Appendix A

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

Product Name: Bluetooth headphones

Trade Mark: N/A

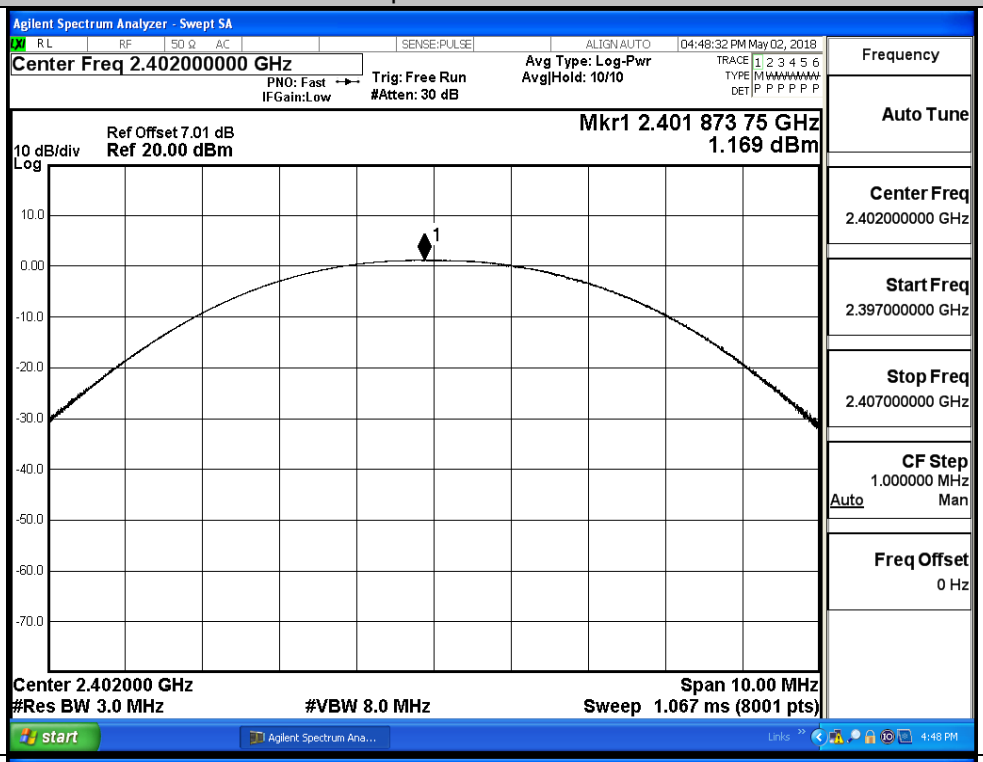
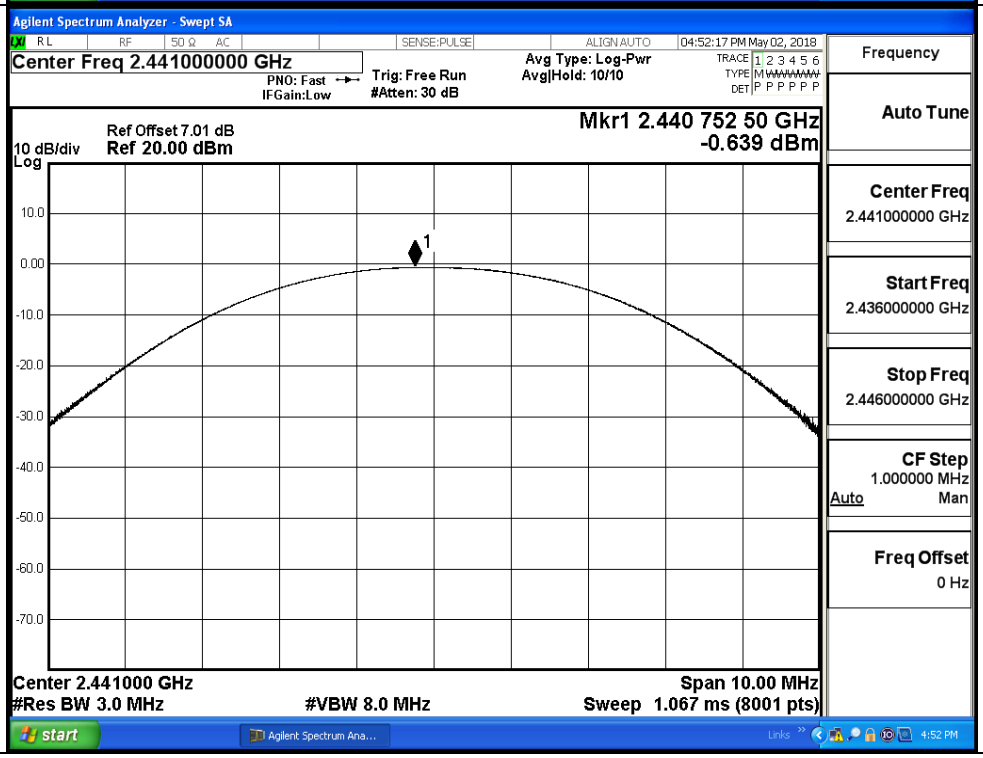
Test Model: AZ10012

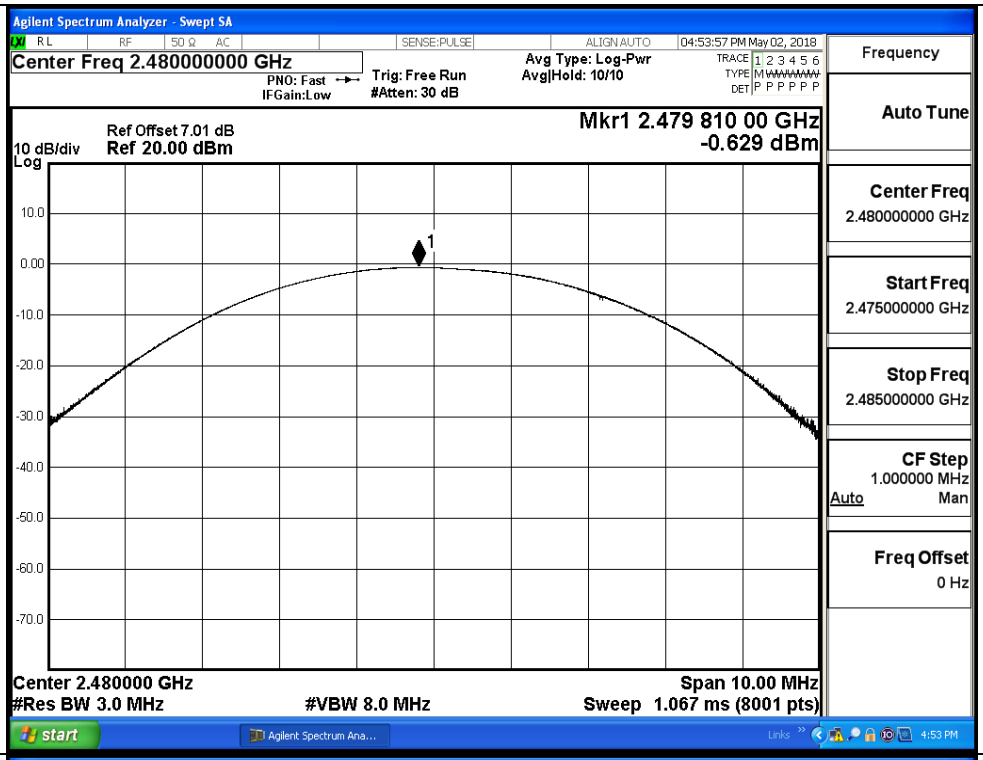
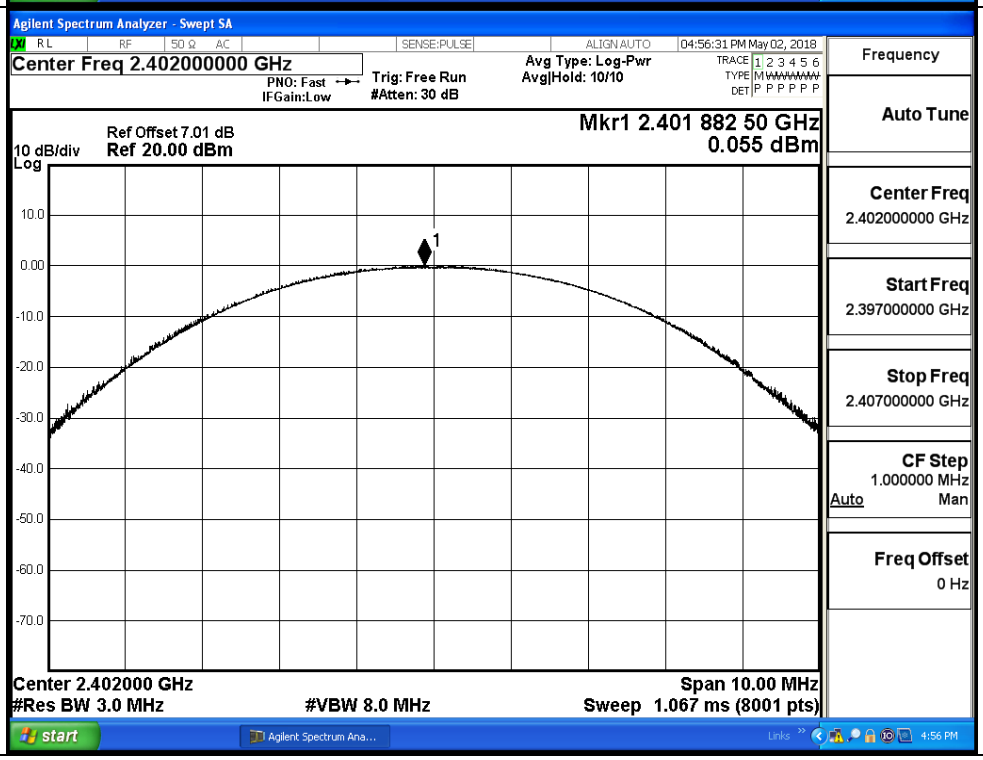
Environmental Conditions

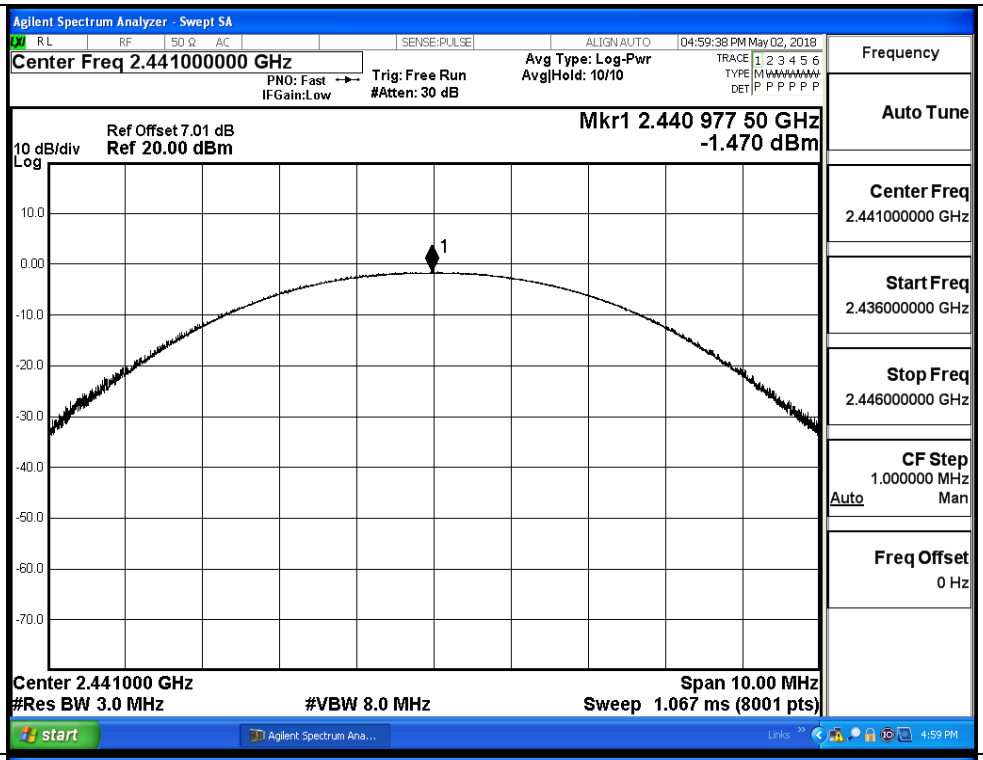
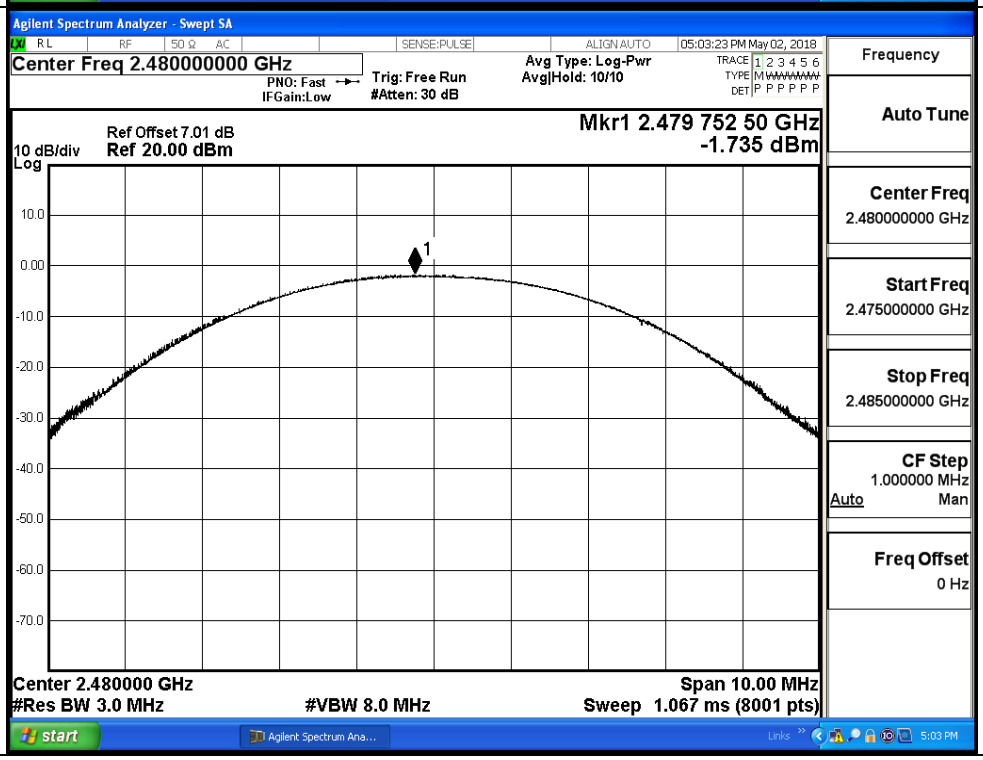
Temperature:	21.3 ° C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	WANGCHUANG
Supervised by:	Jayden.Zhuo

A.1 Maxmum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.169	30	PASS
	MCH	-0.639	30	PASS
	HCH	-0.629	30	PASS
π/4DQPSK	LCH	0.055	21	PASS
	MCH	-1.470	21	PASS
	HCH	-1.735	21	PASS

