Appendix A

RF Test Data for BT V2.1 (BDR/EDR) (Conducted Measurement)

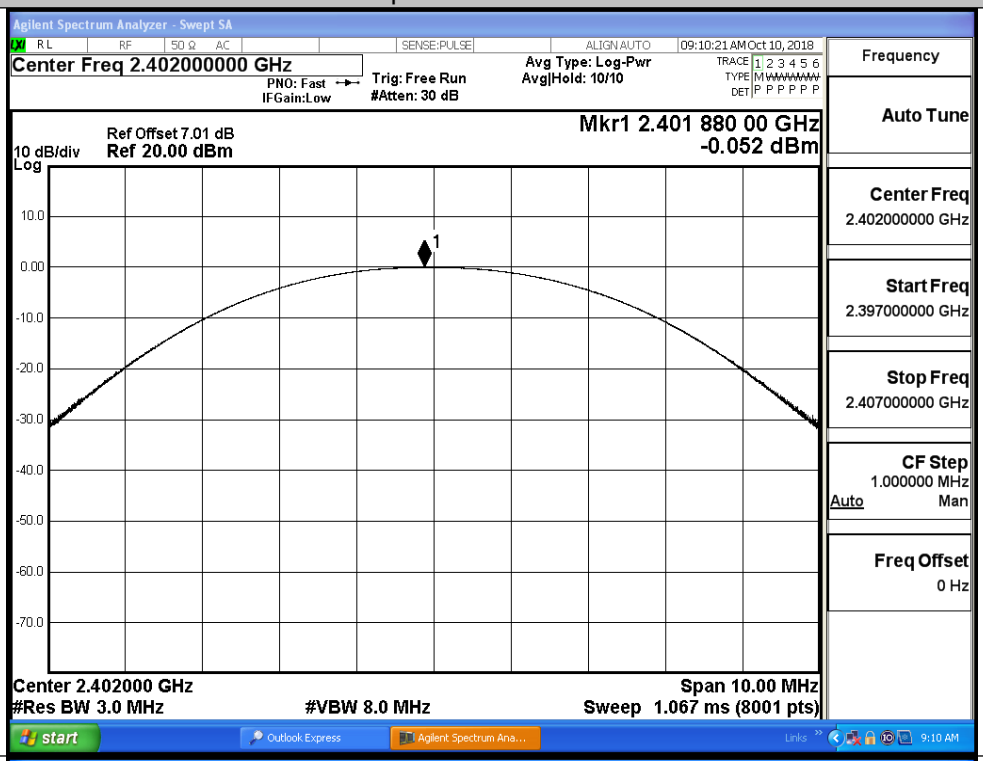
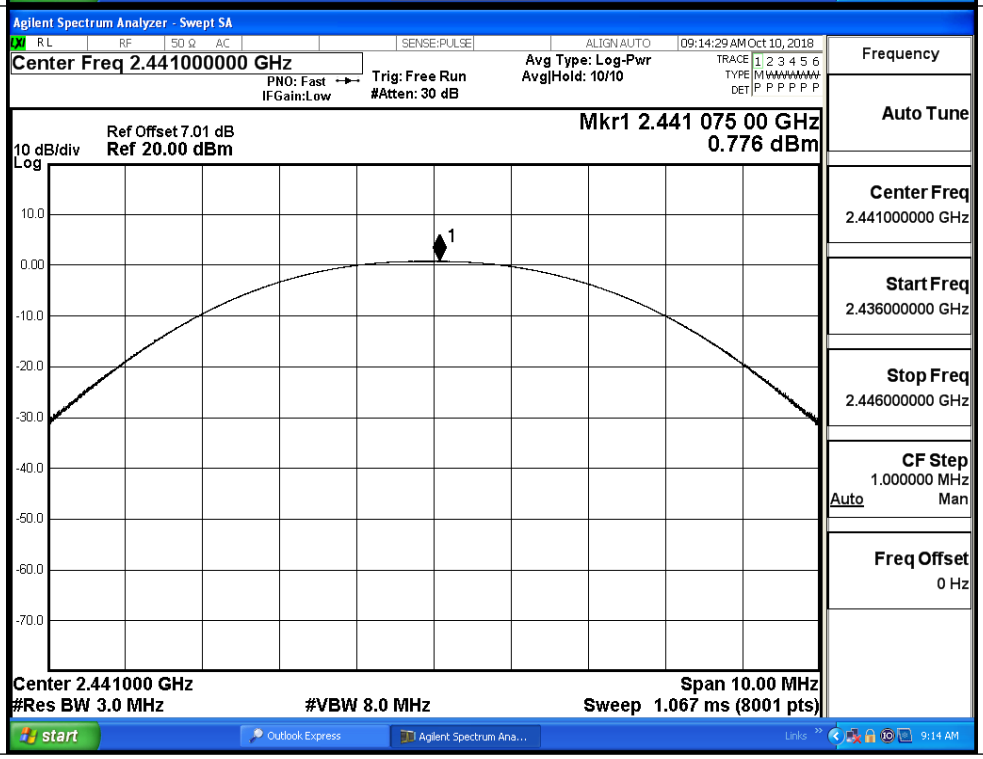
Product Name: Feature phone
Trade Mark: KENXINDA
Test Model: C3330

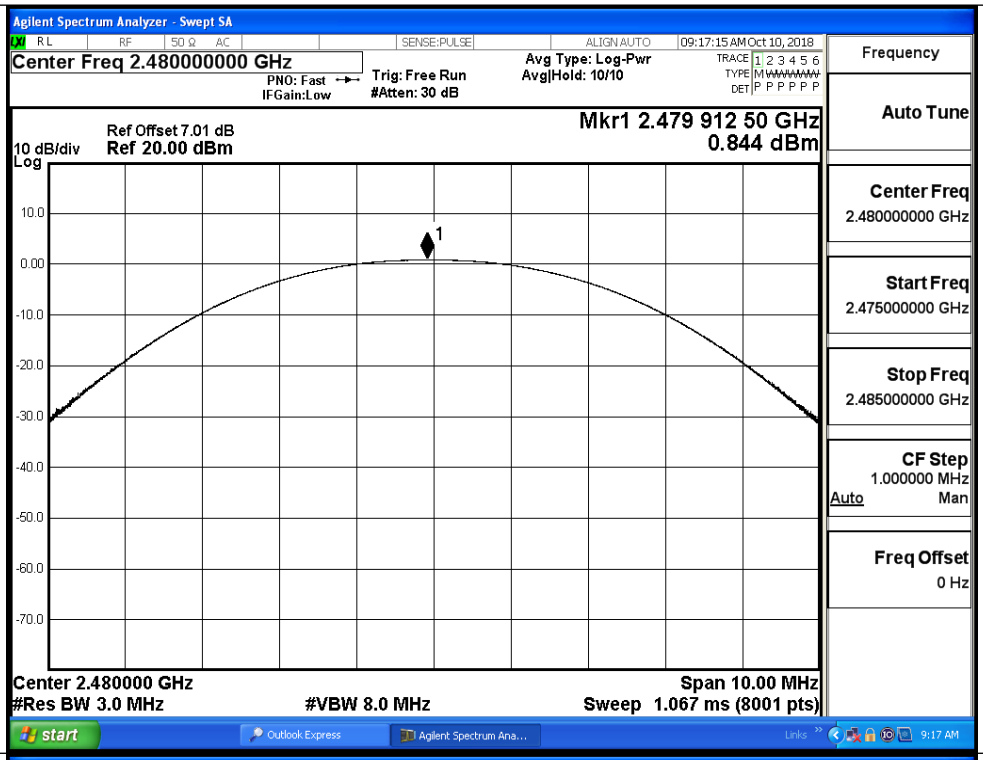
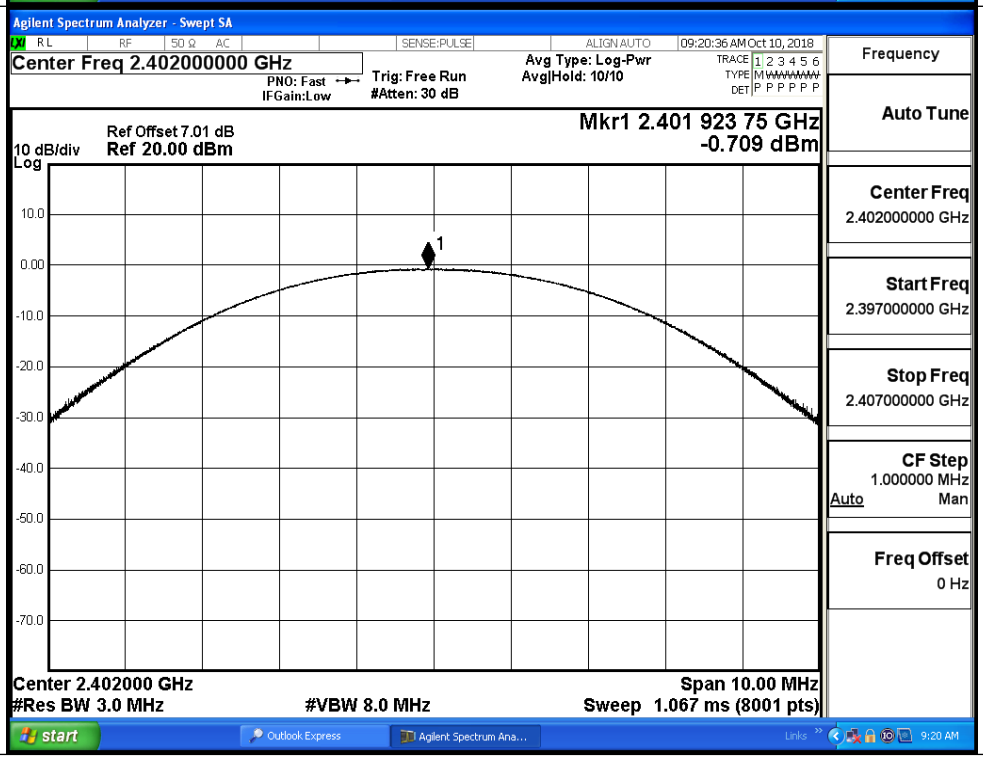
Environmental Conditions

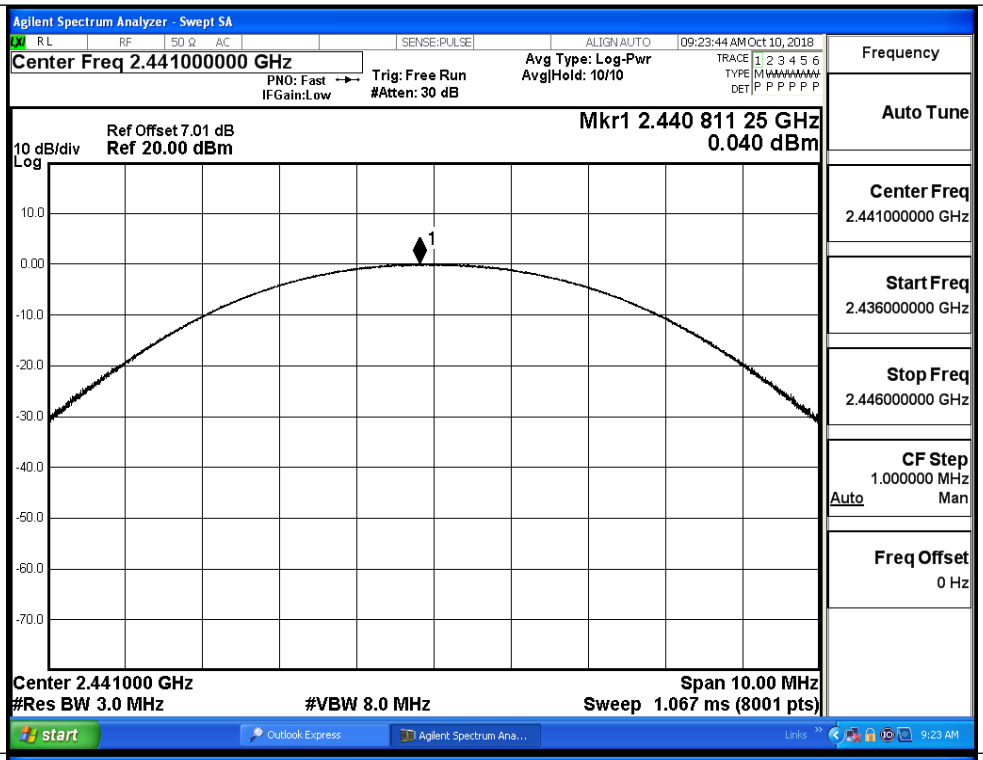
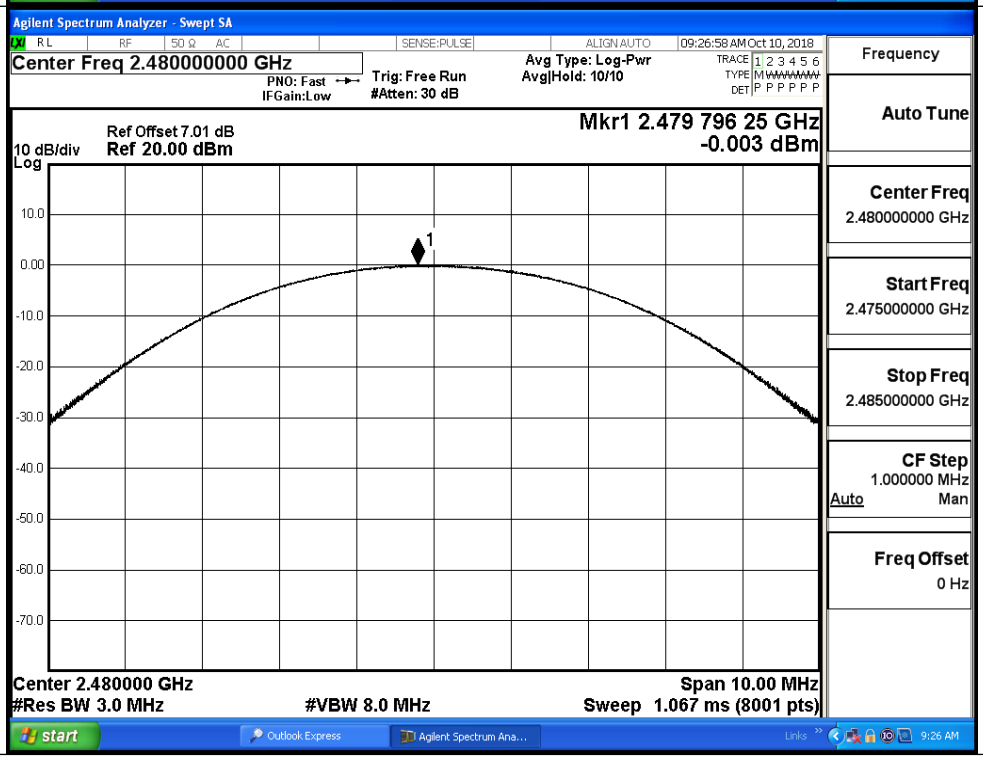
Temperature:	25.3°C
Relative Humidity:	54.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond.Lu
Supervised by:	Jayden.Zhuo

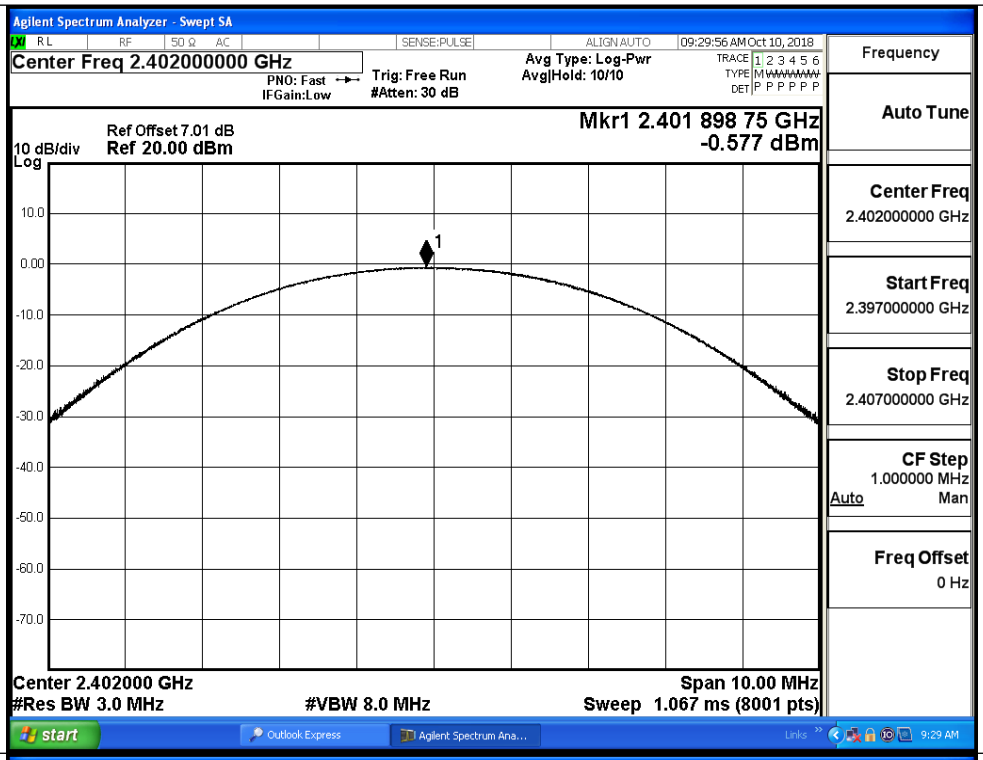
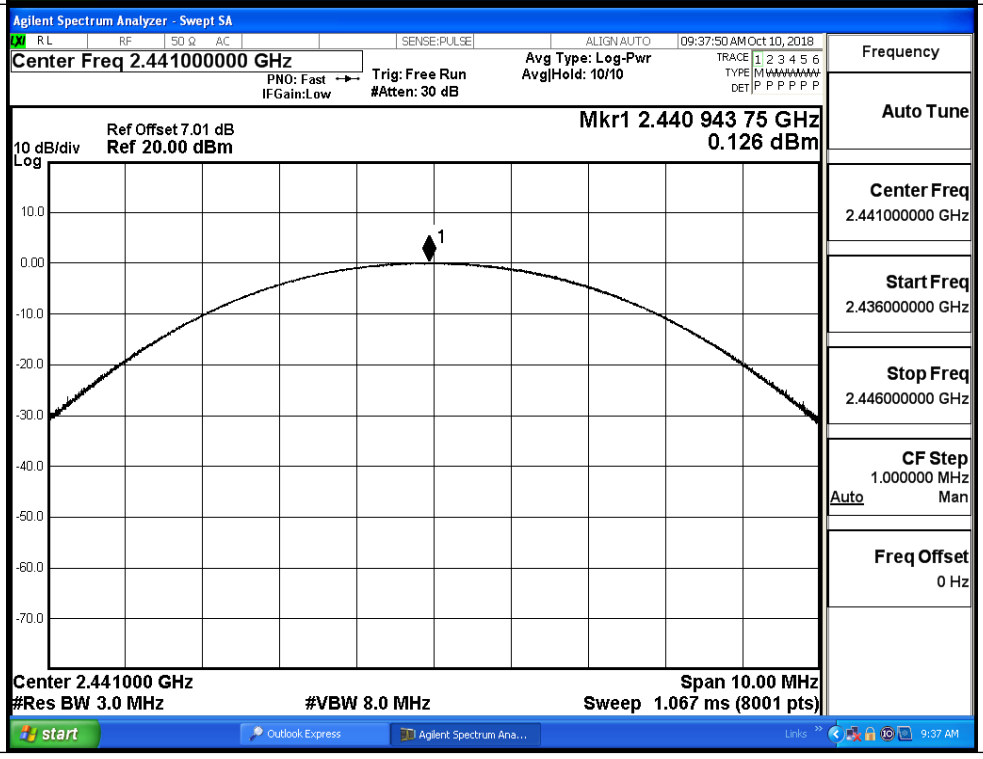
A.1 Maximum Conducted Peak Output Power

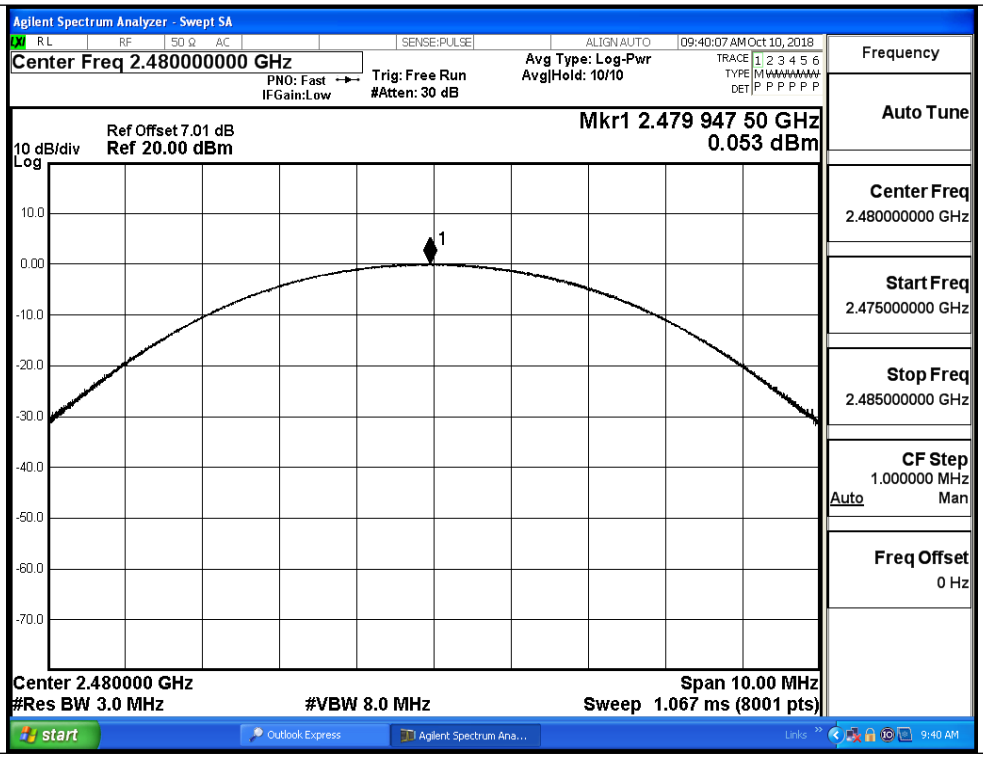
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.052	30	PASS
	MCH	0.776	30	PASS
	HCH	0.844	30	PASS
π/4DQPSK	LCH	-0.709	21	PASS
	MCH	0.040	21	PASS
	HCH	-0.003	21	PASS
8DPSK	LCH	-0.577	21	PASS
	MCH	0.126	21	PASS
	HCH	0.053	21	PASS

Test Graphs		
GFSK/LCH		
GFSK/MCH		

GFSK/HCH	
π/4DQPSK/LCH	

π/4DQPSK/MCH	
π/4DQPSK/HCH	

8DPSK/LCH	
8DPSK/MCH	

8DPSK/HCH	

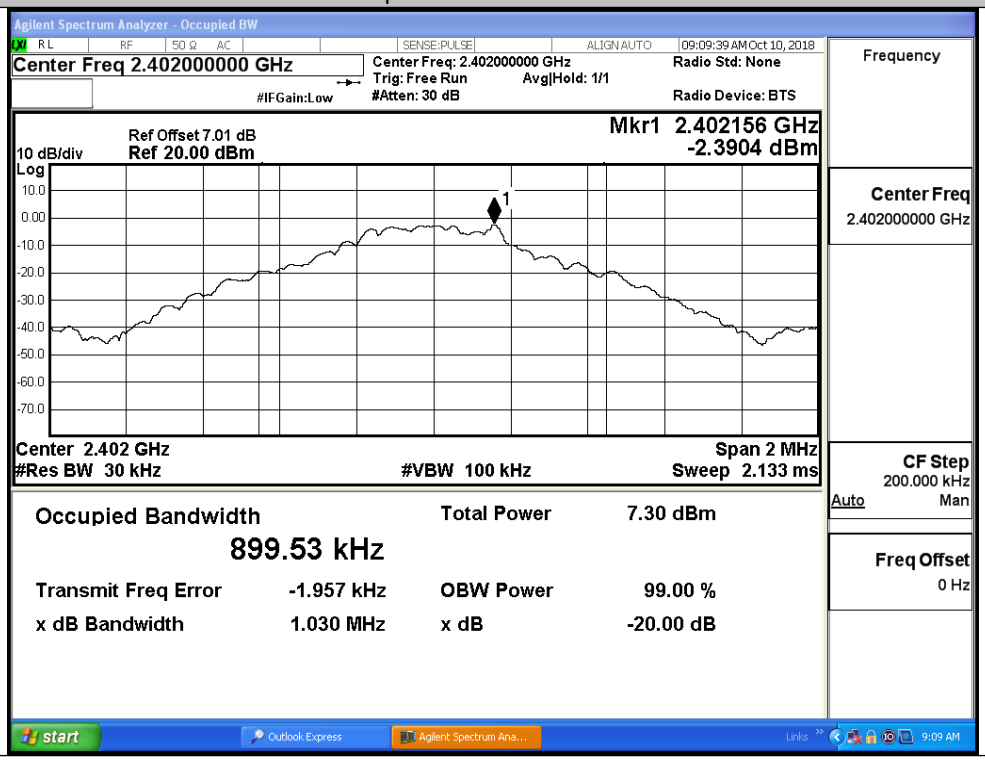
Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:PULSE
ALIGN AUTO
09:40:07 AM Oct 10, 2018
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
TRACE 1 2 3 4 5 6
TYPE M
DET P P P P P
Ref Offset 7.01 dB
10 dB/div
Log
Ref 20.00 dBm
Mkr1 2.479 947 50 GHz
0.053 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 2.480000 GHz
#Res BW 3.0 MHz
#VBW 8.0 MHz
Span 10.00 MHz
Sweep 1.067 ms (8001 pts)
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.475000000 GHz
Stop Freq
2.485000000 GHz
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz
start
Outlook Express
Agilent Spectrum Ana...
Links
9:40 AM

