

Appendix A

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

Product Name: Vivi Wireless Presentation

Trade Mark: Vivi

Test Model: VWP-205-16

Environmental Conditions

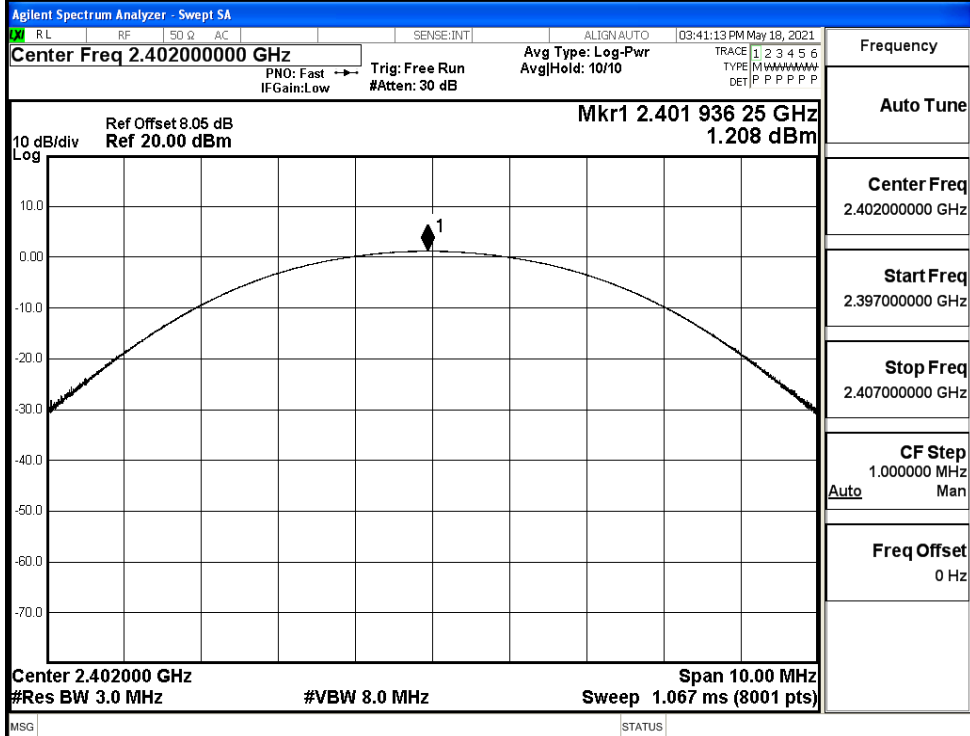
Temperature:	20.1°C
Relative Humidity:	51.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Carl Fu
Supervised by:	Li Huan

A.1 Maxmum Conducted Peak Output Power

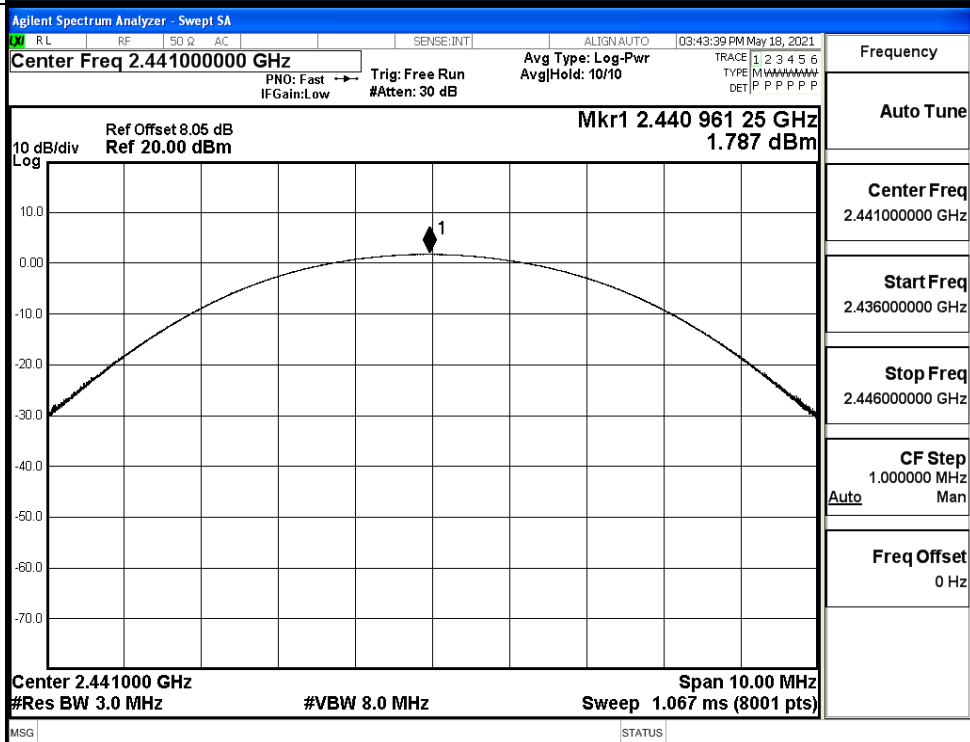
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.208	21	PASS
	MCH	1.787	21	PASS
	HCH	1.688	21	PASS
$\pi/4$ DQPSK	LCH	0.475	21	PASS
	MCH	0.994	21	PASS
	HCH	0.918	21	PASS
8DPSK	LCH	0.461	21	PASS
	MCH	0.965	21	PASS
	HCH	0.992	21	PASS

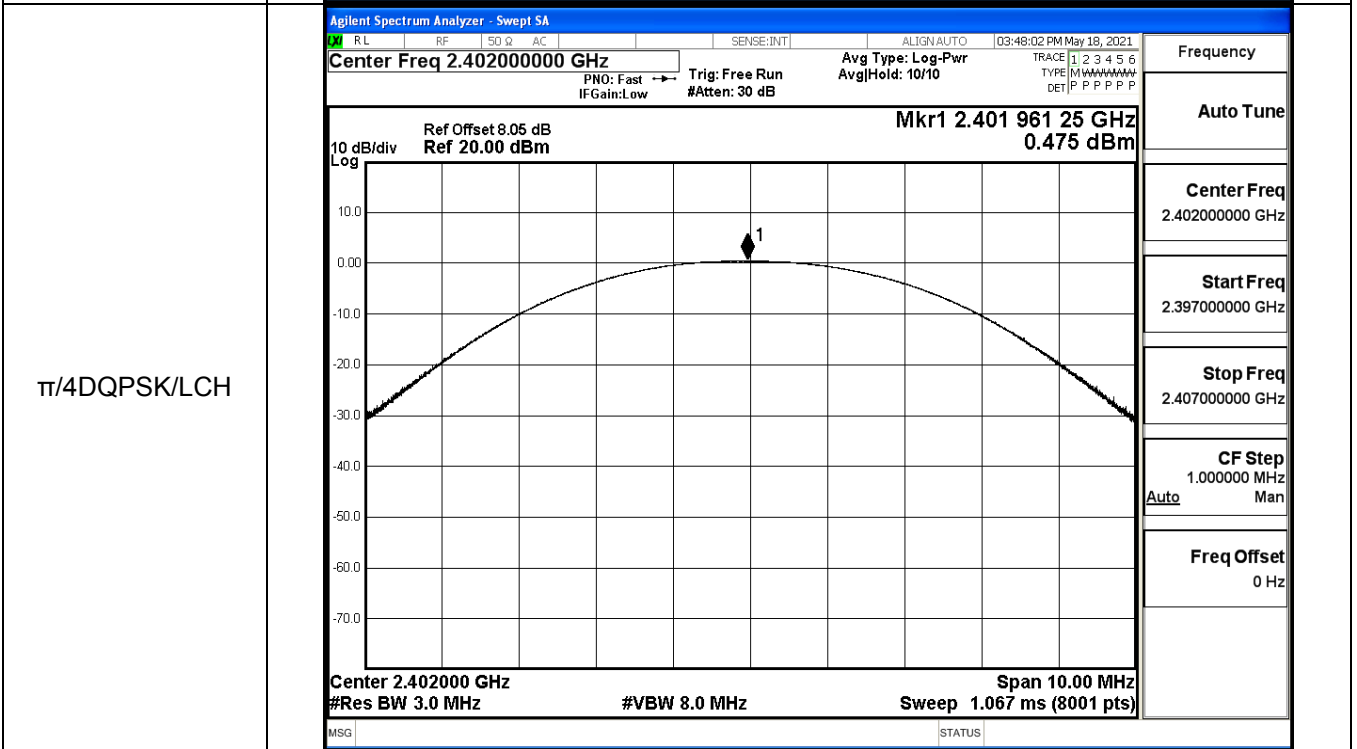
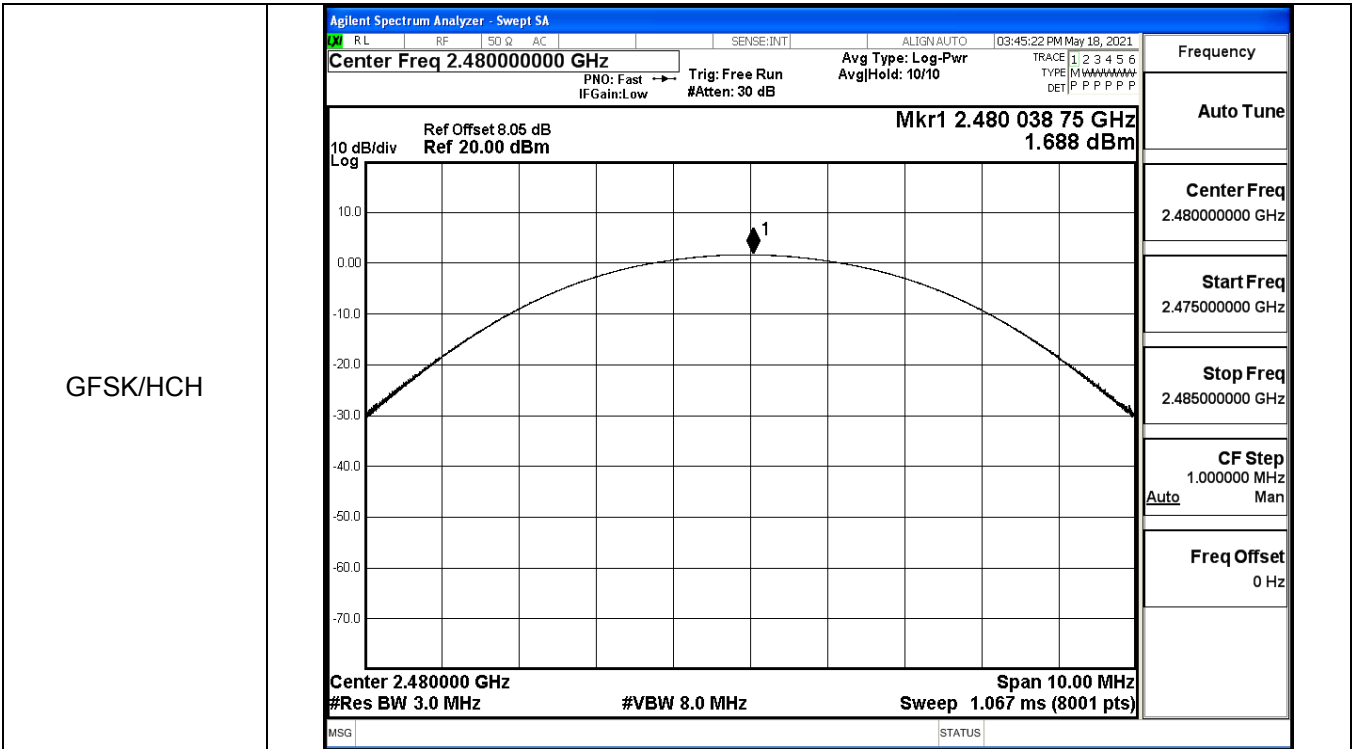
Test Graphs

