

Appendix A

RF Test Data for BT V2.1+EDR (Conducted Measurement)

Product Name: suitcase turntable player

Trade Mark: JYK, POPSKY

Test Model: ST230

Environmental Conditions

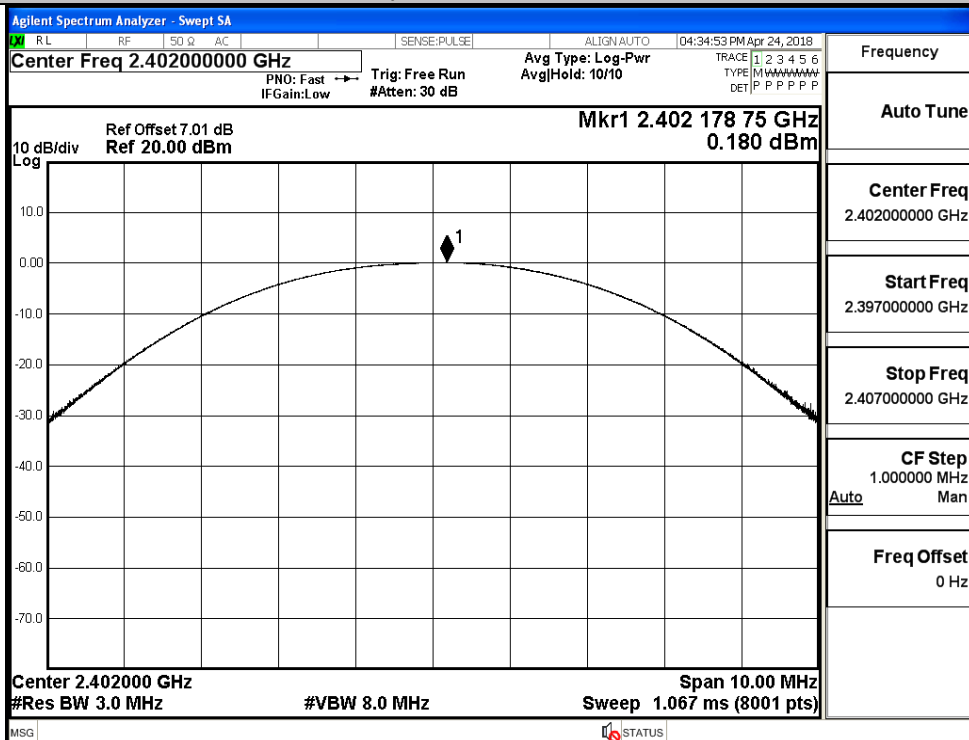
Temperature:	23.5 ° C
Relative Humidity:	51.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom.Liu
Supervised by:	Jayden.Zhuo

A.1 Maximum Conducted Peak Output Power

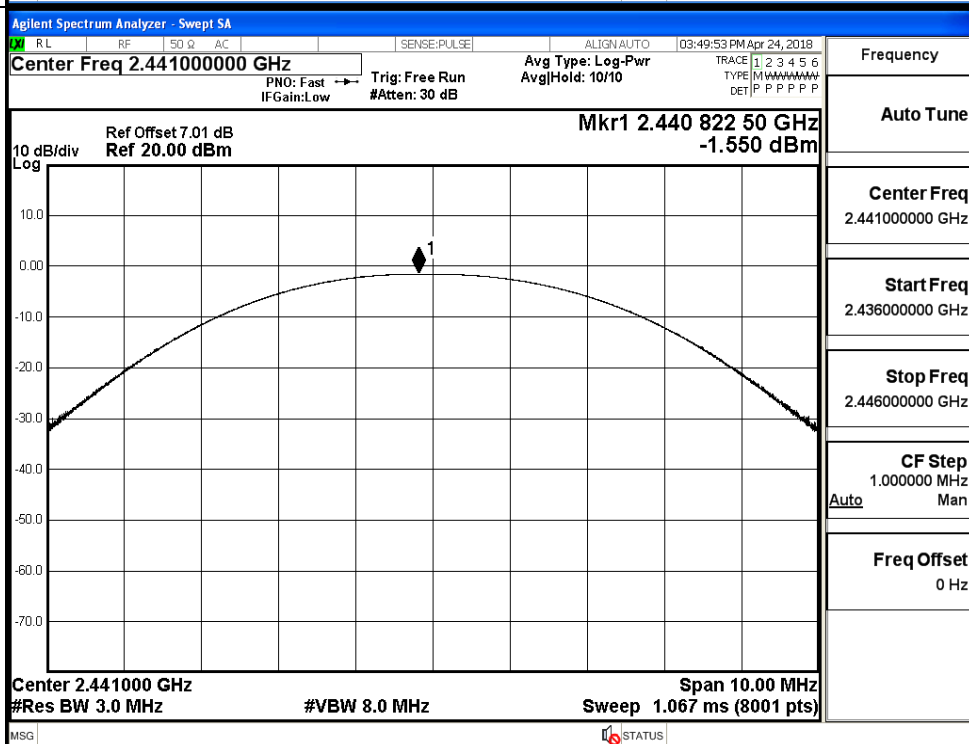
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.180	30	PASS
	MCH	-1.550	30	PASS
	HCH	-0.126	30	PASS
$\pi/4$ DQPSK	LCH	-0.987	21	PASS
	MCH	-2.036	21	PASS
	HCH	-0.691	21	PASS
8DPSK	LCH	-1.066	21	PASS
	MCH	-1.950	21	PASS
	HCH	-0.585	21	PASS

Test Graphs

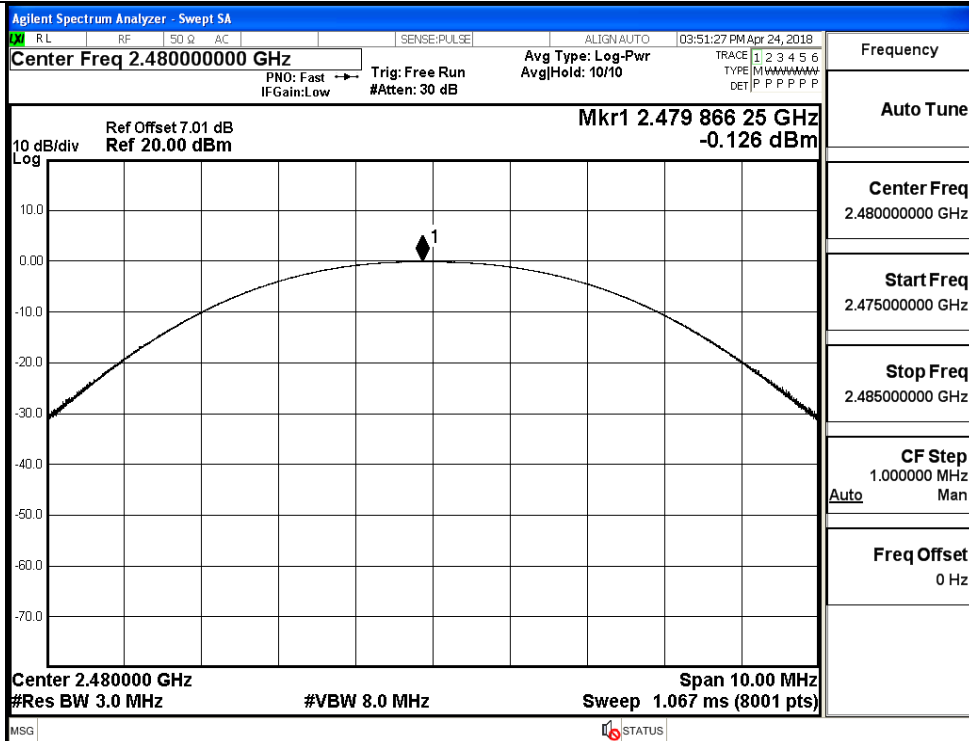
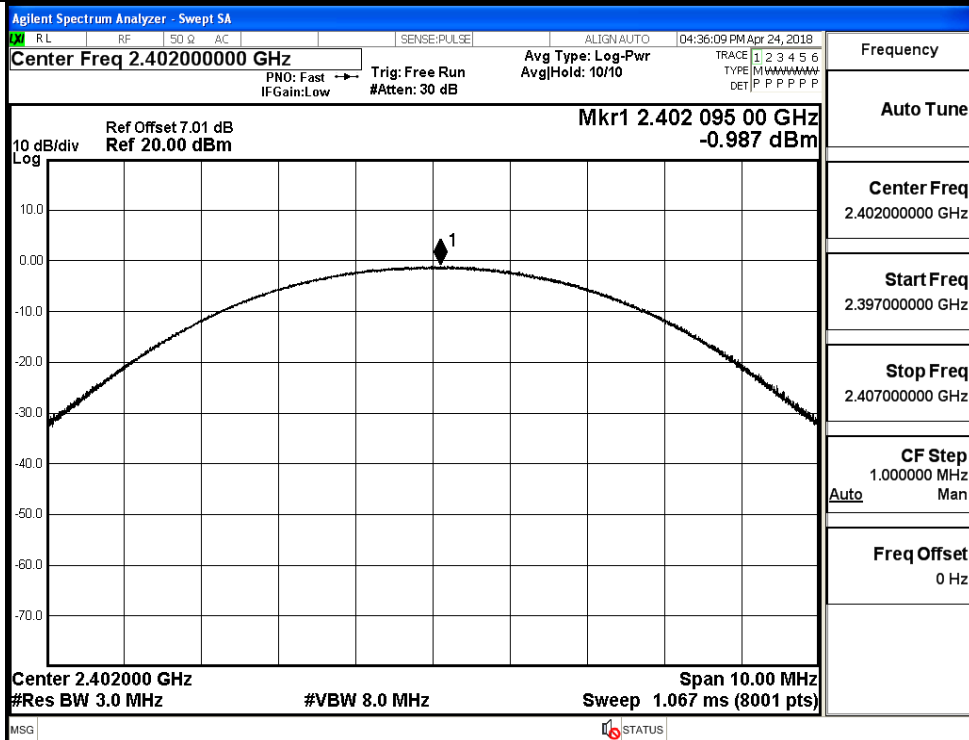
GFSK/LCH

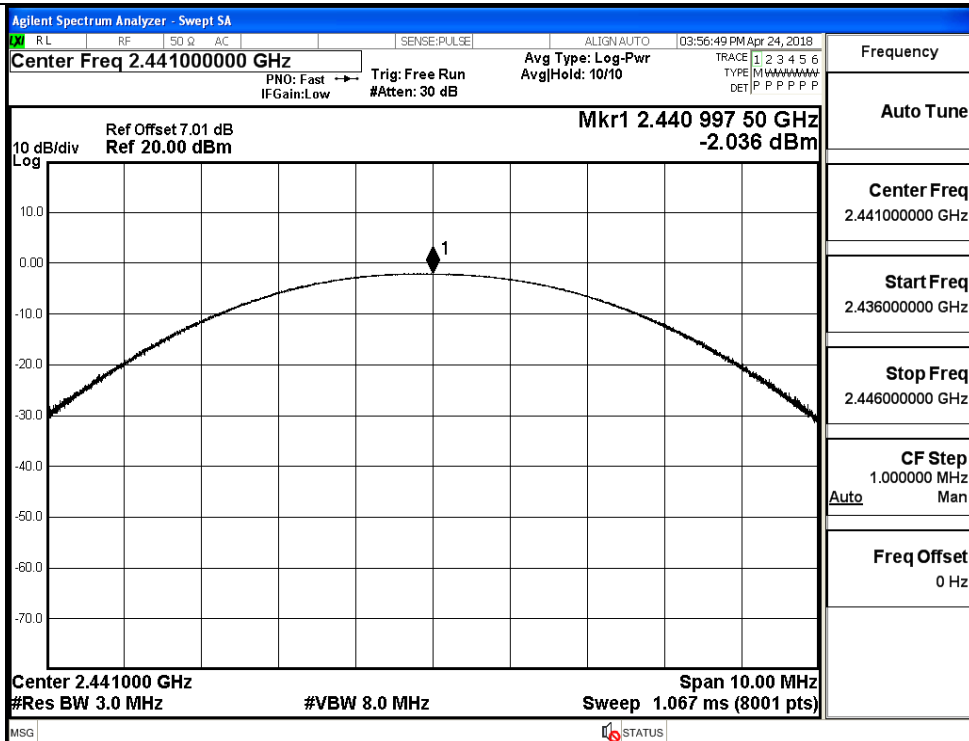
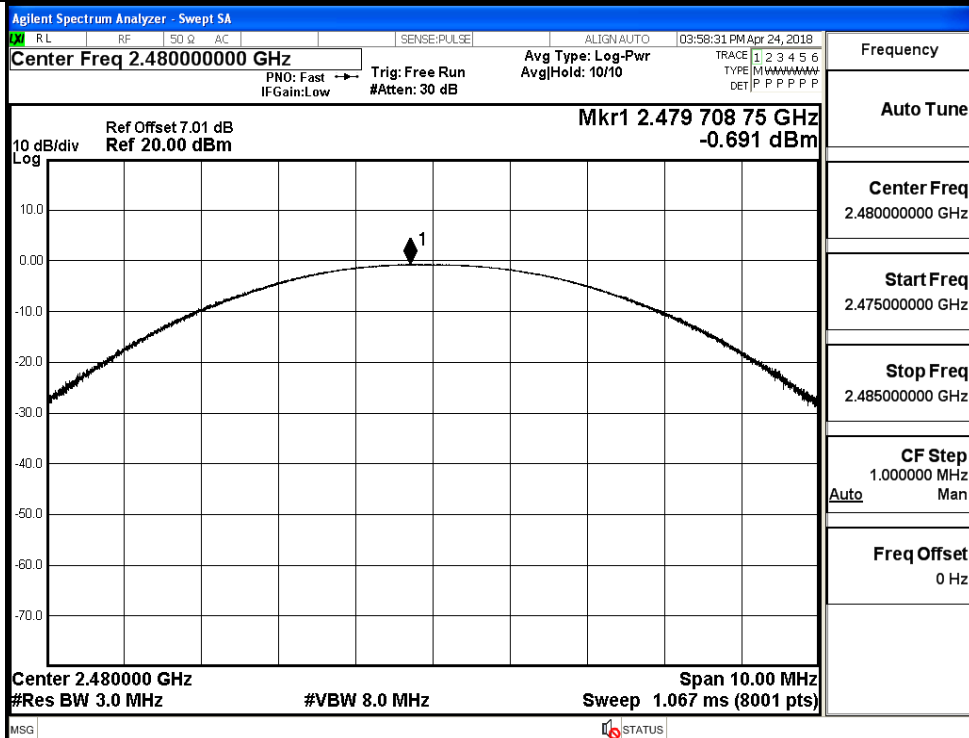


GFSK/MCH

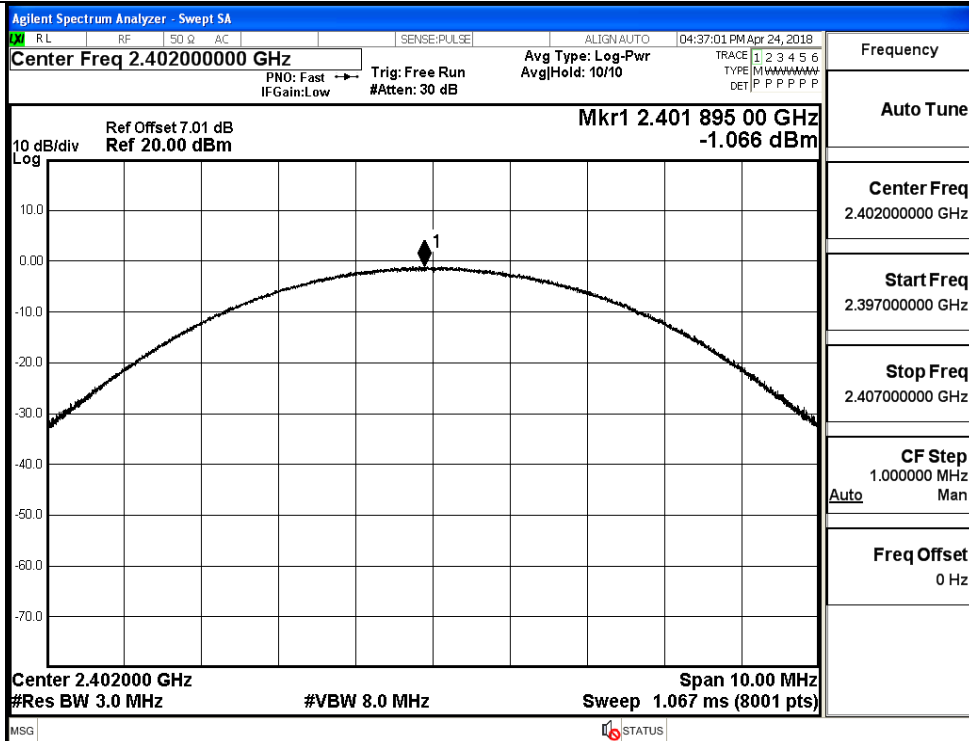


GFSK/HCH

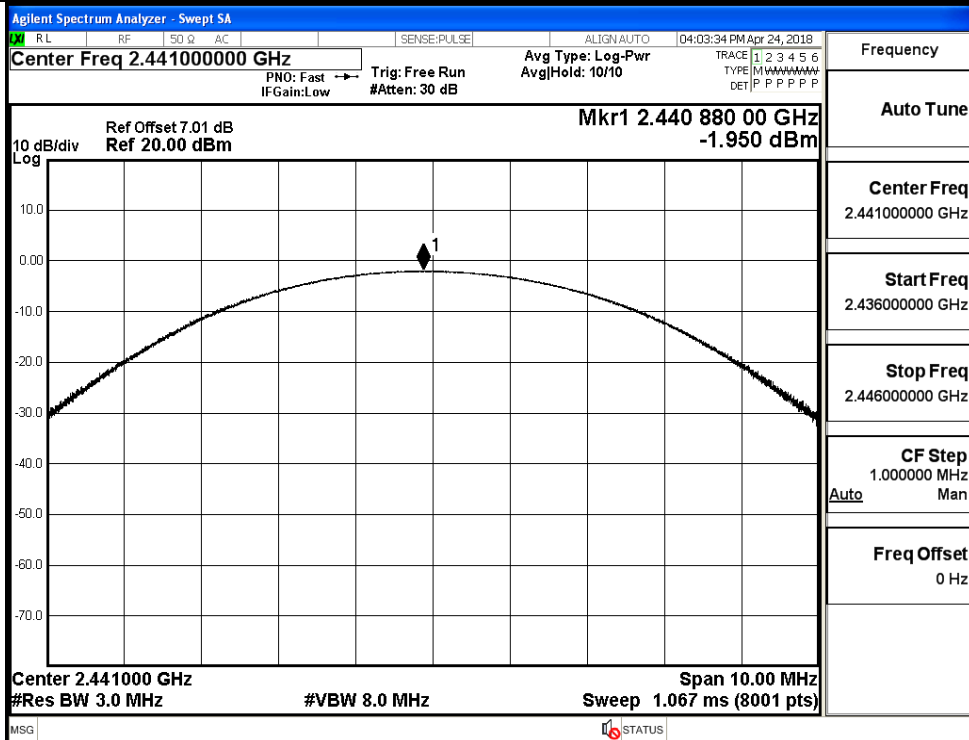
 π /4DQPSK/LCH

$\pi/4$ DQPSK/MCH $\pi/4$ DQPSK/HCH

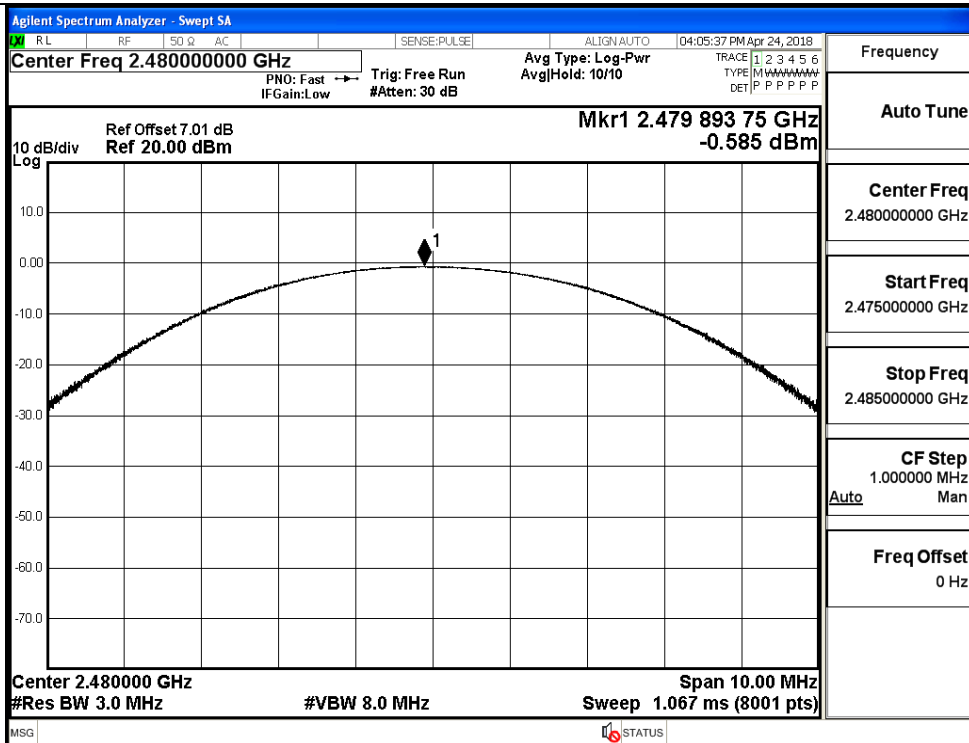
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

