

## Appendix A

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

Product Name: TRUE WIRELESS LED PARTY SPEAKER

Trade Mark: Soundlogic XT

Test Model: 21426

#### Environmental Conditions

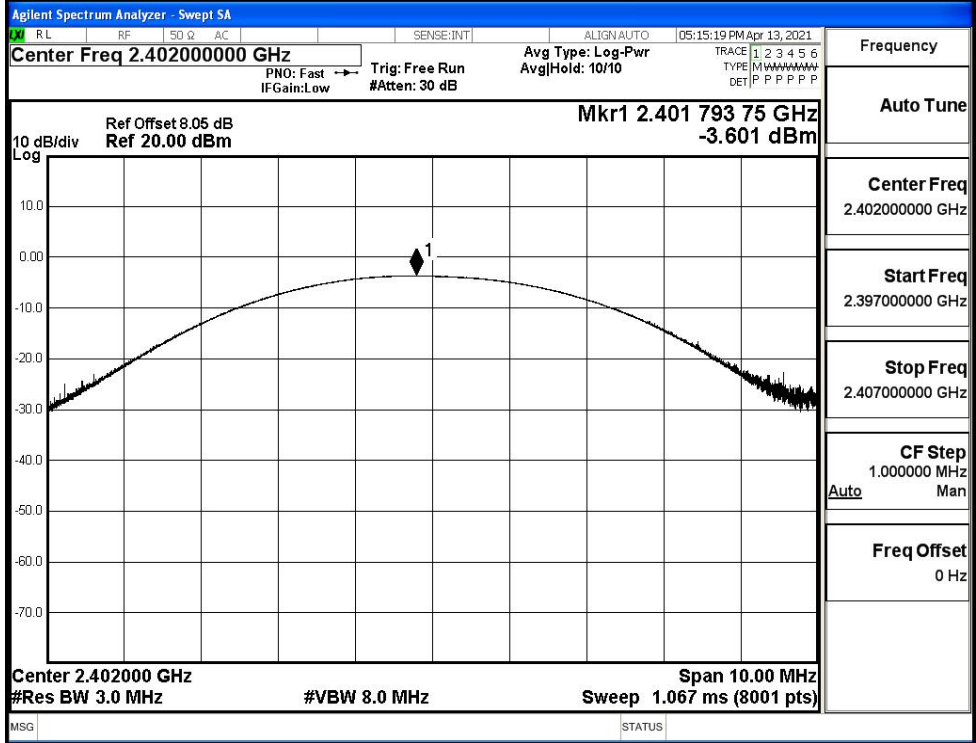
Temperature:	24.6° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Kay Hu
Supervised by:	Li Huan

#### A.1 Maximum Conducted Peak Output Power

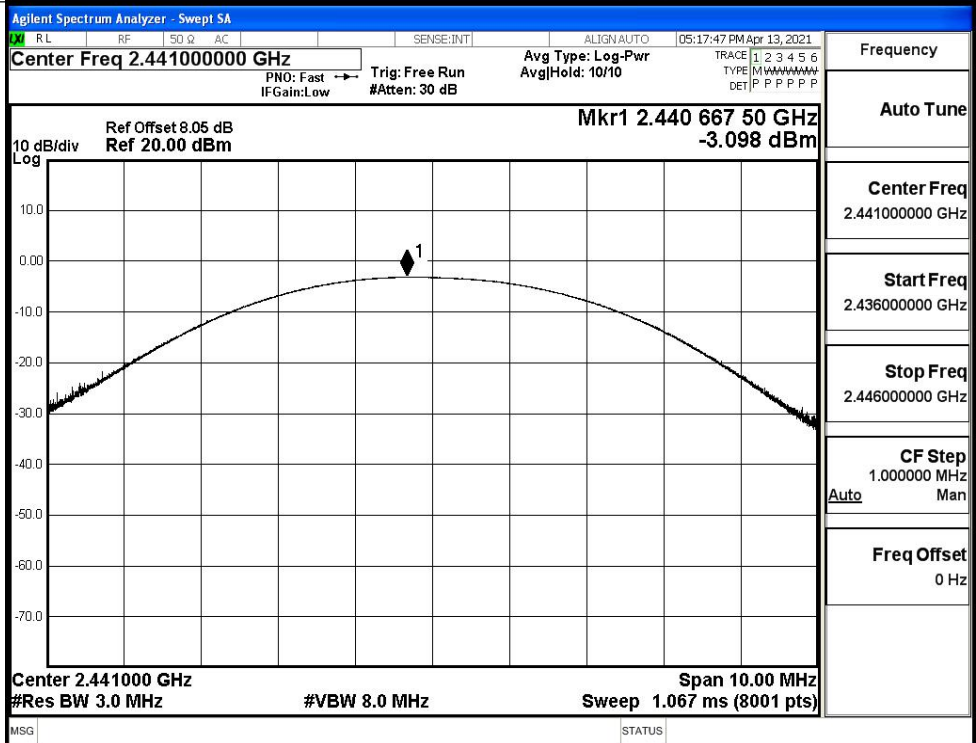
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-3.601	21	PASS
	MCH	-3.098	21	PASS
	HCH	-2.332	21	PASS
$\pi/4$ DQPSK	LCH	-2.878	21	PASS
	MCH	-2.352	21	PASS
	HCH	-1.666	21	PASS

