

Appendix A
RF Test Data for BT V5.0(BDR/EDR) (Conducted Measurement)
Product Name: Trolley Rechargeable Speaker

Trade Mark:  PearTronics
Test Model: PT 1243

Environmental Conditions

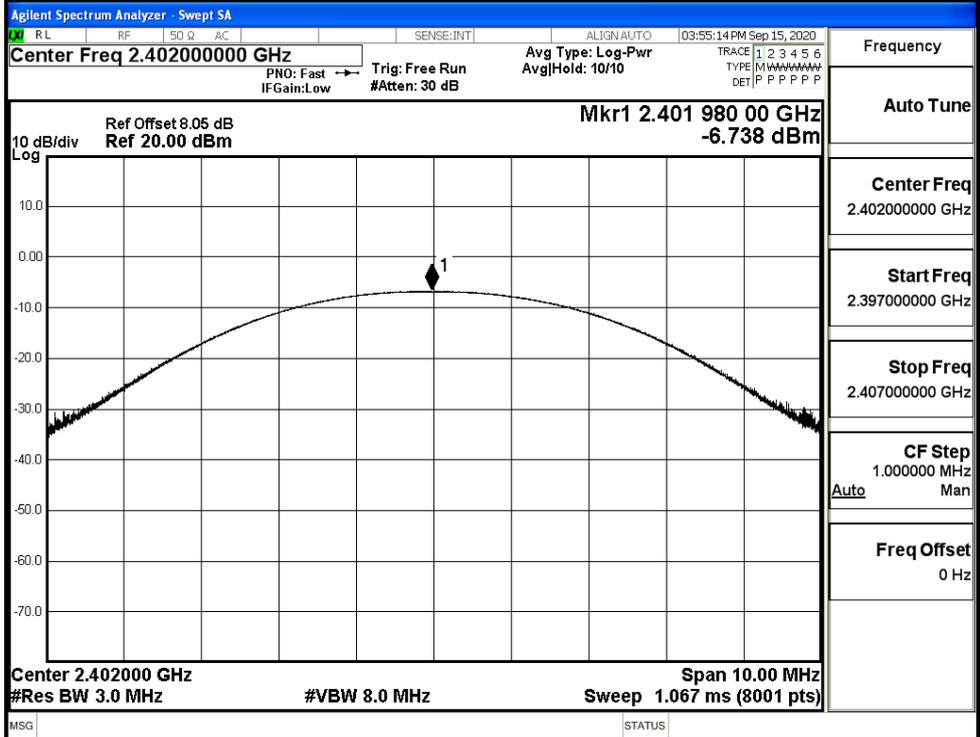
Temperature:	22.6° C
Relative Humidity:	53.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Li
Supervised by:	Li Huan

A.1 Maxmum Conducted Peak Output Power

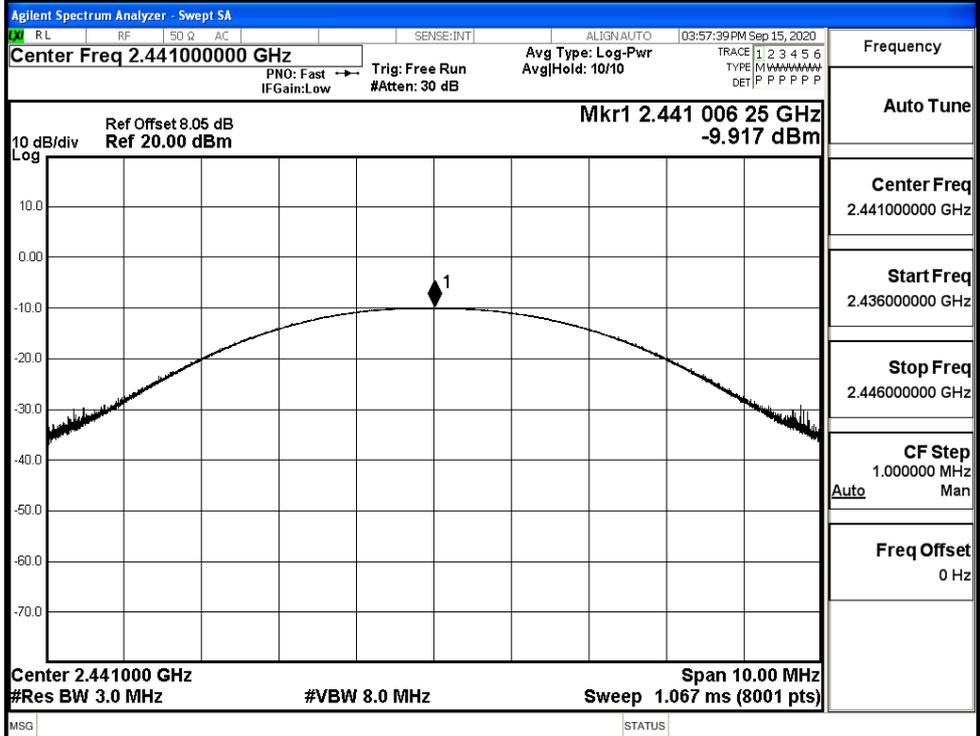
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-6.738	21	PASS
	MCH	-9.917	21	PASS
	HCH	-12.082	21	PASS
$\pi/4$ DQPSK	LCH	-5.107	21	PASS
	MCH	-7.959	21	PASS
	HCH	-10.111	21	PASS
8DPSK	LCH	-4.548	21	PASS
	MCH	-6.907	21	PASS
	HCH	-8.993	21	PASS

