

Appendix A

RF Test Data (Conducted Measurement)

Product Name: Hand-held Barcode Scanner

Trade Mark: Newland

Test Model: NLS-HR20

Environmental Conditions

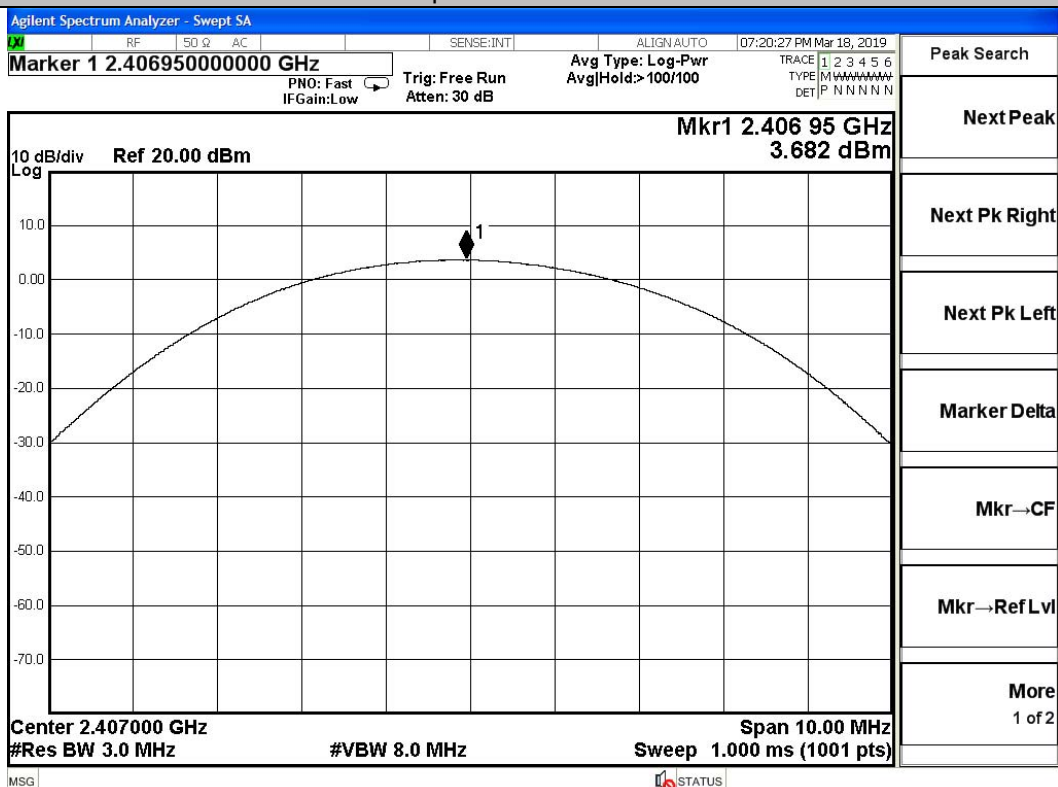
Temperature:	21.9 °C
Relative Humidity:	53.1%
ATM Pressure:	100.0 kPa
Test Engineer:	David Luo
Supervised by:	Tom Liu

A.1 Maximum Conducted Peak Output Power

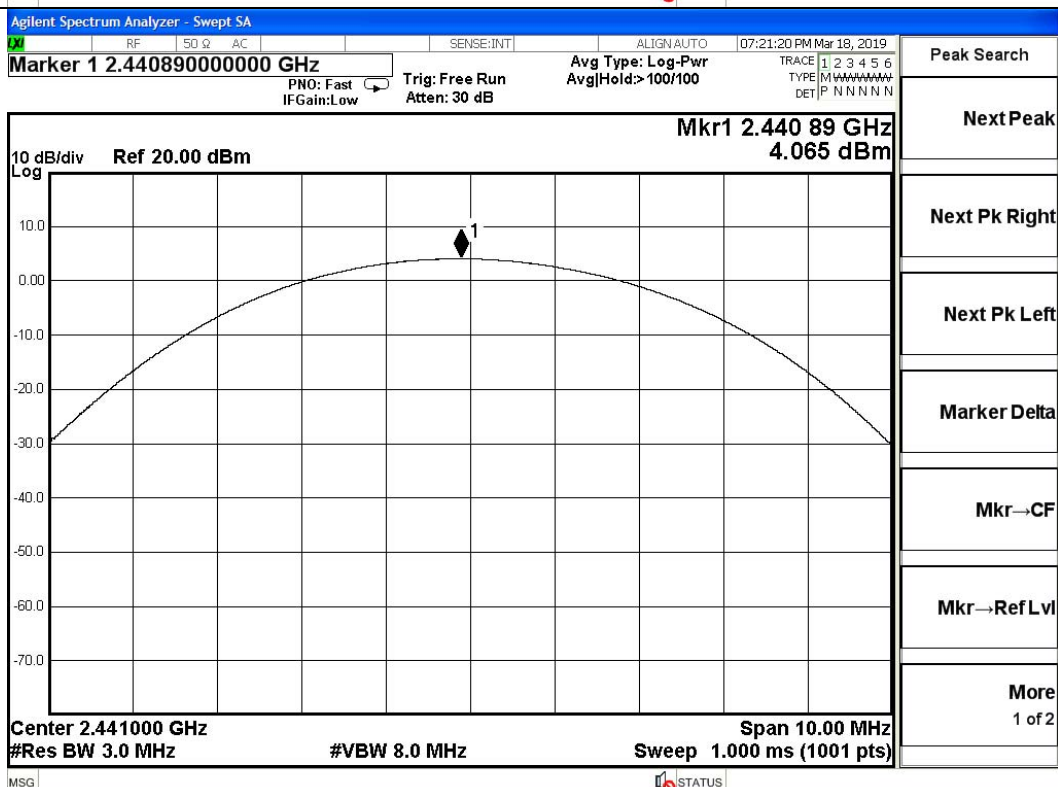
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	3.682	30	PASS
	MCH	4.065	30	PASS
	HCH	3.076	30	PASS

