

Appendix A

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

Product Name: Tablet

HYUNDAI

Trade Mark:

Test Model: 10LB2

Environmental Conditions

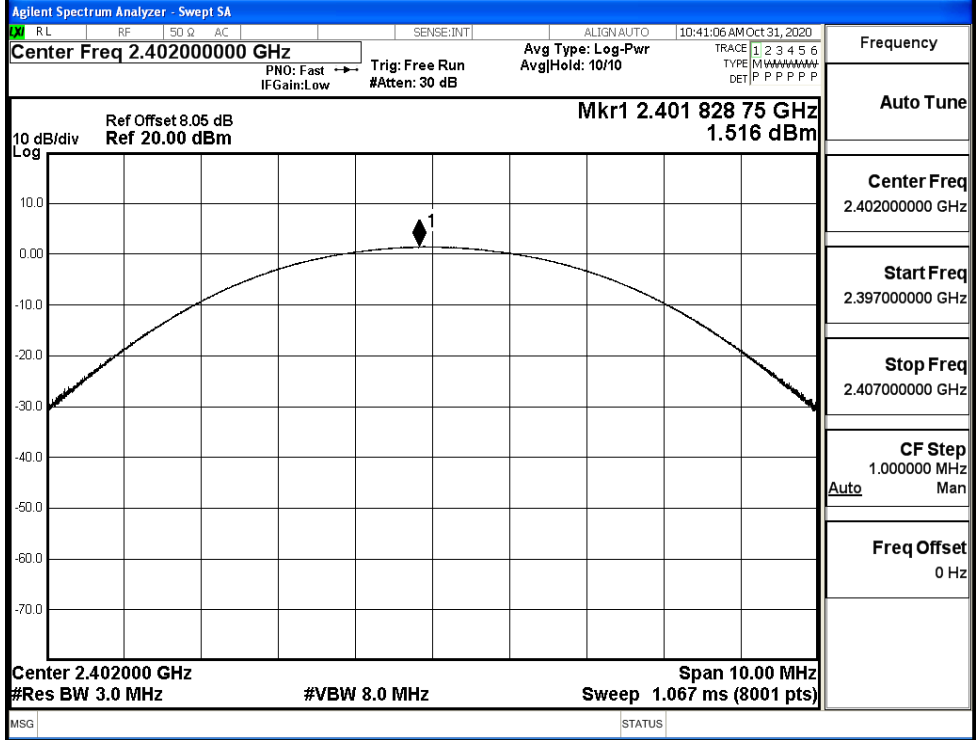
Temperature:	22.7° C
Relative Humidity:	53.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.516	21	PASS
	MCH	1.070	21	PASS
	HCH	2.247	21	PASS
$\pi/4$ DQPSK	LCH	0.798	21	PASS
	MCH	0.354	21	PASS
	HCH	1.632	21	PASS
8DPSK	LCH	0.746	21	PASS
	MCH	0.327	21	PASS
	HCH	1.517	21	PASS

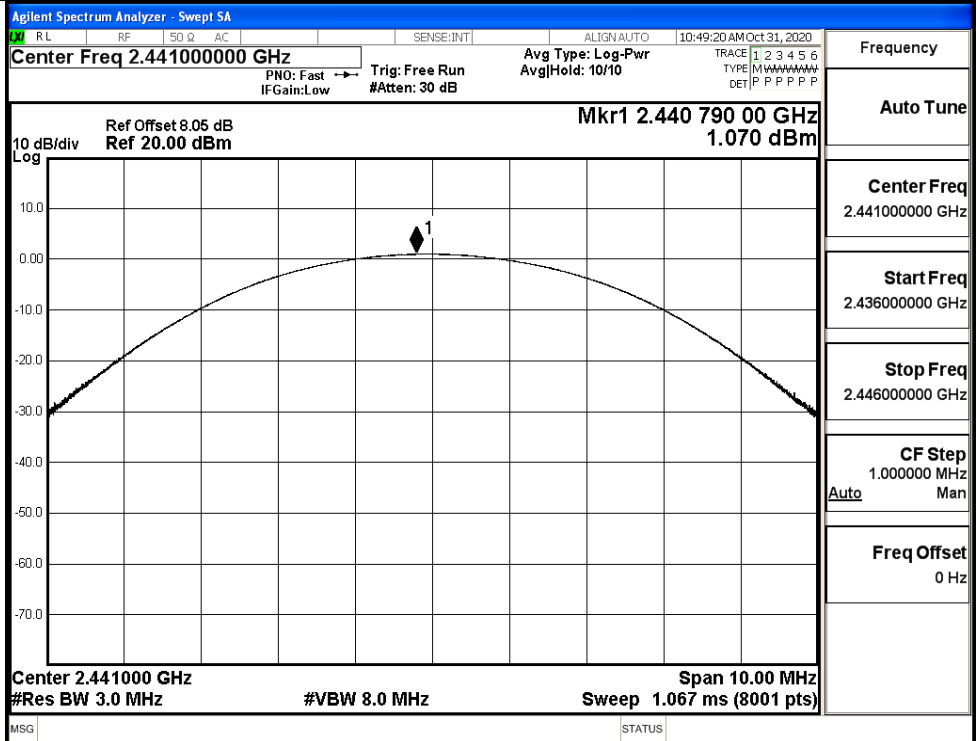
Test Graphs

GFSK/LCH

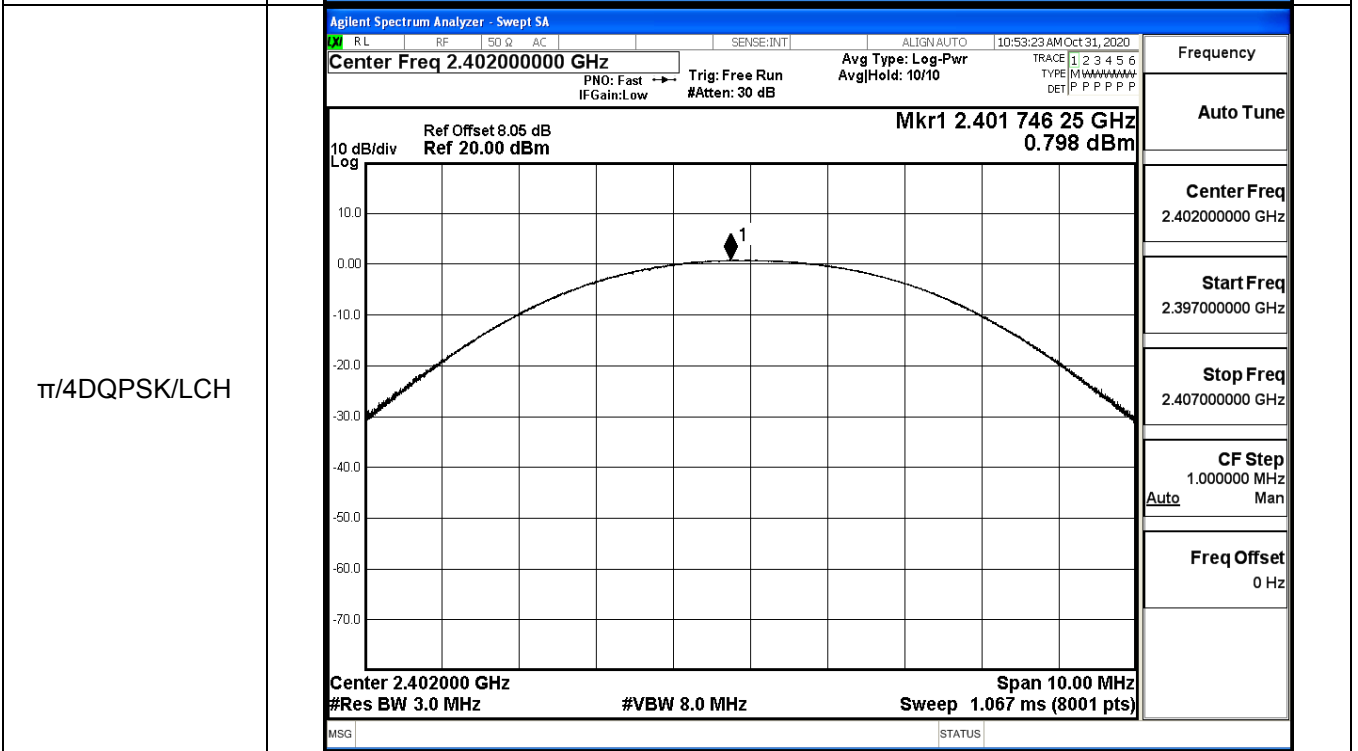
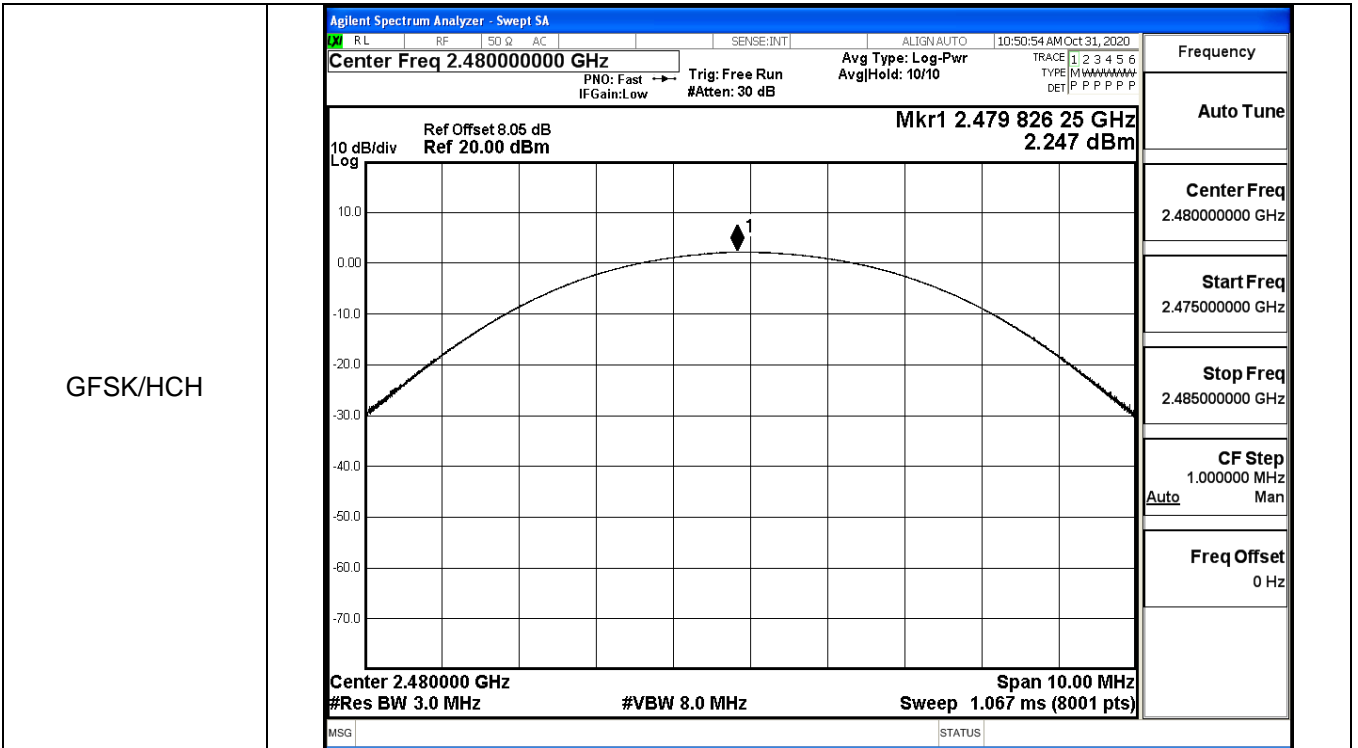


Frequency	2.402000000 GHz
Auto Tune	
Center Freq	2.402000000 GHz
Start Freq	2.397000000 GHz
Stop Freq	2.407000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

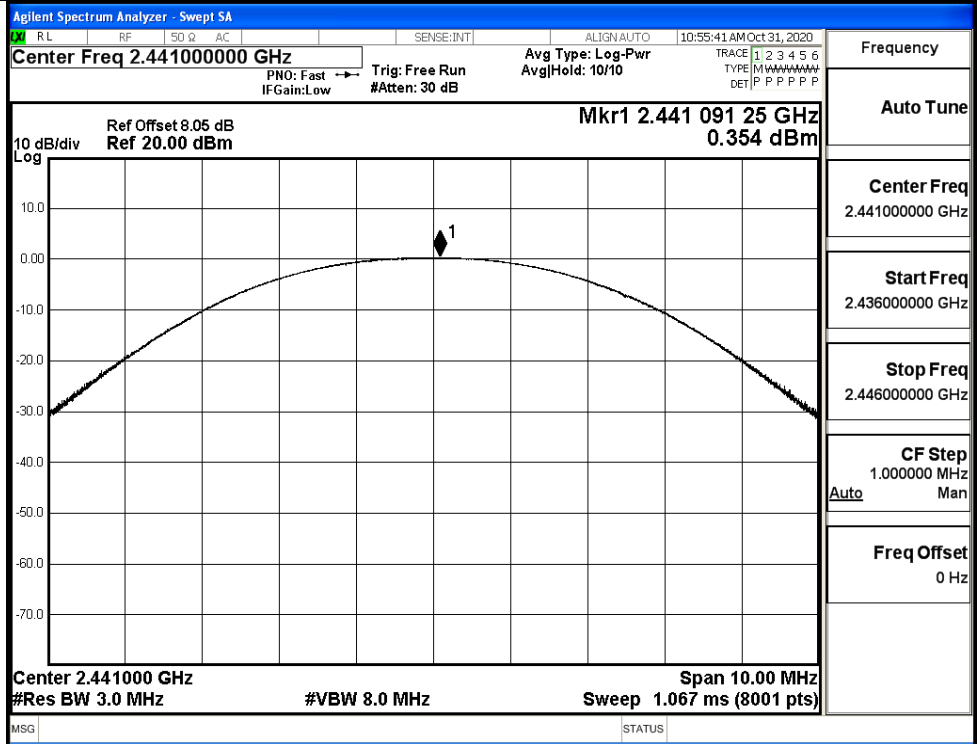
GFSK/MCH



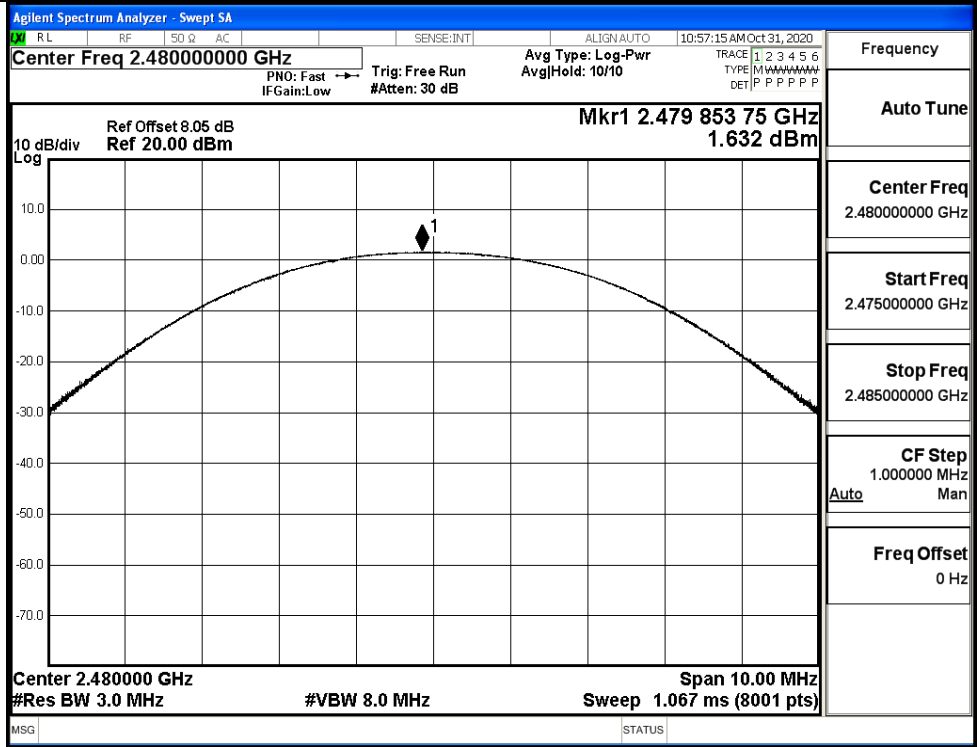
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Start Freq	2.436000000 GHz
Stop Freq	2.446000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz



