Appendix A

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

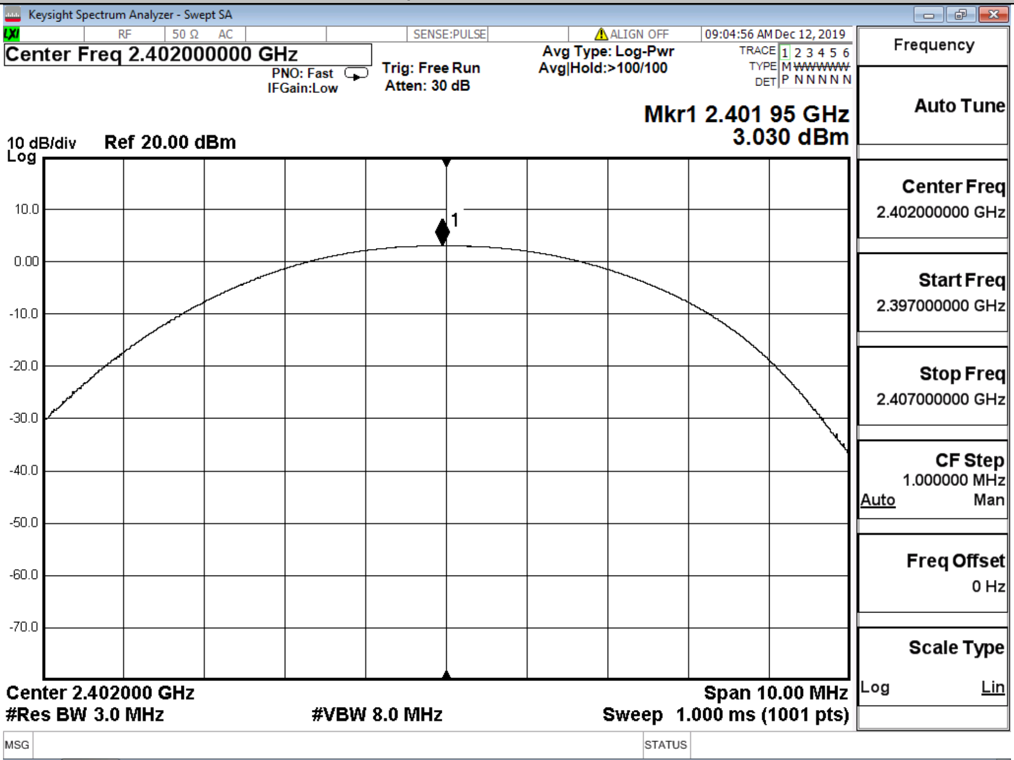
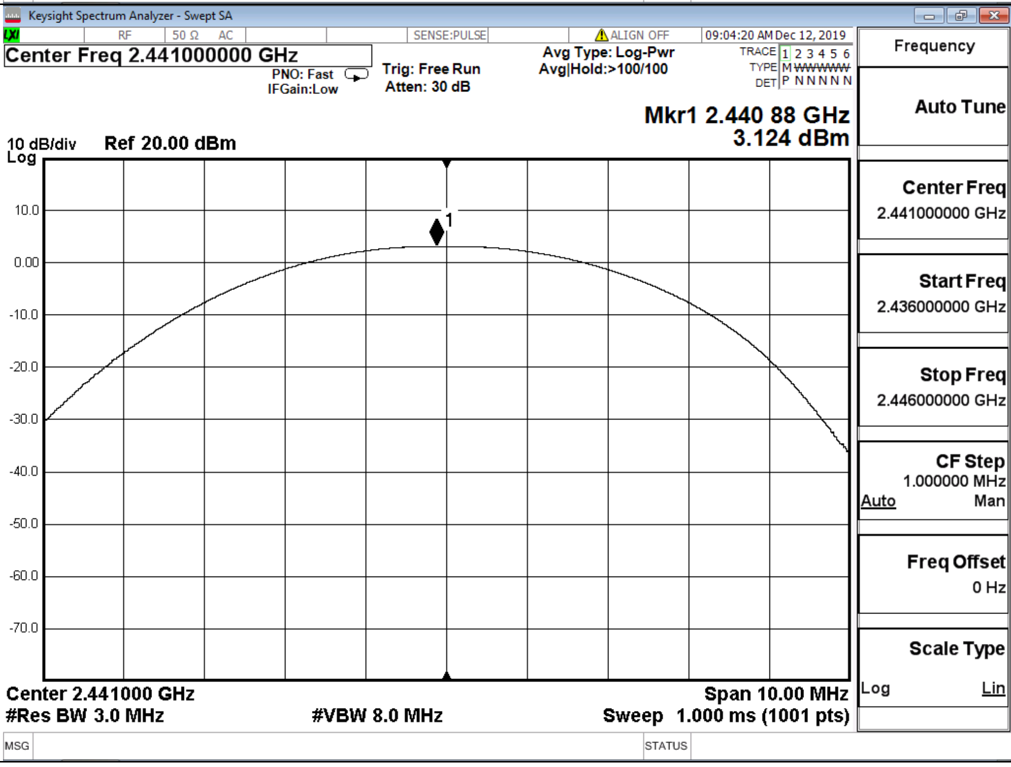
Product Name: Wireless Earphone
Trade Mark: YZTEK AGARO
Test Model: Y9S

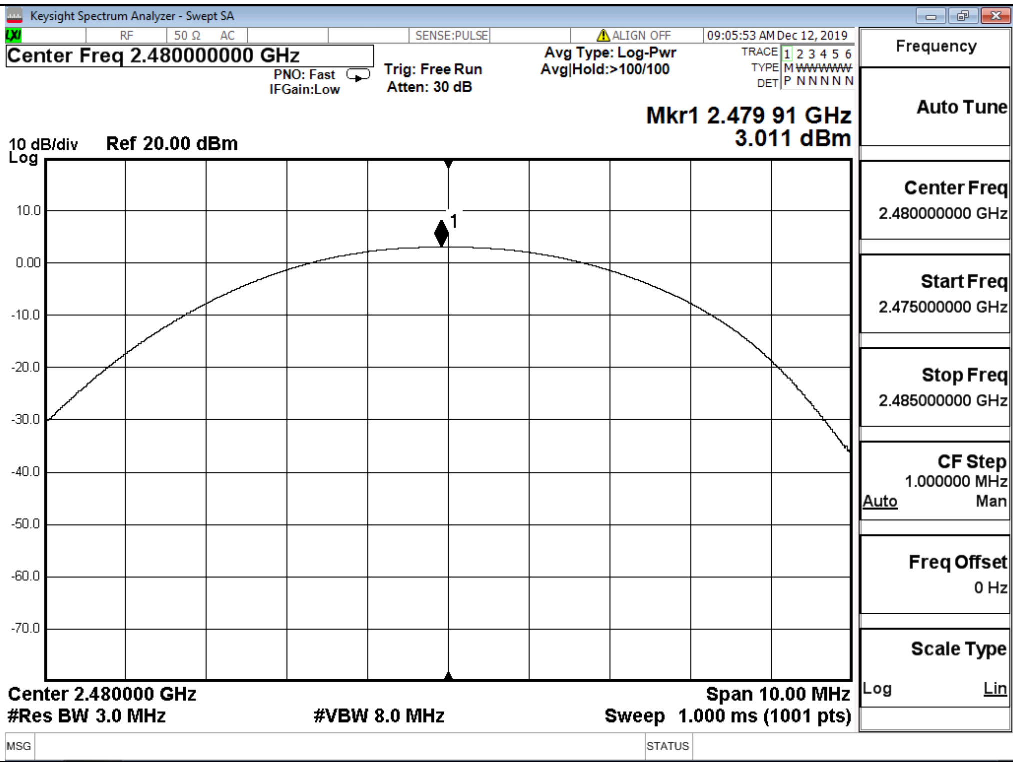
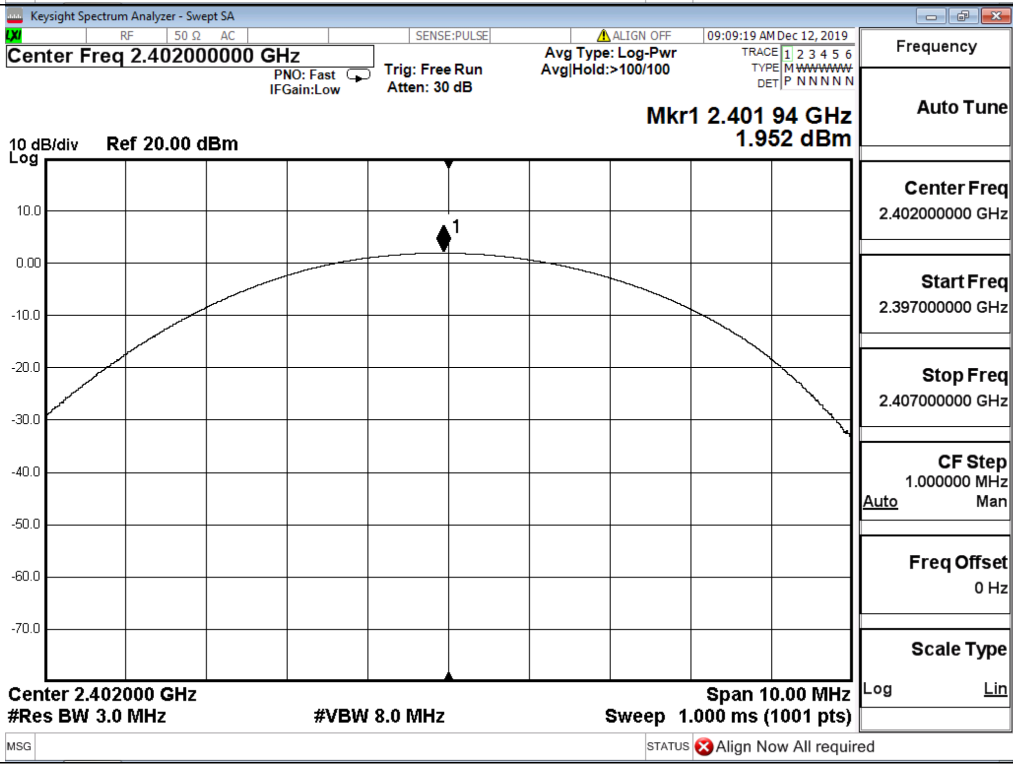
Environmental Conditions

Temperature:	23.5 °C
Relative Humidity:	55%
ATM Pressure:	100.0 kPa
Test Engineer:	Harry Ye
Supervised by:	Jayden.Zhuo

A.1 Maximum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.030	21	PASS
	MCH	3.124	21	PASS
	HCH	3.011	21	PASS
π/4DQPSK	LCH	1.952	21	PASS
	MCH	2.237	21	PASS
	HCH	2.138	21	PASS
8DPSK	LCH	2.207	21	PASS
	MCH	2.482	21	PASS
	HCH	2.316	21	PASS

Test Graphs	
GFSK/LCH	
GFSK/MCH	

GFSK/HCH	
π/4DQPSK/LCH	

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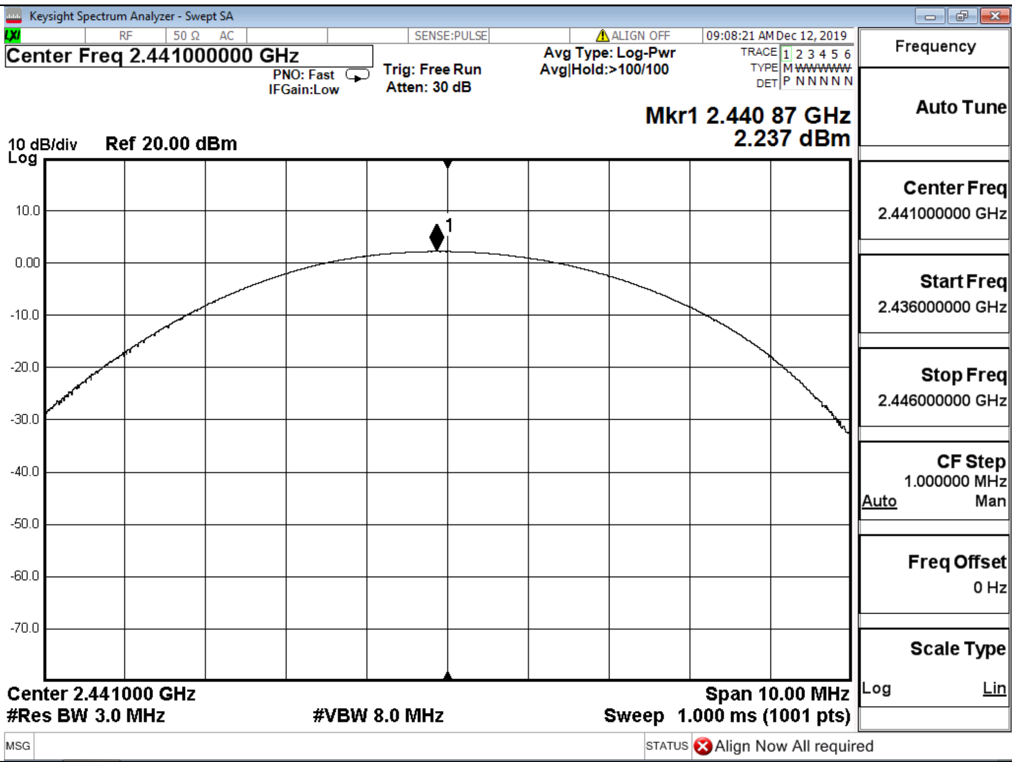
<tr><td>π/4DQPSK/MCH</td><td>
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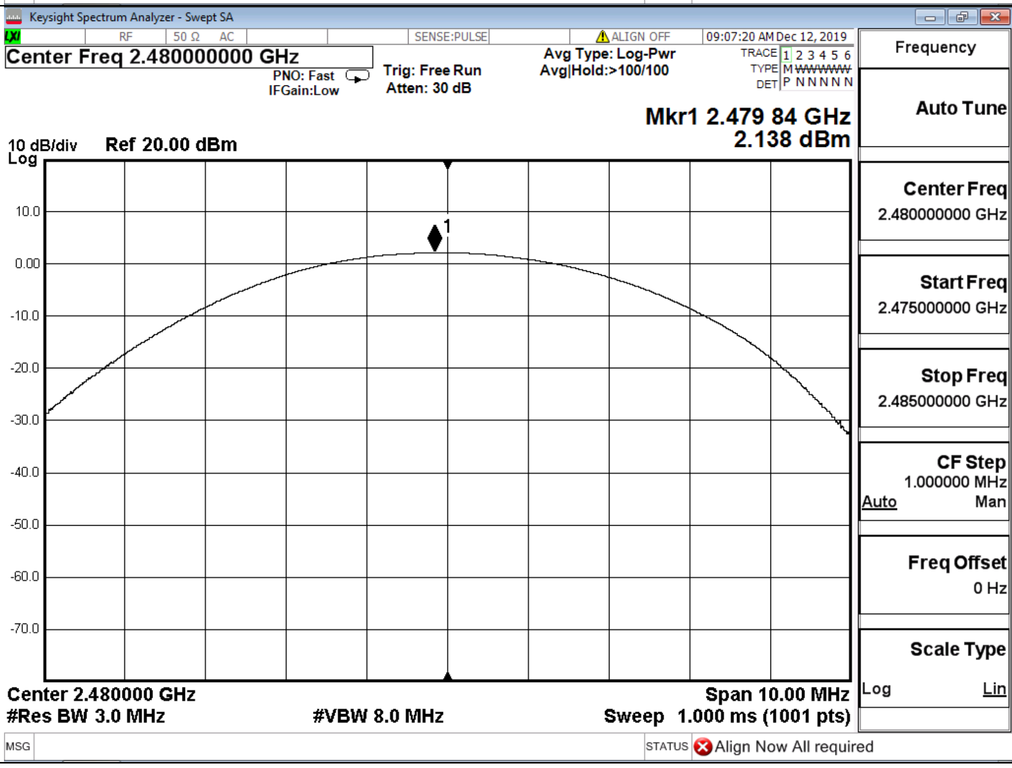
<tr><td>π/4DQPSK/HCH</td><td>
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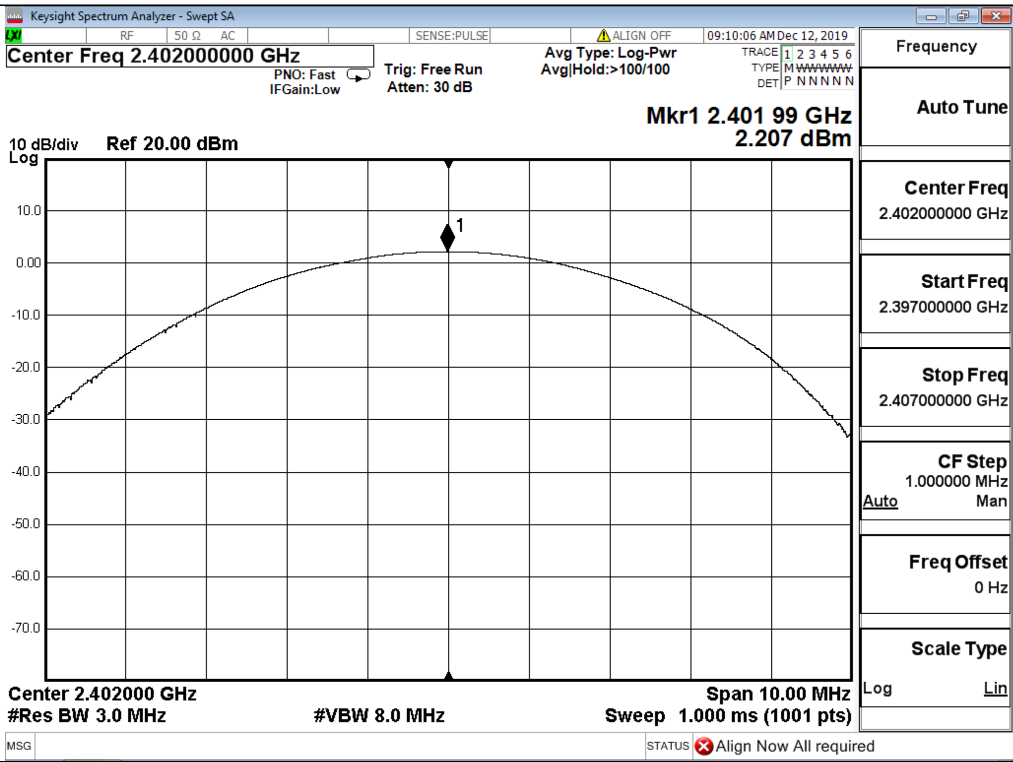
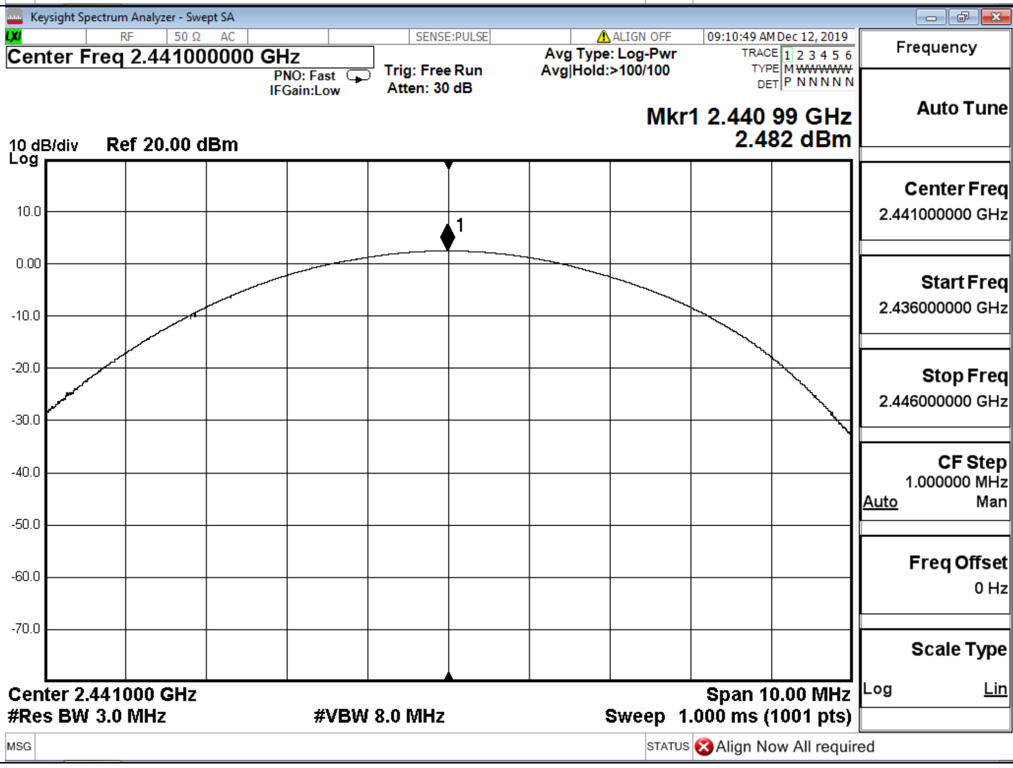
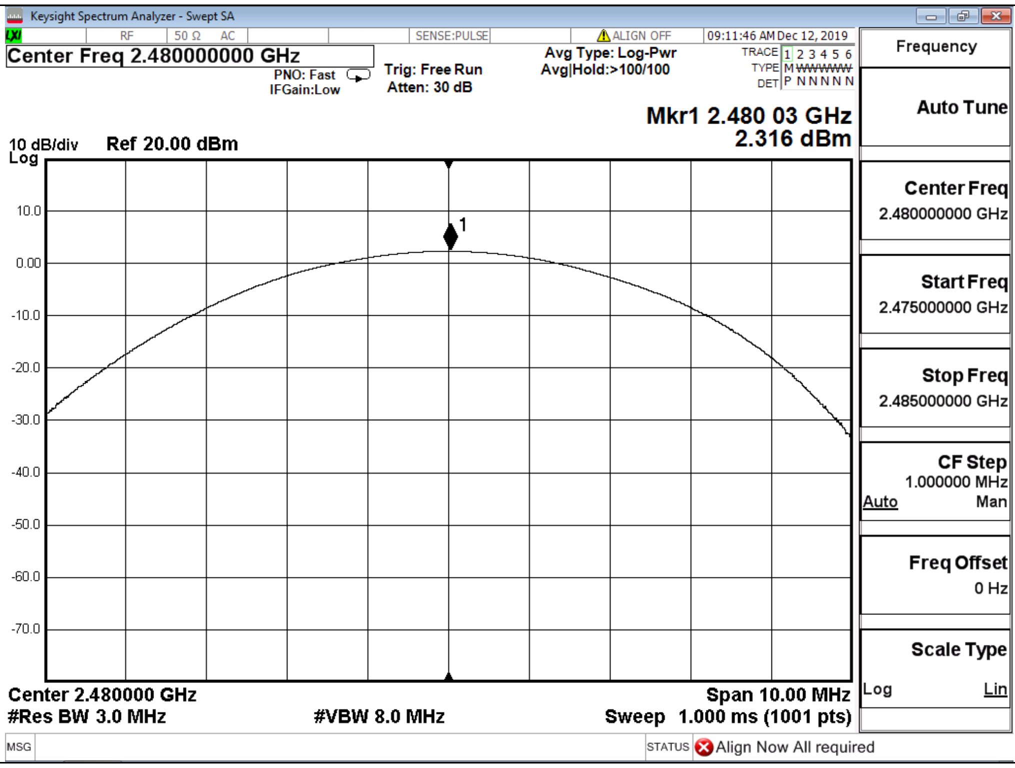
8DPSK/LCH	
8DPSK/MCH	

8DPSK/HCH	

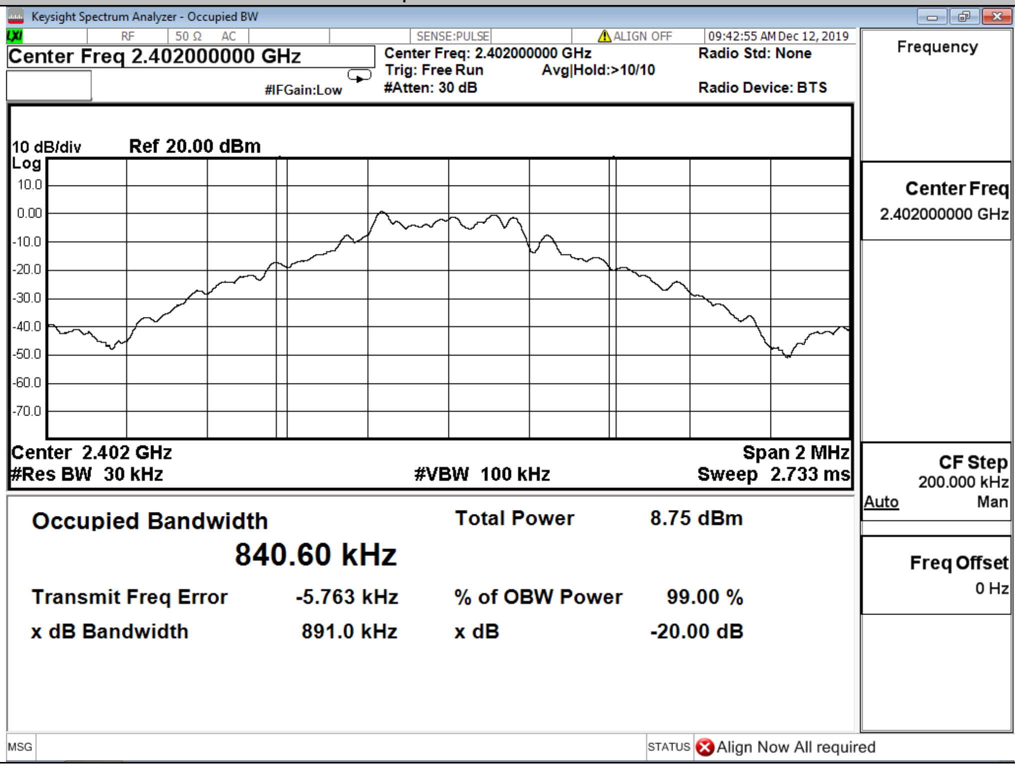
Keysight Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
09:11:46 AM Dec 12, 2019
Mkr1 2.480 03 GHz
2.316 dBm
10 dB/div Ref 20.00 dBm
Log
Center 2.480000 GHz
#Res BW 3.0 MHz
#VBW 8.0 MHz
Span 10.00 MHz
Sweep 1.000 ms (1001 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
Scale Type
Log Lin
Align Now All required

