Appendix A

RF Test Data for BT V4.2 (BDR/EDR) (Conducted Measurement)

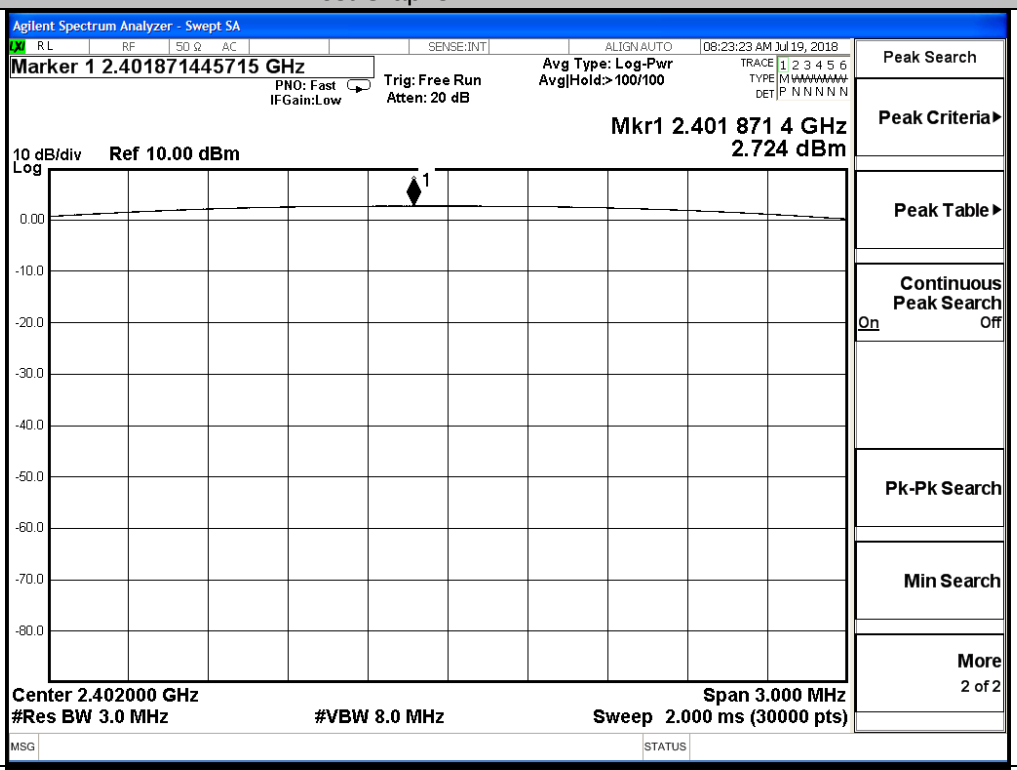
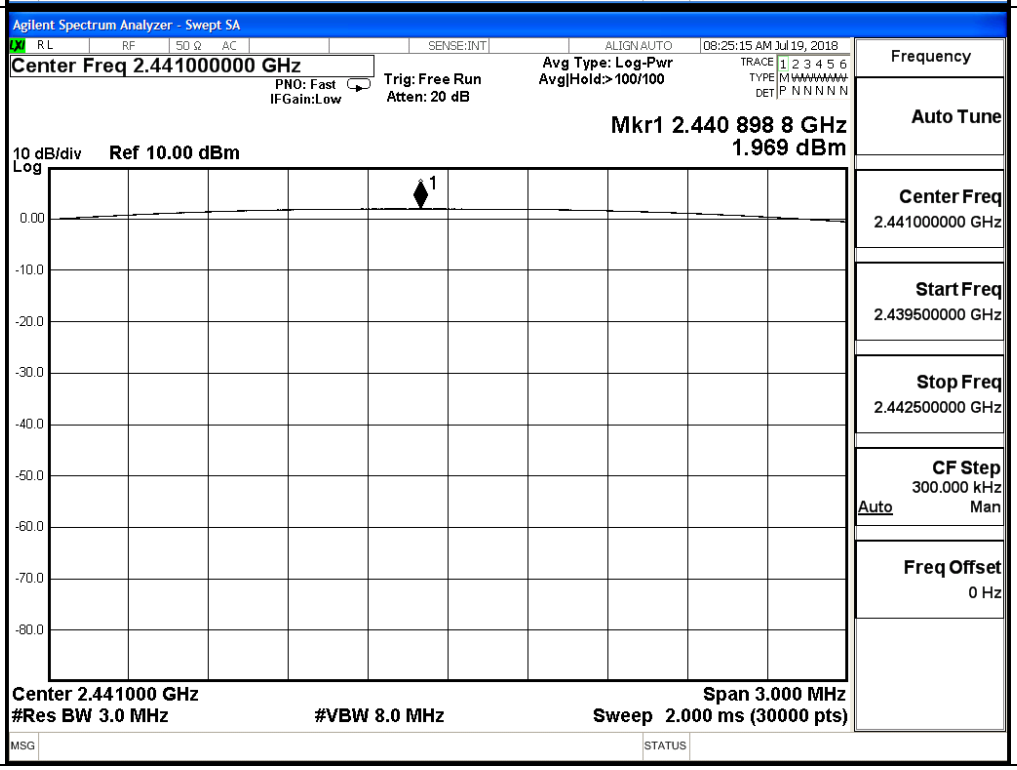
Product Name: Wireless Headsets
Trade Mark: GUANGPONE
Test Model: Q1

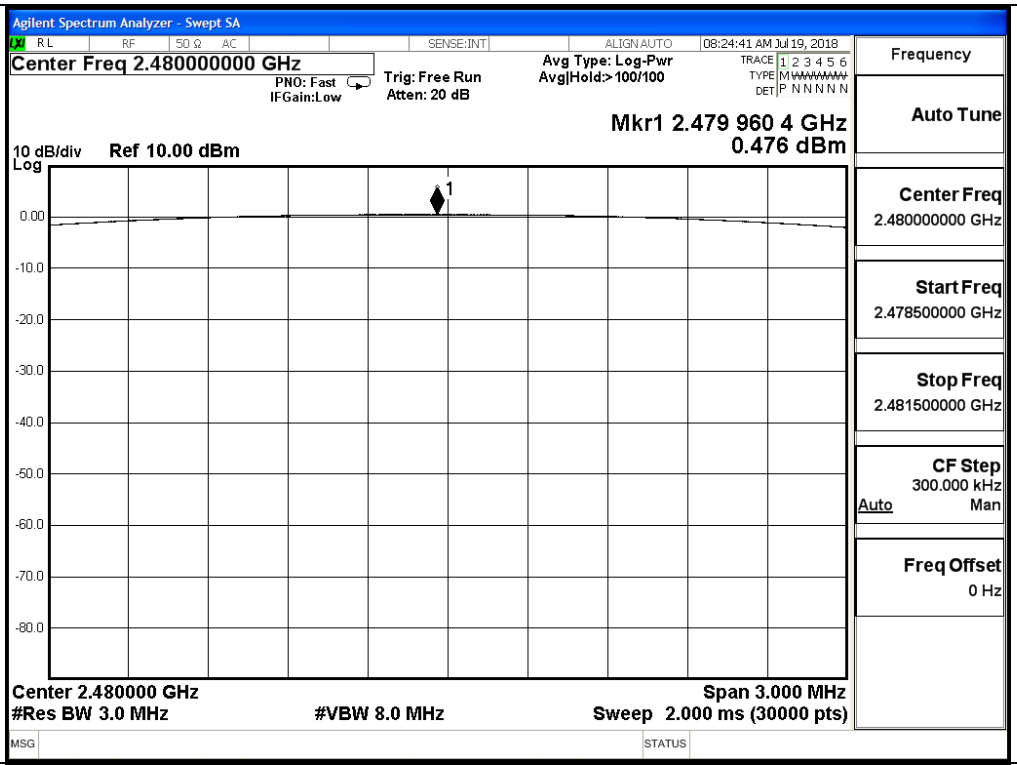
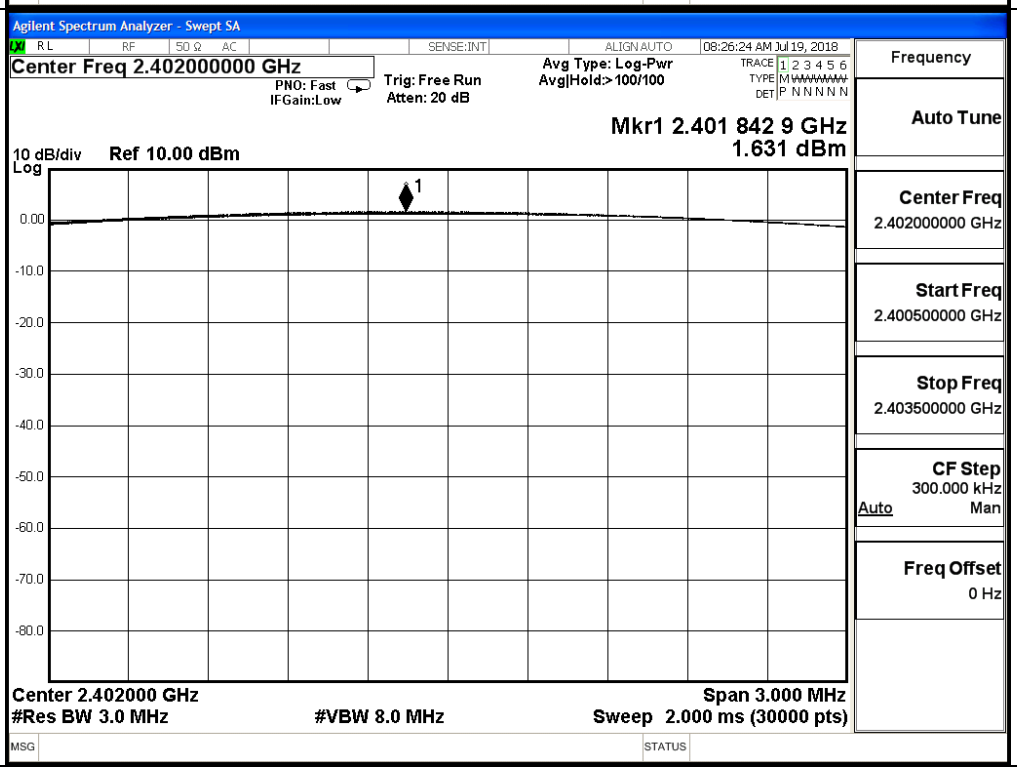
Environmental Conditions

Temperature:	23.5 ° C
Relative Humidity:	53.1%
ATM Pressure:	100.0 kPa
Test Engineer:	WANGCHUANG
Supervised by:	Jayden.Zhuo

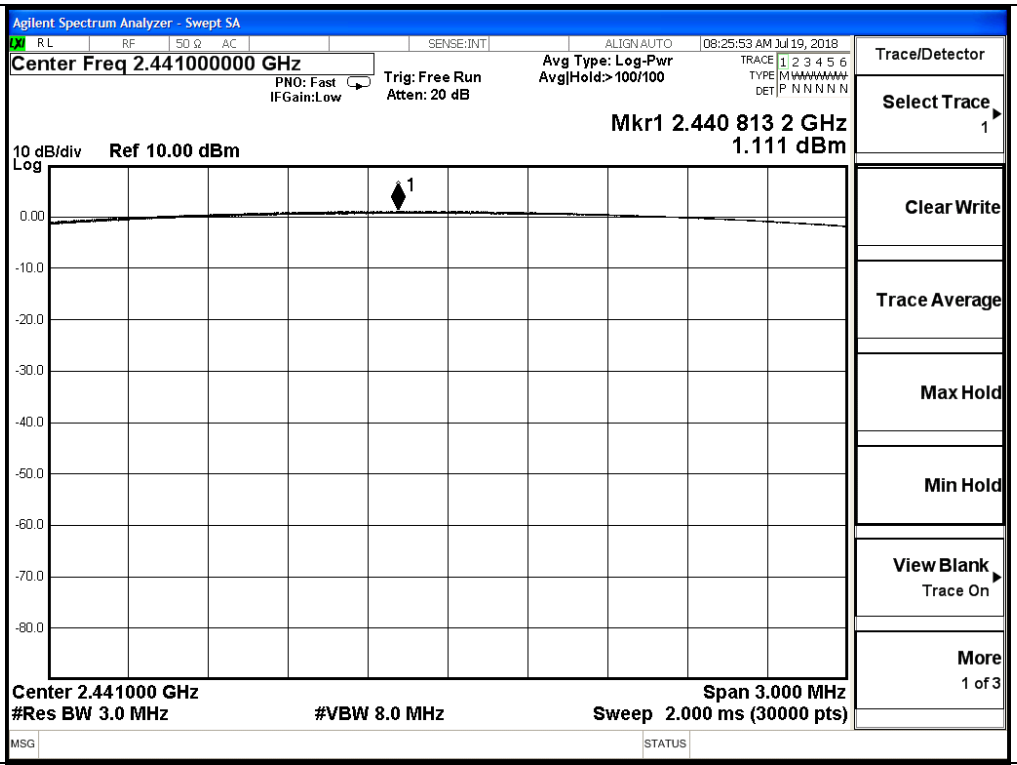
A.1 Maxmum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.724	21	PASS
	MCH	1.969	21	PASS
	HCH	0.476	21	PASS
π/4DQPSK	LCH	1.631	21	PASS
	MCH	1.111	21	PASS
	HCH	-0.298	21	PASS
8DPSK	LCH	1.880	21	PASS
	MCH	1.328	21	PASS
	HCH	-0.061	21	PASS

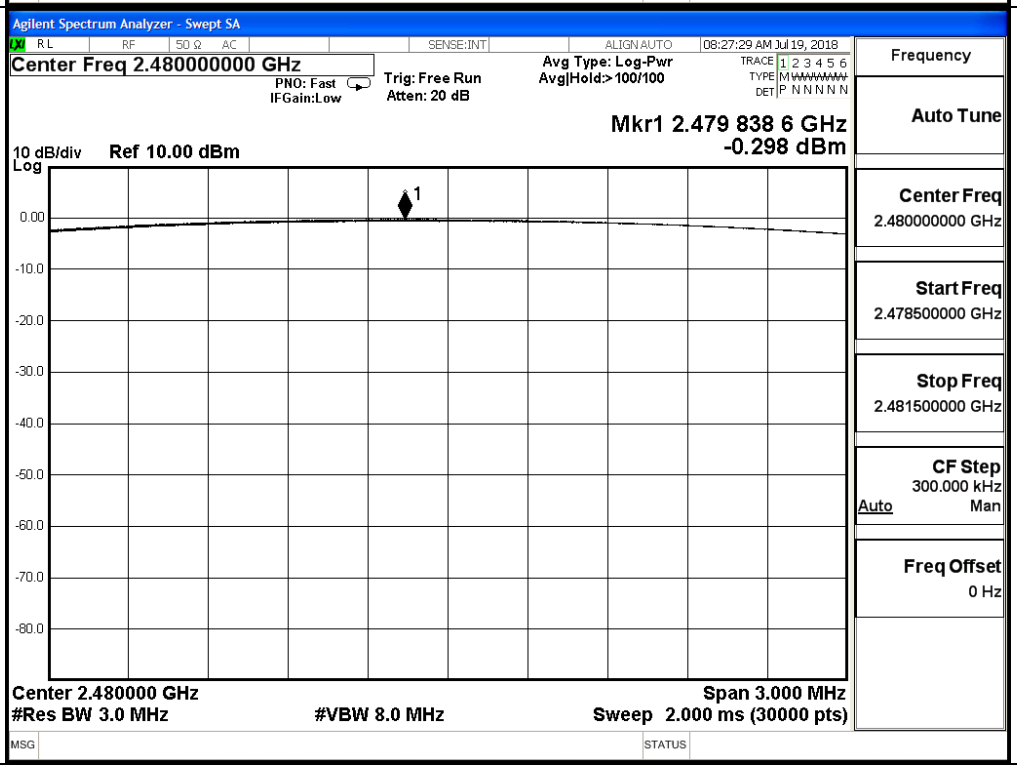
Test Graphs	
GFSK/LCH	
GFSK/MCH	

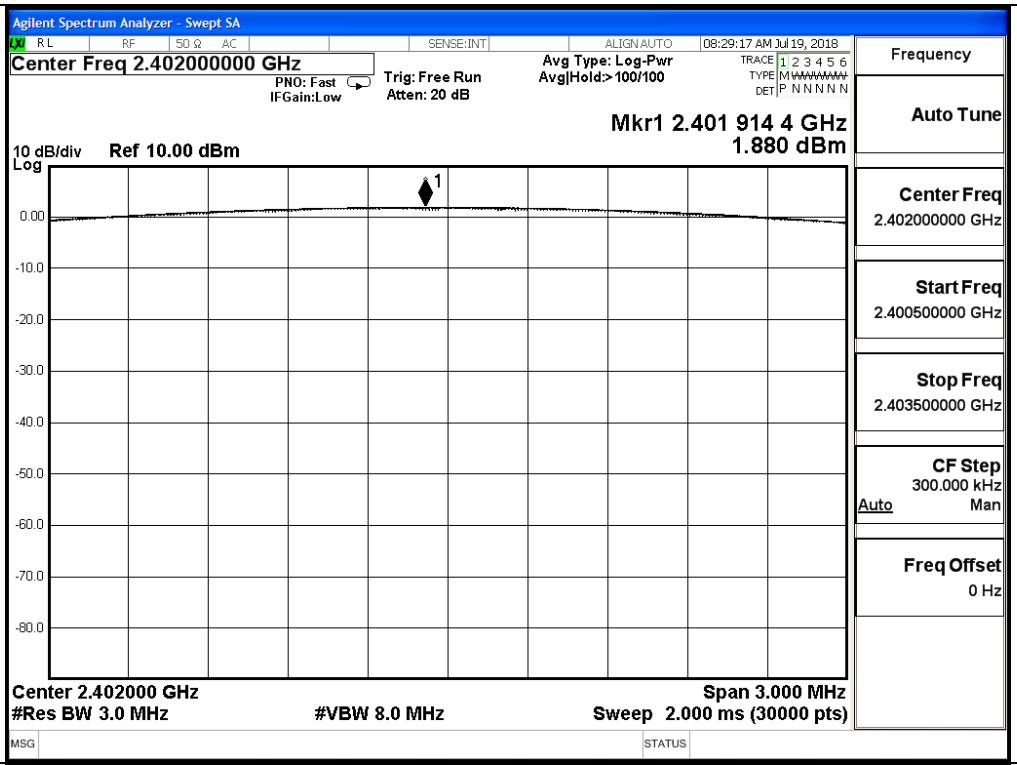
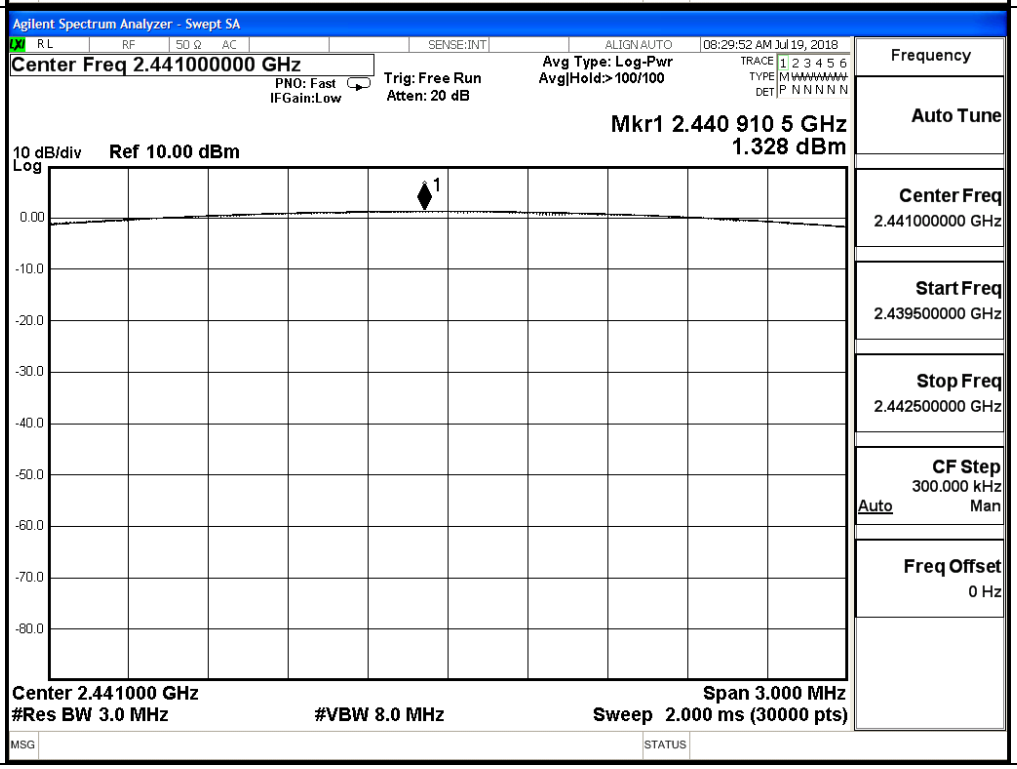
GFSK/HCH	
π/4DQPSK/LCH	

