Appendix A

RF Test Data for BT V5.0(BDR/EDR) (Conducted Measurement)

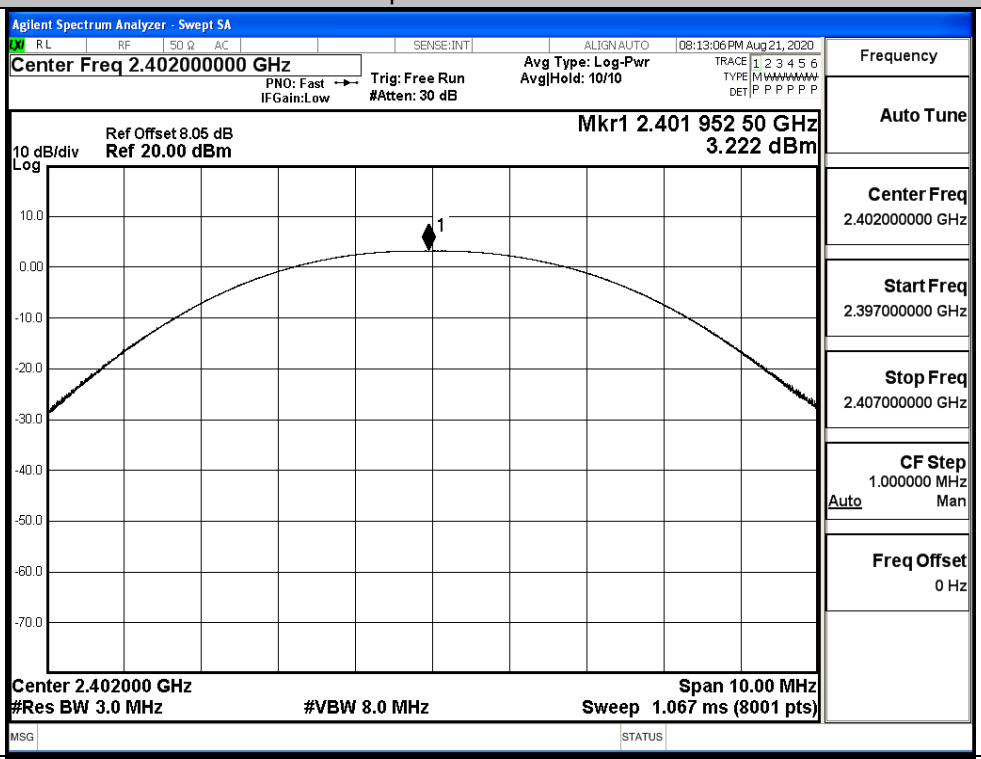
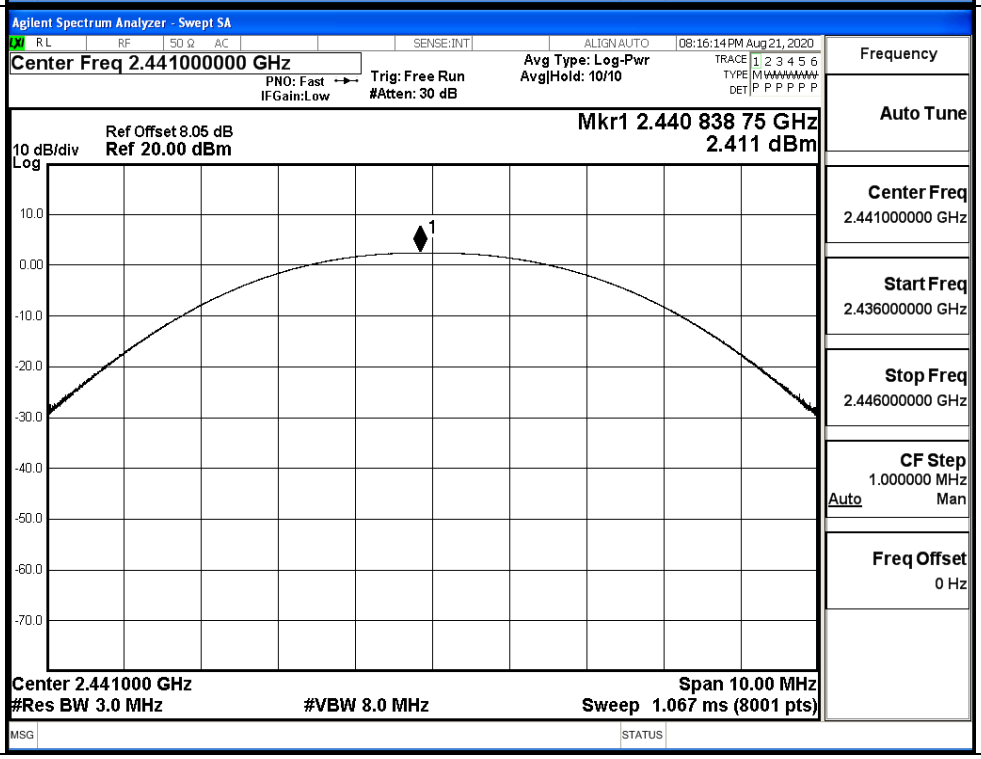
Product Name: Wireless network card
Trade Mark: DIEWU TXIC
Test Model: TXA083
Additional Model No.: TXA076

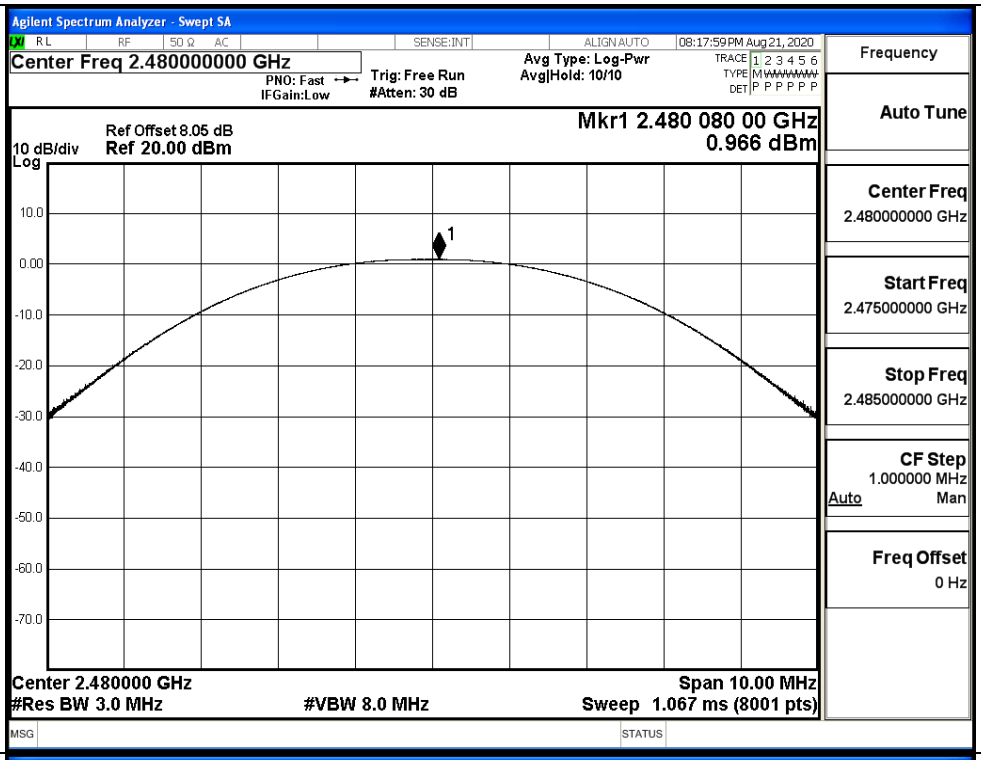
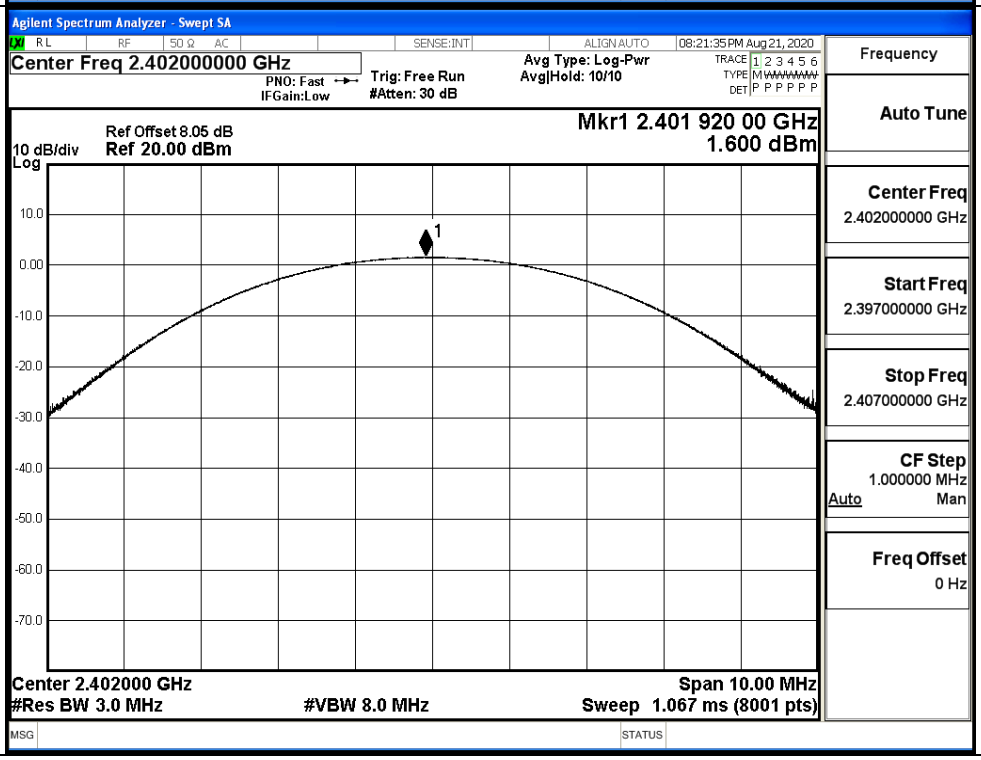
Environmental Conditions

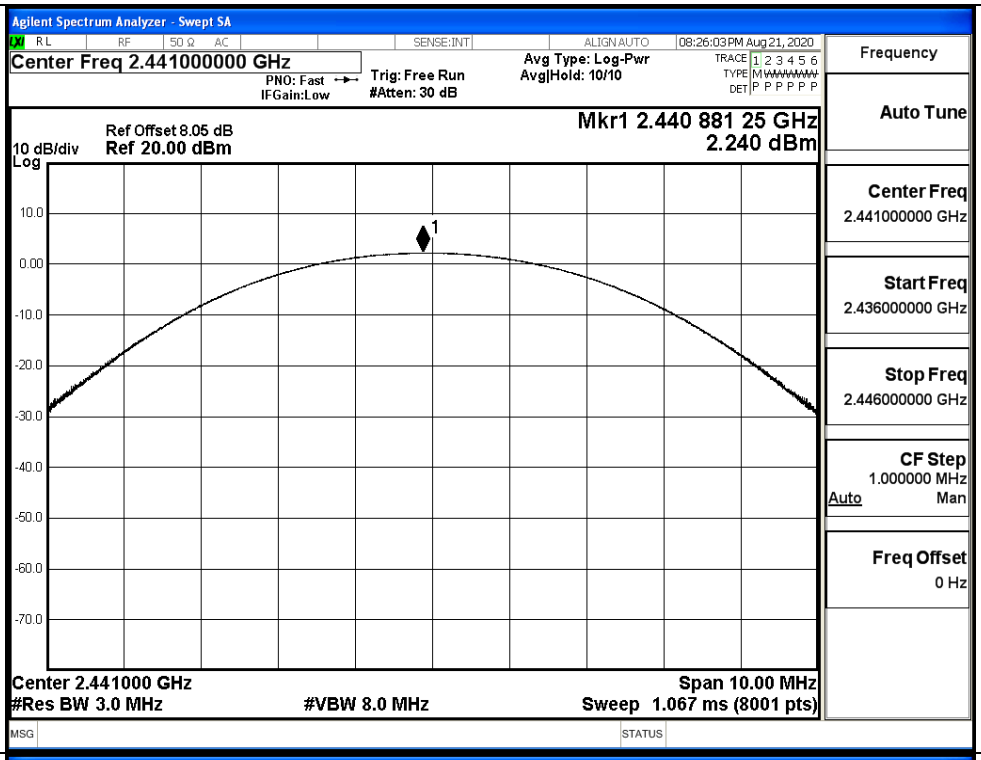
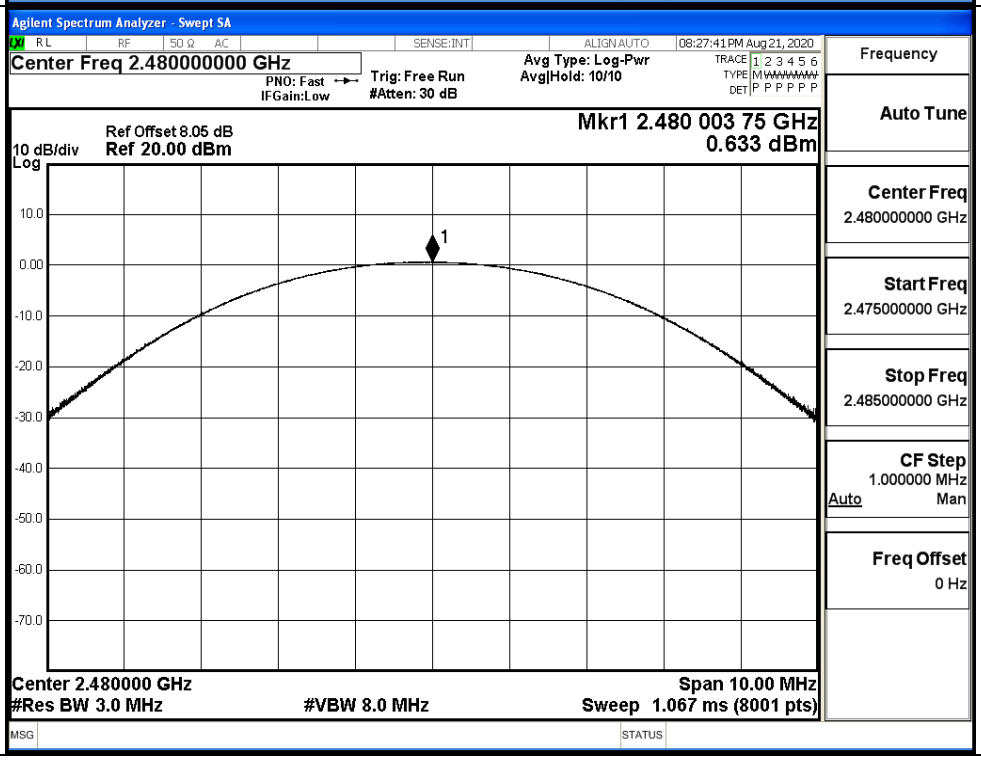
Temperature:	23.1 ° C
Relative Humidity:	54.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Li
Supervised by:	Li Huan

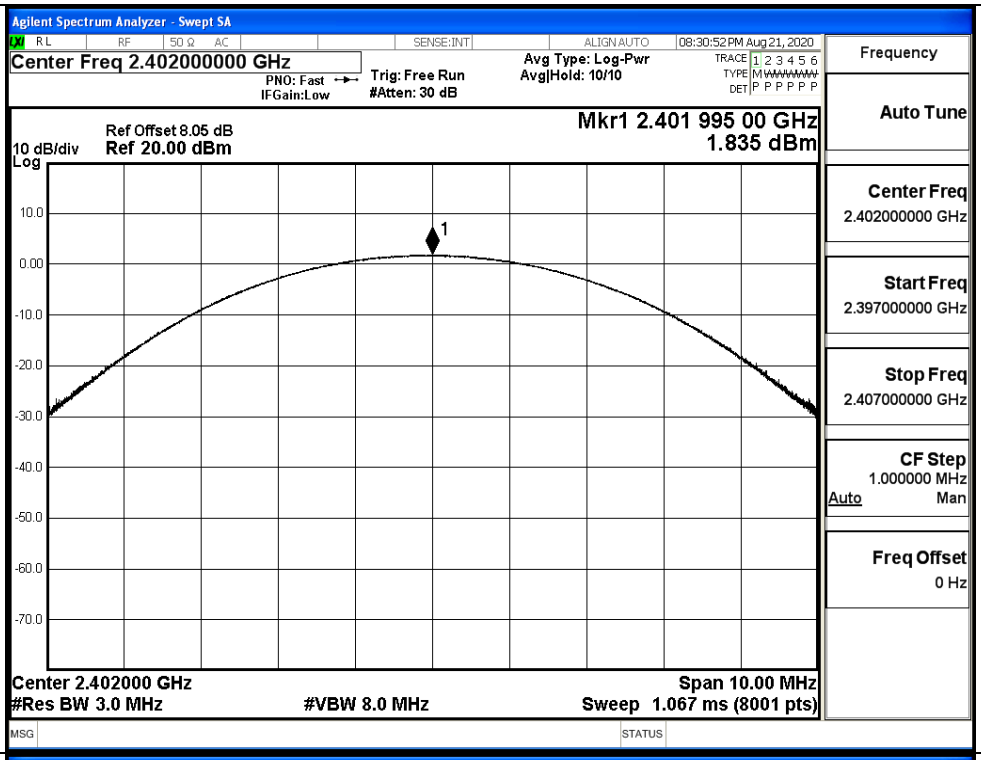
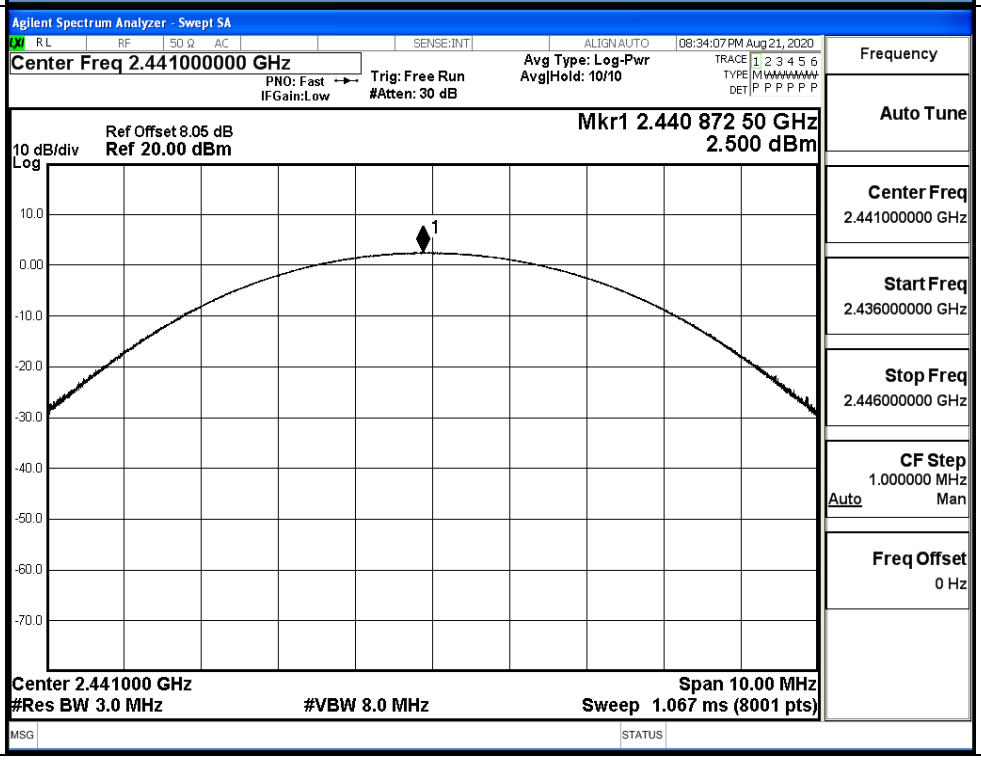
A.1 Maxmum Conducted Peak Output Power

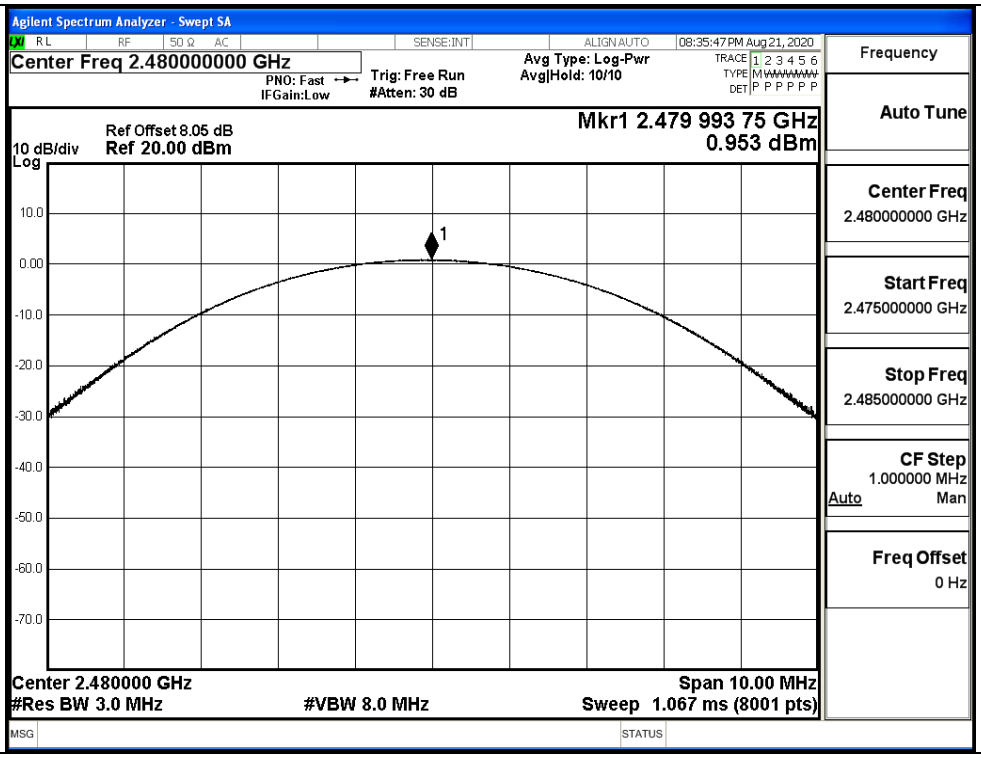
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.222	21	PASS
	MCH	2.411	21	PASS
	HCH	0.966	21	PASS
π/4DQPSK	LCH	1.600	30	PASS
	MCH	2.240	30	PASS
	HCH	0.633	30	PASS
8DPSK	LCH	1.835	30	PASS
	MCH	2.500	30	PASS
	HCH	0.953	30	PASS

Test Graphs		
GFSK/LCH		
GFSK/MCH		

GFSK/HCH		
π/4DQPSK/LCH		

π/4DQPSK/MCH		
π/4DQPSK/HCH		

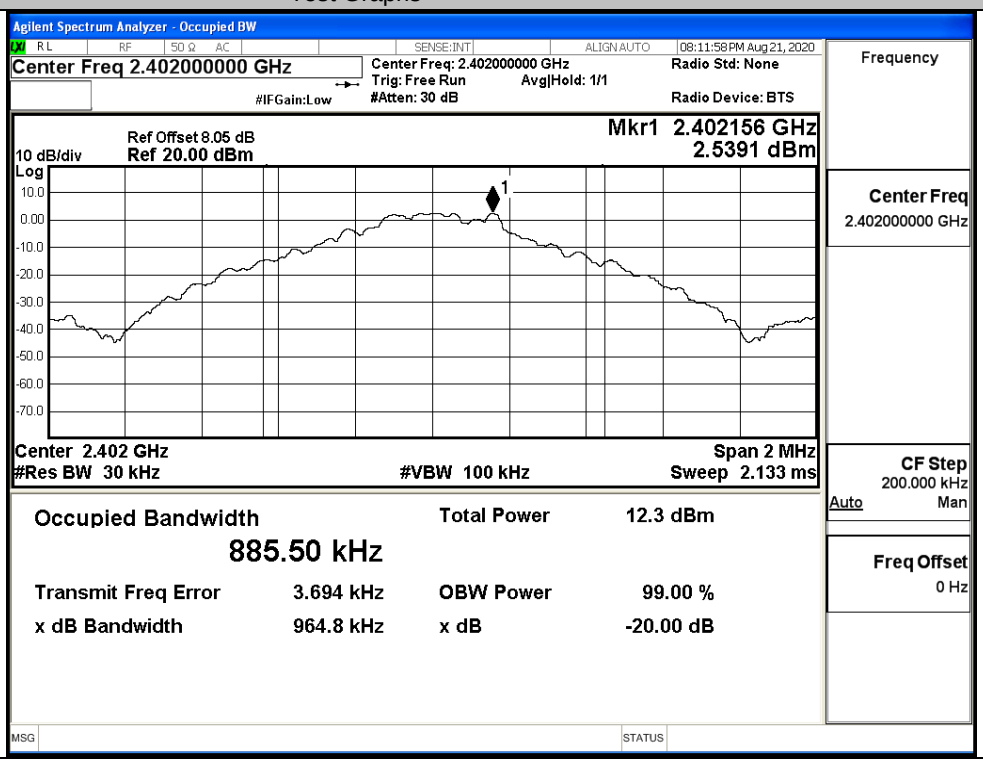
8DPSK/LCH	
8DPSK/MCH	

8DPSK/HCH		

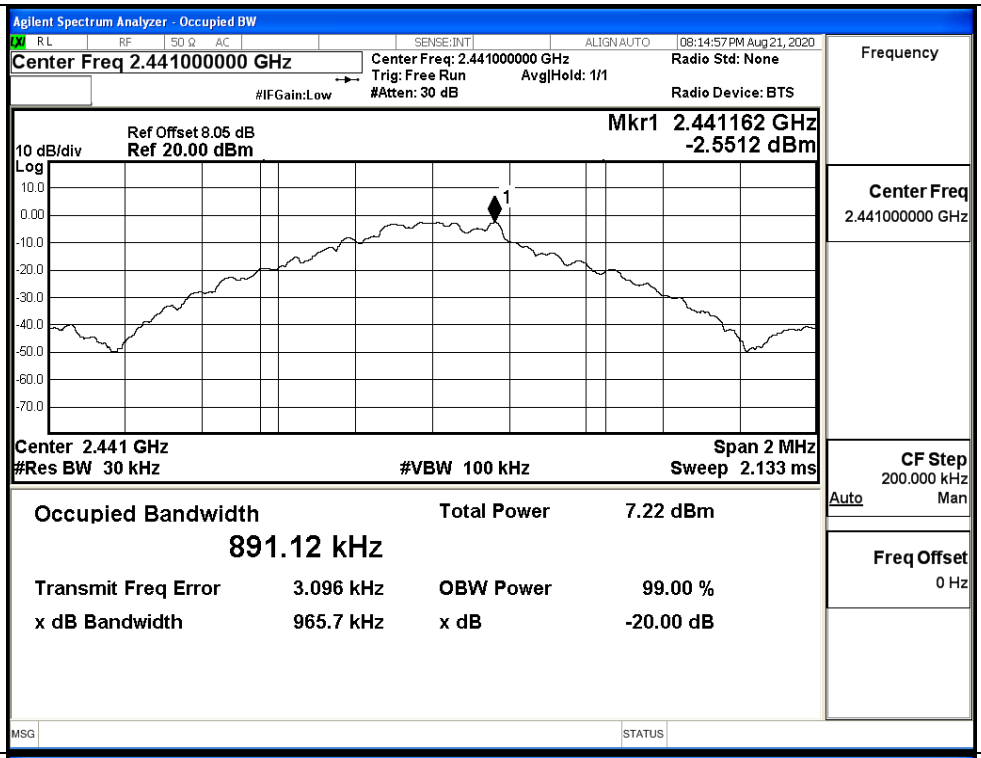
Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
08:35:47 PM Aug 21, 2020
Ref Offset 8.05 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.479 993 75 GHz
0.953 dBm
Center 2.480000 GHz
#Res BW 3.0 MHz
#VBW 8.0 MHz
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 20dB Bandwidth

