

Appendix A

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

Product Name: USB Bluetooth Adapter

Trade Mark: 1Mii

Test Model: B10

Environmental Conditions

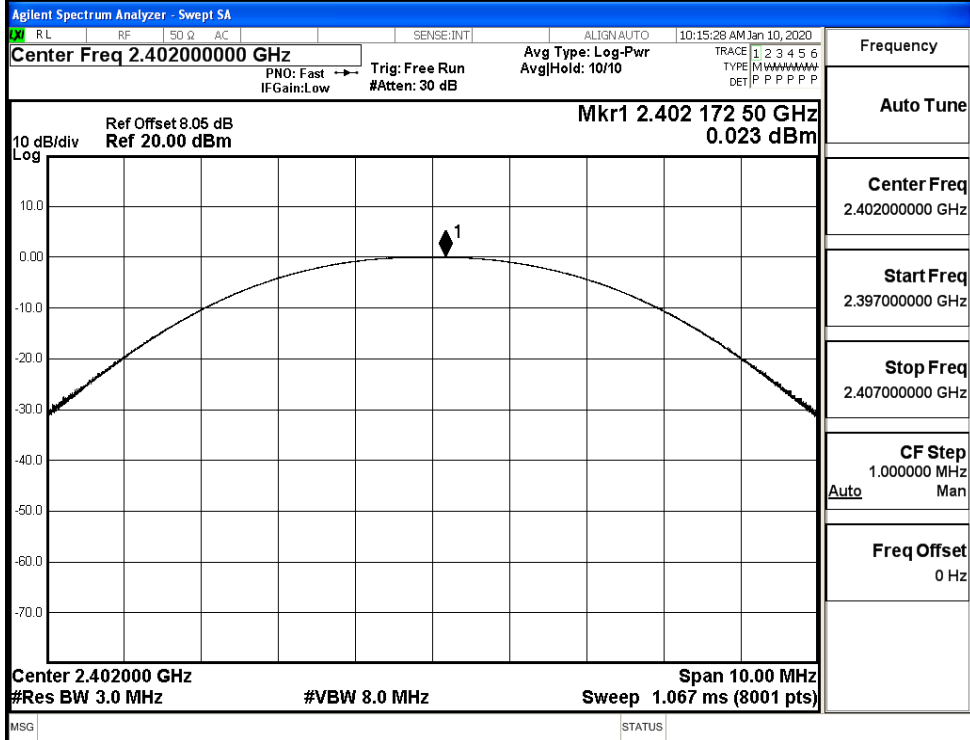
Temperature:	23.1° C
Relative Humidity:	53.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Alisa Huang
Supervised by:	Li Huan

A.1 Maxmum Conducted Peak Output Power

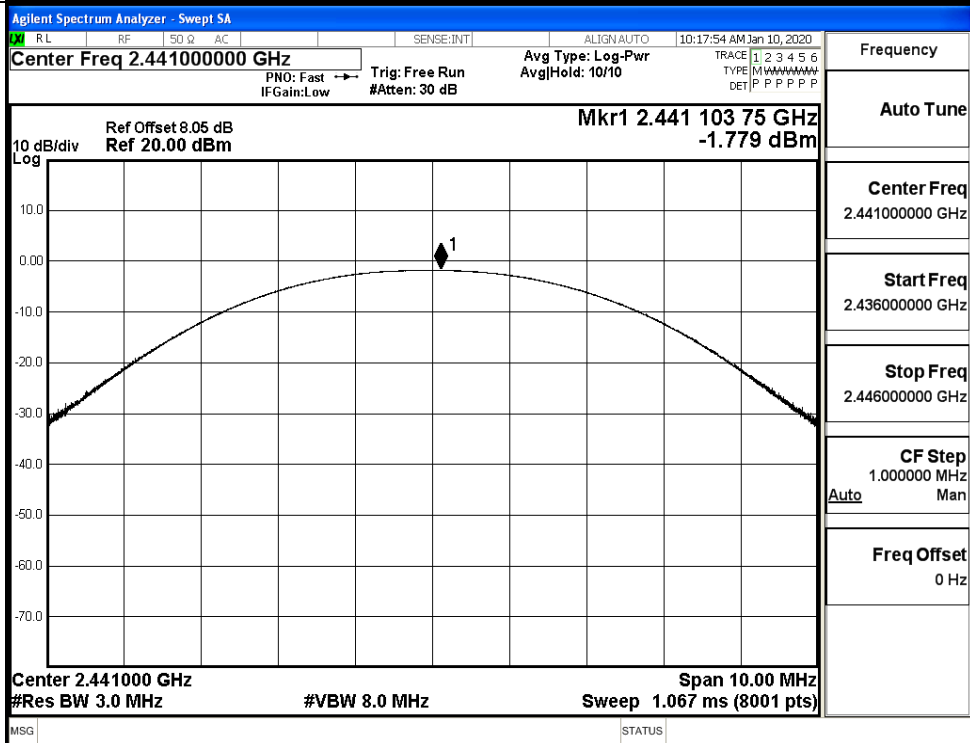
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.023	21	PASS
	MCH	-1.779	21	PASS
	HCH	-0.591	21	PASS
$\pi/4$ DQPSK	LCH	-0.744	21	PASS
	MCH	-2.402	21	PASS
	HCH	-1.292	21	PASS
8DPSK	LCH	-0.490	21	PASS
	MCH	-2.203	21	PASS
	HCH	-1.083	21	PASS

Test Graphs

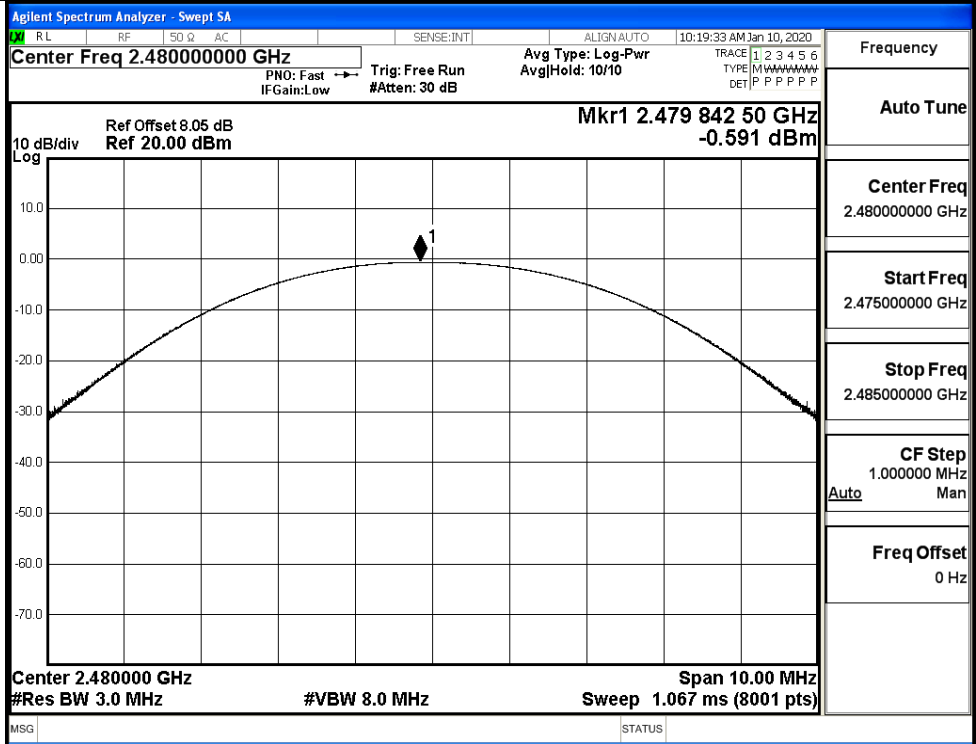
GFSK/LCH



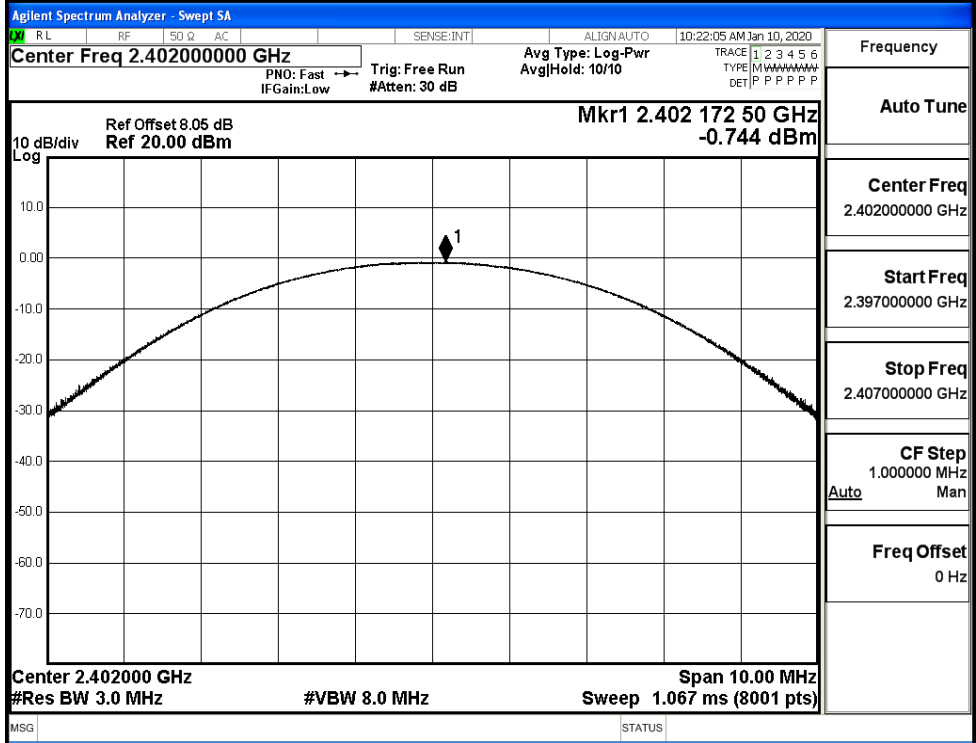
GFSK/MCH

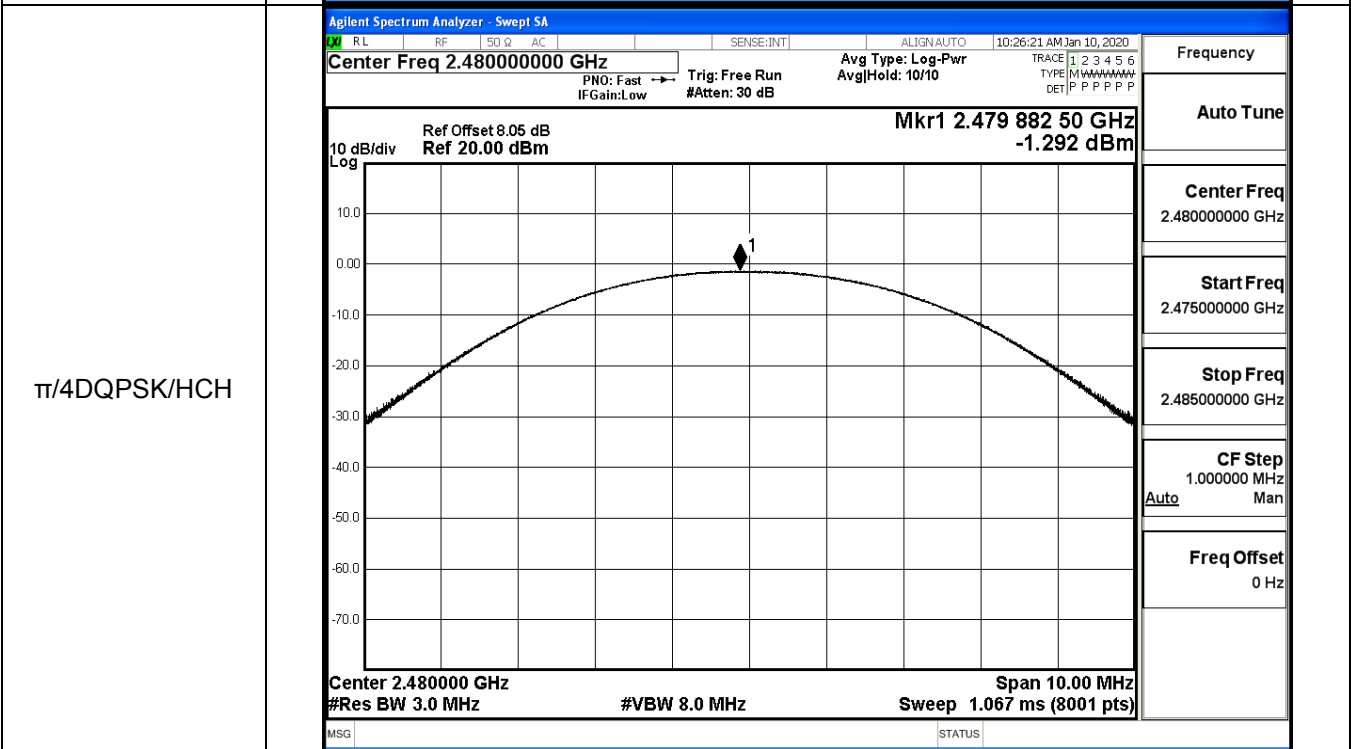
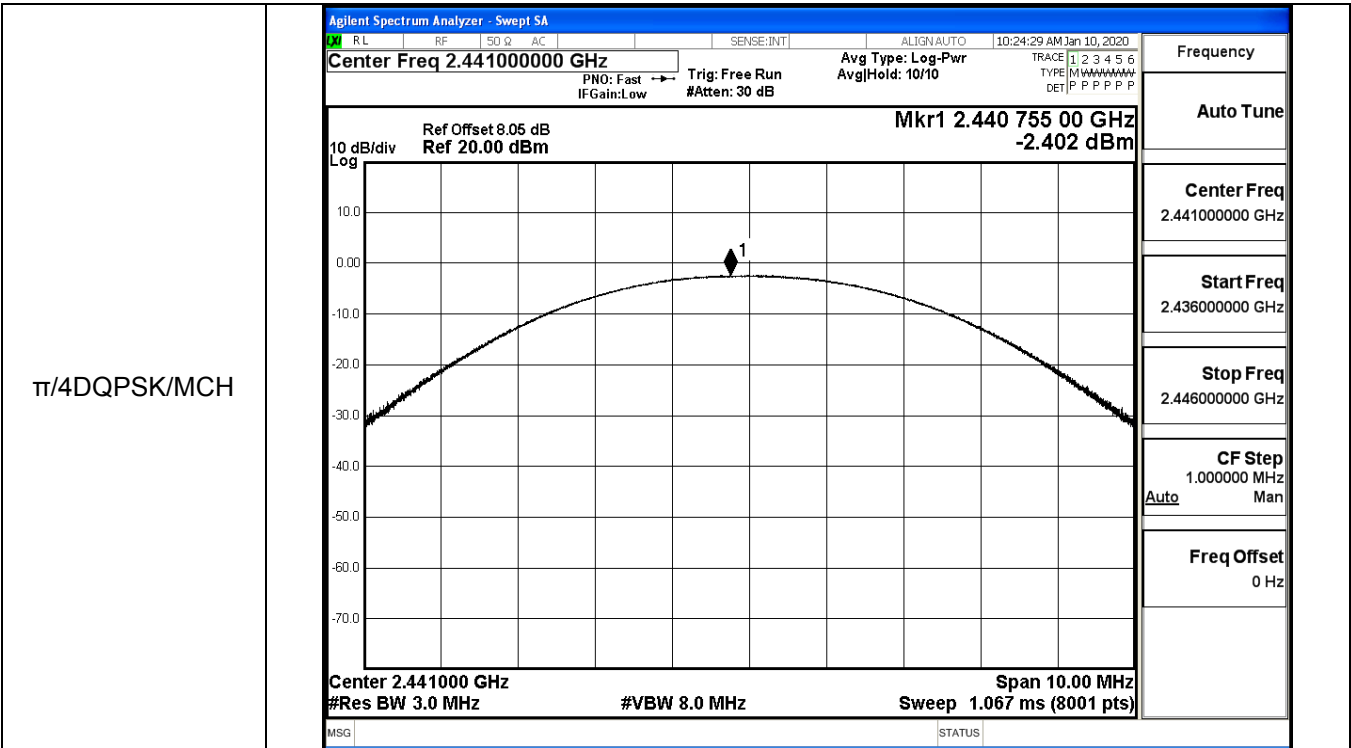