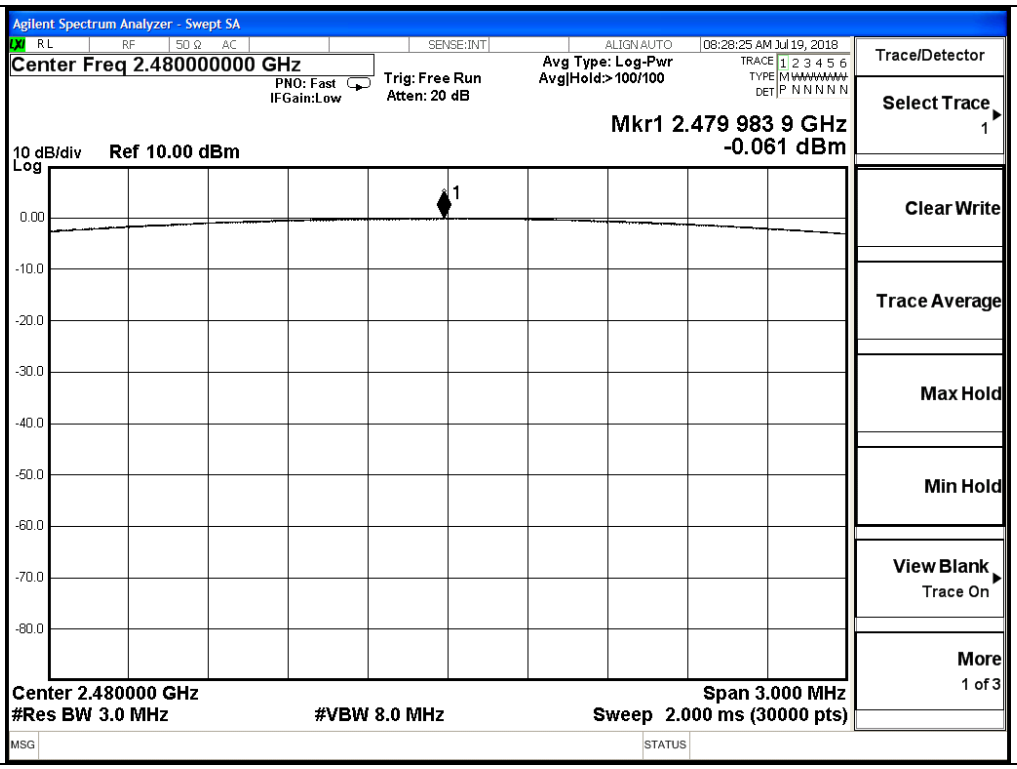
π/4DQPSK/MCH



π/4DQPSK/HCH



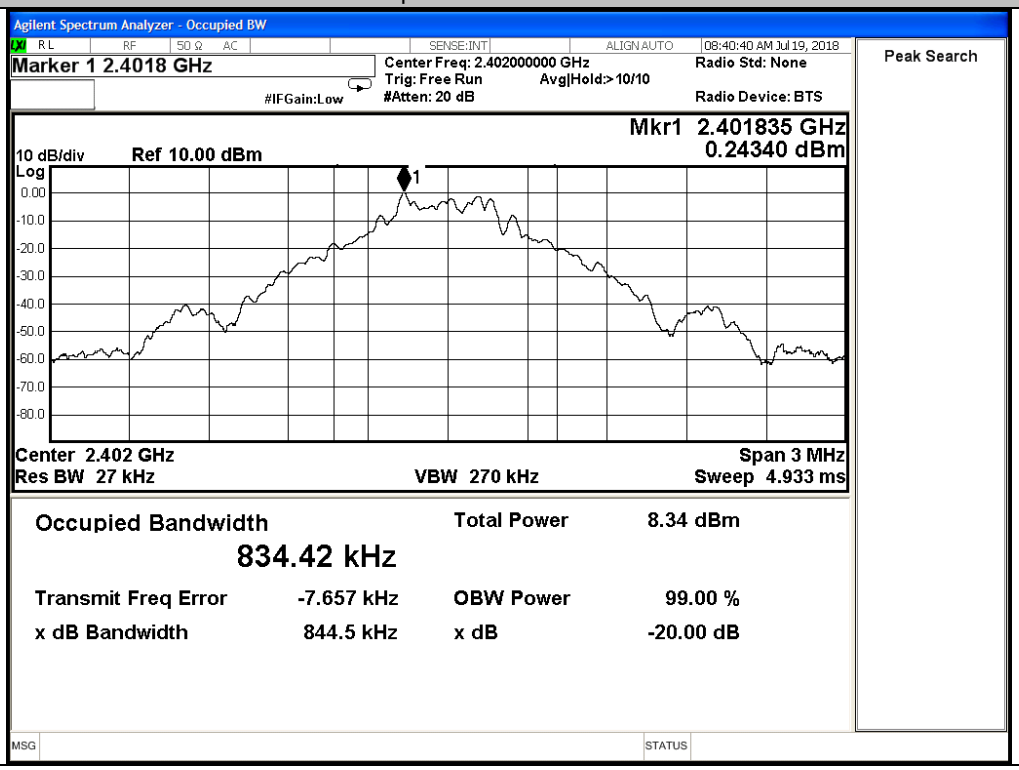
8DPSK/LCH	
8DPSK/MCH	

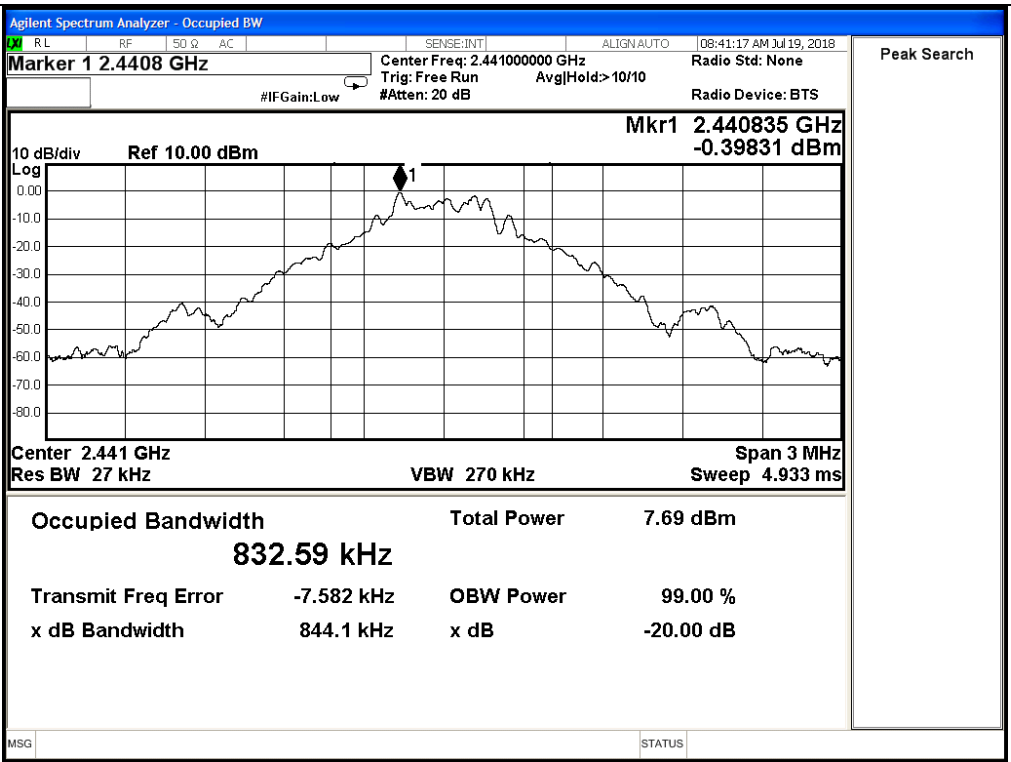
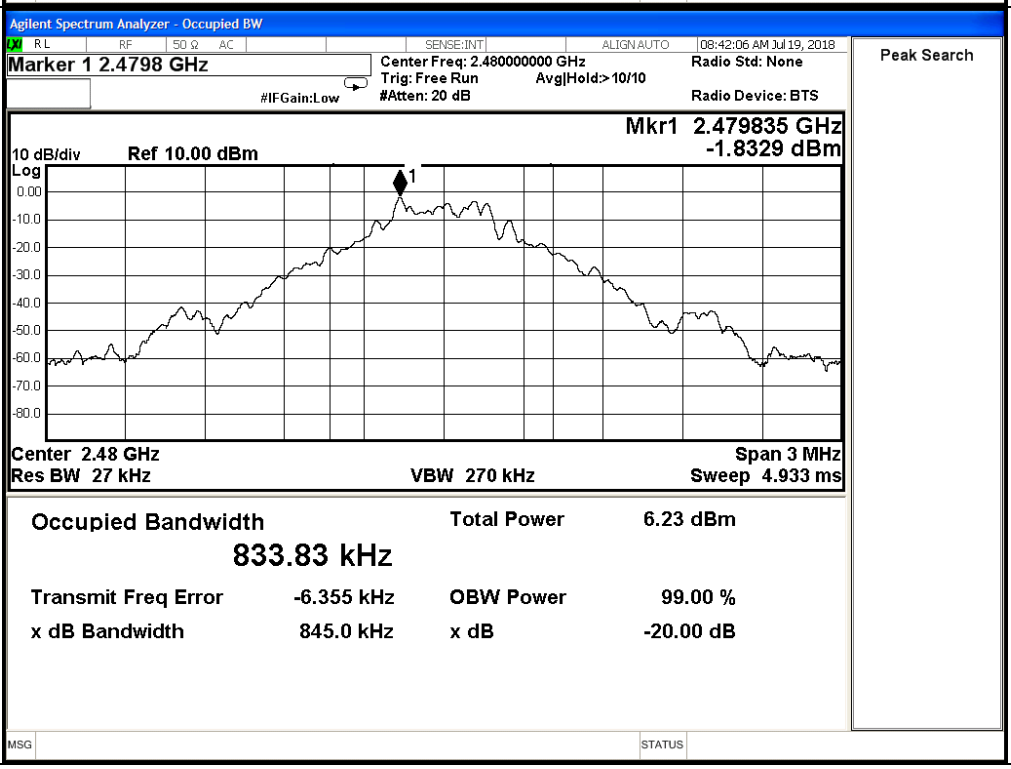
8DPSK/HCH	

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
08:28:25 AM Jul 19, 2018
Mkr1 2.479 983 9 GHz
-0.061 dBm
10 dB/div
Log
Ref 10.00 dBm
Center 2.480000 GHz
#Res BW 3.0 MHz
#VBW 8.0 MHz
Span 3.000 MHz
Sweep 2.000 ms (30000 pts)
Trace/Detector
Select Trace
Clear Write
Trace Average
Max Hold
Min Hold
View Blank
Trace On
More
1 of 3

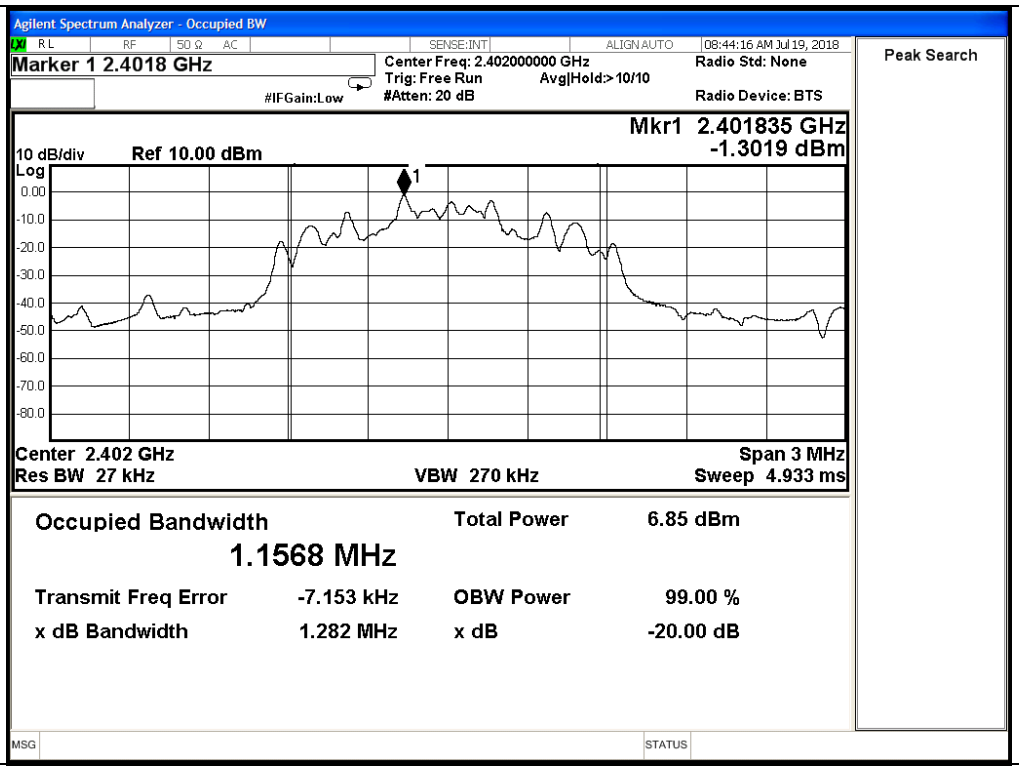
A.2 99% and 20dB Bandwidth

Mode	Channel.	99% Occupied Bandwidth (MHz)	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.83442	0.8445	Not Specified	PASS
	MCH	0.83259	0.8441	Not Specified	PASS
	HCH	0.83383	0.8450	Not Specified	PASS
π/4DQPSK	LCH	1.1568	1.2020	Not Specified	PASS
	MCH	1.1793	1.2010	Not Specified	PASS
	HCH	1.1789	1.2030	Not Specified	PASS
8DPSK	LCH	1.1250	1.2740	Not Specified	PASS
	MCH	1.1298	1.2750	Not Specified	PASS
	HCH	1.1336	1.2760	Not Specified	PASS

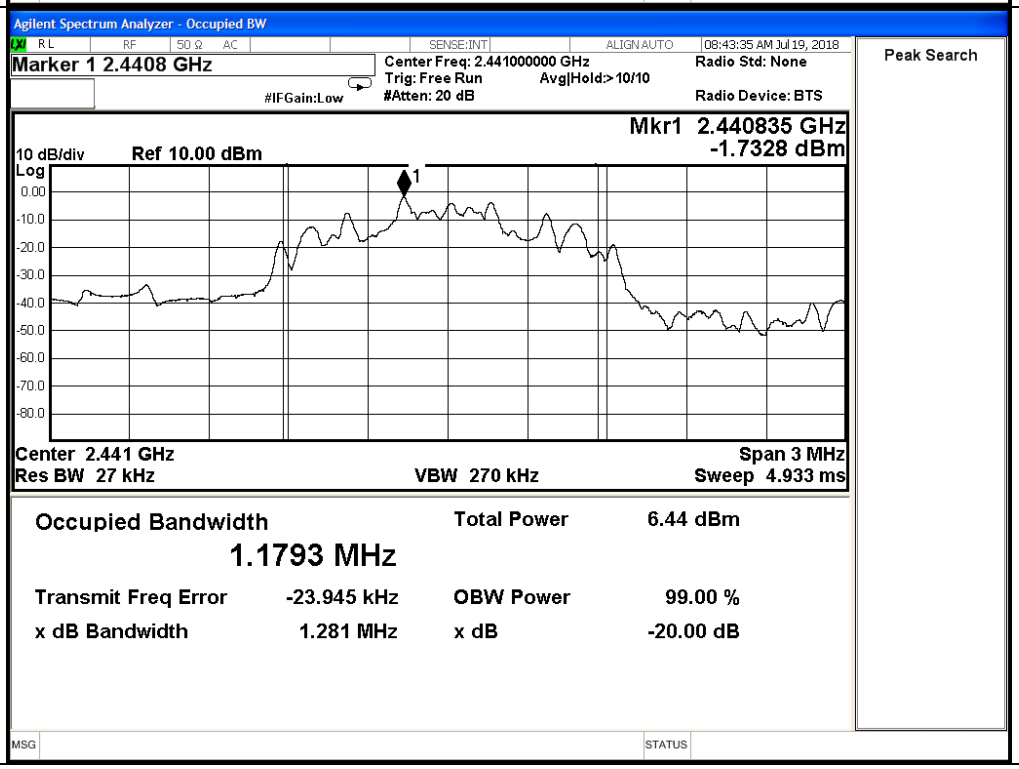
Test Graphs	
GFSK/LCH	

GFSK/MCH	
GFSK/HCH	

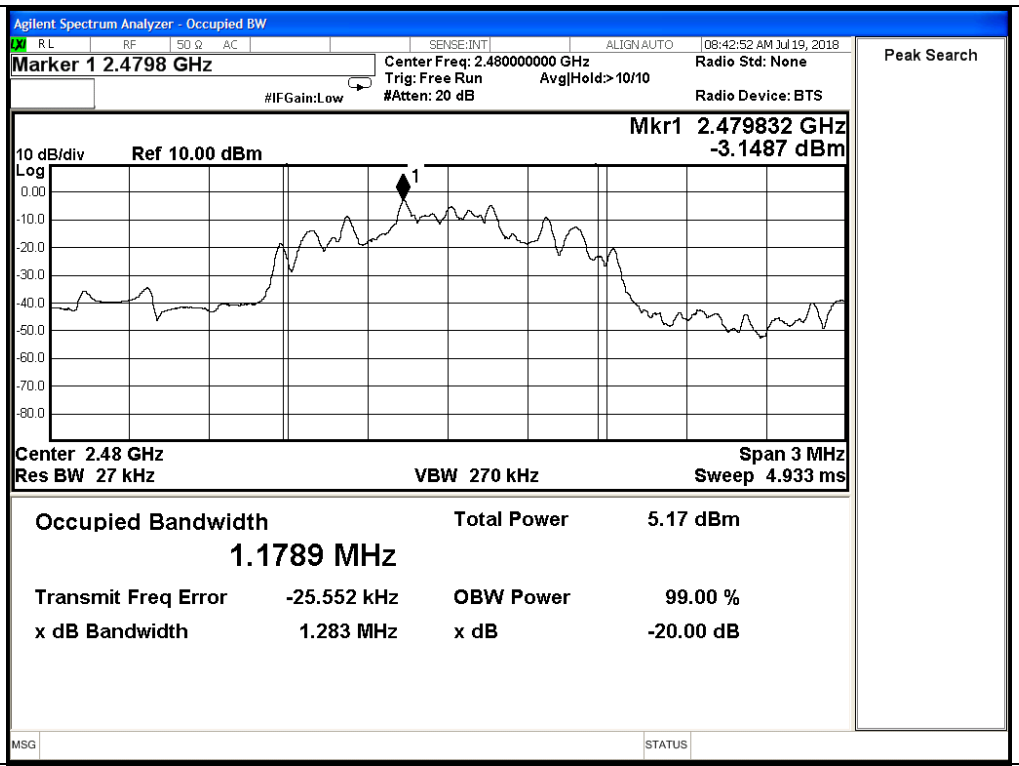
π/4DQPSK/LCH



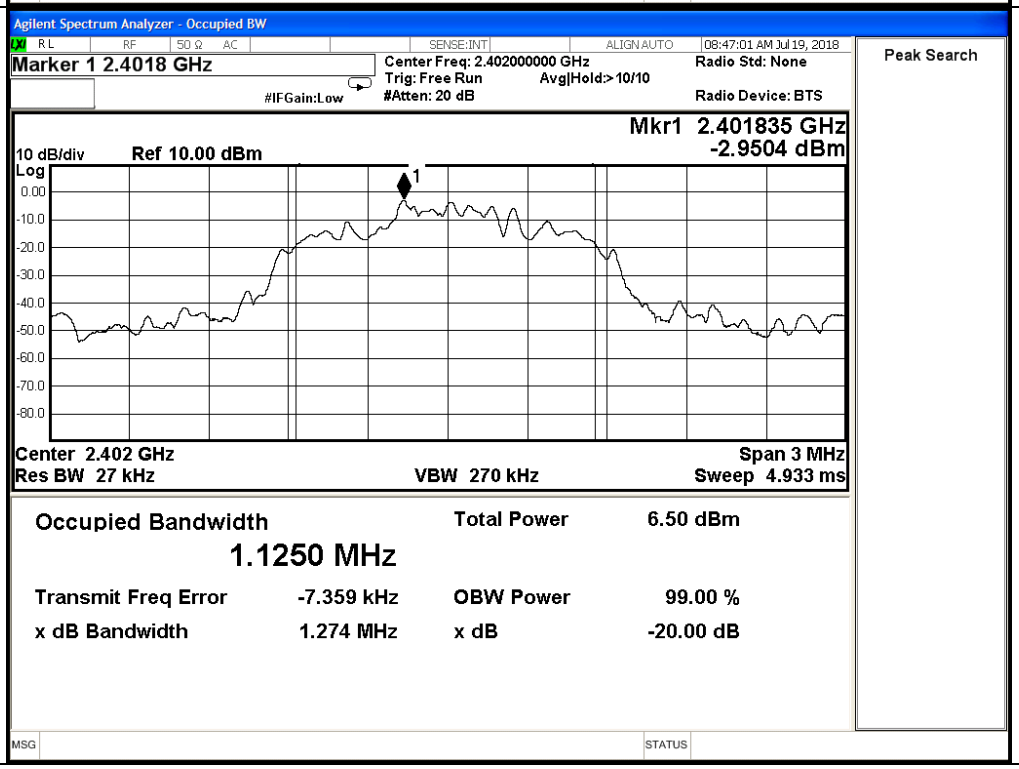
π/4DQPSK/MCH

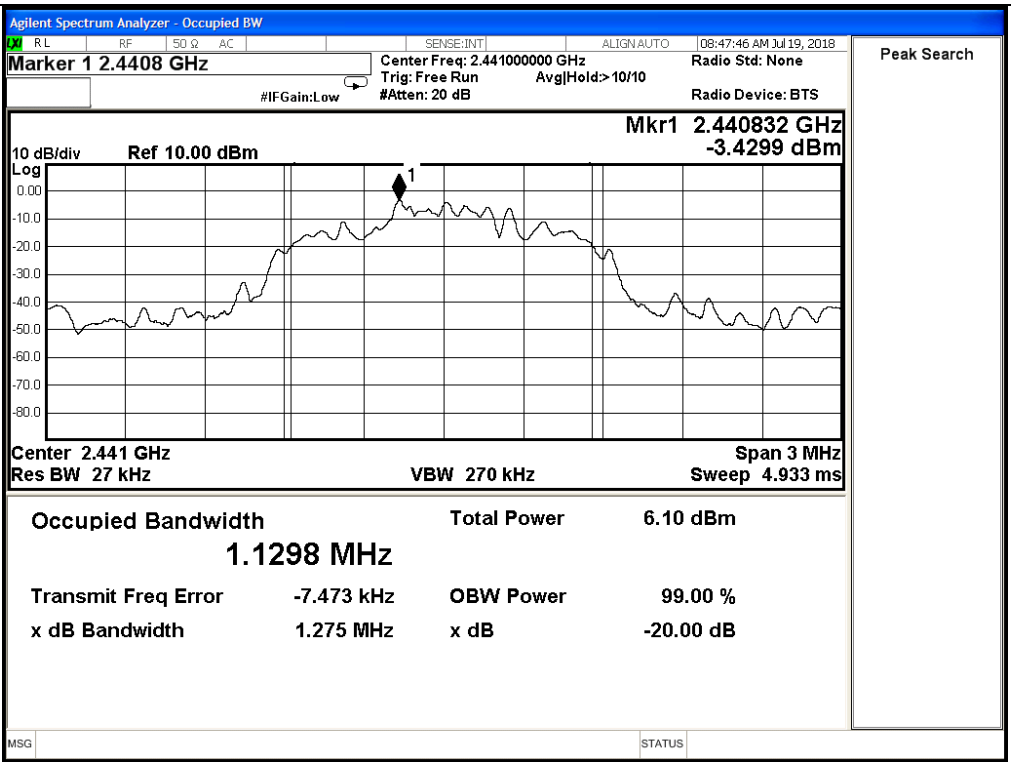
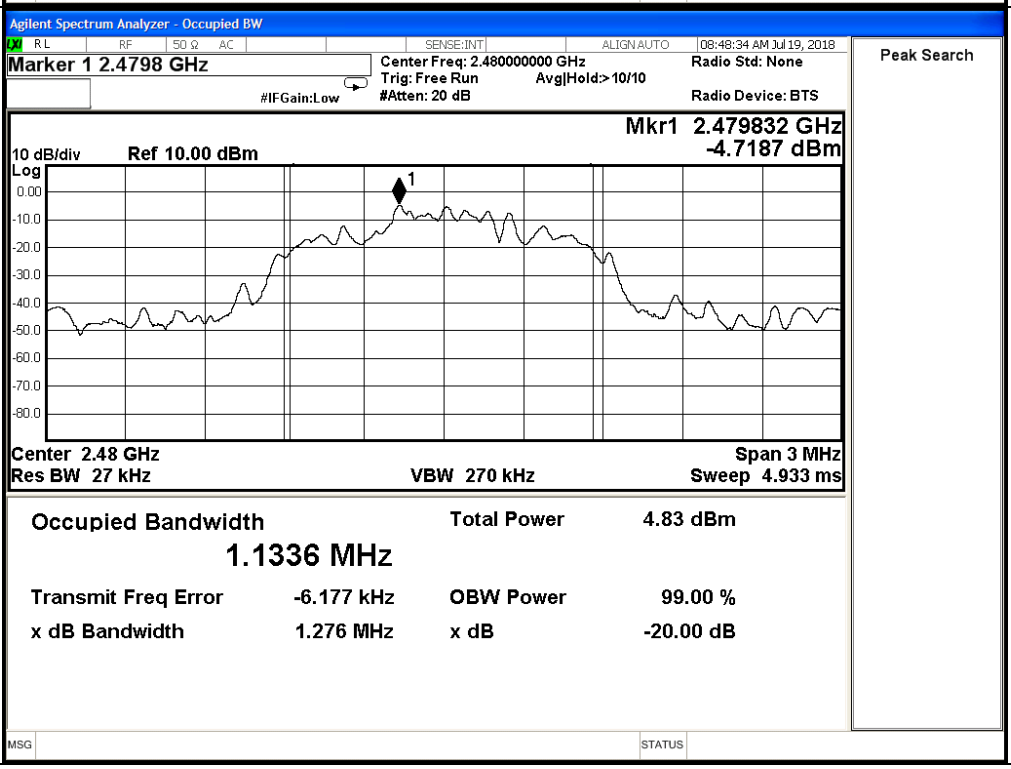


π/4DQPSK/HCH



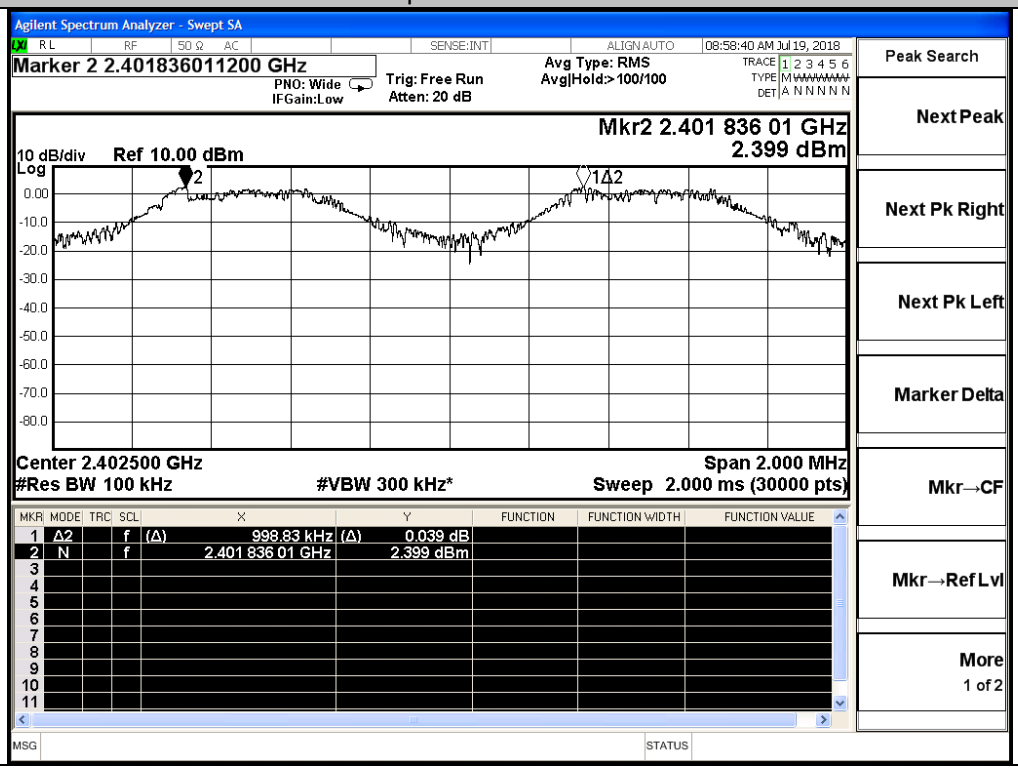
8DPSK/LCH



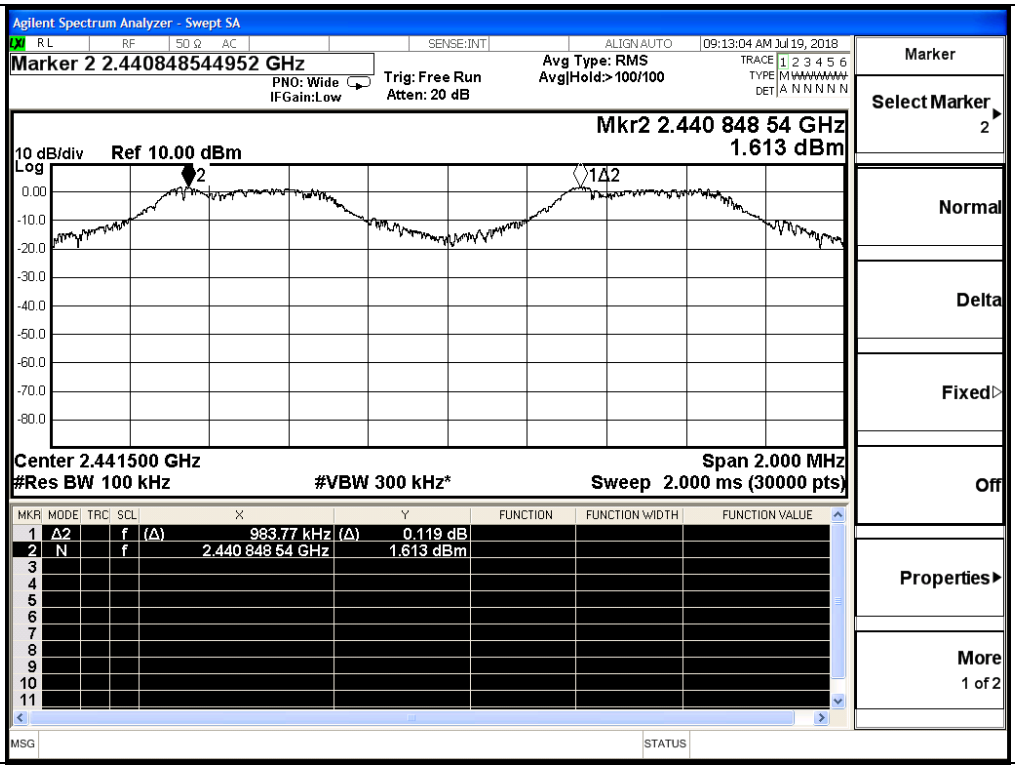
8DPSK/MCH	
8DPSK/HCH	

A.3 Carrier Frequency Separation

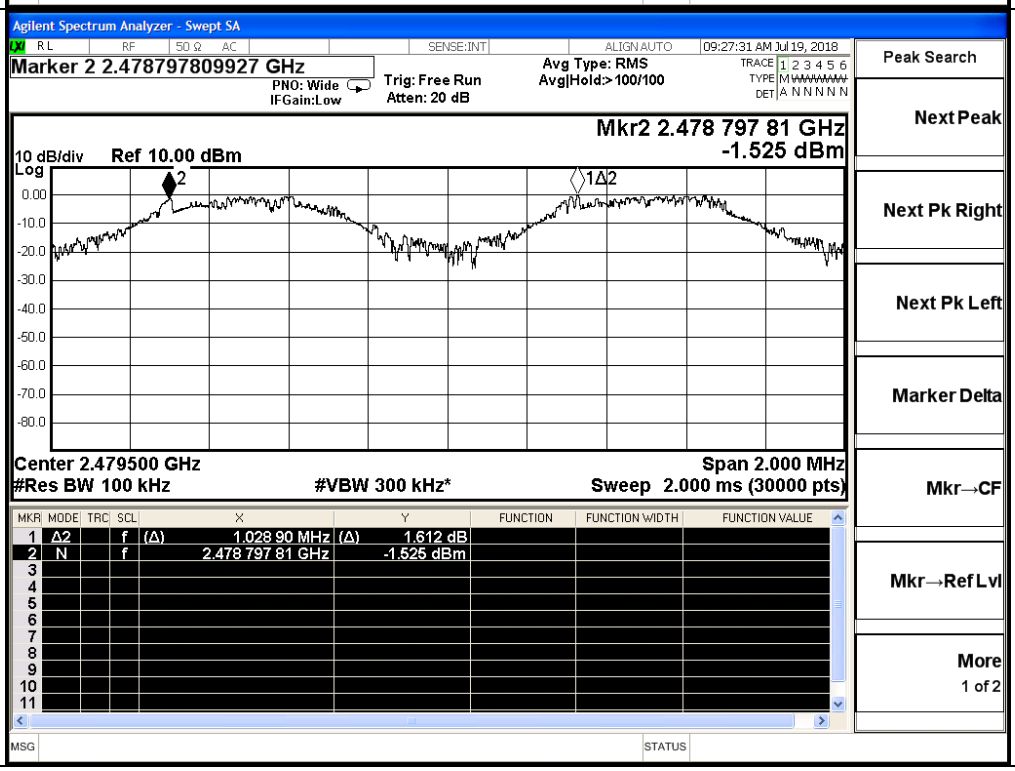
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz] 2/3*20dB Bandwidth	Verdict
GFSK	LCH	0.999	0.563	PASS
	MCH	0.984	0.563	PASS
	HCH	1.029	0.563	PASS
π/4DQPSK	LCH	0.993	0.801	PASS
	MCH	0.996	0.801	PASS
	HCH	0.988	0.802	PASS
8DPSK	LCH	1.009	0.849	PASS
	MCH	0.994	0.850	PASS
	HCH	1.016	0.851	PASS

