

Appendix A

RF Test Data for BT V2.1(DSS) (Conducted Measurement)

Product Name: PORTABLE DVD PLAYER

Trade Mark: GPX

Test Model: PDB1077B

Environmental Conditions

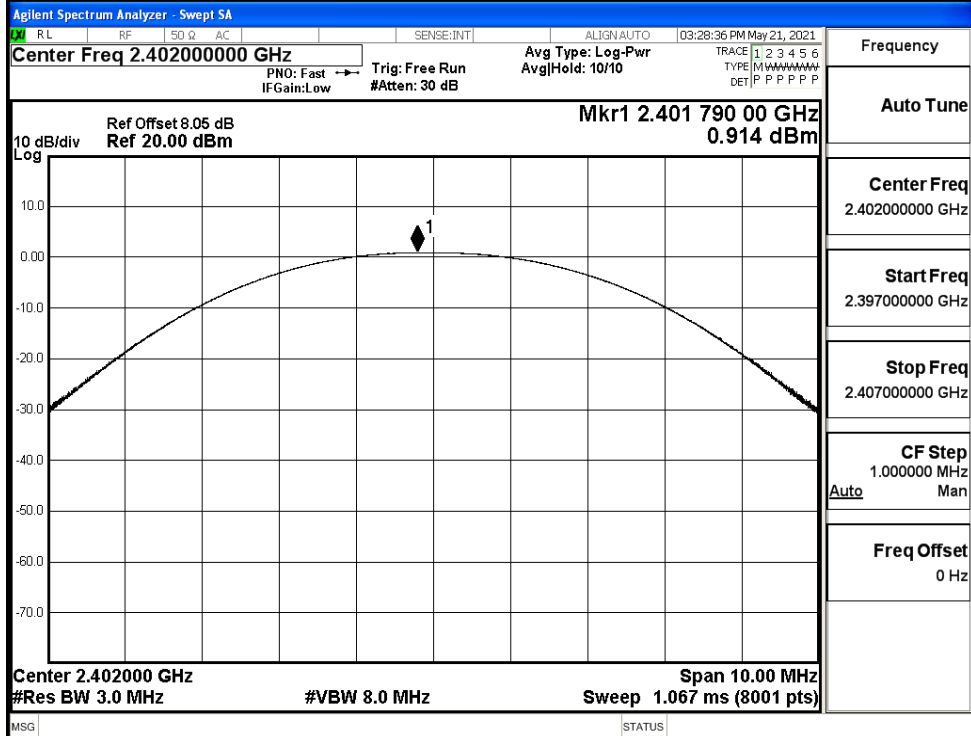
Temperature:	22.3 ° C
Relative Humidity:	51.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Carl Fu
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.914	21	PASS
	MCH	1.060	21	PASS
	HCH	2.220	21	PASS
π/4DQPSK	LCH	3.449	21	PASS
	MCH	3.929	21	PASS
	HCH	4.213	21	PASS
8DPSK	LCH	4.033	21	PASS
	MCH	4.000	21	PASS
	HCH	4.792	21	PASS

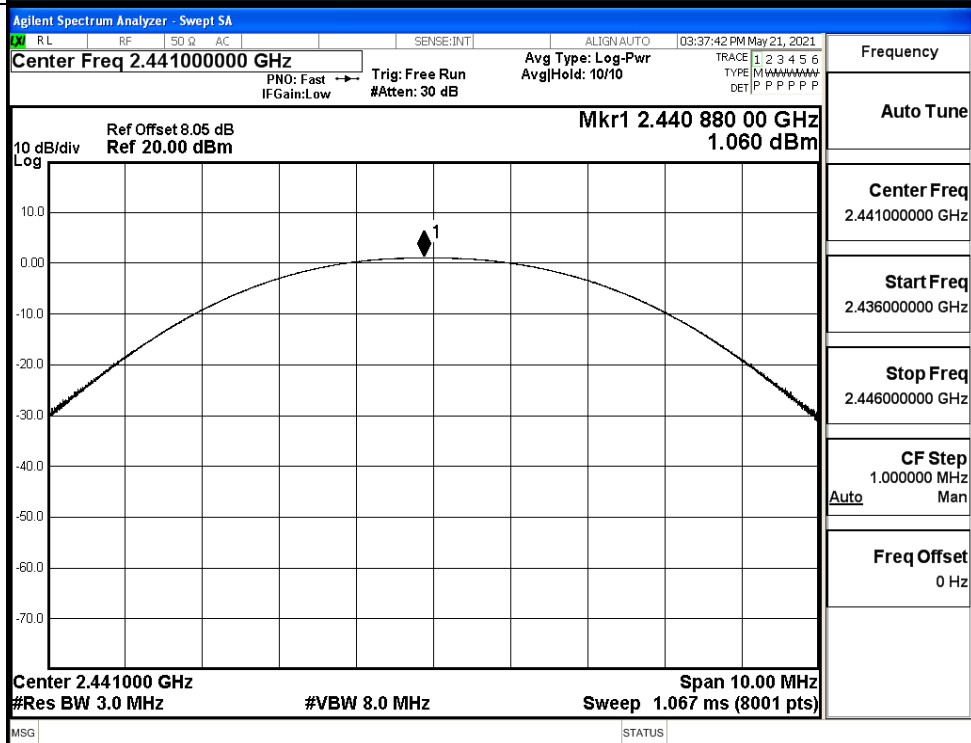
Test Graphs

GFSK/LCH



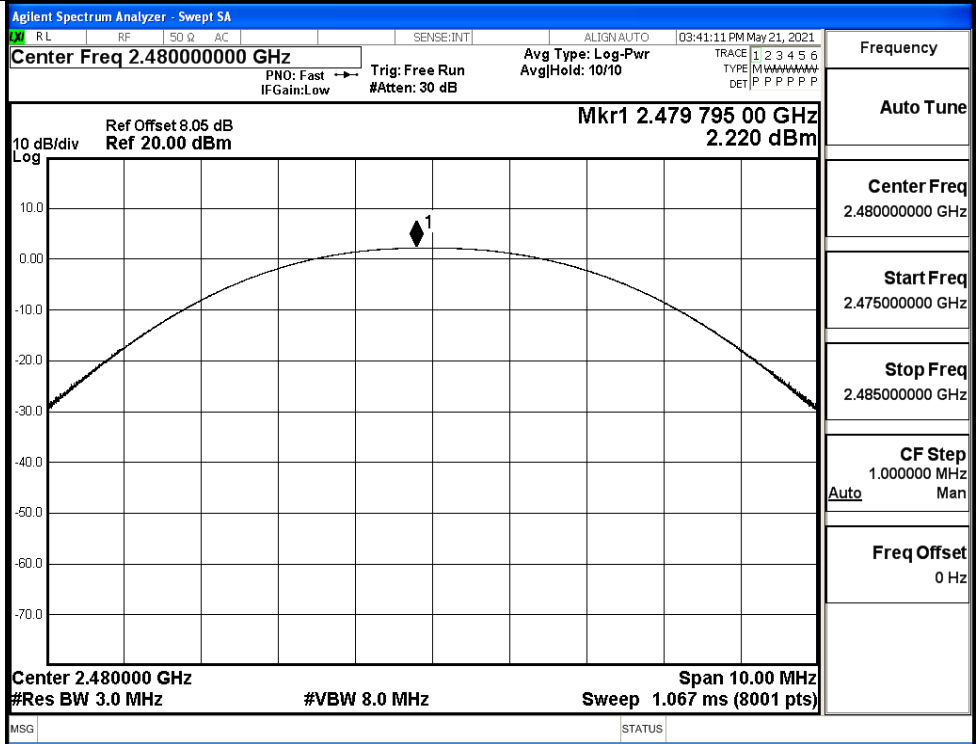
Frequency	2.40200000 GHz
Auto Tune	
Center Freq	2.40200000 GHz
Start Freq	2.397000000 GHz
Stop Freq	2.407000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

GFSK/MCH

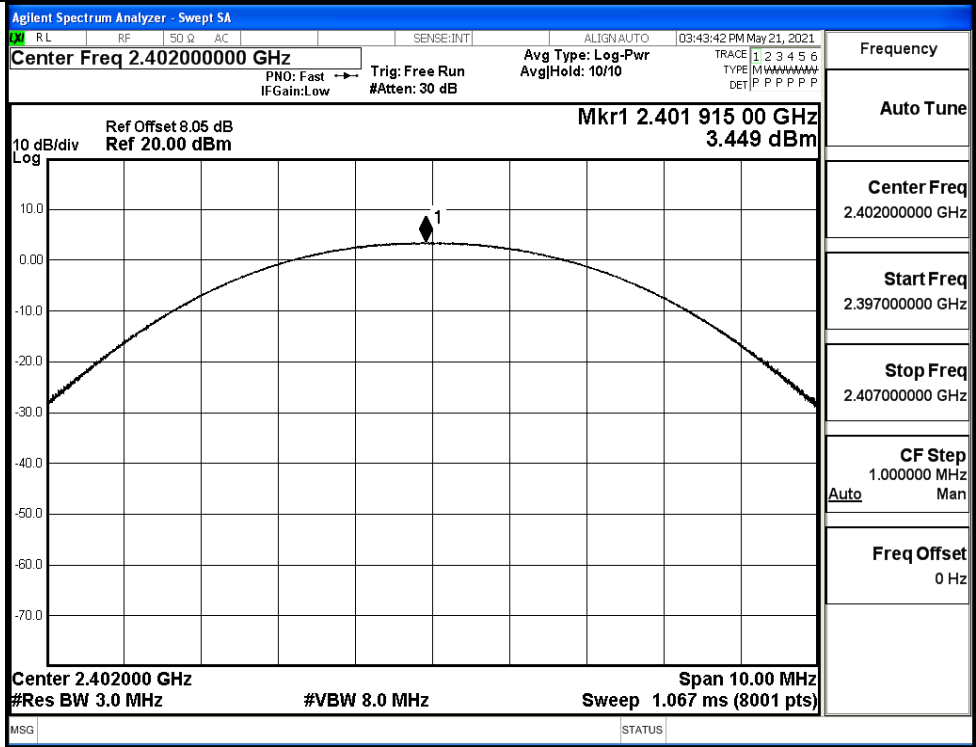


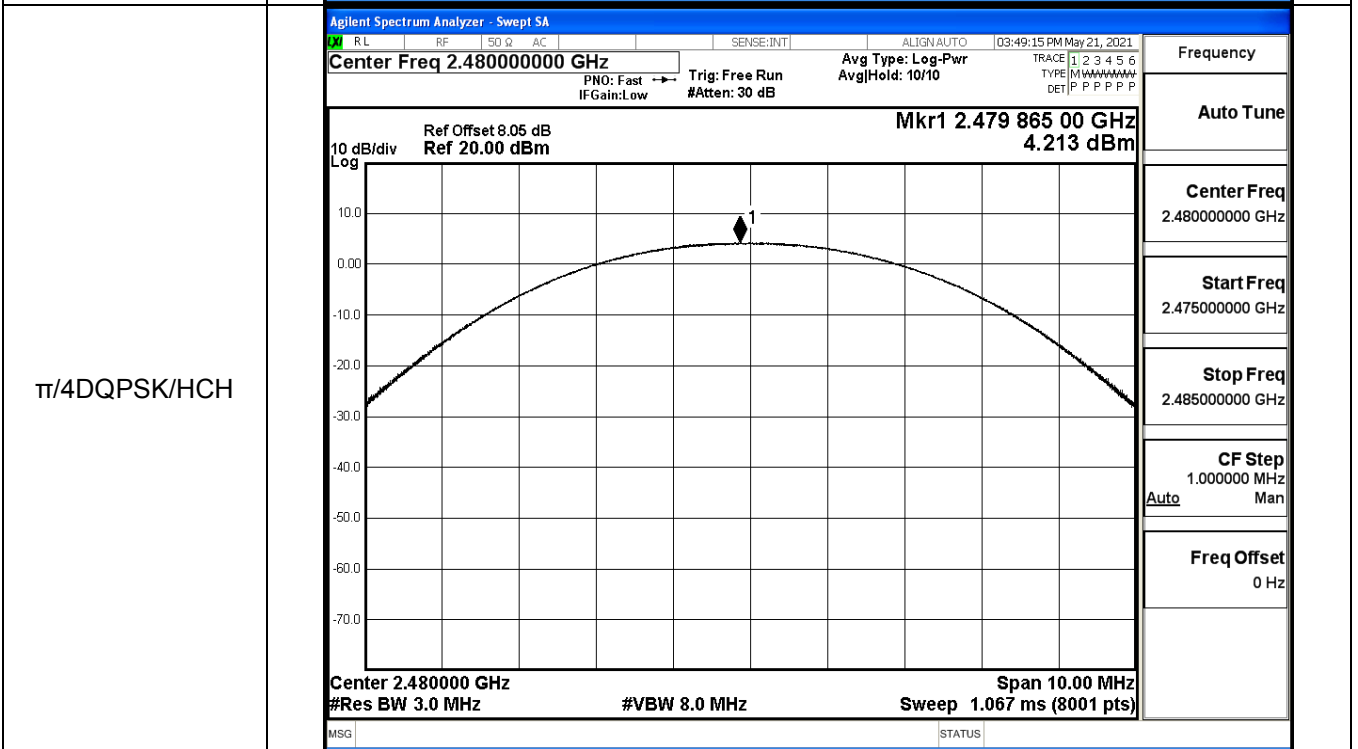
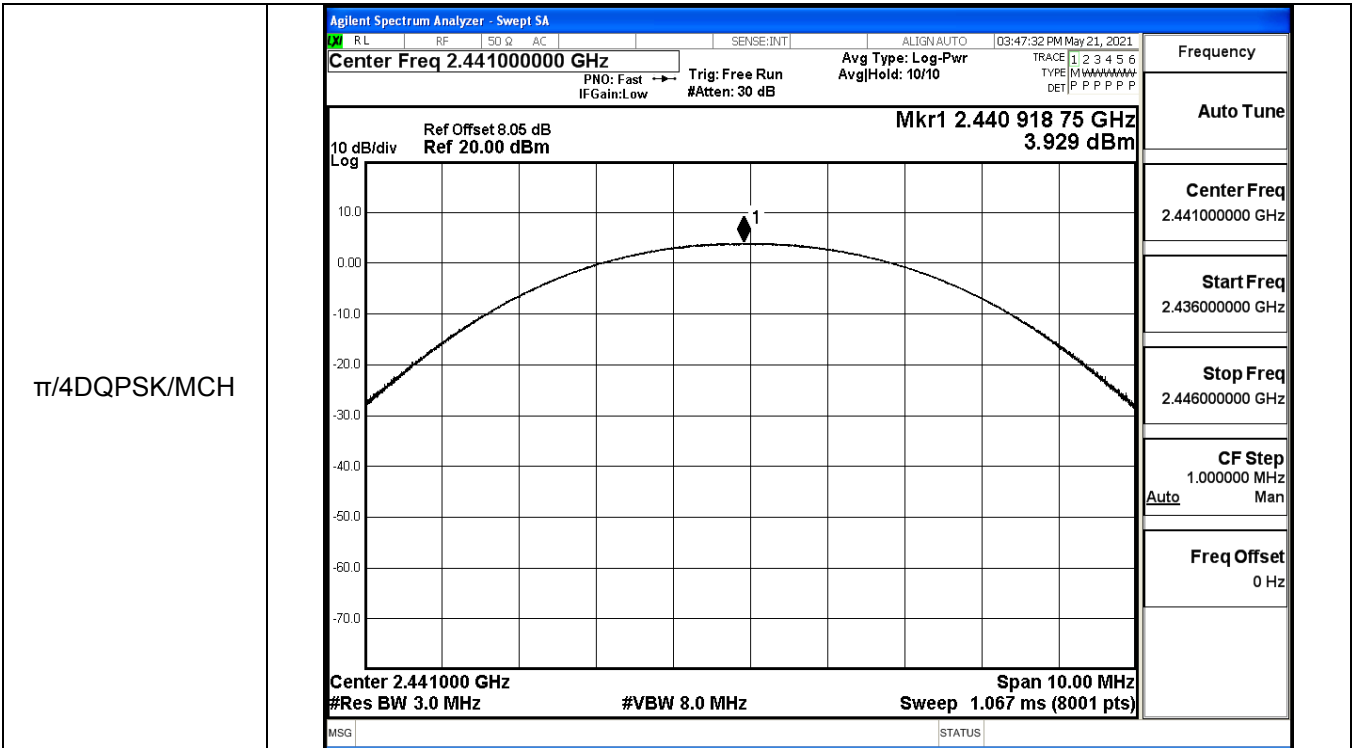
Frequency	2.44100000 GHz
Auto Tune	
Center Freq	2.44100000 GHz
Start Freq	2.436000000 GHz
Stop Freq	2.446000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

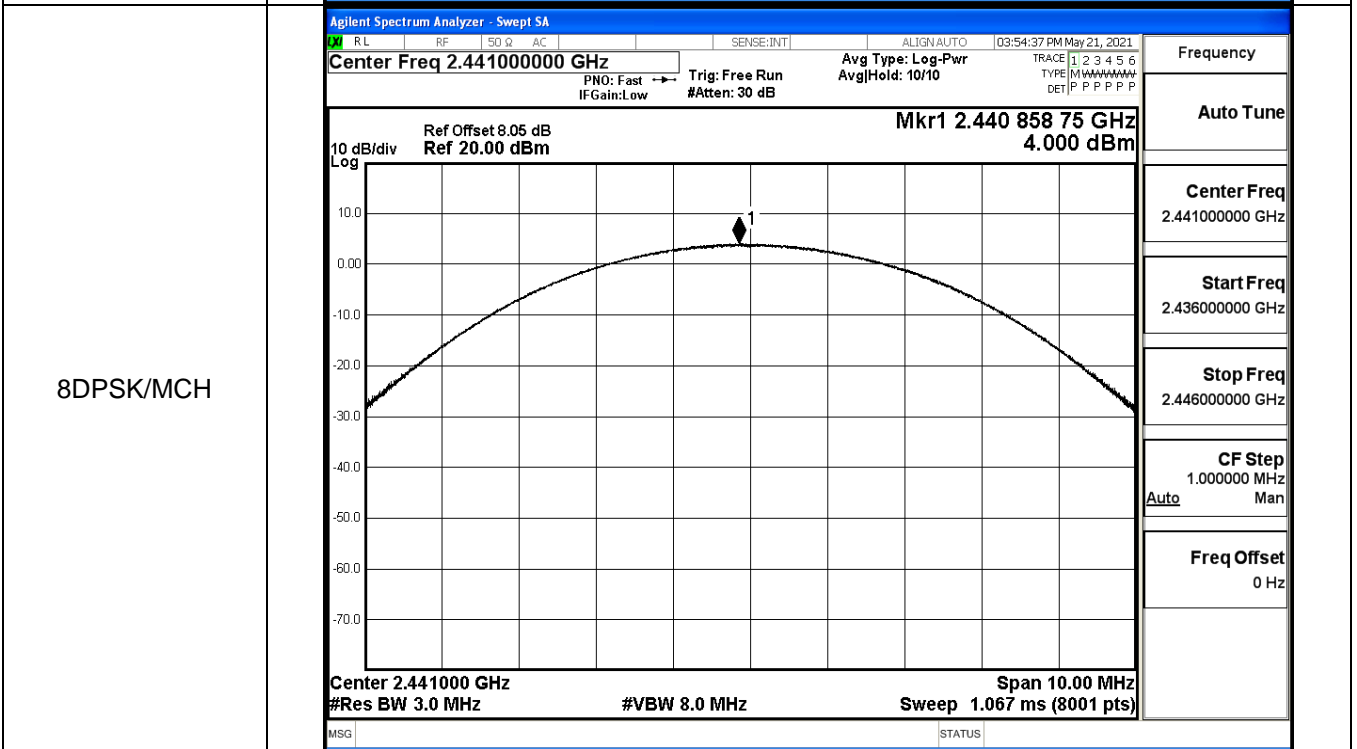
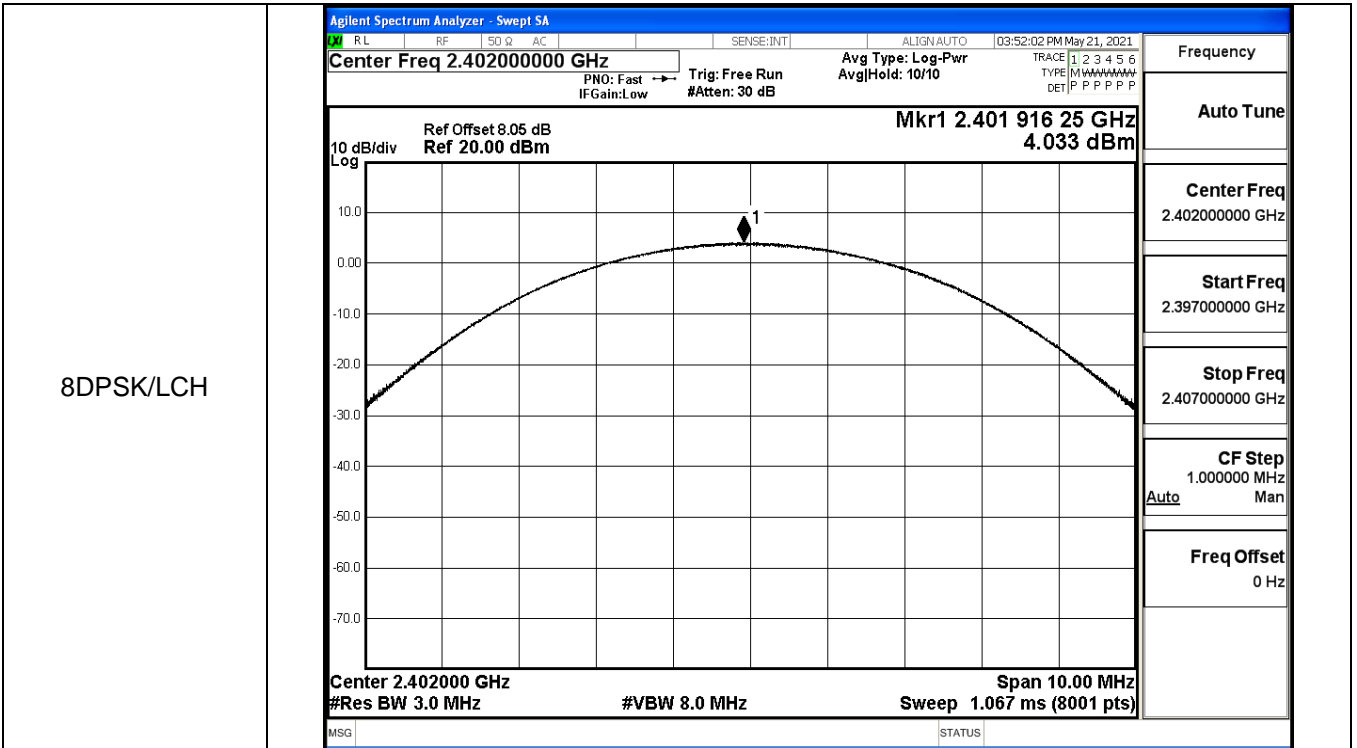
GFSK/HCH



