Appendix A

RF Test Data for BT V3.0(BDR/EDR) (Conducted Measurement)

Product Name: Mobile Phone

Trade Mark: E&L, EL, KXD, KENXINDA, Ken mobile

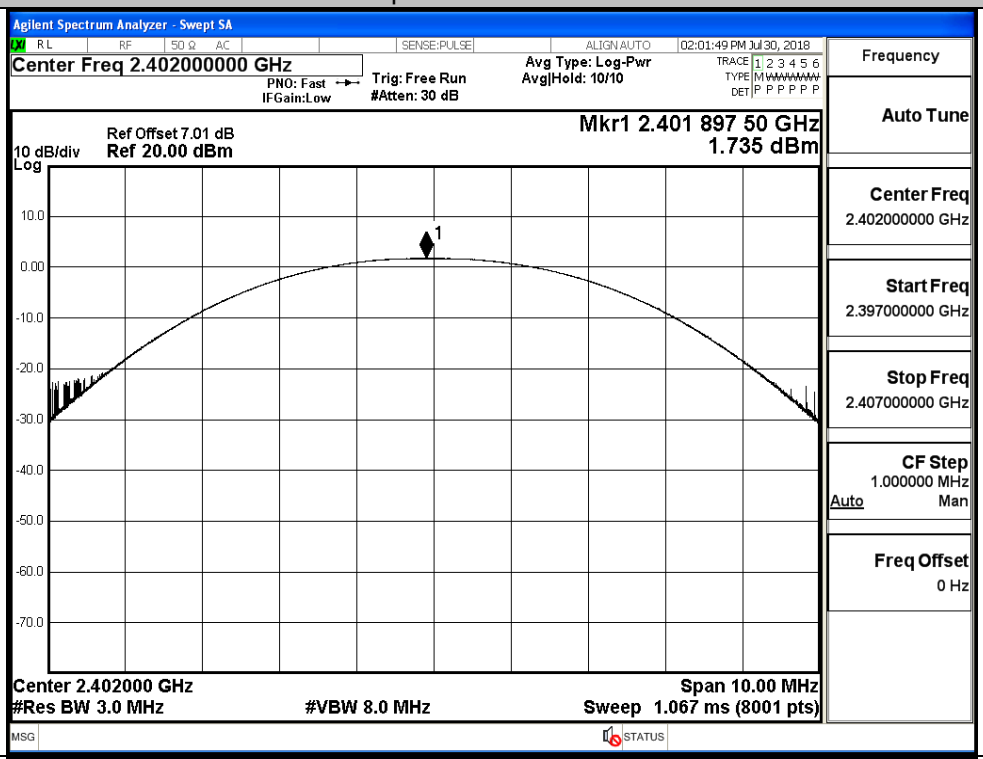
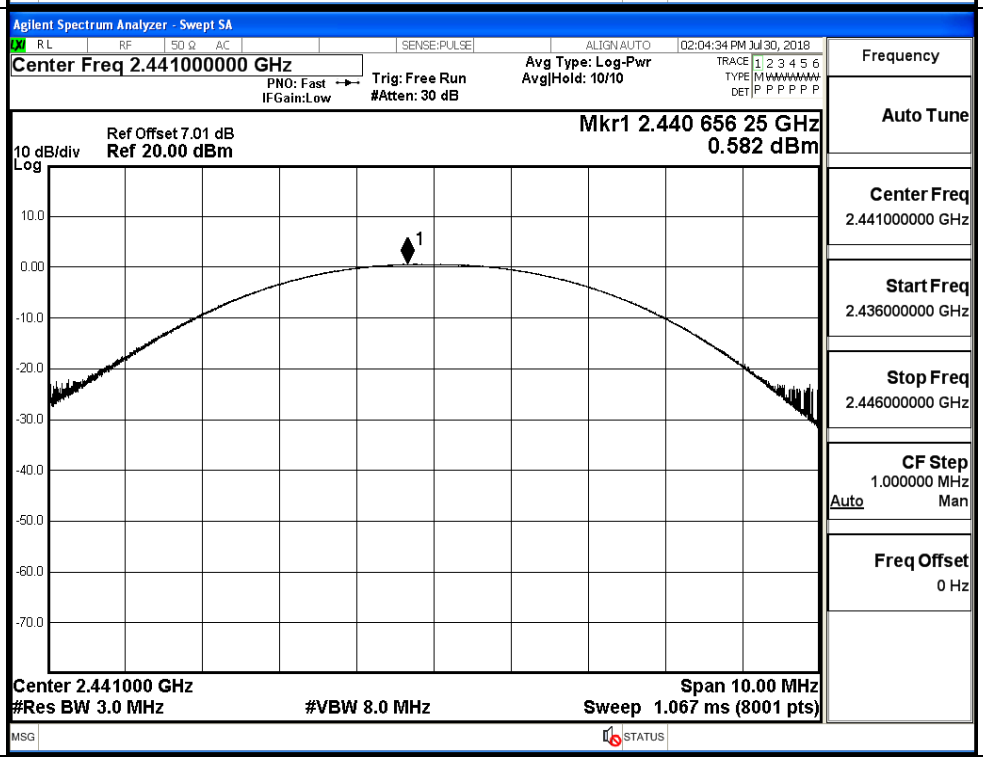
Test Model: W6

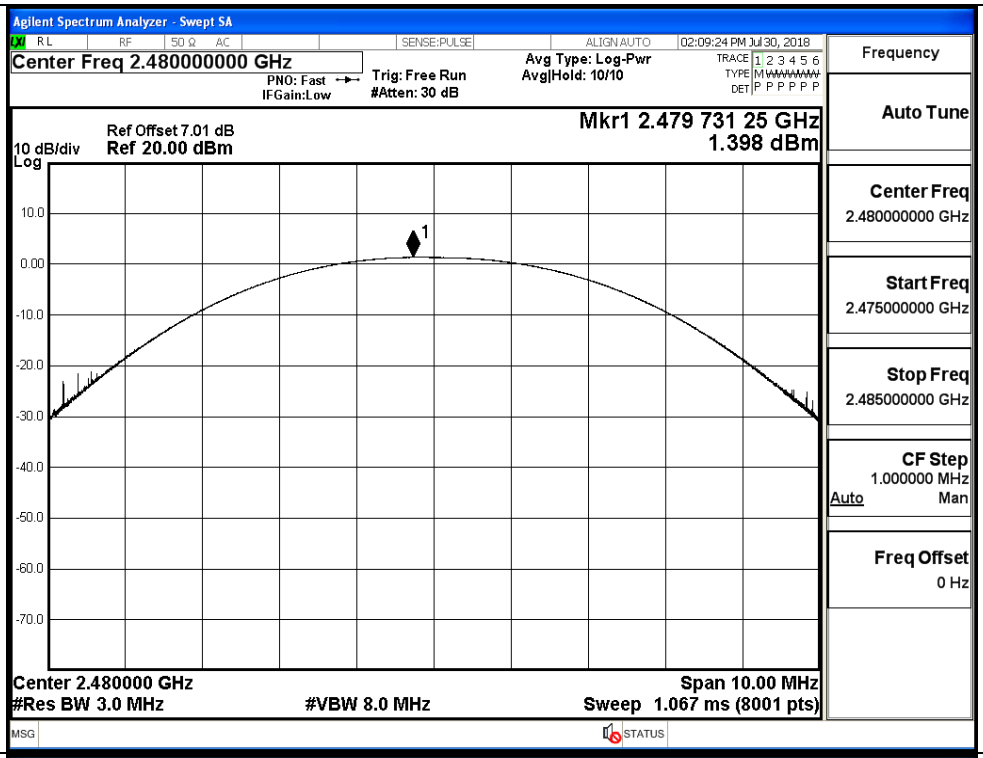
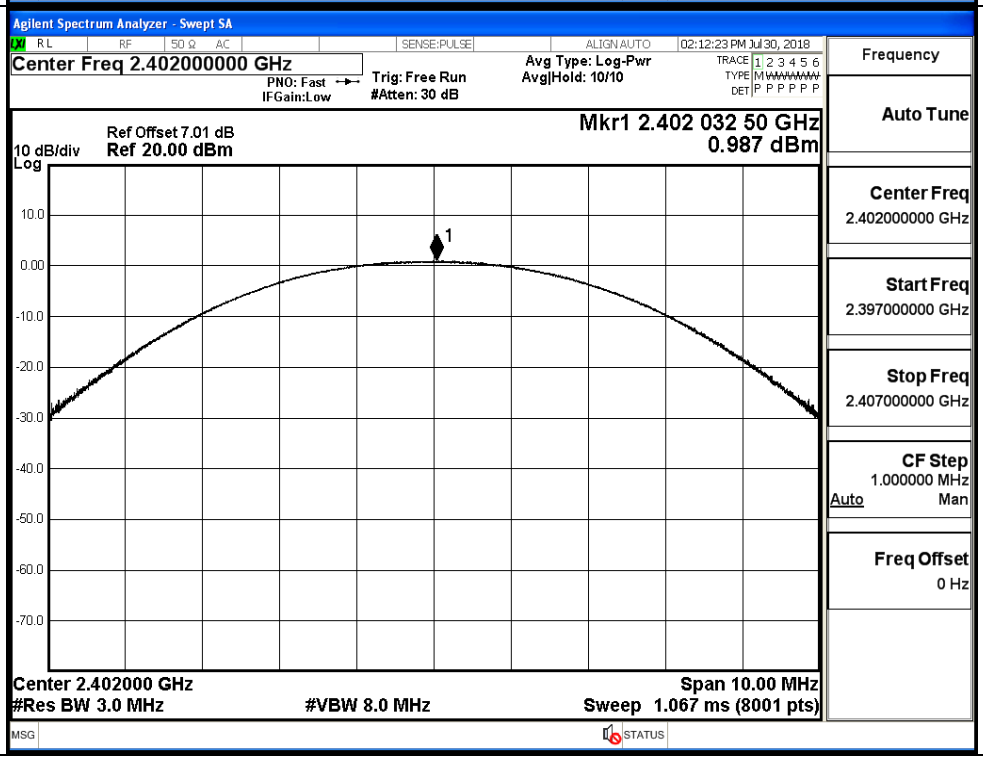
Environmental Conditions

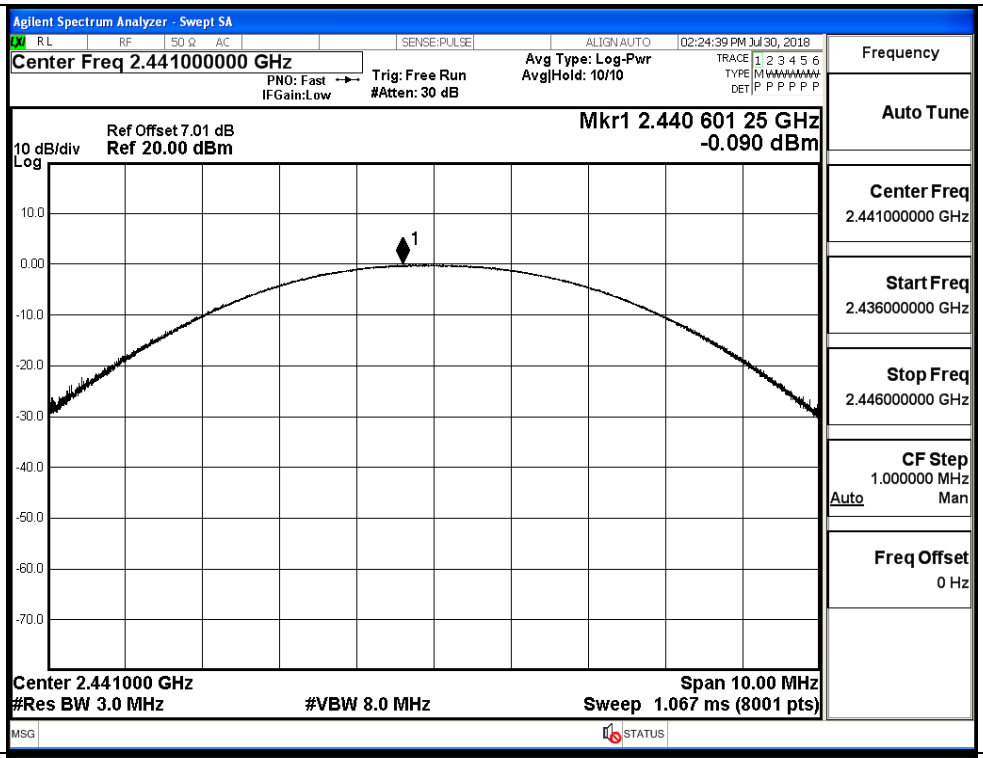
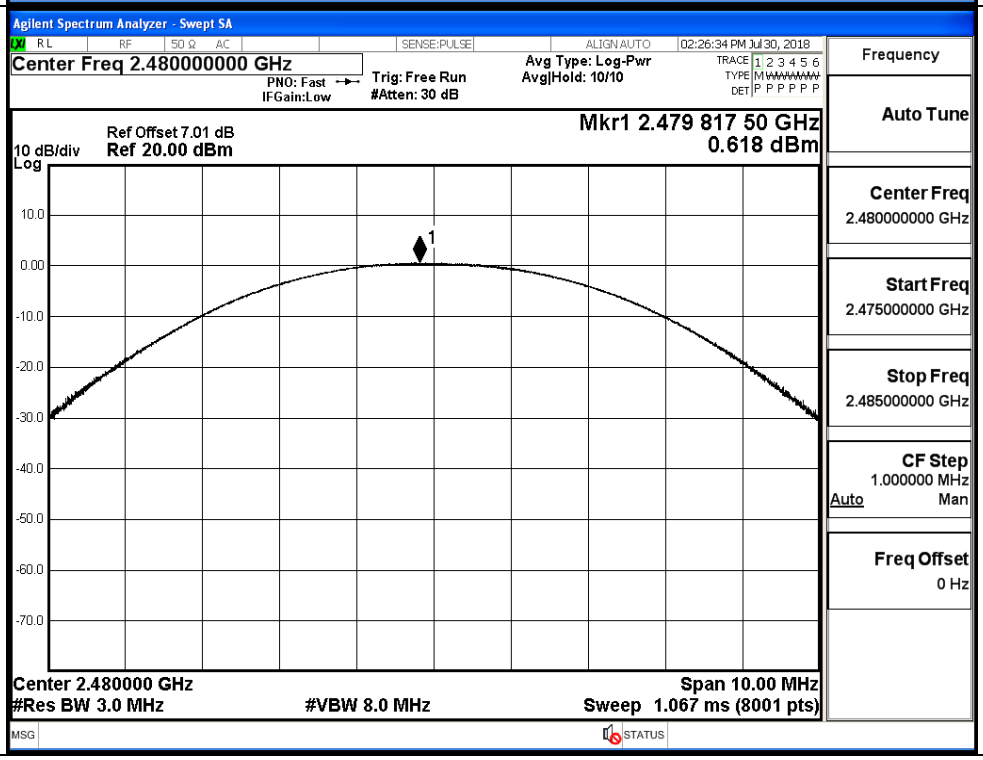
Temperature:	22.2 ° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom Liu
Supervised by:	Jayden Zhuo

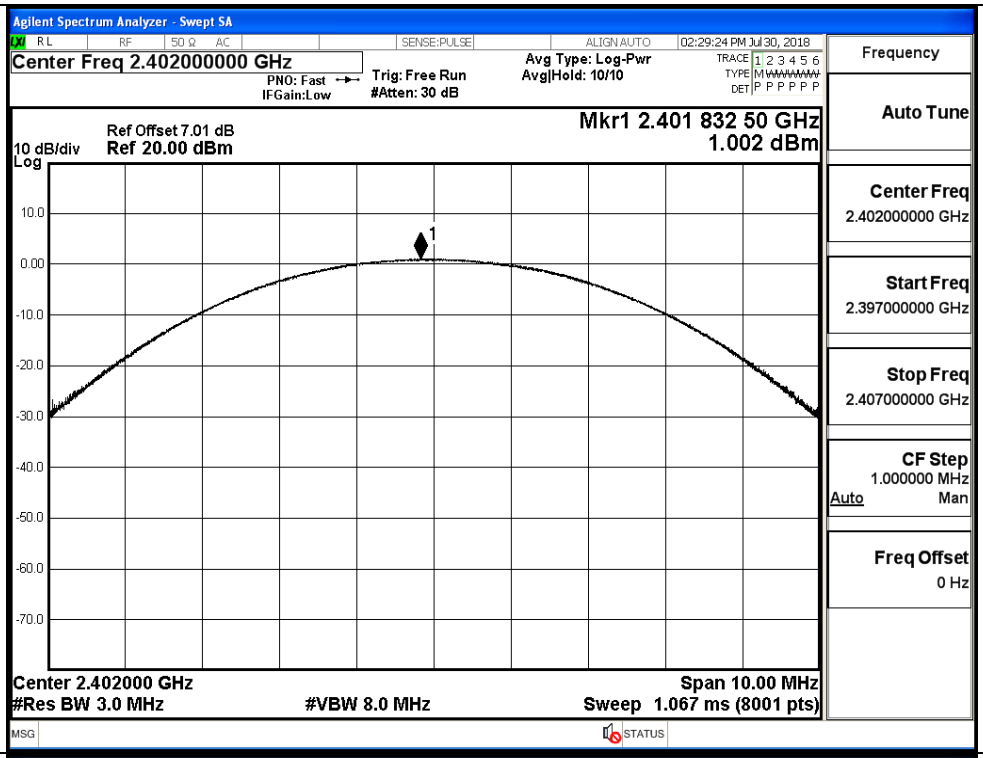
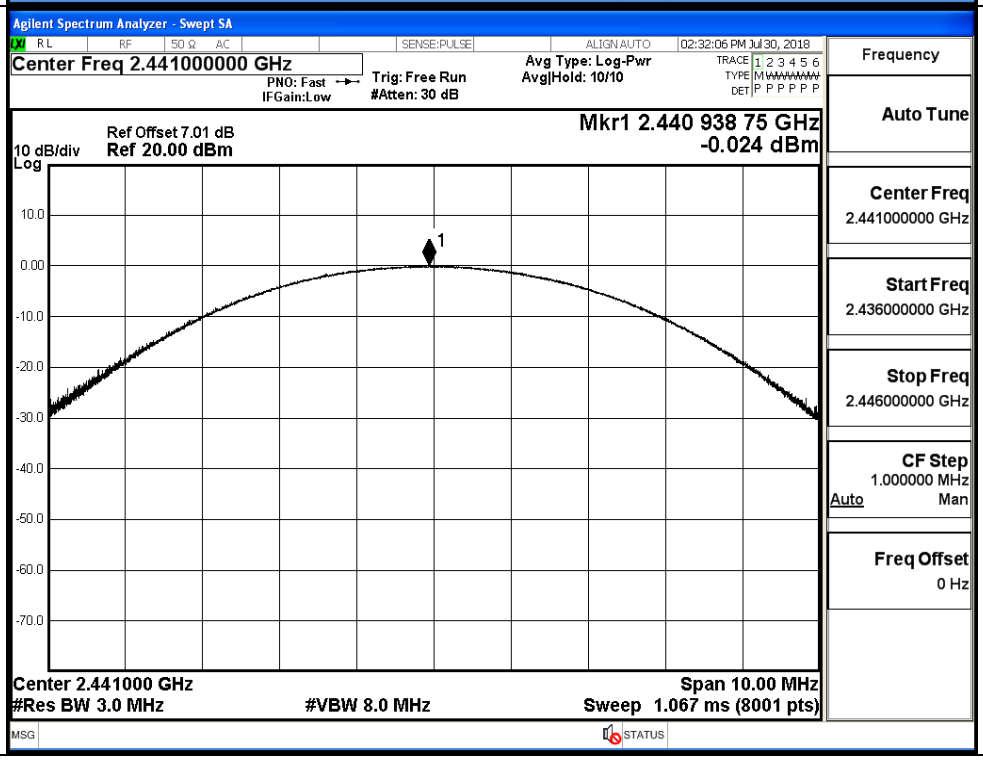
A.1 Maxmum Conducted Peak Output Power

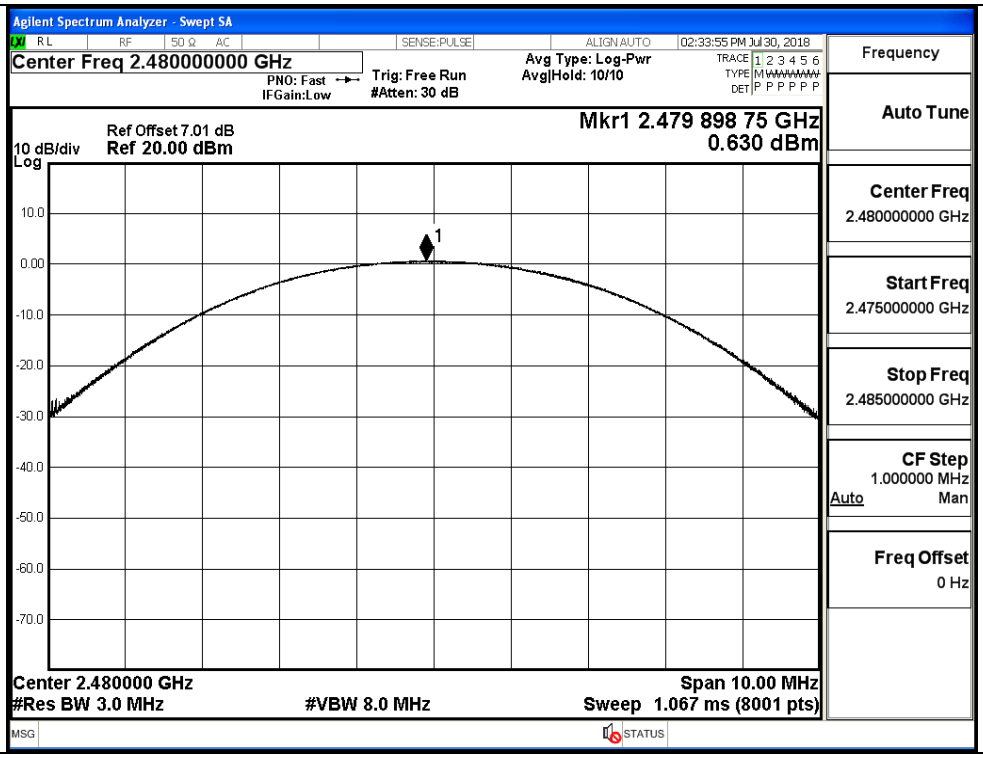
Mode	Channel.	Maximum Peak Output Power [dBm]	Maximum Average Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.735	1.433	21	PASS
	MCH	0.582	0.225	21	PASS
	HCH	1.398	1.088	21	PASS
π/4DQPSK	LCH	0.987	0.656	21	PASS
	MCH	-0.090	-0.429	21	PASS
	HCH	0.618	0.314	21	PASS
8DPSK	LCH	1.002	0.671	21	PASS
	MCH	-0.024	-0.382	21	PASS
	HCH	0.630	0.294	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	

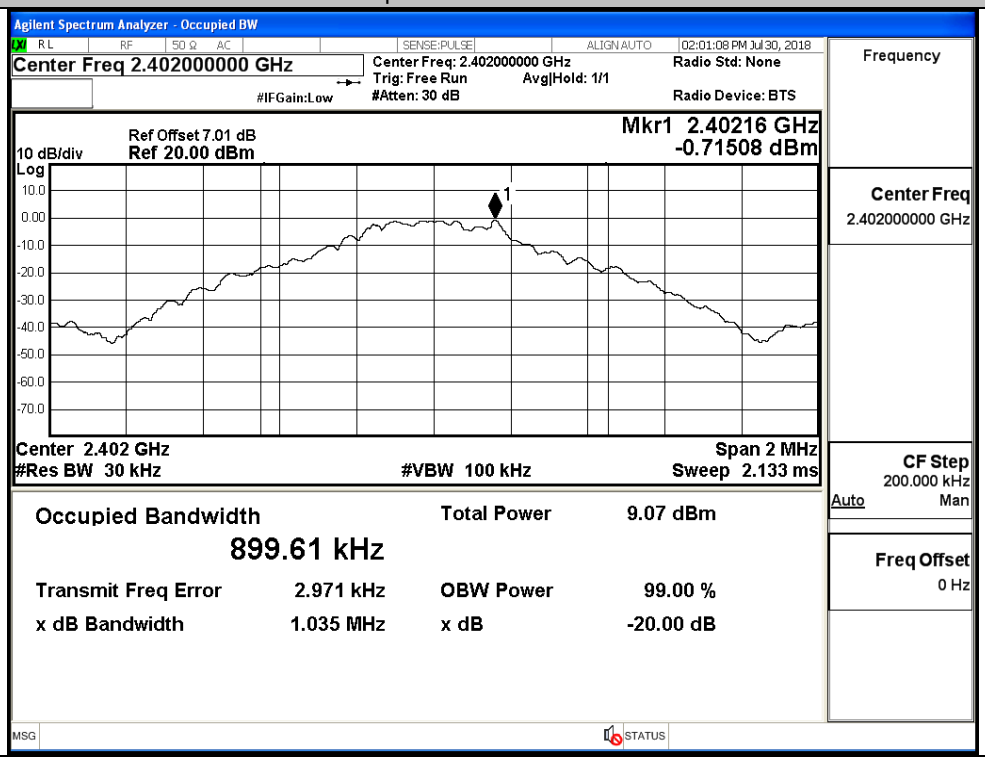
Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:PULSE
ALIGN AUTO
02:33:55 PM Jul 30, 2018
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
TRACE 1 2 3 4 5 6
TYPE M
DET P P P P P
Ref Offset 7.01 dB
10 dB/div
Log
Ref 20.00 dBm
Mkr1 2.479 898 75 GHz
0.630 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)
MSG
STATUS
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