Test Graphs	
GFSK/LCH	

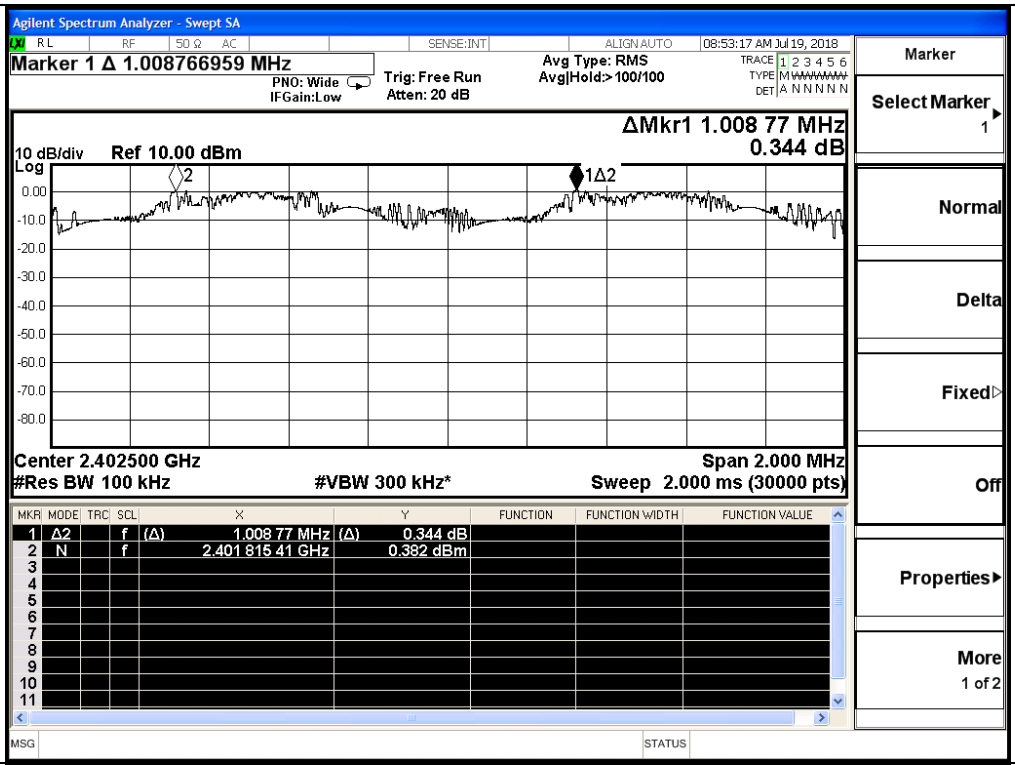
GFSK/MCH



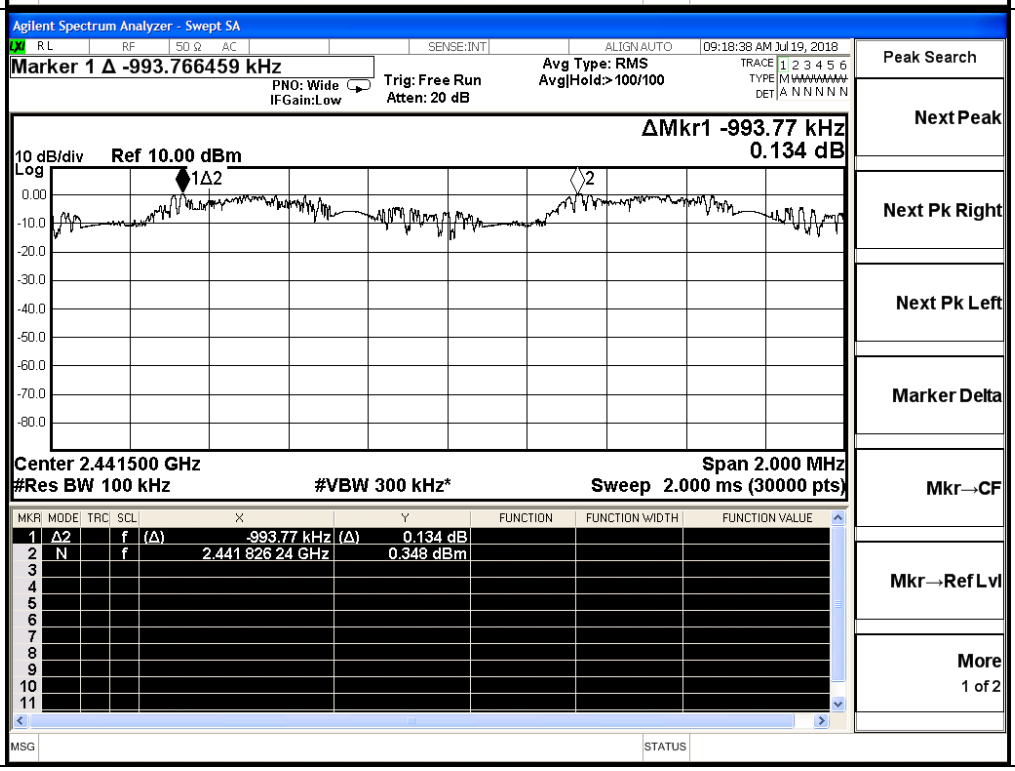
GFSK/HCH



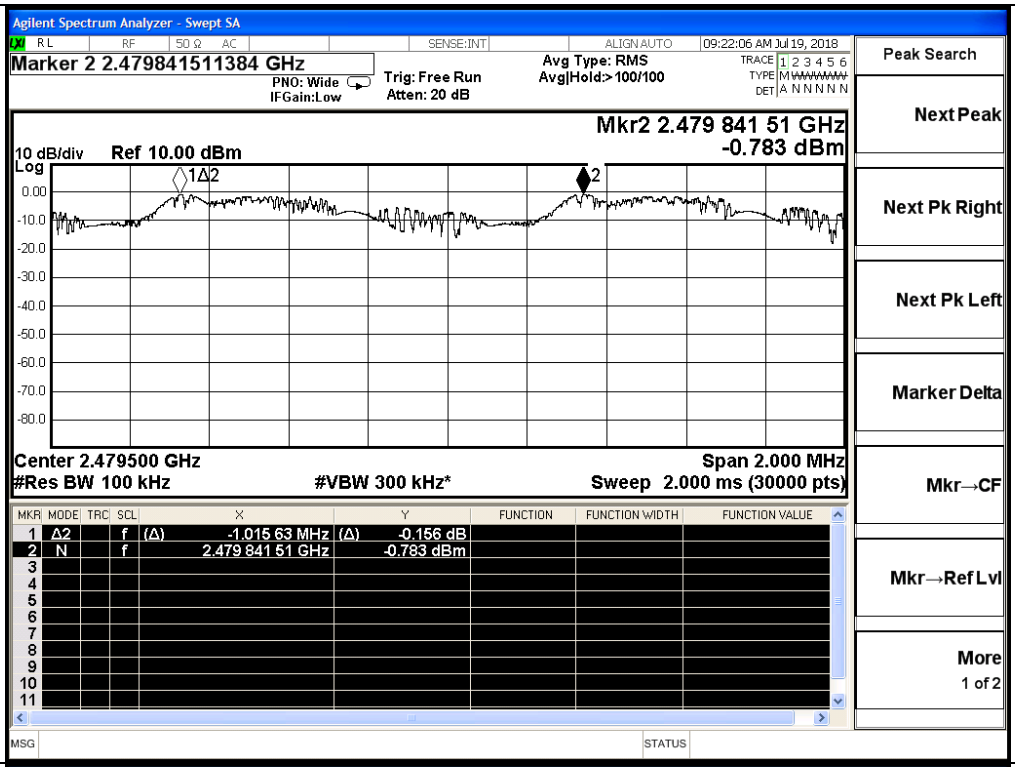
π/4DQPSK/LCH



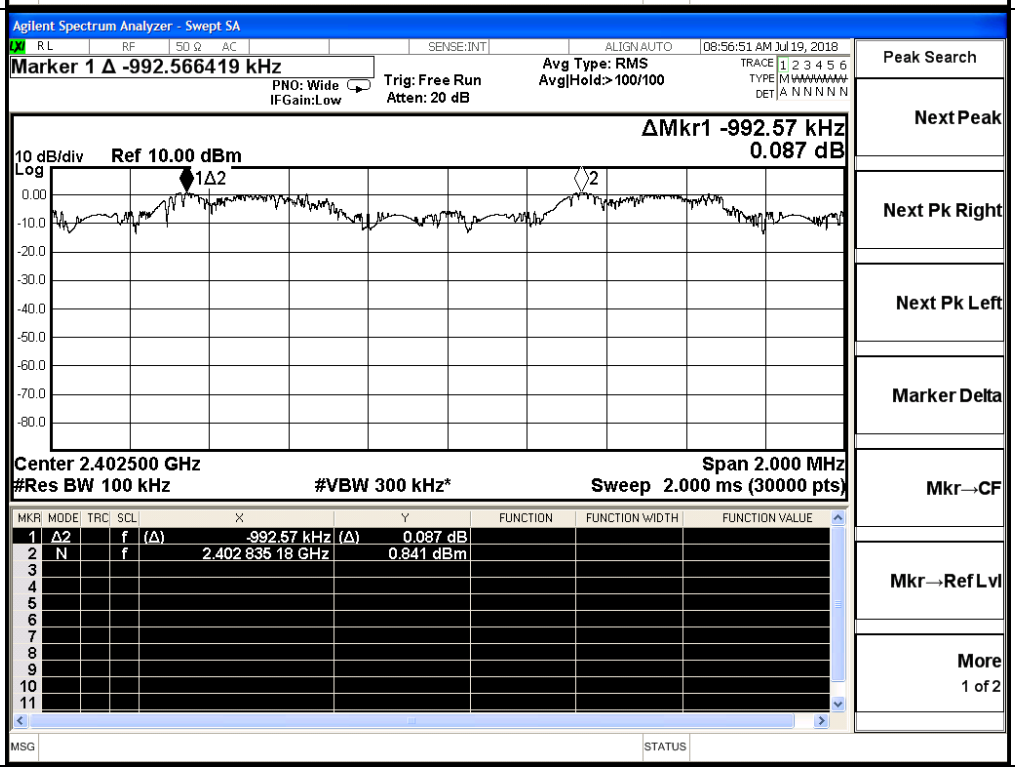
π/4DQPSK/MCH

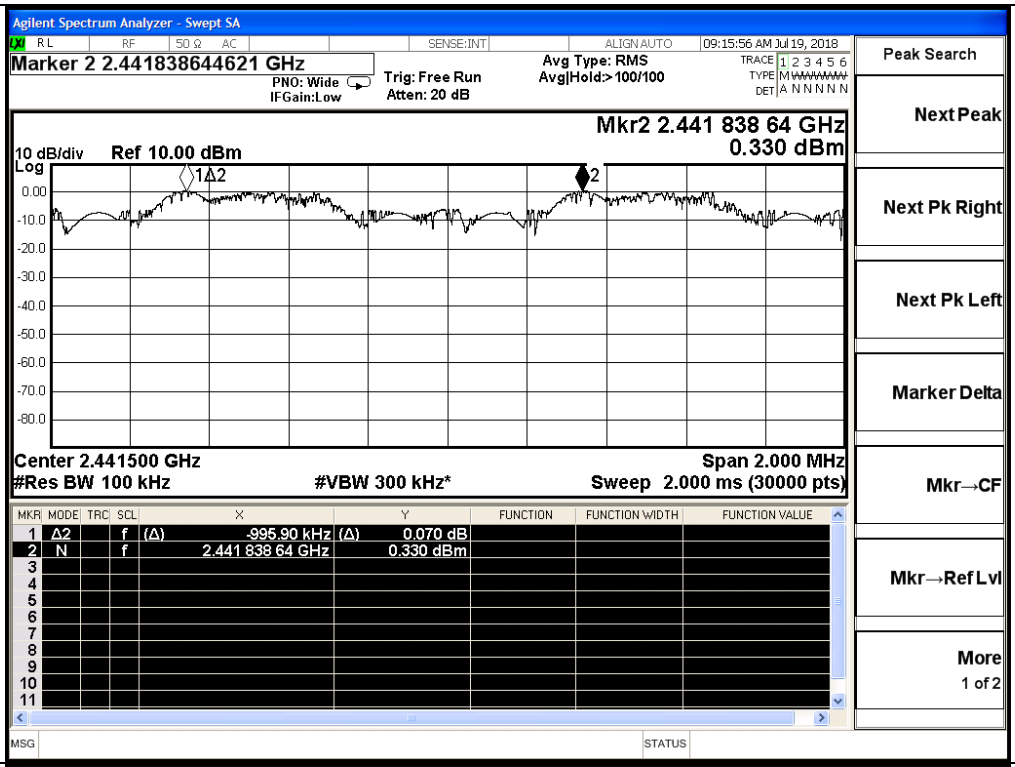
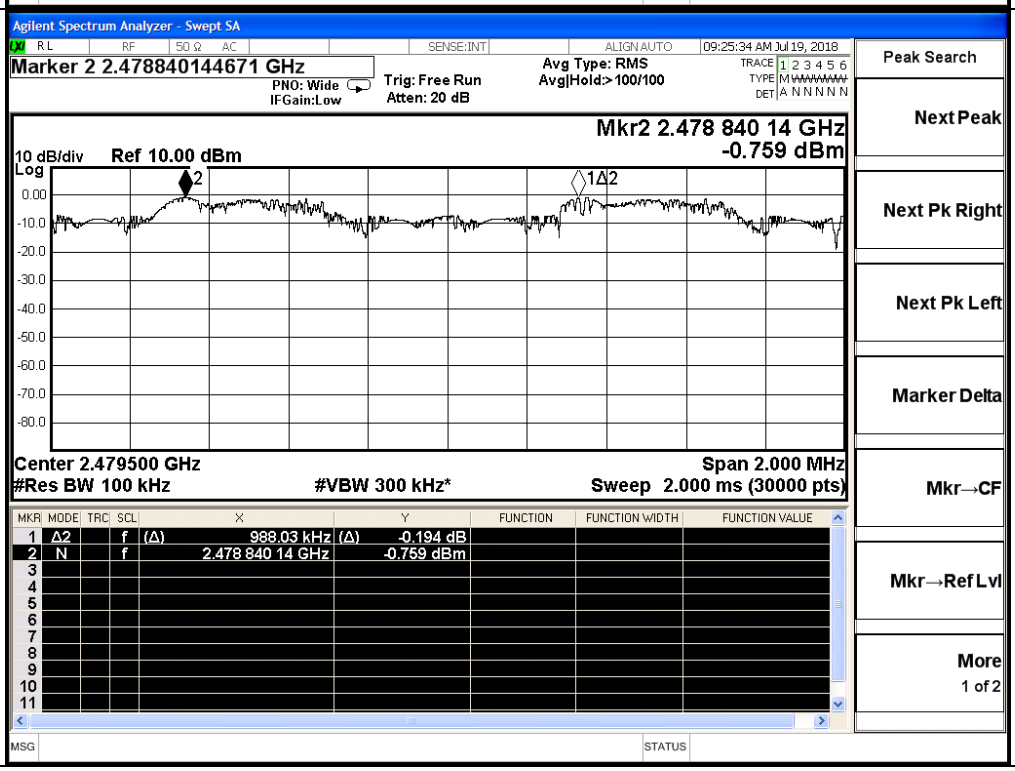


π/4DQPSK/HCH



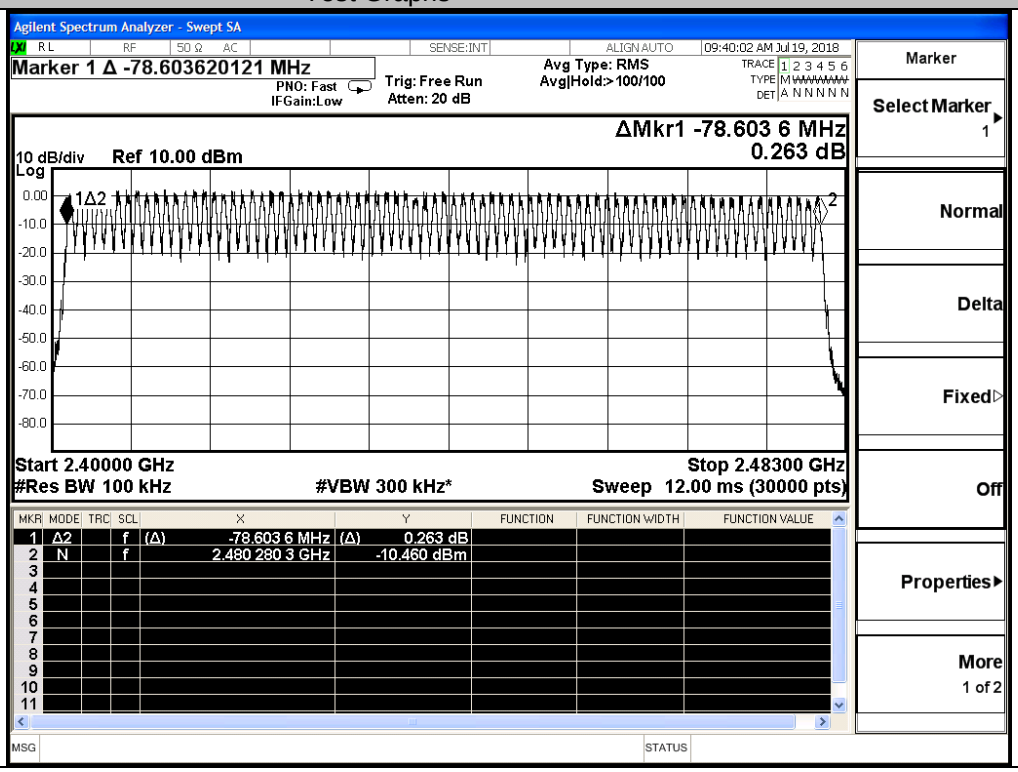
8DPSK/LCH



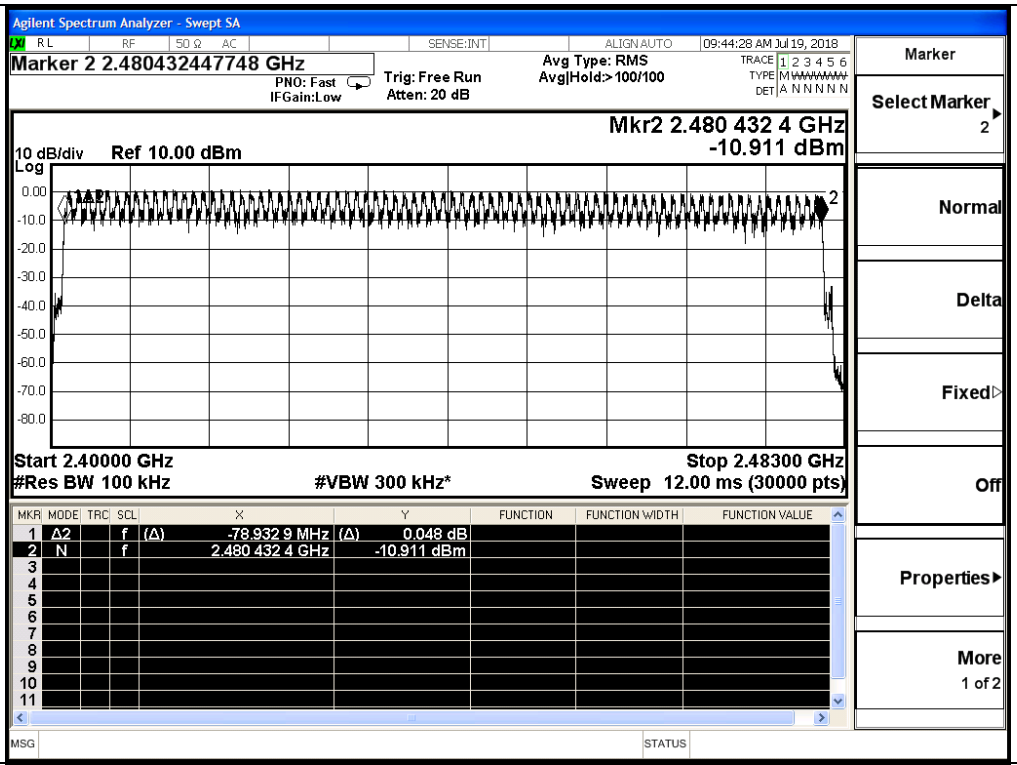
8DPSK/MCH		
8DPSK/HCH		

A.4 Hopping Channel Number

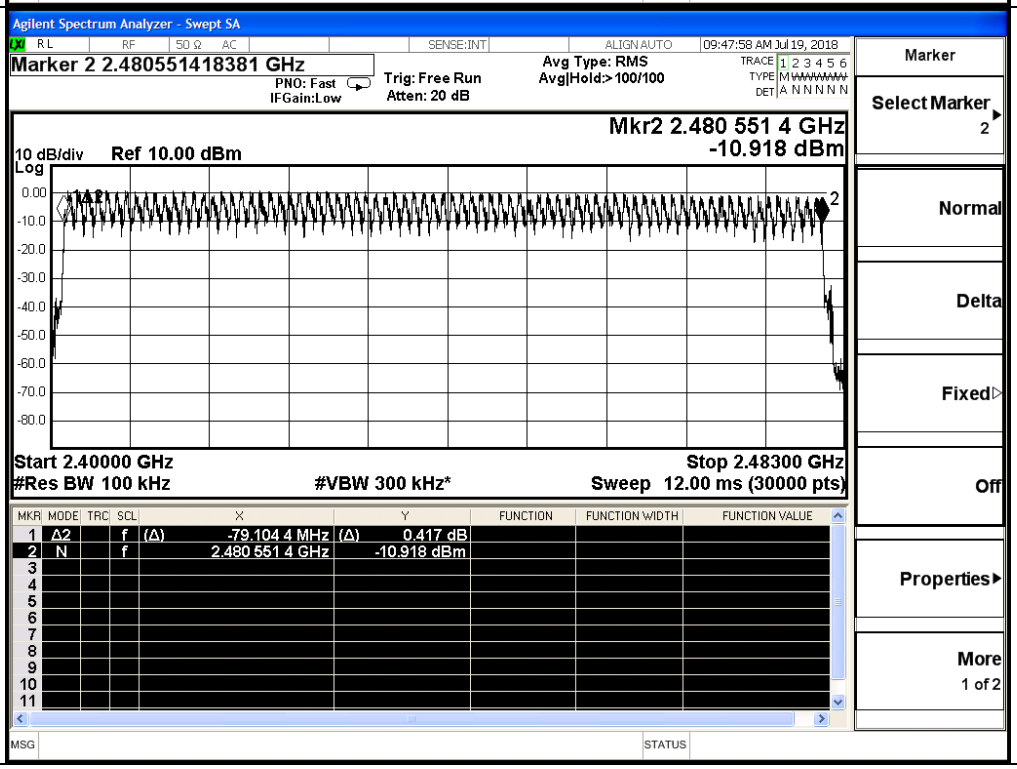
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
π/4DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs	
GFSK/Hop	