GFSK/HCH

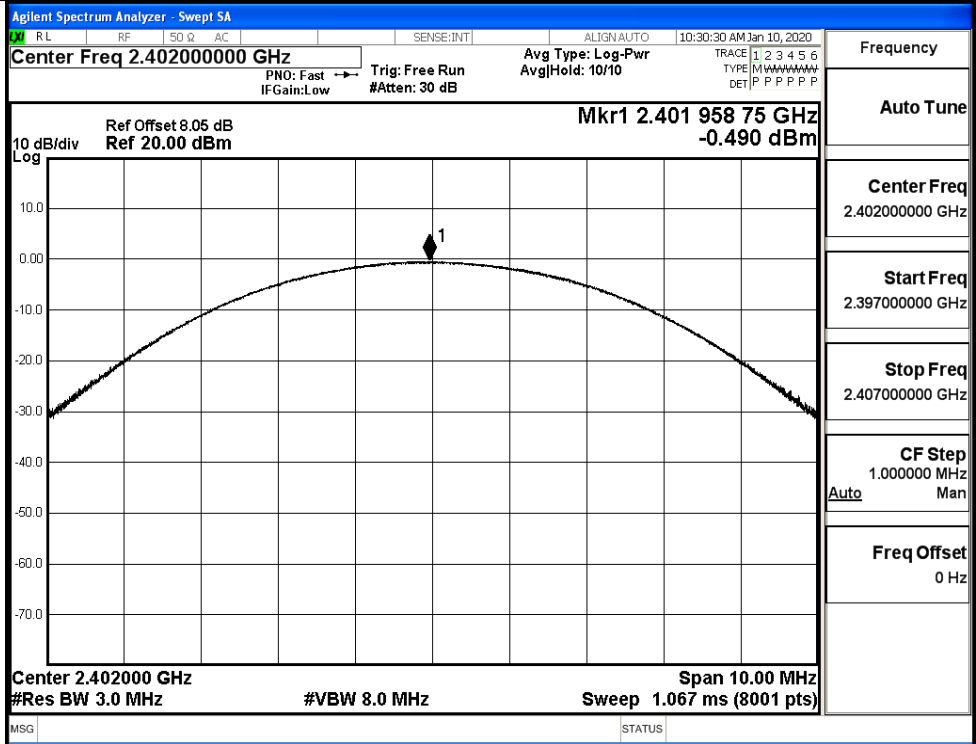


$\pi/4$ DQPSK/LCH

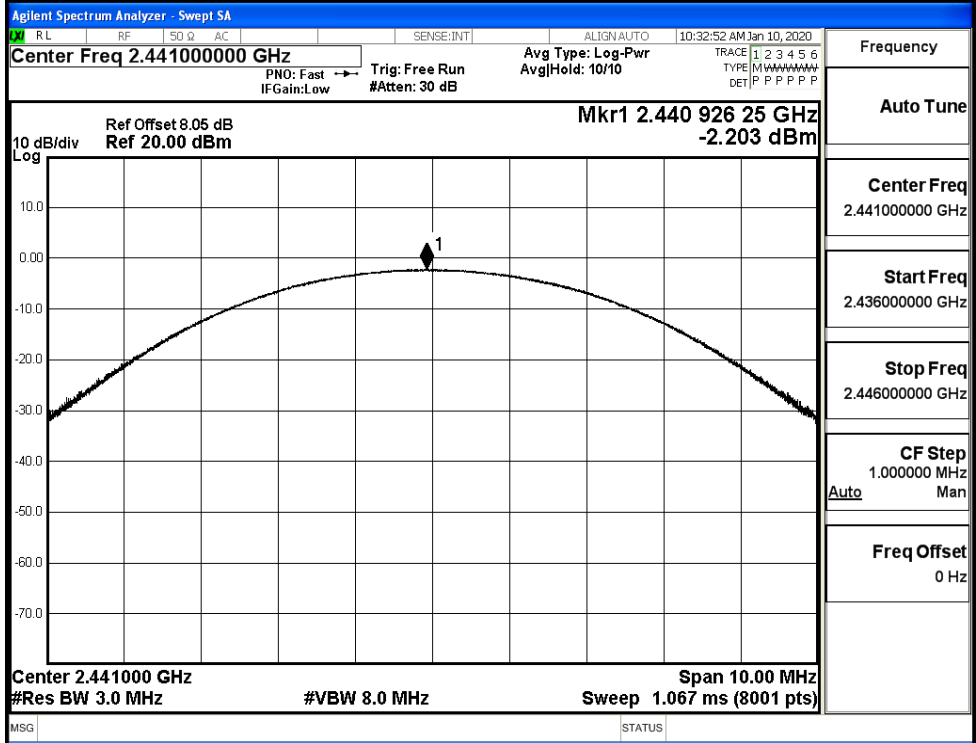




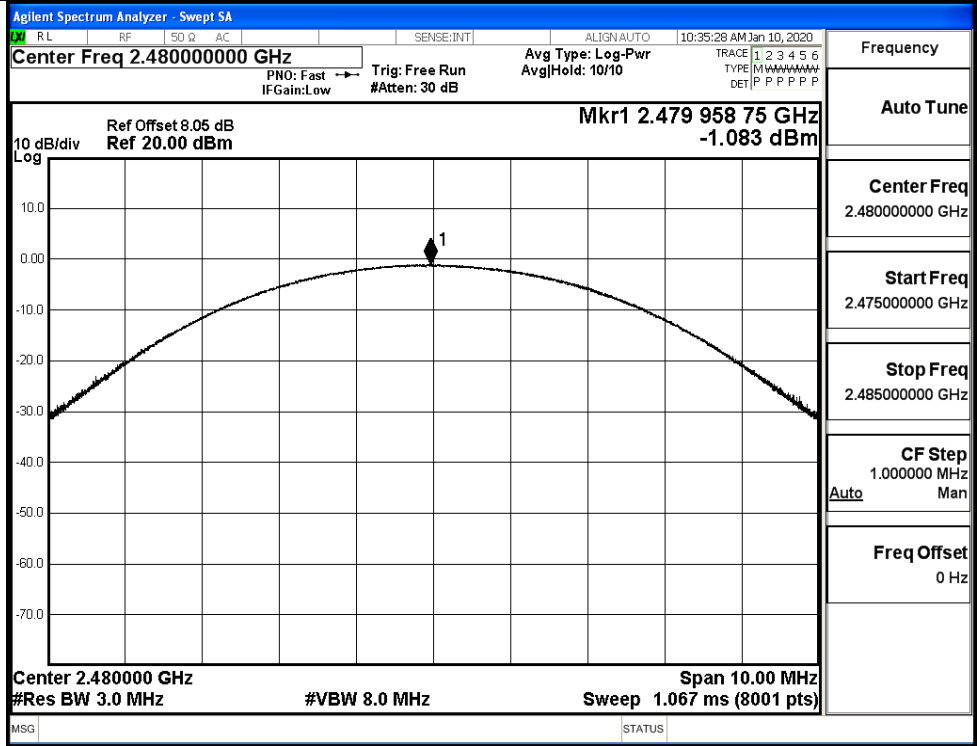
8DPSK/LCH



8DPSK/MCH

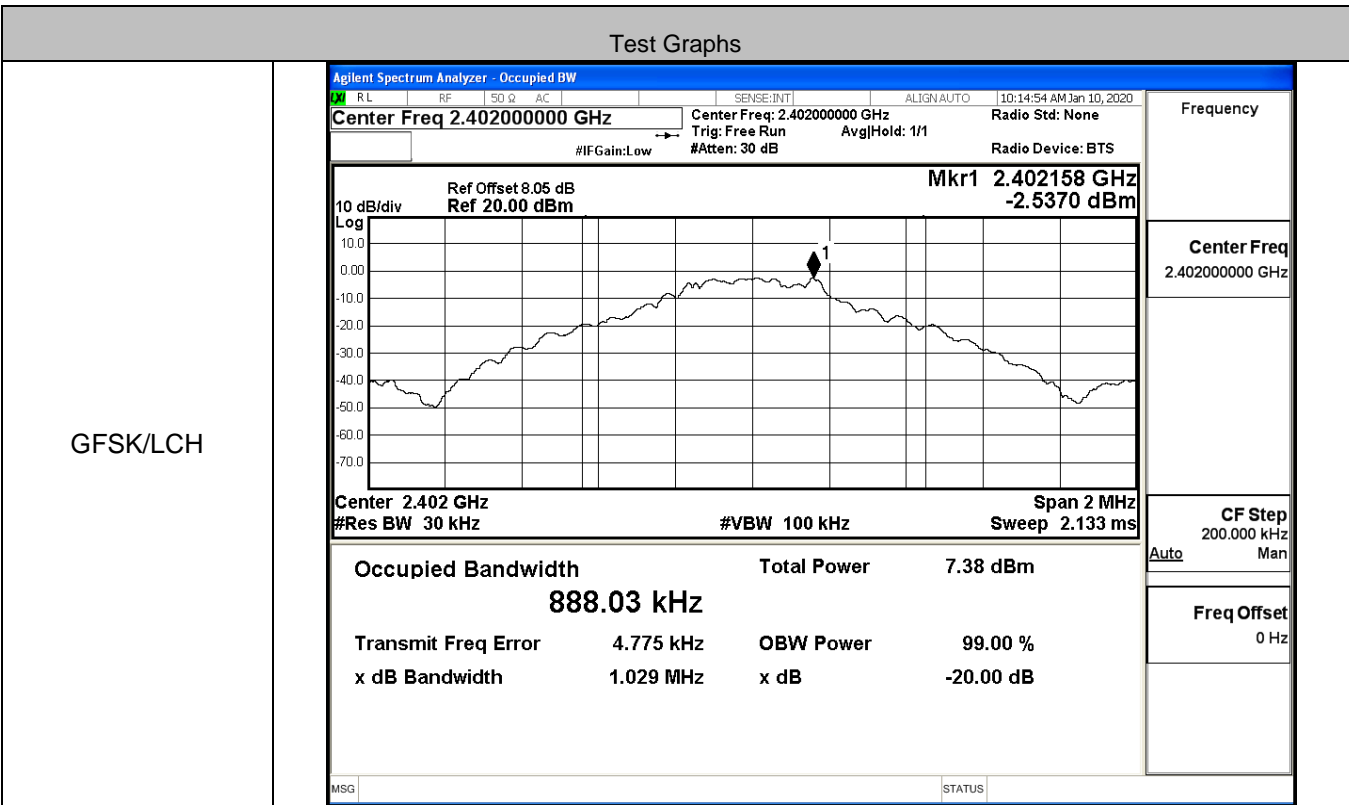


8DPSK/HCH

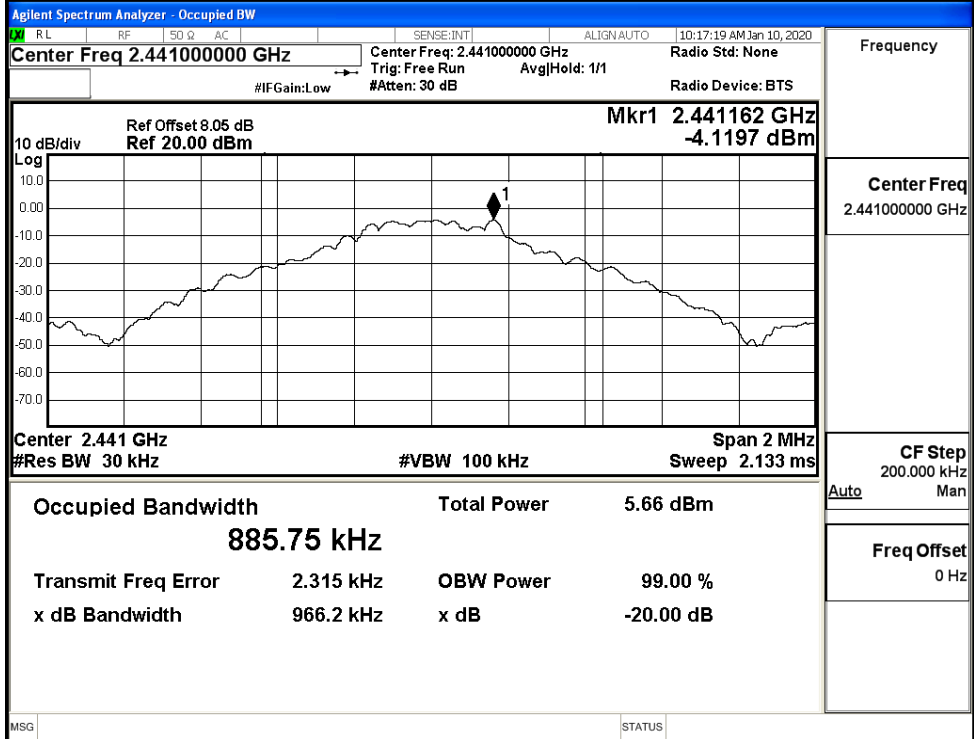


A.2 20dB Bandwidth

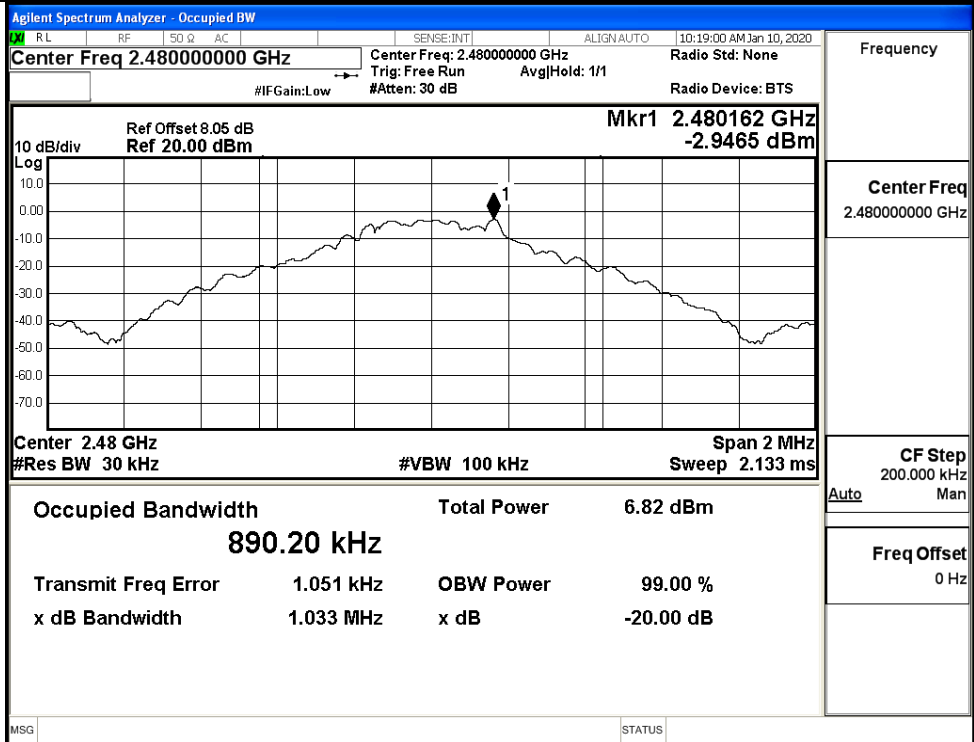
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.029	Not Specified	PASS
	MCH	0.966	Not Specified	PASS
	HCH	1.033	Not Specified	PASS
π/4DQPSK	LCH	1.288	Not Specified	PASS
	MCH	1.308	Not Specified	PASS
	HCH	1.287	Not Specified	PASS
8DPSK	LCH	1.292	Not Specified	PASS
	MCH	1.298	Not Specified	PASS
	HCH	1.294	Not Specified	PASS