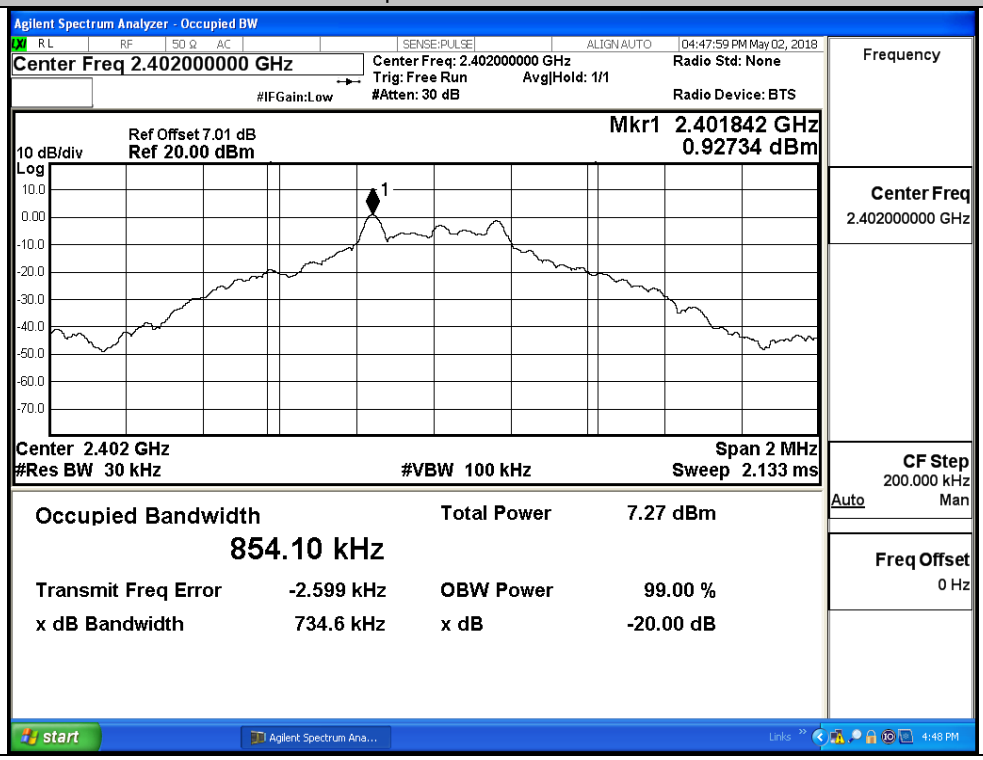
Test Graphs		
GFSK/LCH		
GFSK/MCH		

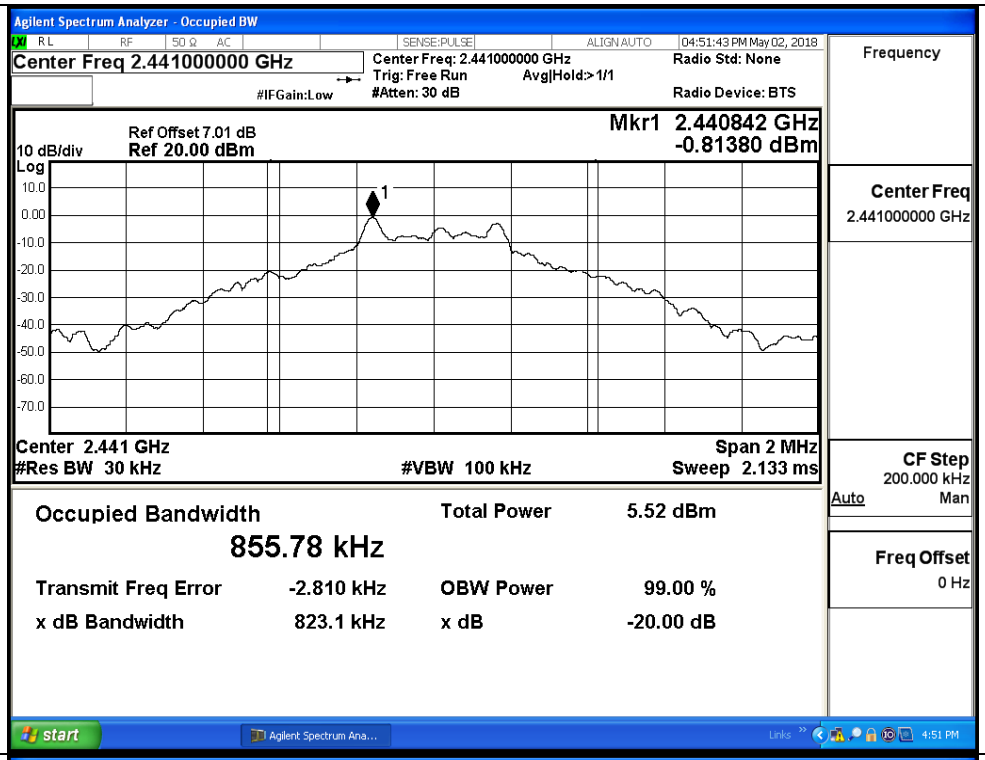
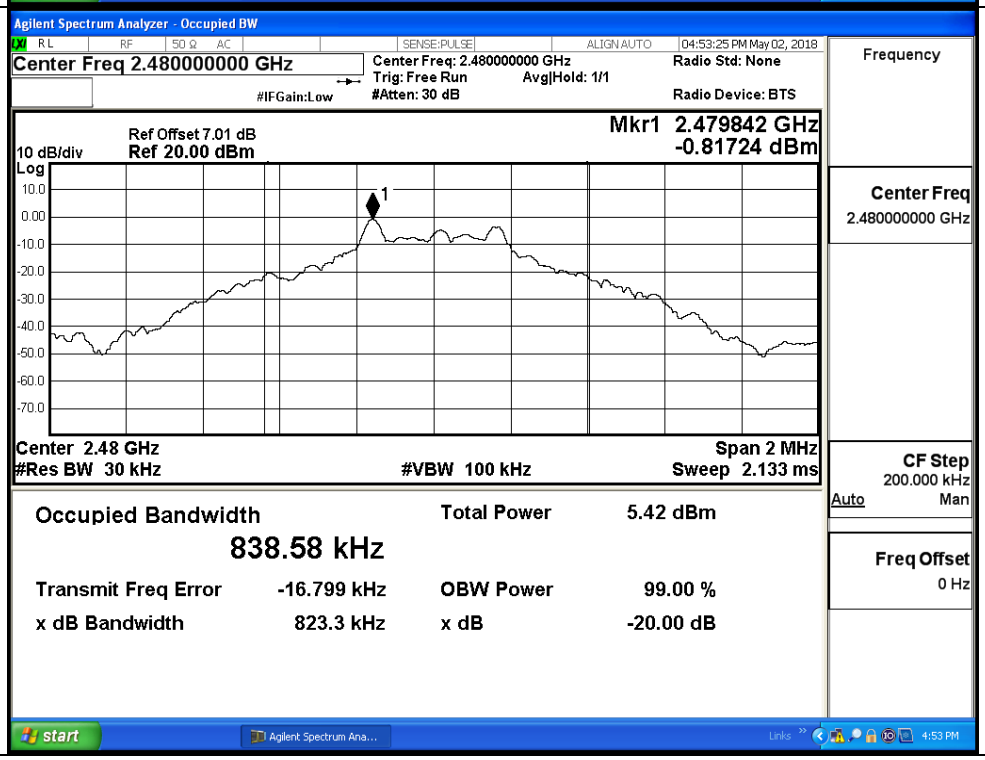
GFSK/HCH	
π/4DQPSK/LCH	

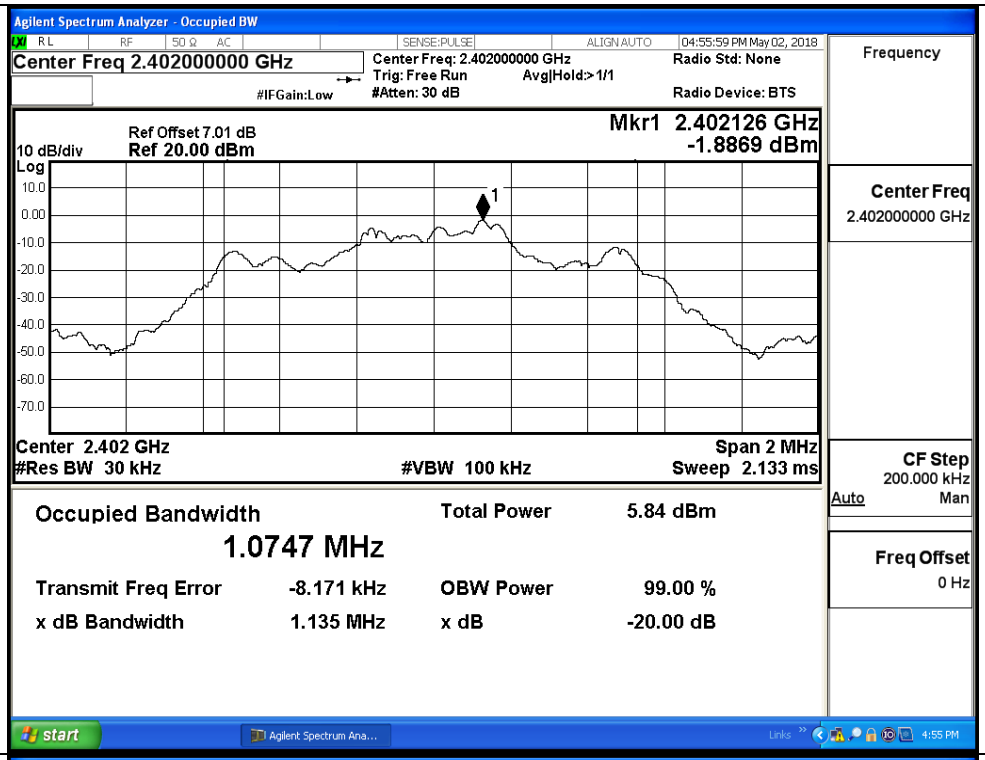
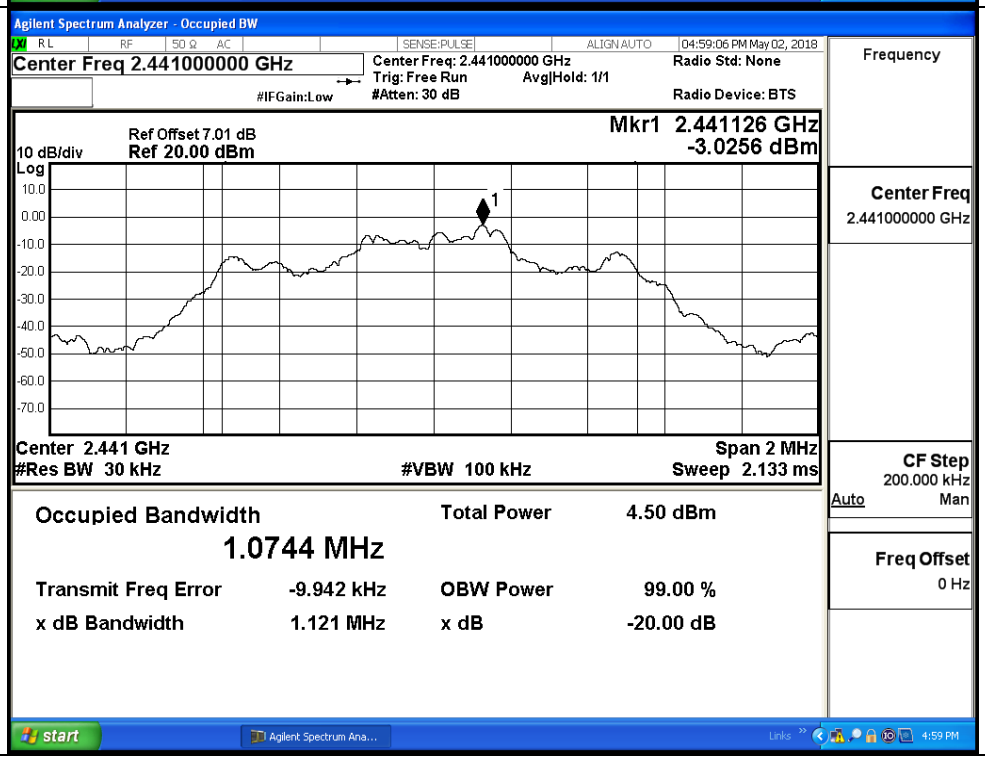
π/4DQPSK/MCH	
π/4DQPSK/HCH	

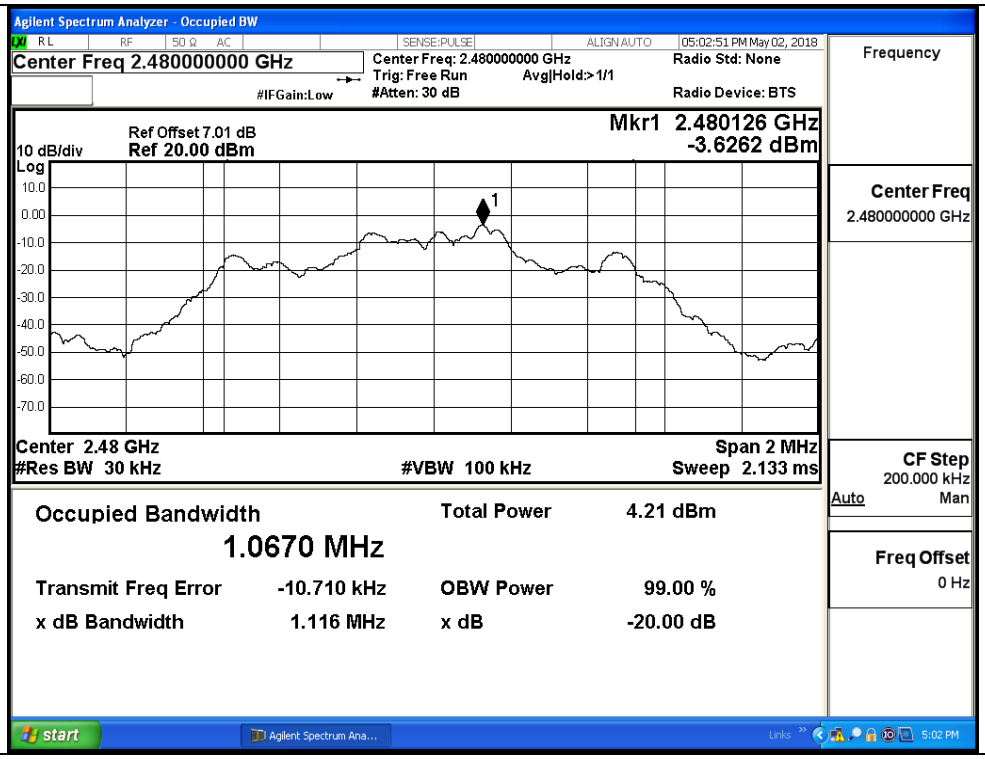
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.7346	Not Specified	PASS
	MCH	0.8231	Not Specified	PASS
	HCH	0.8233	Not Specified	PASS
π/4DQPSK	LCH	1.135	Not Specified	PASS
	MCH	1.121	Not Specified	PASS
	HCH	1.116	Not Specified	PASS