π/4DQPSK/Hop

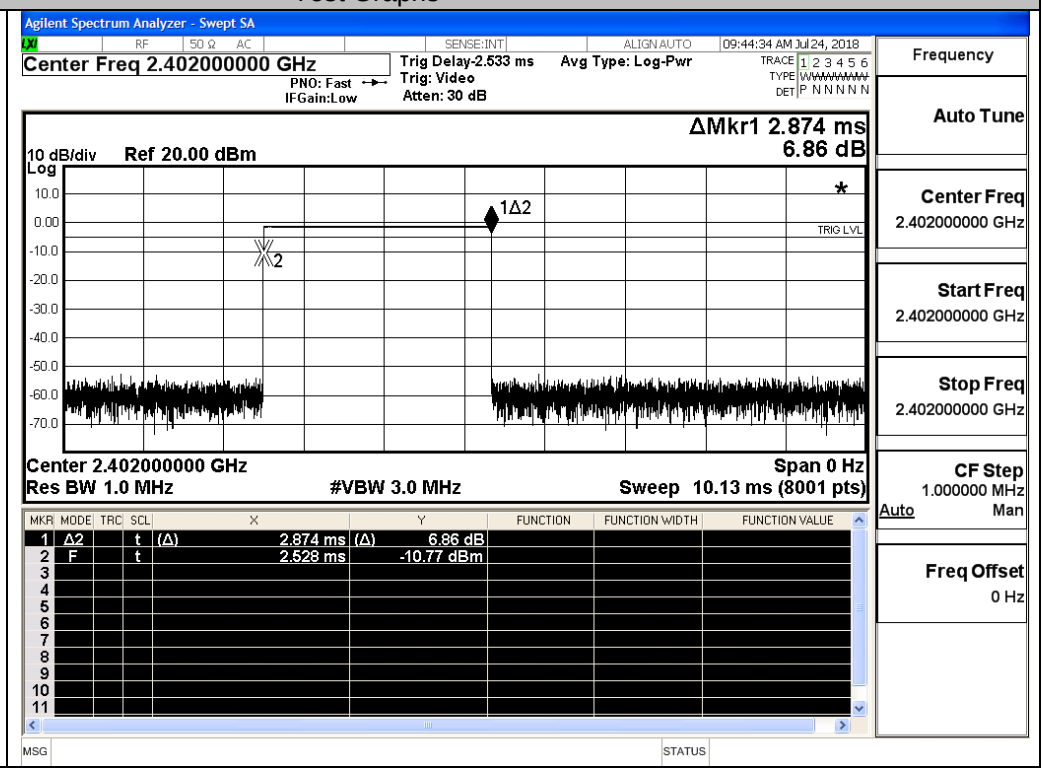


8DPSK/Hop

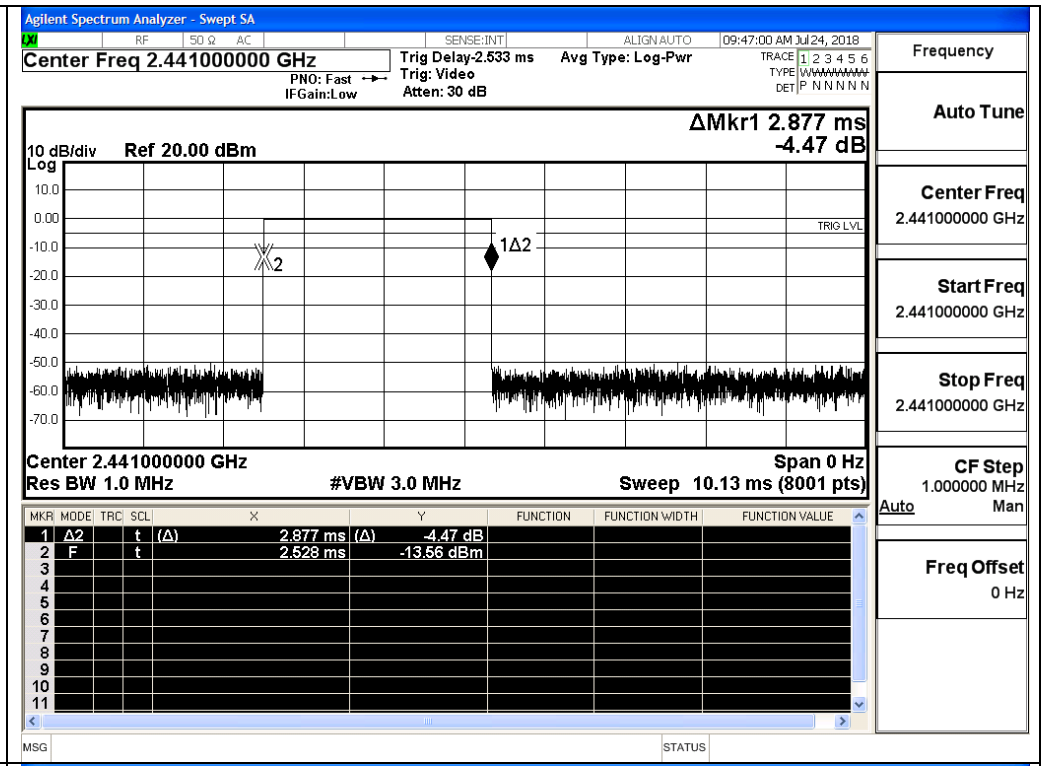


A.5 Dwell Time

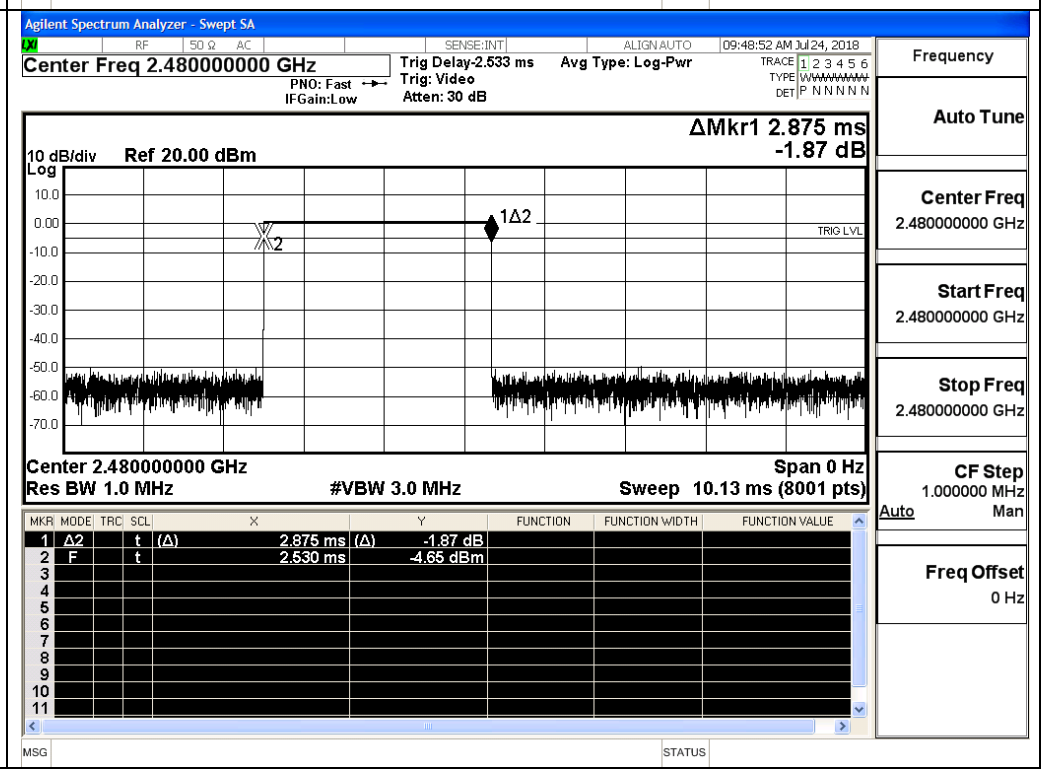
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.9	106.7	0.309	0.4	PASS
	DH5	MCH	2.9	106.7	0.309	0.4	PASS
	DH5	HCH	2.9	106.7	0.309	0.4	PASS
π/4DQPSK	2DH5	LCH	2.9	106.7	0.309	0.4	PASS
	2DH5	MCH	2.9	106.7	0.309	0.4	PASS
	2DH5	HCH	2.9	106.7	0.309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

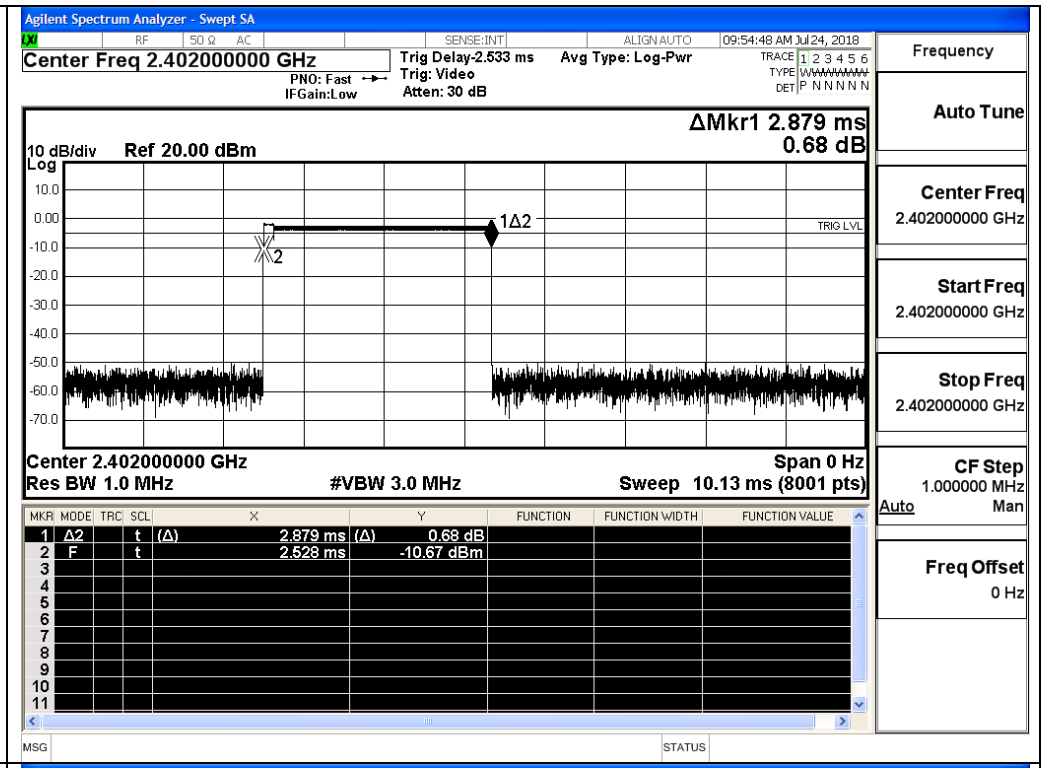
GFSK_DH5/MCH



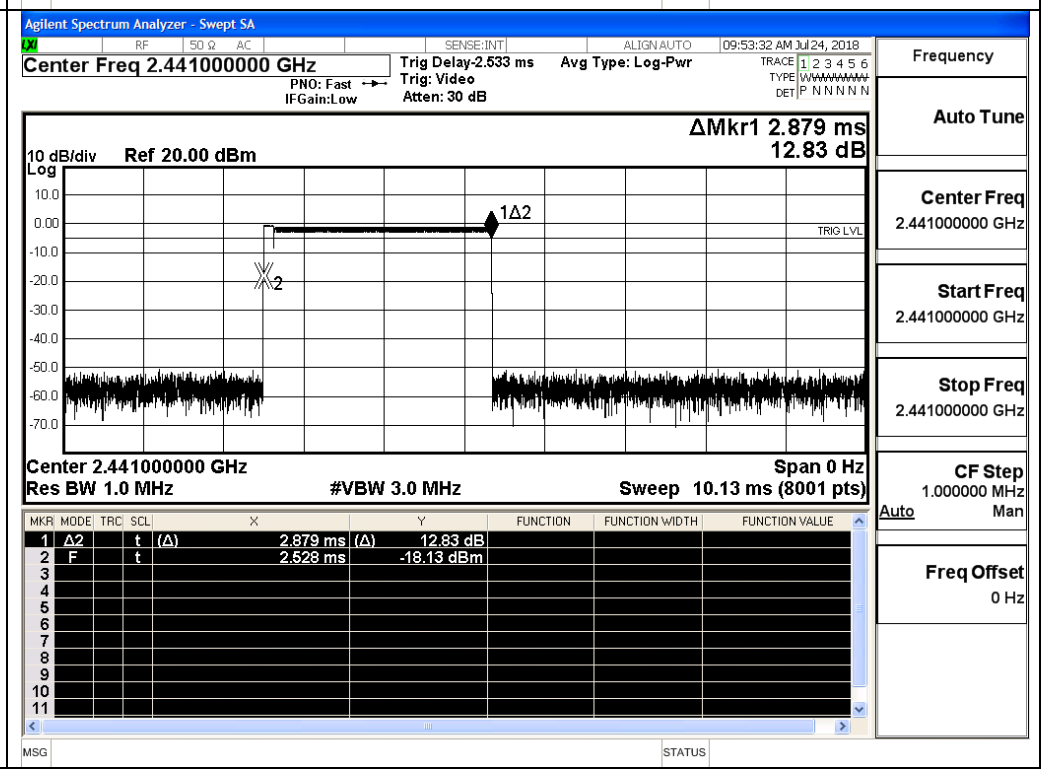
GFSK_DH5/HCH



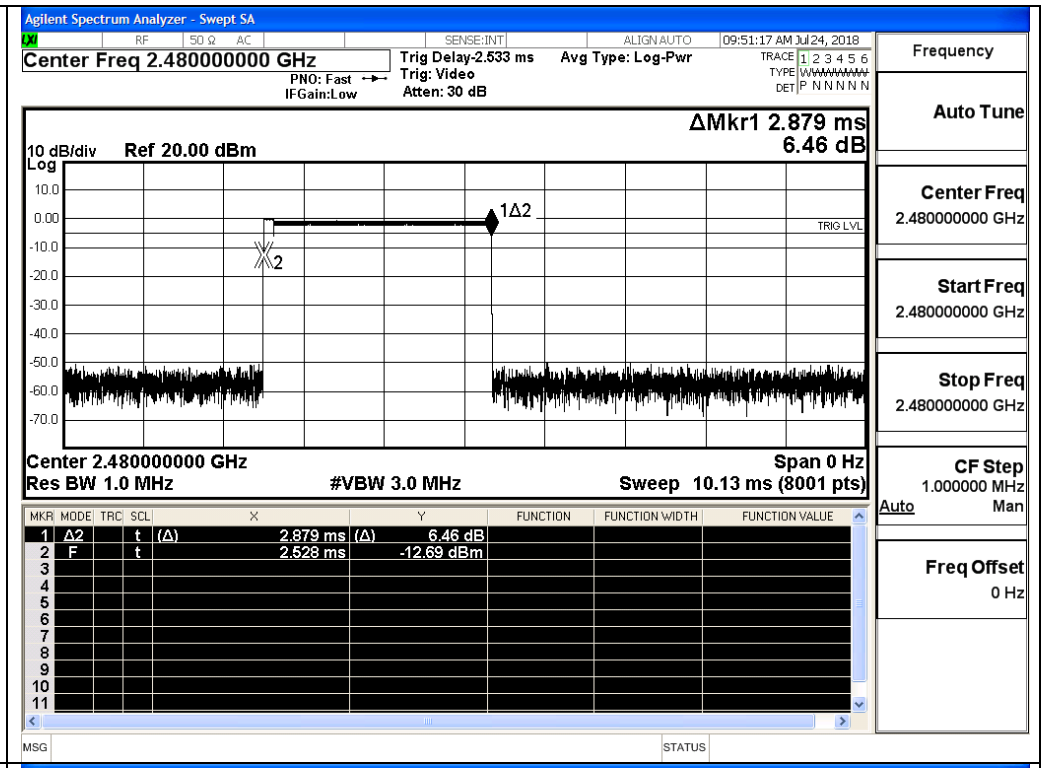
π/4DQPSK
_2DH5/LCH



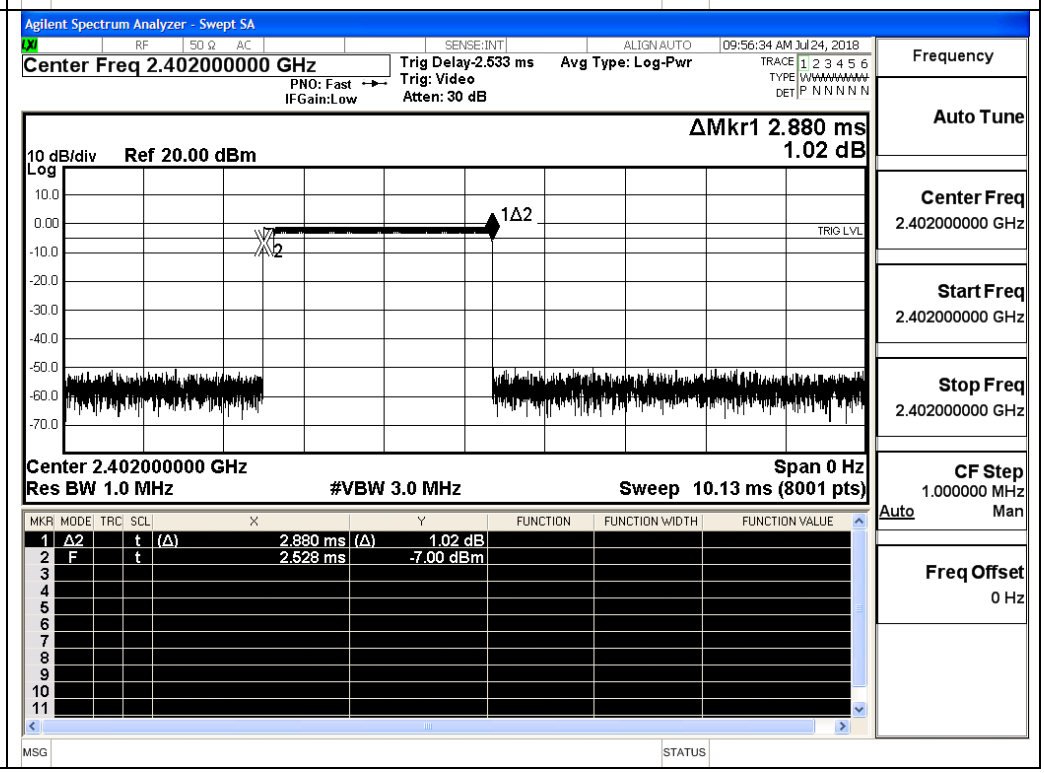
π/4DQPSK
_2DH5/MCH



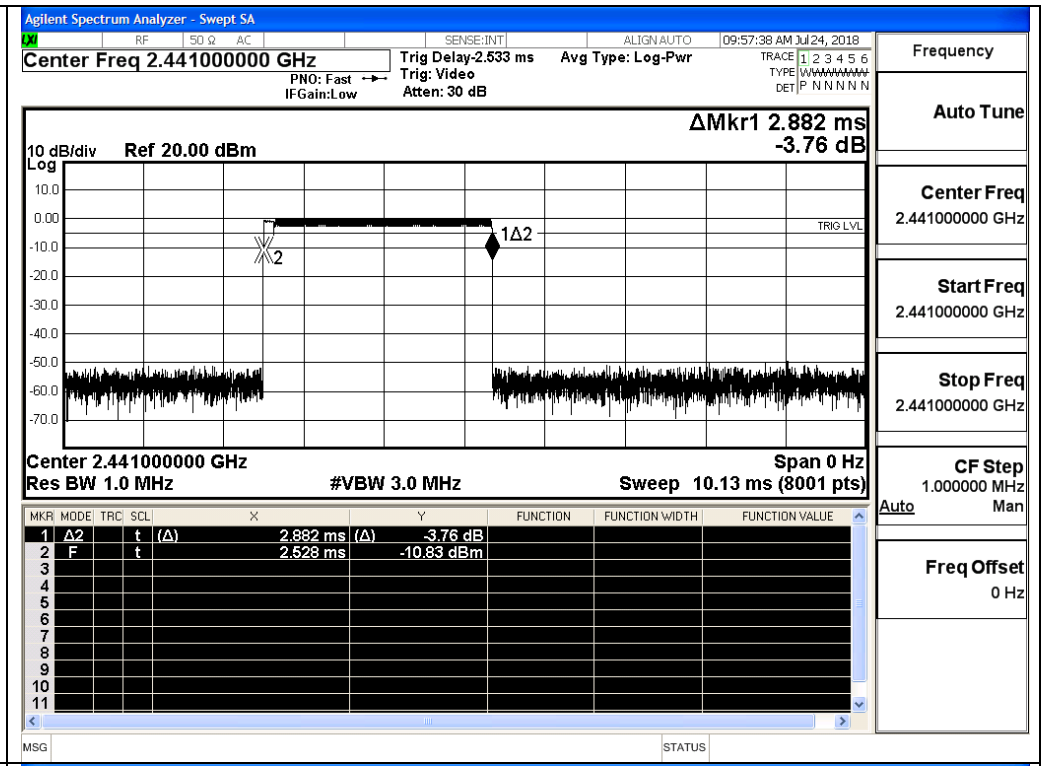
π/4DQPSK _2DH5/HCH



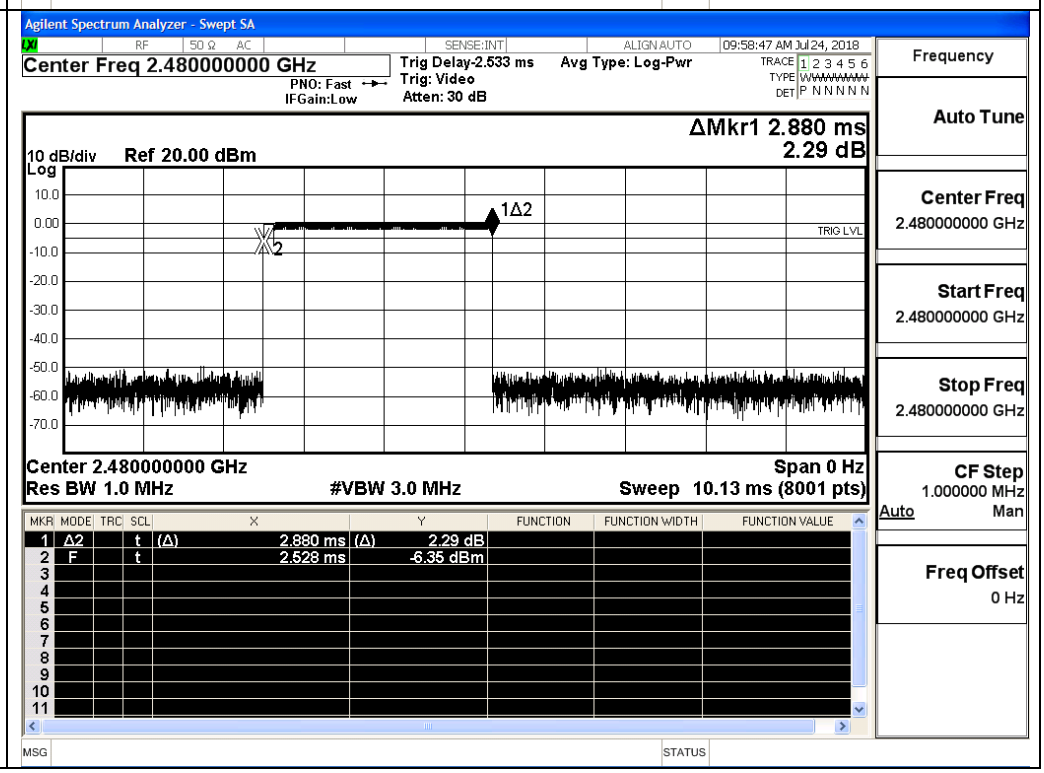
8DPSK _3DH5/LCH



8DPSK _3DH5/MCH

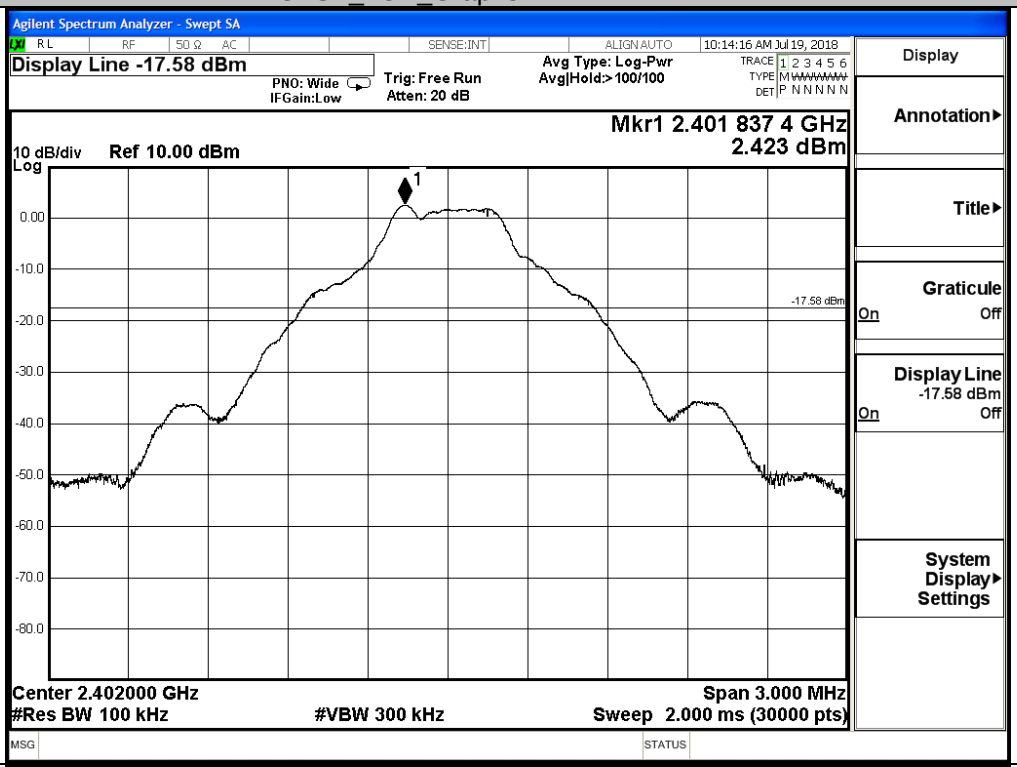
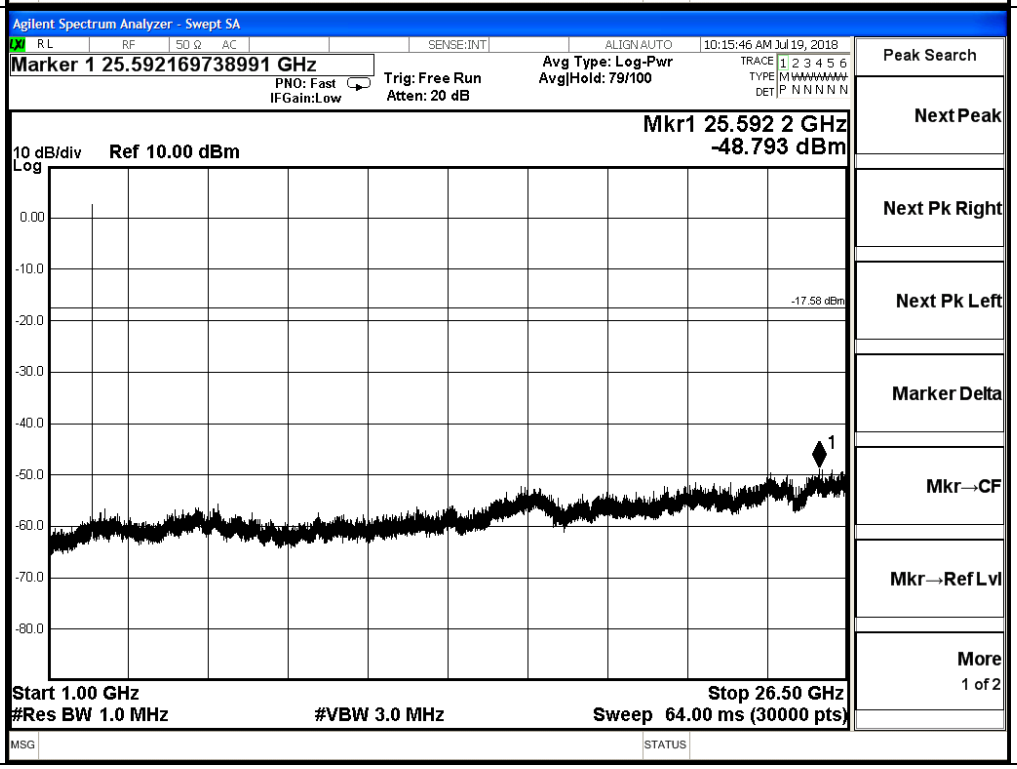


