Appendix A

RF Test Data for BT V4.1 (BDR/EDR) (Conducted Measurement)

Product Name: 6-Inch Rugged Windows Handheld tablet

Trade Mark: N/A

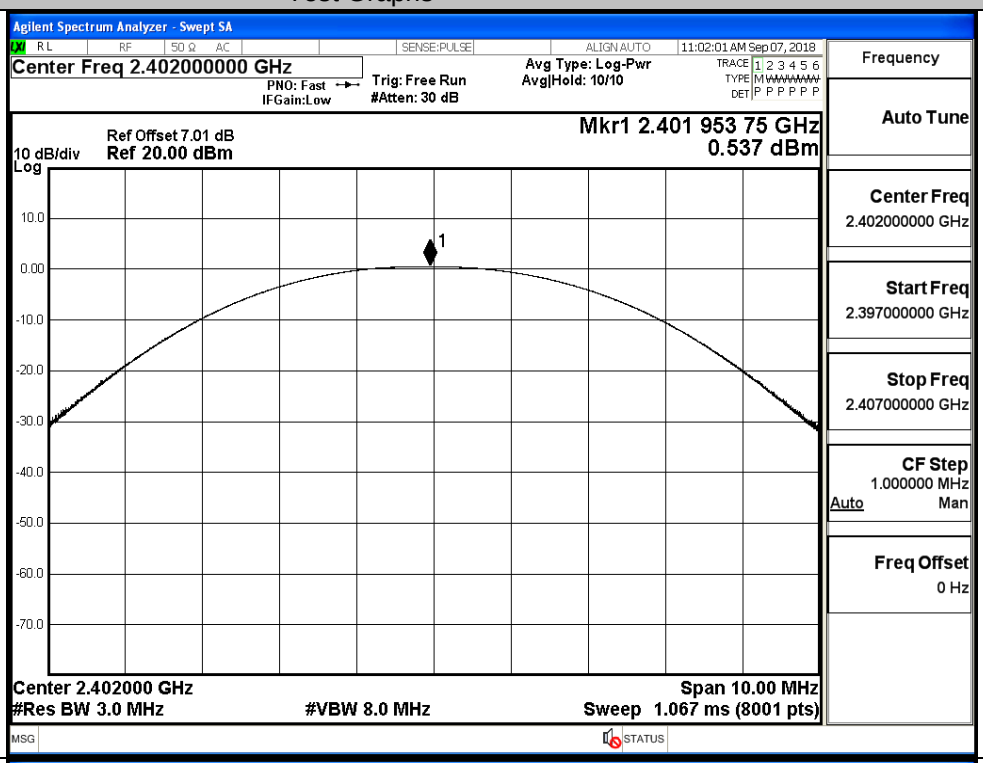
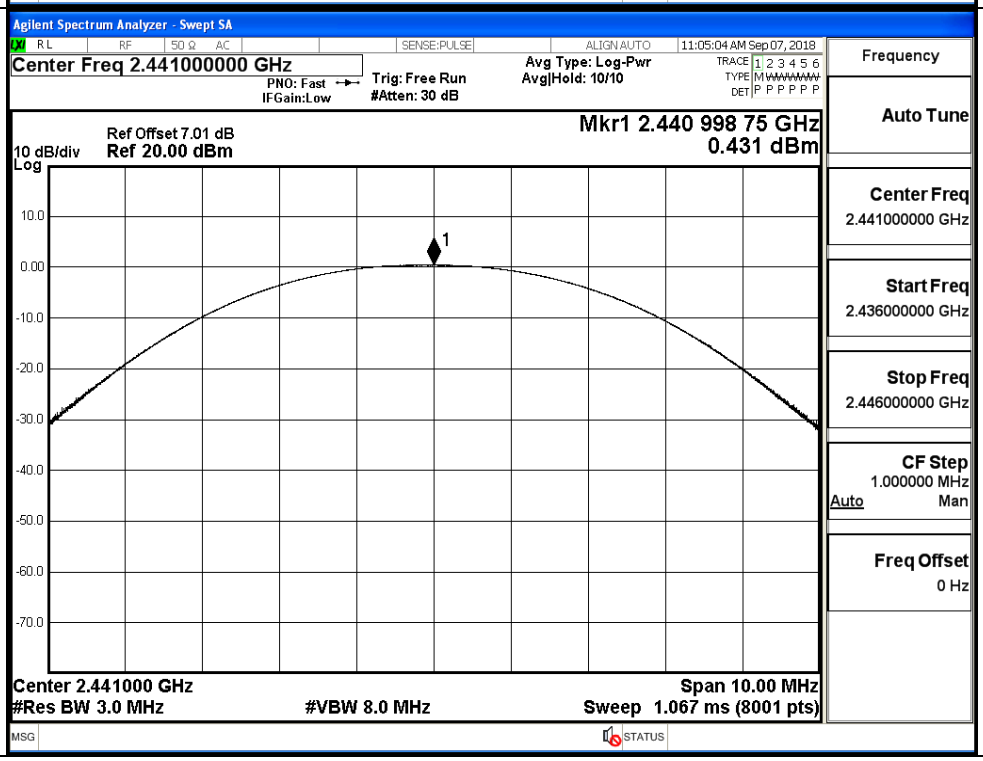
Test Model: DP10

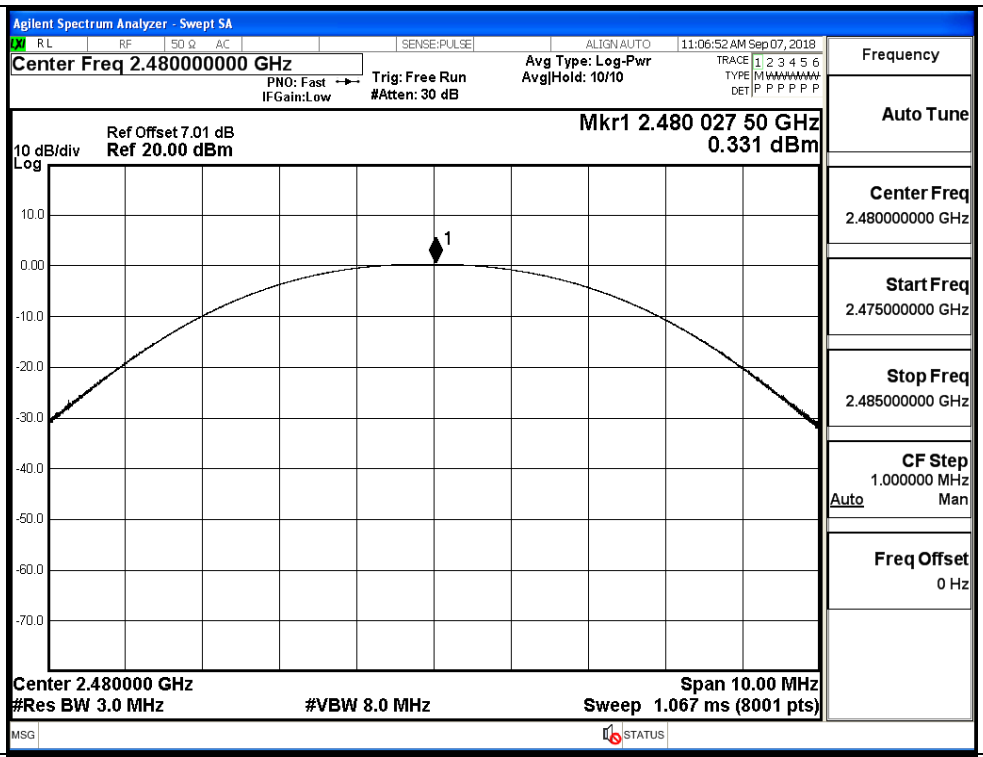
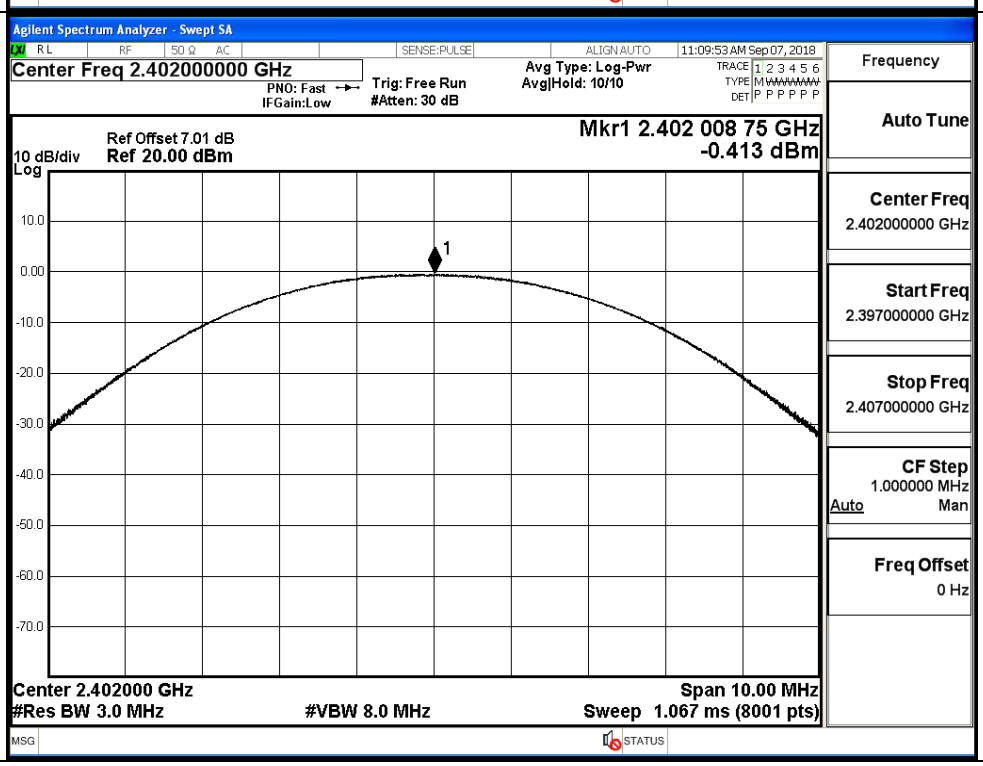
Environmental Conditions

Temperature:	24.6°C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond.Lu
Supervised by:	Jayden.Zhuo

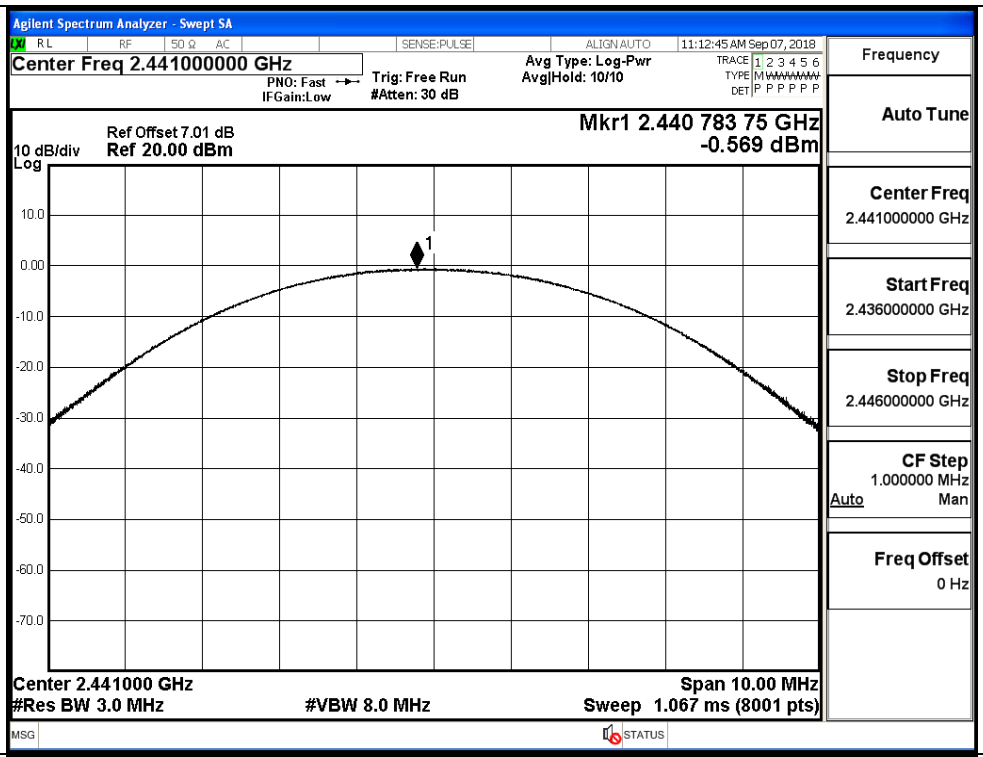
A.1 Maximum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.537	21	PASS
	MCH	0.431	21	PASS
	HCH	0.331	21	PASS
π/4DQPSK	LCH	-0.413	21	PASS
	MCH	-0.569	21	PASS
	HCH	-0.284	21	PASS
8DPSK	LCH	0.060	21	PASS
	MCH	-0.031	21	PASS
	HCH	-0.151	21	PASS

