Appendix A

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

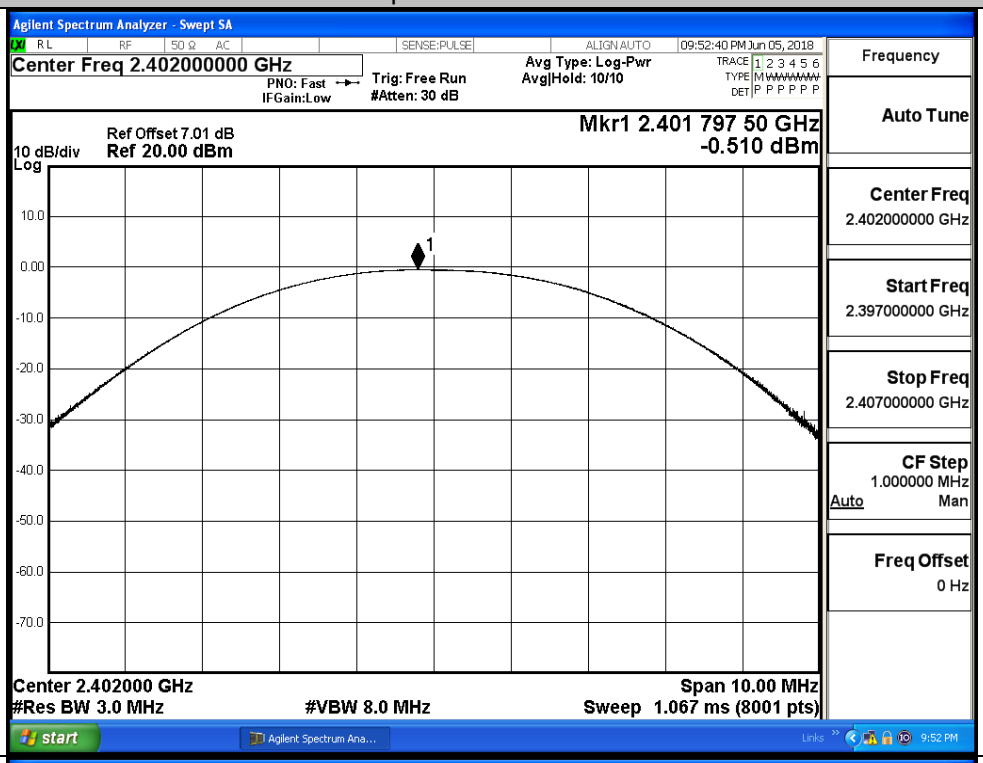
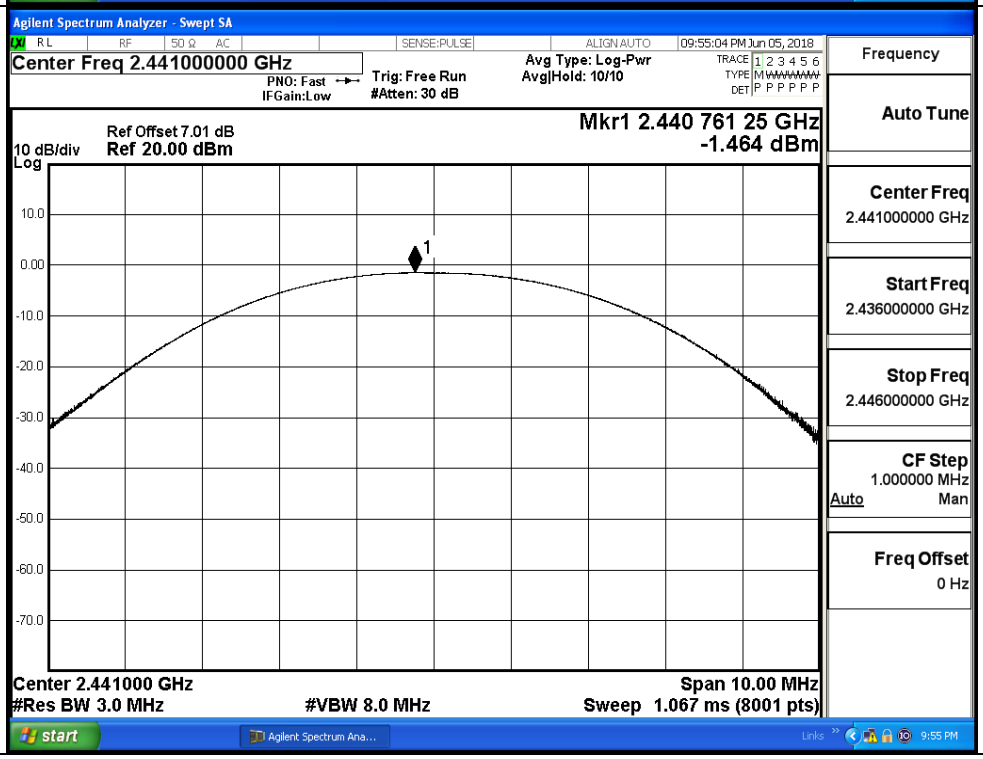
Product Name: stacked desk organizer
Trade Mark: Mind reader
Test Model: STAX-BLK

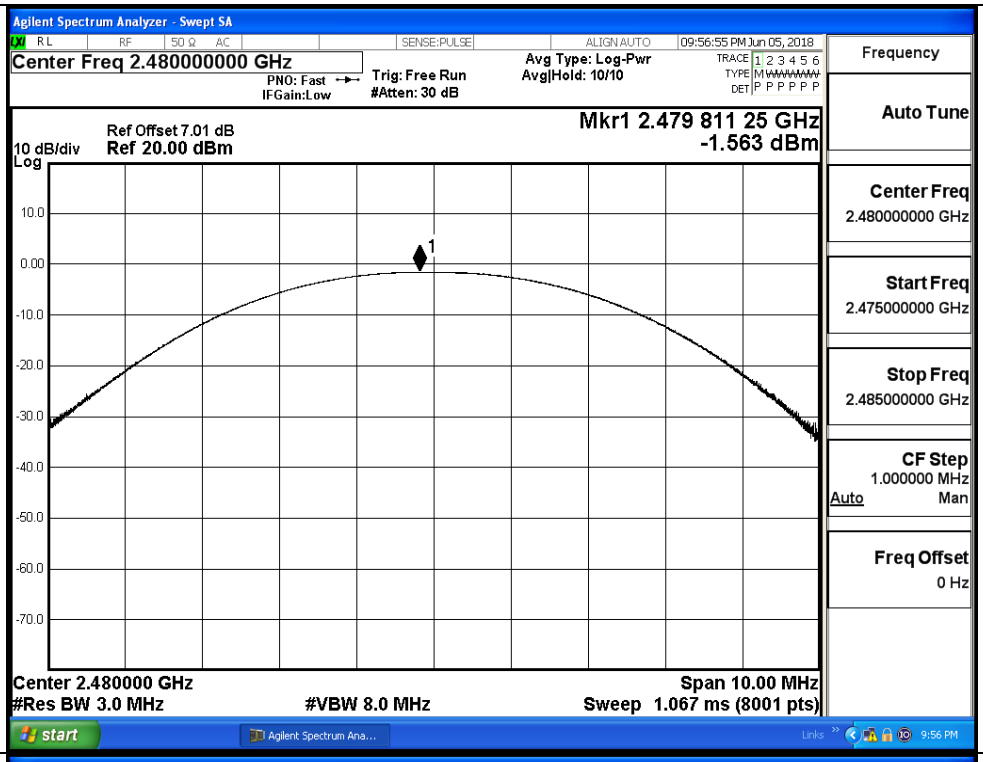
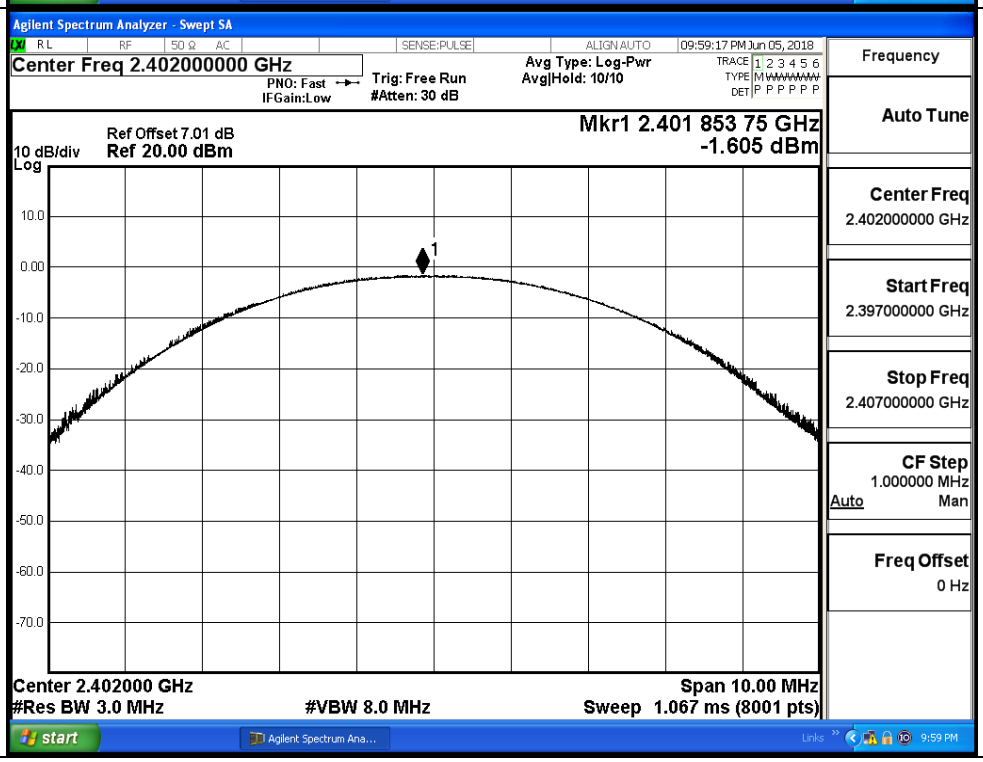
Environmental Conditions

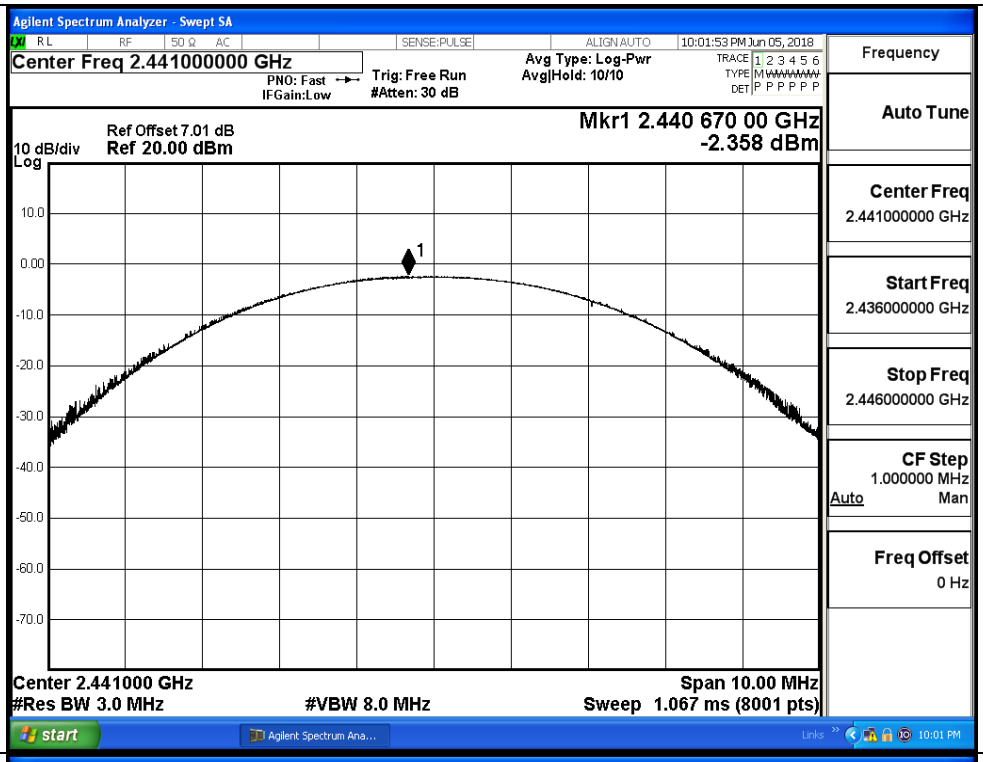
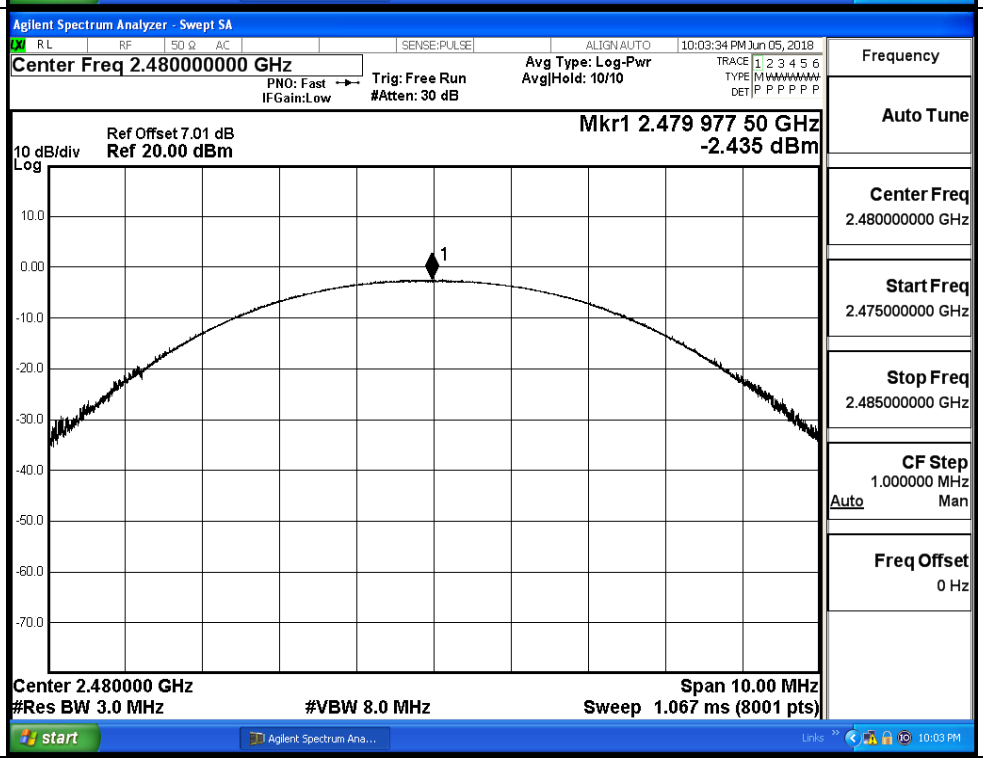
Temperature:	24.6 ° C
Relative Humidity:	54.4%
ATM Pressure:	100.0 kPa
Test Engineer:	WANGCHUANG
Supervised by:	Jayden.Zhuo

A.1 Maximum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.510	30	PASS
	MCH	-1.464	30	PASS
	HCH	-1.563	30	PASS
π/4DQPSK	LCH	-1.605	21	PASS
	MCH	-2.358	21	PASS
	HCH	-2.435	21	PASS