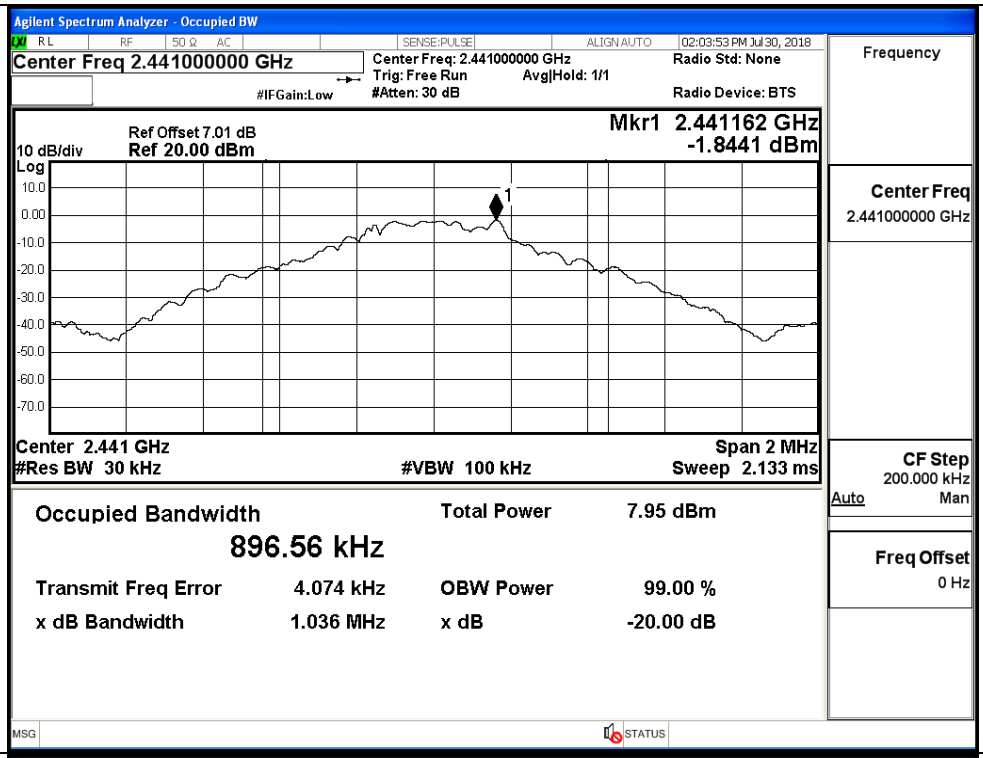
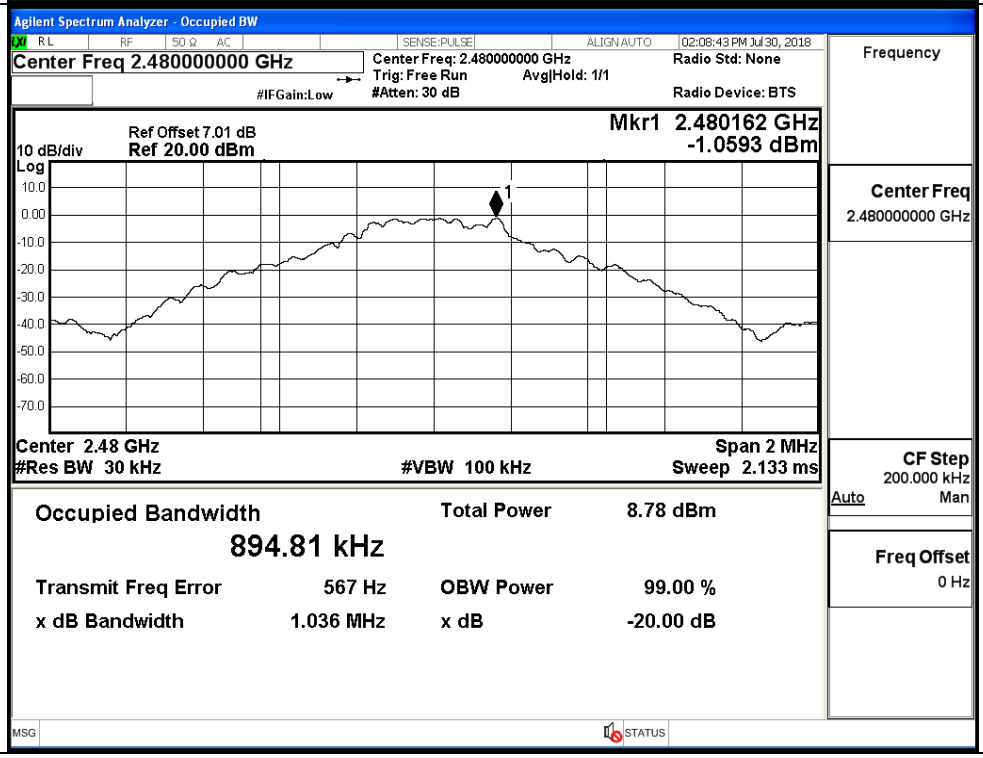
A.2 20dB Bandwidth

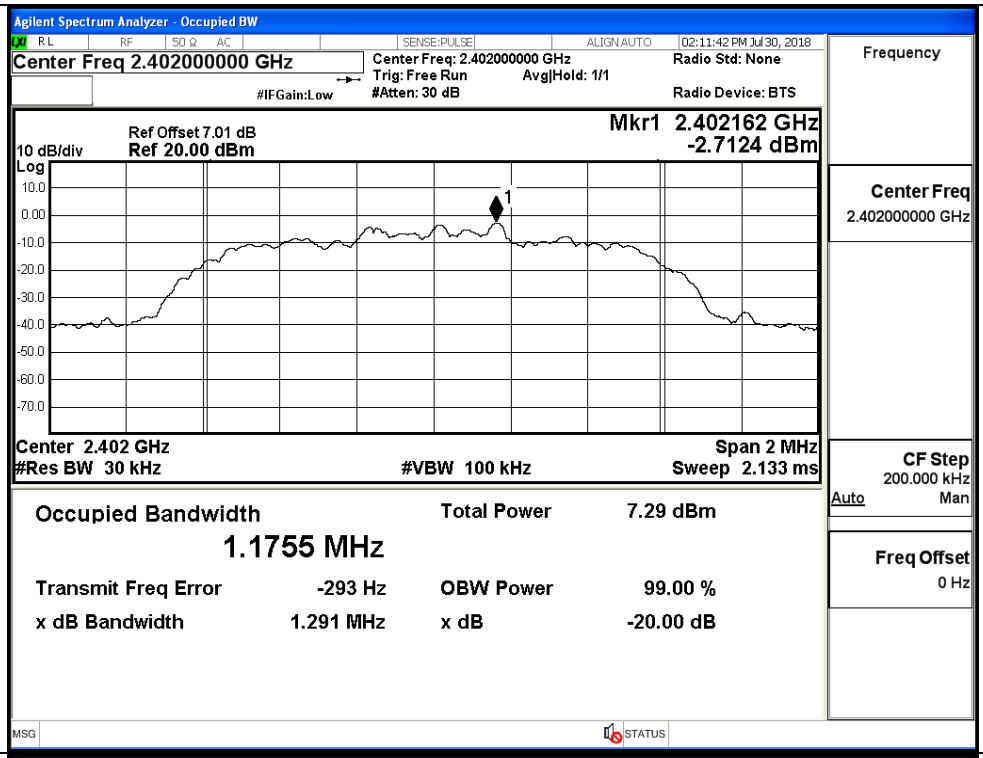
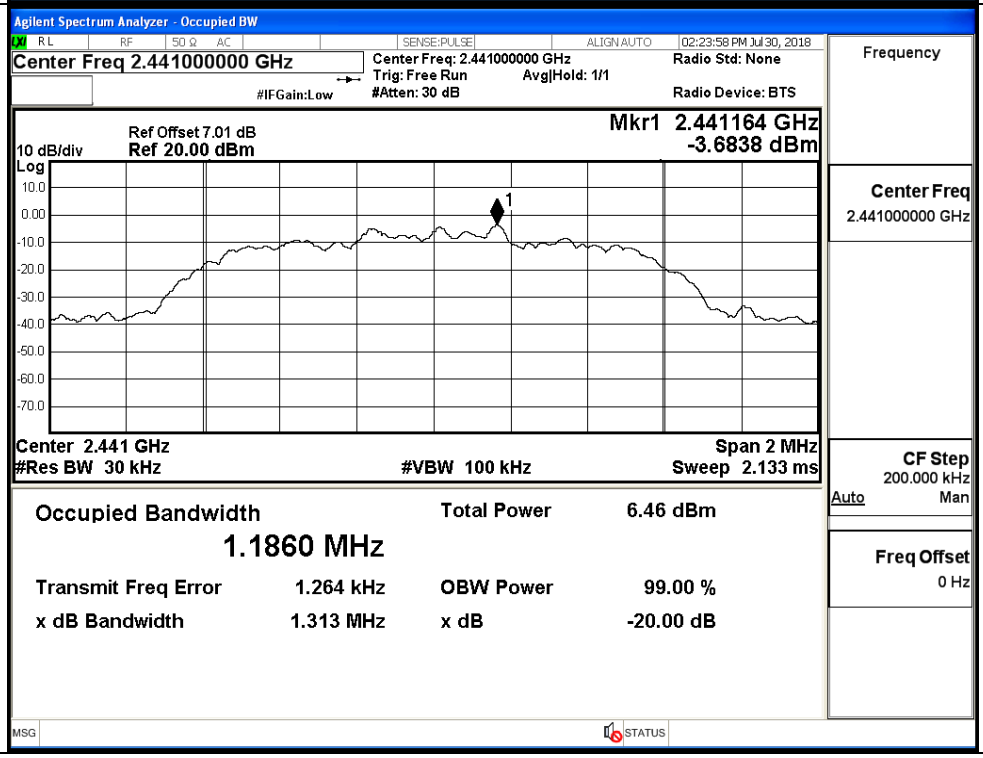
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.035	Not Specified	PASS
	MCH	1.036	Not Specified	PASS
	HCH	1.036	Not Specified	PASS
π/4DQPSK	LCH	1.291	Not Specified	PASS
	MCH	1.313	Not Specified	PASS
	HCH	1.310	Not Specified	PASS
8DPSK	LCH	1.293	Not Specified	PASS
	MCH	1.299	Not Specified	PASS
	HCH	1.295	Not Specified	PASS

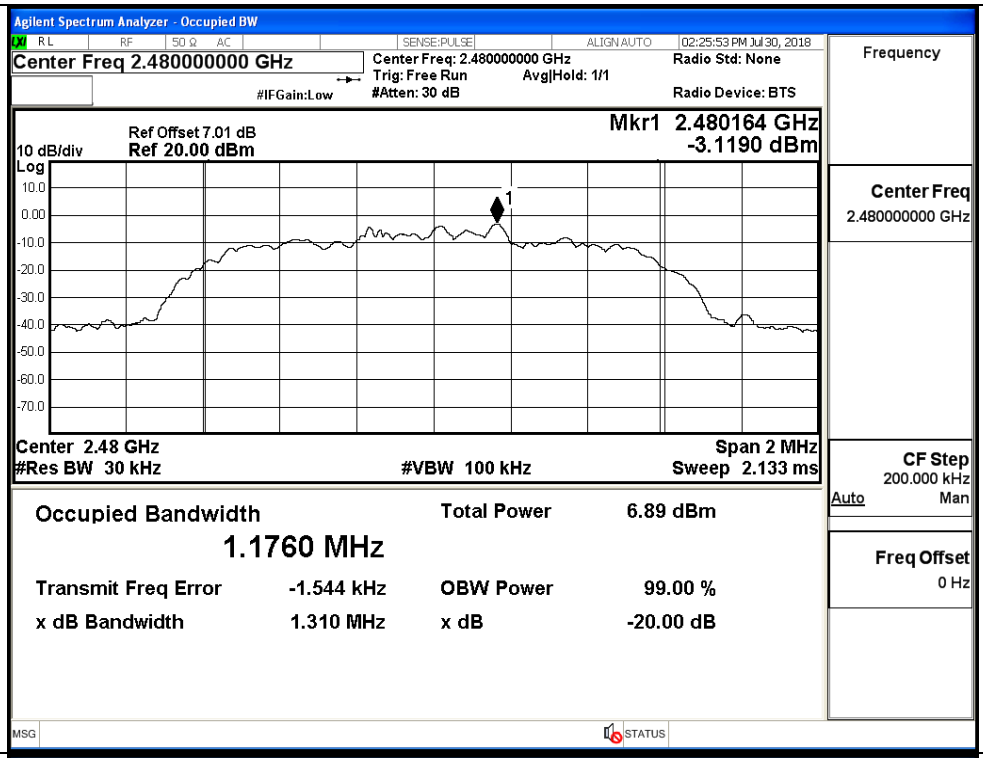
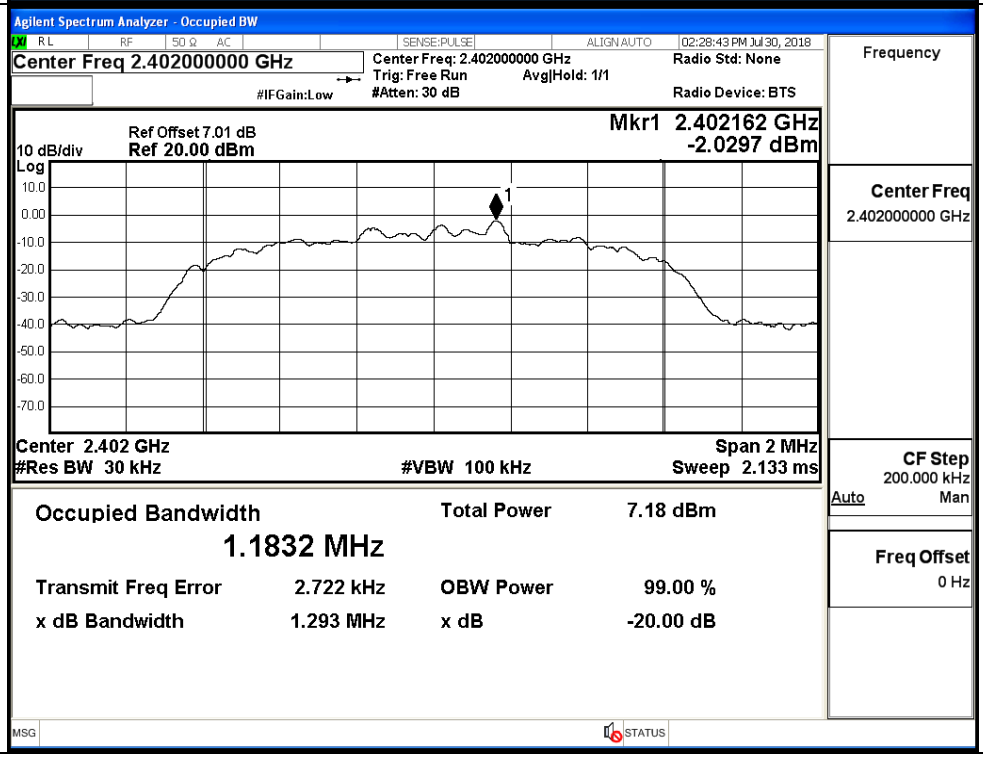
Test Graphs

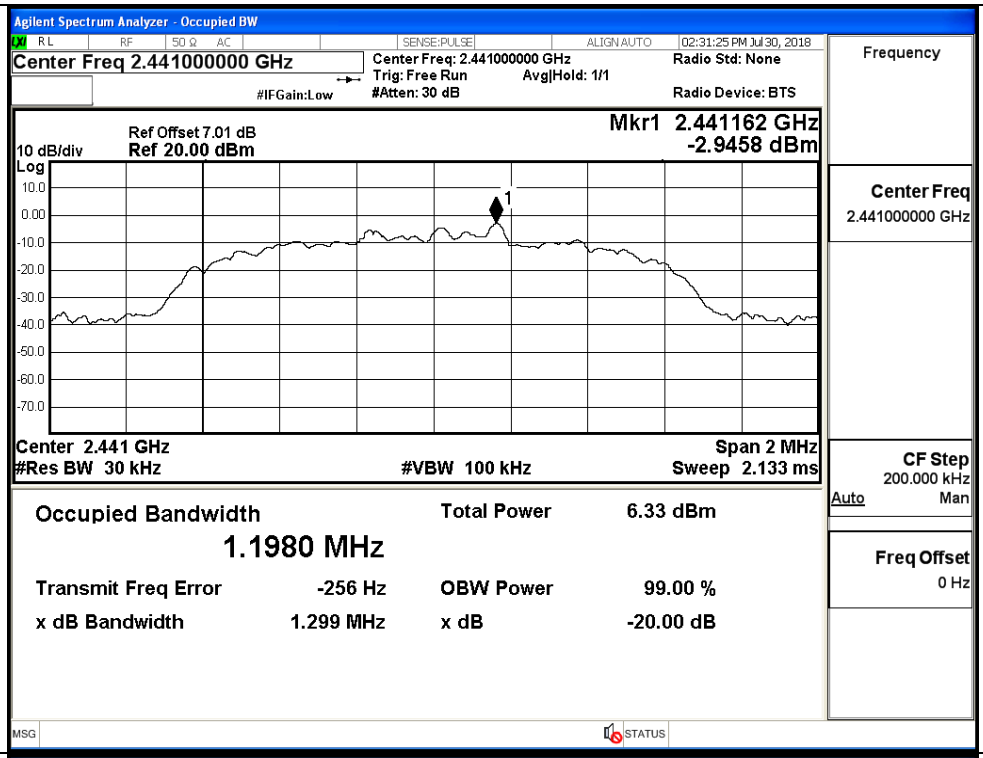
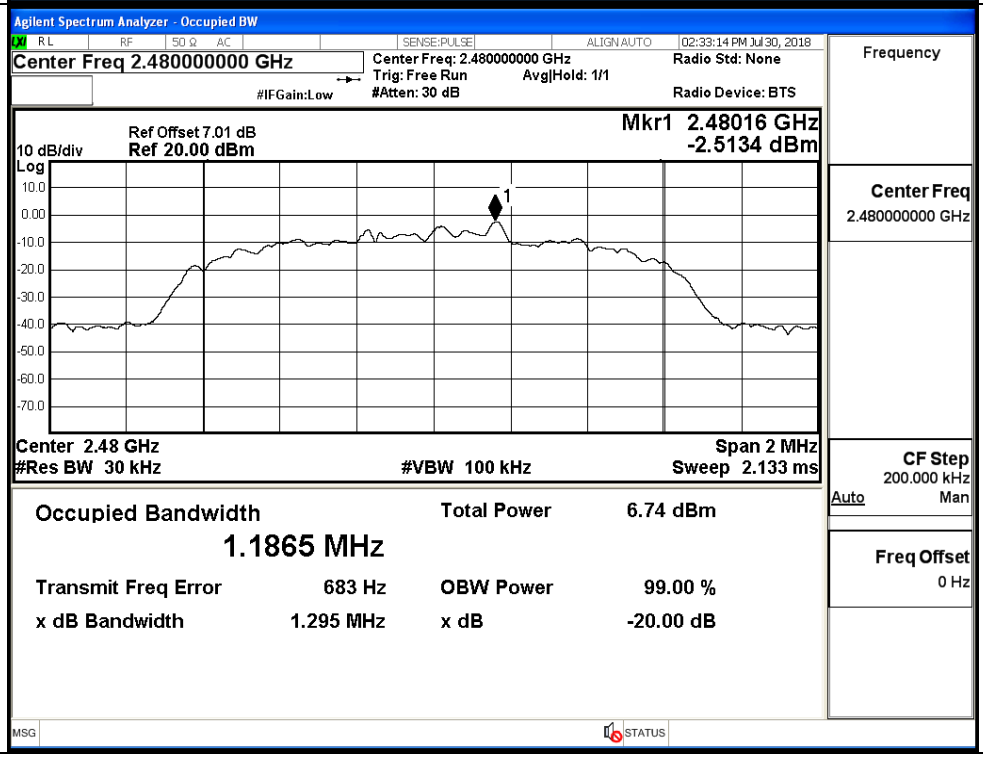
GFSK/LCH



GFSK/MCH	
GFSK/HCH	

π/4DQPSK/LCH	
π/4DQPSK/MCH	

π/4DQPSK/HCH	
8DPSK/LCH	

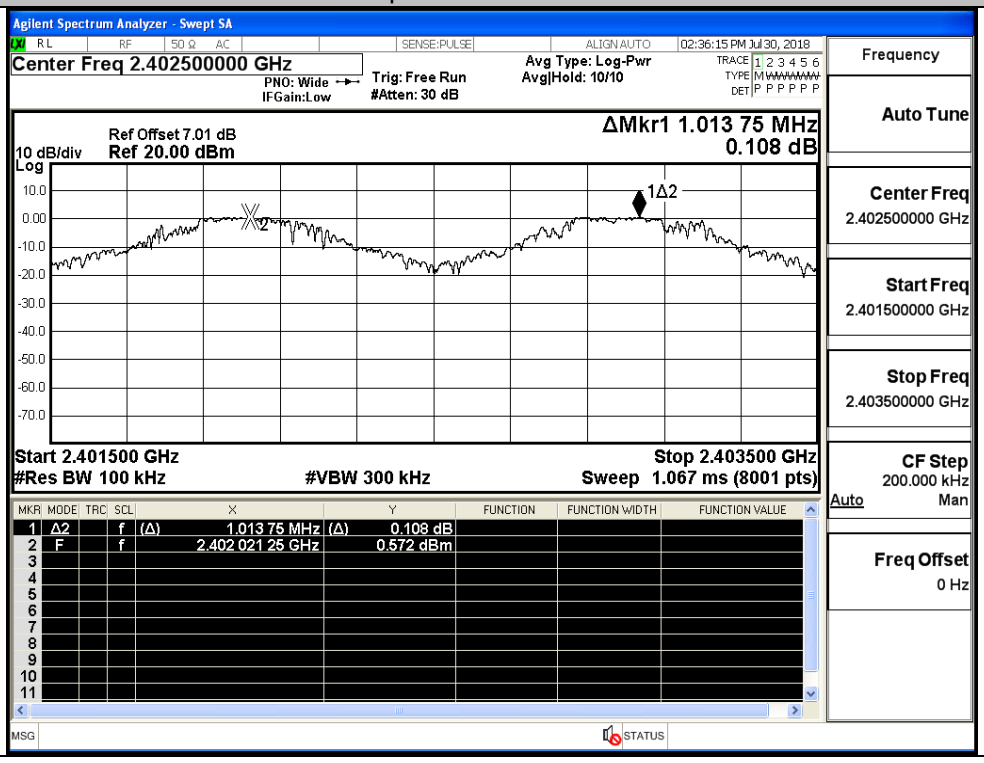
8DPSK/MCH	
8DPSK/HCH	

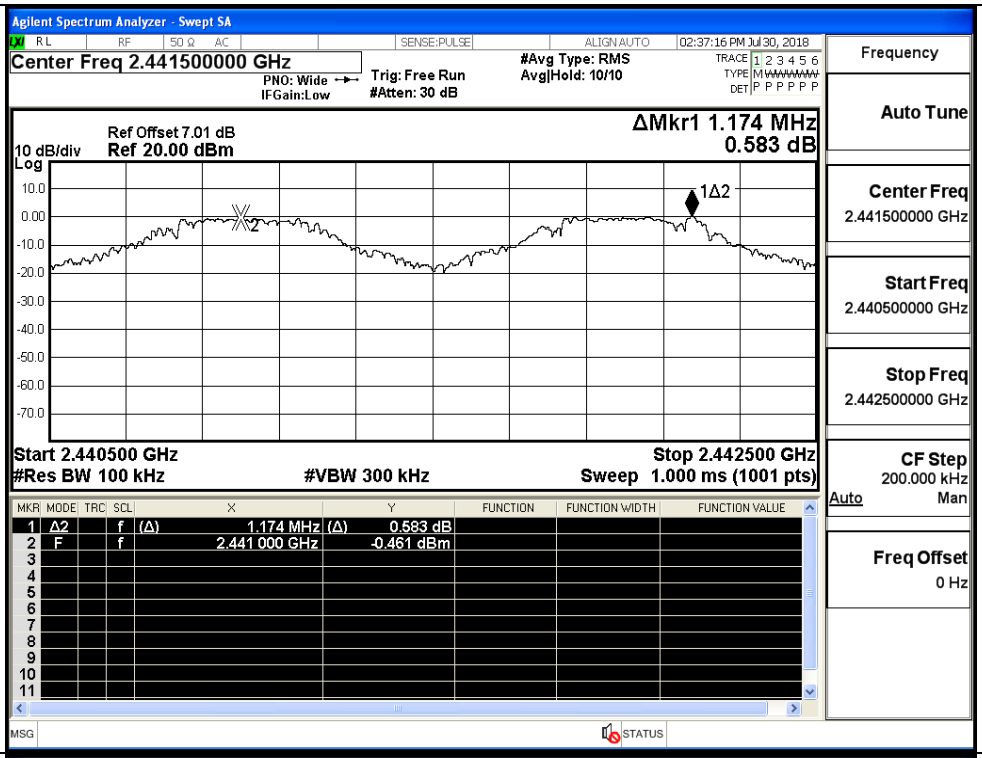
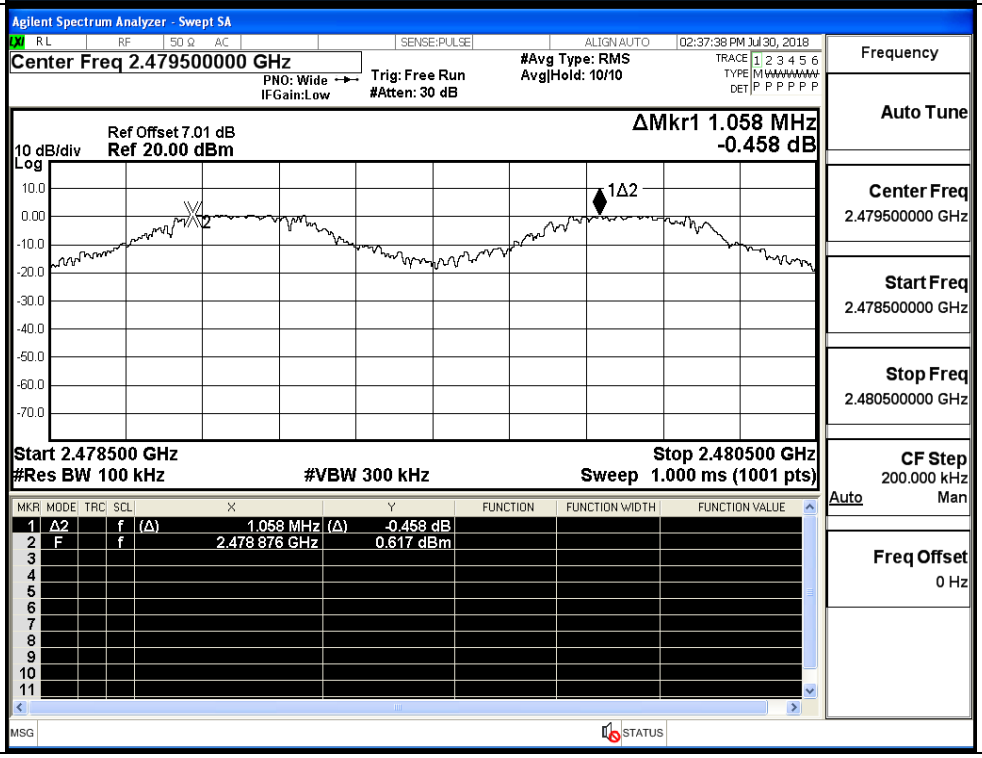
A.3 Carrier Frequency Separation