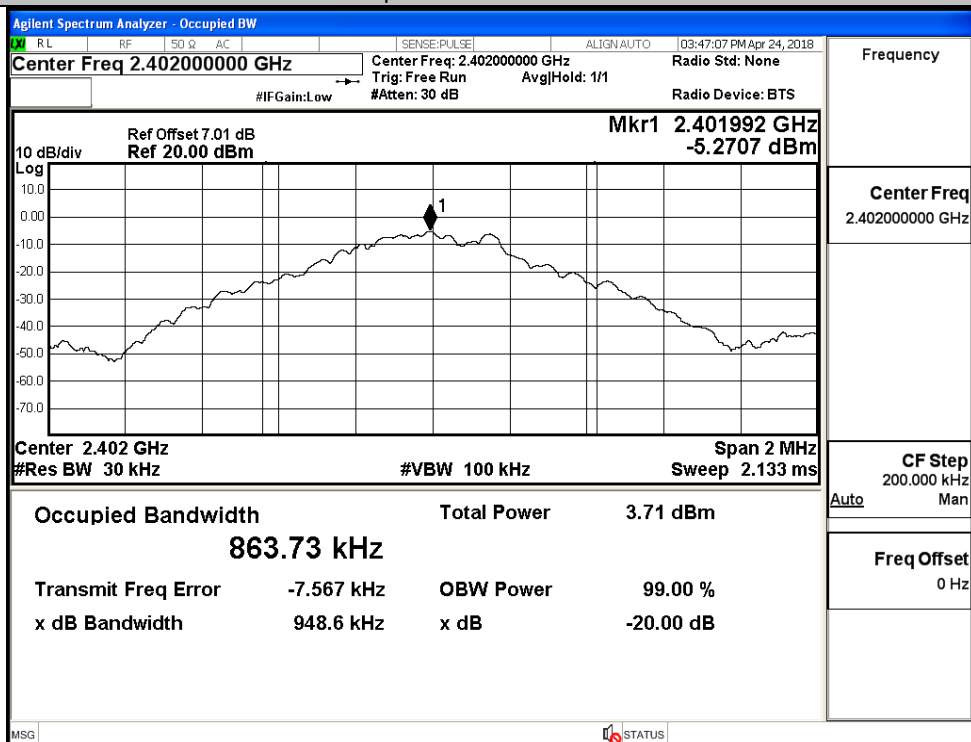


A.2 20dB Bandwidth

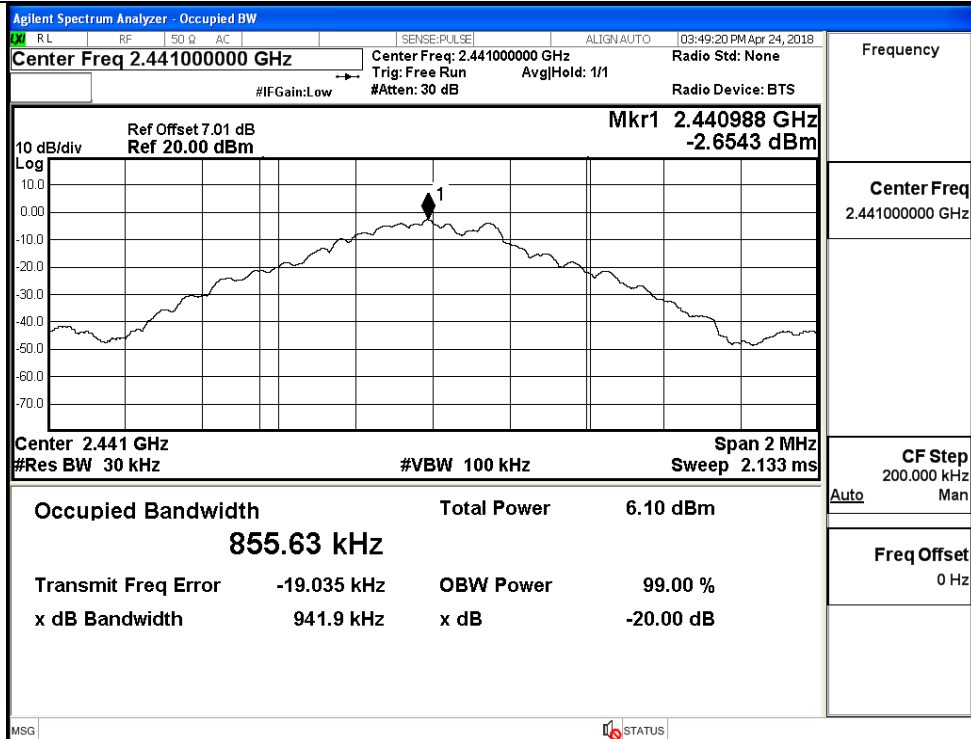
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9486	Not Specified	PASS
	MCH	0.9419	Not Specified	PASS
	HCH	0.9418	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.265	Not Specified	PASS
	MCH	1.261	Not Specified	PASS
	HCH	1.271	Not Specified	PASS
8DPSK	LCH	1.282	Not Specified	PASS
	MCH	1.267	Not Specified	PASS
	HCH	1.271	Not Specified	PASS

Test Graphs

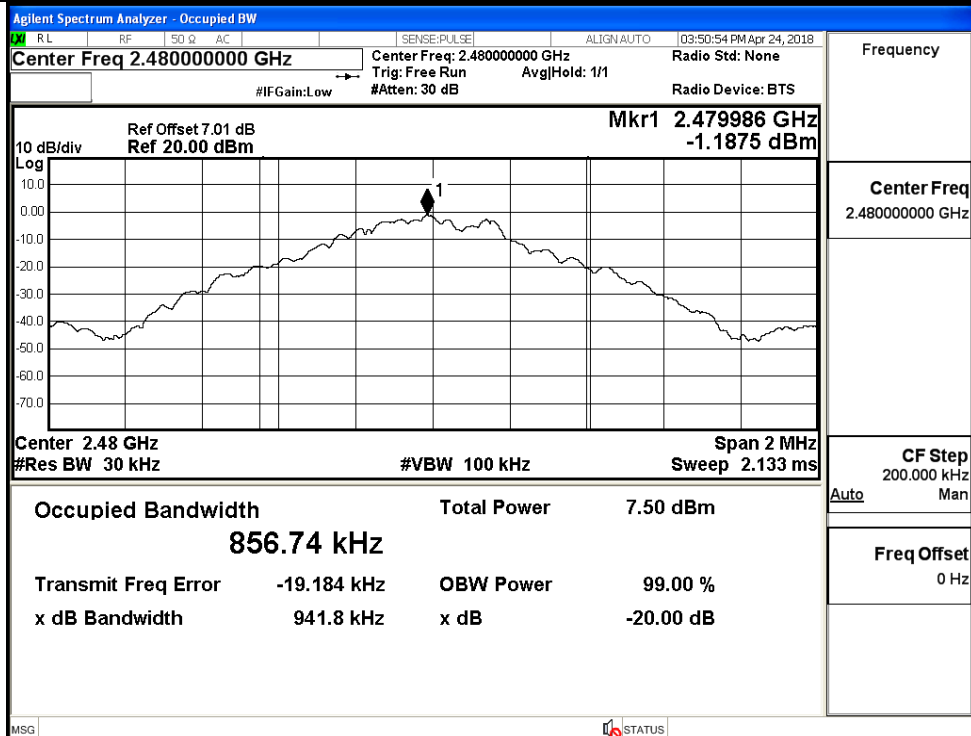
GFSK/LCH

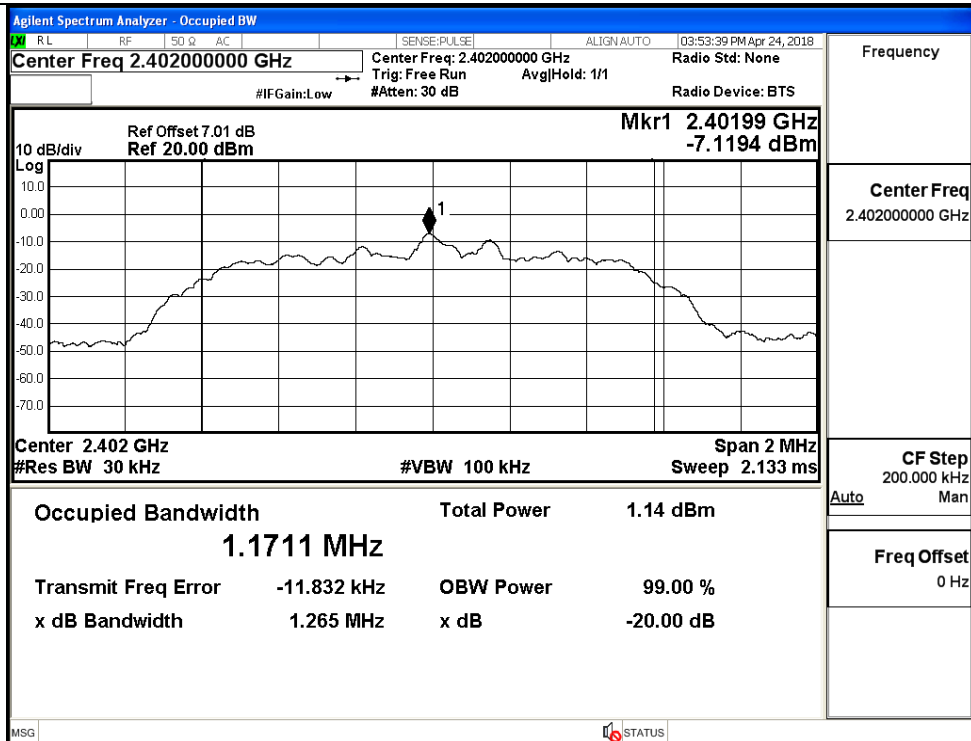
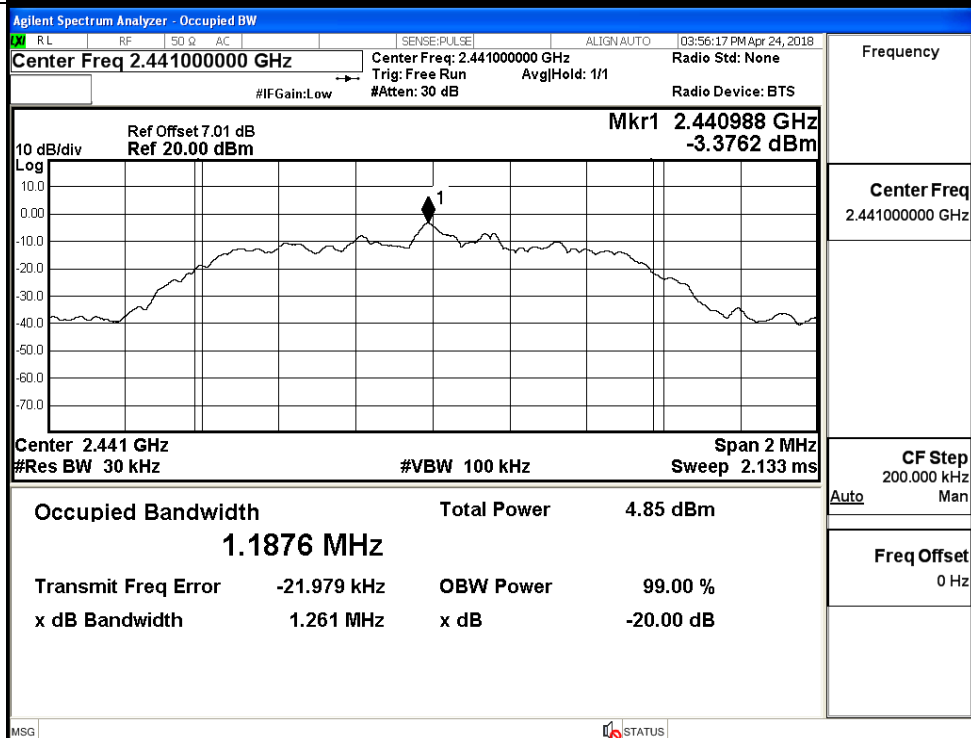


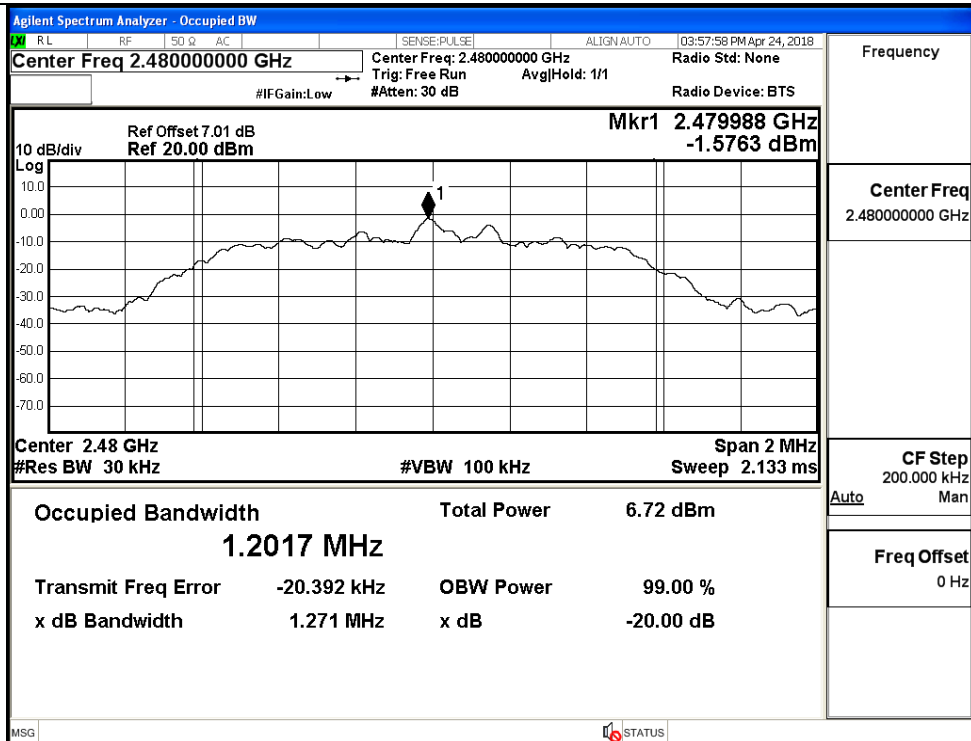
GFSK/MCH



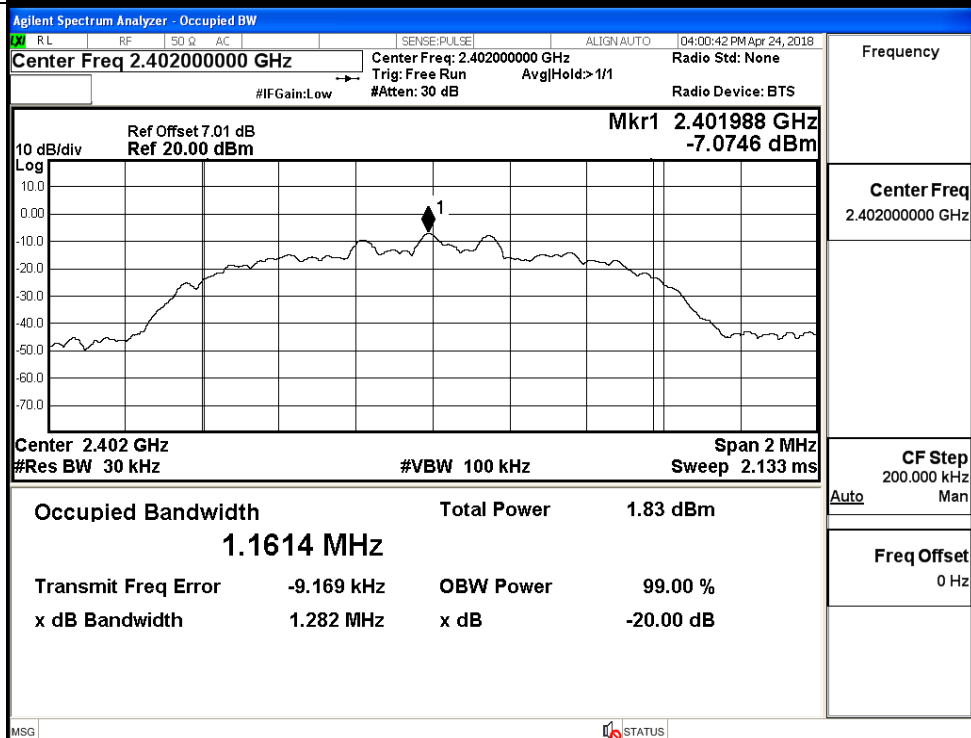
GFSK/HCH



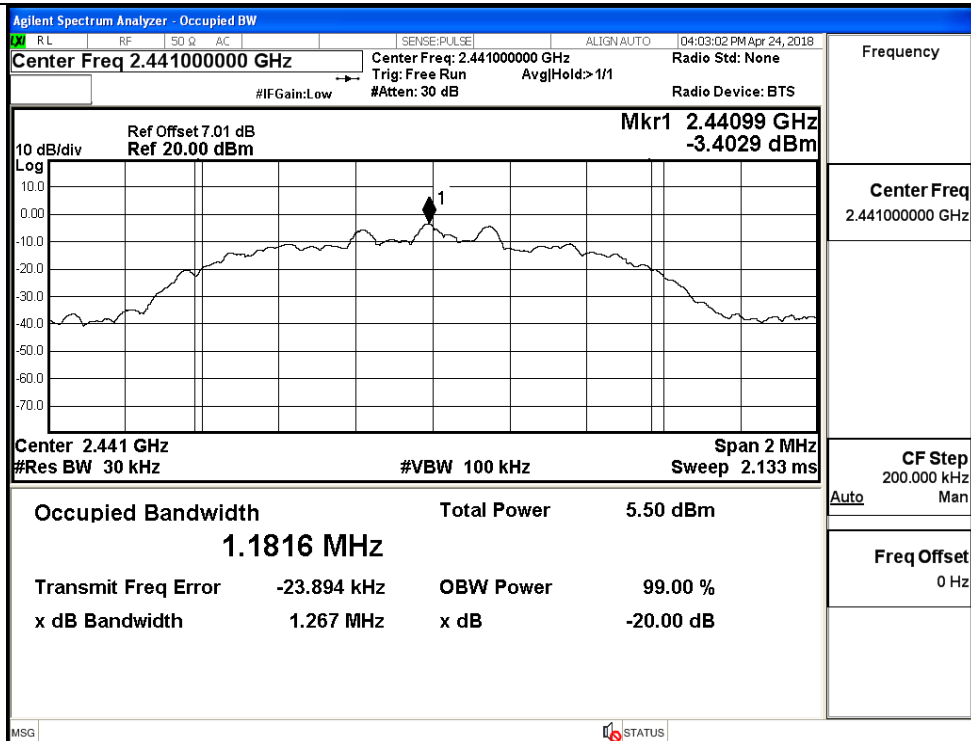
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

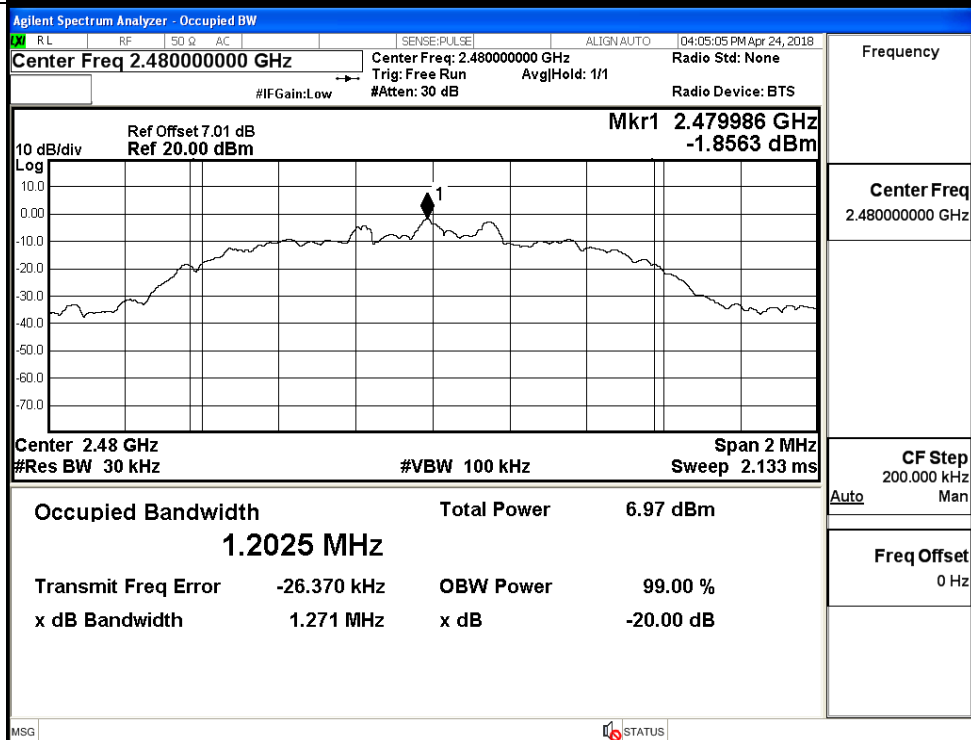
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

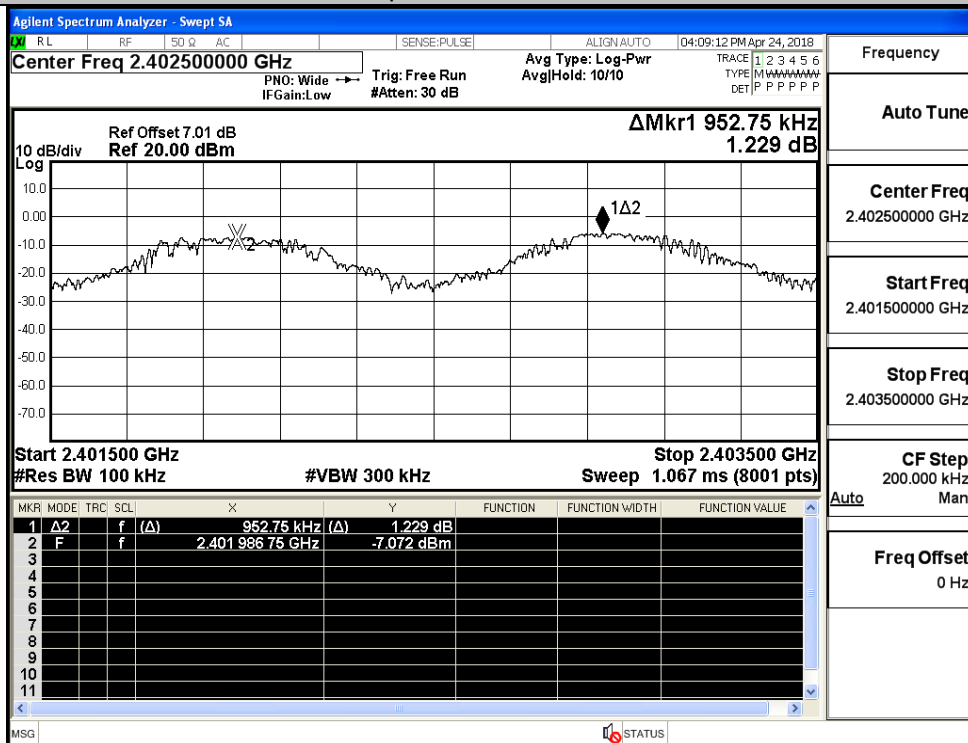


A.3 Carrier Frequency Separation

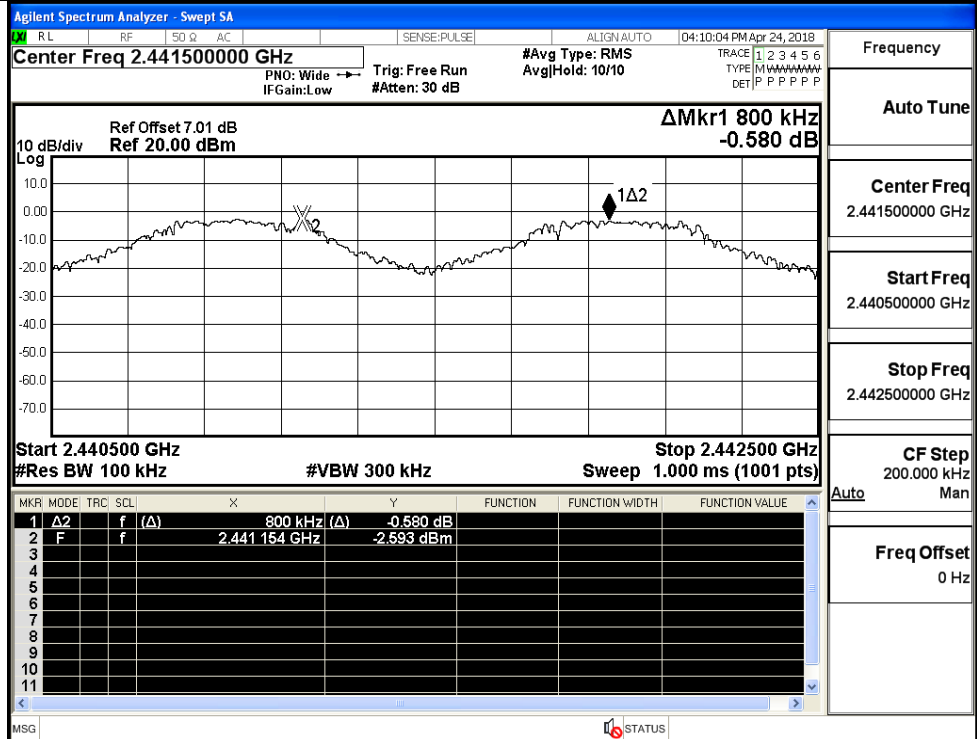
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.953	0.632	PASS
	MCH	0.800	0.632	PASS
	HCH	1.020	0.632	PASS
$\pi/4$ DQPSK	LCH	1.170	0.847	PASS
	MCH	1.124	0.847	PASS
	HCH	1.146	0.847	PASS
8DPSK	LCH	0.864	0.855	PASS
	MCH	1.026	0.855	PASS
	HCH	1.178	0.855	PASS