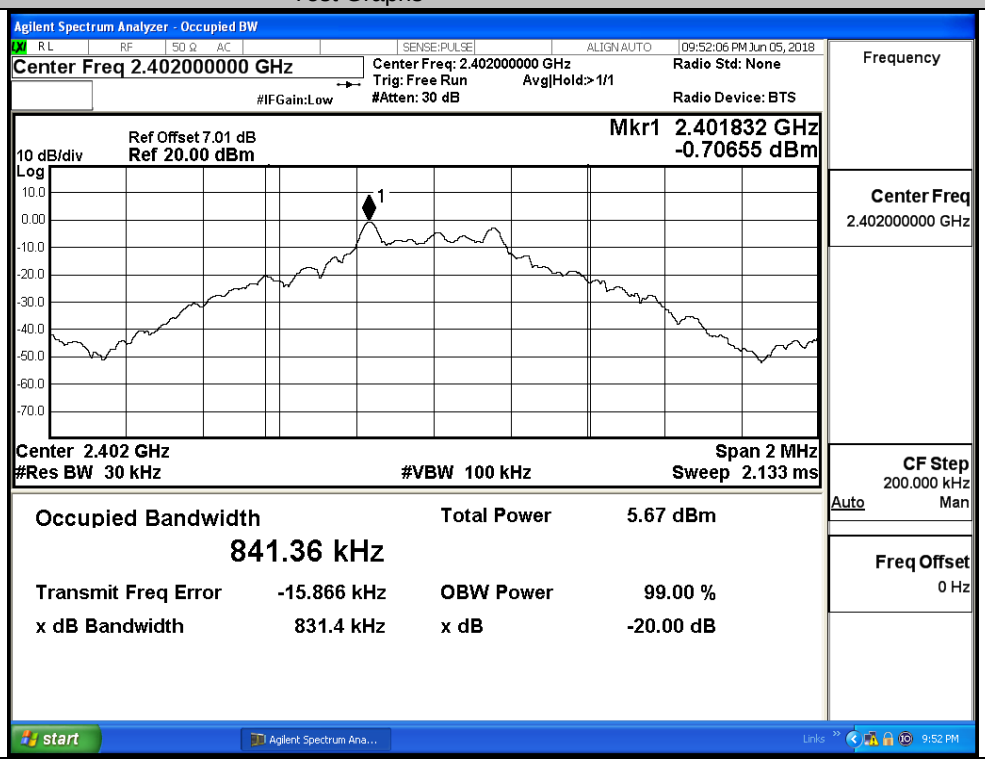
Test Graphs		
GFSK/LCH		
GFSK/MCH		

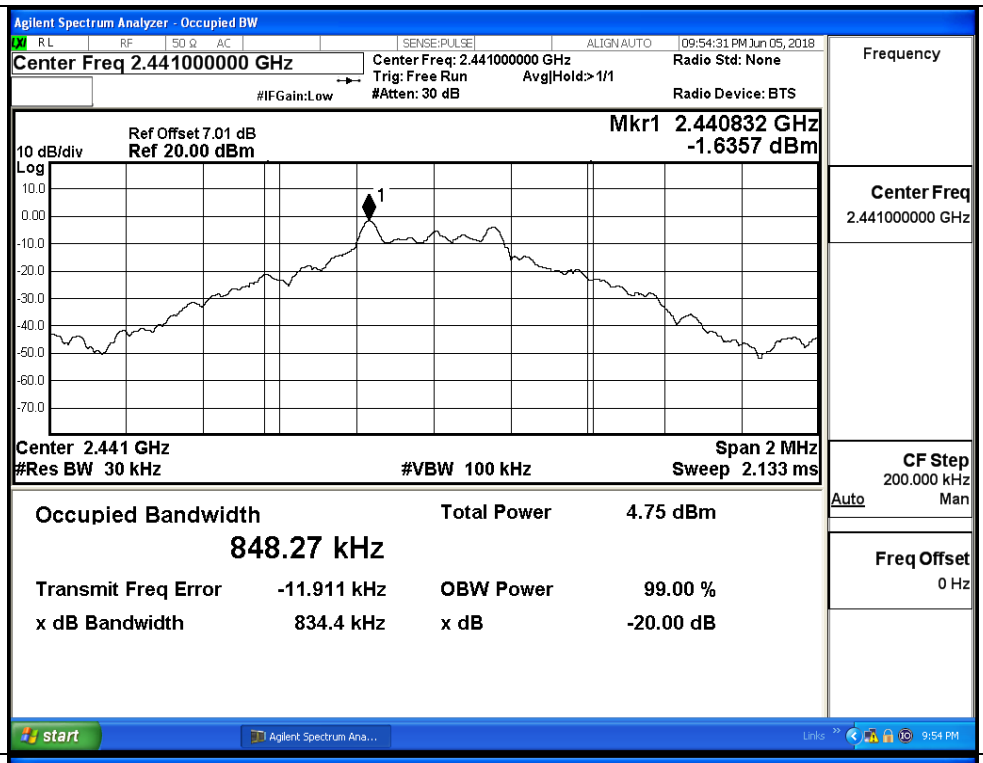
GFSK/HCH		
π/4DQPSK/LCH		

π/4DQPSK/MCH		
π/4DQPSK/HCH		

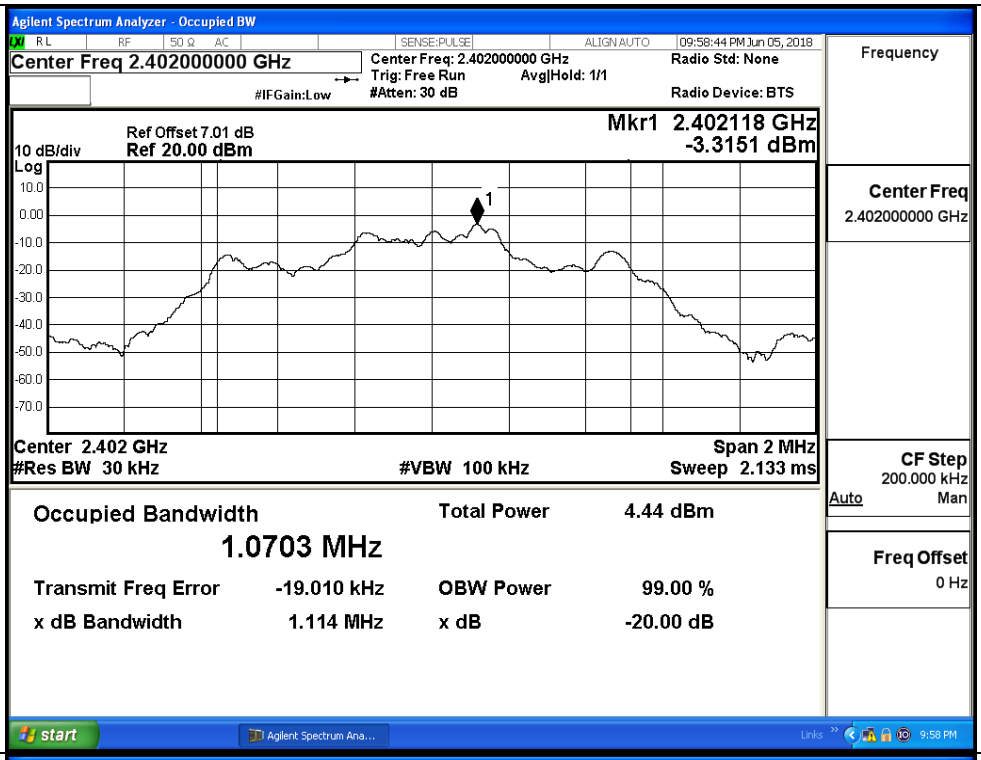
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.8314	Not Specified	PASS
	MCH	0.8344	Not Specified	PASS
	HCH	0.8416	Not Specified	PASS
π/4DQPSK	LCH	1.114	Not Specified	PASS
	MCH	1.117	Not Specified	PASS
	HCH	1.118	Not Specified	PASS

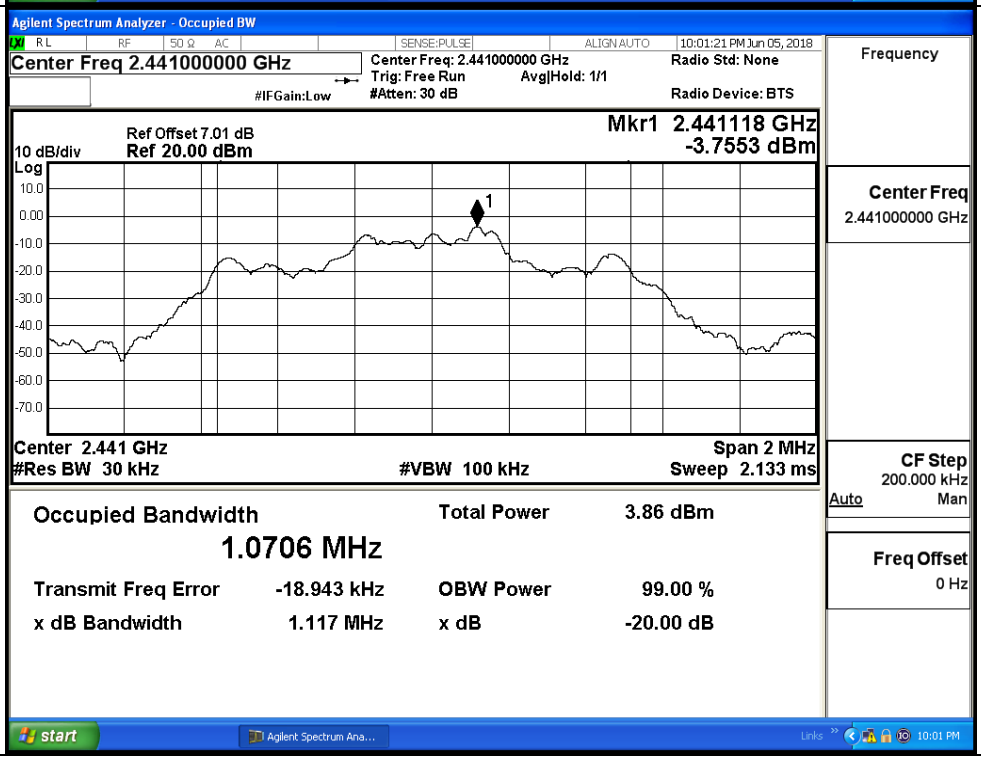
Test Graphs	
GFSK/LCH	

GFSK/MCH	
GFSK/HCH	

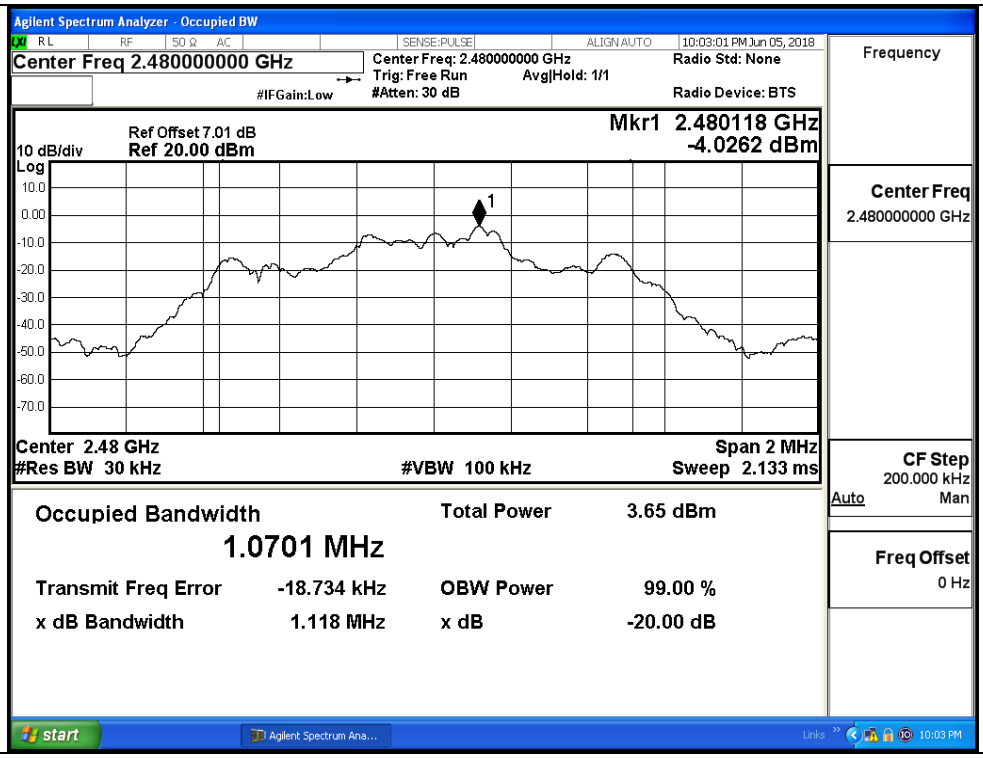
π/4DQPSK/LCH



π/4DQPSK/MCH

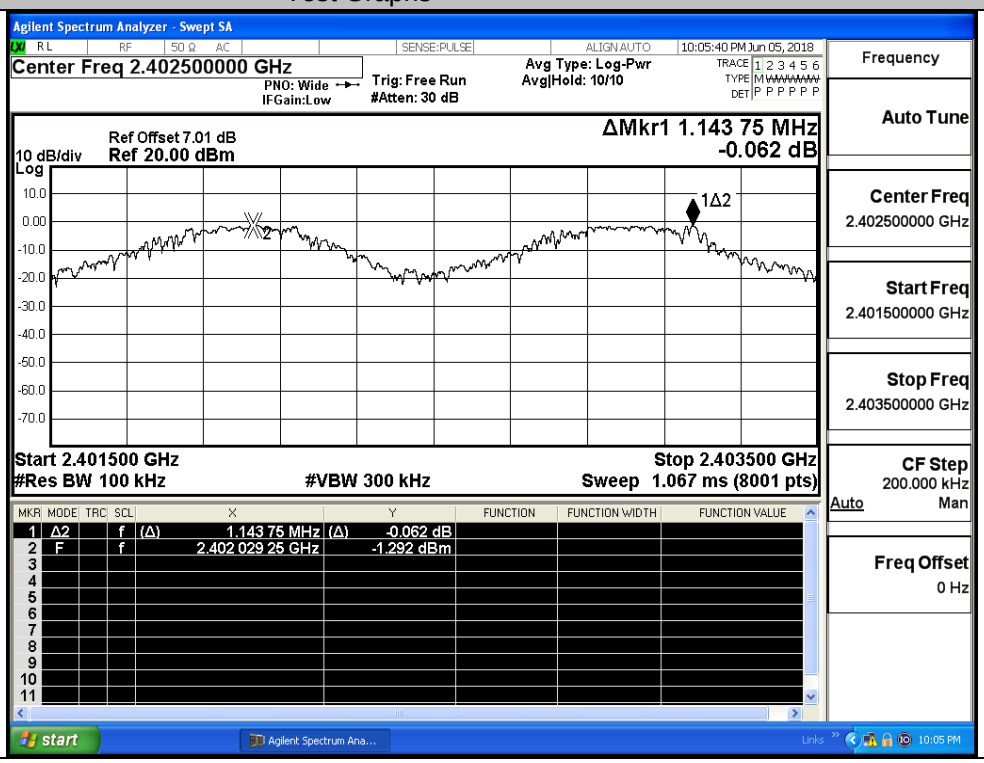


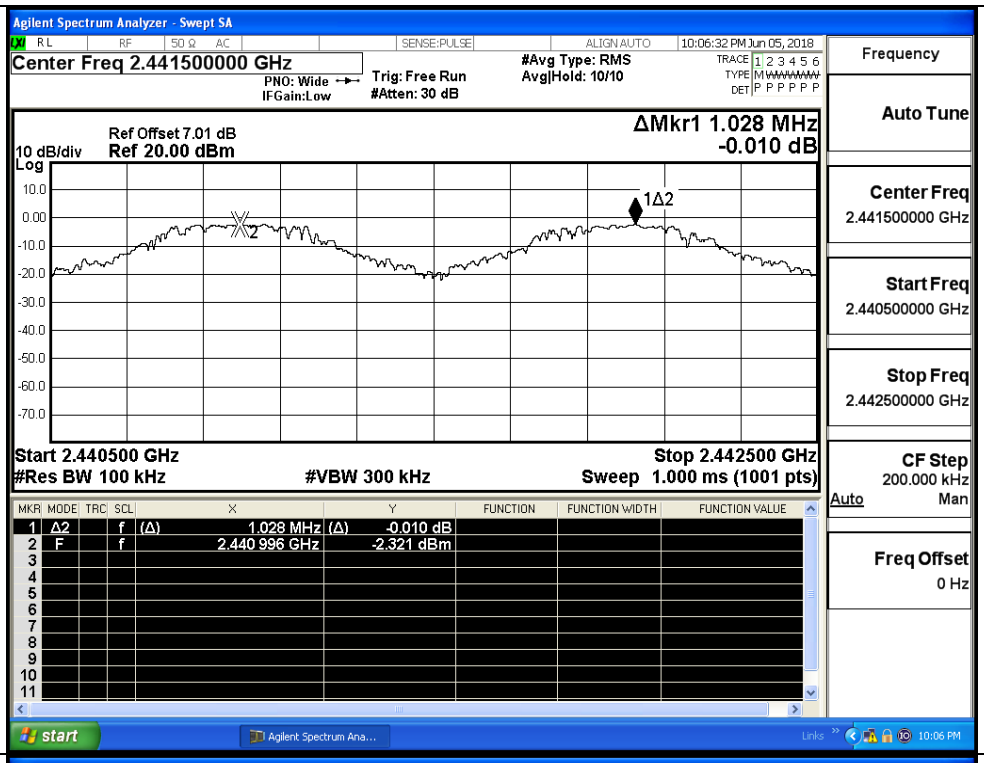
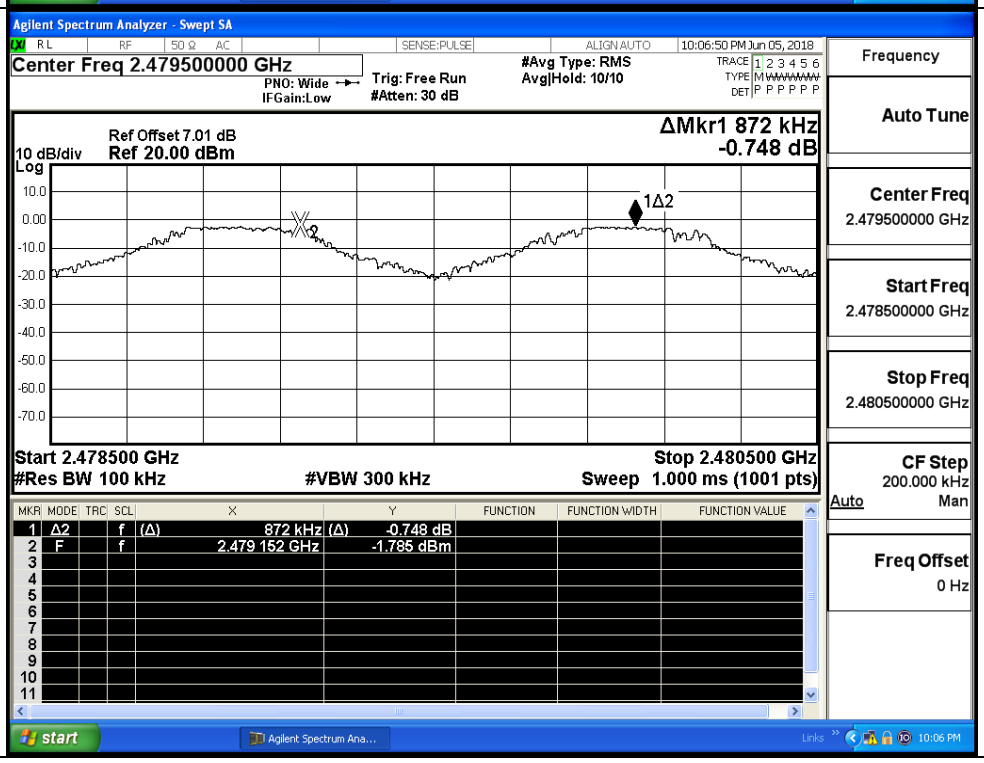
π/4DQPSK/HCH


Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.480000000 GHz
Center Freq: 2.480000000 GHz
Trig: Free Run
Avg|Hold: 1/1
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
#IFGain:Low
Ref Offset 7.01 dB
10 dB/div
Ref 20.00 dBm
Mkr1 2.480118 GHz
-4.0262 dBm
Center 2.48 GHz
#Res BW 30 kHz
#VBW 100 kHz
Span 2 MHz
Sweep 2.133 ms
Occupied Bandwidth
1.0701 MHz
Total Power 3.65 dBm
Transmit Freq Error -18.734 kHz
OBW Power 99.00 %
x dB Bandwidth 1.118 MHz
x dB -20.00 dB
Frequency
Center Freq
2.480000000 GHz
CF Step
200.000 kHz
Auto Man
Freq Offset
0 Hz

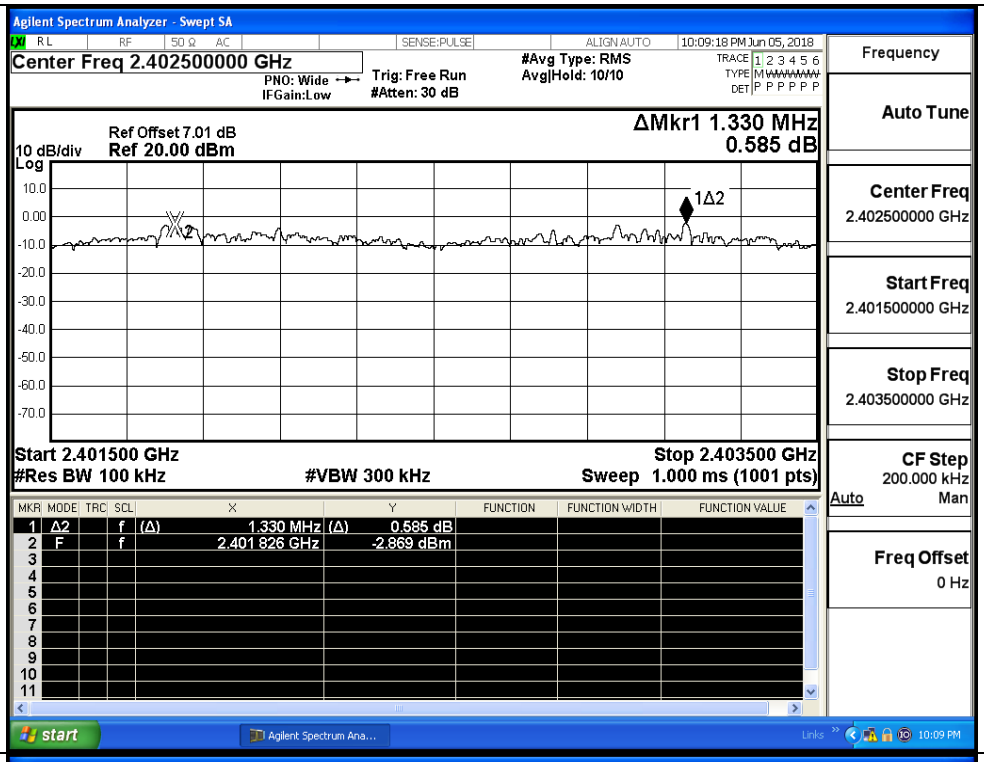
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.144	0.8314	PASS
	MCH	1.028	0.8344	PASS
	HCH	0.872	0.8416	PASS
π/4DQPSK	LCH	1.330	0.745	PASS
	MCH	1.272	0.745	PASS
	HCH	0.918	0.745	PASS

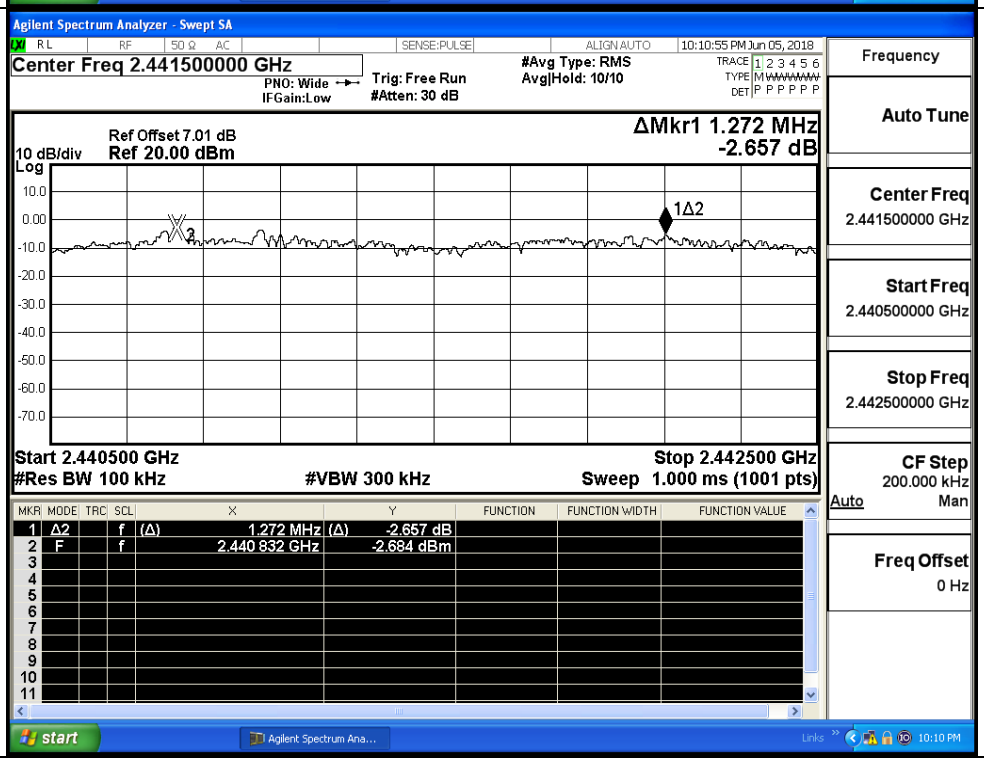
Test Graphs	
GFSK/LCH	

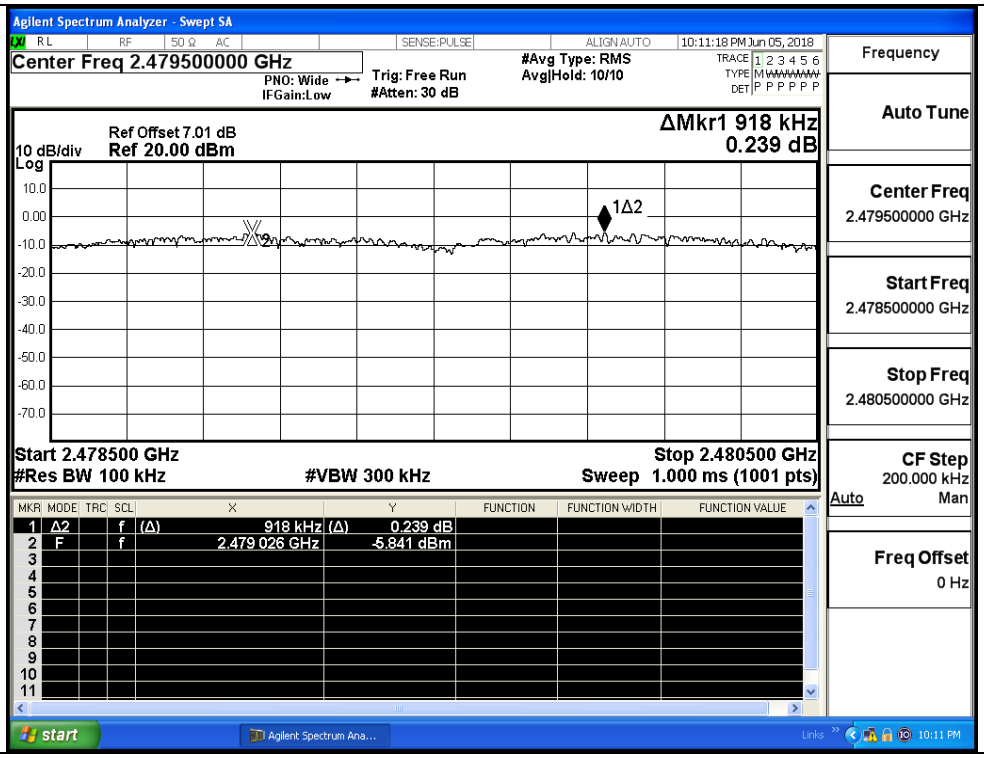
GFSK/MCH		
GFSK/HCH		

π/4DQPSK/LCH



π/4DQPSK/MCH

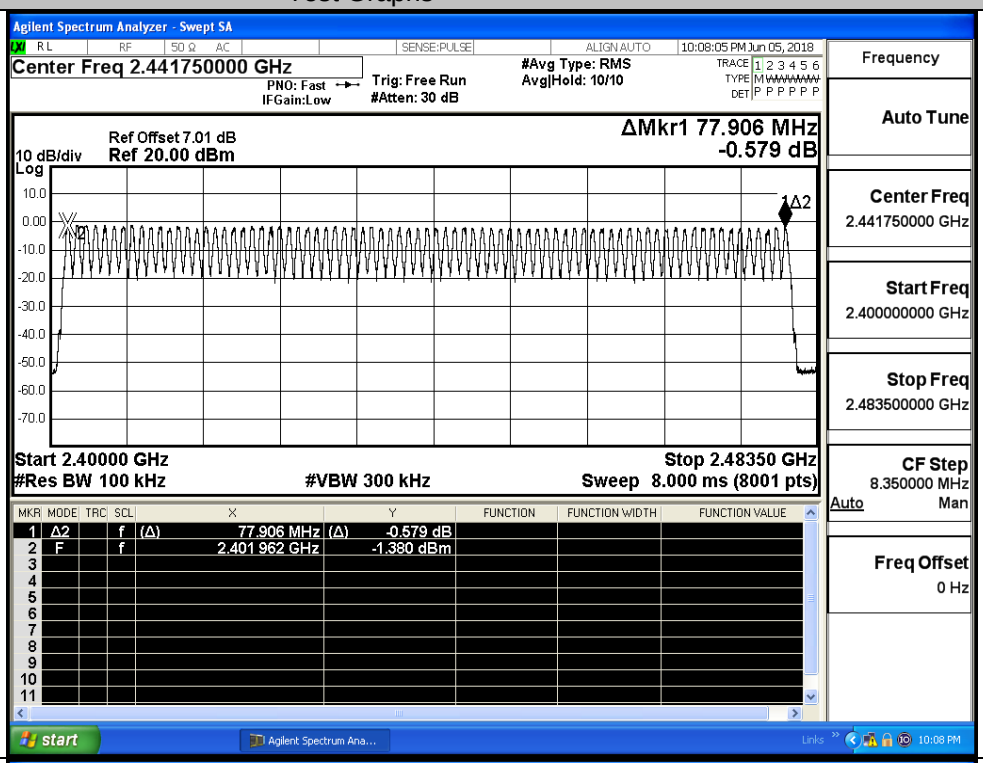
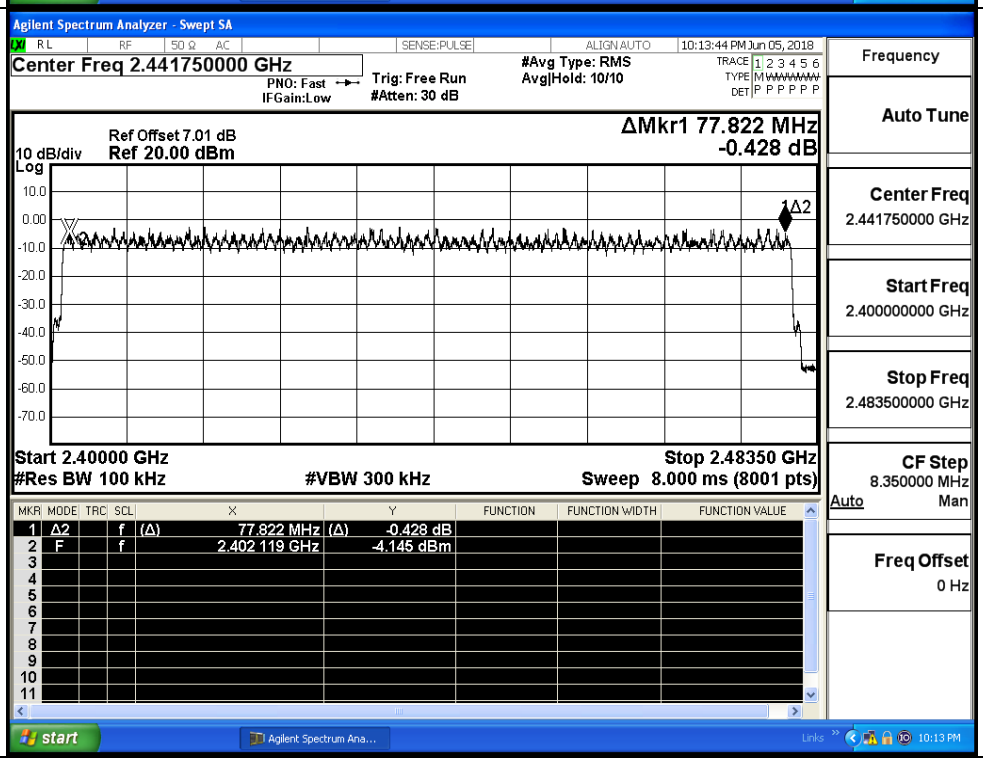


π/4DQPSK/HCH	

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.479500000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 10/10
10:11:18 PM Jun 05, 2018
Ref Offset 7.01 dB
10 dB/div
Ref 20.00 dBm
ΔMkr1 918 kHz
0.239 dB
1Δ2
Start 2.478500 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.480500 GHz
Sweep 1.000 ms (1001 pts)
1 Δ2 f (Δ) 918 kHz (Δ) 0.239 dB
2 F f 2.479 026 GHz -5.841 dBm
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