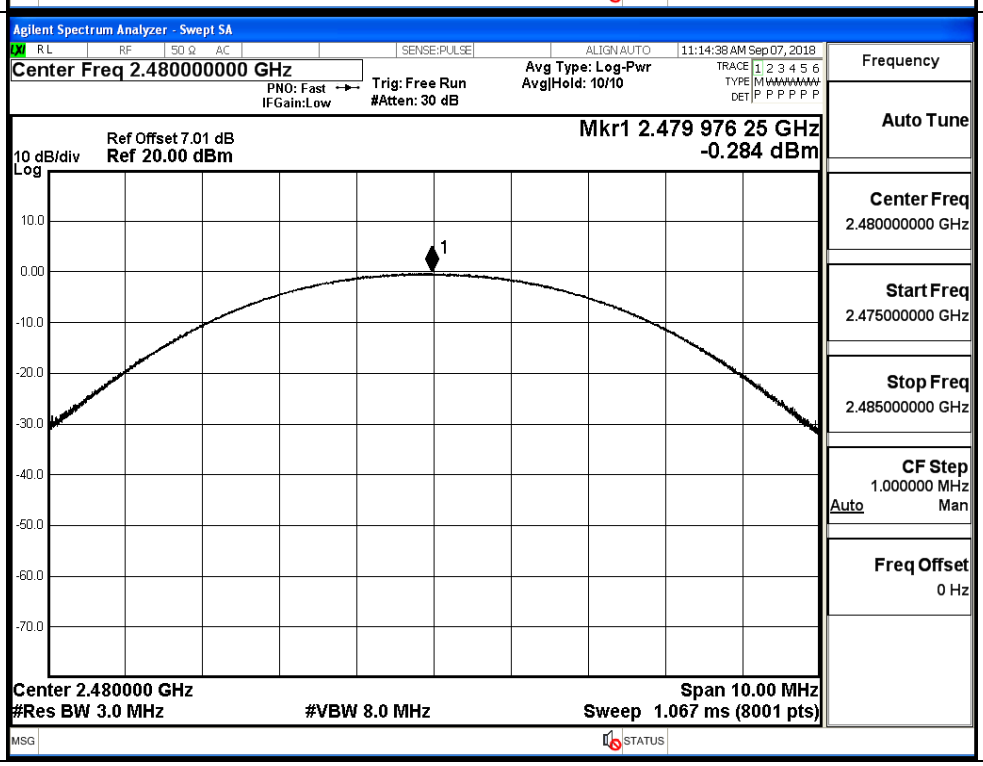
Test Graphs		
GFSK/LCH		
GFSK/MCH		

GFSK/HCH		
π/4DQPSK/LCH		

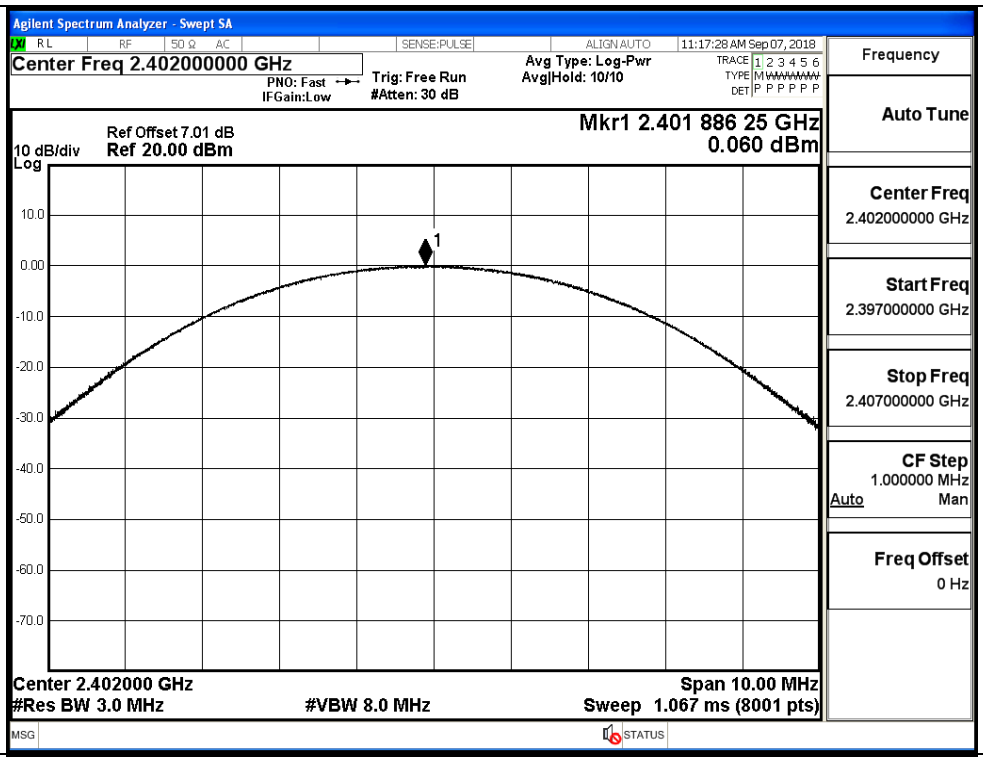
π/4DQPSK/MCH



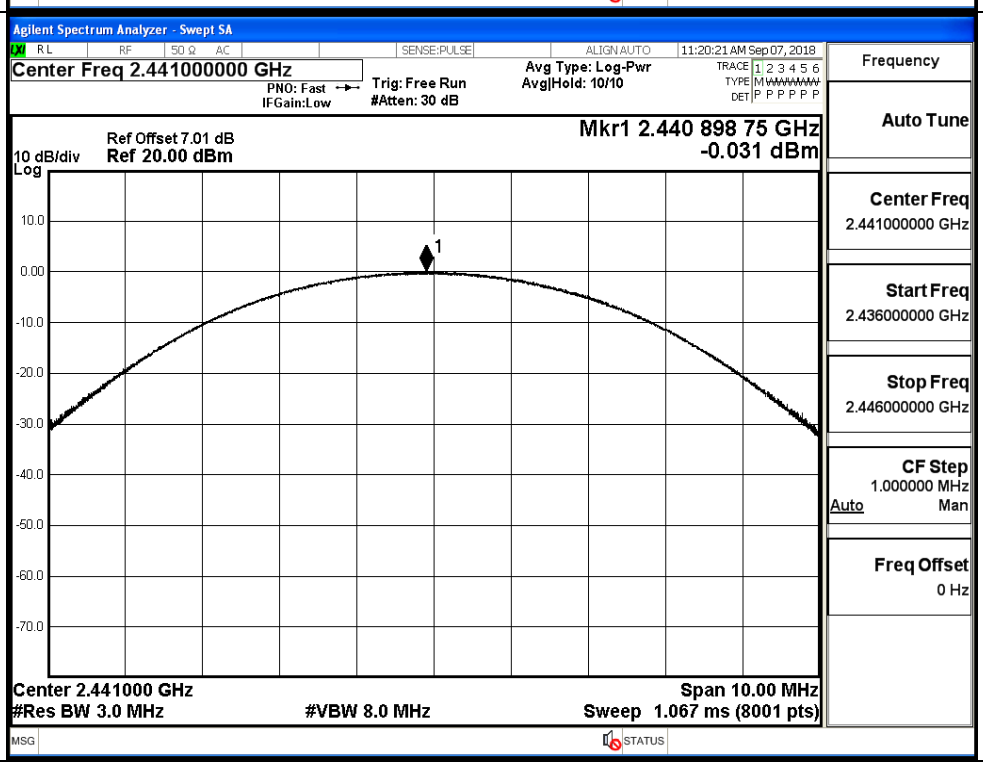
π/4DQPSK/HCH

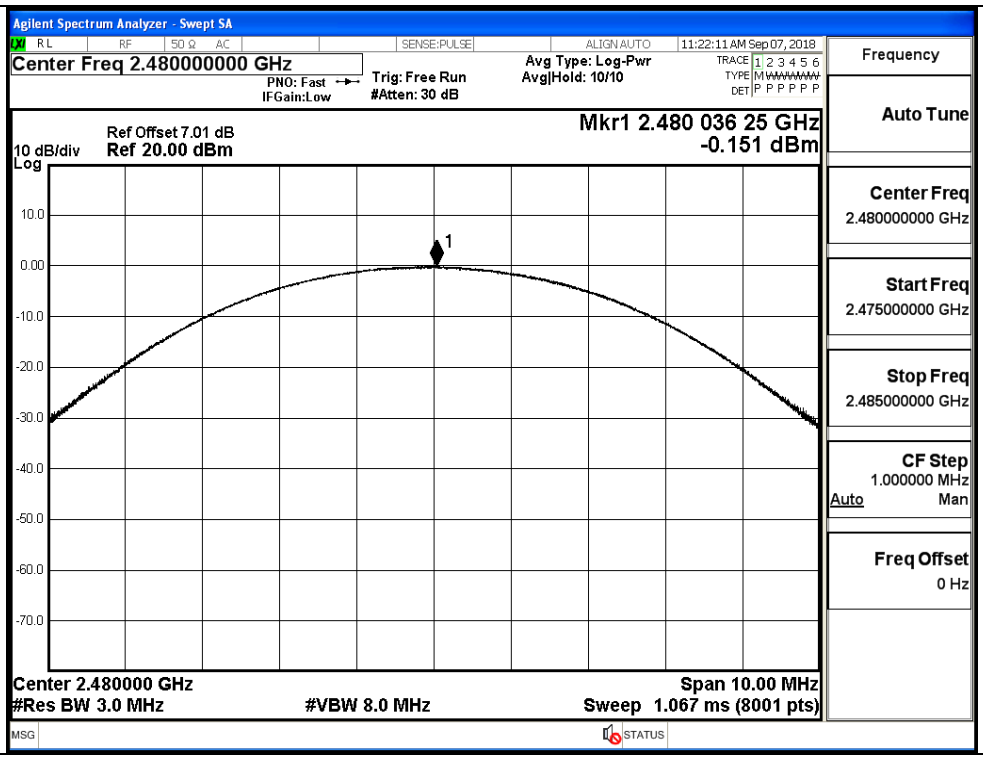


8DPSK/LCH



8DPSK/MCH

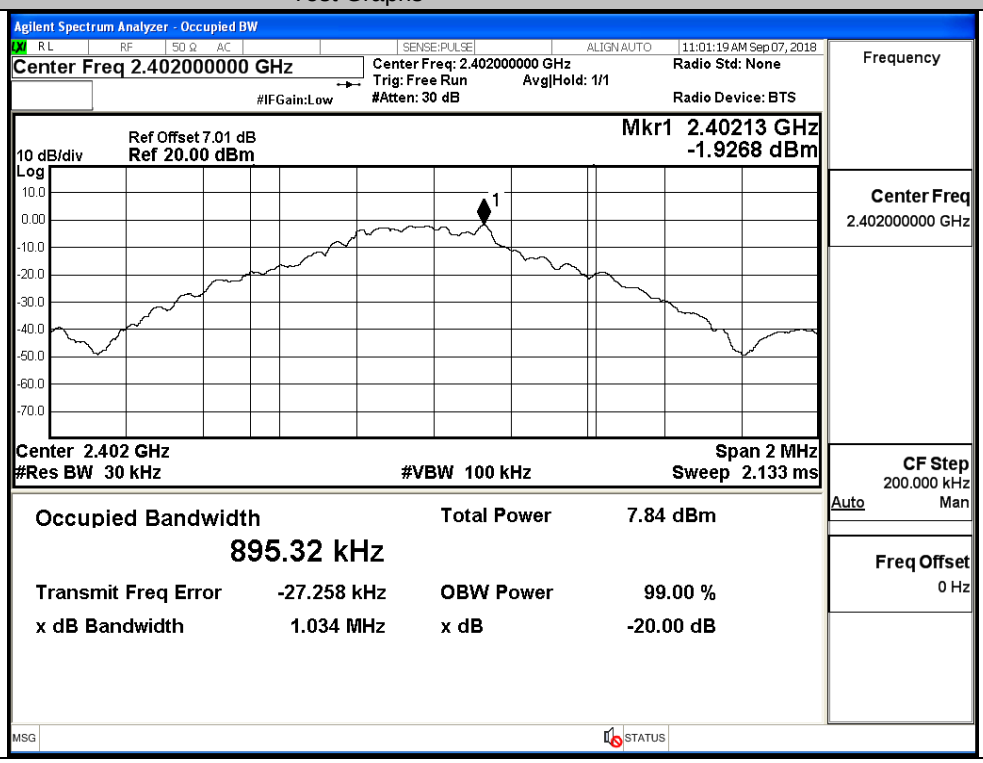


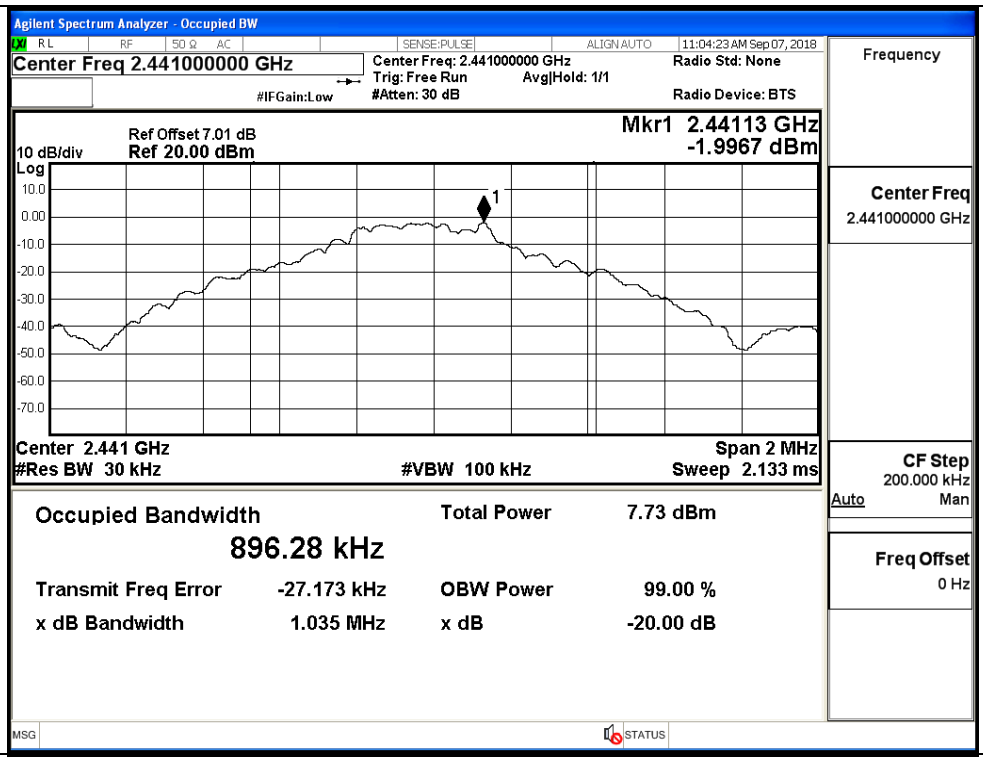
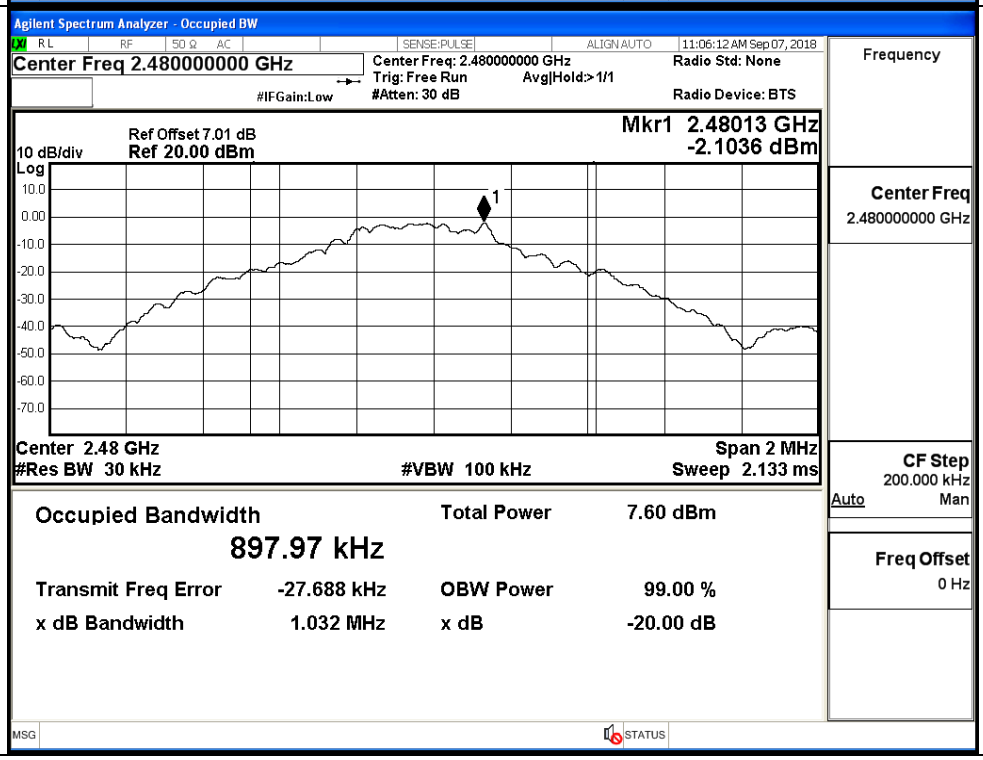
8DPSK/HCH		

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
11:22:11 AM Sep 07, 2018
Ref Offset 7.01 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.480 036 25 GHz
-0.151 dBm
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

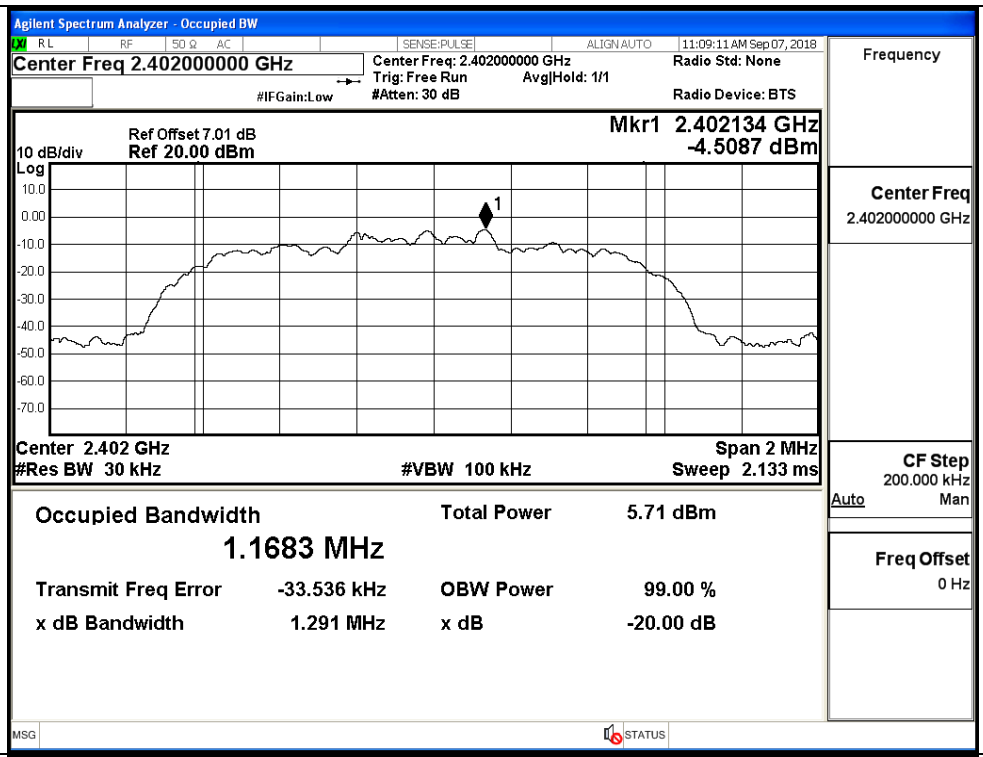
A.2 99% and 20dB Bandwidth

Mode	Channel.	99% Bandwidth [MHz]	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.89532	1.034	Not Specified	PASS
	MCH	0.89628	1.035	Not Specified	PASS
	HCH	0.89797	1.032	Not Specified	PASS
π/4DQPSK	LCH	1.1683	1.291	Not Specified	PASS
	MCH	1.1685	1.287	Not Specified	PASS
	HCH	1.1684	1.288	Not Specified	PASS
8DPSK	LCH	1.1775	1.293	Not Specified	PASS
	MCH	1.1770	1.292	Not Specified	PASS
	HCH	1.1803	1.297	Not Specified	PASS

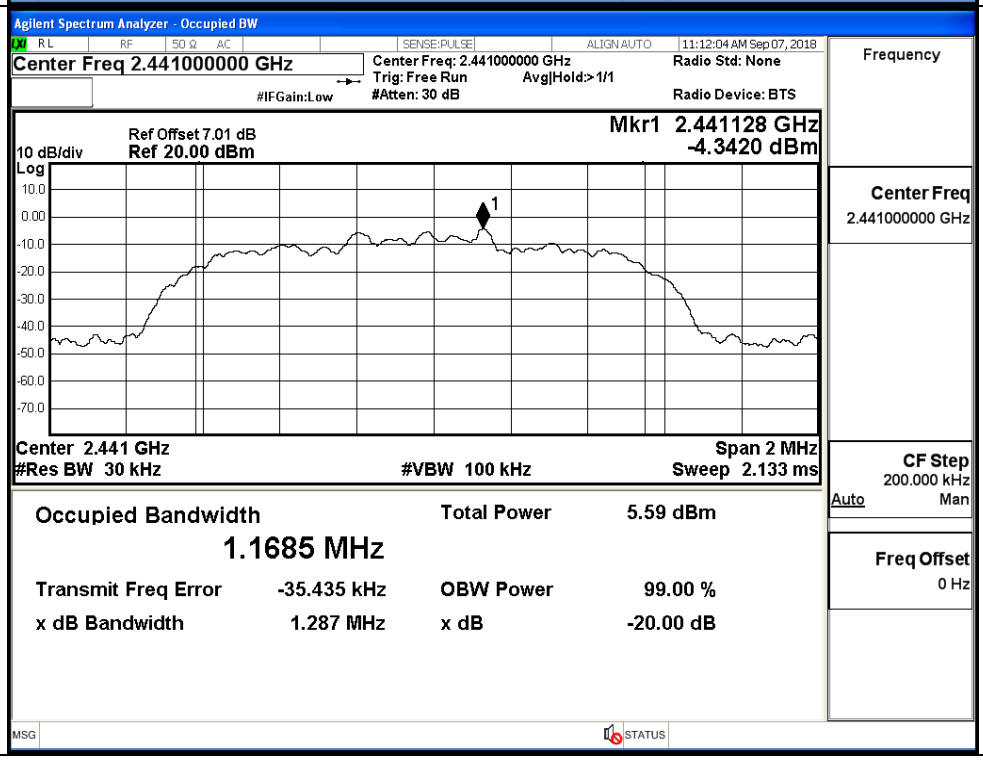
Test Graphs	
GFSK/LCH	

GFSK/MCH	
GFSK/HCH	

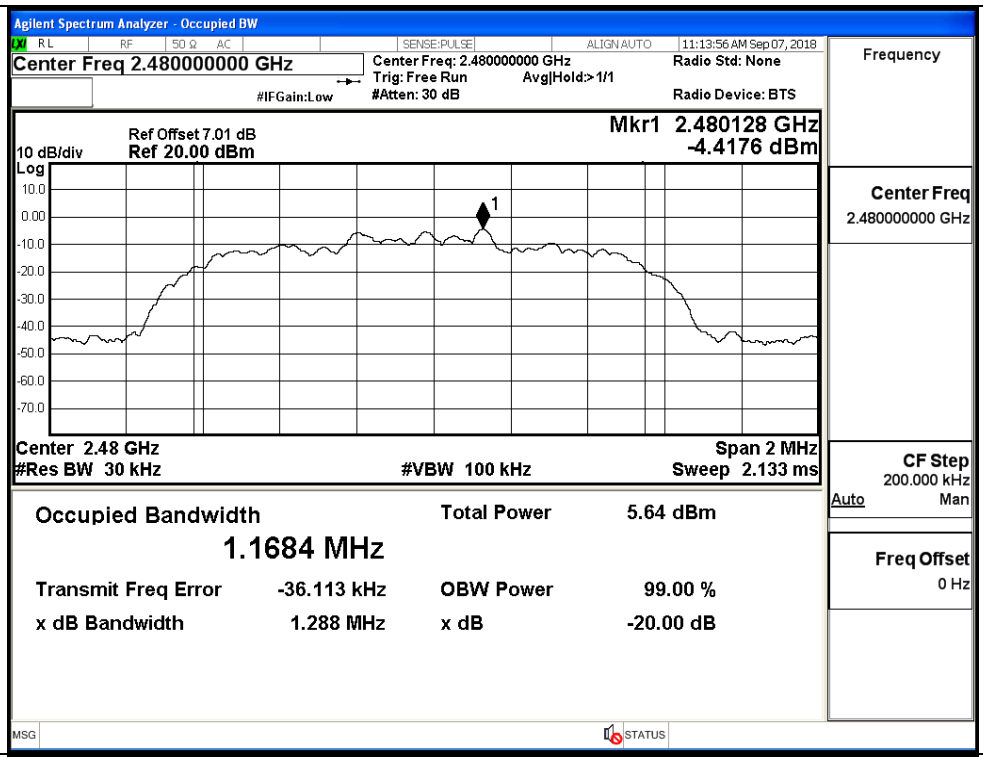
π/4DQPSK/LCH



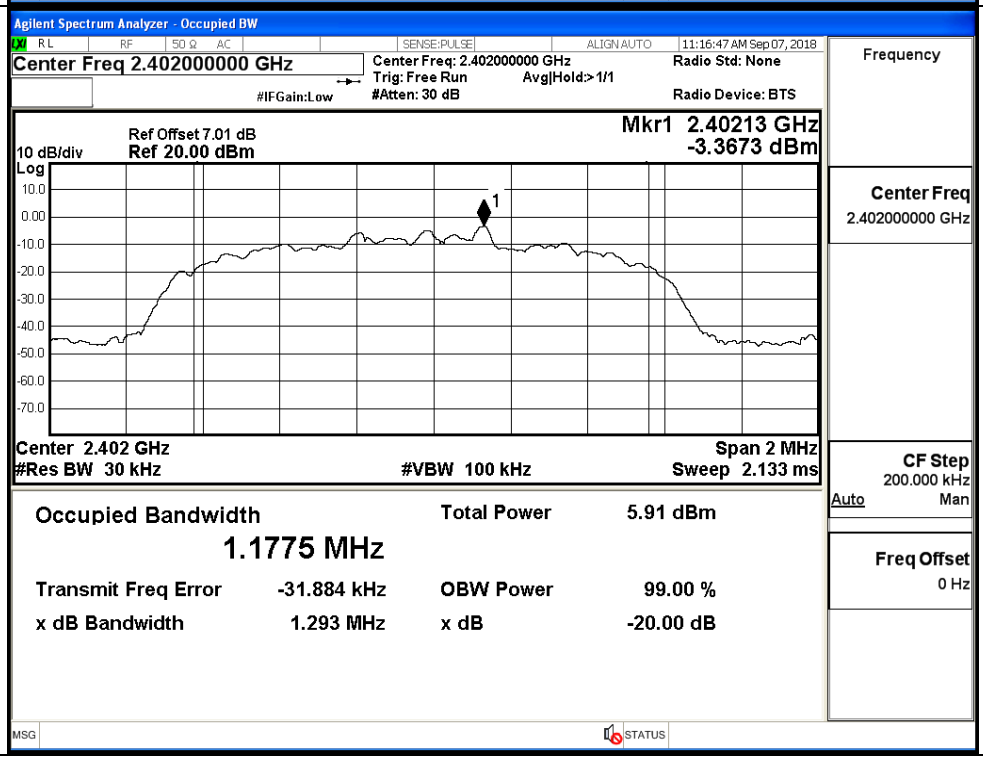
π/4DQPSK/MCH



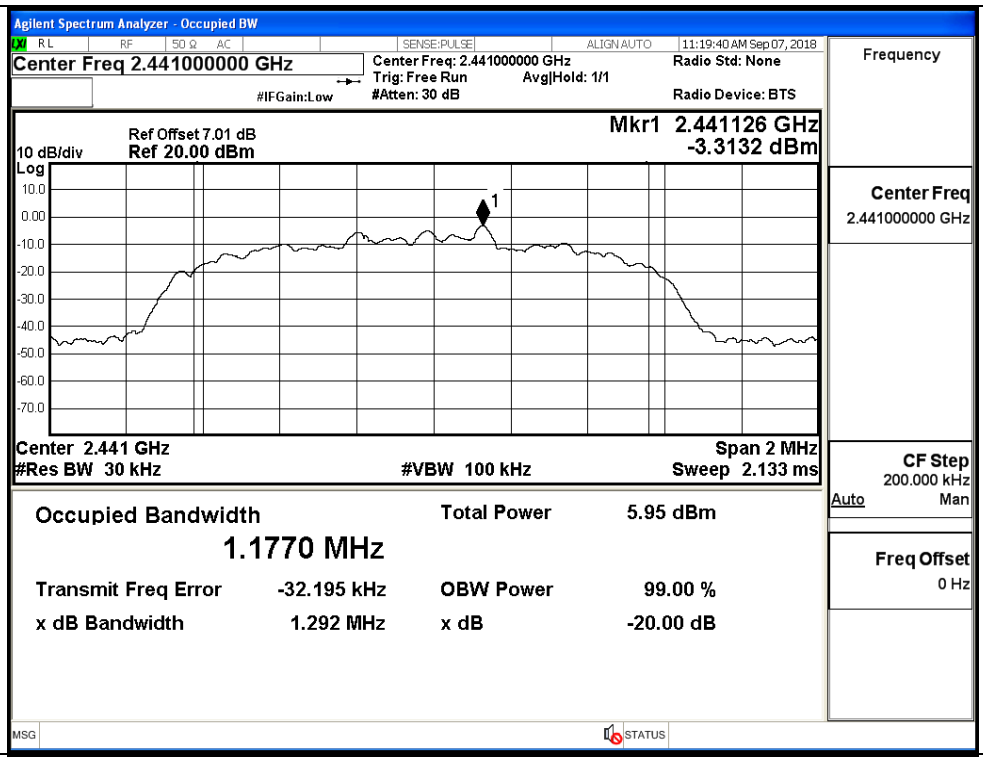
π/4DQPSK/HCH



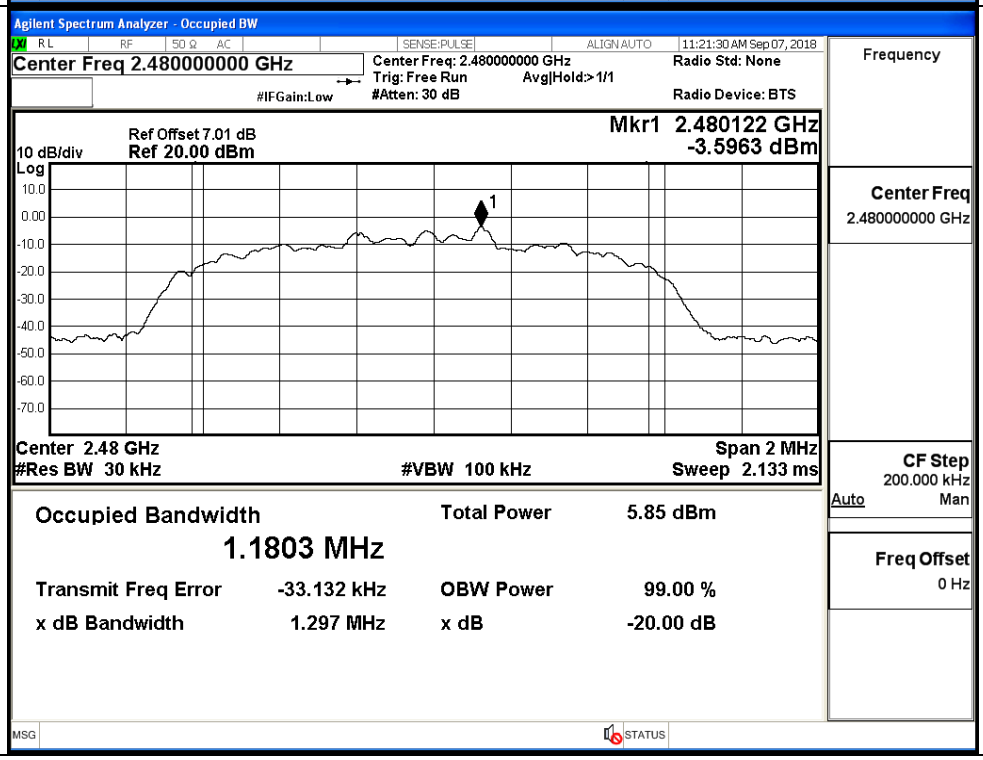
8DPSK/LCH



8DPSK/MCH

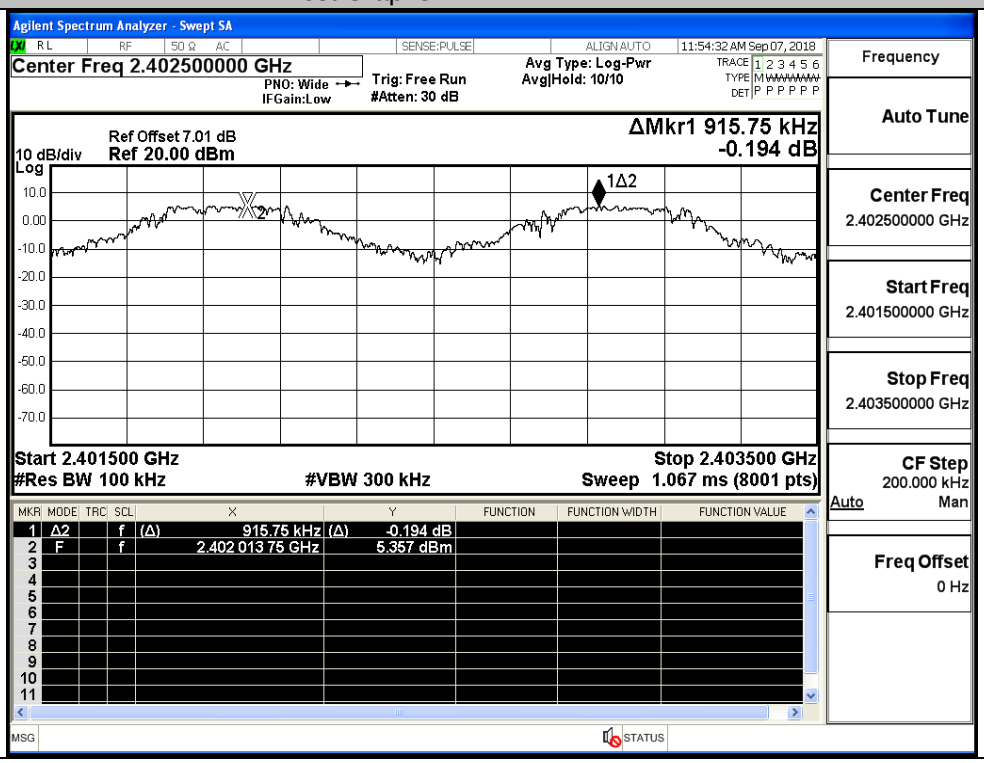


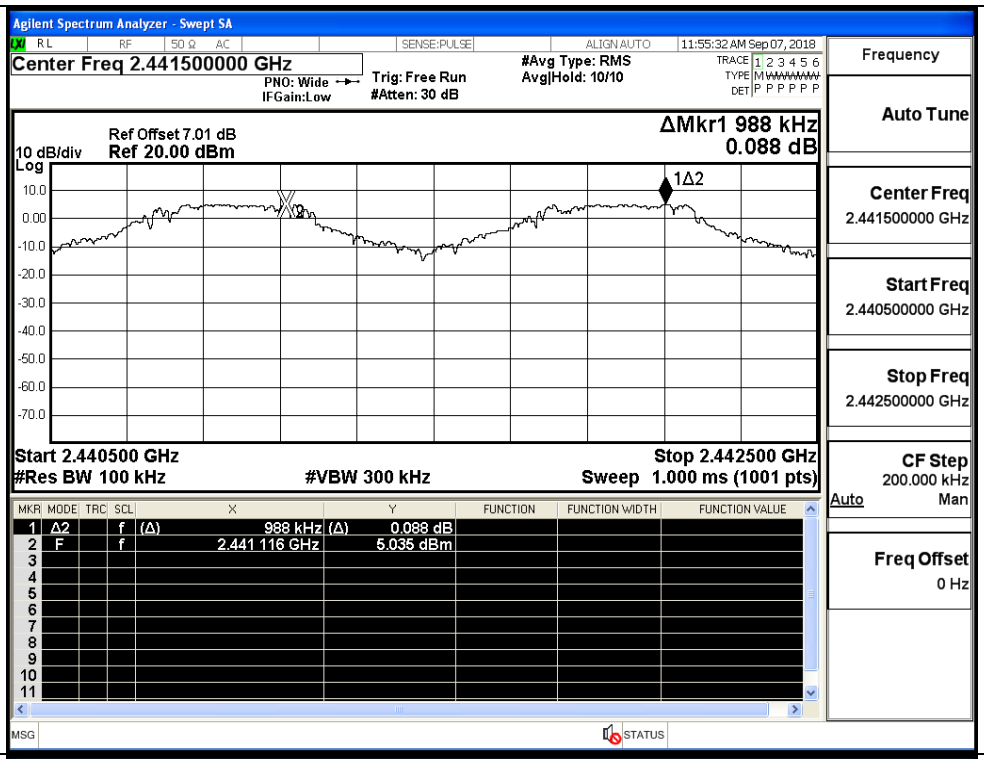
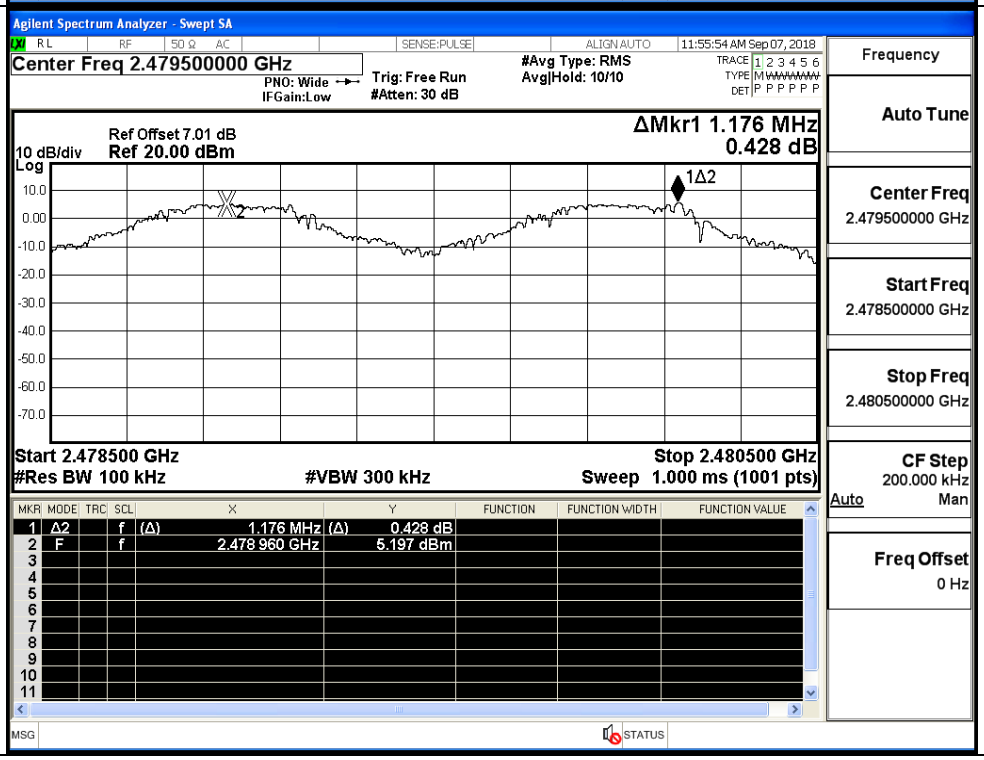
8DPSK/HCH



