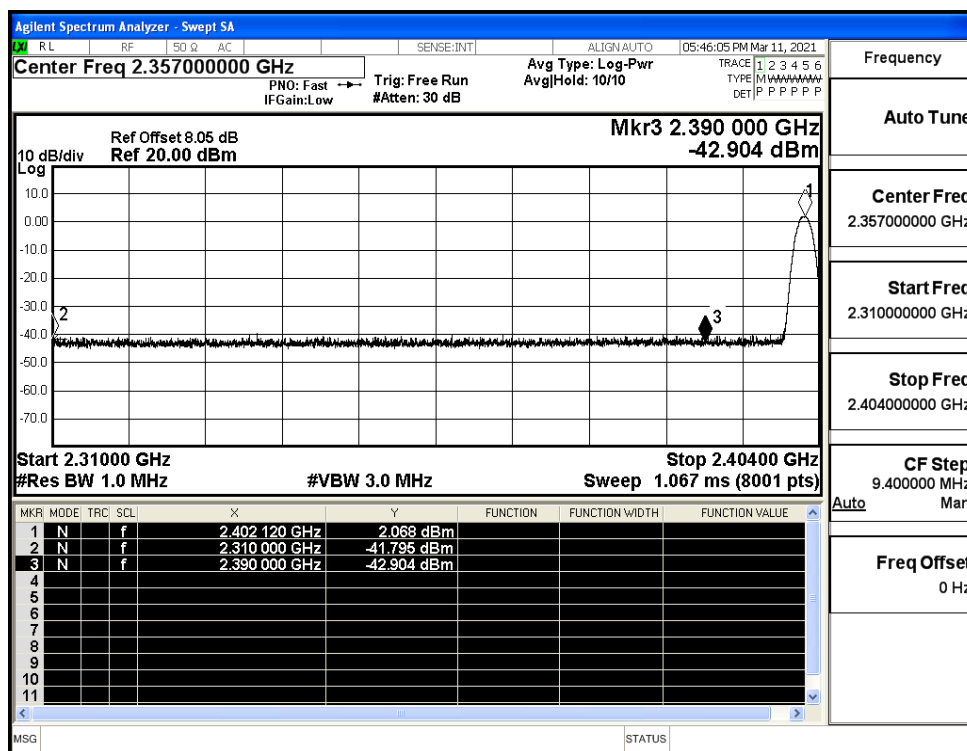
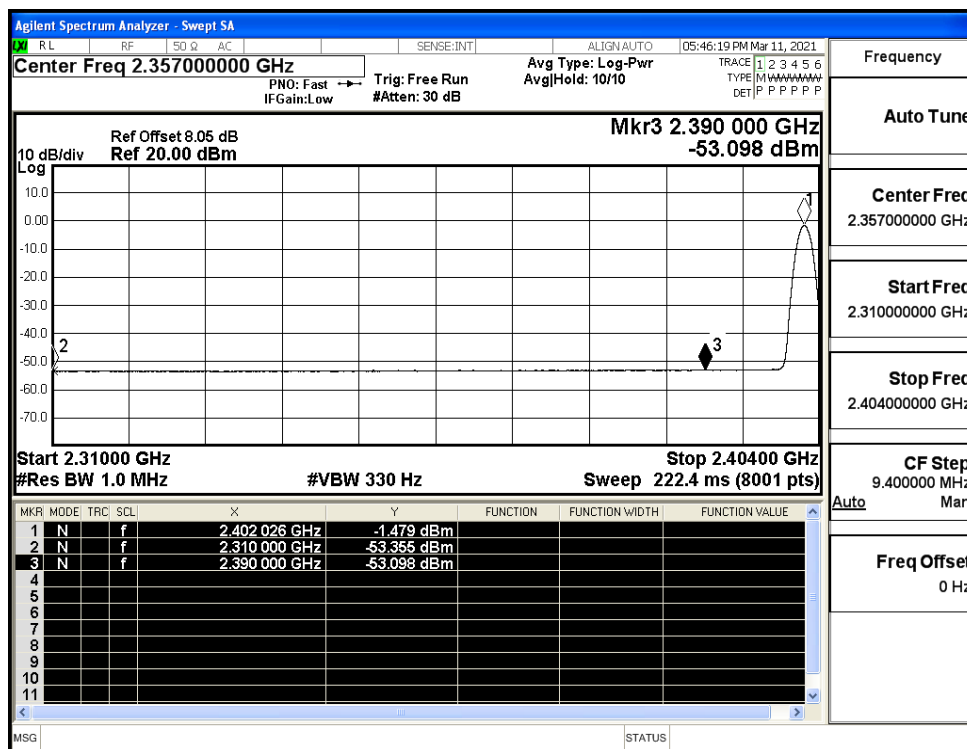


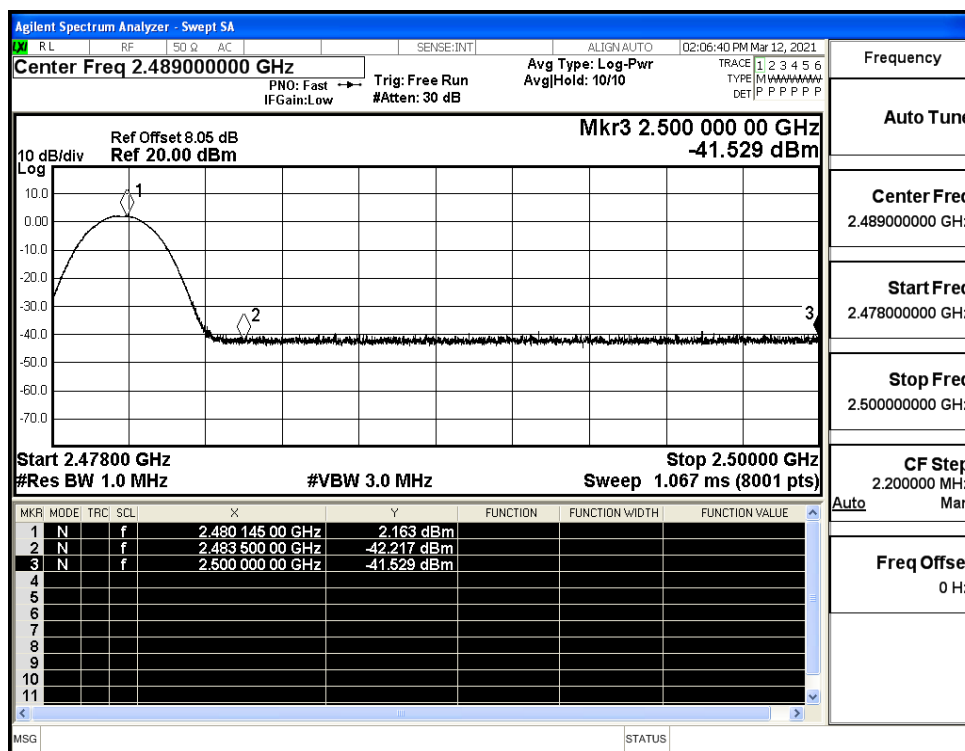