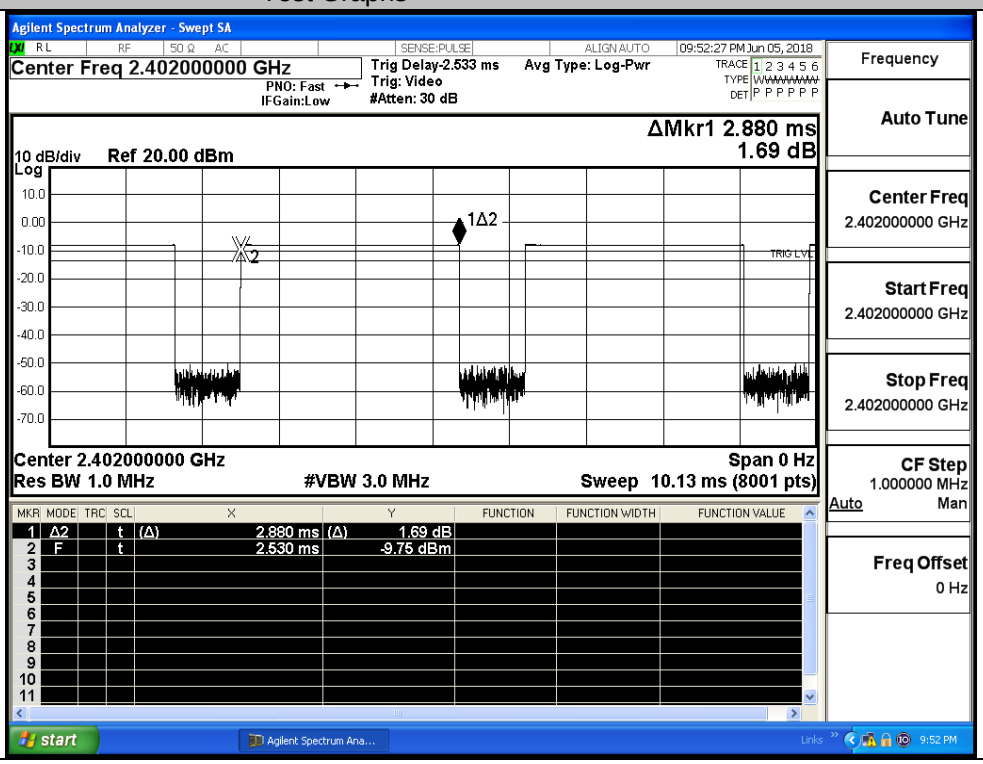
A.4 Hopping Channel Number

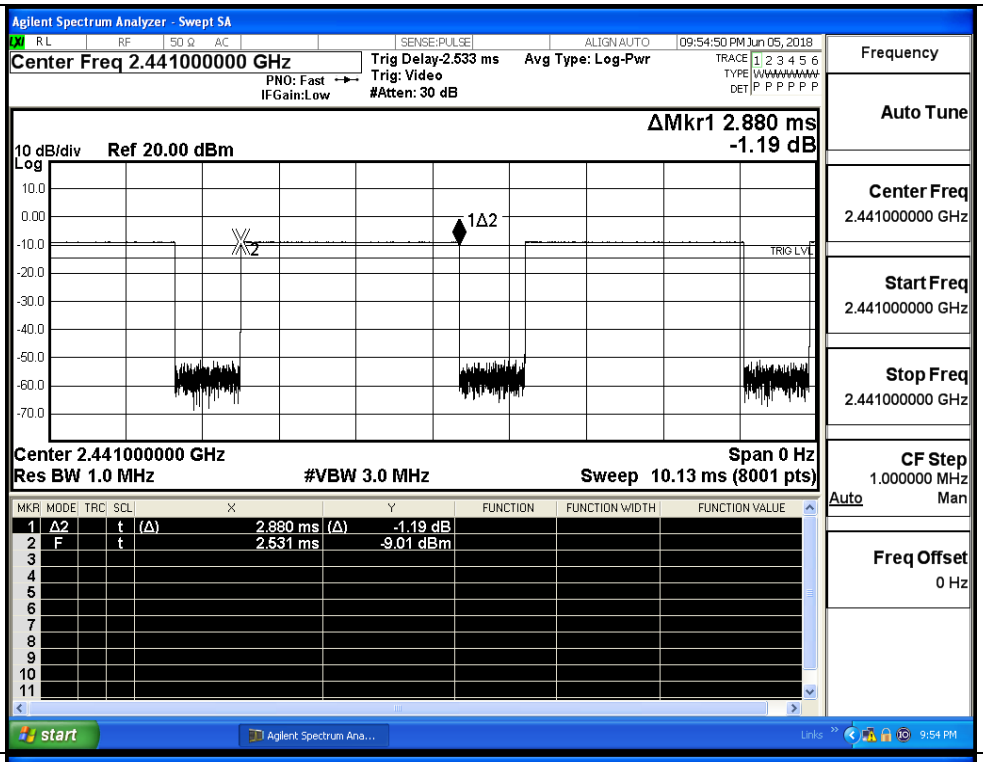
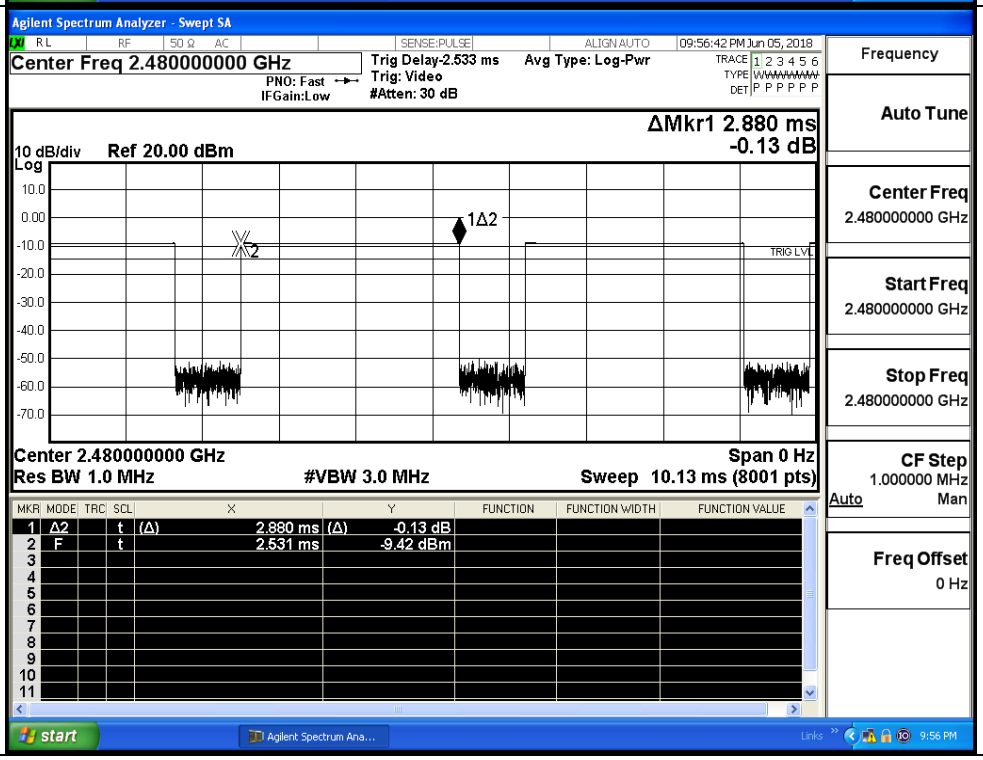
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
π/4DQPSK	Hop	79	>=15	PASS

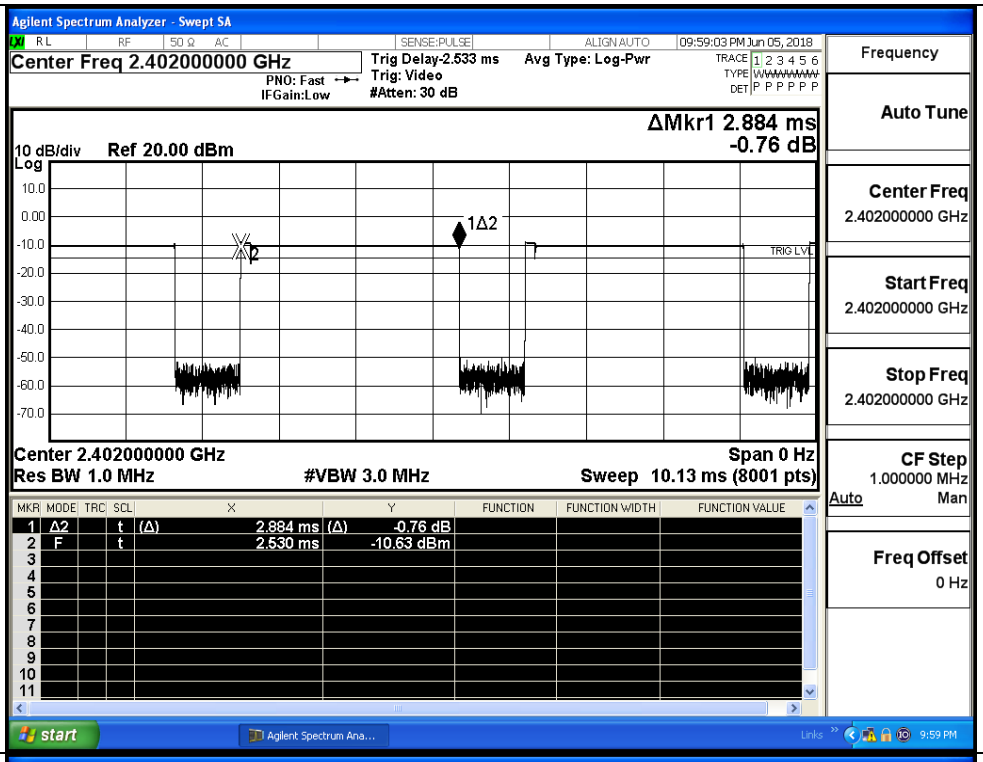
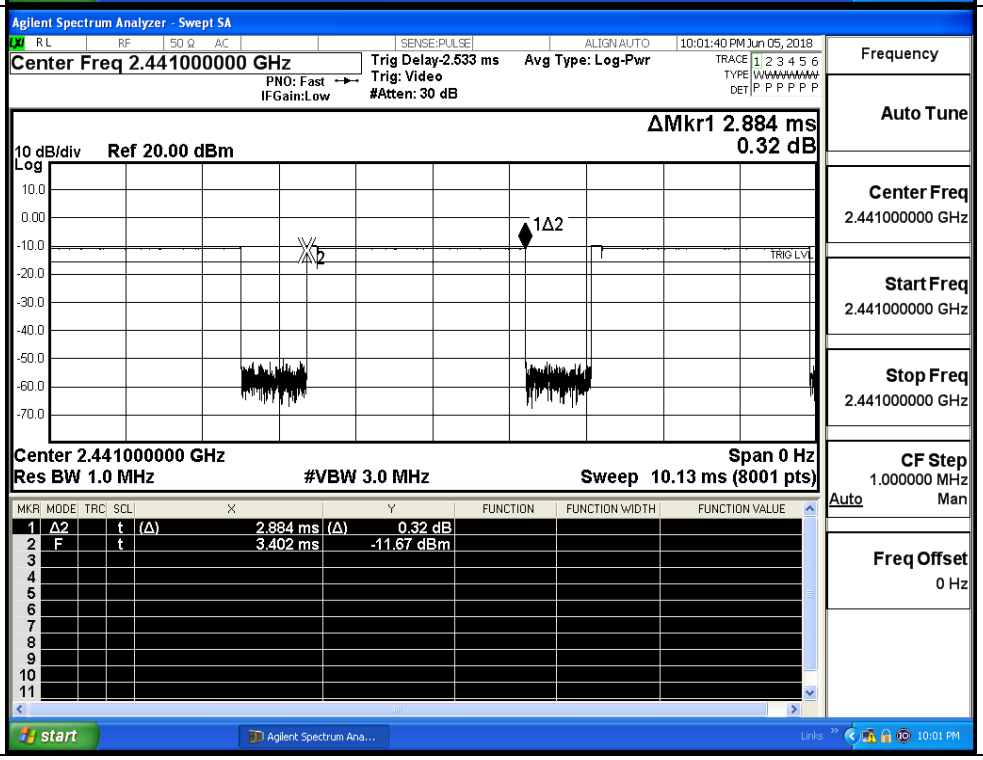
Test Graphs	
GFSK/Hop	
π/4DQPSK/Hop	

A.5 Dwell Time

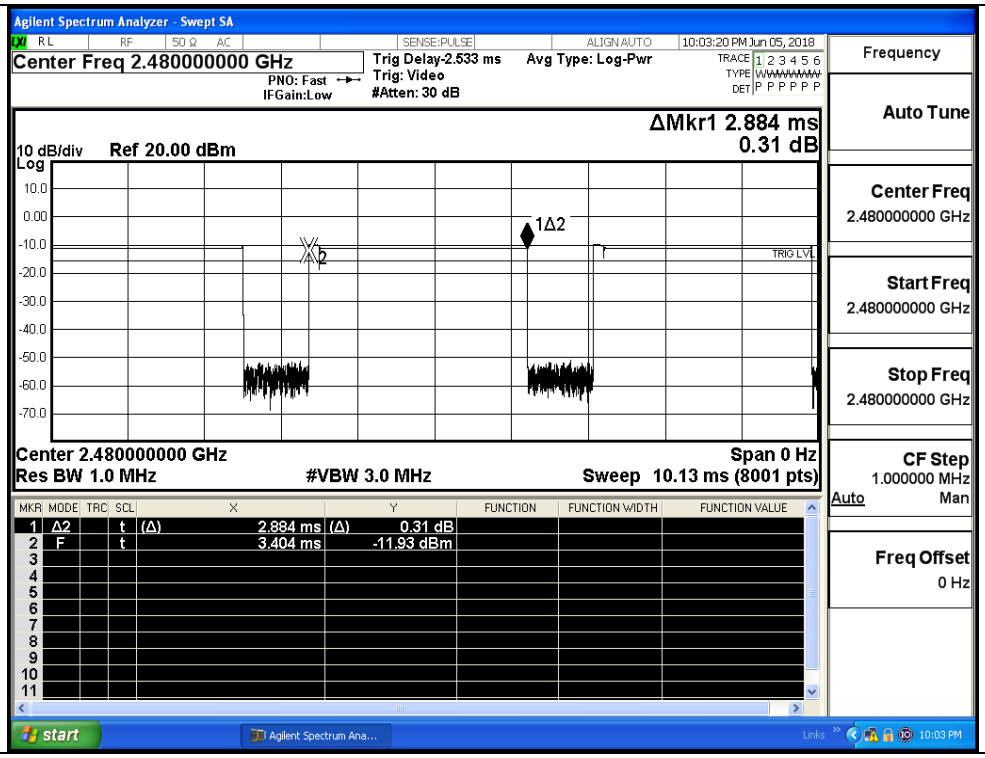
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
π/4DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7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

Test Graphs	
GFSK_DH5/LCH	

GFSK_DH5/MCH	
GFSK_DH5/HCH	

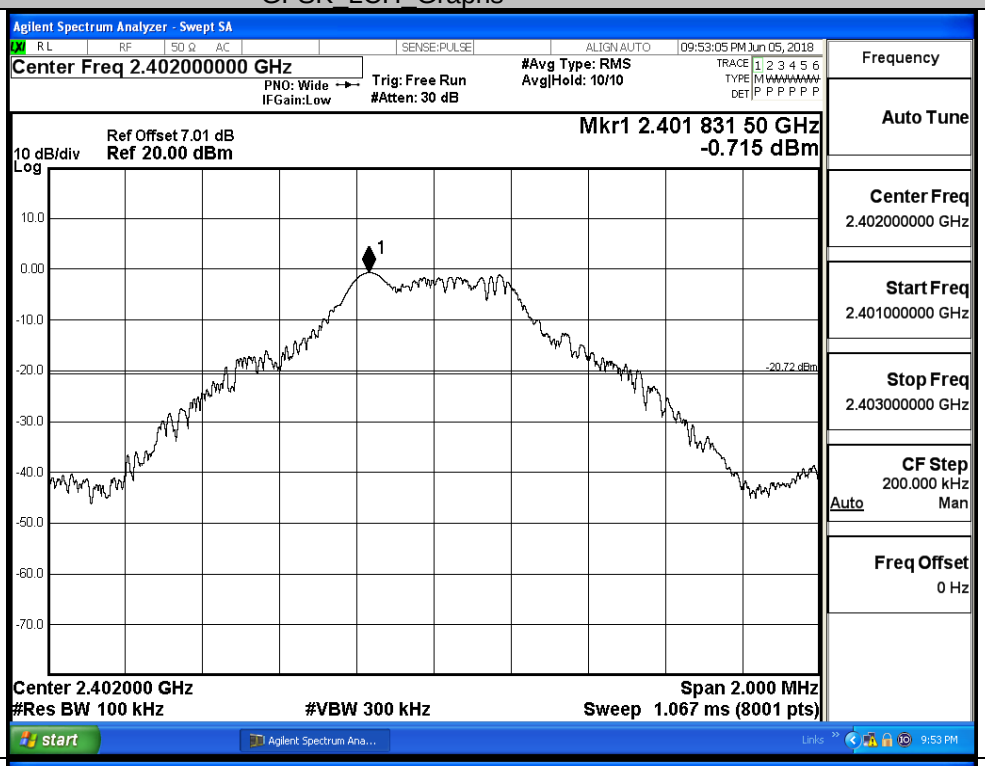
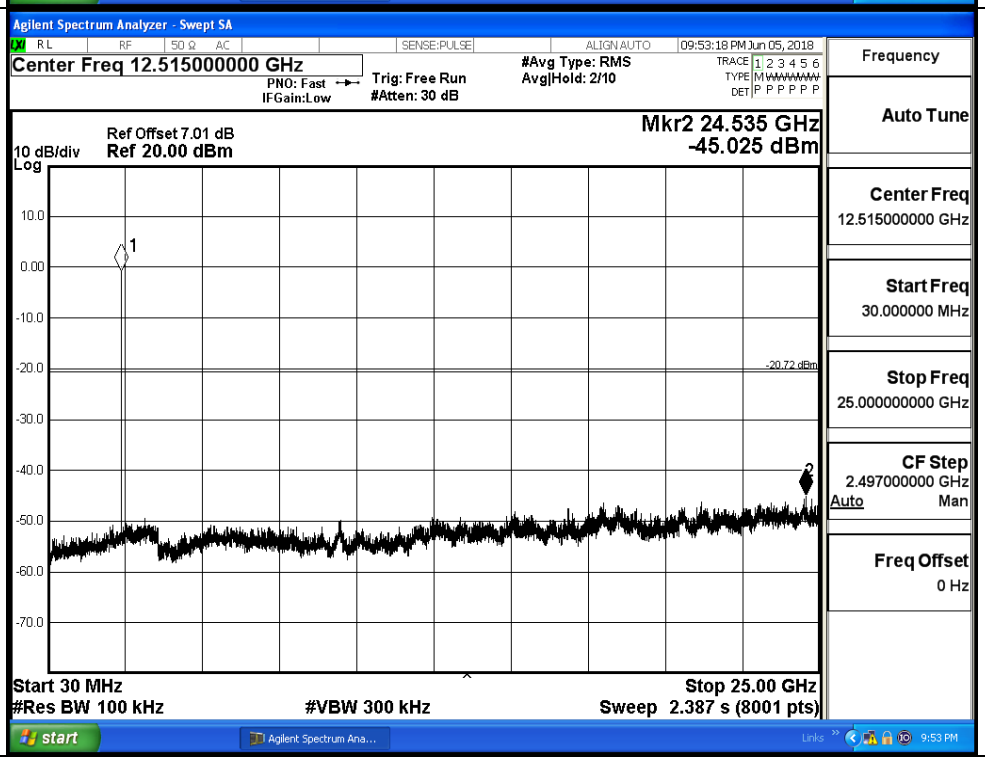
π/4DQPSK _2DH5/LCH	
π/4DQPSK _2DH5/MCH	