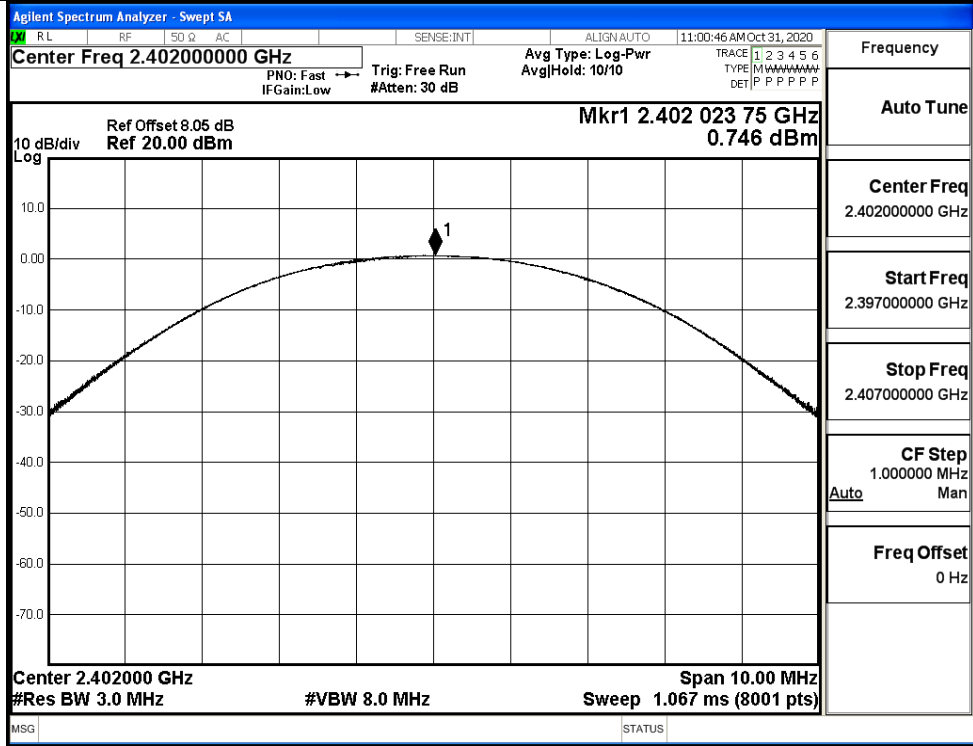
$\pi/4$ DQPSK/MCH



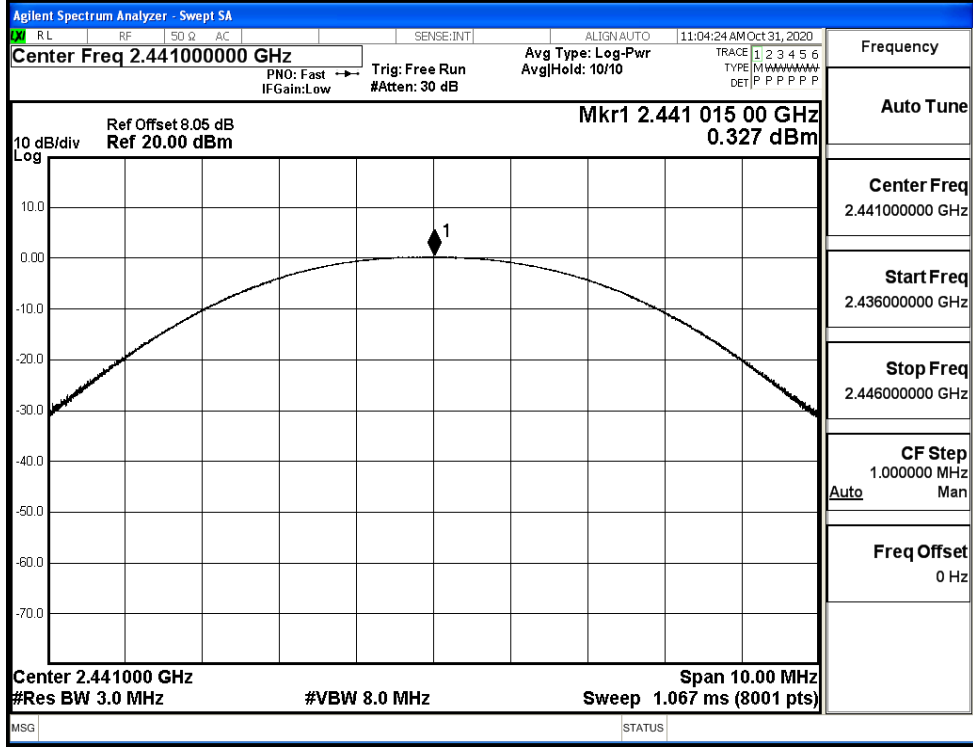
$\pi/4$ DQPSK/HCH



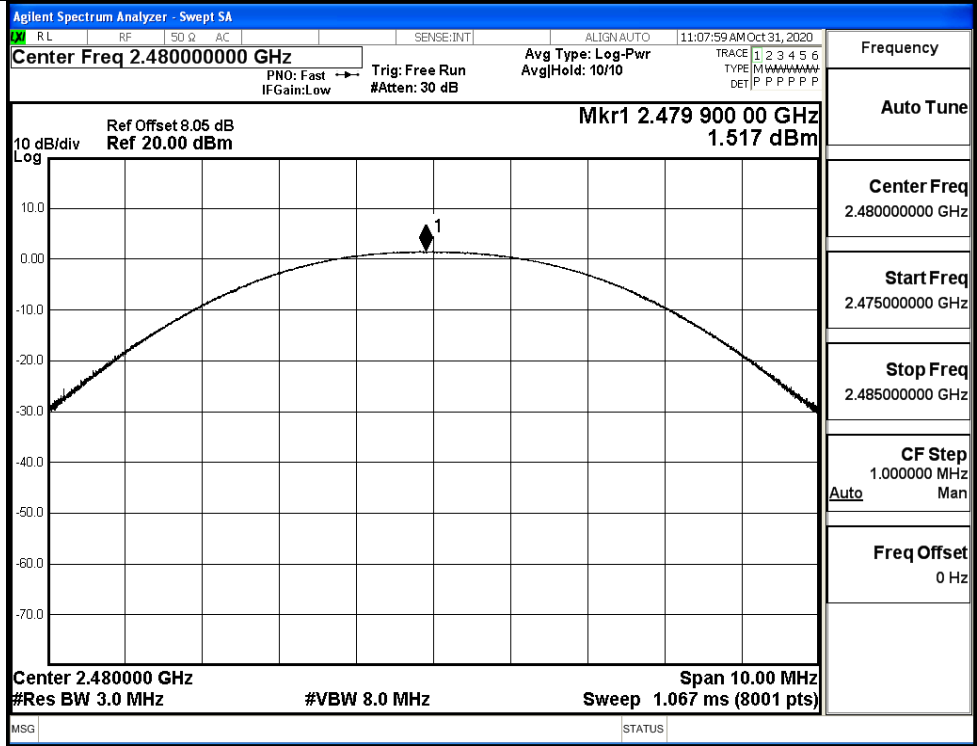
8DPSK/LCH



8DPSK/MCH

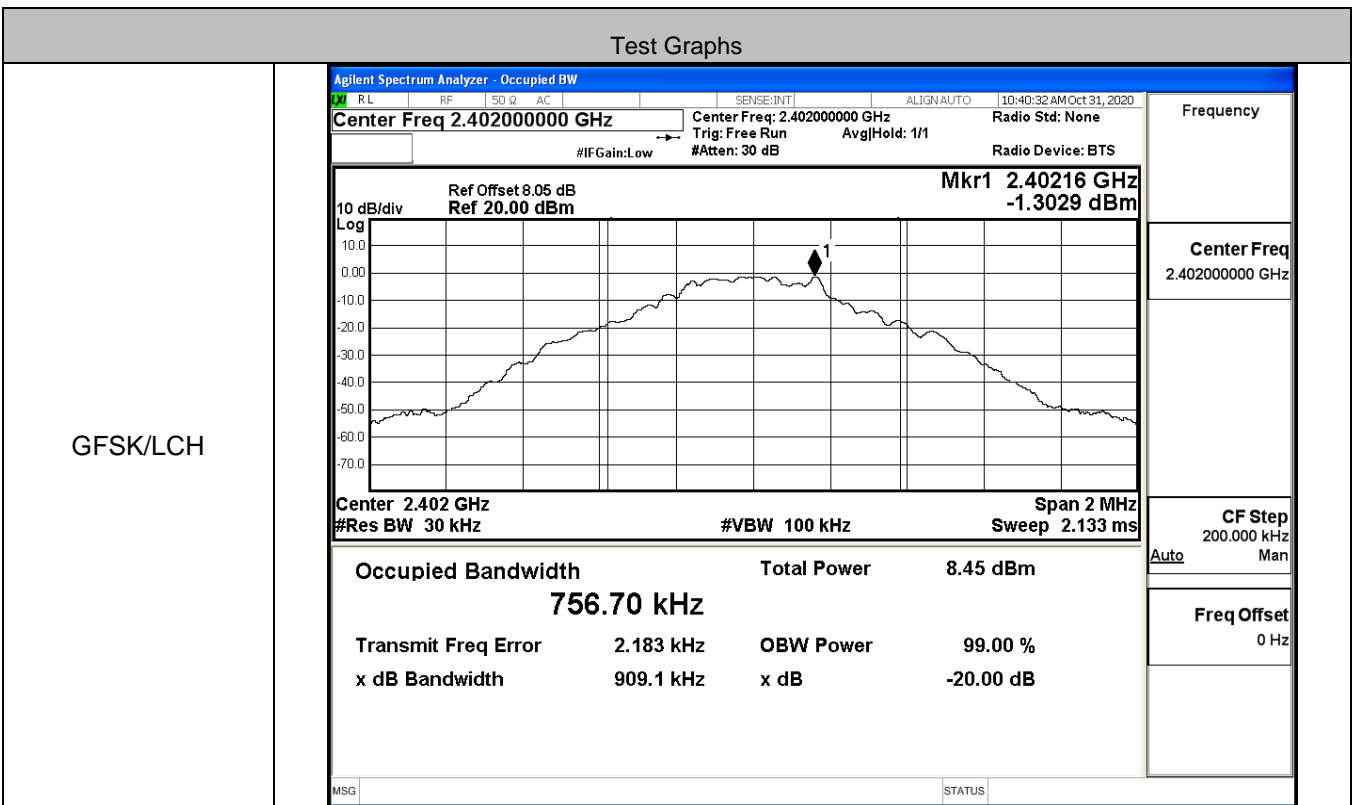


8DPSK/HCH

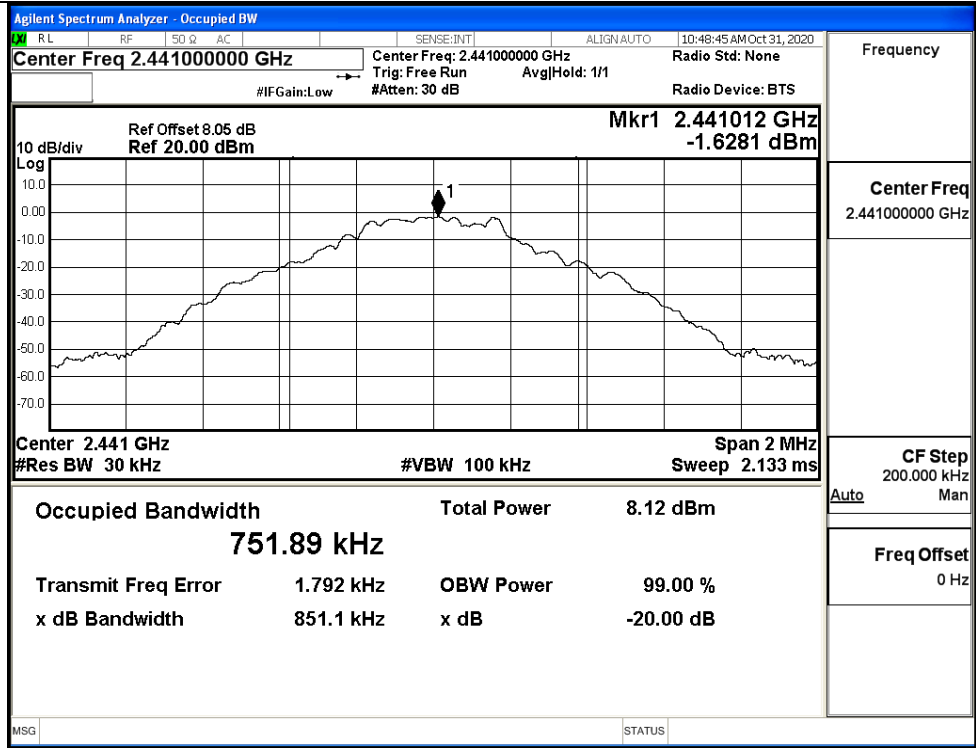


A.2 20dB Bandwidth

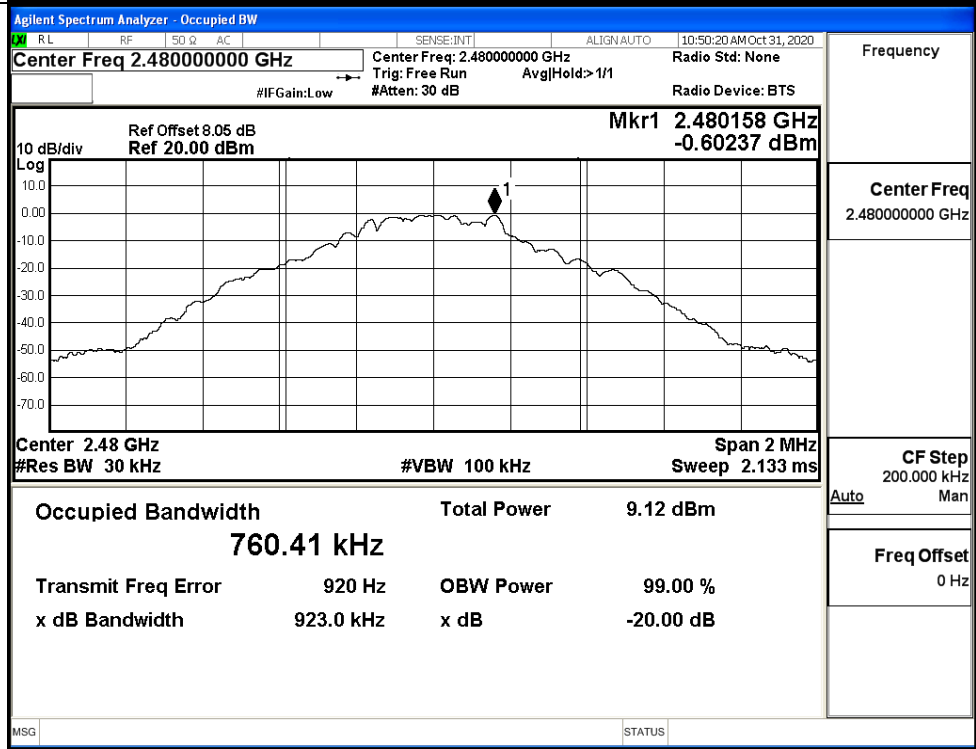
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9091	Not Specified	PASS
	MCH	0.8511	Not Specified	PASS
	HCH	0.9230	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.271	Not Specified	PASS
	MCH	1.270	Not Specified	PASS
	HCH	1.272	Not Specified	PASS
8DPSK	LCH	1.273	Not Specified	PASS
	MCH	1.270	Not Specified	PASS
	HCH	1.275	Not Specified	PASS