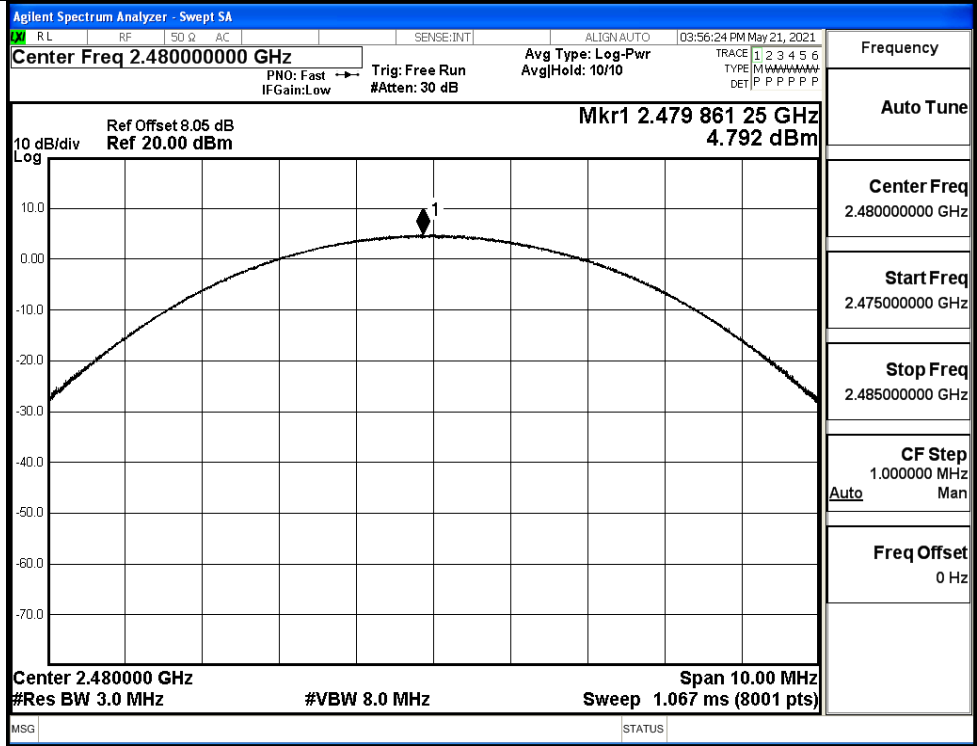
$\pi/4$ DQPSK/LCH





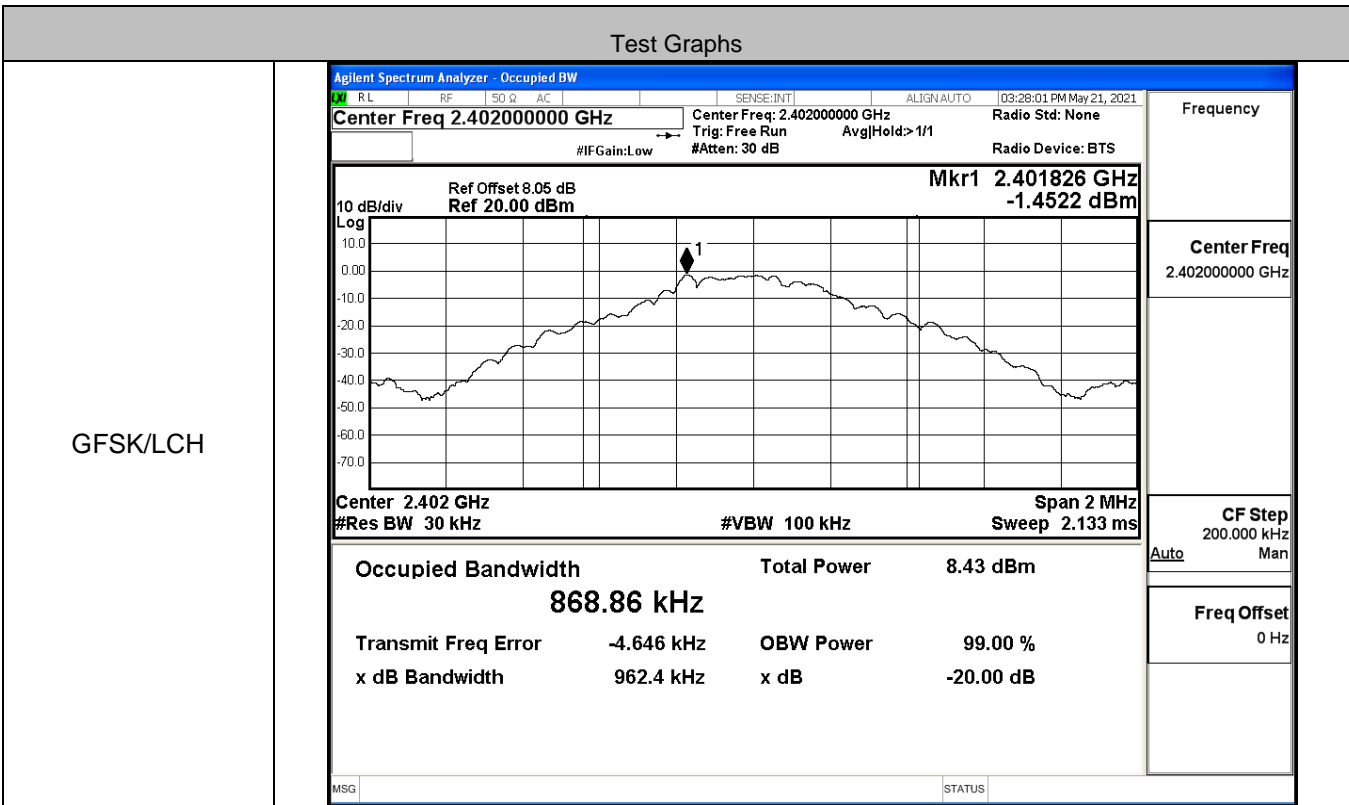


8DPSK/HCH

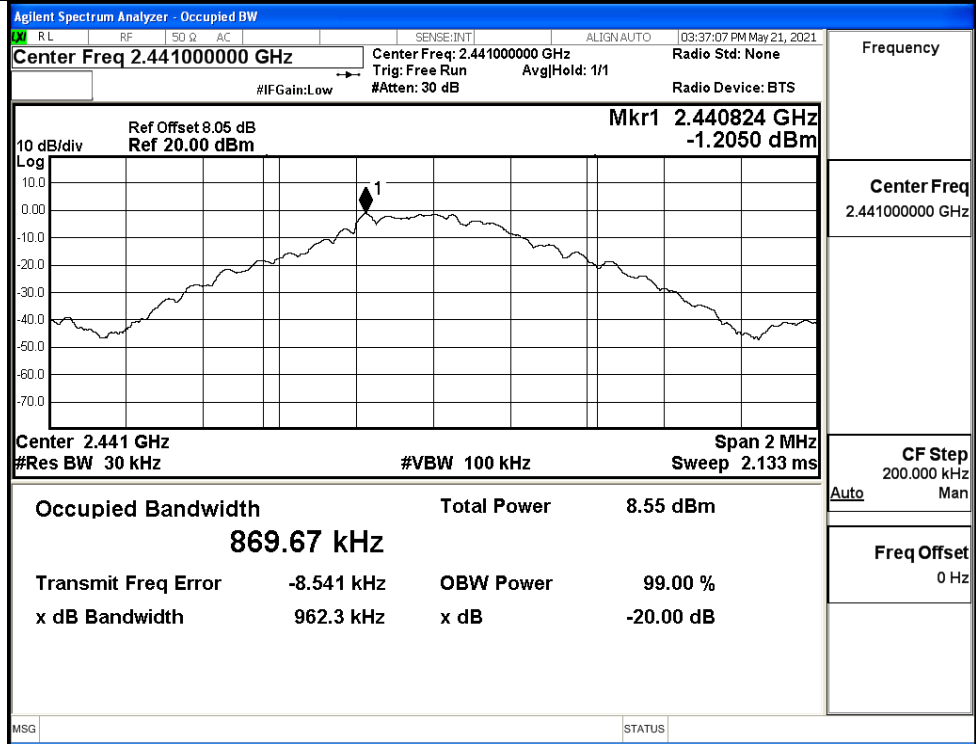


A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9624	Not Specified	PASS
	MCH	0.9623	Not Specified	PASS
	HCH	0.9600	Not Specified	PASS
π/4DQPSK	LCH	1.281	Not Specified	PASS
	MCH	1.281	Not Specified	PASS
	HCH	1.282	Not Specified	PASS
8DPSK	LCH	1.301	Not Specified	PASS
	MCH	1.300	Not Specified	PASS
	HCH	1.299	Not Specified	PASS

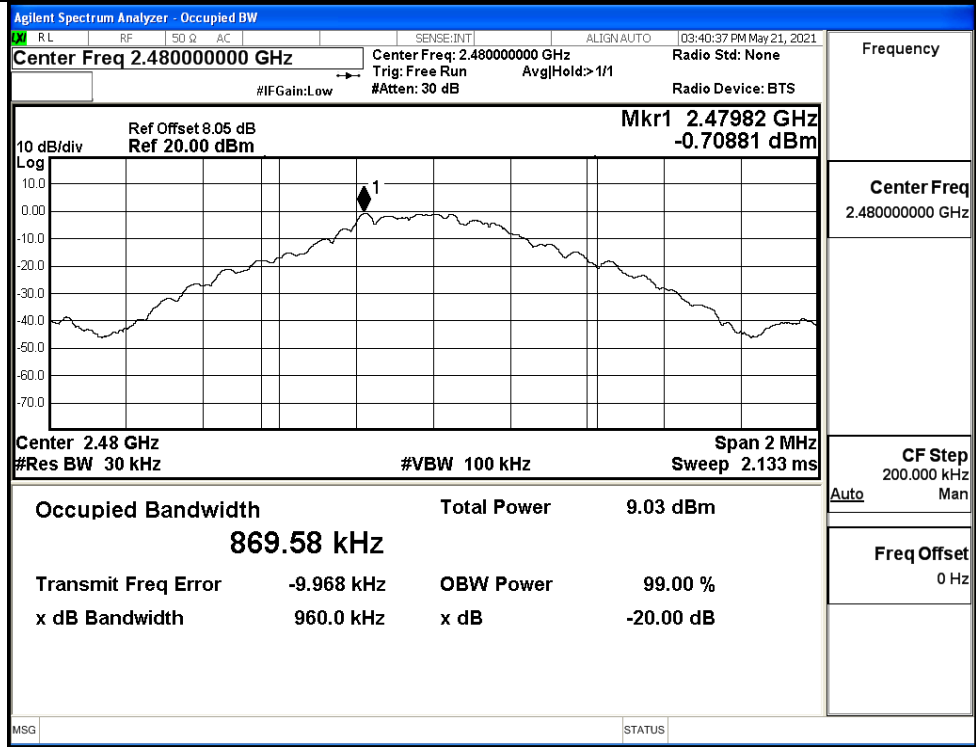


GFSK/MCH



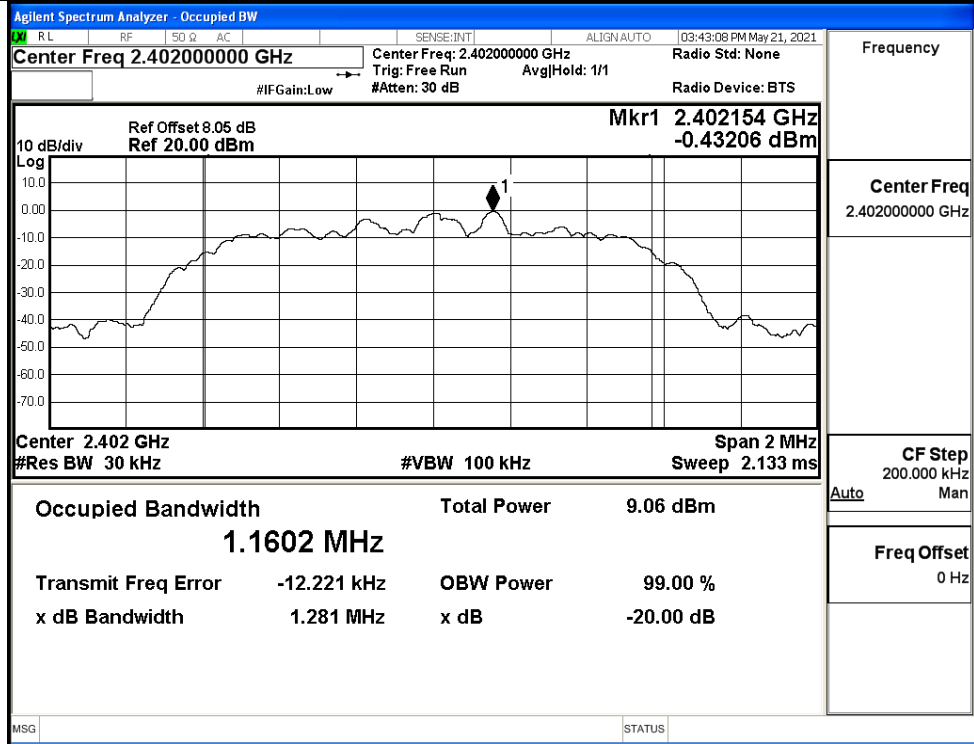
Frequency	2.441000000 GHz
Center Freq	2.441000000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

GFSK/HCH

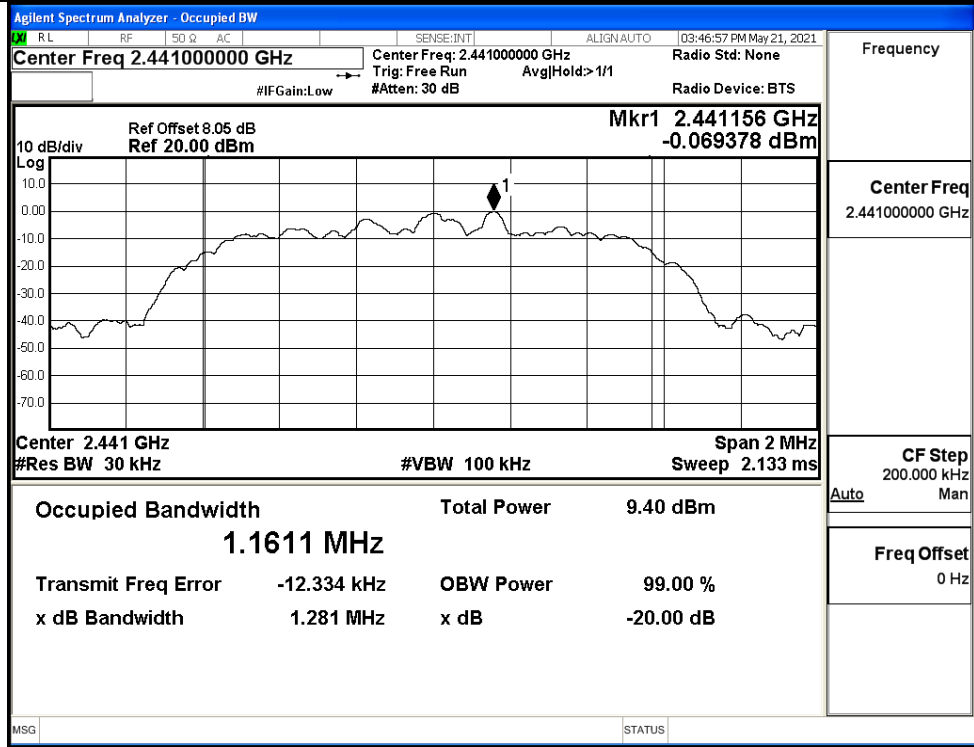


Frequency	2.480000000 GHz
Center Freq	2.480000000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