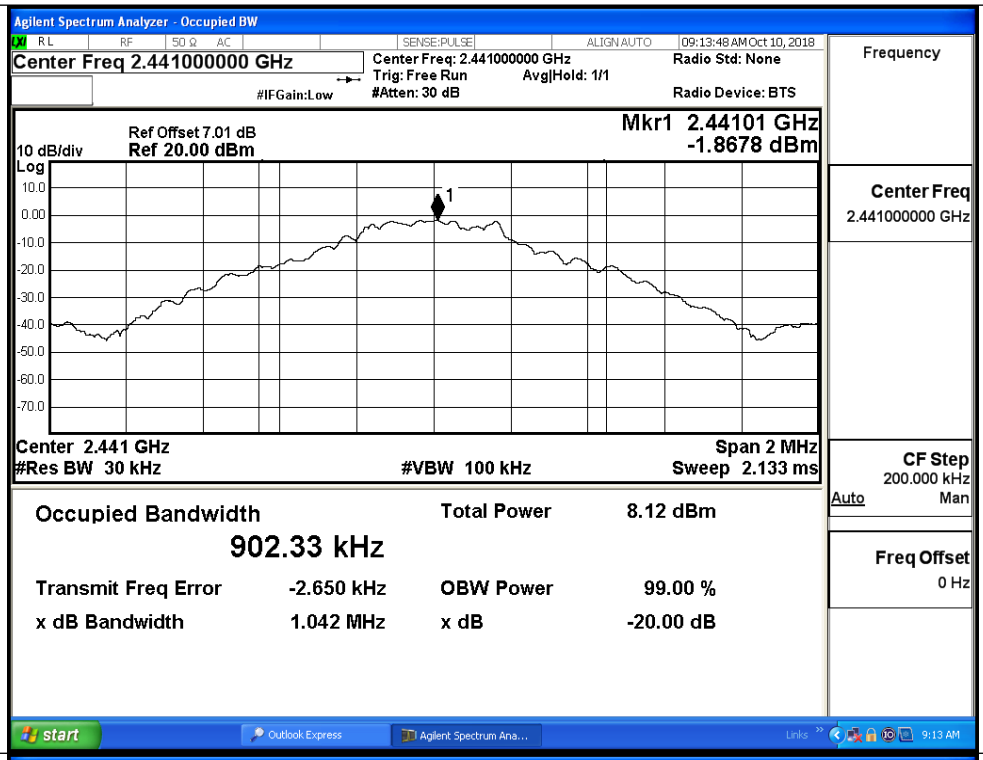
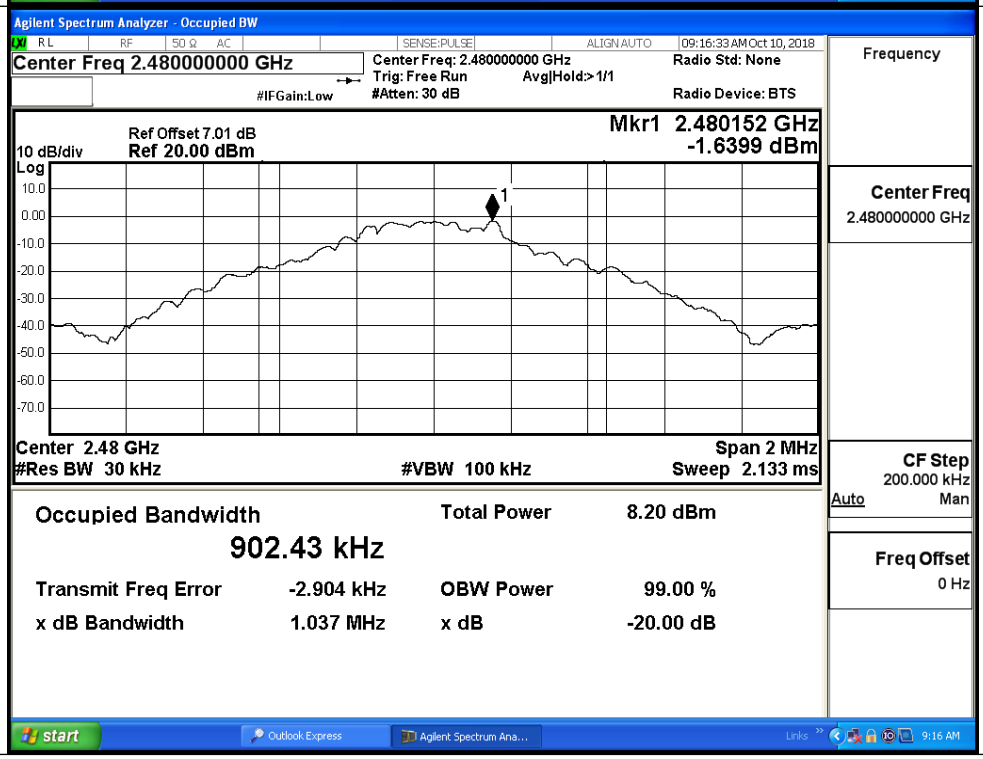
A.2 20dB Bandwidth

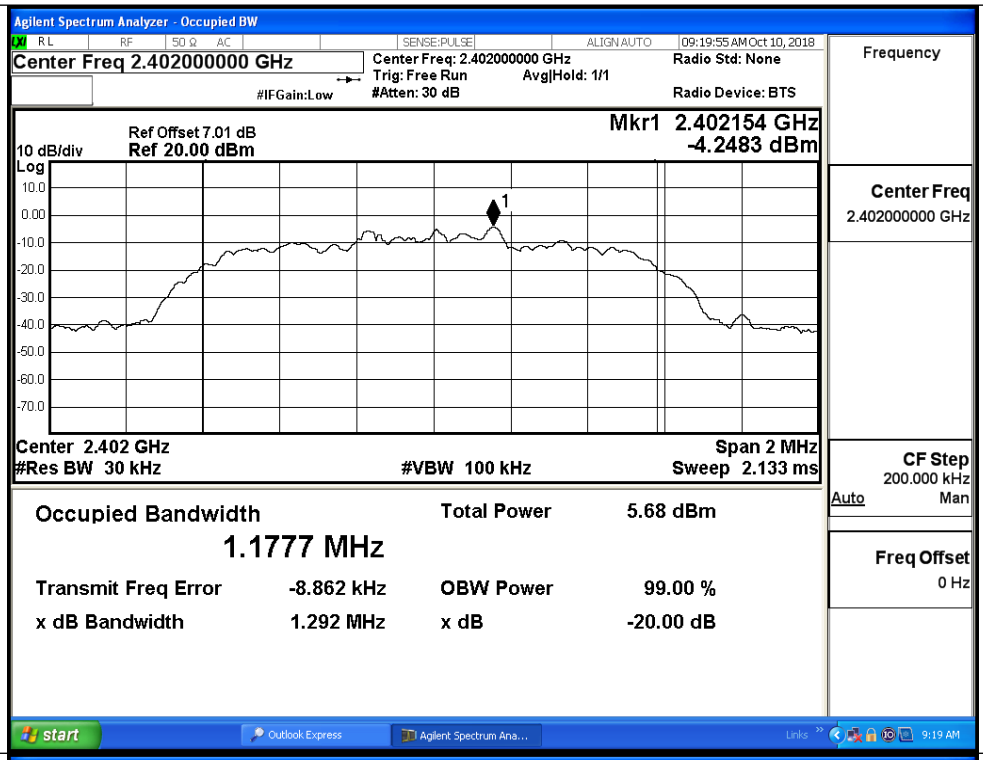
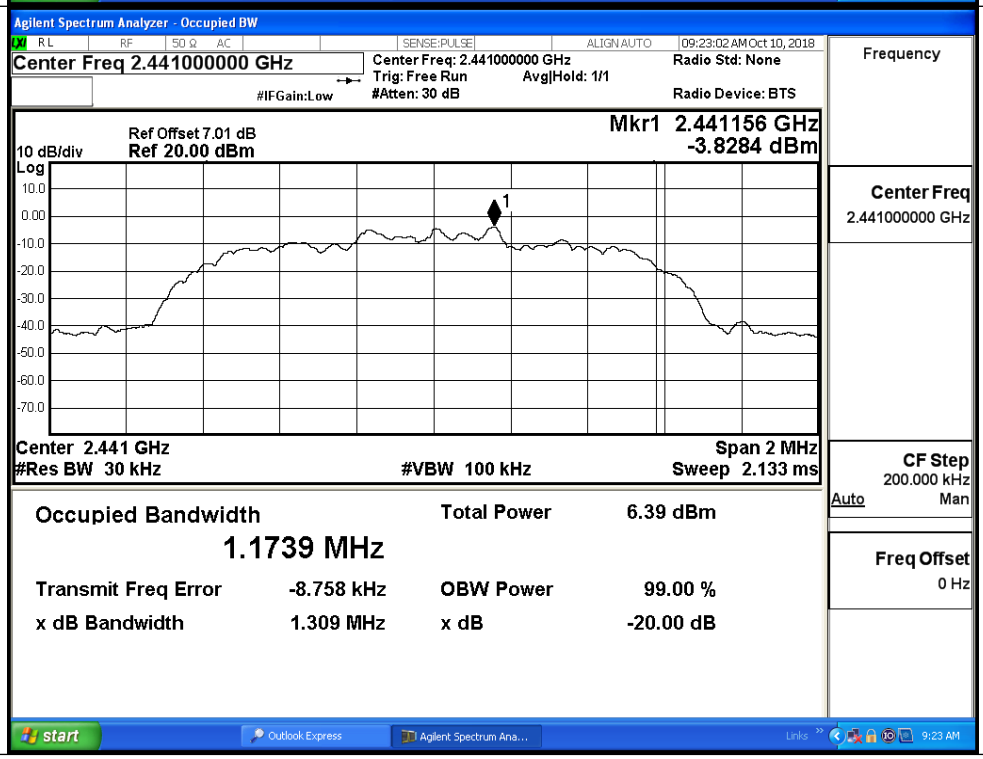
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.030	Not Specified	PASS
	MCH	1.042	Not Specified	PASS
	HCH	1.037	Not Specified	PASS
π/4DQPSK	LCH	1.292	Not Specified	PASS
	MCH	1.309	Not Specified	PASS
	HCH	1.291	Not Specified	PASS
8DPSK	LCH	1.299	Not Specified	PASS
	MCH	1.295	Not Specified	PASS
	HCH	1.293	Not Specified	PASS

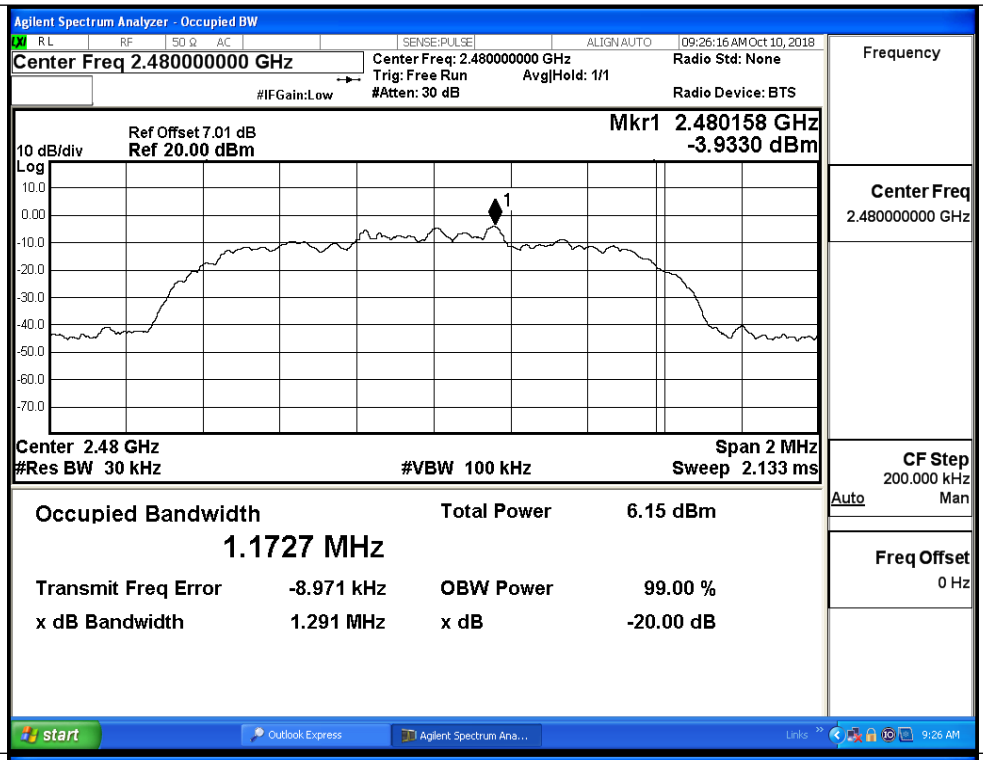
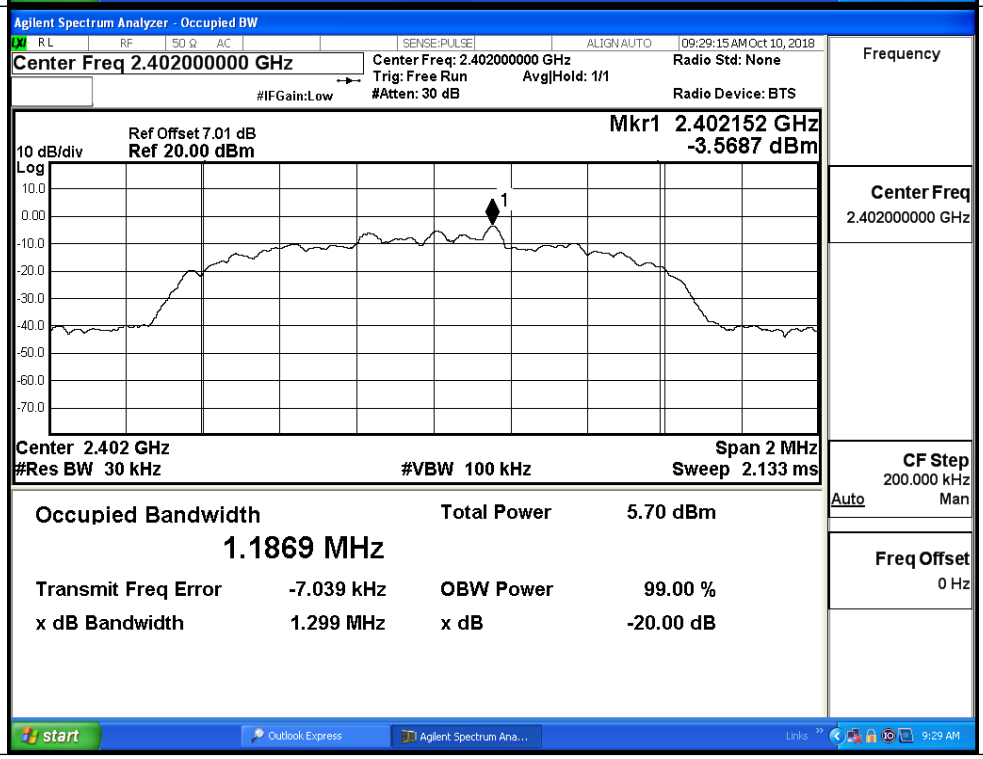
Test Graphs

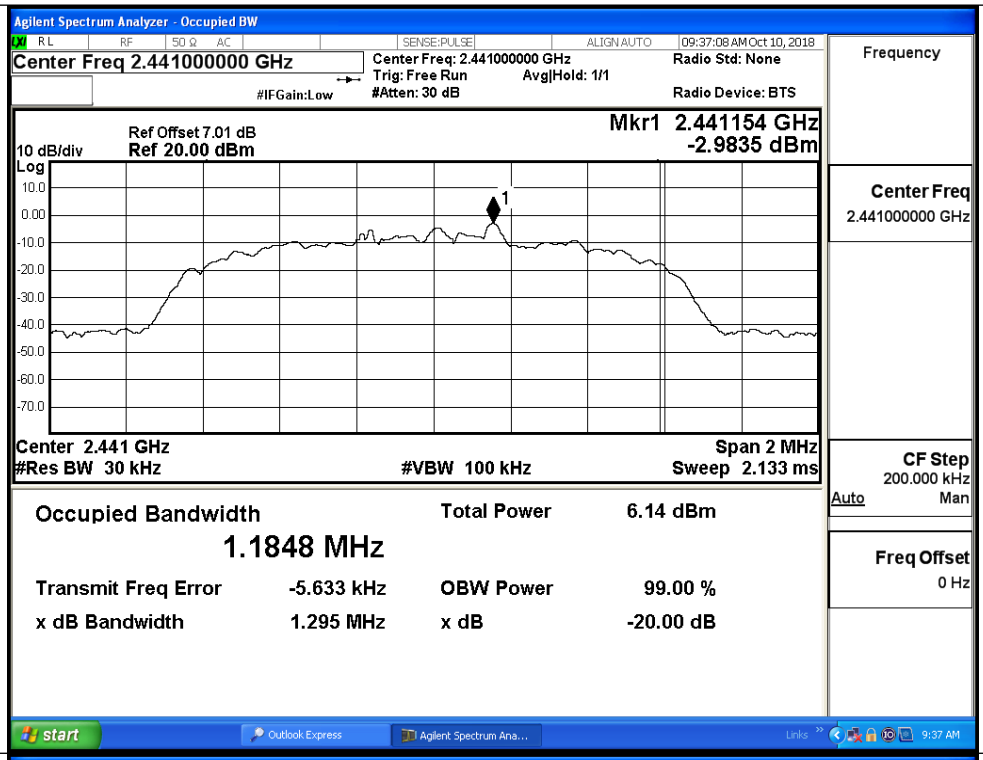
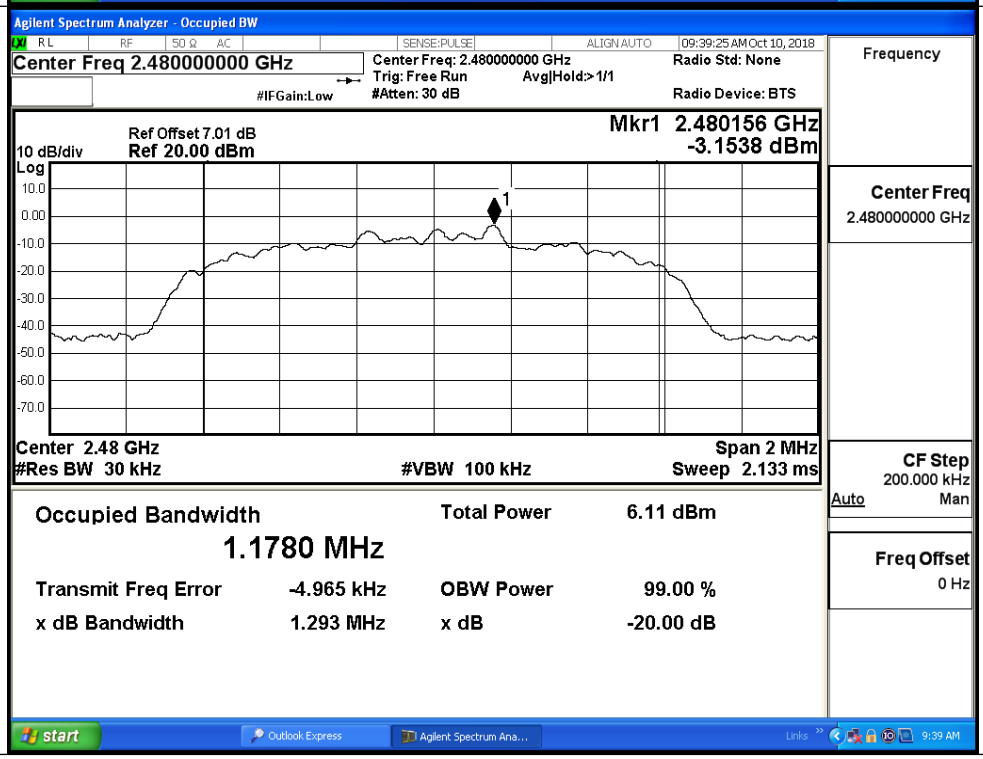
GFSK/LCH



GFSK/MCH	
GFSK/HCH	

π/4DQPSK/LCH	
π/4DQPSK/MCH	

π/4DQPSK/HCH	
8DPSK/LCH	

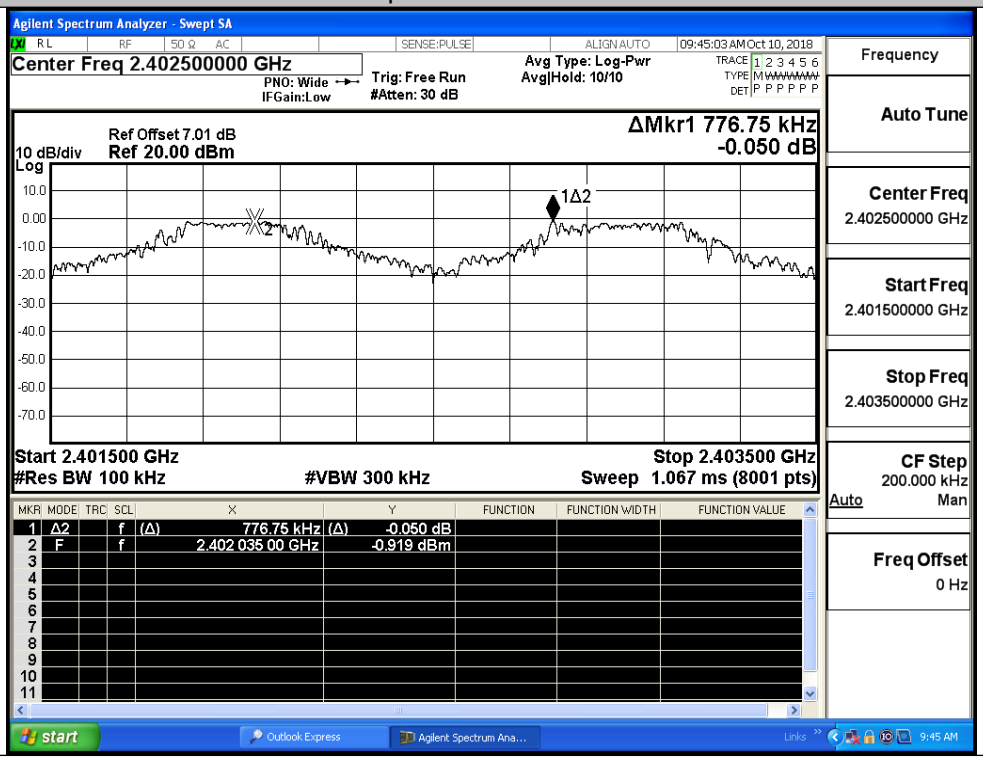
8DPSK/MCH	
8DPSK/HCH	

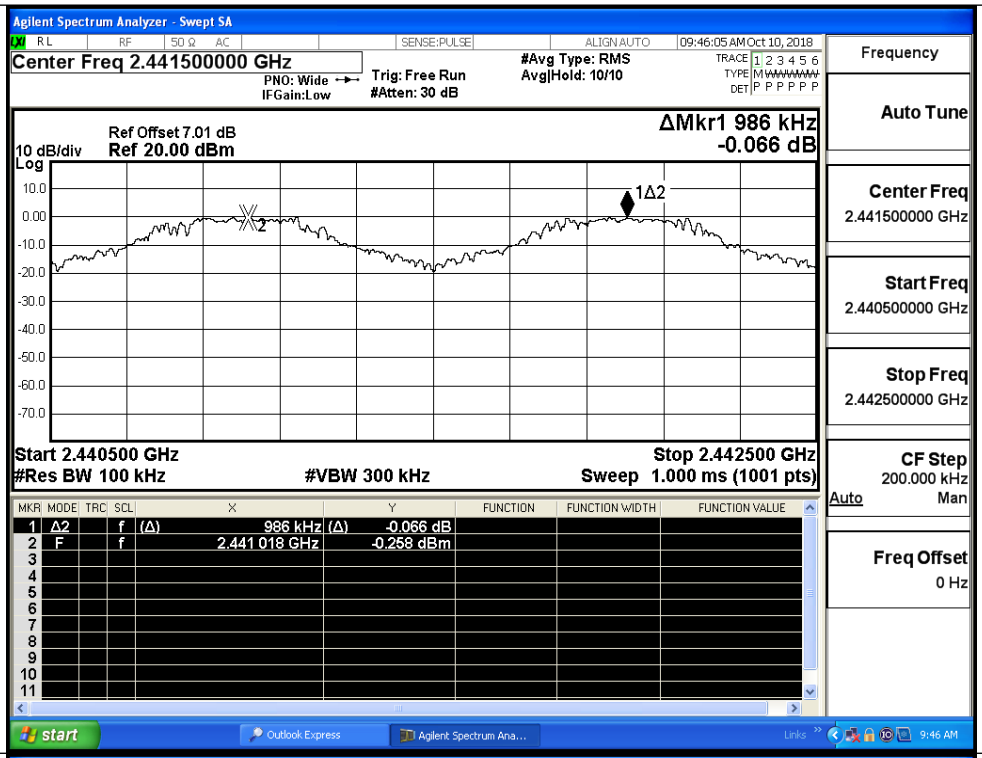
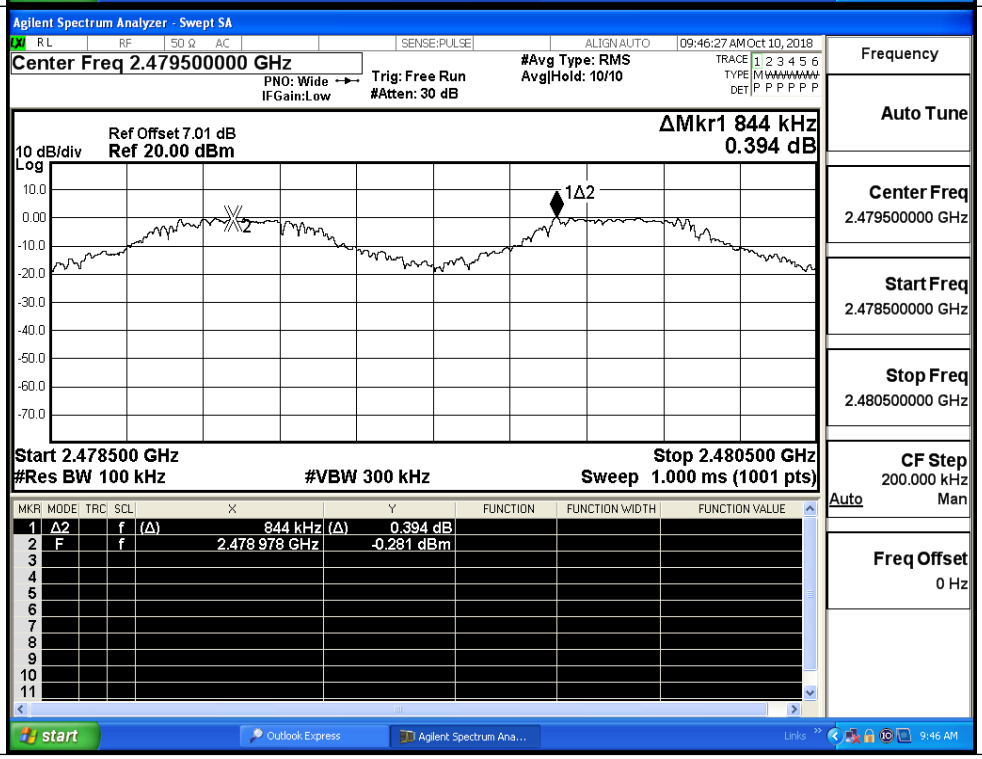
A.3 Carrier Frequency Separation