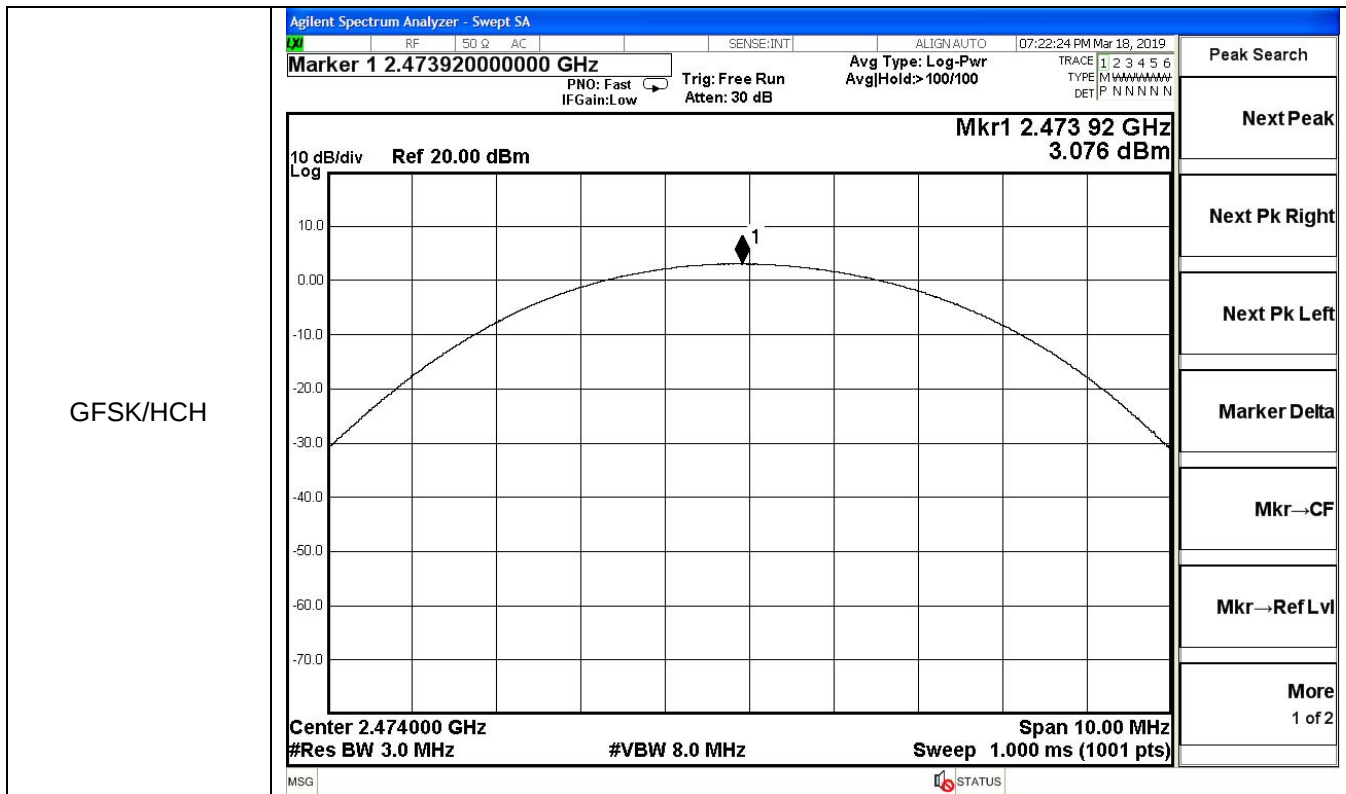
Test Graphs

GFSK/LCH



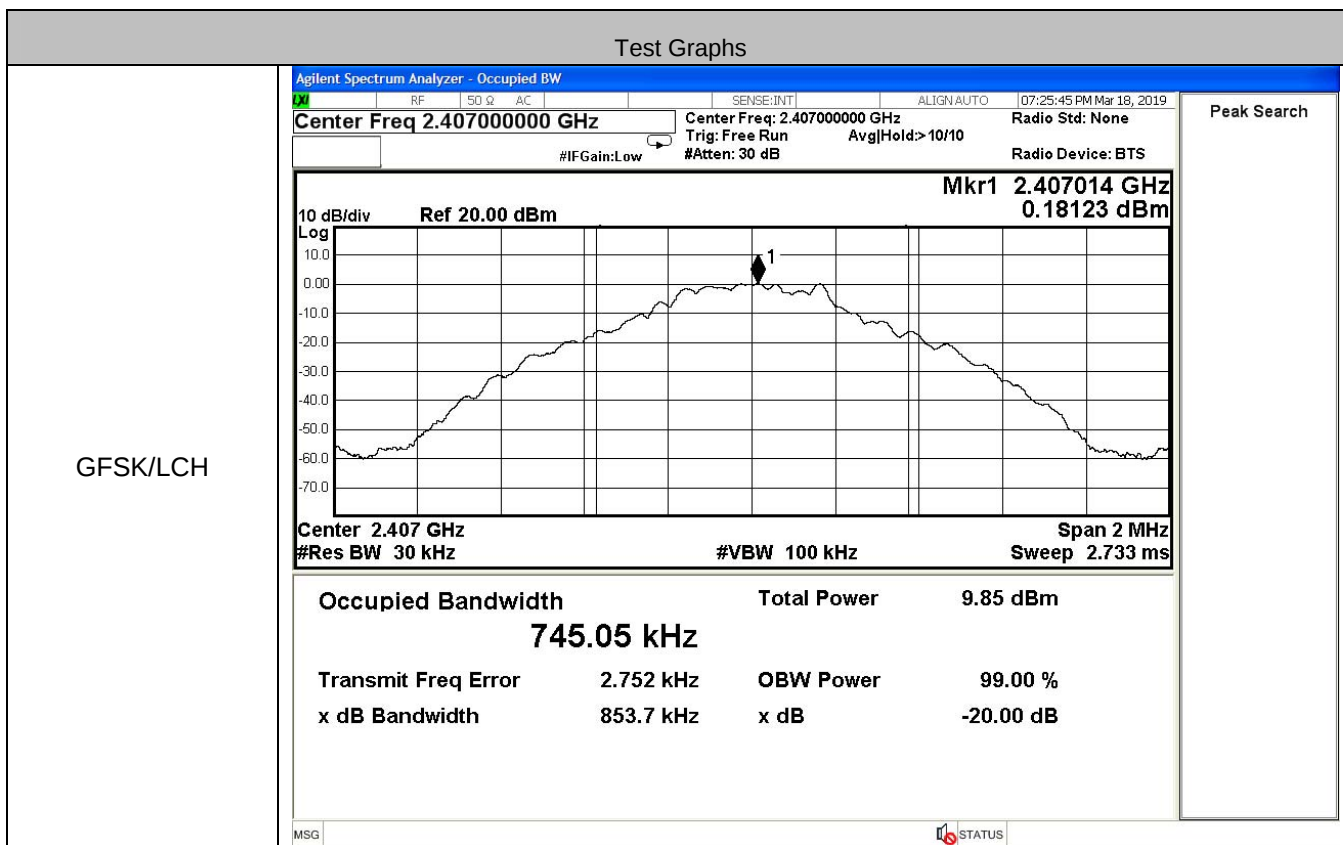
GFSK/MCH



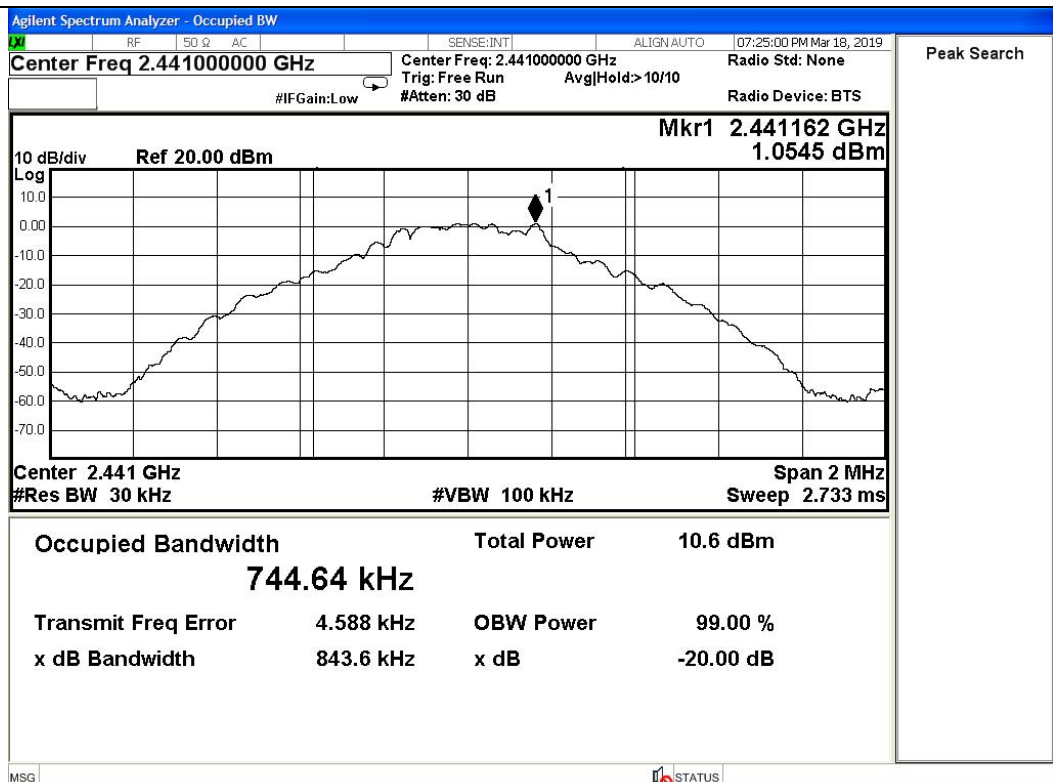


A.2 99% and 20dB Bandwidth

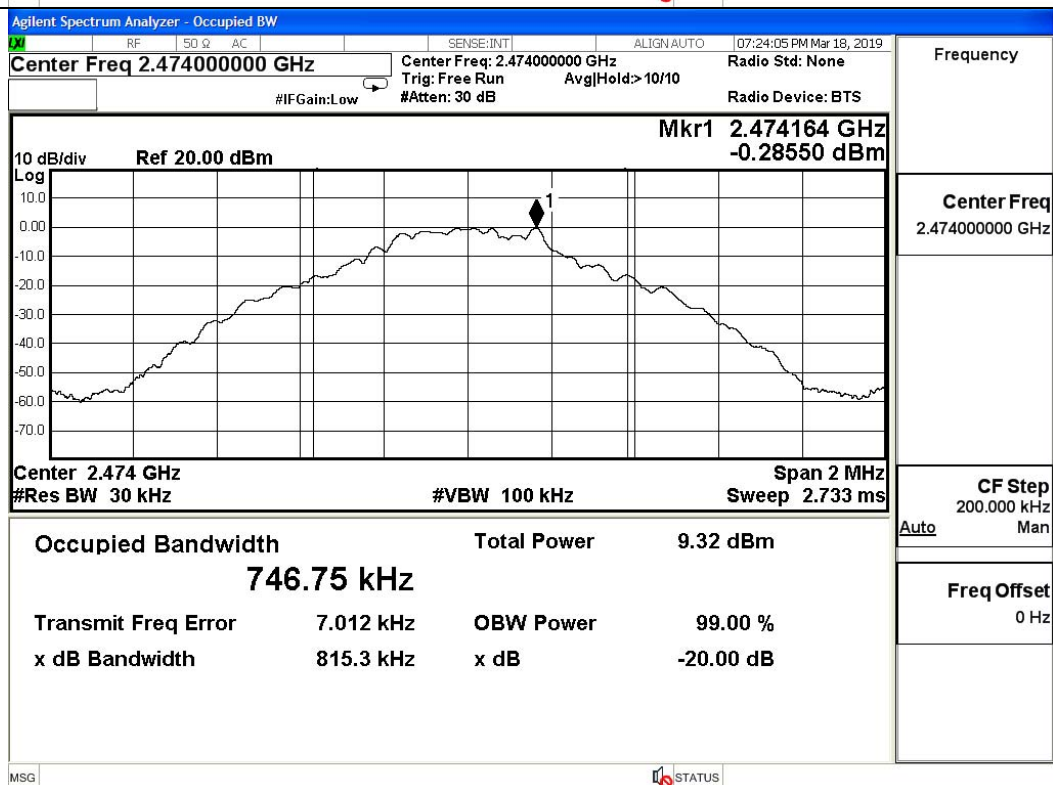
Mode	Channel.	20dB Bandwidth [MHz]	99% Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.8537	0.74505	Not Specified	PASS
	MCH	0.8436	0.74464	Not Specified	PASS
	HCH	0.8153	0.74675	Not Specified	PASS