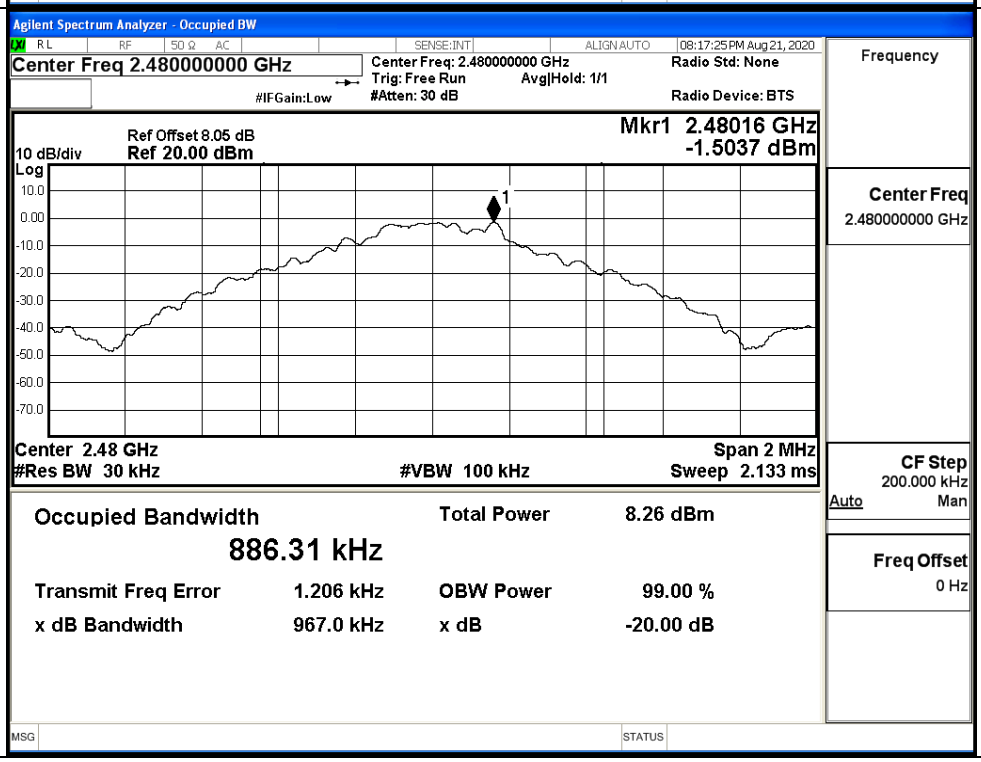
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9648	Not Specified	PASS
	MCH	0.9657	Not Specified	PASS
	HCH	0.9670	Not Specified	PASS
π/4DQPSK	LCH	1.441	Not Specified	PASS
	MCH	1.493	Not Specified	PASS
	HCH	1.494	Not Specified	PASS
8DPSK	LCH	1.483	Not Specified	PASS
	MCH	1.488	Not Specified	PASS
	HCH	1.491	Not Specified	PASS

Test Graphs		
GFSK/LCH		

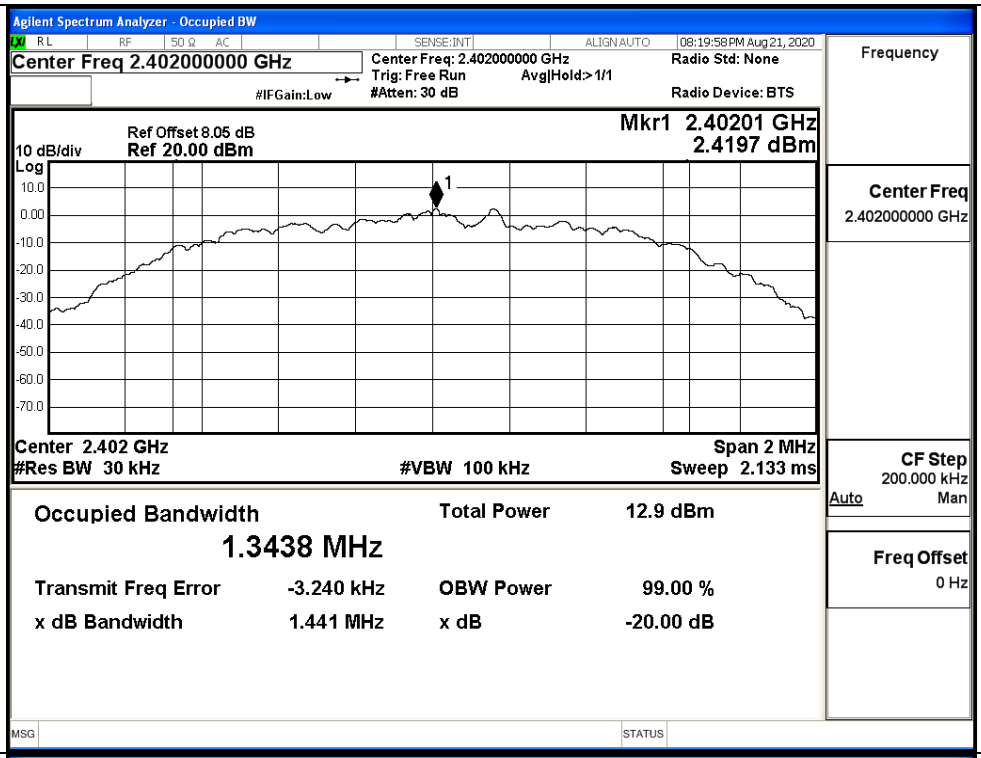
GFSK/MCH



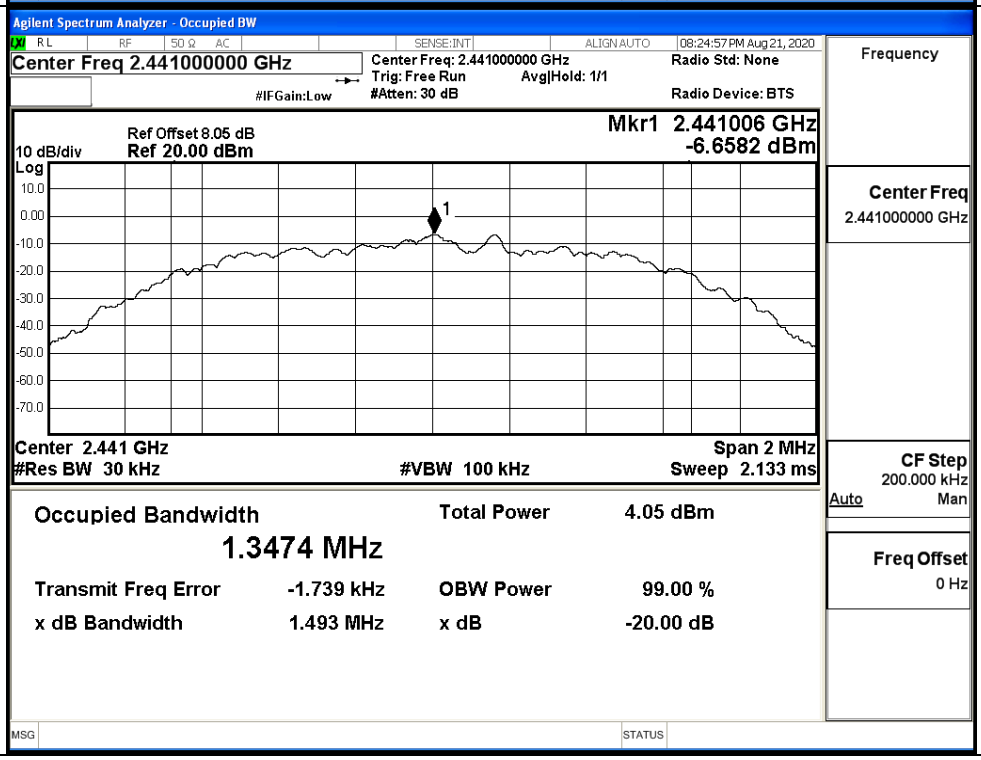
GFSK/HCH



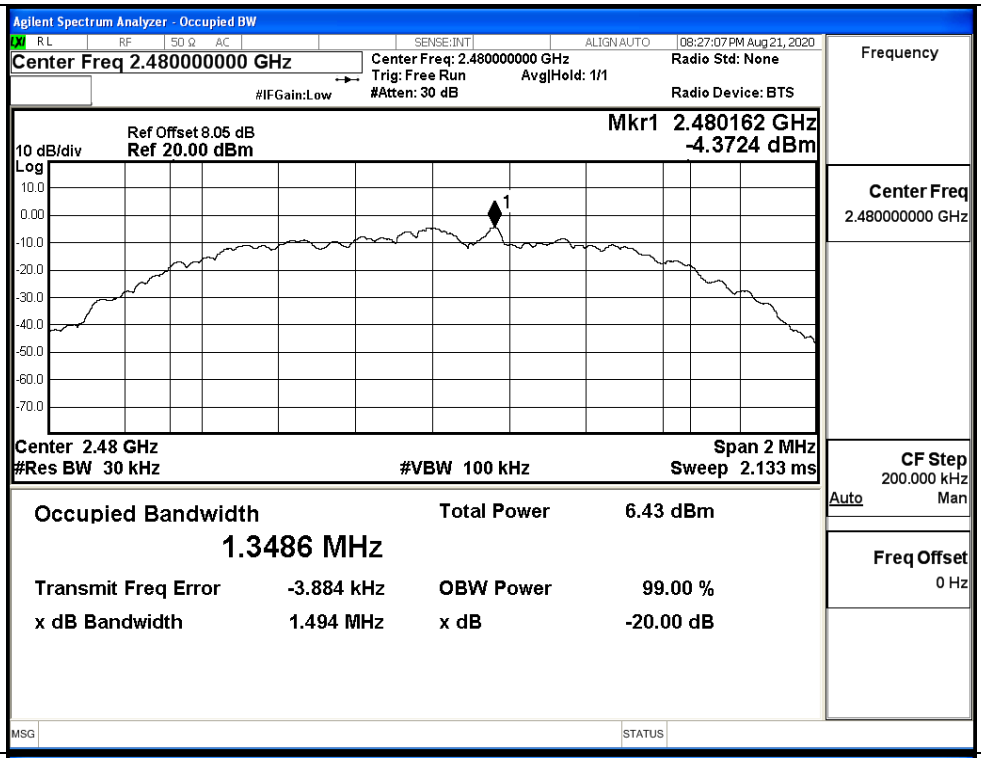
π/4DQPSK/LCH



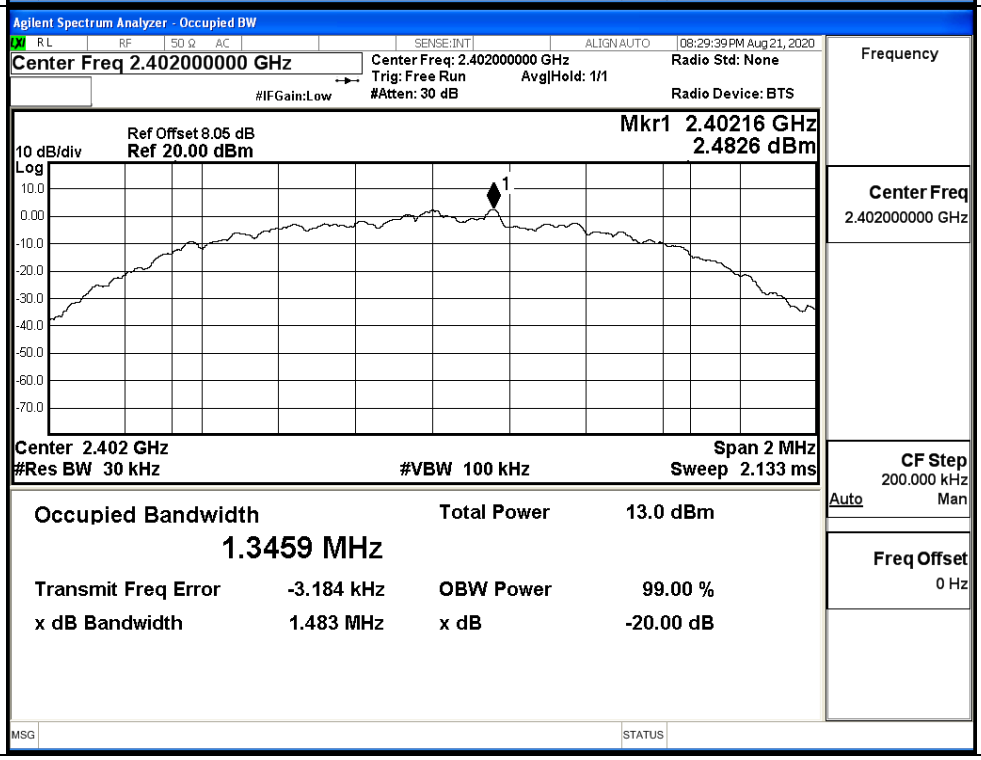
π/4DQPSK/MCH



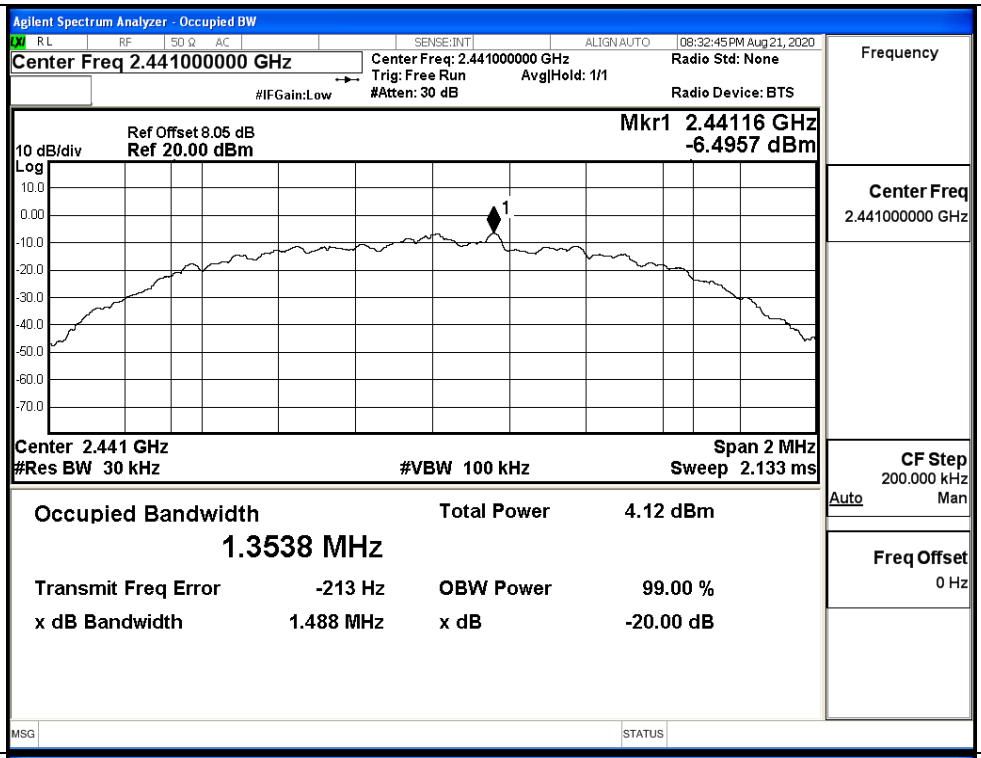
π/4DQPSK/HCH



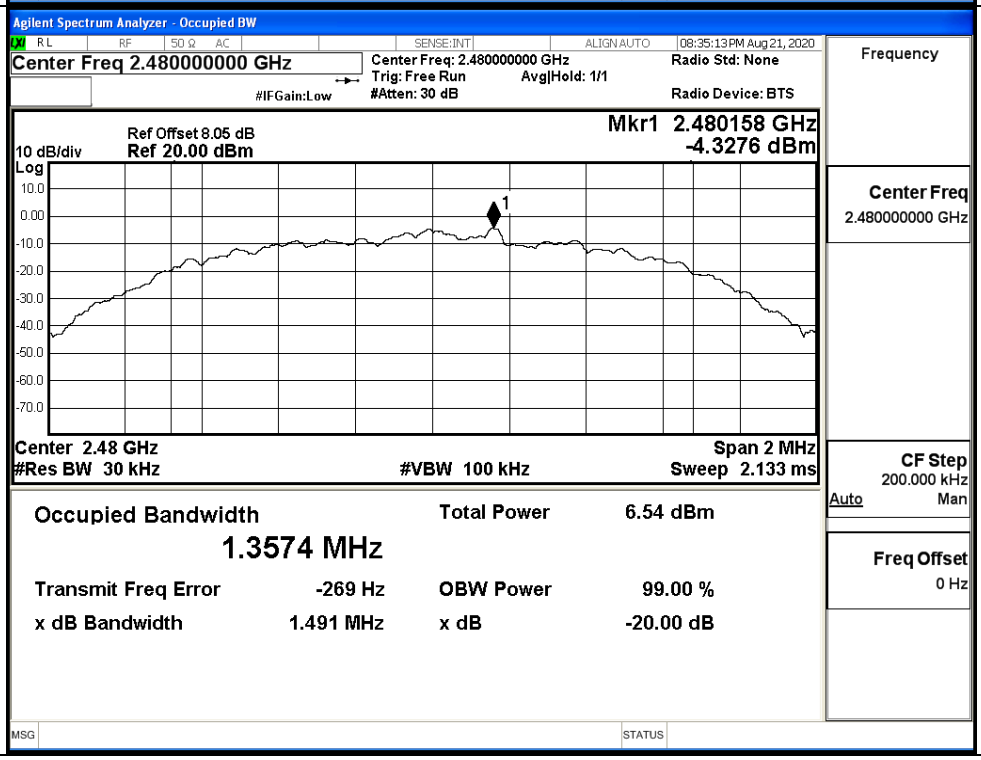
8DPSK/LCH



8DPSK/MCH

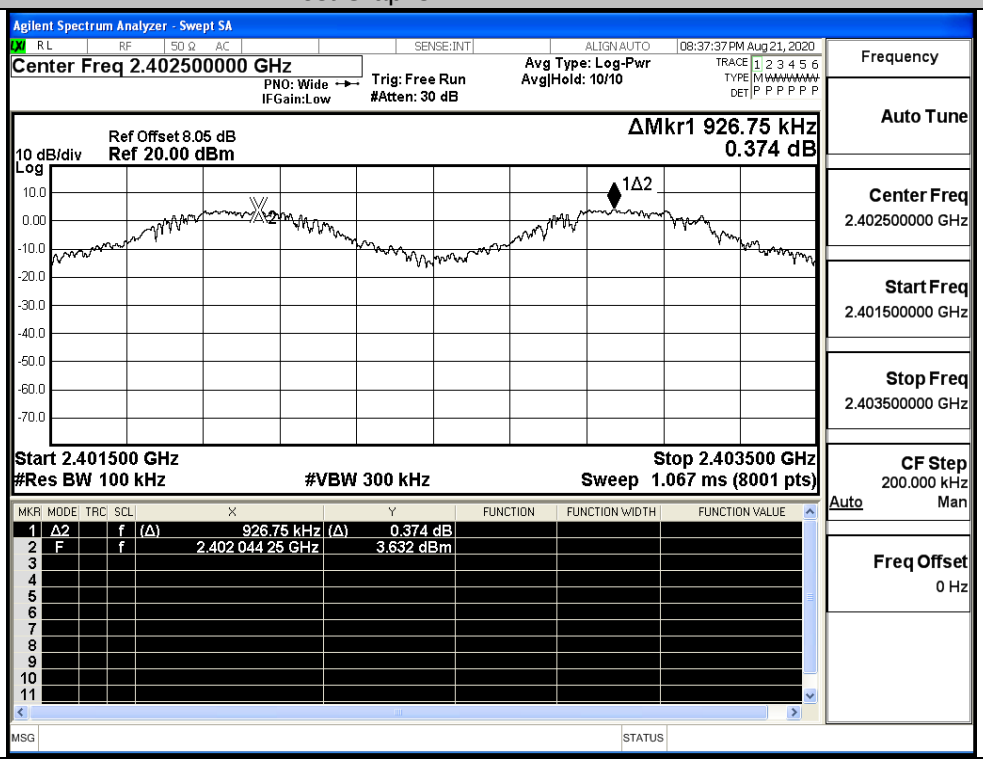


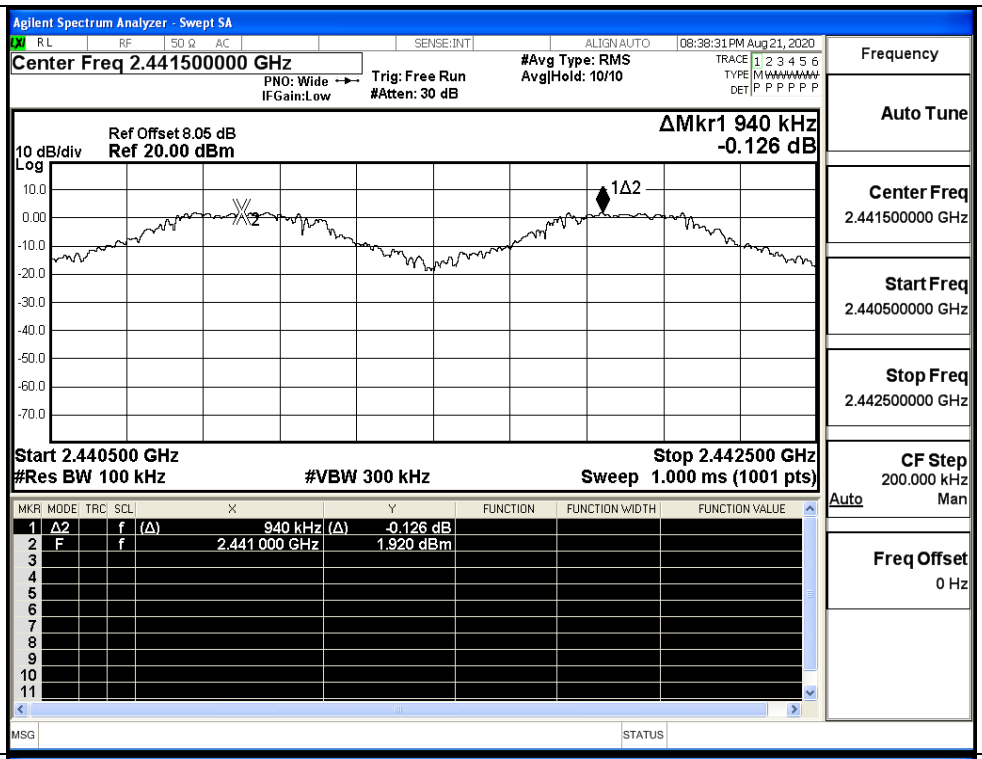
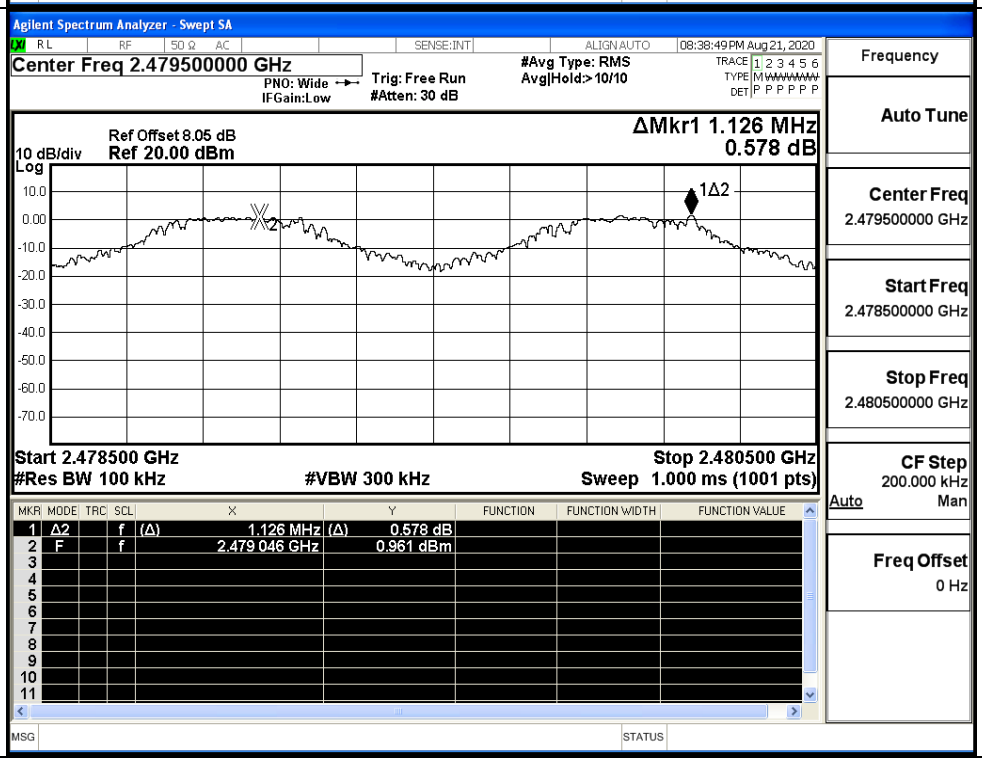
8DPSK/HCH