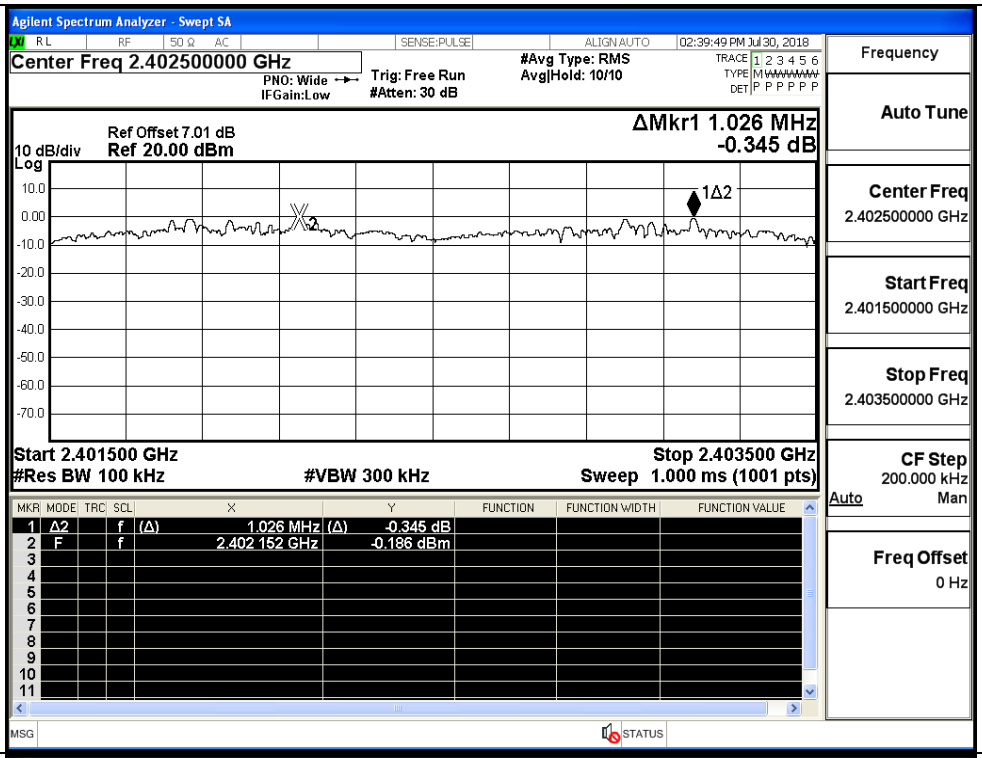
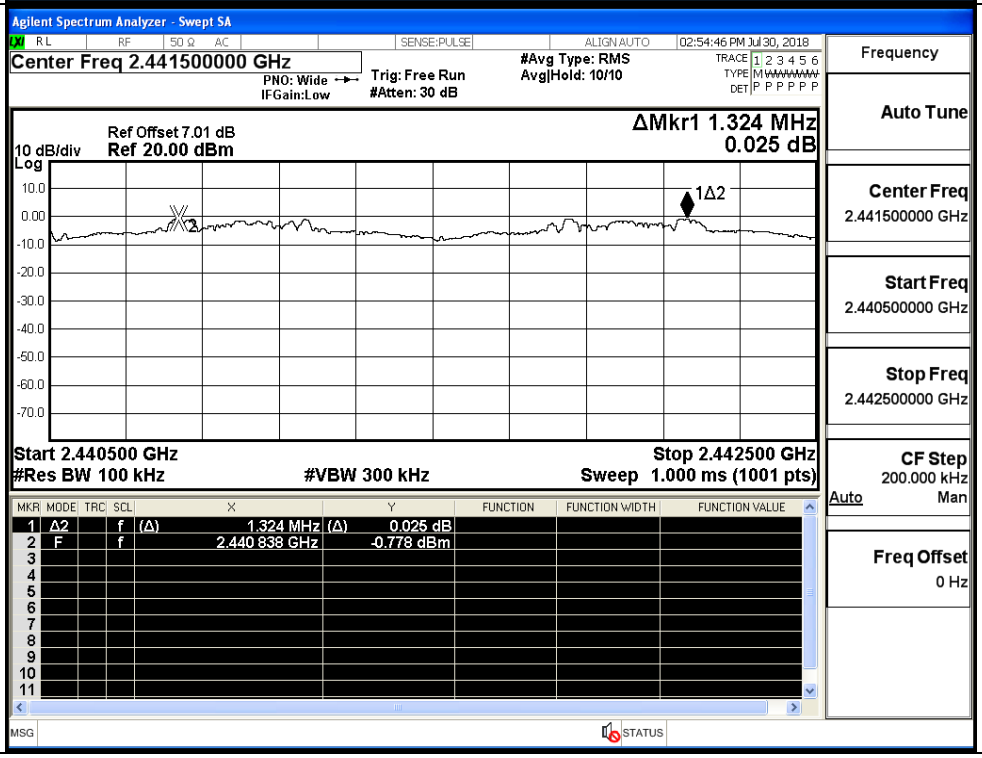
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.014	0.691	PASS
	MCH	1.174	0.691	PASS
	HCH	1.058	0.691	PASS
π/4DQPSK	LCH	1.026	0.875	PASS
	MCH	1.324	0.875	PASS
	HCH	0.984	0.875	PASS
8DPSK	LCH	1.272	0.866	PASS
	MCH	0.990	0.866	PASS
	HCH	1.154	0.866	PASS

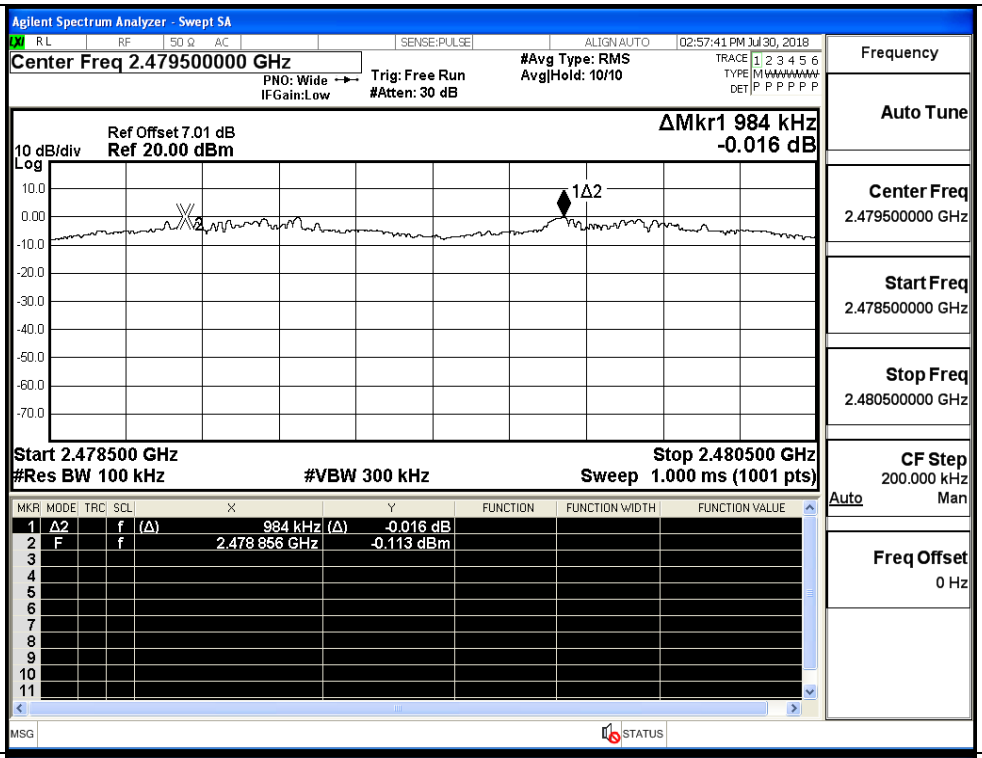
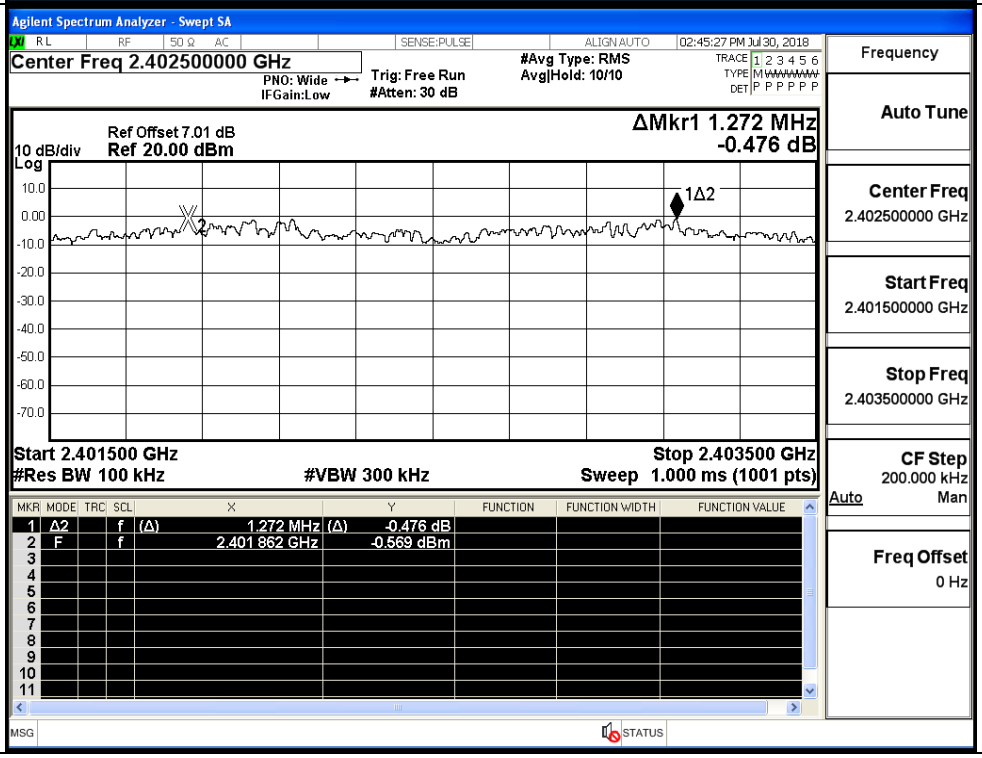
Test Graphs

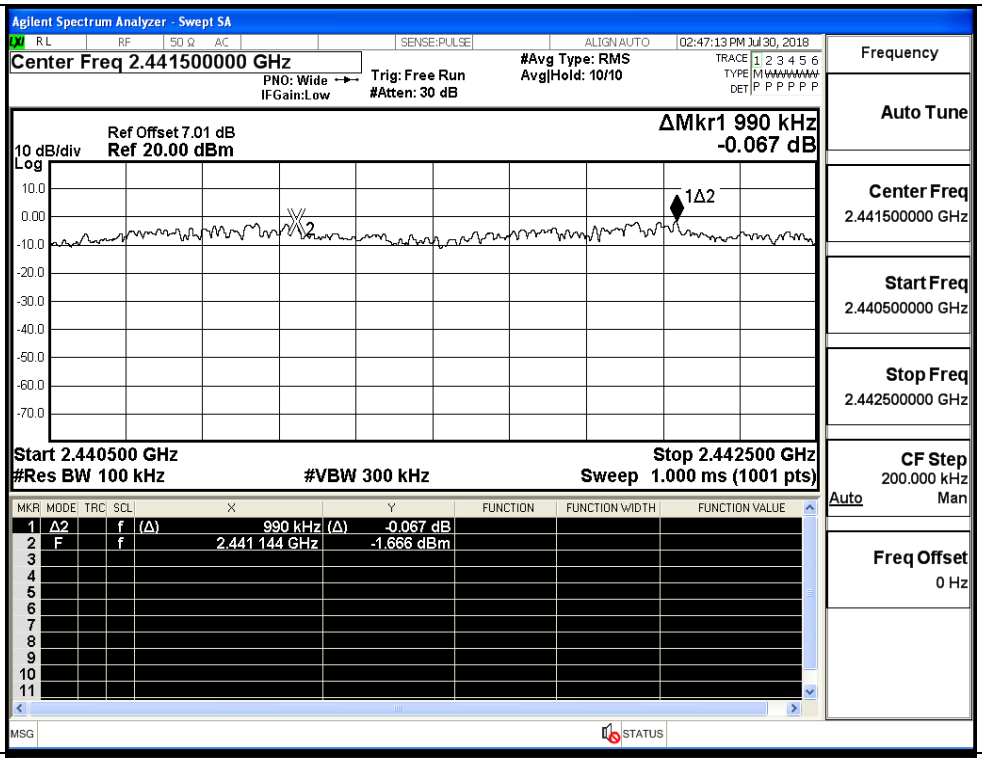
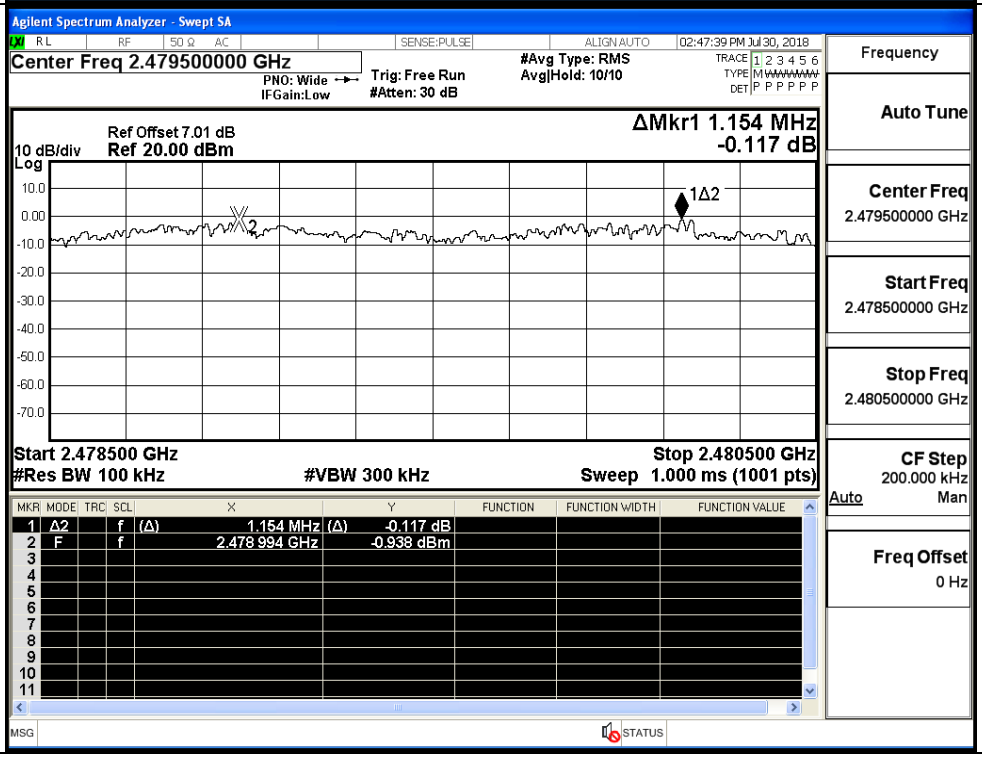
GFSK/LCH



GFSK/MCH	
GFSK/HCH	

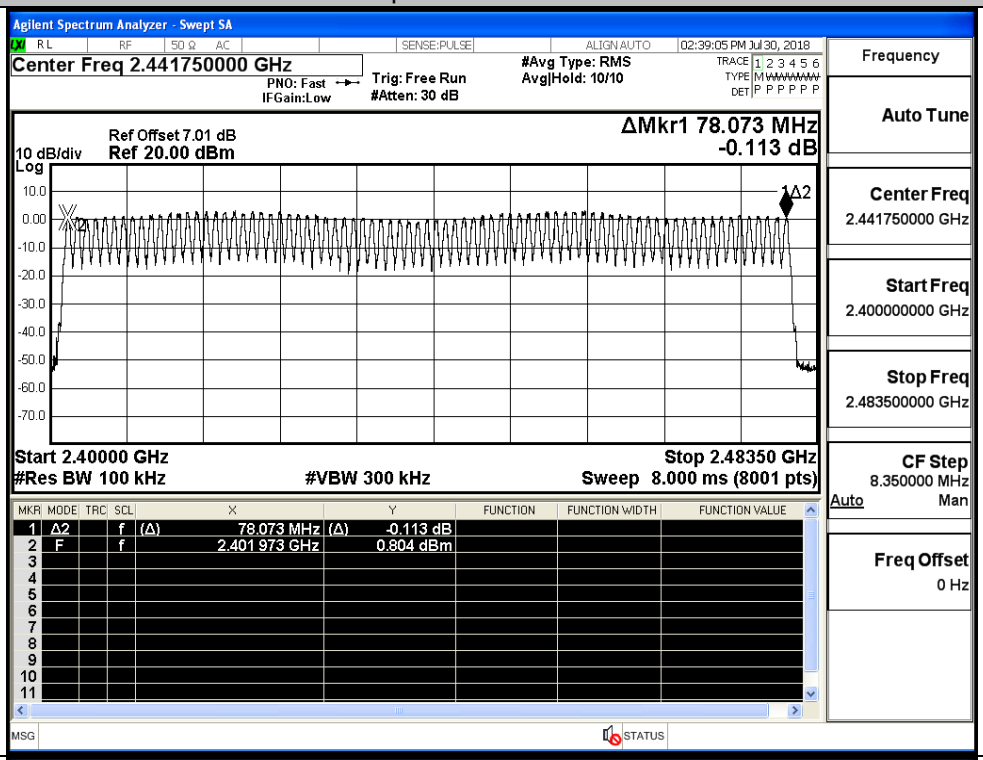
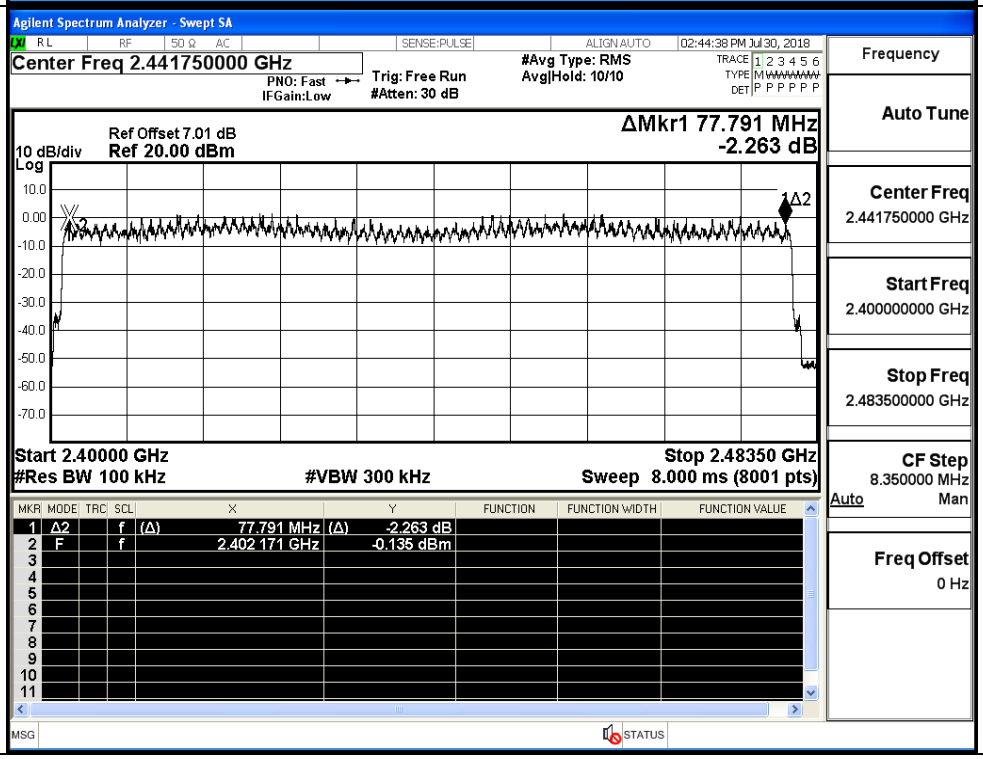
π/4DQPSK/LCH	
π/4DQPSK/MCH	

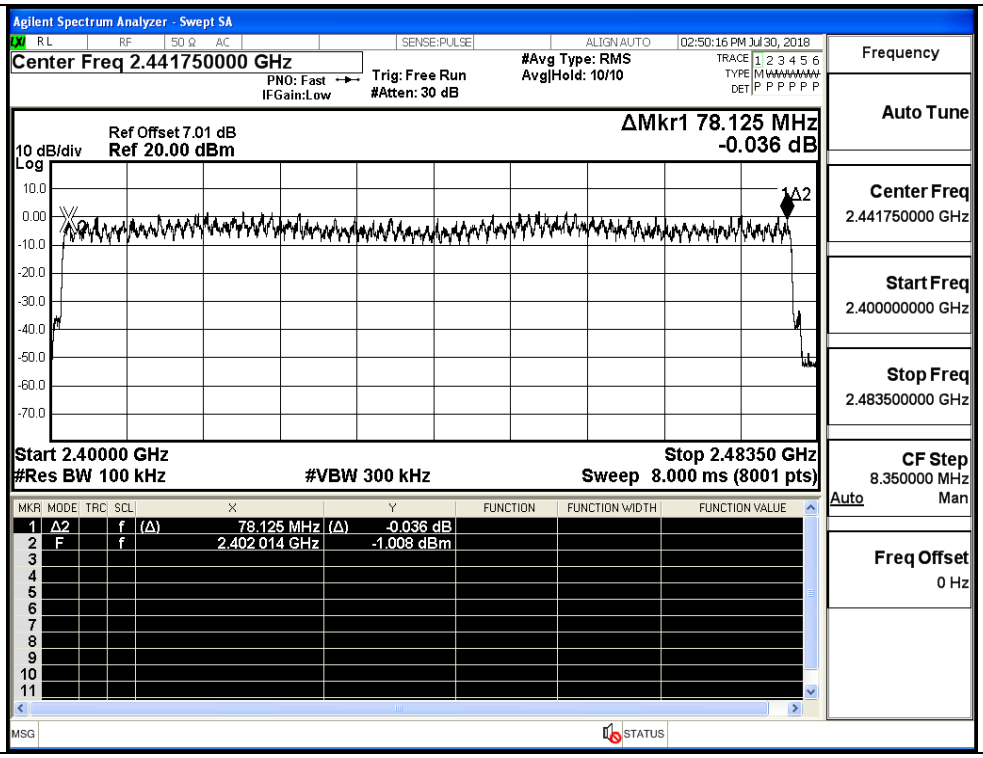
π/4DQPSK/HCH	
8DPSK/LCH	

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	

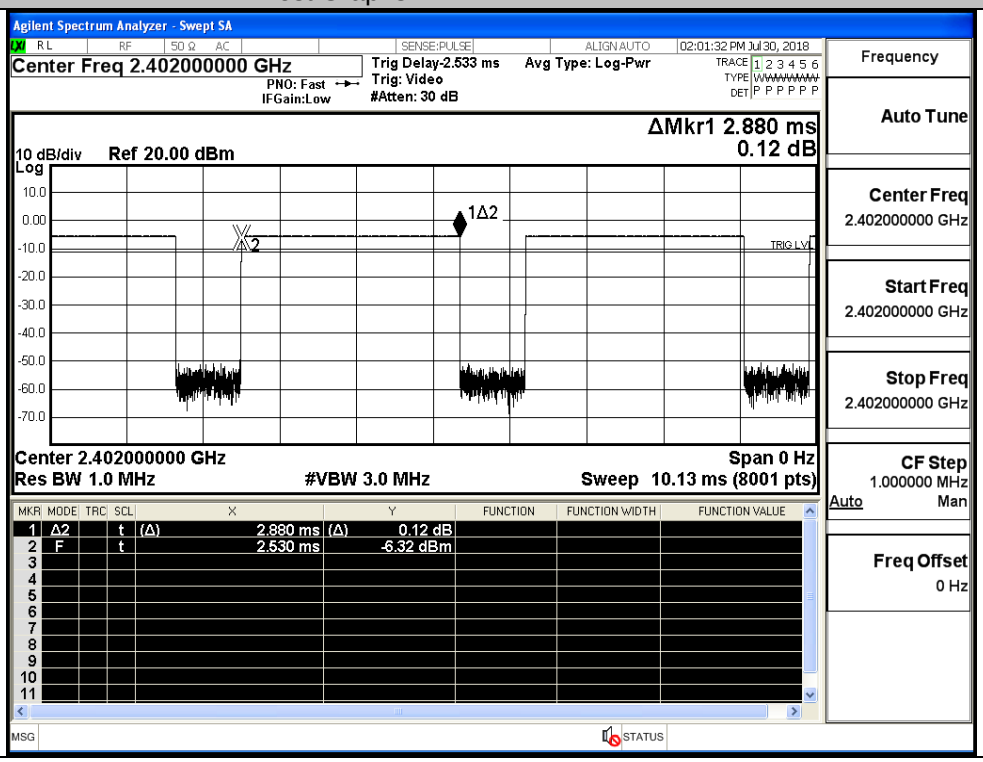
Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441750000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 10/10
02:50:16 PM Jul 30, 2018
Ref Offset 7.01 dB
10 dB/div
Log
Ref 20.00 dBm
ΔMkr1 78.125 MHz
-0.036 dB
Start 2.40000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.48350 GHz
Sweep 8.000 ms (8001 pts)
1 Δ2 f (Δ) 78.125 MHz (Δ) -0.036 dB
2 F f 2.402 014 GHz -1.008 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