Test Graphs

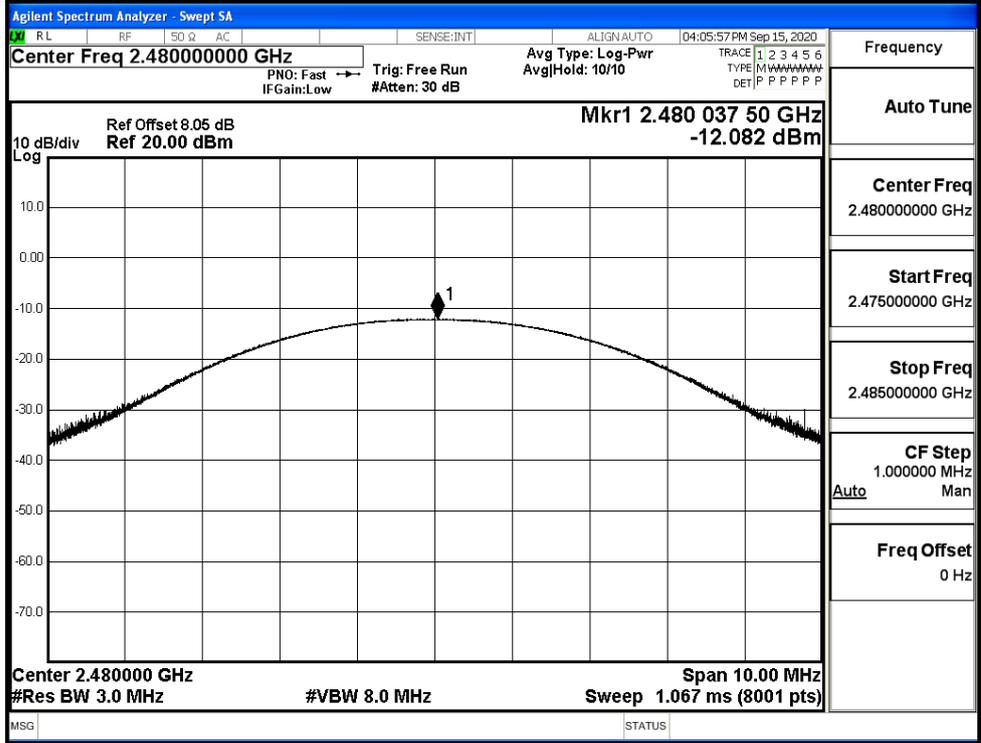
GFSK/LCH



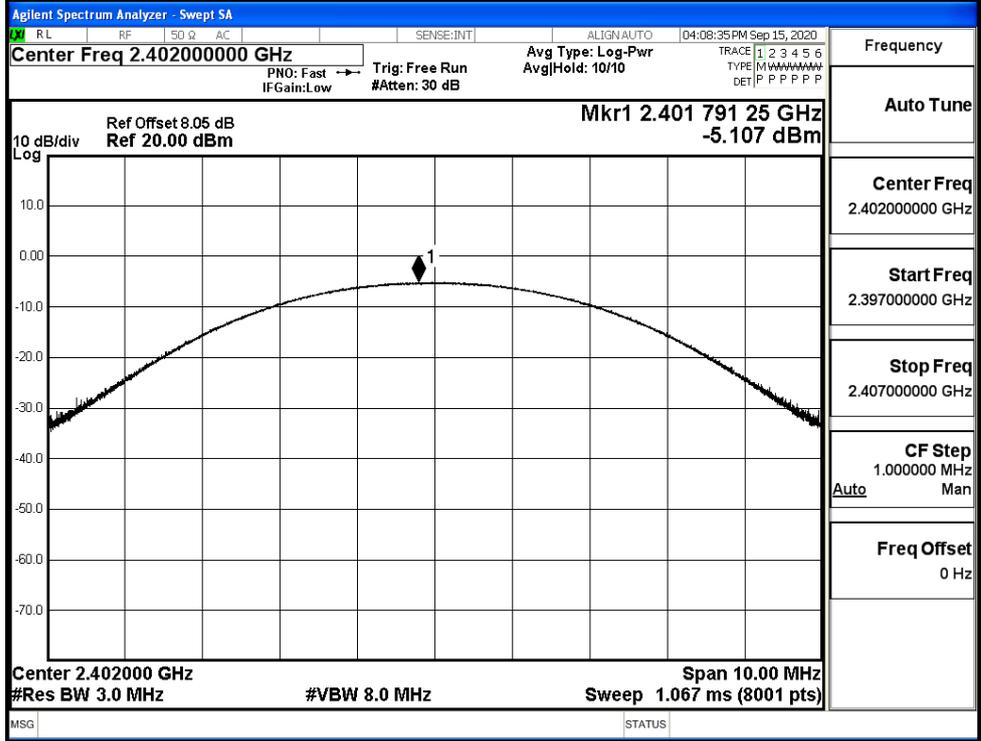
GFSK/MCH



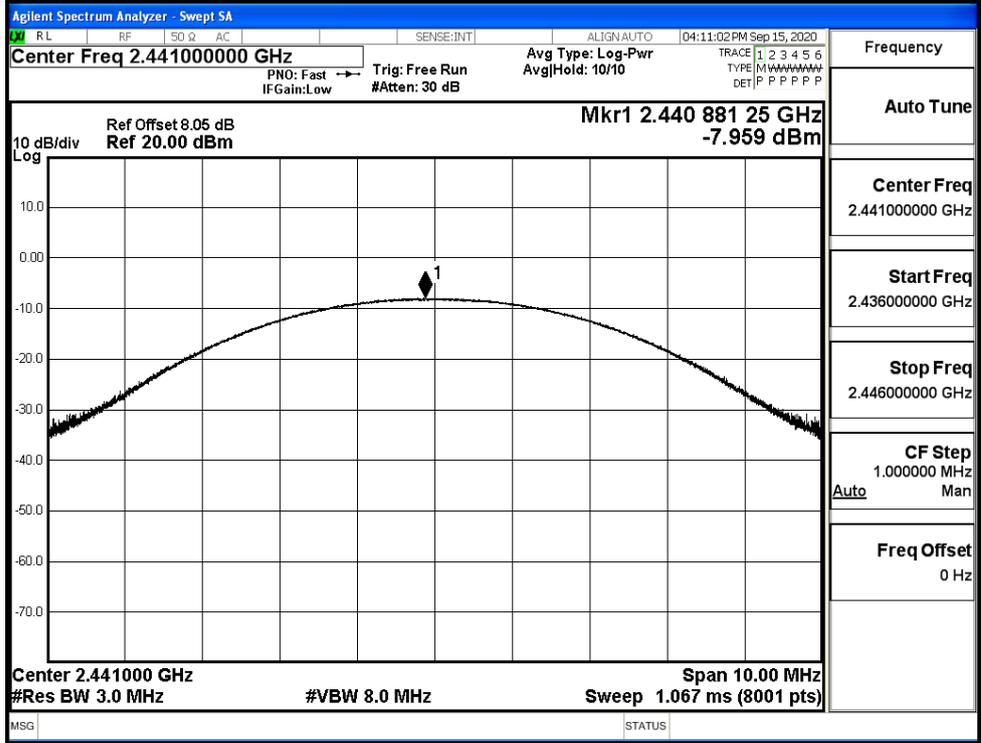
GFSK/HCH



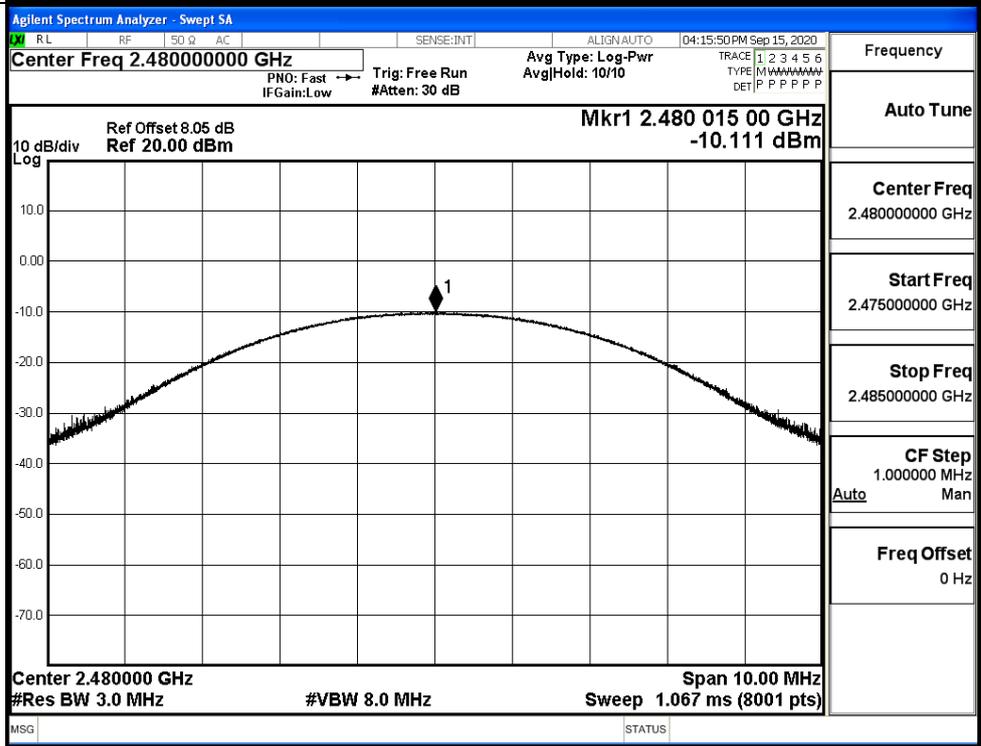
$\pi/4$ DQPSK/LCH



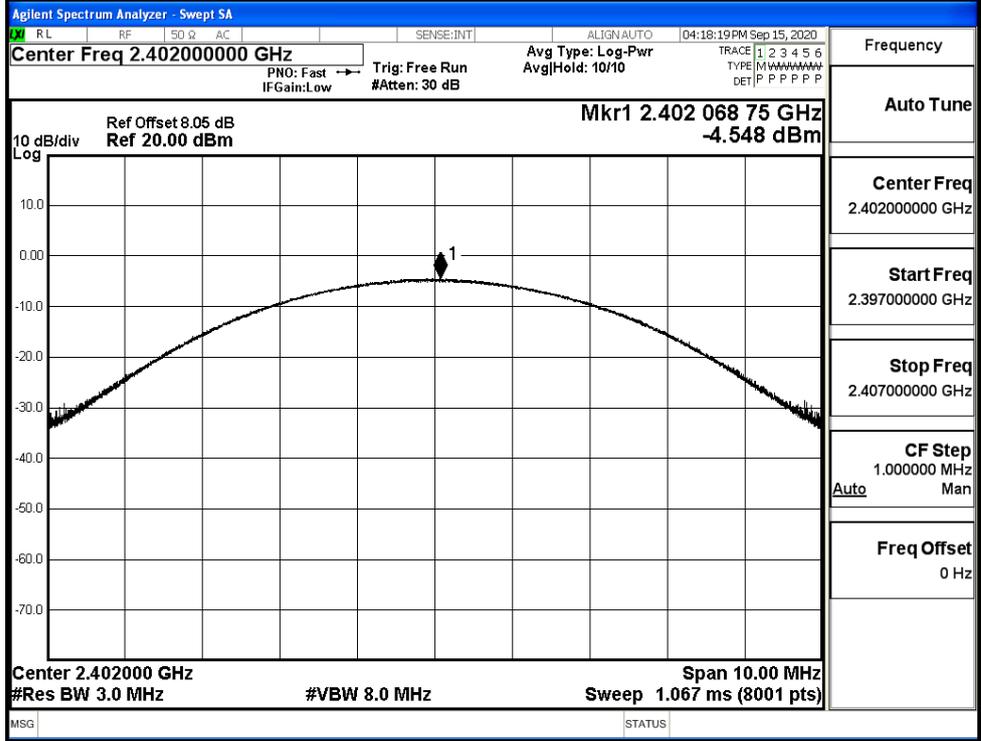
π /4DQPSK/MCH



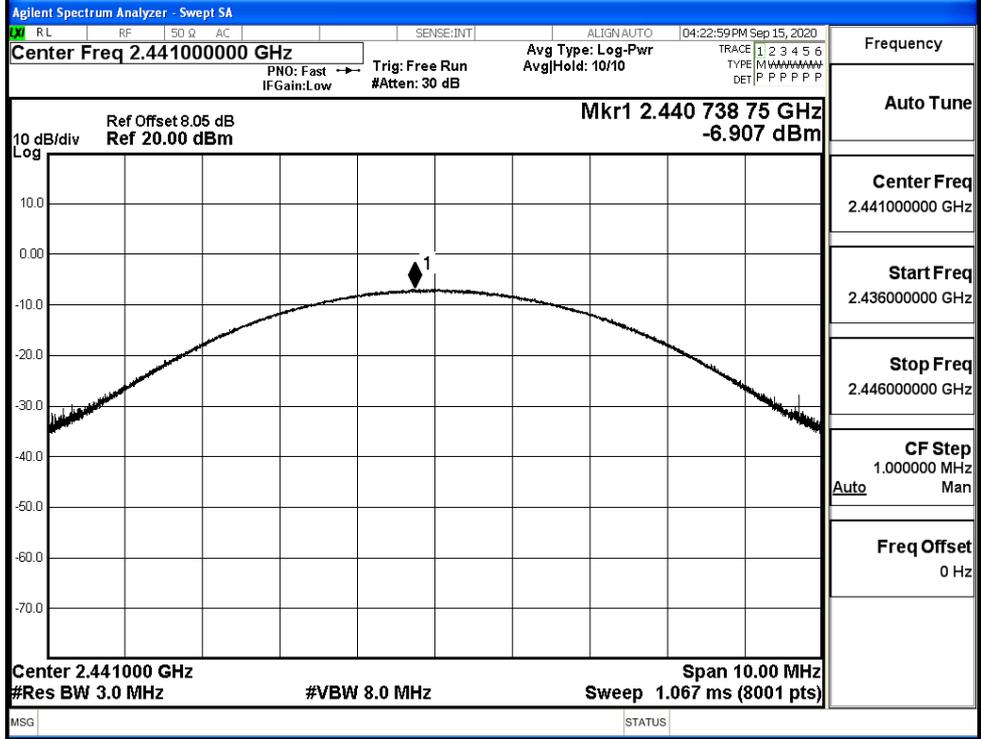
π /4DQPSK/HCH

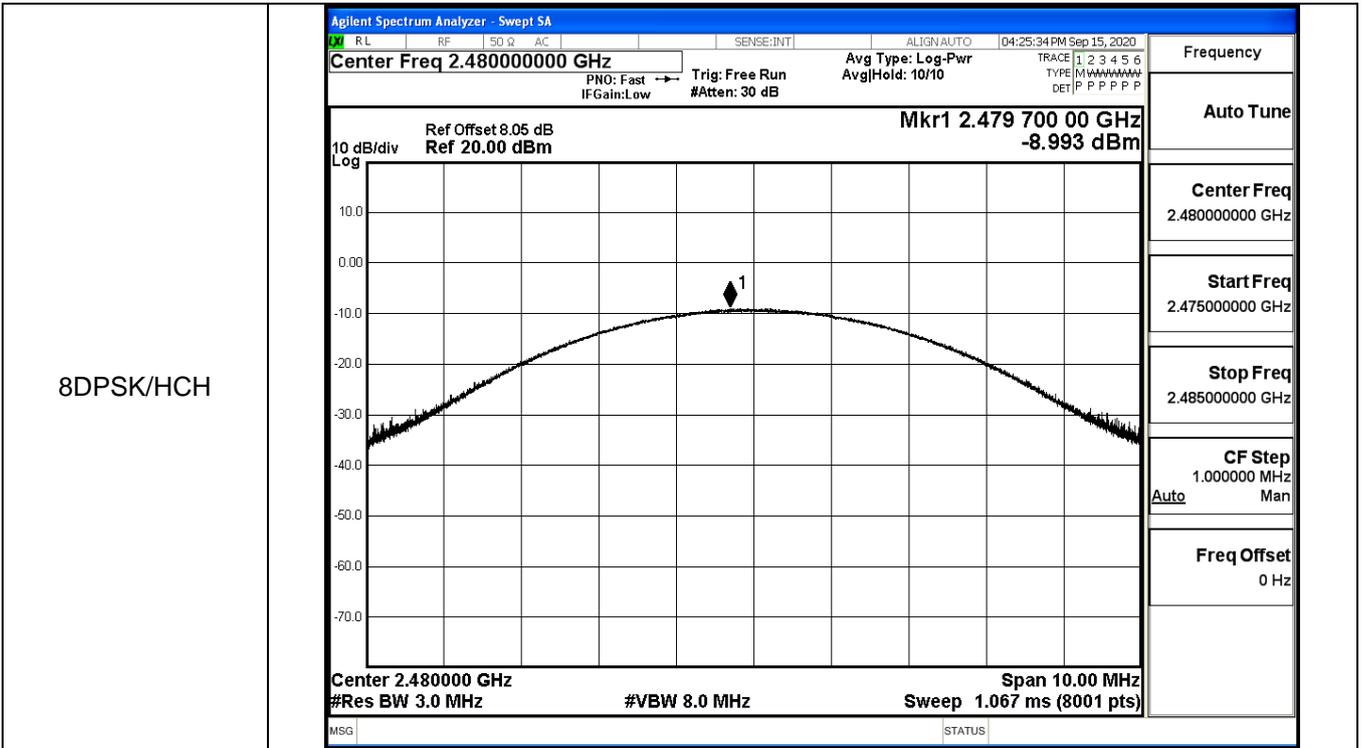


8DPSK/LCH



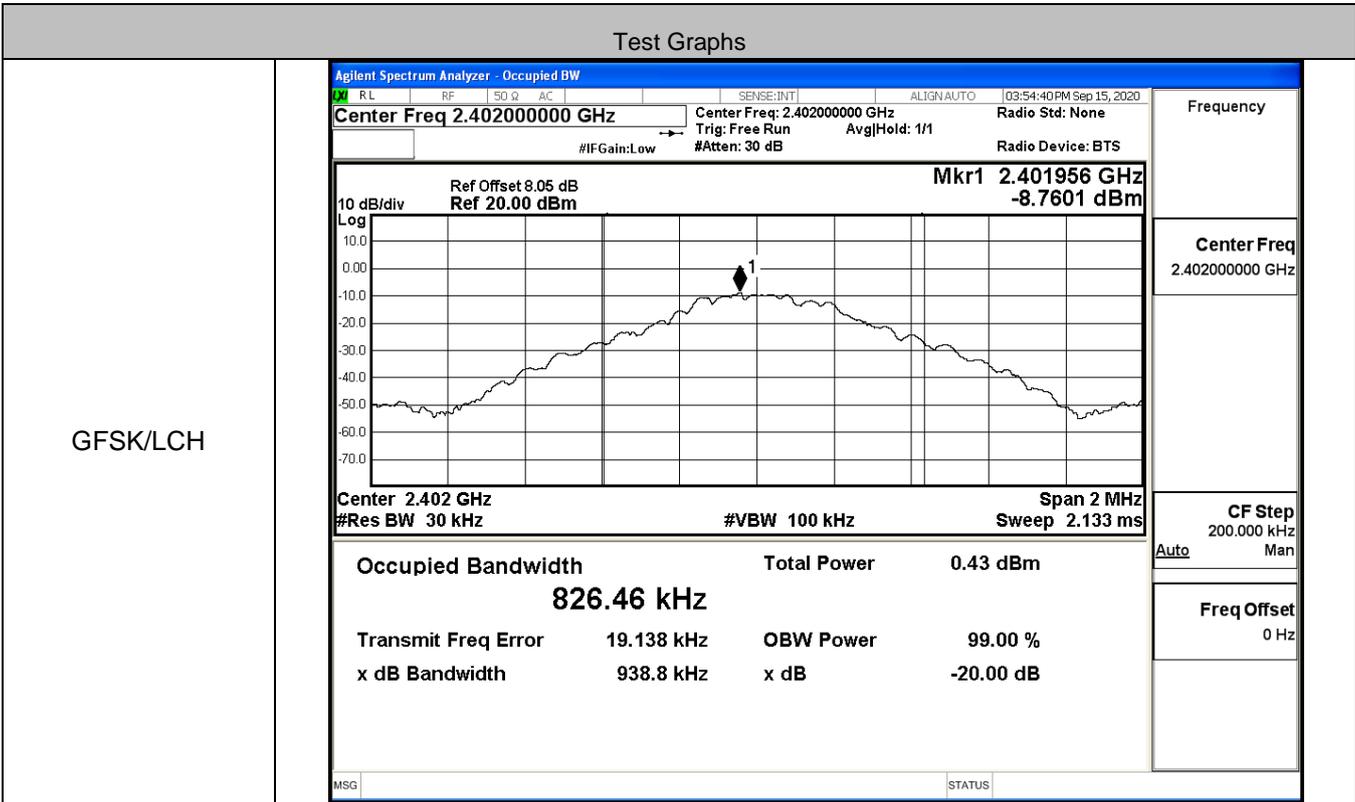
8DPSK/MCH



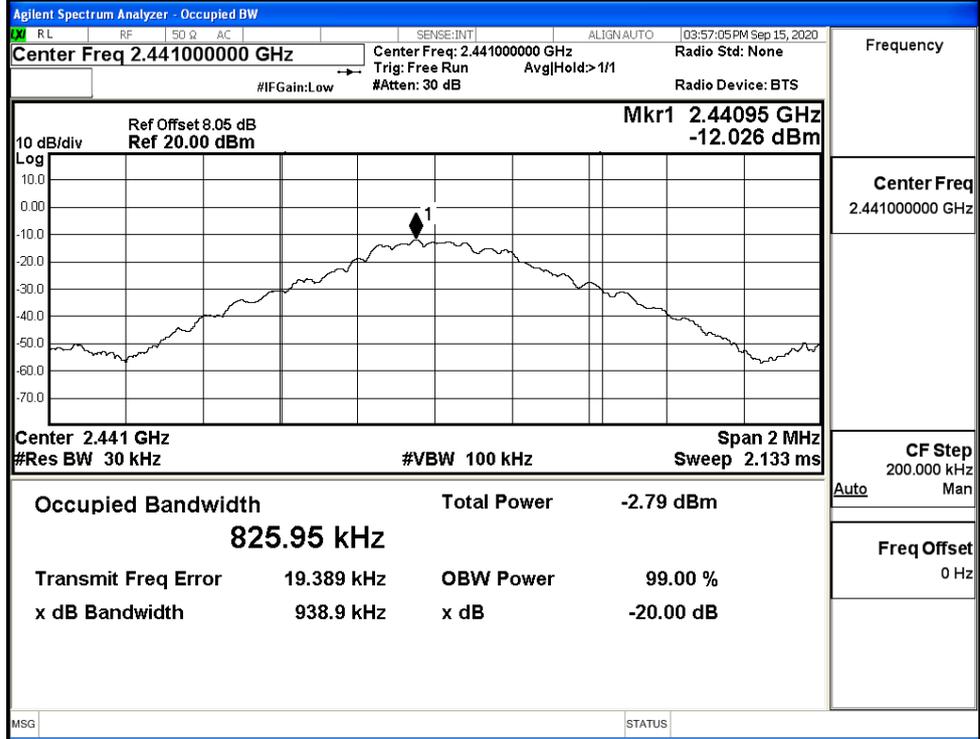


A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9388	Not Specified	PASS
	MCH	0.9389	Not Specified	PASS
	HCH	0.9485	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.286	Not Specified	PASS
	MCH	1.308	Not Specified	PASS
	HCH	1.288	Not Specified	PASS
8DPSK	LCH	1.295	Not Specified	PASS
	MCH	1.303	Not Specified	PASS
	HCH	1.299	Not Specified	PASS

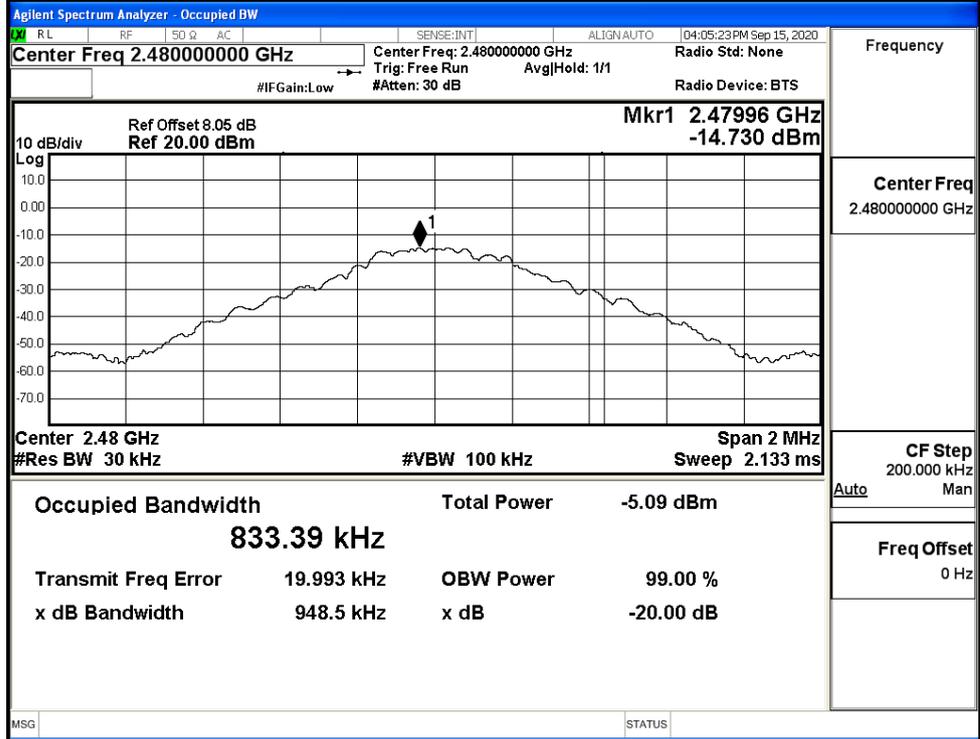


GFSK/MCH



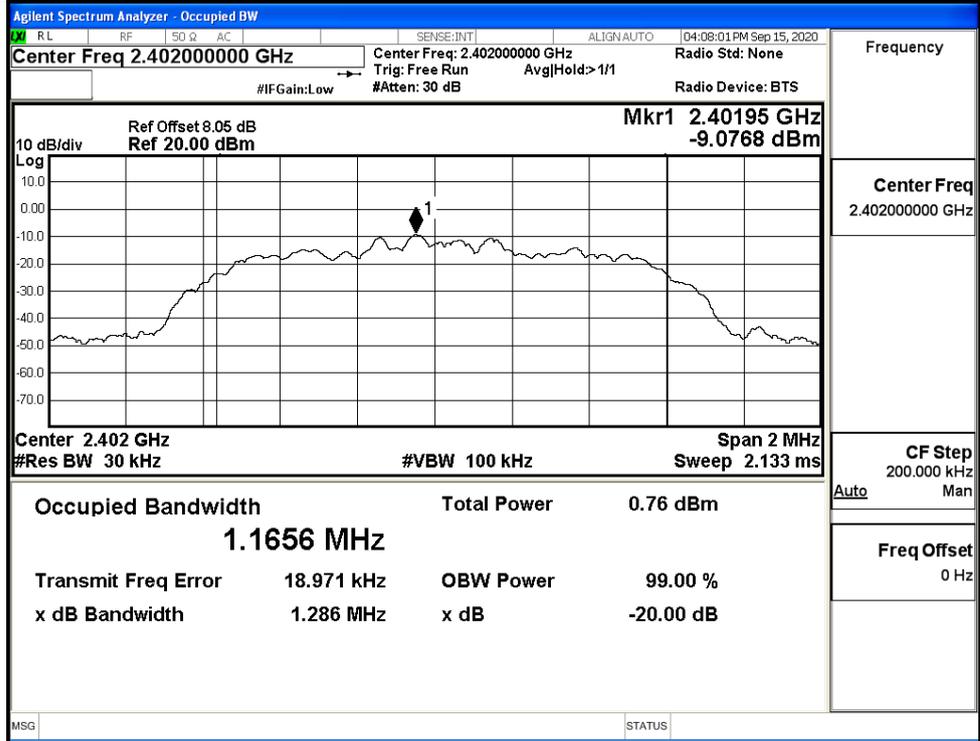
Frequency	2.44100000 GHz
Center Freq	2.44100000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

GFSK/HCH



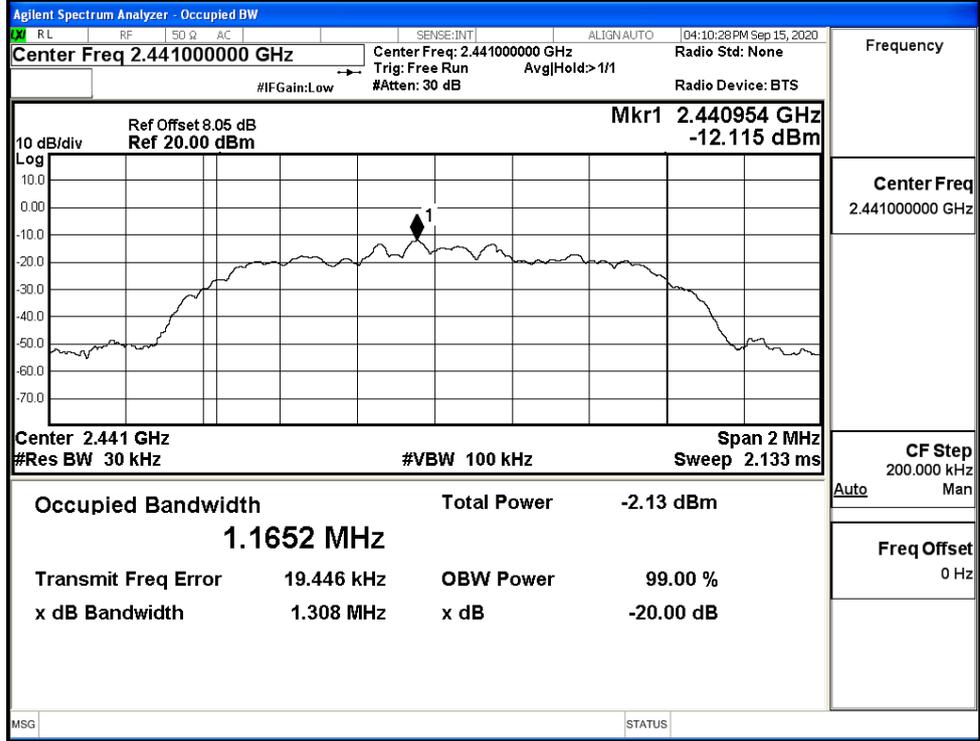
Frequency	2.48000000 GHz
Center Freq	2.48000000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

π /4DQPSK/LCH



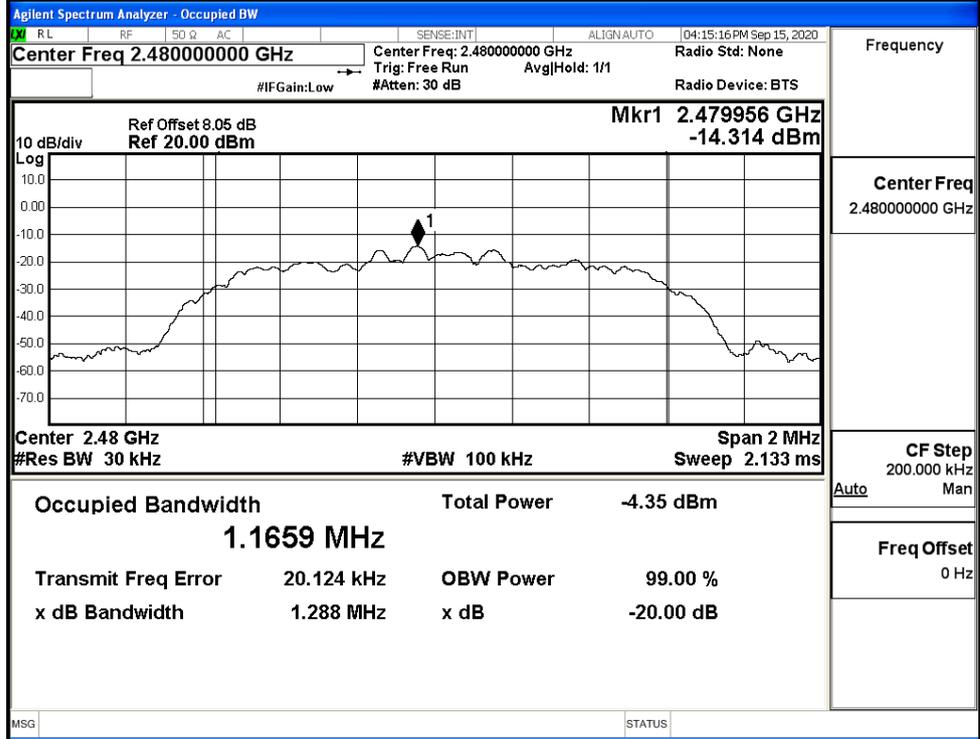
Frequency	2.40200000 GHz
Center Freq	2.40200000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

π /4DQPSK/MCH

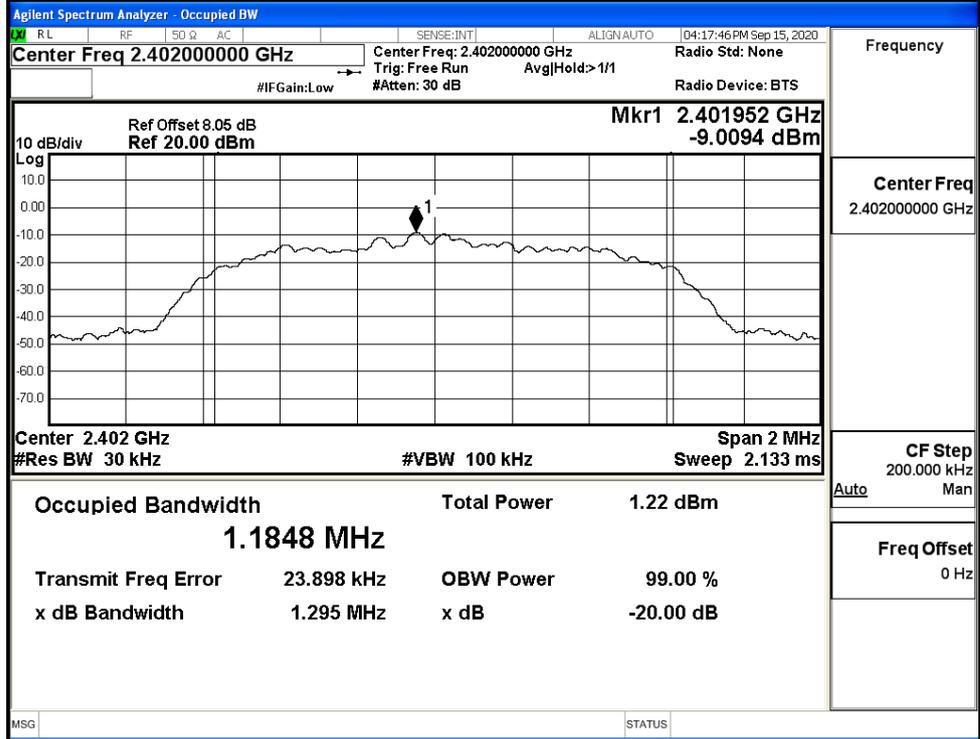


Frequency	2.44100000 GHz
Center Freq	2.44100000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