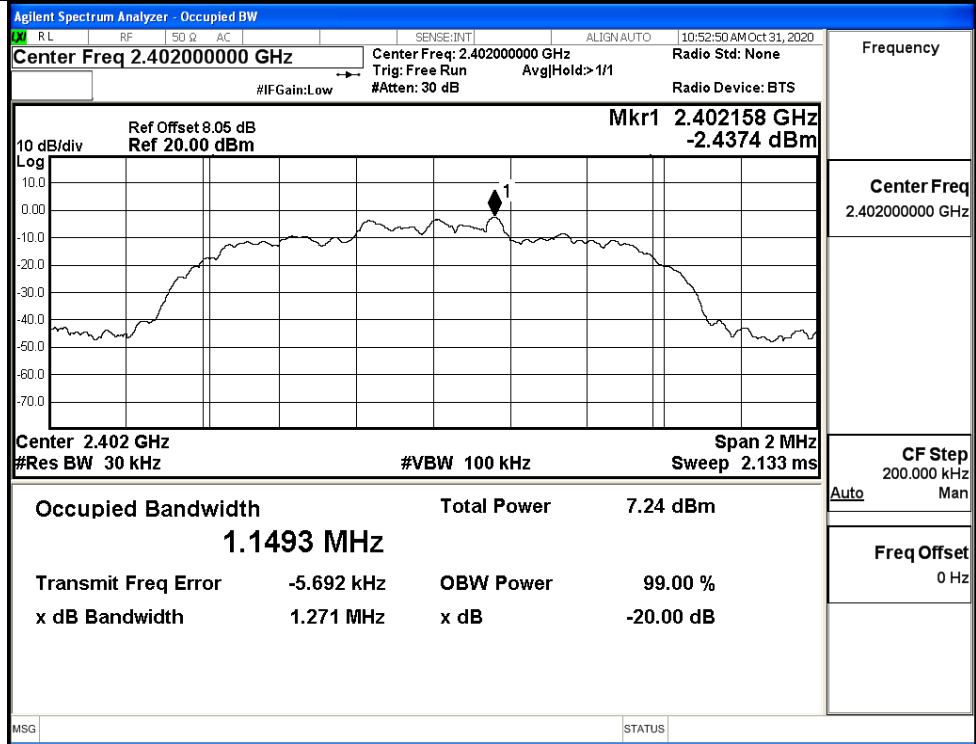
GFSK/MCH



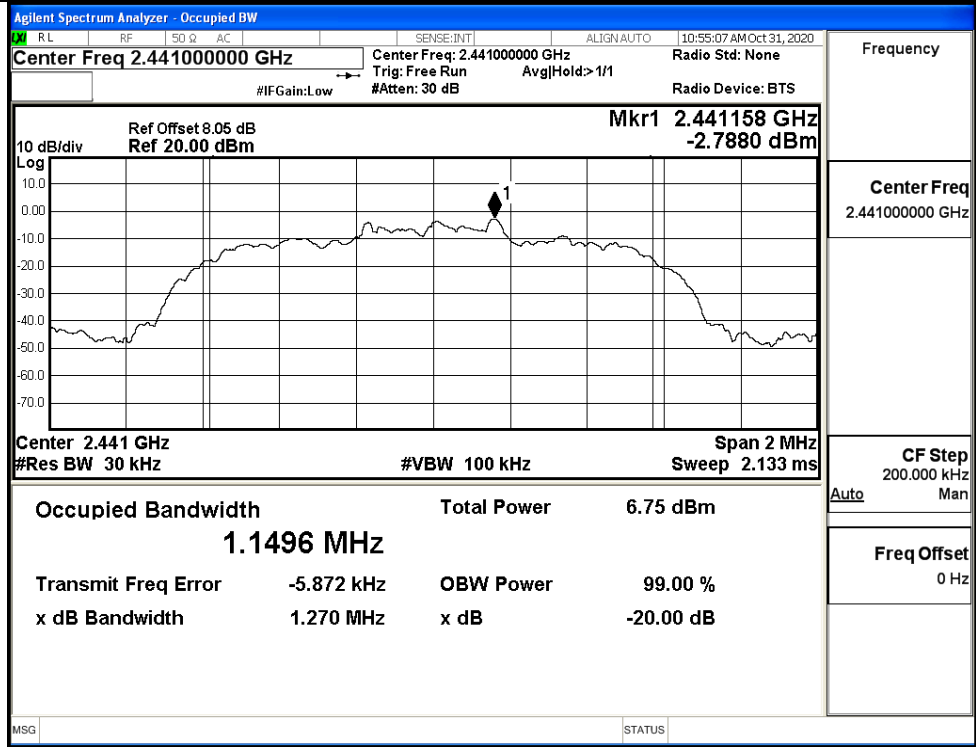
GFSK/HCH



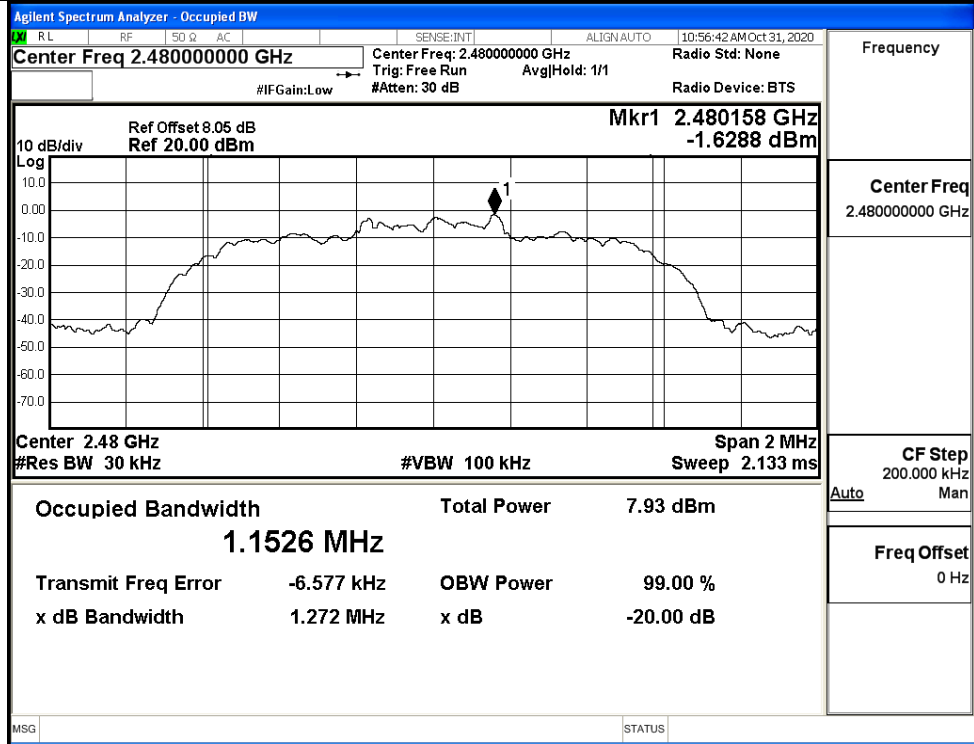
$\pi/4$ DQPSK/LCH



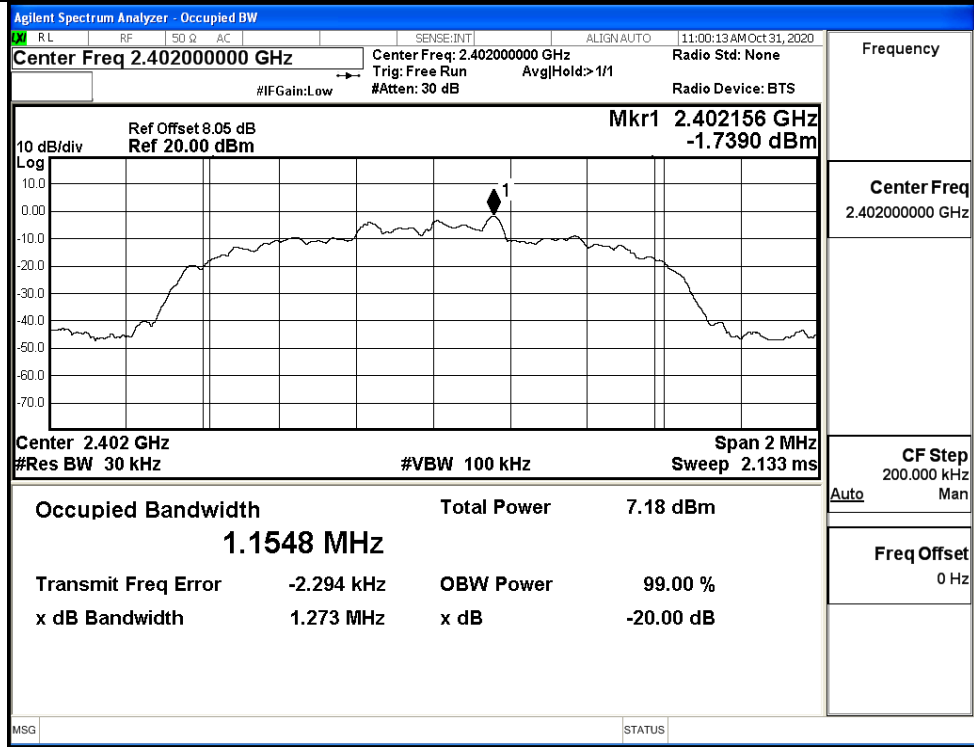
$\pi/4$ DQPSK/MCH



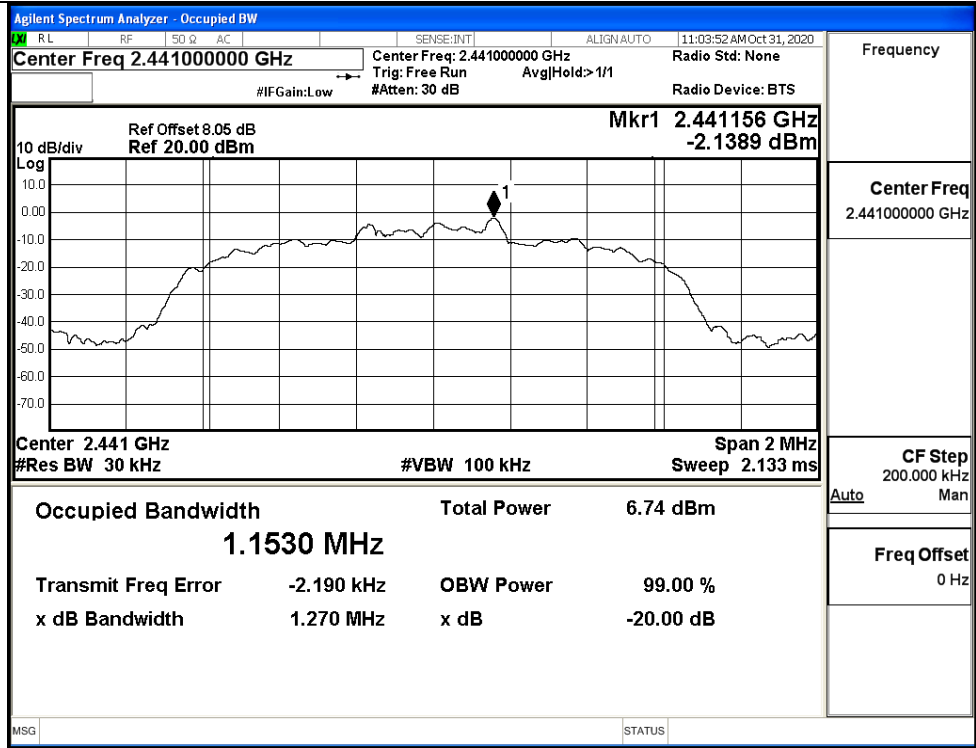
$\pi/4$ DQPSK/HCH



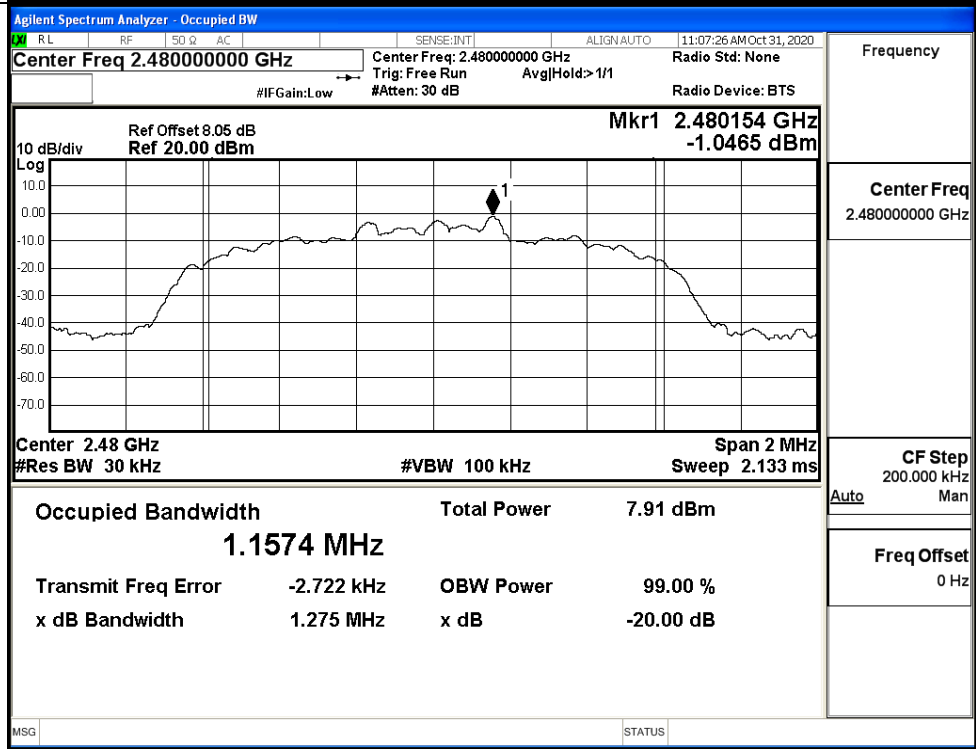
8DPSK/LCH



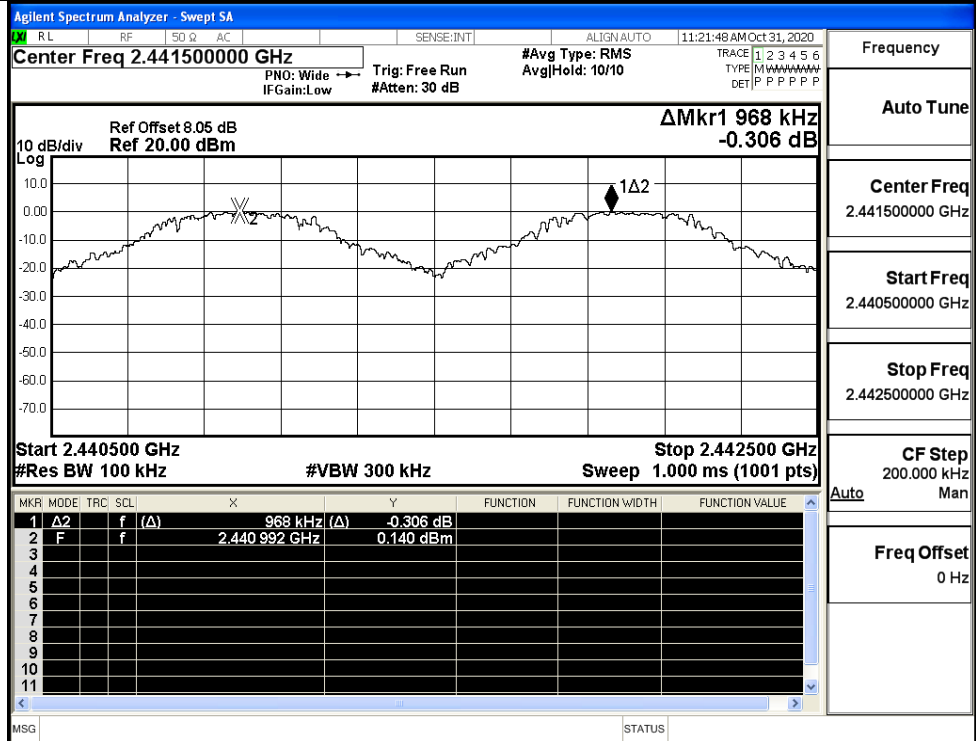
8DPSK/MCH



8DPSK/HCH



GFSK/MCH



Frequency

Auto Tune

Center Freq
2.441500000 GHz

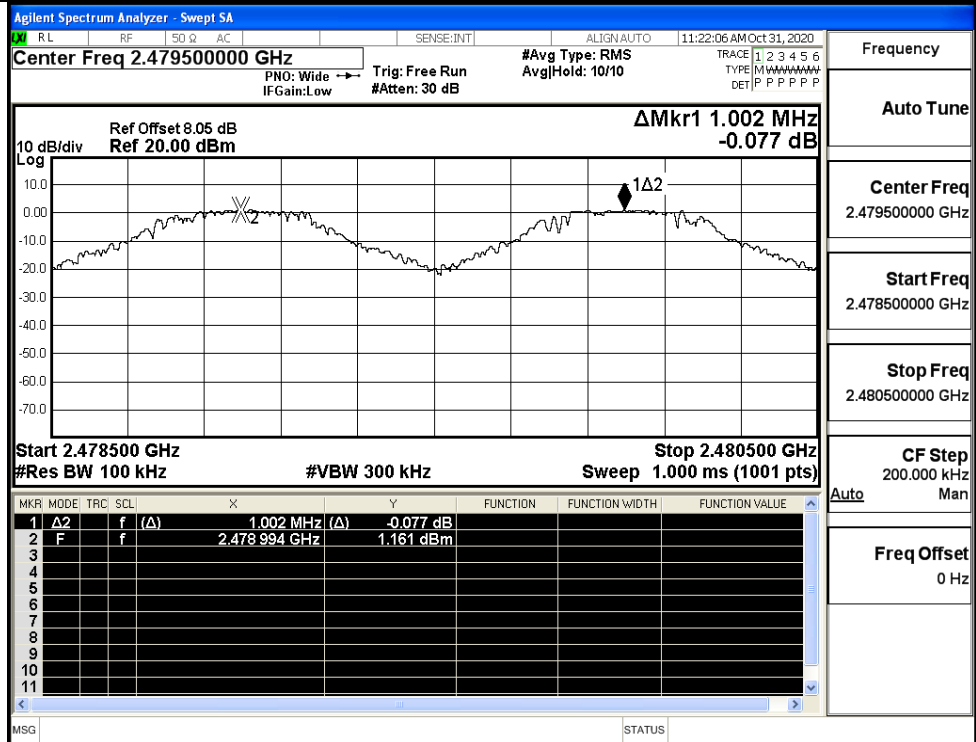
Start Freq
2.440500000 GHz

Stop Freq
2.442500000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

GFSK/HCH



Frequency

Auto Tune

Center Freq
2.479500000 GHz

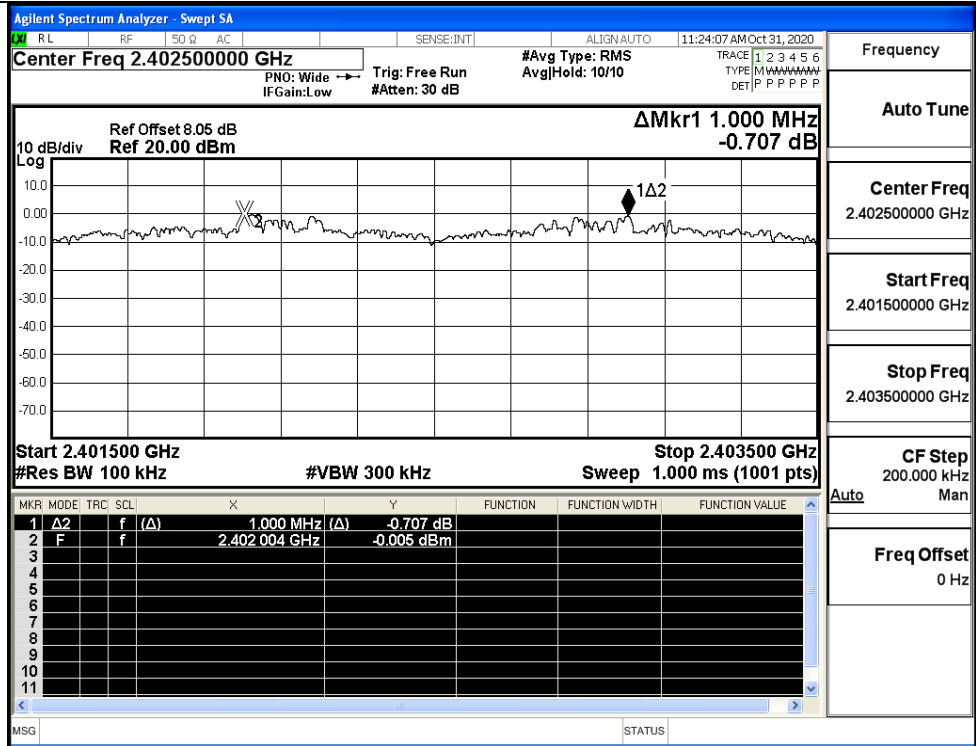
Start Freq
2.478500000 GHz

Stop Freq
2.480500000 GHz

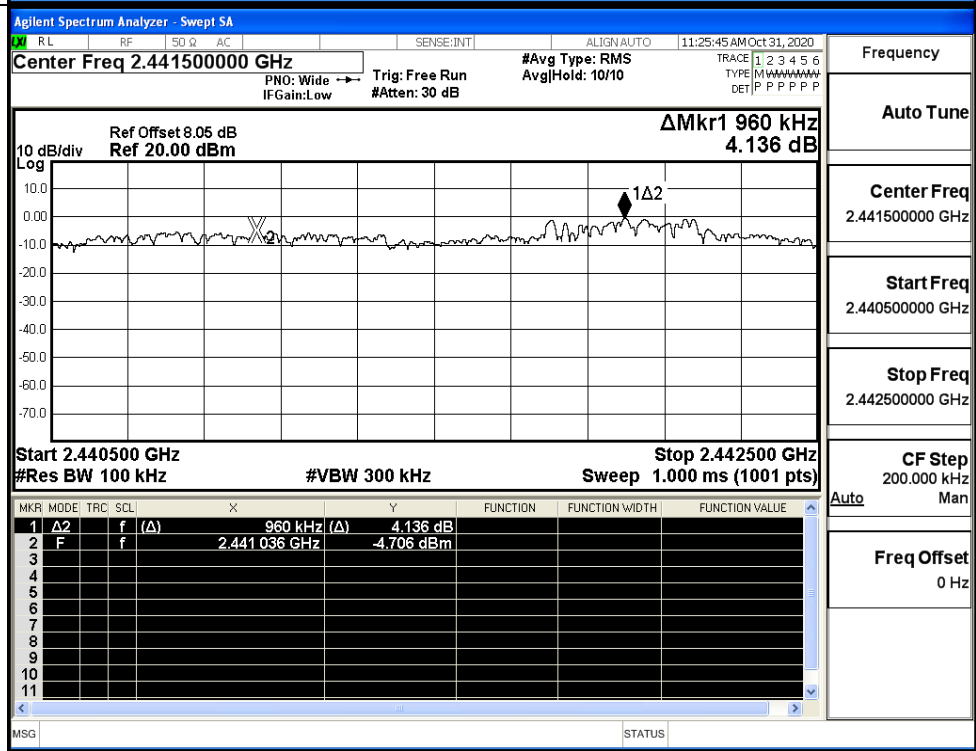
CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

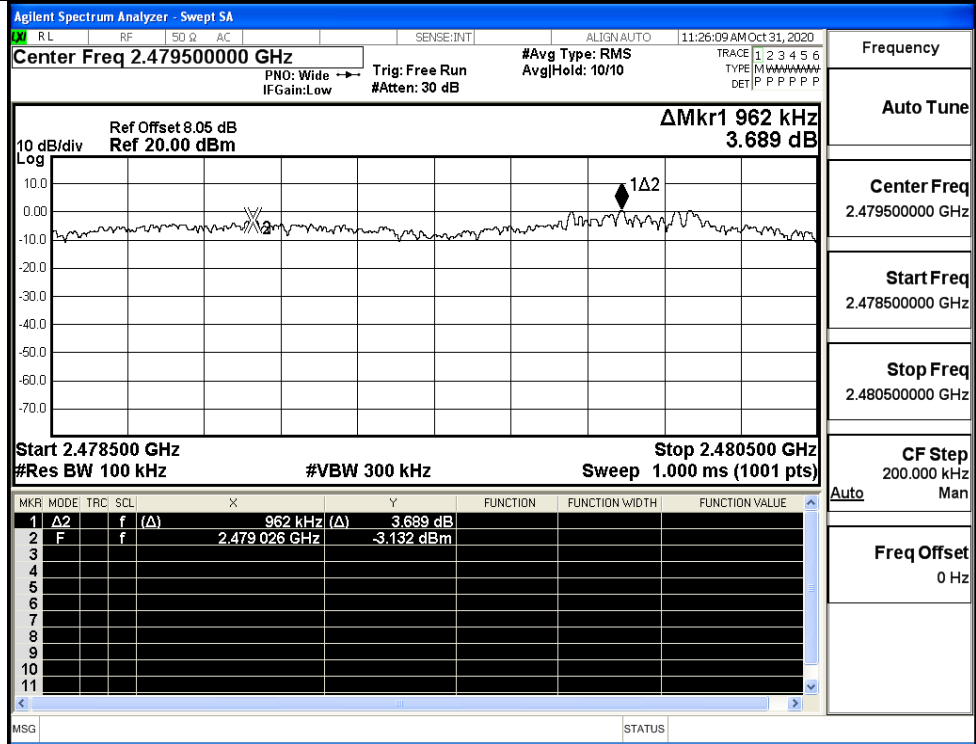
$\pi/4$ DQPSK/LCH



$\pi/4$ DQPSK/MCH

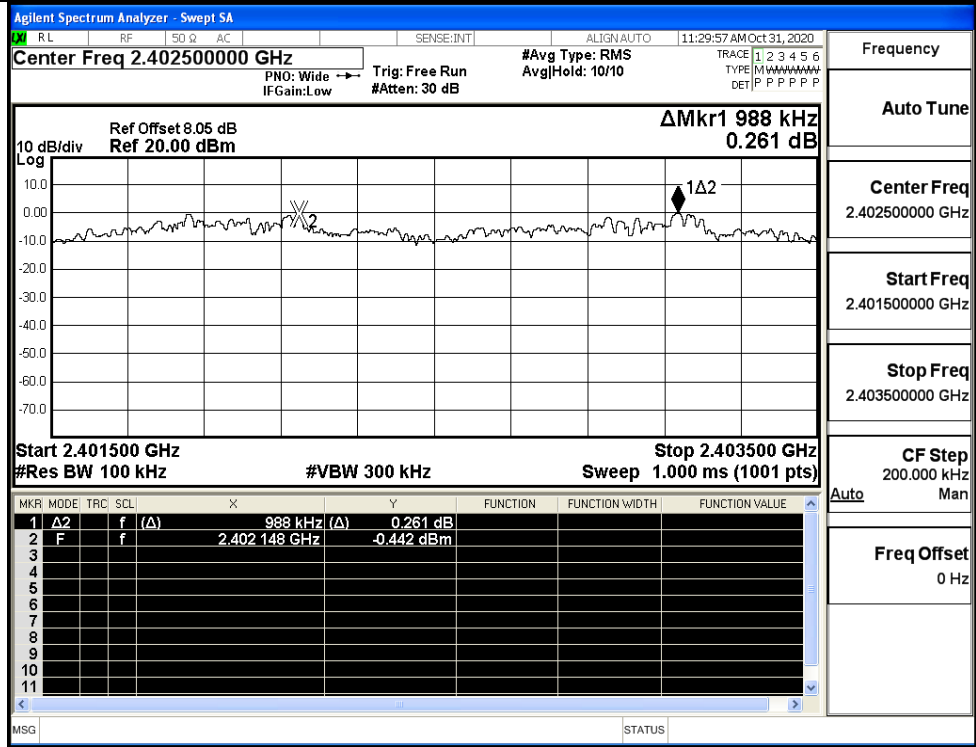


π/4DQPSK/HCH



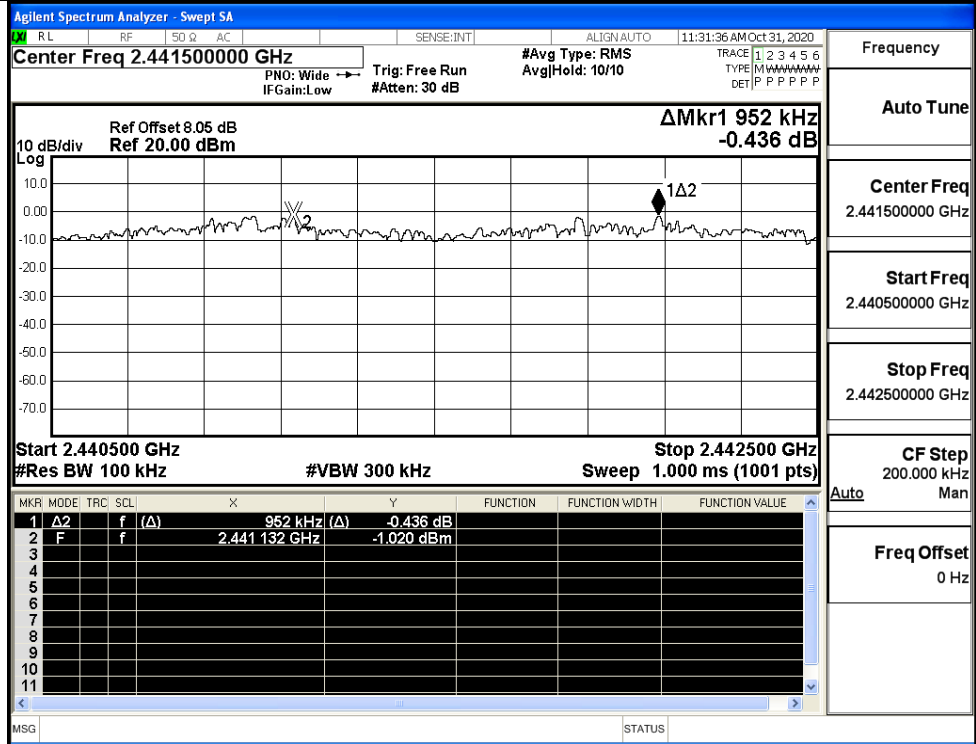
Frequency	2.479500000 GHz
Auto Tune	
Center Freq	2.479500000 GHz
Start Freq	2.478500000 GHz
Stop Freq	2.480500000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

8DPSK/LCH

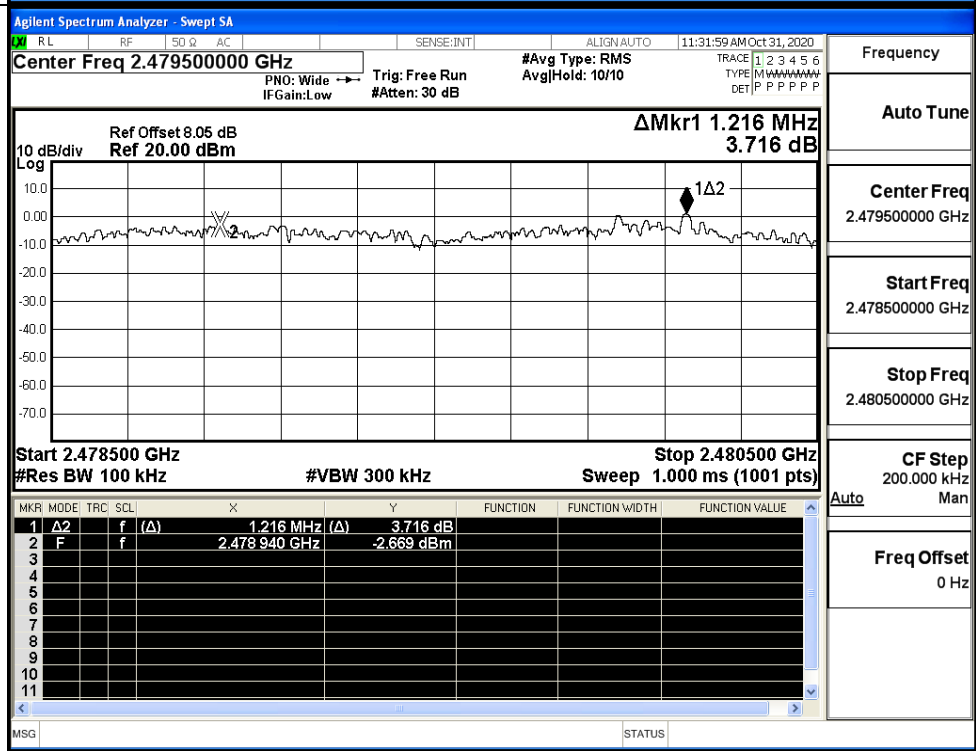


Frequency	2.402500000 GHz
Auto Tune	
Center Freq	2.402500000 GHz
Start Freq	2.401500000 GHz
Stop Freq	2.403500000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

8DPSK/MCH



8DPSK/HCH



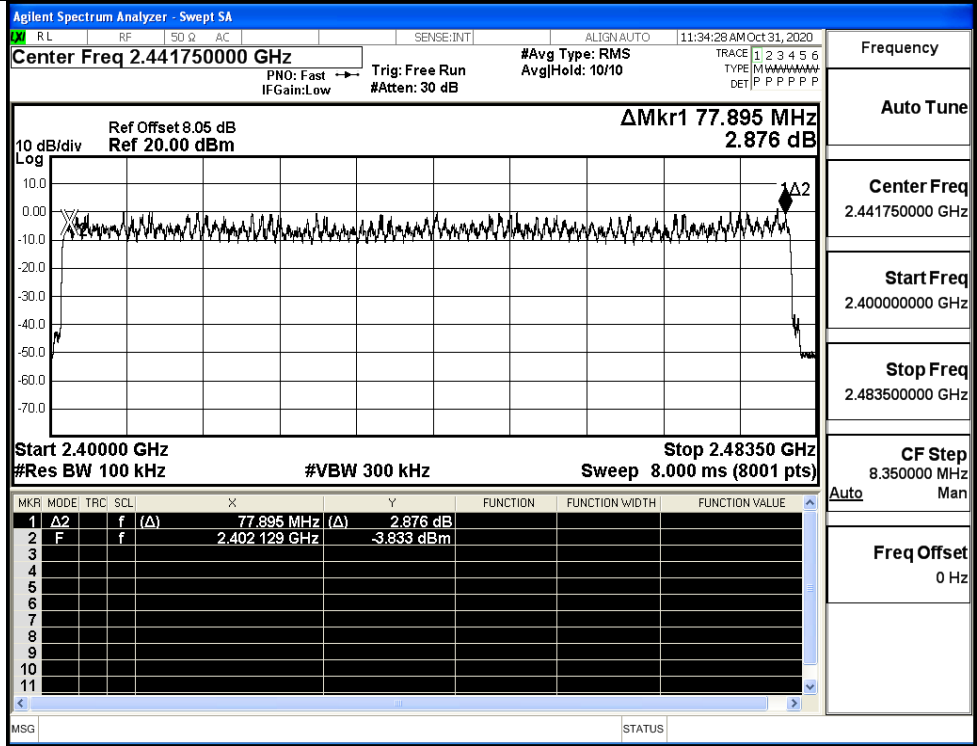
A.4 Hopping Channel Number

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

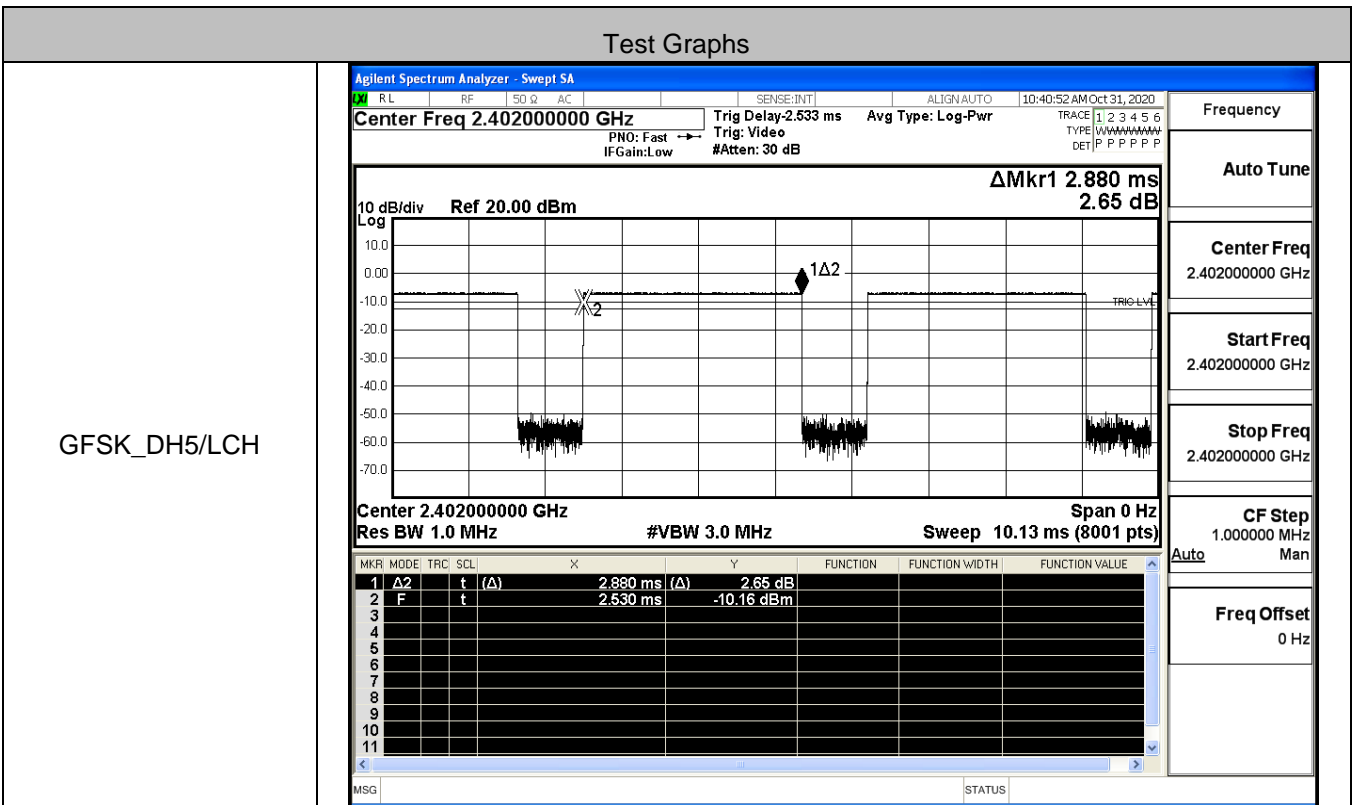
GFSK/Hop	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.441750000 GHz Ref Offset 8.05 dB Ref 20.00 dBm ΔMkr1 78.041 MHz 0.057 dB Start 2.40000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.48350 GHz Sweep 8.000 ms (8001 pts)</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <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 (Δ)</td> <td>0.057 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td>(Δ)</td> <td>2.402 004 GHz</td> <td>0.931 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 (Δ)	0.057 dB				2	F	f	(Δ)	2.402 004 GHz	0.931 dBm				Frequency Auto Tune Center Freq 2.441750000 GHz Start Freq 2.400000000 GHz Stop Freq 2.483500000 GHz CF Step 8.350000 MHz Auto Man Freq Offset 0 Hz
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$\pi/4$ DQPSK/Hop	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.441750000 GHz Ref Offset 8.05 dB Ref 20.00 dBm ΔMkr1 77.718 MHz 1.058 dB Start 2.40000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.48350 GHz Sweep 8.000 ms (8001 pts)</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <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>1.058 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td>(Δ)</td> <td>2.402 088 GHz</td> <td>-4.470 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)	1.058 dB				2	F	f	(Δ)	2.402 088 GHz	-4.470 dBm				Frequency Auto Tune Center Freq 2.441750000 GHz Start Freq 2.400000000 GHz Stop Freq 2.483500000 GHz CF Step 8.350000 MHz Auto Man Freq Offset 0 Hz
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1	Δ 2	f	(Δ)	77.718 MHz (Δ)	1.058 dB																								
2	F	f	(Δ)	2.402 088 GHz	-4.470 dBm																								