Test Graphs

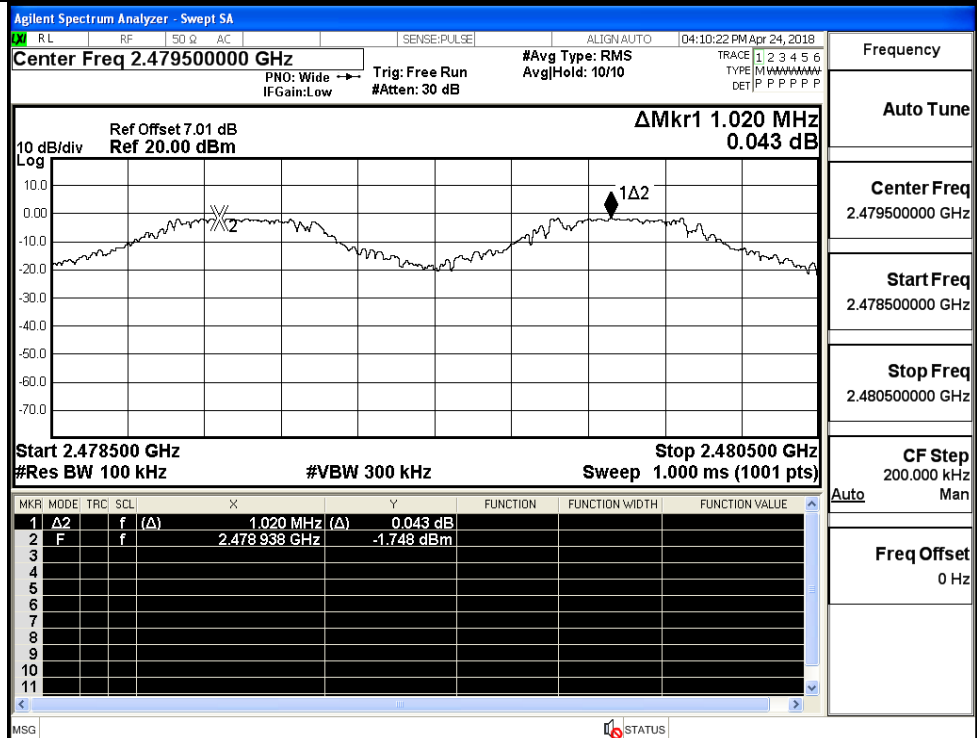
GFSK/LCH

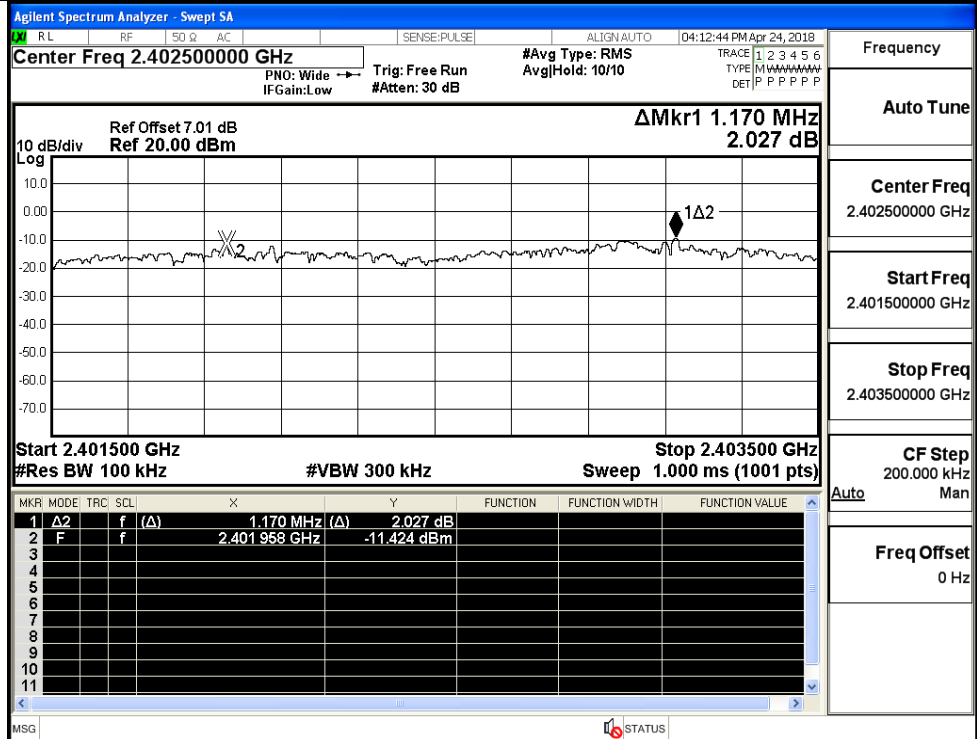
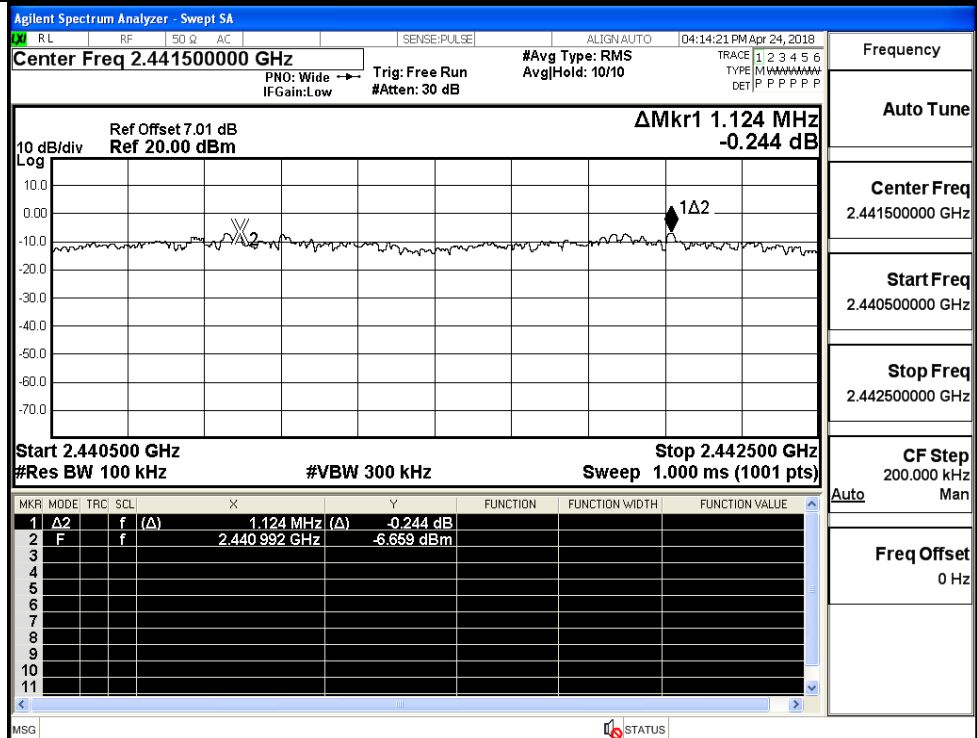


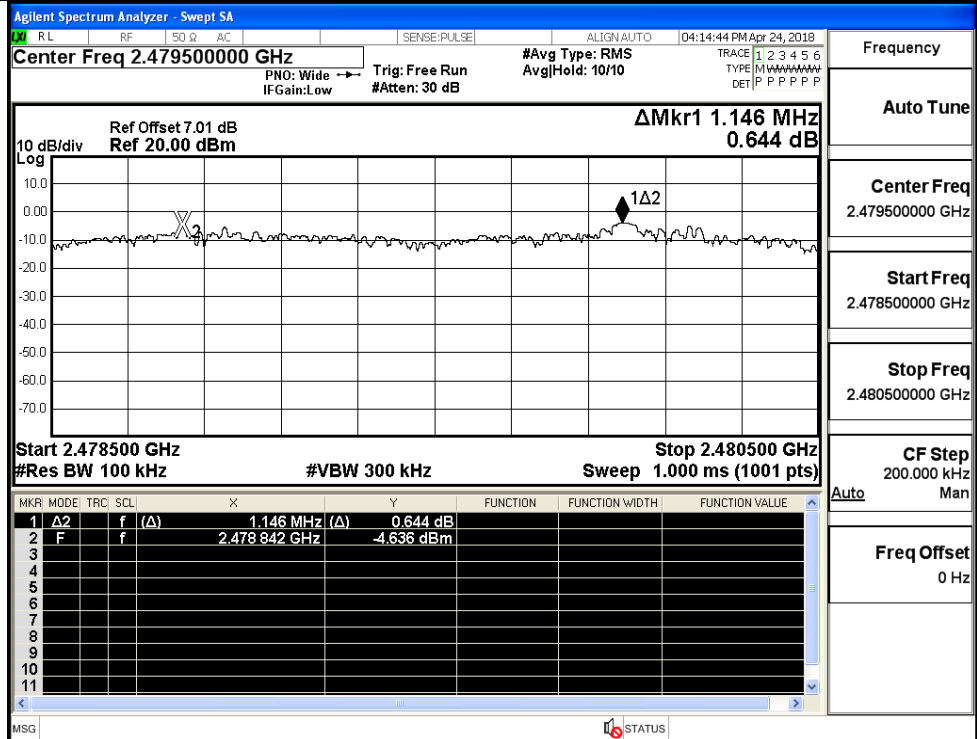
GFSK/MCH



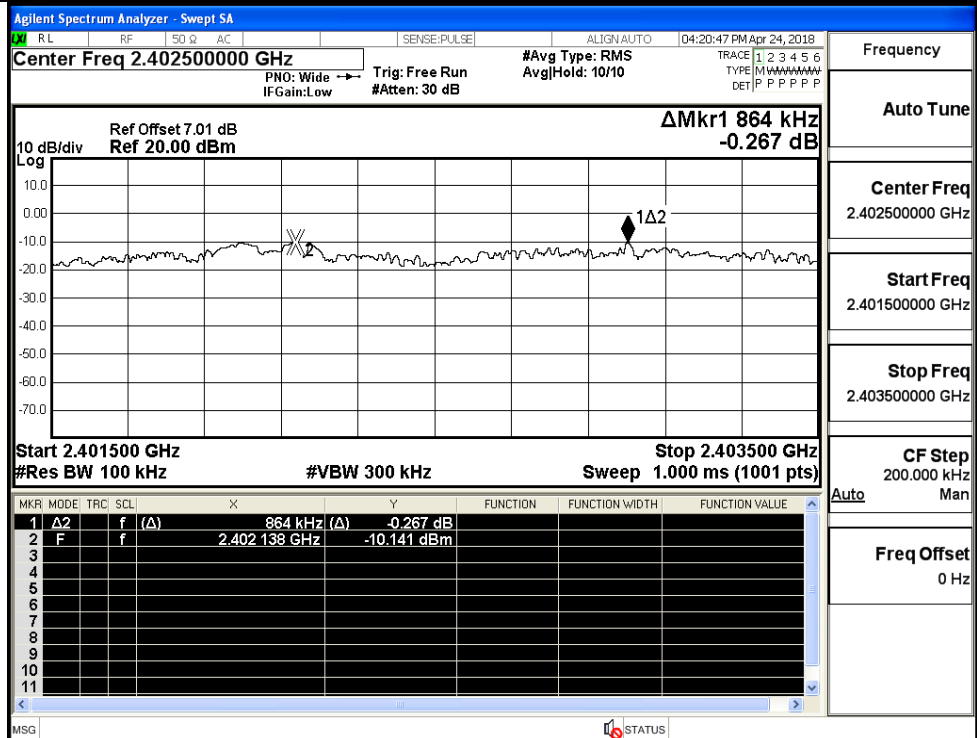
GFSK/HCH



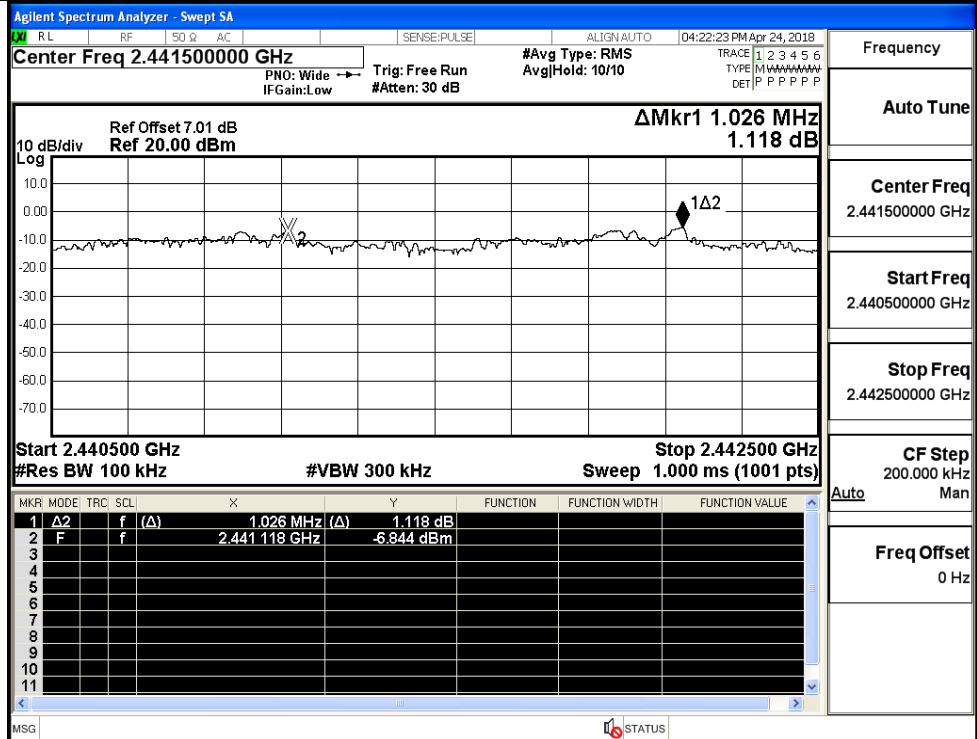
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

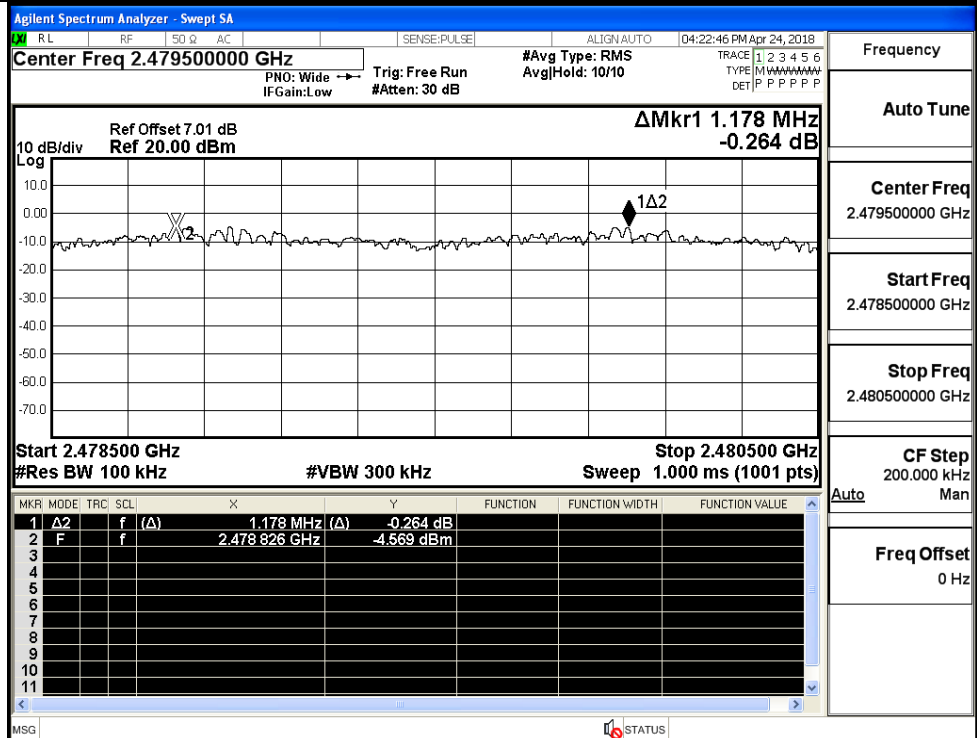
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

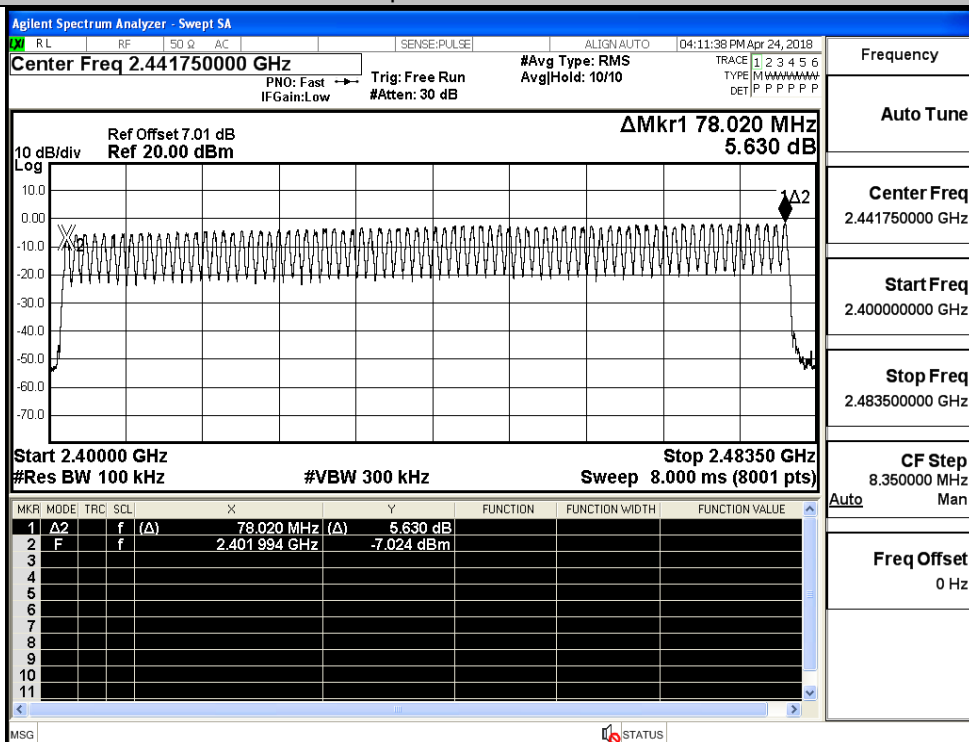
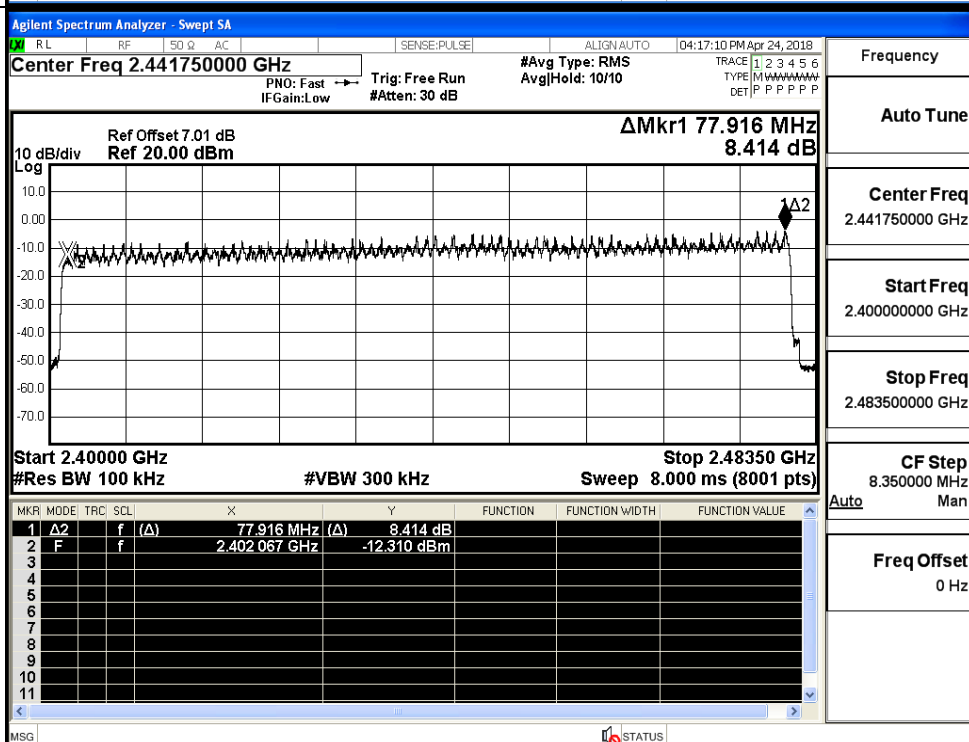


A.4 Hopping Channel Number

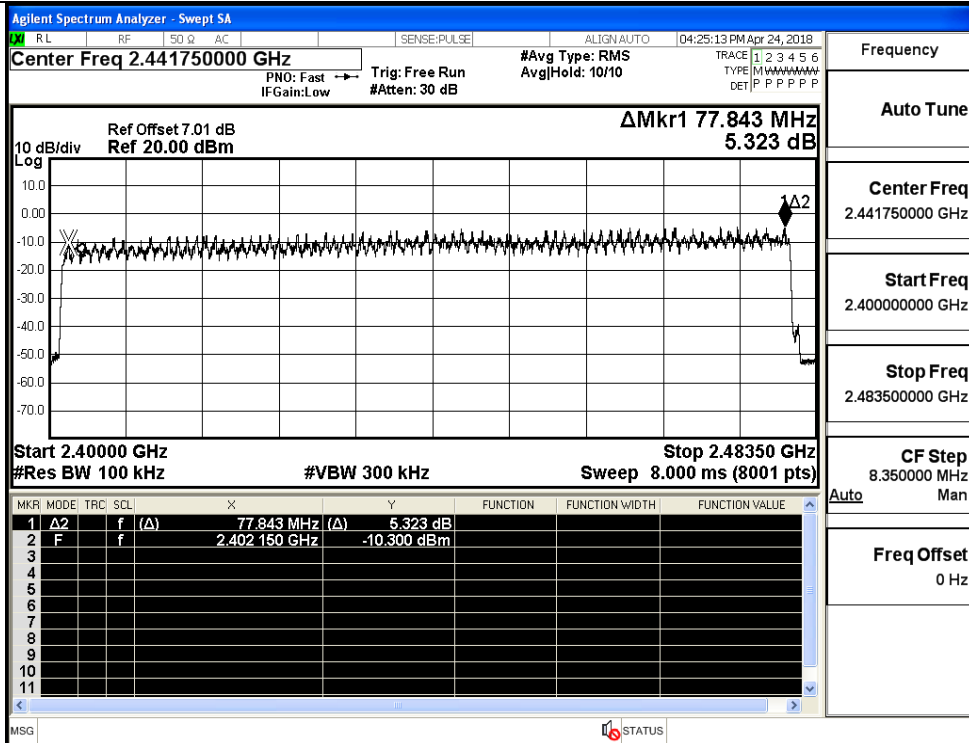
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