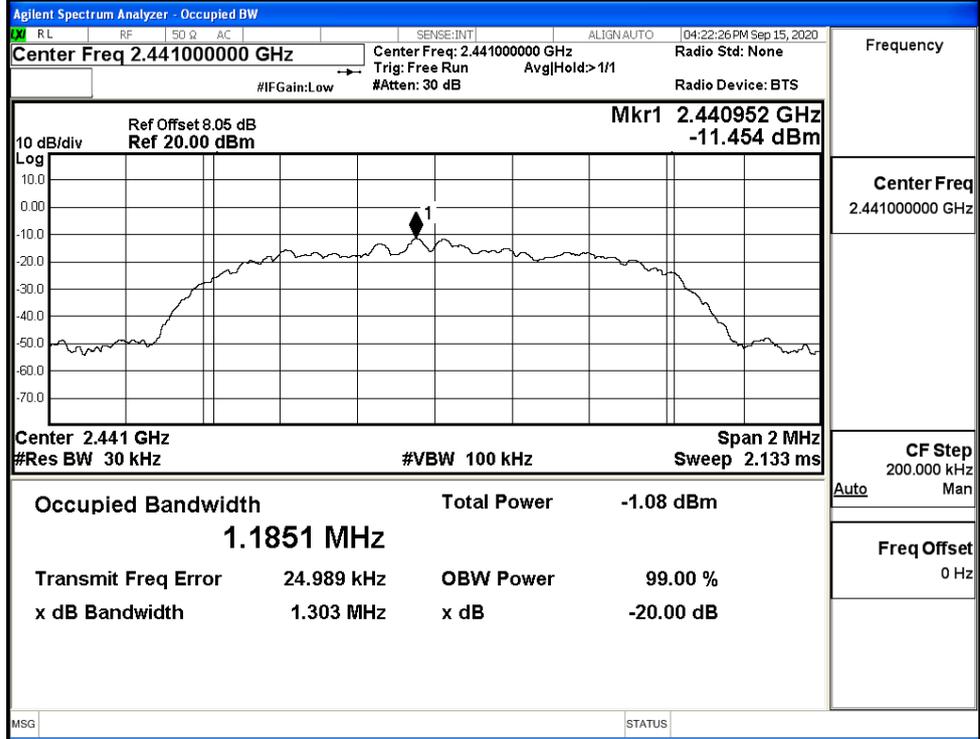
π/4DQPSK/HCH



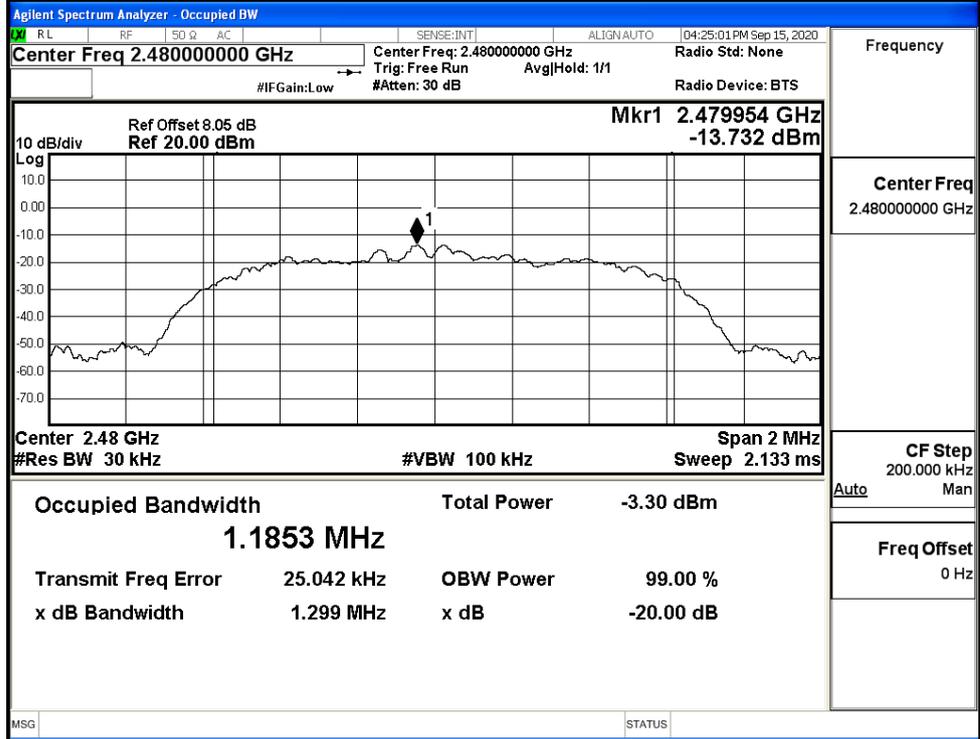
8DPSK/LCH



8DPSK/MCH

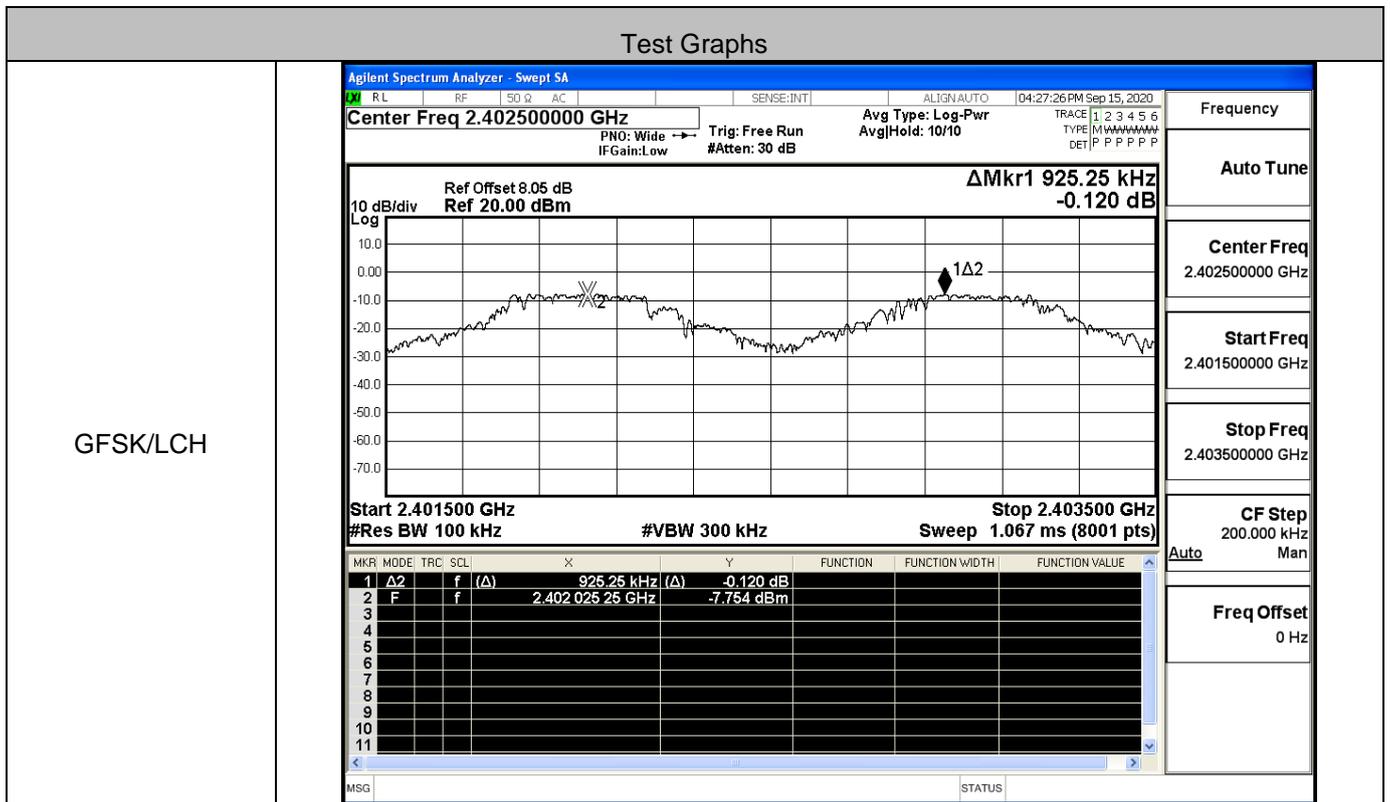


8DPSK/HCH

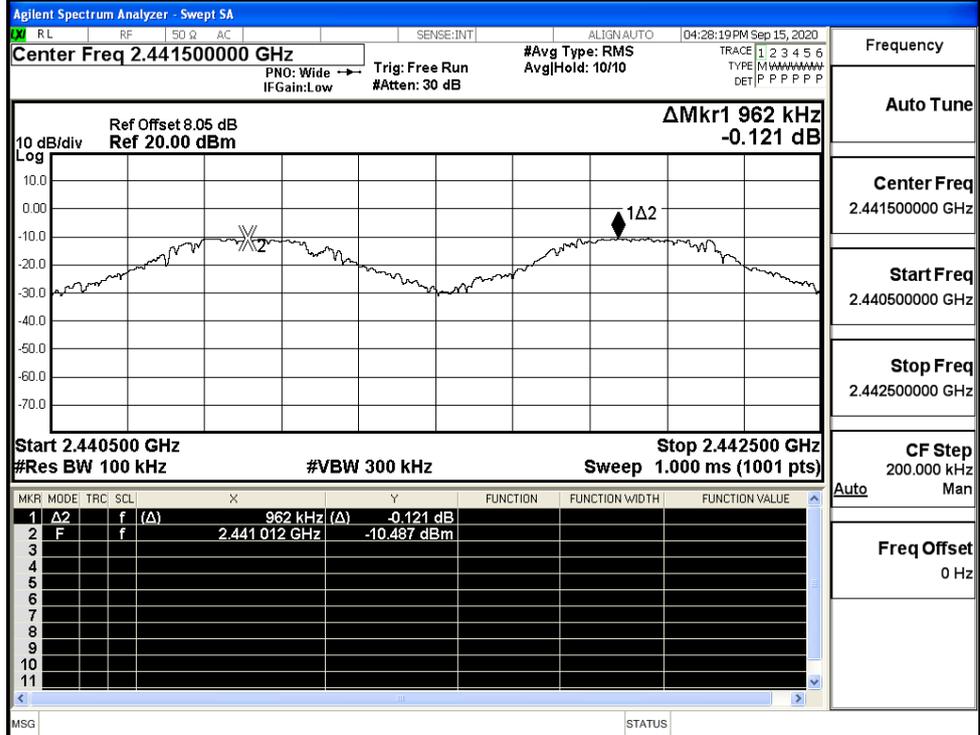


A.3 Carrier Frequency Separation

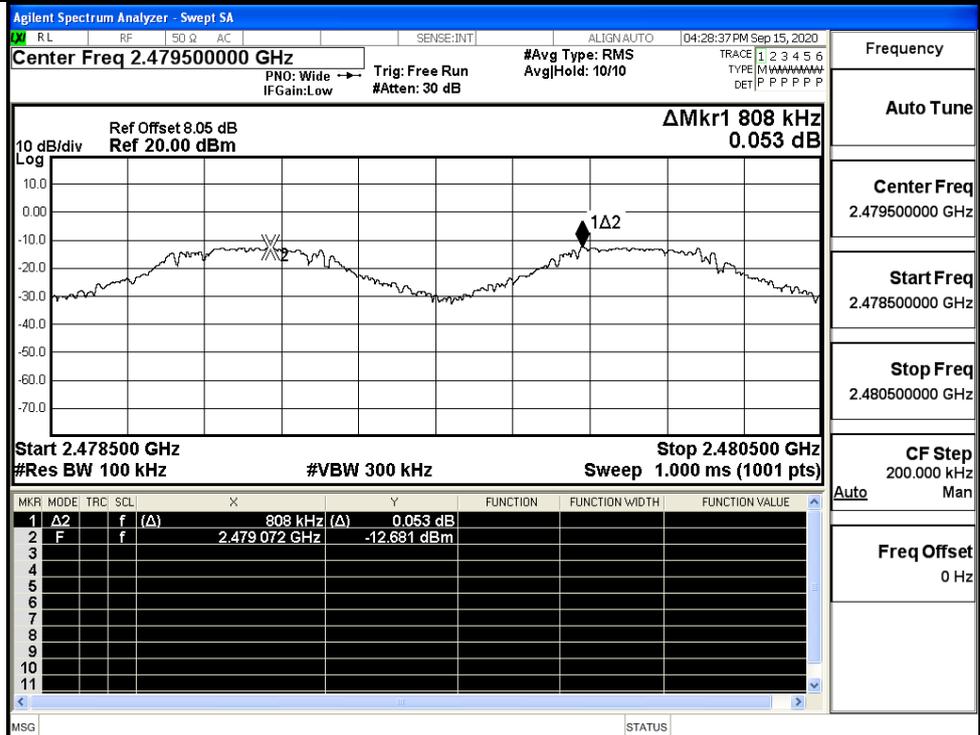
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.925	0.632	PASS
	MCH	0.962	0.632	PASS
	HCH	0.808	0.632	PASS
π/4DQPSK	LCH	1.178	0.872	PASS
	MCH	1.012	0.872	PASS
	HCH	1.208	0.872	PASS
8DPSK	LCH	1.028	0.869	PASS
	MCH	1.034	0.869	PASS
	HCH	1.188	0.869	PASS



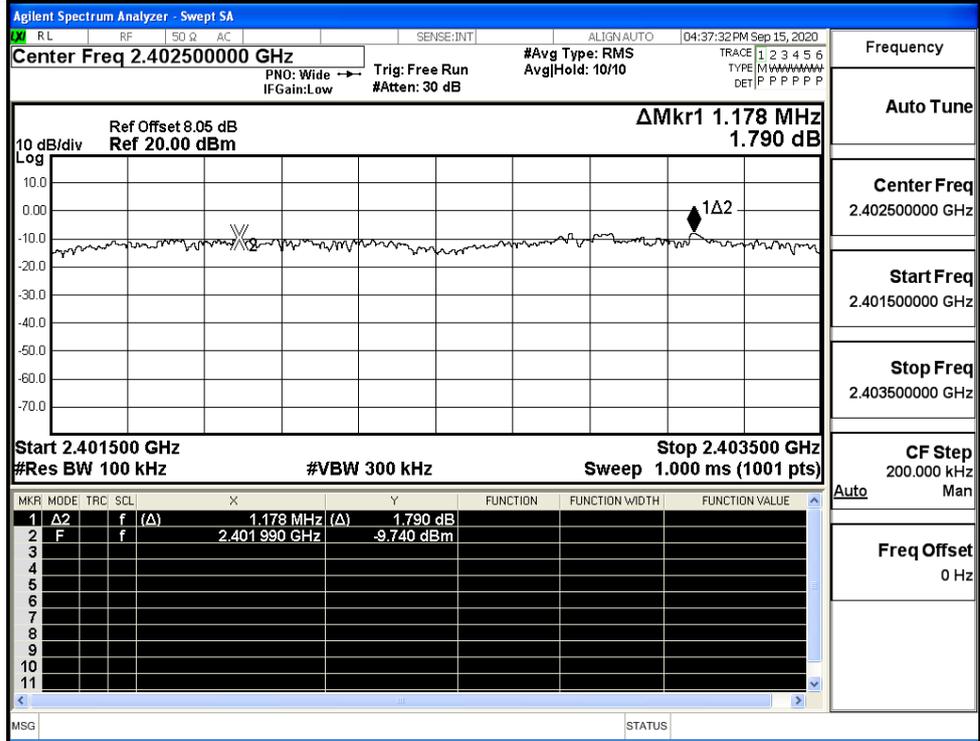
GFSK/MCH



GFSK/HCH

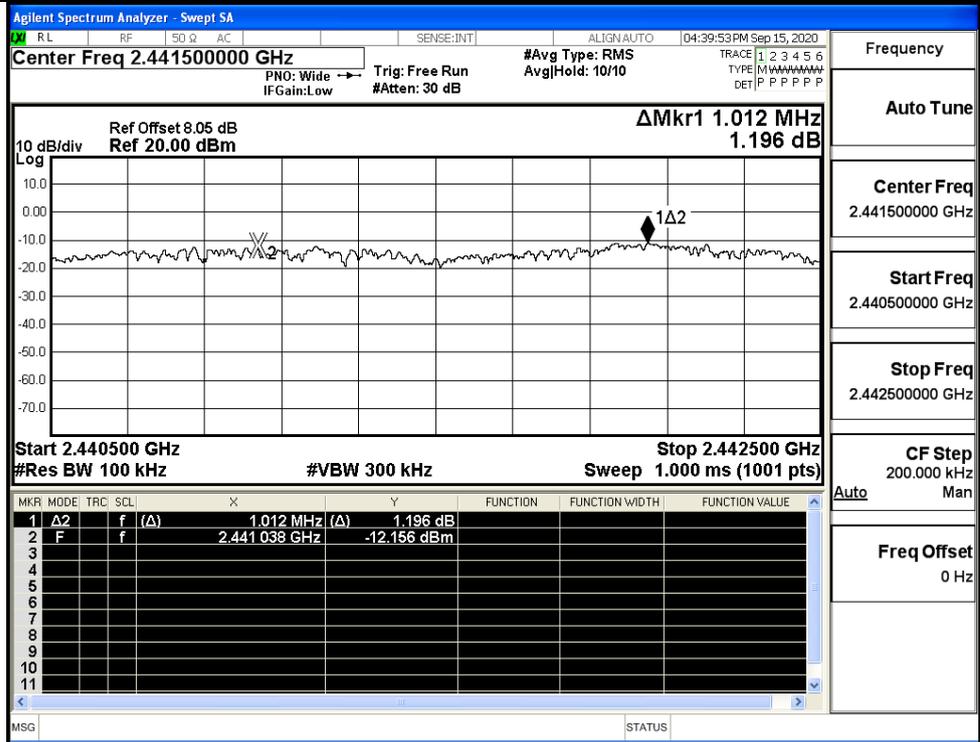


π /4DQPSK/LCH



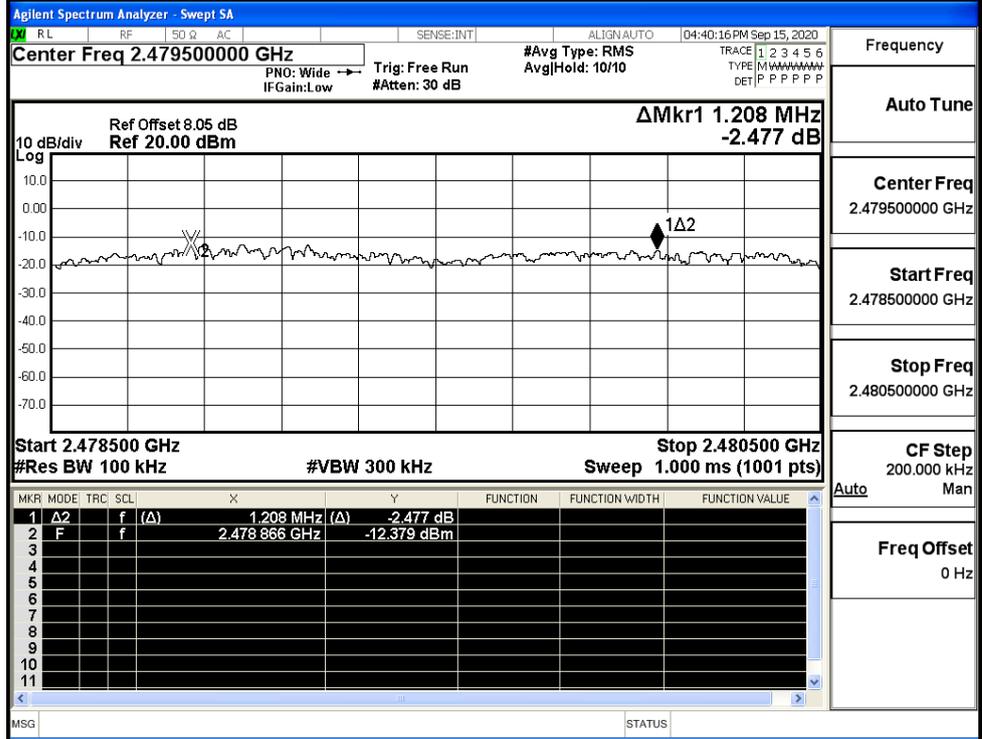
Frequency
Auto Tune
Center Freq 2.402500000 GHz
Start Freq 2.401500000 GHz
Stop Freq 2.403500000 GHz
CF Step 200.000 kHz
Auto Man
Freq Offset 0 Hz

π /4DQPSK/MCH

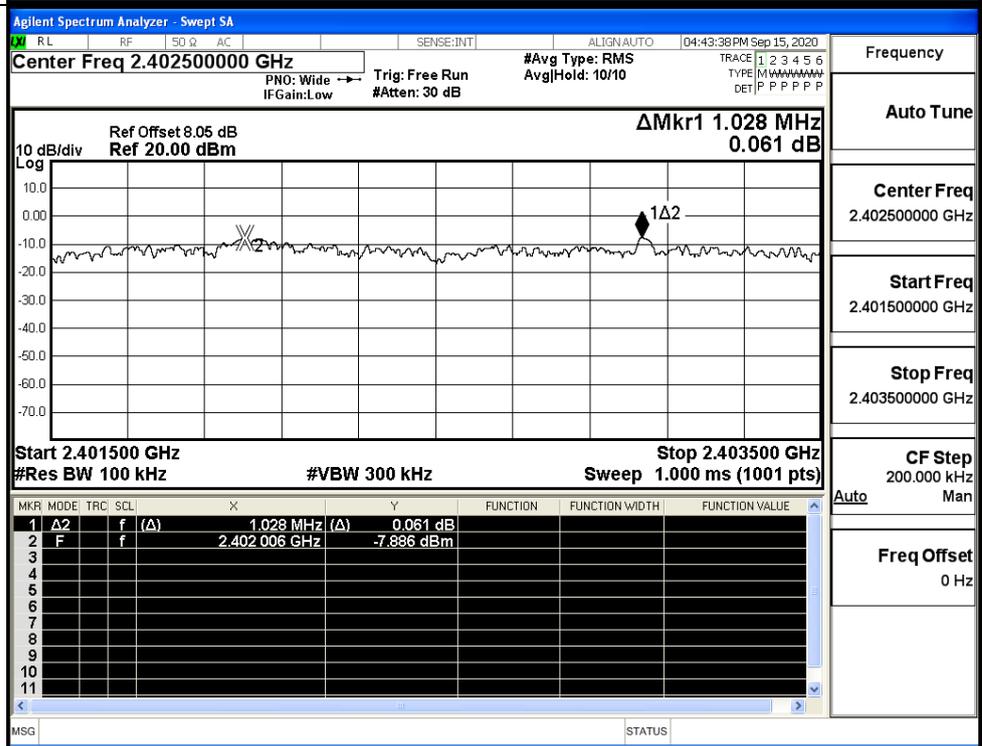


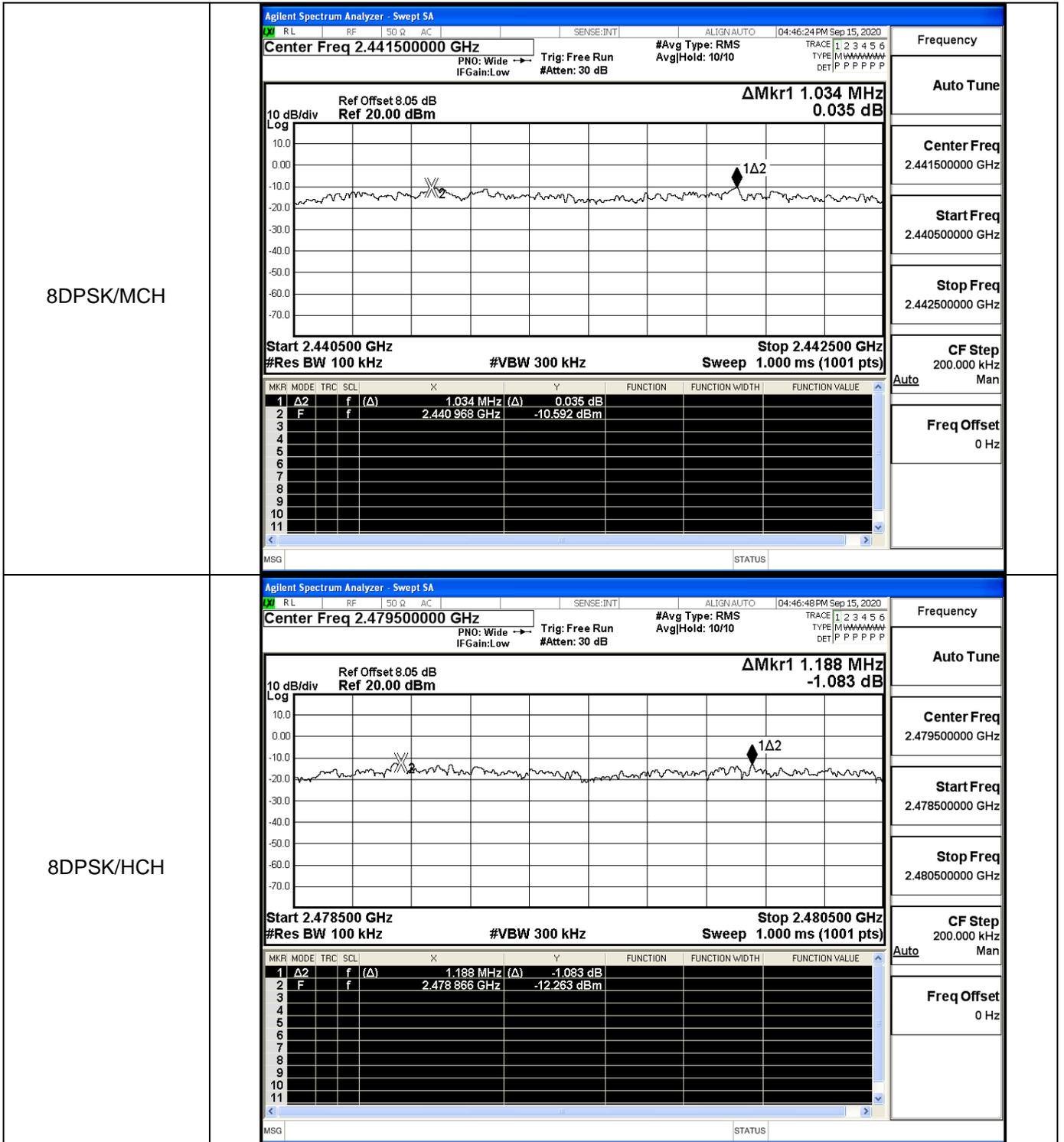
Frequency
Auto Tune
Center Freq 2.441500000 GHz
Start Freq 2.440500000 GHz
Stop Freq 2.442500000 GHz
CF Step 200.000 kHz
Auto Man
Freq Offset 0 Hz

π/4DQPSK/HCH



8DPSK/LCH



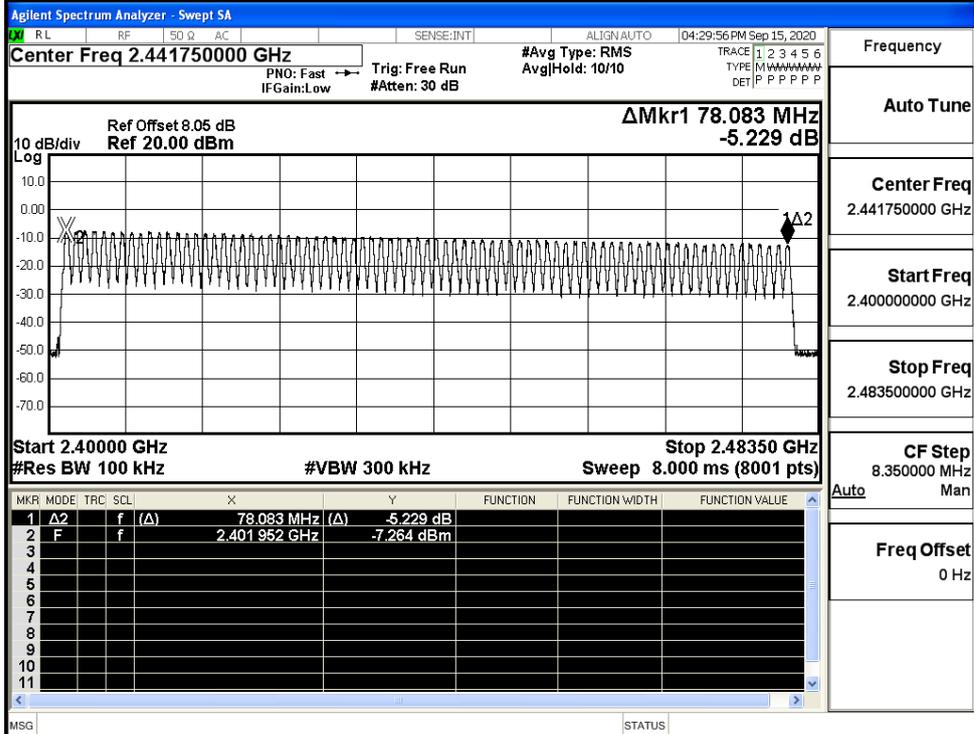


A.4 Hopping Channel Number

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

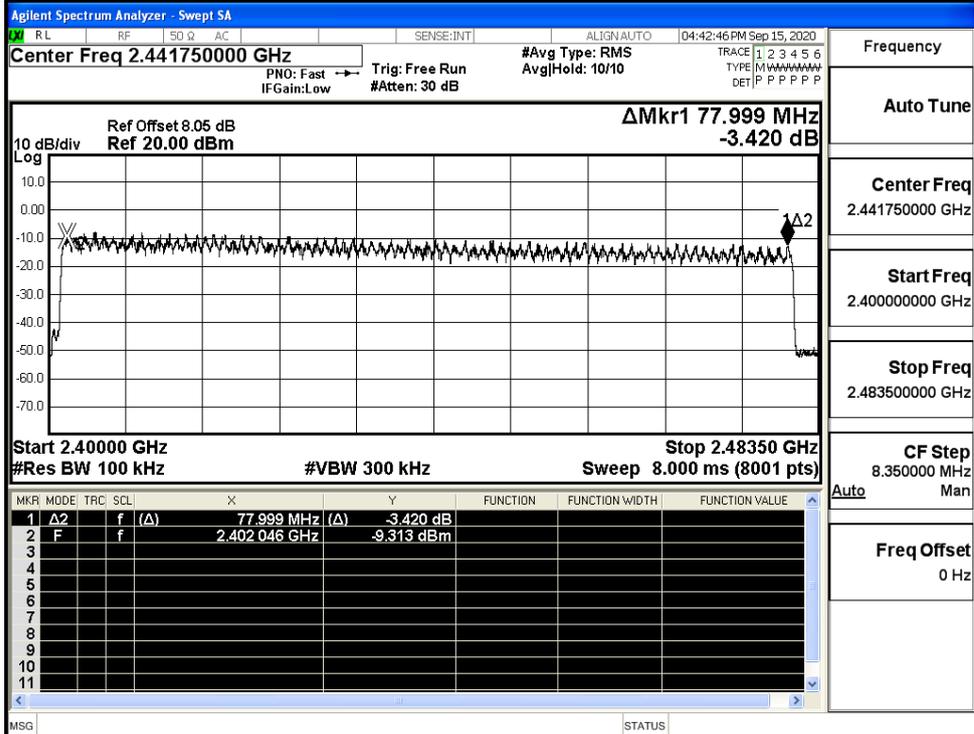
Test Graphs

GFSK/Hop



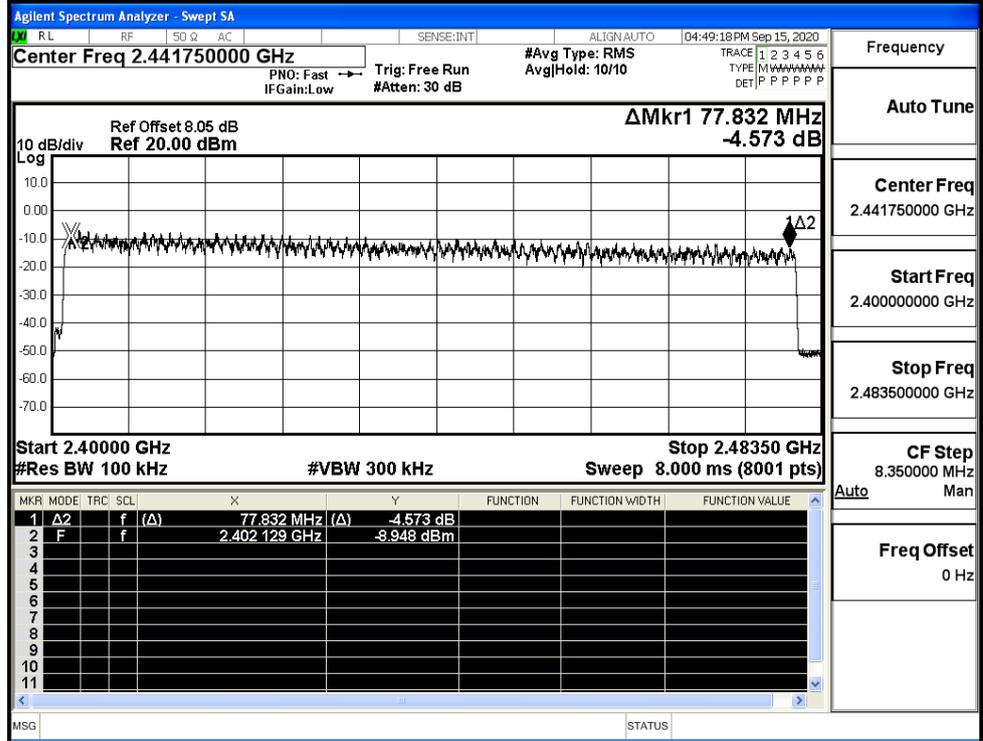
Frequency	2.441750000 GHz
Auto Tune	
Center Freq	2.441750000 GHz
Start Freq	2.400000000 GHz
Stop Freq	2.483500000 GHz
CF Step	8.350000 MHz
Auto	Man
Freq Offset	0 Hz