GFSK/MCH

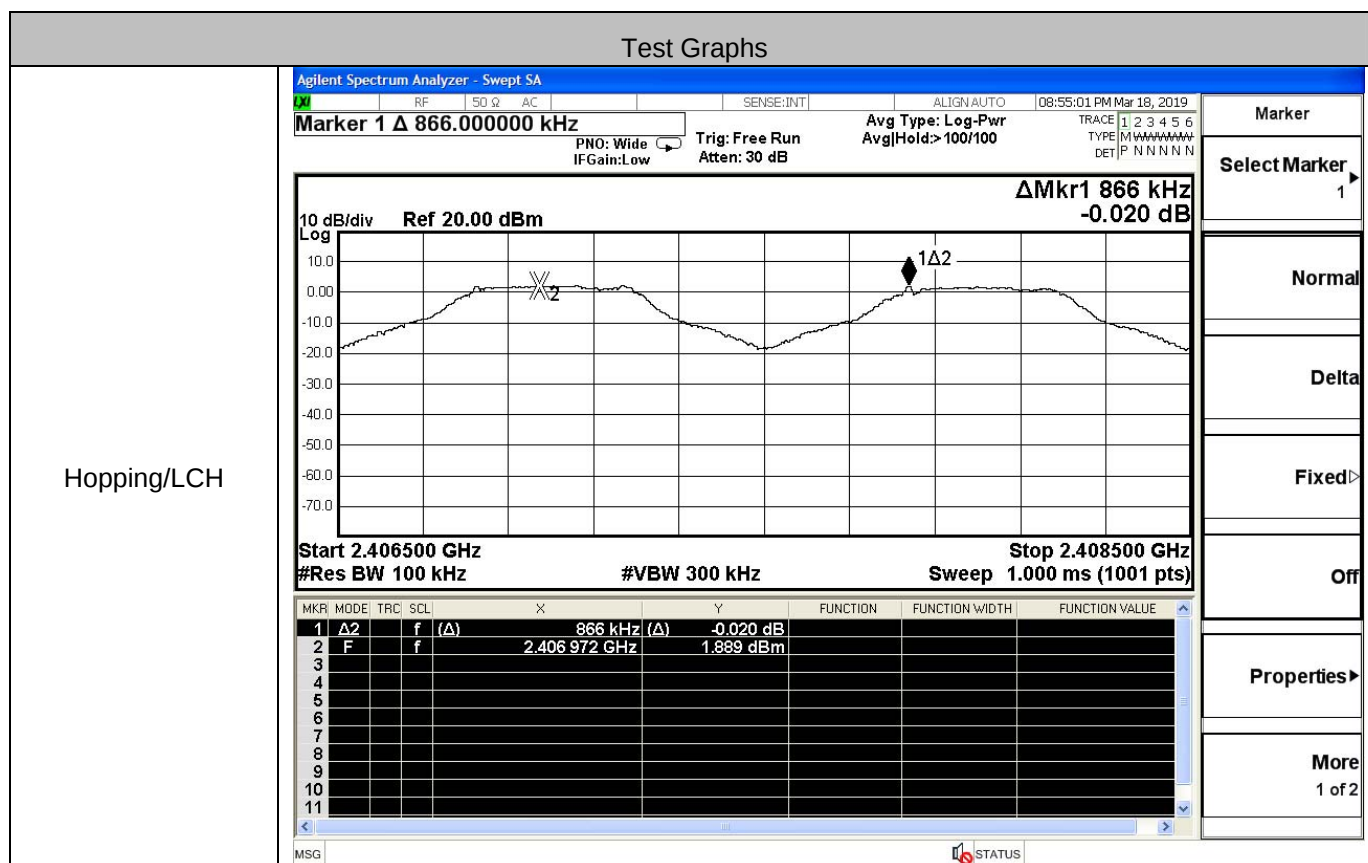


GFSK/HCH

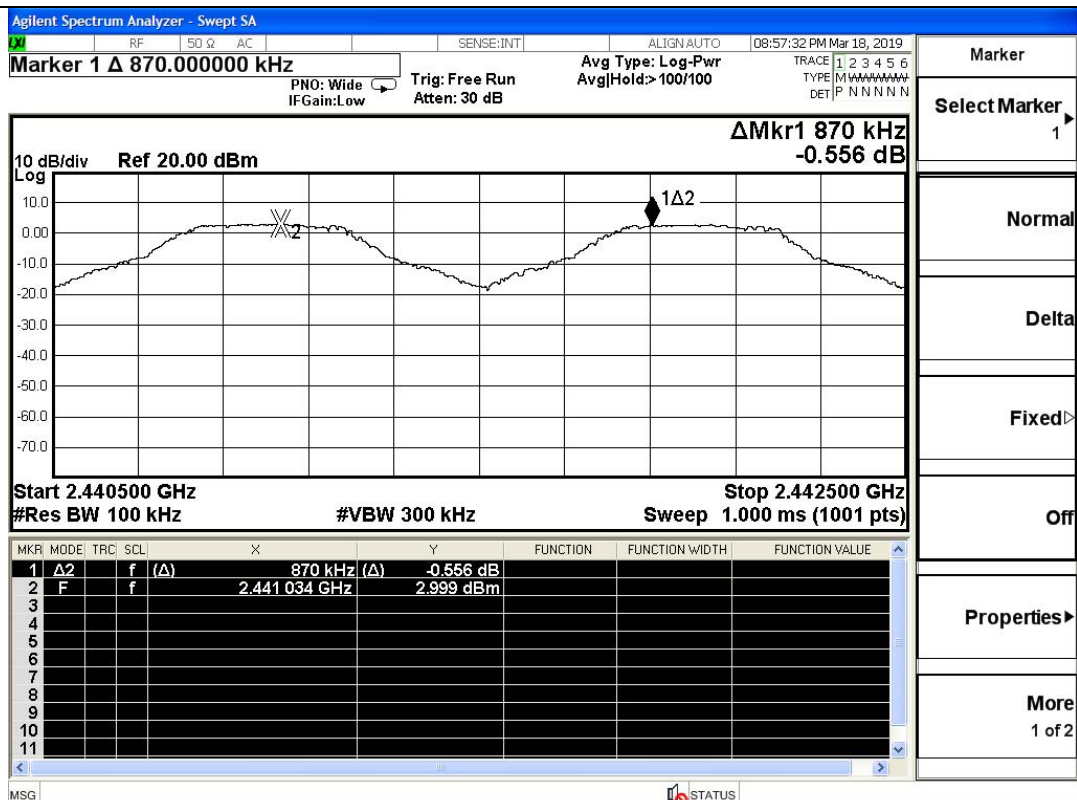


A.3 Carrier Frequency Separation

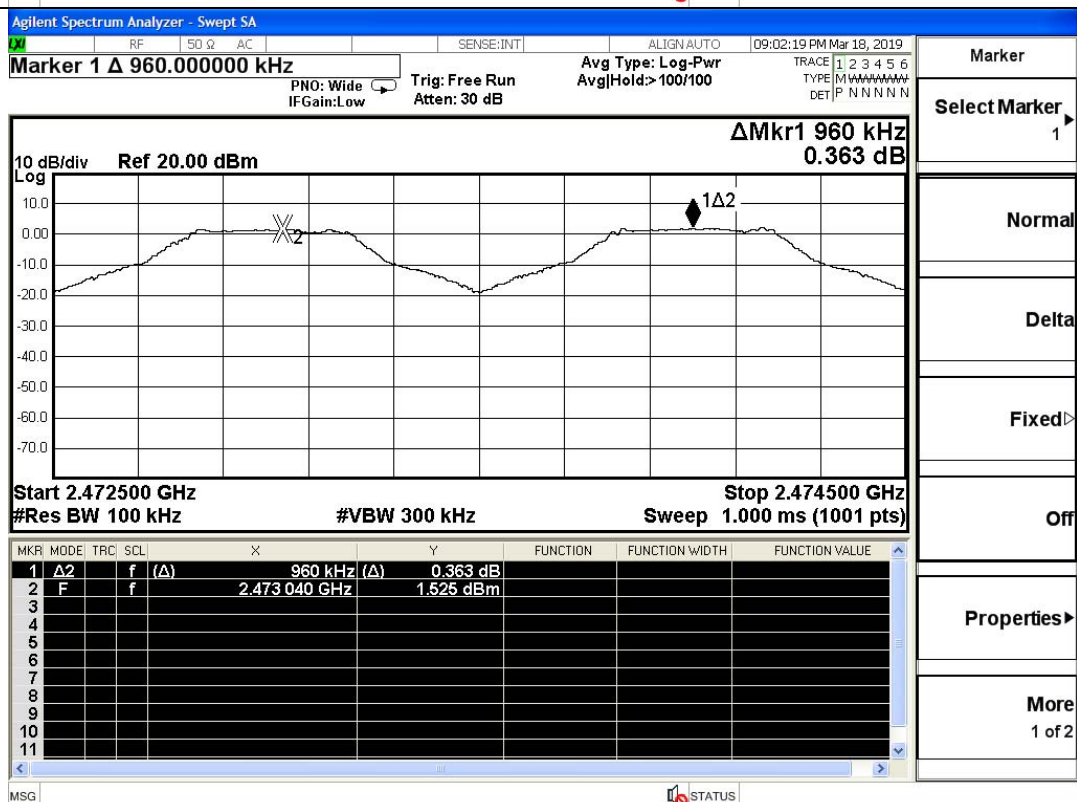
Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1	0.8537	PASS
	MCH	1	0.8436	PASS
	HCH	1	0.8153	PASS