Test Graphs

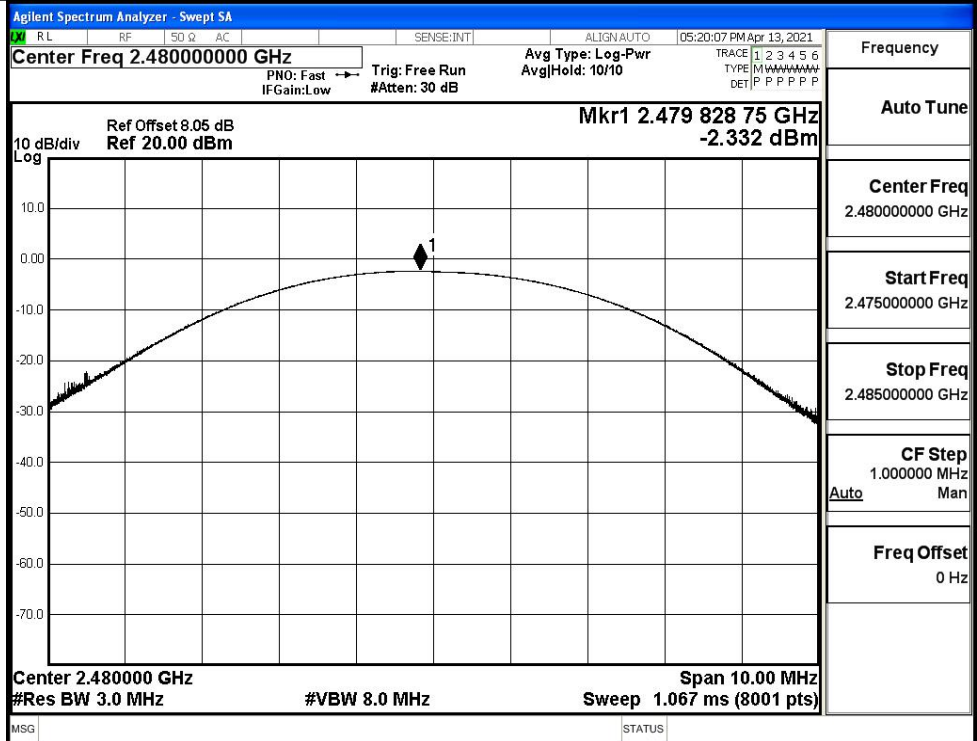
GFSK/LCH



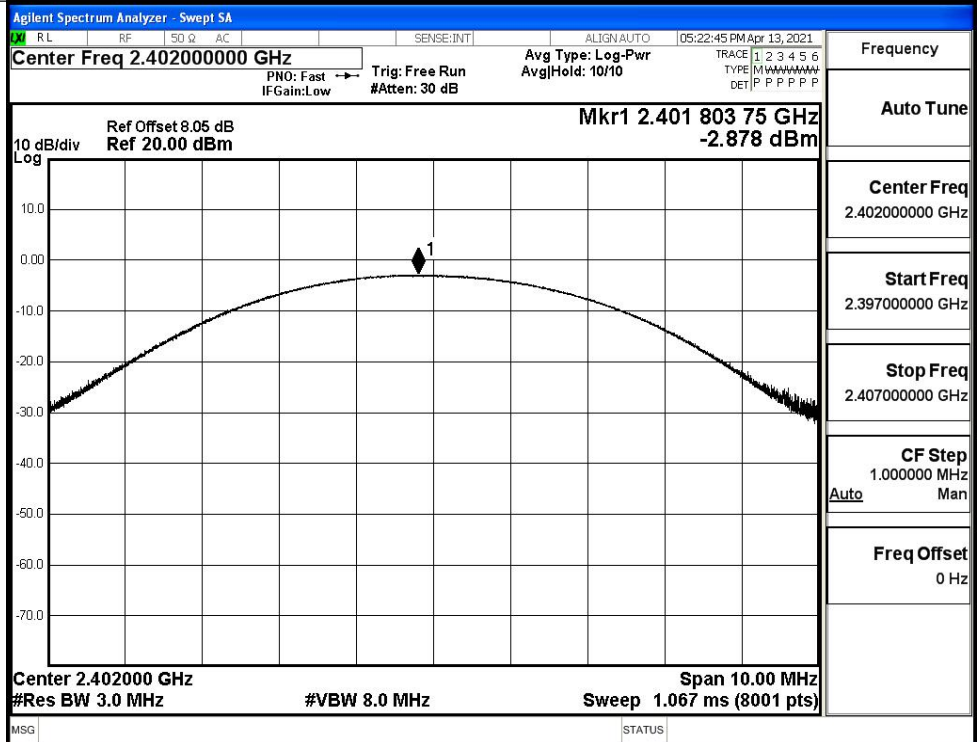
GFSK/MCH



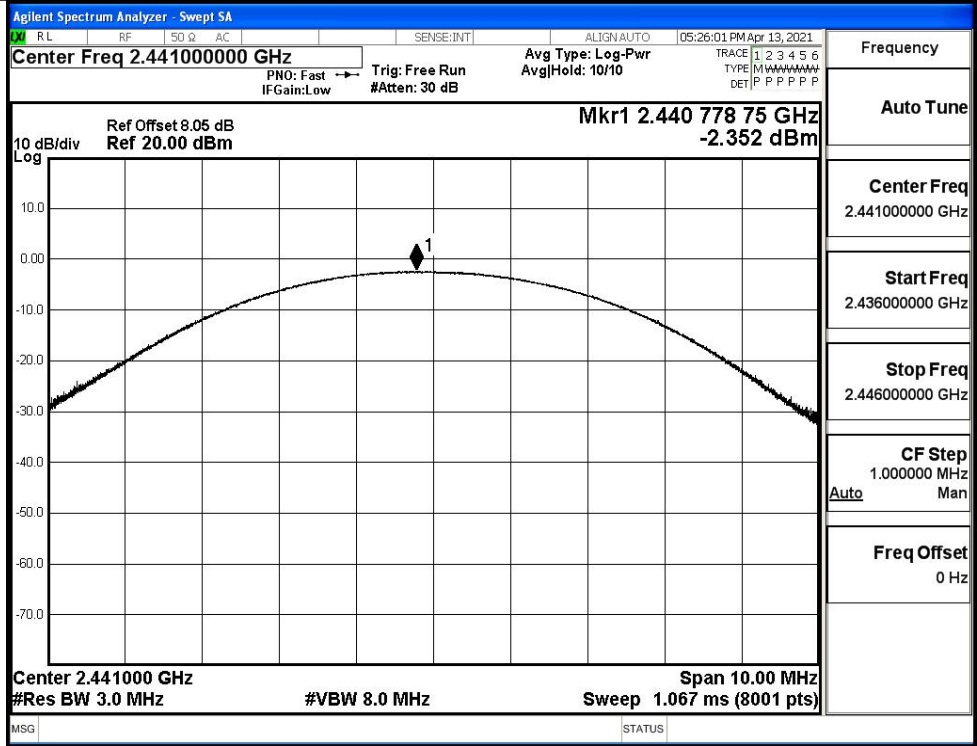
GFSK/HCH



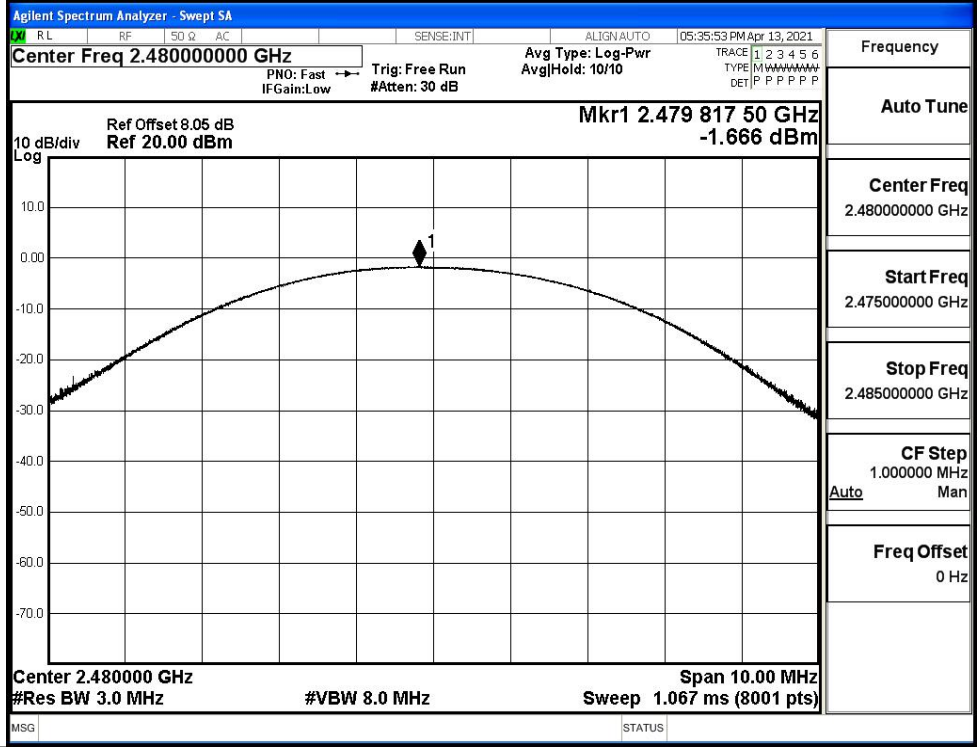
$\pi/4$ DQPSK/LCH



$\pi$ /4DQPSK/MCH

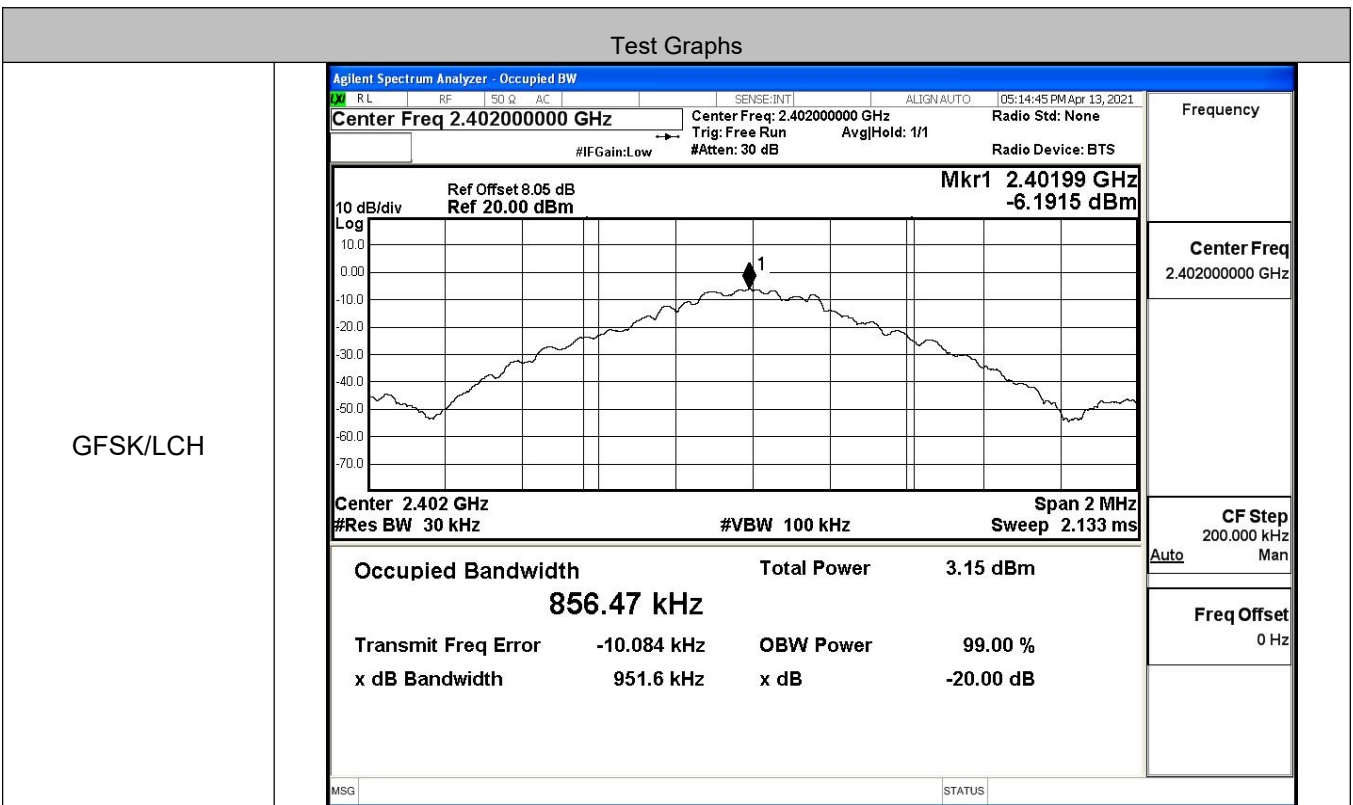


$\pi$ /4DQPSK/HCH

