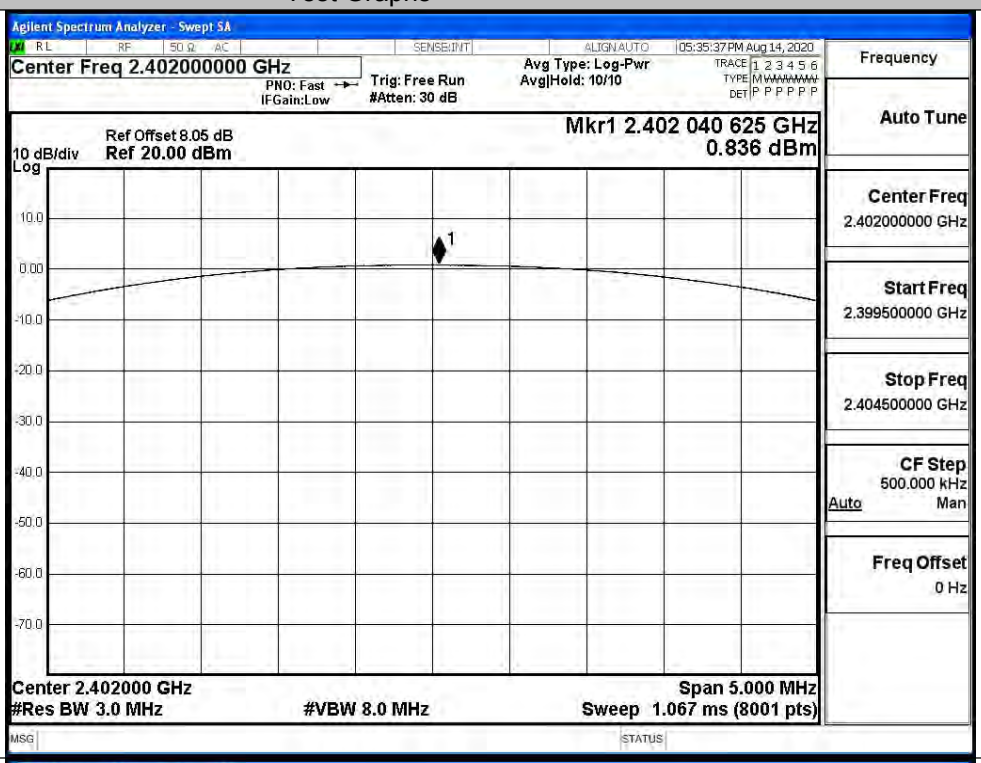
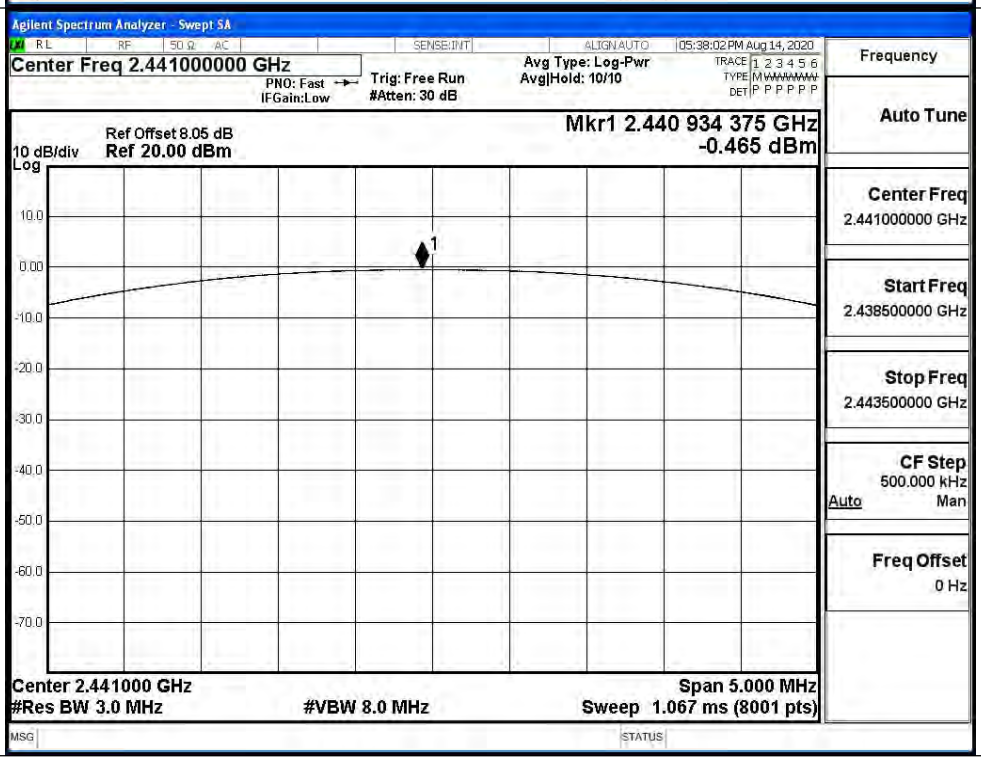
Appendix A
RF Test Data for BT V4.0 (Conducted Measurement)
Product Name: TABLET PC
Trade Mark: FUSION5
Test Model: FWIN232 PLUS S2

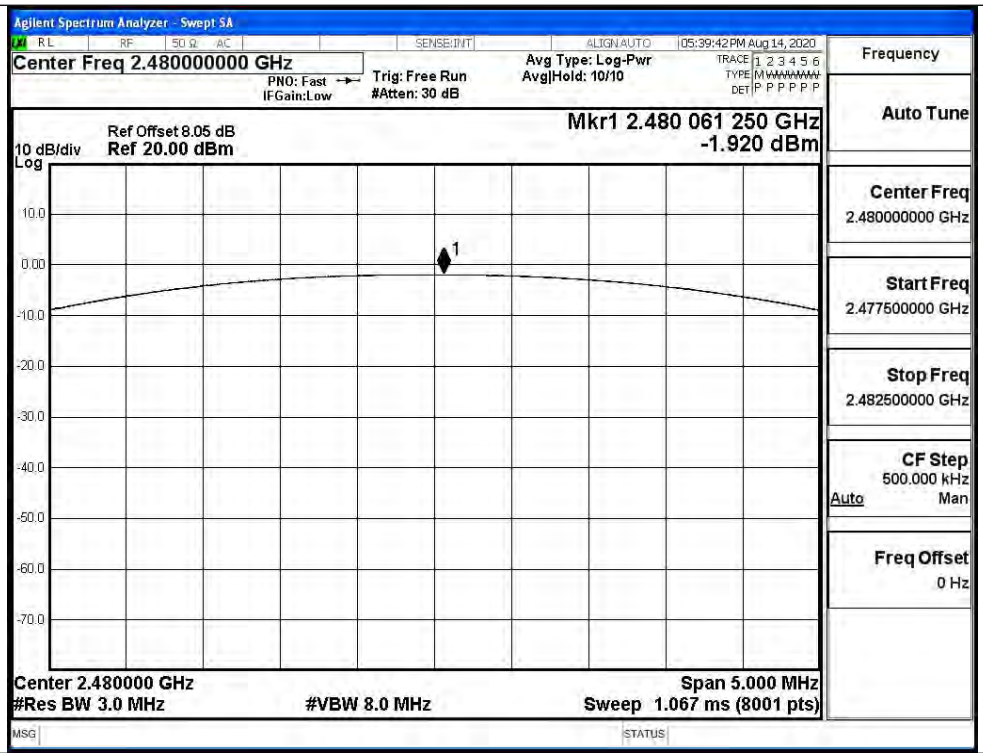
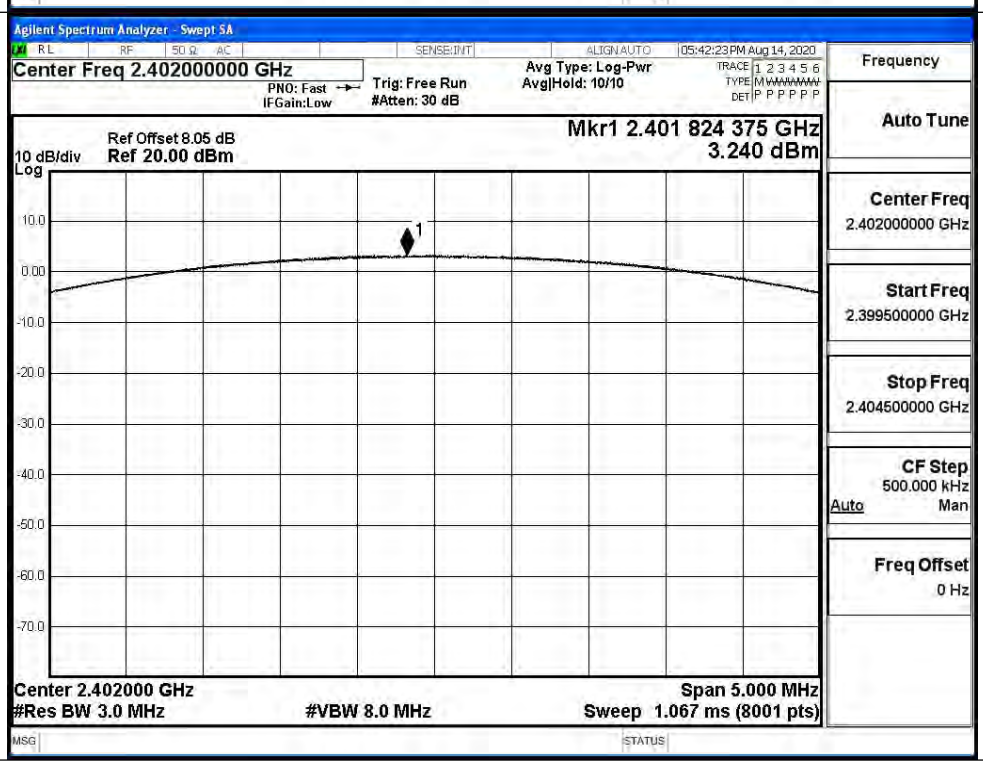
Environmental Conditions

Temperature:	23.6 ° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Kar Hu
Supervised by:	Li Huan

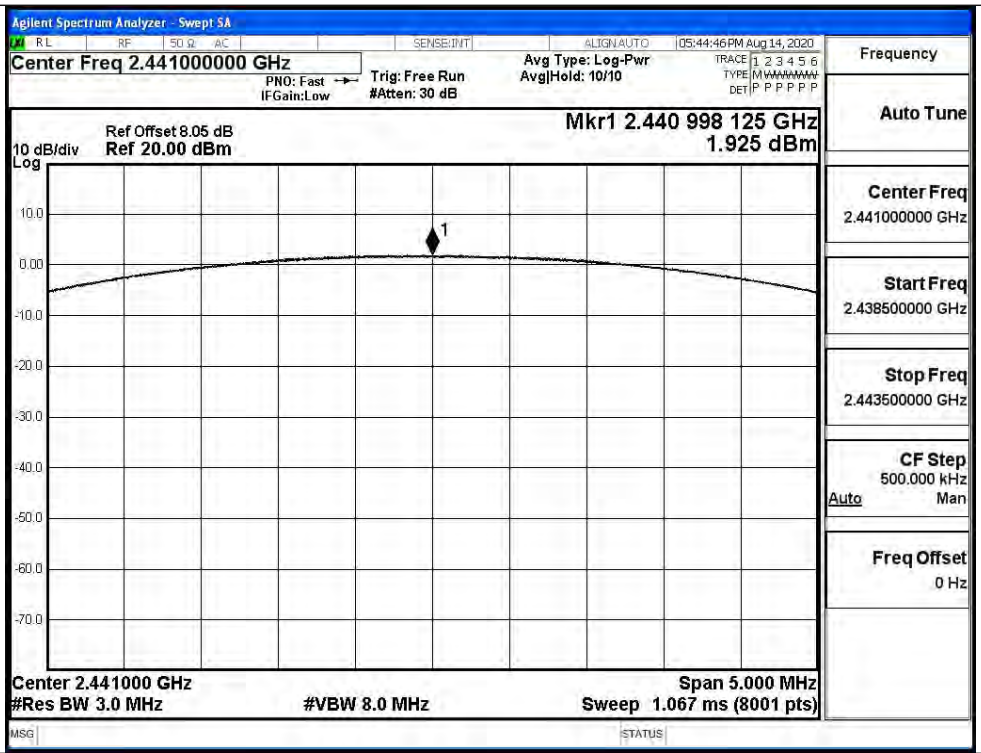
A.1 Maxmum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.836	30	PASS
	MCH	-0.465	30	PASS
	HCH	-1.920	30	PASS
π/4DQPSK	LCH	3.240	21	PASS
	MCH	1.925	21	PASS
	HCH	0.430	21	PASS
8DPSK	LCH	3.725	21	PASS
	MCH	2.389	21	PASS
	HCH	0.903	21	PASS

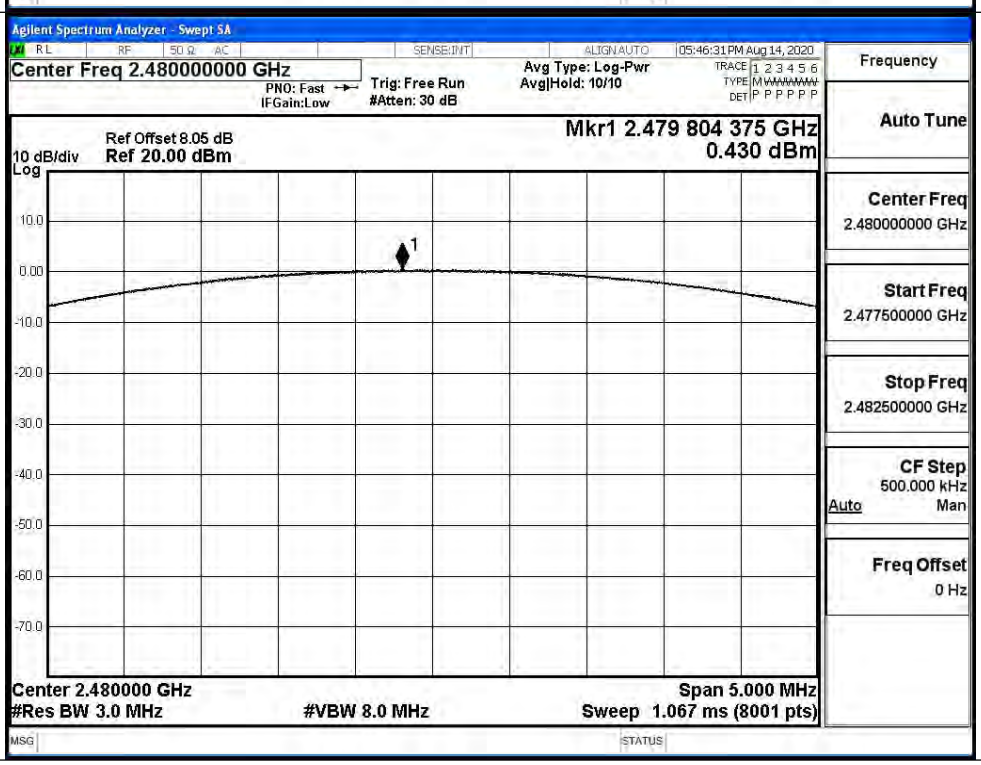
Test Graphs		
GFSK/LCH		
GFSK/MCH		

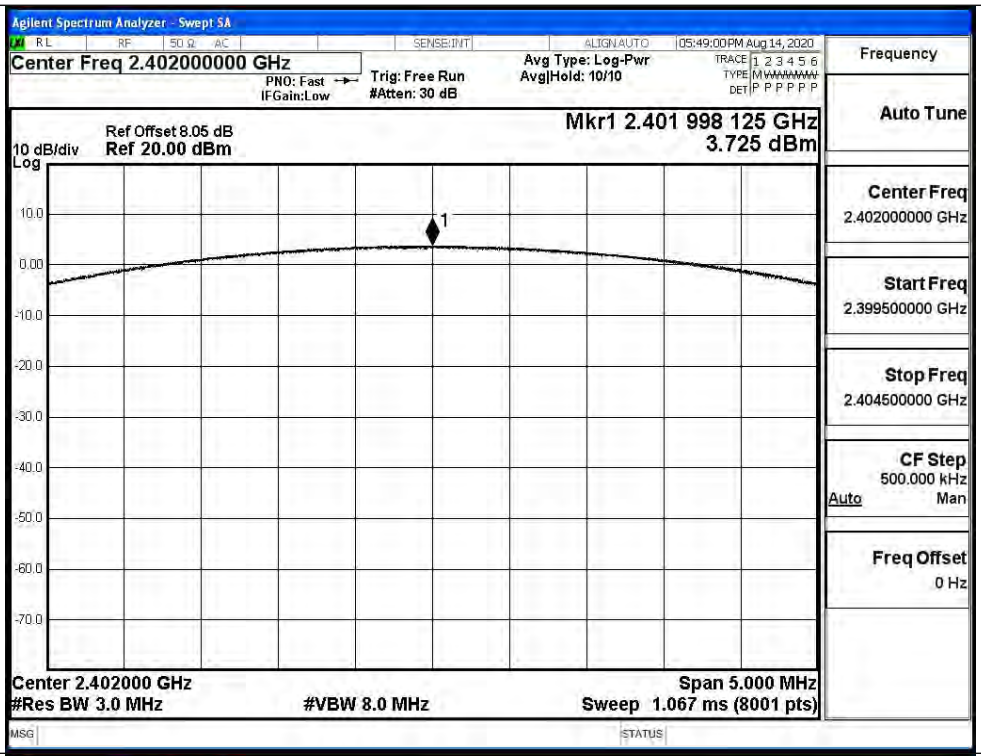
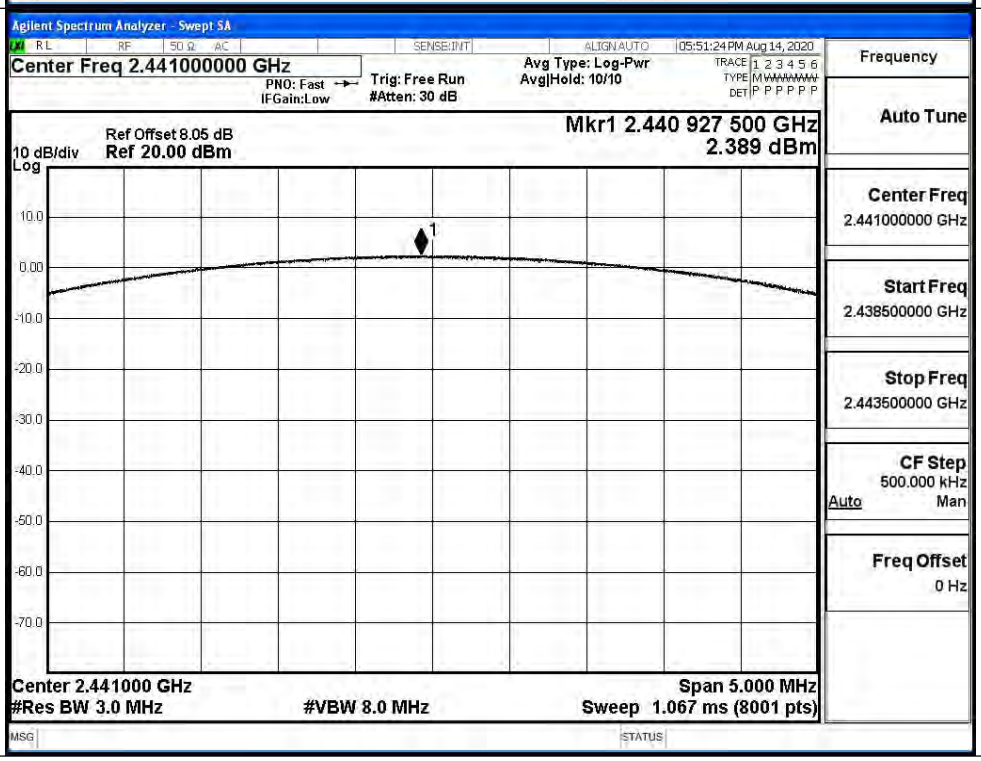
GFSK/HCH	
π/4DQPSK/LCH	

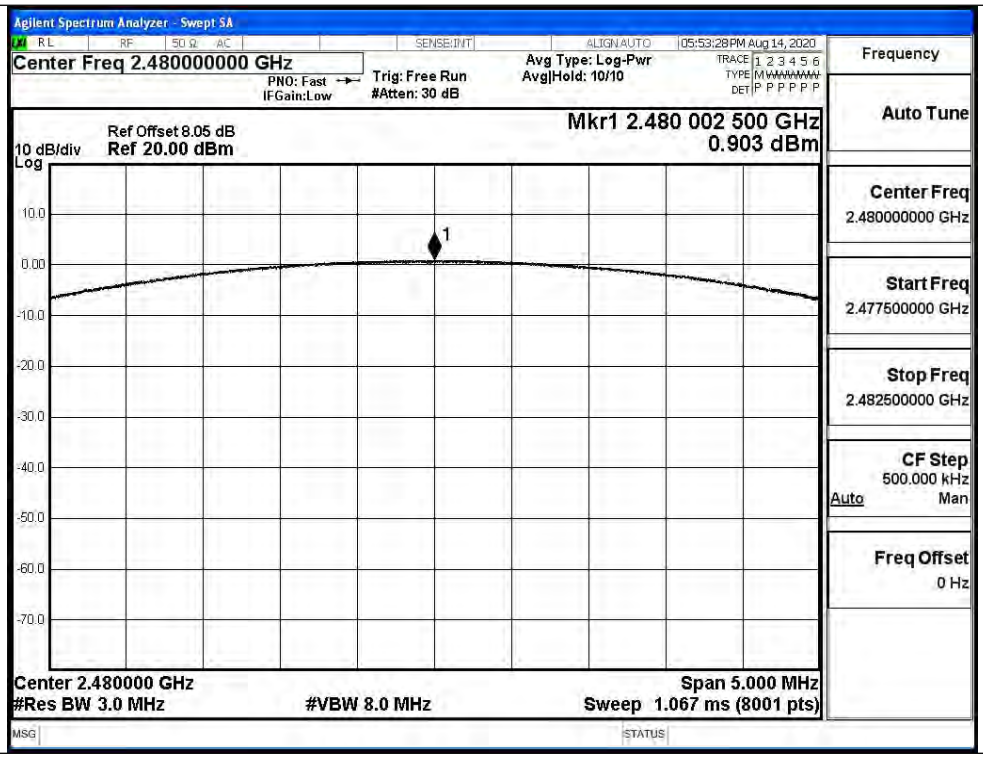
π/4DQPSK/MCH



π/4DQPSK/HCH



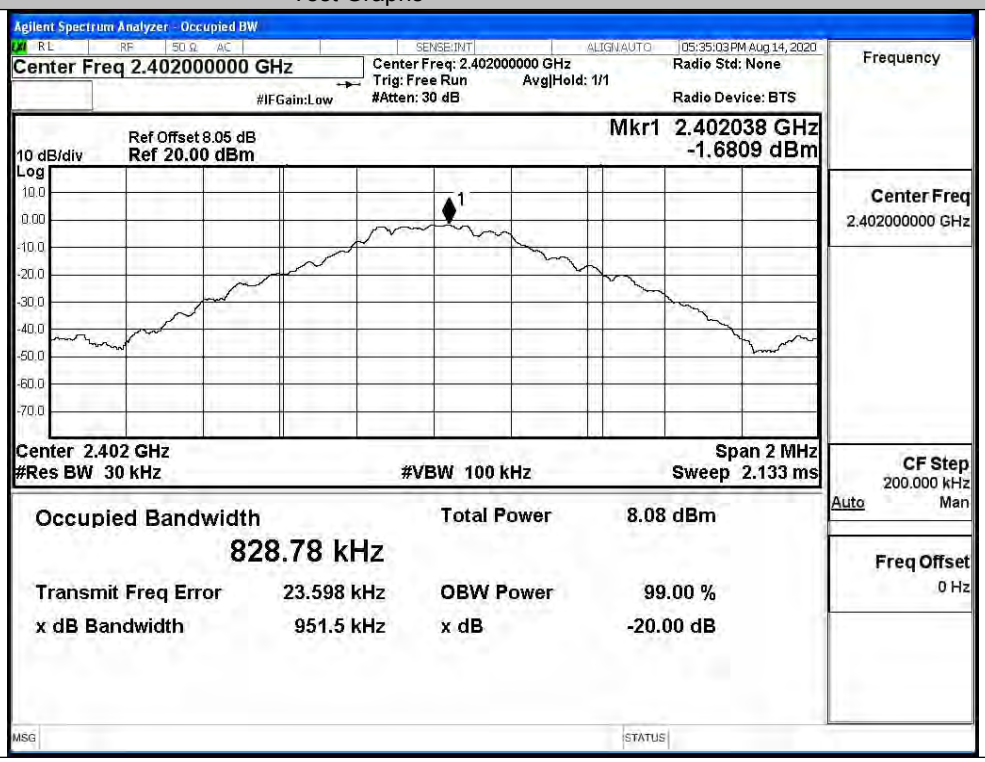
8DPSK/LCH	
8DPSK/MCH	

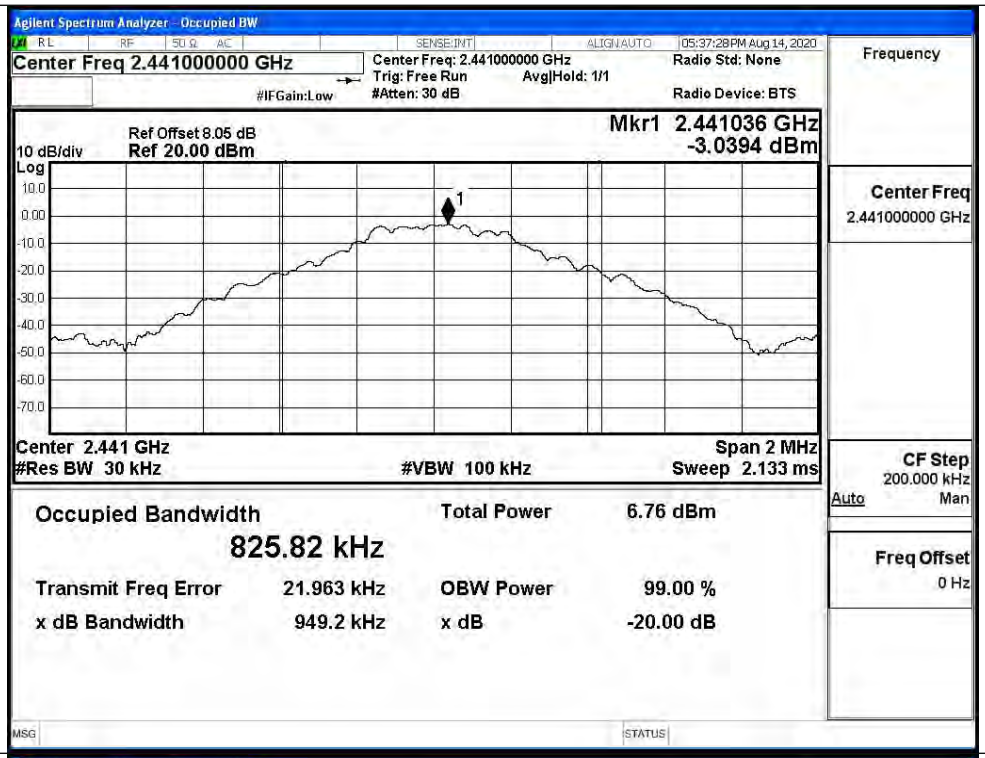
8DPSK/HCH	

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
05:53:28 PM Aug 14, 2020
Ref Offset 8.05 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.480 002 500 GHz
0.903 dBm
Center 2.480000 GHz
#Res BW 3.0 MHz
#VBW 8.0 MHz
Span 5.000 MHz
Sweep 1.067 ms (8001 pts)
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.477500000 GHz
Stop Freq
2.482500000 GHz
CF Step
500.000 kHz
Auto
Man
Freq Offset
0 Hz