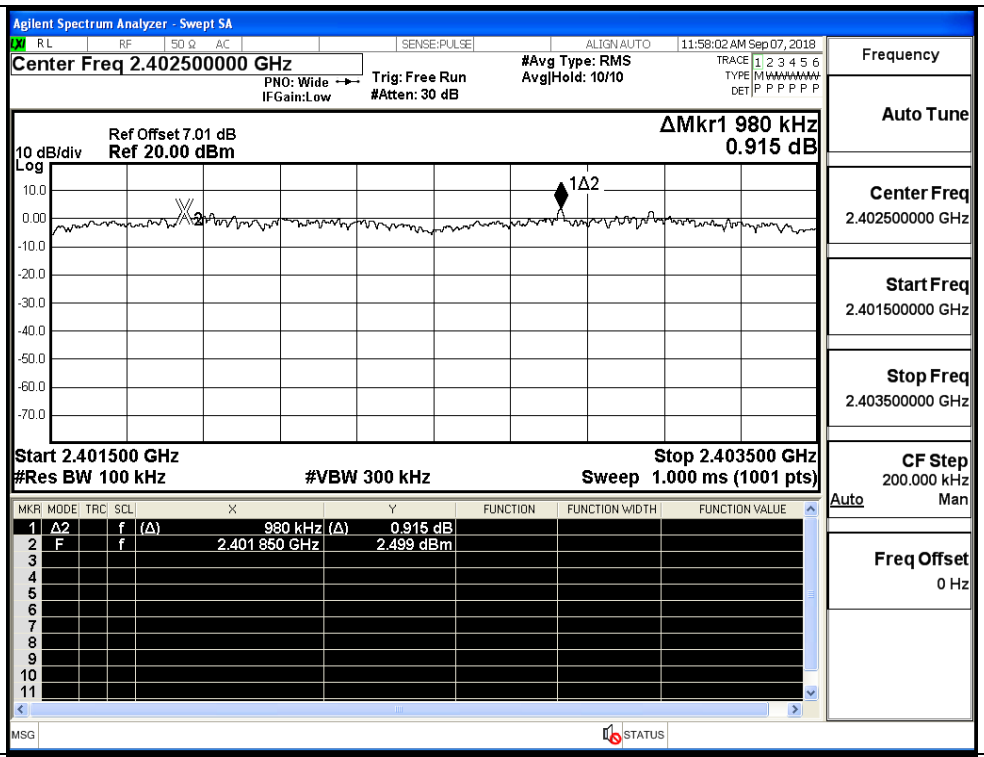
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.916	0.690	PASS
	MCH	0.988	0.690	PASS
	HCH	1.176	0.690	PASS
π/4DQPSK	LCH	0.980	0.861	PASS
	MCH	1.038	0.861	PASS
	HCH	0.880	0.861	PASS
8DPSK	LCH	1.074	0.865	PASS
	MCH	1.292	0.865	PASS
	HCH	1.298	0.865	PASS

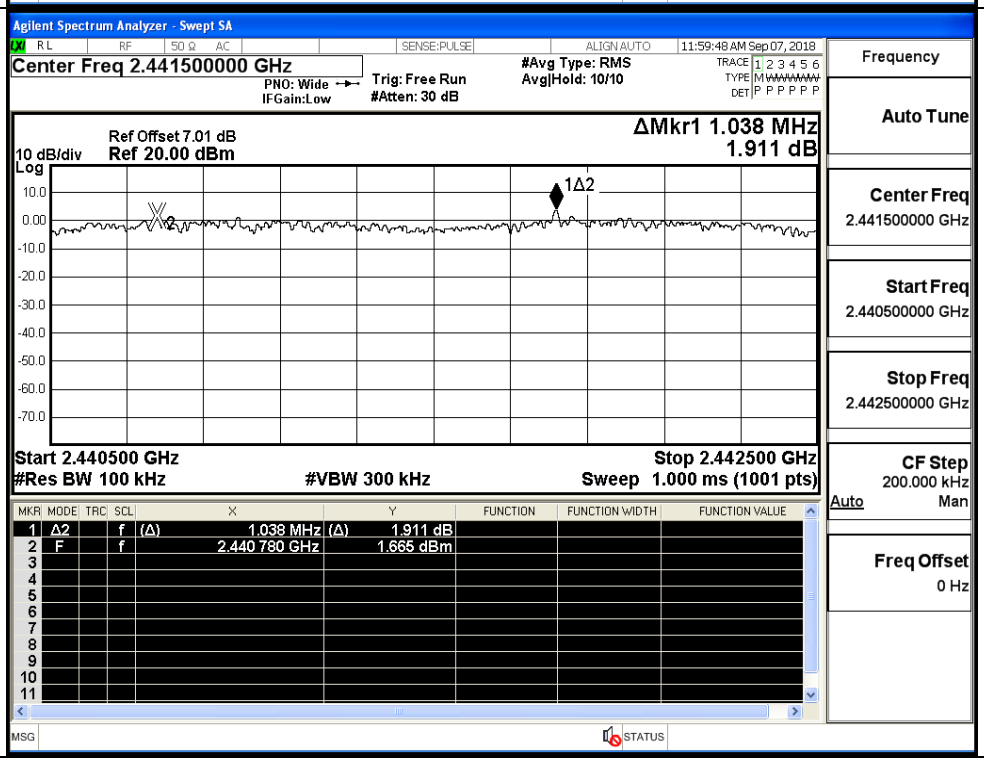
Test Graphs		
GFSK/LCH		

GFSK/MCH		
GFSK/HCH		

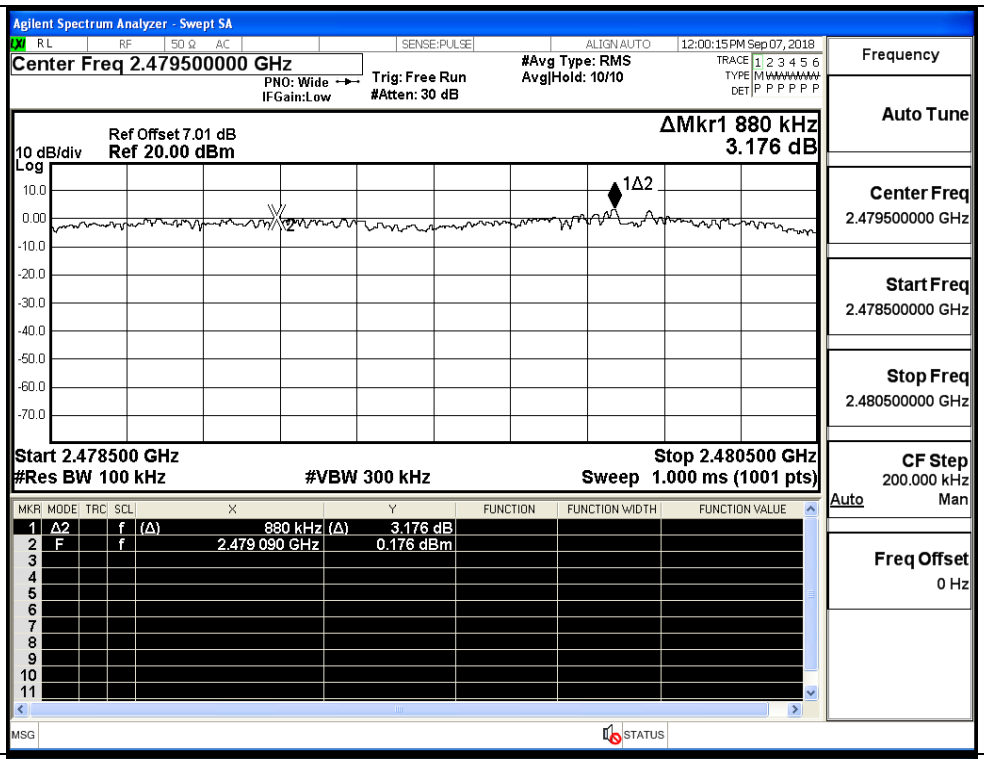
π/4DQPSK/LCH



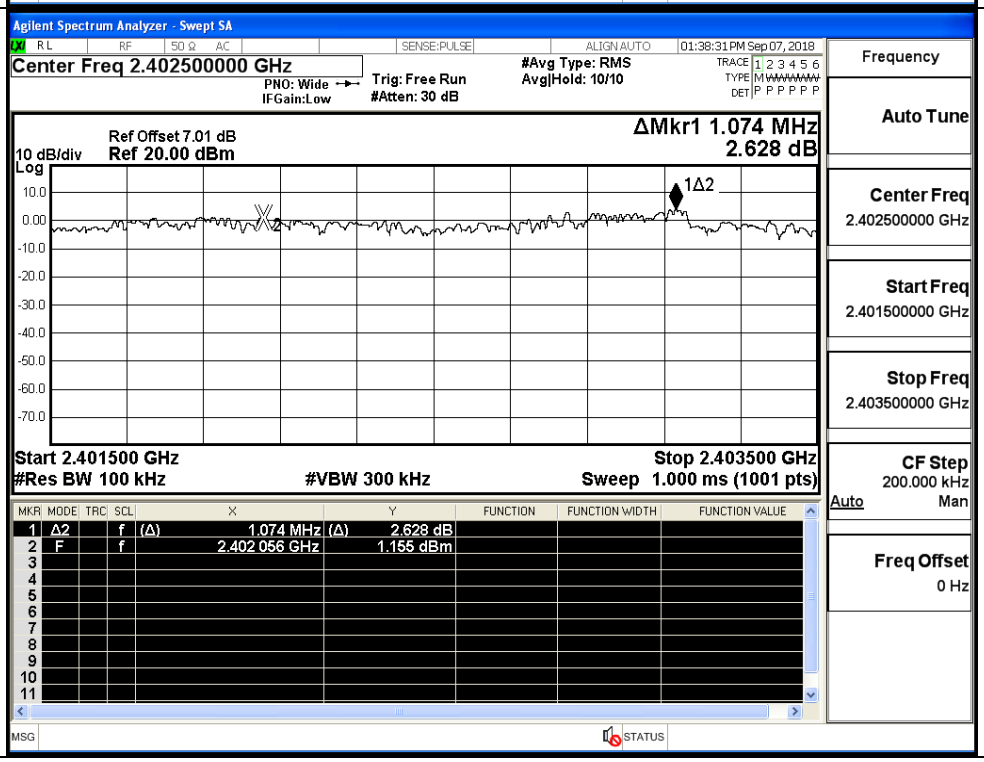
π/4DQPSK/MCH

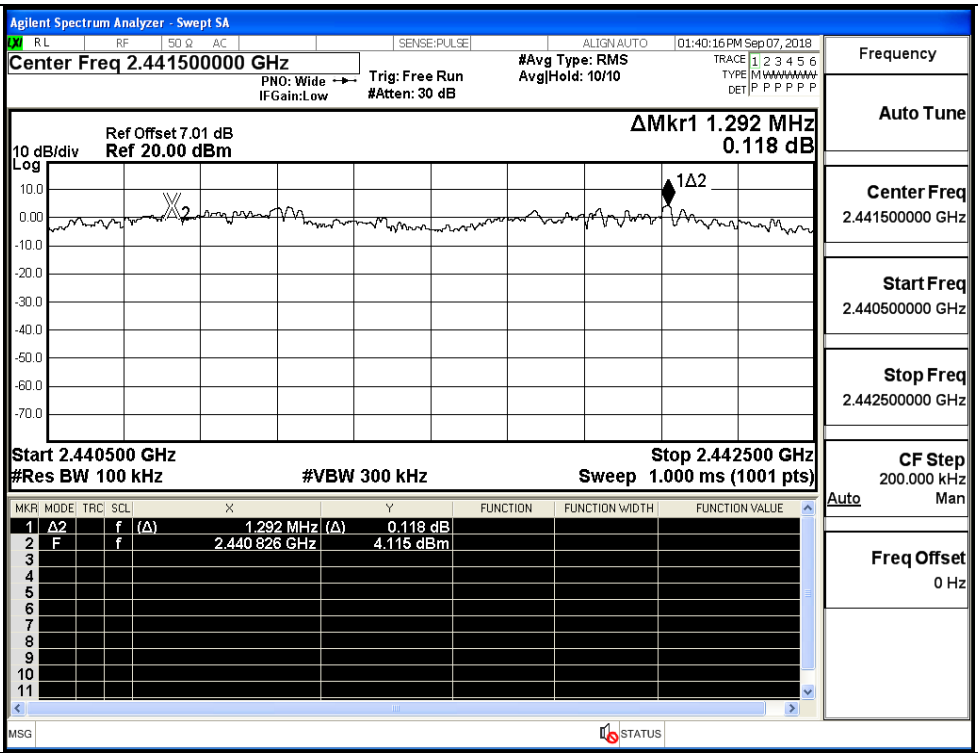
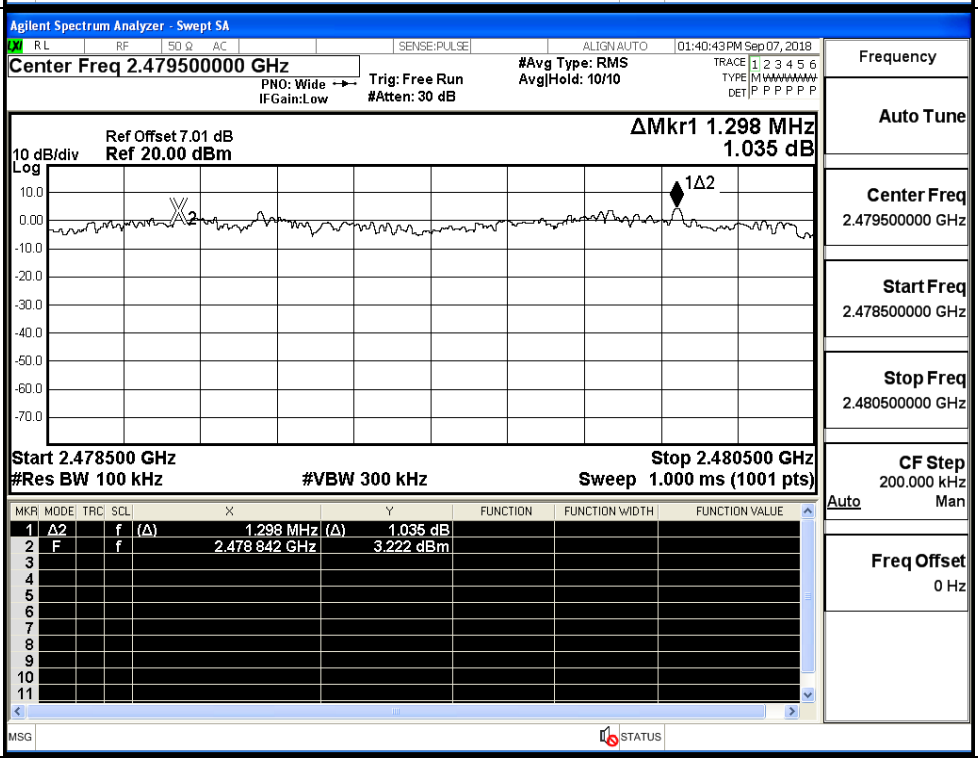


π/4DQPSK/HCH



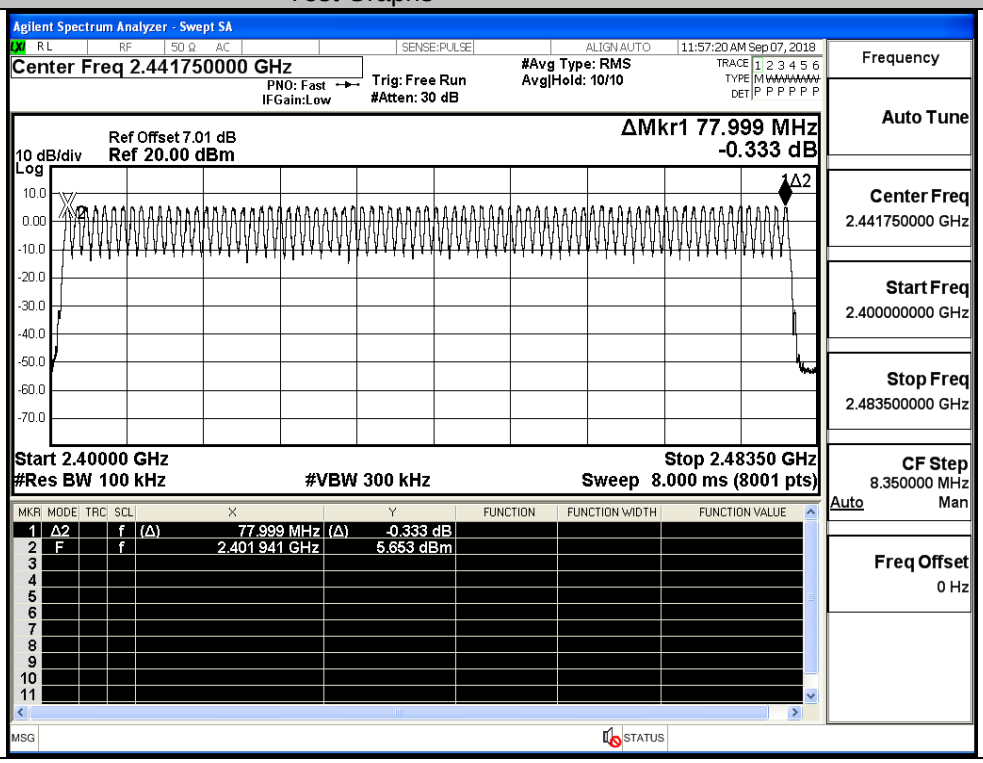
8DPSK/LCH



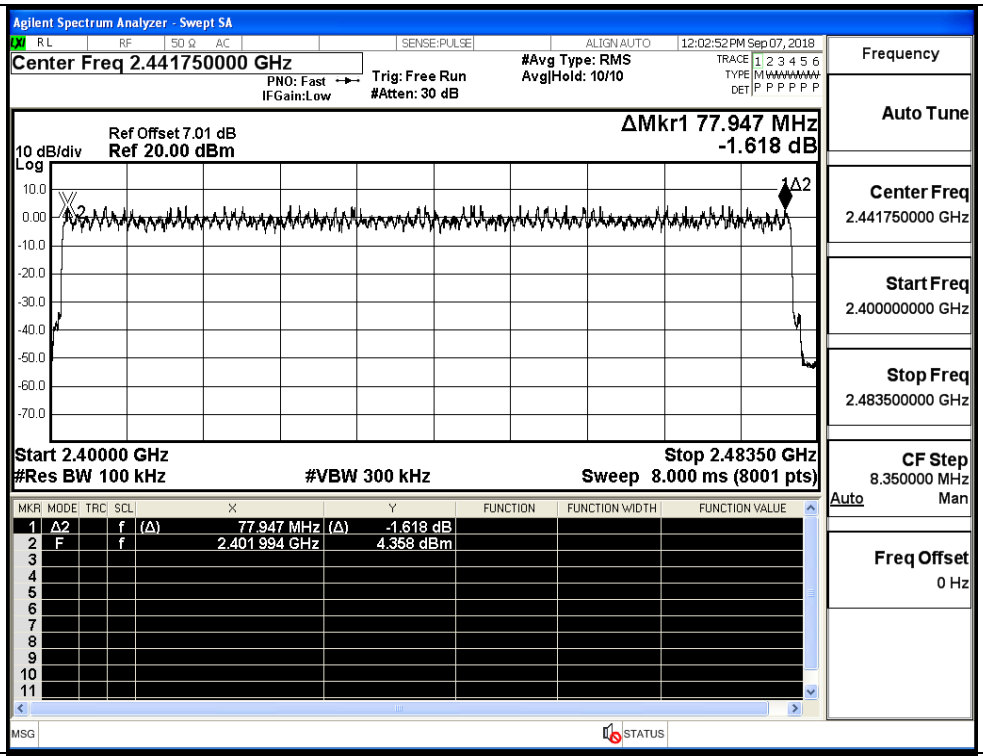
8DPSK/MCH		
8DPSK/HCH		

A.4 Hopping Channel Number

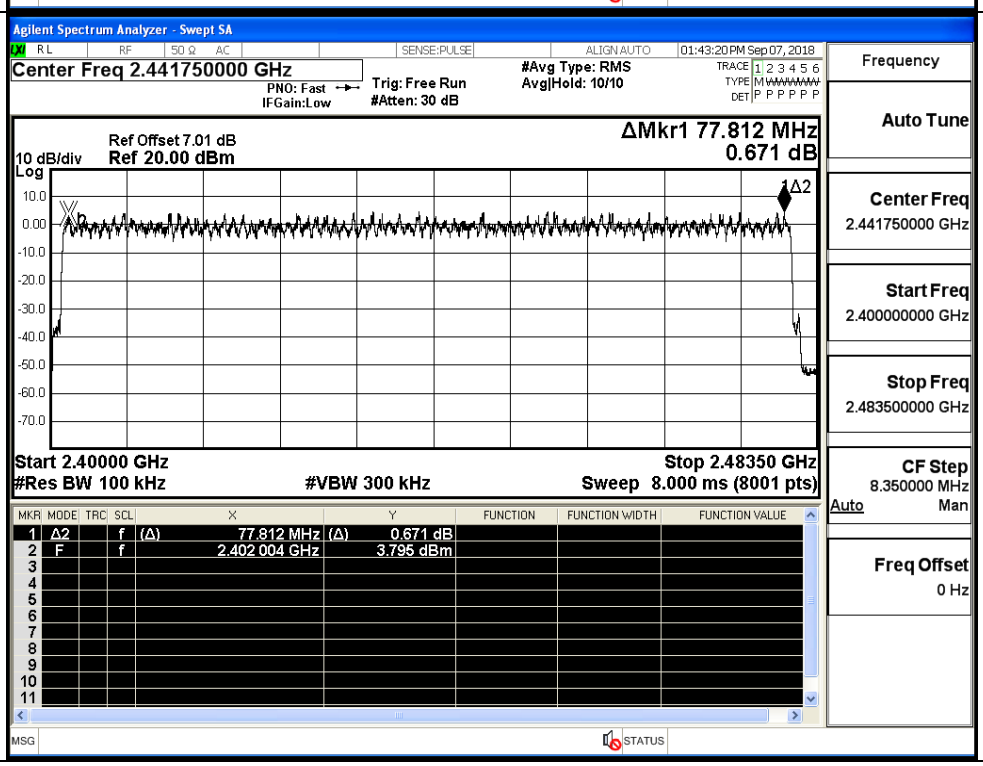
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
π/4DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs		
GFSK/Hop		