A.2 99% and 20dB Bandwidth

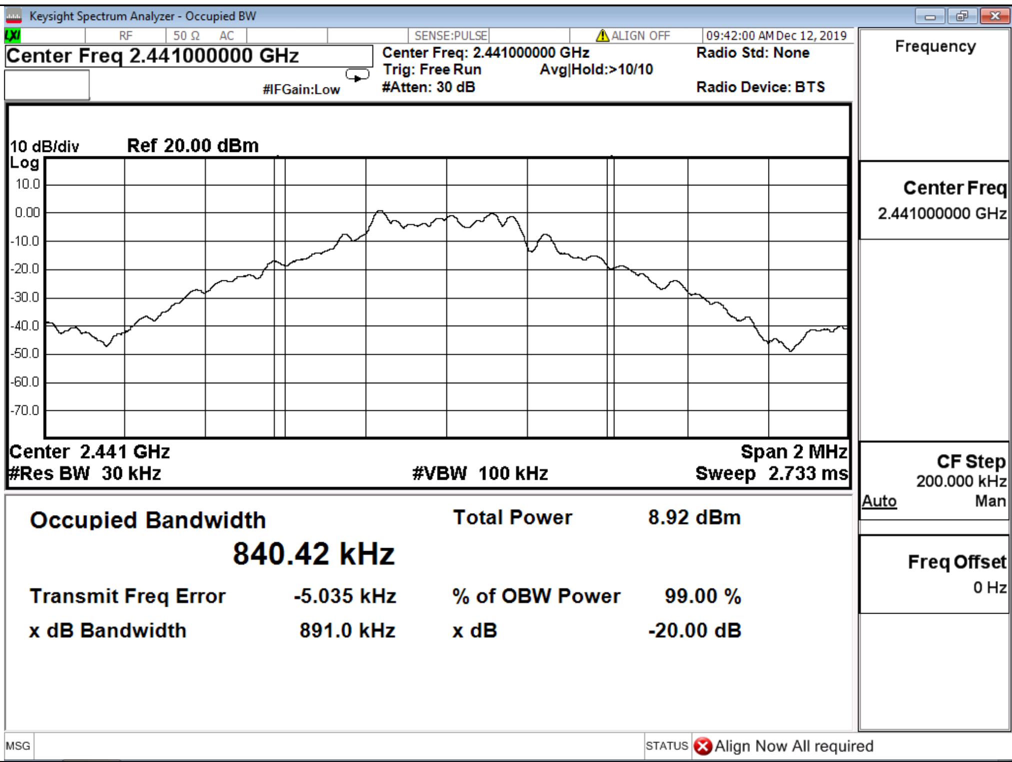
Mode	Channel.	99% Bandwidth [MHz]	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.84060	0.8910	Not Specified	PASS
	MCH	0.84042	0.8910	Not Specified	PASS
	HCH	0.84173	0.8927	Not Specified	PASS
π/4DQPSK	LCH	1.1648	1.287	Not Specified	PASS
	MCH	1.1738	1.288	Not Specified	PASS
	HCH	1.1758	1.288	Not Specified	PASS
8DPSK	LCH	1.1284	1.277	Not Specified	PASS
	MCH	1.1307	1.279	Not Specified	PASS
	HCH	1.1315	1.279	Not Specified	PASS

Test Graphs

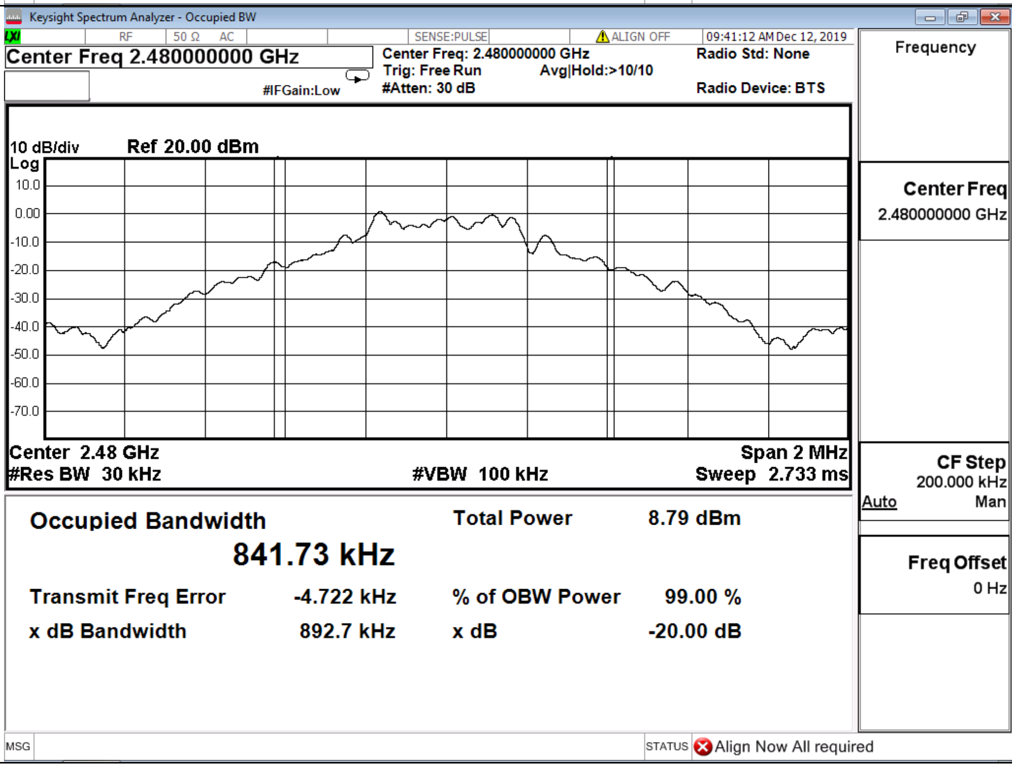
GFSK/LCH



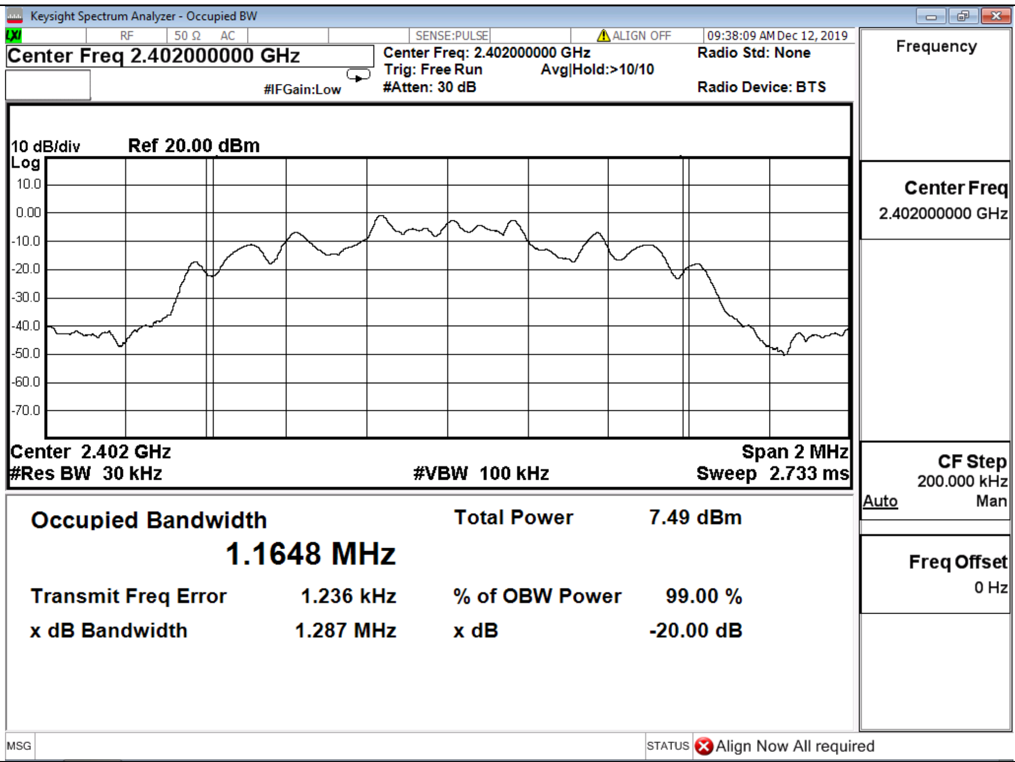
GFSK/MCH



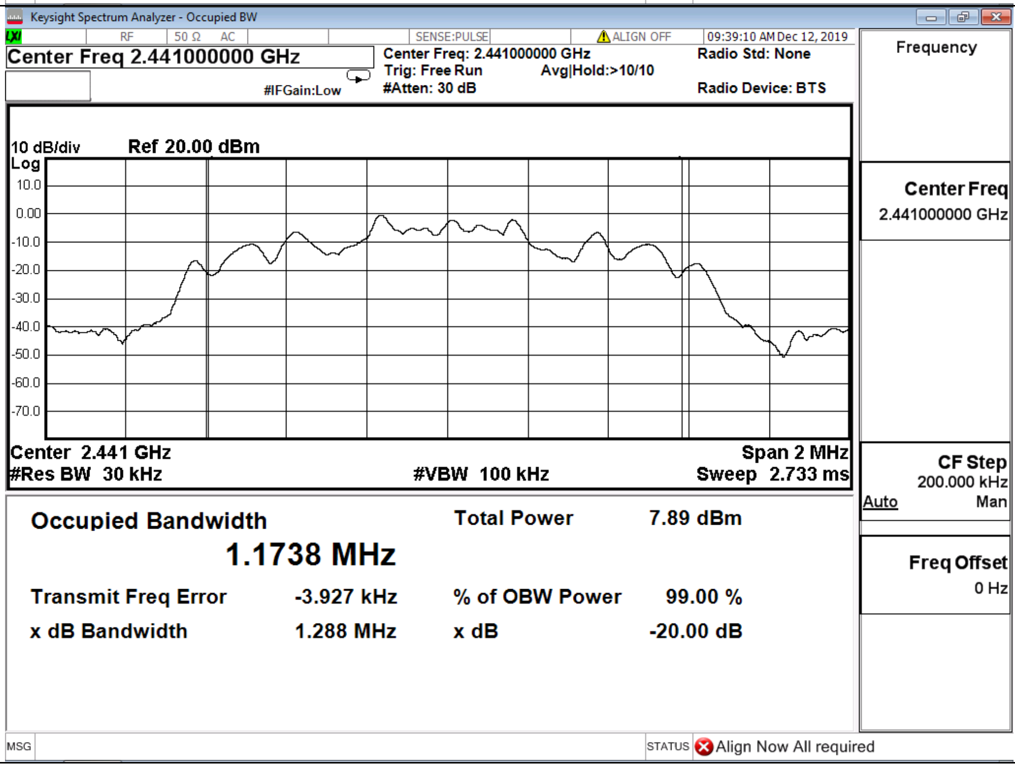
GFSK/HCH

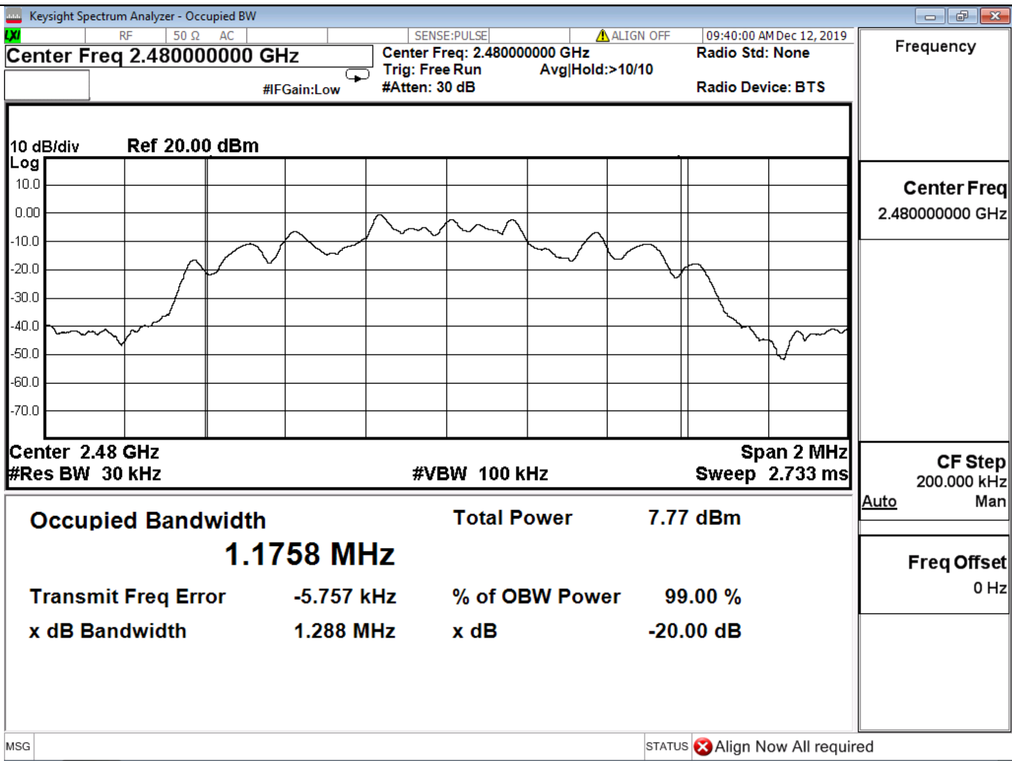
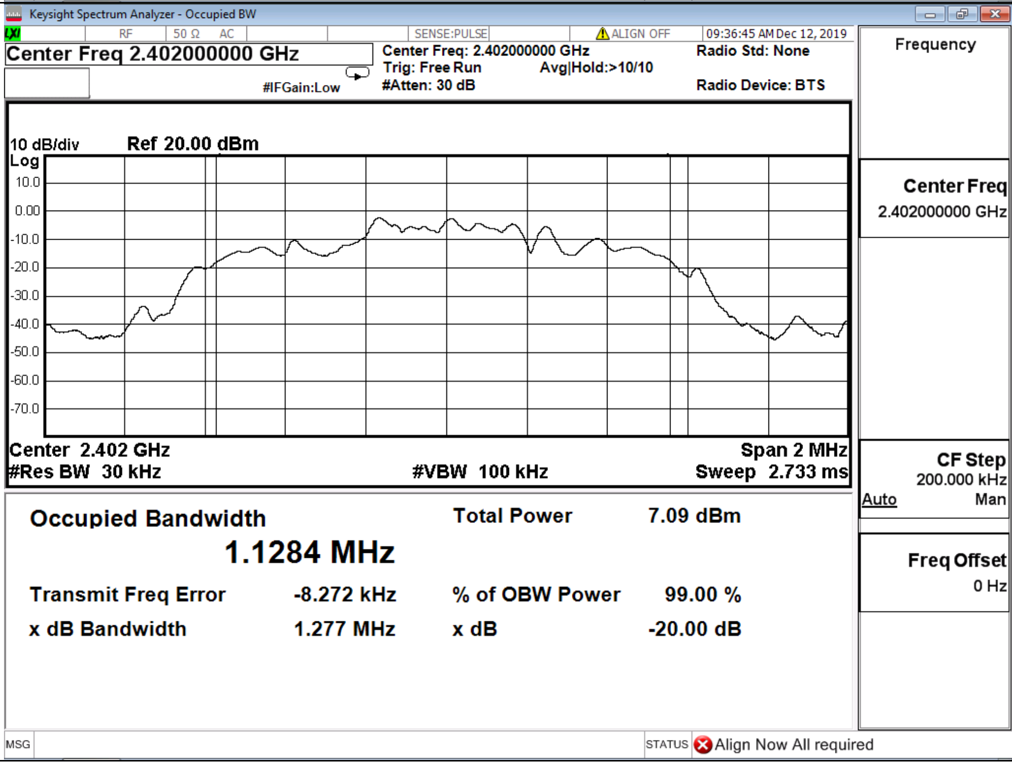


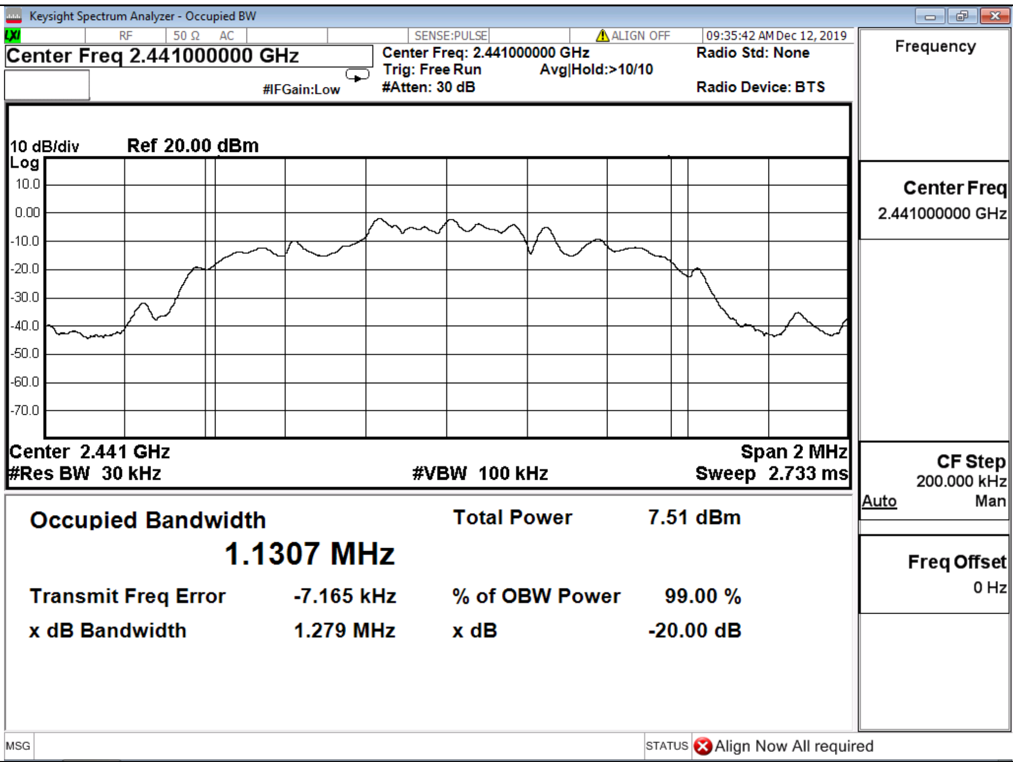
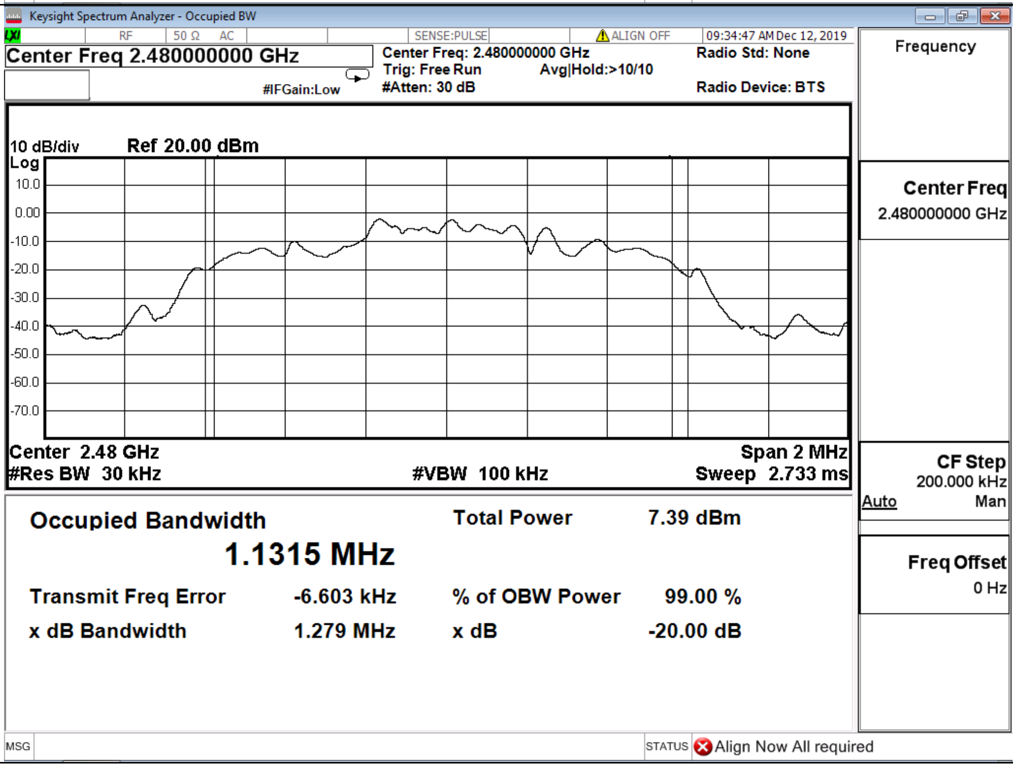
π/4DQPSK/LCH



π/4DQPSK/MCH

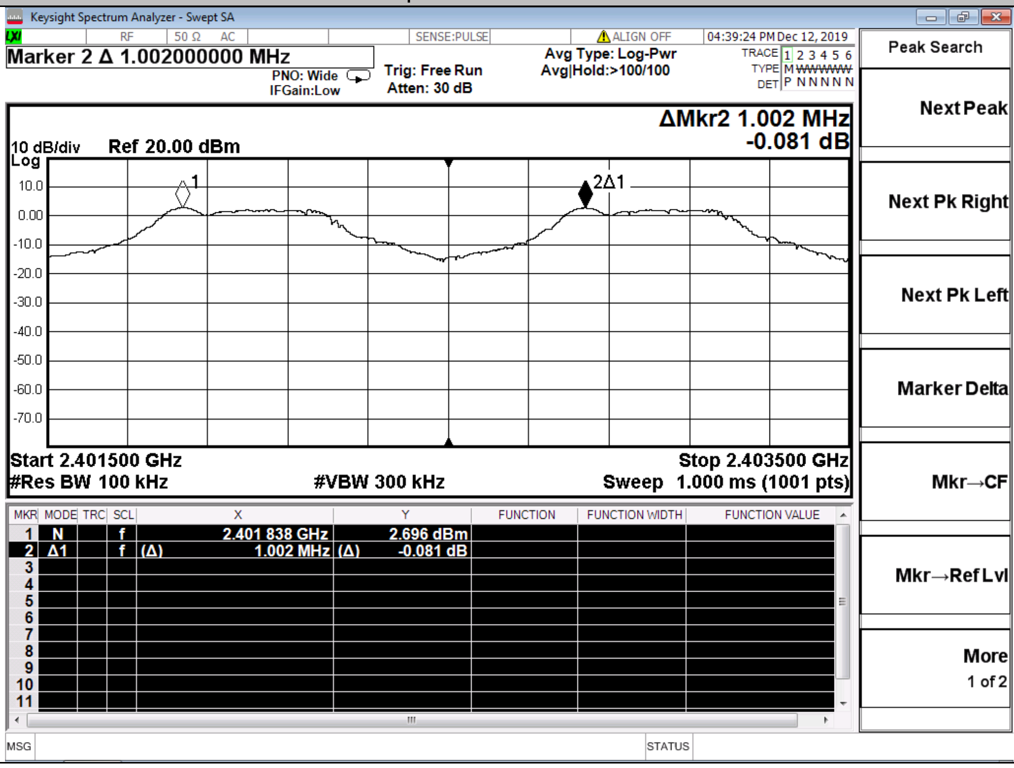


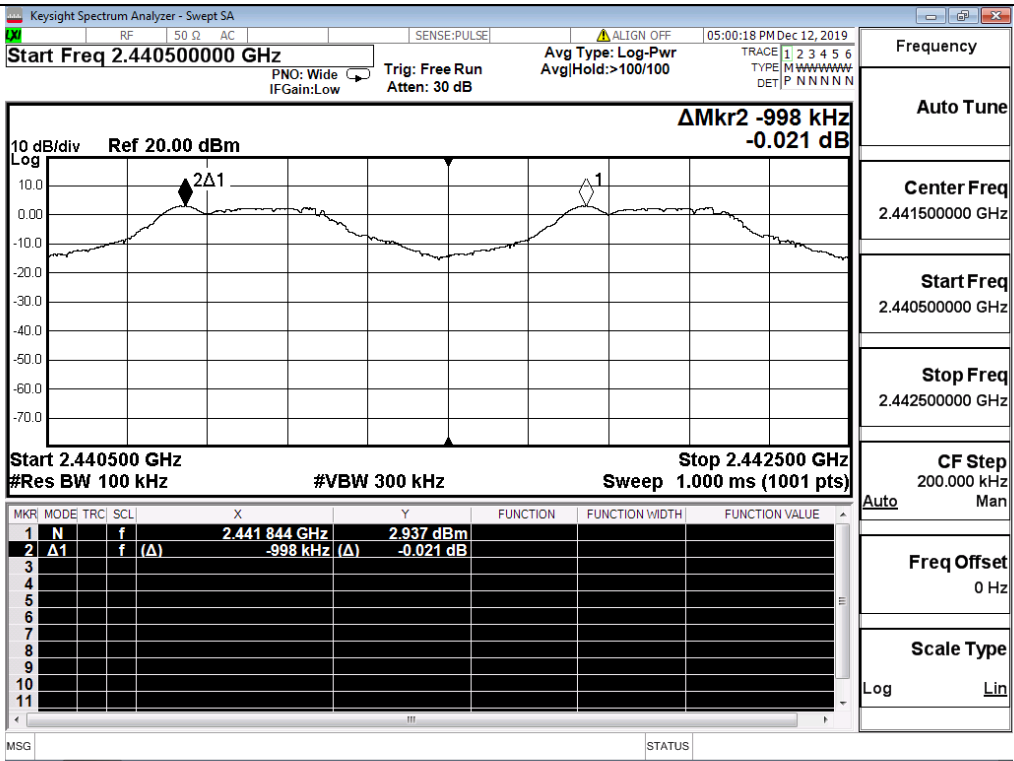
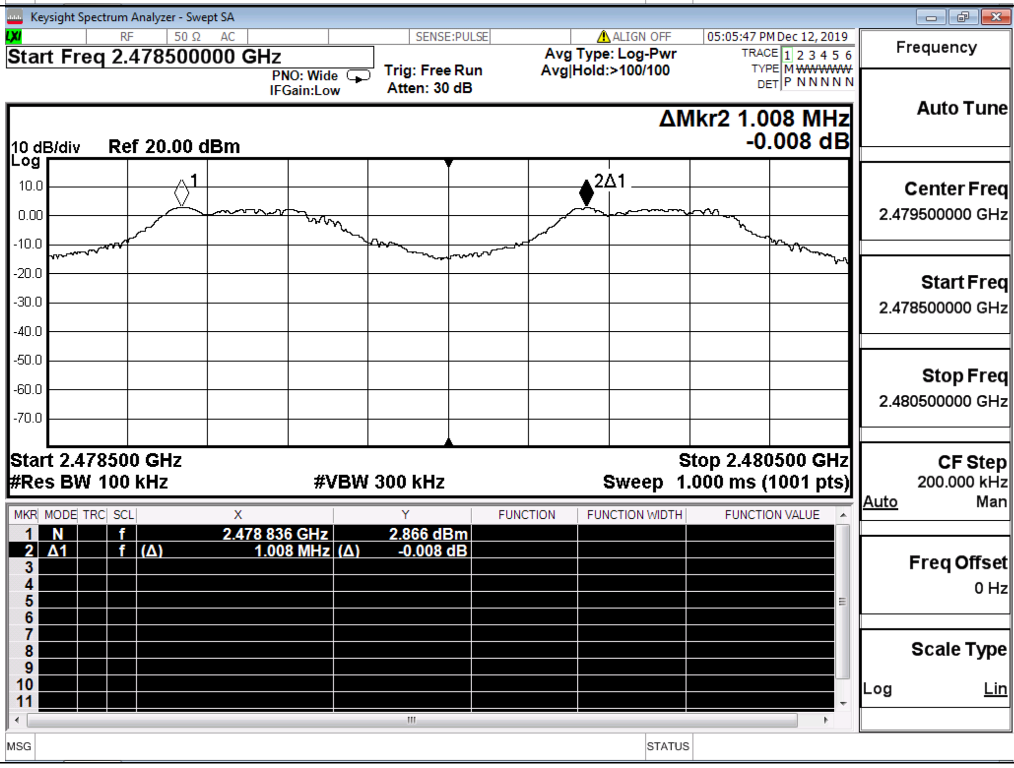
π/4DQPSK/HCH	
8DPSK/LCH	