π /4DQPSK/Hop



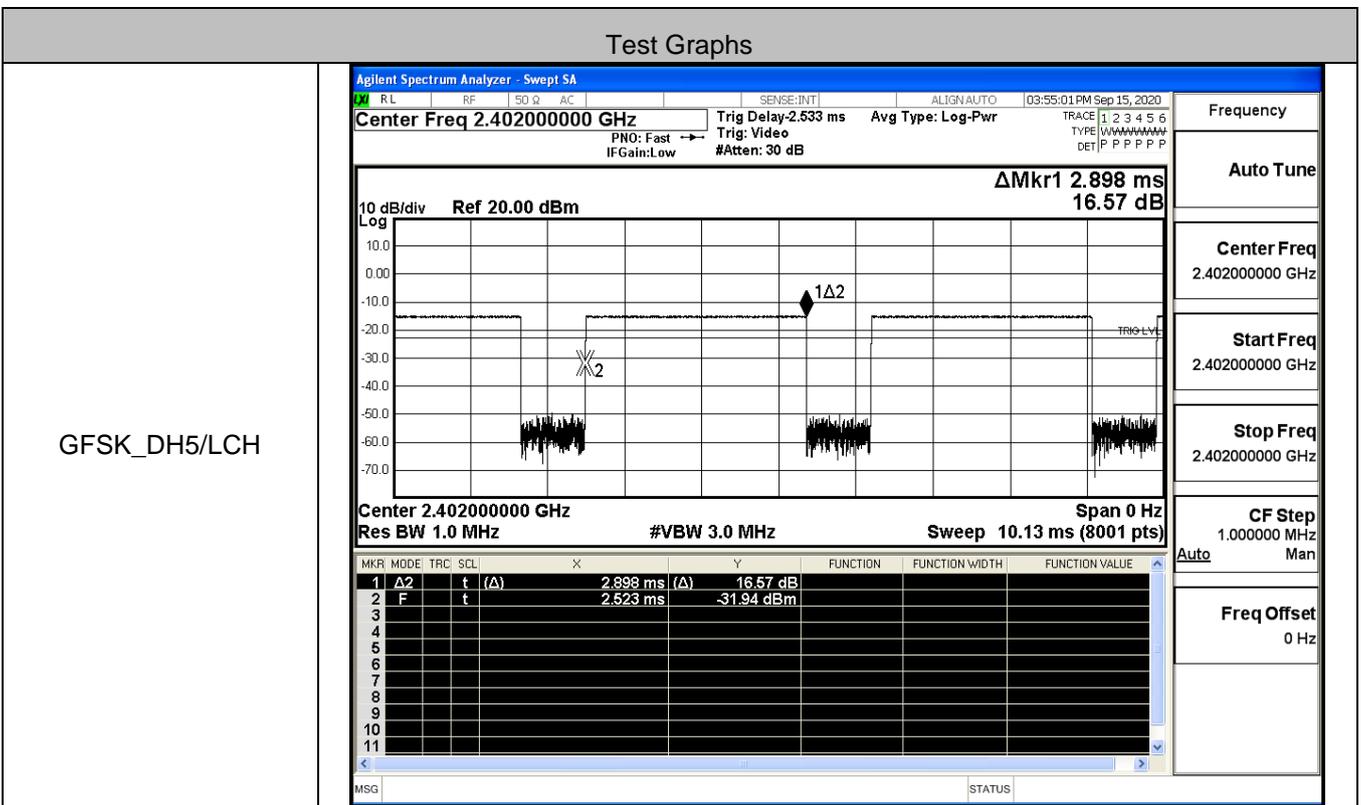
Frequency	2.441750000 GHz
Auto Tune	
Center Freq	2.441750000 GHz
Start Freq	2.400000000 GHz
Stop Freq	2.483500000 GHz
CF Step	8.350000 MHz
Auto	Man
Freq Offset	0 Hz

8DPSK/Hop

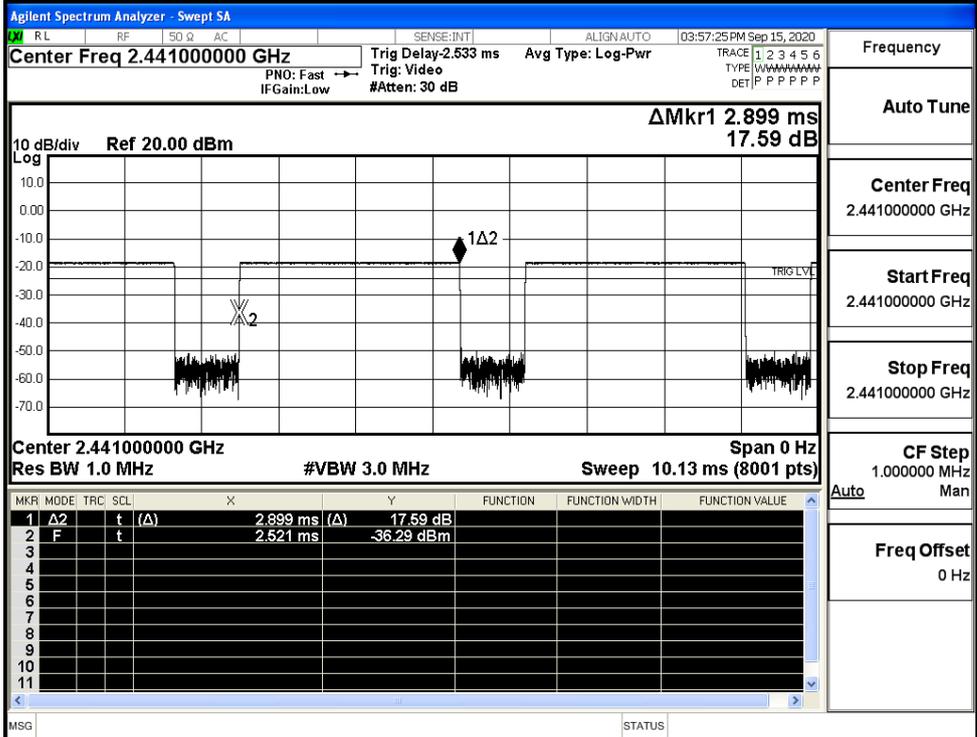


A.5 Dwell Time

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
π/4DQPSK	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

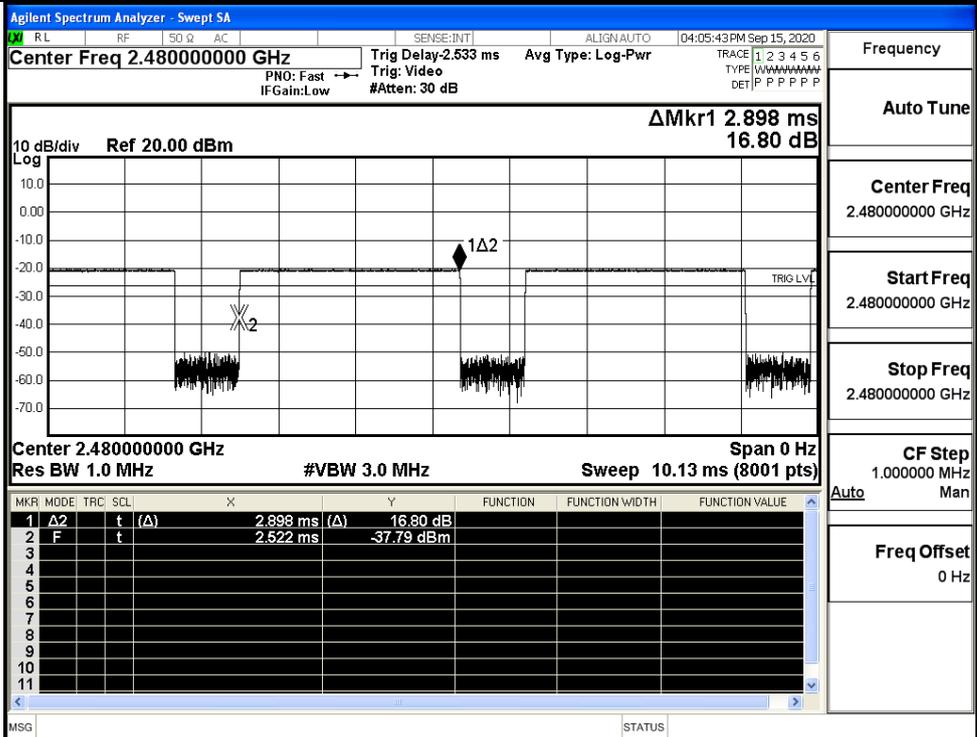


GFSK_DH5/MCH



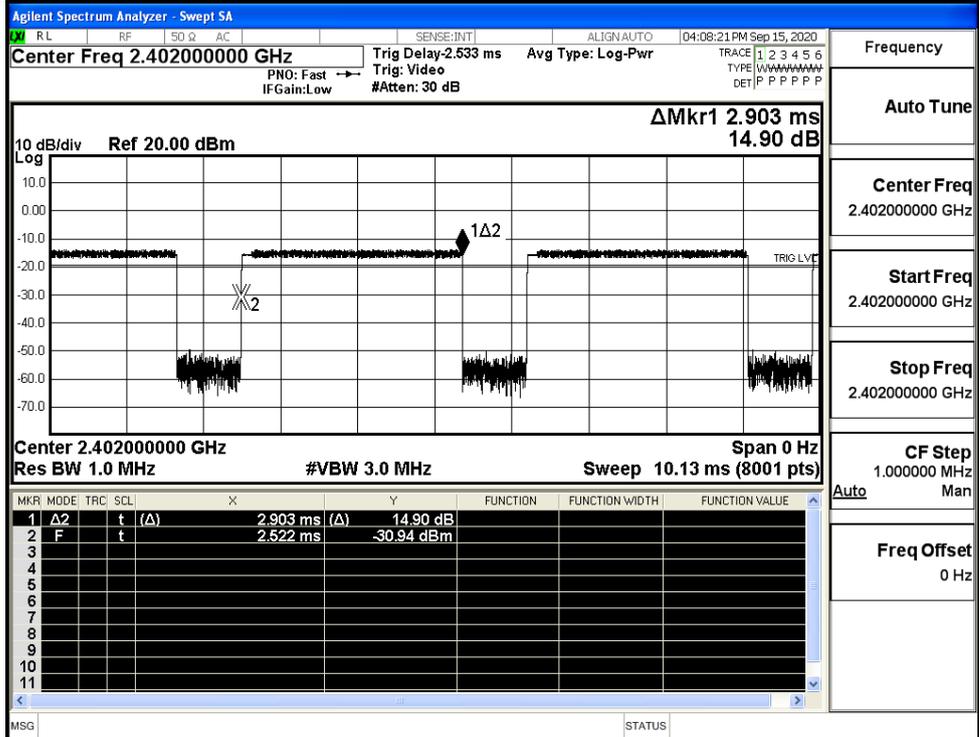
Frequency	
Auto Tune	
Center Freq	2.441000000 GHz
Start Freq	2.441000000 GHz
Stop Freq	2.441000000 GHz
CF Step	1.000000 MHz
Freq Offset	0 Hz

GFSK_DH5/HCH



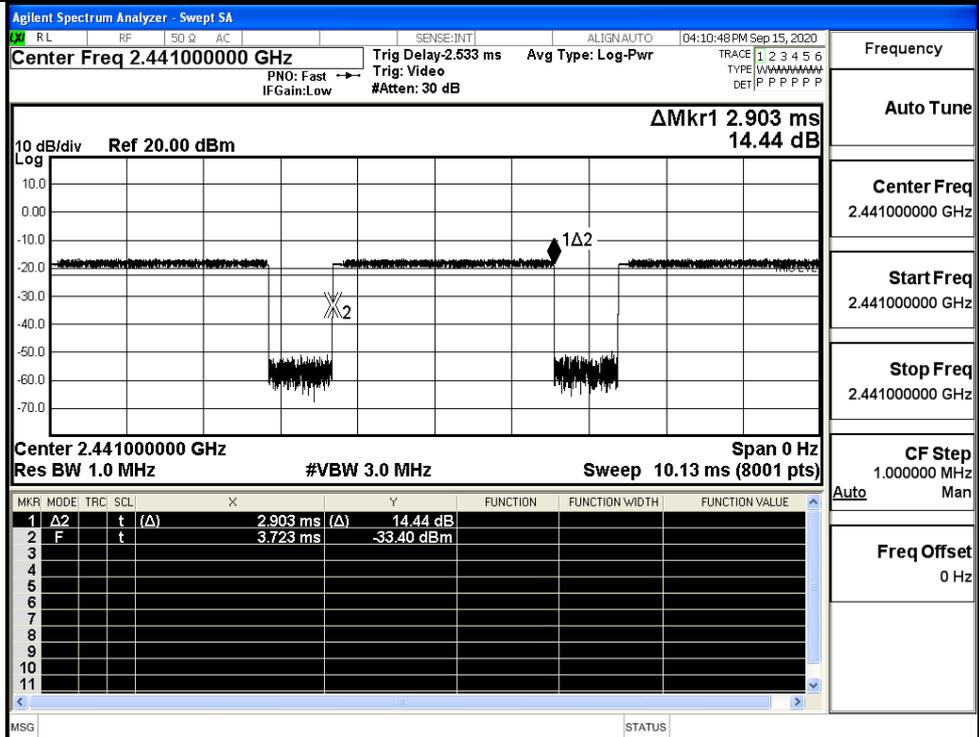
Frequency	
Auto Tune	
Center Freq	2.480000000 GHz
Start Freq	2.480000000 GHz
Stop Freq	2.480000000 GHz
CF Step	1.000000 MHz
Freq Offset	0 Hz

$\pi/4$ DQPSK
_2DH5/LCH



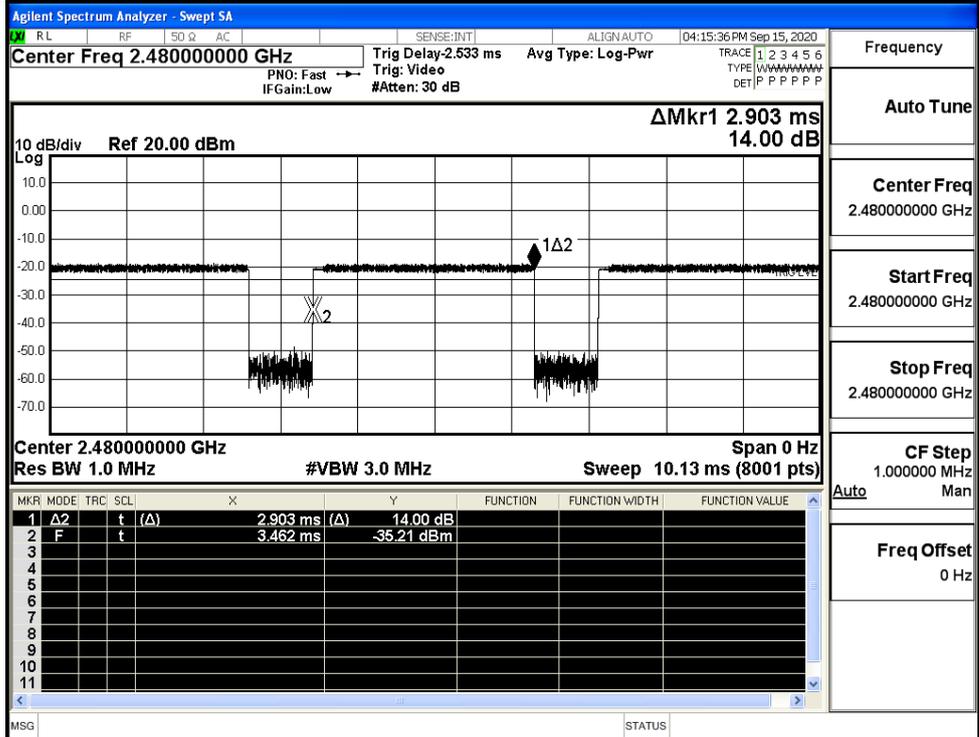
Frequency	2.402000000 GHz
Auto Tune	
Center Freq	2.402000000 GHz
Start Freq	2.402000000 GHz
Stop Freq	2.402000000 GHz
CF Step	1.000000 MHz
Freq Offset	0 Hz

$\pi/4$ DQPSK
_2DH5/MCH

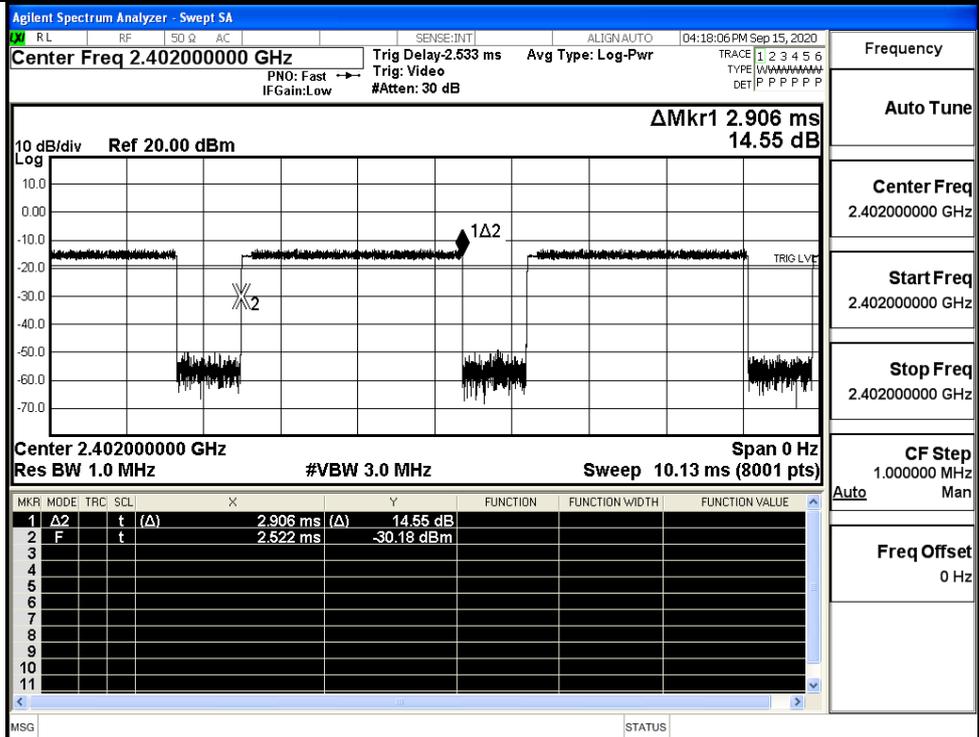


Frequency	2.441000000 GHz
Auto Tune	
Center Freq	2.441000000 GHz
Start Freq	2.441000000 GHz
Stop Freq	2.441000000 GHz
CF Step	1.000000 MHz
Freq Offset	0 Hz