π/4DQPSK/Hop

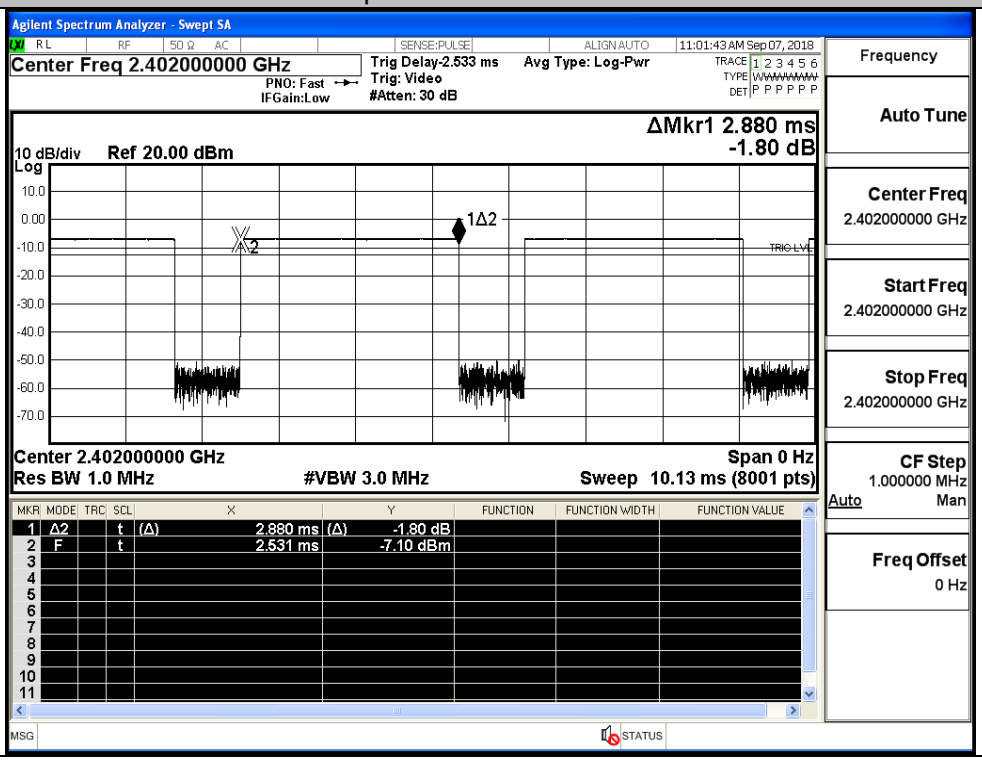


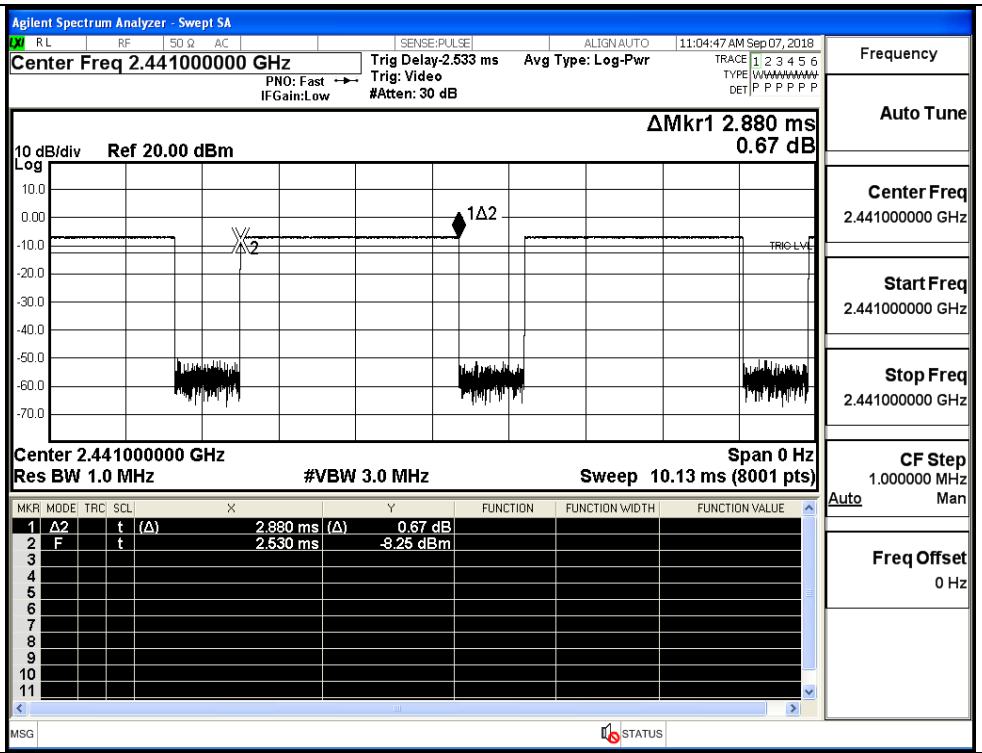
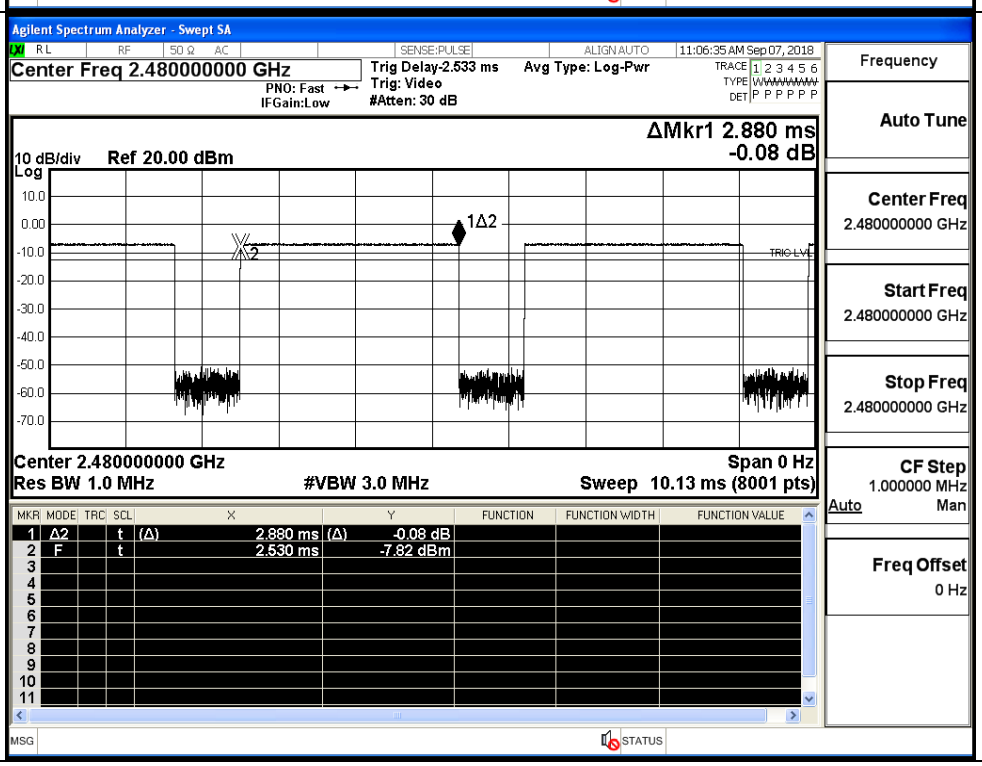
8DPSK/Hop



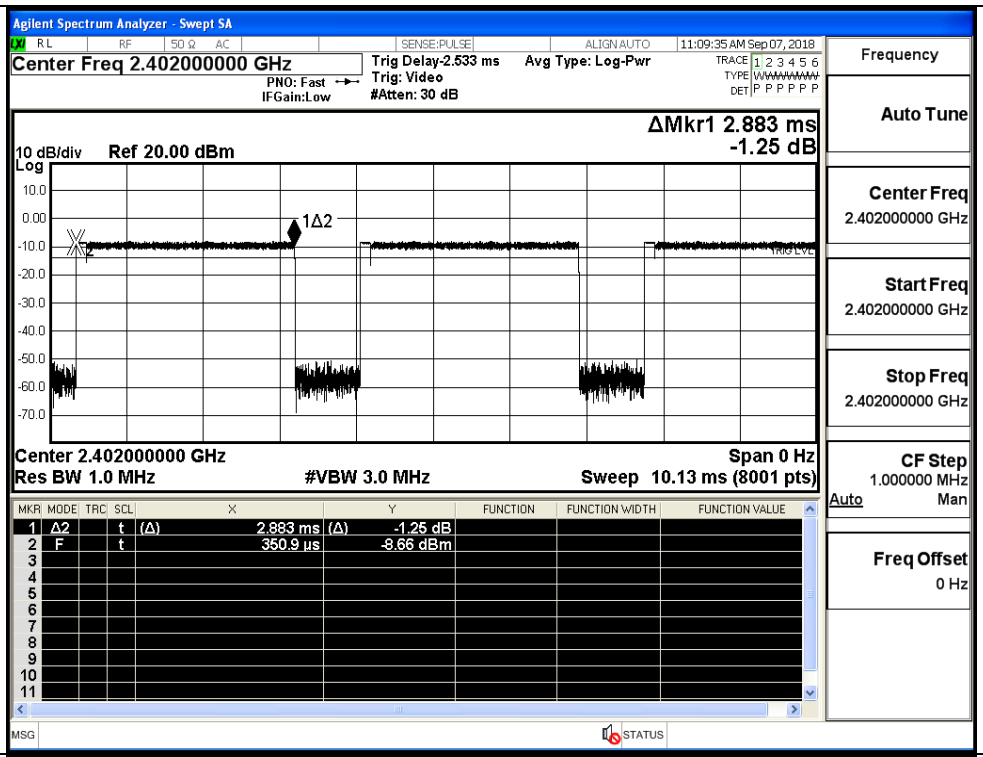
A.5 Dwell Time

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	2.89	106.7	0.308	0.4	PASS
	3DH5	MCH	2.89	106.7	0.308	0.4	PASS
	3DH5	HCH	2.89	106.7	0.308	0.4	PASS

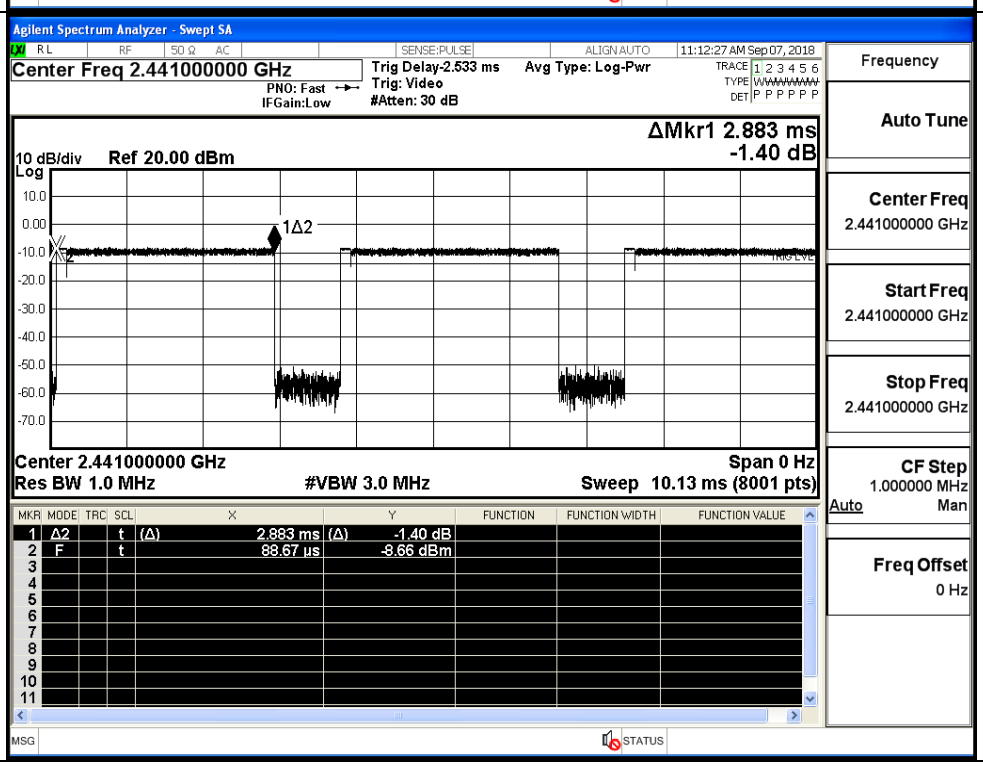
Test Graphs	
GFSK_DH5/LCH	

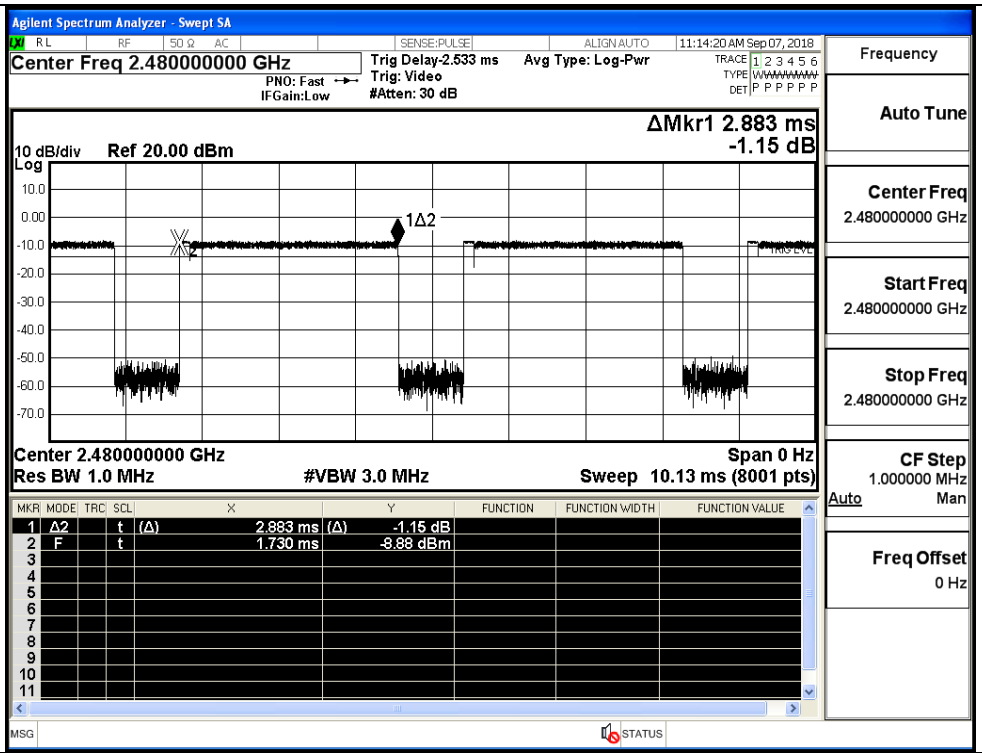
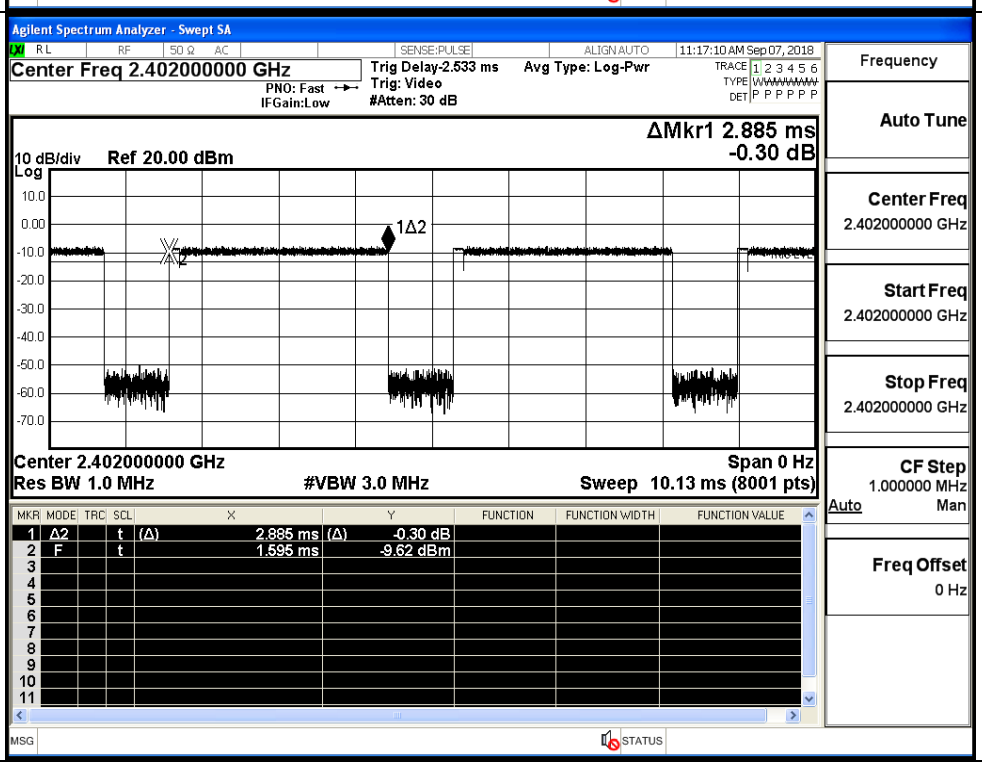
GFSK_DH5/MCH	
GFSK_DH5/HCH	

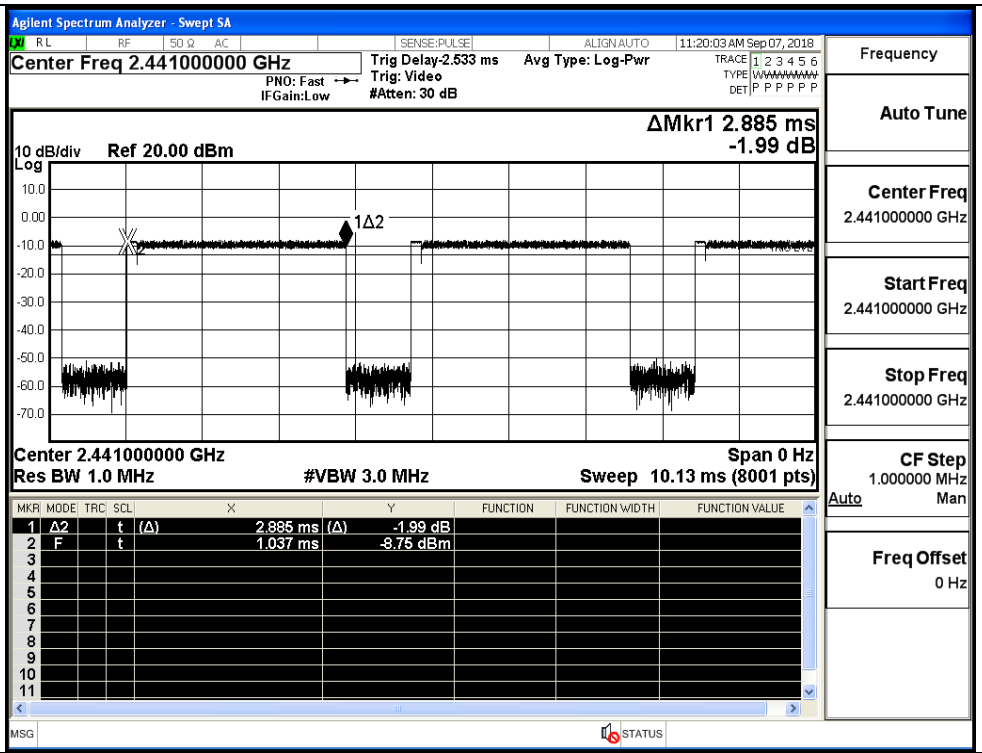
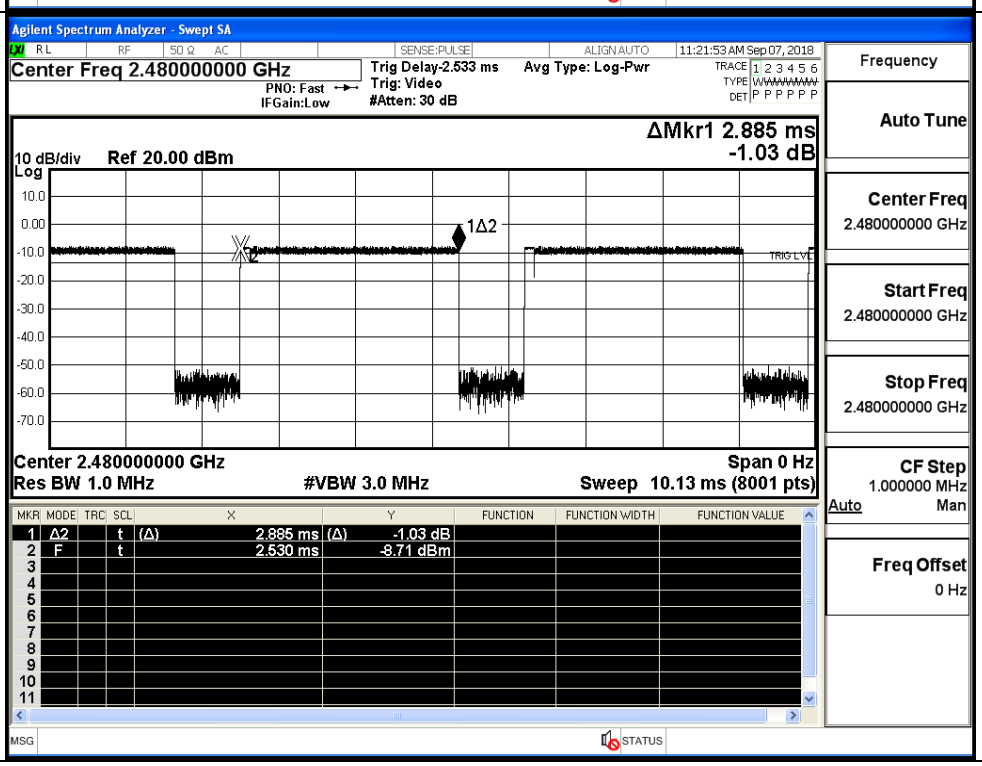
π/4DQPSK
_2DH5/LCH



π/4DQPSK
_2DH5/MCH

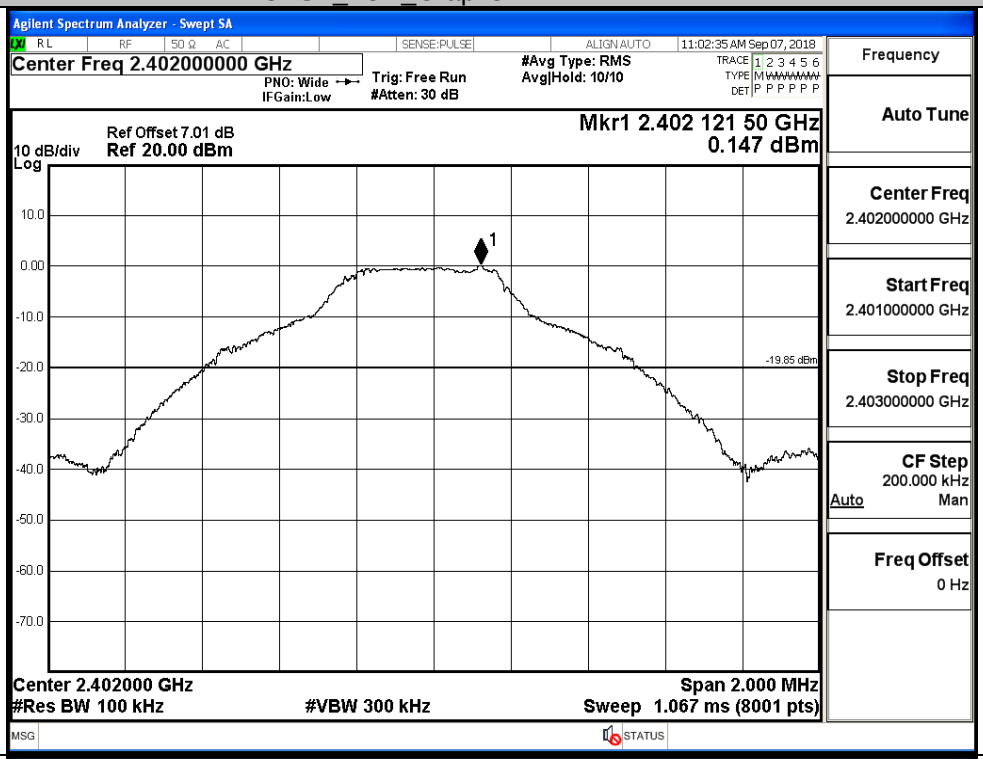
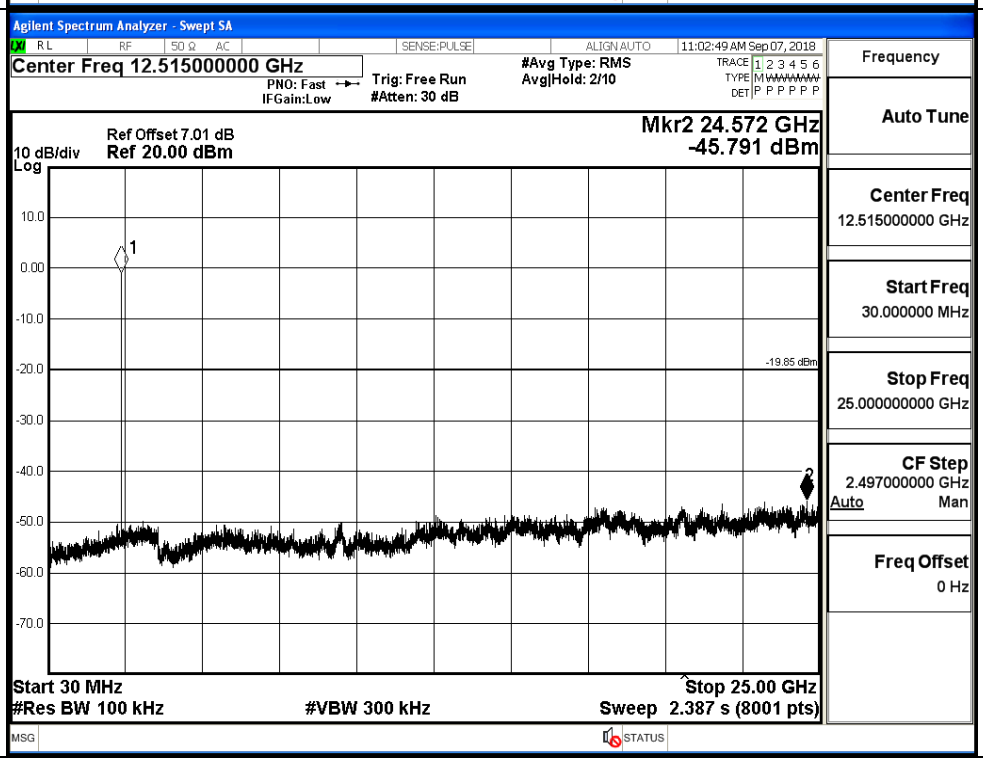


