

Appendix A

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

Product Name: MOVE WIRELESS EARBUDS WITH MIC

Trade Mark: N/A

Test Model: 18LY48

Environmental Conditions

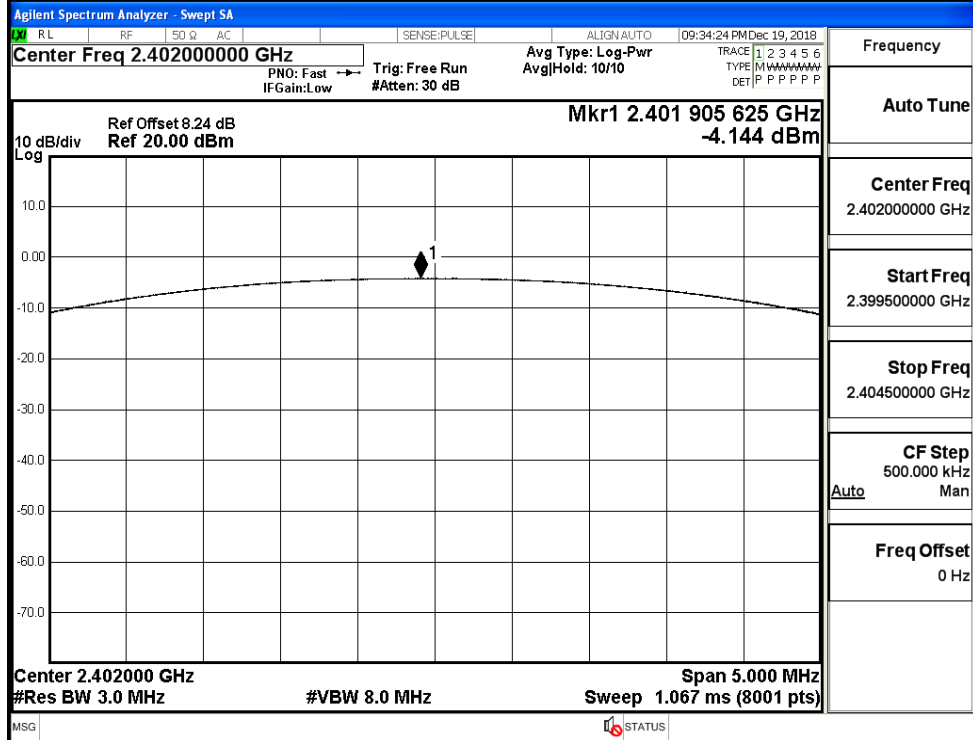
Temperature:	23.2 ° C
Relative Humidity:	53.8%
ATM Pressure:	100.0 kPa
Test Engineer:	David.Luo
Supervised by:	Jayden.Zhuo

A.1 Maximum Conducted Peak Output Power

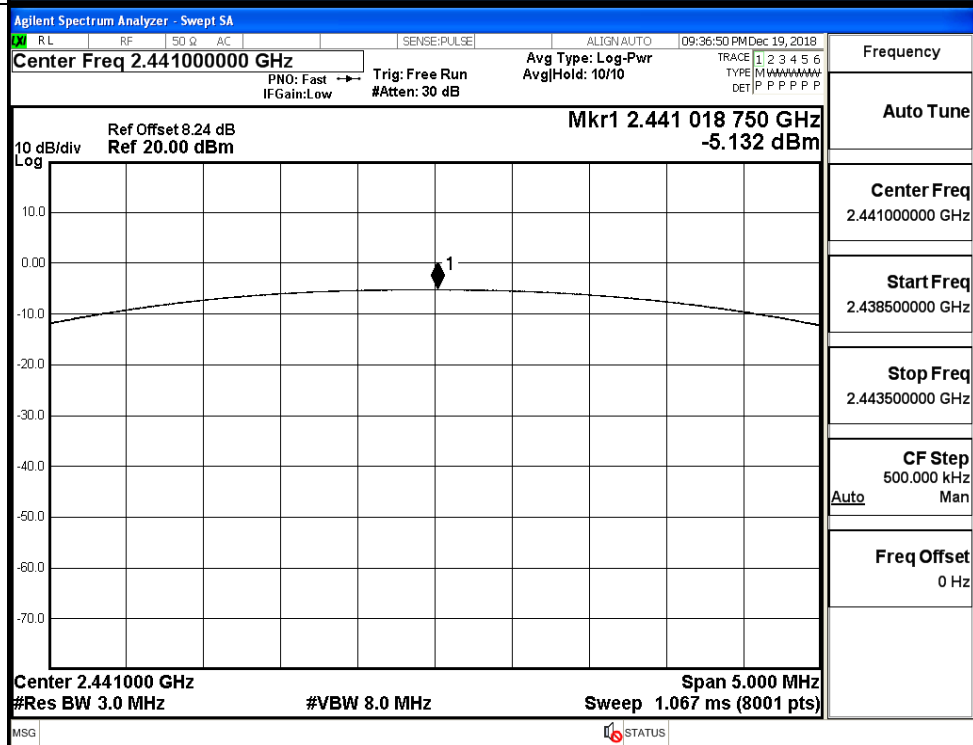
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-4.144	21	PASS
	MCH	-5.132	21	PASS
	HCH	-6.167	21	PASS
$\pi/4$ DQPSK	LCH	-2.059	21	PASS
	MCH	-3.212	21	PASS
	HCH	-4.403	21	PASS
8DPSK	LCH	-1.847	21	PASS
	MCH	-2.983	21	PASS
	HCH	-4.312	21	PASS

Test Graphs

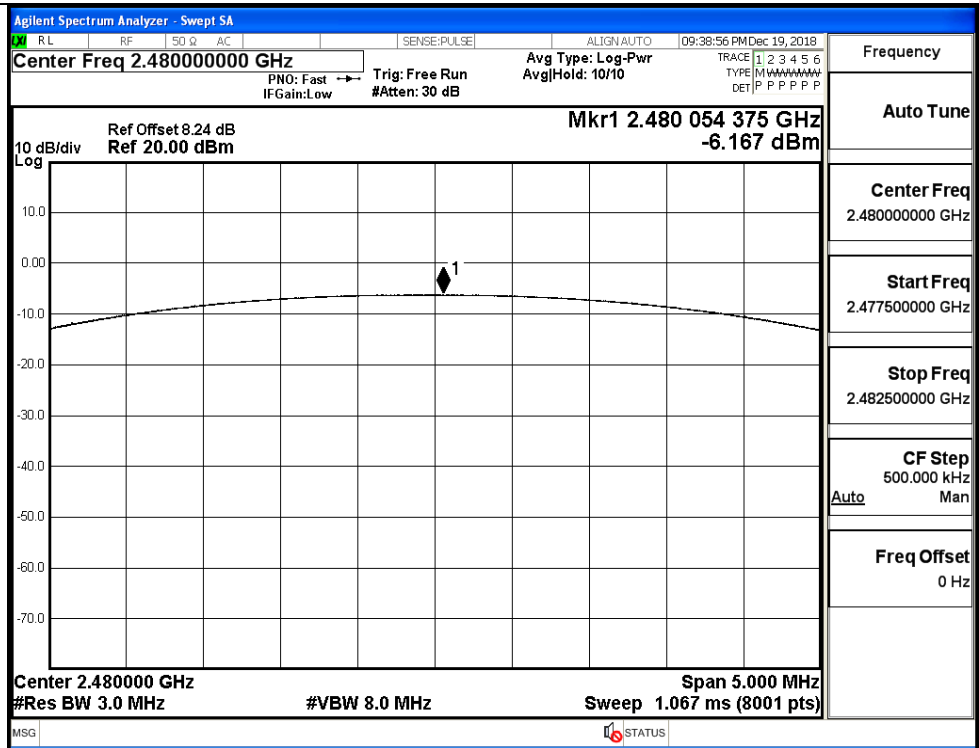
GFSK/LCH



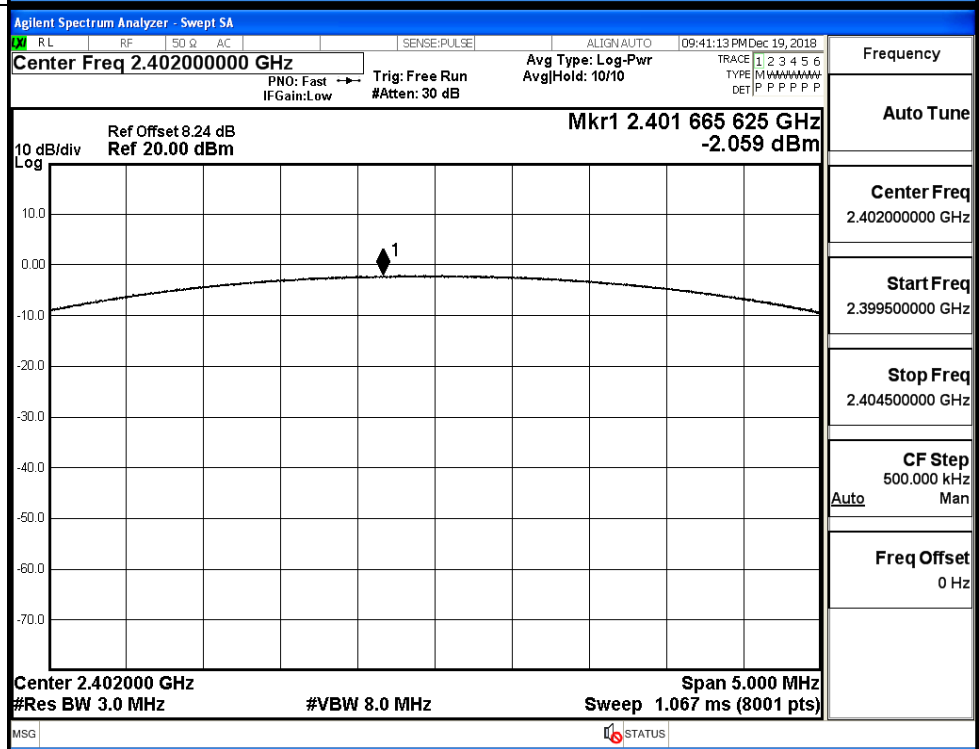
GFSK/MCH

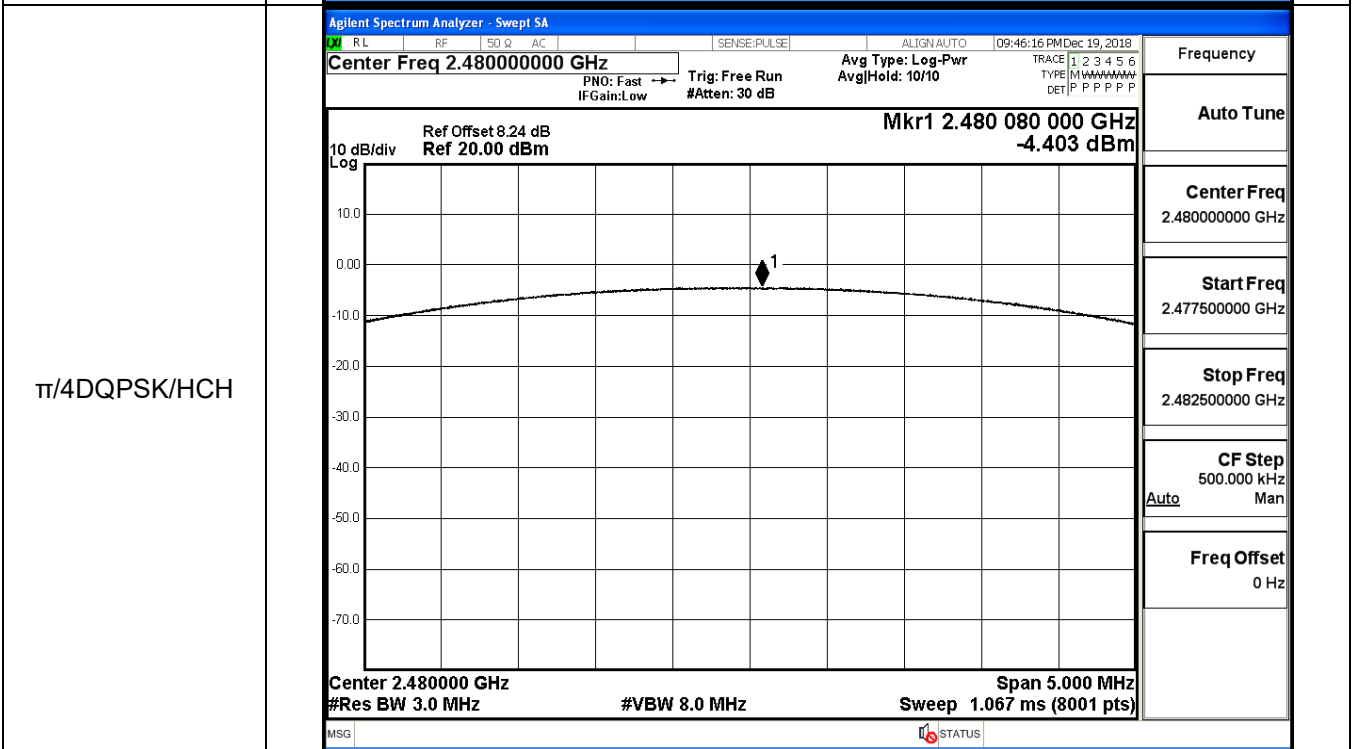
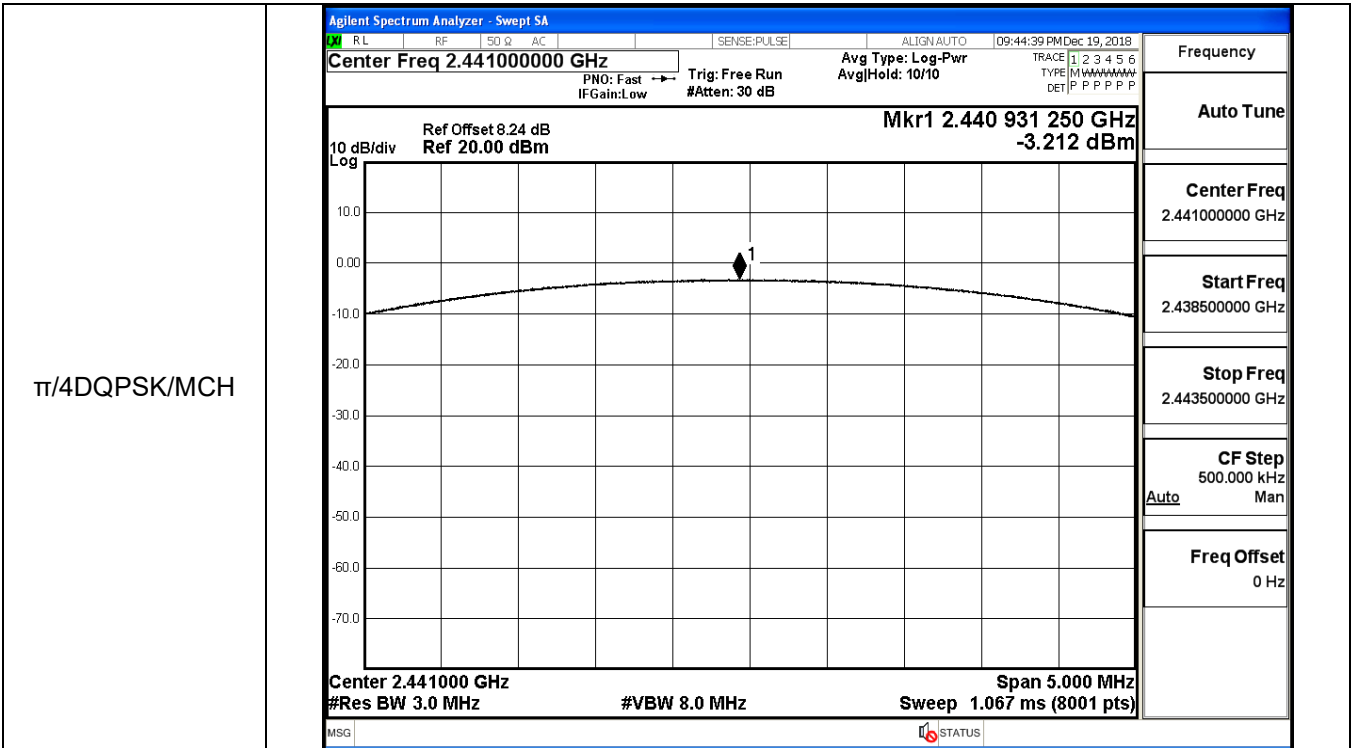