Test Graphs	
GFSK/LCH	

GFSK/MCH	
GFSK/HCH	

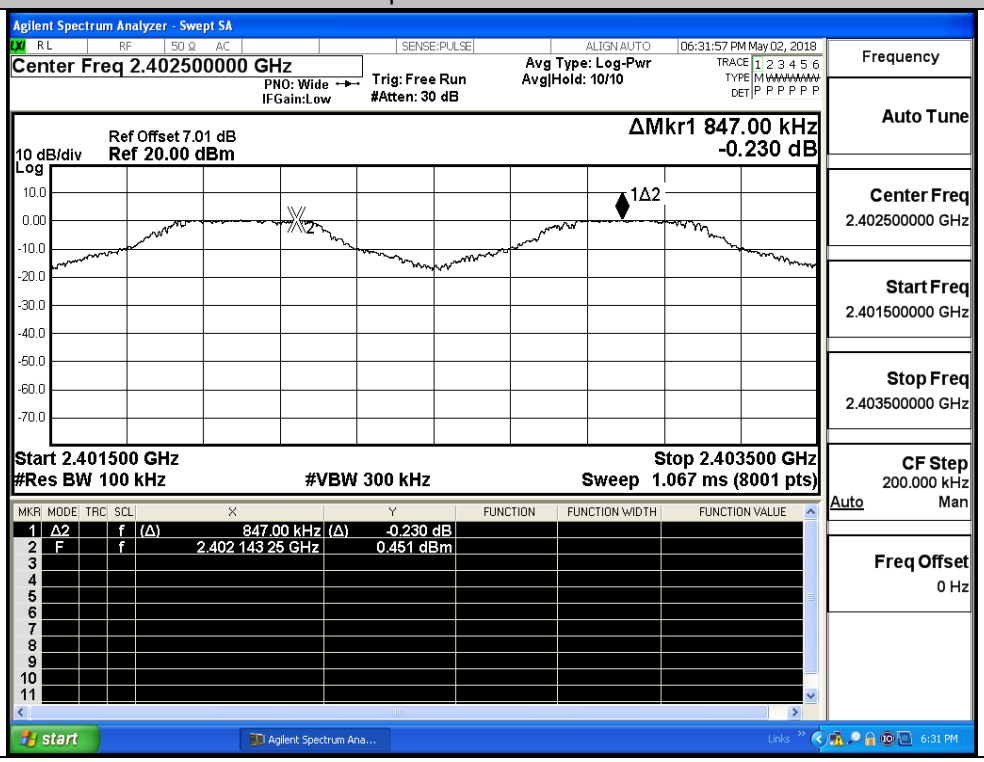
π/4DQPSK/LCH	
π/4DQPSK/MCH	

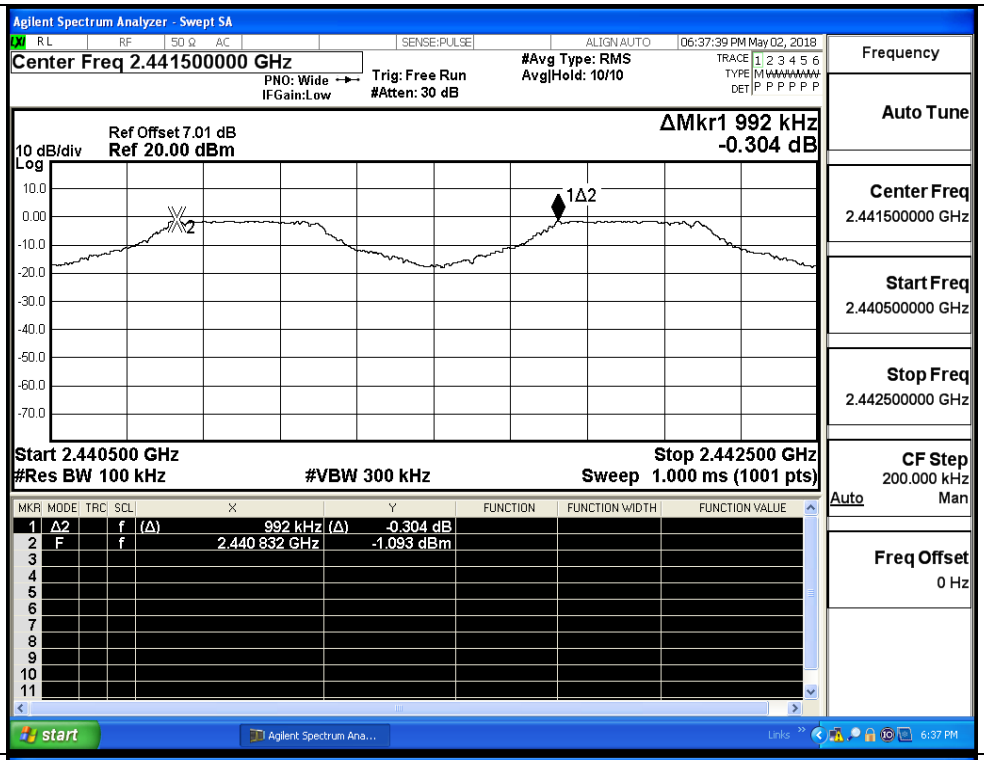
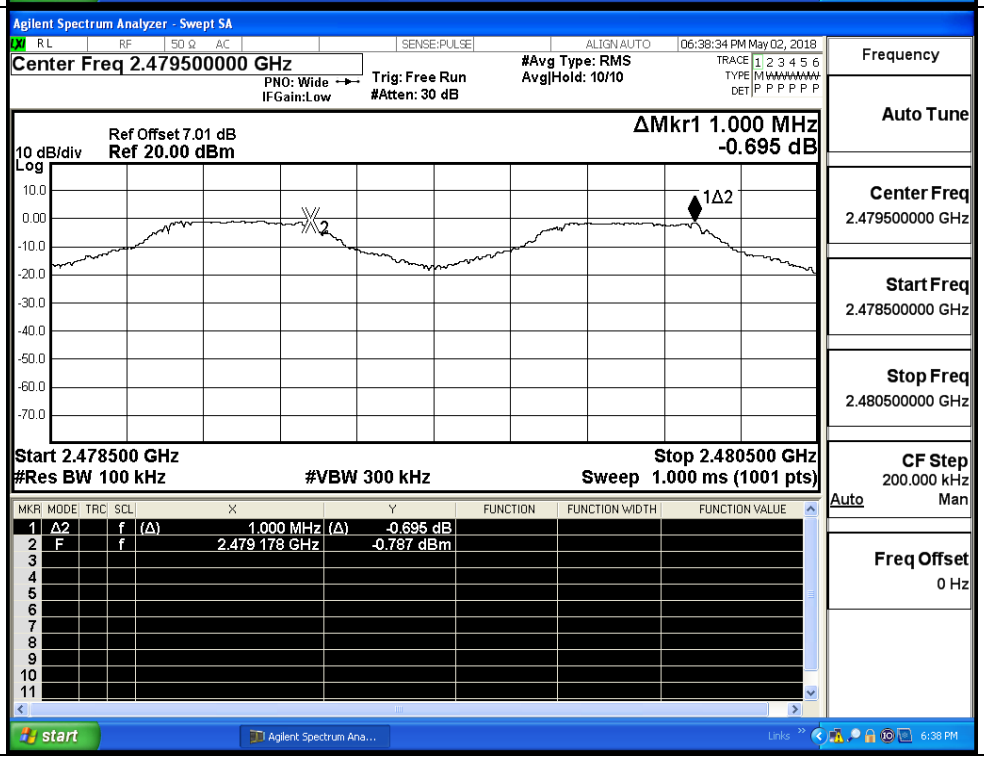
π/4DQPSK/HCH	

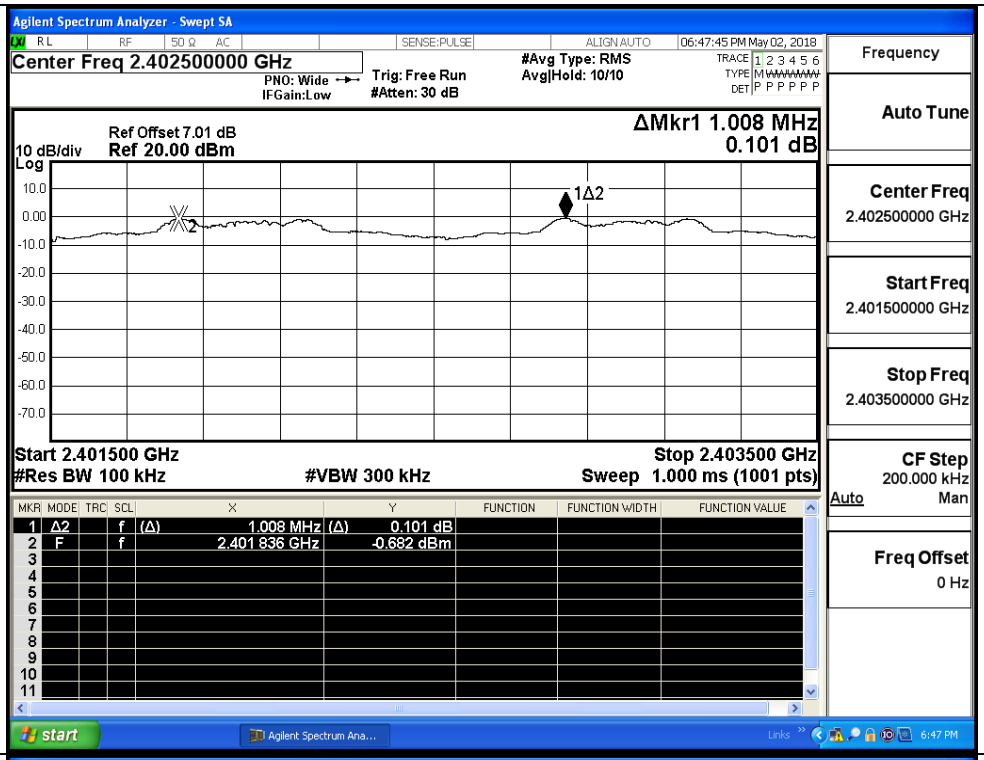
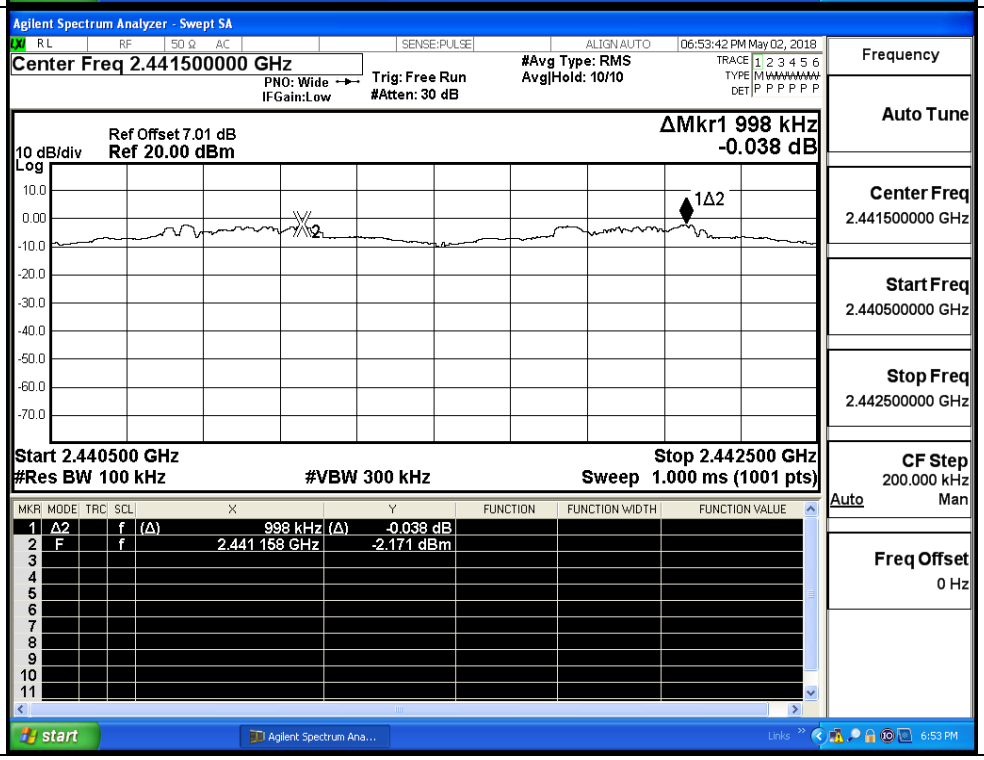
Agilent Spectrum Analyzer - Occupied BW
RL
RF
50 Ω AC
SENSE:PULSE
ALIGN AUTO
05:02:51 PM May 02, 2018
Center Freq 2.480000000 GHz
Center Freq: 2.480000000 GHz
Trig: Free Run
Avg|Hold:>1/1
#IFGain:Low
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 7.01 dB
10 dB/div
Ref 20.00 dBm
Mkr1 2.480126 GHz
-3.6262 dBm
Log
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
1
Center Freq
2.480000000 GHz
Center 2.48 GHz
#Res BW 30 kHz
#VBW 100 kHz
Span 2 MHz
Sweep 2.133 ms
CF Step
200.000 kHz
Auto
Man
Occupied Bandwidth
1.0670 MHz
Total Power 4.21 dBm
Transmit Freq Error -10.710 kHz
OBW Power 99.00 %
x dB Bandwidth 1.116 MHz
x dB -20.00 dB
Freq Offset
0 Hz
start
Agilent Spectrum Ana...
Links
5:02 PM

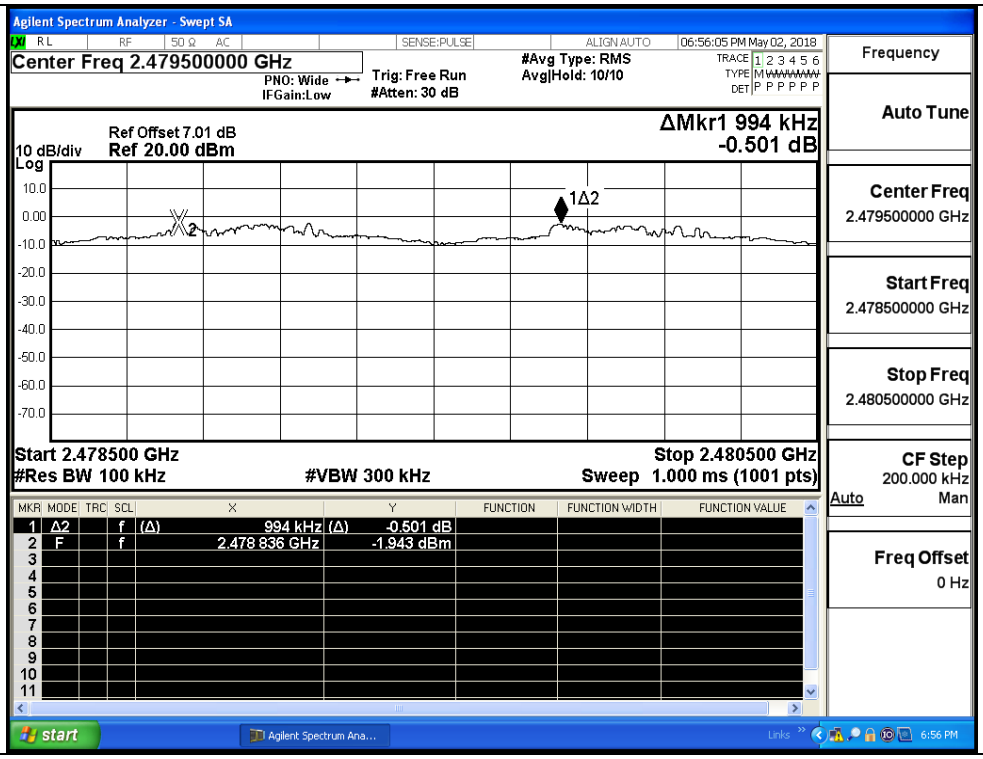
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.847	0.549	PASS
	MCH	0.992	0.549	PASS
	HCH	1.000	0.549	PASS
π/4DQPSK	LCH	1.008	0.757	PASS
	MCH	0.998	0.757	PASS
	HCH	0.994	0.757	PASS

Test Graphs	
GFSK/LCH	

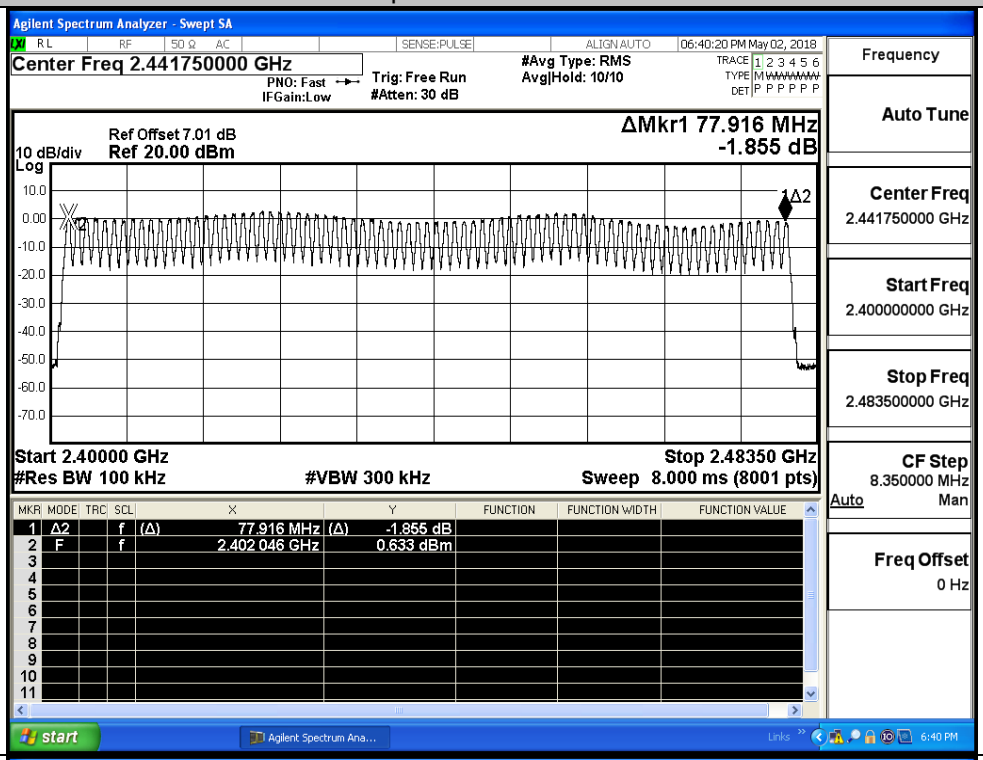
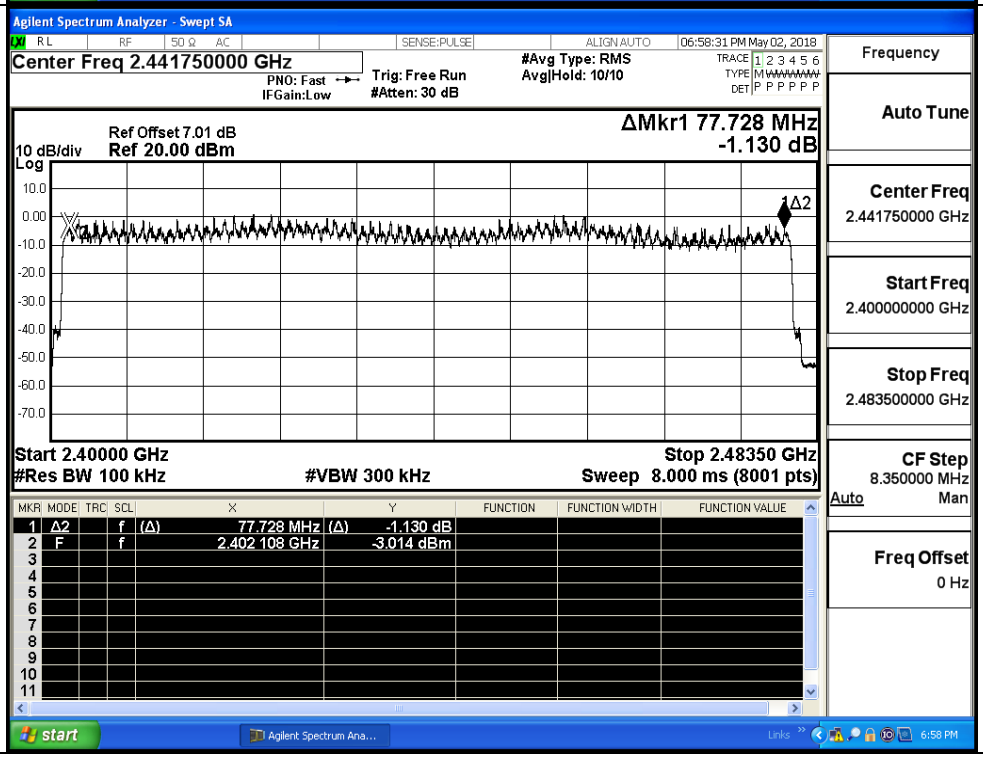
GFSK/MCH	
GFSK/HCH	