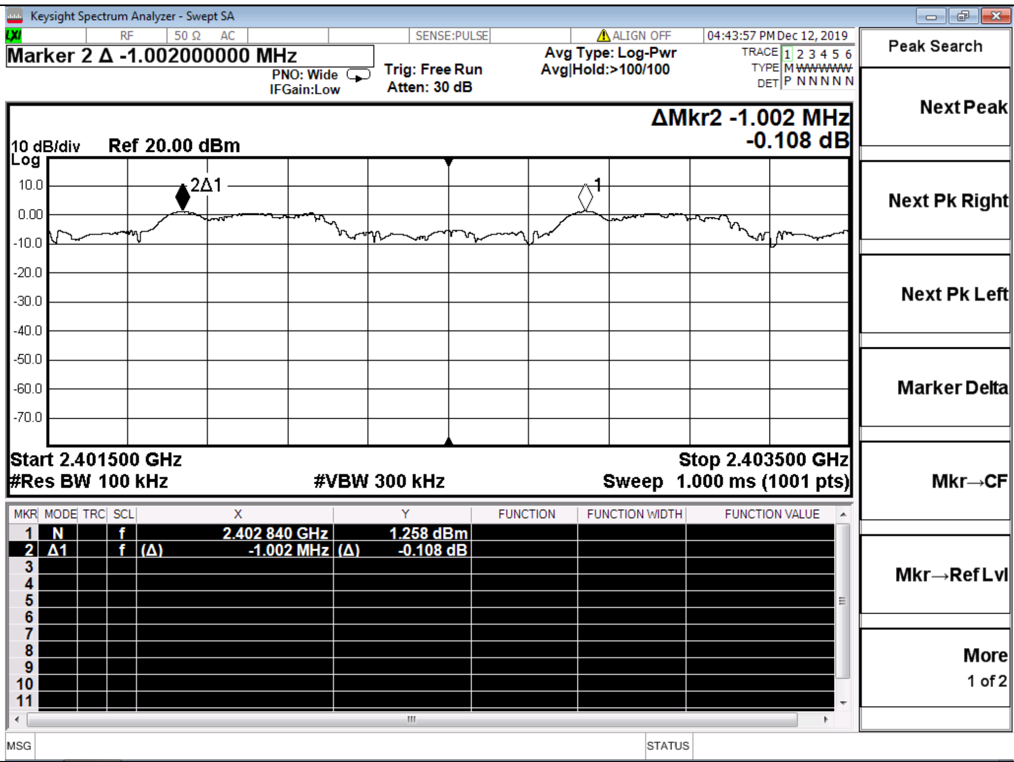
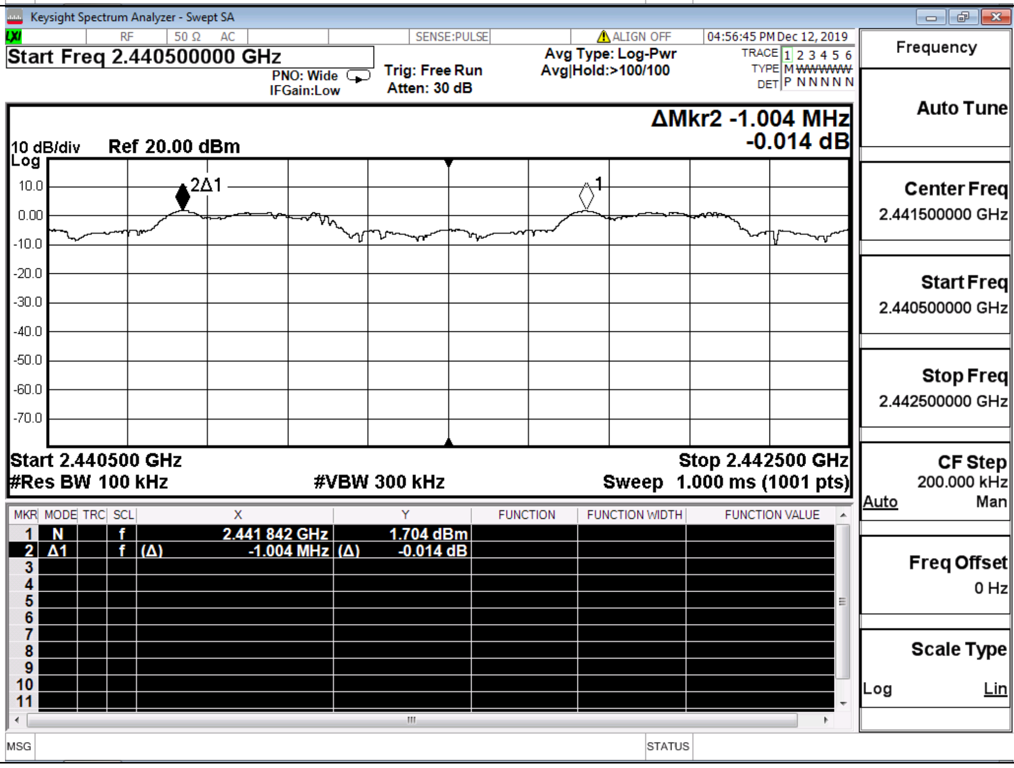
8DPSK/MCH	
8DPSK/HCH	

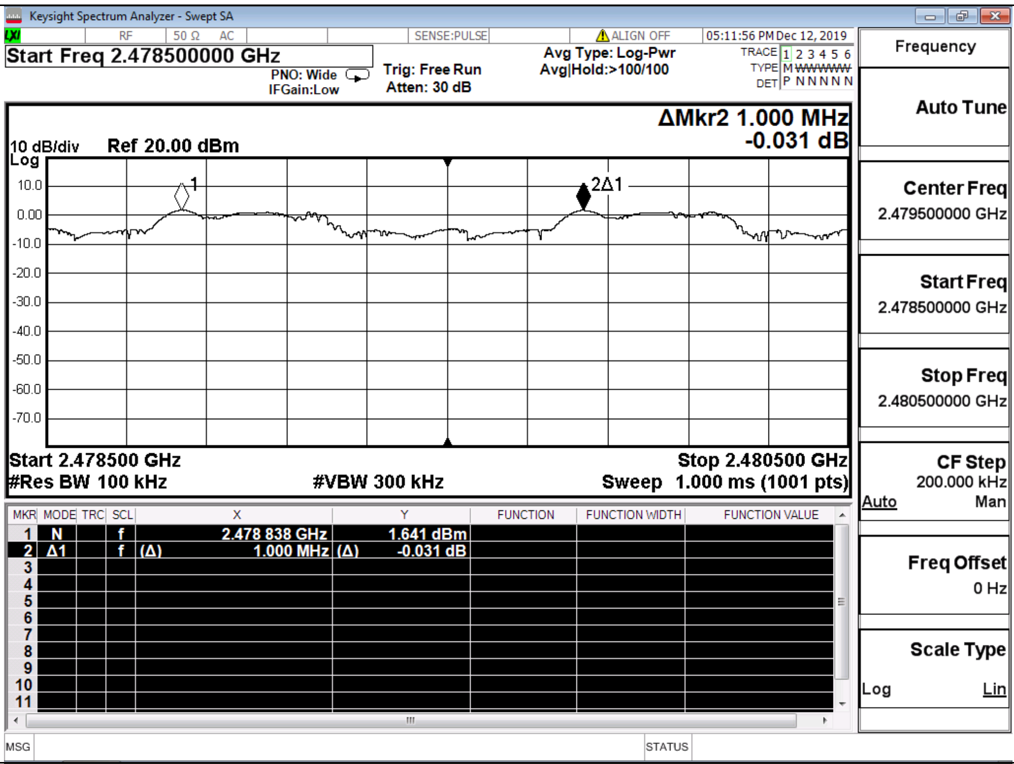
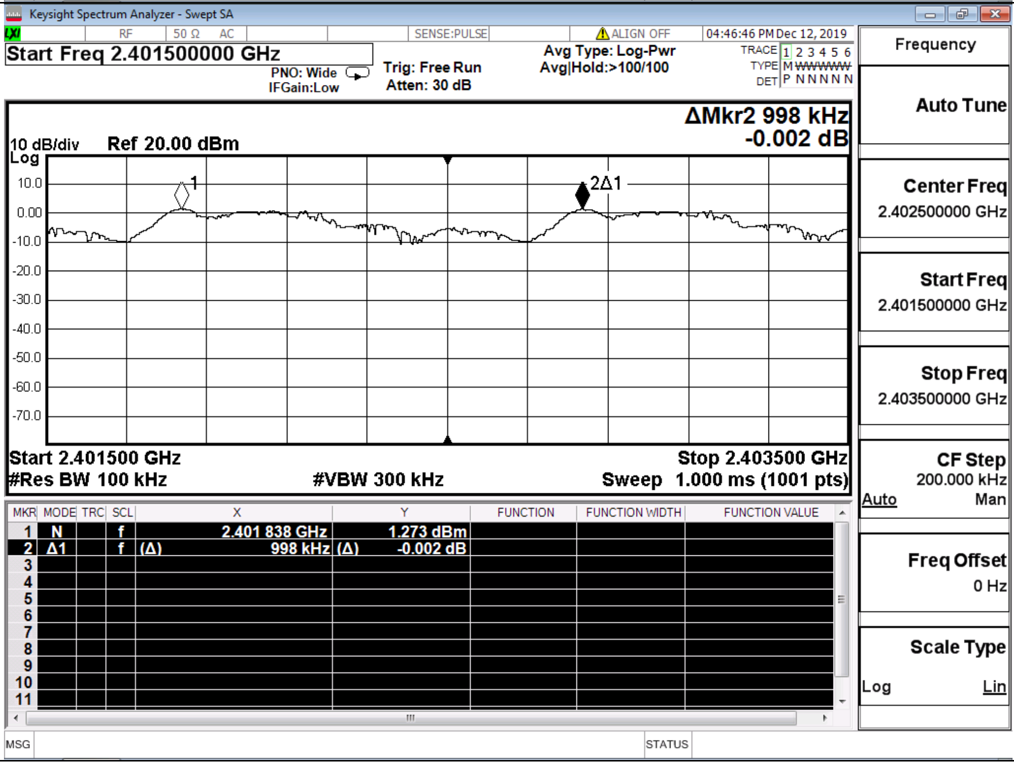
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.002	0.59	PASS
	MCH	0.998	0.59	PASS
	HCH	1.008	0.60	PASS
π/4DQPSK	LCH	1.002	0.86	PASS
	MCH	1.004	0.86	PASS
	HCH	1.000	0.86	PASS
8DPSK	LCH	0.998	0.85	PASS
	MCH	1.000	0.85	PASS
	HCH	1.000	0.85	PASS

Test Graphs	
GFSK/LCH	

GFSK/MCH	
GFSK/HCH	

π/4DQPSK/LCH	
π/4DQPSK/MCH	

π/4DQPSK/HCH	
8DPSK/LCH	

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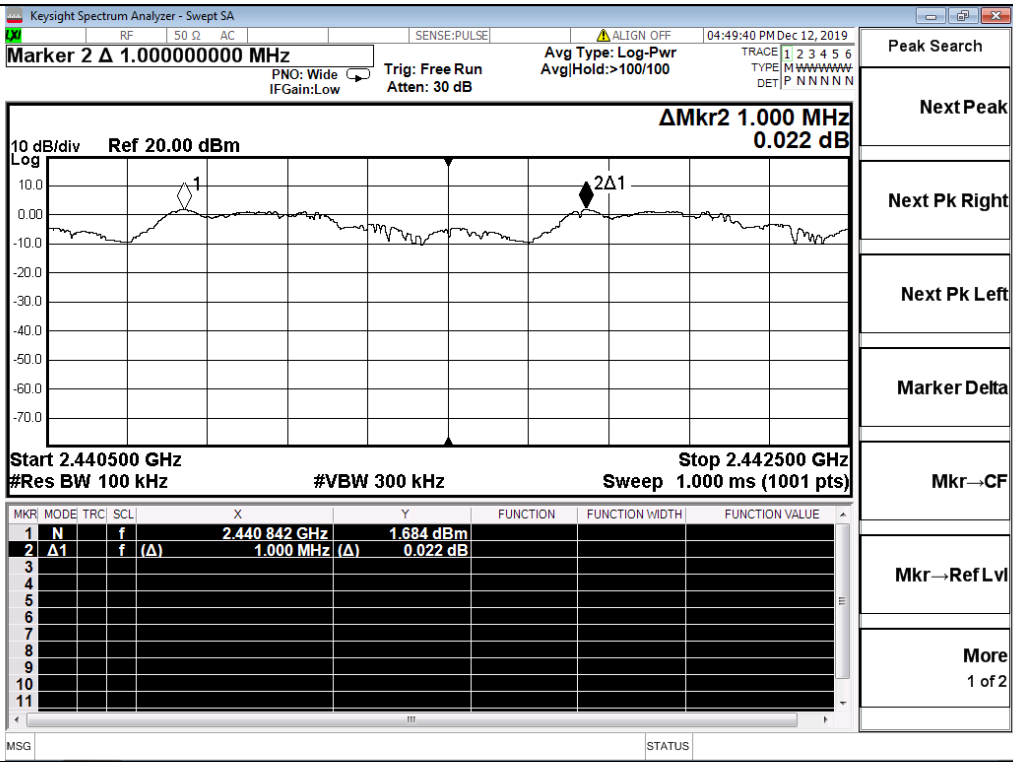
<tr><td>8DPSK/MCH</td><td>
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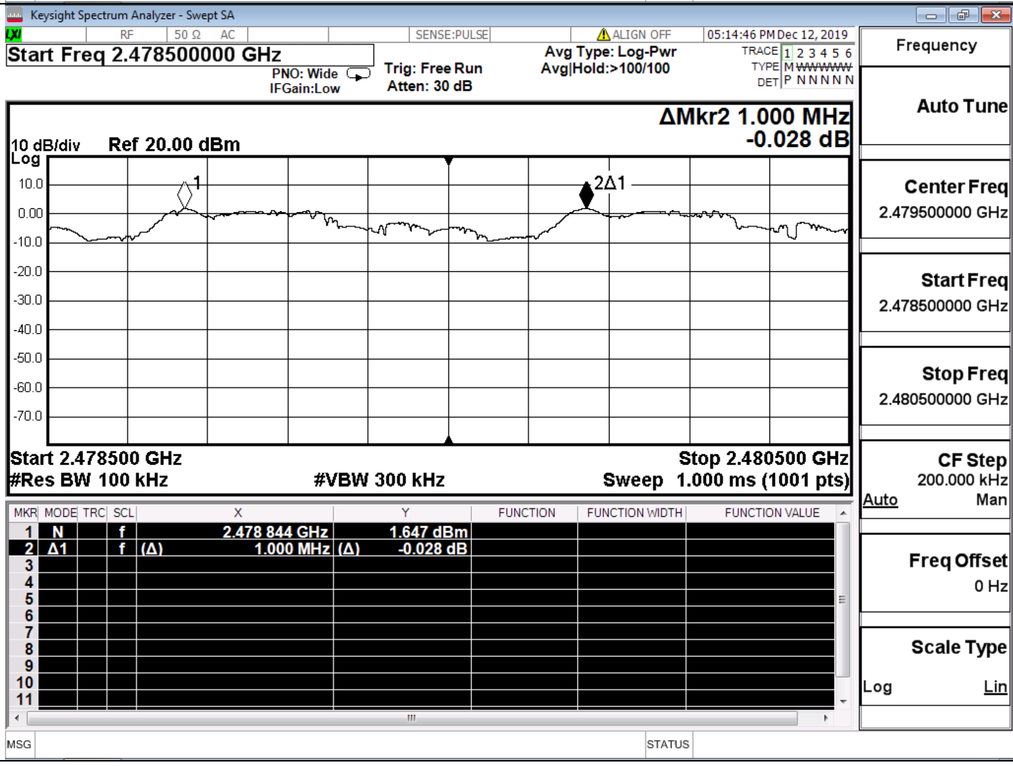
<tr><td>8DPSK/HCH</td><td>
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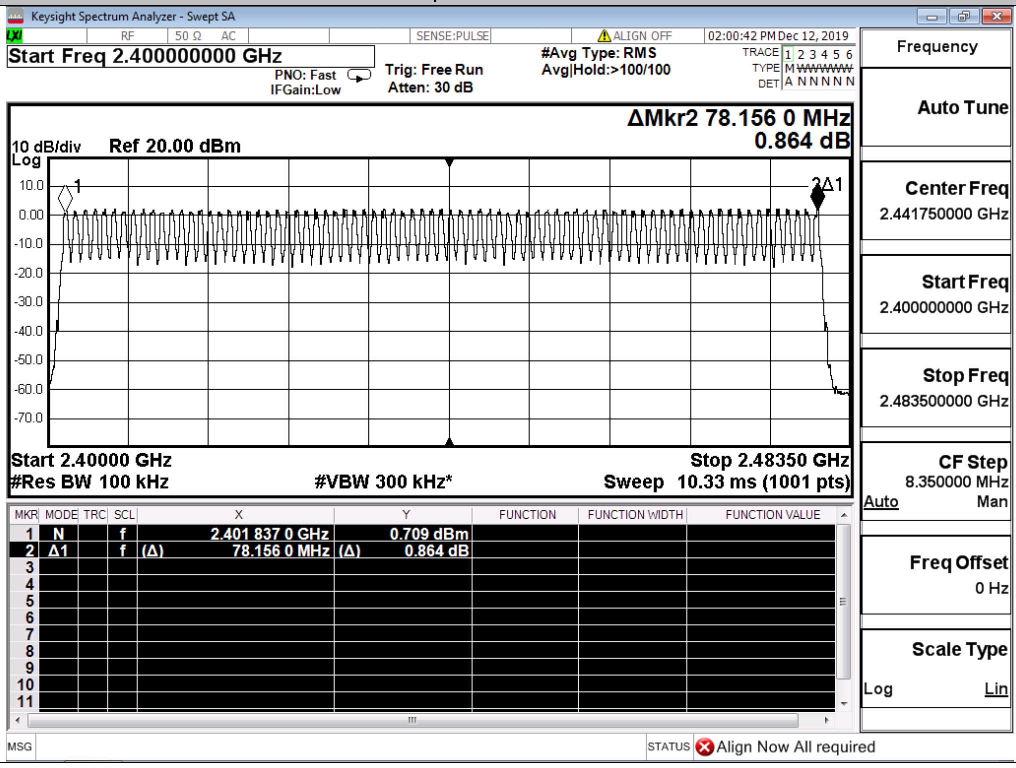
A.4 Hopping Channel Number