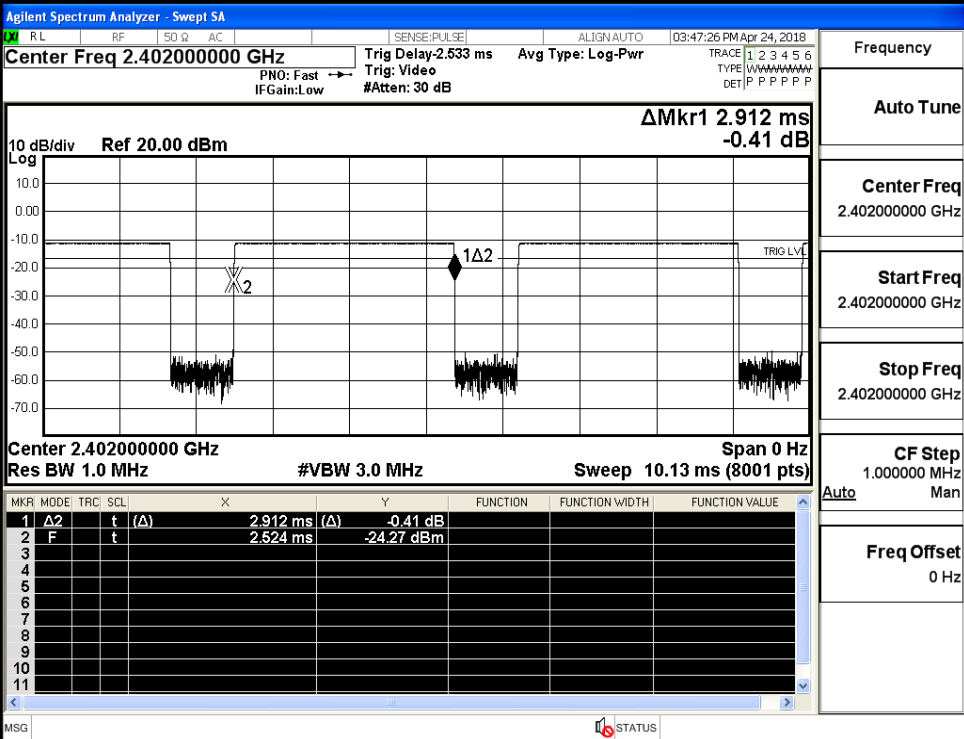
8DPSK/Hop



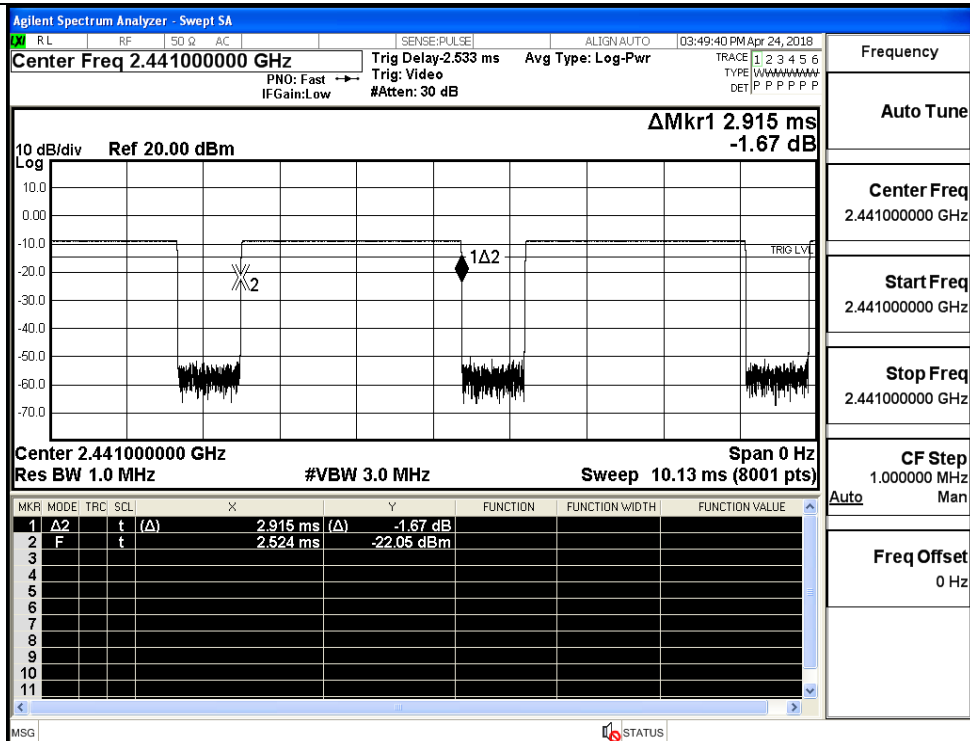
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.91	106.7	0.31	0.4	PASS
	DH5	MCH	2.91	106.7	0.31	0.4	PASS
	DH5	HCH	2.91	106.7	0.31	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.91	106.7	0.312	0.4	PASS
	2DH5	MCH	2.91	106.7	0.312	0.4	PASS
	2DH5	HCH	2.91	106.7	0.312	0.4	PASS
8DPSK	3DH5	LCH	2.91	106.7	0.312	0.4	PASS
	3DH5	MCH	2.91	106.7	0.312	0.4	PASS
	3DH5	HCH	2.91	106.7	0.312	0.4	PASS



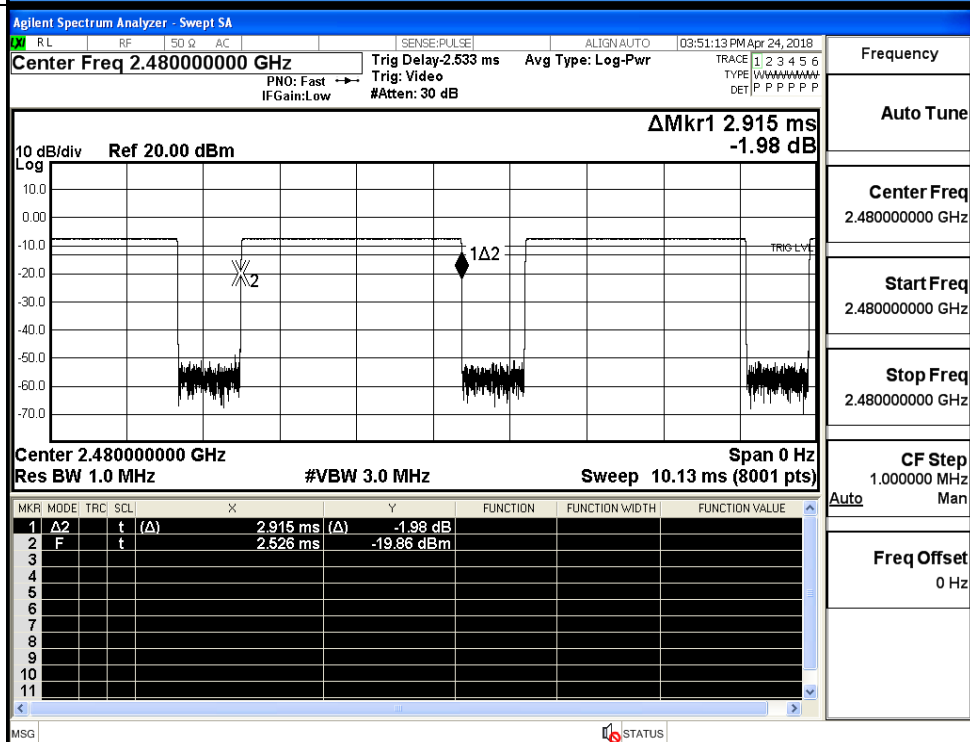
GFSK_DH5/LCH



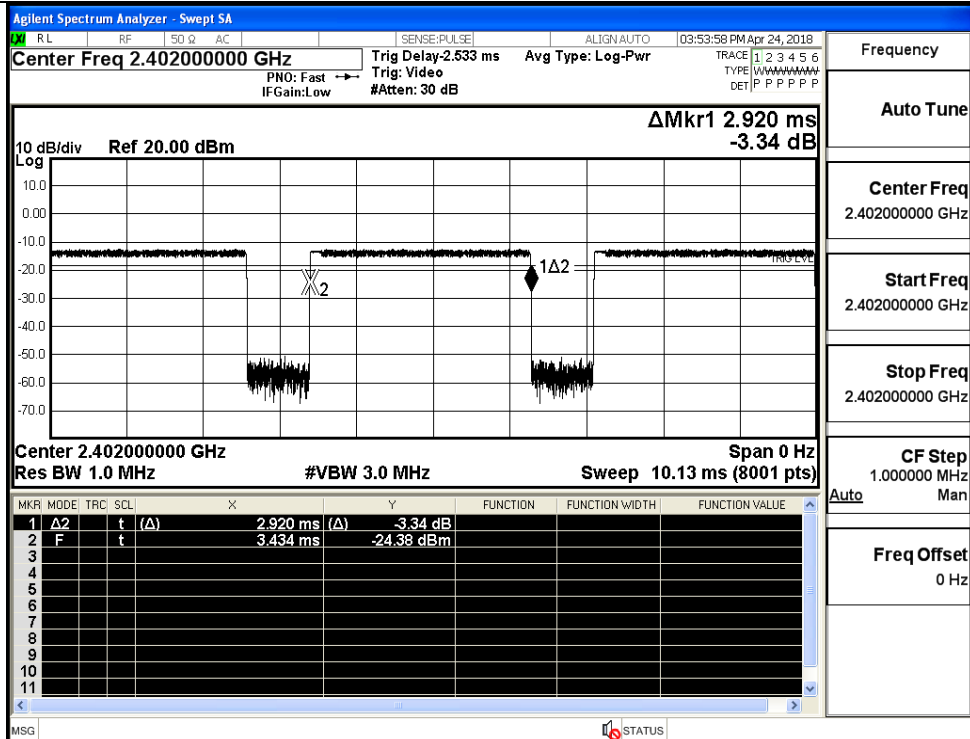
GFSK_DH5/MCH



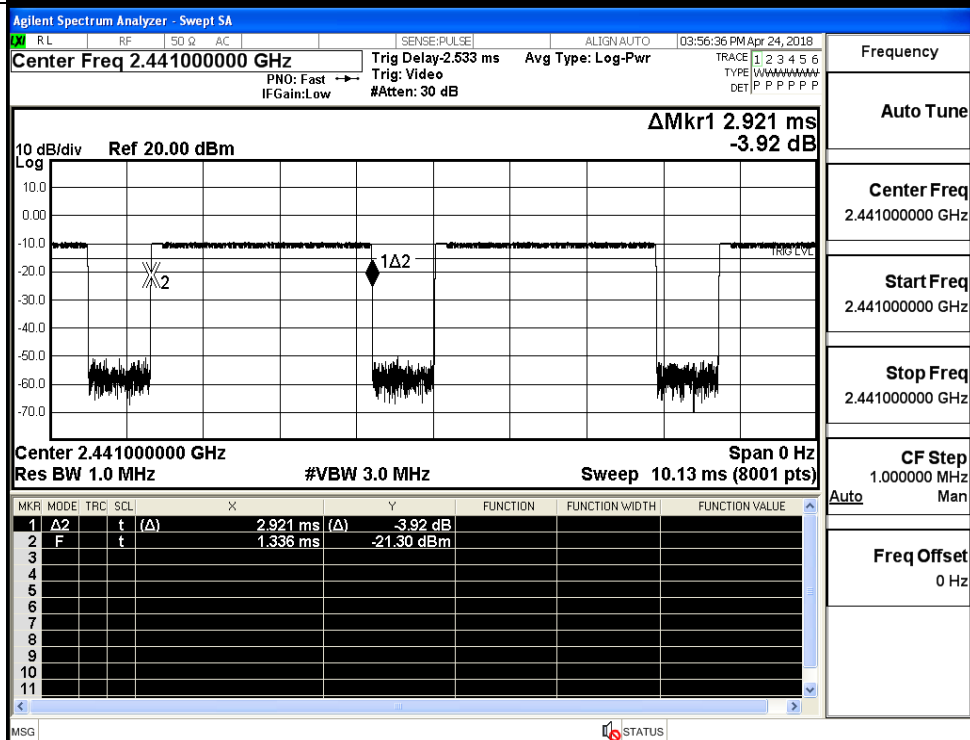
GFSK_DH5/HCH



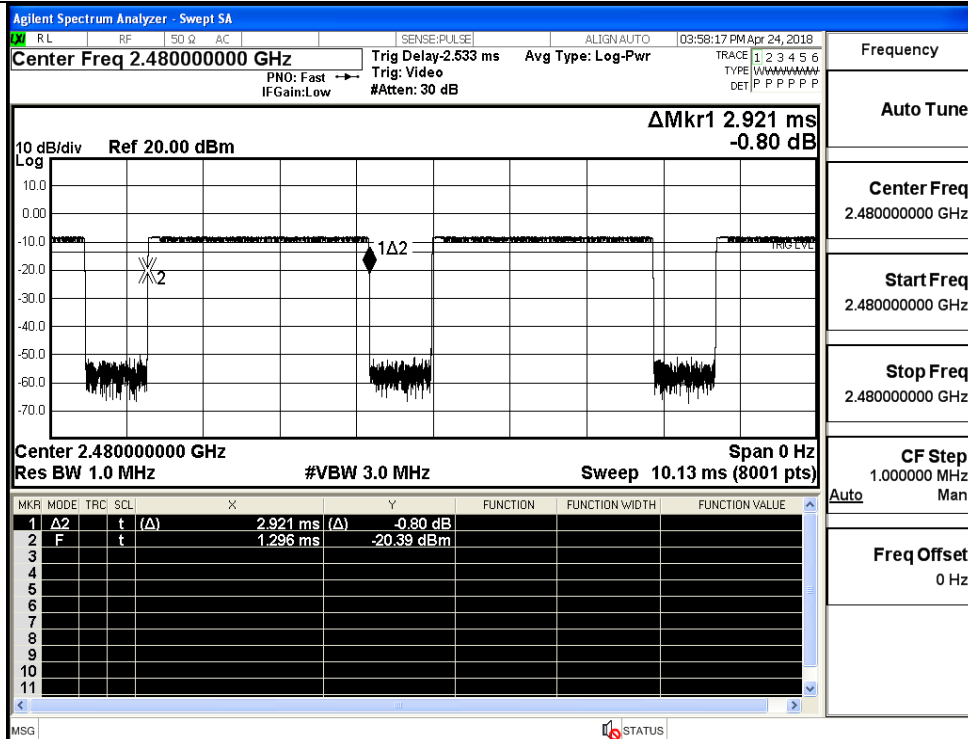
$\pi/4$ DQPSK
_2DH5/LCH



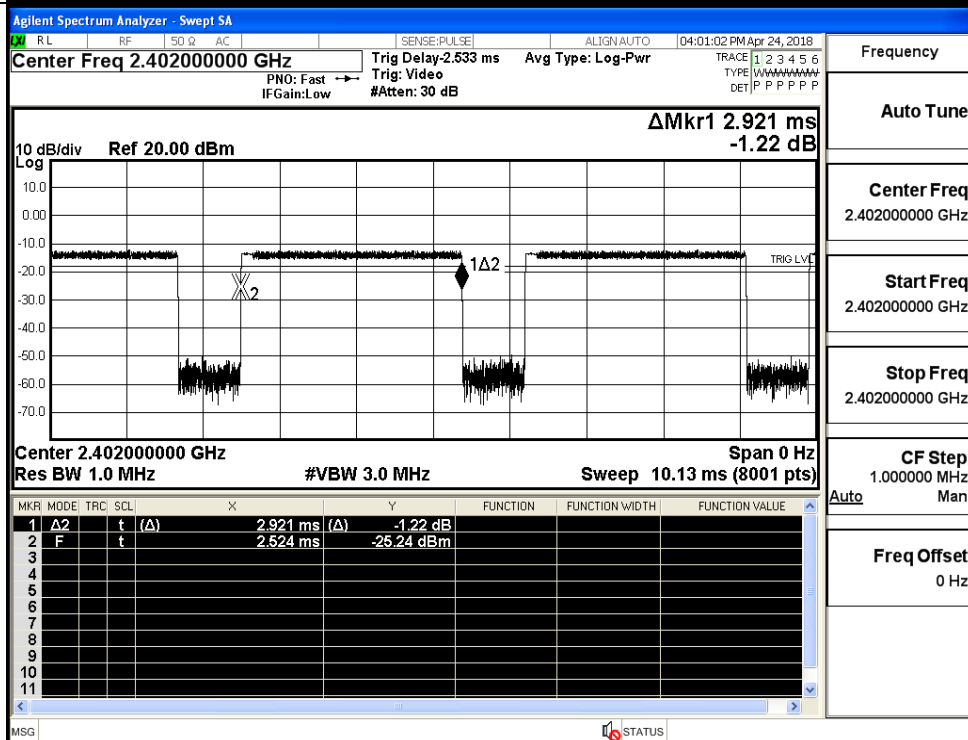
$\pi/4$ DQPSK
_2DH5/MCH



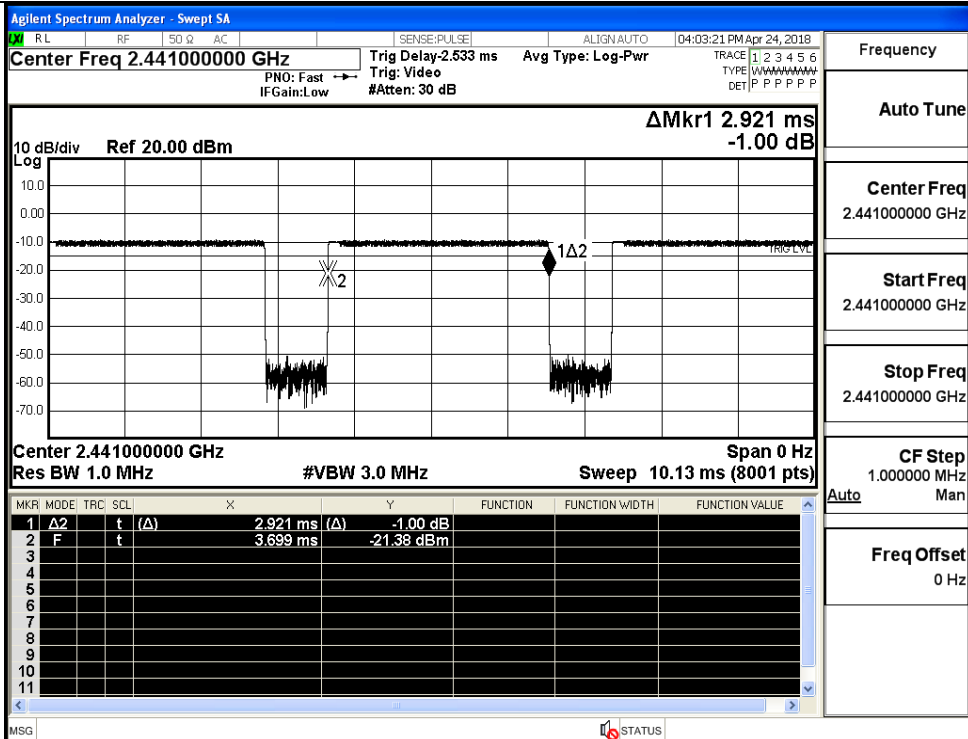
$\pi/4$ DQPSK
_2DH5/HCH



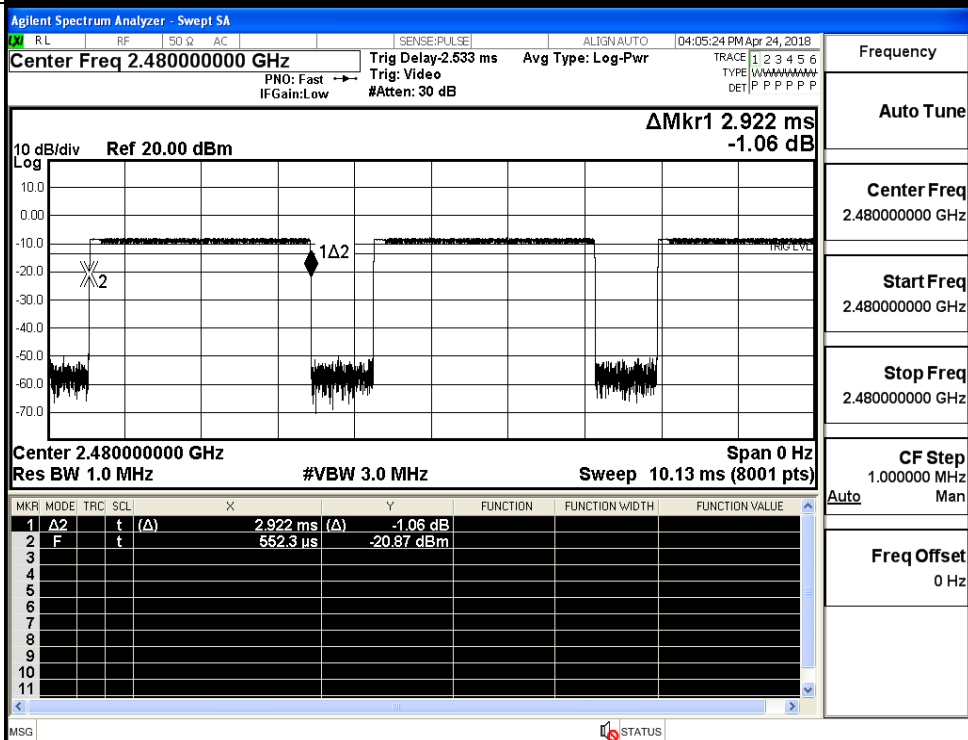
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



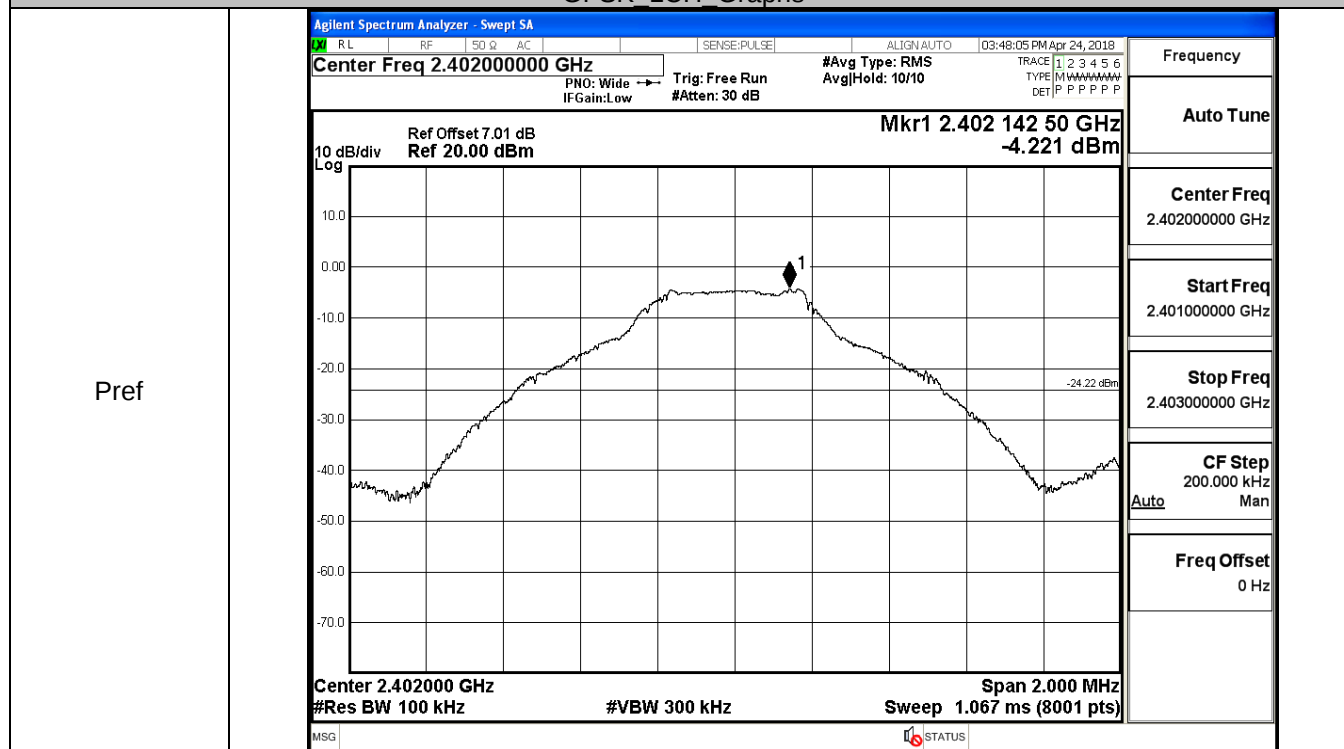
8DPSK_3DH5/HCH



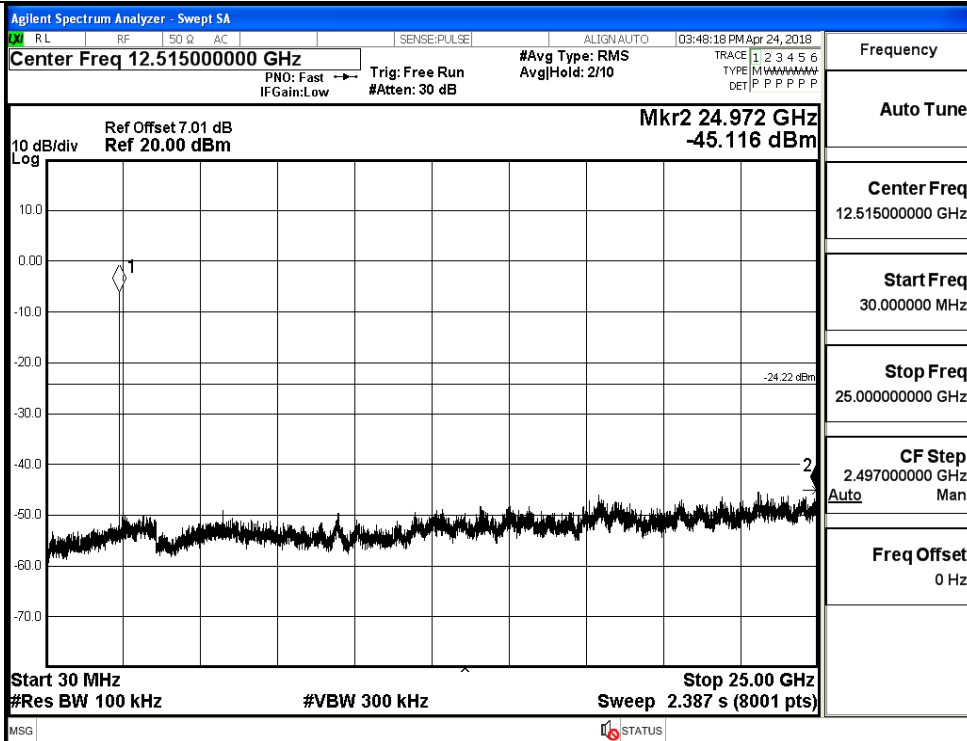
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-4.221	-45.116	-24.221	PASS
	MCH	-1.778	-45.044	-21.778	PASS
	HCH	-0.278	-45.720	-20.278	PASS
$\pi/4$ DQPSK	LCH	-6.46	-44.688	-26.460	PASS
	MCH	-2.848	-45.247	-22.848	PASS
	HCH	-1.332	-45.898	-21.332	PASS
8DPSK	LCH	-6.332	-44.872	-26.332	PASS
	MCH	-2.82	-45.527	-22.820	PASS
	HCH	-1.237	-45.006	-21.237	PASS