GFSK/HCH

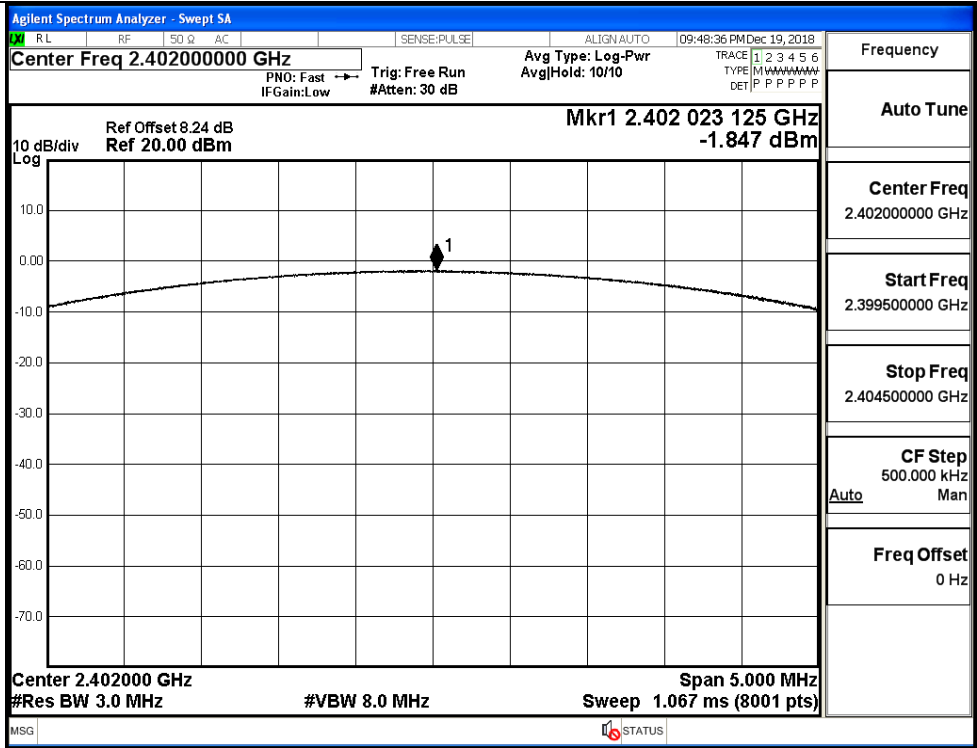


π /4DQPSK/LCH

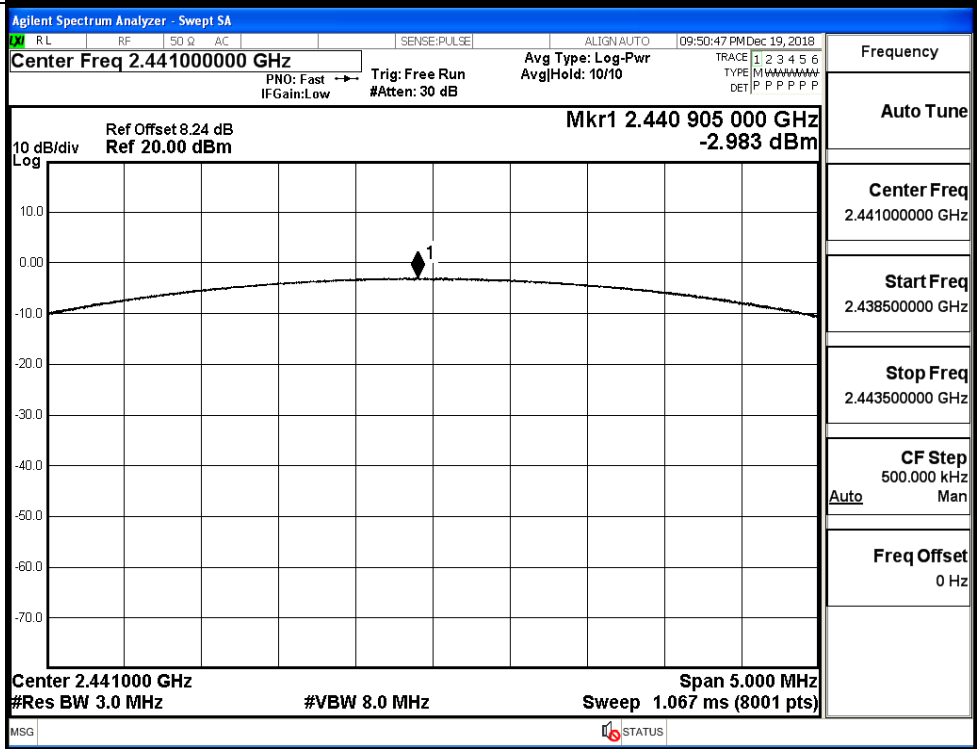




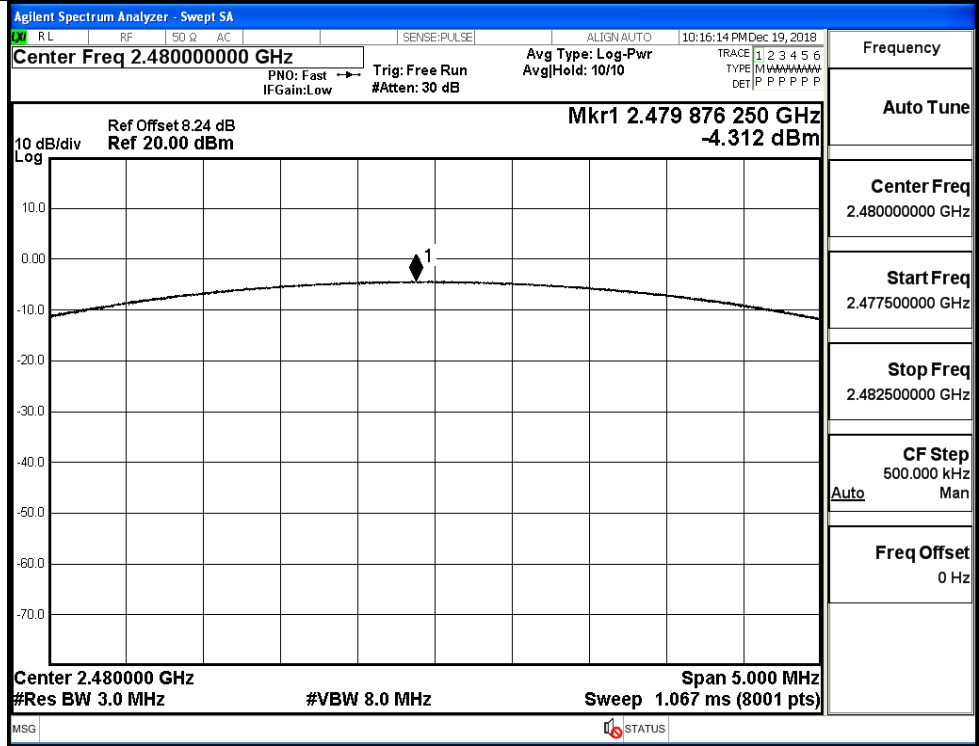
8DPSK/LCH



8DPSK/MCH

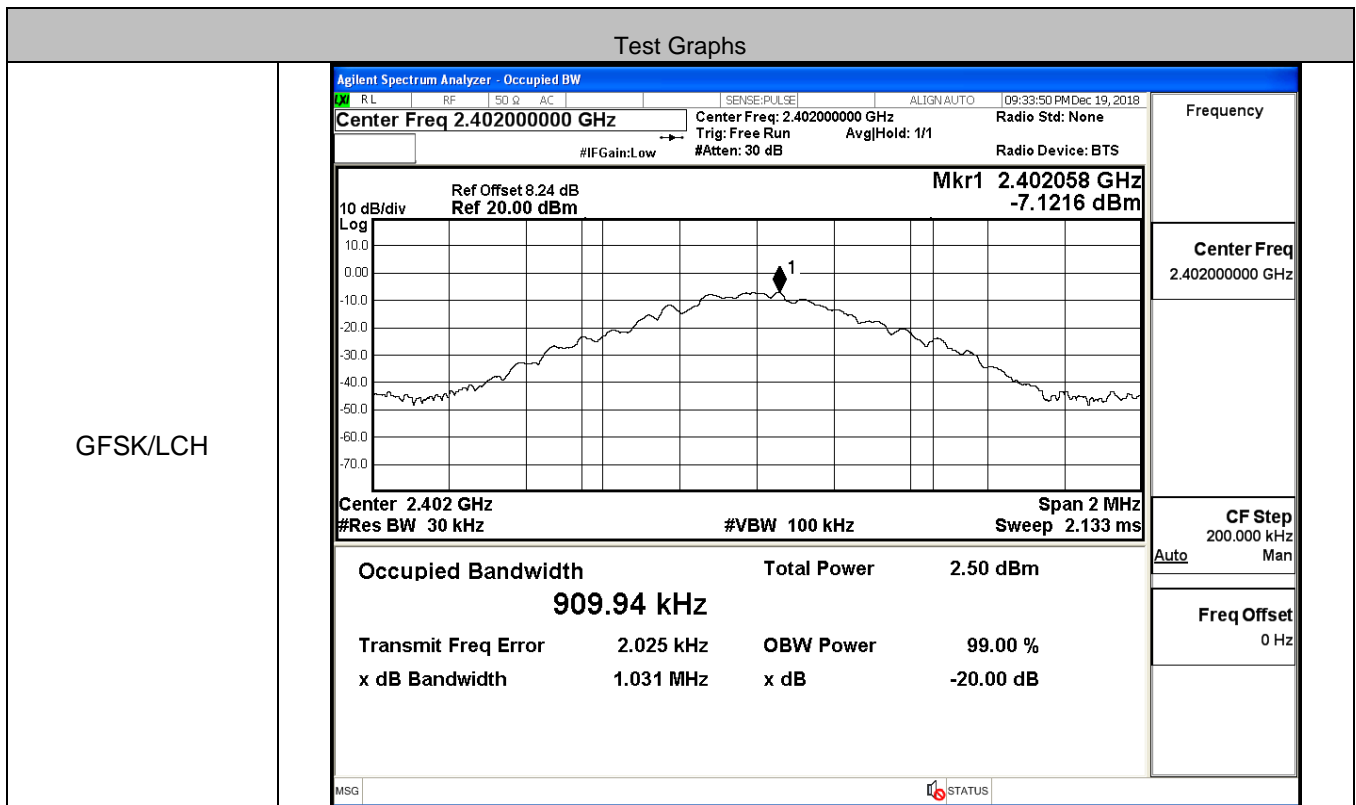


8DPSK/HCH

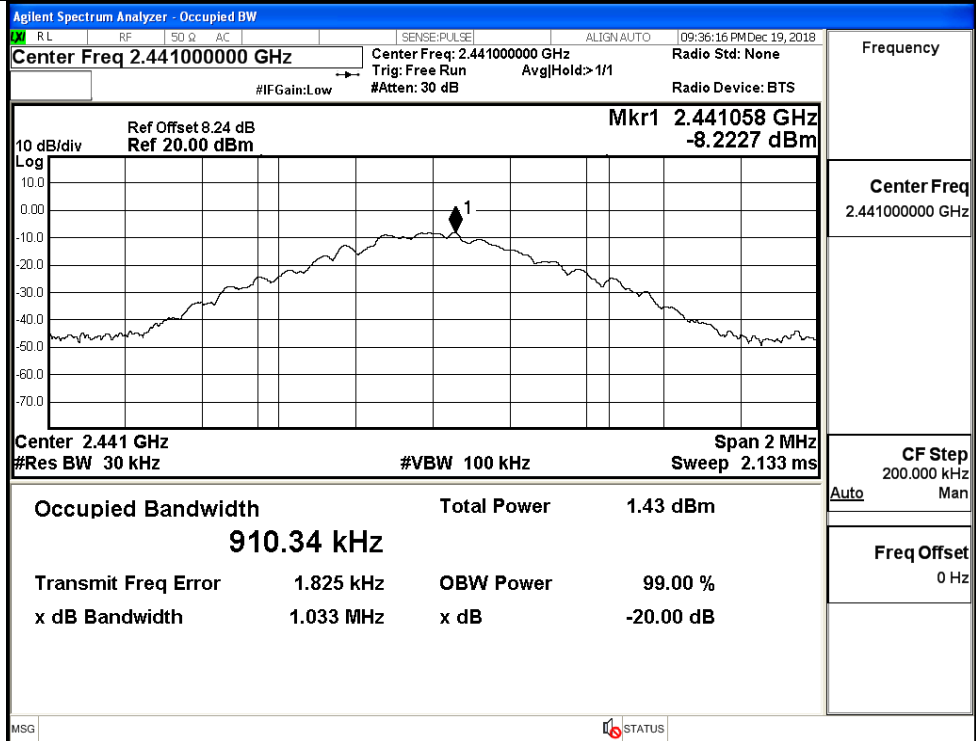


A.2 99% and 20dB Bandwidth

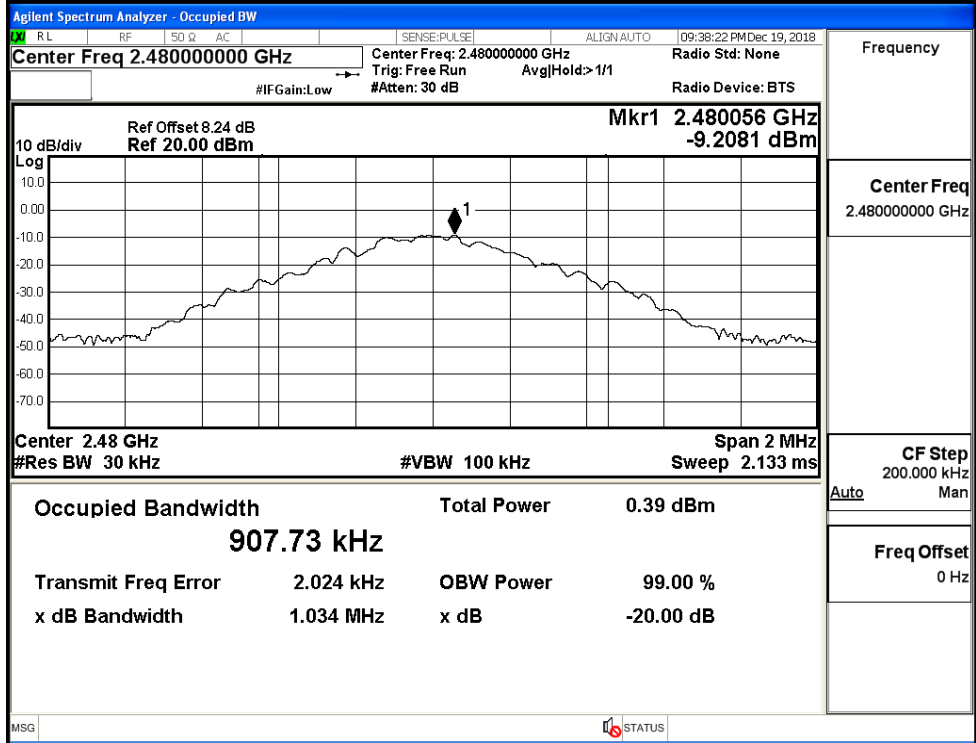
Mode	Channel.	99% Bandwidth [MHz]	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.90994	1.031	Not Specified	PASS
	MCH	0.91034	1.033	Not Specified	PASS
	HCH	0.90773	1.034	Not Specified	PASS
π/4DQPSK	LCH	1.1973	1.367	Not Specified	PASS
	MCH	1.2014	1.371	Not Specified	PASS
	HCH	1.2111	1.380	Not Specified	PASS
8DPSK	LCH	1.2060	1.347	Not Specified	PASS
	MCH	1.2089	1.351	Not Specified	PASS
	HCH	1.2161	1.359	Not Specified	PASS



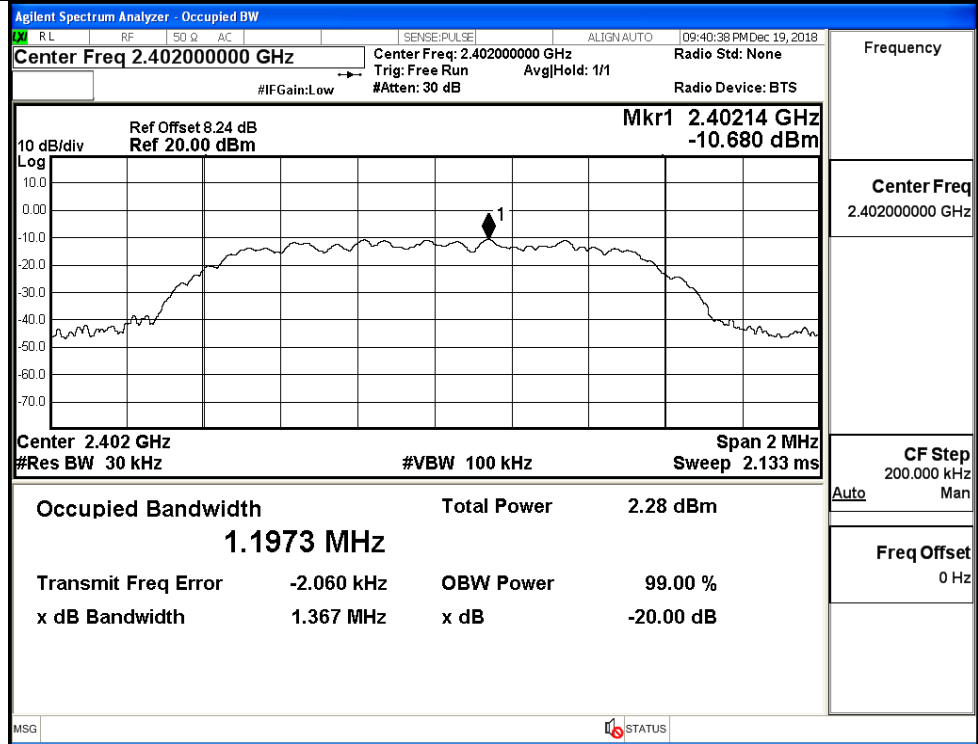
GFSK/MCH



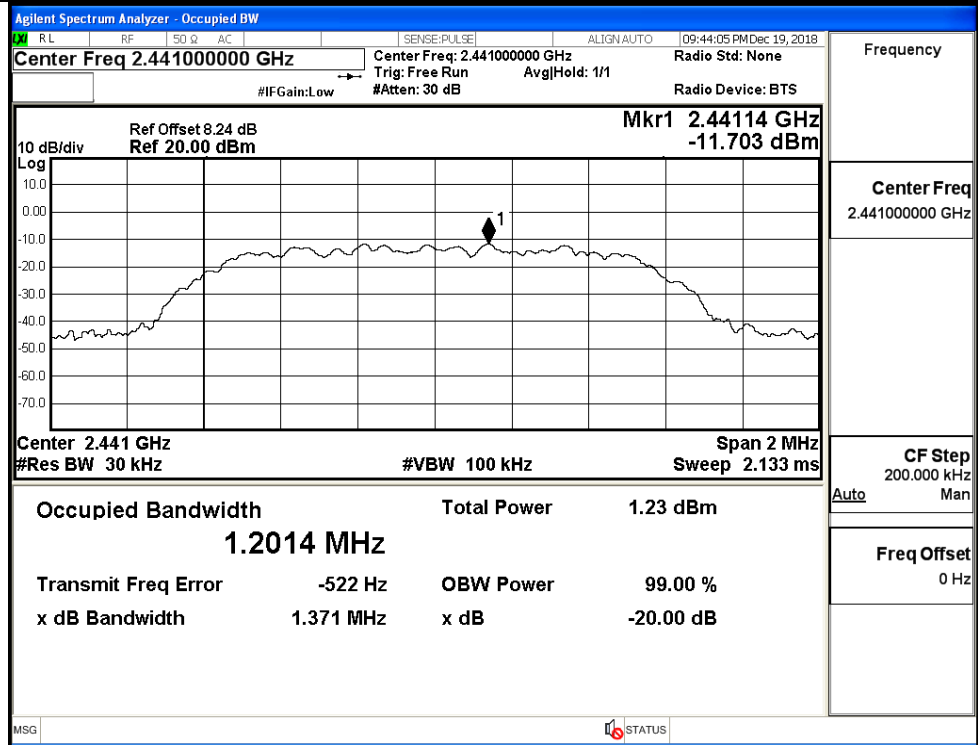
GFSK/HCH



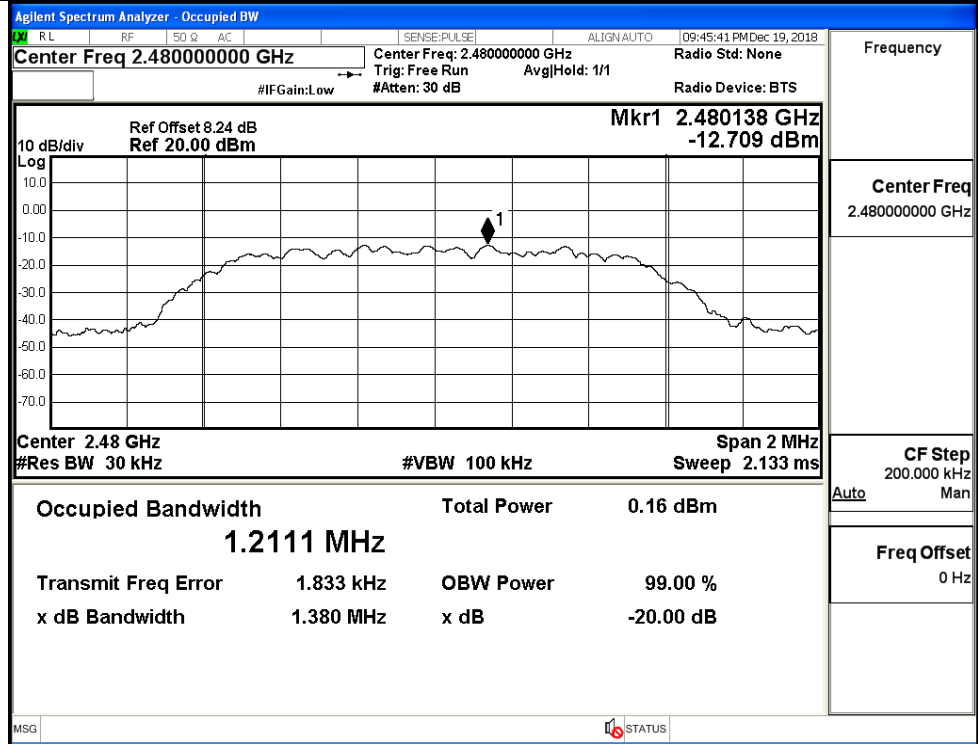
$\pi/4$ DQPSK/LCH



$\pi/4$ DQPSK/MCH

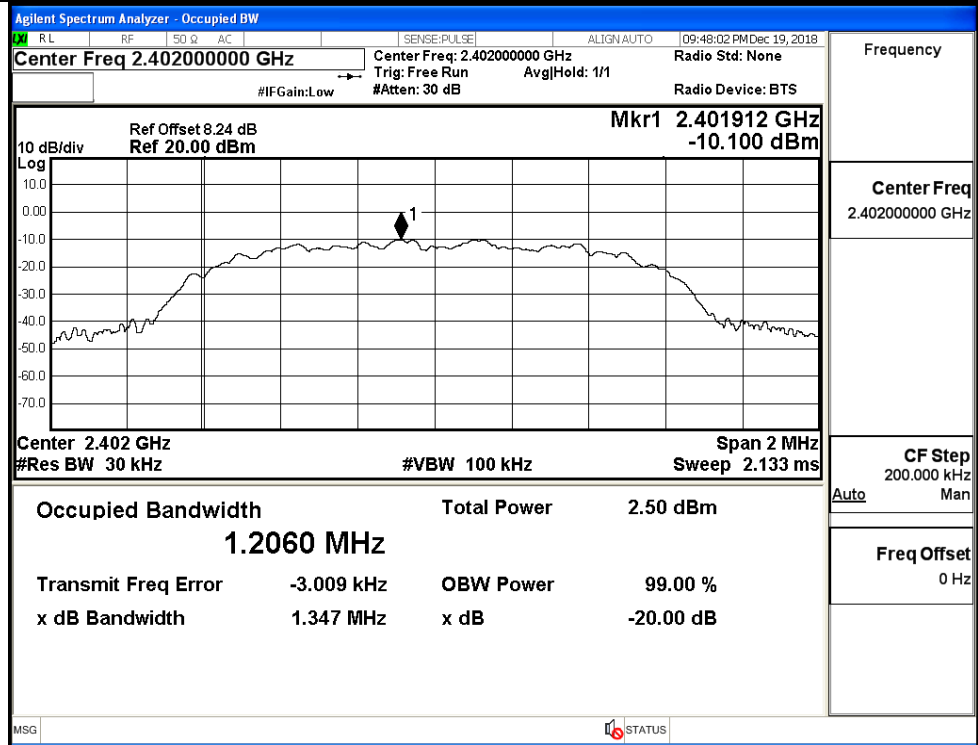


$\pi/4$ DQPSK/HCH



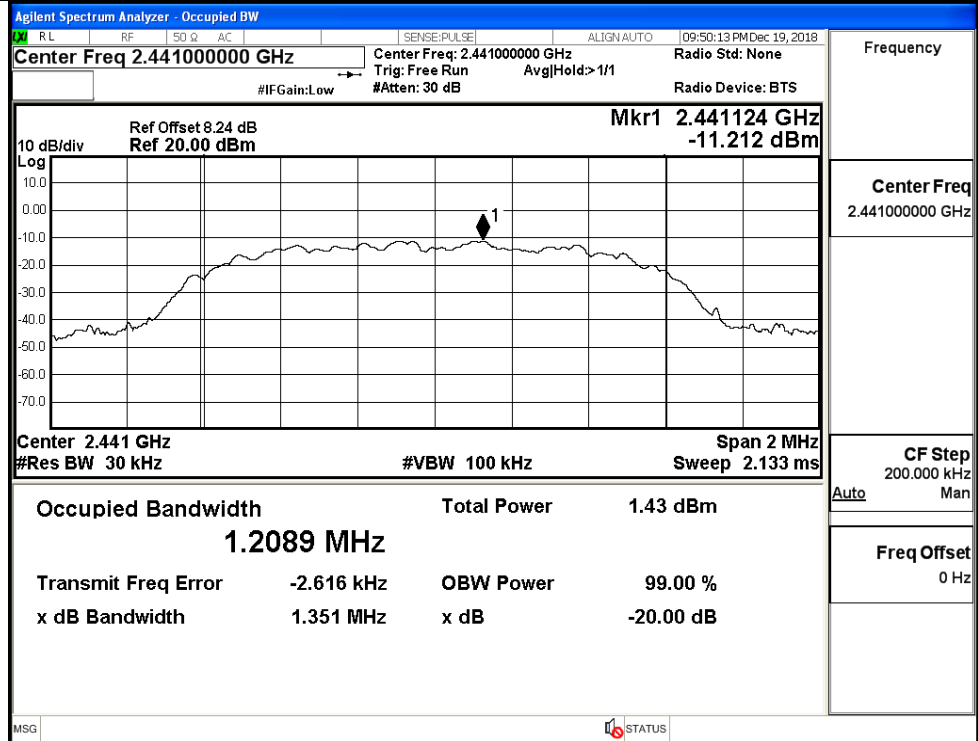
Frequency	2.48000000 GHz
Center Freq	2.48000000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

8DPSK/LCH

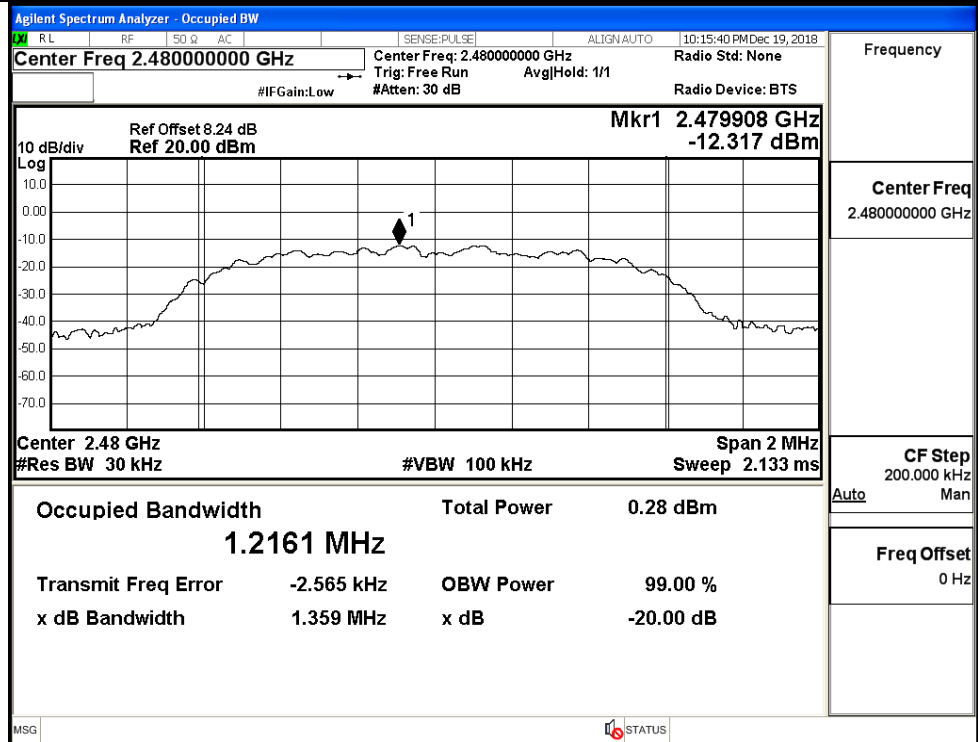


Frequency	2.40200000 GHz
Center Freq	2.40200000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