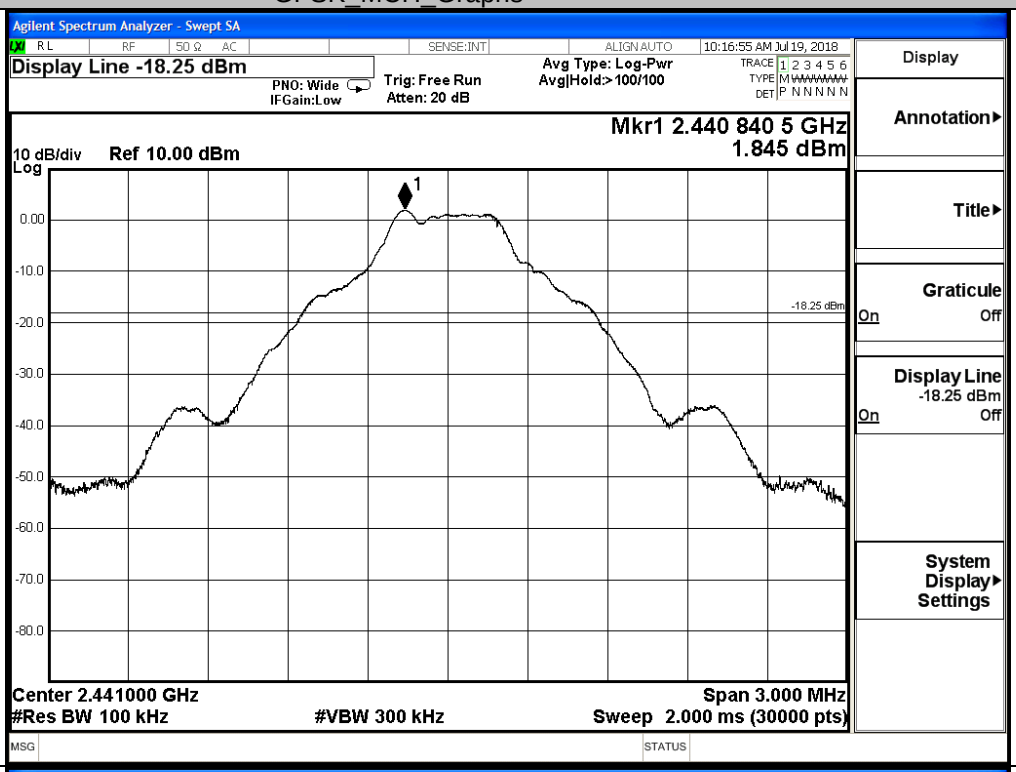
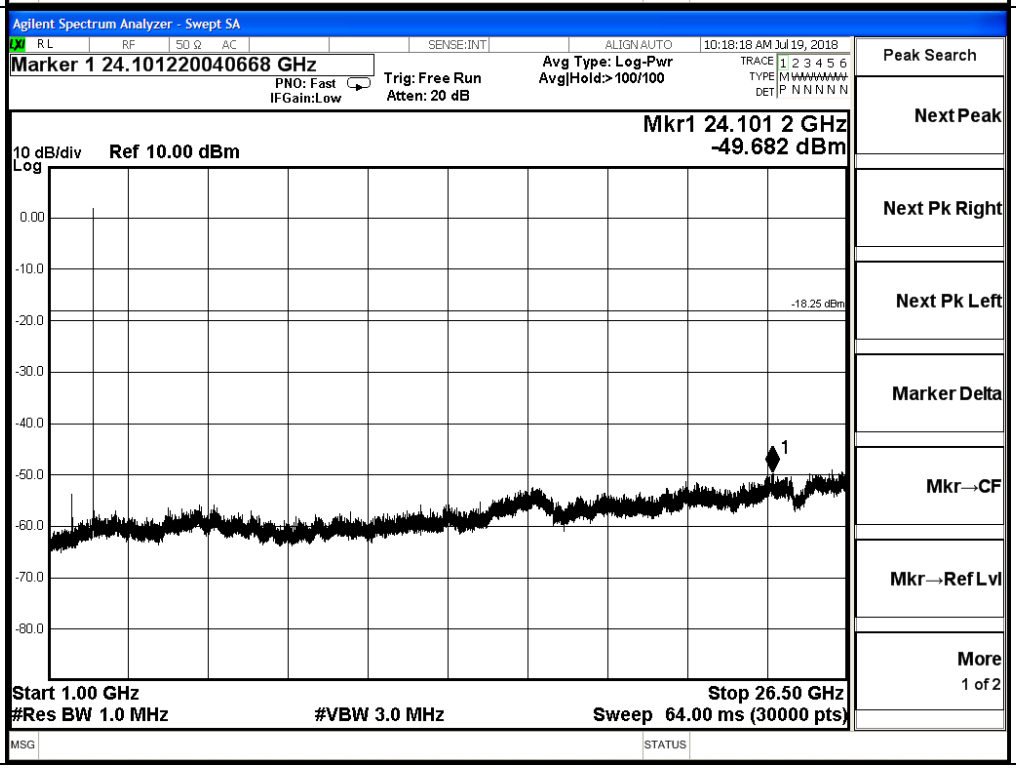
8DPSK _3DH5/HCH

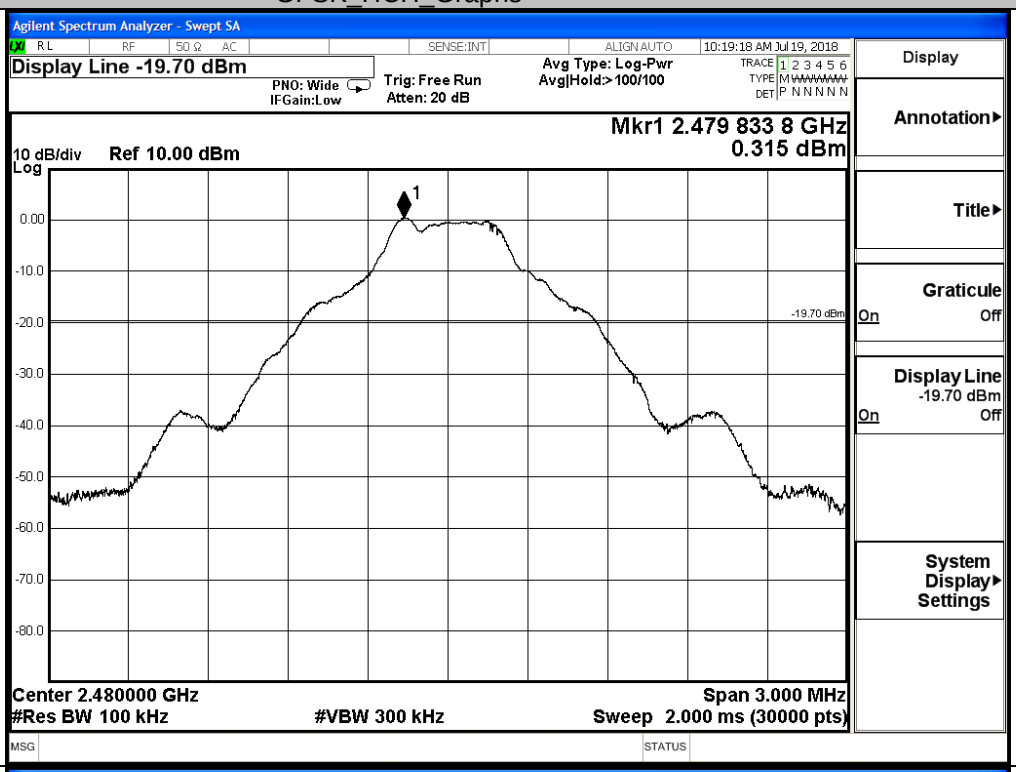
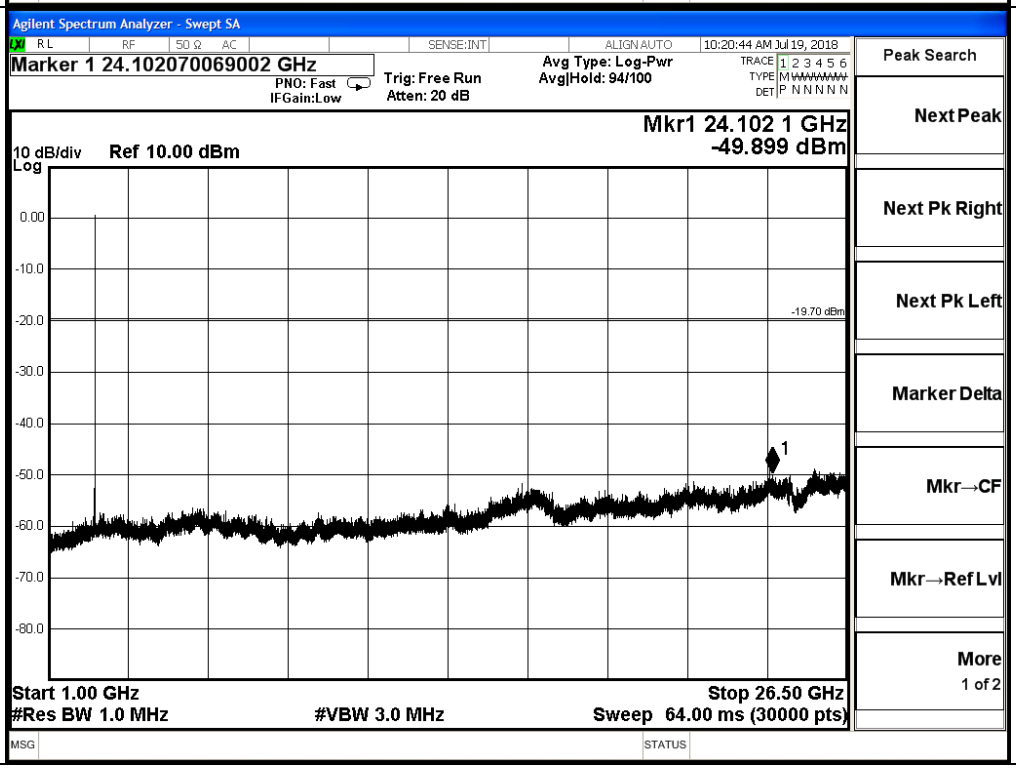


A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.423	-48.793	-17.577	PASS
	MCH	1.845	-49.682	-18.155	PASS
	HCH	0.315	-49.899	-19.685	PASS
π/4DQPSK	LCH	0.946	-50.371	-19.054	PASS
	MCH	0.493	-49.721	-19.507	PASS
	HCH	-0.739	-49.502	-20.739	PASS
8DPSK	LCH	0.919	-50.333	-19.081	PASS
	MCH	0.543	-49.913	-19.457	PASS
	HCH	-0.787	-50.263	-20.787	PASS

GFSK_LCH_Graphs		
Pref		
Puw		

GFSK_MCH_Graphs		
Pref		
Puw		

GFSK_HCH_Graphs		
Pref		
Puw		

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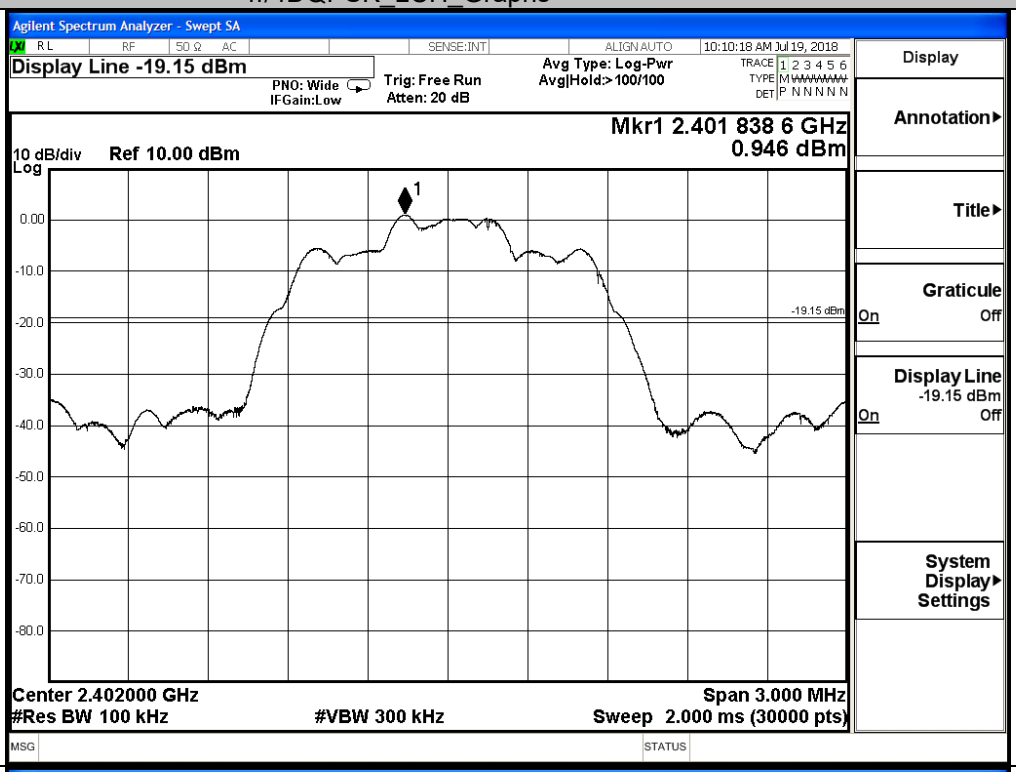
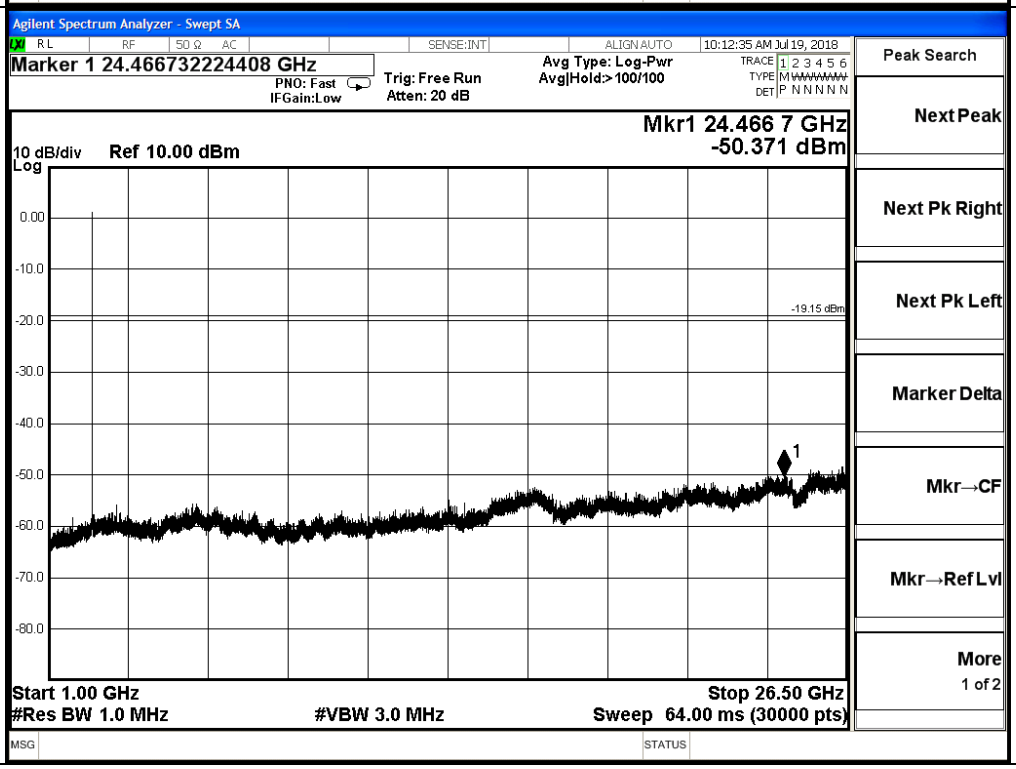
Pref		
Puw		

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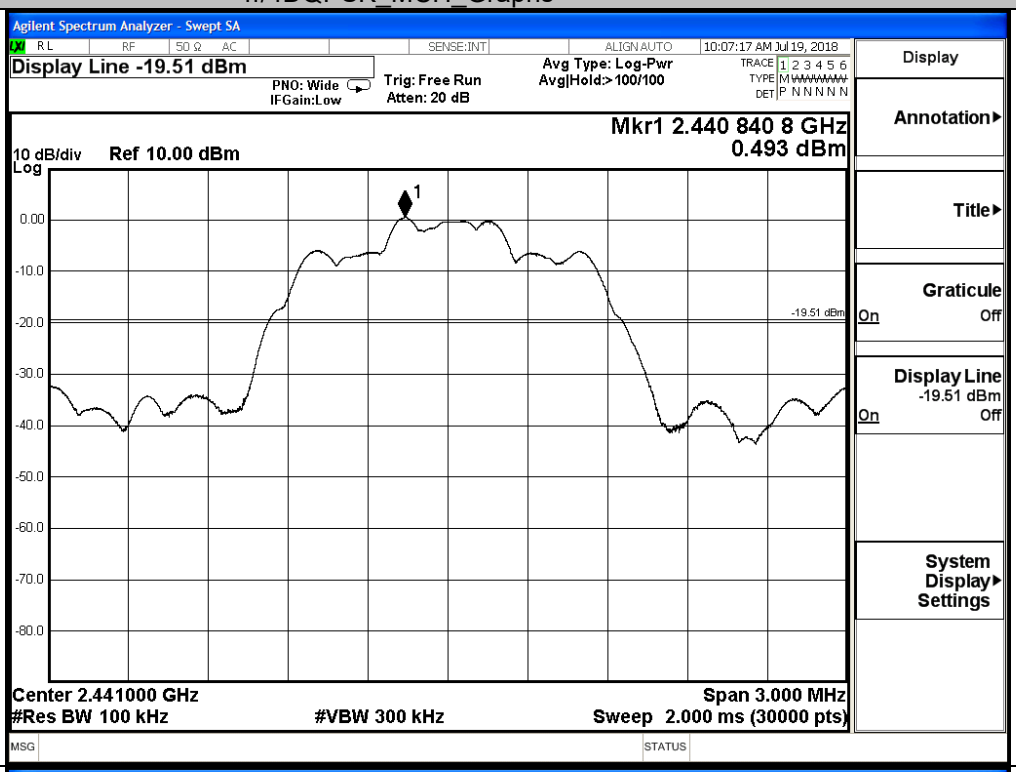
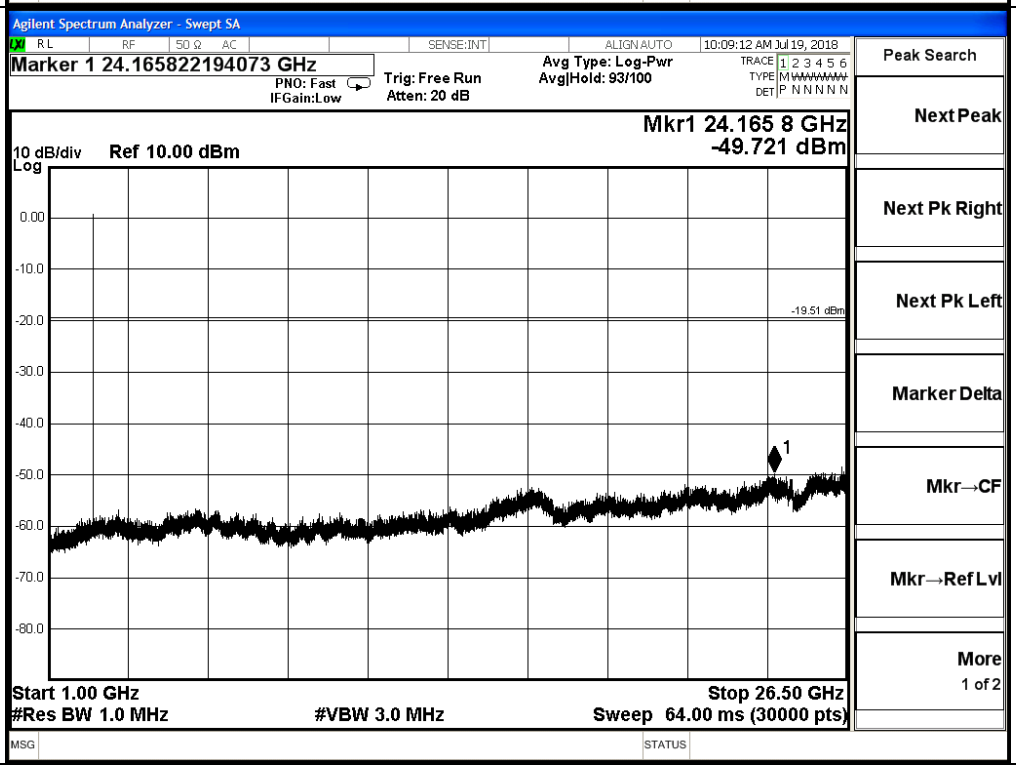
Pref		
Puw		

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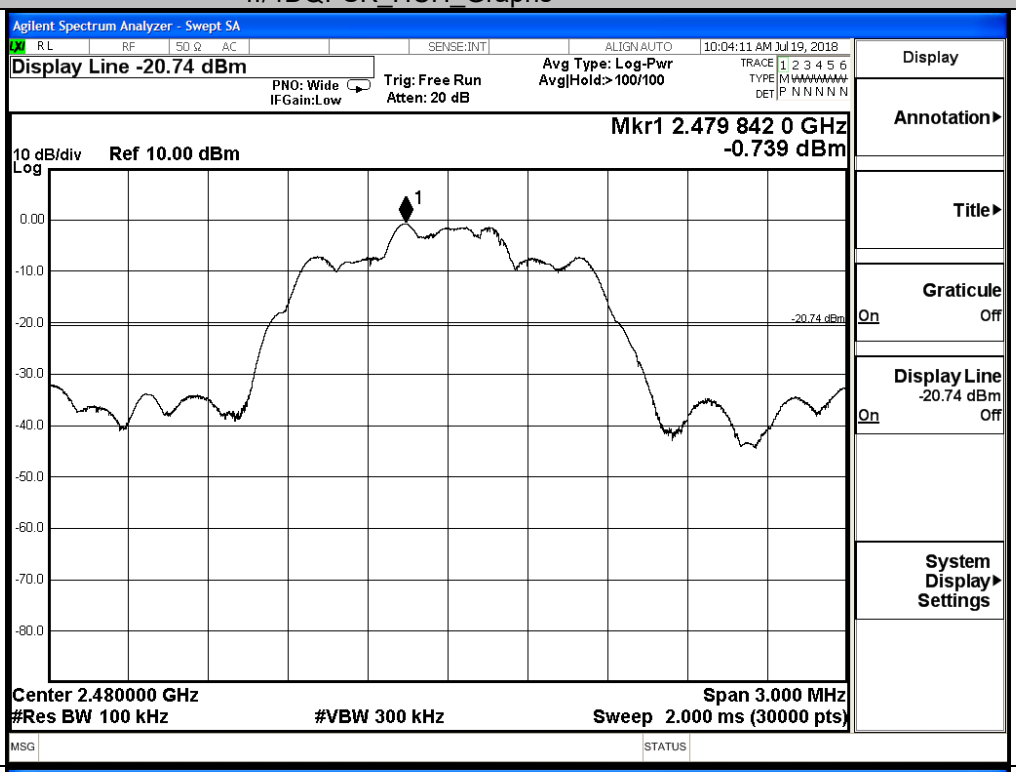
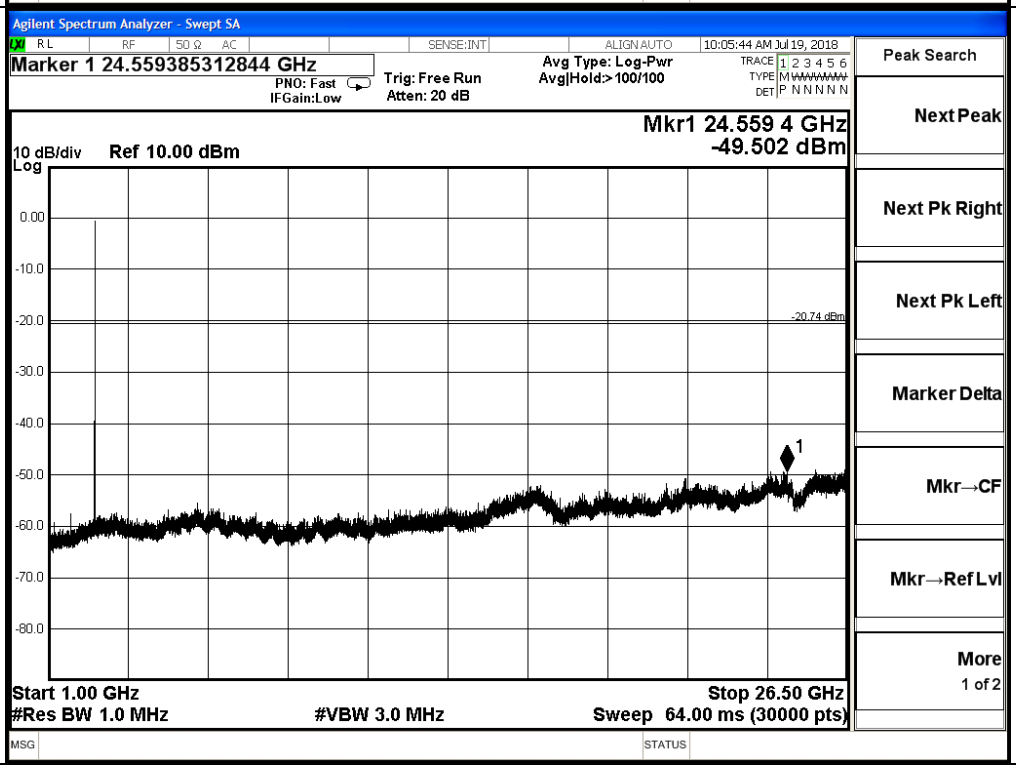
Pref		
Puw		