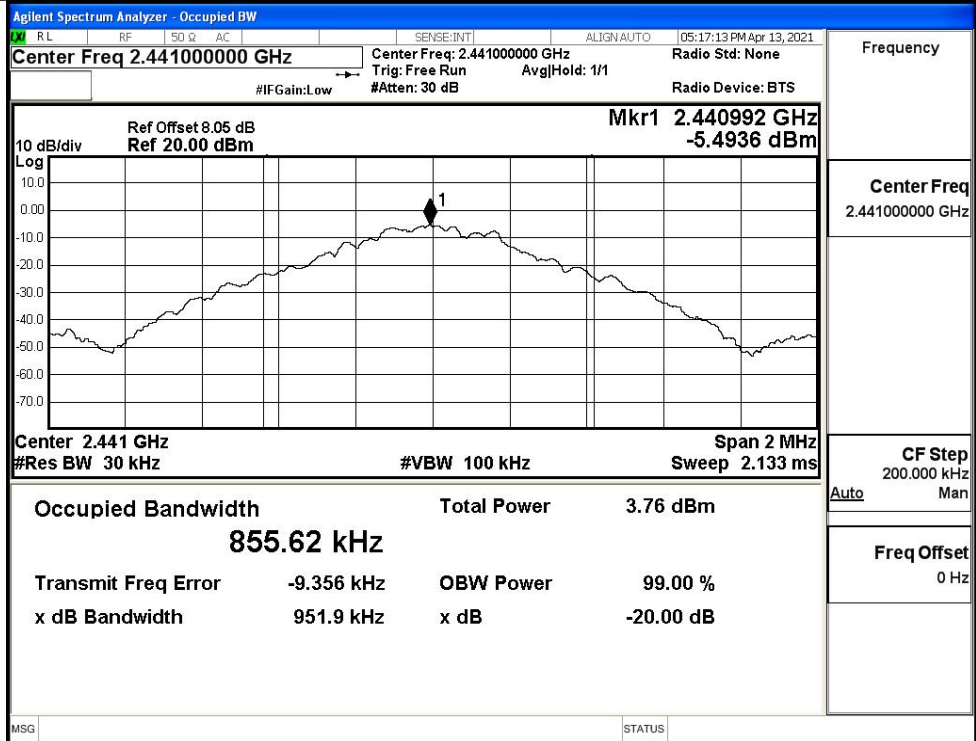


### A.2 20dB Bandwidth

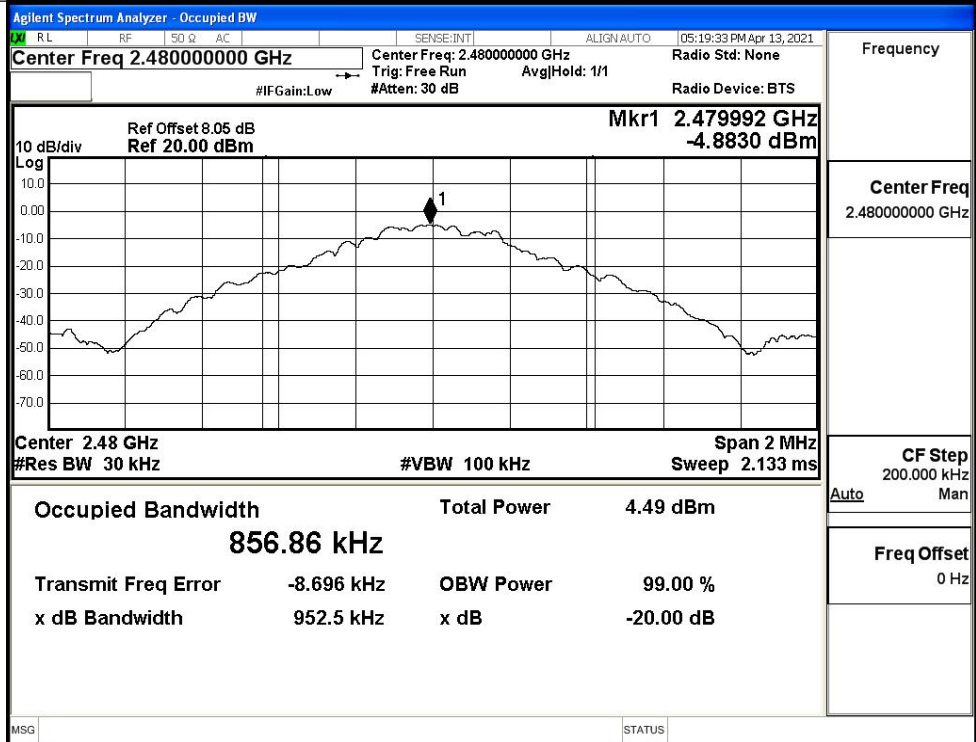
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9516	Not Specified	PASS
	MCH	0.9519	Not Specified	PASS
	HCH	0.9525	Not Specified	PASS
π/4DQPSK	LCH	1.311	Not Specified	PASS
	MCH	1.311	Not Specified	PASS
	HCH	1.310	Not Specified	PASS