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	

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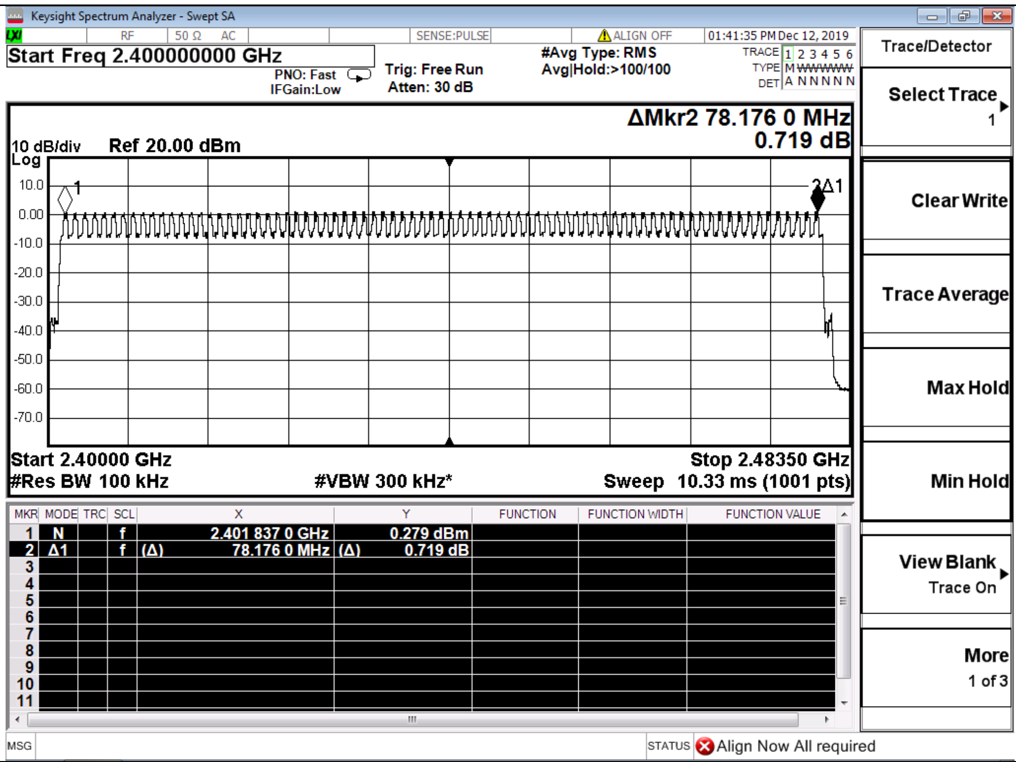
<tr><td>π/4DQPSK/Hop</td><td>
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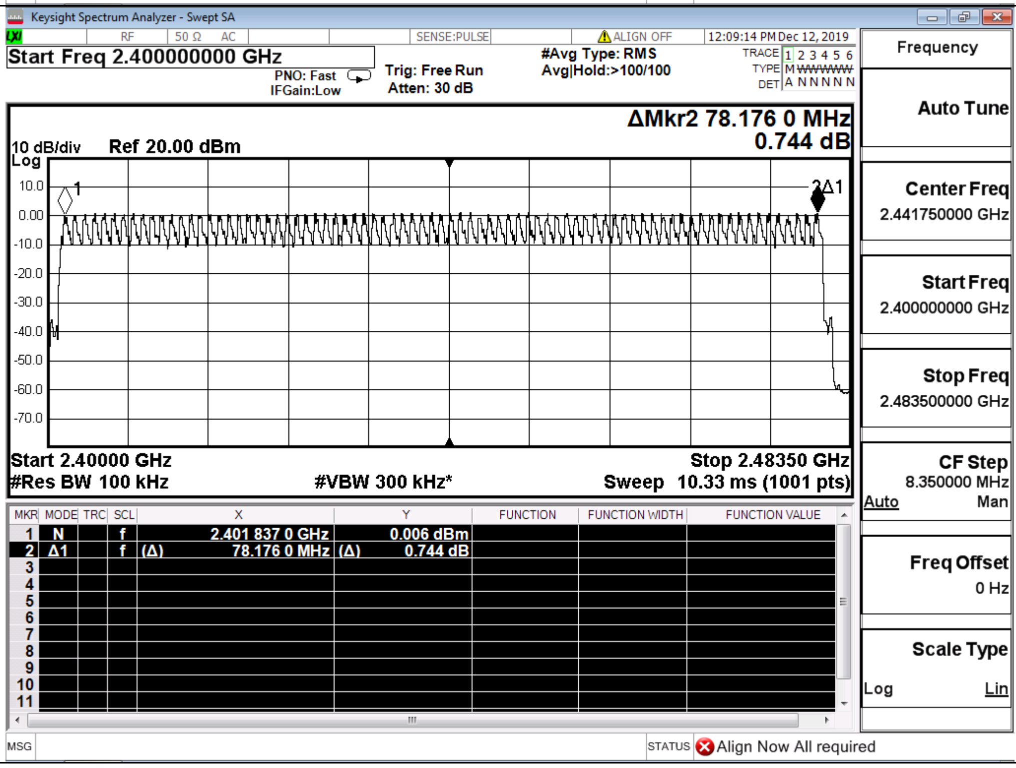
<tr><td>8DPSK/Hop</td><td>
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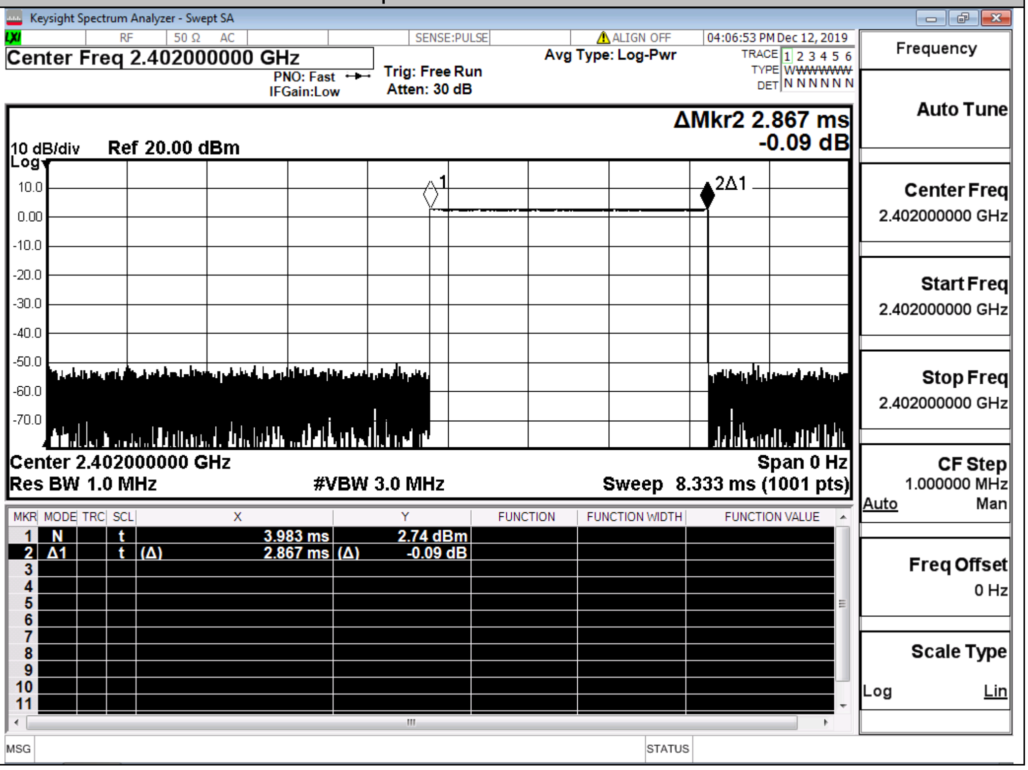
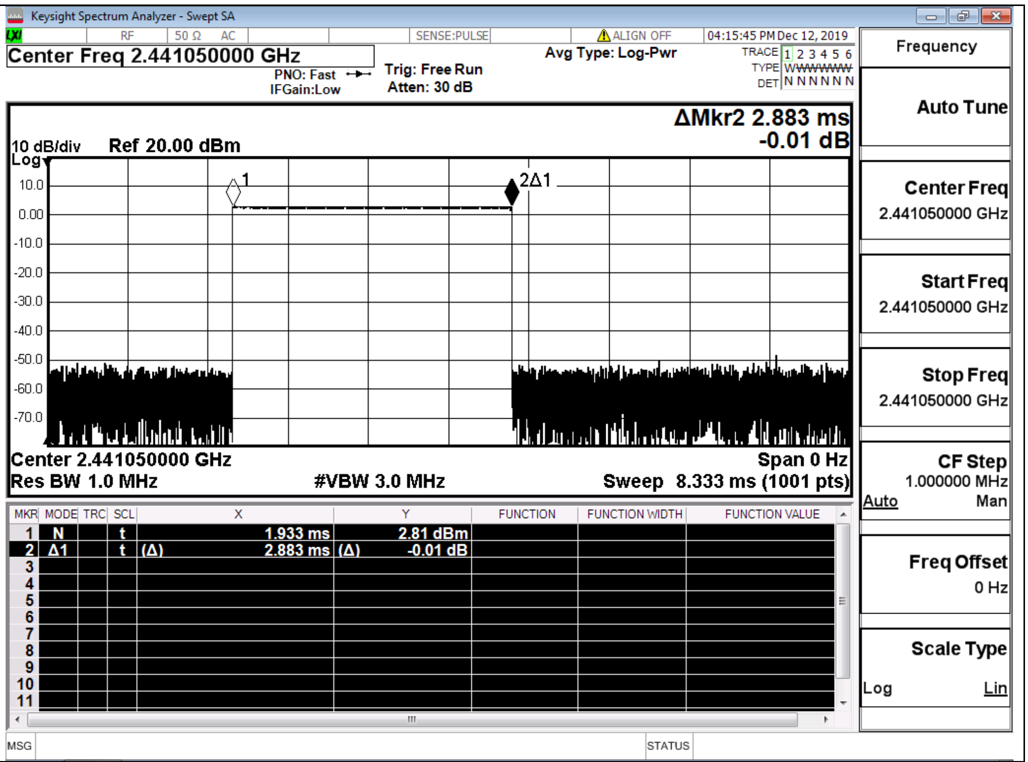
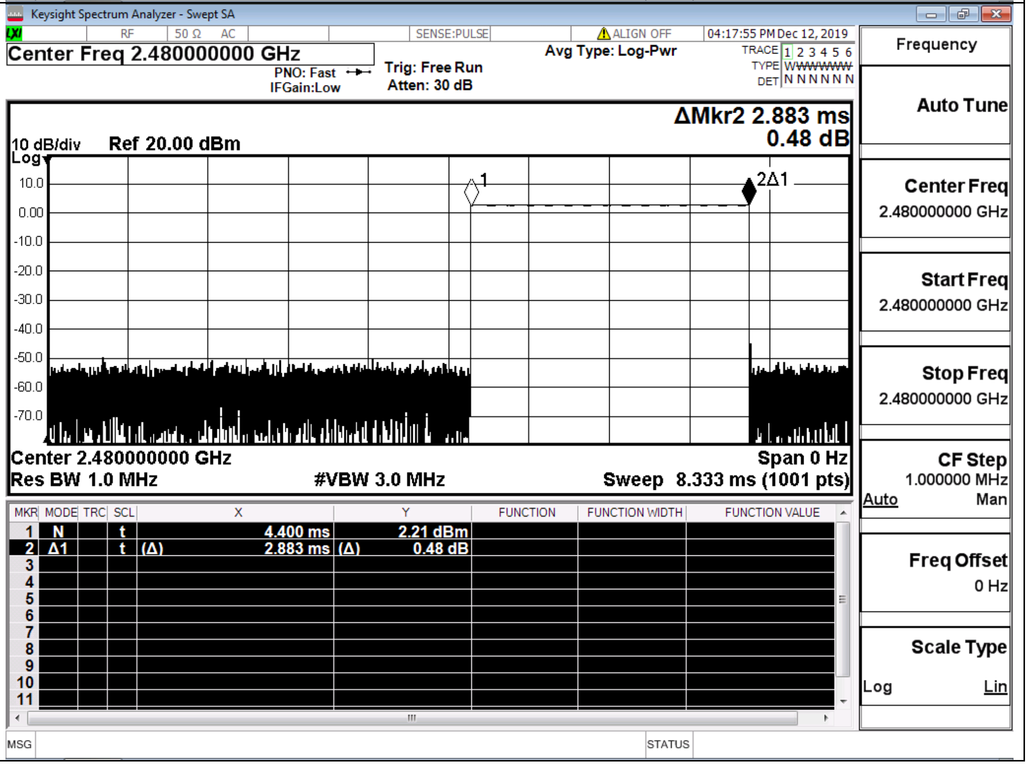
A.5 Dwell Time

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.867	106.7	0.31	0.4	PASS
	DH5	MCH	2.883	106.7	0.31	0.4	PASS
	DH5	HCH	2.883	106.7	0.31	0.4	PASS
π/4DQPSK	2DH5	LCH	2.883	106.7	0.30	0.4	PASS
	2DH5	MCH	2.883	106.7	0.31	0.4	PASS
	2DH5	HCH	2.883	106.7	0.31	0.4	PASS
8DPSK	3DH5	LCH	2.883	106.7	0.31	0.4	PASS
	3DH5	MCH	2.883	106.7	0.31	0.4	PASS
	3DH5	HCH	2.887	106.7	0.31	0.4	PASS

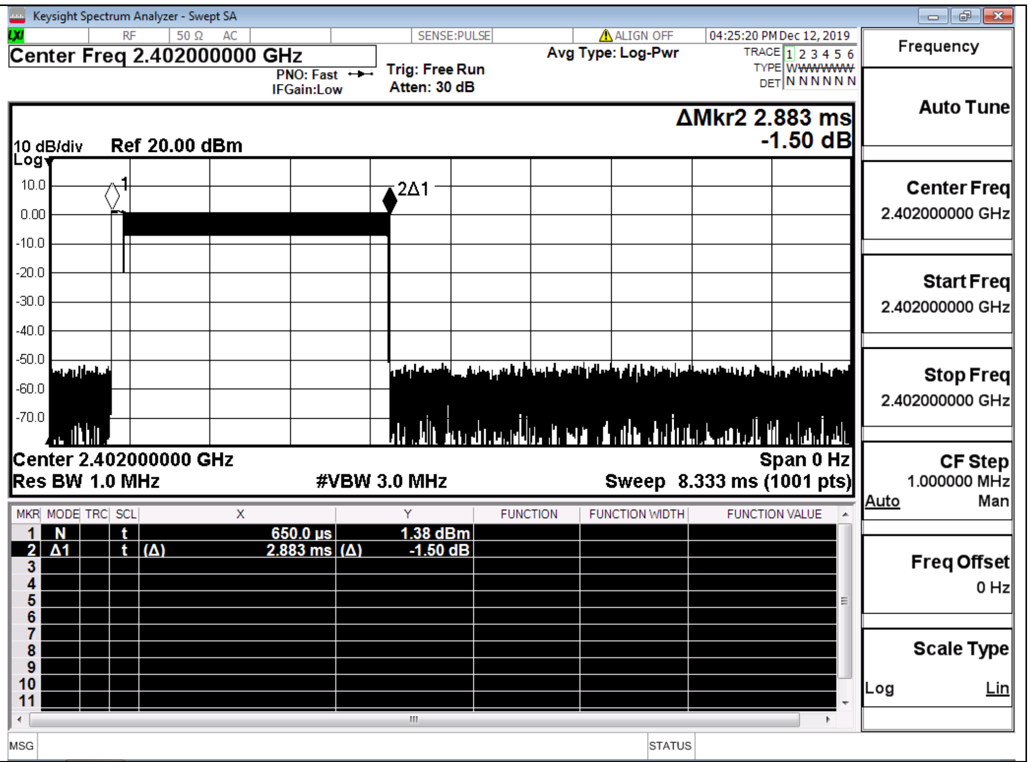
Test Graphs

GFSK_DH5/LCH

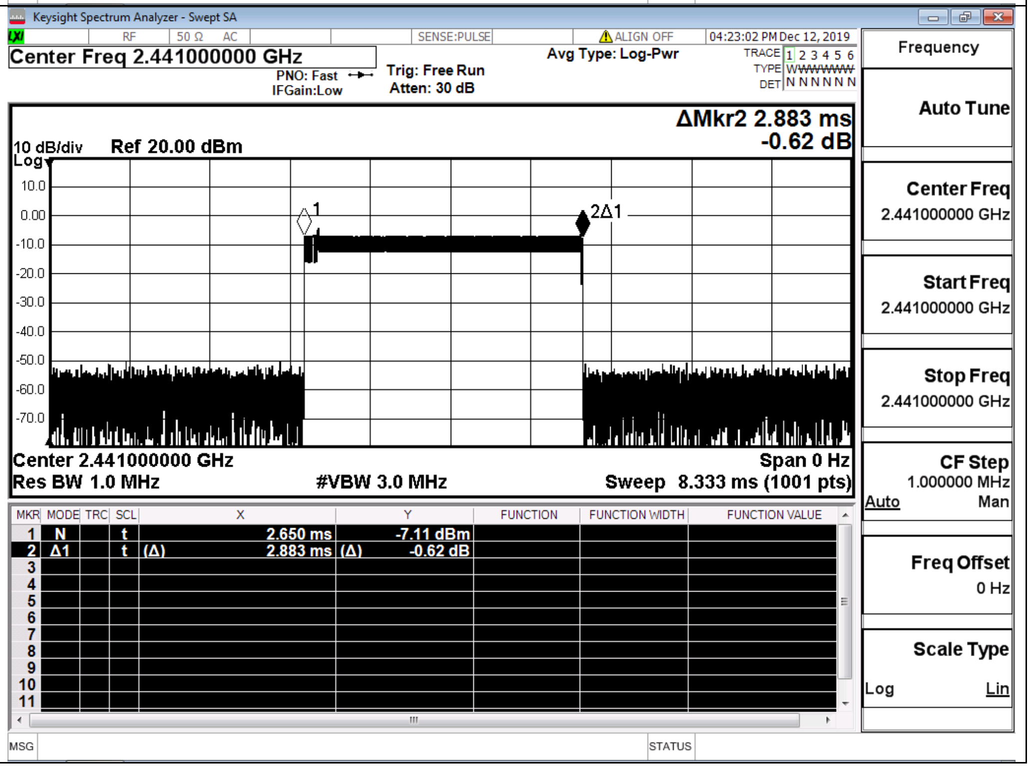


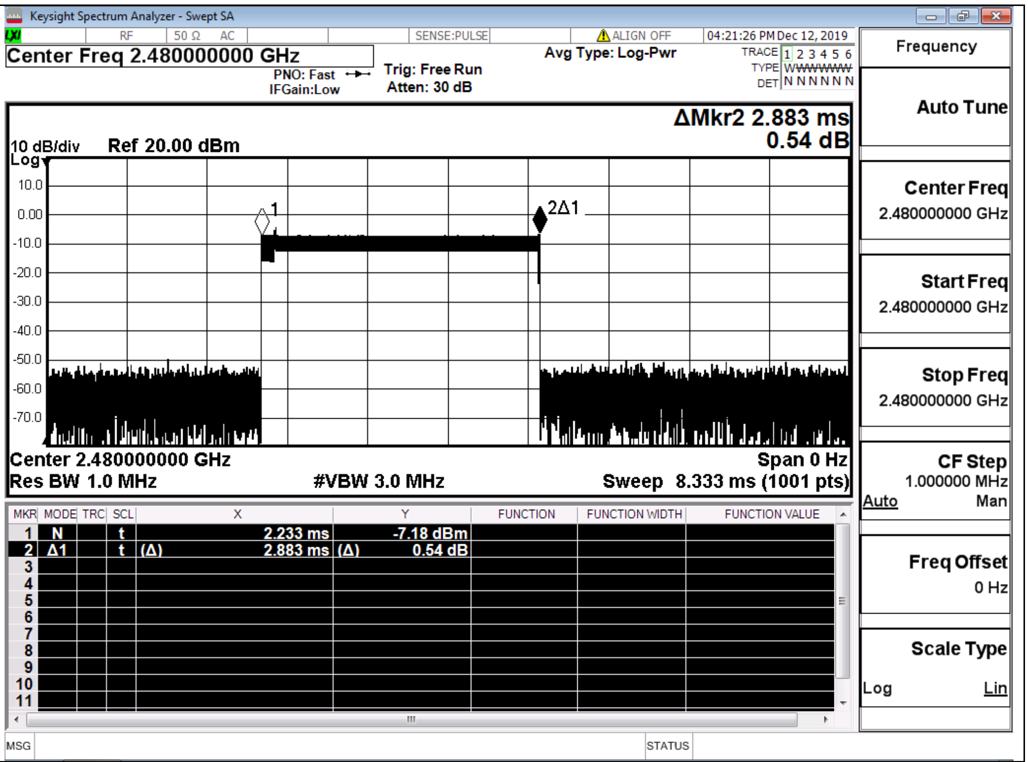
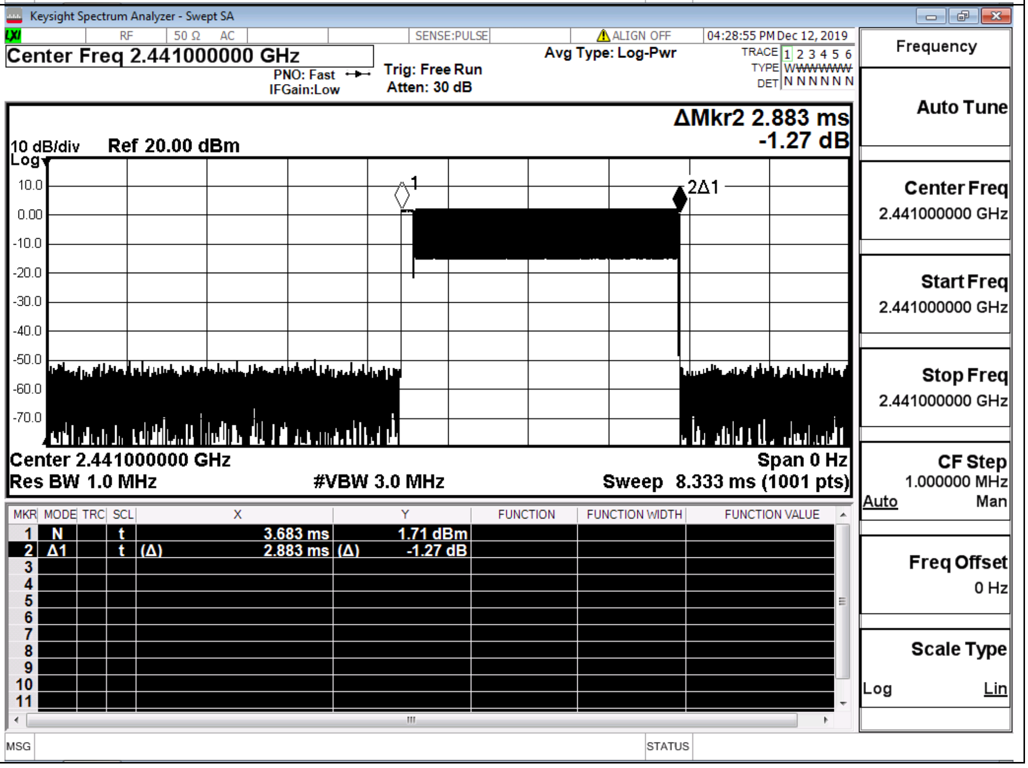
GFSK_DH5/MCH	
GFSK_DH5/HCH	

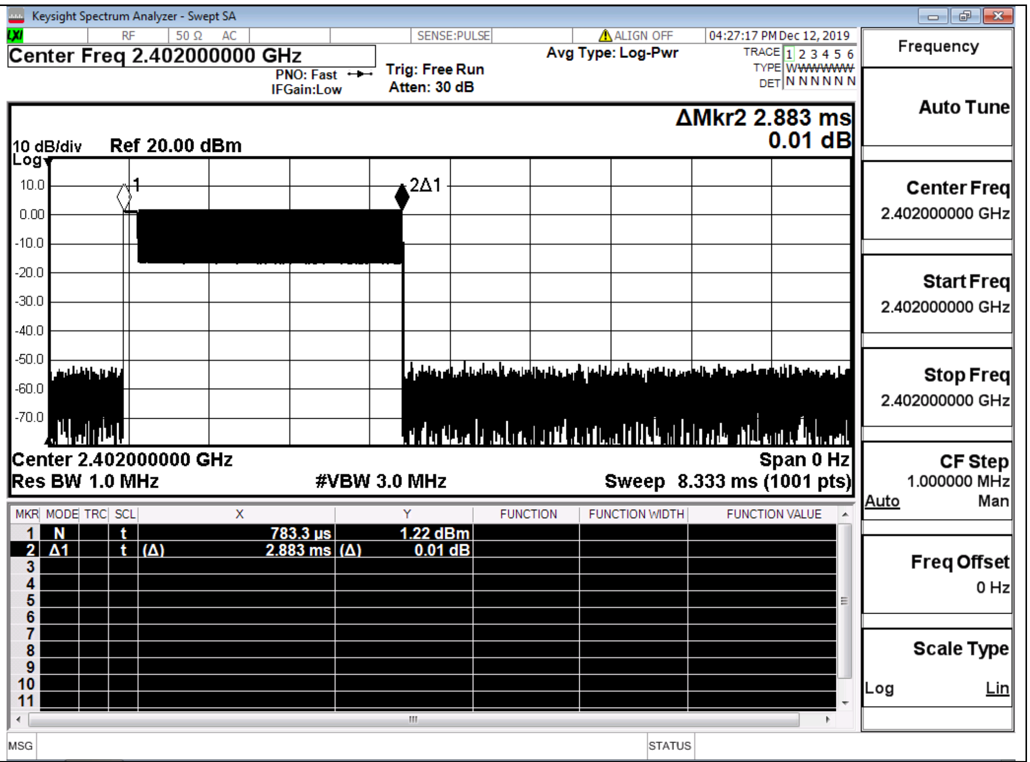
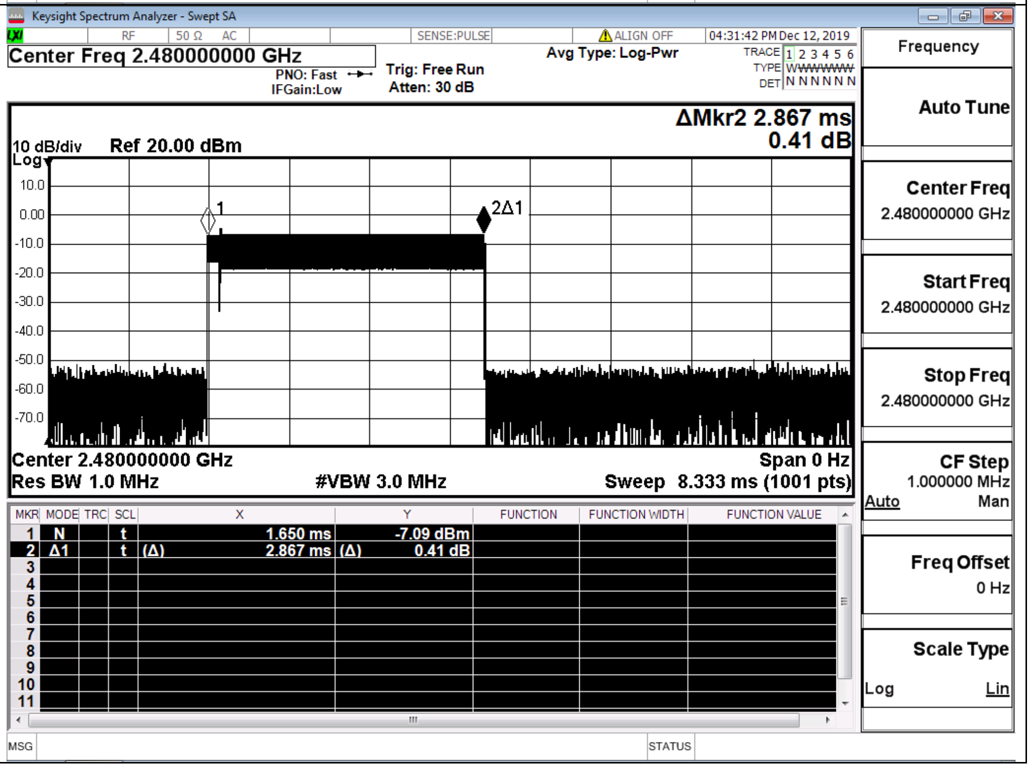
π/4DQPSK
_2DH5/LCH



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	2.763	-47.372	-17.24	PASS
	MCH	2.901	-46.347	-17.03	PASS
	HCH	2.858	-47.445	-17.14	PASS
π/4DQPSK	LCH	1.399	-47.058	-18.60	PASS
	MCH	1.762	-47.686	-18.24	PASS
	HCH	1.614	-47.570	-18.39	PASS
8DPSK	LCH	1.382	-46.543	-18.62	PASS
	MCH	1.746	-45.588	-18.25	PASS
	HCH	1.630	-46.880	-18.37	PASS