π/4DQPSK/LCH	
π/4DQPSK/MCH	

π/4DQPSK/HCH	

A.4 Hopping Channel Number

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

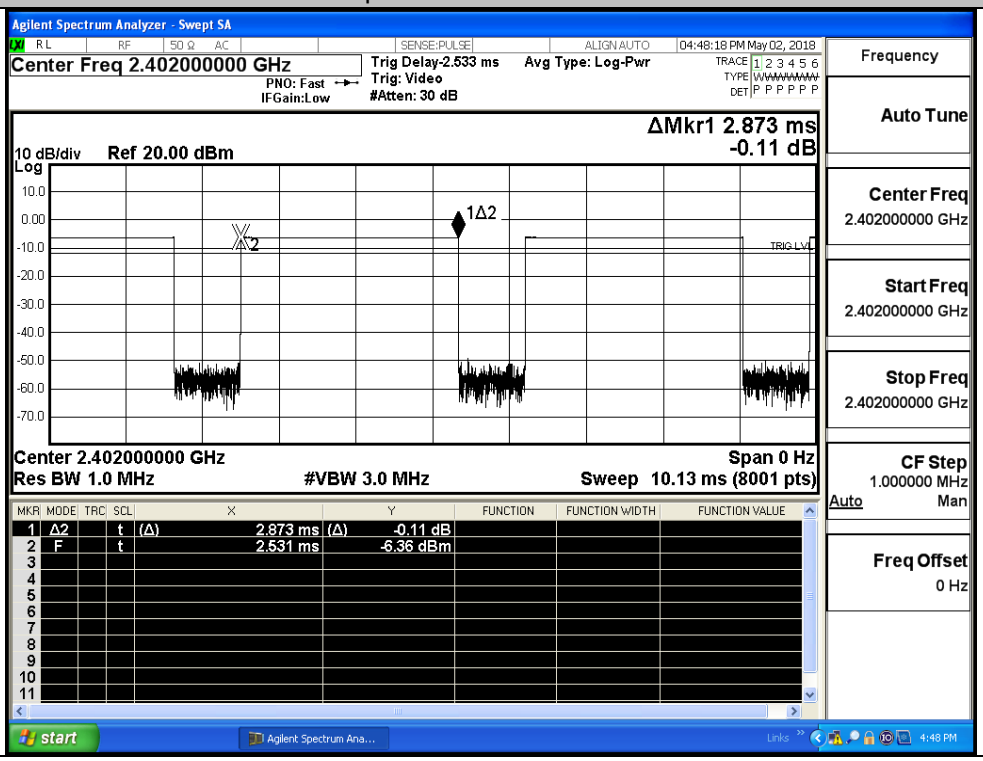
Test Graphs		
GFSK/Hop		
π/4DQPSK/Hop		

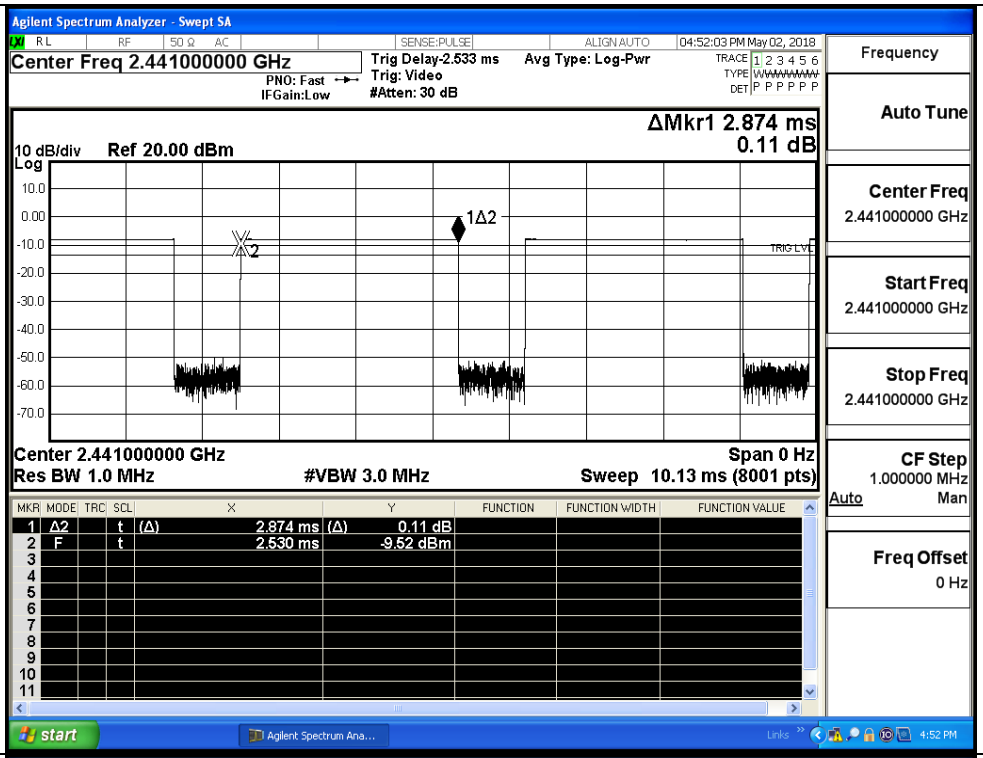
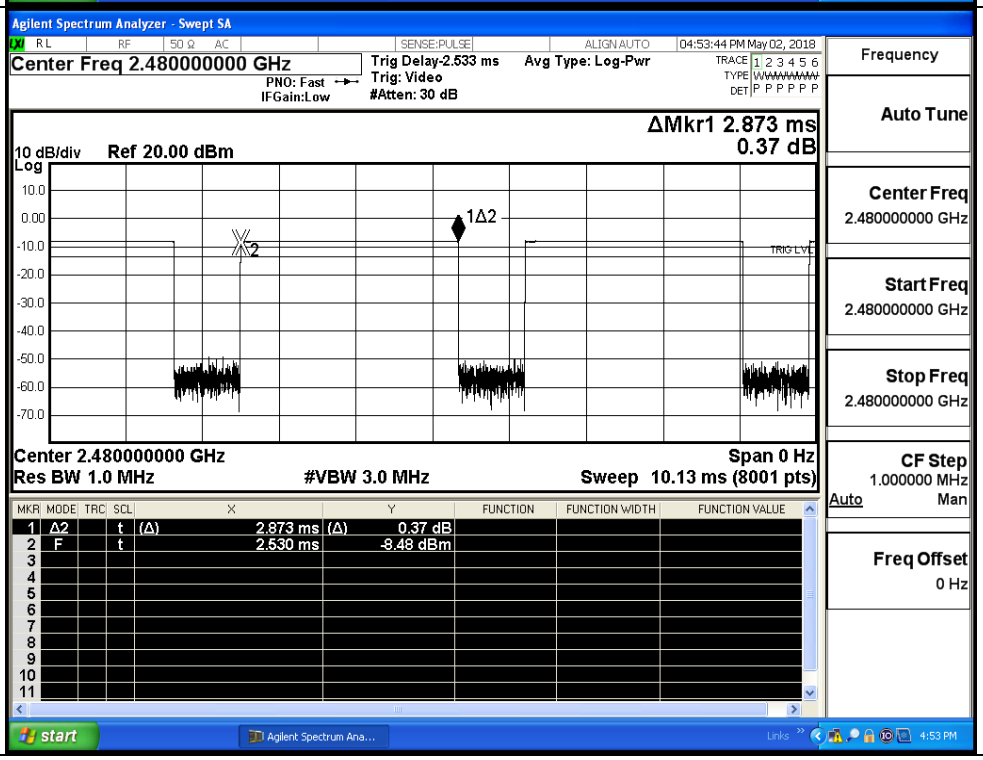
A.5 Dwell Time

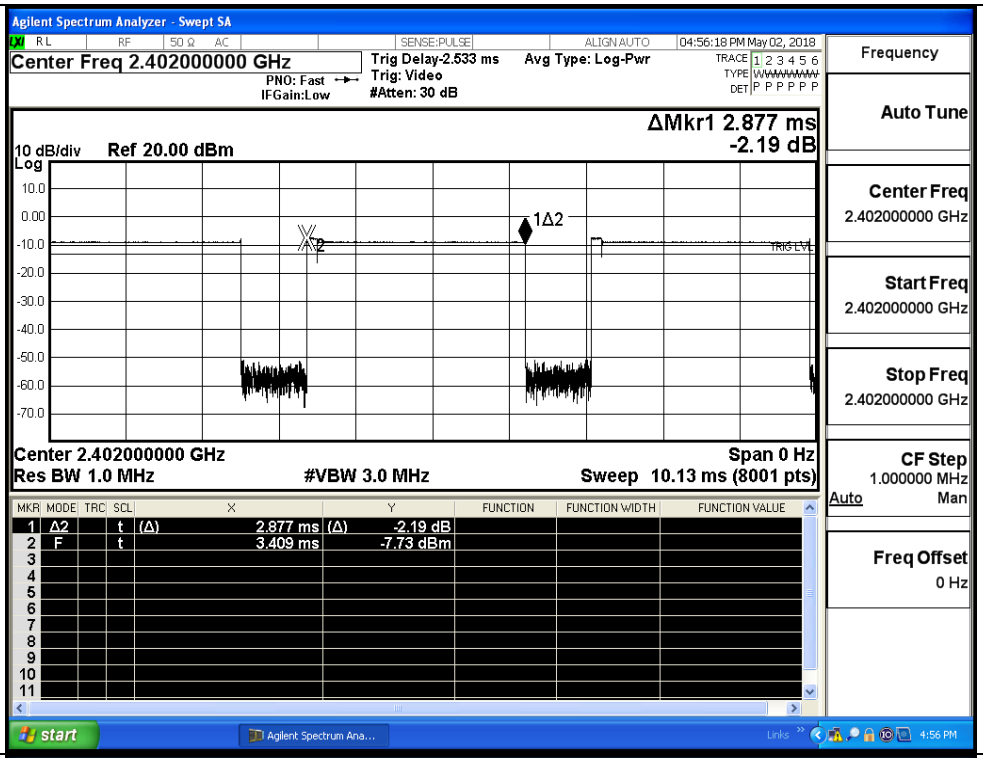
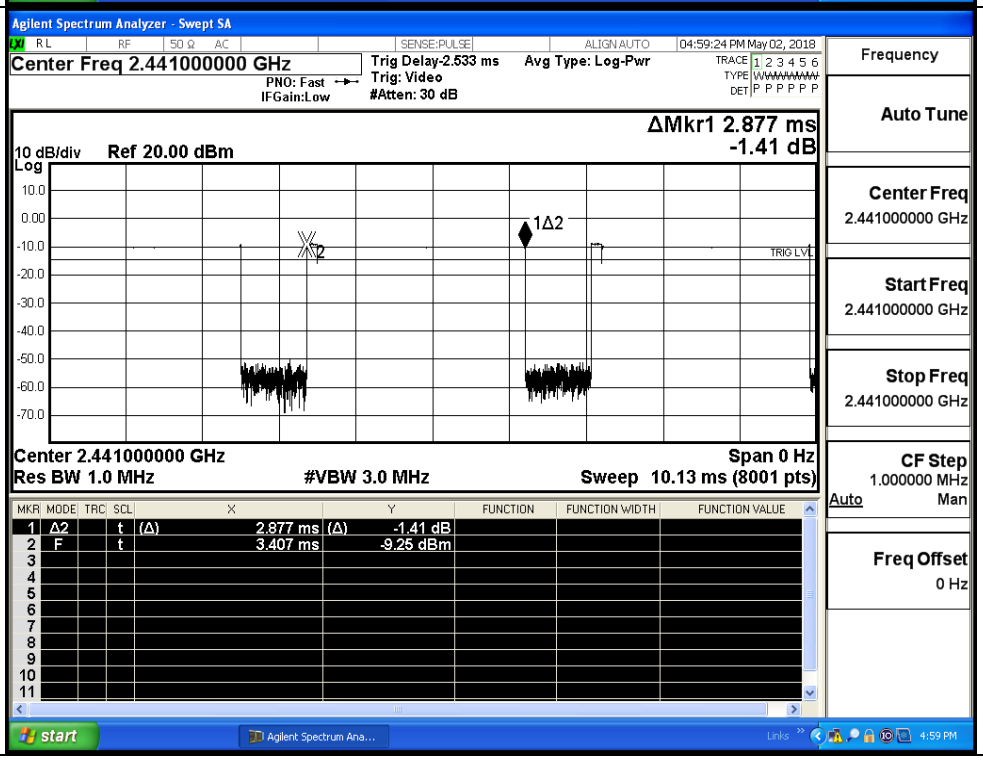
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.87	106.7	0.306	0.4	PASS
	DH5	MCH	2.87	106.7	0.306	0.4	PASS
	DH5	HCH	2.87	106.7	0.306	0.4	PASS
π/4DQPSK	2DH5	LCH	2.87	106.7	0.307	0.4	PASS
	2DH5	MCH	2.87	106.7	0.307	0.4	PASS
	2DH5	HCH	2.87	106.7	0.307	0.4	PASS

