

Appendix A

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

Product Name: 2G feature phone

Trade Mark: GOL

Test Model: Z1 Roma JR

Environmental Conditions

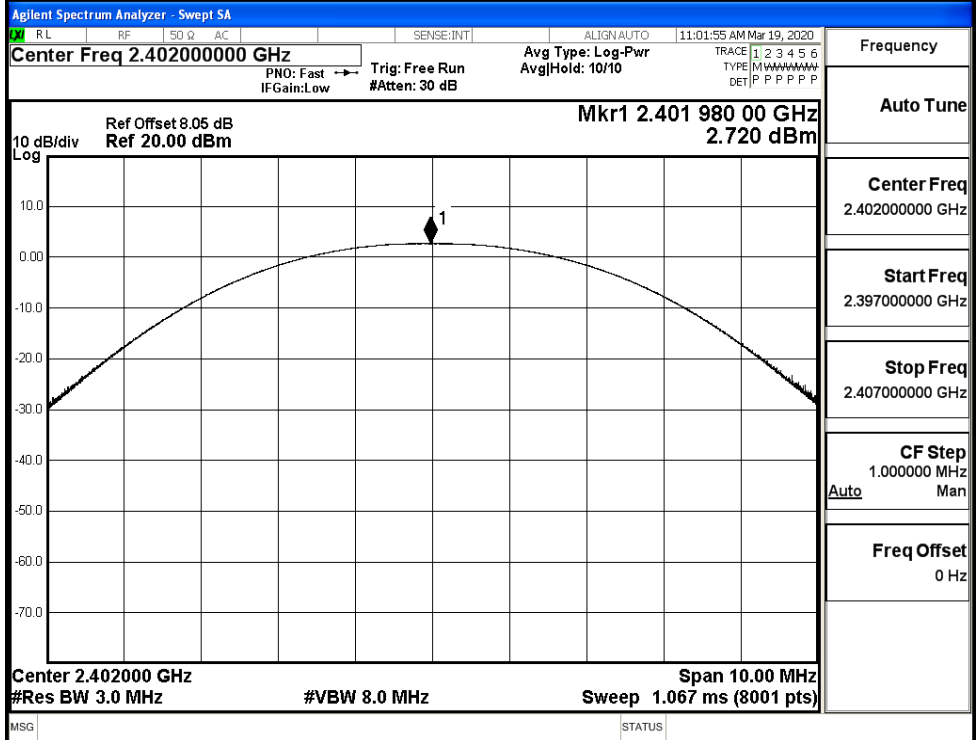
Temperature:	24.8 ° C
Relative Humidity:	54.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond.Lu
Supervised by:	Li Huan

A.1 Maxmum Conducted Peak Output Power

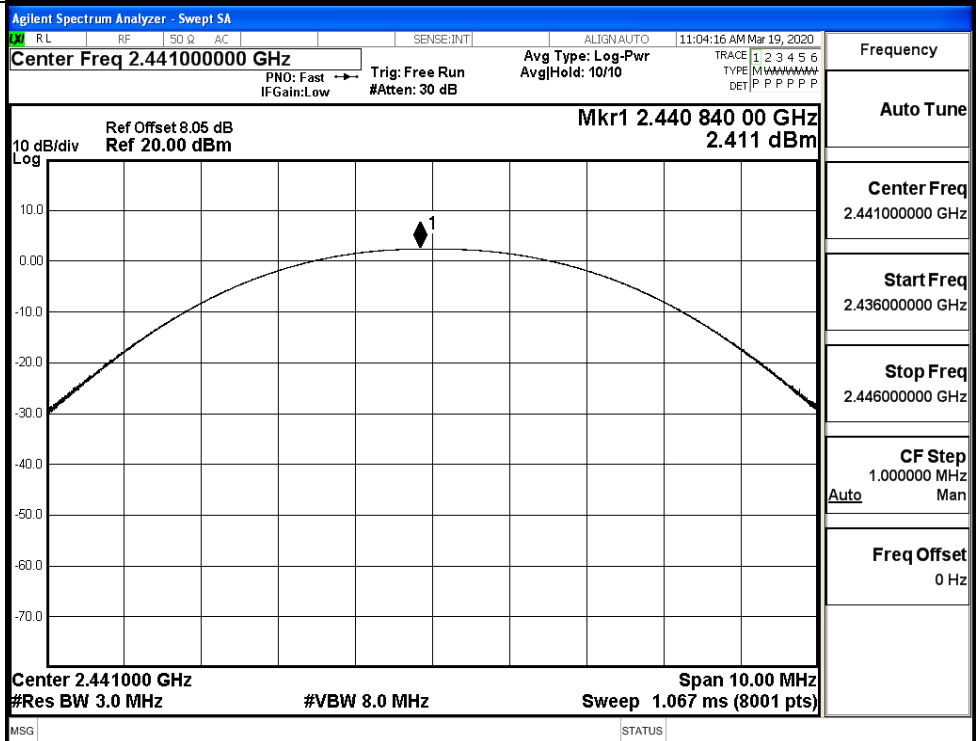
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.720	21	PASS
	MCH	2.411	21	PASS
	HCH	1.376	21	PASS
$\pi/4$ DQPSK	LCH	1.770	21	PASS
	MCH	1.555	21	PASS
	HCH	0.747	21	PASS
8DPSK	LCH	2.004	21	PASS
	MCH	1.780	21	PASS
	HCH	0.901	21	PASS

Test Graphs

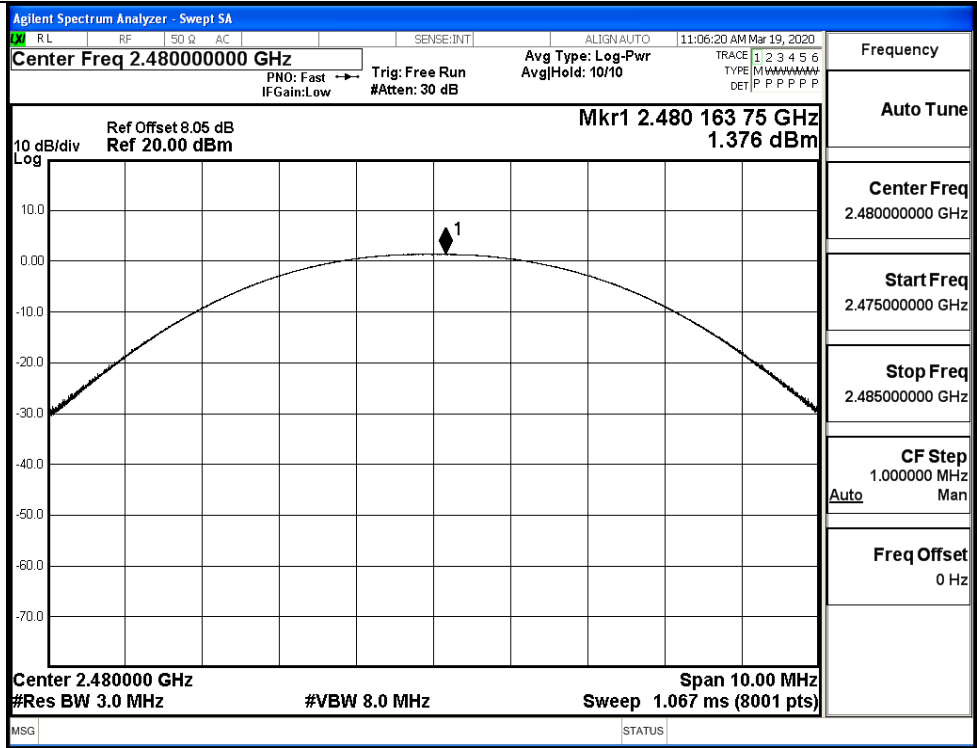
GFSK/LCH



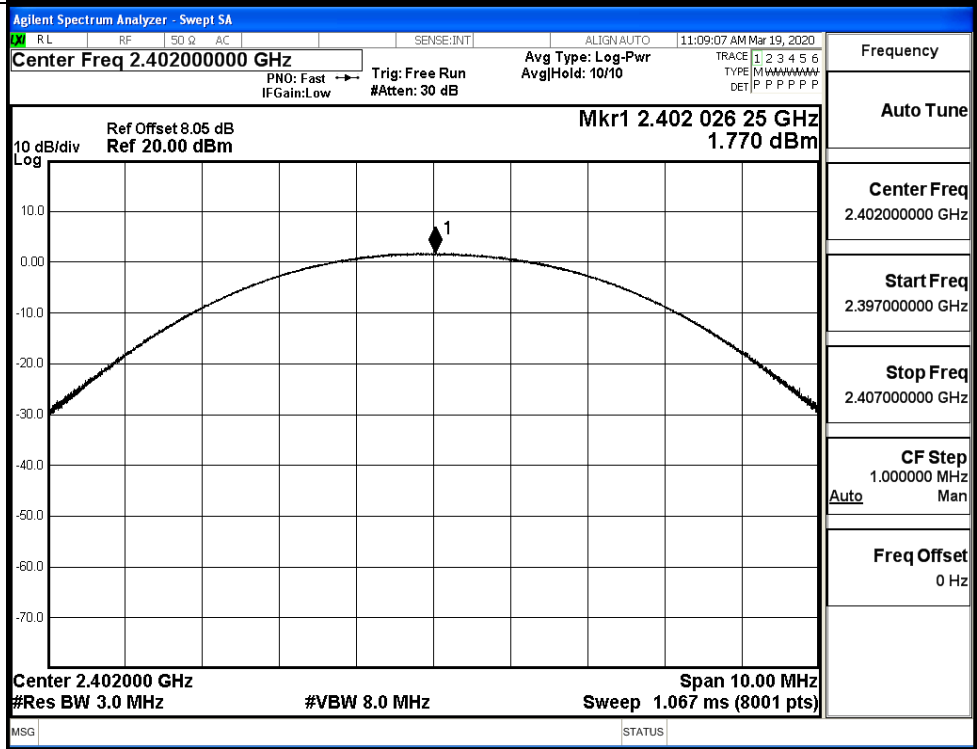
GFSK/MCH



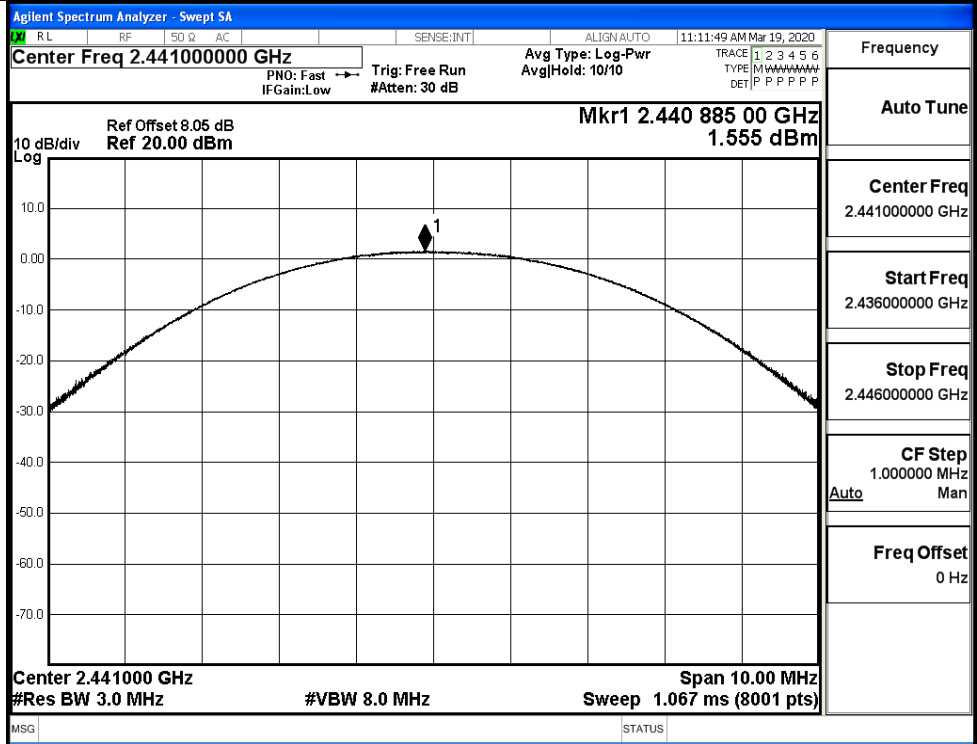
GFSK/HCH



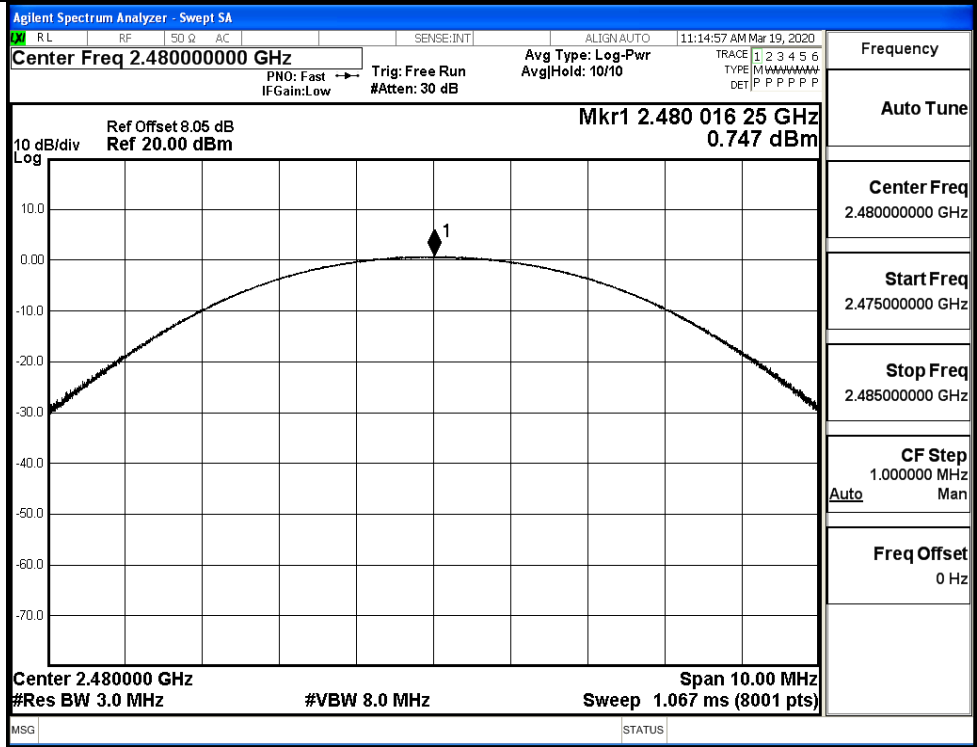
$\pi/4$ DQPSK/LCH



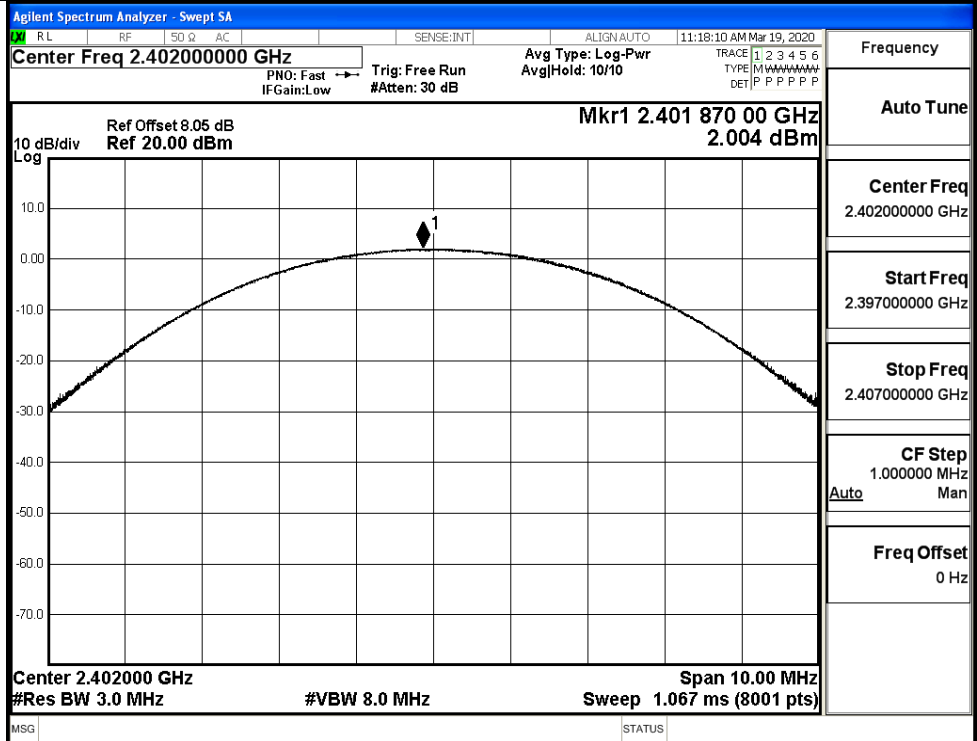
$\pi/4$ DQPSK/MCH



$\pi/4$ DQPSK/HCH

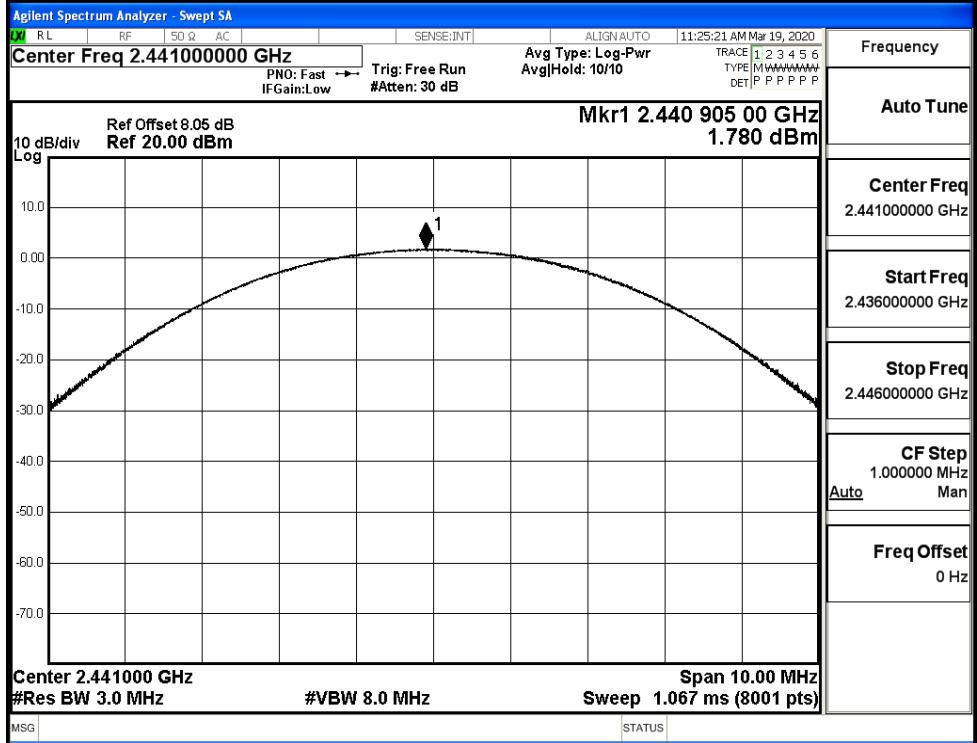


8DPSK/LCH



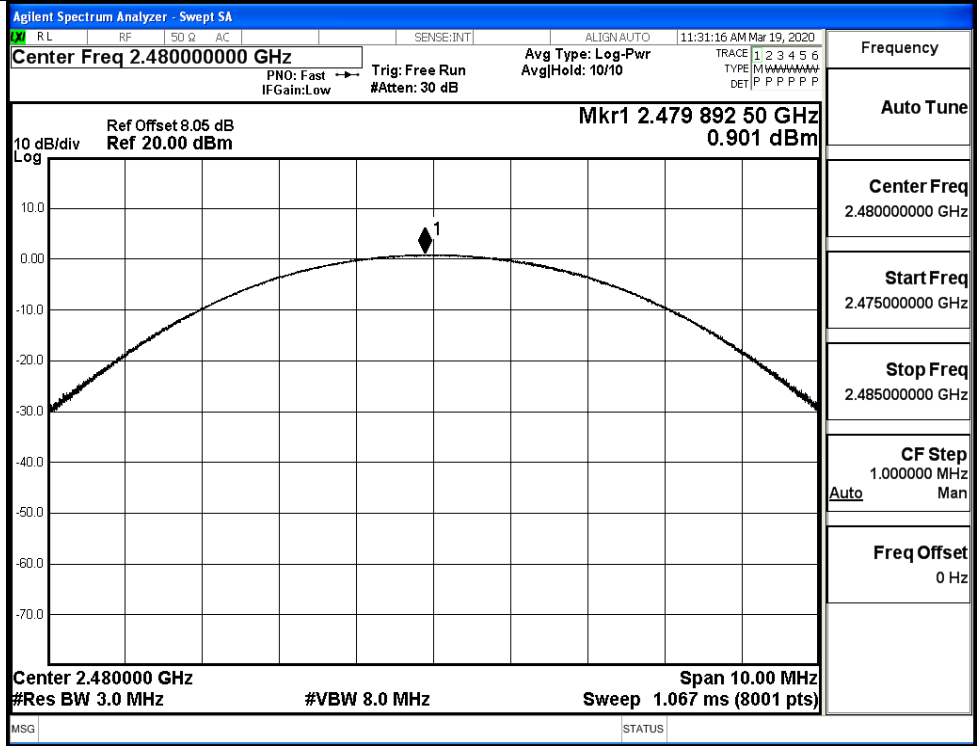
Frequency	2.402000000 GHz
Auto Tune	
Center Freq	2.402000000 GHz
Start Freq	2.397000000 GHz
Stop Freq	2.407000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

8DPSK/MCH



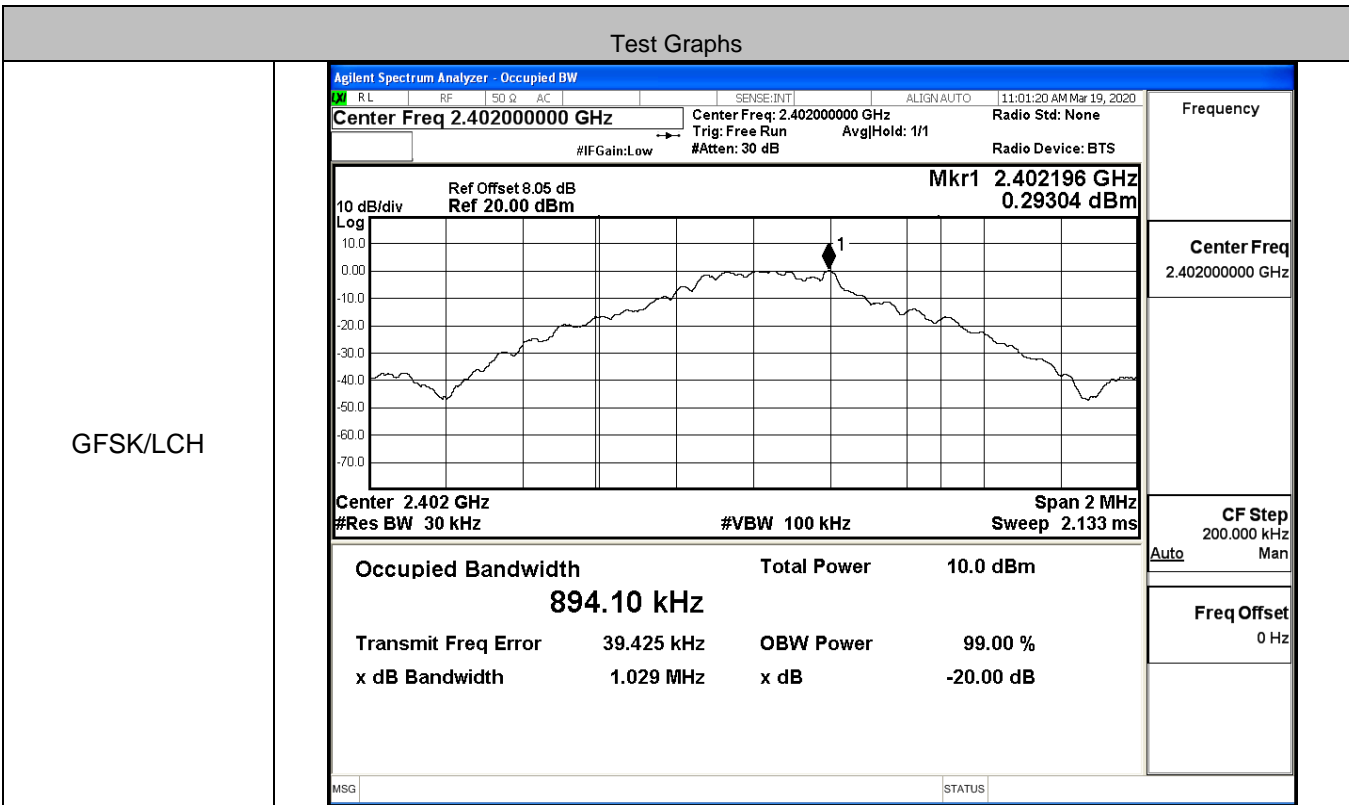
Frequency	2.441000000 GHz
Auto Tune	
Center Freq	2.441000000 GHz
Start Freq	2.436000000 GHz
Stop Freq	2.446000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