<table>
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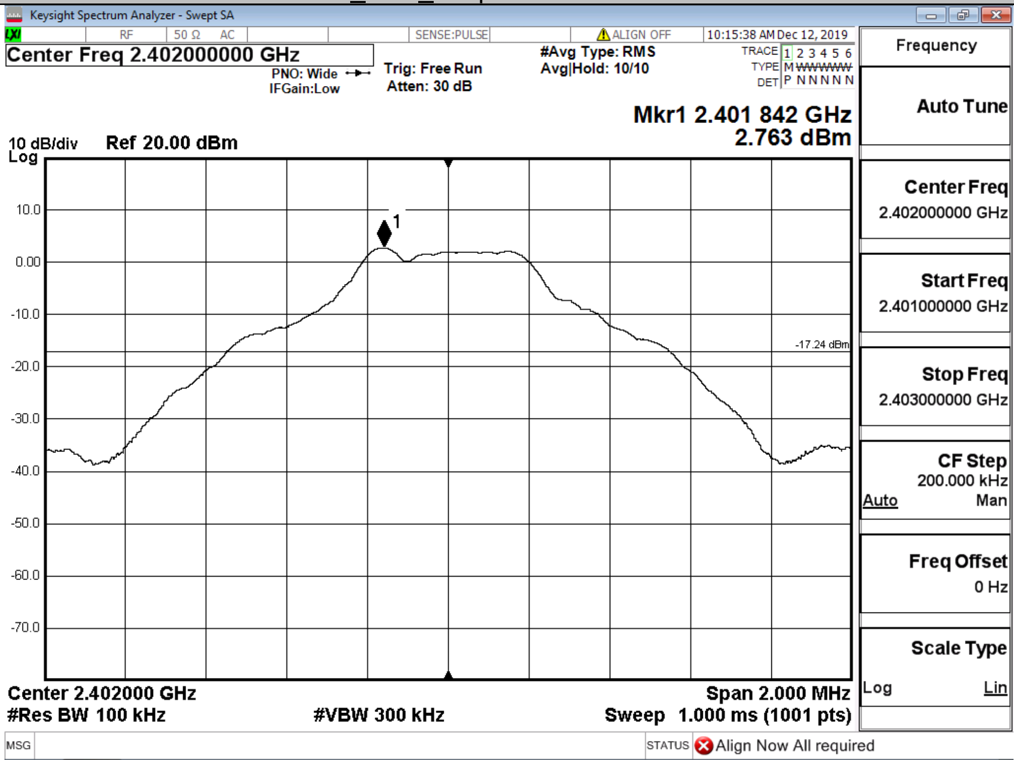
<tr><td>Pref</td><td>
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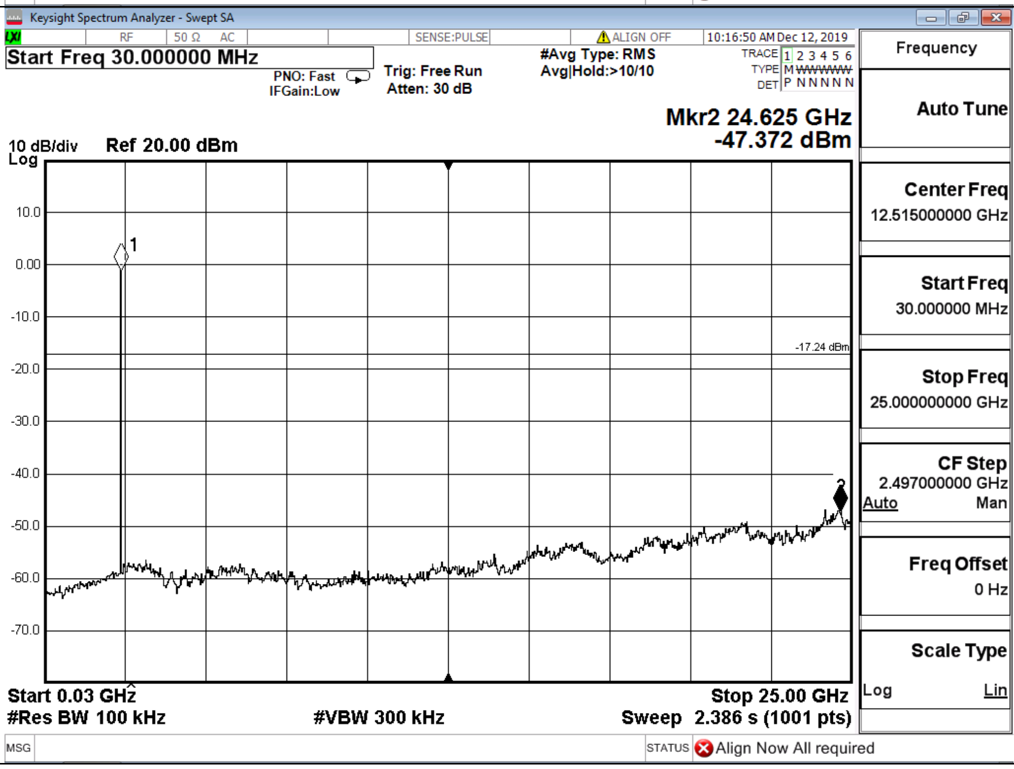
<tr><td>Puw</td><td>
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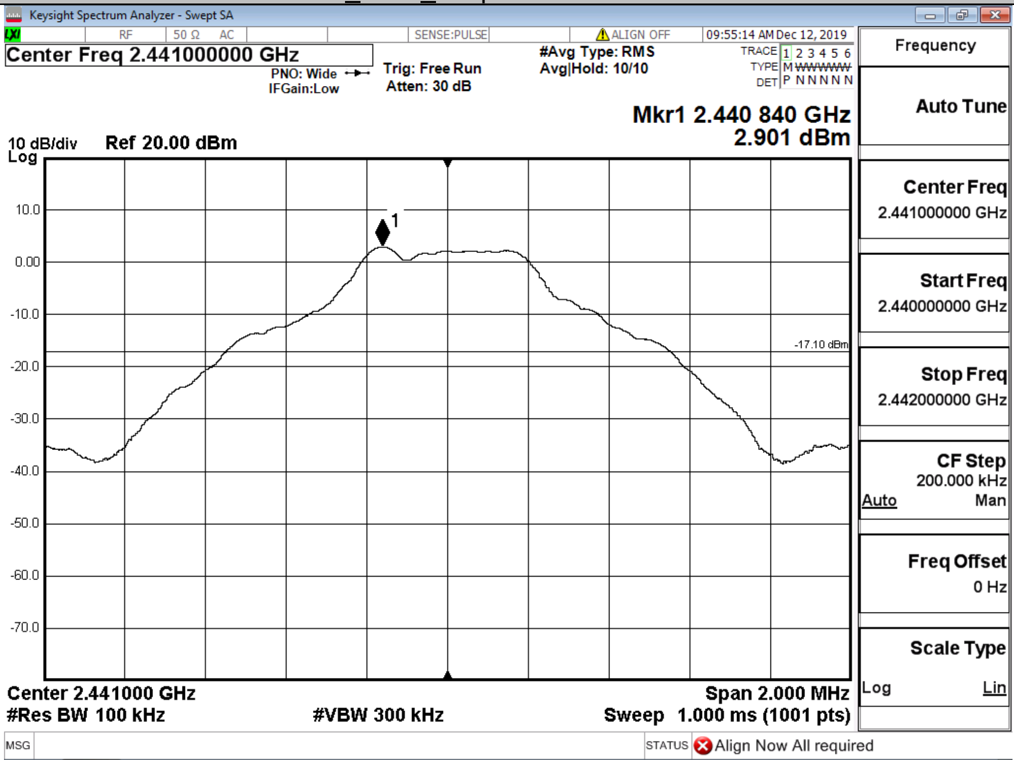
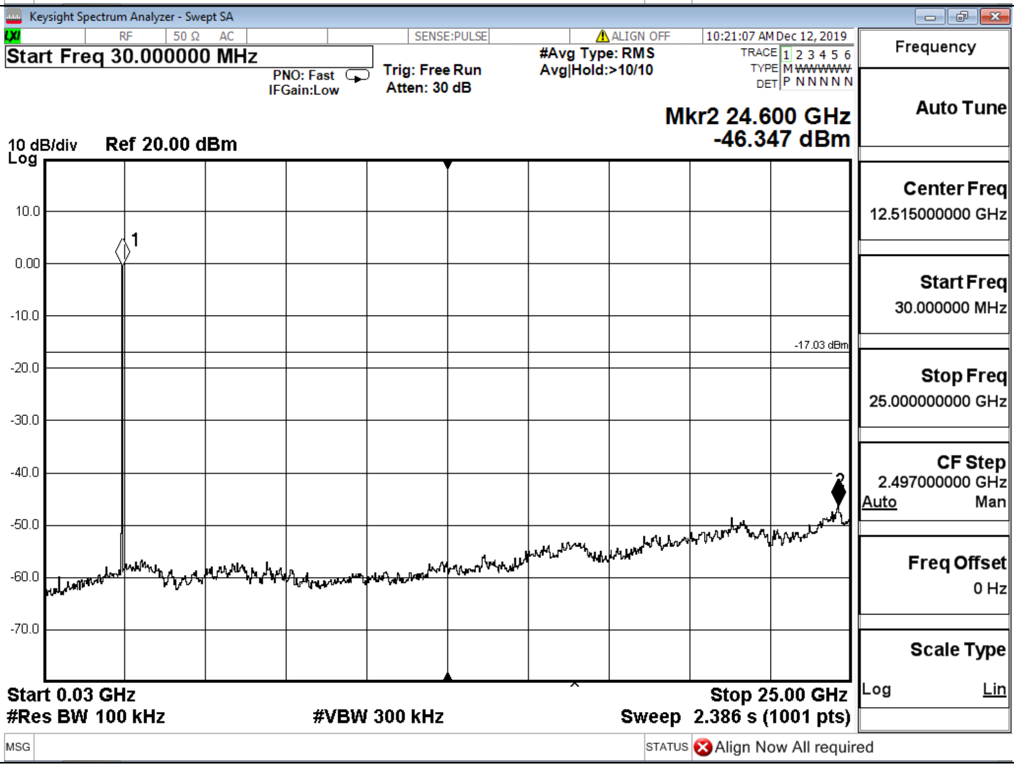
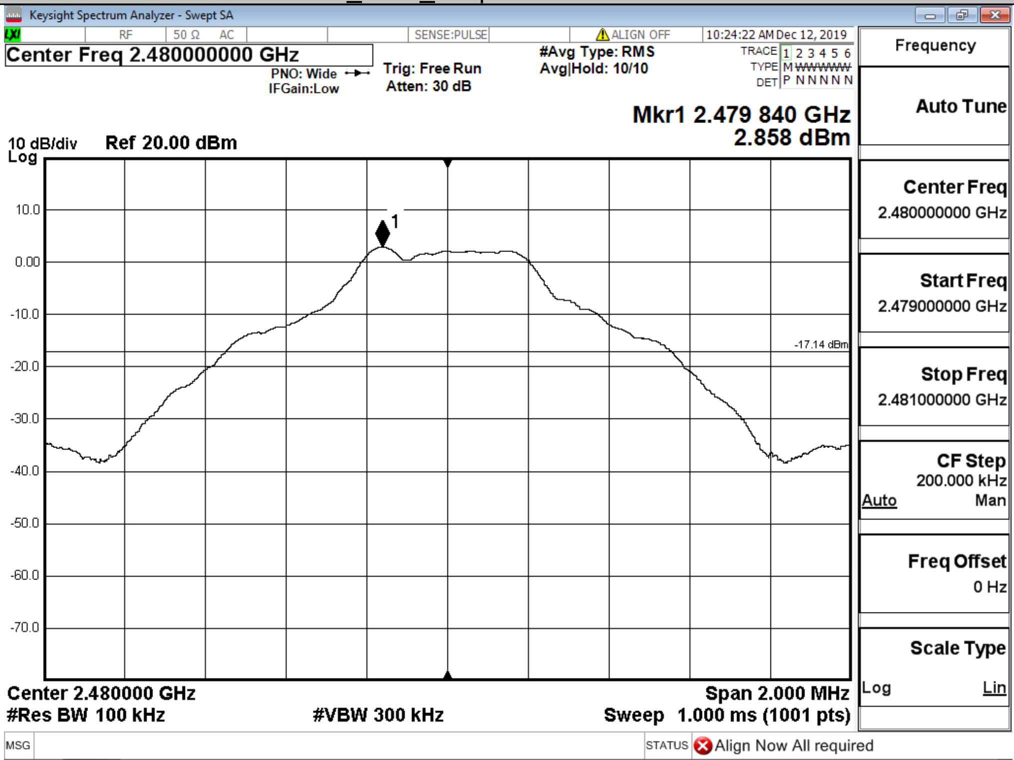
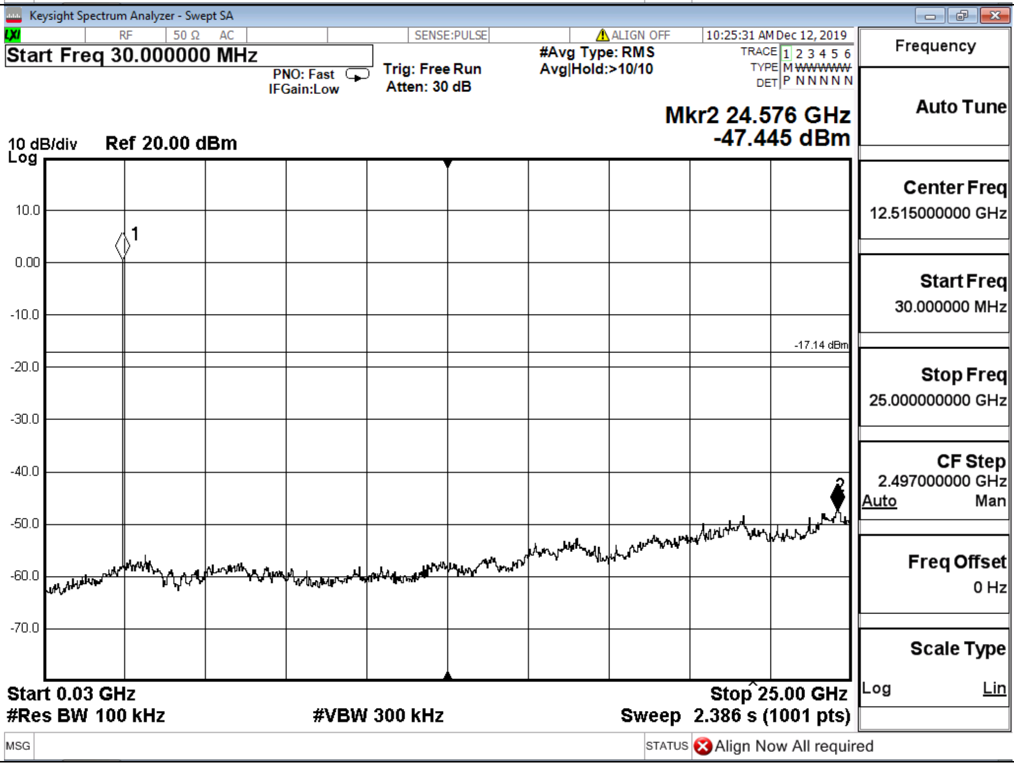
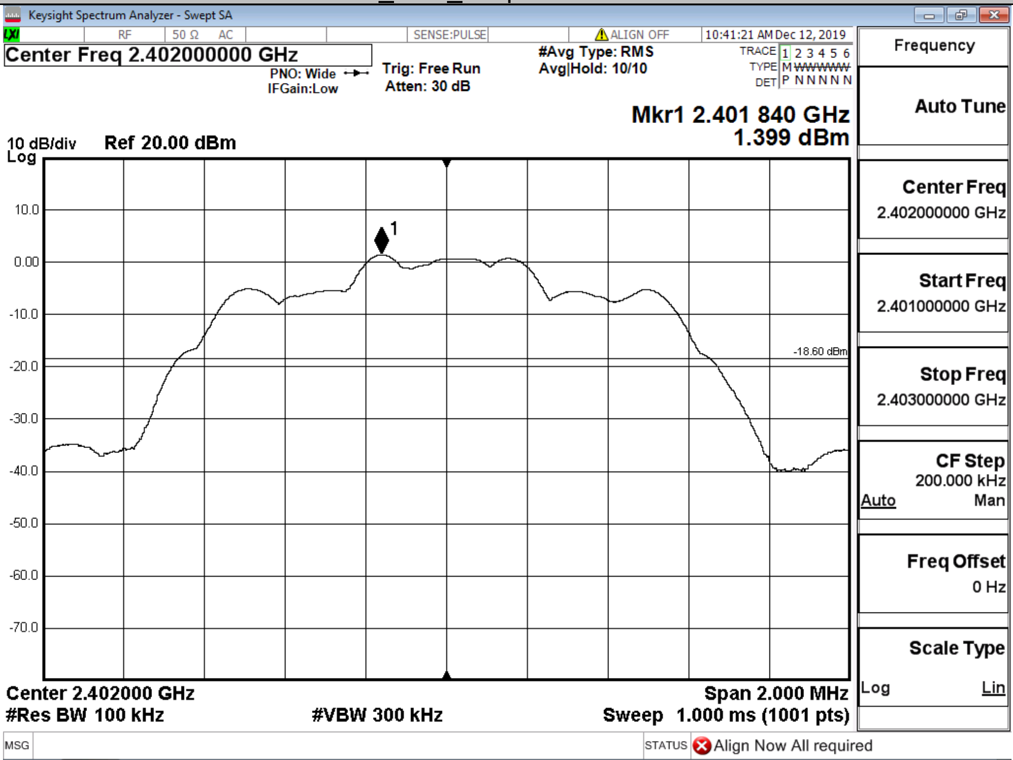
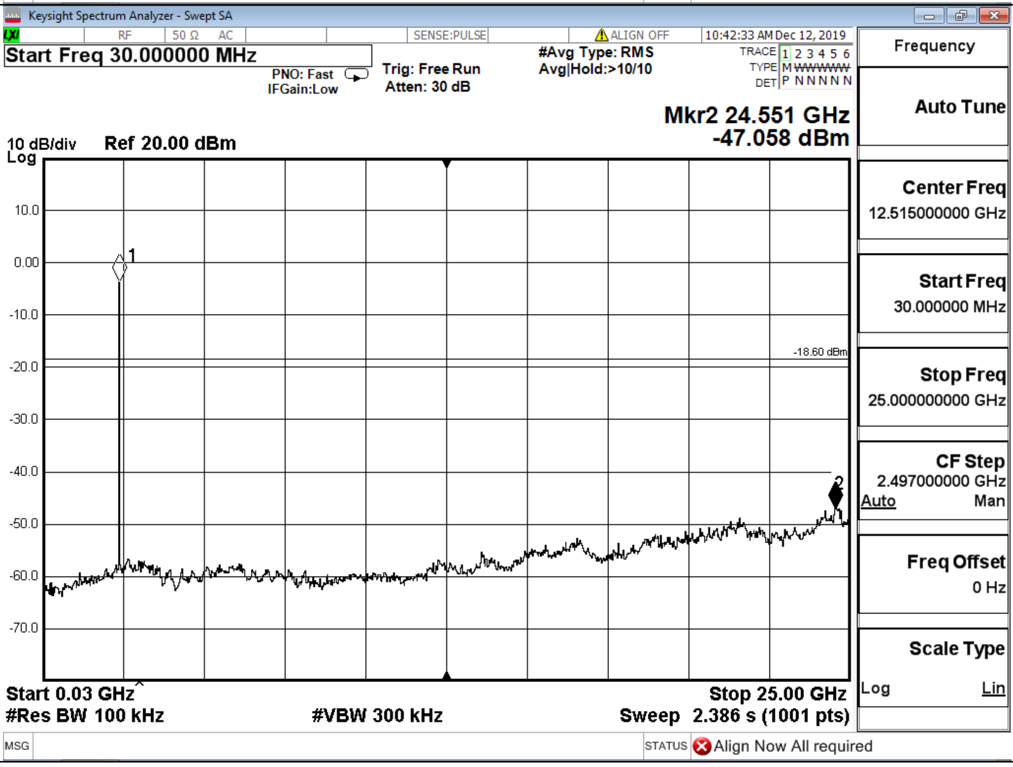
GFSK_MCH_Graphs	
Pref	
Puw	