8DPSK/MCH

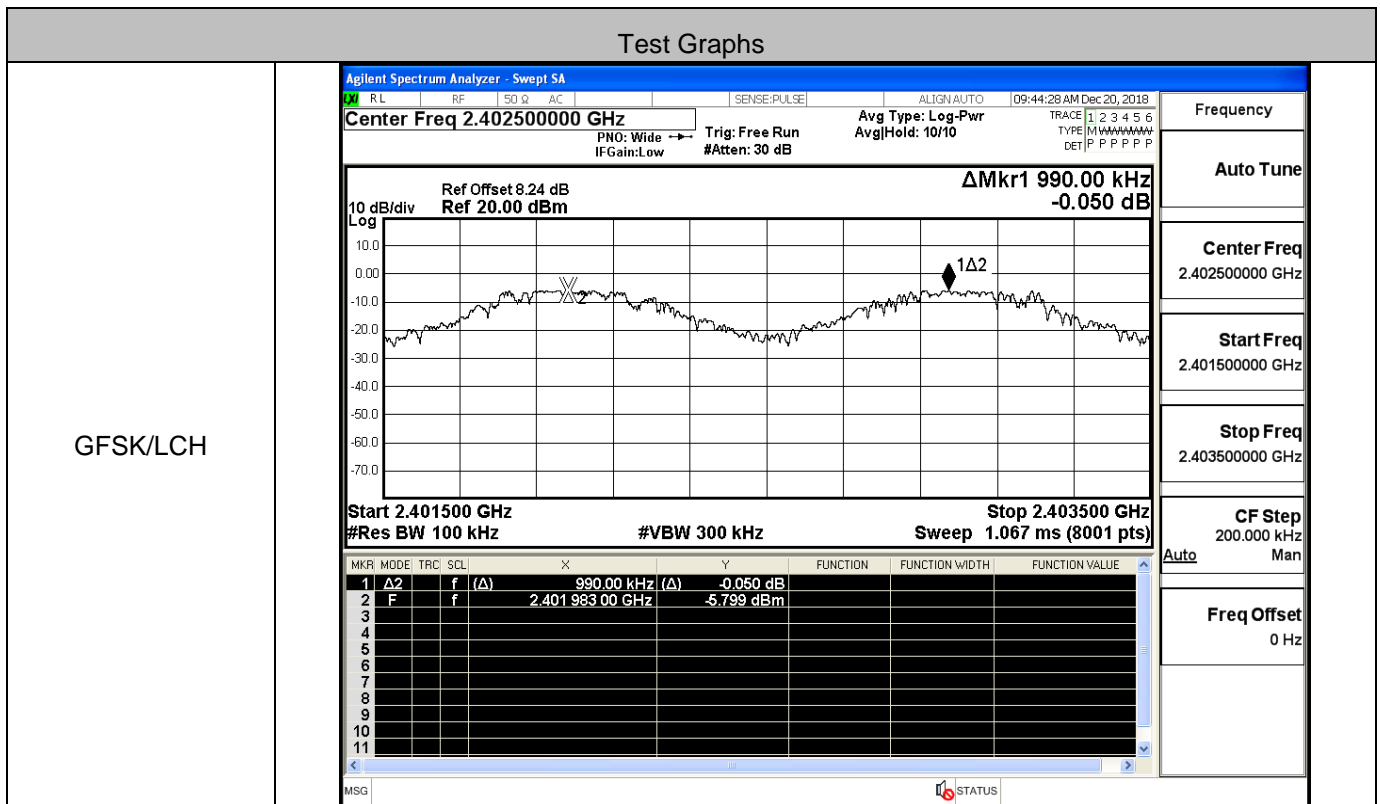


8DPSK/HCH

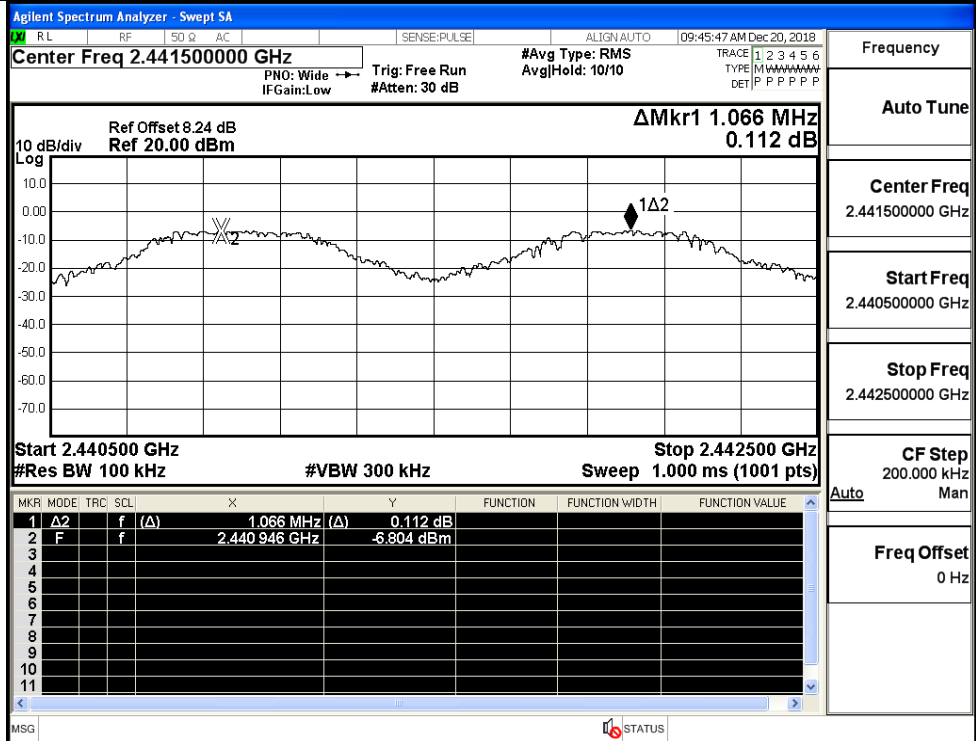


A.3 Carrier Frequency Separation

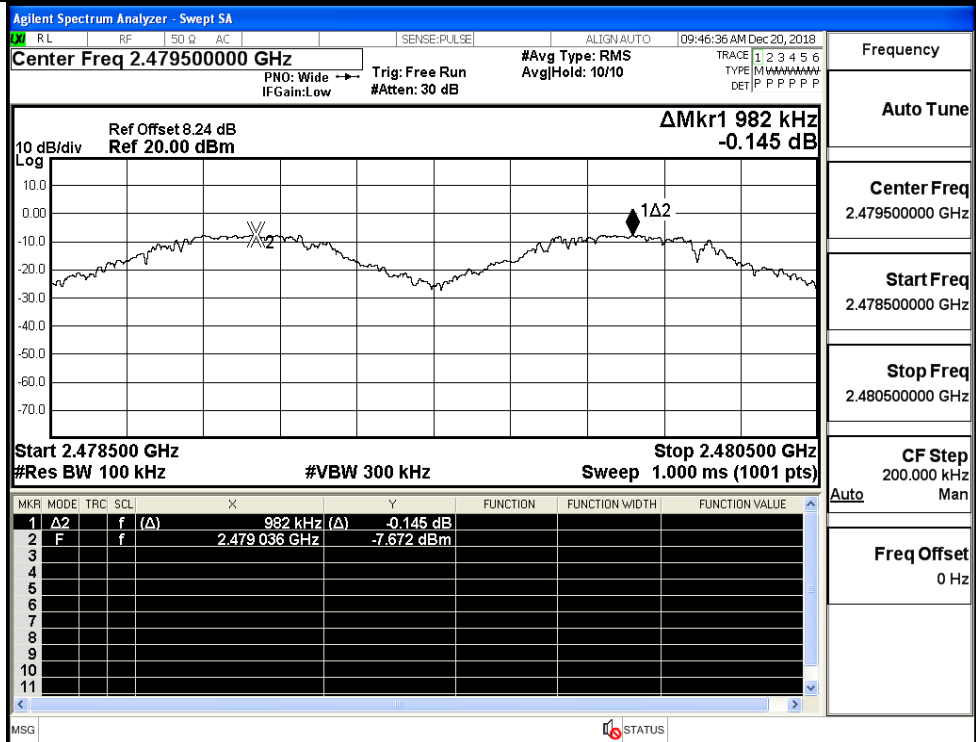
Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.990	0.689	PASS
	MCH	1.066	0.689	PASS
	HCH	0.982	0.689	PASS
π/4DQPSK	LCH	0.988	0.920	PASS
	MCH	0.996	0.920	PASS
	HCH	0.976	0.920	PASS
8DPSK	LCH	1.128	0.906	PASS
	MCH	1.010	0.906	PASS
	HCH	0.950	0.906	PASS



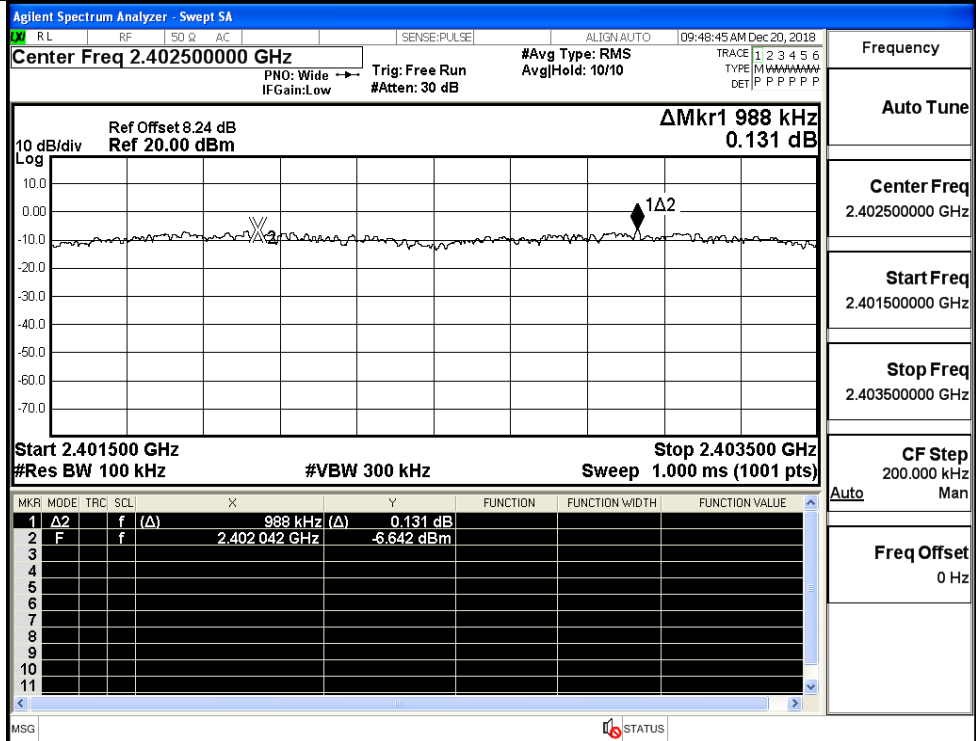
GFSK/MCH



GFSK/HCH

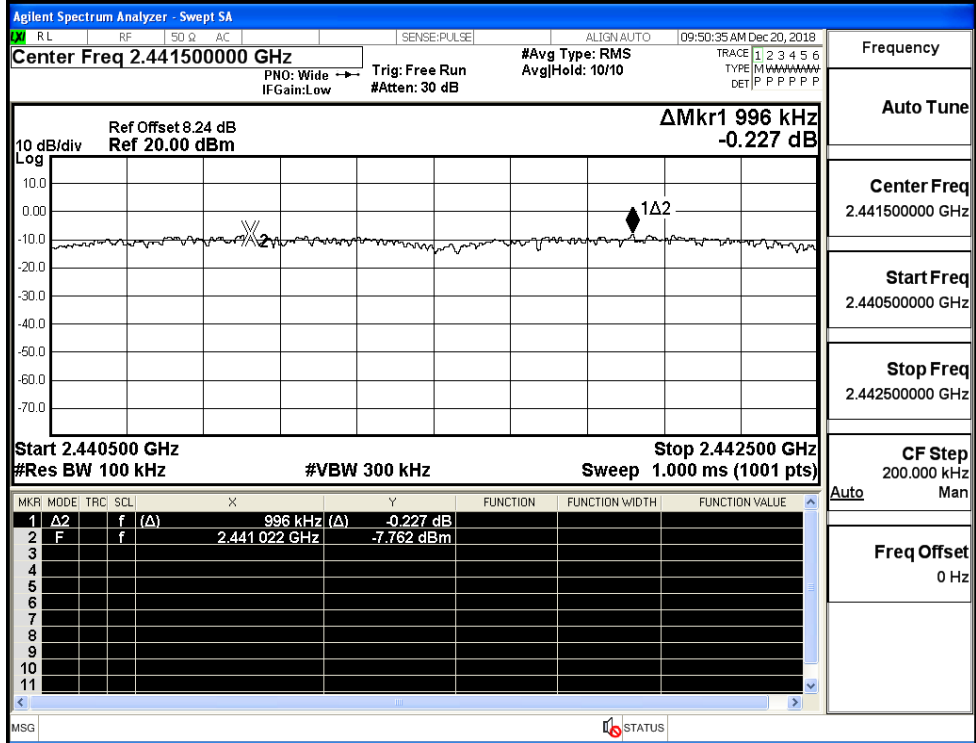


$\pi/4$ DQPSK/LCH



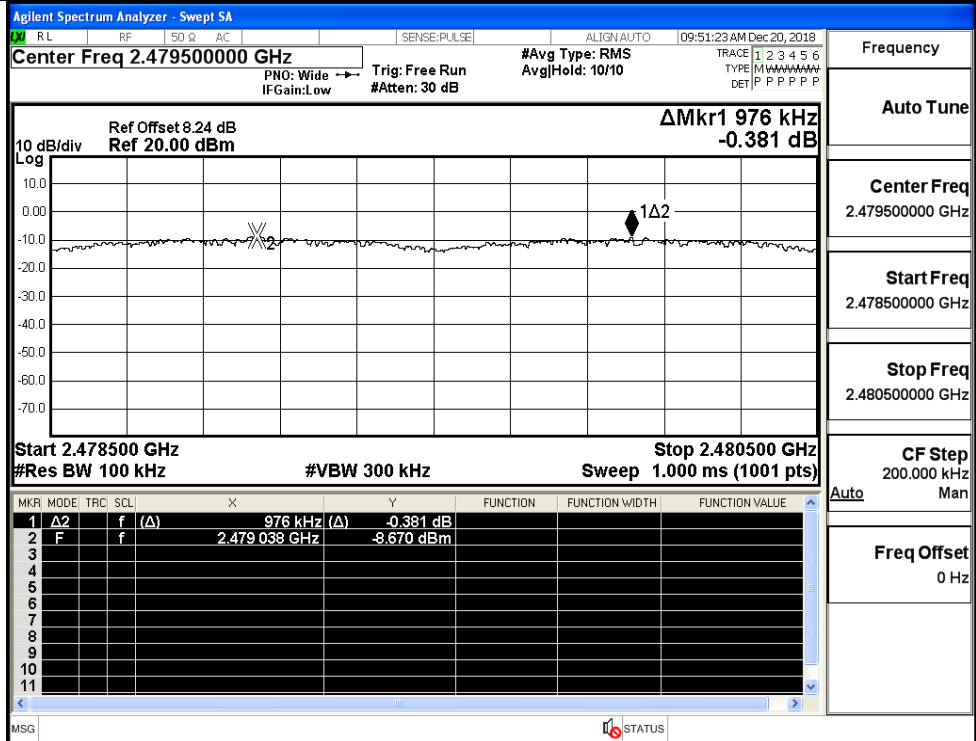
Frequency
Auto Tune
Center Freq
2.402500000 GHz
Start Freq
2.401500000 GHz
Stop Freq
2.403500000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