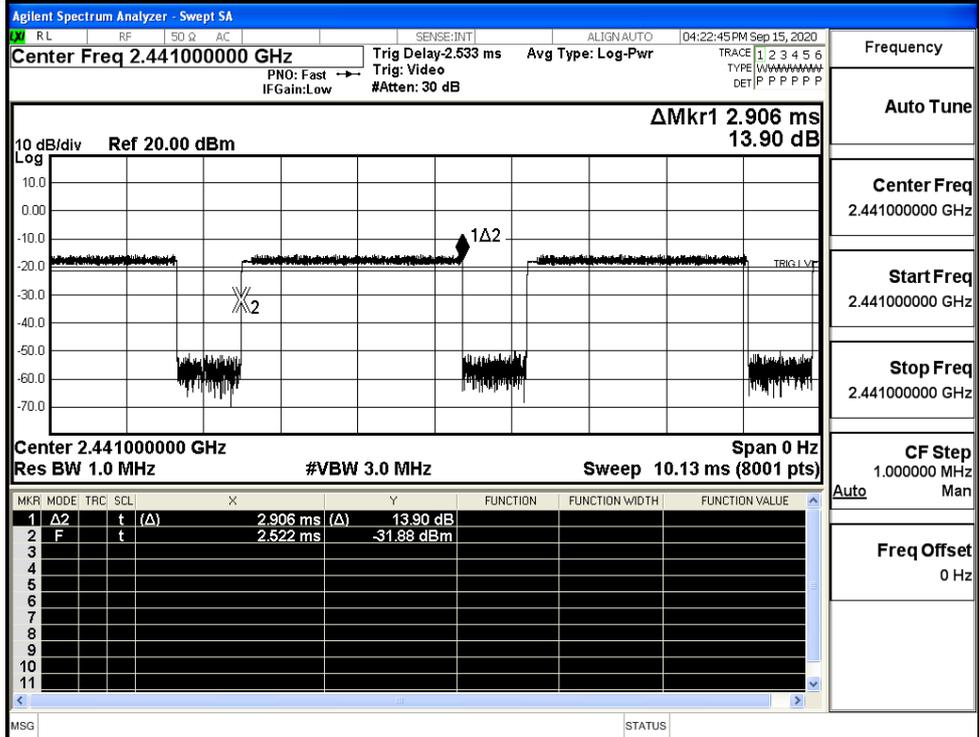
$\pi/4$ DQPSK
_2DH5/HCH



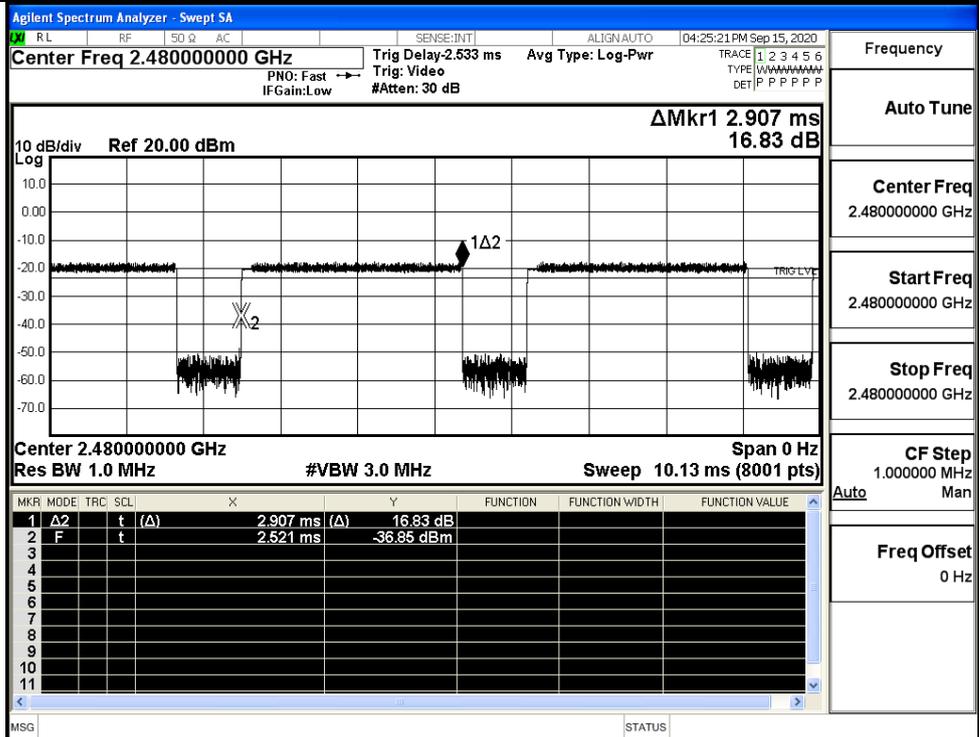
8DPSK_3DH5/LCH



8DPSK_3DH5/MCH



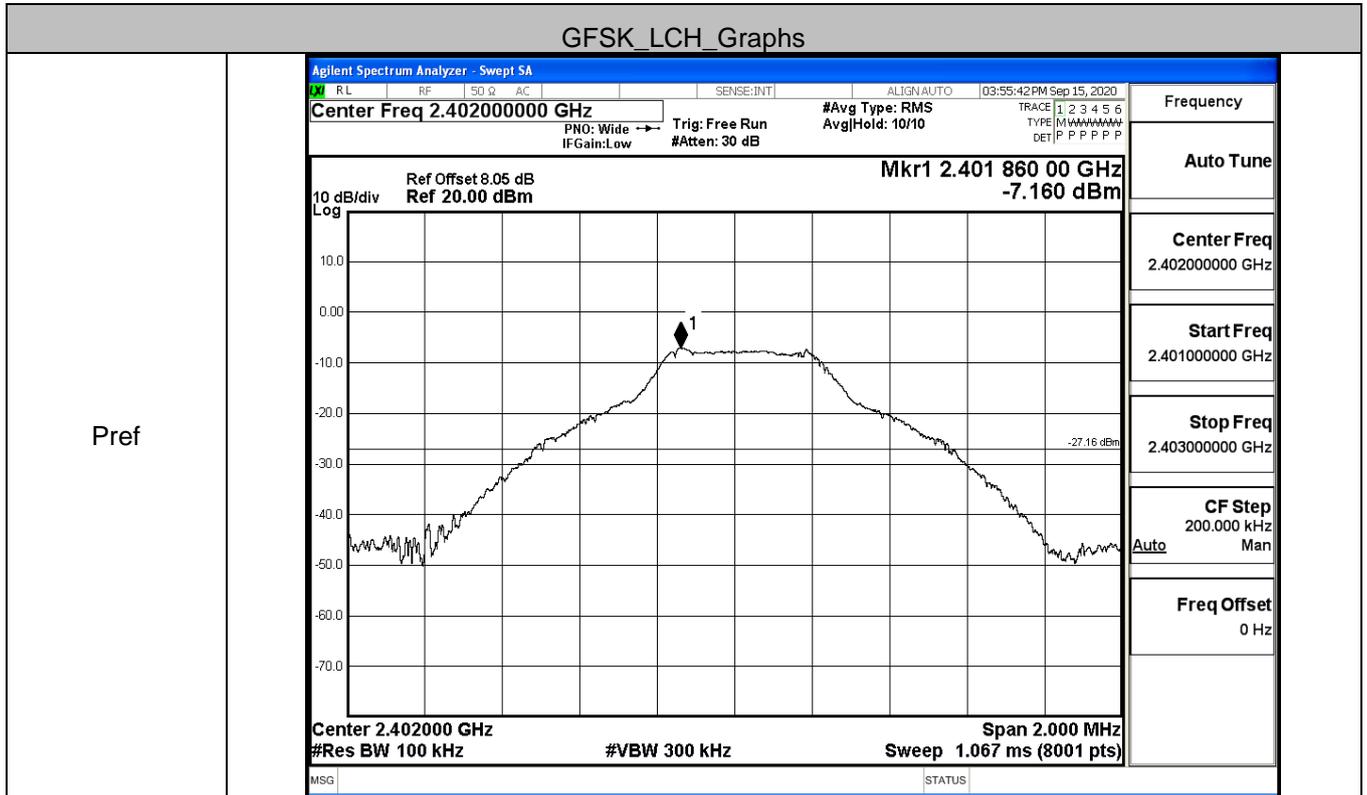
8DPSK_3DH5/HCH



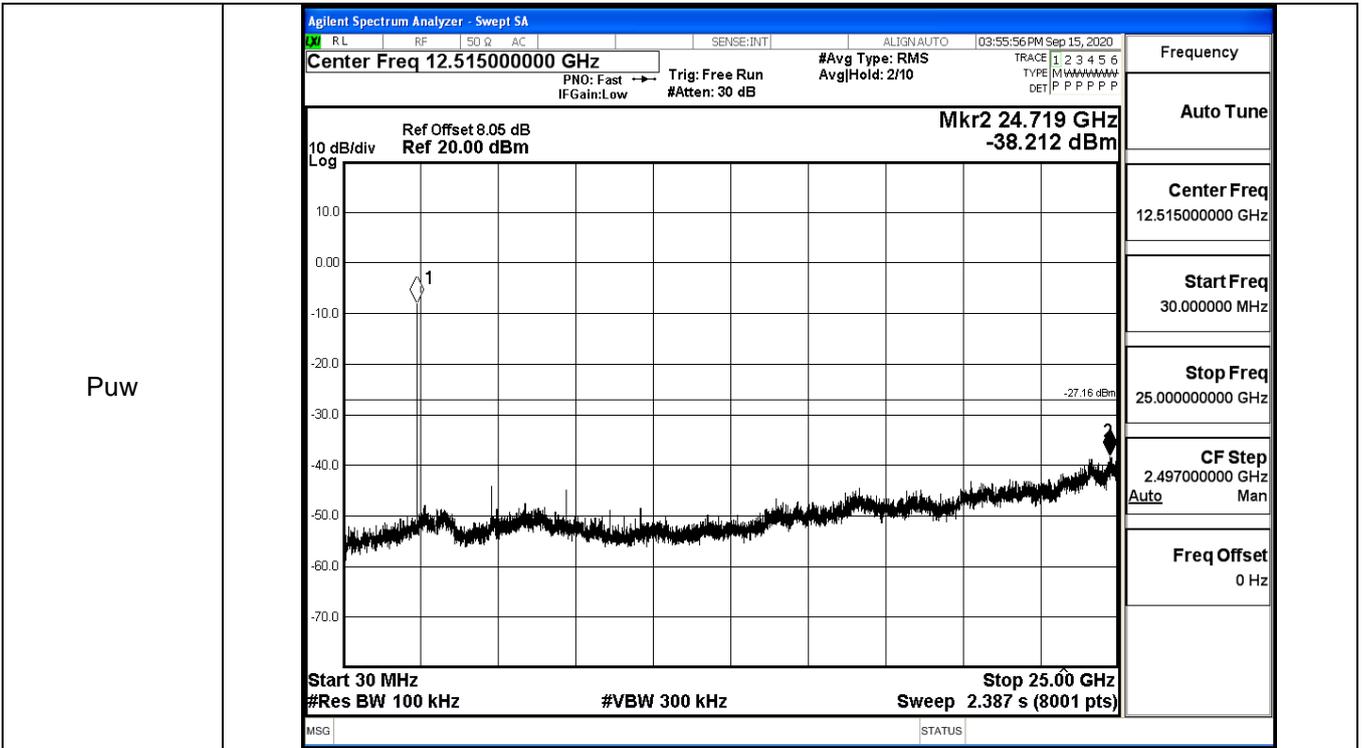
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-7.16	-38.212	-27.160	PASS
	MCH	-10.472	-37.837	-30.472	PASS
	HCH	-12.748	-37.939	-32.748	PASS
π/4DQPSK	LCH	-7.719	-38.120	-27.719	PASS
	MCH	-10.881	-37.863	-30.881	PASS
	HCH	-12.843	-35.932	-32.843	PASS
8DPSK	LCH	-7.567	-38.307	-27.567	PASS
	MCH	-10.01	-38.443	-30.010	PASS
	HCH	-12.188	-37.933	-32.188	PASS

GFSK_LCH_Graphs

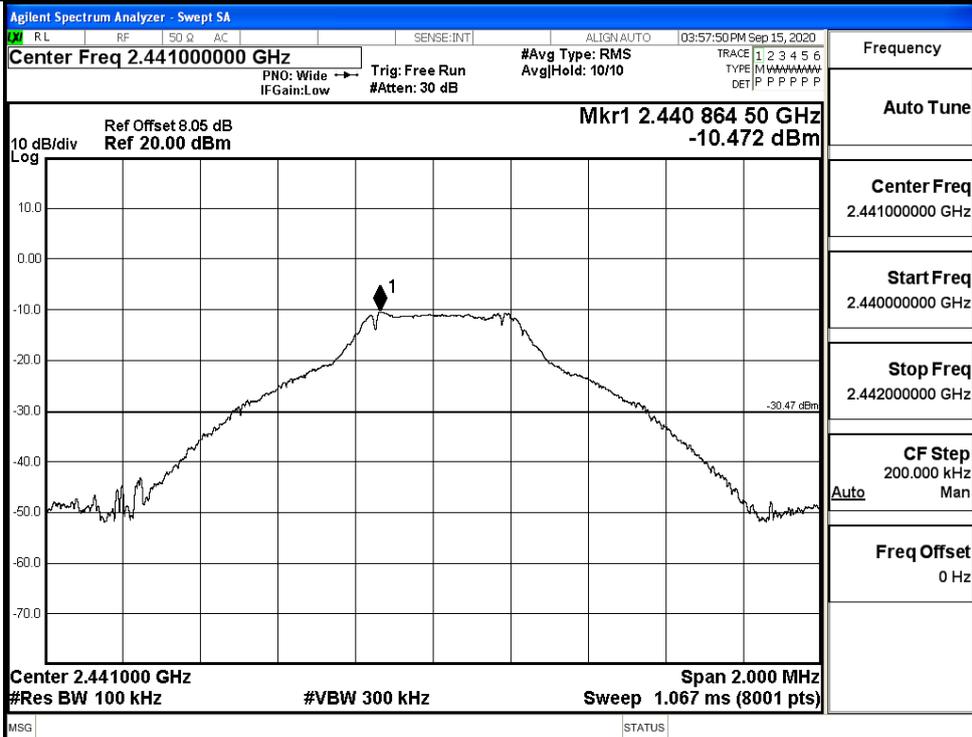


Pref

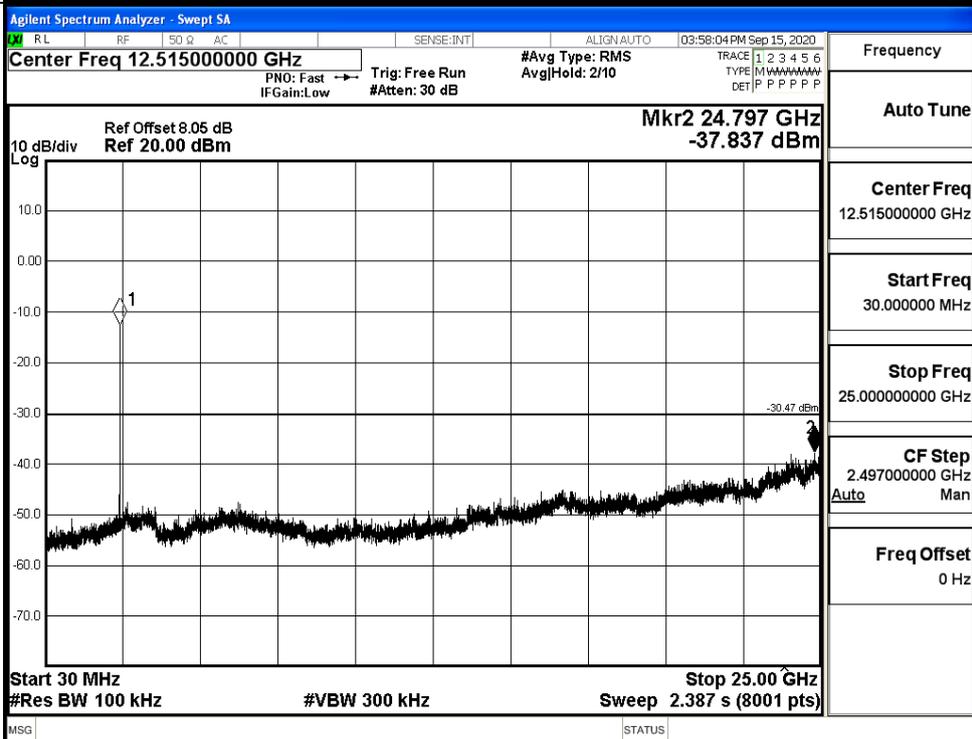


GFSK_MCH_Graphs

Pref

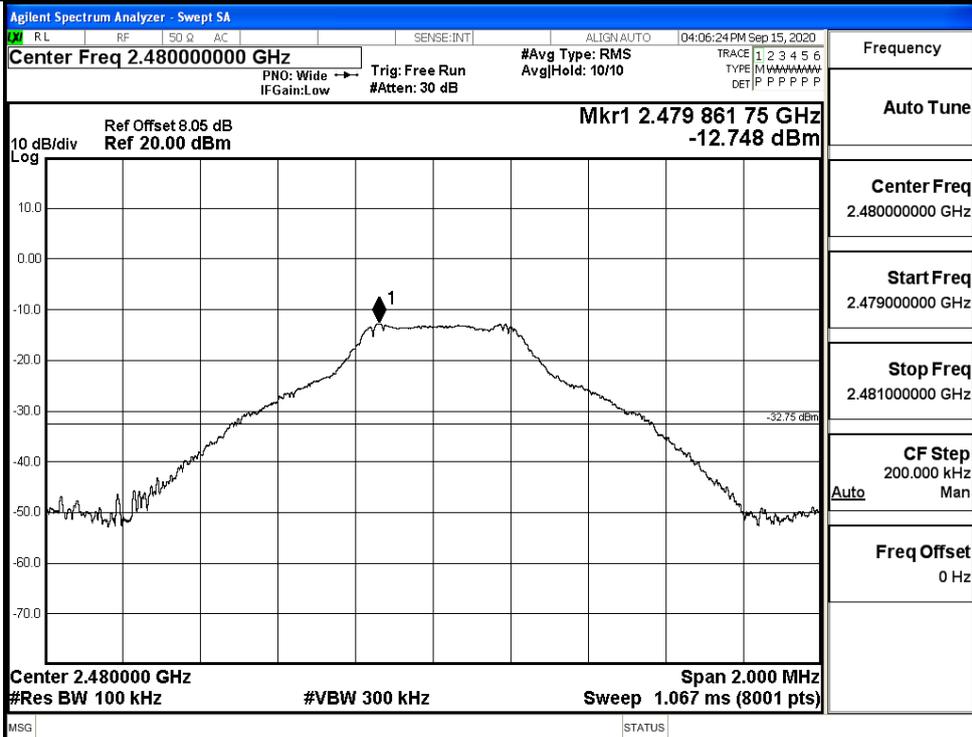


Puw

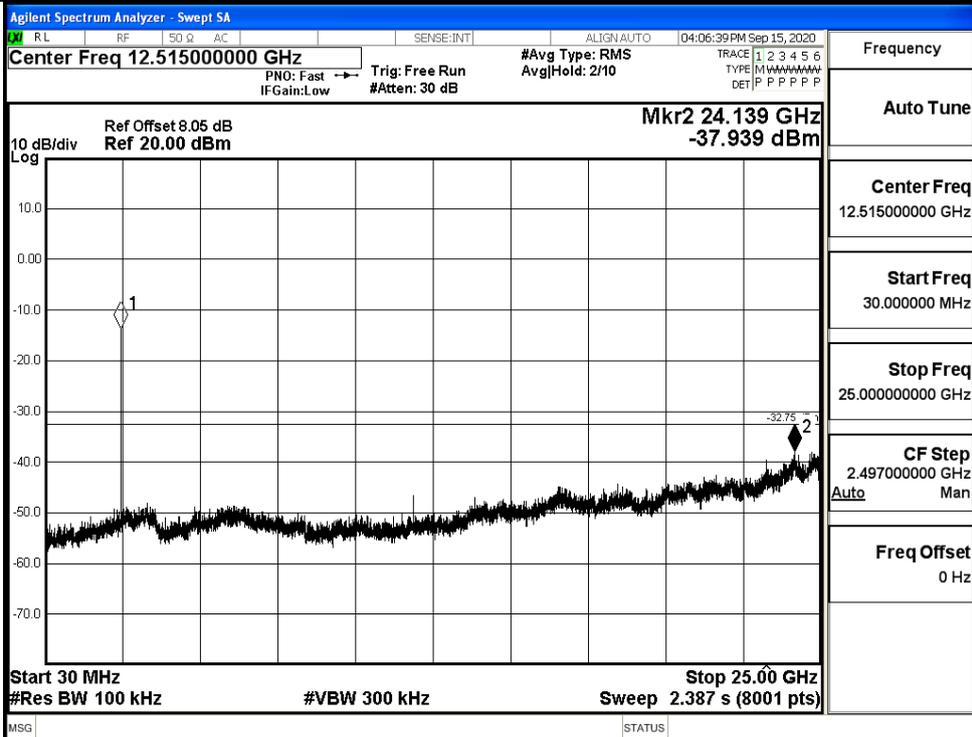


GFSK_HCH_Graphs

Pref

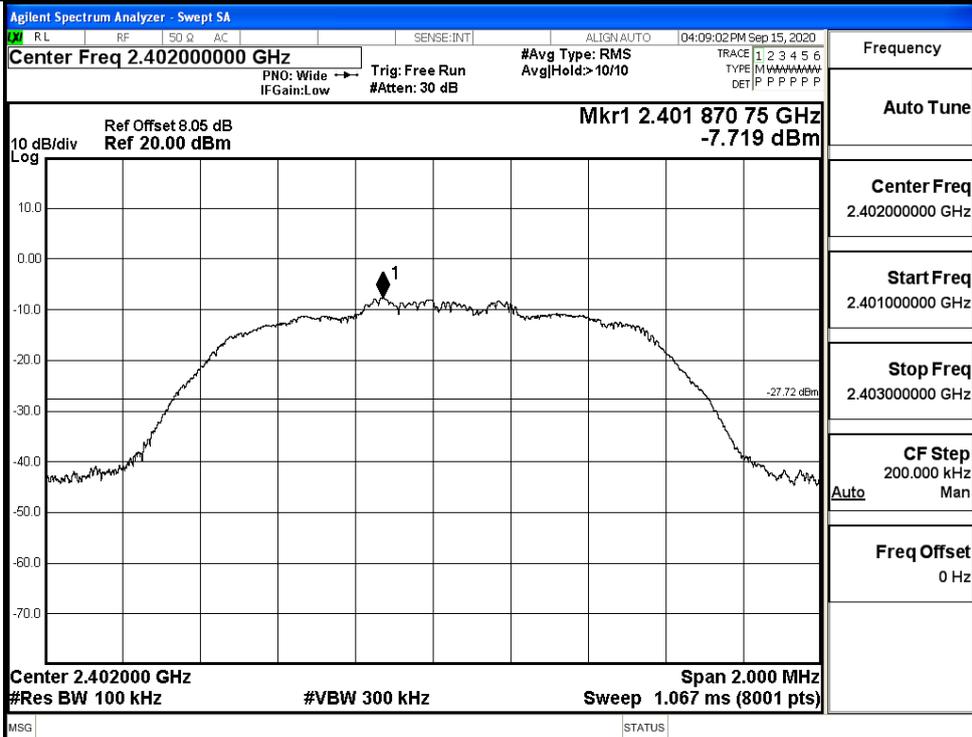


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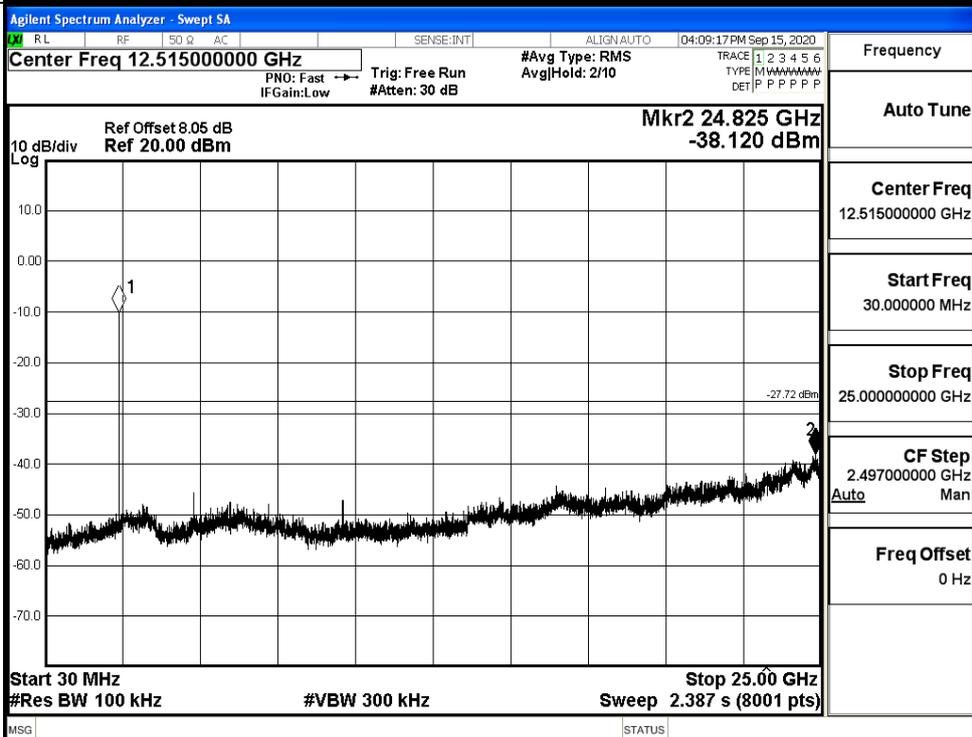


$\pi/4$ DQPSK LCH Graphs

Pref

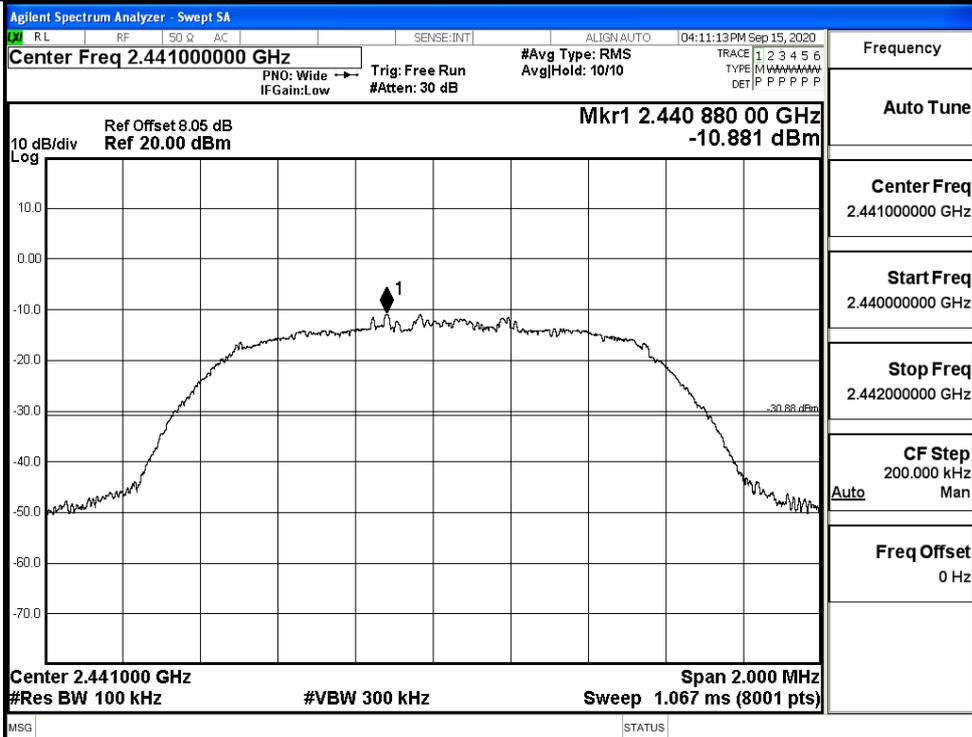


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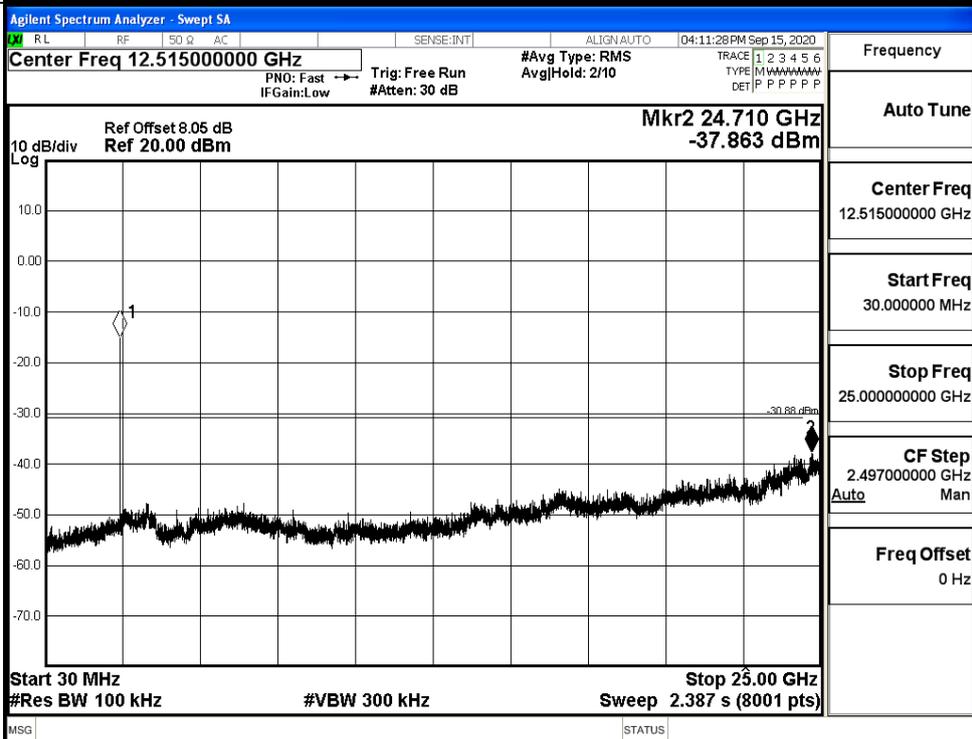