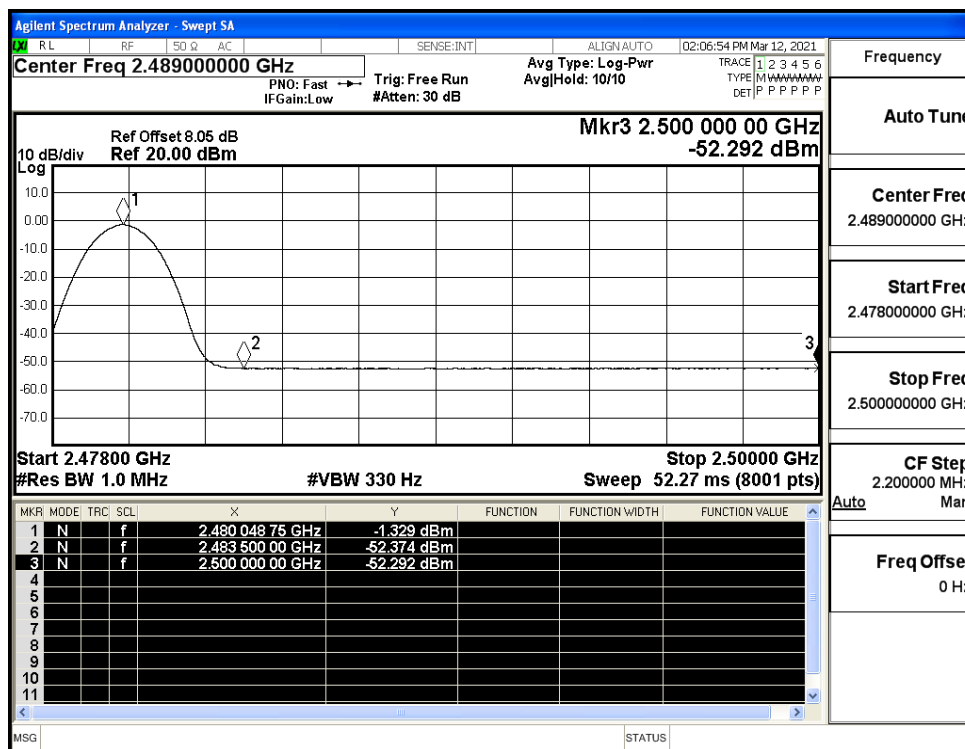
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



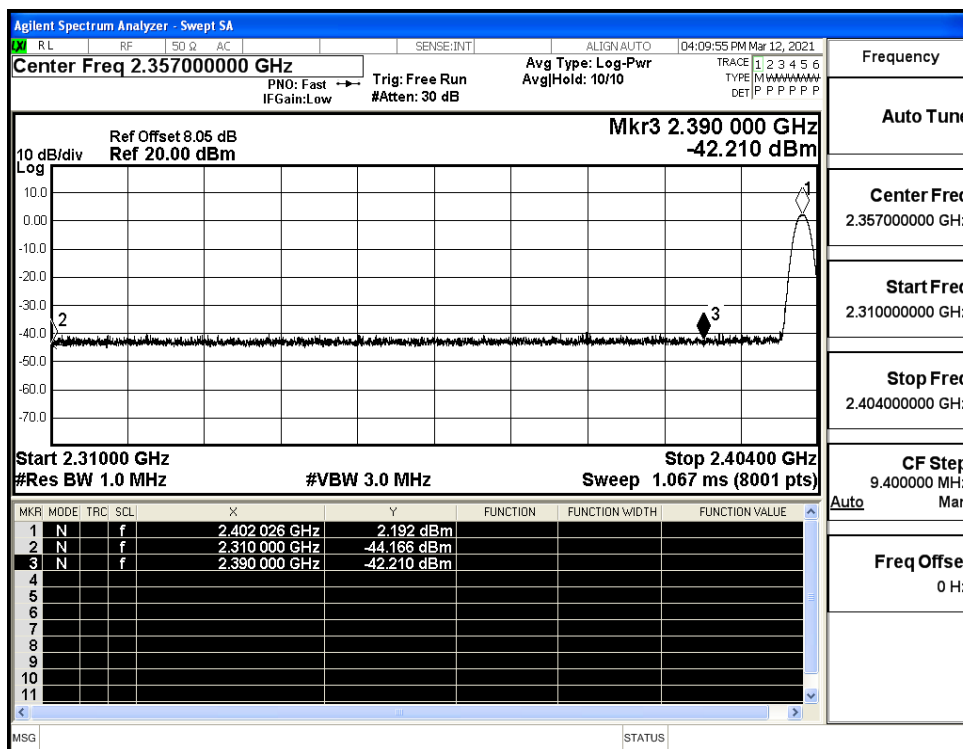