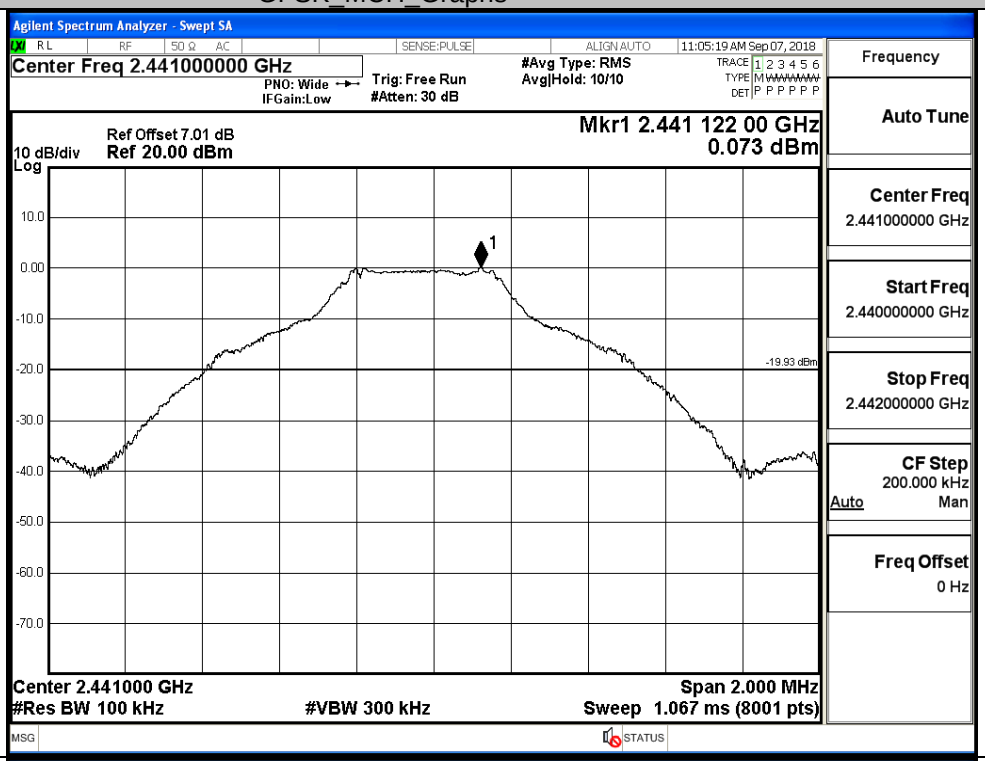
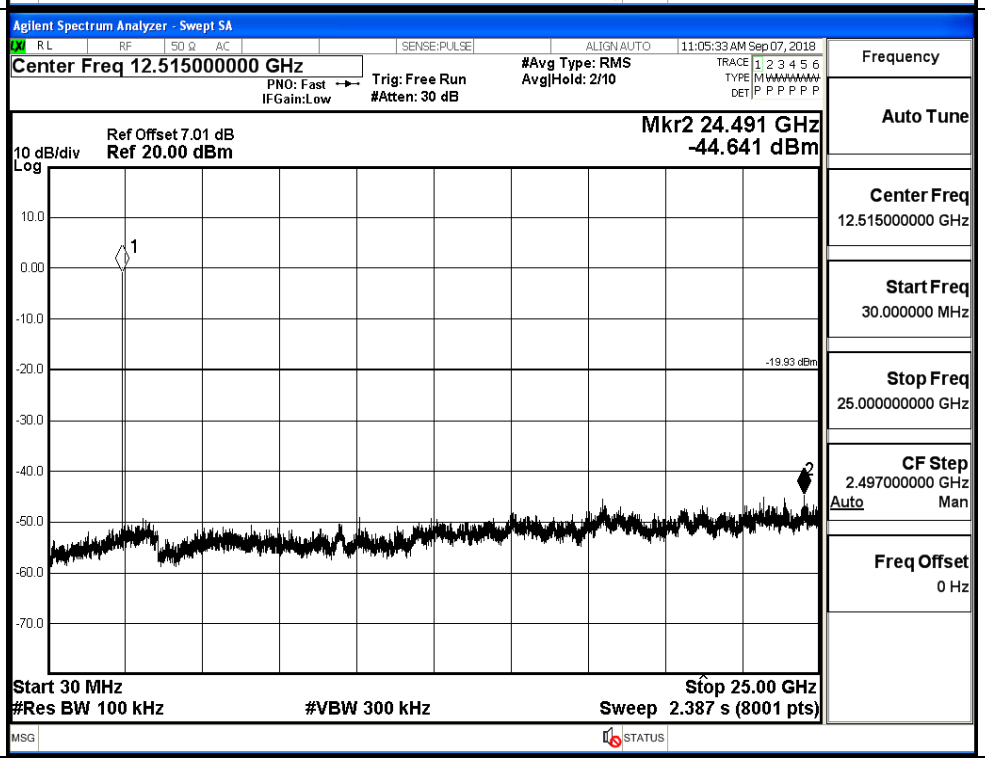
π/4DQPSK _2DH5/HCH	
8DPSK _3DH5/LCH	

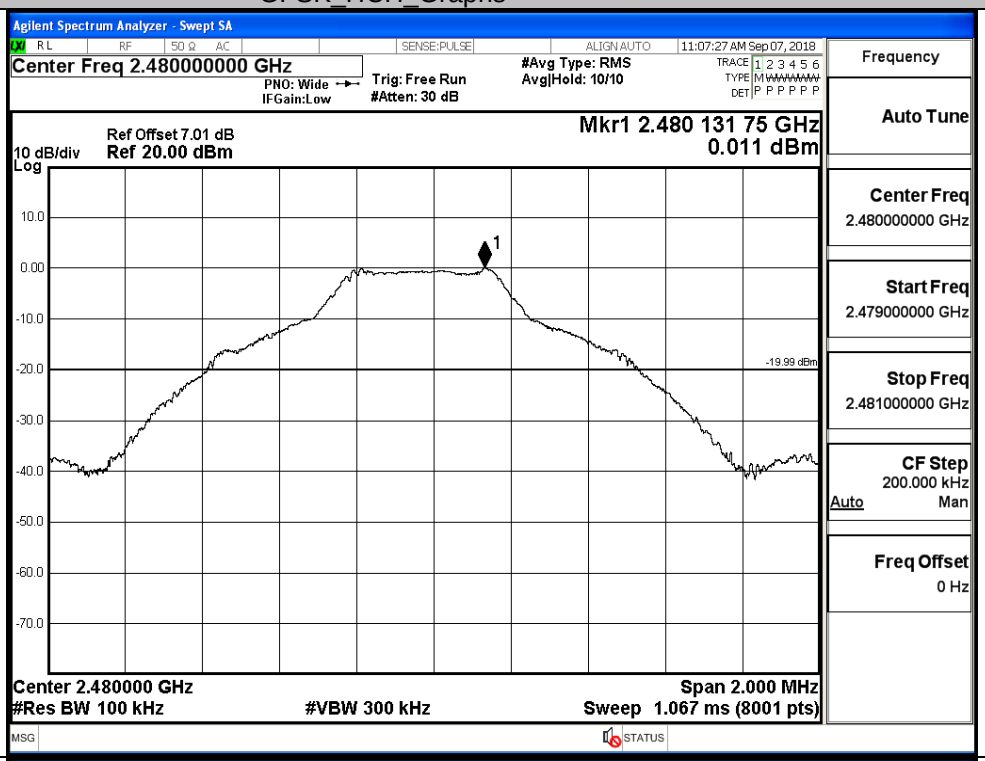
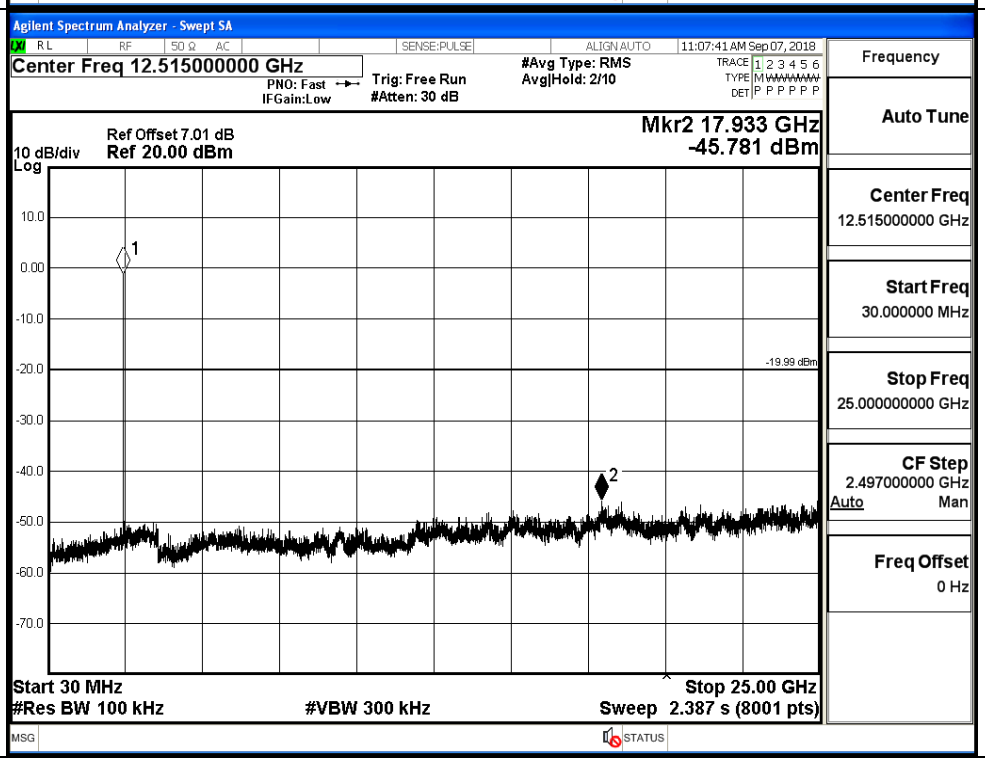
8DPSK _3DH5/MCH	
8DPSK _3DH5/HCH	

A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.147	-45.791	-19.853	PASS
	MCH	0.073	-44.641	-19.927	PASS
	HCH	0.011	-45.781	-19.989	PASS
π/4DQPSK	LCH	-1.591	-45.579	-21.591	PASS
	MCH	-2.251	-45.068	-22.251	PASS
	HCH	-1.721	-45.676	-21.721	PASS
8DPSK	LCH	-1.587	-45.955	-21.587	PASS
	MCH	-1.923	-46.193	-21.923	PASS
	HCH	-1.31	-45.411	-21.310	PASS

GFSK_LCH_Graphs		
Pref		
Puw		

GFSK_MCH_Graphs			
Pref			
Puw			

GFSK_HCH_Graphs			
Pref			
Puw			

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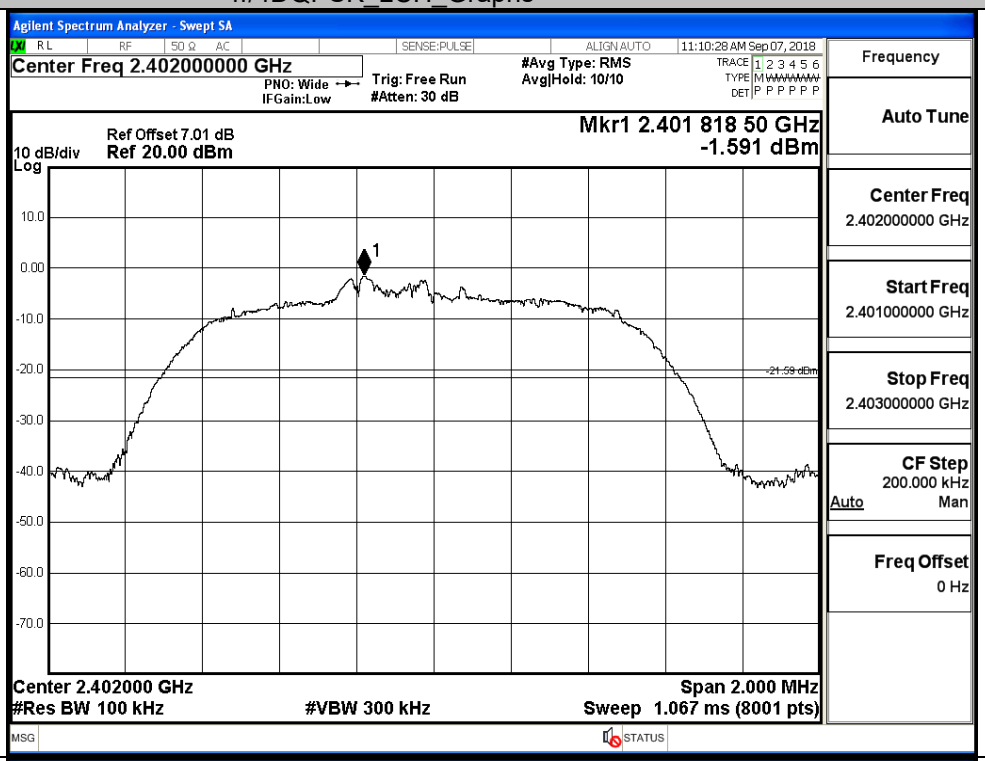
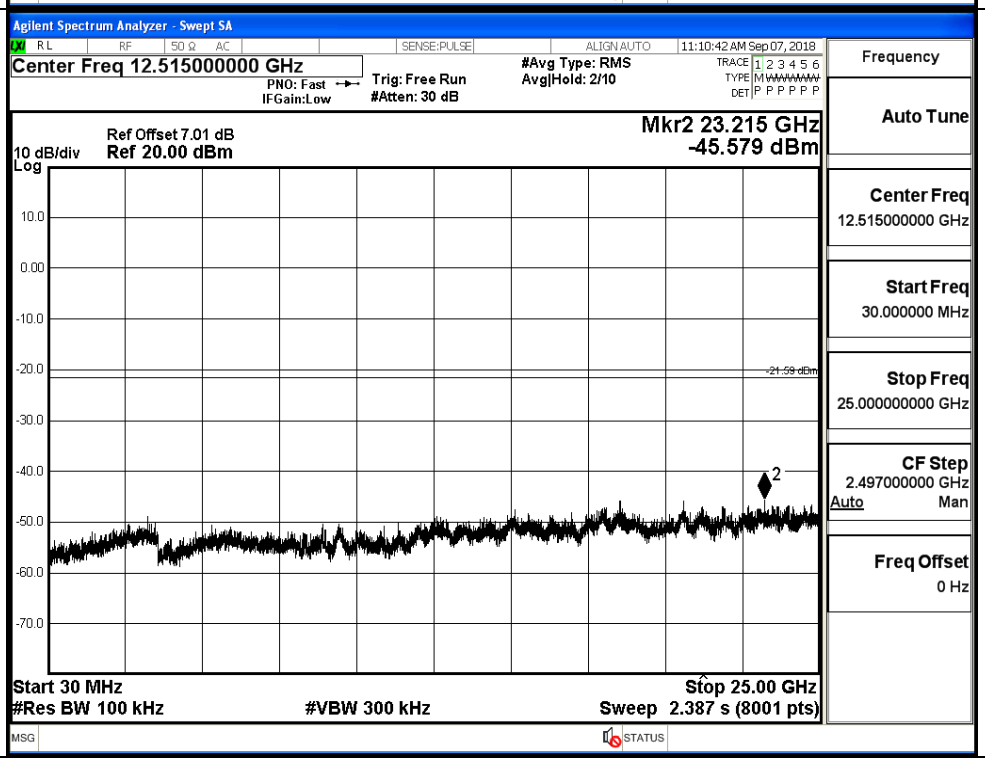
Pref		
Puw		

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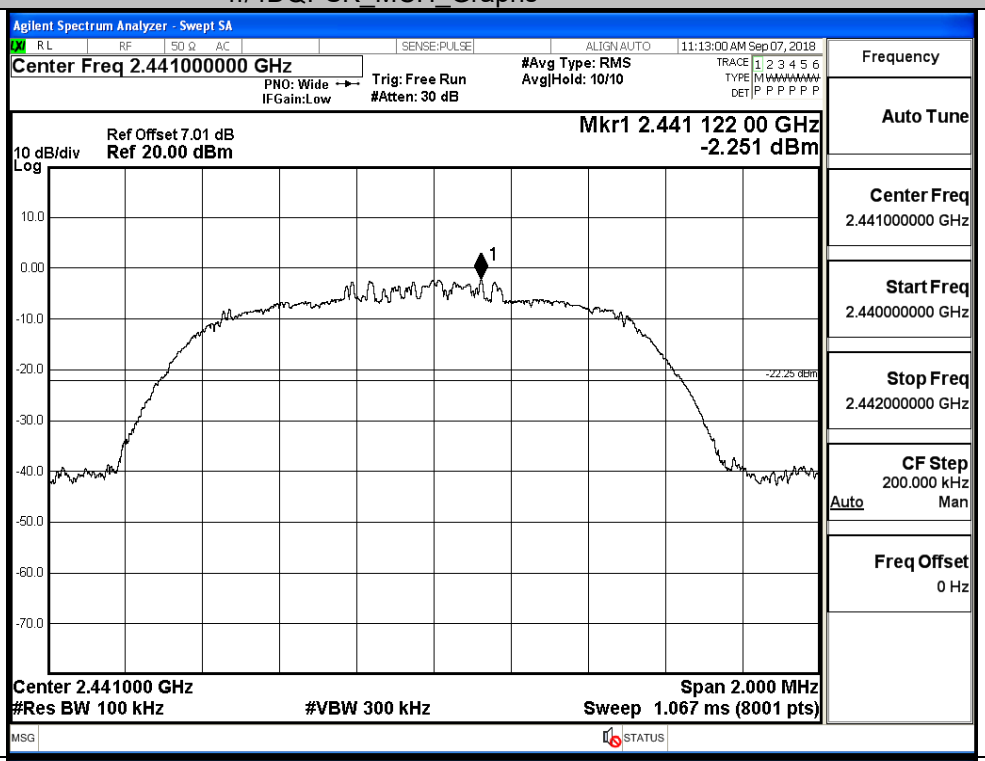
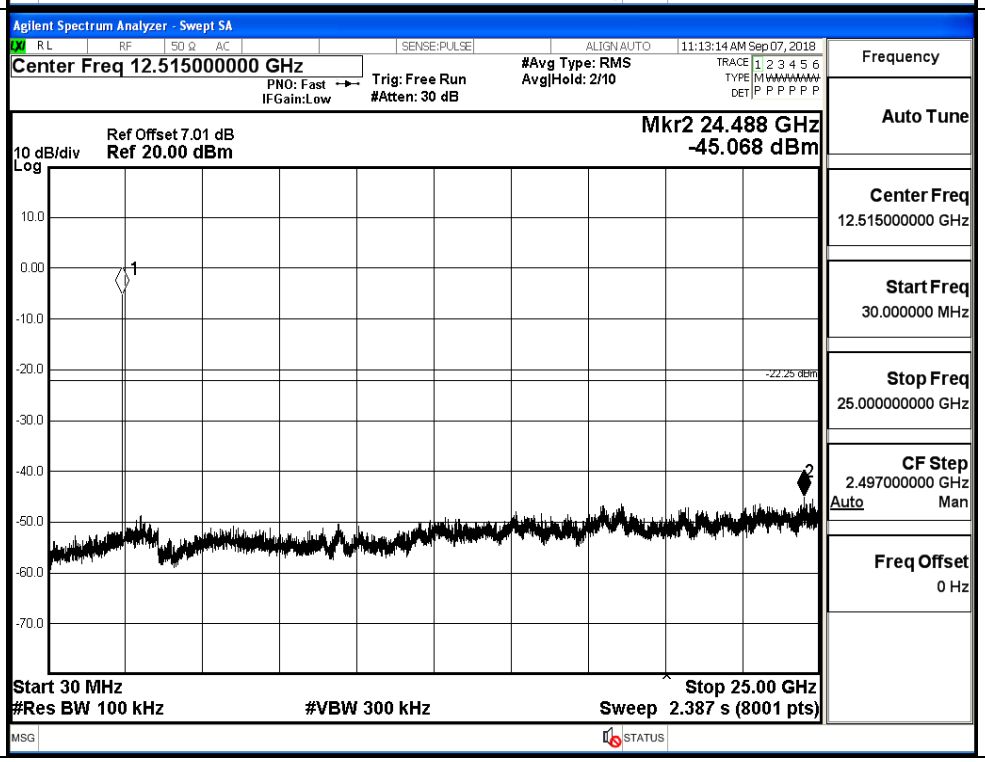
Pref		
Puw		

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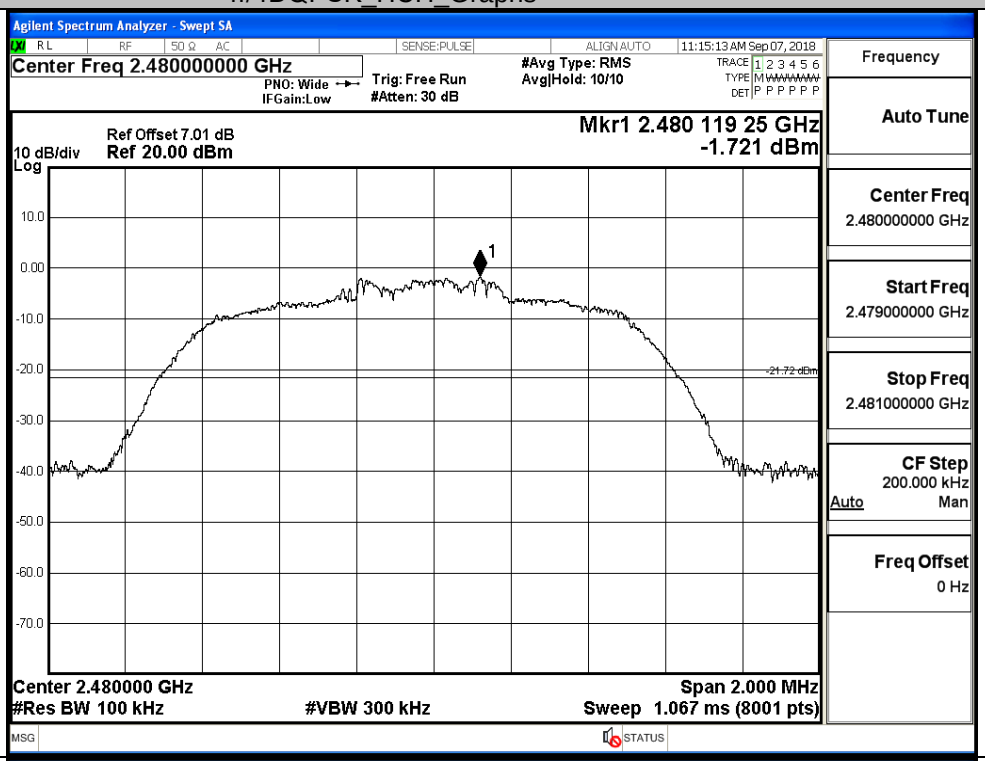
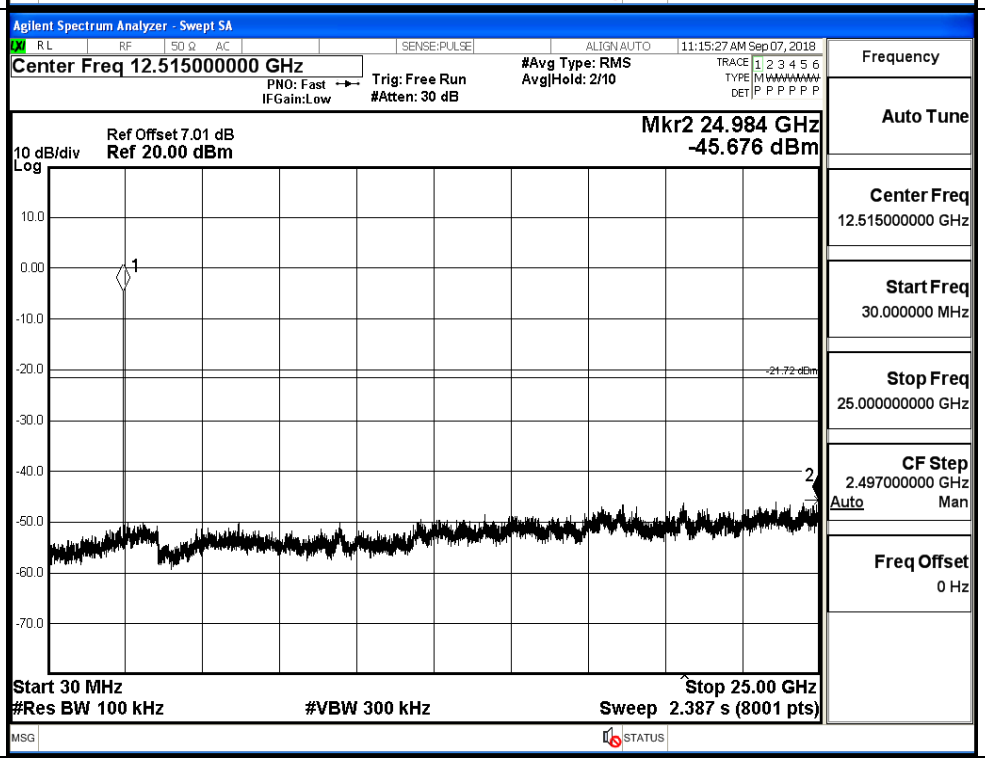
Pref		
Puw		