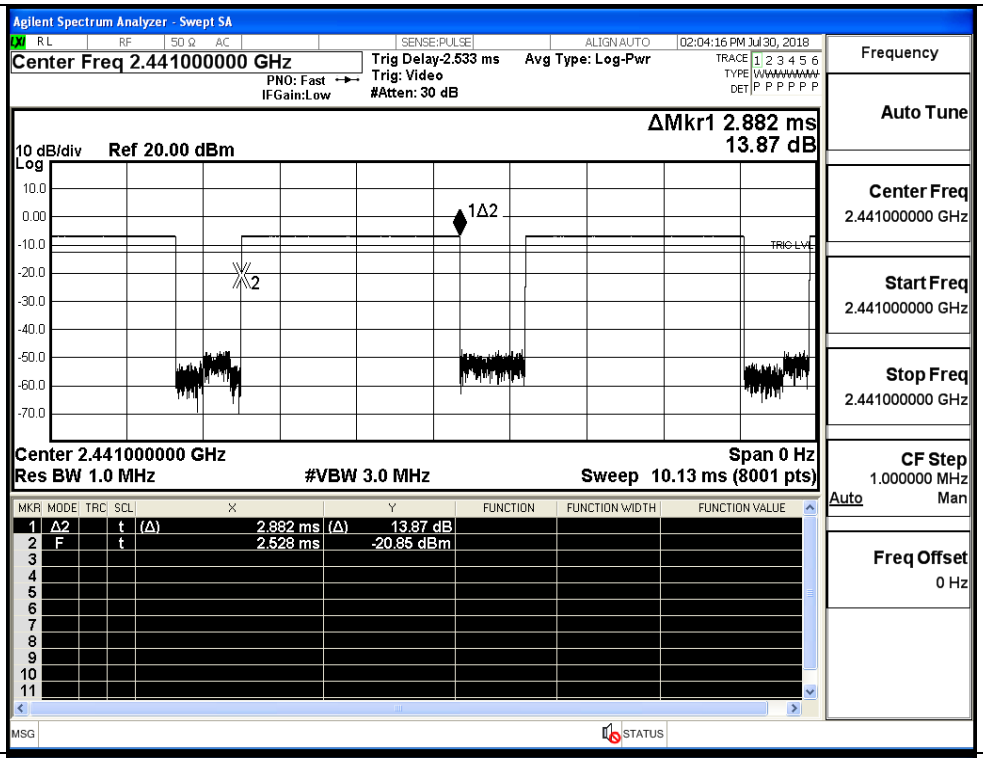
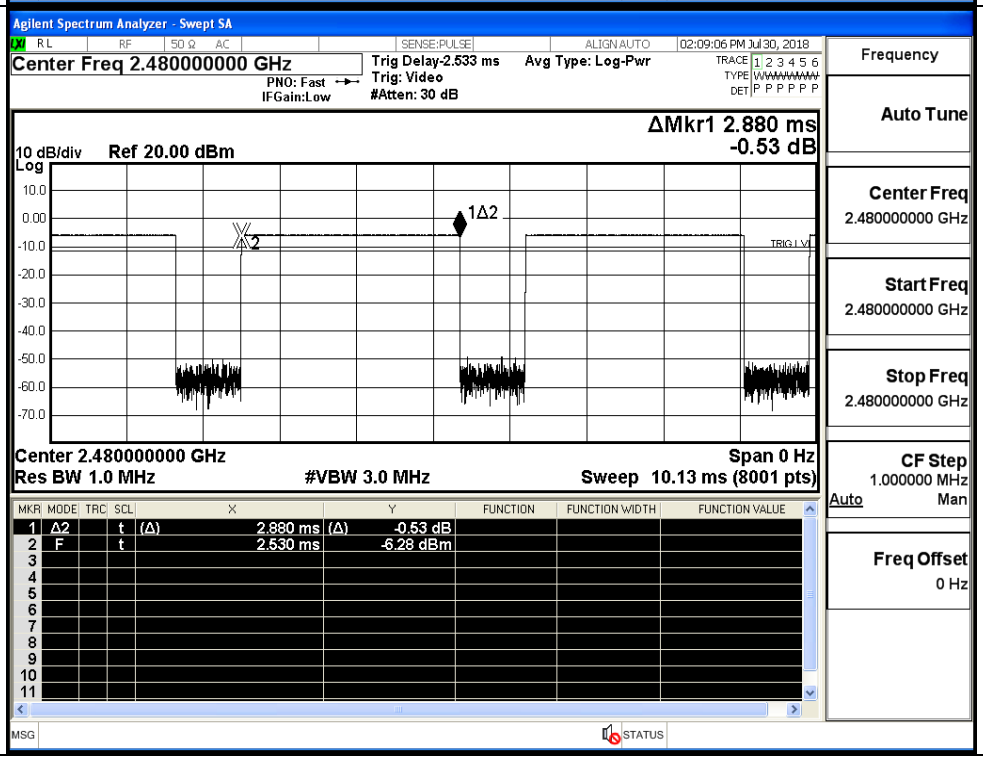
A.5 Dwell Time

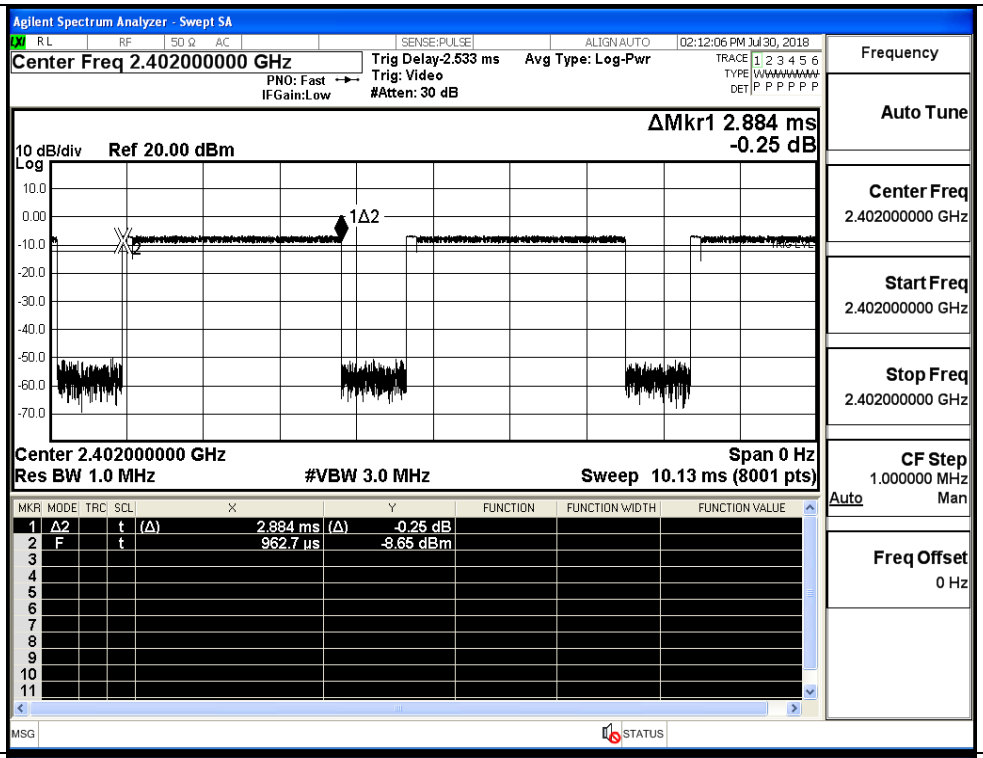
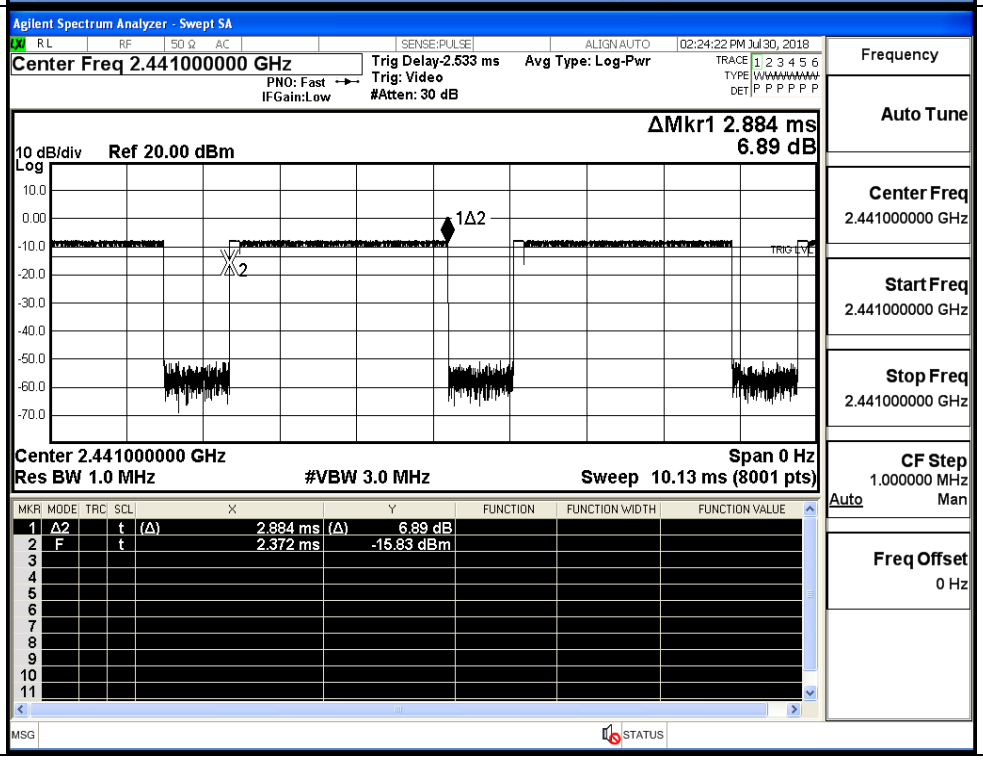
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
π/4DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7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

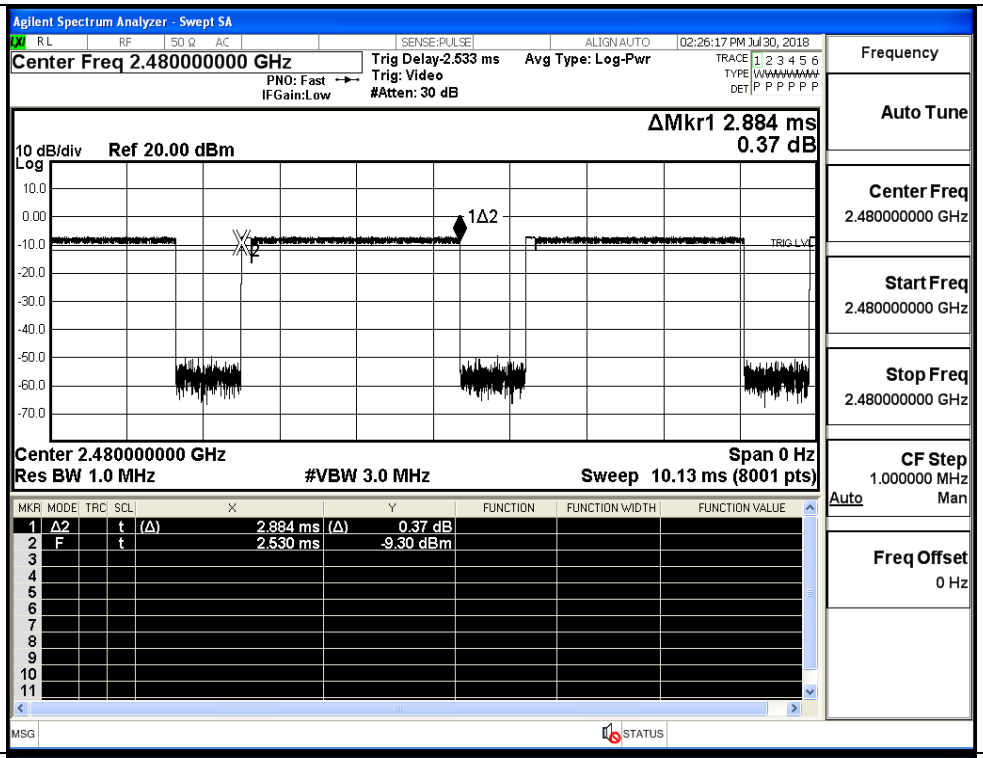
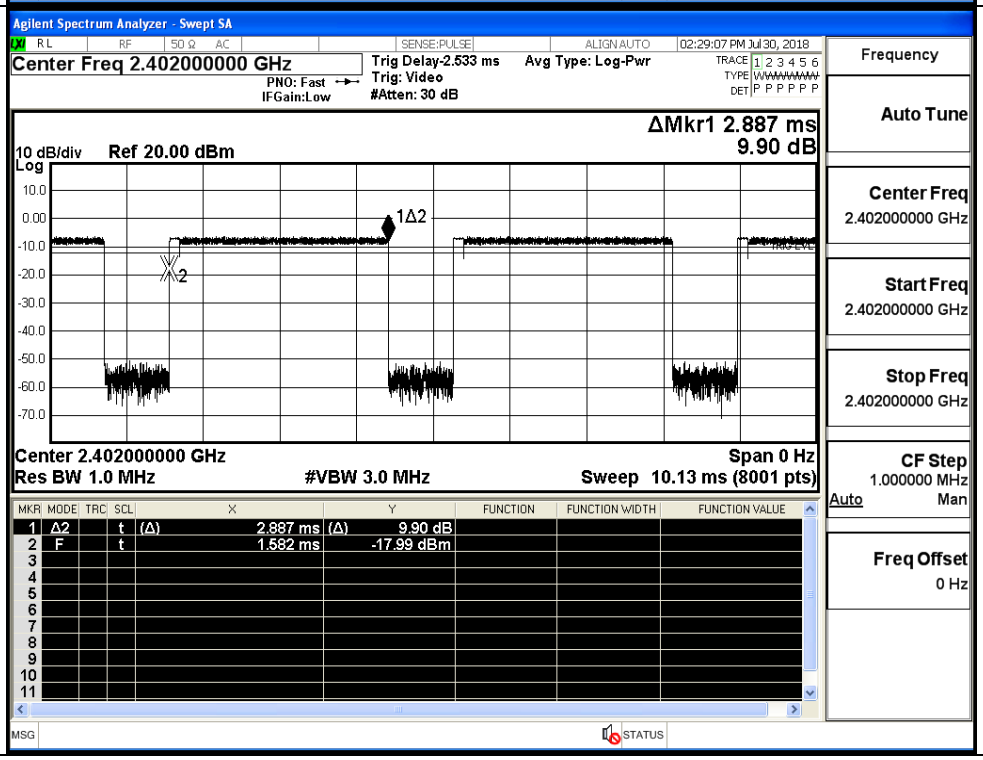
Test Graphs

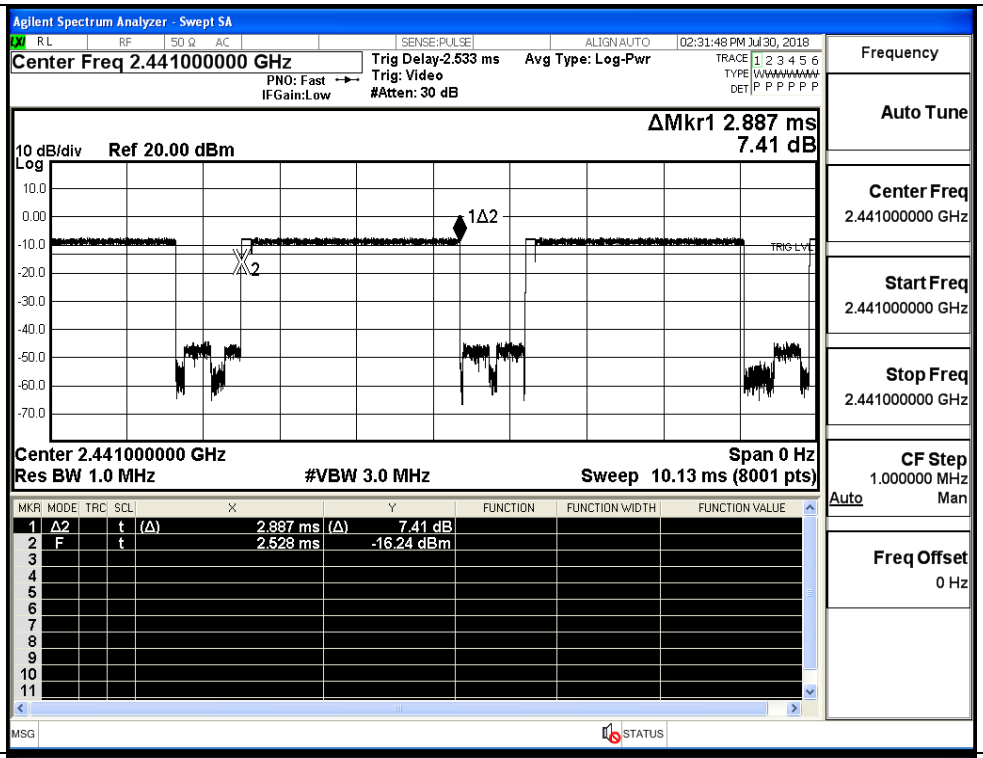
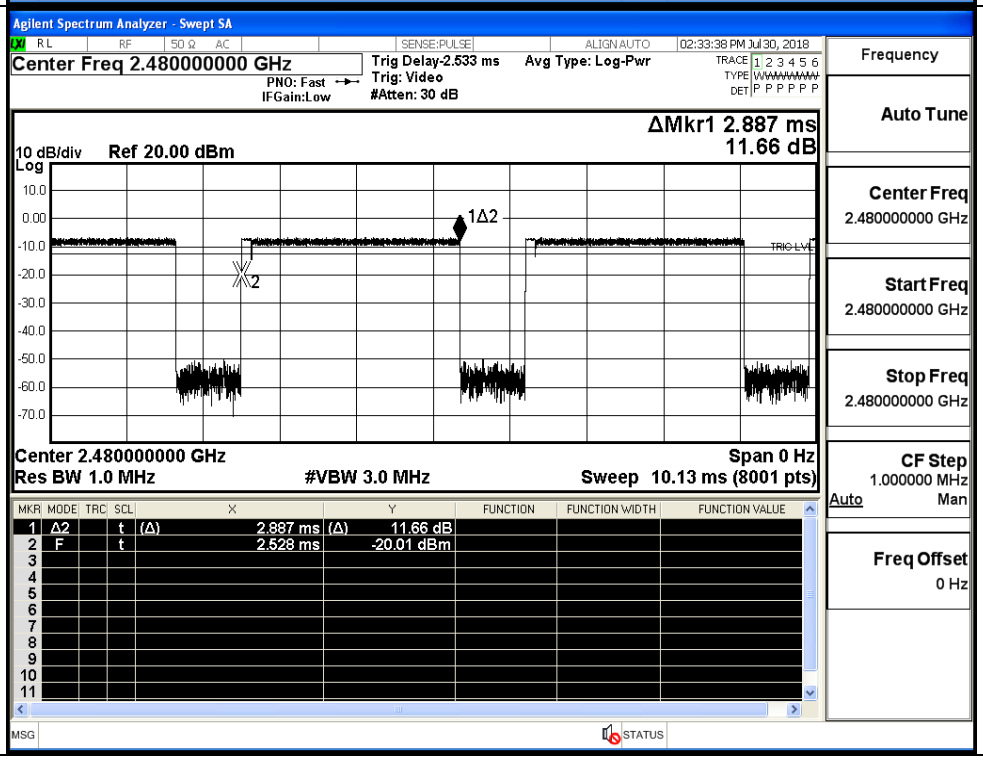
GFSK_DH5/LCH



GFSK_DH5/MCH	
GFSK_DH5/HCH	

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

π/4DQPSK _2DH5/HCH	
8DPSK _3DH5/LCH	

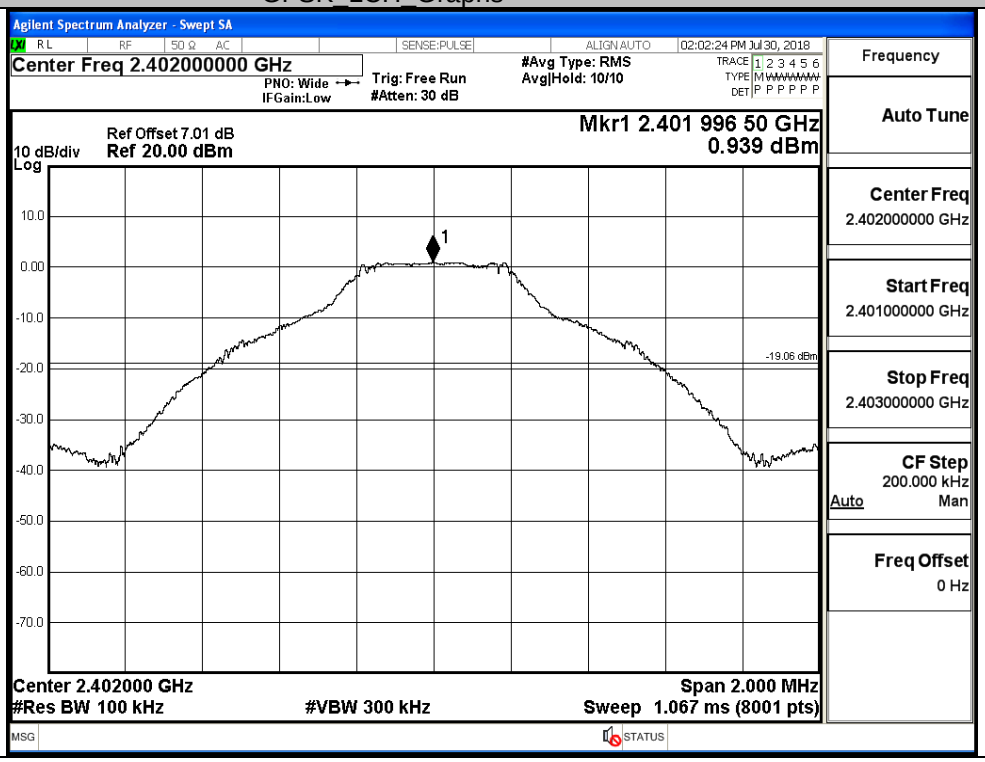
8DPSK _3DH5/MCH	
8DPSK _3DH5/HCH	

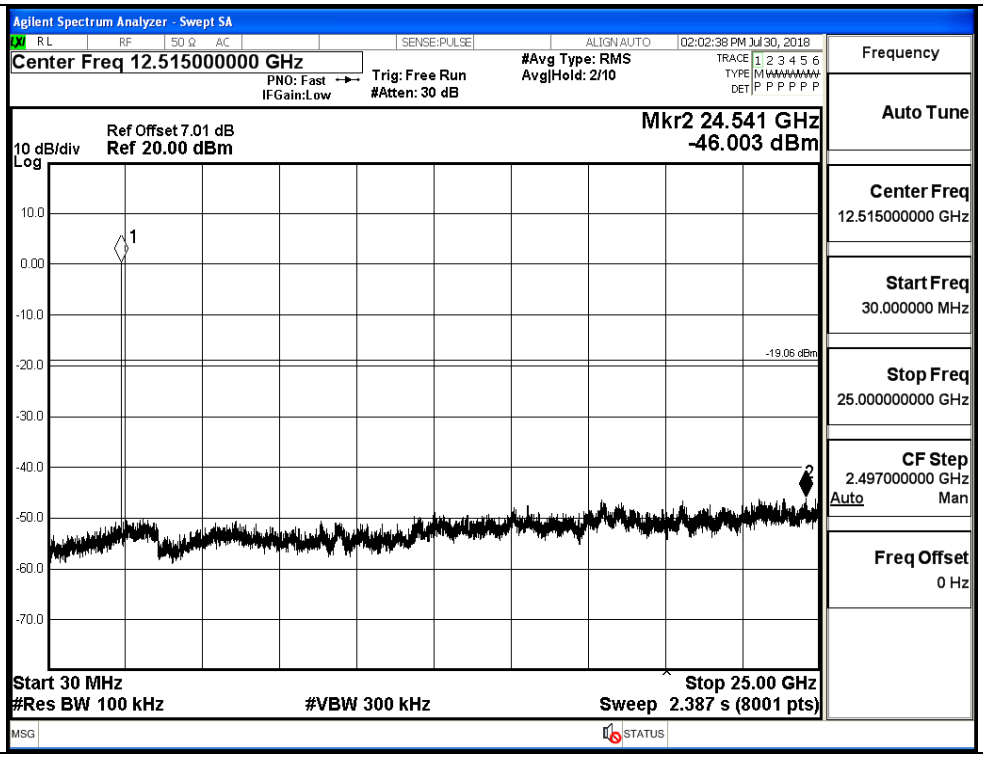
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.939	-46.003	-19.061	PASS
	MCH	0.059	-45.410	-19.941	PASS
	HCH	1.051	-46.130	-18.949	PASS
π/4DQPSK	LCH	-0.056	-46.170	-20.056	PASS
	MCH	-0.858	-45.212	-20.858	PASS
	HCH	-0.806	-45.740	-20.806	PASS
8DPSK	LCH	0.035	-45.529	-19.965	PASS
	MCH	-0.902	-46.041	-20.902	PASS
	HCH	-1.047	-46.003	-21.047	PASS