GFSK LCH Graphs

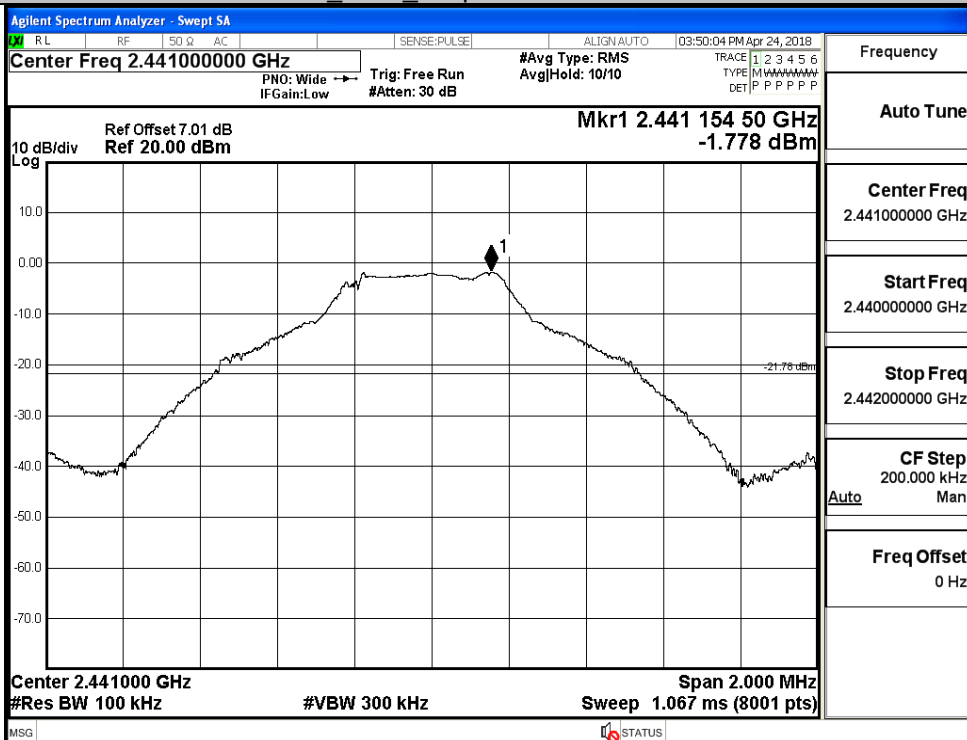


Puw

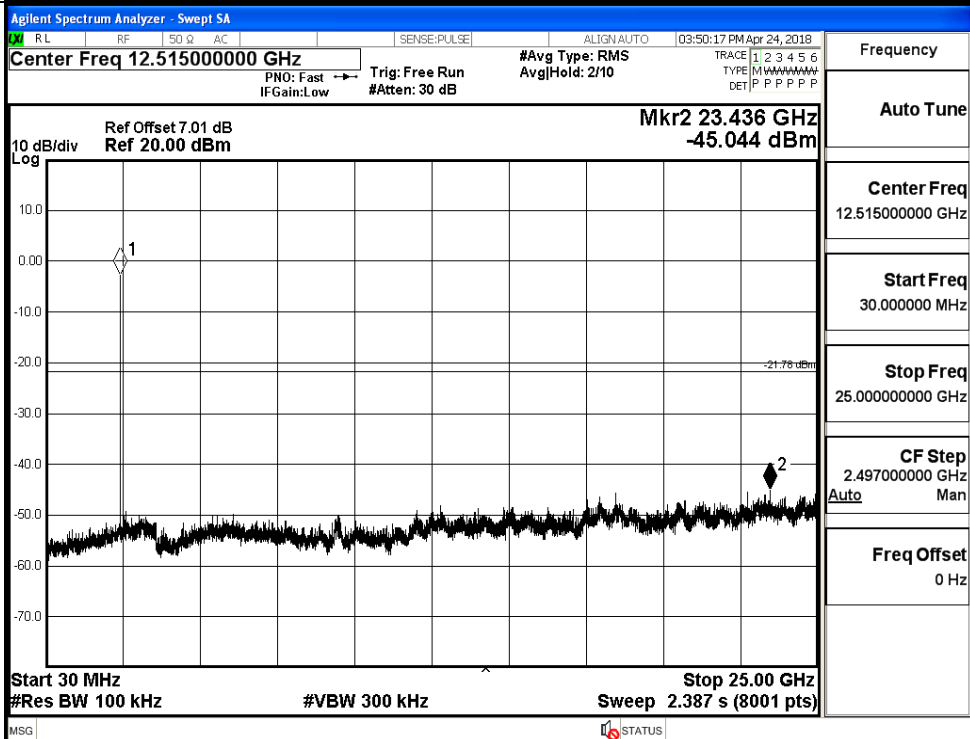


GFSK_MCH_Graphs

Pref

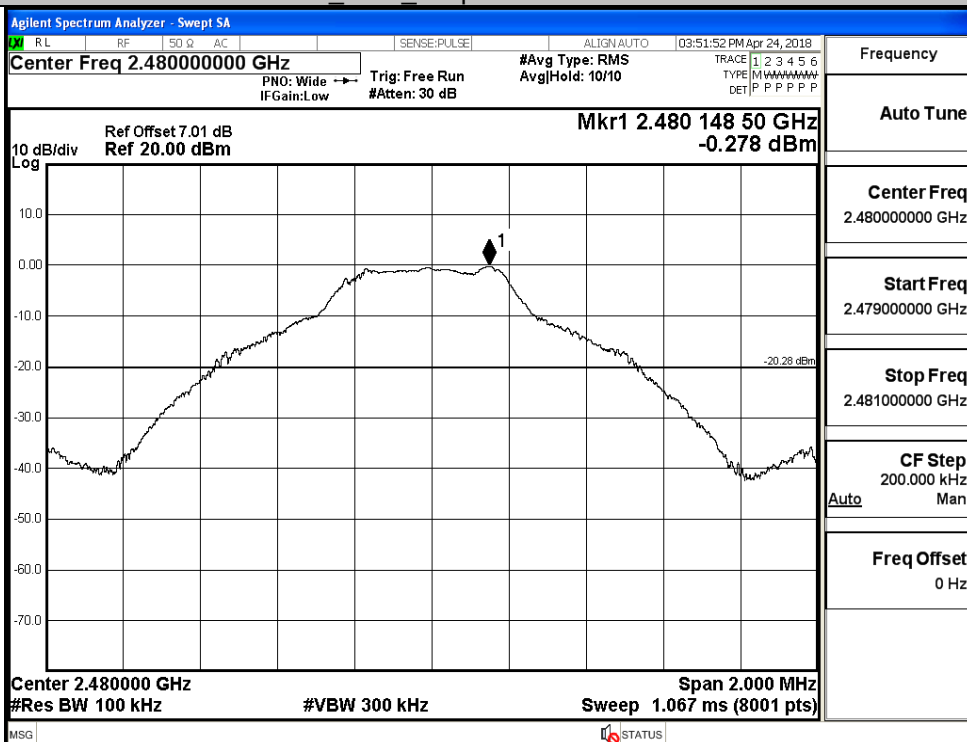


Puw

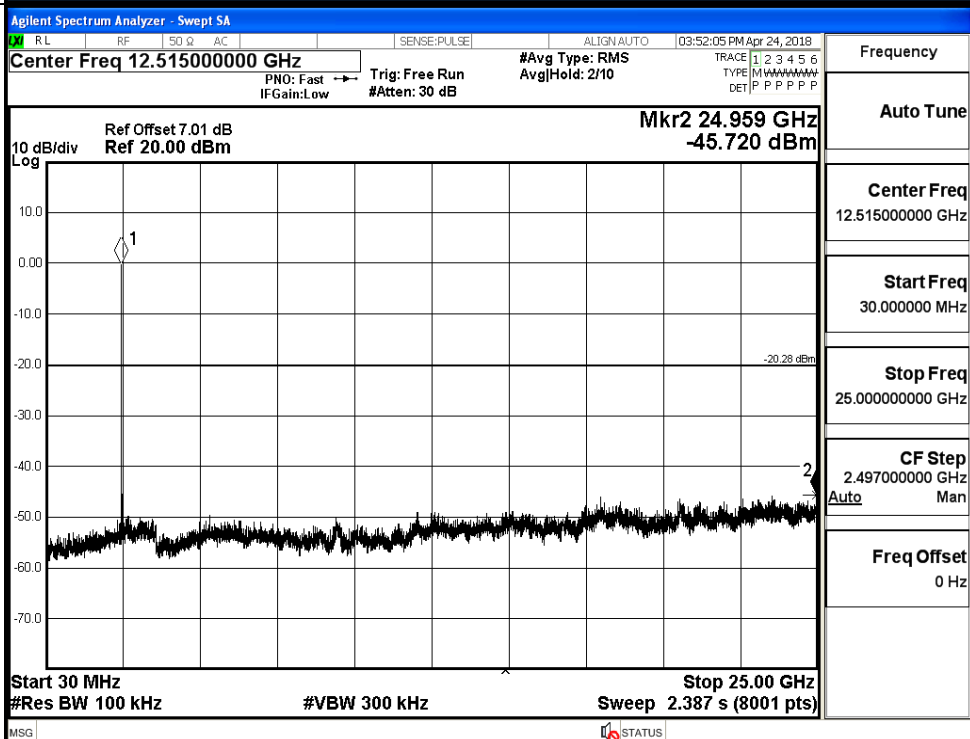


GFSK_HCH_Graphs

Pref

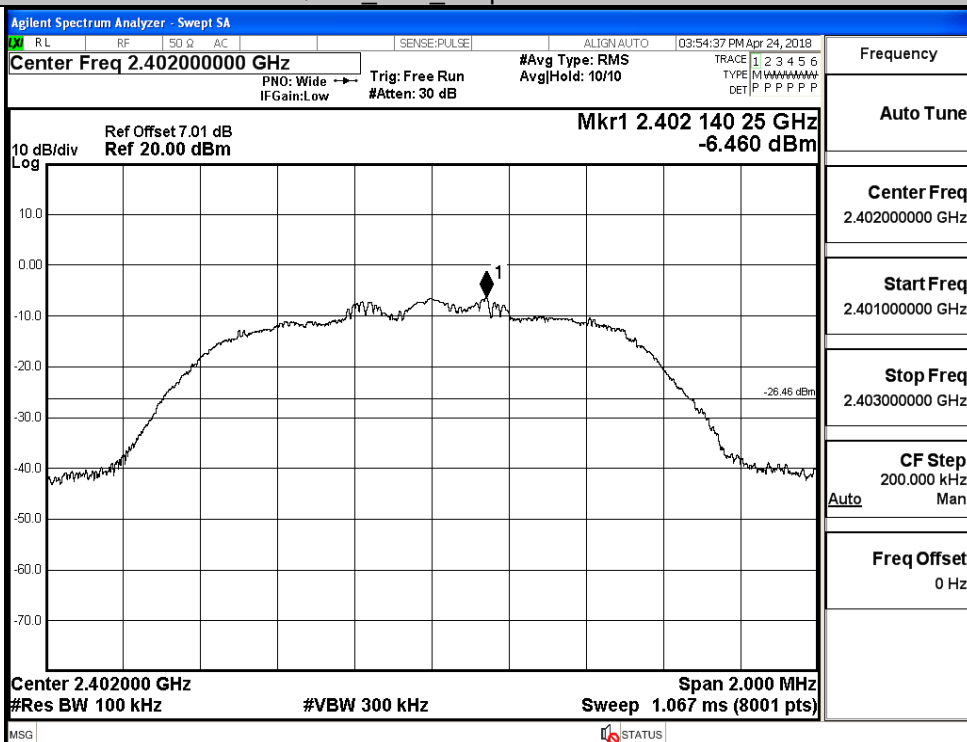


Puw

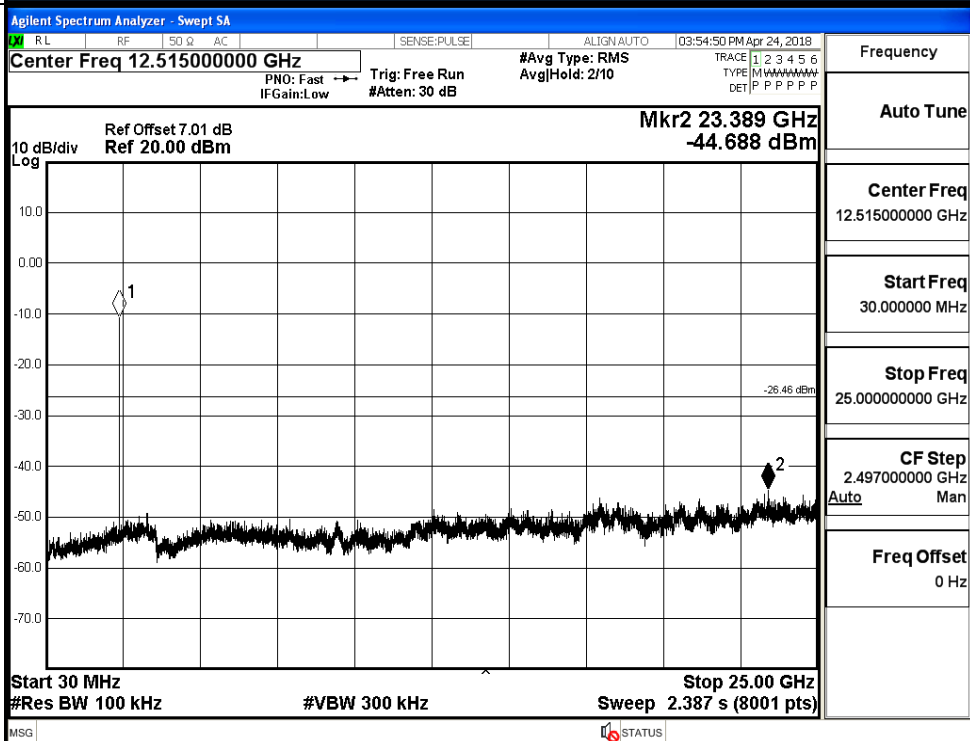


$\pi/4$ DQPSK LCH_Graphs

Pref

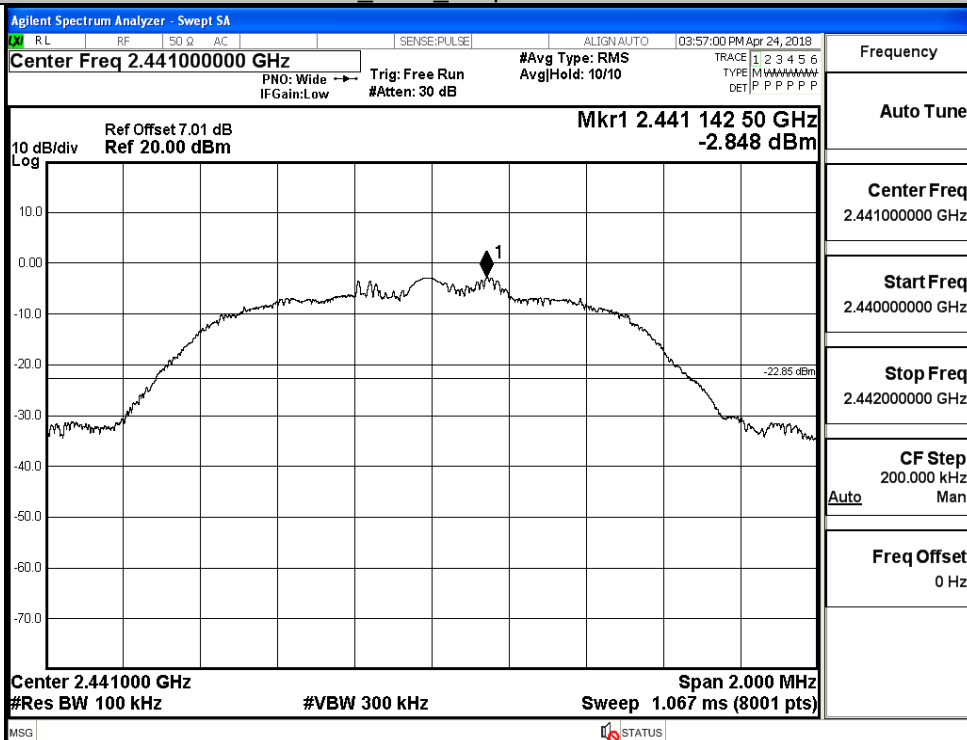


Puw

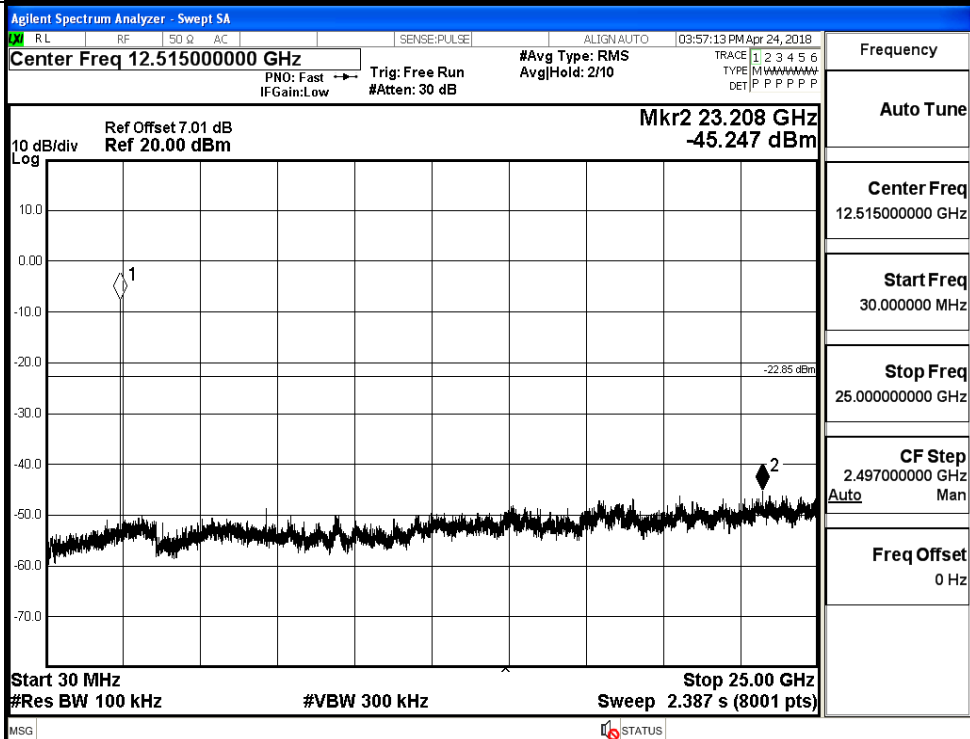


π /4DQPSK_MCH_Graphs

Pref

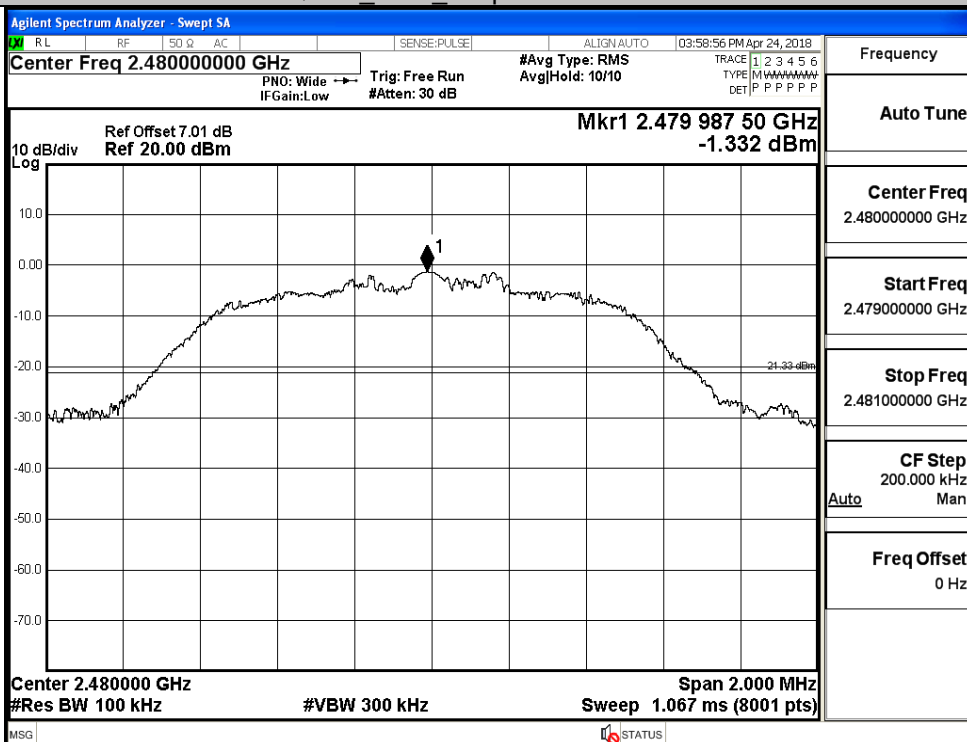


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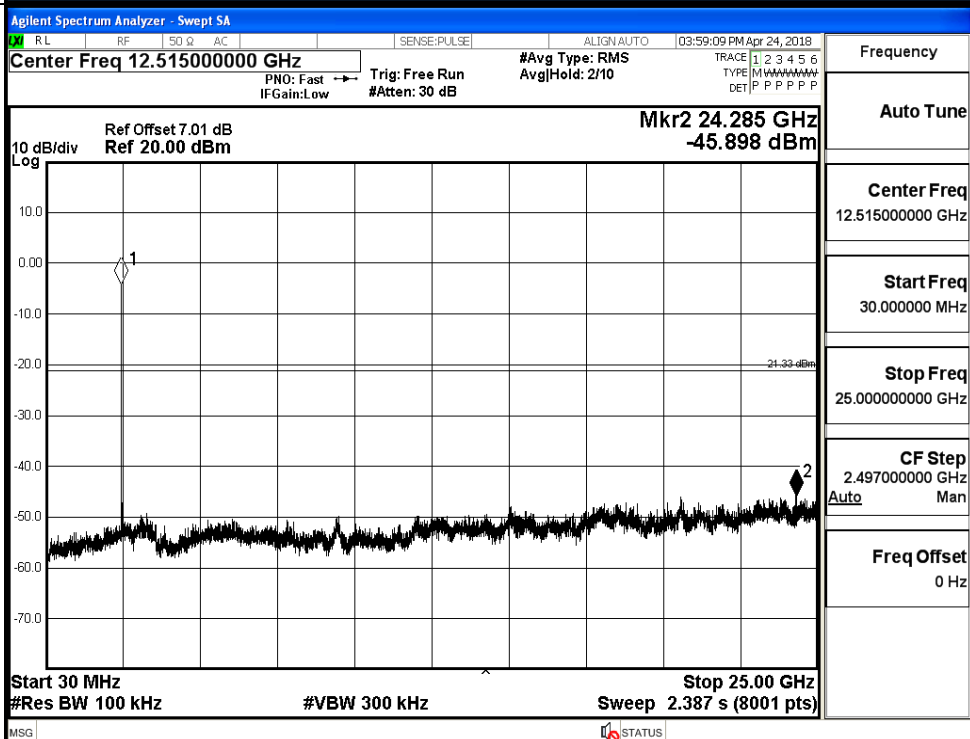