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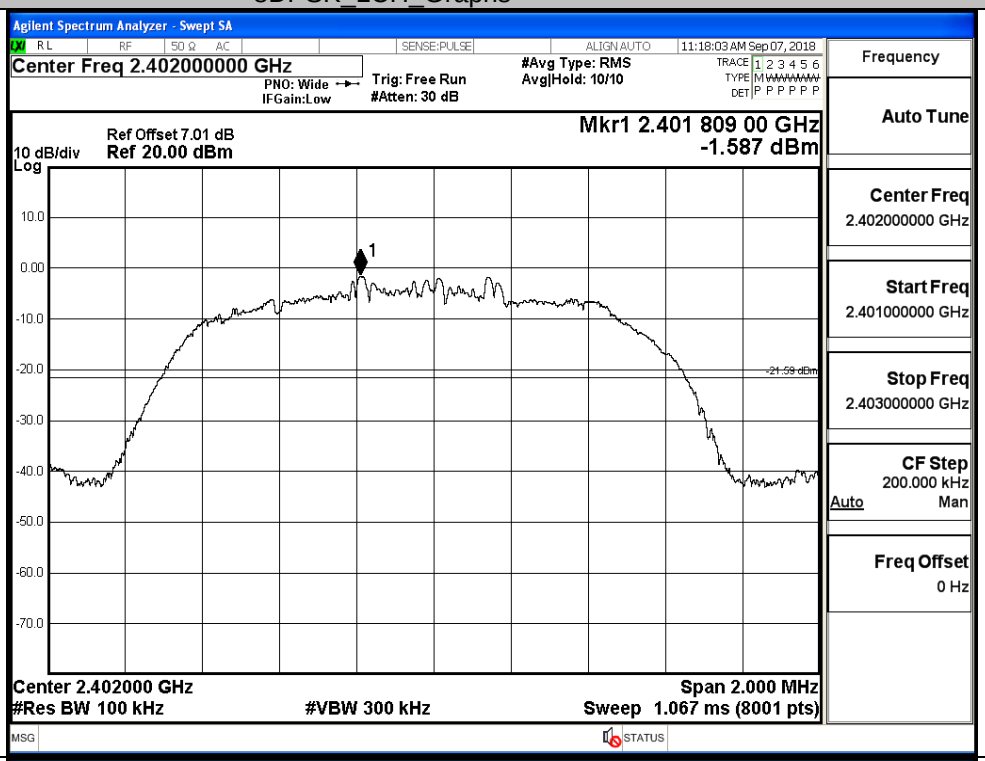
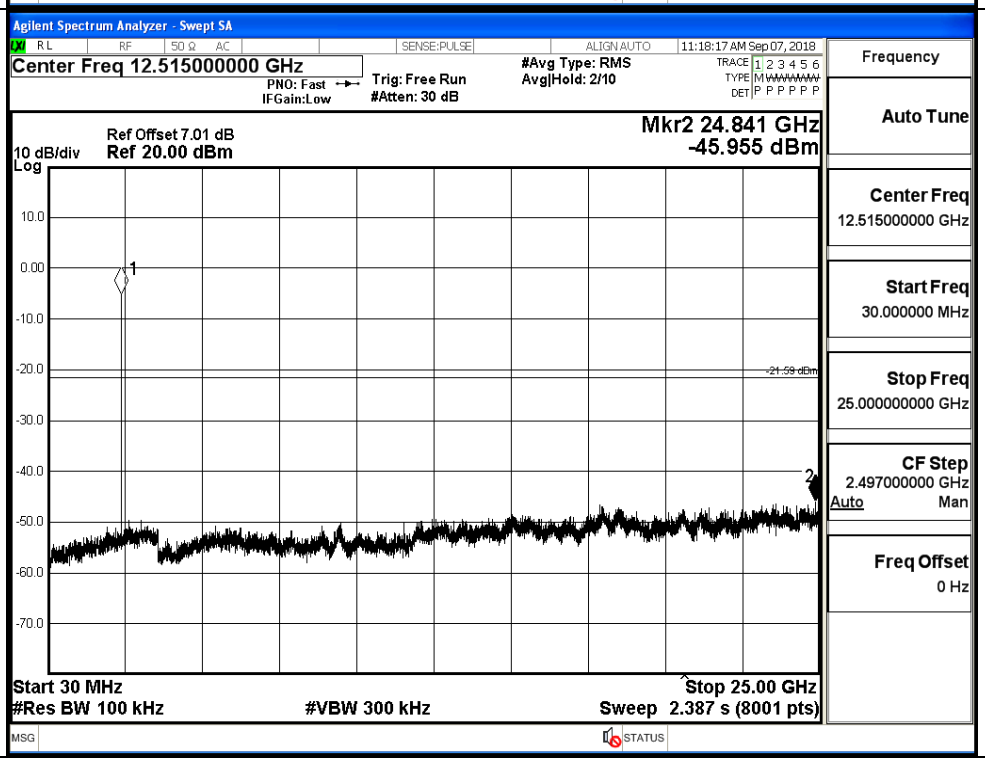
Pref		
Puw		

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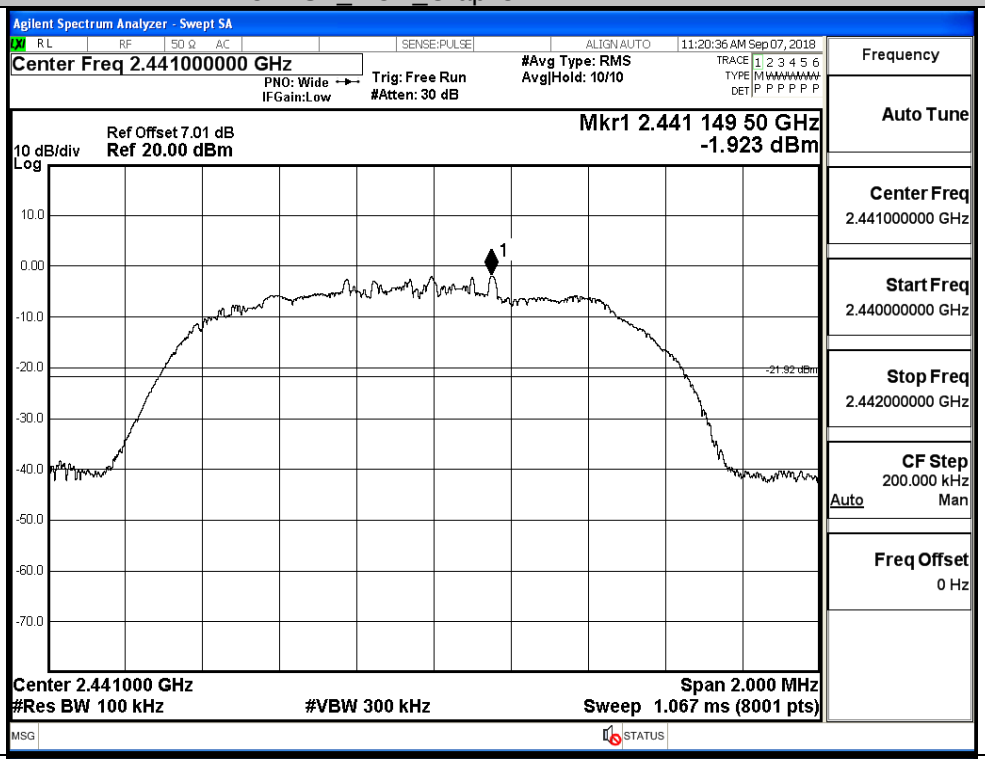
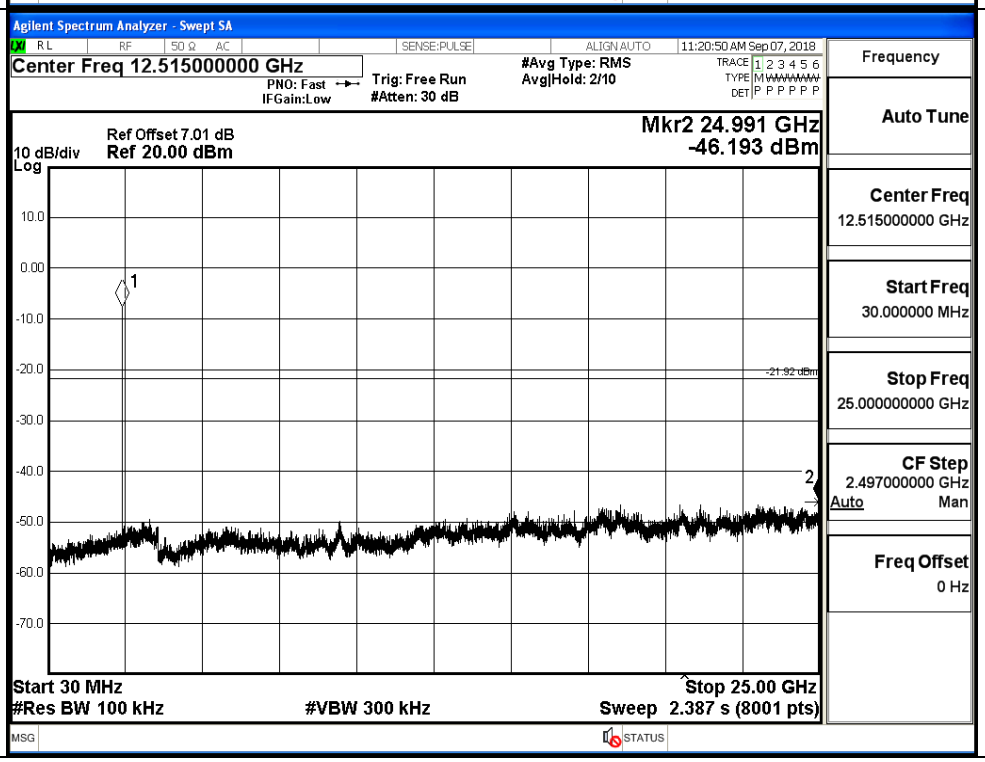
Pref		
Puw		

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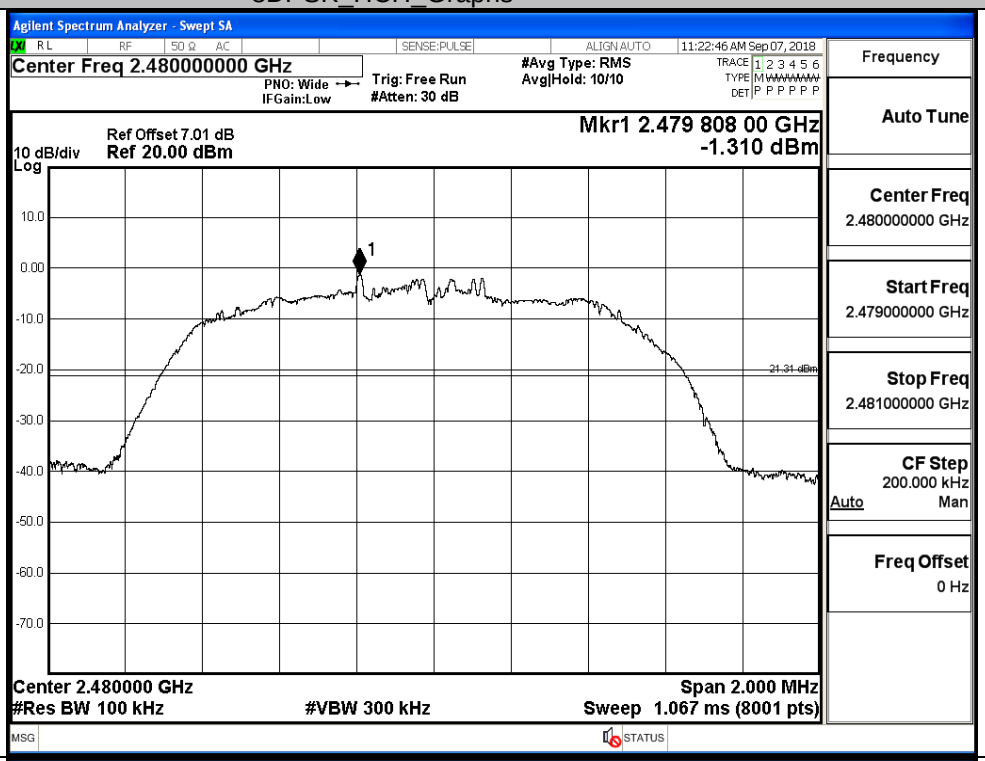
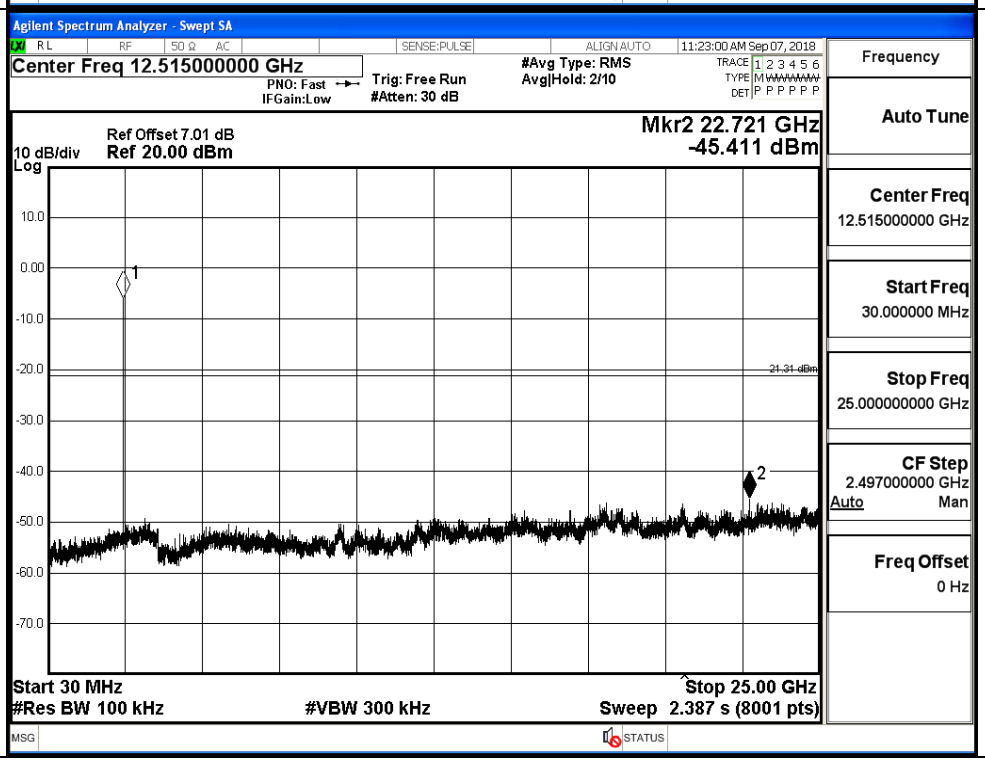
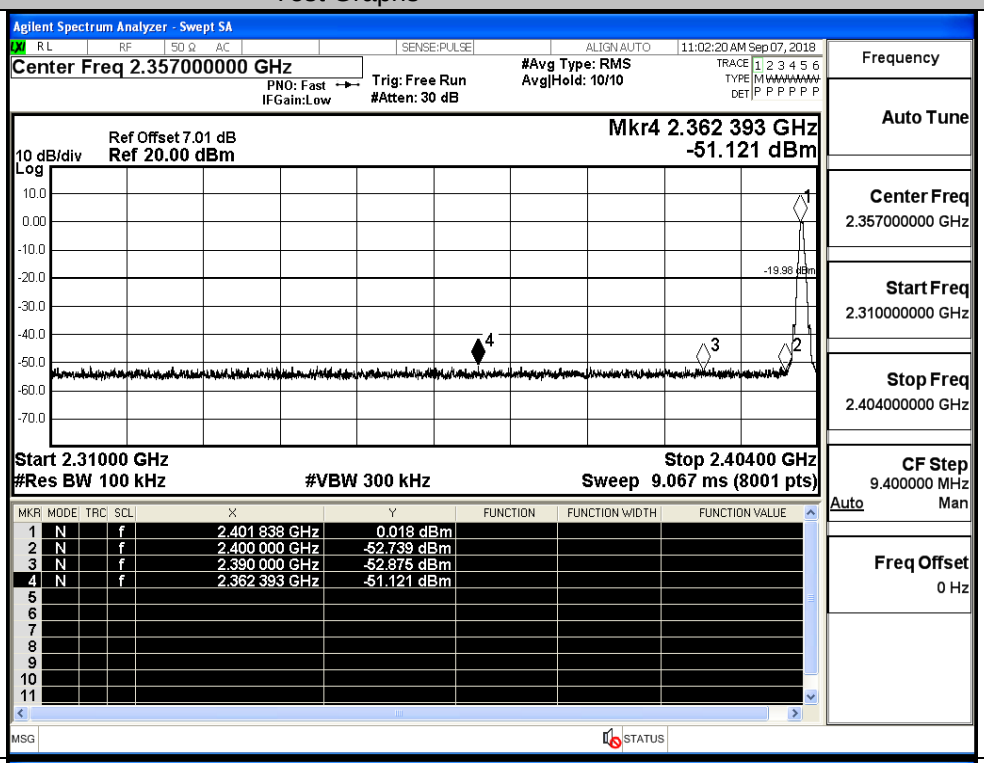
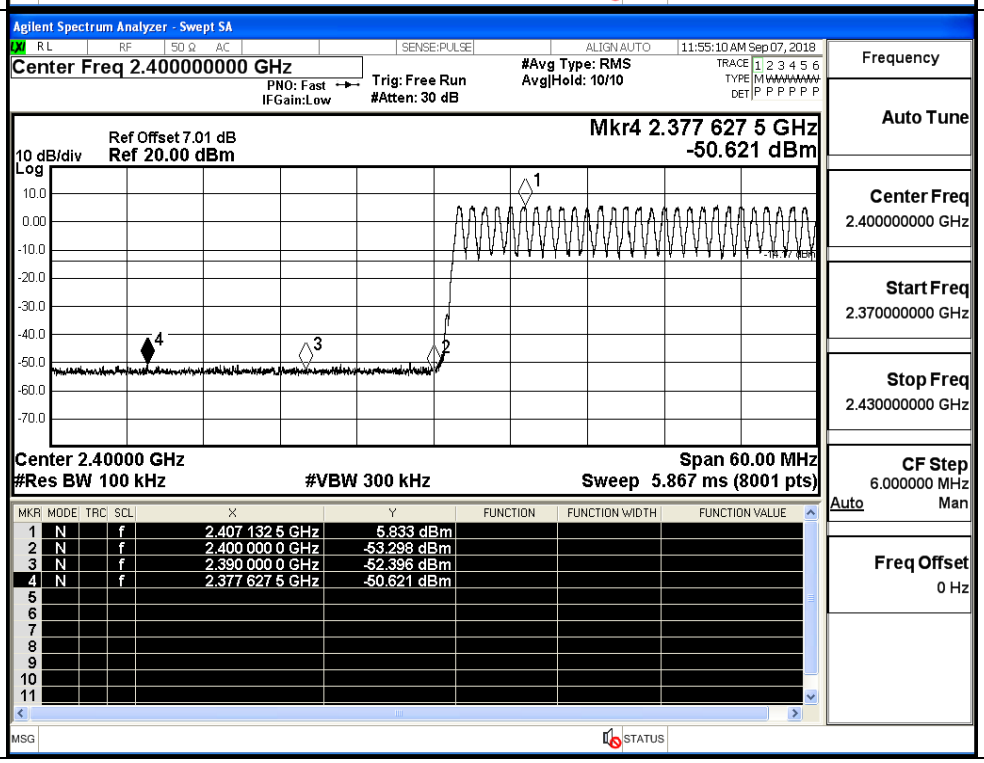
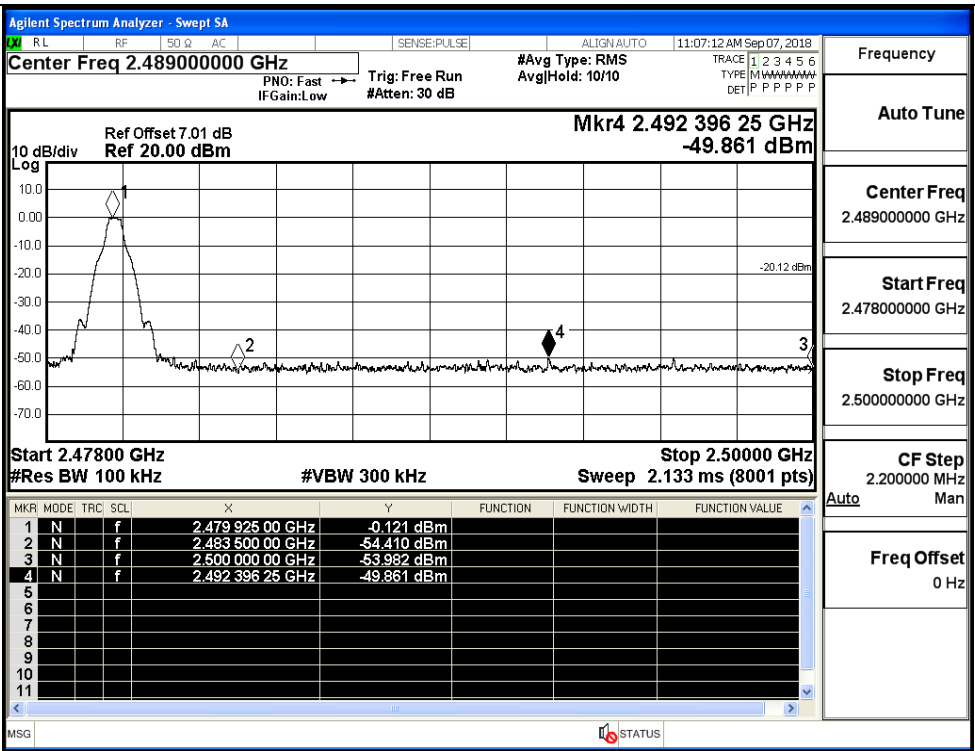
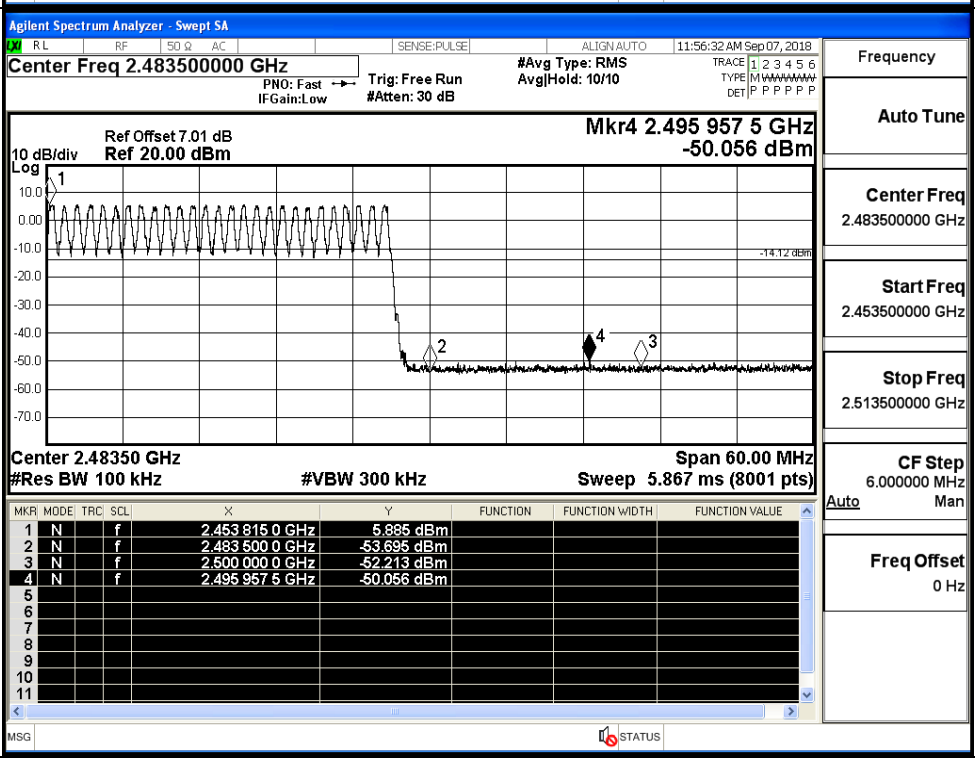
Pref		
Puw		