Hopping/MCH

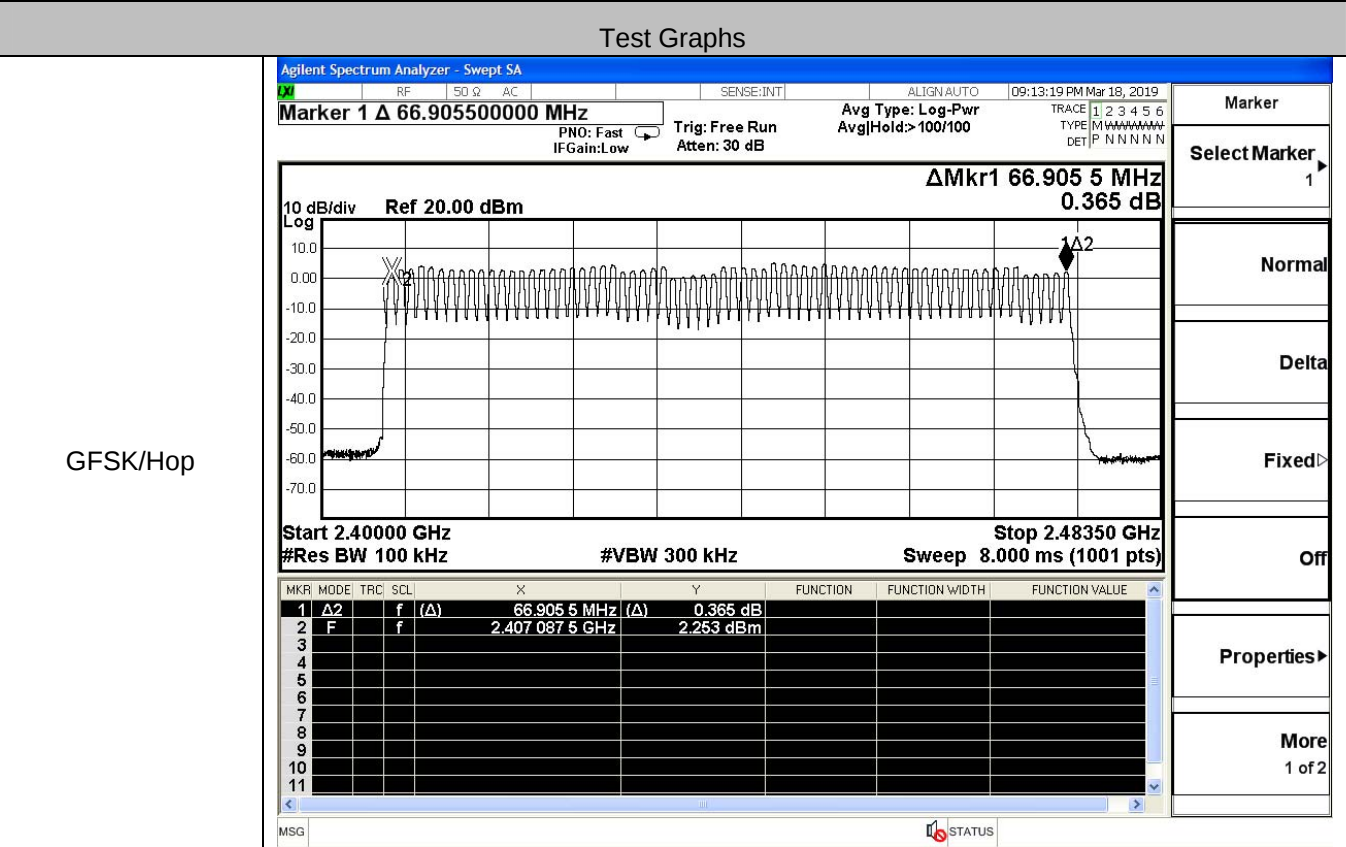


Hopping/HCH



A.4 Hopping Channel Number

Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	68	>=15	PASS

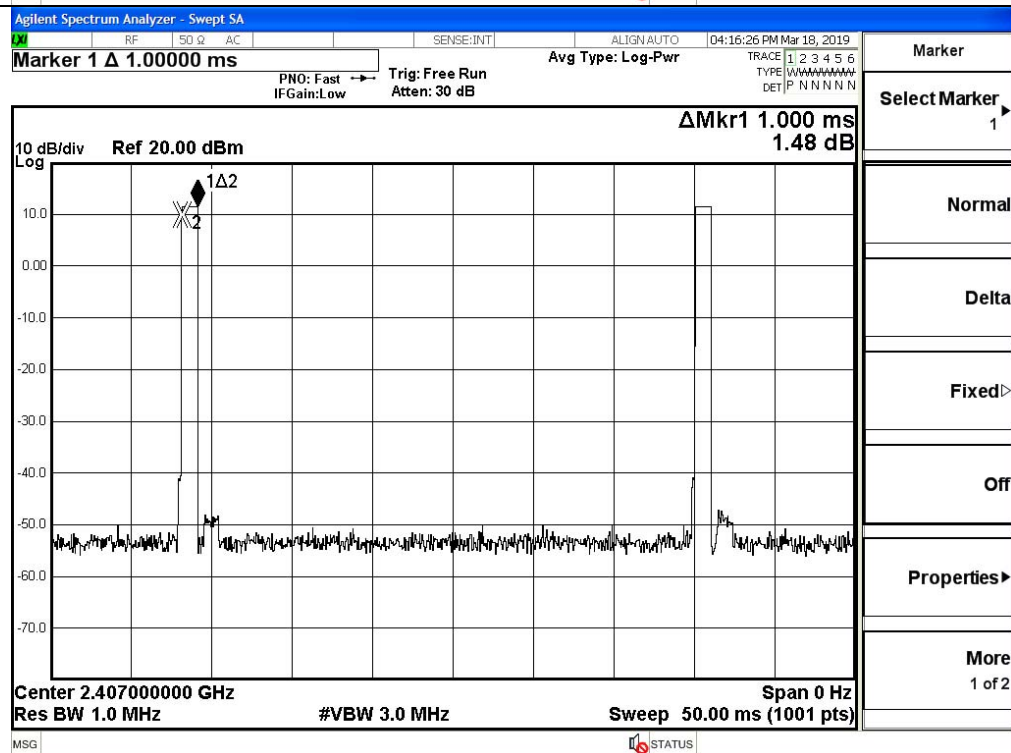