$\pi/4$ DQPSK/MCH



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

π/4DQPSK/HCH



Frequency

Auto Tune

Center Freq
2.479500000 GHz

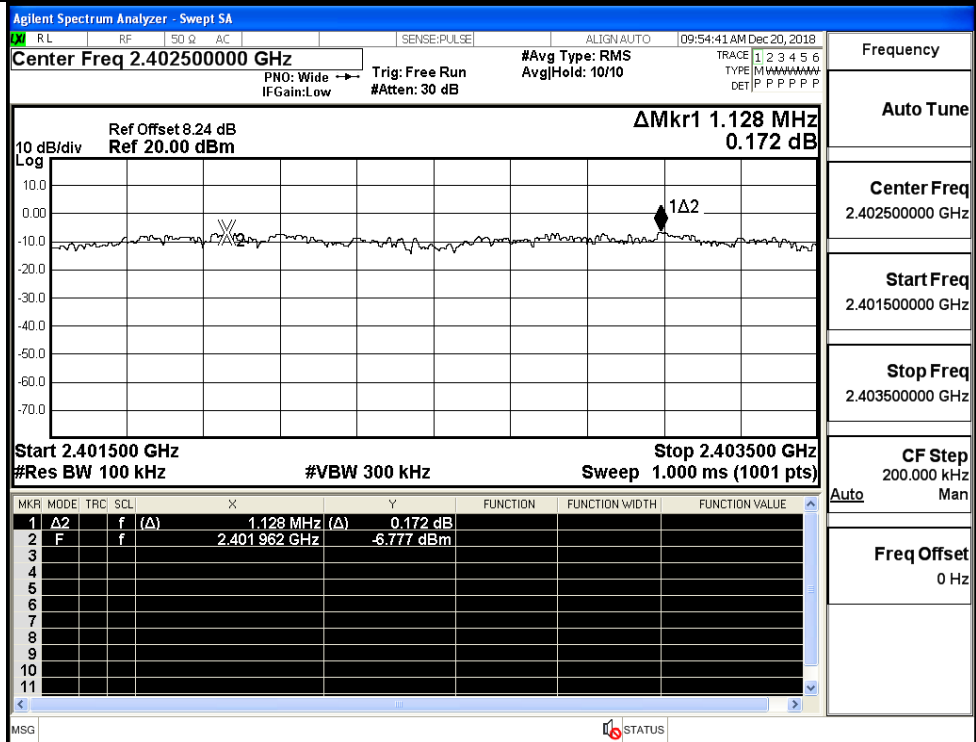
Start Freq
2.478500000 GHz

Stop Freq
2.480500000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

8DPSK/LCH



Frequency

Auto Tune

Center Freq
2.402500000 GHz

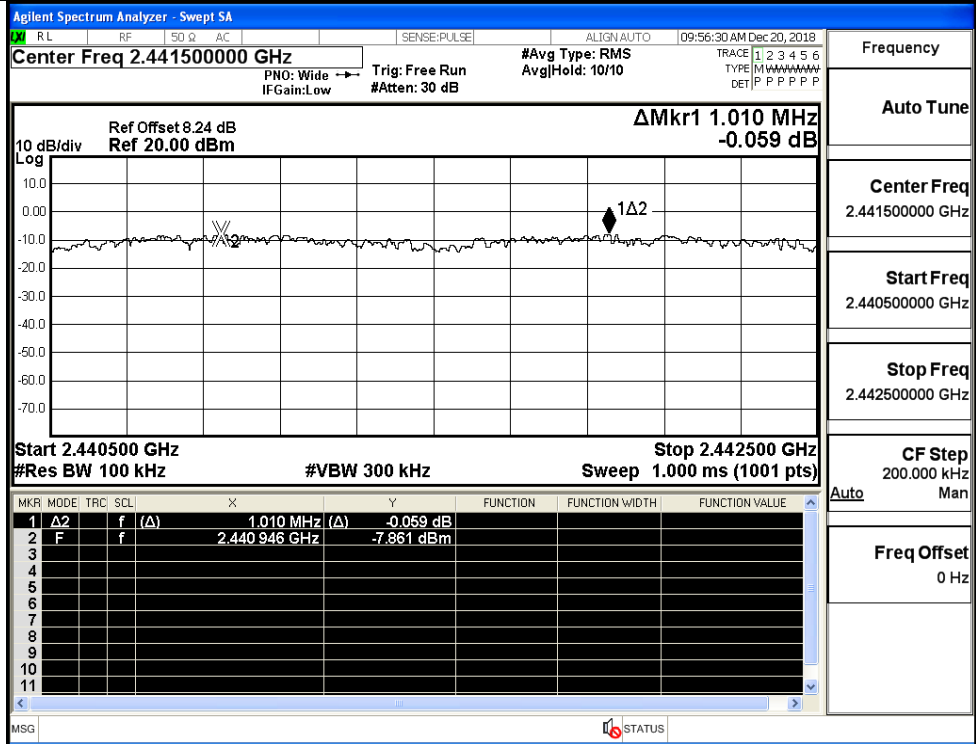
Start Freq
2.401500000 GHz

Stop Freq
2.403500000 GHz

CF Step
200.000 kHz
Auto Man

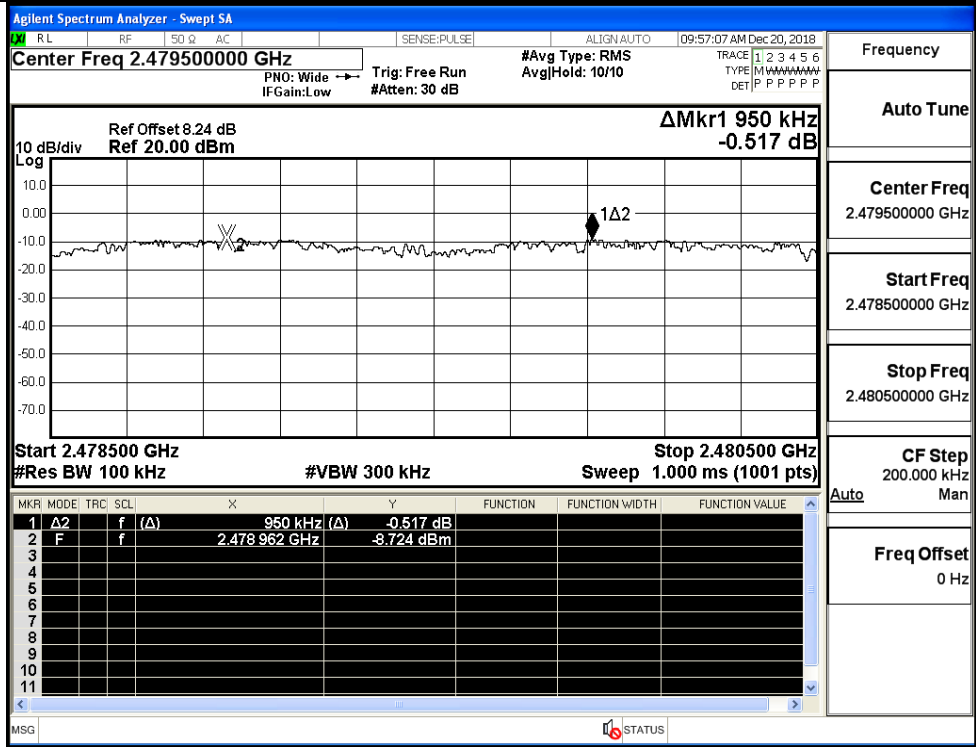
Freq Offset
0 Hz

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

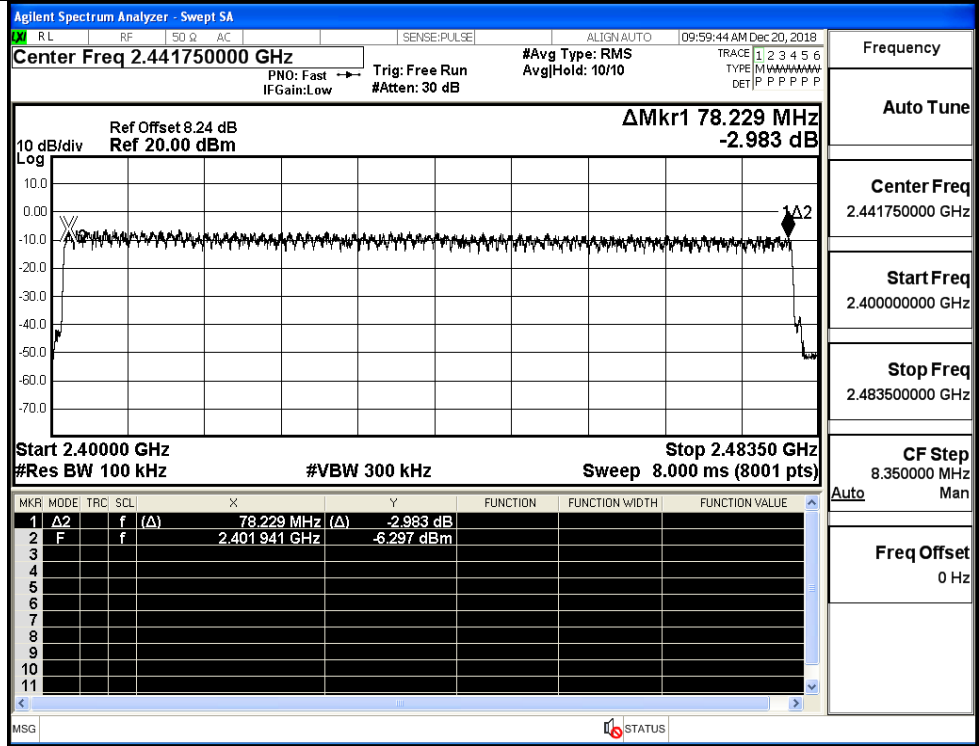
A.4 Hopping Channel Number

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

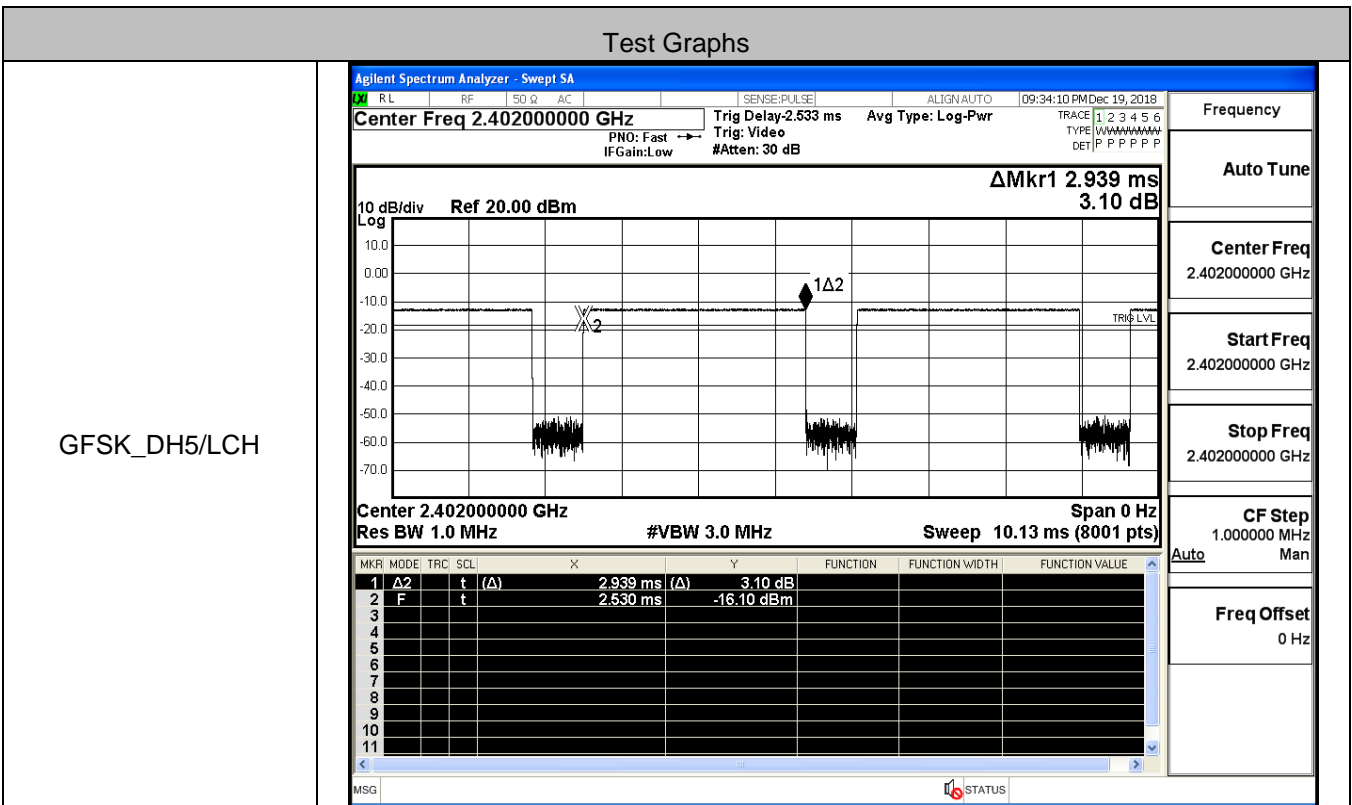
GFSK/Hop	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.441750000 GHz</p> <p>Ref Offset 8.24 dB Ref 20.00 dBm</p> <p>ΔMkr1 78.020 MHz -2.382 dB</p> <p>Start 2.40000 GHz #Res BW 100 kHz</p> <p>Stop 2.48350 GHz #VBW 300 kHz Sweep 8.000 ms (8001 pts)</p> <table border="1"> <thead> <tr> <th>MKR</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>78.020 MHz (Δ)</td> <td>-2.382 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td></td> <td>2.402046 GHz</td> <td>-5.395 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)	78.020 MHz (Δ)	-2.382 dB				2	F	f		2.402046 GHz	-5.395 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)	78.020 MHz (Δ)	-2.382 dB																								
2	F	f		2.402046 GHz	-5.395 dBm																								
$\pi/4$ DQPSK/Hop	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.441750000 GHz</p> <p>Ref Offset 8.24 dB Ref 20.00 dBm</p> <p>ΔMkr1 78.146 MHz -3.058 dB</p> <p>Start 2.40000 GHz #Res BW 100 kHz</p> <p>Stop 2.48350 GHz #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>78.146 MHz (Δ)</td> <td>-3.058 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td></td> <td>2.402014 GHz</td> <td>-6.805 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)	78.146 MHz (Δ)	-3.058 dB				2	F	f		2.402014 GHz	-6.805 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)	78.146 MHz (Δ)	-3.058 dB																								
2	F	f		2.402014 GHz	-6.805 dBm																								

8DPSK/Hop

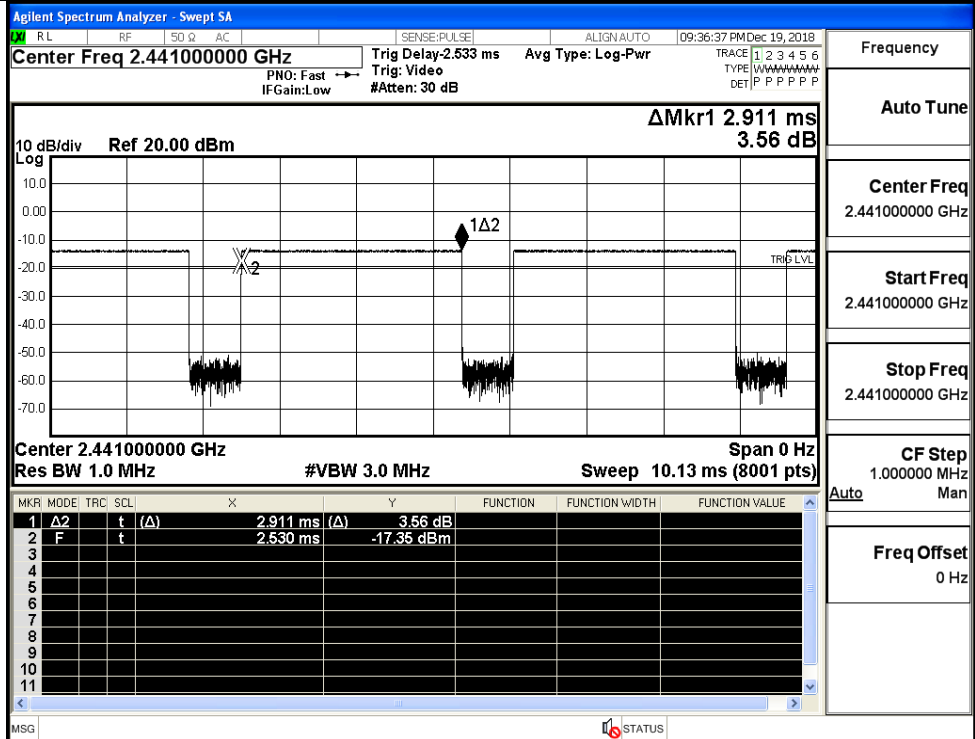


A.5 Dwell Time

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.94	106.7	0.314	0.4	PASS
	DH5	MCH	2.91	106.7	0.310	0.4	PASS
	DH5	HCH	2.91	106.7	0.310	0.4	PASS
π/4DQPSK	2DH5	LCH	2.93	106.7	0.313	0.4	PASS
	2DH5	MCH	2.93	106.7	0.313	0.4	PASS
	2DH5	HCH	2.94	106.7	0.314	0.4	PASS
8DPSK	3DH5	LCH	2.92	106.7	0.311	0.4	PASS
	3DH5	MCH	2.91	106.7	0.310	0.4	PASS
	3DH5	HCH	2.94	106.7	0.314	0.4	PASS

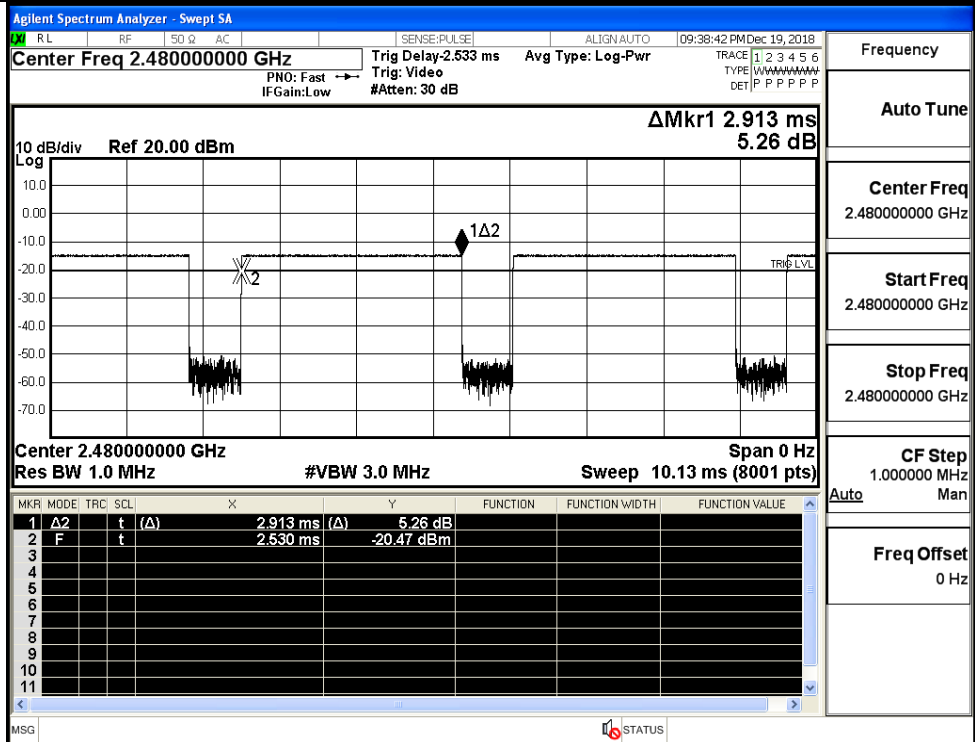


GFSK_DH5/MCH



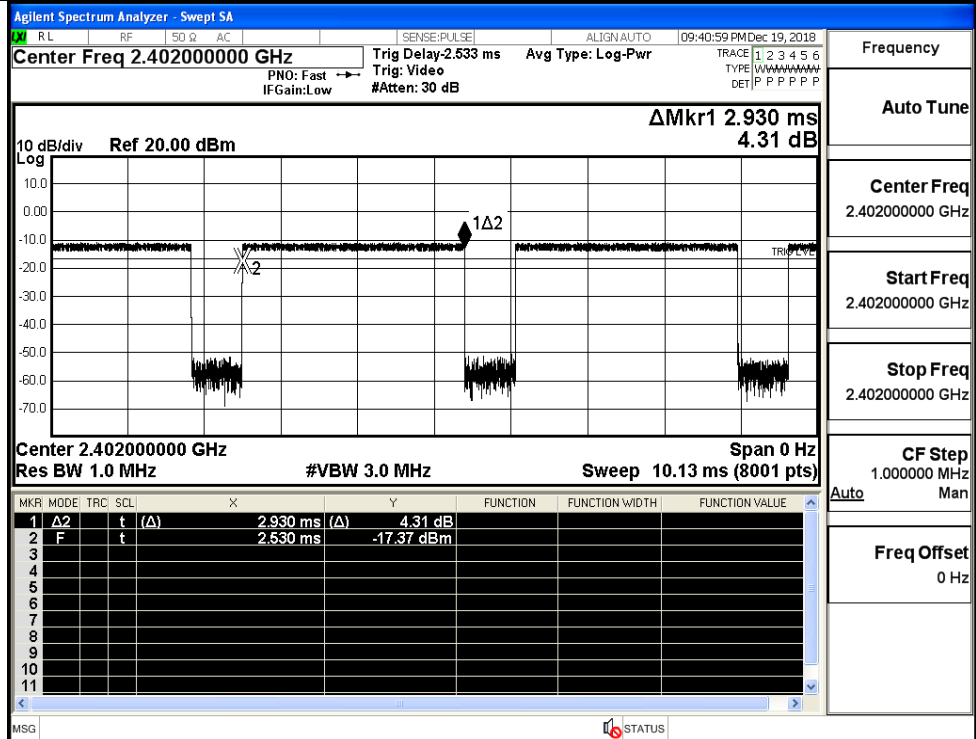
Frequency	
Auto Tune	
Center Freq	2.441000000 GHz
Start Freq	2.441000000 GHz
Stop Freq	2.441000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

GFSK_DH5/HCH

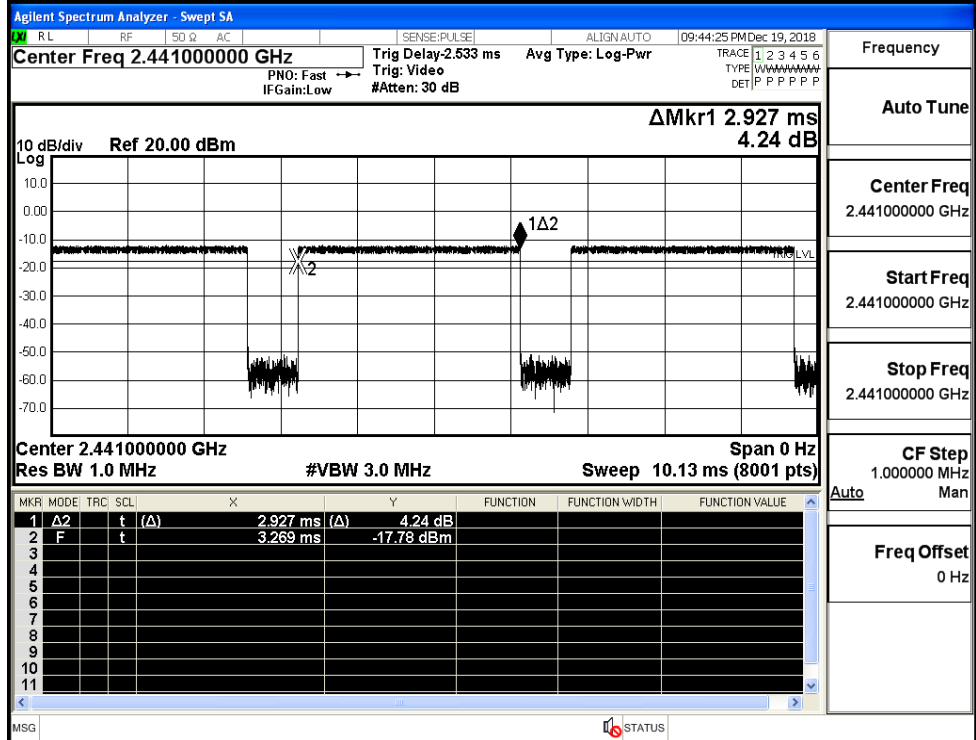


Frequency	
Auto Tune	
Center Freq	2.480000000 GHz
Start Freq	2.480000000 GHz
Stop Freq	2.480000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

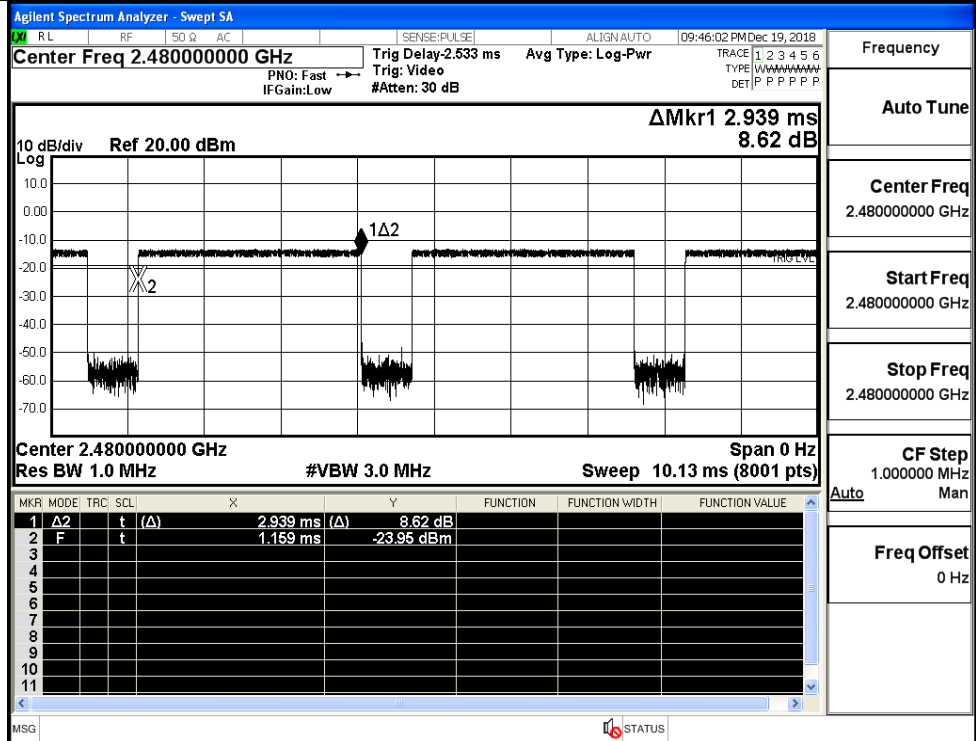
$\pi/4$ DQPSK
_2DH5/LCH



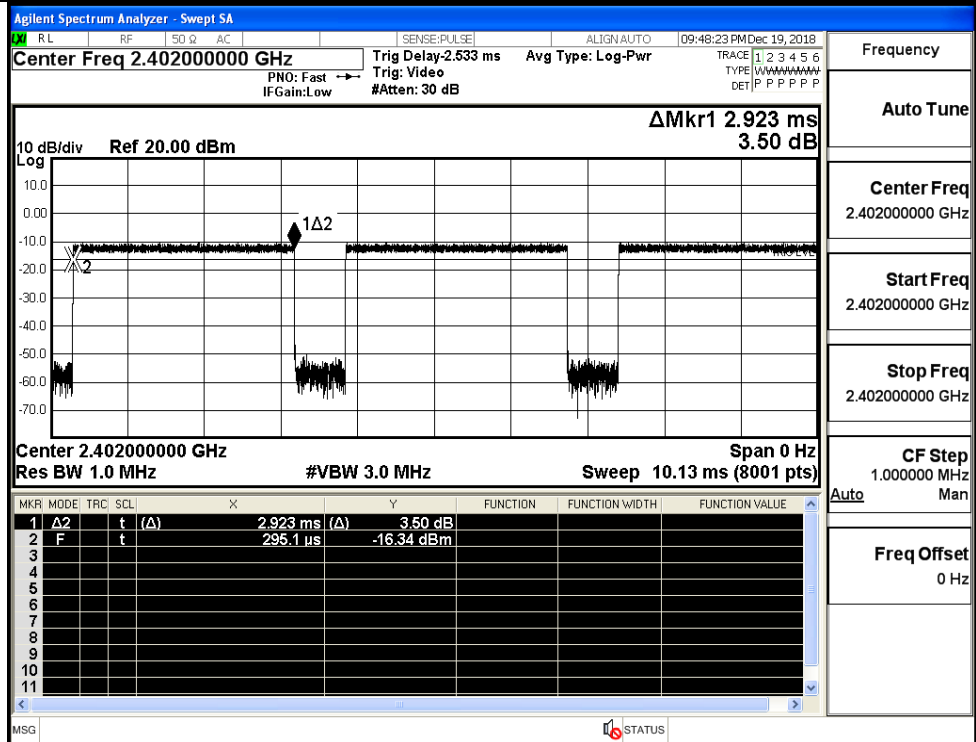
$\pi/4$ DQPSK
_2DH5/MCH



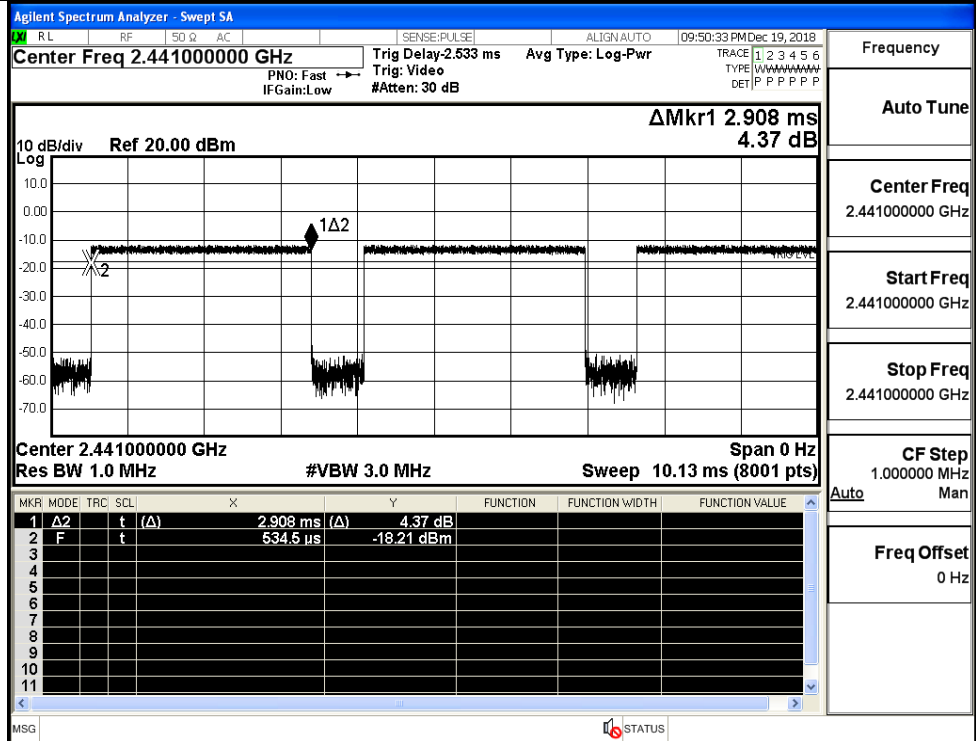
$\pi/4$ DQPSK
_2DH5/HCH



8DPSK_3DH5/LCH



8DPSK_3DH5/MCH



Frequency

Auto Tune

Center Freq 2.441000000 GHz

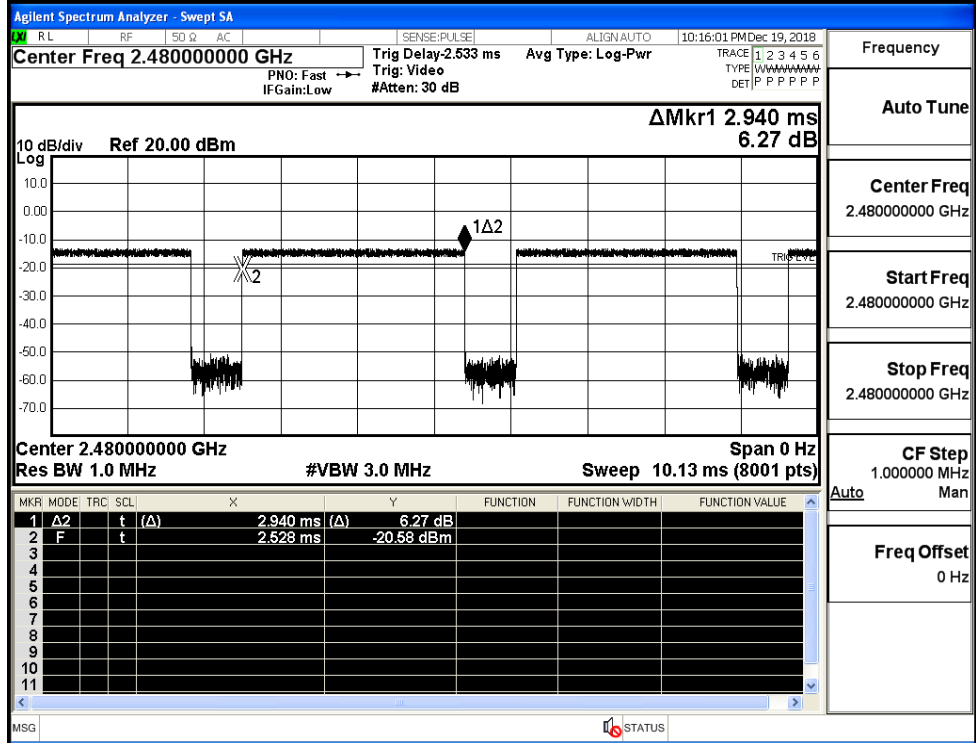
Start Freq 2.441000000 GHz

Stop Freq 2.441000000 GHz

CF Step 1.000000 MHz Auto Man

Freq Offset 0 Hz

8DPSK_3DH5/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

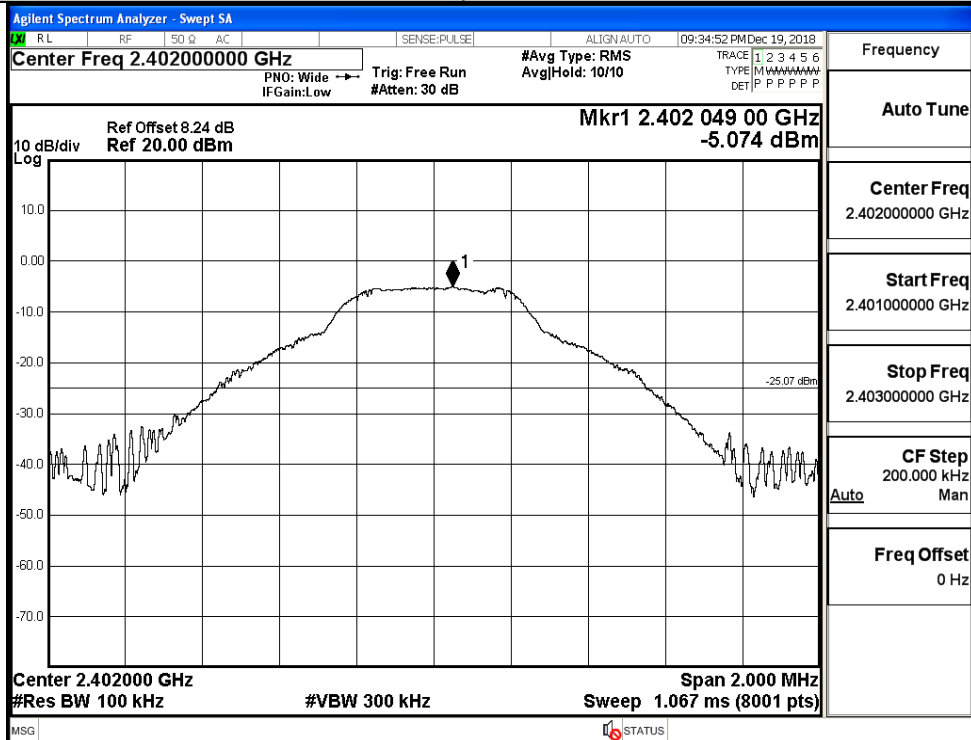
Freq Offset 0 Hz

A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-5.074	-44.745	-25.074	PASS
	MCH	-6.12	-43.950	-26.120	PASS
	HCH	-7.056	-44.064	-27.056	PASS
$\pi/4$ DQPSK	LCH	-6.098	-45.038	-26.098	PASS
	MCH	-7.192	-44.543	-27.192	PASS
	HCH	-8.258	-43.384	-28.258	PASS
8DPSK	LCH	-6.177	-44.168	-26.177	PASS
	MCH	-7.272	-45.278	-27.272	PASS
	HCH	-8.448	-44.936	-28.448	PASS