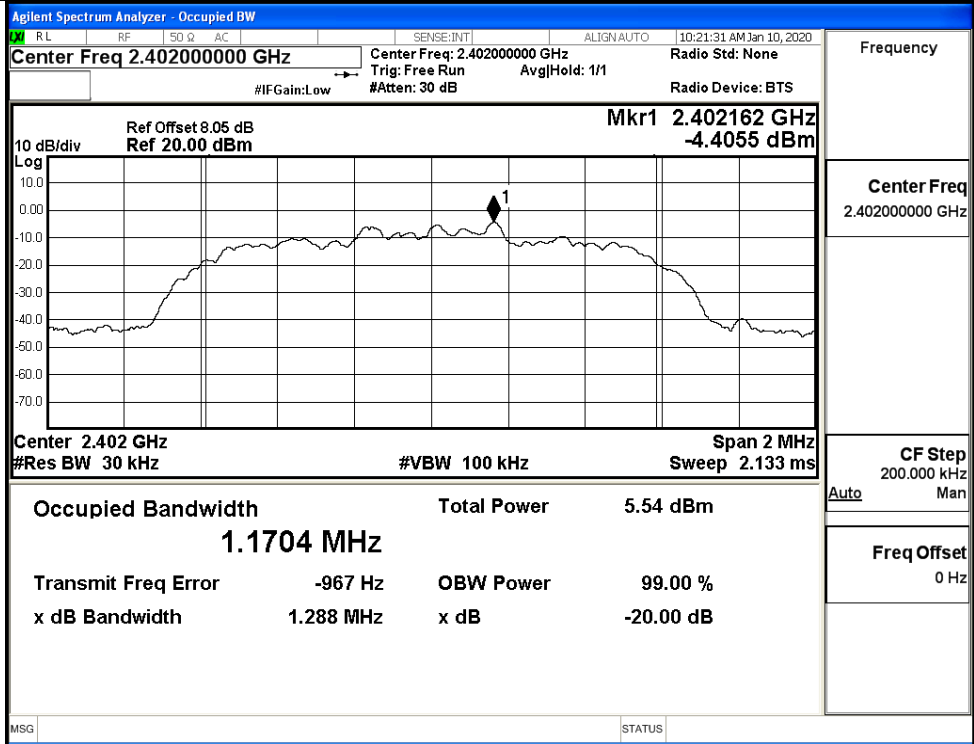
GFSK/MCH



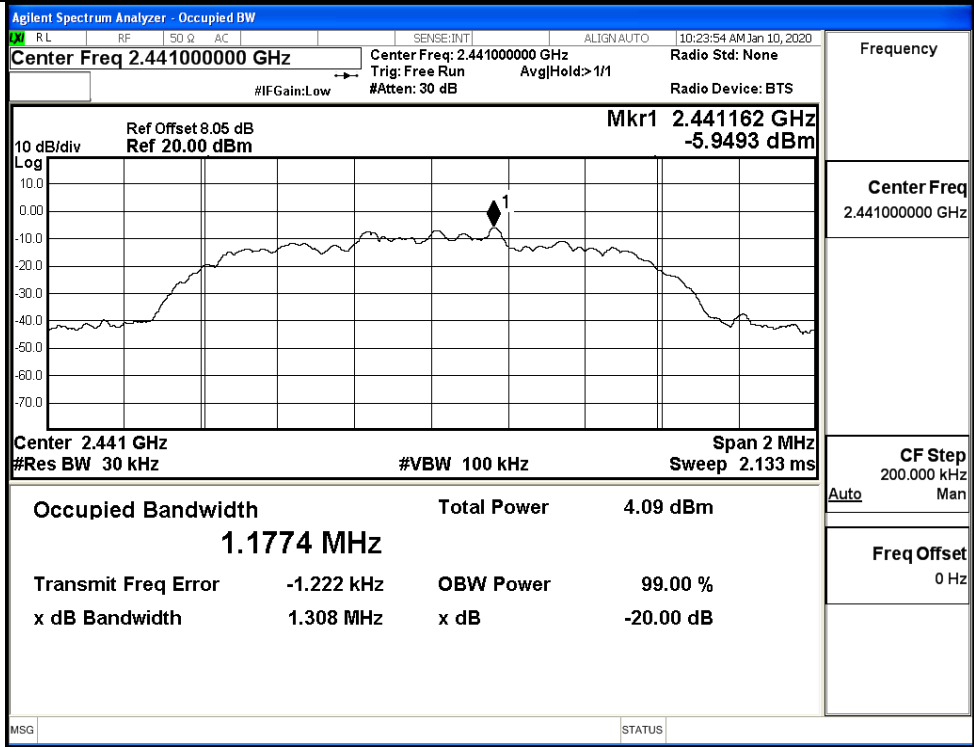
GFSK/HCH



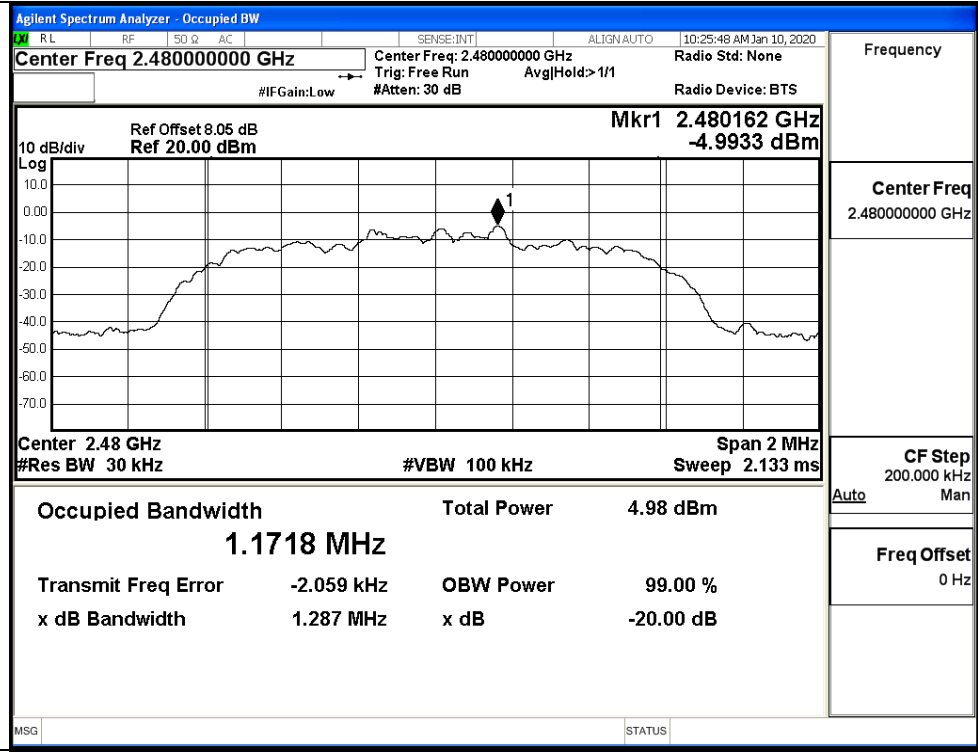
$\pi/4$ DQPSK/LCH



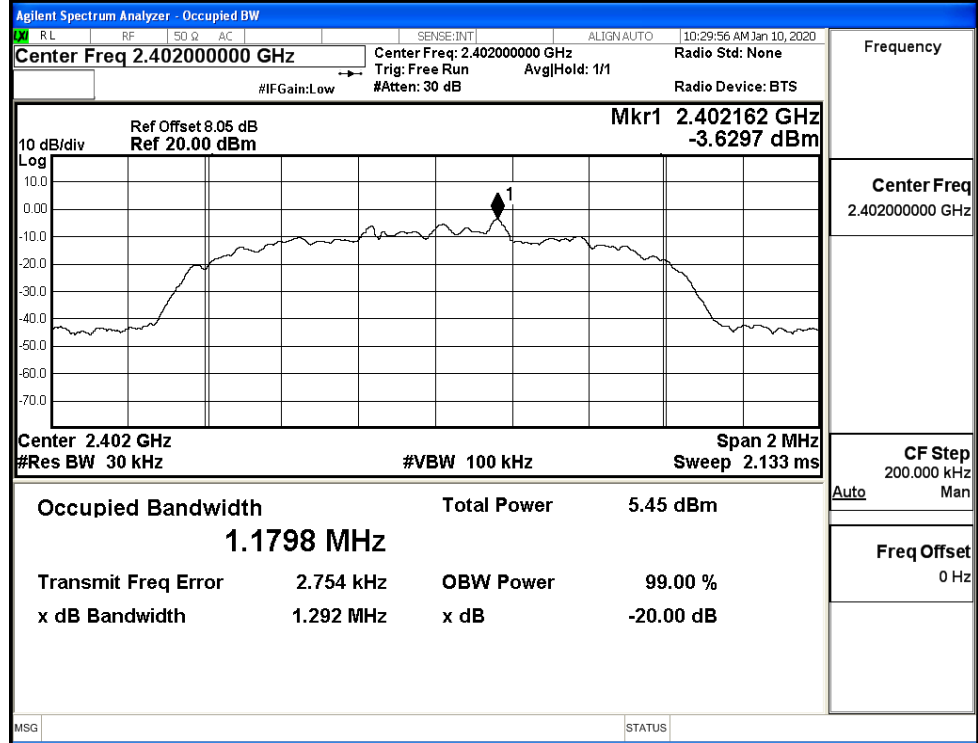
$\pi/4$ DQPSK/MCH



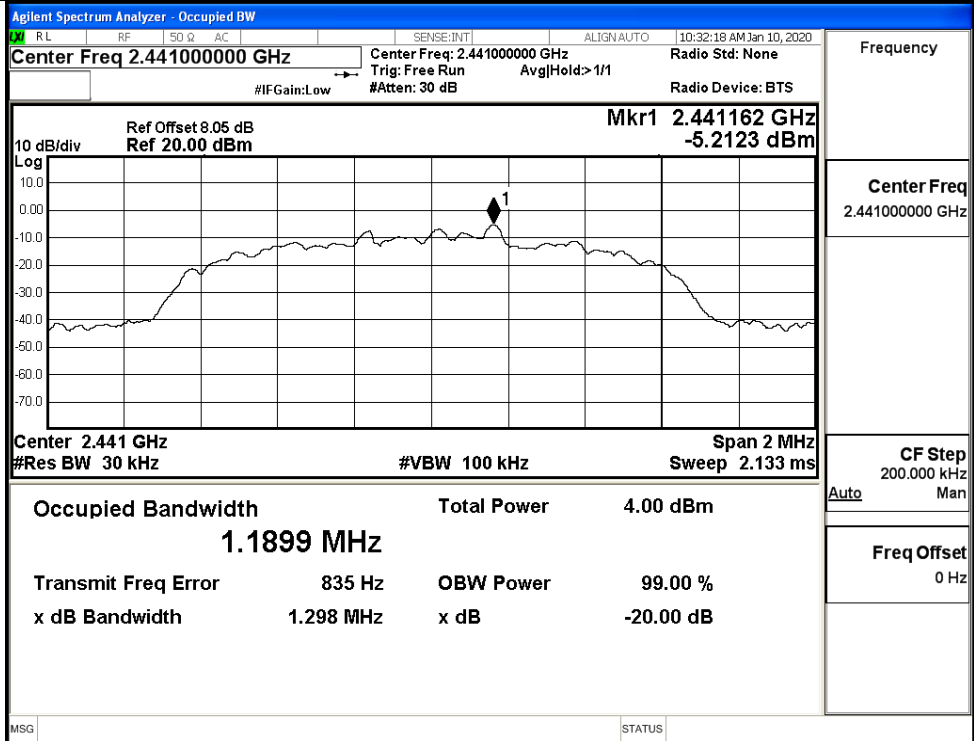
$\pi/4$ DQPSK/HCH



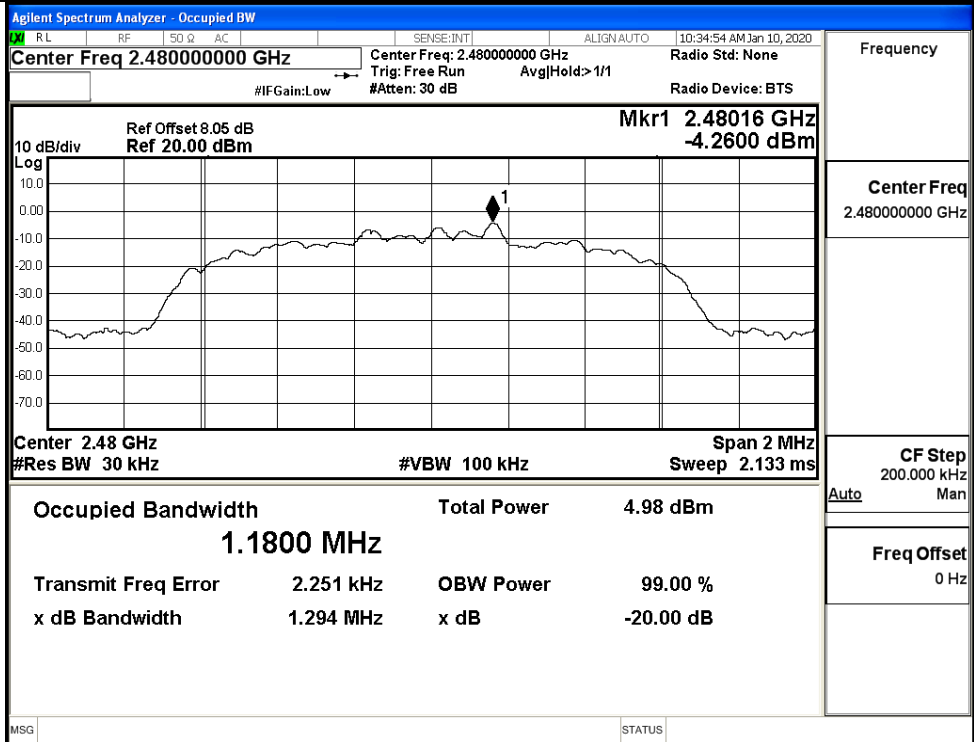
8DPSK/LCH



8DPSK/MCH

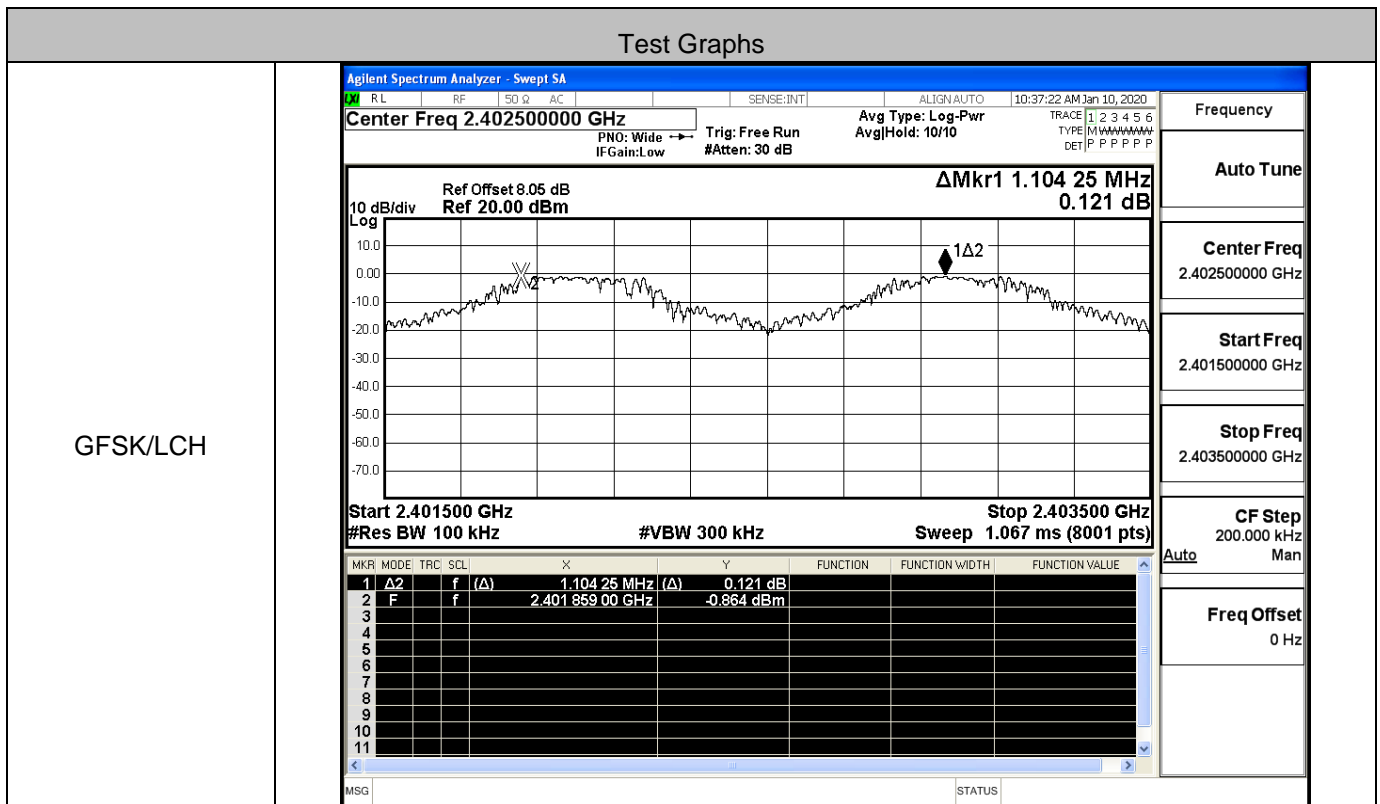


8DPSK/HCH

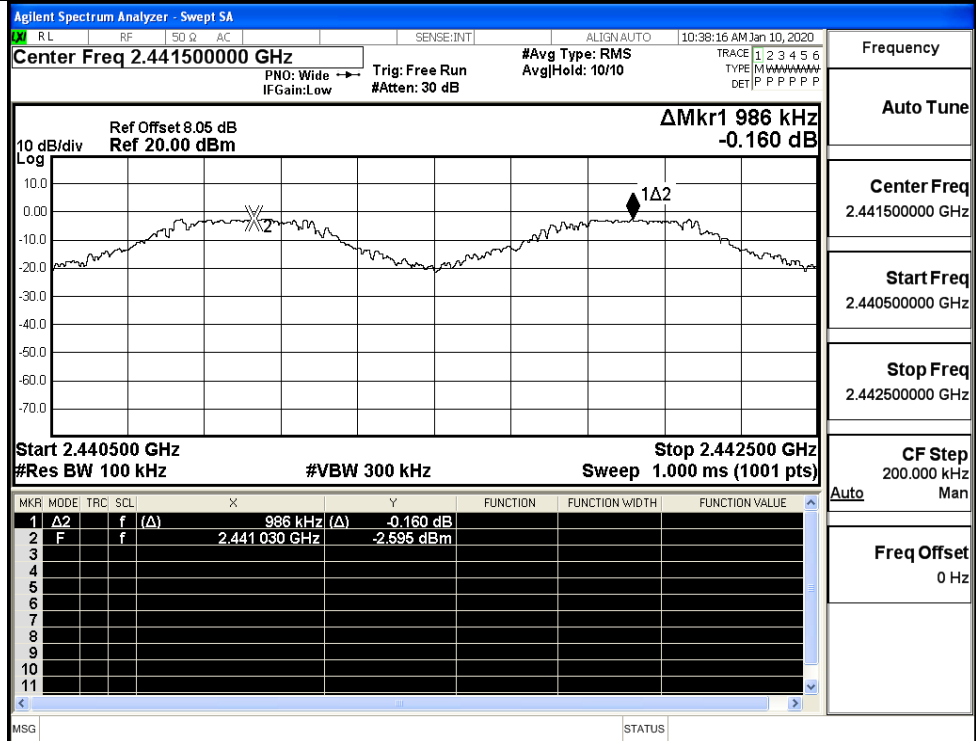


A.3 Carrier Frequency Separation

Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.104	0.689	PASS
	MCH	0.986	0.689	PASS
	HCH	0.998	0.689	PASS
π/4DQPSK	LCH	1.012	0.872	PASS
	MCH	1.274	0.872	PASS
	HCH	1.076	0.872	PASS
8DPSK	LCH	1.054	0.865	PASS
	MCH	1.050	0.865	PASS
	HCH	0.940	0.865	PASS

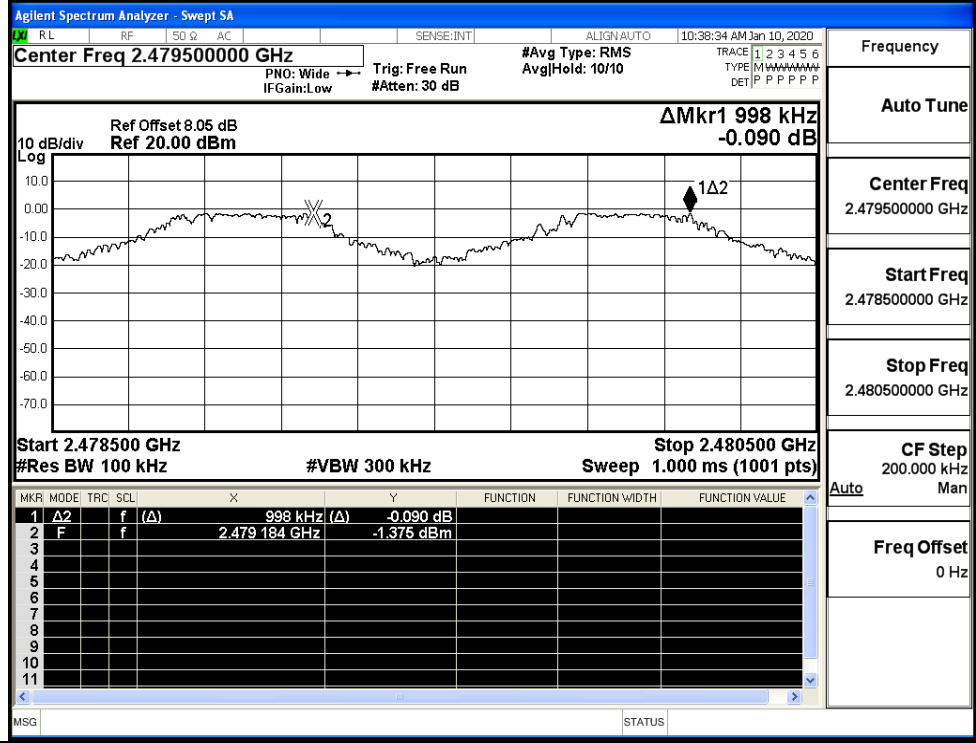


GFSK/MCH



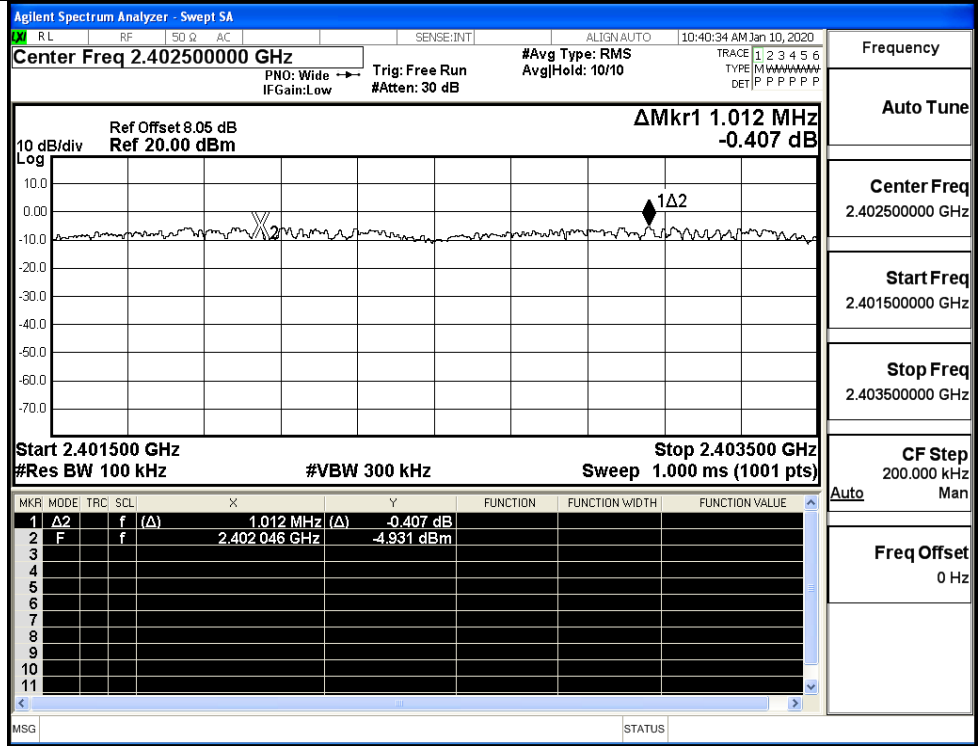
Frequency	Auto Tune
Center Freq	2.441500000 GHz
Start Freq	2.440500000 GHz
Stop Freq	2.442500000 GHz
CF Step	200.000 kHz
	Auto Man
Freq Offset	0 Hz

GFSK/HCH

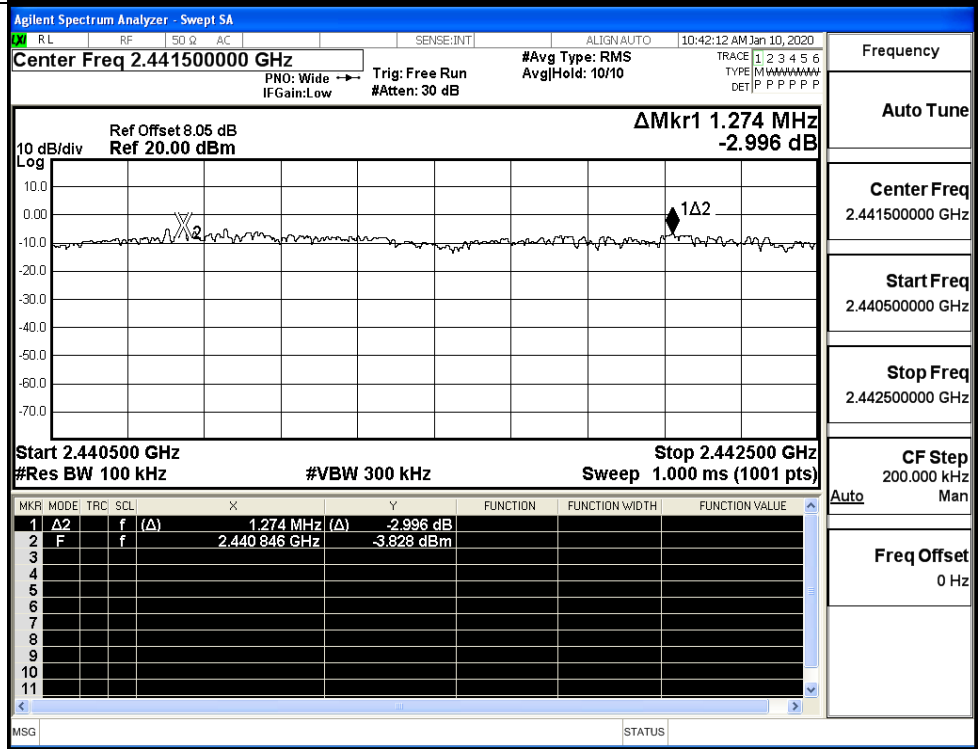


Frequency	Auto Tune
Center Freq	2.479500000 GHz
Start Freq	2.478500000 GHz
Stop Freq	2.480500000 GHz
CF Step	200.000 kHz
	Auto Man
Freq Offset	0 Hz

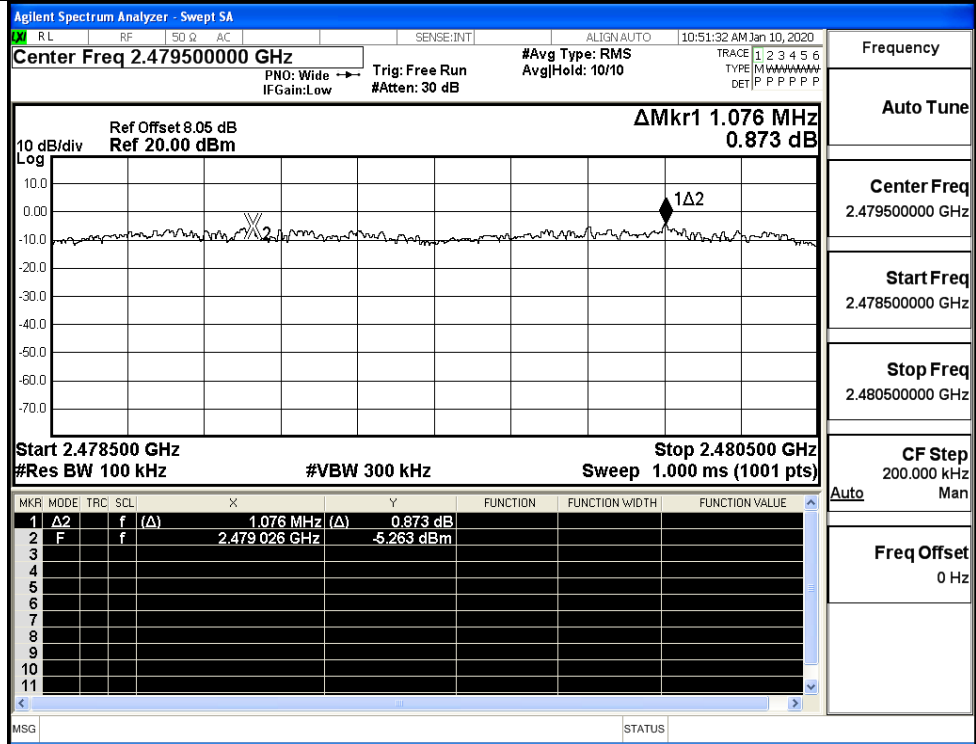
$\pi/4$ DQPSK/LCH



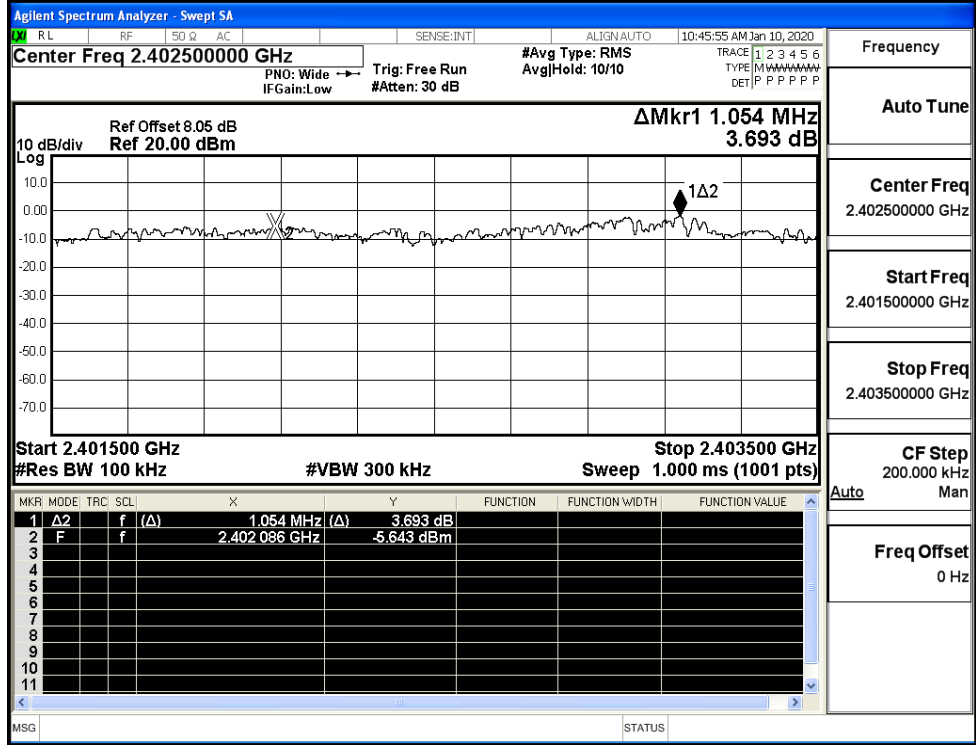
$\pi/4$ DQPSK/MCH



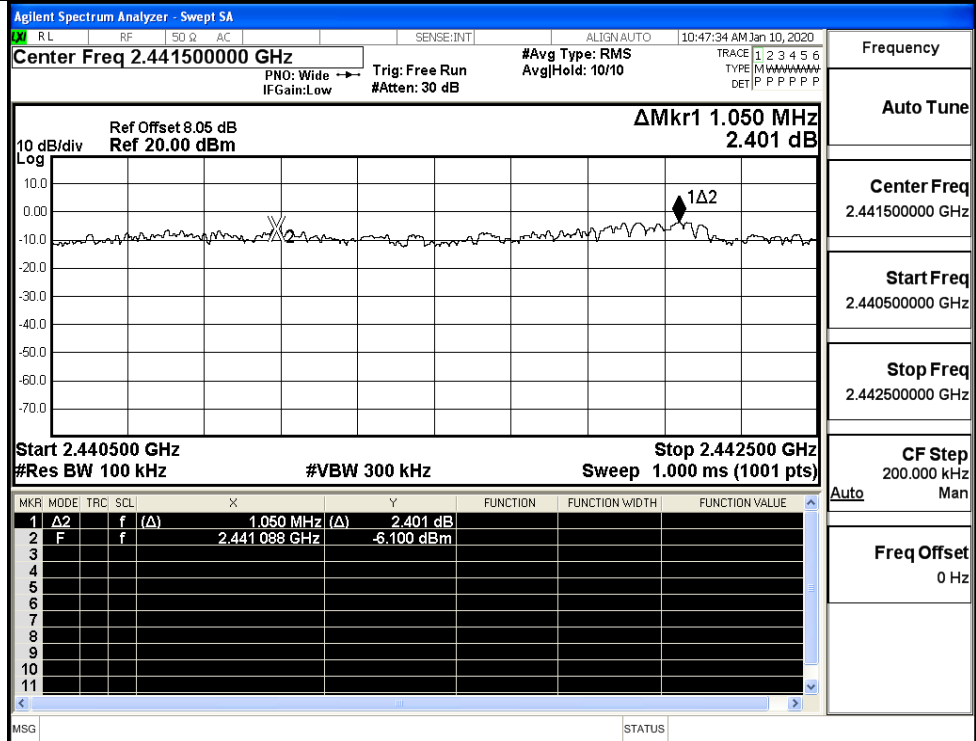
π/4DQPSK/HCH



8DPSK/LCH

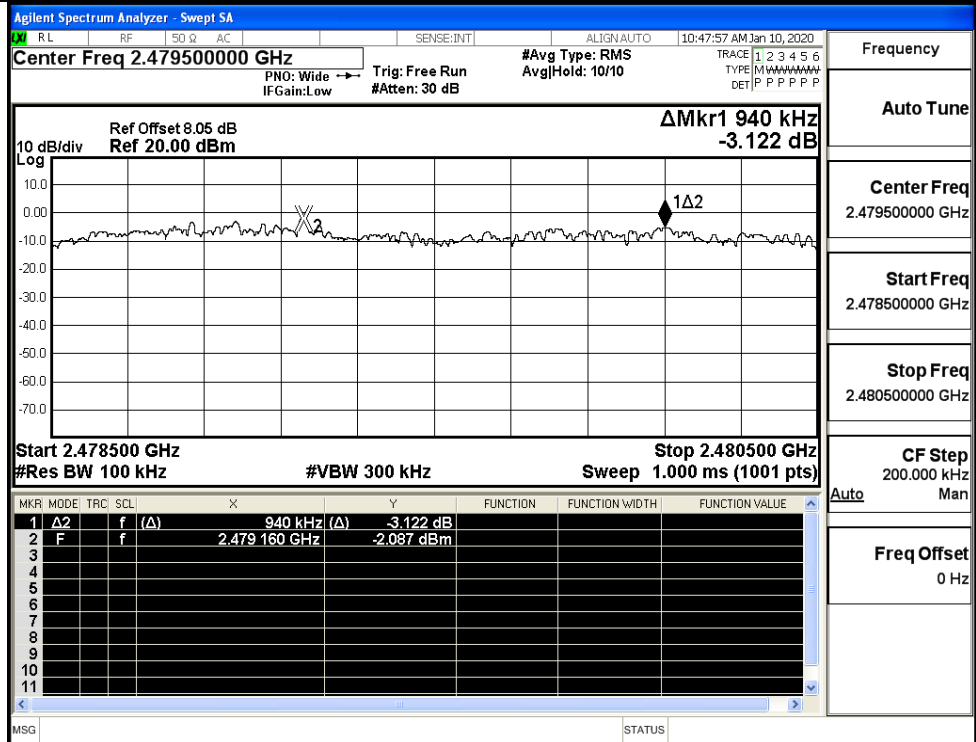


8DPSK/MCH



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

8DPSK/HCH



Frequency
Auto Tune
Center Freq
2.479500000 GHz
Start Freq
2.478500000 GHz
Stop Freq
2.480500000 GHz
CF Step
200.000 kHz
Auto Man
Freq Offset
0 Hz