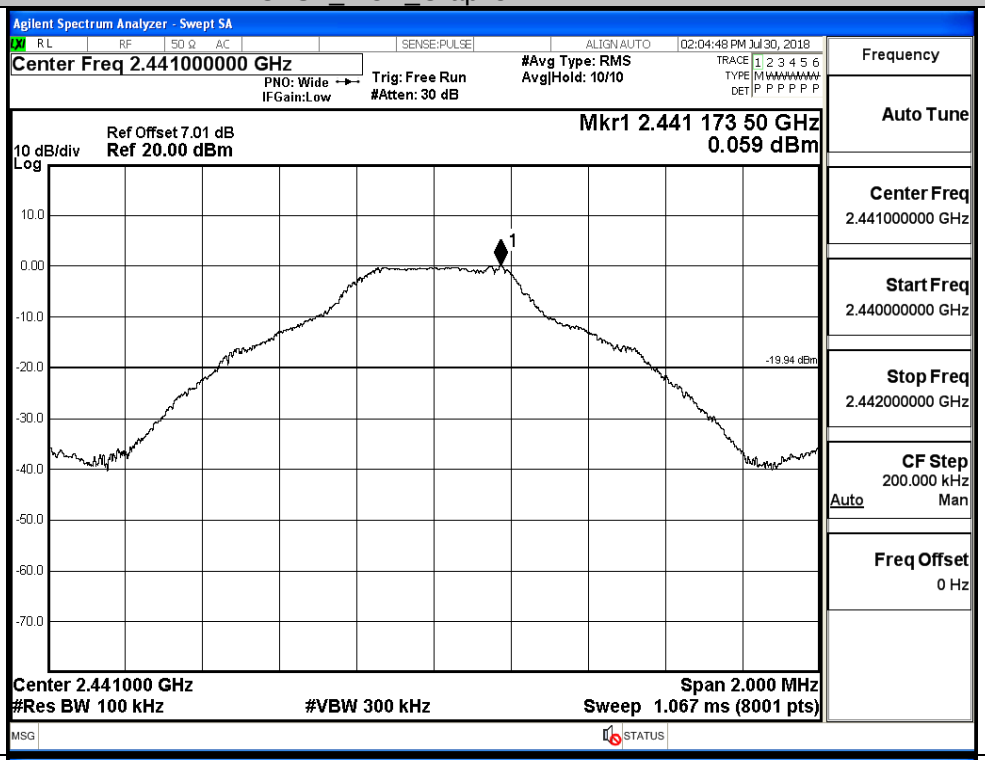
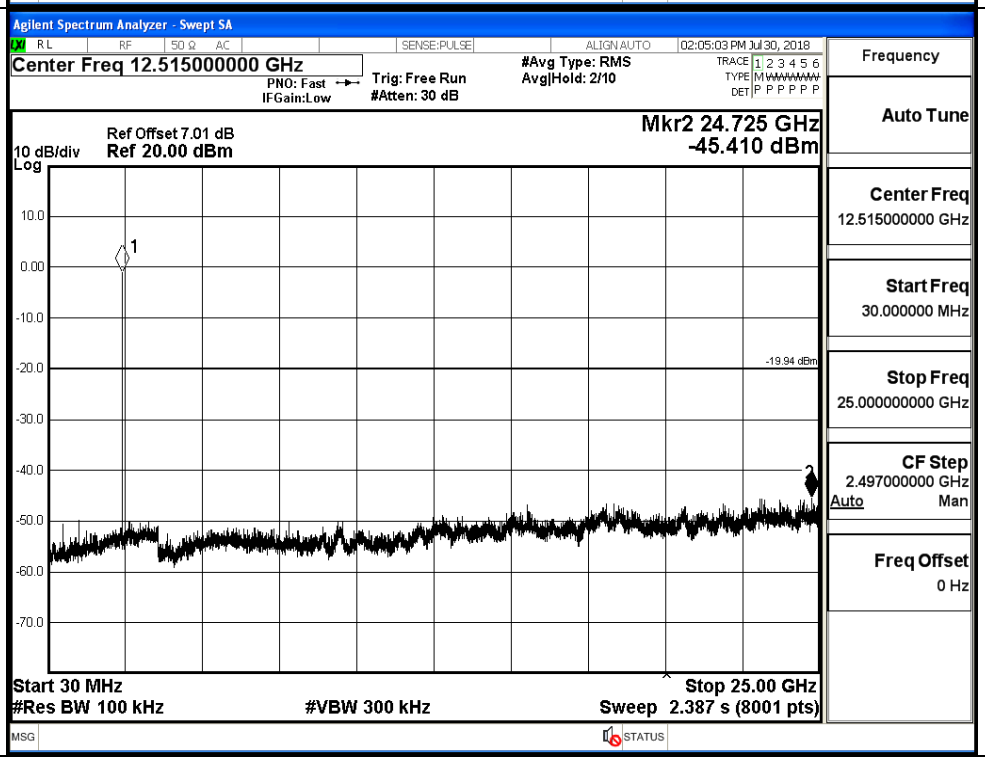
GFSK_LCH_Graphs

Pref



Puw		

Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:PULSE
ALIGN AUTO
02:02:38 PM Jul 30, 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 24.541 GHz
-46.003 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-19.06 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.387 s (8001 pts)
MSG
STATUS
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

GFSK_MCH_Graphs		
Pref		
Puw		

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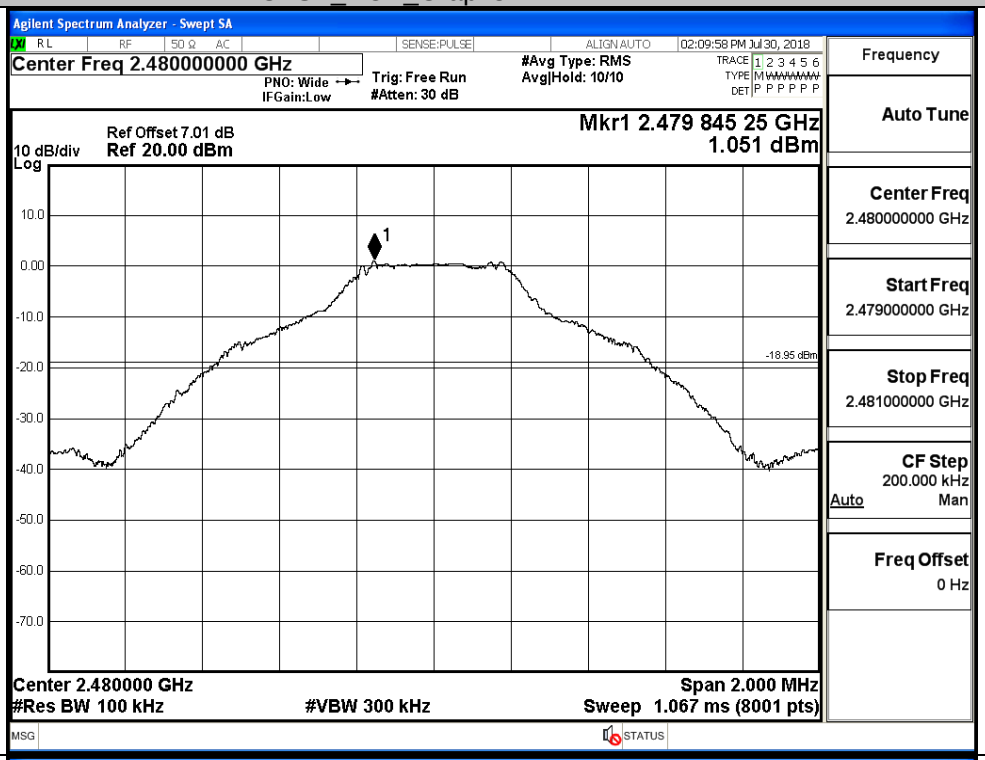
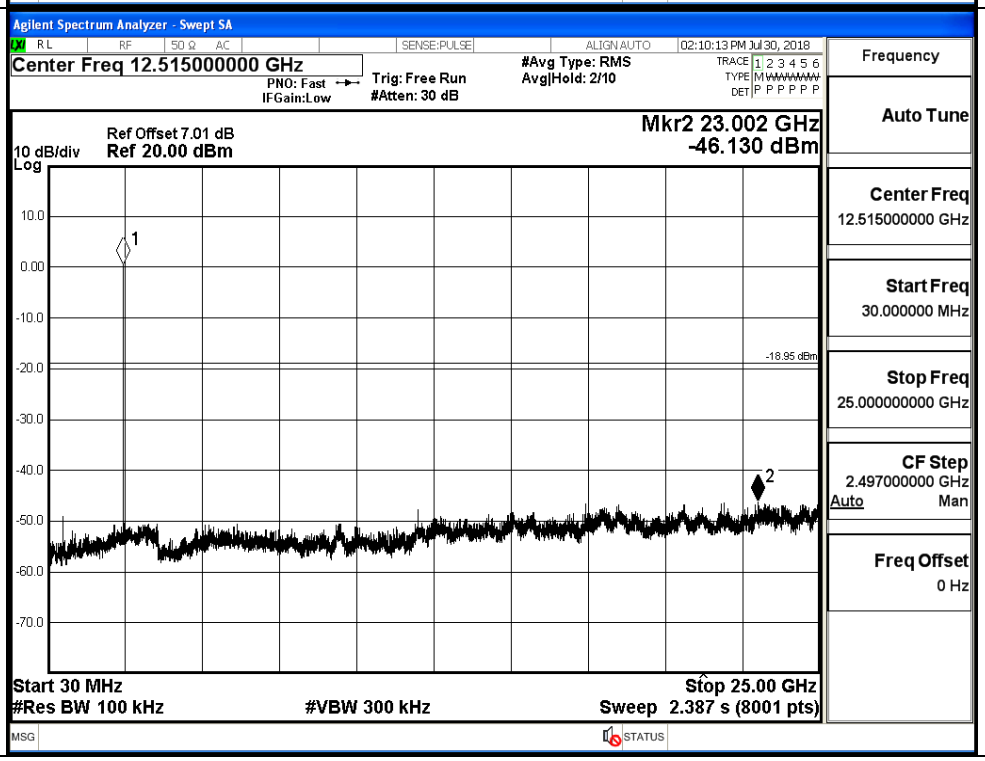
Pref			
Puw			

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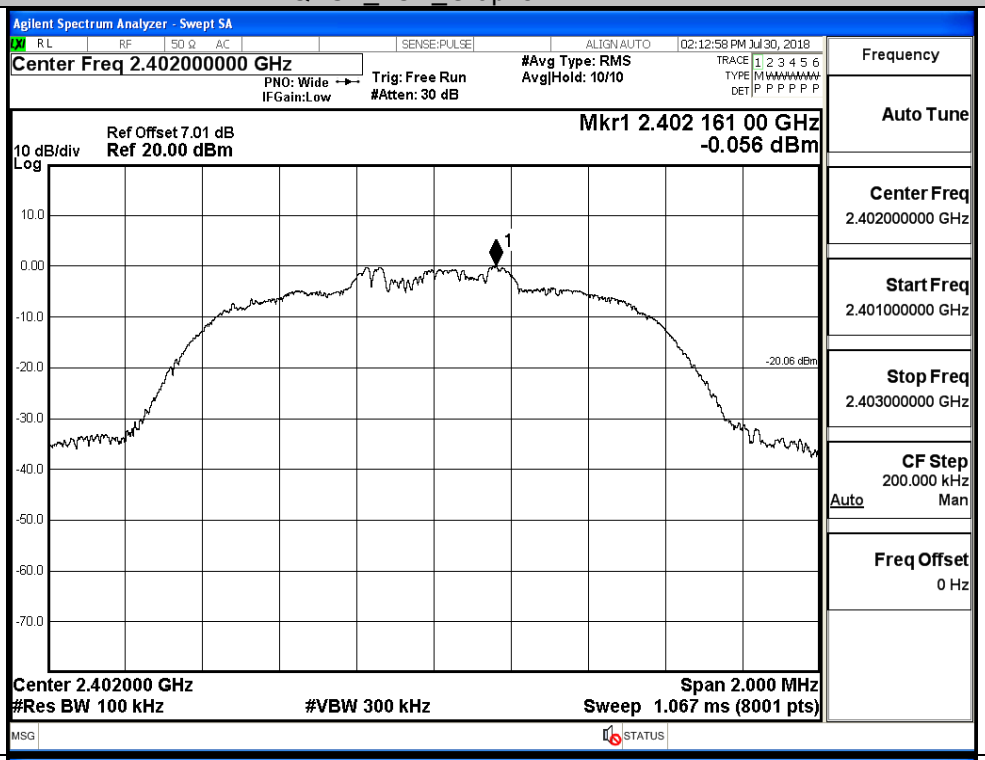
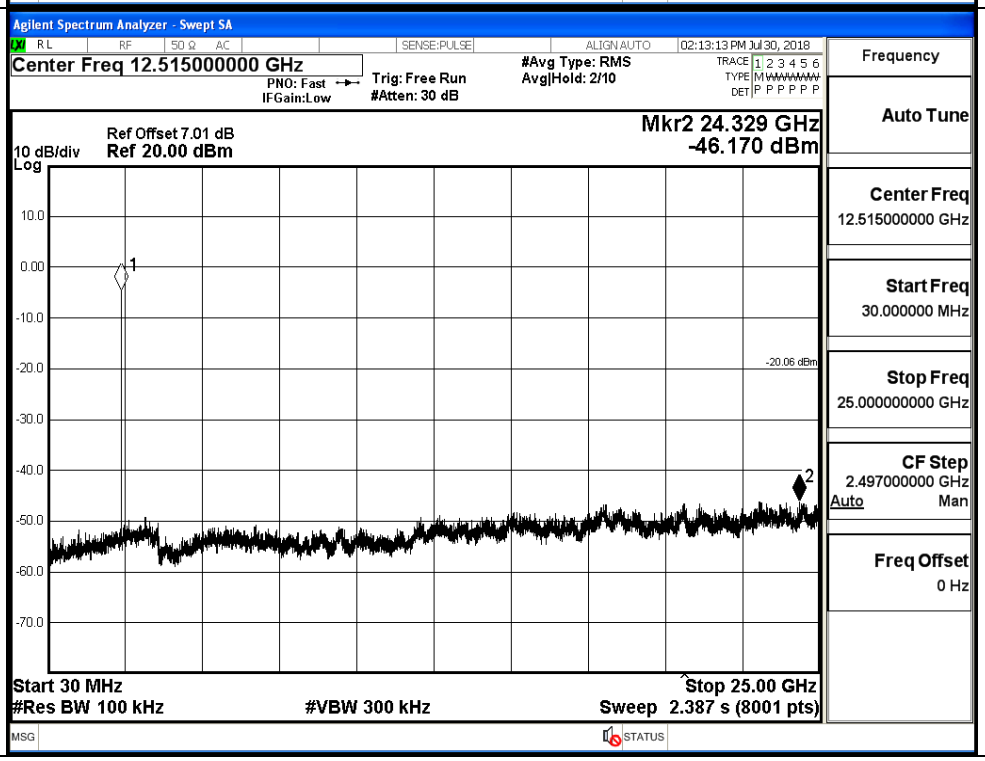
Pref			
Puw			

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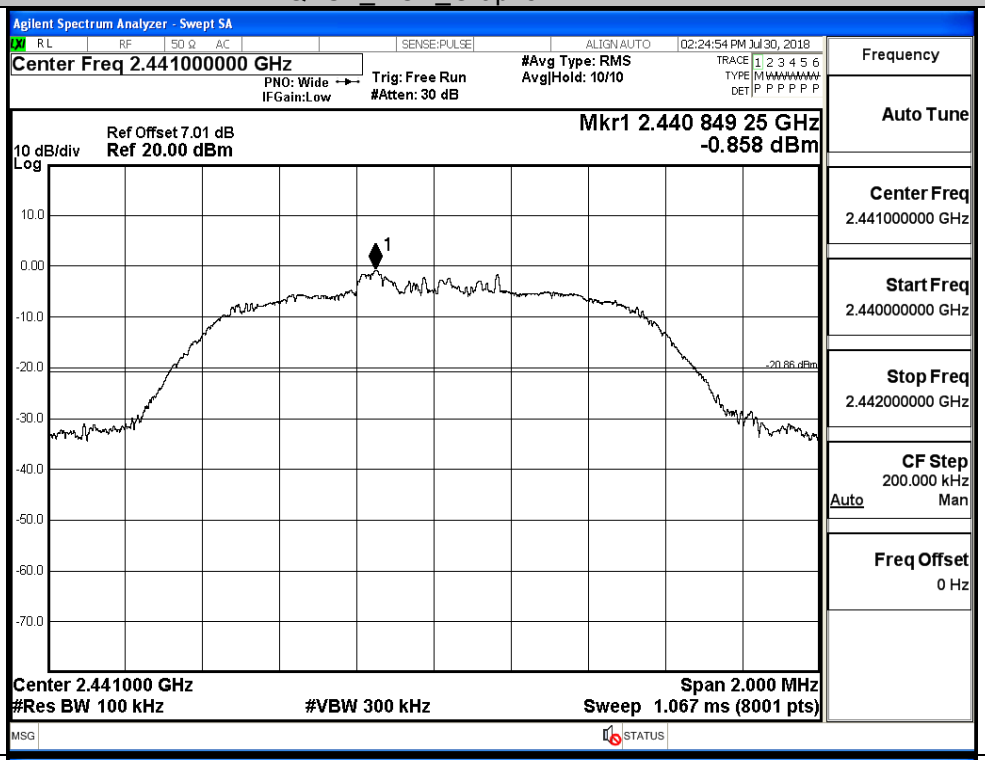
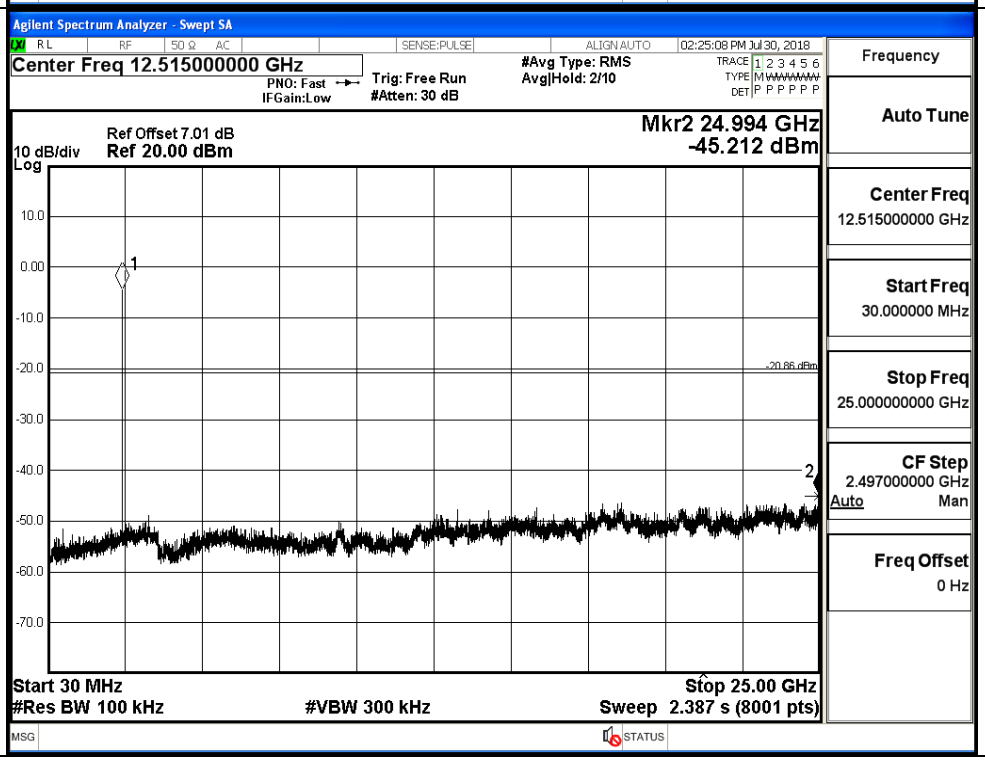
Pref		
Puw		

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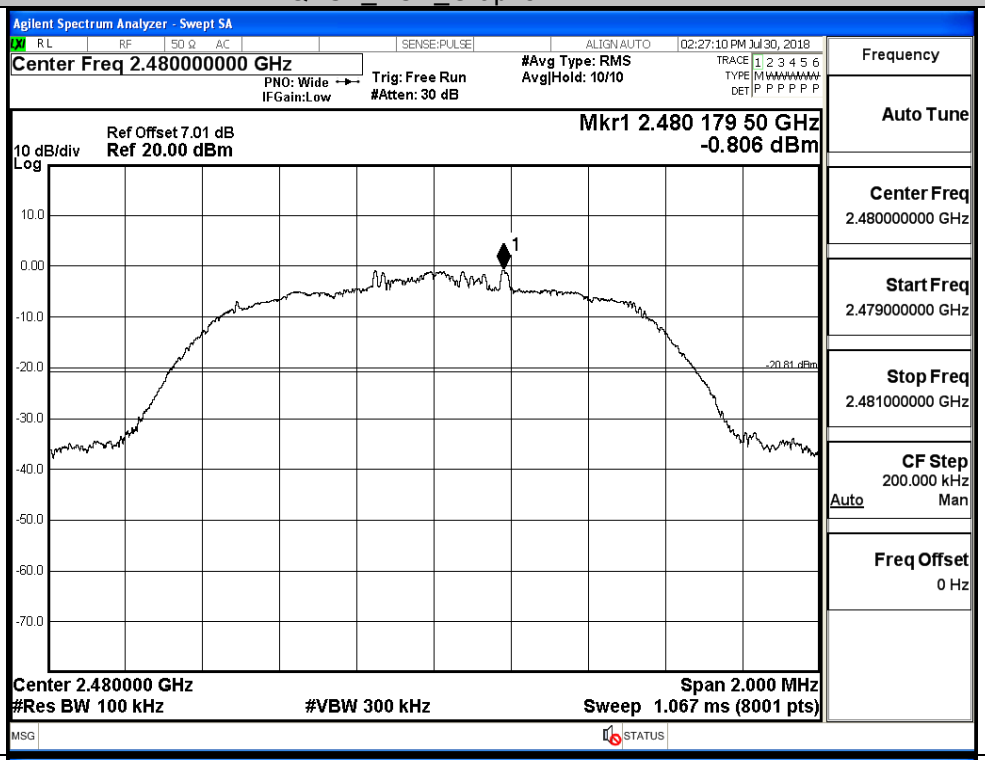
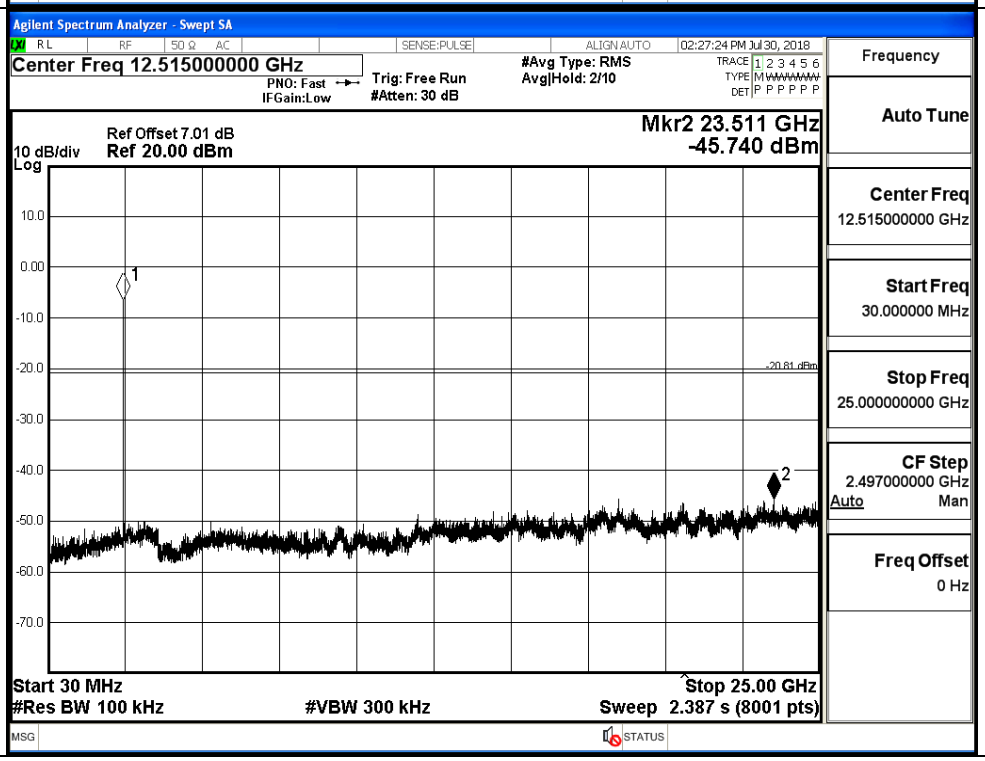
Pref			
Puw			