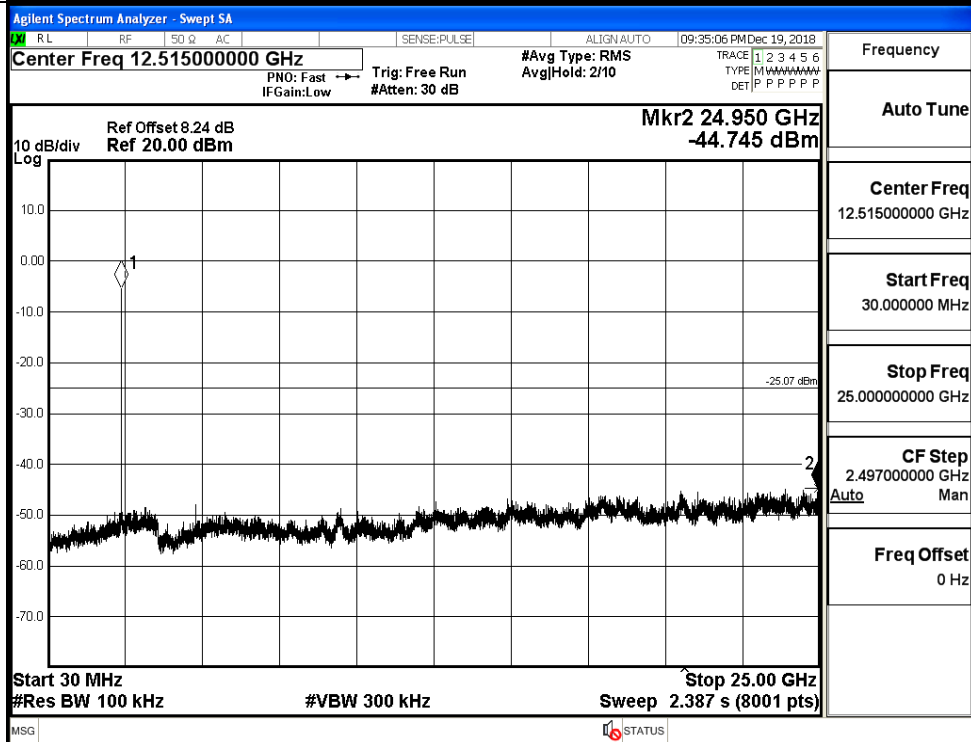
GFSK_LCH_Graphs

Pref



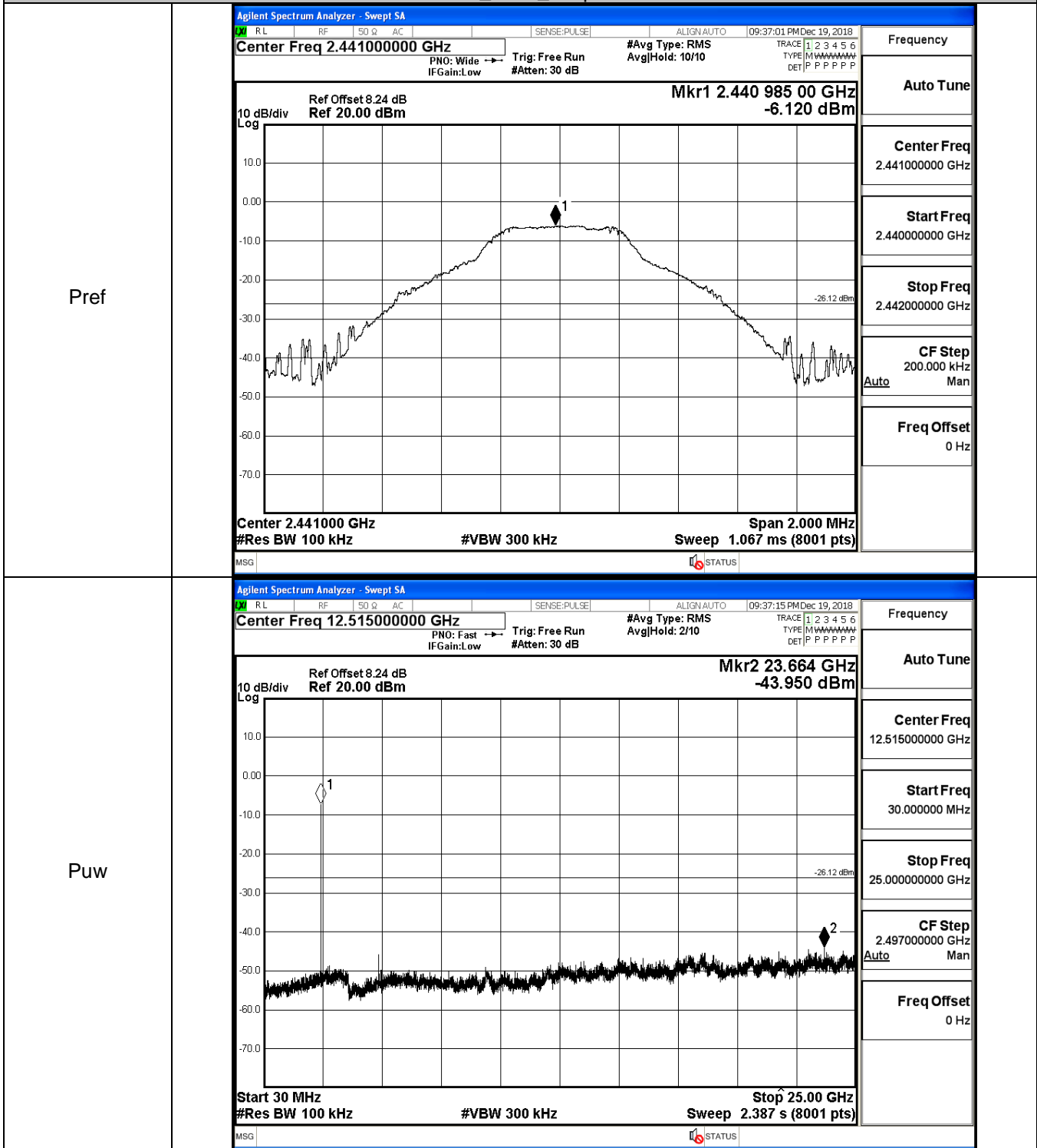
Frequency	Auto Tune
Center Freq	2.402000000 GHz
Start Freq	2.401000000 GHz
Stop Freq	2.403000000 GHz
CF Step	200.000 kHz Auto Man
Freq Offset	0 Hz

Puw



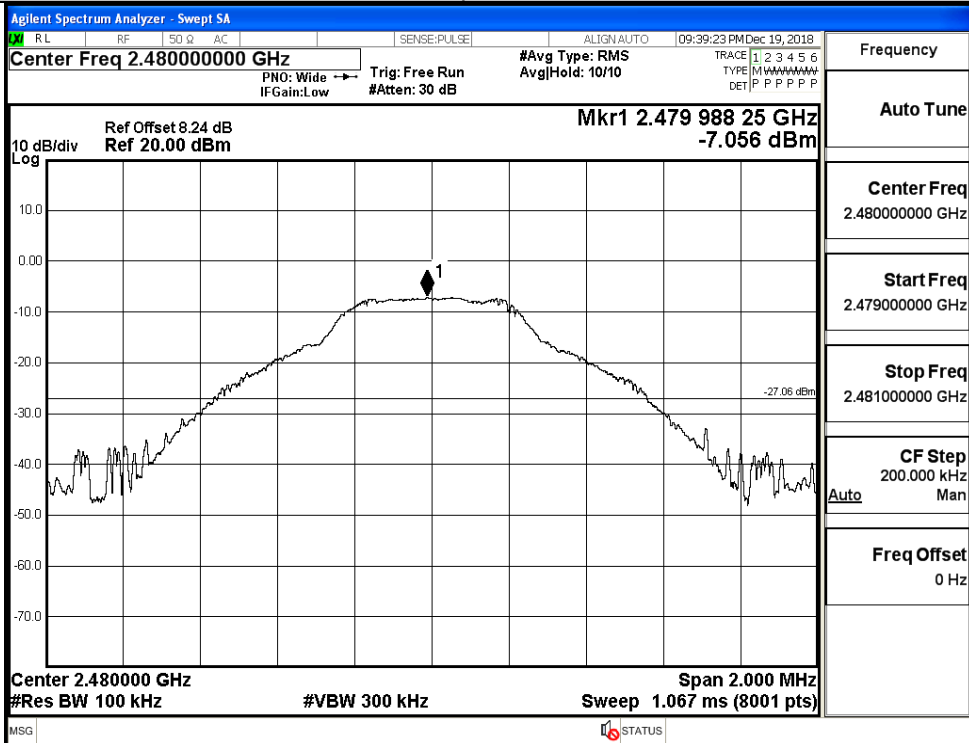
Frequency	Auto Tune
Center Freq	12.515000000 GHz
Start Freq	30.000000 MHz
Stop Freq	25.000000000 GHz
CF Step	2.497000000 GHz Auto Man
Freq Offset	0 Hz

