



Appendix A

RF Test Data for BT V5.1(BDR/EDR) (Conducted Measurement)

Product Name: SMART GLASSES

Trade Mark: SPEXETEC

Test Model: SP03

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	100.0 kPa
Test Engineer:	Kay Hu
Supervised by:	Li Huan

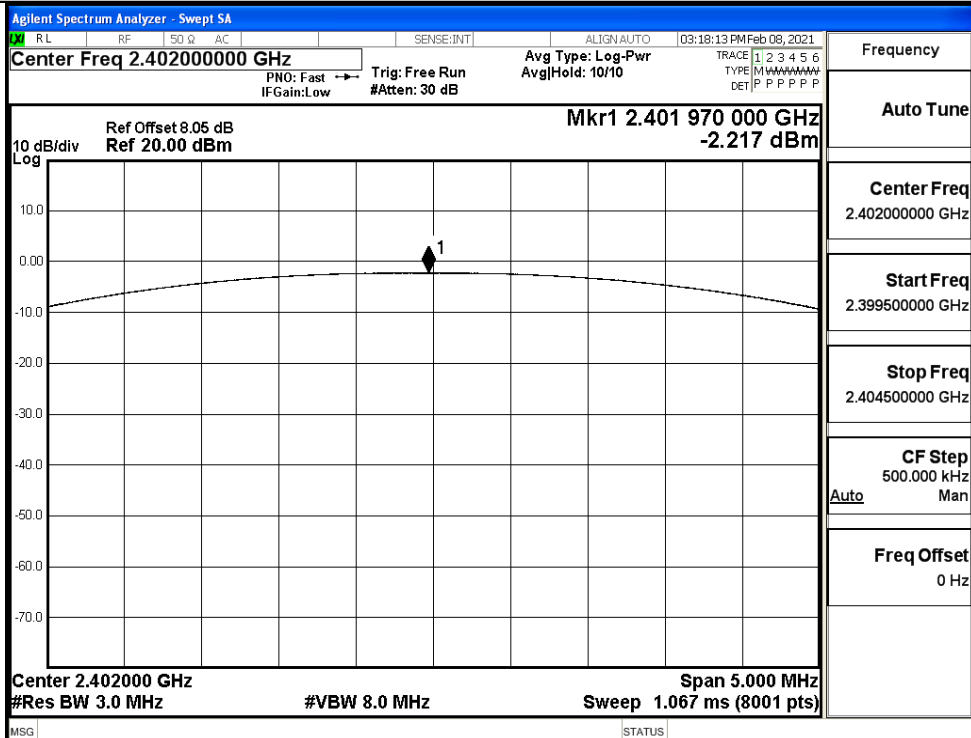
A.1 Maxmum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-2.217	21	PASS
	MCH	-2.077	21	PASS
	HCH	-2.962	21	PASS
$\pi/4$ DQPSK	LCH	-0.204	21	PASS
	MCH	-0.052	21	PASS
	HCH	-0.200	21	PASS
8DPSK	LCH	0.328	21	PASS
	MCH	0.655	21	PASS
	HCH	0.481	21	PASS

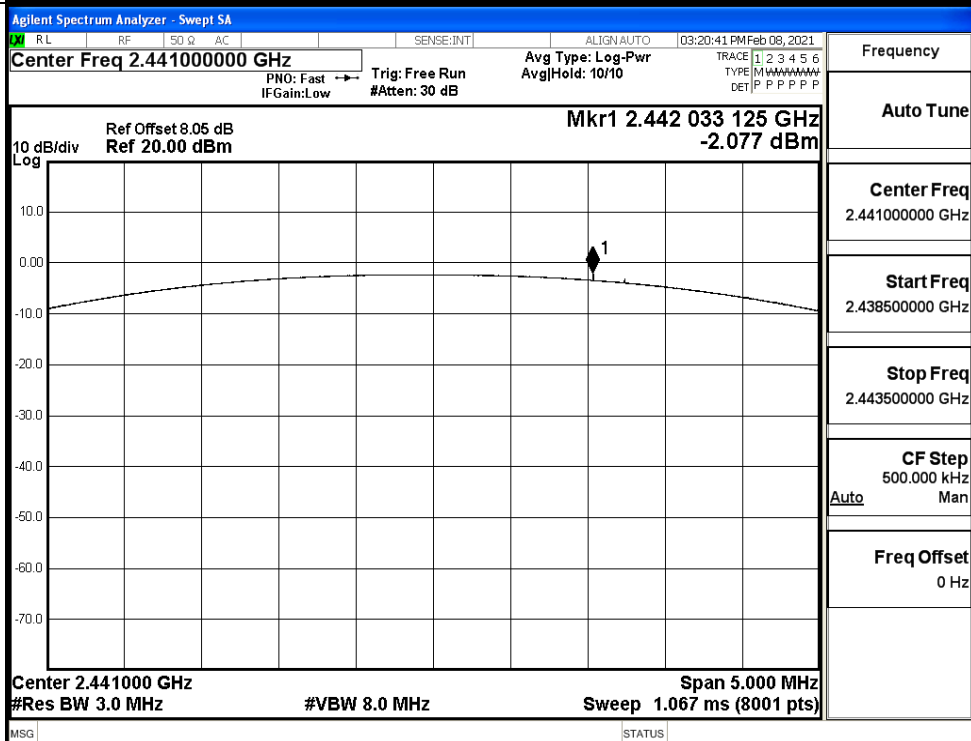


Test Graphs

GFSK/LCH

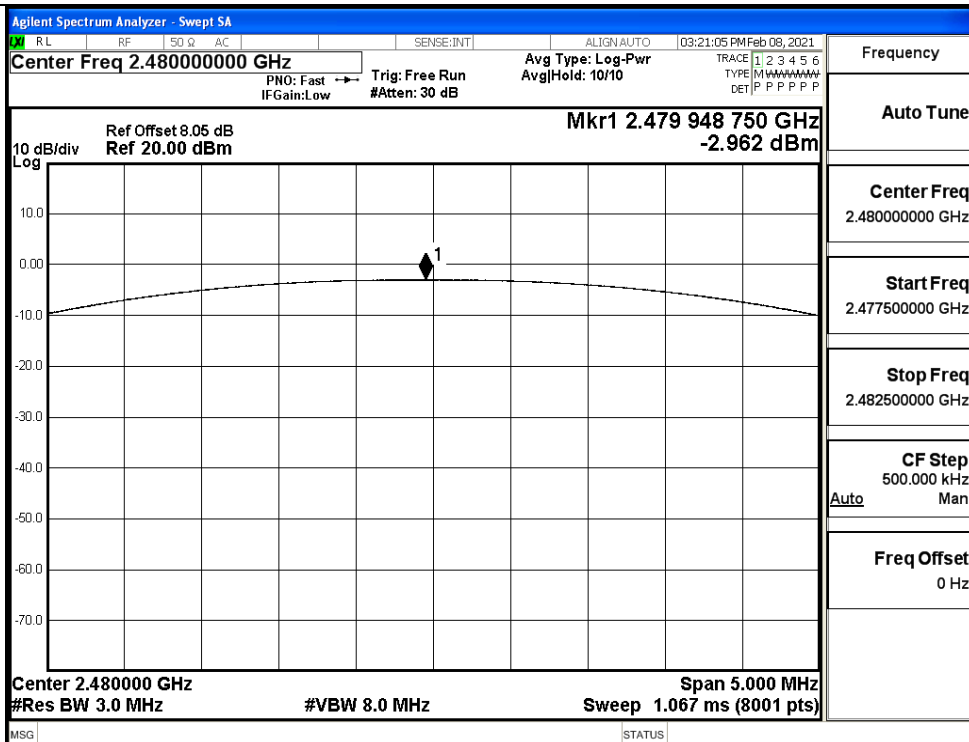
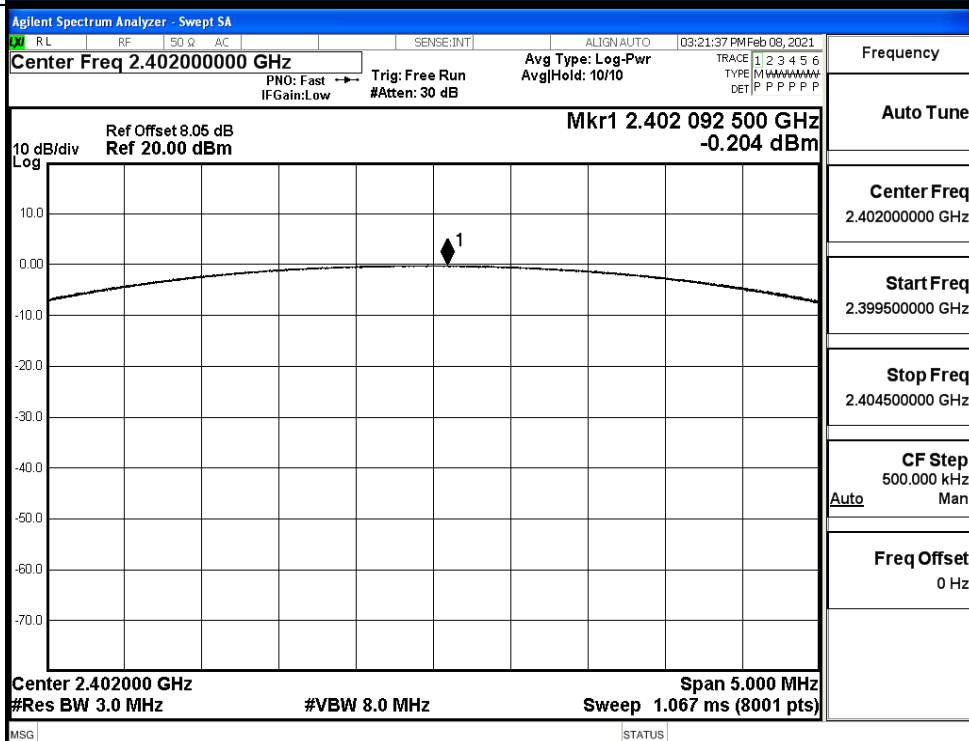


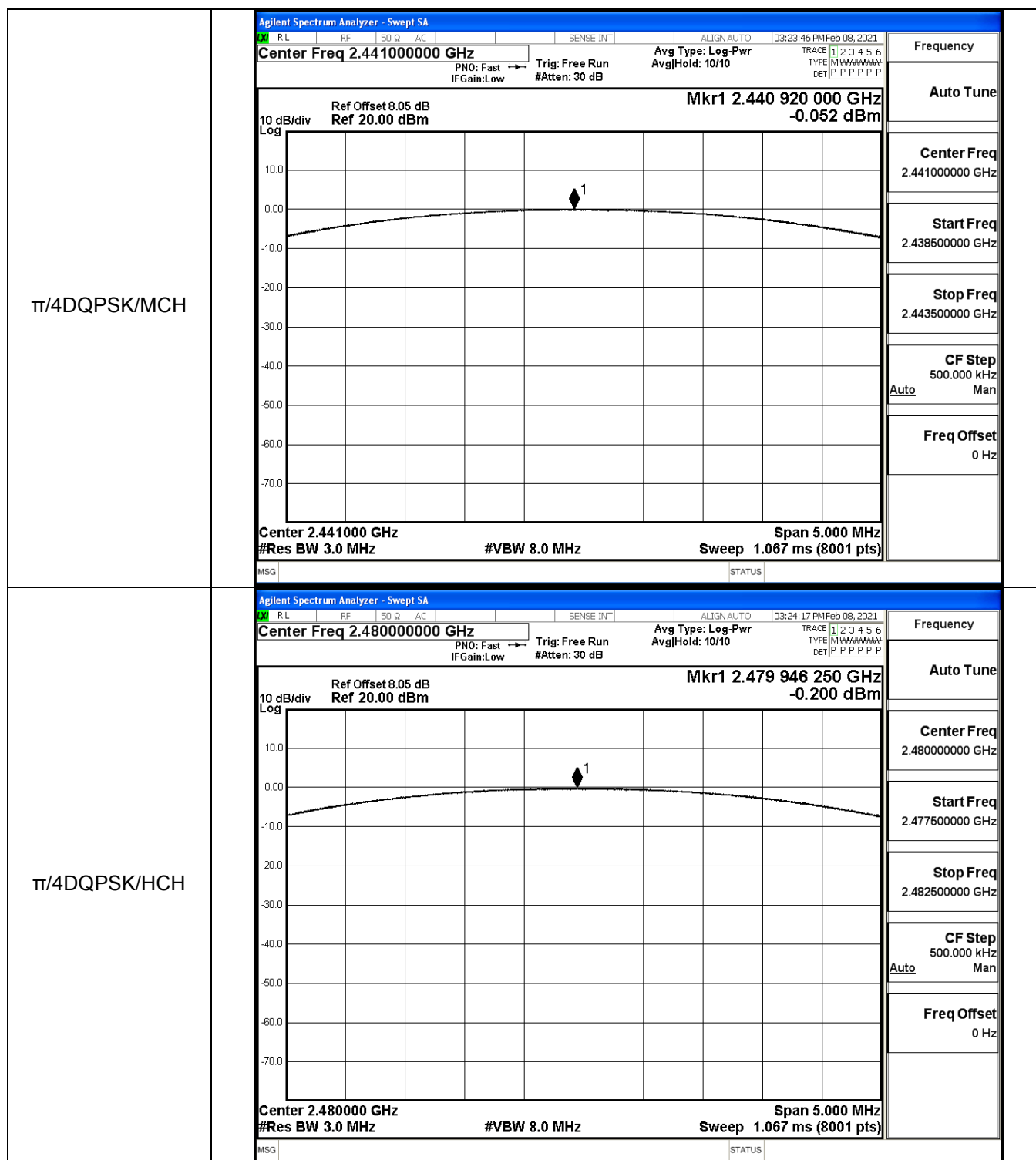
GFSK/MCH





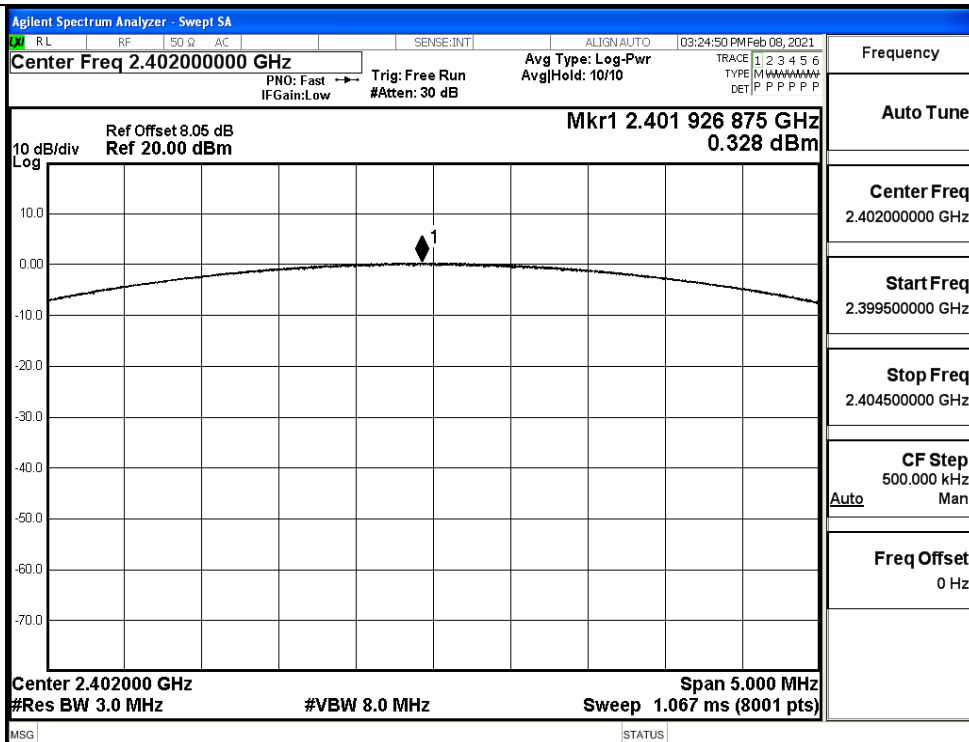
GFSK/HCH

 π /4DQPSK/LCH

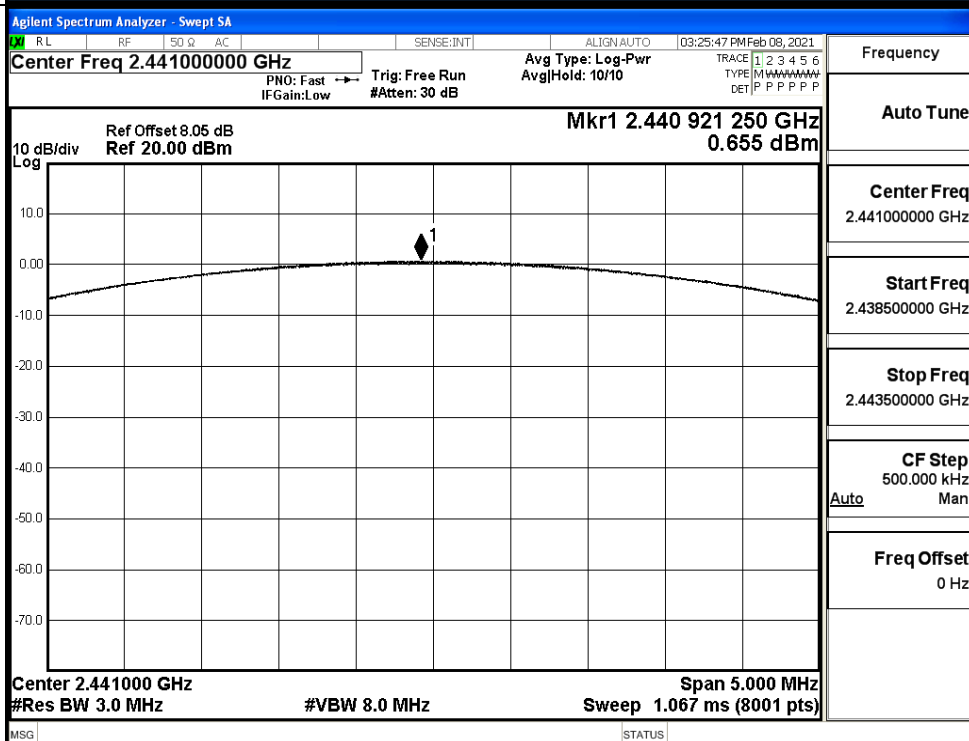




8DPSK/LCH

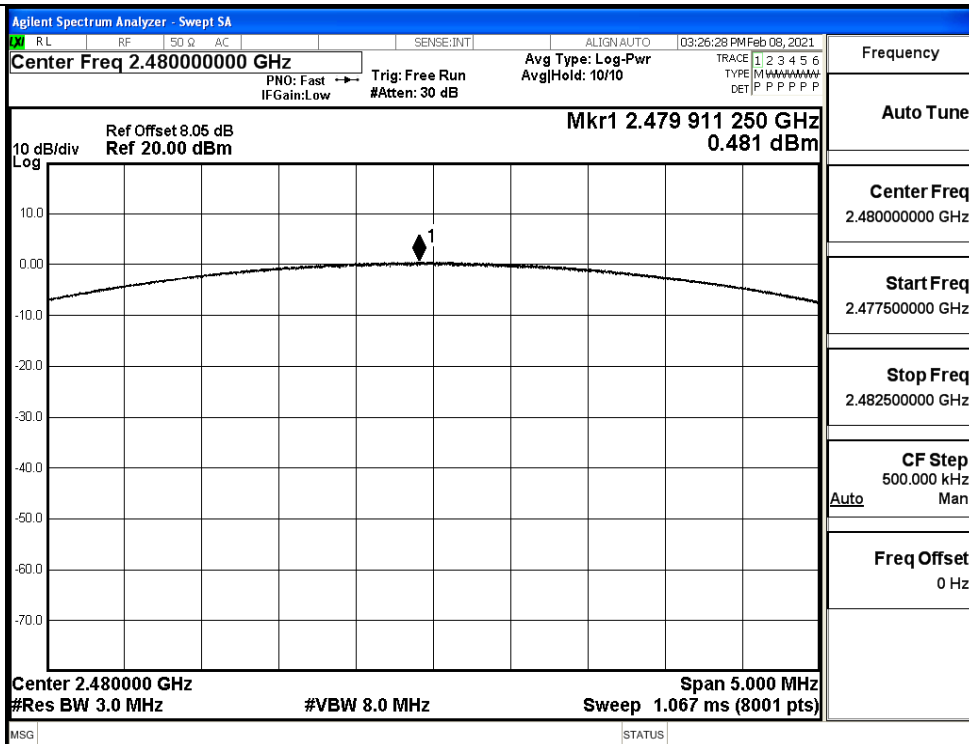


8DPSK/MCH





8DPSK/HCH





A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9617	Not Specified	PASS
	MCH	0.9609	Not Specified	PASS
	HCH	0.9616	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.336	Not Specified	PASS
	MCH	1.336	Not Specified	PASS
	HCH	1.336	Not Specified	PASS
8DPSK	LCH	1.309	Not Specified	PASS
	MCH	1.309	Not Specified	PASS
	HCH	1.308	Not Specified	PASS