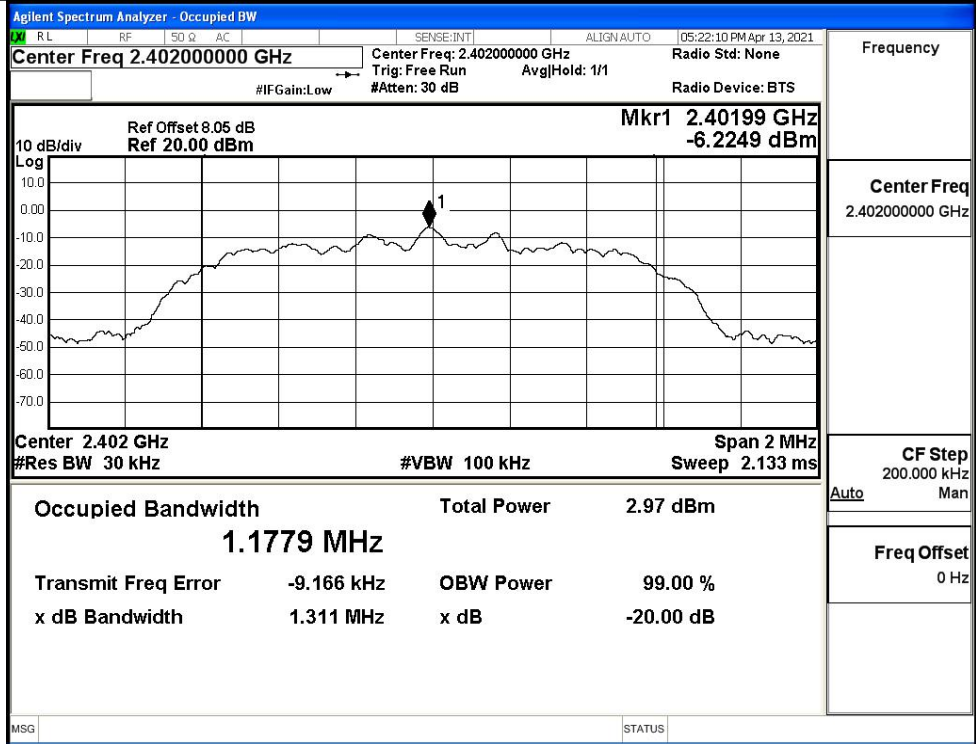
GFSK/MCH



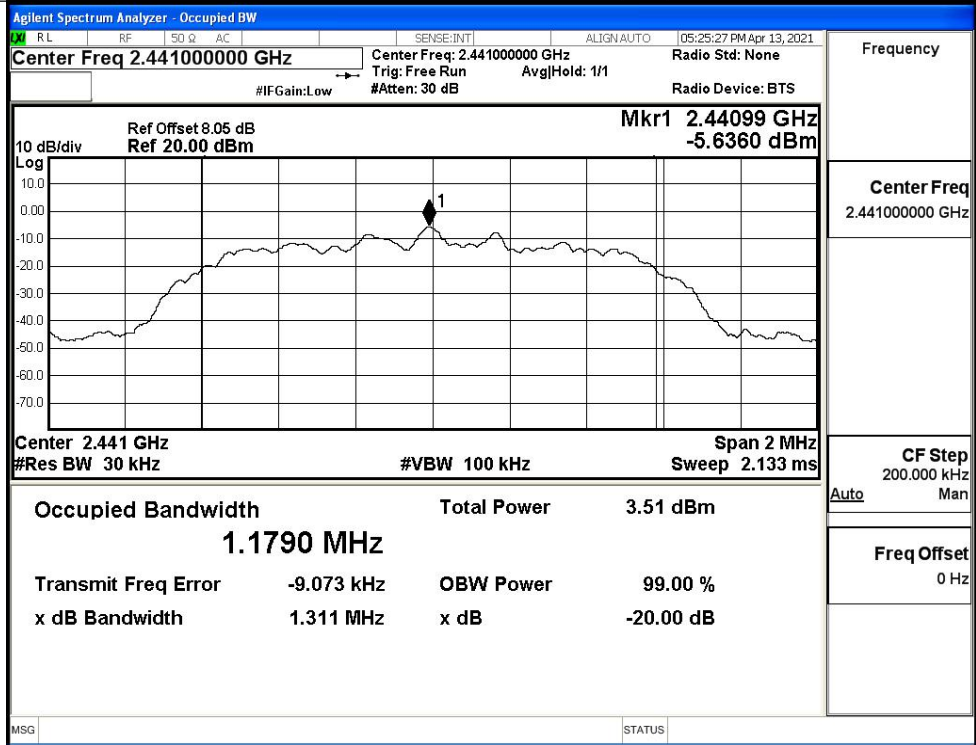
GFSK/HCH



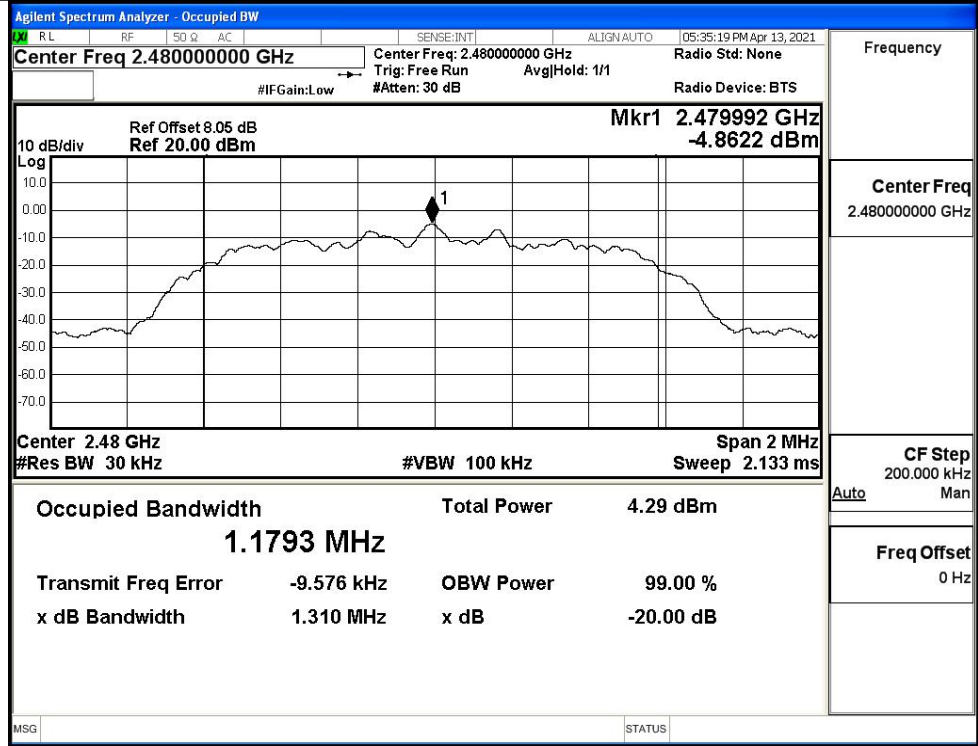
$\pi/4$ DQPSK/LCH



$\pi/4$ DQPSK/MCH



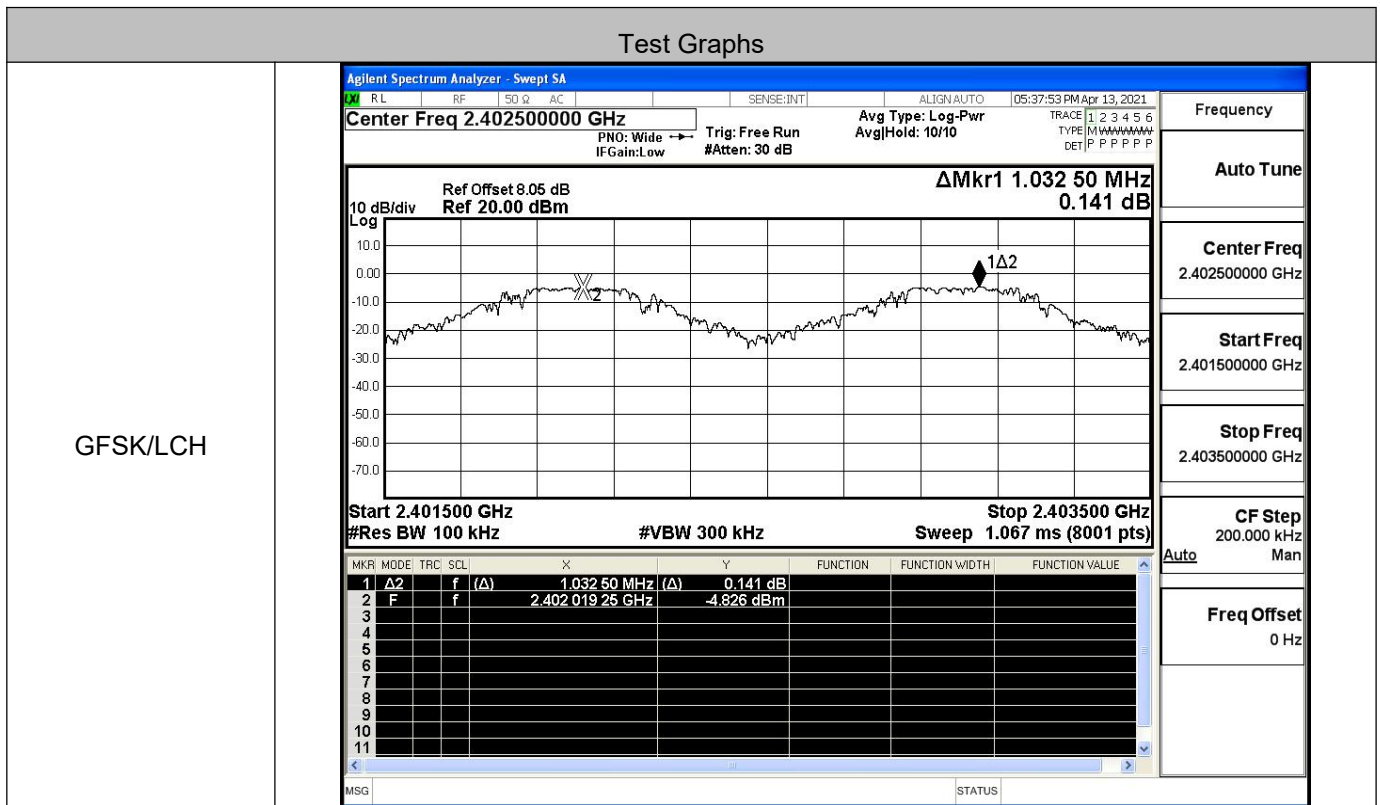
$\pi/4$ DQPSK/HCH



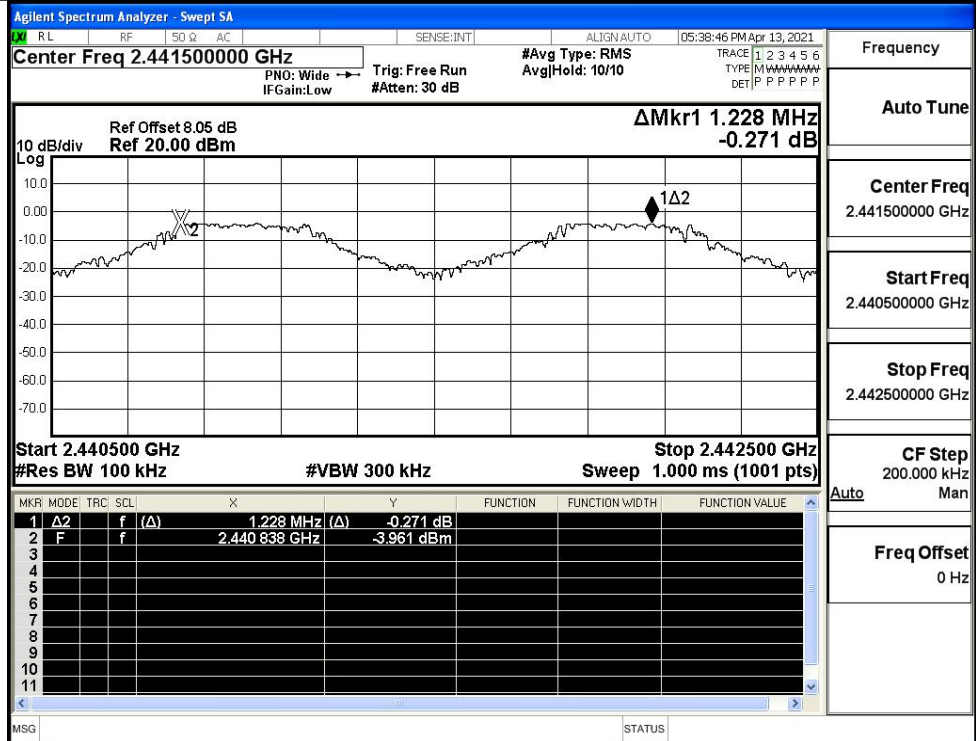


### A.3 Carrier Frequency Separation

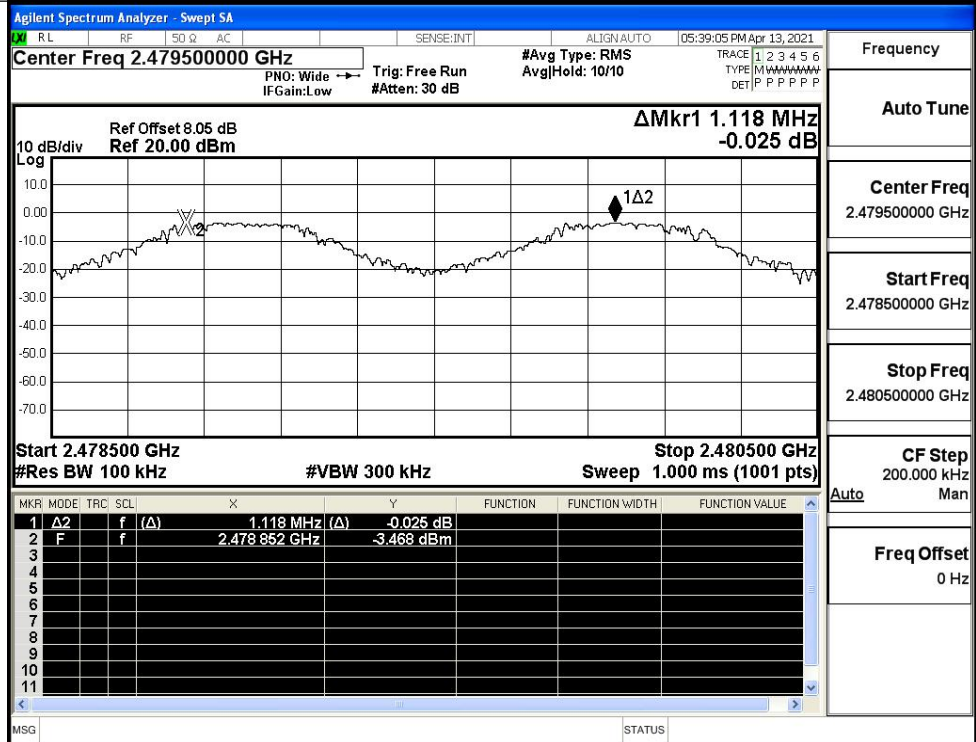
Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.033	0.635	PASS
	MCH	1.228	0.635	PASS
	HCH	1.118	0.635	PASS
π/4DQPSK	LCH	0.880	0.874	PASS
	MCH	1.168	0.874	PASS
	HCH	1.012	0.874	PASS