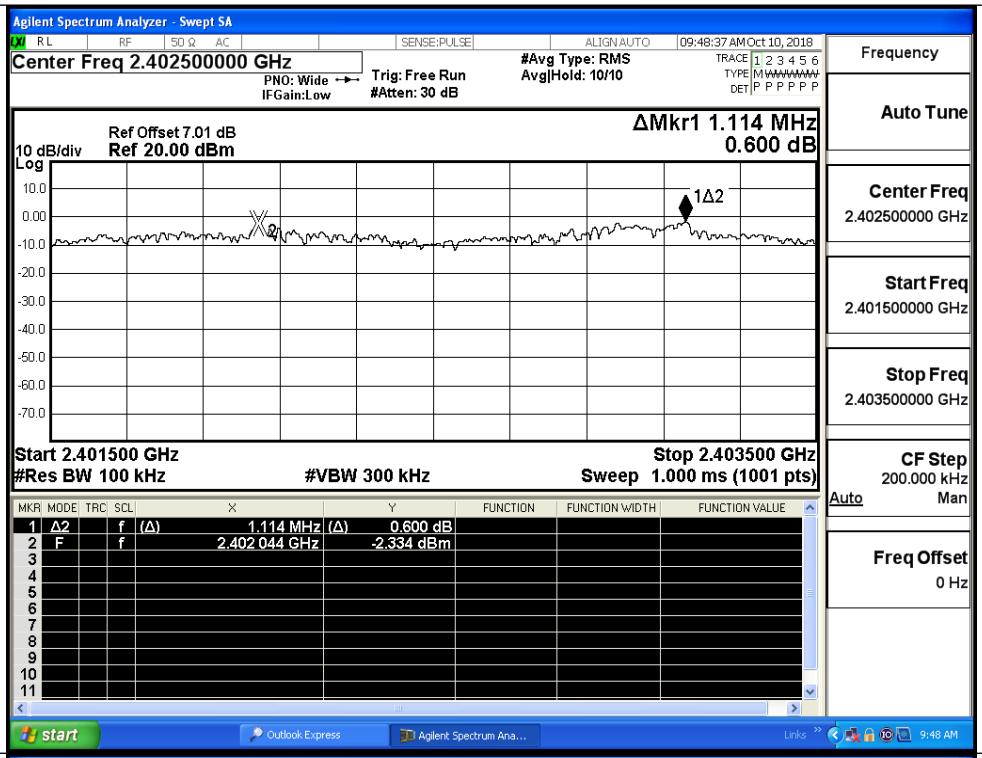
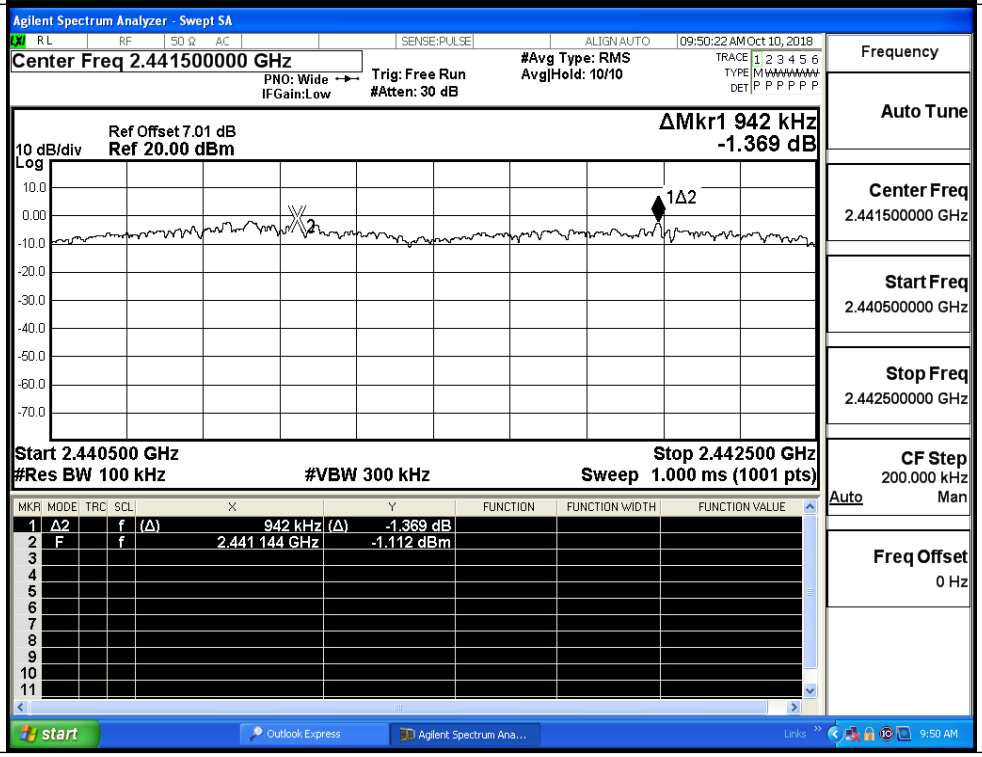
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.777	0.695	PASS
	MCH	0.986	0.695	PASS
	HCH	0.844	0.695	PASS
π/4DQPSK	LCH	1.114	0.873	PASS
	MCH	0.942	0.873	PASS
	HCH	0.918	0.873	PASS
8DPSK	LCH	0.870	0.866	PASS
	MCH	1.084	0.866	PASS
	HCH	0.986	0.866	PASS

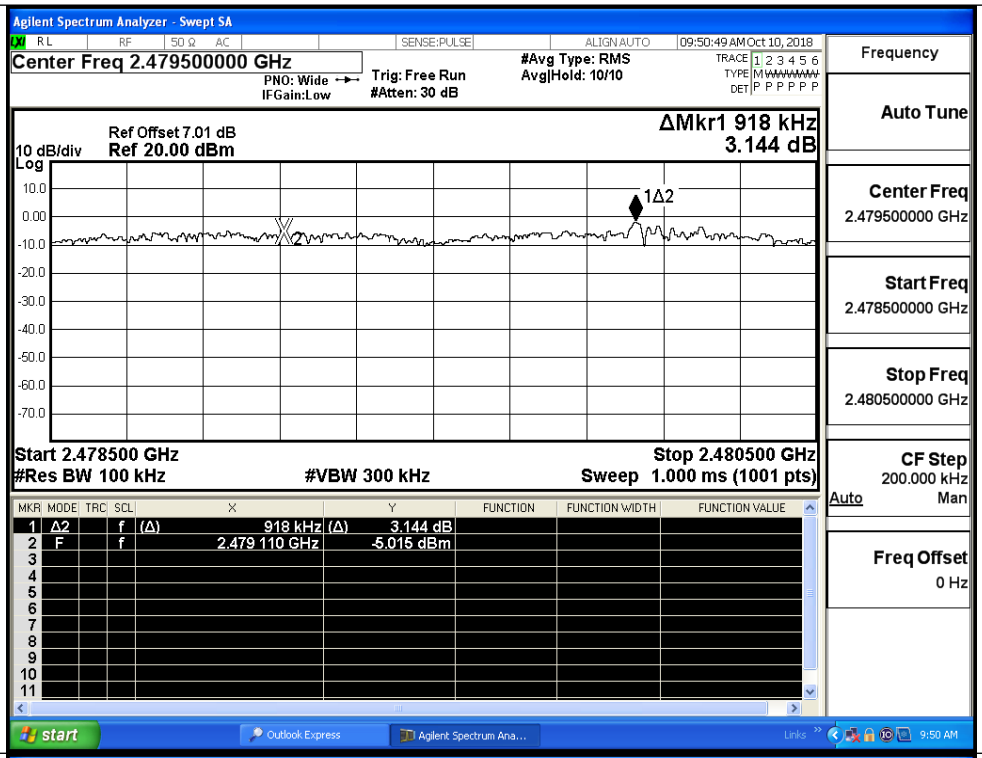
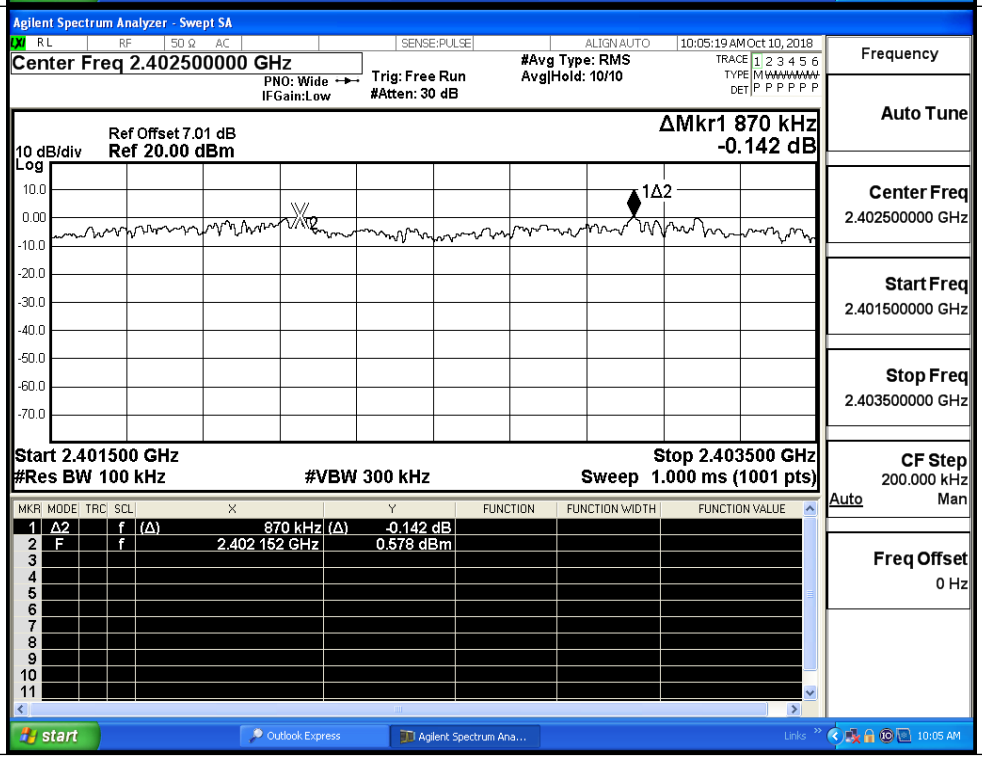
Test Graphs

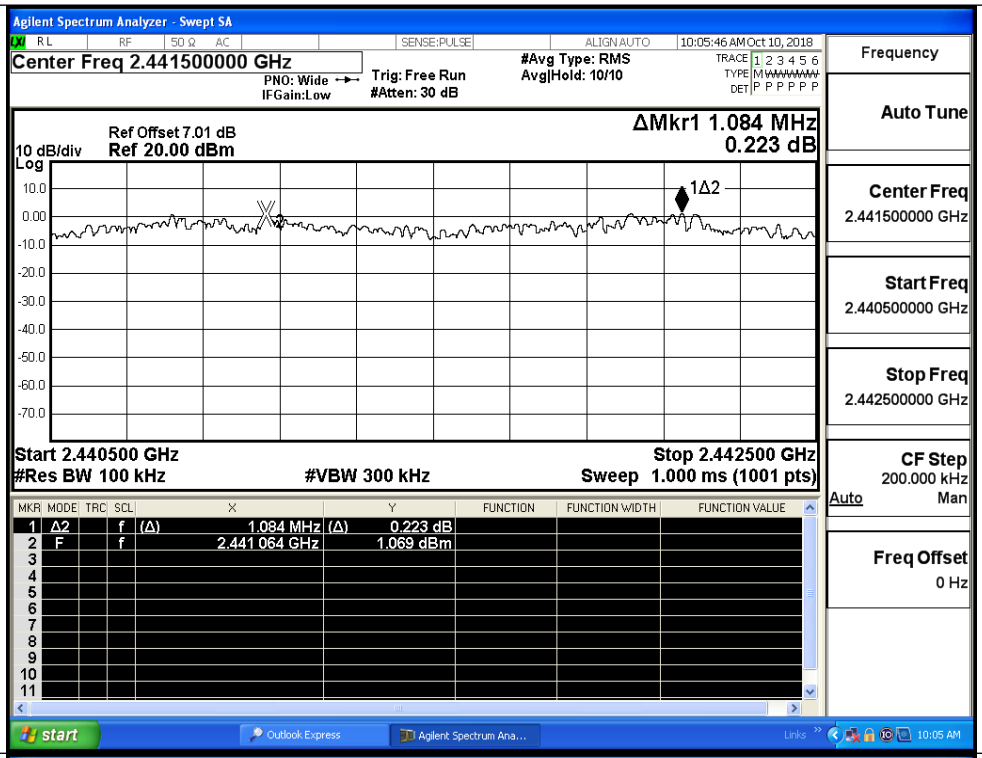
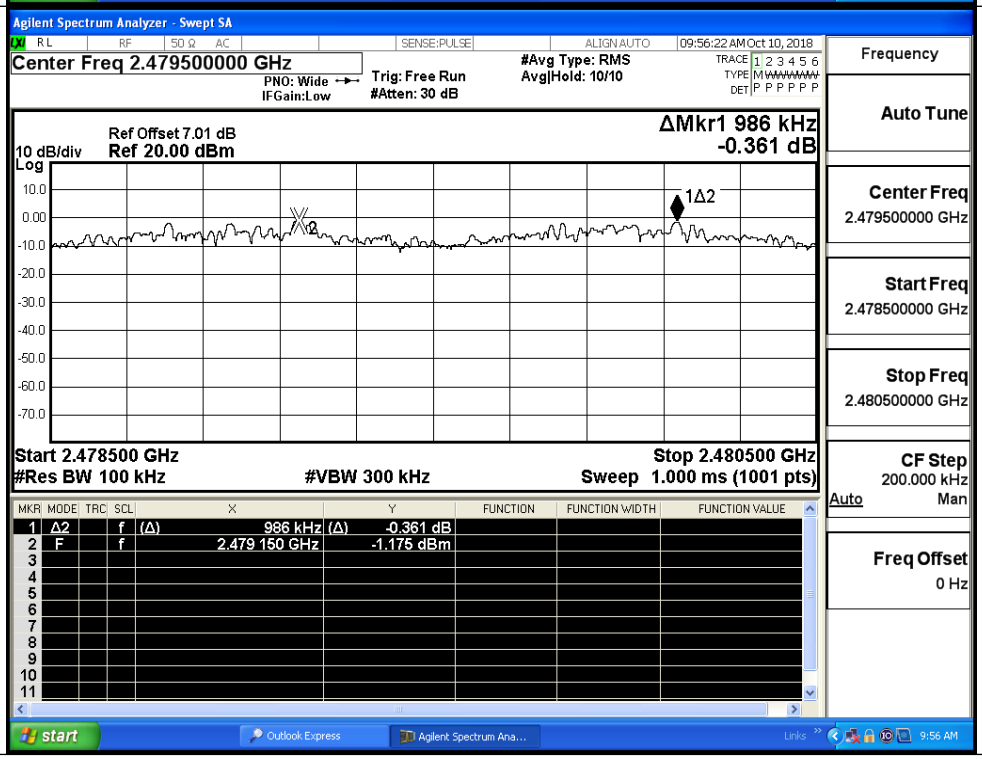
GFSK/LCH



GFSK/MCH	
GFSK/HCH	

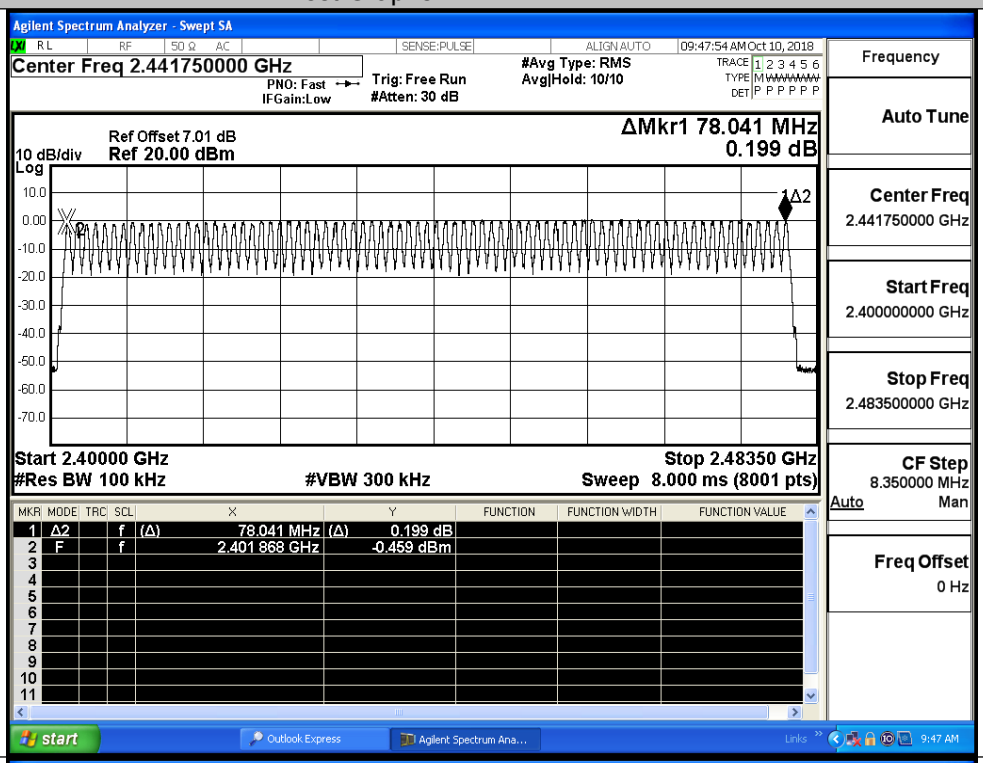
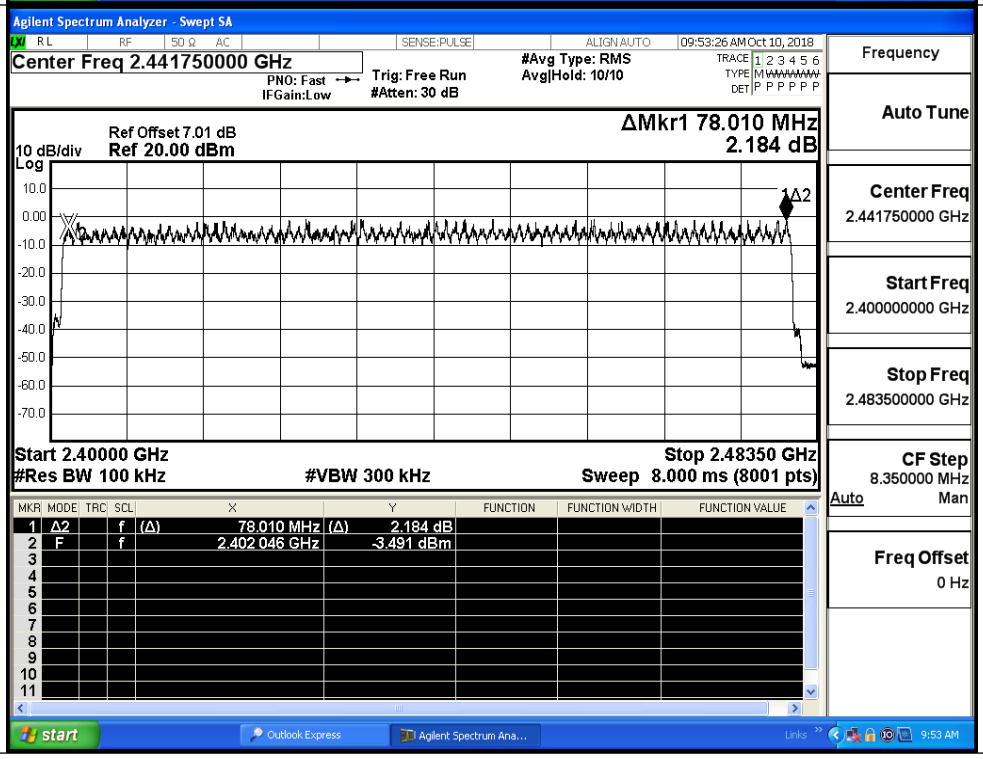
π/4DQPSK/LCH	
π/4DQPSK/MCH	

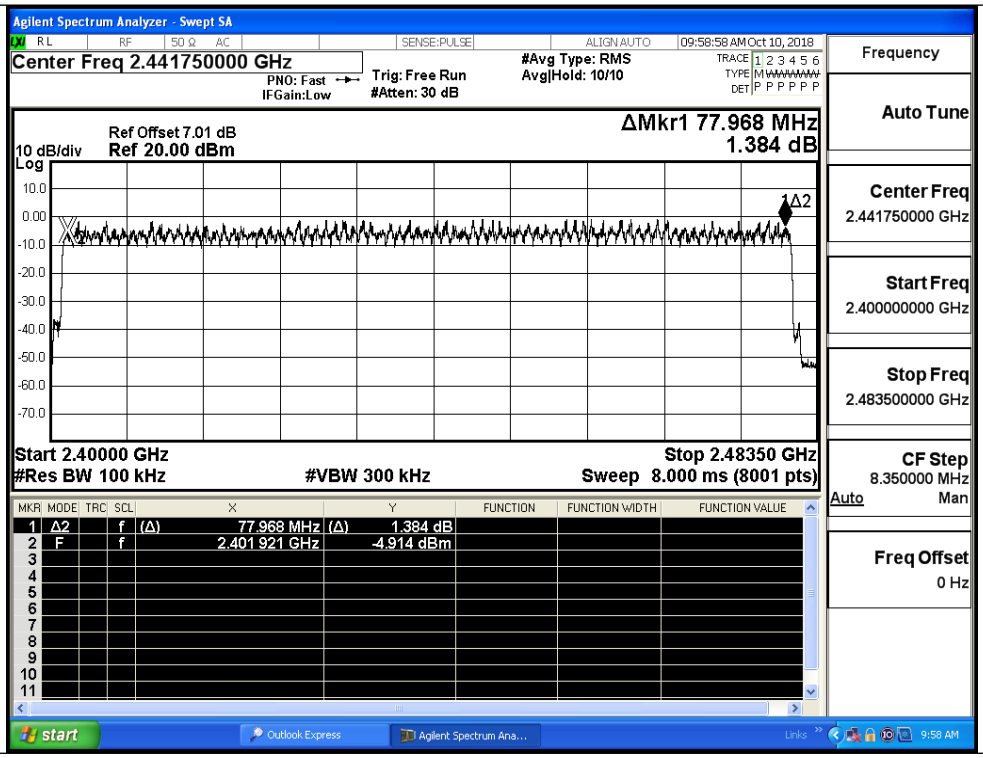
π/4DQPSK/HCH	
8DPSK/LCH	

8DPSK/MCH	
8DPSK/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
8DPSK	Hop	79	>=15	PASS