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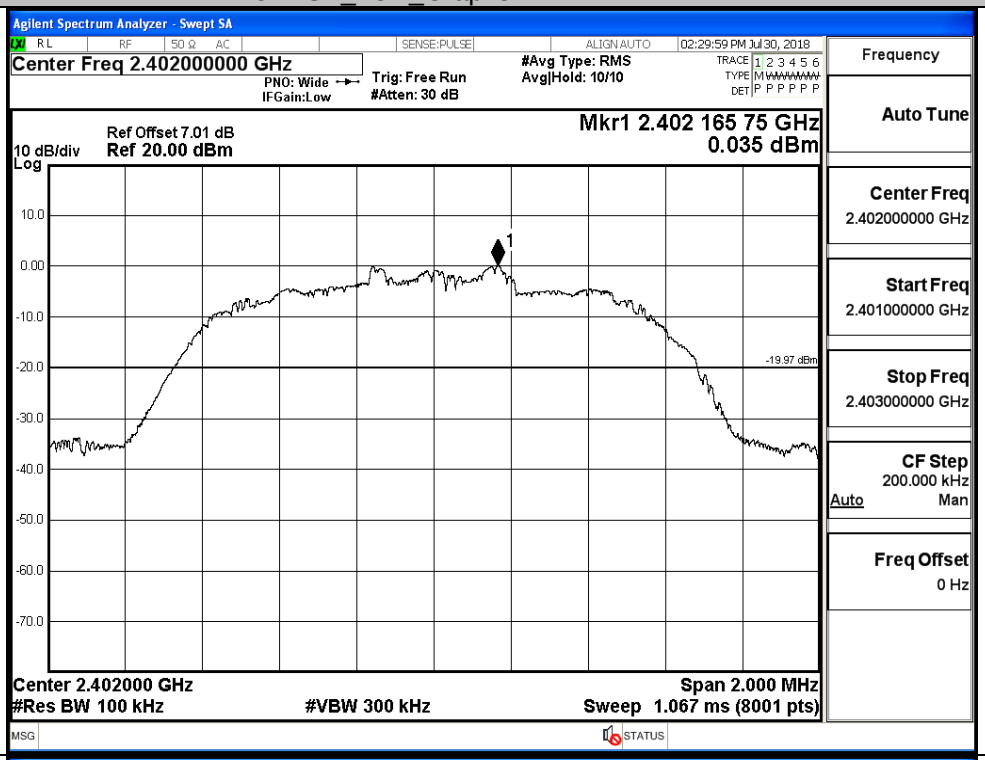
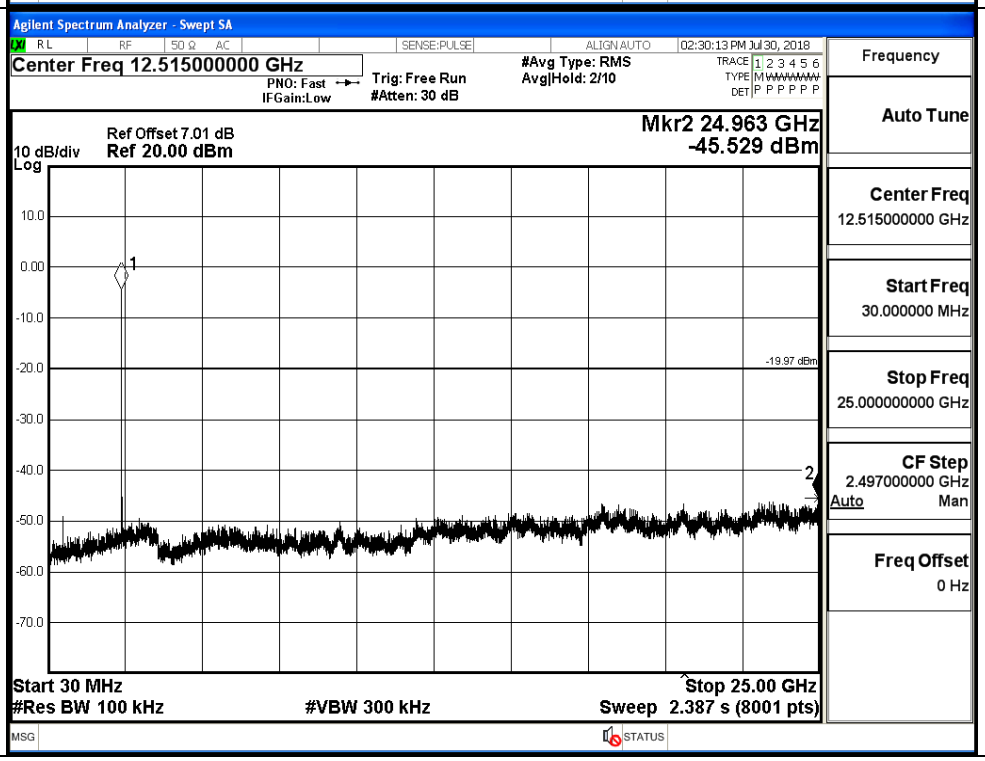
Pref			
Puw			

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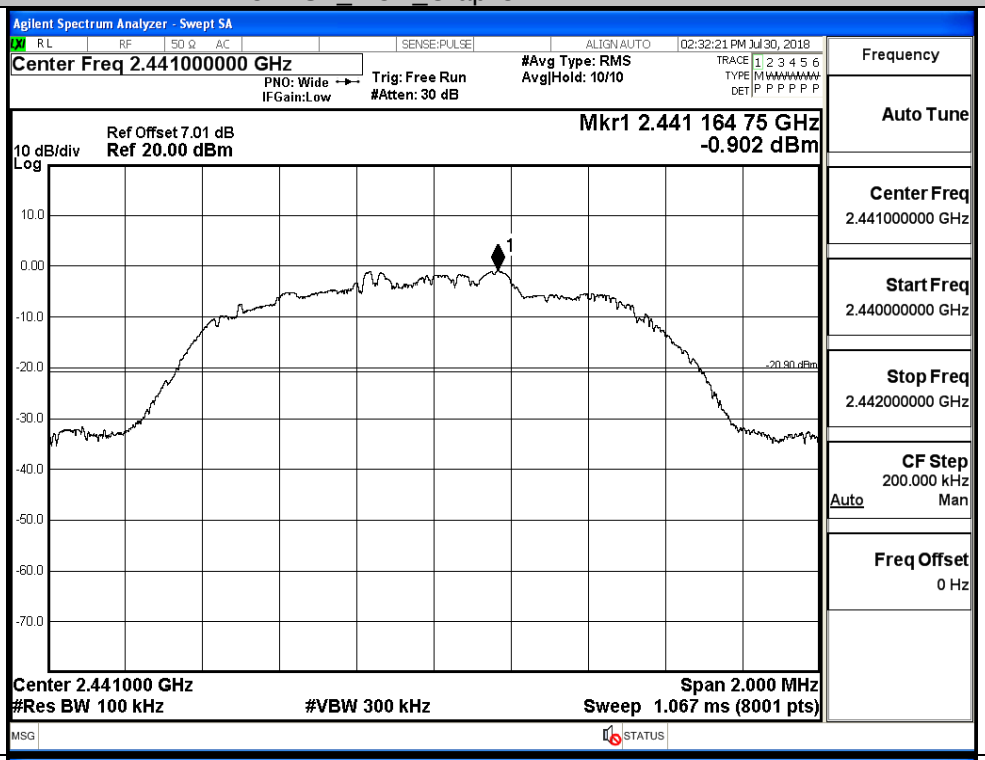
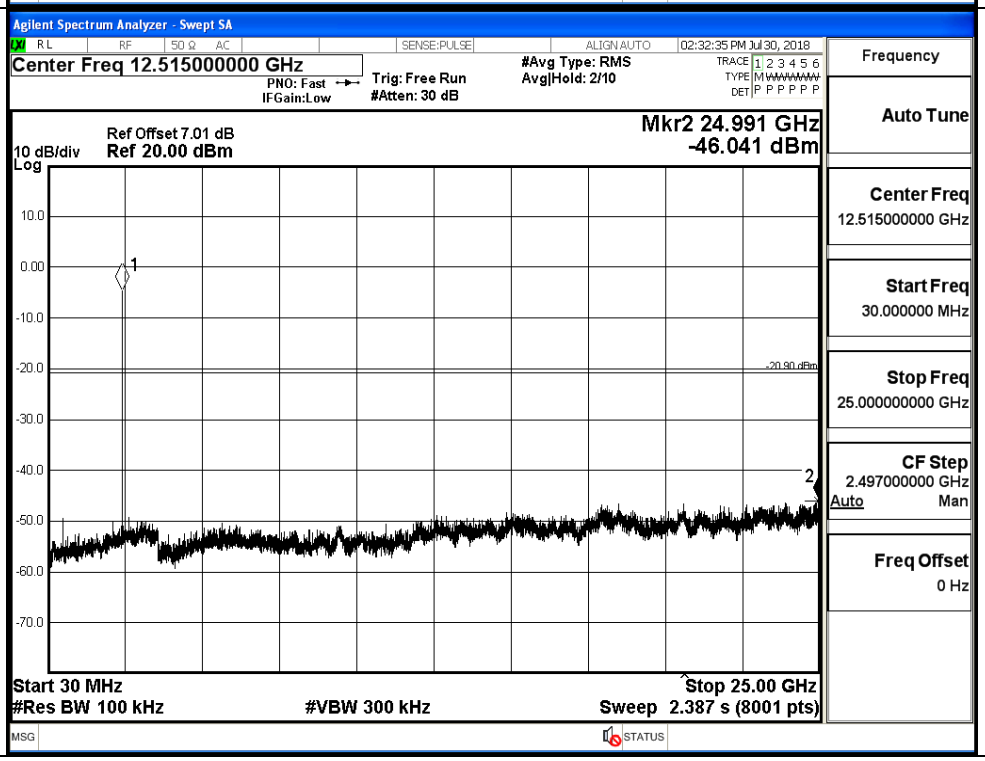
Pref			
Puw			

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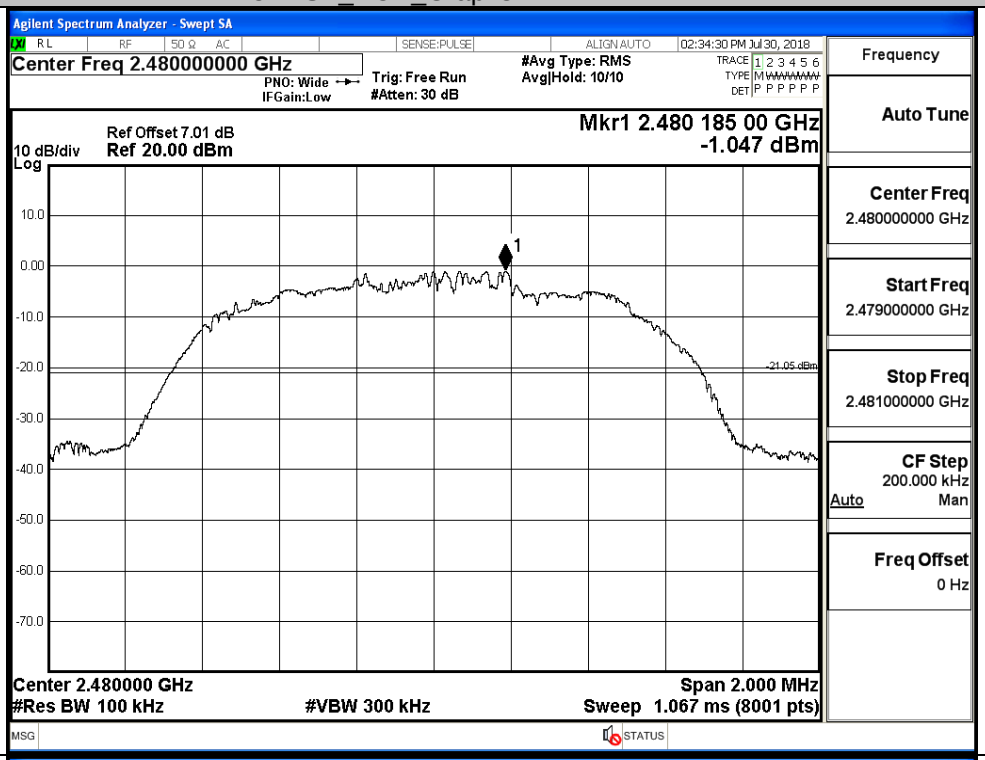
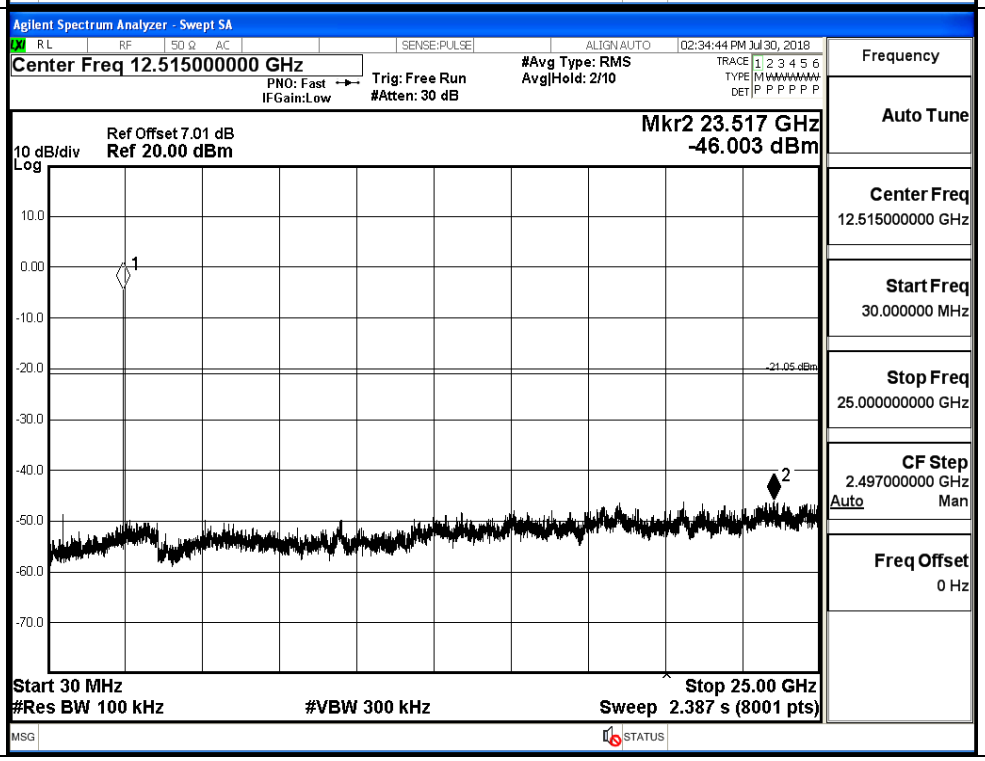
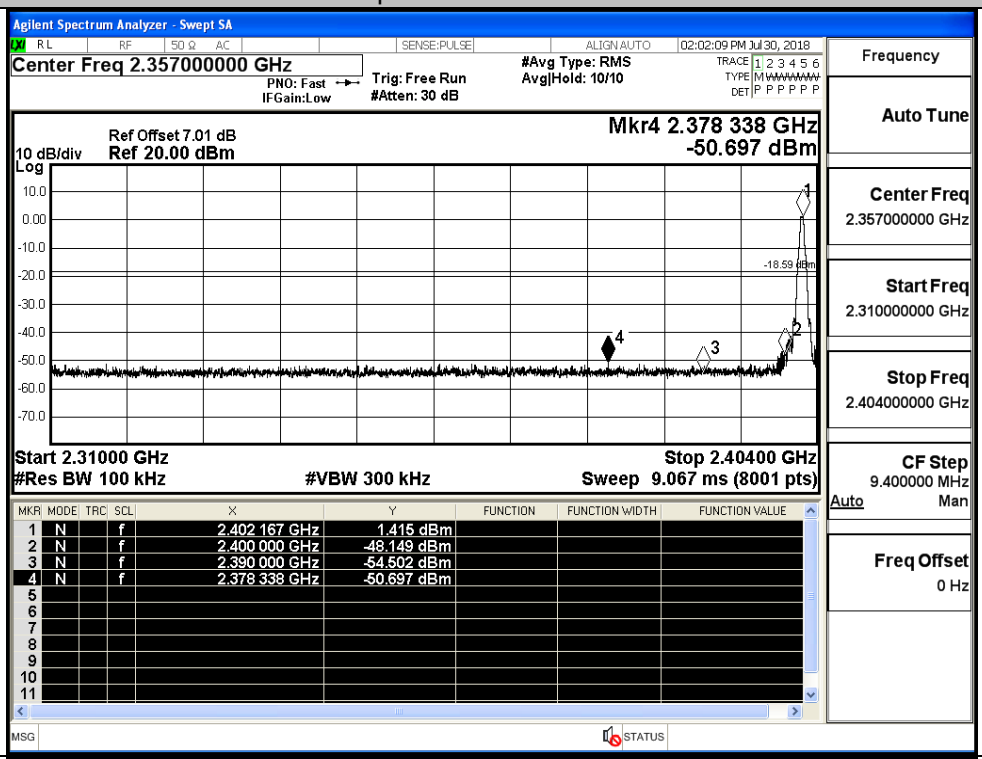
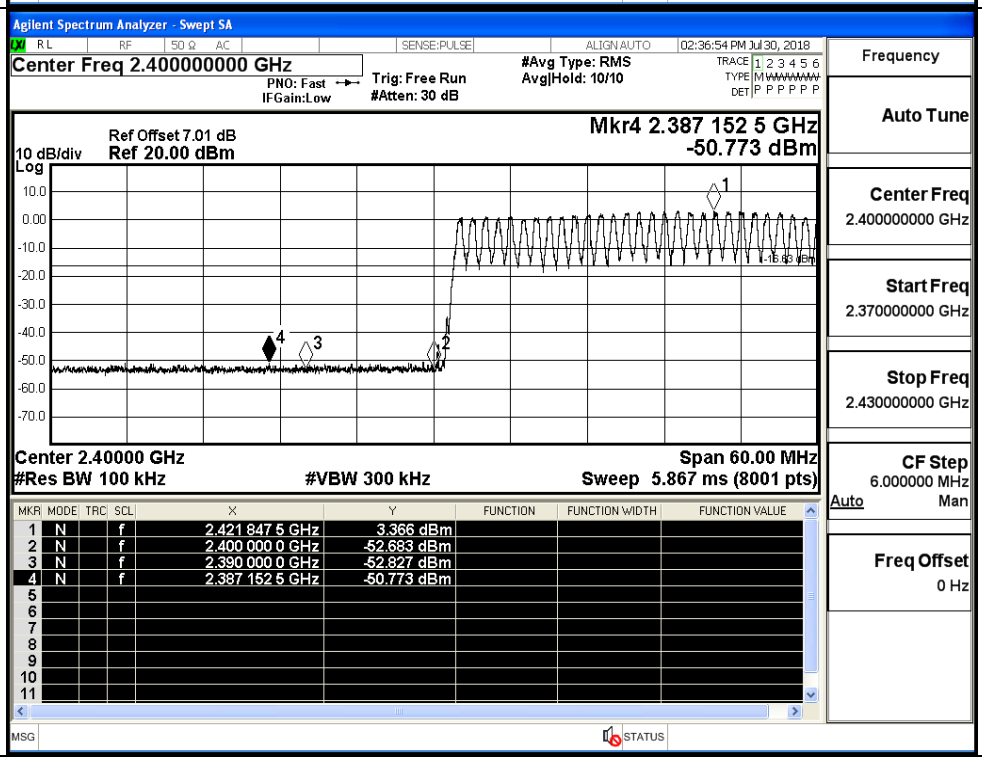
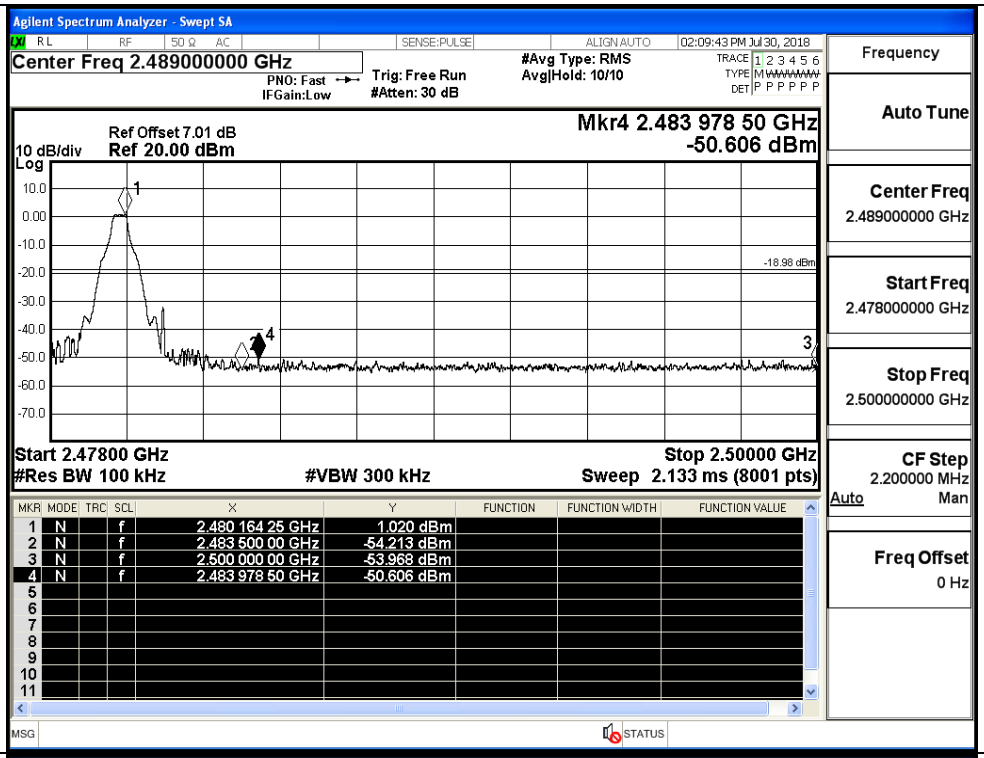
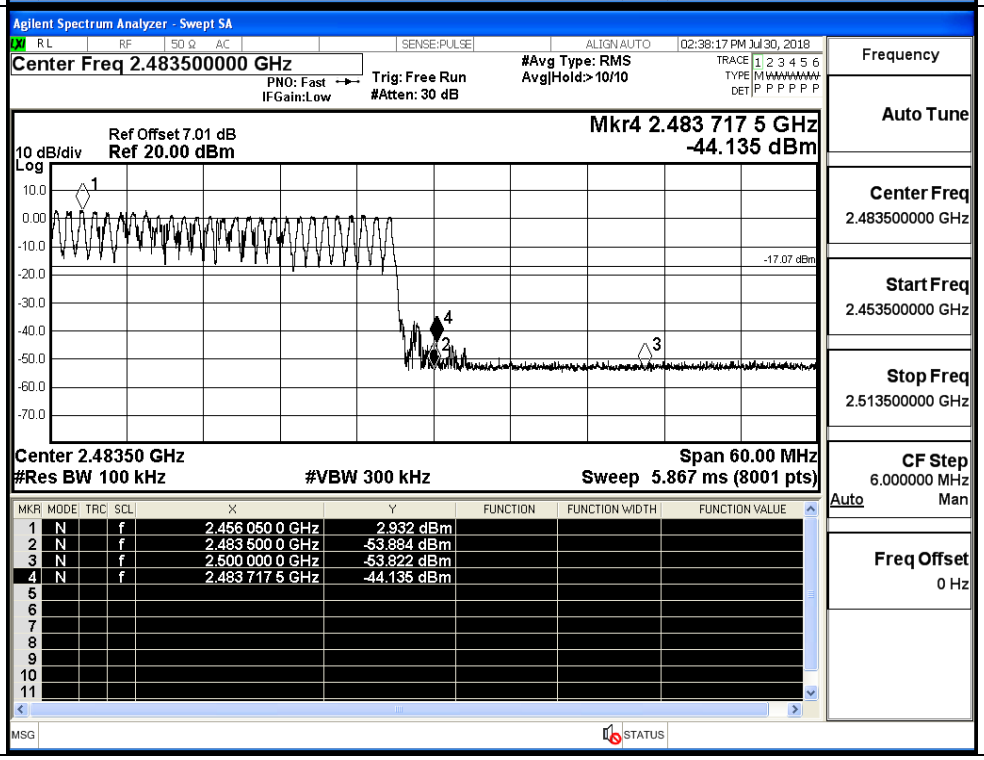
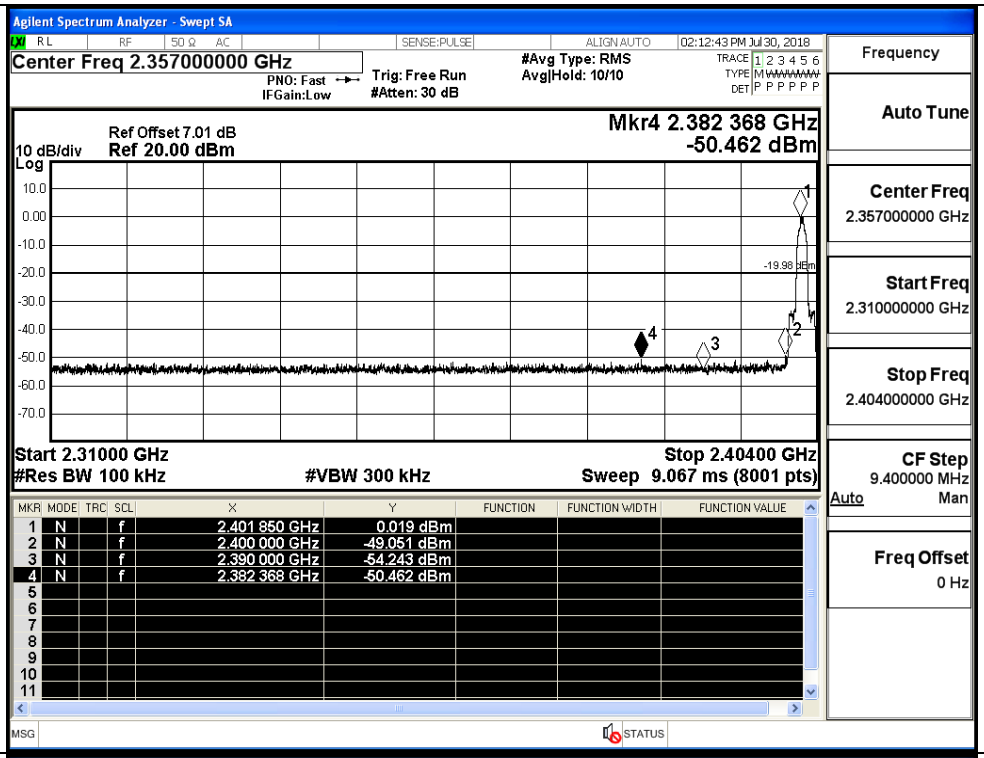
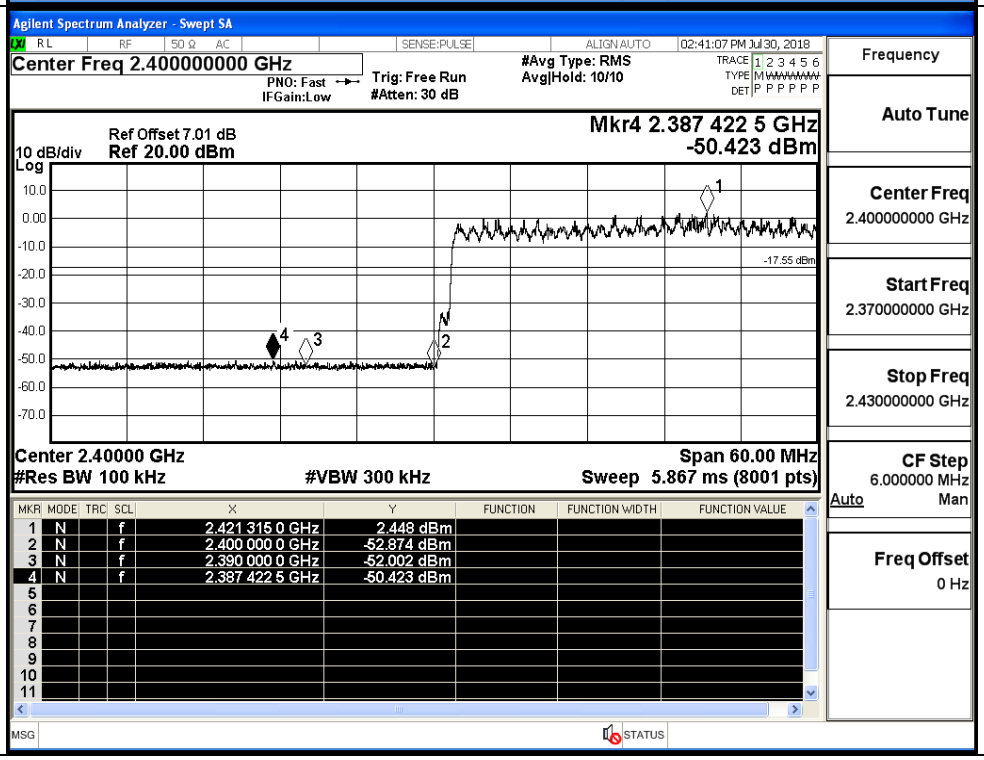
Pref			
Puw			