$\pi/4$ DQPSK_HCH_Graphs

Pref

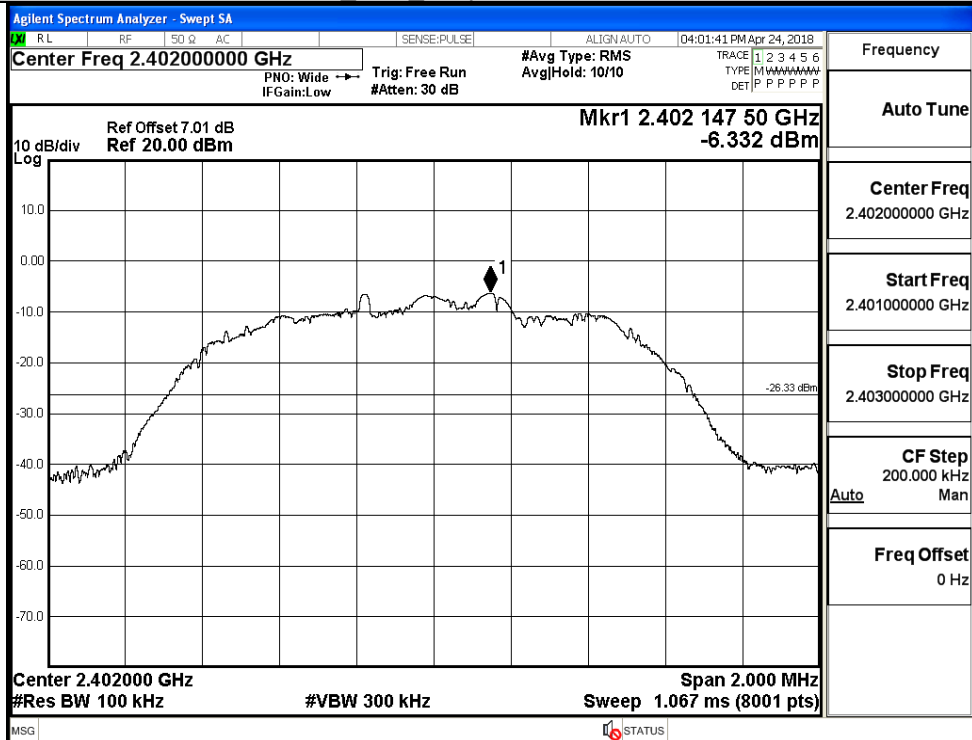


Puw

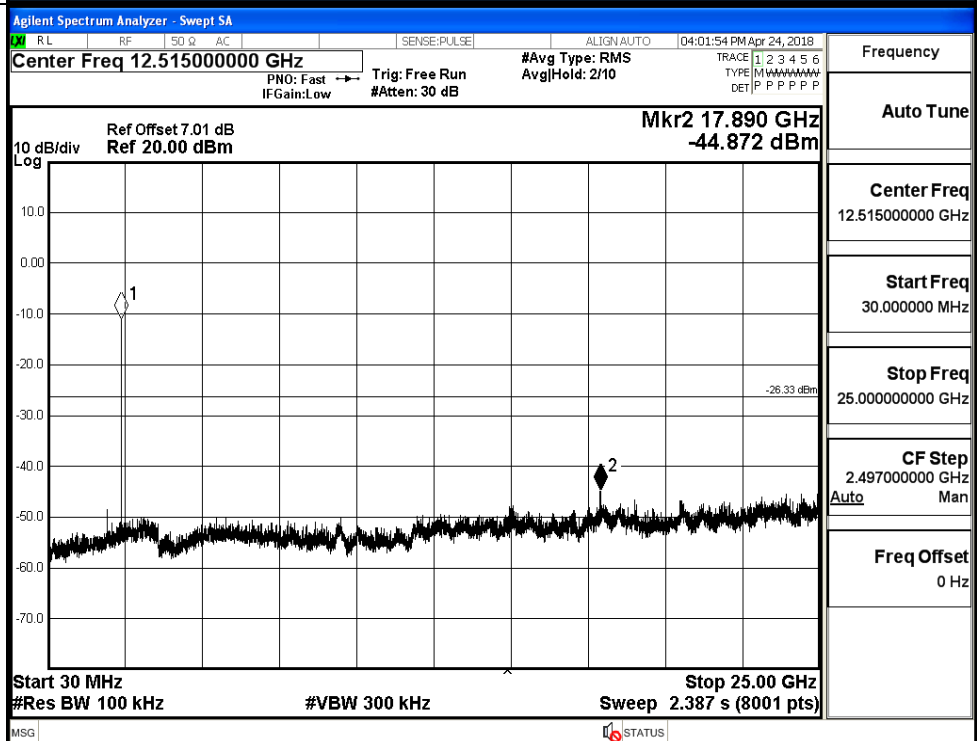


8DPSK_LCH_Graphs

Pref

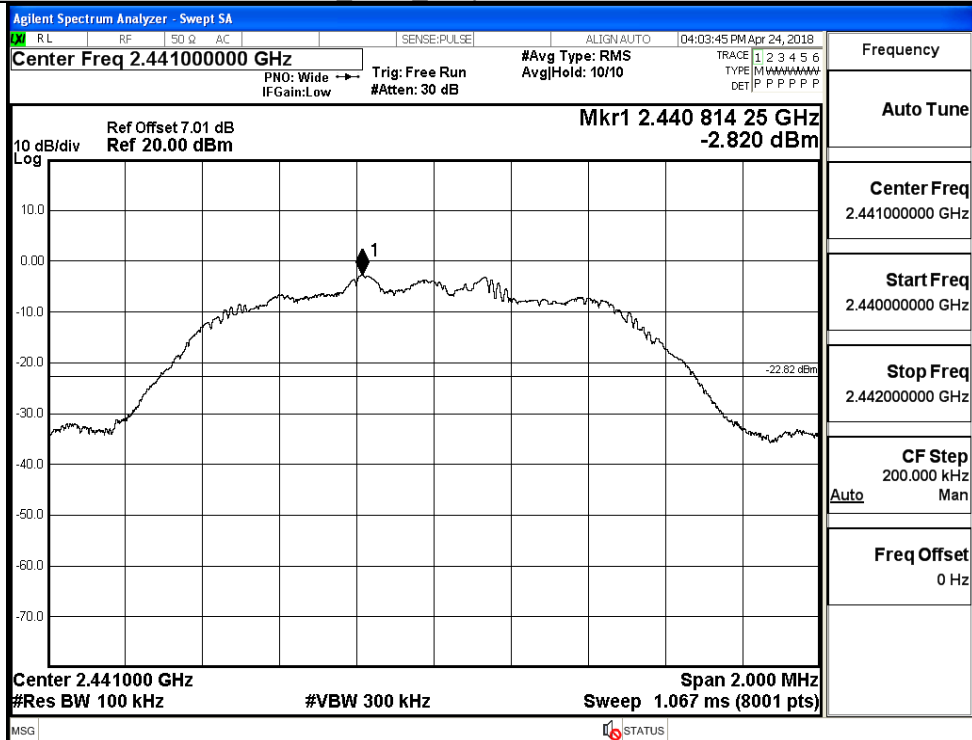


Puw

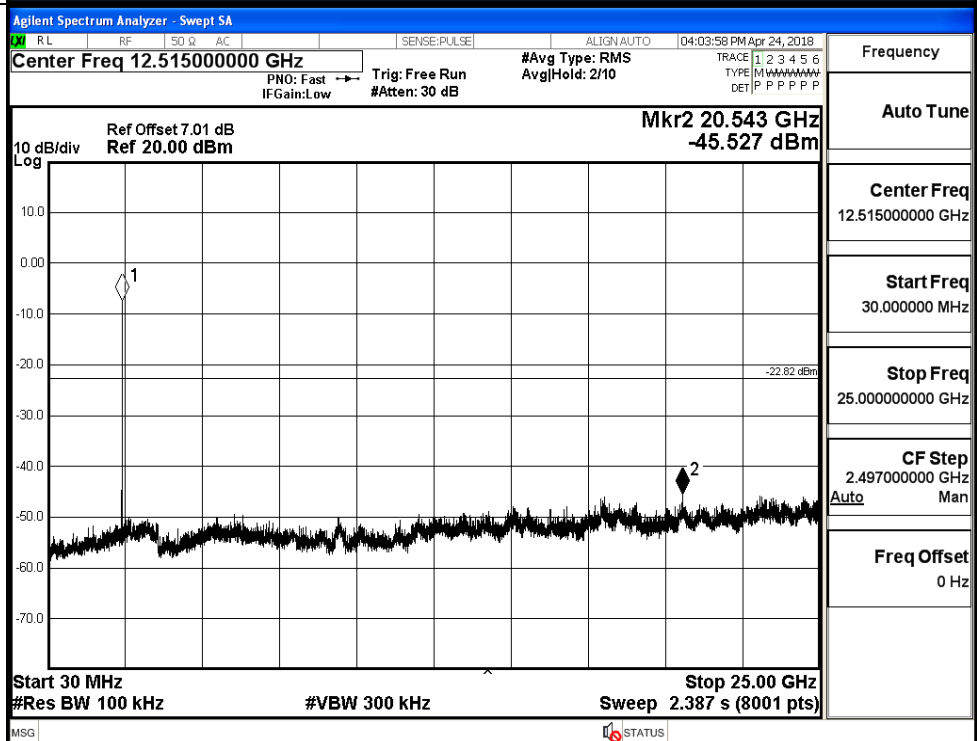


8DPSK_MCH_Graphs

Pref

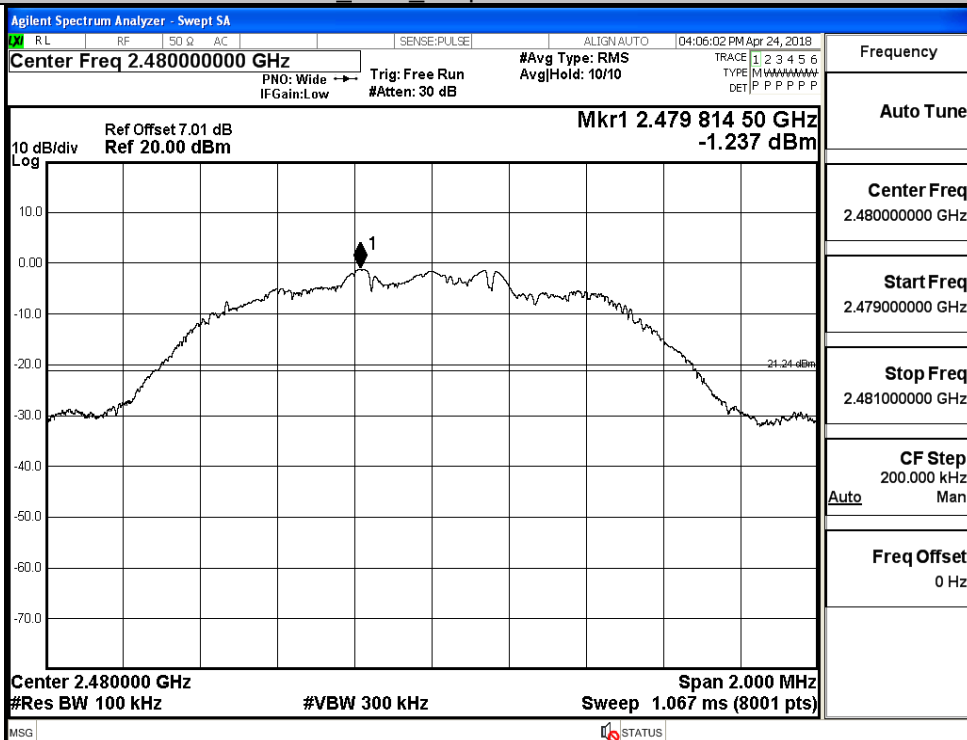


Puw

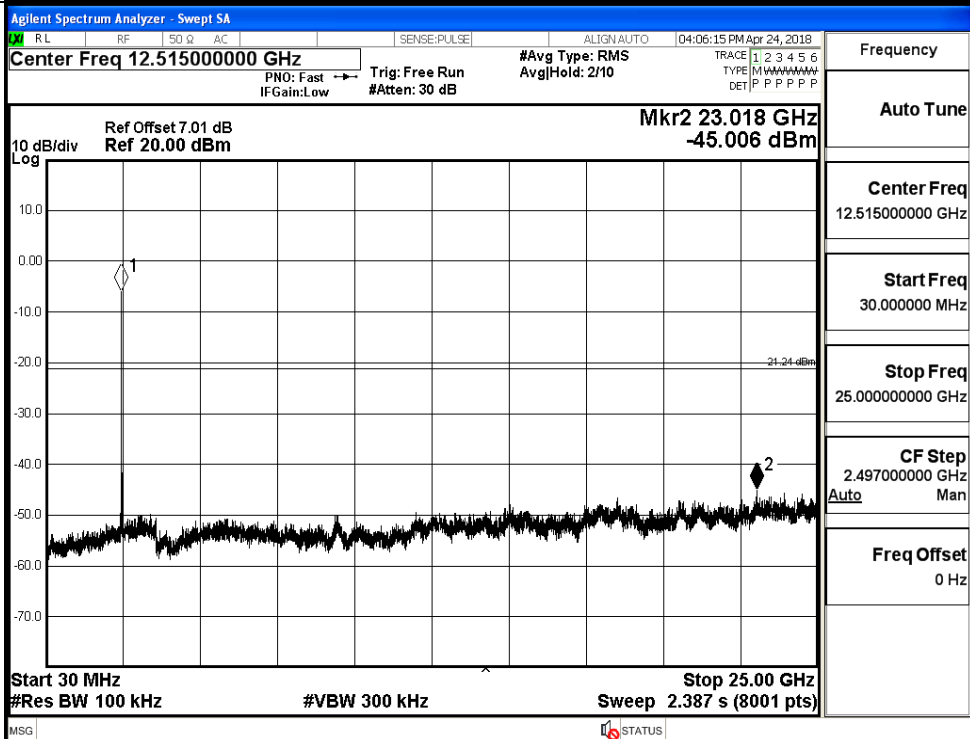


8DPSK_HCH_Graphs

Pref



Puw

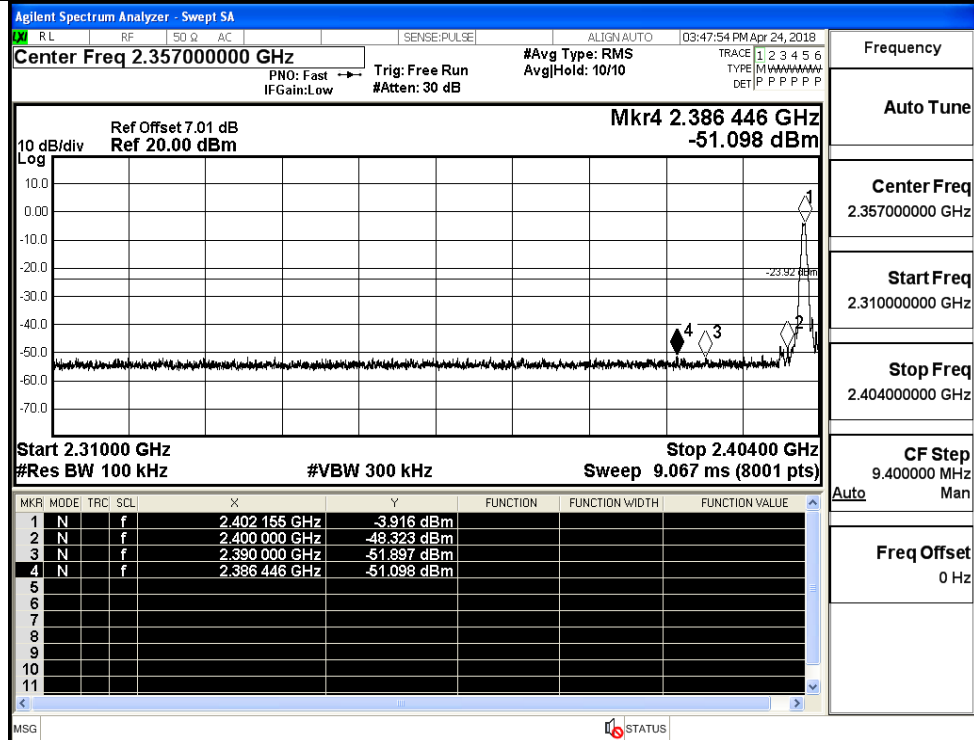


A.7 Band-edge for RF Conducted Emissions

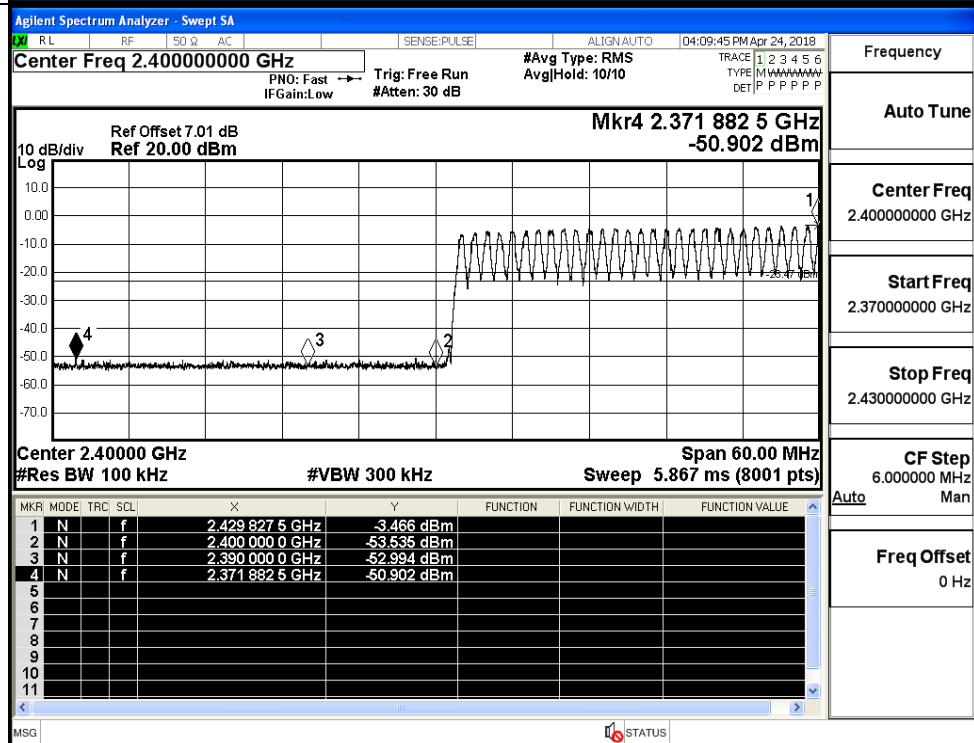
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-3.916	Off	-51.098	-23.92	PASS
			-3.466	On	-50.902	-23.47	PASS
	HCH	2480	-0.271	Off	-51.394	-20.27	PASS
			-1.512	On	-50.506	-21.51	PASS
$\pi/4$ DQPSK	LCH	2402	-6.250	Off	-51.508	-26.25	PASS
			-7.346	On	-49.668	-27.35	PASS
	HCH	2480	-1.309	Off	-50.462	-21.31	PASS
			-3.976	On	-50.569	-23.98	PASS
8DPSK	LCH	2402	-6.340	Off	-50.986	-26.34	PASS
			-6.690	On	-49.471	-26.69	PASS
	HCH	2480	-1.202	Off	-50.354	-21.2	PASS
			-3.907	On	-50.198	-23.91	PASS