Test Graphs		
GFSK/Hop		
π/4DQPSK/Hop		

8DPSK/Hop	

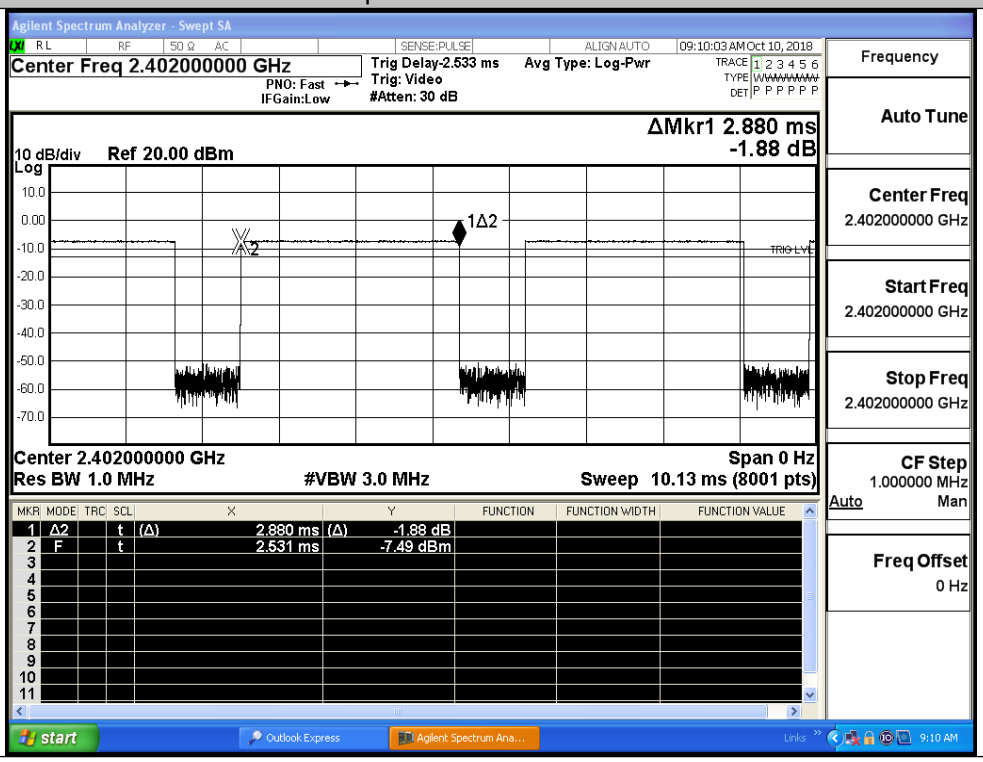
Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441750000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 10/10
09:58:58 AM Oct 10, 2018
Ref Offset 7.01 dB
10 dB/div
Log
Ref 20.00 dBm
ΔMkr1 77.968 MHz
1.384 dB
Start 2.40000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.48350 GHz
Sweep 8.000 ms (8001 pts)
1 Δ2 (Δ) 77.968 MHz (Δ) 1.384 dB
2 F f 2.401 921 GHz -4.914 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
start
Outlook Express
Agilent Spectrum Ana...
9:58 AM

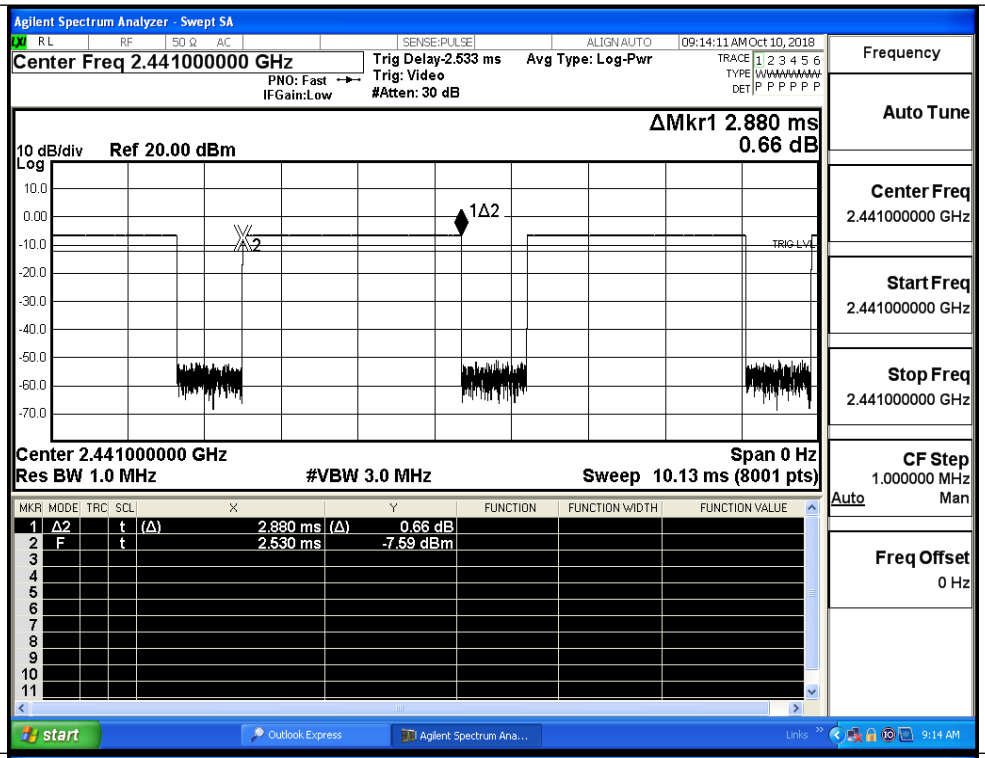
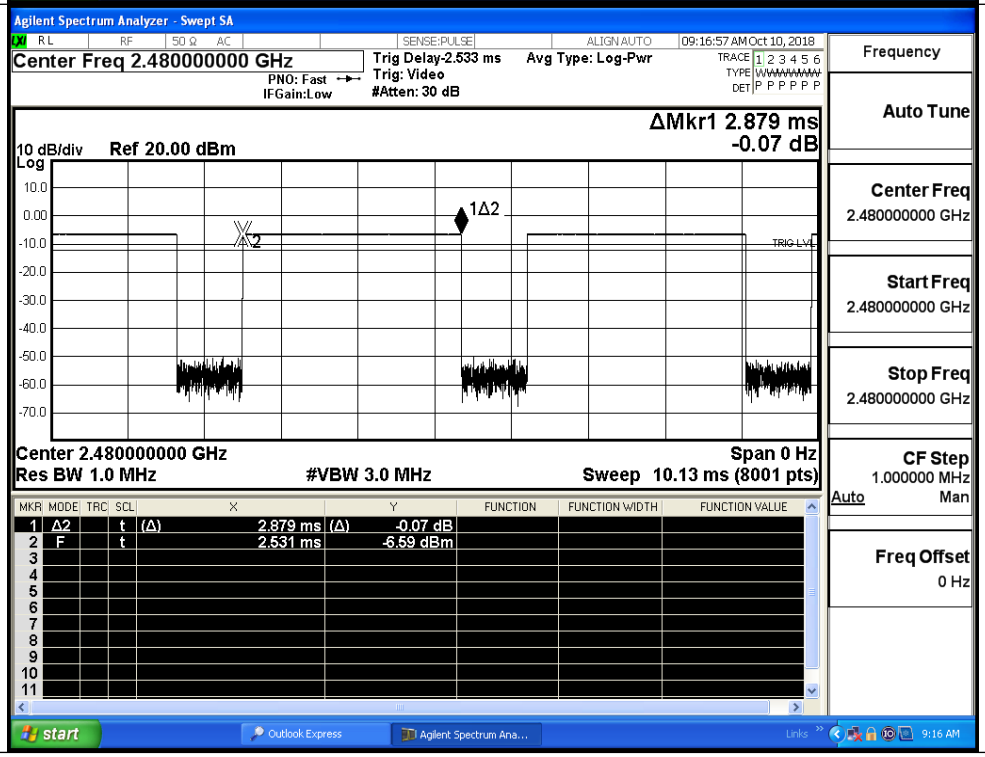
A.5 Dwell Time

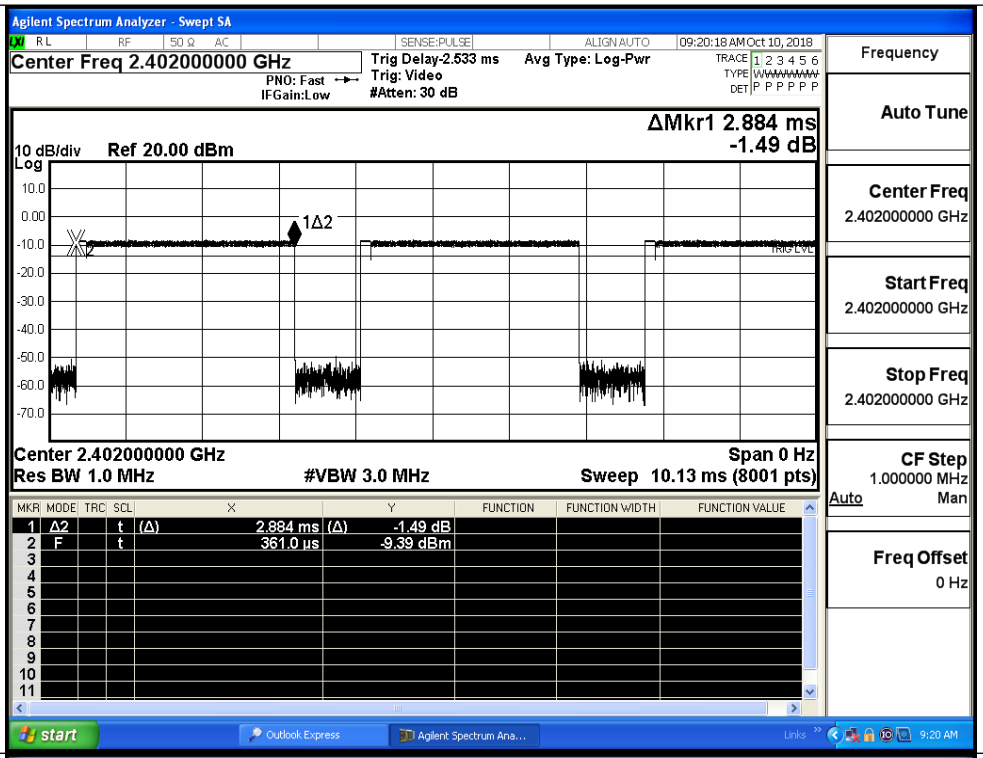
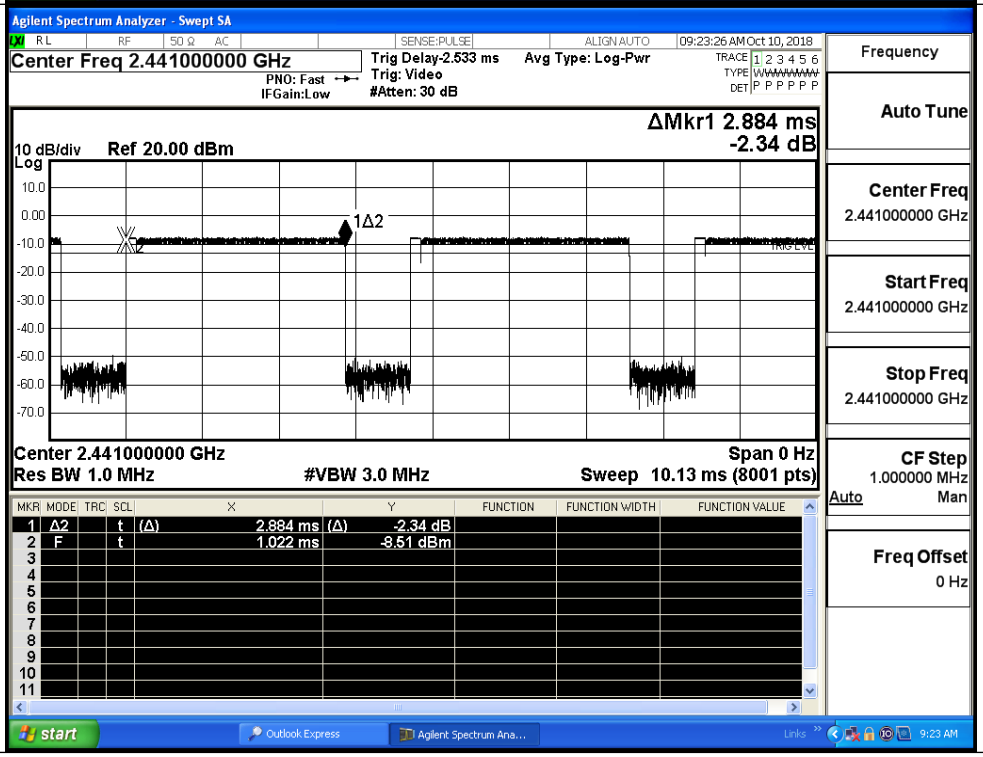
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
π/4DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7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

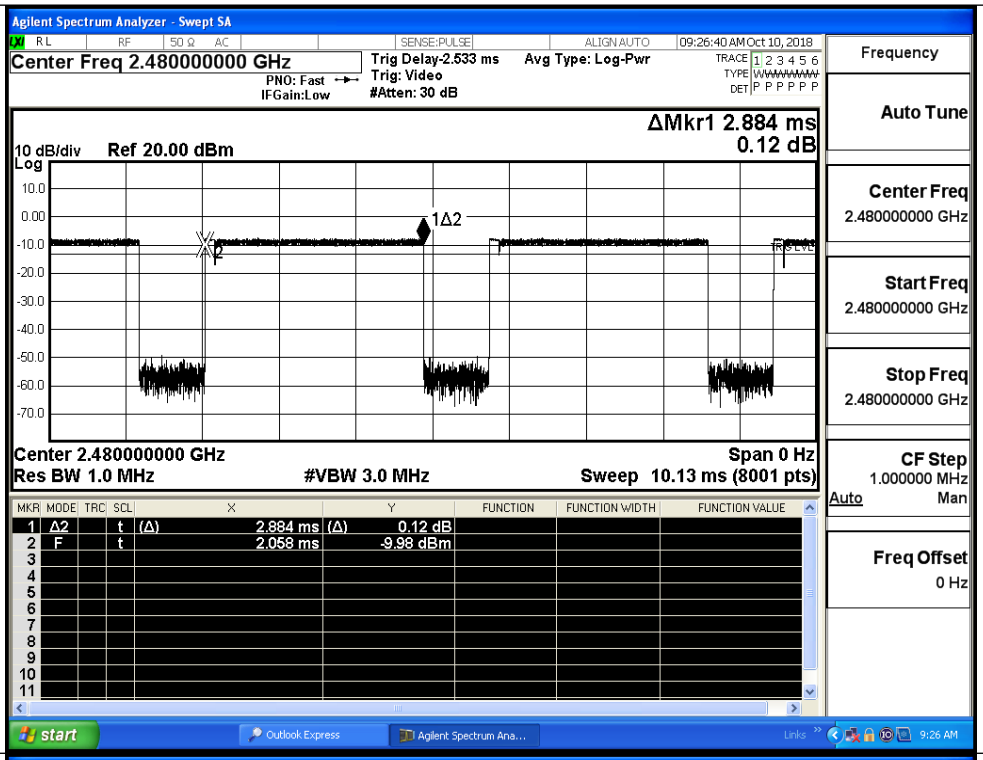
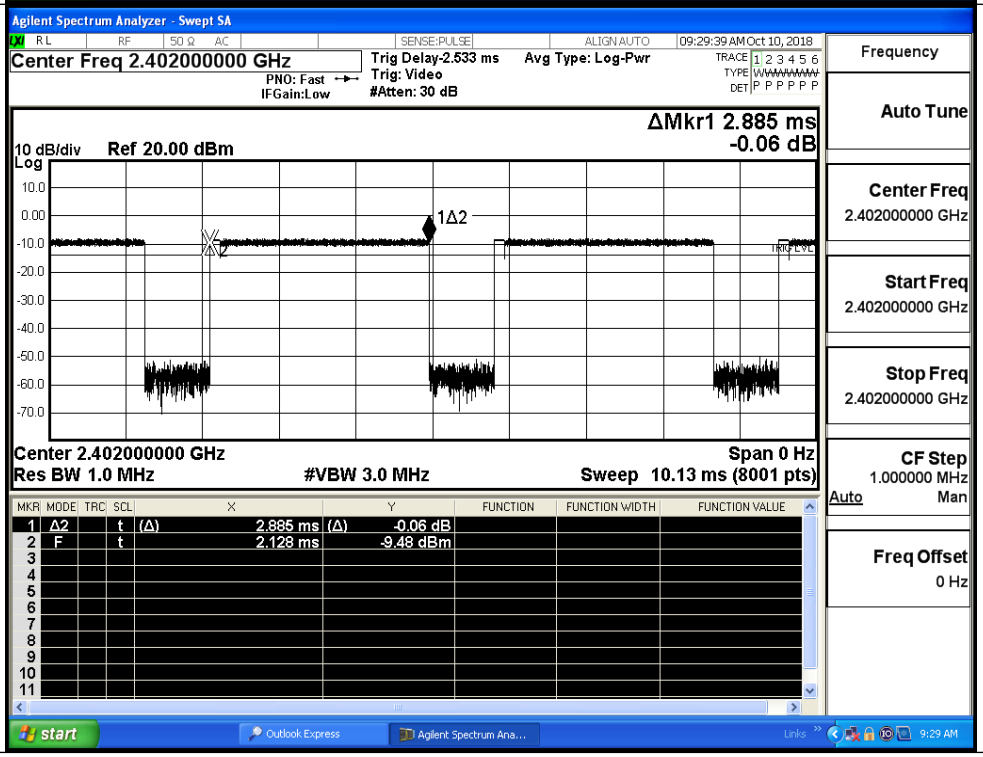
Test Graphs

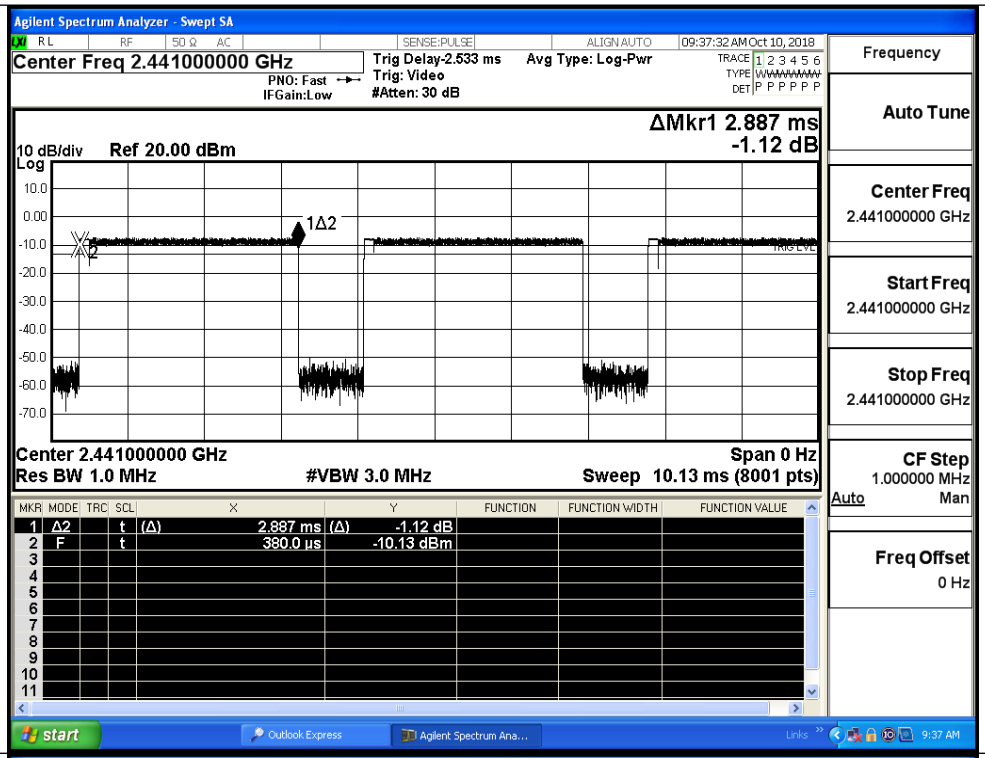
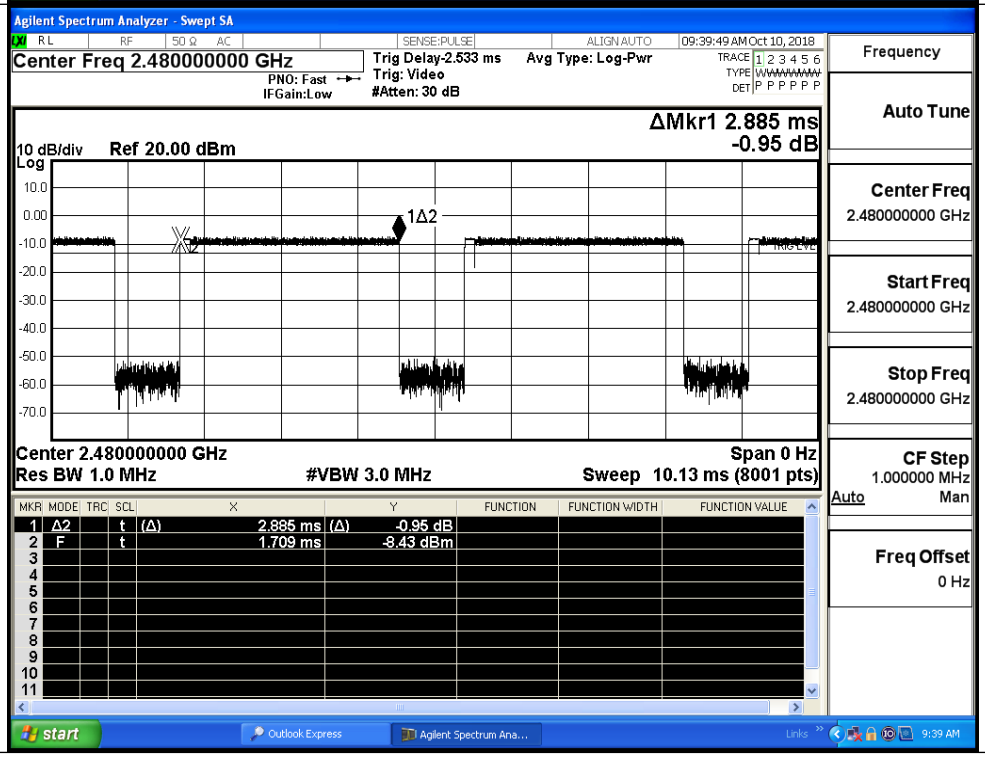
GFSK_DH5/LCH