8DPSK/HCH

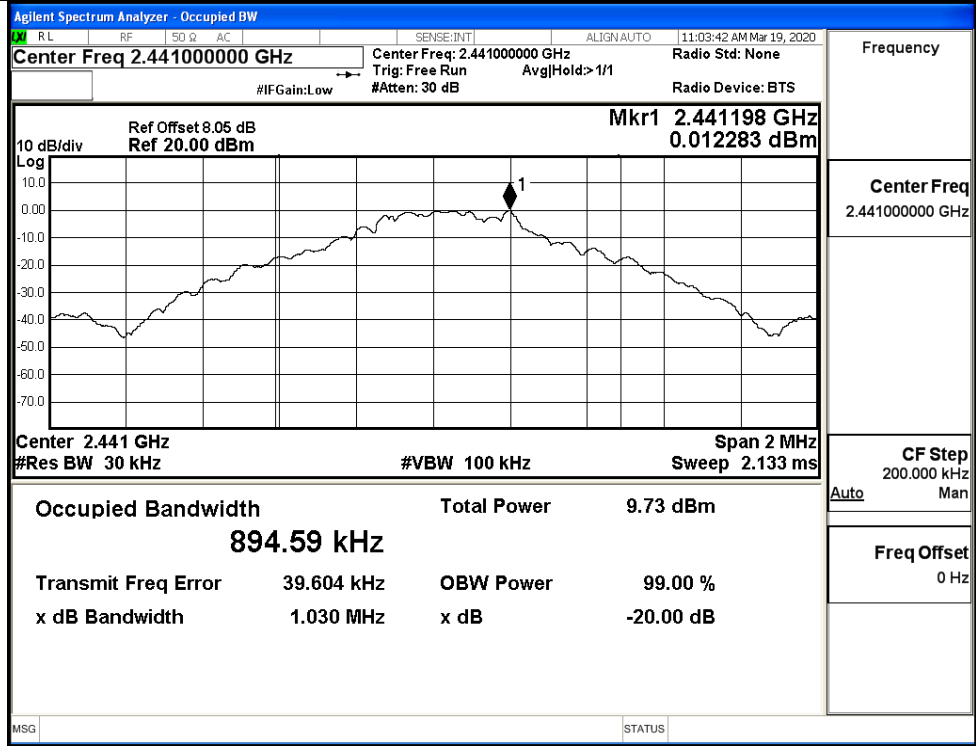


A.2 20dB Bandwidth

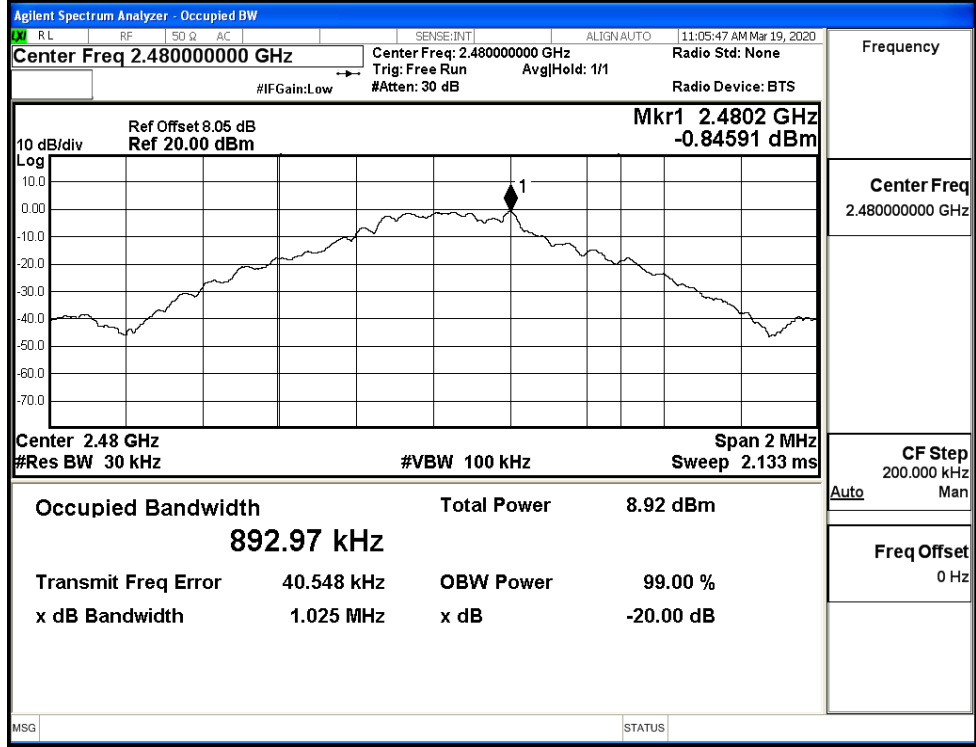
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.029	Not Specified	PASS
	MCH	1.030	Not Specified	PASS
	HCH	1.025	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.287	Not Specified	PASS
	MCH	1.289	Not Specified	PASS
	HCH	1.292	Not Specified	PASS
8DPSK	LCH	1.289	Not Specified	PASS
	MCH	1.294	Not Specified	PASS
	HCH	1.296	Not Specified	PASS