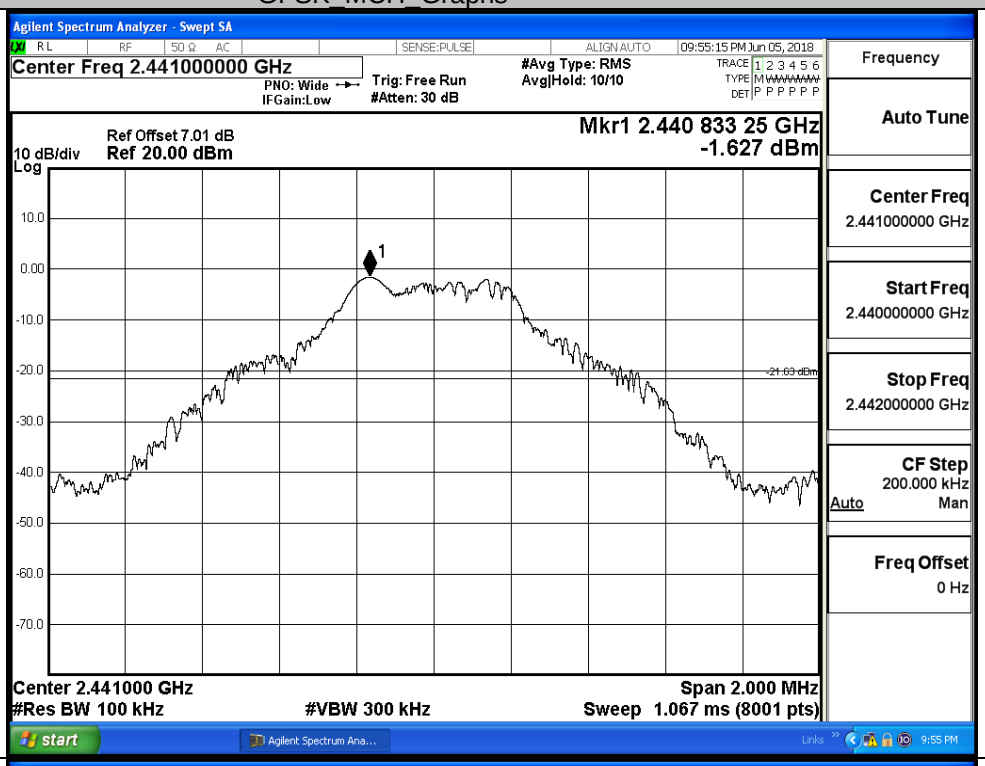
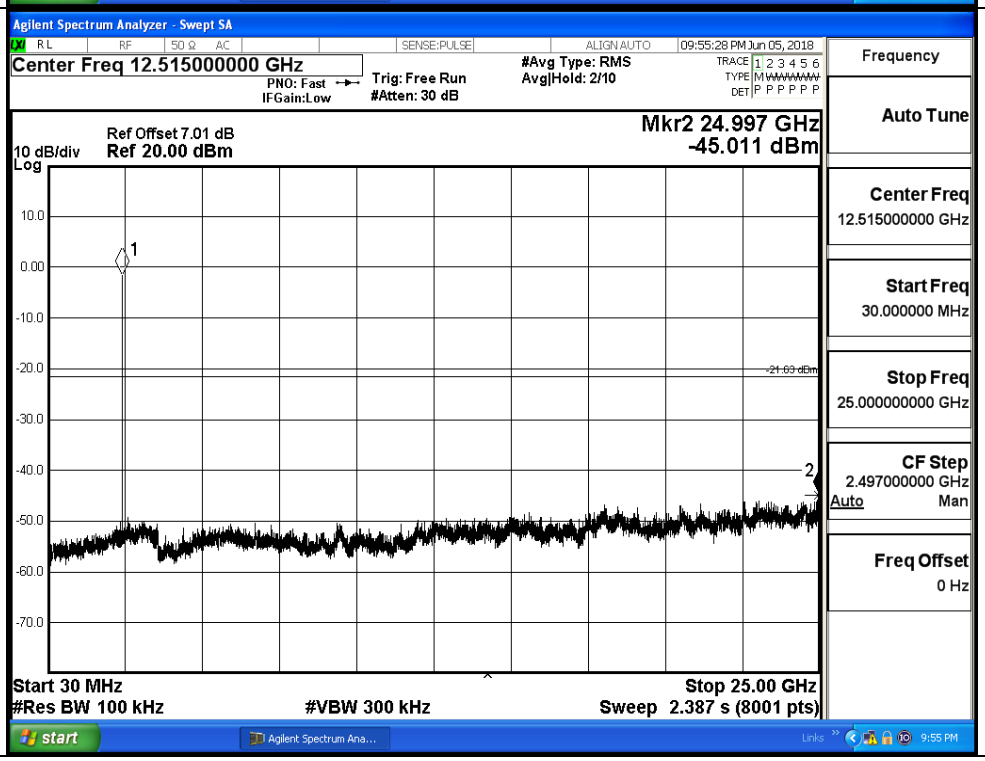
π/4DQPSK
_2DH5/HCH

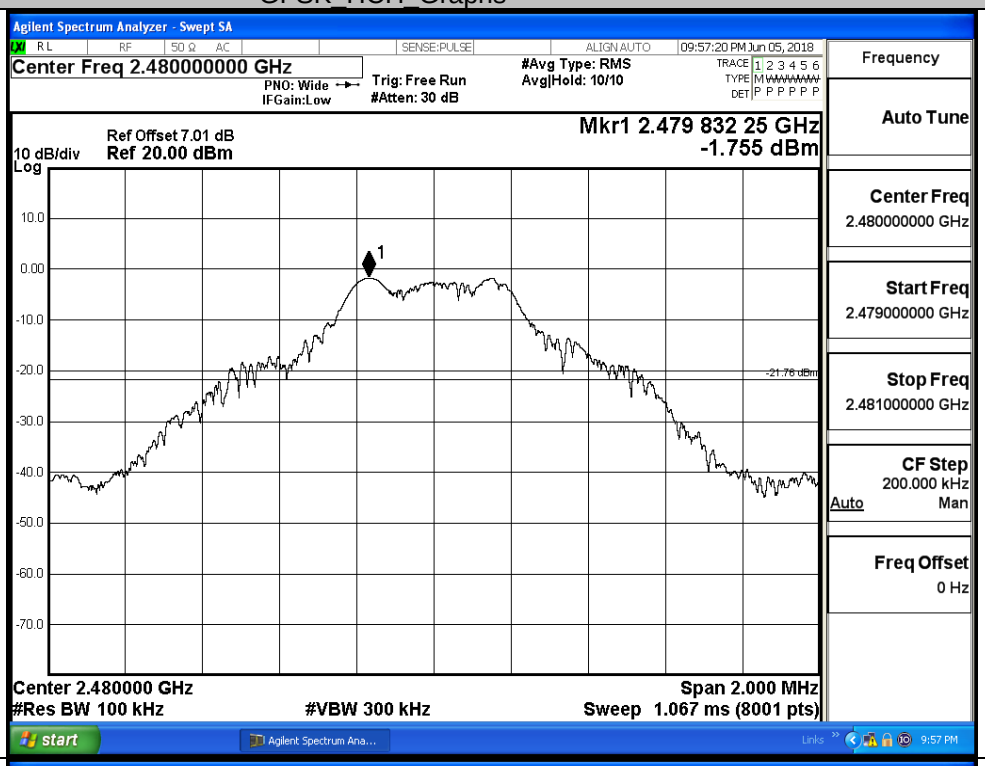
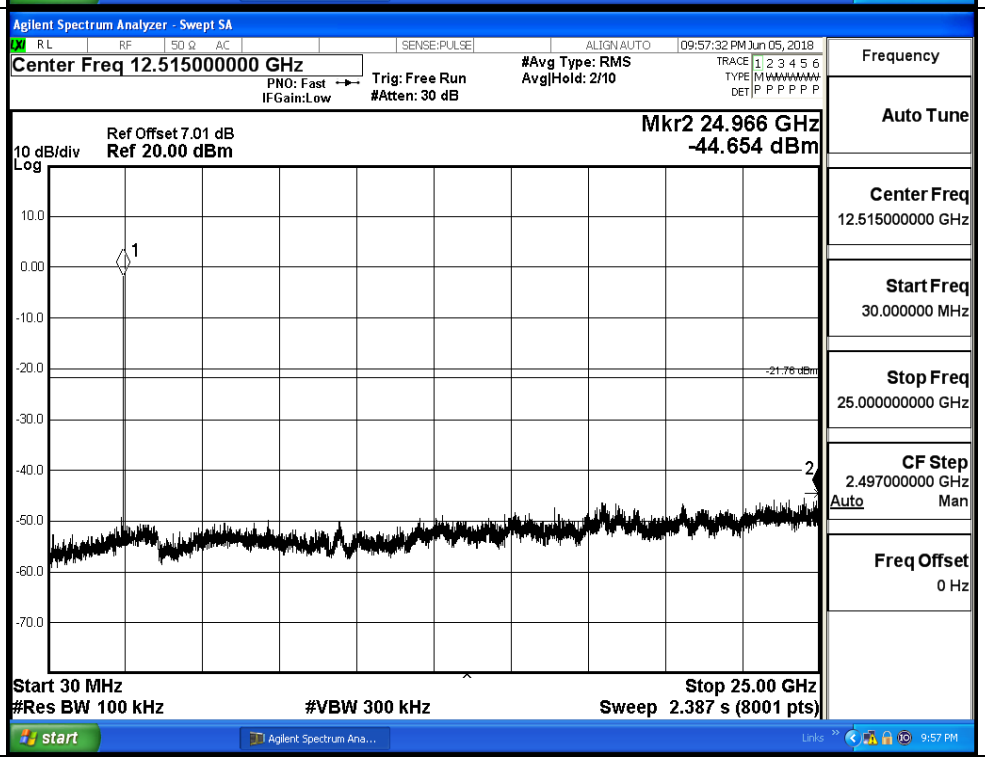


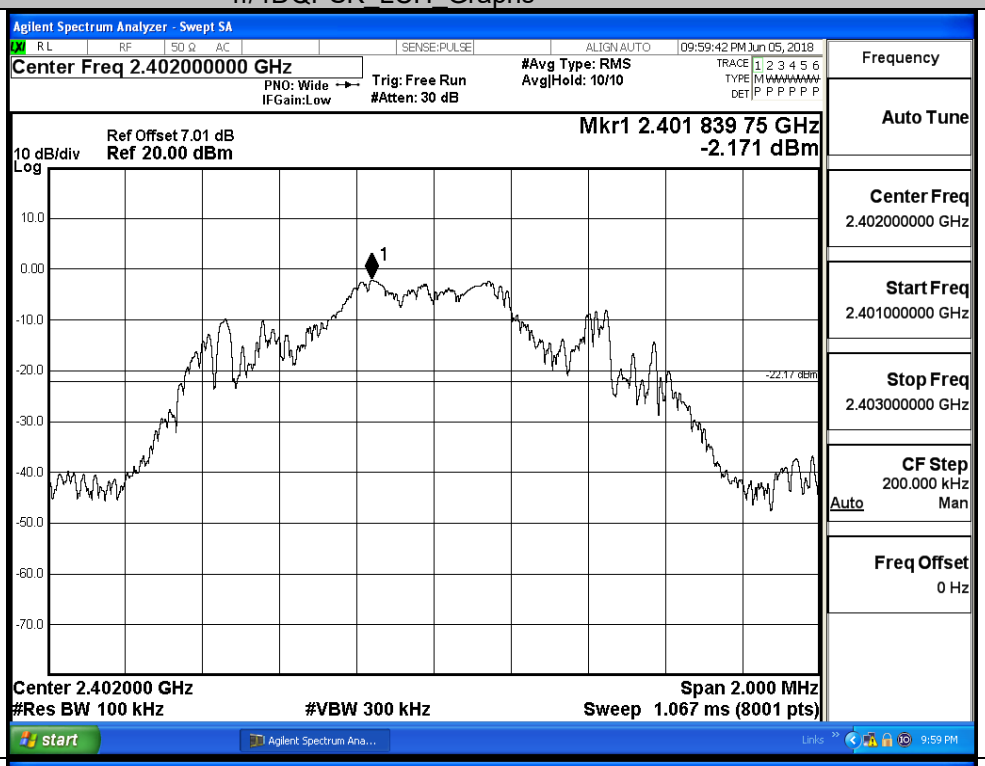
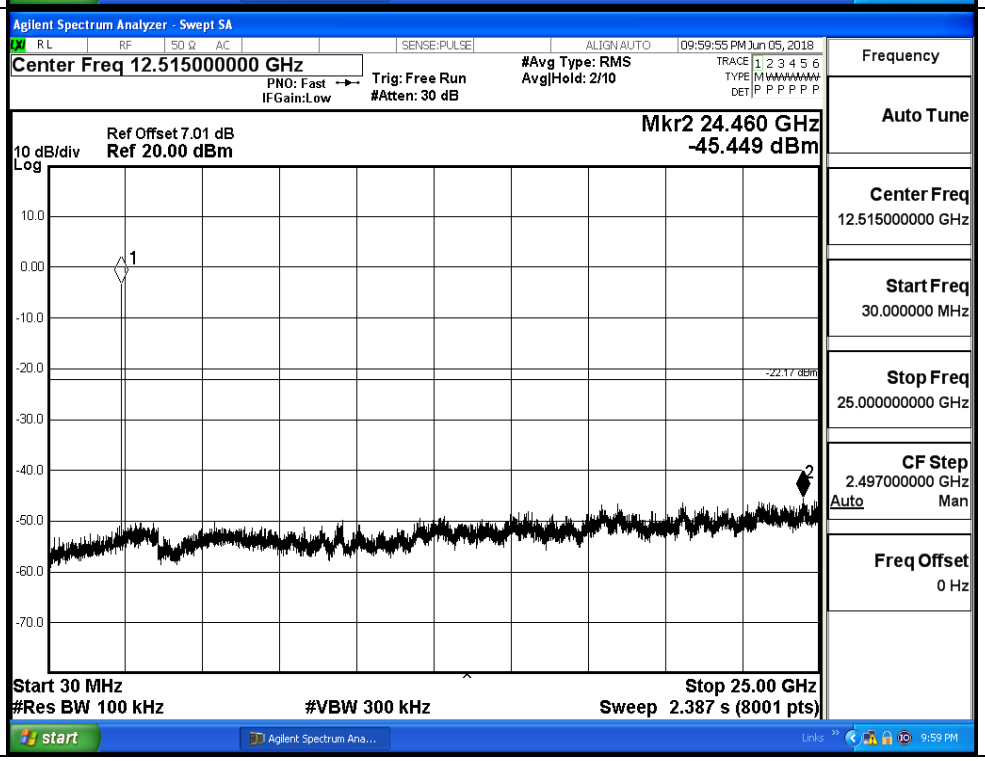
A.6 RF Conducted Spurious Emissions