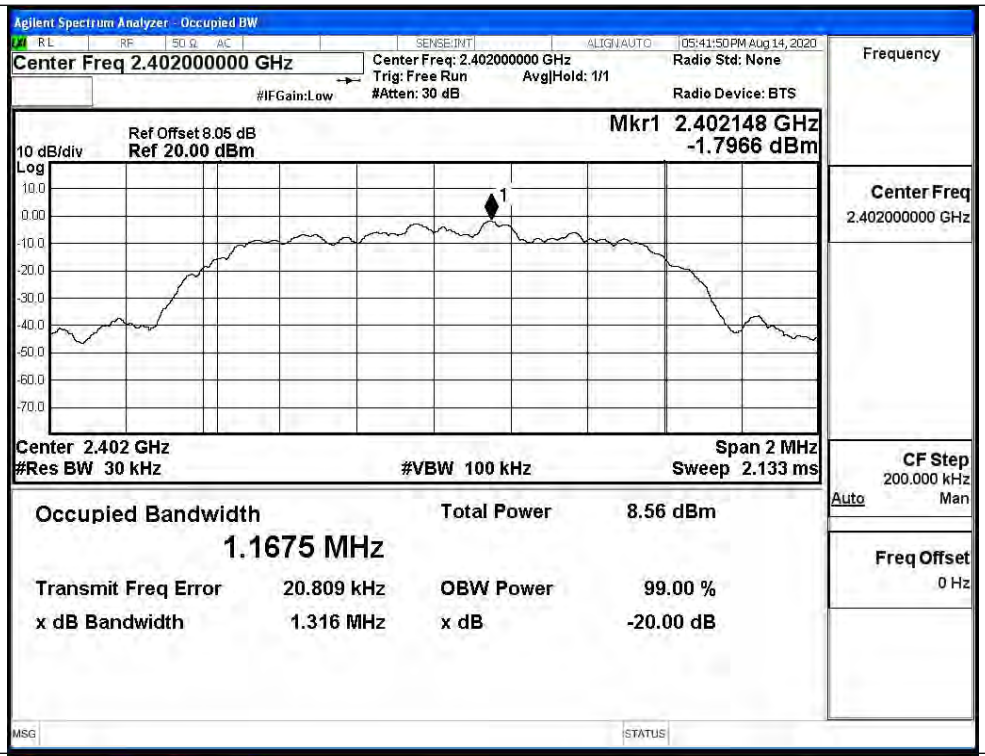
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9515	Not Specified	PASS
	MCH	0.9492	Not Specified	PASS
	HCH	0.9484	Not Specified	PASS
π/4DQPSK	LCH	1.316	Not Specified	PASS
	MCH	1.317	Not Specified	PASS
	HCH	1.316	Not Specified	PASS
8DPSK	LCH	1.312	Not Specified	PASS
	MCH	1.314	Not Specified	PASS
	HCH	1.315	Not Specified	PASS

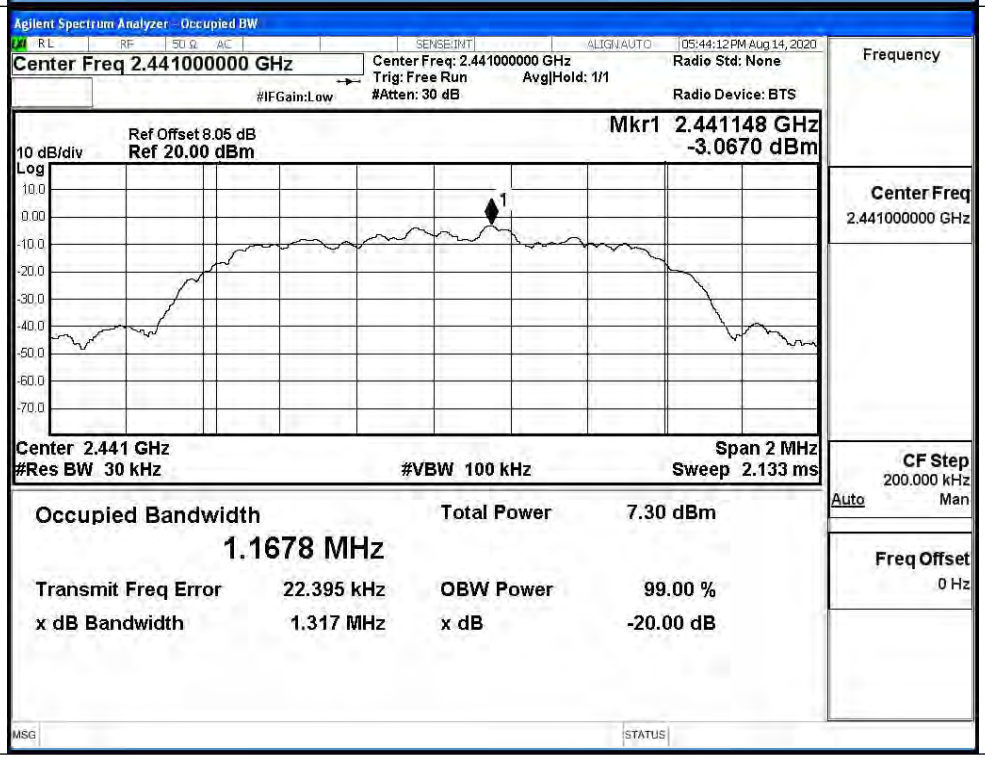
Test Graphs	
GFSK/LCH	

GFSK/MCH	
GFSK/HCH	

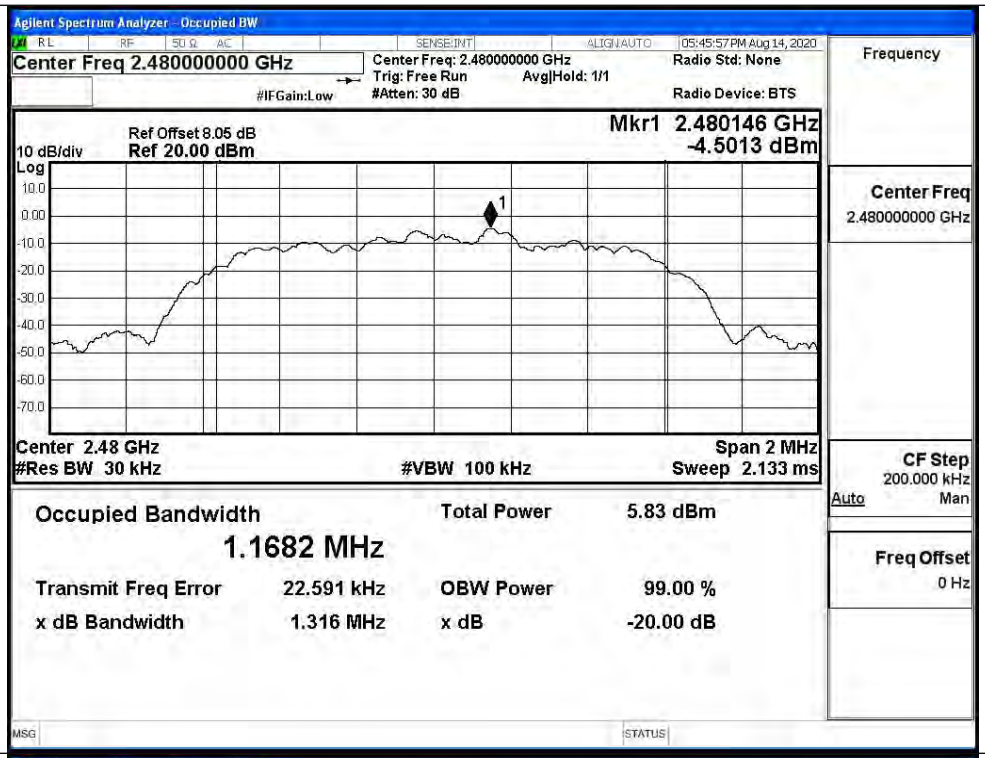
π/4DQPSK/LCH



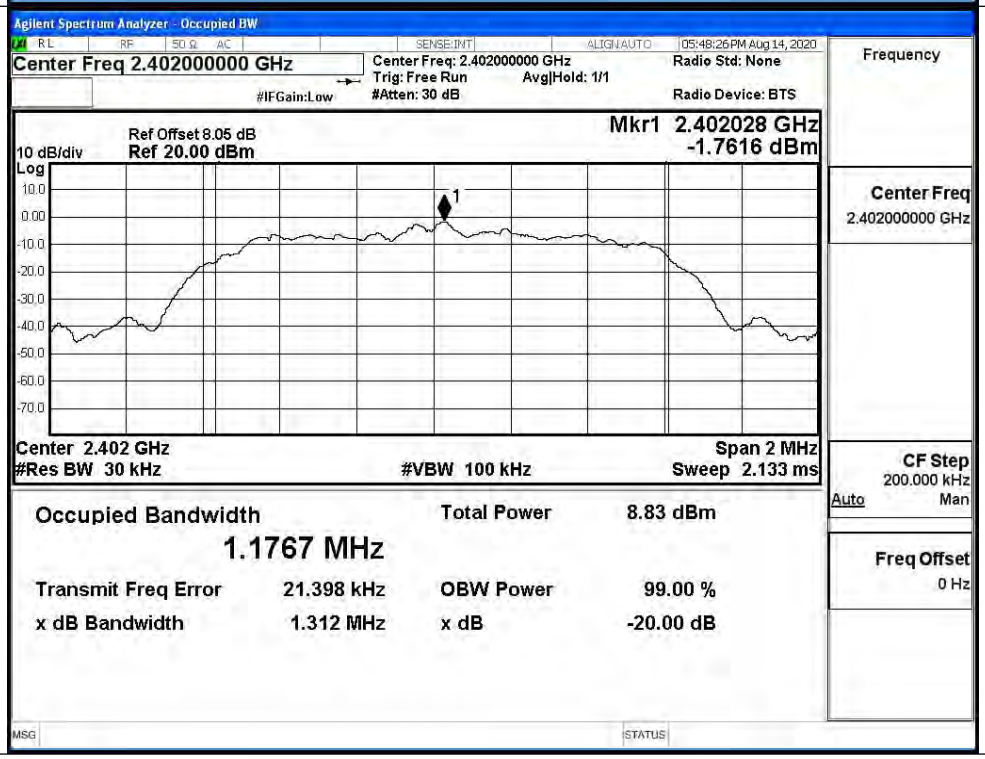
π/4DQPSK/MCH

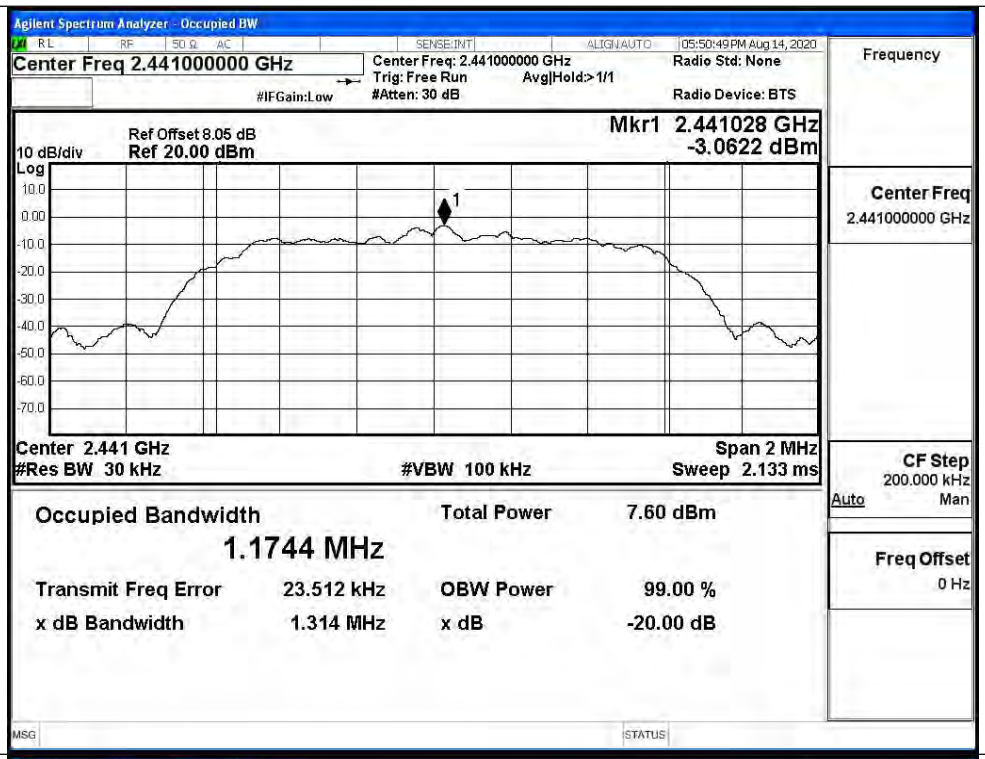
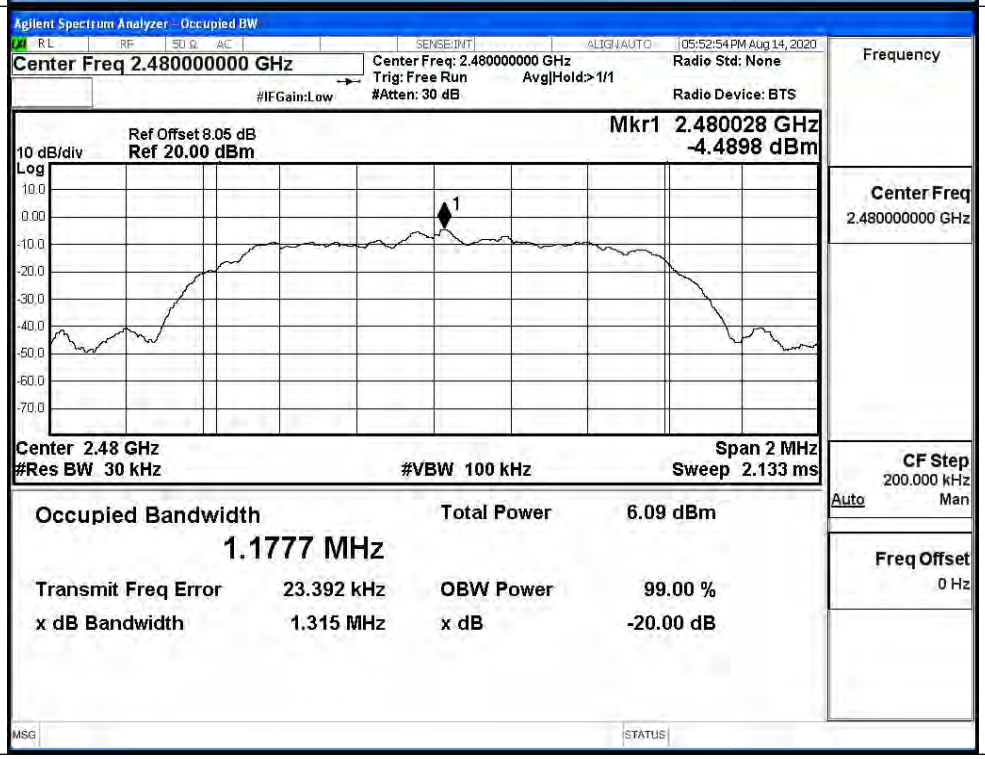


π/4DQPSK/HCH



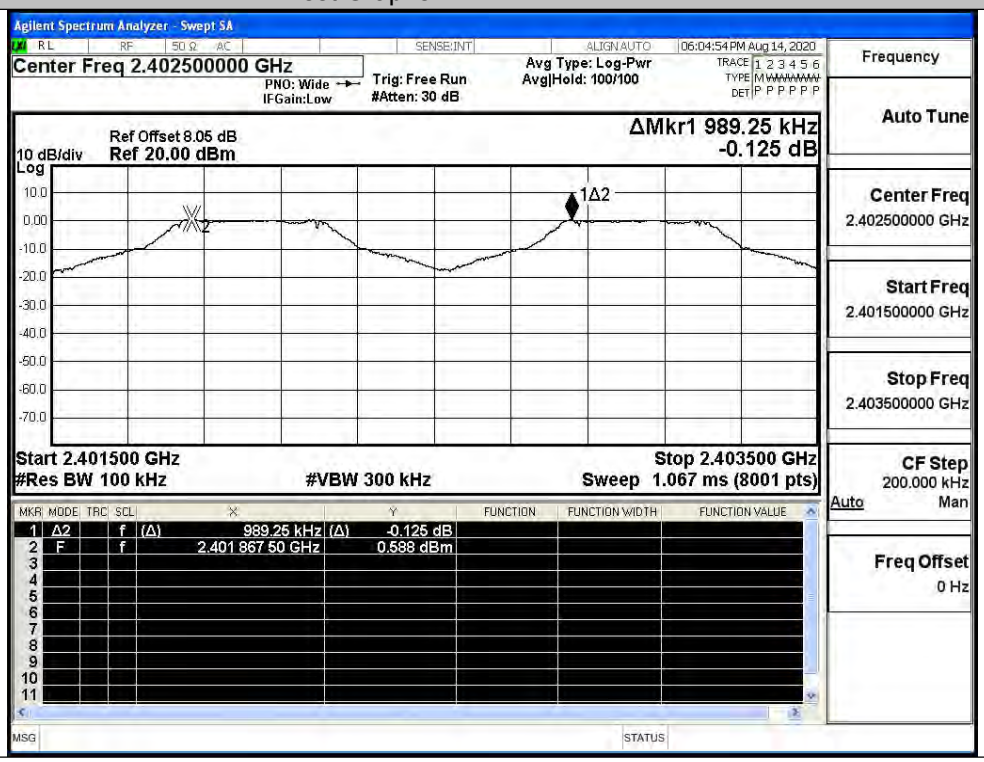
8DPSK/LCH



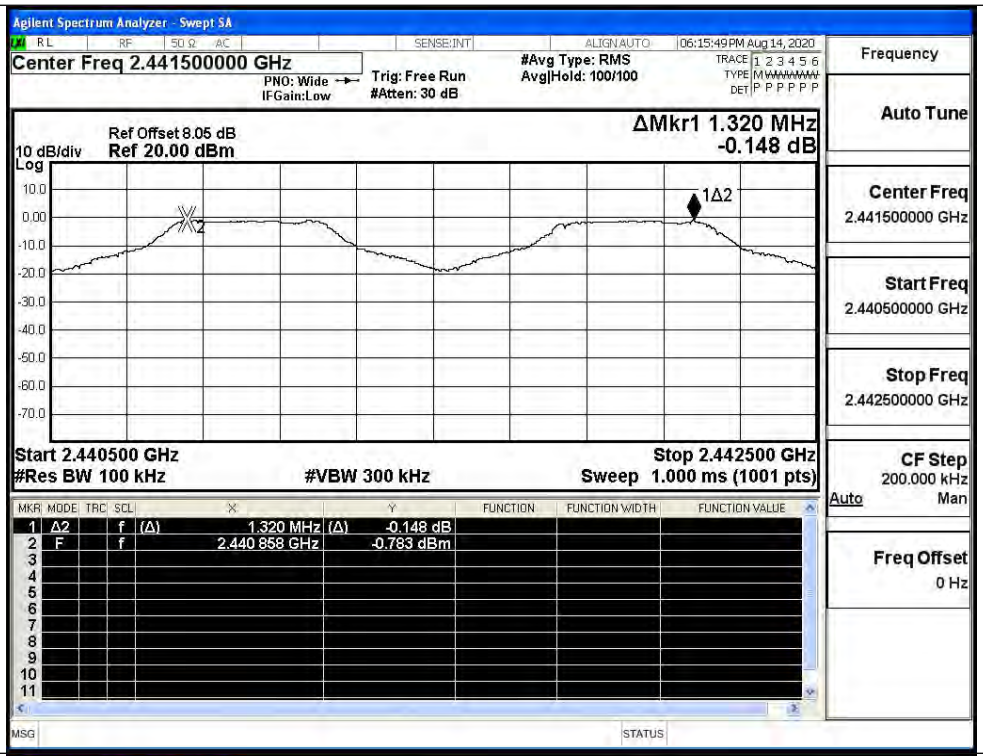
8DPSK/MCH	
8DPSK/HCH	

A.3 Carrier Frequency Separation

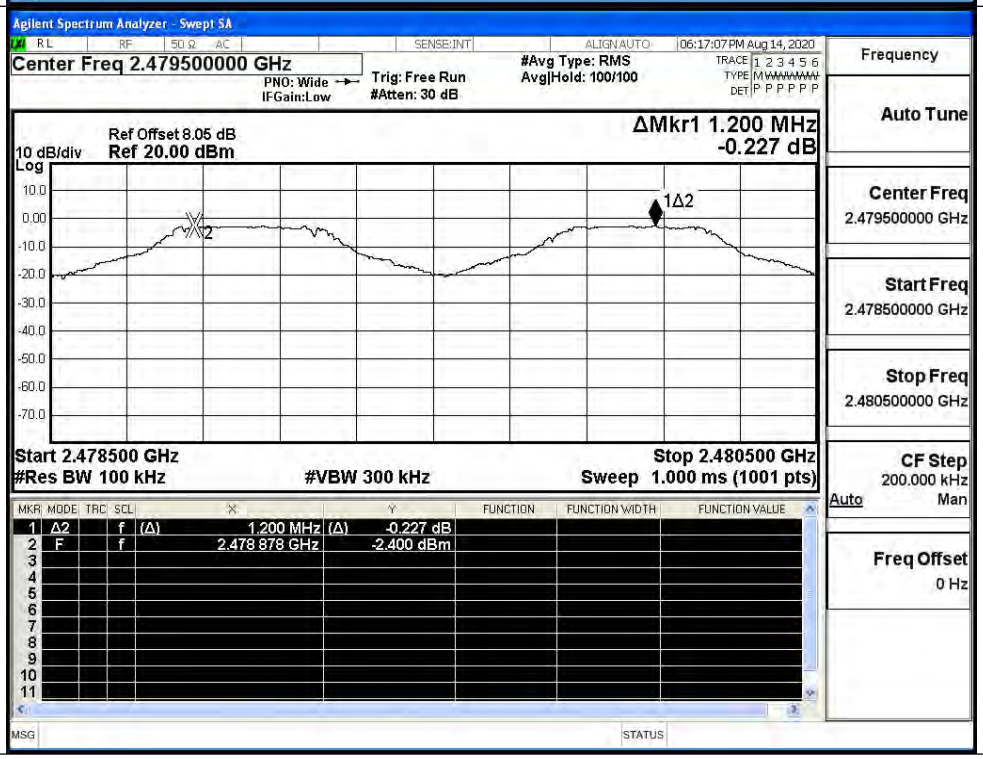
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.989	0.634	PASS
	MCH	1.320	0.634	PASS
	HCH	1.200	0.634	PASS
π/4DQPSK	LCH	1.002	0.878	PASS
	MCH	1.000	0.878	PASS
	HCH	1.000	0.878	PASS
8DPSK	LCH	1.000	0.877	PASS
	MCH	1.168	0.877	PASS
	HCH	1.000	0.877	PASS