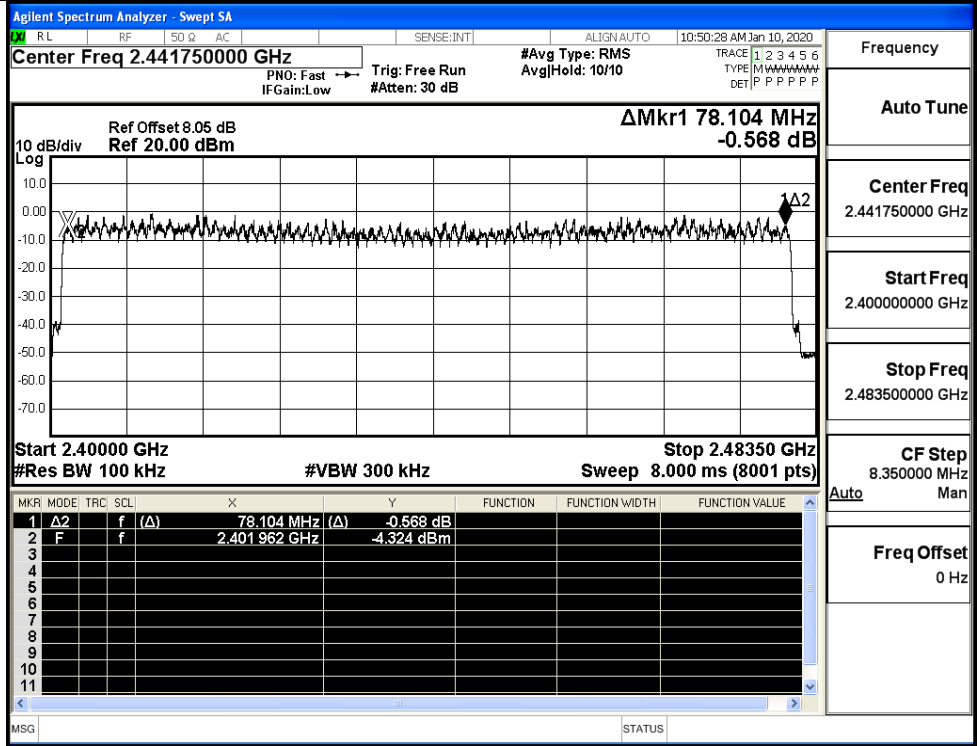
A.4 Hopping Channel Number

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

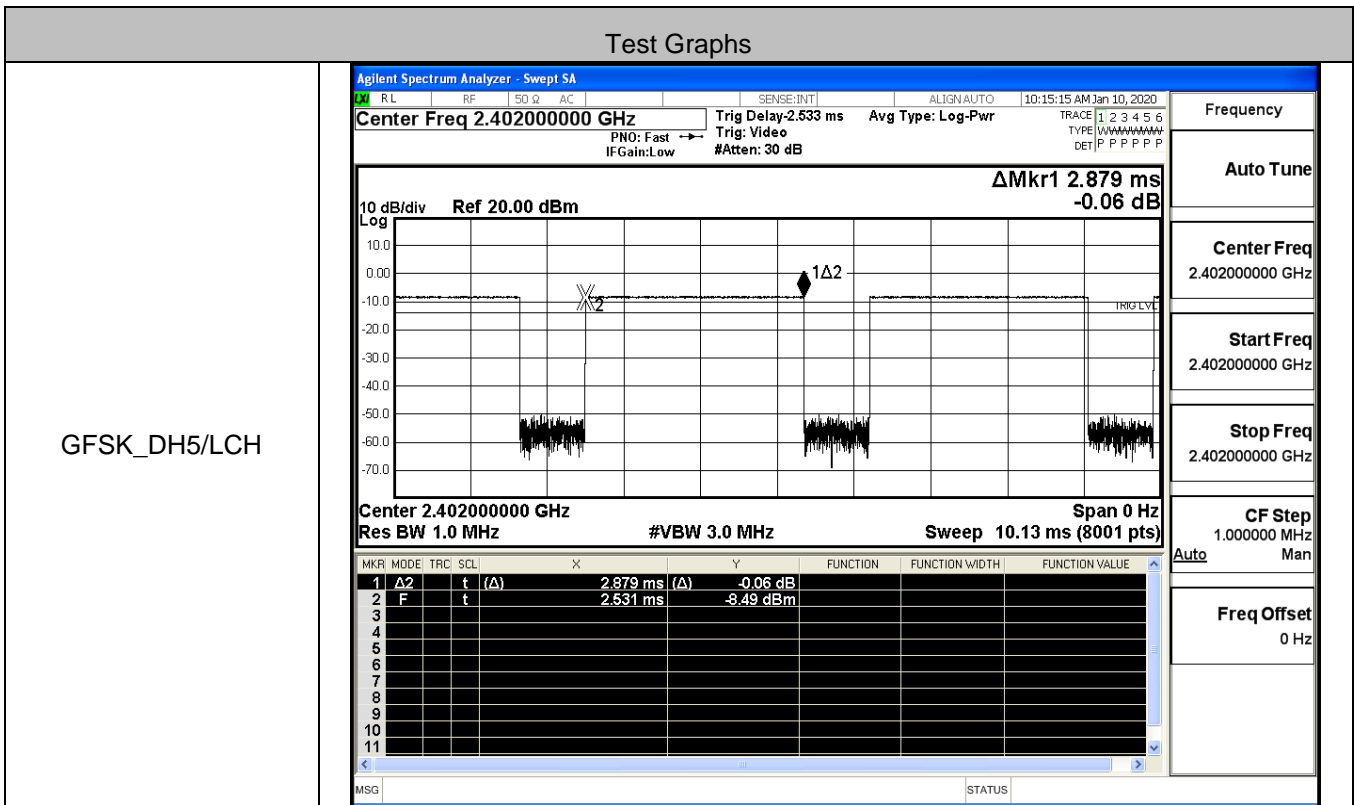
GFSK/Hop	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.441750000 GHz Ref Offset 8.05 dB Ref 20.00 dBm ΔMkr1 77.947 MHz -0.636 dB Start 2.40000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.48350 GHz Sweep 8.000 ms (8001 pts)</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: 0.8em;"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</th> <th>X</th> <th>Y</th> <th>FUNCTION</th> <th>FUNCTION WIDTH</th> <th>FUNCTION VALUE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Δ2</td> <td>f</td> <td>(Δ)</td> <td>77.947 MHz (Δ)</td> <td>-0.636 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td>(Δ)</td> <td>2.402056 GHz</td> <td>-0.397 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	Δ 2	f	(Δ)	77.947 MHz (Δ)	-0.636 dB				2	F	f	(Δ)	2.402056 GHz	-0.397 dBm			
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	Δ 2	f	(Δ)	77.947 MHz (Δ)	-0.636 dB																							
2	F	f	(Δ)	2.402056 GHz	-0.397 dBm																							
$\pi/4$ DQPSK/Hop	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.441750000 GHz Ref Offset 8.05 dB Ref 20.00 dBm ΔMkr1 77.895 MHz -2.902 dB Start 2.40000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.48350 GHz Sweep 8.000 ms (8001 pts)</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: 0.8em;"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</th> <th>X</th> <th>Y</th> <th>FUNCTION</th> <th>FUNCTION WIDTH</th> <th>FUNCTION VALUE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Δ2</td> <td>f</td> <td>(Δ)</td> <td>77.895 MHz (Δ)</td> <td>-2.902 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td>(Δ)</td> <td>2.402140 GHz</td> <td>-2.299 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	Δ 2	f	(Δ)	77.895 MHz (Δ)	-2.902 dB				2	F	f	(Δ)	2.402140 GHz	-2.299 dBm			
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	Δ 2	f	(Δ)	77.895 MHz (Δ)	-2.902 dB																							
2	F	f	(Δ)	2.402140 GHz	-2.299 dBm																							

8DPSK/Hop

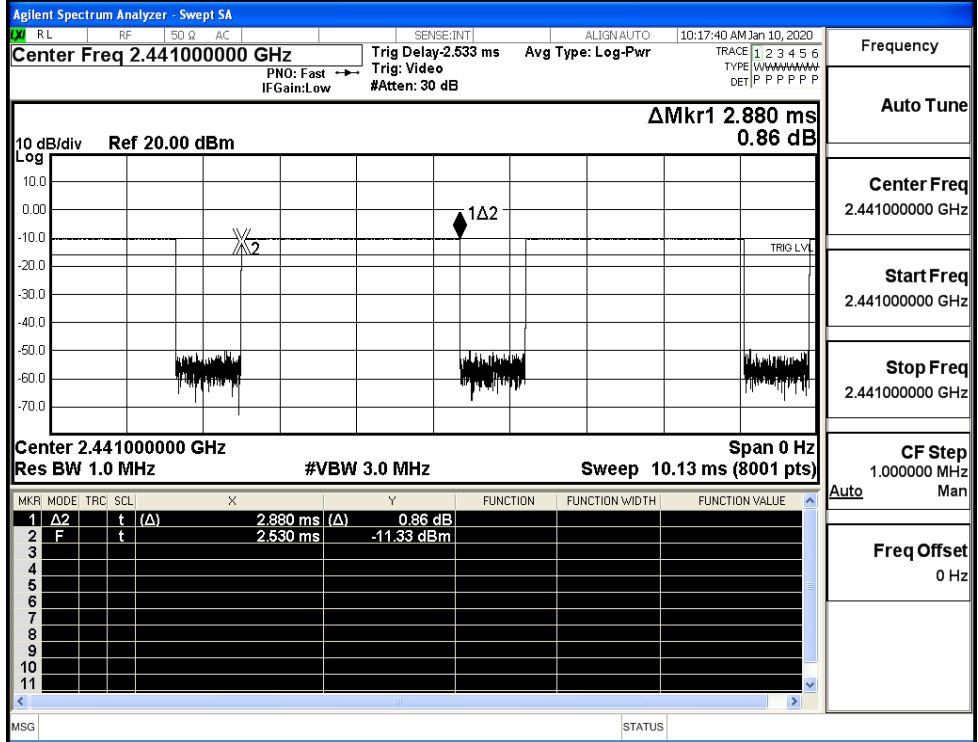


A.5 Dwell Time

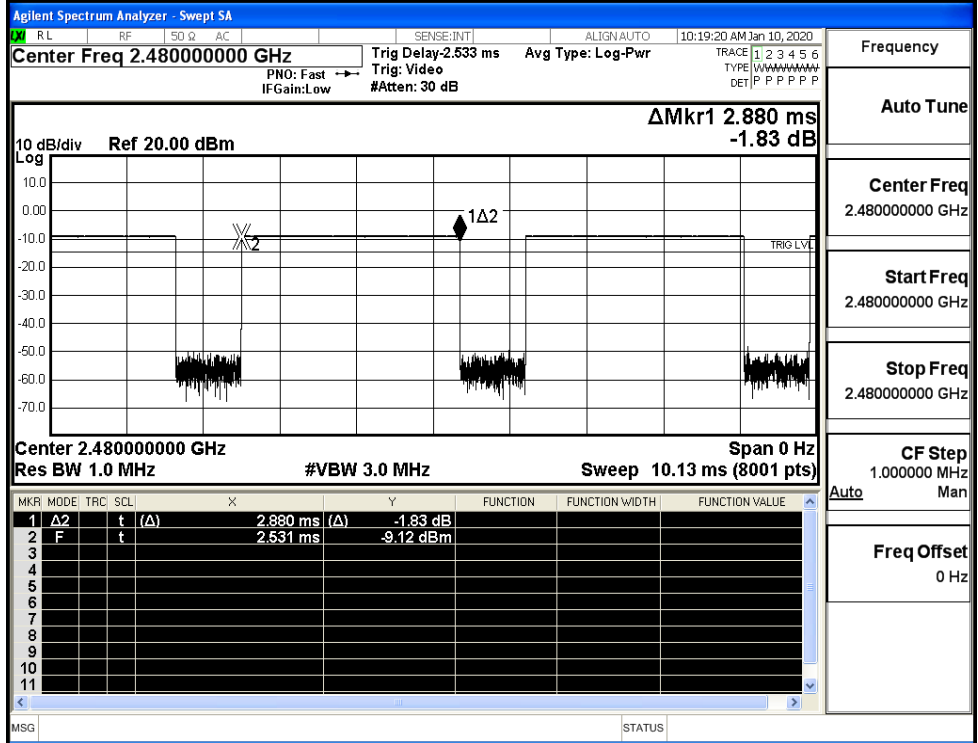
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
π/4DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7	0.307	0.4	PASS
8DPSK	3DH5	LCH	2.88	106.7	0.307	0.4	PASS
	3DH5	MCH	2.88	106.7	0.307	0.4	PASS
	3DH5	HCH	2.88	106.7	0.307	0.4	PASS