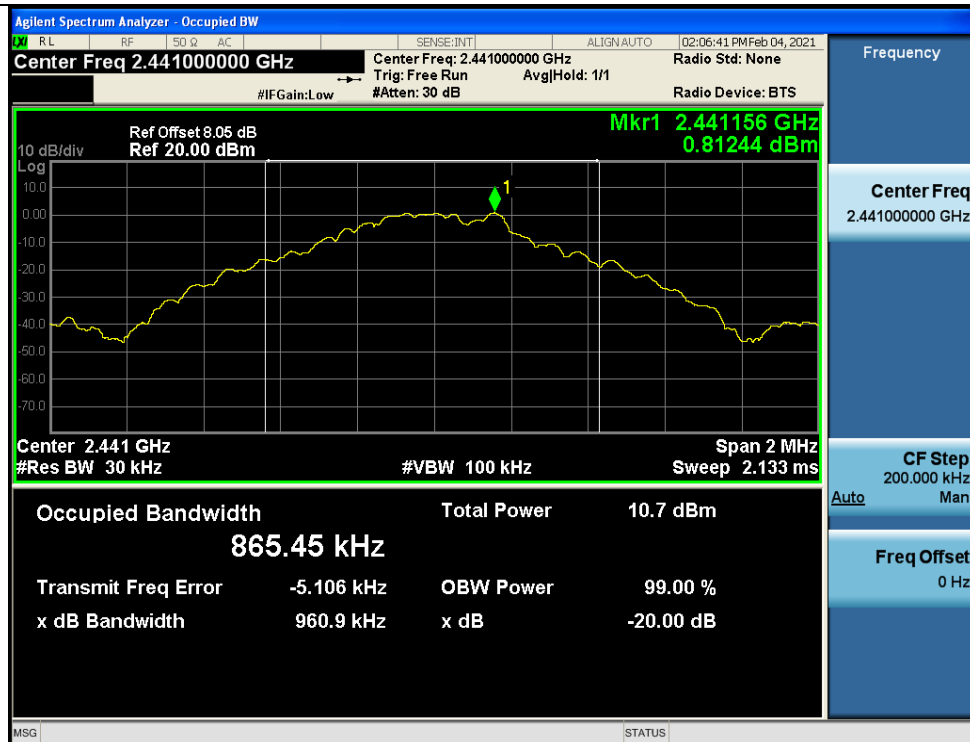
Test Graphs

GFSK/LCH



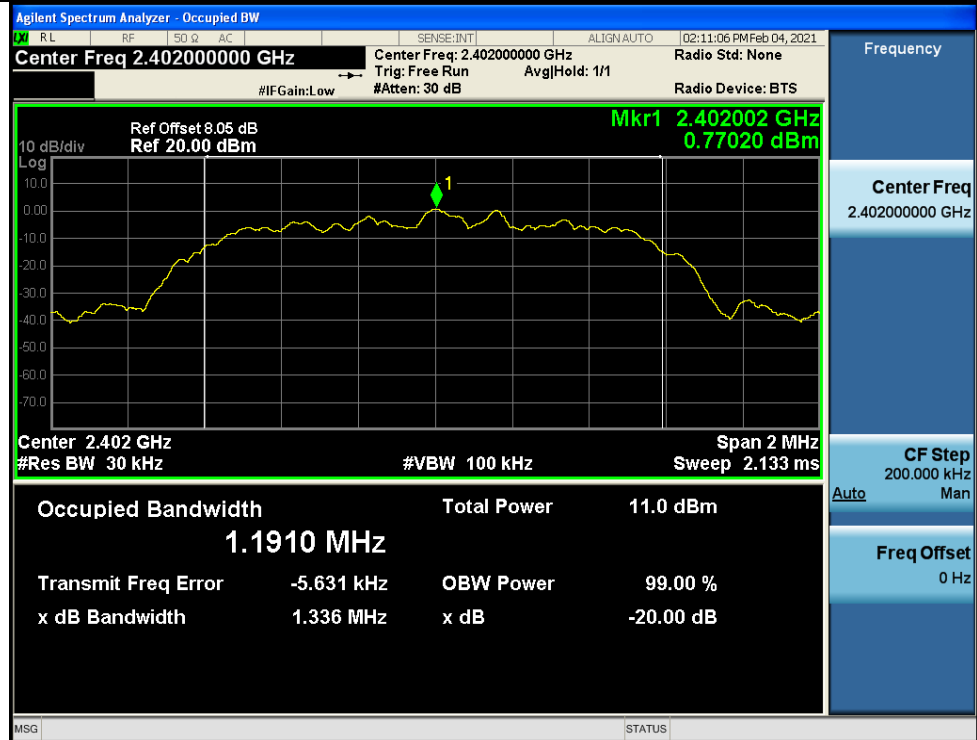
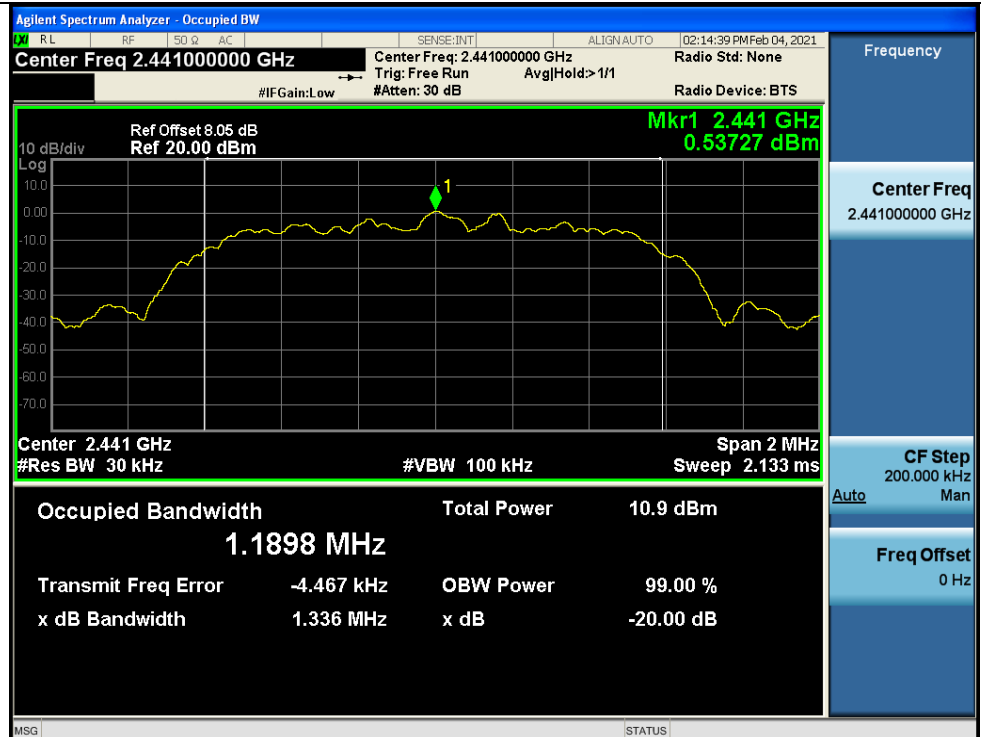


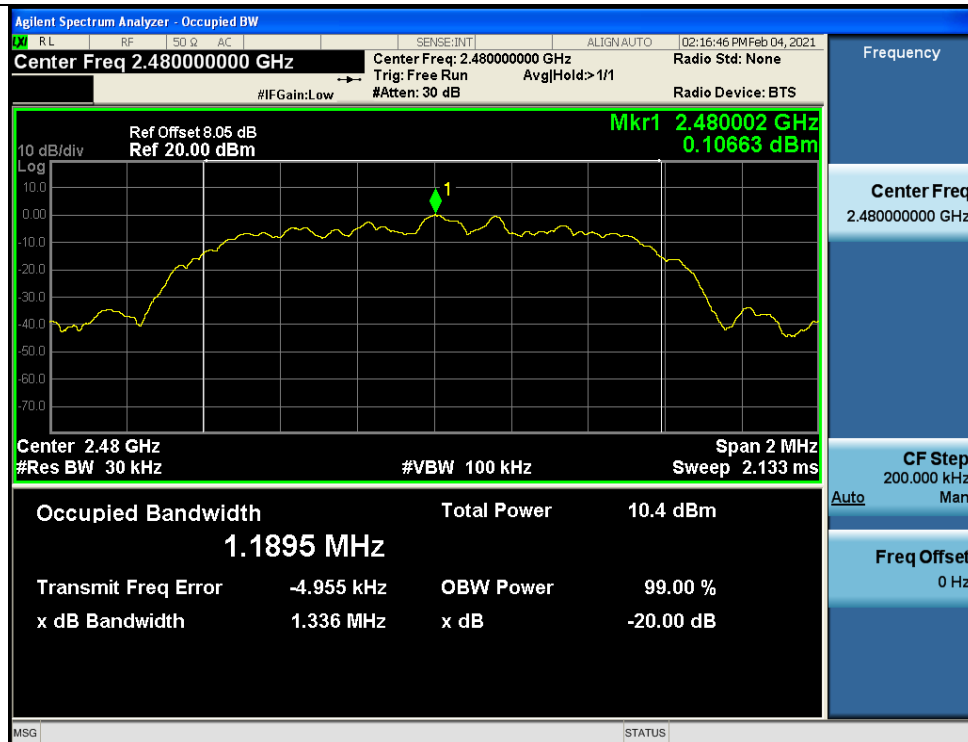
GFSK/MCH



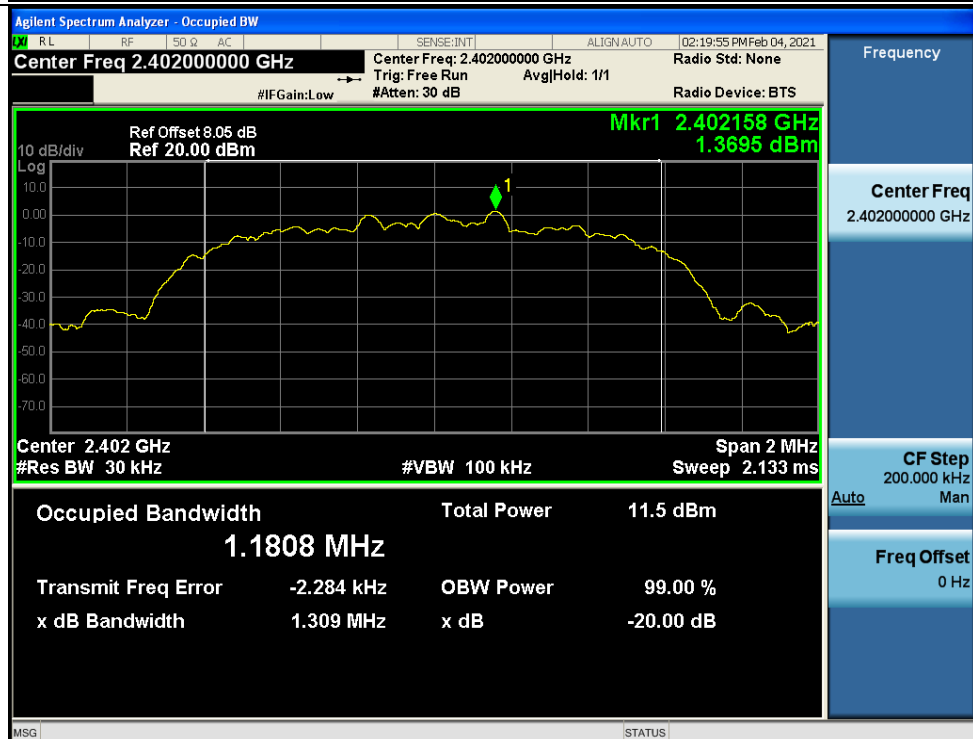
GFSK/HCH



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

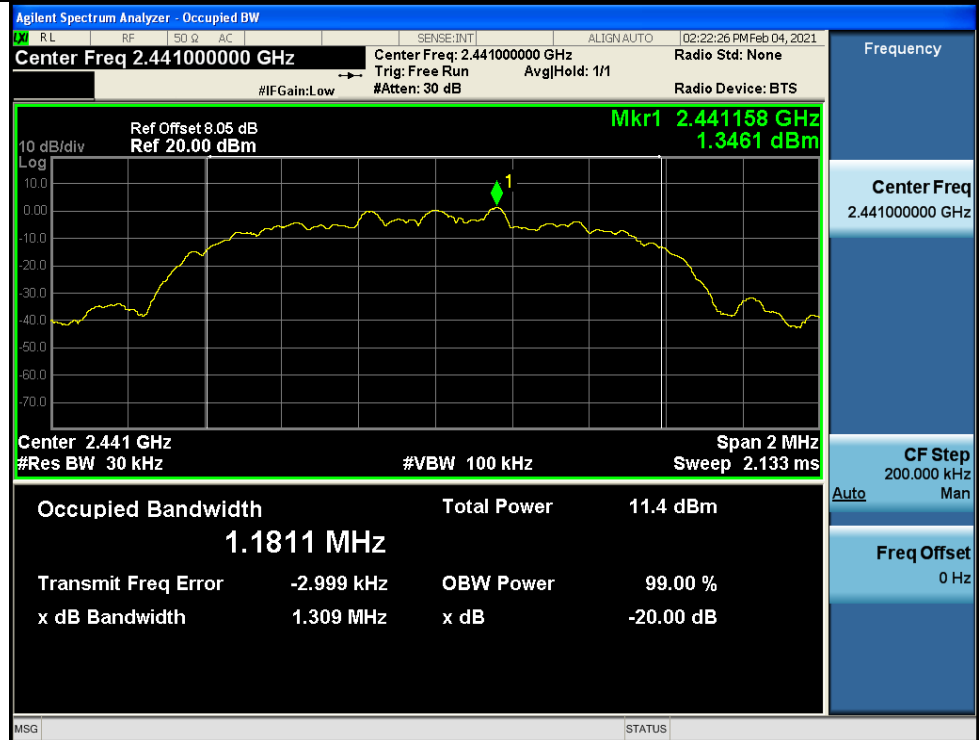
 $\pi/4$ DQPSK/HCH

8DPSK/LCH

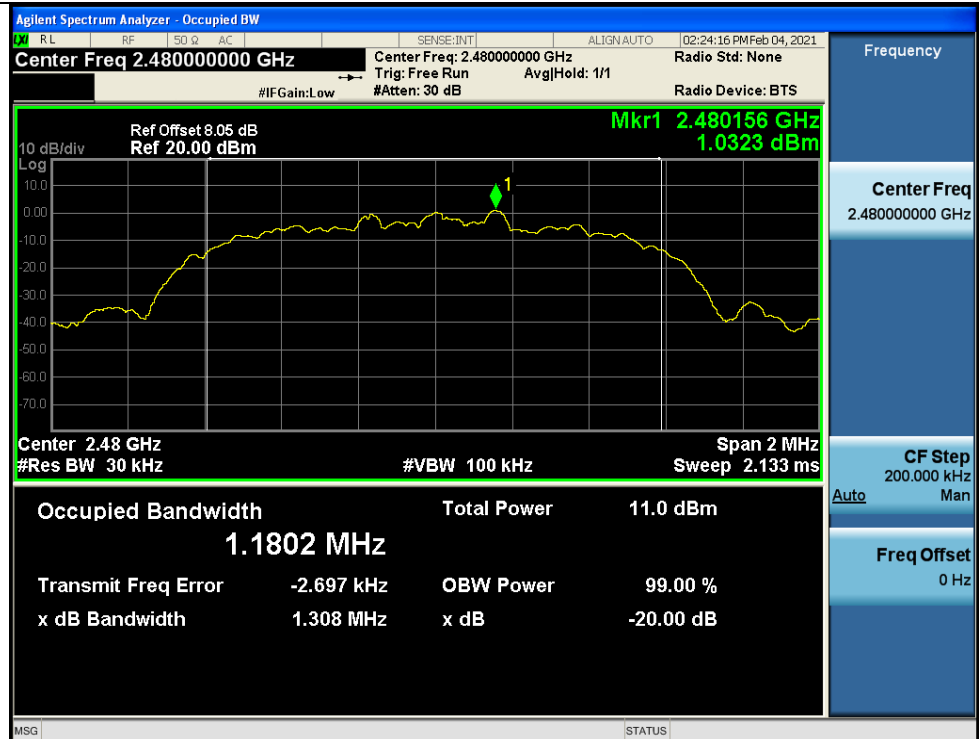




8DPSK/MCH



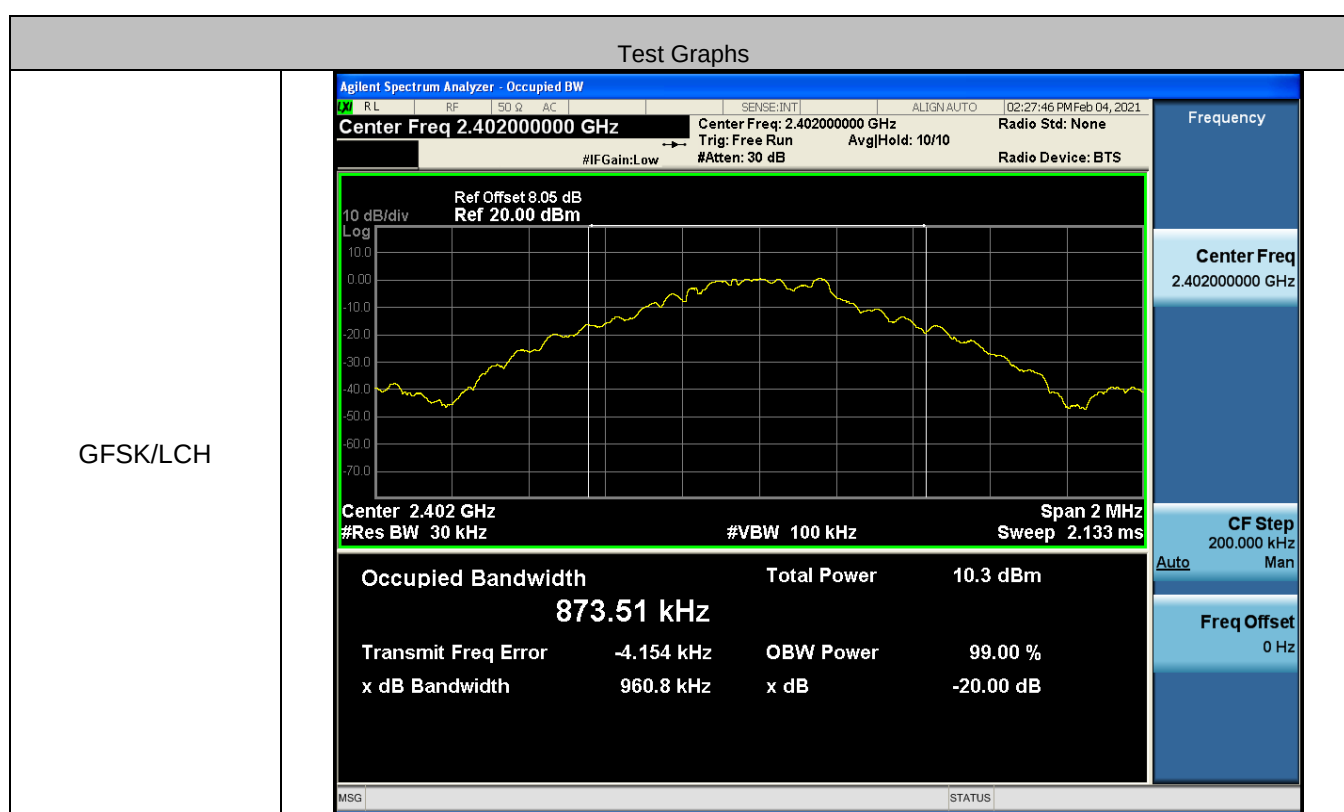
8DPSK/HCH





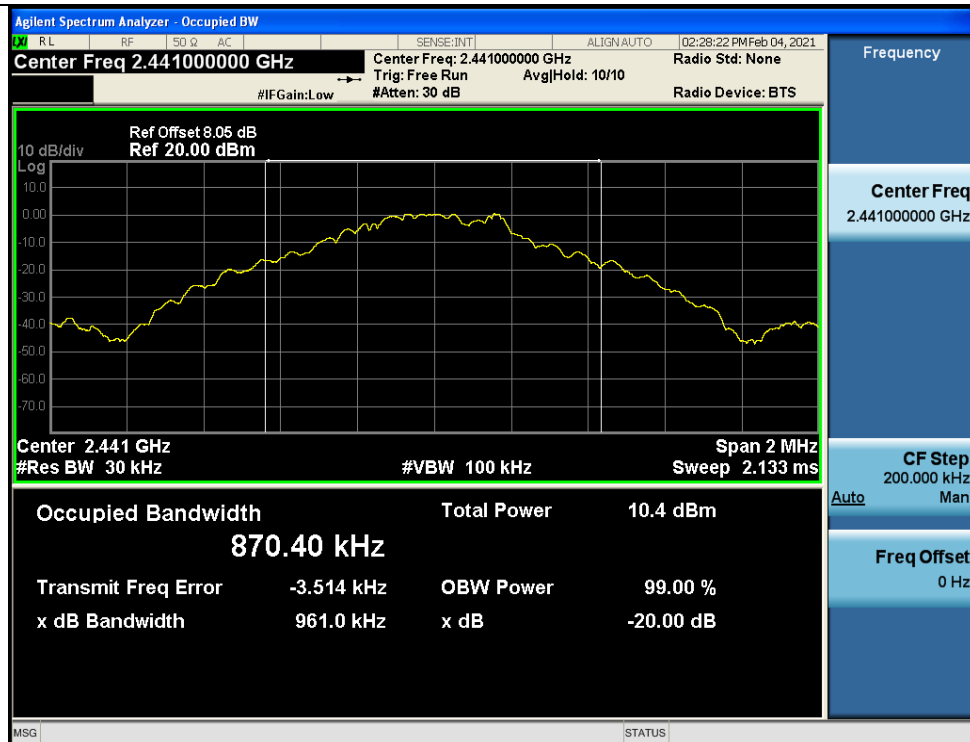
A.3 Occupied Bandwidth

Mode	Channel.	Occupied Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.87351	Not Specified	PASS
	MCH	0.87040	Not Specified	PASS
	HCH	0.86559	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.1908	Not Specified	PASS
	MCH	1.1907	Not Specified	PASS
	HCH	1.1903	Not Specified	PASS
8DPSK	LCH	1.1811	Not Specified	PASS
	MCH	1.1831	Not Specified	PASS
	HCH	1.1823	Not Specified	PASS