Test Graphs	
GFSK/LCH	

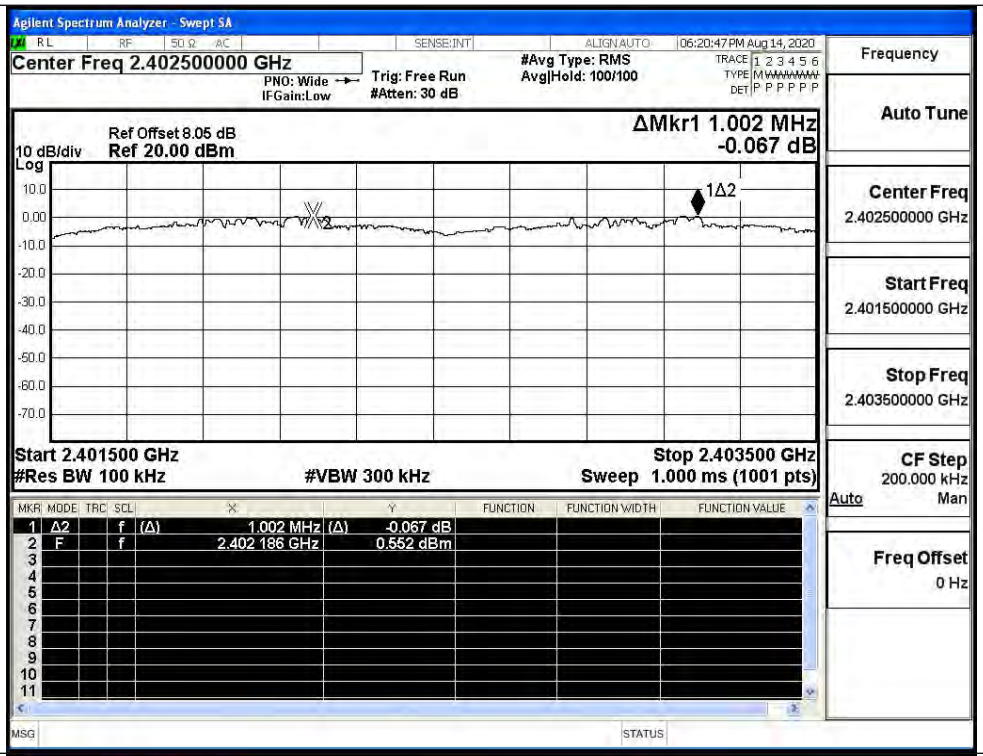
GFSK/MCH



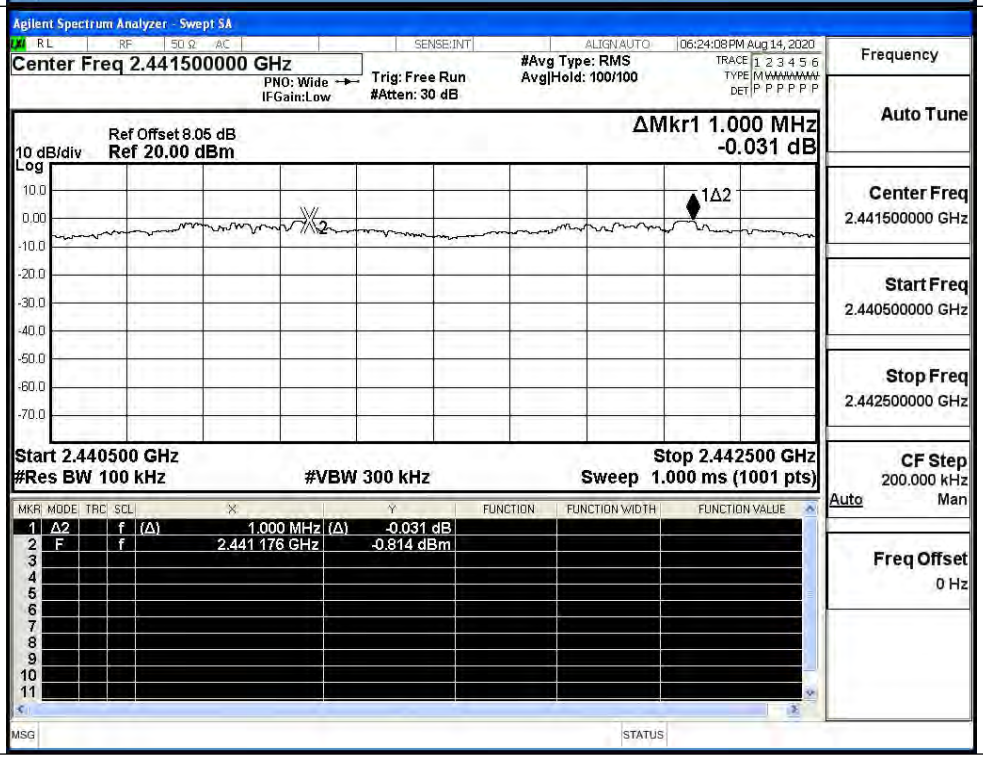
GFSK/HCH



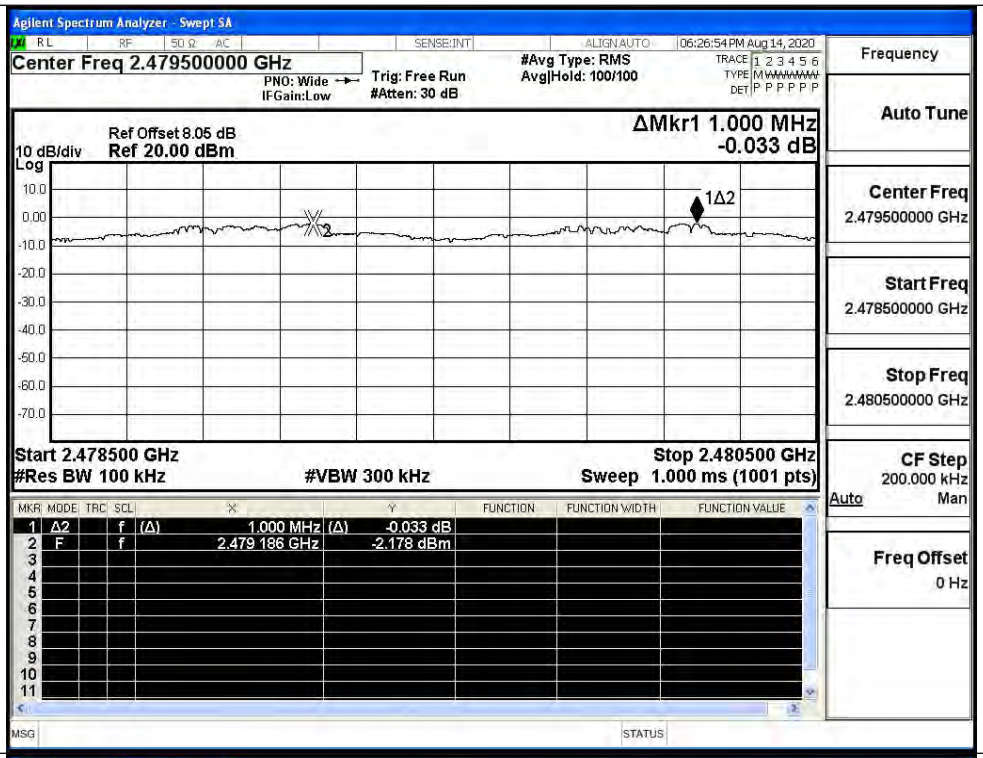
π/4DQPSK/LCH



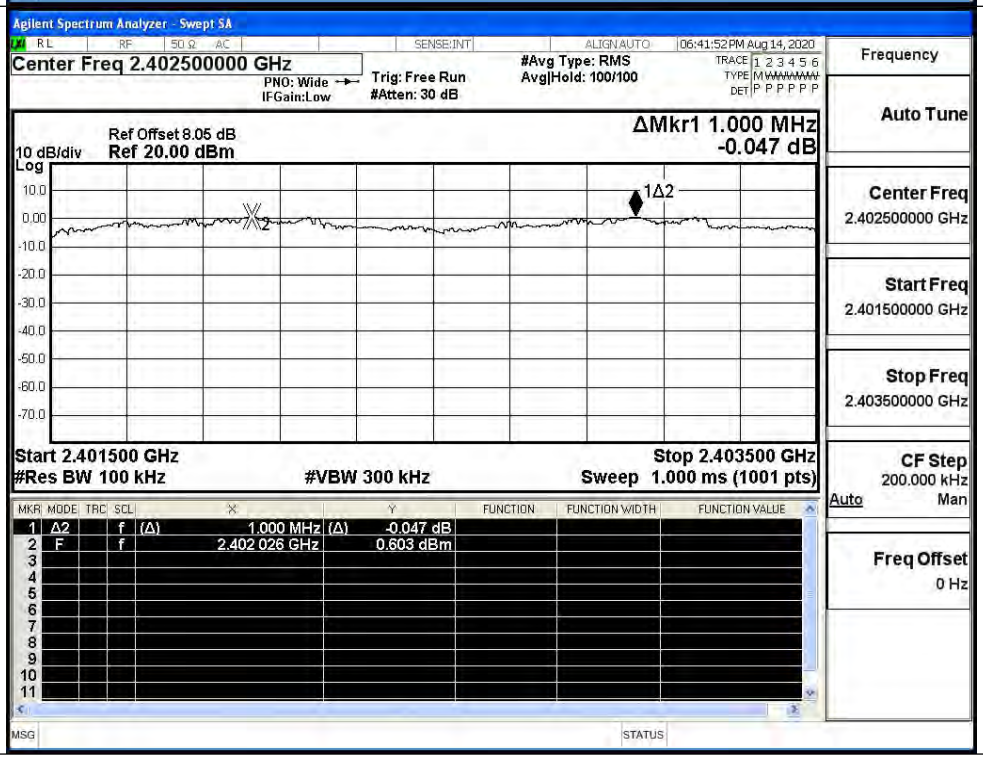
π/4DQPSK/MCH



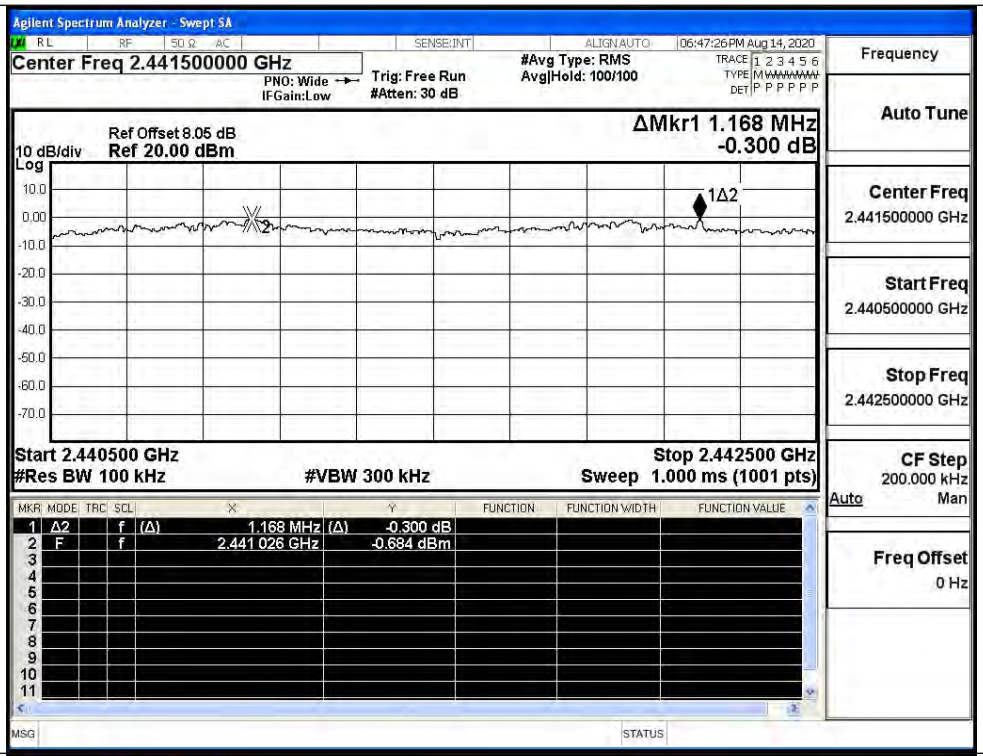
π/4DQPSK/HCH



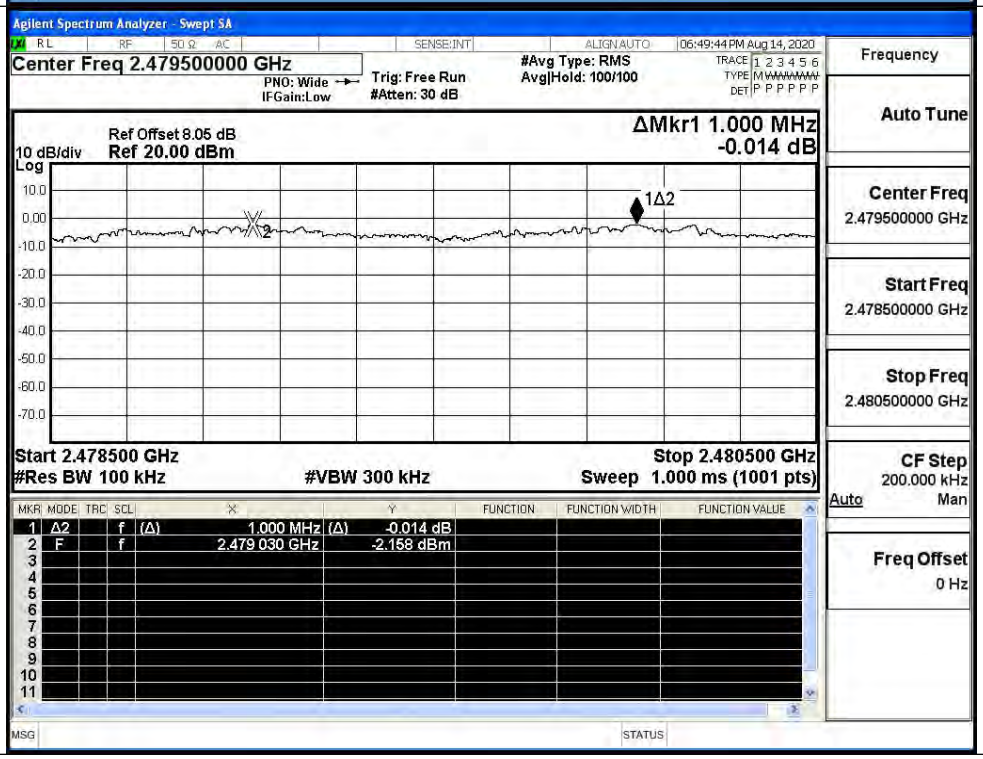
8DPSK/LCH



8DPSK/MCH

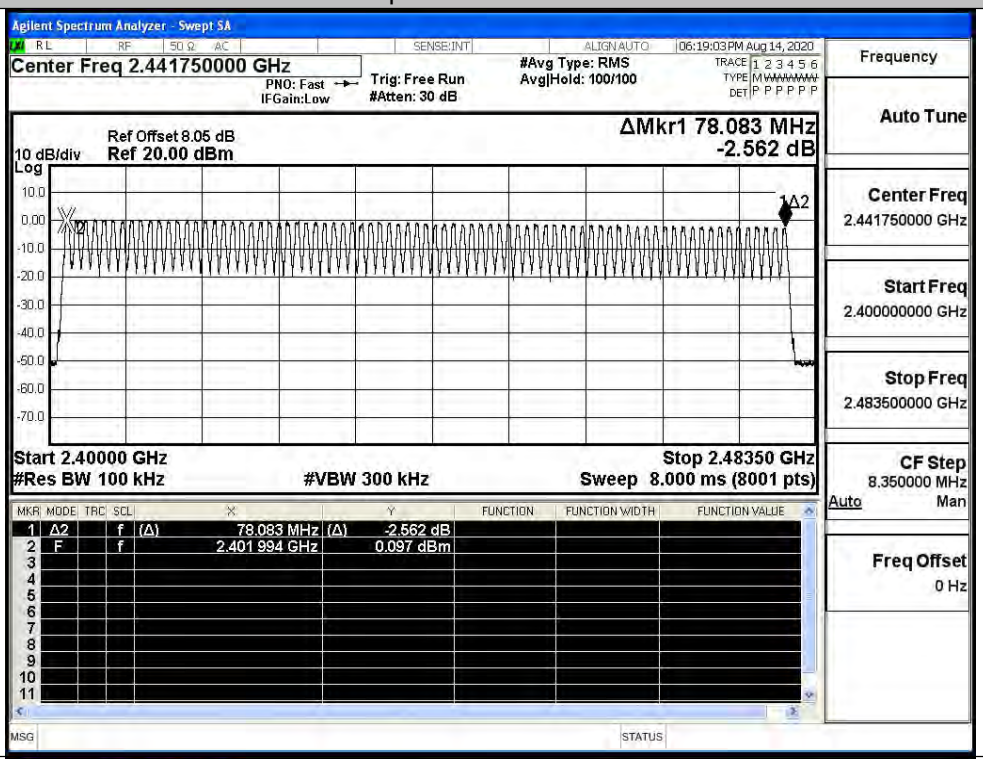
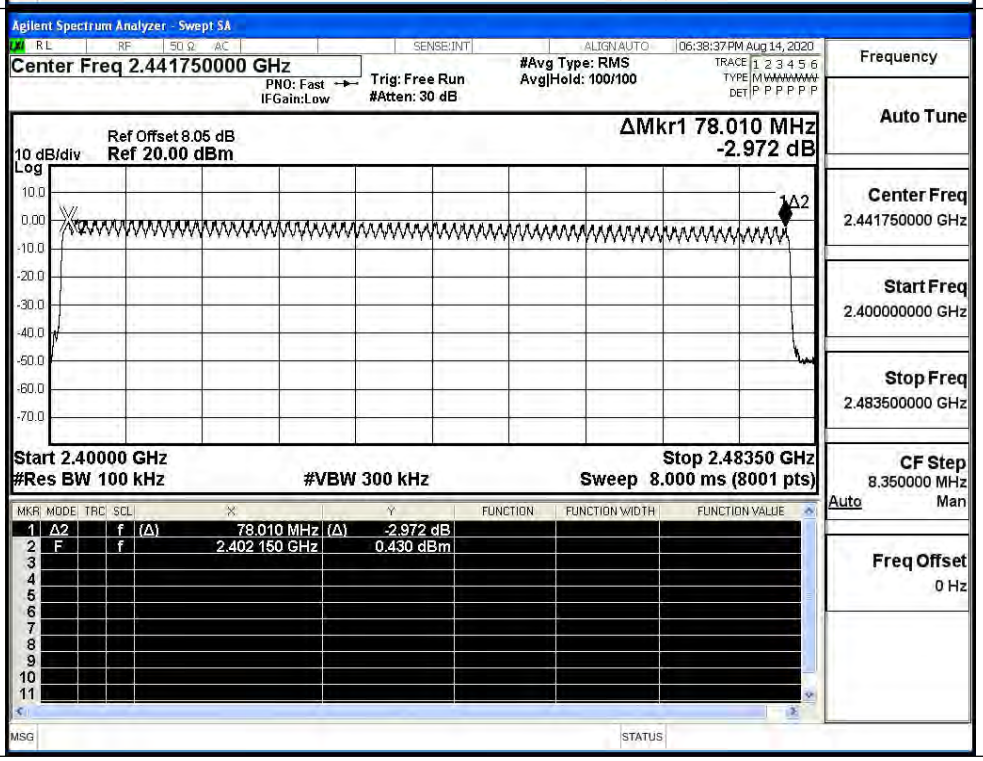


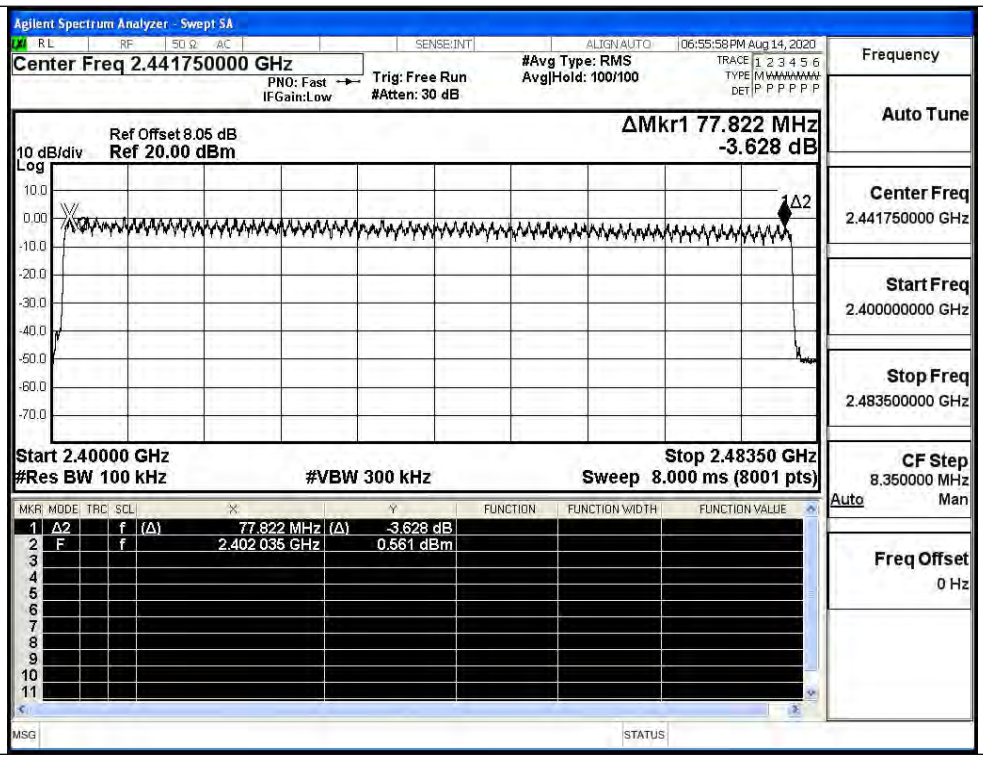
8DPSK/HCH



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

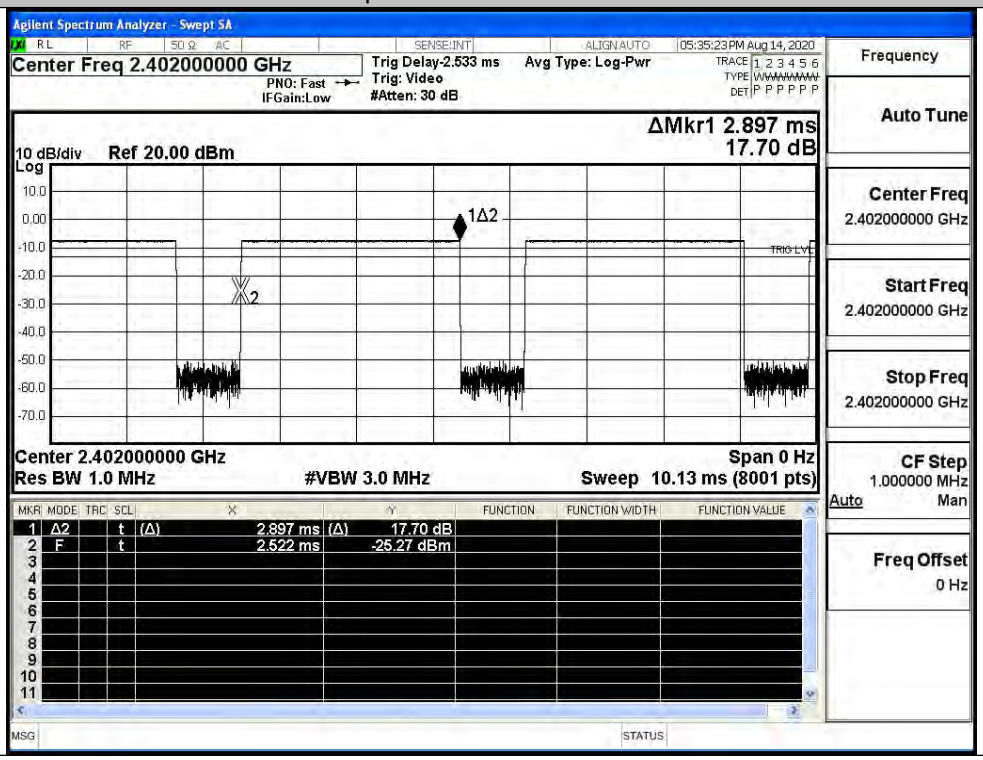
Test Graphs		
GFSK/Hop		
π/4DQPSK/Hop		

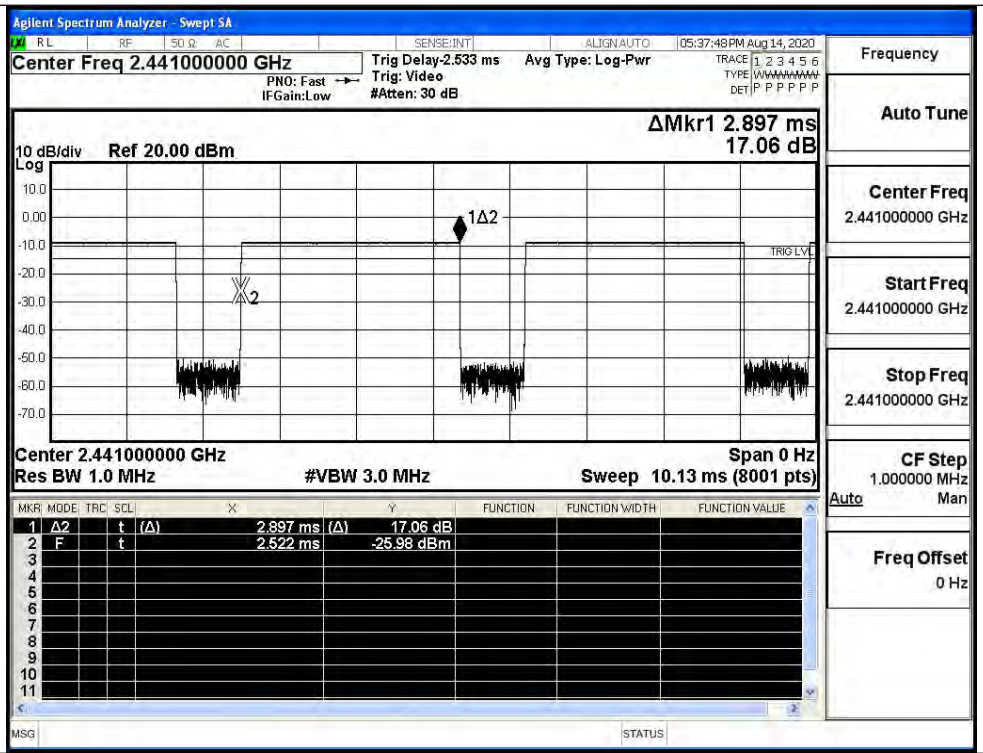
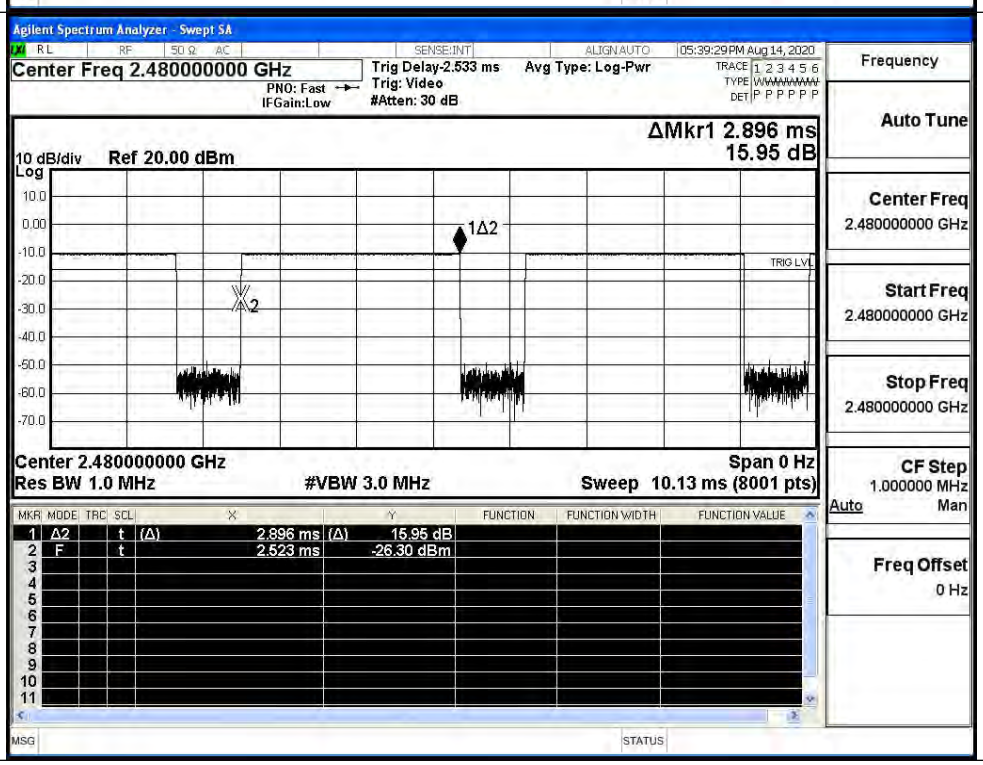
8DPSK/Hop	