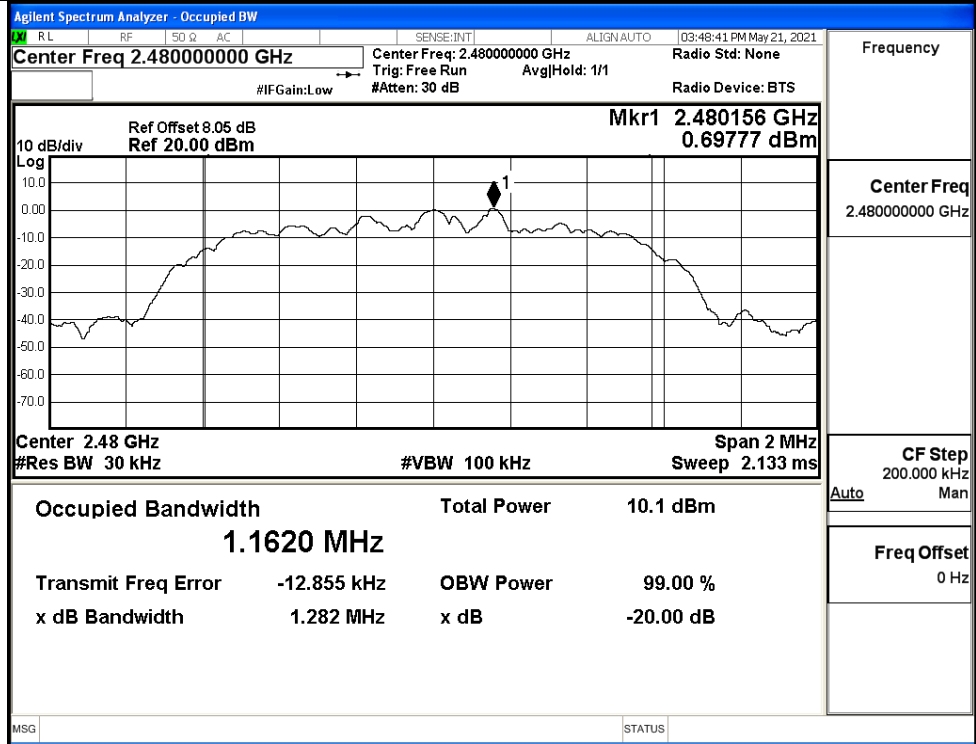
$\pi/4$ DQPSK/LCH



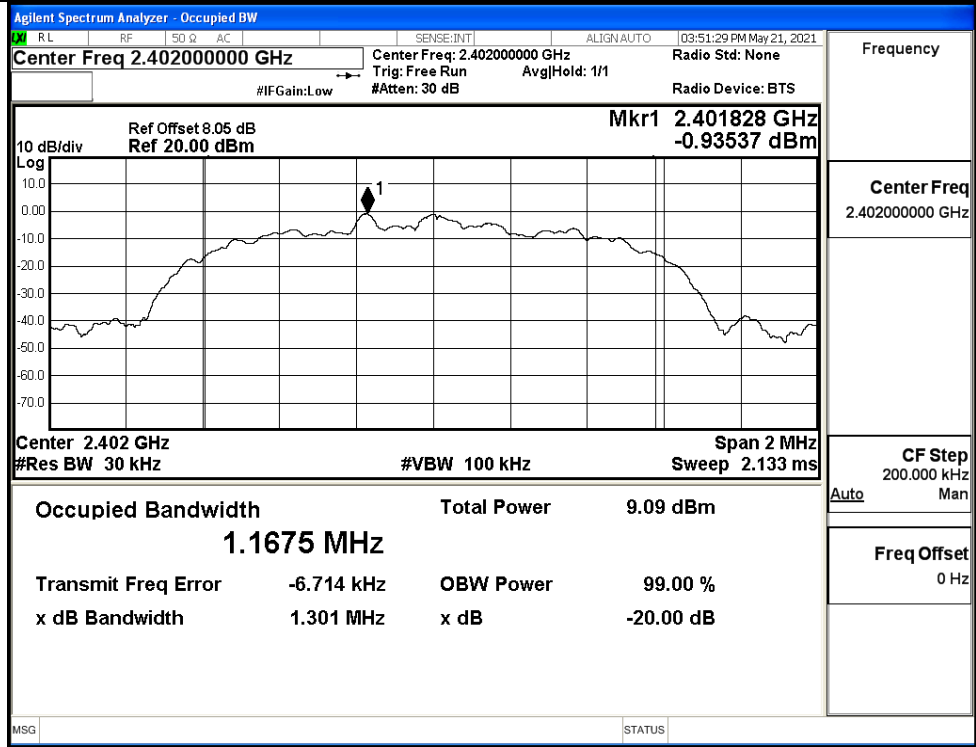
$\pi/4$ DQPSK/MCH



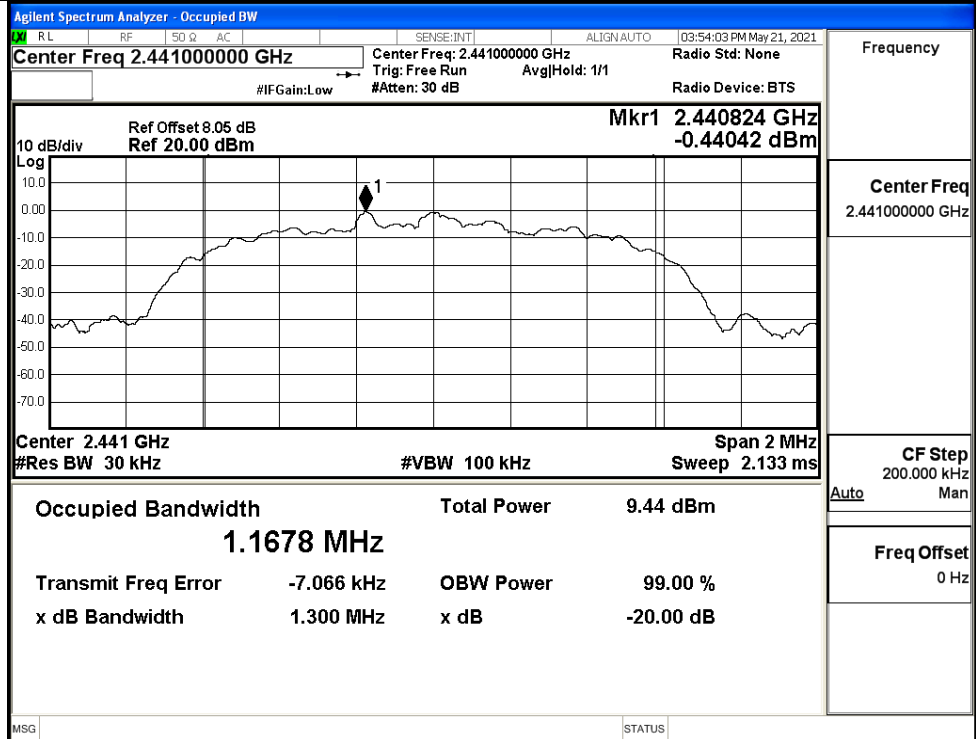
$\pi/4$ DQPSK/HCH



8DPSK/LCH

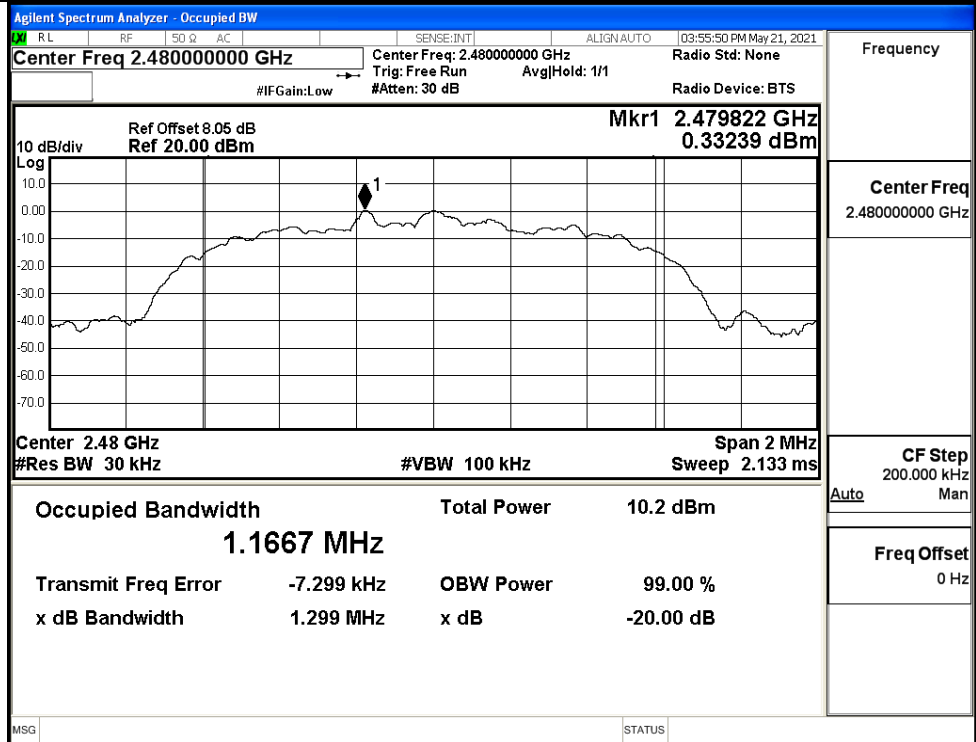


8DPSK/MCH



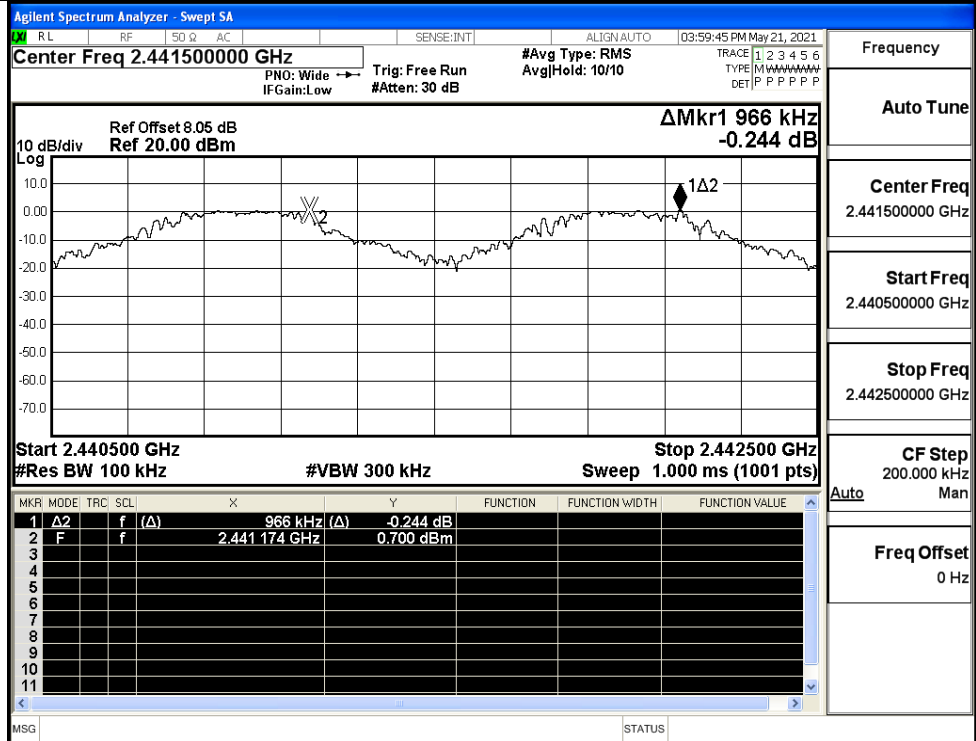
Frequency	2.441000000 GHz
Center Freq	2.441000000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

8DPSK/HCH



Frequency	2.480000000 GHz
Center Freq	2.480000000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

GFSK/MCH



Frequency

Auto Tune

Center Freq

2.441500000 GHz

Start Freq

2.440500000 GHz

Stop Freq

2.442500000 GHz

CF Step

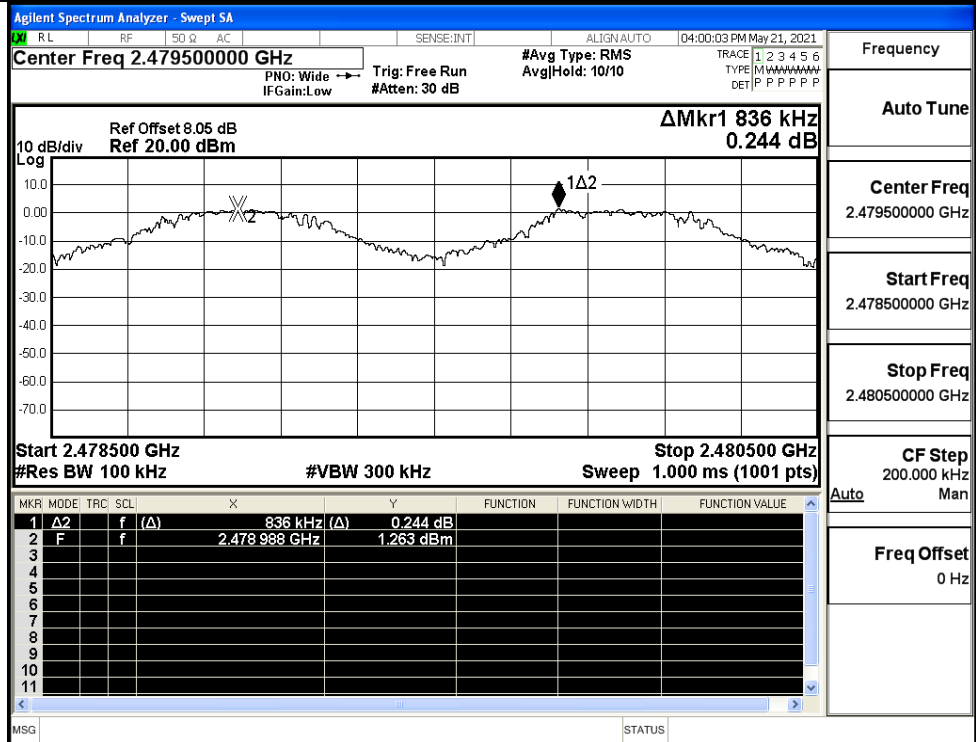
200.000 kHz

Auto

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

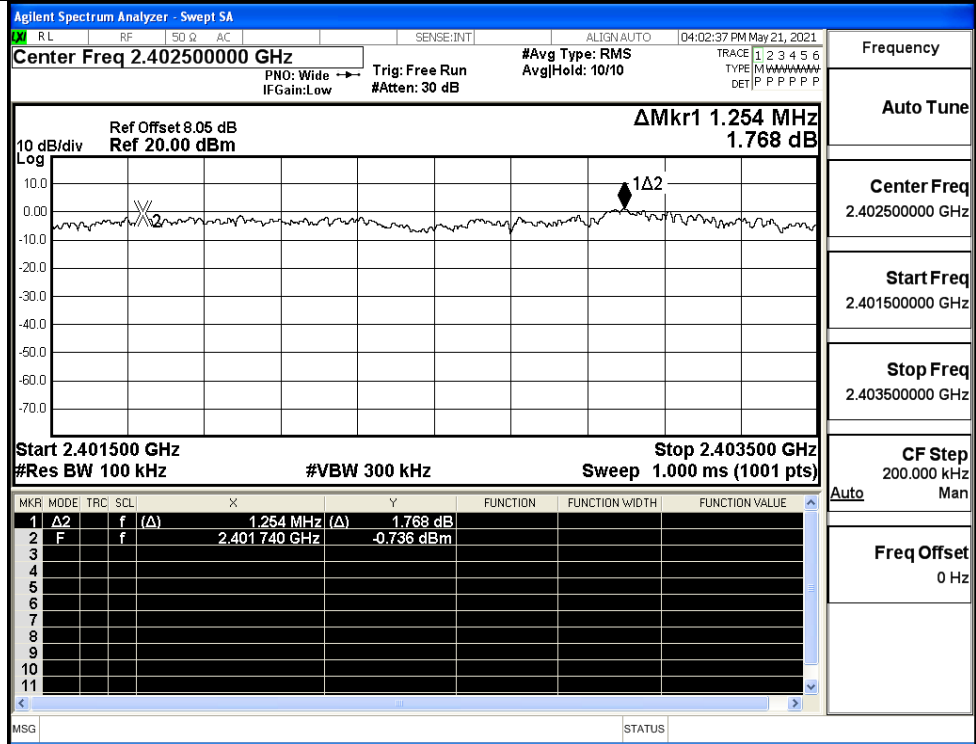
200.000 kHz

Auto

Freq Offset

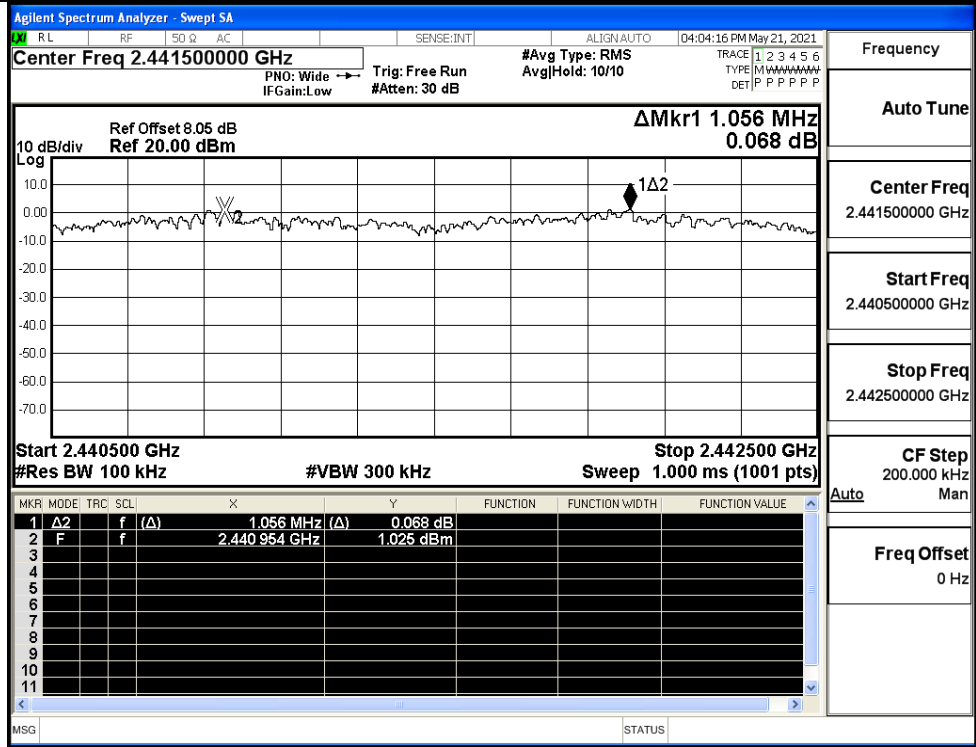
0 Hz

$\pi/4$ DQPSK/LCH



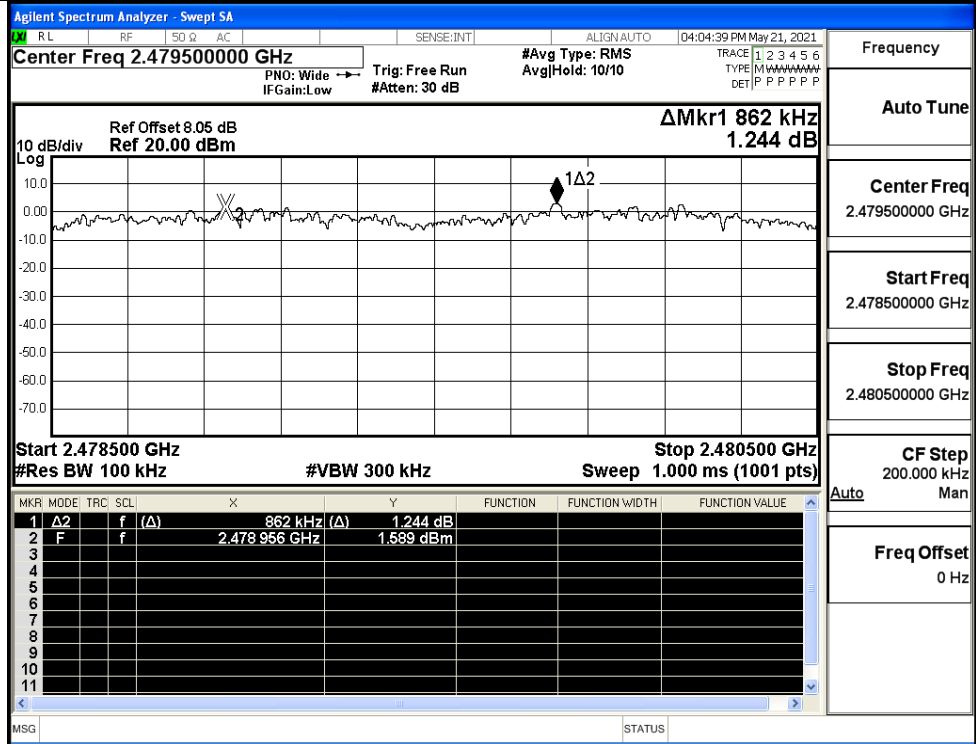
Frequency	2.402500000 GHz
Auto Tune	
Center Freq	2.402500000 GHz
Start Freq	2.401500000 GHz
Stop Freq	2.403500000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

$\pi/4$ DQPSK/MCH



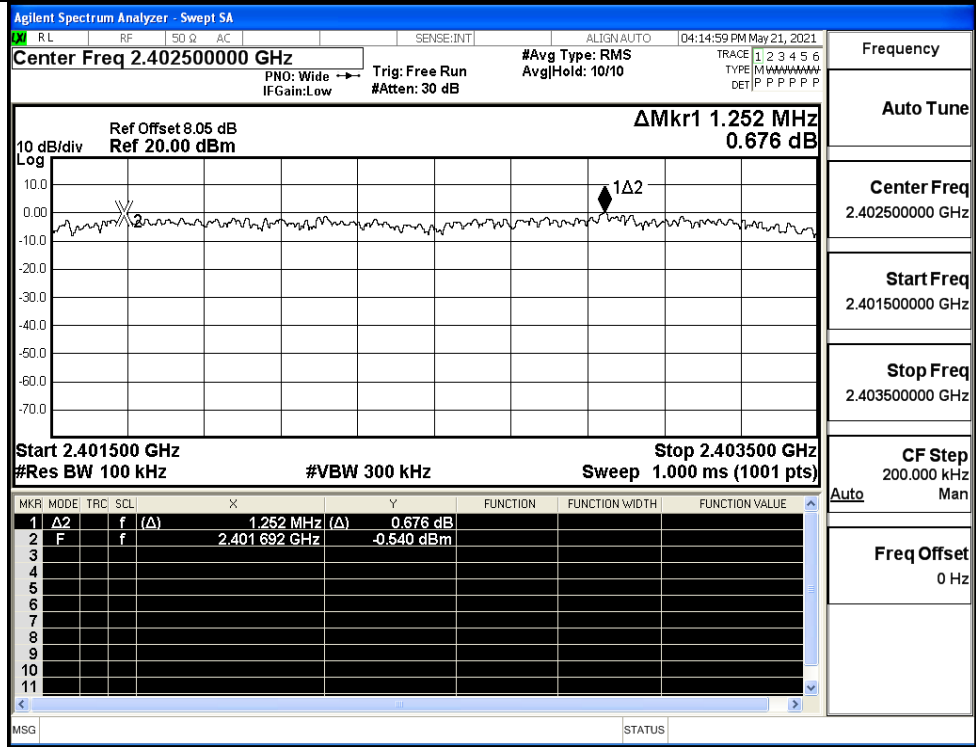
Frequency	2.441500000 GHz
Auto Tune	
Center Freq	2.441500000 GHz
Start Freq	2.440500000 GHz
Stop Freq	2.442500000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

π/4DQPSK/HCH



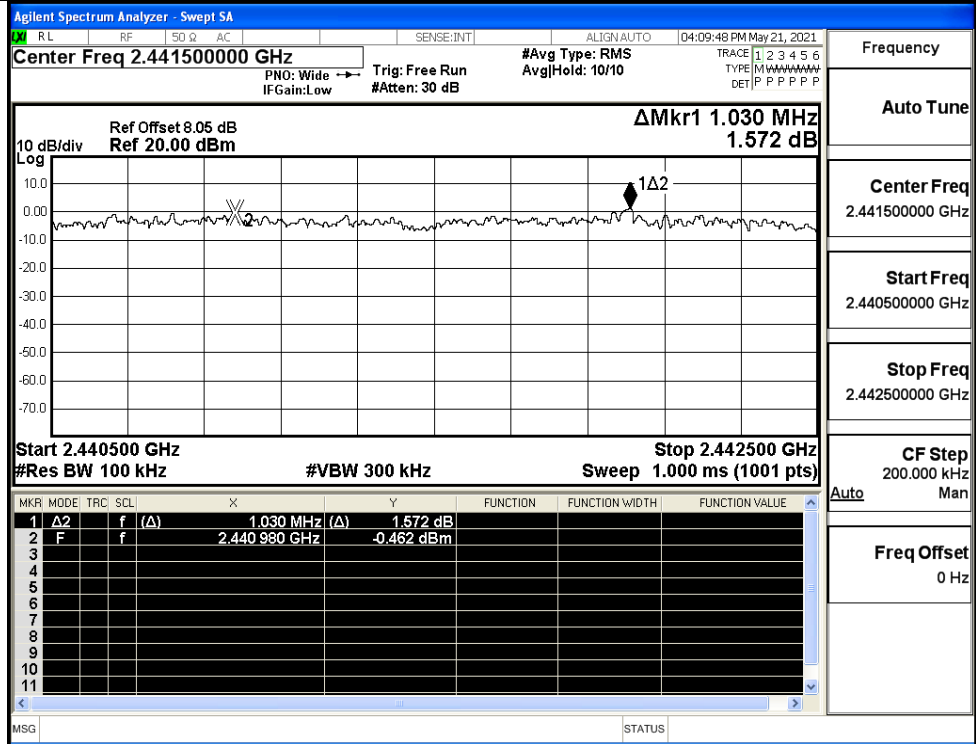
Frequency	2.479500000 GHz
Auto Tune	
Center Freq	2.479500000 GHz
Start Freq	2.478500000 GHz
Stop Freq	2.480500000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

8DPSK/LCH

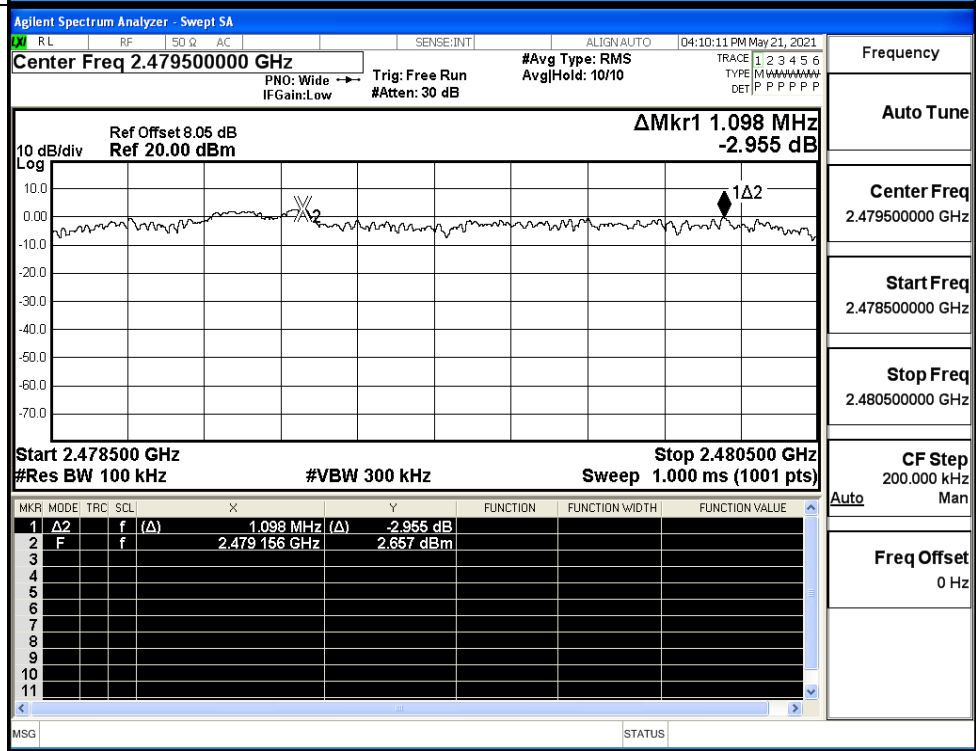


Frequency	2.402500000 GHz
Auto Tune	
Center Freq	2.402500000 GHz
Start Freq	2.401500000 GHz
Stop Freq	2.403500000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