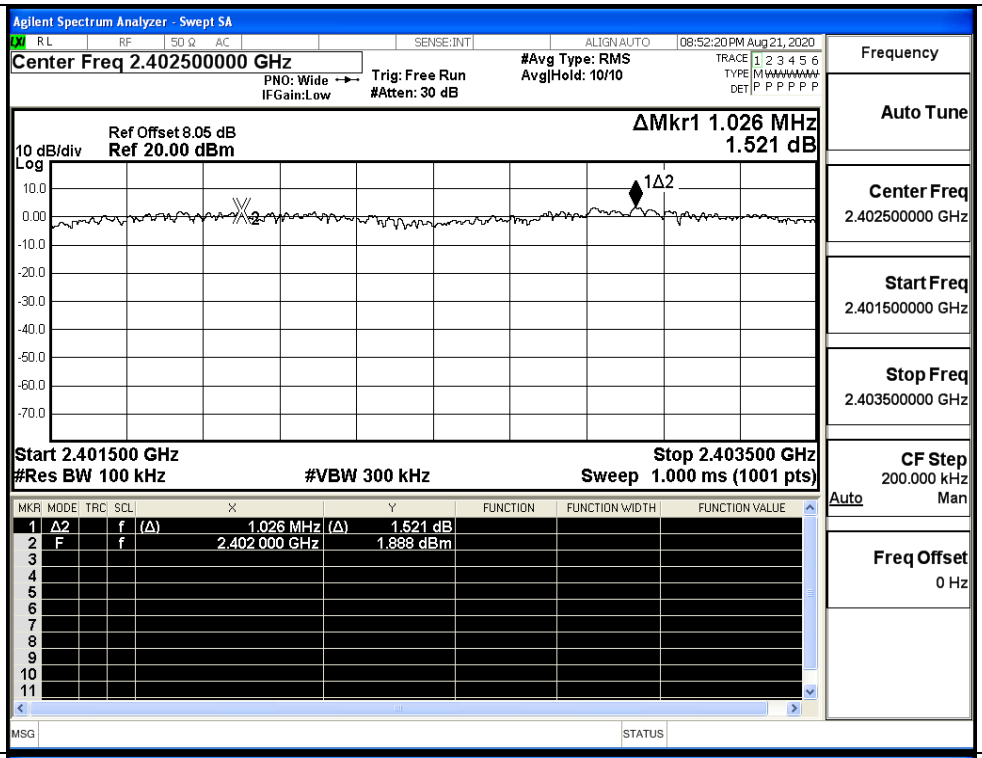
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.927	0.645	PASS
	MCH	0.940	0.645	PASS
	HCH	1.126	0.645	PASS
π/4DQPSK	LCH	1.026	0.996	PASS
	MCH	1.004	0.996	PASS
	HCH	1.028	0.996	PASS
8DPSK	LCH	1.192	0.994	PASS
	MCH	1.042	0.994	PASS
	HCH	1.014	0.994	PASS

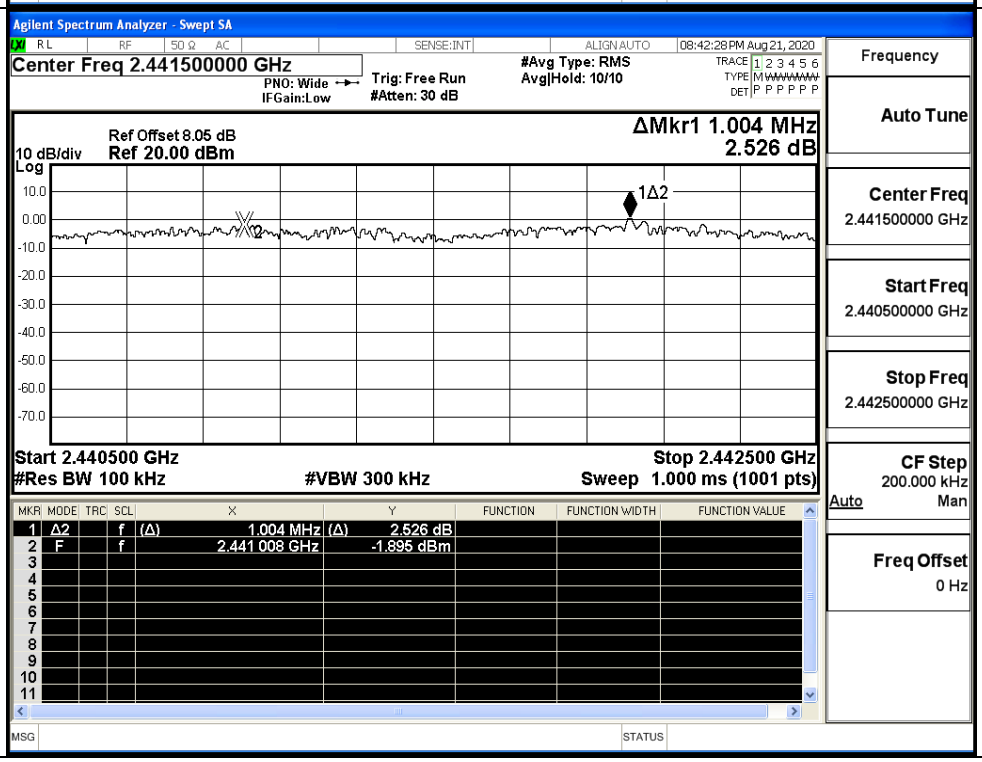
Test Graphs		
GFSK/LCH		

GFSK/MCH		
GFSK/HCH		

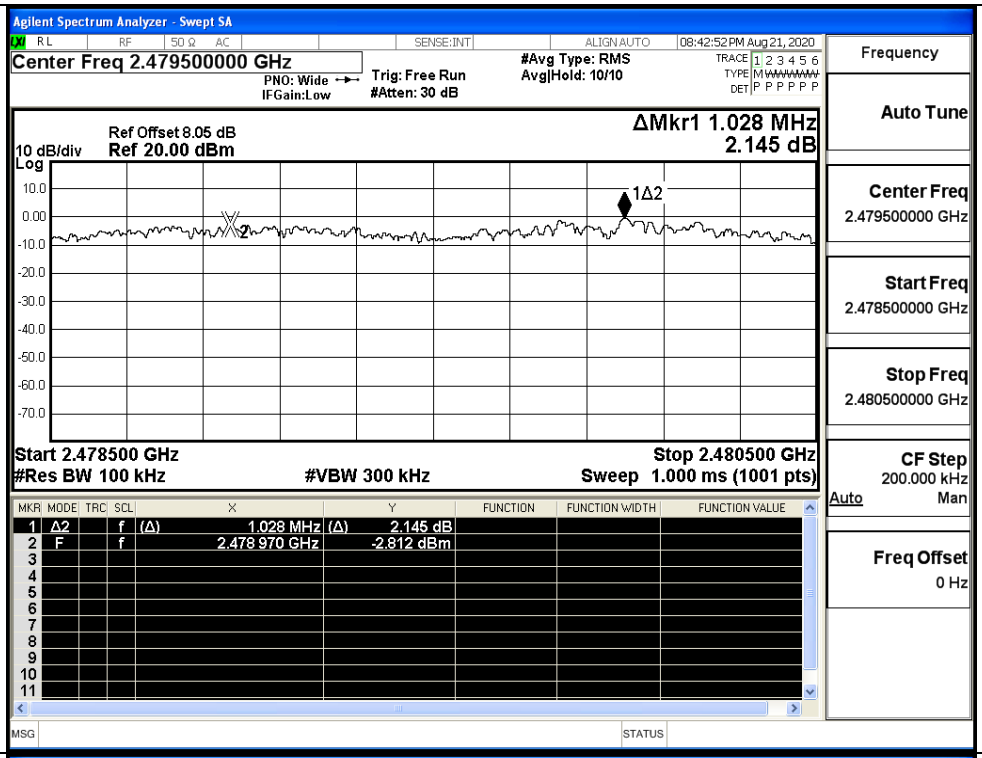
π/4DQPSK/LCH



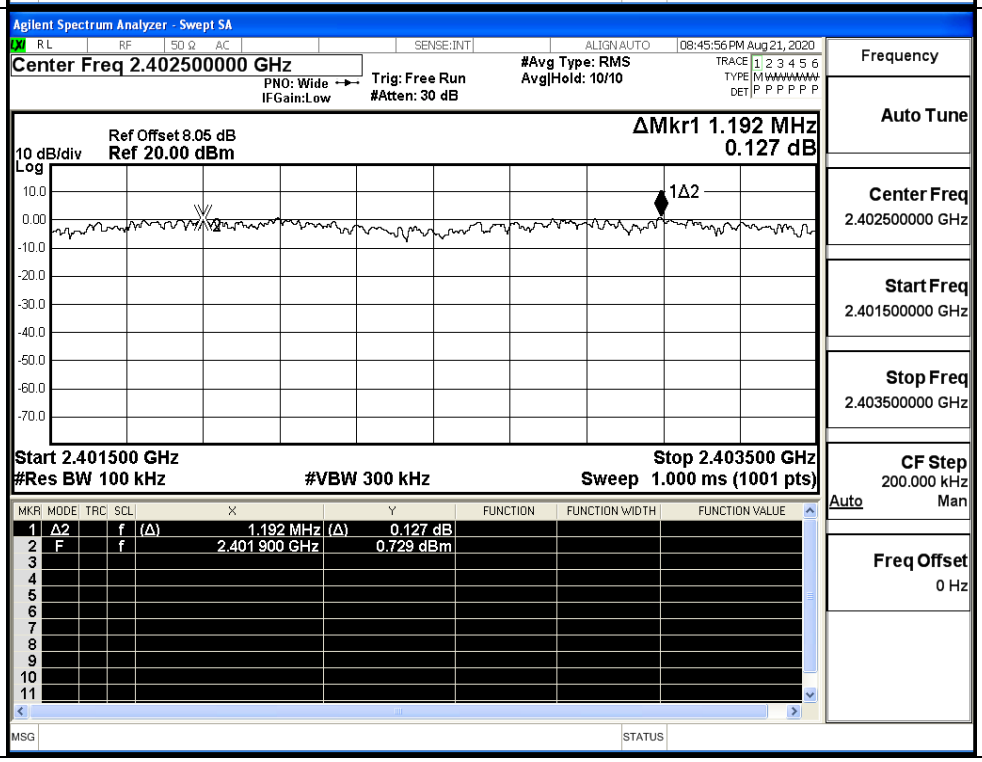
π/4DQPSK/MCH

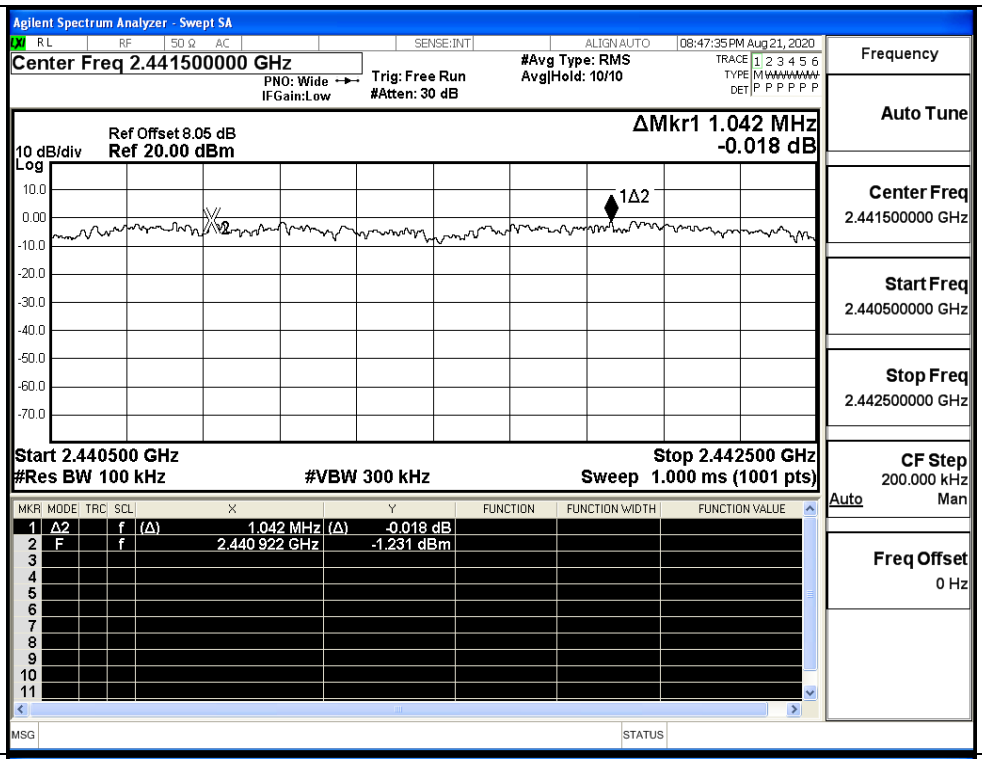
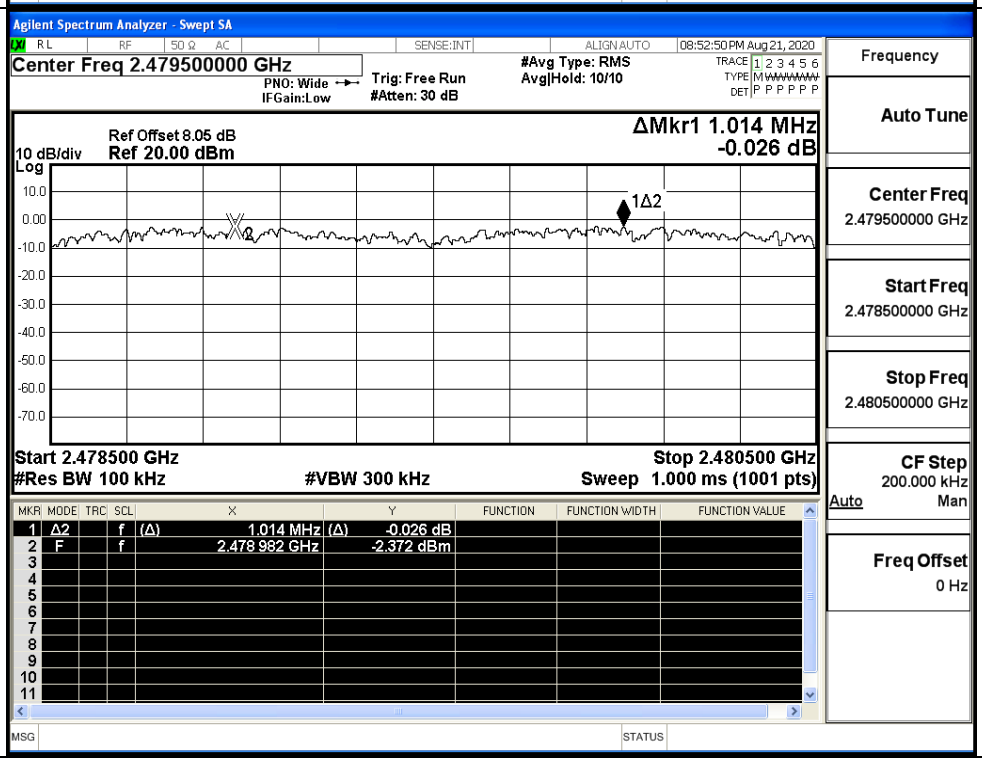


π/4DQPSK/HCH



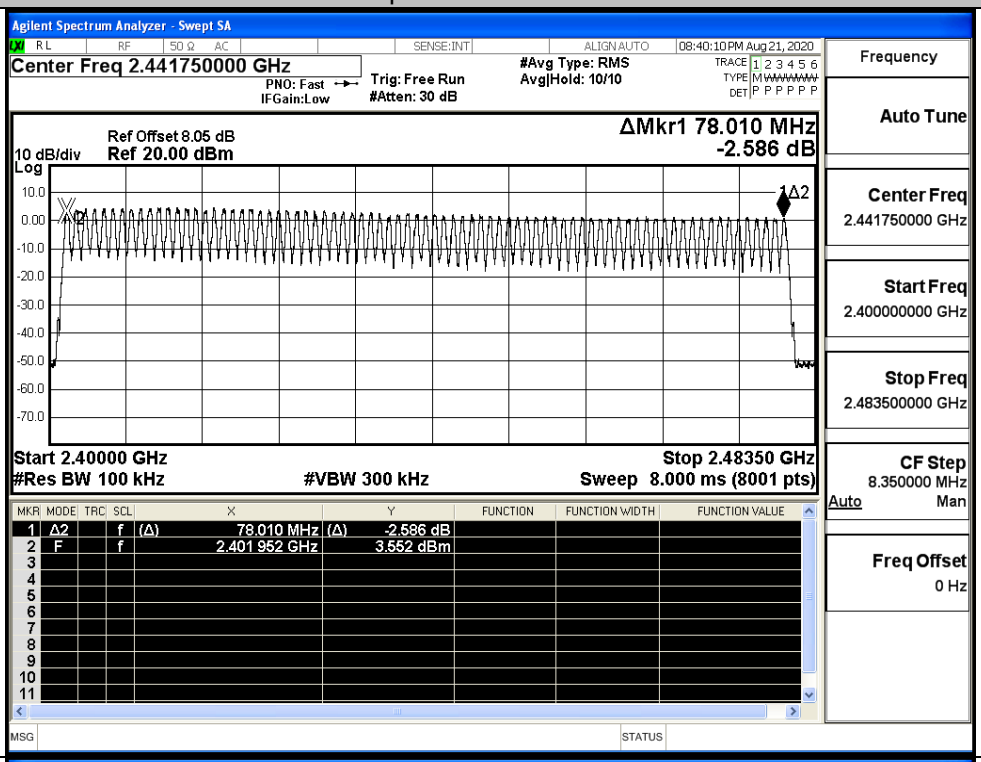
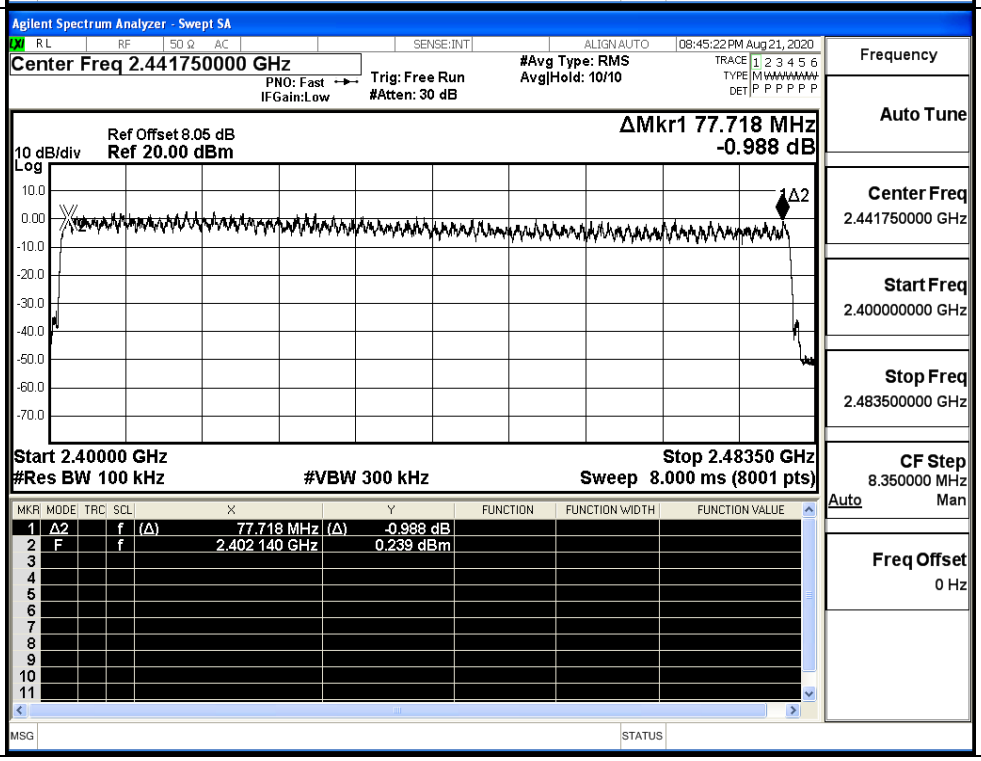
8DPSK/LCH