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: 100/100
06:55:58 PM Aug 14, 2020
Ref Offset 8.05 dB
10 dB/div Ref 20.00 dBm
Log
ΔMkr1 77.822 MHz
-3.628 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) 77.822 MHz (Δ) -3.628 dB
2 F f 2.402 035 GHz 0.561 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

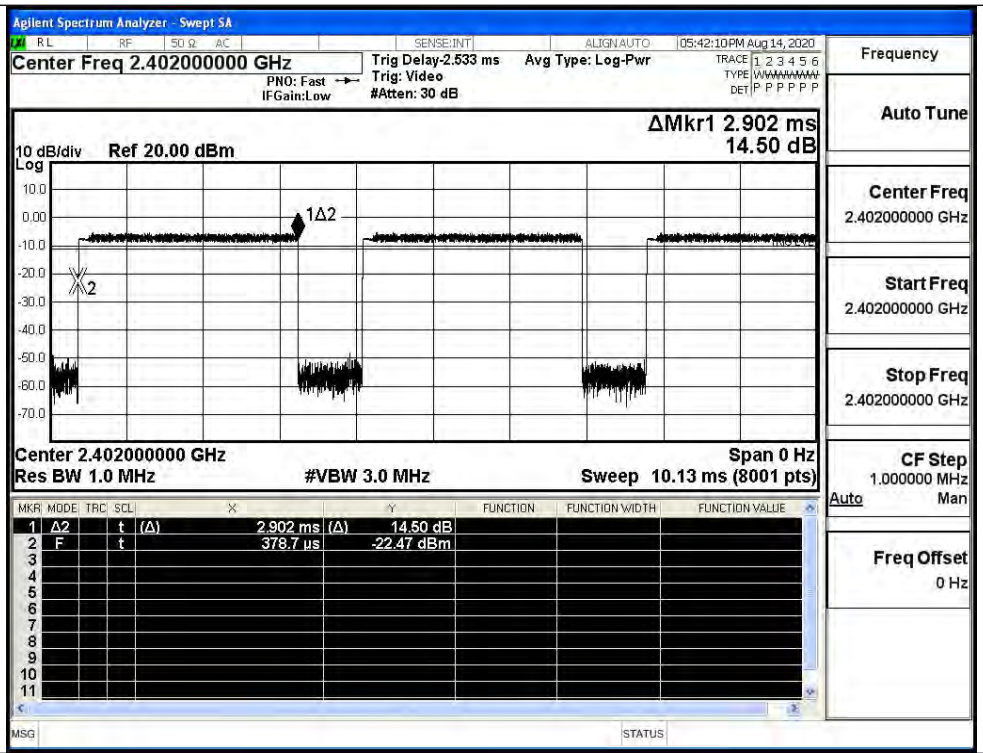
A.5 Dwell Time

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.9	106.7	0.309	0.4	PASS
	DH5	MCH	2.9	106.7	0.309	0.4	PASS
	DH5	HCH	2.9	106.7	0.309	0.4	PASS
π/4DQPSK	2DH5	LCH	2.9	106.7	0.309	0.4	PASS
	2DH5	MCH	2.9	106.7	0.309	0.4	PASS
	2DH5	HCH	2.9	106.7	0.309	0.4	PASS
8DPSK	3DH5	LCH	2.9	106.7	0.309	0.4	PASS
	3DH5	MCH	2.9	106.7	0.309	0.4	PASS
	3DH5	HCH	2.9	106.7	0.309	0.4	PASS

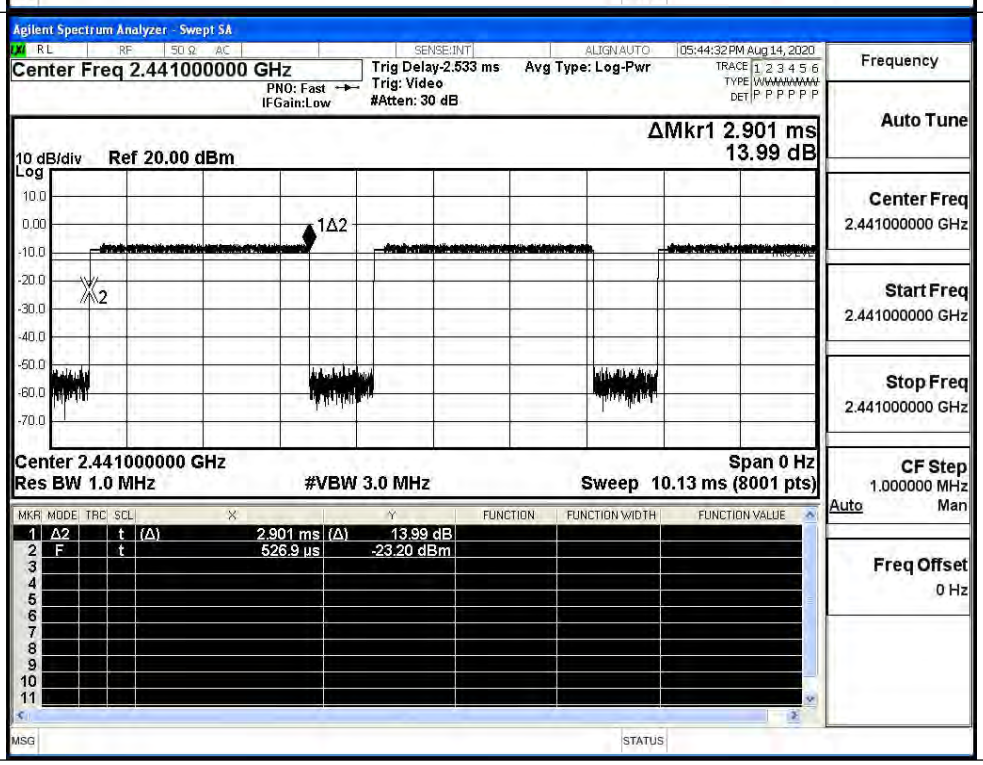
Test Graphs	
GFSK_DH5/LCH	

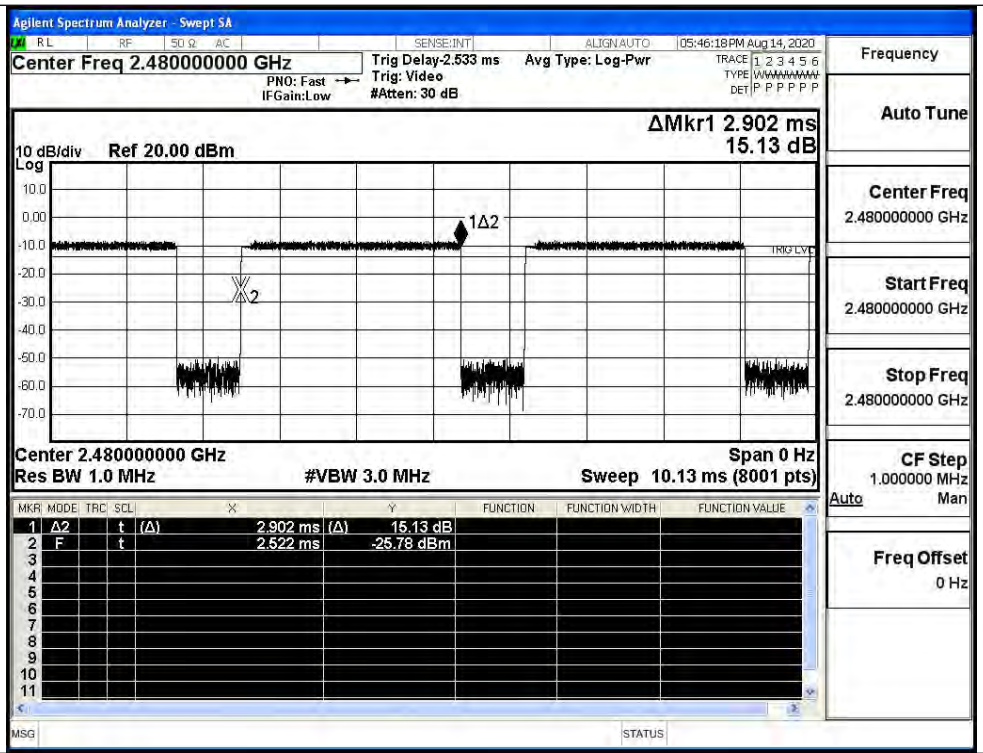
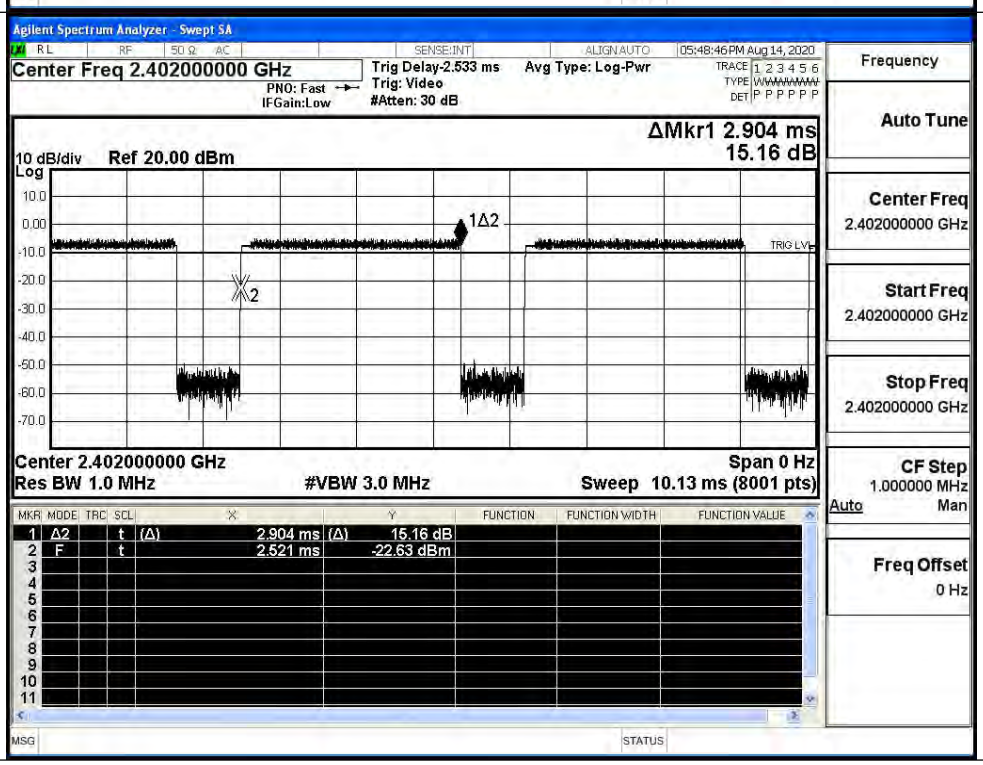
GFSK_DH5/MCH	
GFSK_DH5/HCH	

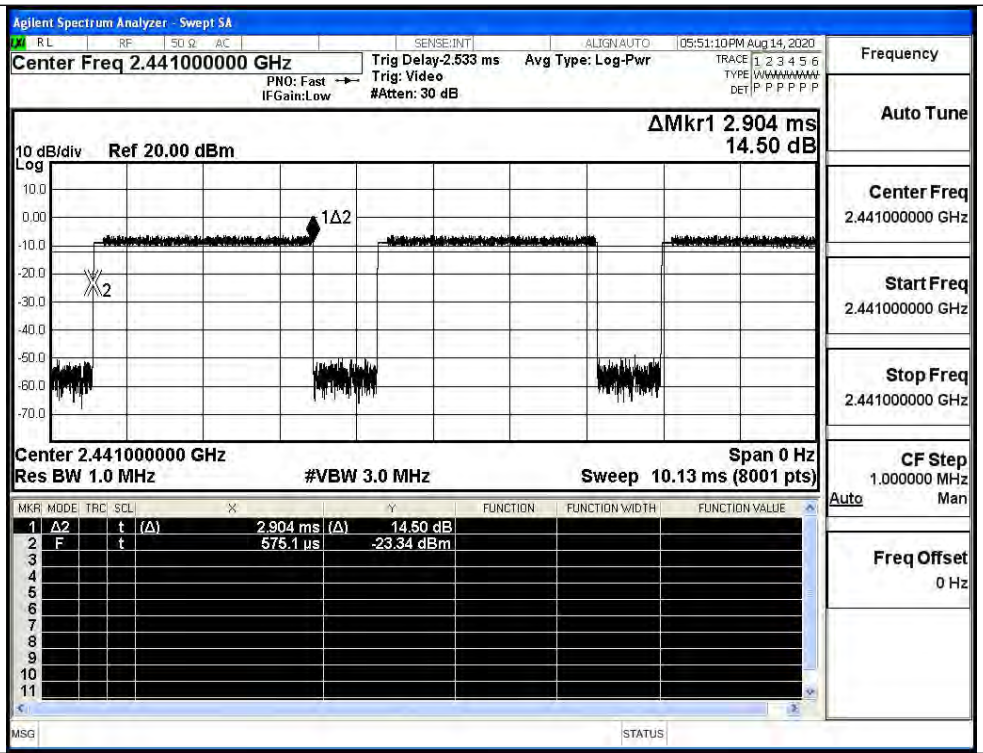
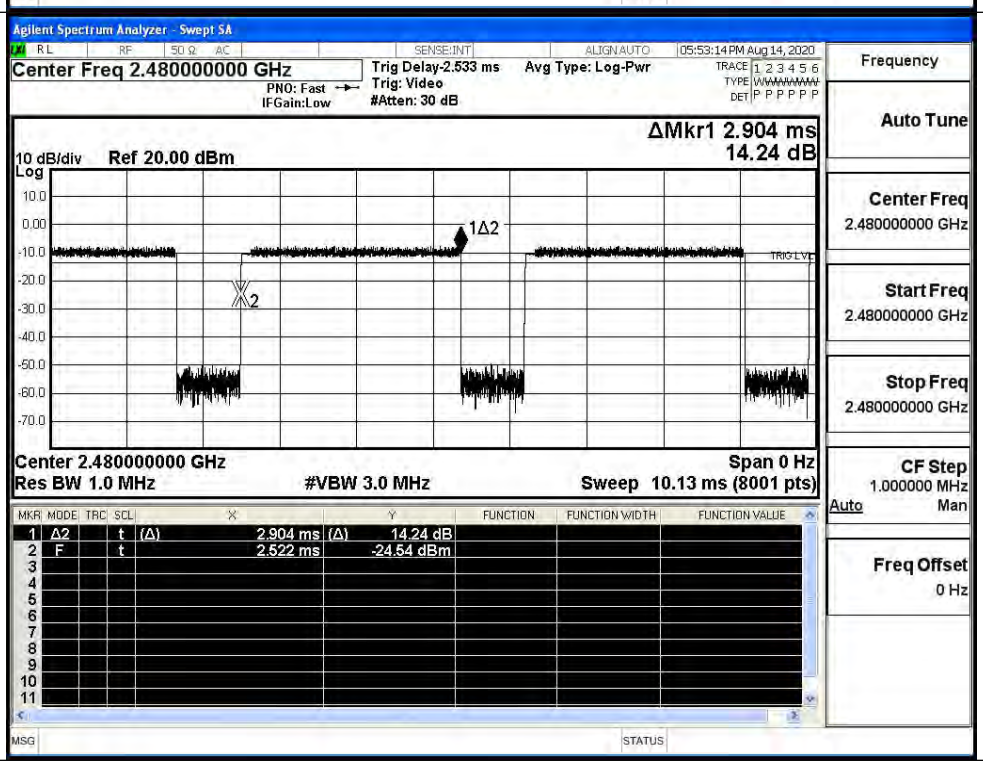
π/4DQPSK
_2DH5/LCH



π/4DQPSK
_2DH5/MCH



π/4DQPSK _2DH5/HCH	
8DPSK _3DH5/LCH	

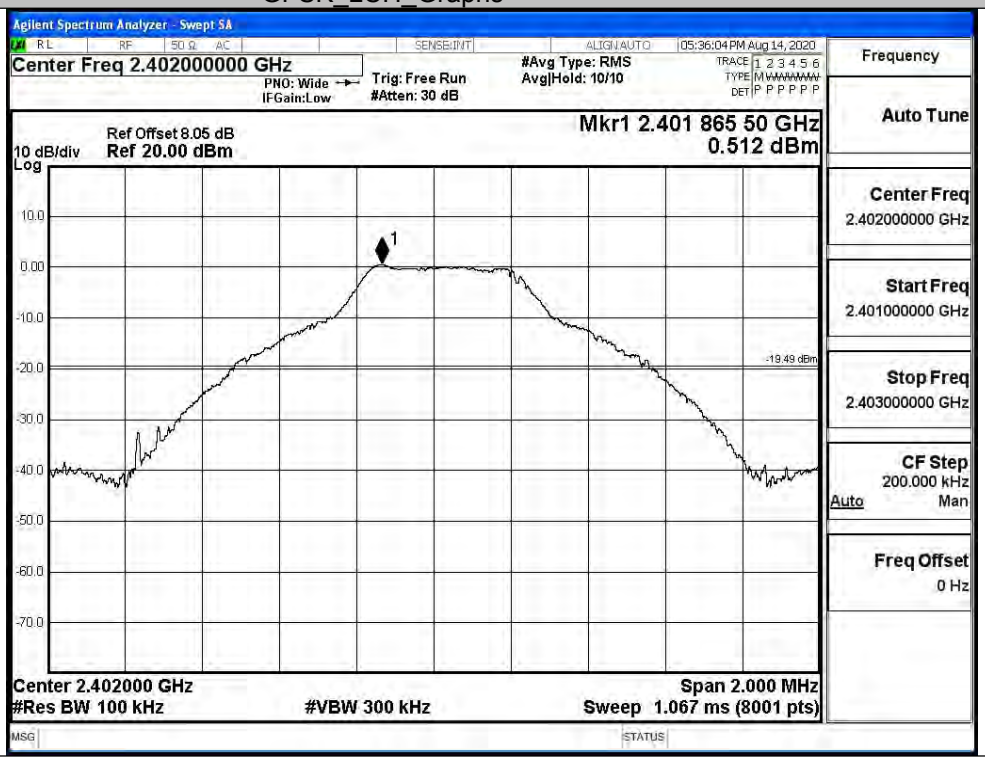
8DPSK _3DH5/MCH	
8DPSK _3DH5/HCH	

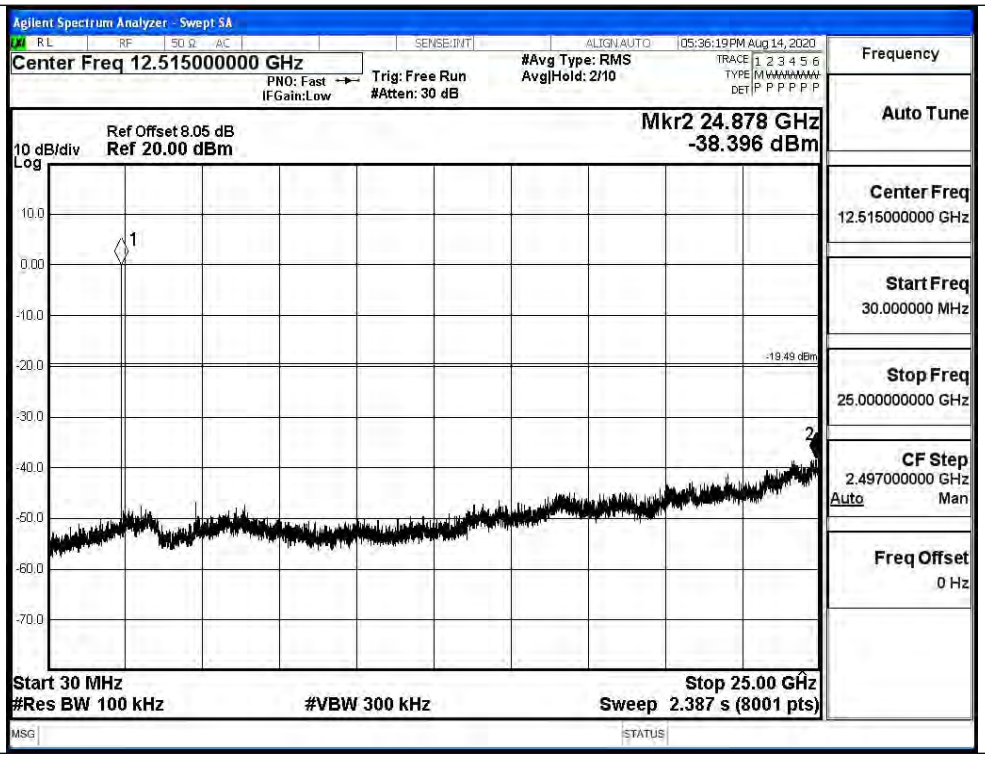
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.512	-38.396	-19.488	PASS
	MCH	-0.82	-32.030	-20.820	PASS
	HCH	-2.293	-37.616	-22.293	PASS
π/4DQPSK	LCH	0.432	-37.431	-19.568	PASS
	MCH	-0.823	-37.630	-20.823	PASS
	HCH	-2.445	-37.152	-22.445	PASS
8DPSK	LCH	0.341	-36.815	-19.659	PASS
	MCH	-0.932	-36.850	-20.932	PASS
	HCH	-2.24	-37.827	-22.240	PASS