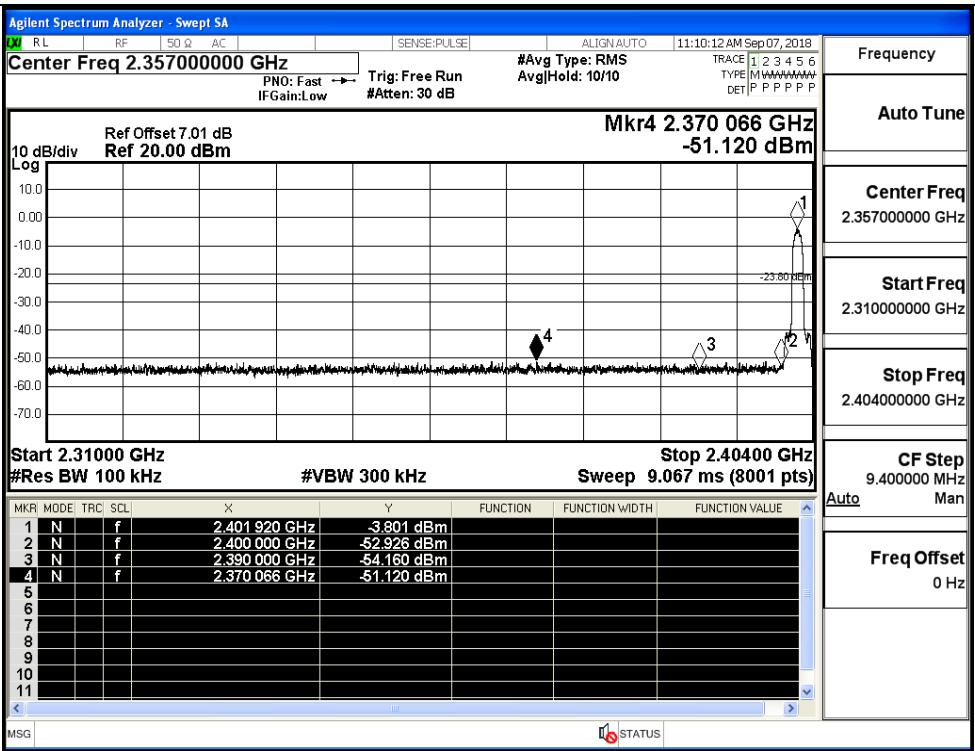
A.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.018	Off	-51.121	-19.98	PASS
			5.833	On	-50.621	-14.17	PASS
	HCH	2480	-0.121	Off	-49.861	-20.12	PASS
			5.885	On	-50.056	-14.12	PASS
π/4DQPSK	LCH	2402	-3.801	Off	-51.120	-23.8	PASS
			4.285	On	-50.545	-15.72	PASS
	HCH	2480	-1.252	Off	-49.780	-21.25	PASS
			4.368	On	-49.852	-15.63	PASS
8DPSK	LCH	2402	-1.609	Off	-50.418	-21.61	PASS
			4.485	On	-49.888	-15.52	PASS
	HCH	2480	-1.357	Off	-50.853	-21.36	PASS
			4.421	On	-50.267	-15.58	PASS

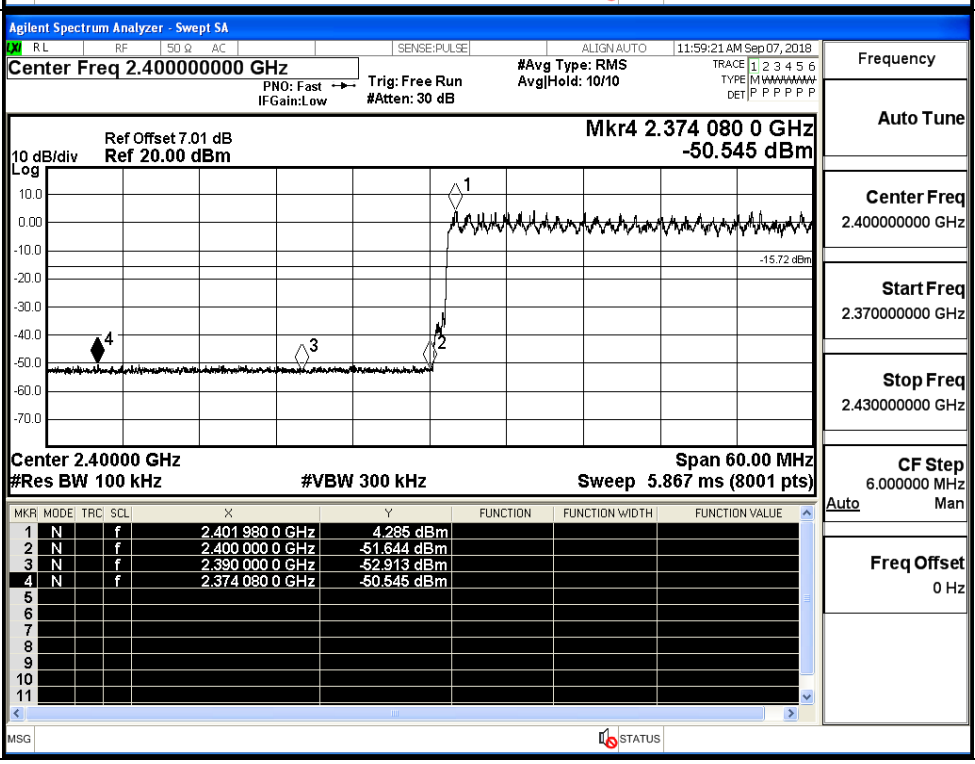
Test Graphs	
GFSK/LCH/No Hop	
GFSK/LCH/Hop	

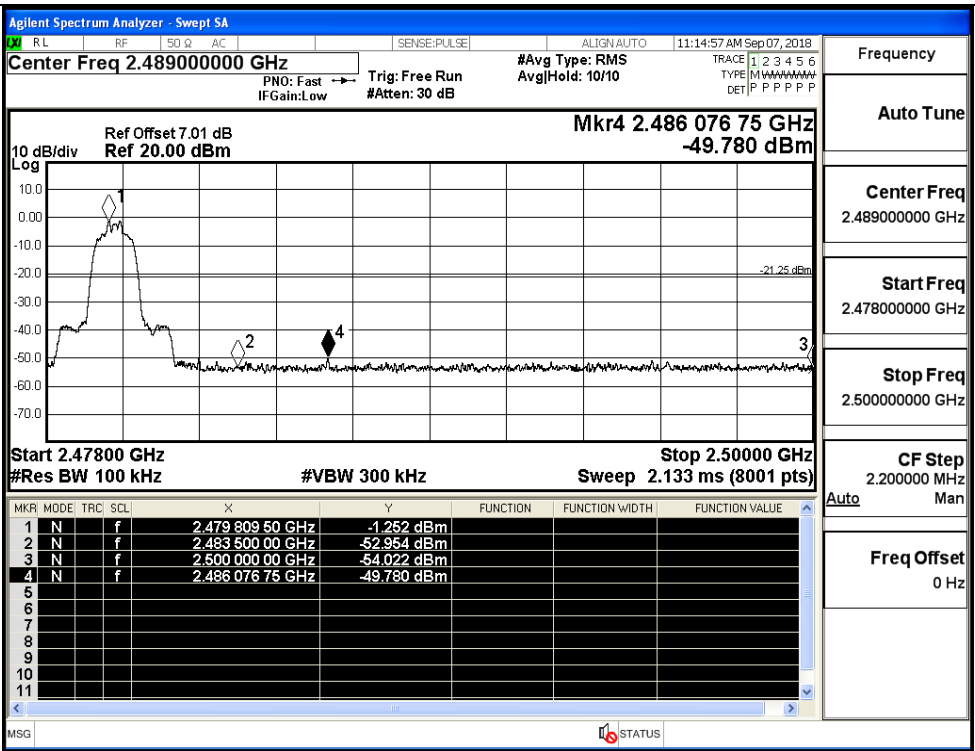
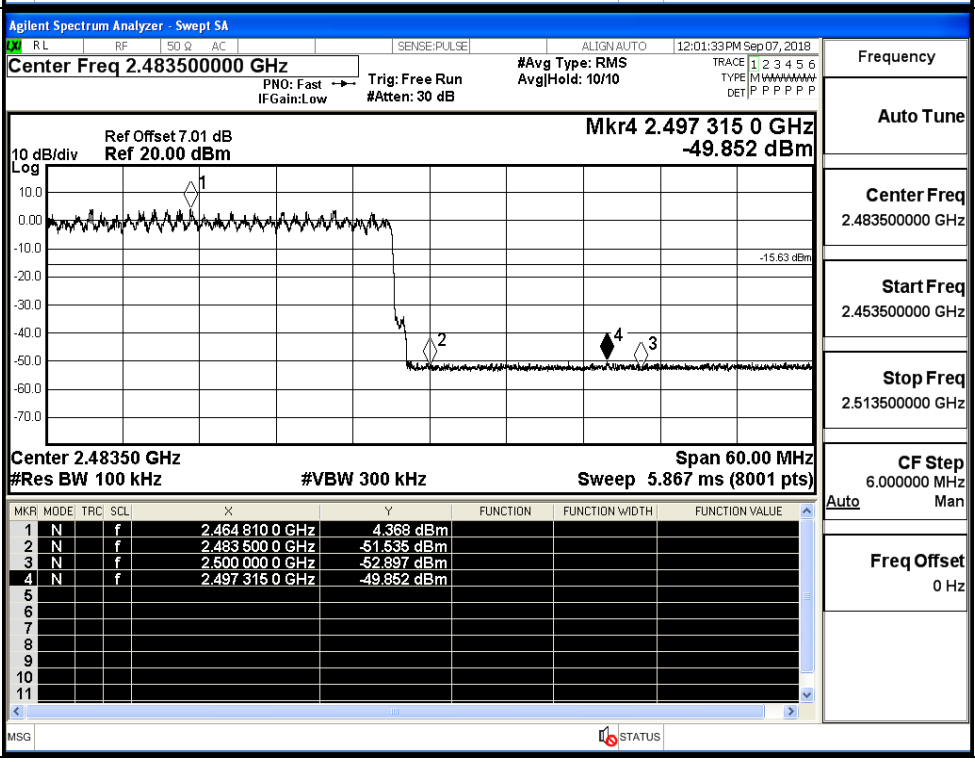
GFSK/HCH/No Hop	
GFSK/HCH/Hop	

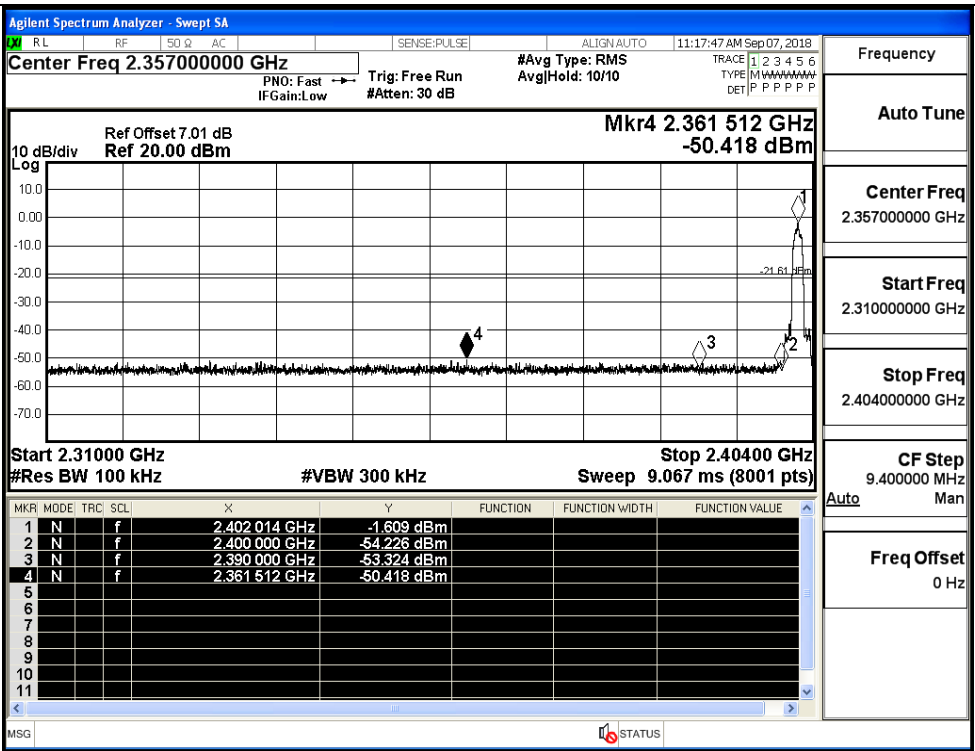
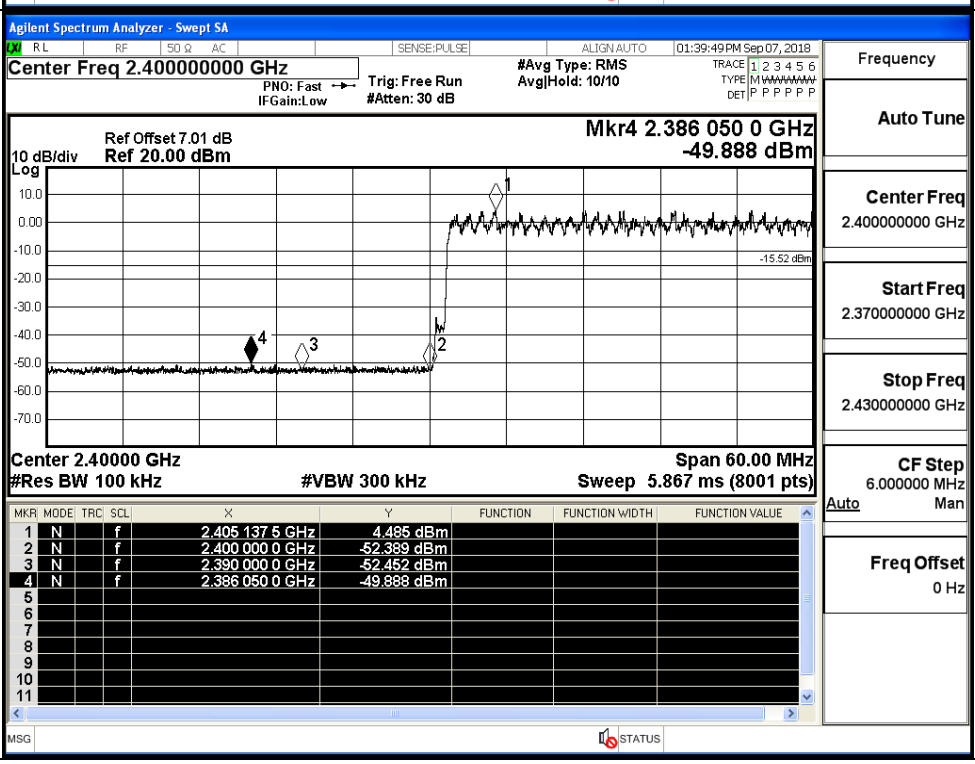
π/4DQPSK/LCH/No Hop

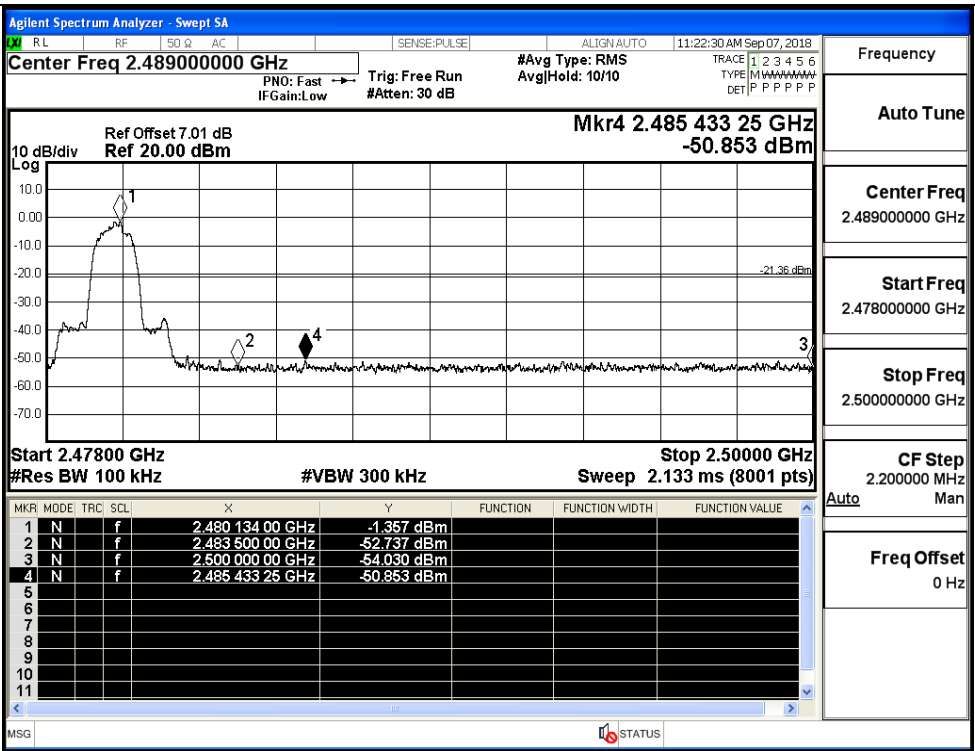
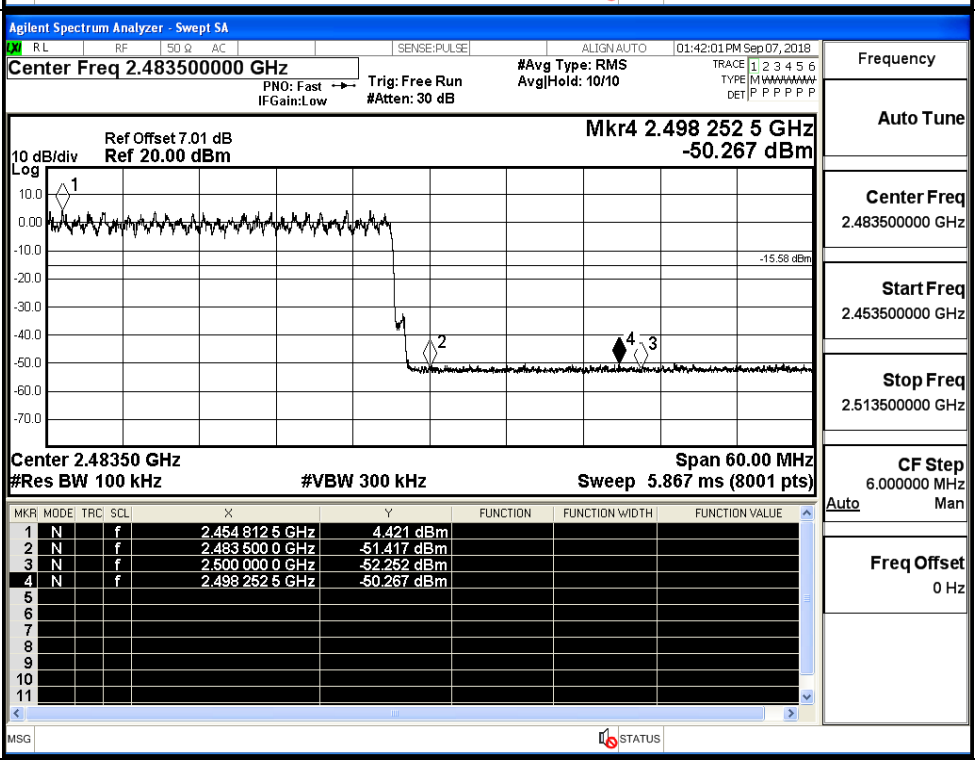


π/4DQPSK/LCH/Hop



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

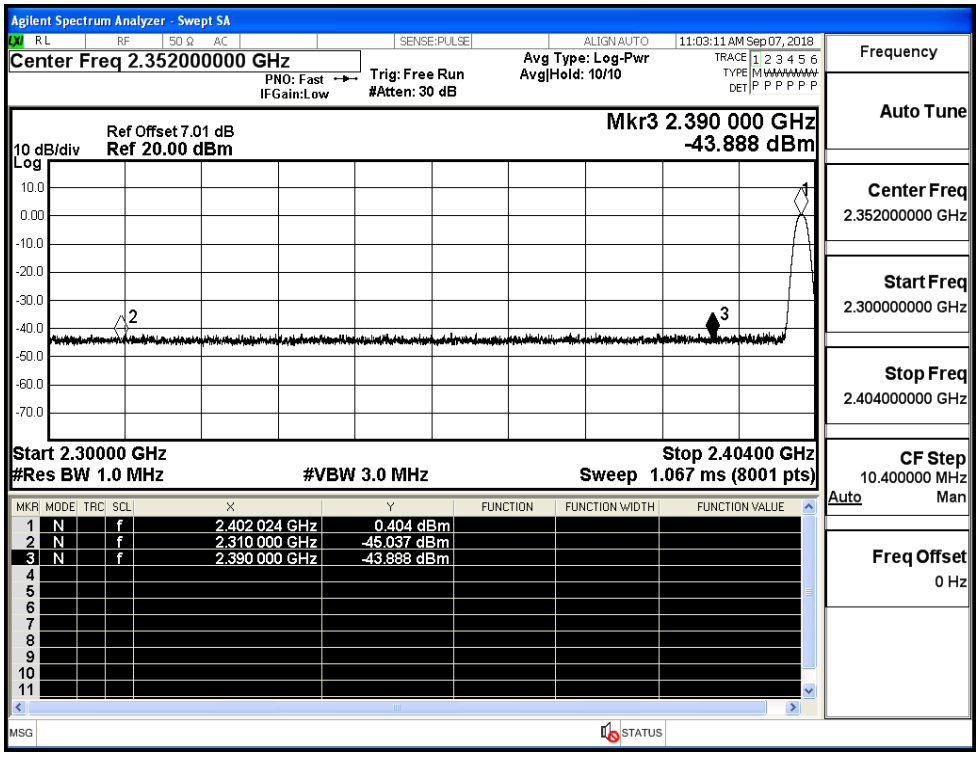
8DPSK/LCH/No Hop	
8DPSK/LCH/Hop	

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

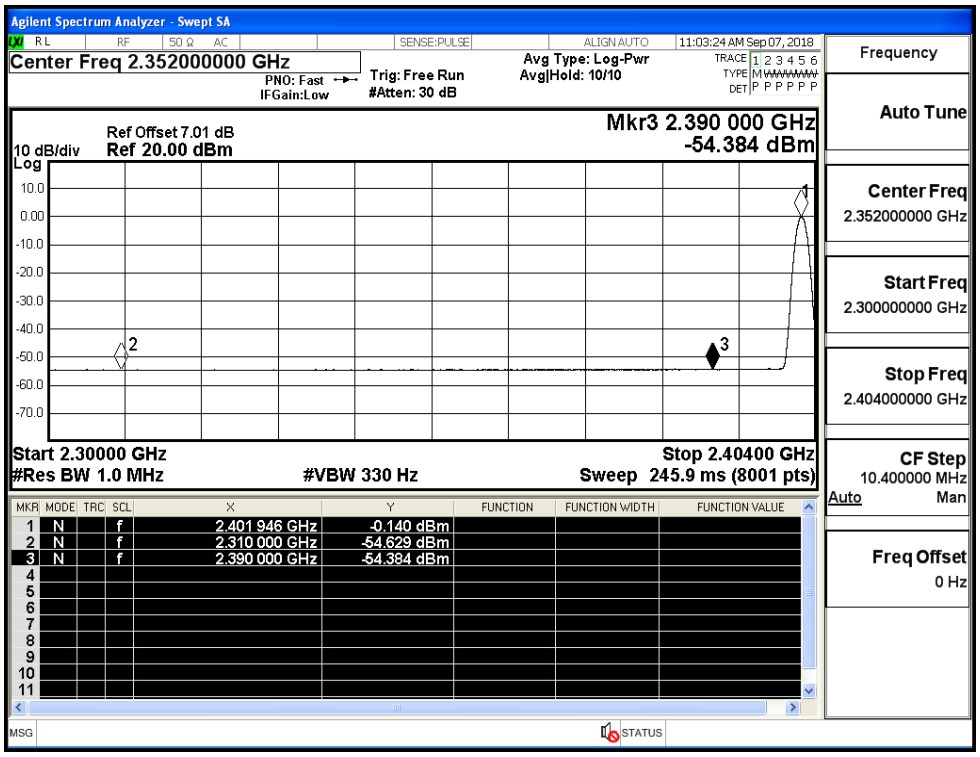
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-45.037	2.50	0	52.691	PEAK	74	PASS
	Off	2310.0	-54.629	2.50	0	43.099	AV	54	PASS
	Off	2390.0	-43.888	2.50	0	53.840	PEAK	74	PASS
	Off	2390.0	-54.384	2.50	0	43.344	AV	54	PASS
	Off	2483.5	-44.175	2.50	0	53.553	PEAK	74	PASS
	Off	2483.5	-54.056	2.50	0	43.672	AV	54	PASS
	Off	2500.0	-44.108	2.50	0	53.620	PEAK	74	PASS
	Off	2500.0	-54.033	2.50	0	43.695	AV	54	PASS
π/4DQPSK	Off	2310.0	-44.122	2.50	0	53.606	PEAK	74	PASS
	Off	2310.0	-54.743	2.50	0	42.985	AV	54	PASS
	Off	2390.0	-43.986	2.50	0	53.742	PEAK	74	PASS
	Off	2390.0	-54.394	2.50	0	43.334	AV	54	PASS
	Off	2483.5	-44.516	2.50	0	53.212	PEAK	74	PASS
	Off	2483.5	-54.088	2.50	0	43.640	AV	54	PASS
	Off	2500.0	-42.914	2.50	0	54.814	PEAK	74	PASS
	Off	2500.0	-53.997	2.50	0	43.731	AV	54	PASS
8DPSK	Off	2310.0	-45.384	2.50	0	52.344	PEAK	74	PASS
	Off	2310.0	-54.436	2.50	0	43.292	AV	54	PASS
	Off	2390.0	-43.255	2.50	0	54.473	PEAK	74	PASS
	Off	2390.0	-54.333	2.50	0	43.395	AV	54	PASS
	Off	2483.5	-44.642	2.50	0	53.086	PEAK	74	PASS
	Off	2483.5	-54.005	2.50	0	43.723	AV	54	PASS
	Off	2500.0	-42.303	2.50	0	55.425	PEAK	74	PASS
	Off	2500.0	-54.035	2.50	0	43.693	AV	54	PASS