GFSK/LCH

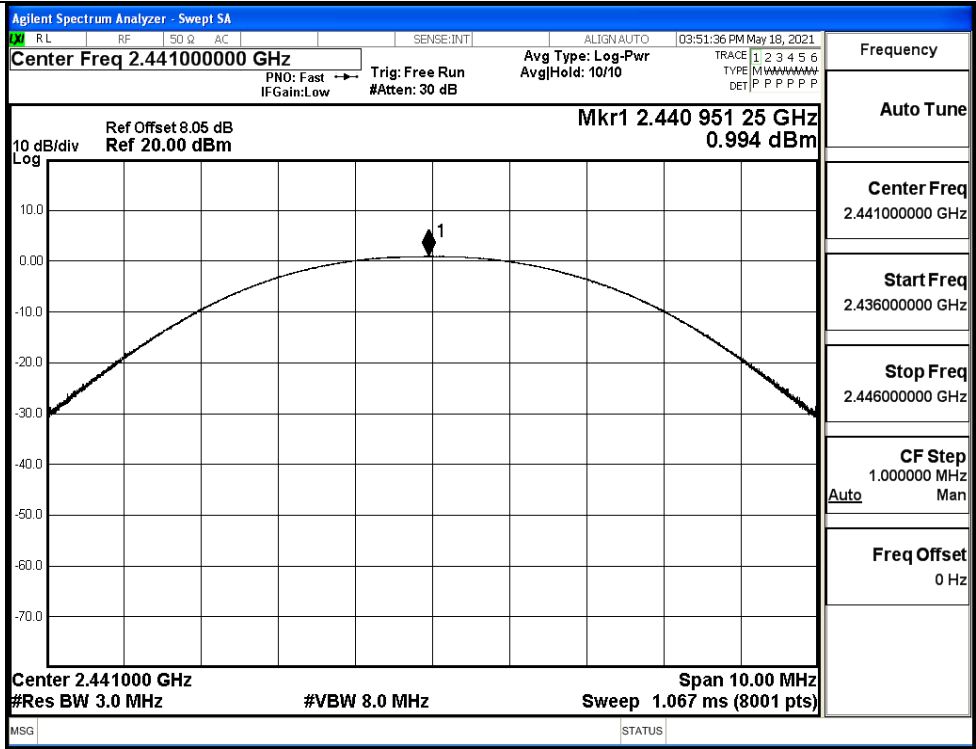


GFSK/MCH

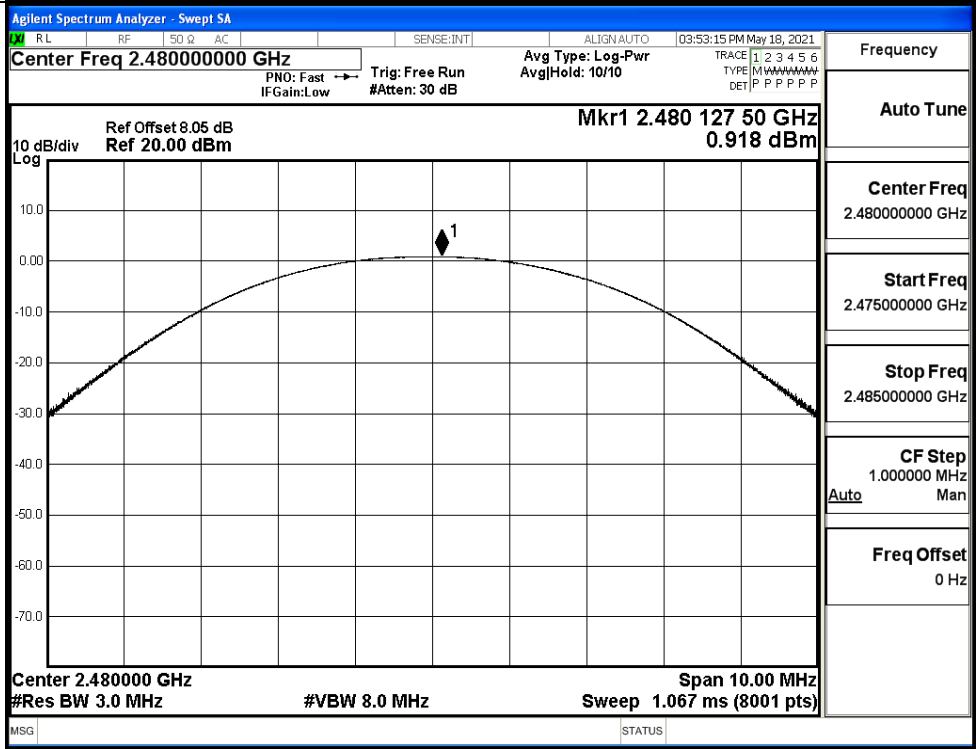




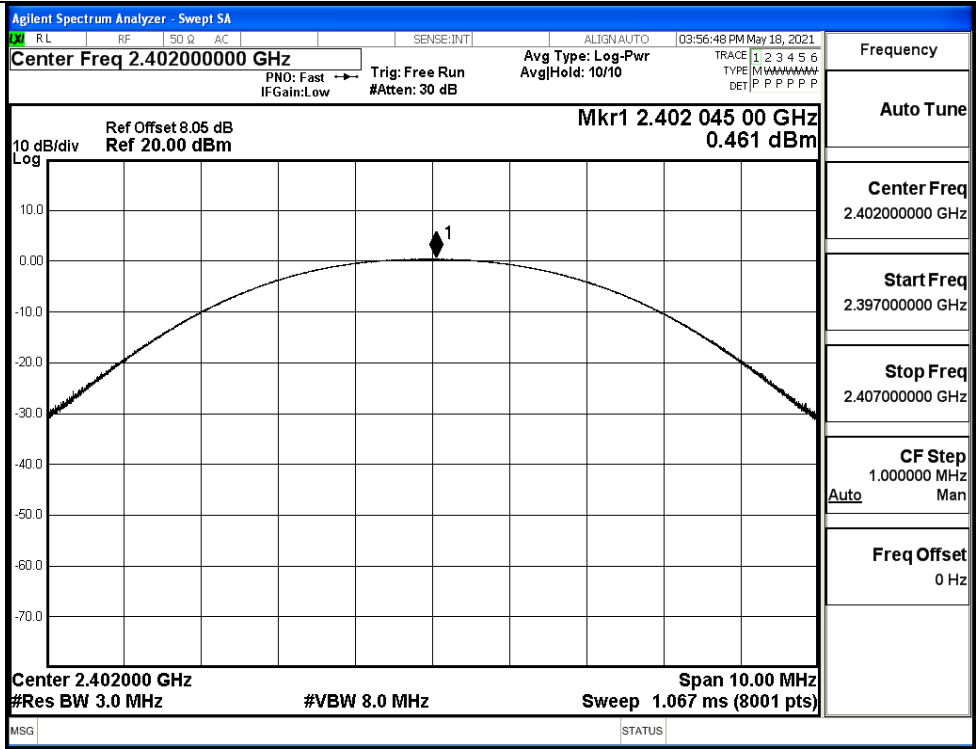
$\pi/4$ DQPSK/MCH



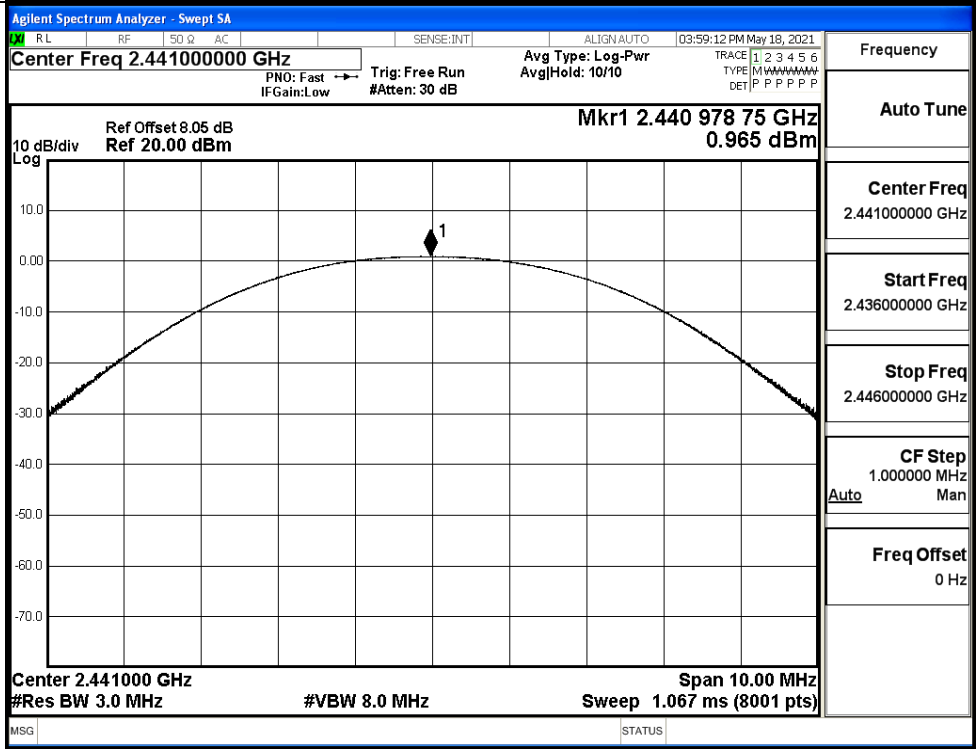
$\pi/4$ DQPSK/HCH



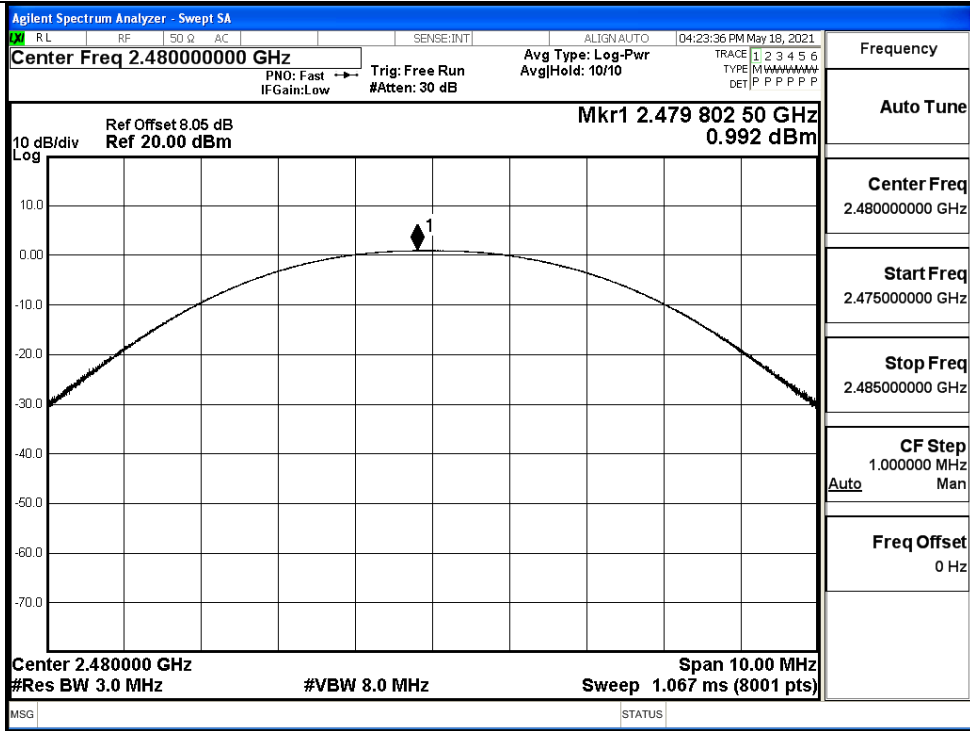
8DPSK/LCH



8DPSK/MCH

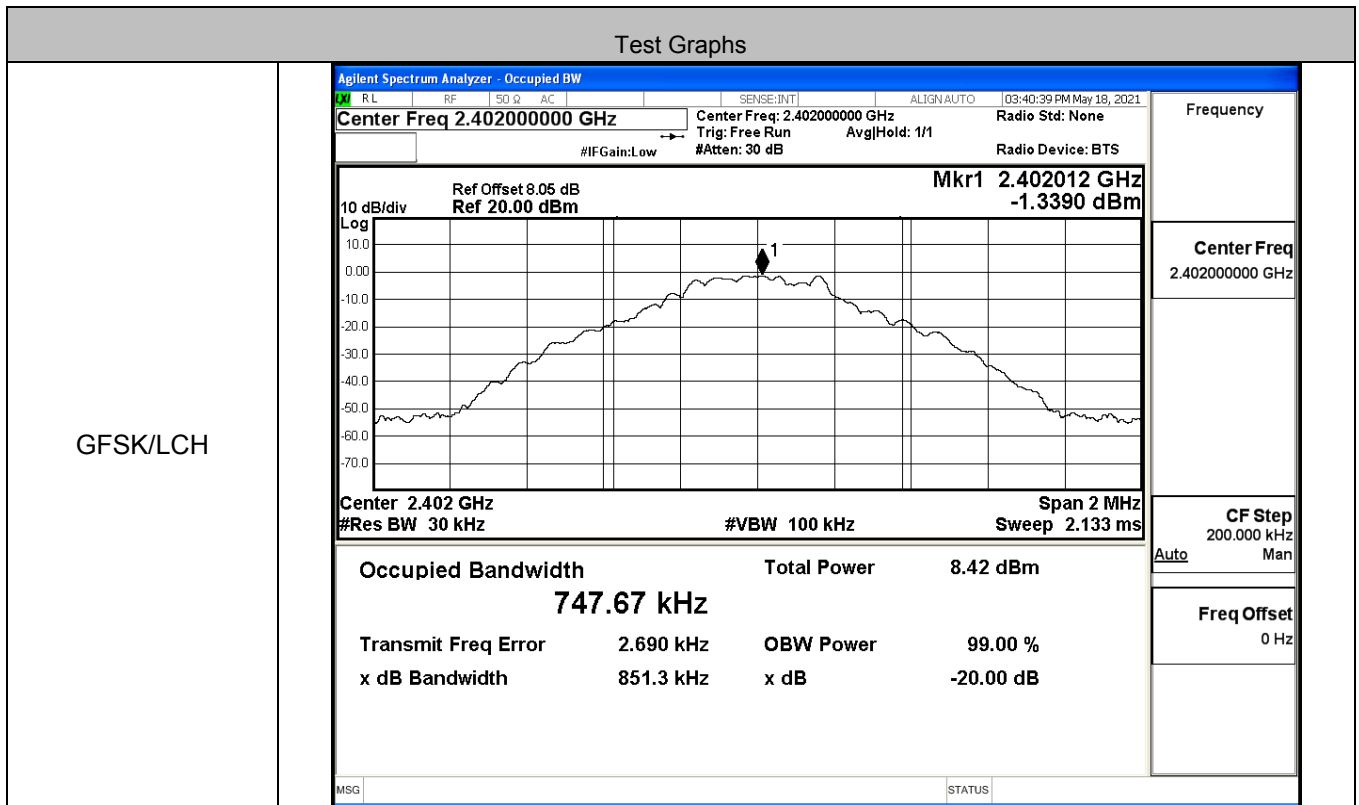


8DPSK/HCH

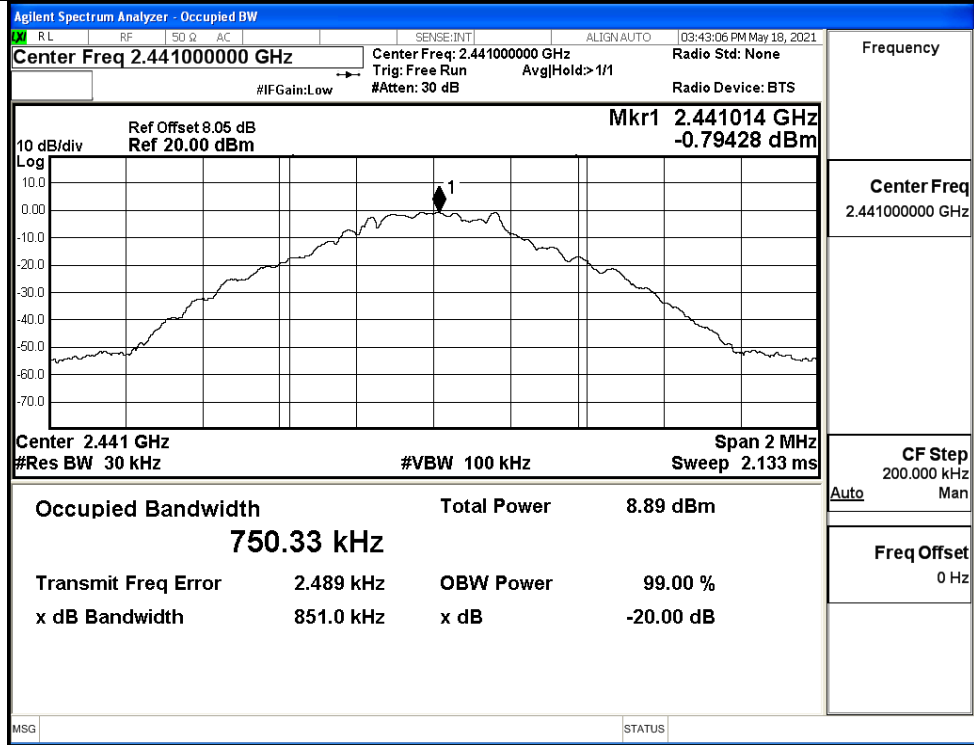


A.2 20dB Bandwidth

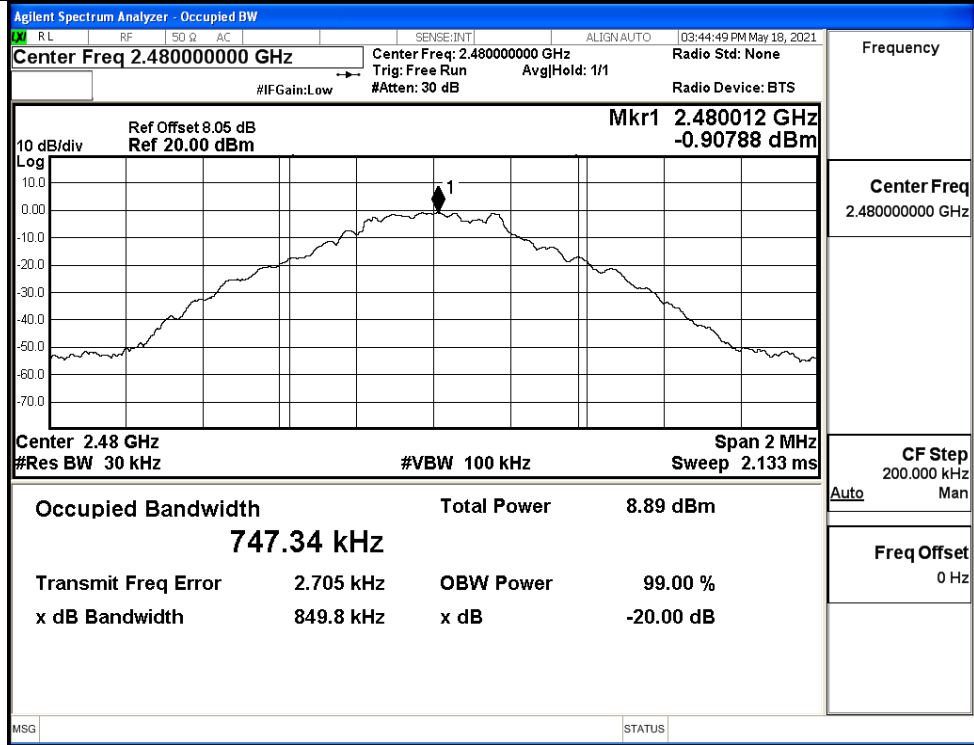
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.8513	Not Specified	PASS
	MCH	0.8510	Not Specified	PASS
	HCH	0.8498	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.266	Not Specified	PASS
	MCH	1.271	Not Specified	PASS
	HCH	1.270	Not Specified	PASS
8DPSK	LCH	1.287	Not Specified	PASS
	MCH	1.271	Not Specified	PASS
	HCH	1.270	Not Specified	PASS