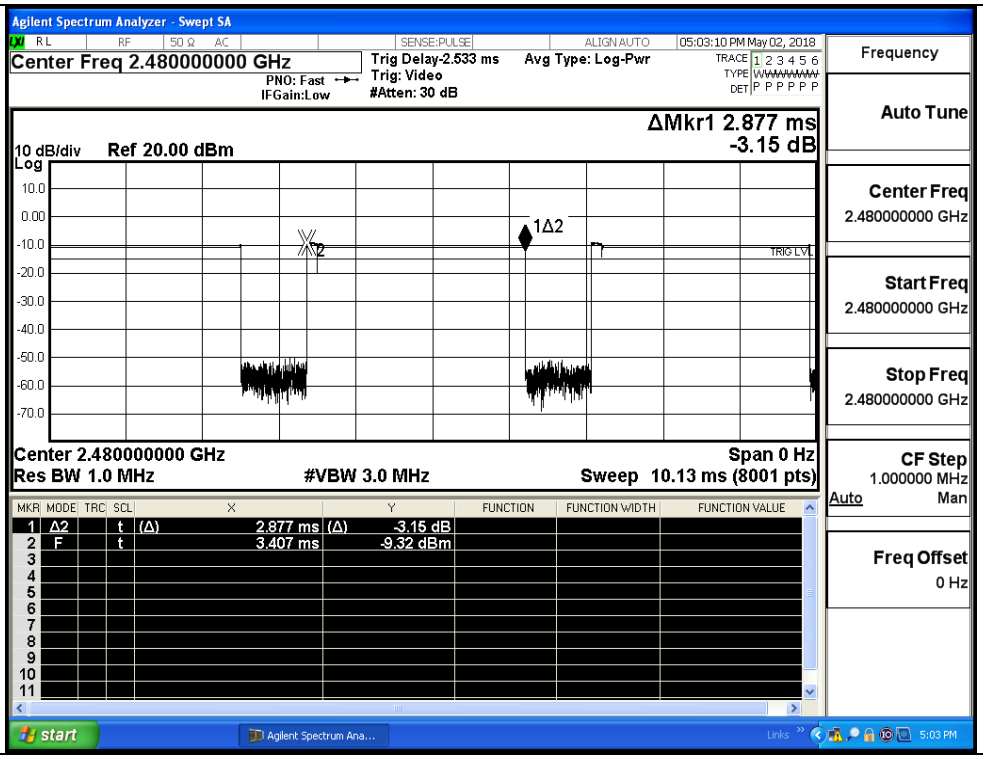
Test Graphs

GFSK_DH5/LCH



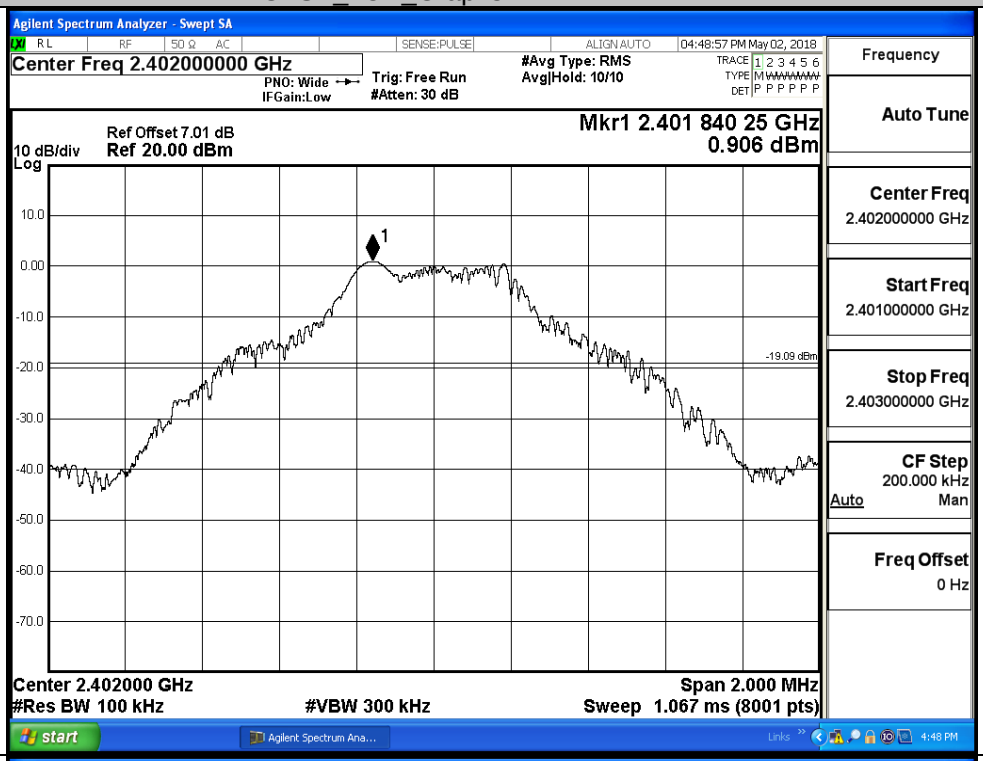
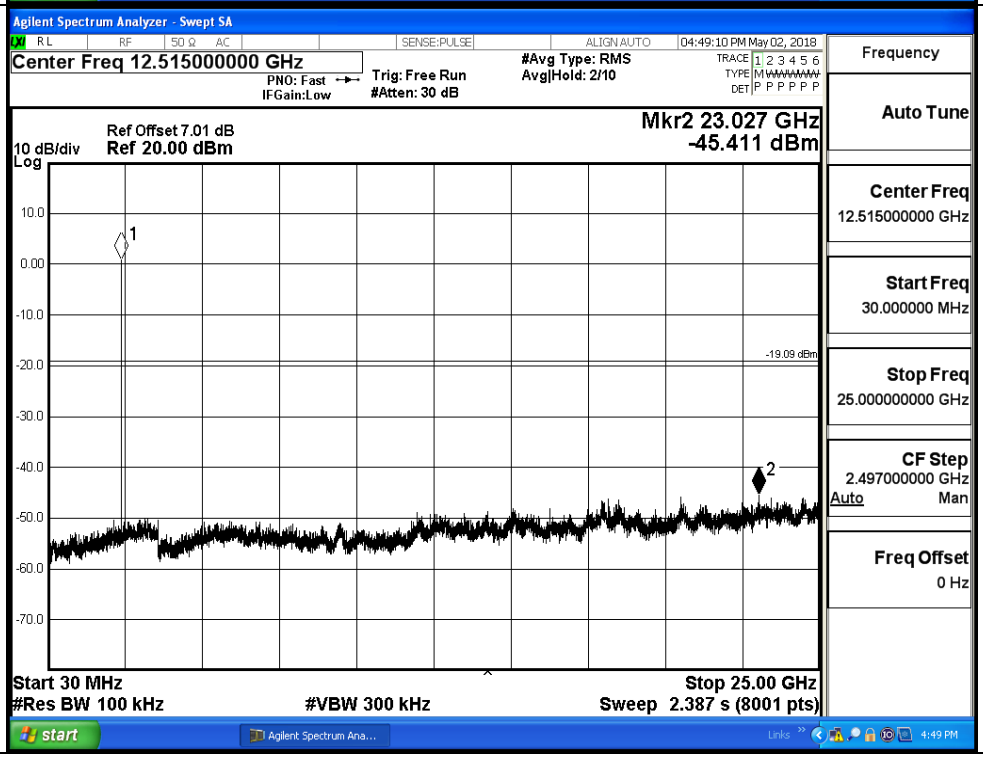
GFSK_DH5/MCH	
GFSK_DH5/HCH	

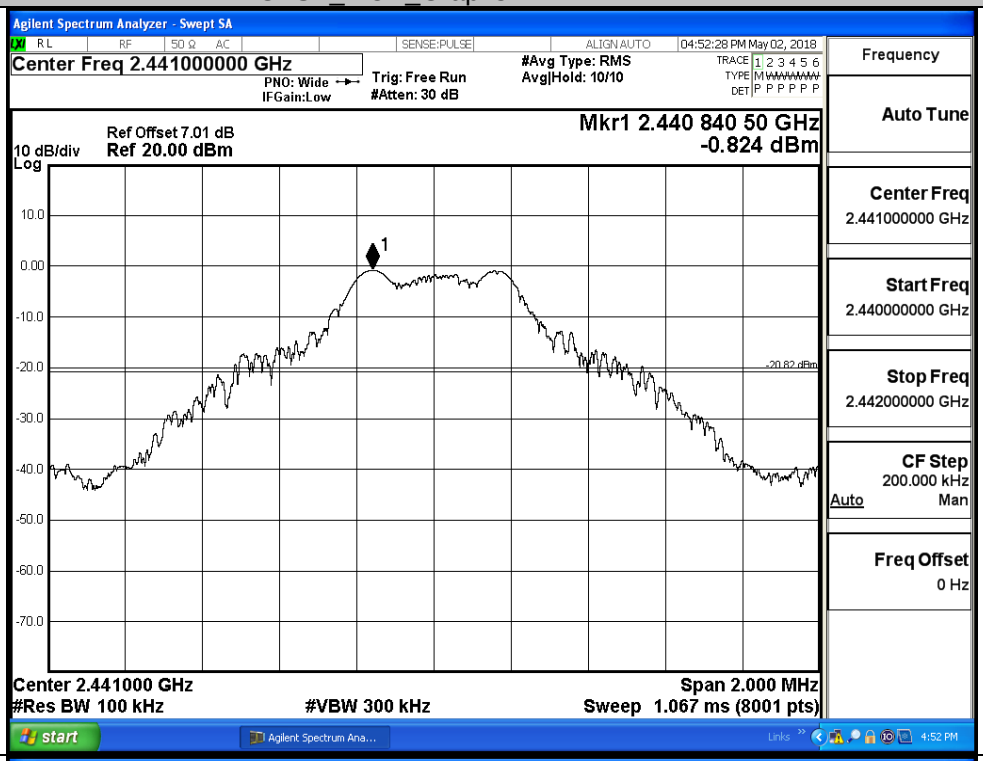
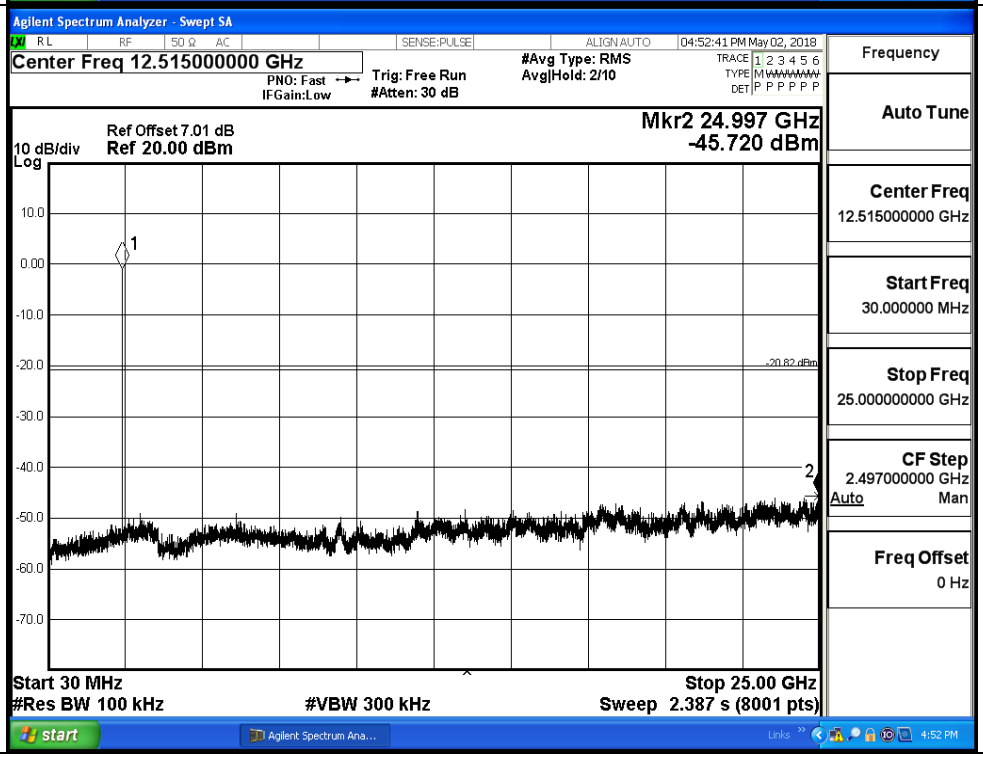
π/4DQPSK _2DH5/LCH	
π/4DQPSK _2DH5/MCH	

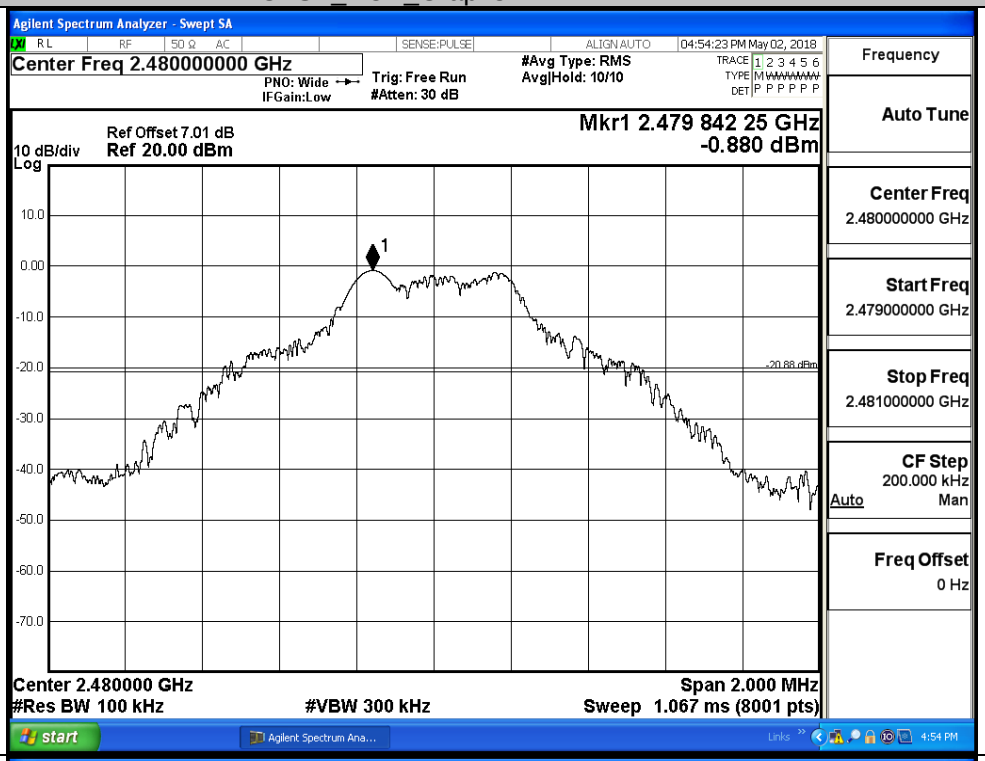
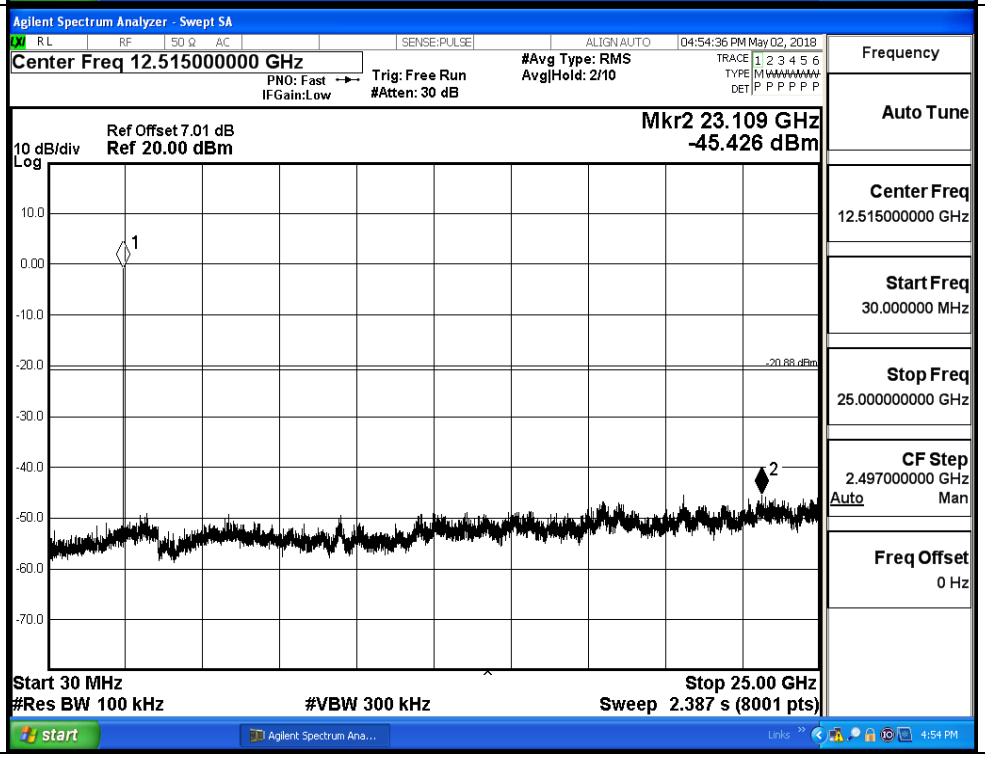
π/4DQPSK _2DH5/HCH	

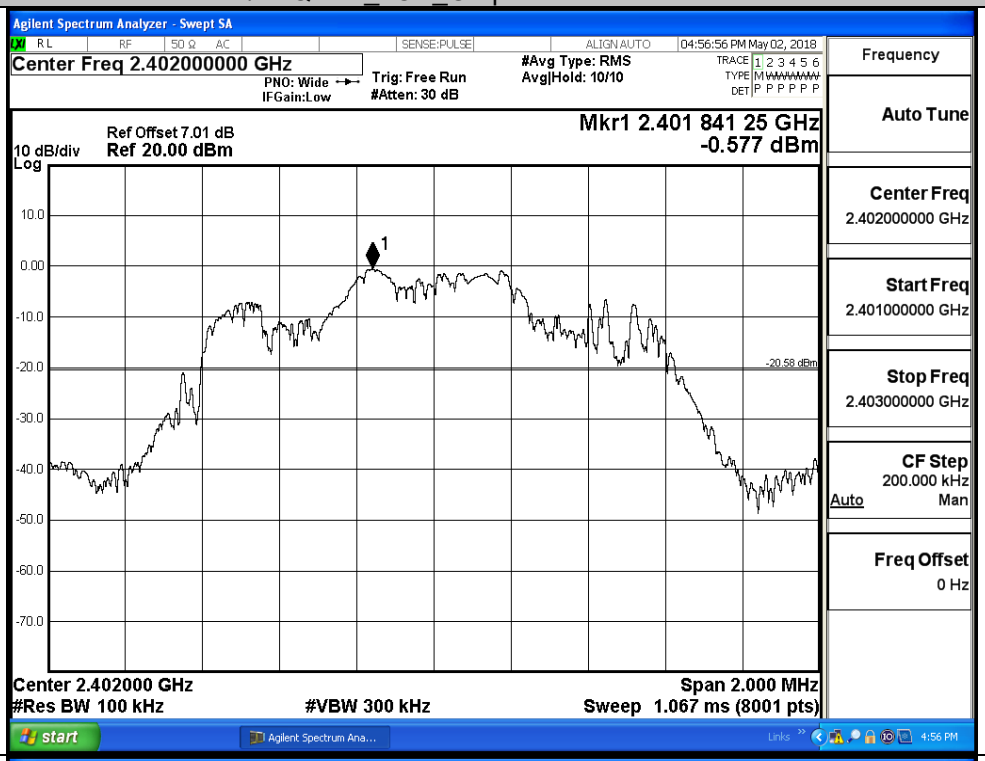
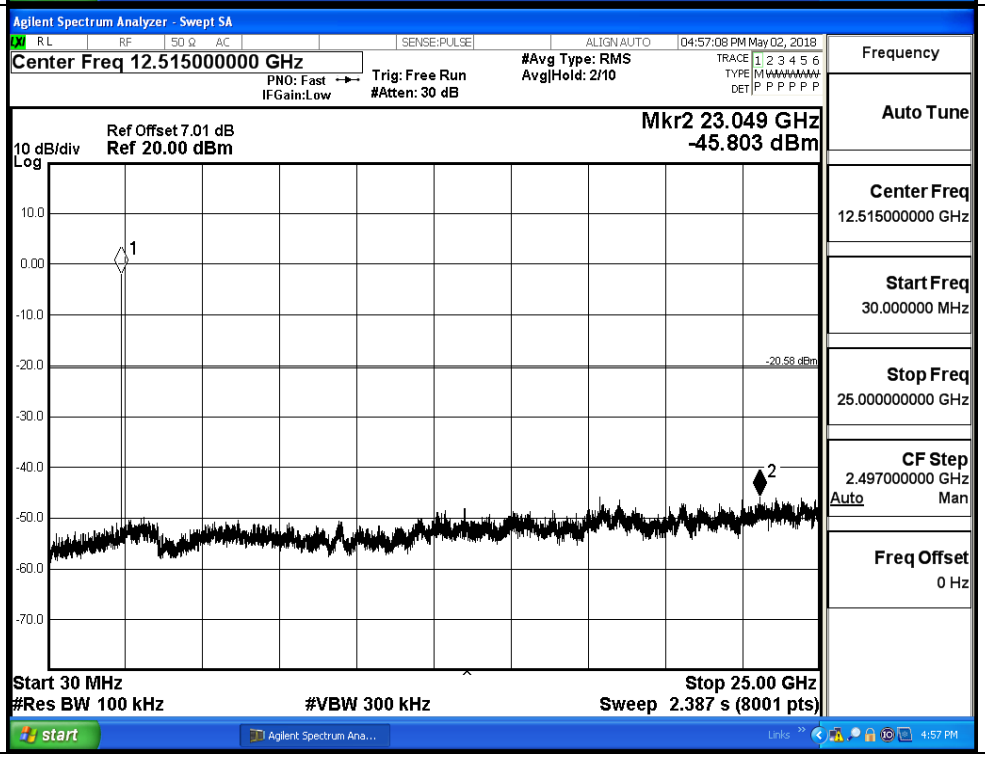
A.6 RF Conducted Spurious Emissions