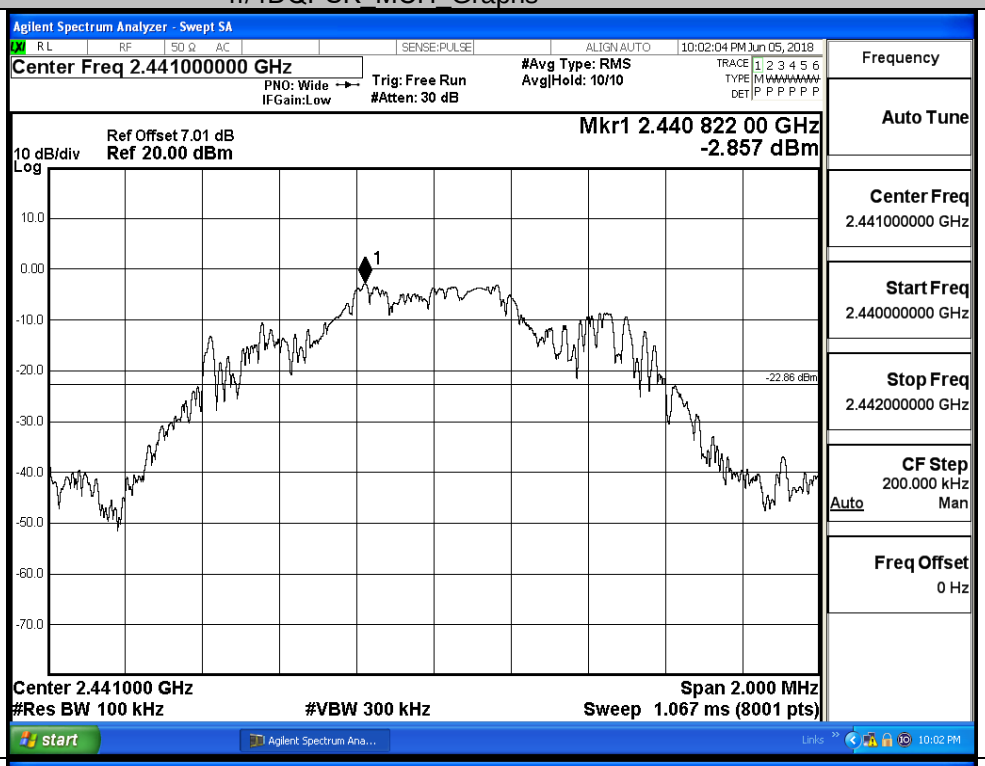
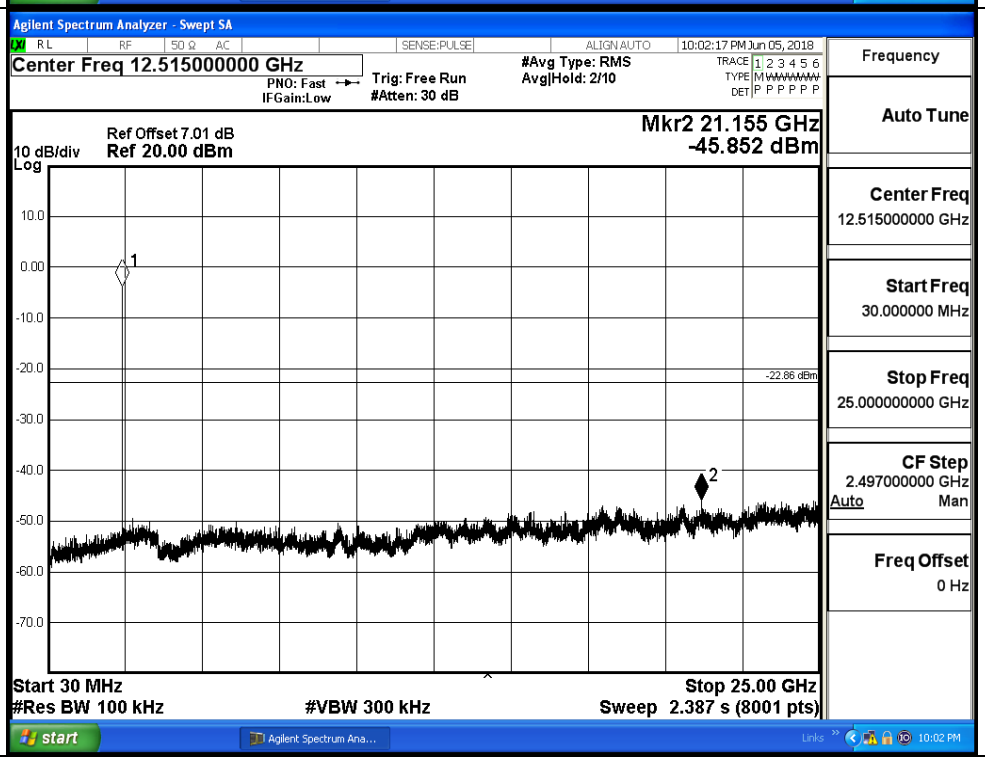
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.715	-45.025	-20.715	PASS
	MCH	-1.627	-45.011	-21.627	PASS
	HCH	-1.755	-44.654	-21.755	PASS
π/4DQPSK	LCH	-2.171	-45.449	-22.171	PASS
	MCH	-2.857	-45.852	-22.857	PASS
	HCH	-2.968	-45.572	-22.968	PASS

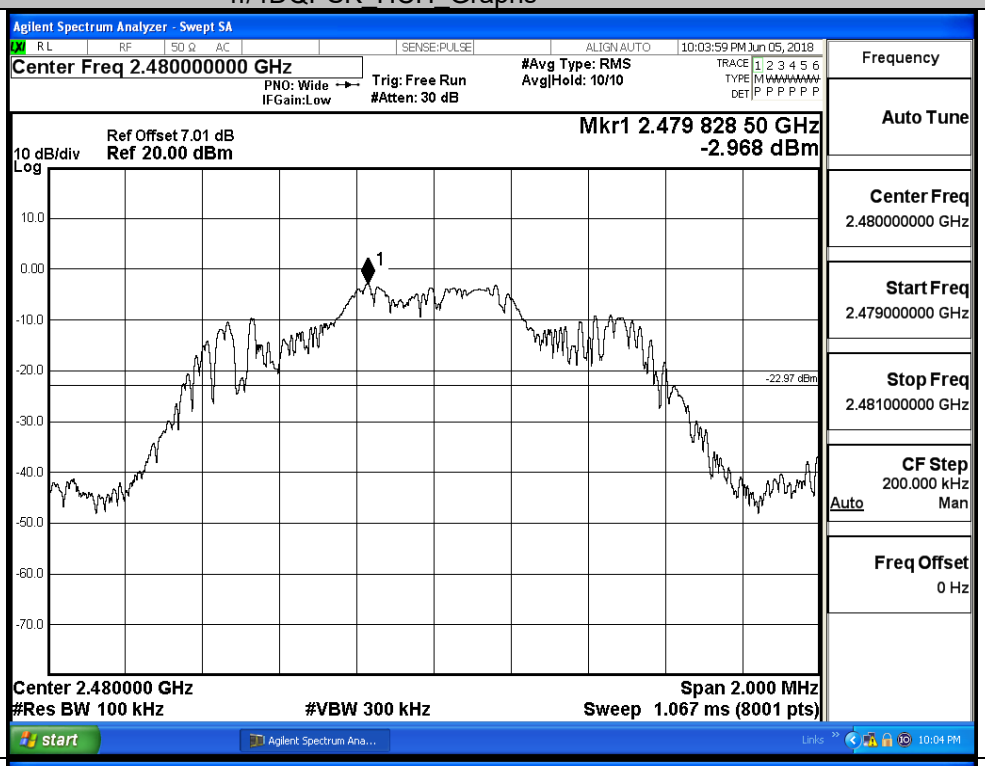
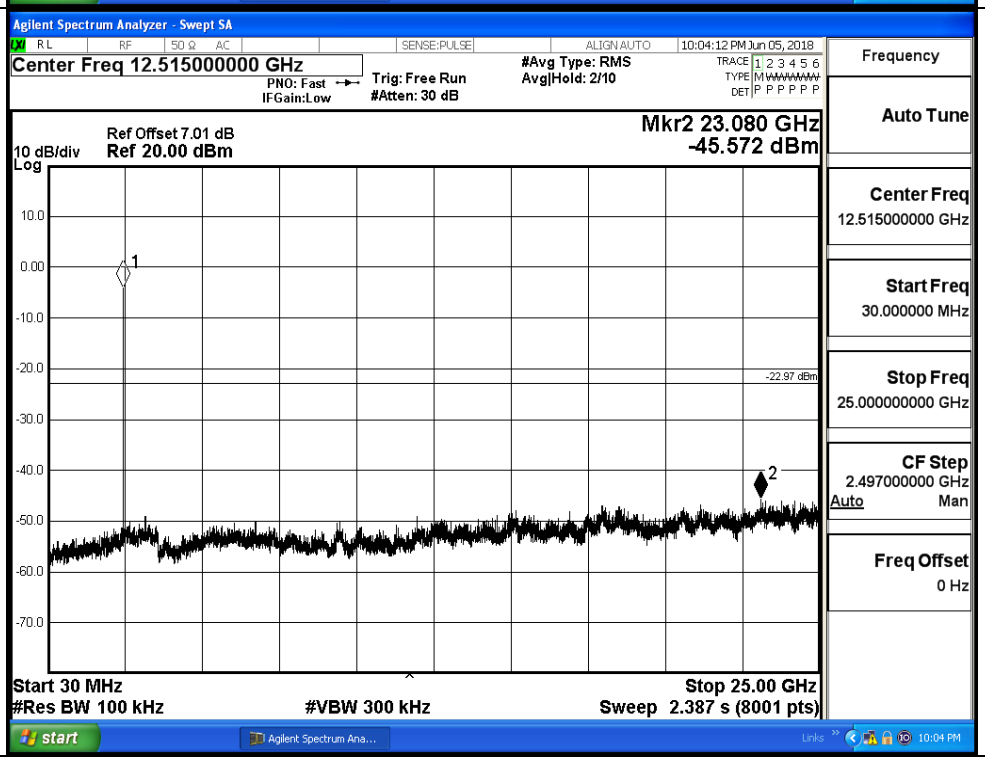
GFSK_LCH_Graphs		
Pref		
Puw		

GFSK_MCH_Graphs		
Pref		
Puw		

GFSK_HCH_Graphs		
Pref		
Puw		

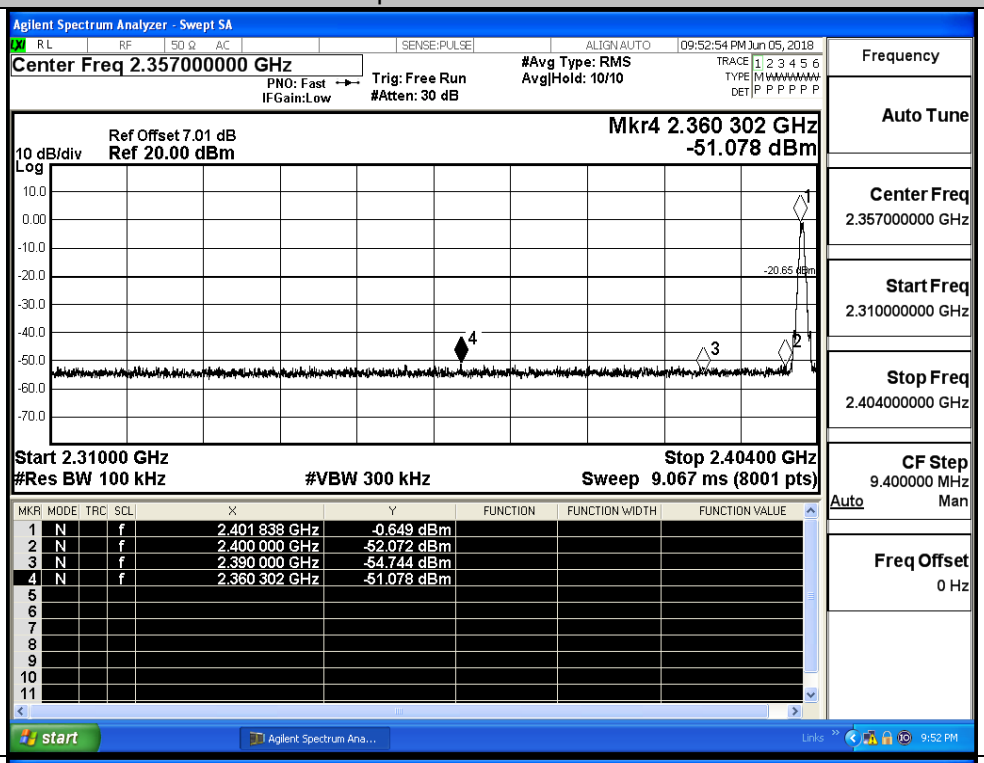
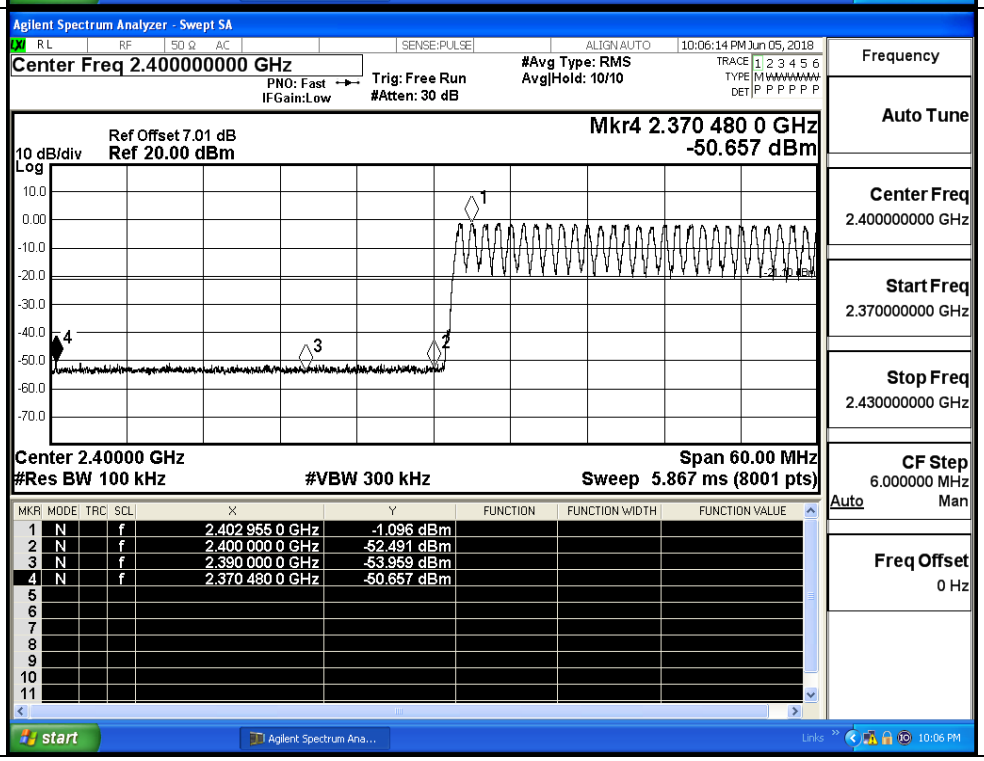
π/4DQPSK_LCH_Graphs		
Pref		
Puw		