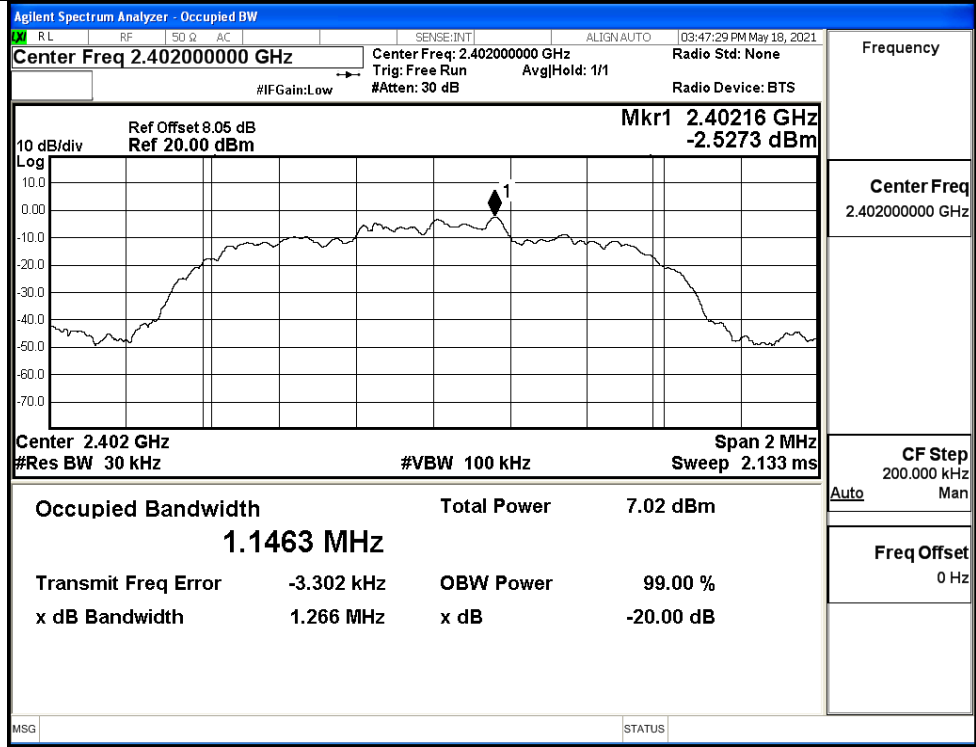
GFSK/MCH



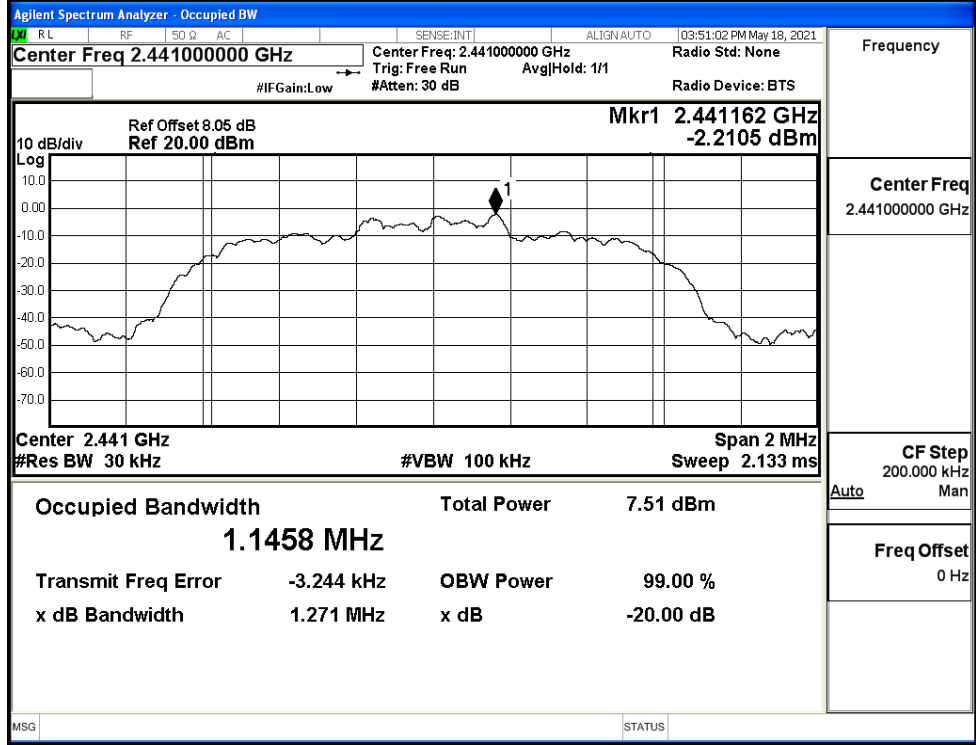
GFSK/HCH



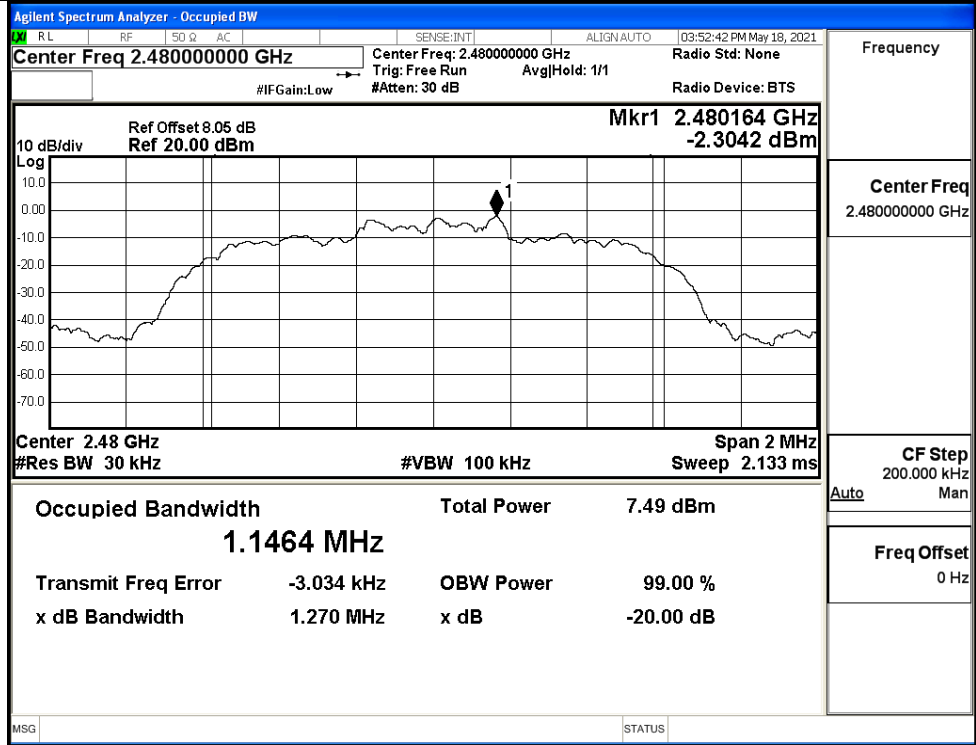
$\pi/4$ DQPSK/LCH



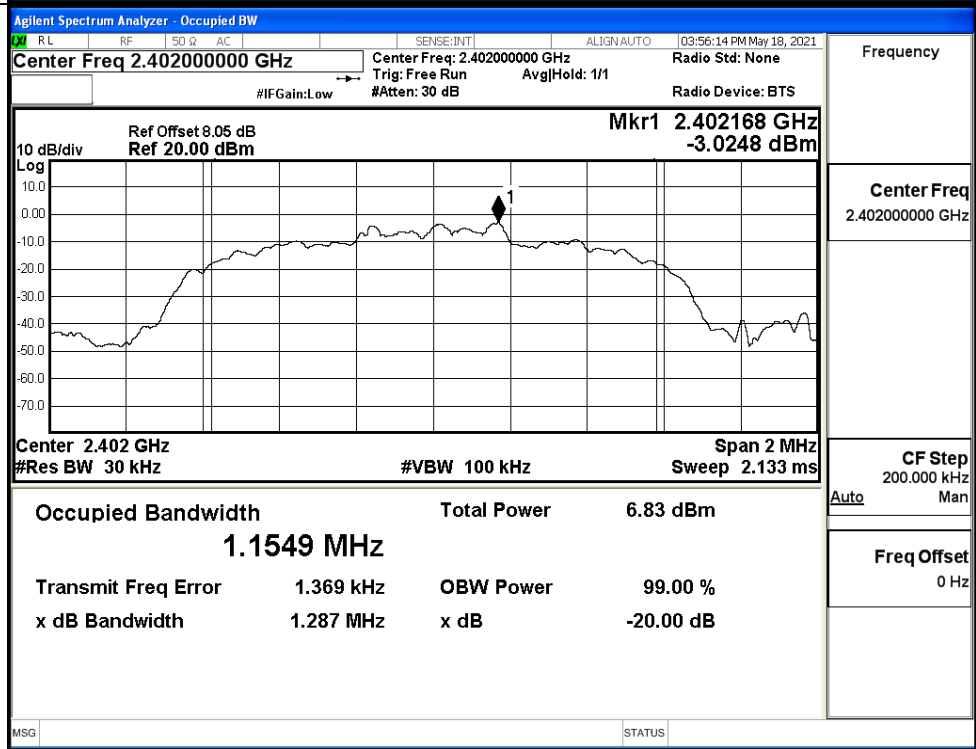
$\pi/4$ DQPSK/MCH



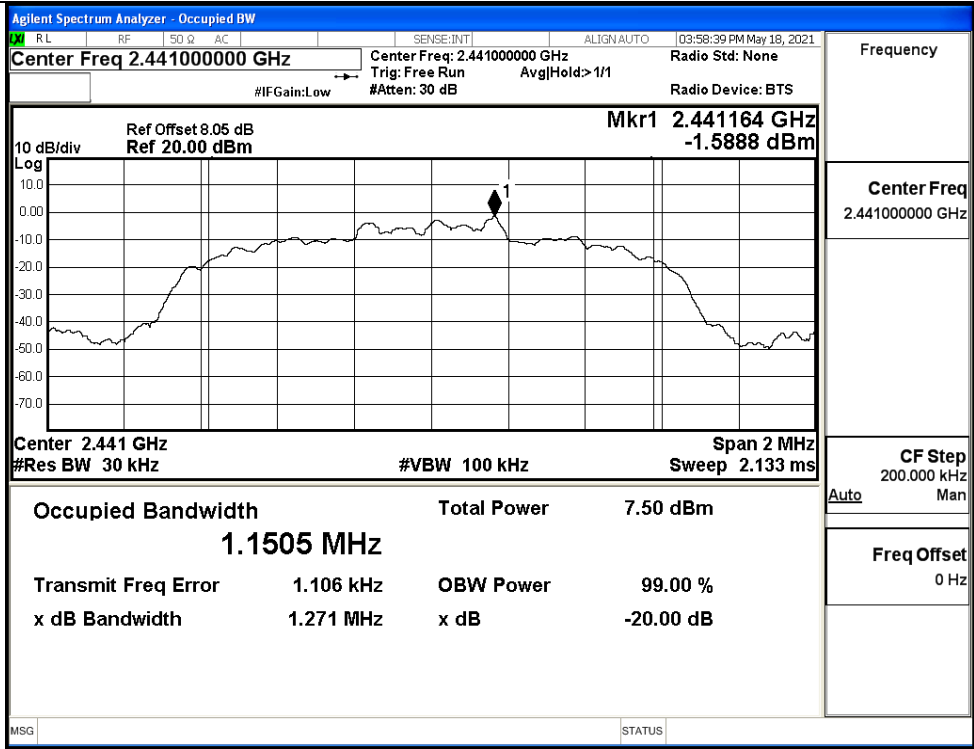
$\pi/4$ DQPSK/HCH



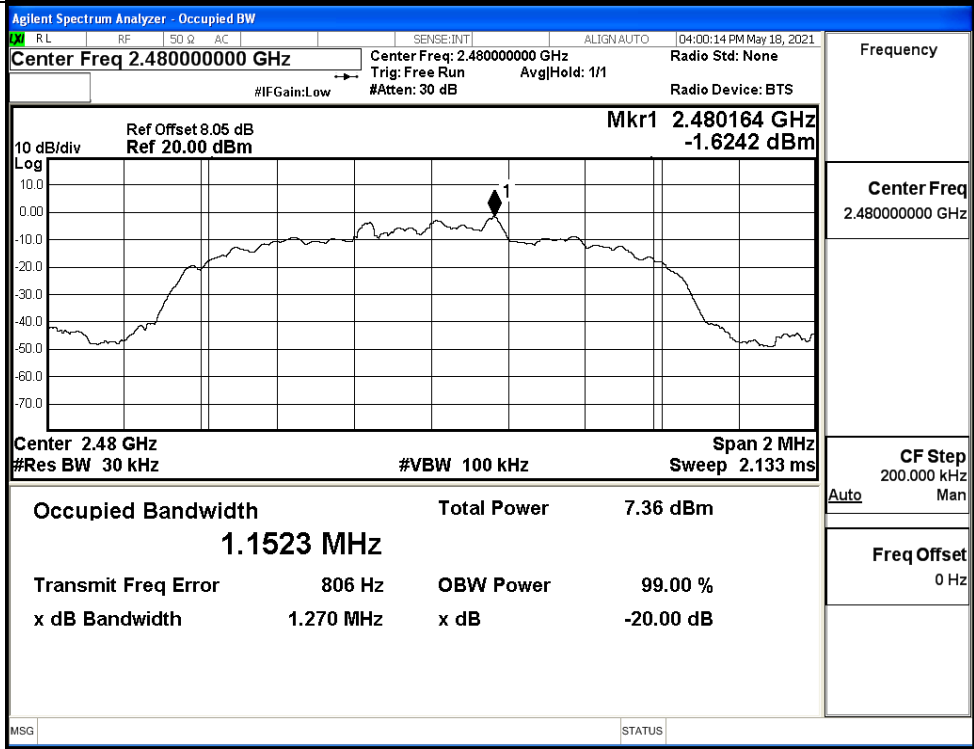
8DPSK/LCH



8DPSK/MCH

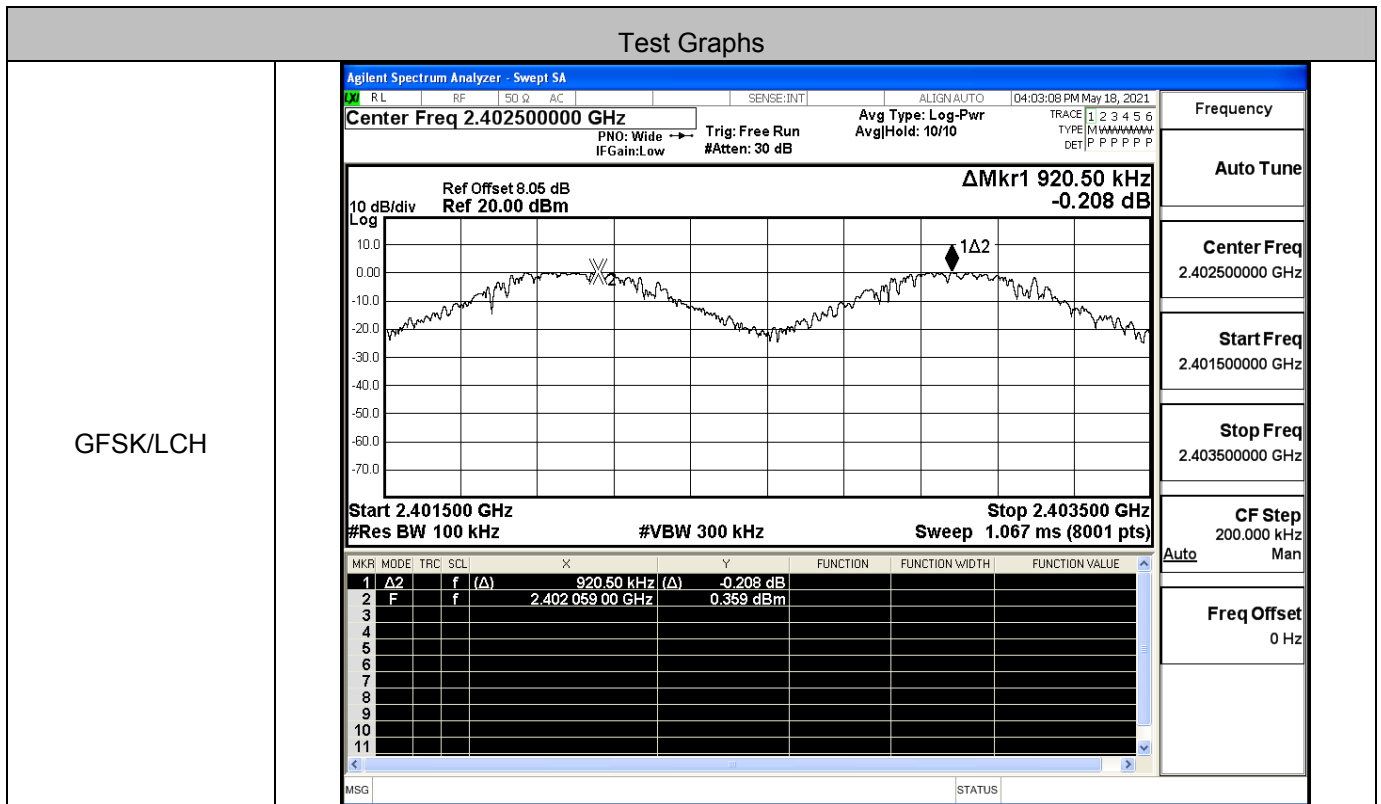


8DPSK/HCH

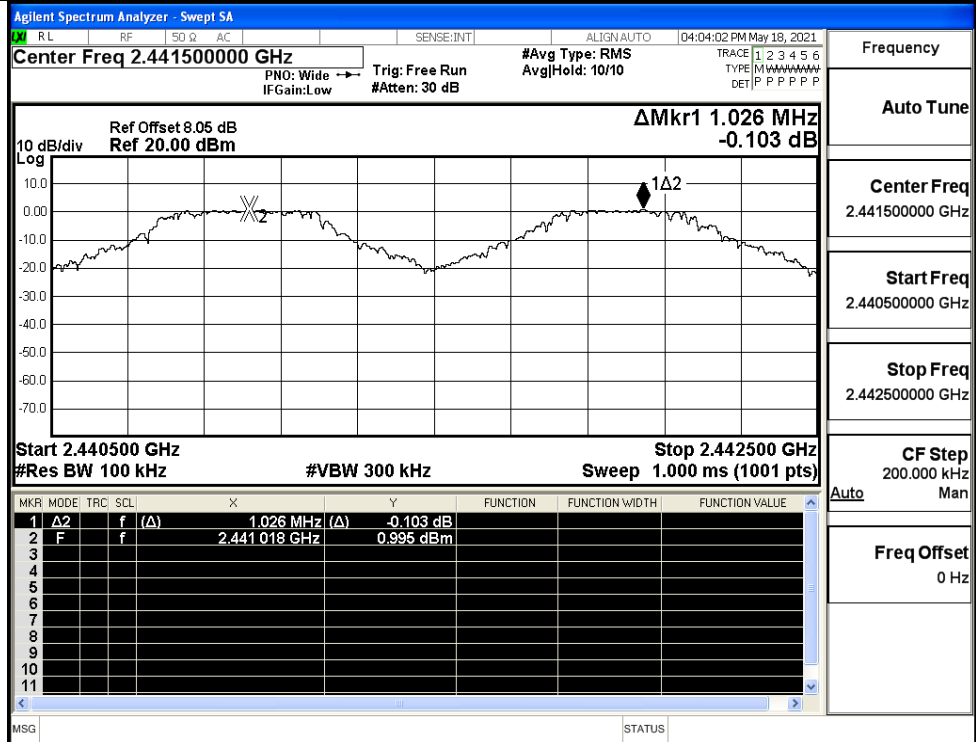


A.3 Carrier Frequency Separation

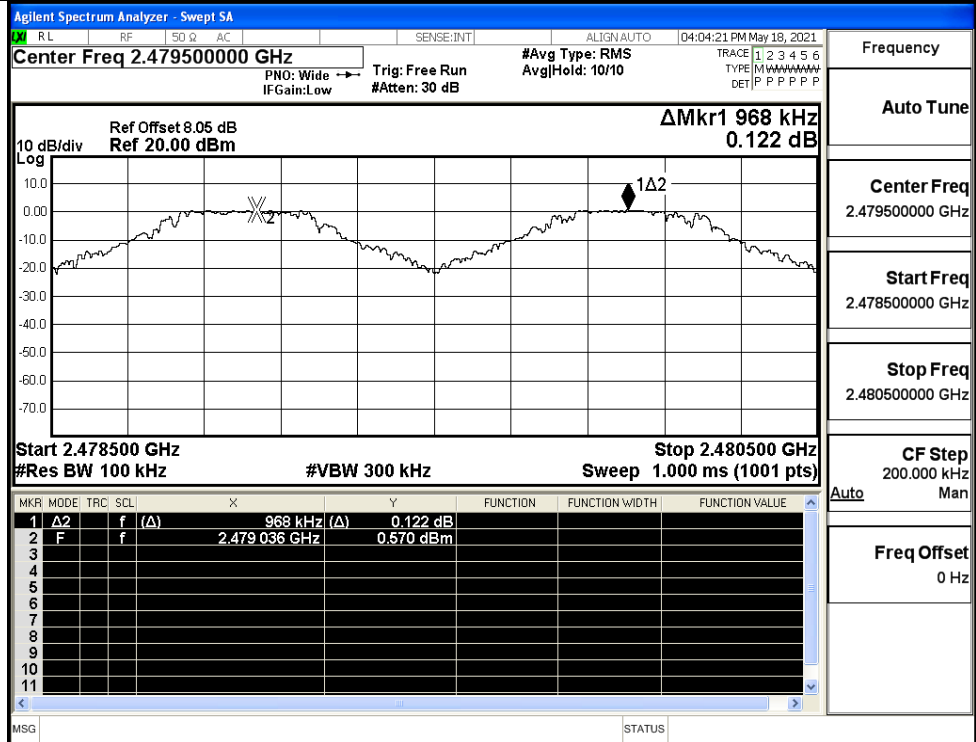
Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.920	0.568	PASS
	MCH	1.026	0.568	PASS
	HCH	0.968	0.568	PASS
π/4DQPSK	LCH	1.278	0.847	PASS
	MCH	0.994	0.847	PASS
	HCH	0.980	0.847	PASS
8DPSK	LCH	1.070	0.858	PASS
	MCH	1.184	0.858	PASS
	HCH	1.072	0.858	PASS



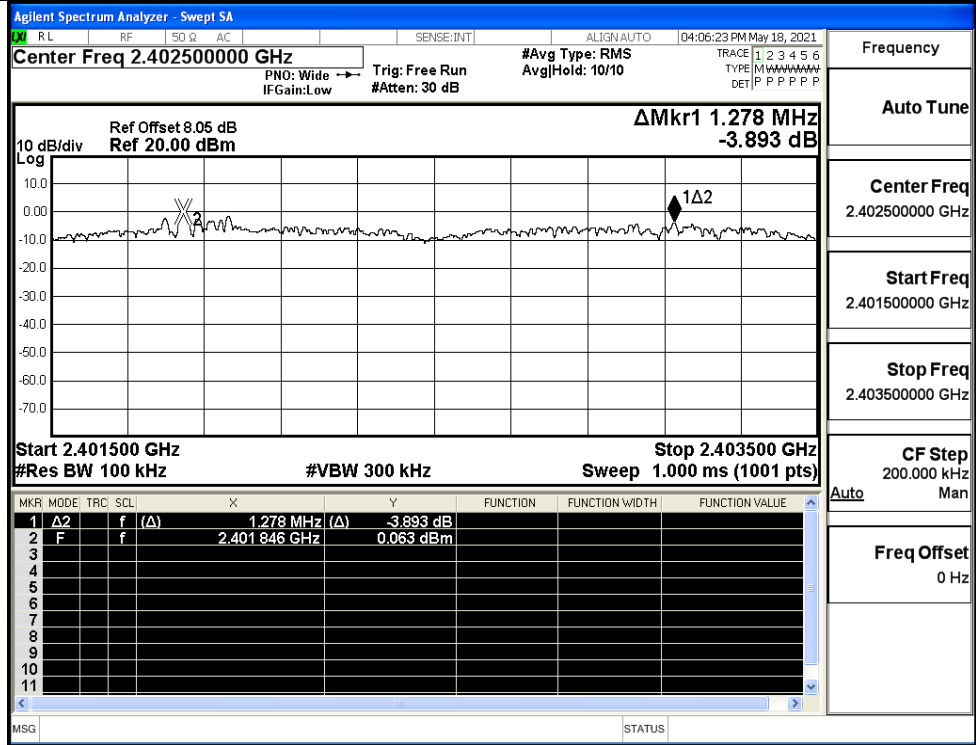
GFSK/MCH



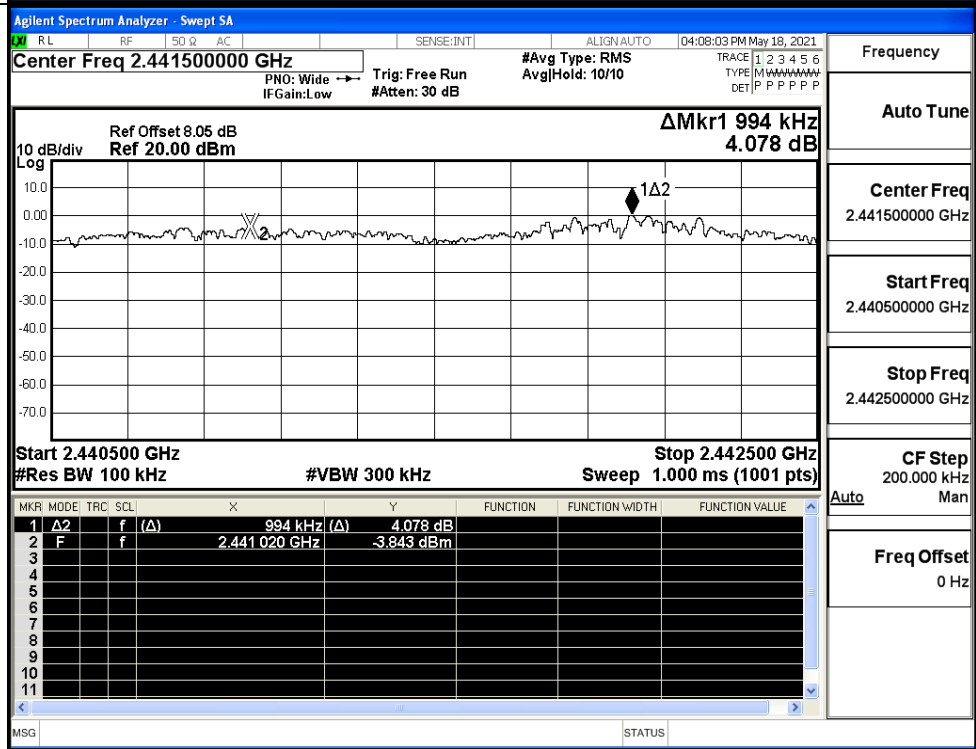
GFSK/HCH



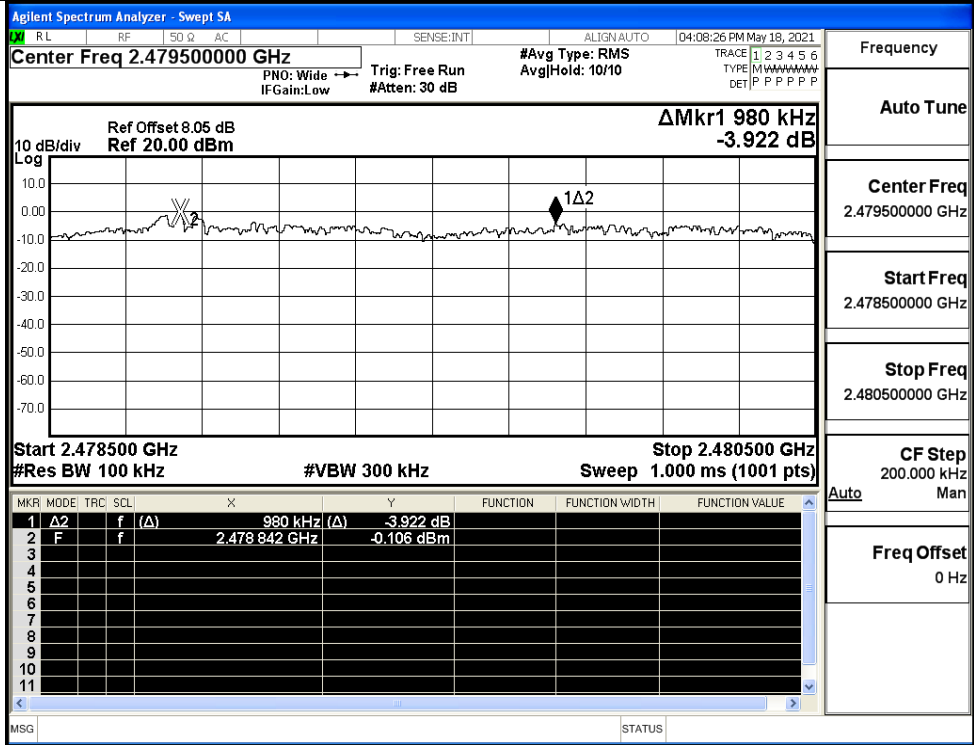
π/4DQPSK/LCH



π/4DQPSK/MCH

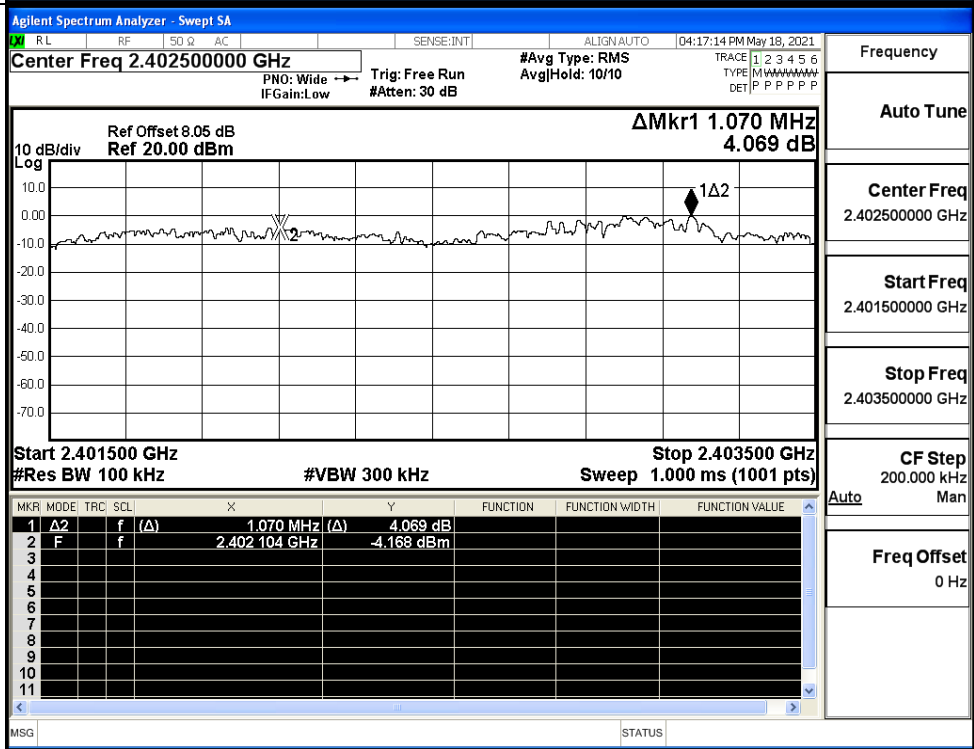


π/4DQPSK/HCH



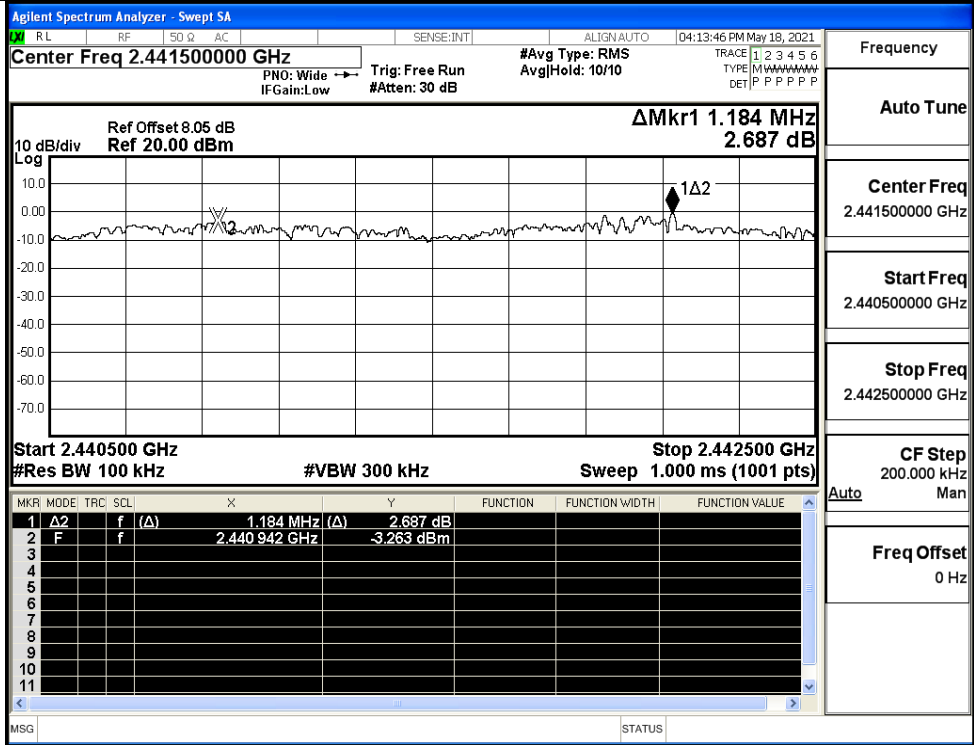
Frequency
Auto Tune
Center Freq 2.479500000 GHz
Start Freq 2.478500000 GHz
Stop Freq 2.480500000 GHz
CF Step 200.000 kHz Auto
Freq Offset 0 Hz

8DPSK/LCH

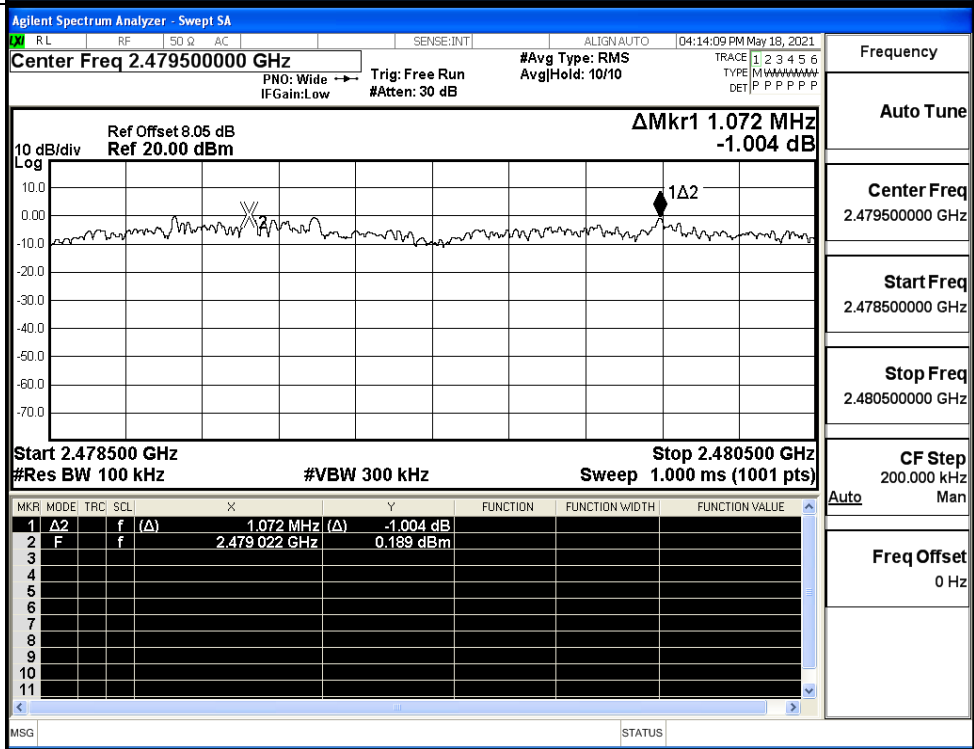


Frequency
Auto Tune
Center Freq 2.402500000 GHz
Start Freq 2.401500000 GHz
Stop Freq 2.403500000 GHz
CF Step 200.000 kHz Auto
Freq Offset 0 Hz

8DPSK/MCH



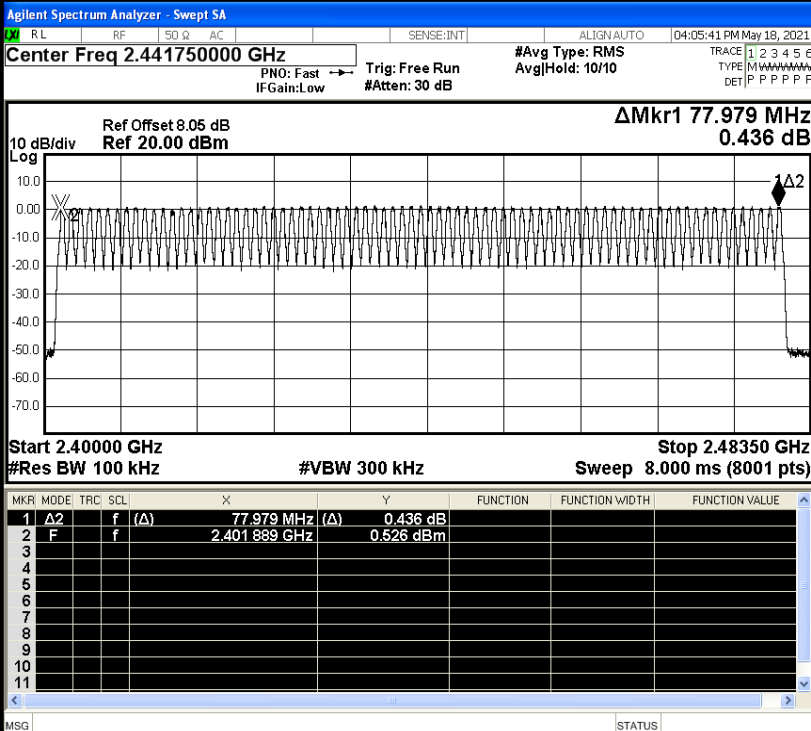
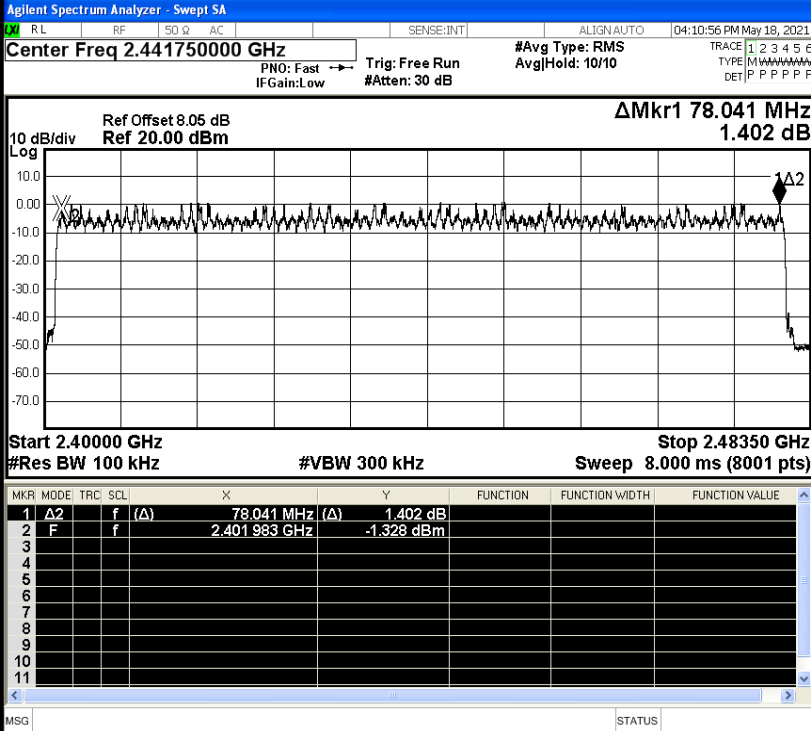
8DPSK/HCH