GFSK_DH5/MCH	
GFSK_DH5/HCH	

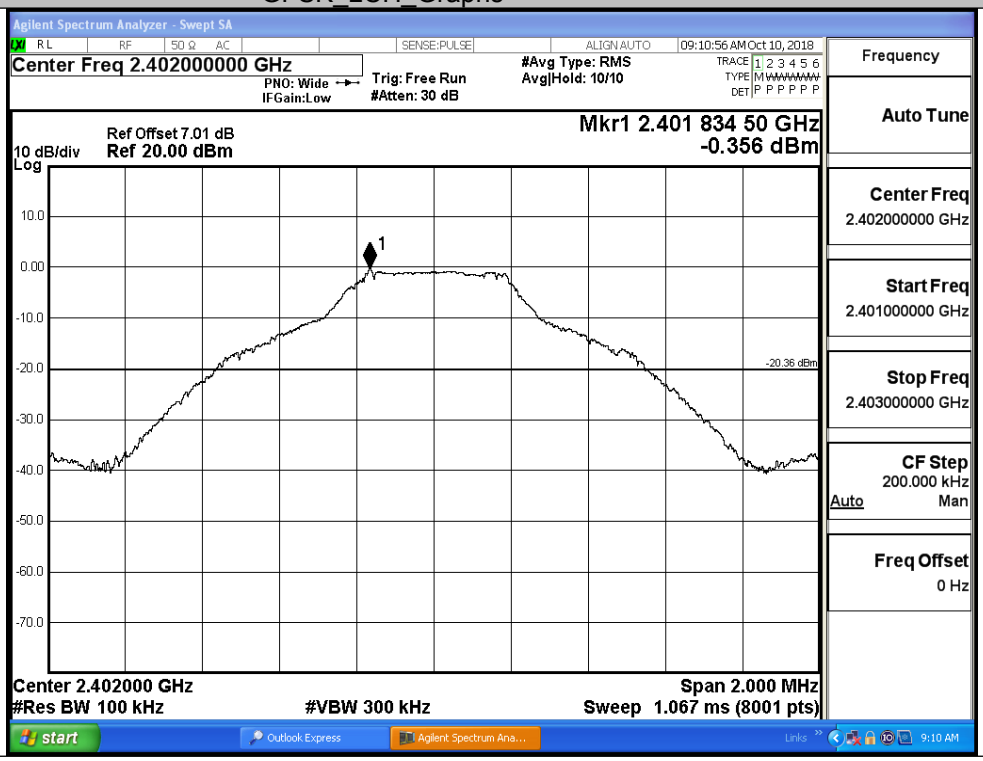
π/4DQPSK _2DH5/LCH	
π/4DQPSK _2DH5/MCH	

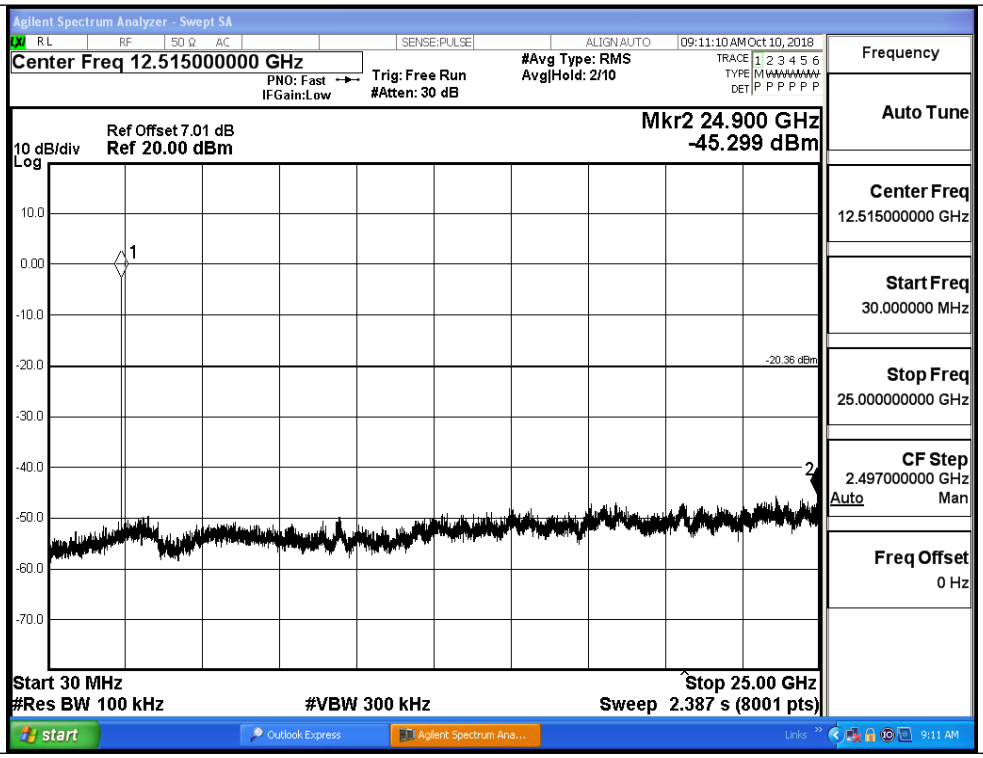
π/4DQPSK _2DH5/HCH	
8DPSK _3DH5/LCH	

8DPSK _3DH5/MCH	
8DPSK _3DH5/HCH	

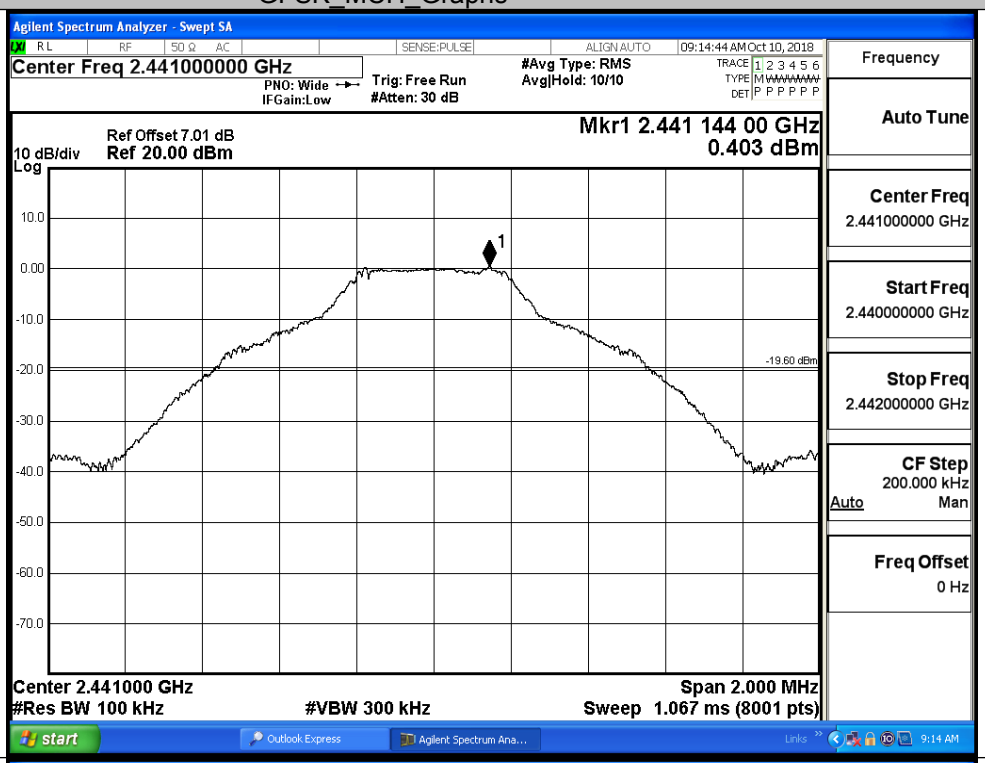
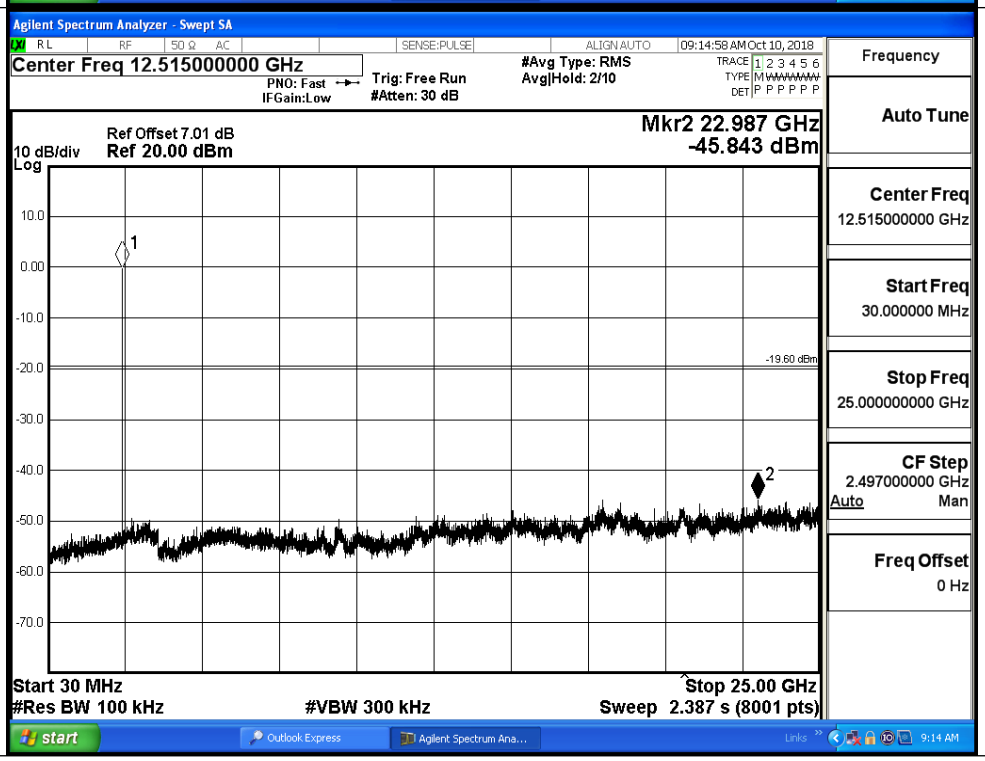
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.356	-45.299	-20.356	PASS
	MCH	0.403	-45.843	-19.597	PASS
	HCH	0.535	-45.742	-19.465	PASS
π/4DQPSK	LCH	-1.686	-46.374	-21.686	PASS
	MCH	-0.95	-24.865	-20.950	PASS
	HCH	-1.099	-45.307	-21.099	PASS
8DPSK	LCH	-1.937	-45.349	-21.937	PASS
	MCH	-1.003	-45.936	-21.003	PASS
	HCH	-1.043	-45.615	-21.043	PASS

GFSK_LCH_Graphs	
Pref	

Puw		

Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:PULSE
ALIGN AUTO
09:11:10 AM Oct 10, 2018
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 2/10
TRACE 1 2 3 4 5 6
TYPE M
DET P P P P P
Ref Offset 7.01 dB
10 dB/div
Log
Ref 20.00 dBm
Mkr2 24.900 GHz
-45.299 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-20.36 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.387 s (8001 pts)
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
start
Outlook Express
Agilent Spectrum Ana...
Links
9:11 AM

GFSK_MCH_Graphs		
Pref		
Puw		

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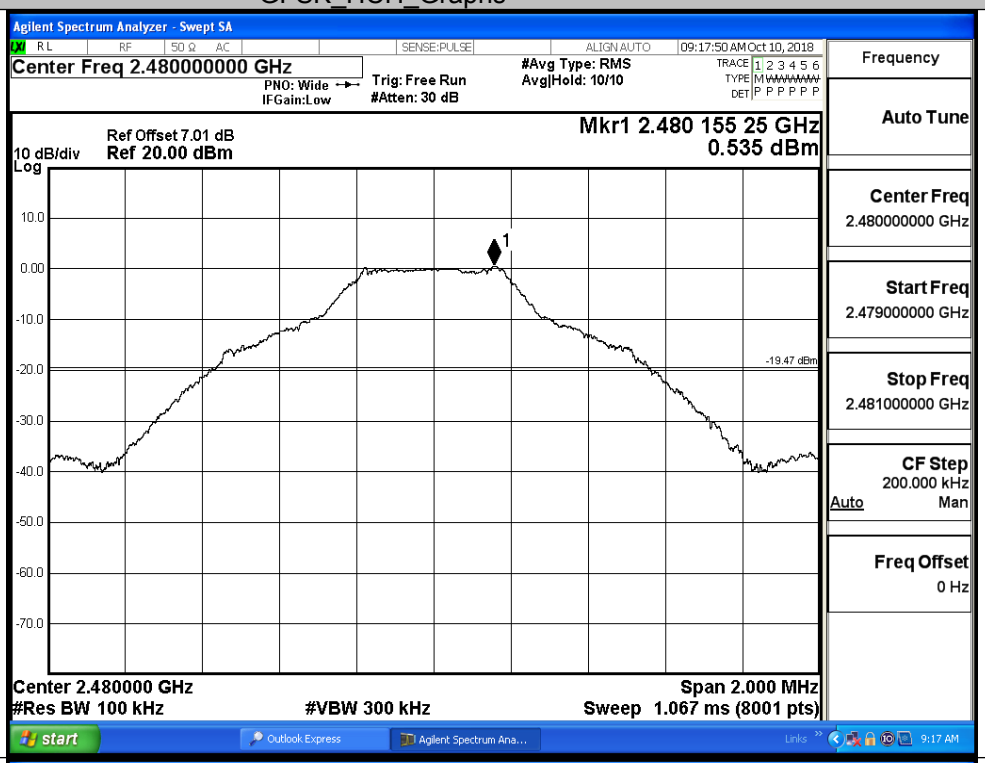
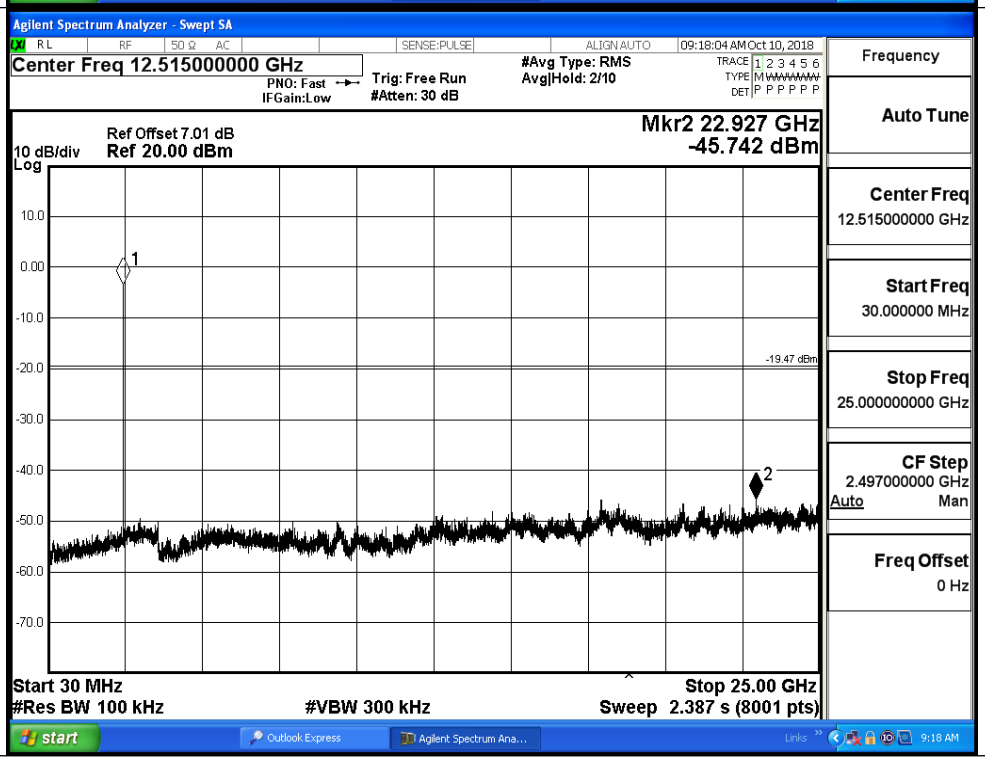
Pref		
Puw		

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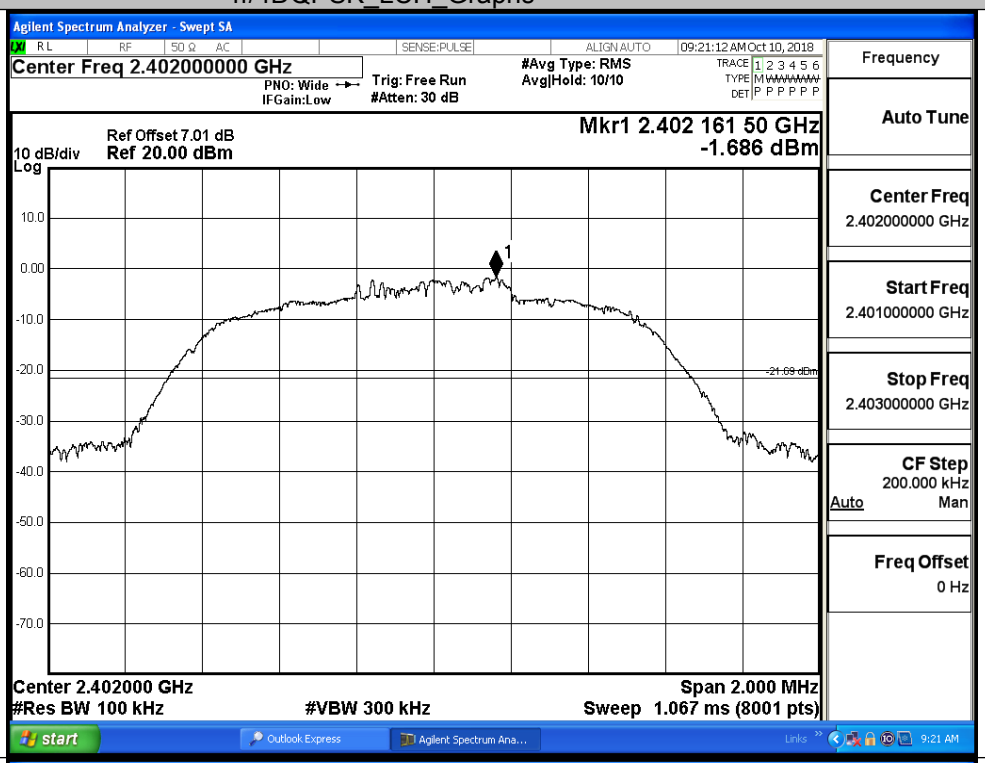
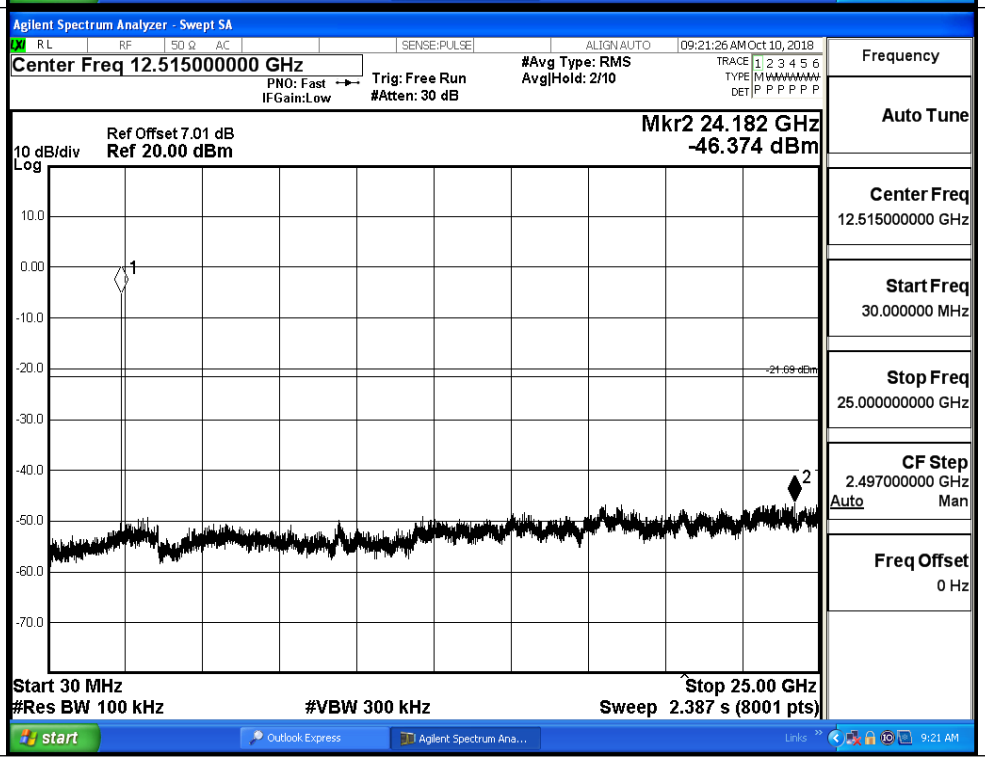
Pref		
Puw		

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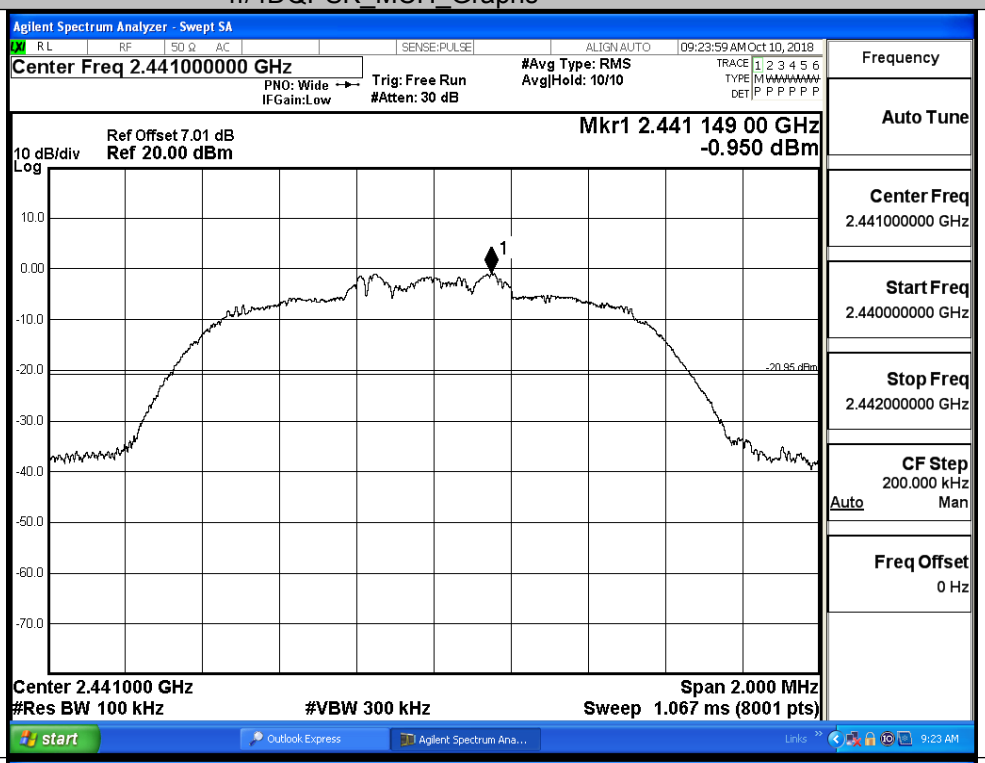
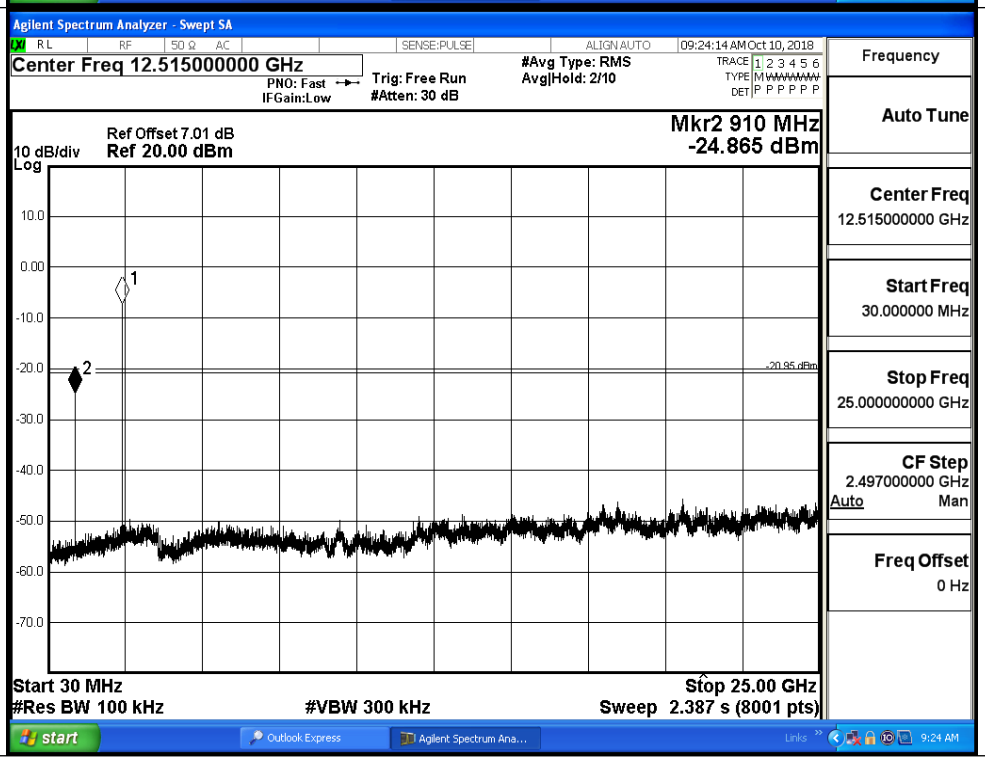
Pref		
Puw		

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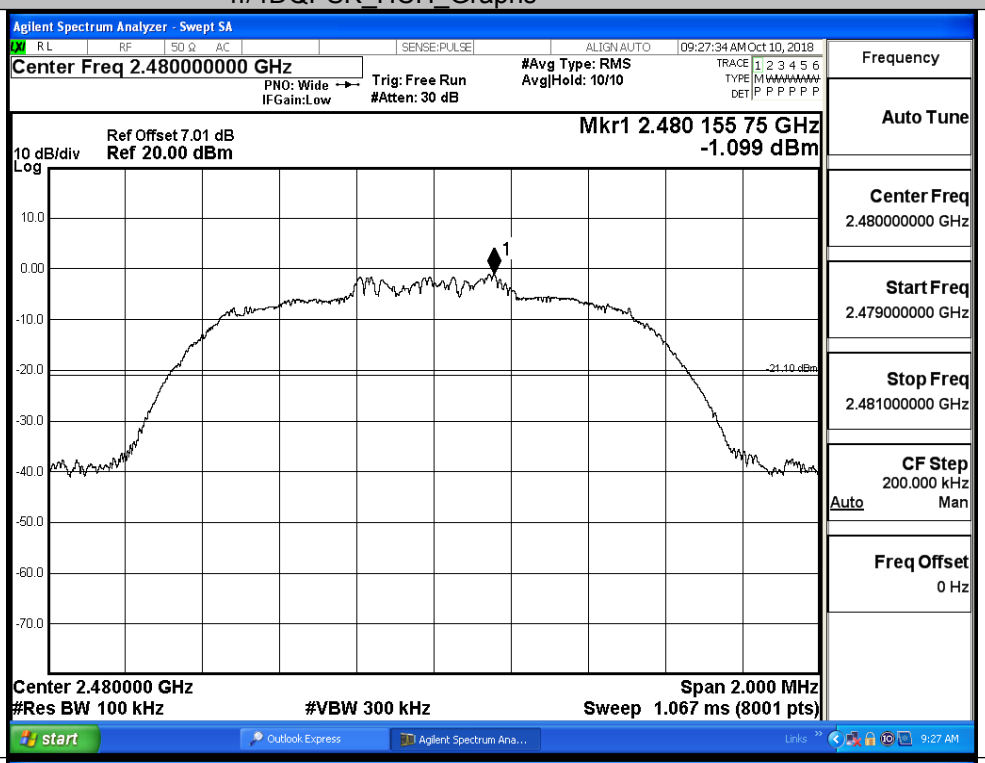
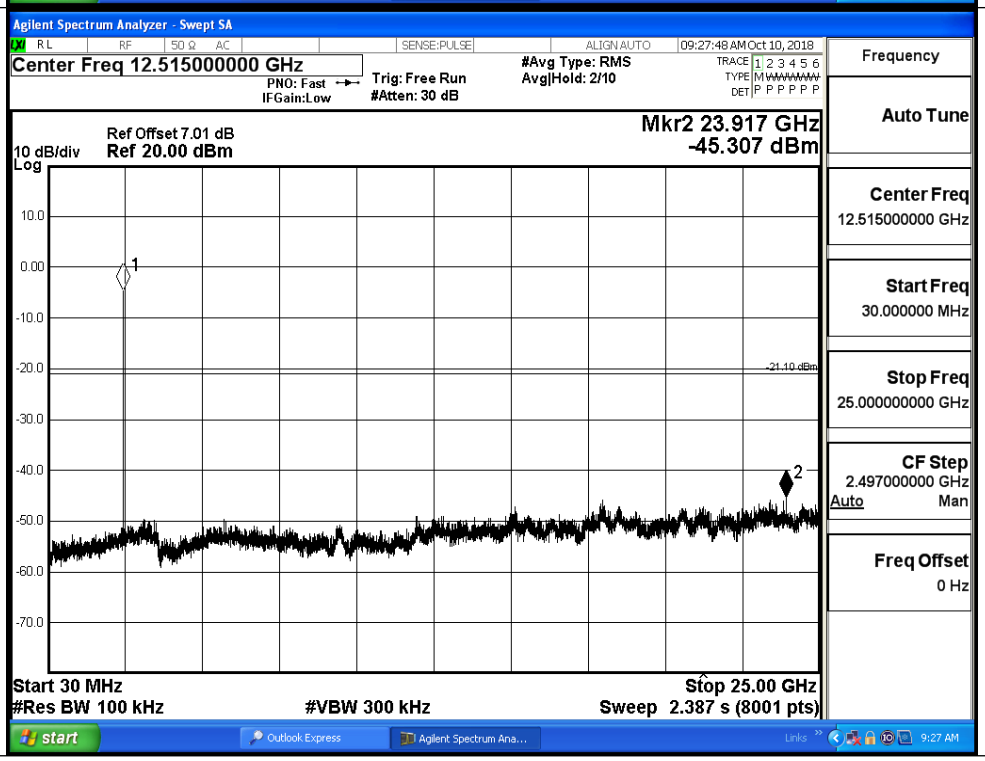
Pref		
Puw		