8DPSK/MCH



8DPSK/HCH



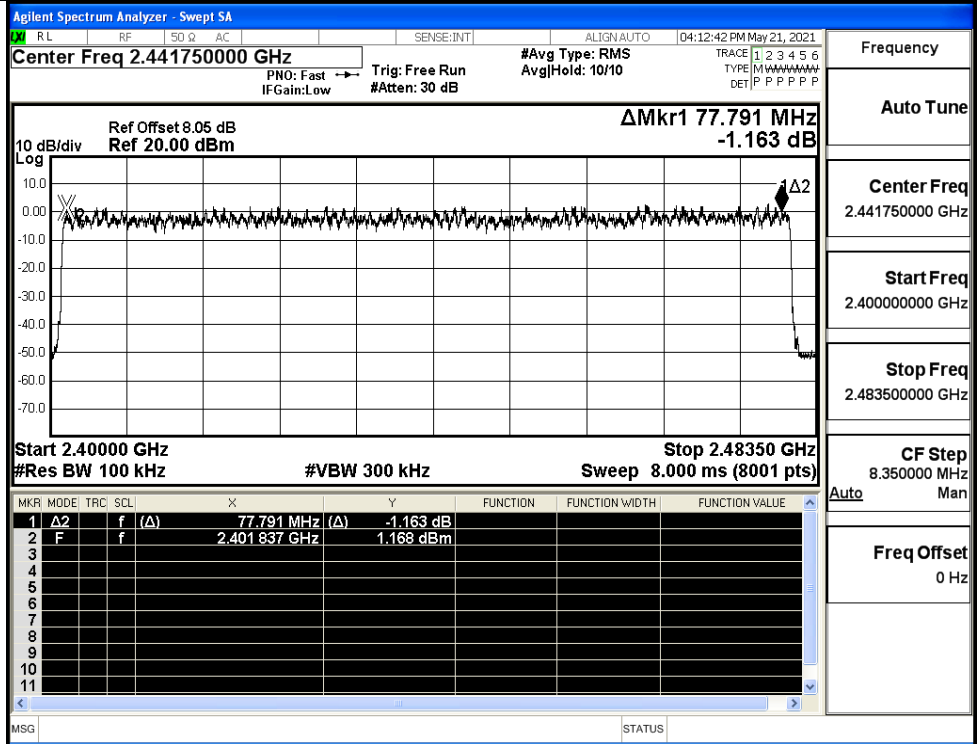
A.4 Hopping Channel Number

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

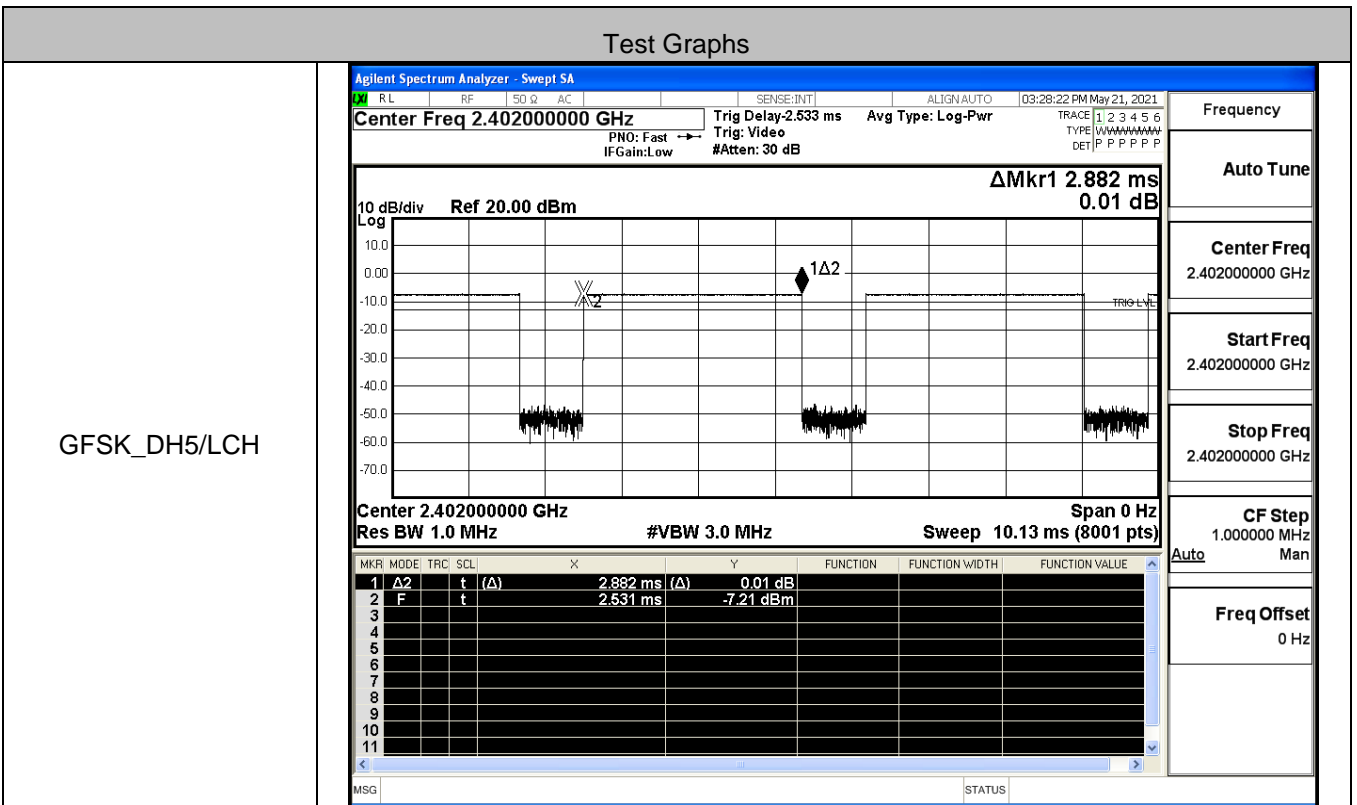
GFSK/Hop	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.441750000 GHz</p> <p>Ref Offset 8.05 dB Ref 20.00 dBm</p> <p>ΔMkr1 77.906 MHz 0.489 dB</p> <p>Start 2.40000 GHz Stop 2.48350 GHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 8.000 ms (8001 pts)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <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>77.906 MHz (Δ)</td> <td>0.489 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td></td> <td>2.402 025 GHz</td> <td>0.399 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)	77.906 MHz (Δ)	0.489 dB				2	F	f		2.402 025 GHz	0.399 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>
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1	Δ 2	f	(Δ)	77.780 MHz (Δ)	0.822 dB																								
2	F	f		2.402 161 GHz	1.180 dBm																								

8DPSK/Hop

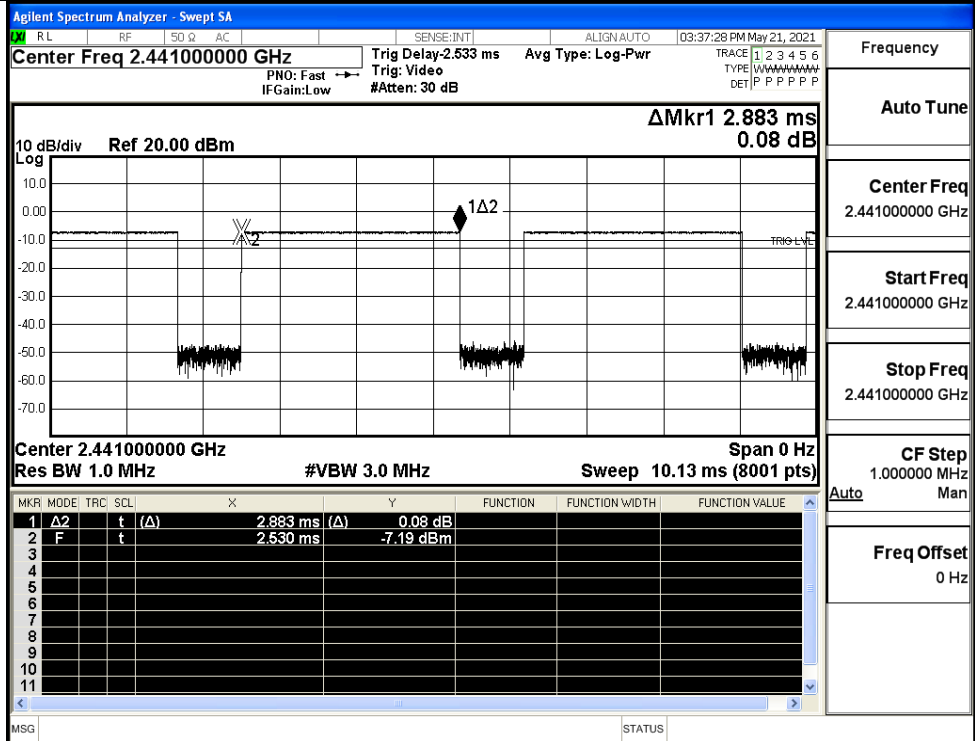


A.5 Dwell Time

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	0.308	0.4	PASS
	2DH5	MCH	2.88	106.7	0.308	0.4	PASS
	2DH5	HCH	2.88	106.7	0.015	0.4	PASS
8DPSK	3DH5	LCH	2.88	106.7	0.015	0.4	PASS
	3DH5	MCH	2.88	106.7	0.015	0.4	PASS
	3DH5	HCH	2.88	106.7	0.015	0.4	PASS