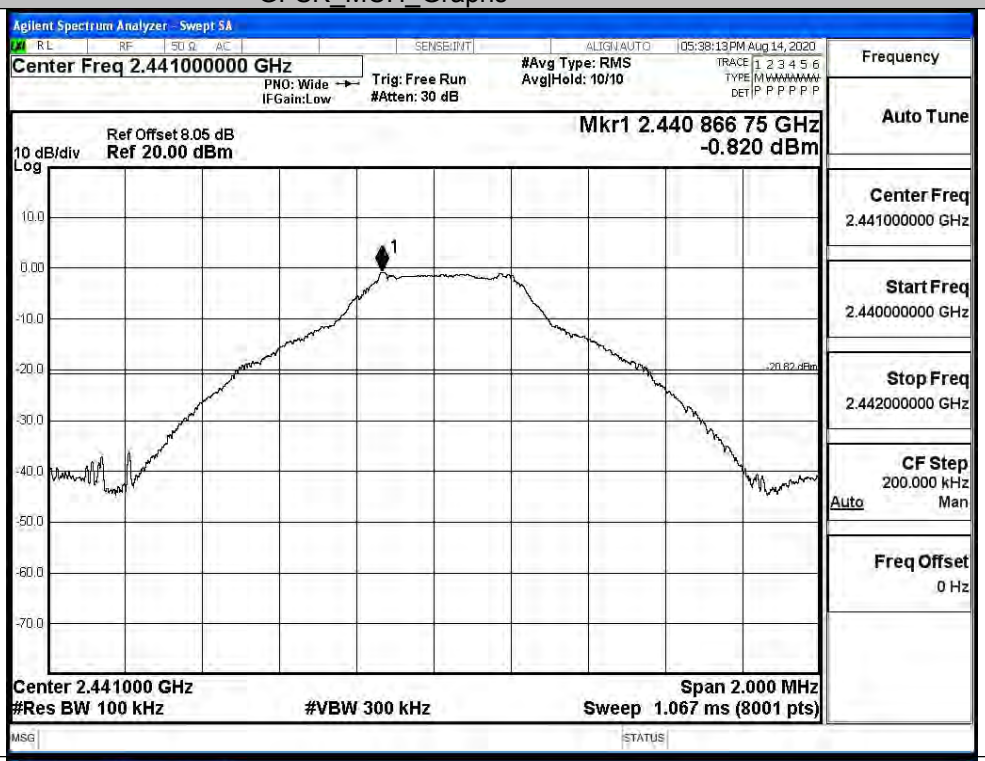
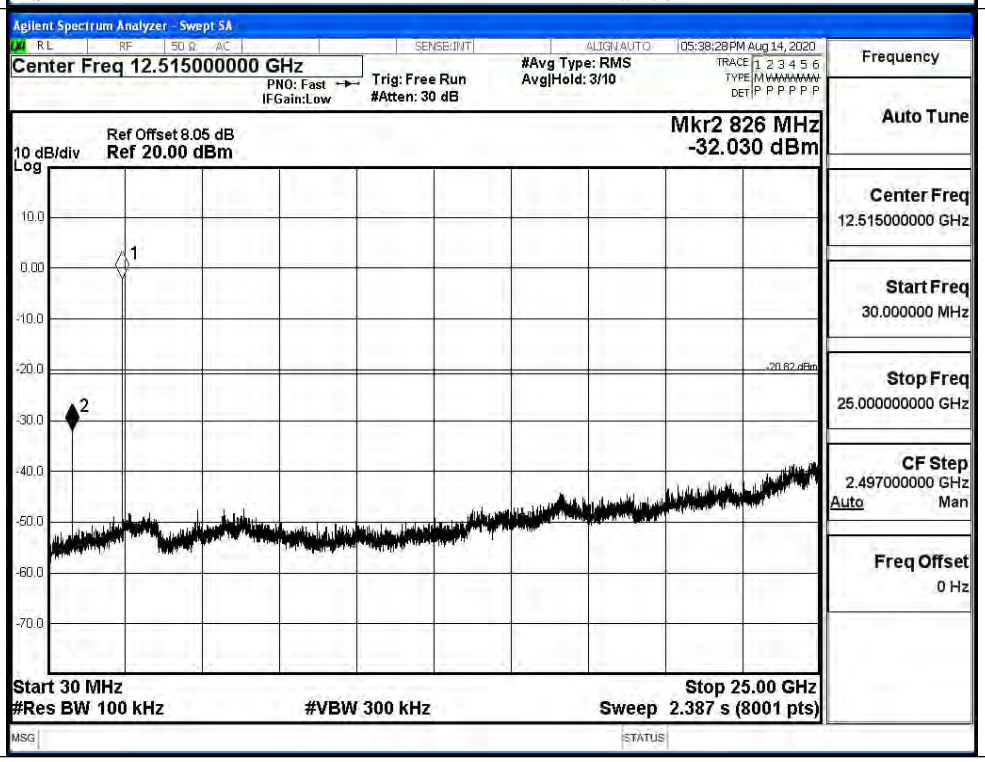
GFSK_LCH_Graphs

Pref



Puw		

Agilent Spectrum Analyzer - Swept SA
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 2/10
05:36:19 PM Aug 14, 2020
Ref Offset 8.05 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr2 24.878 GHz
-38.396 dBm
-19.49 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

GFSK_MCH_Graphs		
Pref		
Puw		

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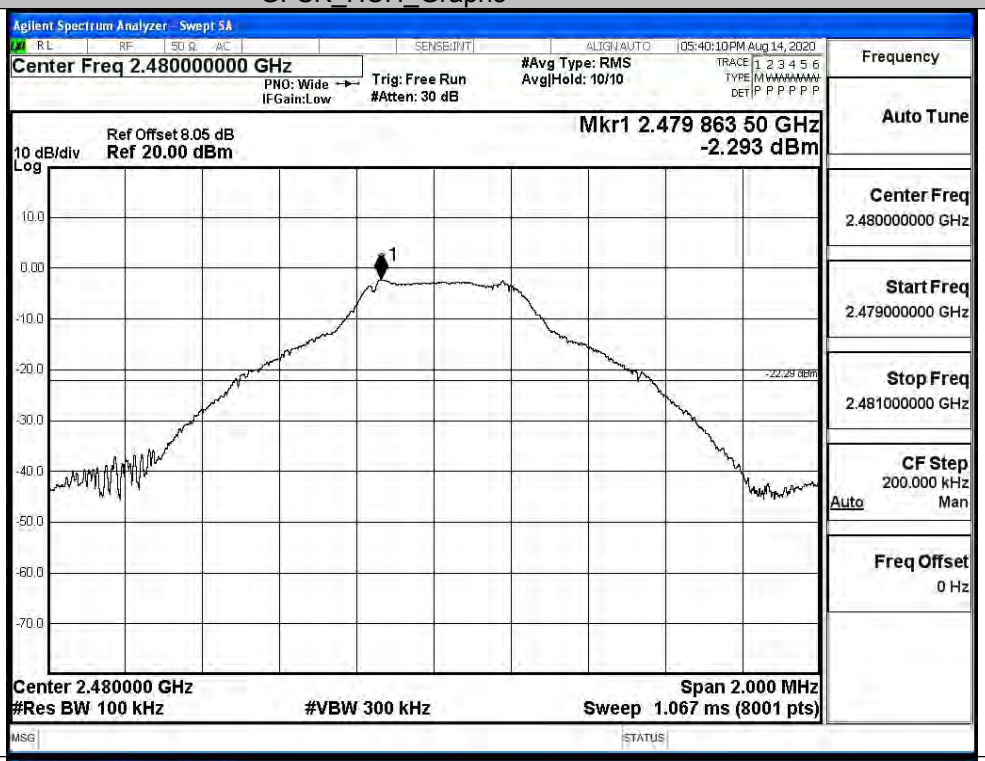
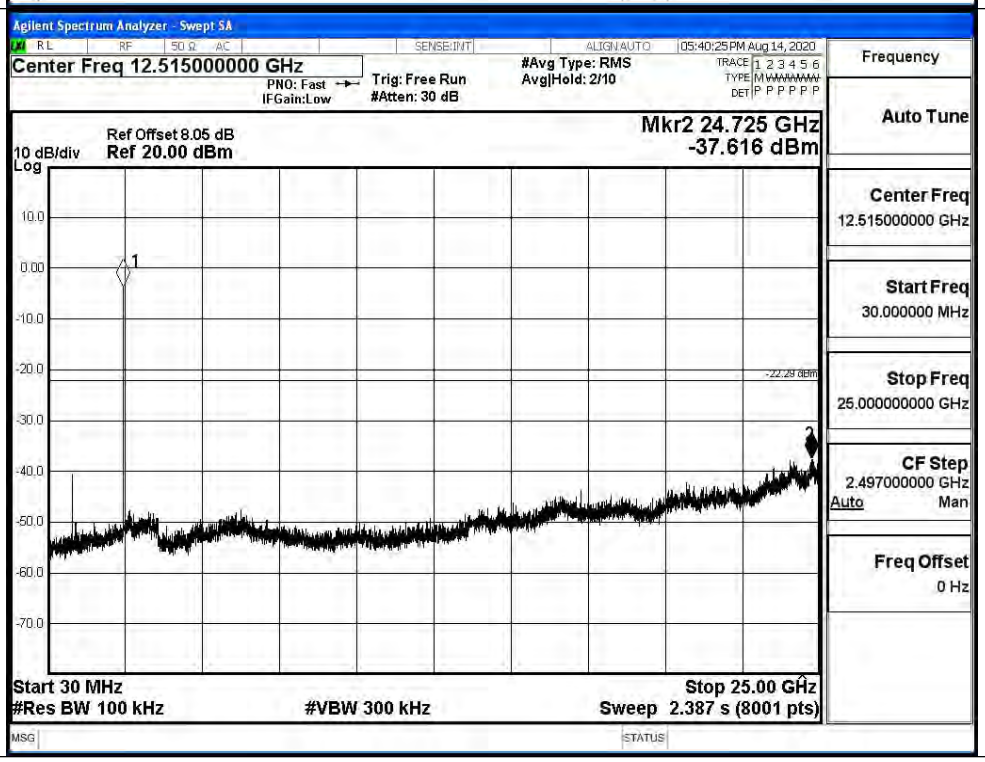
Pref			
Puw			

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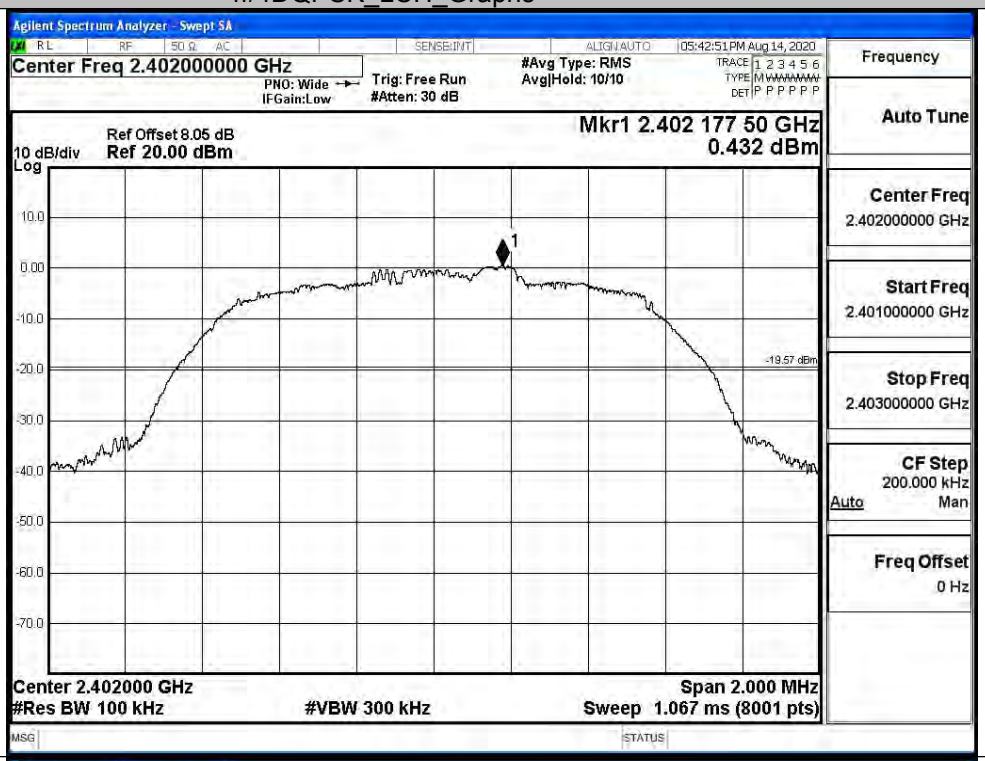
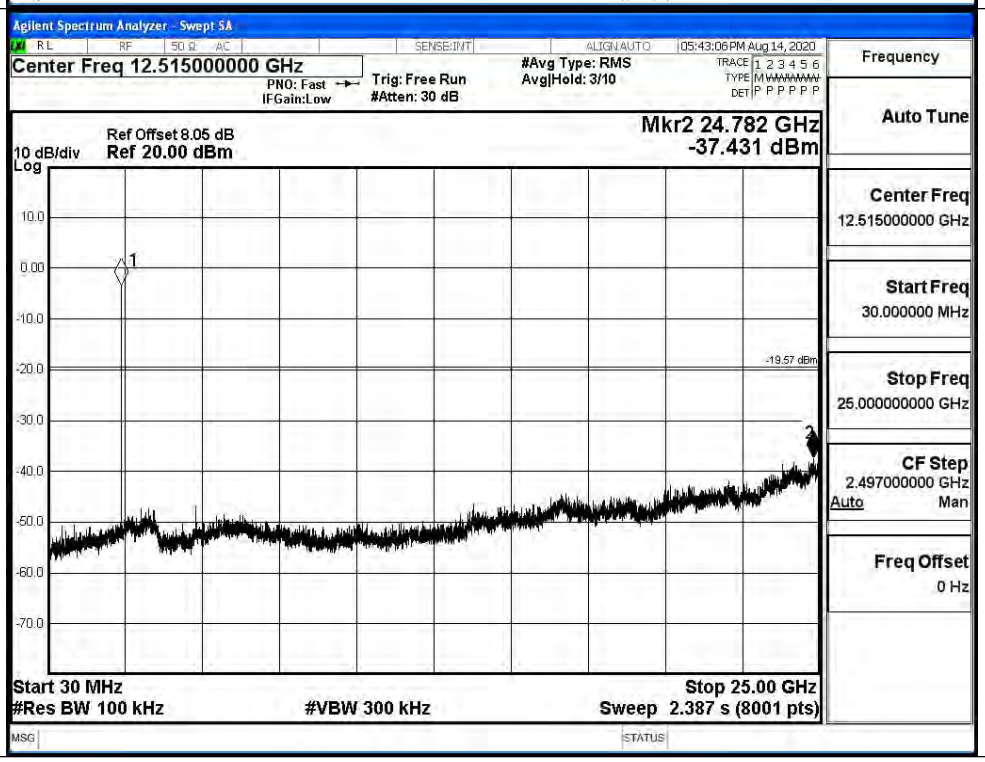
Pref		
Puw		

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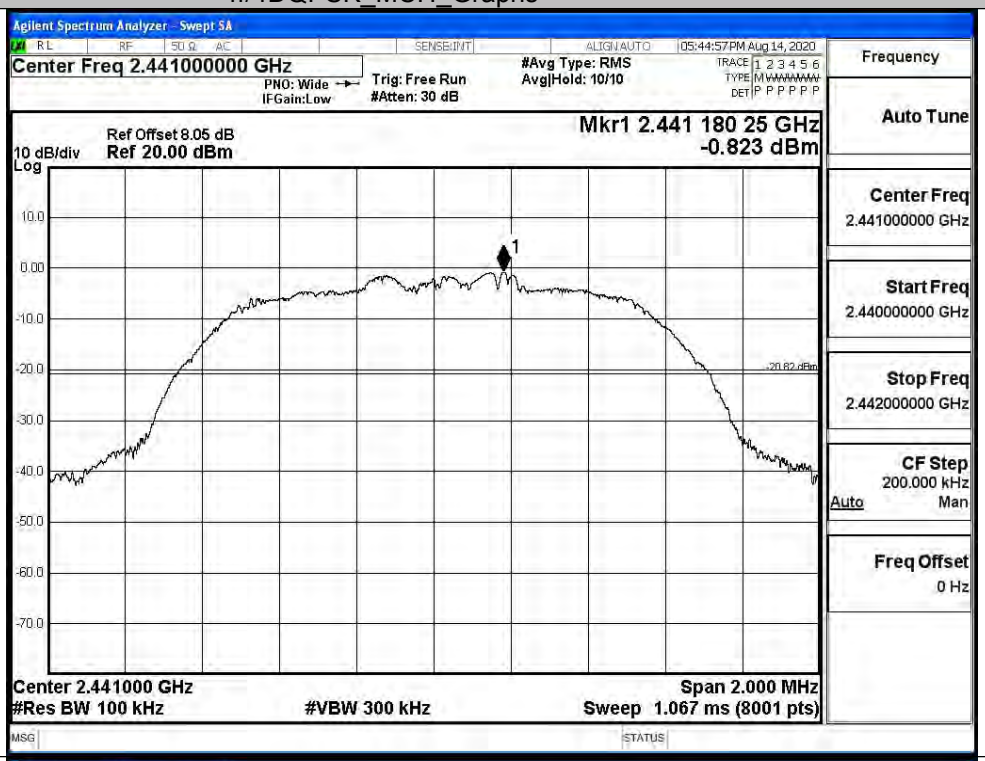
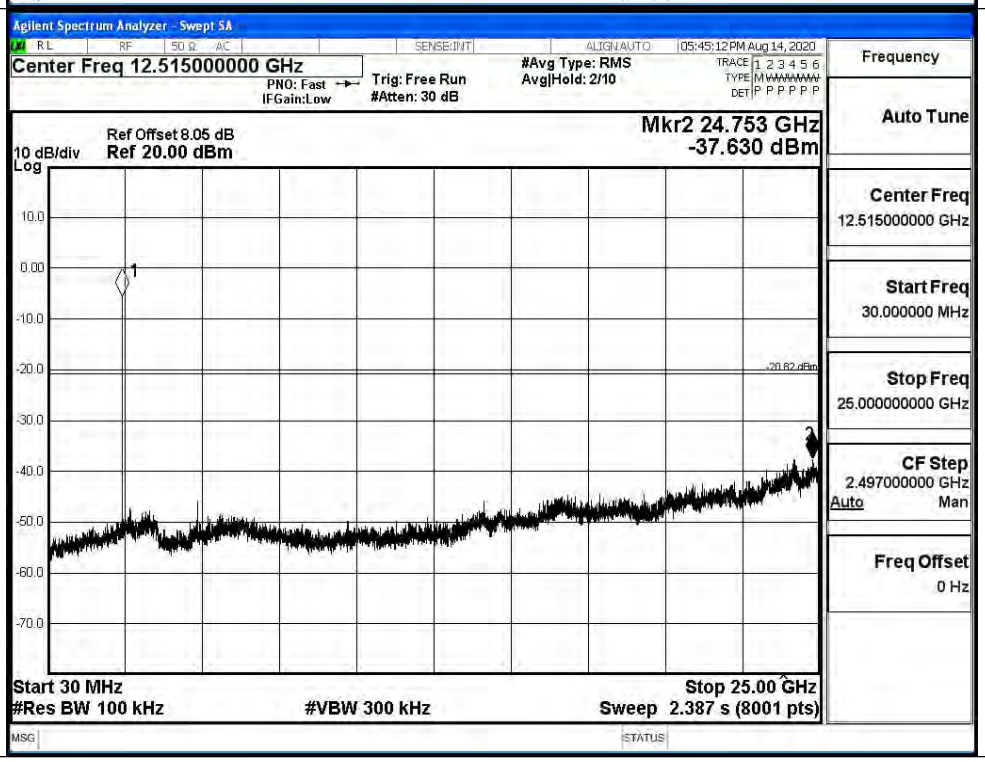
Pref			
Puw			

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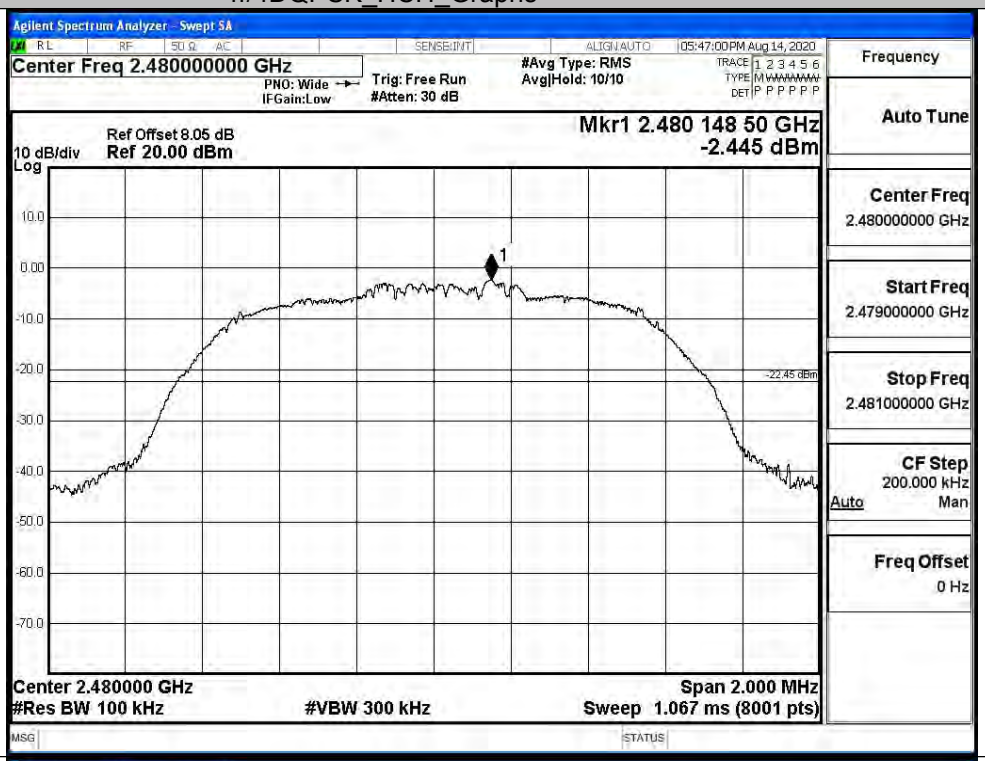
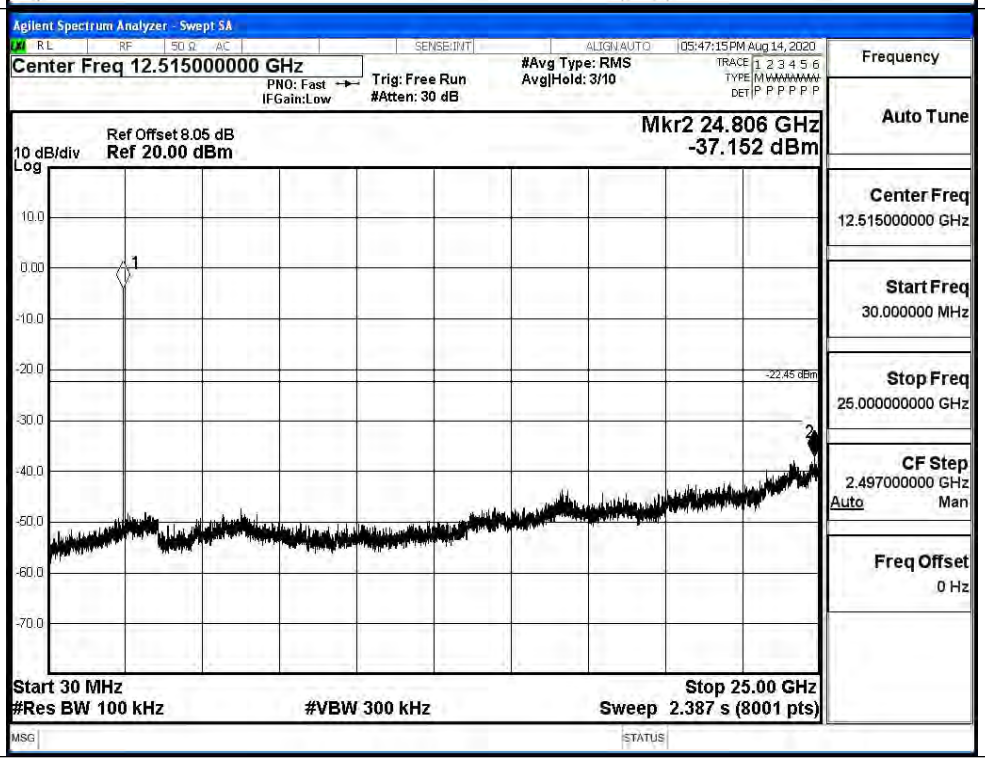
Pref		
Puw		