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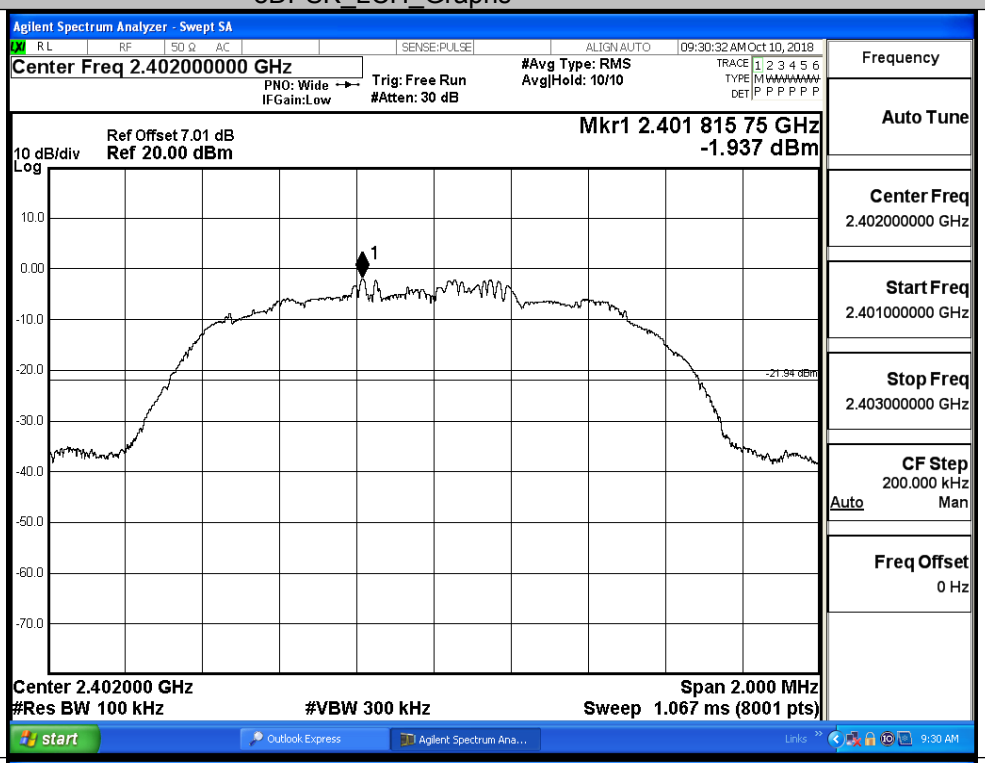
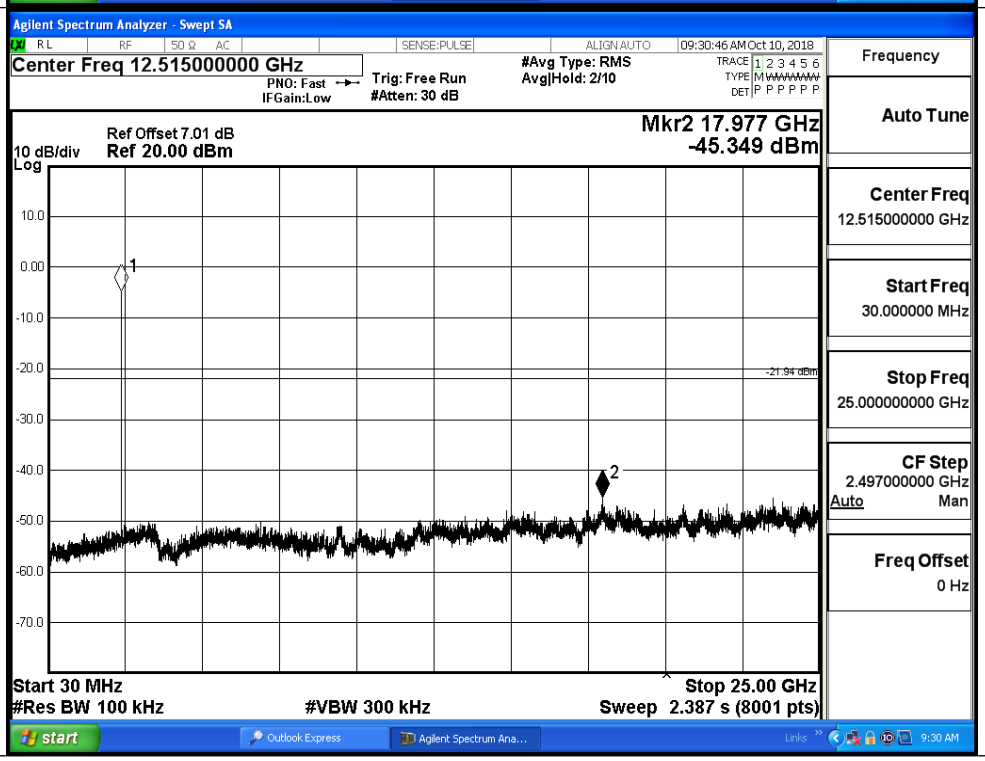
Pref		
Puw		

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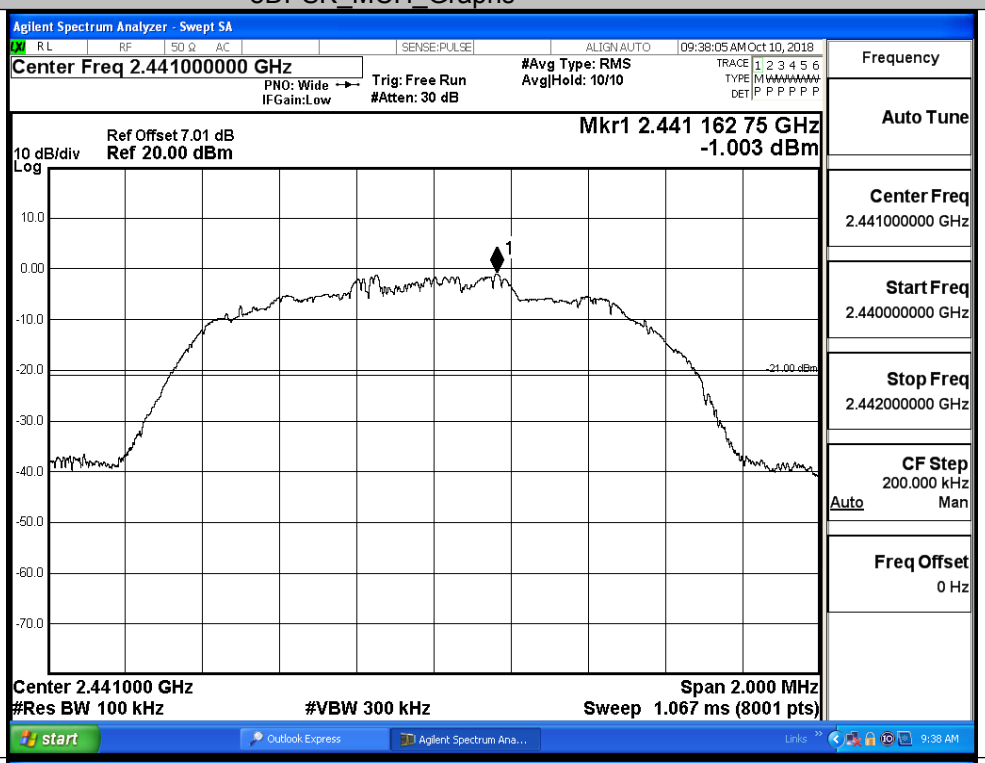
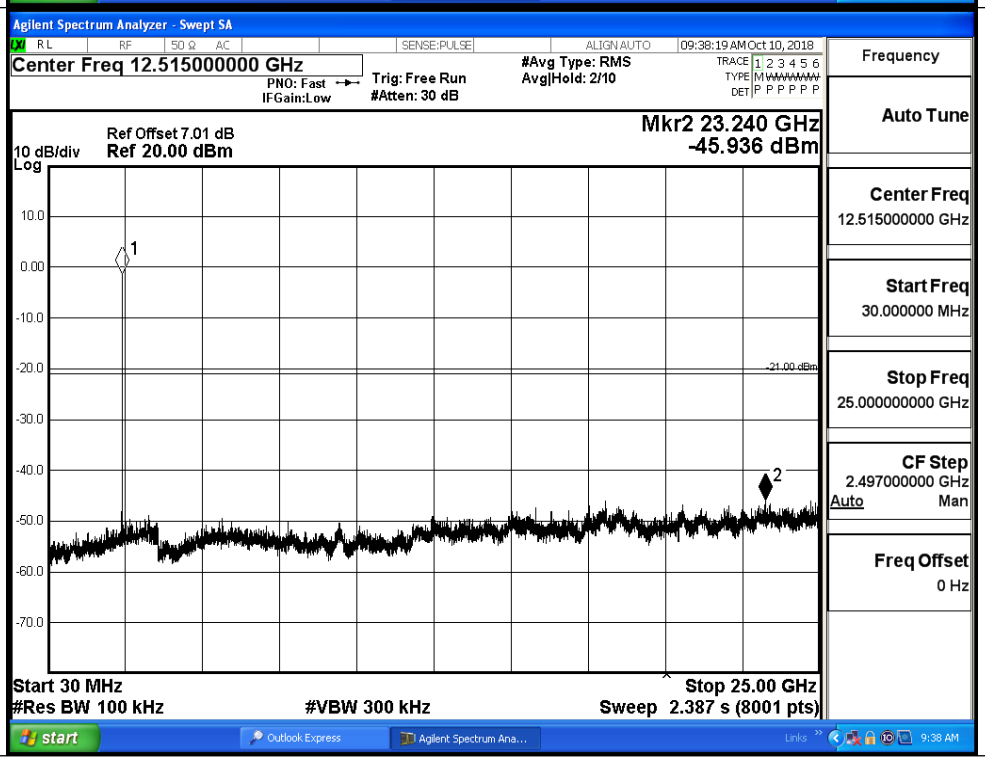
Pref		
Puw		

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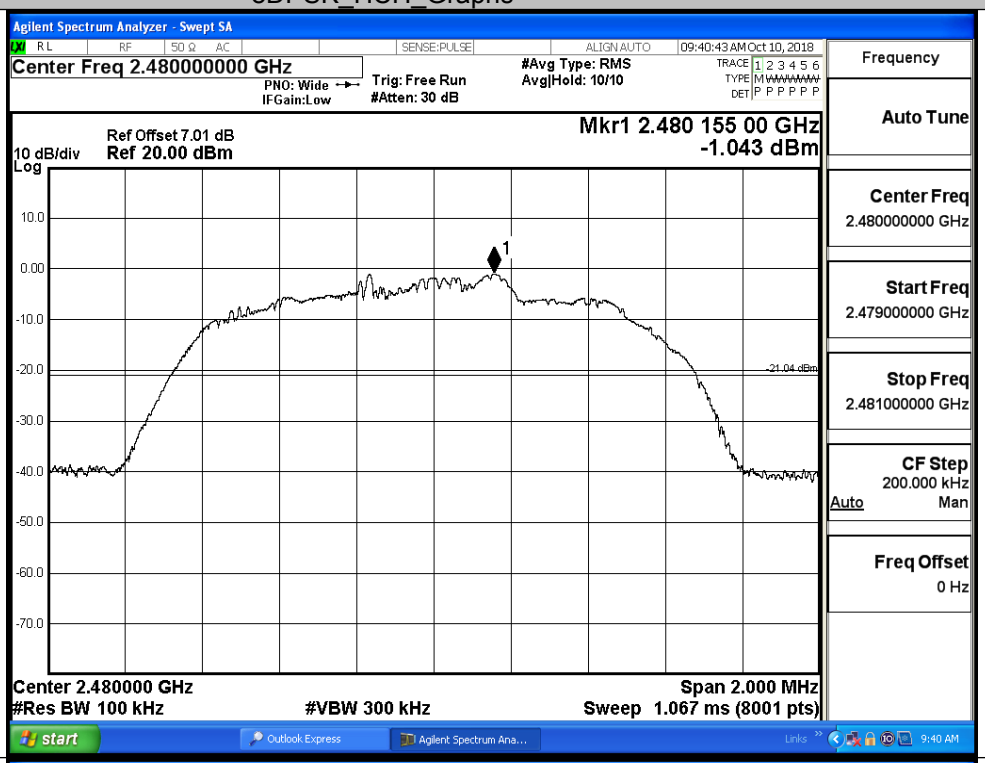
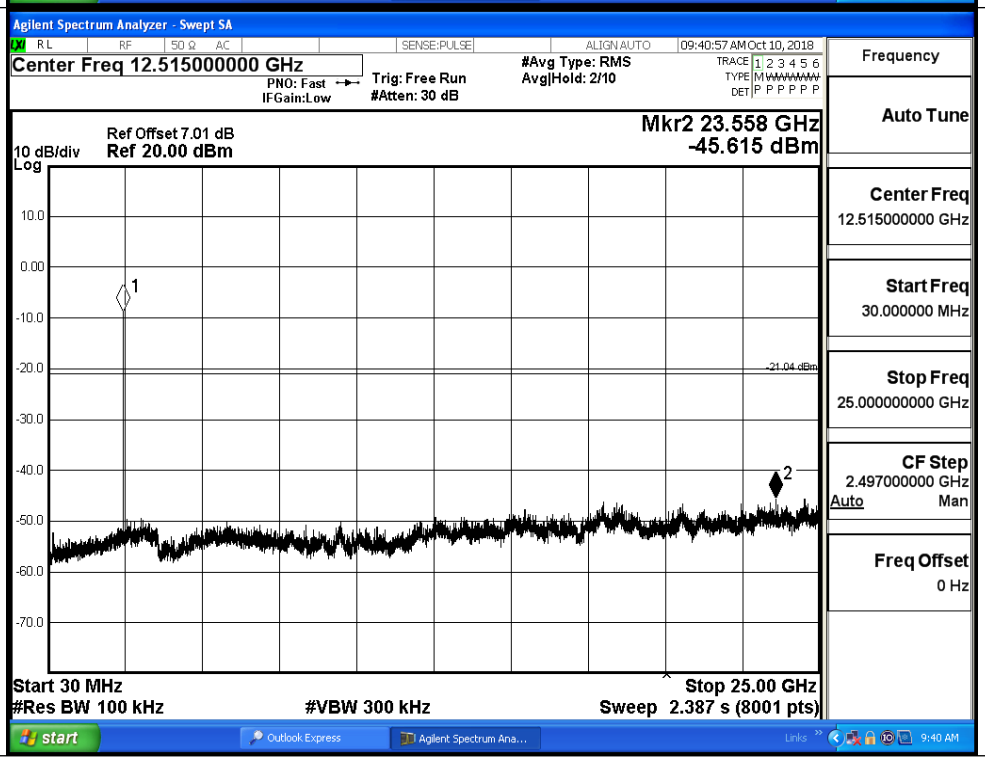
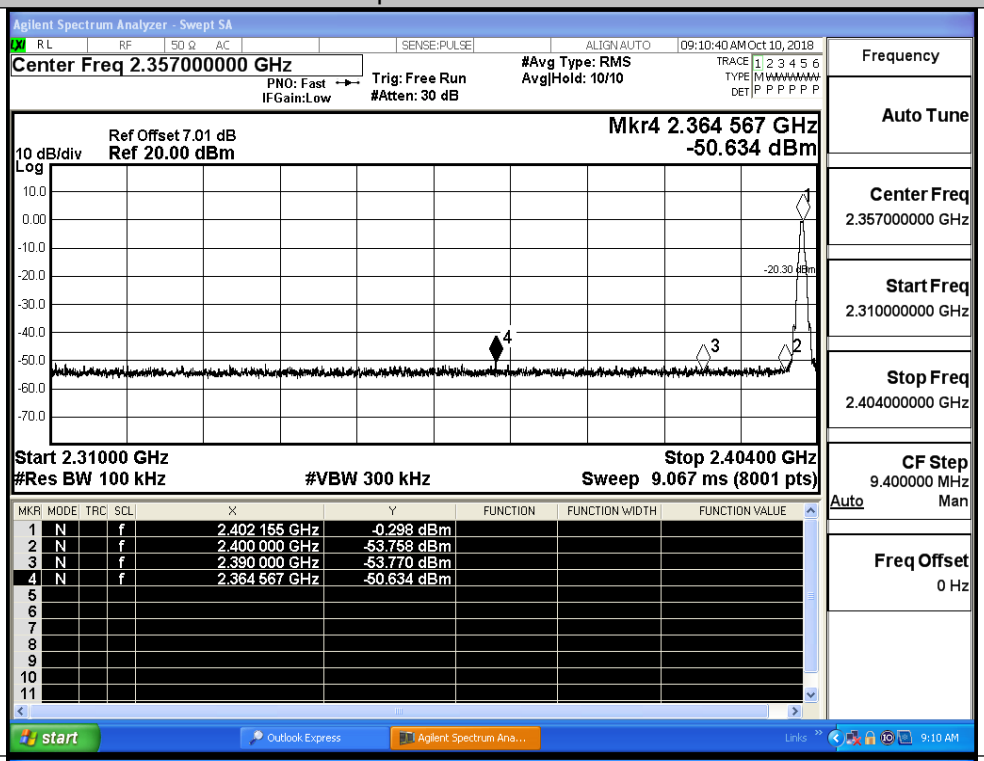
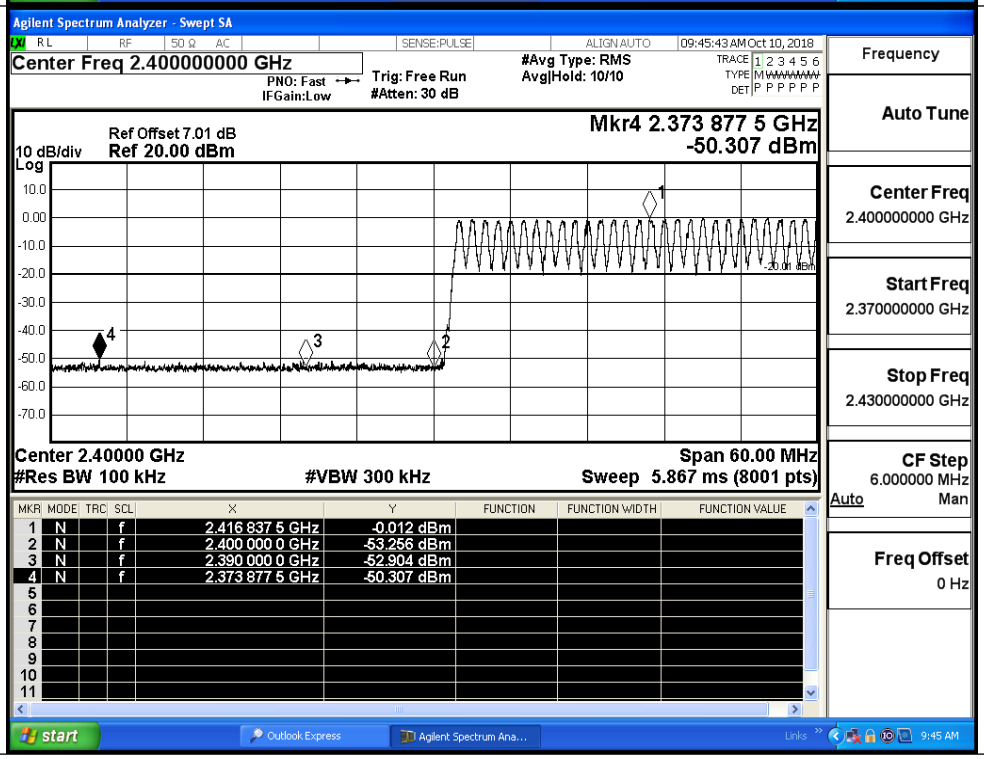
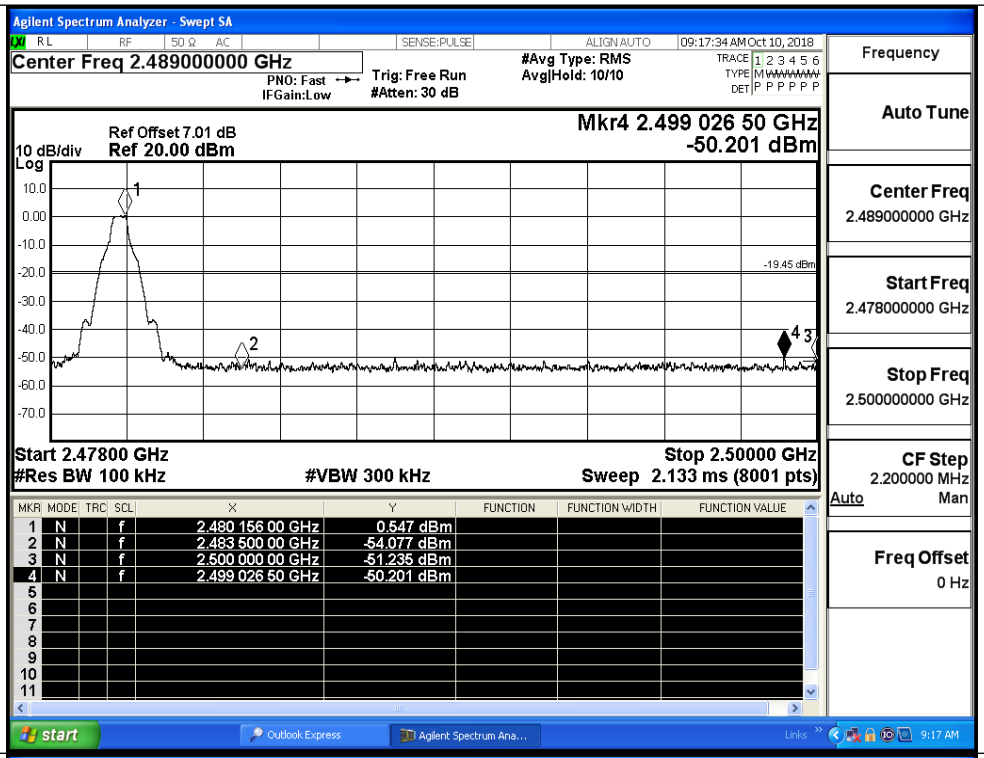
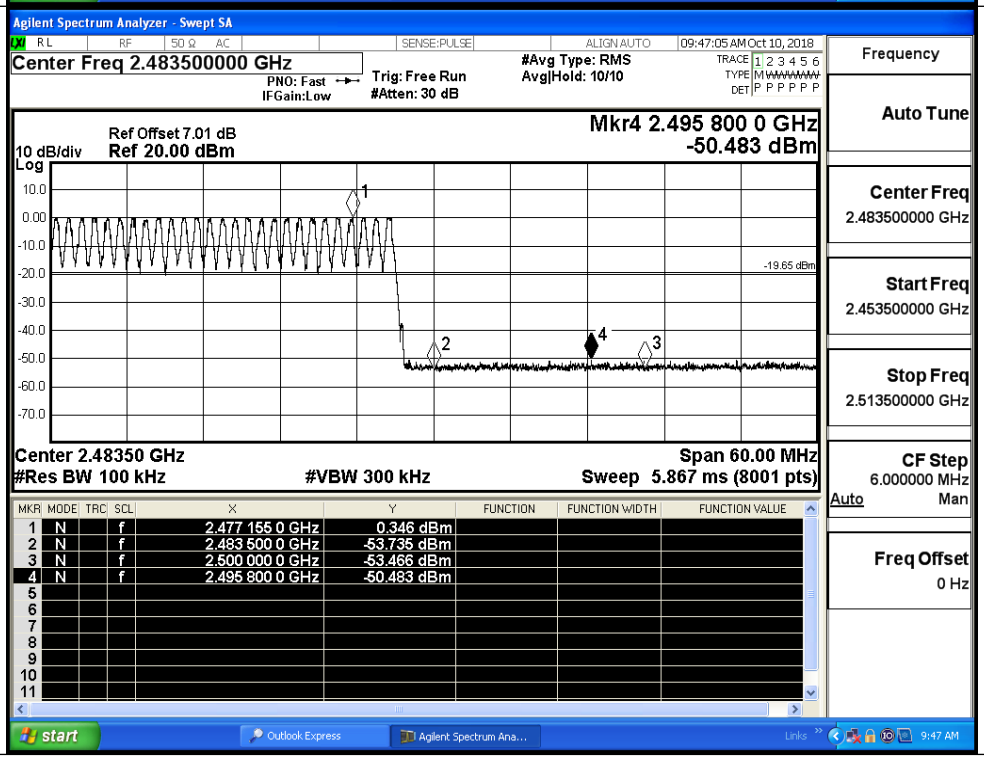
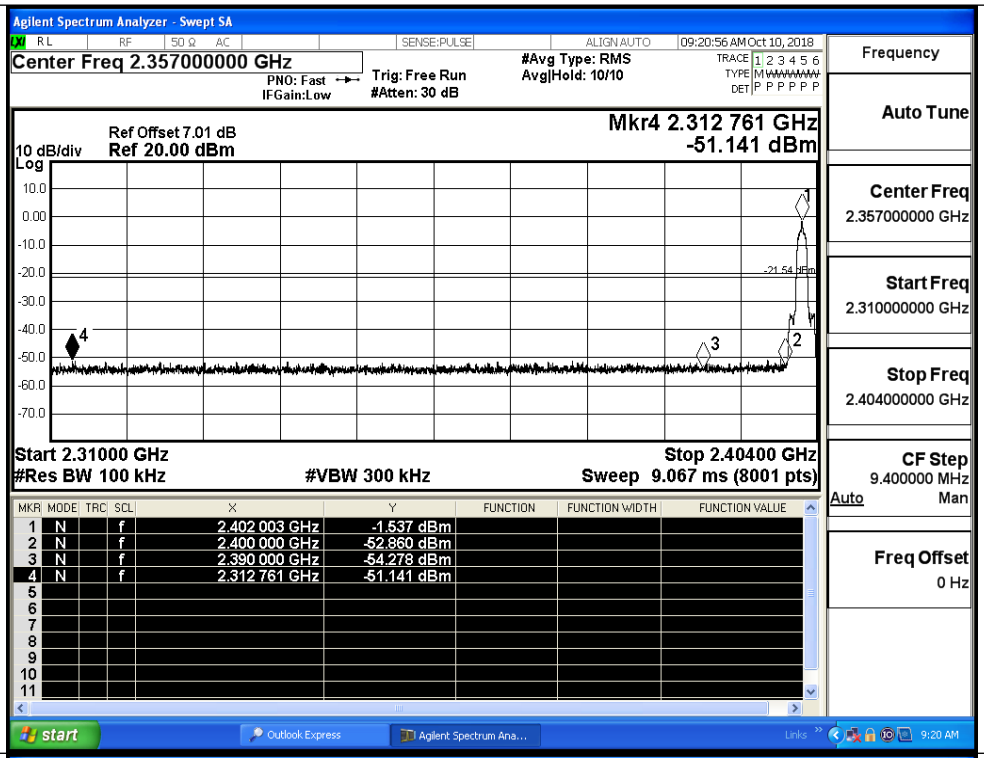
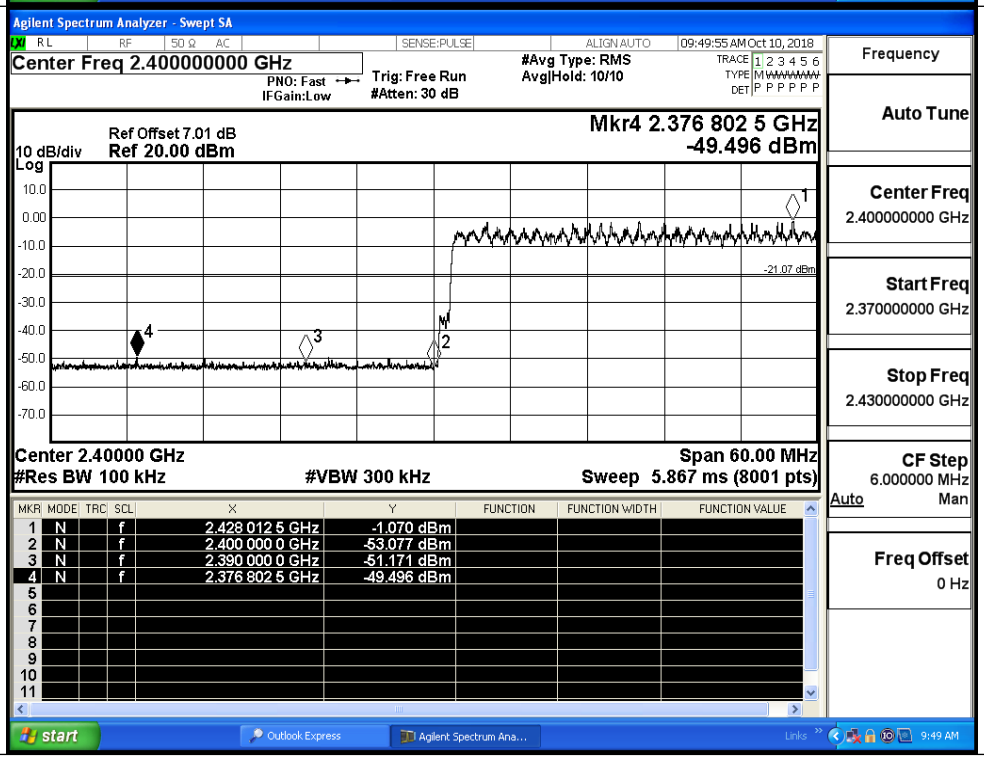
Pref		
Puw		