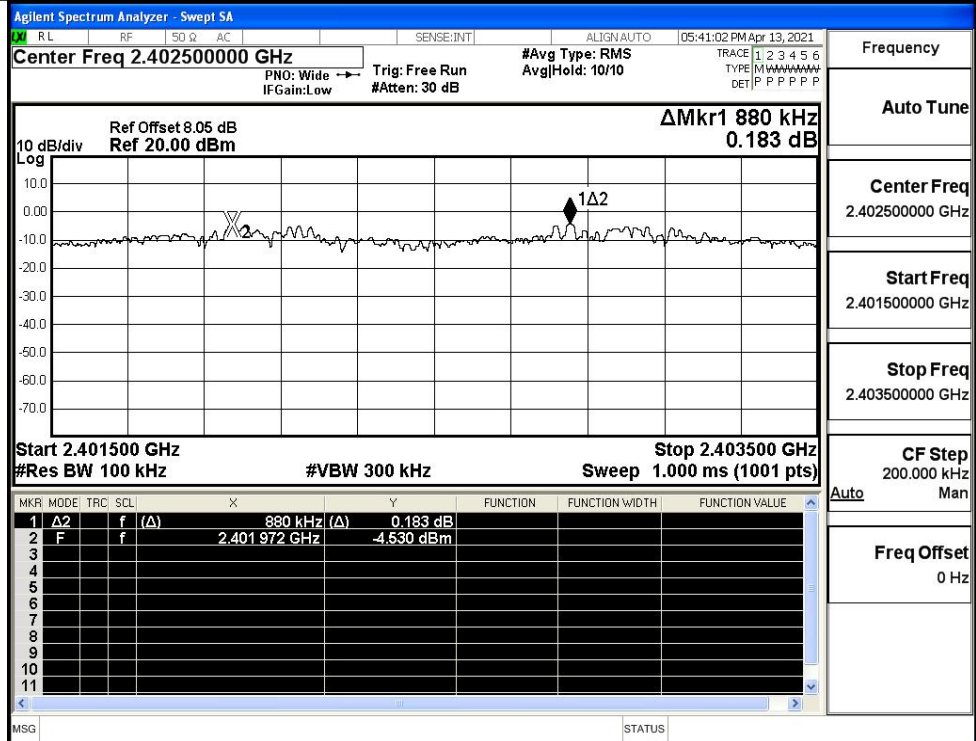
GFSK/MCH



GFSK/HCH



$\pi/4$ DQPSK/LCH



Frequency

Auto Tune

Center Freq  
2.402500000 GHz

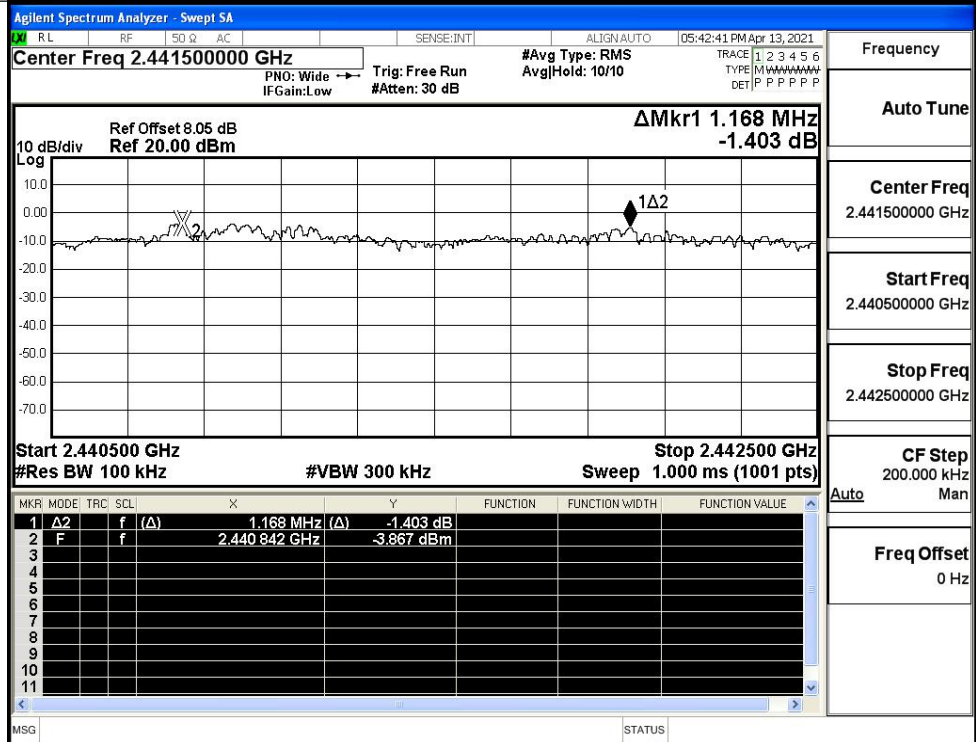
Start Freq  
2.401500000 GHz

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

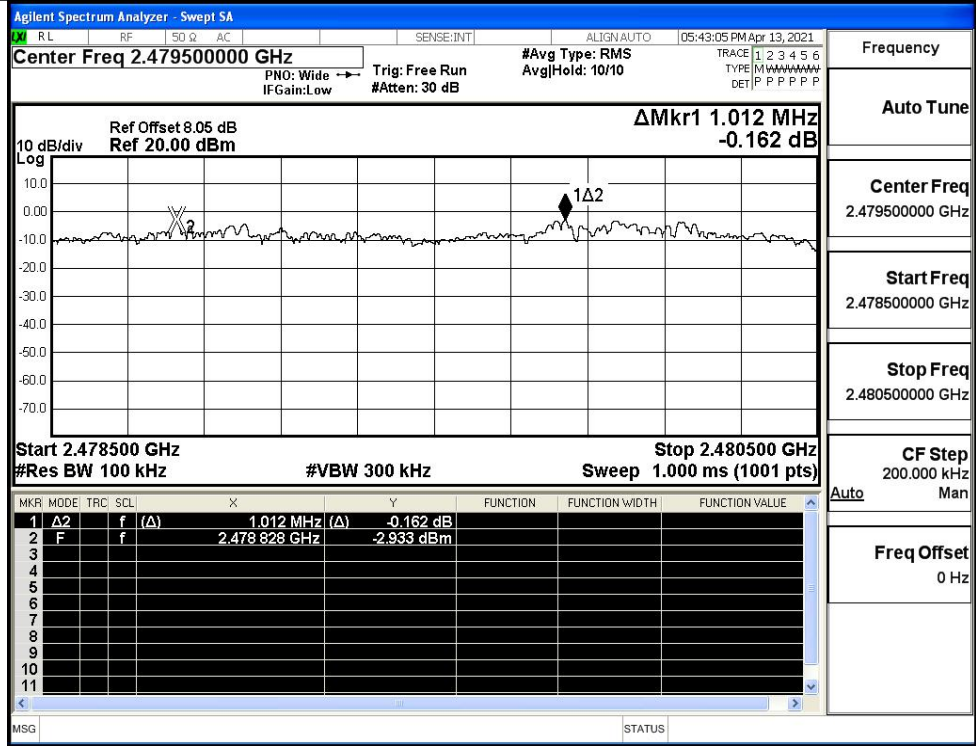
Start Freq  
2.440500000 GHz

Stop Freq  
2.442500000 GHz

CF Step  
200.000 kHz  
Auto Man

Freq Offset  
0 Hz

π/4DQPSK/HCH



### A.4 Hopping Channel Number

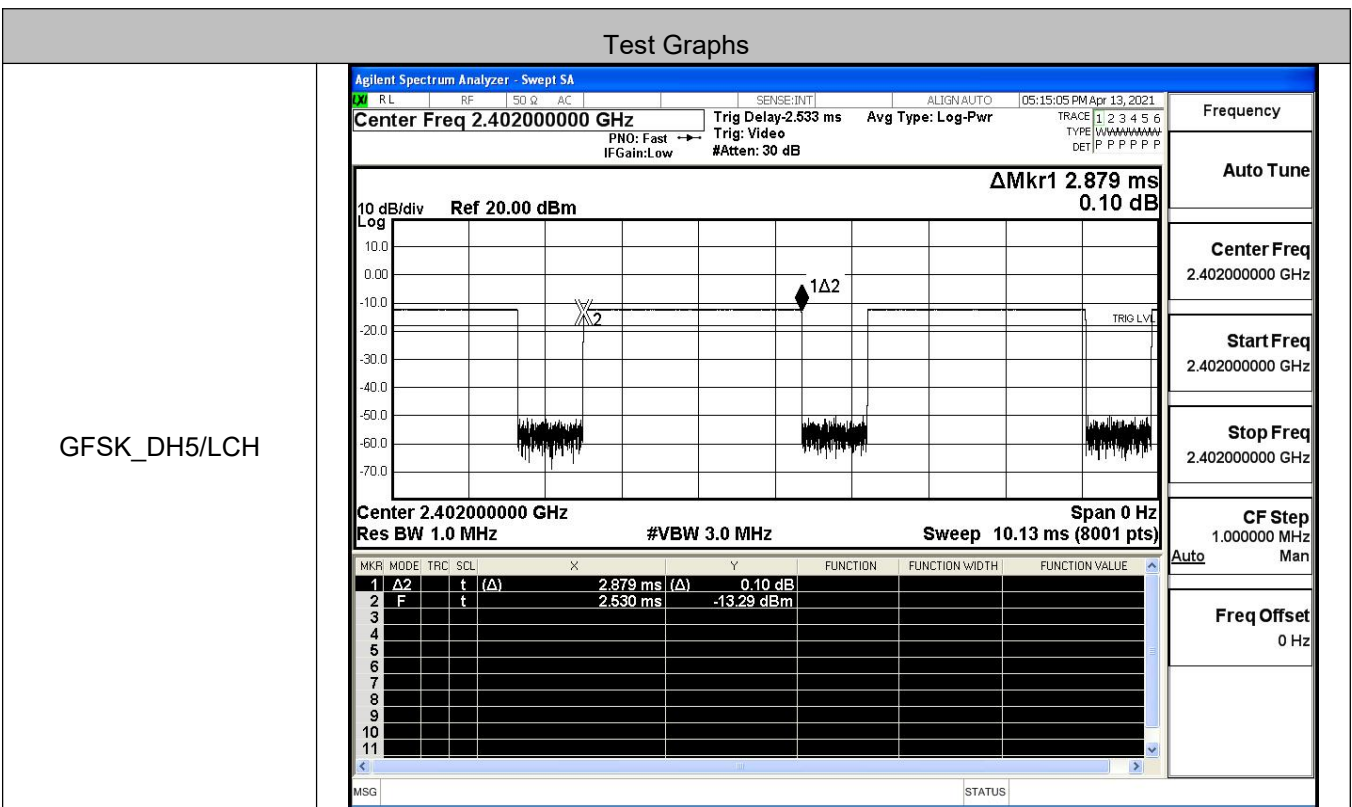
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS

#### Test Graphs

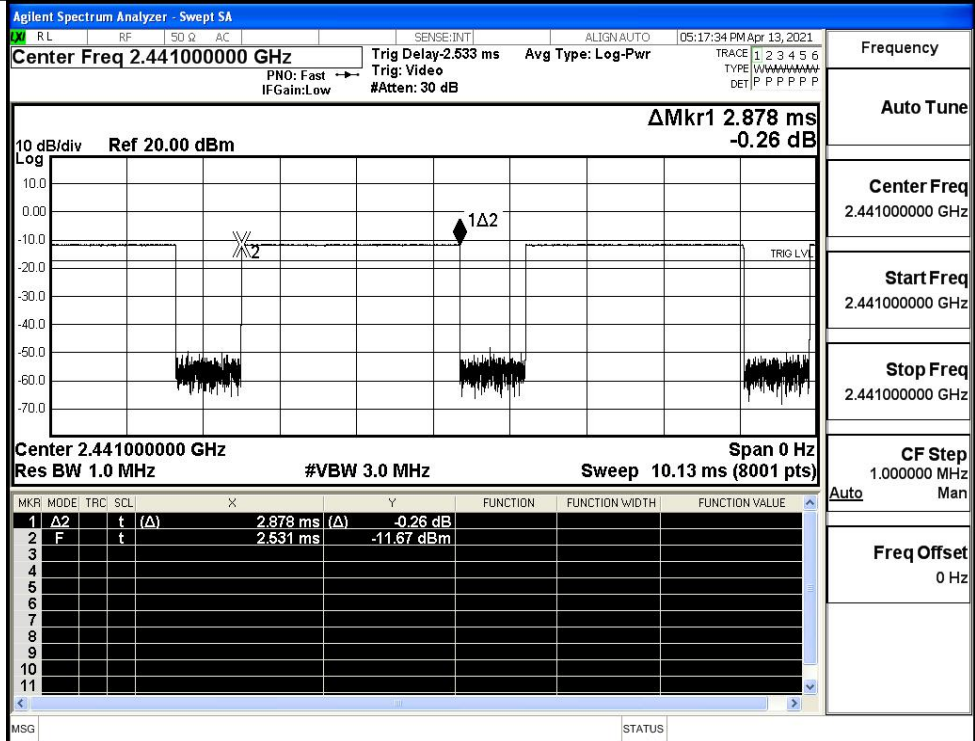
<p>GFSK/Hop</p>	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.441750000 GHz</p> <p>Ref Offset 8.05 dB Ref 20.00 dBm</p> <p><math>\Delta</math>Mkr1 77.989 MHz 1.158 dB</p> <p>Start 2.40000 GHz Stop 2.48350 GHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 8.000 ms (8001 pts)</p> <table border="1"> <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><math>\Delta</math>2</td> <td>f</td> <td>(<math>\Delta</math>)</td> <td>77.989 MHz (<math>\Delta</math>)</td> <td>1.158 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td></td> <td>2.401994 GHz</td> <td>-4.295 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	$\Delta$ 2	f	( $\Delta$ )	77.989 MHz ( $\Delta$ )	1.158 dB				2	F	f		2.401994 GHz	-4.295 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</p> <p>Freq Offset 0 Hz</p>
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																					
1	$\Delta$ 2	f	( $\Delta$ )	77.989 MHz ( $\Delta$ )	1.158 dB																								
2	F	f		2.401994 GHz	-4.295 dBm																								
<p><math>\pi/4</math>DQPSK/Hop</p>	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.441750000 GHz</p> <p>Ref Offset 8.05 dB Ref 20.00 dBm</p> <p><math>\Delta</math>Mkr1 77.665 MHz 0.967 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"> <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><math>\Delta</math>2</td> <td>f</td> <td>(<math>\Delta</math>)</td> <td>77.665 MHz (<math>\Delta</math>)</td> <td>0.967 dB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>f</td> <td></td> <td>2.402161 GHz</td> <td>-4.631 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	$\Delta$ 2	f	( $\Delta$ )	77.665 MHz ( $\Delta$ )	0.967 dB				2	F	f		2.402161 GHz	-4.631 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</p> <p>Freq Offset 0 Hz</p>
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																					
1	$\Delta$ 2	f	( $\Delta$ )	77.665 MHz ( $\Delta$ )	0.967 dB																								
2	F	f		2.402161 GHz	-4.631 dBm																								