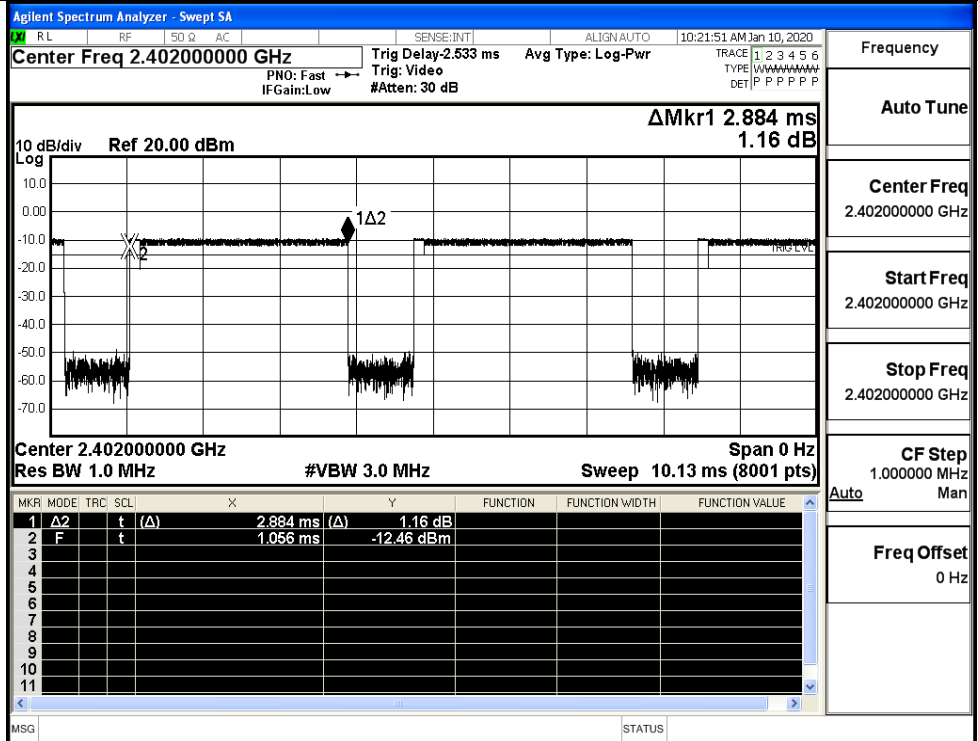
GFSK_DH5/MCH



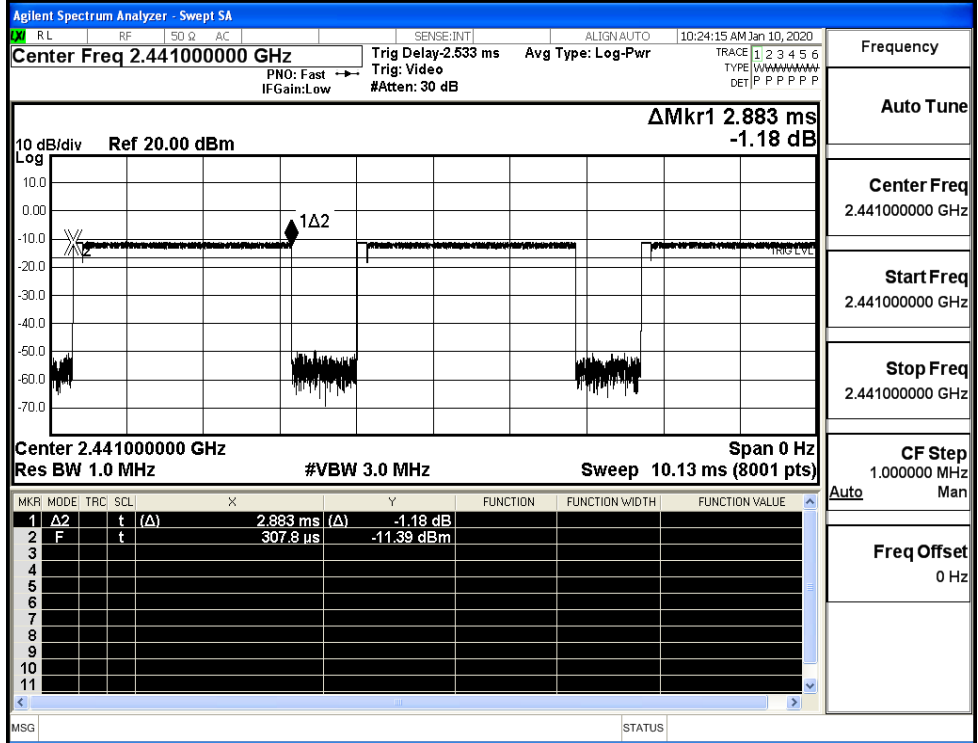
GFSK_DH5/HCH



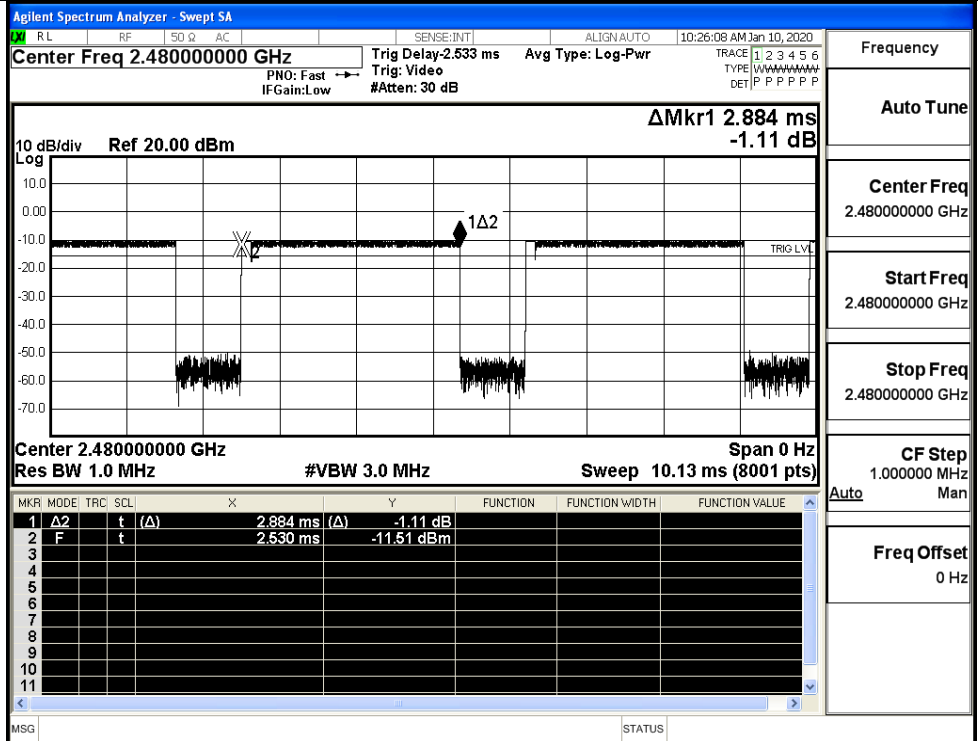
$\pi/4$ DQPSK
_2DH5/LCH



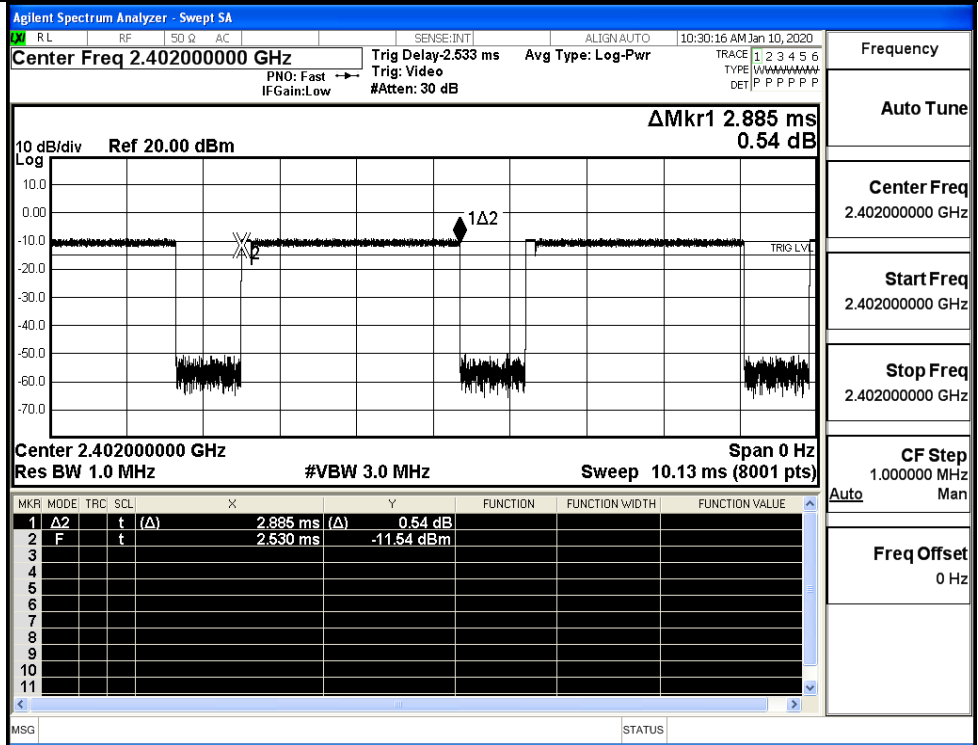
$\pi/4$ DQPSK
_2DH5/MCH



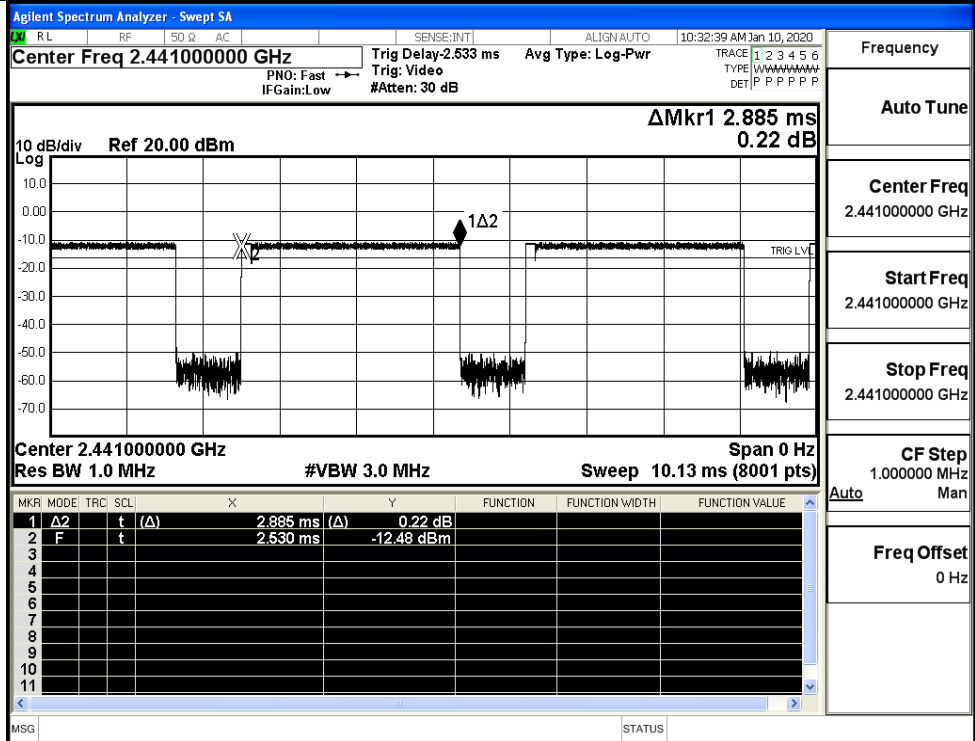
$\pi/4$ DQPSK
_2DH5/HCH



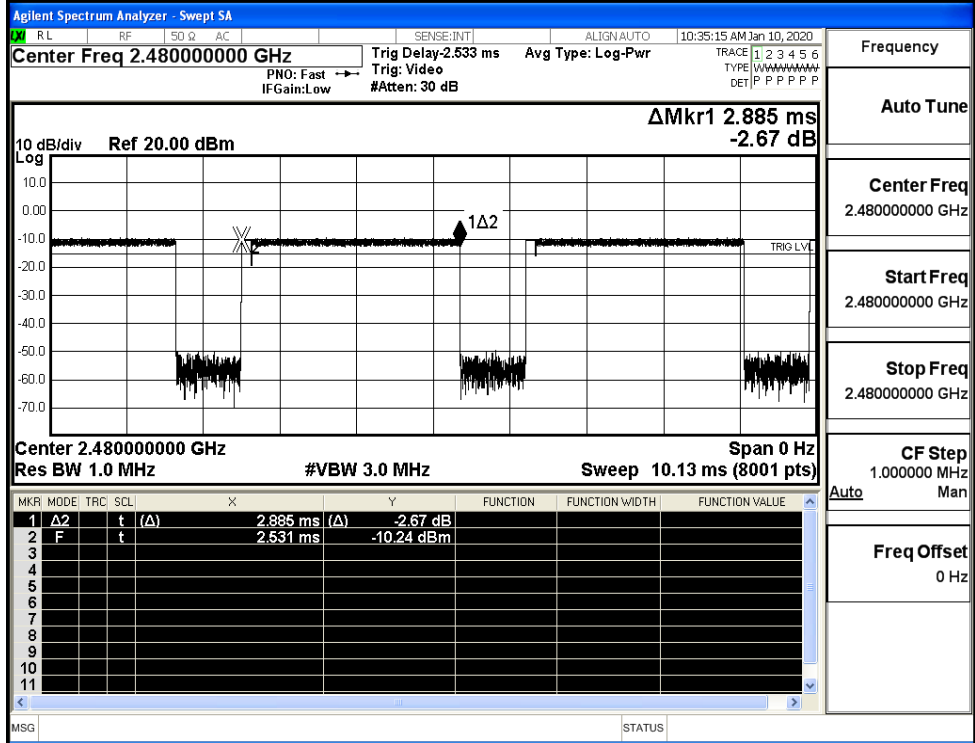
8DPSK_3DH5/LCH



8DPSK_3DH5/MCH

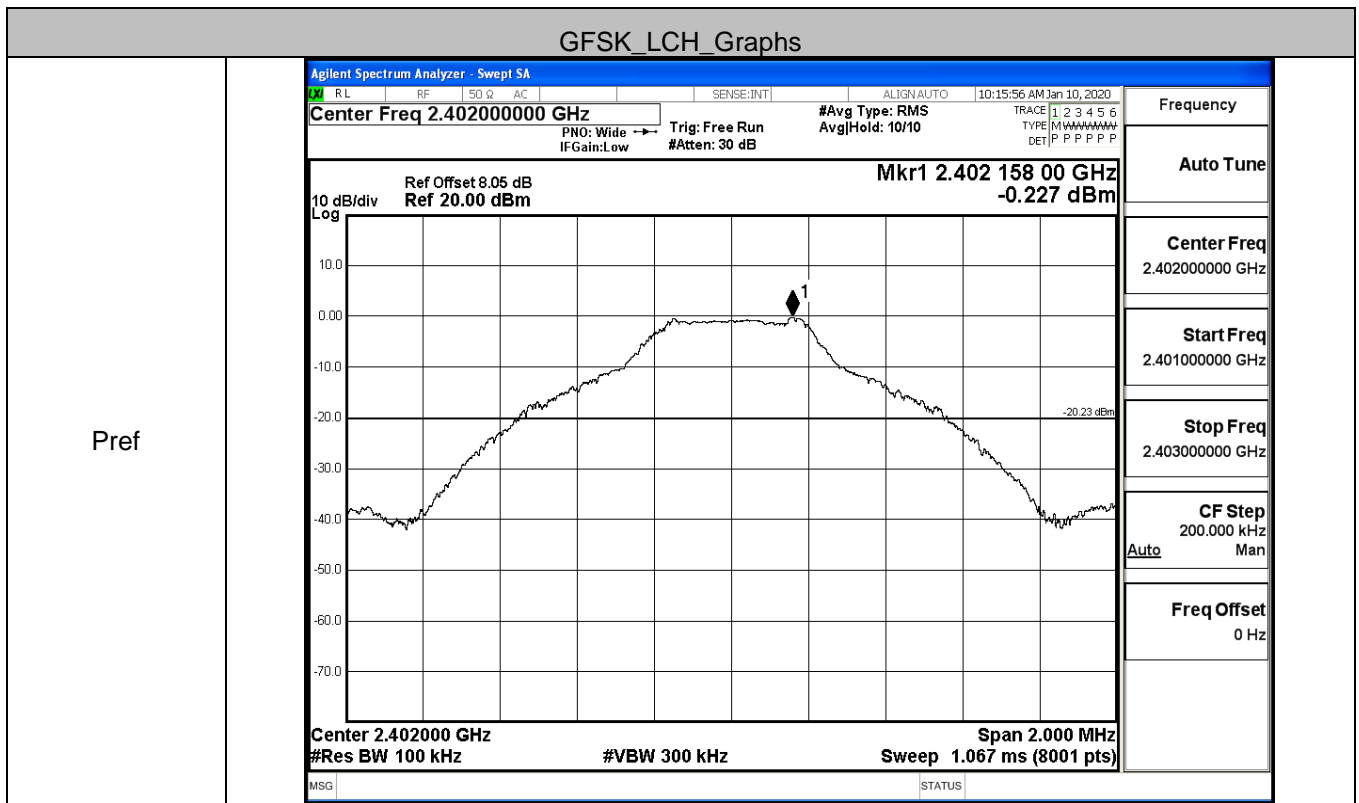


8DPSK_3DH5/HCH

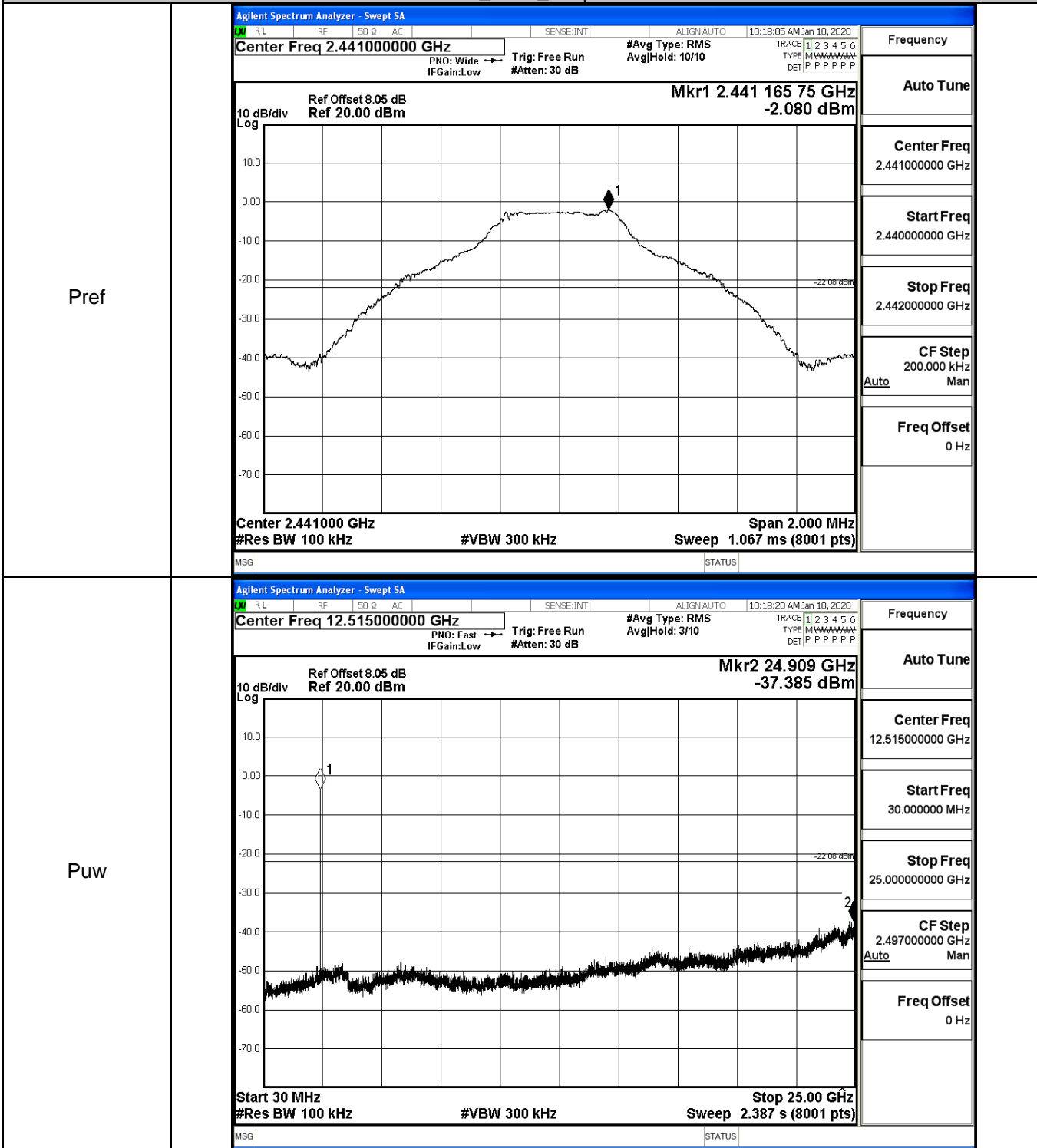


A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.227	-37.631	-20.227	PASS
	MCH	-2.08	-37.385	-22.080	PASS
	HCH	-0.898	-37.890	-20.898	PASS
$\pi/4$ DQPSK	LCH	-2.32	-36.902	-22.320	PASS
	MCH	-3.295	-37.890	-23.295	PASS
	HCH	-2.396	-37.944	-22.396	PASS
8DPSK	LCH	-1.79	-37.278	-21.790	PASS
	MCH	-3.125	-37.738	-23.125	PASS
	HCH	-2.211	-37.985	-22.211	PASS