8DPSK/Hop

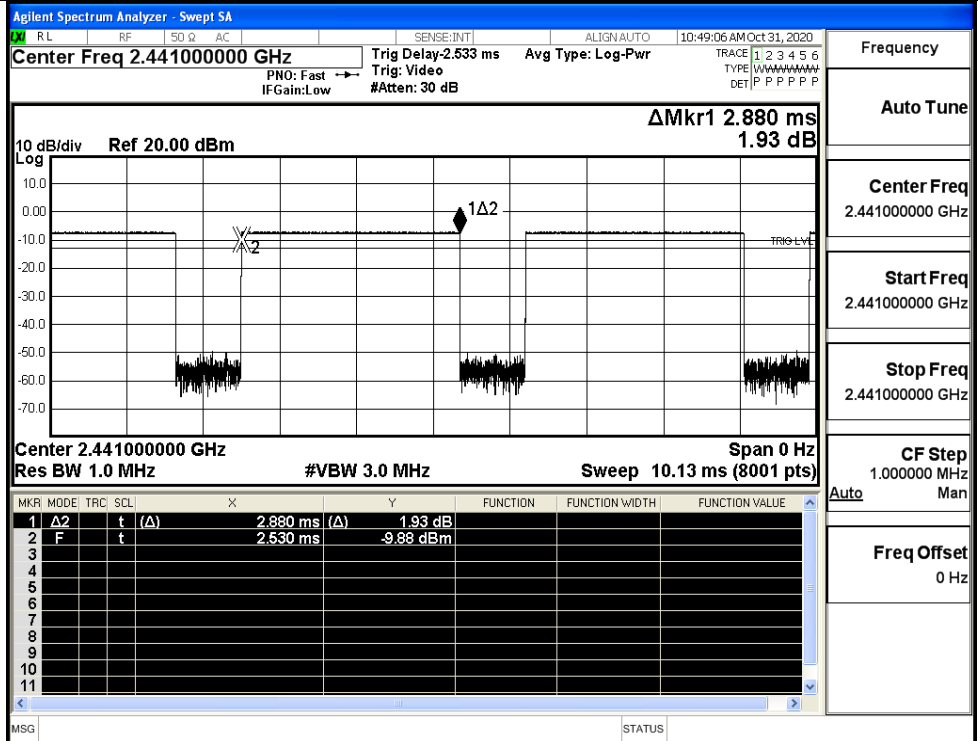


A.5 Dwell Time

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	0.308	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

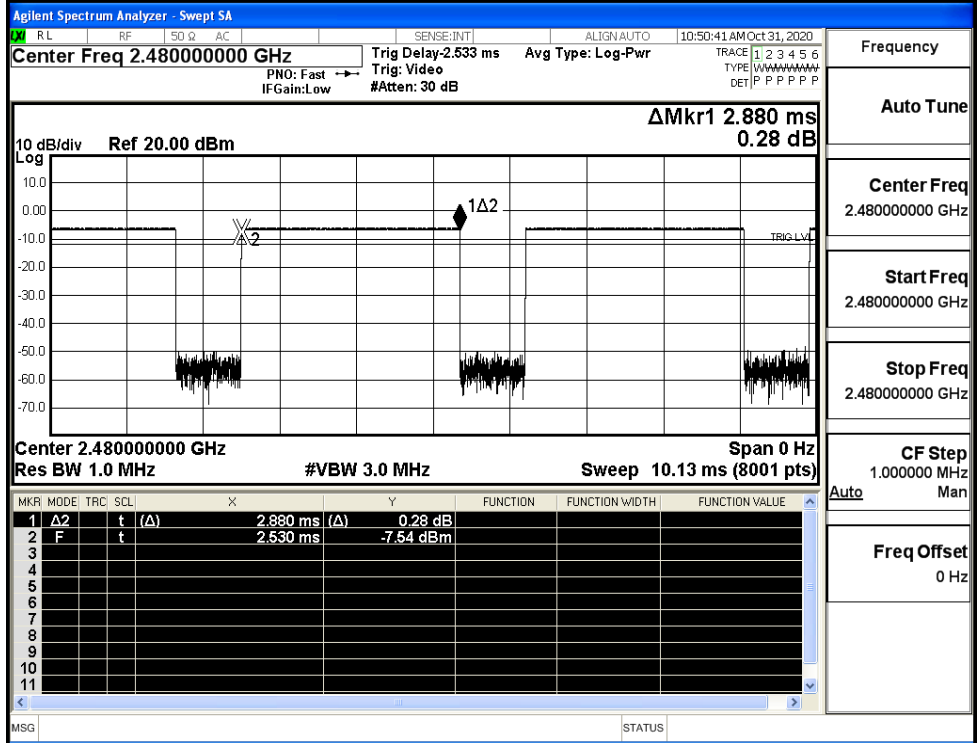


GFSK_DH5/MCH



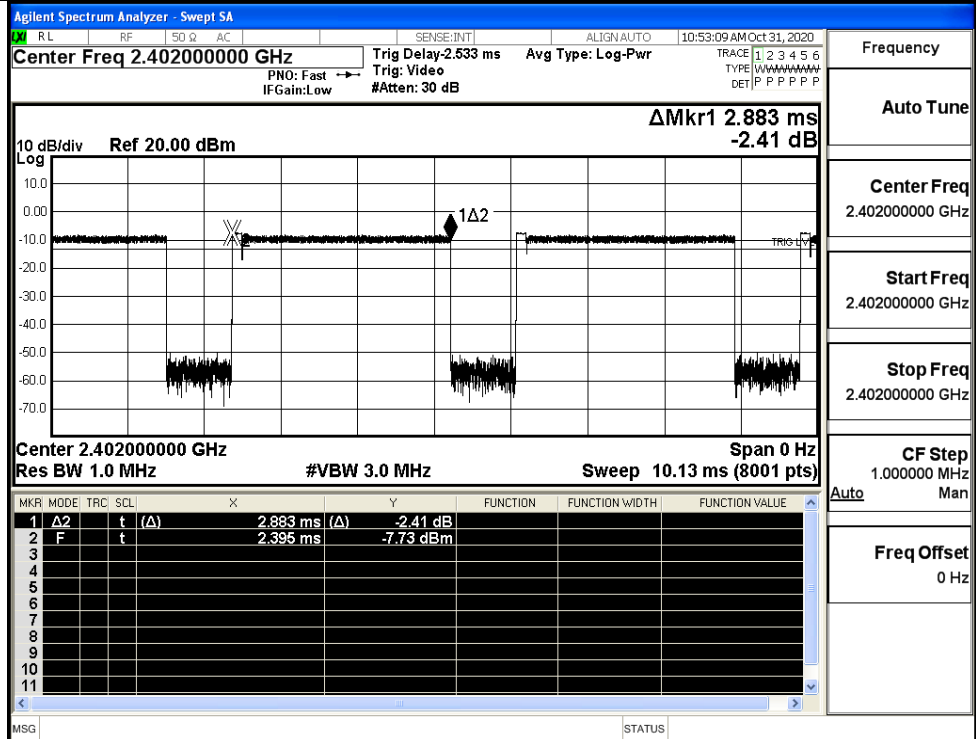
Frequency	
Auto Tune	
Center Freq	2.441000000 GHz
Start Freq	2.441000000 GHz
Stop Freq	2.441000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

GFSK_DH5/HCH

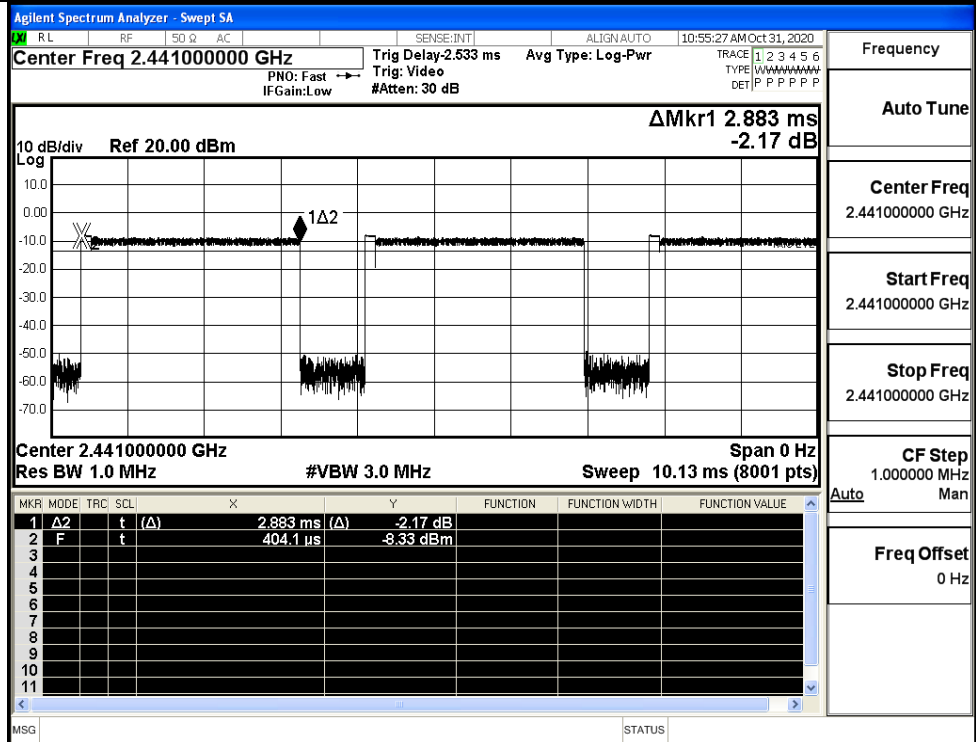


Frequency	
Auto Tune	
Center Freq	2.480000000 GHz
Start Freq	2.480000000 GHz
Stop Freq	2.480000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