GFSK_MCH_Graphs

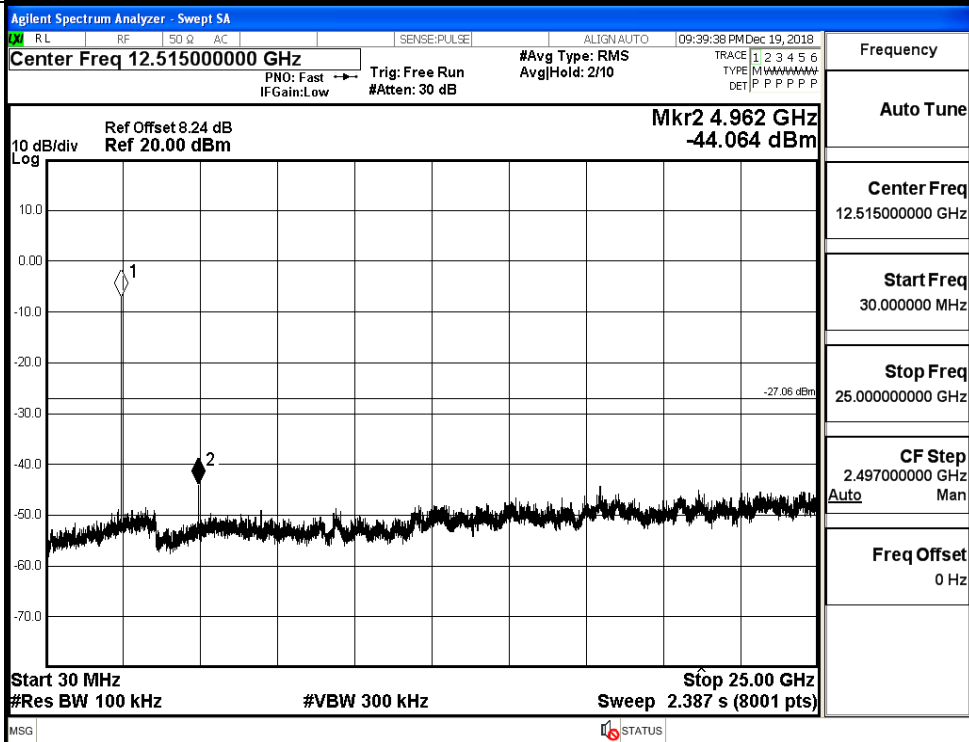


GFSK_HCH_Graphs

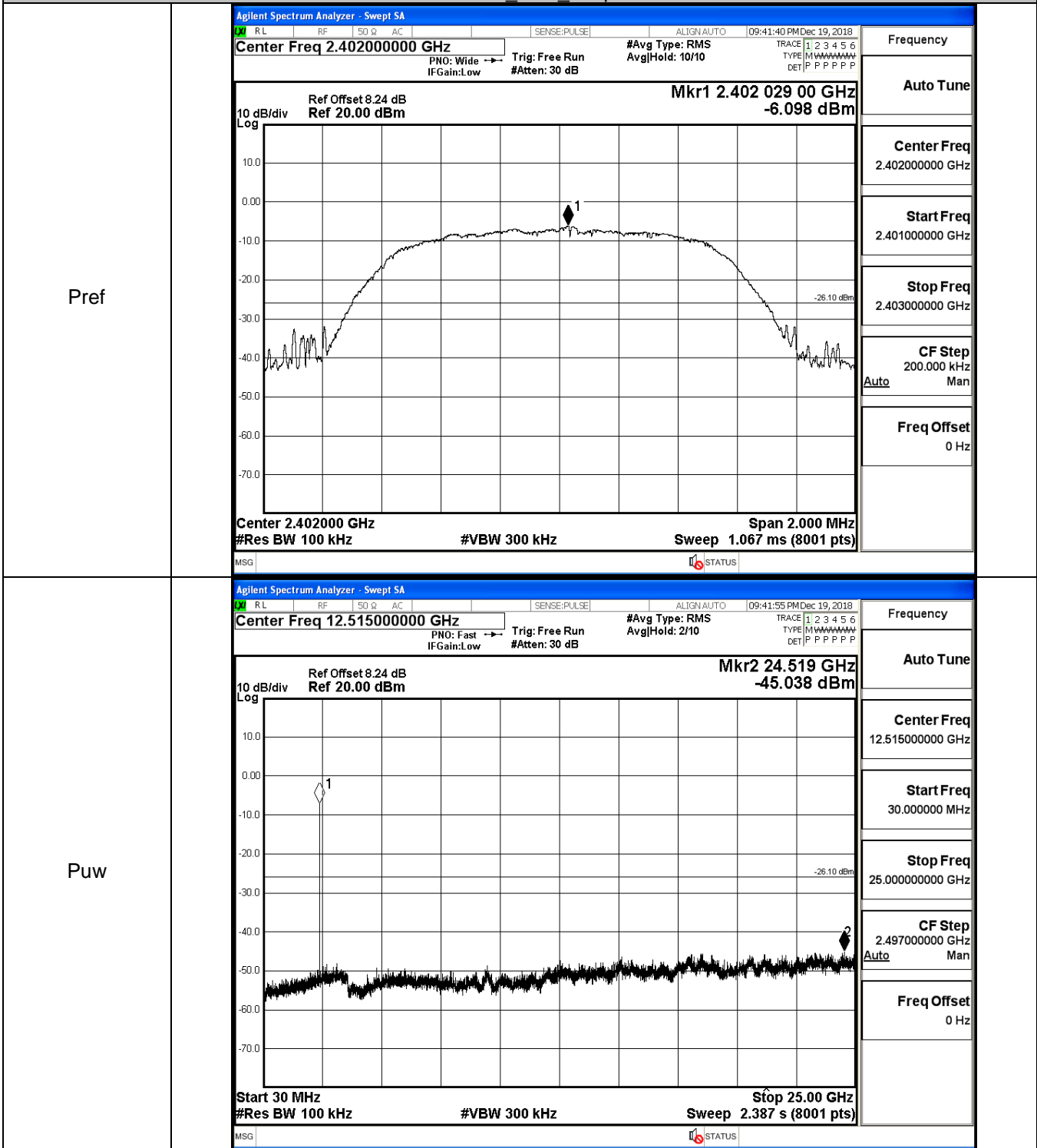
Pref



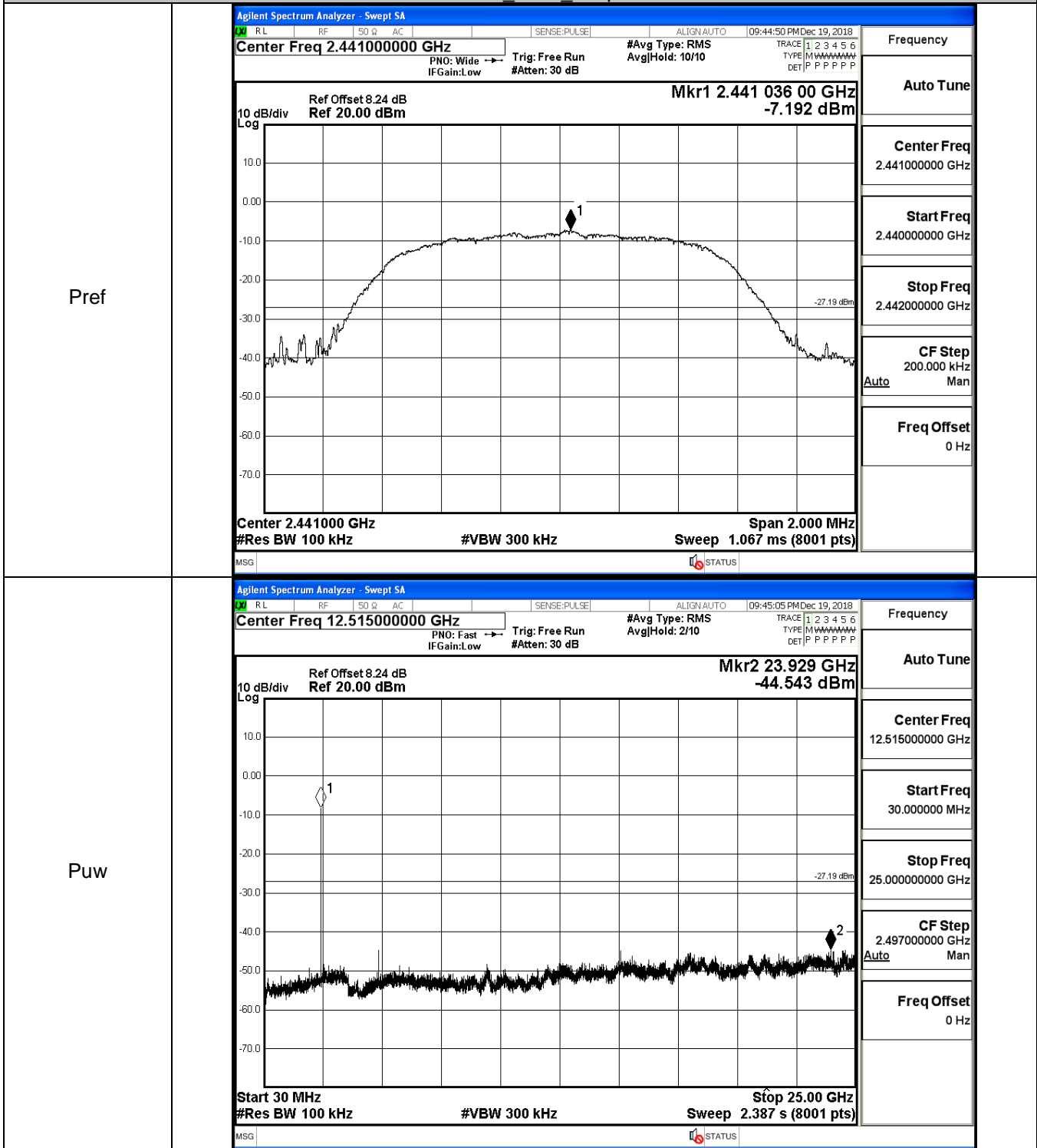
Puw



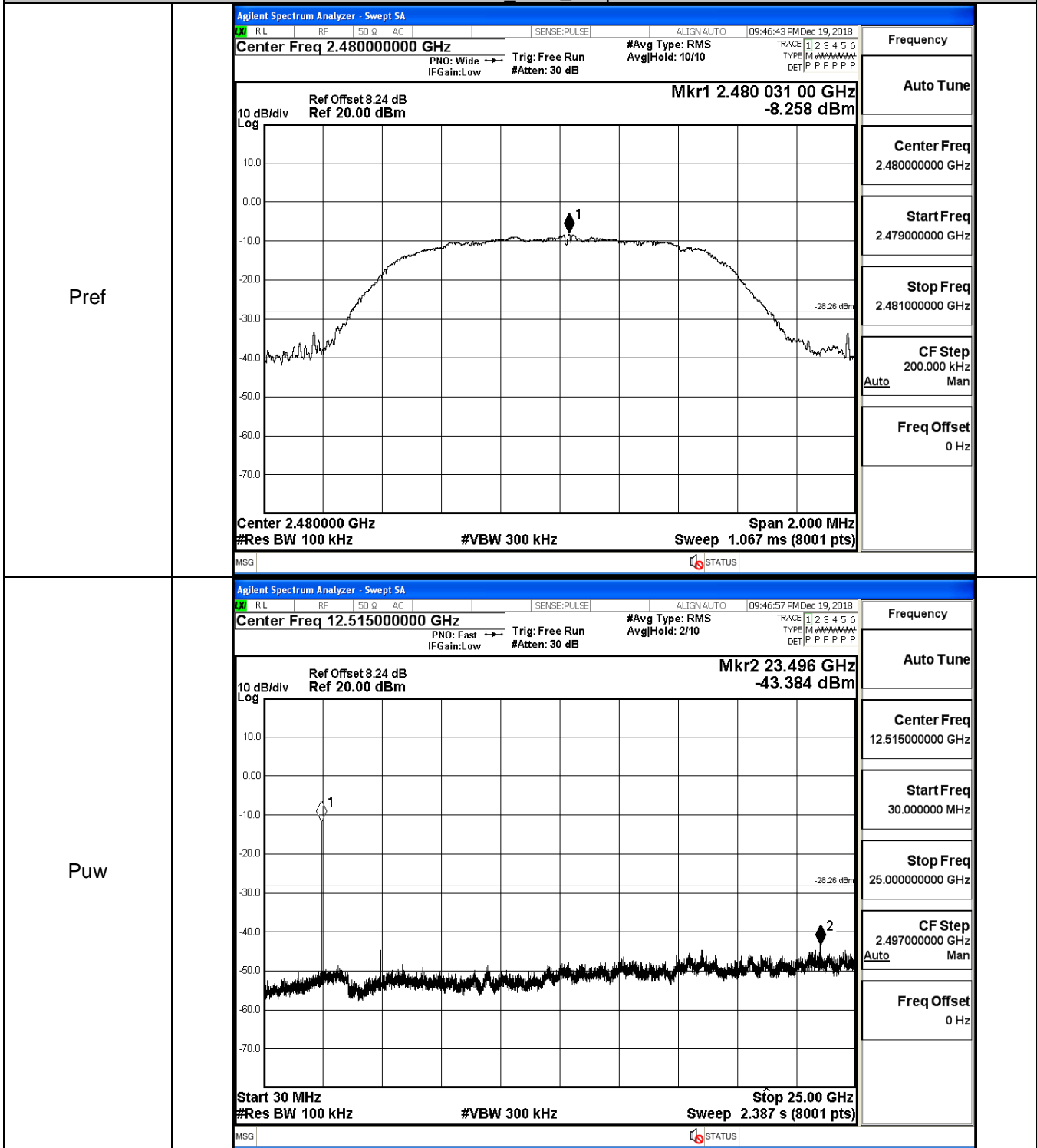
$\pi/4$ DQPSK LCH_Graphs



π /4DQPSK_MCH_Graphs

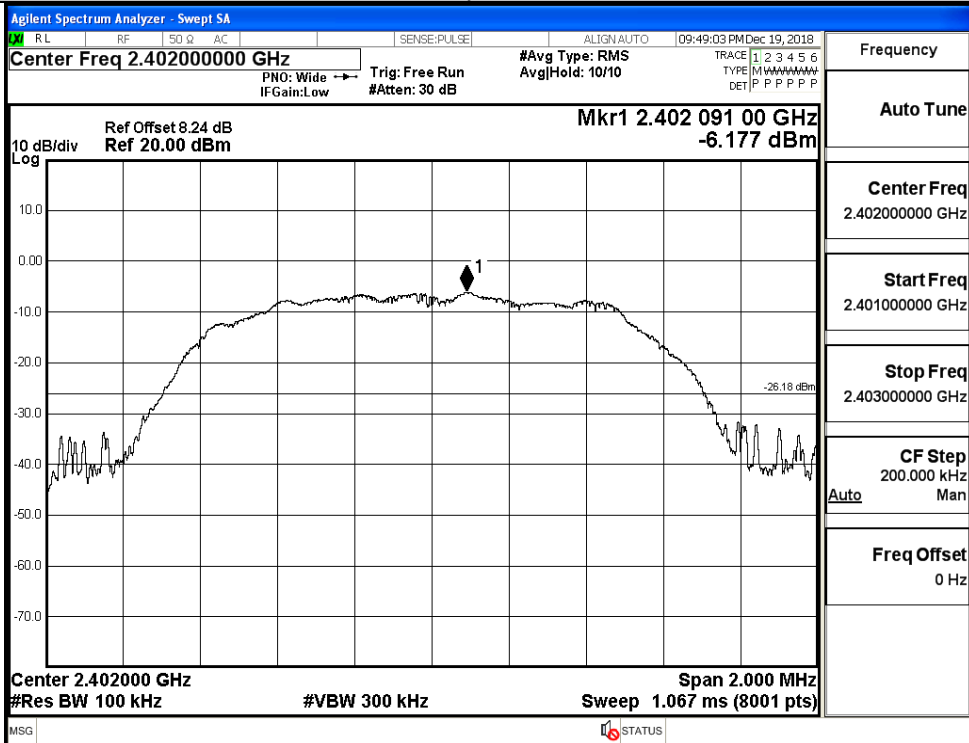


$\pi/4$ DQPSK_HCH_Graphs

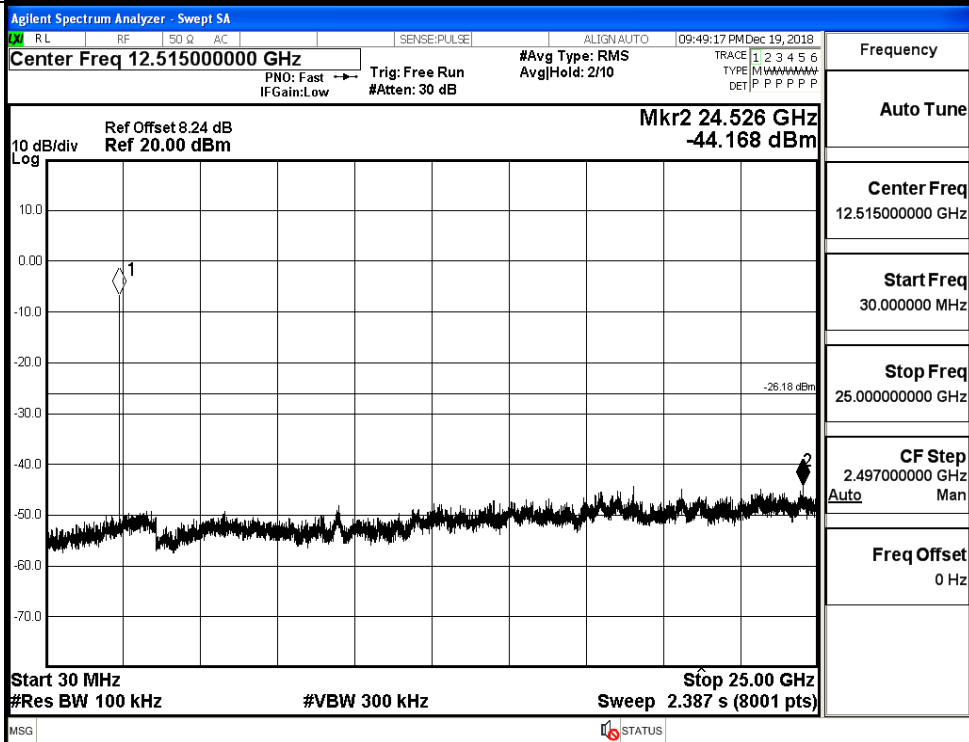


8DPSK_LCH_Graphs

Pref

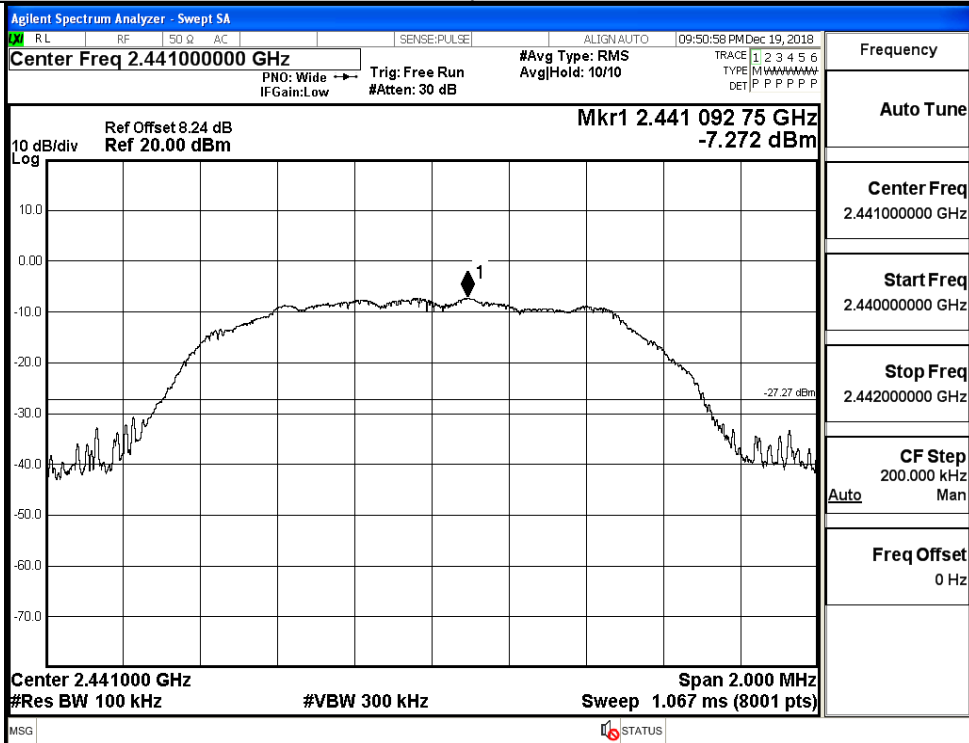


Puw

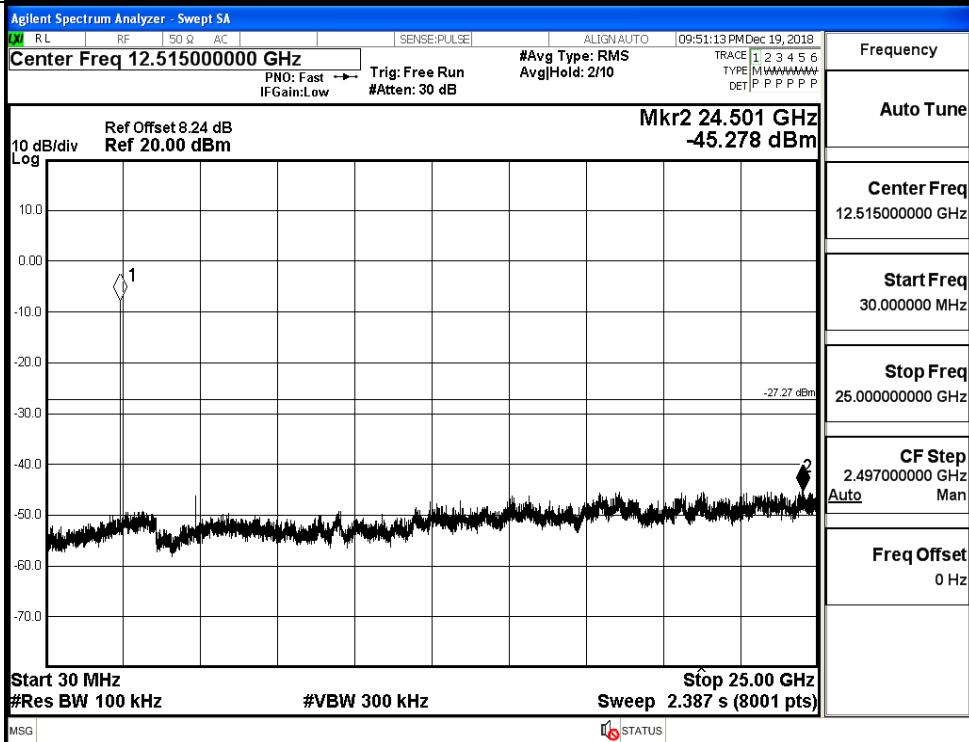


8DPSK_MCH_Graphs

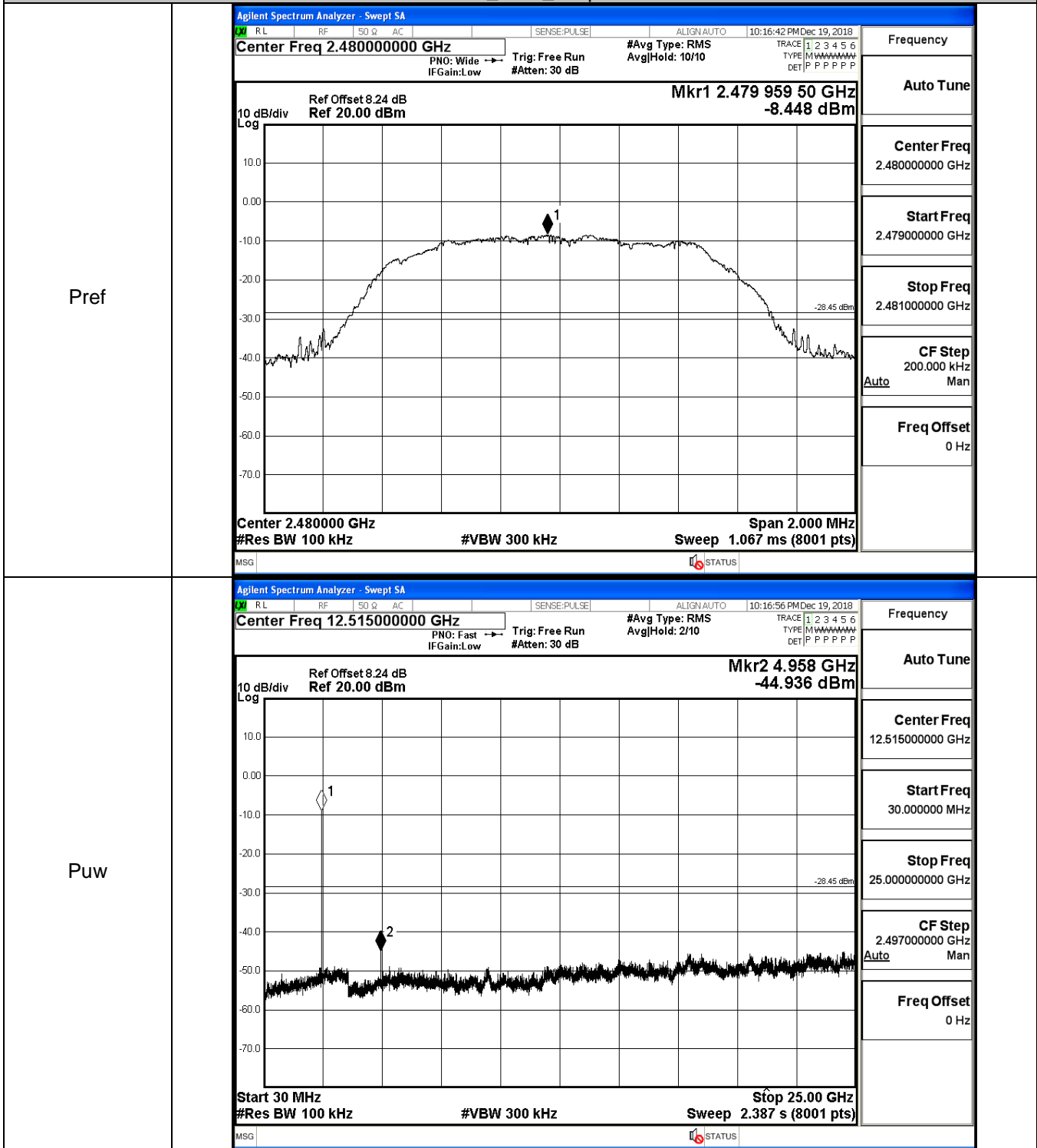
Pref



Puw



8DPSK_HCH_Graphs

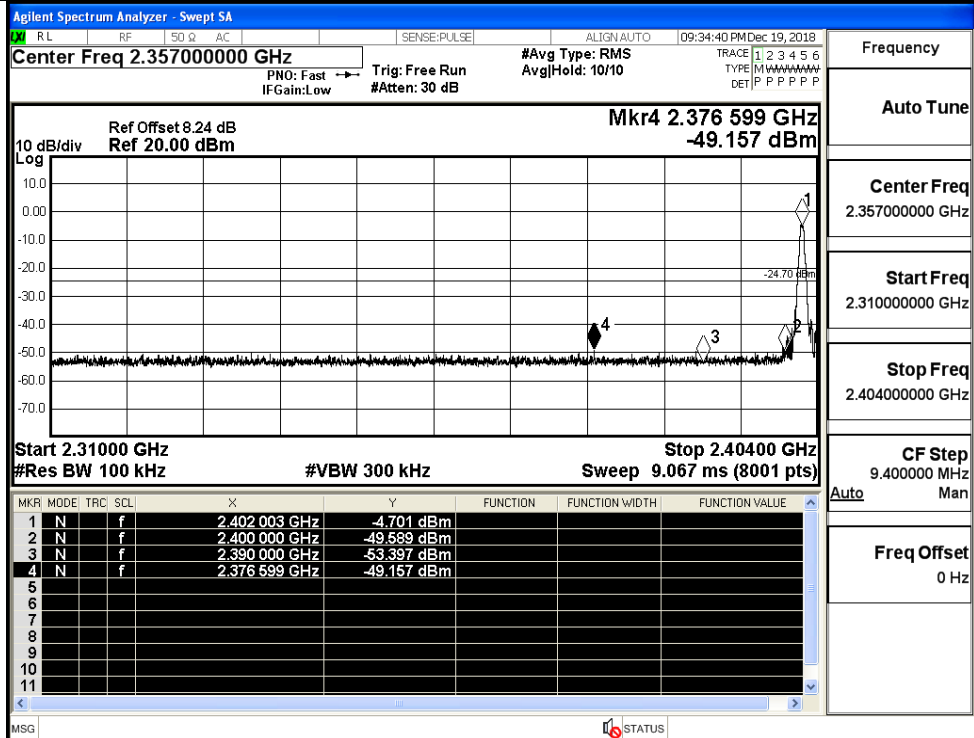


A.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-4.701	Off	-49.157	-24.7	PASS
			-5.319	On	-49.097	-25.32	PASS
	HCH	2480	-6.718	Off	-49.060	-26.72	PASS
			-6.878	On	-48.660	-26.88	PASS
$\pi/4$ DQPSK	LCH	2402	-5.941	Off	-49.432	-25.94	PASS
			-6.236	On	-48.540	-26.24	PASS
	HCH	2480	-8.343	Off	-49.443	-28.34	PASS
			-8.105	On	-49.050	-28.11	PASS
8DPSK	LCH	2402	-5.743	Off	-49.954	-25.74	PASS
			-6.183	On	-48.899	-26.18	PASS
	HCH	2480	-7.951	Off	-49.786	-27.95	PASS
			-7.768	On	-48.989	-27.77	PASS

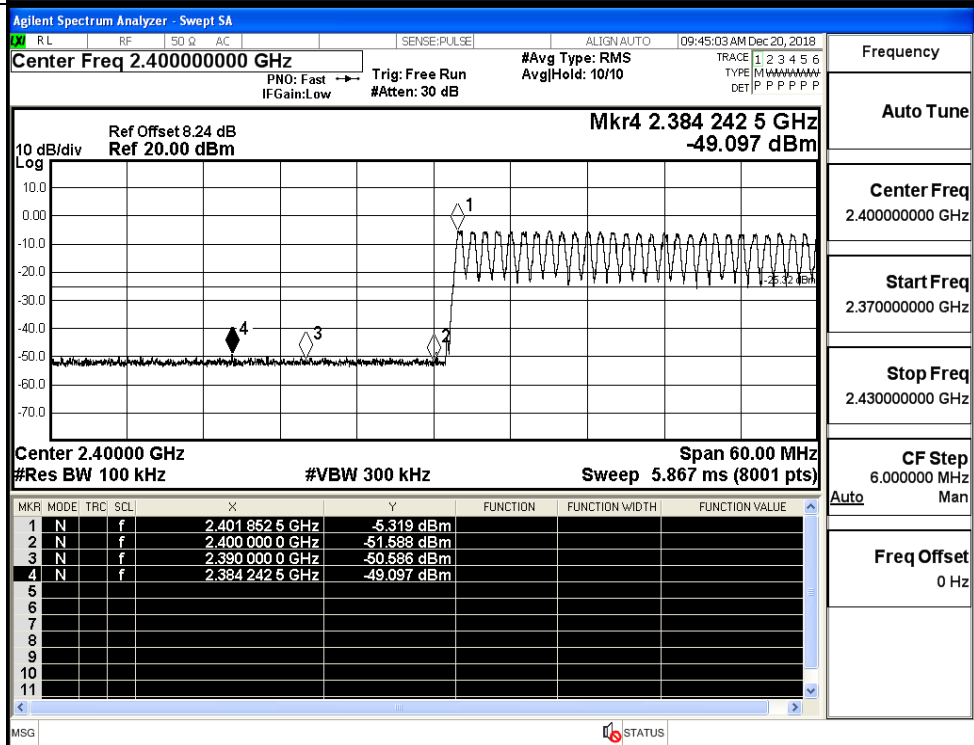
Test Graphs

GFSK/LCH/No Hop



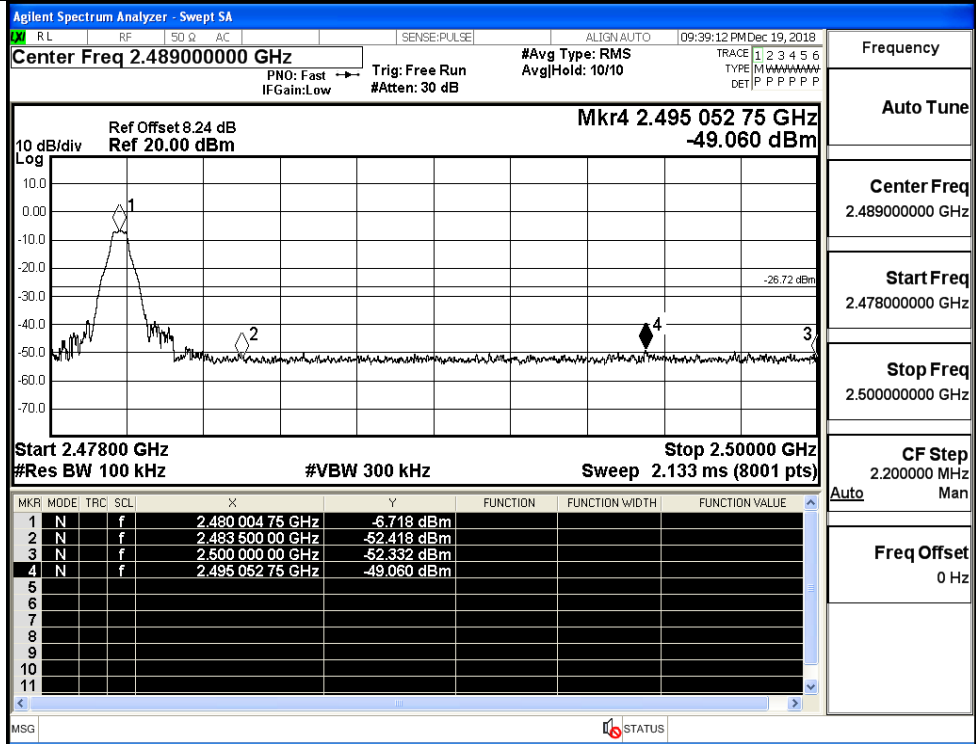
Frequency	
Auto Tune	
Center Freq	2.357000000 GHz
Start Freq	2.310000000 GHz
Stop Freq	2.404000000 GHz
CF Step	9.400000 MHz
Auto	Man
Freq Offset	0 Hz