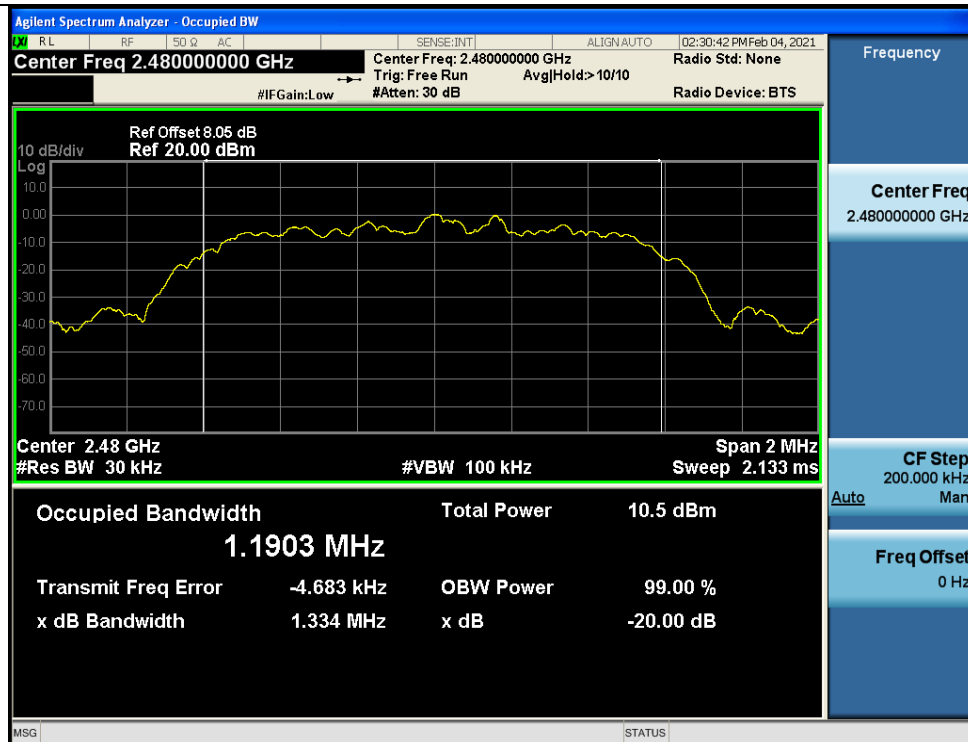
GFSK/MCH



GFSK/HCH



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

 $\pi/4$ DQPSK/HCH

8DPSK/LCH





8DPSK/MCH



8DPSK/HCH





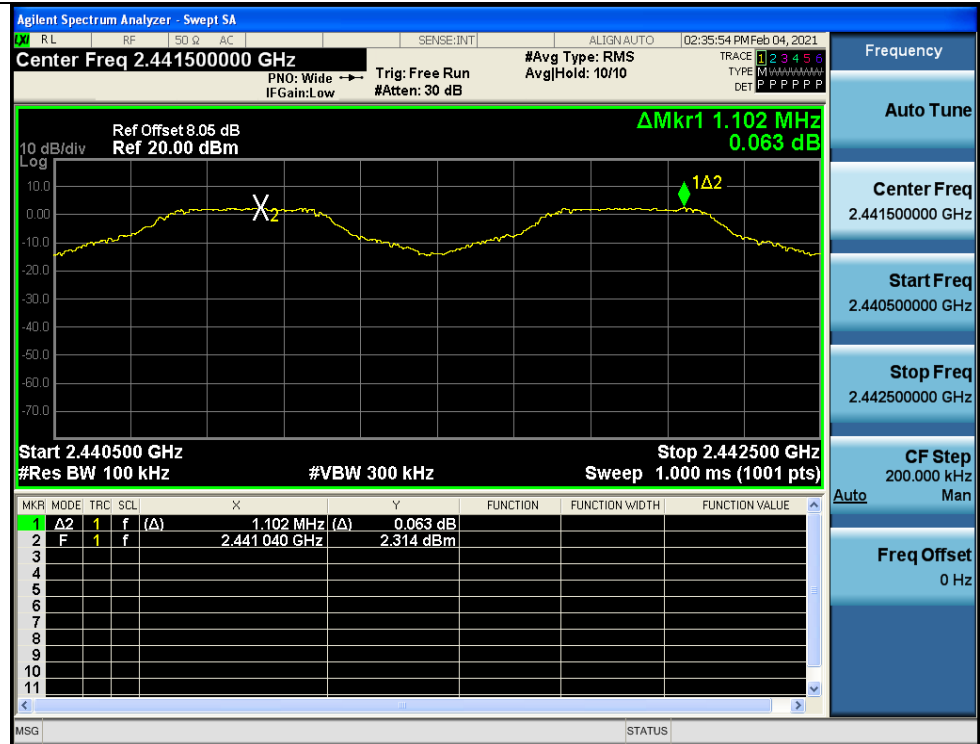
A.4 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.001	0.641	PASS
	MCH	1.102	0.641	PASS
	HCH	1.176	0.641	PASS
$\pi/4$ DQPSK	LCH	0.942	0.891	PASS
	MCH	0.992	0.891	PASS
	HCH	0.906	0.891	PASS
8DPSK	LCH	1.028	0.873	PASS
	MCH	1.030	0.873	PASS
	HCH	1.008	0.873	PASS

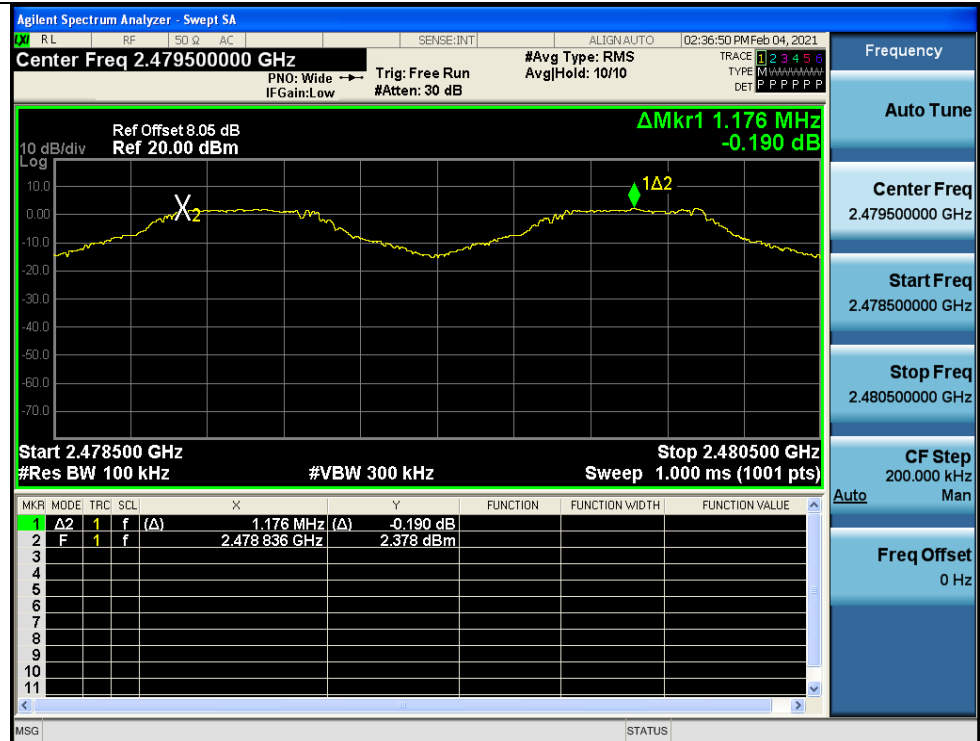


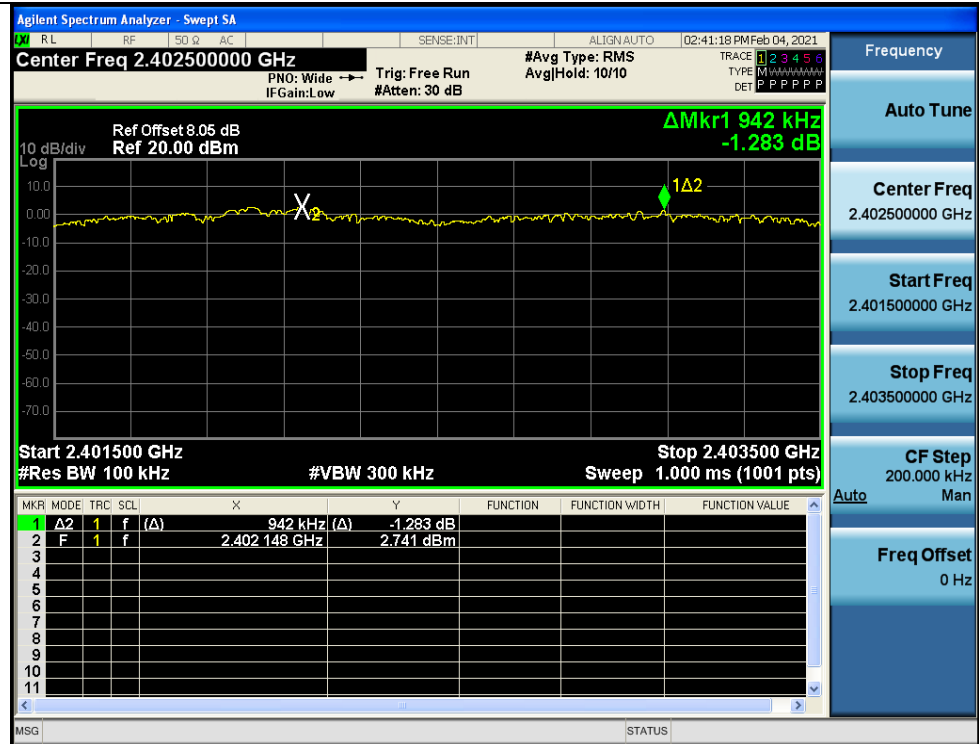
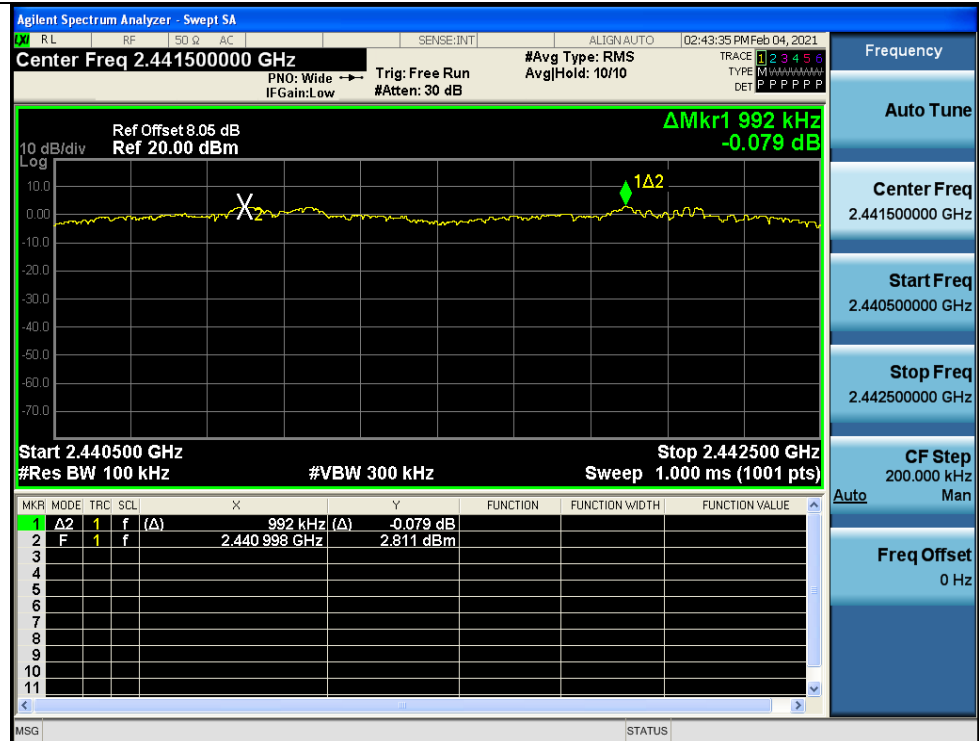