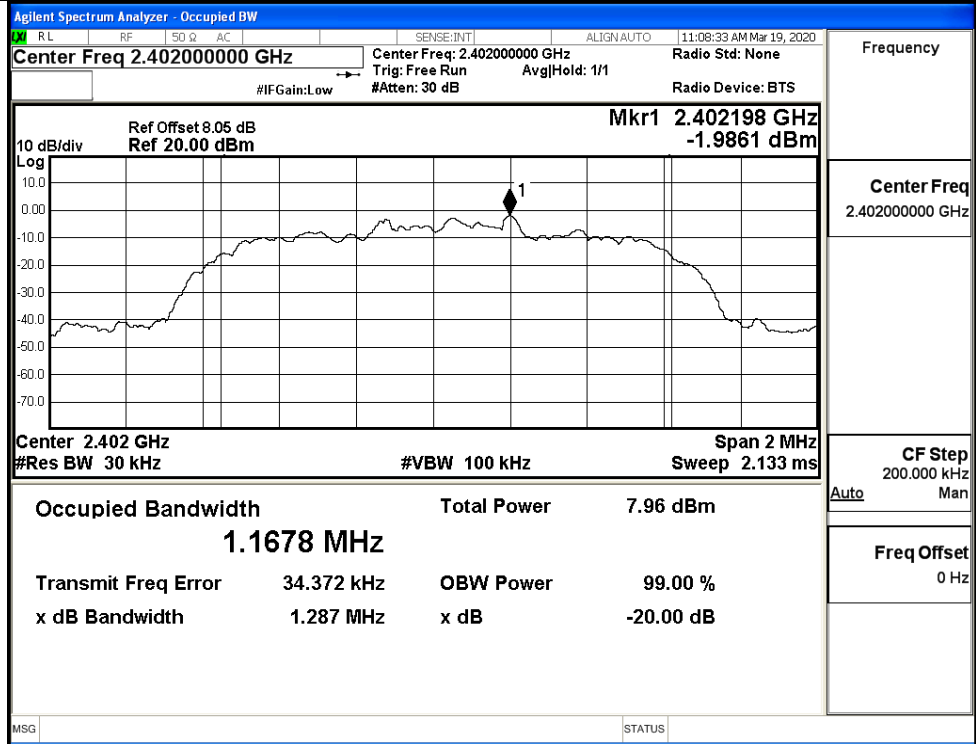
GFSK/MCH



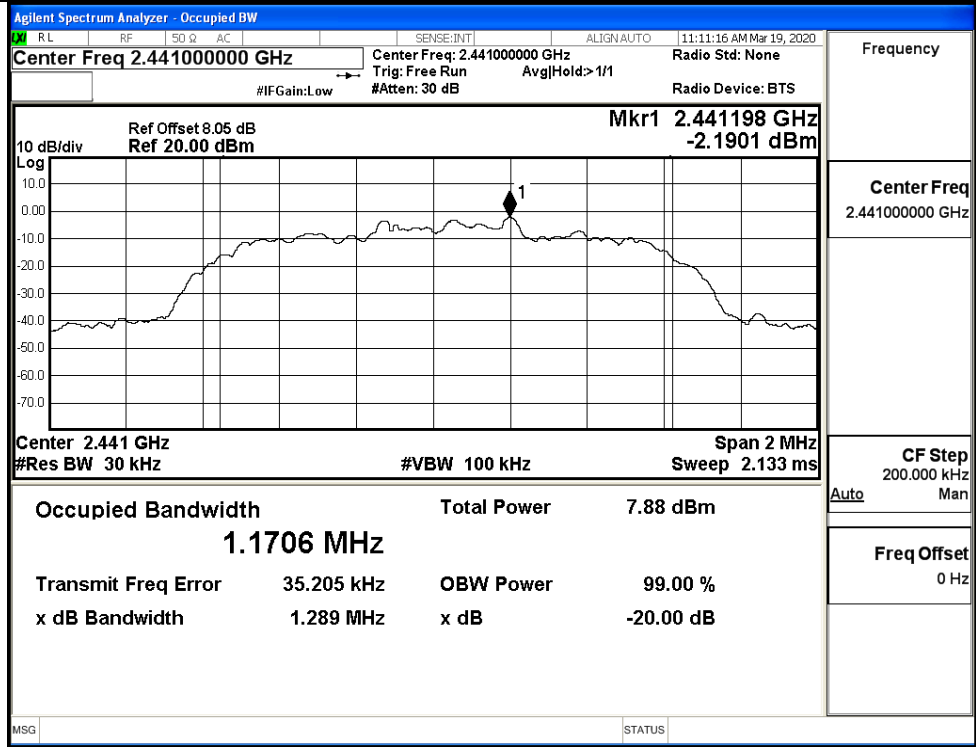
GFSK/HCH



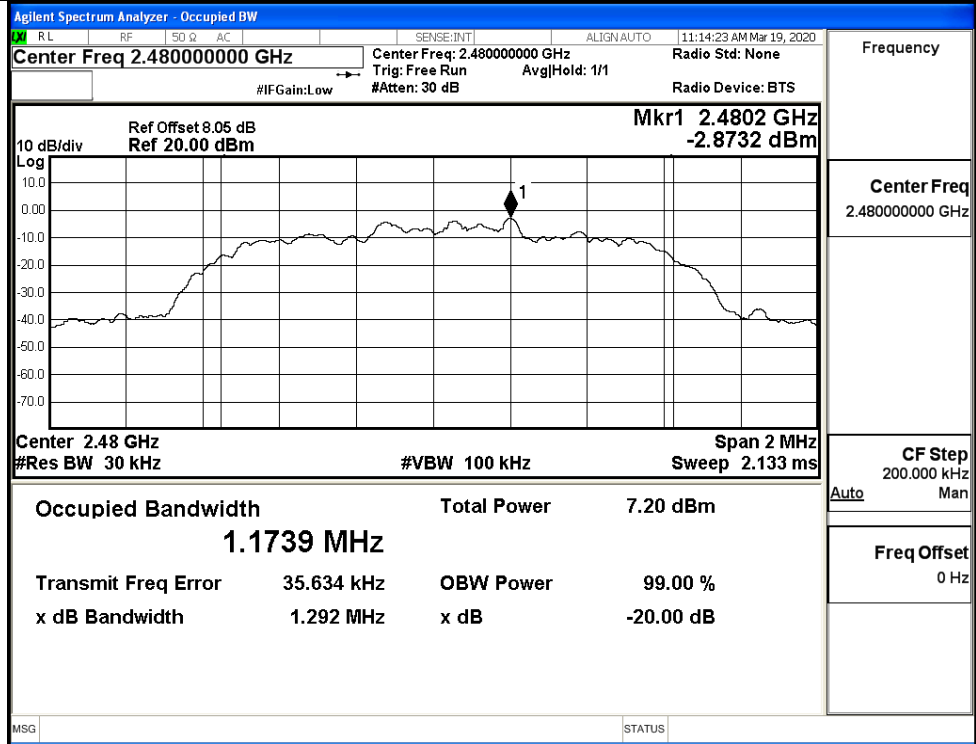
$\pi/4$ DQPSK/LCH



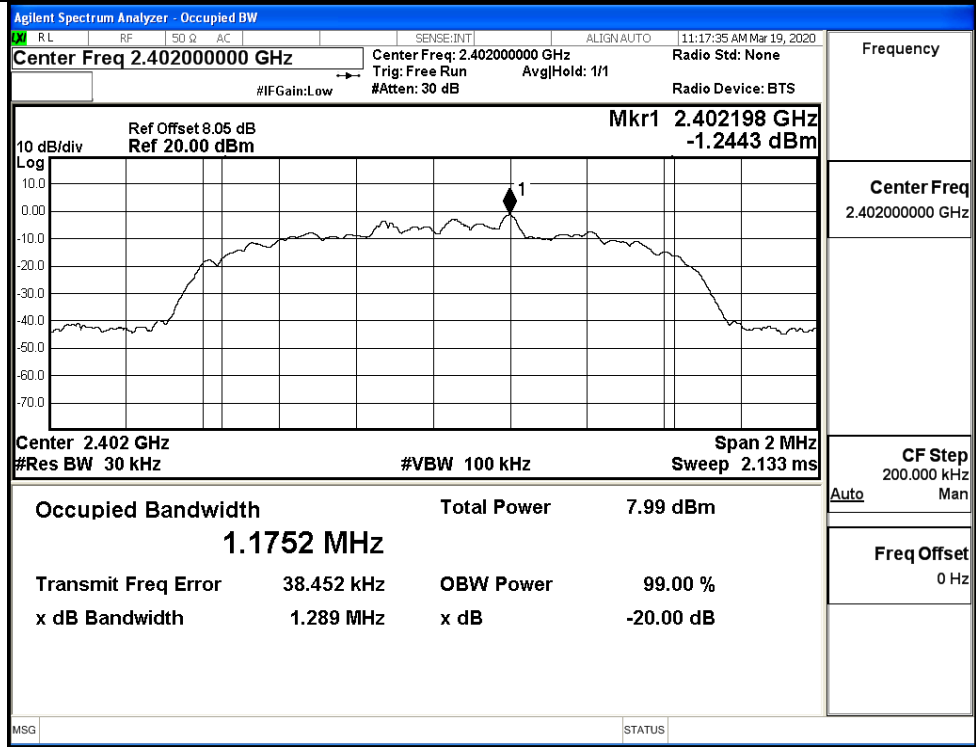
$\pi/4$ DQPSK/MCH



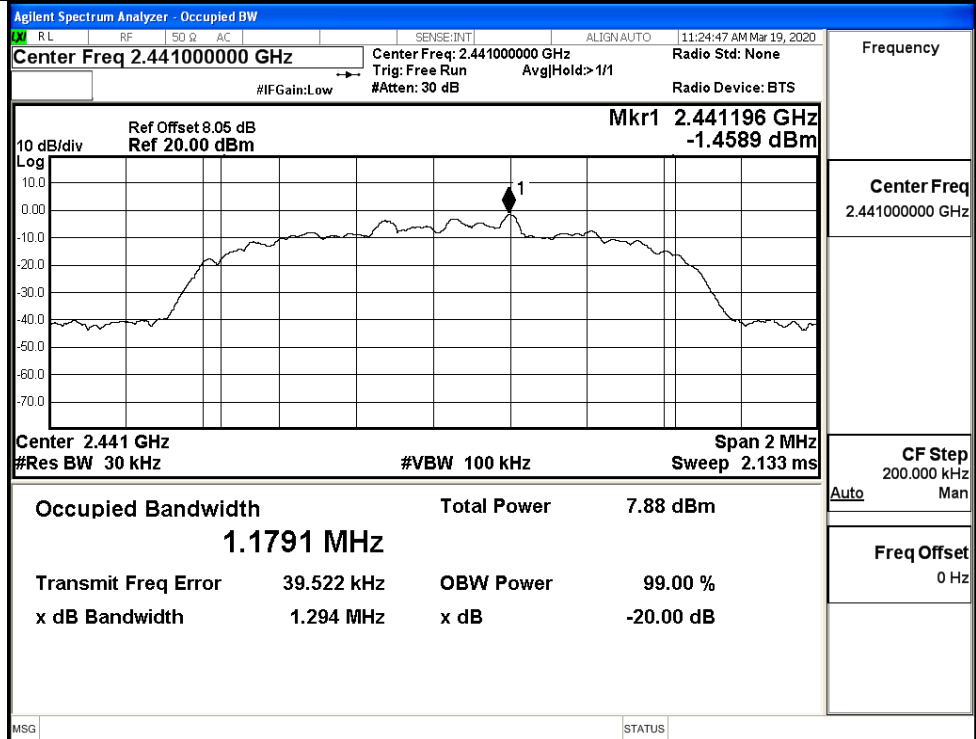
$\pi/4$ DQPSK/HCH



8DPSK/LCH



8DPSK/MCH



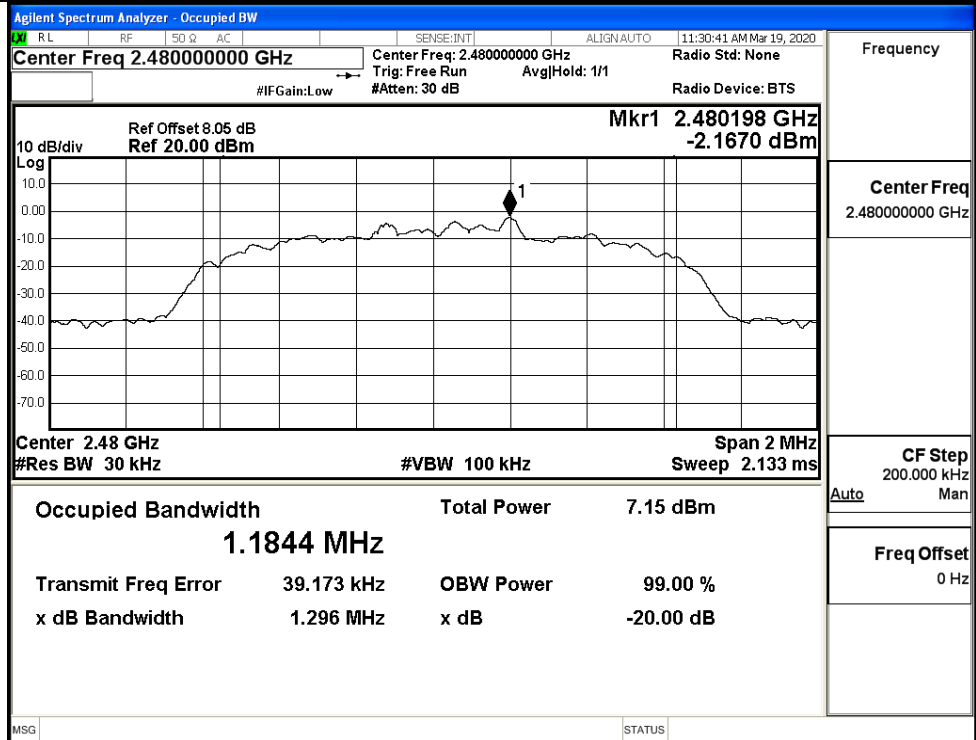
Frequency

Center Freq
2.441000000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

8DPSK/HCH



Frequency

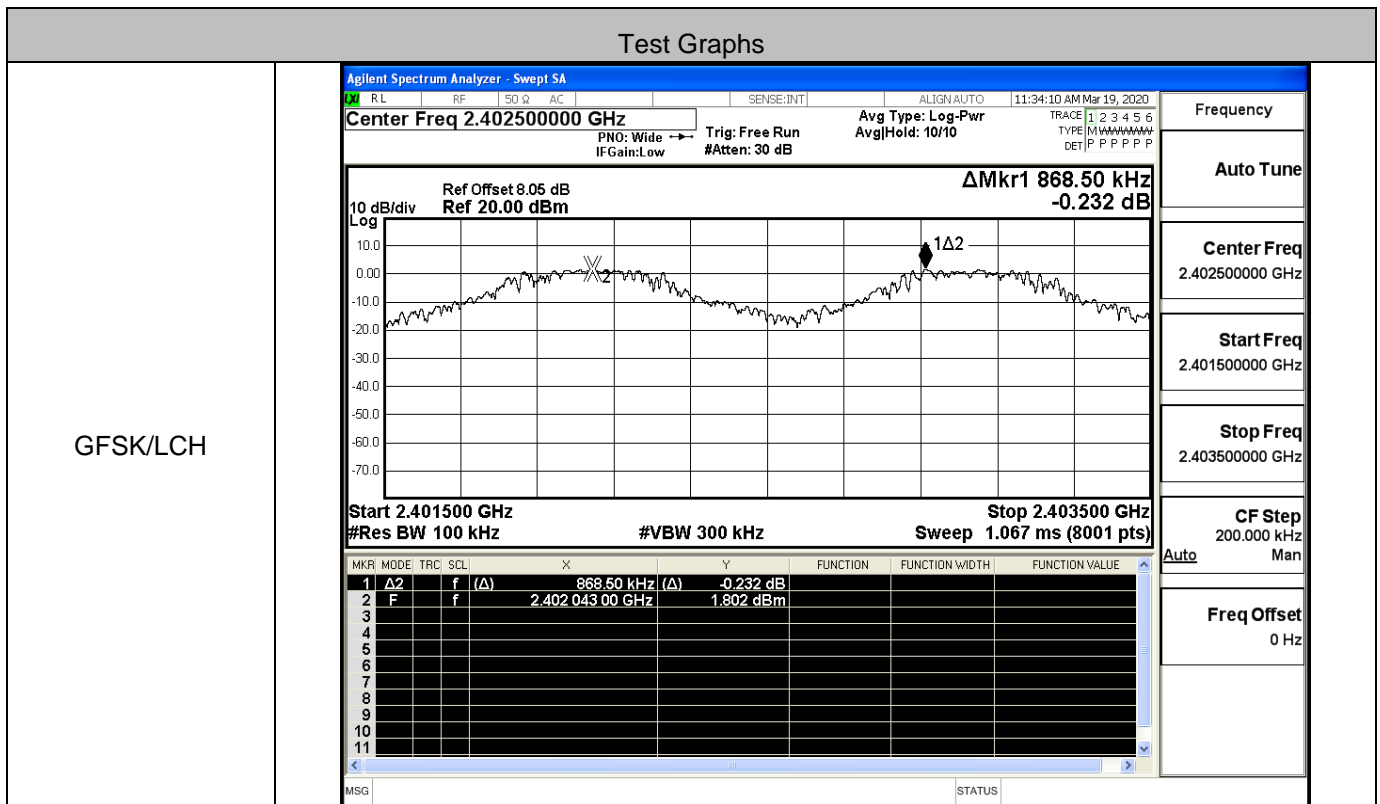
Center Freq
2.480000000 GHz

CF Step
200.000 kHz
Auto Man

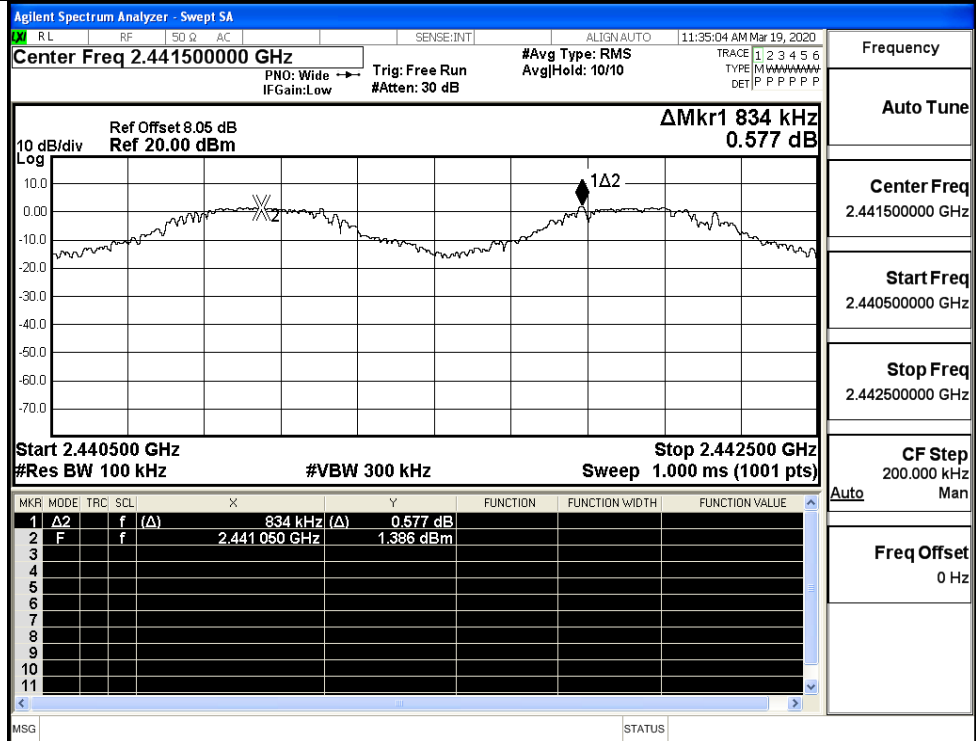
Freq Offset
0 Hz

A.3 Carrier Frequency Separation

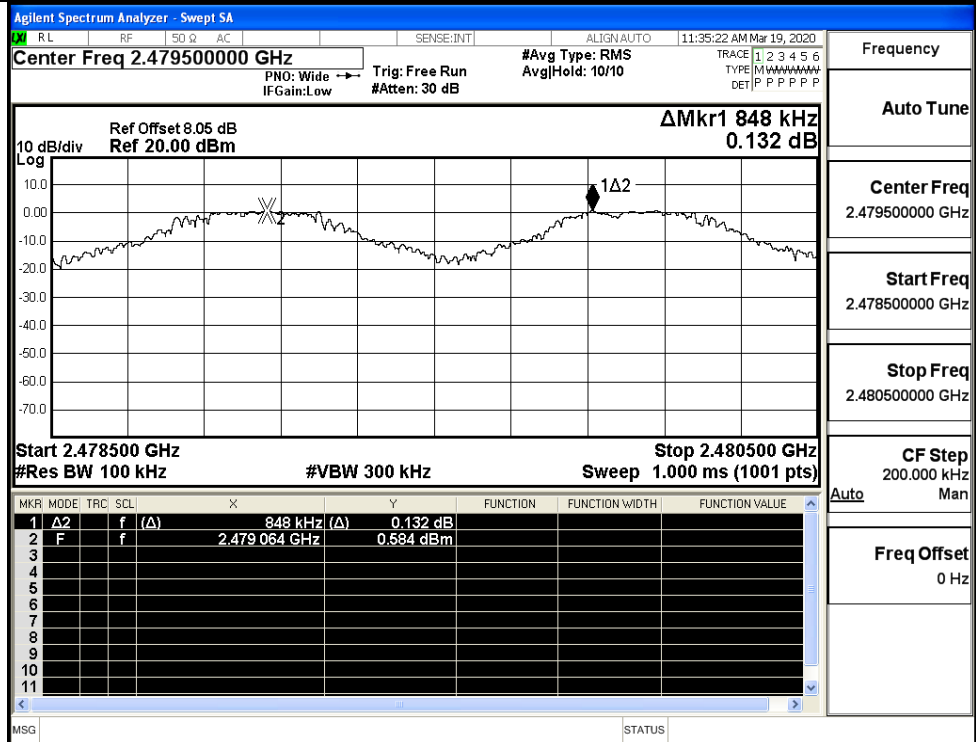
Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.869	0.687	PASS
	MCH	0.834	0.687	PASS
	HCH	0.848	0.687	PASS
π/4DQPSK	LCH	1.194	0.861	PASS
	MCH	1.004	0.861	PASS
	HCH	1.130	0.861	PASS
8DPSK	LCH	1.104	0.864	PASS
	MCH	1.084	0.864	PASS
	HCH	0.990	0.864	PASS



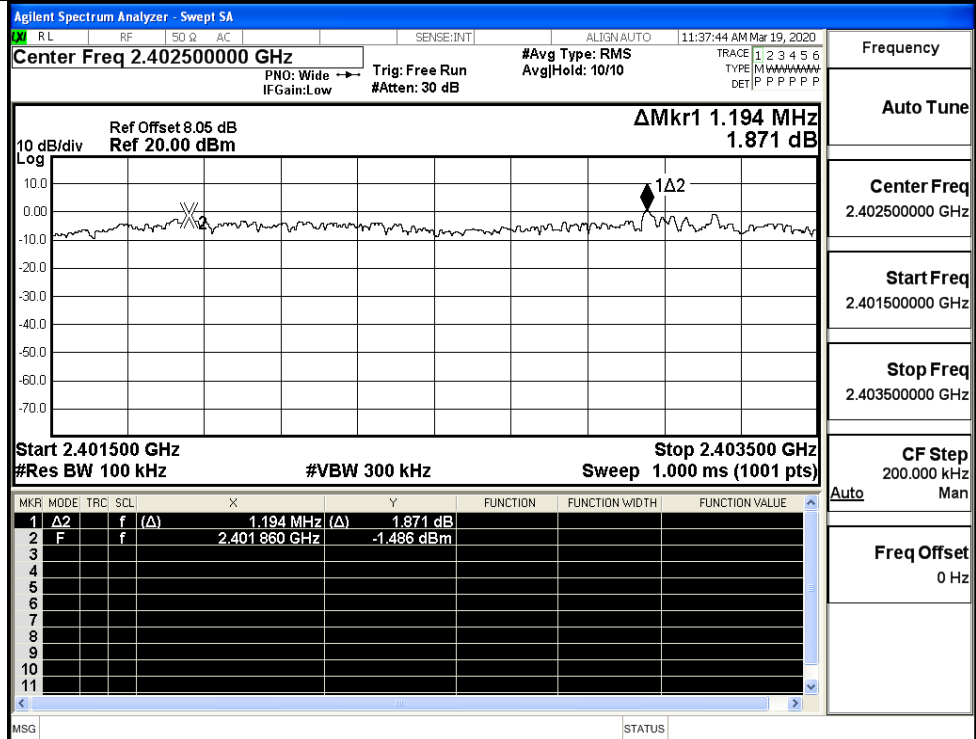
GFSK/MCH



GFSK/HCH

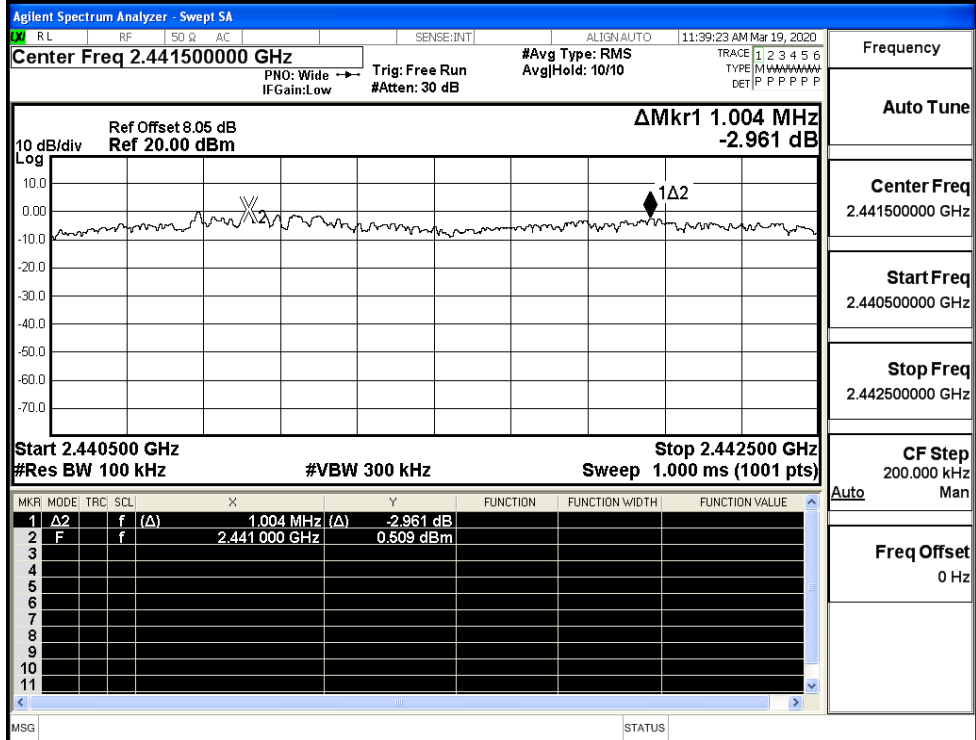


$\pi/4$ DQPSK/LCH



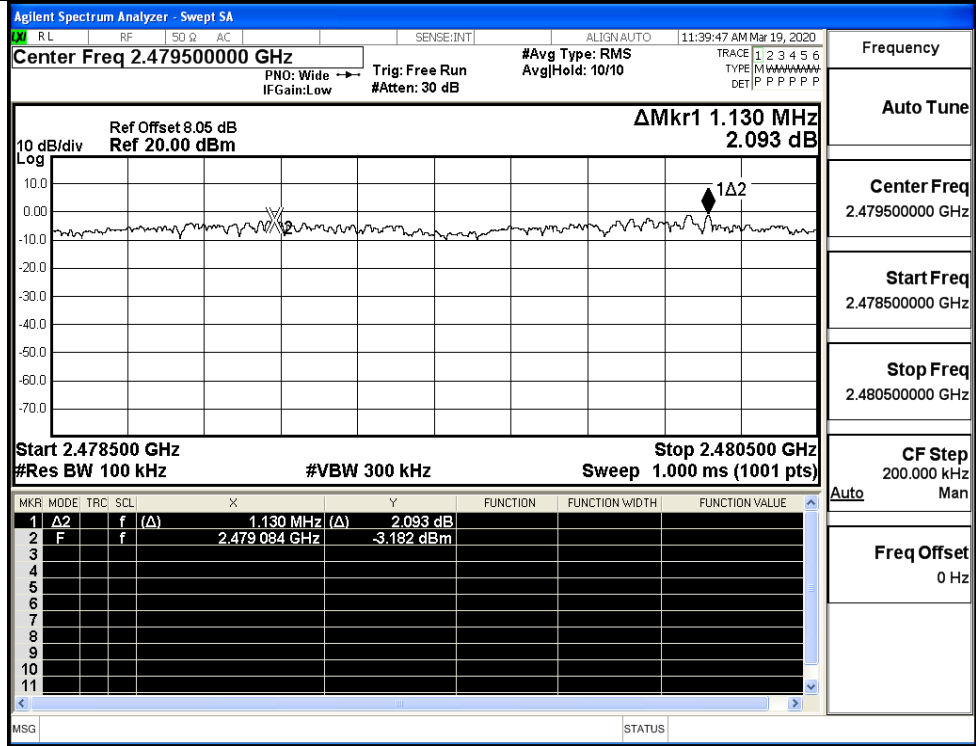
Frequency
Auto Tune
Center Freq
2.40250000 GHz
Start Freq
2.40150000 GHz
Stop Freq
2.40350000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

$\pi/4$ DQPSK/MCH

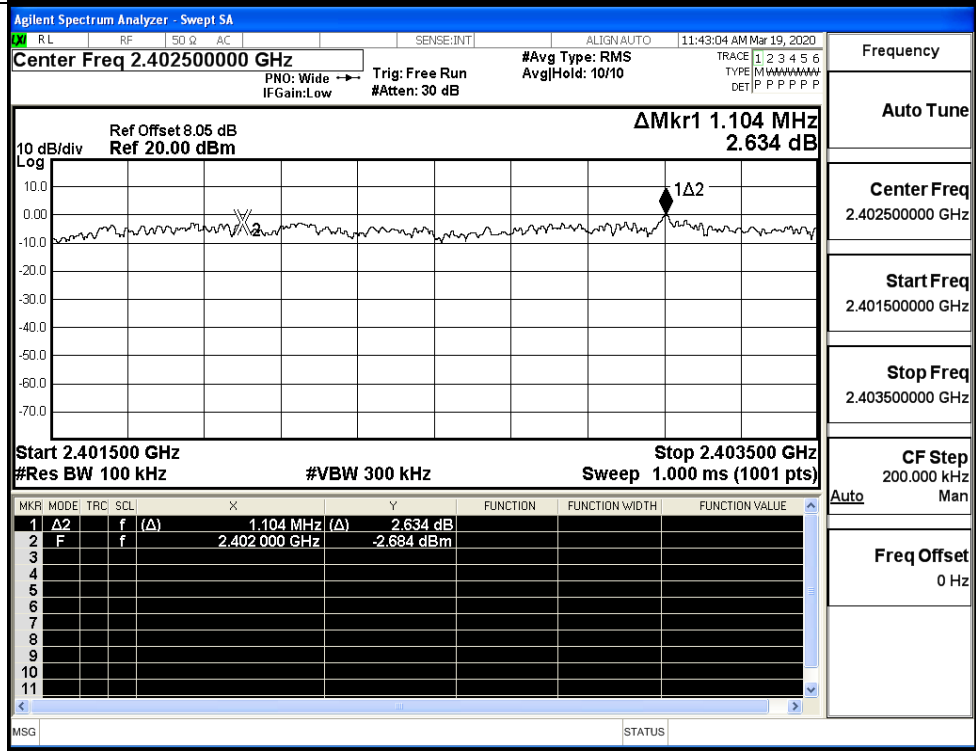


Frequency
Auto Tune
Center Freq
2.44150000 GHz
Start Freq
2.44050000 GHz
Stop Freq
2.44250000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

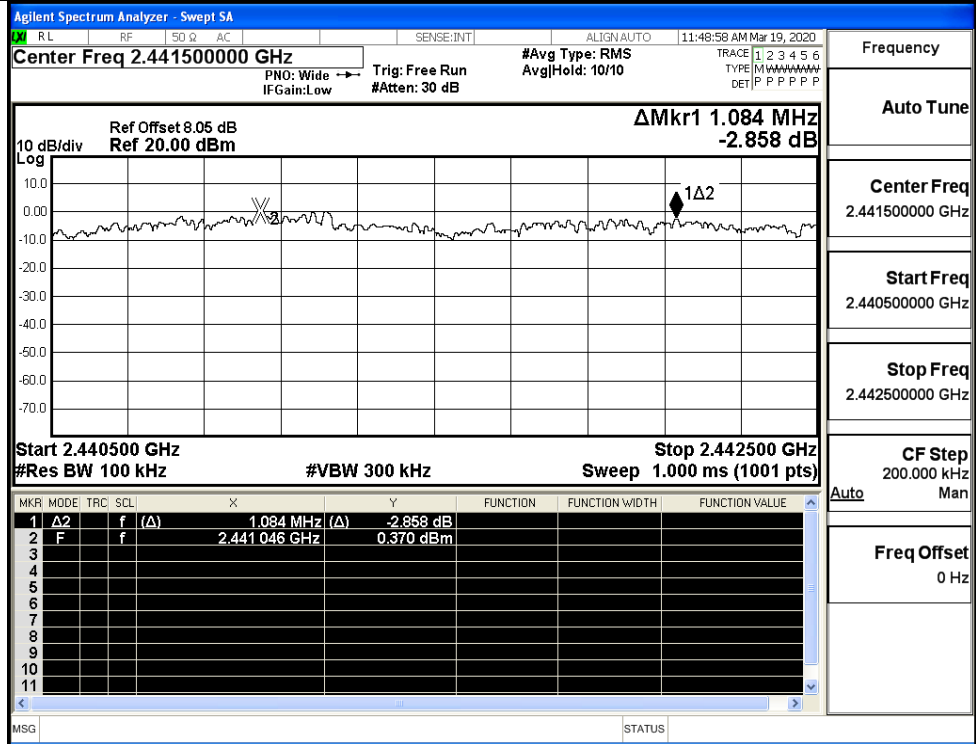
π/4DQPSK/HCH



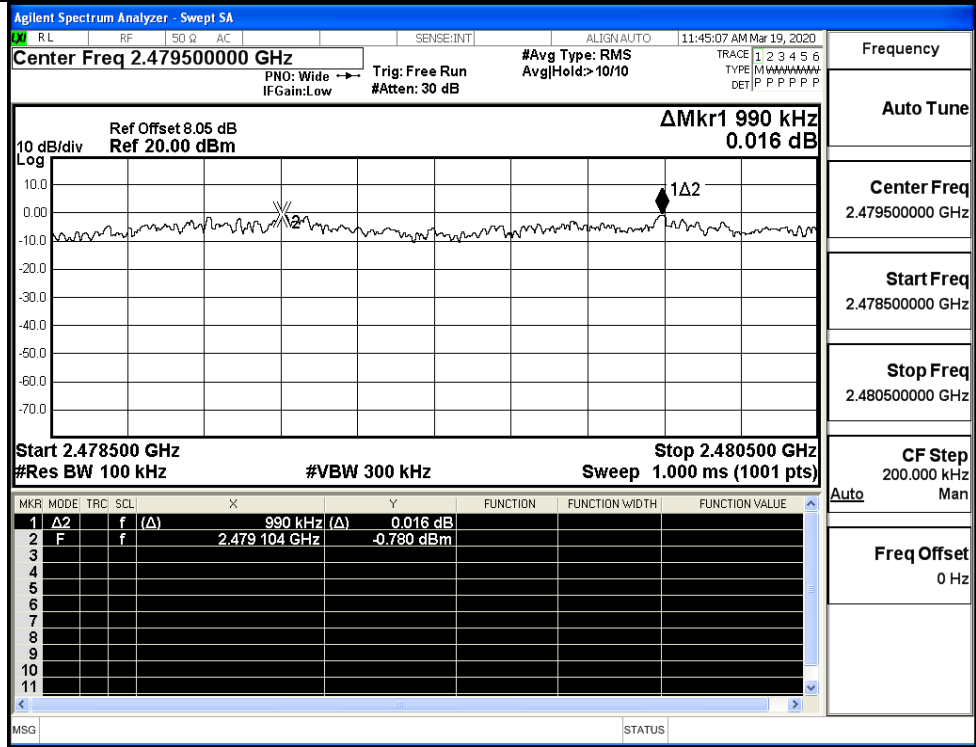
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH



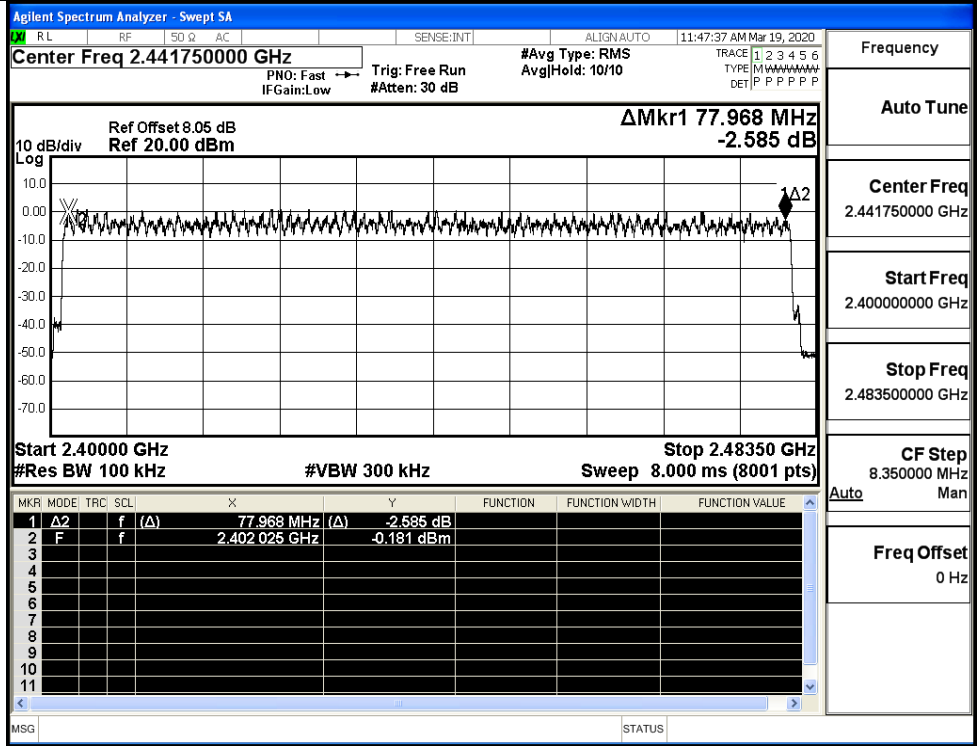
A.4 Hopping Channel Number

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

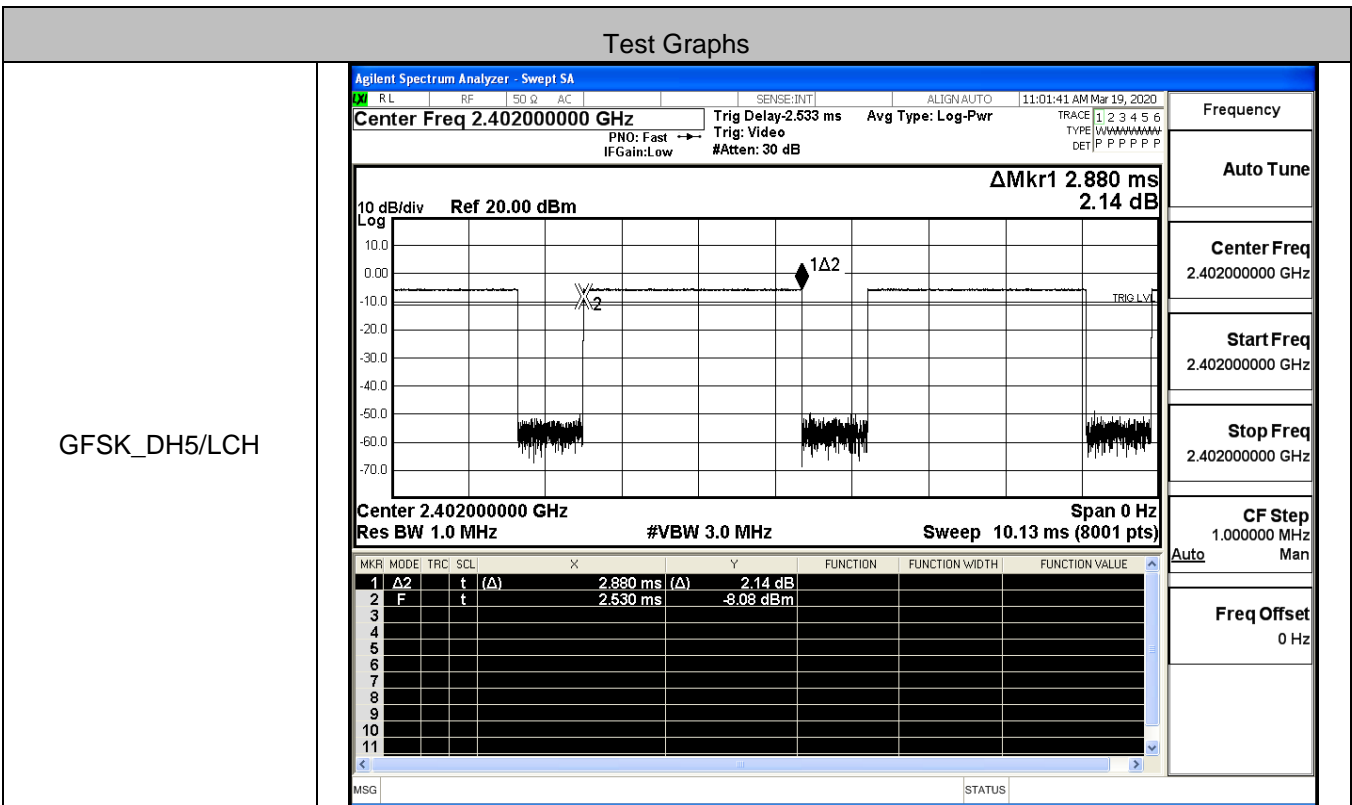
<p>GFSK/Hop</p>	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.441750000 GHz</p> <p>Ref Offset 8.05 dB Ref 20.00 dBm</p> <p>ΔMkr1 78.062 MHz -0.891 dBm</p> <p>Start 2.40000 GHz Stop 2.48350 GHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 8.000 ms (8001 pts)</p> <table border="1"> <thead> <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>78.062 MHz (Δ)</td> <td>-0.891 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td></td> <td>2.402 129 GHz</td> <td>1.884 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)	78.062 MHz (Δ)	-0.891 dBm				2	F	f		2.402 129 GHz	1.884 dBm				<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.441750000 GHz</p> <p>Start Freq 2.400000000 GHz</p> <p>Stop Freq 2.483500000 GHz</p> <p>CF Step 8.350000 MHz Man</p> <p>Freq Offset 0 Hz</p>
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																					
1	Δ 2	f	(Δ)	78.062 MHz (Δ)	-0.891 dBm																								
2	F	f		2.402 129 GHz	1.884 dBm																								
<p>$\pi/4$DQPSK/Hop</p>	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.441750000 GHz</p> <p>Ref Offset 8.05 dB Ref 20.00 dBm</p> <p>ΔMkr1 77.718 MHz -0.496 dBm</p> <p>Start 2.40000 GHz Stop 2.48350 GHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 8.000 ms (8001 pts)</p> <table border="1"> <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>77.718 MHz (Δ)</td> <td>-0.496 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td></td> <td>2.402 161 GHz</td> <td>-2.801 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)	77.718 MHz (Δ)	-0.496 dBm				2	F	f		2.402 161 GHz	-2.801 dBm				<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.441750000 GHz</p> <p>Start Freq 2.400000000 GHz</p> <p>Stop Freq 2.483500000 GHz</p> <p>CF Step 8.350000 MHz Man</p> <p>Freq Offset 0 Hz</p>
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																					
1	Δ 2	f	(Δ)	77.718 MHz (Δ)	-0.496 dBm																								
2	F	f		2.402 161 GHz	-2.801 dBm																								