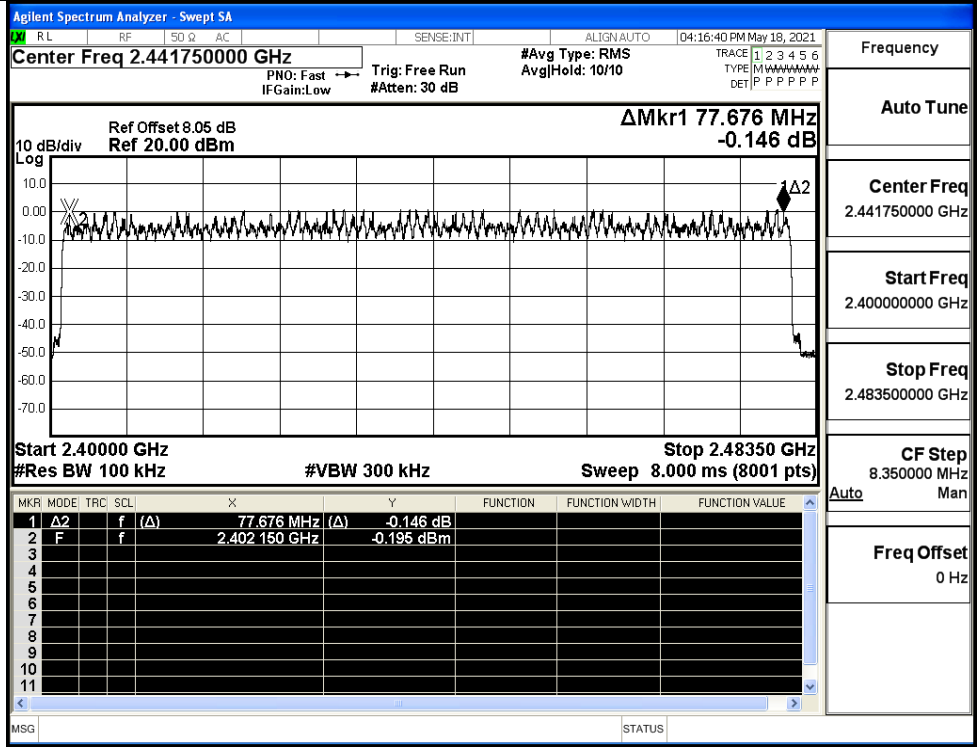
A.4 Hopping Channel Number

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

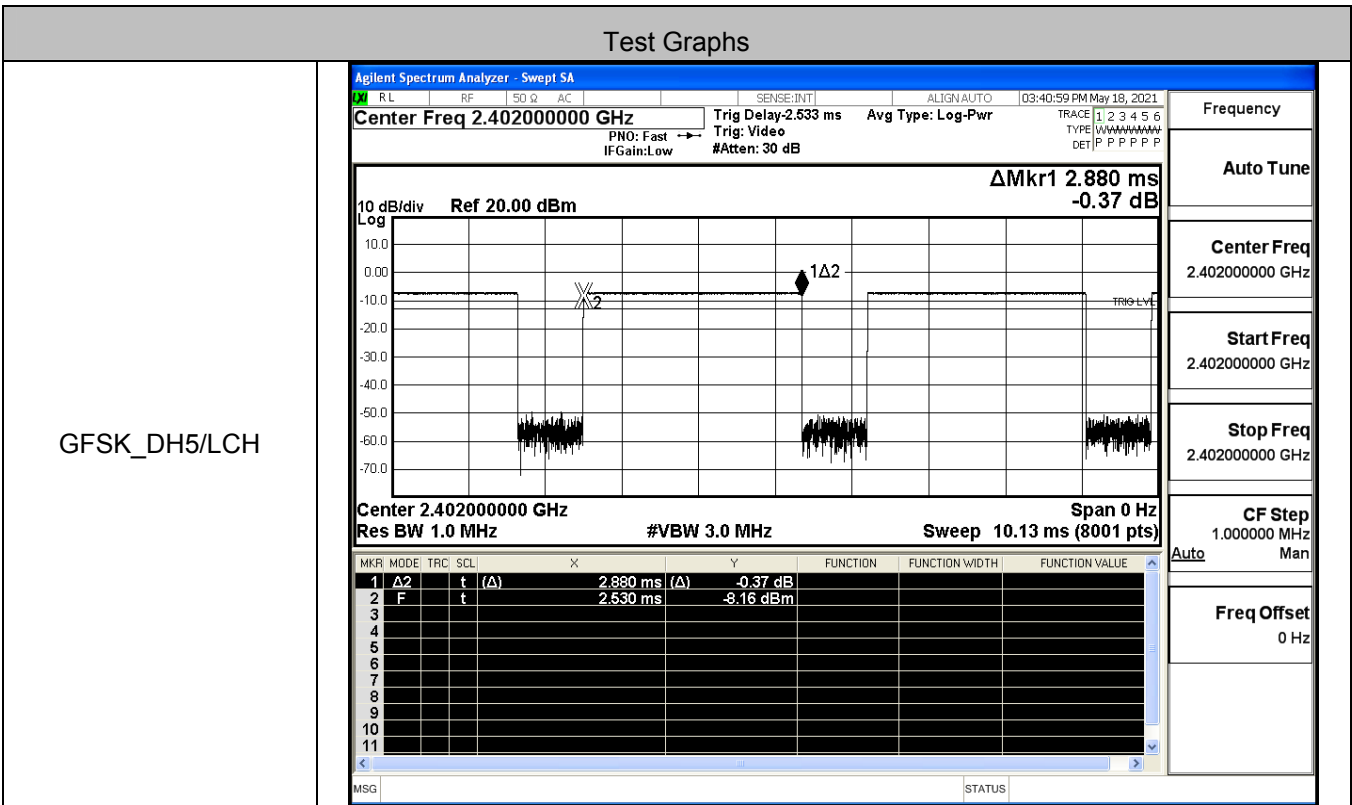
GFSK/Hop	 <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.441750000 GHz</p> <p>Ref Offset 8.05 dB, Ref 20.00 dBm</p> <p>ΔMkr1 77.979 MHz, 0.436 dB</p> <p>Start 2.40000 GHz, Stop 2.48350 GHz</p> <p>#Res BW 100 kHz, #VBW 300 kHz, Sweep 8.000 ms (8001 pts)</p> <table border="1" style="width: 100%; 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>77.979 MHz</td> <td>0.436 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td></td> <td>2.401 889 GHz</td> <td>0.526 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)	77.979 MHz	0.436 dB				2	F	f		2.401 889 GHz	0.526 dBm			
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	Δ 2	f	(Δ)	77.979 MHz	0.436 dB																							
2	F	f		2.401 889 GHz	0.526 dBm																							
$\pi/4$ DQPSK/Hop	 <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 78.041 MHz, 1.402 dB</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" style="width: 100%; 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>78.041 MHz</td> <td>1.402 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td></td> <td>2.401 983 GHz</td> <td>-1.328 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)	78.041 MHz	1.402 dB				2	F	f		2.401 983 GHz	-1.328 dBm			
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	Δ 2	f	(Δ)	78.041 MHz	1.402 dB																							
2	F	f		2.401 983 GHz	-1.328 dBm																							

8DPSK/Hop

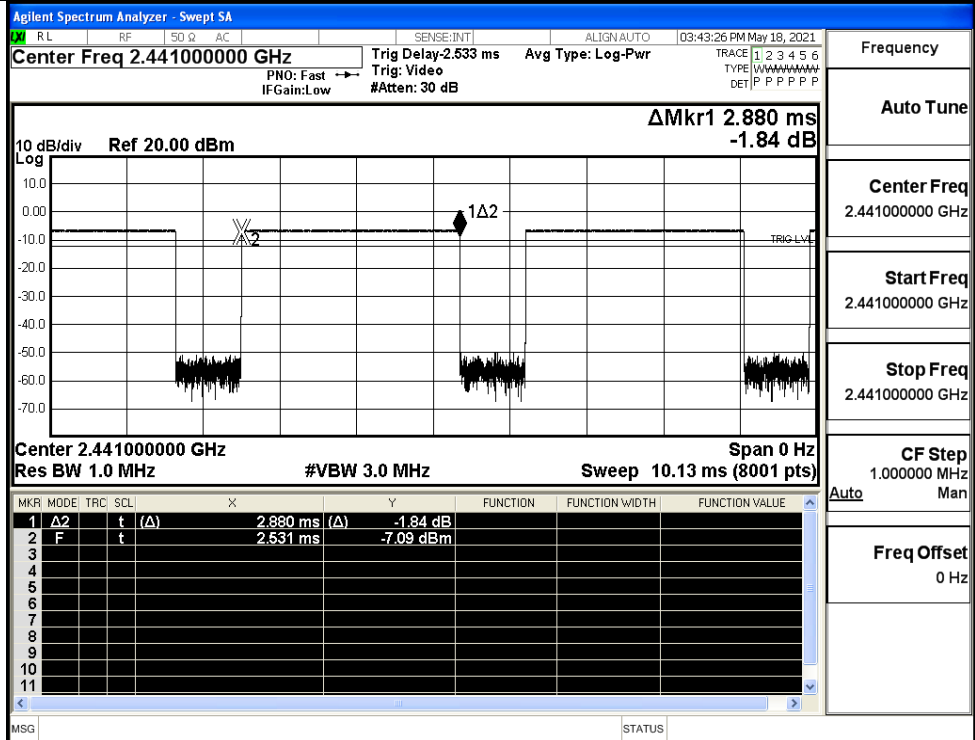


A.5 Dwell Time

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
$\pi/4$ 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/MCH



Frequency

Auto Tune

Center Freq
2.441000000 GHz

Start Freq
2.441000000 GHz

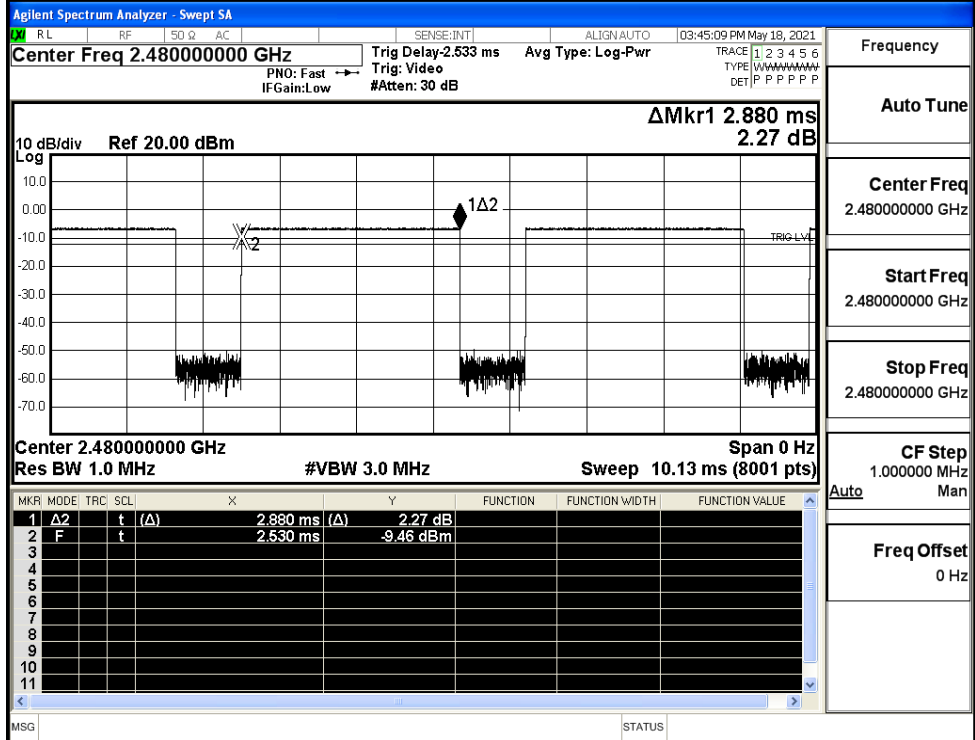
Stop Freq
2.441000000 GHz

CF Step
1.000000 MHz

Auto Man

Freq Offset
0 Hz

GFSK_DH5/HCH



Frequency

Auto Tune

Center Freq
2.480000000 GHz

Start Freq
2.480000000 GHz

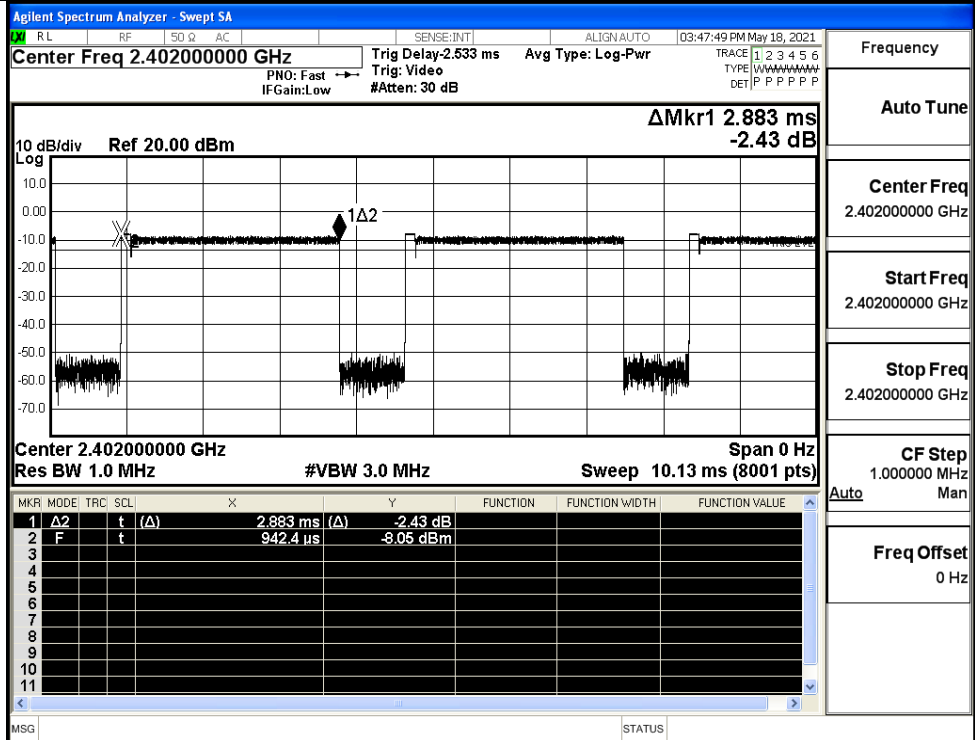
Stop Freq
2.480000000 GHz

CF Step
1.000000 MHz

Auto Man

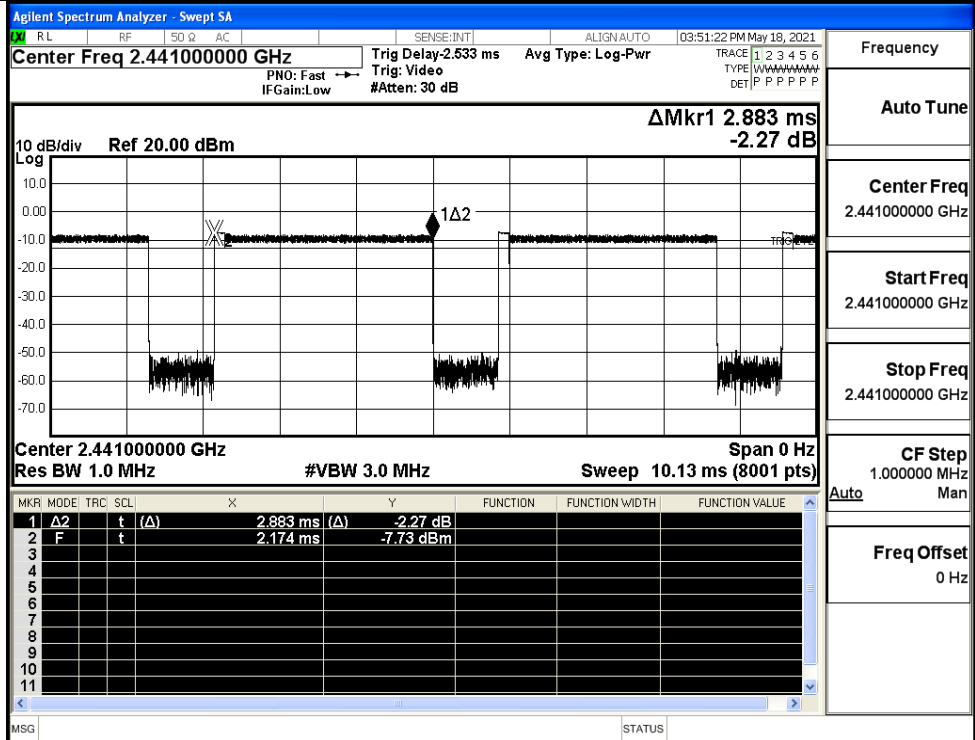
Freq Offset
0 Hz

π /4DQPSK
_2DH5/LCH



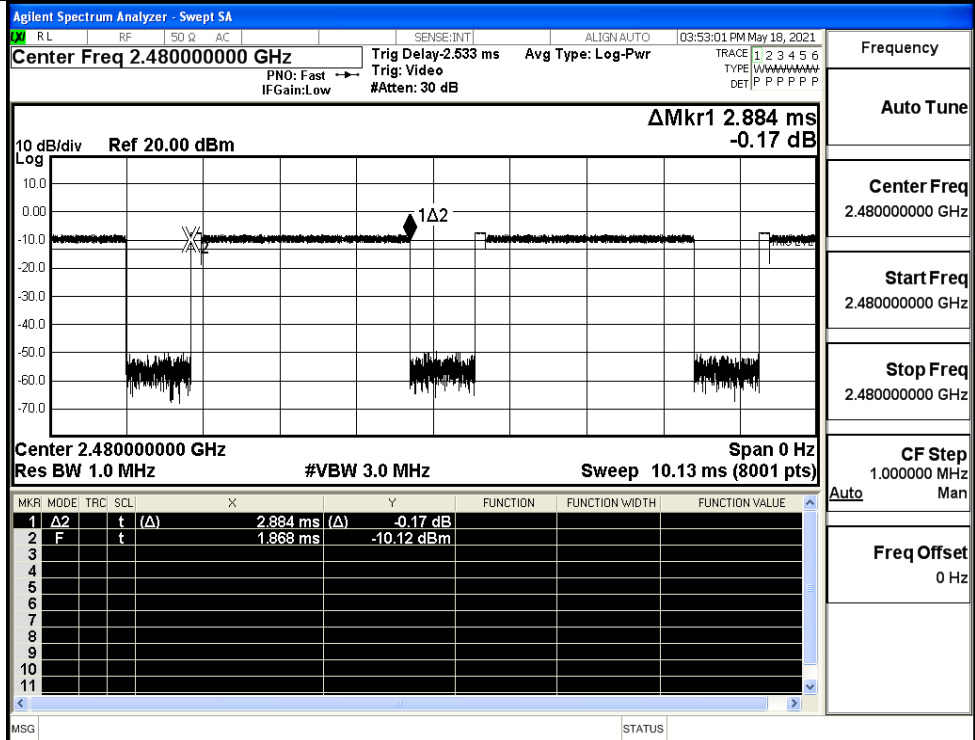
Frequency	2.402000000 GHz
Auto Tune	
Center Freq	2.402000000 GHz
Start Freq	2.402000000 GHz
Stop Freq	2.402000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

π /4DQPSK
_2DH5/MCH

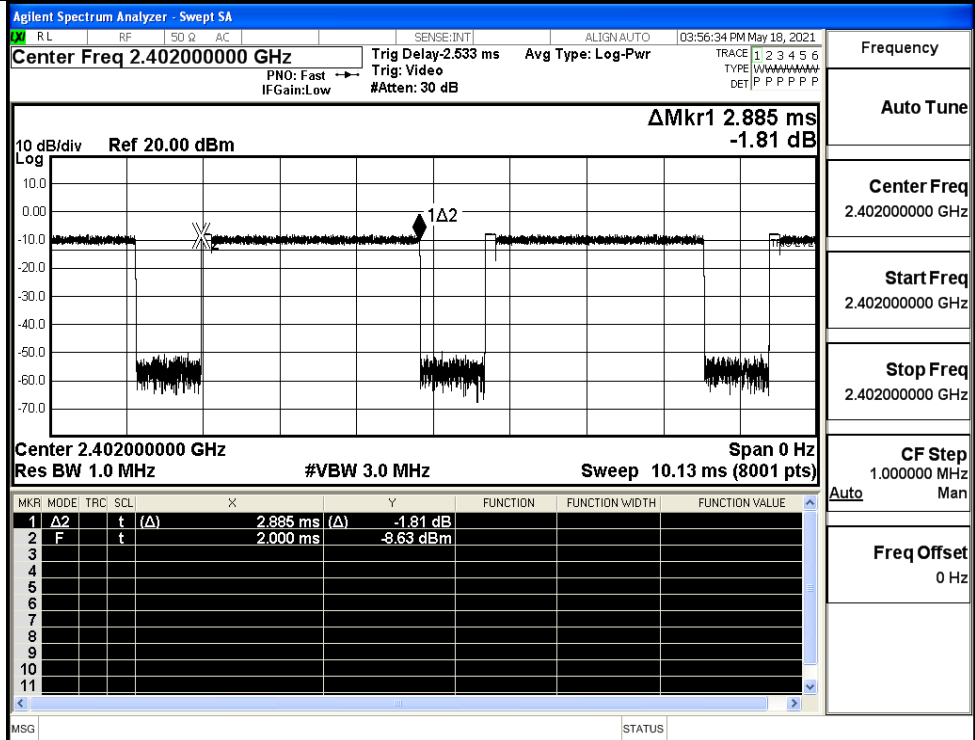


Frequency	2.441000000 GHz
Auto Tune	
Center Freq	2.441000000 GHz
Start Freq	2.441000000 GHz
Stop Freq	2.441000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