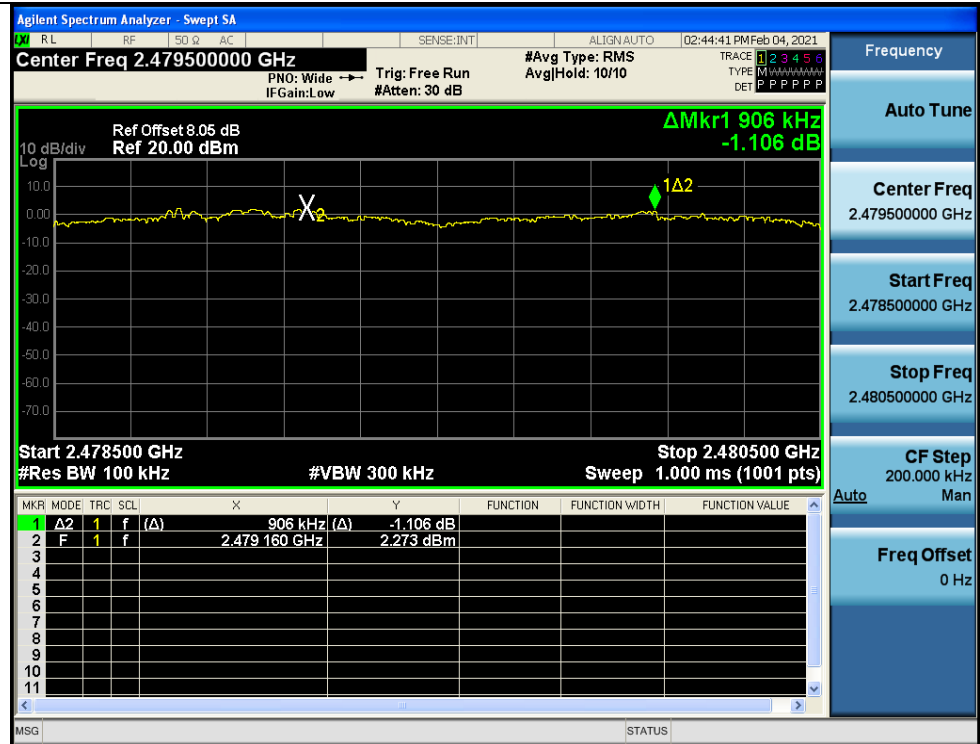
GFSK/MCH



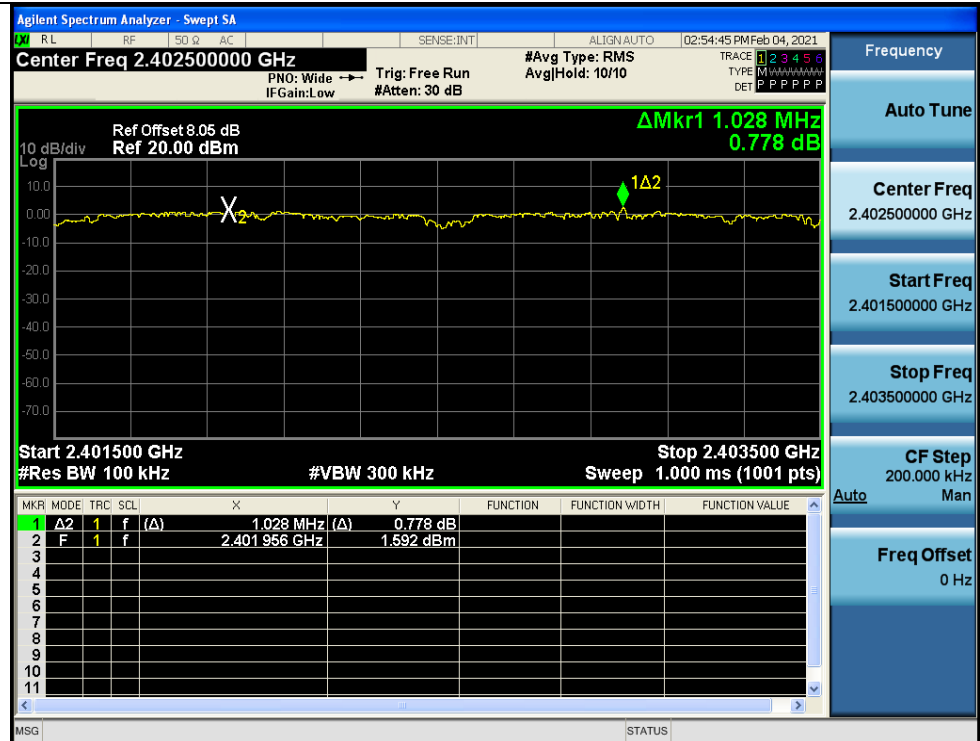
GFSK/HCH



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

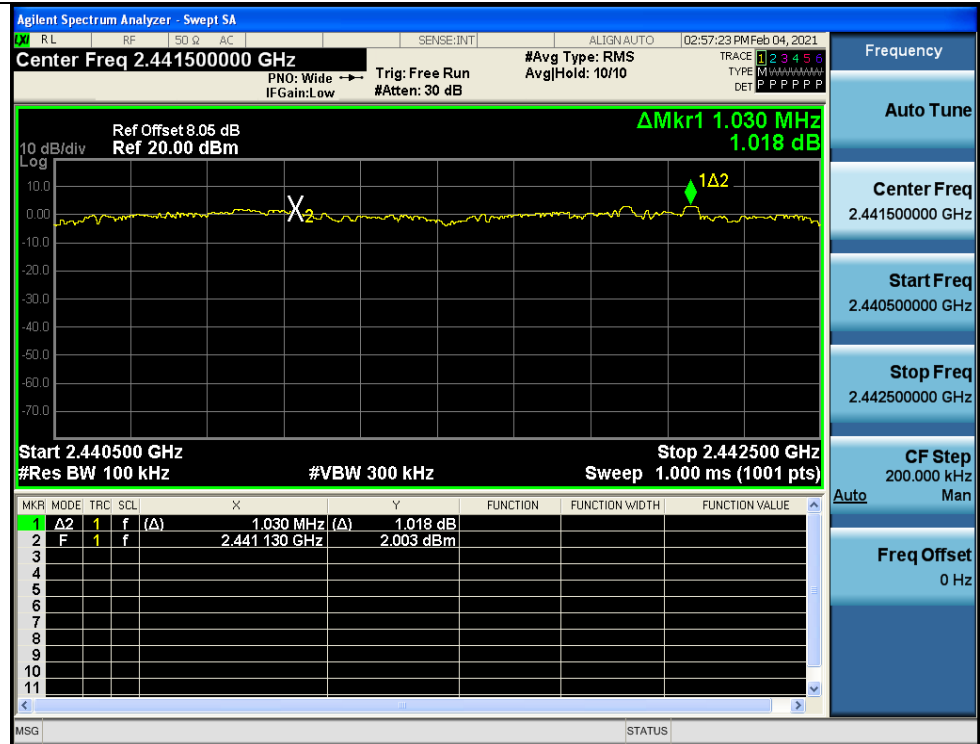
 $\pi/4$ DQPSK/HCH

8DPSK/LCH

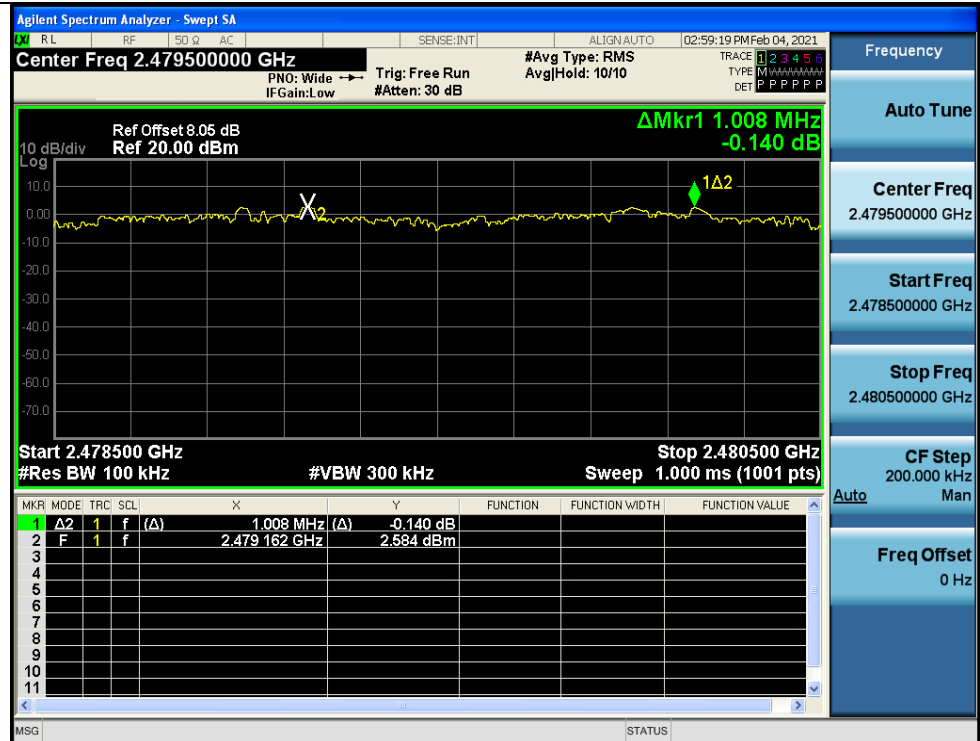




8DPSK/MCH



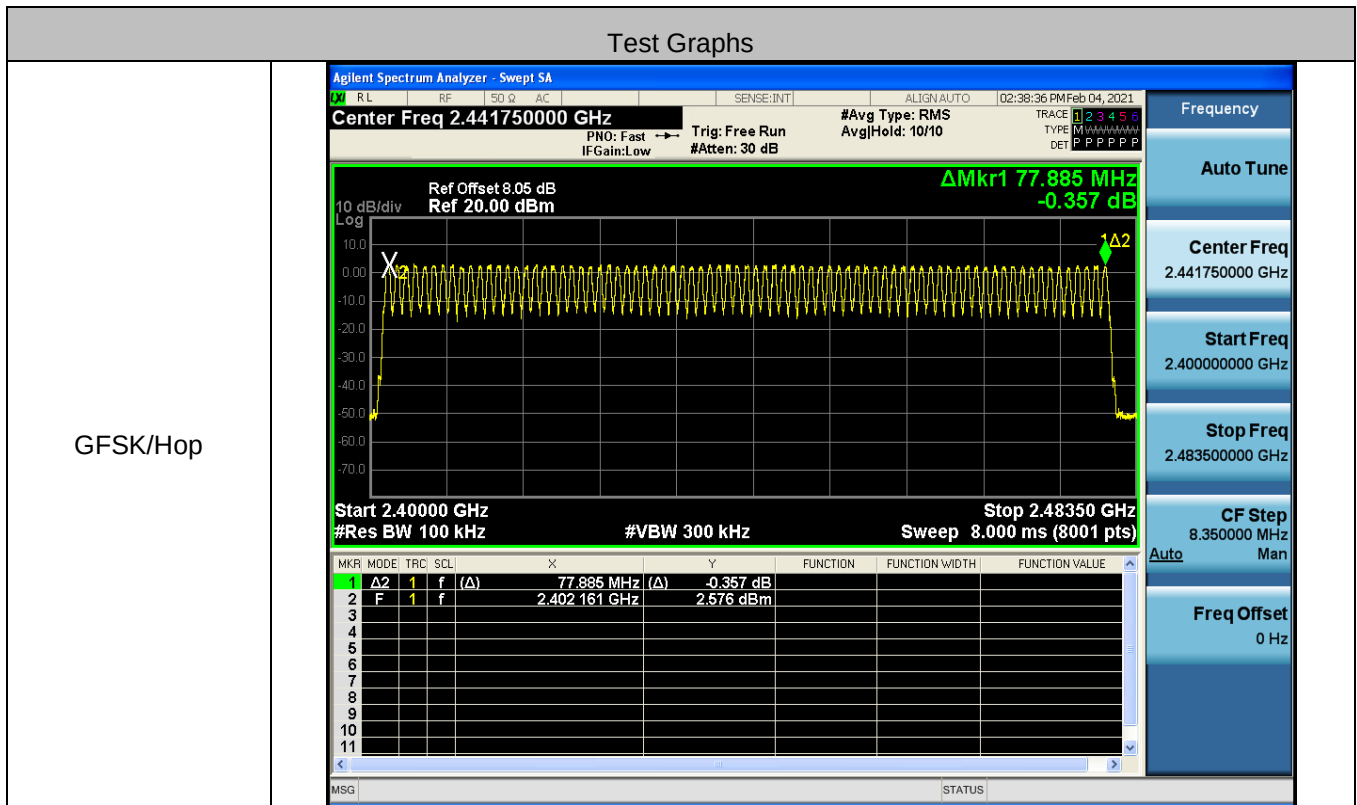
8DPSK/HCH

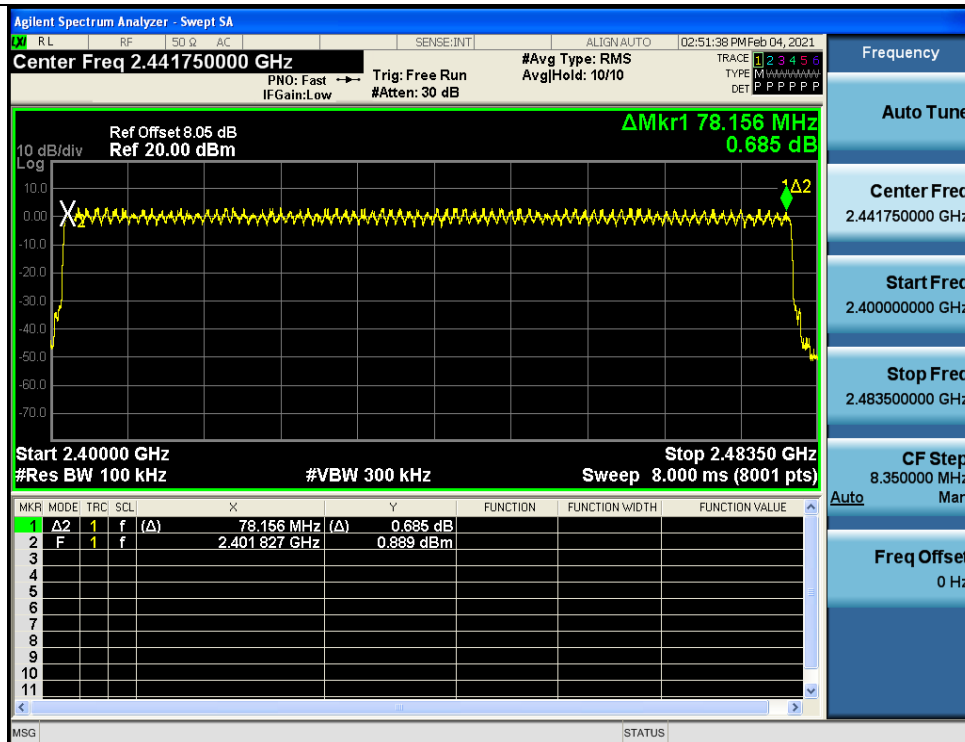




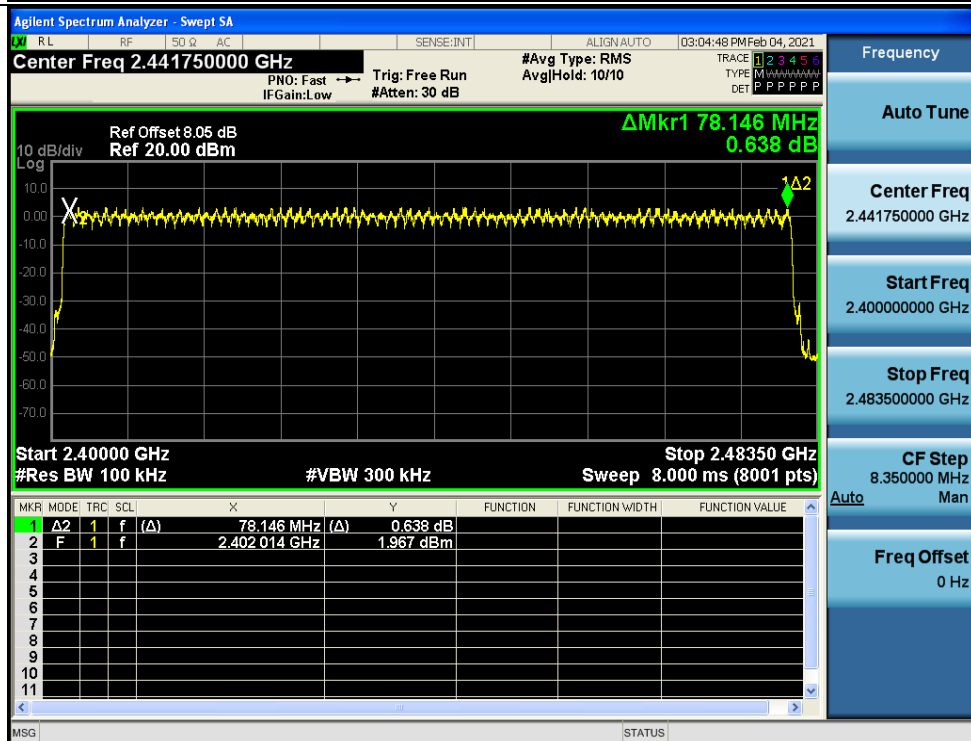
A.5 Hopping Channel Number

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



 $\pi/4$ DQPSK/Hop

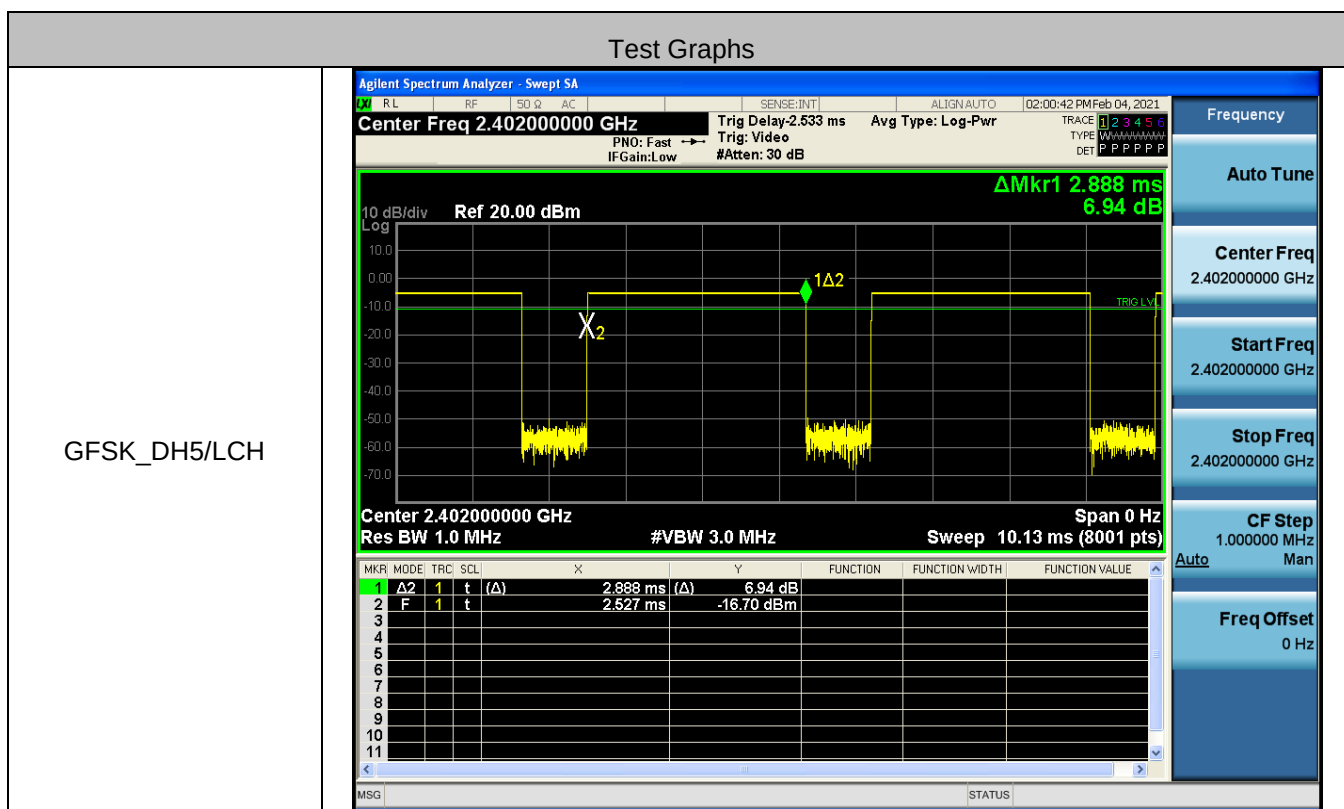
8DPSK/Hop





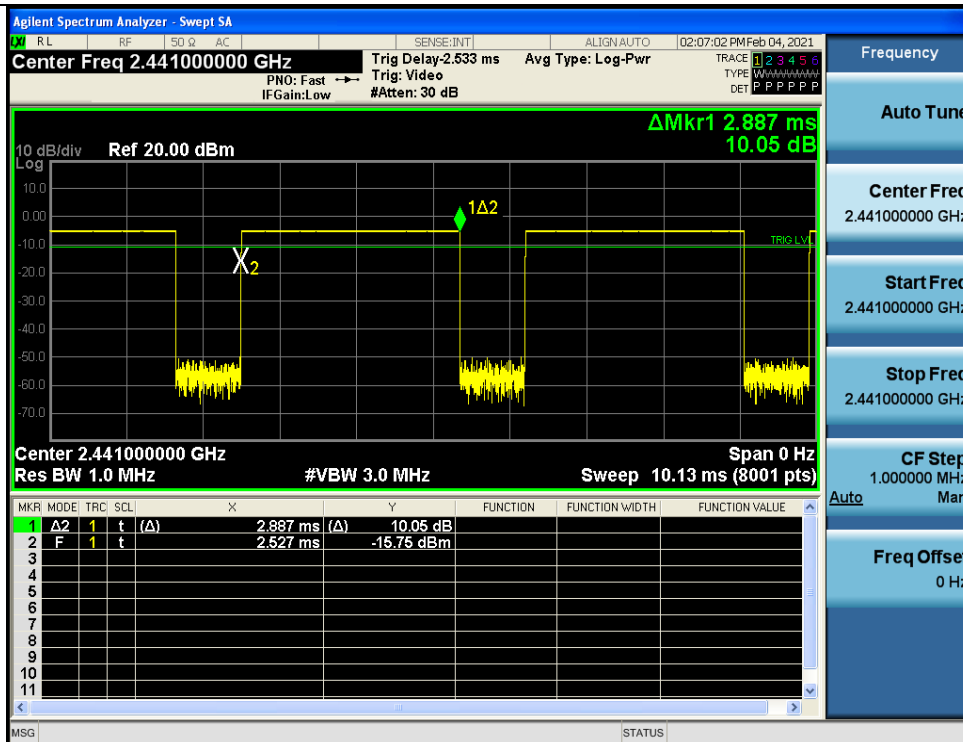
A.6 Dwell Time

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.89	106.7	0.308	0.4	PASS
	DH5	MCH	2.89	106.7	0.308	0.4	PASS
	DH5	HCH	2.89	106.7	0.308	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.89	106.7	0.308	0.4	PASS
	2DH5	MCH	2.89	106.7	0.308	0.4	PASS
	2DH5	HCH	2.89	106.7	0.308	0.4	PASS
8DPSK	3DH5	LCH	2.89	106.7	0.309	0.4	PASS
	3DH5	MCH	2.89	106.7	0.308	0.4	PASS
	3DH5	HCH	2.89	106.7	0.308	0.4	PASS