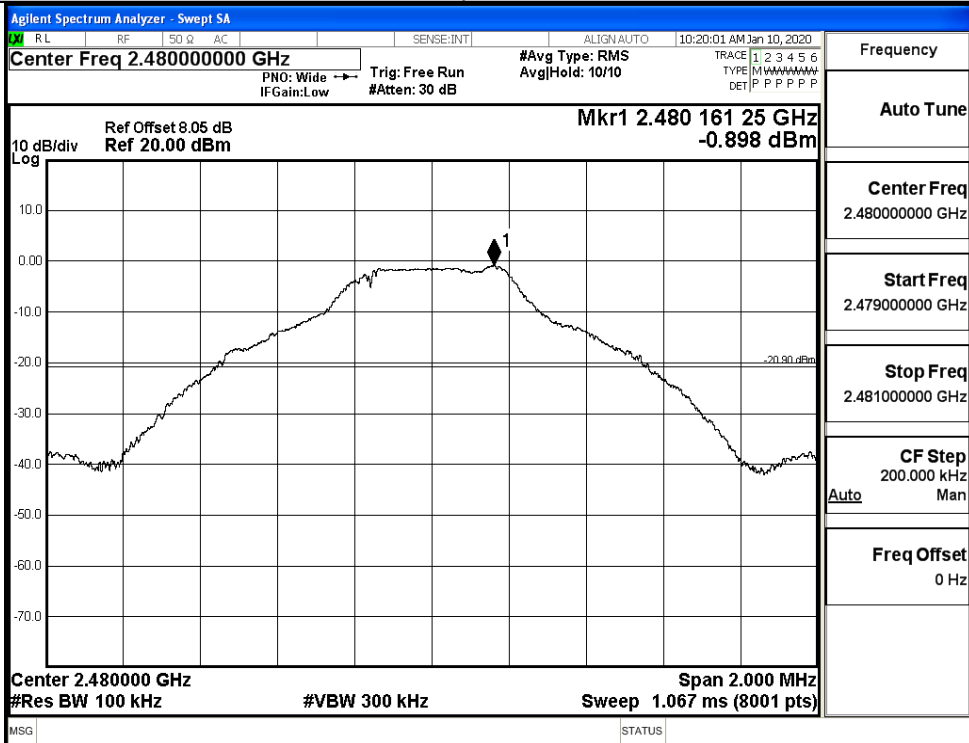


GFSK_MCH_Graphs

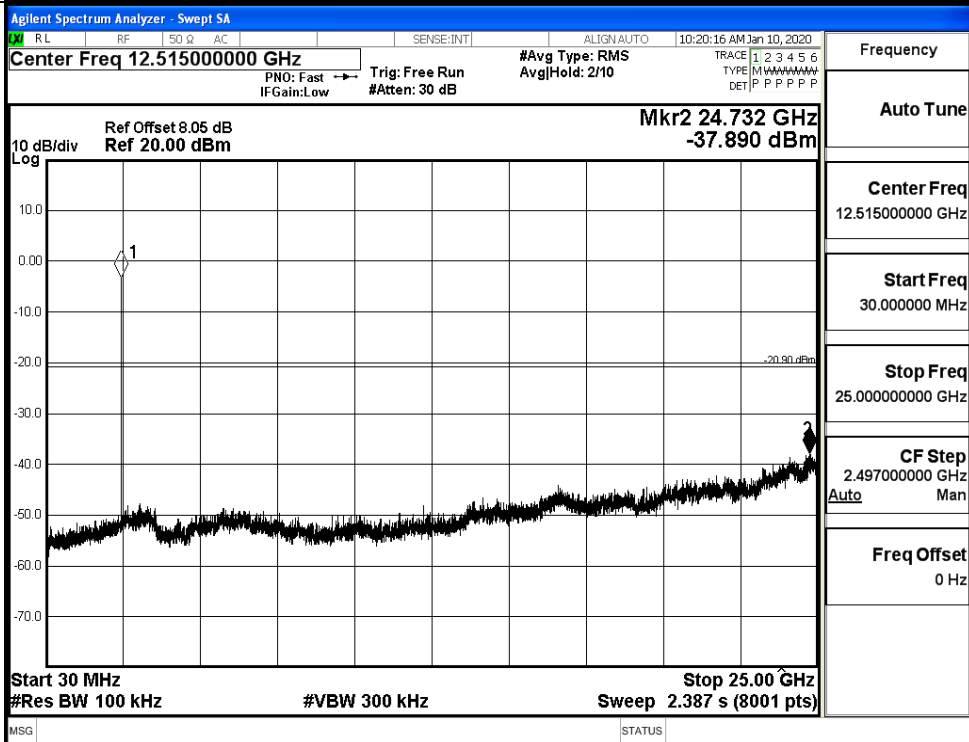


GFSK_HCH_Graphs

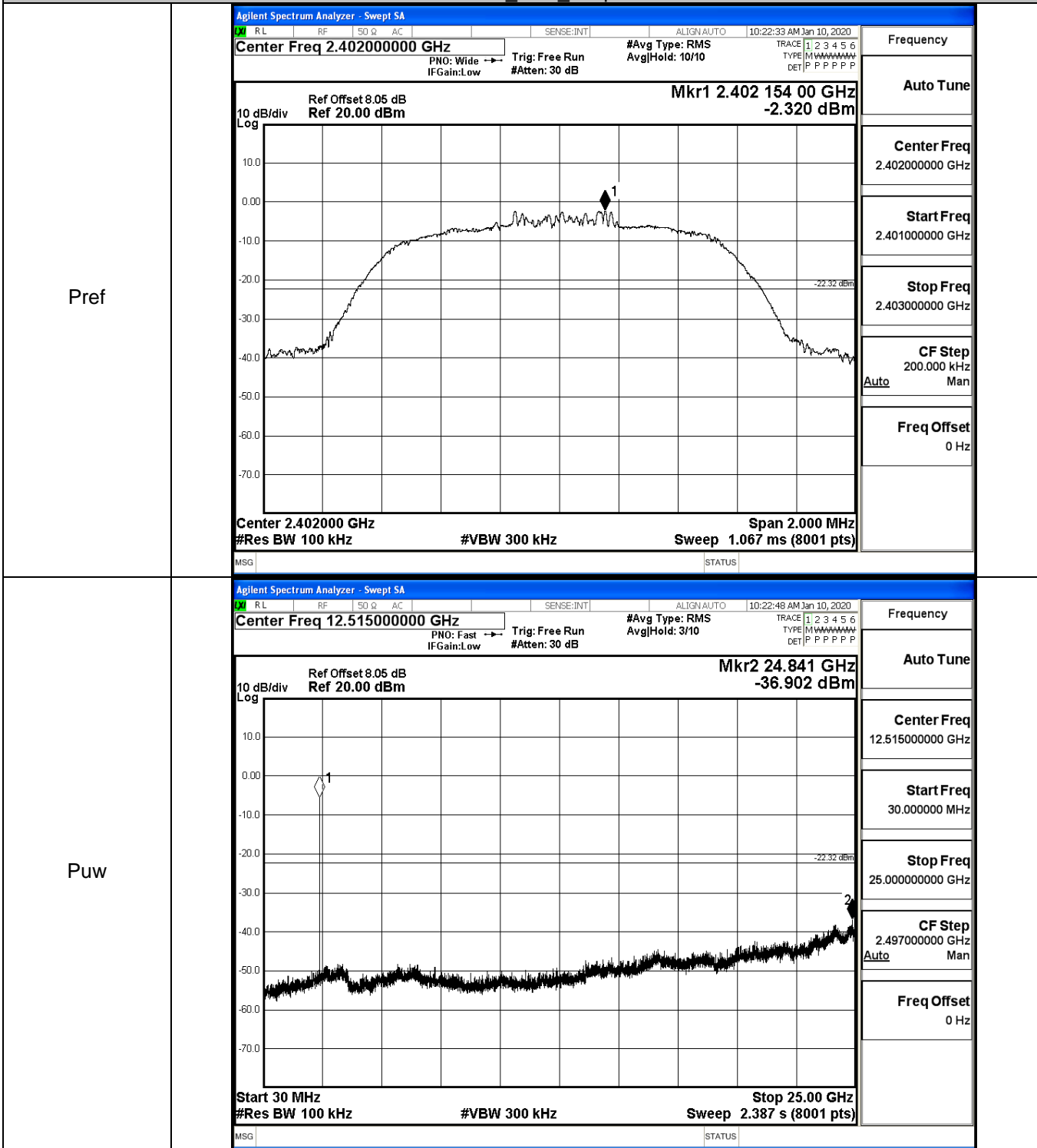
Pref



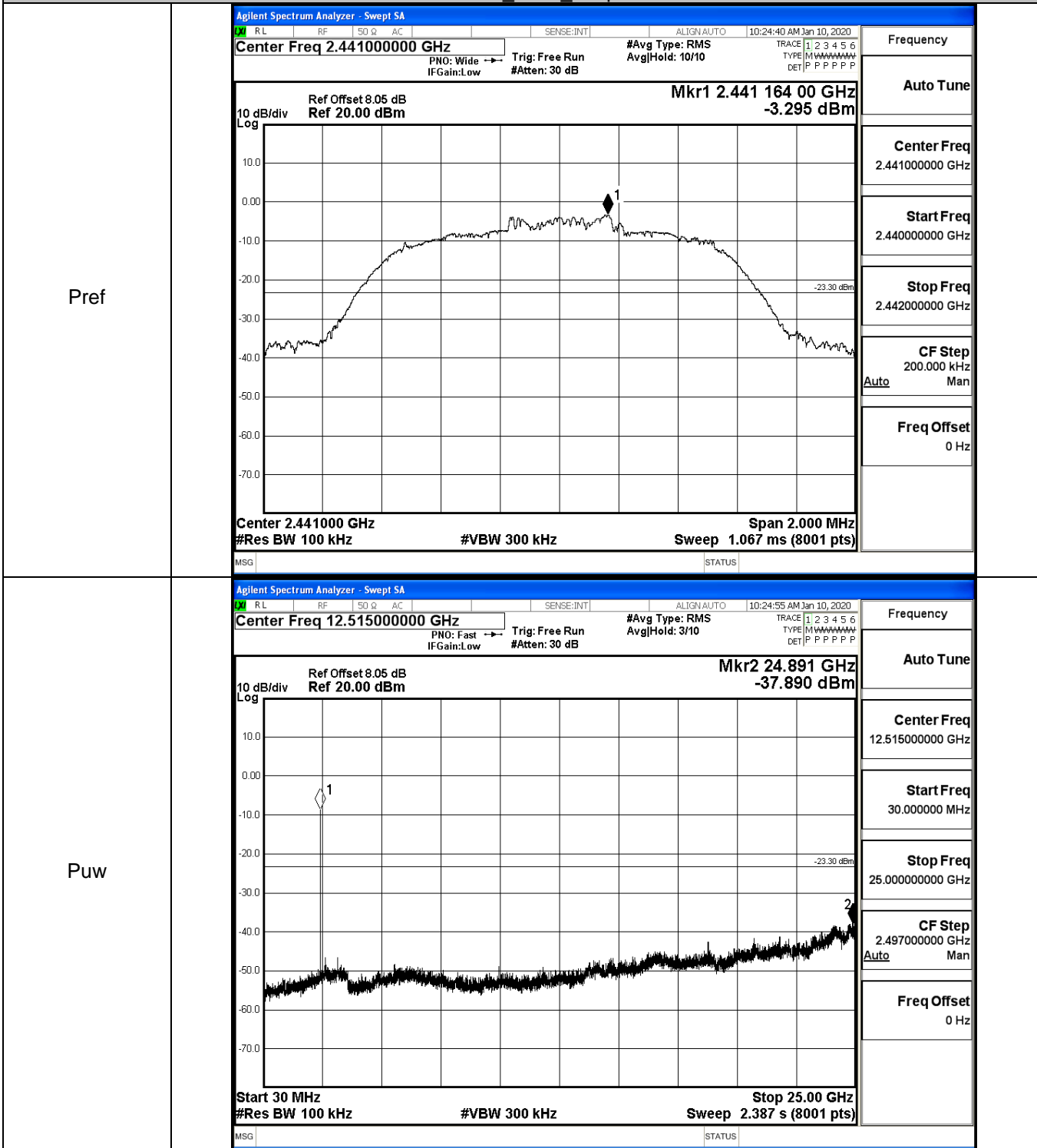
Puw



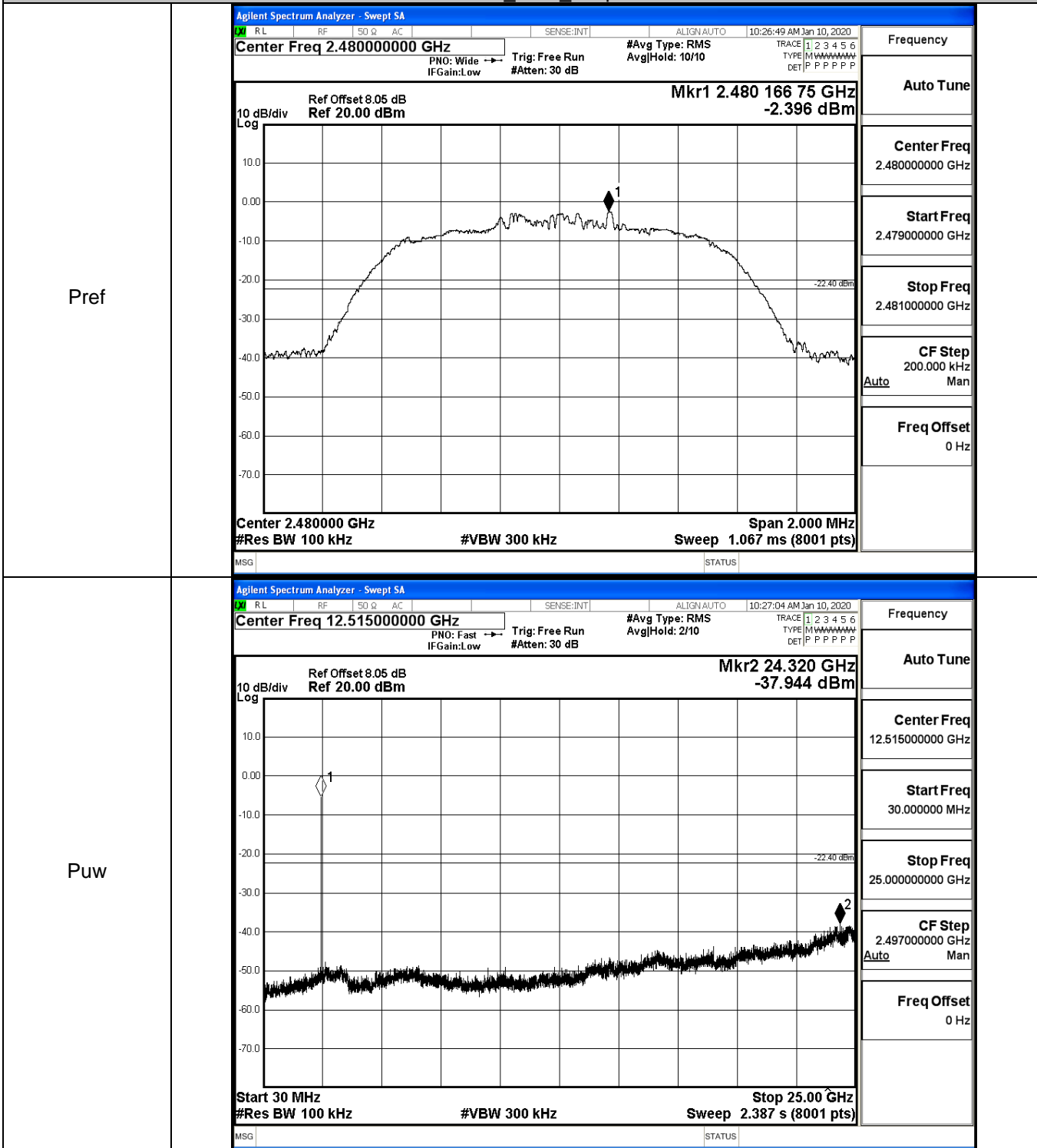
$\pi/4$ DQPSK_LCH_Graphs



$\pi/4$ DQPSK_MCH_Graphs

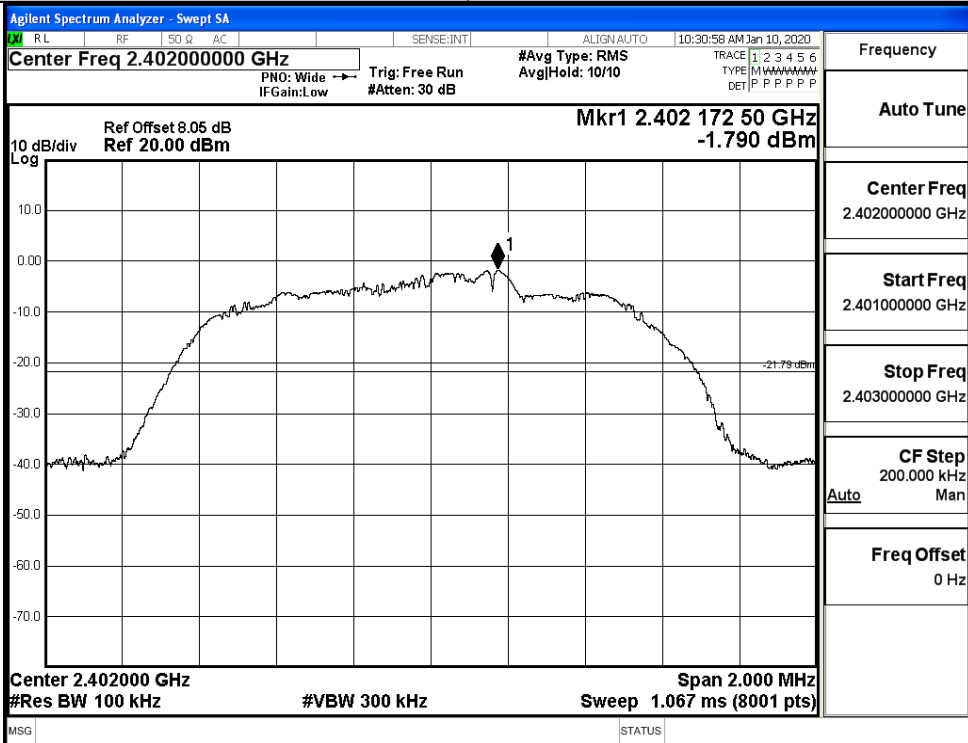


$\pi/4$ DQPSK_HCH_Graphs

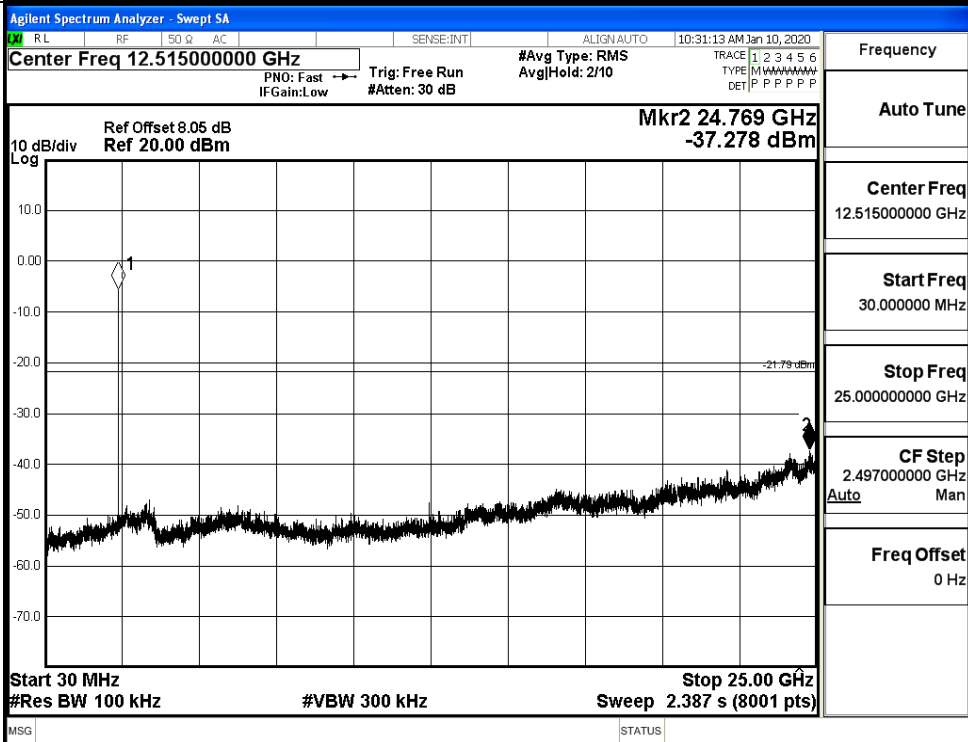


8DPSK_LCH_Graphs

Pref

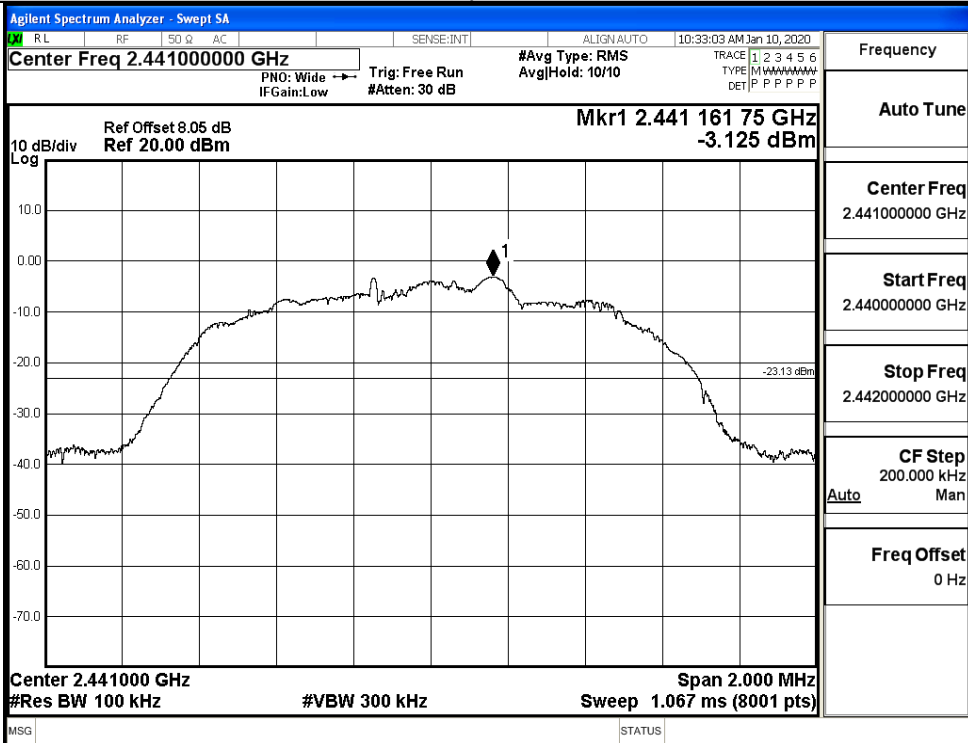


Puw

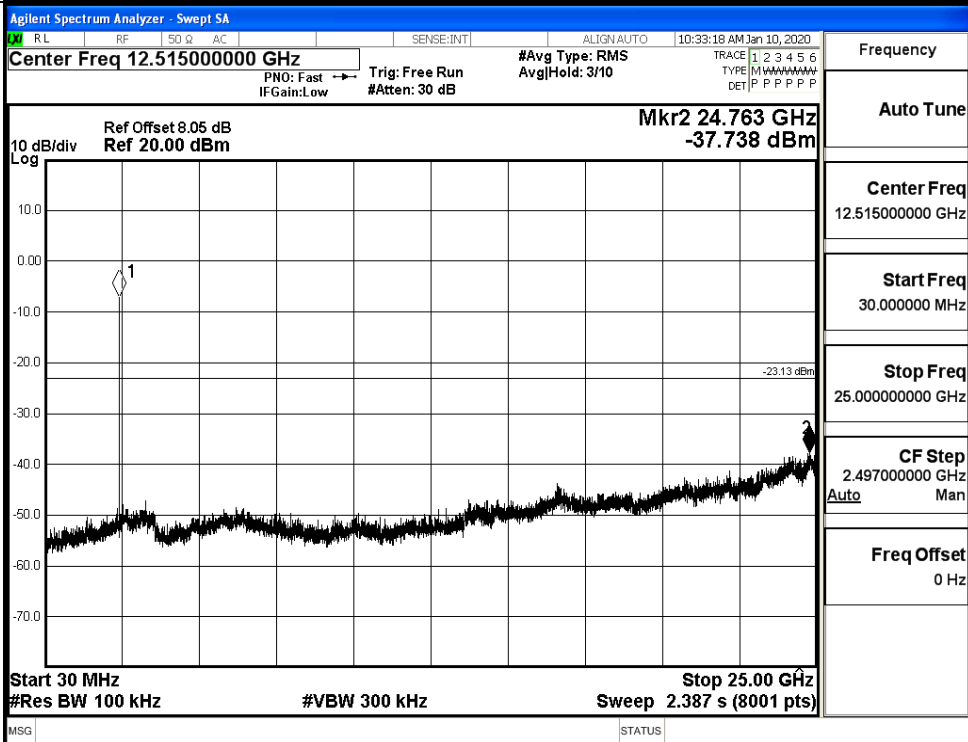


8DPSK_MCH_Graphs

Pref

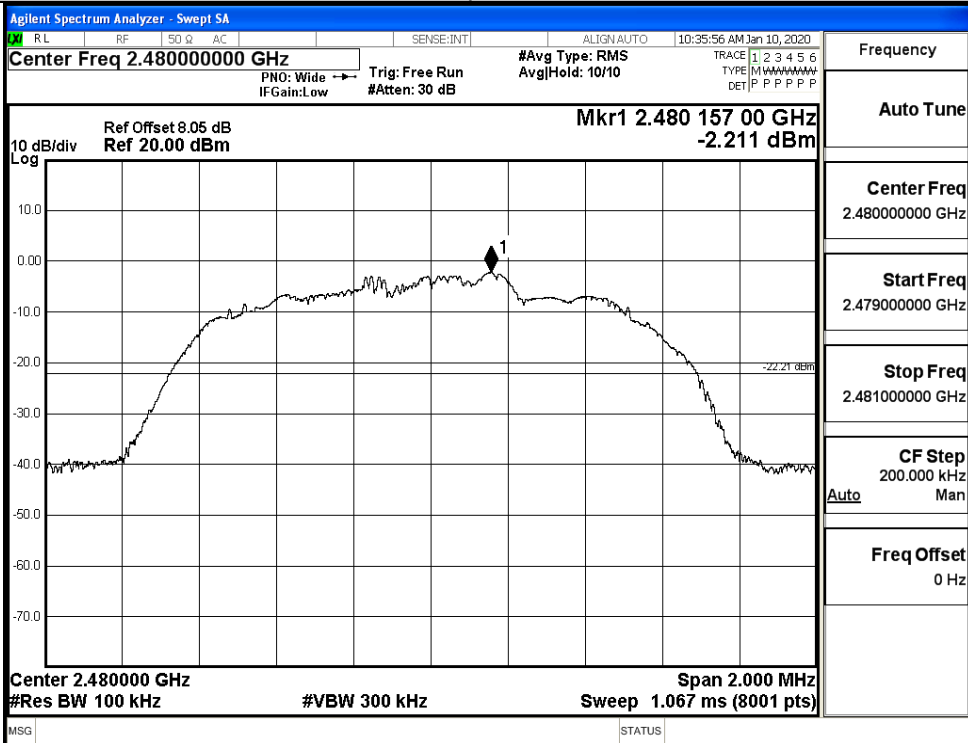


Puw

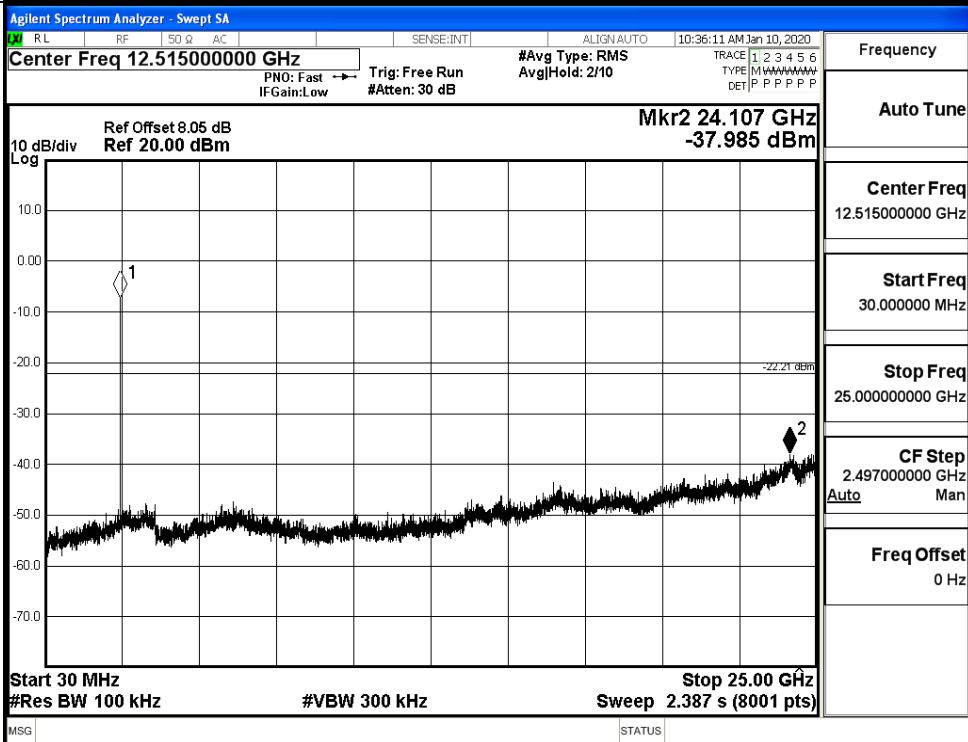


8DPSK_HCH_Graphs

Pref



Puw

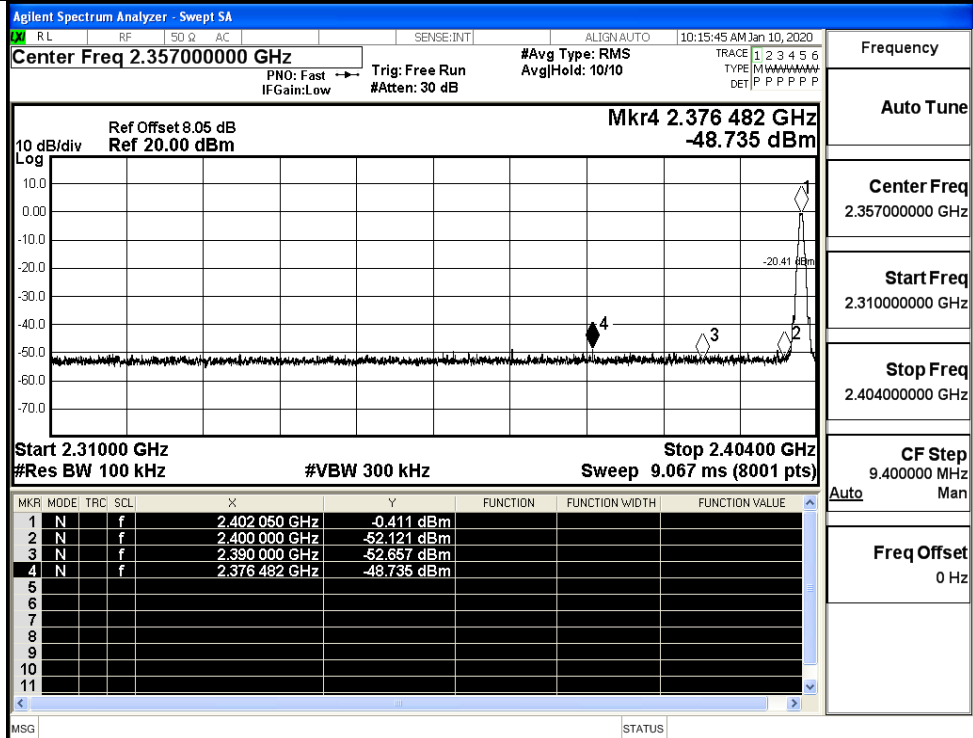


A.7 Band-edge for RF Conducted Emissions

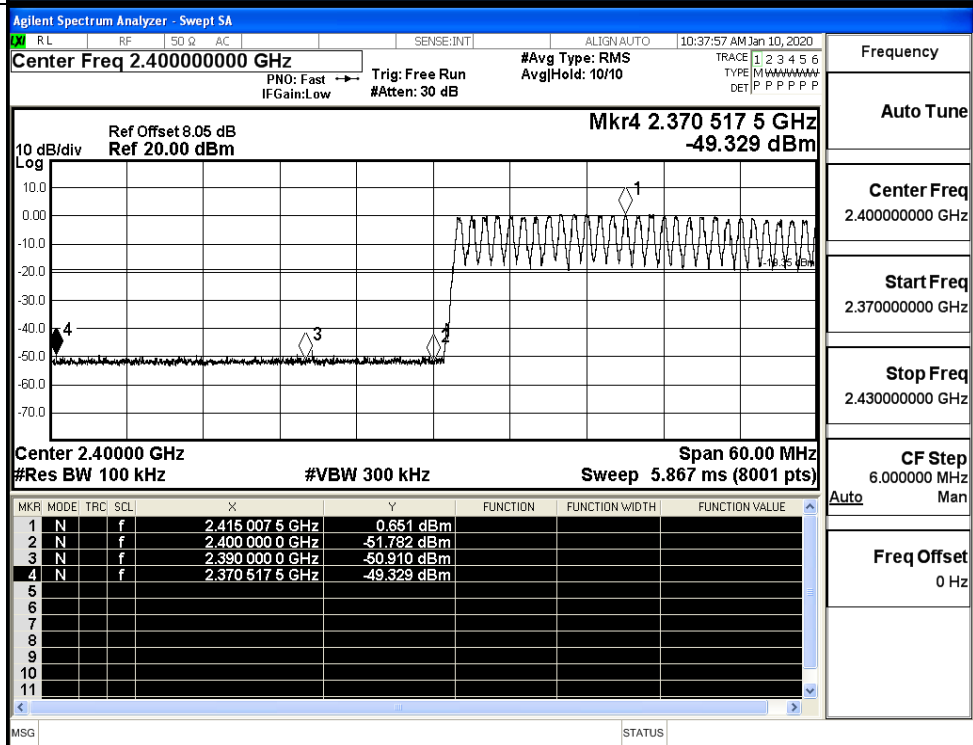
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-0.411	Off	-48.735	-20.41	PASS
			0.651	On	-49.329	-19.35	PASS
	HCH	2480	-0.903	Off	-49.131	-20.9	PASS
			0.355	On	-48.932	-19.65	PASS
$\pi/4$ DQPSK	LCH	2402	-3.217	Off	-49.420	-23.22	PASS
			-0.742	On	-48.703	-20.74	PASS
	HCH	2480	-2.099	Off	-48.622	-22.1	PASS
			-1.035	On	-48.037	-21.04	PASS
8DPSK	LCH	2402	-3.857	Off	-49.780	-23.86	PASS
			-0.855	On	-48.925	-20.86	PASS
	HCH	2480	-2.144	Off	-48.949	-22.14	PASS
			-1.201	On	-48.541	-21.2	PASS