$\pi/4$ DQPSK MCH Graphs

Pref

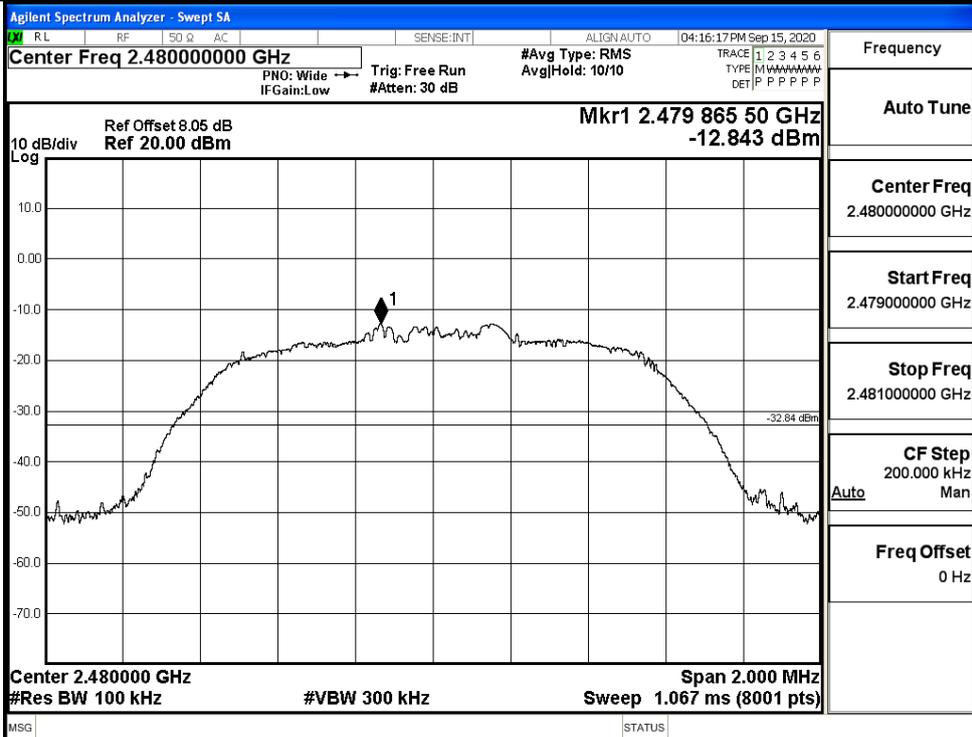


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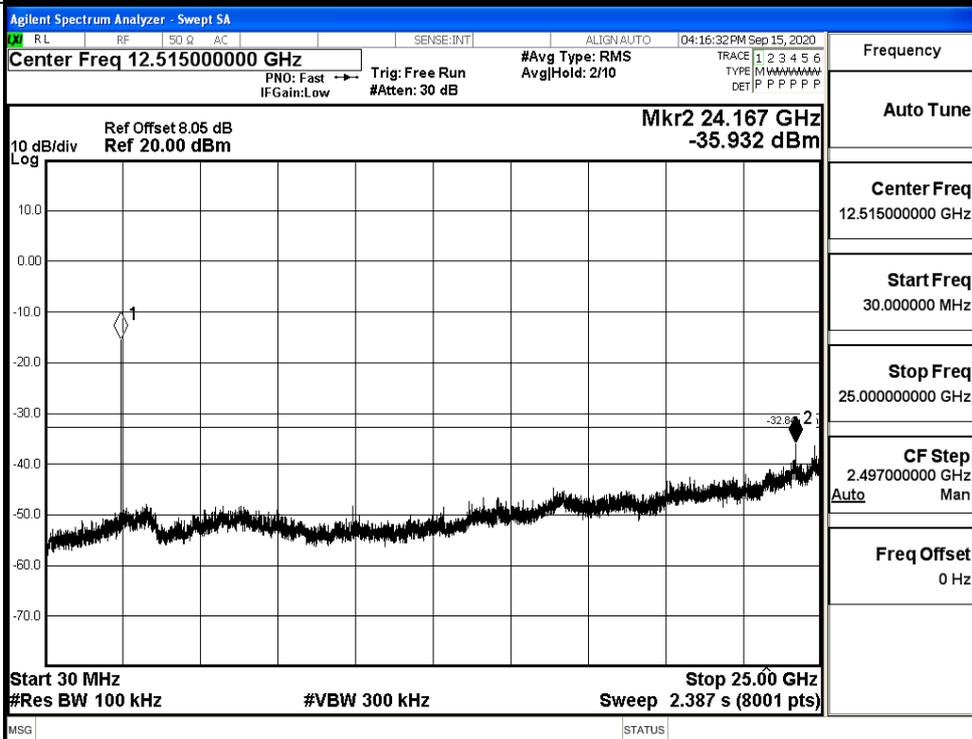


$\pi/4$ DQPSK HCH Graphs

Pref

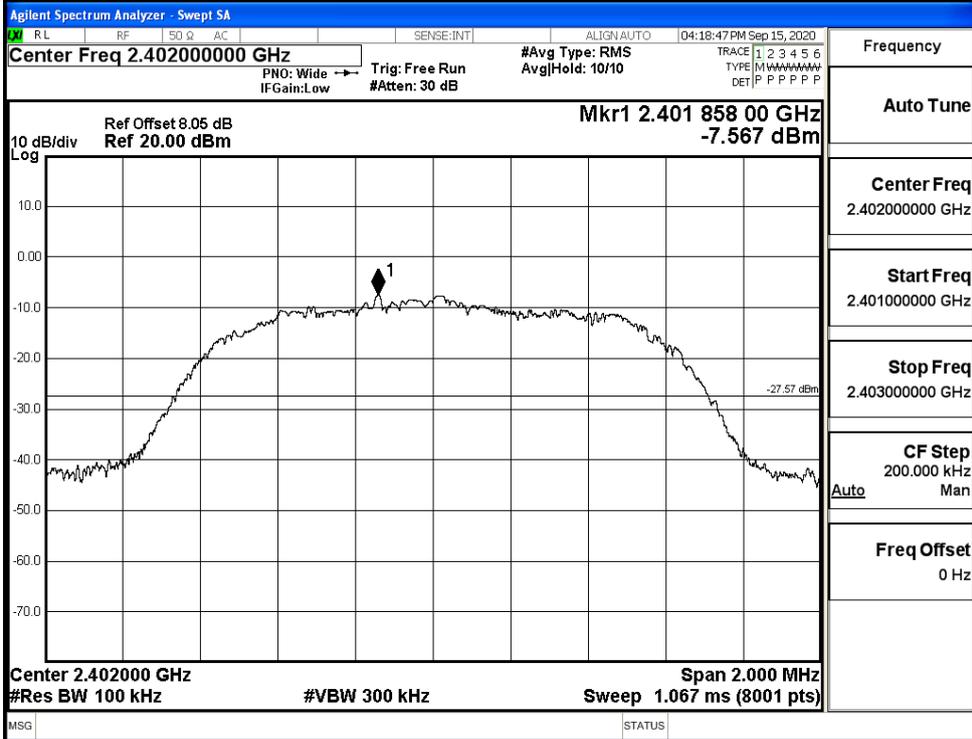


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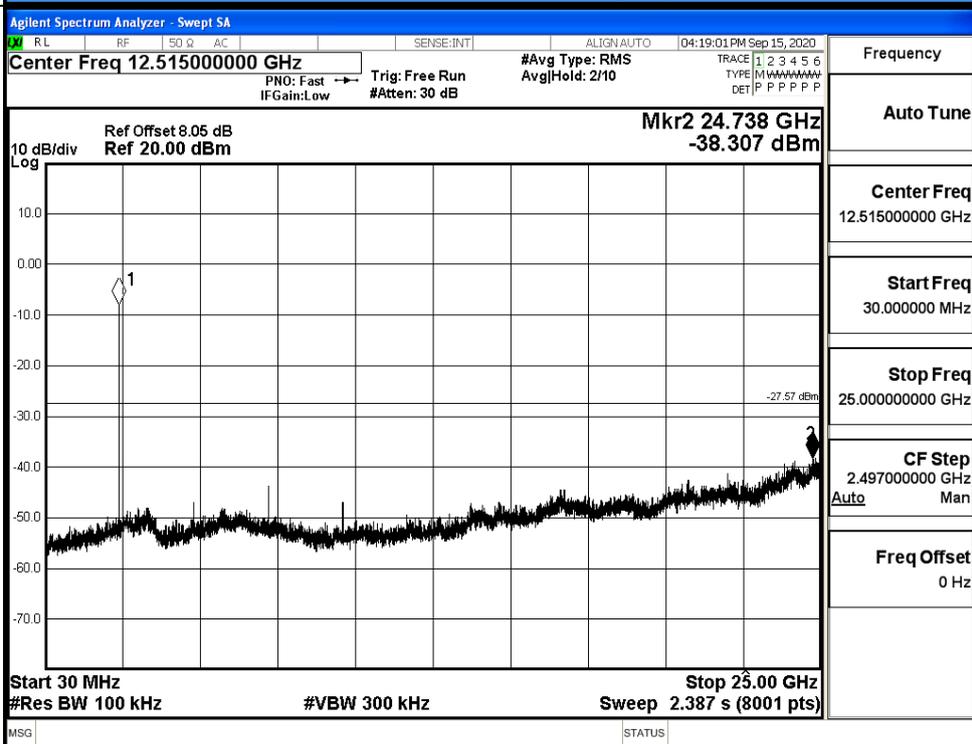


8DPSK_LCH_Graphs

Pref

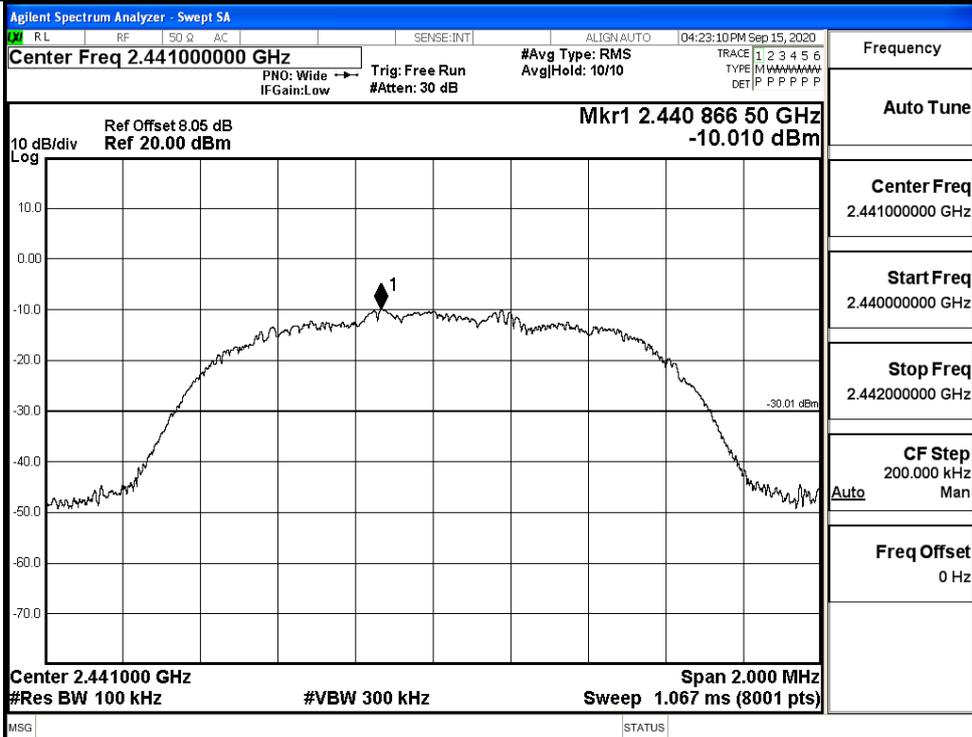


Puw

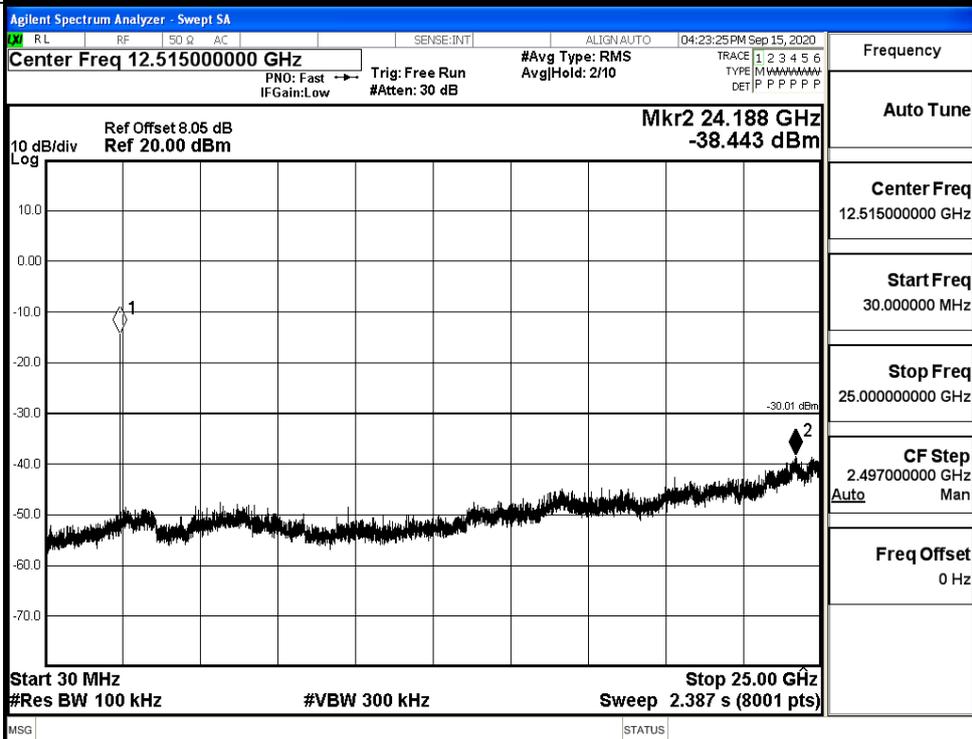


8DPSK_MCH_Graphs

Pref

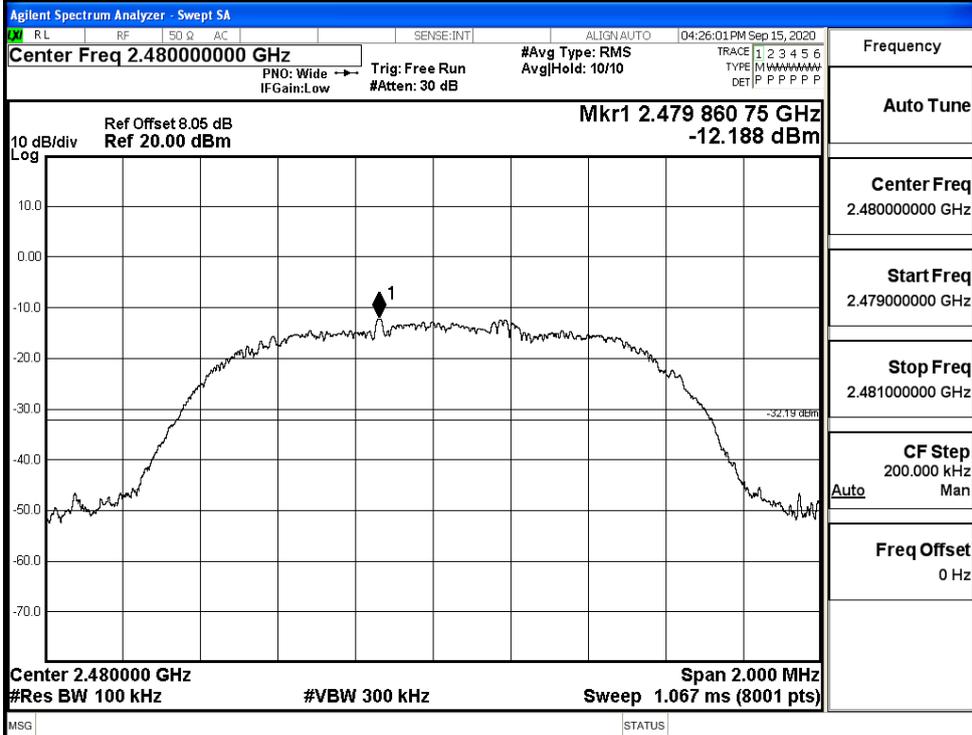


Puw

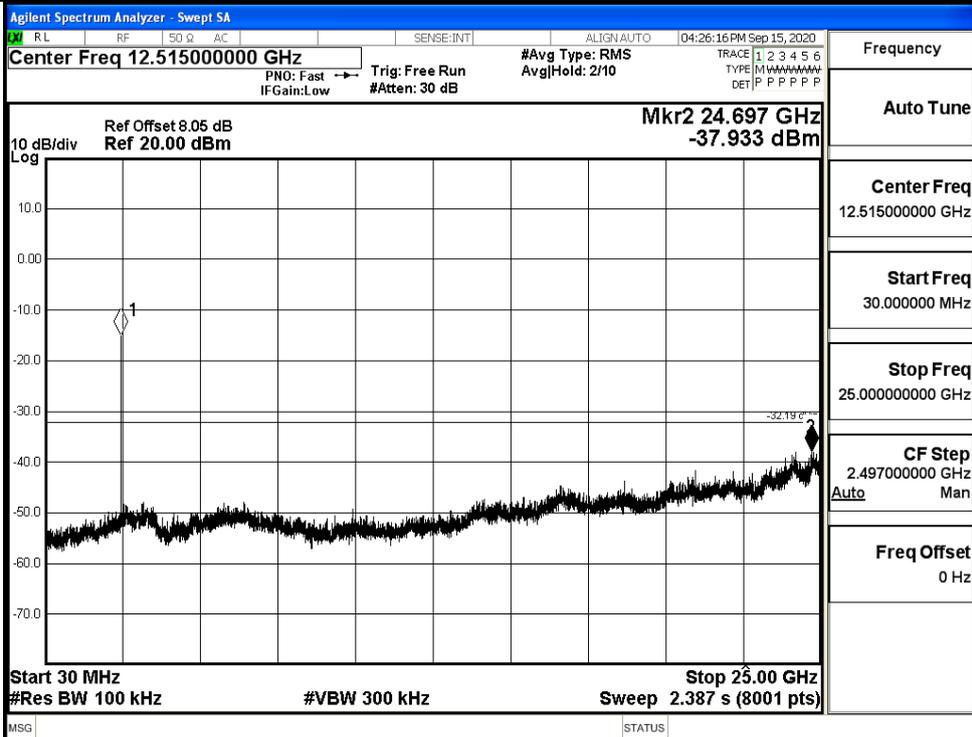


8DPSK_HCH_Graphs

Pref



Puw

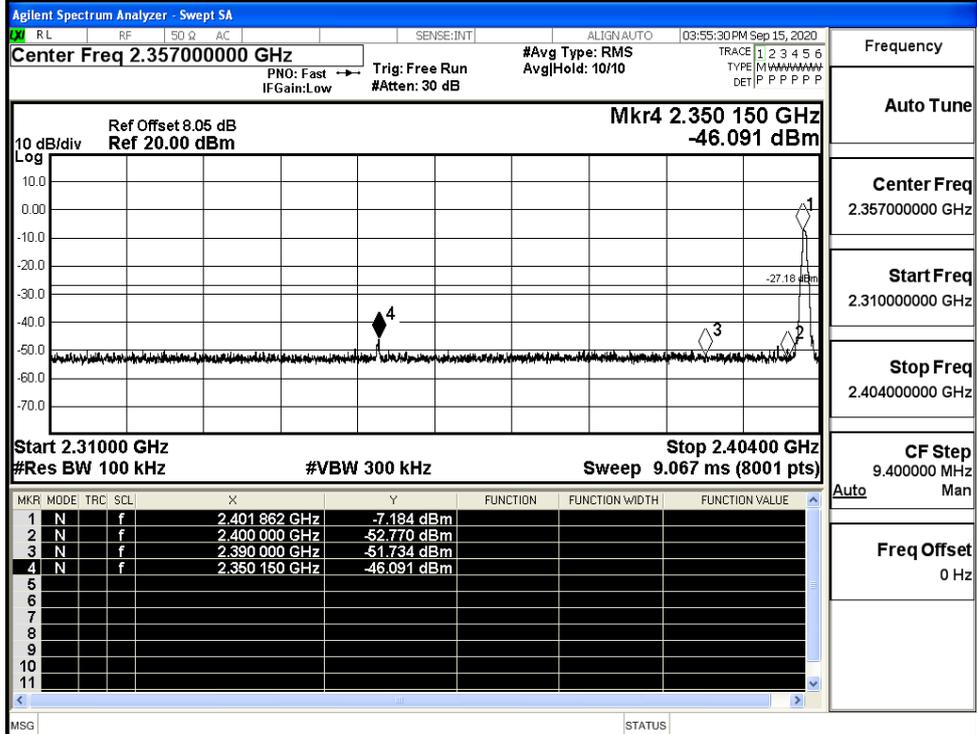


A.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-7.184	Off	-46.091	-27.18	PASS
			-7.352	On	-48.133	-27.35	PASS
	HCH	2480	-12.842	Off	-49.042	-32.84	PASS
			-10.742	On	-49.064	-30.74	PASS
π /4DQPSK	LCH	2402	-8.046	Off	-48.801	-28.05	PASS
			-7.369	On	-48.194	-27.37	PASS
	HCH	2480	-12.807	Off	-49.955	-32.81	PASS
			-11.222	On	-48.773	-31.22	PASS
8DPSK	LCH	2402	-7.606	Off	-49.403	-27.61	PASS
			-7.932	On	-49.549	-27.93	PASS
	HCH	2480	-12.040	Off	-48.848	-32.04	PASS
			-10.853	On	-48.415	-30.85	PASS

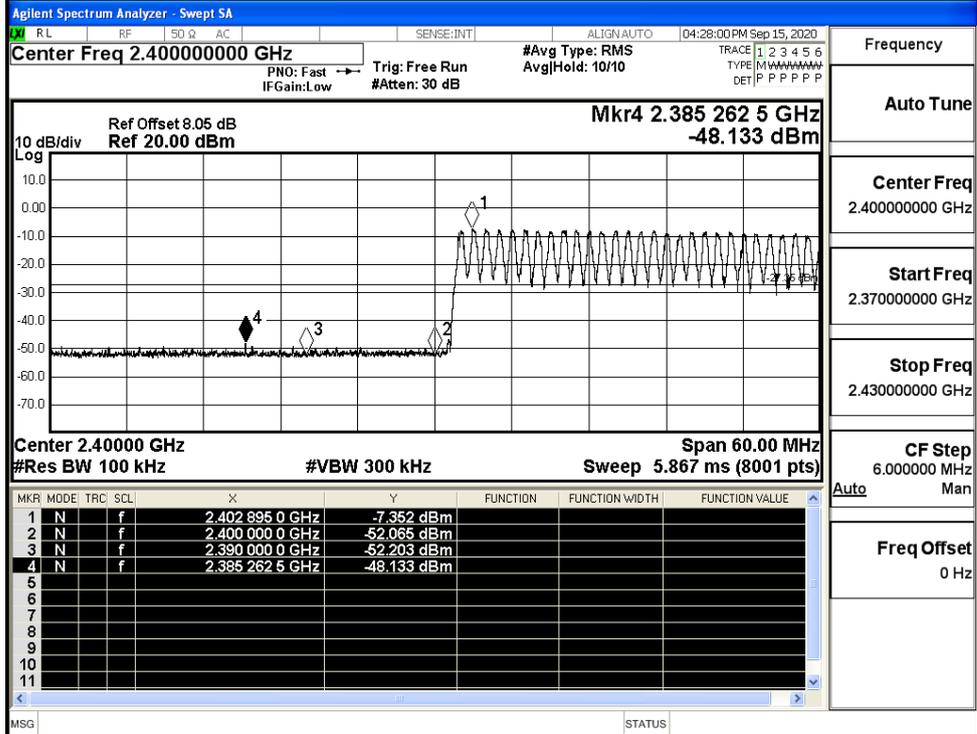
Test Graphs

GFSK/LCH/No Hop



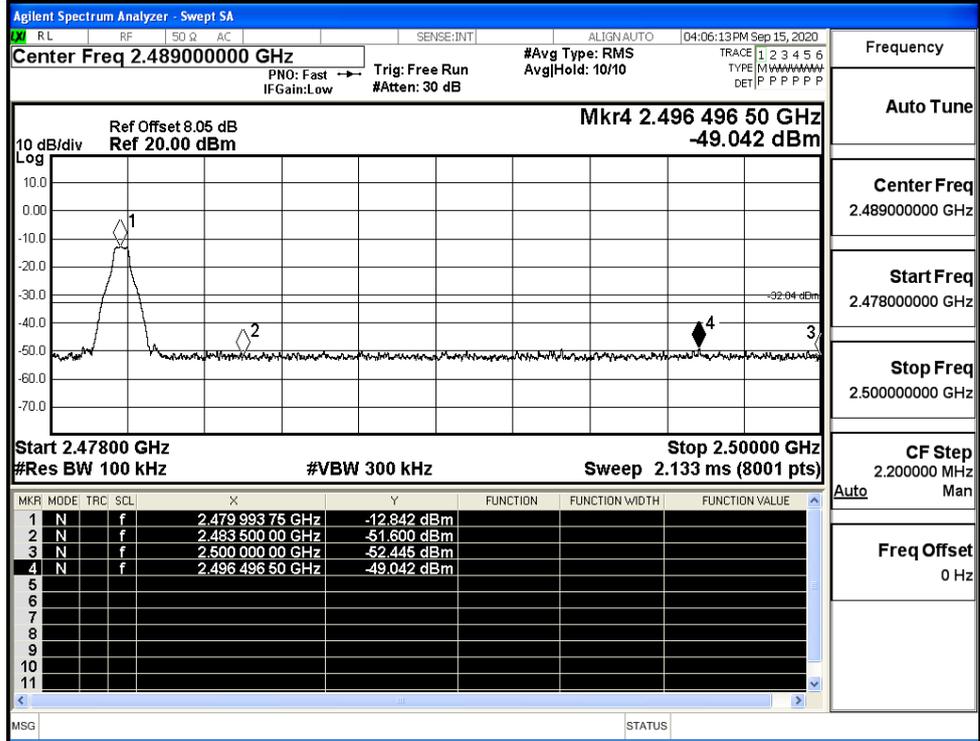
Frequency	Auto Tune
Center Freq	2.357000000 GHz
Start Freq	2.310000000 GHz
Stop Freq	2.404000000 GHz
CF Step	9.400000 MHz Auto Man
Freq Offset	0 Hz