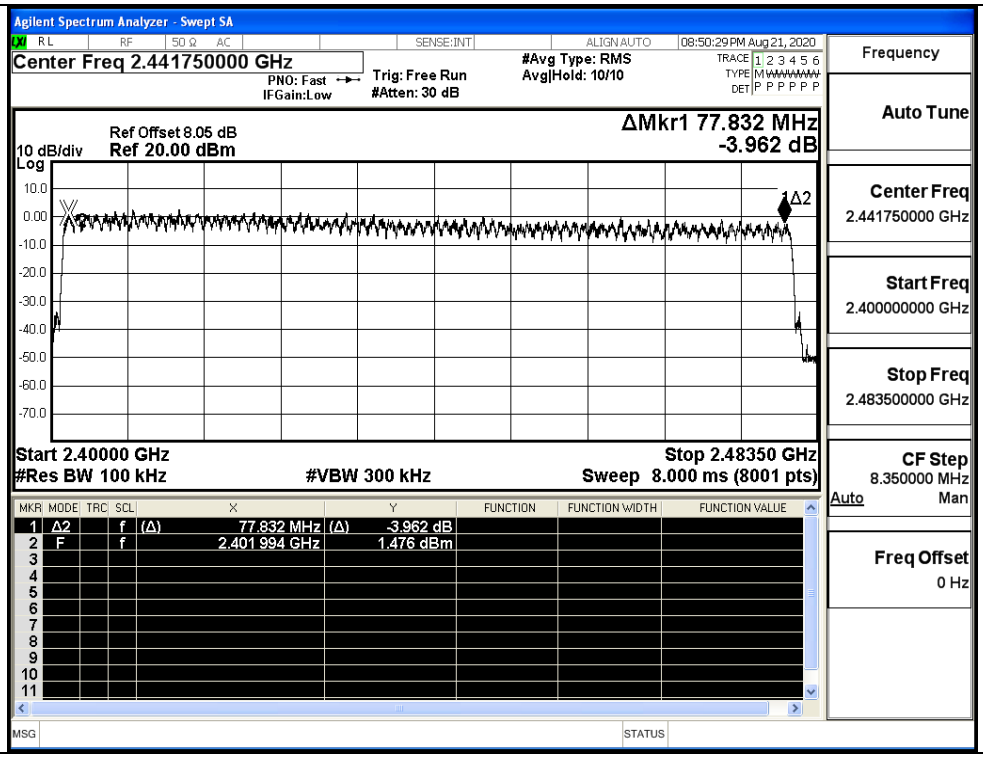


8DPSK/MCH	
8DPSK/HCH	

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

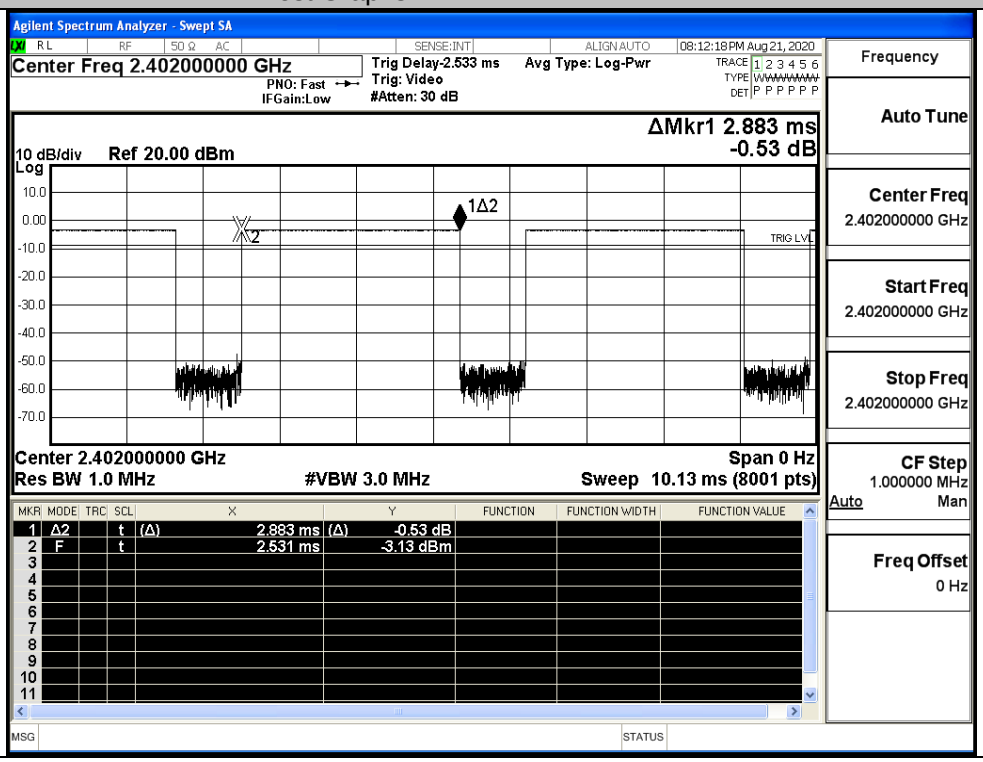
Test Graphs	
GFSK/Hop	
π/4DQPSK/Hop	

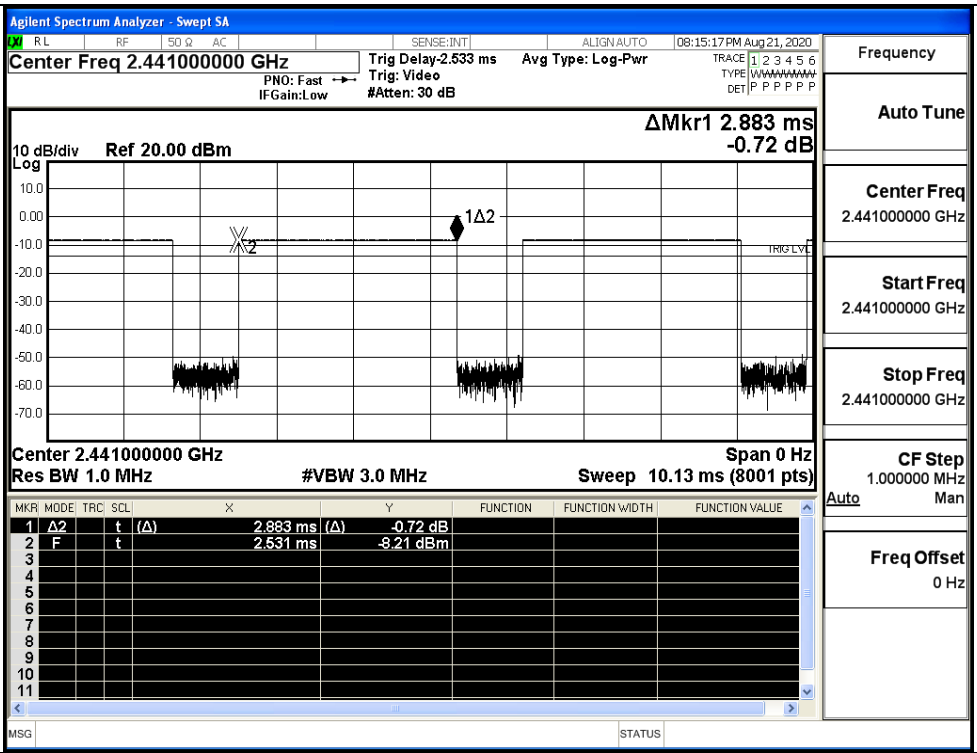
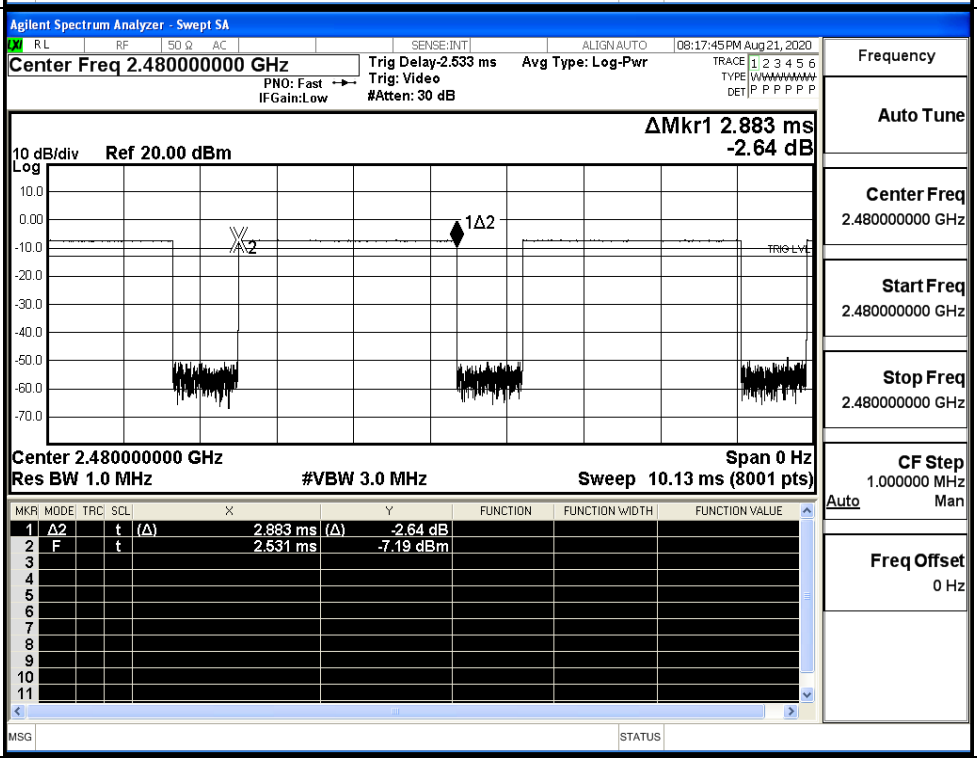
8DPSK/Hop	

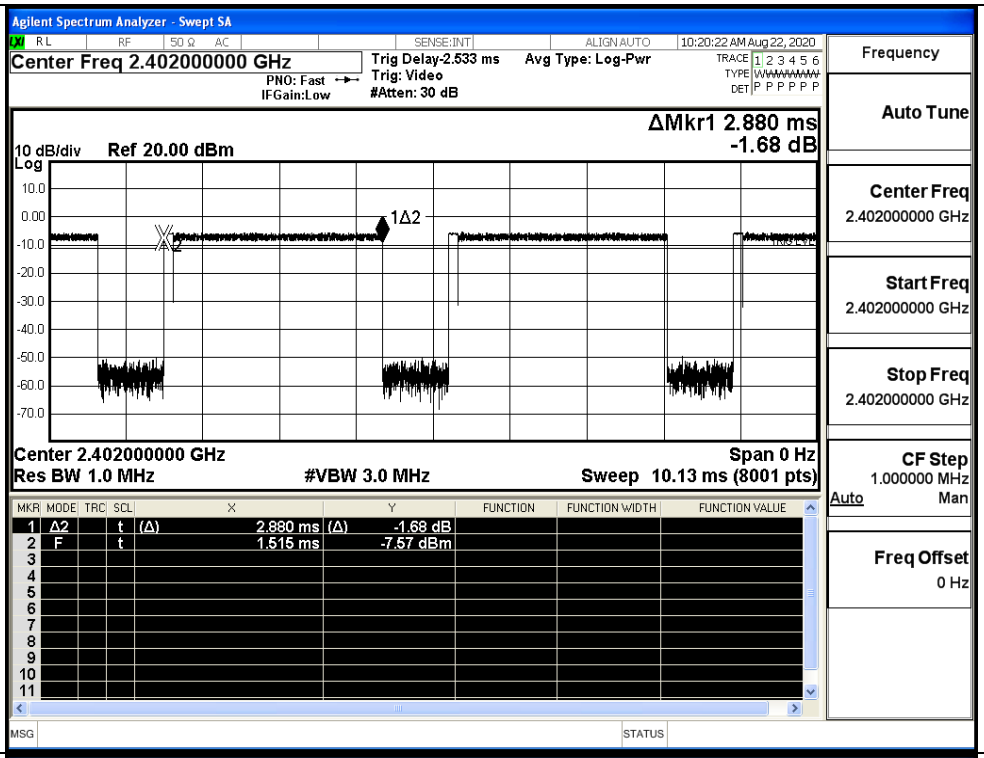
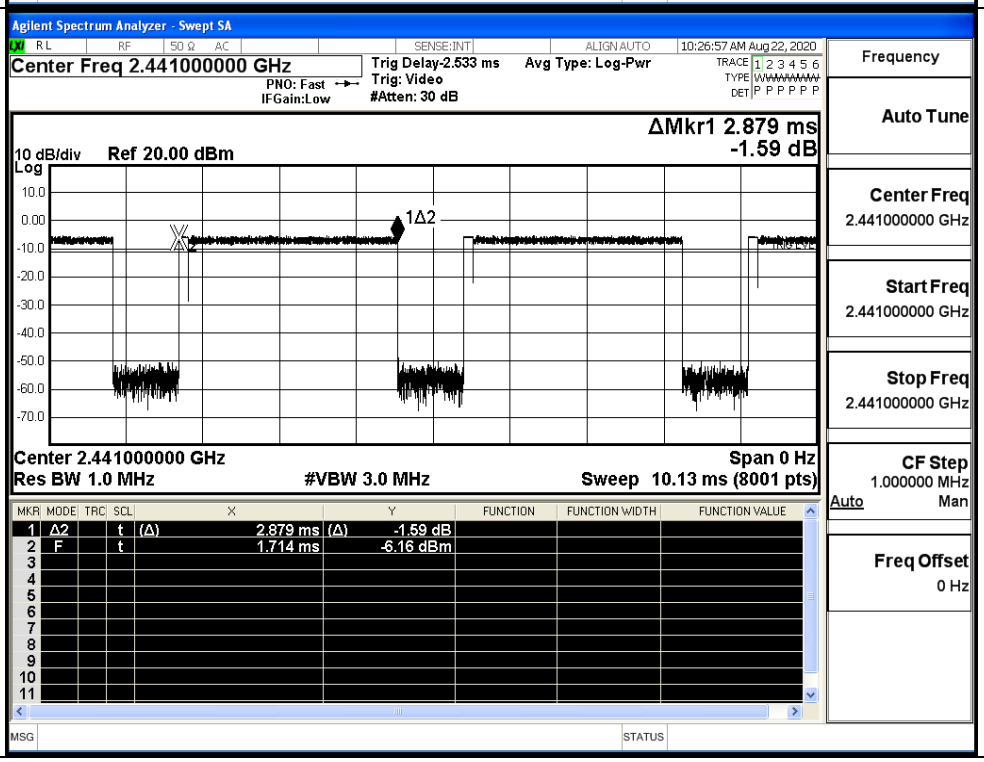
Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441750000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 10/10
08:50:29 PM Aug 21, 2020
Ref Offset 8.05 dB
10 dB/div
Ref 20.00 dBm
ΔMkr1 77.832 MHz
-3.962 dB
Start 2.40000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.48350 GHz
Sweep 8.000 ms (8001 pts)
1 Δ2 f (Δ) 77.832 MHz (Δ) -3.962 dB
2 F f 2.401 994 GHz 1.476 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

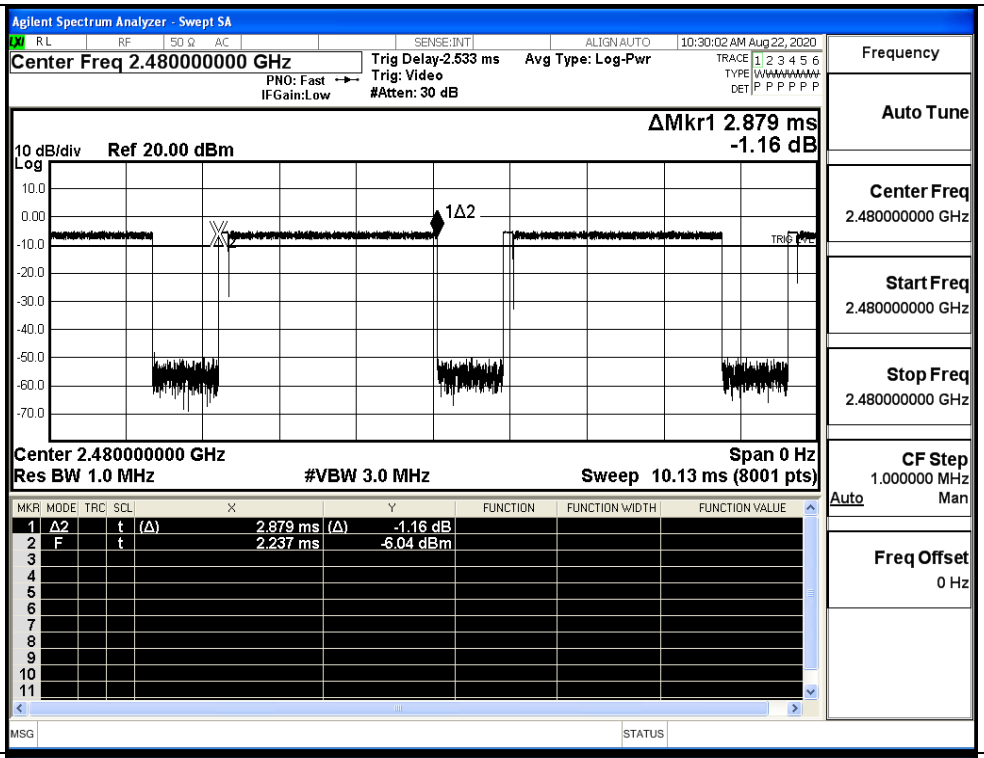
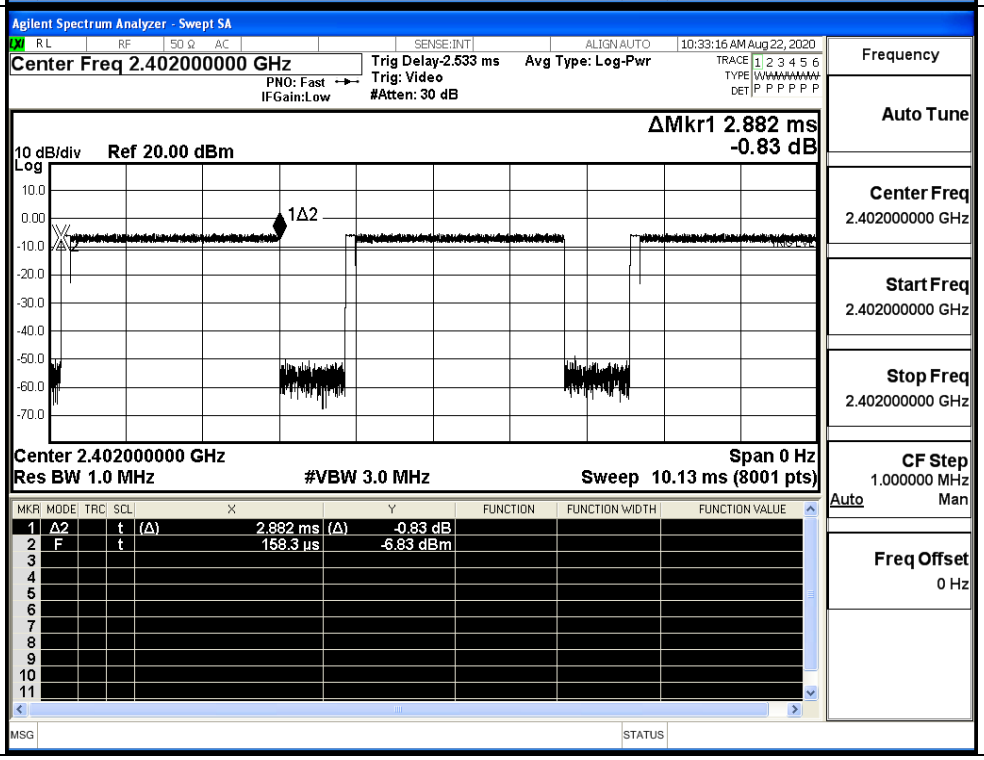
A.5 Dwell Time

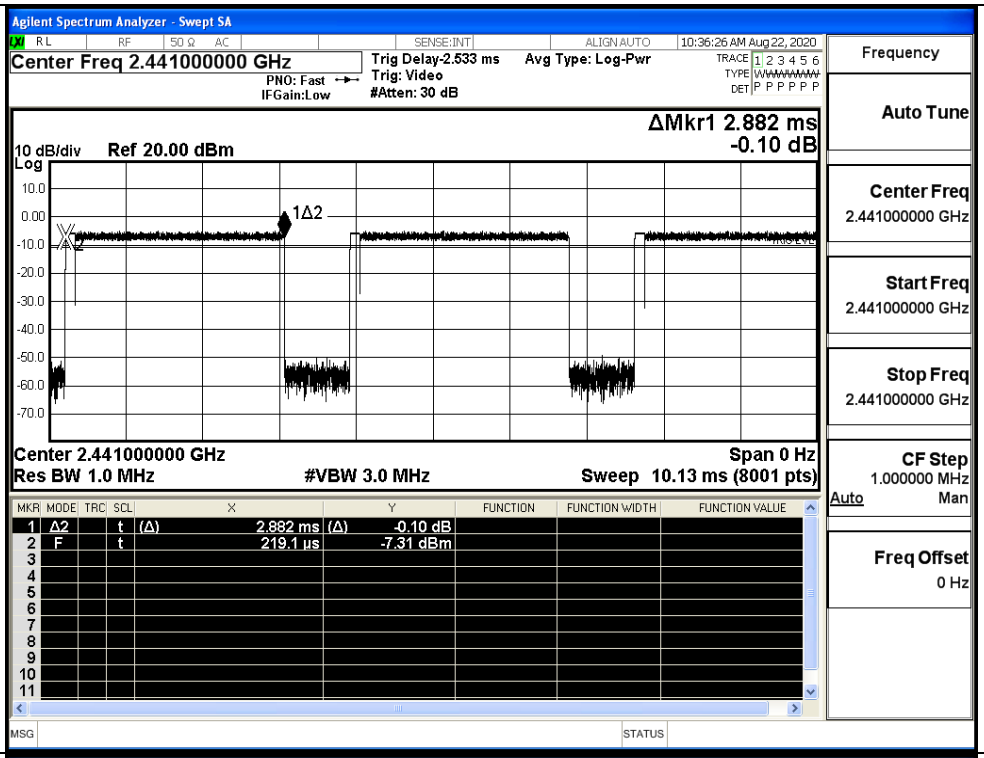
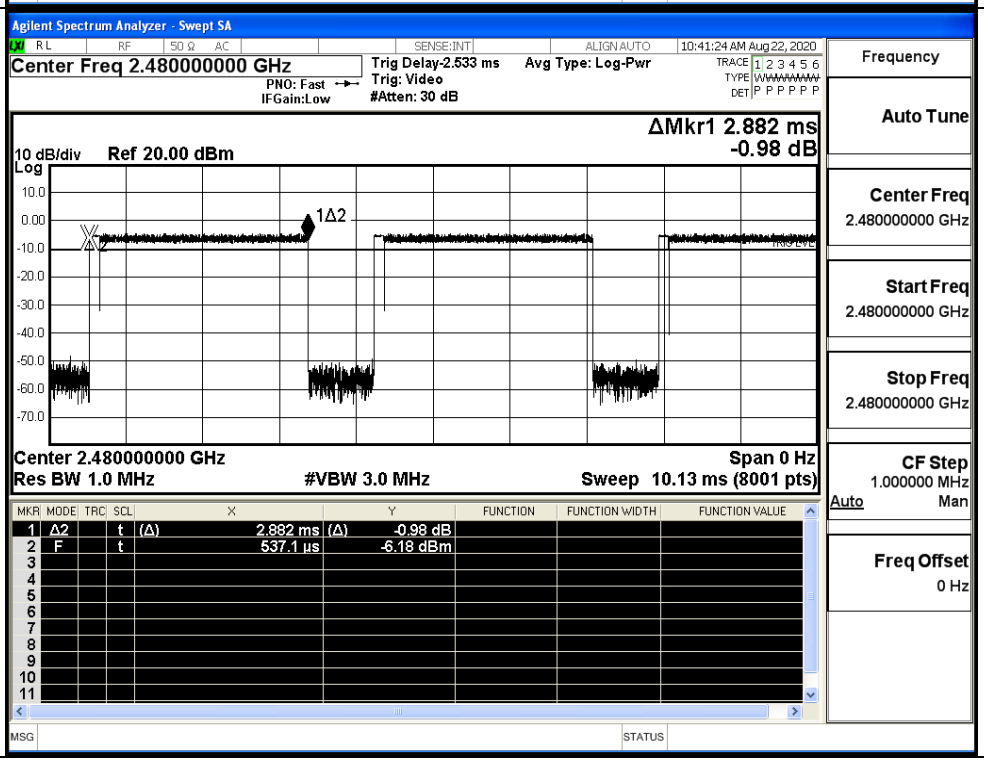
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
π/4DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7	0.307	0.4	PASS
8DPSK	3DH5	LCH	2.88	106.7	0.307	0.4	PASS
	3DH5	MCH	2.88	106.7	0.307	0.4	PASS
	3DH5	HCH	2.88	106.7	0.307	0.4	PASS