Test Graphs

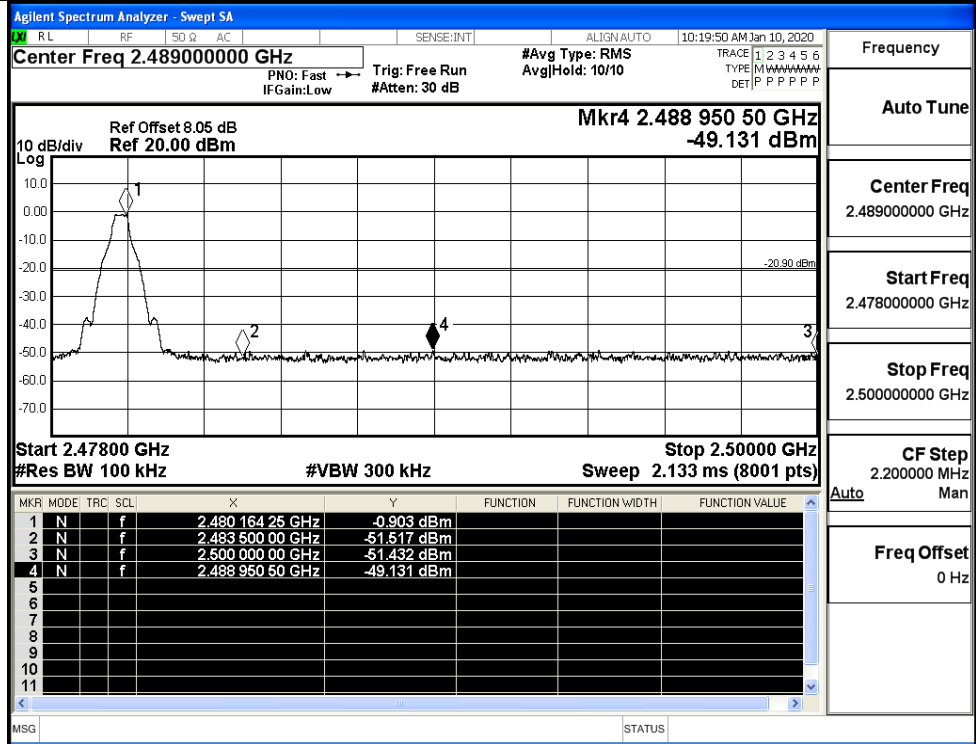
GFSK/LCH/No Hop



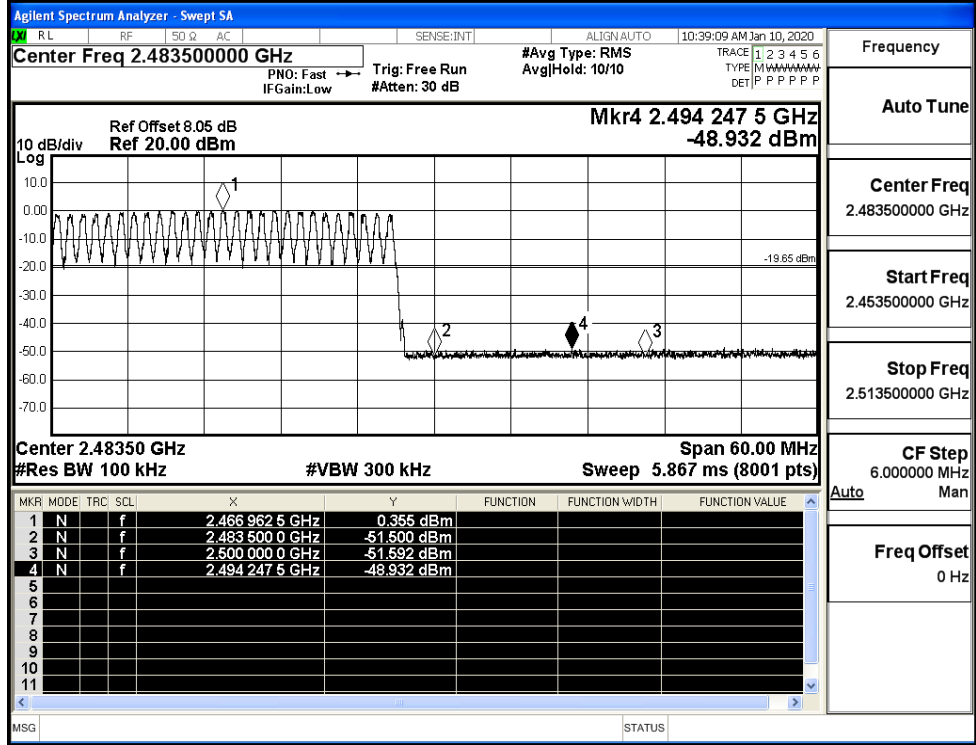
GFSK/LCH/Hop



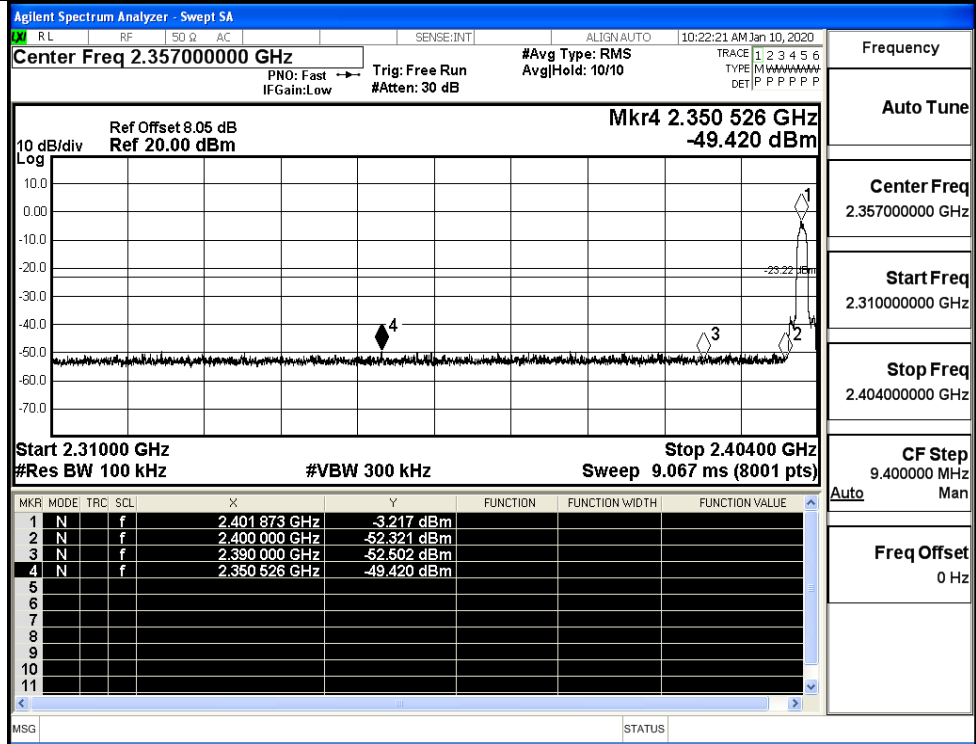
GFSK/HCH/No Hop



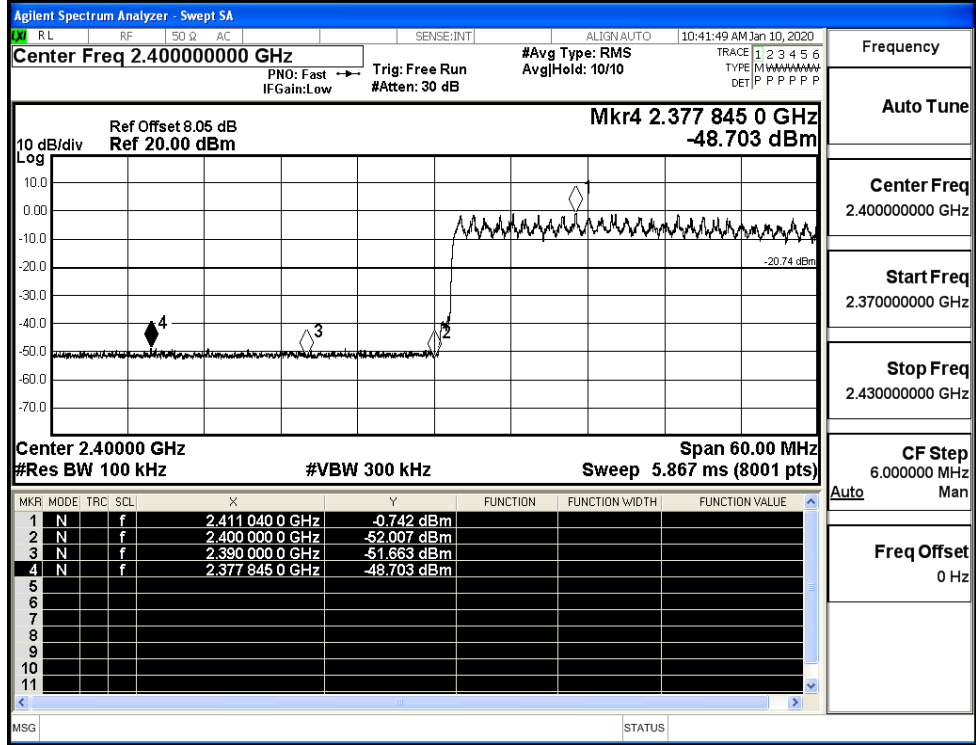
GFSK/HCH/Hop



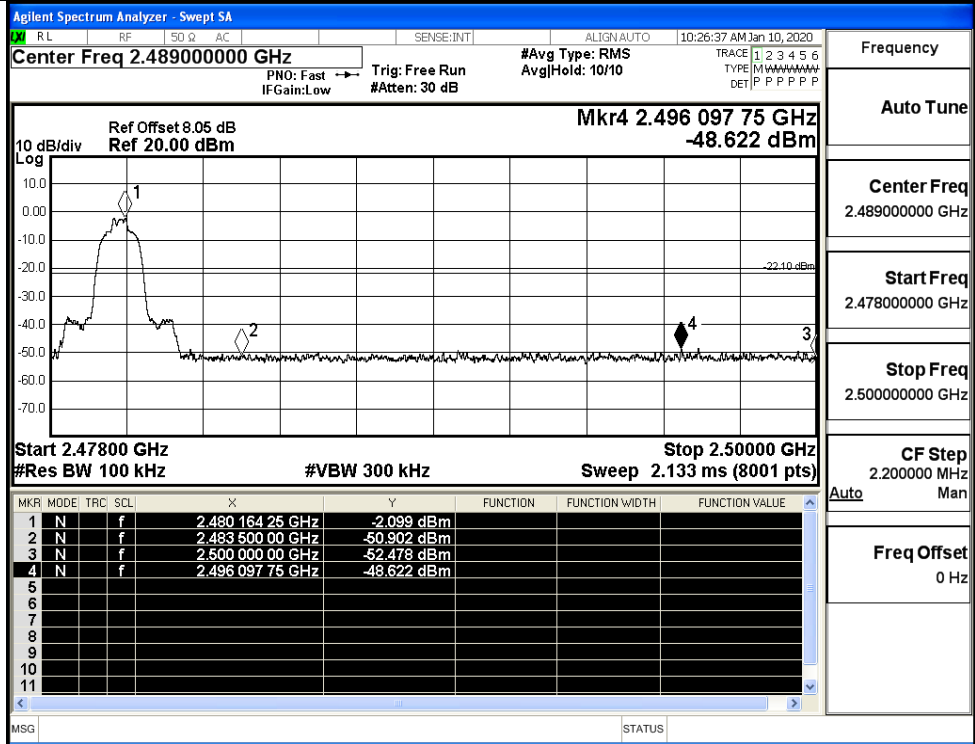
$\pi/4$ DQPSK/LCH/No
Hop



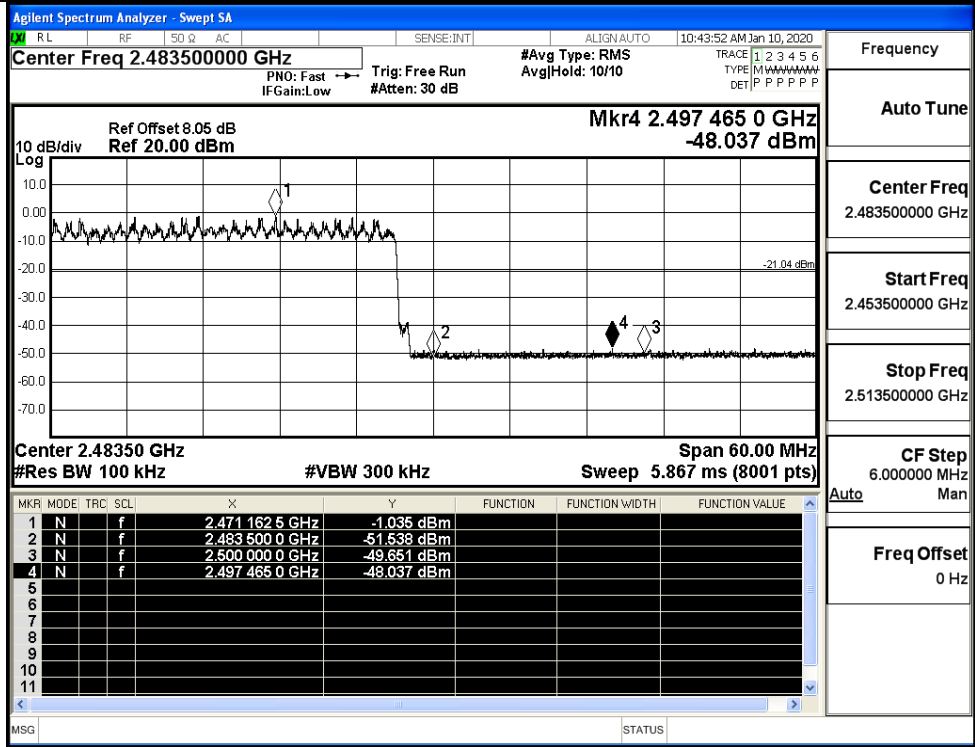
$\pi/4$ DQPSK/LCH/Hop



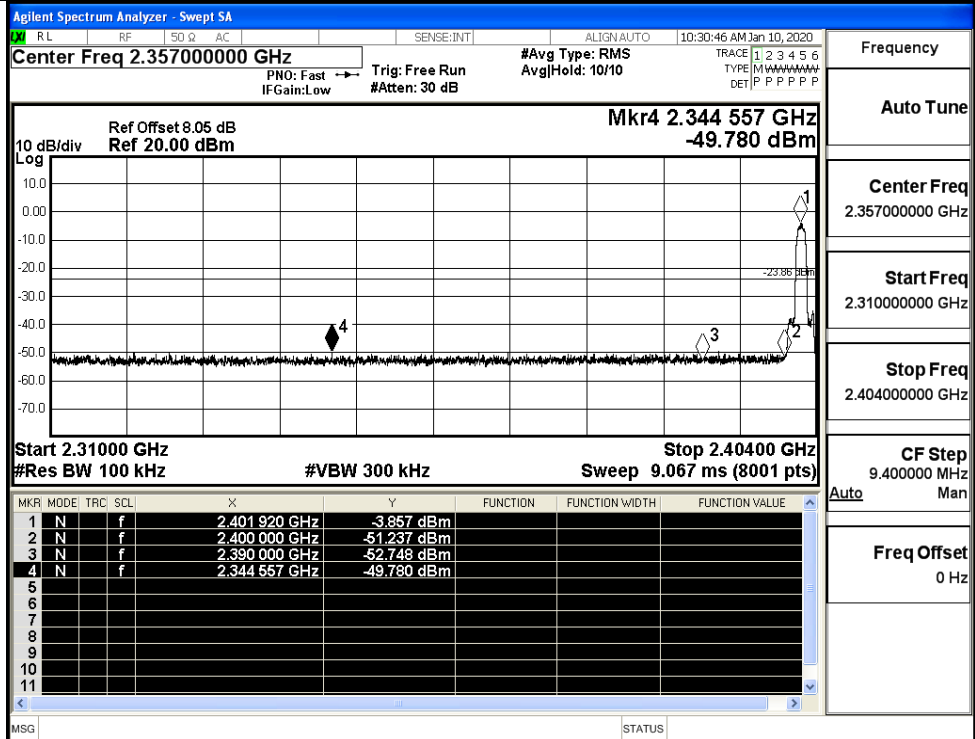
π /4DQPSK/HCH/No Hop



π /4DQPSK/HCH/Hop

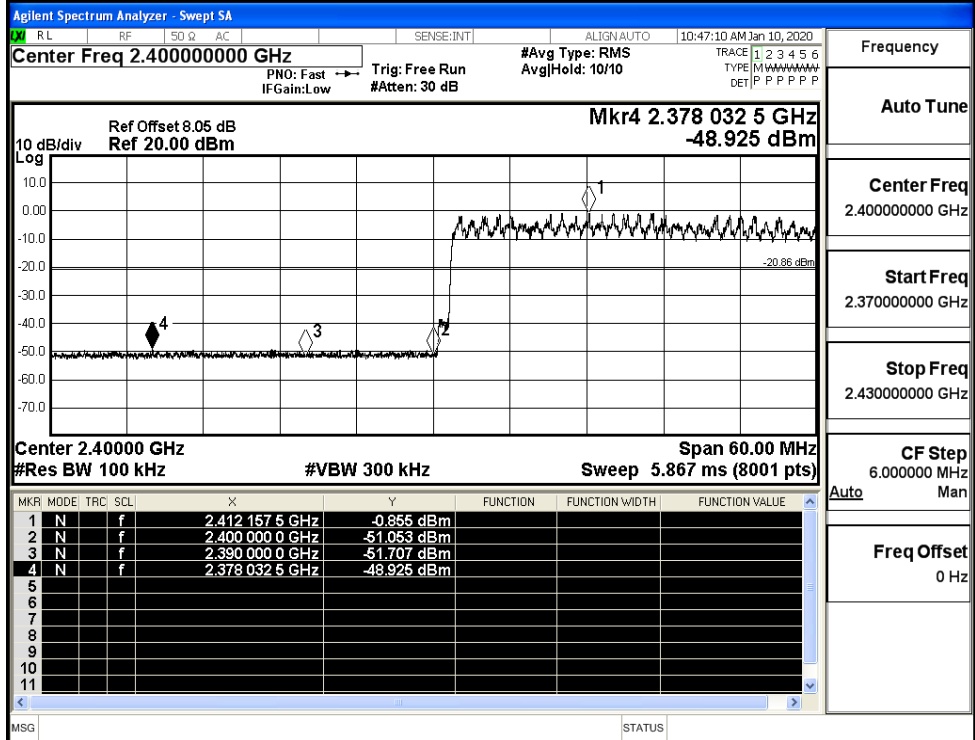


8DPSK/LCH/No Hop



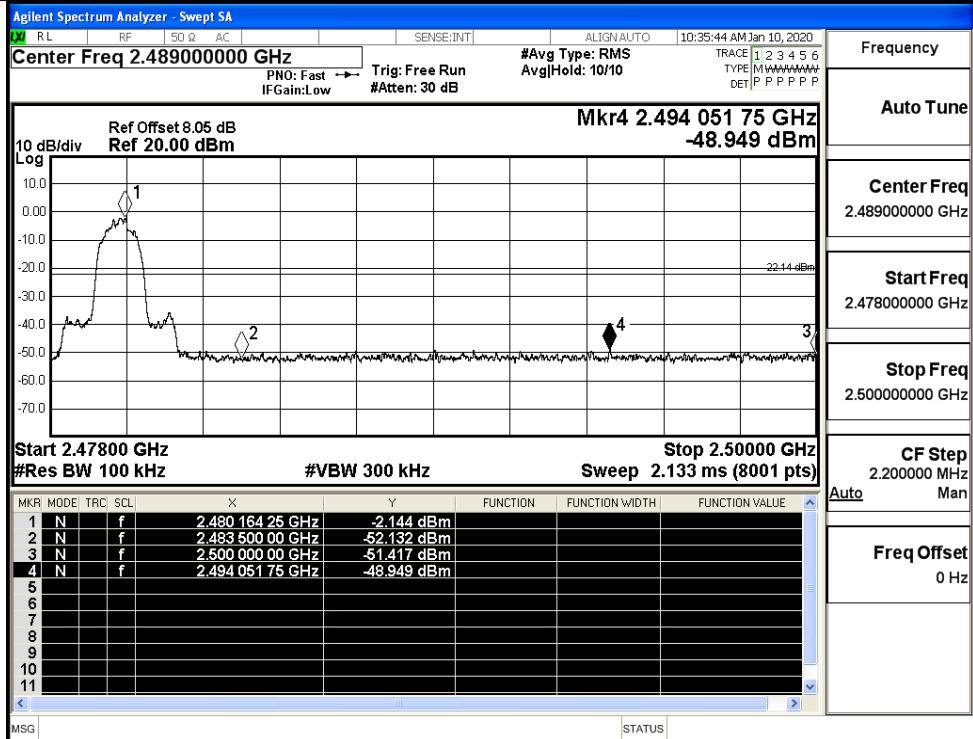
Frequency
Auto Tune
Center Freq
2.357000000 GHz
Start Freq
2.310000000 GHz
Stop Freq
2.404000000 GHz
CF Step
9.400000 MHz
Auto Man
Freq Offset
0 Hz

8DPSK/LCH/Hop



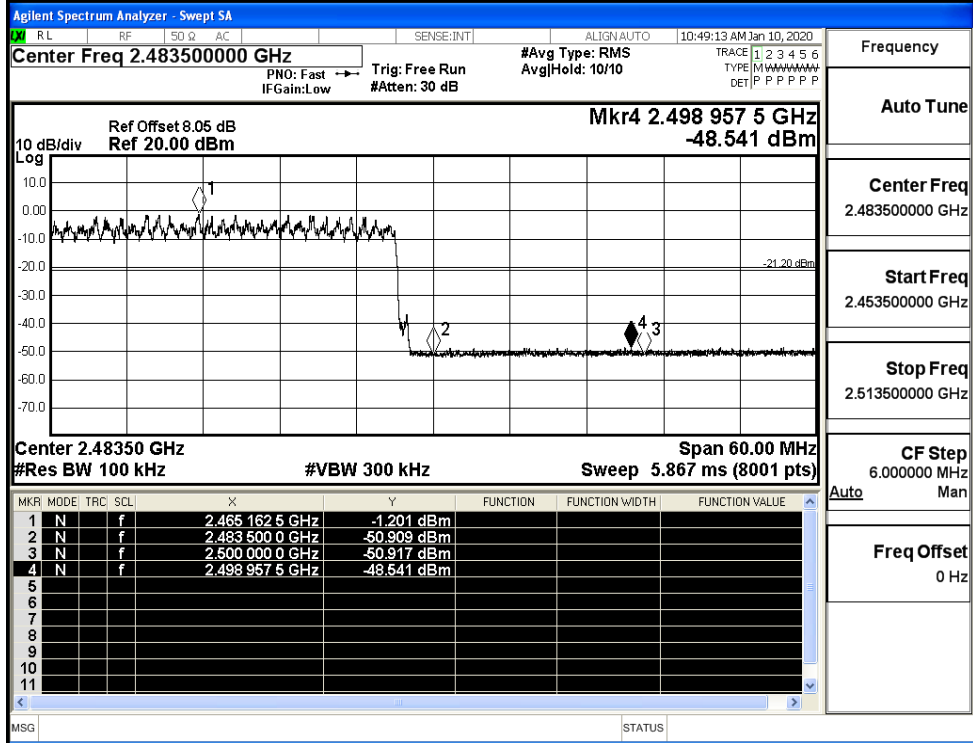
Frequency
Auto Tune
Center Freq
2.400000000 GHz
Start Freq
2.370000000 GHz
Stop Freq
2.430000000 GHz
CF Step
6.000000 MHz
Auto Man
Freq Offset
0 Hz

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

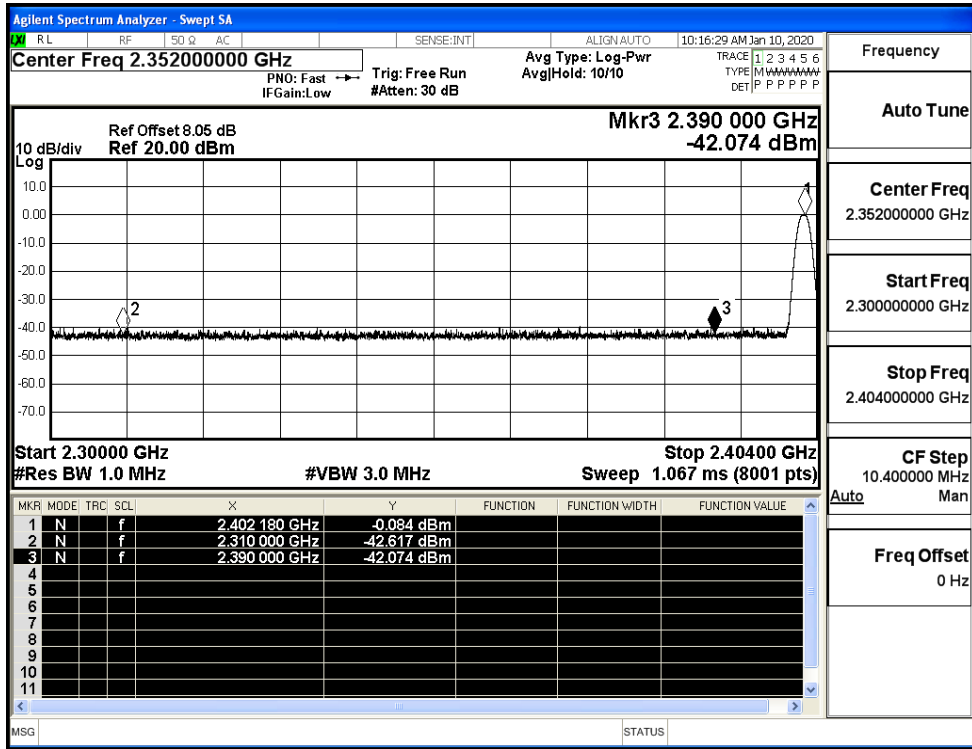


Frequency
Auto Tune
Center Freq
2.483500000 GHz
Start Freq
2.453500000 GHz
Stop Freq
2.513500000 GHz
CF Step
6.000000 MHz
Auto Man
Freq Offset
0 Hz