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



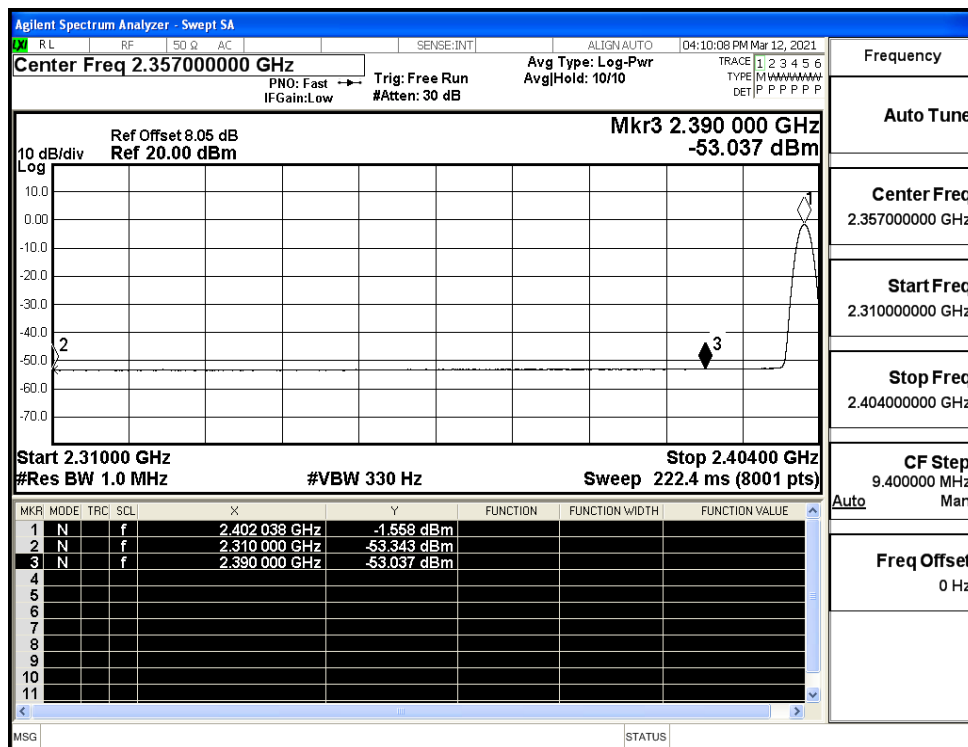
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