GFSK/LCH/Hop

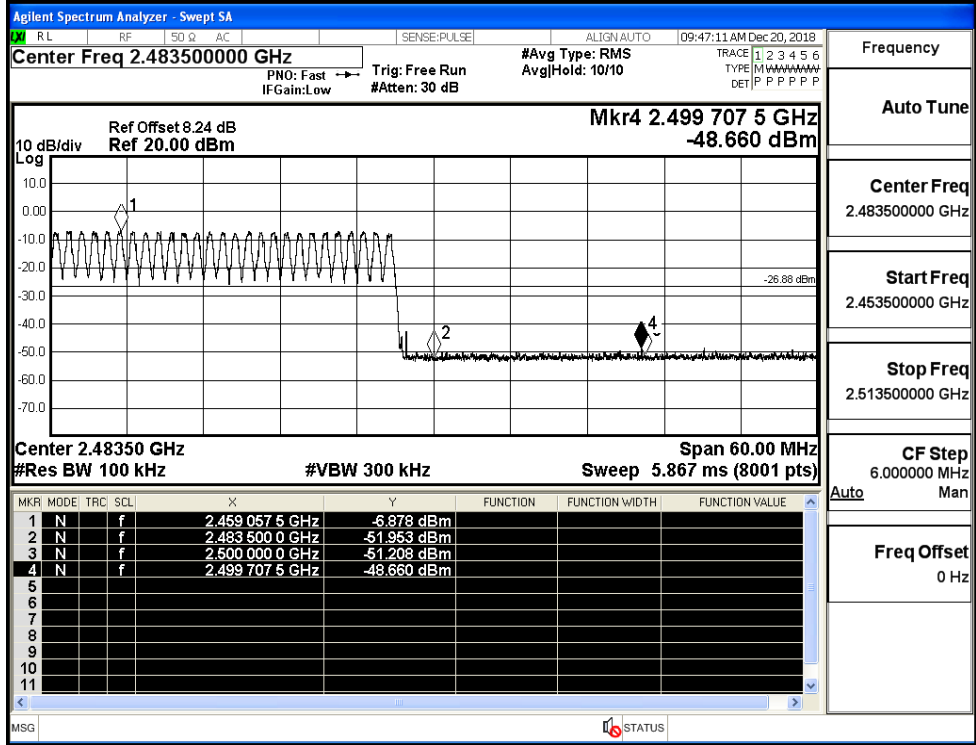


Frequency	
Auto Tune	
Center Freq	2.400000000 GHz
Start Freq	2.370000000 GHz
Stop Freq	2.430000000 GHz
CF Step	6.000000 MHz
Auto	Man
Freq Offset	0 Hz

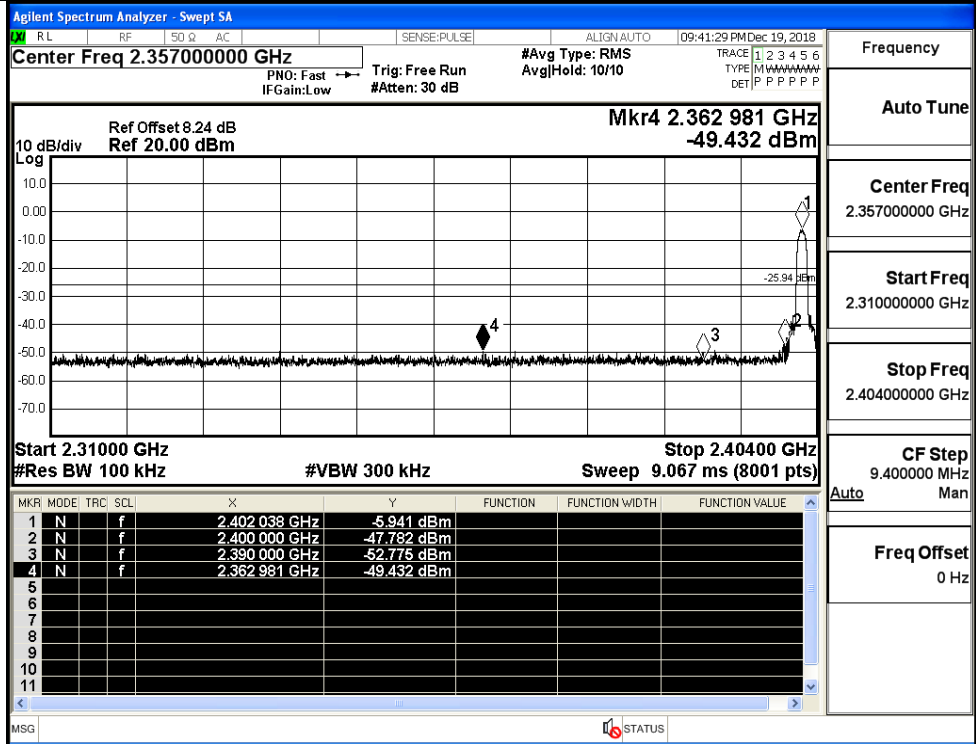
GFSK/HCH/No Hop



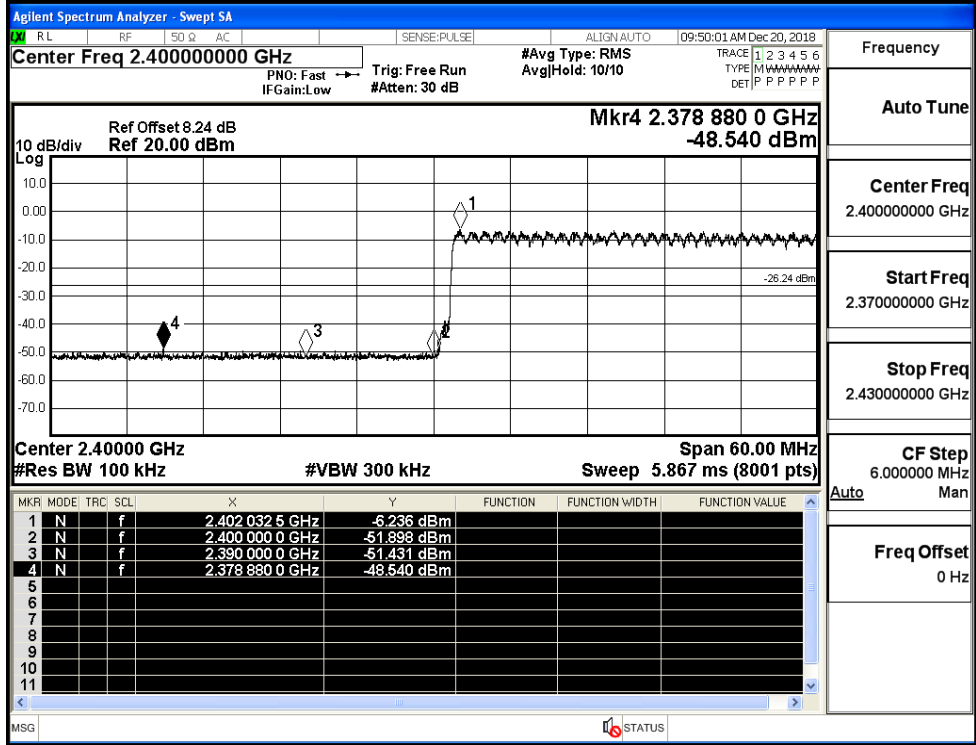
GFSK/HCH/Hop



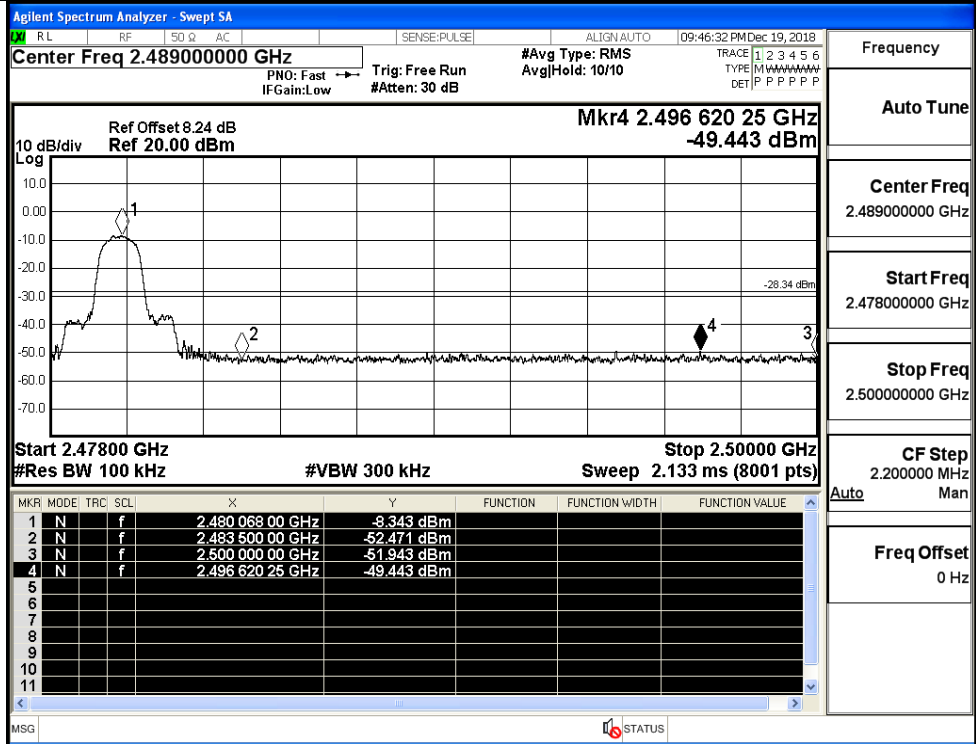
$\pi/4$ DQPSK/LCH/No
Hop



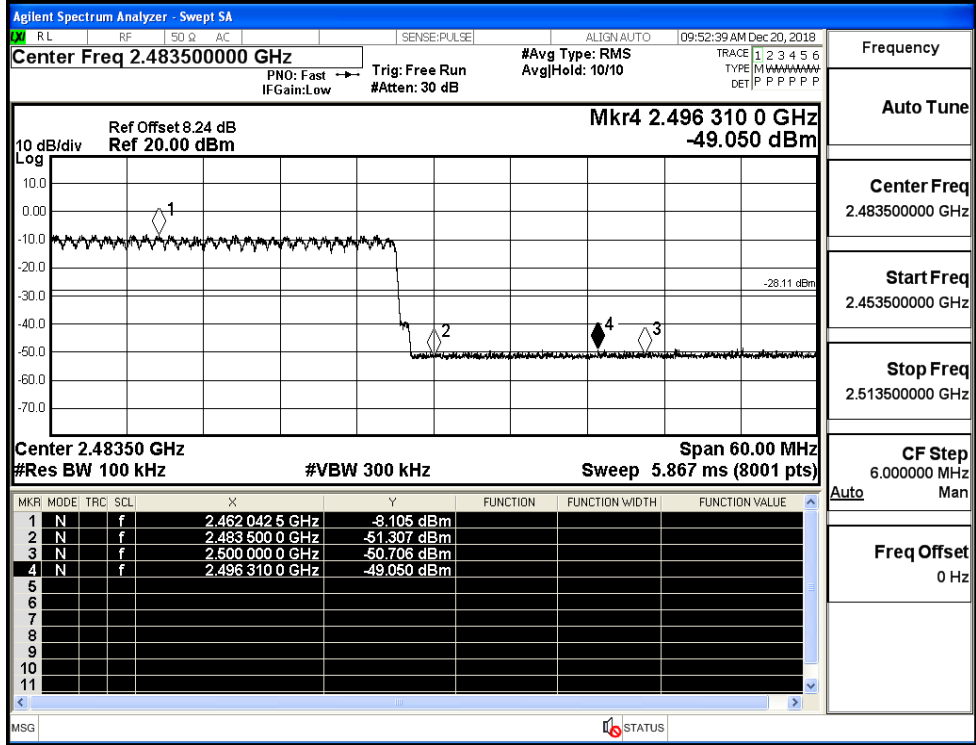
$\pi/4$ DQPSK/LCH/Hop



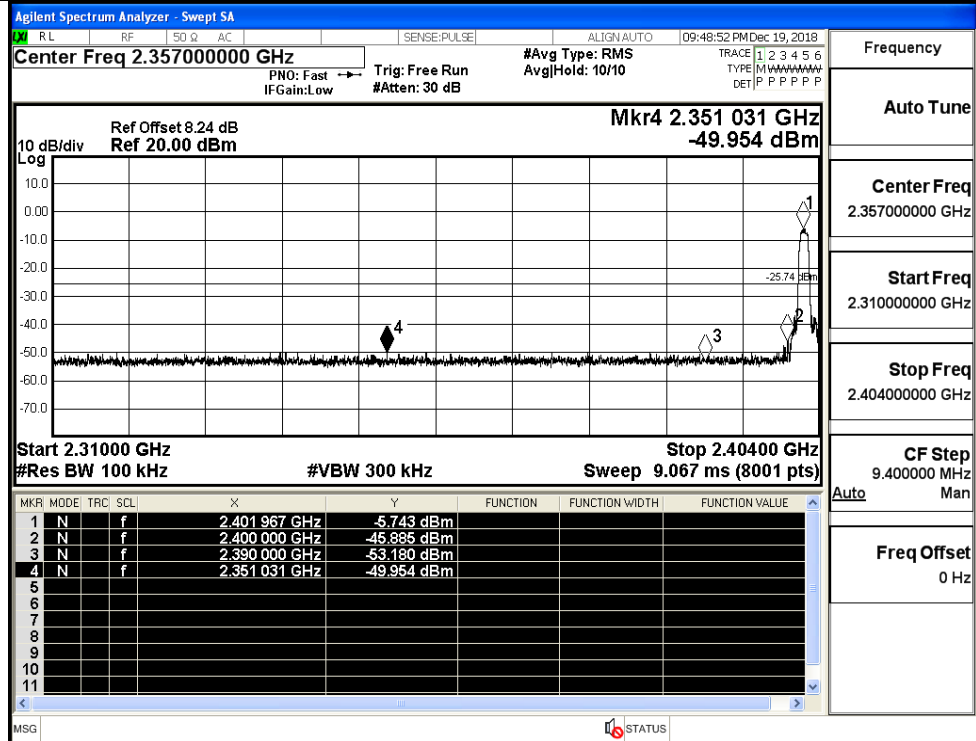
π /4DQPSK/HCH/No
Hop



π /4DQPSK/HCH/Hop

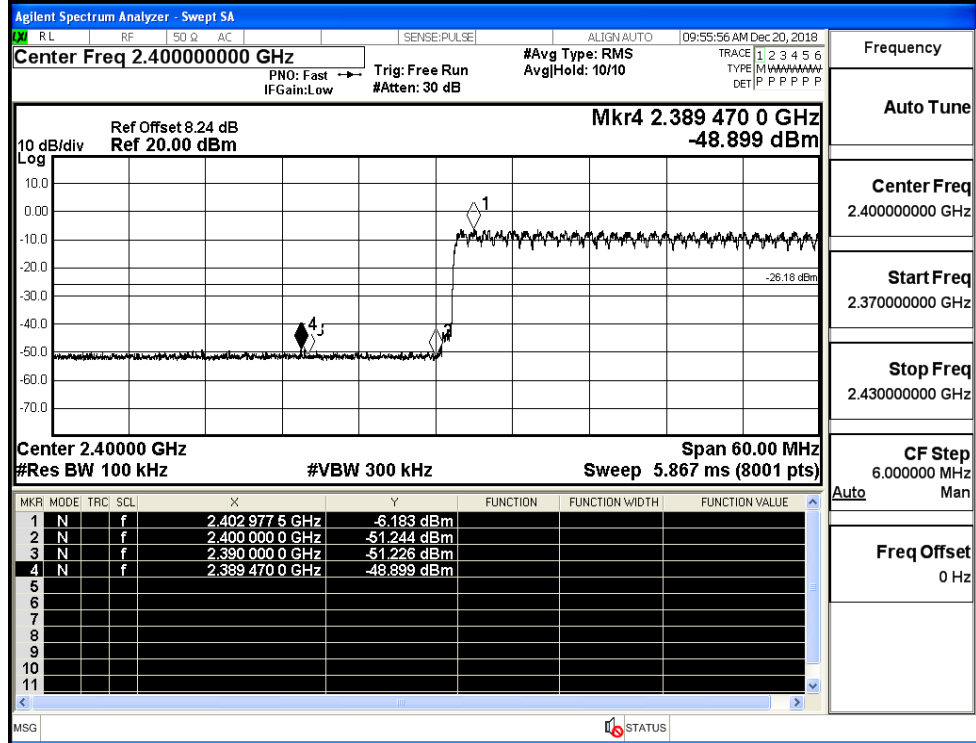


8DPSK/LCH/No Hop



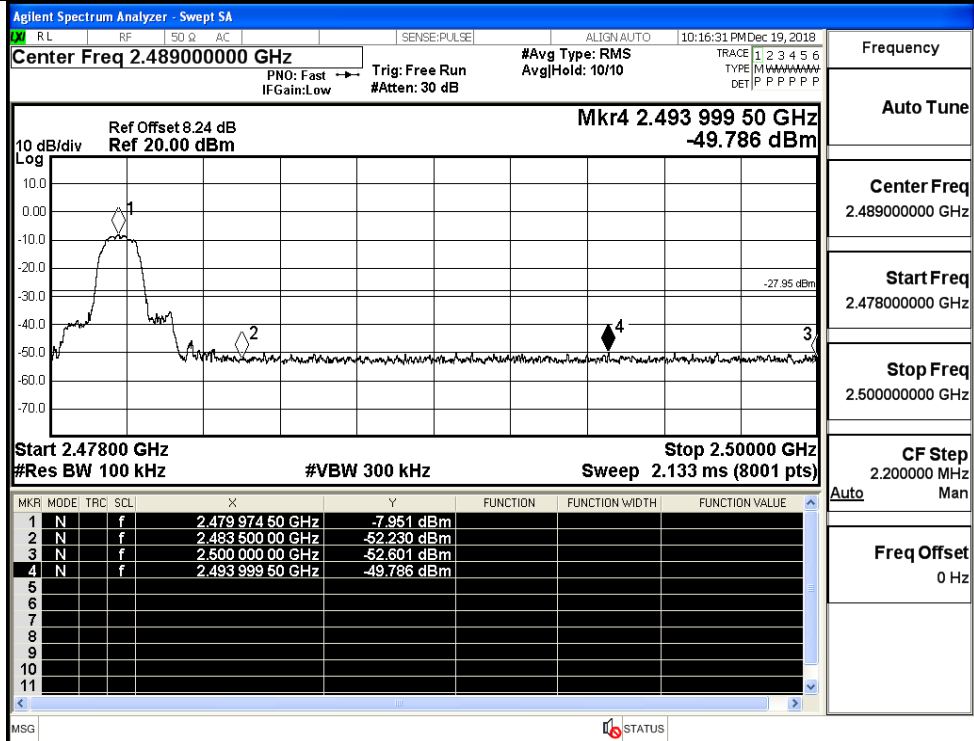
Frequency	
Auto Tune	
Center Freq	2.357000000 GHz
Start Freq	2.310000000 GHz
Stop Freq	2.404000000 GHz
CF Step	9.400000 MHz
Freq Offset	0 Hz

8DPSK/LCH/Hop



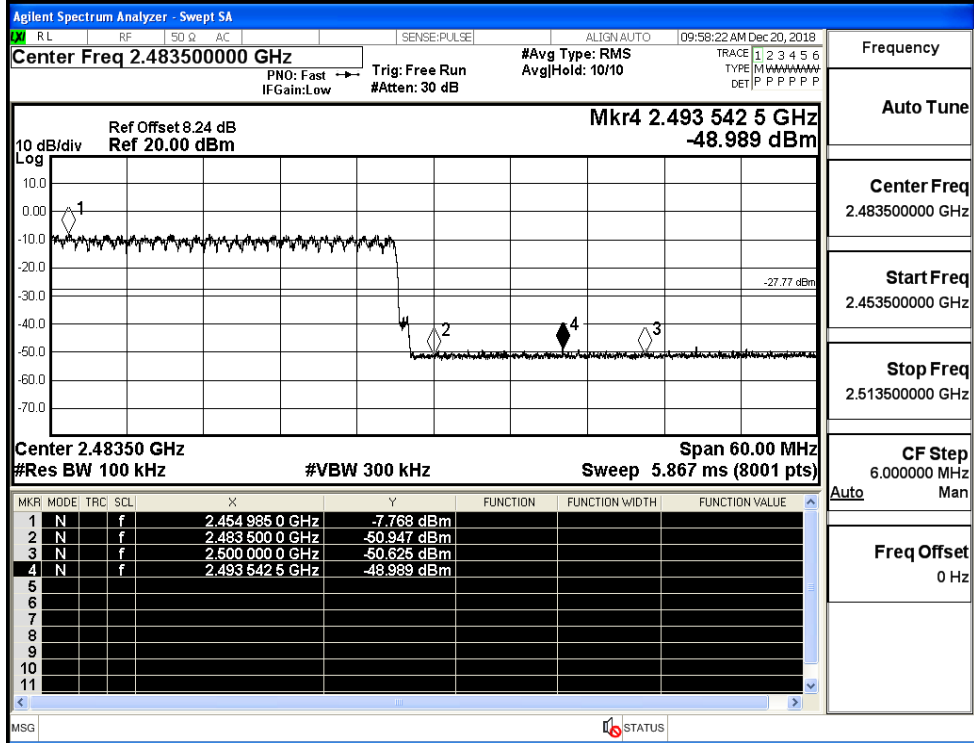
Frequency	
Auto Tune	
Center Freq	2.400000000 GHz
Start Freq	2.370000000 GHz
Stop Freq	2.430000000 GHz
CF Step	6.000000 MHz
Freq Offset	0 Hz

8DPSK/HCH/No Hop



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

8DPSK/HCH/Hop

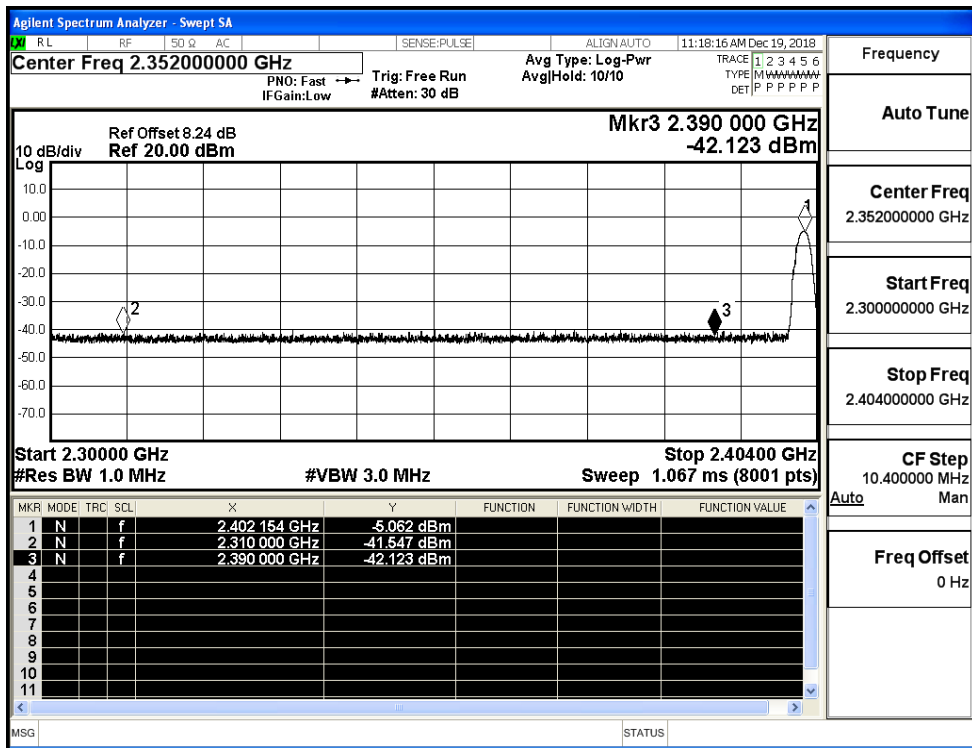


Frequency
Auto Tune
Center Freq
2.483500000 GHz
Start Freq
2.453500000 GHz
Stop Freq
2.513500000 GHz
CF Step
6.000000 MHz
Auto Man
Freq Offset
0 Hz