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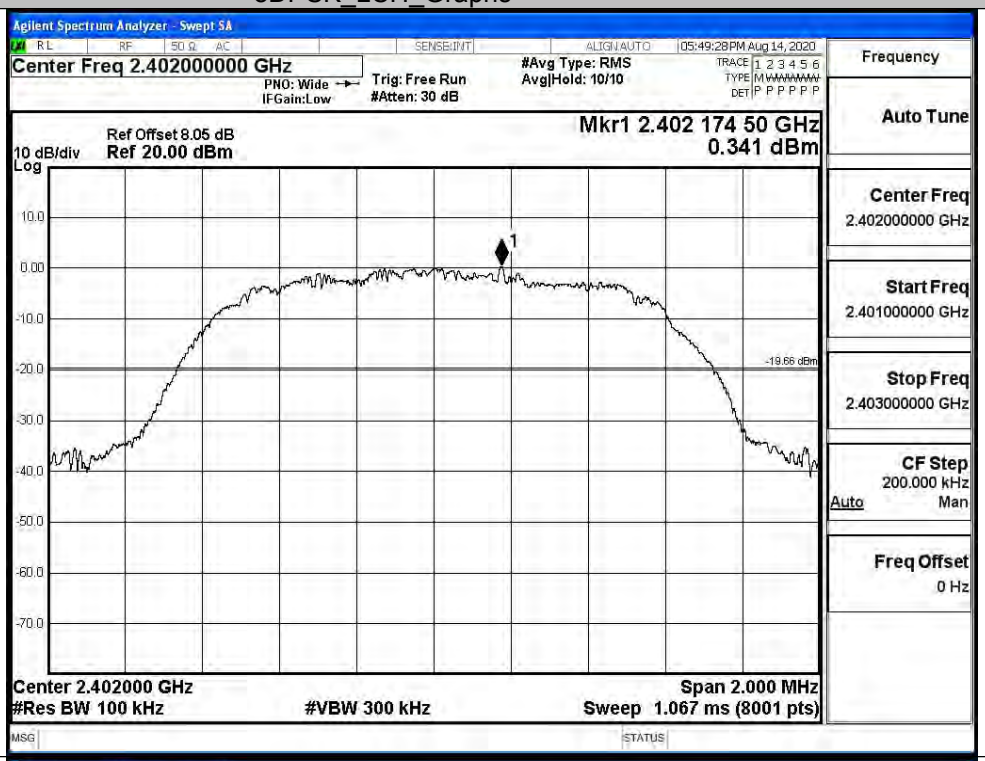
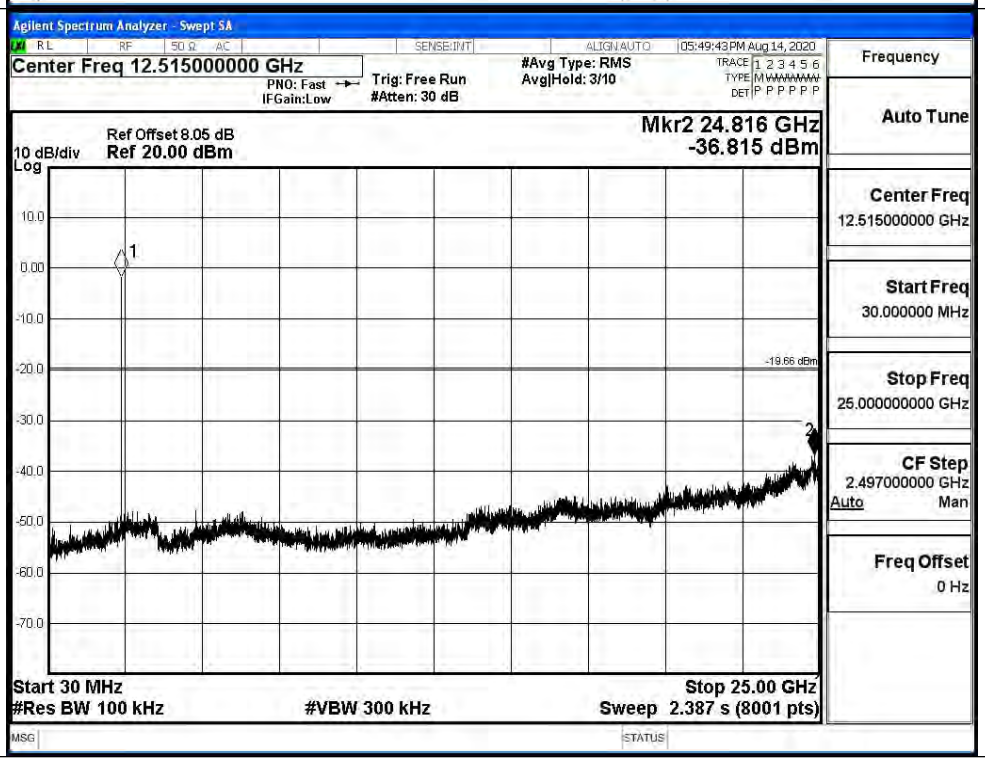
Pref		
Puw		

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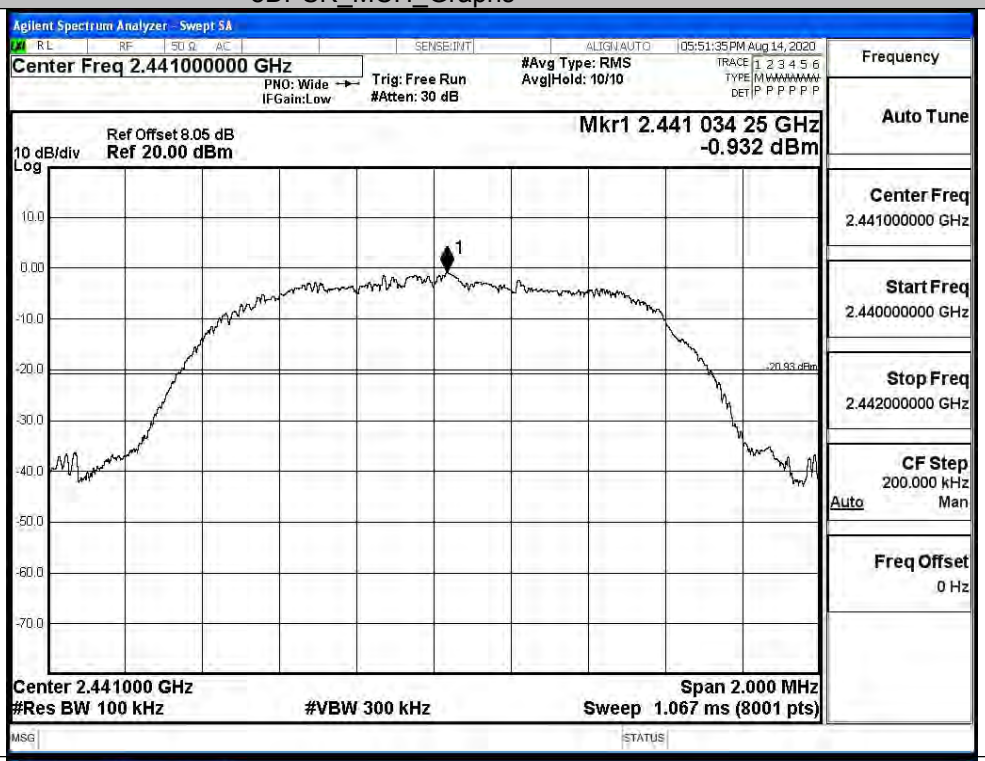
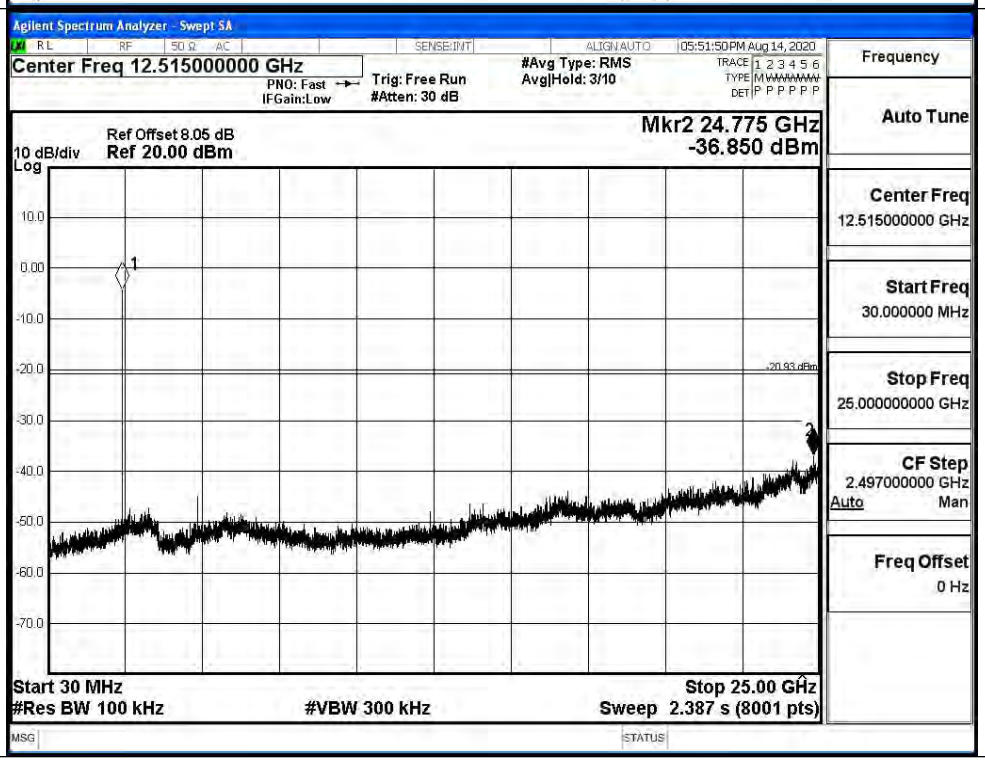
Pref		
Puw		

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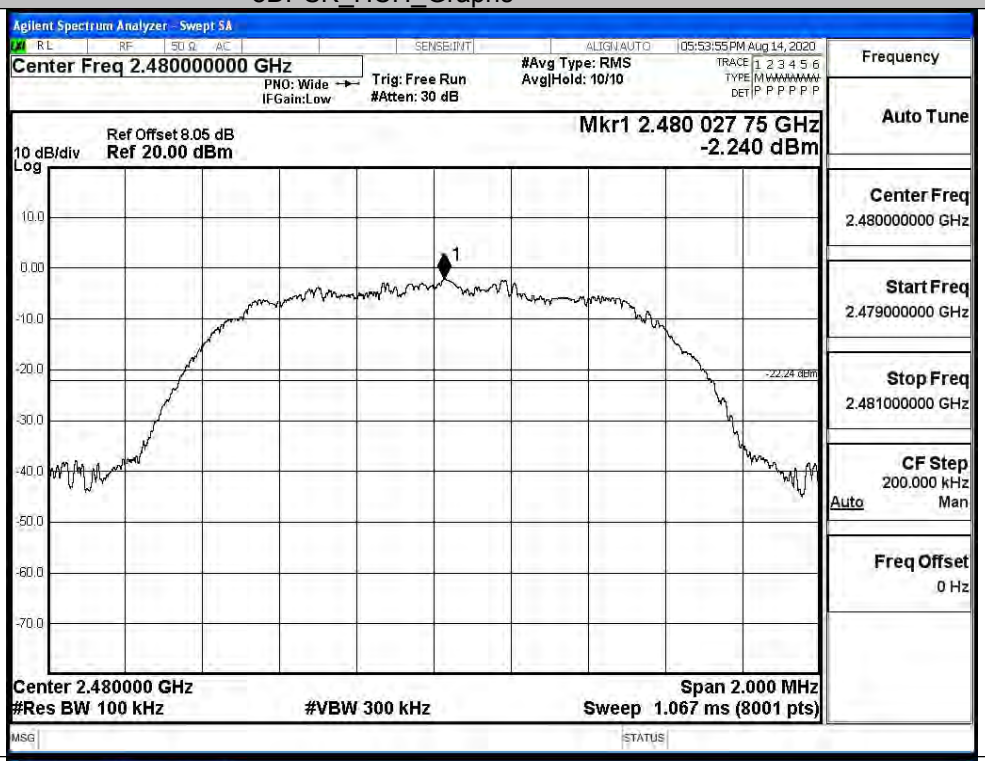
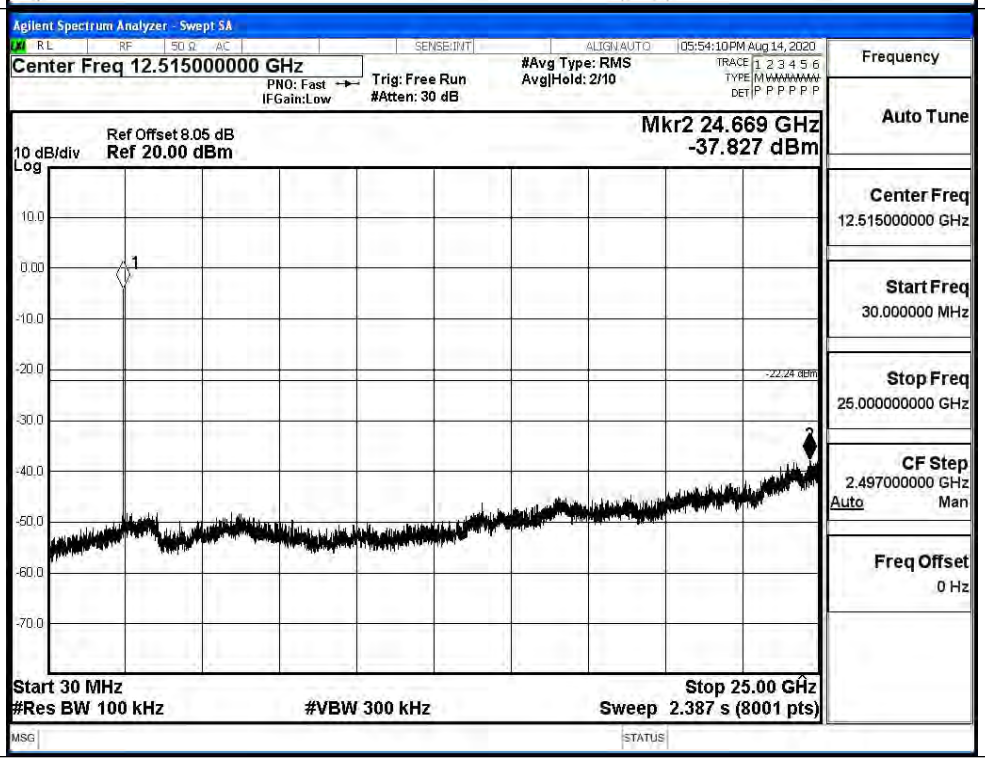
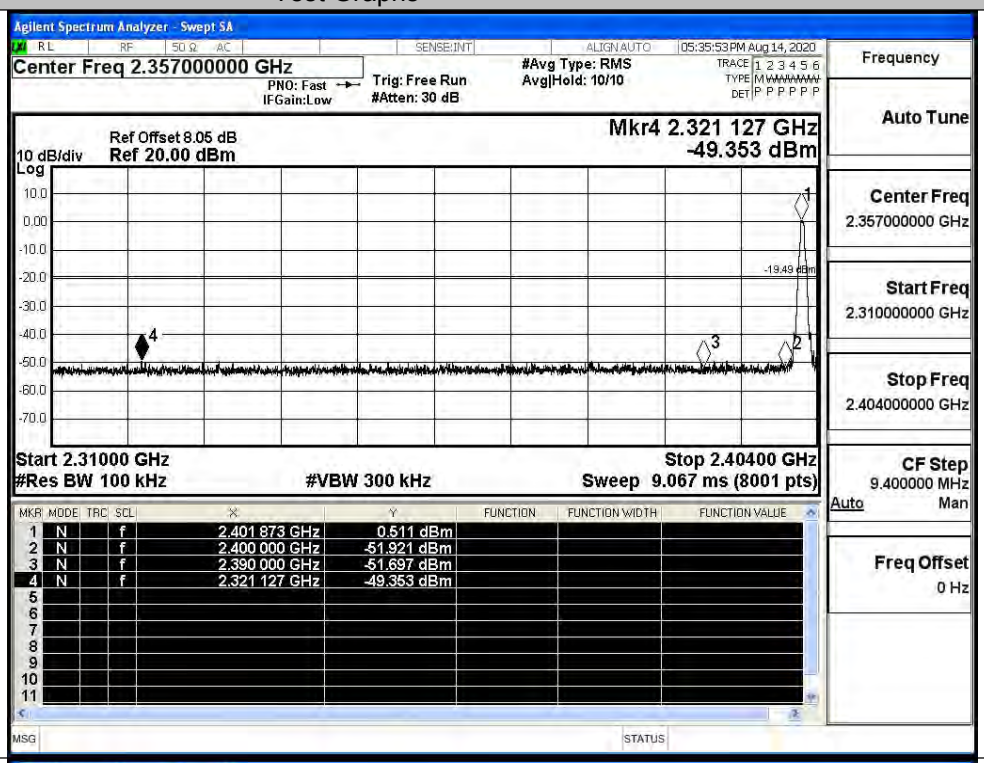
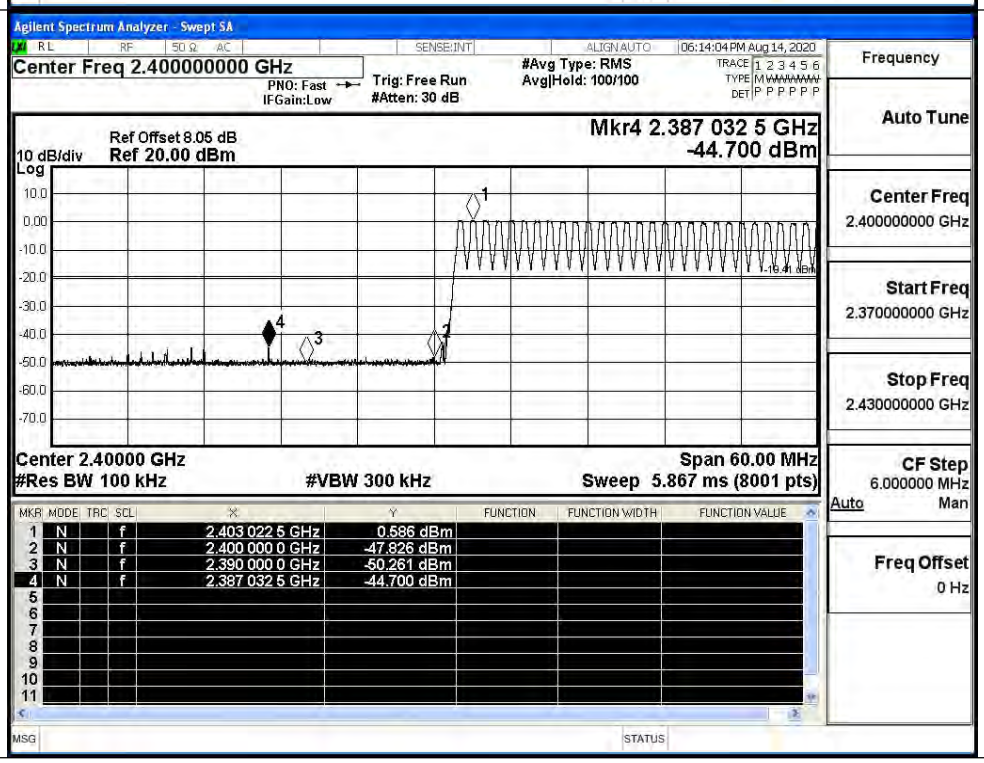
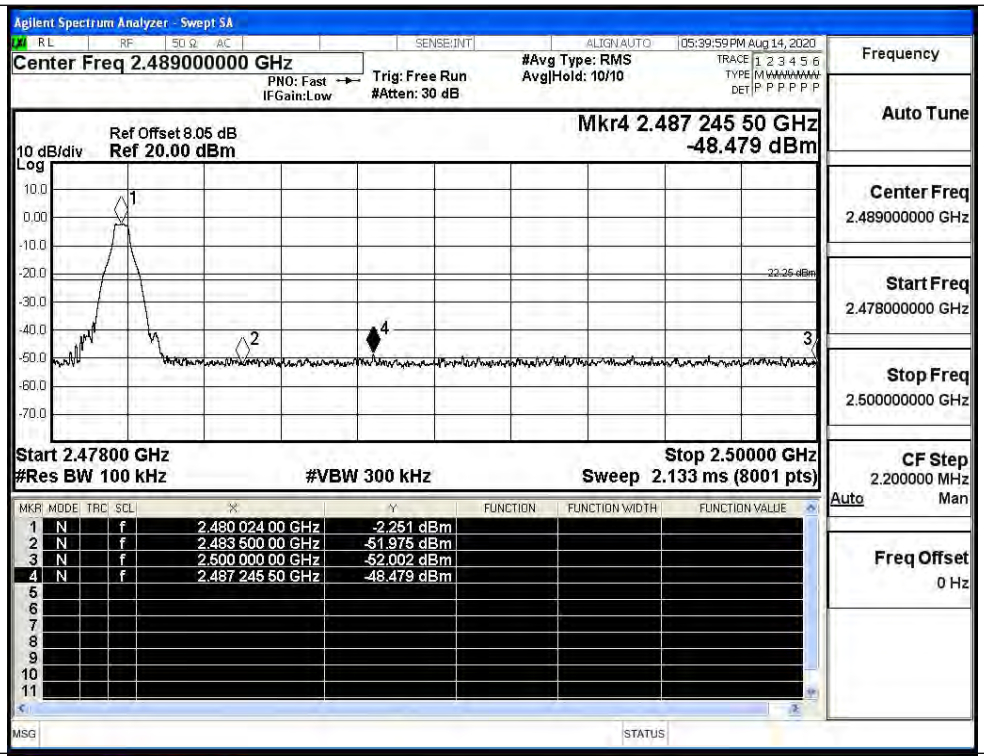
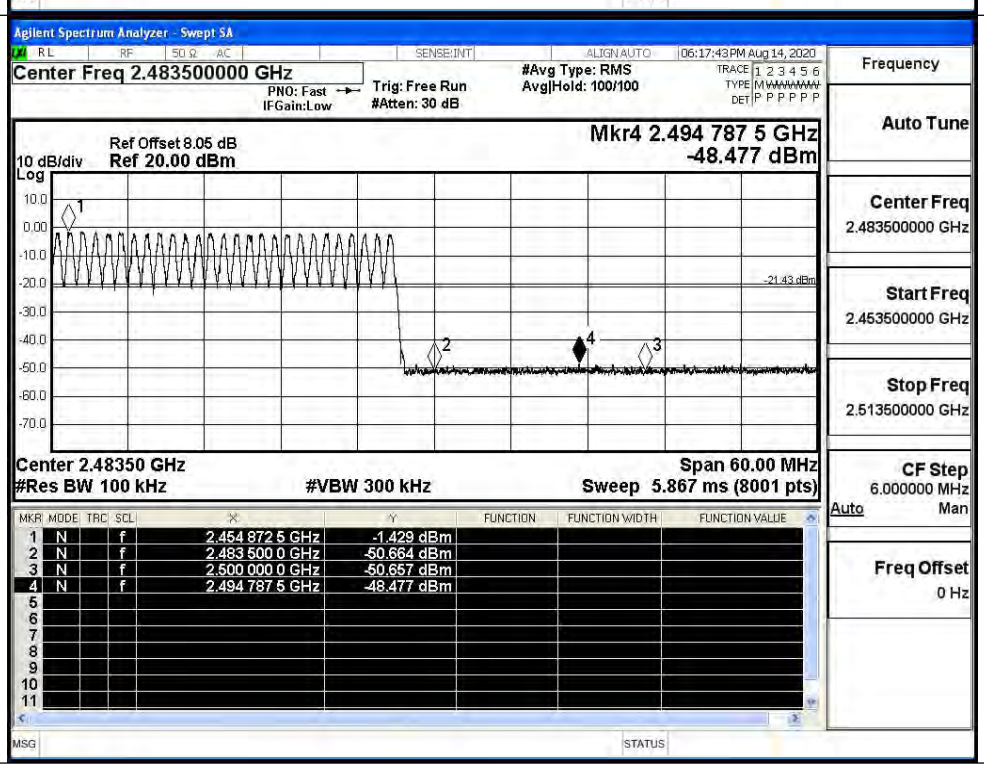
Pref		
Puw		

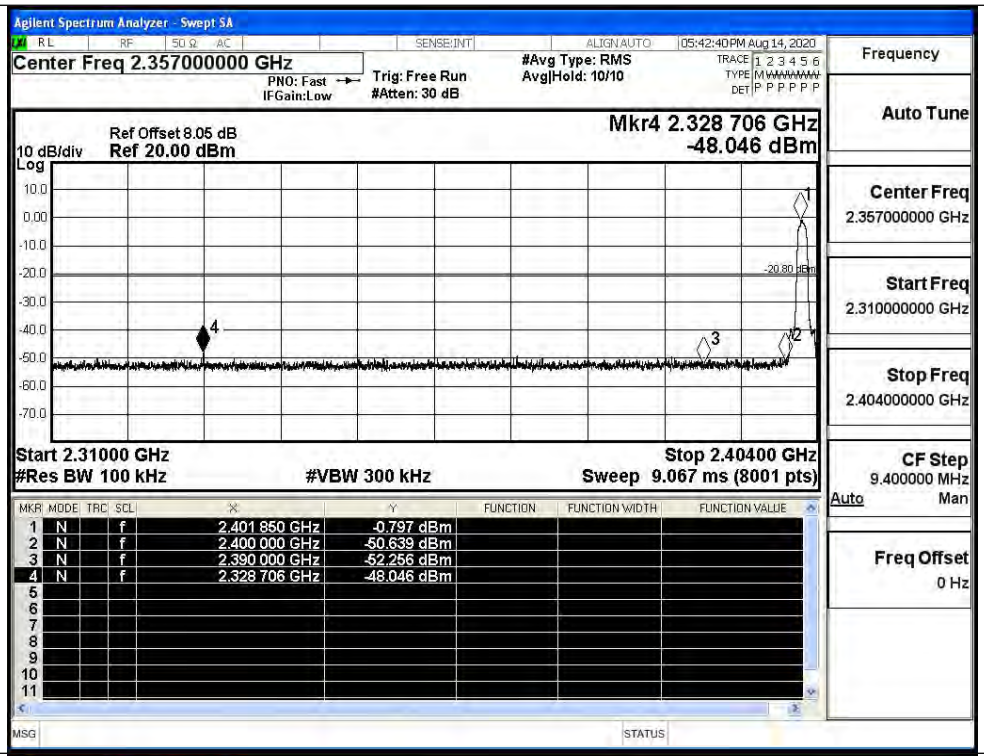
A.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.511	Off	-49.353	-19.49	PASS
			0.586	On	-44.700	-19.41	PASS
	HCH	2480	-2.251	Off	-48.479	-22.25	PASS
			-1.429	On	-48.477	-21.43	PASS
π/4DQPSK	LCH	2402	-0.797	Off	-48.046	-20.8	PASS
			0.458	On	-47.862	-19.54	PASS
	HCH	2480	-2.268	Off	-48.934	-22.27	PASS
			-1.265	On	-48.001	-21.27	PASS
8DPSK	LCH	2402	-0.193	Off	-48.510	-20.19	PASS
			0.631	On	-48.426	-19.37	PASS
	HCH	2480	-2.207	Off	-48.856	-22.21	PASS
			-1.341	On	-48.381	-21.34	PASS