GFSK/LCH/Hop

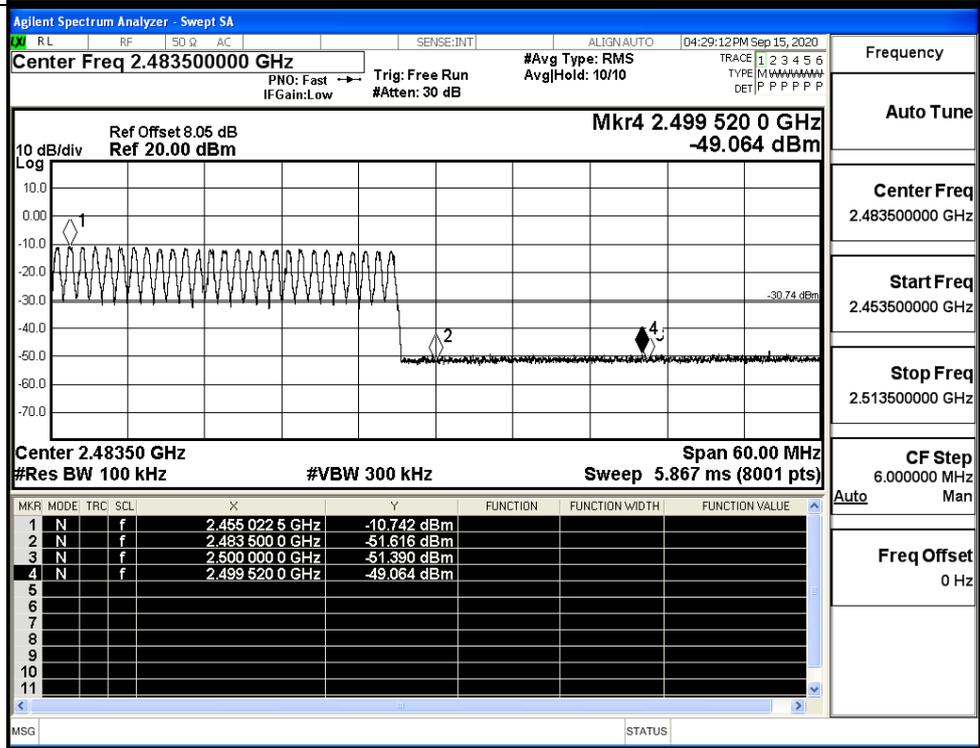


Frequency	Auto Tune
Center Freq	2.400000000 GHz
Start Freq	2.370000000 GHz
Stop Freq	2.430000000 GHz
CF Step	6.000000 MHz Auto Man
Freq Offset	0 Hz

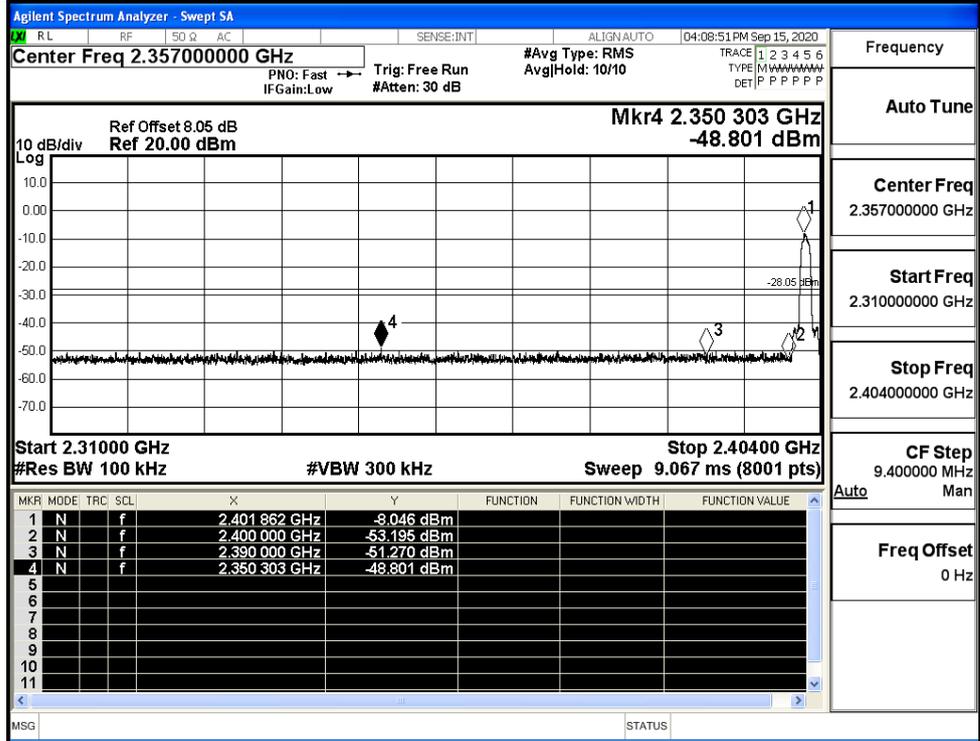
GFSK/HCH/No Hop



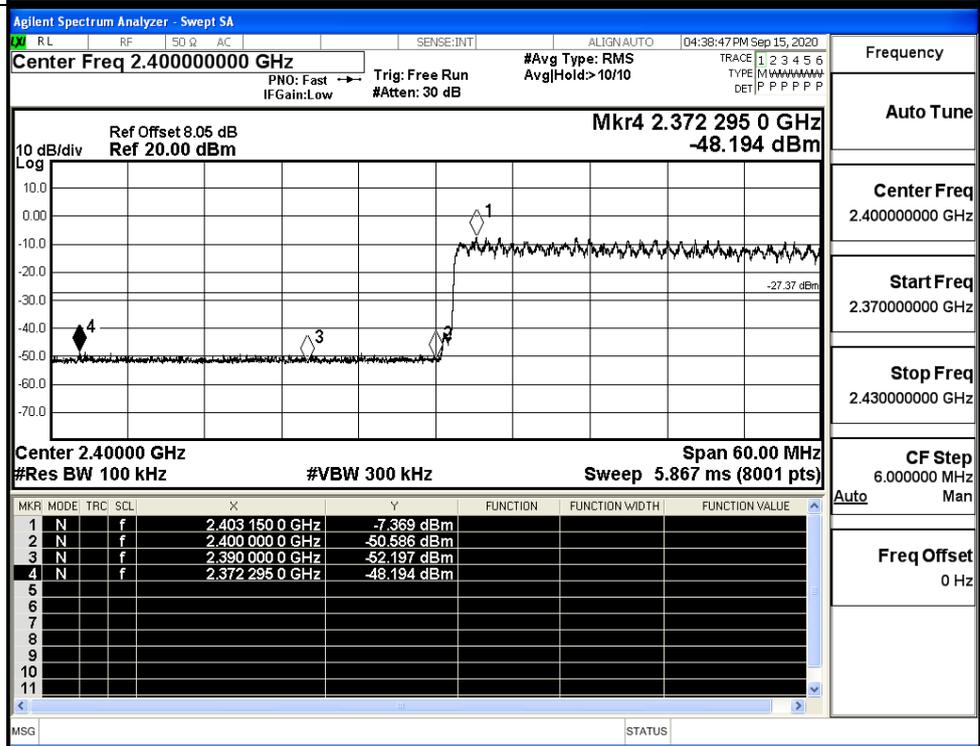
GFSK/HCH/Hop



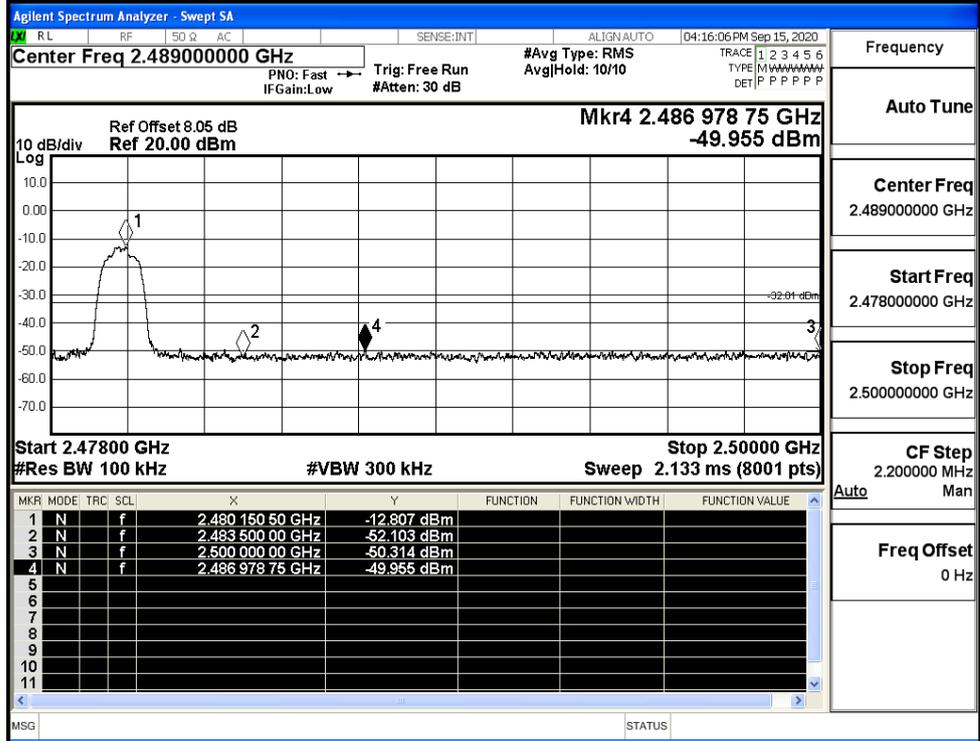
$\pi/4$ DQPSK/LCH/No
Hop



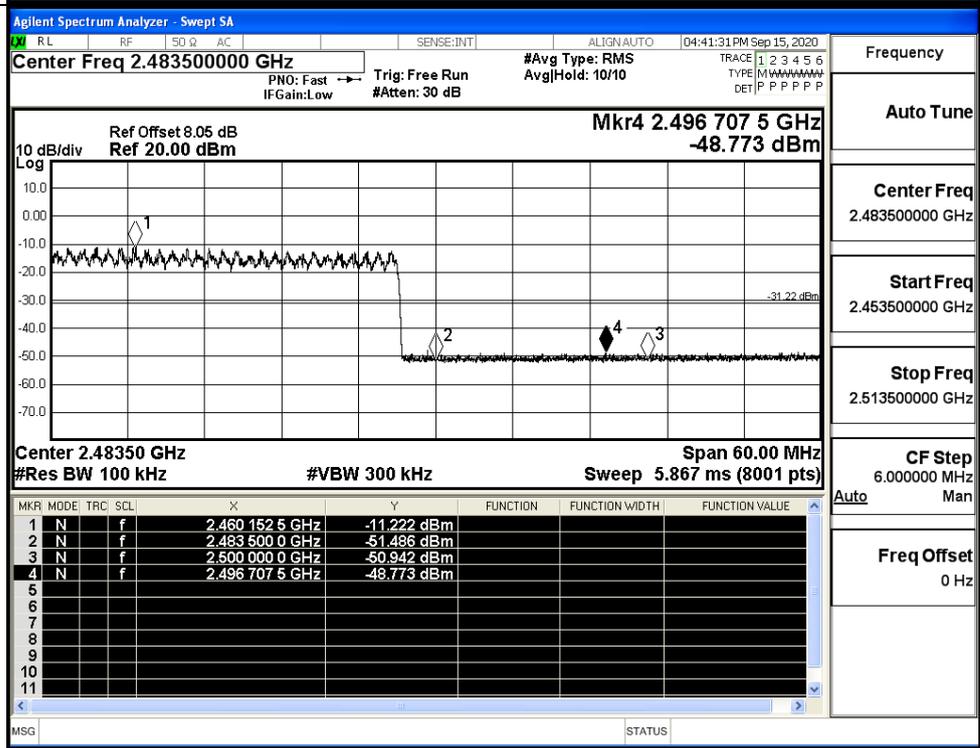
$\pi/4$ DQPSK/LCH/Hop



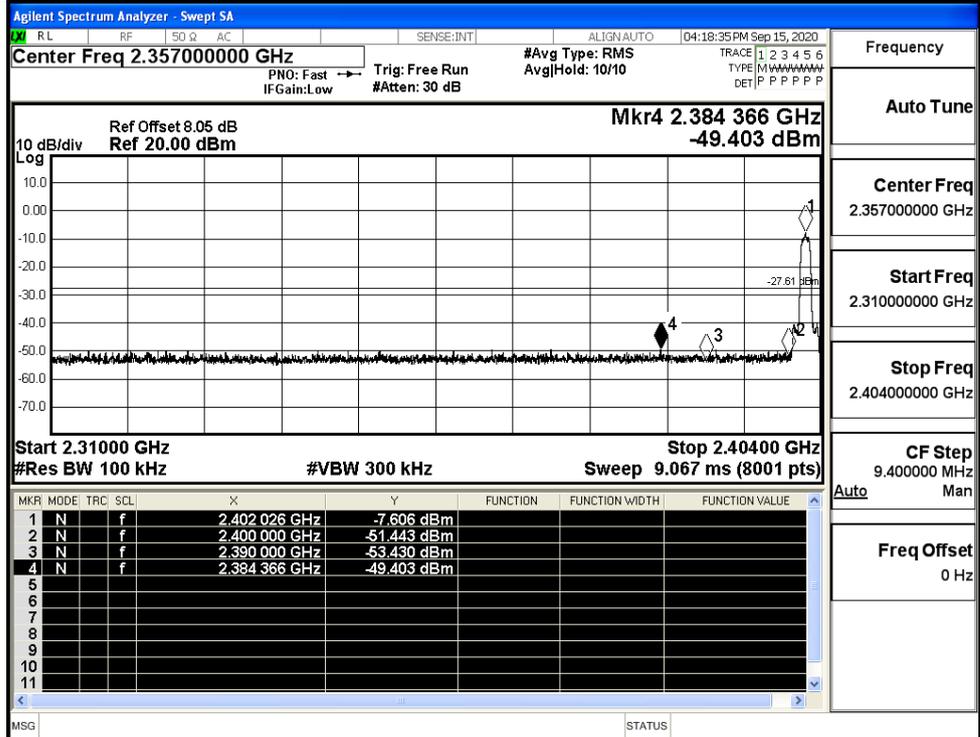
π /4DQPSK/HCH/No Hop



π /4DQPSK/HCH/Hop

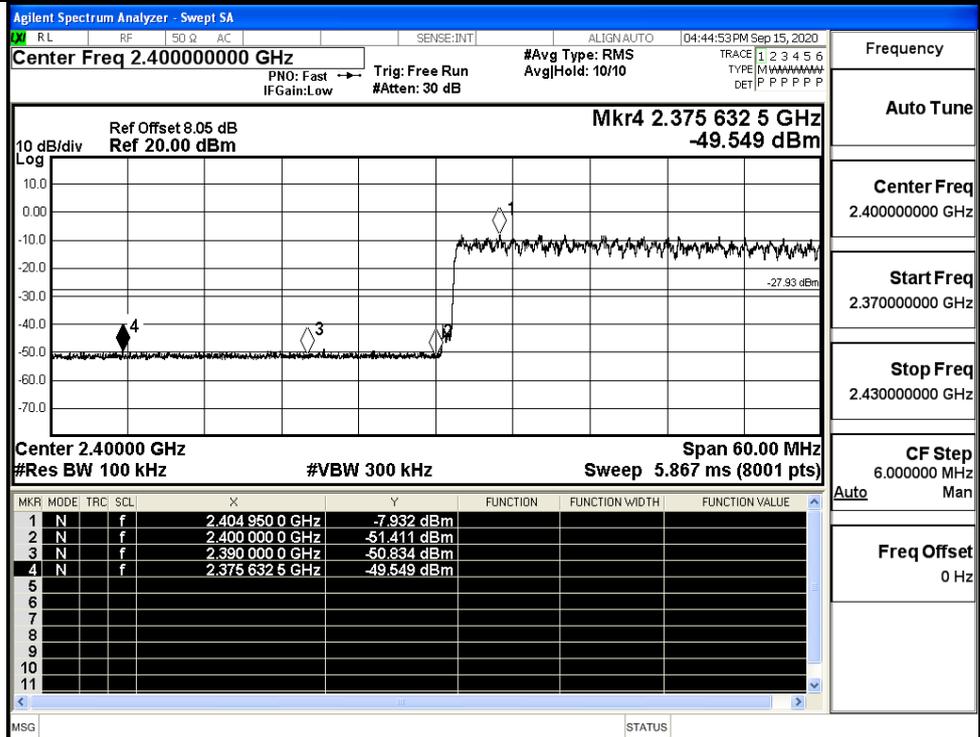


8DPSK/LCH/No Hop



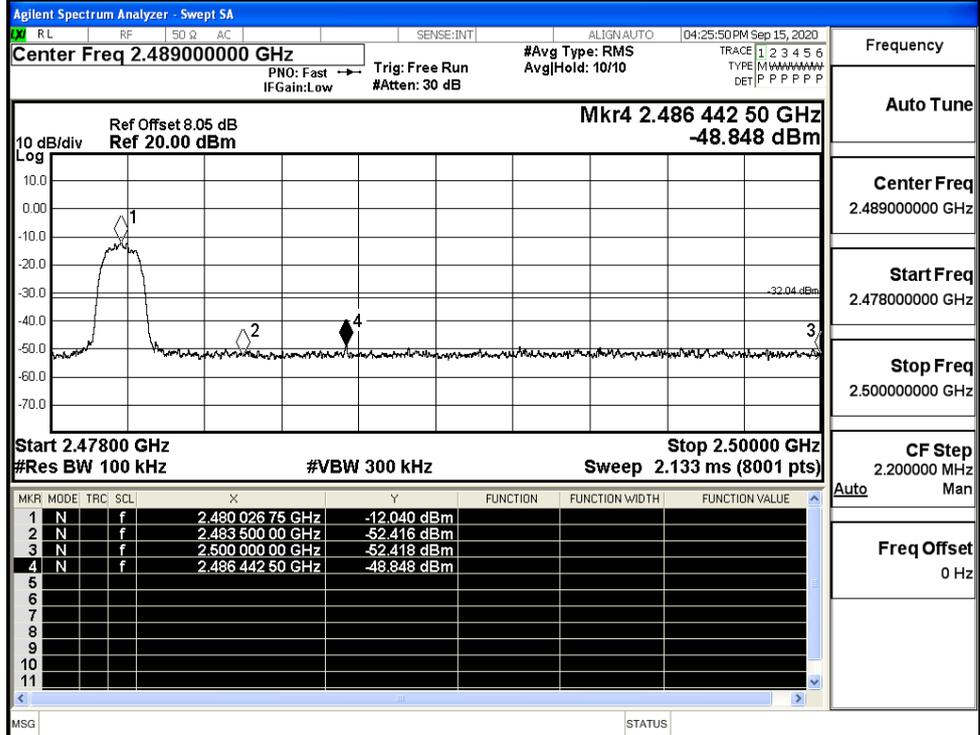
Frequency	
Auto Tune	
Center Freq	2.357000000 GHz
Start Freq	2.310000000 GHz
Stop Freq	2.404000000 GHz
CF Step	9.400000 MHz
Freq Offset	0 Hz

8DPSK/LCH/Hop



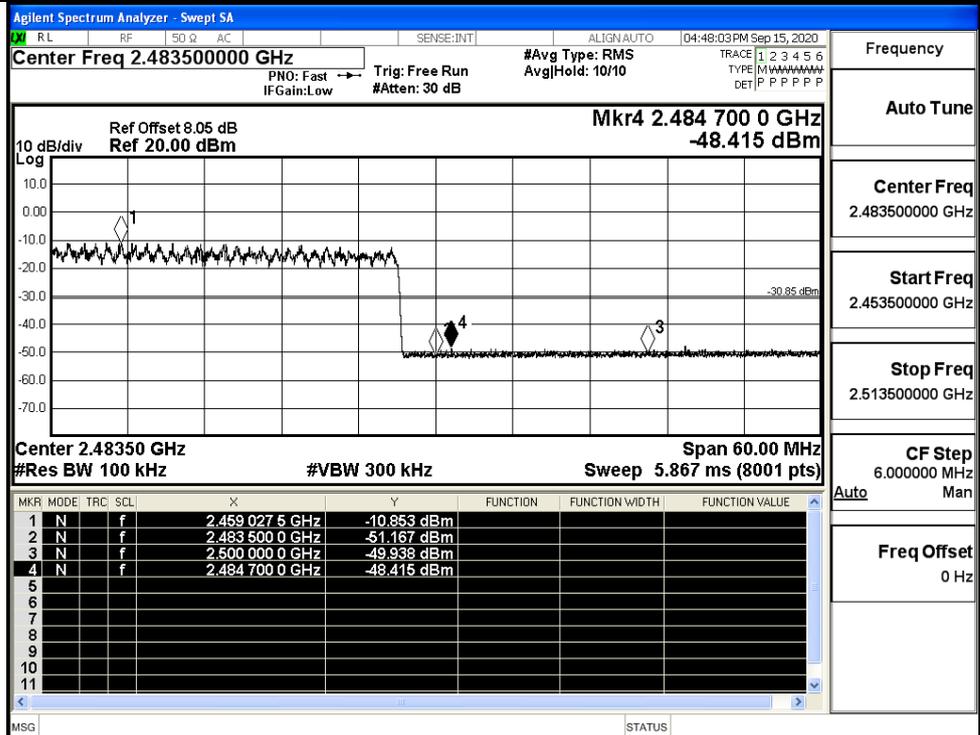
Frequency	
Auto Tune	
Center Freq	2.400000000 GHz
Start Freq	2.370000000 GHz
Stop Freq	2.430000000 GHz
CF Step	6.000000 MHz
Freq Offset	0 Hz

8DPSK/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

8DPSK/HCH/Hop

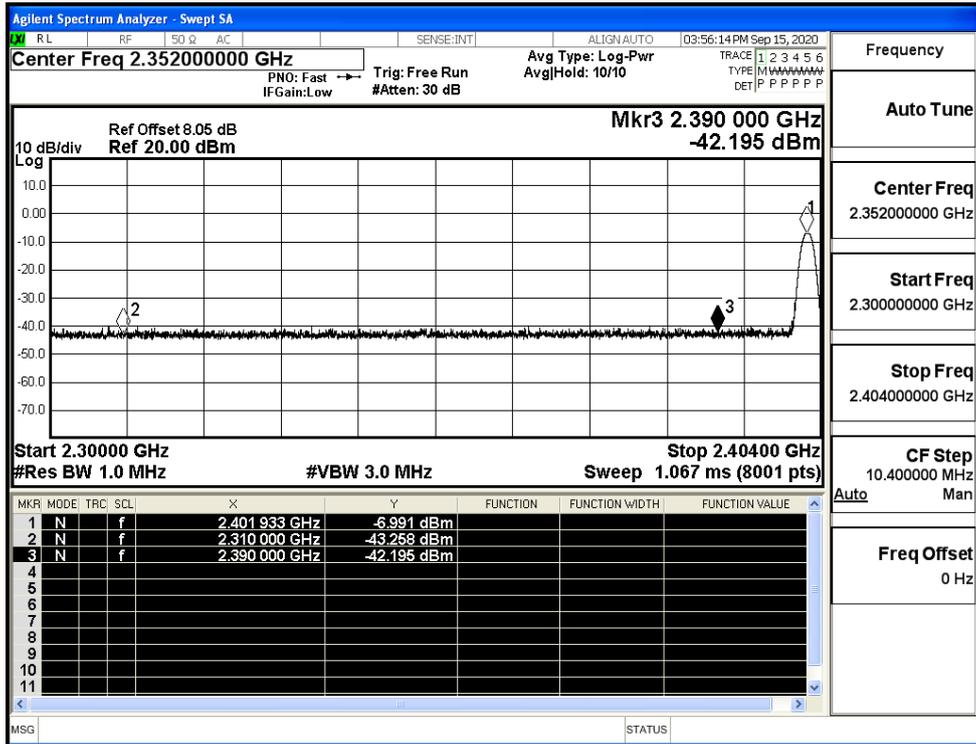


Frequency	
Auto Tune	
Center Freq	2.483500000 GHz
Start Freq	2.453500000 GHz
Stop Freq	2.513500000 GHz
CF Step	6.000000 MHz
Auto	Man
Freq Offset	0 Hz