8DPSK/Hop

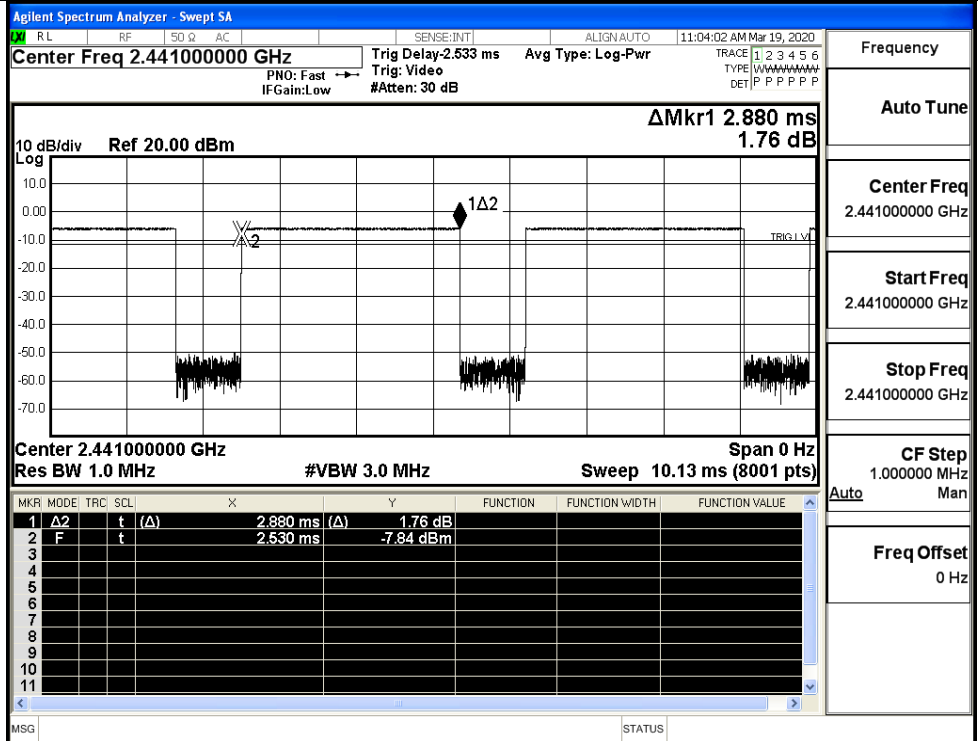


A.5 Dwell Time

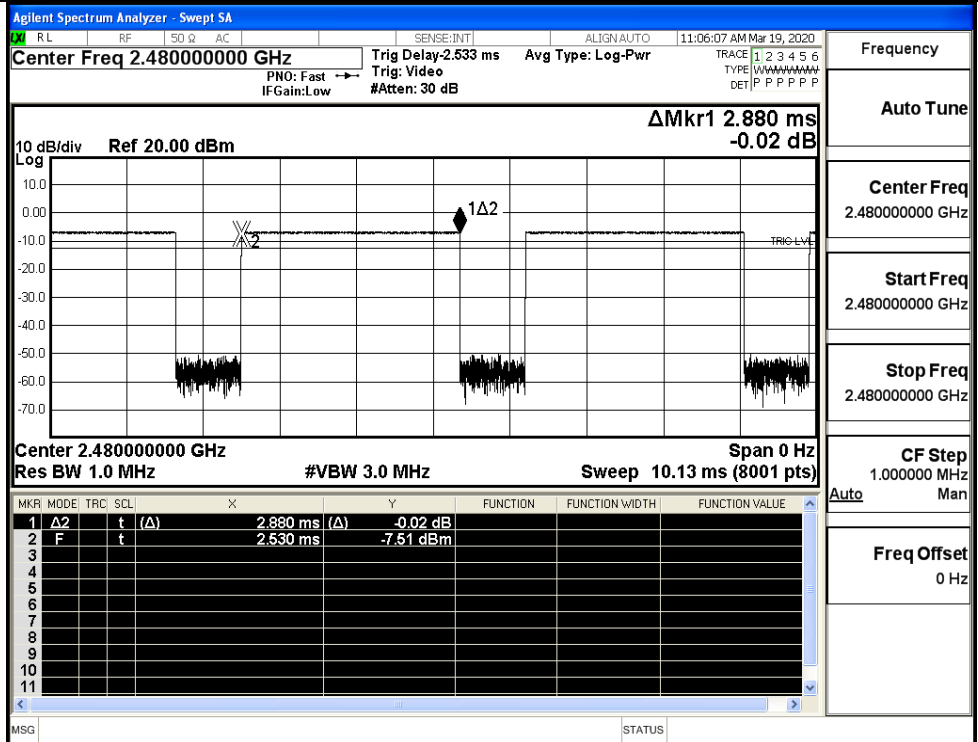
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
π/4DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7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