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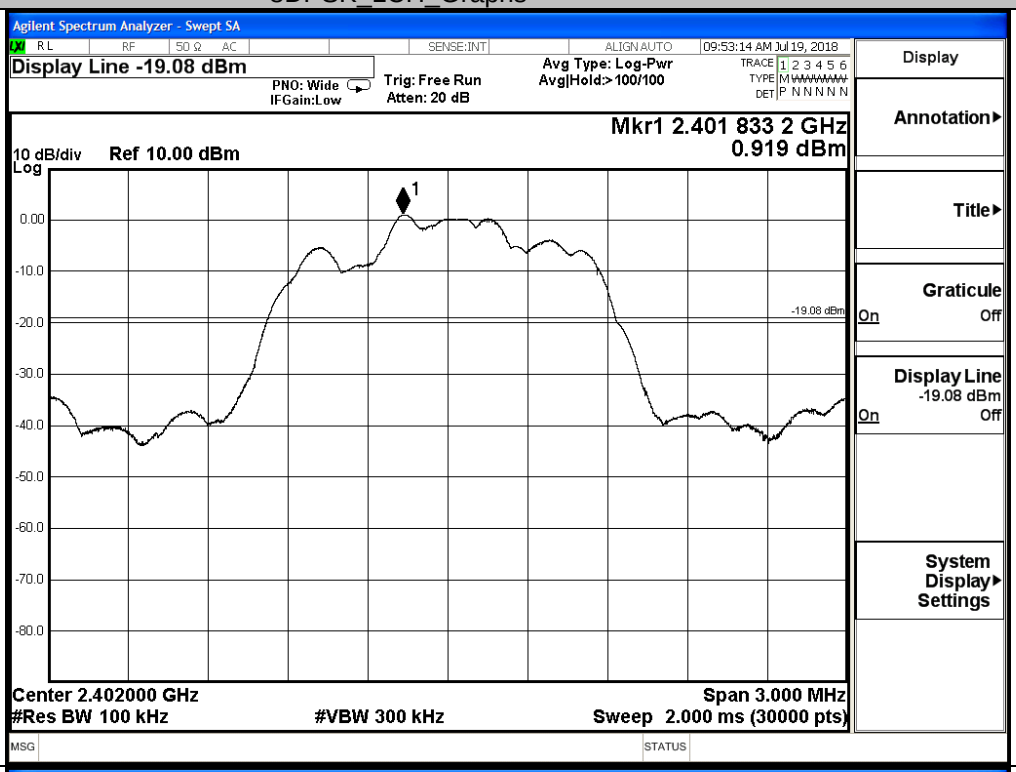
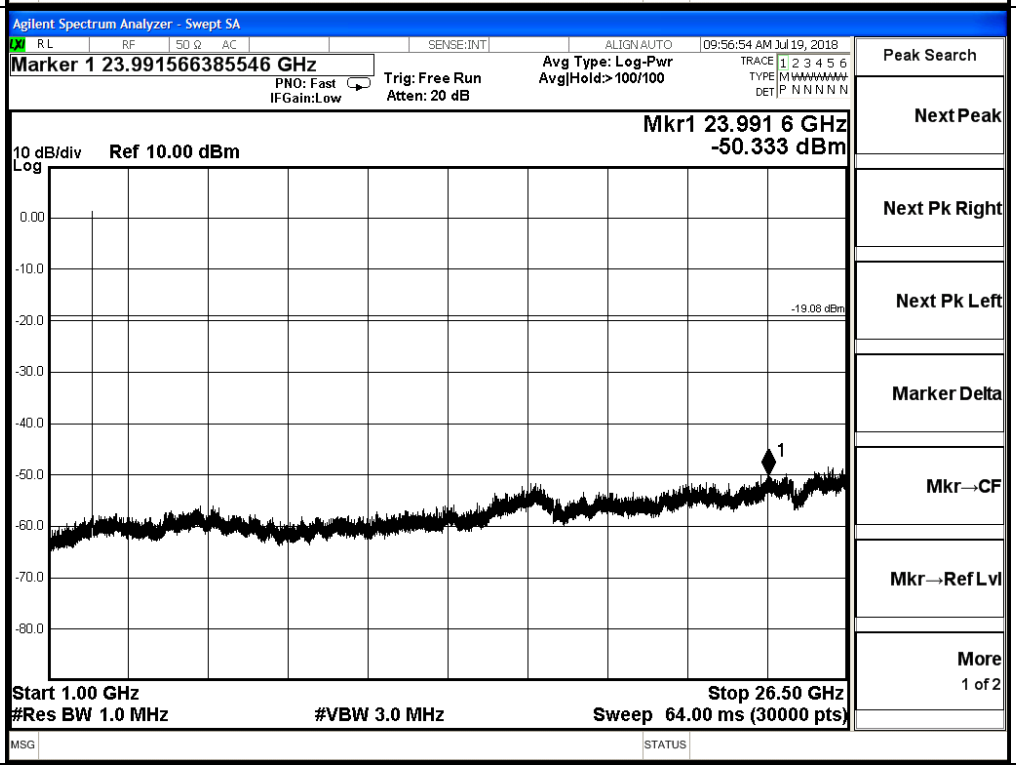
Pref		
Puw		

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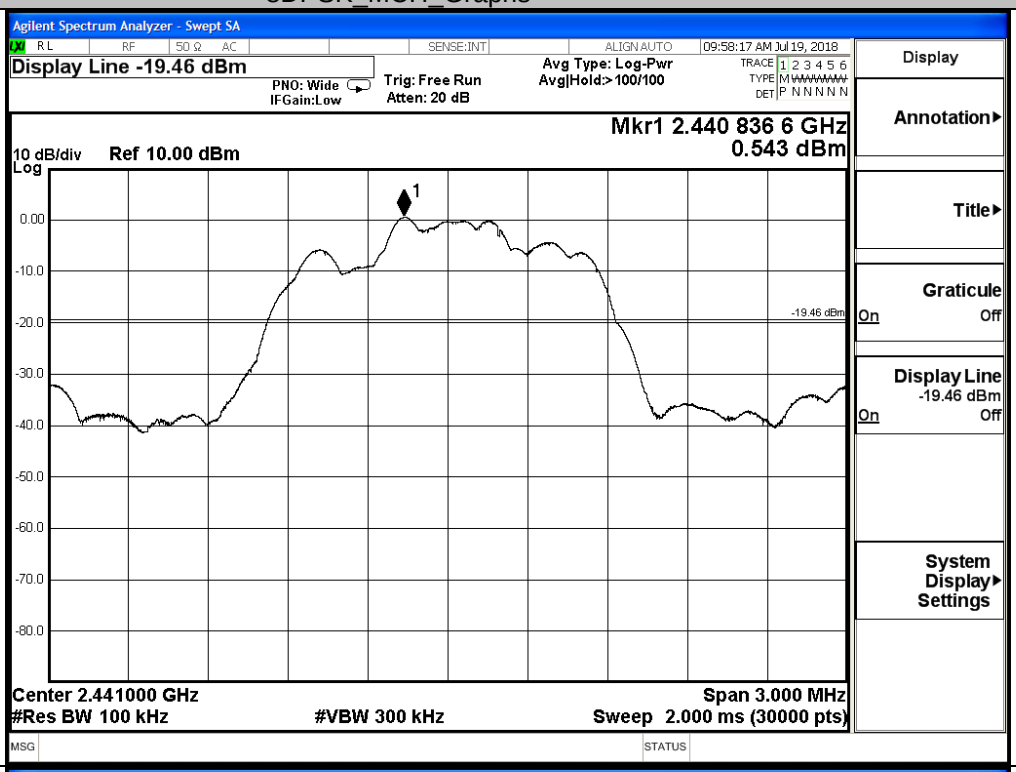
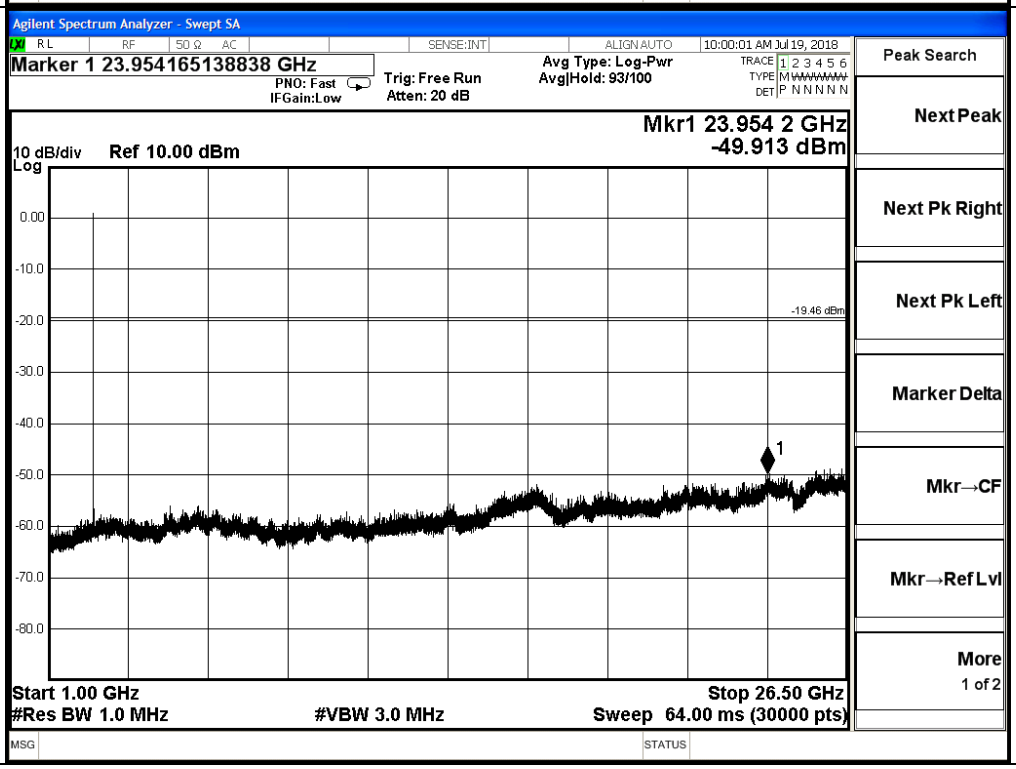
Pref		
Puw		

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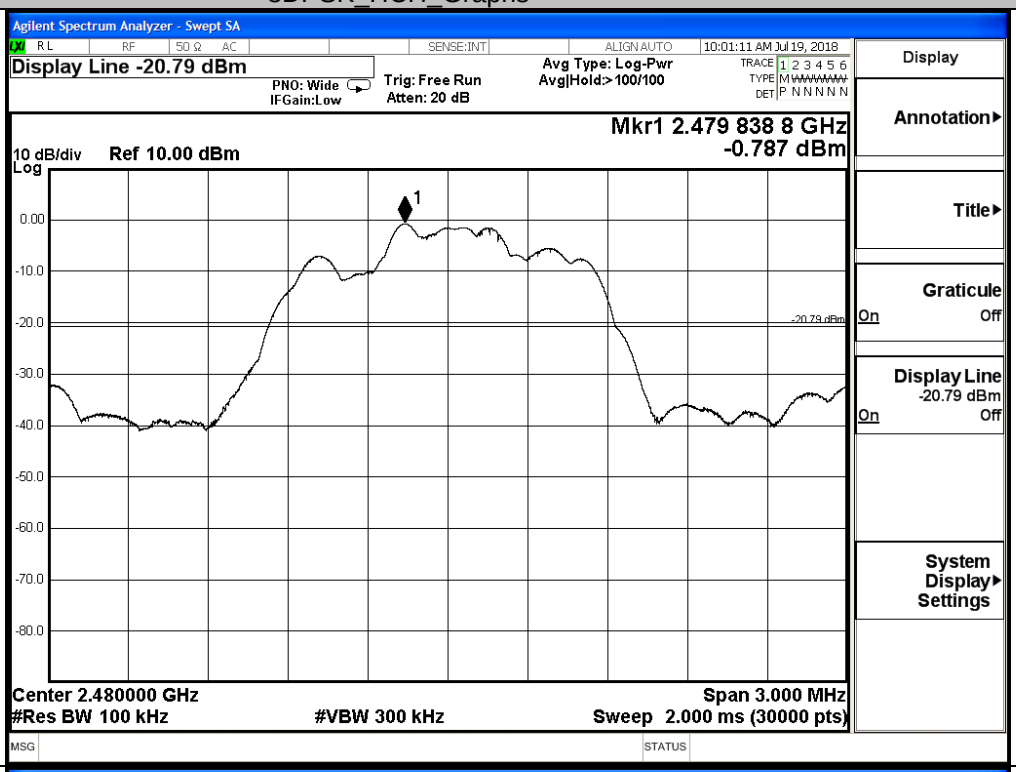
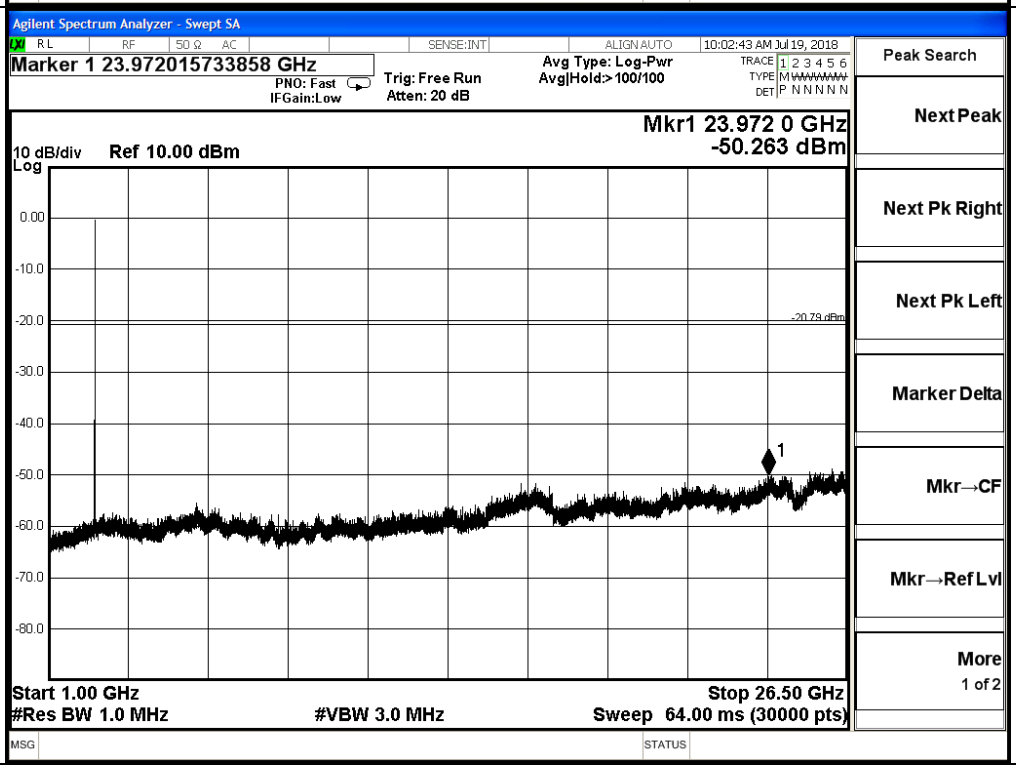
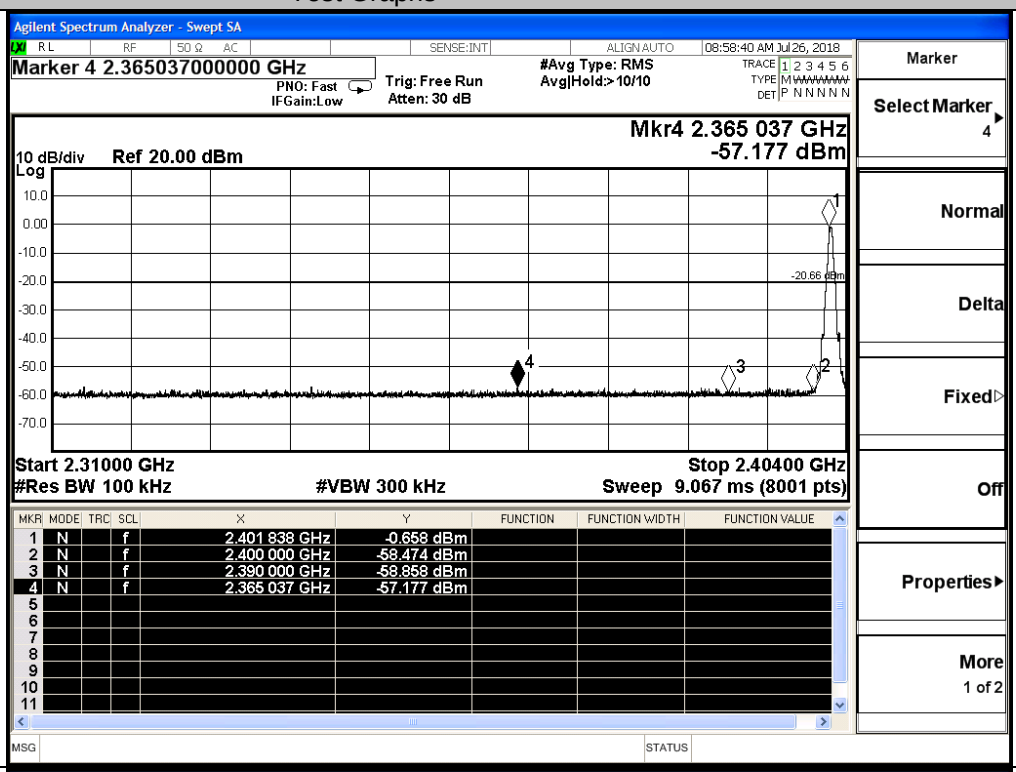
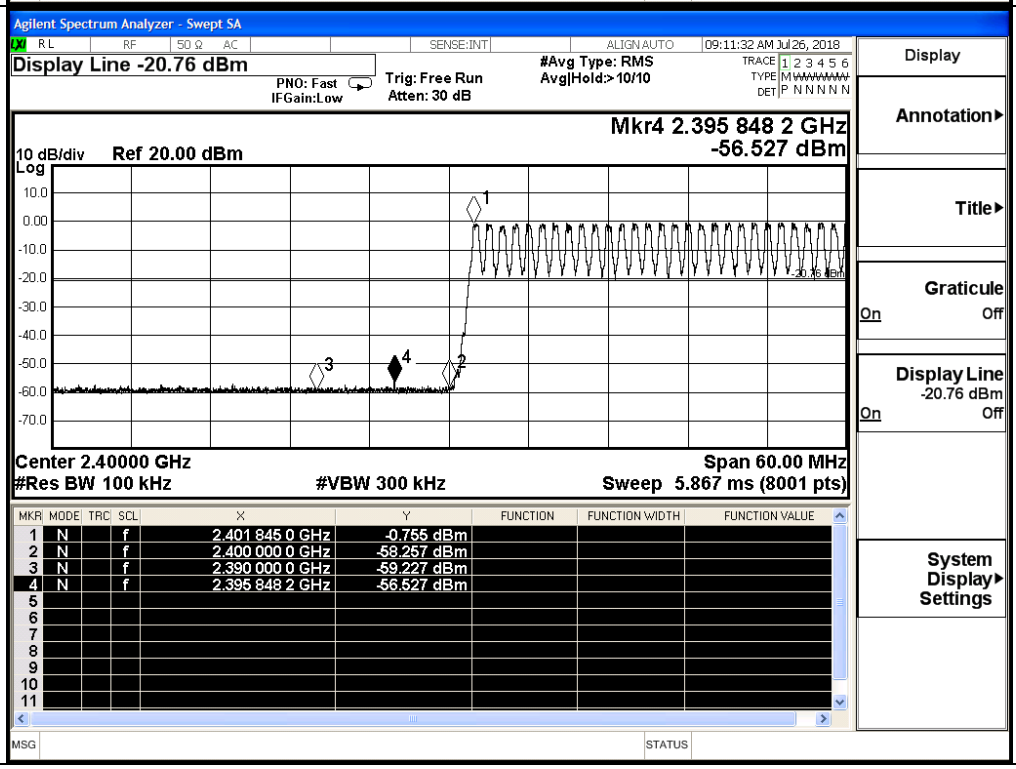
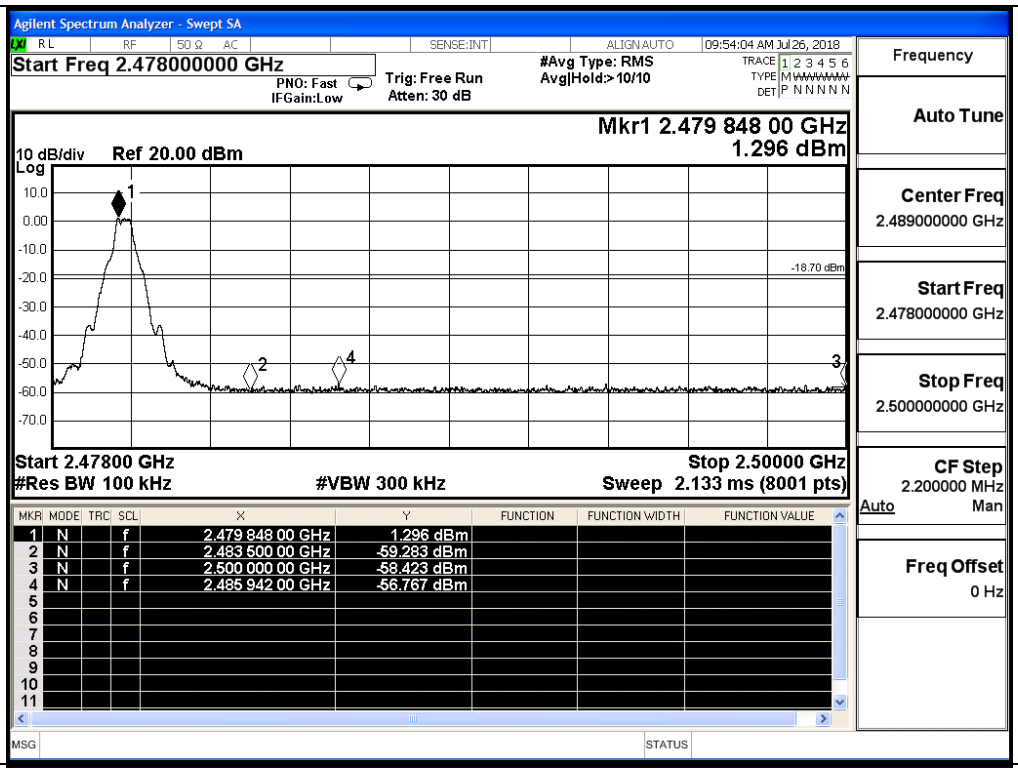
Pref		
Puw		

A.7 Band-edge for RF Conducted Emissions

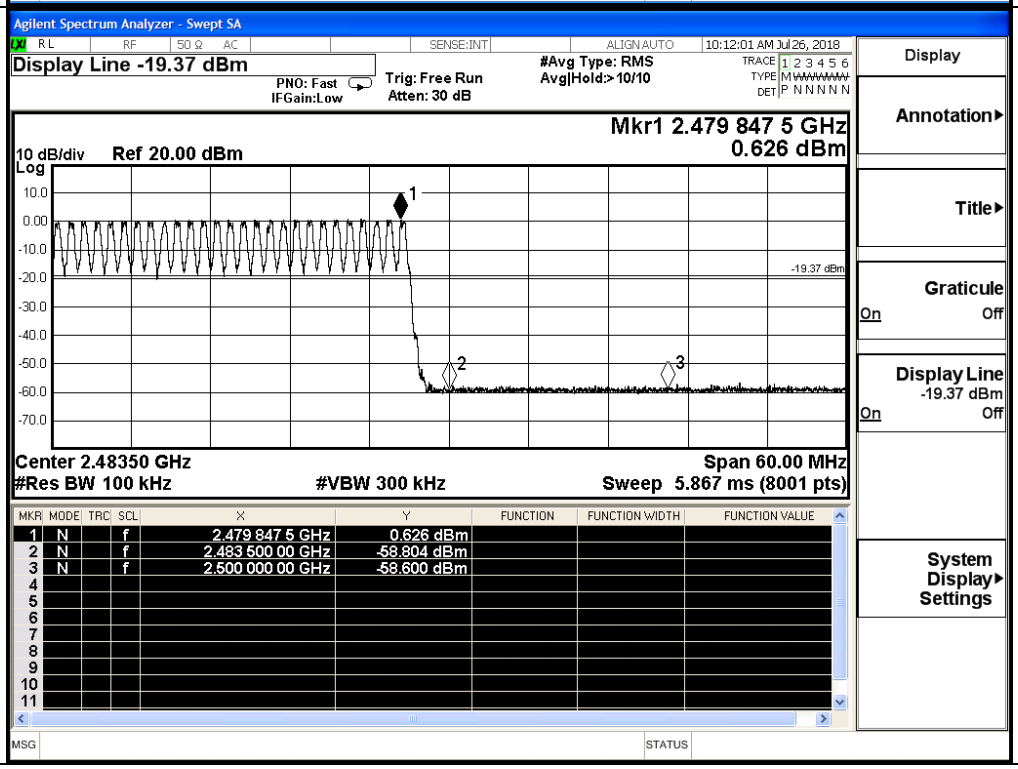
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-0.658	Off	-57.177	-20.658	PASS
			-0.755	On	-56.527	-20.755	PASS
	HCH	2480	1.296	Off	-56.767	-18.704	PASS
			0.626	On	-58.600	-19.374	PASS
π/4DQPSK	LCH	2402	-1.566	Off	-58.241	-21.566	PASS
			-1.496	On	-57.900	-21.496	PASS
	HCH	2480	0.029	Off	-57.165	-19.971	PASS
			-0.661	On	-59.563	-20.661	PASS
8DPSK	LCH	2402	-1.516	Off	-58.410	-21.516	PASS
			-1.618	On	-57.338	-21.618	PASS
	HCH	2480	-0.197	Off	-57.576	-20.197	PASS
			-0.480	On	-58.139	-20.480	PASS