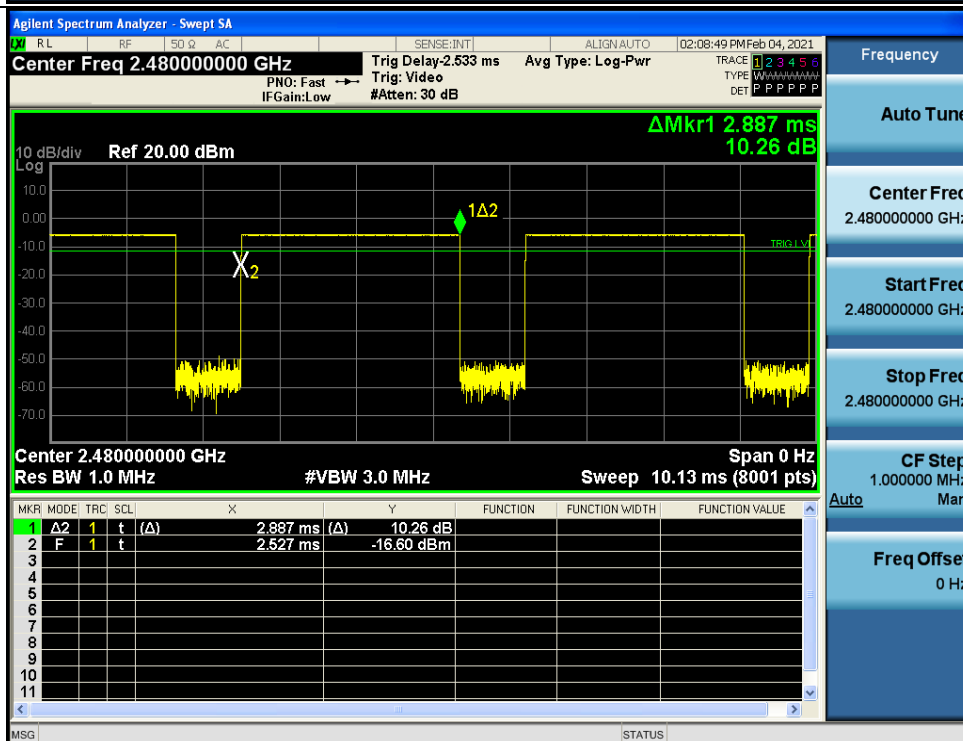




GFSK_DH5/MCH

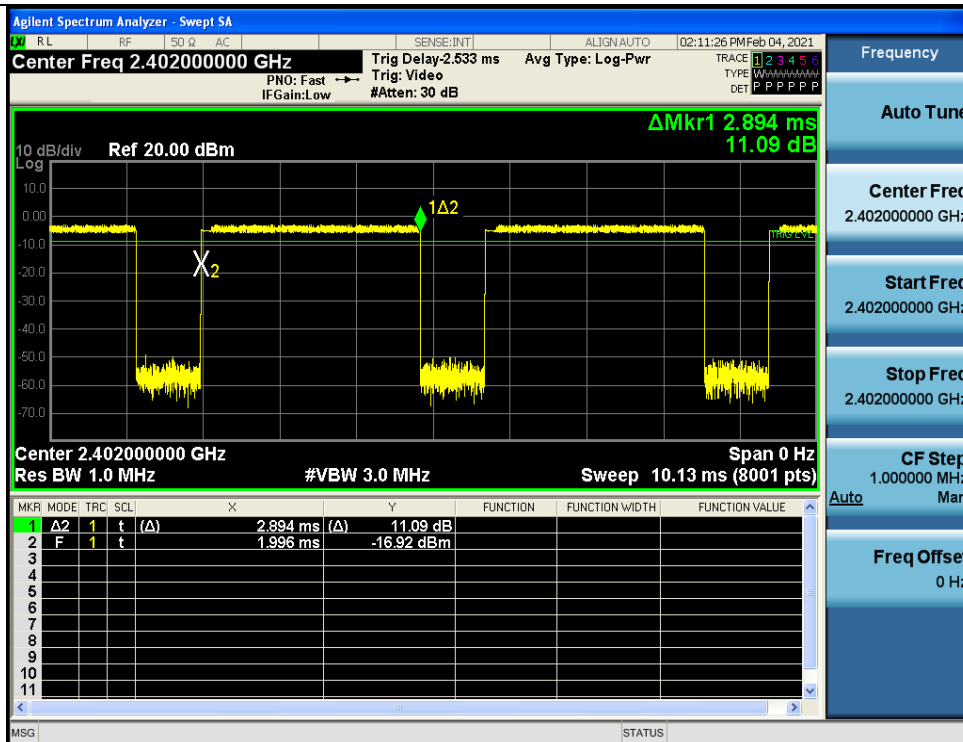


GFSK_DH5/HCH

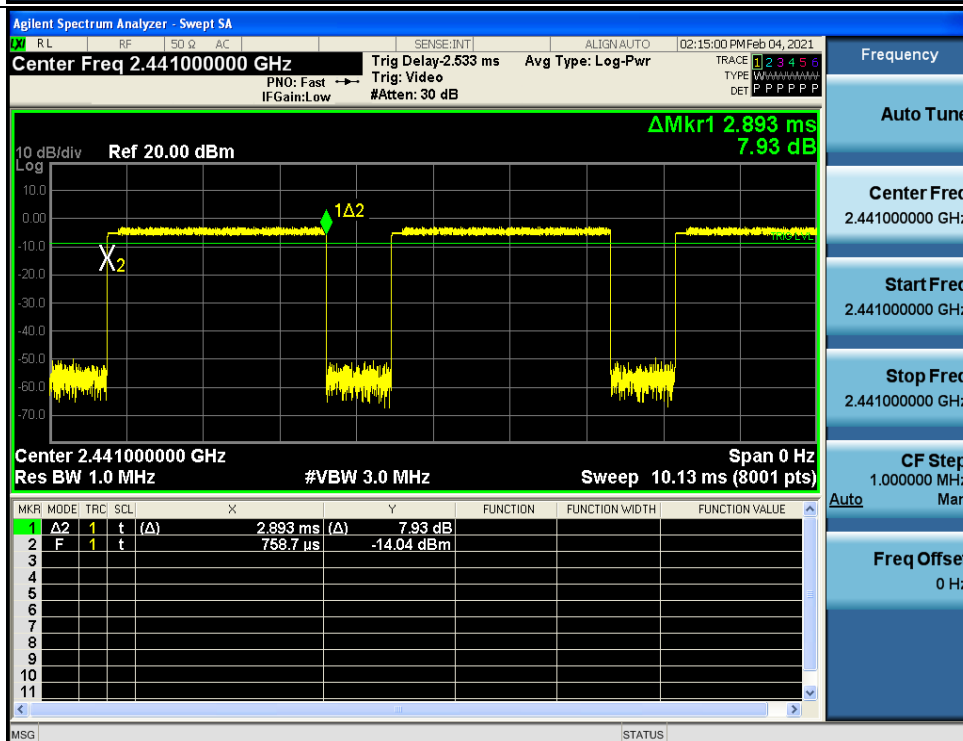




$\pi/4$ DQPSK
_2DH5/LCH

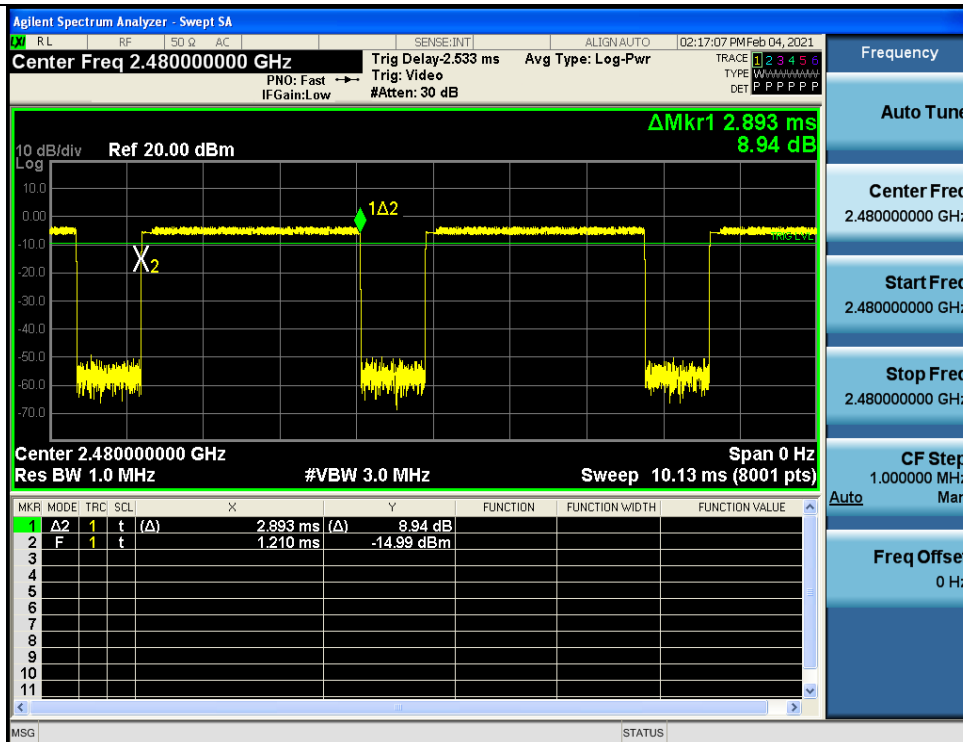


$\pi/4$ DQPSK
_2DH5/MCH

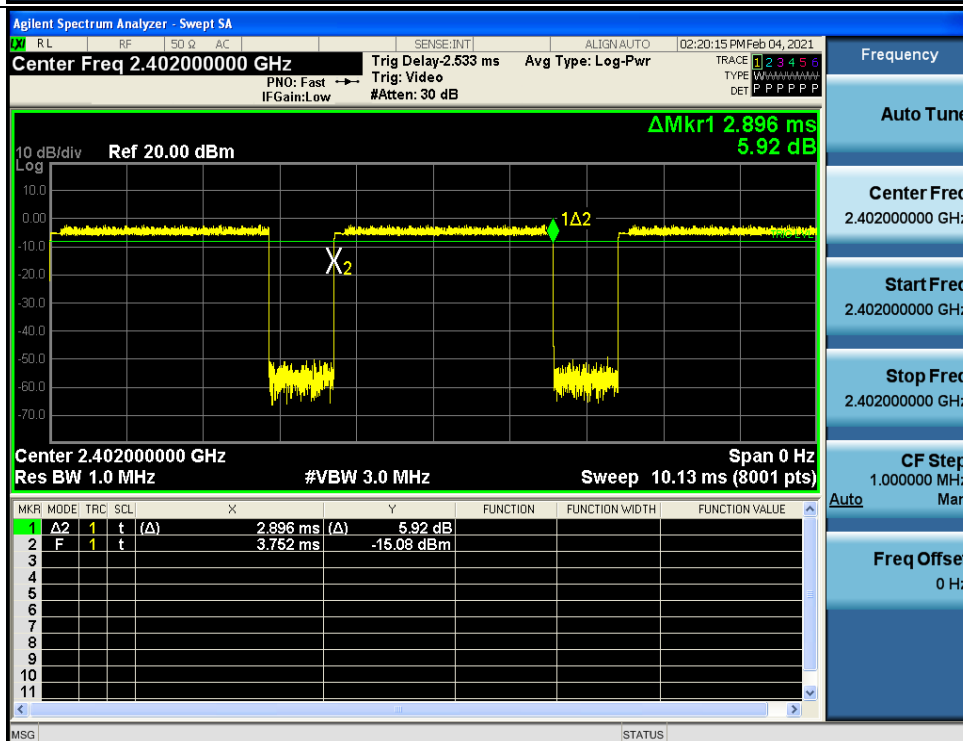




$\pi/4$ DQPSK
_2DH5/HCH

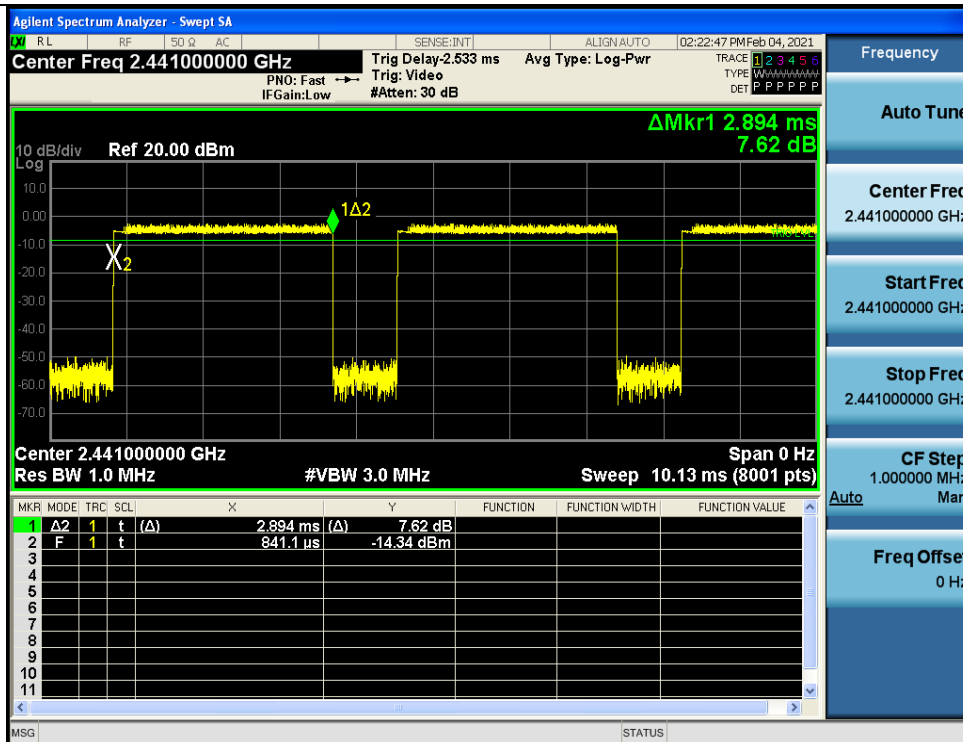


8DPSK _3DH5/LCH

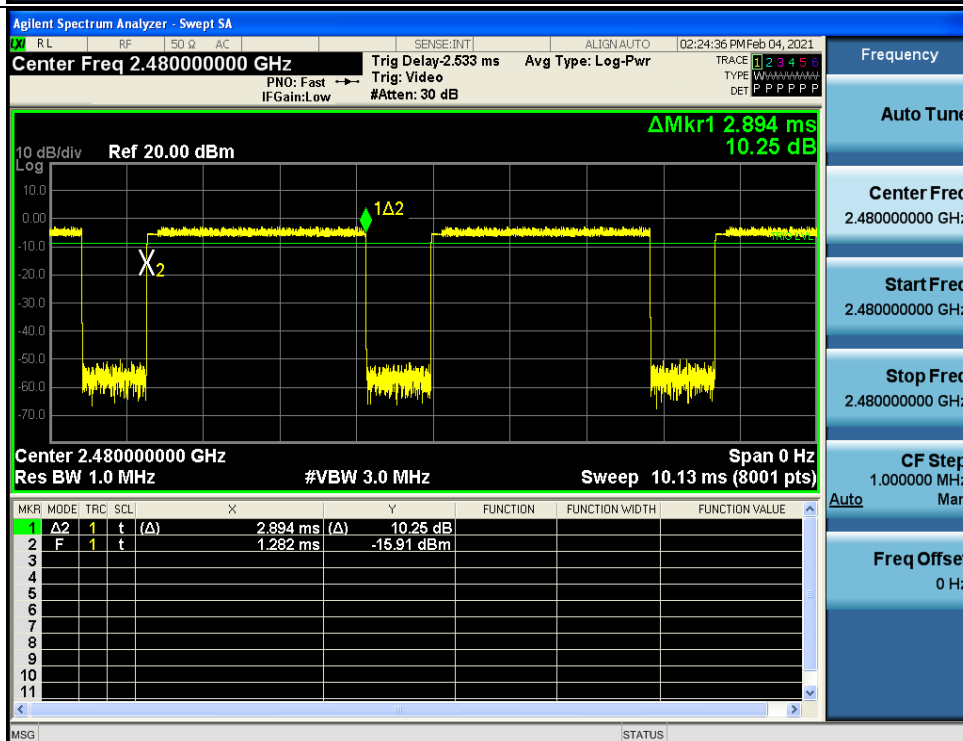




8DPSK_3DH5/MCH



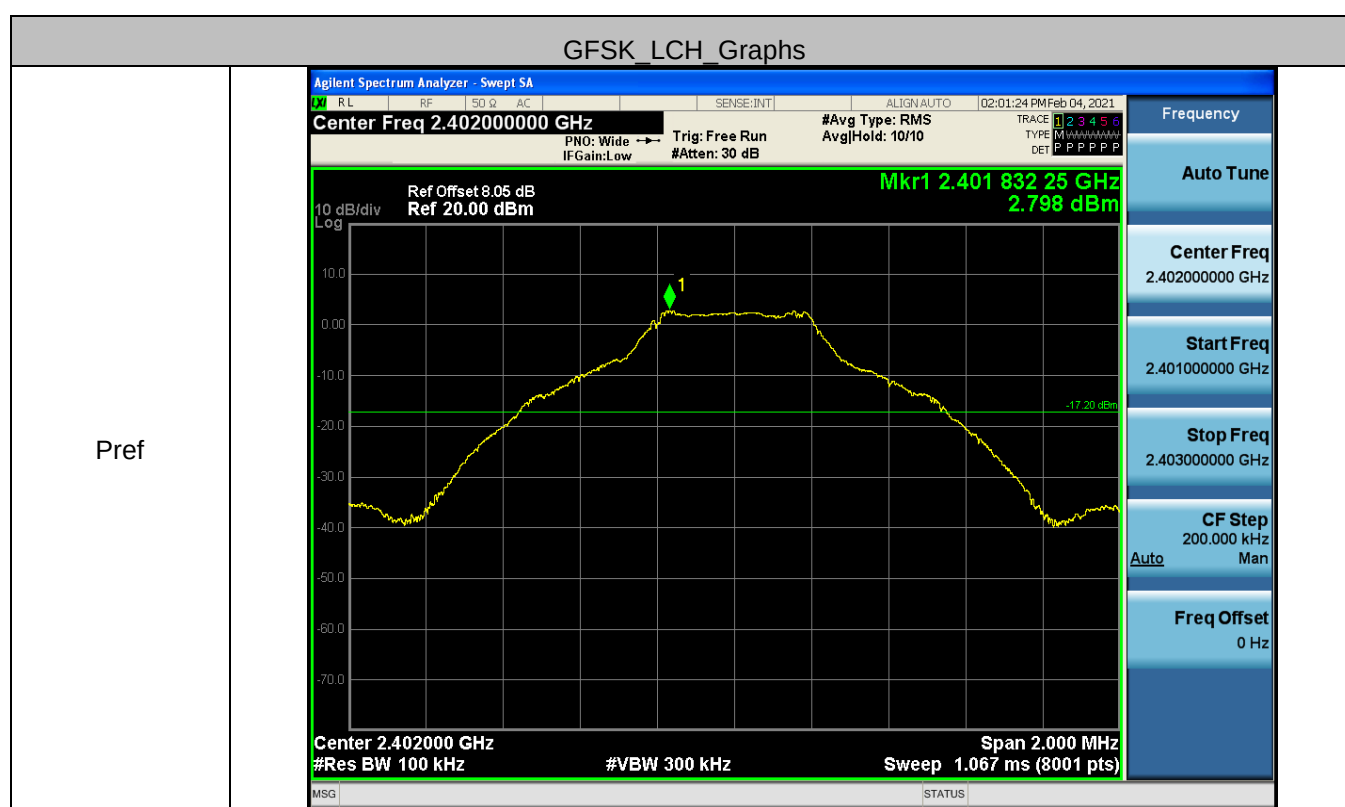
8DPSK_3DH5/HCH





A.7 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.798	-37.548	-17.202	PASS
	MCH	2.977	-37.802	-17.023	PASS
	HCH	2.418	-37.368	-17.582	PASS
$\pi/4$ DQPSK	LCH	2.459	-37.211	-17.541	PASS
	MCH	2.945	-35.230	-17.055	PASS
	HCH	2.378	-37.250	-17.622	PASS
8DPSK	LCH	2.898	-37.896	-17.102	PASS
	MCH	2.887	-38.050	-17.113	PASS
	HCH	2.575	-36.779	-17.425	PASS