Test Graphs

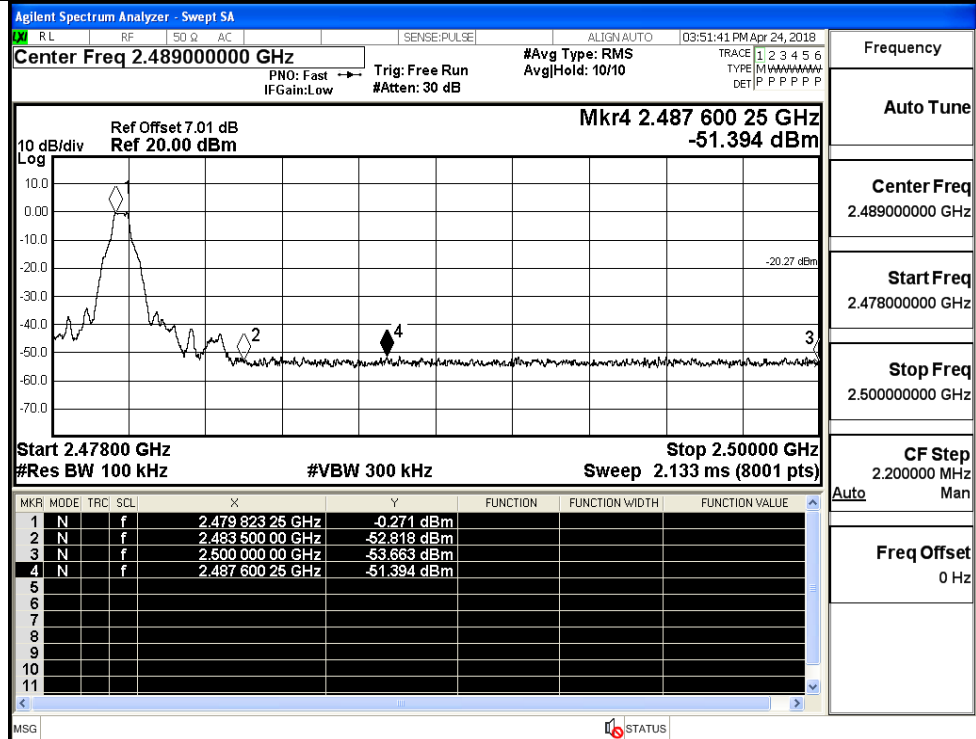
GFSK/LCH/No Hop



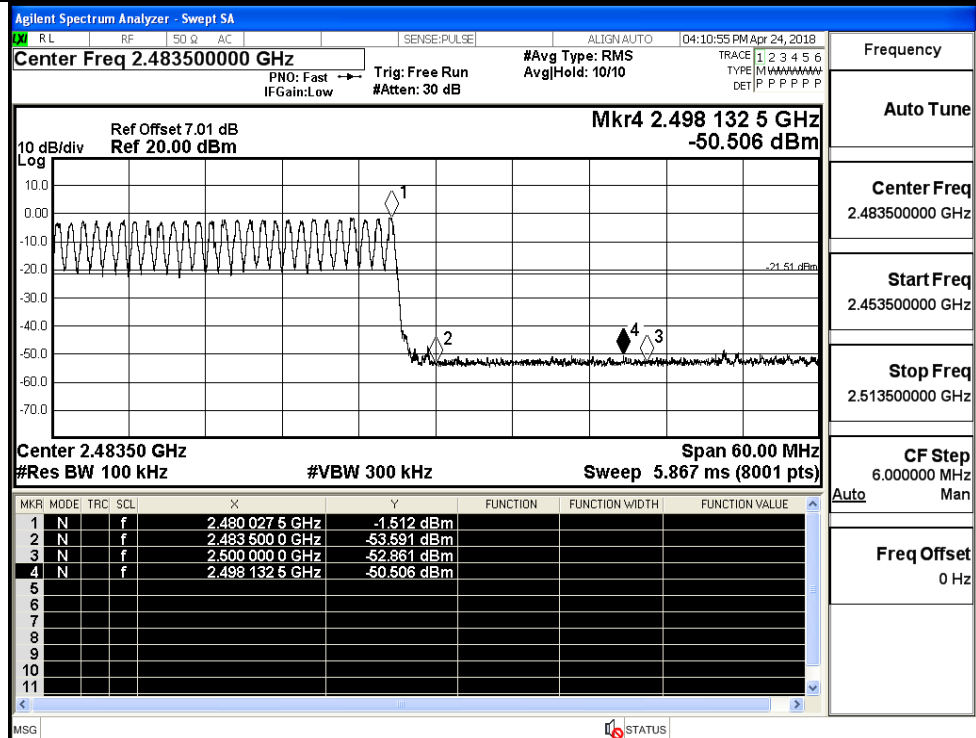
GFSK/LCH/Hop



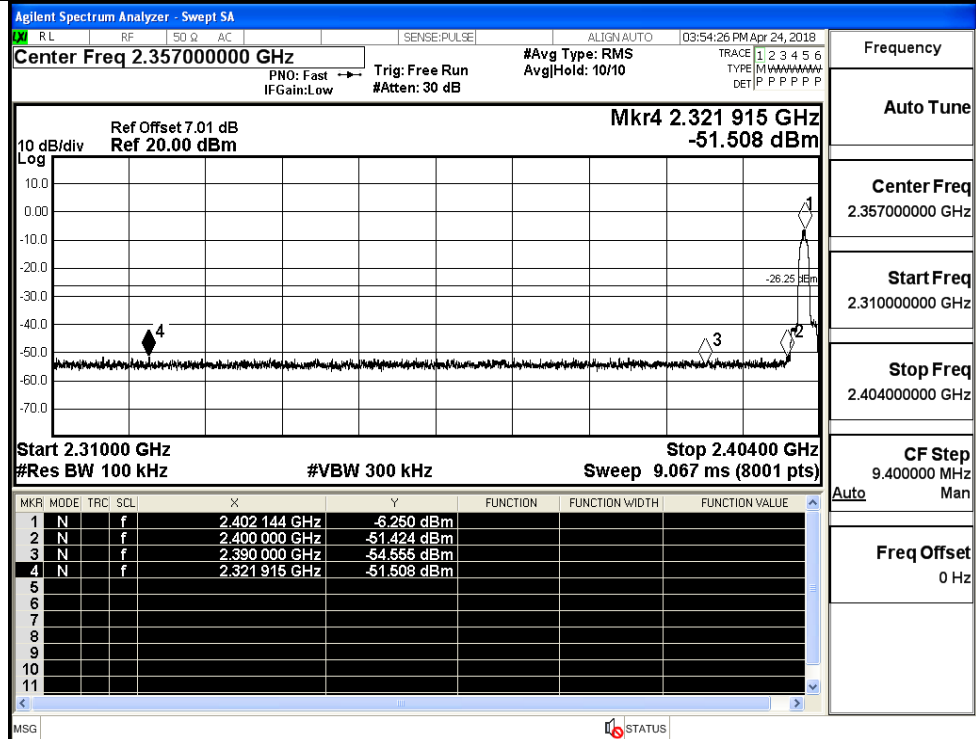
GFSK/HCH/No Hop



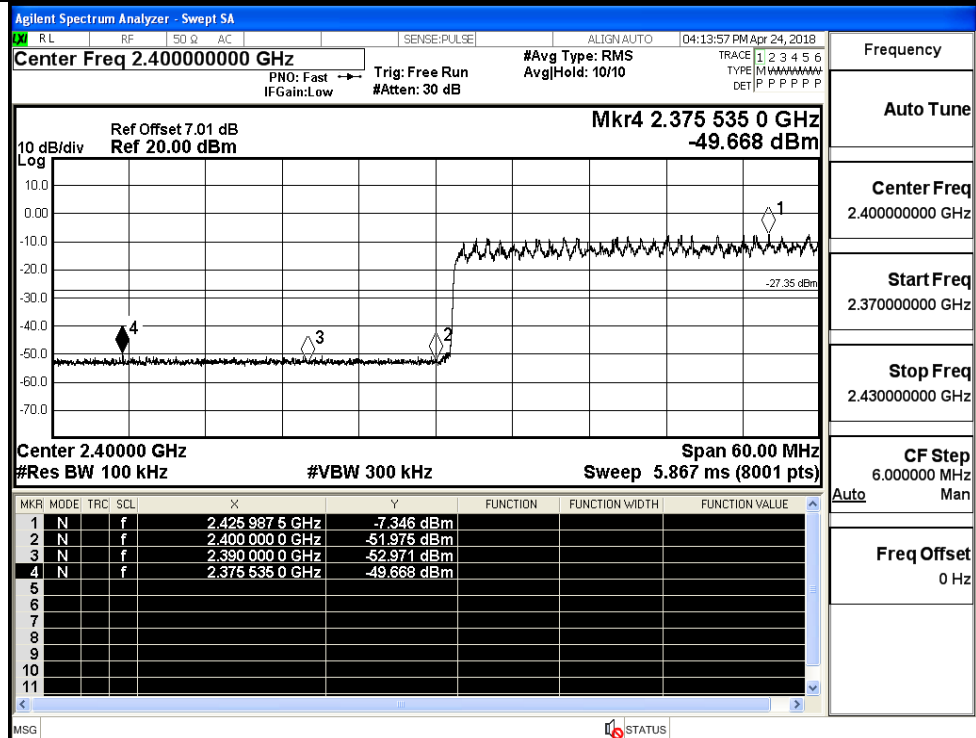
GFSK/HCH/Hop



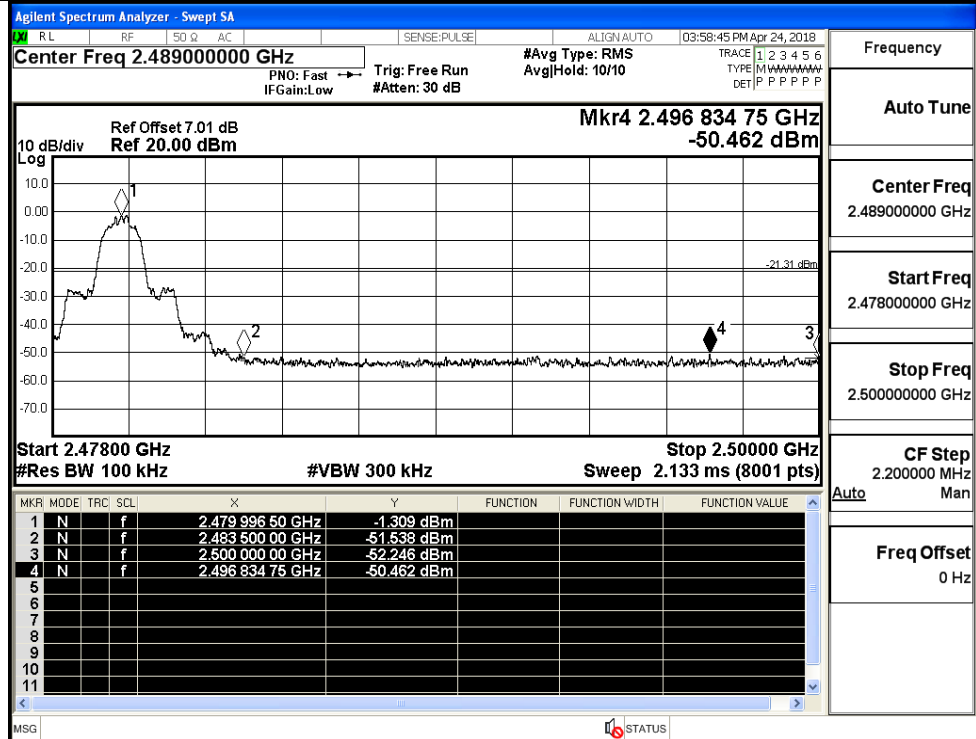
$\pi/4$ DQPSK/LCH/No
Hop



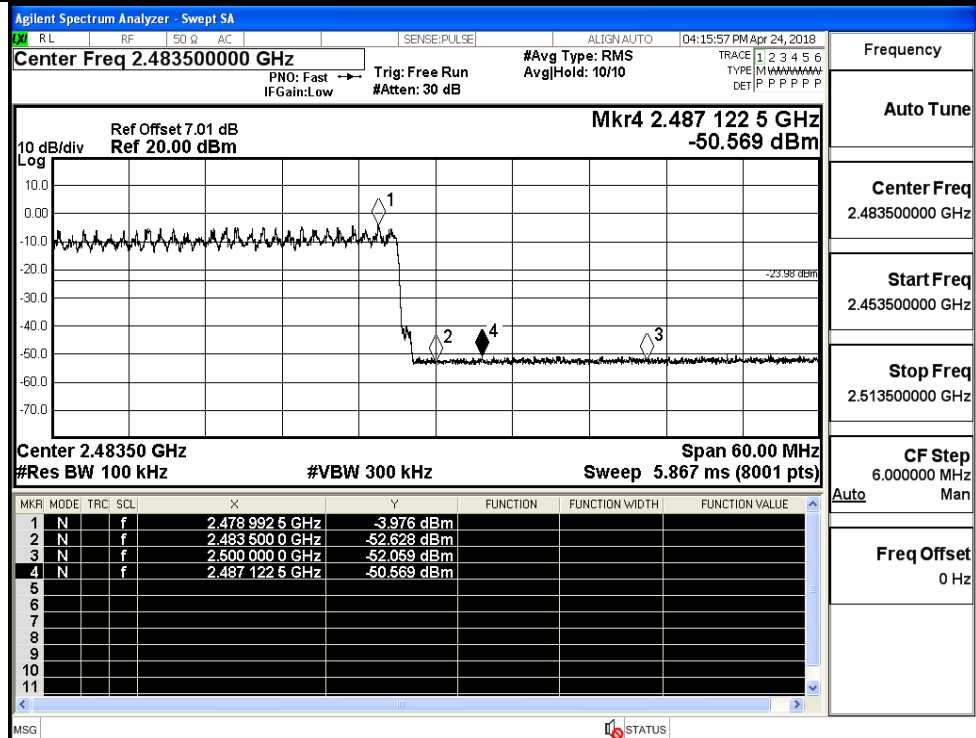
$\pi/4$ DQPSK/LCH/Hop



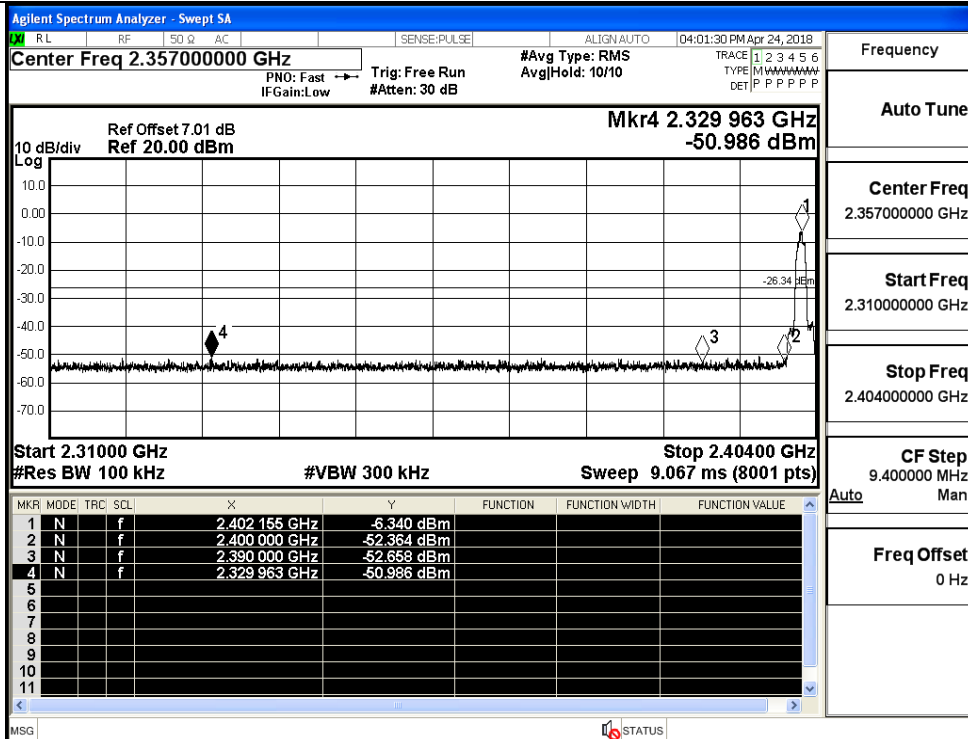
$\pi/4$ DQPSK/HCH/No
Hop



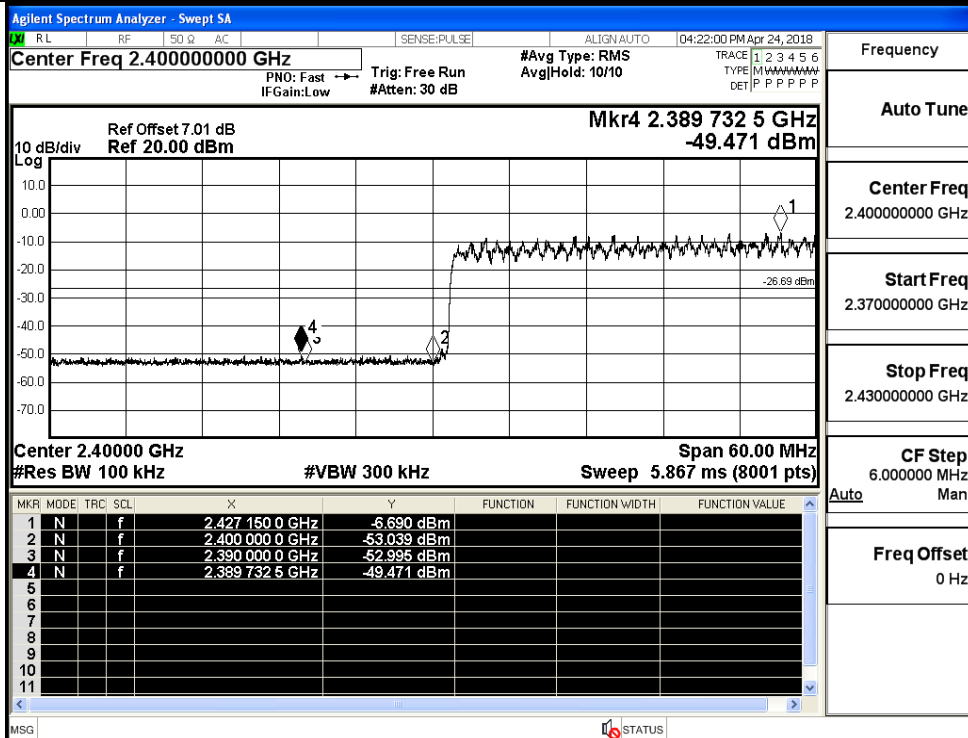
$\pi/4$ DQPSK/HCH/Hop



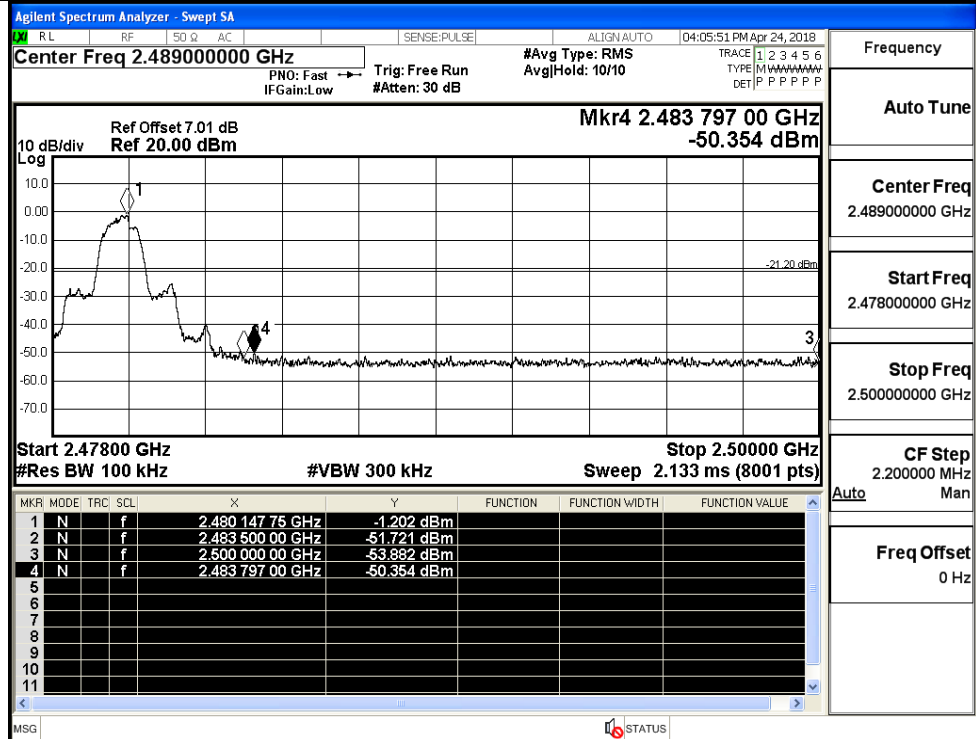
8DPSK/LCH/No Hop



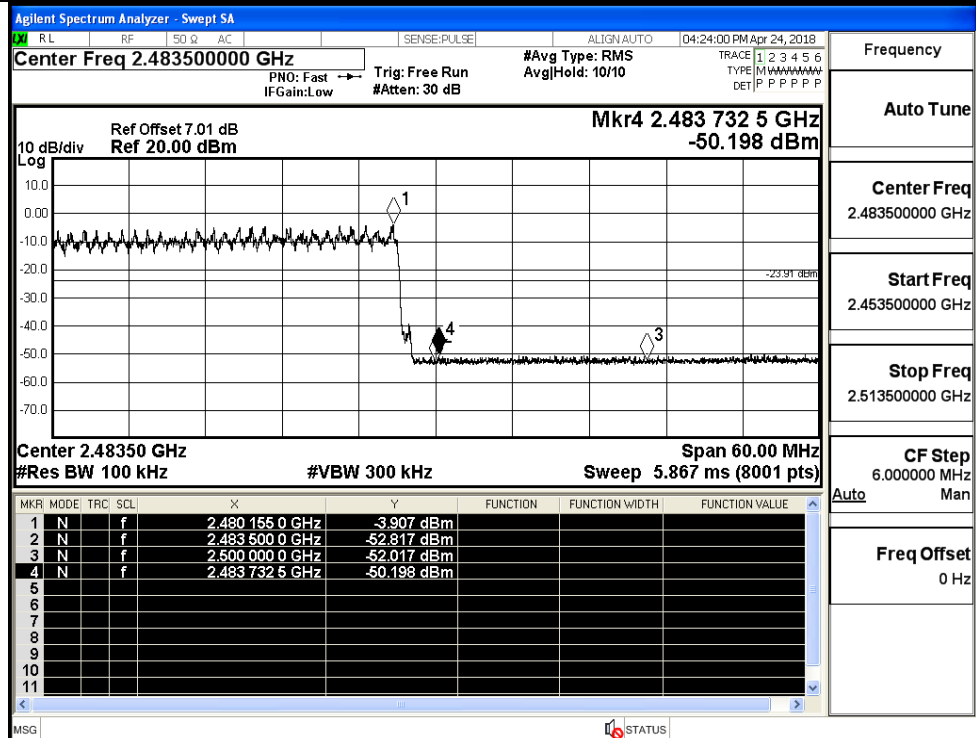
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



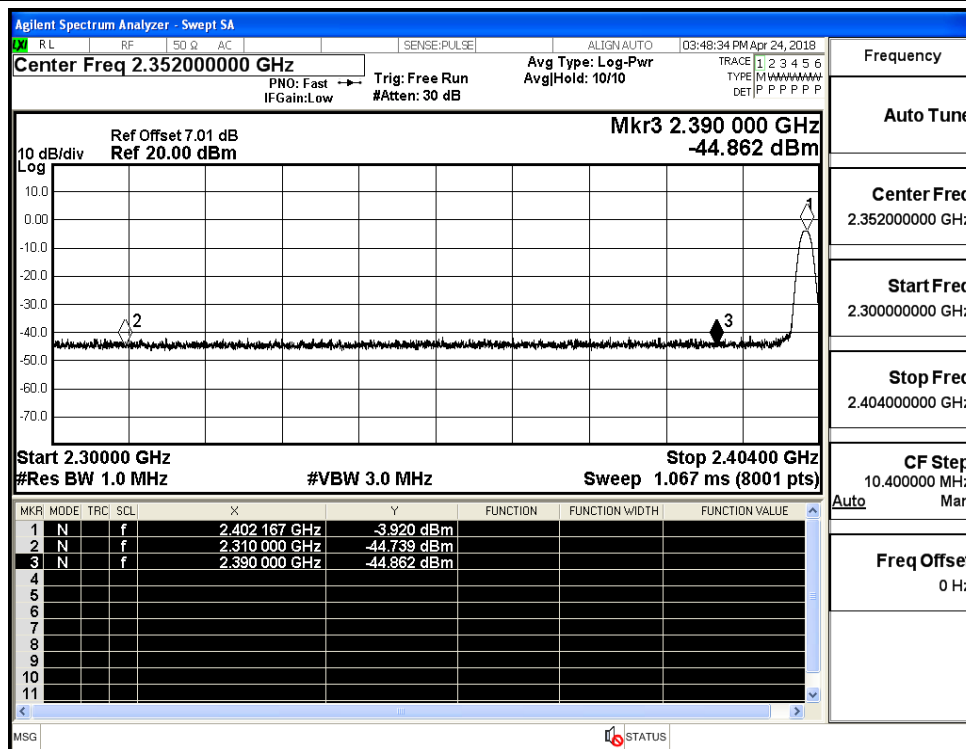
8DPSK/HCH/Hop



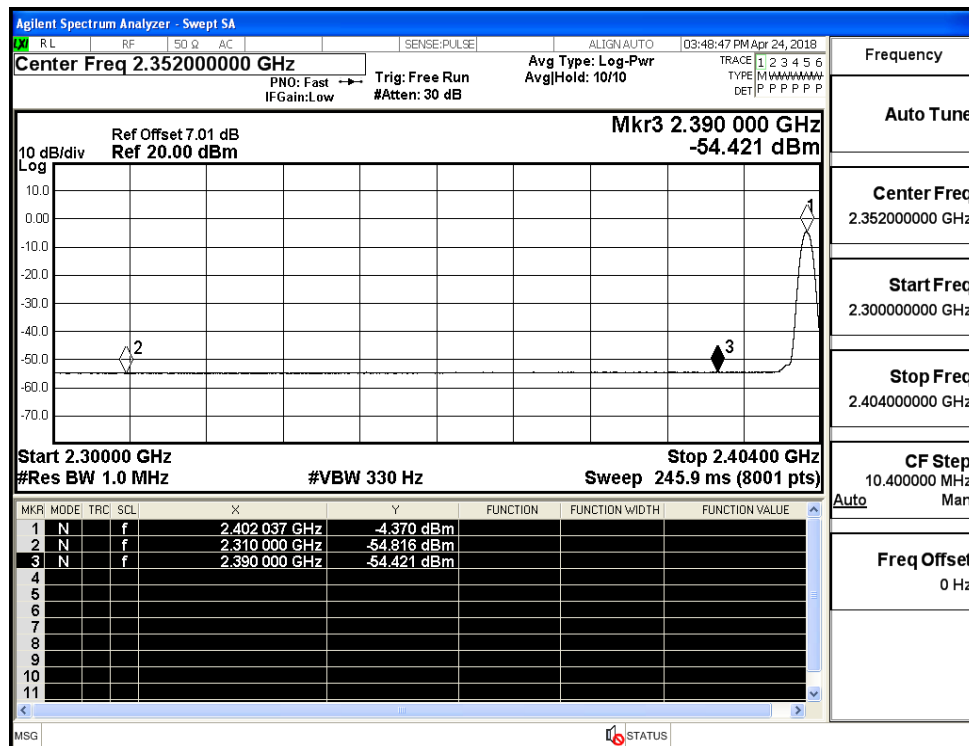
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-44.74	2.0	0	52.46	PEAK	74	PASS
	Off	2310.0	-54.82	2.0	0	42.38	AV	54	PASS
	Off	2390.0	-44.86	2.0	0	52.34	PEAK	74	PASS
	Off	2390.0	-54.42	2.0	0	42.78	AV	54	PASS
	Off	2483.5	-41.14	2.0	0	56.06	PEAK	74	PASS
	Off	2483.5	-51.81	2.0	0	45.39	AV	54	PASS
	Off	2500.0	-43.80	2.0	0	53.40	PEAK	74	PASS
	Off	2500.0	-53.98	2.0	0	43.22	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.44	2.0	0	53.76	PEAK	74	PASS
	Off	2310.0	-54.76	2.0	0	42.44	AV	54	PASS
	Off	2390.0	-43.17	2.0	0	54.03	PEAK	74	PASS
	Off	2390.0	-54.50	2.0	0	42.70	AV	54	PASS
	Off	2483.5	-42.22	2.0	0	54.98	PEAK	74	PASS
	Off	2483.5	-52.60	2.0	0	44.60	AV	54	PASS
	Off	2500.0	-43.87	2.0	0	53.33	PEAK	74	PASS
	Off	2500.0	-54.08	2.0	0	43.12	AV	54	PASS
8DPSK	Off	2310.0	-44.98	2.0	0	52.22	PEAK	74	PASS
	Off	2310.0	-54.87	2.0	0	42.33	AV	54	PASS
	Off	2390.0	-44.34	2.0	0	52.86	PEAK	74	PASS
	Off	2390.0	-54.46	2.0	0	42.74	AV	54	PASS
	Off	2483.5	-41.37	2.0	0	55.83	PEAK	74	PASS
	Off	2483.5	-52.53	2.0	0	44.67	AV	54	PASS
	Off	2500.0	-43.82	2.0	0	53.38	PEAK	74	PASS
	Off	2500.0	-53.97	2.0	0	43.23	AV	54	PASS