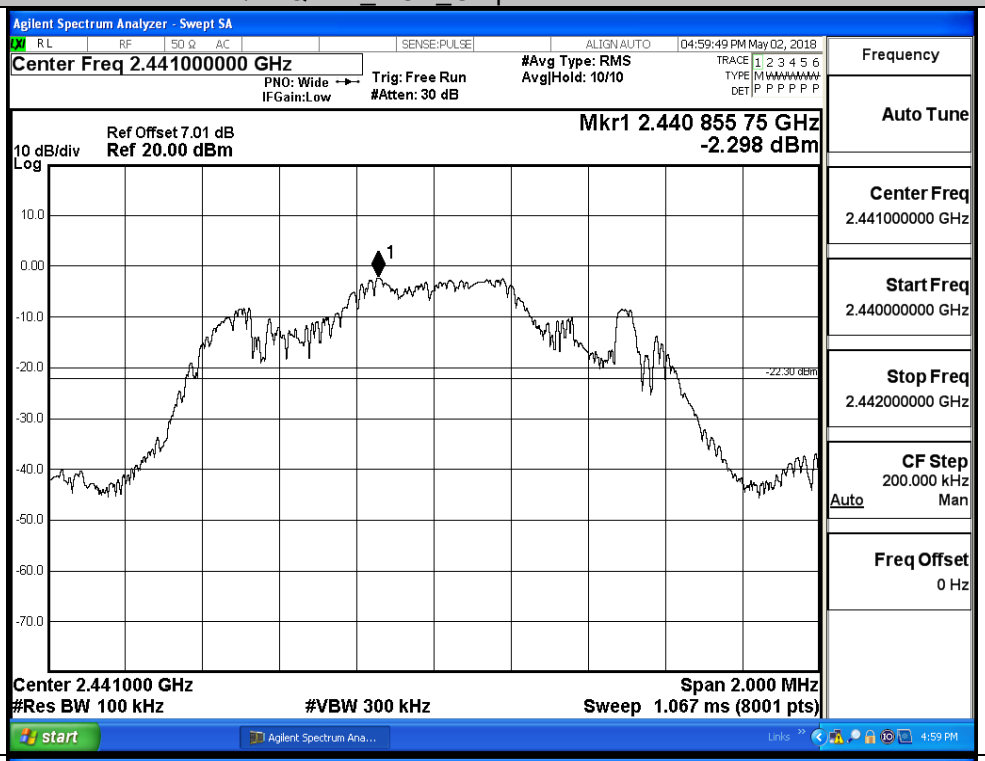
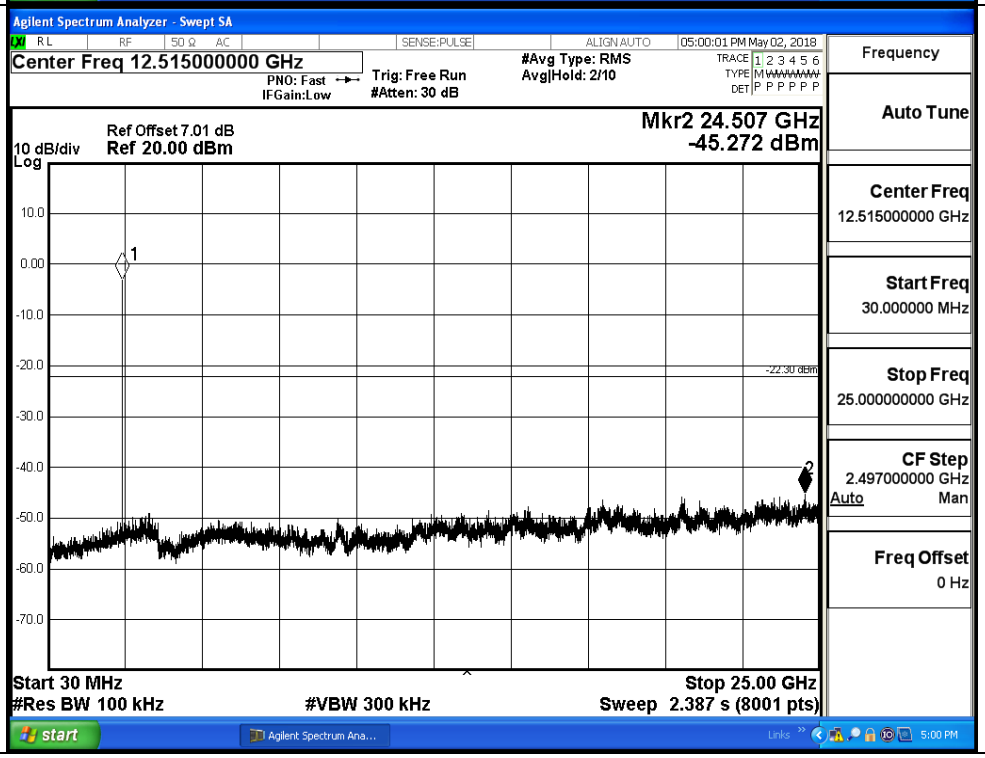
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.906	-45.411	-19.094	PASS
	MCH	-0.824	-45.720	-20.824	PASS
	HCH	-0.88	-45.426	-20.880	PASS
π/4DQPSK	LCH	-0.577	-45.803	-20.577	PASS
	MCH	-2.298	-45.272	-22.298	PASS
	HCH	-2.577	-45.714	-22.577	PASS

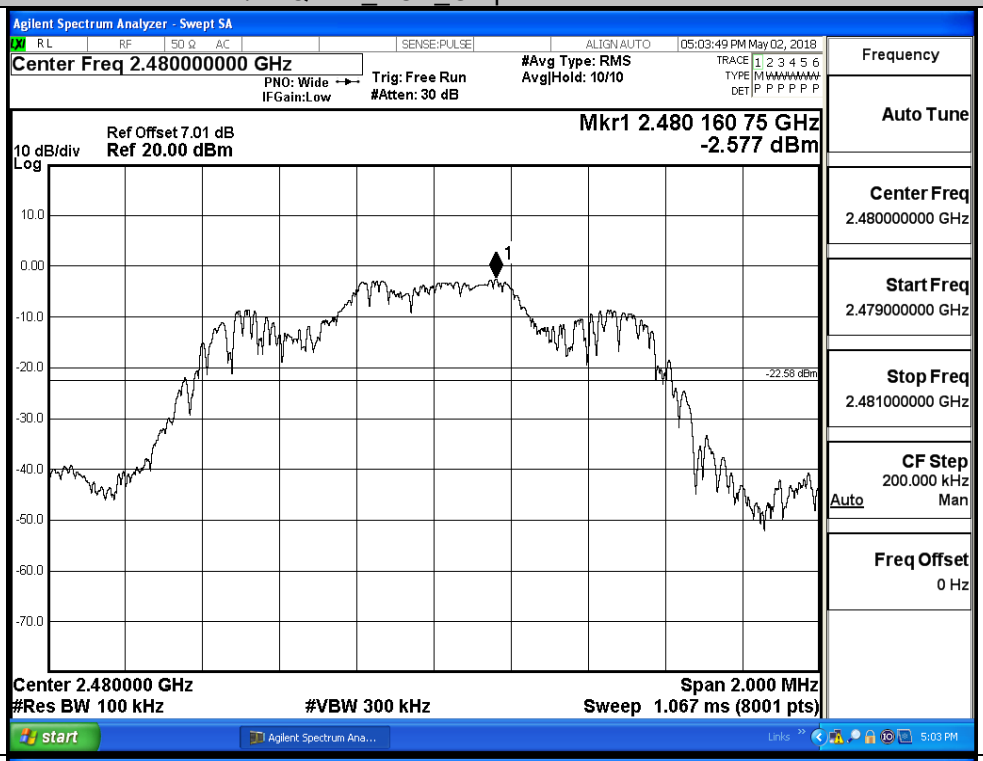
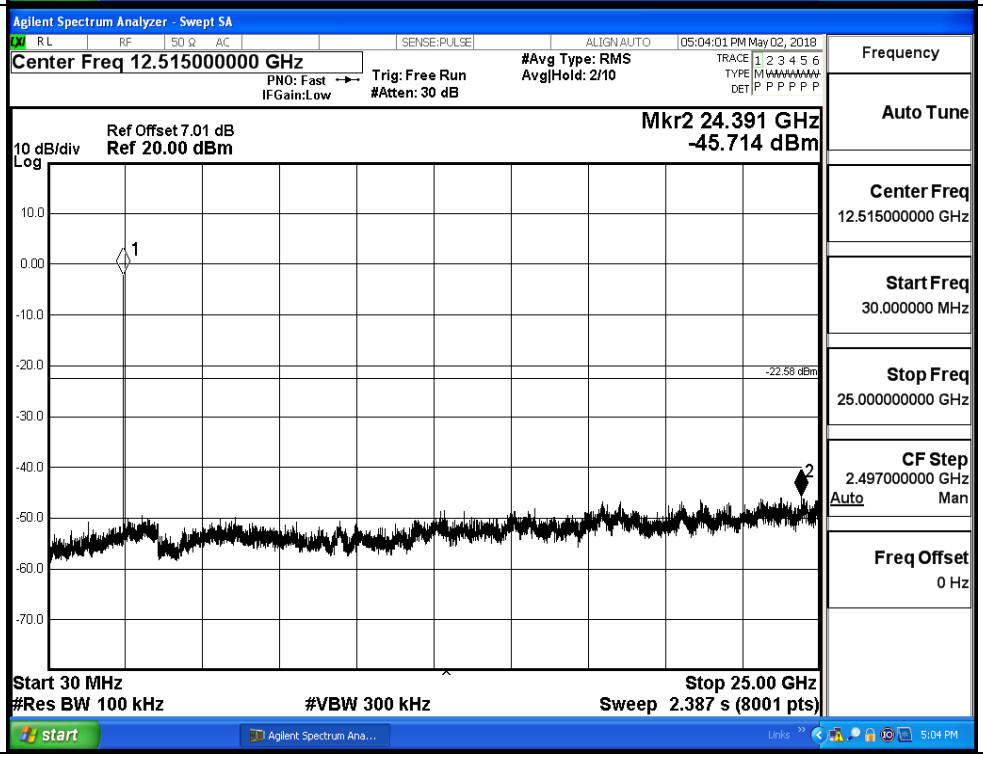
GFSK_LCH_Graphs		
Pref		
Puw		

GFSK_MCH_Graphs		
Pref		
Puw		

GFSK_HCH_Graphs			
Pref		
Puw		

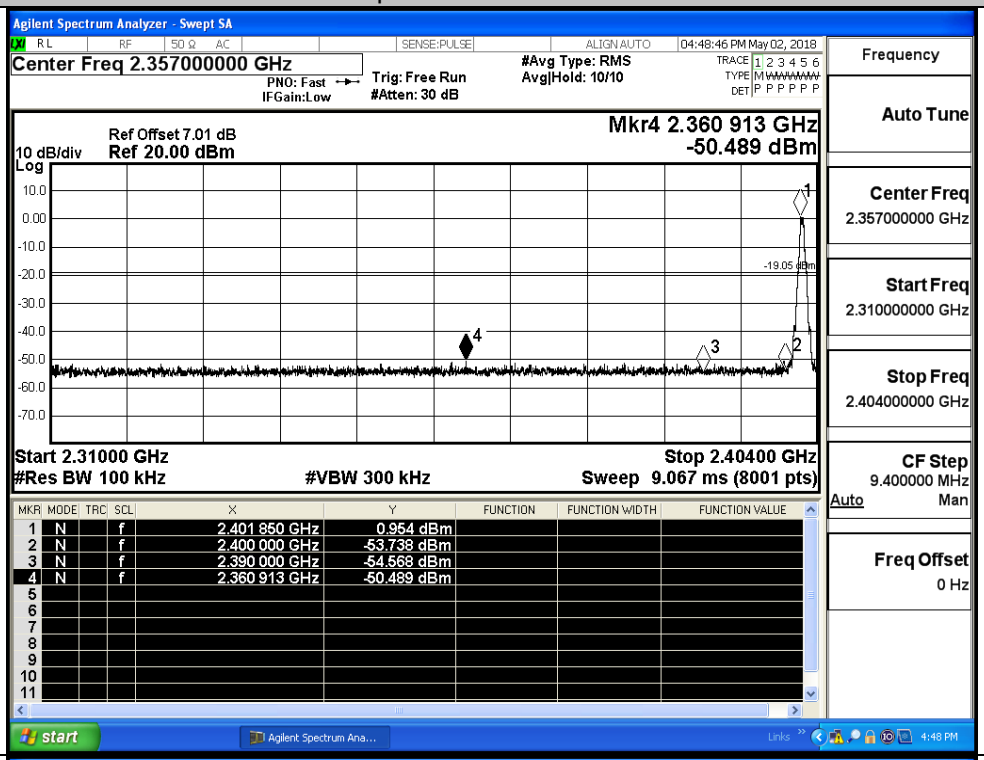
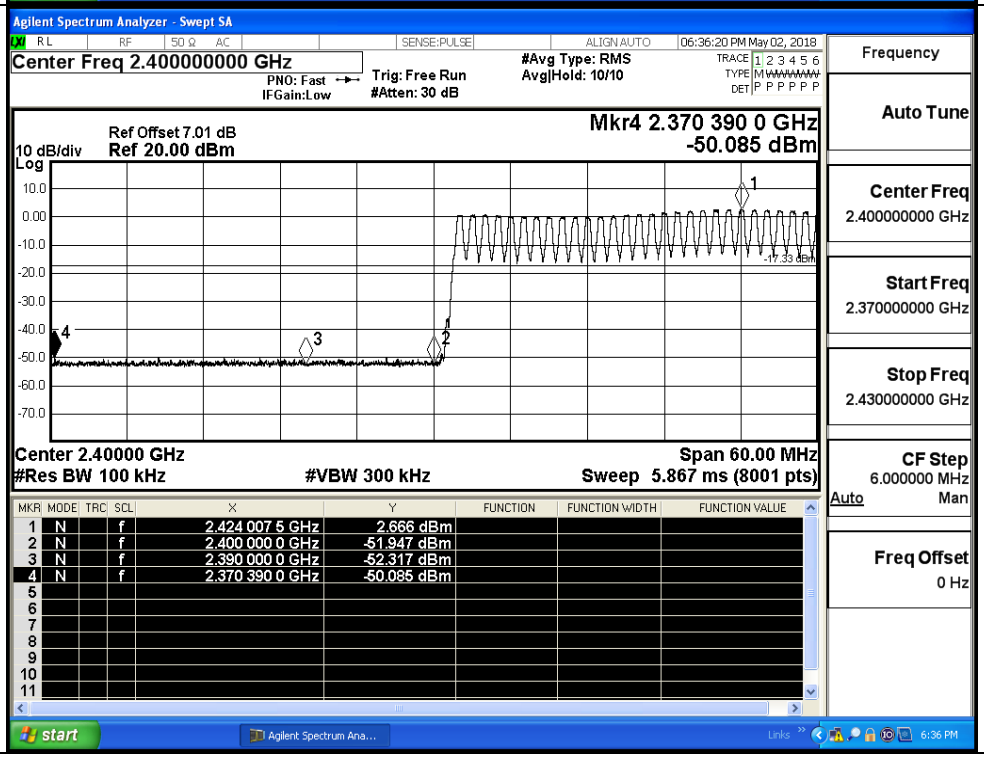
π/4DQPSK_LCH_Graphs		
Pref		
Puw		