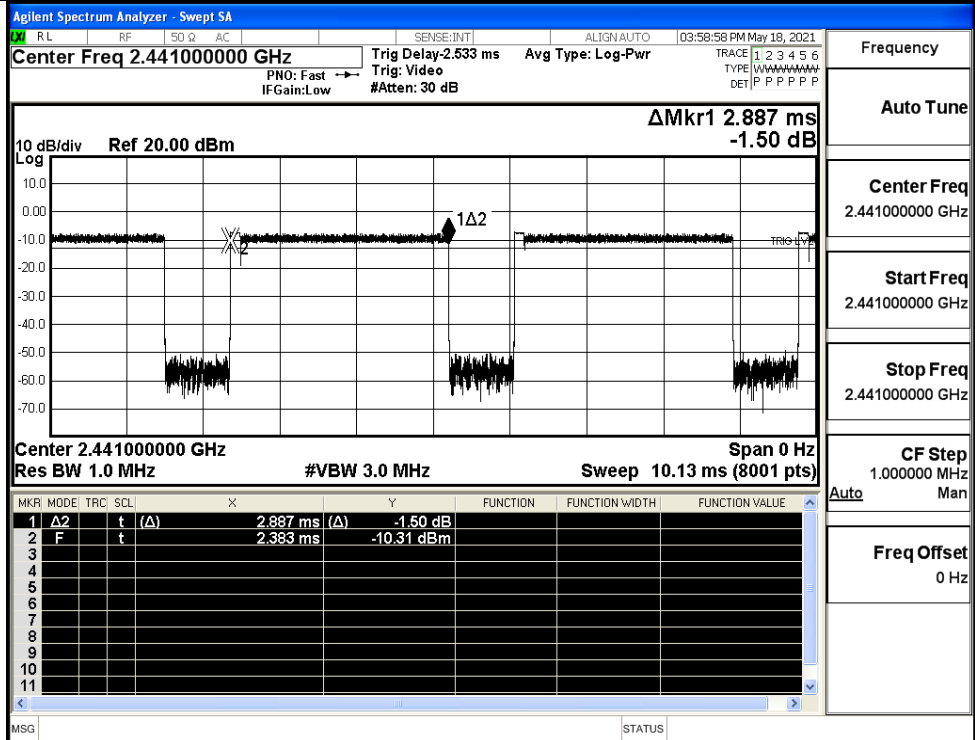
π /4DQPSK
_2DH5/HCH



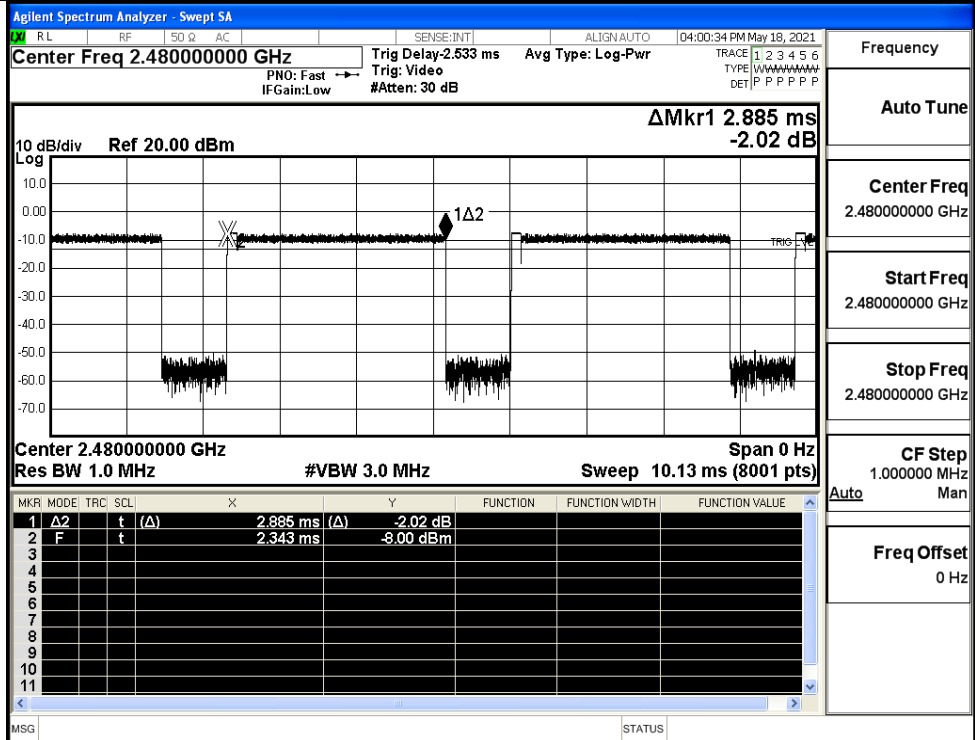
8DPSK_3DH5/LCH



8DPSK_3DH5/MCH



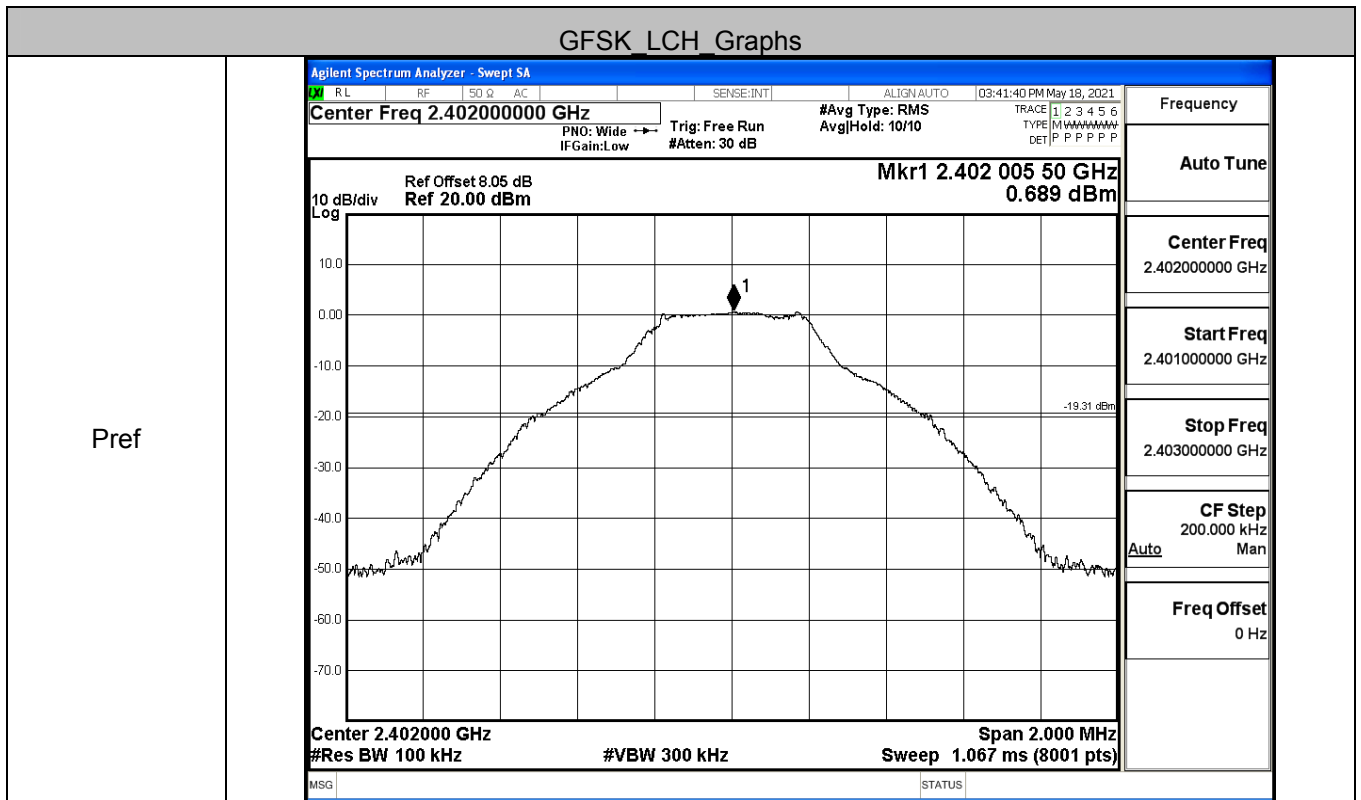
8DPSK_3DH5/HCH

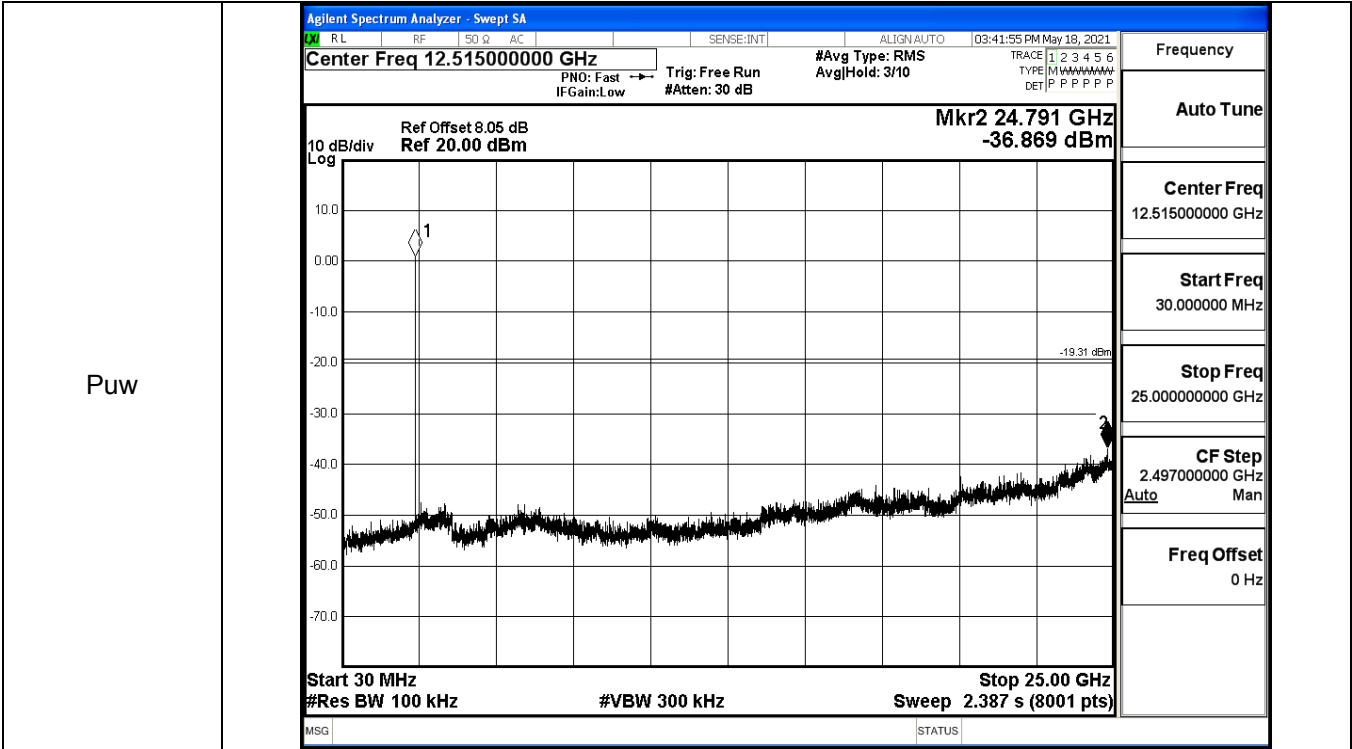


A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.689	-36.869	-19.311	PASS
	MCH	1.037	-37.918	-18.963	PASS
	HCH	1.19	-38.467	-18.810	PASS
π /4DQPSK	LCH	0.154	-36.992	-19.846	PASS
	MCH	0.637	-38.245	-19.363	PASS
	HCH	0.666	-37.172	-19.334	PASS
8DPSK	LCH	0.142	-37.762	-19.858	PASS
	MCH	0.586	-37.606	-19.414	PASS
	HCH	0.627	-38.061	-19.373	PASS