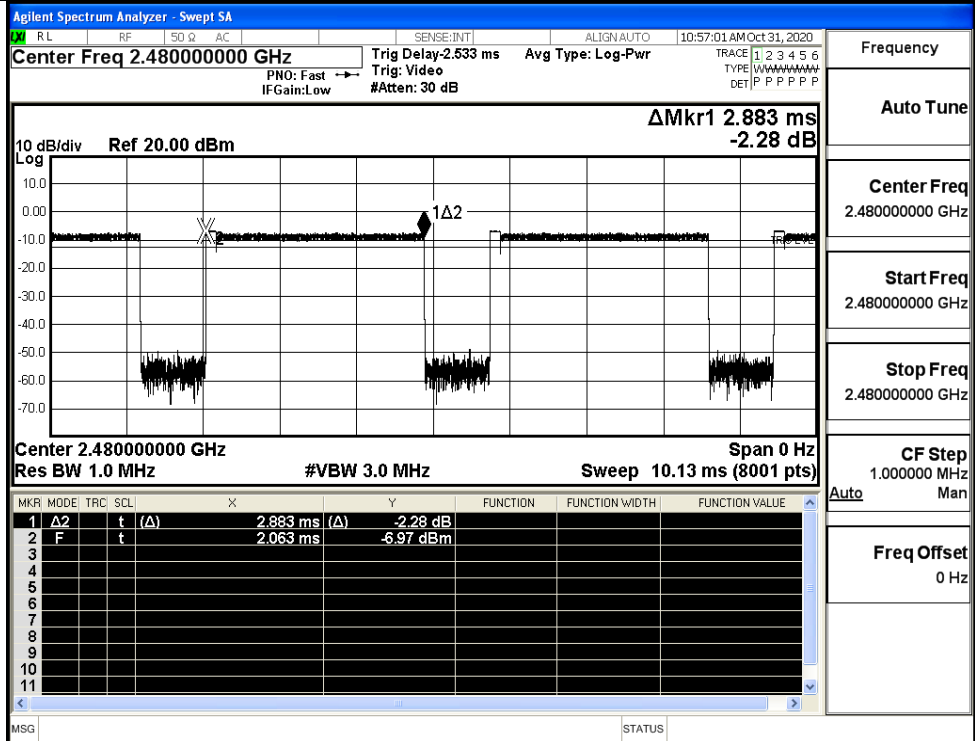
$\pi/4$ DQPSK
_2DH5/LCH



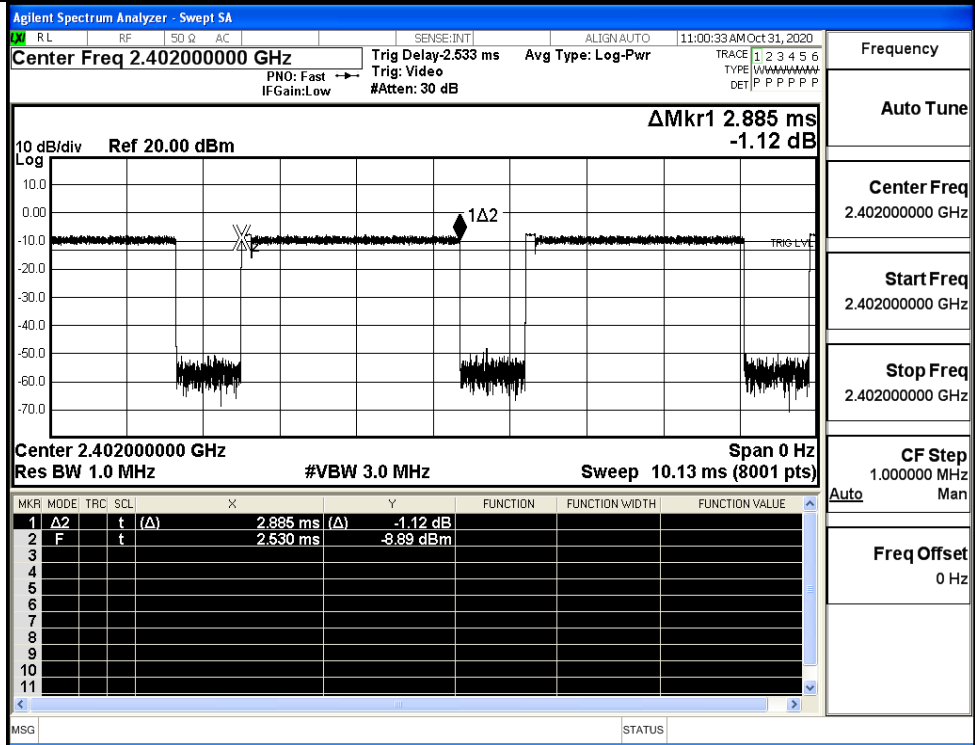
$\pi/4$ DQPSK
_2DH5/MCH



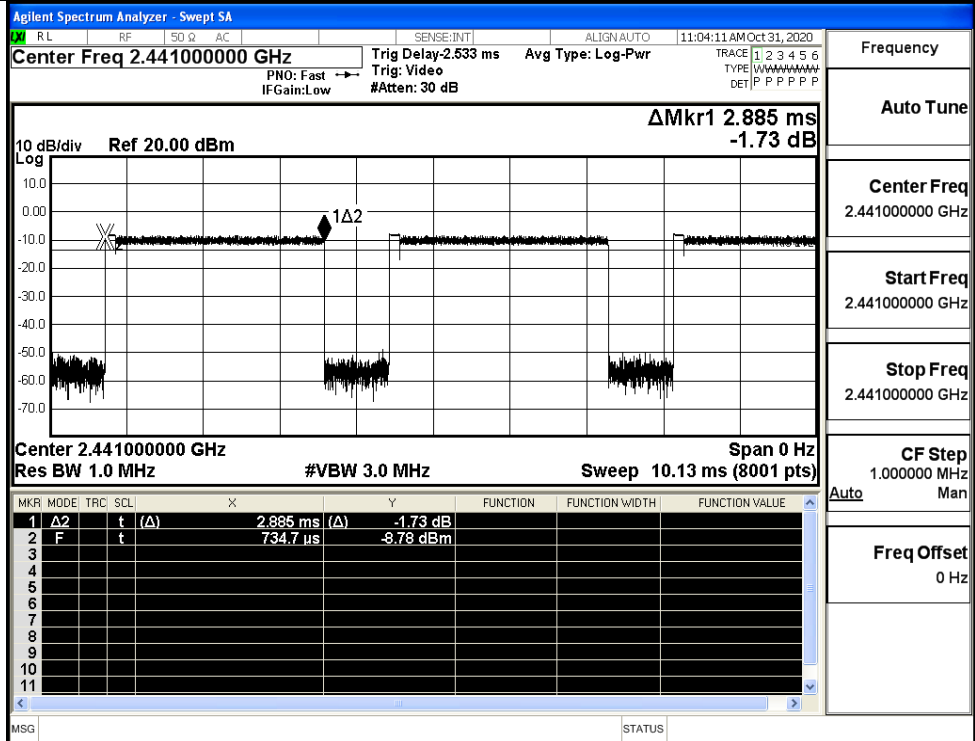
$\pi/4$ DQPSK
_2DH5/HCH



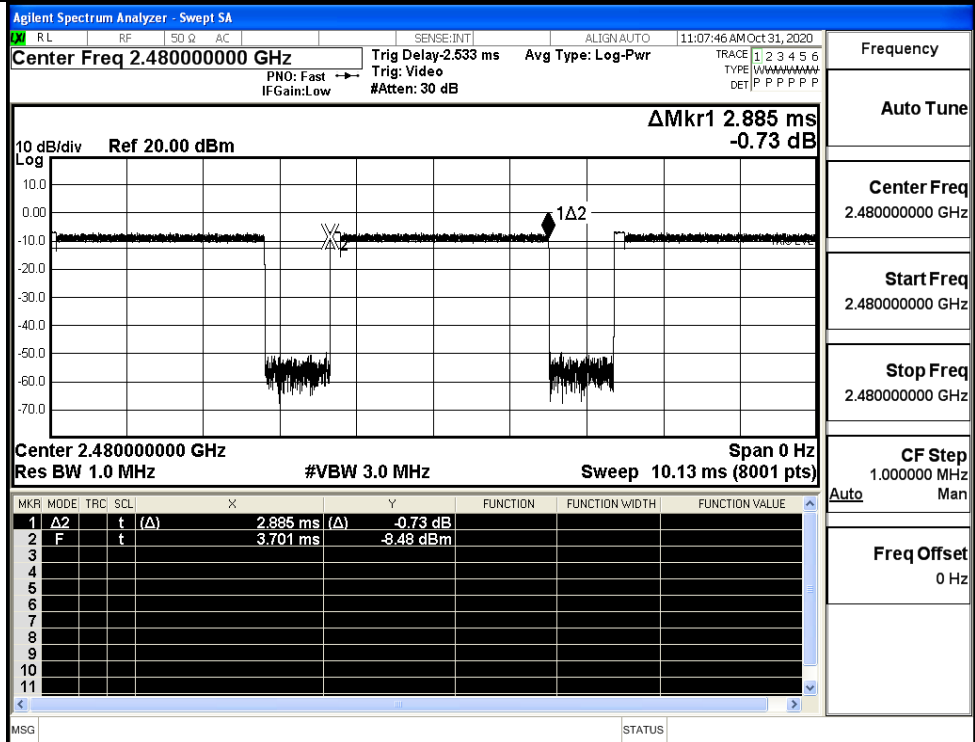
8DPSK_3DH5/LCH



8DPSK_3DH5/MCH



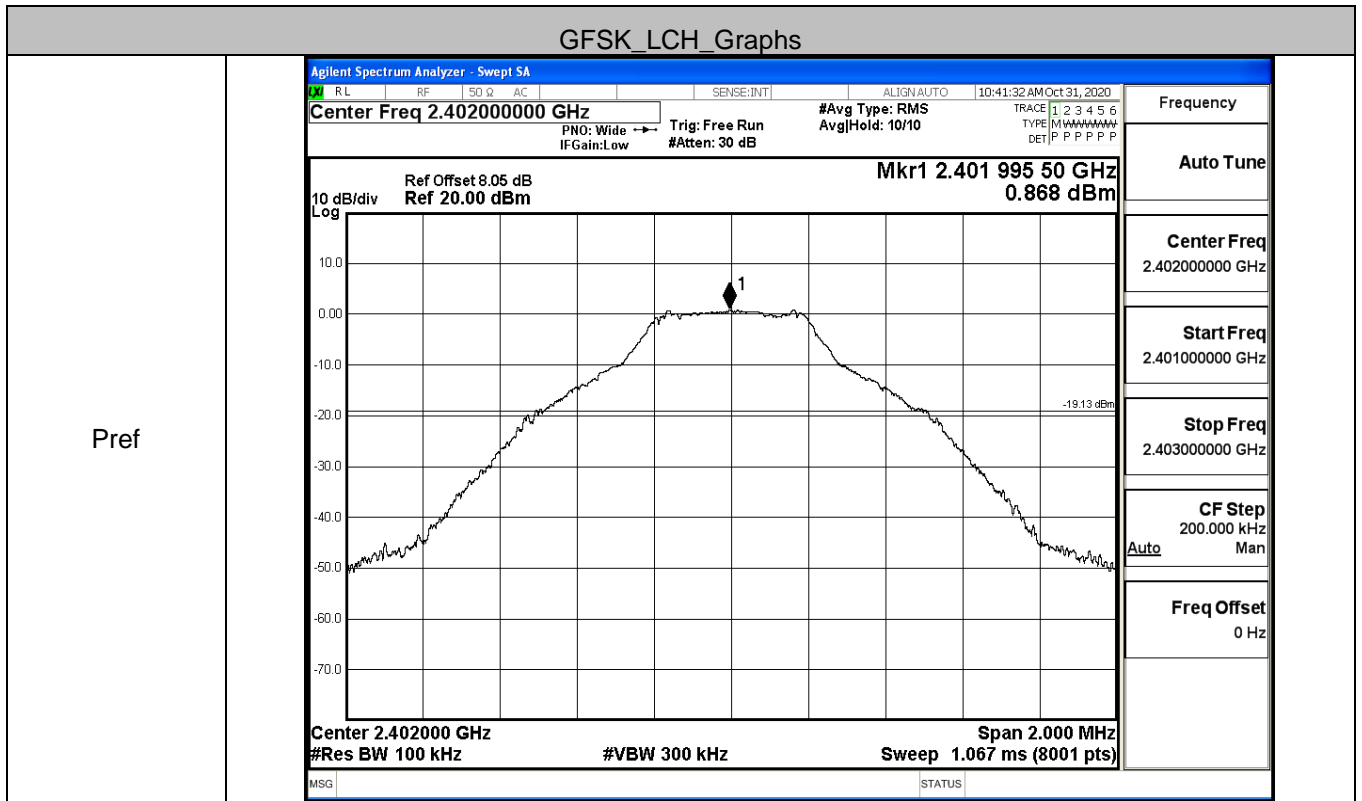
8DPSK_3DH5/HCH

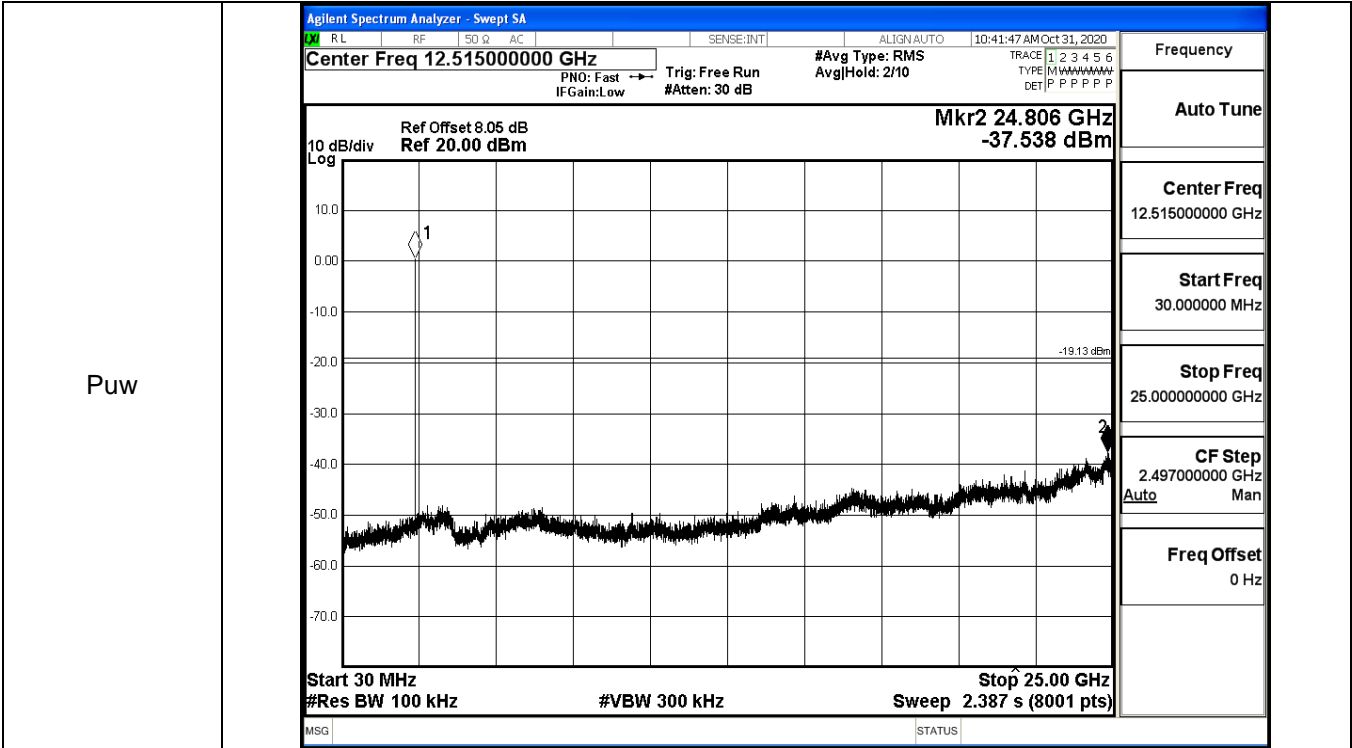


A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.868	-37.538	-19.132	PASS
	MCH	0.491	-37.658	-19.509	PASS
	HCH	1.487	-38.406	-18.513	PASS
π /4DQPSK	LCH	0.304	-38.122	-19.696	PASS
	MCH	-0.277	-37.638	-20.277	PASS
	HCH	0.864	-36.927	-19.136	PASS
8DPSK	LCH	-0.074	-37.176	-20.074	PASS
	MCH	-0.087	-38.216	-20.087	PASS
	HCH	0.953	-36.959	-19.047	PASS