GFSK_HCH_Graphs	
Pref	
Puw	





π/4DQPSK_LCH_Graphs	
Pref	
Puw	

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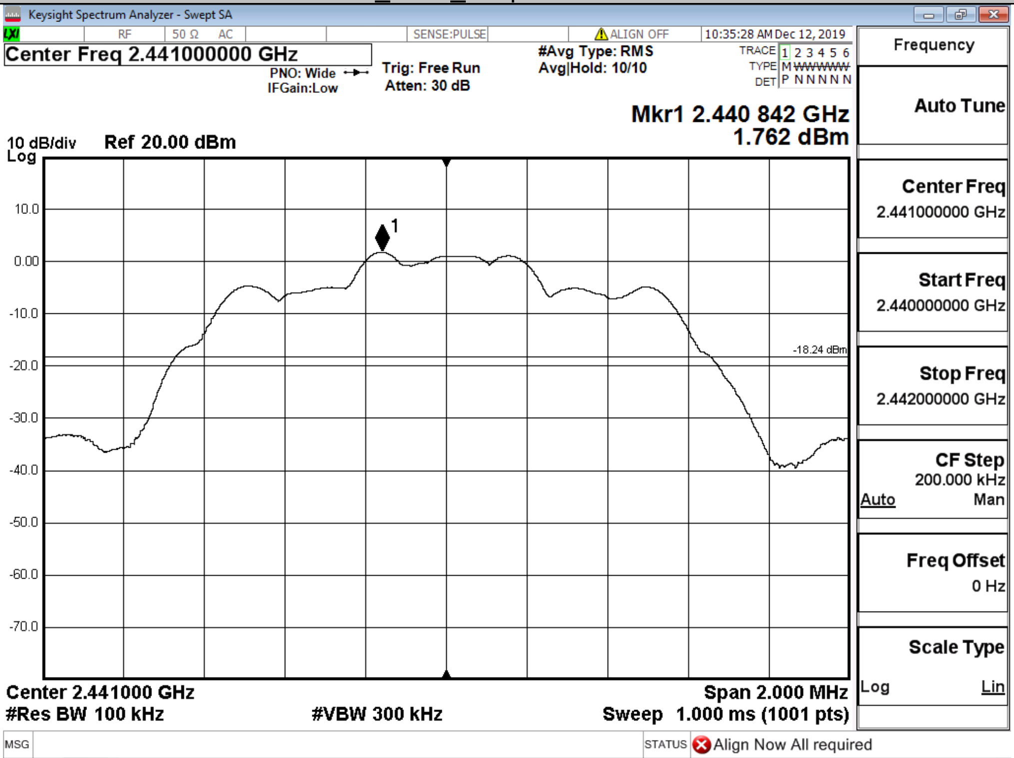
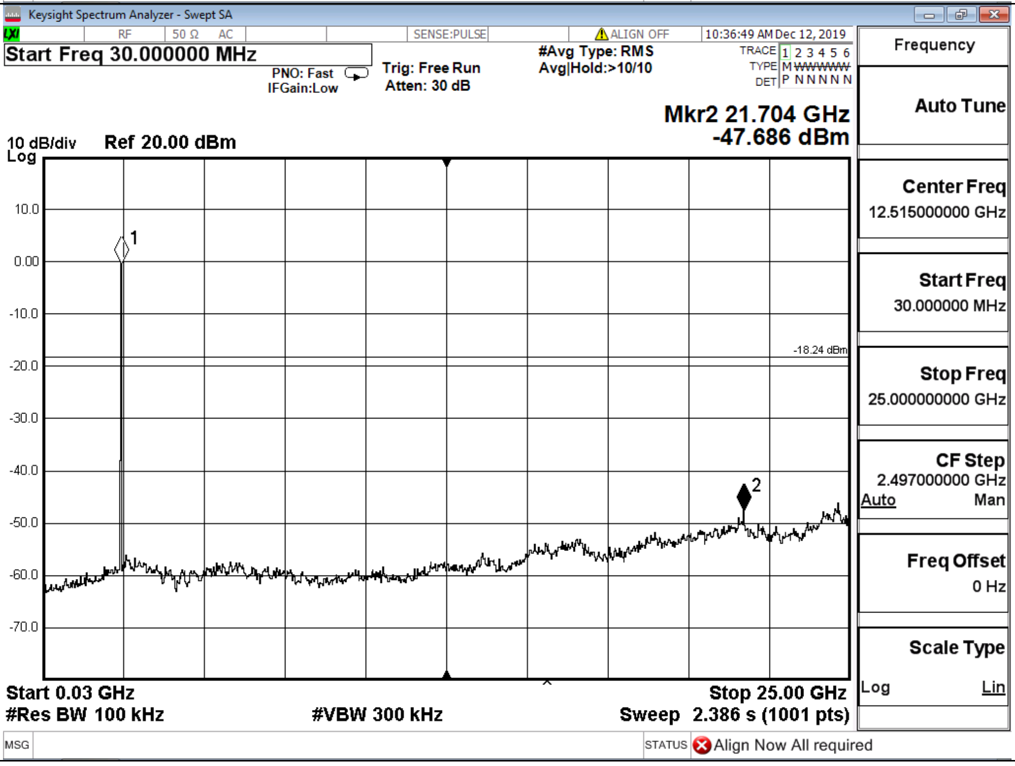
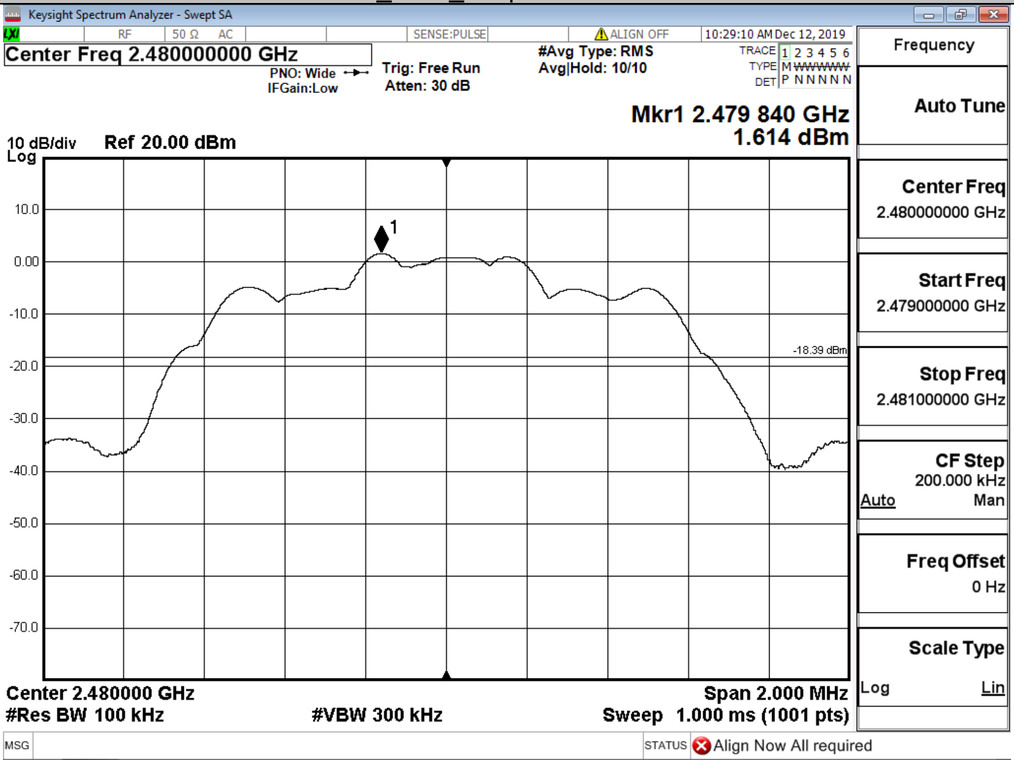
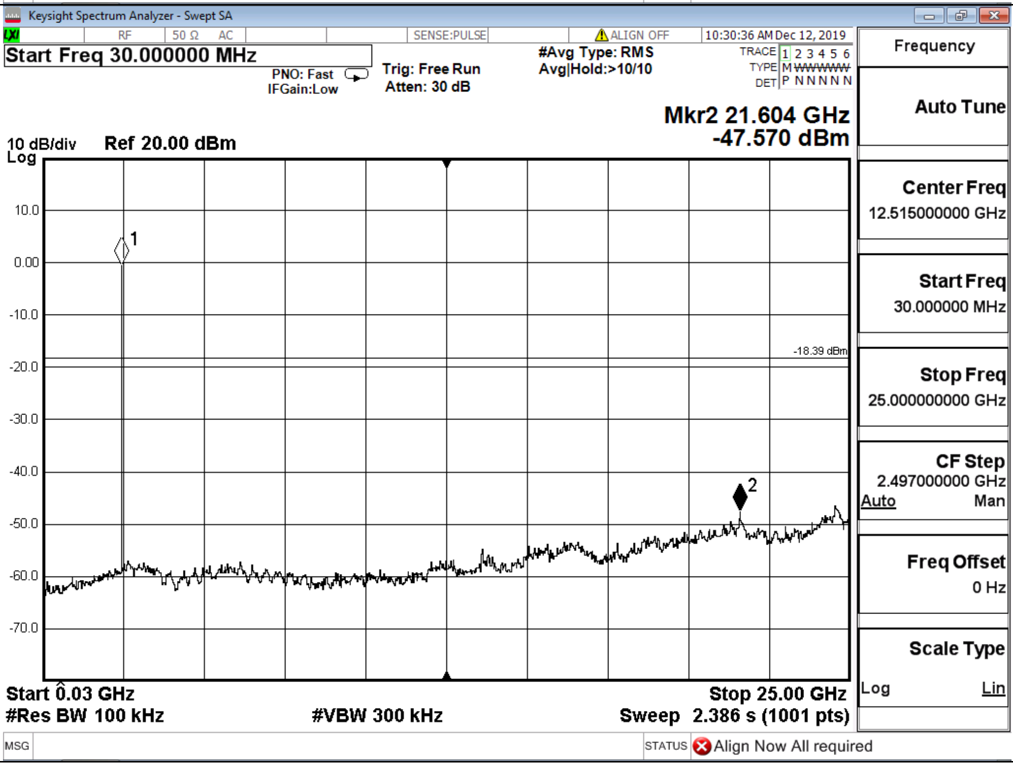
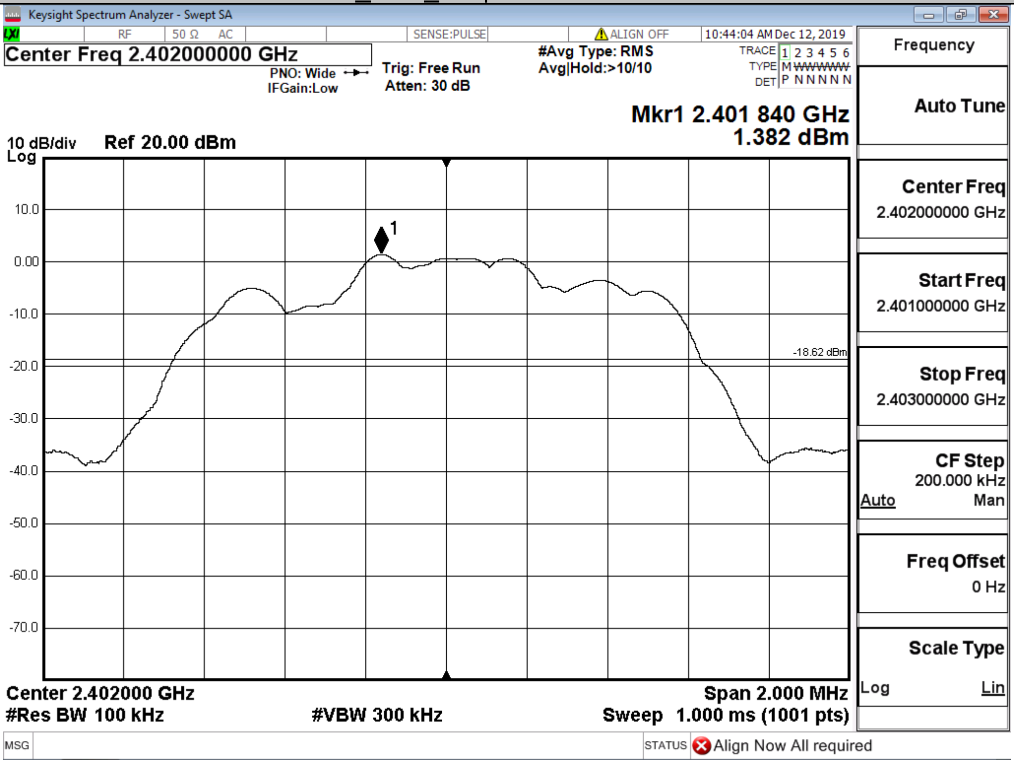
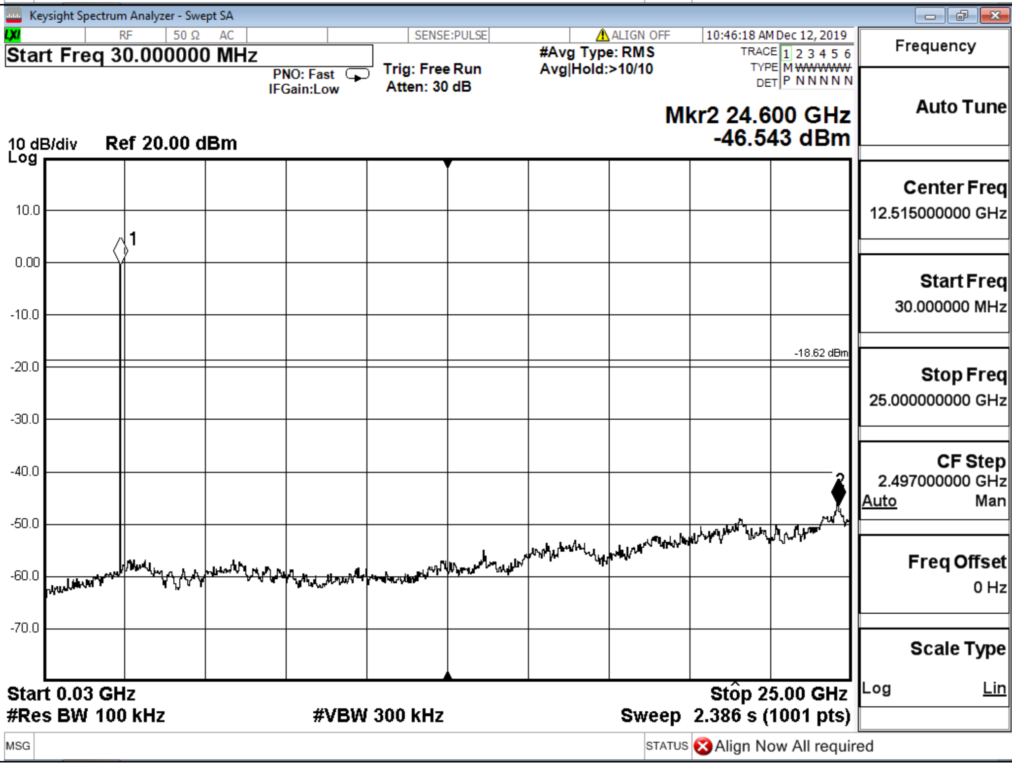
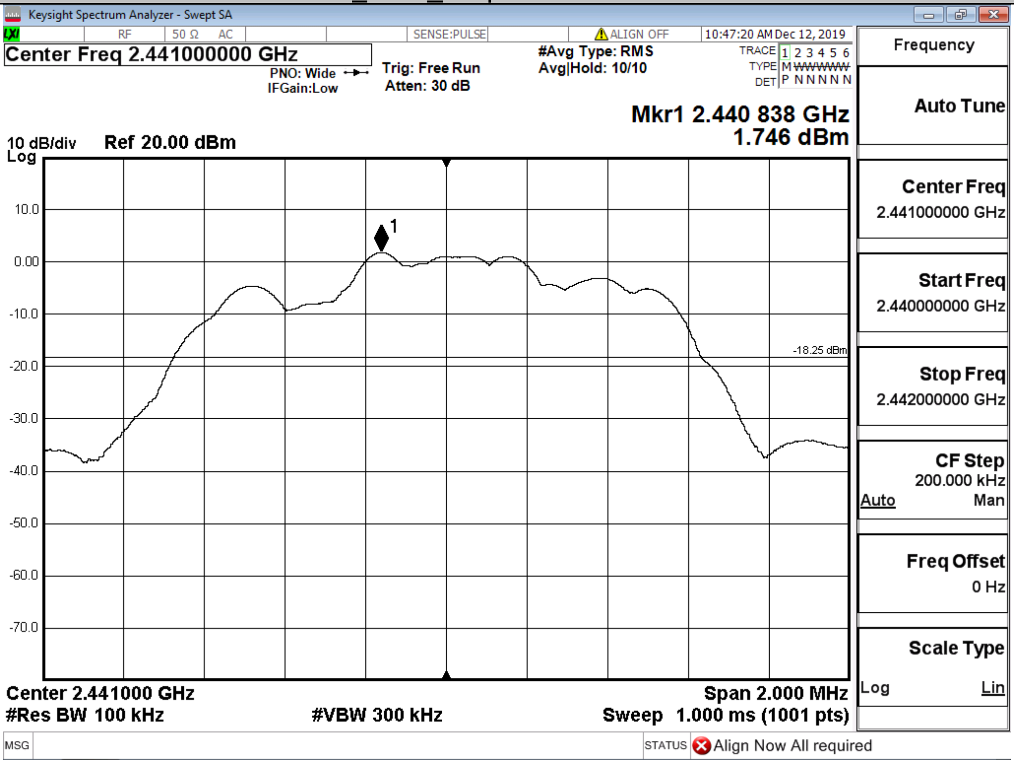
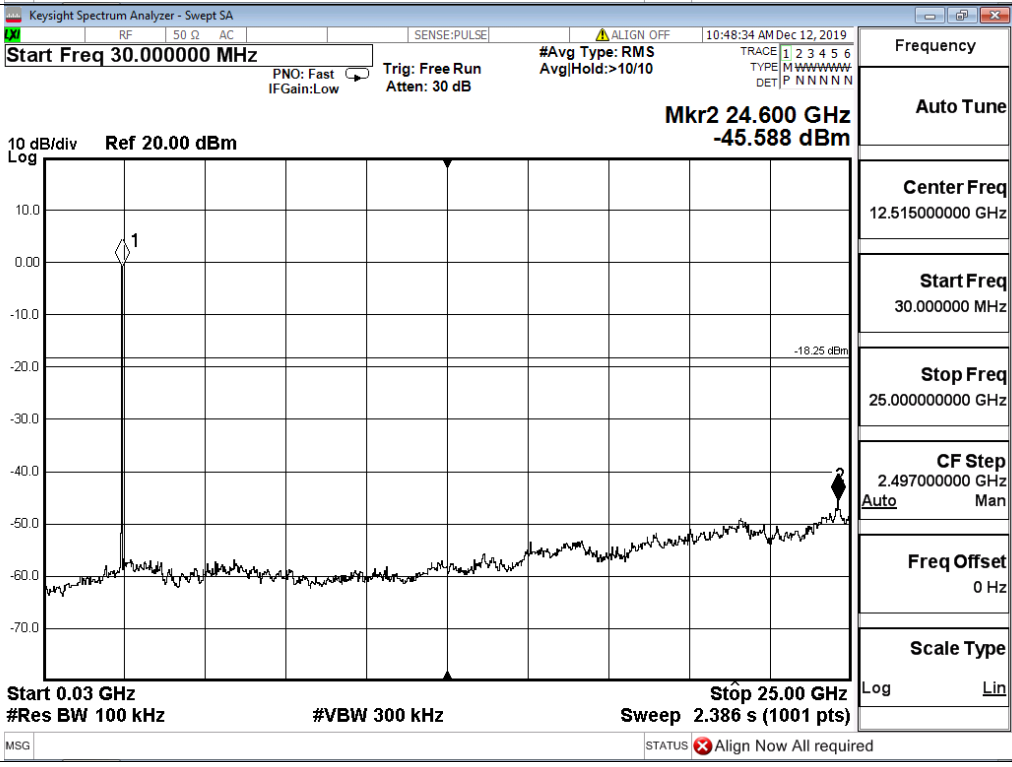
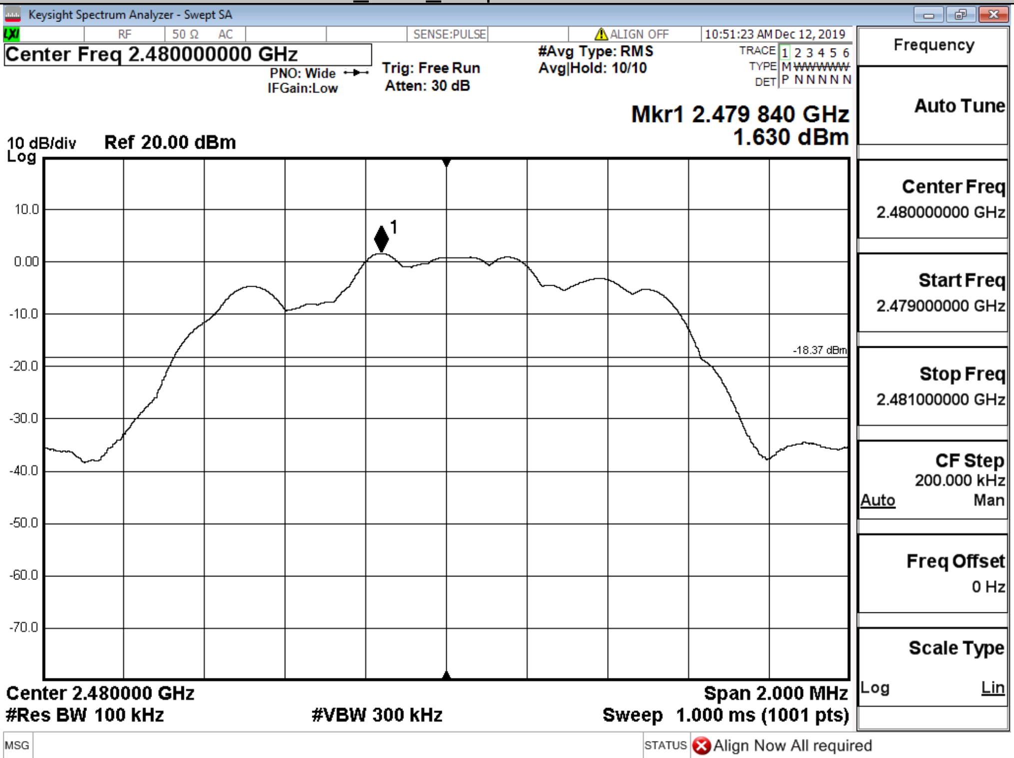
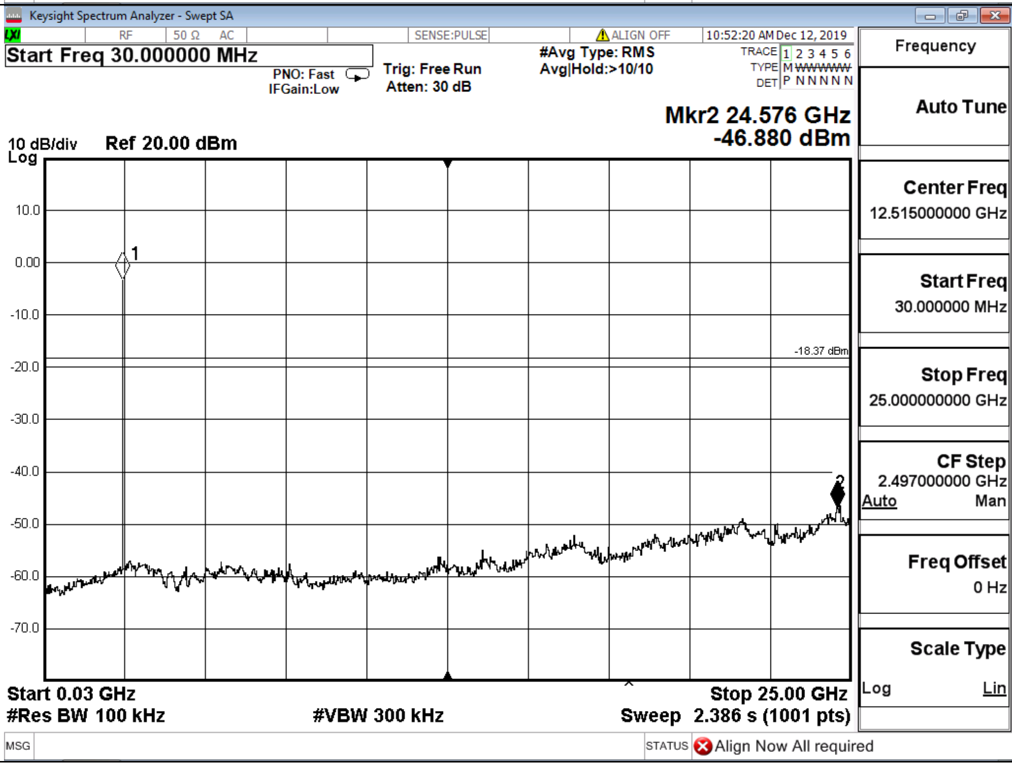
Pref	
Puw	

π/4DQPSK_HCH_Graphs	
Pref	
Puw	

8DPSK_LCH_Graphs	
Pref	
Puw	

8DPSK_MCH_Graphs	
Pref	
Puw	

8DPSK_HCH_Graphs	
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	2.840	Off	-60.228	-17.16	PASS
			2.936	On	-59.547	-17.06	PASS
	HCH	2480	3.009	Off	-58.967	-16.99	PASS
			3.022	On	-58.130	-16.98	PASS
π/4DQPSK	LCH	2402	1.443	Off	-58.872	-18.56	PASS
			1.470	On	-58.236	-18.53	PASS
	HCH	2480	1.690	Off	-57.276	-18.31	PASS
			1.737	On	-56.970	-18.26	PASS
8DPSK	LCH	2402	0.883	Off	-59.053	-19.12	PASS
			1.473	On	-57.034	-18.53	PASS
	HCH	2480	1.771	Off	-58.817	-18.23	PASS
			1.753	On	-57.395	-18.25	PASS

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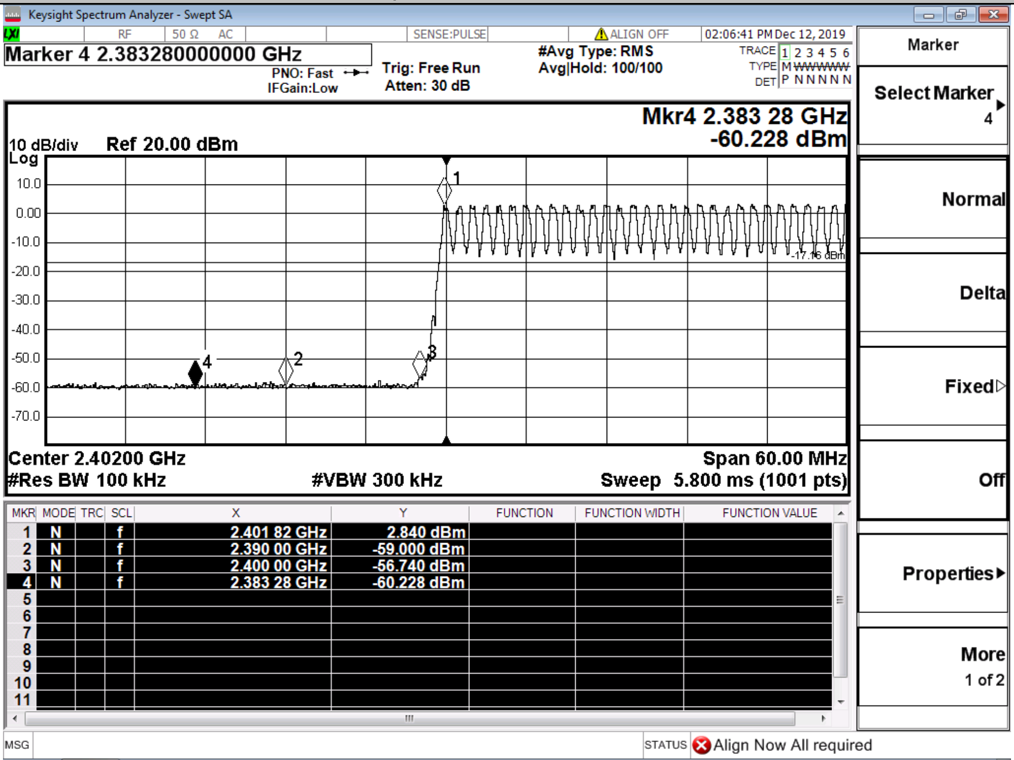
<tr><td>GFSK/LCH/No Hop</td><td>
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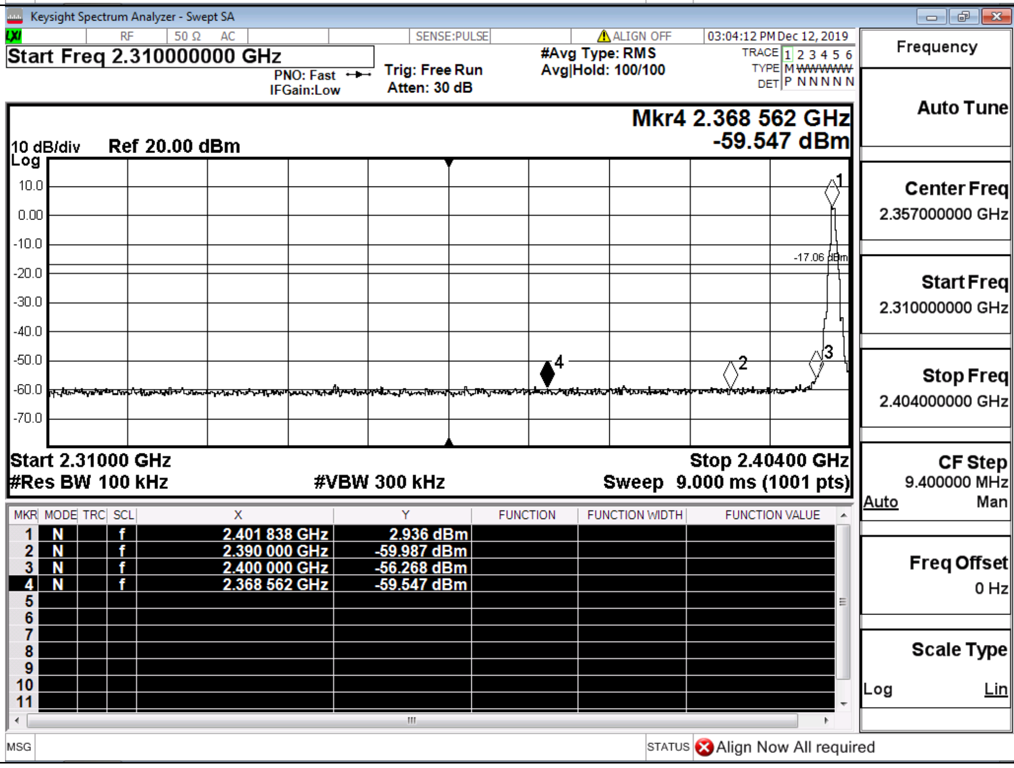
<tr><td>GFSK/LCH/Hop</td><td>
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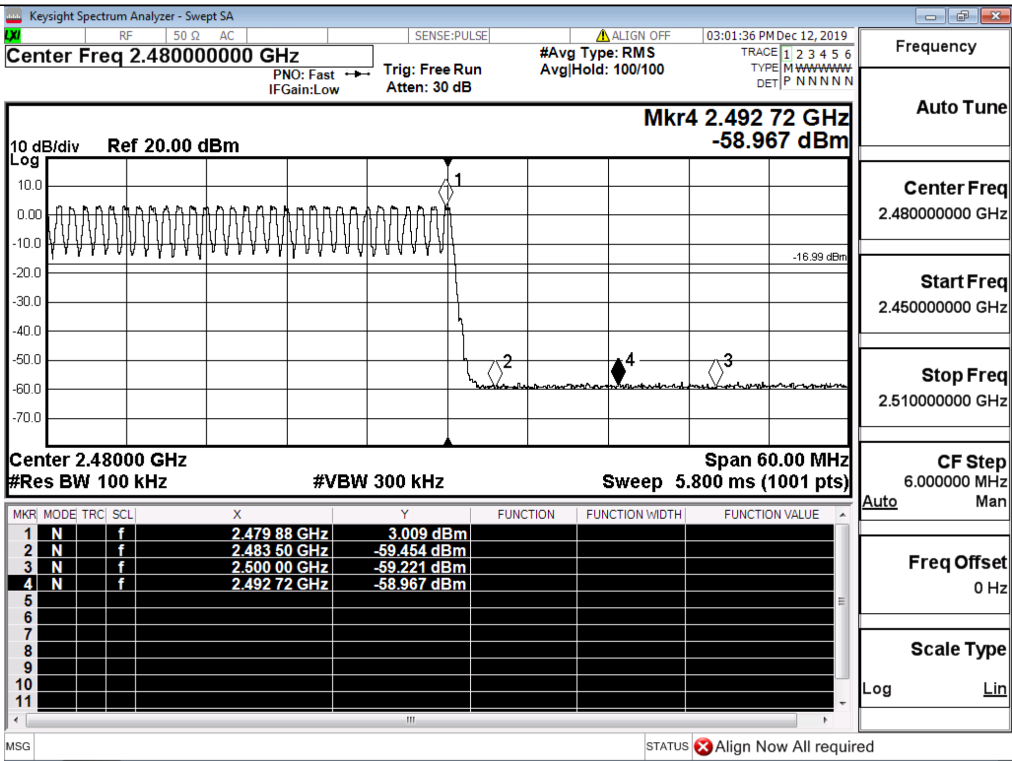
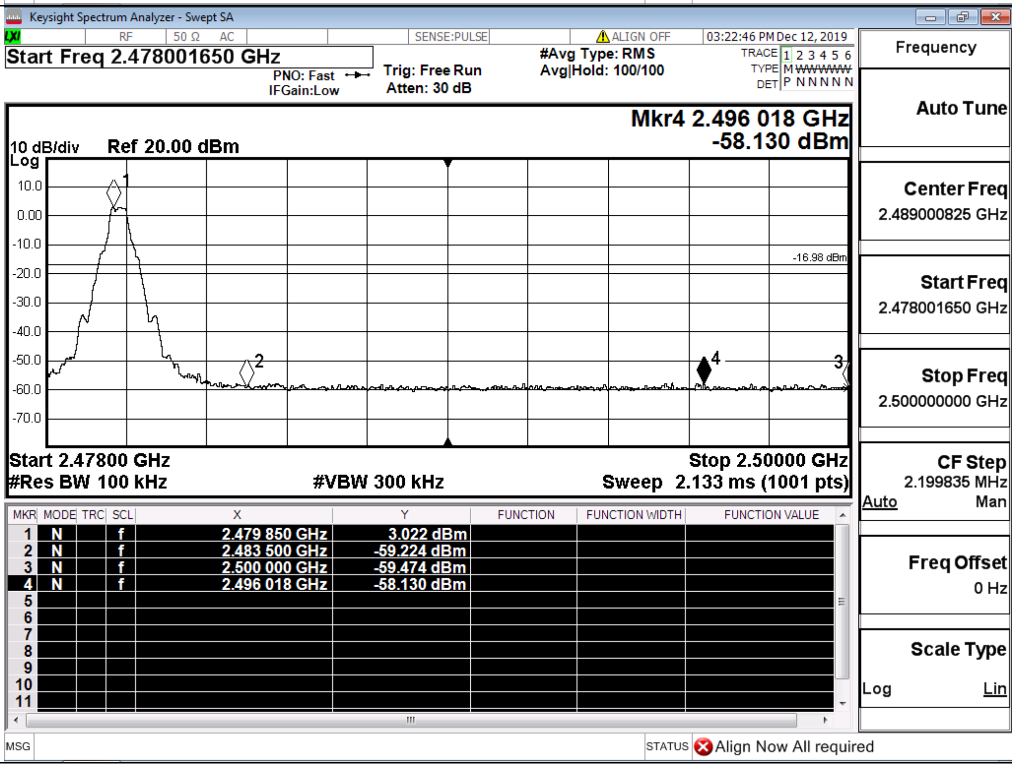
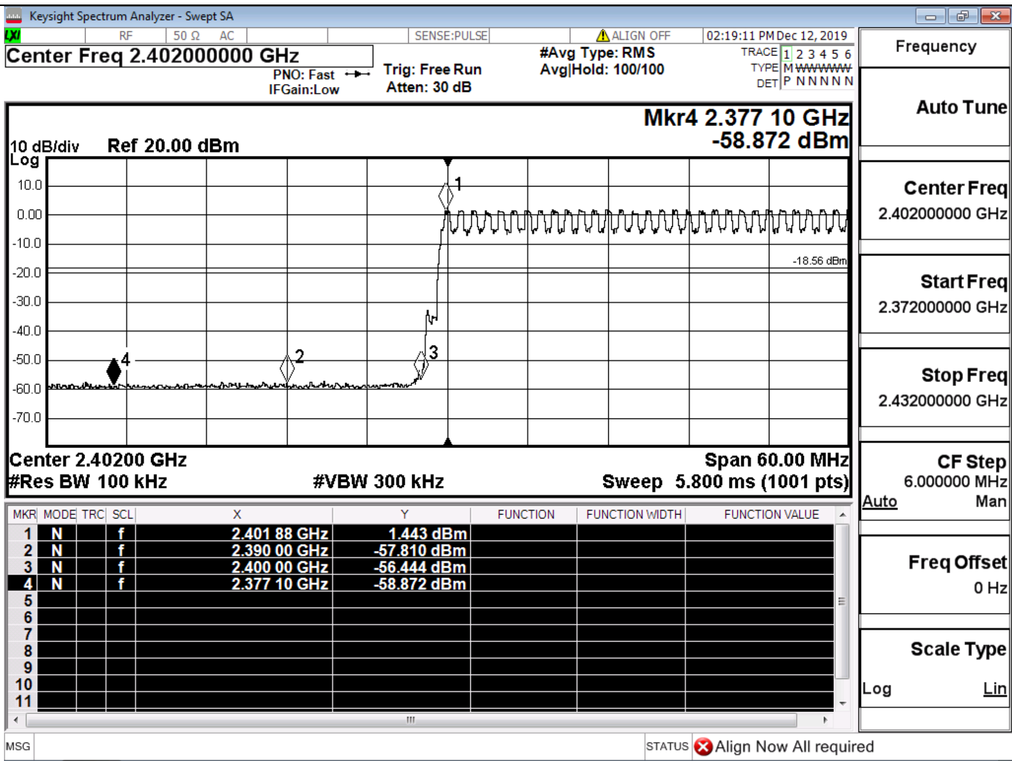
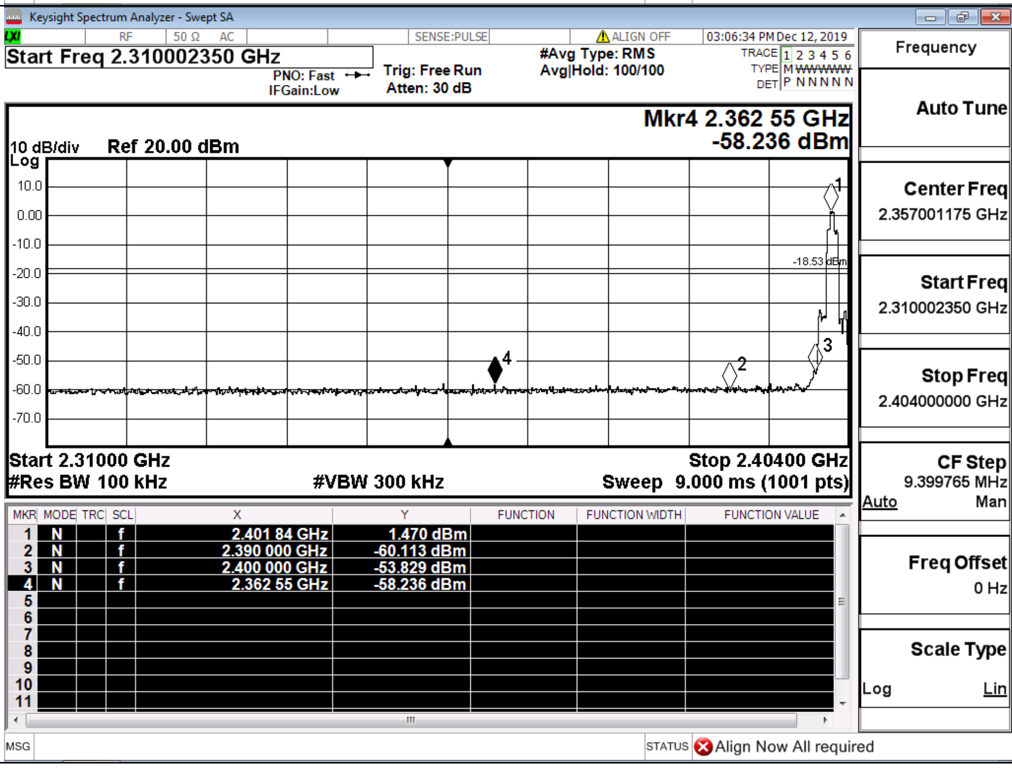
GFSK/HCH/No Hop	
GFSK/HCH/Hop	