Test Graphs	
GFSK_DH5/LCH	

GFSK_DH5/MCH	
GFSK_DH5/HCH	

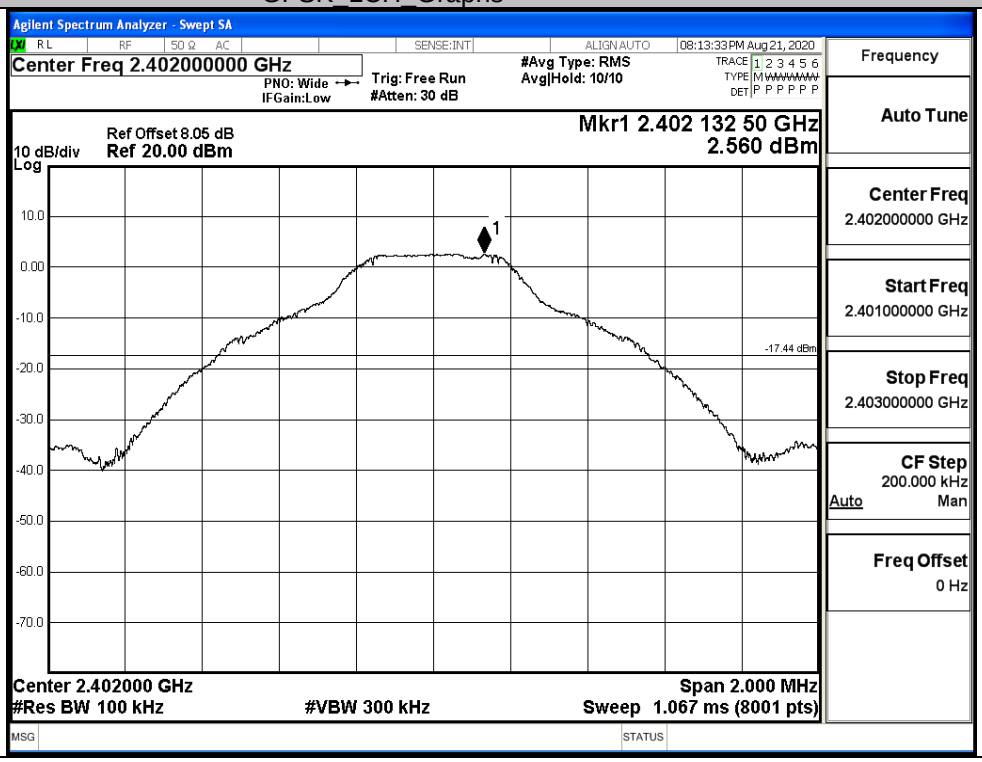
π/4DQPSK _2DH5/LCH	
π/4DQPSK _2DH5/MCH	

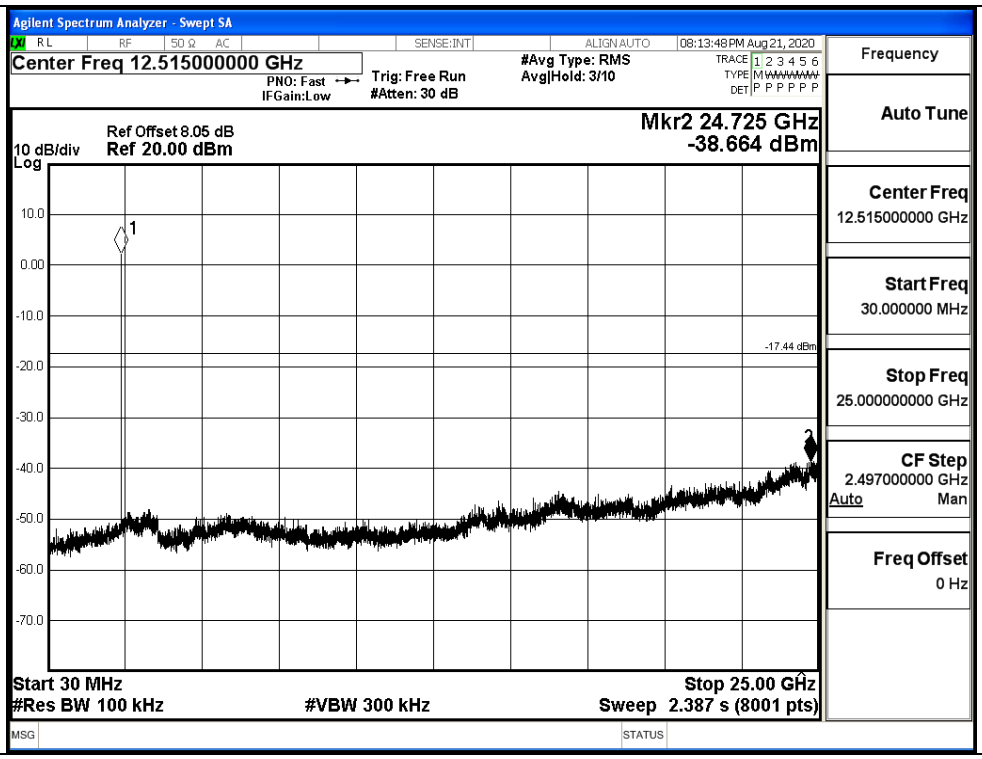
π/4DQPSK _2DH5/HCH	
8DPSK _3DH5/LCH	

8DPSK _3DH5/MCH	
8DPSK _3DH5/HCH	

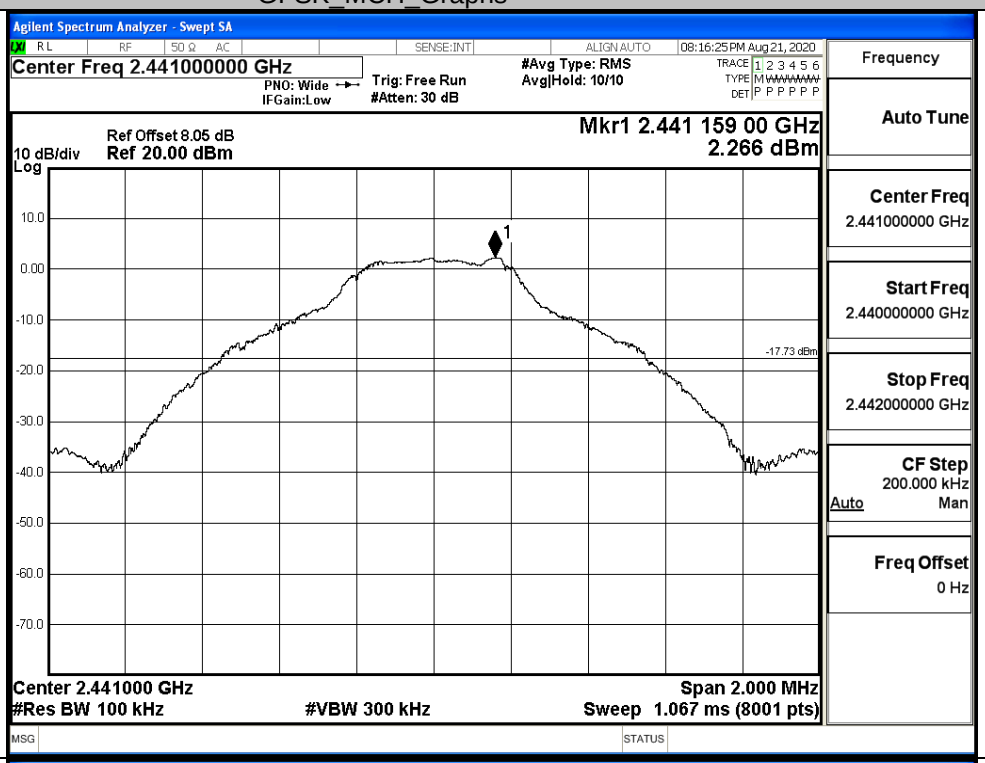
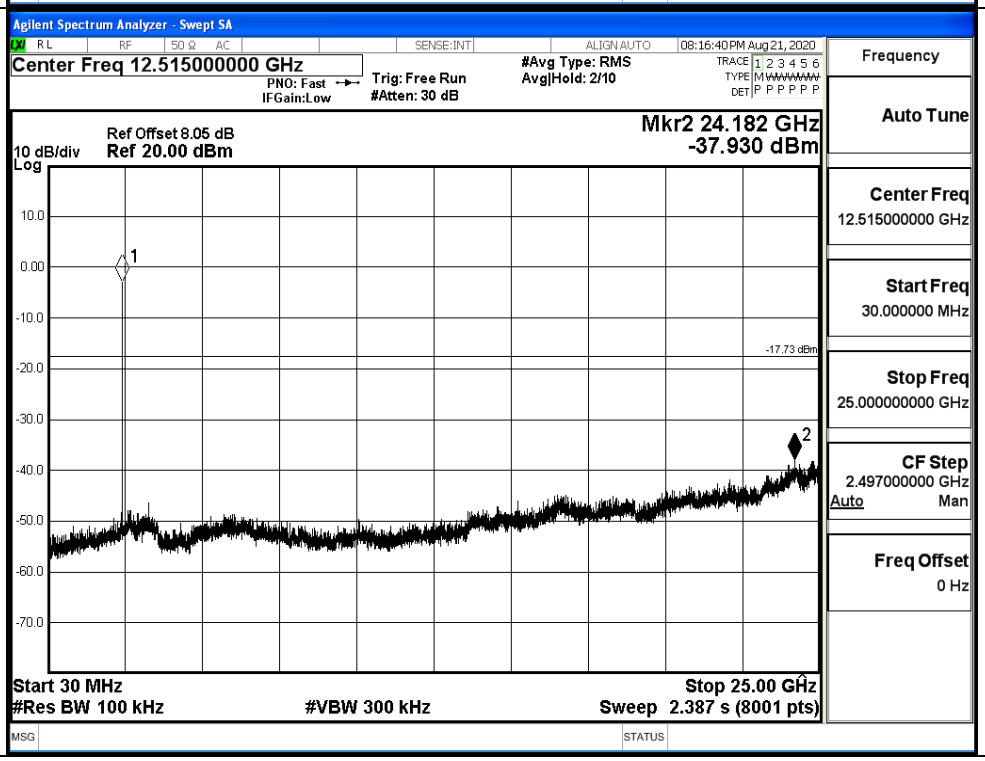
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.56	-38.664	-17.440	PASS
	MCH	2.266	-37.930	-17.734	PASS
	HCH	0.769	-38.079	-19.231	PASS
π/4DQPSK	LCH	-1.699	-38.037	-21.699	PASS
	MCH	-0.298	-37.431	-20.298	PASS
	HCH	-2.63	-37.745	-22.630	PASS
8DPSK	LCH	-1.033	-37.985	-21.033	PASS
	MCH	-0.222	-38.351	-20.222	PASS
	HCH	-1.813	-37.911	-21.813	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: 3/10
08:13:48 PM Aug 21, 2020
Ref Offset 8.05 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr2 24.725 GHz
-38.664 dBm
-17.44 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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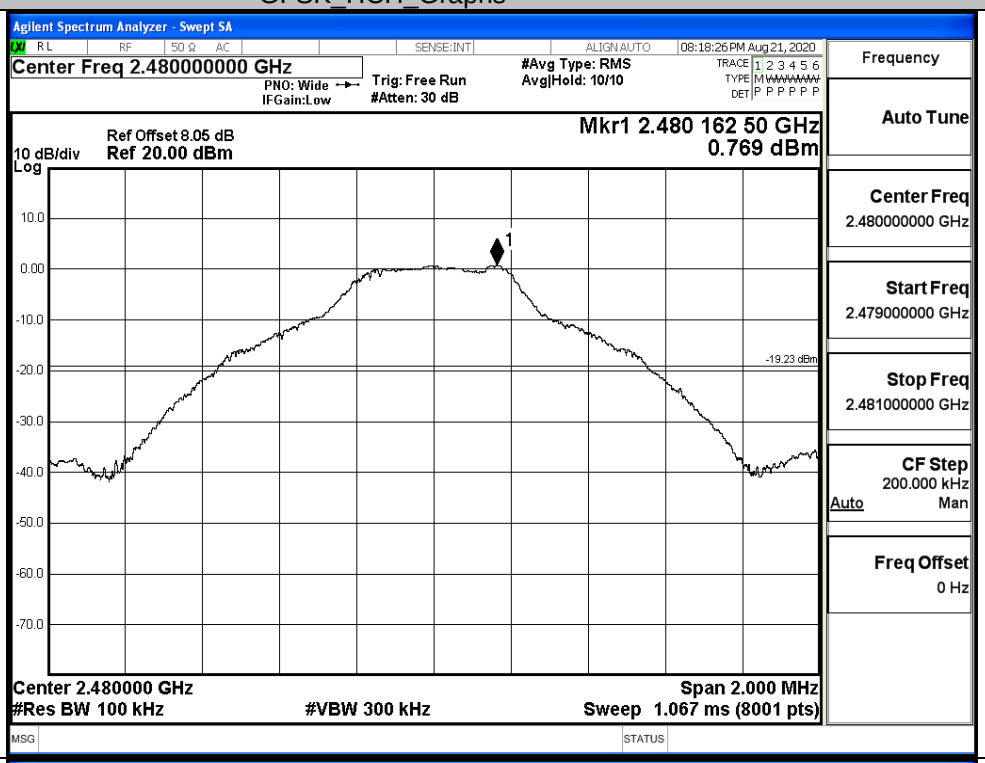
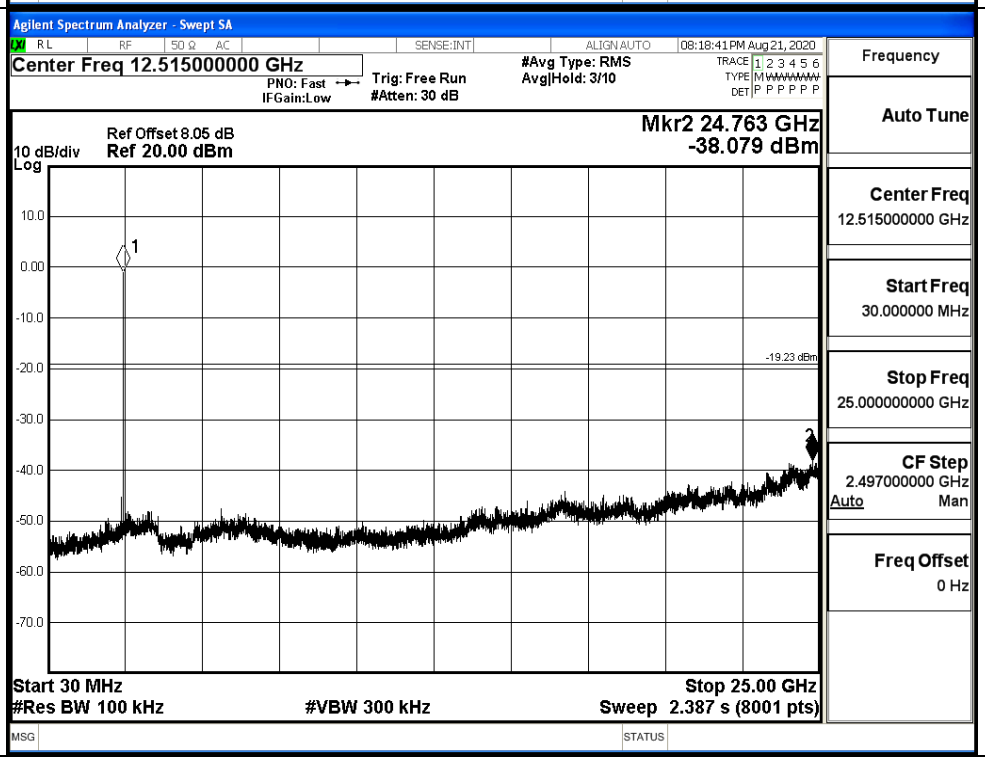
Pref			
Puw			

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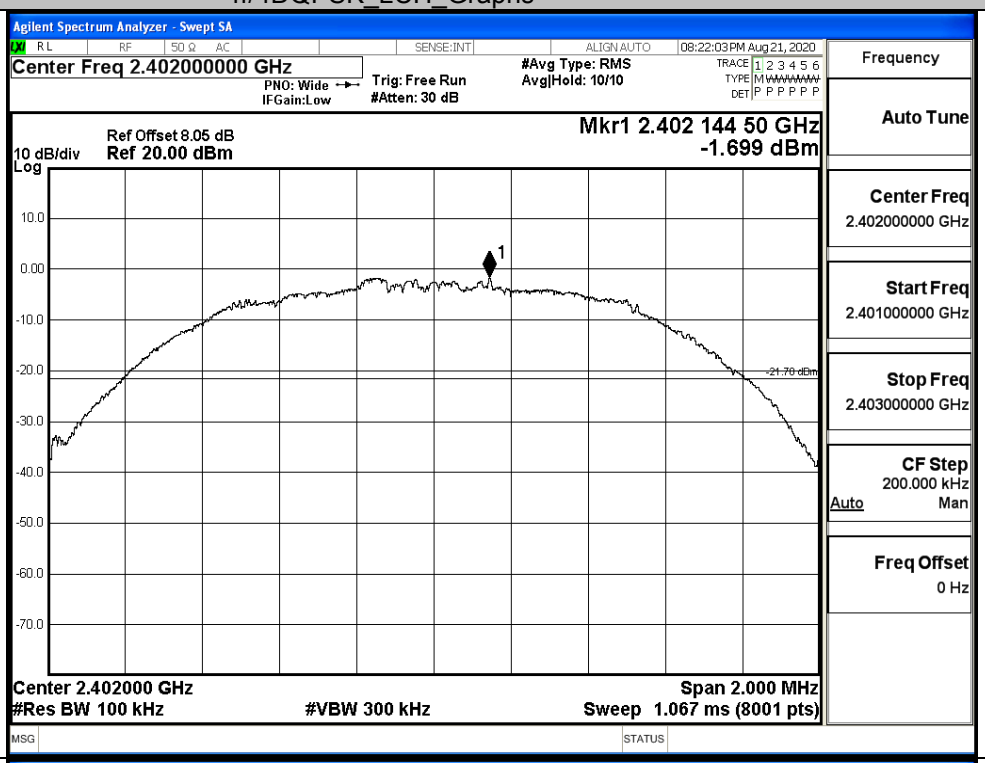
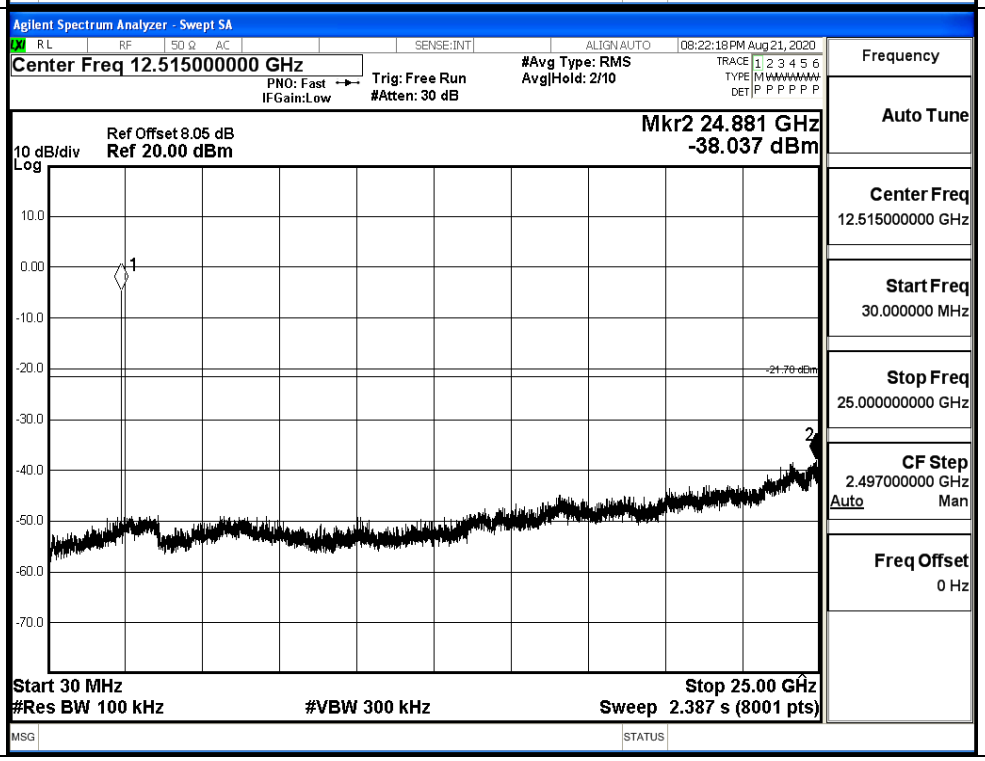
Pref		
Puw		

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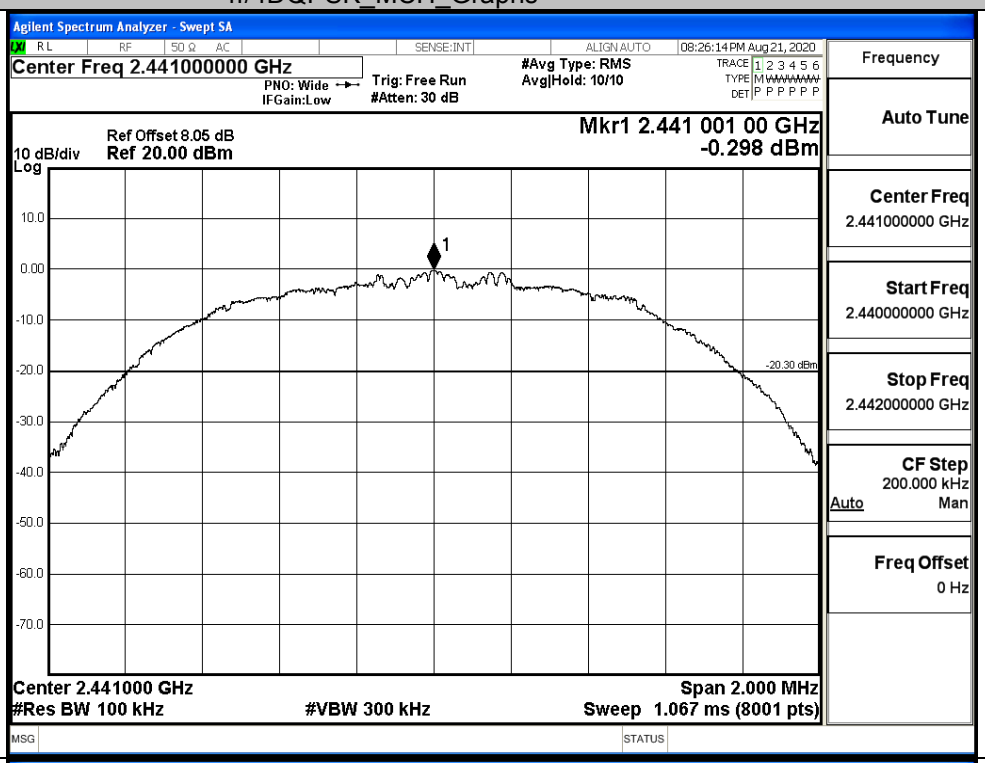
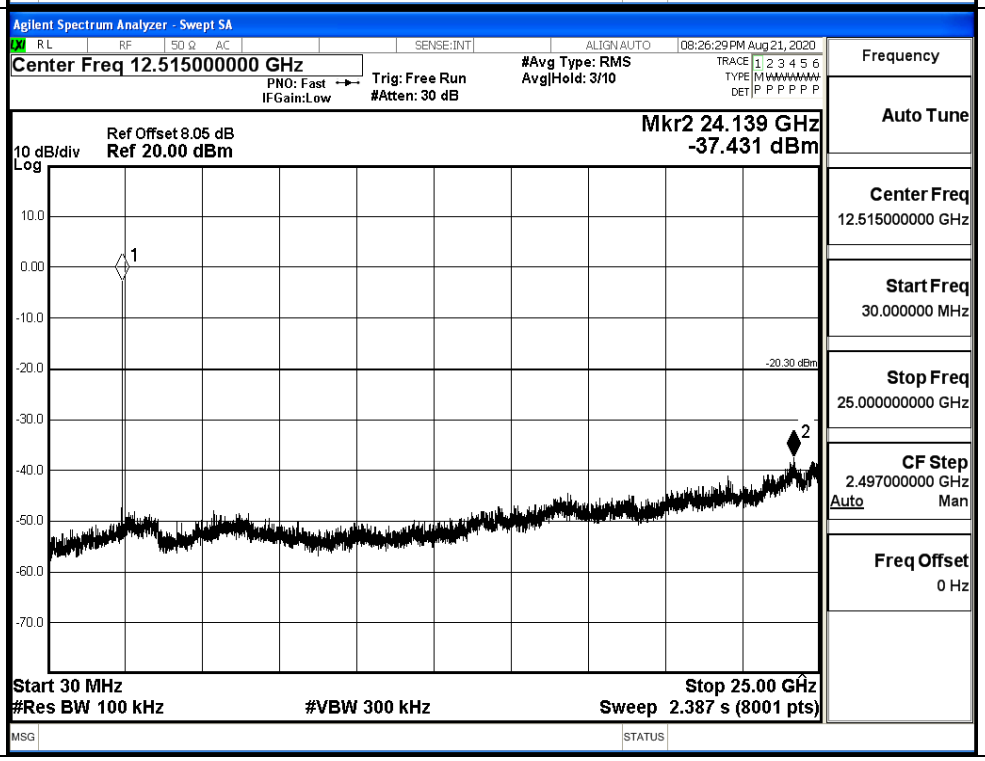
Pref		
Puw		