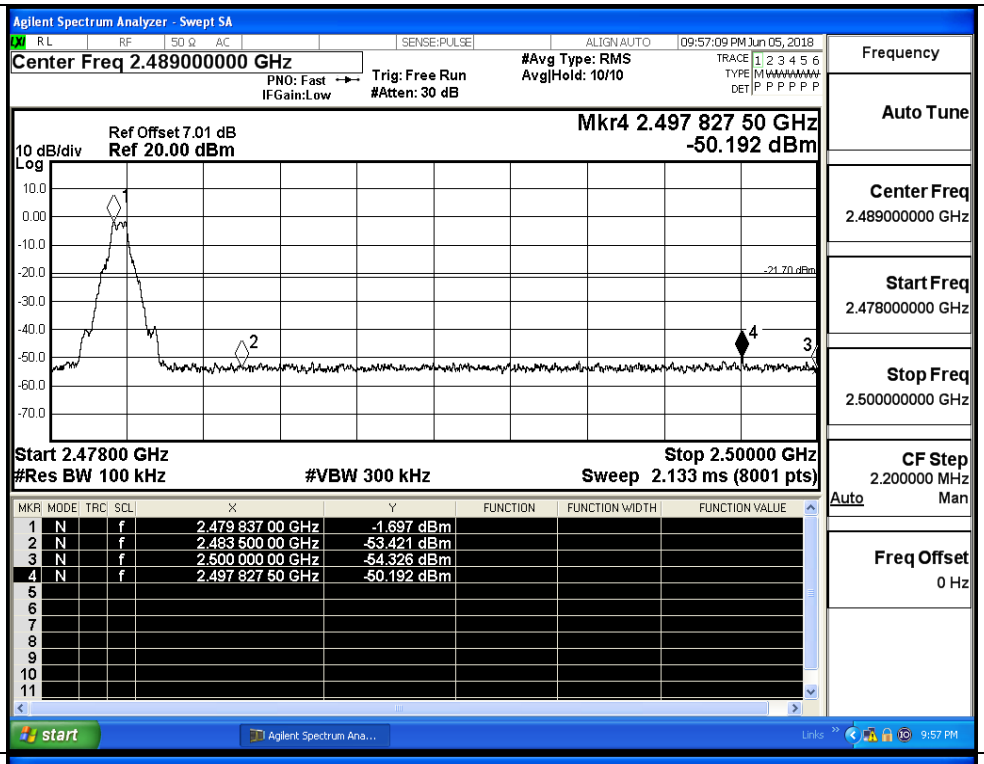
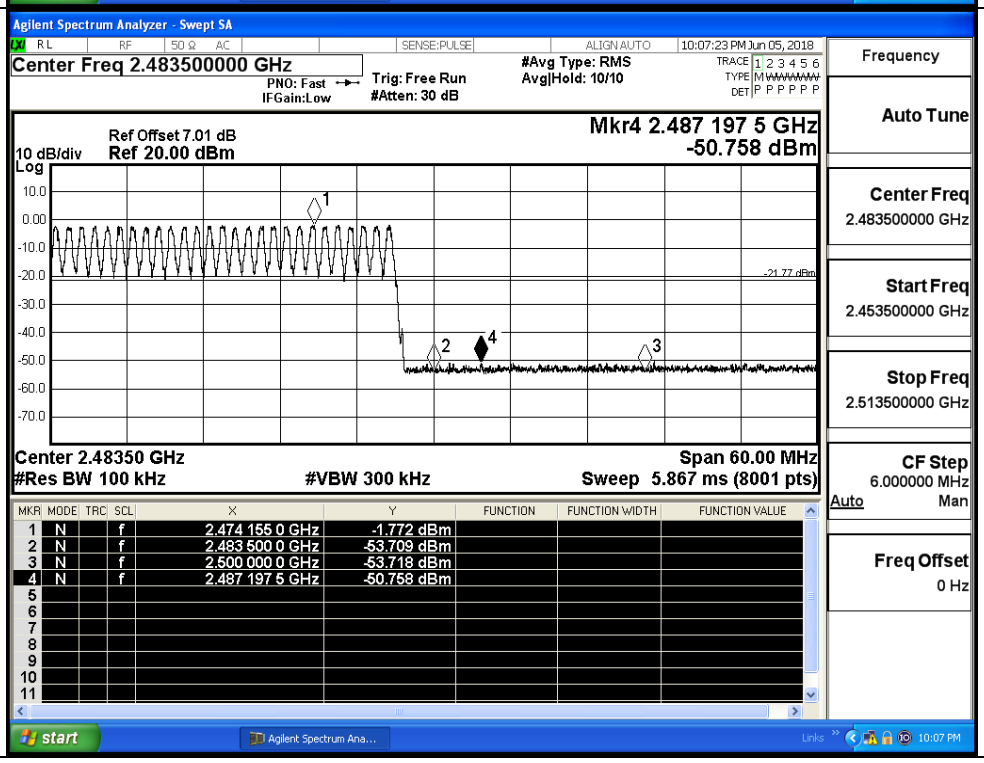
π/4DQPSK_MCH_Graphs		
Pref		
Puw		

π/4DQPSK_HCH_Graphs			
Pref			
Puw			

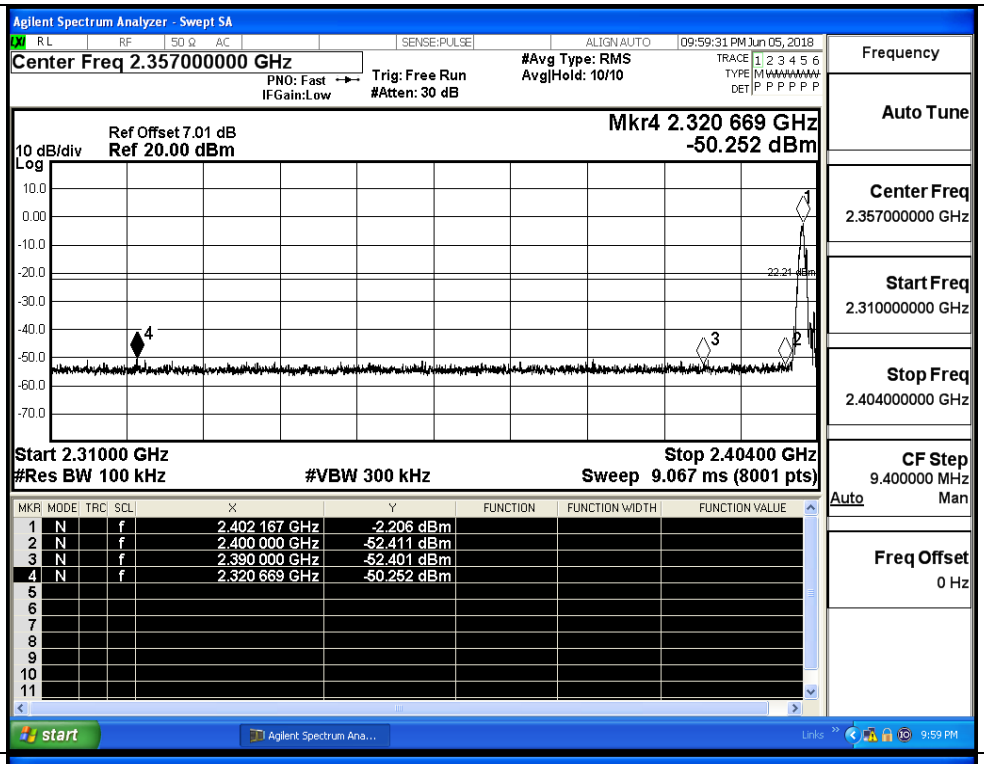
A.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-0.649	Off	-51.078	-20.65	PASS
			-1.096	On	-50.657	-21.1	PASS
	HCH	2480	-1.697	Off	-50.192	-21.7	PASS
			-1.772	On	-50.758	-21.77	PASS
π/4DQPSK	LCH	2402	-2.206	Off	-50.252	-22.21	PASS
			-2.205	On	-50.666	-22.21	PASS
	HCH	2480	-2.996	Off	-51.195	-23	PASS
			-2.939	On	-50.815	-22.94	PASS

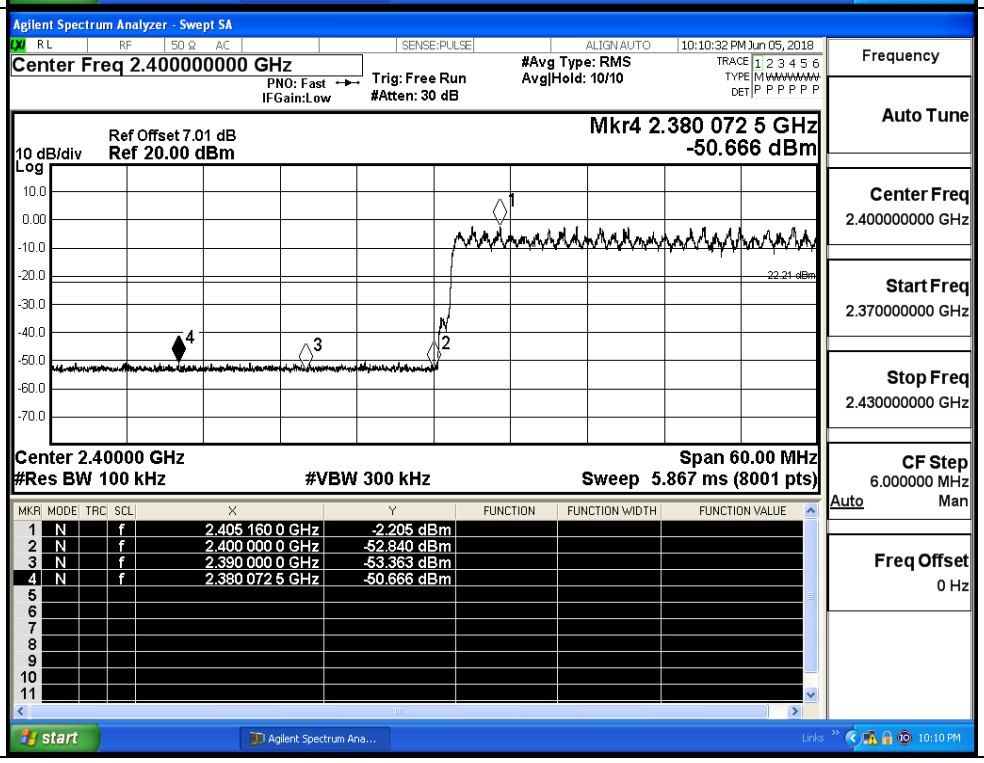
Test Graphs	
GFSK/LCH/No Hop	
GFSK/LCH/Hop	

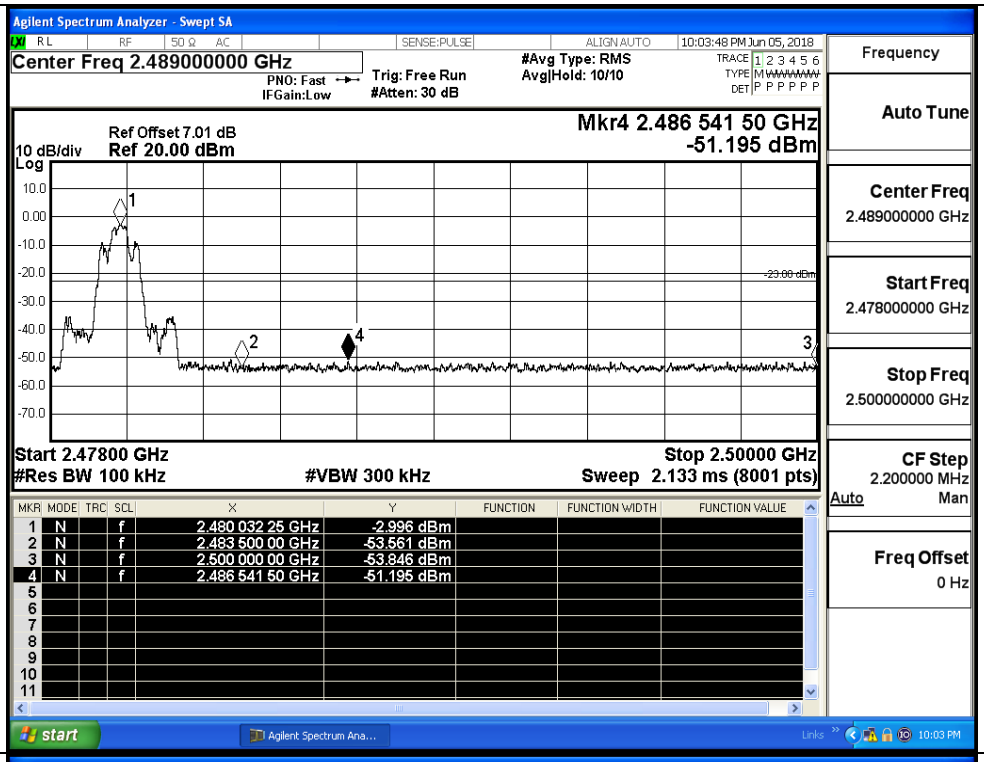
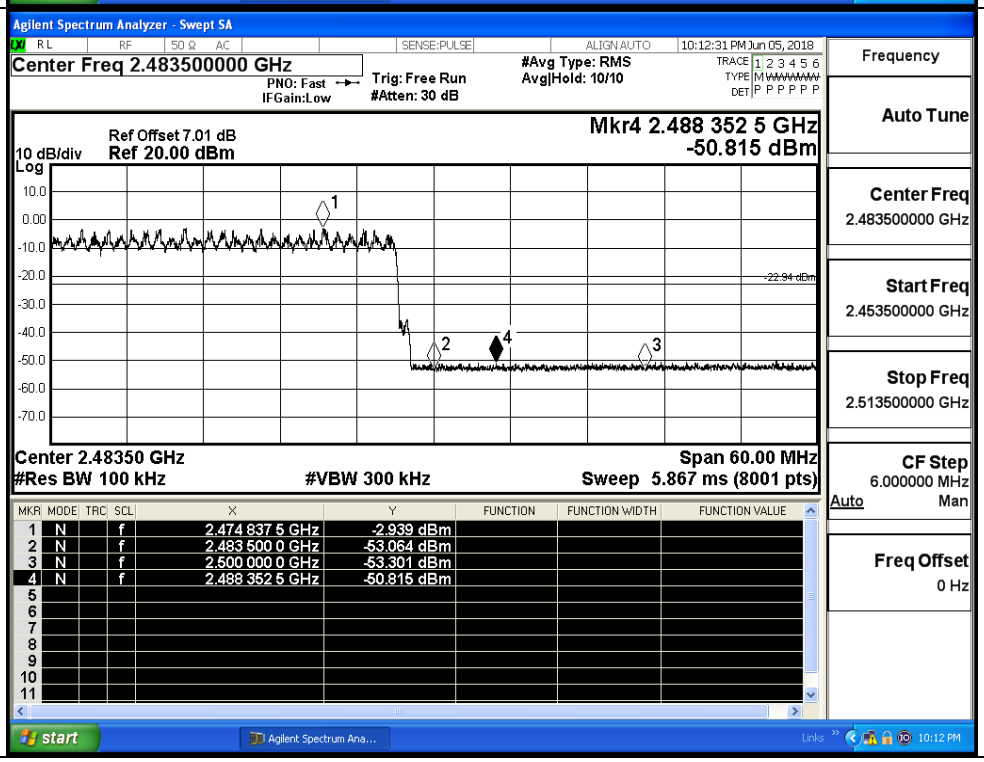
GFSK/HCH/No Hop	
GFSK/HCH/Hop	