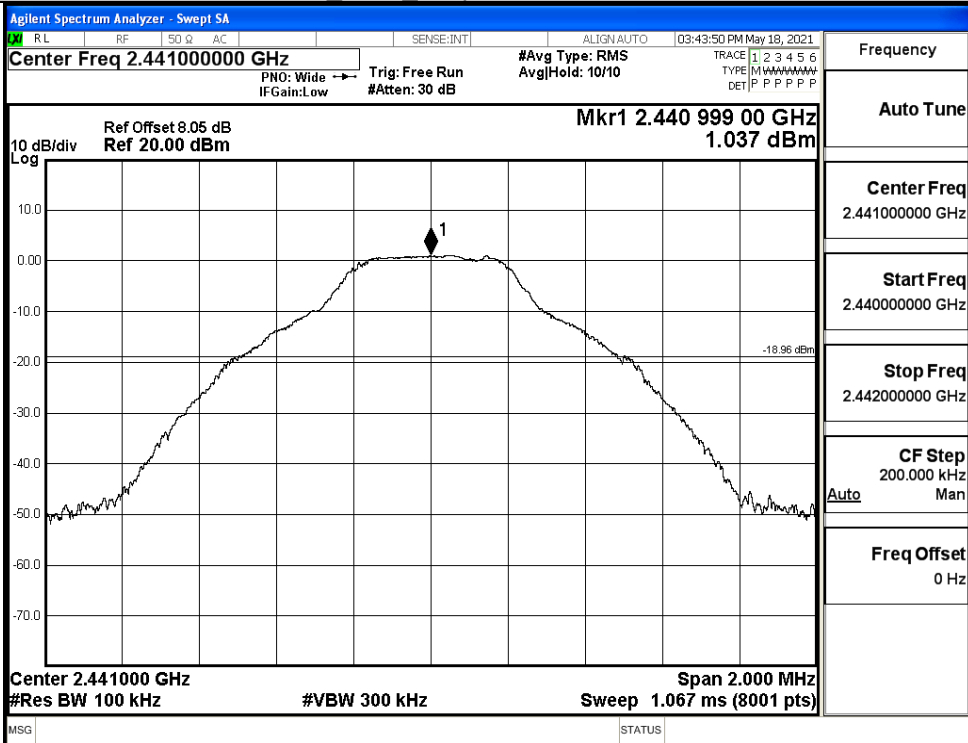
GFSK LCH Graphs



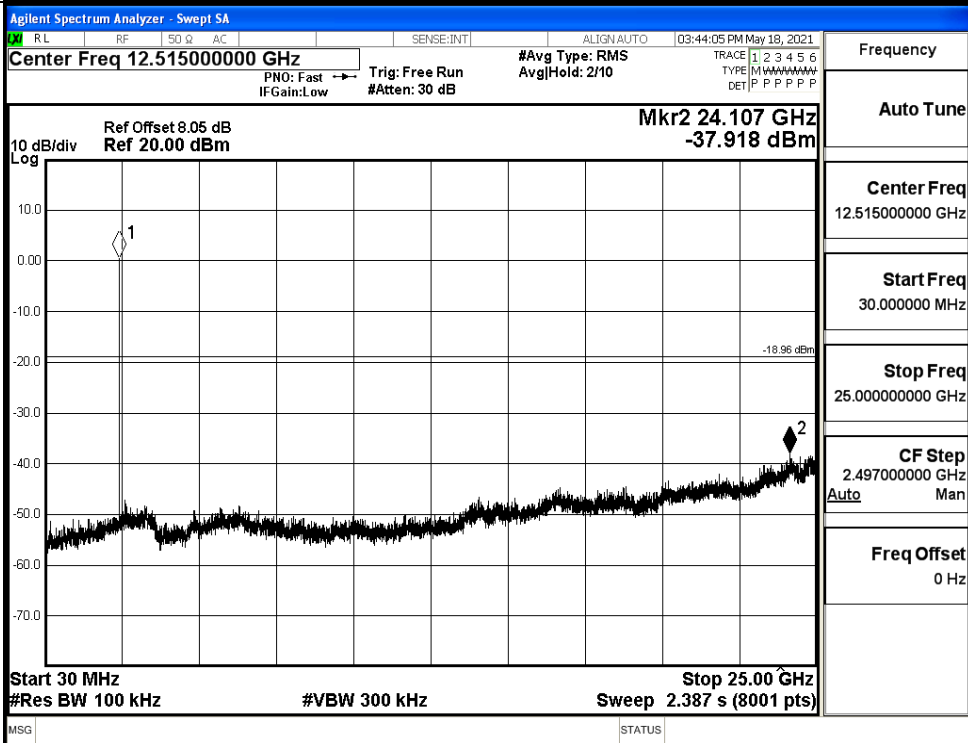


GFSK_MCH_Graphs

Pref

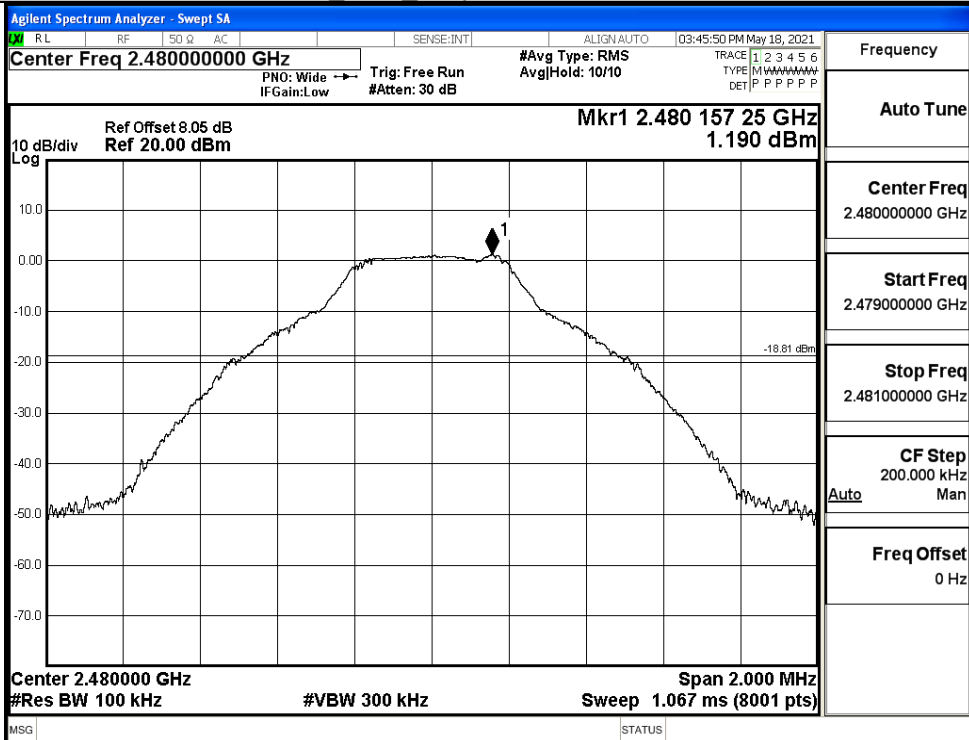


Puw

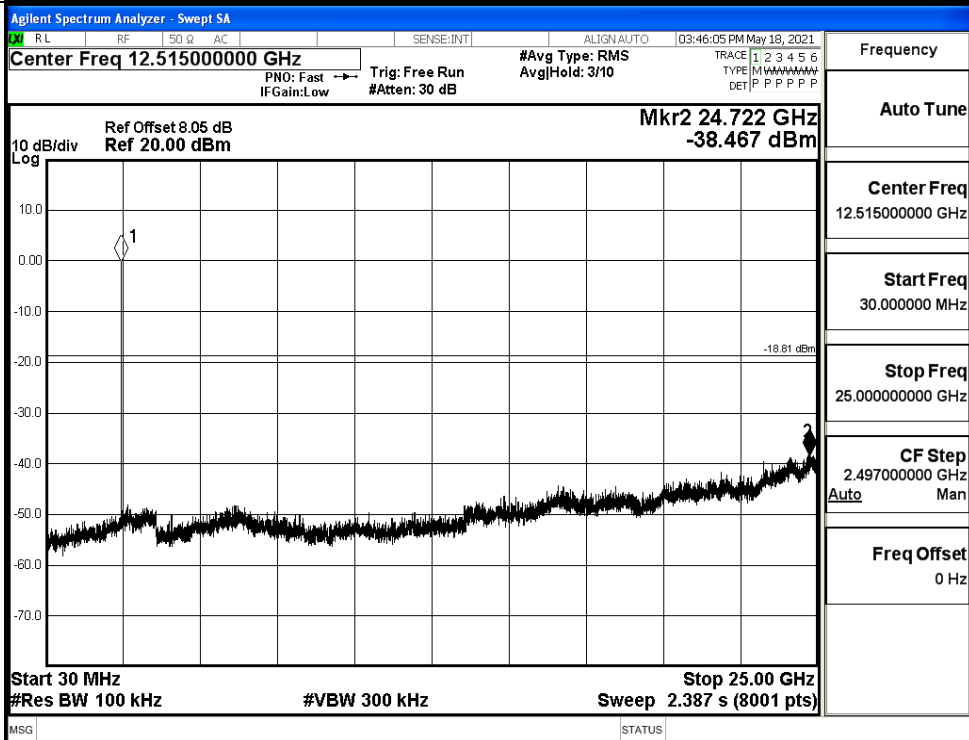


GFSK_HCH_Graphs

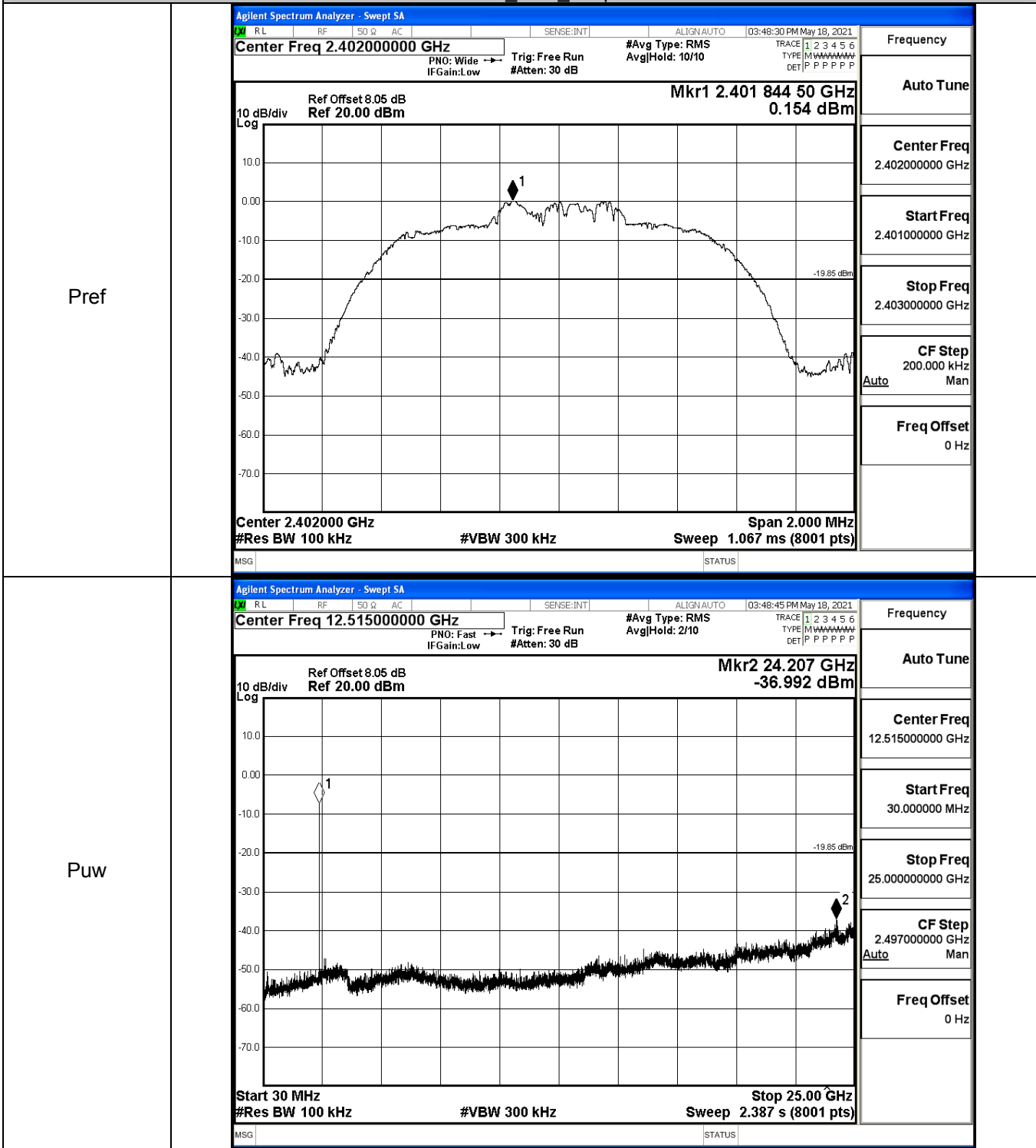
Pref



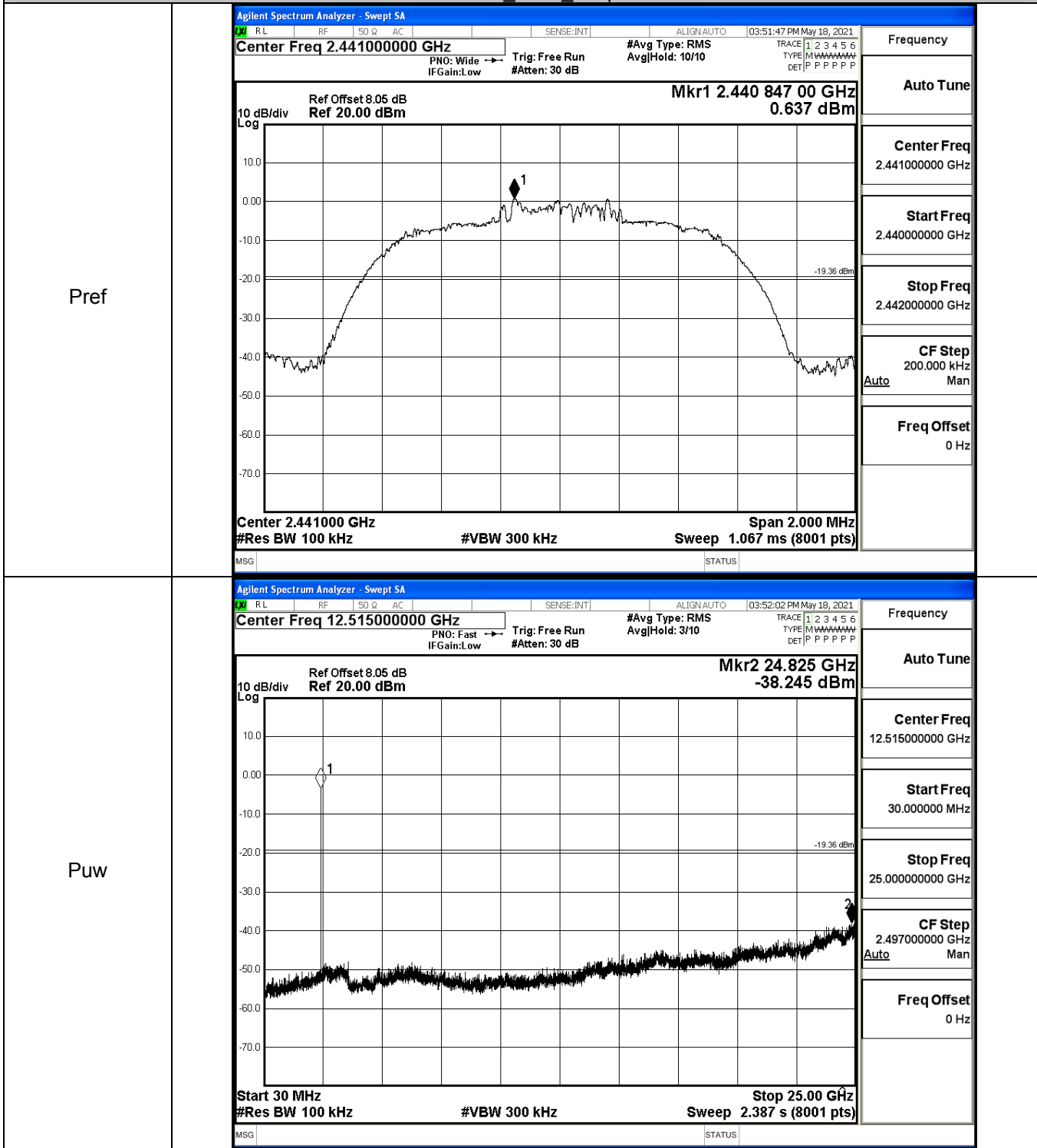
Puw



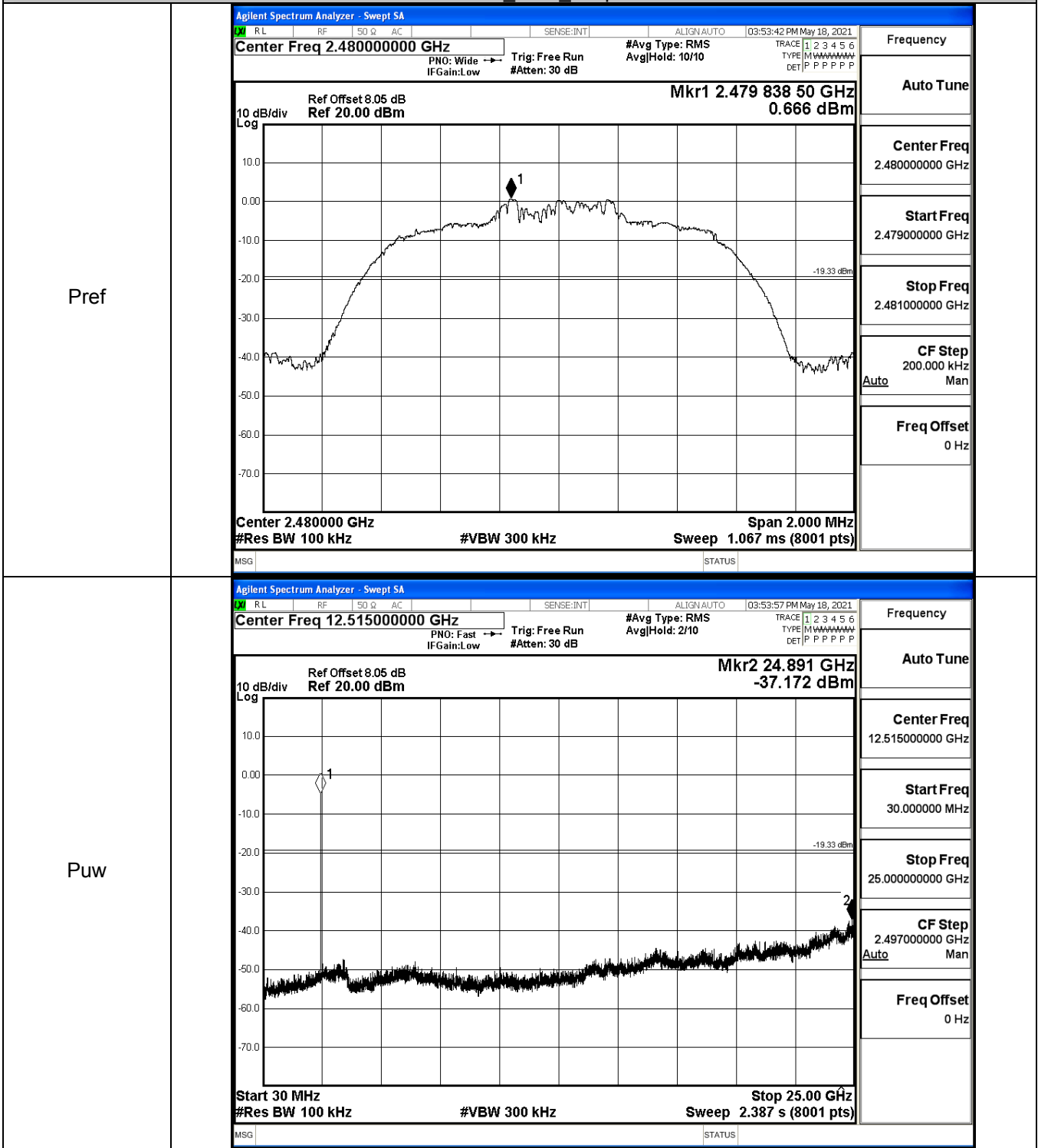
$\pi/4$ DQPSK_LCH_Graphs



$\pi/4$ DQPSK_MCH_Graphs

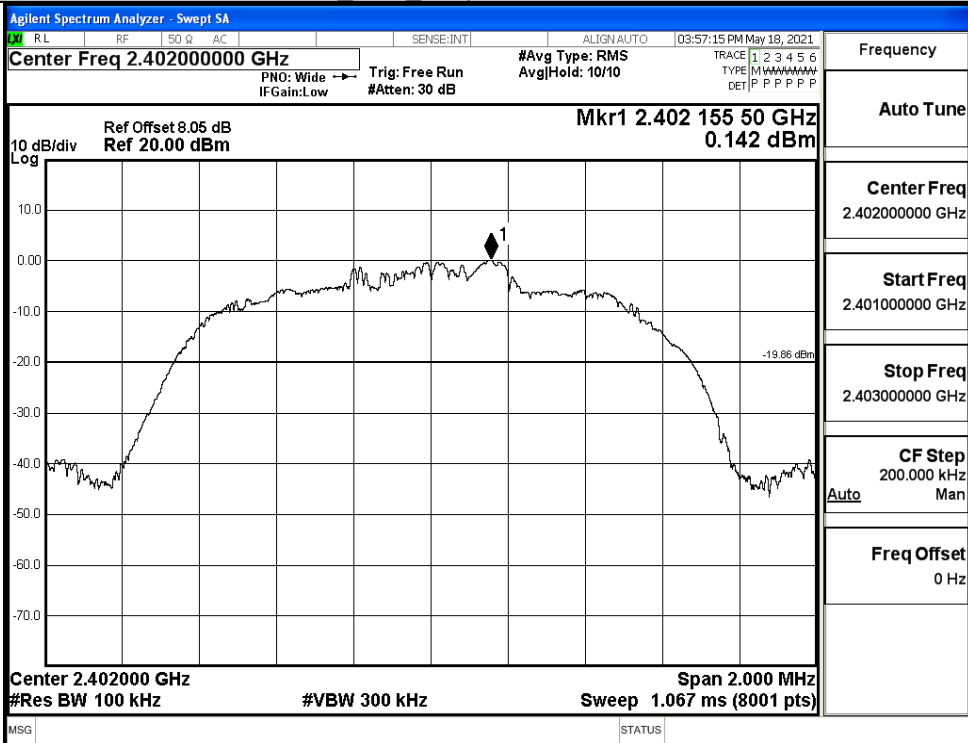


$\pi/4$ DQPSK_HCH_Graphs

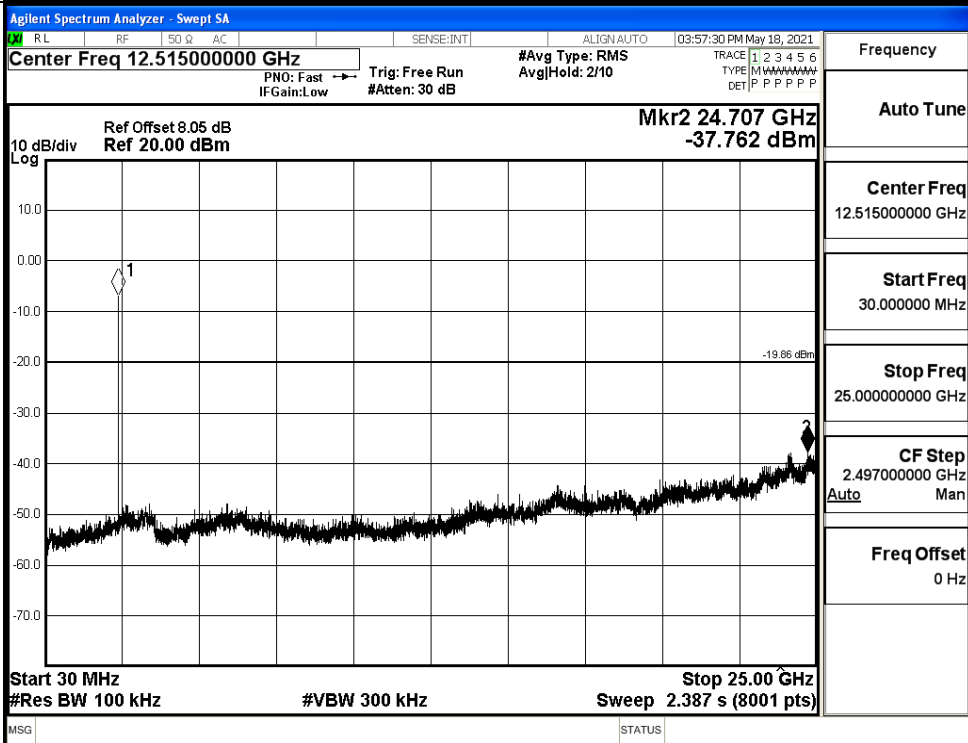


8DPSK_LCH_Graphs

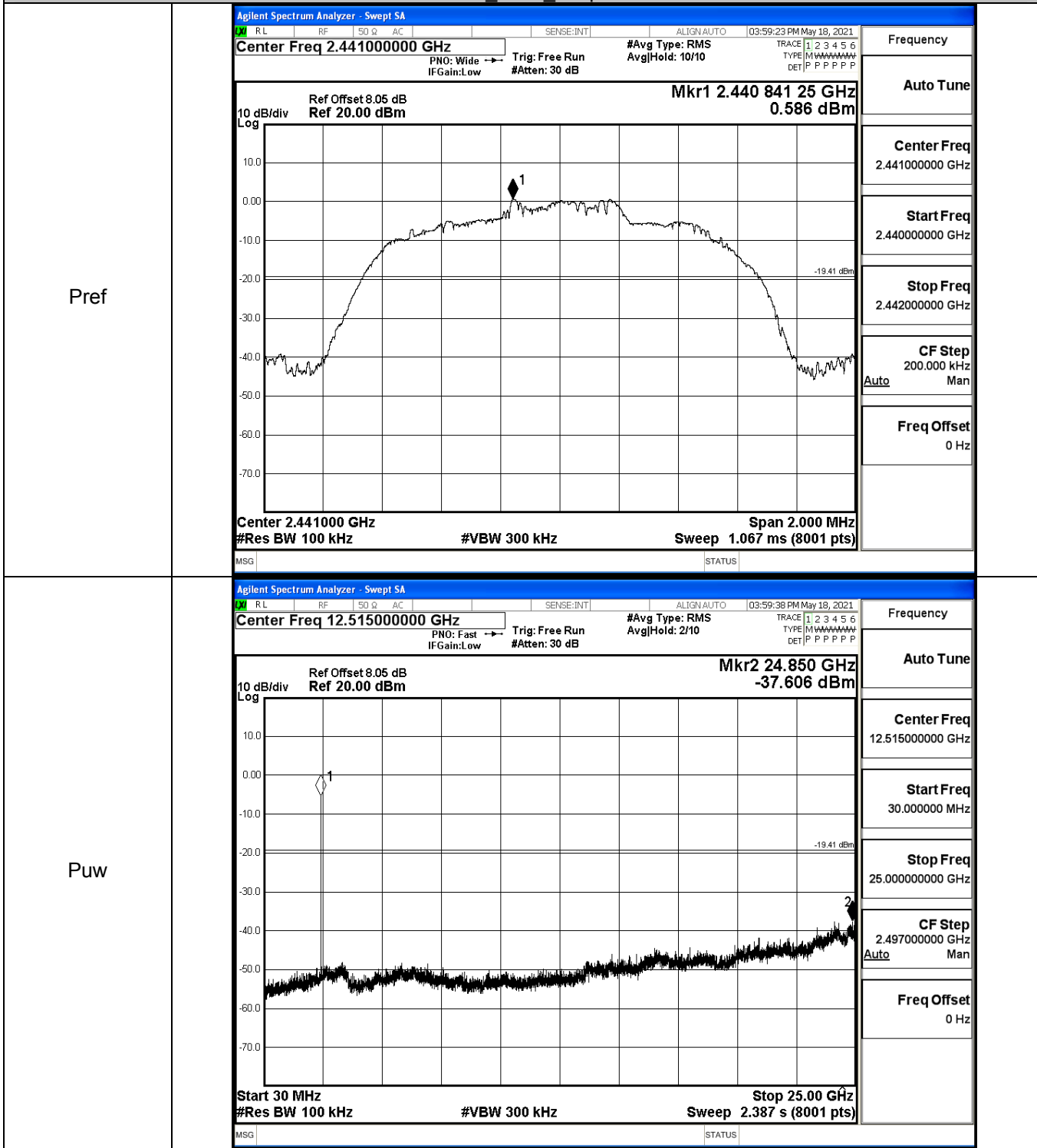
Pref



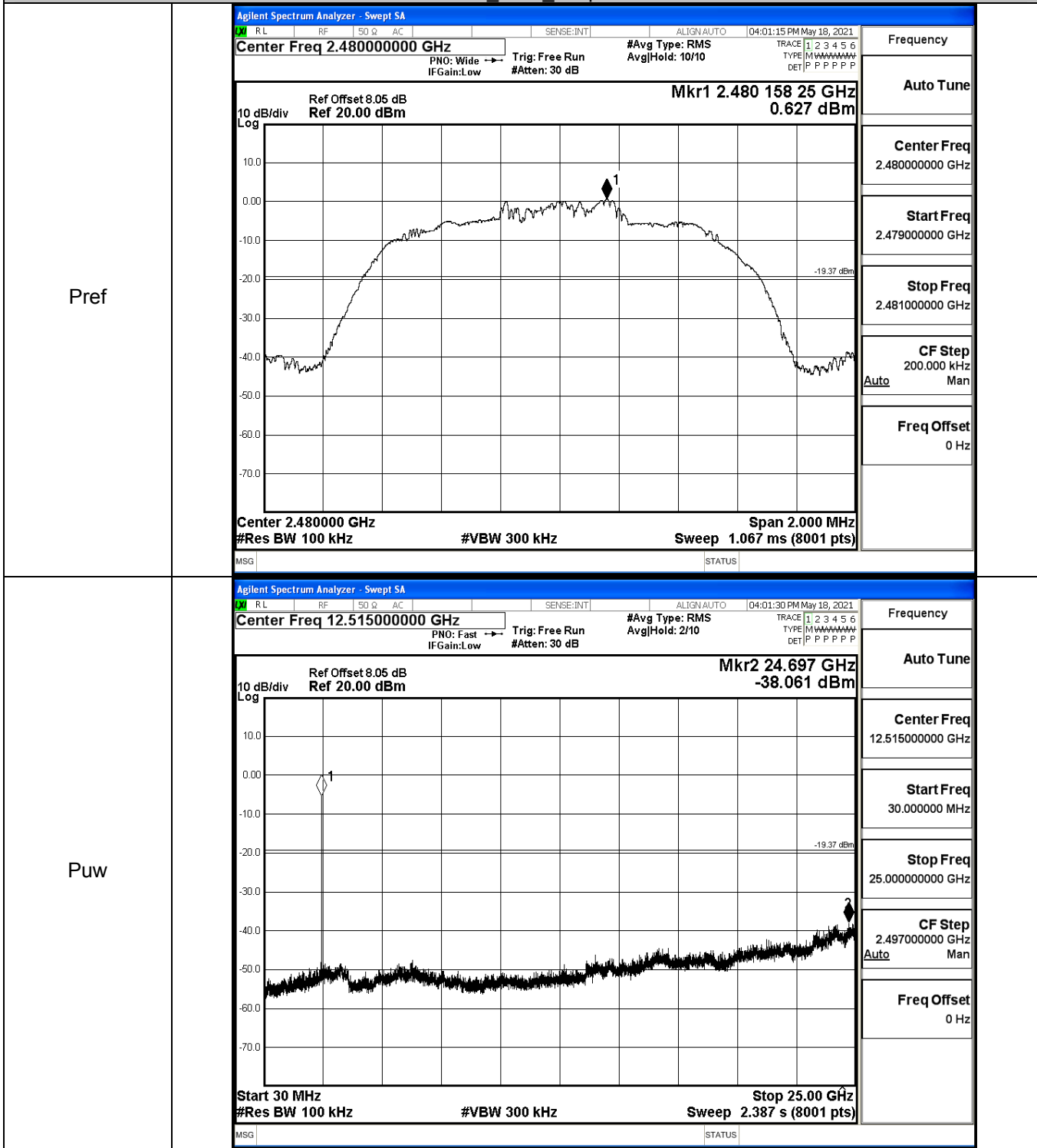
Puw



8DPSK_MCH_Graphs



8DPSK_HCH_Graphs

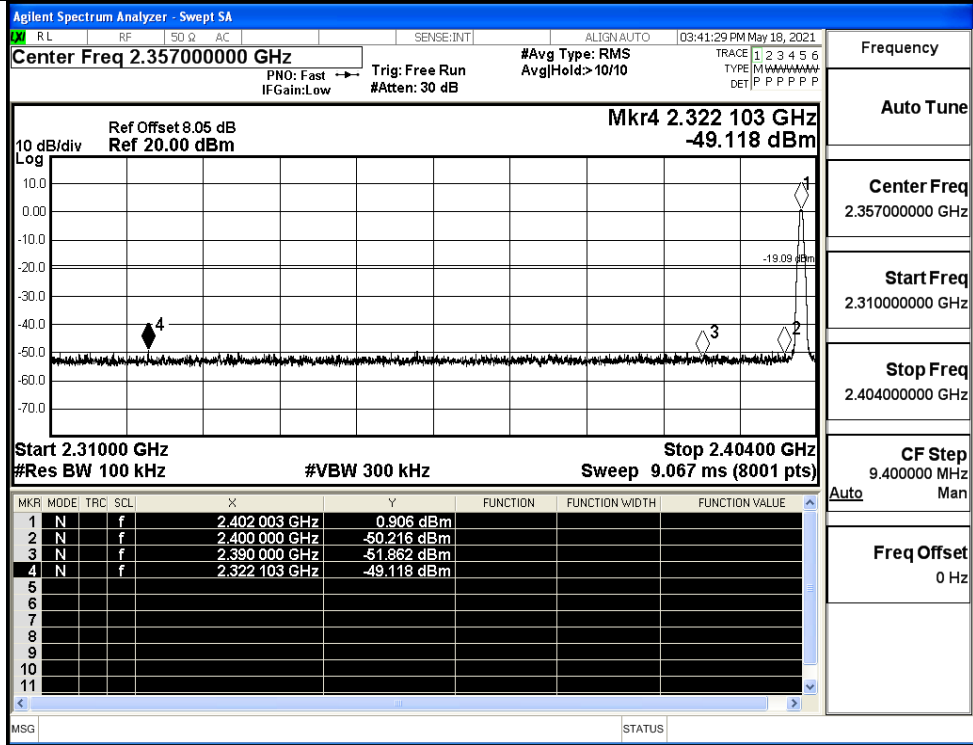


A.7 Band-edge for RF Conducted Emissions

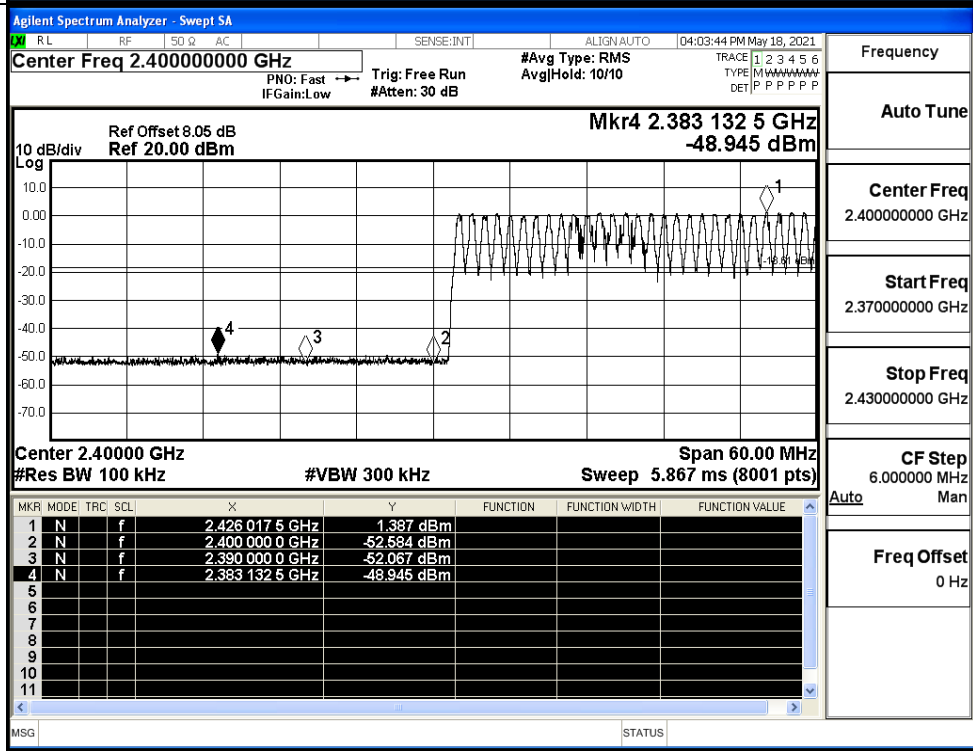
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.906	Off	-49.118	-19.09	PASS
			1.387	On	-48.945	-18.61	PASS
	HCH	2480	1.359	Off	-48.593	-18.64	PASS
			1.229	On	-48.684	-18.77	PASS
$\pi/4$ DQPSK	LCH	2402	0.206	Off	-49.606	-19.79	PASS
			0.628	On	-49.382	-19.37	PASS
	HCH	2480	0.655	Off	-49.295	-19.35	PASS
			0.755	On	-48.460	-19.25	PASS
8DPSK	LCH	2402	0.191	Off	-49.657	-19.81	PASS
			0.307	On	-48.643	-19.69	PASS
	HCH	2480	-1.170	Off	-49.098	-21.17	PASS
			0.766	On	-48.218	-19.23	PASS