### A.5 Dwell Time

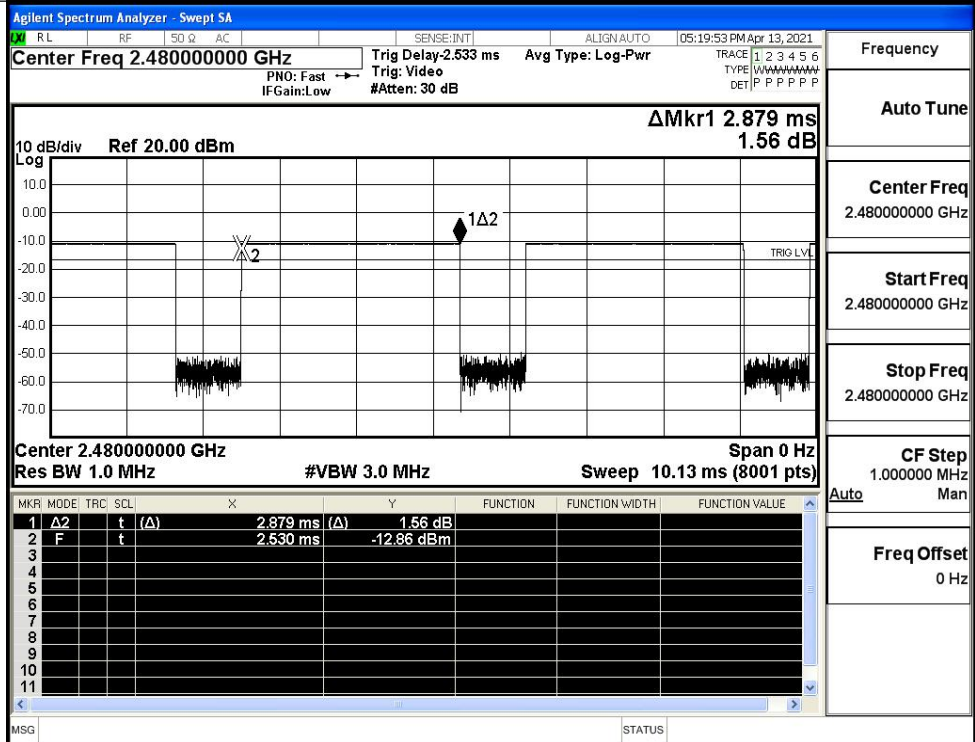
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88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