A.5 Dwell Time

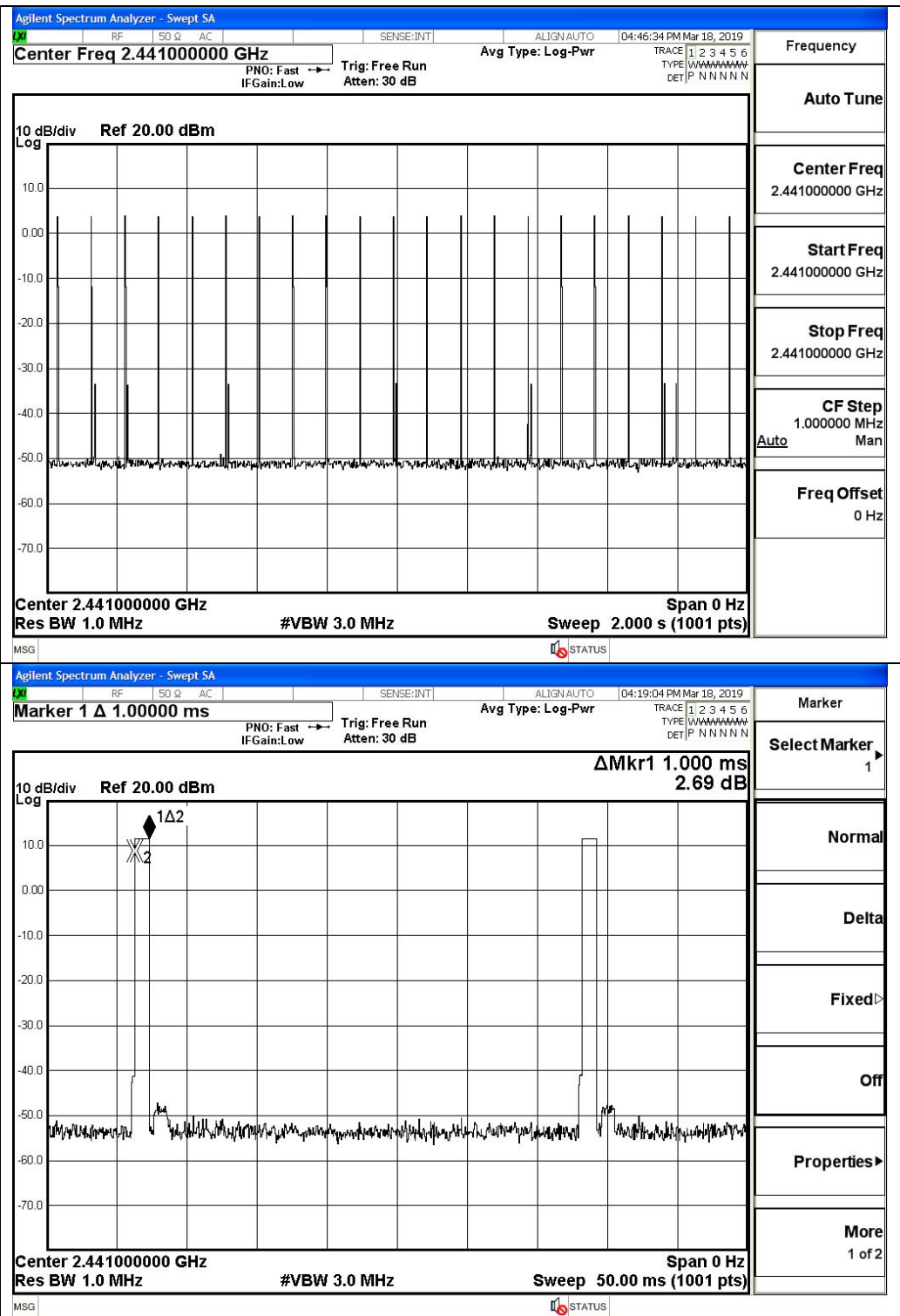
Mode	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	LCH	1.0000	68	0.2856	0.4	PASS
	MCH	1.0000	68	0.2856	0.4	PASS
	HCH	1.0000	68	0.2856	0.4	PASS