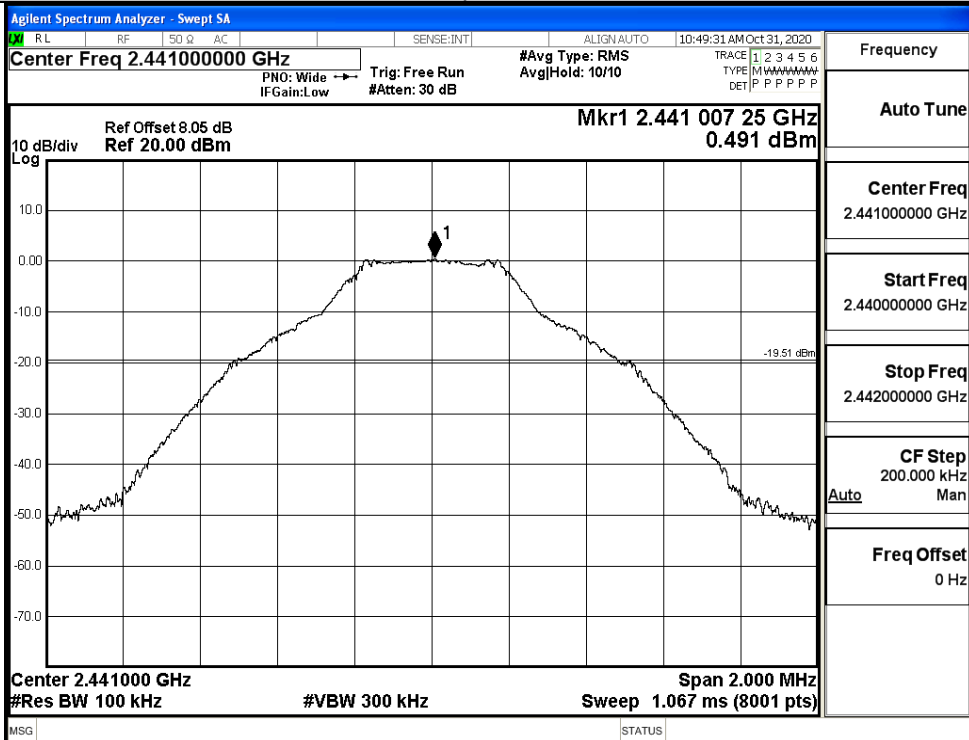
GFSK_LCH_Graphs



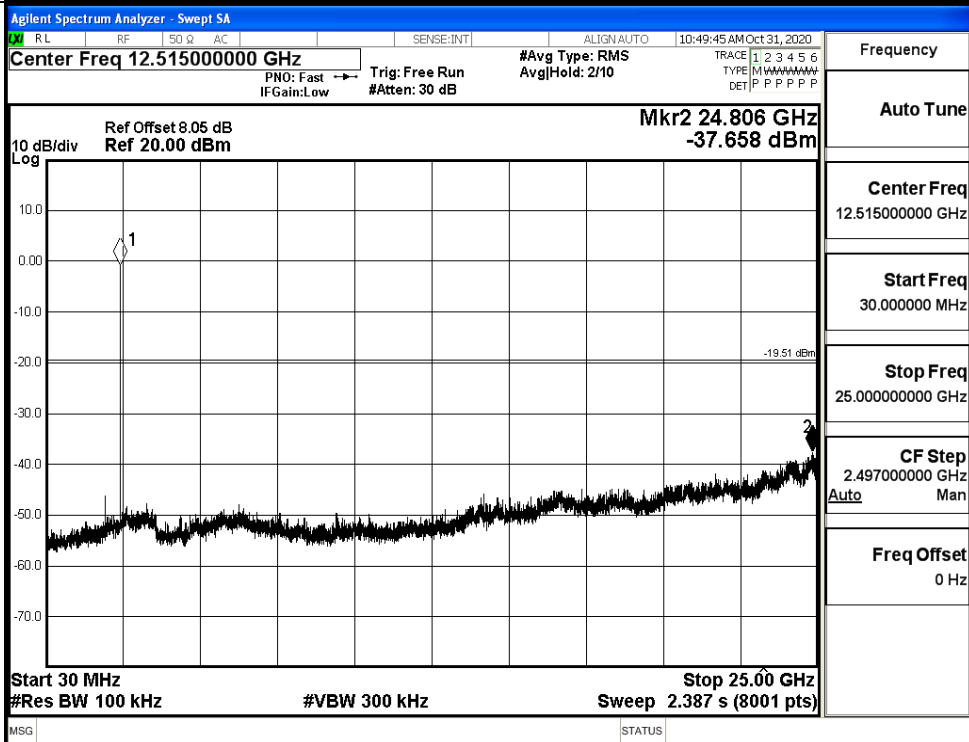


GFSK_MCH_Graphs

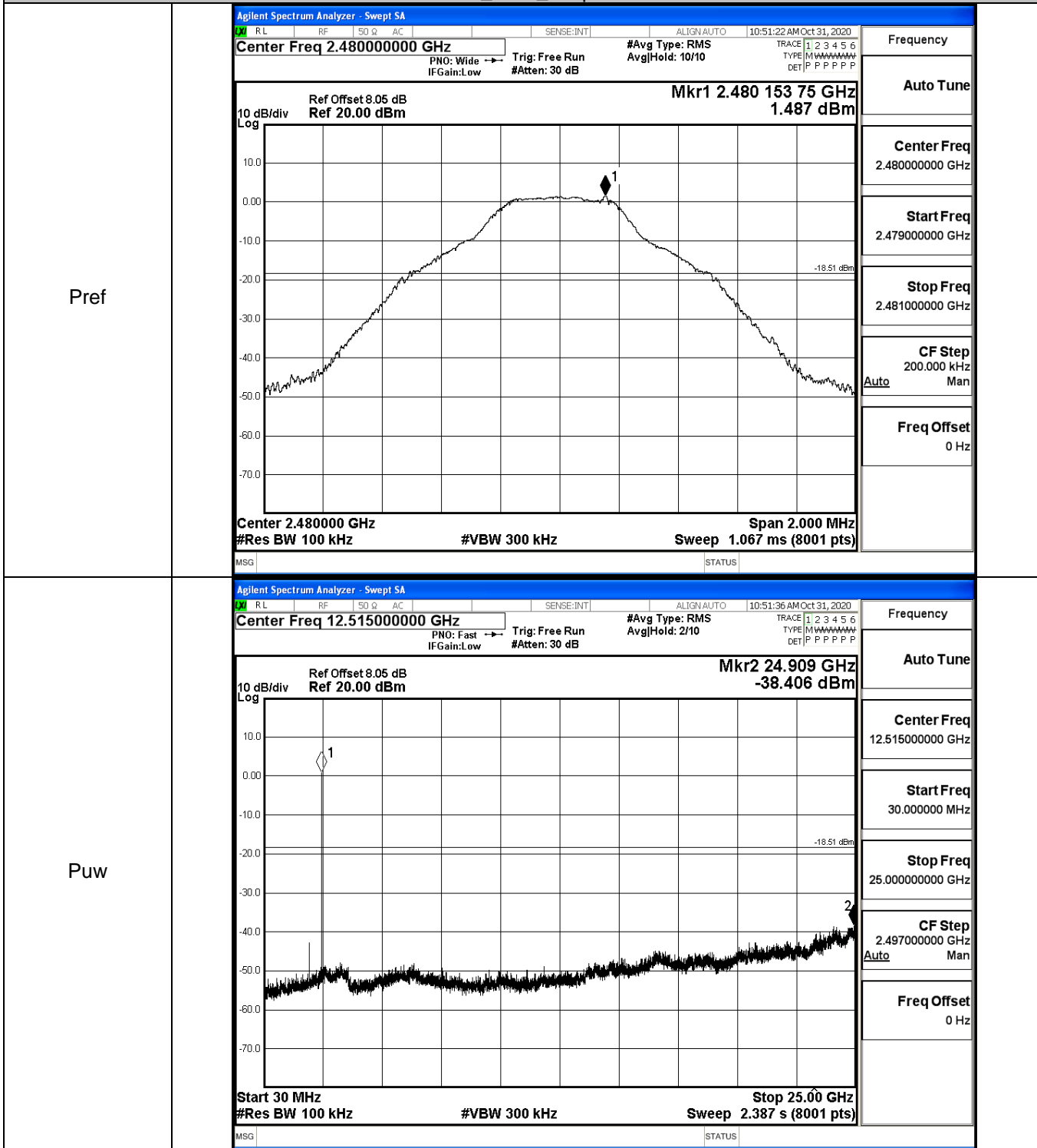
Pref



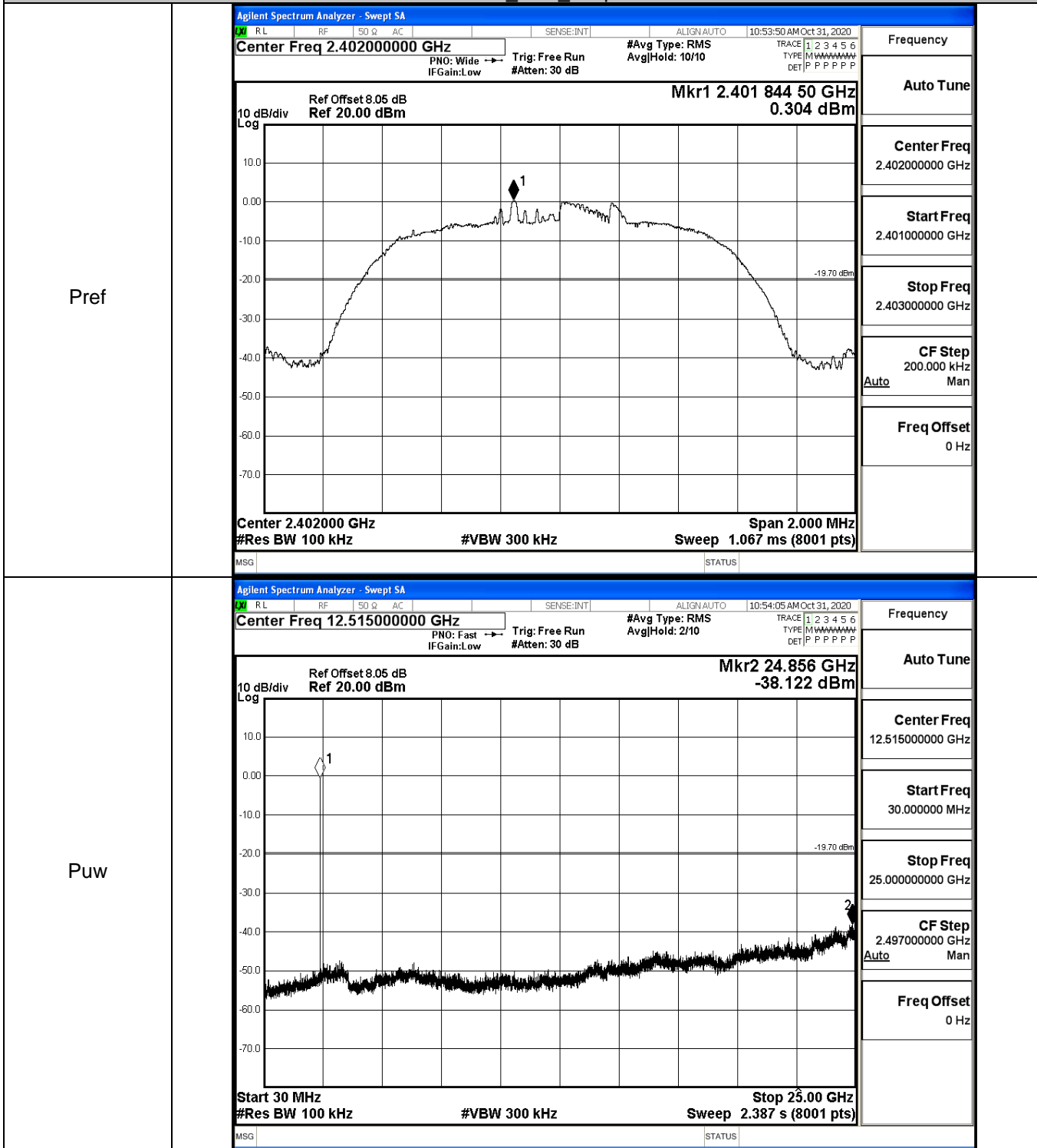
Puw



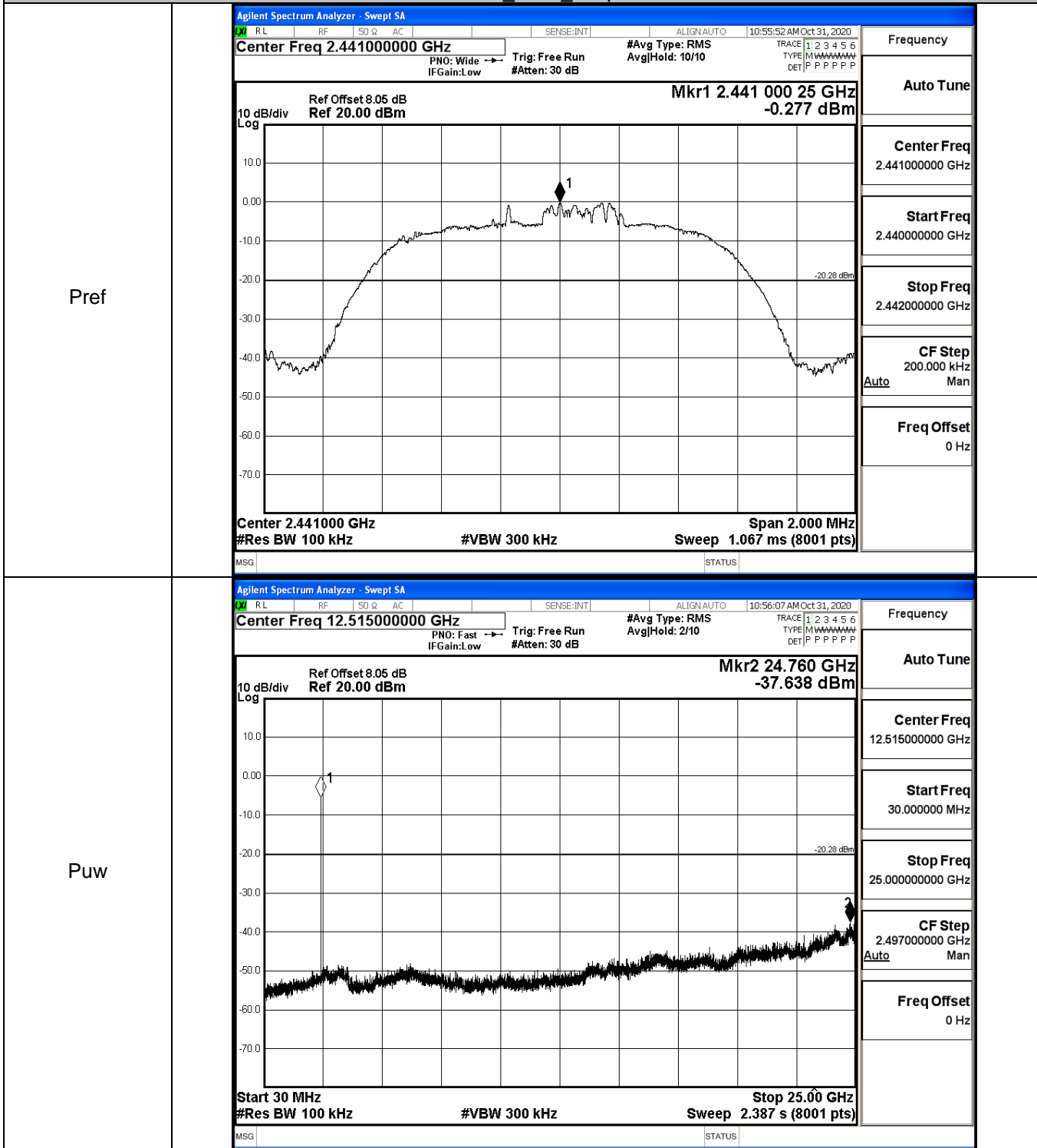
GFSK_HCH_Graphs



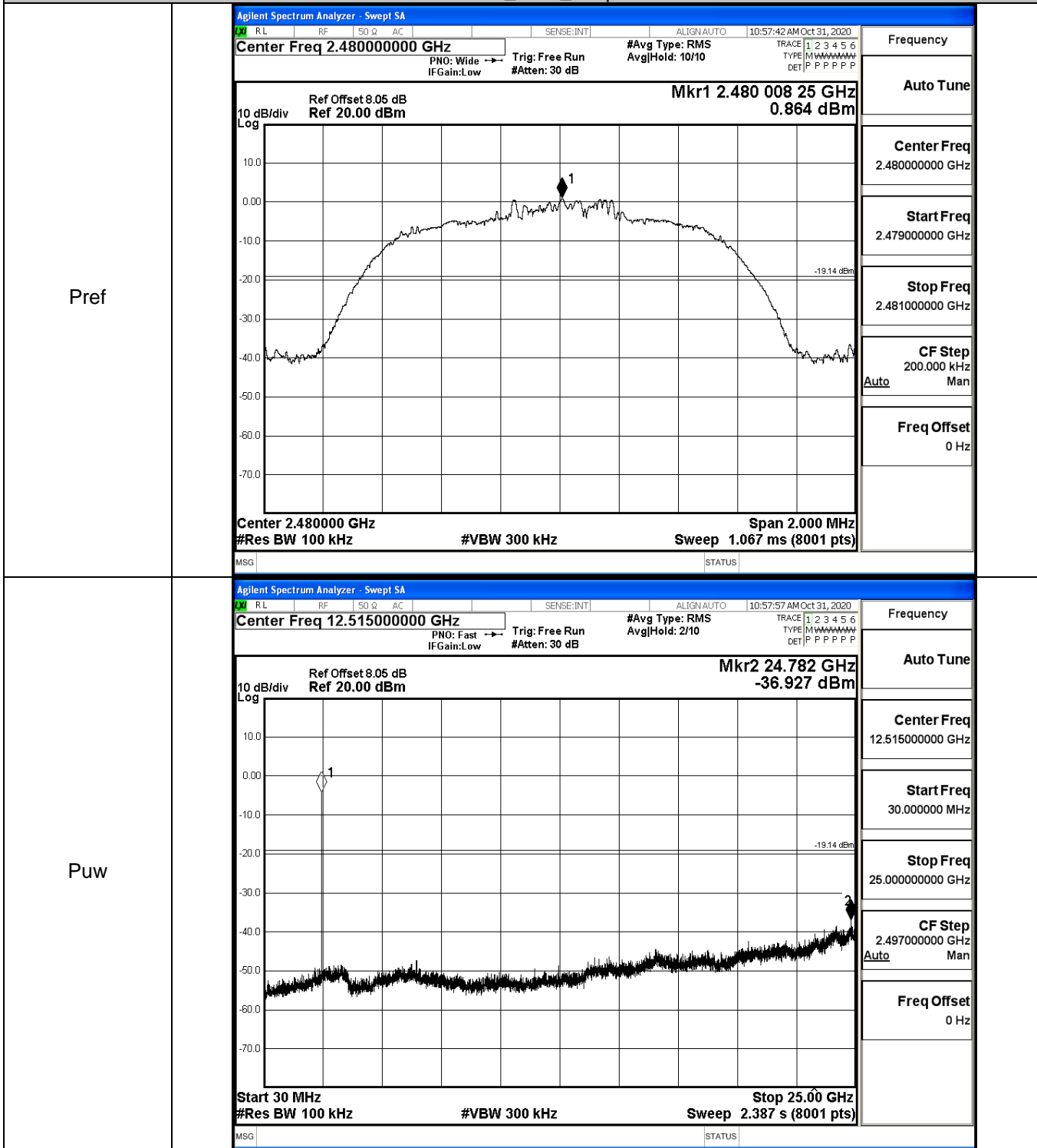
$\pi/4$ DQPSK_LCH_Graphs



$\pi/4$ DQPSK_MCH_Graphs

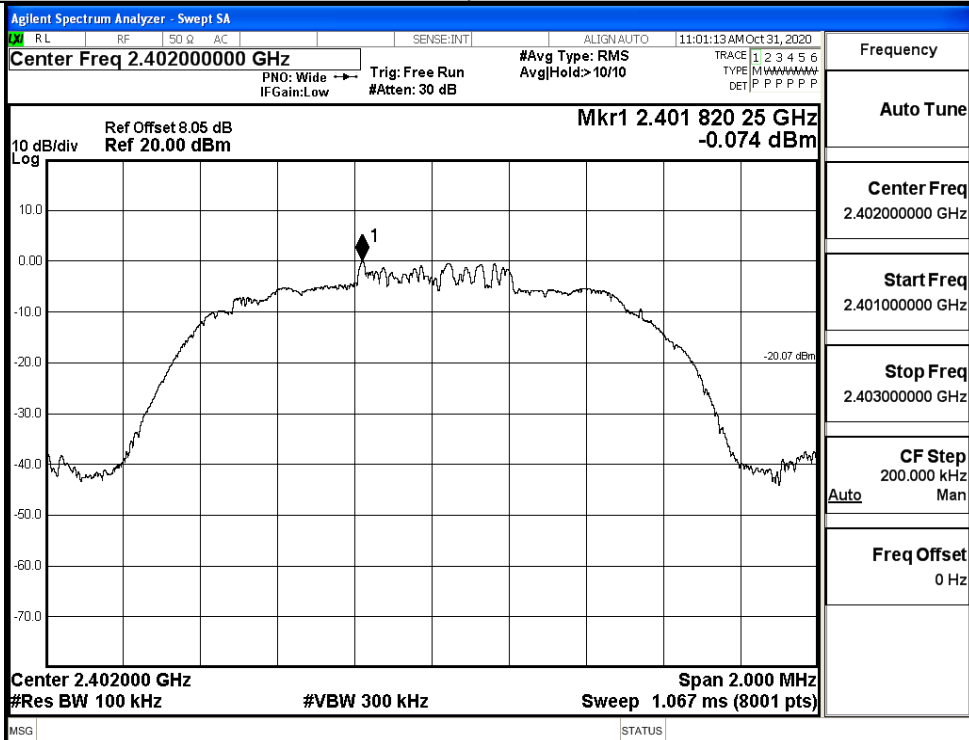


$\pi/4$ DQPSK_HCH_Graphs

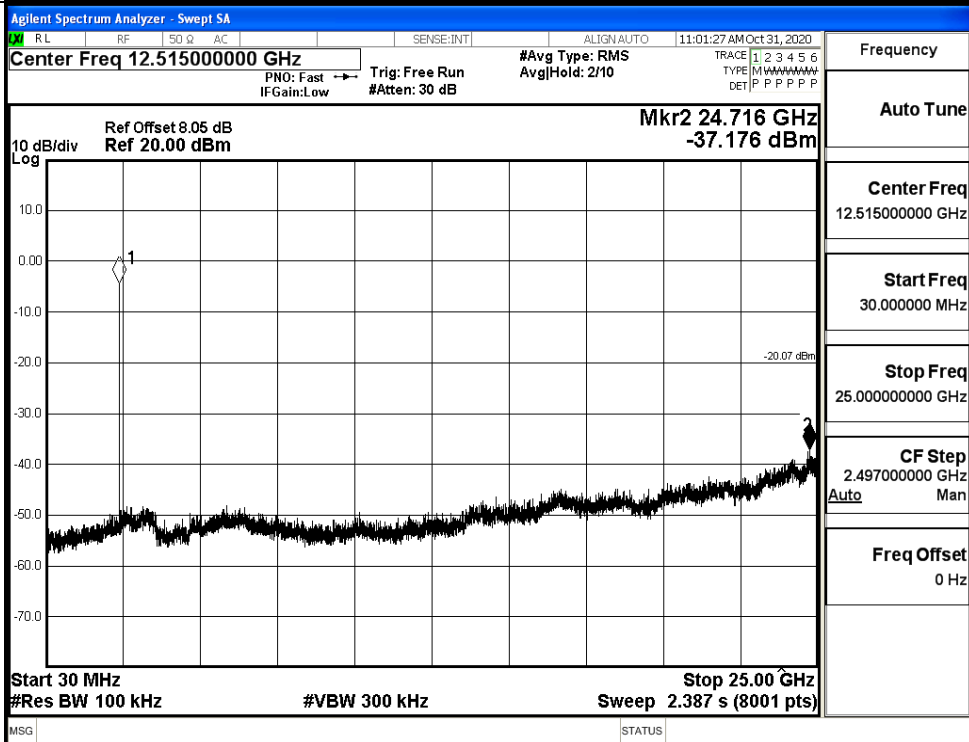


8DPSK_LCH_Graphs

Pref

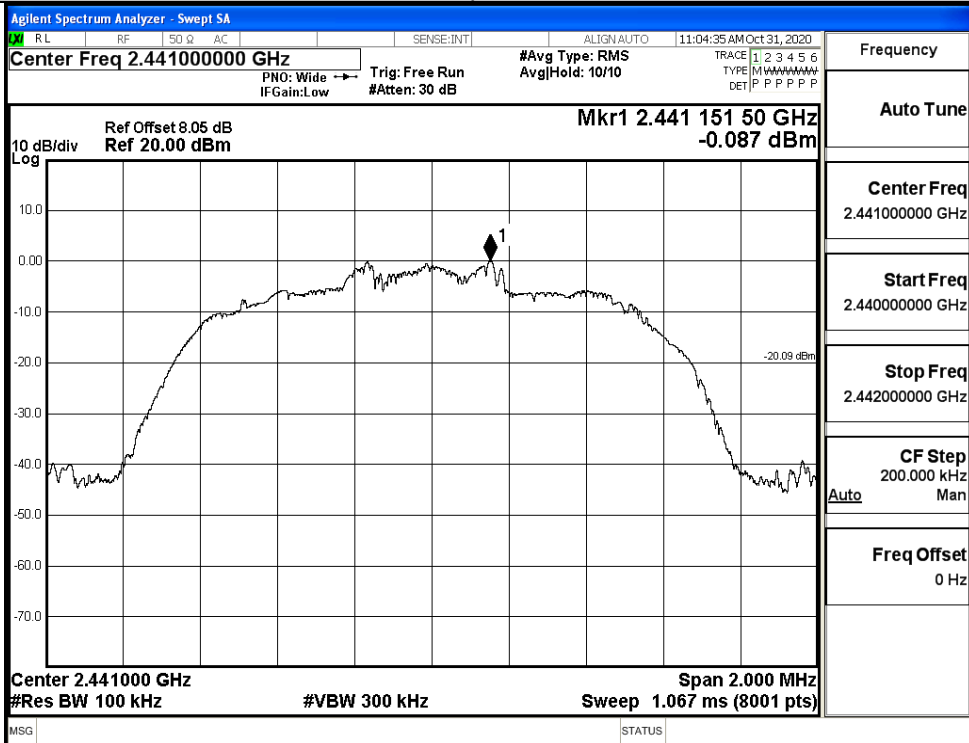


Puw

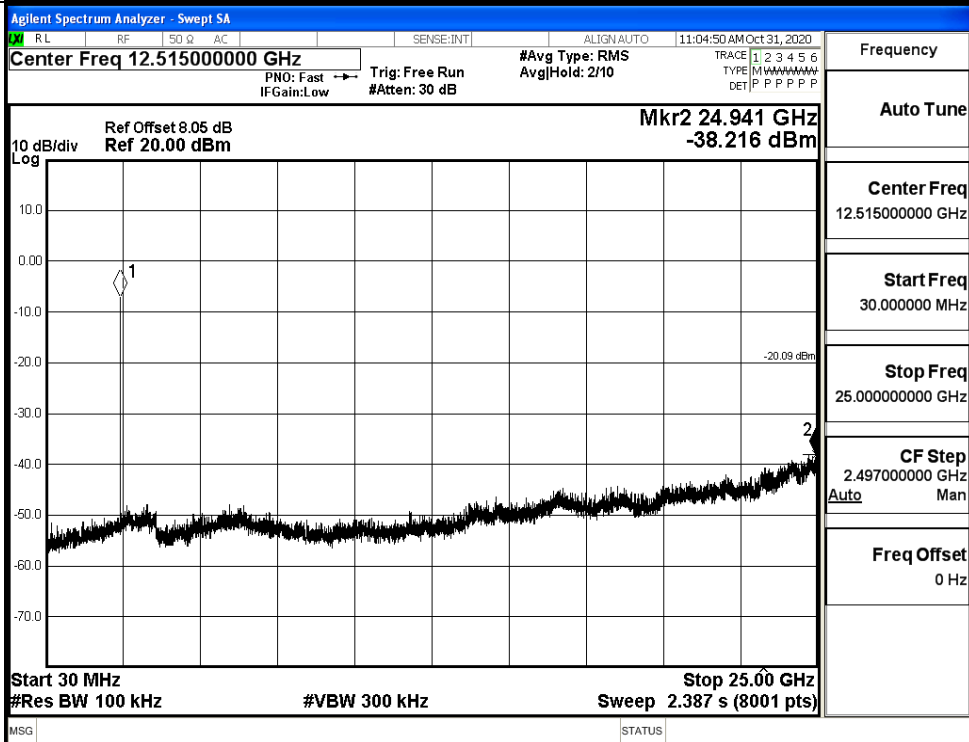


8DPSK_MCH_Graphs

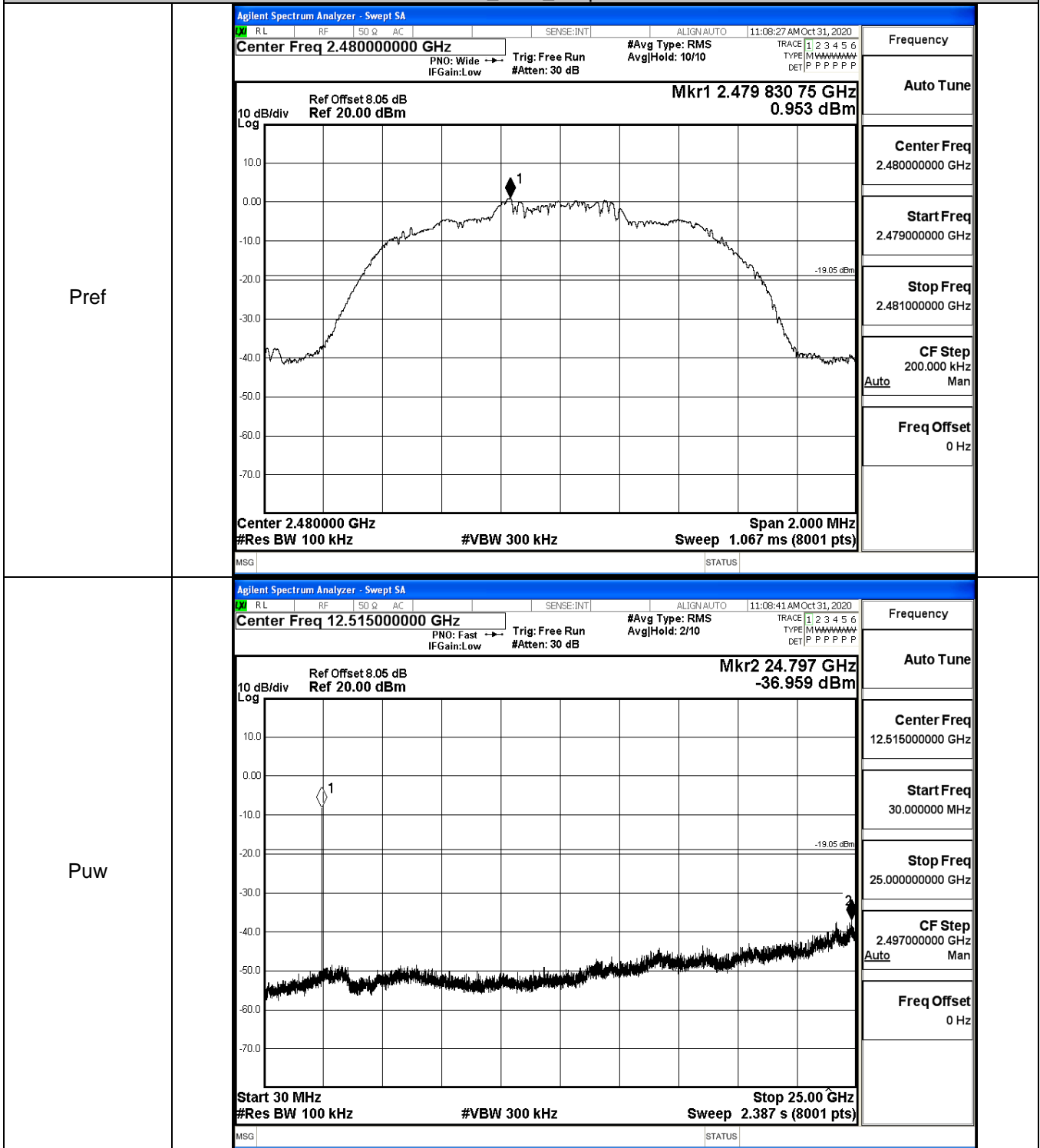
Pref



Puw



8DPSK_HCH_Graphs

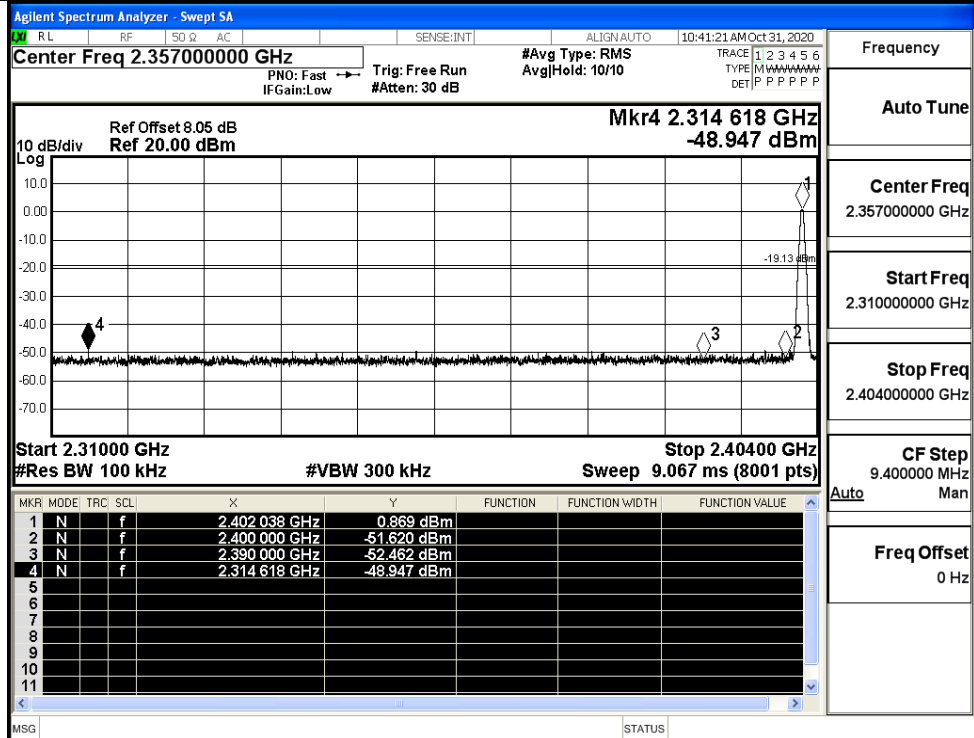


A.7 Band-edge for RF Conducted Emissions

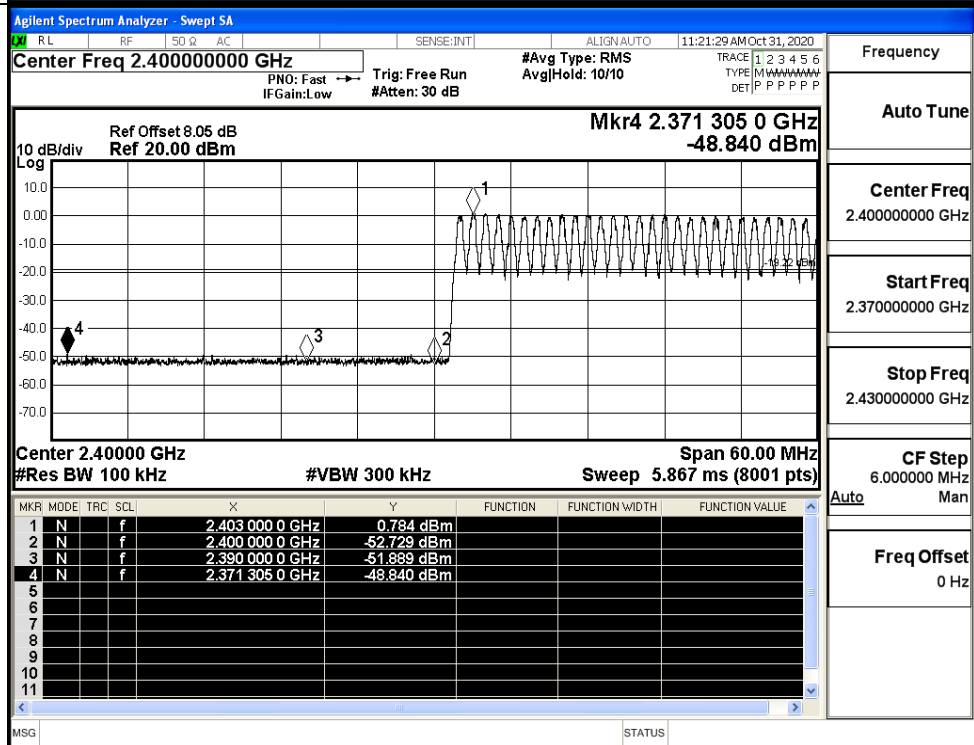
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.869	Off	-48.947	-19.13	PASS
			0.784	On	-48.840	-19.22	PASS
	HCH	2480	1.731	Off	-48.829	-18.27	PASS
			1.433	On	-48.572	-18.57	PASS
$\pi/4$ DQPSK	LCH	2402	0.474	Off	-49.201	-19.53	PASS
			-0.133	On	-48.527	-20.13	PASS
	HCH	2480	1.149	Off	-48.884	-18.85	PASS
			0.362	On	-48.406	-19.64	PASS
8DPSK	LCH	2402	0.367	Off	-49.610	-19.63	PASS
			0.350	On	-49.056	-19.65	PASS
	HCH	2480	1.122	Off	-49.469	-18.88	PASS
			1.041	On	-48.400	-18.96	PASS