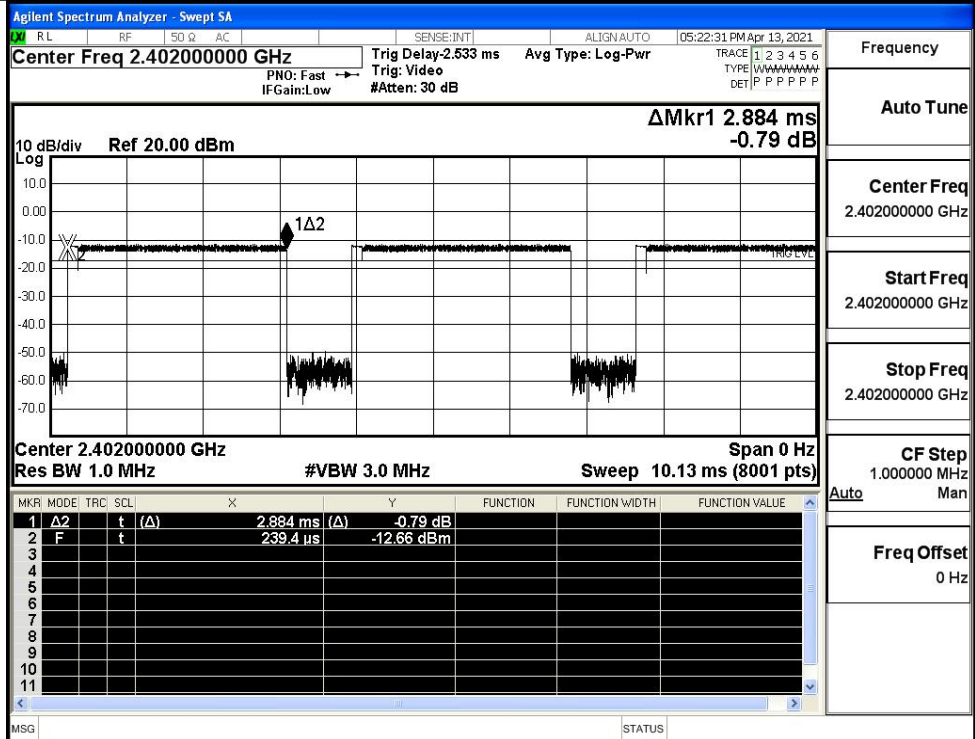
GFSK\_DH5/MCH



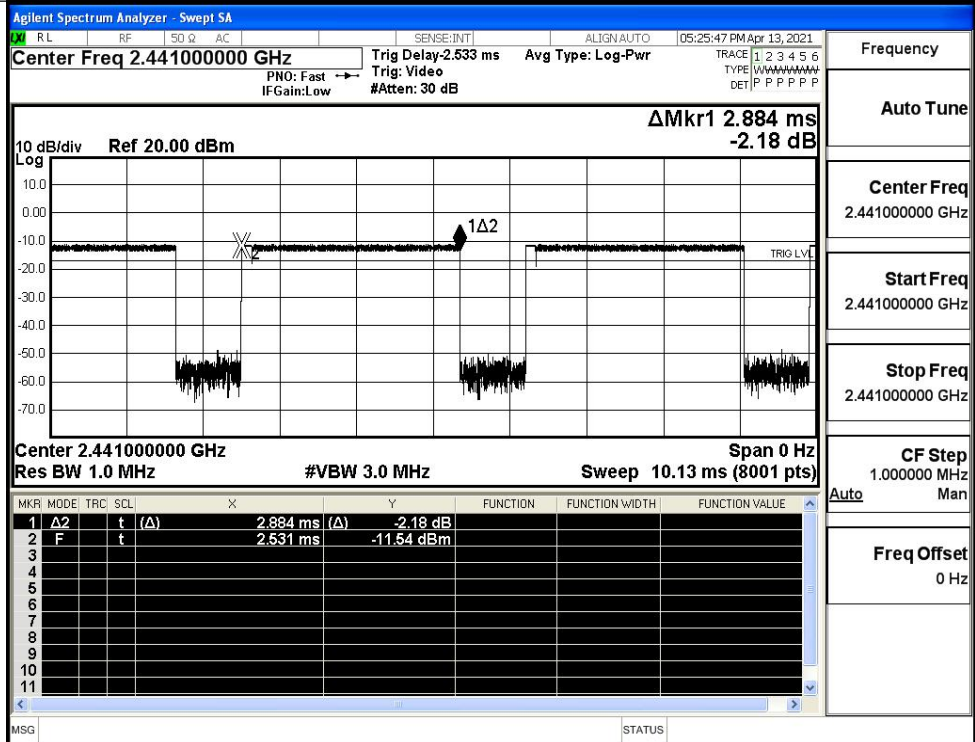
GFSK\_DH5/HCH



$\pi/4$ DQPSK  
\_2DH5/LCH

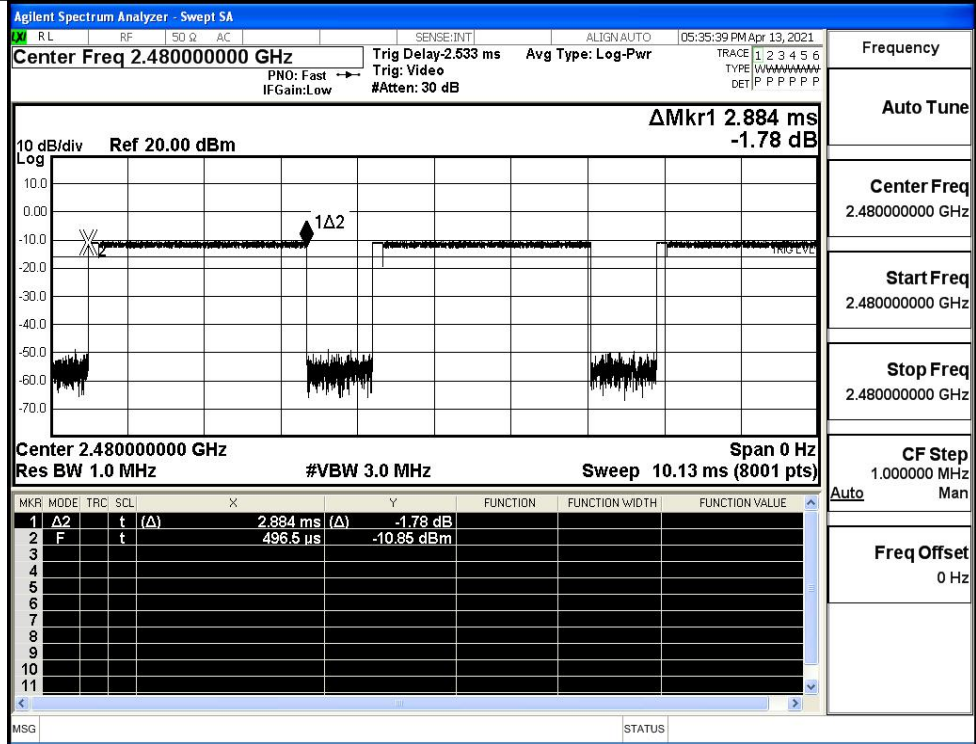


$\pi/4$ DQPSK  
\_2DH5/MCH





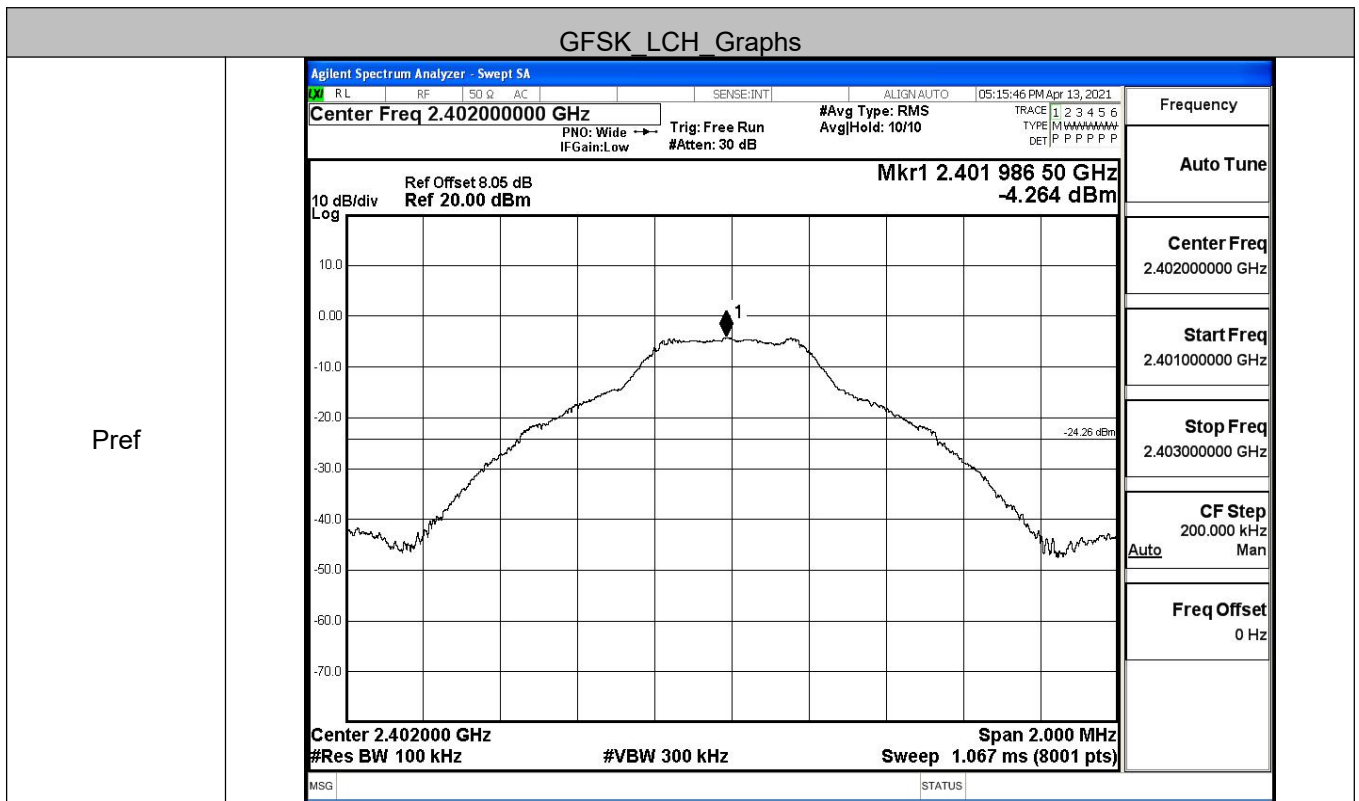
$\pi/4$ DQPSK  
\_2DH5/HCH

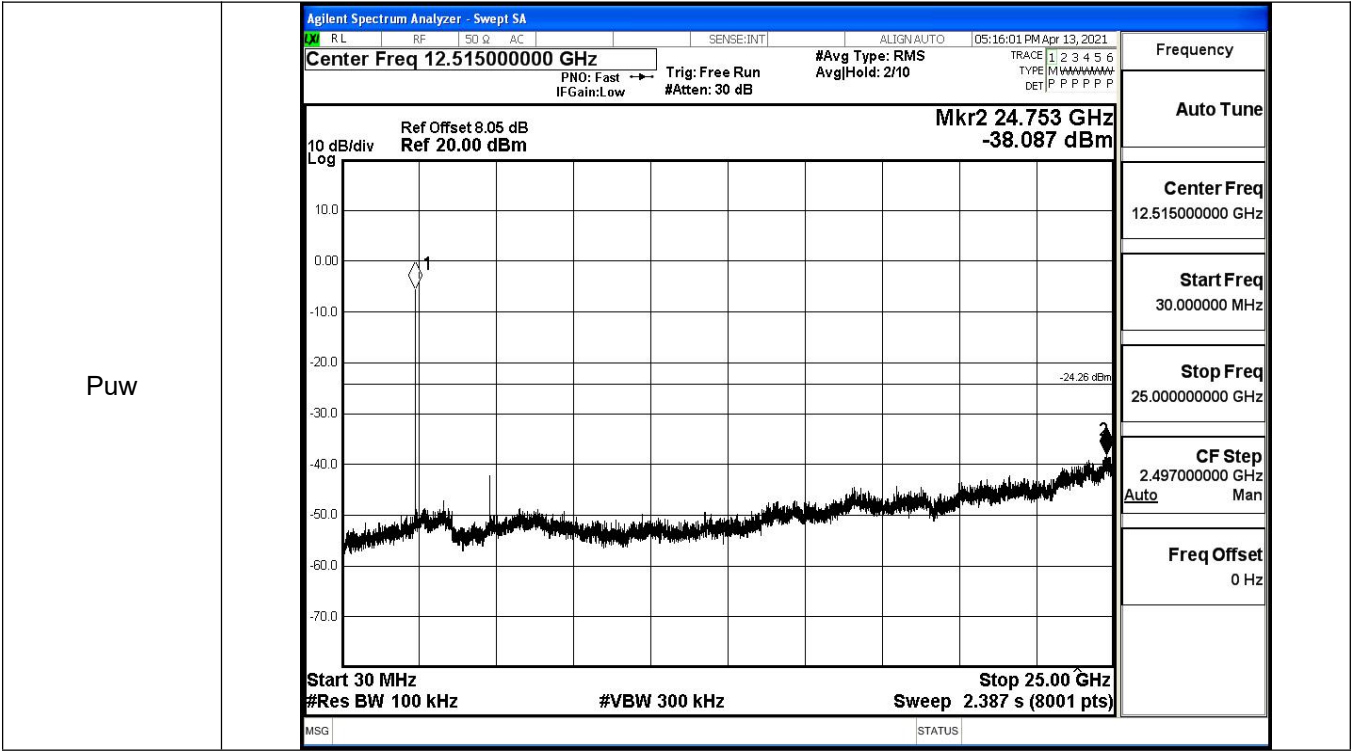


### A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-4.264	-38.087	-24.264	PASS
	MCH	-3.973	-37.036	-23.973	PASS
	HCH	-3.193	-38.368	-23.193	PASS
π/4DQPSK	LCH	-4.272	-37.169	-24.272	PASS
	MCH	-3.555	-37.196	-23.555	PASS
	HCH	-3.055	-38.035	-23.055	PASS