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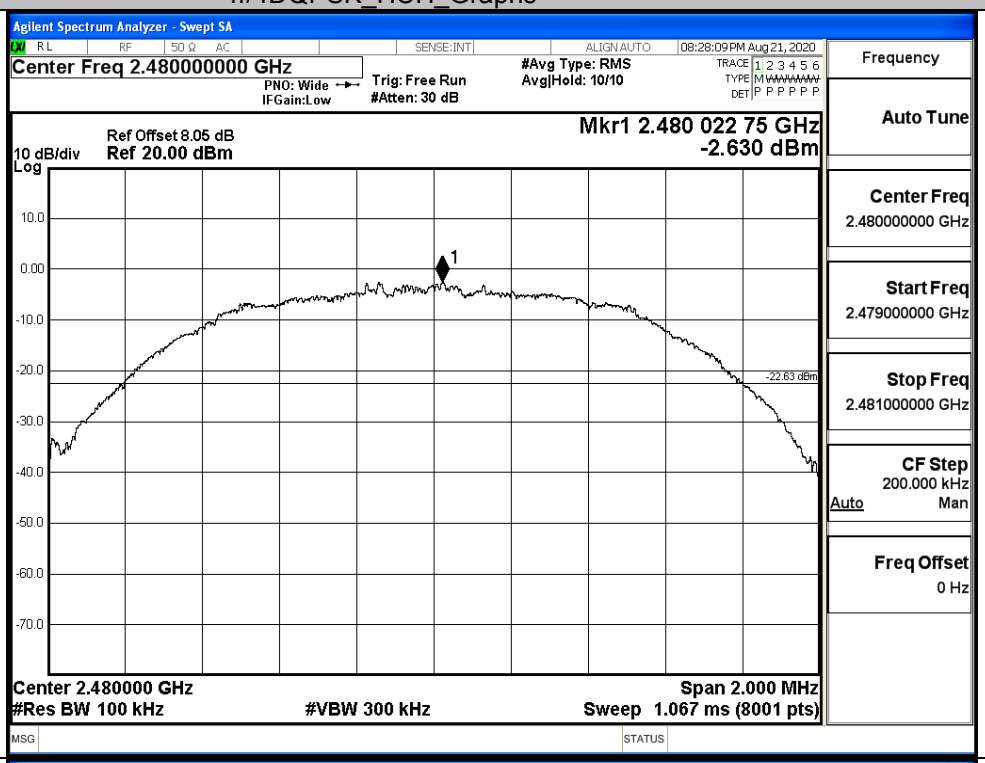
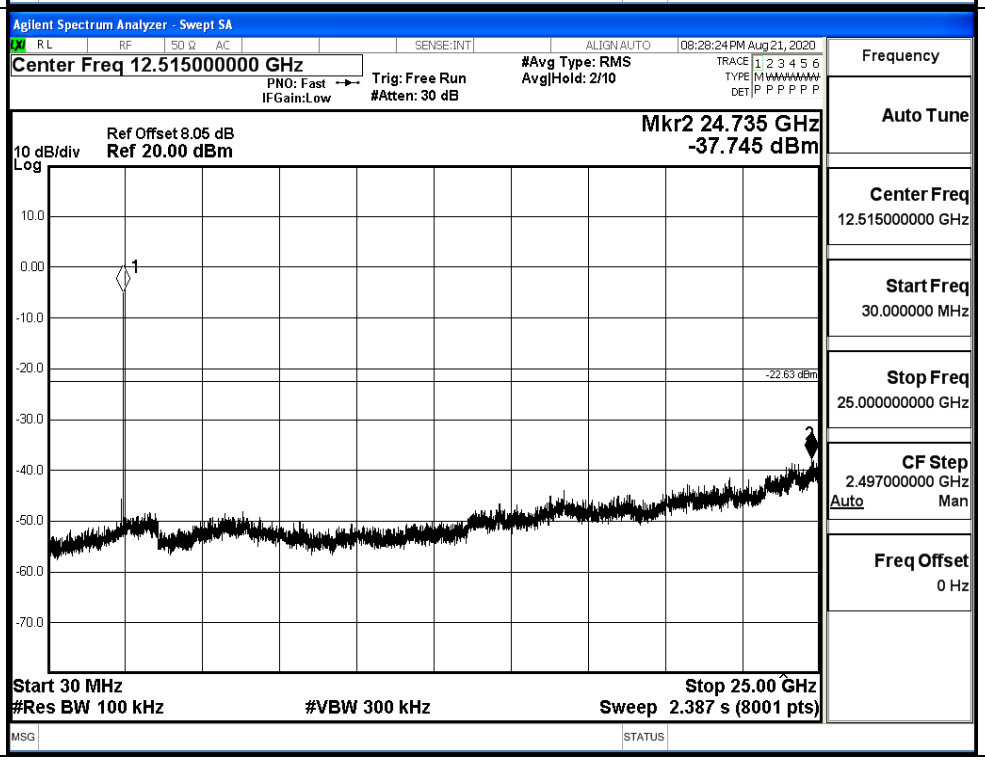
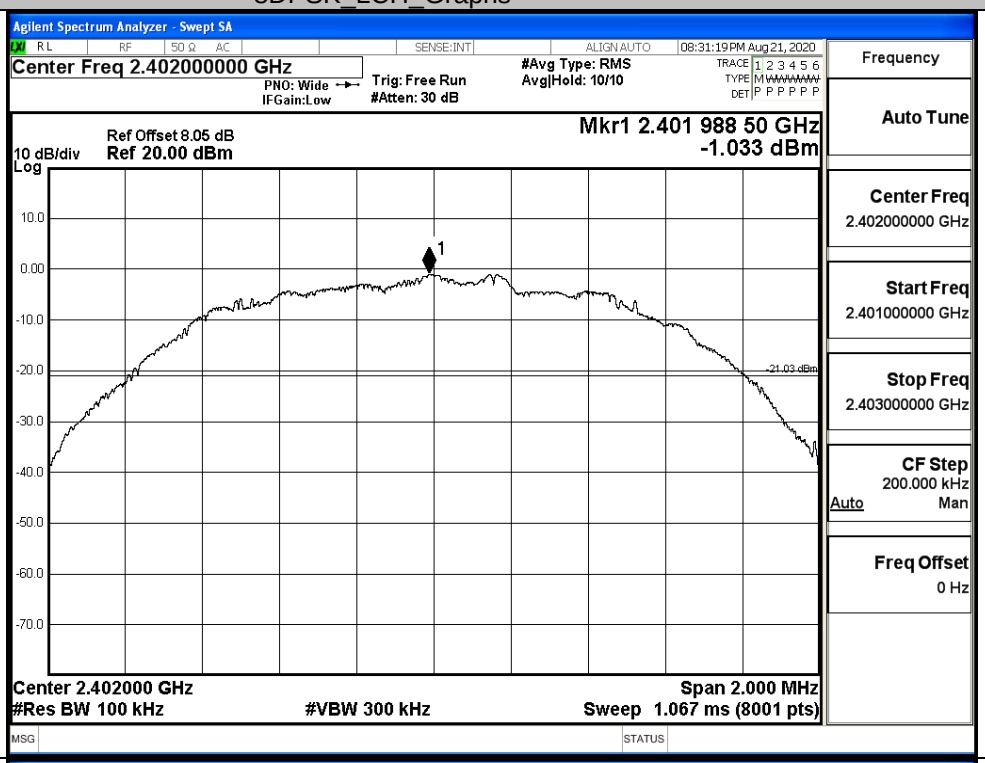
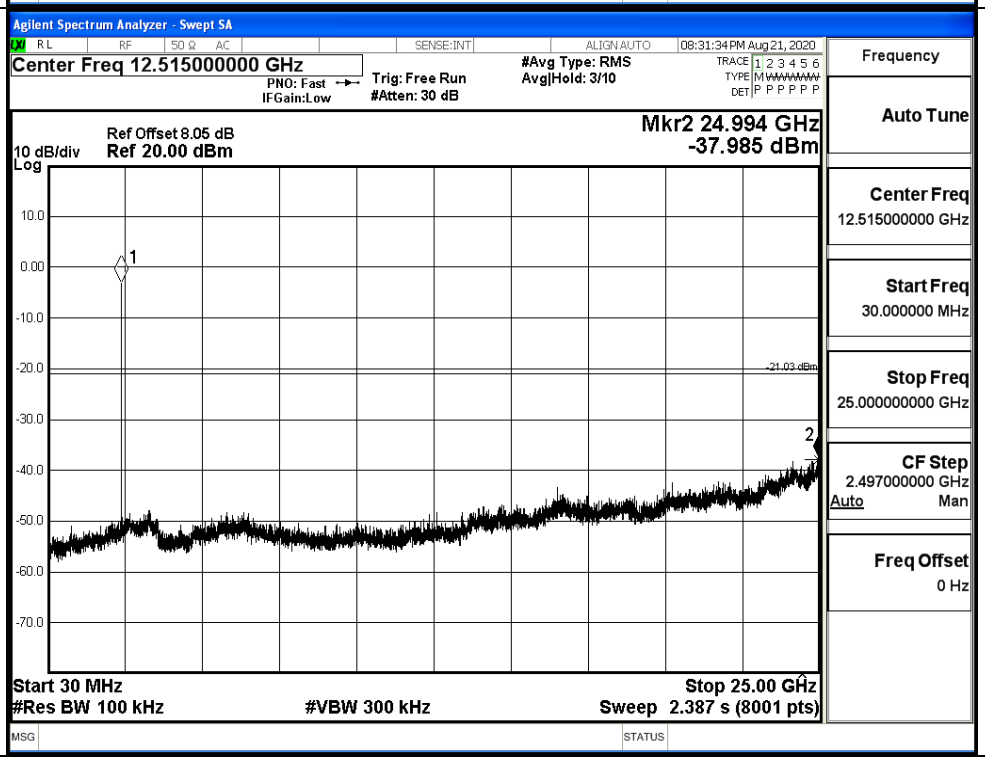
Pref		
Puw		

8DPSK_LCH_Graphs		
Pref		
Puw		

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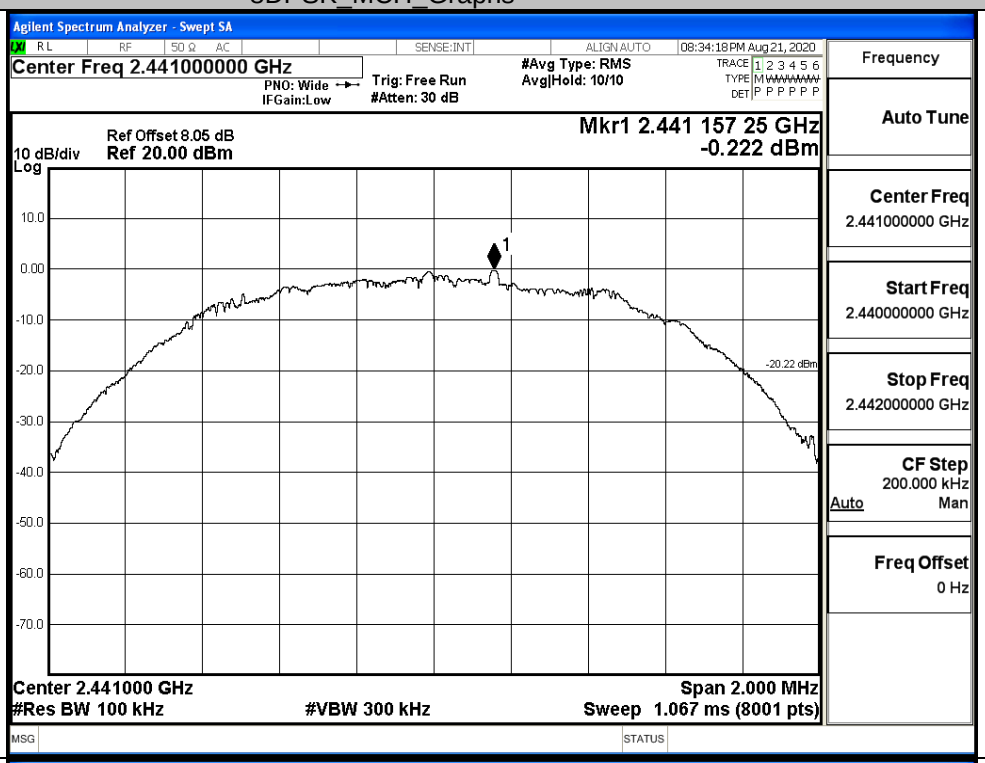
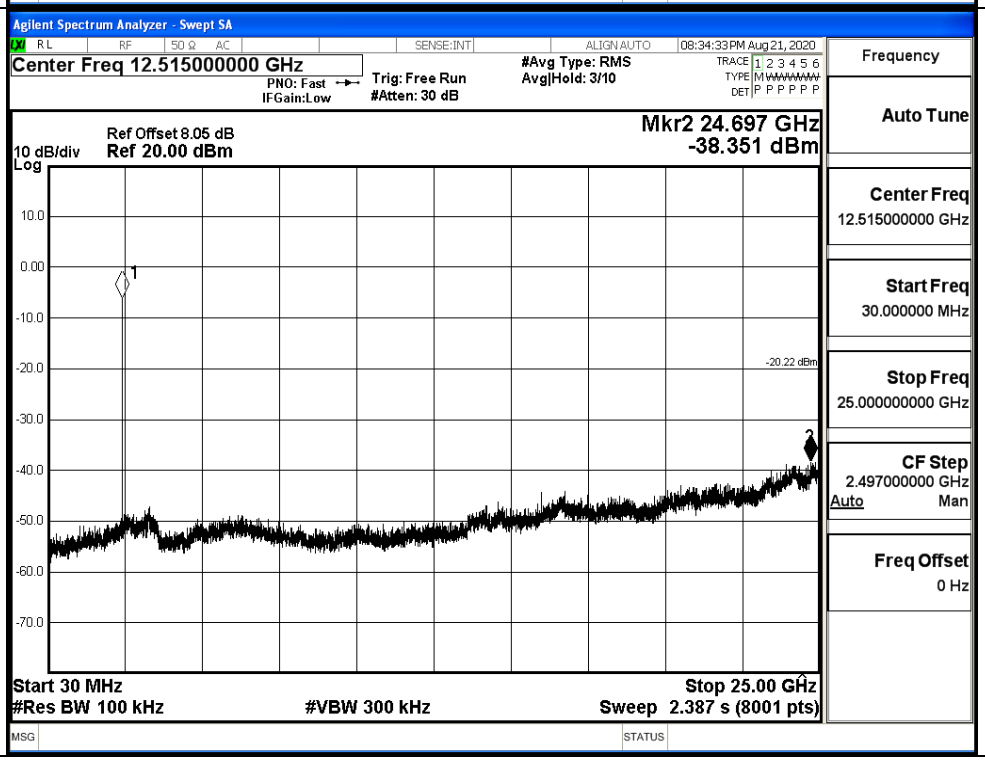
Pref			
Puw			

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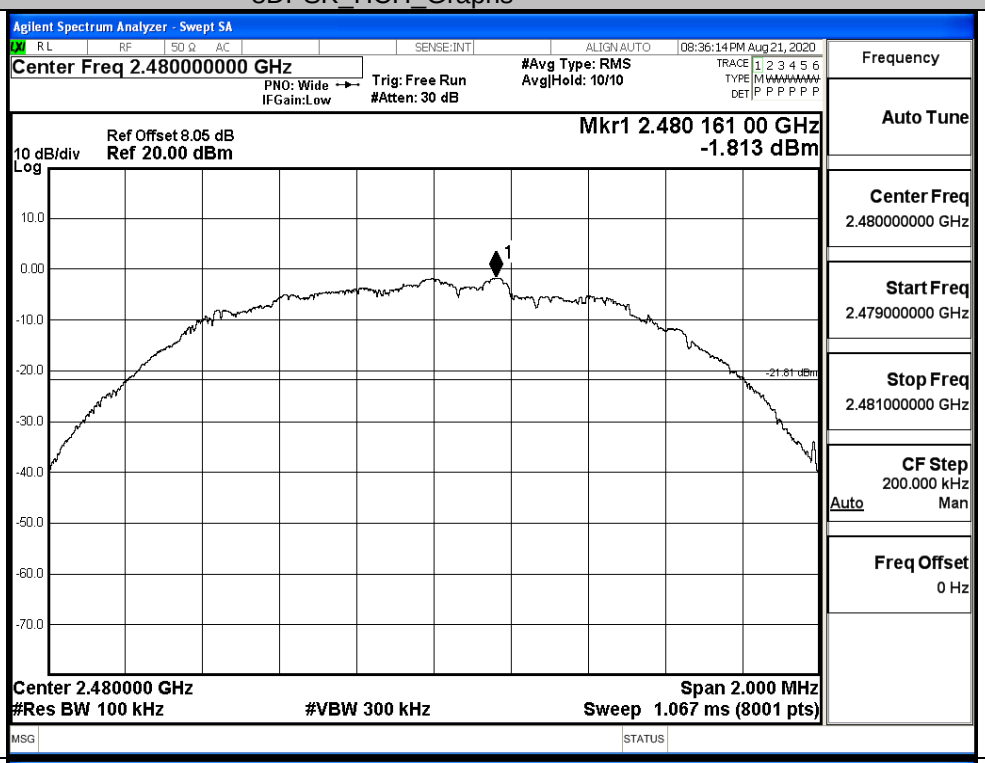
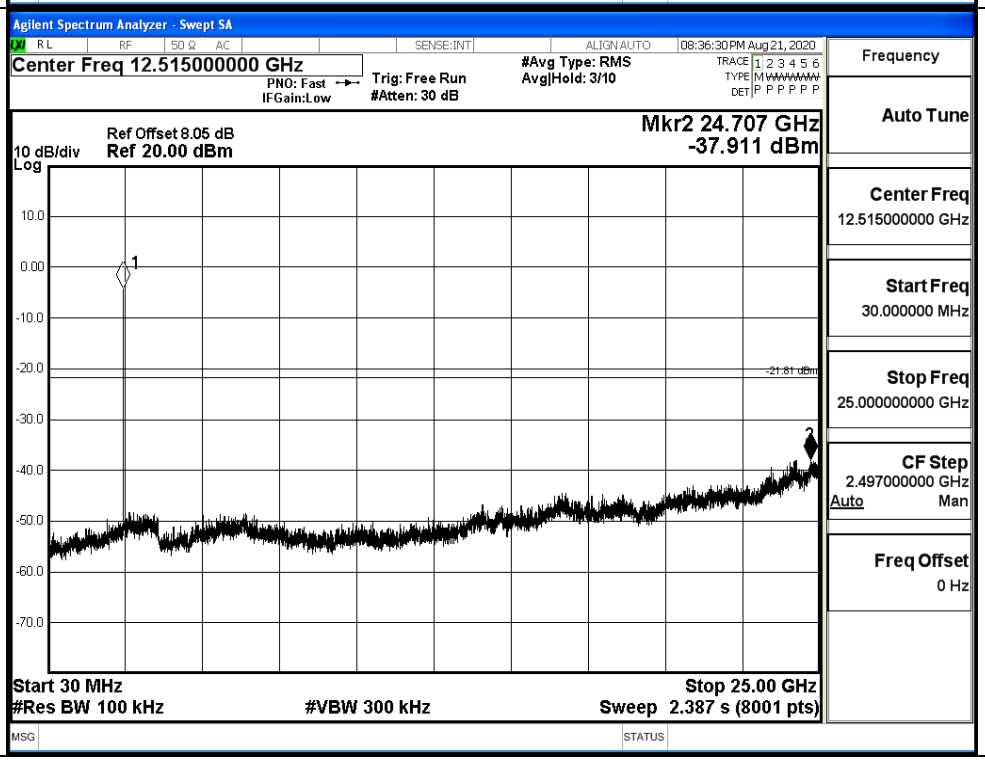
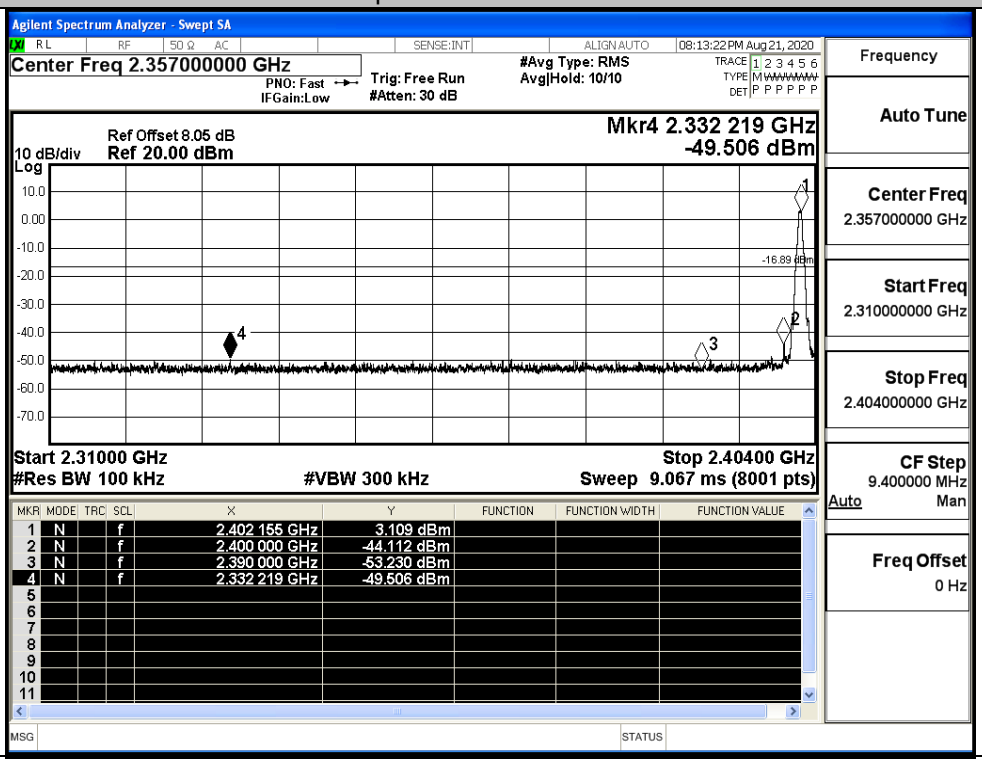
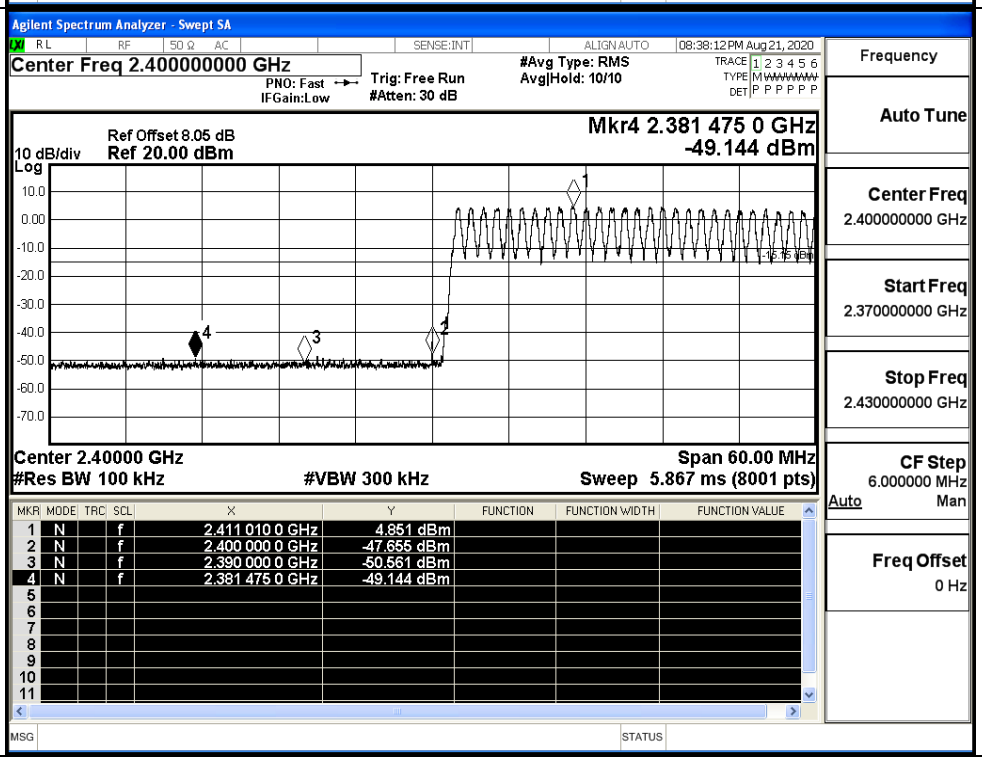
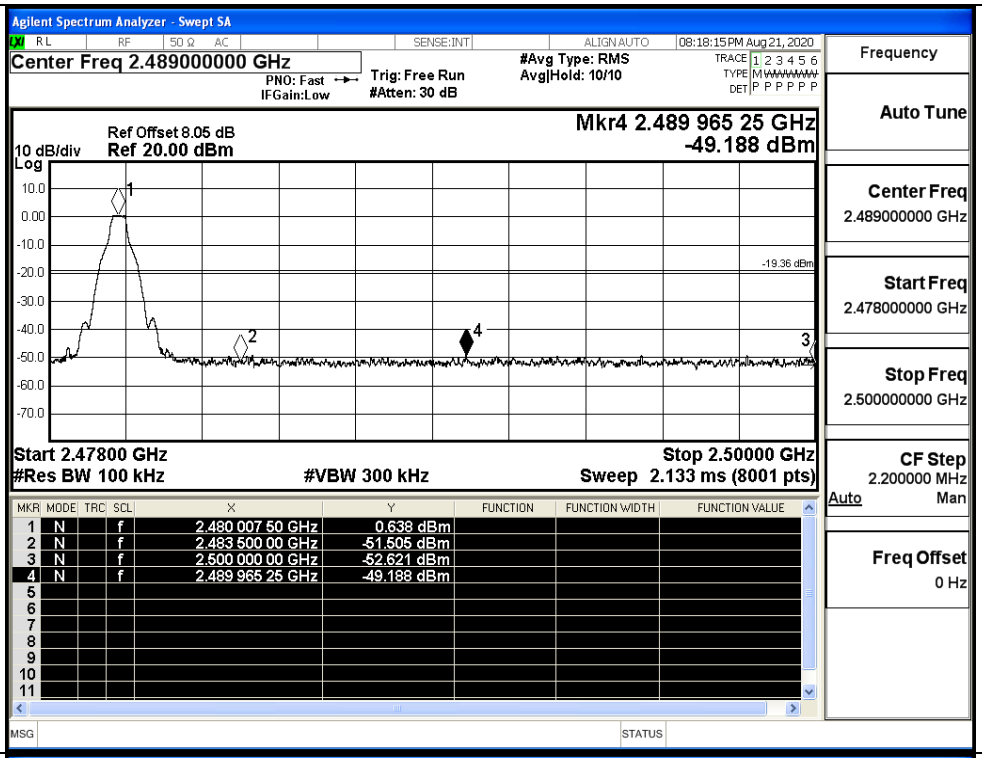
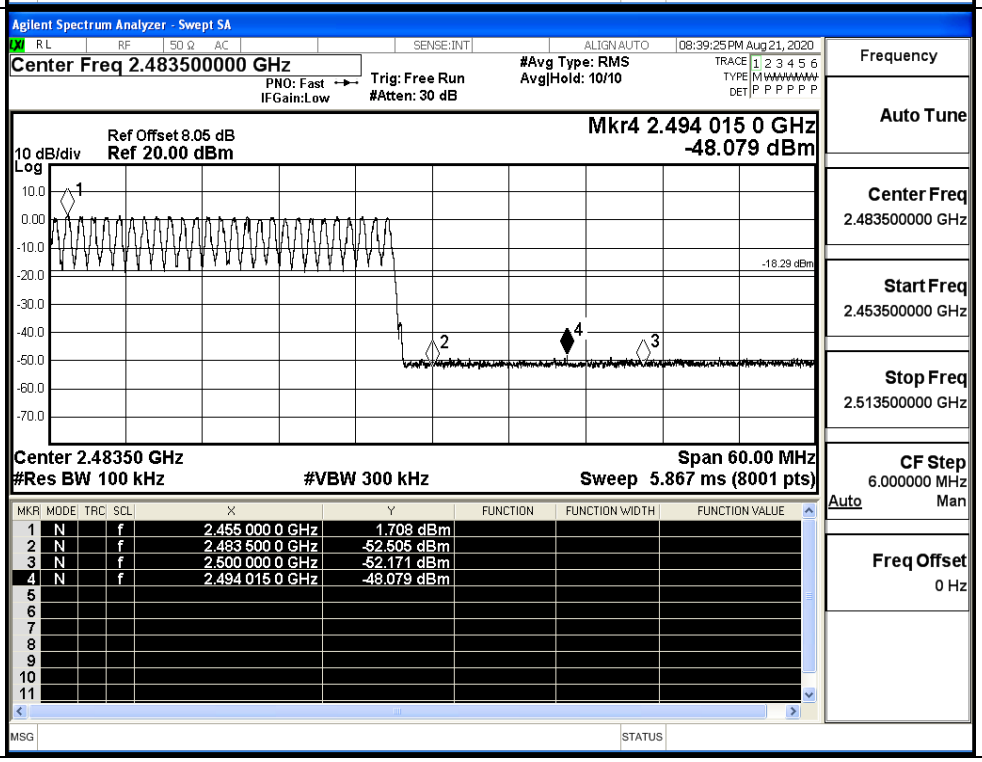
Pref		
Puw		