Test Graphs

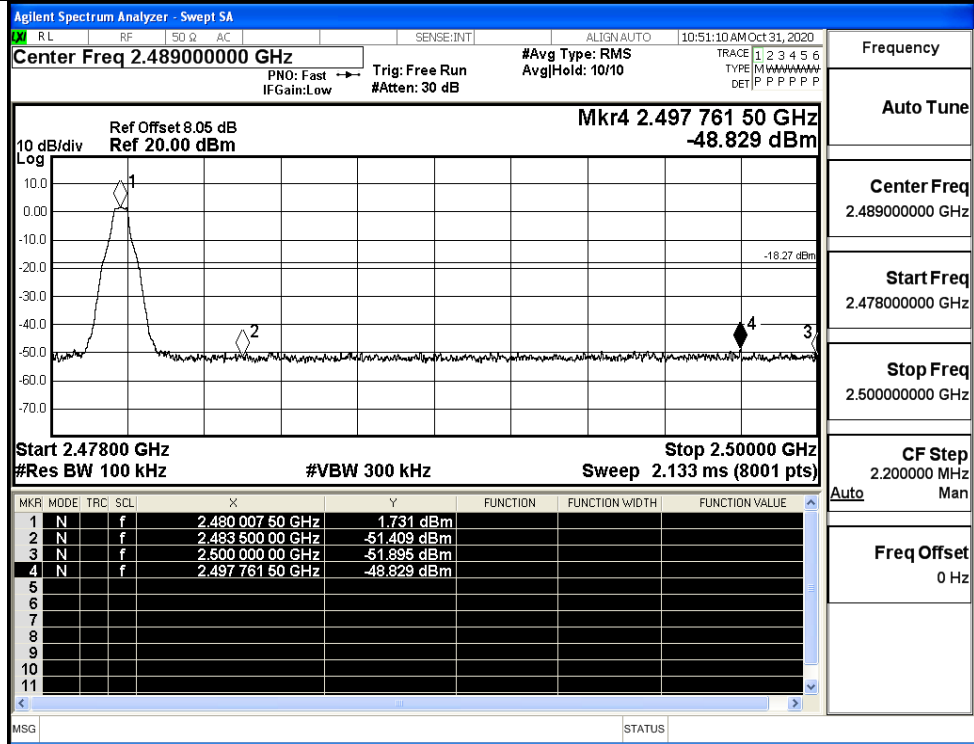
GFSK/LCH/No Hop



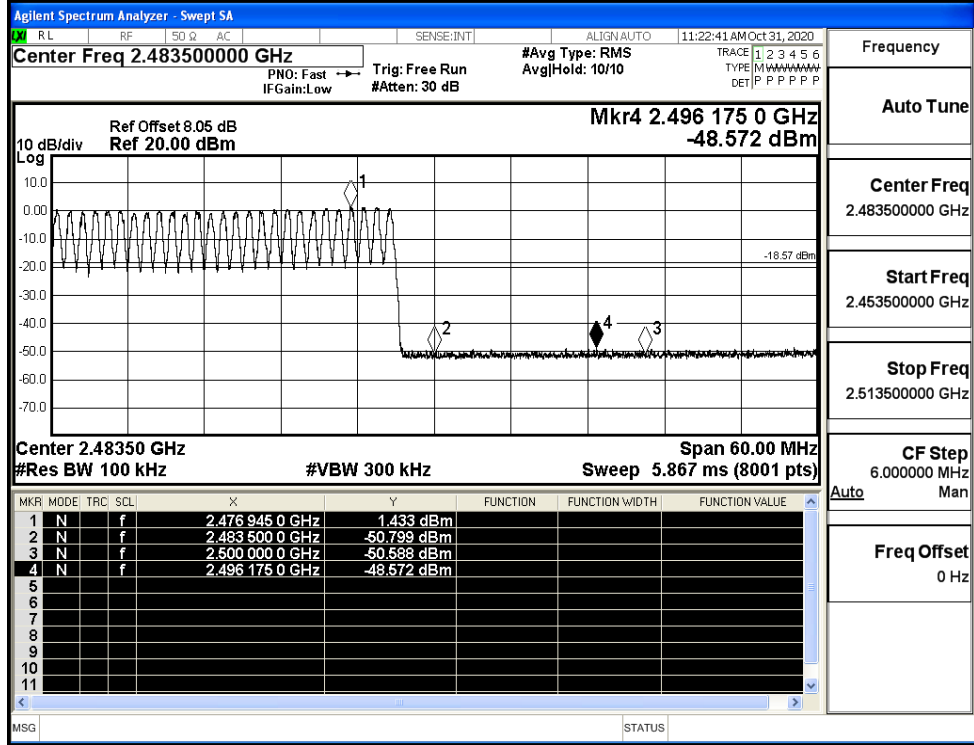
GFSK/LCH/Hop



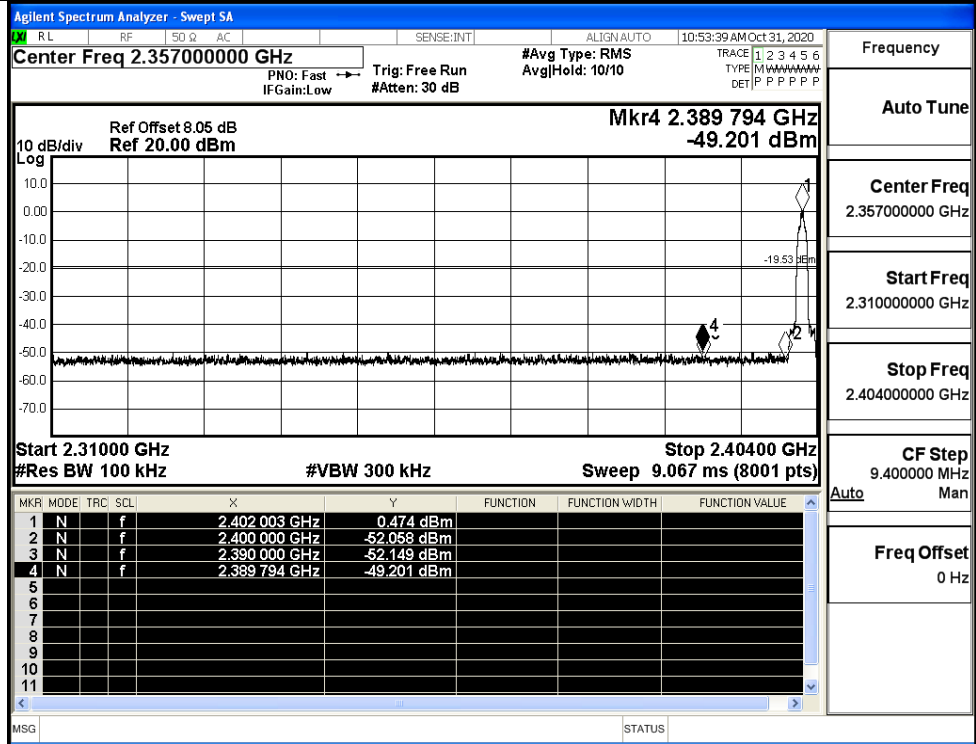
GFSK/HCH/No Hop



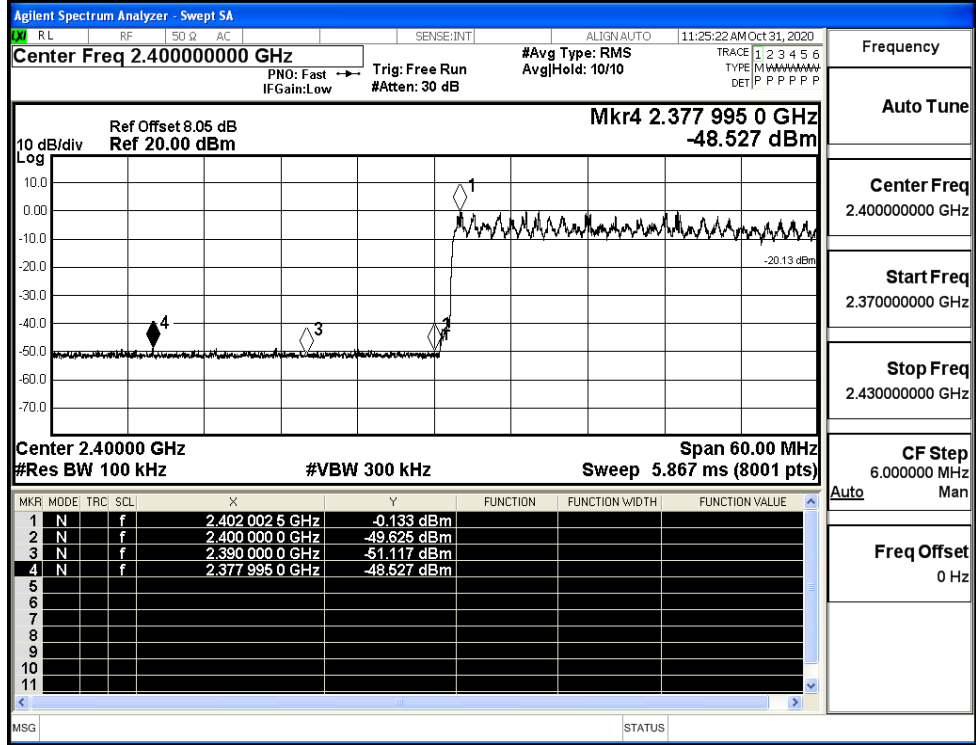
GFSK/HCH/Hop



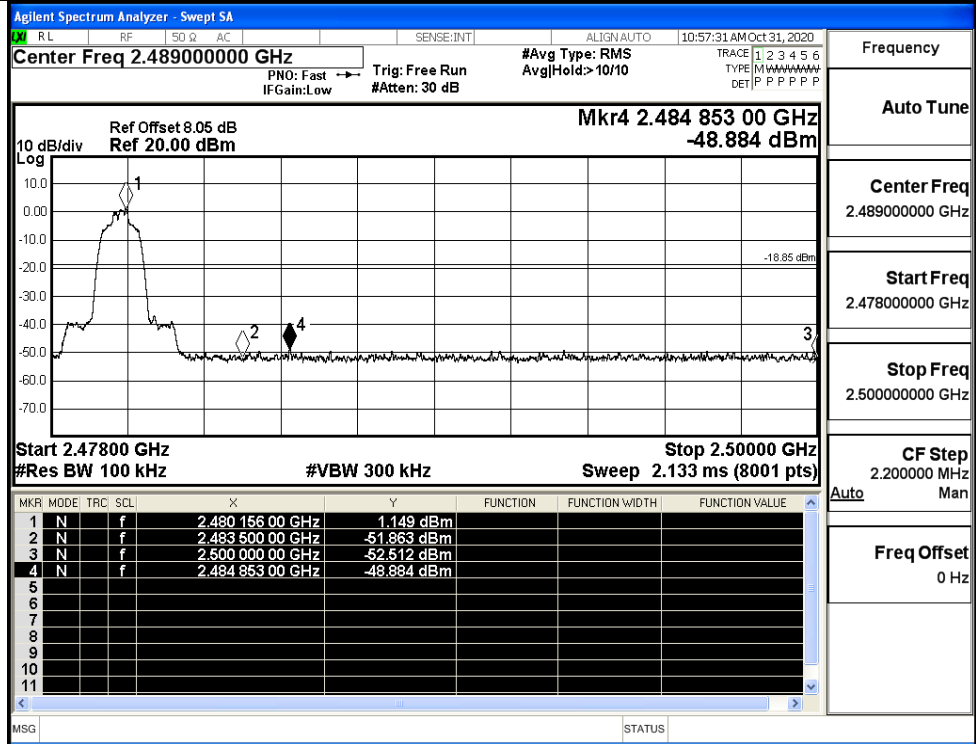
$\pi/4$ DQPSK/LCH/No
Hop



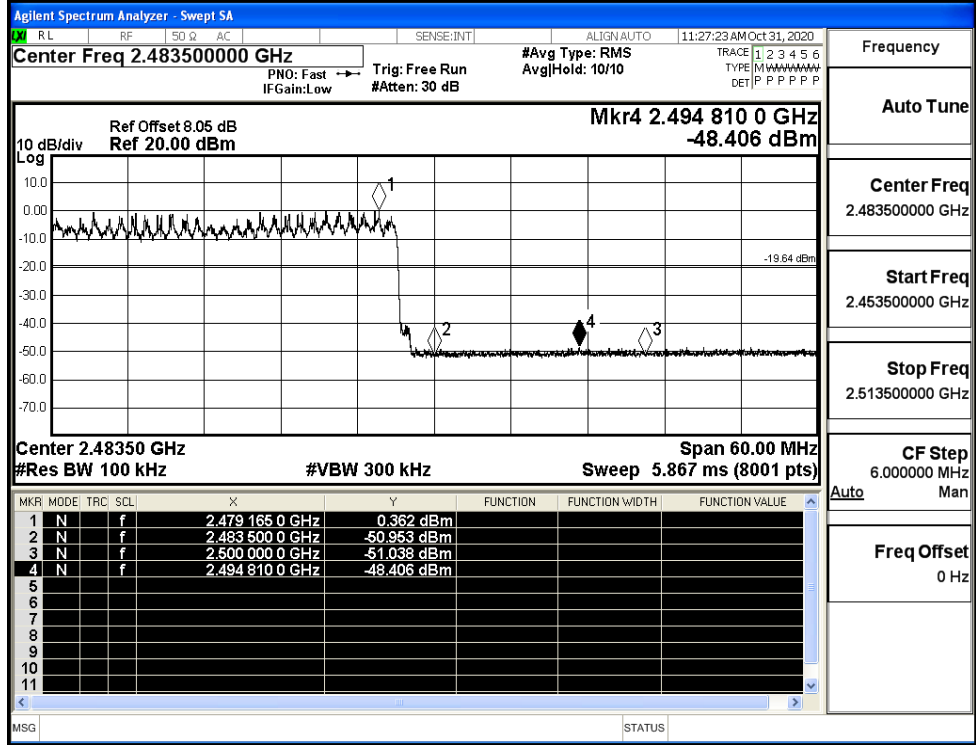
$\pi/4$ DQPSK/LCH/Hop



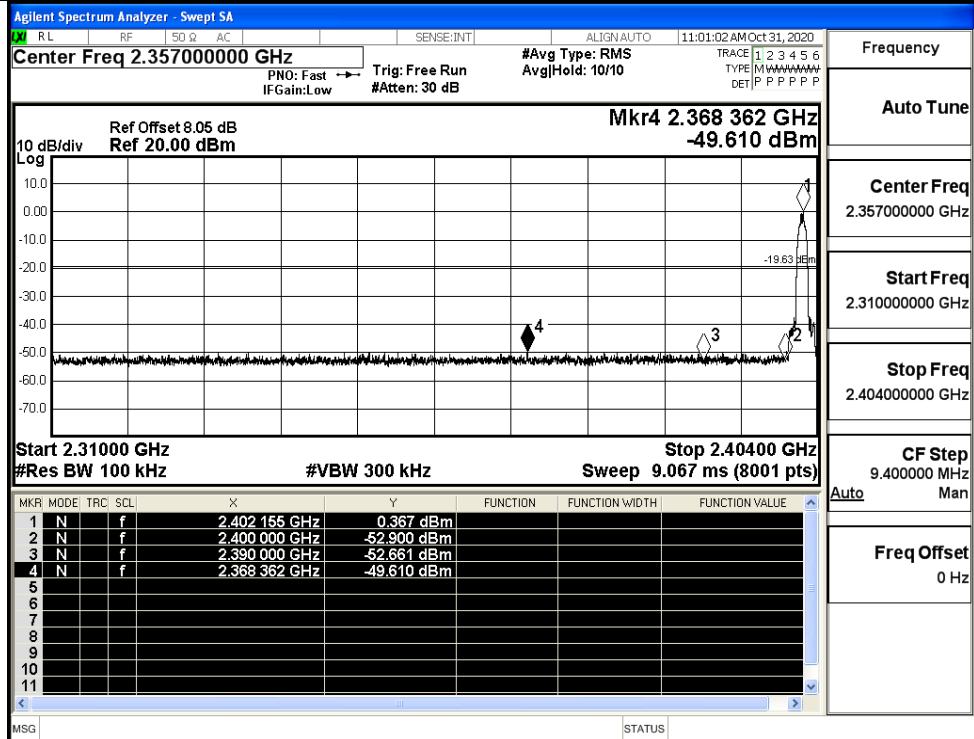
$\pi/4$ DQPSK/HCH/No Hop



$\pi/4$ DQPSK/HCH/Hop

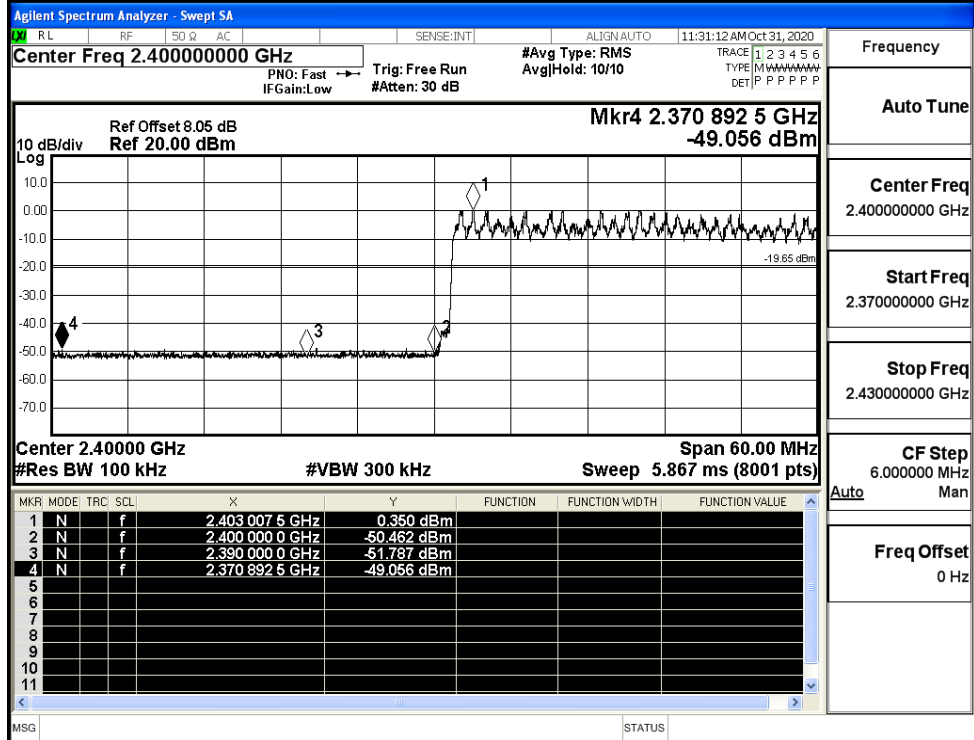


8DPSK/LCH/No Hop



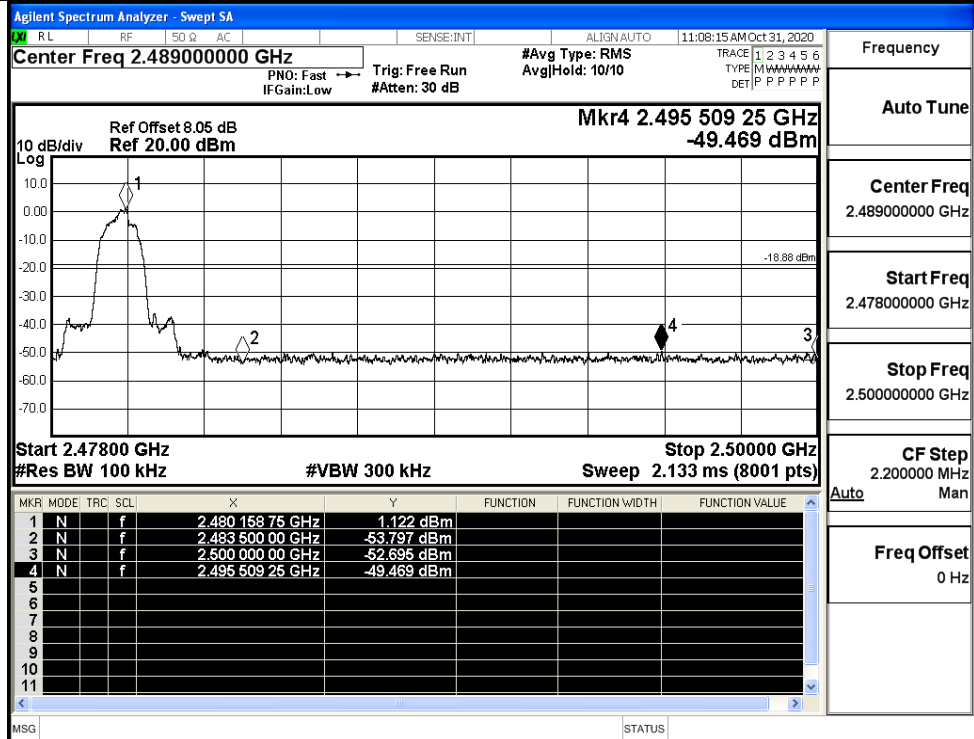
Frequency
Auto Tune
Center Freq
2.357000000 GHz
Start Freq
2.310000000 GHz
Stop Freq
2.404000000 GHz
CF Step
9.400000 MHz
Auto Man
Freq Offset
0 Hz

8DPSK/LCH/Hop



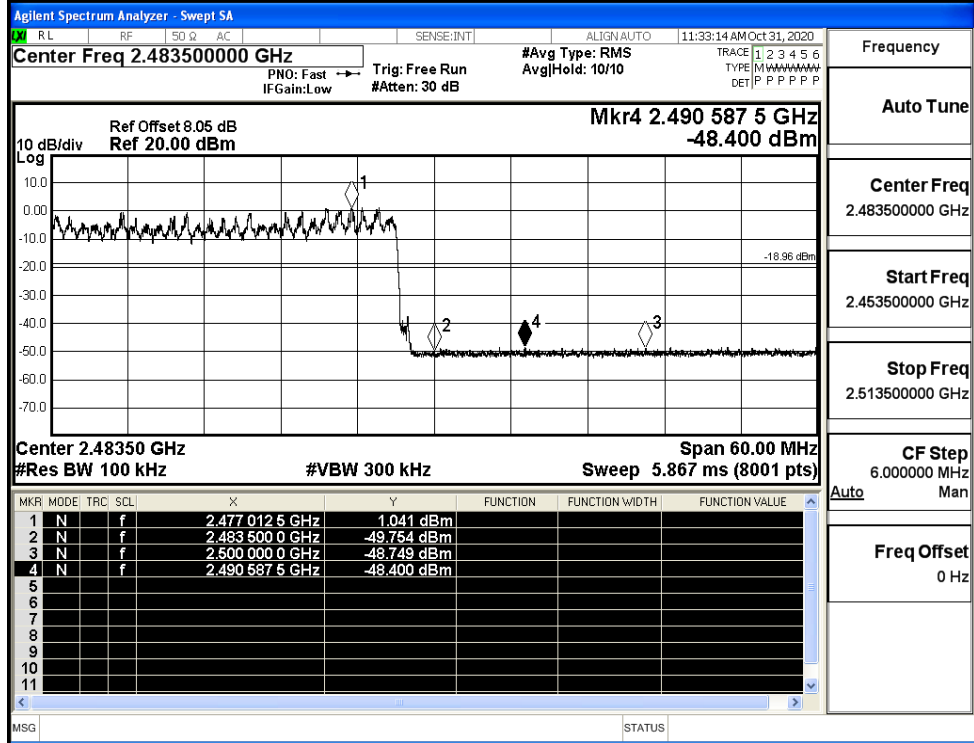
Frequency
Auto Tune
Center Freq
2.400000000 GHz
Start Freq
2.370000000 GHz
Stop Freq
2.430000000 GHz
CF Step
6.000000 MHz
Auto Man
Freq Offset
0 Hz

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
Freq Offset	0 Hz

8DPSK/HCH/Hop

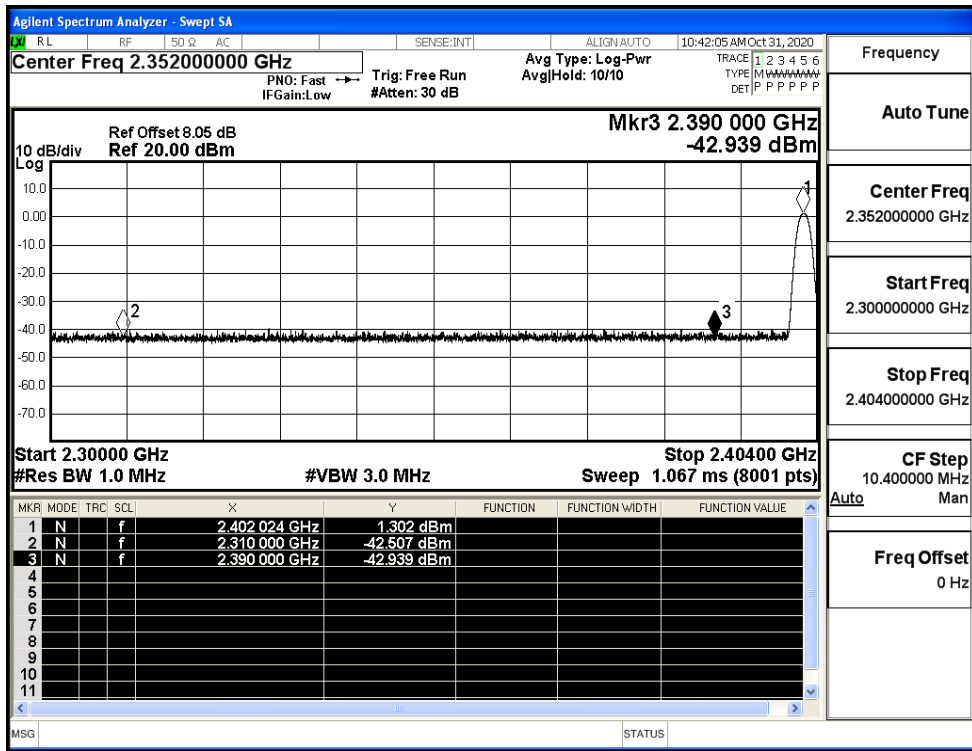


Frequency	
Auto Tune	
Center Freq	2.483500000 GHz
Start Freq	2.453500000 GHz
Stop Freq	2.513500000 GHz
CF Step	6.000000 MHz
Freq Offset	0 Hz