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

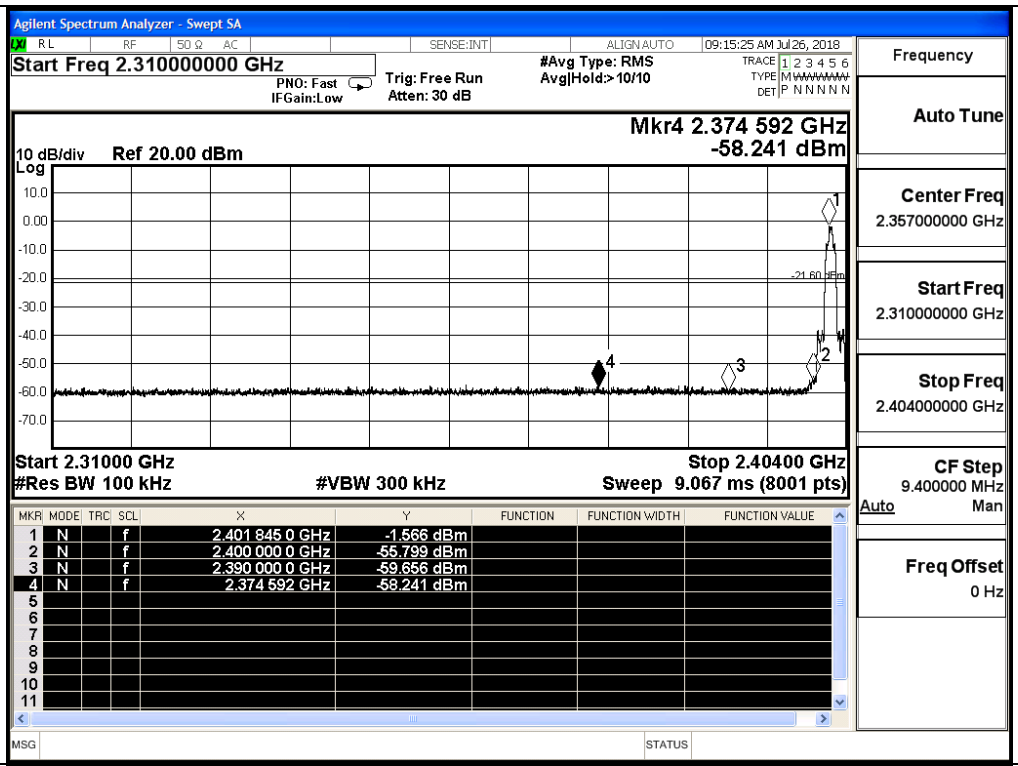
GFSK/HCH/No Hop



GFSK/HCH/Hop



π/4DQPSK/LCH/No Hop



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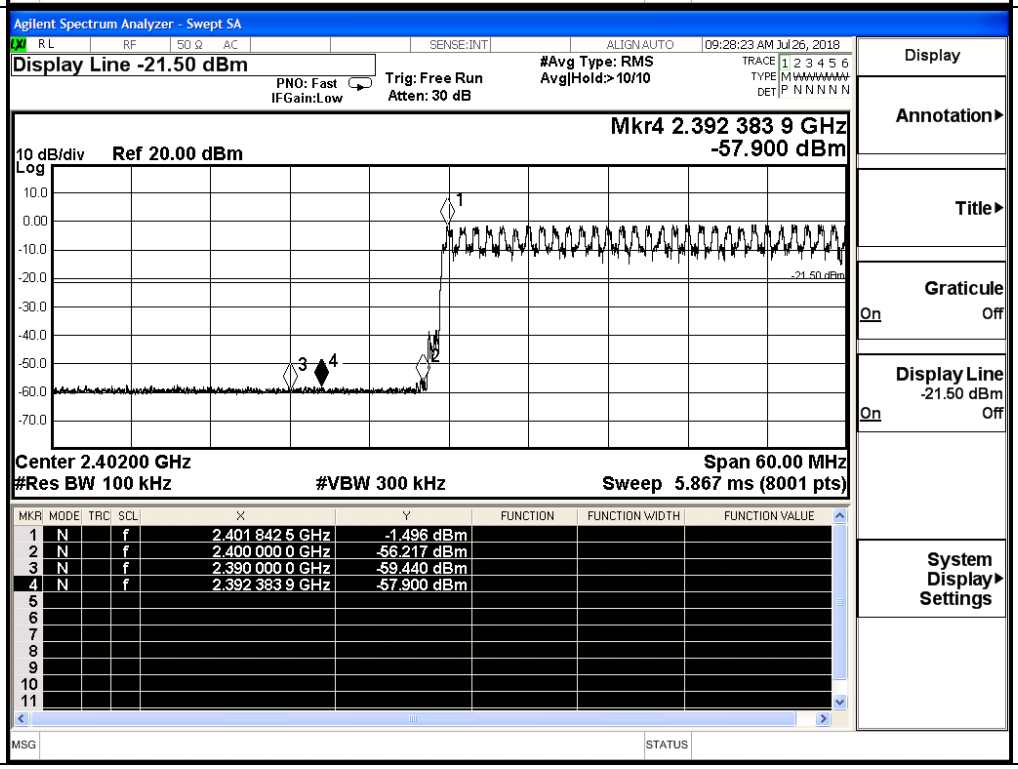

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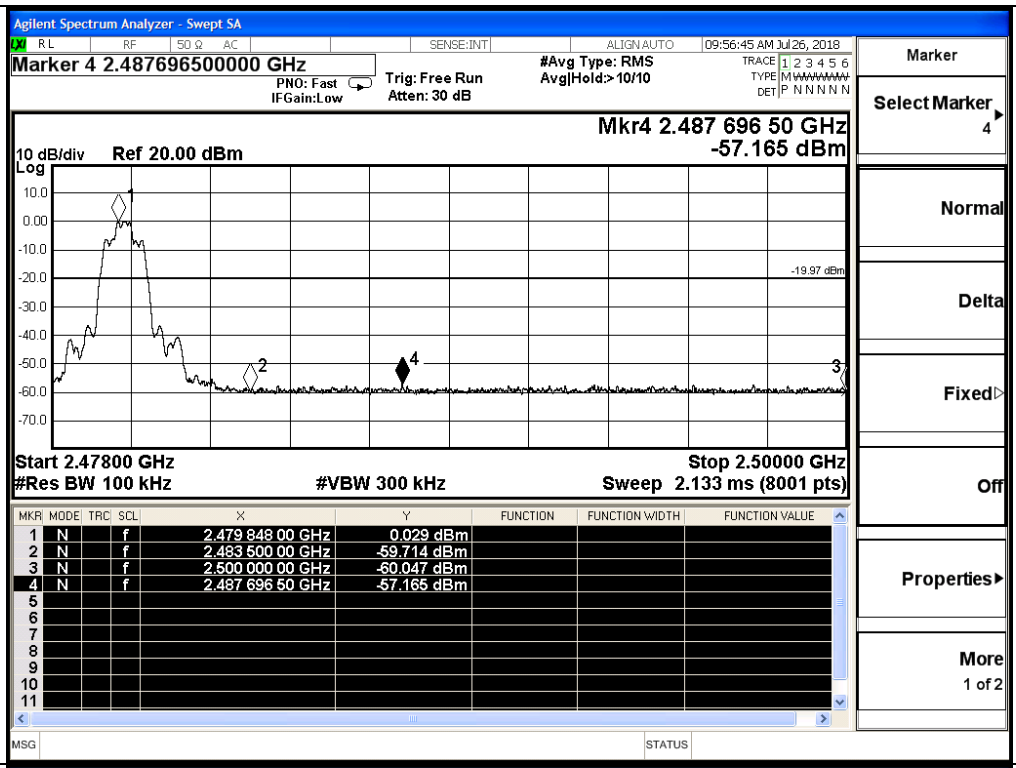
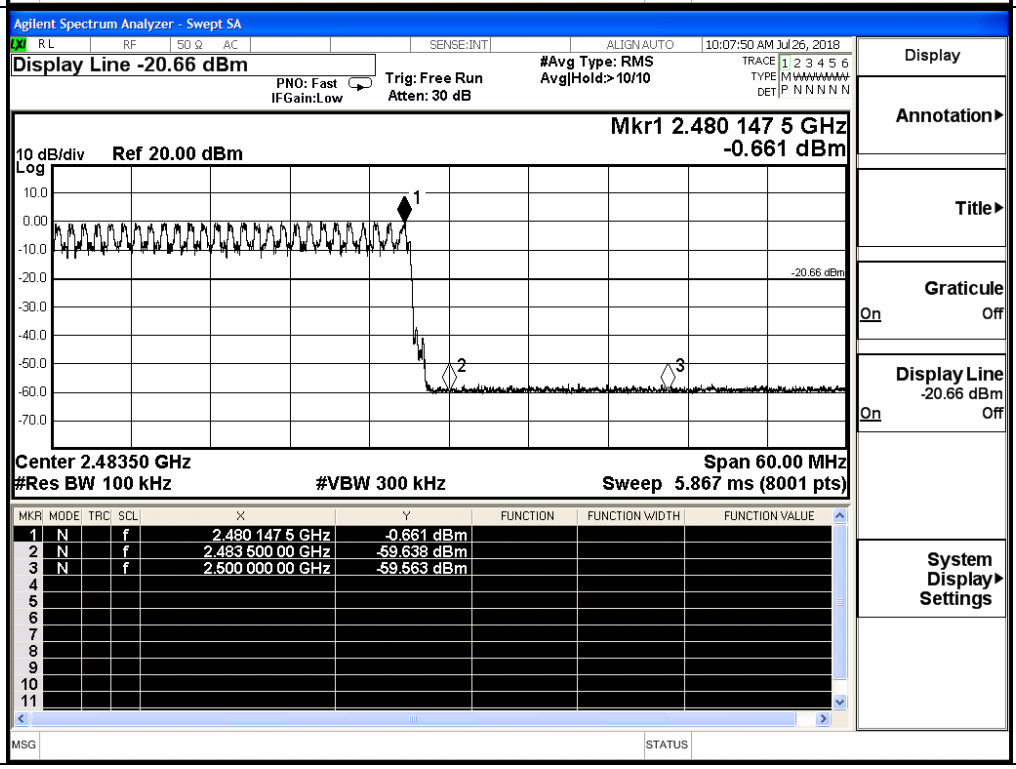
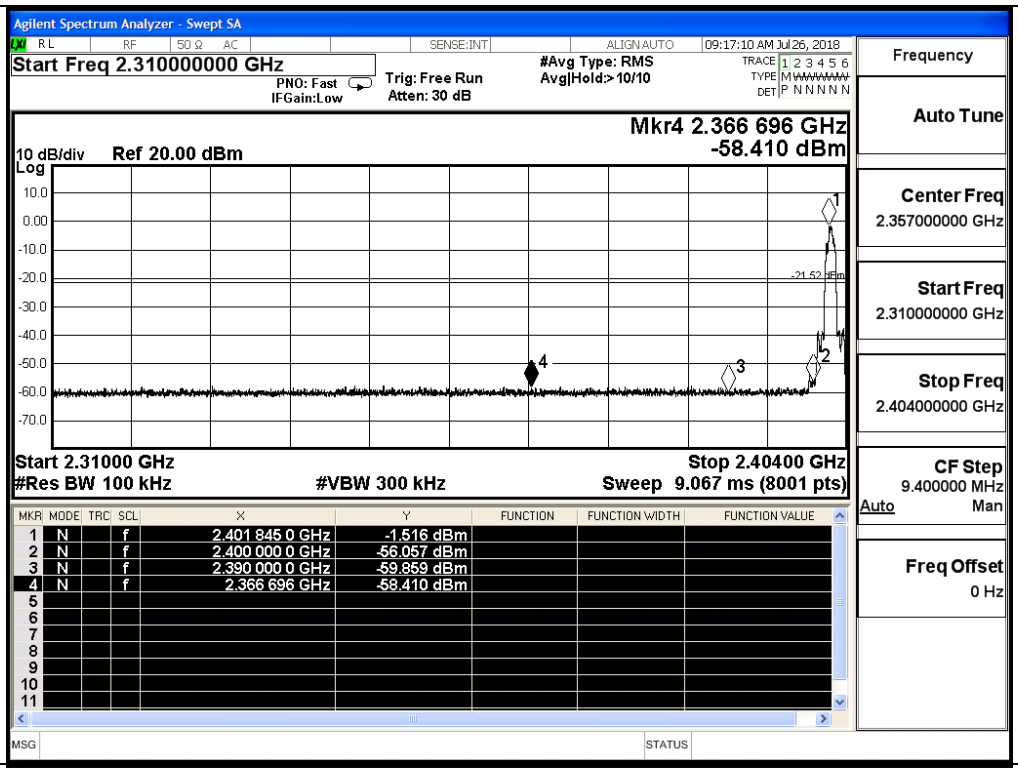


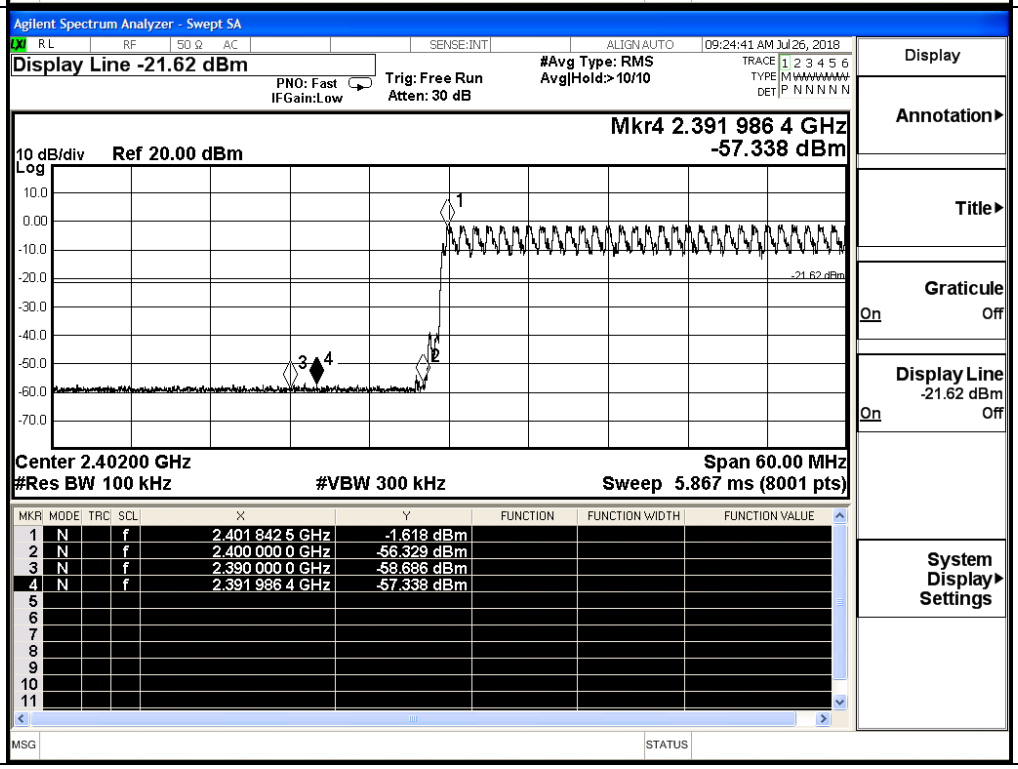
π/4DQPSK/HCH/Hop



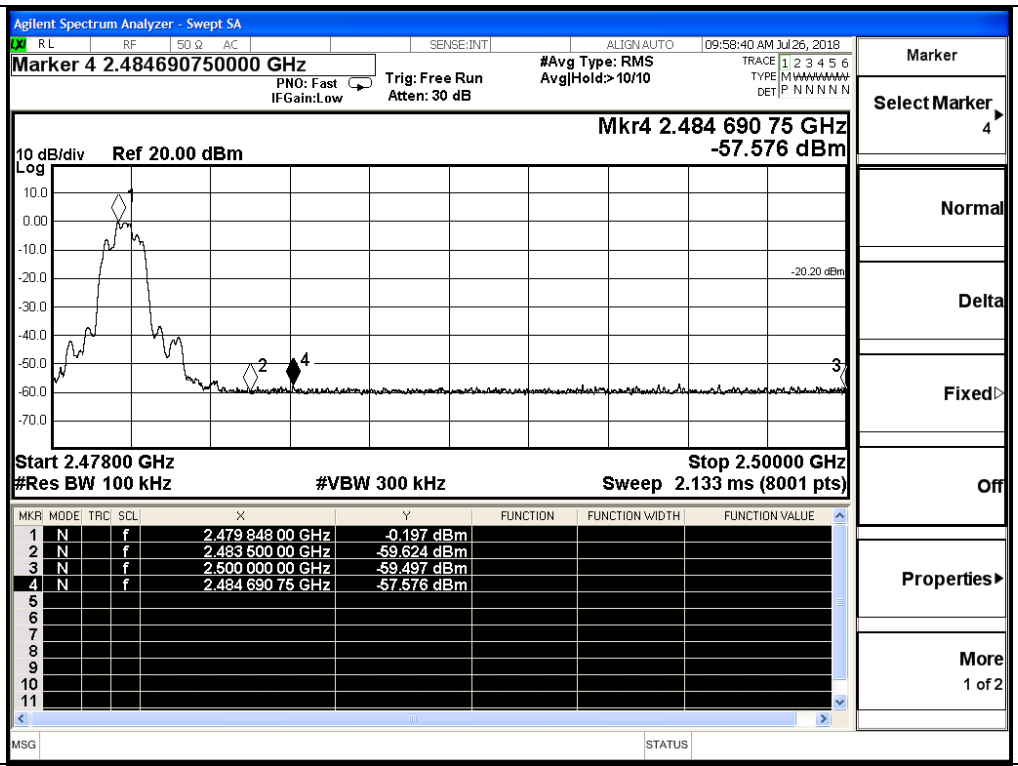
8DPSK/LCH/No Hop



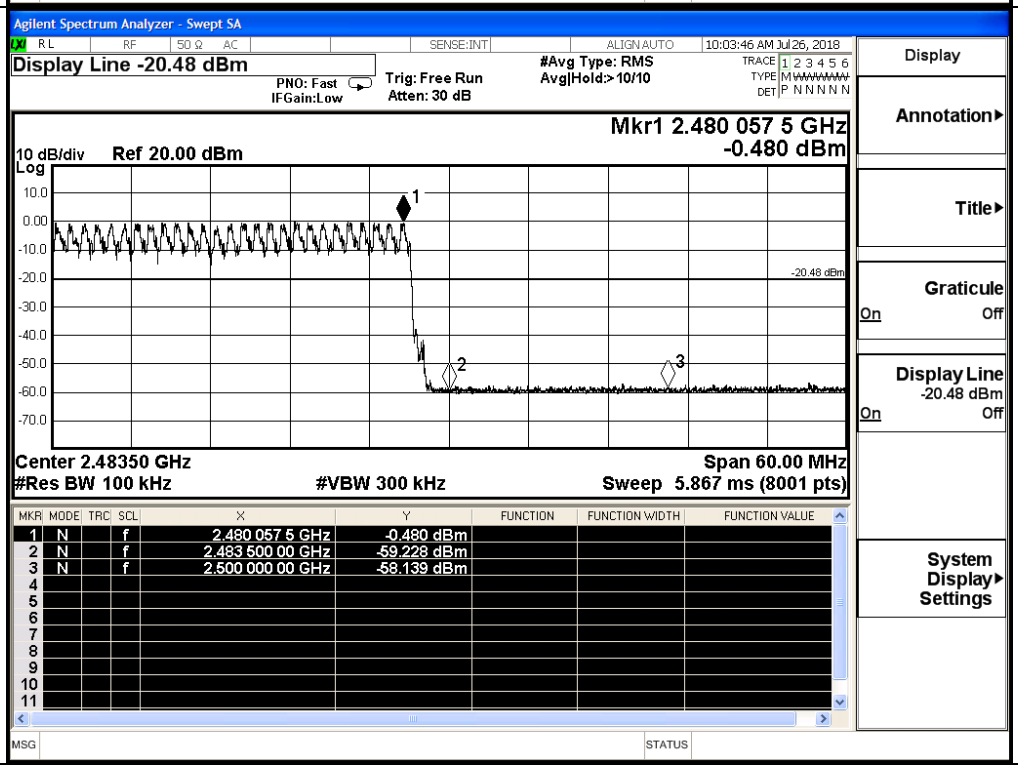
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



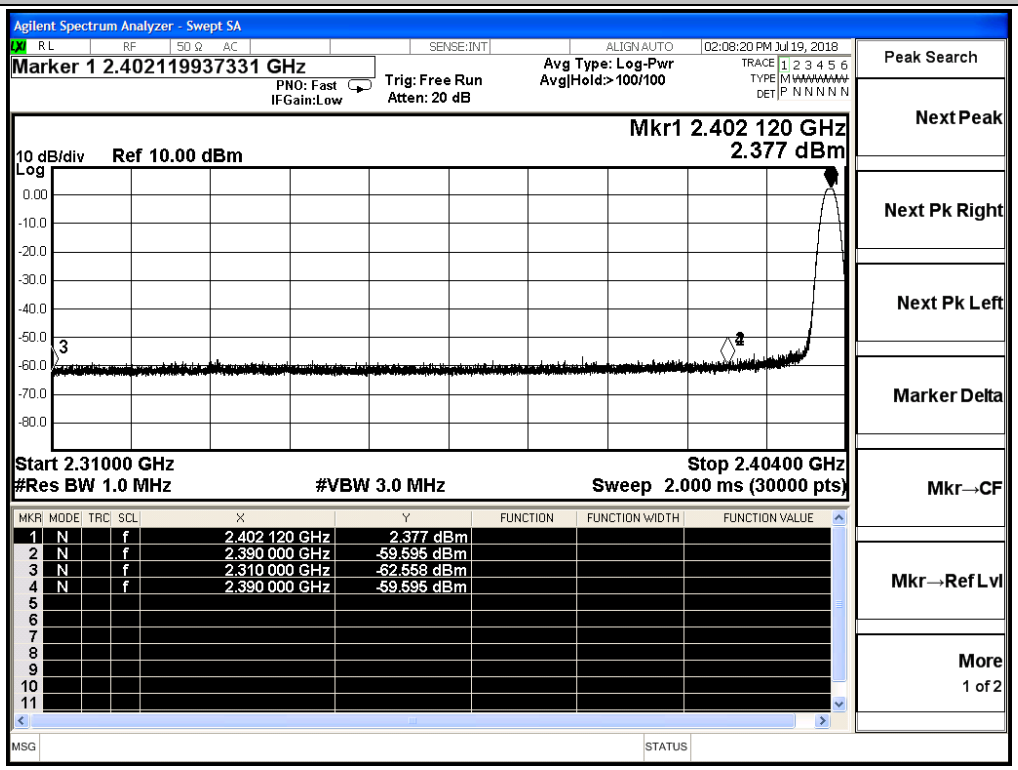
8DPSK/HCH/Hop



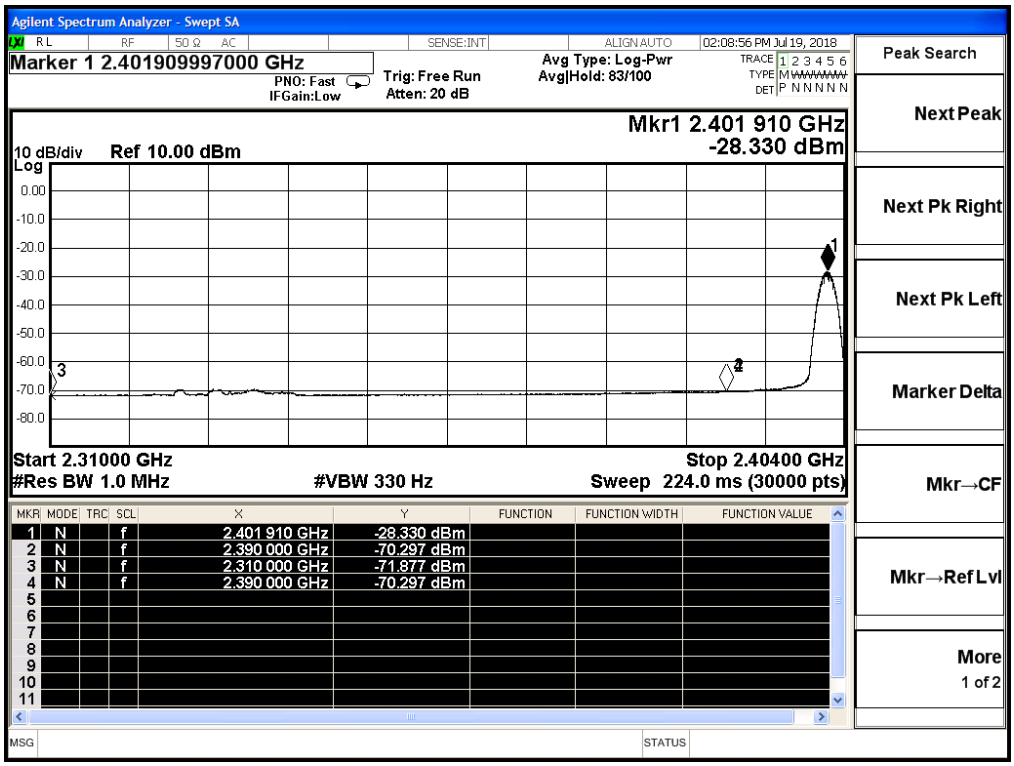
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-62.558	2.0	0	34.70	PEAK	74	PASS
	Off	2310.0	-71.877	2.0	0	25.38	AV	54	PASS
	Off	2390.0	-59.595	2.0	0	37.67	PEAK	74	PASS
	Off	2390.0	-70.297	2.0	0	26.96	AV	54	PASS
	Off	2483.5	-58.094	2.0	0	39.17	PEAK	74	PASS
	Off	2483.5	-69.224	2.0	0	28.04	AV	54	PASS
	Off	2500.0	-59.943	2.0	0	37.32	PEAK	74	PASS
	Off	2500.0	-70.909	2.0	0	26.35	AV	54	PASS
π/4DQPSK	Off	2310.0	-59.878	2.0	0	37.38	PEAK	74	PASS
	Off	2310.0	-71.955	2.0	0	25.31	AV	54	PASS
	Off	2390.0	-58.363	2.0	0	38.90	PEAK	74	PASS
	Off	2390.0	-70.337	2.0	0	26.92	AV	54	PASS
	Off	2483.5	-56.386	2.0	0	40.87	PEAK	74	PASS
	Off	2483.5	-60.052	2.0	0	37.21	AV	54	PASS
	Off	2500.0	-58.213	2.0	0	39.05	PEAK	74	PASS
	Off	2500.0	-70.984	2.0	0	26.28	AV	54	PASS
8DPSK	Off	2310.0	-62.636	2.0	0	34.62	PEAK	74	PASS
	Off	2310.0	-71.864	2.0	0	25.40	AV	54	PASS
	Off	2390.0	-60.116	2.0	0	37.14	PEAK	74	PASS
	Off	2390.0	-70.841	2.0	0	26.42	AV	54	PASS
	Off	2483.5	-56.257	2.0	0	41.00	PEAK	74	PASS
	Off	2483.5	-69.642	2.0	0	27.62	AV	54	PASS
	Off	2500.0	-60.782	2.0	0	36.48	PEAK	74	PASS
	Off	2500.0	-71.642	2.0	0	25.62	AV	54	PASS