π/4DQPSK/LCH/No Hop



π/4DQPSK/LCH/Hop

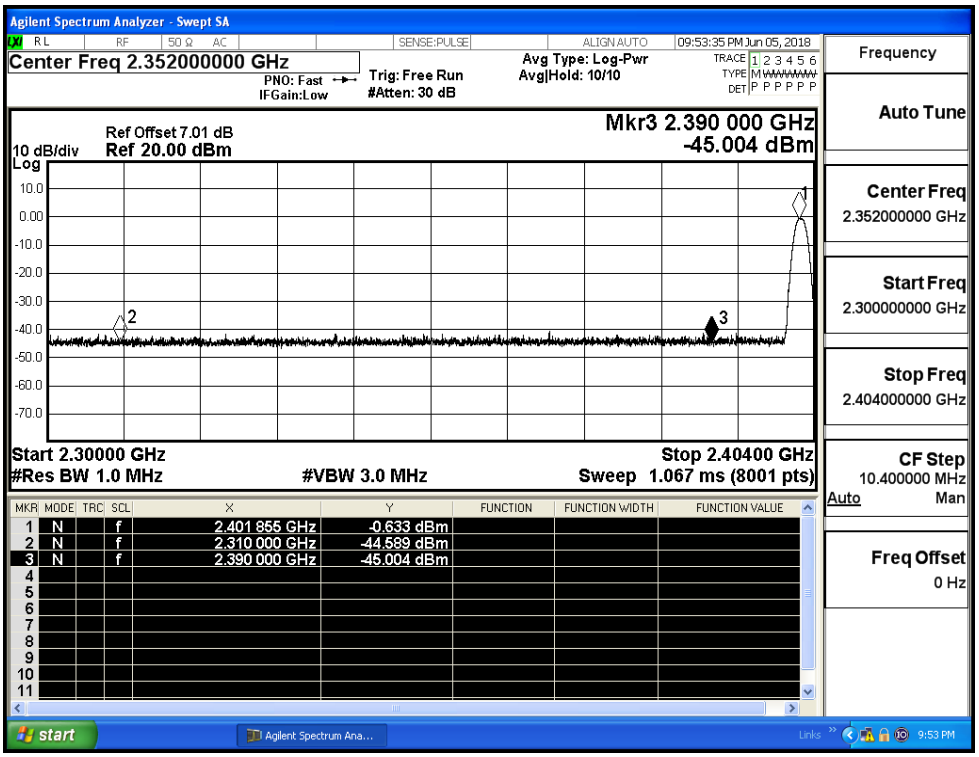


π/4DQPSK/HCH/No Hop	
π/4DQPSK/HCH/Hop	

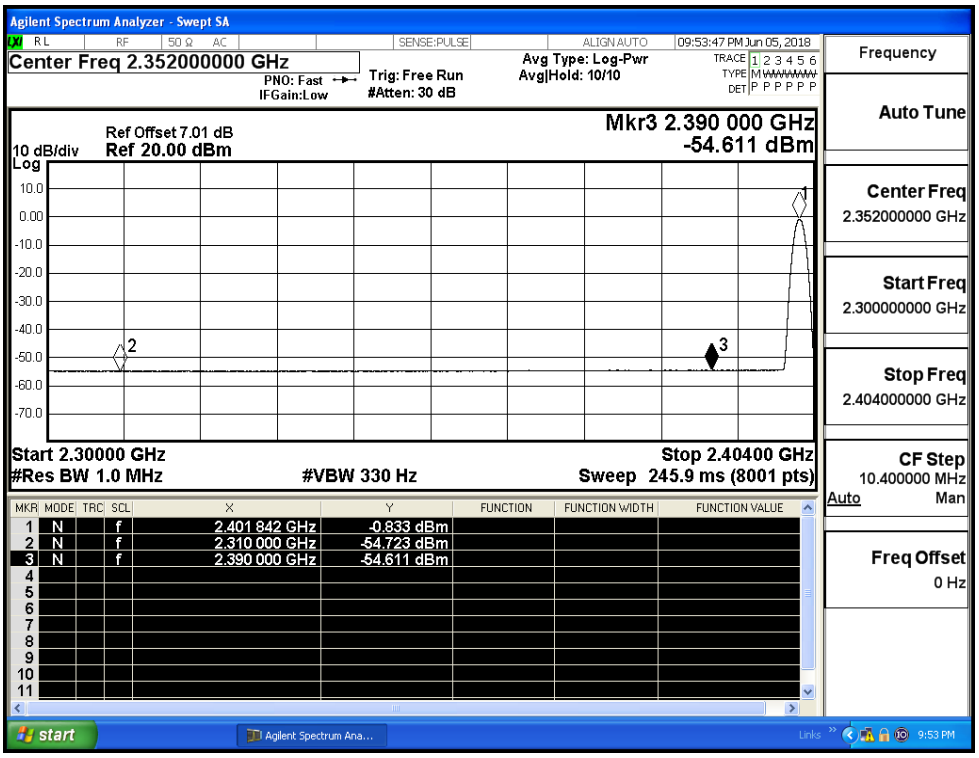
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-44.59	2.0	0	52.67	PEAK	74	PASS
	Off	2310.0	-54.72	2.0	0	42.53	AV	54	PASS
	Off	2390.0	-45.00	2.0	0	52.25	PEAK	74	PASS
	Off	2390.0	-54.61	2.0	0	42.65	AV	54	PASS
	Off	2483.5	-43.99	2.0	0	53.27	PEAK	74	PASS
	Off	2483.5	-54.31	2.0	0	42.95	AV	54	PASS
	Off	2500.0	-44.69	2.0	0	52.57	PEAK	74	PASS
	Off	2500.0	-54.12	2.0	0	43.14	AV	54	PASS
π/4DQPSK	Off	2310.0	-44.53	2.0	0	52.73	PEAK	74	PASS
	Off	2310.0	-54.67	2.0	0	42.59	AV	54	PASS
	Off	2390.0	-42.68	2.0	0	54.57	PEAK	74	PASS
	Off	2390.0	-54.60	2.0	0	42.66	AV	54	PASS
	Off	2483.5	-43.95	2.0	0	53.30	PEAK	74	PASS
	Off	2483.5	-54.06	2.0	0	43.20	AV	54	PASS
	Off	2500.0	-43.71	2.0	0	53.55	PEAK	74	PASS
	Off	2500.0	-54.20	2.0	0	43.05	AV	54	PASS

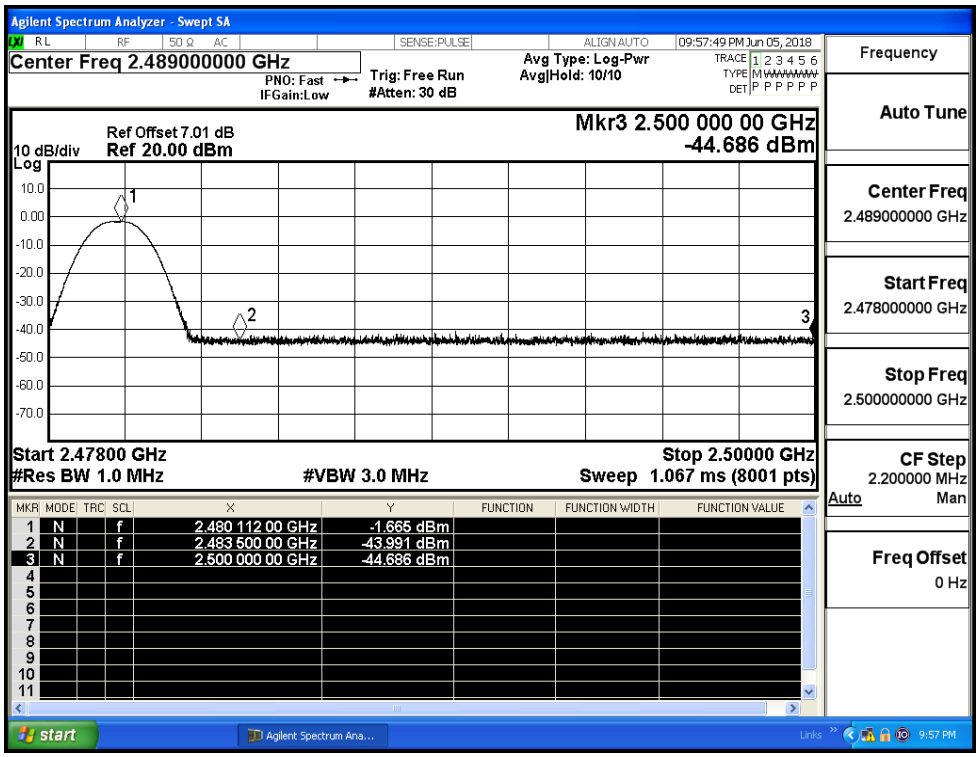
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



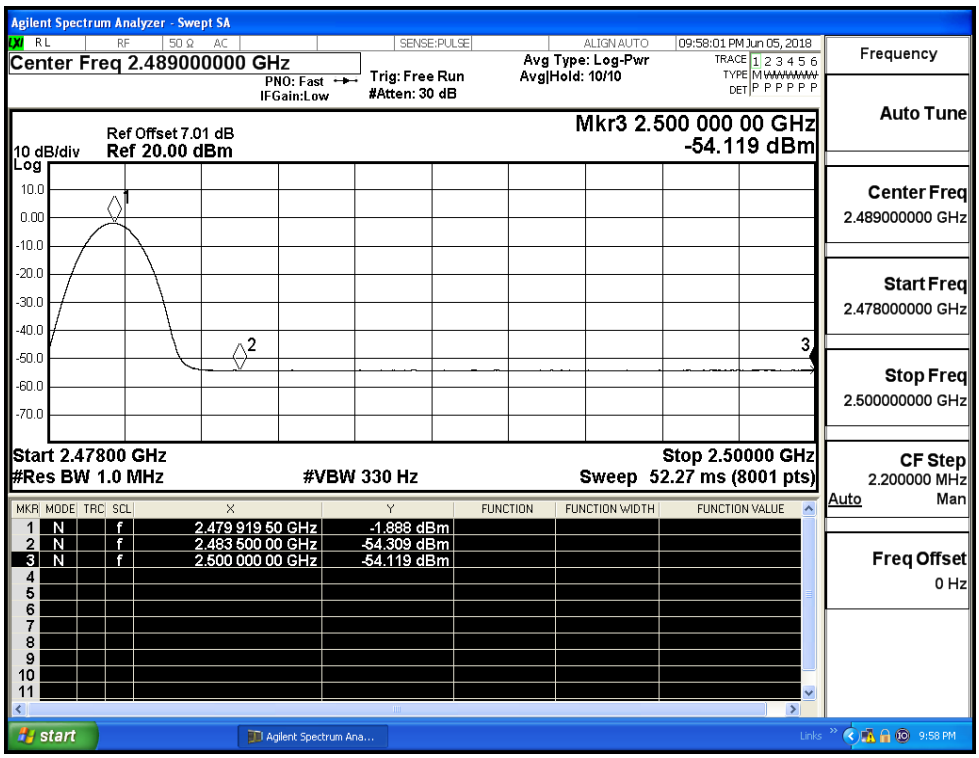
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



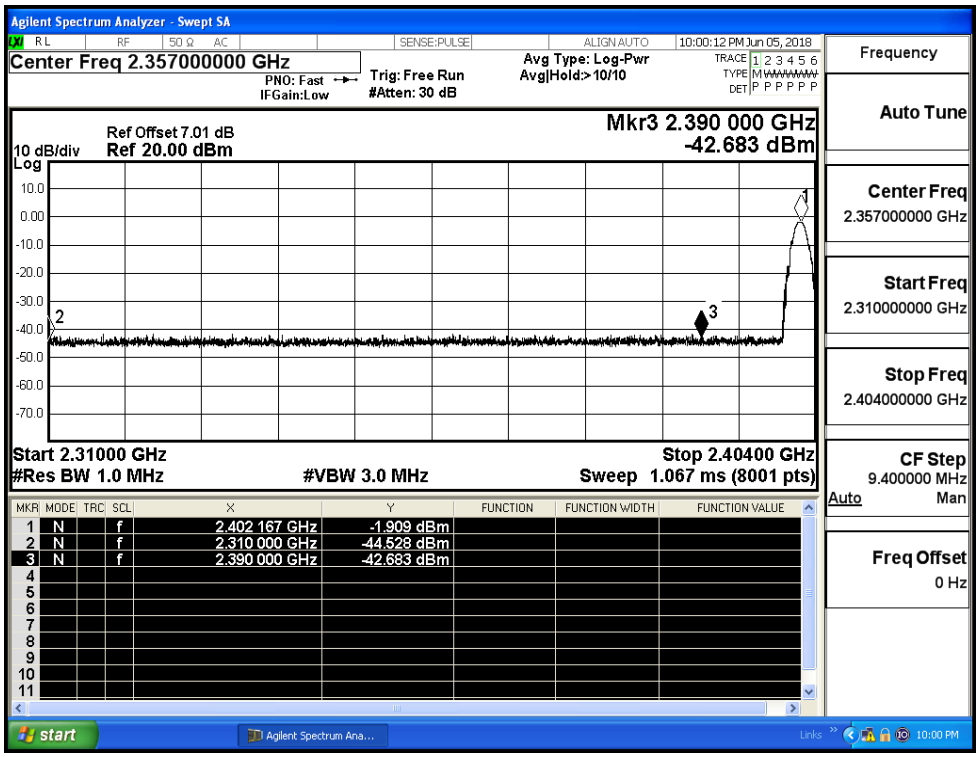
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



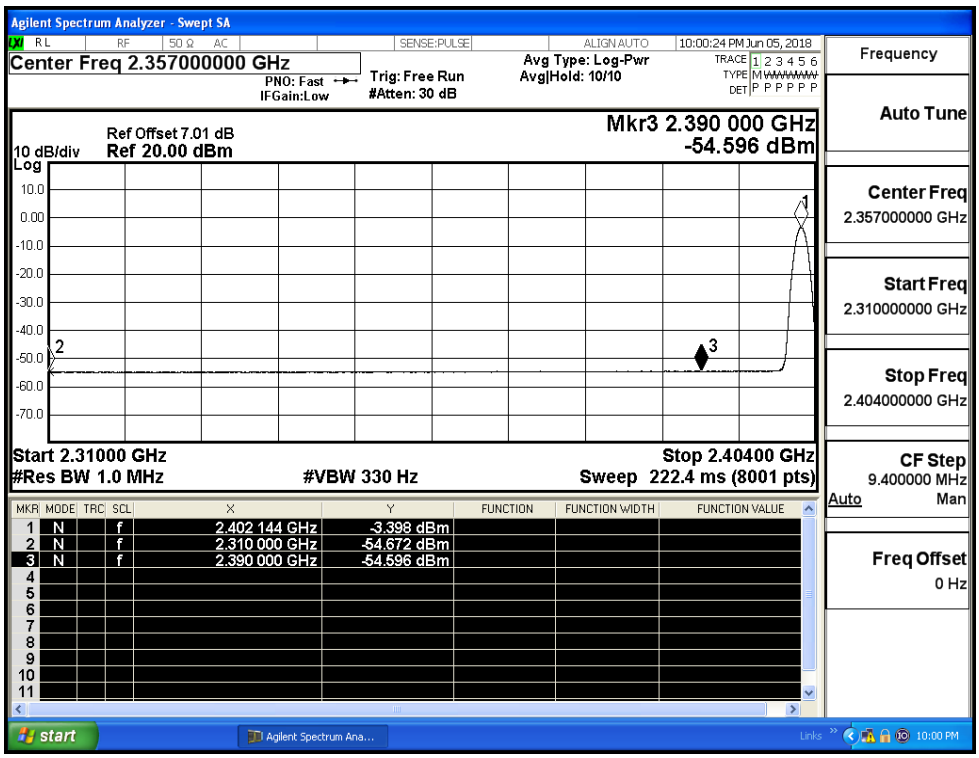
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



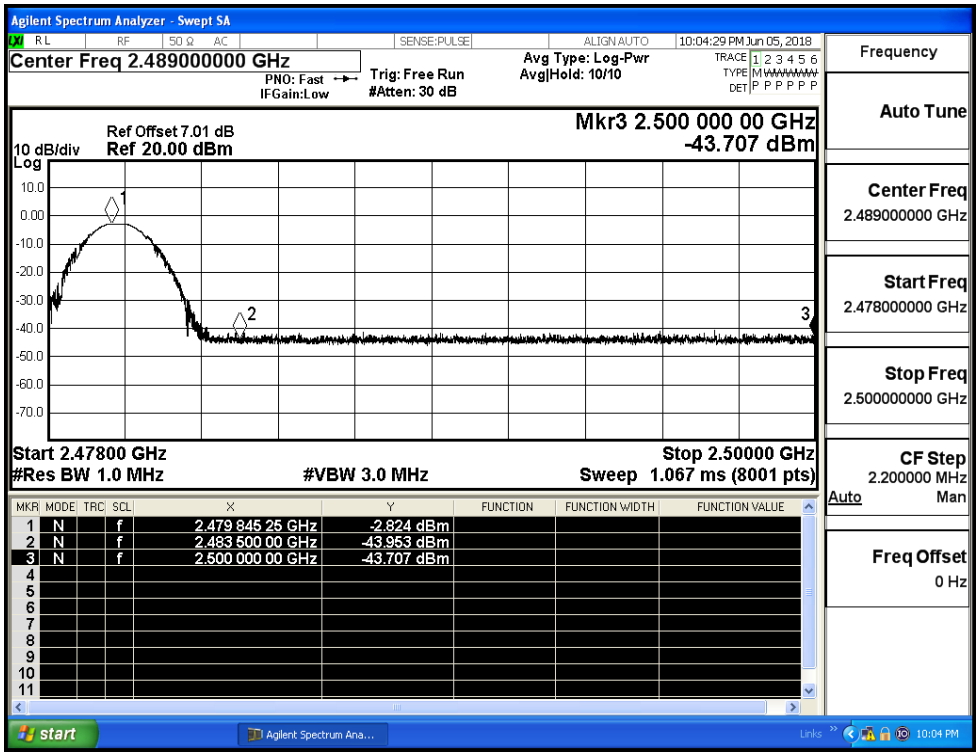
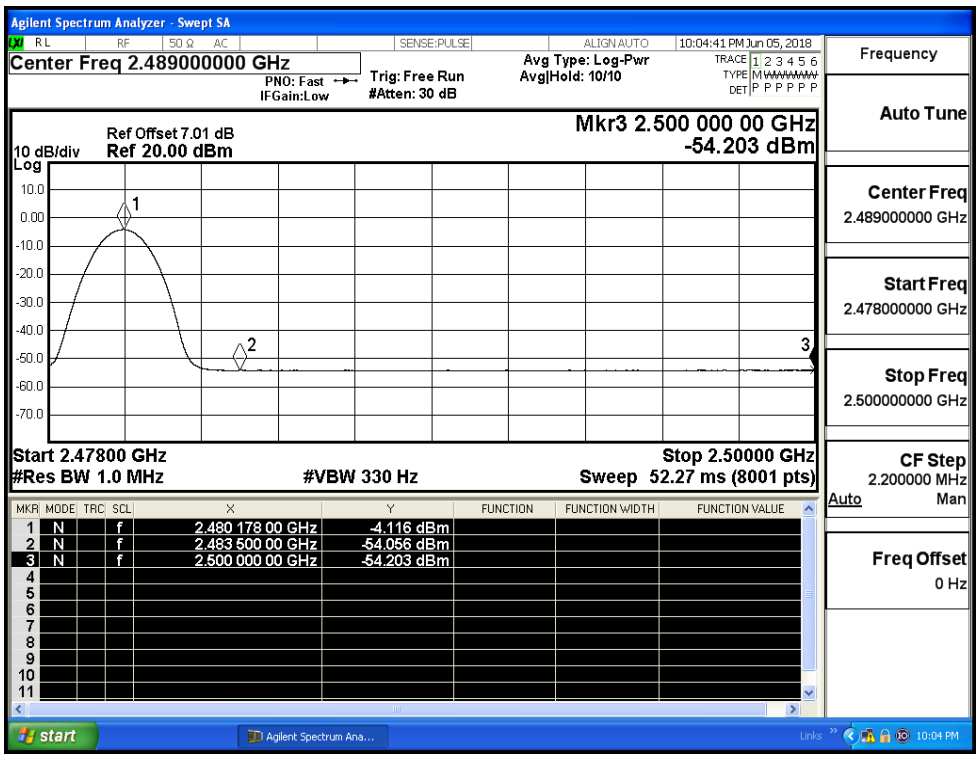
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



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)