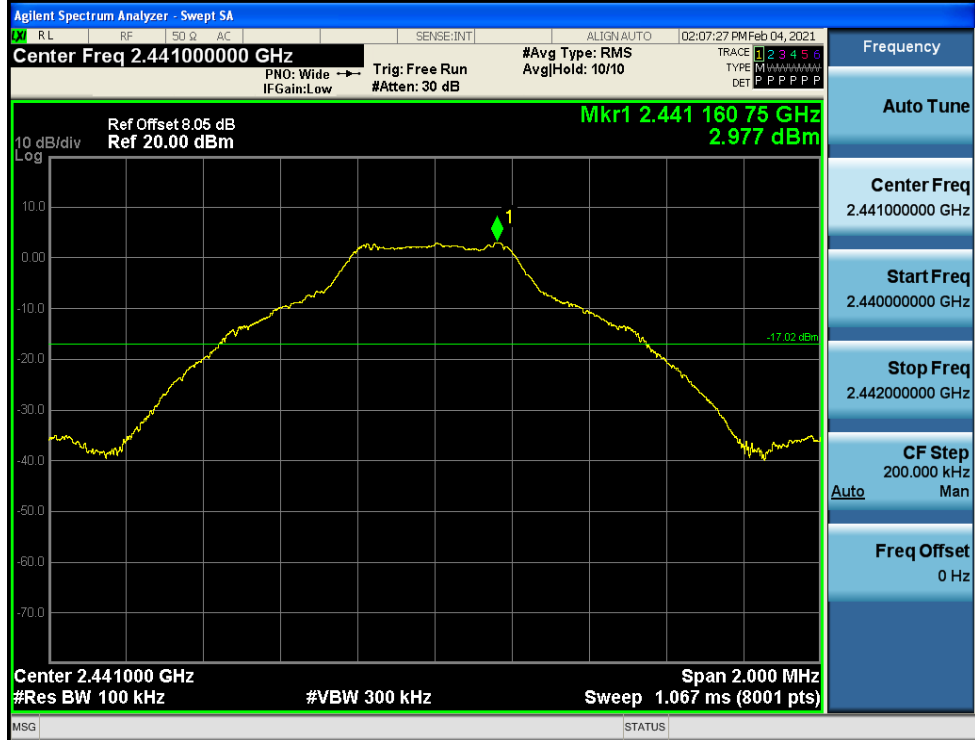
Puw





GFSK MCH Graphs

Pref



Puw



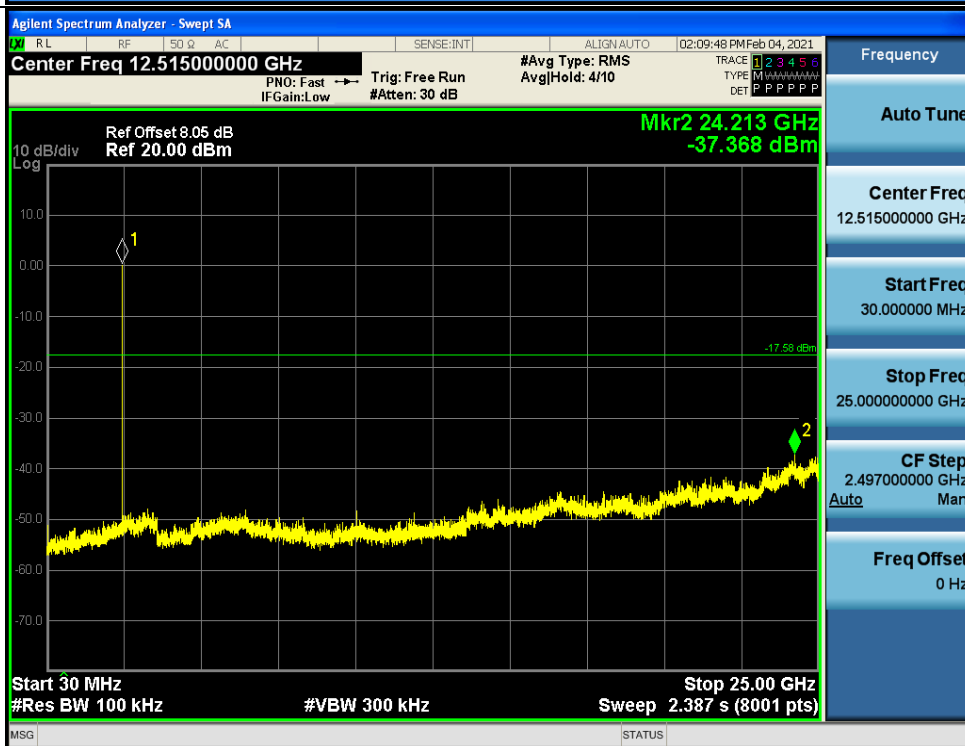


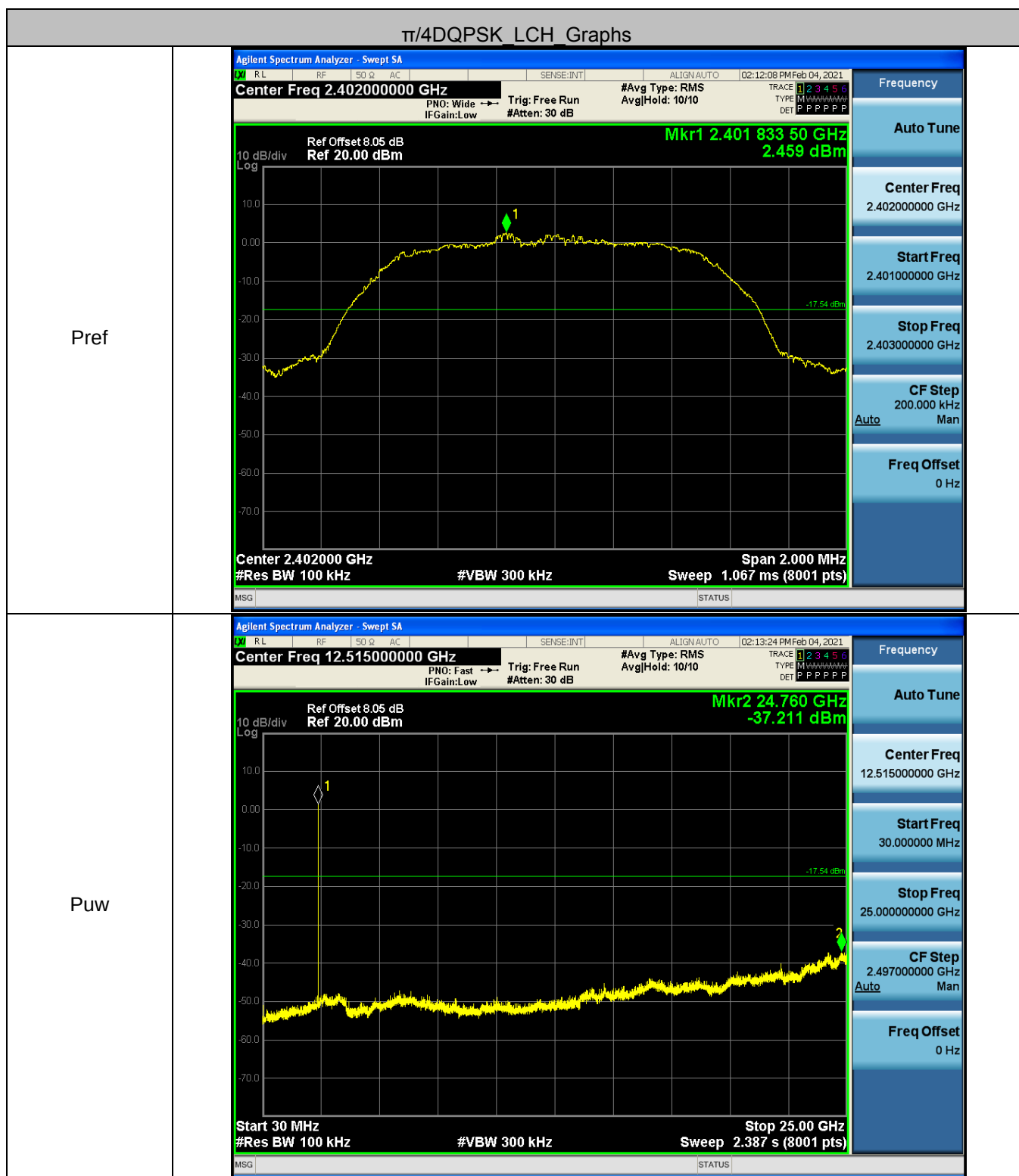
GFSK HCH Graphs

Pref



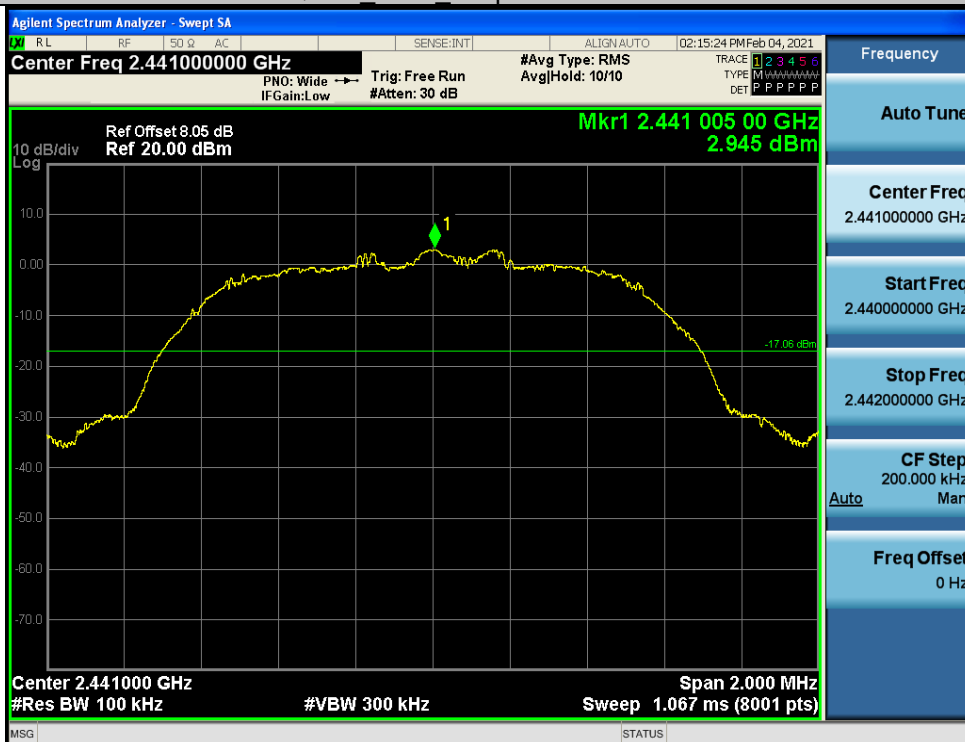
Puw





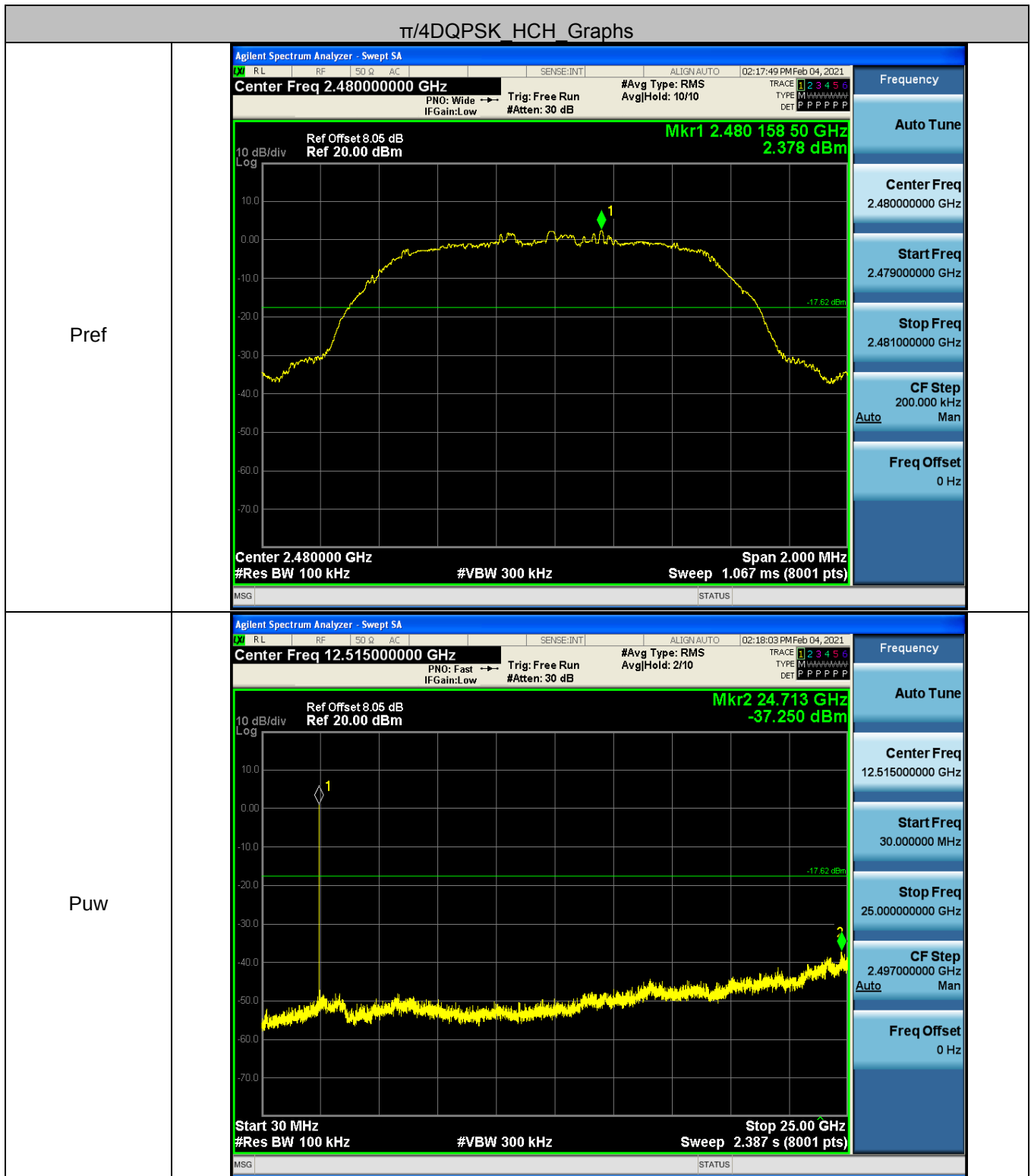
 $\pi/4$ DQPSK MCH Graphs

Pref



Puw







8DPSK LCH Graphs

Pref



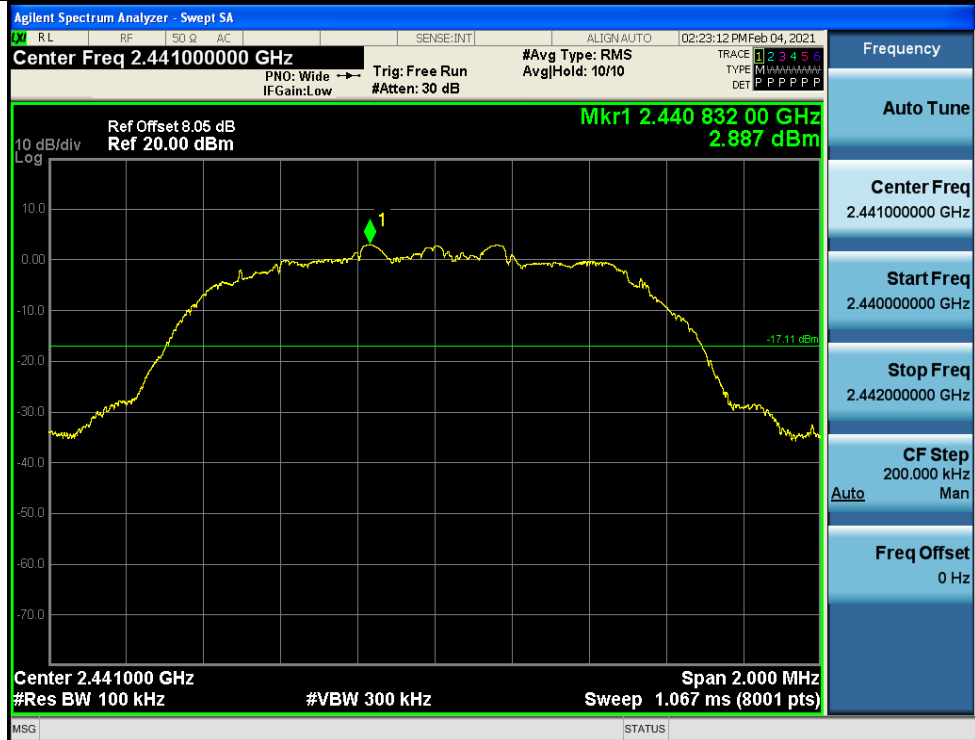
Puw





8DPSK MCH Graphs

Pref



Puw





8DPSK HCH Graphs

Pref



Puw





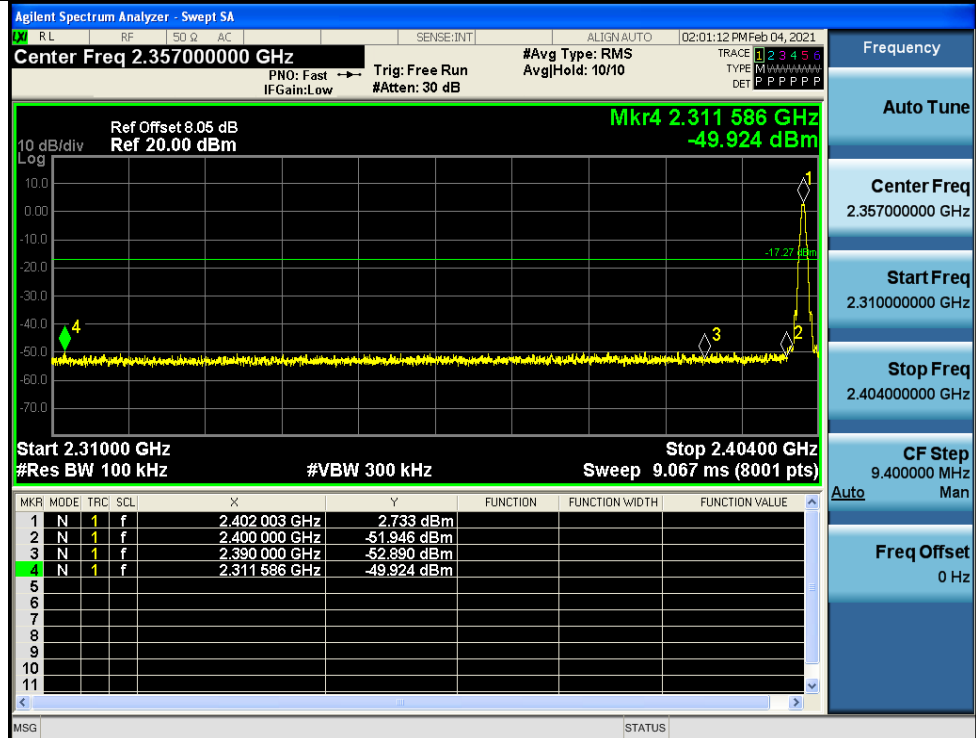
A.8 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	2.733	Off	-49.924	-17.27	PASS
			3.048	On	-48.684	-16.95	PASS
	HCH	2480	2.430	Off	-48.697	-17.57	PASS
			2.785	On	-48.875	-17.22	PASS
$\pi/4$ DQPSK	LCH	2402	2.831	Off	-49.673	-17.17	PASS
			2.997	On	-48.423	-17.00	PASS
	HCH	2480	2.538	Off	-48.509	-17.46	PASS
			2.816	On	-48.300	-17.18	PASS
8DPSK	LCH	2402	2.986	Off	-48.088	-17.01	PASS
			3.250	On	-48.526	-16.75	PASS
	HCH	2480	2.707	Off	-46.540	-17.29	PASS
			3.091	On	-47.785	-16.91	PASS