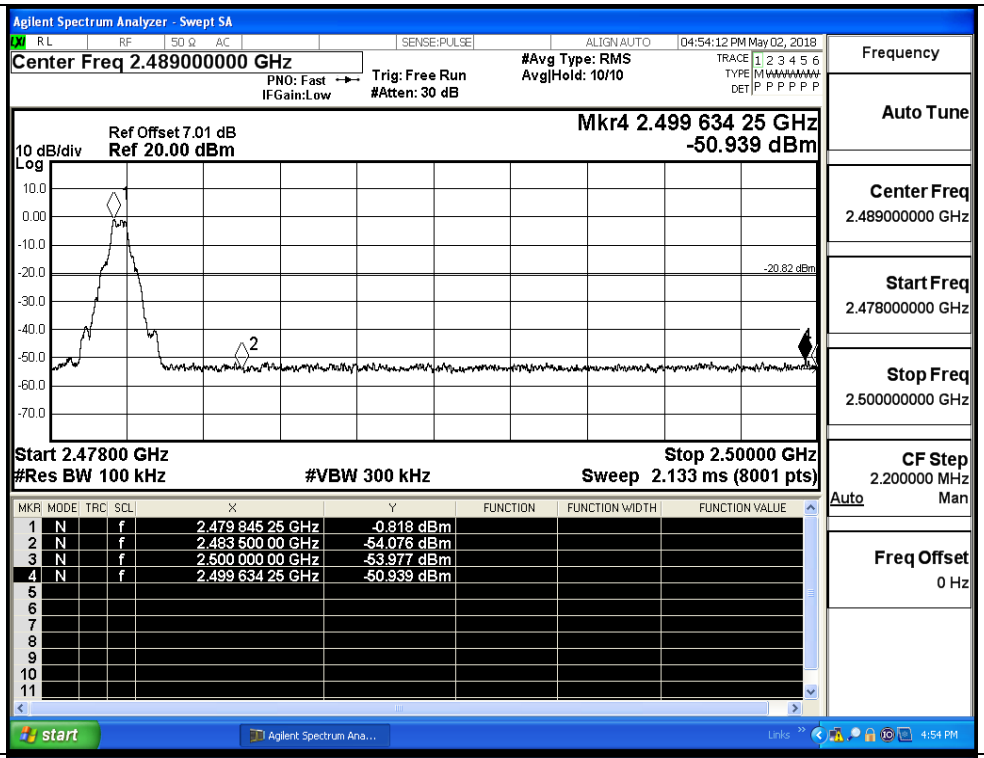
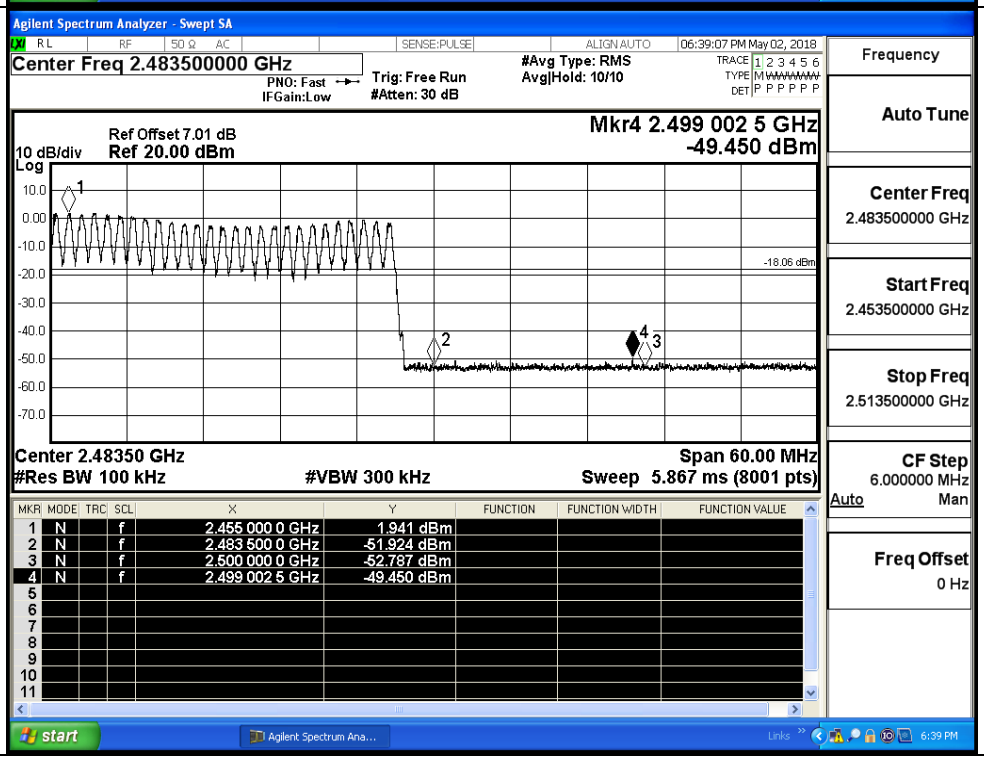
π/4DQPSK_MCH_Graphs		
Pref		
Puw		

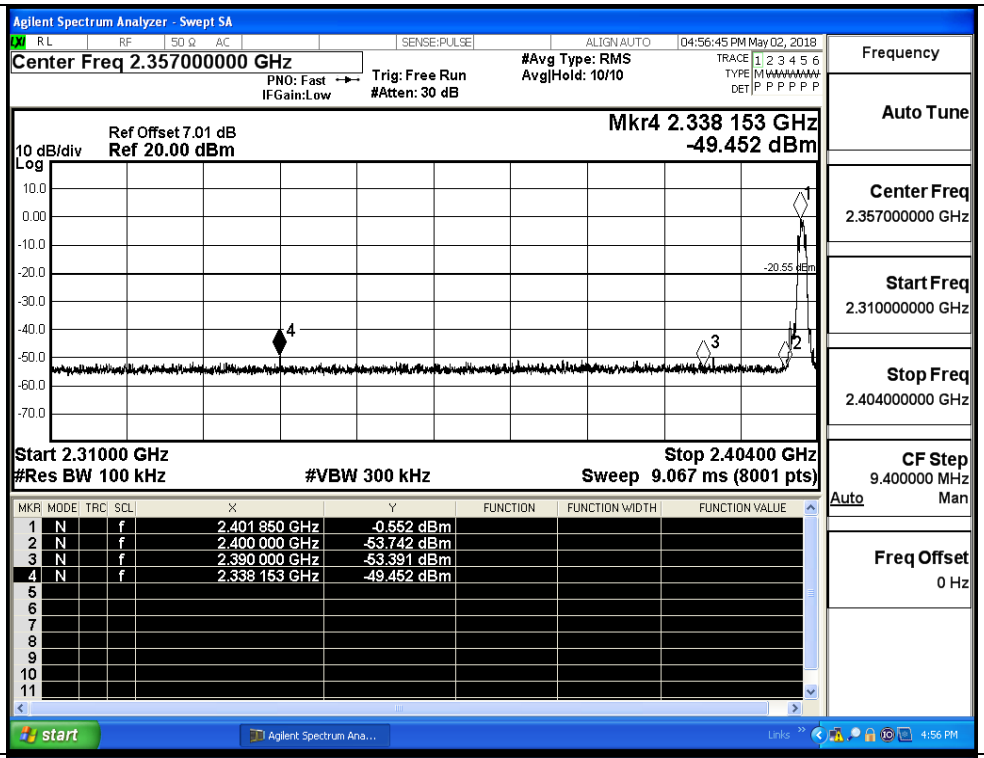
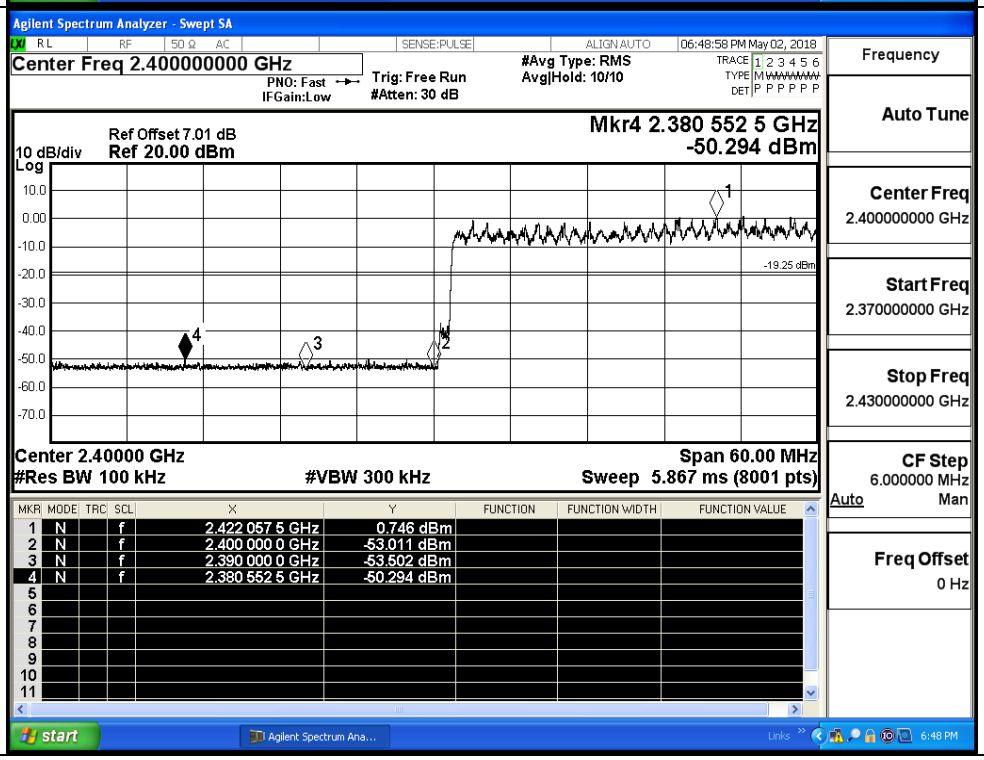
π/4DQPSK_HCH_Graphs		
Pref		
Puw		

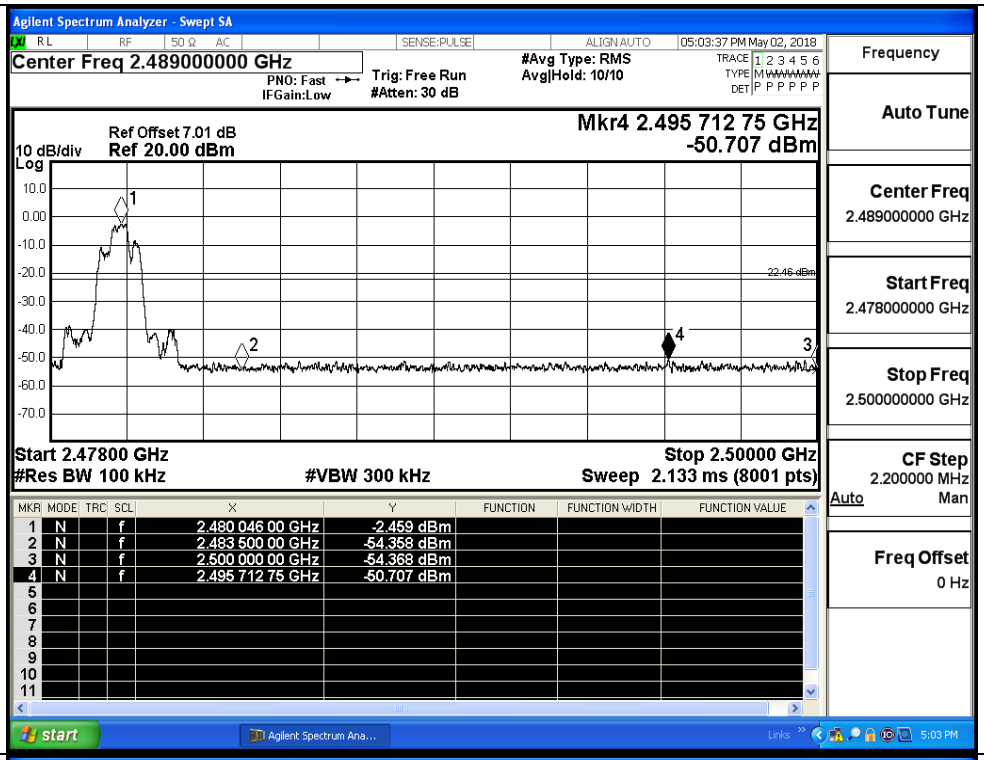
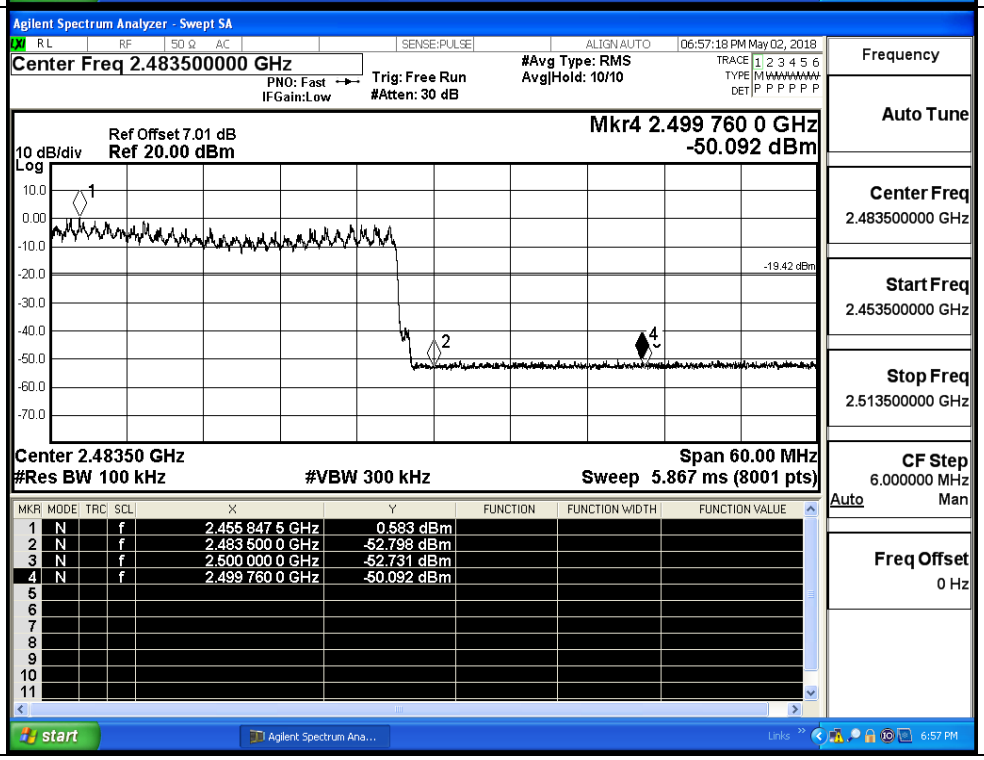
A.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.954	Off	-50.489	-19.05	PASS
			2.666	On	-50.085	-17.33	PASS
	HCH	2480	-0.818	Off	-50.939	-20.82	PASS
			1.941	On	-49.450	-18.06	PASS
π/4DQPSK	LCH	2402	-0.552	Off	-49.452	-20.55	PASS
			0.746	On	-50.294	-19.25	PASS
	HCH	2480	-2.459	Off	-50.707	-22.46	PASS
			0.583	On	-50.092	-19.42	PASS