Test Graphs

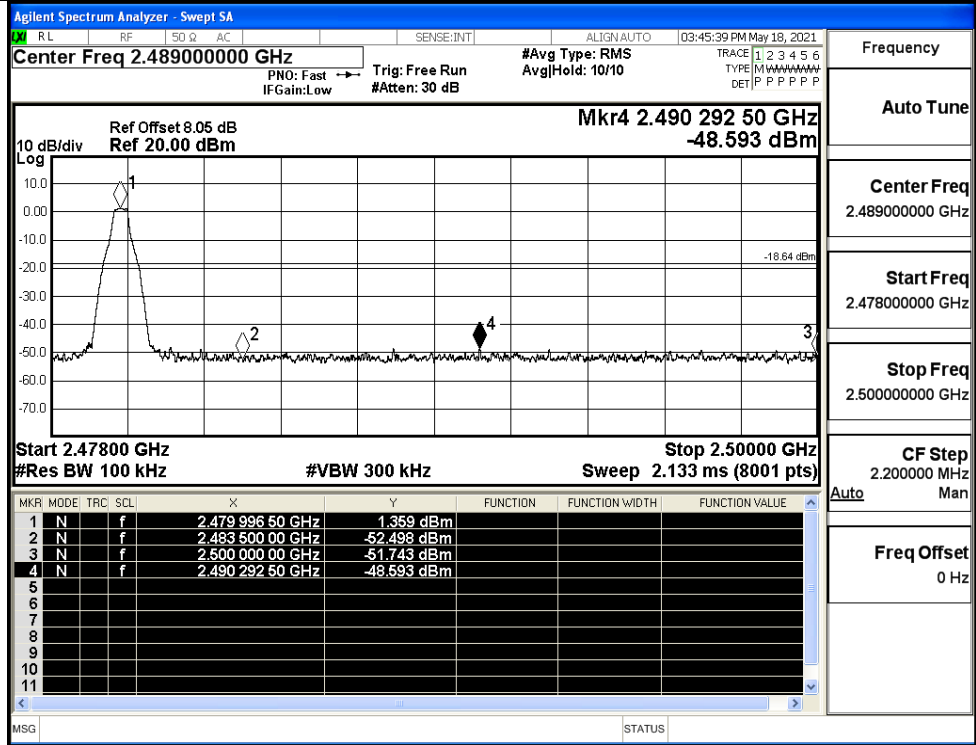
GFSK/LCH/No Hop



GFSK/LCH/Hop

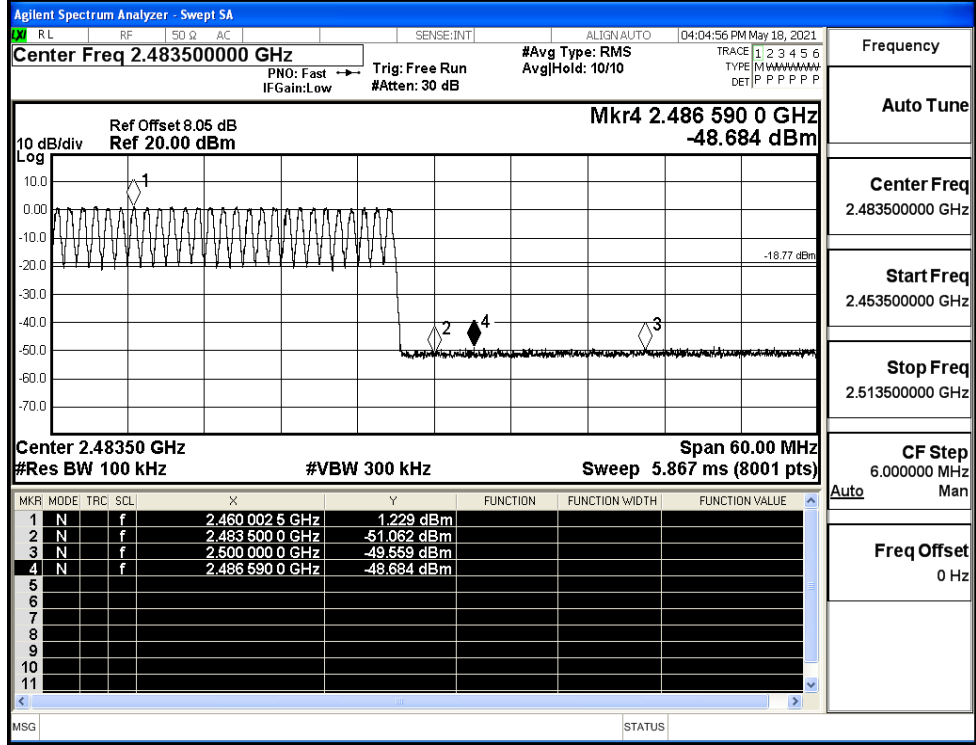


GFSK/HCH/No Hop



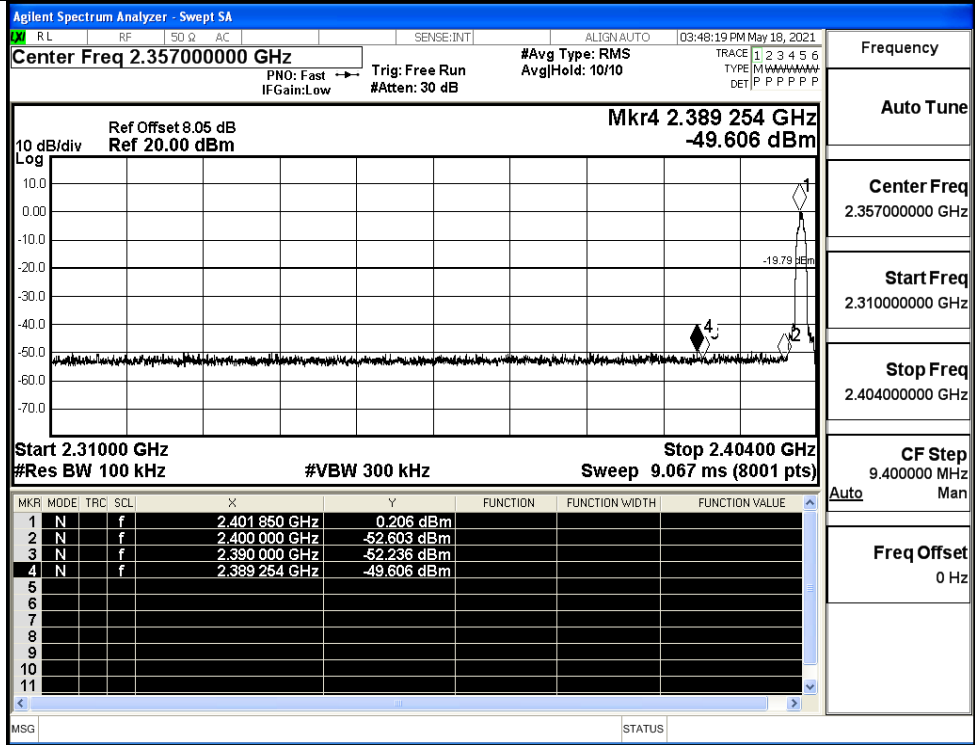
Frequency	2.489000000 GHz
Auto Tune	
Center Freq	2.489000000 GHz
Start Freq	2.478000000 GHz
Stop Freq	2.500000000 GHz
CF Step	2.200000 MHz
Freq Offset	0 Hz

GFSK/HCH/Hop

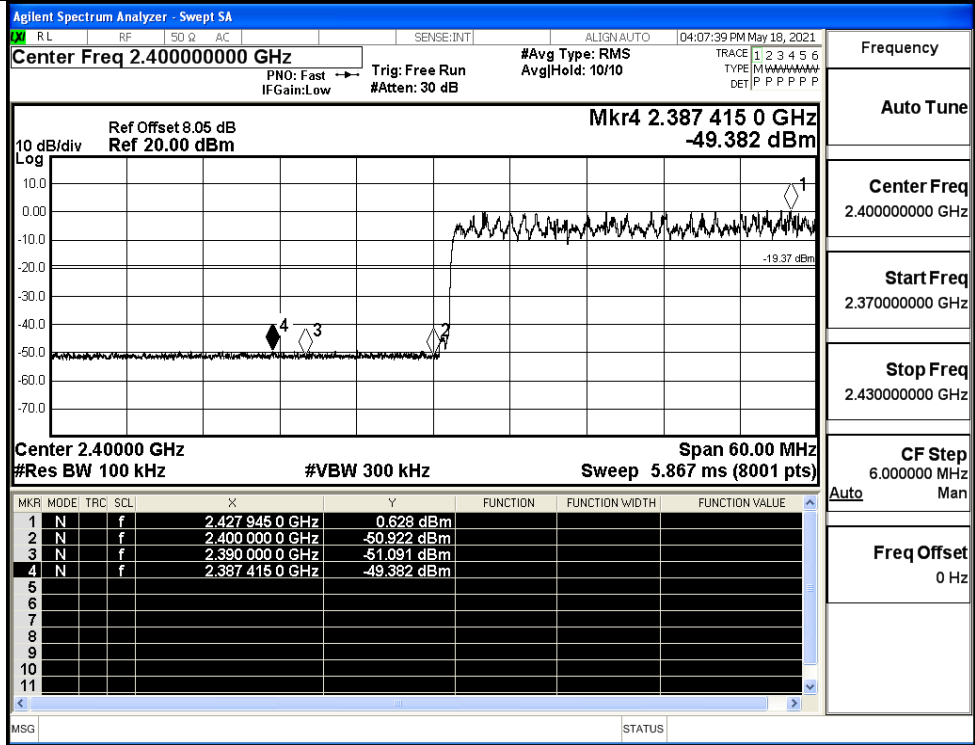


Frequency	2.483500000 GHz
Auto Tune	
Center Freq	2.483500000 GHz
Start Freq	2.453500000 GHz
Stop Freq	2.513500000 GHz
CF Step	6.000000 MHz
Freq Offset	0 Hz

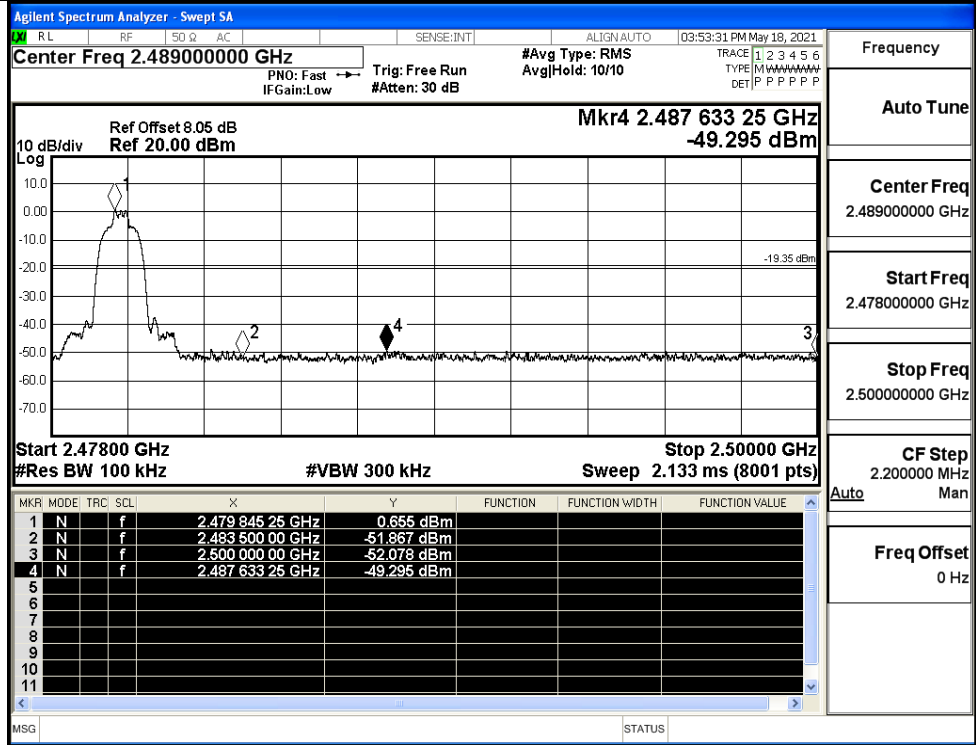
$\pi/4$ DQPSK/LCH/No
Hop



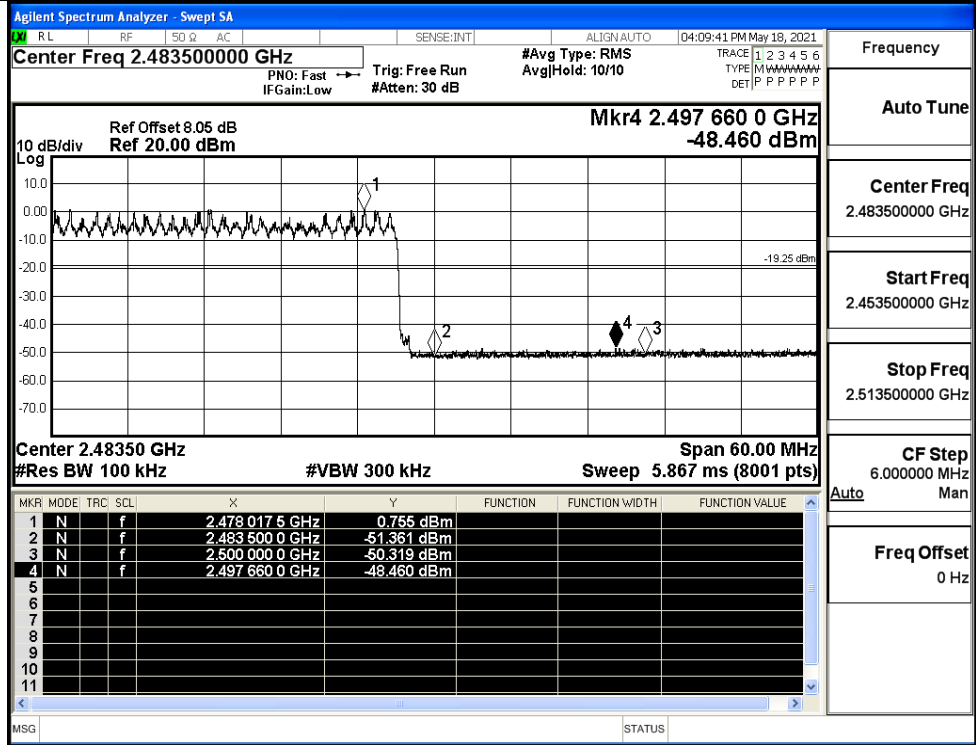
$\pi/4$ DQPSK/LCH/Hop



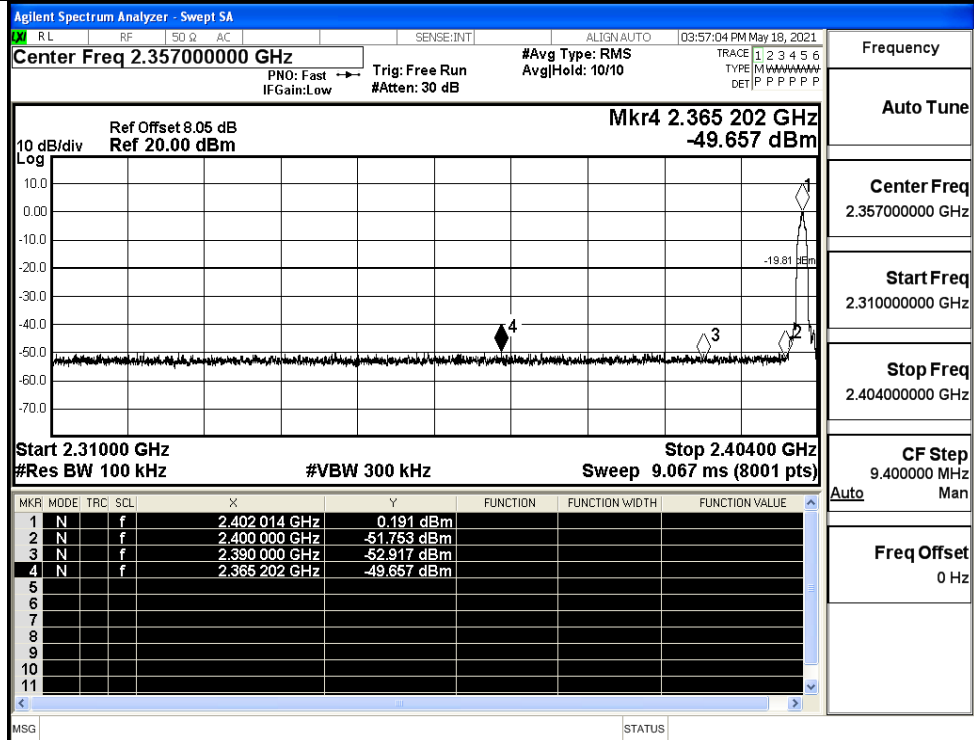
π /4DQPSK/HCH/No
Hop



π /4DQPSK/HCH/Hop

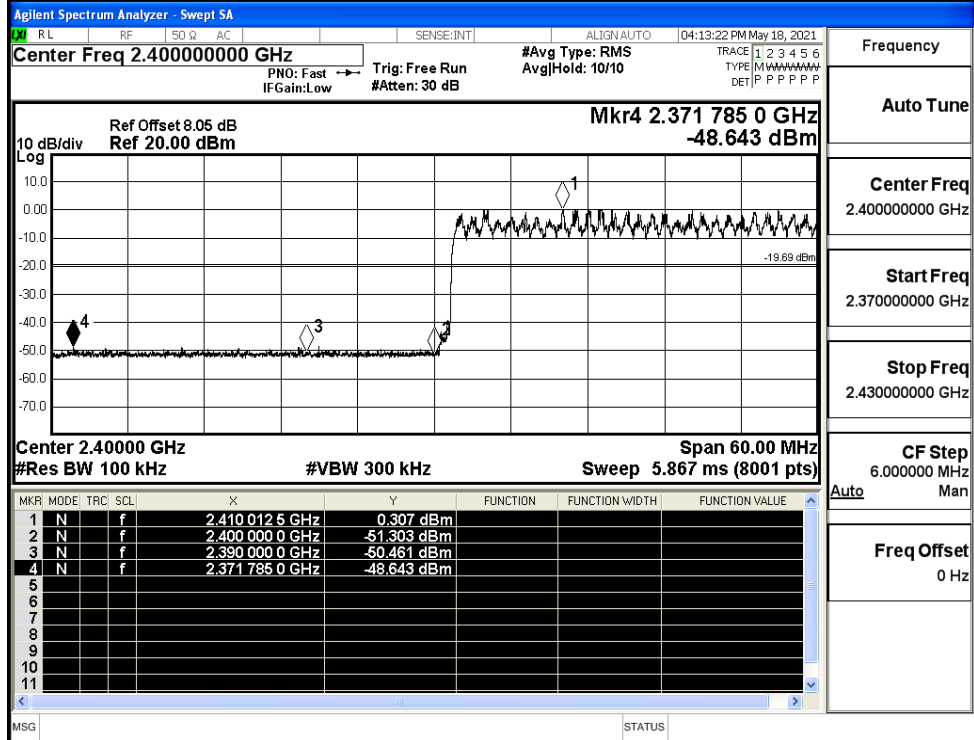


8DPSK/LCH/No Hop



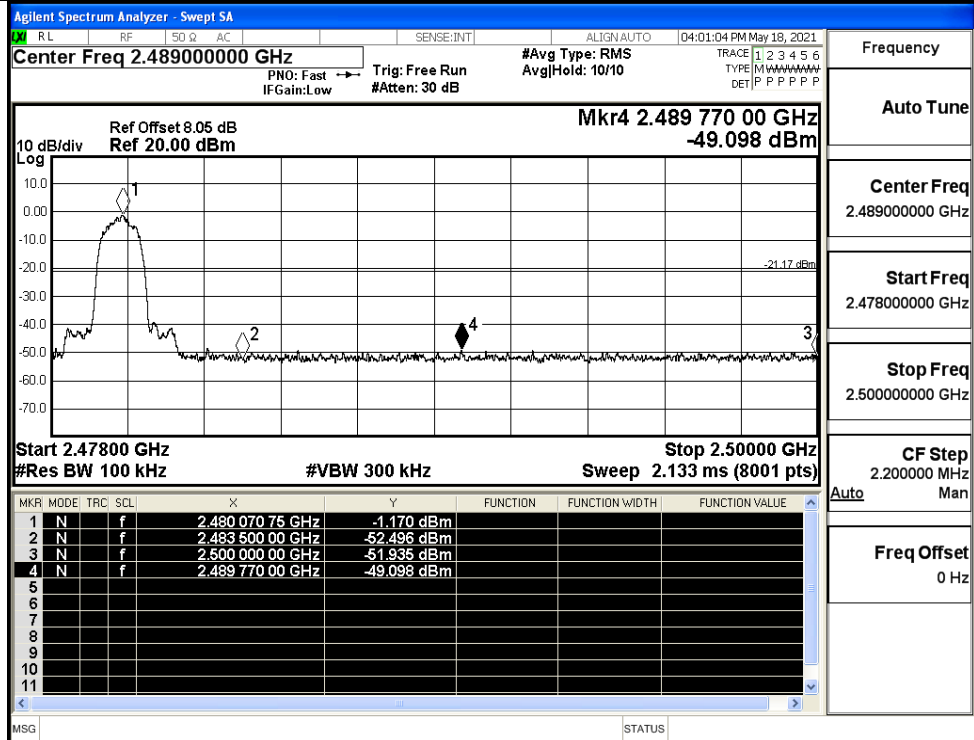
Frequency
Auto Tune
Center Freq
2.357000000 GHz
Start Freq
2.310000000 GHz
Stop Freq
2.404000000 GHz
CF Step
9.400000 MHz
Auto Man
Freq Offset
0 Hz

8DPSK/LCH/Hop



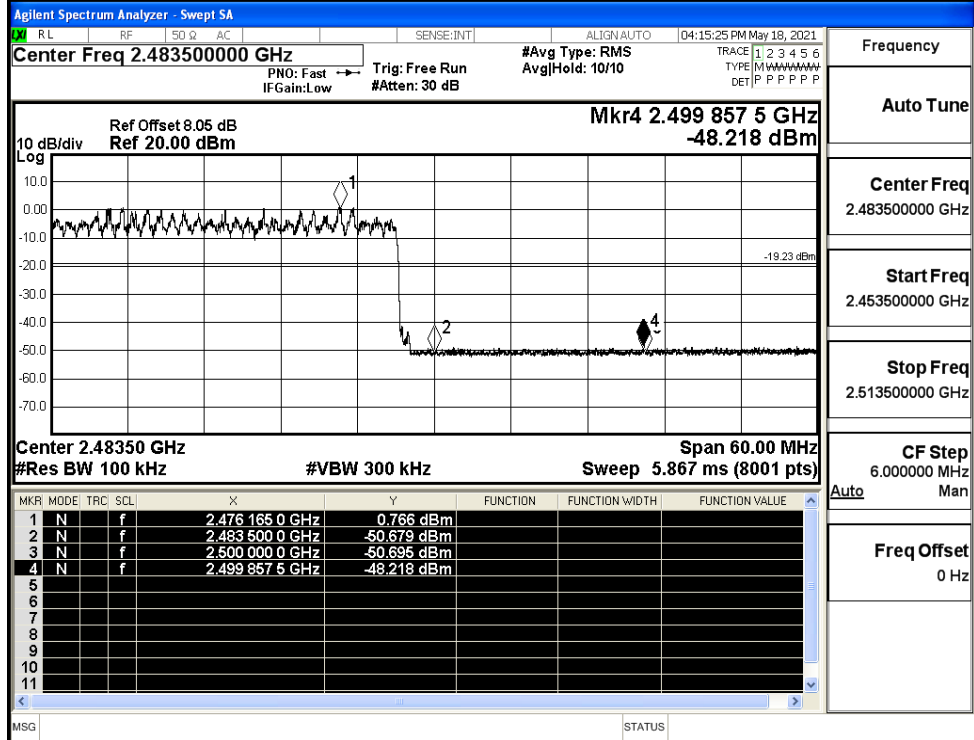
Frequency
Auto Tune
Center Freq
2.400000000 GHz
Start Freq
2.370000000 GHz
Stop Freq
2.430000000 GHz
CF Step
6.000000 MHz
Auto Man
Freq Offset
0 Hz

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

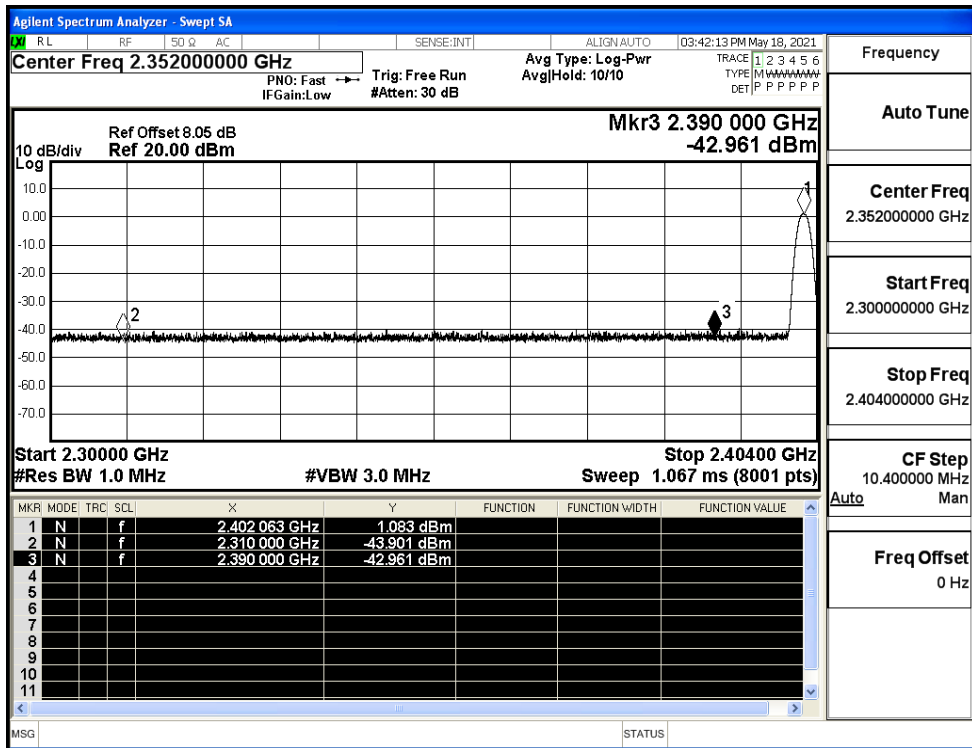


Frequency
Auto Tune
Center Freq
2.483500000 GHz
Start Freq
2.453500000 GHz
Stop Freq
2.513500000 GHz
CF Step
6.000000 MHz
Auto Man
Freq Offset
0 Hz