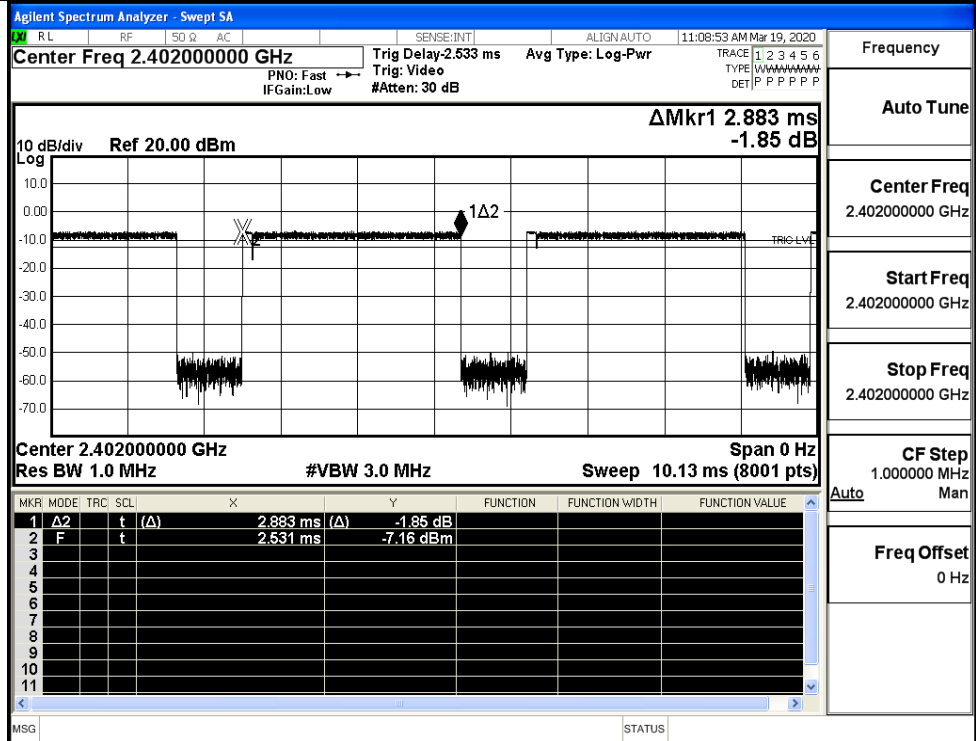
GFSK_DH5/MCH



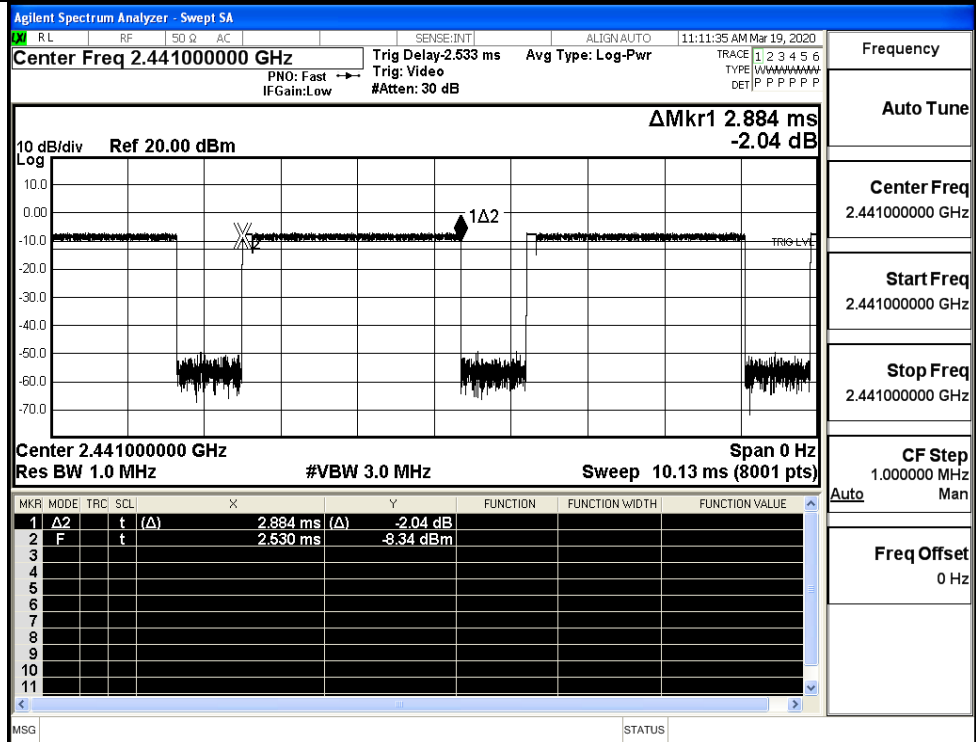
GFSK_DH5/HCH



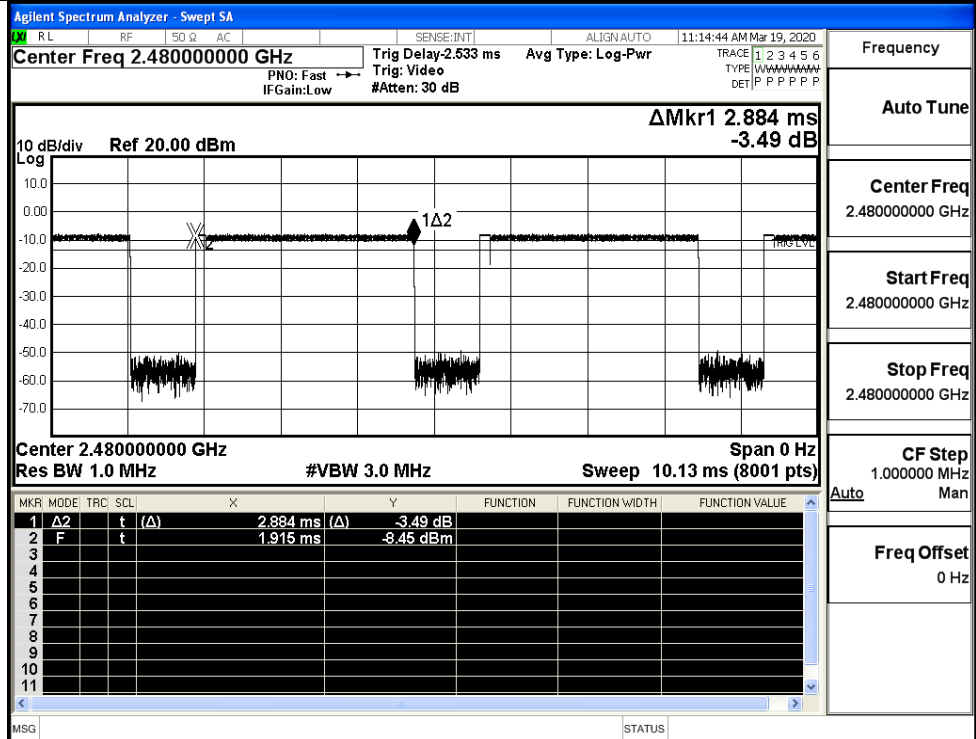
$\pi/4$ DQPSK
_2DH5/LCH



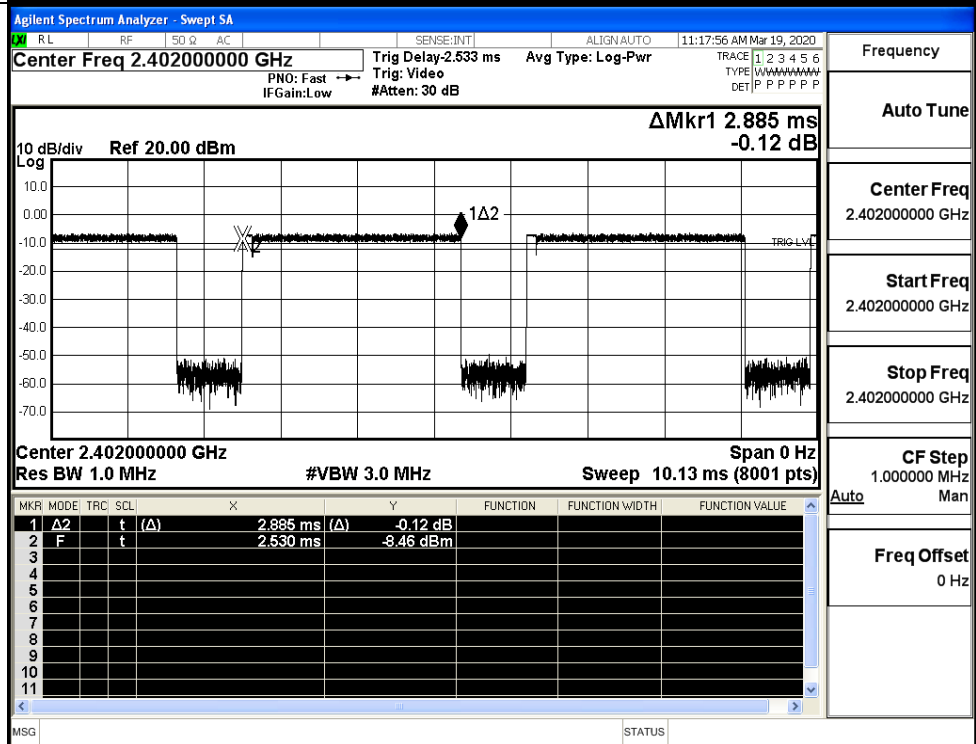
$\pi/4$ DQPSK
_2DH5/MCH



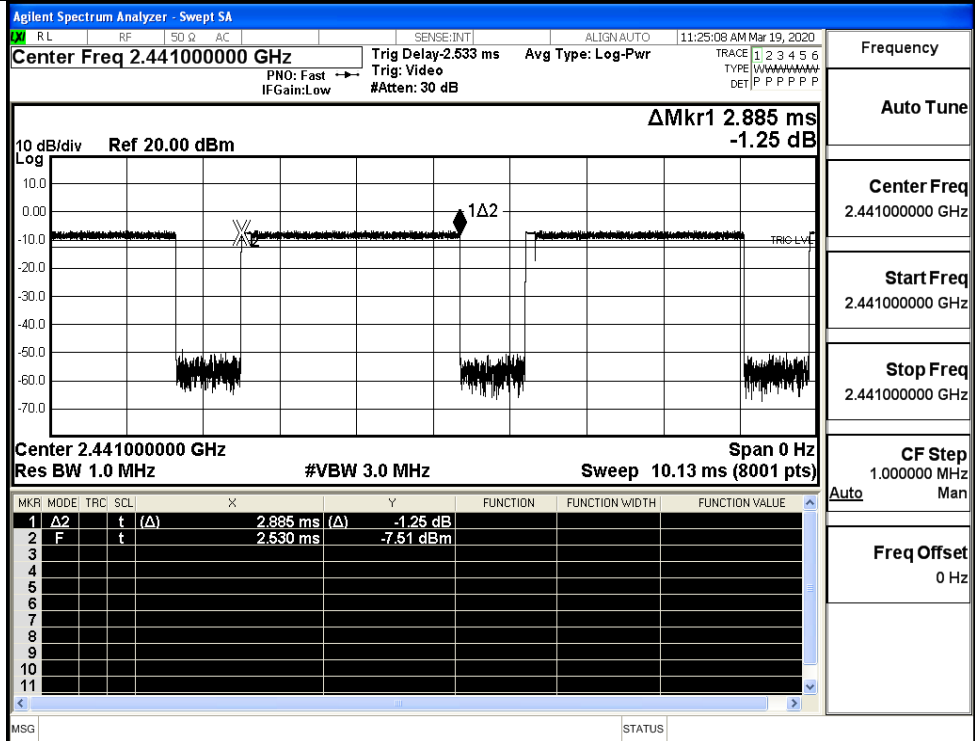
$\pi/4$ DQPSK
_2DH5/HCH



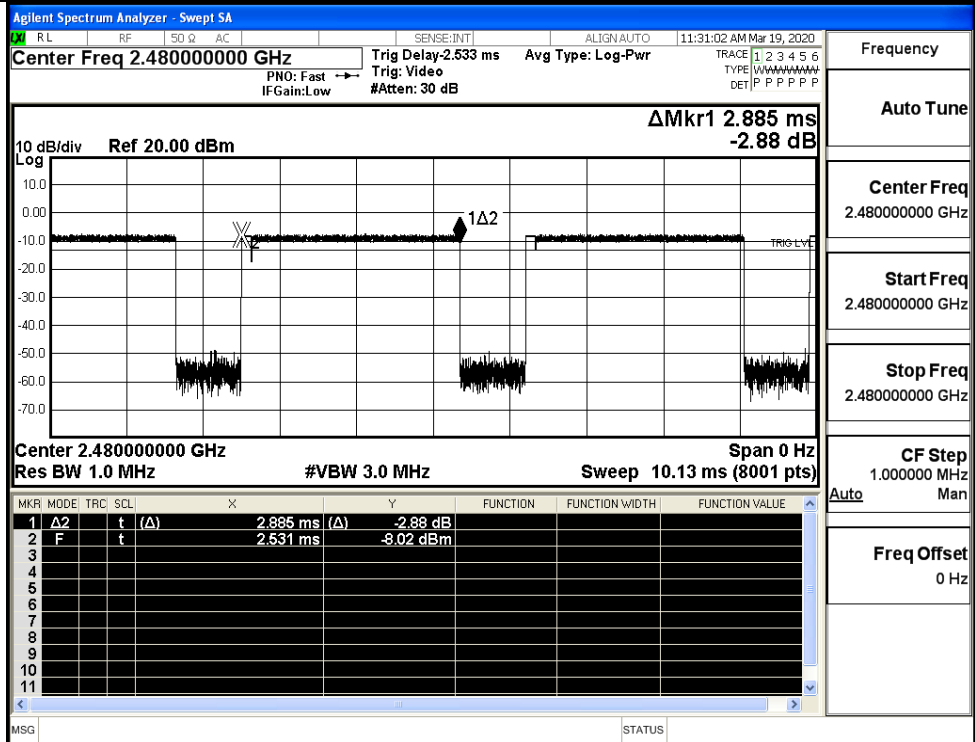
8DPSK_3DH5/LCH



8DPSK_3DH5/MCH



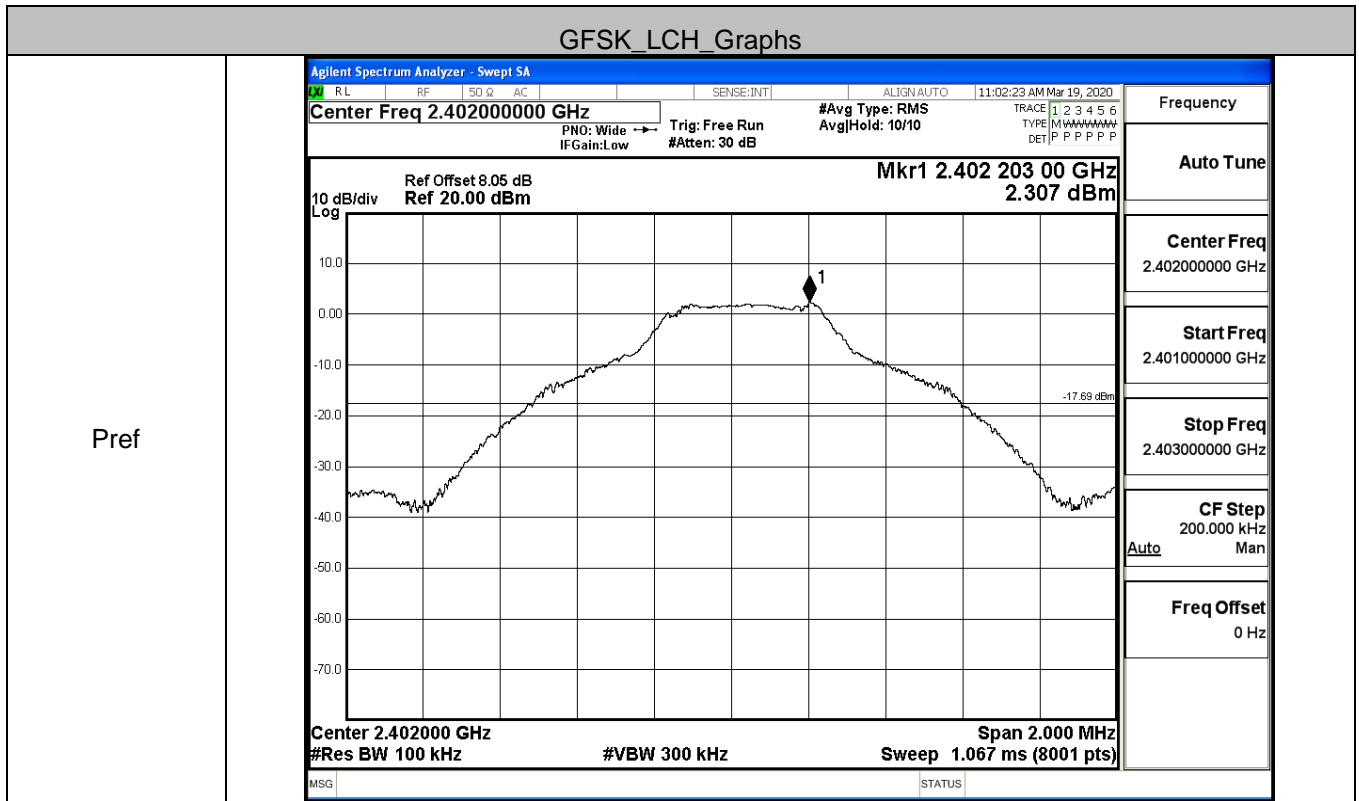
8DPSK_3DH5/HCH

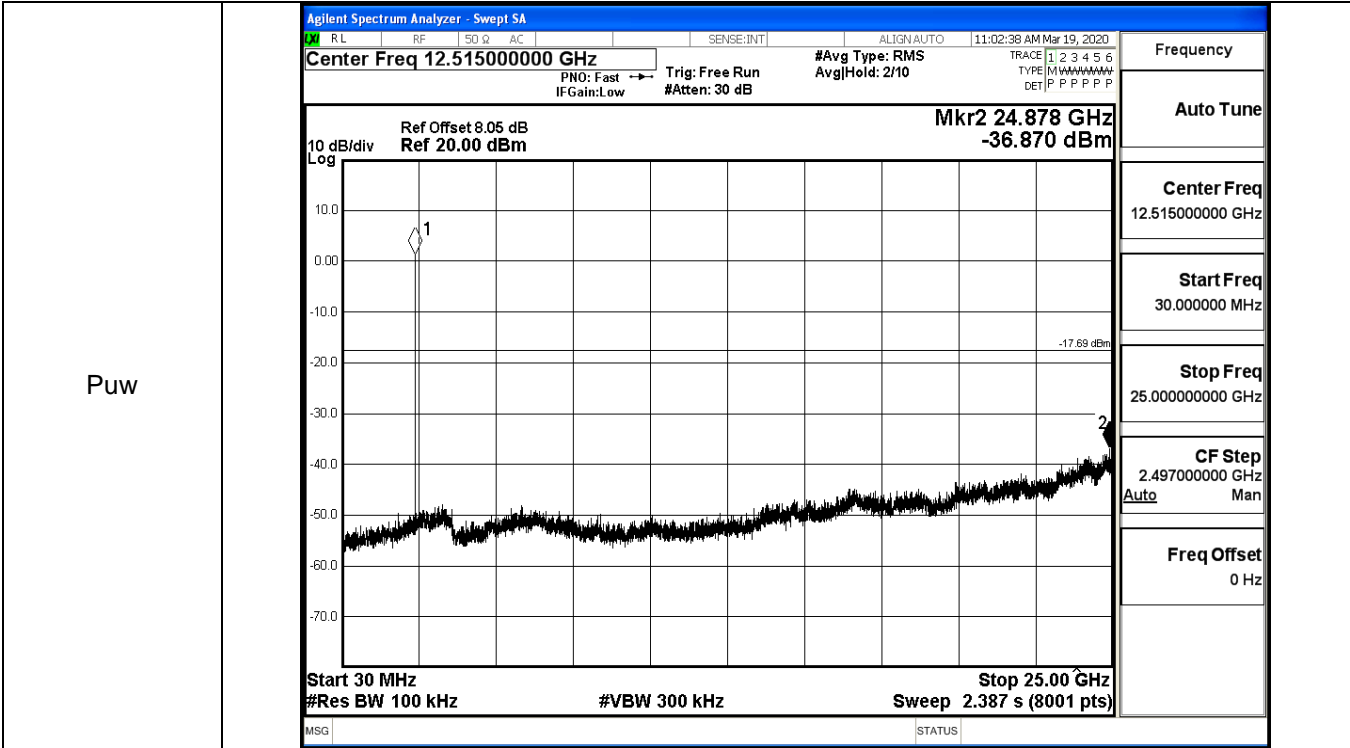


A.6 RF Conducted Spurious Emissions

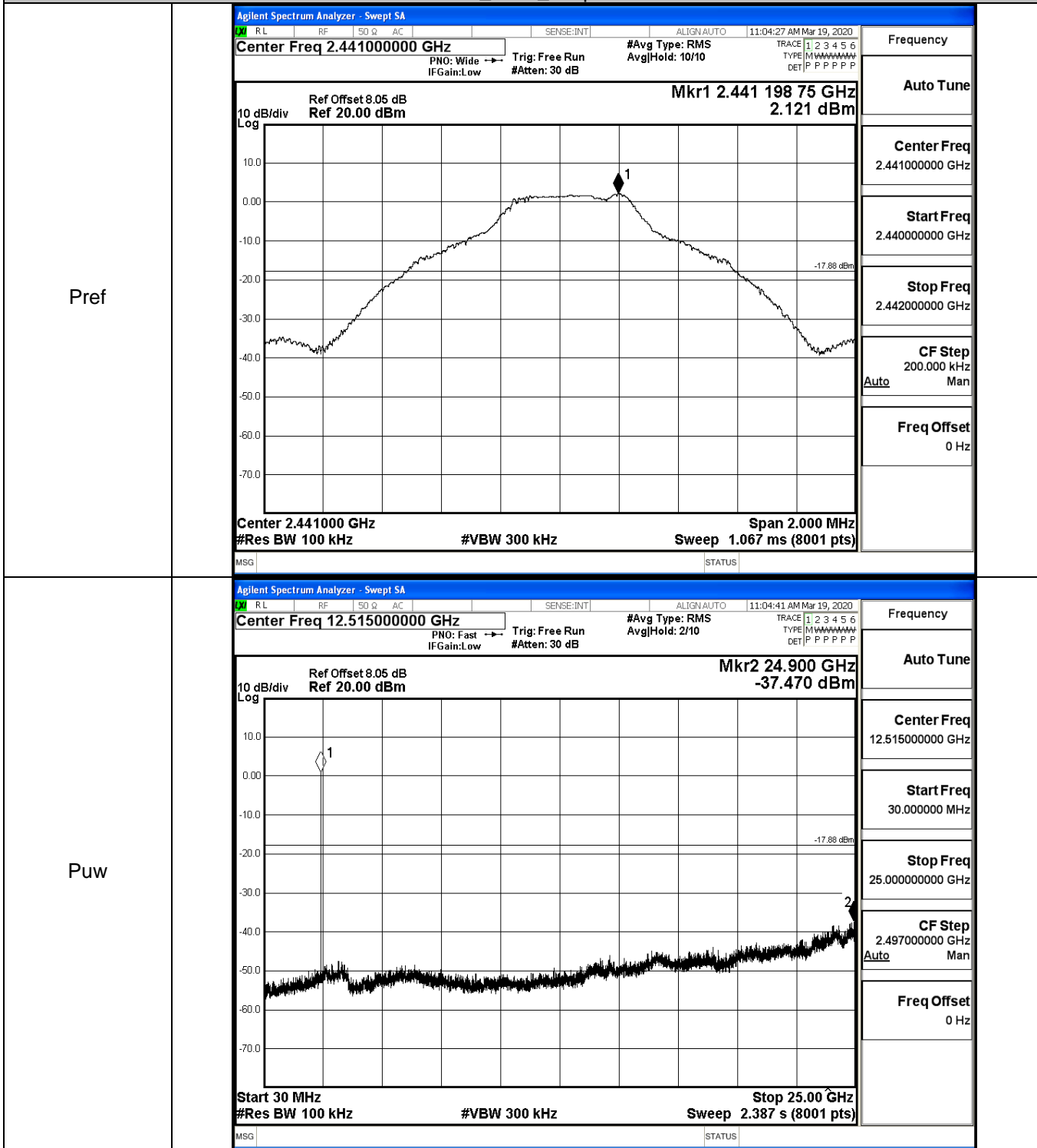
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.307	-36.870	-17.693	PASS
	MCH	2.121	-37.470	-17.879	PASS
	HCH	1.014	-36.468	-18.986	PASS
π /4DQPSK	LCH	0.068	-37.355	-19.932	PASS
	MCH	0.572	-37.163	-19.428	PASS
	HCH	-0.084	-37.428	-20.084	PASS
8DPSK	LCH	0.776	-37.781	-19.224	PASS
	MCH	0.201	-37.497	-19.799	PASS
	HCH	-0.173	-36.901	-20.173	PASS