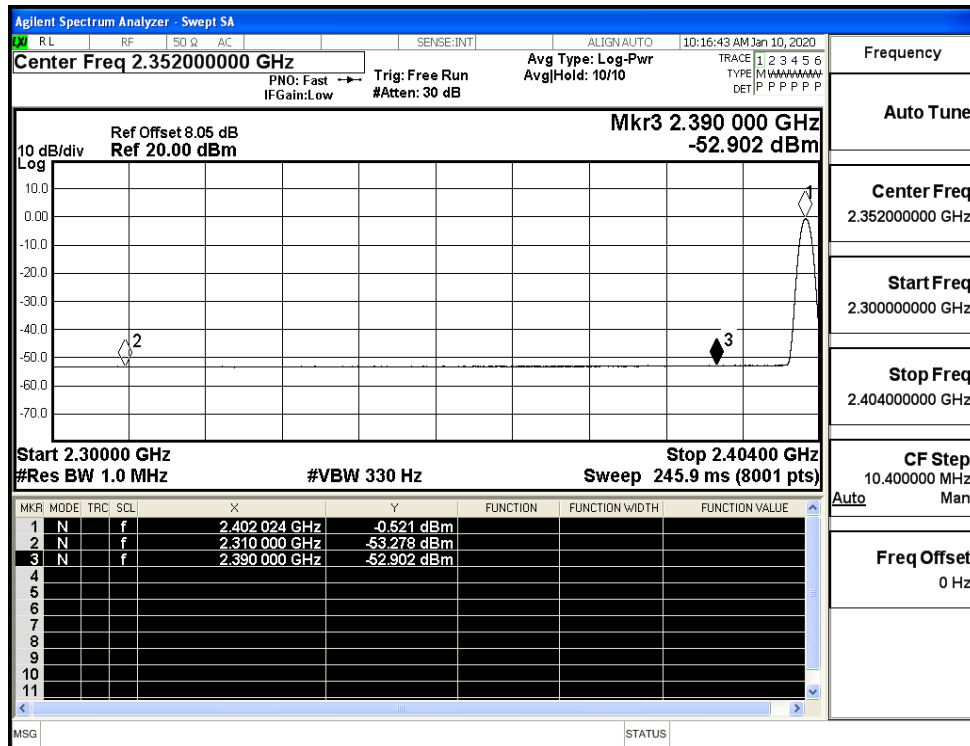
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.62	2.0	0	52.64	PEAK	74	PASS
	Off	2310.0	-53.28	2.0	0	41.98	AV	54	PASS
	Off	2390.0	-42.07	2.0	0	53.18	PEAK	74	PASS
	Off	2390.0	-52.90	2.0	0	42.36	AV	54	PASS
	Off	2483.5	-42.67	2.0	0	52.59	PEAK	74	PASS
	Off	2483.5	-52.46	2.0	0	42.80	AV	54	PASS
	Off	2500.0	-42.26	2.0	0	53.00	PEAK	74	PASS
	Off	2500.0	-52.30	2.0	0	42.96	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-42.20	2.0	0	53.06	PEAK	74	PASS
	Off	2310.0	-53.21	2.0	0	42.05	AV	54	PASS
	Off	2390.0	-43.18	2.0	0	52.08	PEAK	74	PASS
	Off	2390.0	-52.93	2.0	0	42.32	AV	54	PASS
	Off	2483.5	-42.46	2.0	0	52.80	PEAK	74	PASS
	Off	2483.5	-52.36	2.0	0	42.90	AV	54	PASS
	Off	2500.0	-40.58	2.0	0	54.68	PEAK	74	PASS
	Off	2500.0	-52.19	2.0	0	43.07	AV	54	PASS
8DPSK	Off	2310.0	-43.23	2.0	0	52.02	PEAK	74	PASS
	Off	2310.0	-53.28	2.0	0	41.97	AV	54	PASS
	Off	2390.0	-41.74	2.0	0	53.52	PEAK	74	PASS
	Off	2390.0	-52.90	2.0	0	42.36	AV	54	PASS
	Off	2483.5	-42.76	2.0	0	52.49	PEAK	74	PASS
	Off	2483.5	-52.47	2.0	0	42.79	AV	54	PASS
	Off	2500.0	-41.54	2.0	0	53.72	PEAK	74	PASS
	Off	2500.0	-52.19	2.0	0	43.07	AV	54	PASS

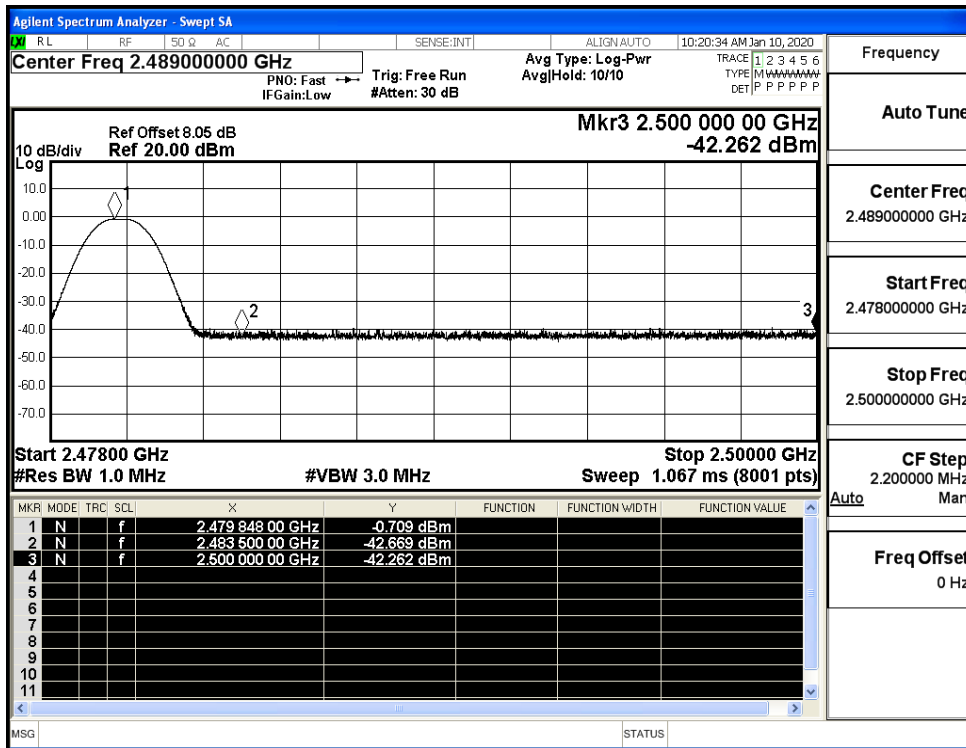
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



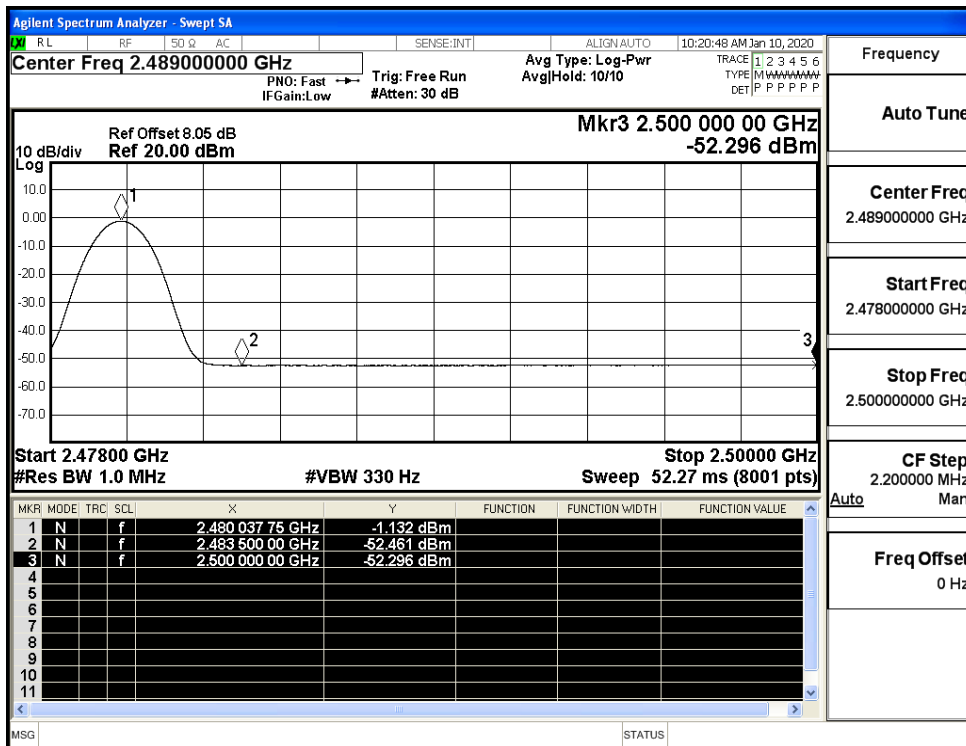
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



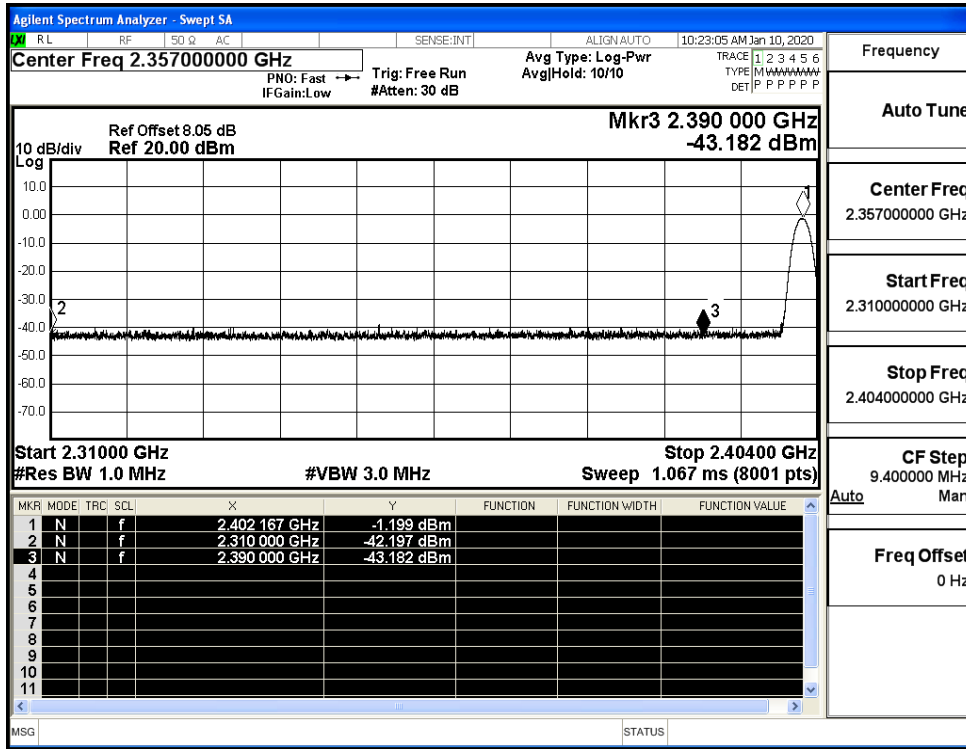
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



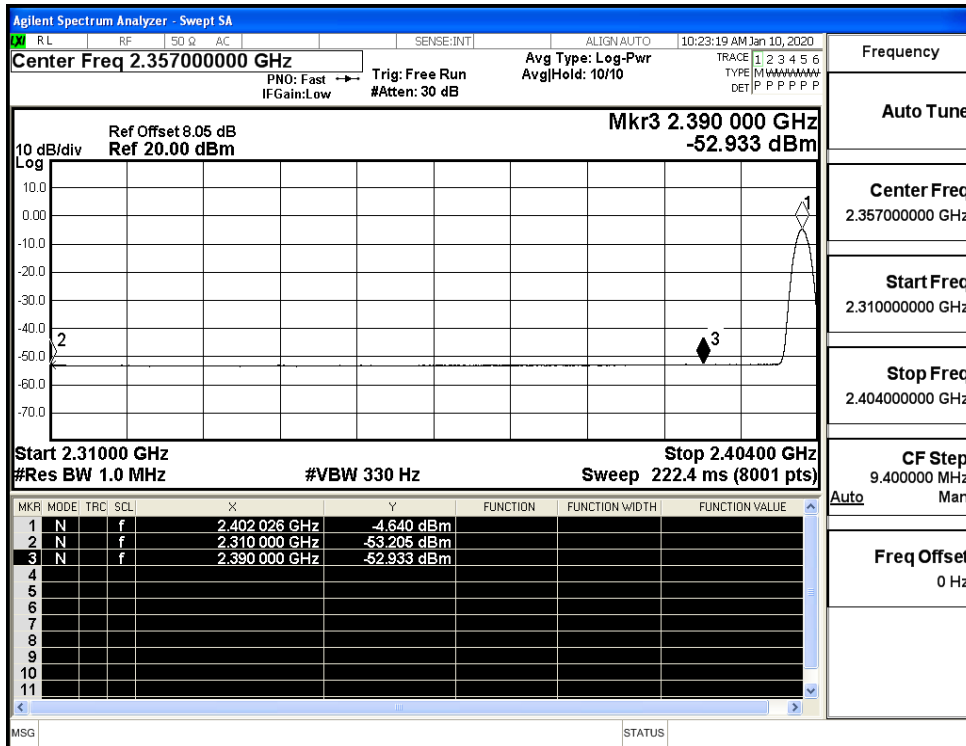
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



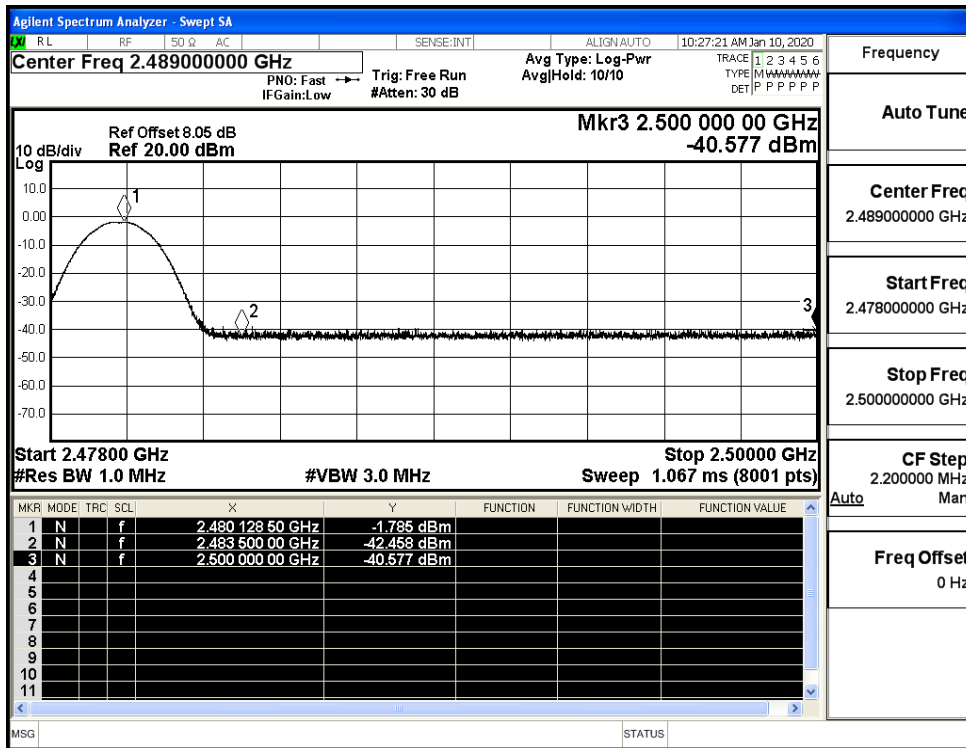
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)



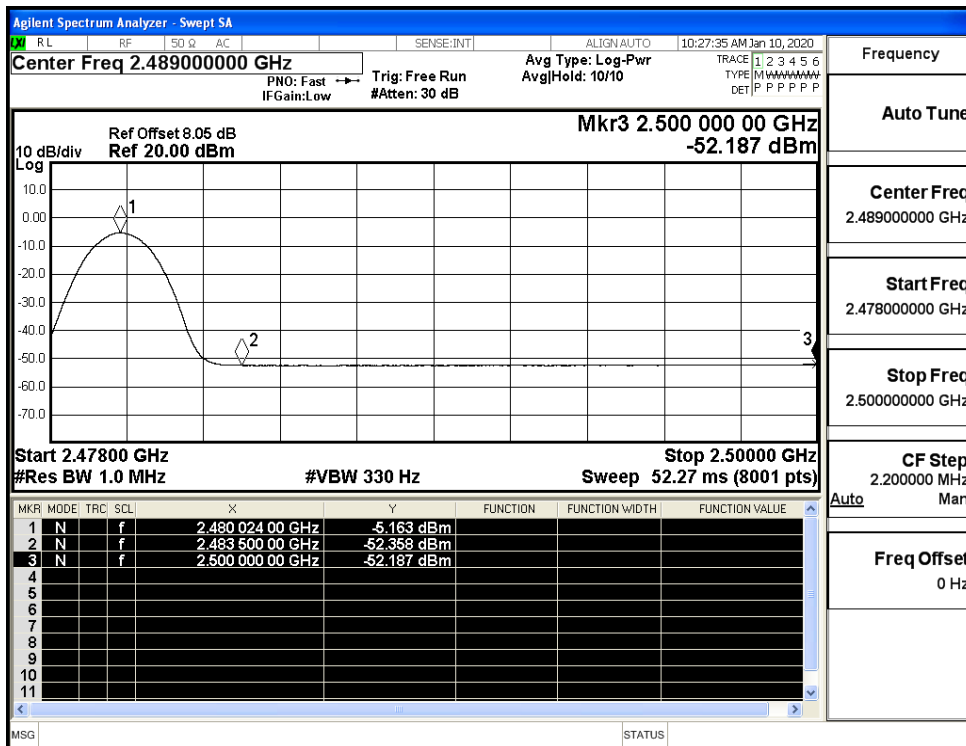
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)



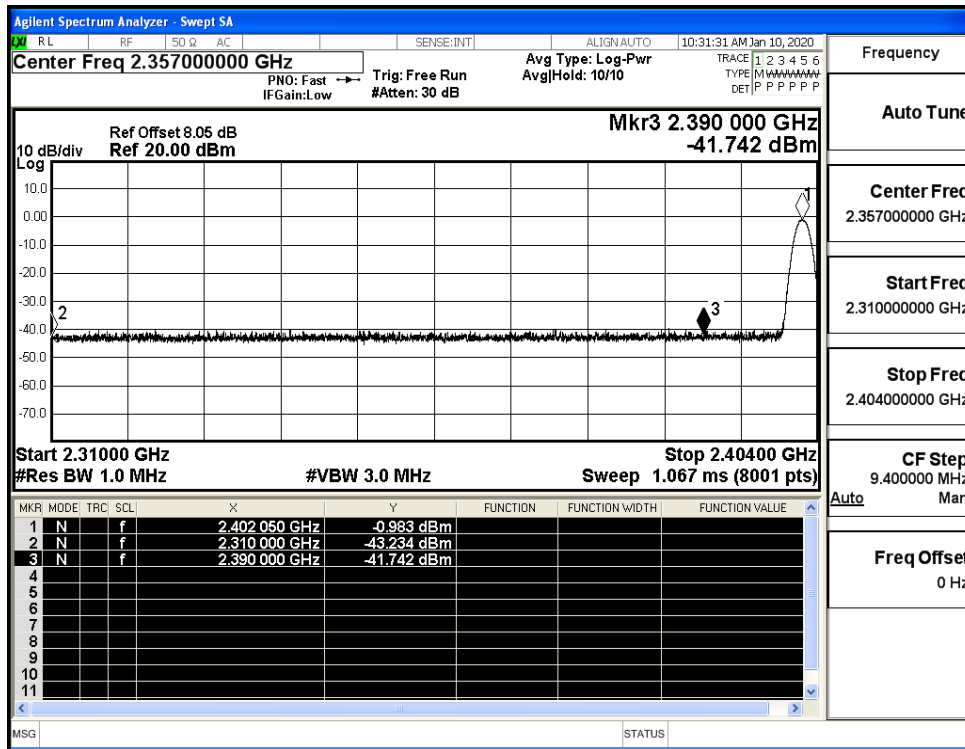
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



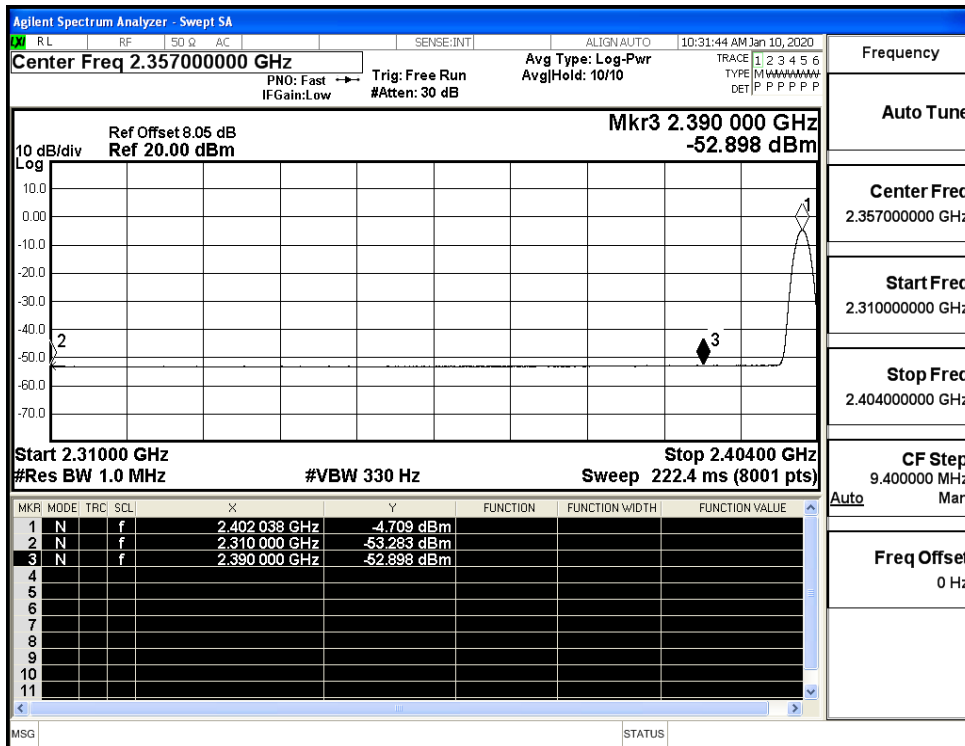
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



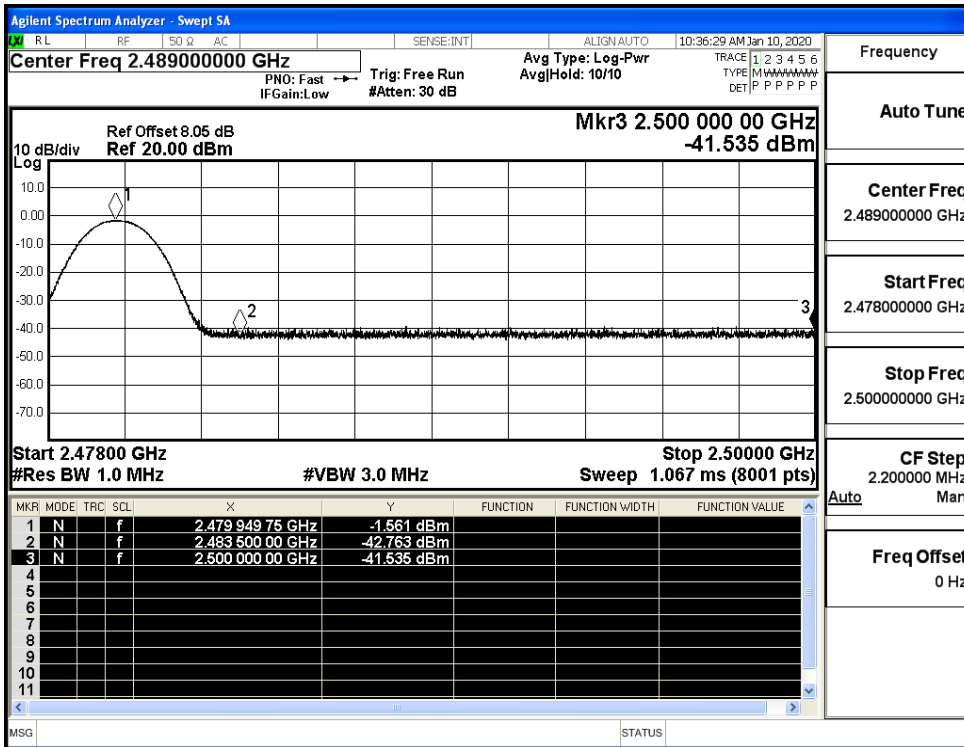
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