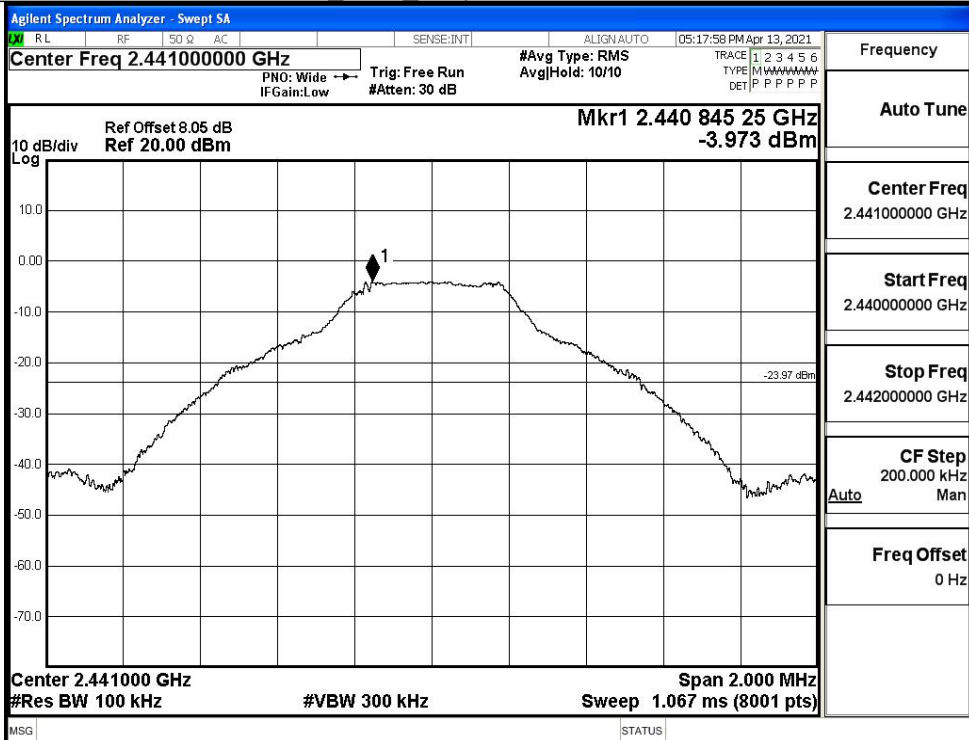
GFSK LCH Graphs



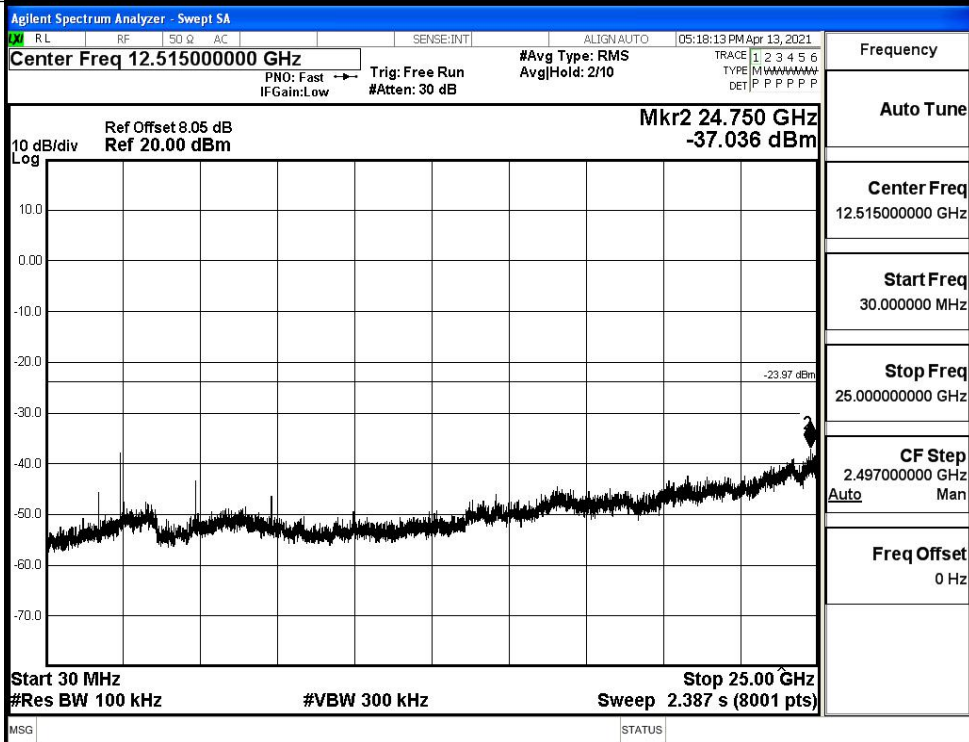


GFSK MCH\_Graphs

Pref

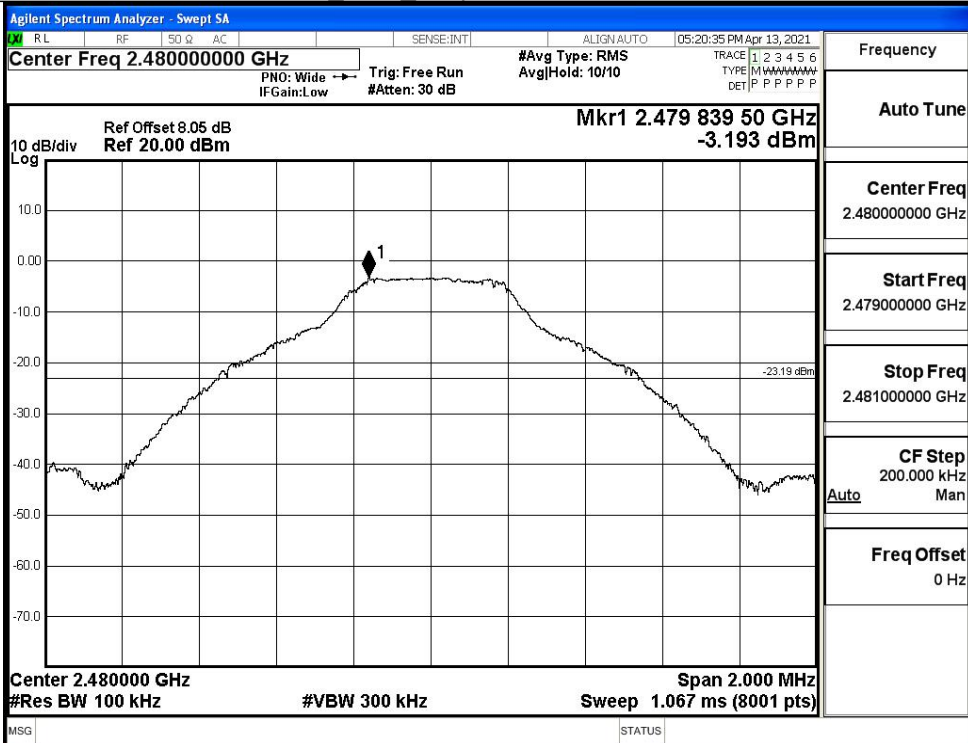


Puw

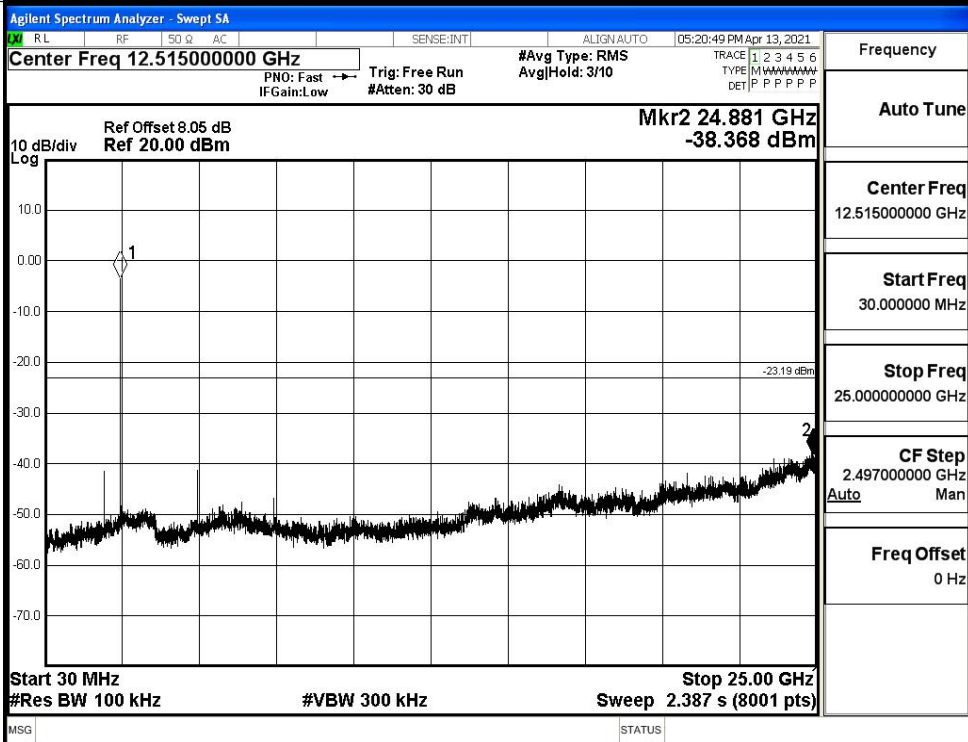


GFSK HCH\_Graphs

Pref

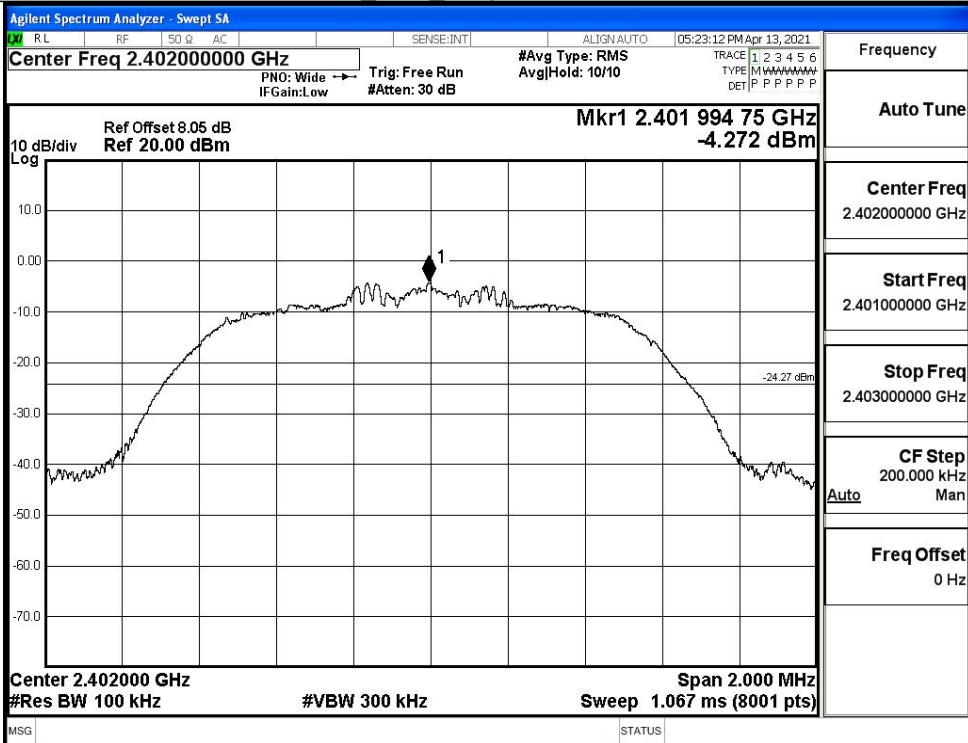


Puw

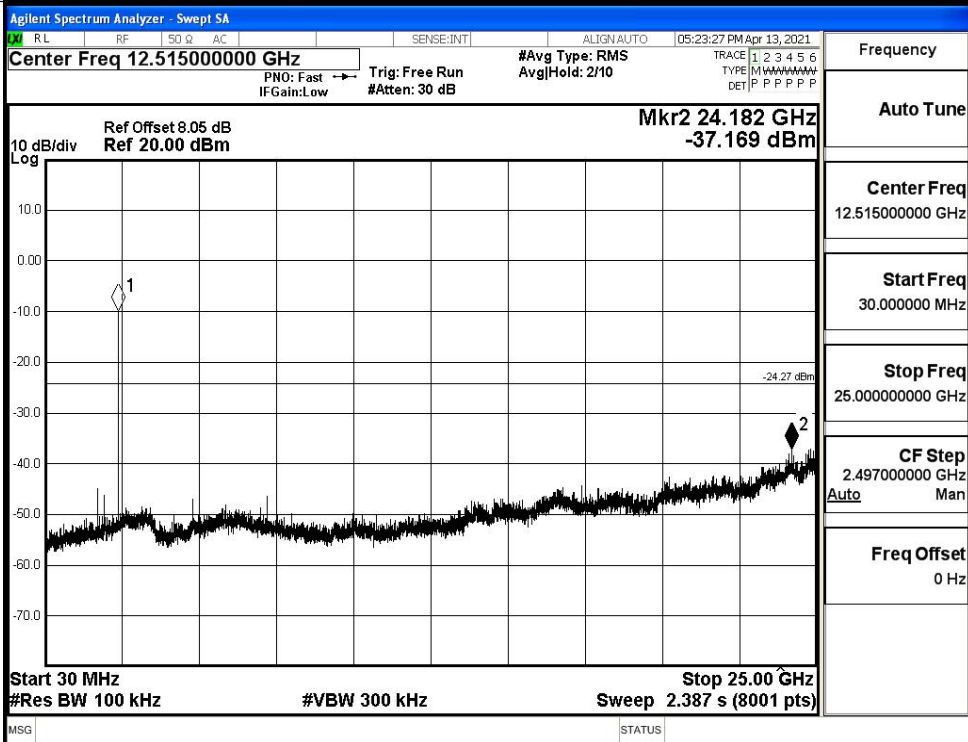


$\pi/4$ DQPSK LCH\_Graphs

Pref

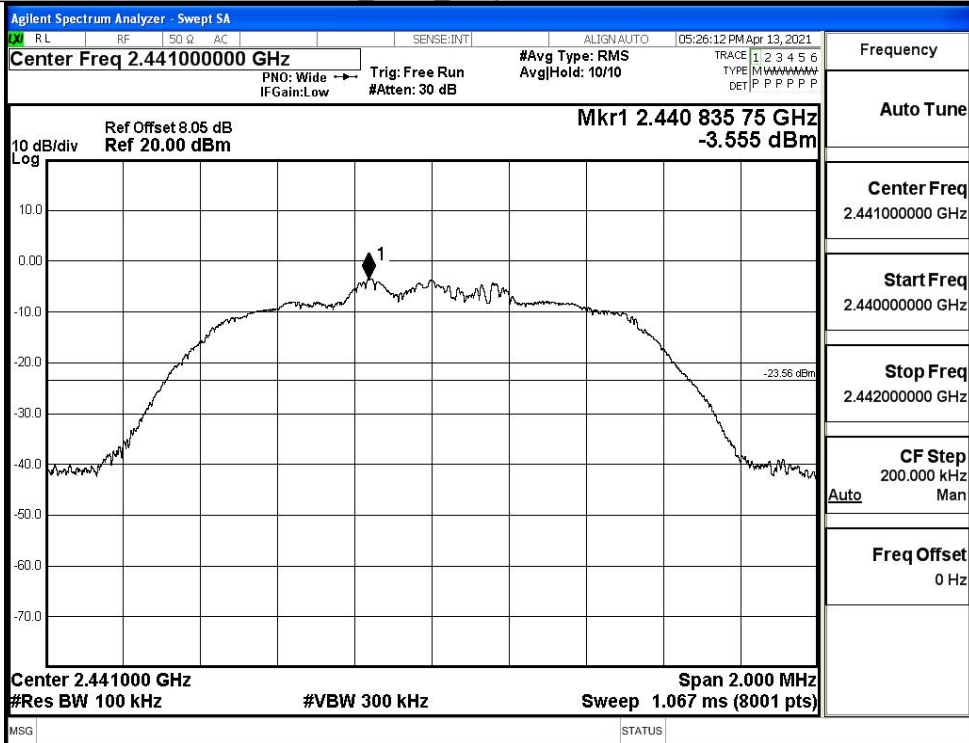


Puw



$\pi/4$ DQPSK MCH\_Graphs

Pref



Puw