GFSK_LCH_Graphs

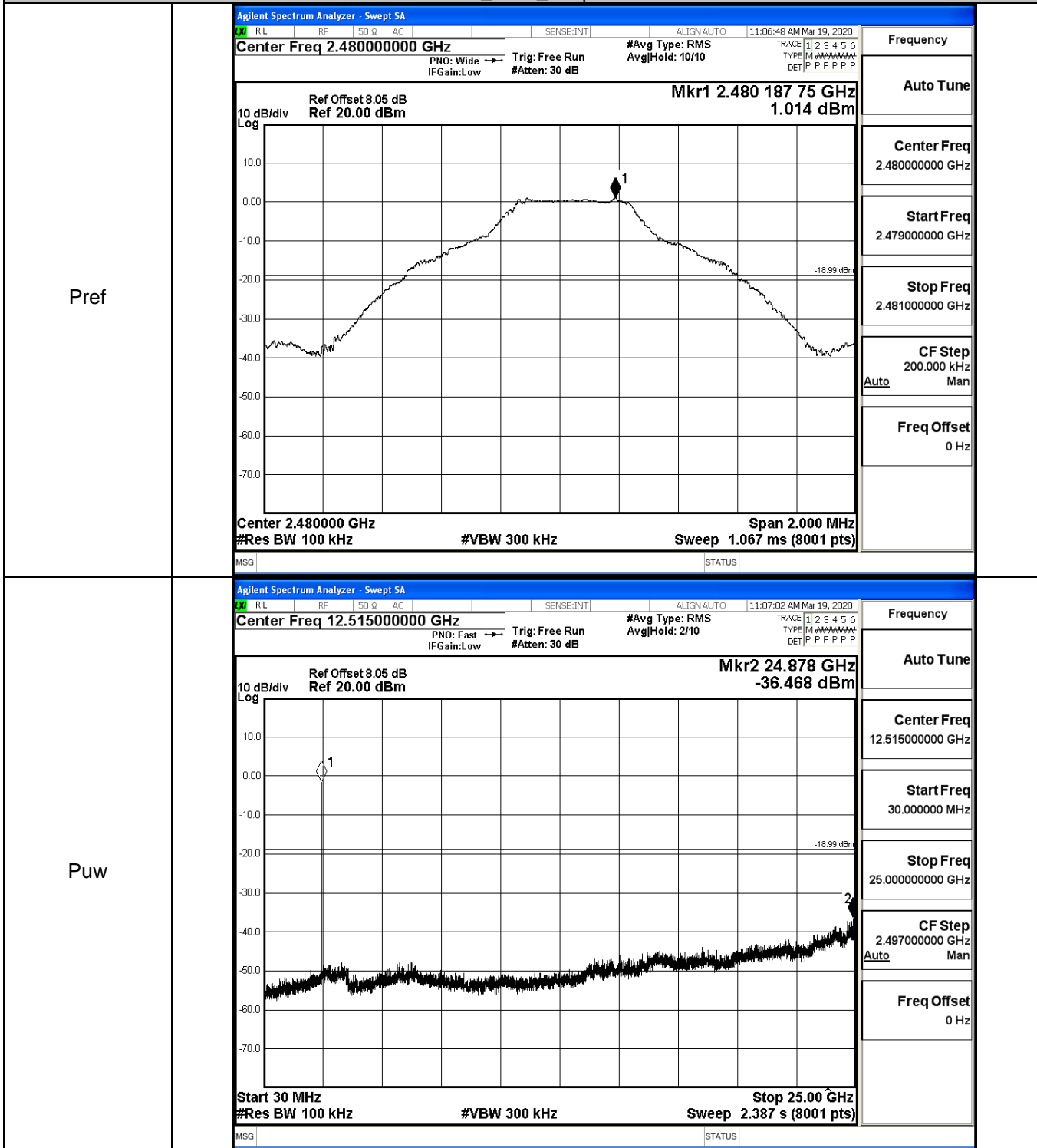




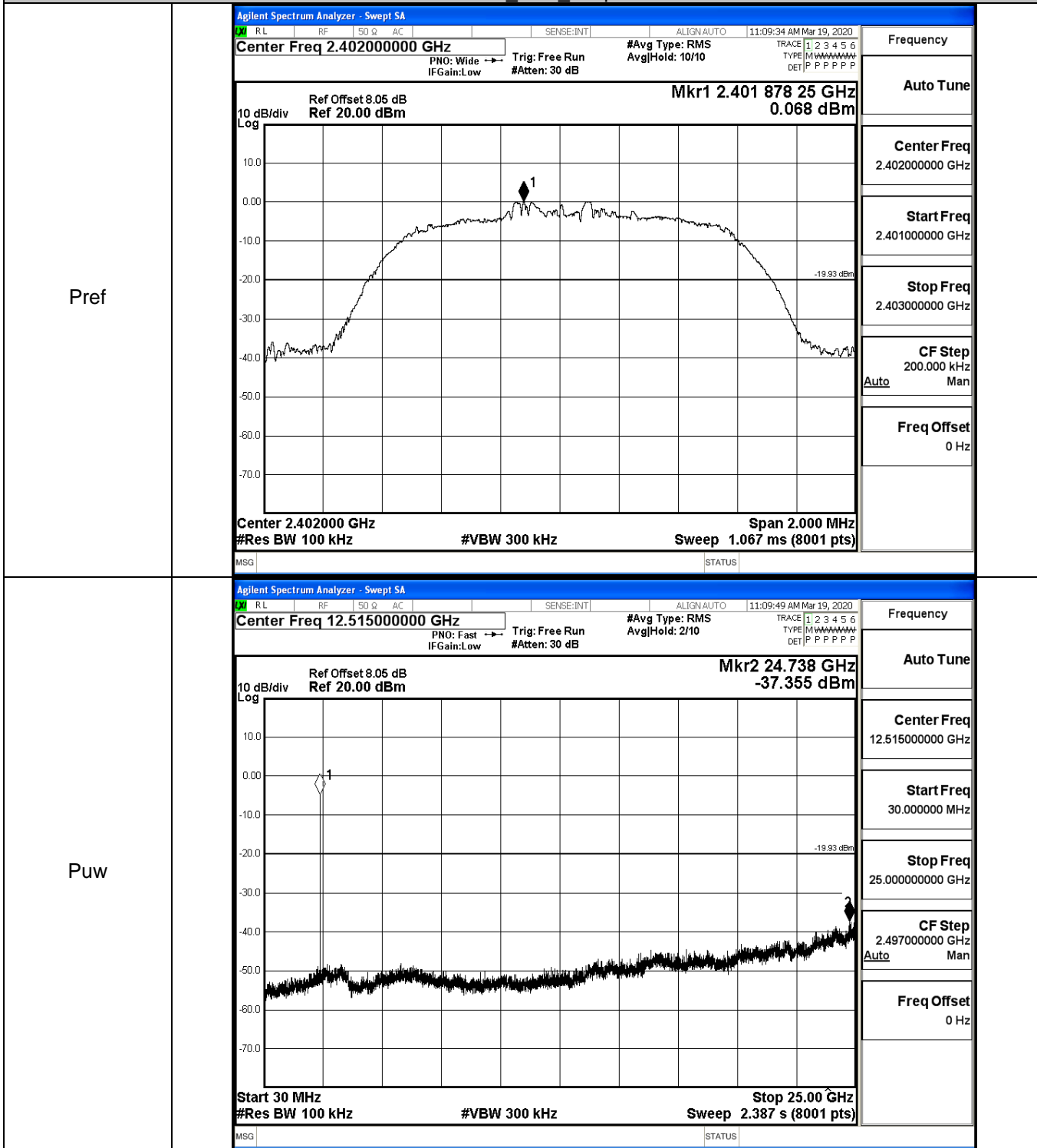
GFSK_MCH_Graphs



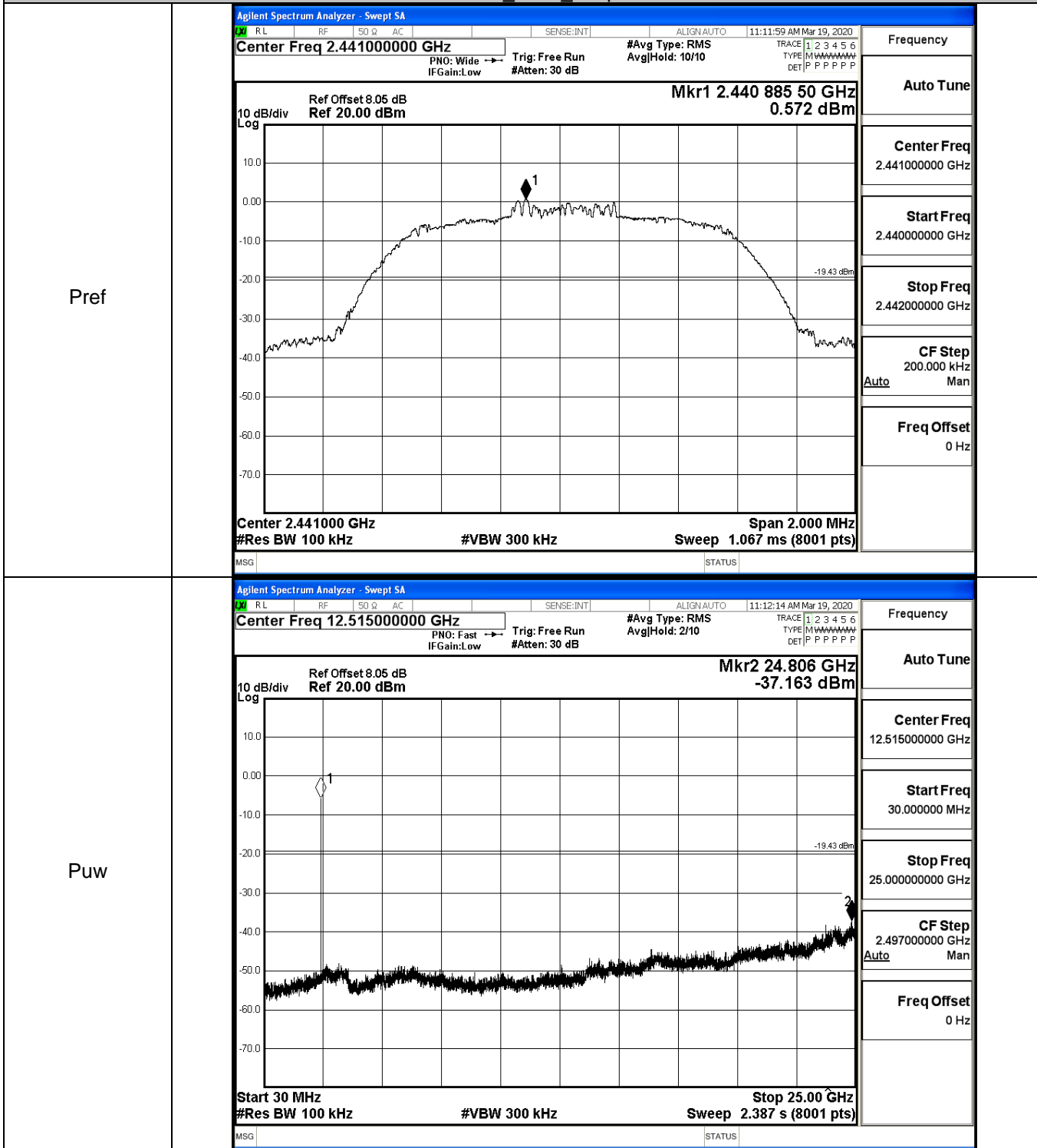
GFSK_HCH_Graphs



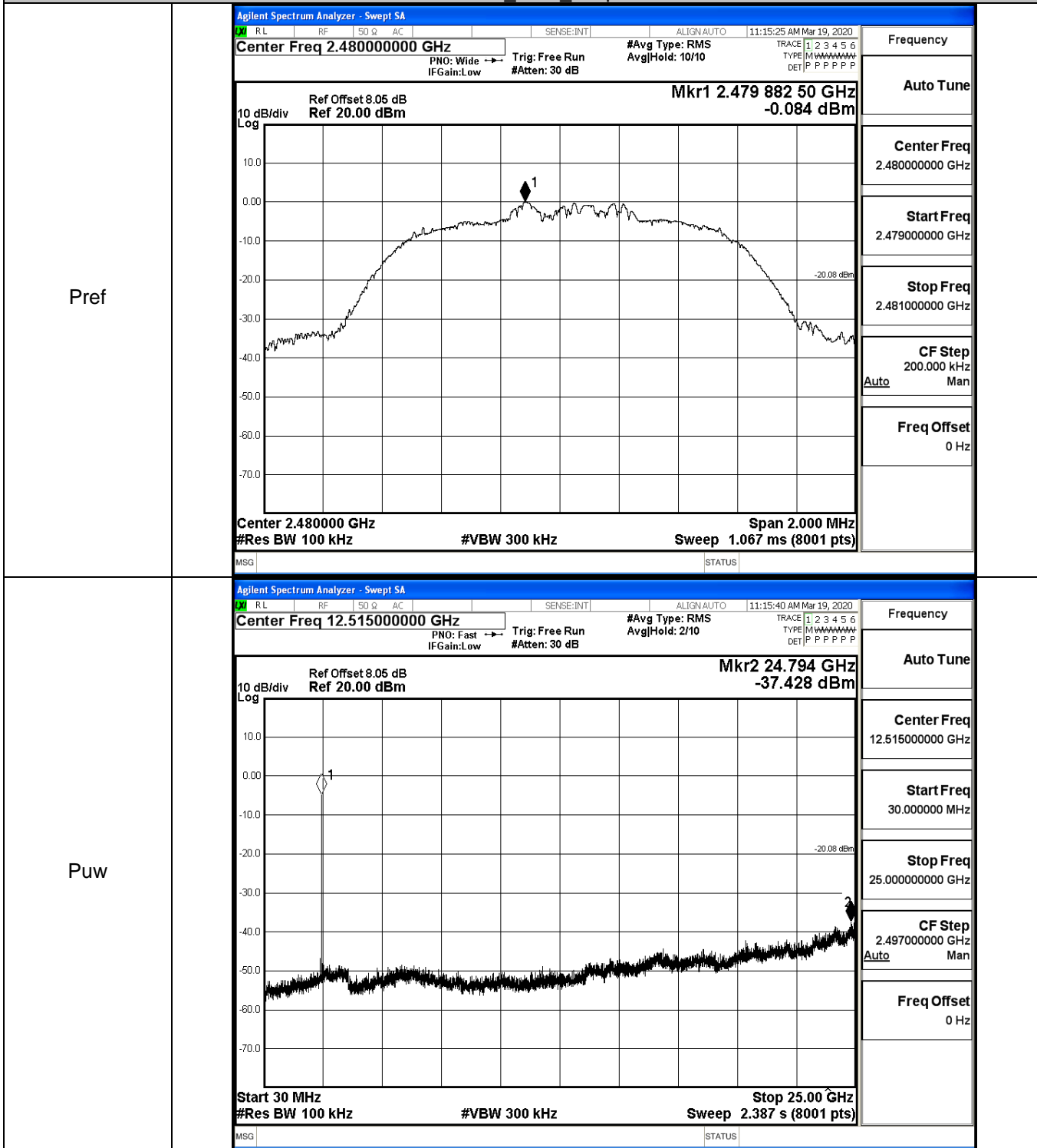
$\pi/4$ DQPSK_LCH_Graphs



$\pi/4$ DQPSK_MCH_Graphs

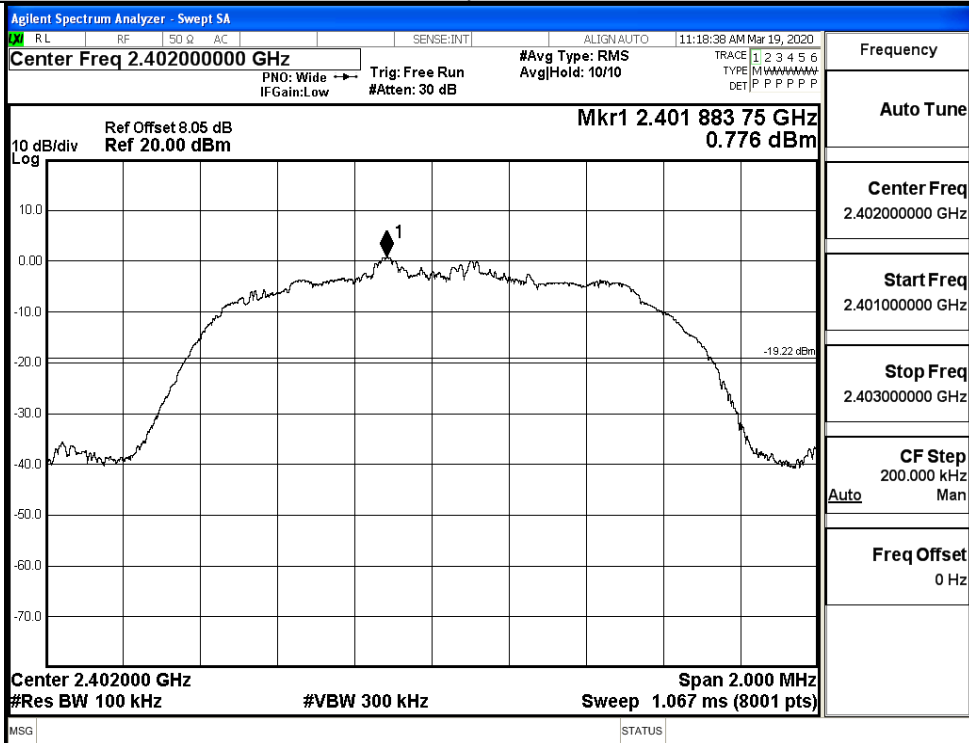


$\pi/4$ DQPSK_HCH_Graphs

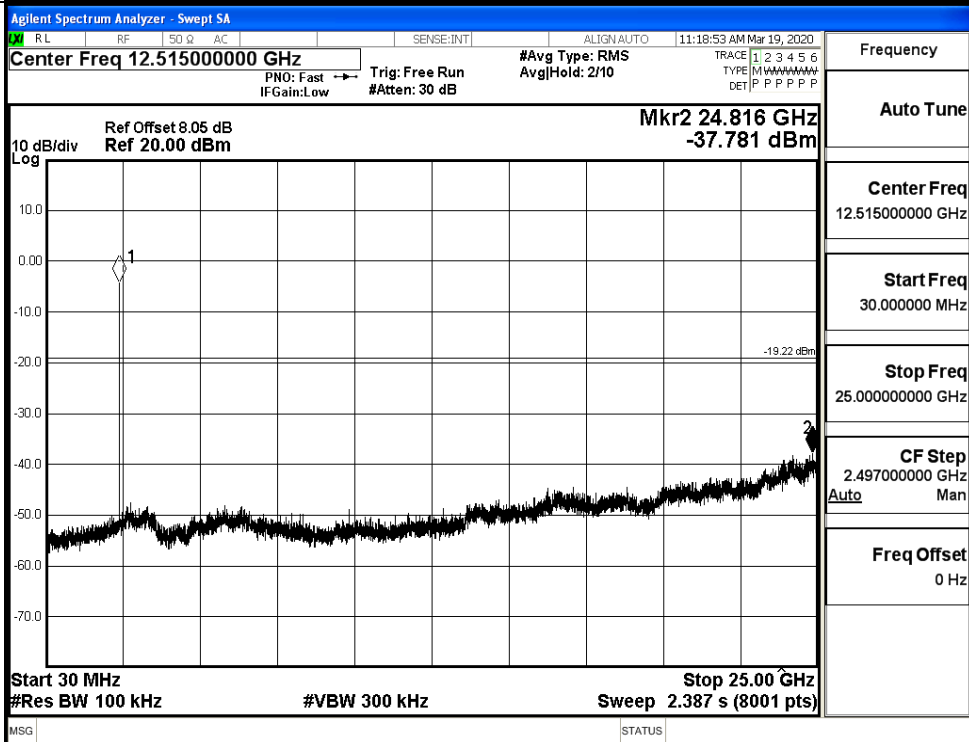


8DPSK_LCH_Graphs

Pref

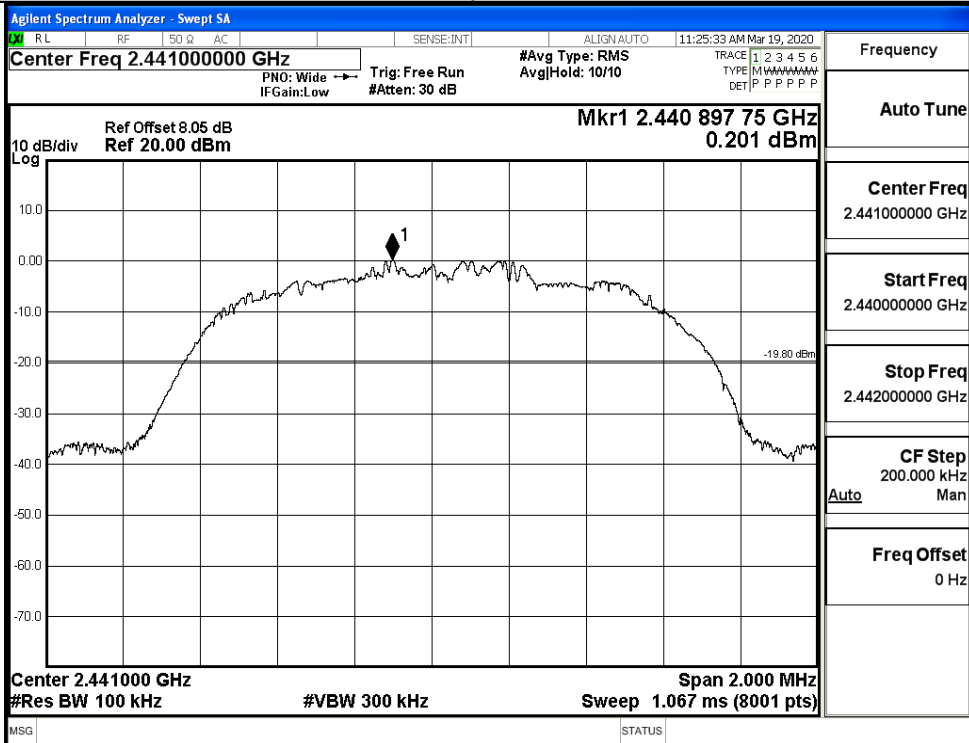


Puw

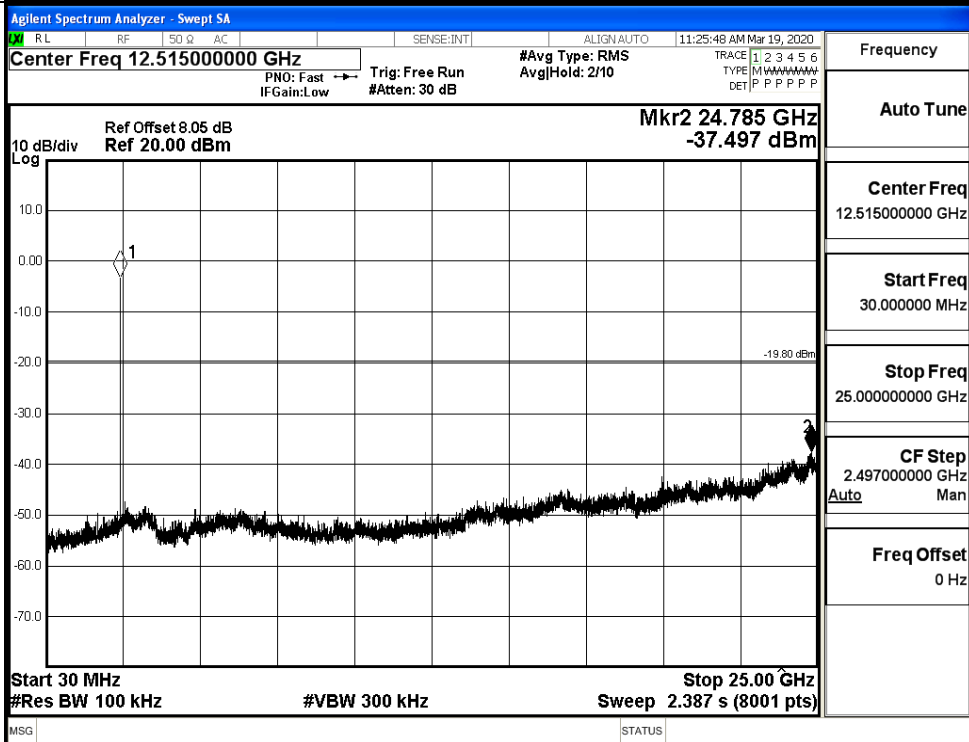


8DPSK_MCH_Graphs

Pref

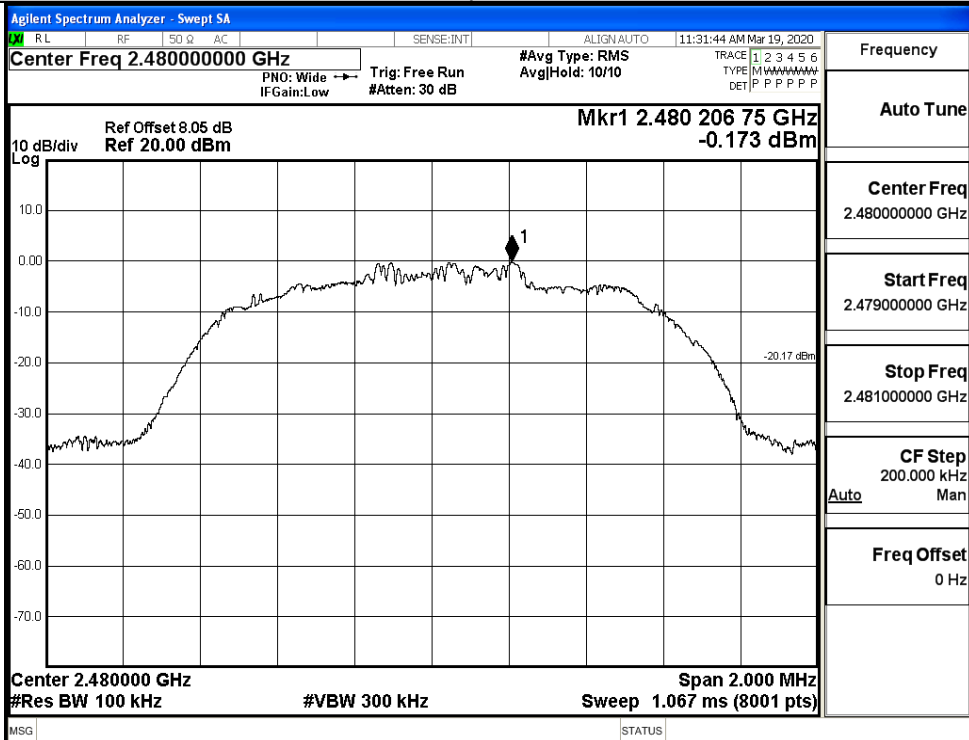


Puw

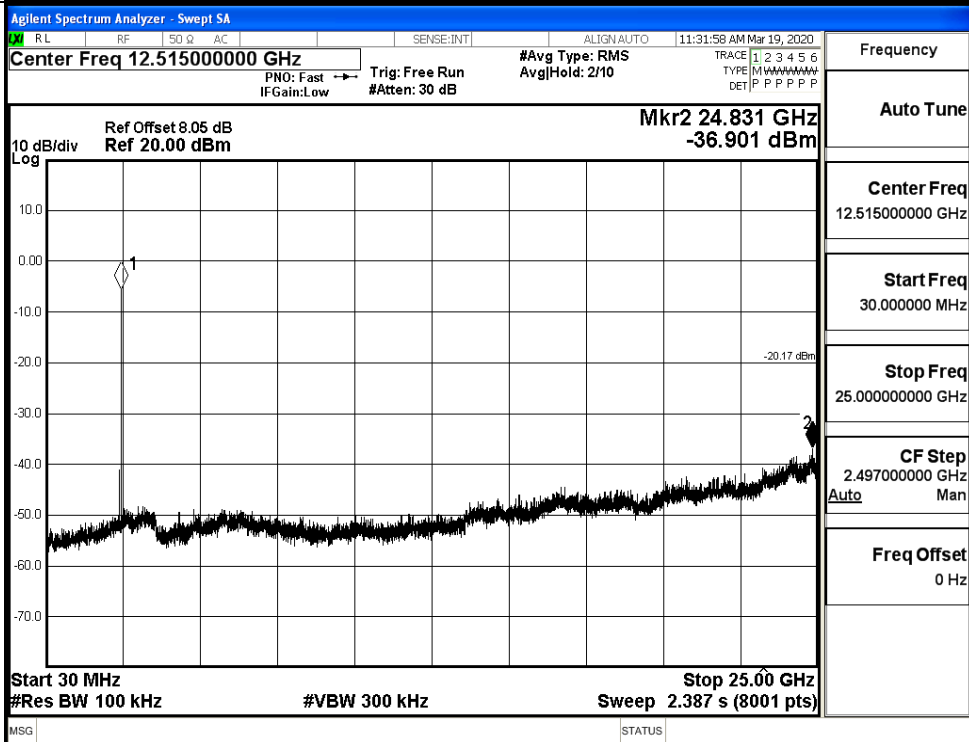


8DPSK_HCH_Graphs

Pref



Puw

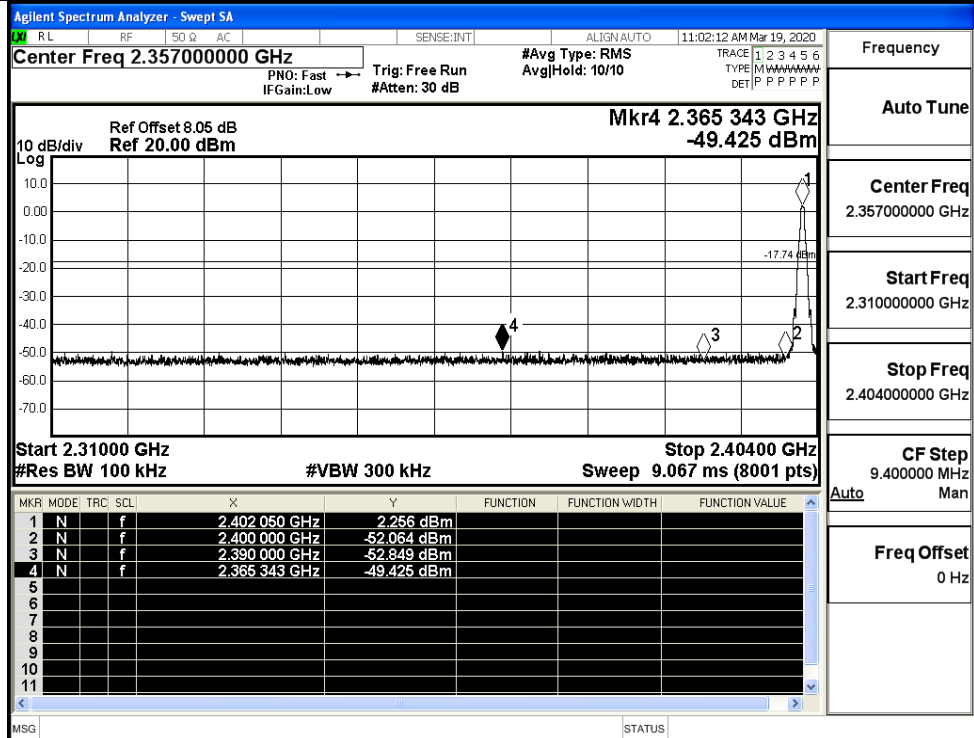


A.7 Band-edge for RF Conducted Emissions

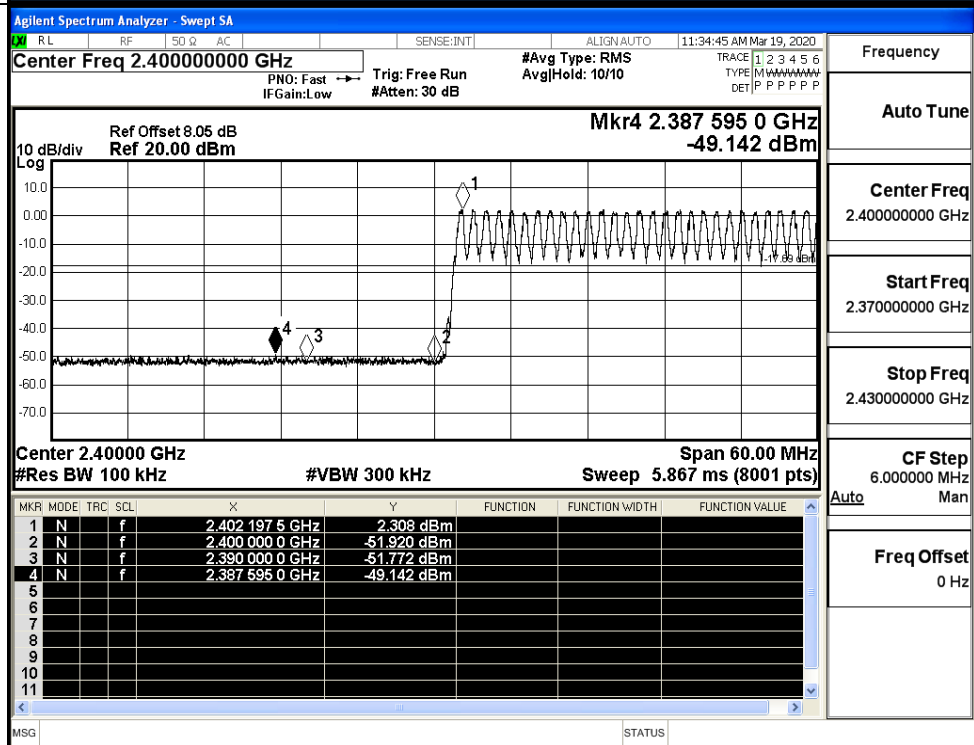
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	2.256	Off	-49.425	-17.74	PASS
			2.308	On	-49.142	-17.69	PASS
	HCH	2480	1.226	Off	-48.721	-18.77	PASS
			1.751	On	-49.083	-18.25	PASS
$\pi/4$ DQPSK	LCH	2402	0.865	Off	-49.485	-19.14	PASS
			0.606	On	-48.029	-19.39	PASS
	HCH	2480	0.070	Off	-49.629	-19.93	PASS
			0.400	On	-48.405	-19.6	PASS
8DPSK	LCH	2402	0.619	Off	-49.624	-19.38	PASS
			0.840	On	-49.041	-19.16	PASS
	HCH	2480	0.119	Off	-49.321	-19.88	PASS
			0.326	On	-48.312	-19.67	PASS