Dwell Time= Burst Width* Burst number

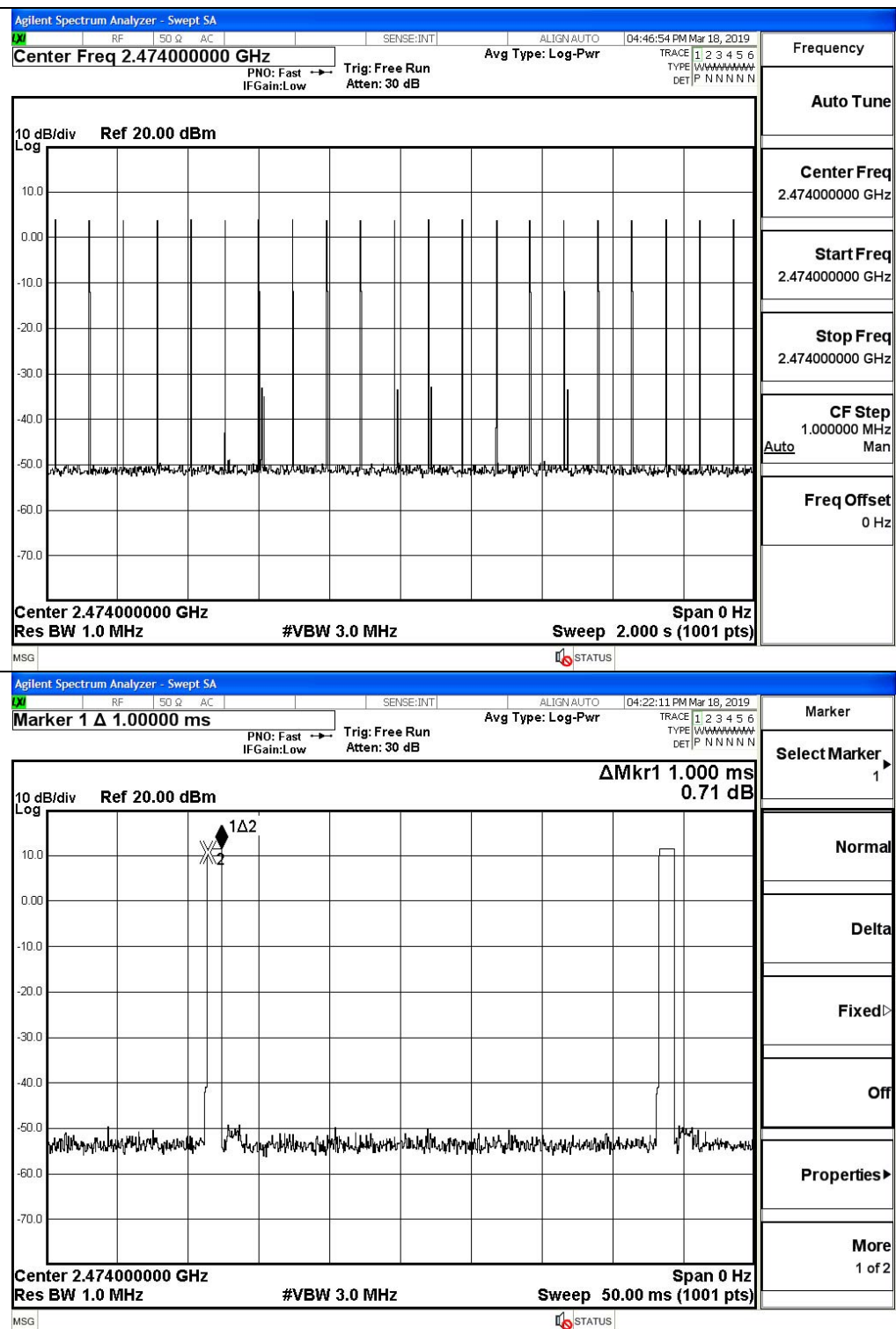
GFSK / LCH



GFSK / MCH



GFSK / HCH

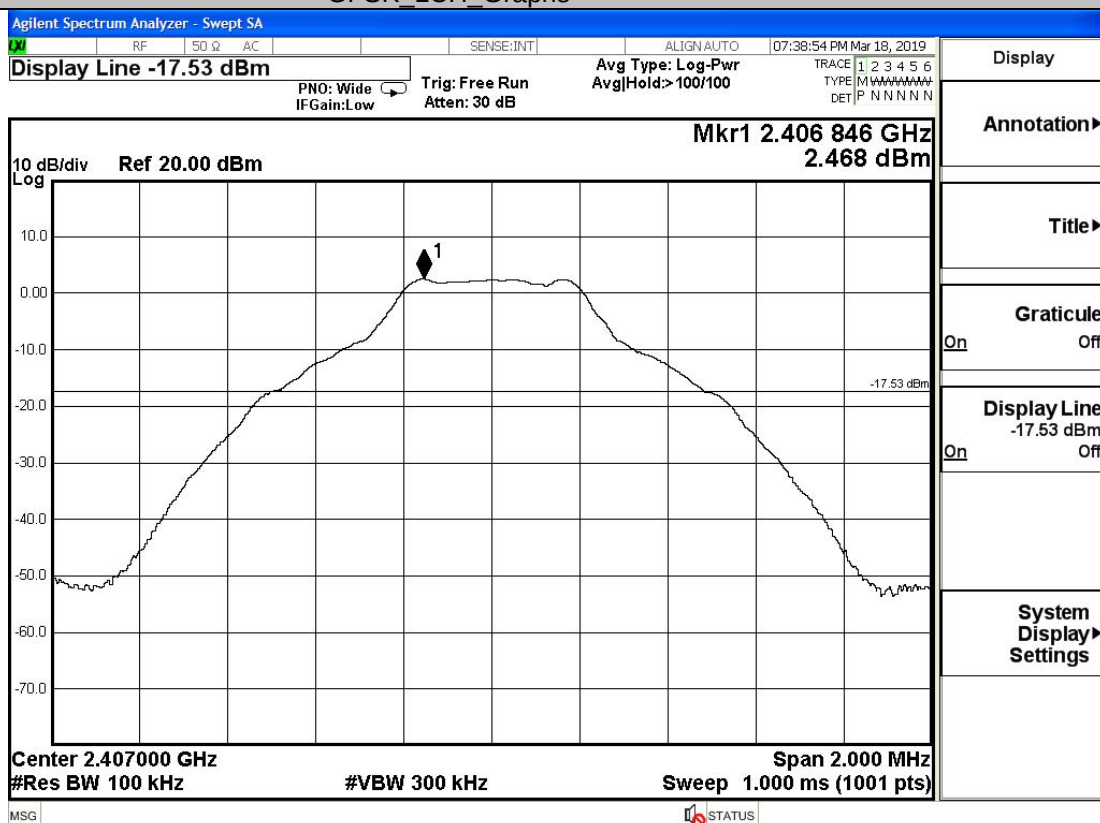


A.6 RF Conducted Spurious Emissions