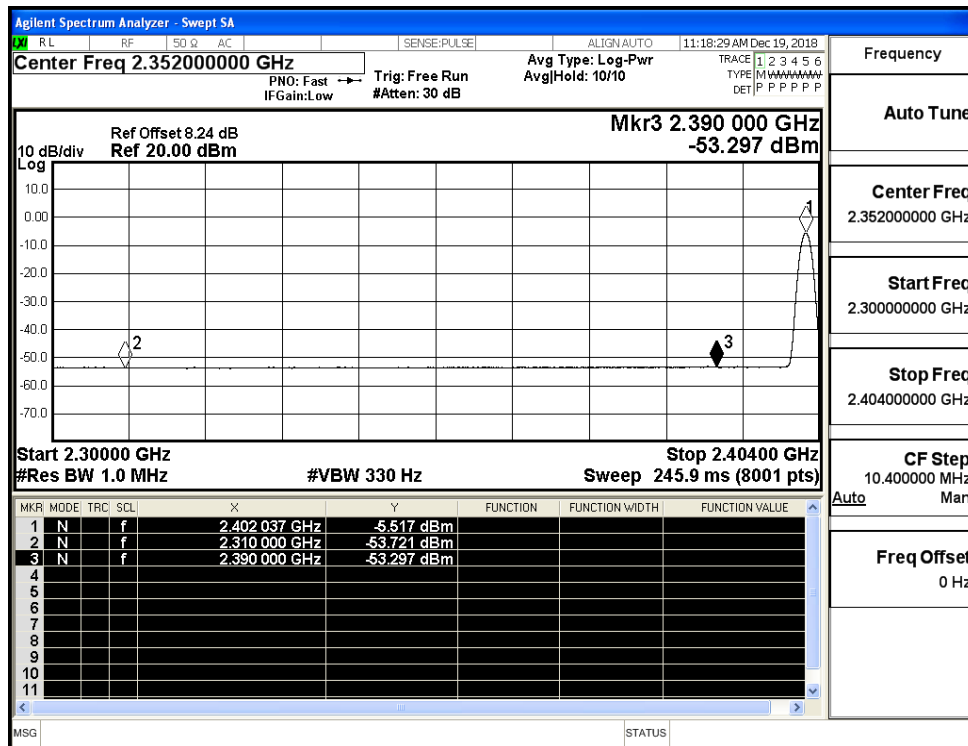
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-41.55	2.0	0	53.71	PEAK	74	PASS
	Off	2310.0	-53.72	2.0	0	41.54	AV	54	PASS
	Off	2390.0	-42.12	2.0	0	53.13	PEAK	74	PASS
	Off	2390.0	-53.30	2.0	0	41.96	AV	54	PASS
	Off	2483.5	-43.44	2.0	0	51.82	PEAK	74	PASS
	Off	2483.5	-53.16	2.0	0	42.10	AV	54	PASS
	Off	2500.0	-43.32	2.0	0	51.93	PEAK	74	PASS
	Off	2500.0	-52.94	2.0	0	42.32	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.07	2.0	0	52.19	PEAK	74	PASS
	Off	2310.0	-53.68	2.0	0	41.58	AV	54	PASS
	Off	2390.0	-43.18	2.0	0	52.08	PEAK	74	PASS
	Off	2390.0	-53.38	2.0	0	41.88	AV	54	PASS
	Off	2483.5	-44.02	2.0	0	51.23	PEAK	74	PASS
	Off	2483.5	-53.10	2.0	0	42.16	AV	54	PASS
	Off	2500.0	-40.58	2.0	0	54.68	PEAK	74	PASS
	Off	2500.0	-52.97	2.0	0	42.29	AV	54	PASS
8DPSK	Off	2310.0	-43.42	2.0	0	51.84	PEAK	74	PASS
	Off	2310.0	-53.63	2.0	0	41.63	AV	54	PASS
	Off	2390.0	-42.78	2.0	0	52.48	PEAK	74	PASS
	Off	2390.0	-53.39	2.0	0	41.87	AV	54	PASS
	Off	2483.5	-42.80	2.0	0	52.46	PEAK	74	PASS
	Off	2483.5	-53.08	2.0	0	42.18	AV	54	PASS
	Off	2500.0	-42.94	2.0	0	52.31	PEAK	74	PASS
	Off	2500.0	-52.86	2.0	0	42.40	AV	54	PASS

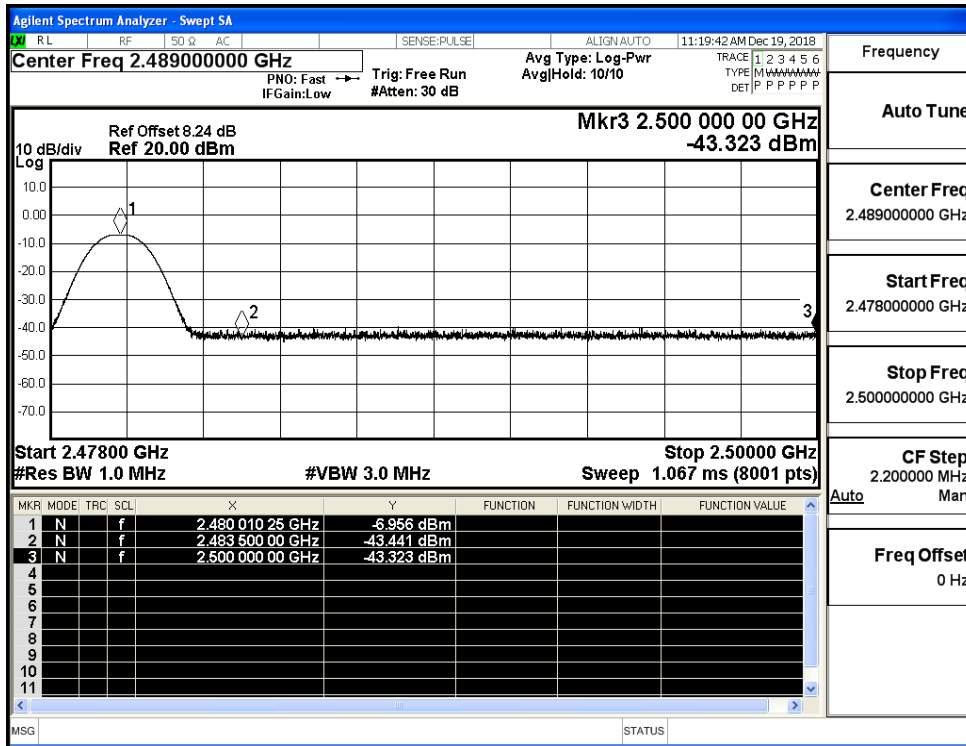
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



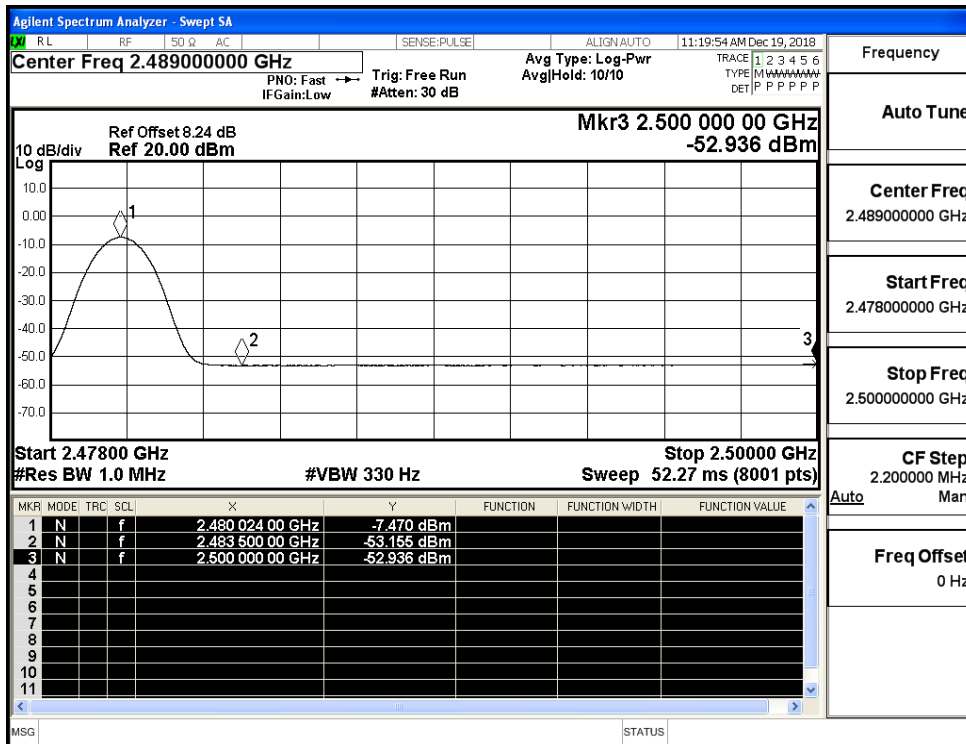
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



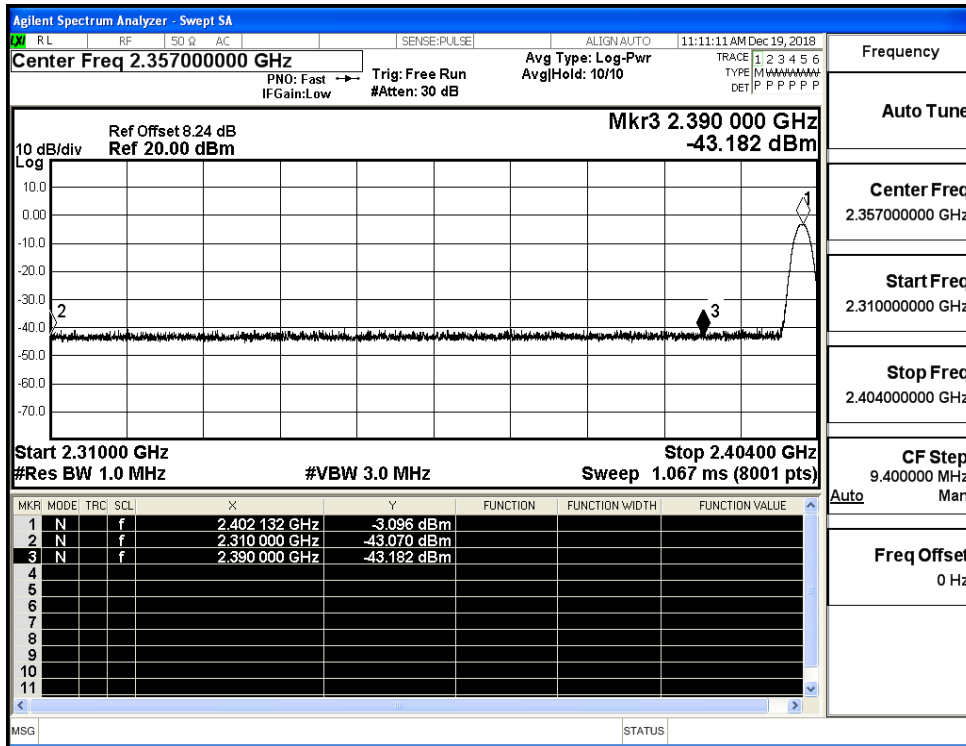
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



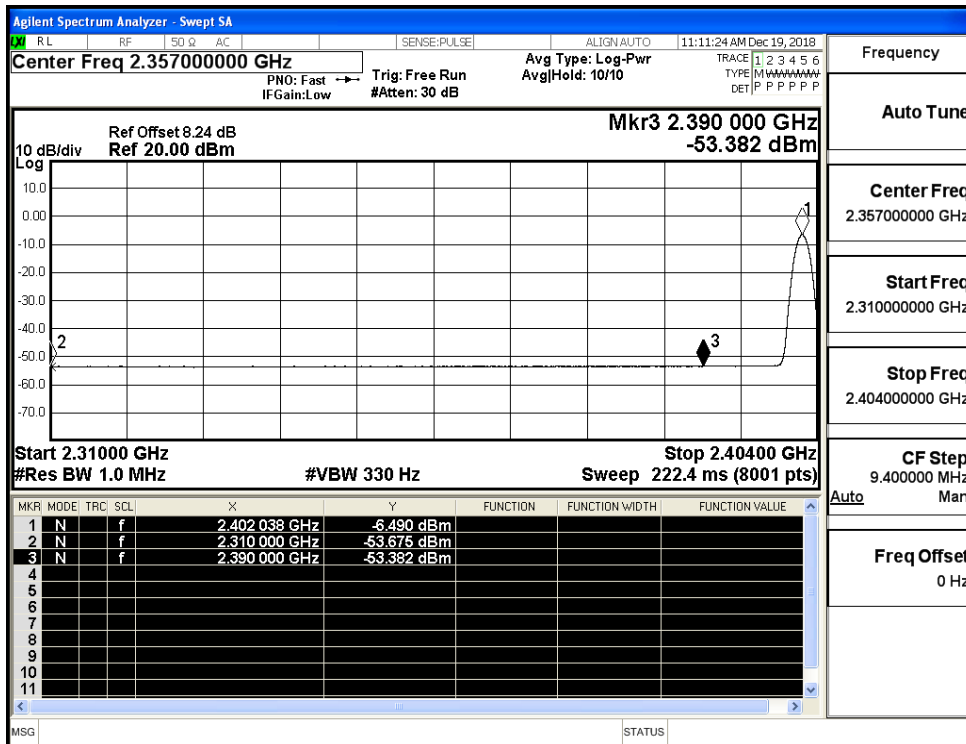
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



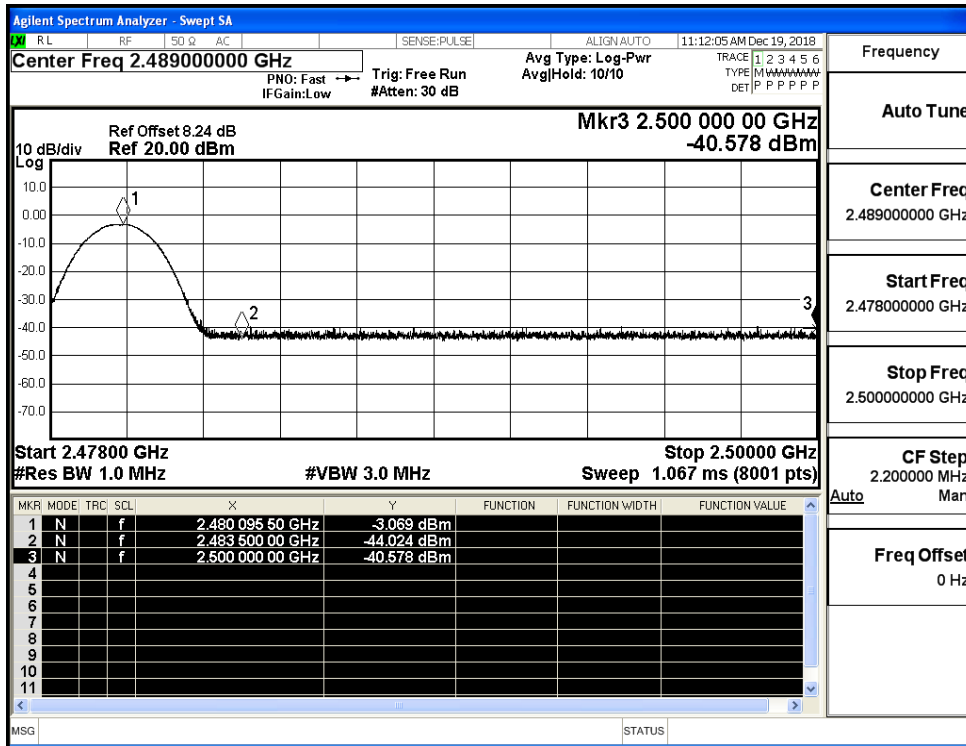
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)



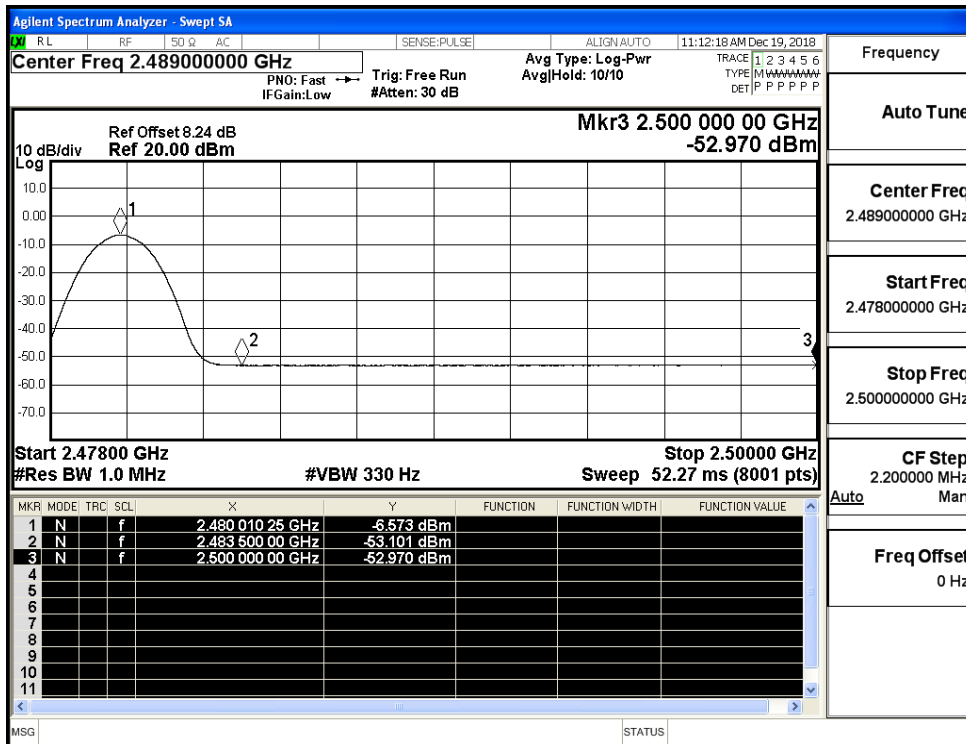
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (High Channel)



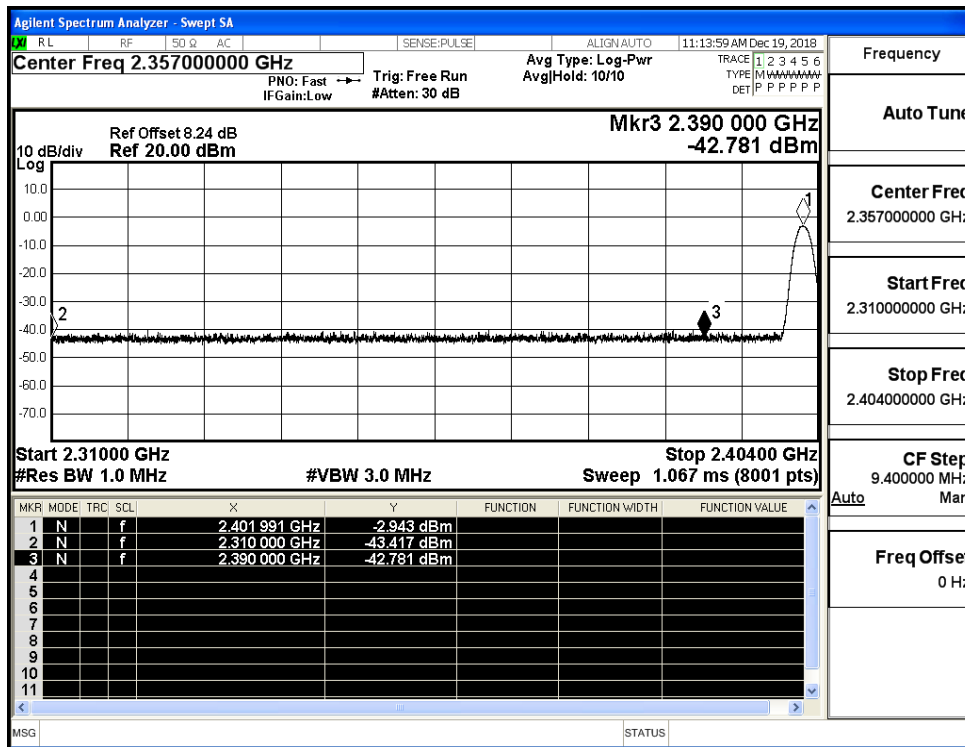
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (High Channel)



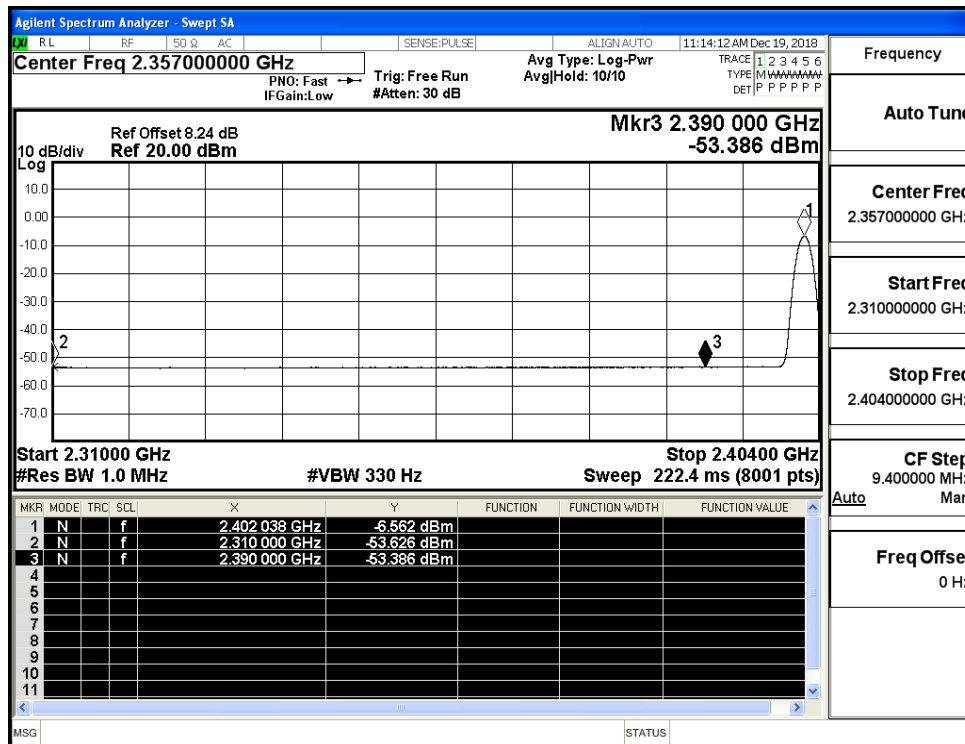
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (High Channel)



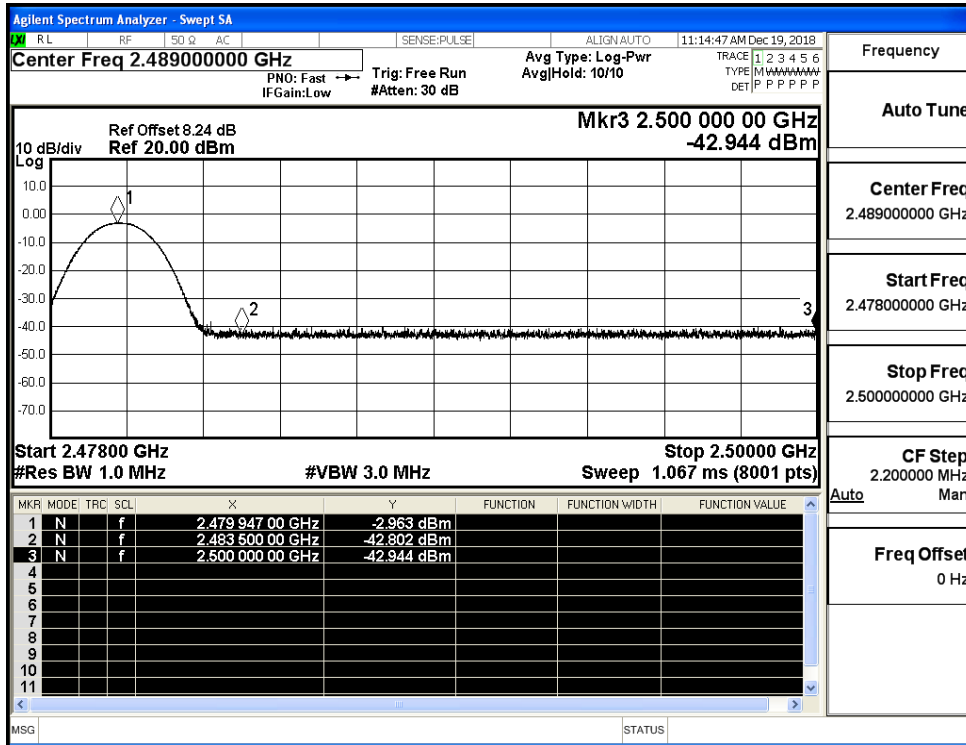
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