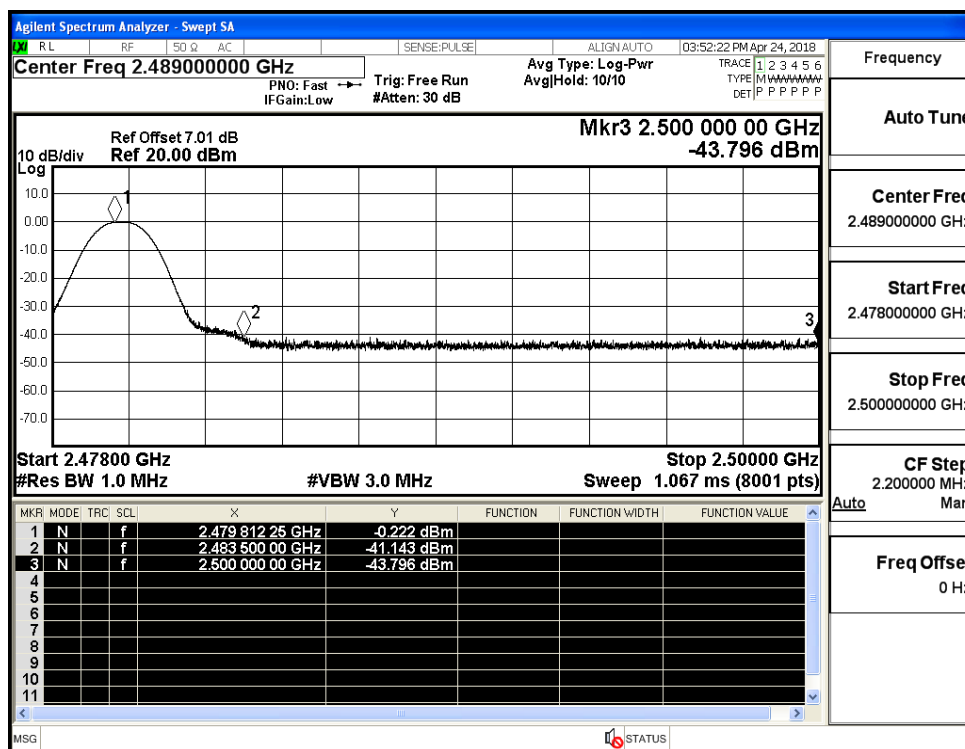
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



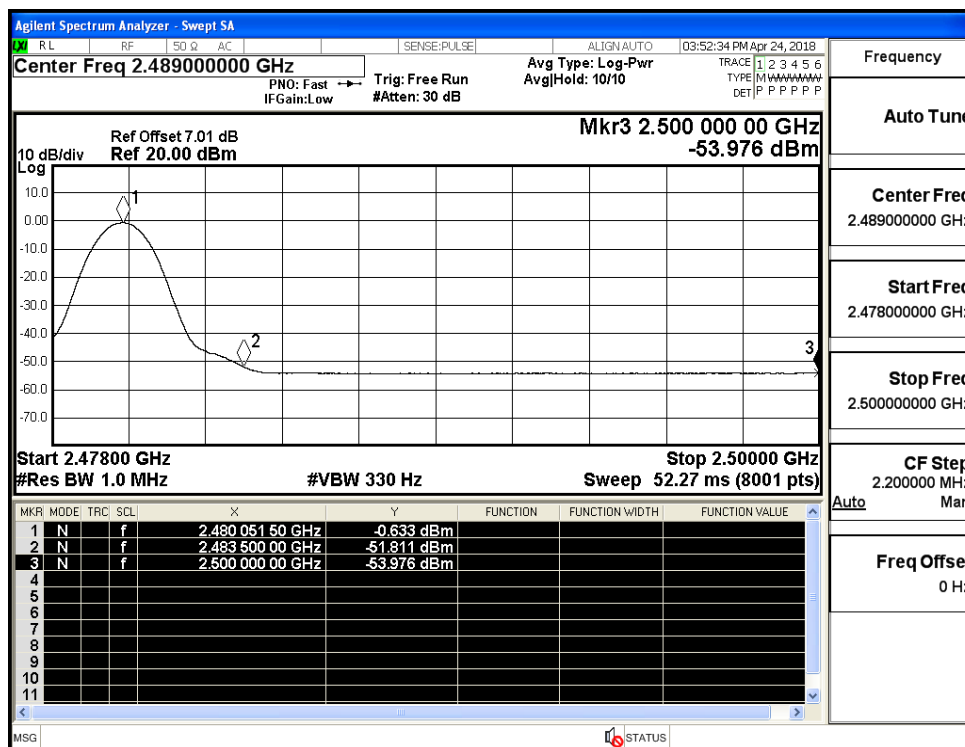
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

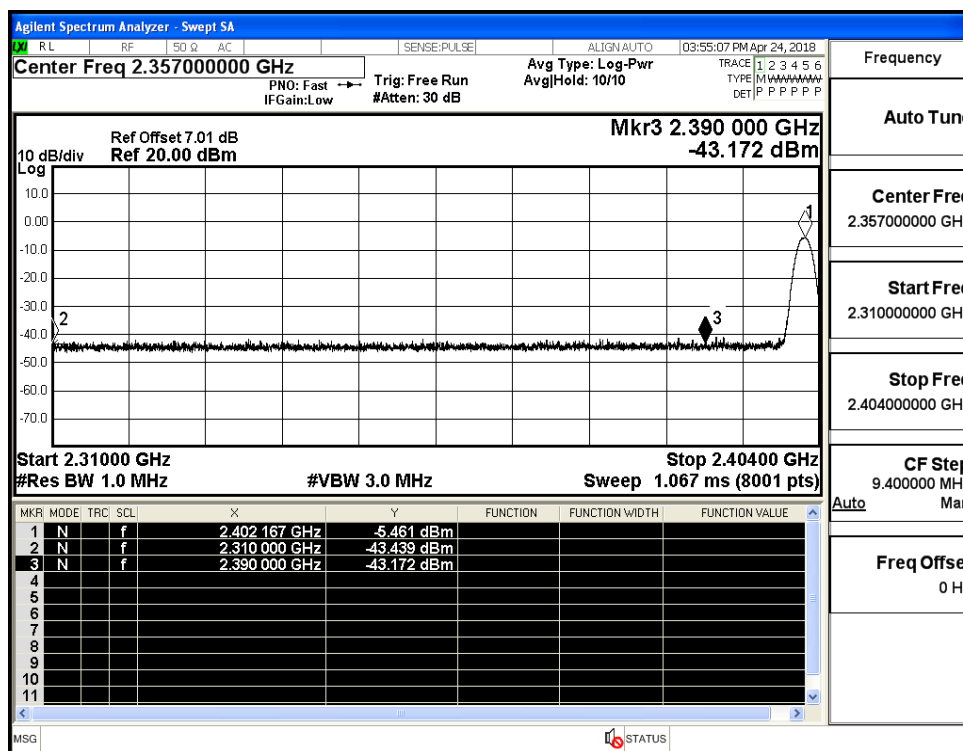
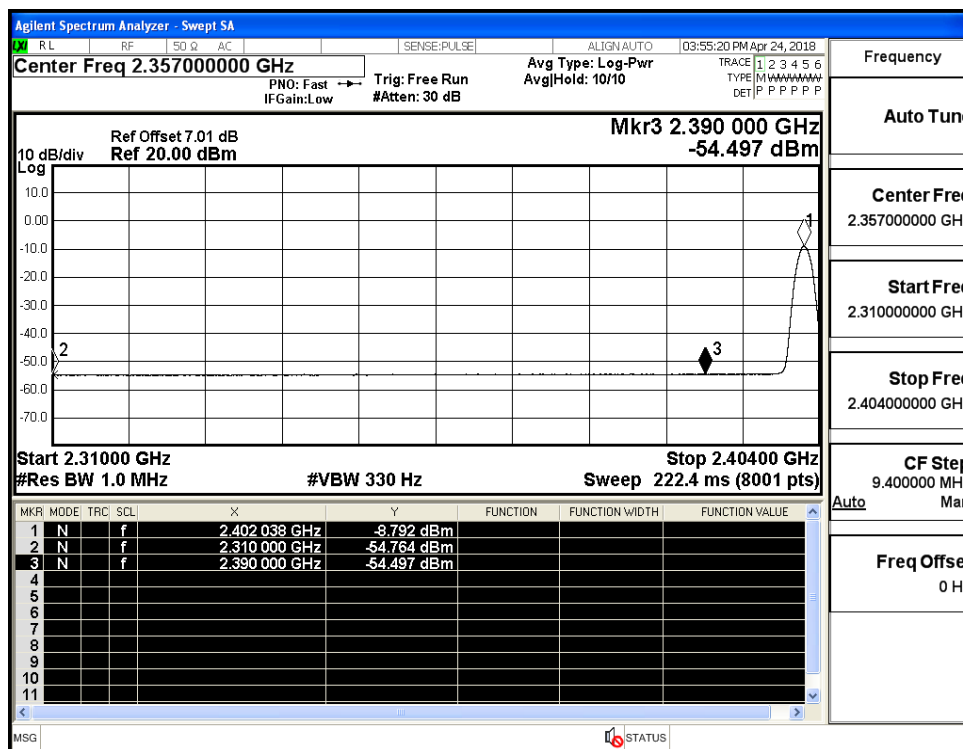


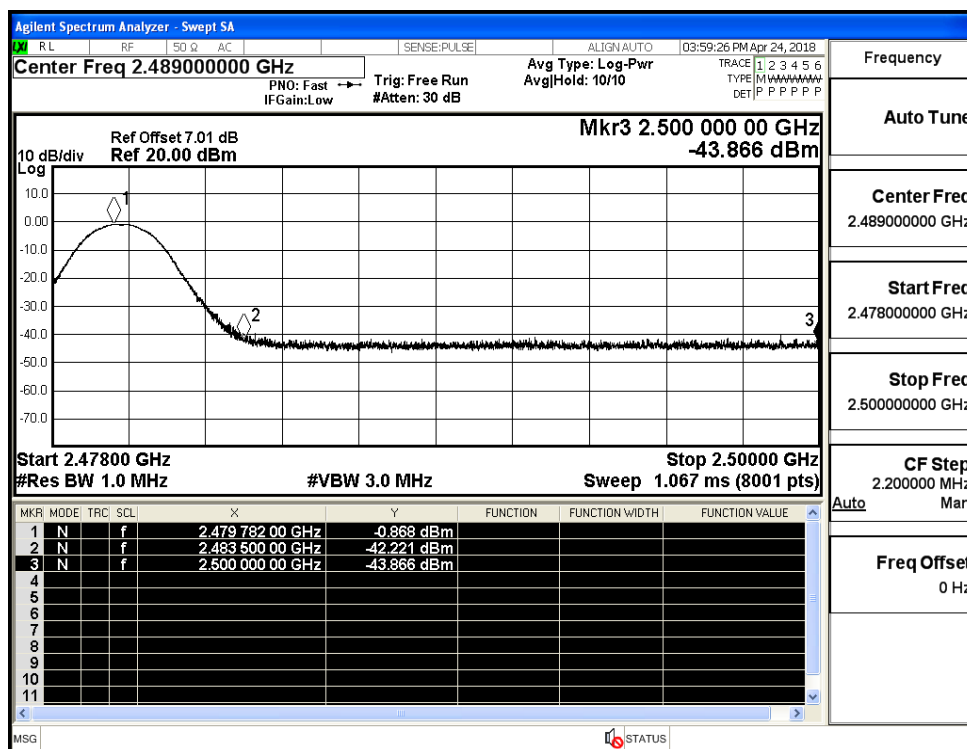
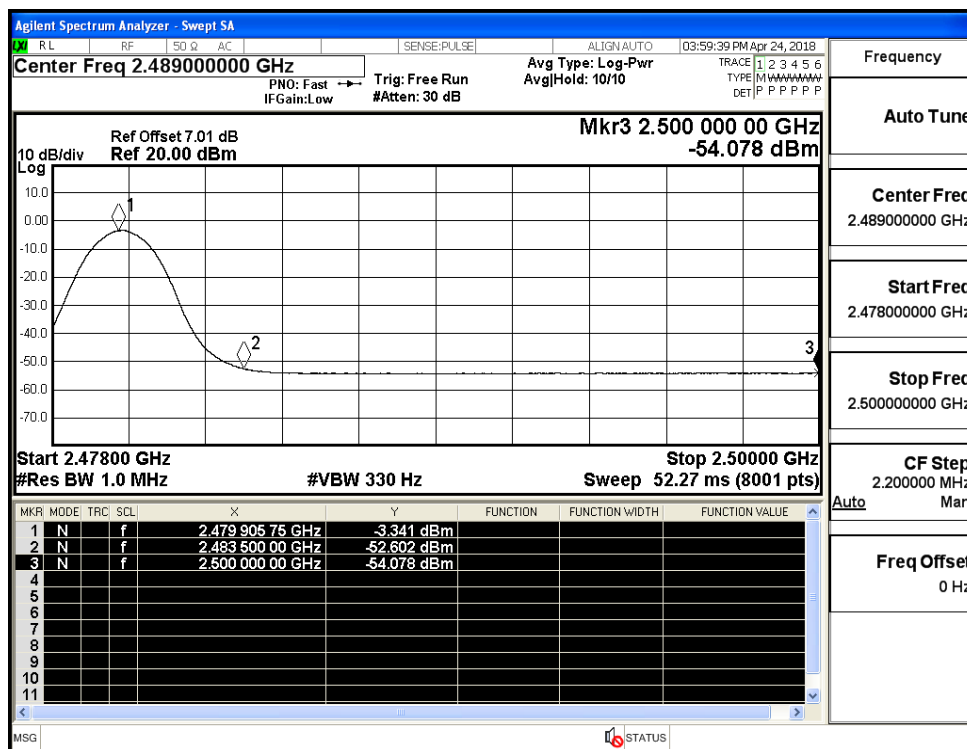
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



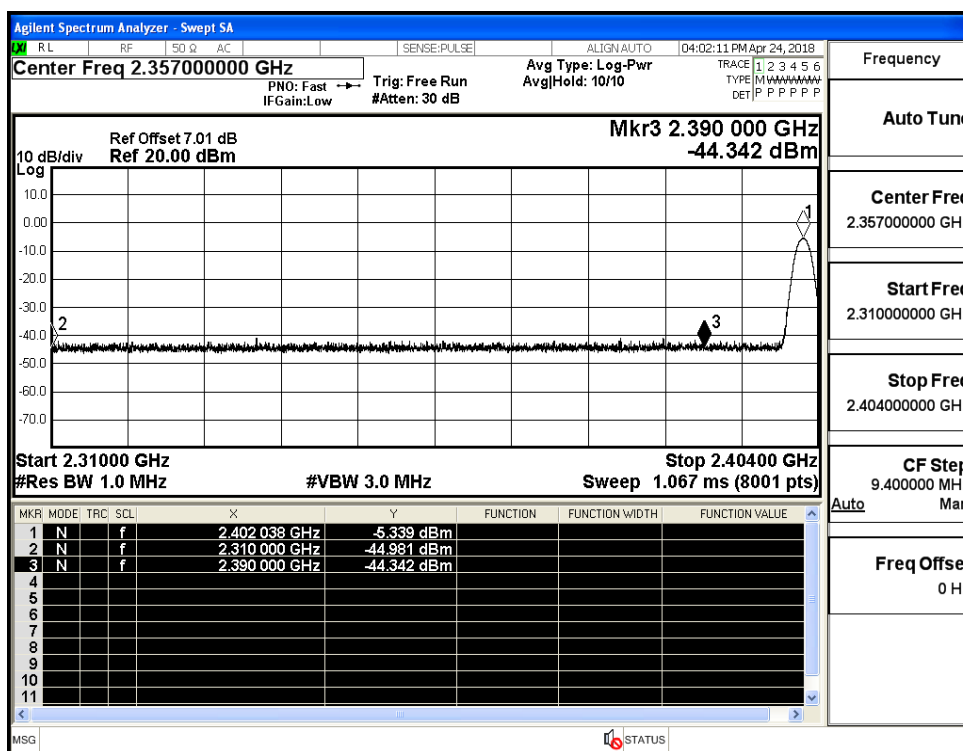
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



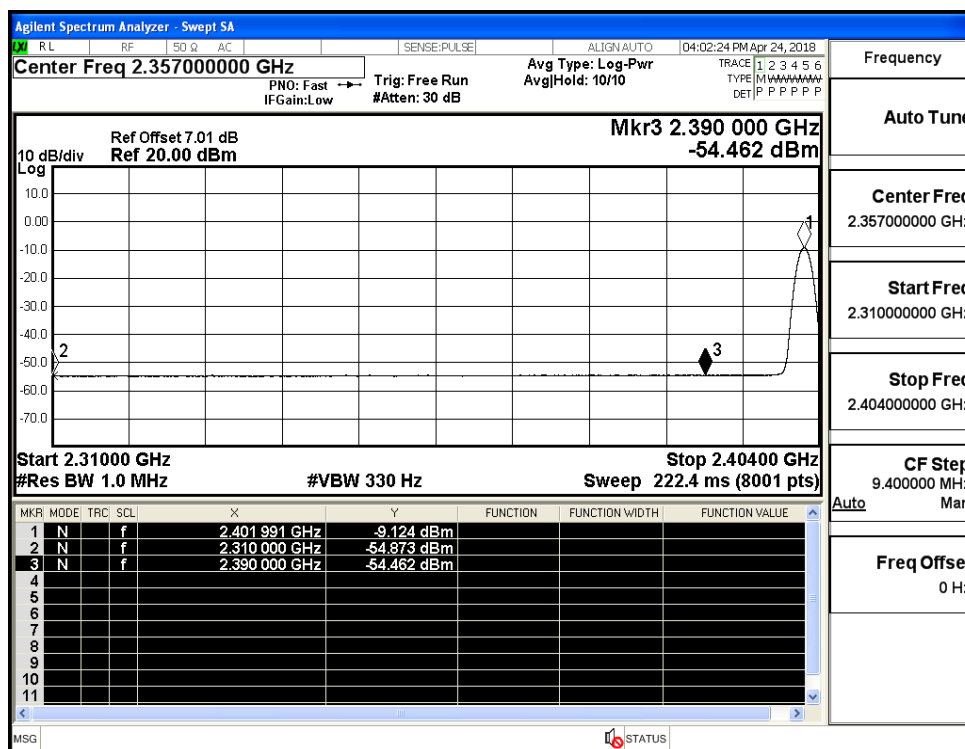
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (High Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (High Channel)

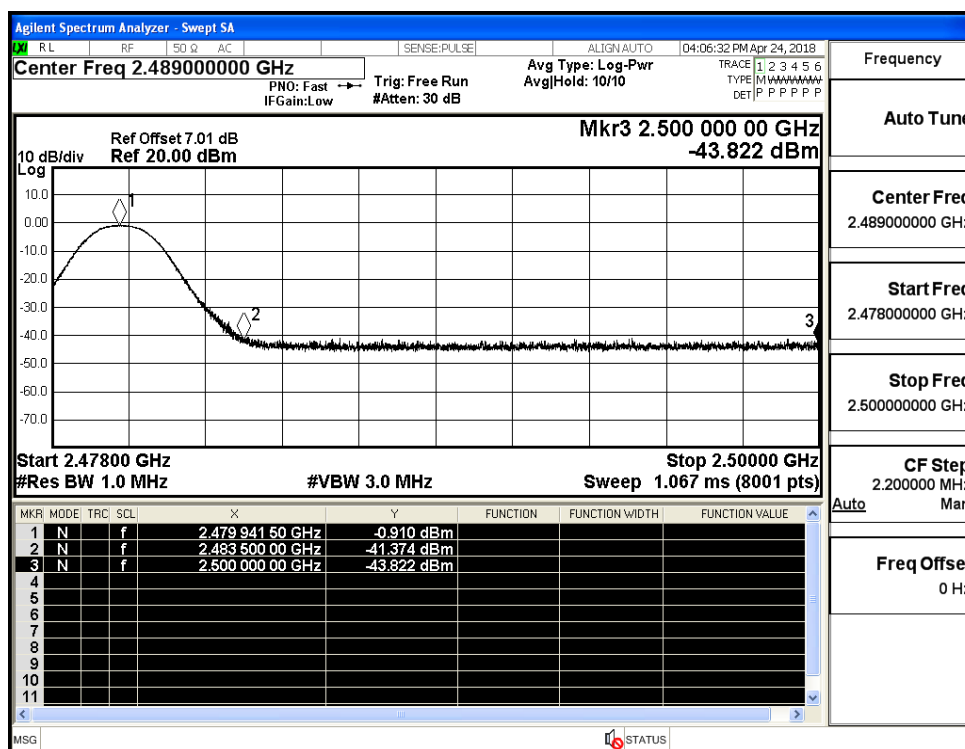
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