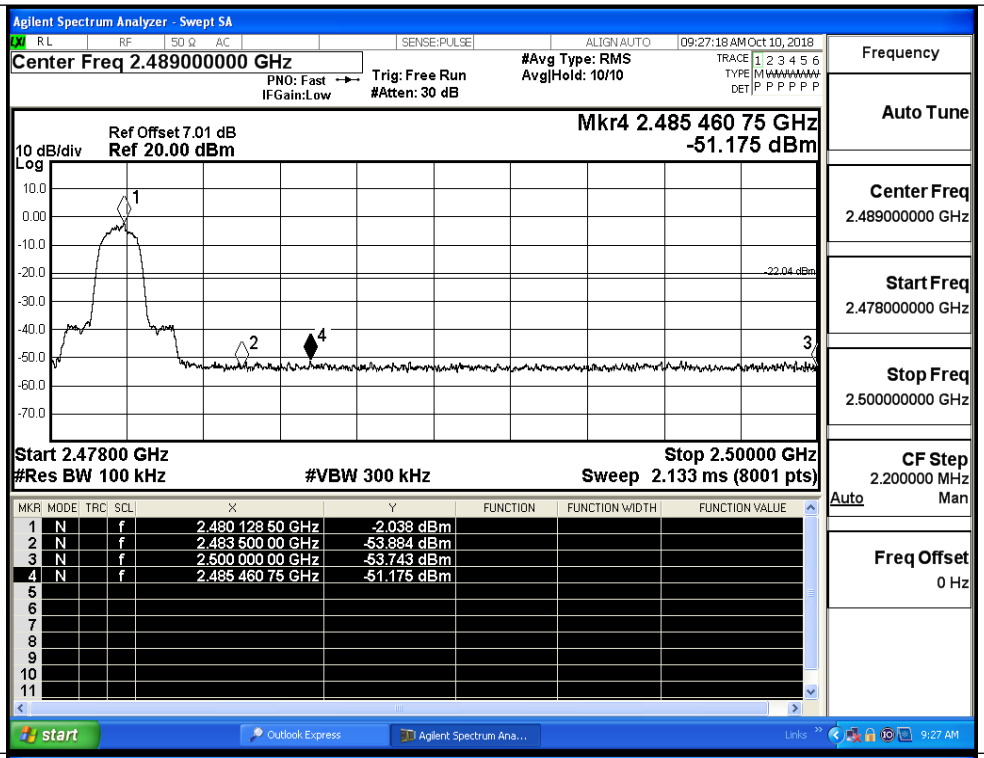
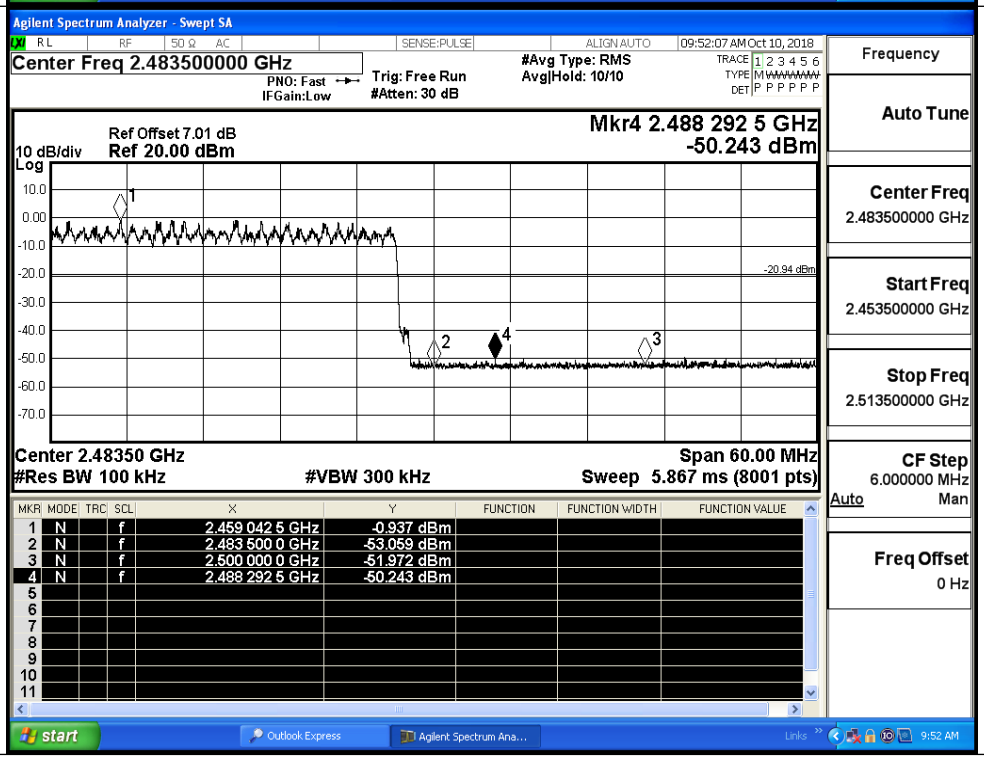
A.7 Band-edge for RF Conducted Emissions

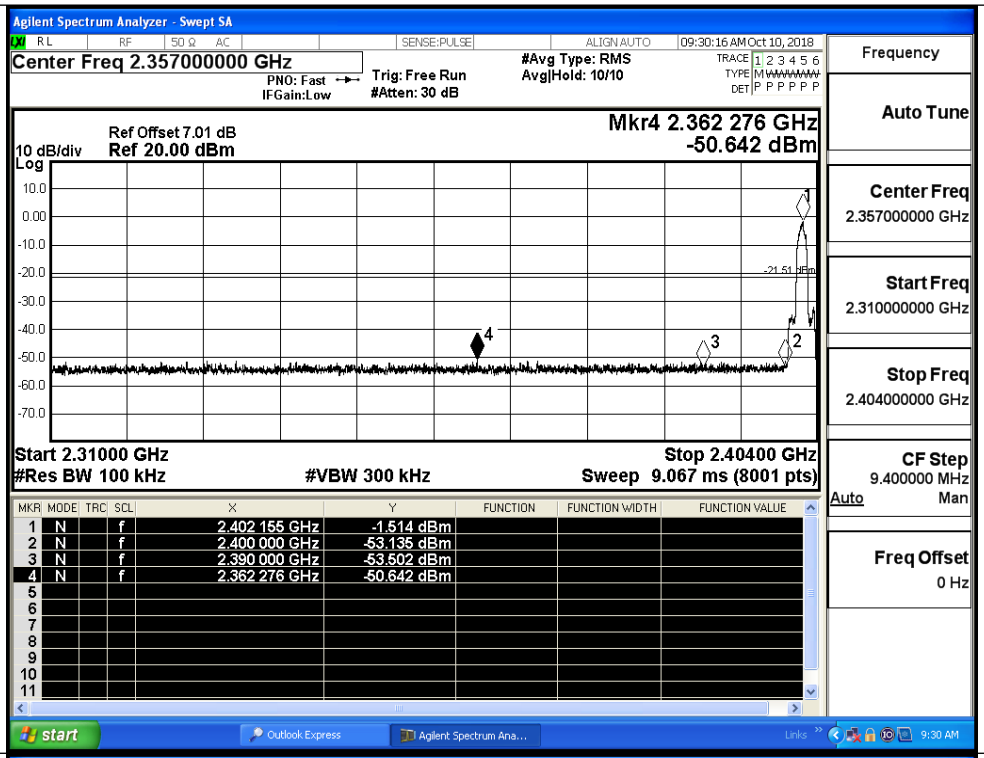
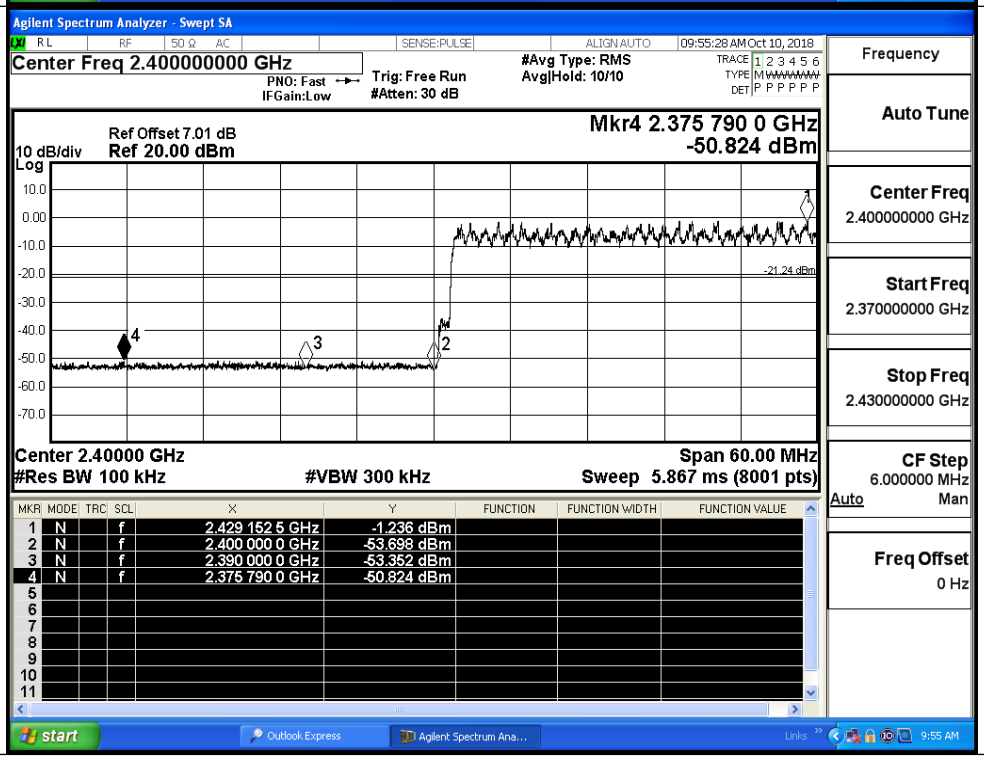
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-0.298	Off	-50.634	-20.3	PASS
			-0.012	On	-50.307	-20.01	PASS
	HCH	2480	0.547	Off	-50.201	-19.45	PASS
			0.346	On	-50.483	-19.65	PASS
π/4DQPSK	LCH	2402	-1.537	Off	-51.141	-21.54	PASS
			-1.070	On	-49.496	-21.07	PASS
	HCH	2480	-2.038	Off	-51.175	-22.04	PASS
			-0.937	On	-50.243	-20.94	PASS
8DPSK	LCH	2402	-1.514	Off	-50.642	-21.51	PASS
			-1.236	On	-50.824	-21.24	PASS
	HCH	2480	-1.090	Off	-50.524	-21.09	PASS
			-0.964	On	-50.181	-20.96	PASS

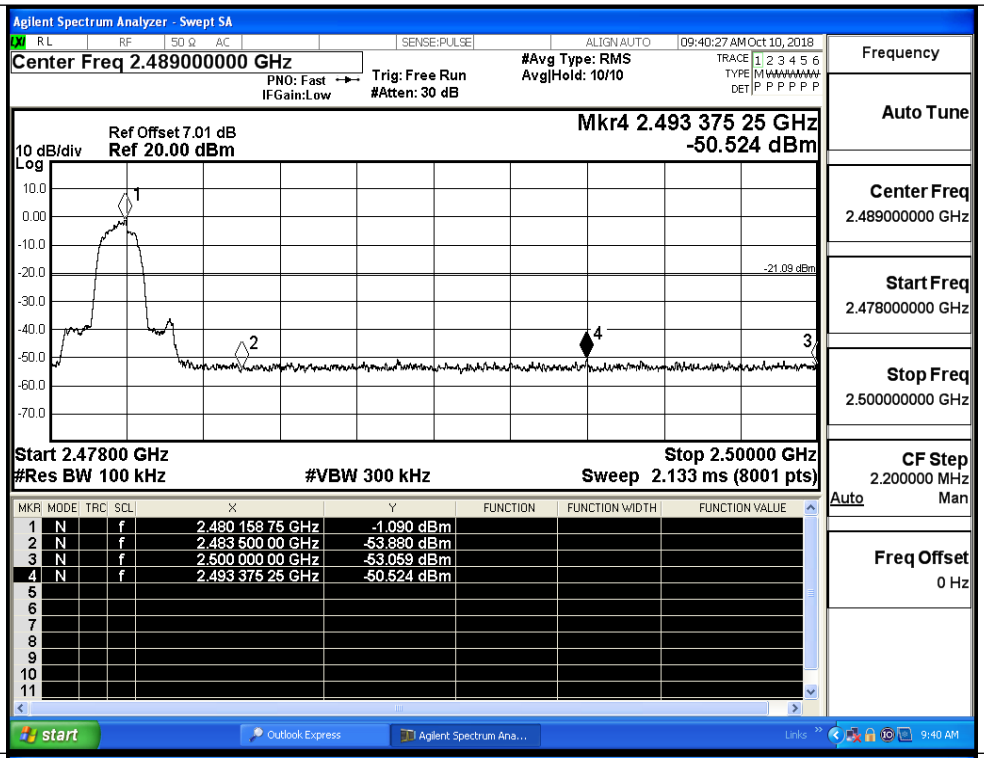
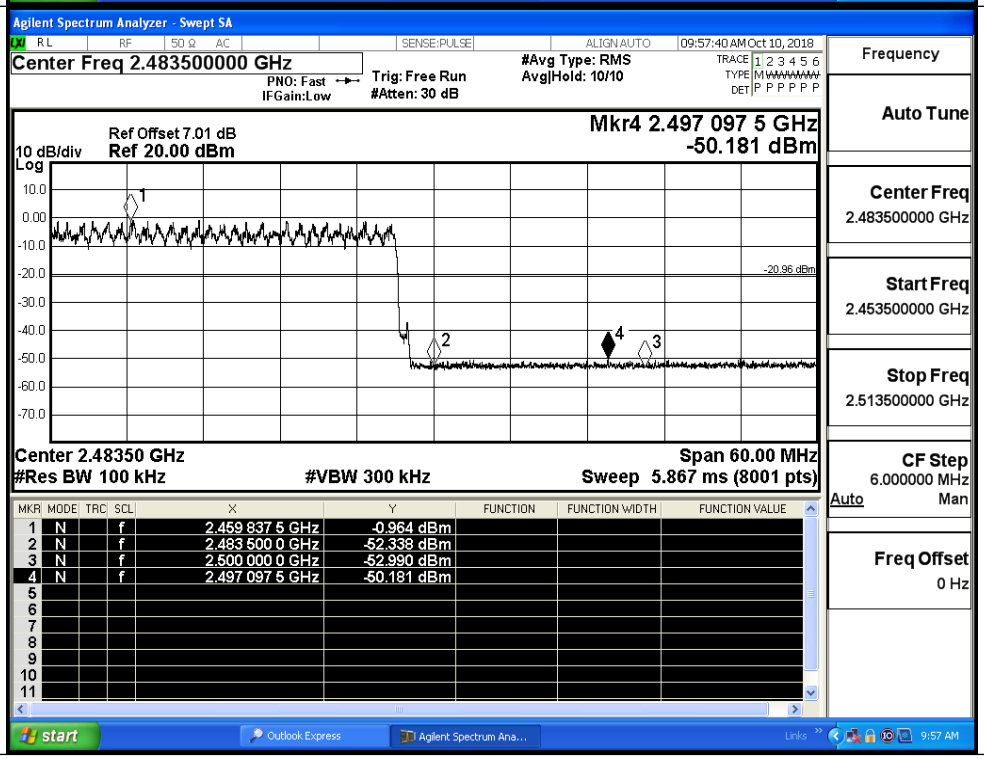
Test Graphs		
GFSK/LCH/No Hop		
GFSK/LCH/Hop		

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	

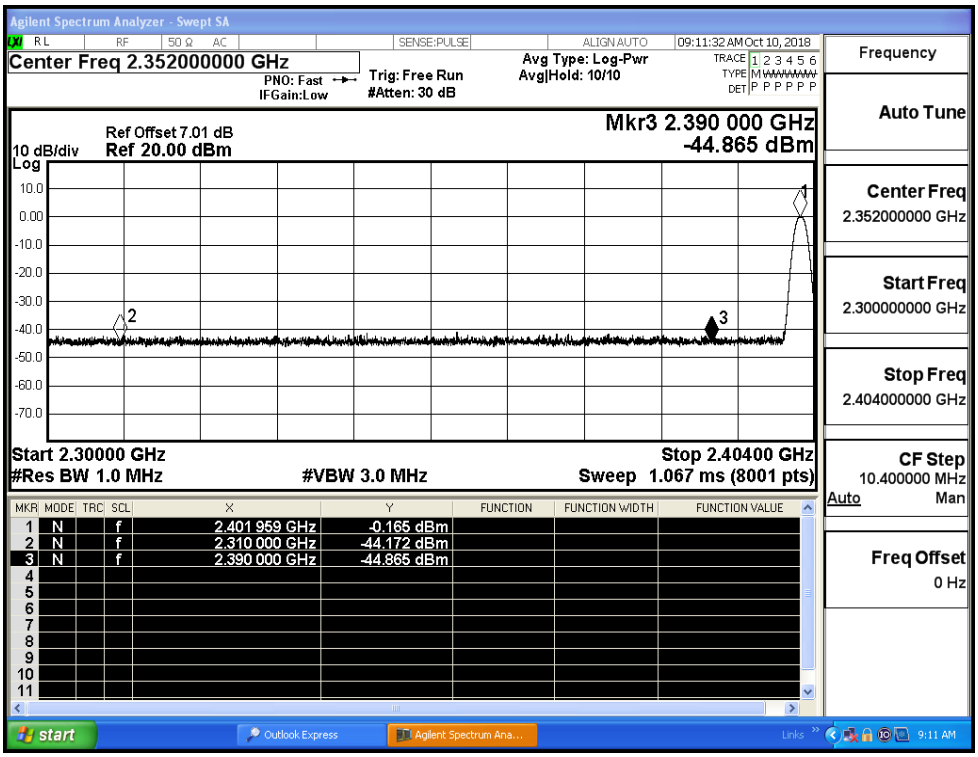
8DPSK/LCH/No Hop	
8DPSK/LCH/Hop	

8DPSK/HCH/No Hop	
8DPSK/HCH/Hop	

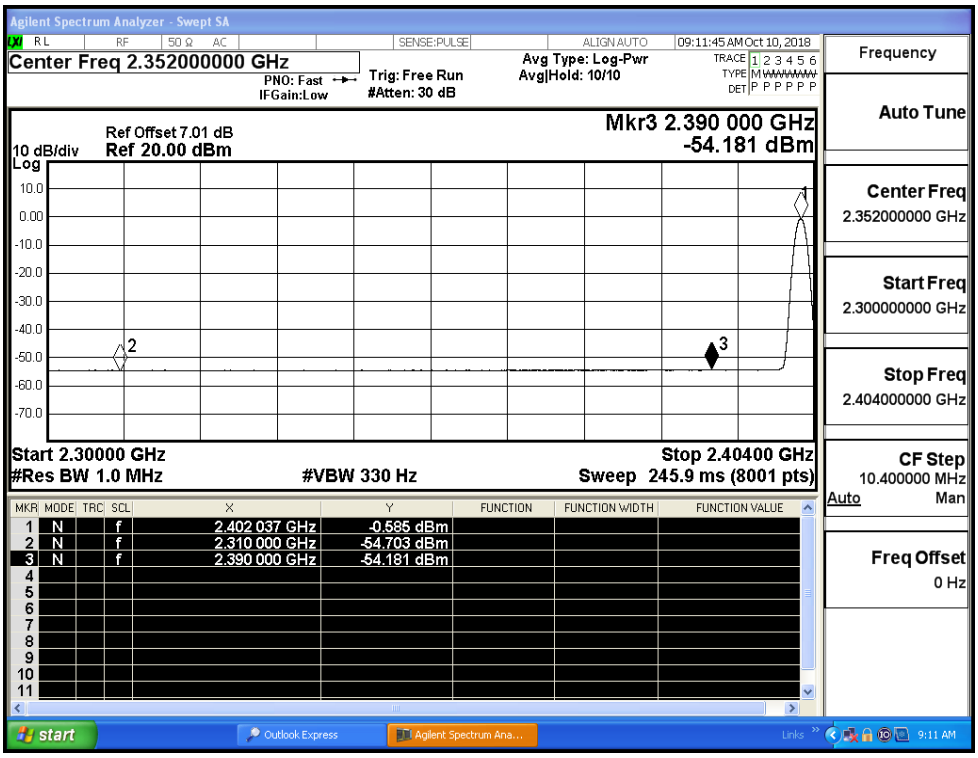
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-44.17	2.0	0	51.09	PEAK	74	PASS
	Off	2310.0	-54.70	2.0	0	40.55	AV	54	PASS
	Off	2390.0	-44.87	2.0	0	50.39	PEAK	74	PASS
	Off	2390.0	-54.18	2.0	0	41.08	AV	54	PASS
	Off	2483.5	-43.09	2.0	0	52.17	PEAK	74	PASS
	Off	2483.5	-53.97	2.0	0	41.28	AV	54	PASS
	Off	2500.0	-42.49	2.0	0	52.77	PEAK	74	PASS
	Off	2500.0	-53.88	2.0	0	41.37	AV	54	PASS
π/4DQPSK	Off	2310.0	-44.07	2.0	0	51.19	PEAK	74	PASS
	Off	2310.0	-54.77	2.0	0	40.48	AV	54	PASS
	Off	2390.0	-44.12	2.0	0	51.13	PEAK	74	PASS
	Off	2390.0	-54.35	2.0	0	40.91	AV	54	PASS
	Off	2483.5	-44.58	2.0	0	50.68	PEAK	74	PASS
	Off	2483.5	-54.01	2.0	0	41.25	AV	54	PASS
	Off	2500.0	-43.56	2.0	0	51.70	PEAK	74	PASS
	Off	2500.0	-53.93	2.0	0	41.33	AV	54	PASS
8DPSK	Off	2310.0	-44.16	2.0	0	51.10	PEAK	74	PASS
	Off	2310.0	-54.70	2.0	0	40.56	AV	54	PASS
	Off	2390.0	-44.41	2.0	0	50.84	PEAK	74	PASS
	Off	2390.0	-54.28	2.0	0	40.98	AV	54	PASS
	Off	2483.5	-44.13	2.0	0	51.13	PEAK	74	PASS
	Off	2483.5	-54.09	2.0	0	41.17	AV	54	PASS
	Off	2500.0	-43.64	2.0	0	51.62	PEAK	74	PASS
	Off	2500.0	-53.98	2.0	0	41.28	AV	54	PASS