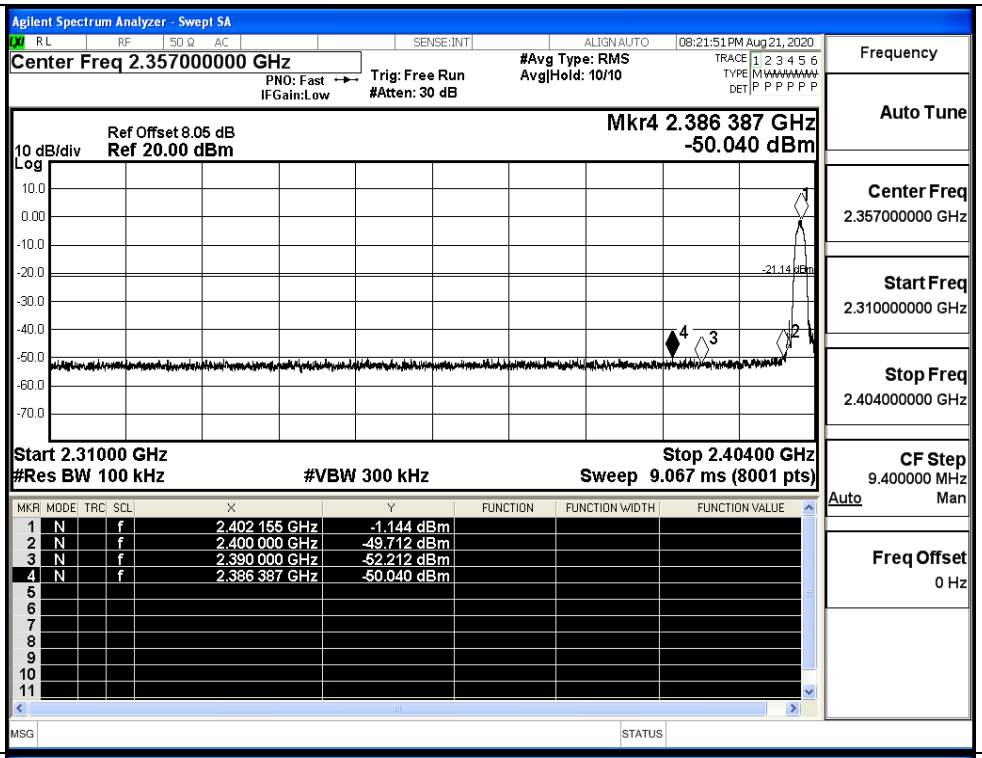
A.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	3.109	Off	-49.506	-16.89	PASS
			4.851	On	-49.144	-15.15	PASS
	HCH	2480	0.638	Off	-49.188	-19.36	PASS
			1.708	On	-48.079	-18.29	PASS
π/4DQPSK	LCH	2402	-1.144	Off	-50.040	-21.14	PASS
			3.246	On	-48.901	-16.75	PASS
	HCH	2480	-2.055	Off	-48.950	-22.06	PASS
			-0.792	On	-48.416	-20.79	PASS
8DPSK	LCH	2402	-1.097	Off	-49.491	-21.1	PASS
			2.443	On	-48.906	-17.56	PASS
	HCH	2480	-1.747	Off	-49.123	-21.75	PASS
			-0.335	On	-48.321	-20.34	PASS

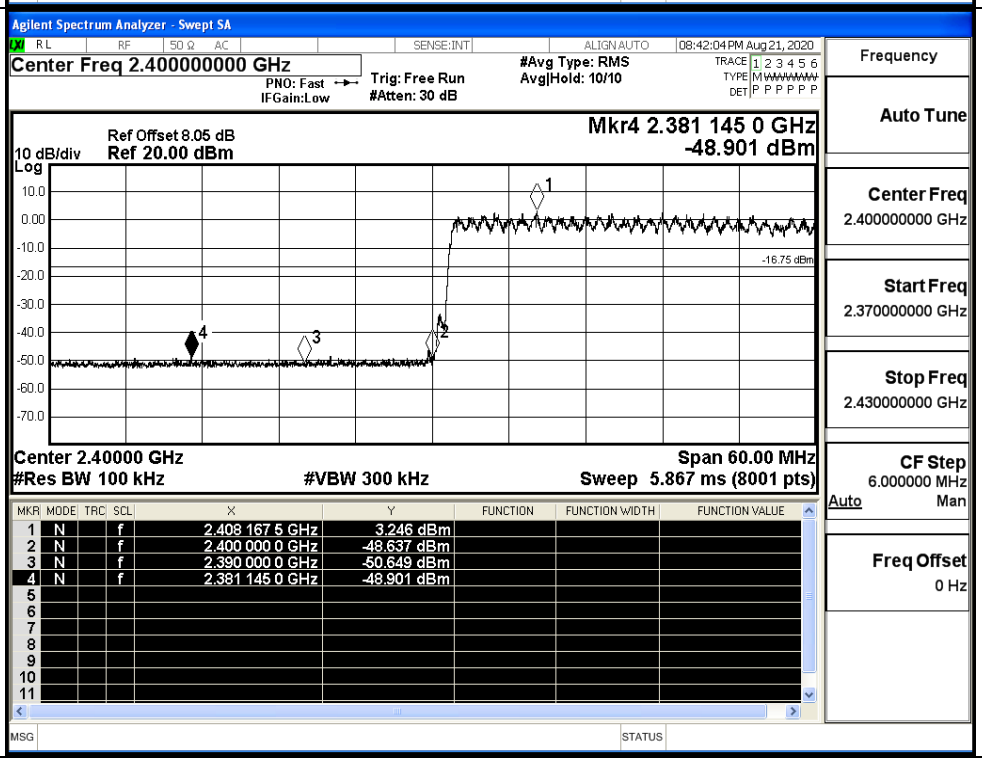
Test Graphs	
GFSK/LCH/No Hop	
GFSK/LCH/Hop	

GFSK/HCH/No Hop	
GFSK/HCH/Hop	

π/4DQPSK/LCH/No Hop



π/4DQPSK/LCH/Hop



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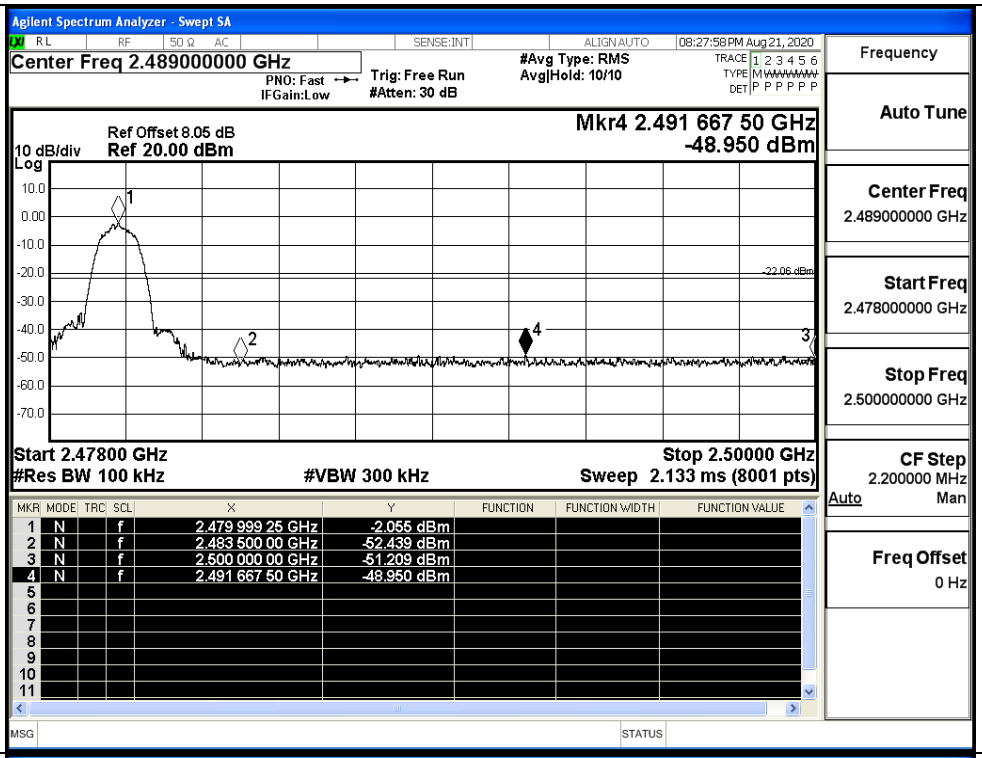

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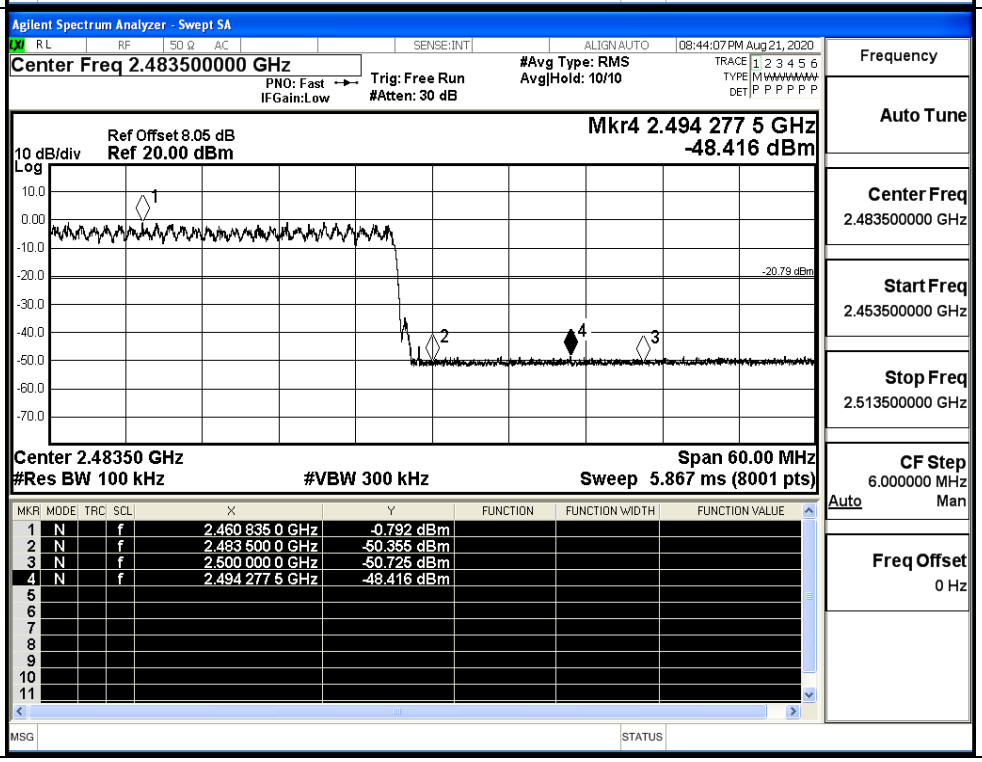
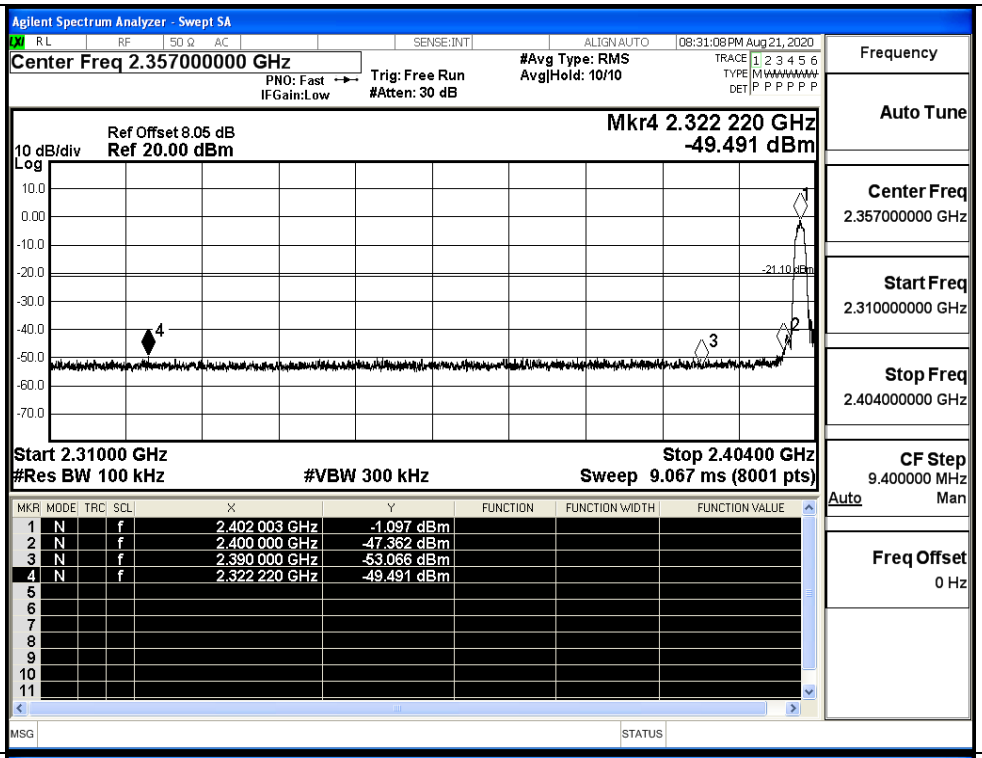
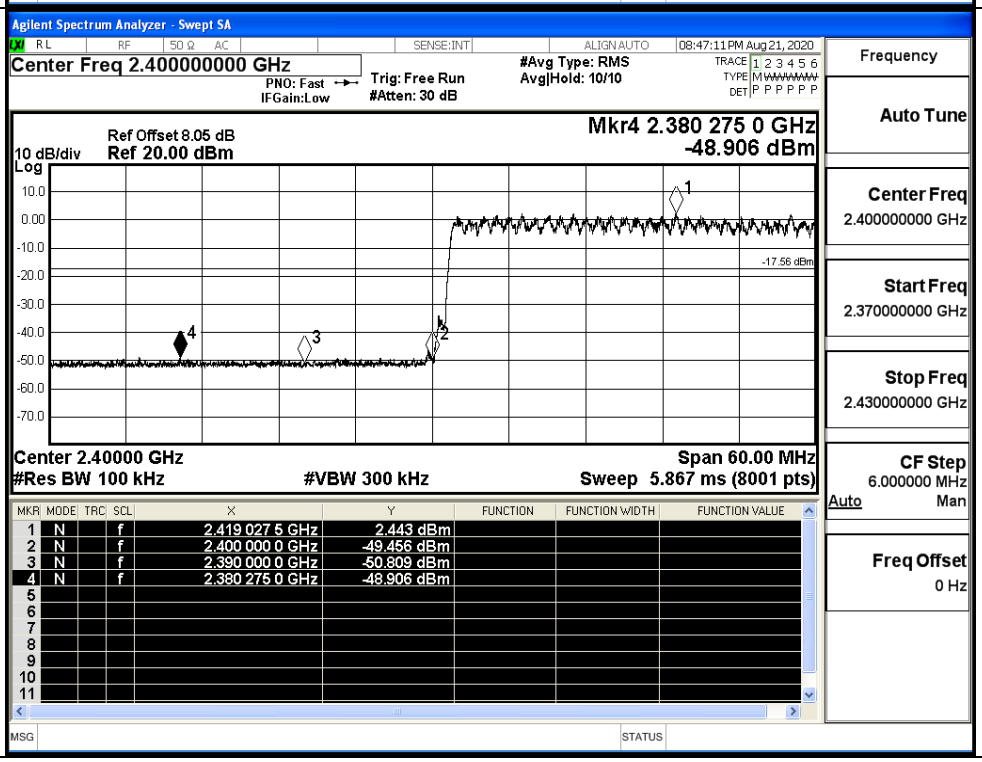
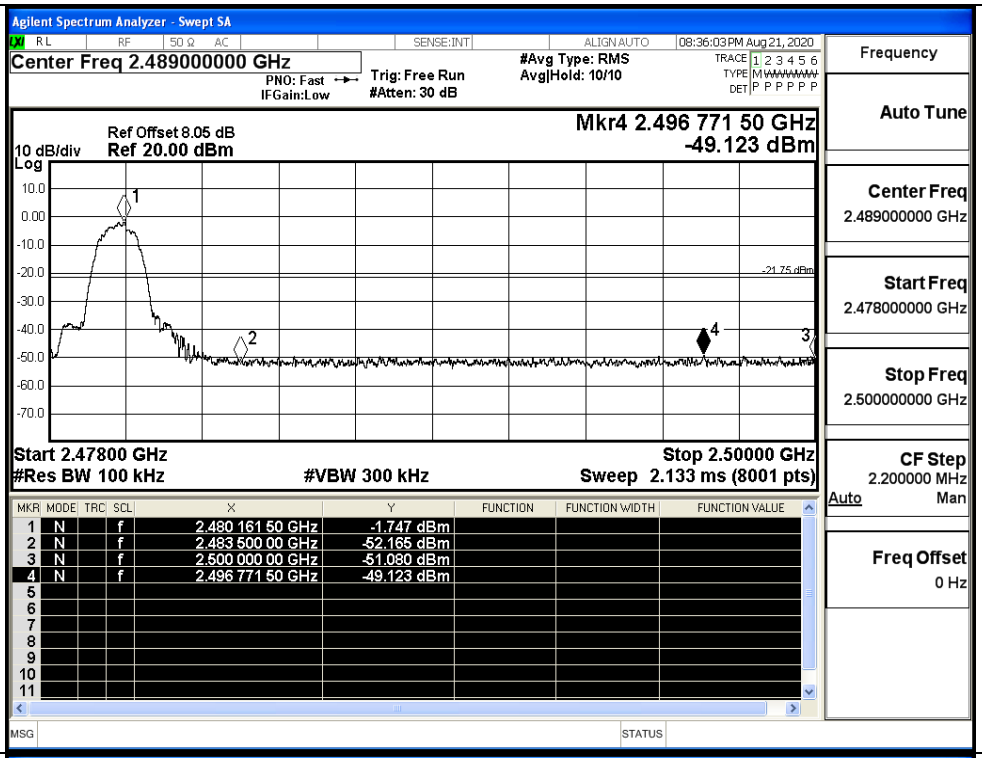
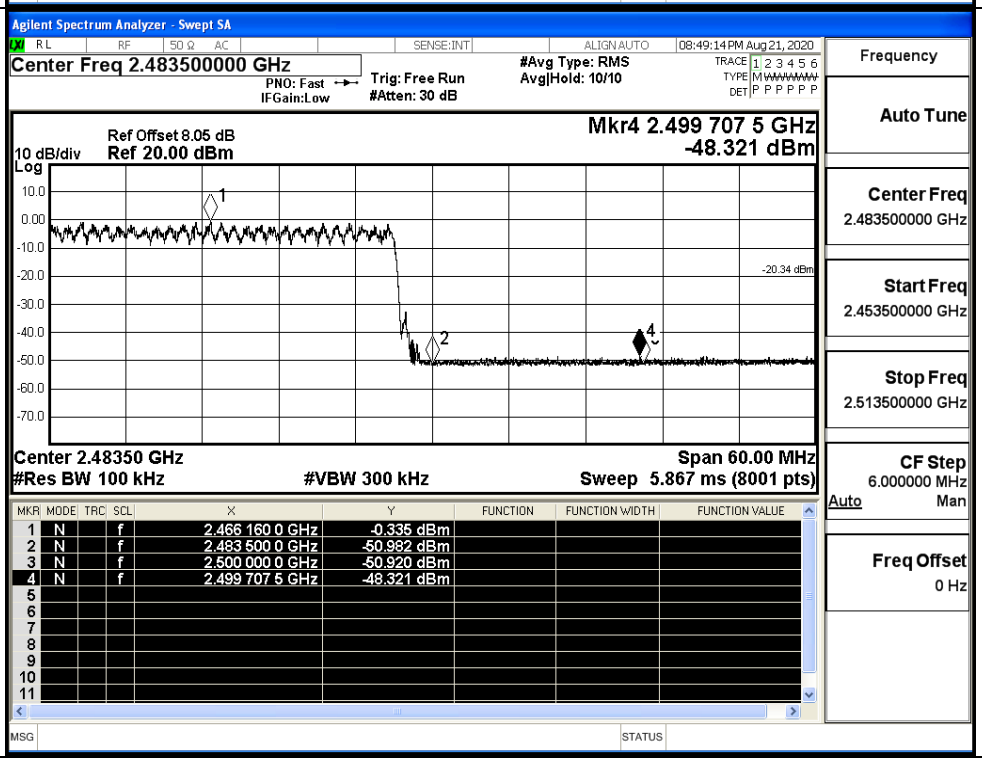


8DPSK/LCH/No Hop	
8DPSK/LCH/Hop	

8DPSK/HCH/No Hop



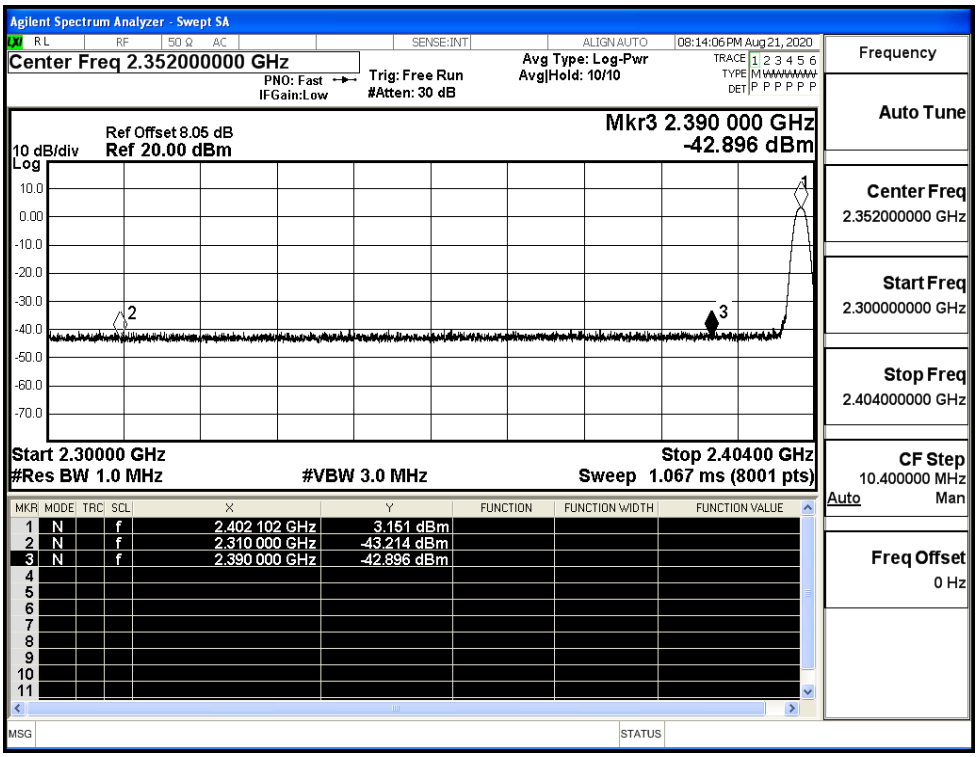
8DPSK/HCH/Hop



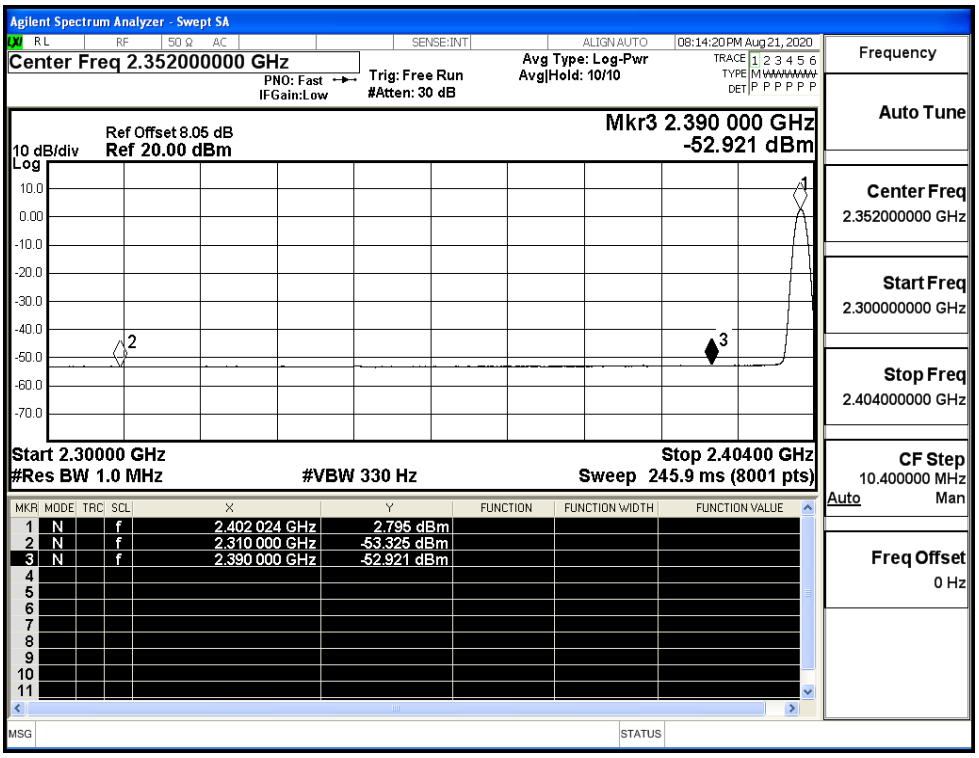
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.21	5	0	57.02	PEAK	74	PASS
	Off	2310.0	-53.33	5	0	46.90	AV	54	PASS
	Off	2390.0	-42.90	5	0	57.33	PEAK	74	PASS
	Off	2390.0	-52.92	5	0	47.31	AV	54	PASS
	Off	2483.5	-40.44	5	0	59.79	PEAK	74	PASS
	Off	2483.5	-52.24	5	0	47.99	AV	54	PASS
	Off	2500.0	-41.92	5	0	58.31	PEAK	74	PASS
	Off	2500.0	-52.24	5	0	47.99	AV	54	PASS
π/4DQPSK	Off	2310.0	-42.86	5	0	57.37	PEAK	74	PASS
	Off	2310.0	-53.33	5	0	46.90	AV	54	PASS
	Off	2390.0	-43.47	5	0	56.76	PEAK	74	PASS
	Off	2390.0	-52.83	5	0	47.40	AV	54	PASS
	Off	2483.5	-40.44	5	0	59.79	PEAK	74	PASS
	Off	2483.5	-52.09	5	0	48.14	AV	54	PASS
	Off	2500.0	-42.66	5	0	57.57	PEAK	74	PASS
	Off	2500.0	-52.21	5	0	48.02	AV	54	PASS
8DPSK	Off	2310.0	-43.59	5	0	56.64	PEAK	74	PASS
	Off	2310.0	-53.21	5	0	47.02	AV	54	PASS
	Off	2390.0	-43.15	5	0	57.08	PEAK	74	PASS
	Off	2390.0	-52.88	5	0	47.35	AV	54	PASS
	Off	2483.5	-40.27	5	0	59.96	PEAK	74	PASS
	Off	2483.5	-51.99	5	0	48.24	AV	54	PASS
	Off	2500.0	-42.36	5	0	57.87	PEAK	74	PASS
	Off	2500.0	-52.27	5	0	47.96	AV	54	PASS