π/4DQPSK/LCH/No Hop



π/4DQPSK/LCH/Hop



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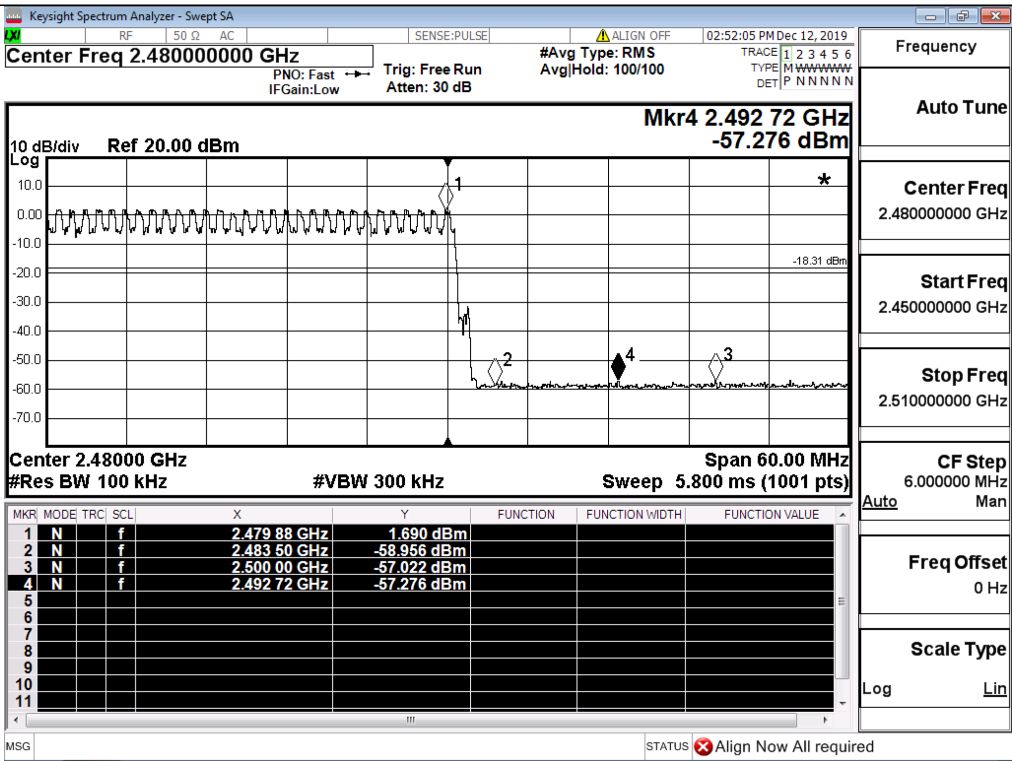
<td>
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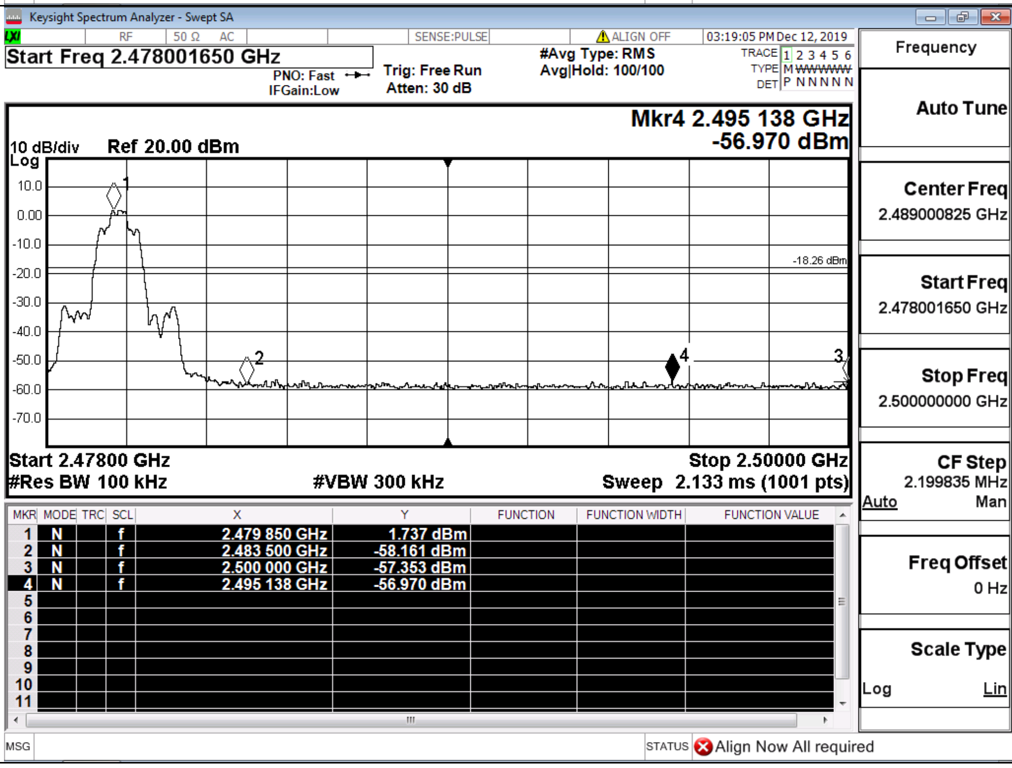
<td>
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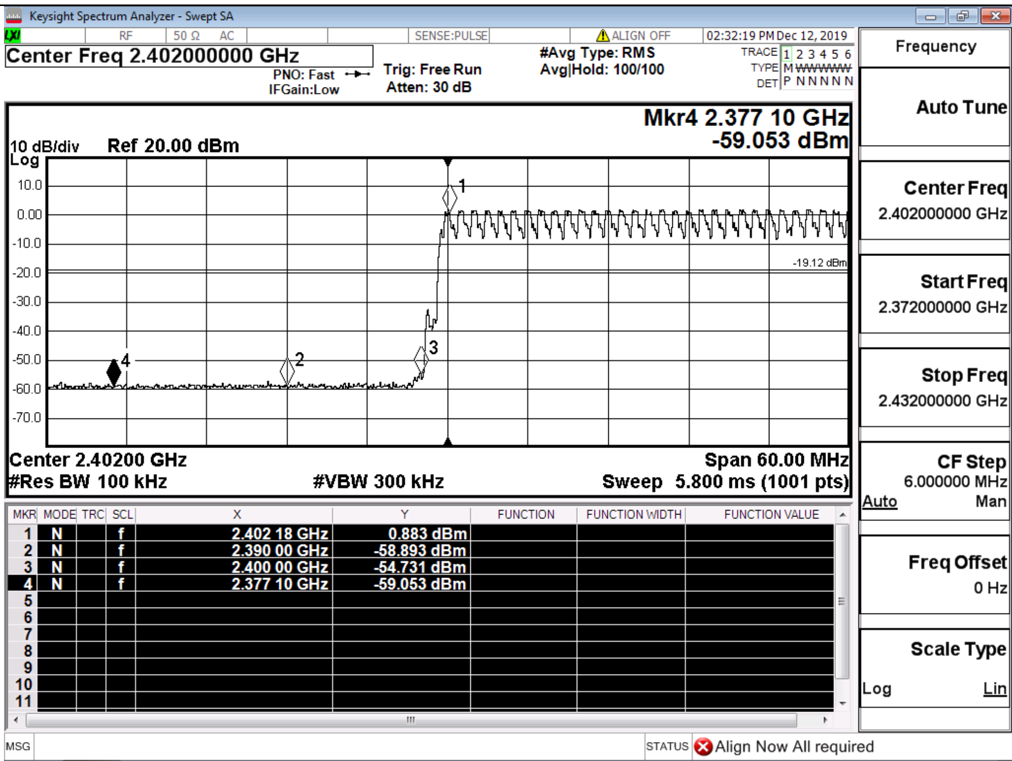

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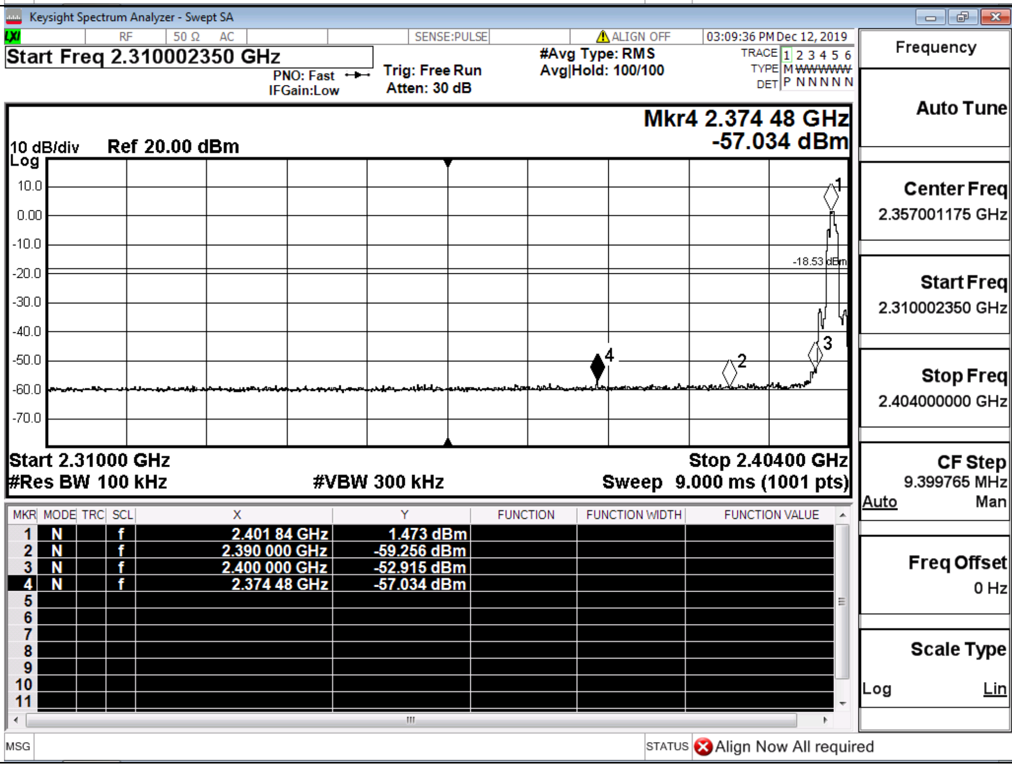

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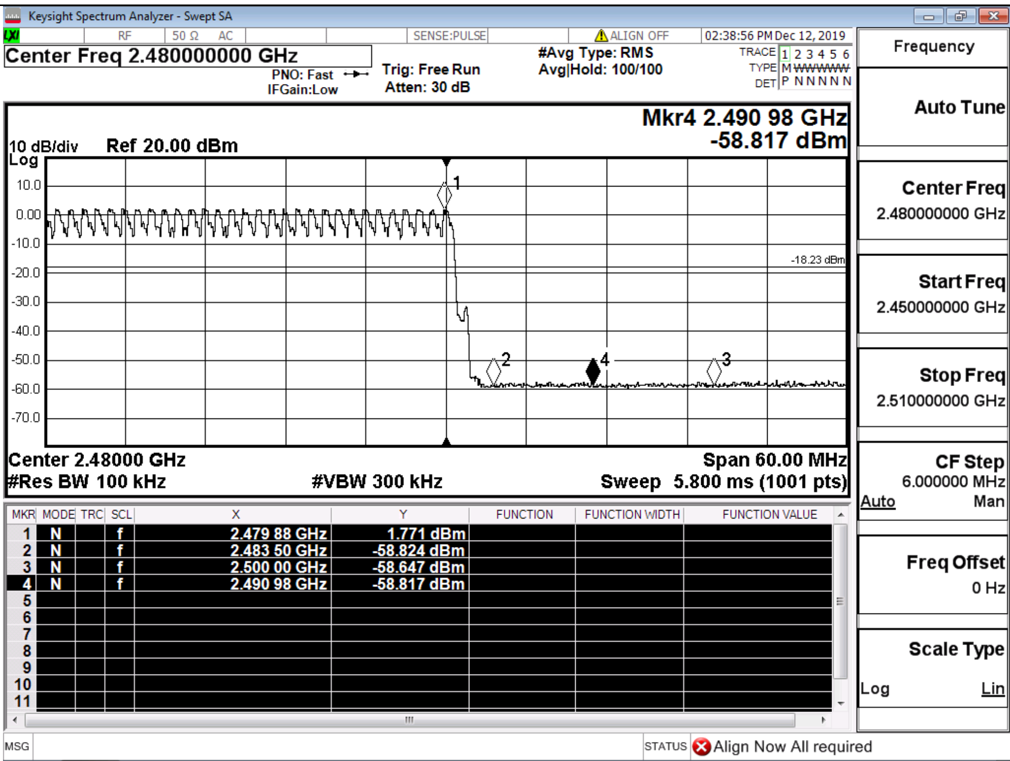
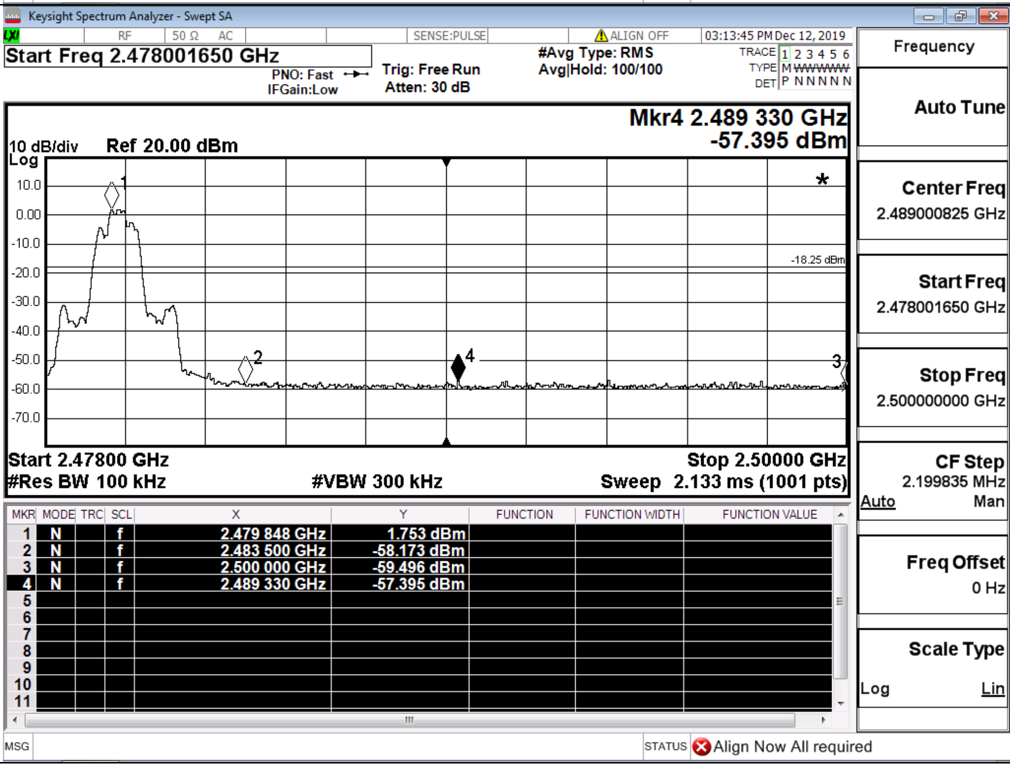
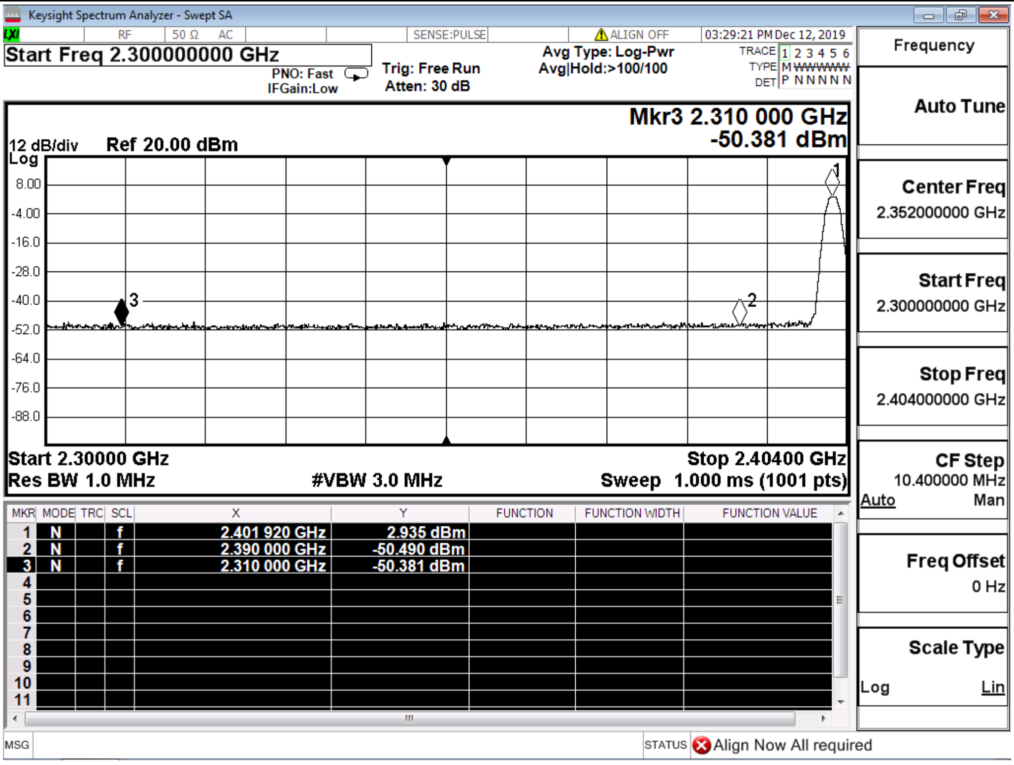
8DPSK/HCH/No Hop	
8DPSK/HCH/Hop	