GFSK_DH5/MCH



Frequency

Auto Tune

Center Freq
2.441000000 GHz

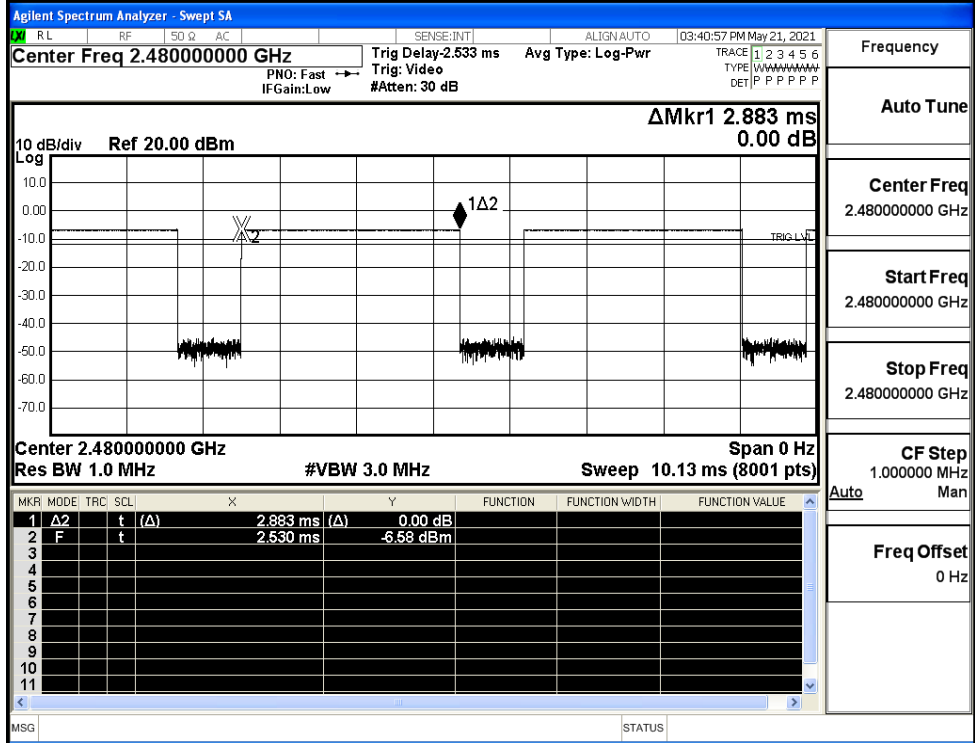
Start Freq
2.441000000 GHz

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

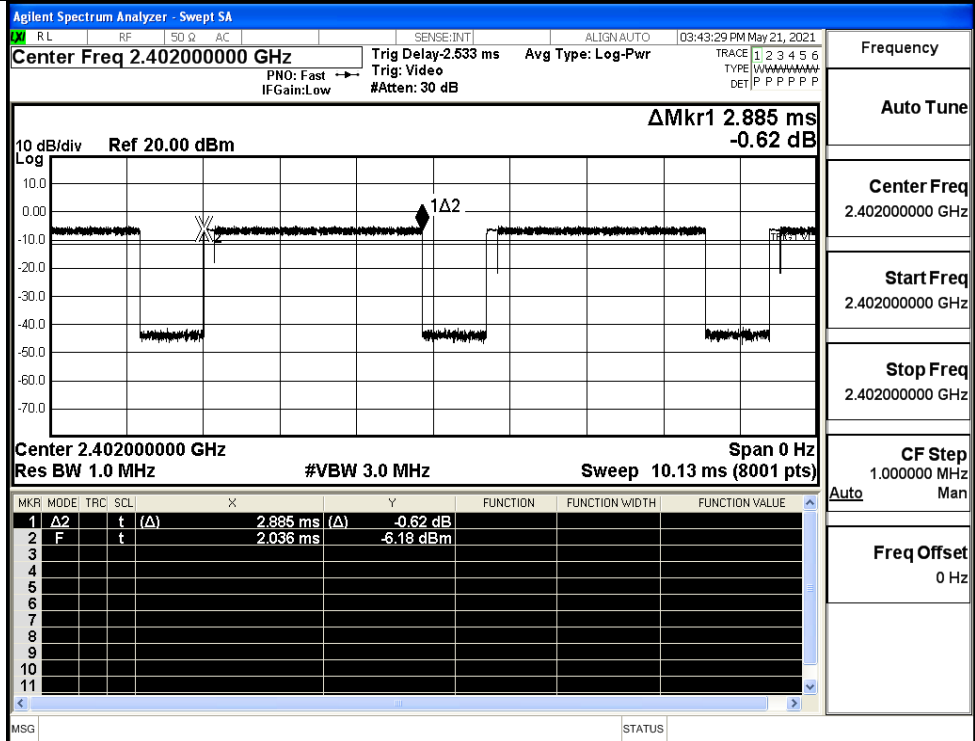
Start Freq
2.480000000 GHz

Stop Freq
2.480000000 GHz

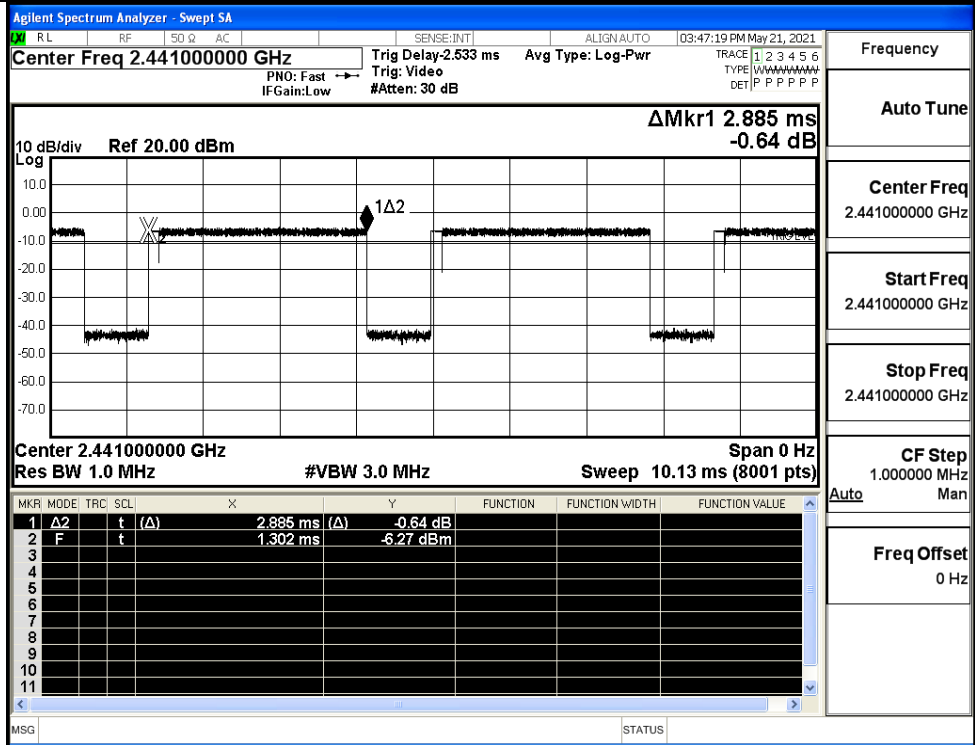
CF Step
1.000000 MHz

Freq Offset
0 Hz

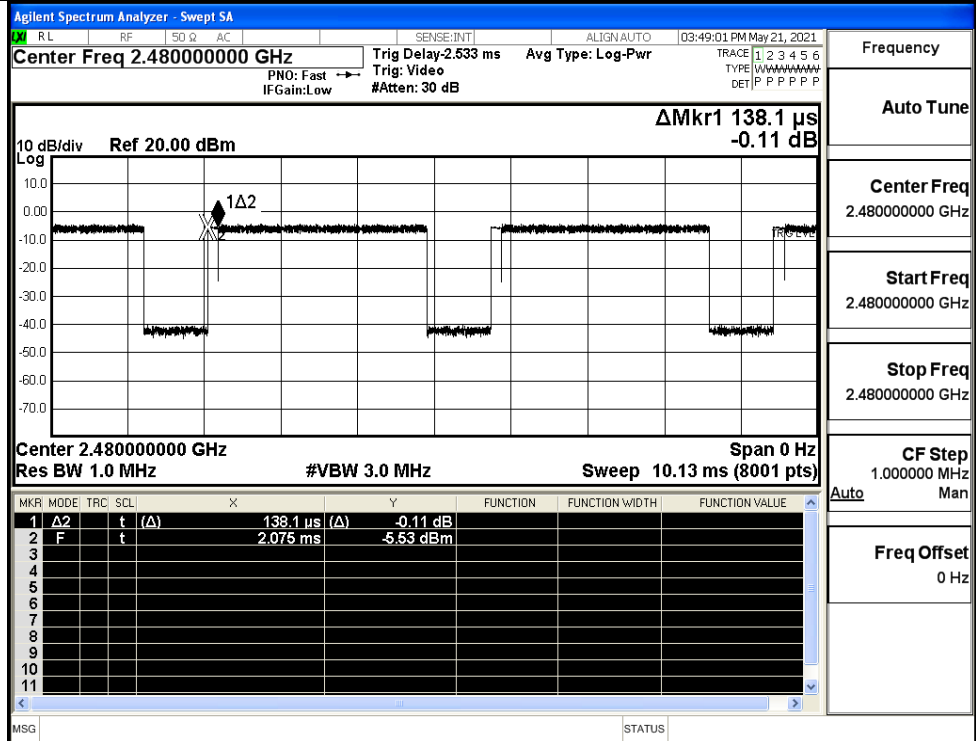
π /4DQPSK
_2DH5/LCH



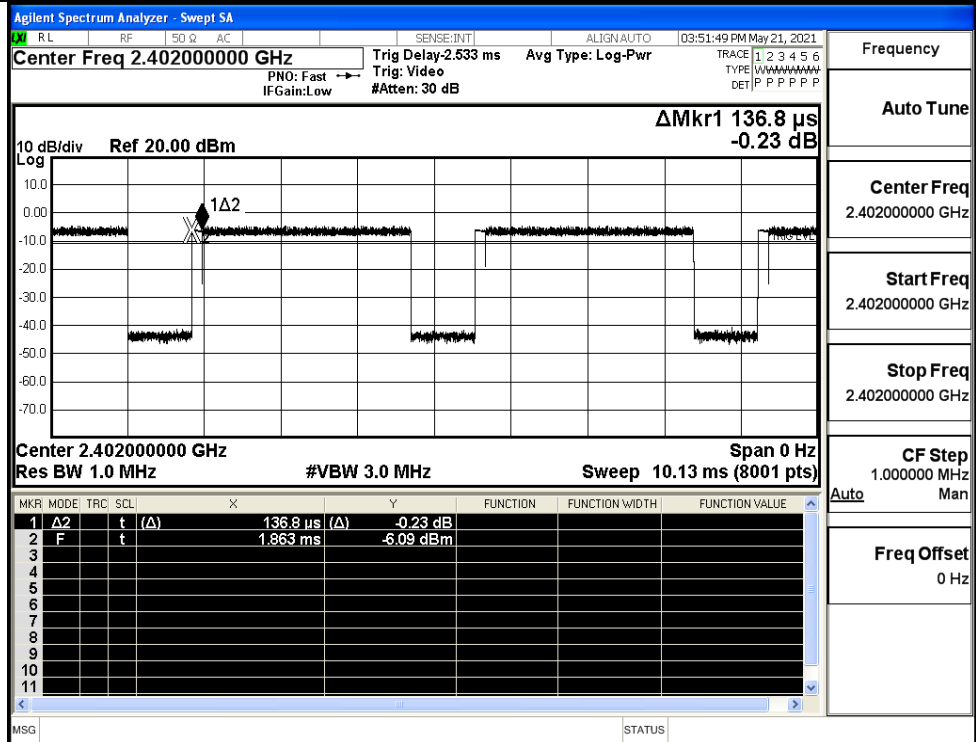
π /4DQPSK
_2DH5/MCH



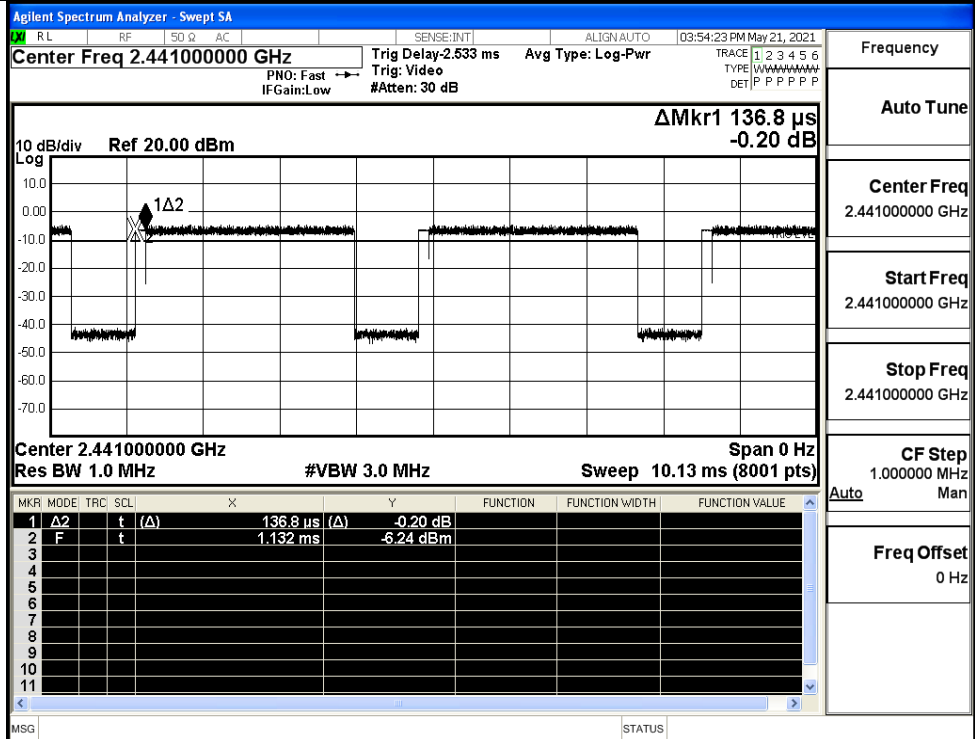
π /4DQPSK
_2DH5/HCH



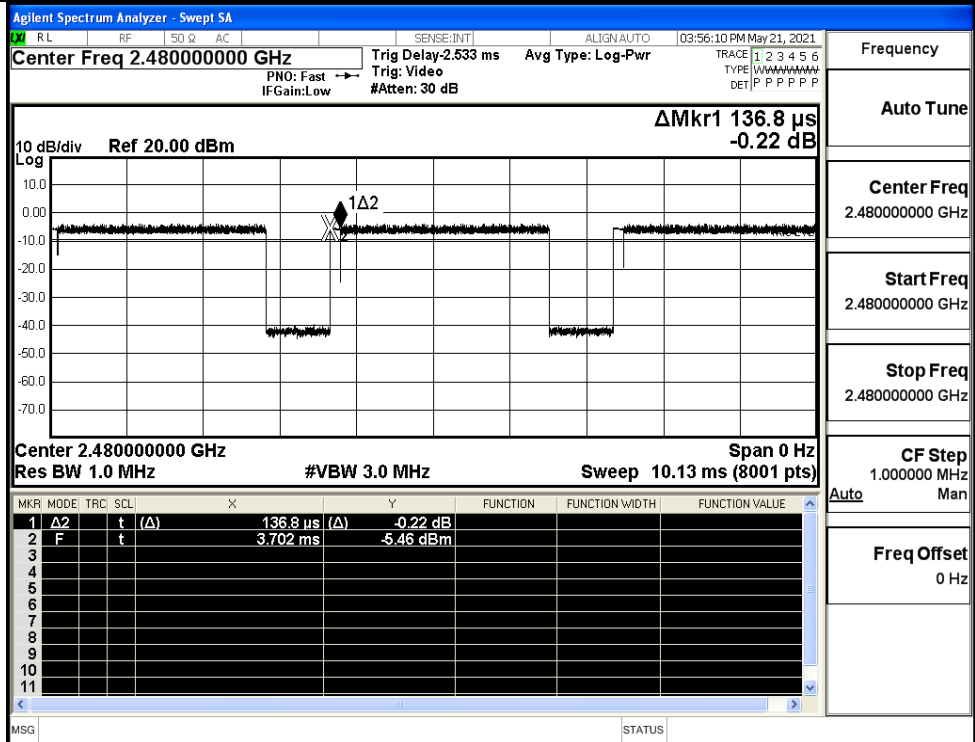
8DPSK_3DH5/LCH



8DPSK_3DH5/MCH



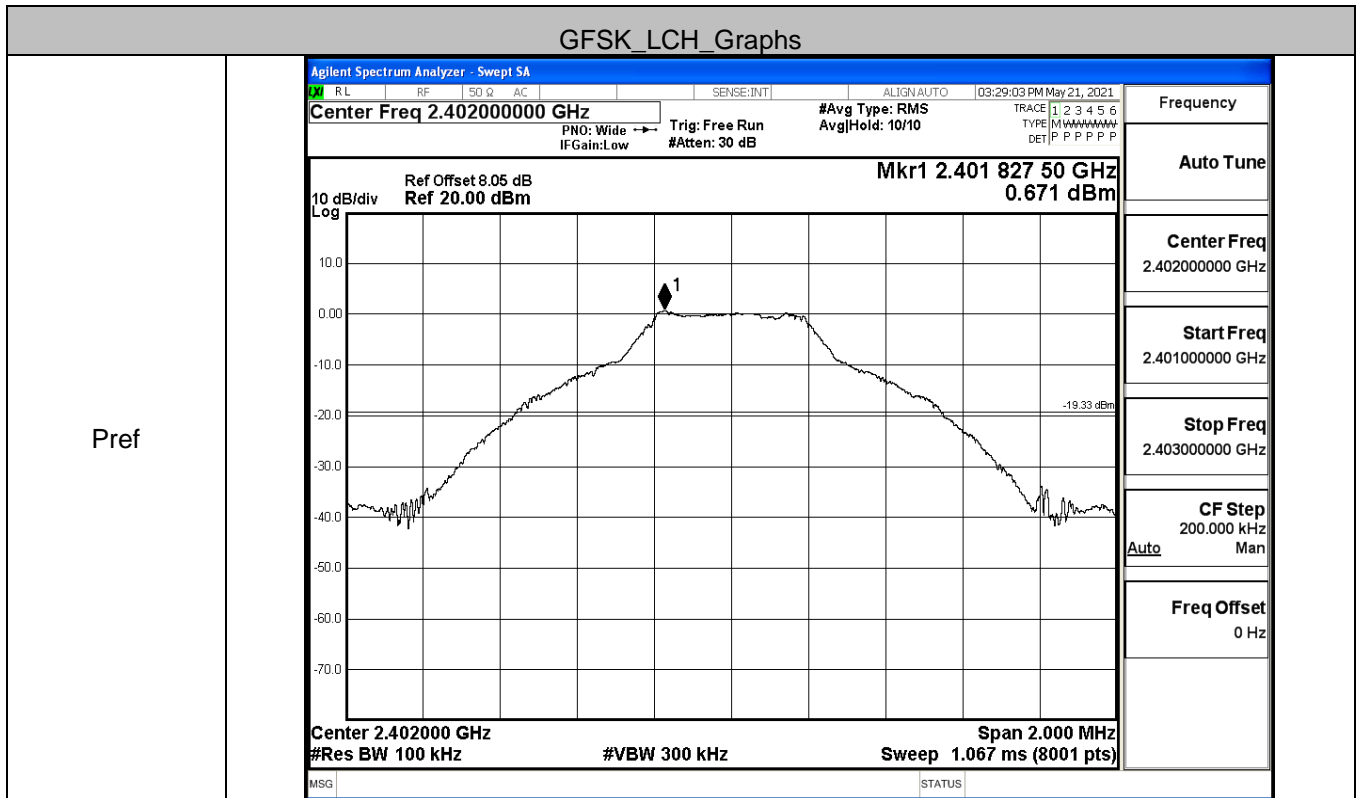
8DPSK_3DH5/HCH



A.6 RF Conducted Spurious Emissions

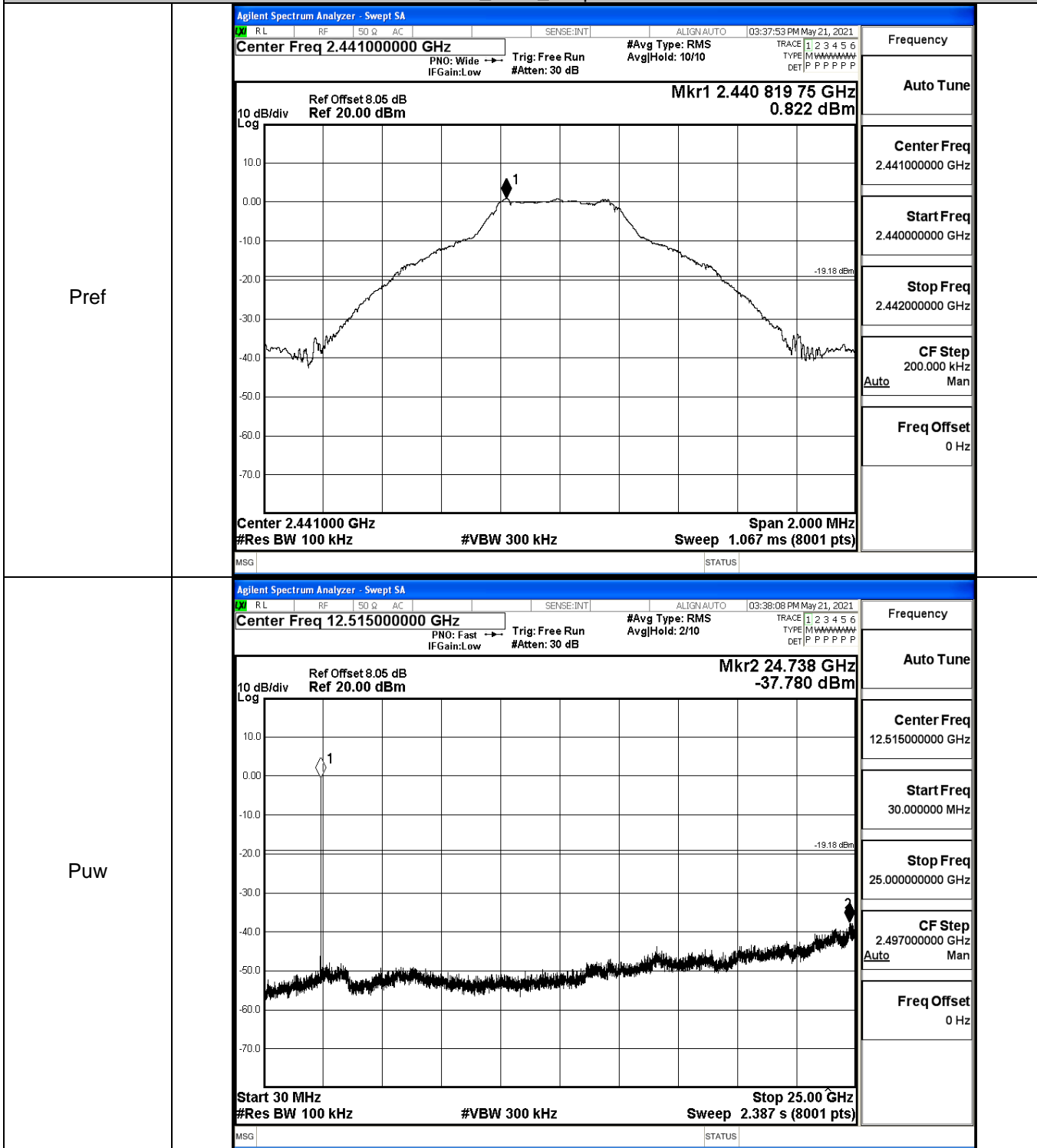
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.671	-37.599	-19.329	PASS
	MCH	0.822	-37.780	-19.178	PASS
	HCH	1.955	-38.041	-18.045	PASS
π /4DQPSK	LCH	1.757	-37.340	-18.243	PASS
	MCH	2.206	-37.829	-17.794	PASS
	HCH	2.928	-38.276	-17.072	PASS
8DPSK	LCH	1.817	-28.546	-18.183	PASS
	MCH	1.737	-37.796	-18.263	PASS
	HCH	2.942	-38.017	-17.058	PASS