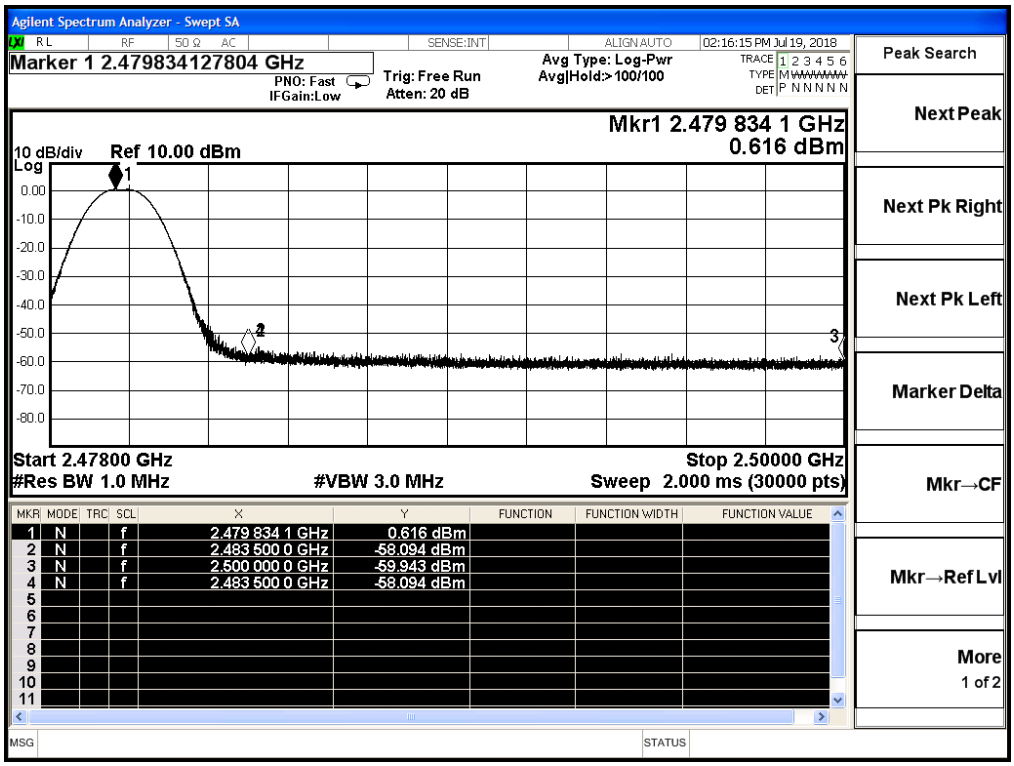
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



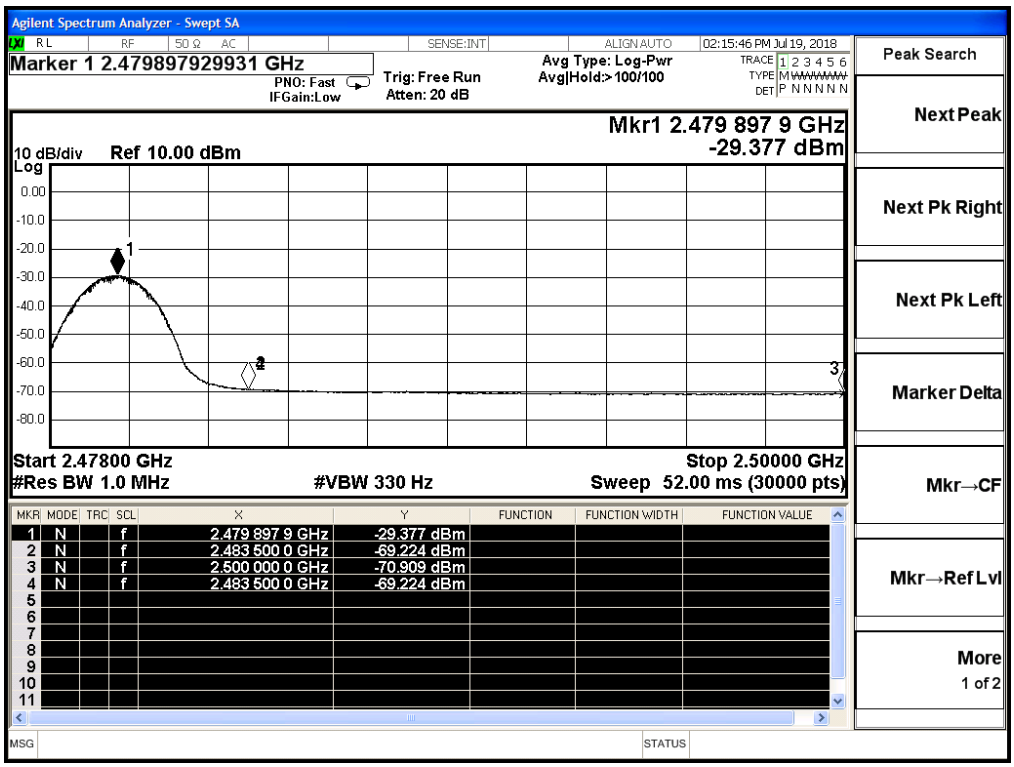
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



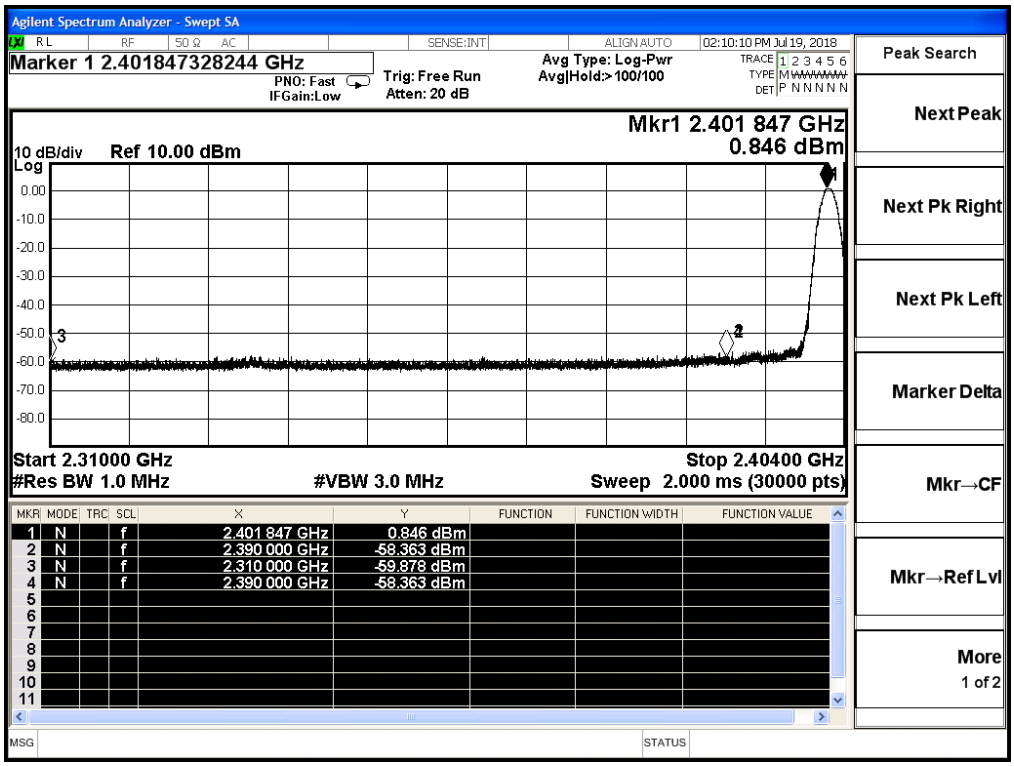
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



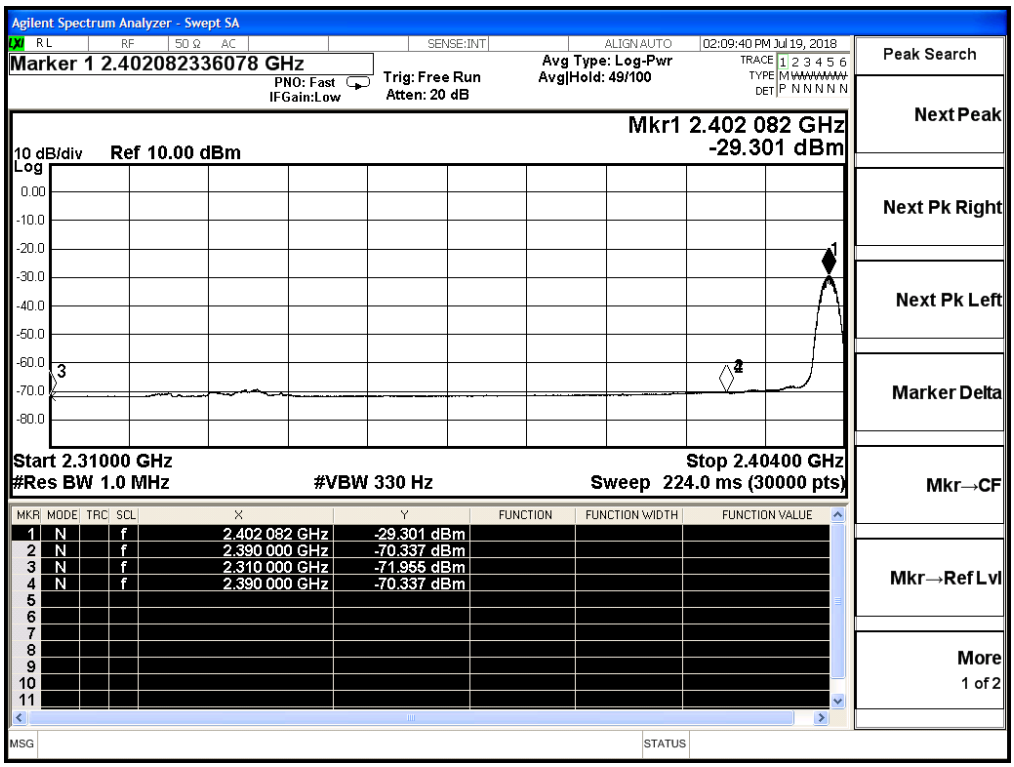
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



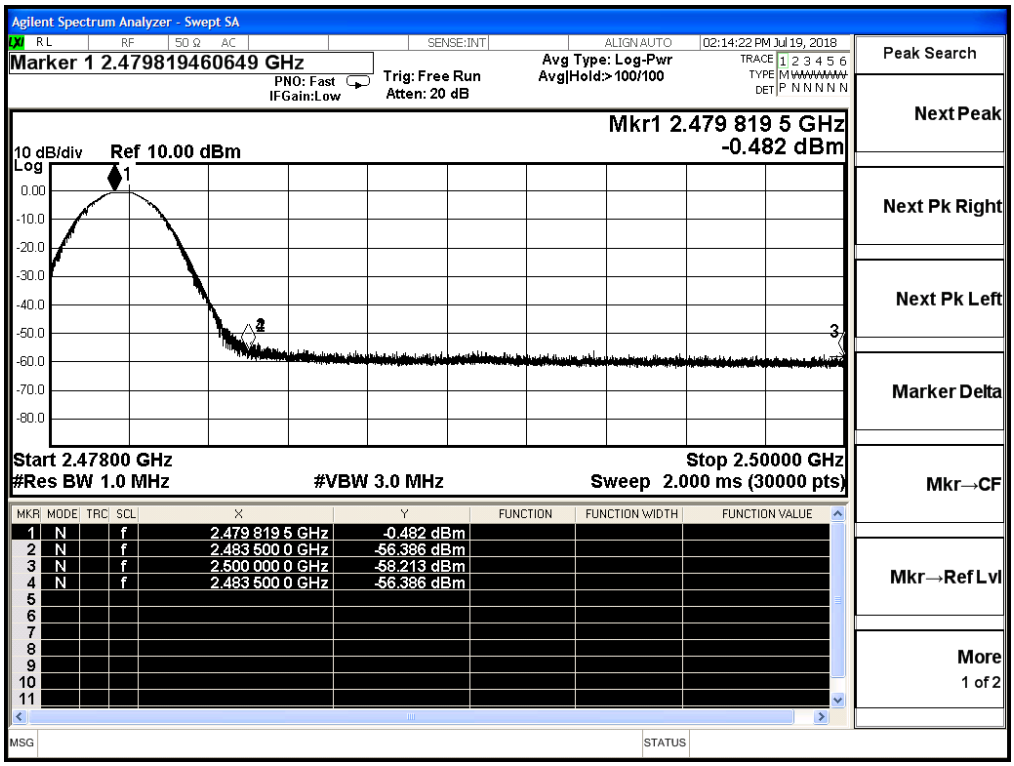
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



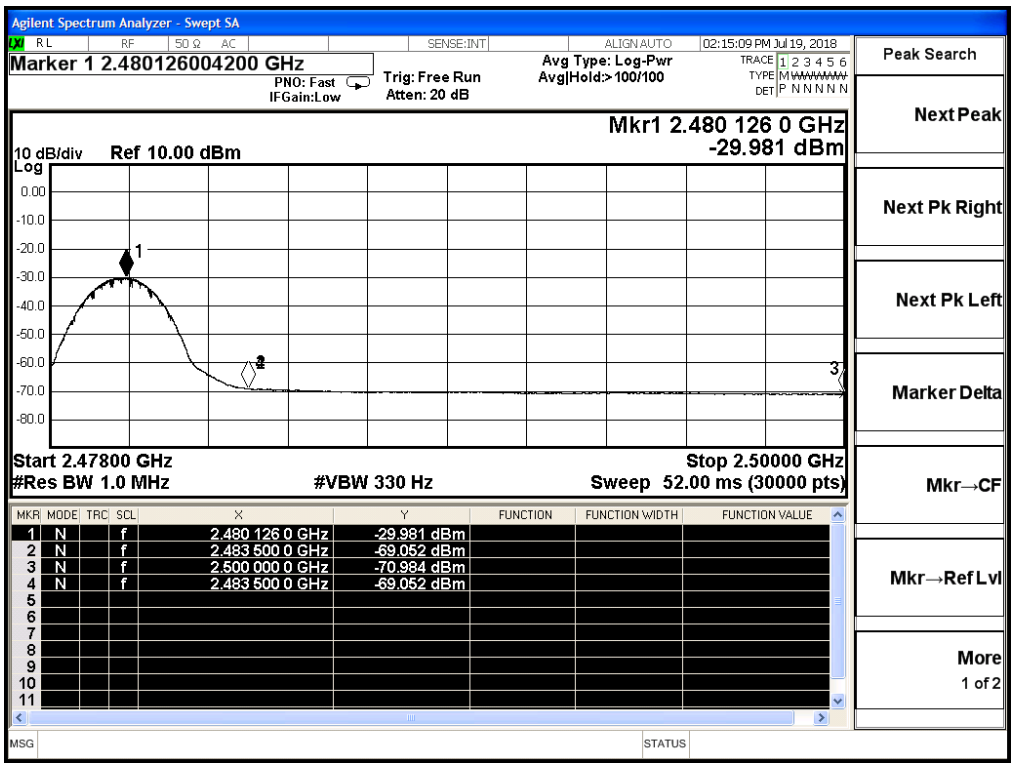
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



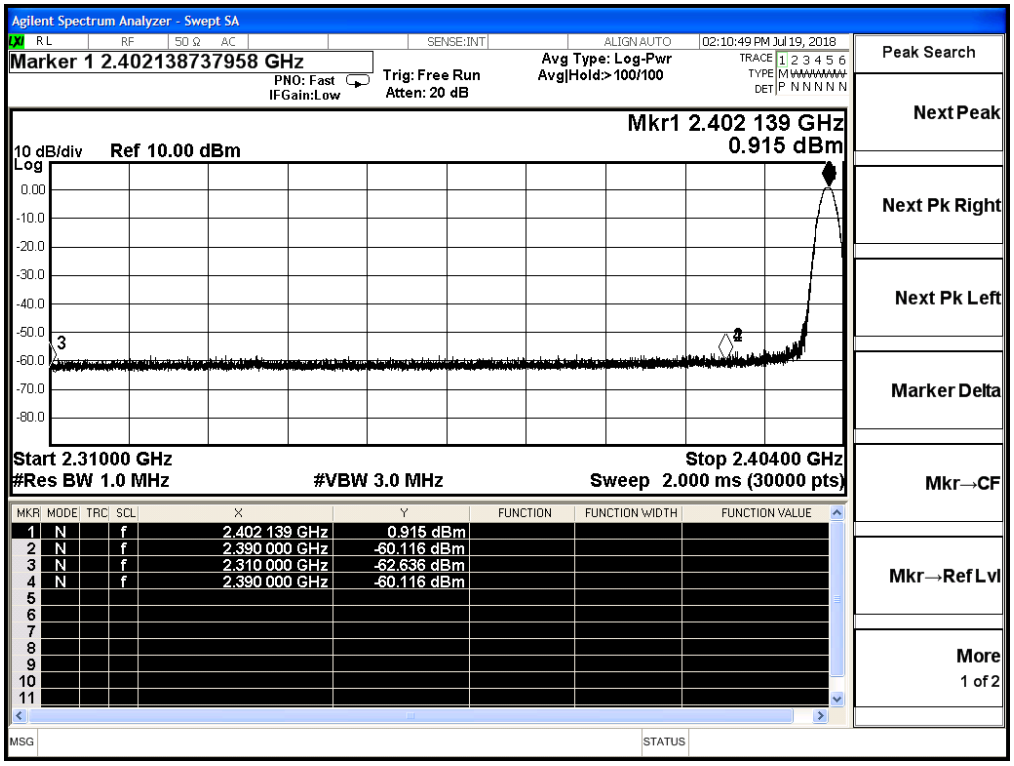
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



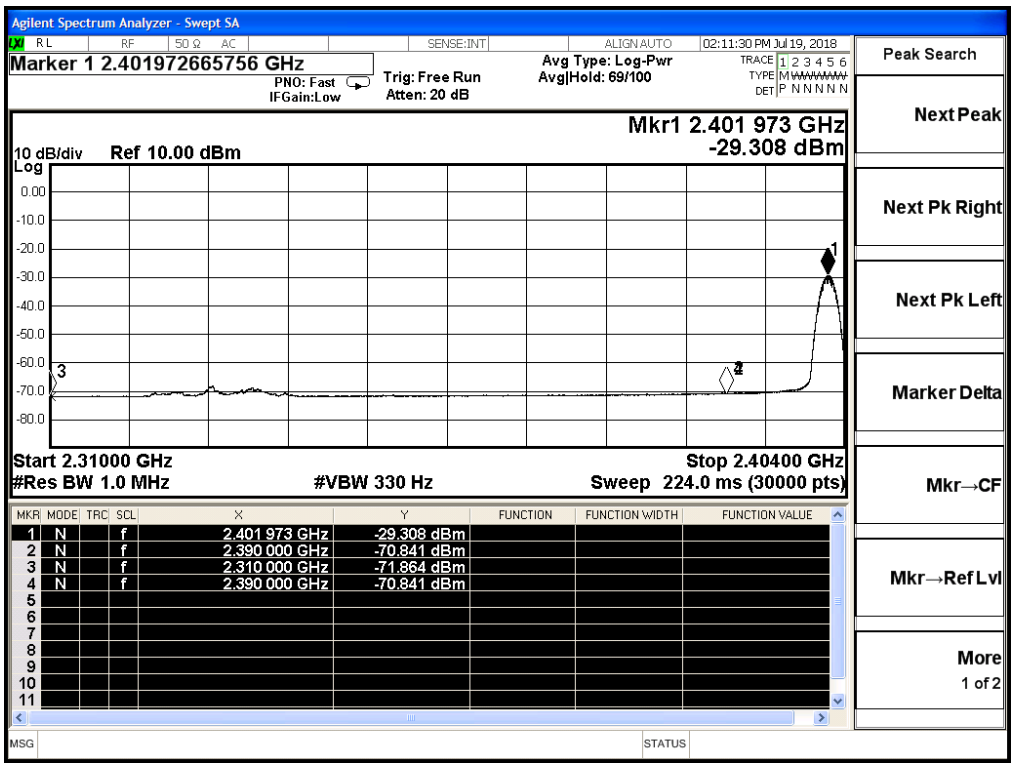
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



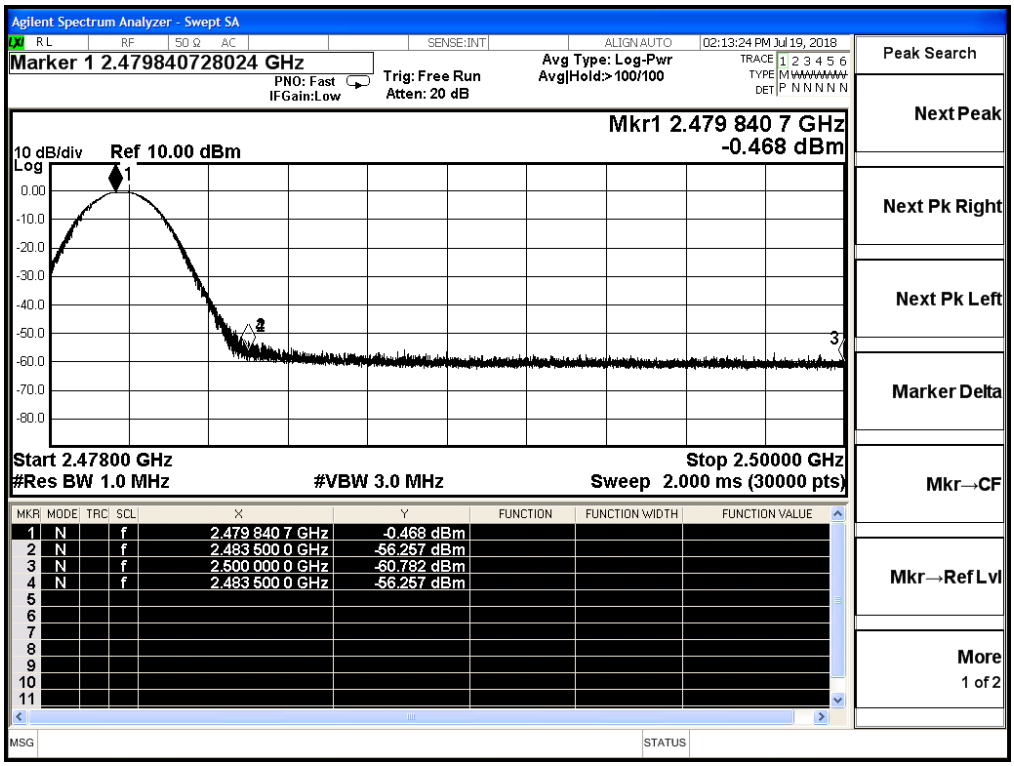
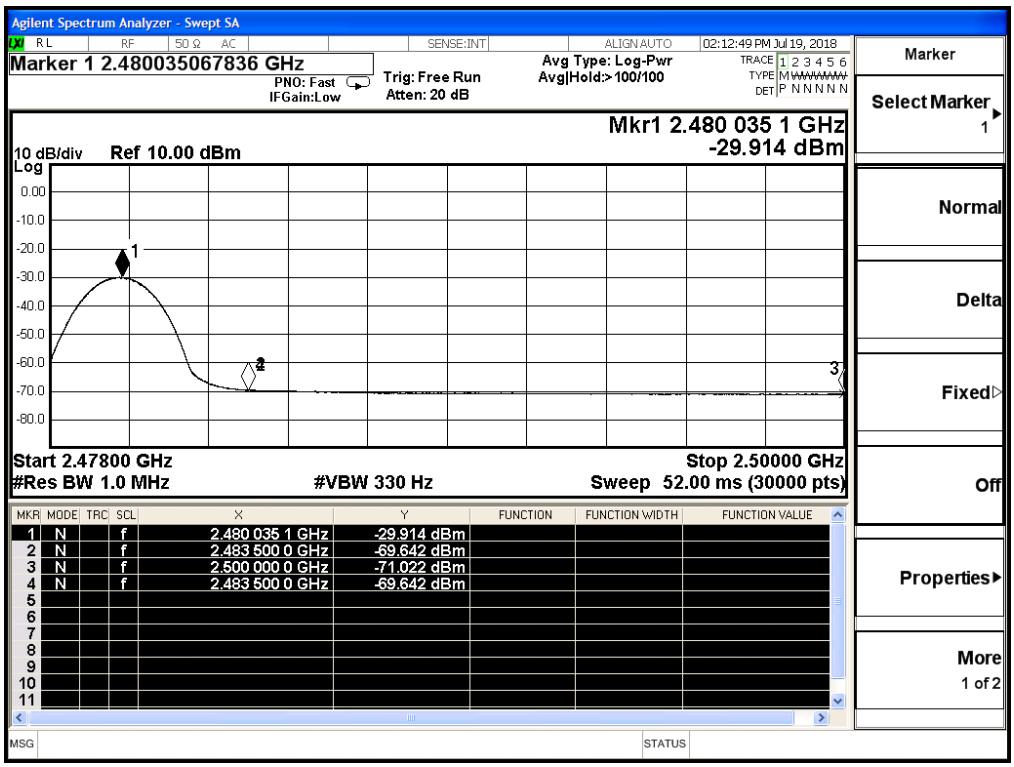
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)