Test Graphs

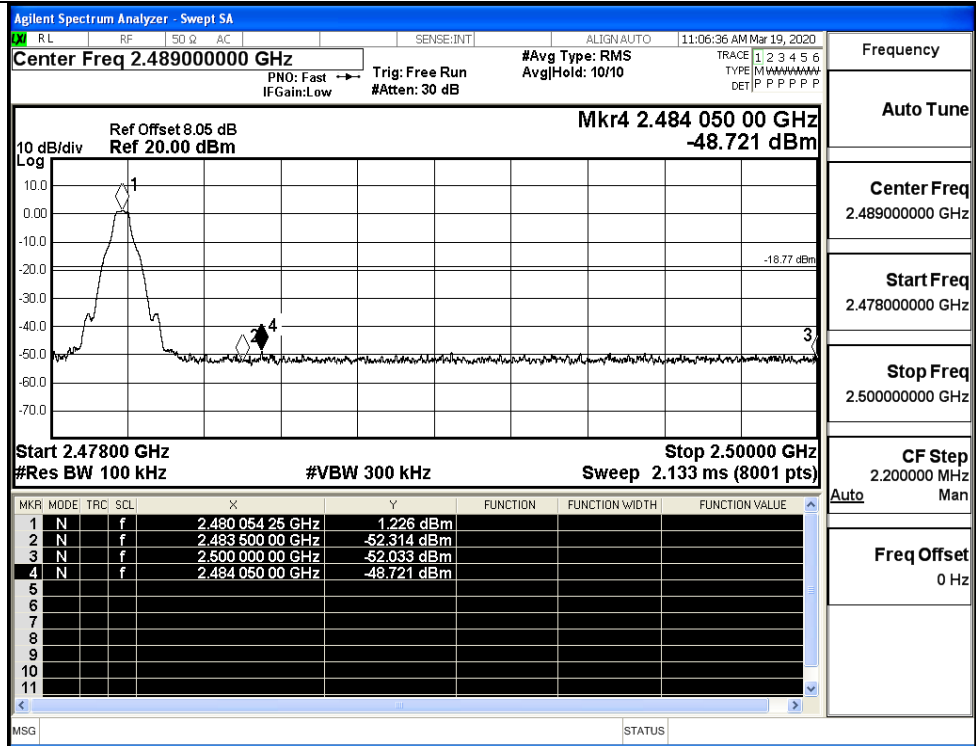
GFSK/LCH/No Hop



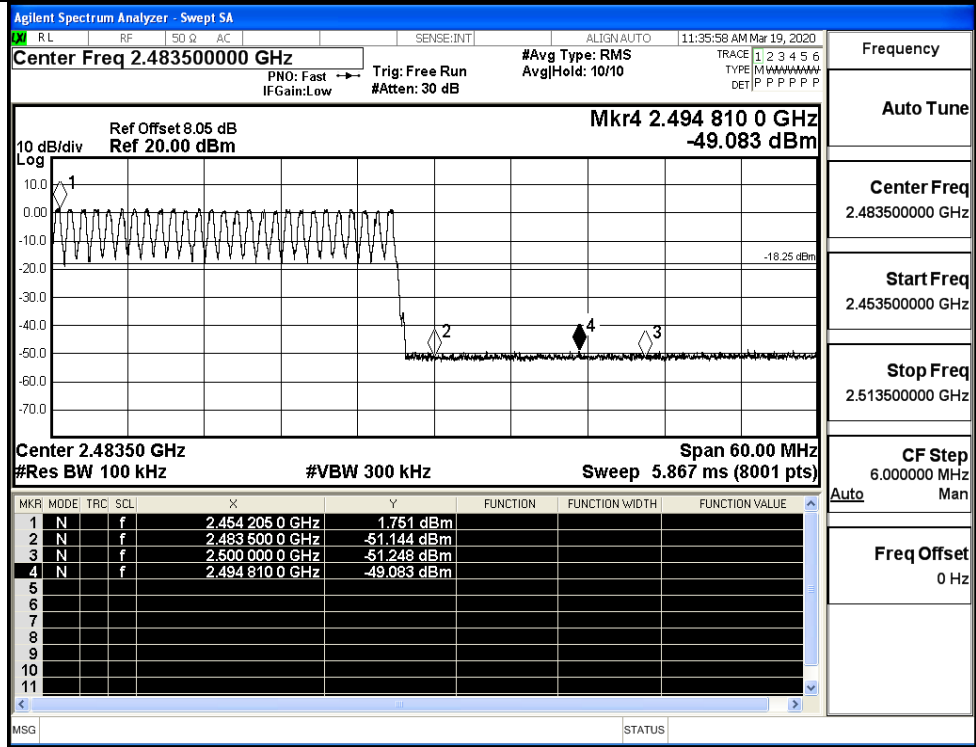
GFSK/LCH/Hop



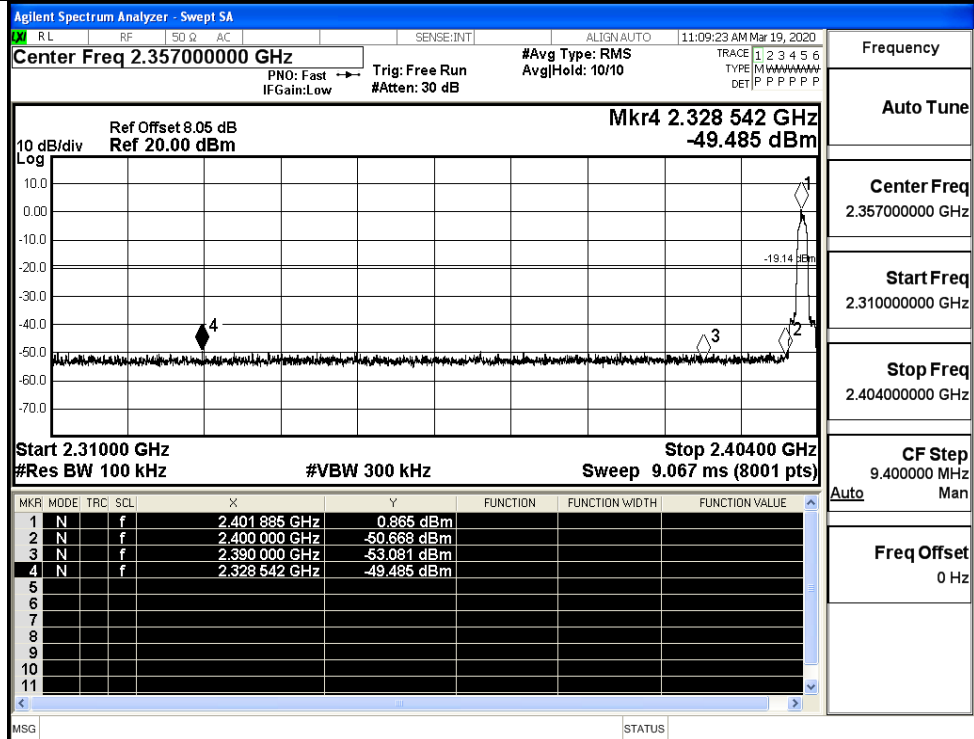
GFSK/HCH/No Hop



GFSK/HCH/Hop

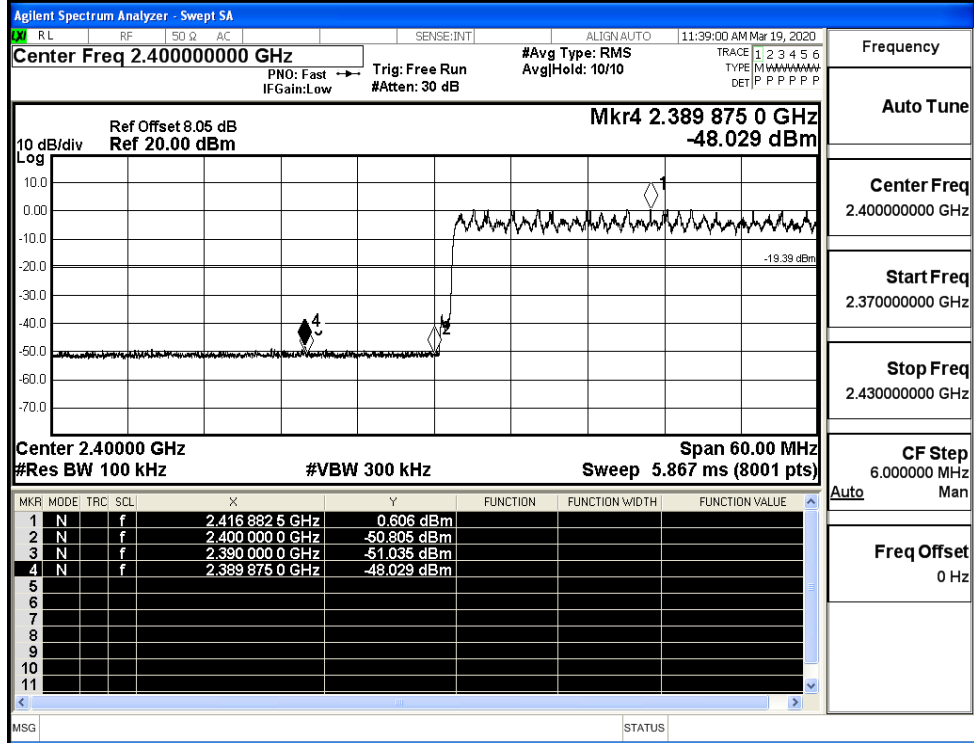


$\pi/4$ DQPSK/LCH/No
Hop



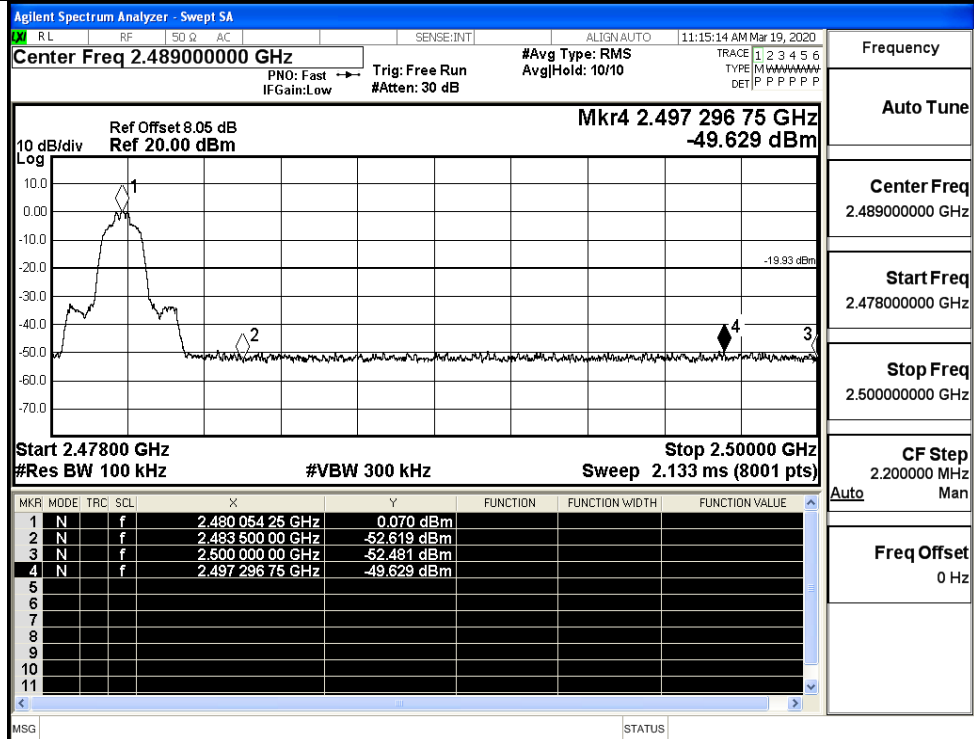
Frequency
Auto Tune
Center Freq
2.357000000 GHz
Start Freq
2.310000000 GHz
Stop Freq
2.404000000 GHz
CF Step
9.400000 MHz
Auto Man
Freq Offset
0 Hz

$\pi/4$ DQPSK/LCH/Hop



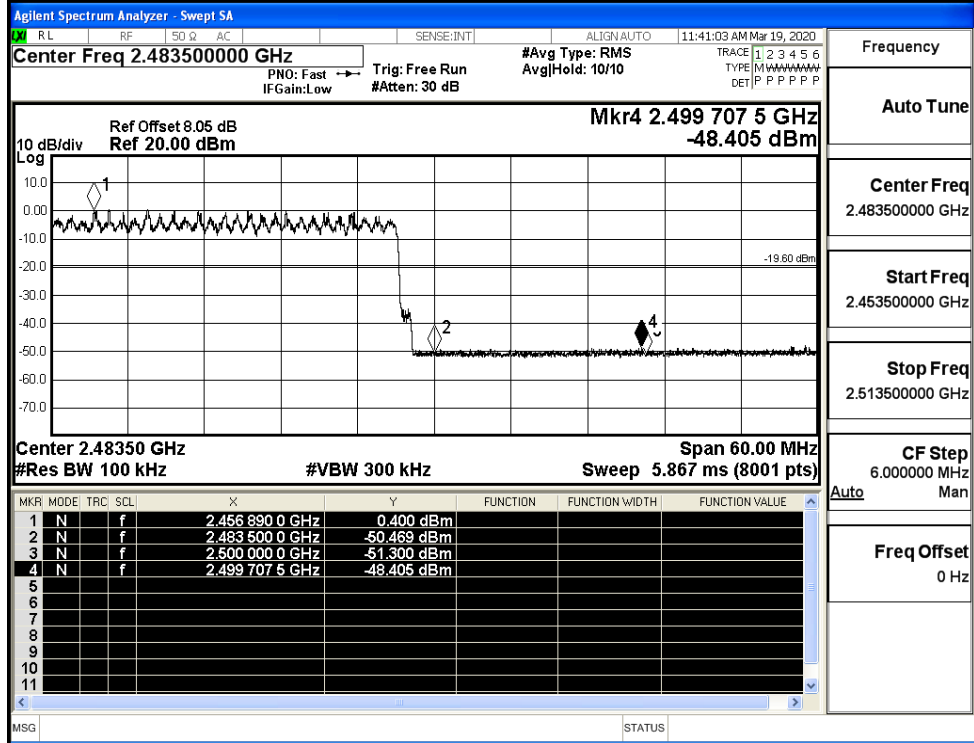
Frequency
Auto Tune
Center Freq
2.400000000 GHz
Start Freq
2.370000000 GHz
Stop Freq
2.430000000 GHz
CF Step
6.000000 MHz
Auto Man
Freq Offset
0 Hz

π /4DQPSK/HCH/No
Hop



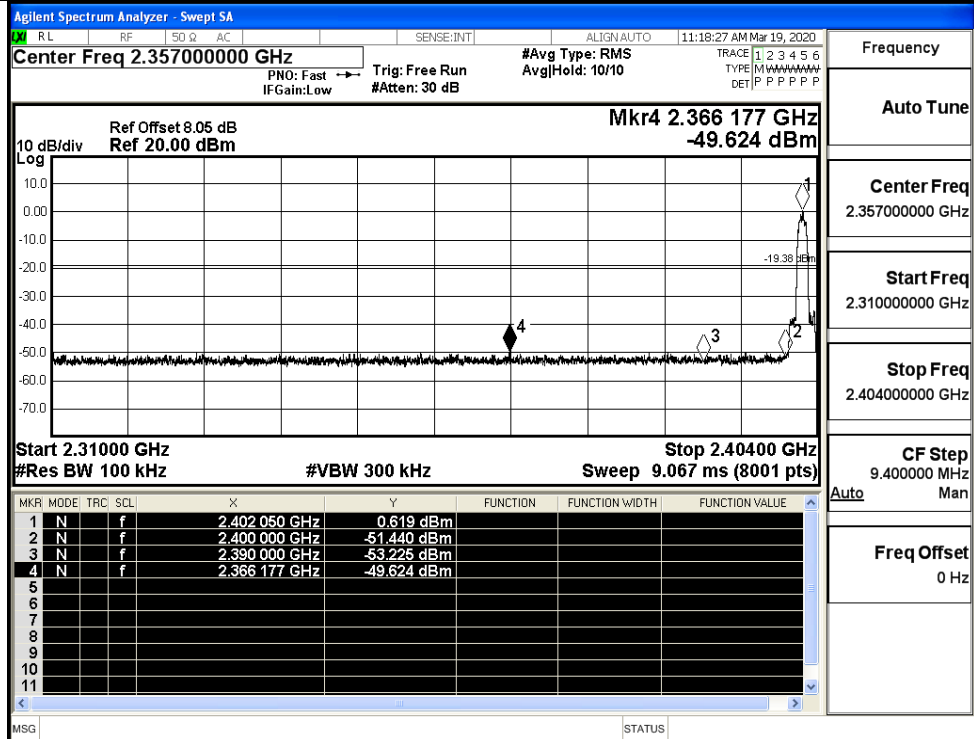
Frequency	2.489000000 GHz
Auto Tune	
Center Freq	2.489000000 GHz
Start Freq	2.478000000 GHz
Stop Freq	2.500000000 GHz
CF Step	2.200000 MHz
Freq Offset	0 Hz

π /4DQPSK/HCH/Hop



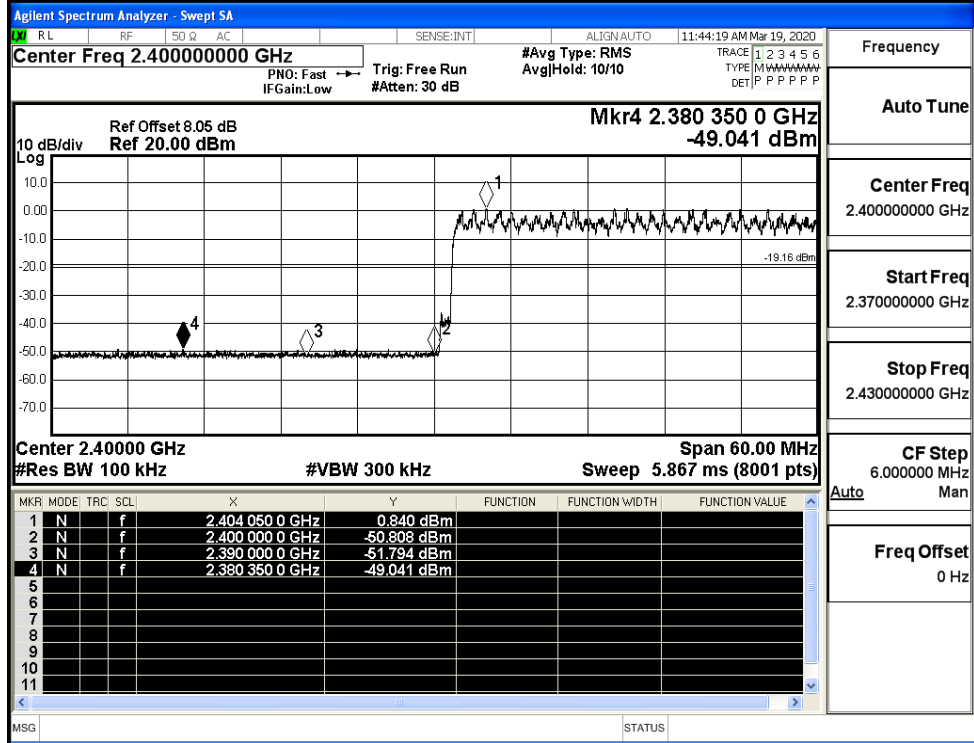
Frequency	2.483500000 GHz
Auto Tune	
Center Freq	2.483500000 GHz
Start Freq	2.453500000 GHz
Stop Freq	2.513500000 GHz
CF Step	6.000000 MHz
Freq Offset	0 Hz

8DPSK/LCH/No Hop



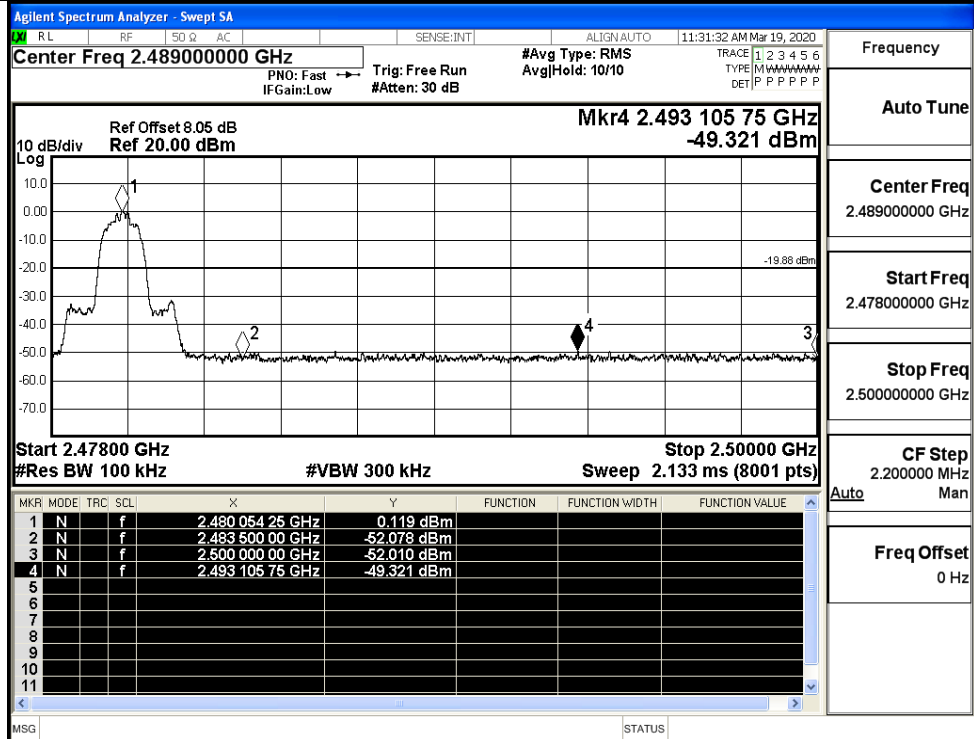
Frequency
Auto Tune
Center Freq
2.357000000 GHz
Start Freq
2.310000000 GHz
Stop Freq
2.404000000 GHz
CF Step
9.400000 MHz
Auto Man
Freq Offset
0 Hz

8DPSK/LCH/Hop



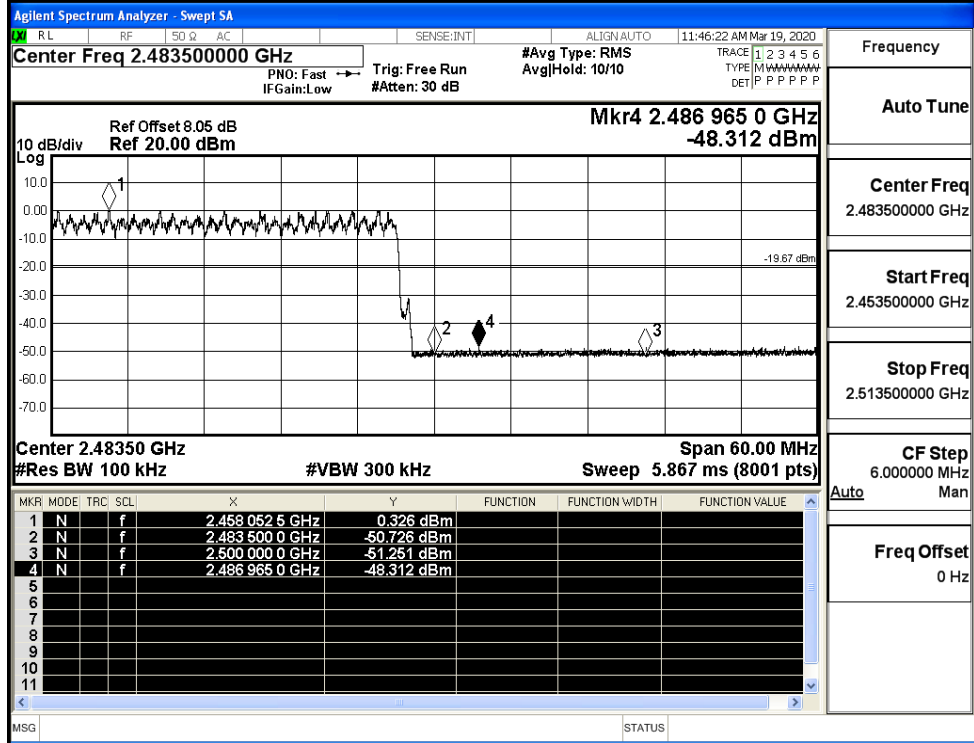
Frequency
Auto Tune
Center Freq
2.400000000 GHz
Start Freq
2.370000000 GHz
Stop Freq
2.430000000 GHz
CF Step
6.000000 MHz
Auto Man
Freq Offset
0 Hz

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

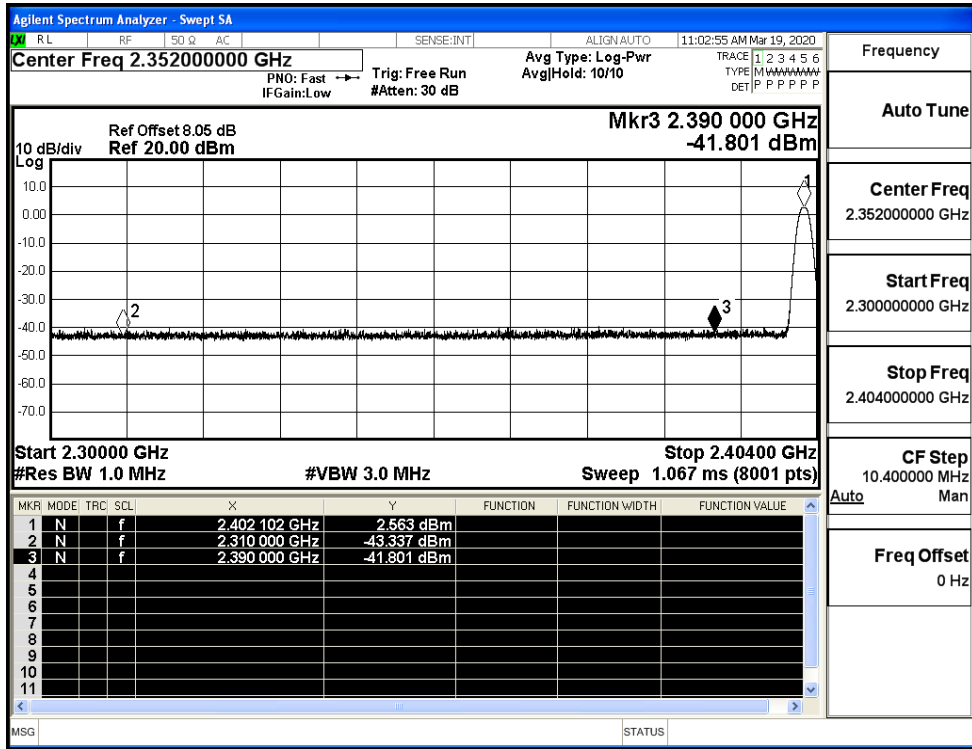


Frequency
Auto Tune
Center Freq
2.483500000 GHz
Start Freq
2.453500000 GHz
Stop Freq
2.513500000 GHz
CF Step
6.000000 MHz
Auto Man
Freq Offset
0 Hz