GFSK_LCH_Graphs

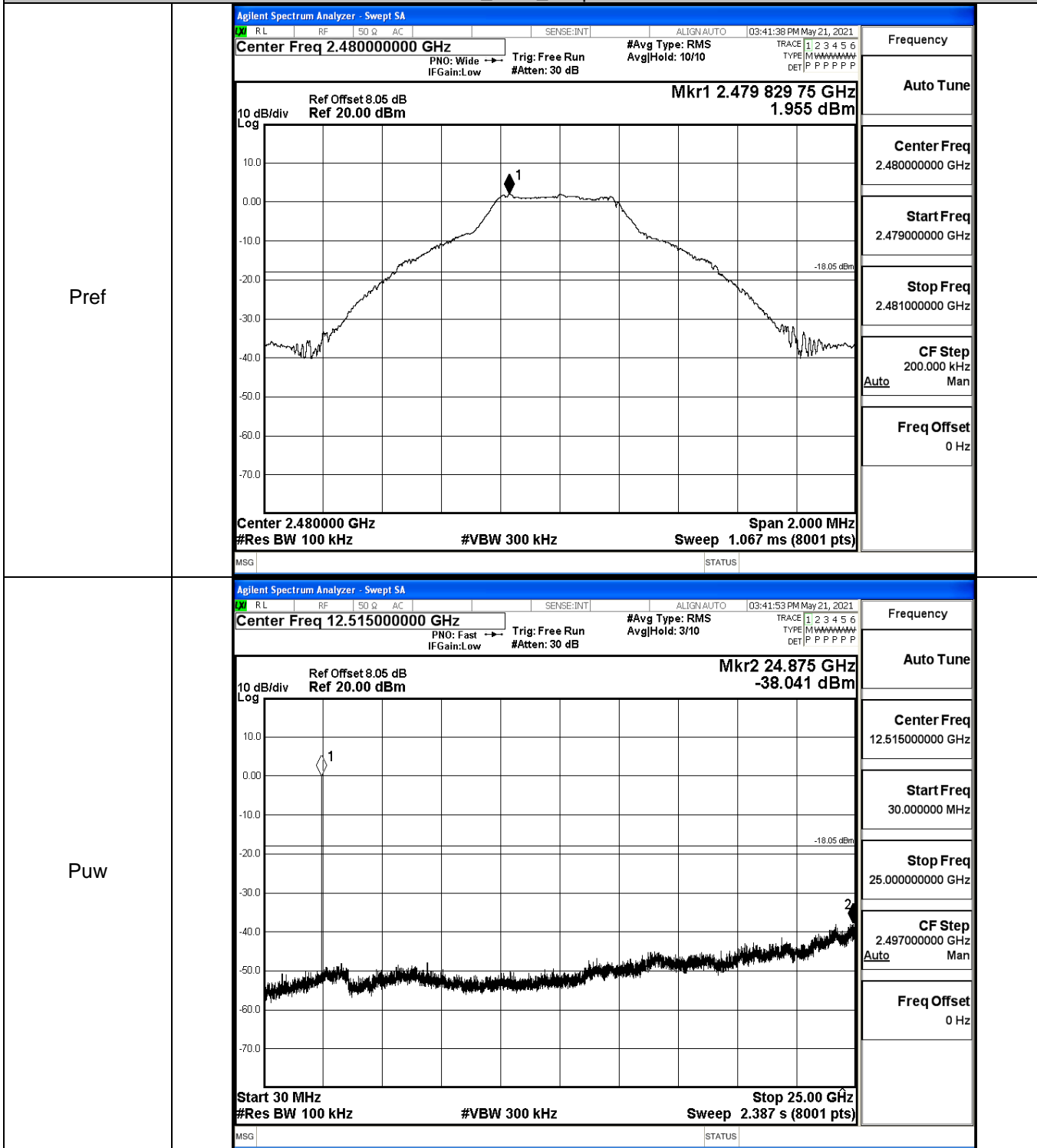


Pref

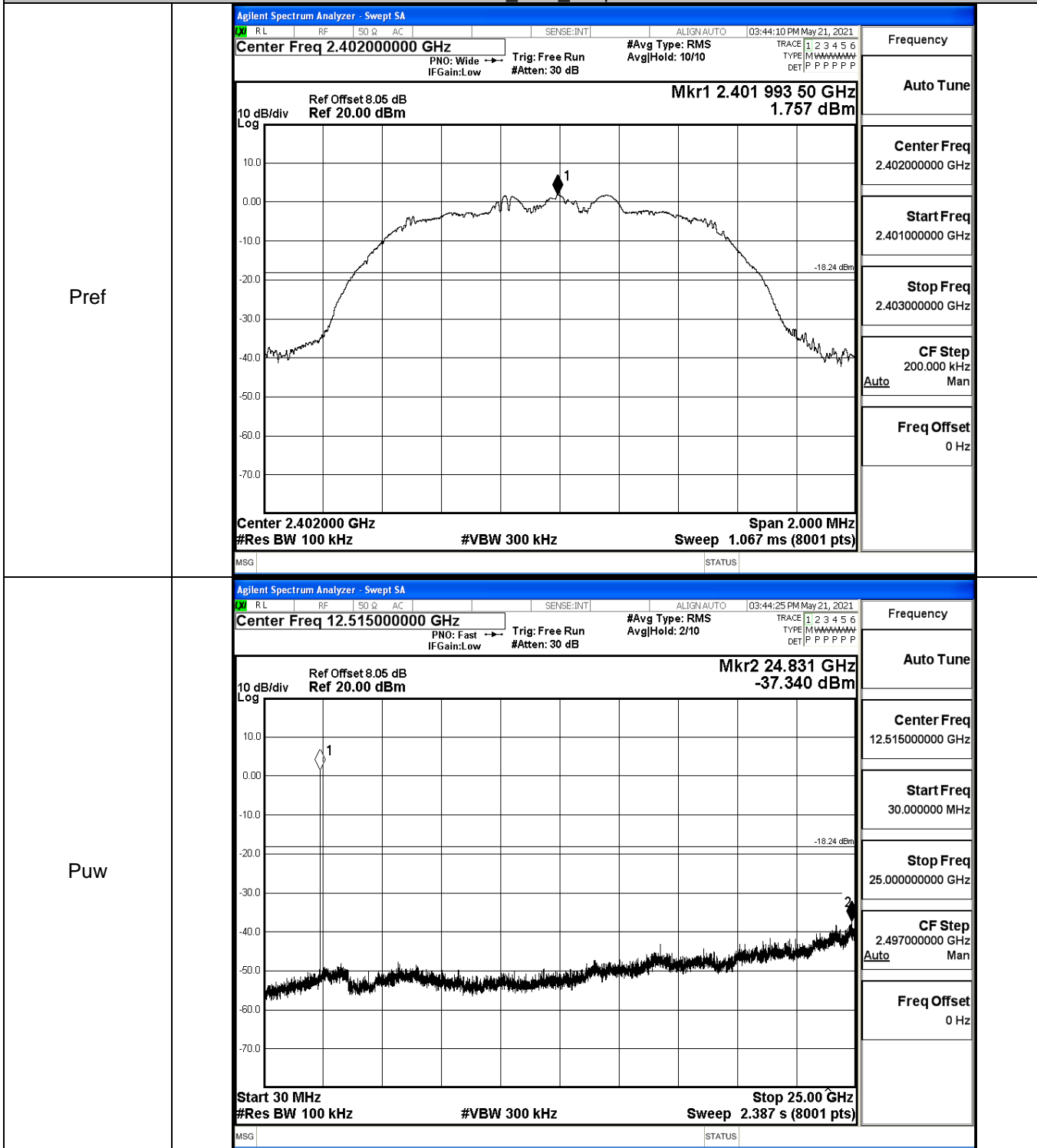
GFSK_MCH_Graphs



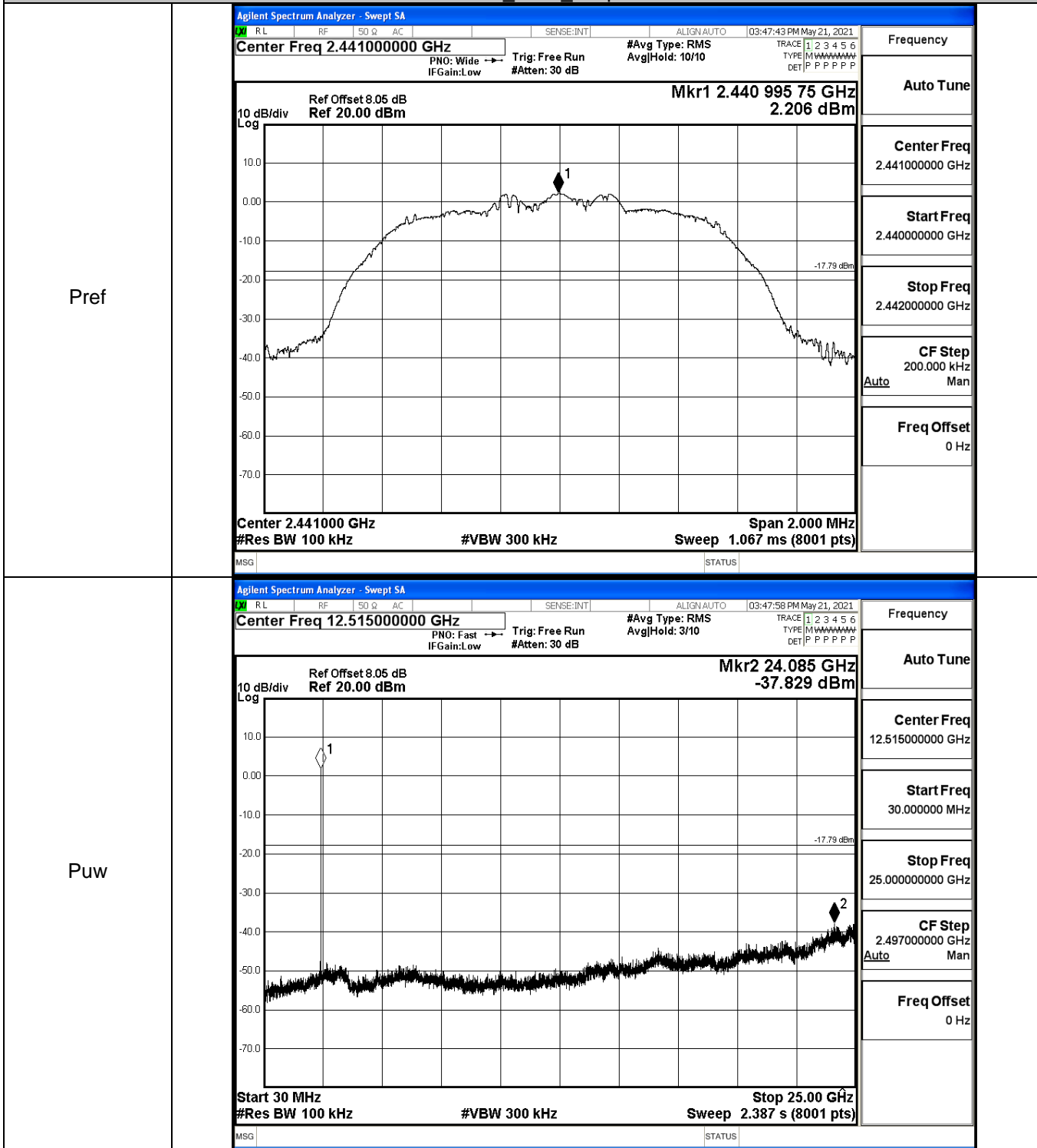
GFSK_HCH_Graphs



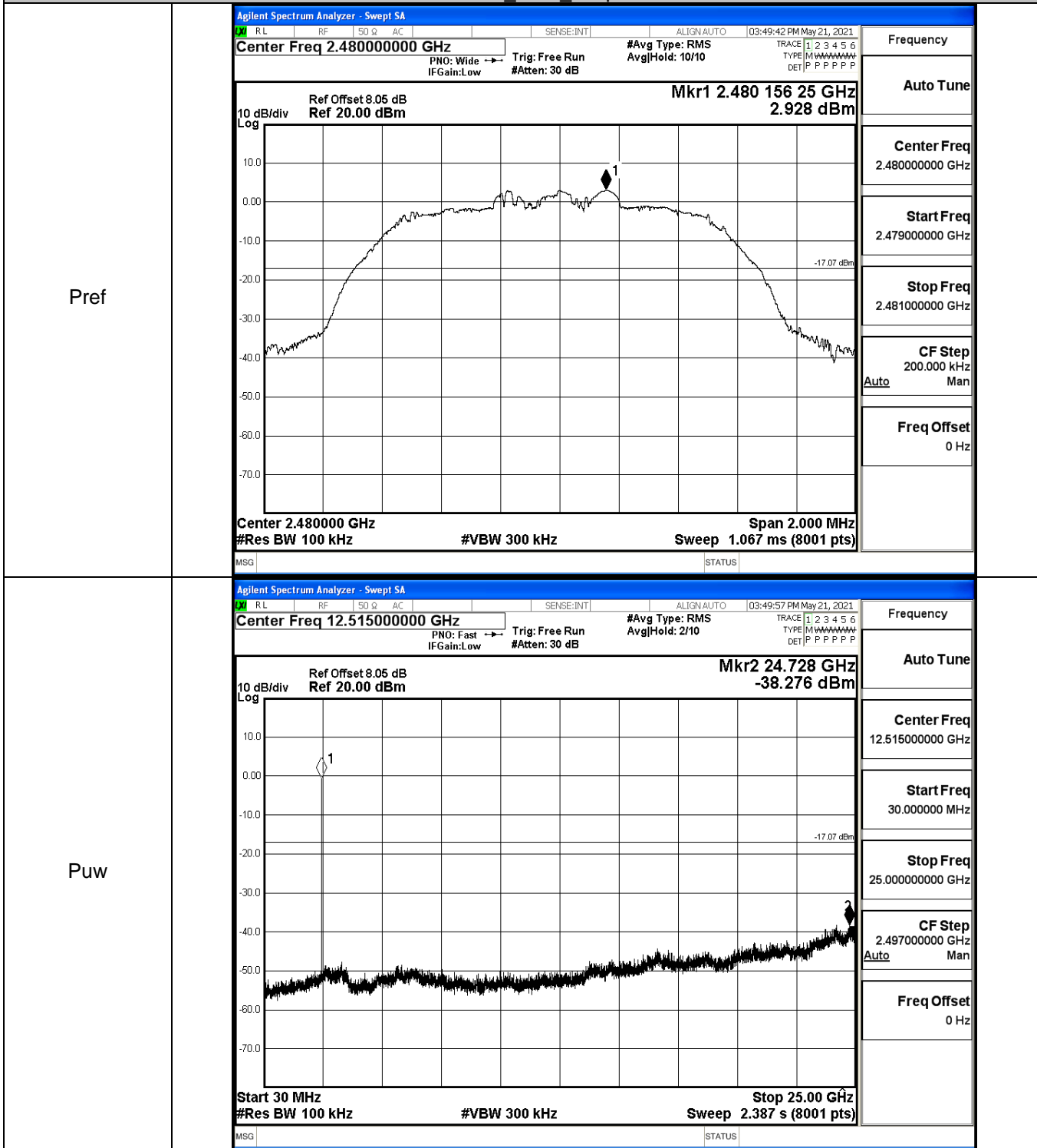
$\pi/4$ DQPSK_LCH_Graphs



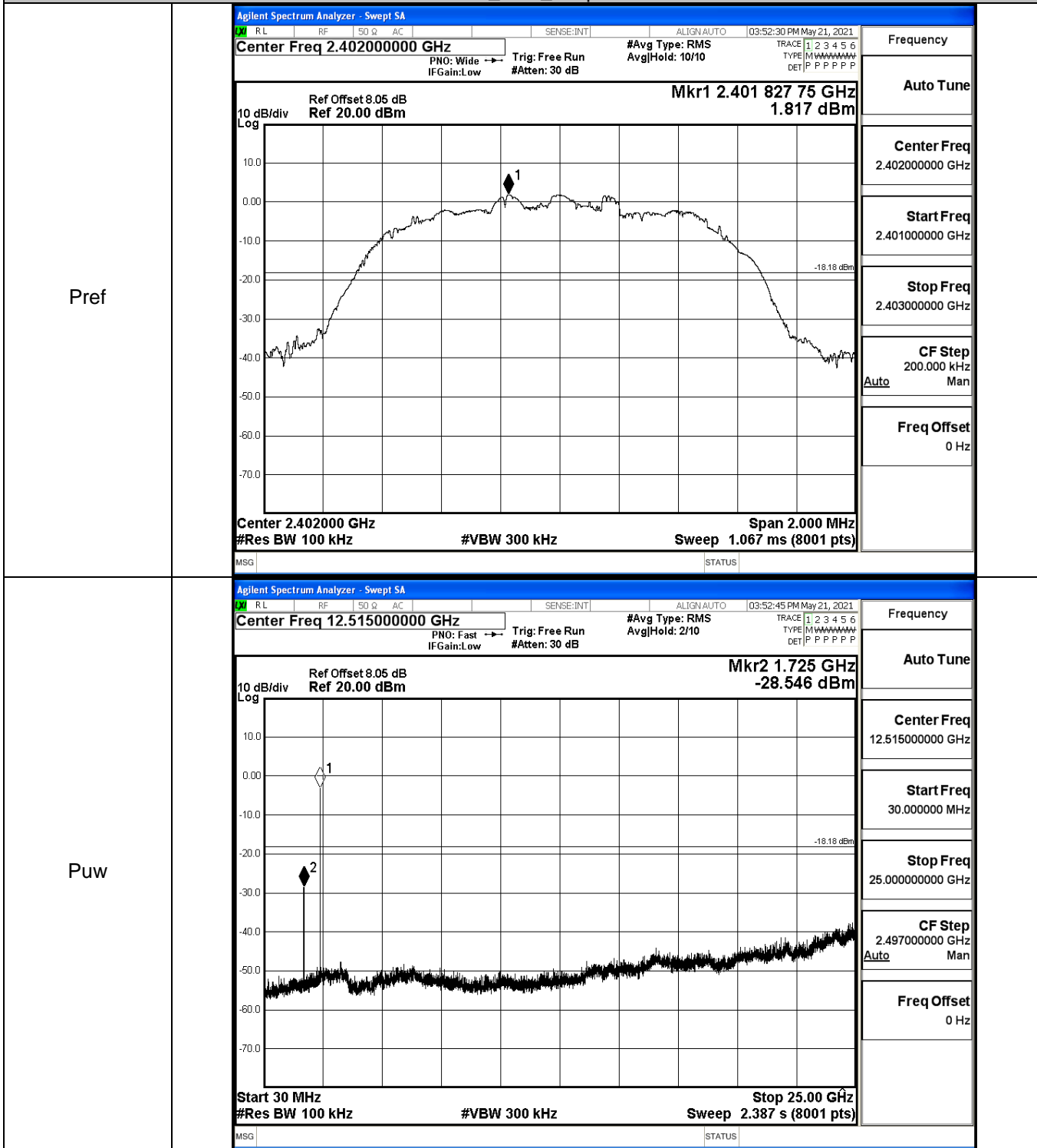
$\pi/4$ DQPSK_MCH_Graphs



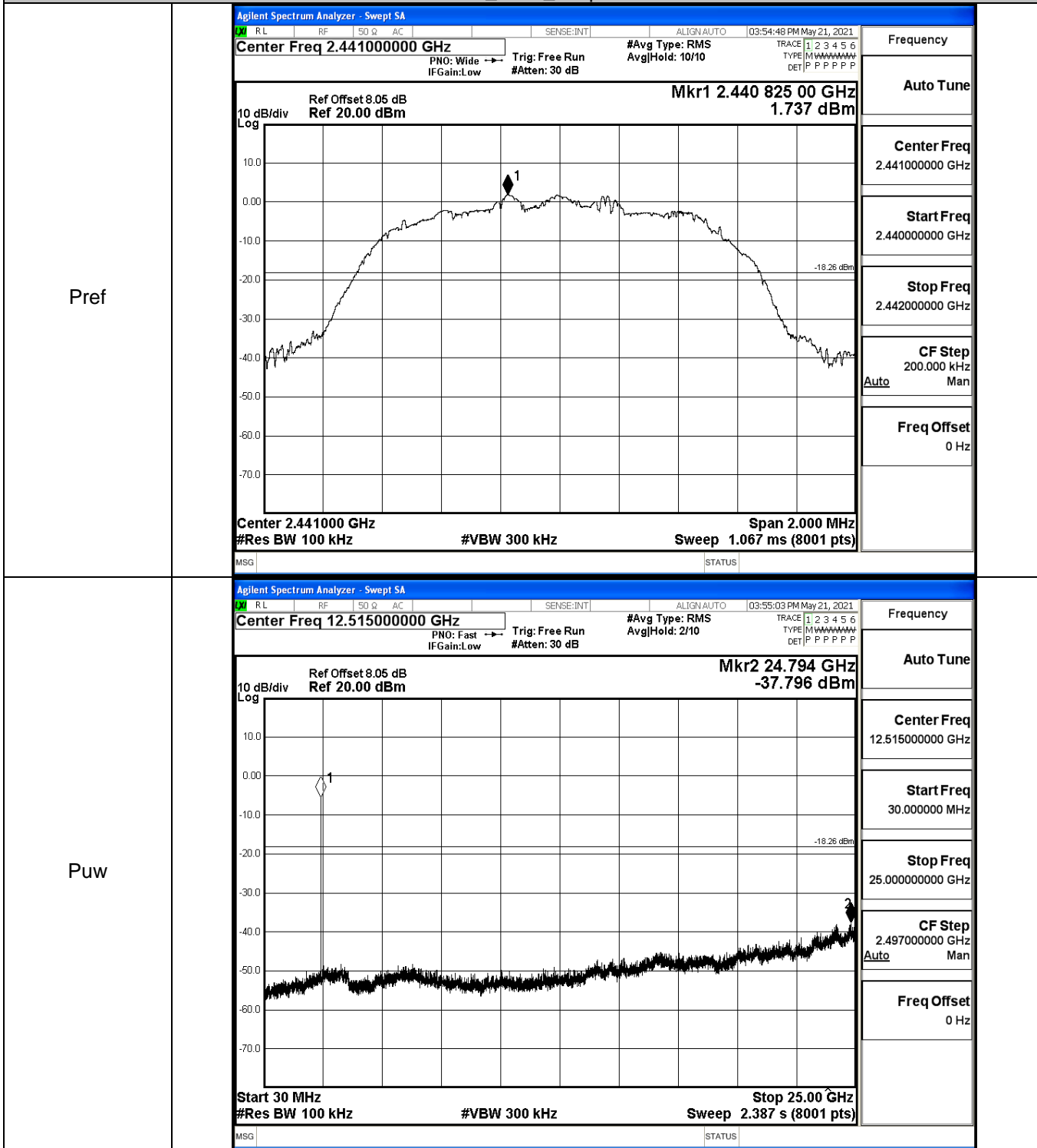
$\pi/4$ DQPSK_HCH_Graphs



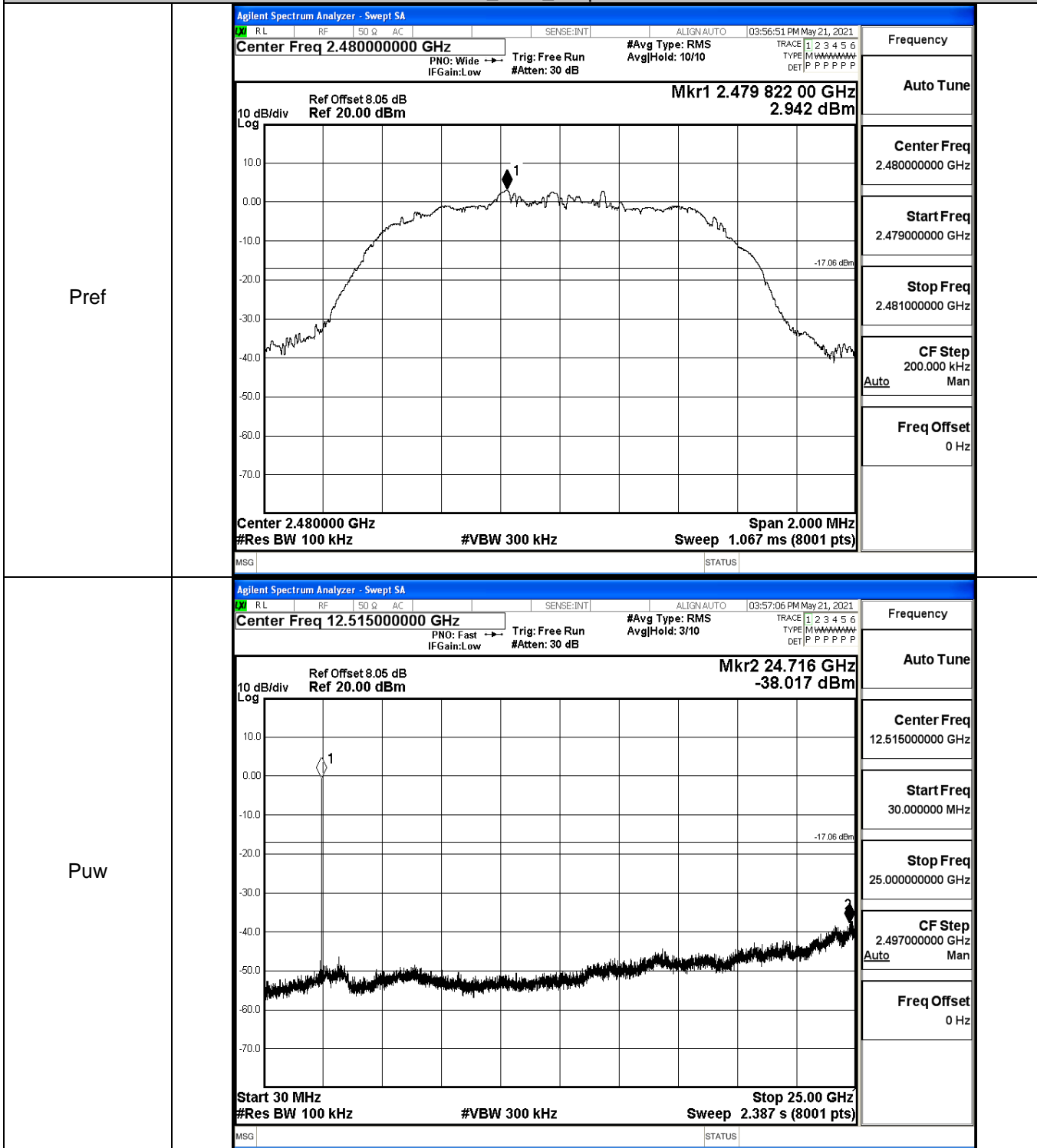
8DPSK_LCH_Graphs



8DPSK_MCH_Graphs



8DPSK_HCH_Graphs

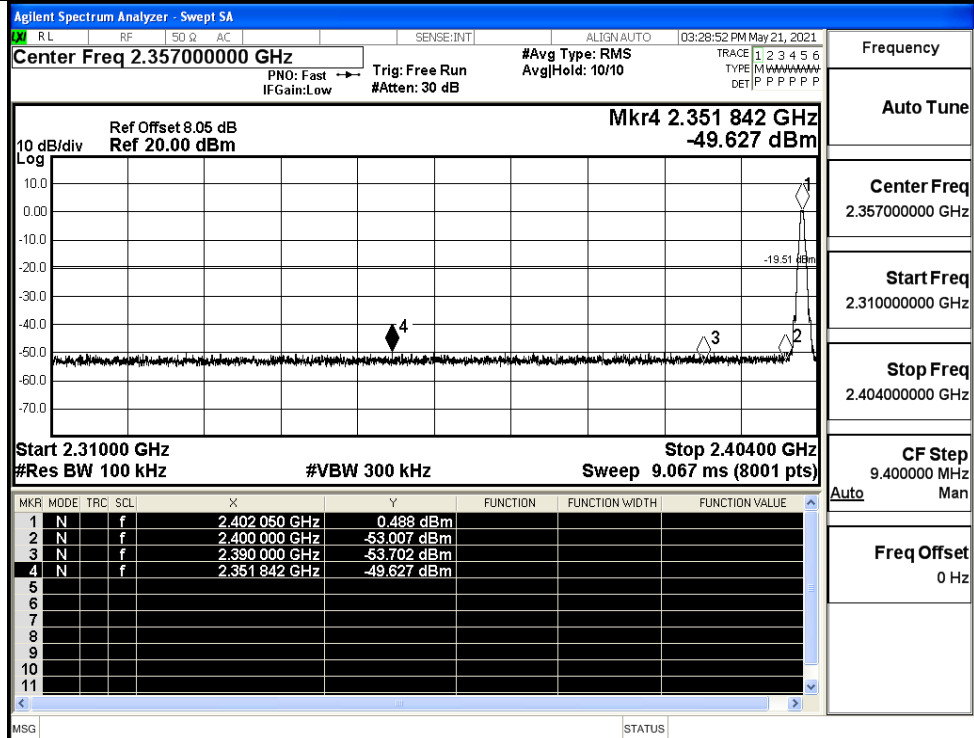


A.7 Band-edge for RF Conducted Emissions

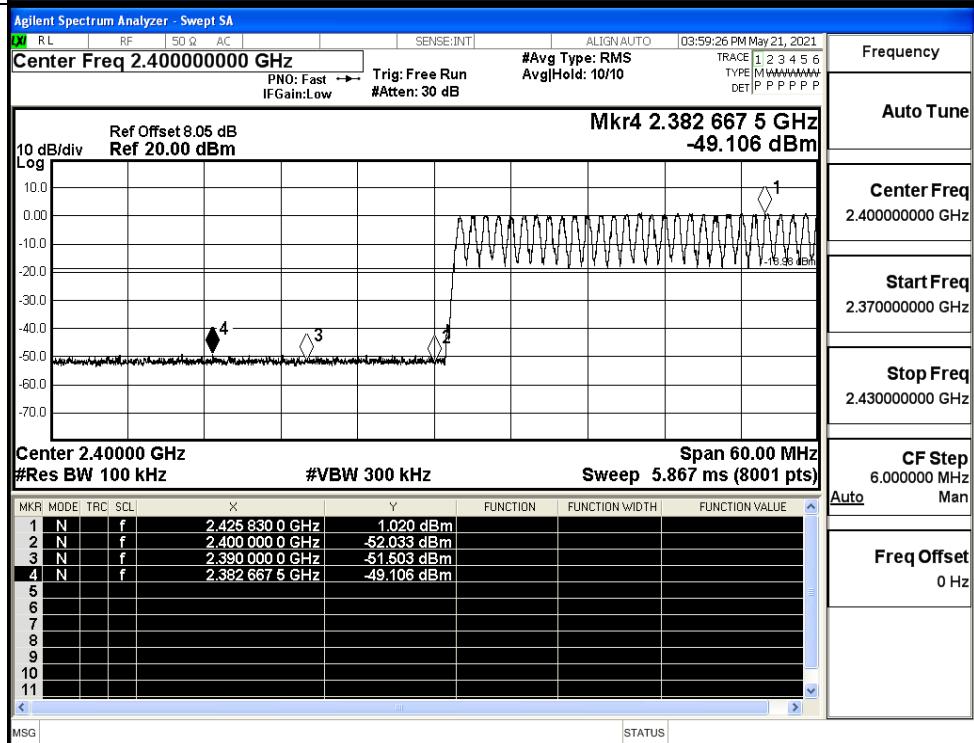
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.488	Off	-49.627	-19.51	PASS
			1.020	On	-49.106	-18.98	PASS
	HCH	2480	2.093	Off	-48.216	-17.91	PASS
			1.457	On	-48.437	-18.54	PASS
$\pi/4$ DQPSK	LCH	2402	1.874	Off	-49.341	-18.13	PASS
			2.203	On	-48.738	-17.8	PASS
	HCH	2480	2.944	Off	-49.047	-17.06	PASS
			2.706	On	-48.354	-17.29	PASS
8DPSK	LCH	2402	1.298	Off	-49.286	-18.7	PASS
			1.815	On	-49.404	-18.19	PASS
	HCH	2480	2.856	Off	-48.567	-17.14	PASS
			2.745	On	-49.024	-17.26	PASS