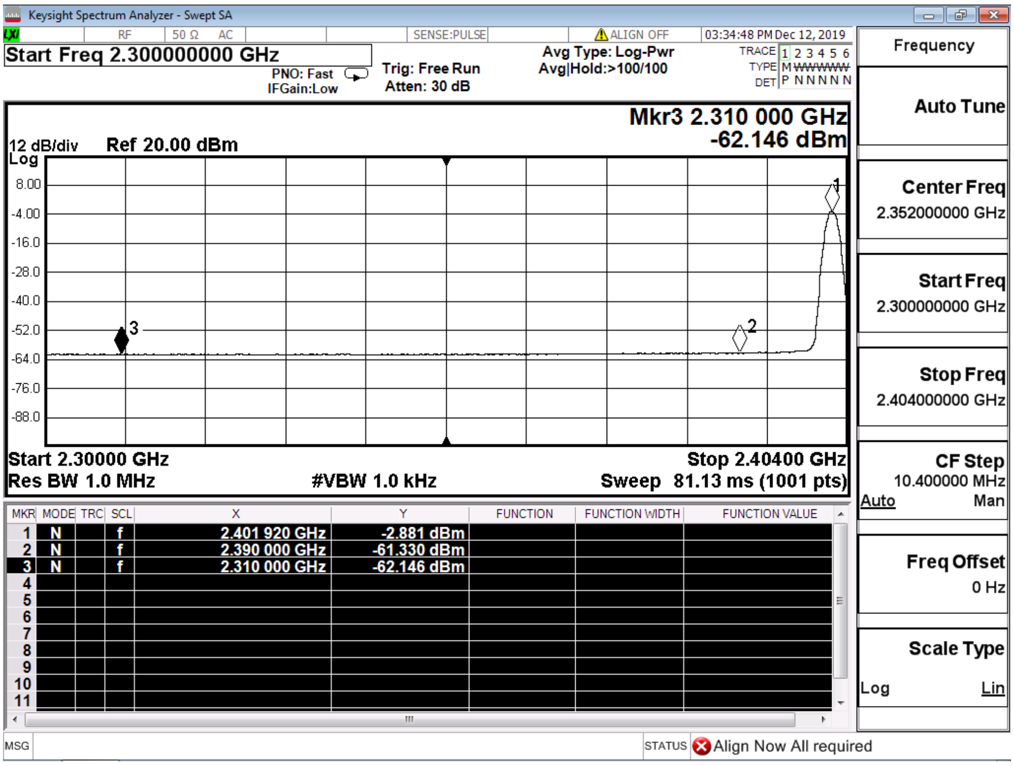
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-50.381	2	0	46.88	PEAK	74	PASS
	Off	2310.0	-62.146	2	0	35.11	AV	54	PASS
	Off	2390.0	-50.490	2	0	46.77	PEAK	74	PASS
	Off	2390.0	-61.330	2	0	35.93	AV	54	PASS
	Off	2483.5	-48.370	2	0	48.89	PEAK	74	PASS
	Off	2483.5	-60.389	2	0	36.87	AV	54	PASS
	Off	2500.0	-48.841	2	0	48.42	PEAK	74	PASS
	Off	2500.0	-61.036	2	0	36.22	AV	54	PASS
π/4DQPSK	Off	2310.0	-50.756	2	0	46.50	PEAK	74	PASS
	Off	2310.0	-62.212	2	0	35.05	AV	54	PASS
	Off	2390.0	-49.810	2	0	47.45	PEAK	74	PASS
	Off	2390.0	-61.379	2	0	35.88	AV	54	PASS
	Off	2483.5	-50.142	2	0	47.12	PEAK	74	PASS
	Off	2483.5	-60.229	2	0	37.03	AV	54	PASS
	Off	2500.0	-49.319	2	0	47.94	PEAK	74	PASS
	Off	2500.0	-61.114	2	0	36.15	AV	54	PASS
8DPSK	Off	2310.0	-50.237	2	0	47.02	PEAK	74	PASS
	Off	2310.0	-62.039	2	0	35.22	AV	54	PASS
	Off	2390.0	-51.512	2	0	45.75	PEAK	74	PASS
	Off	2390.0	-61.491	2	0	35.77	AV	54	PASS
	Off	2483.5	-48.045	2	0	49.22	PEAK	74	PASS
	Off	2483.5	-60.195	2	0	37.07	AV	54	PASS
	Off	2500.0	-50.458	2	0	46.80	PEAK	74	PASS
	Off	2500.0	-61.118	2	0	36.14	AV	54	PASS

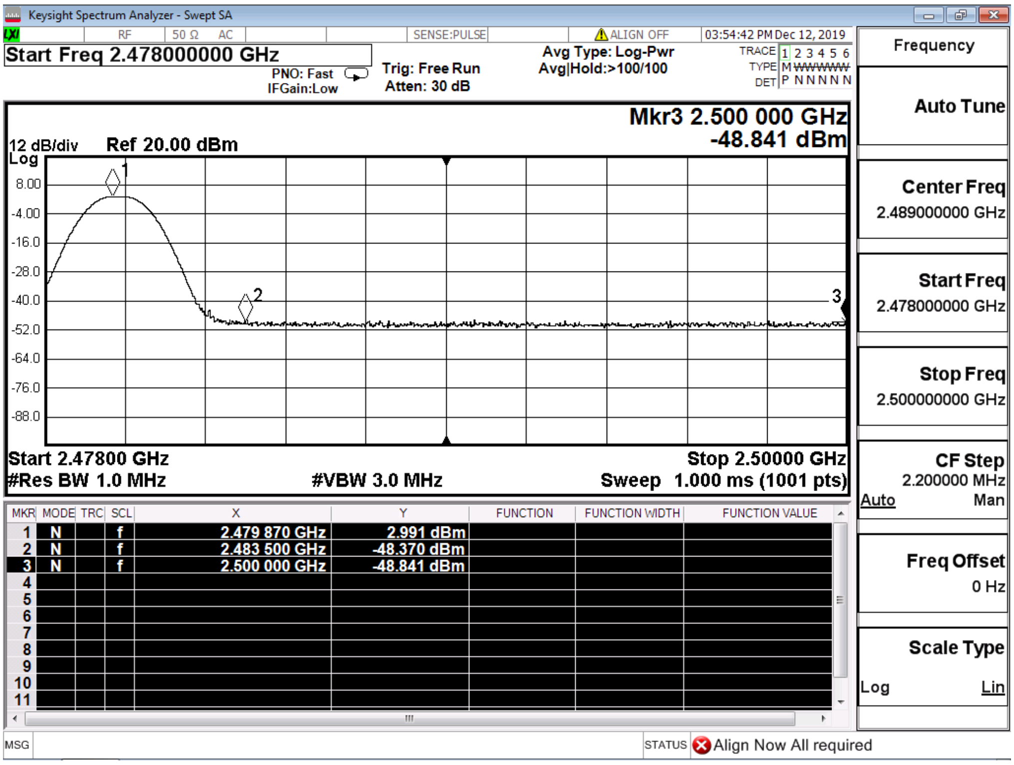
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



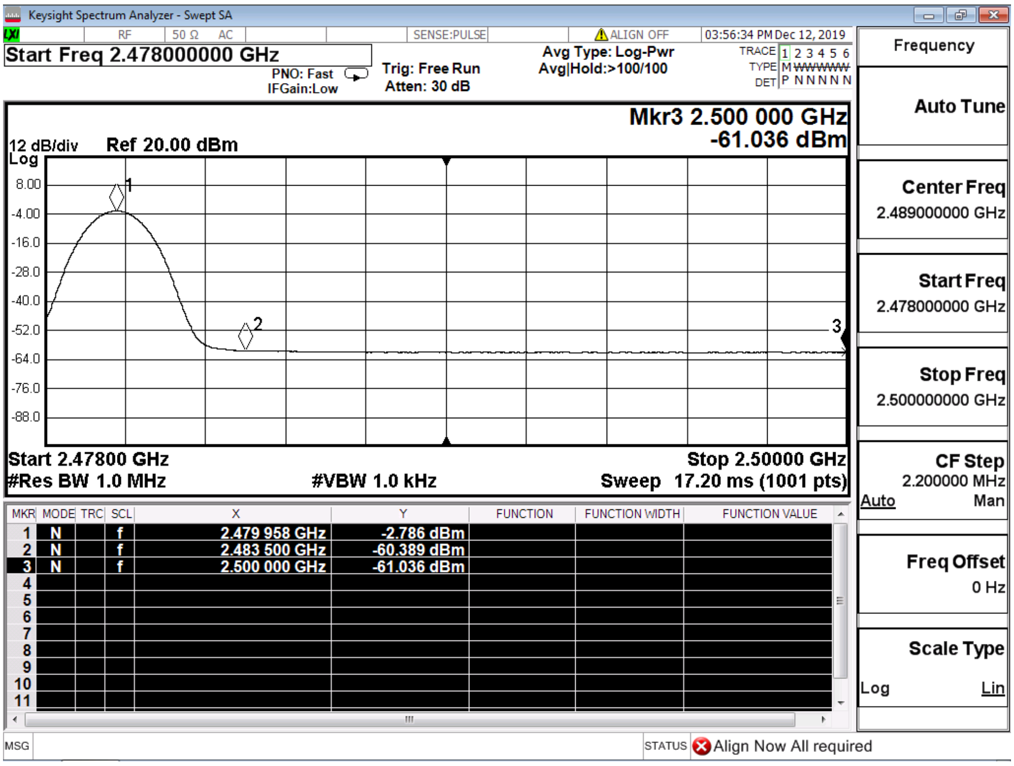
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



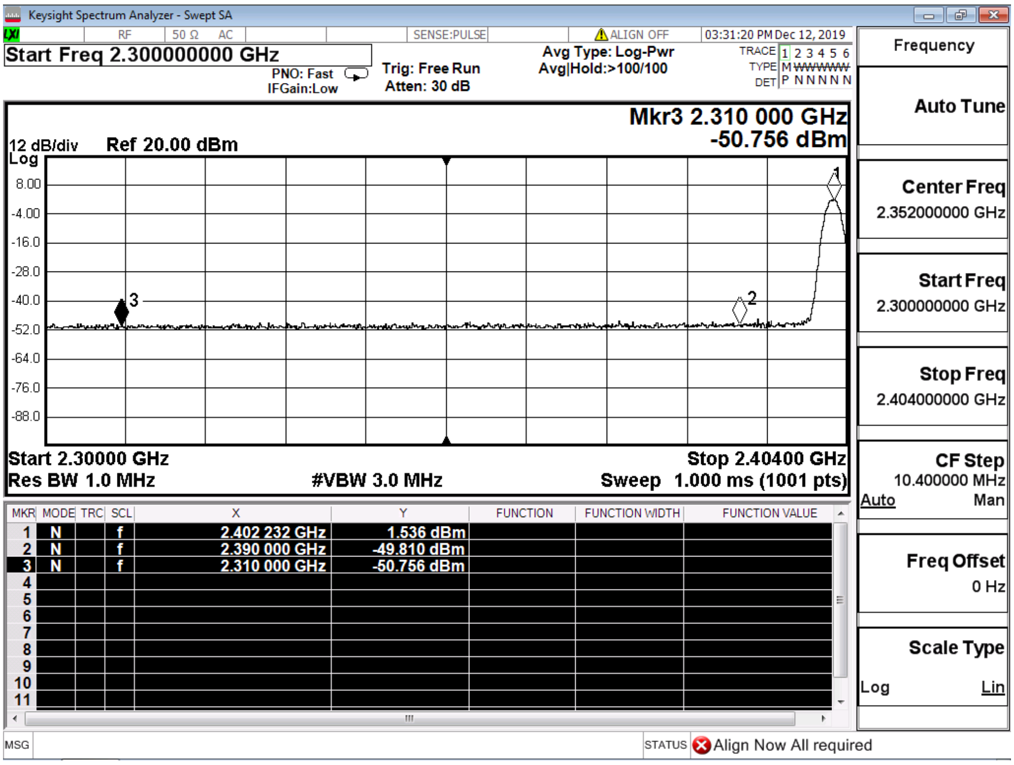
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



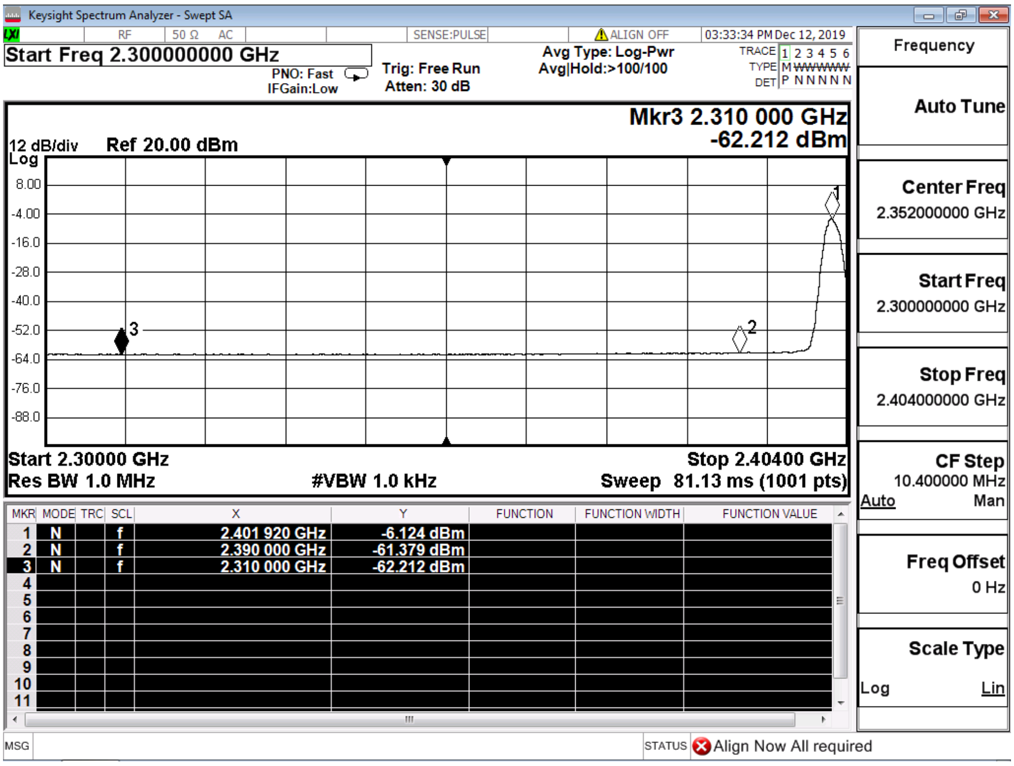
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



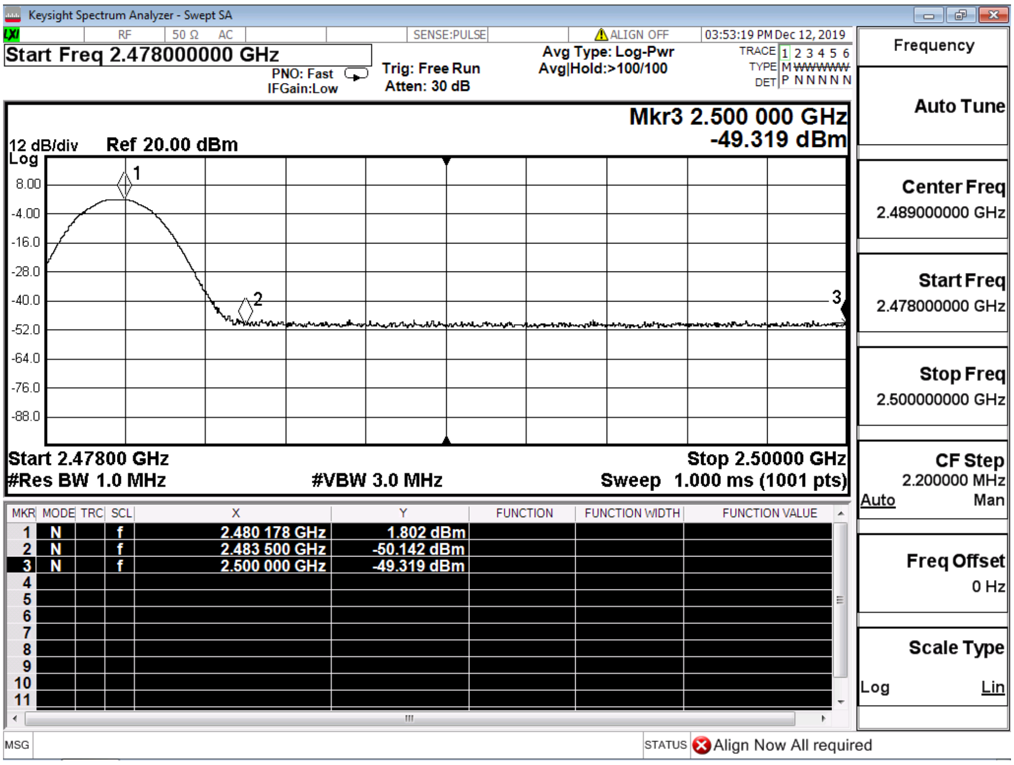
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



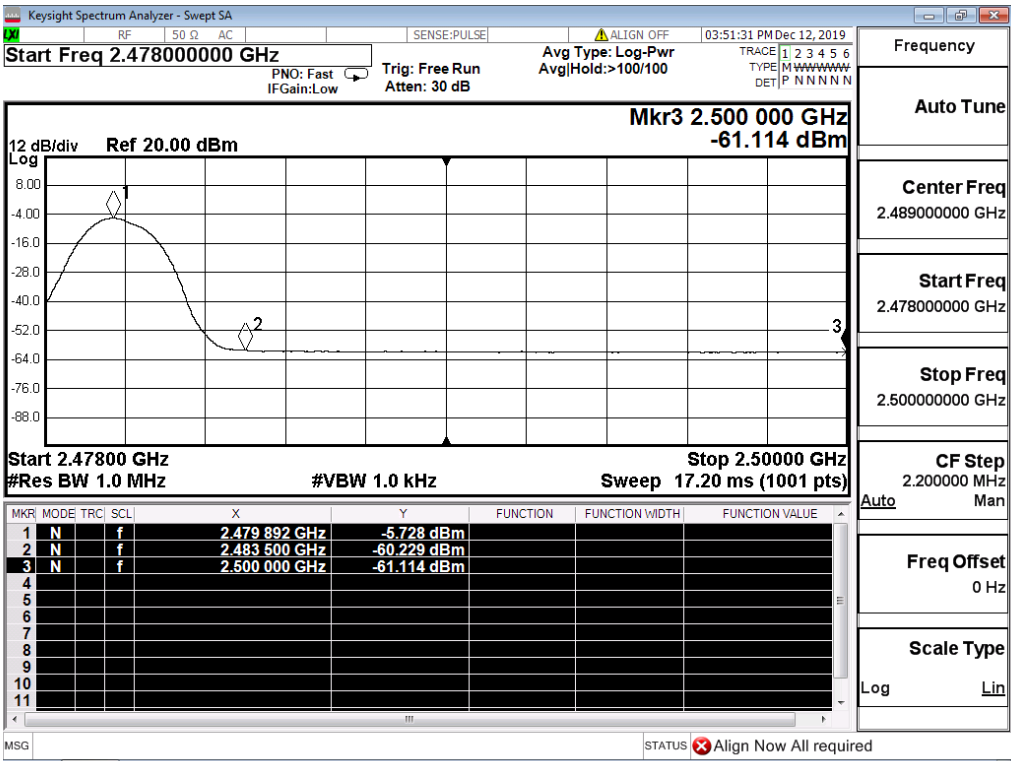
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



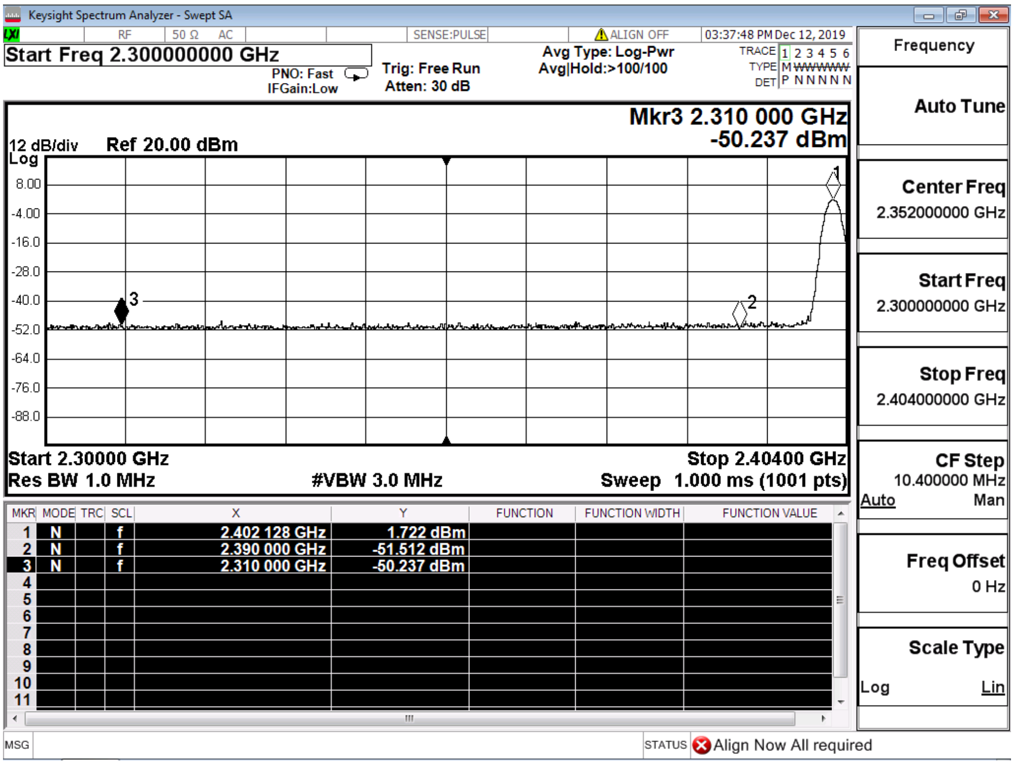
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



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

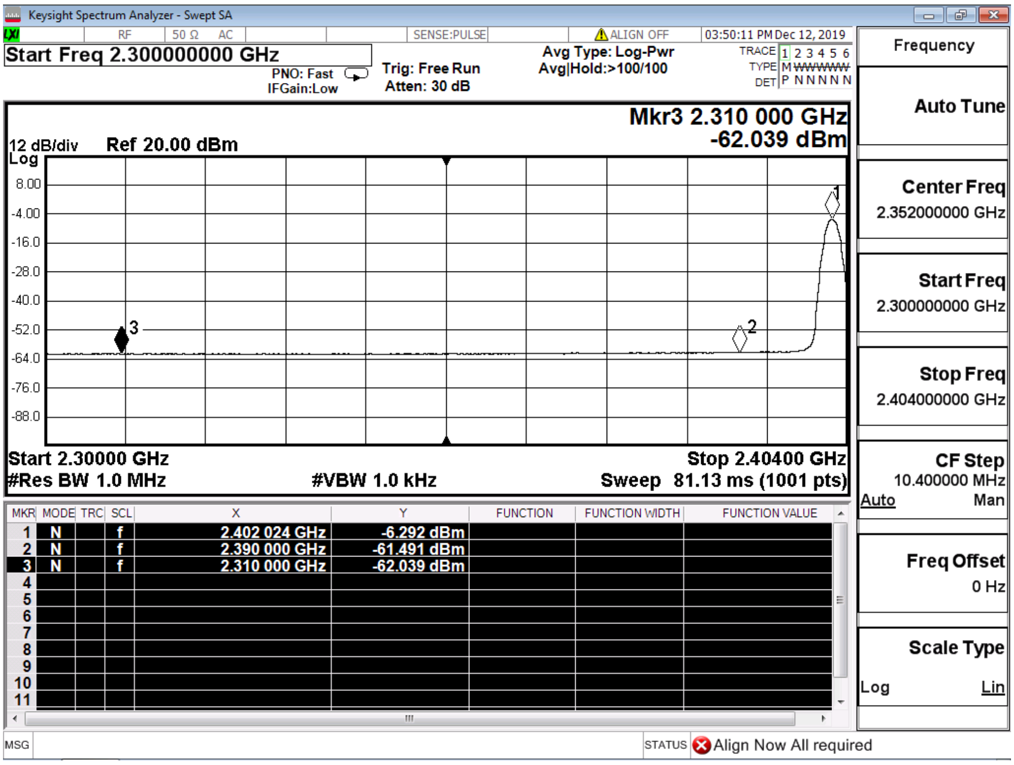


Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



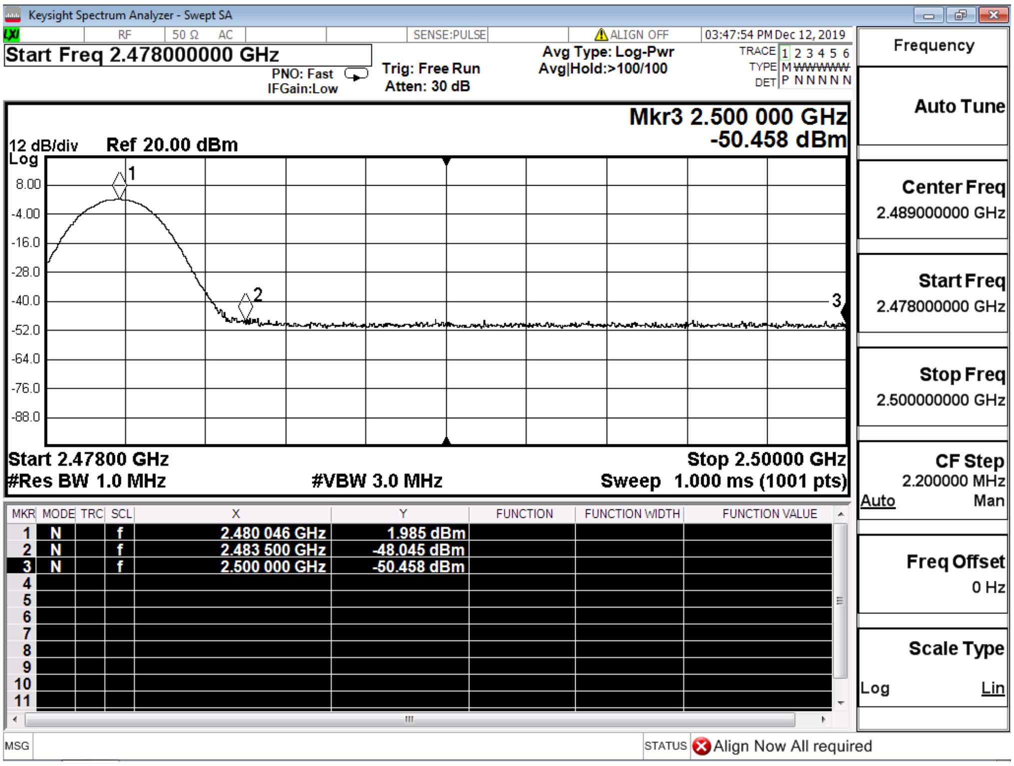
MKR	MODE	TRC	SCL	X	Y
1	N	f		2.402 128 GHz	1.722 dBm
2	N	f		2.390 000 GHz	-51.512 dBm
3	N	f		2.310 000 GHz	-50.237 dBm

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



MKR	MODE	TRC	SCL	X	Y
1	N	f		2.402 024 GHz	-6.292 dBm
2	N	f		2.390 000 GHz	-61.491 dBm
3	N	f		2.310 000 GHz	-62.039 dBm

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



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