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)

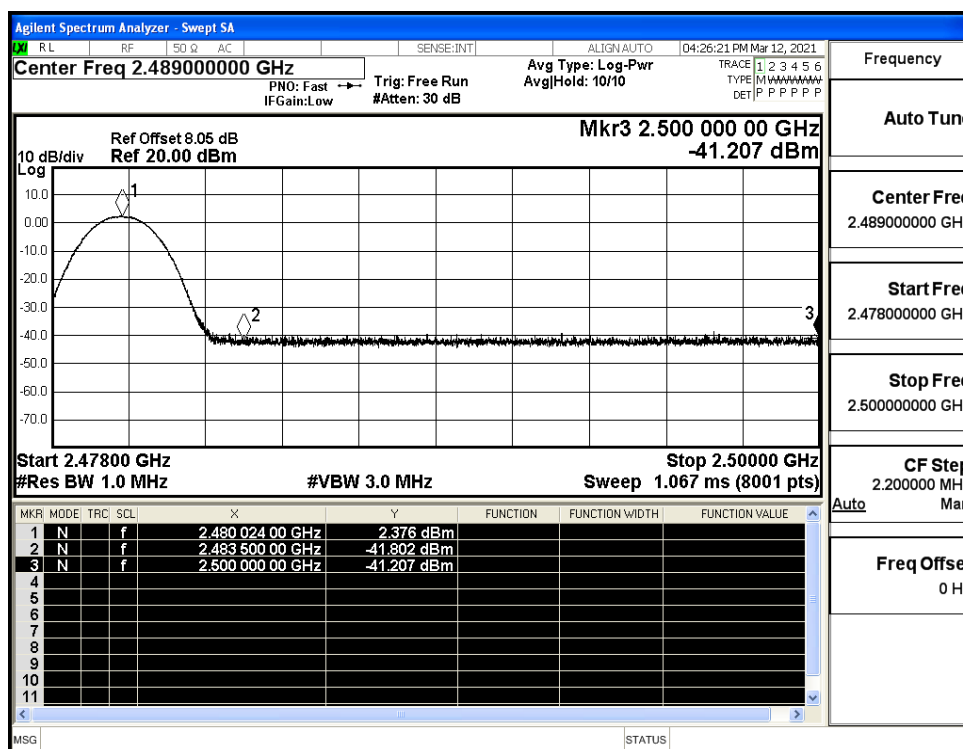
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