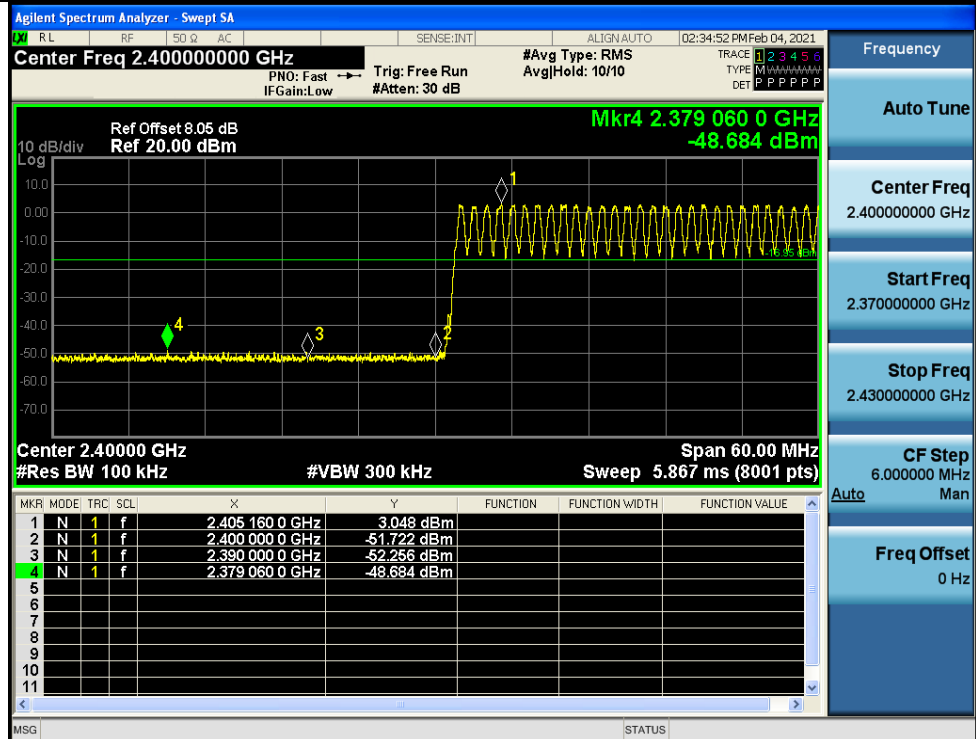


Test Graphs

GFSK/LCH/No Hop

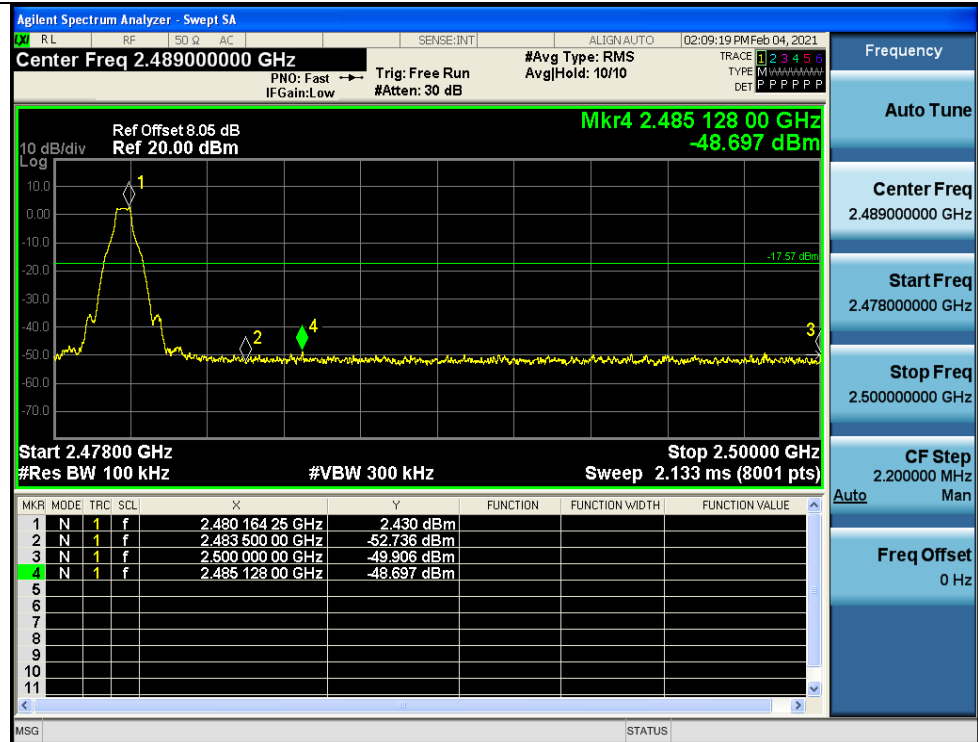


GFSK/LCH/Hop

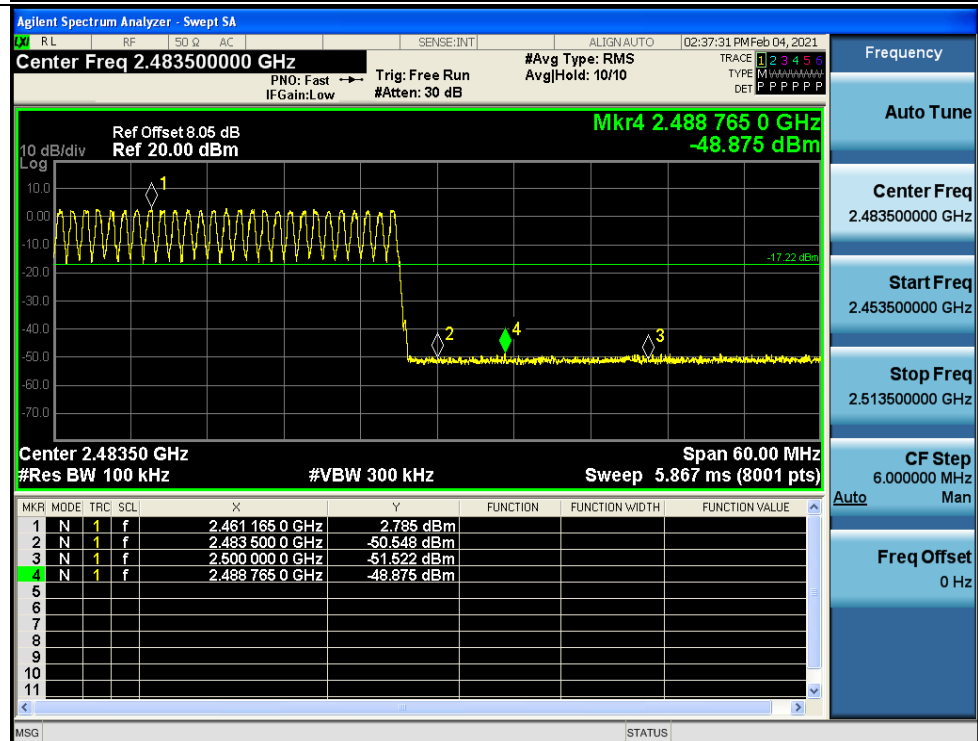




GFSK/HCH/No Hop

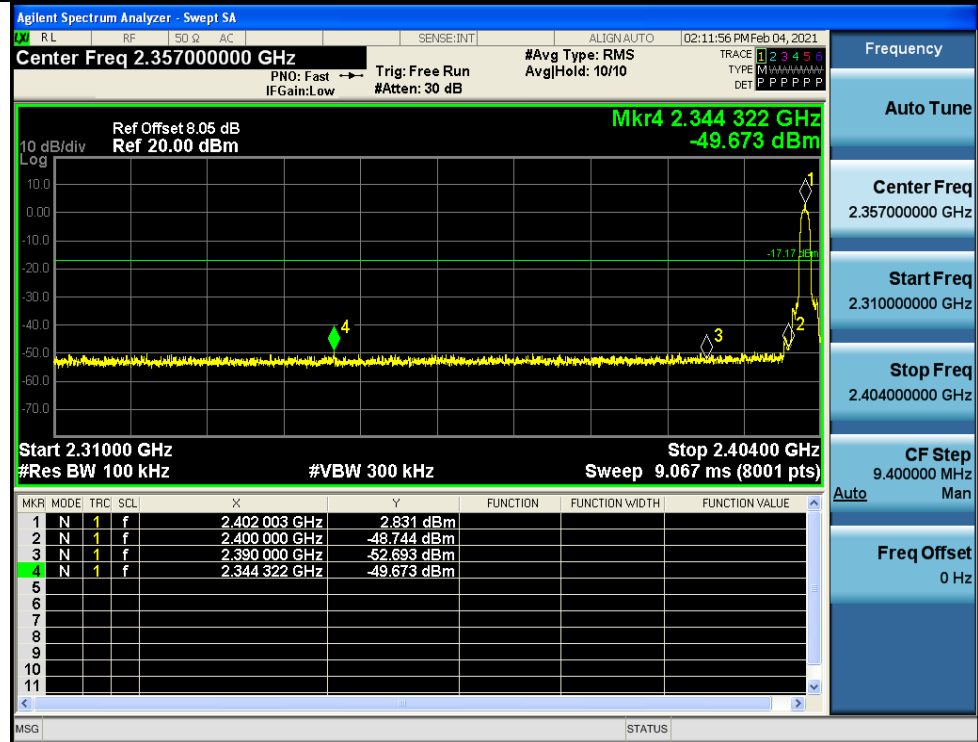


GFSK/HCH/Hop

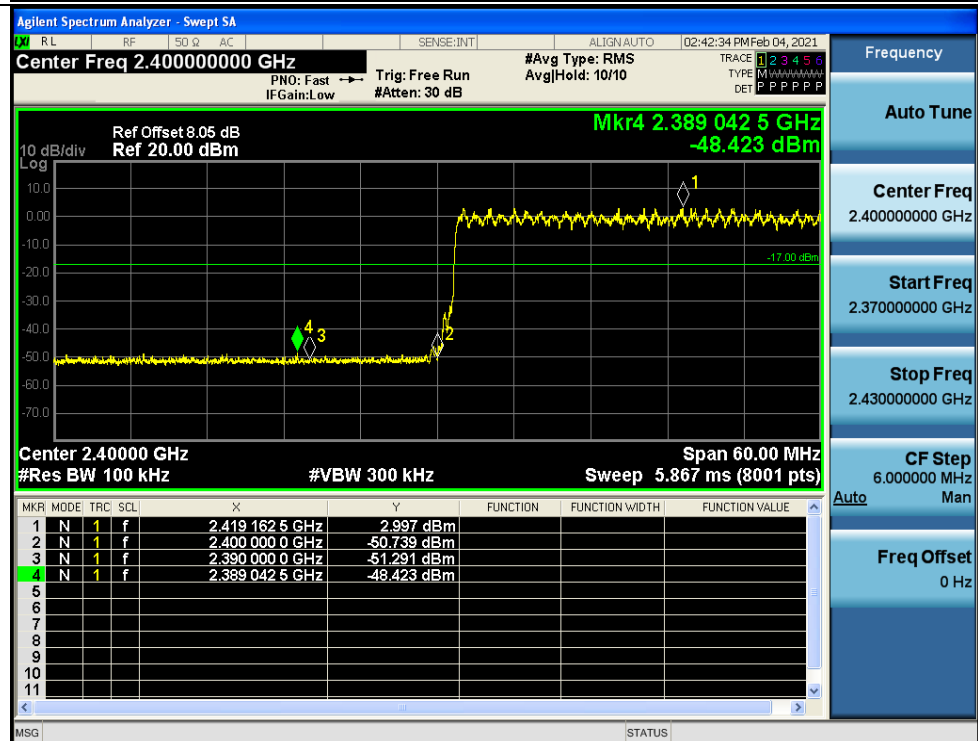




$\pi/4$ DQPSK/LCH/No
Hop

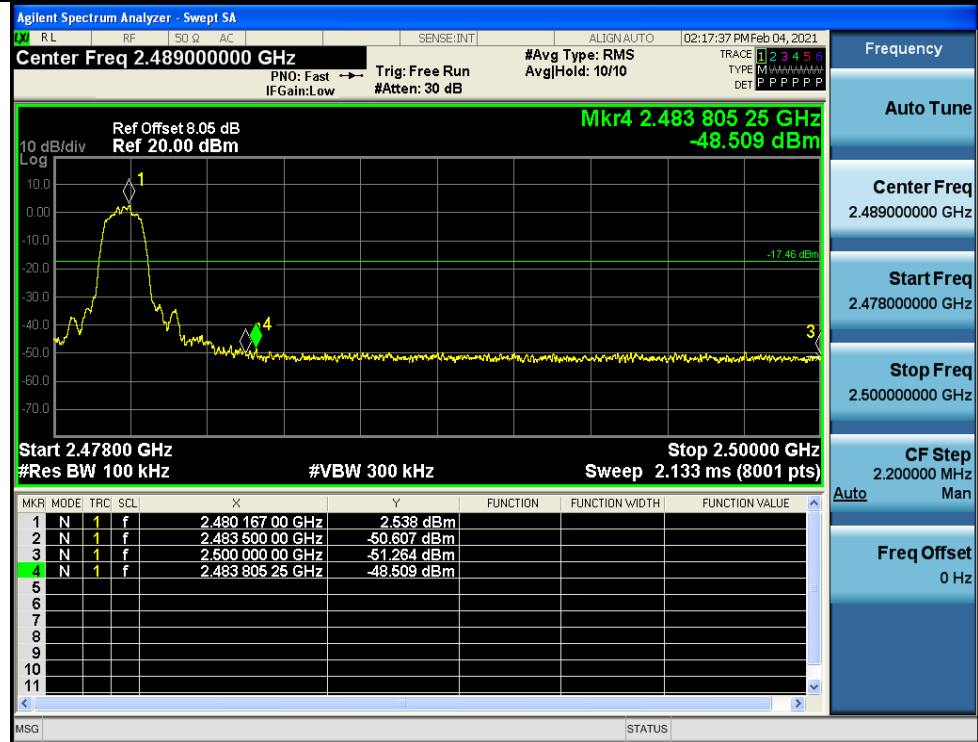


$\pi/4$ DQPSK/LCH/Hop

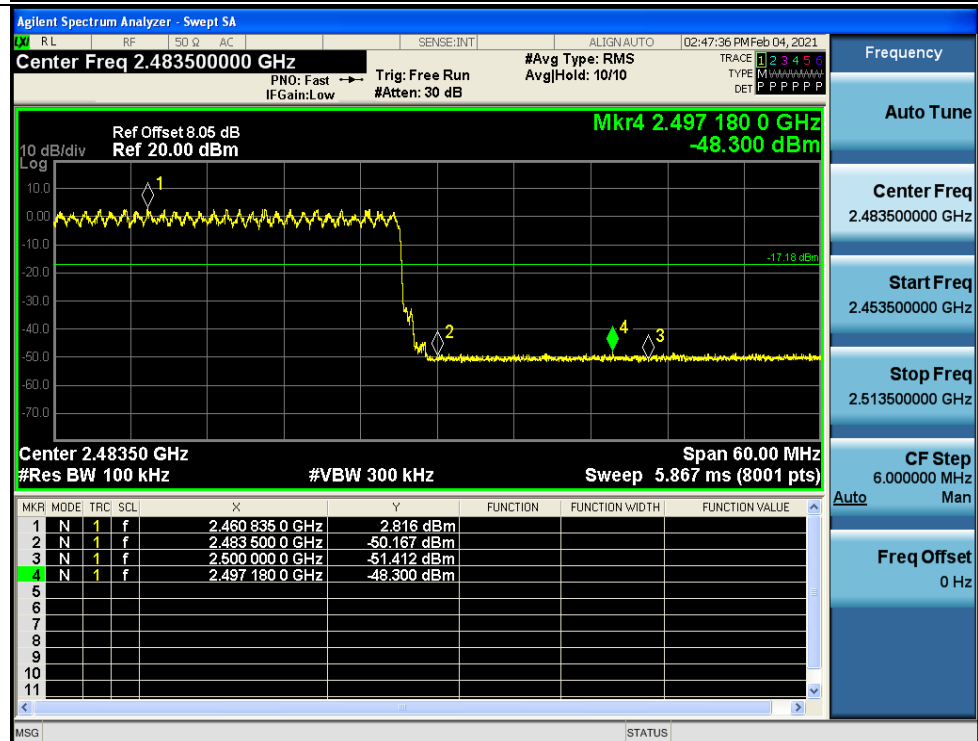




$\pi/4$ DQPSK/HCH/No
Hop

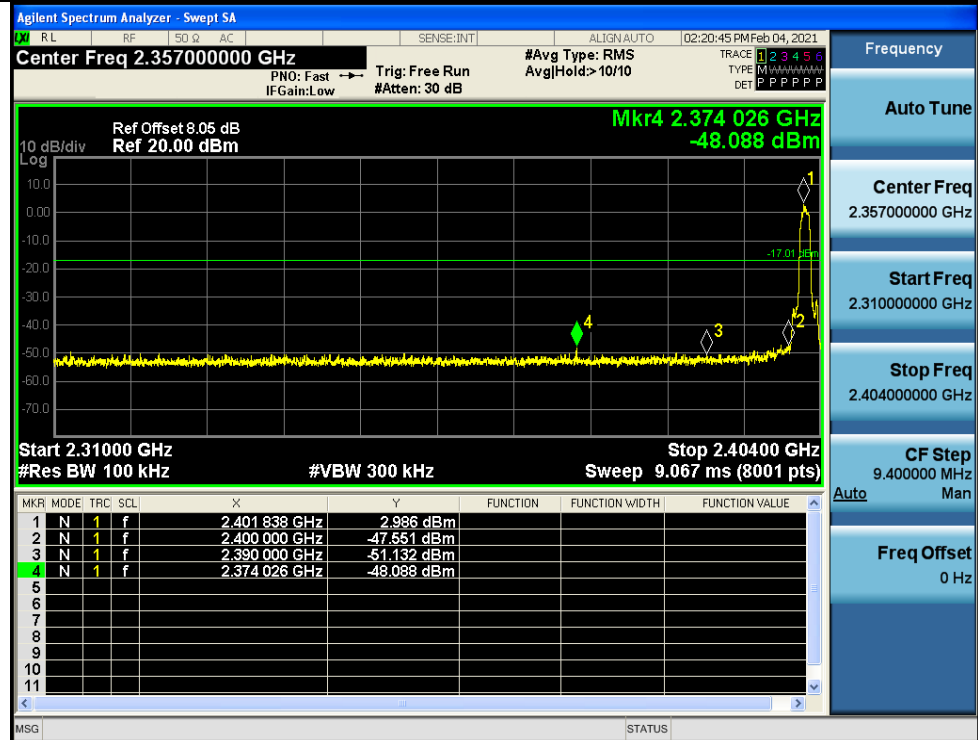


$\pi/4$ DQPSK/HCH/Hop

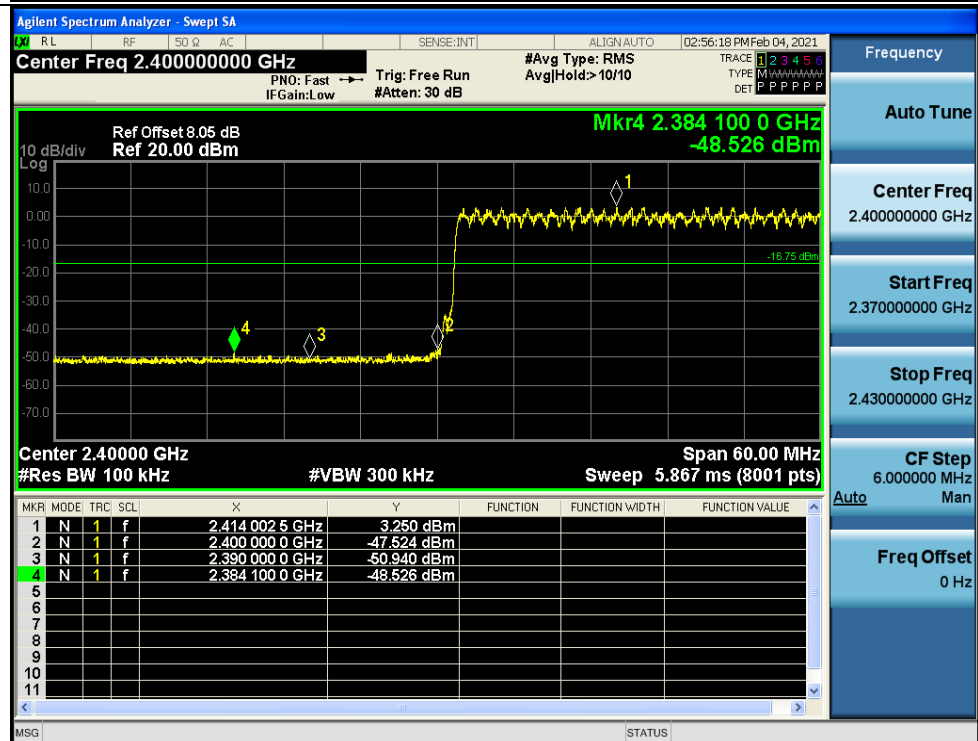




8DPSK/LCH/No Hop

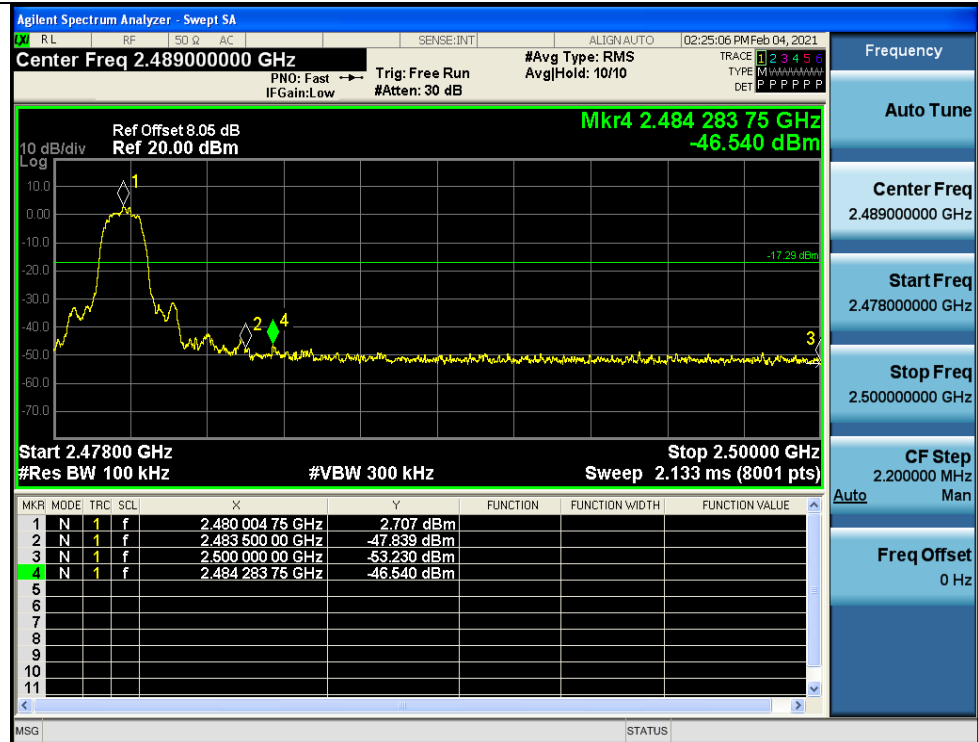


8DPSK/LCH/Hop

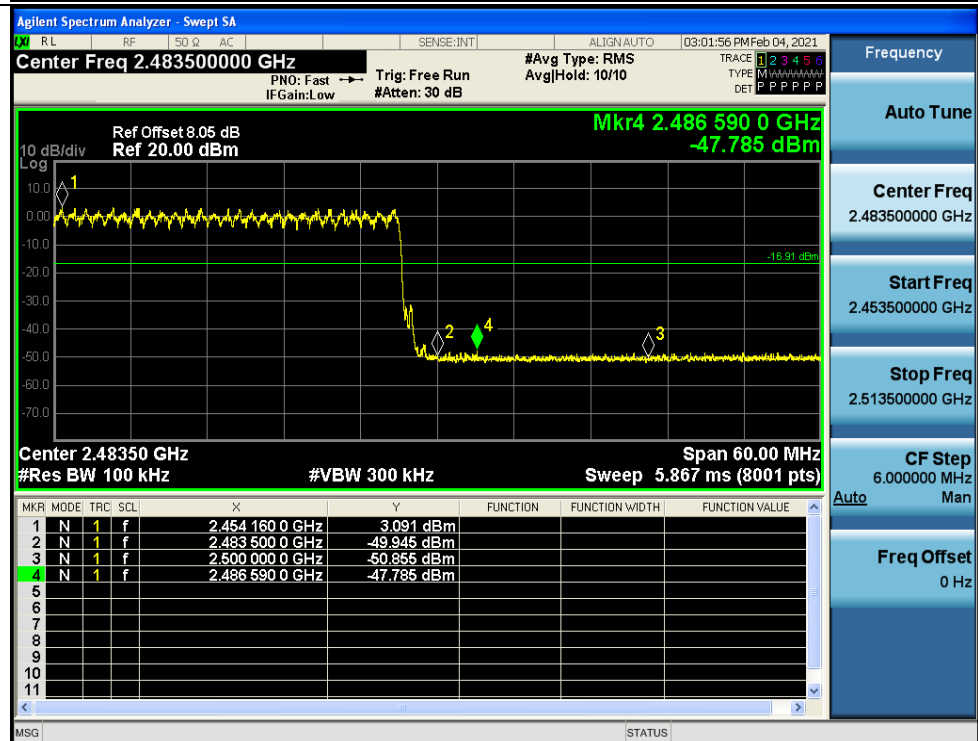




8DPSK/HCH/No Hop



8DPSK/HCH/Hop

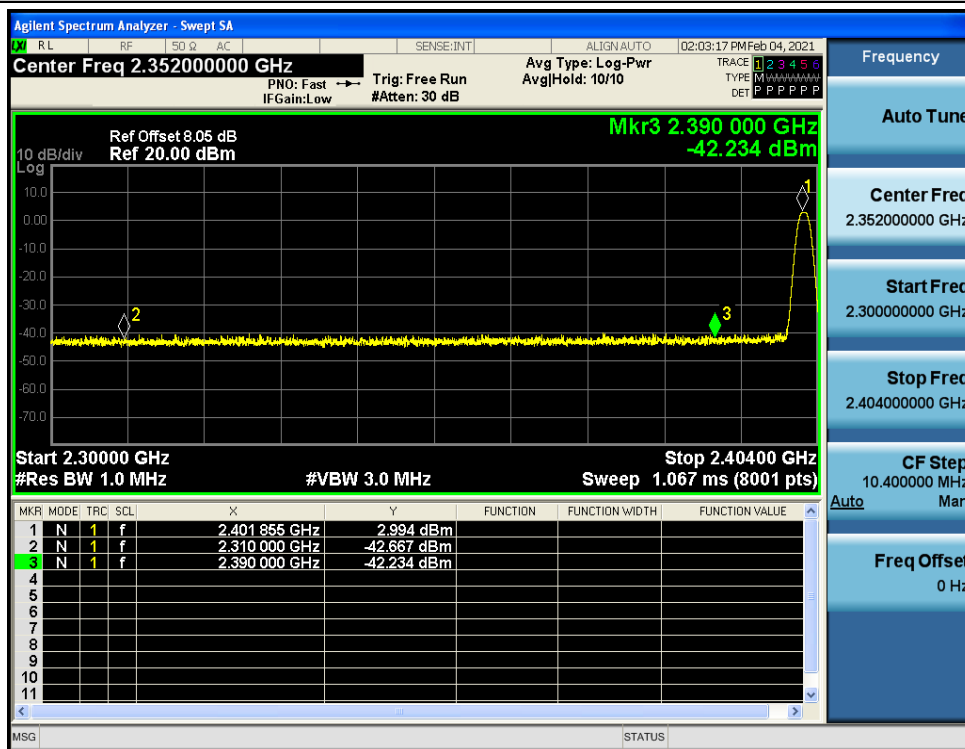


**A.8 Restrict-band band-edge measurements**

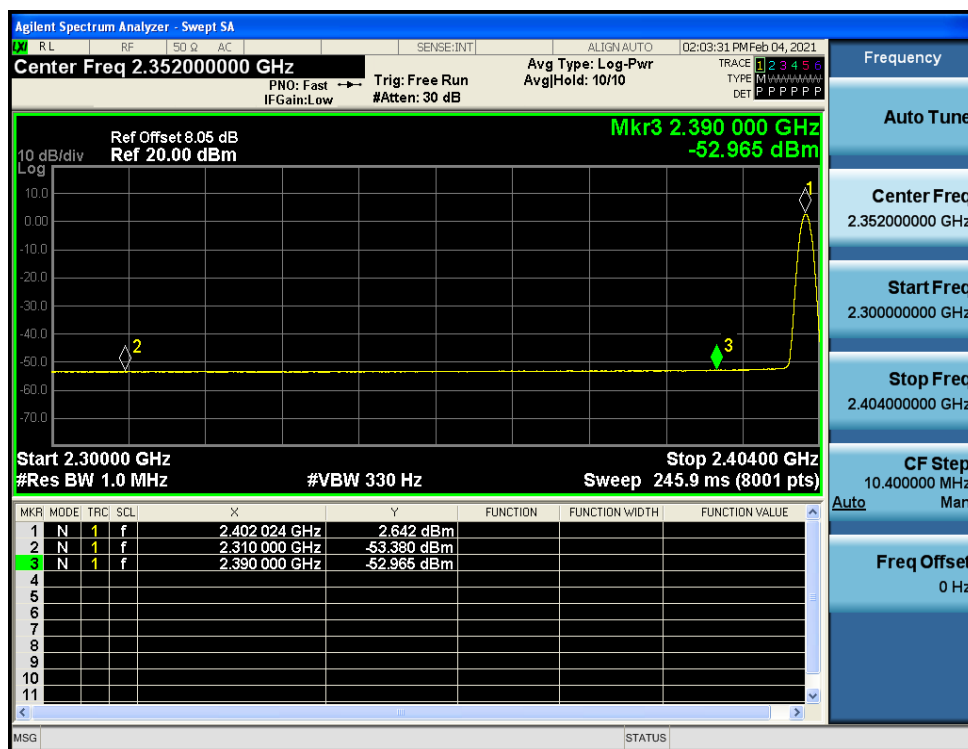
Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.67	2.5	0	55.06	PEAK	74	PASS
	Off	2310.0	-53.38	2.5	0	44.35	AV	54	PASS
	Off	2390.0	-42.23	2.5	0	55.50	PEAK	74	PASS
	Off	2390.0	-52.97	2.5	0	44.76	AV	54	PASS
	Off	2483.5	-41.69	2.5	0	56.04	PEAK	74	PASS
	Off	2483.5	-52.06	2.5	0	45.67	AV	54	PASS
	Off	2500.0	-42.25	2.5	0	55.48	PEAK	74	PASS
	Off	2500.0	-52.42	2.5	0	45.31	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.66	2.5	0	54.07	PEAK	74	PASS
	Off	2310.0	-53.46	2.5	0	44.27	AV	54	PASS
	Off	2390.0	-42.05	2.5	0	55.68	PEAK	74	PASS
	Off	2390.0	-52.86	2.5	0	44.87	AV	54	PASS
	Off	2483.5	-39.36	2.5	0	58.37	PEAK	74	PASS
	Off	2483.5	-51.04	2.5	0	46.69	AV	54	PASS
	Off	2500.0	-42.54	2.5	0	55.19	PEAK	74	PASS
	Off	2500.0	-52.40	2.5	0	45.33	AV	54	PASS
8DPSK	Off	2310.0	-43.58	2.5	0	54.15	PEAK	74	PASS
	Off	2310.0	-53.44	2.5	0	44.29	AV	54	PASS
	Off	2390.0	-41.98	2.5	0	55.75	PEAK	74	PASS
	Off	2390.0	-52.78	2.5	0	44.95	AV	54	PASS
	Off	2483.5	-35.85	2.5	0	61.88	PEAK	74	PASS
	Off	2483.5	-50.66	2.5	0	47.07	AV	54	PASS
	Off	2500.0	-41.31	2.5	0	56.42	PEAK	74	PASS
	Off	2500.0	-52.38	2.5	0	45.35	AV	54	PASS