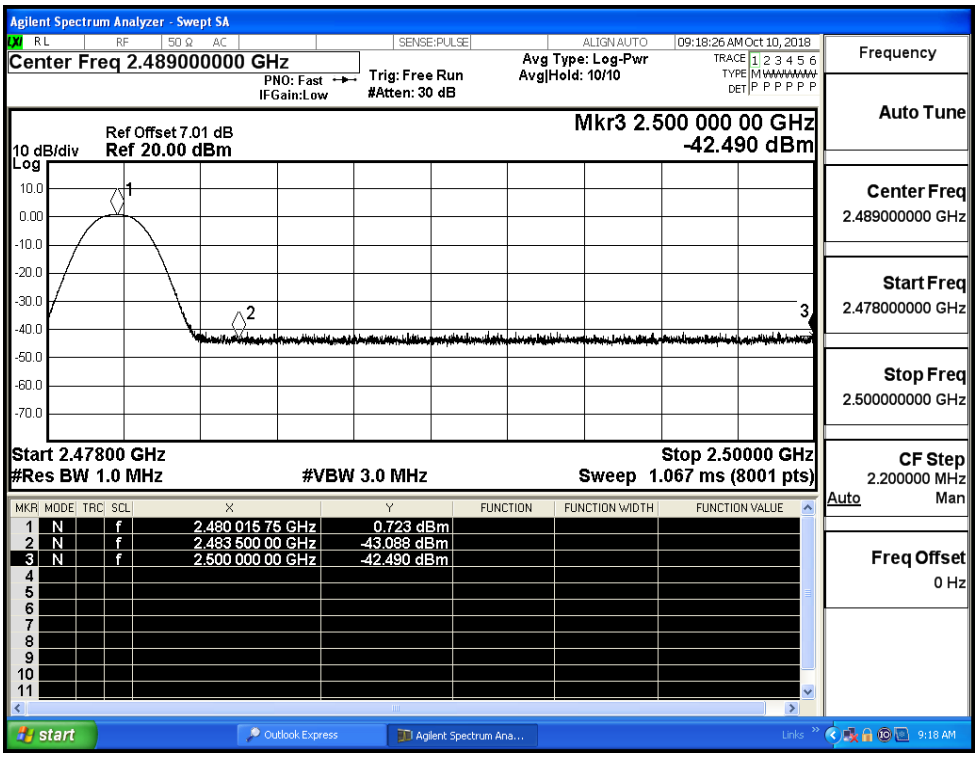
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



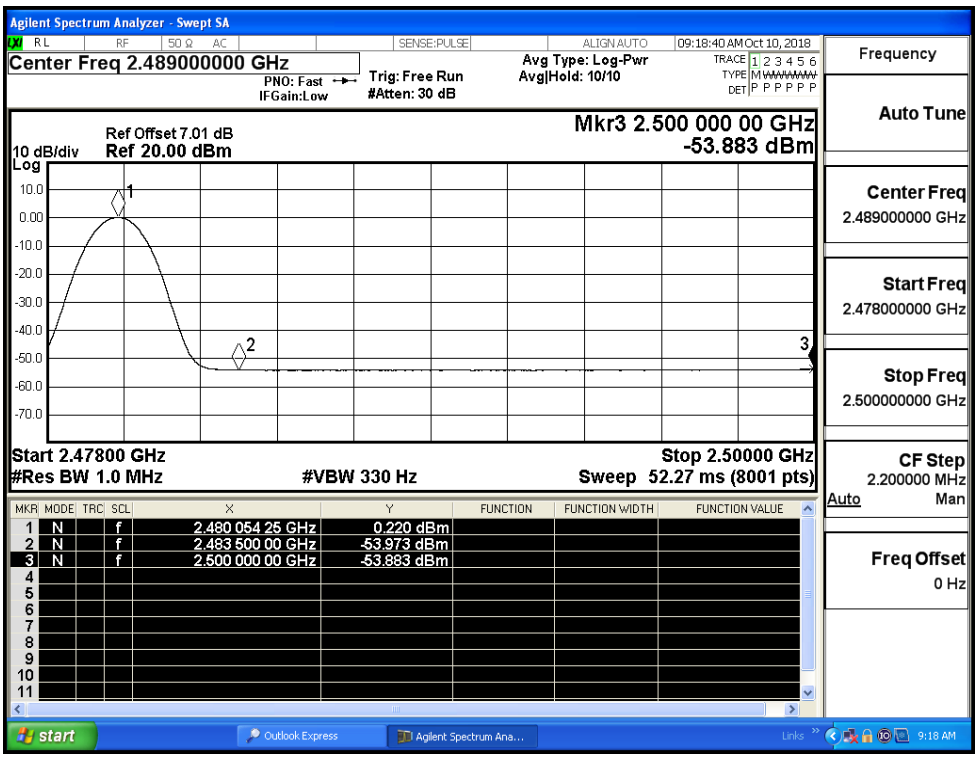
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



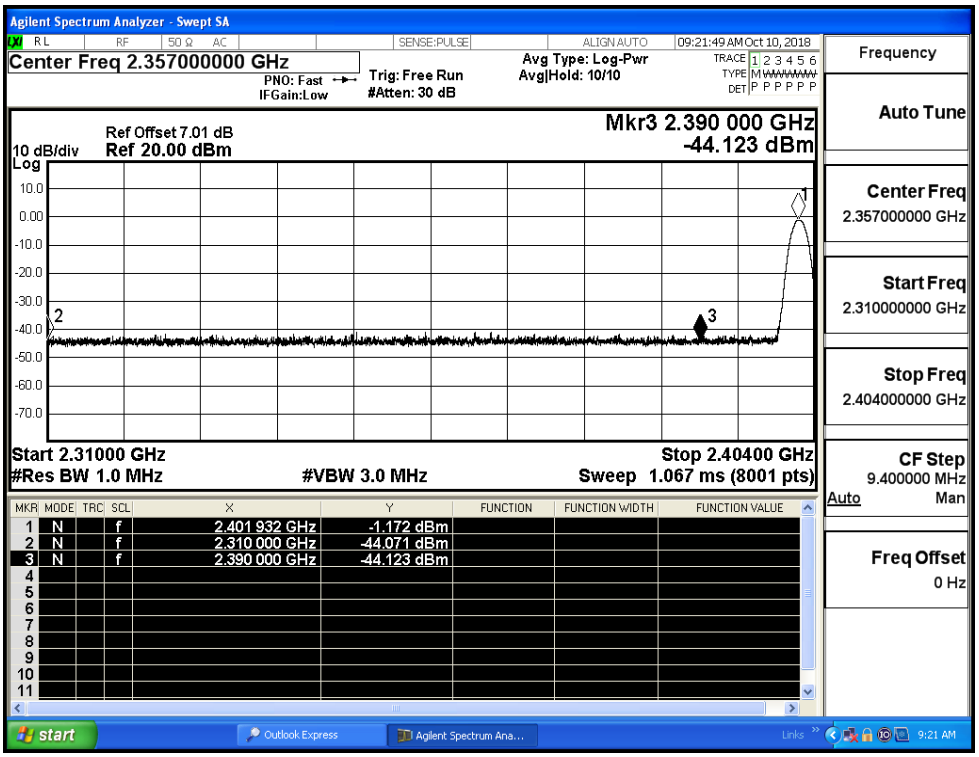
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



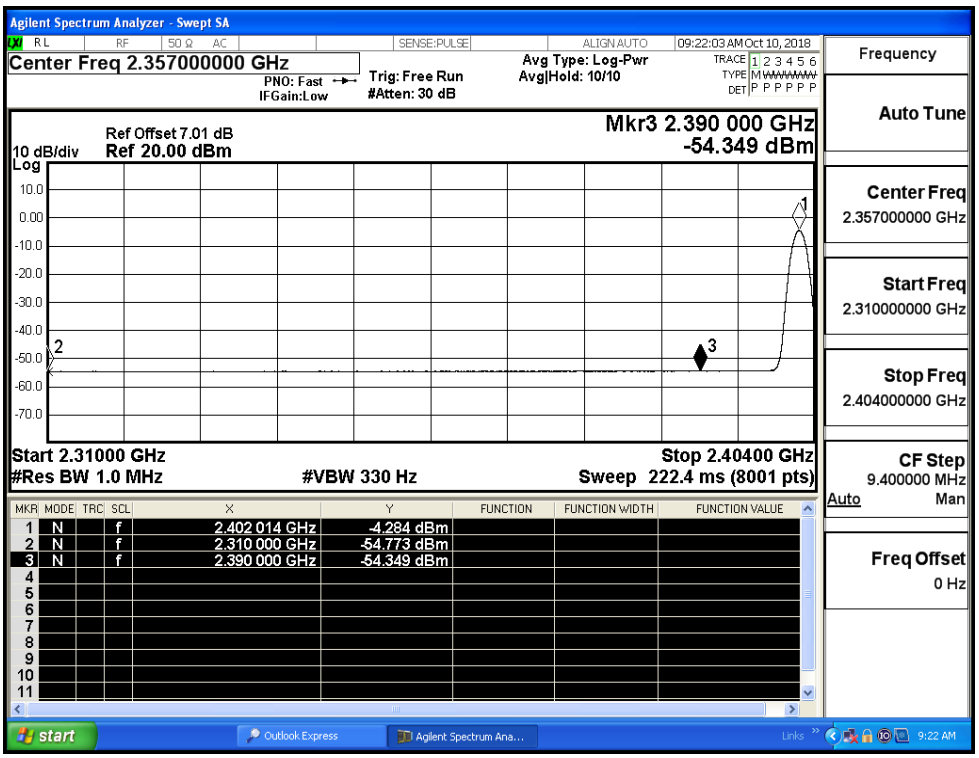
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



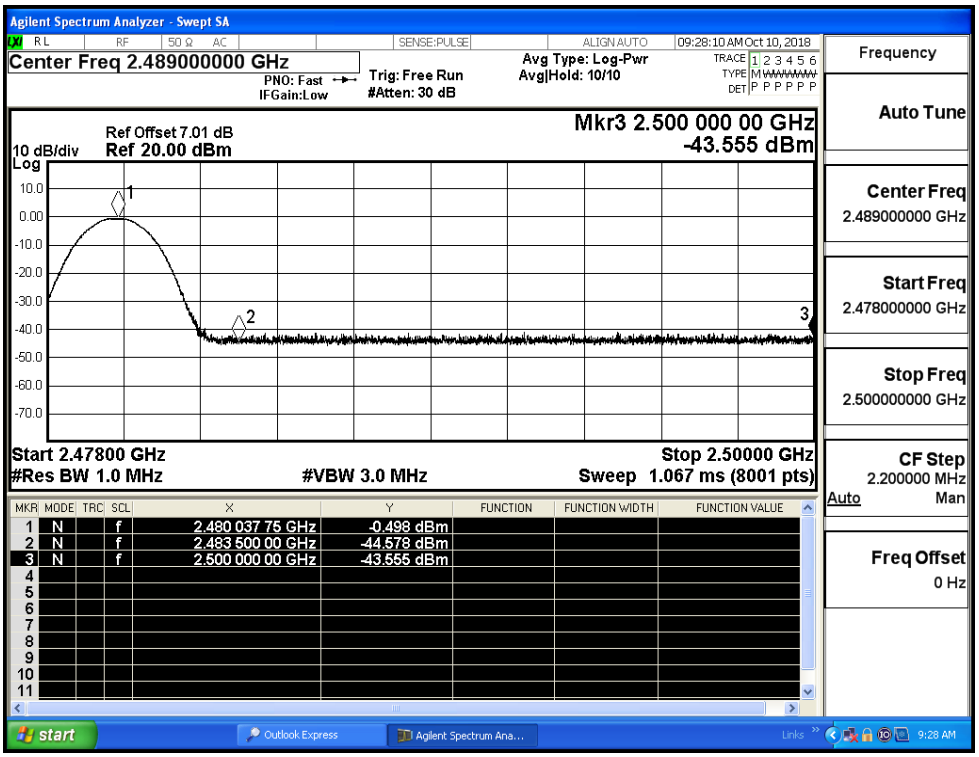
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



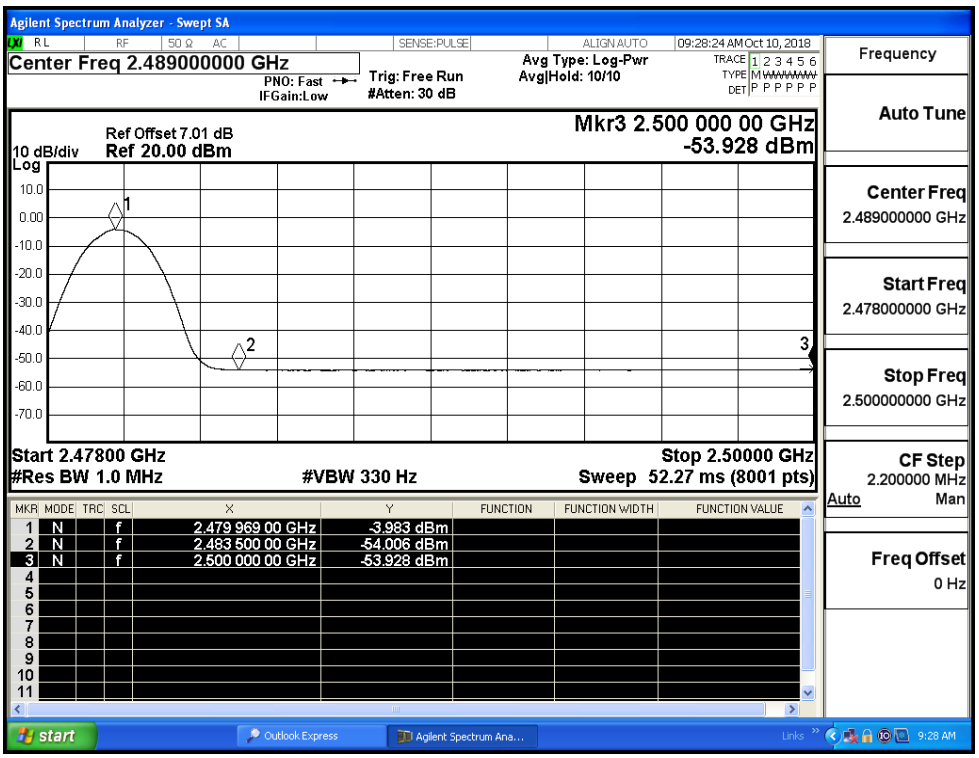
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



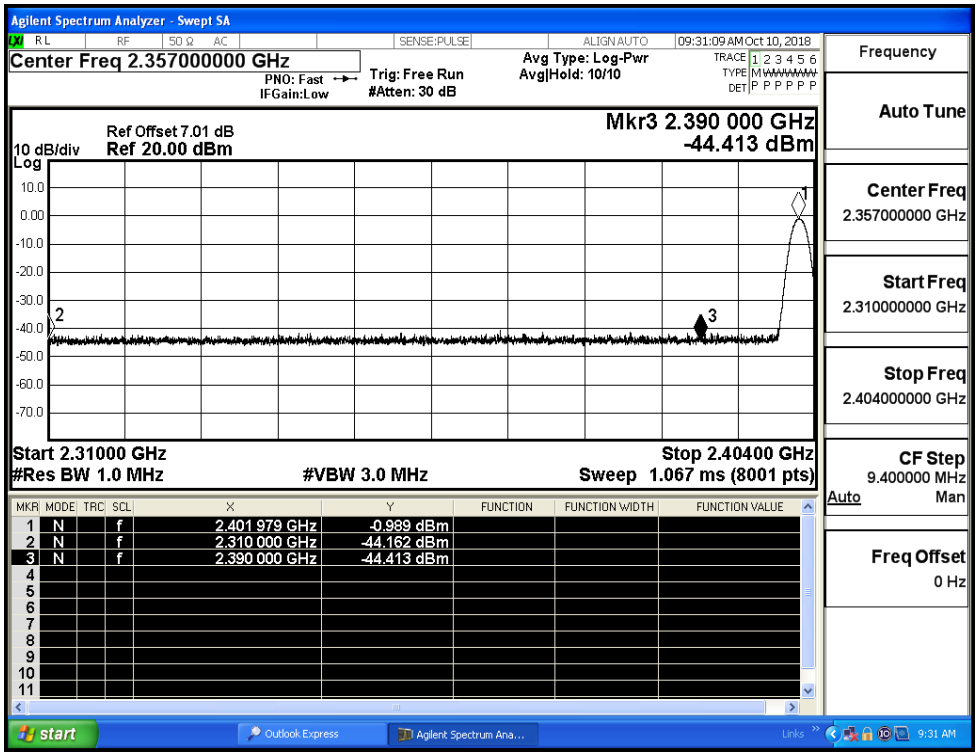
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



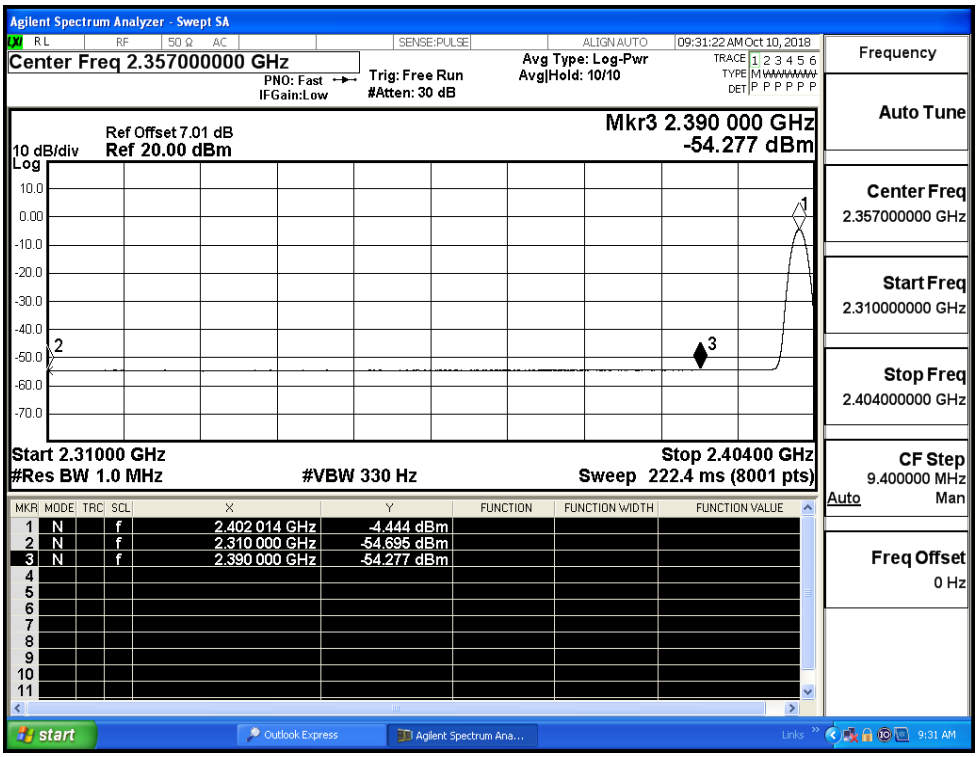
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



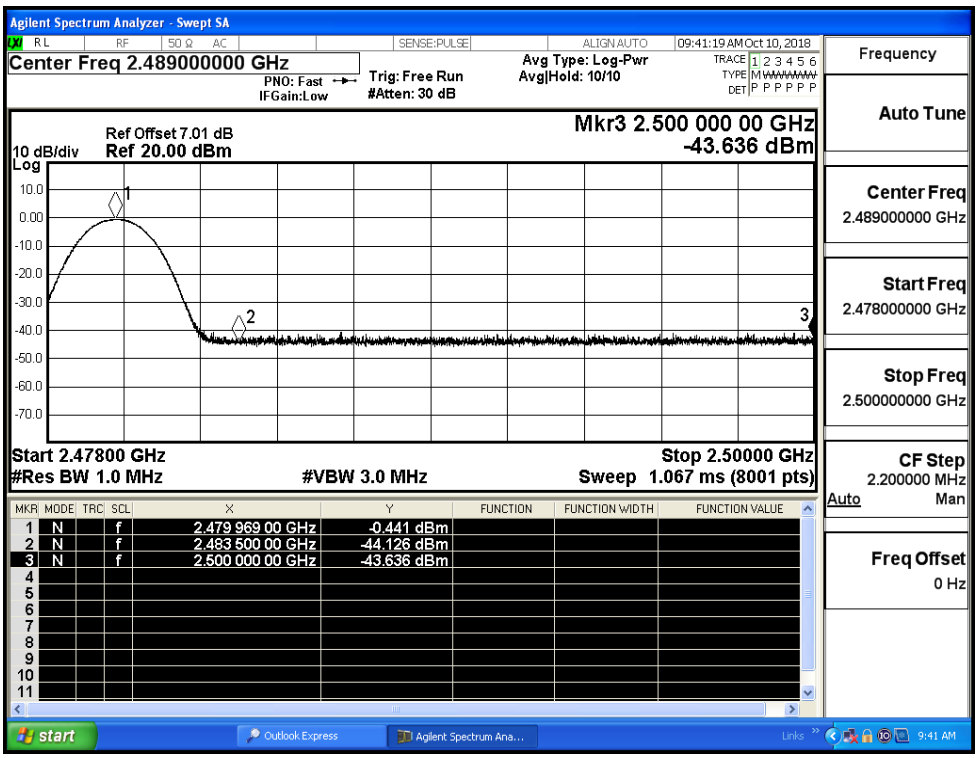
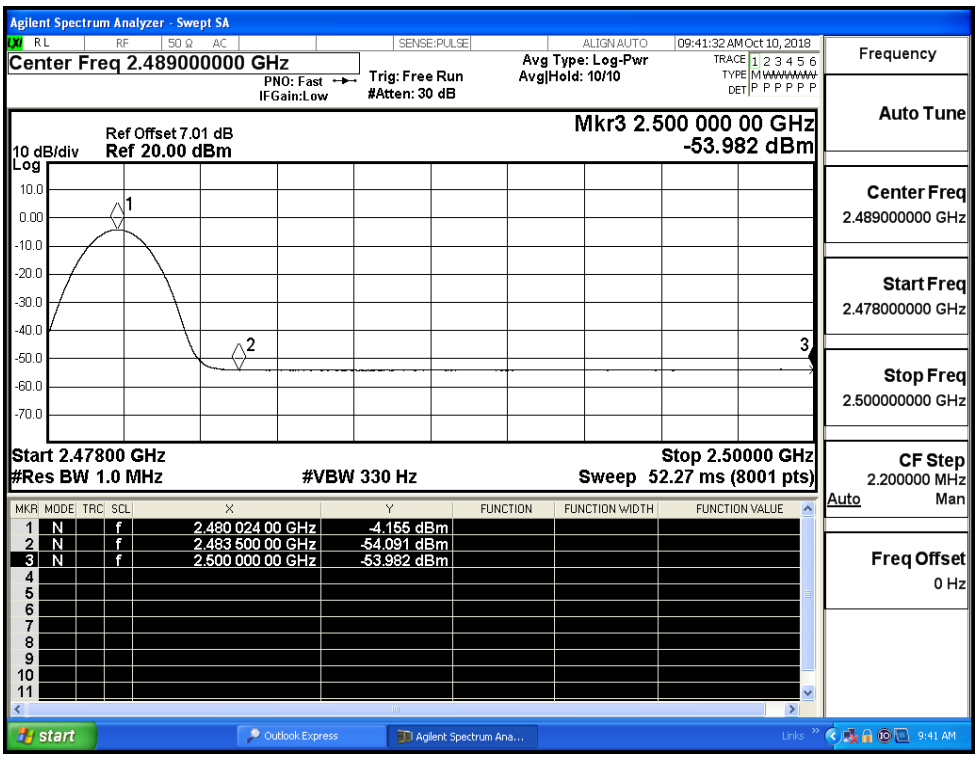
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)