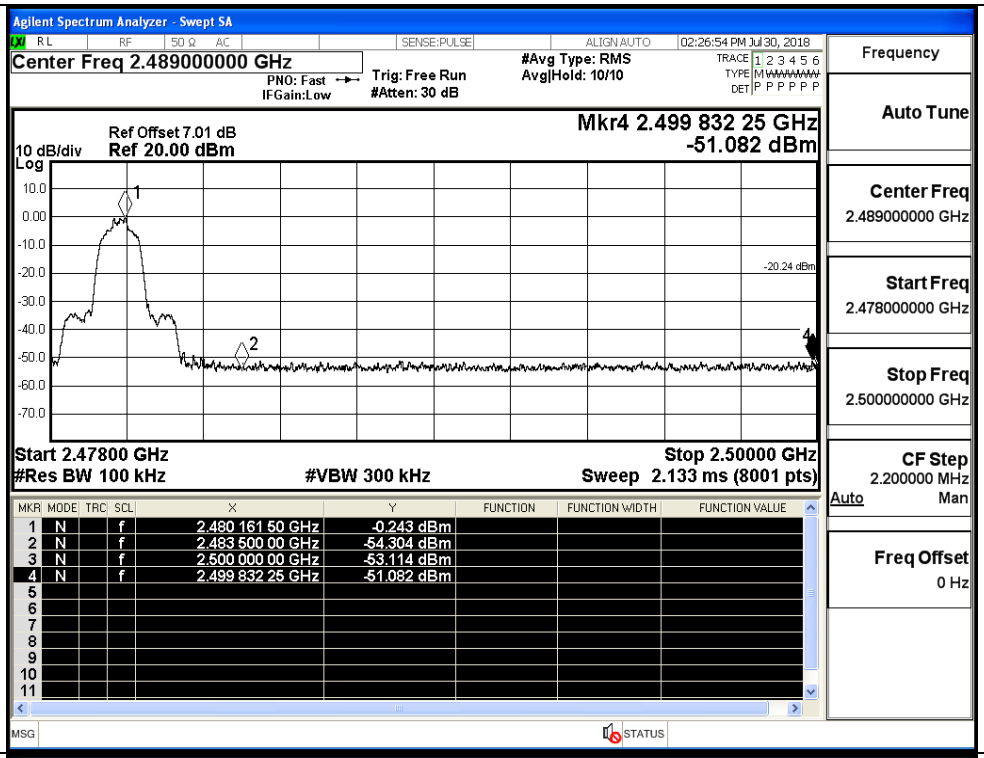
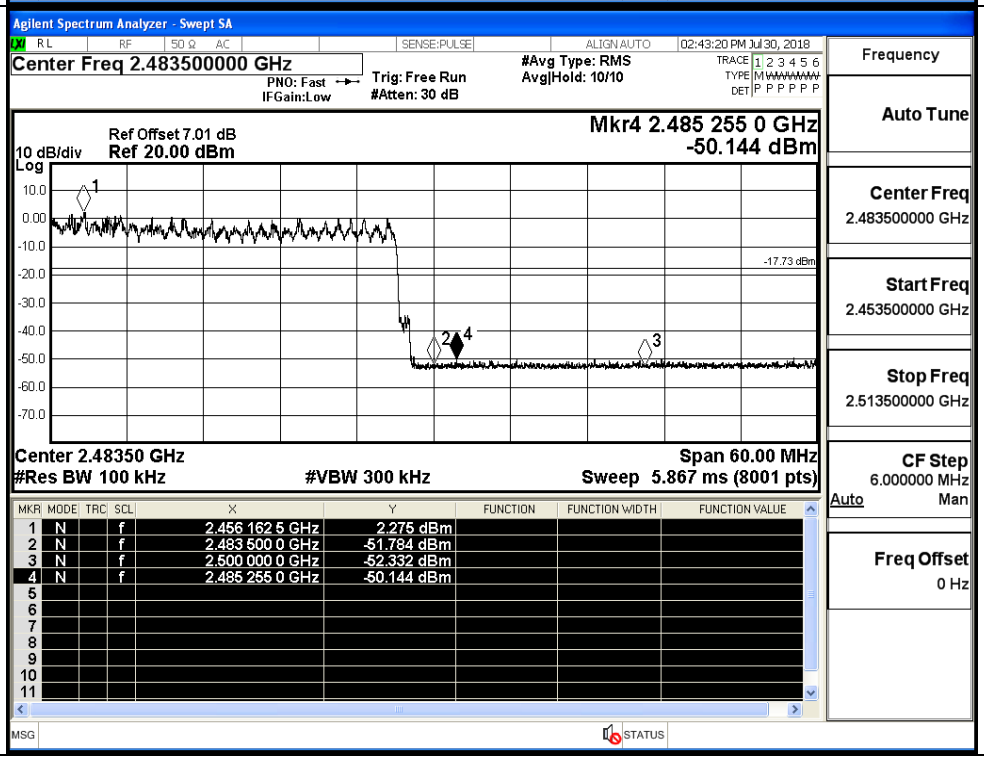
A.7 Band-edge for RF Conducted Emissions

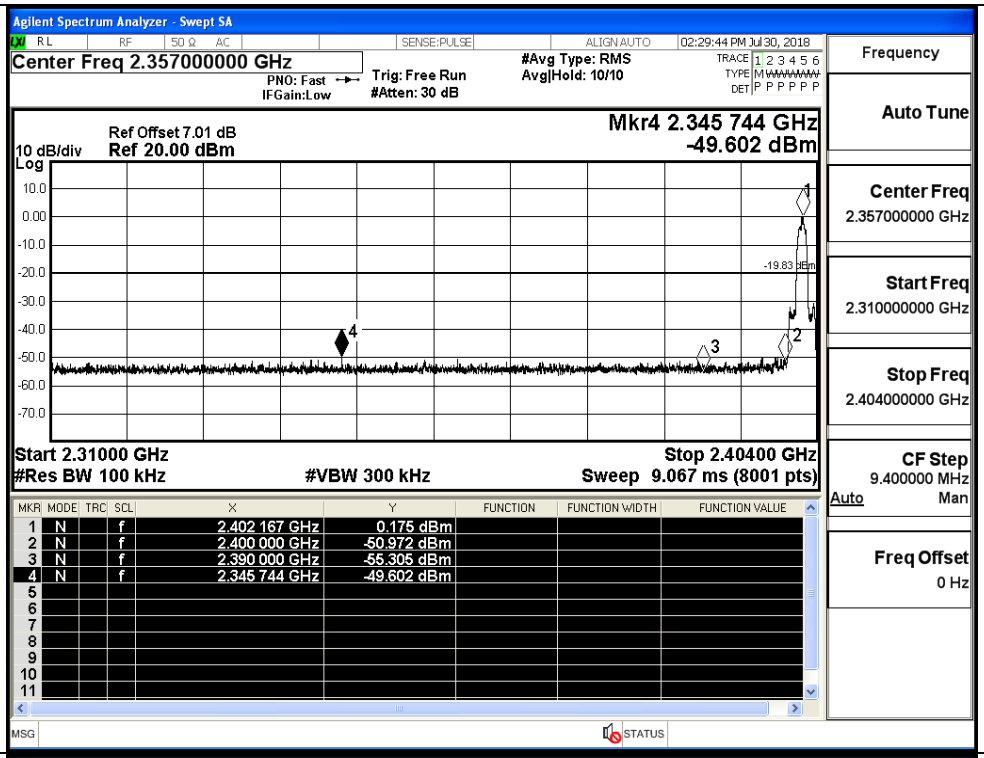
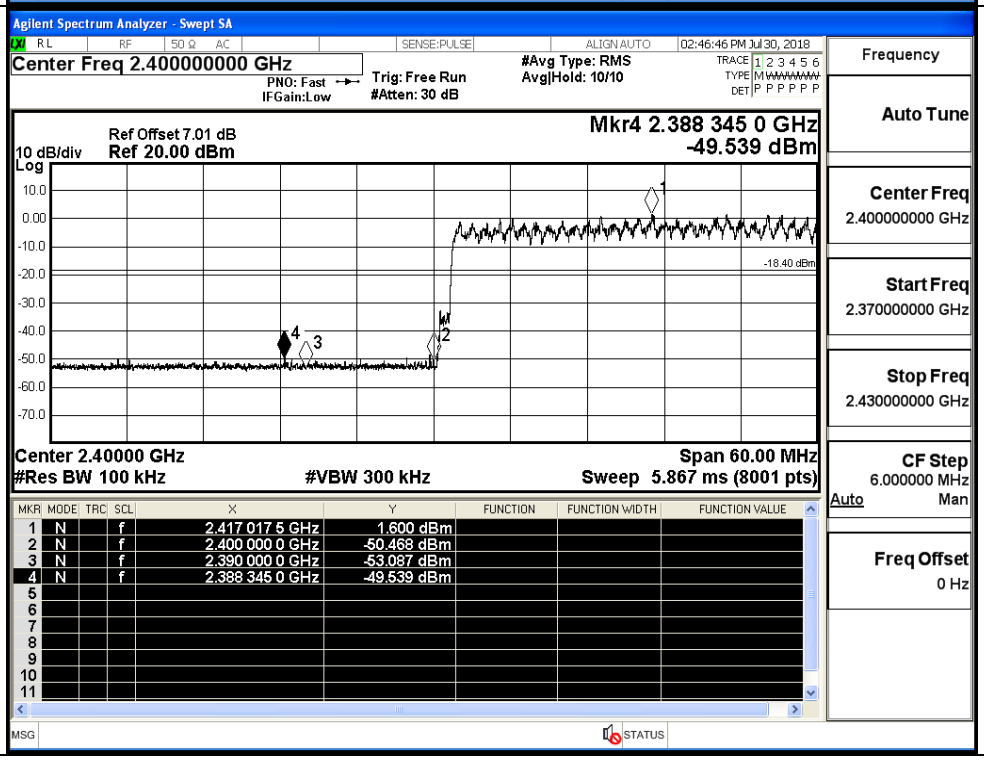
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	1.415	Off	-50.697	-18.59	PASS
			3.366	On	-50.773	-16.63	PASS
	HCH	2480	1.020	Off	-50.606	-18.98	PASS
			2.932	On	-44.135	-17.07	PASS
π/4DQPSK	LCH	2402	0.019	Off	-50.462	-19.98	PASS
			2.448	On	-50.423	-17.55	PASS
	HCH	2480	-0.243	Off	-51.082	-20.24	PASS
			2.275	On	-50.144	-17.73	PASS
8DPSK	LCH	2402	0.175	Off	-49.602	-19.83	PASS
			1.600	On	-49.539	-18.4	PASS
	HCH	2480	-0.256	Off	-51.166	-20.26	PASS
			1.944	On	-49.545	-18.06	PASS

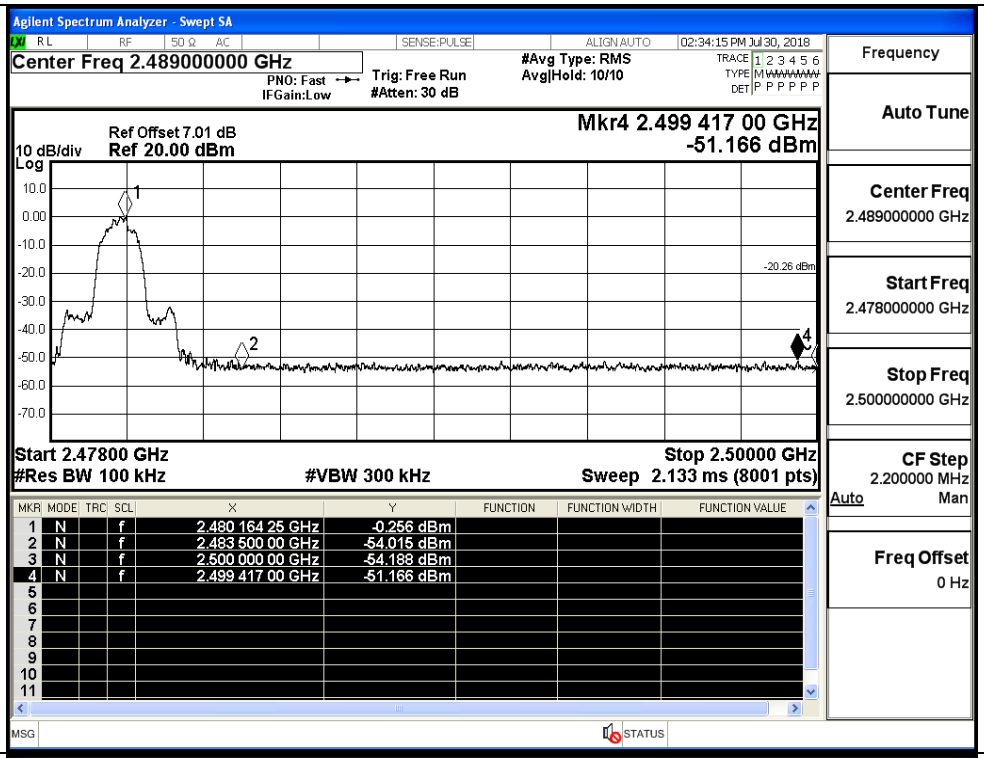
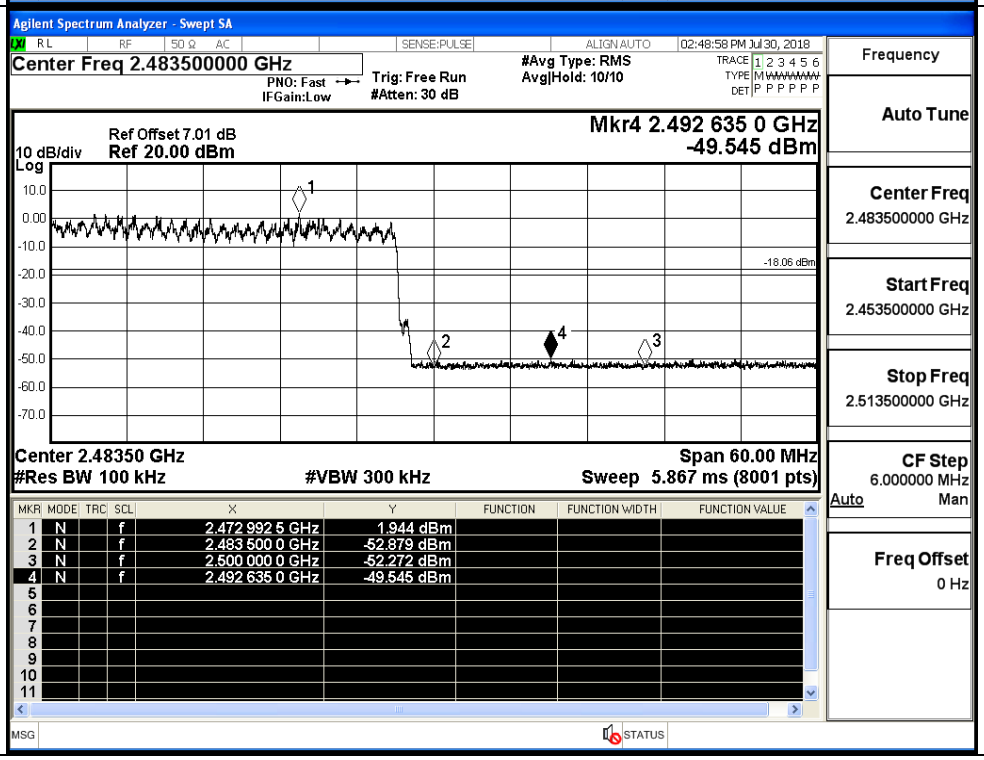
Test Graphs	
GFSK/LCH/No Hop	
GFSK/LCH/Hop	

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	

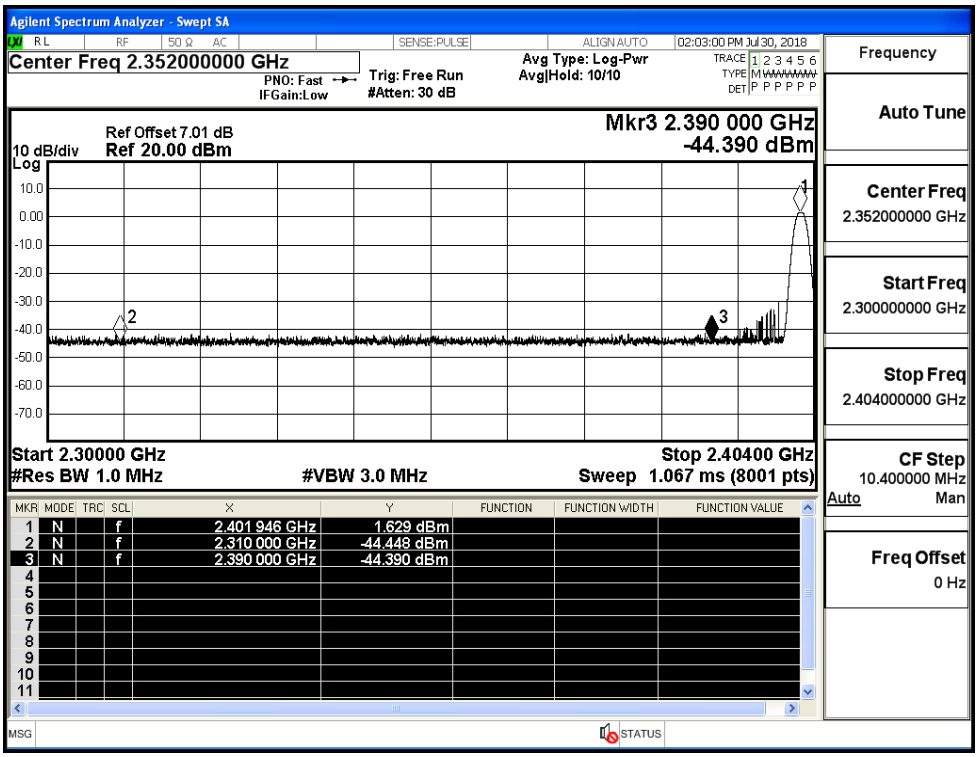
8DPSK/LCH/No Hop	
8DPSK/LCH/Hop	

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

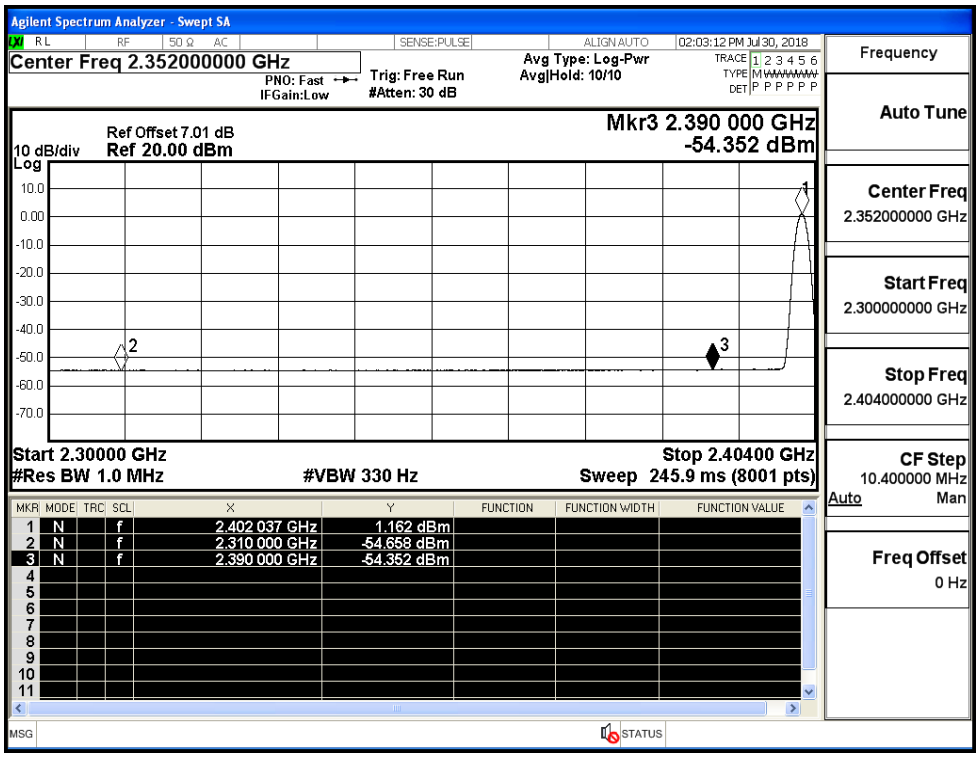
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-44.45	2.0	0	50.81	PEAK	74	PASS
	Off	2310.0	-54.66	2.0	0	40.60	AV	54	PASS
	Off	2390.0	-44.39	2.0	0	50.87	PEAK	74	PASS
	Off	2390.0	-54.35	2.0	0	40.91	AV	54	PASS
	Off	2483.5	-43.85	2.0	0	51.41	PEAK	74	PASS
	Off	2483.5	-54.12	2.0	0	41.13	AV	54	PASS
	Off	2500.0	-44.37	2.0	0	50.89	PEAK	74	PASS
	Off	2500.0	-53.93	2.0	0	41.33	AV	54	PASS
π/4DQPSK	Off	2310.0	-43.76	2.0	0	51.50	PEAK	74	PASS
	Off	2310.0	-54.63	2.0	0	40.63	AV	54	PASS
	Off	2390.0	-43.49	2.0	0	51.77	PEAK	74	PASS
	Off	2390.0	-54.28	2.0	0	40.97	AV	54	PASS
	Off	2483.5	-44.08	2.0	0	51.18	PEAK	74	PASS
	Off	2483.5	-54.02	2.0	0	41.24	AV	54	PASS
	Off	2500.0	-44.19	2.0	0	51.07	PEAK	74	PASS
	Off	2500.0	-54.03	2.0	0	41.23	AV	54	PASS
8DPSK	Off	2310.0	-44.56	2.0	0	50.70	PEAK	74	PASS
	Off	2310.0	-54.68	2.0	0	40.57	AV	54	PASS
	Off	2390.0	-45.06	2.0	0	50.19	PEAK	74	PASS
	Off	2390.0	-54.33	2.0	0	40.92	AV	54	PASS
	Off	2483.5	-44.01	2.0	0	51.25	PEAK	74	PASS
	Off	2483.5	-53.99	2.0	0	41.26	AV	54	PASS
	Off	2500.0	-44.08	2.0	0	51.18	PEAK	74	PASS
	Off	2500.0	-54.00	2.0	0	41.25	AV	54	PASS