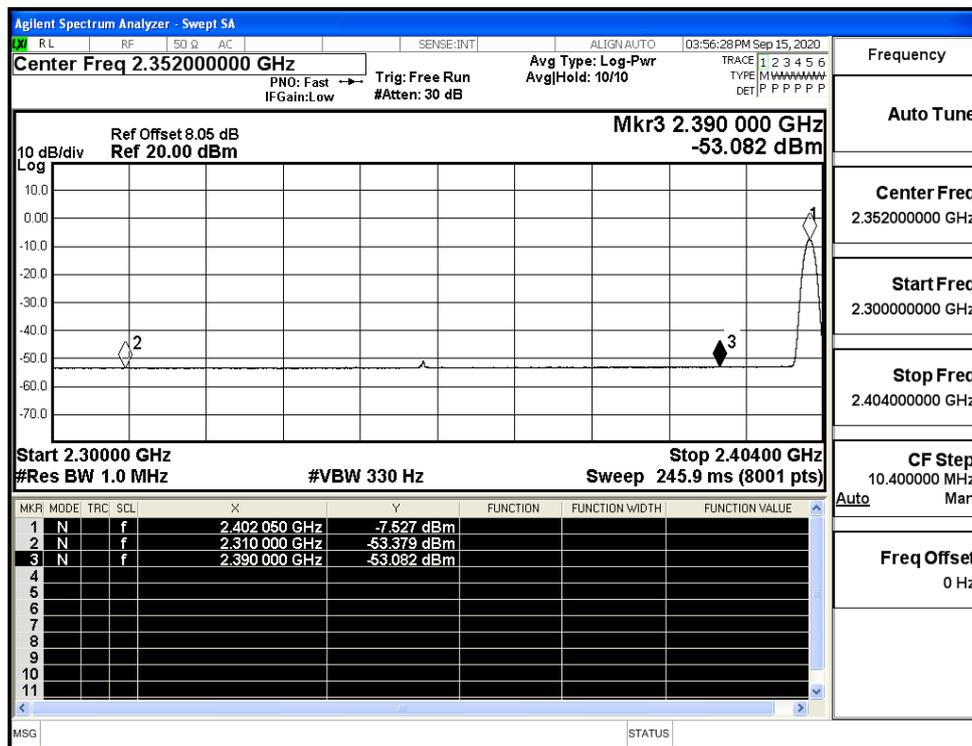
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.26	2.0	0	53.97	PEAK	74	PASS
	Off	2310.0	-53.38	2.0	0	43.85	AV	54	PASS
	Off	2390.0	-42.20	2.0	0	55.03	PEAK	74	PASS
	Off	2390.0	-53.08	2.0	0	44.15	AV	54	PASS
	Off	2483.5	-42.09	2.0	0	55.14	PEAK	74	PASS
	Off	2483.5	-52.49	2.0	0	44.74	AV	54	PASS
	Off	2500.0	-42.53	2.0	0	54.70	PEAK	74	PASS
	Off	2500.0	-52.37	2.0	0	44.86	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-42.64	2.0	0	54.59	PEAK	74	PASS
	Off	2310.0	-53.31	2.0	0	43.92	AV	54	PASS
	Off	2390.0	-43.62	2.0	0	53.61	PEAK	74	PASS
	Off	2390.0	-53.02	2.0	0	44.21	AV	54	PASS
	Off	2483.5	-41.94	2.0	0	55.29	PEAK	74	PASS
	Off	2483.5	-52.61	2.0	0	44.62	AV	54	PASS
	Off	2500.0	-40.64	2.0	0	56.59	PEAK	74	PASS
	Off	2500.0	-52.32	2.0	0	44.91	AV	54	PASS
8DPSK	Off	2310.0	-43.79	2.0	0	53.44	PEAK	74	PASS
	Off	2310.0	-53.31	2.0	0	43.92	AV	54	PASS
	Off	2390.0	-43.40	2.0	0	53.83	PEAK	74	PASS
	Off	2390.0	-52.96	2.0	0	44.27	AV	54	PASS
	Off	2483.5	-43.48	2.0	0	53.75	PEAK	74	PASS
	Off	2483.5	-52.53	2.0	0	44.70	AV	54	PASS
	Off	2500.0	-43.21	2.0	0	54.02	PEAK	74	PASS
	Off	2500.0	-52.35	2.0	0	44.88	AV	54	PASS

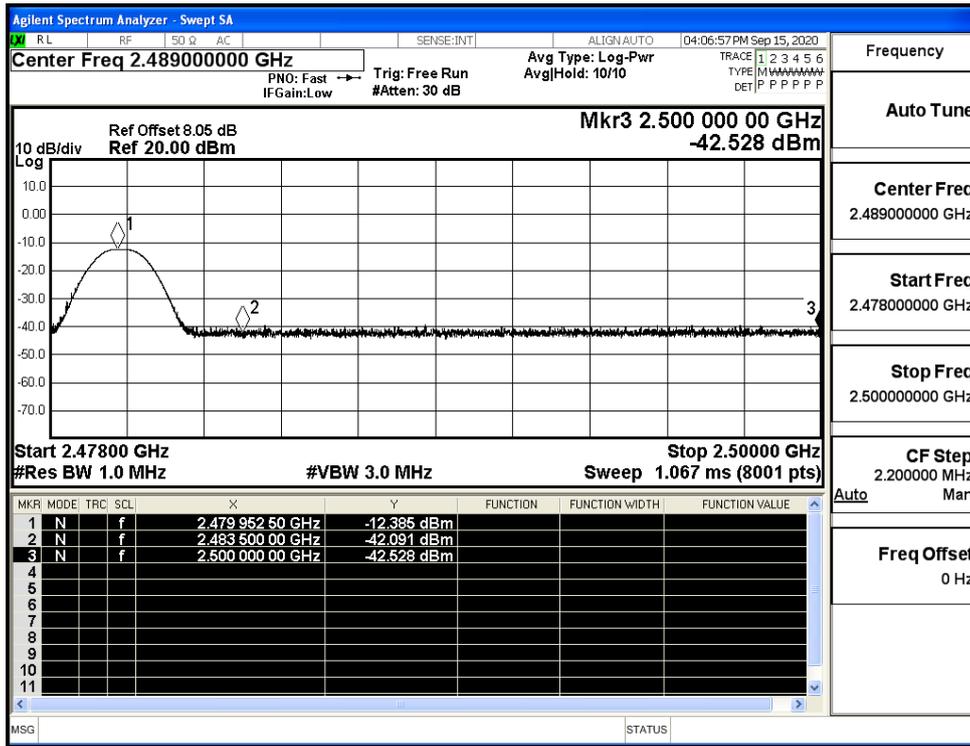
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



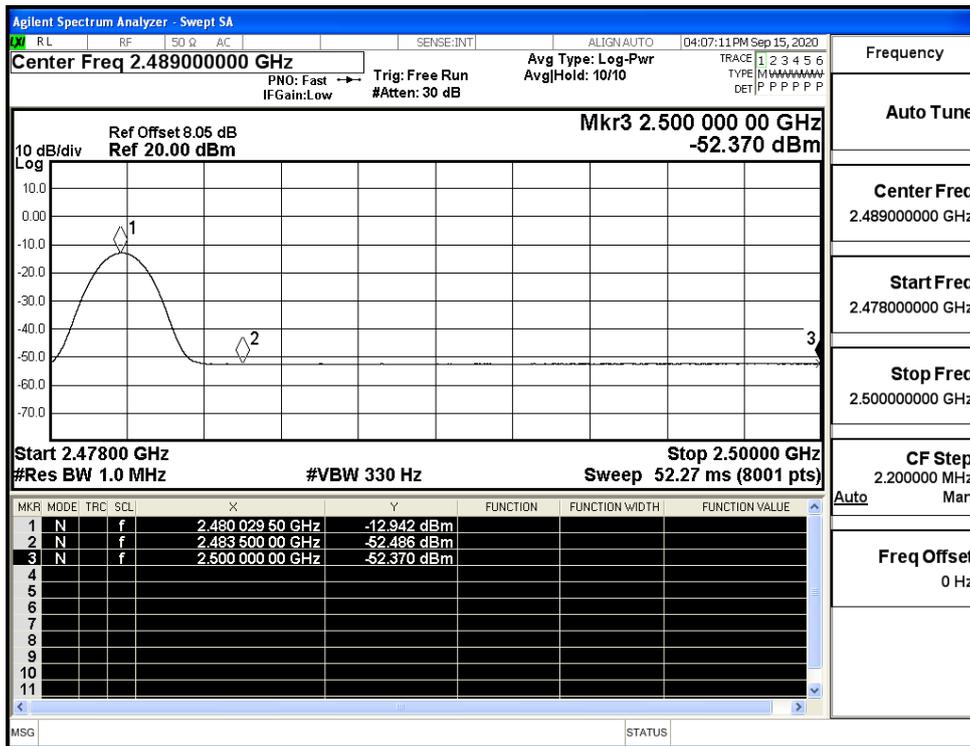
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



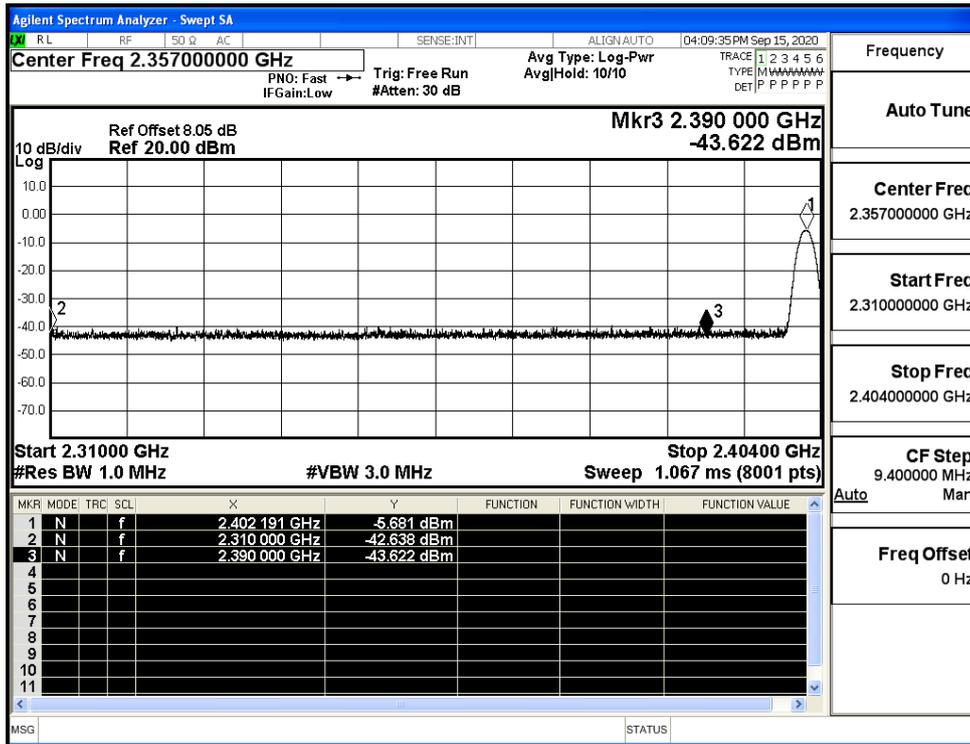
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



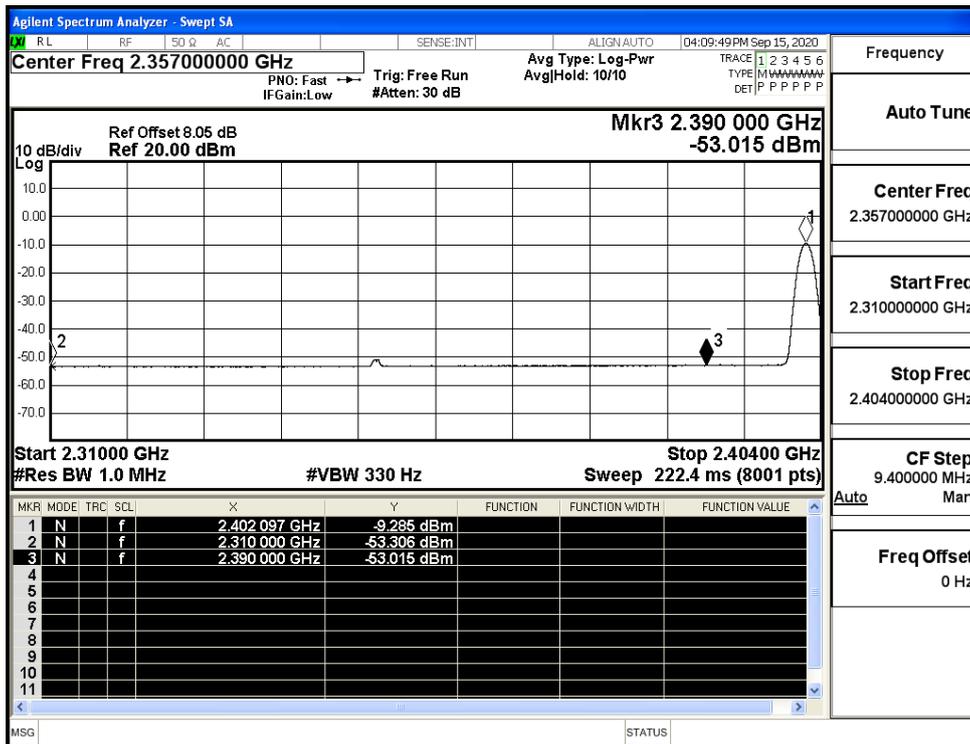
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



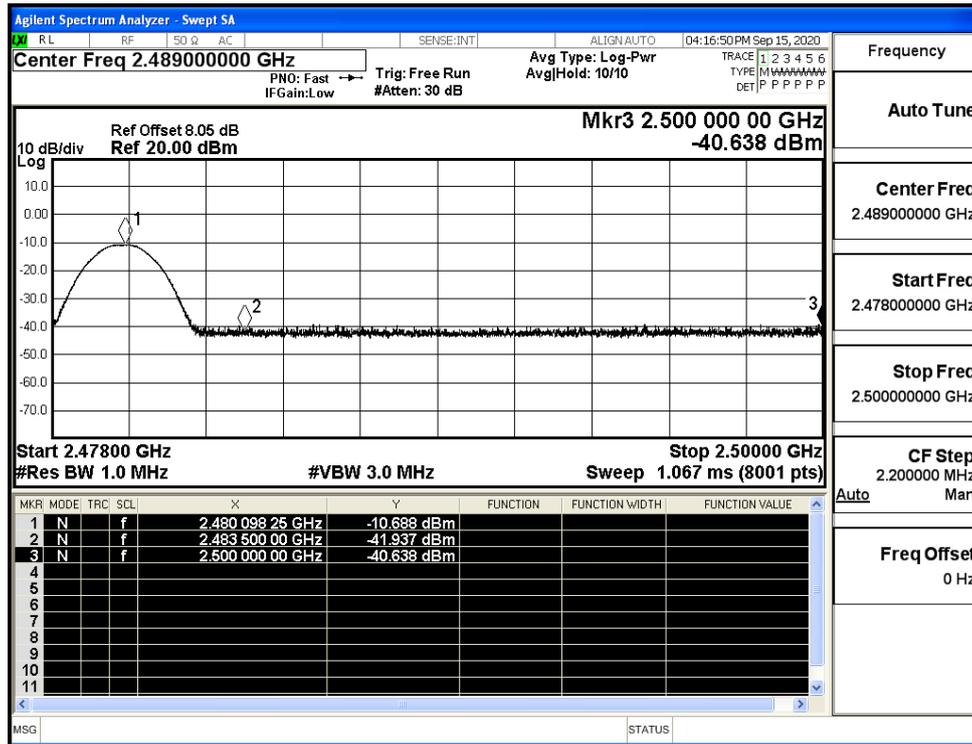
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



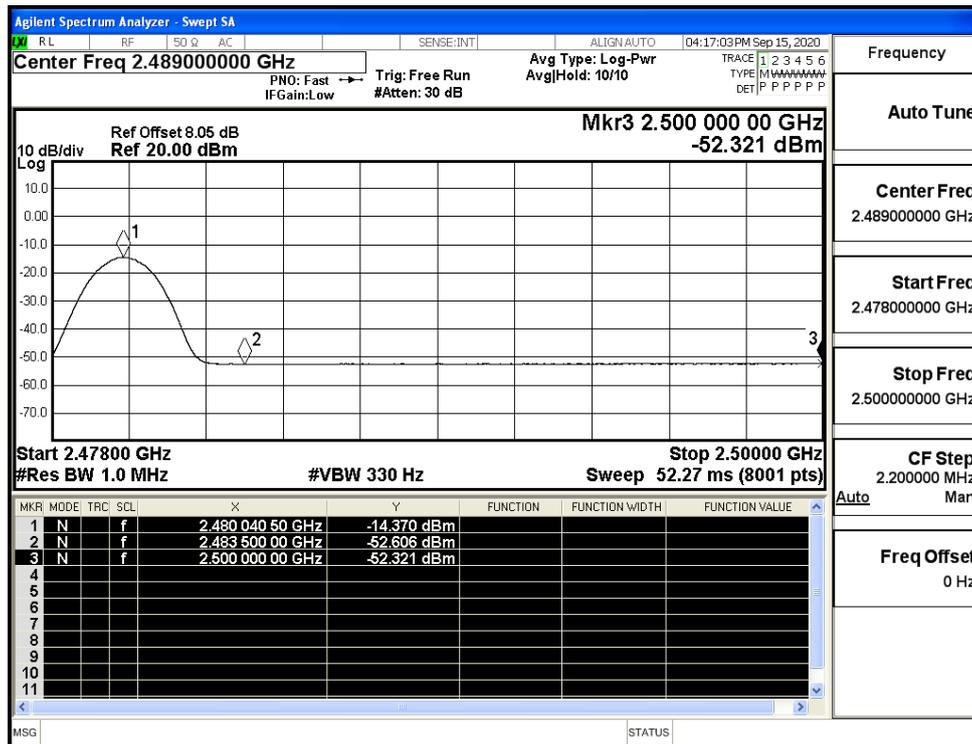
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



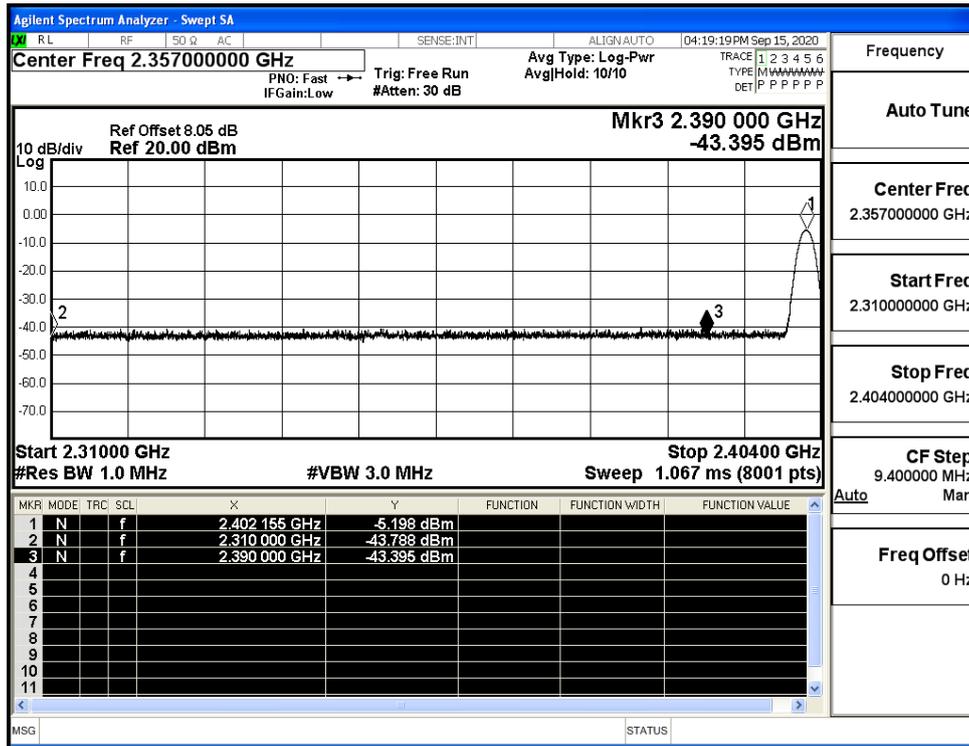
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



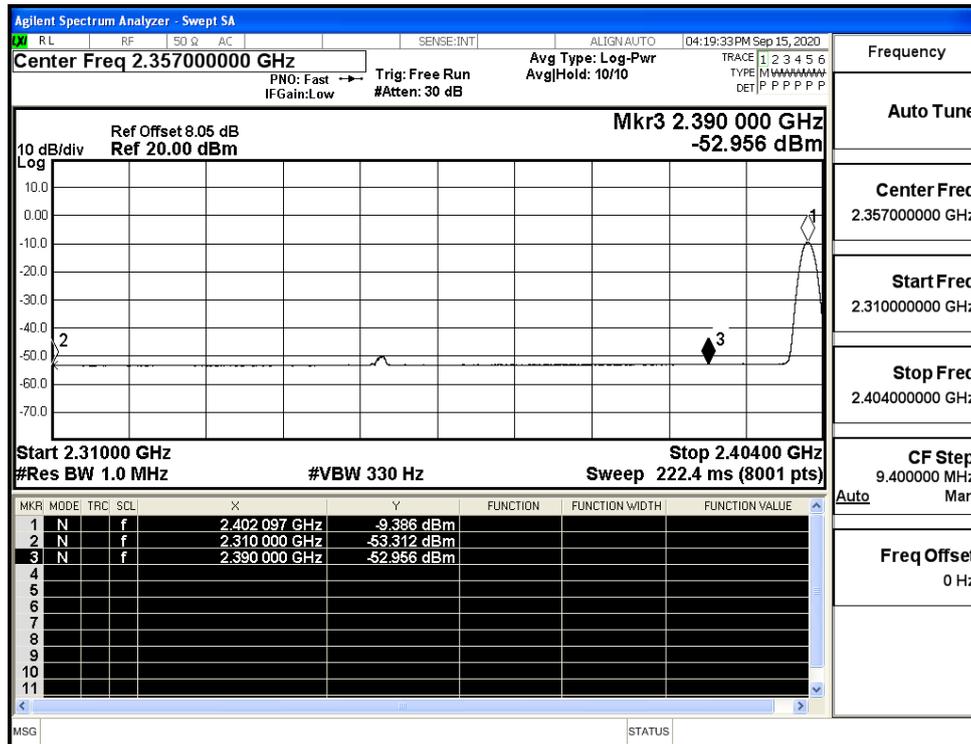
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



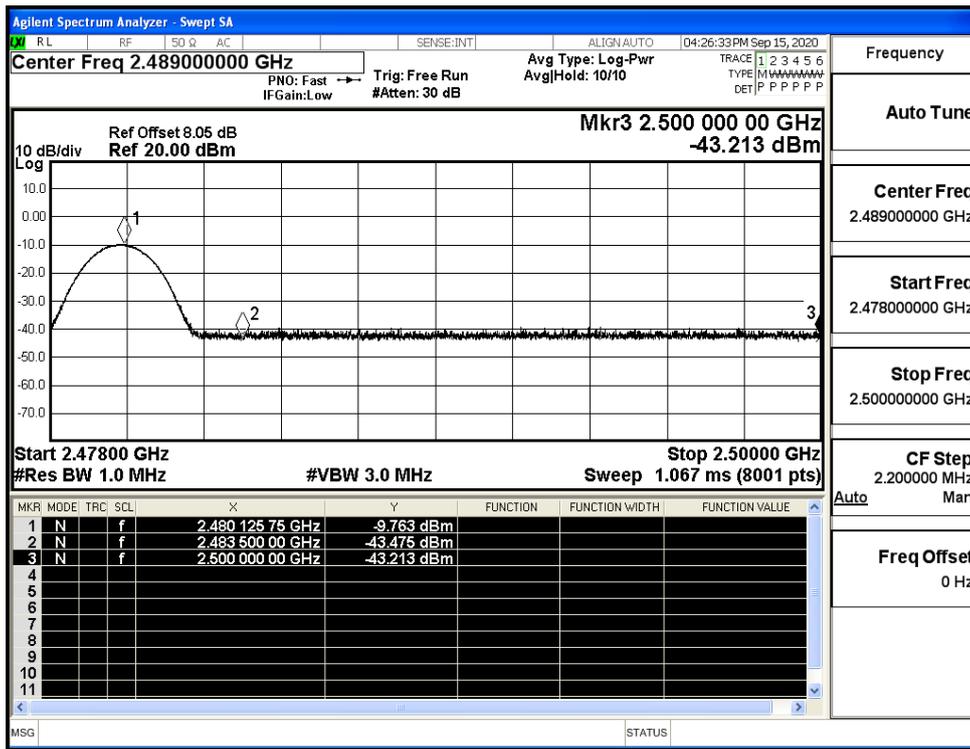
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