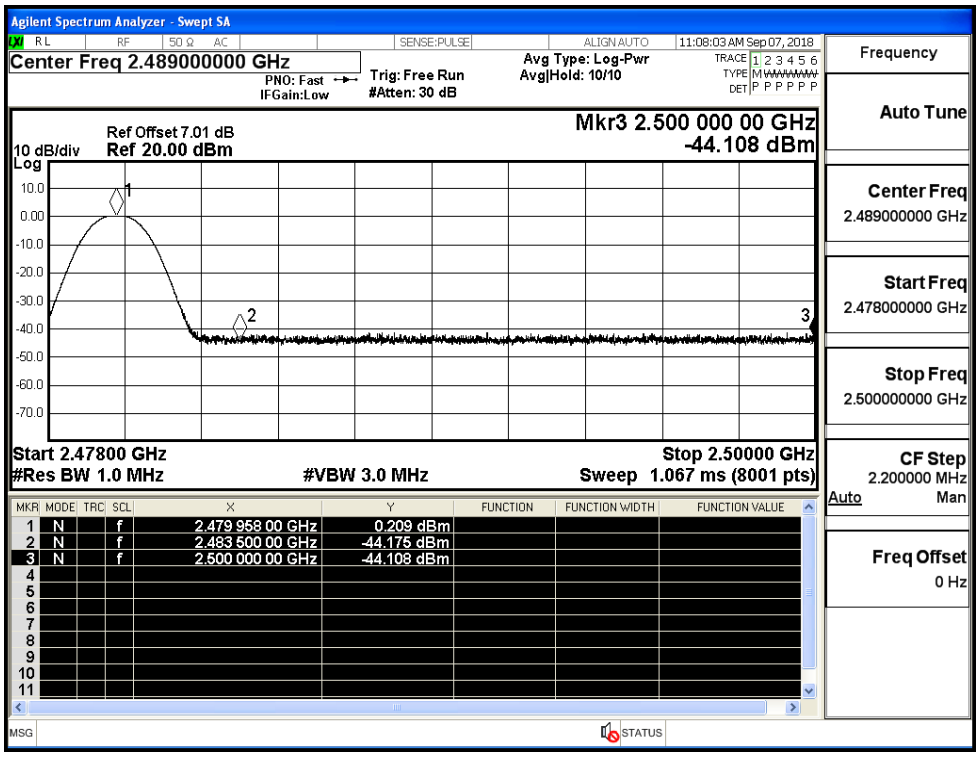
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



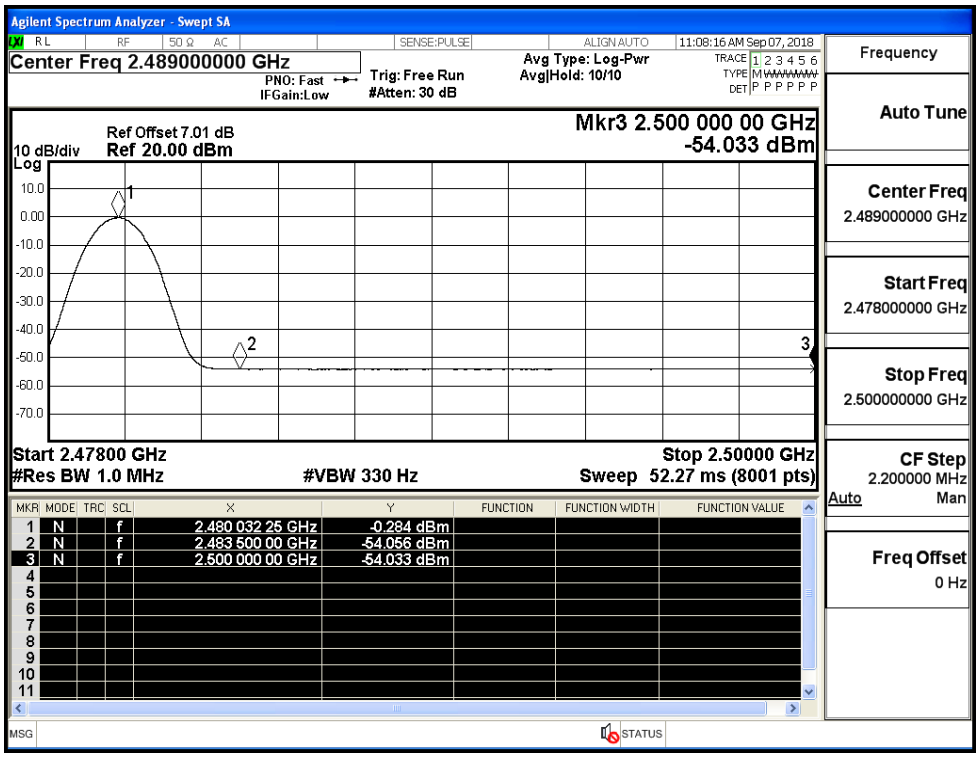
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



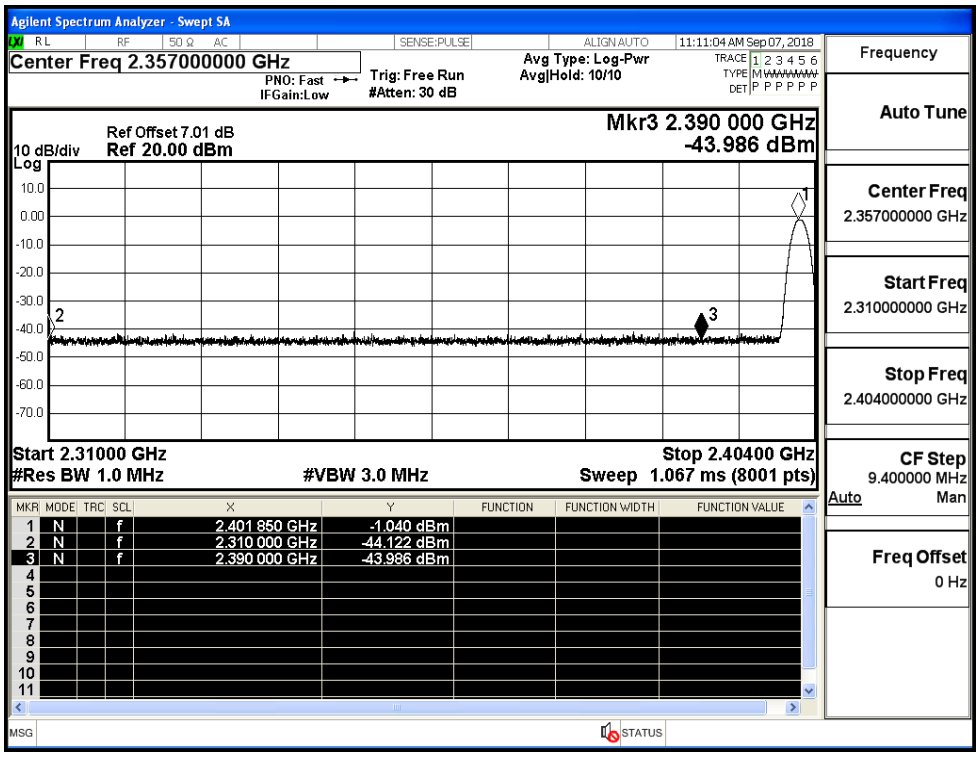
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



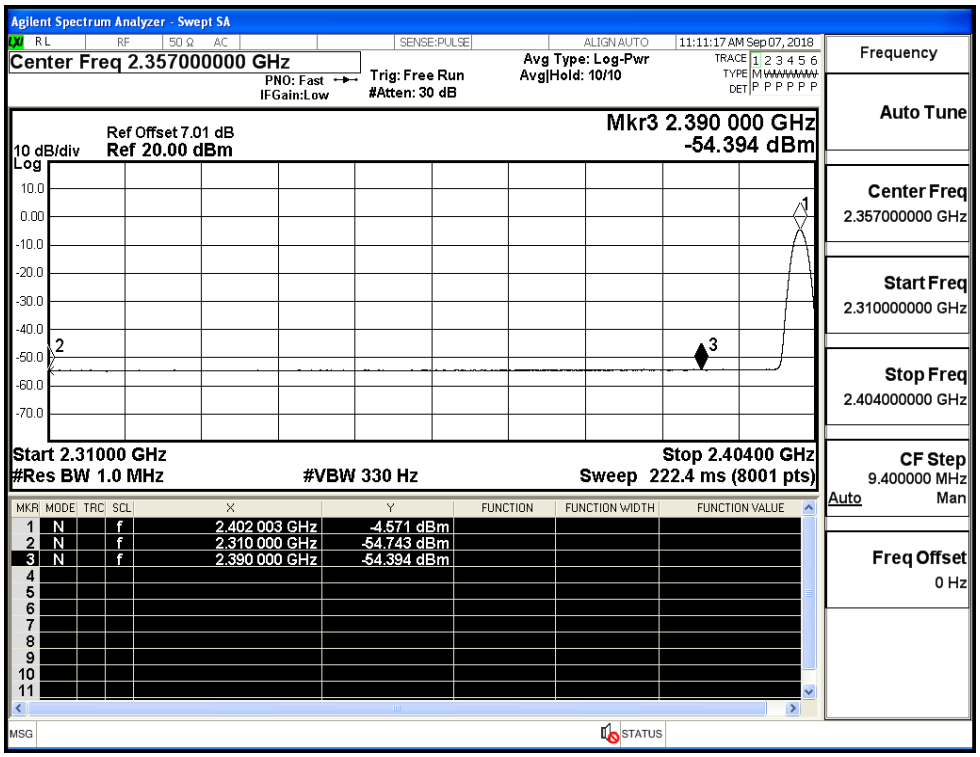
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



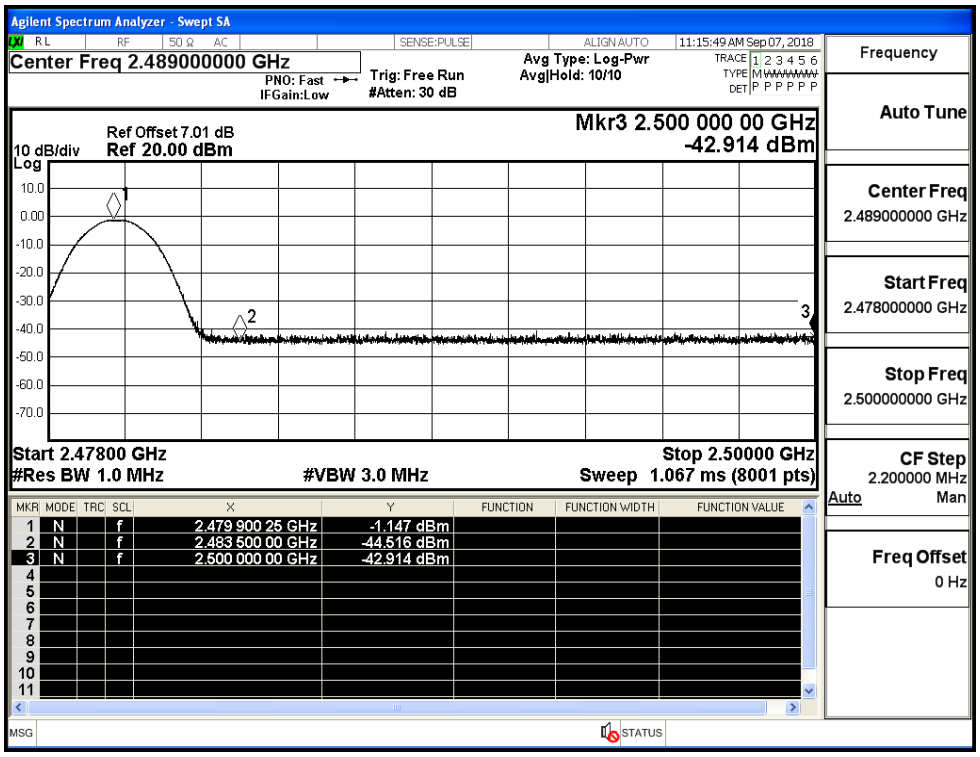
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



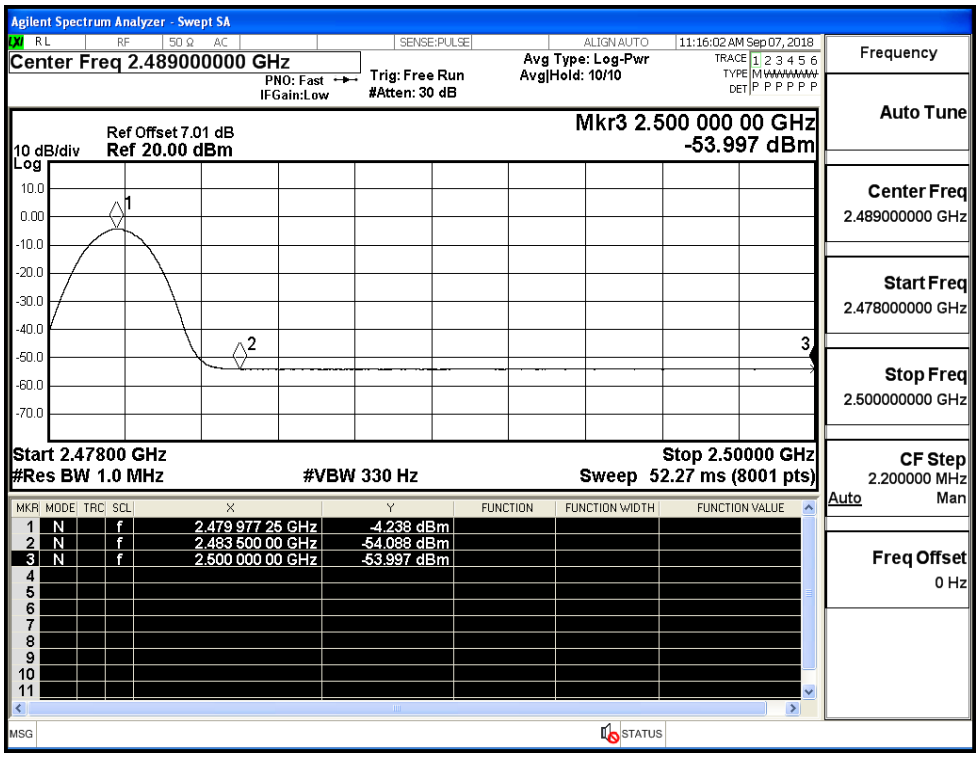
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



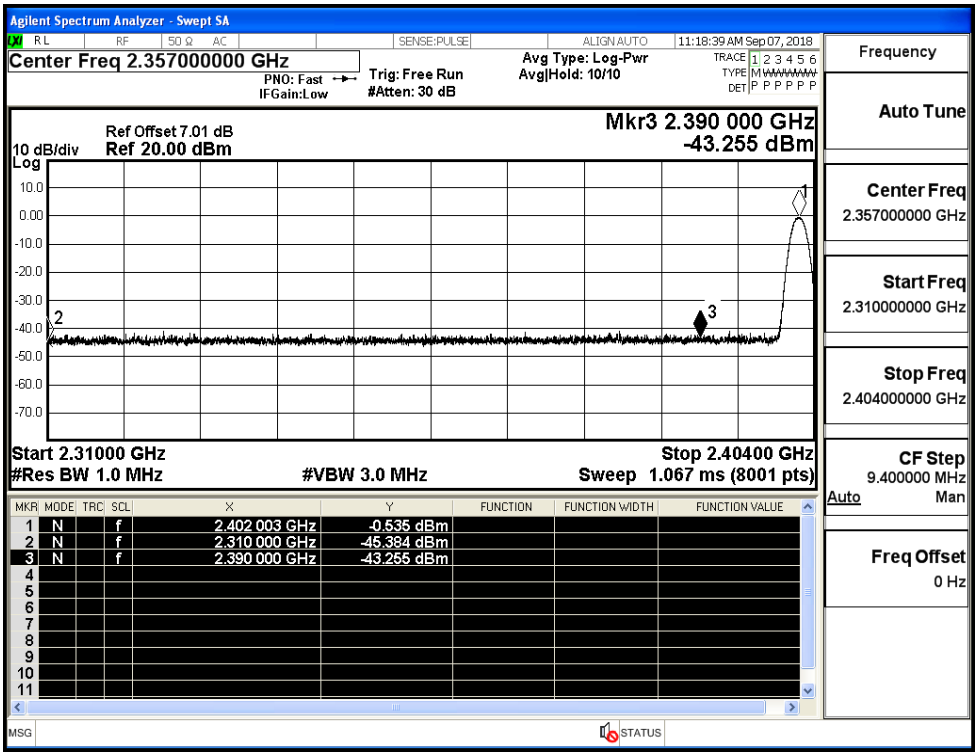
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



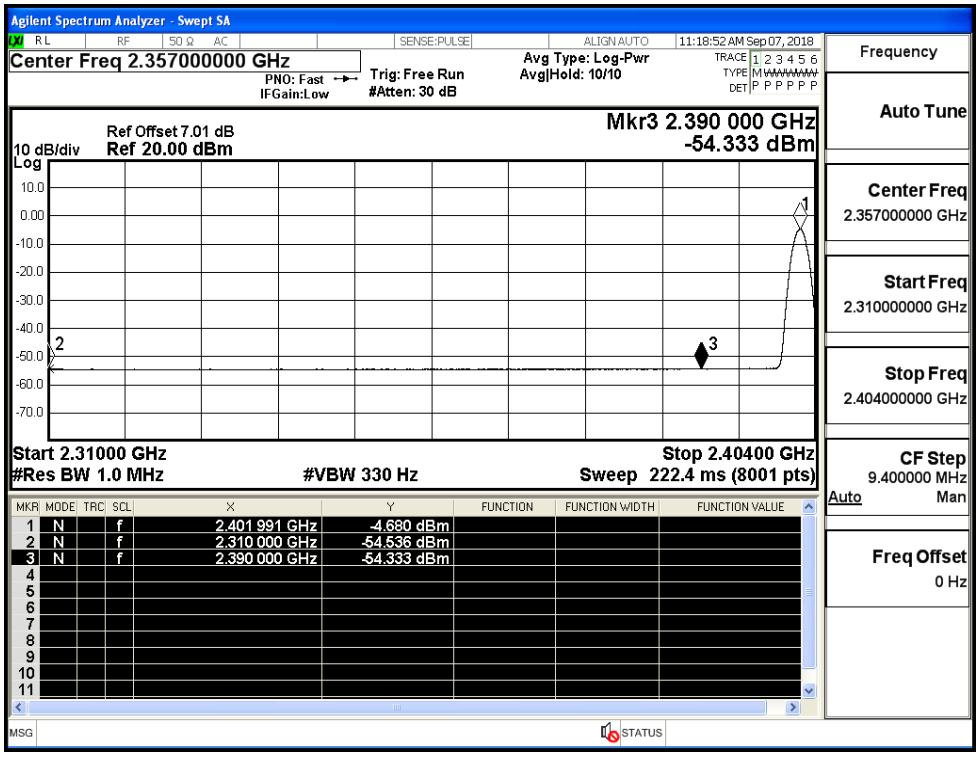
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



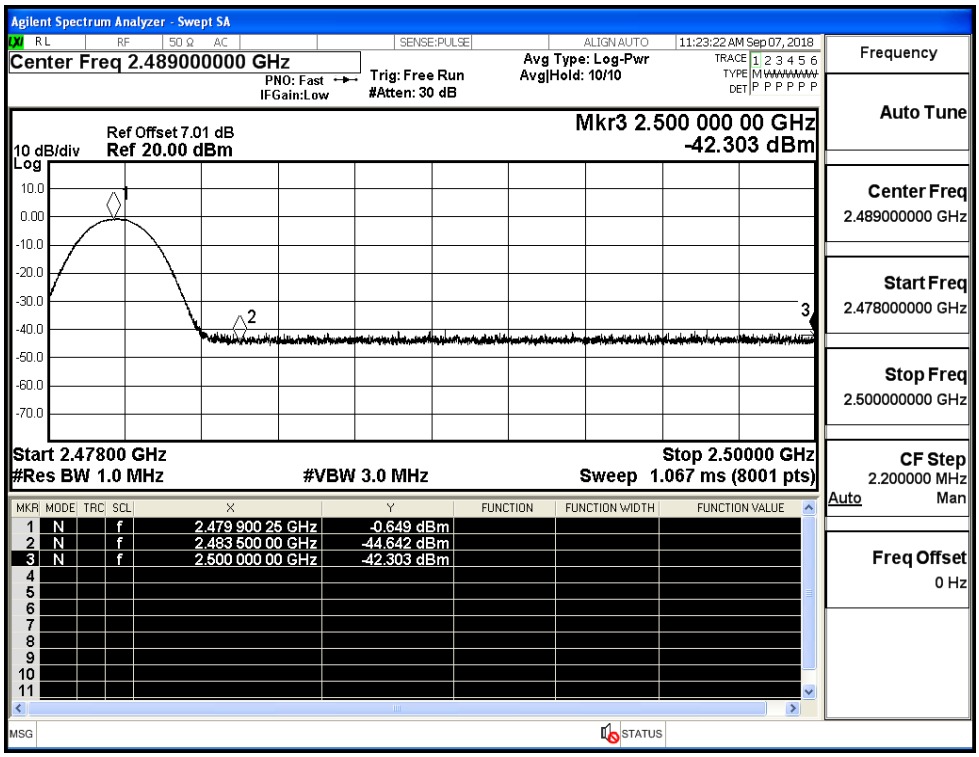
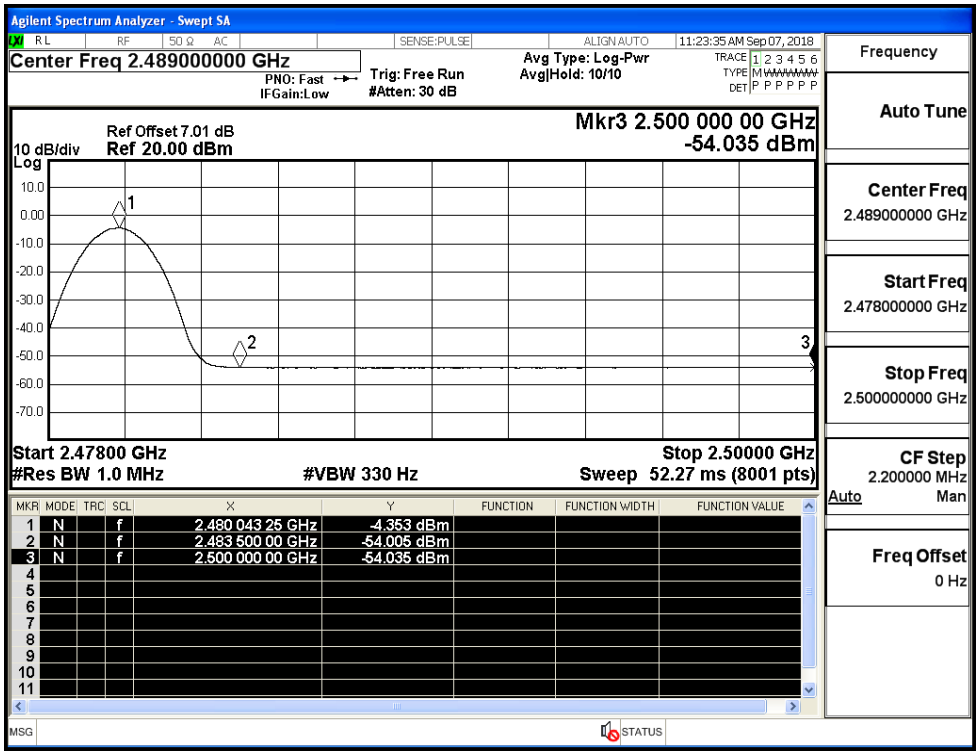
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)