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

GFSK/HCH/No Hop	
GFSK/HCH/Hop	

π/4DQPSK/LCH/No Hop



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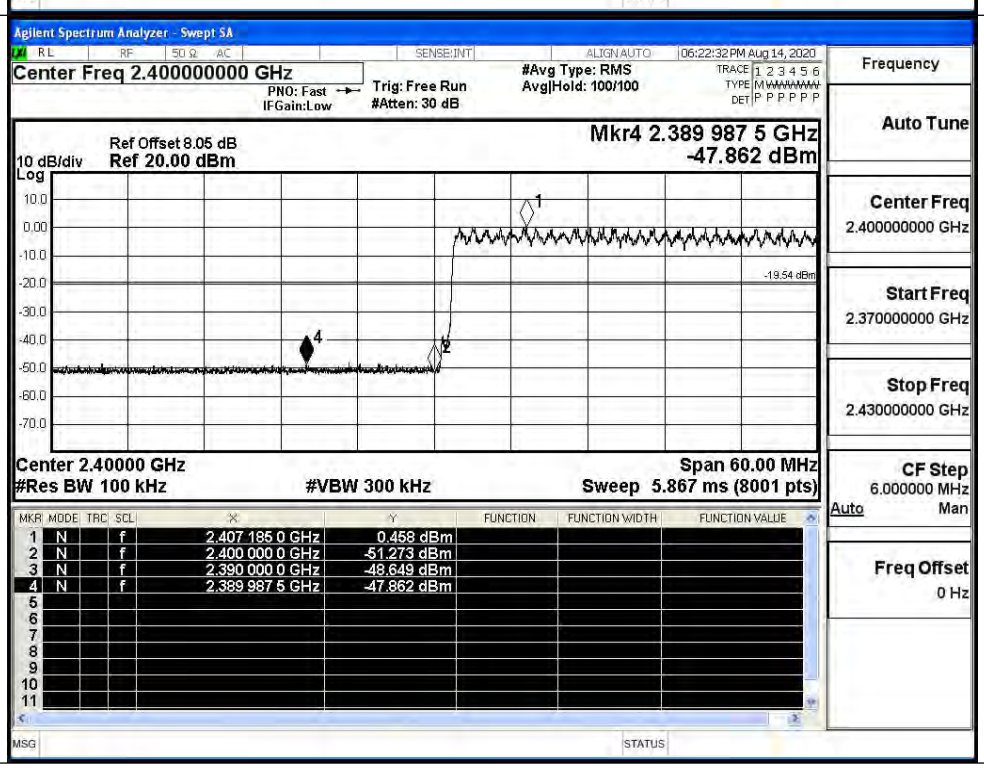

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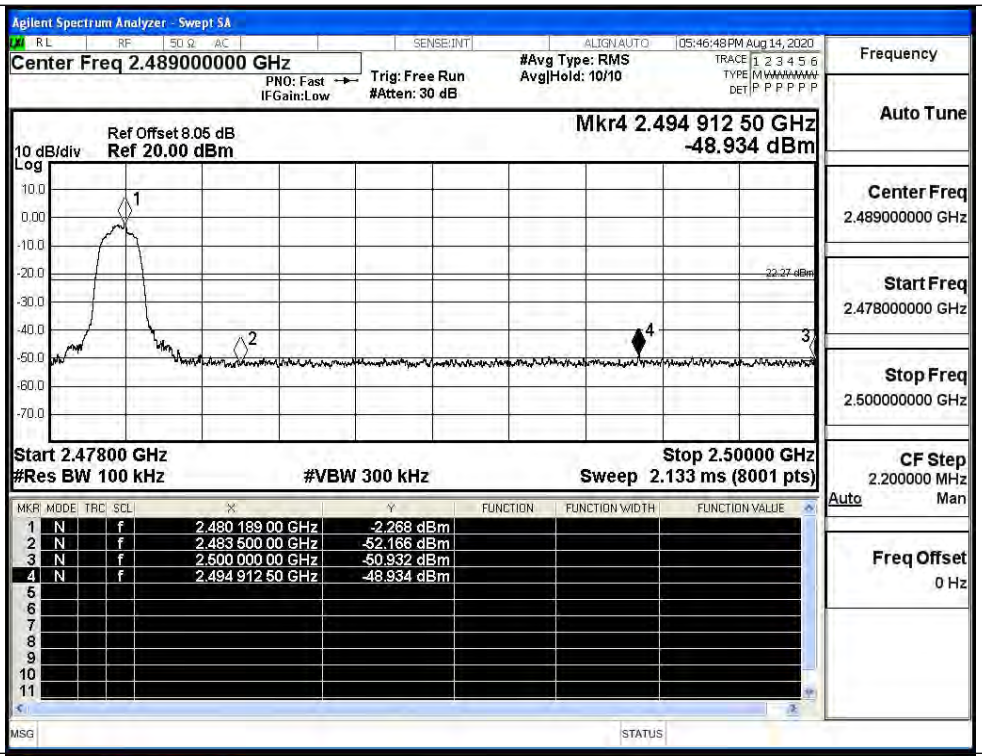

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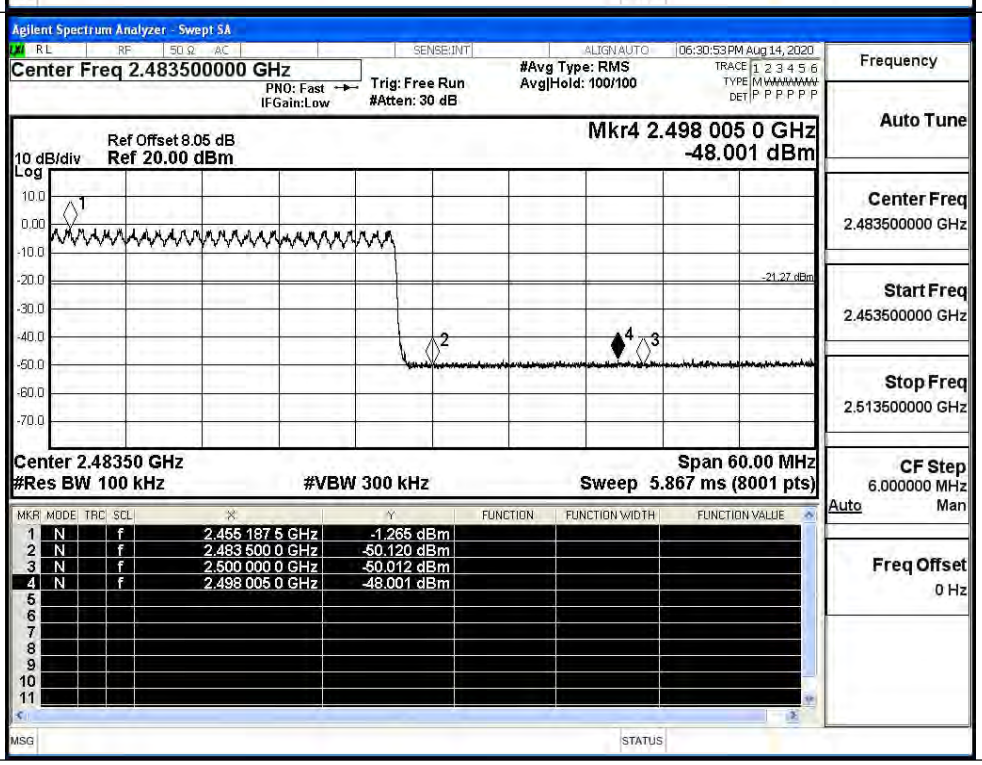
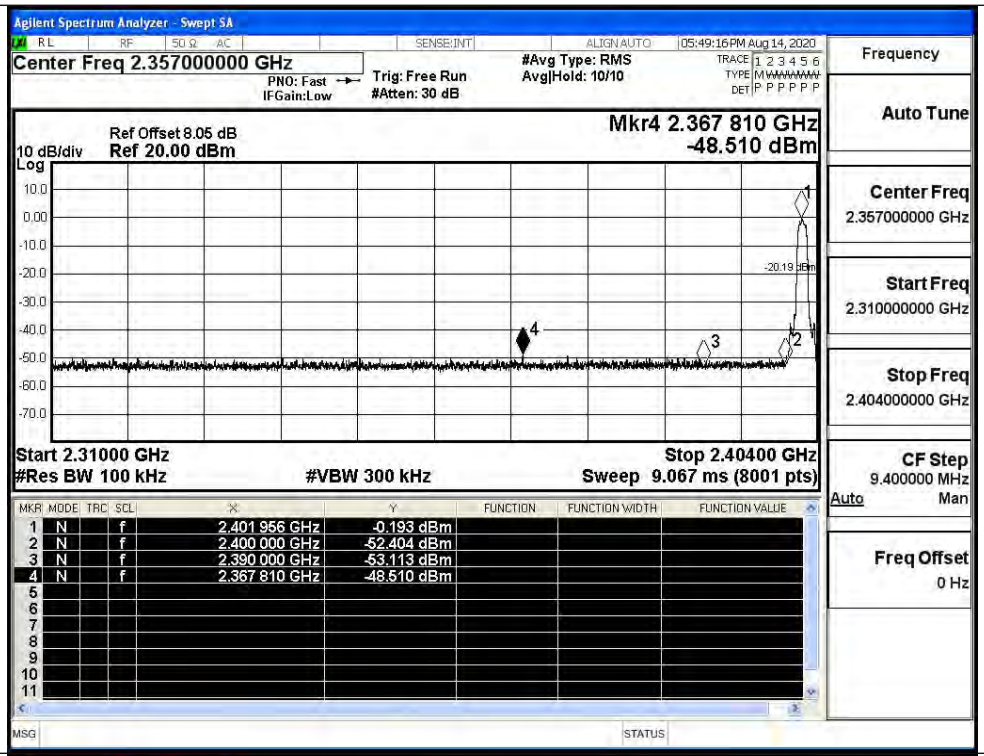
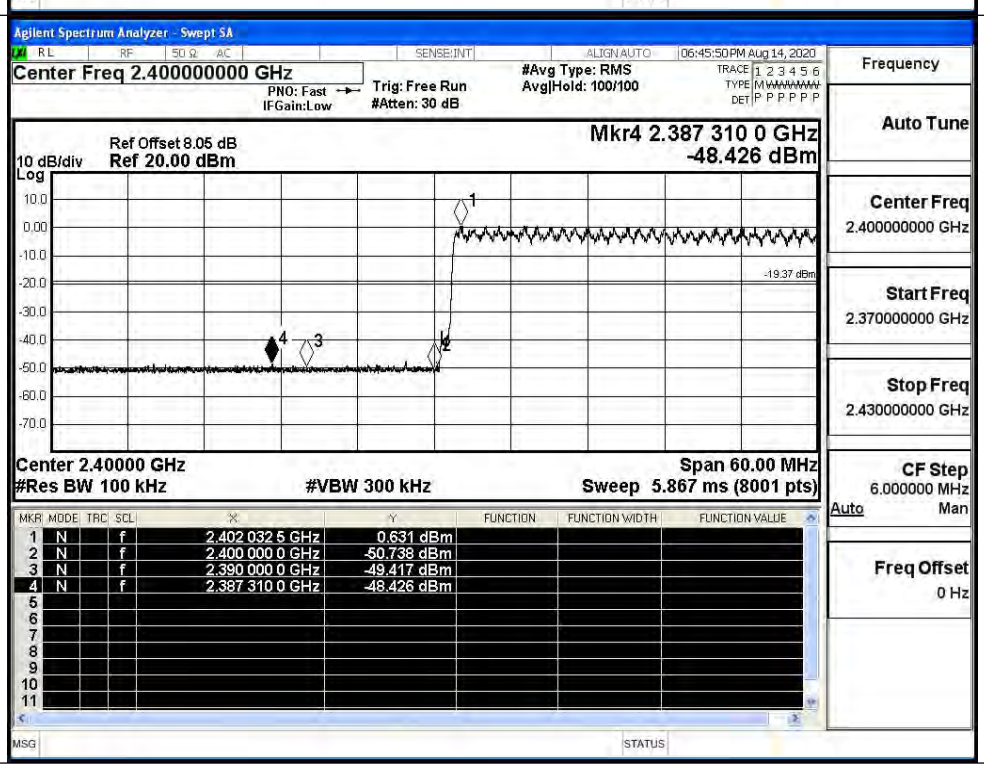
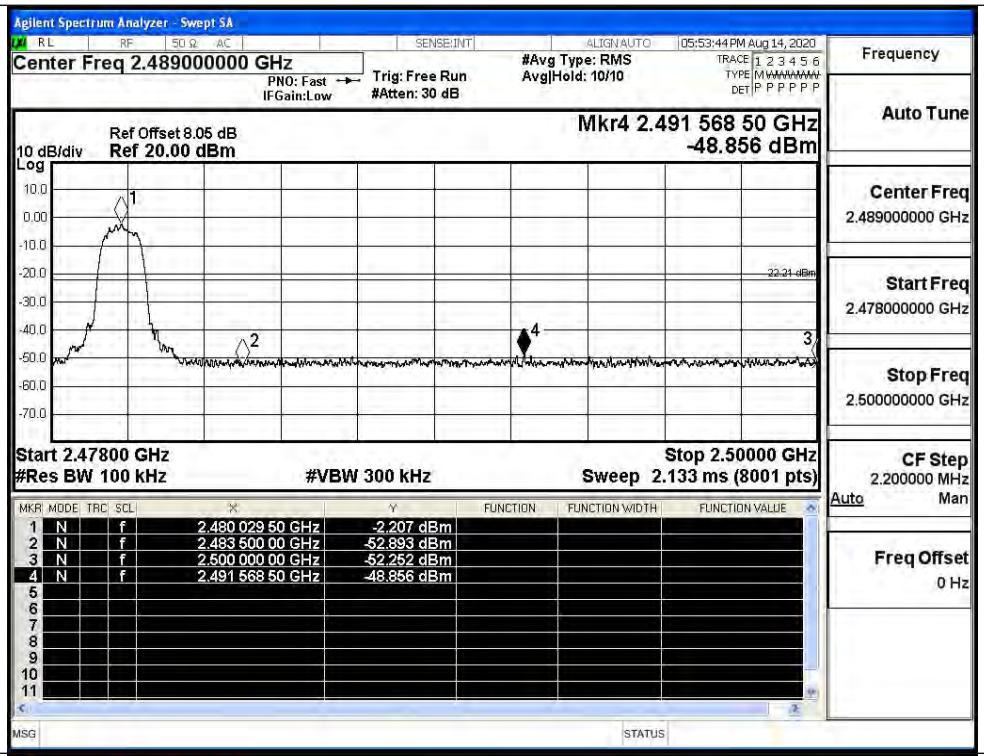
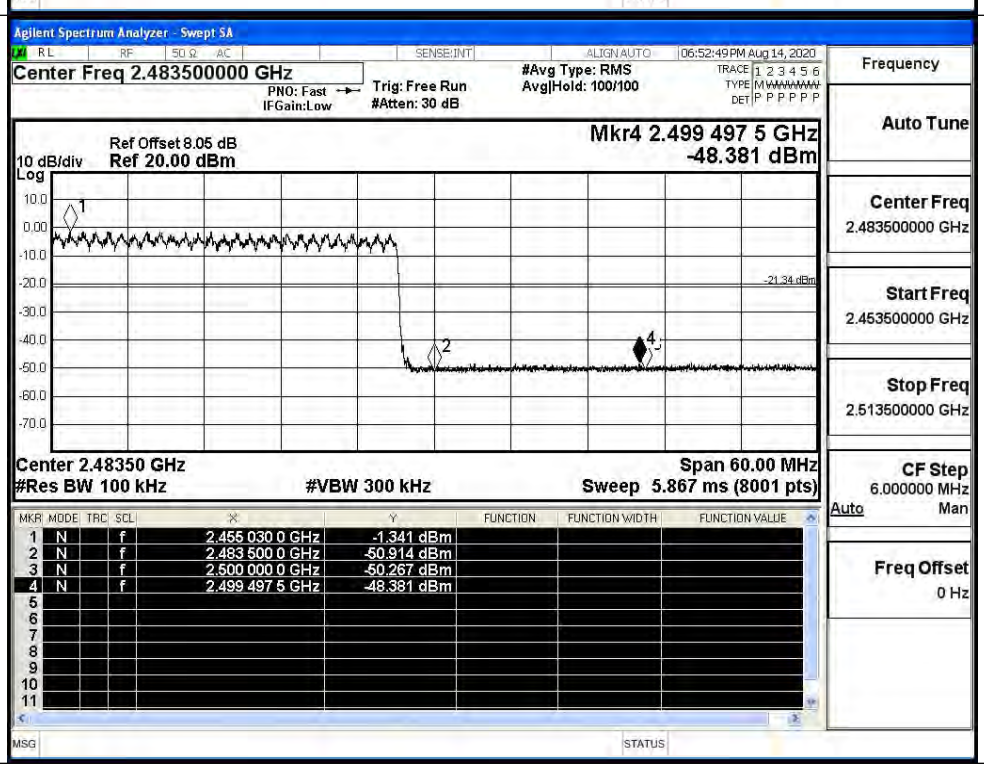


8DPSK/LCH/No Hop



8DPSK/LCH/Hop

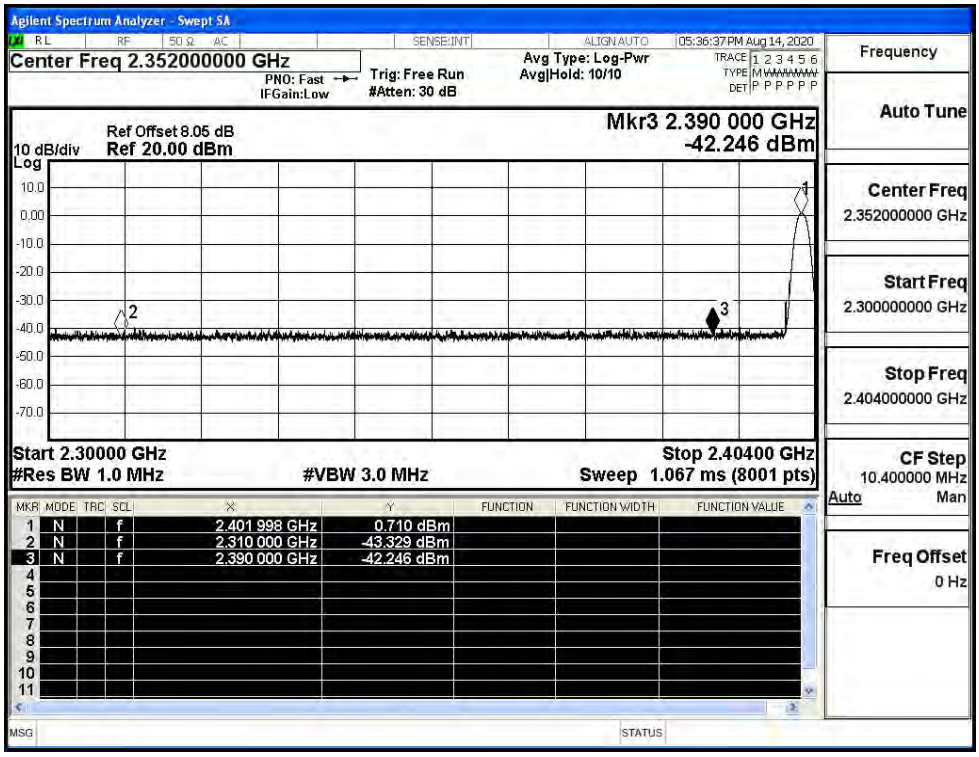


8DPSK/HCH/No Hop	
8DPSK/HCH/Hop	

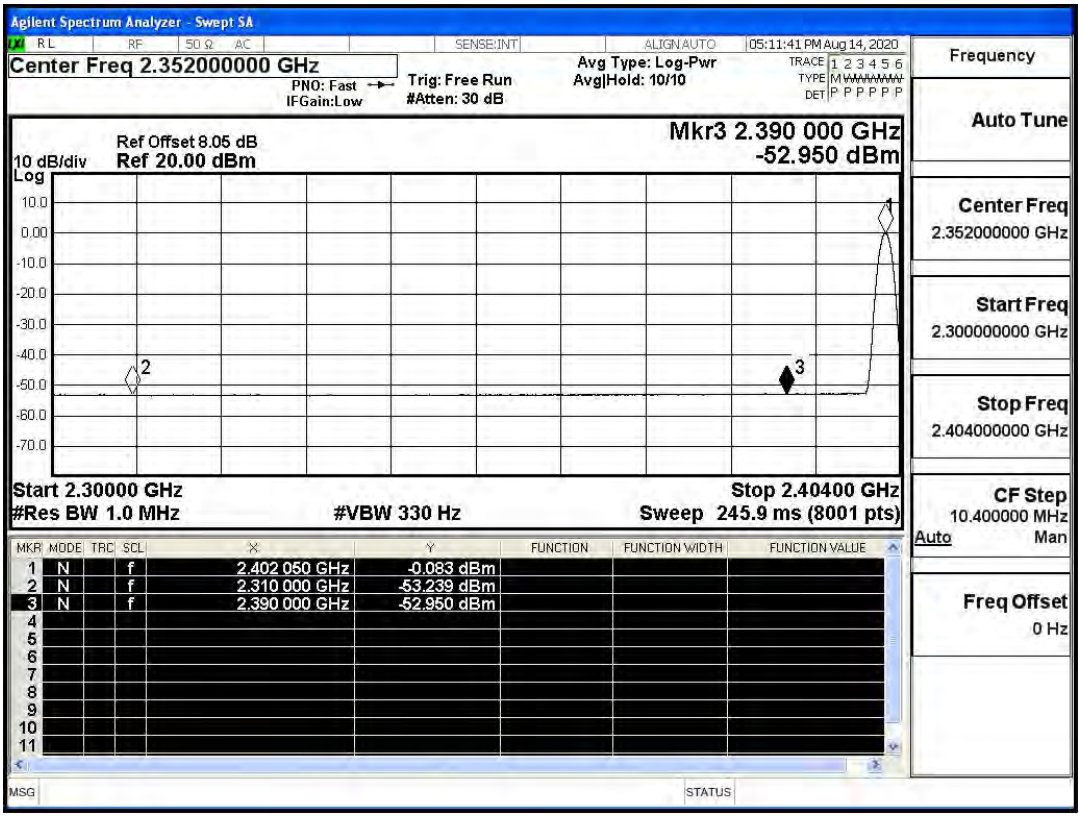
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.33	2.0	0	53.90	PEAK	74	PASS
	Off	2310.0	-53.24	2.0	0	43.99	AV	54	PASS
	Off	2390.0	-42.25	2.0	0	54.98	PEAK	74	PASS
	Off	2390.0	-52.95	2.0	0	44.28	AV	54	PASS
	Off	2483.5	-42.84	2.0	0	54.39	PEAK	74	PASS
	Off	2483.5	-52.42	2.0	0	44.81	AV	54	PASS
	Off	2500.0	-42.34	2.0	0	54.89	PEAK	74	PASS
	Off	2500.0	-52.35	2.0	0	44.88	AV	54	PASS
π/4DQPSK	Off	2310.0	-43.26	2.0	0	53.97	PEAK	74	PASS
	Off	2310.0	-53.26	2.0	0	43.97	AV	54	PASS
	Off	2390.0	-43.39	2.0	0	53.84	PEAK	74	PASS
	Off	2390.0	-52.89	2.0	0	44.34	AV	54	PASS
	Off	2483.5	-41.75	2.0	0	55.48	PEAK	74	PASS
	Off	2483.5	-52.39	2.0	0	44.84	AV	54	PASS
	Off	2500.0	-41.85	2.0	0	55.38	PEAK	74	PASS
	Off	2500.0	-52.26	2.0	0	44.97	AV	54	PASS
8DPSK	Off	2310.0	-43.55	2.0	0	53.68	PEAK	74	PASS
	Off	2310.0	-53.27	2.0	0	43.96	AV	54	PASS
	Off	2390.0	-43.25	2.0	0	53.98	PEAK	74	PASS
	Off	2390.0	-52.93	2.0	0	44.30	AV	54	PASS
	Off	2483.5	-42.26	2.0	0	54.97	PEAK	74	PASS
	Off	2483.5	-52.47	2.0	0	44.76	AV	54	PASS
	Off	2500.0	-42.39	2.0	0	54.84	PEAK	74	PASS
	Off	2500.0	-52.27	2.0	0	44.96	AV	54	PASS