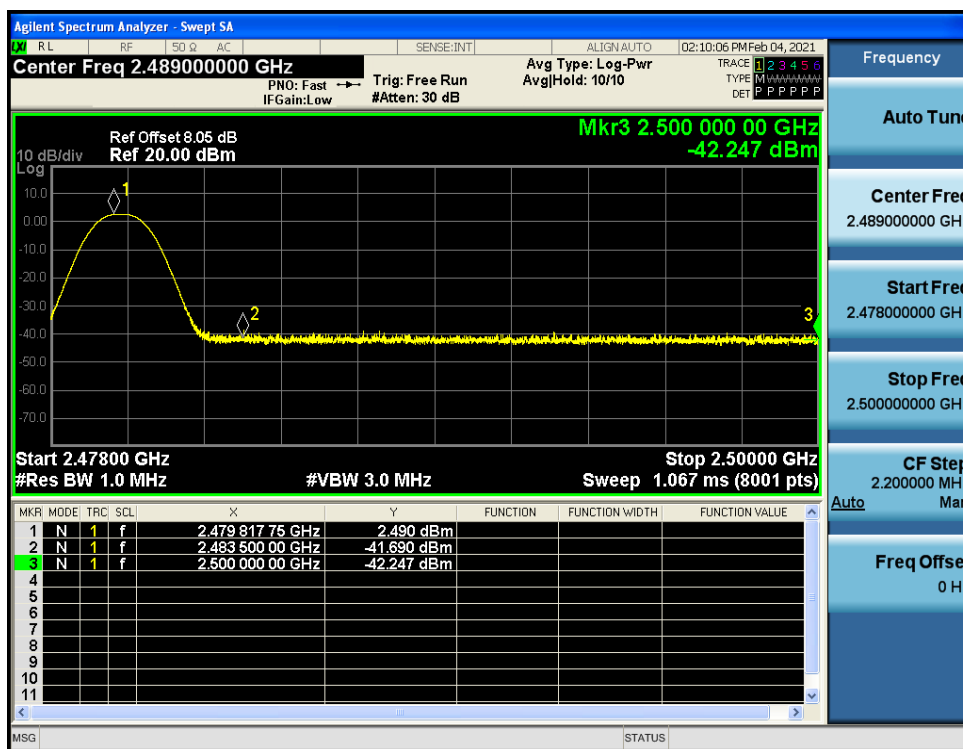
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



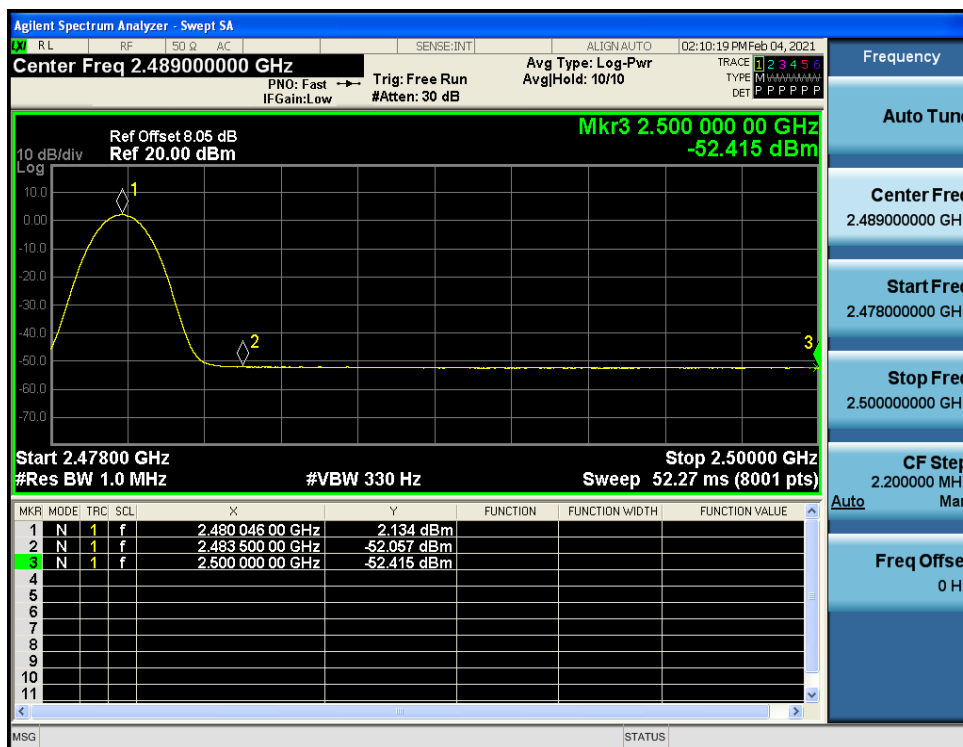
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



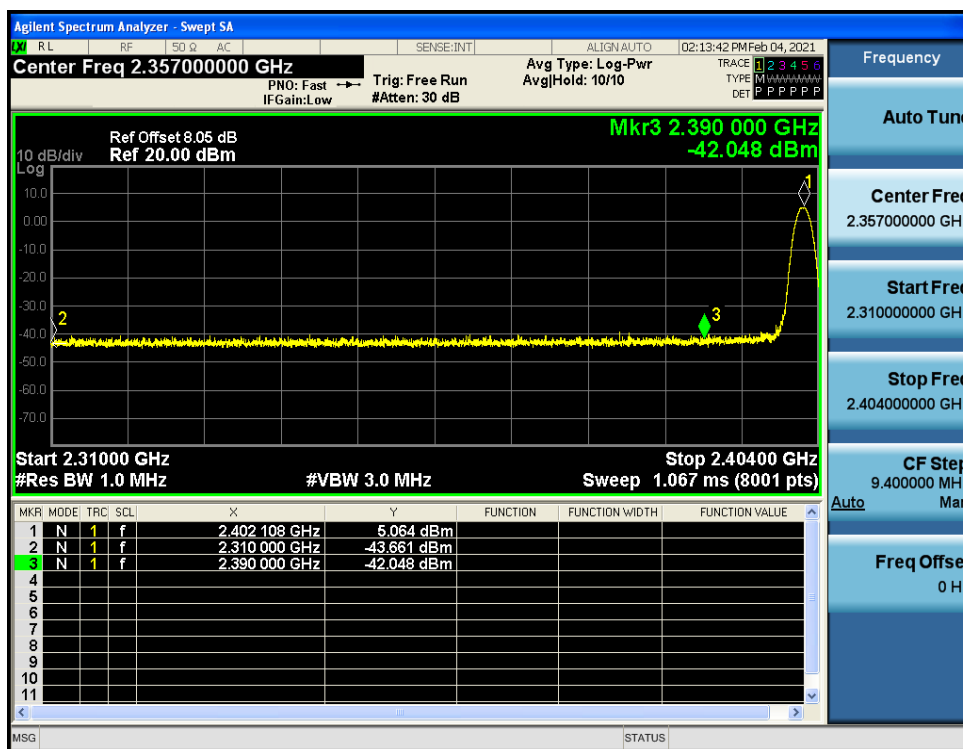
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



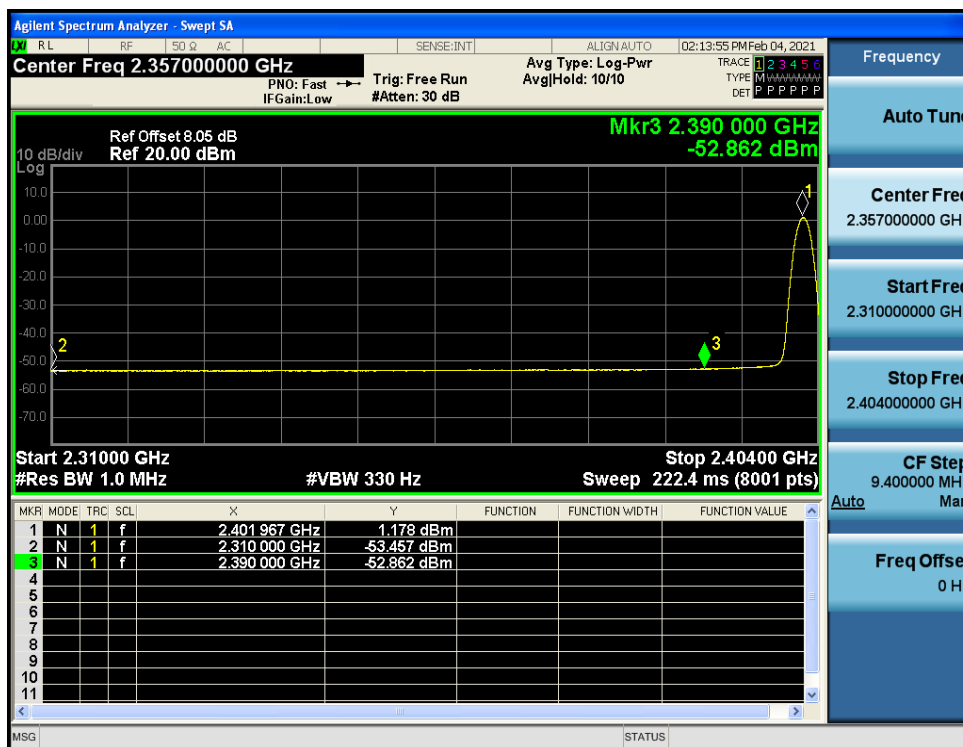
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



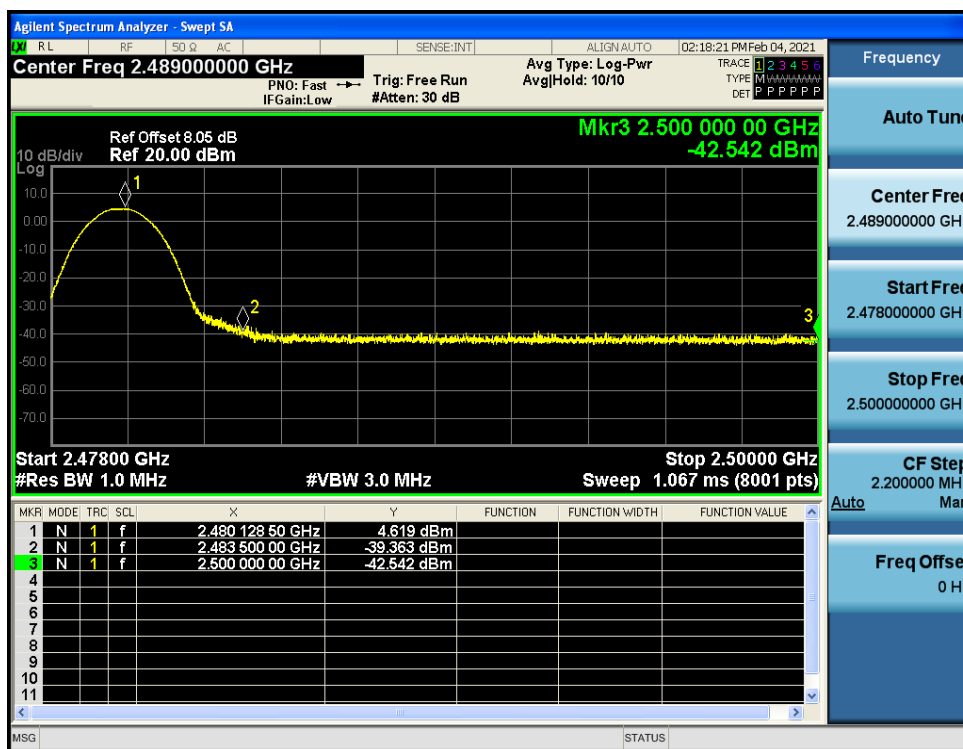
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



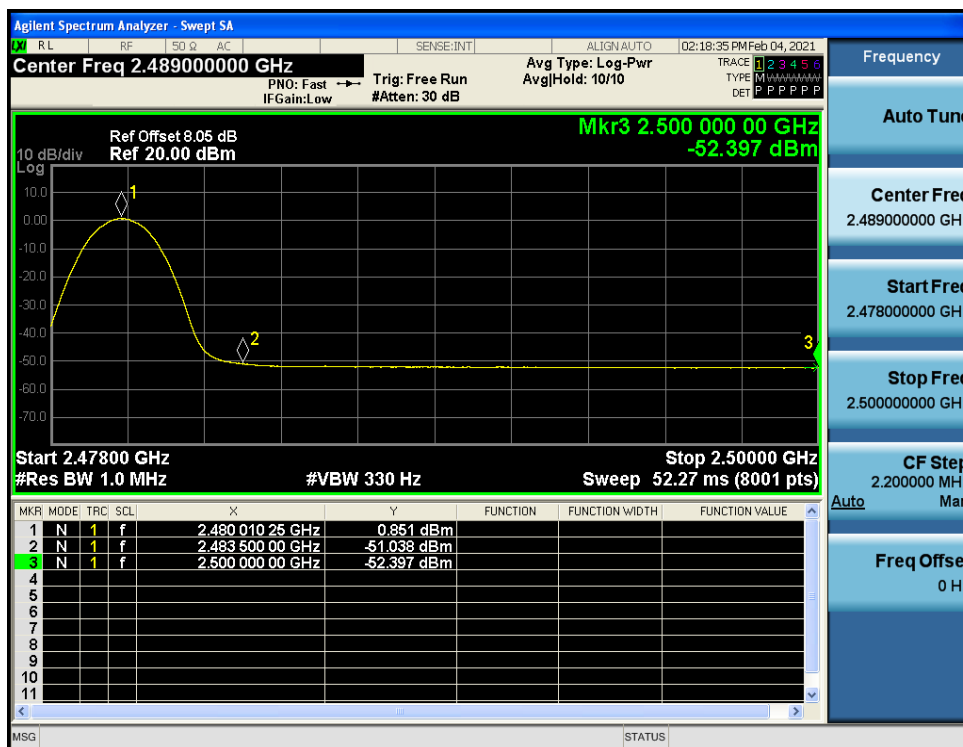
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



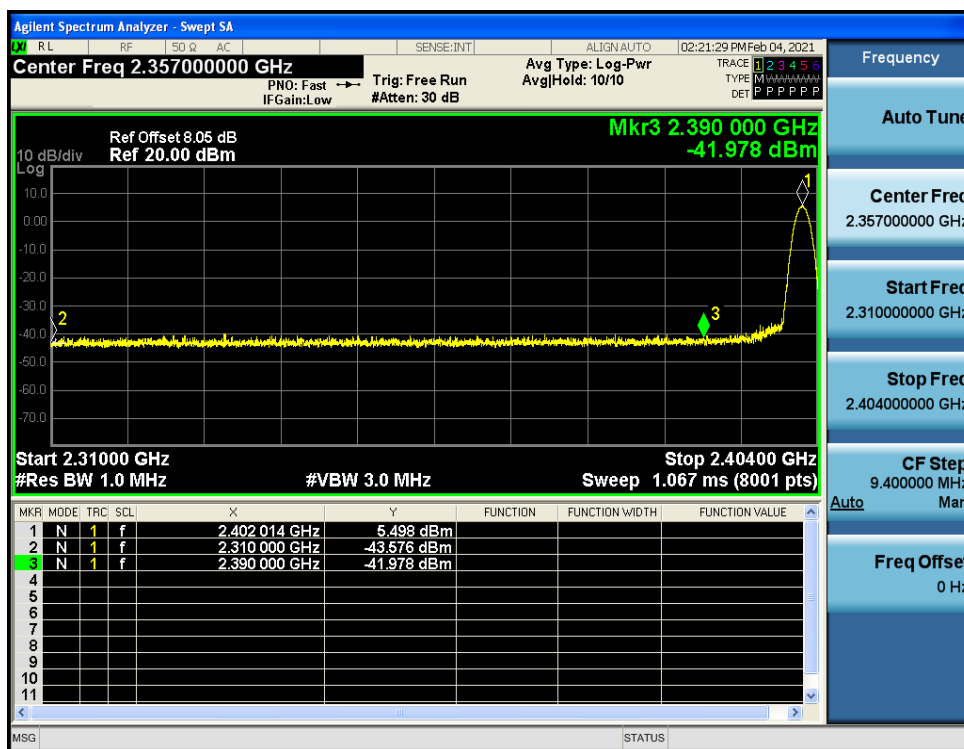
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



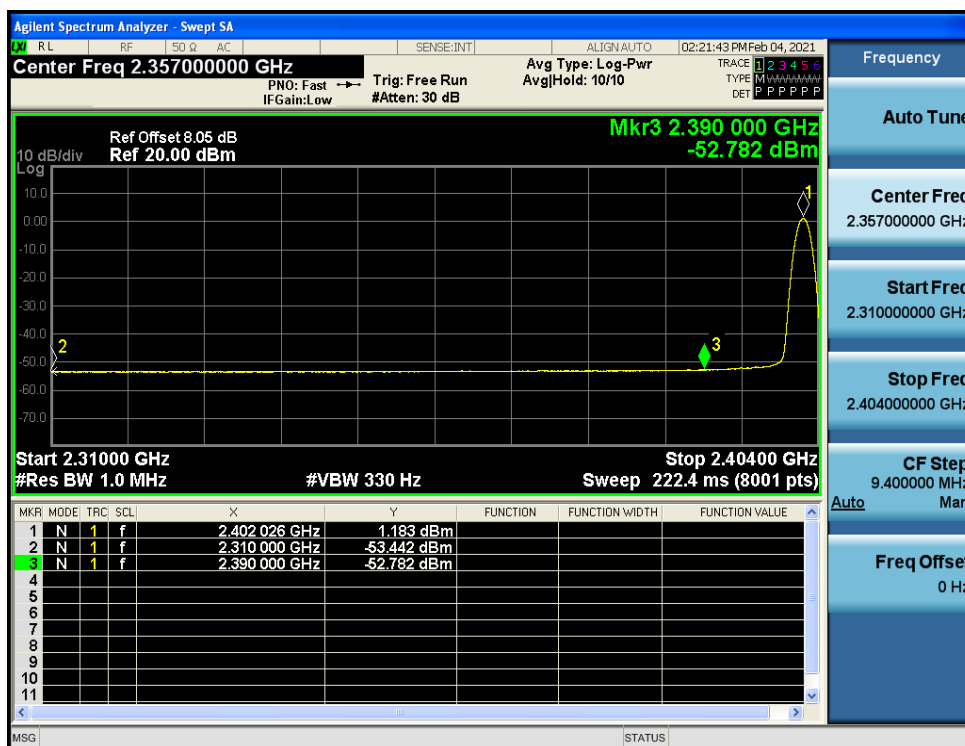
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



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)