Test Graphs	
GFSK/LCH/No Hop	
GFSK/LCH/Hop	

GFSK/HCH/No Hop	
GFSK/HCH/Hop	

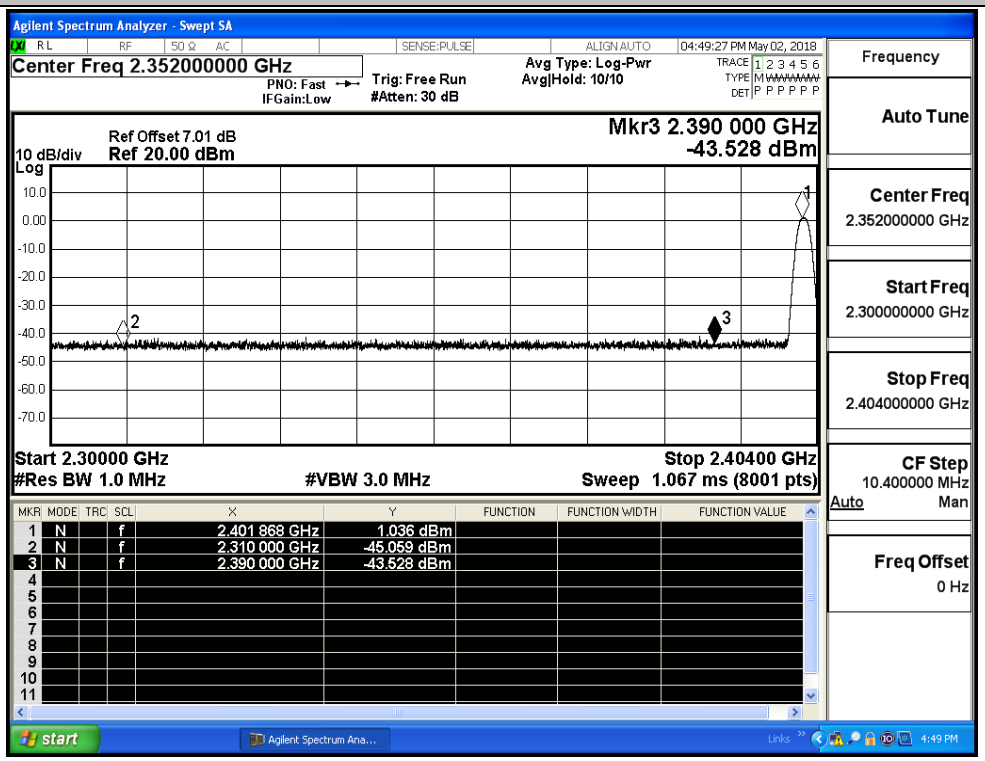
π/4DQPSK/LCH/No Hop	
π/4DQPSK/LCH/Hop	

π/4DQPSK/HCH/No Hop	
π/4DQPSK/HCH/Hop	

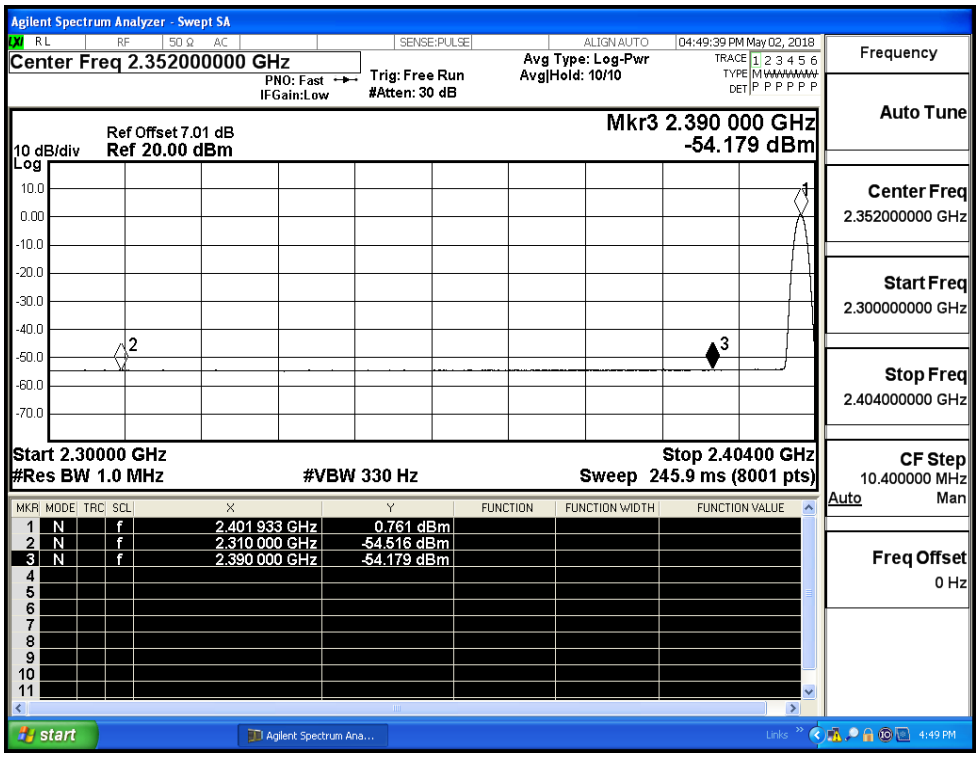
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-45.06	2.0	0	50.20	PEAK	74	PASS
	Off	2310.0	-54.52	2.0	0	40.74	AV	54	PASS
	Off	2390.0	-43.53	2.0	0	51.73	PEAK	74	PASS
	Off	2390.0	-54.18	2.0	0	41.08	AV	54	PASS
	Off	2483.5	-43.22	2.0	0	52.03	PEAK	74	PASS
	Off	2483.5	-54.14	2.0	0	41.12	AV	54	PASS
	Off	2500.0	-44.73	2.0	0	50.53	PEAK	74	PASS
	Off	2500.0	-53.98	2.0	0	41.28	AV	54	PASS
π/4DQPSK	Off	2310.0	-44.78	2.0	0	50.47	PEAK	74	PASS
	Off	2310.0	-54.64	2.0	0	40.61	AV	54	PASS
	Off	2390.0	-44.11	2.0	0	51.15	PEAK	74	PASS
	Off	2390.0	-54.36	2.0	0	40.90	AV	54	PASS
	Off	2483.5	-44.57	2.0	0	50.69	PEAK	74	PASS
	Off	2483.5	-54.19	2.0	0	41.07	AV	54	PASS
	Off	2500.0	-43.68	2.0	0	51.58	PEAK	74	PASS
	Off	2500.0	-54.01	2.0	0	41.24	AV	54	PASS
	Off	2500.0	#rbr33dh51hchnnpeak	2.0	#rbgf3dh51hchnnpeak	#rbe33dh51hchnnpeak	PEAK	74	PASS
	Off	2500.0	#rbr33dh51hchnnav	2.0	#rbgf3dh51hchnnav	#rbe33dh51hchnnav	AV	54	PASS

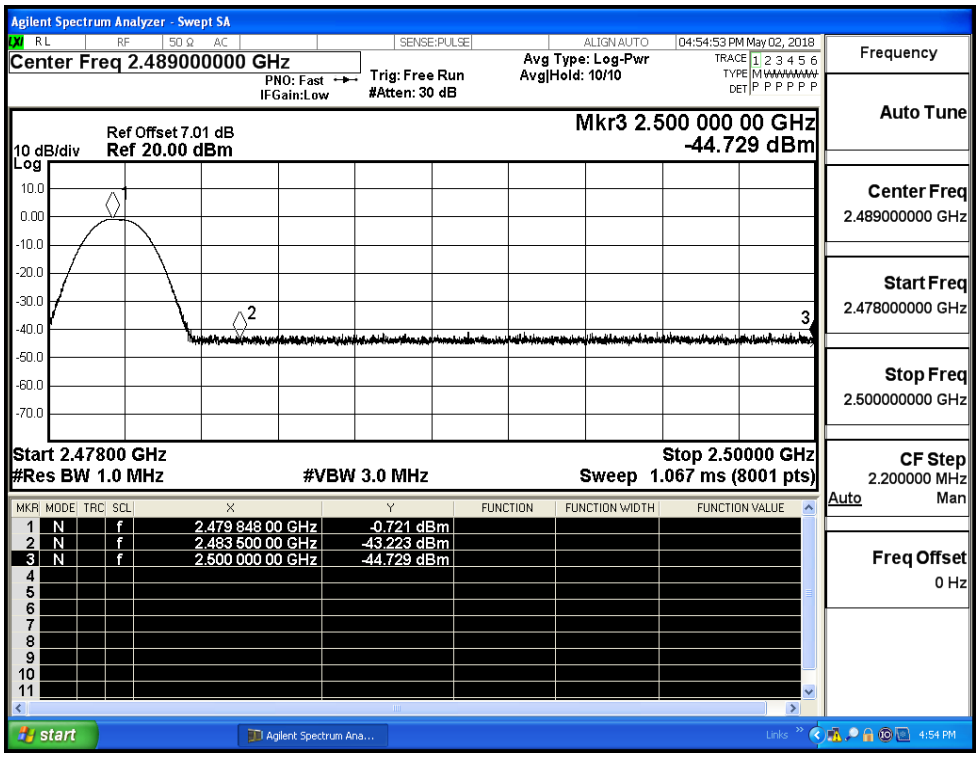
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



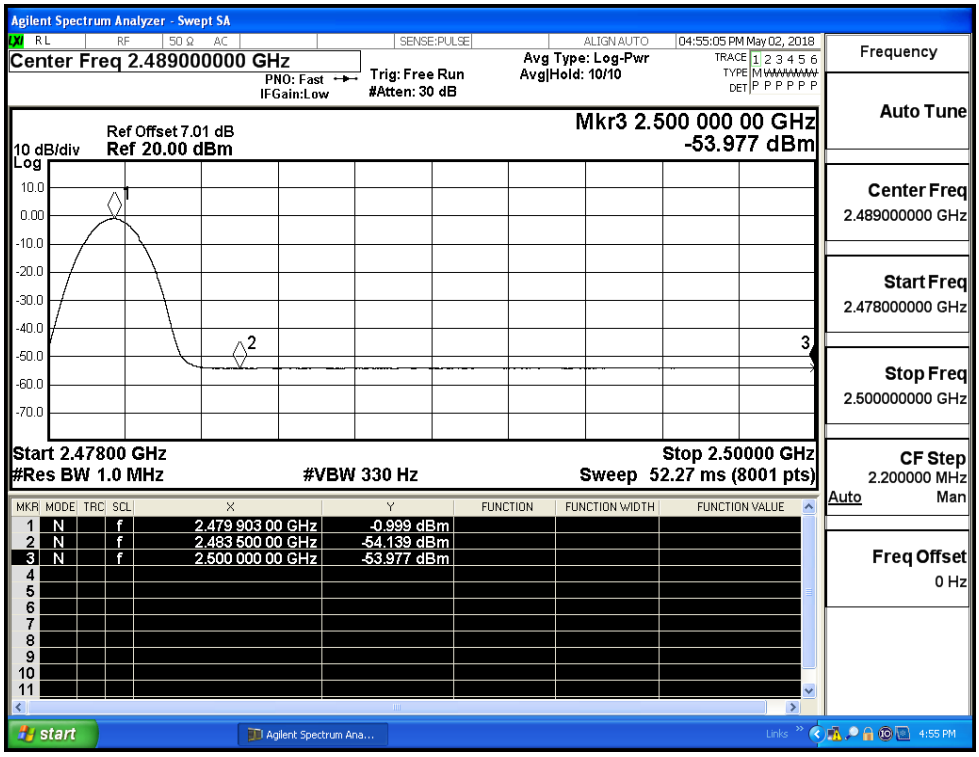
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



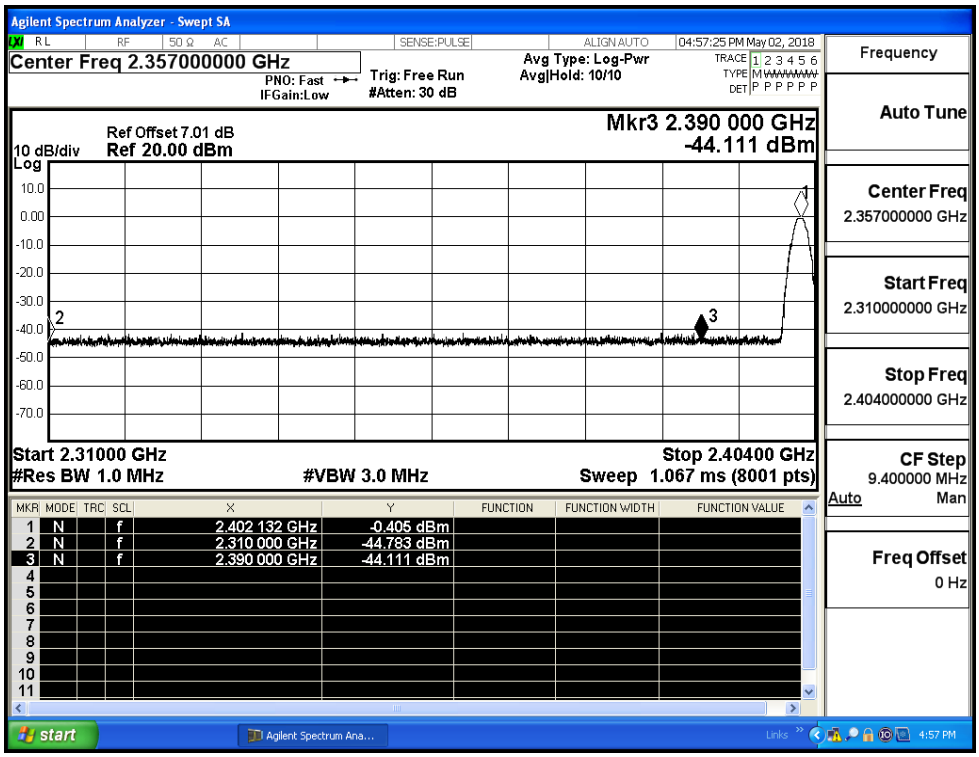
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



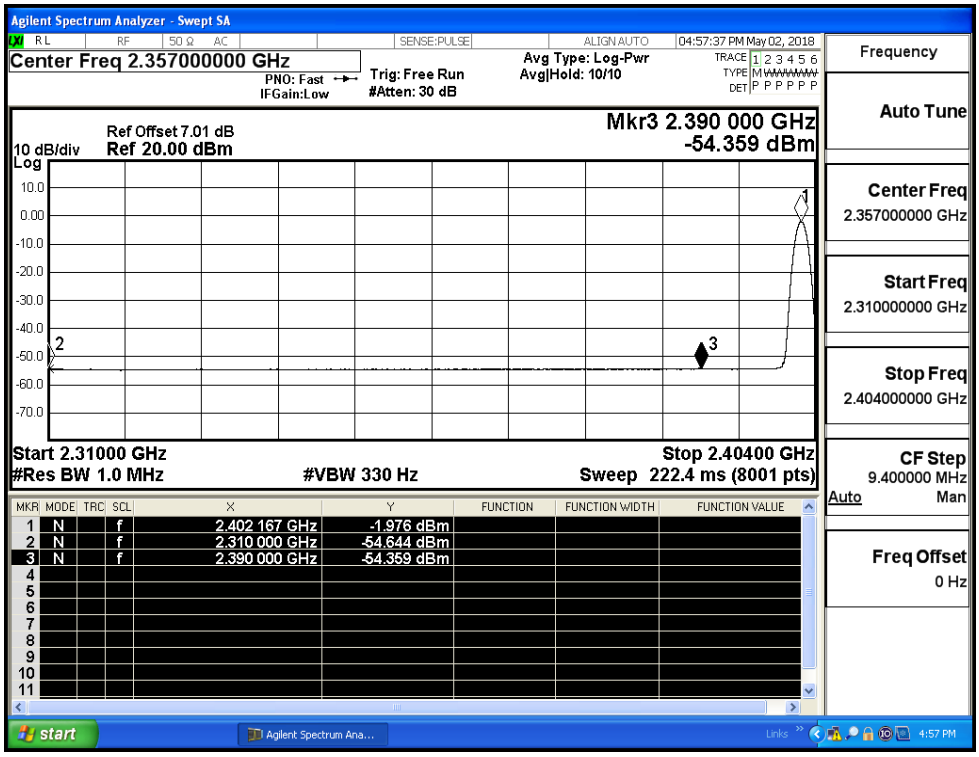
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



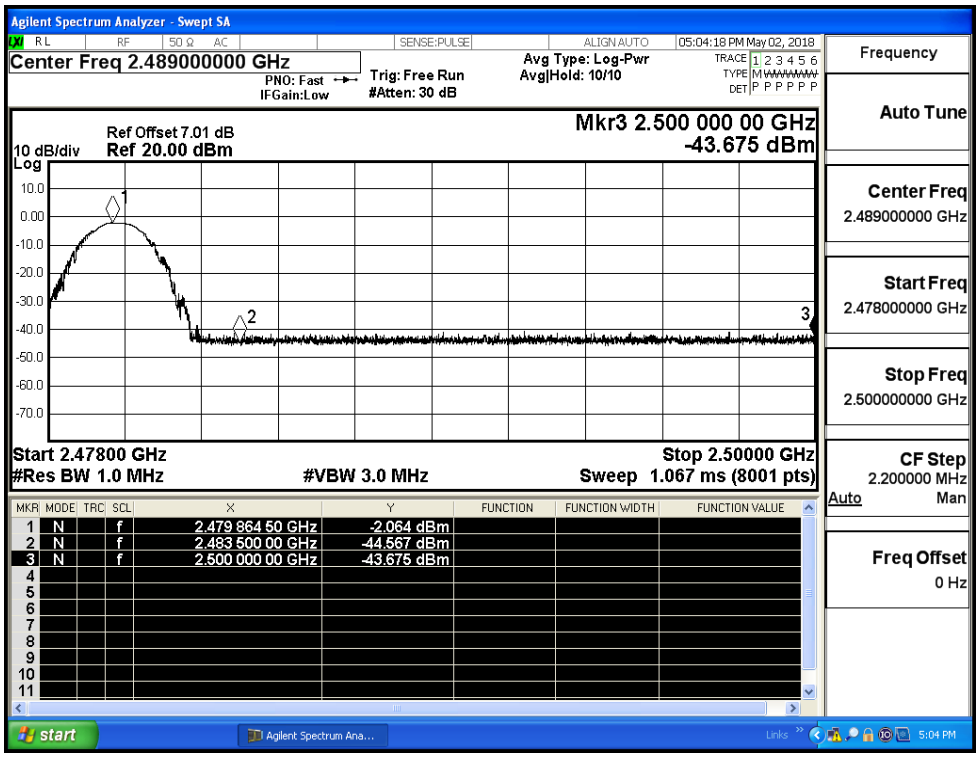
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



Restrict-band band-edge measurements_Hopping Off_π/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)