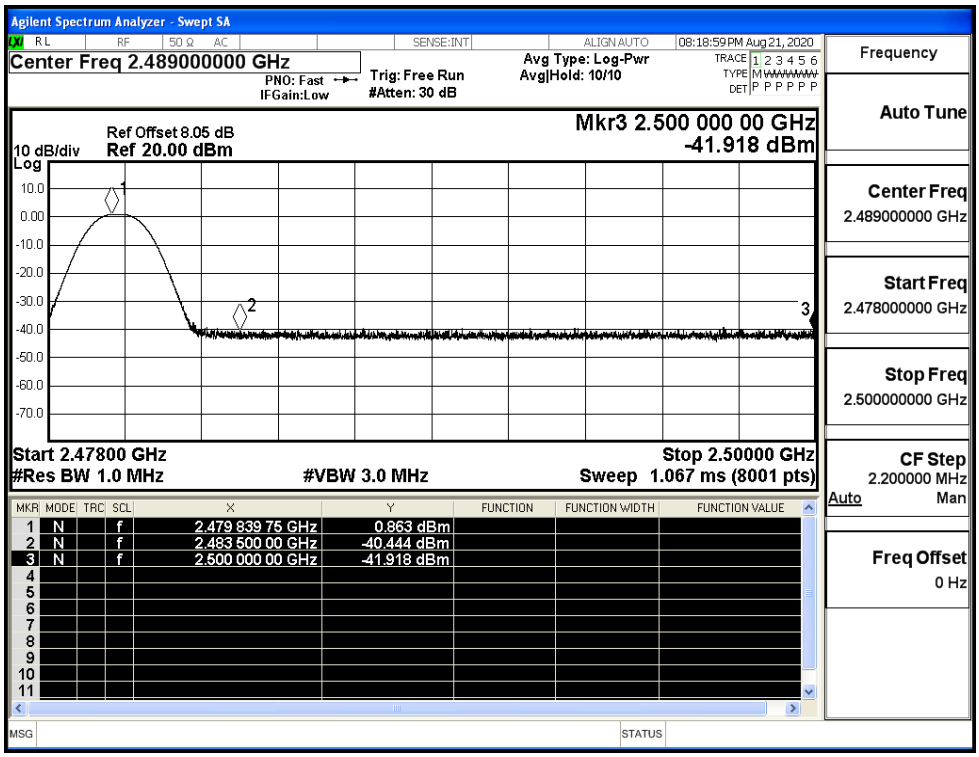
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



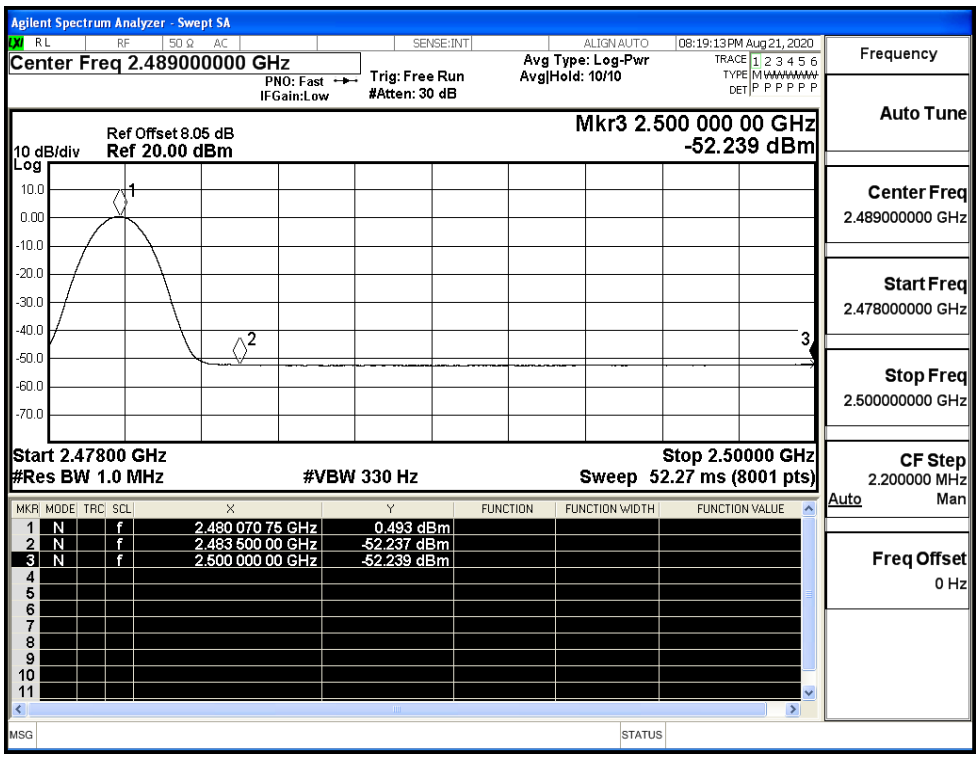
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



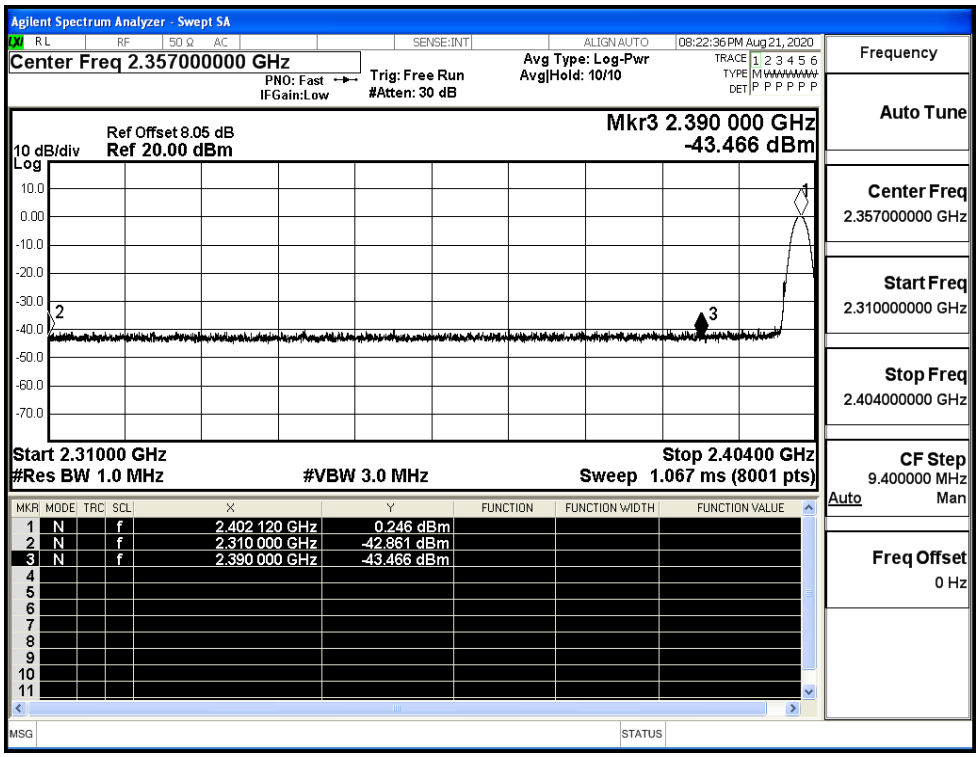
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



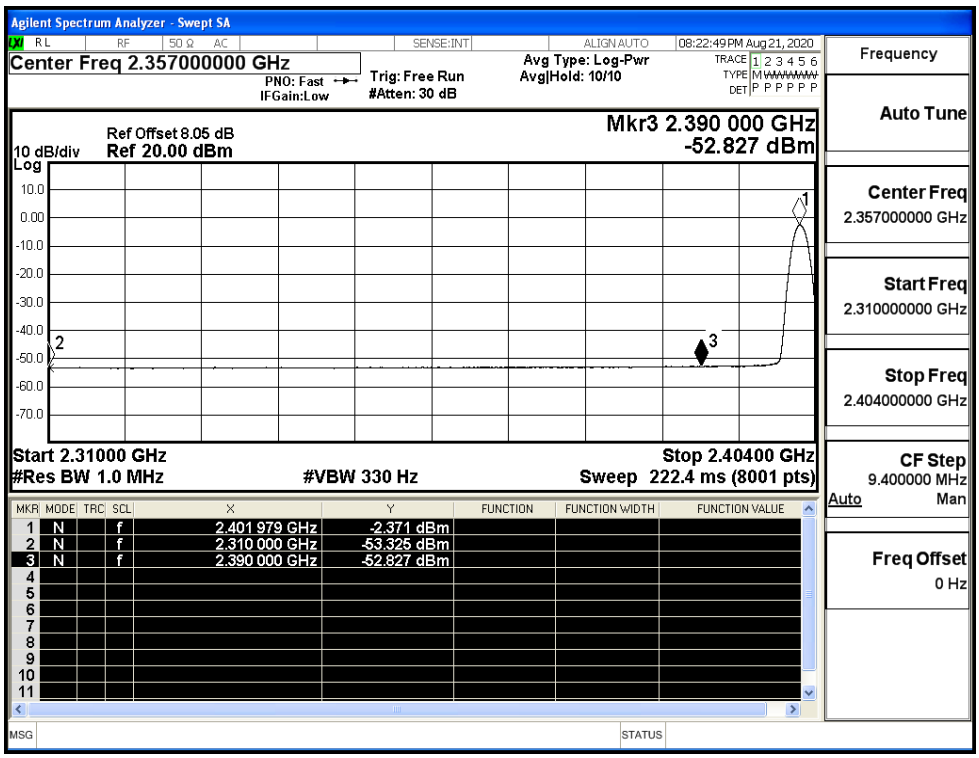
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



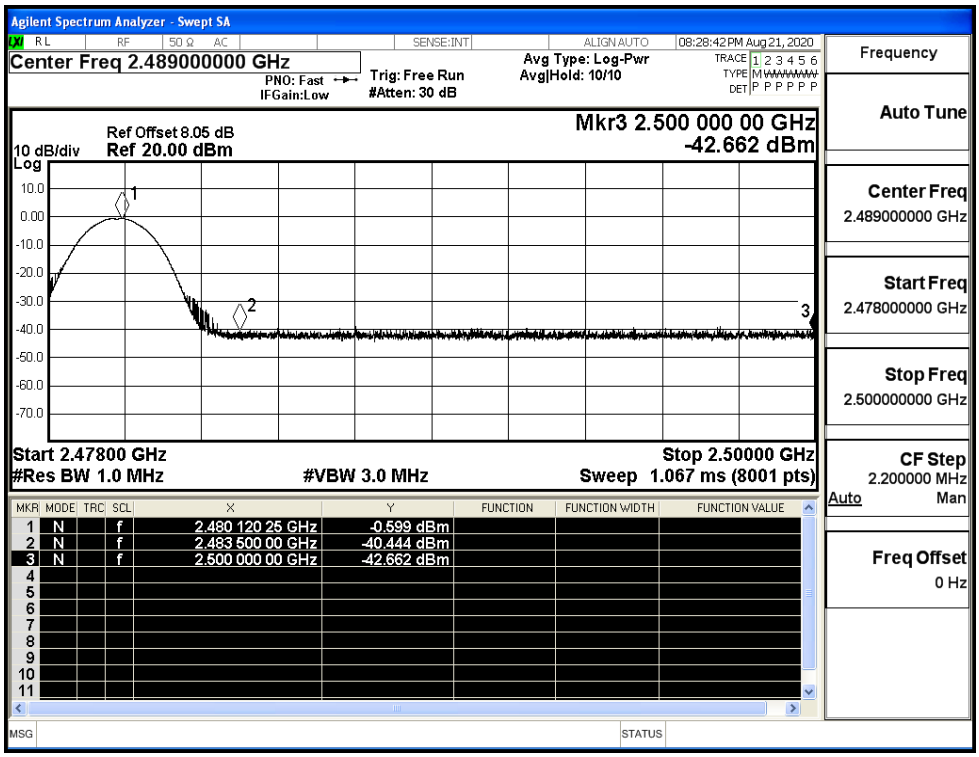
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



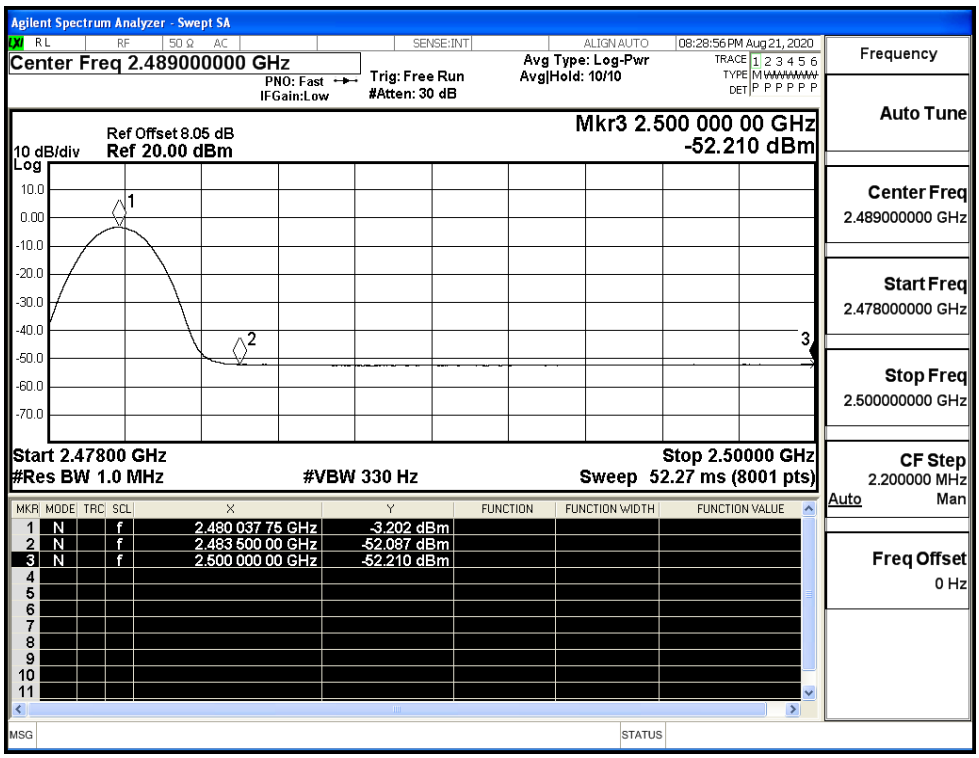
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



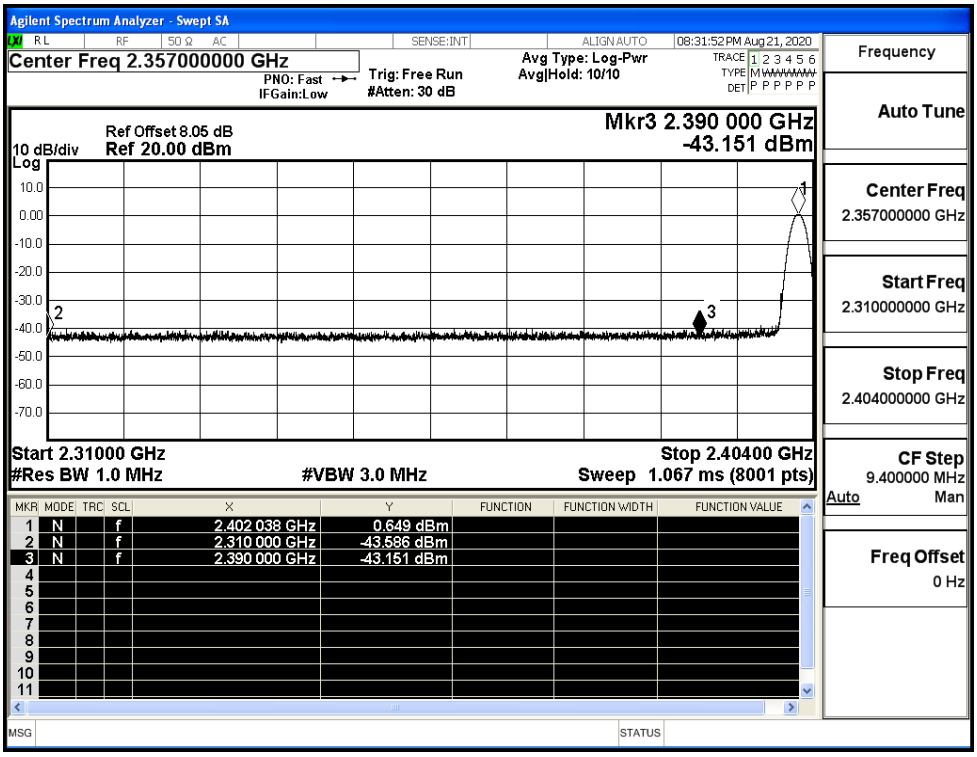
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



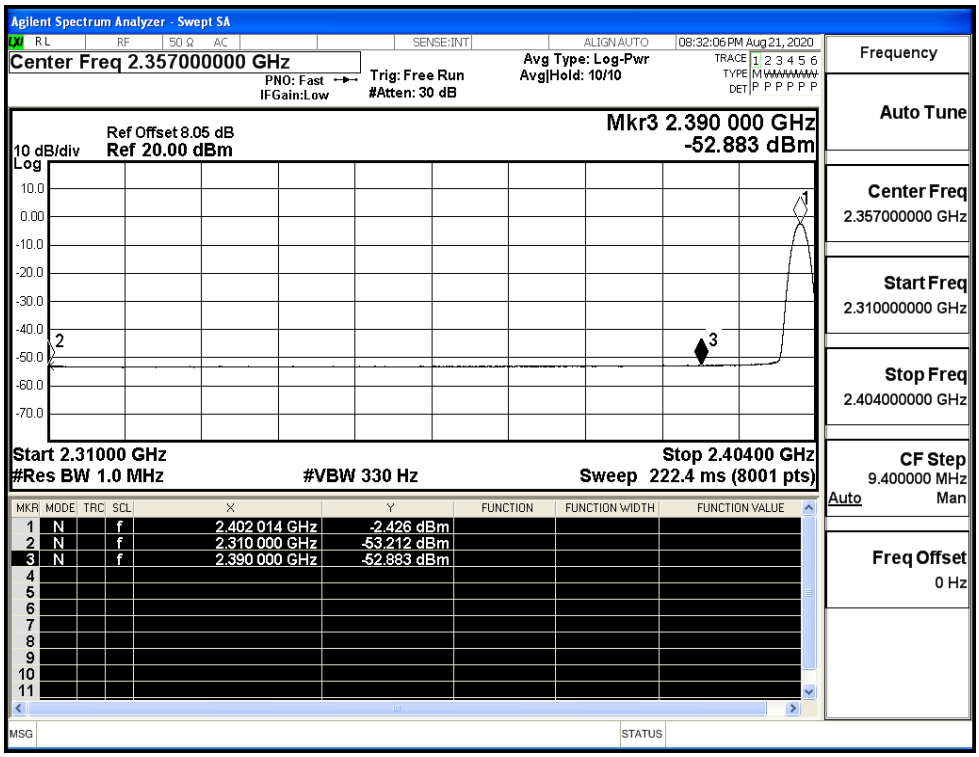
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



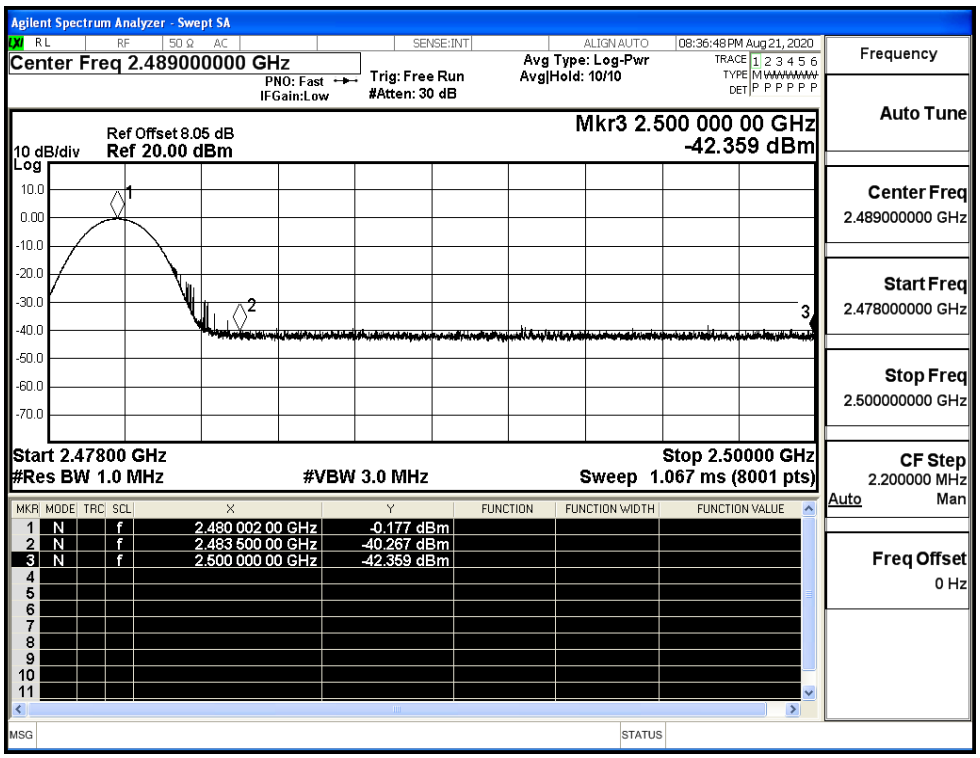
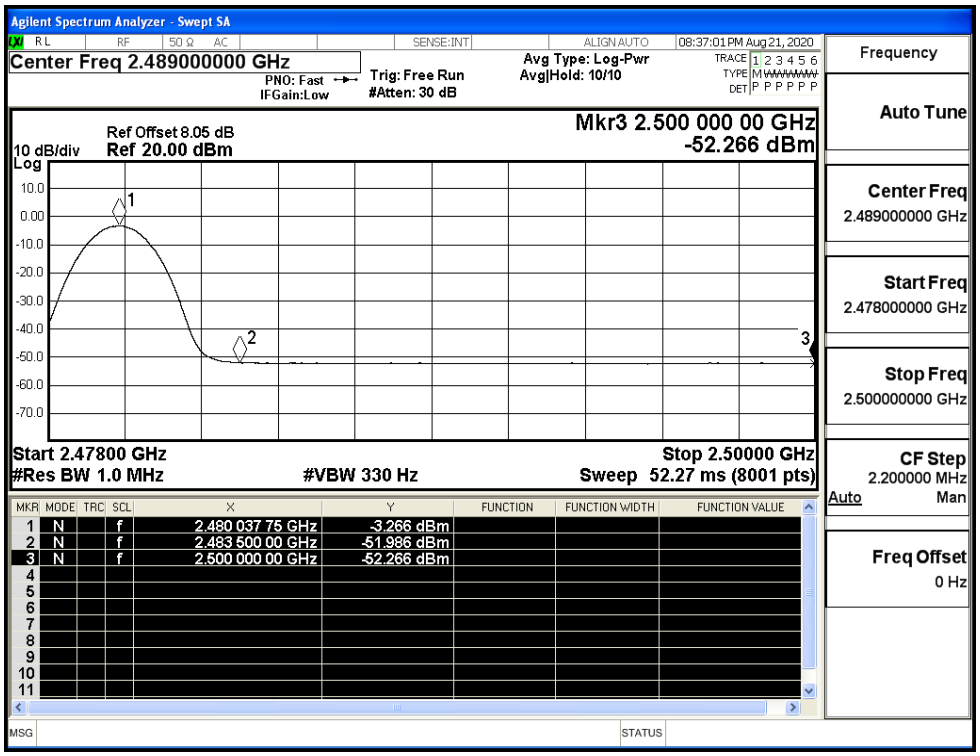
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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



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



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