Test Graphs

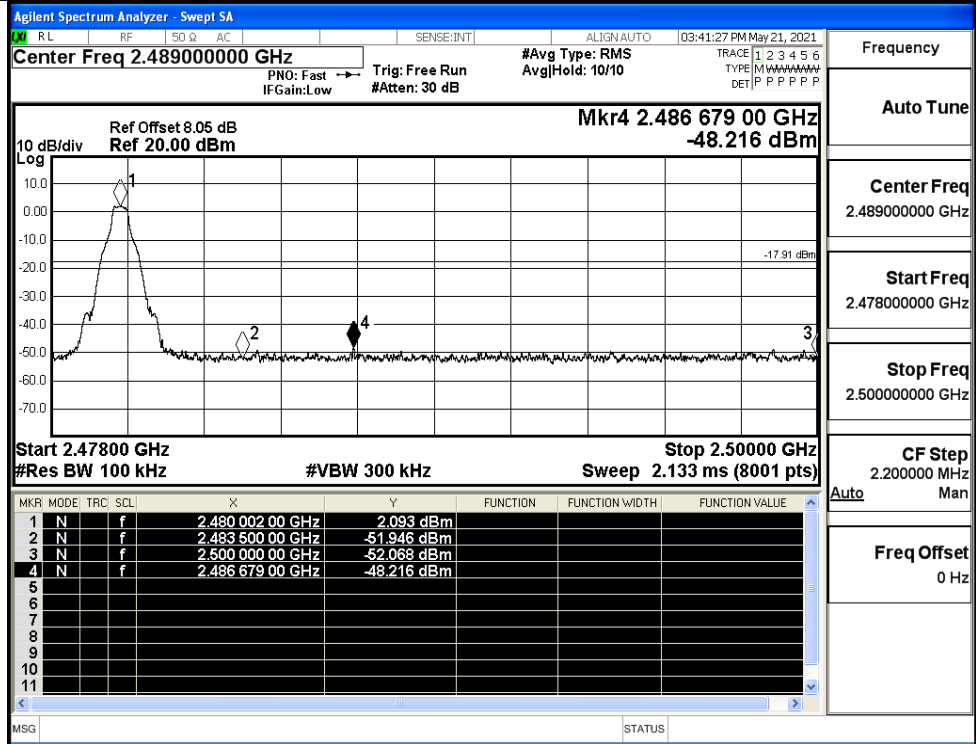
GFSK/LCH/No Hop



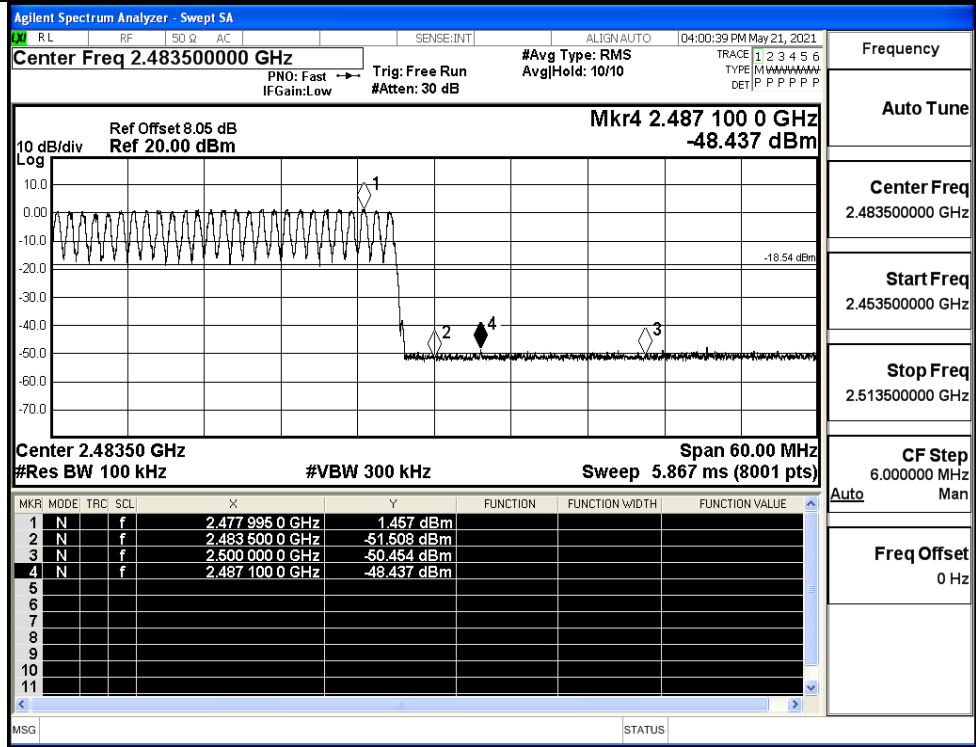
GFSK/LCH/Hop



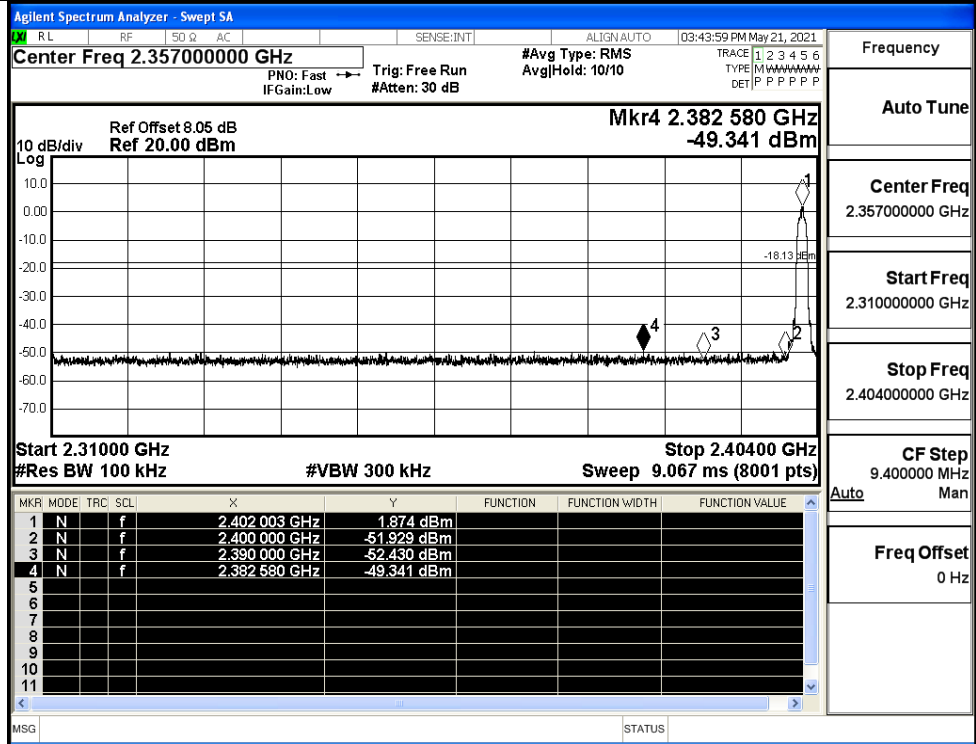
GFSK/HCH/No Hop



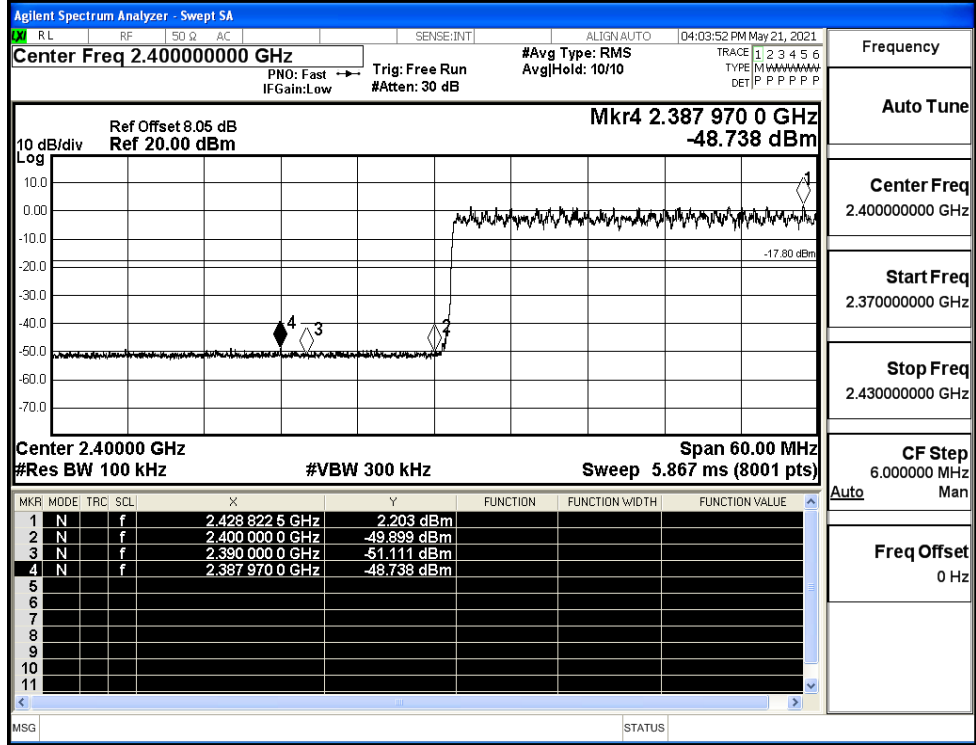
GFSK/HCH/Hop



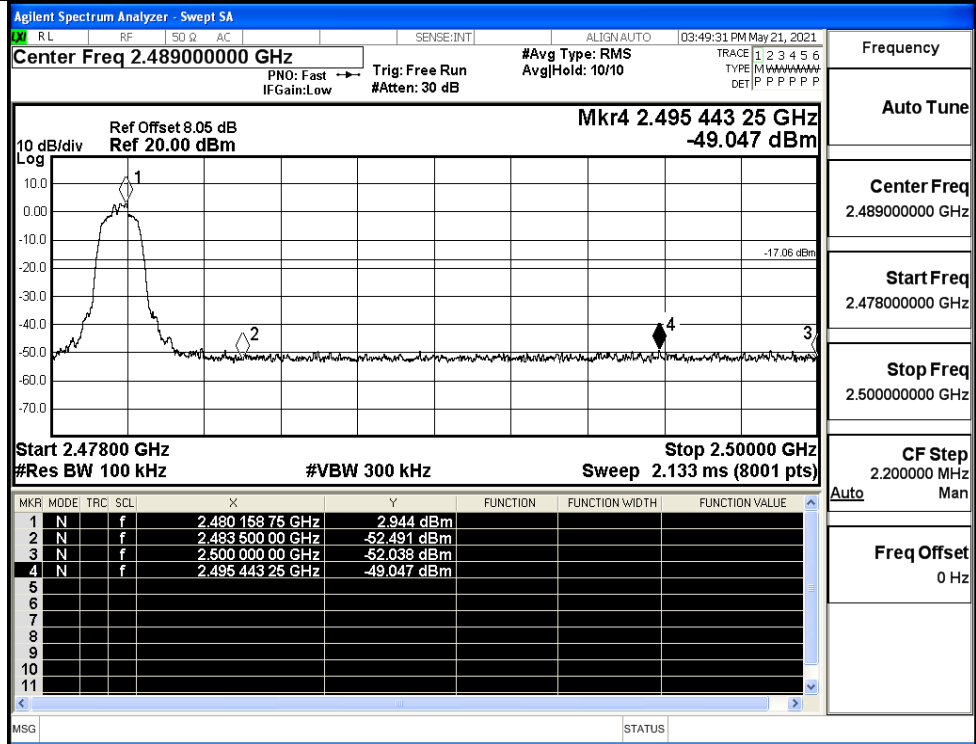
$\pi/4$ DQPSK/LCH/No Hop



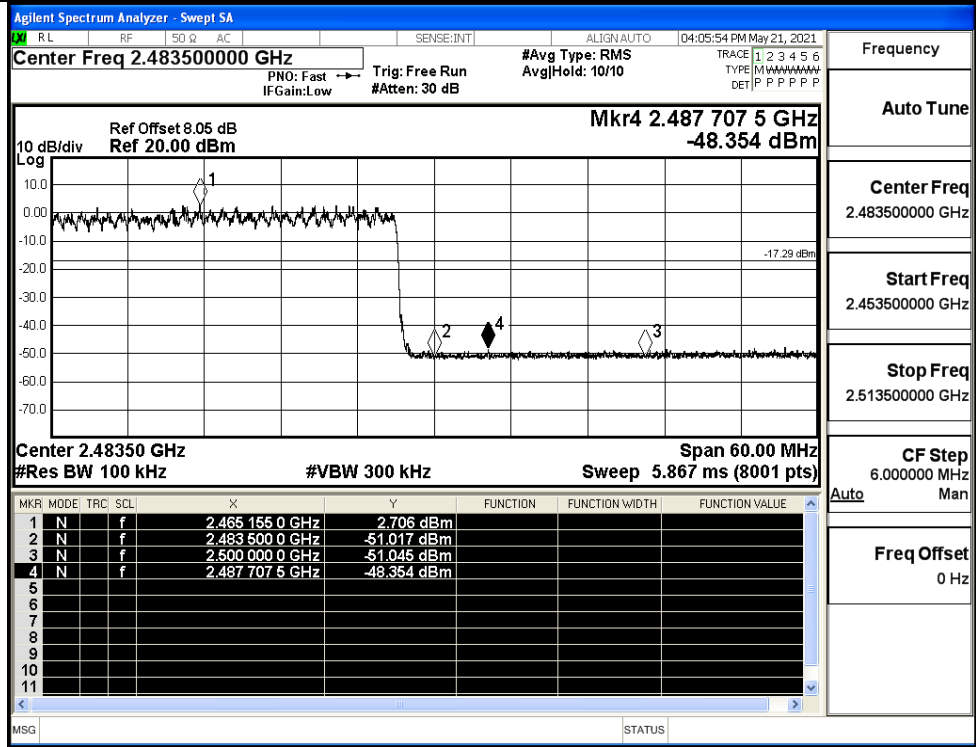
$\pi/4$ DQPSK/LCH/Hop



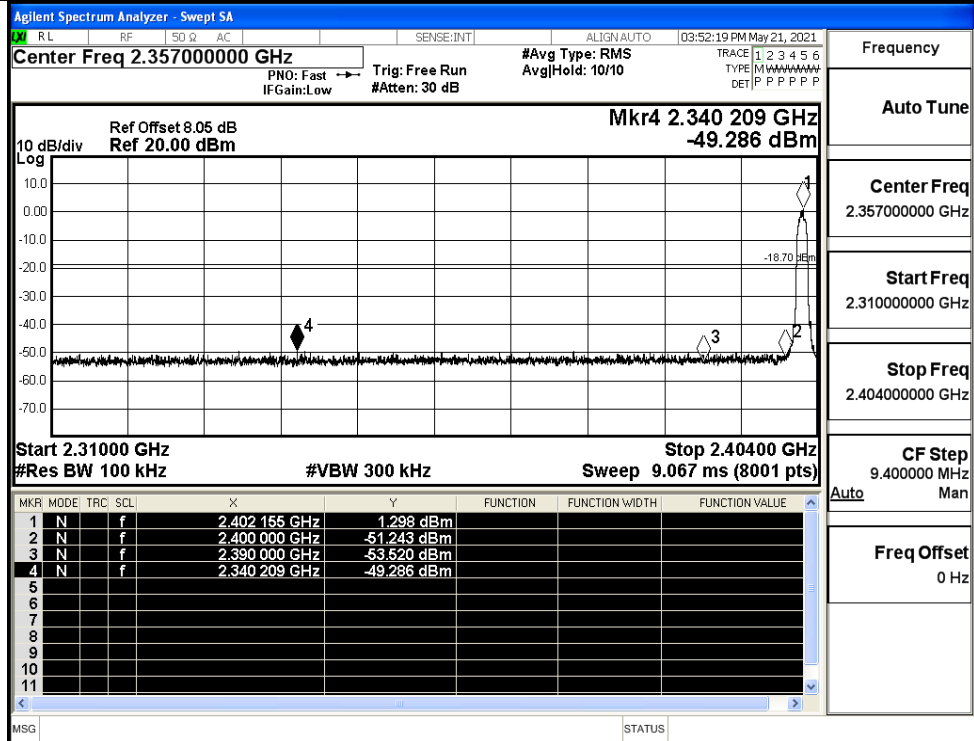
π /4DQPSK/HCH/No
Hop



π /4DQPSK/HCH/Hop

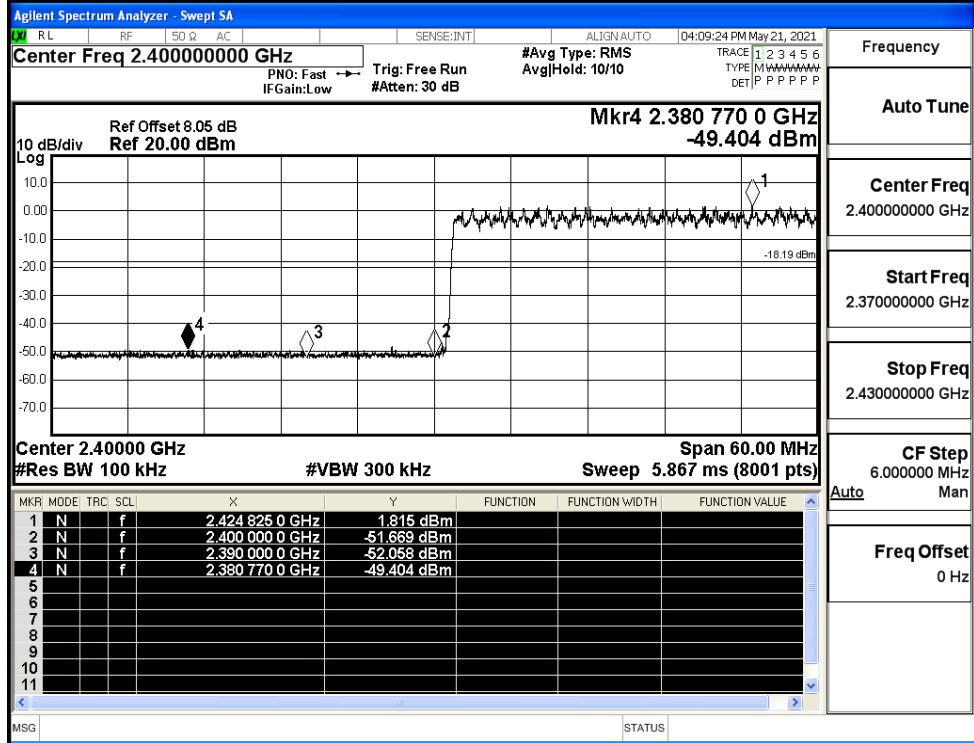


8DPSK/LCH/No Hop



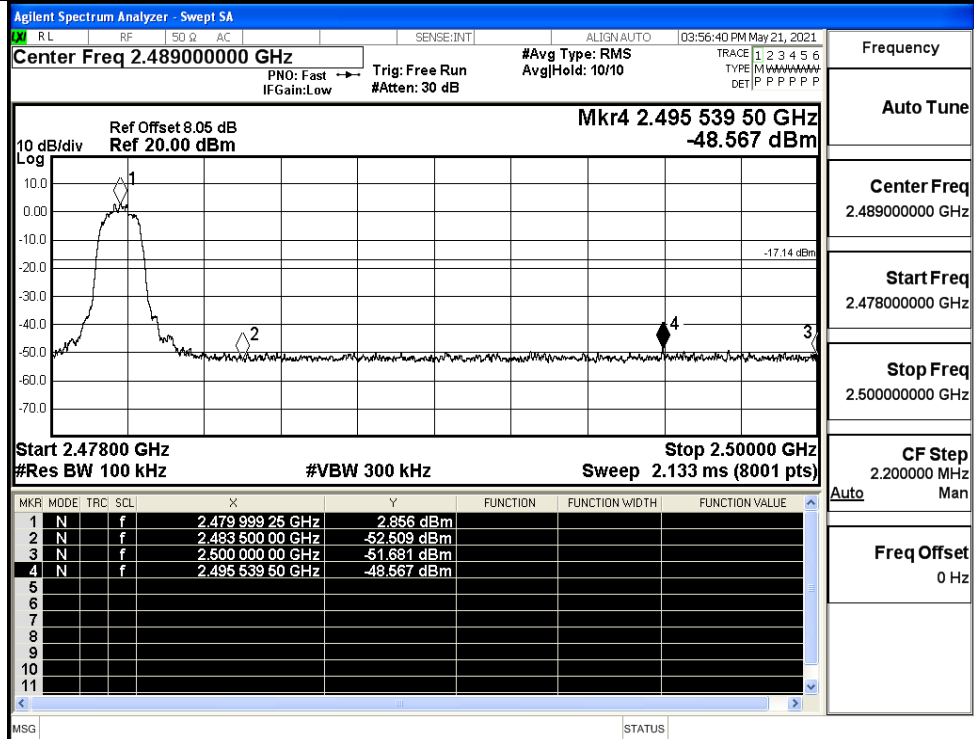
Frequency
Auto Tune
Center Freq
2.357000000 GHz
Start Freq
2.310000000 GHz
Stop Freq
2.404000000 GHz
CF Step
9.400000 MHz
Auto Man
Freq Offset
0 Hz

8DPSK/LCH/Hop



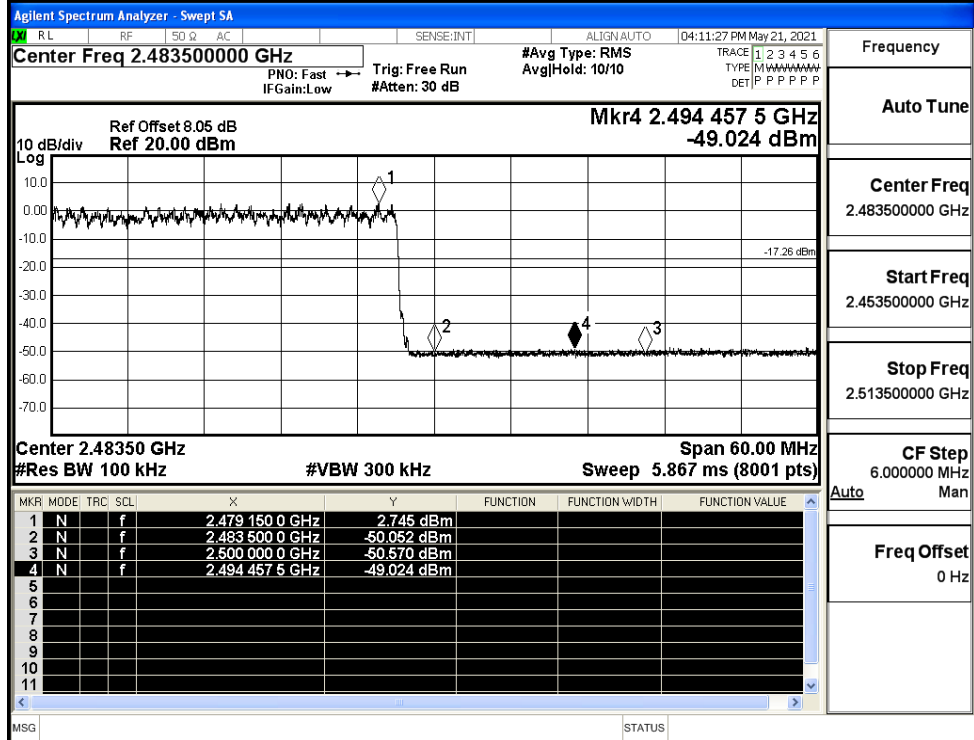
Frequency
Auto Tune
Center Freq
2.400000000 GHz
Start Freq
2.370000000 GHz
Stop Freq
2.430000000 GHz
CF Step
6.000000 MHz
Auto Man
Freq Offset
0 Hz

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

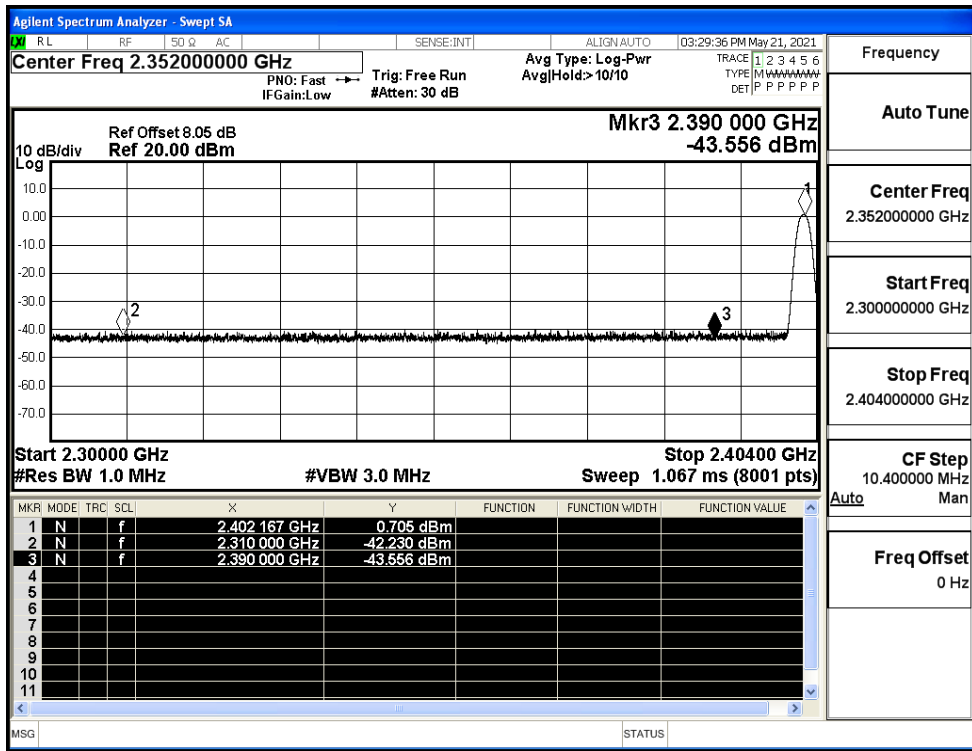


Frequency
Auto Tune
Center Freq
2.483500000 GHz
Start Freq
2.453500000 GHz
Stop Freq
2.513500000 GHz
CF Step
6.000000 MHz
Auto Man
Freq Offset
0 Hz