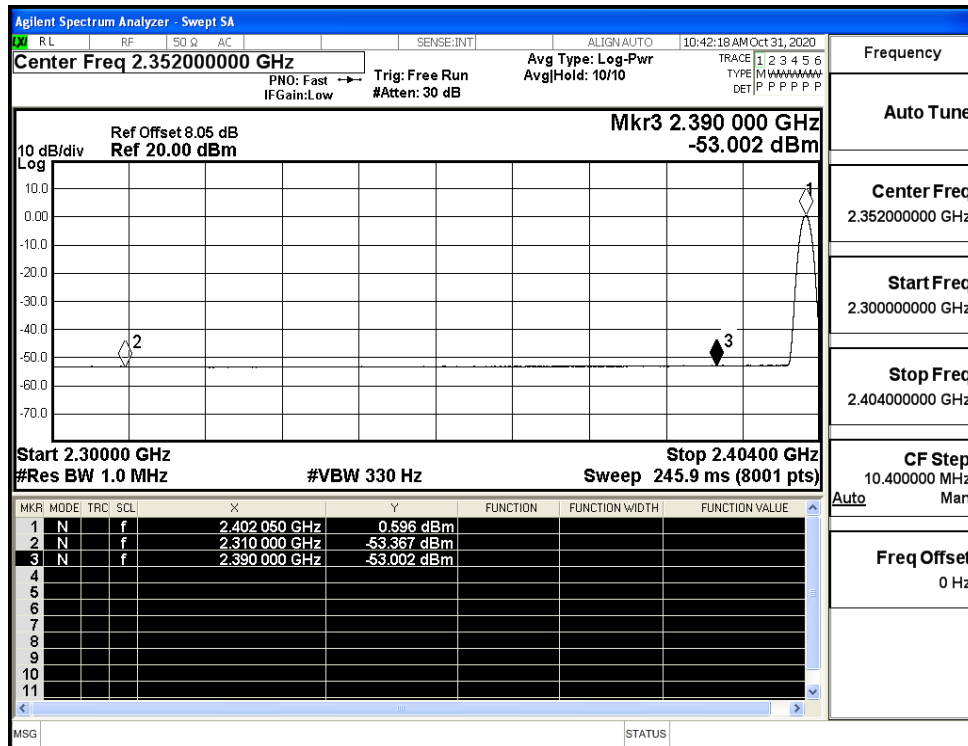
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.51	2.0	0	52.75	PEAK	74	PASS
	Off	2310.0	-53.37	2.0	0	41.89	AV	54	PASS
	Off	2390.0	-42.94	2.0	0	52.32	PEAK	74	PASS
	Off	2390.0	-53.00	2.0	0	42.26	AV	54	PASS
	Off	2483.5	-43.05	2.0	0	52.21	PEAK	74	PASS
	Off	2483.5	-52.49	2.0	0	42.77	AV	54	PASS
	Off	2500.0	-43.78	2.0	0	51.48	PEAK	74	PASS
	Off	2500.0	-52.31	2.0	0	42.94	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-42.82	2.0	0	52.44	PEAK	74	PASS
	Off	2310.0	-53.24	2.0	0	42.02	AV	54	PASS
	Off	2390.0	-42.03	2.0	0	53.22	PEAK	74	PASS
	Off	2390.0	-52.98	2.0	0	42.28	AV	54	PASS
	Off	2483.5	-42.65	2.0	0	52.61	PEAK	74	PASS
	Off	2483.5	-52.40	2.0	0	42.86	AV	54	PASS
	Off	2500.0	-41.18	2.0	0	54.08	PEAK	74	PASS
	Off	2500.0	-52.33	2.0	0	42.92	AV	54	PASS
8DPSK	Off	2310.0	-41.74	2.0	0	53.52	PEAK	74	PASS
	Off	2310.0	-53.29	2.0	0	41.97	AV	54	PASS
	Off	2390.0	-43.19	2.0	0	52.07	PEAK	74	PASS
	Off	2390.0	-52.99	2.0	0	42.26	AV	54	PASS
	Off	2483.5	-42.19	2.0	0	53.07	PEAK	74	PASS
	Off	2483.5	-52.49	2.0	0	42.77	AV	54	PASS
	Off	2500.0	-41.26	2.0	0	54.00	PEAK	74	PASS
	Off	2500.0	-52.31	2.0	0	42.95	AV	54	PASS

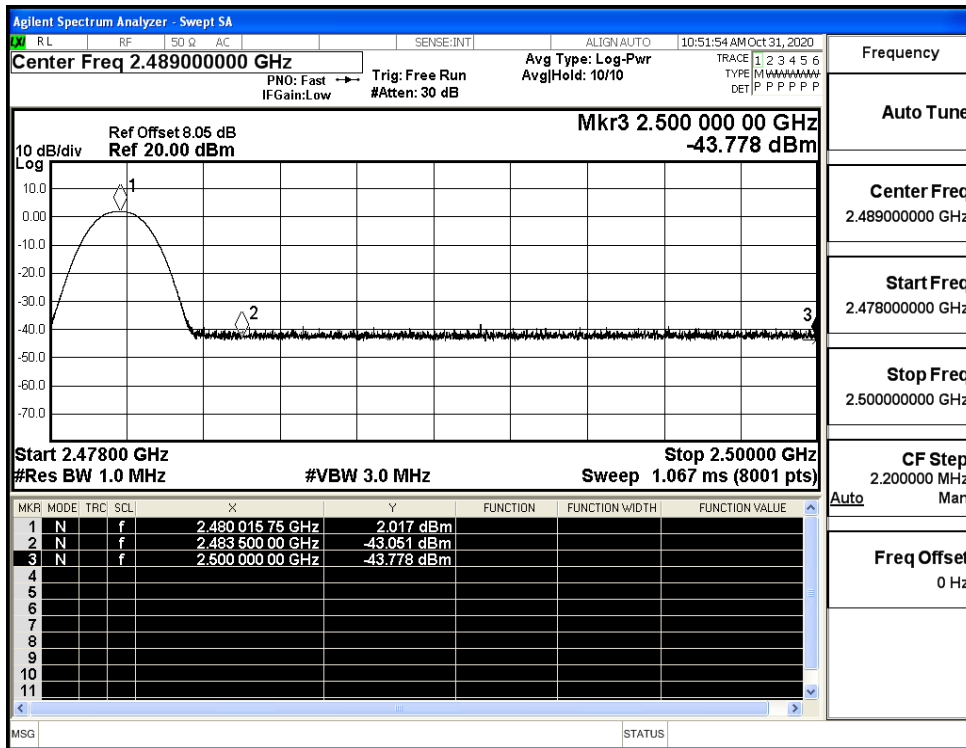
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



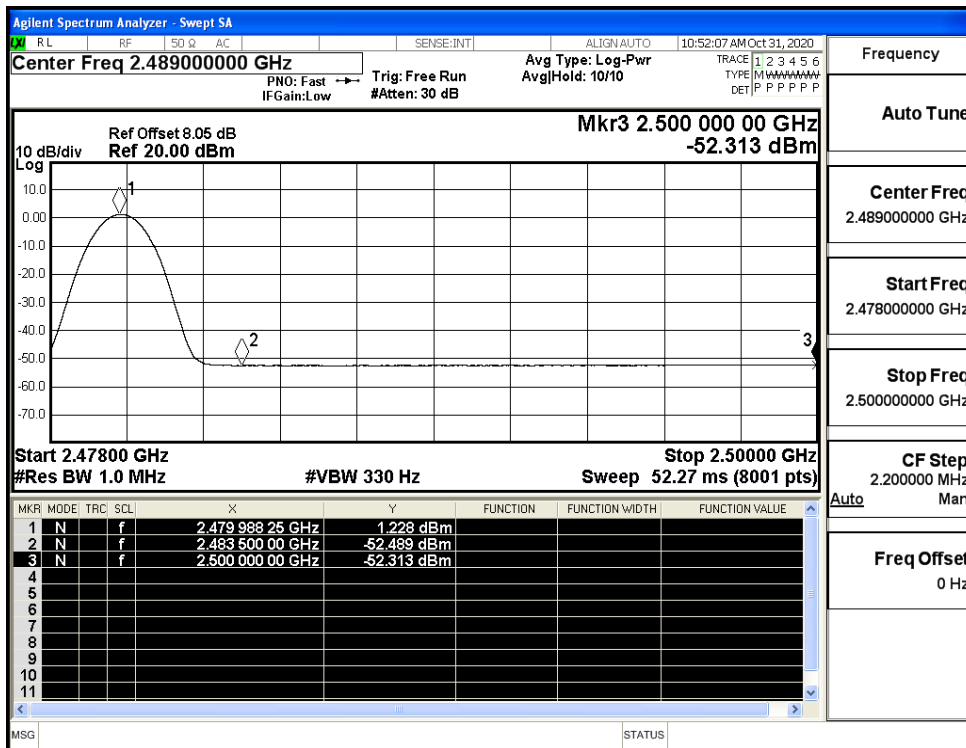
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



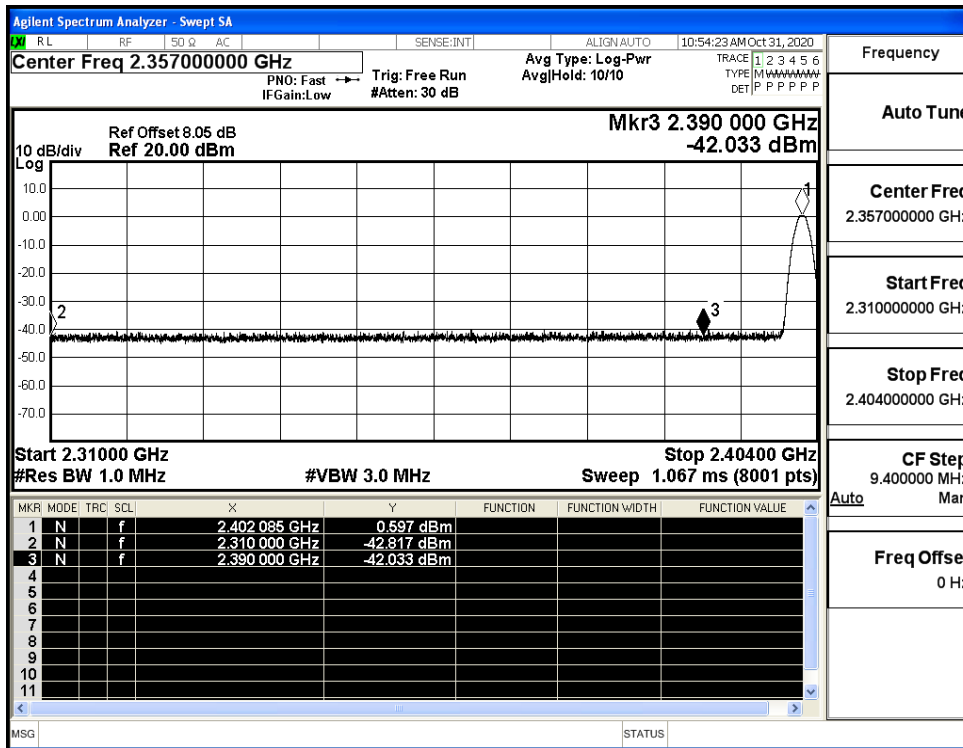
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



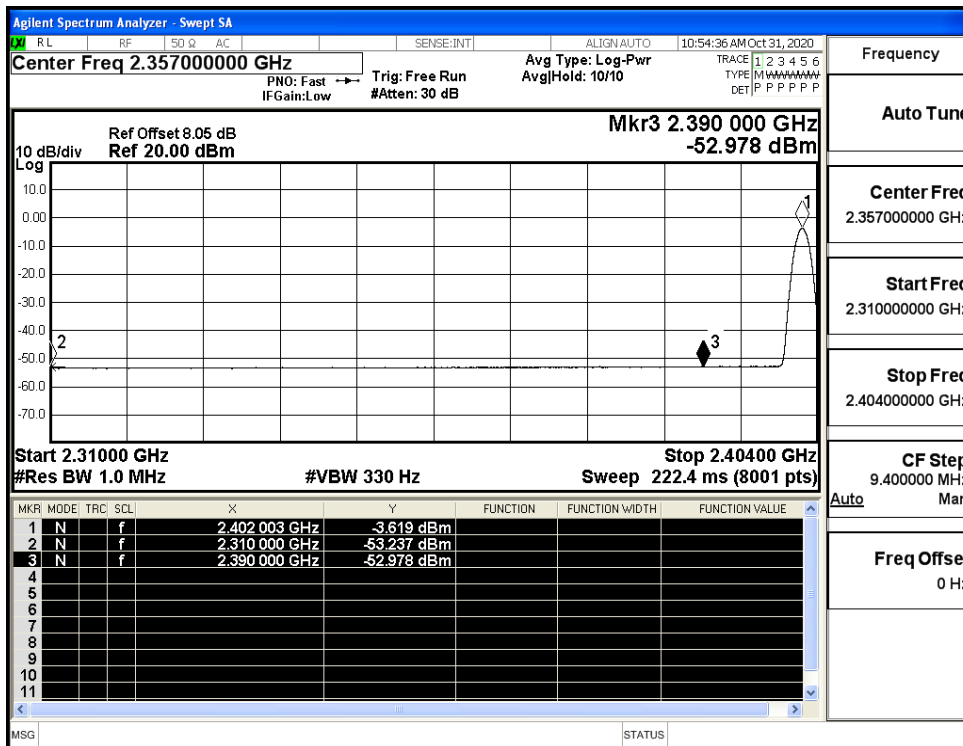
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



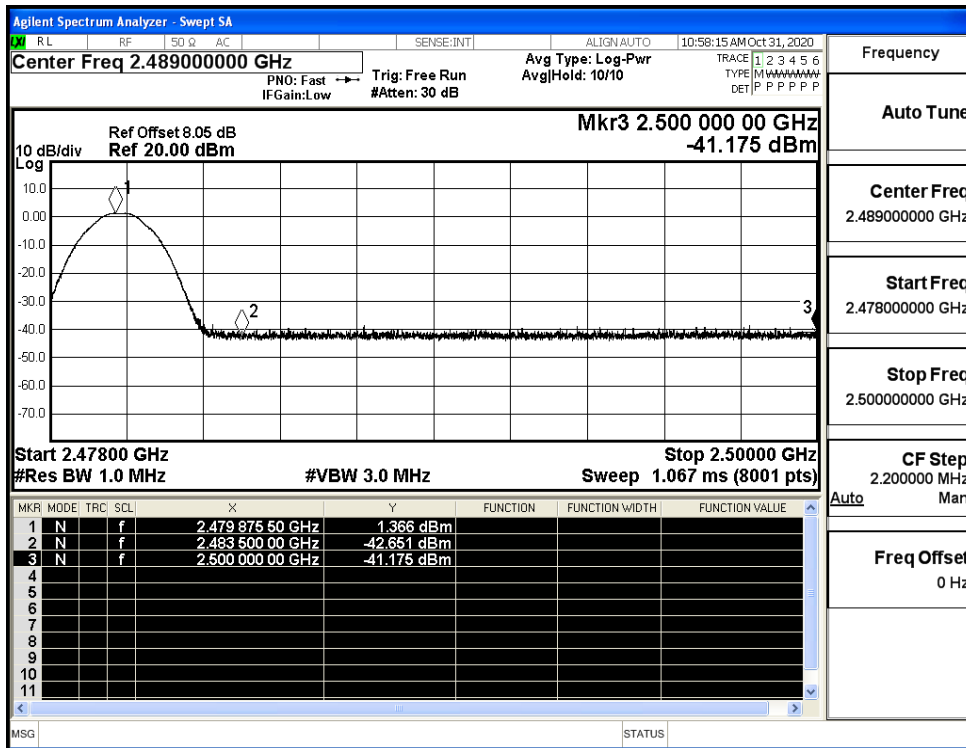
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)



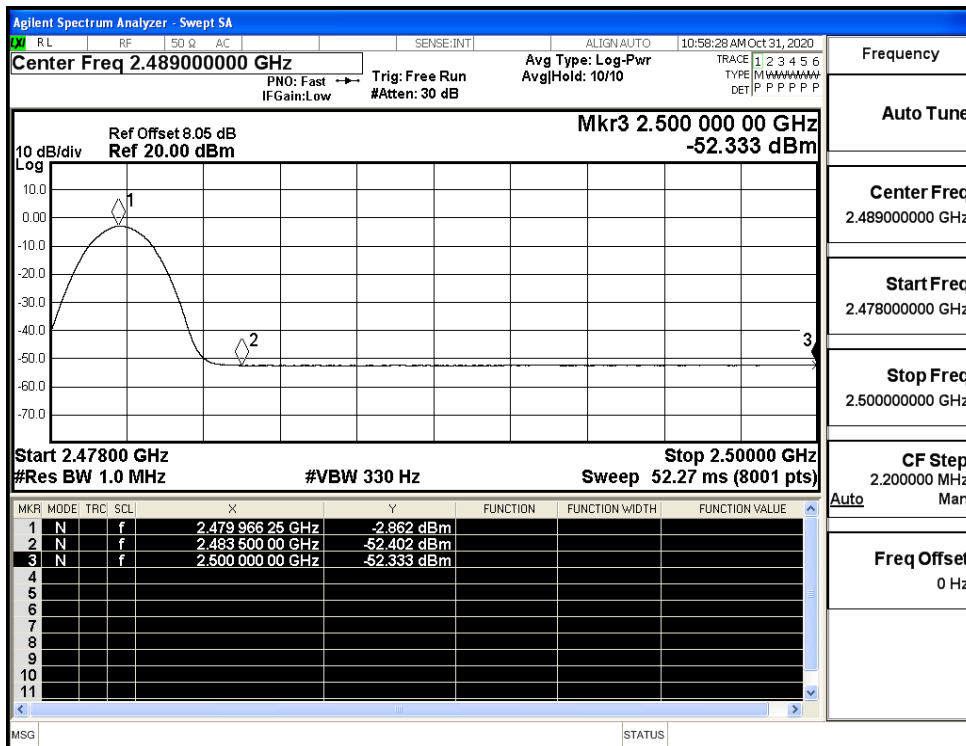
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)



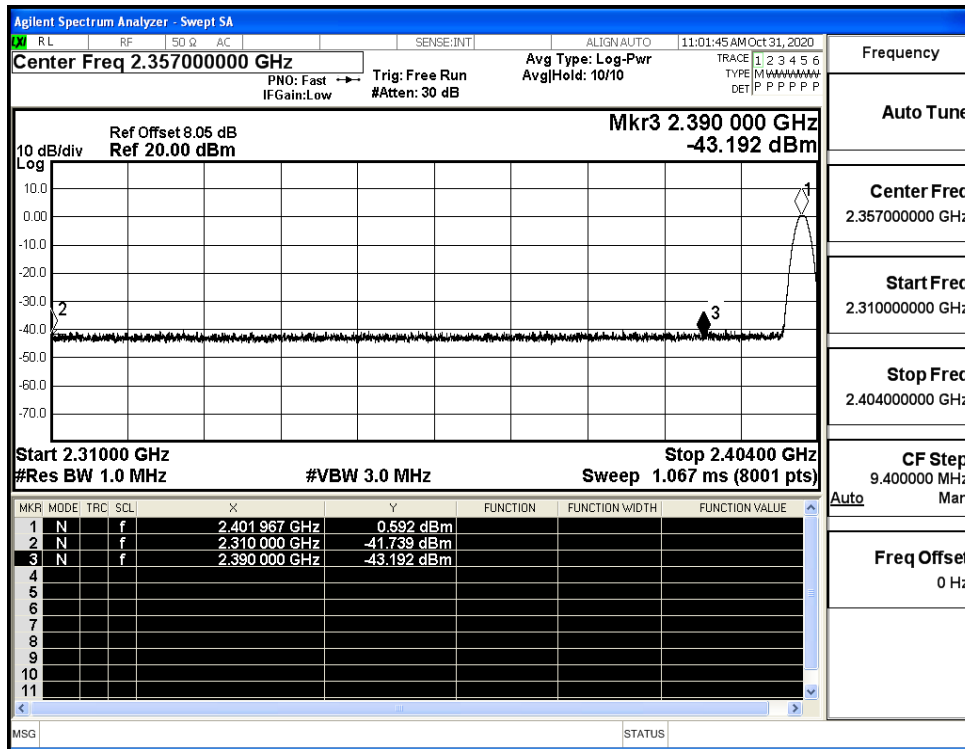
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



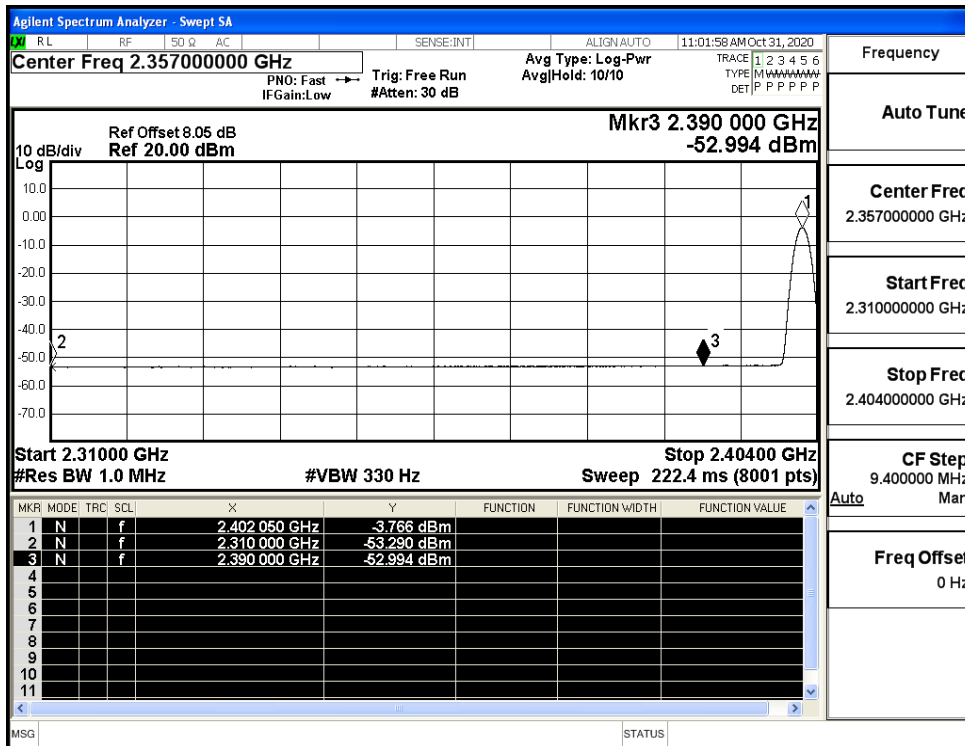
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



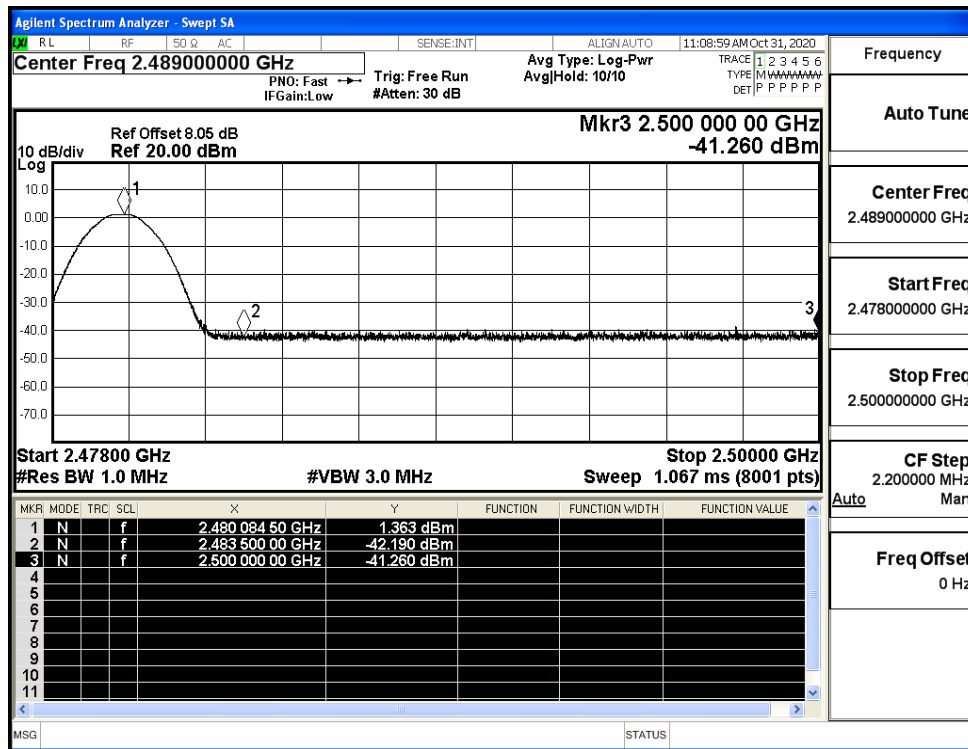
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