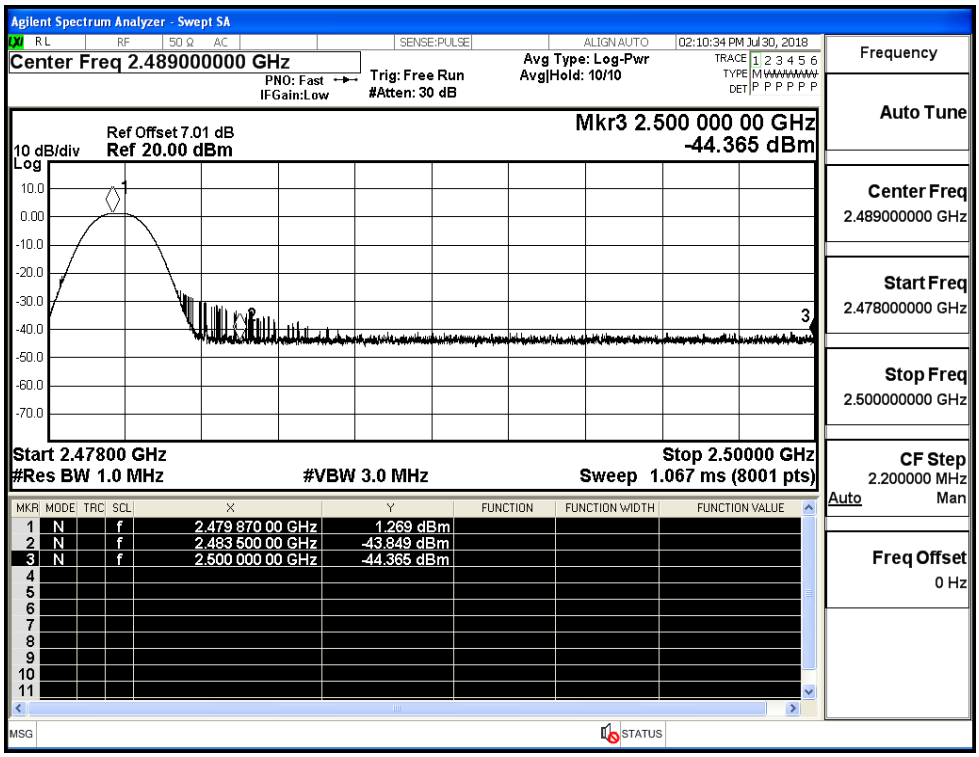
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



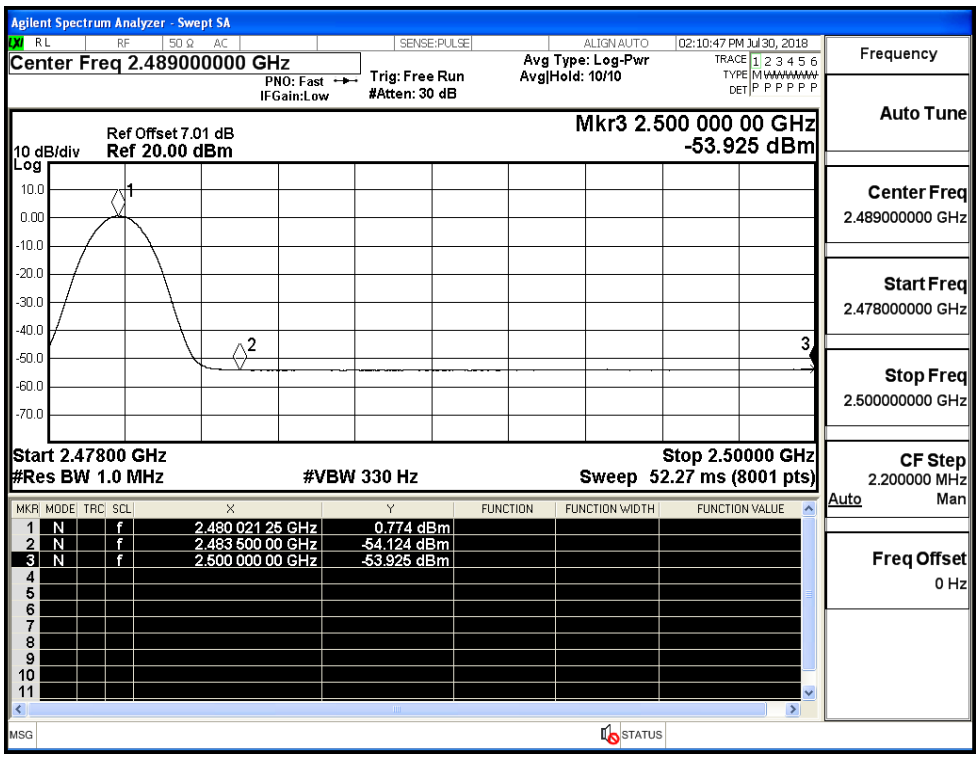
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



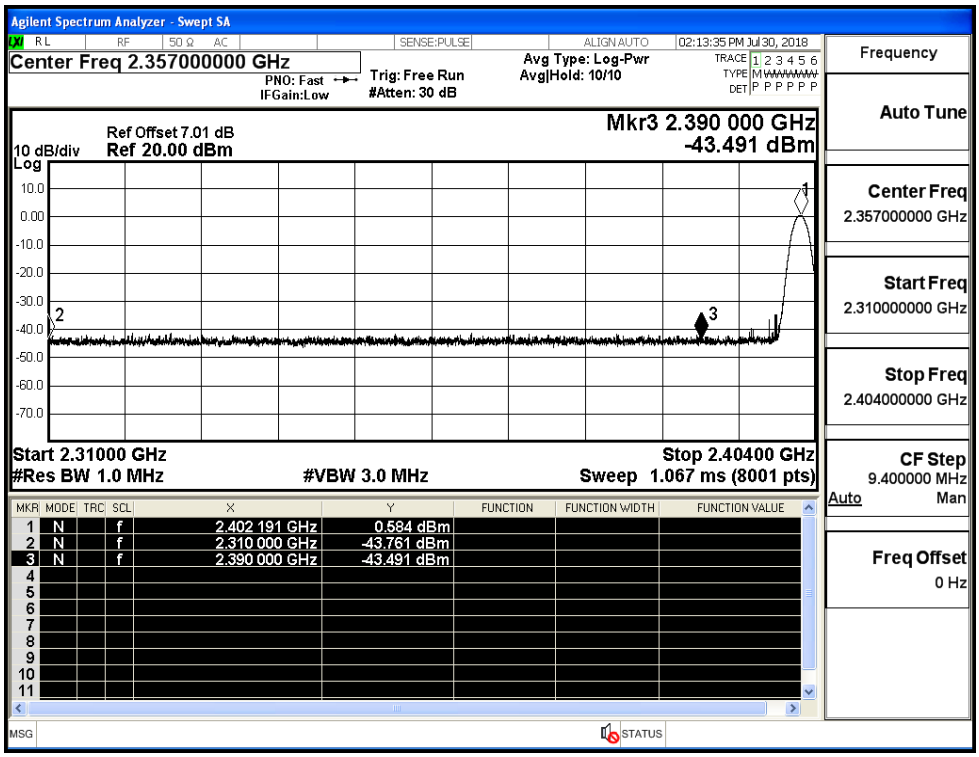
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



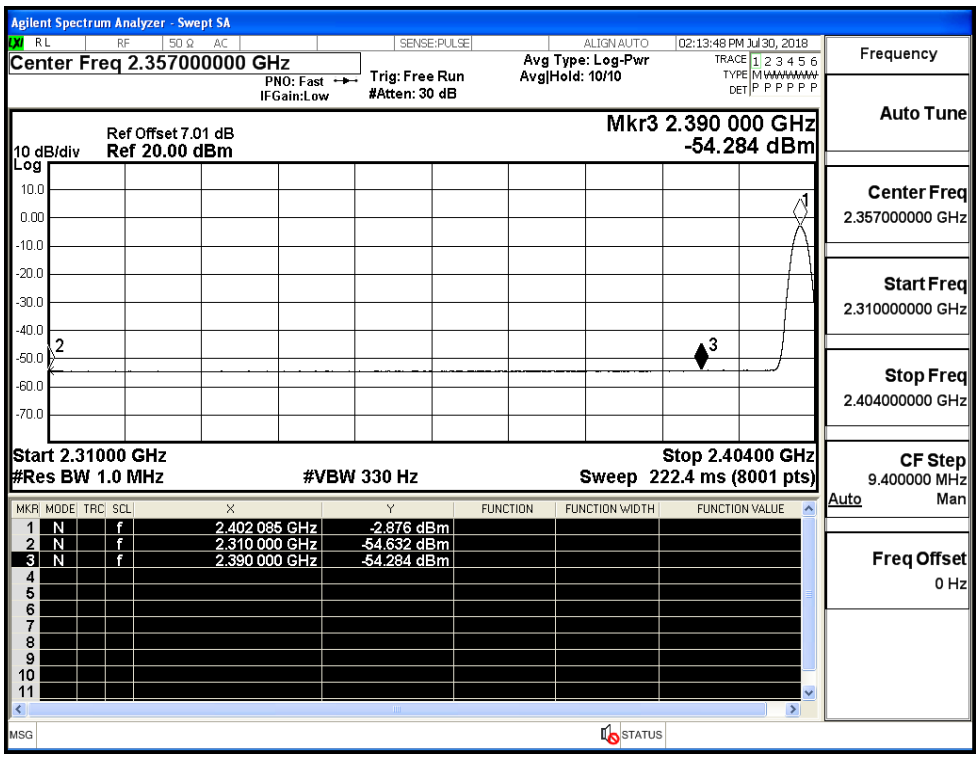
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



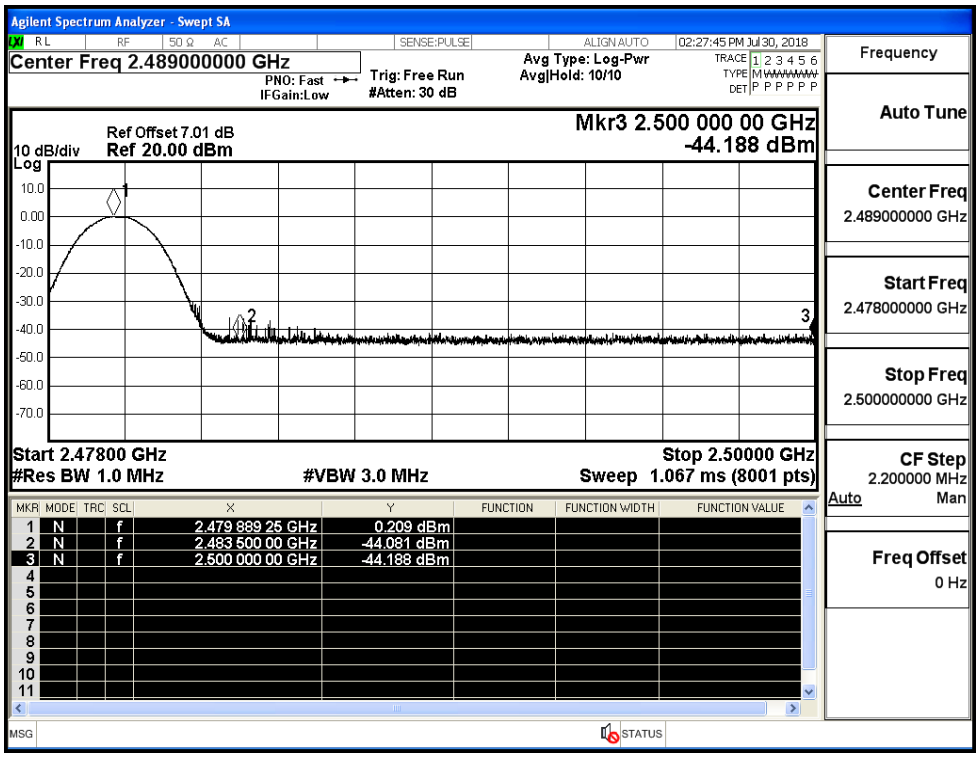
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



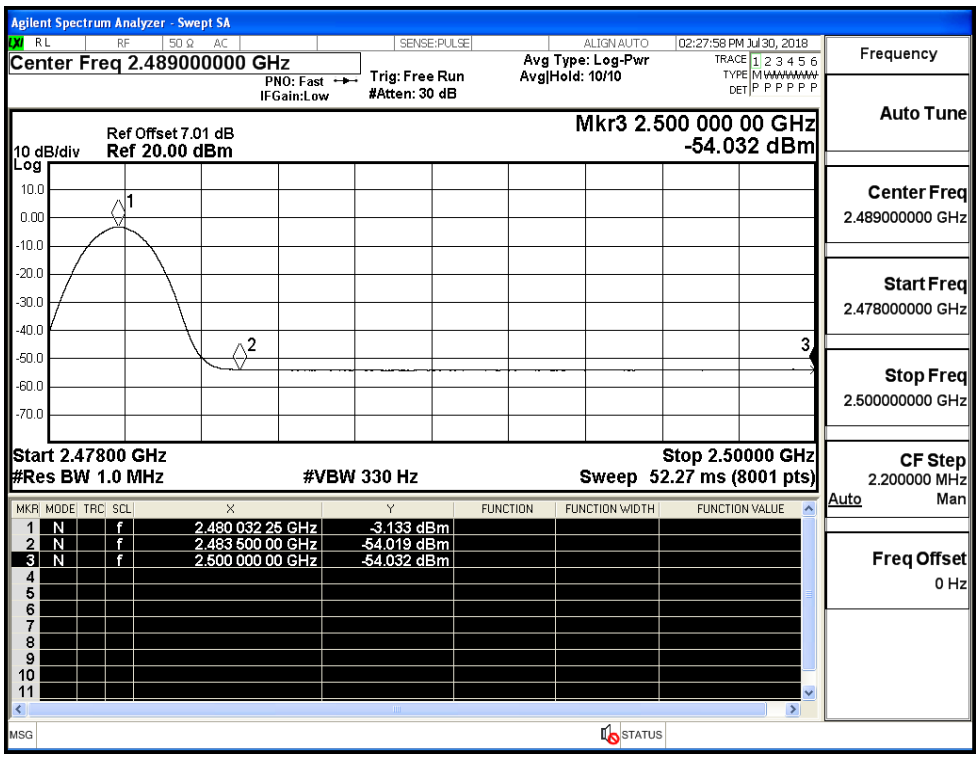
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



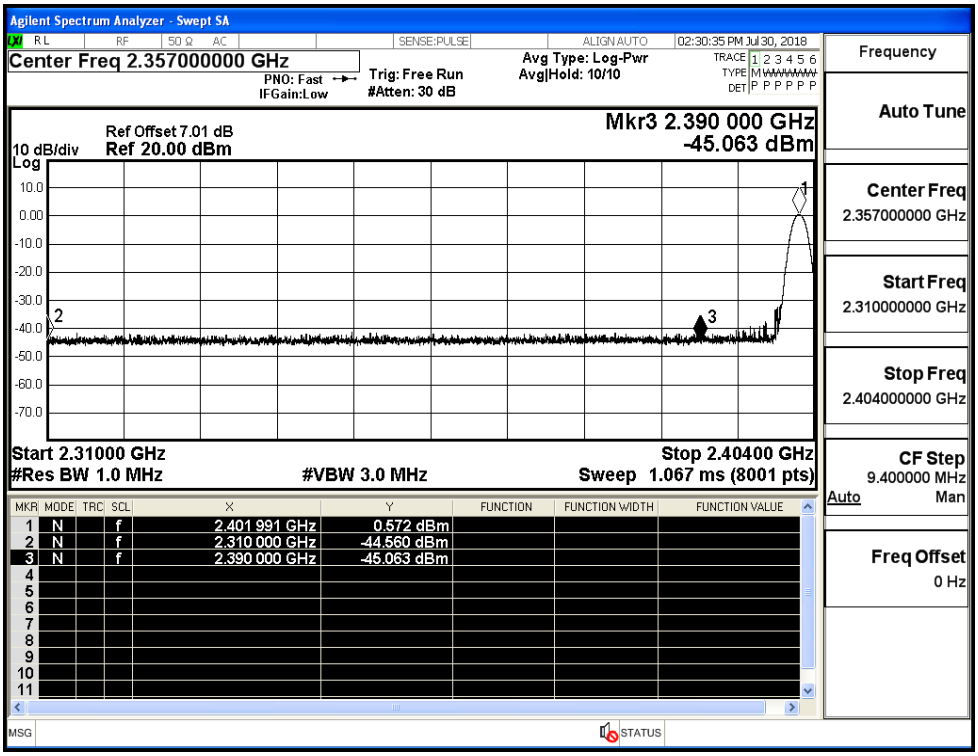
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



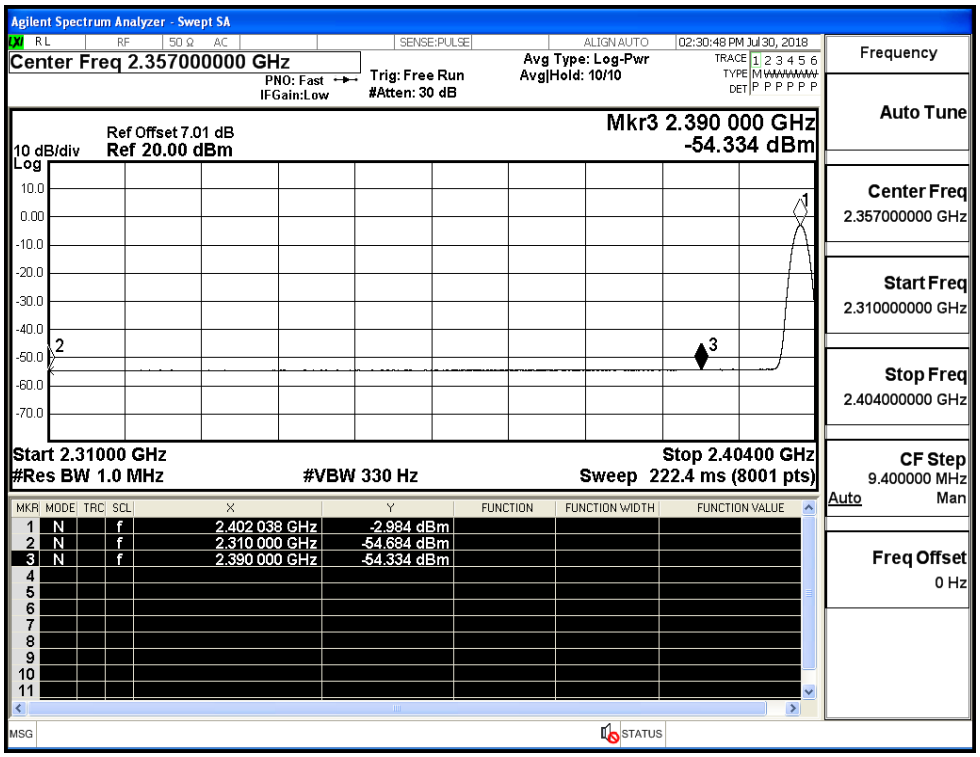
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



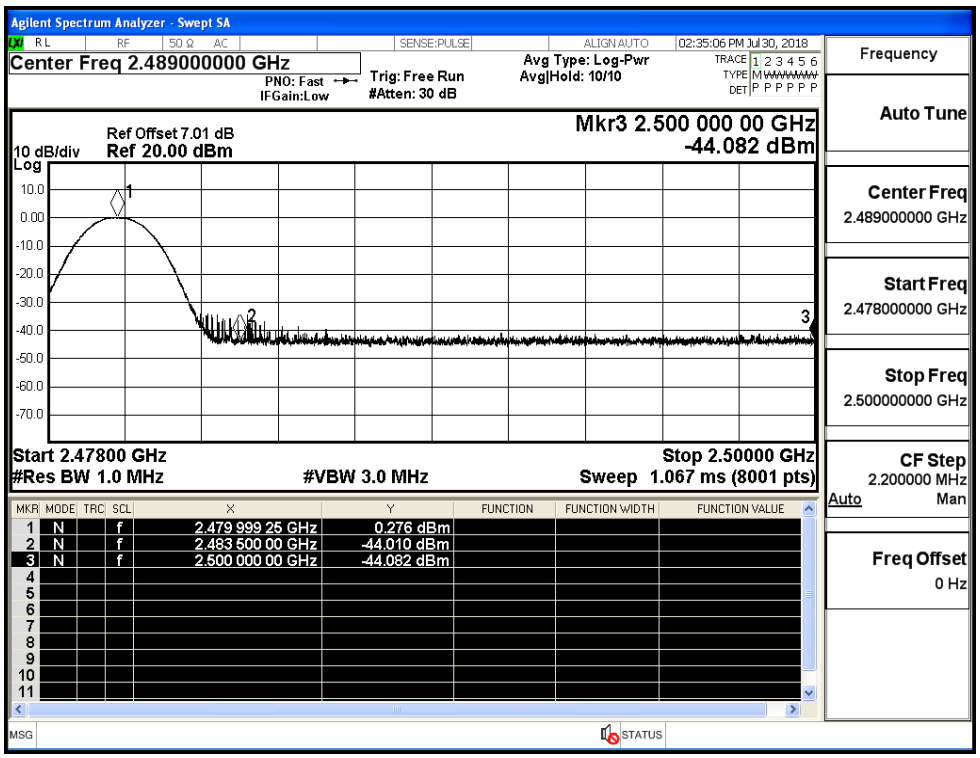
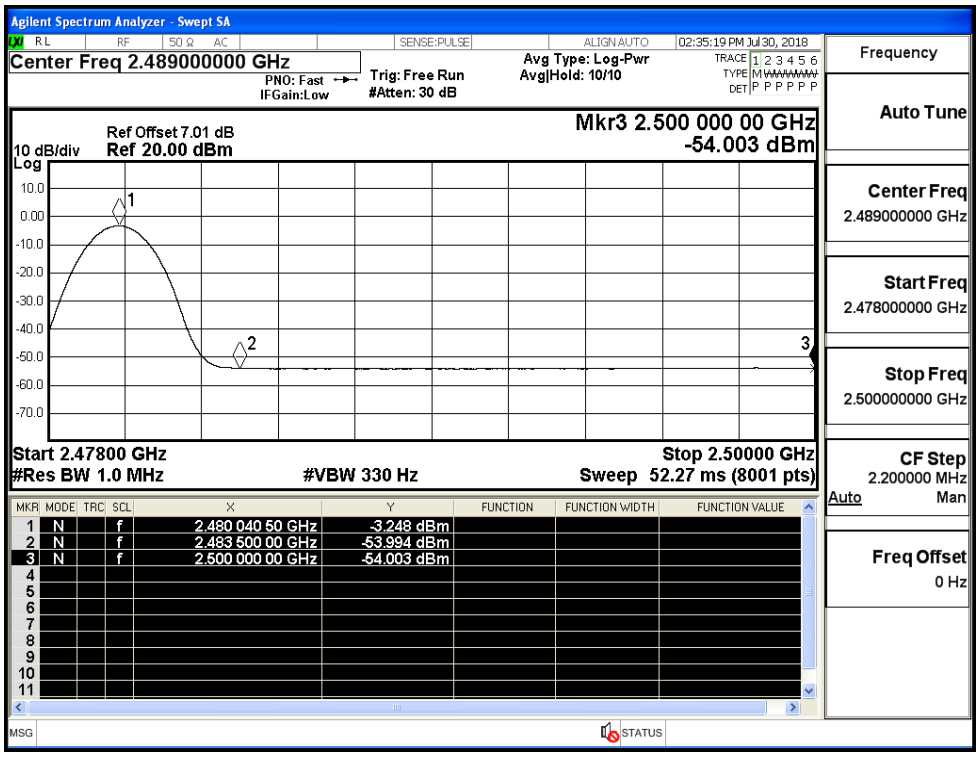
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)