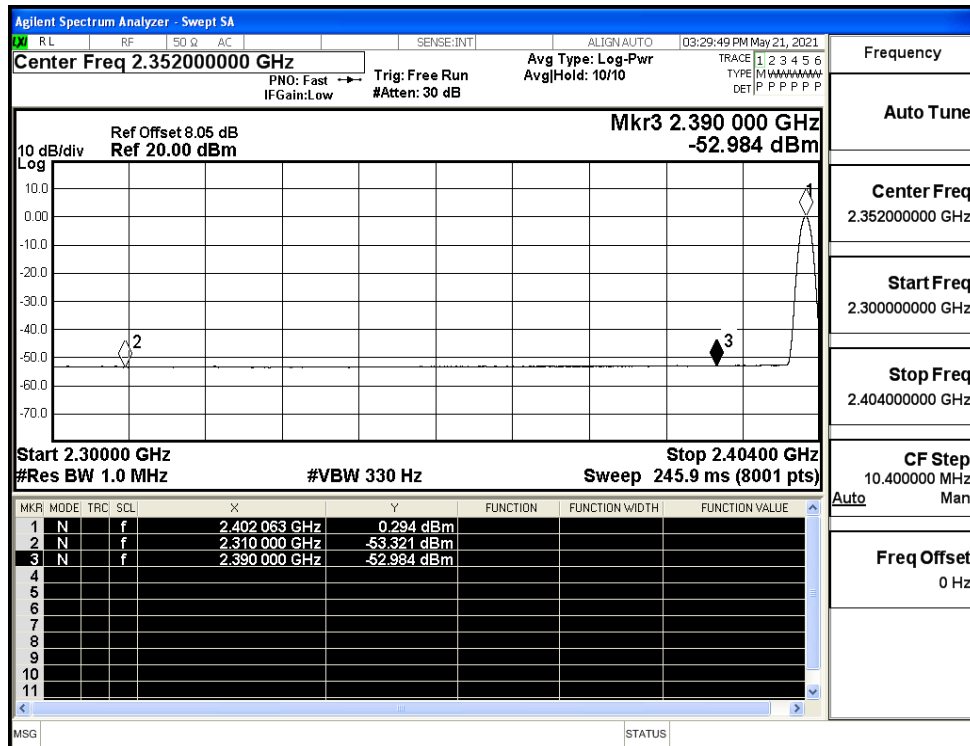
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.23	2.0	0	55.03	PEAK	74	PASS
	Off	2310.0	-53.32	2.0	0	43.94	AV	54	PASS
	Off	2390.0	-43.56	2.0	0	53.7	PEAK	74	PASS
	Off	2390.0	-52.98	2.0	0	44.27	AV	54	PASS
	Off	2483.5	-42.45	2.0	0	54.81	PEAK	74	PASS
	Off	2483.5	-52.29	2.0	0	44.97	AV	54	PASS
	Off	2500.0	-40.90	2.0	0	56.36	PEAK	74	PASS
	Off	2500.0	-52.20	2.0	0	45.06	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-44.11	2.0	0	53.15	PEAK	74	PASS
	Off	2310.0	-53.28	2.0	0	43.98	AV	54	PASS
	Off	2390.0	-43.33	2.0	0	53.93	PEAK	74	PASS
	Off	2390.0	-52.89	2.0	0	44.36	AV	54	PASS
	Off	2483.5	-41.39	2.0	0	55.86	PEAK	74	PASS
	Off	2483.5	-52.29	2.0	0	44.97	AV	54	PASS
	Off	2500.0	-41.65	2.0	0	55.61	PEAK	74	PASS
	Off	2500.0	-52.30	2.0	0	44.96	AV	54	PASS
8DPSK	Off	2310.0	-43.58	2.0	0	53.68	PEAK	74	PASS
	Off	2310.0	-53.32	2.0	0	43.94	AV	54	PASS
	Off	2390.0	-43.61	2.0	0	53.65	PEAK	74	PASS
	Off	2390.0	-52.92	2.0	0	44.33	AV	54	PASS
	Off	2483.5	-42.41	2.0	0	54.84	PEAK	74	PASS
	Off	2483.5	-52.28	2.0	0	44.98	AV	54	PASS
	Off	2500.0	-42.97	2.0	0	54.29	PEAK	74	PASS
	Off	2500.0	-52.27	2.0	0	44.98	AV	54	PASS

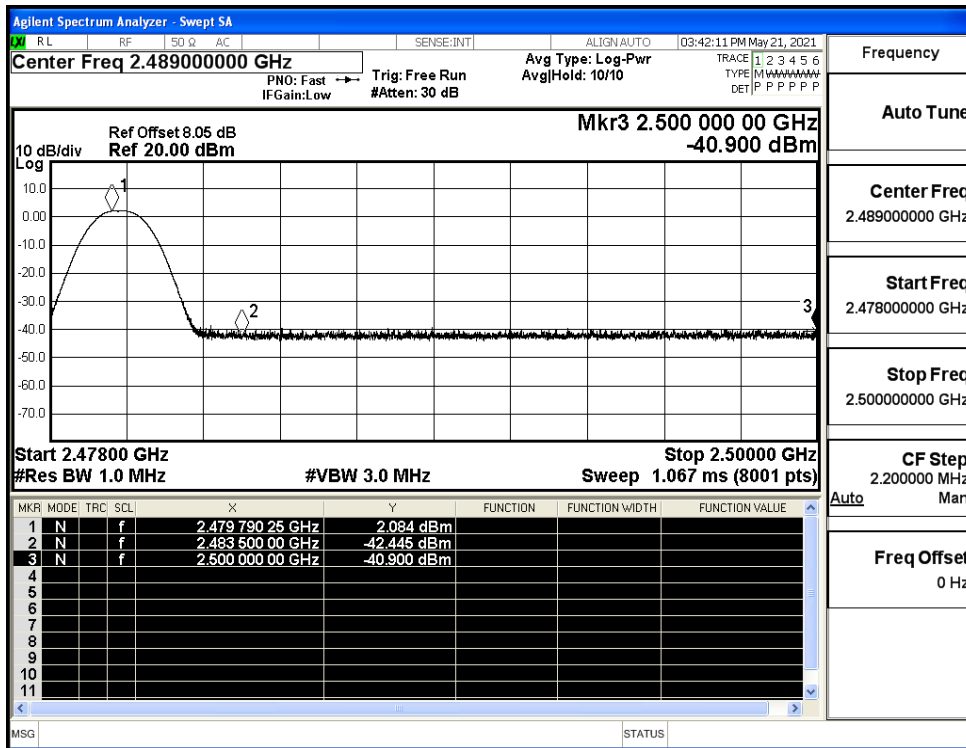
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



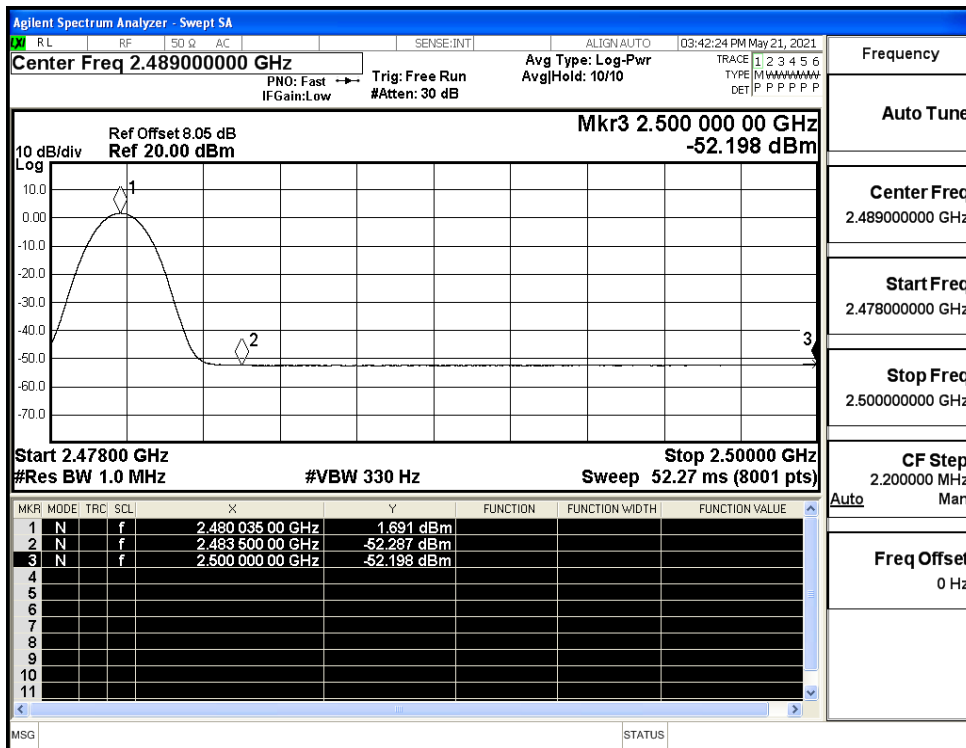
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



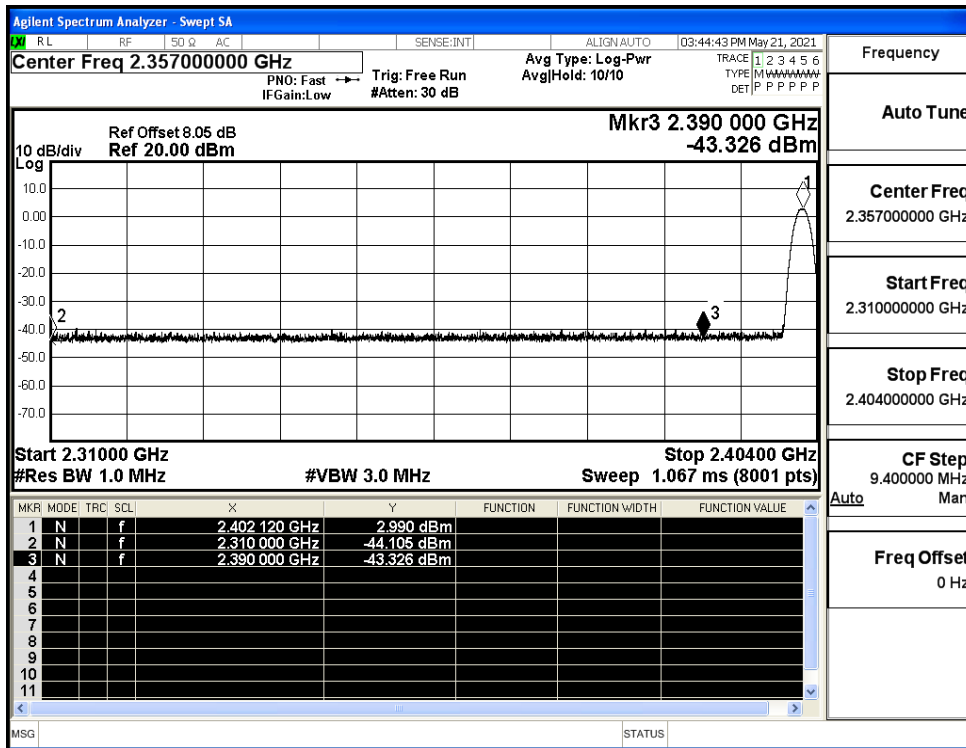
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



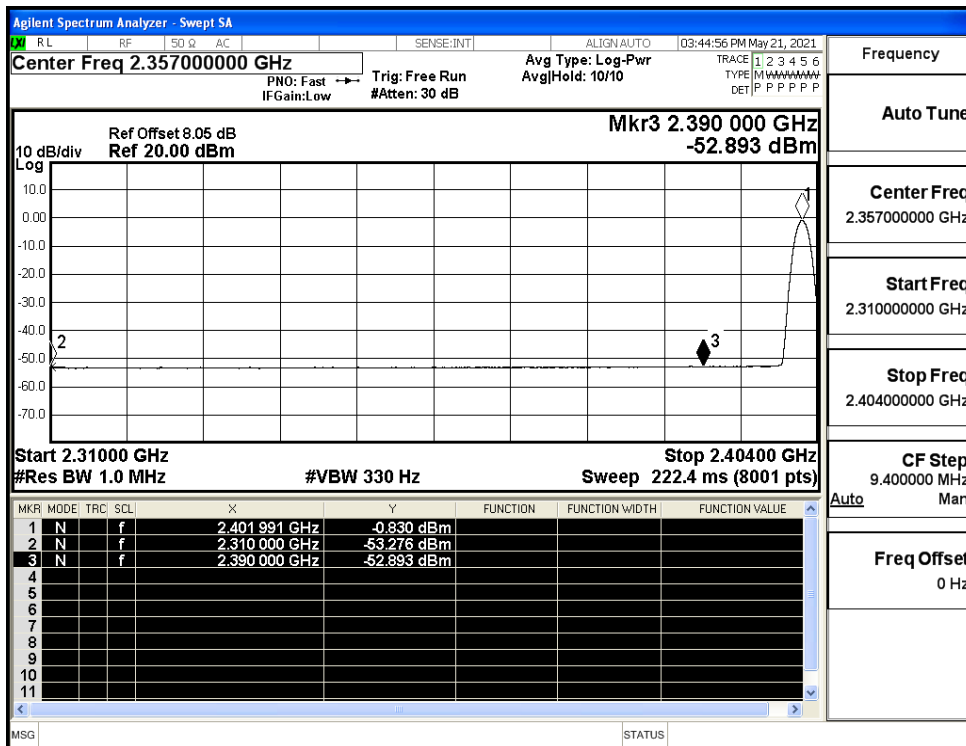
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



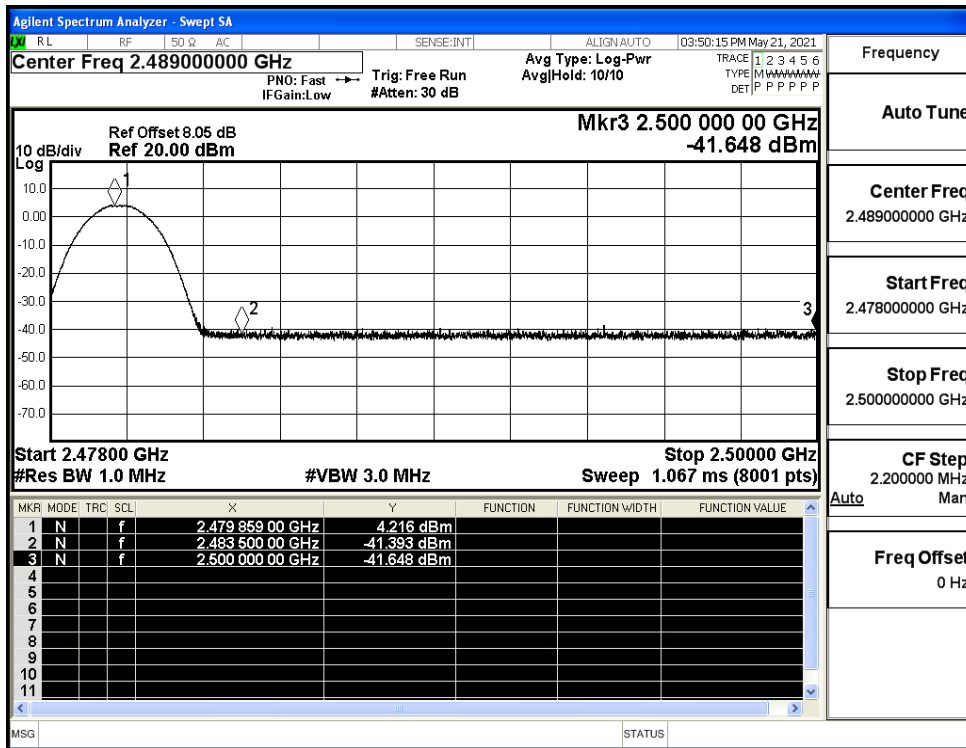
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)



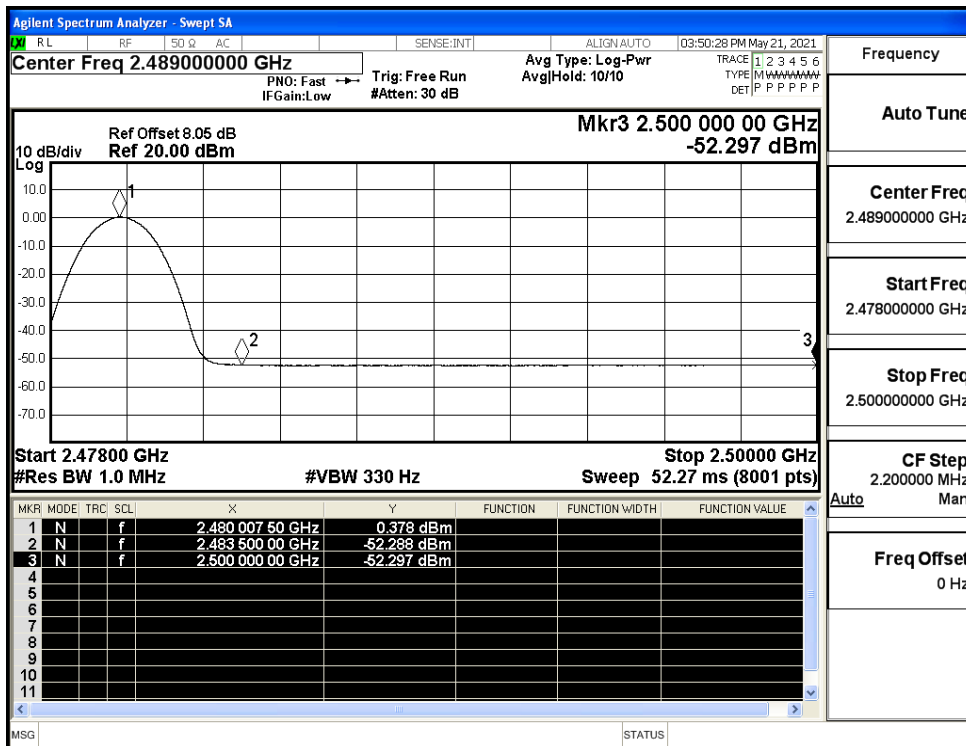
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)



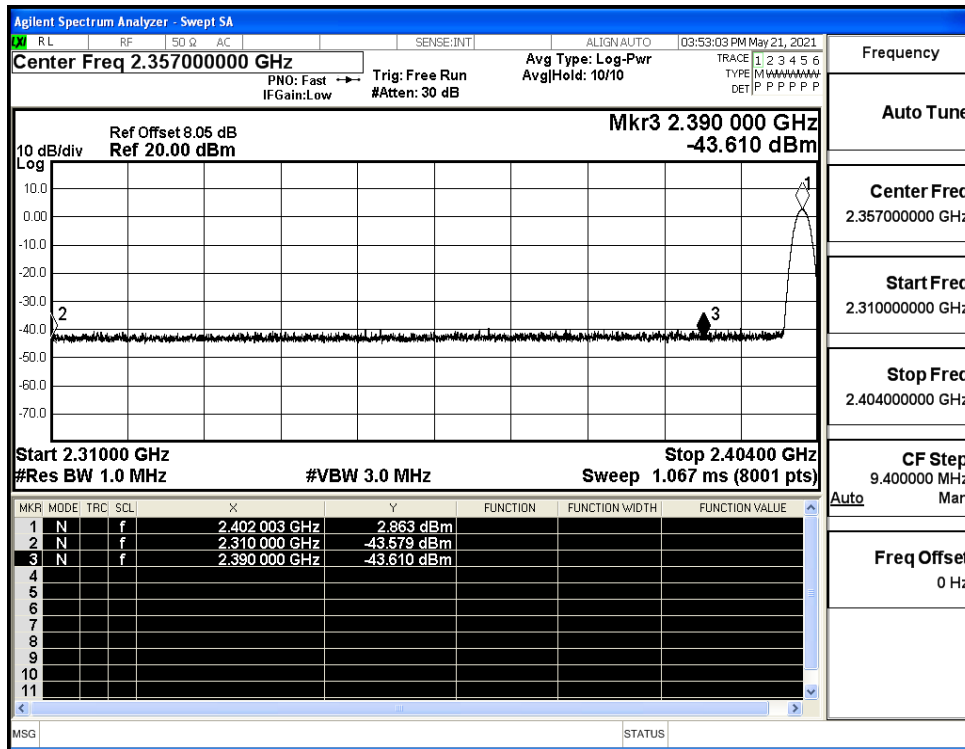
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



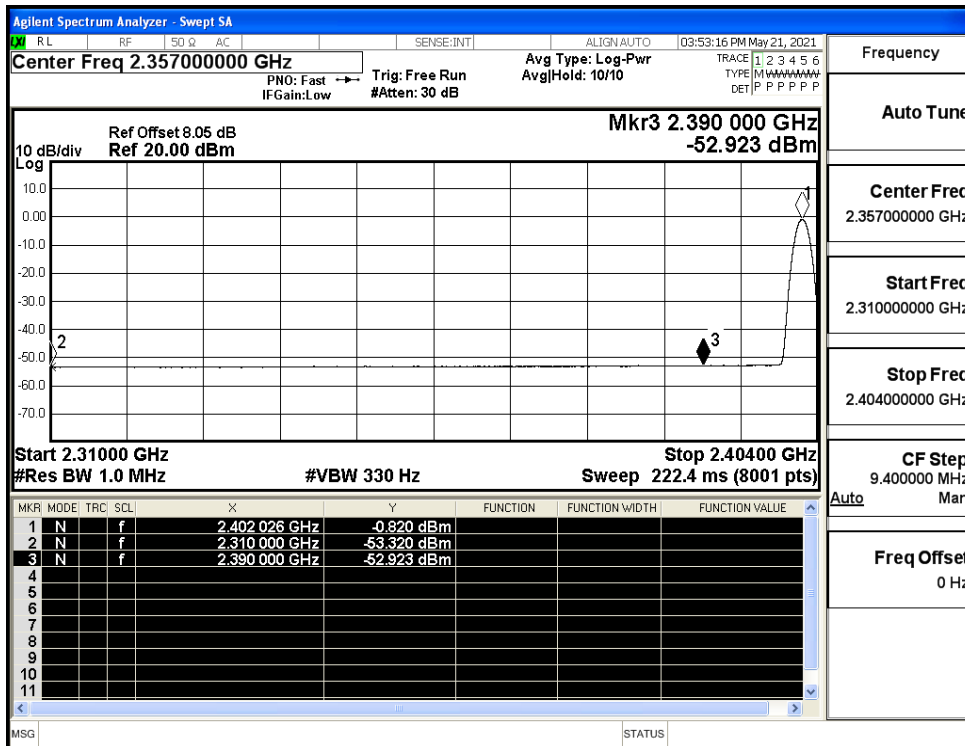
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



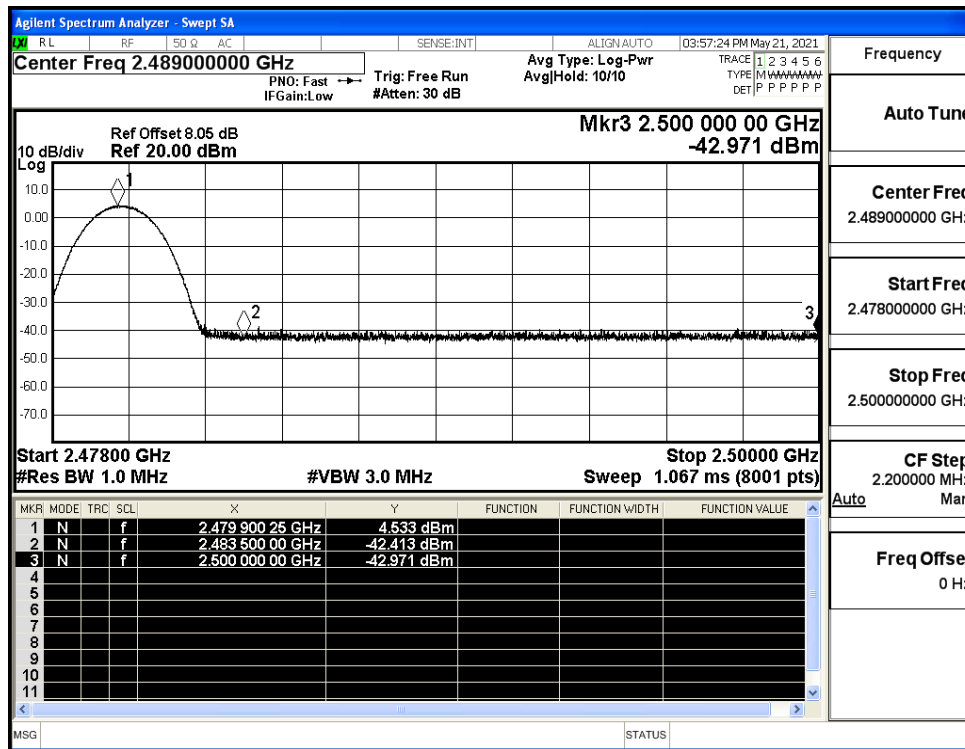
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