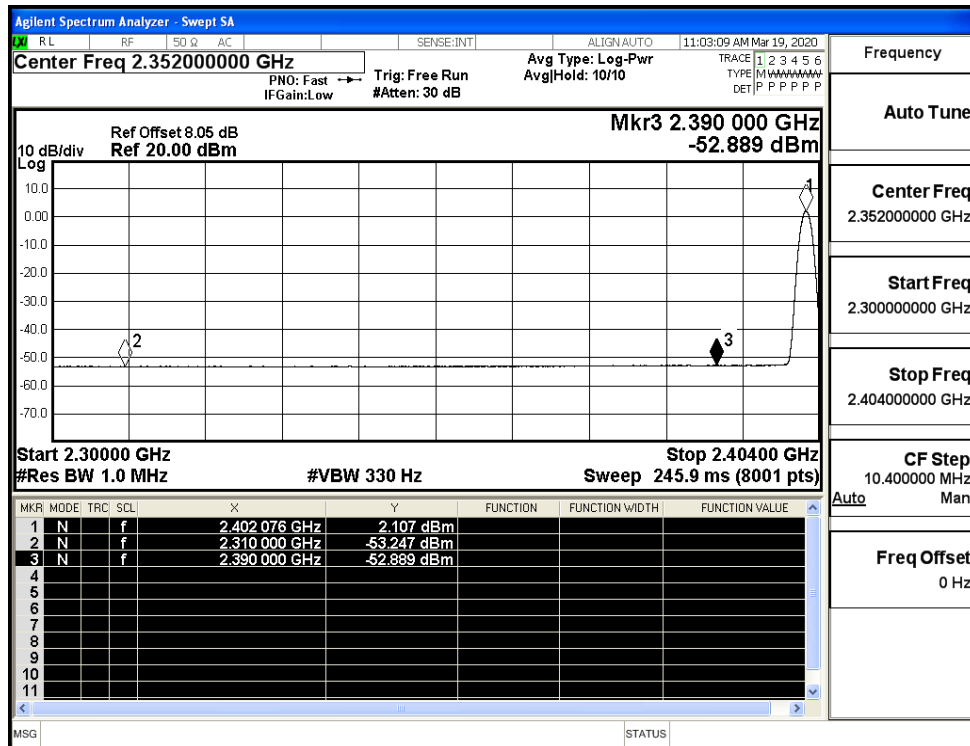
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.34	2.0	0	53.89	PEAK	74	PASS
	Off	2310.0	-53.25	2.0	0	43.98	AV	54	PASS
	Off	2390.0	-41.80	2.0	0	55.43	PEAK	74	PASS
	Off	2390.0	-52.89	2.0	0	44.34	AV	54	PASS
	Off	2483.5	-43.21	2.0	0	54.02	PEAK	74	PASS
	Off	2483.5	-52.51	2.0	0	44.72	AV	54	PASS
	Off	2500.0	-41.01	2.0	0	56.22	PEAK	74	PASS
	Off	2500.0	-52.28	2.0	0	44.95	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.09	2.0	0	54.14	PEAK	74	PASS
	Off	2310.0	-53.39	2.0	0	43.84	AV	54	PASS
	Off	2390.0	-42.89	2.0	0	54.34	PEAK	74	PASS
	Off	2390.0	-52.86	2.0	0	44.37	AV	54	PASS
	Off	2483.5	-42.45	2.0	0	54.78	PEAK	74	PASS
	Off	2483.5	-52.26	2.0	0	44.97	AV	54	PASS
	Off	2500.0	-42.78	2.0	0	54.45	PEAK	74	PASS
	Off	2500.0	-52.27	2.0	0	44.96	AV	54	PASS
8DPSK	Off	2310.0	-42.93	2.0	0	54.30	PEAK	74	PASS
	Off	2310.0	-53.34	2.0	0	43.89	AV	54	PASS
	Off	2390.0	-42.58	2.0	0	54.65	PEAK	74	PASS
	Off	2390.0	-52.96	2.0	0	44.27	AV	54	PASS
	Off	2483.5	-42.40	2.0	0	54.83	PEAK	74	PASS
	Off	2483.5	-52.35	2.0	0	44.88	AV	54	PASS
	Off	2500.0	-42.27	2.0	0	54.96	PEAK	74	PASS
	Off	2500.0	-52.34	2.0	0	44.89	AV	54	PASS

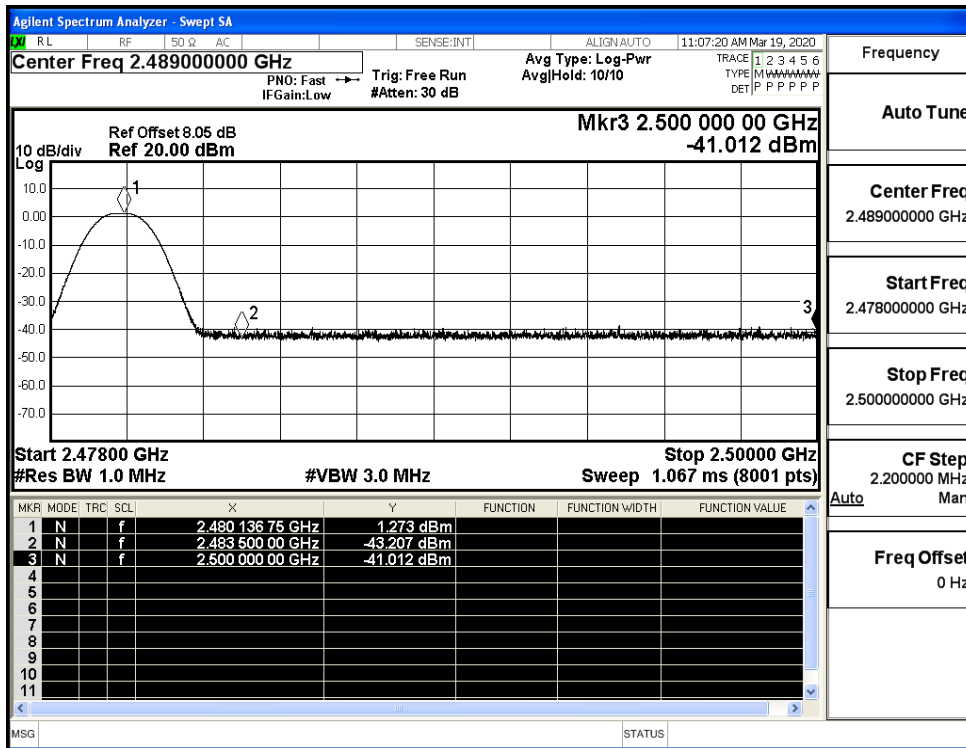
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



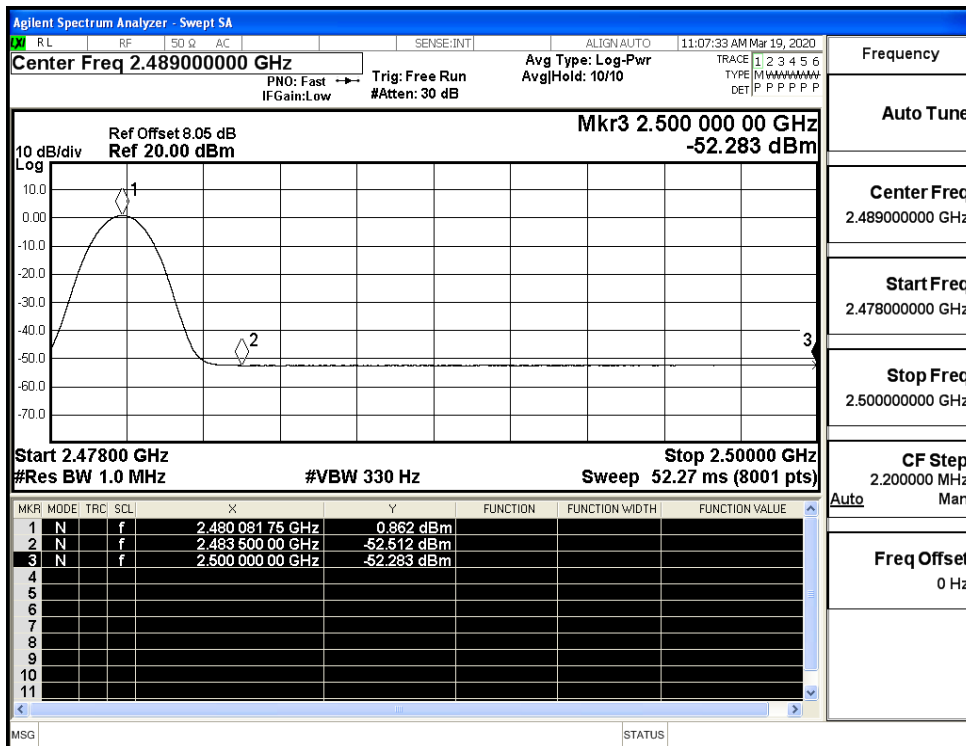
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



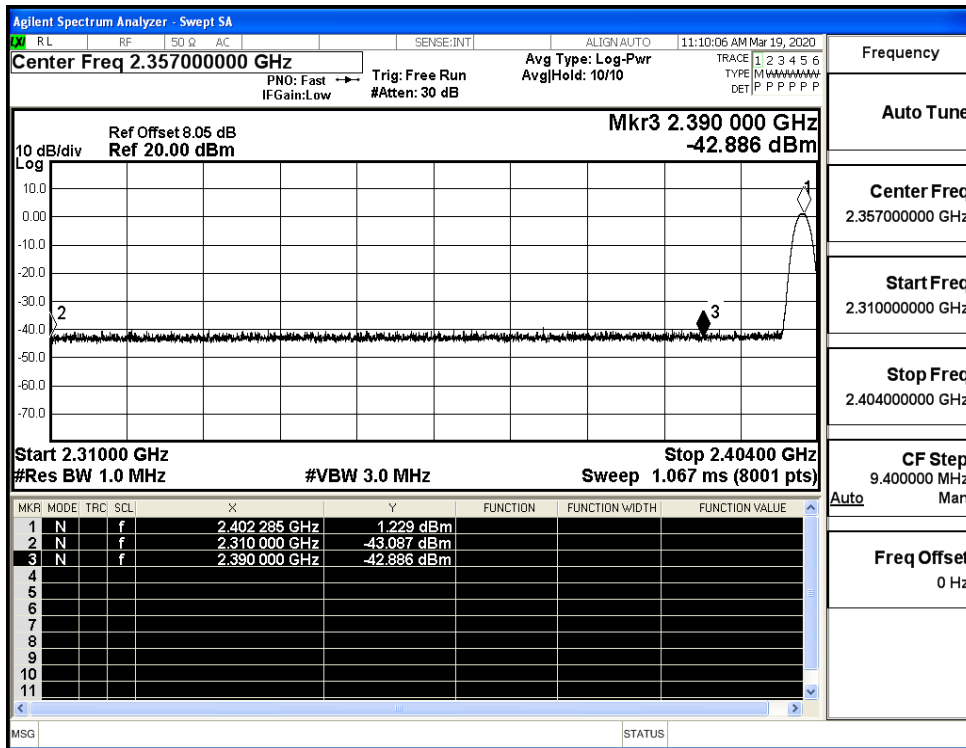
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



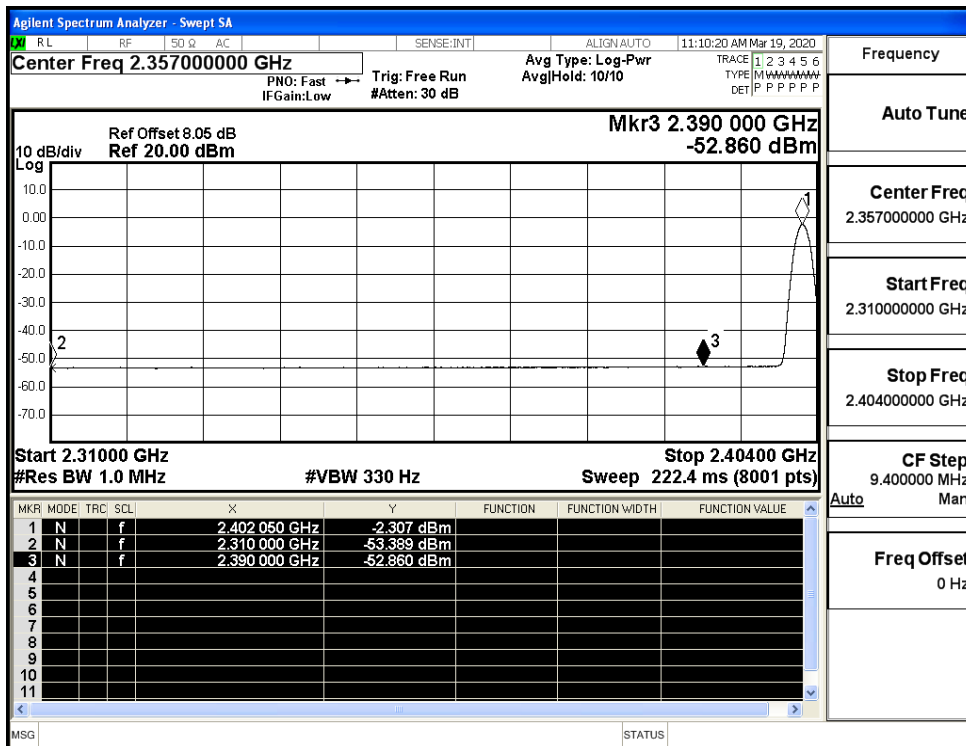
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



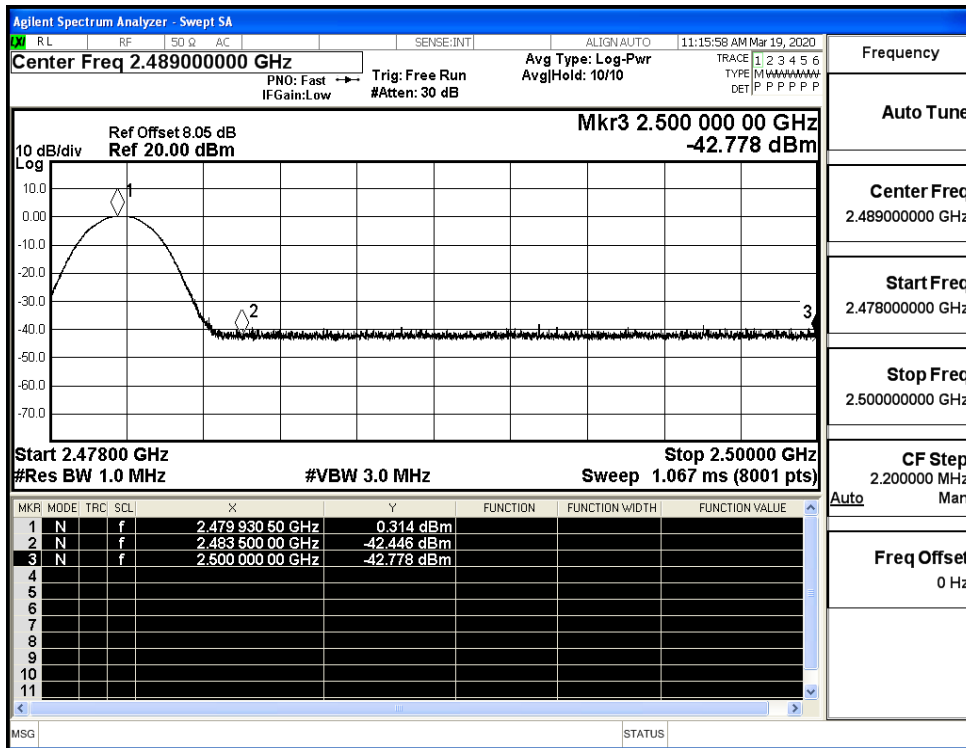
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)



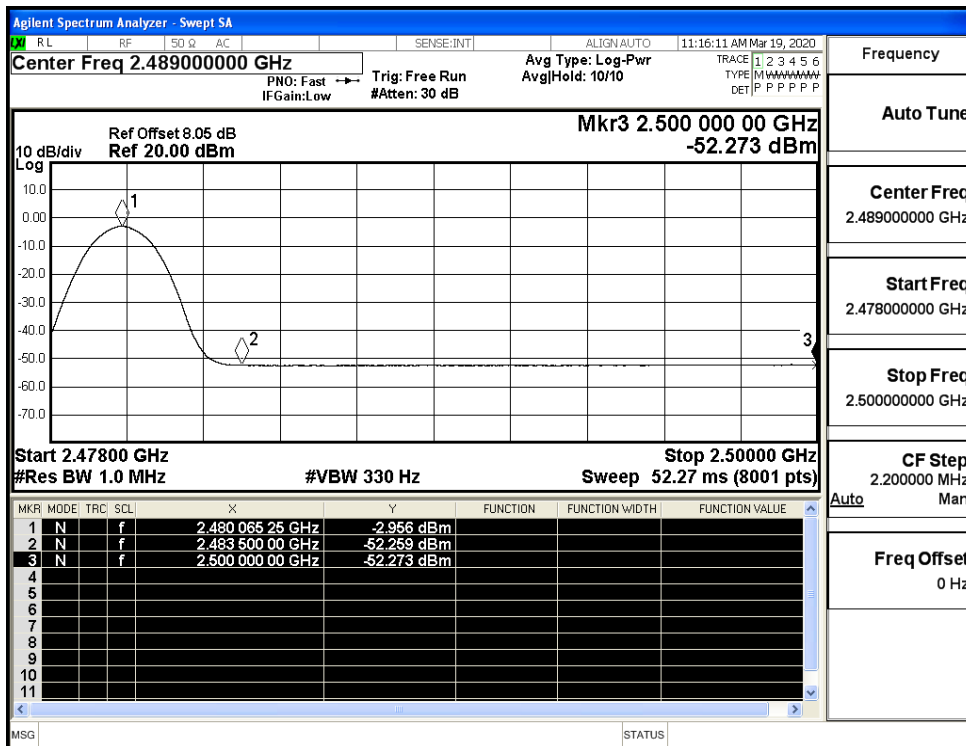
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)



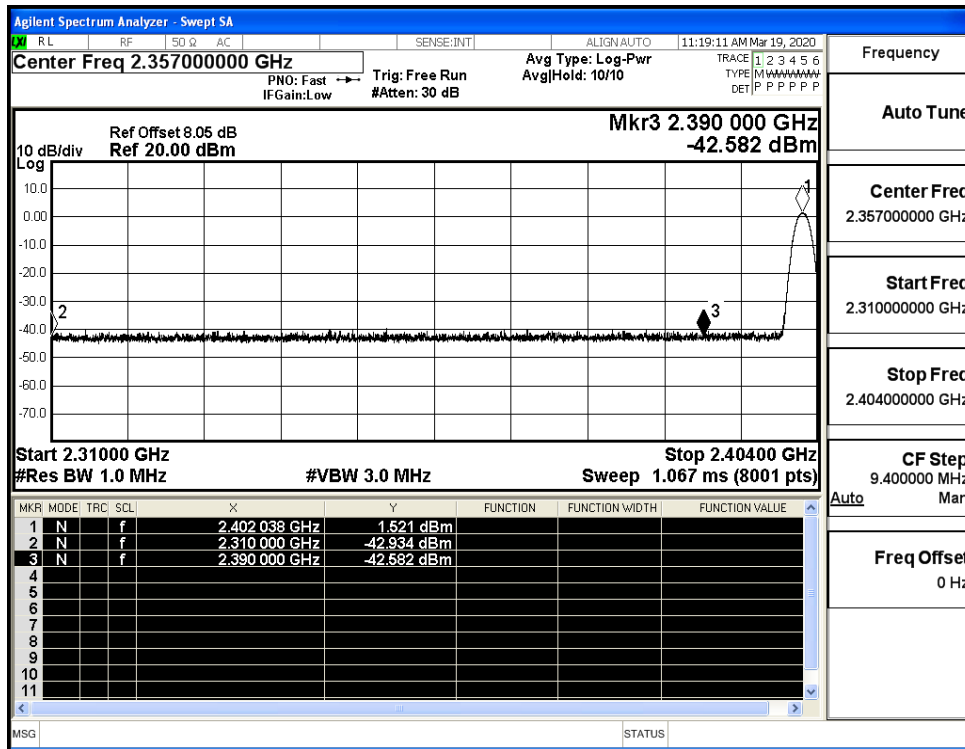
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



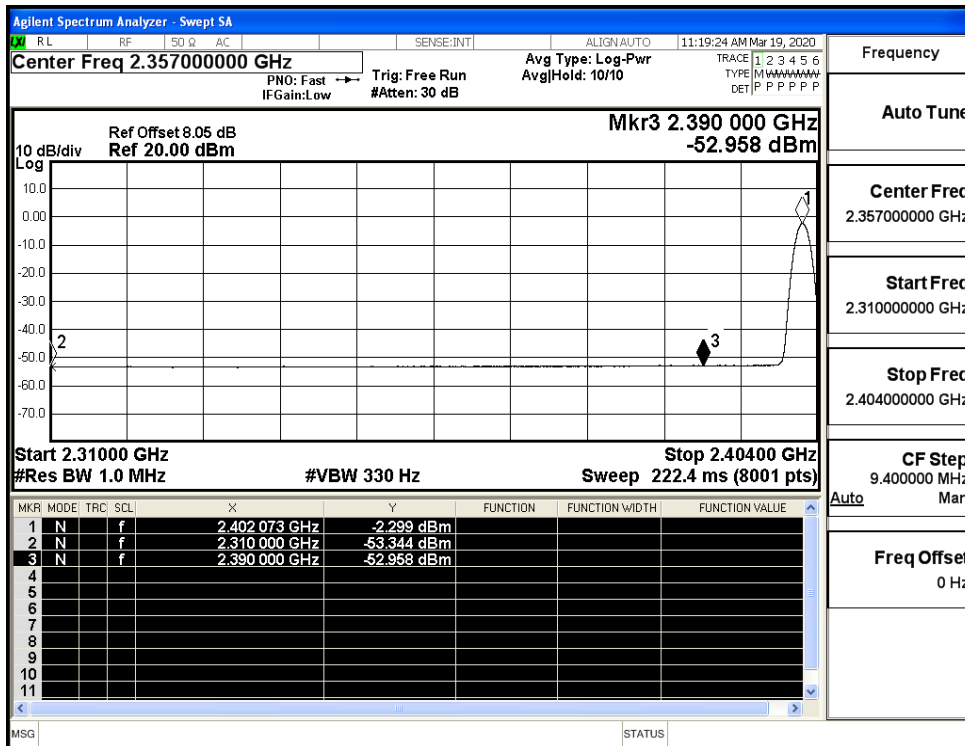
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



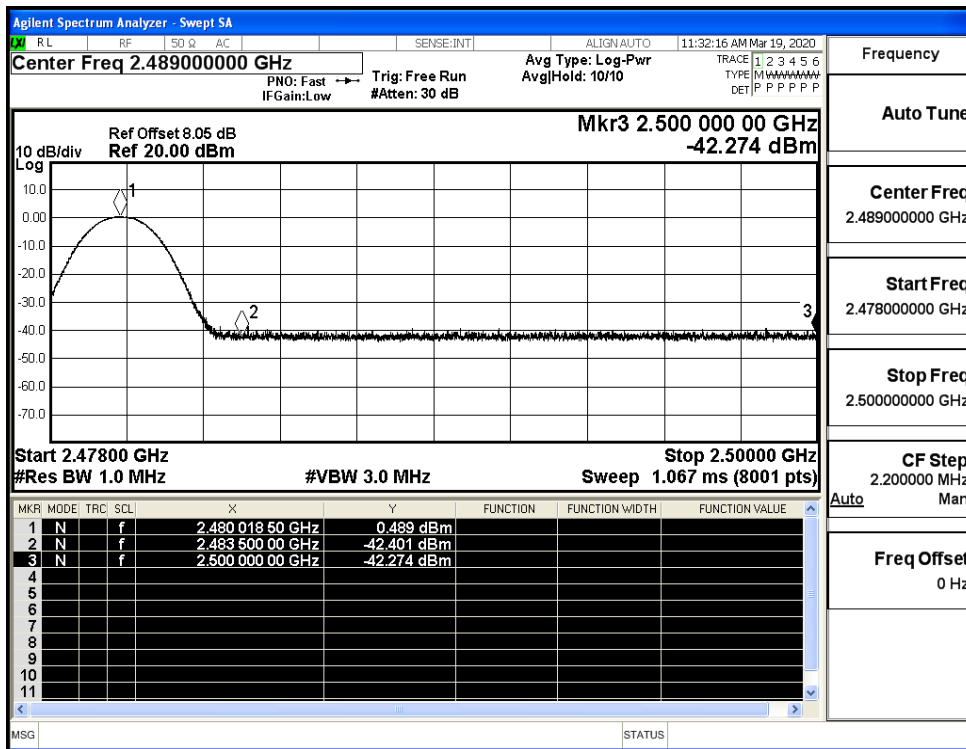
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