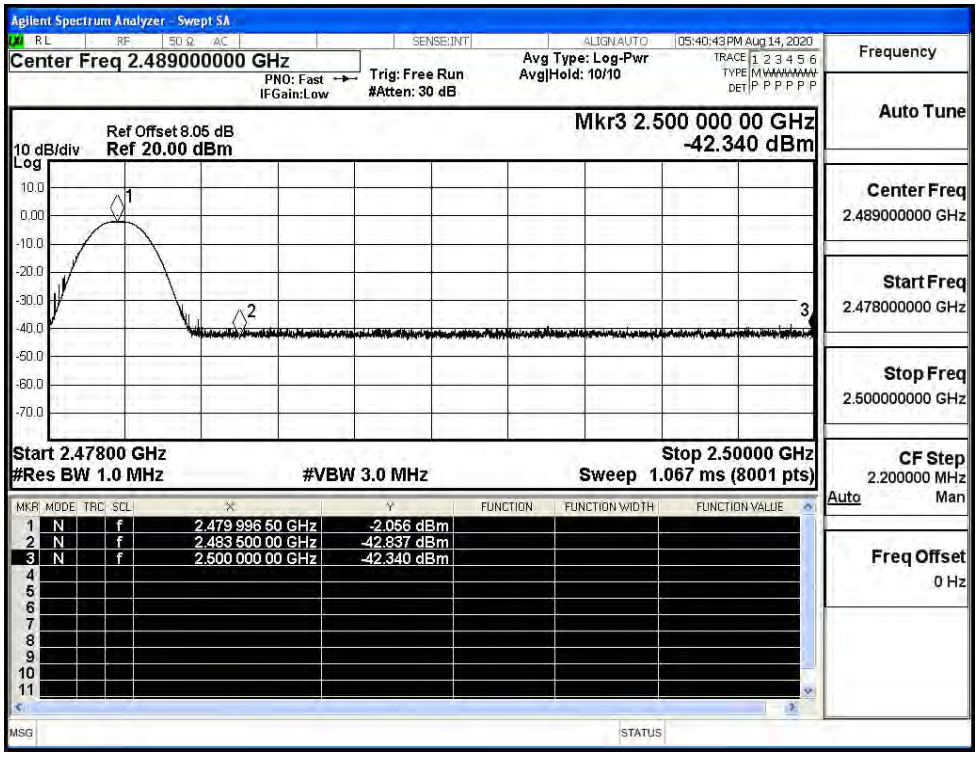
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



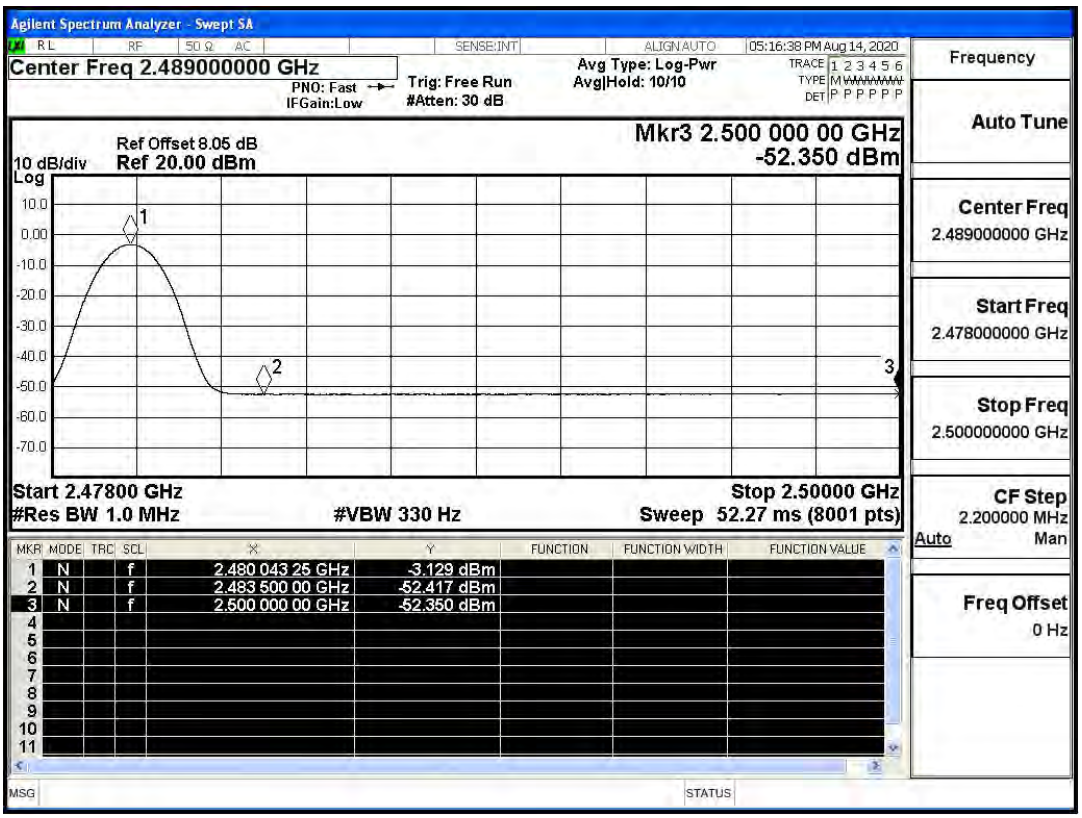
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



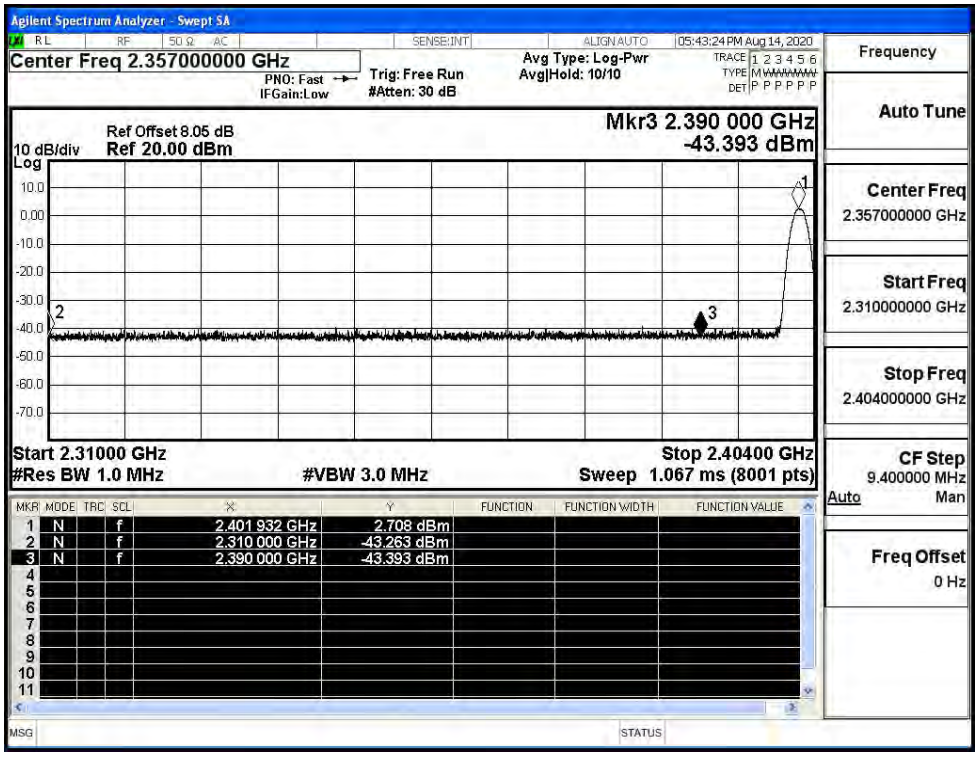
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



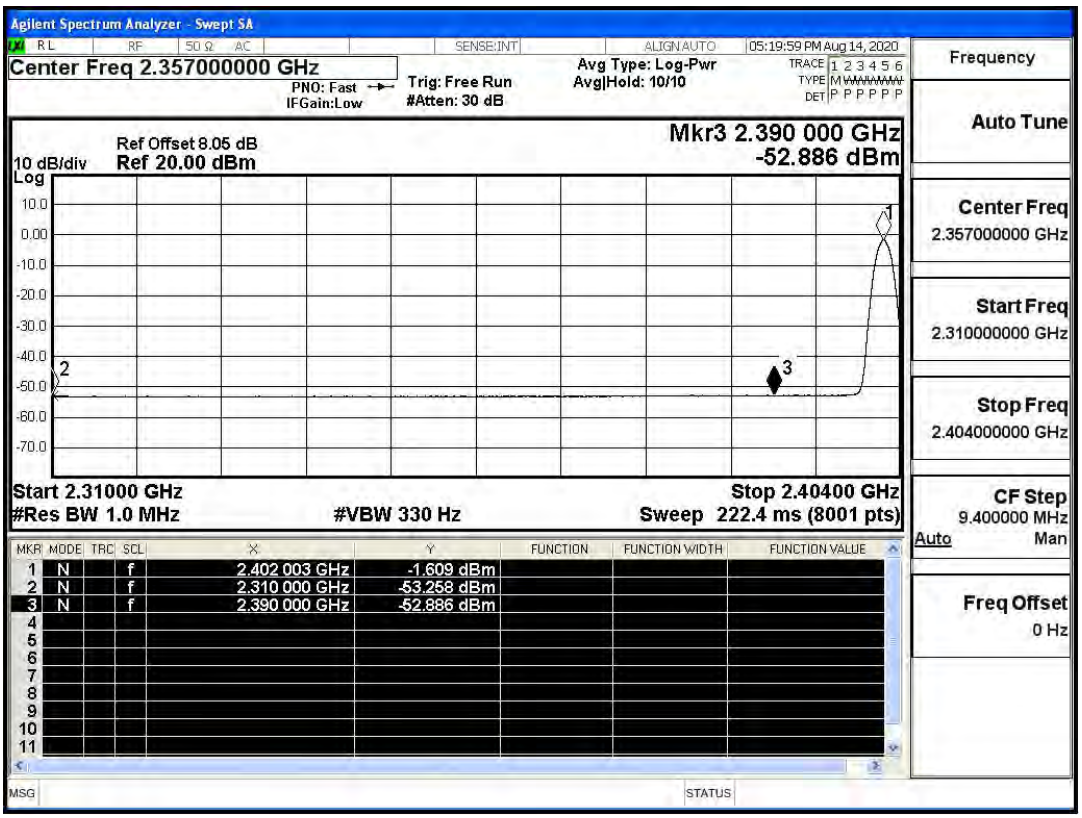
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



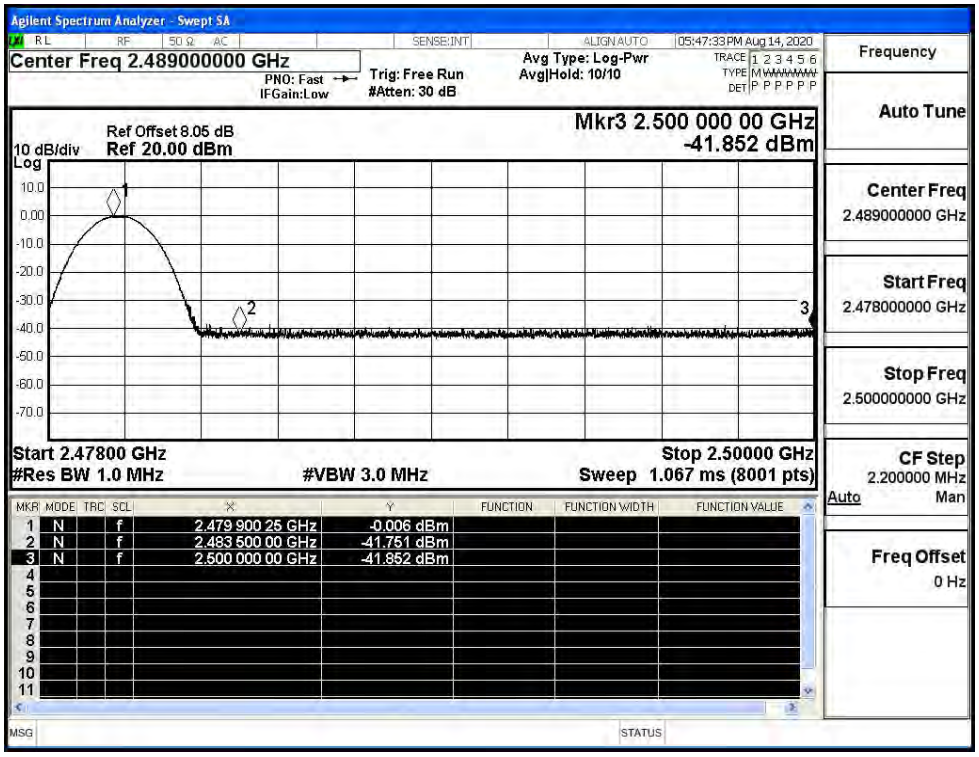
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



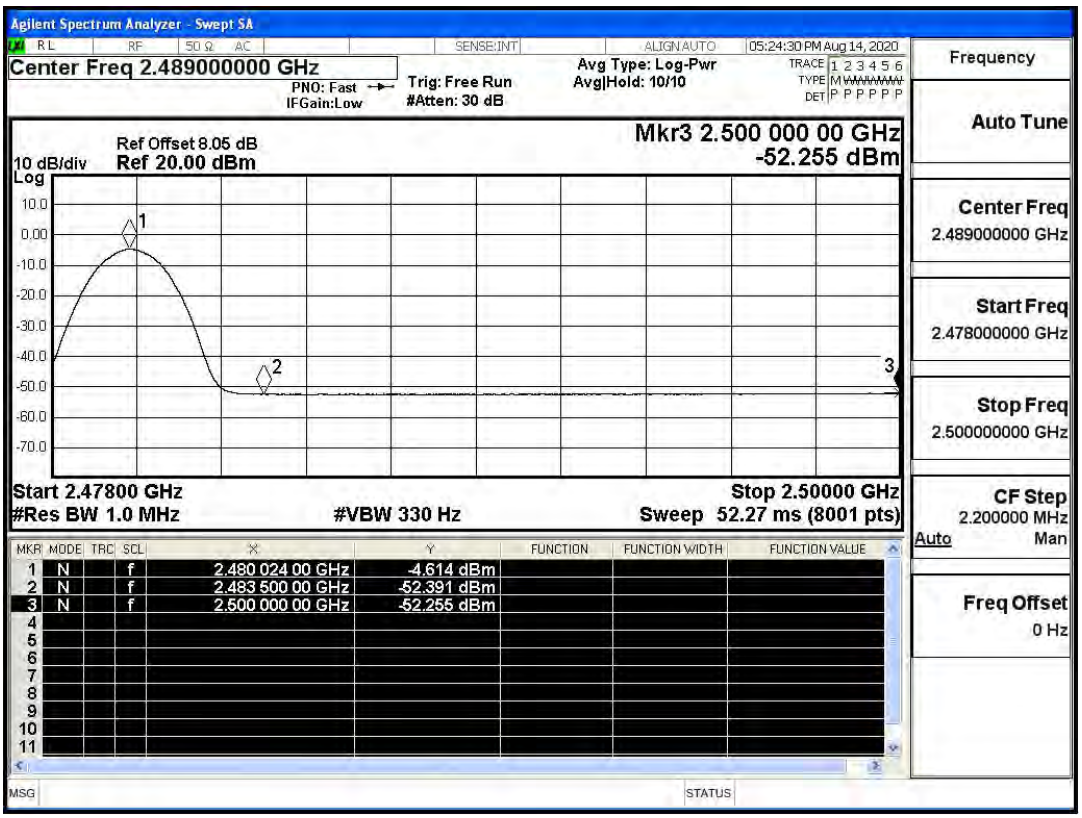
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



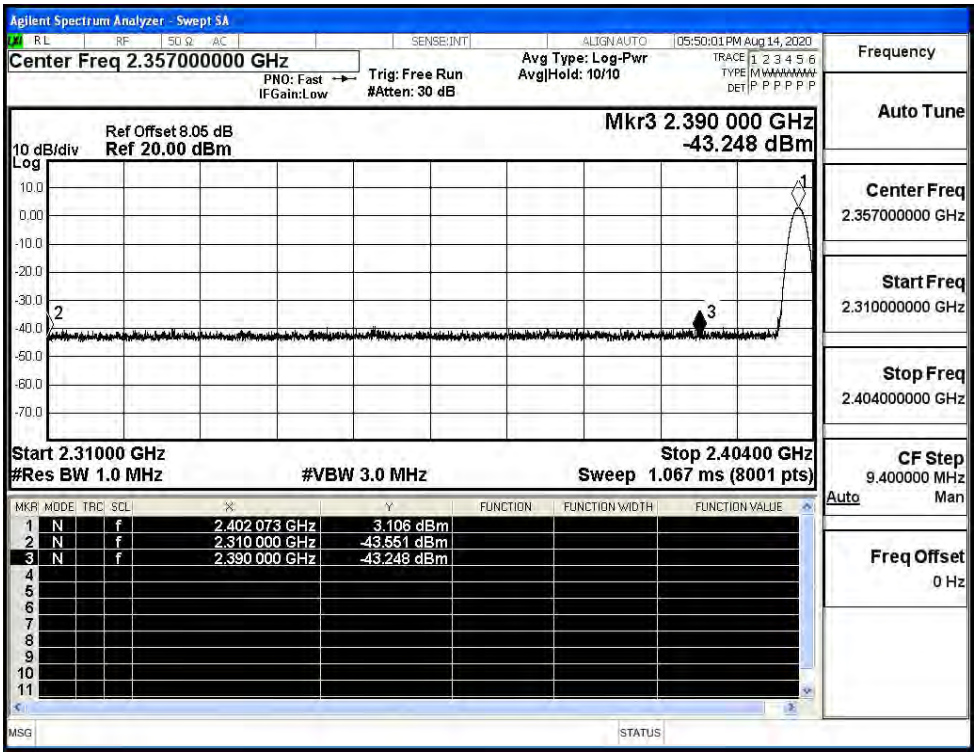
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



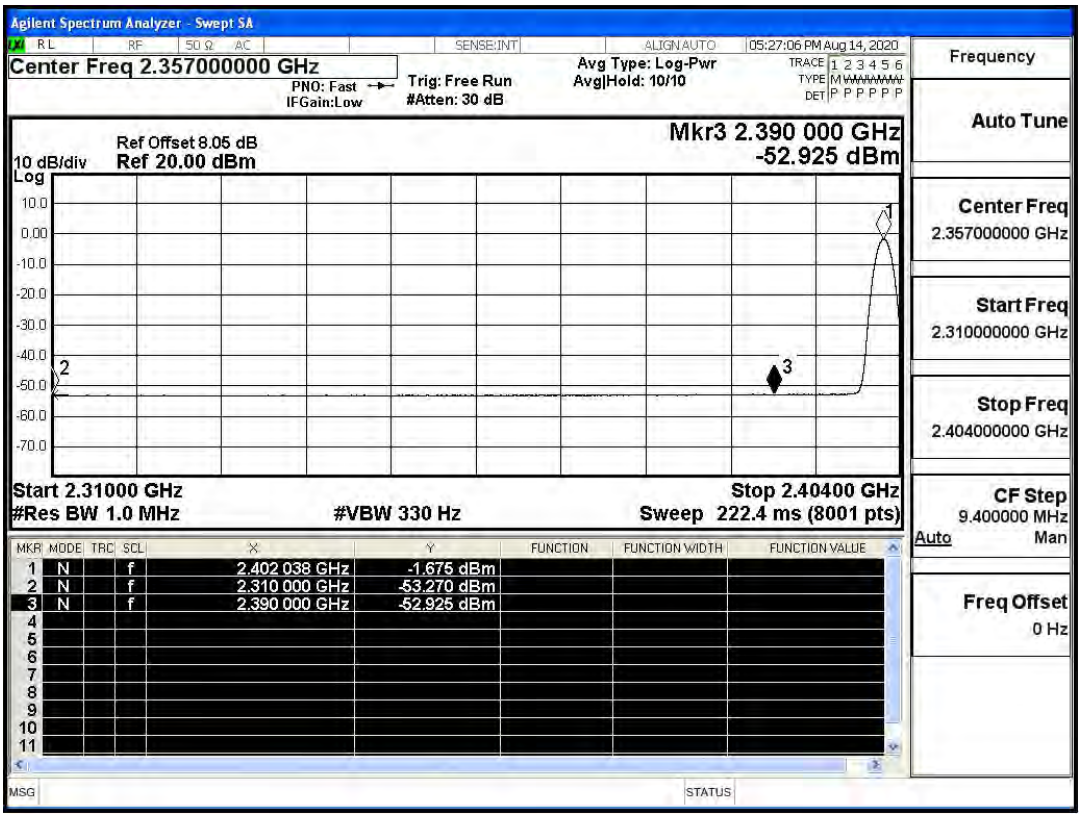
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



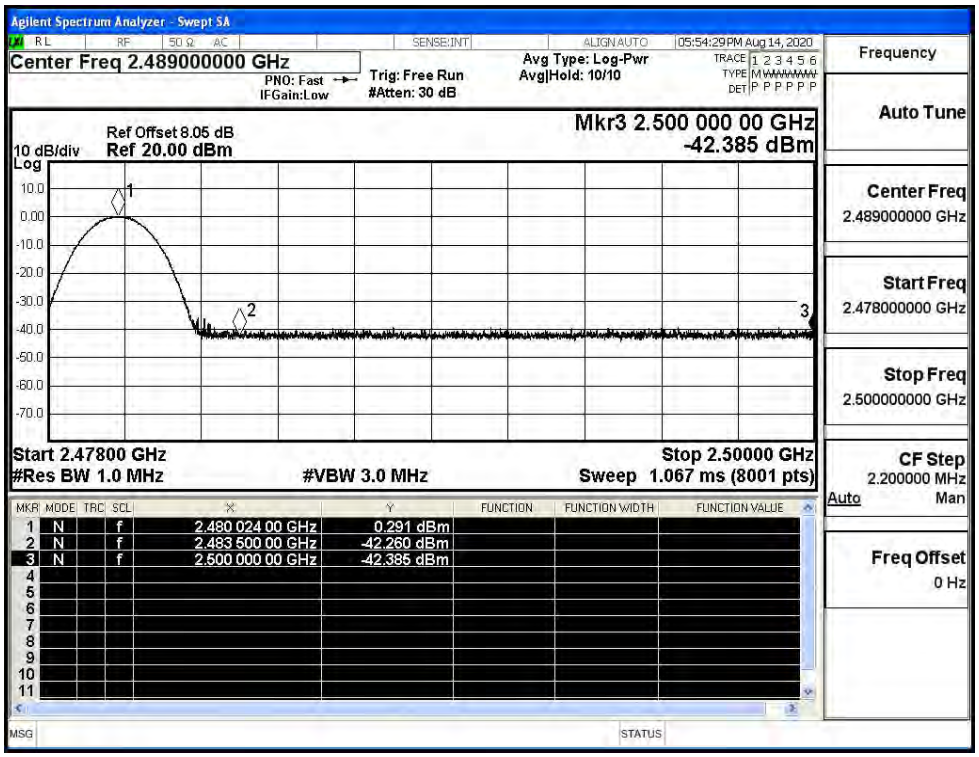
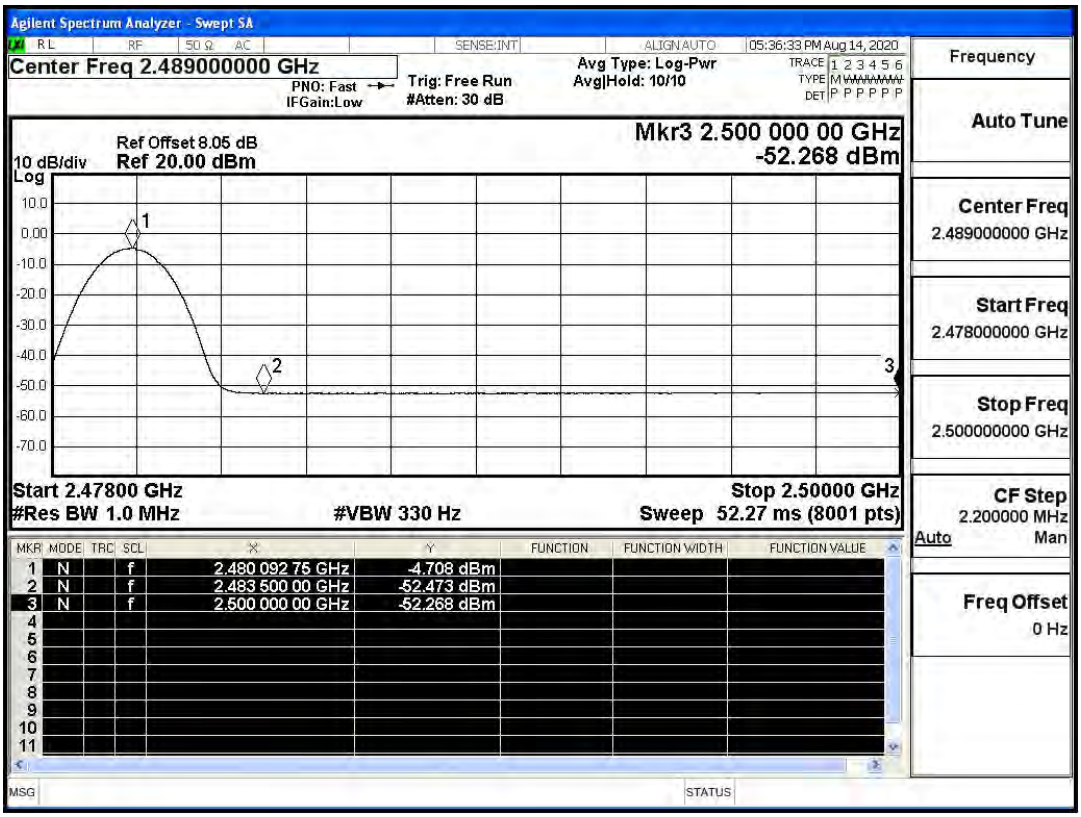
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



Restrict-band band-edge measurements_Hopping Off_8DPSK_Average (Low Channel)



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