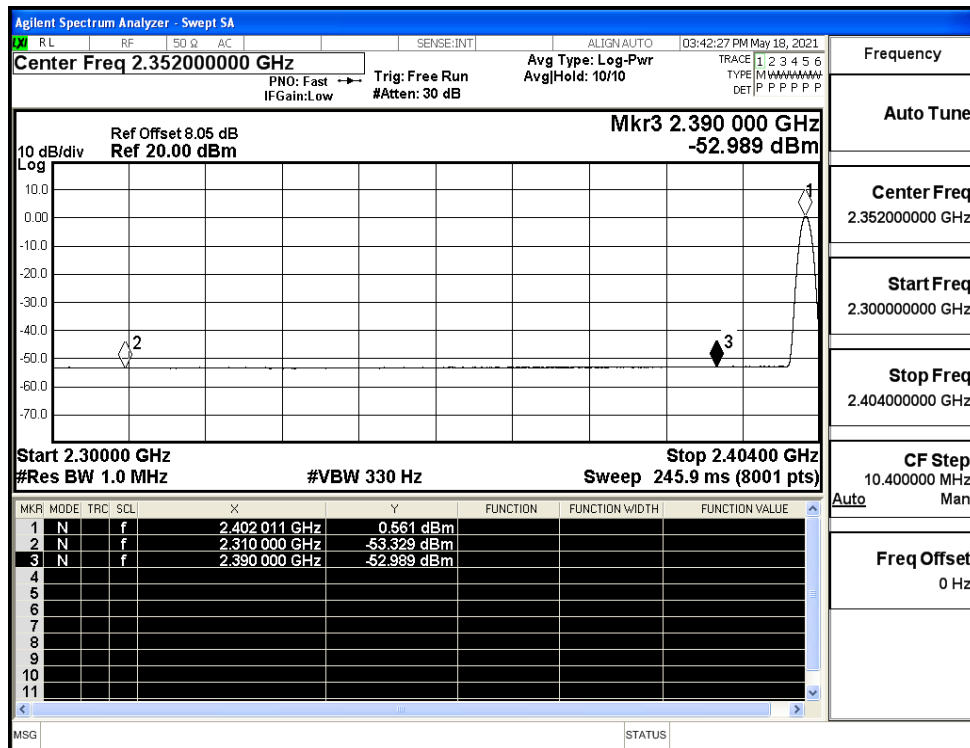
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.90	3.0	0	54.33	PEAK	74	PASS
	Off	2310.0	-53.33	3.0	0	44.90	AV	54	PASS
	Off	2390.0	-42.96	3.0	0	55.27	PEAK	74	PASS
	Off	2390.0	-52.99	3.0	0	45.24	AV	54	PASS
	Off	2483.5	-42.11	3.0	0	56.12	PEAK	74	PASS
	Off	2483.5	-52.43	3.0	0	45.80	AV	54	PASS
	Off	2500.0	-40.45	3.0	0	57.78	PEAK	74	PASS
	Off	2500.0	-52.36	3.0	0	45.87	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-42.63	3.0	0	55.60	PEAK	74	PASS
	Off	2310.0	-53.20	3.0	0	45.03	AV	54	PASS
	Off	2390.0	-41.16	3.0	0	57.07	PEAK	74	PASS
	Off	2390.0	-53.06	3.0	0	45.17	AV	54	PASS
	Off	2483.5	-42.86	3.0	0	55.37	PEAK	74	PASS
	Off	2483.5	-52.35	3.0	0	45.88	AV	54	PASS
	Off	2500.0	-42.39	3.0	0	55.84	PEAK	74	PASS
	Off	2500.0	-52.29	3.0	0	45.94	AV	54	PASS
8DPSK	Off	2310.0	-43.64	3.0	0	54.59	PEAK	74	PASS
	Off	2310.0	-53.25	3.0	0	44.98	AV	54	PASS
	Off	2390.0	-42.85	3.0	0	55.38	PEAK	74	PASS
	Off	2390.0	-52.86	3.0	0	45.37	AV	54	PASS
	Off	2483.5	-41.69	3.0	0	56.54	PEAK	74	PASS
	Off	2483.5	-52.42	3.0	0	45.81	AV	54	PASS
	Off	2500.0	-41.00	3.0	0	57.23	PEAK	74	PASS
	Off	2500.0	-52.26	3.0	0	45.97	AV	54	PASS

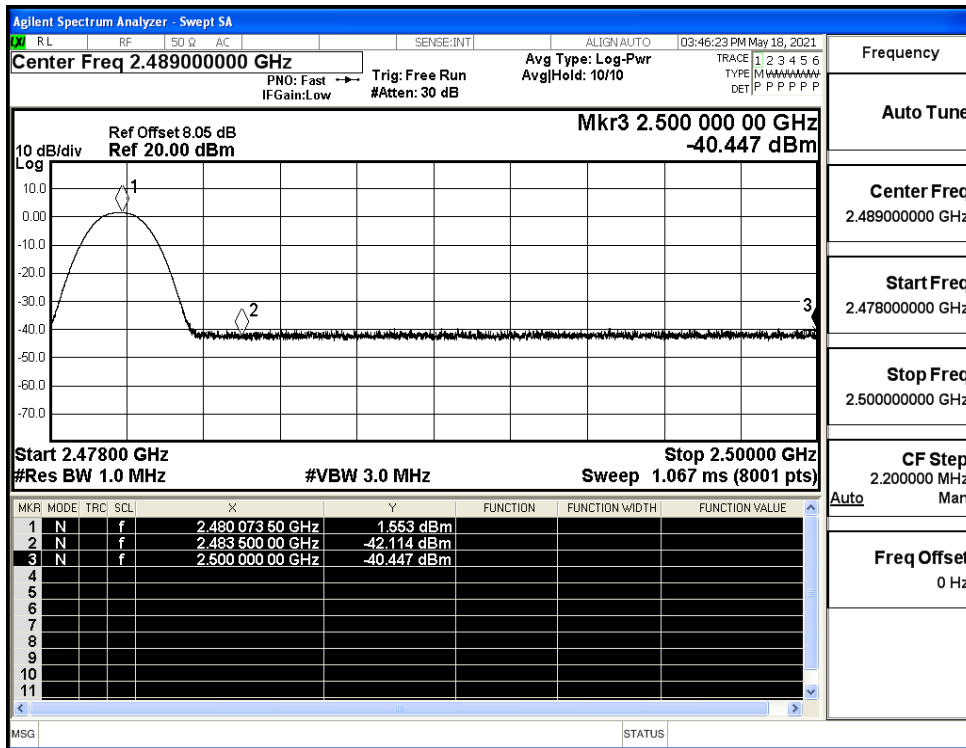
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



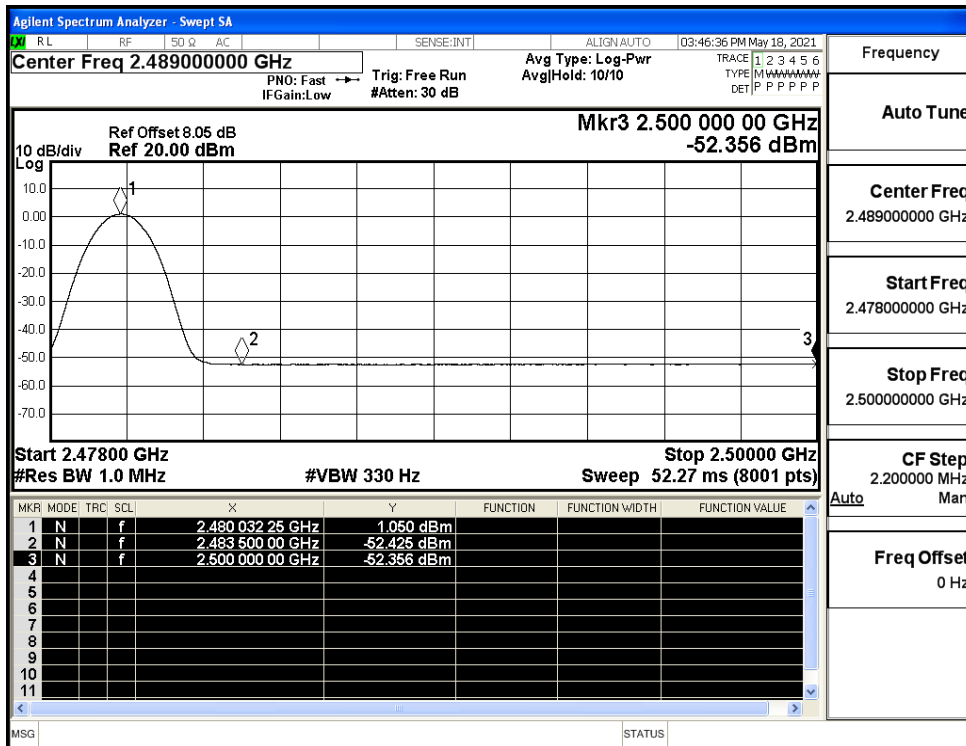
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



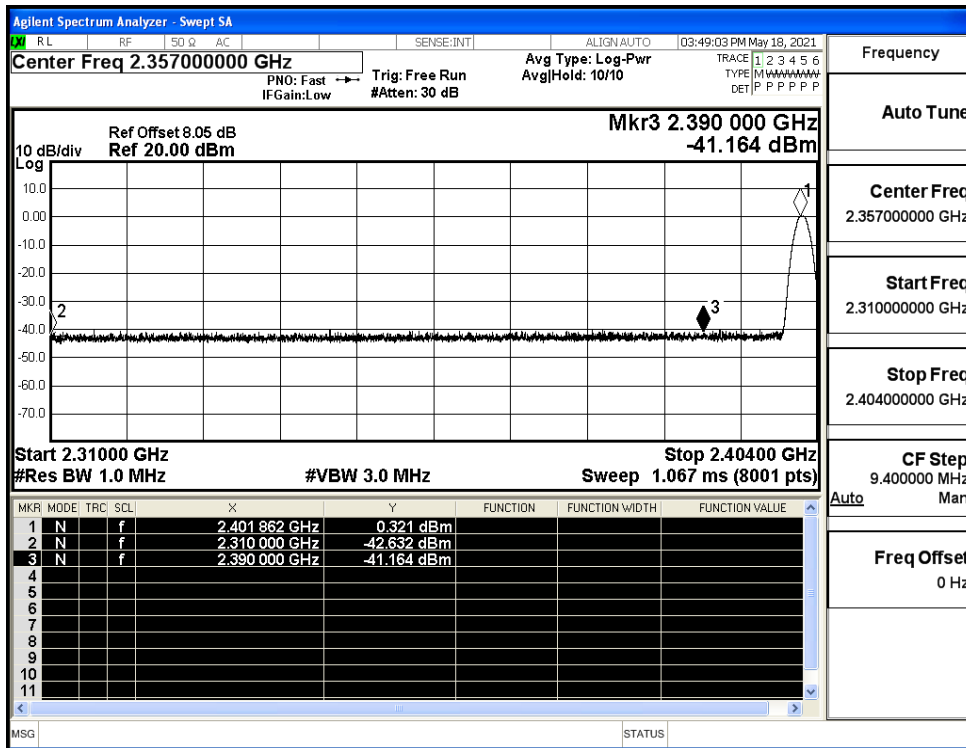
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



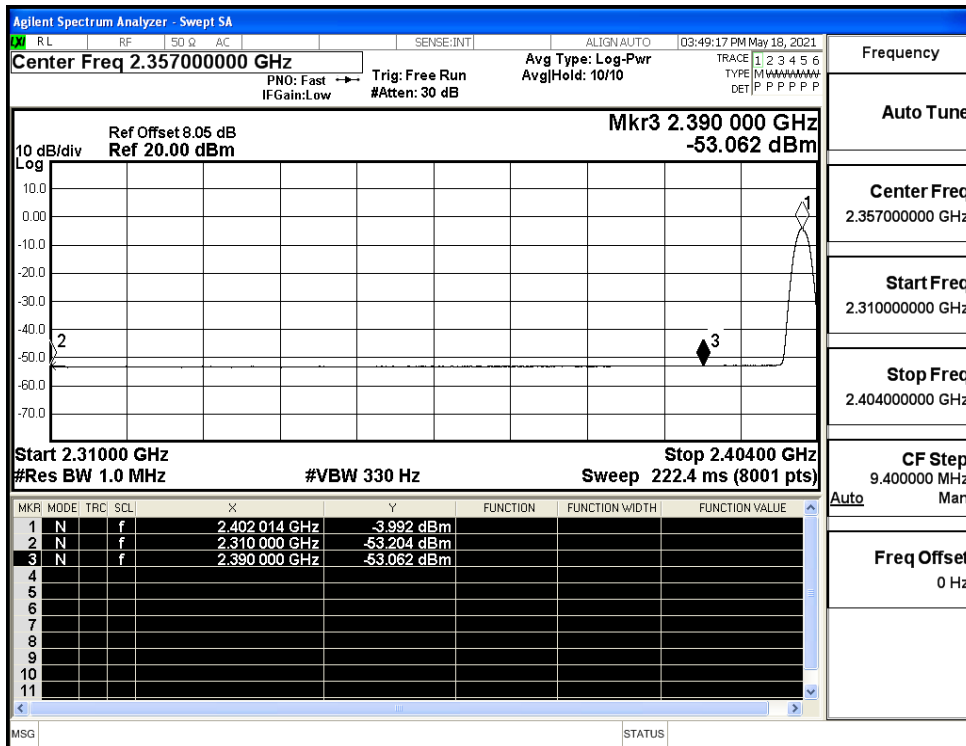
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



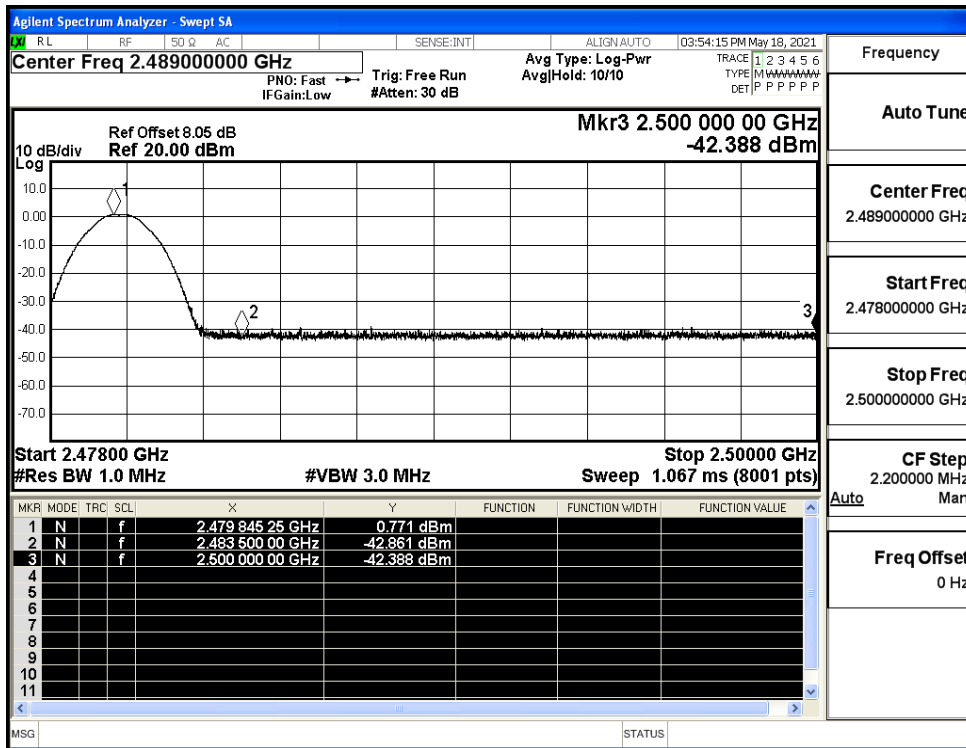
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)



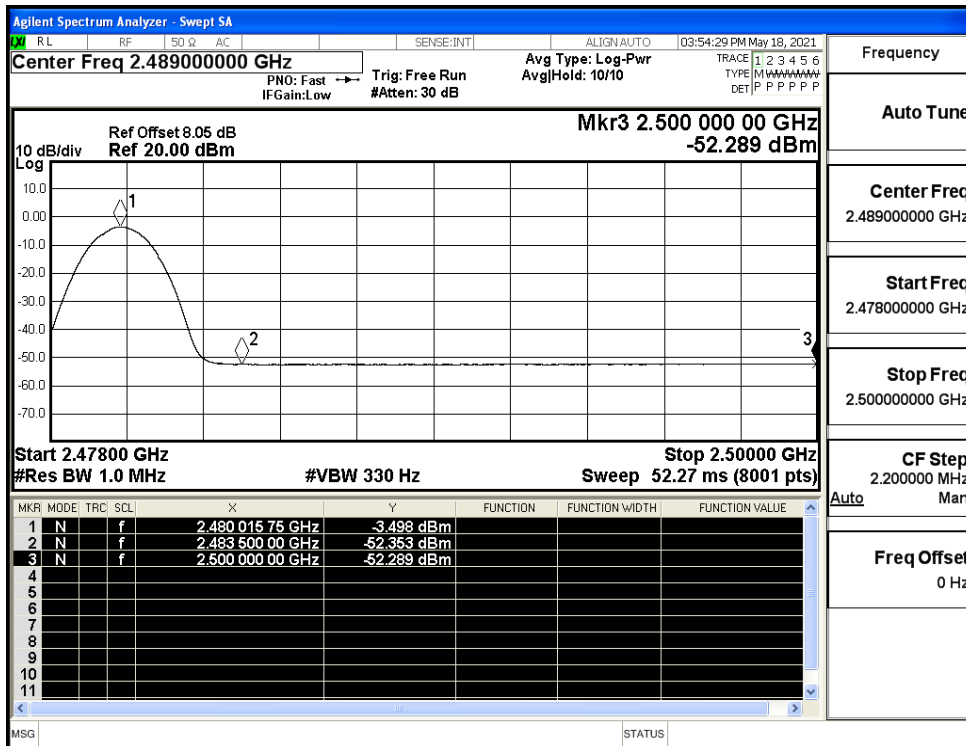
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)



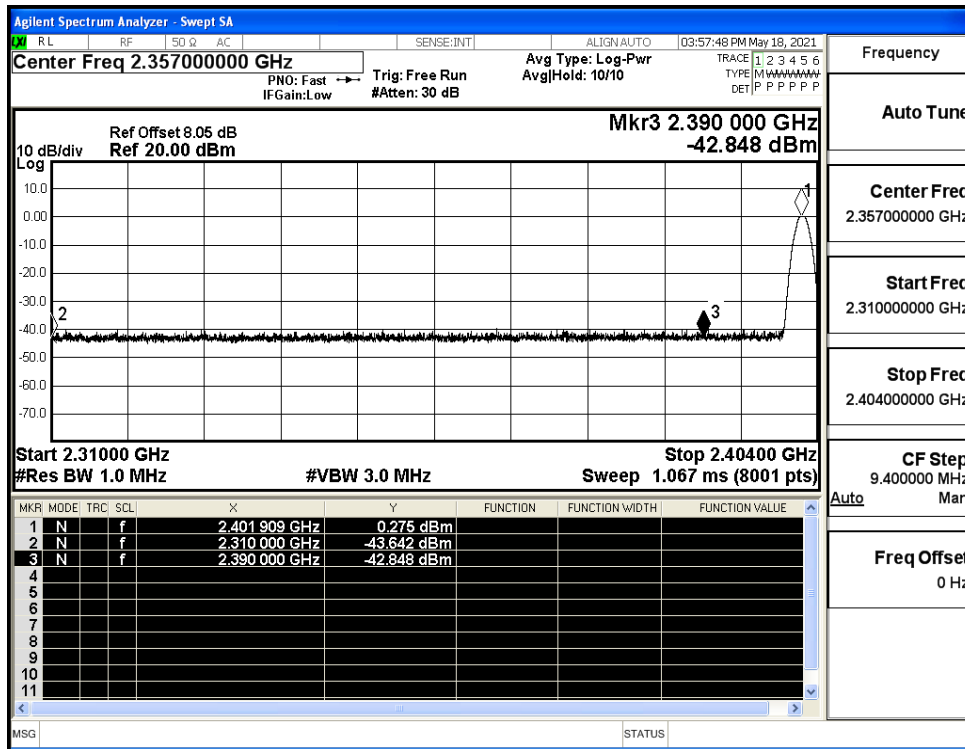
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



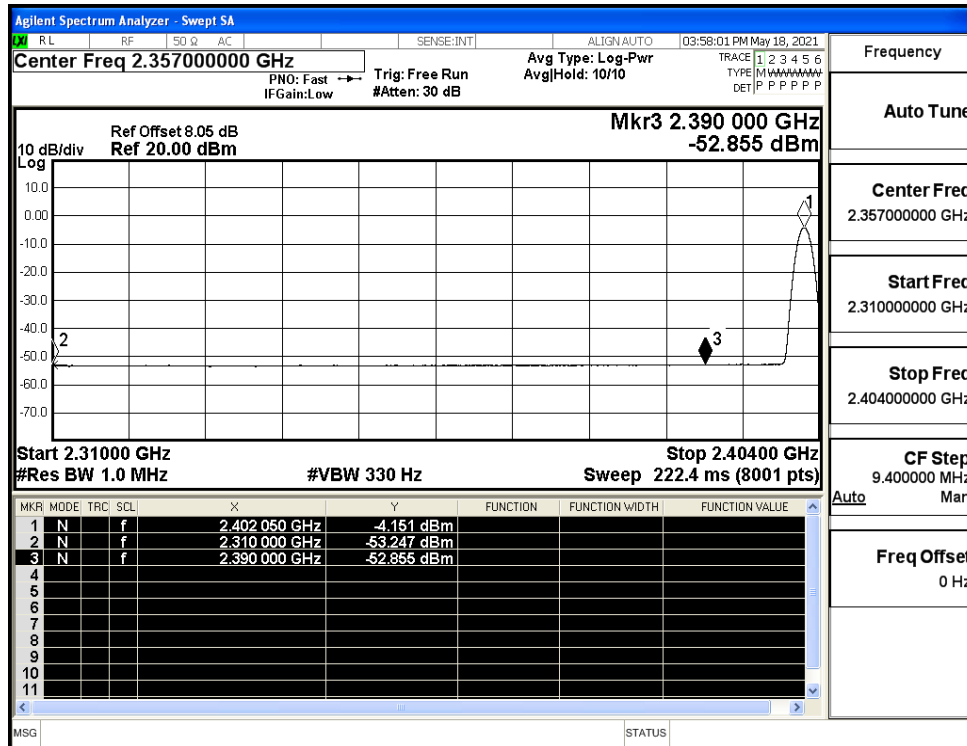
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



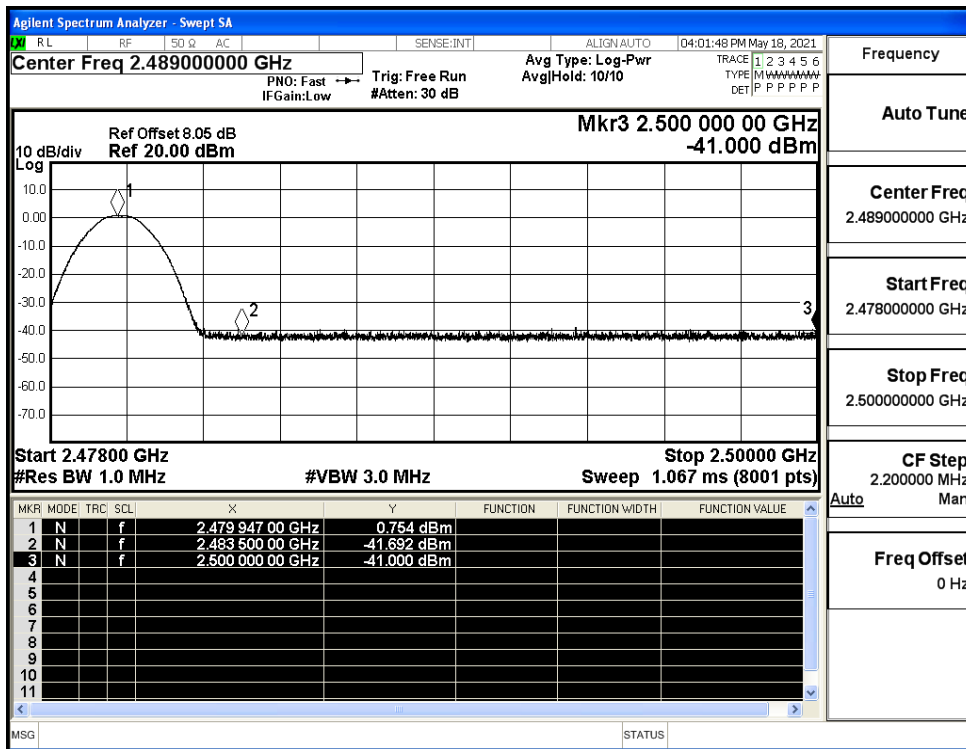
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