Mode	Channel	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-55.180	-17.53	PASS
	MCH	-49.889	-16.59	PASS
	HCH	-45.090	-17.89	PASS

GFSK_LCH_Graphs

Pref

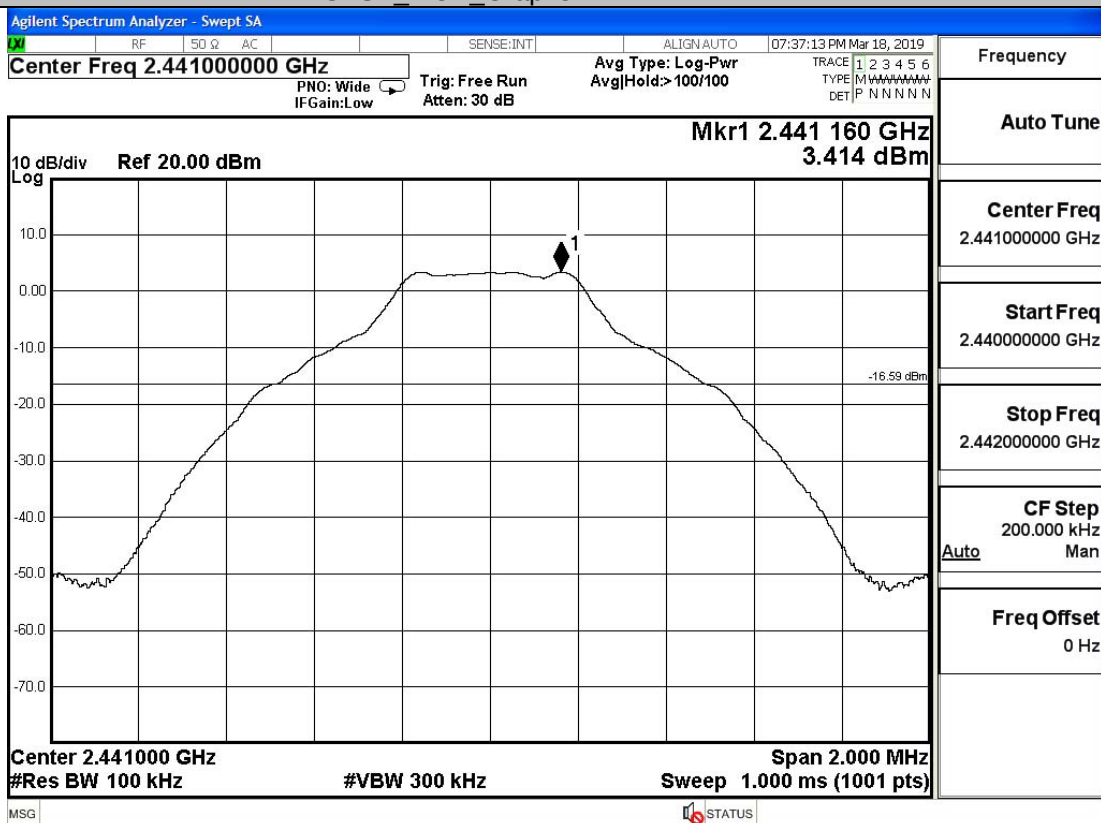


Puw

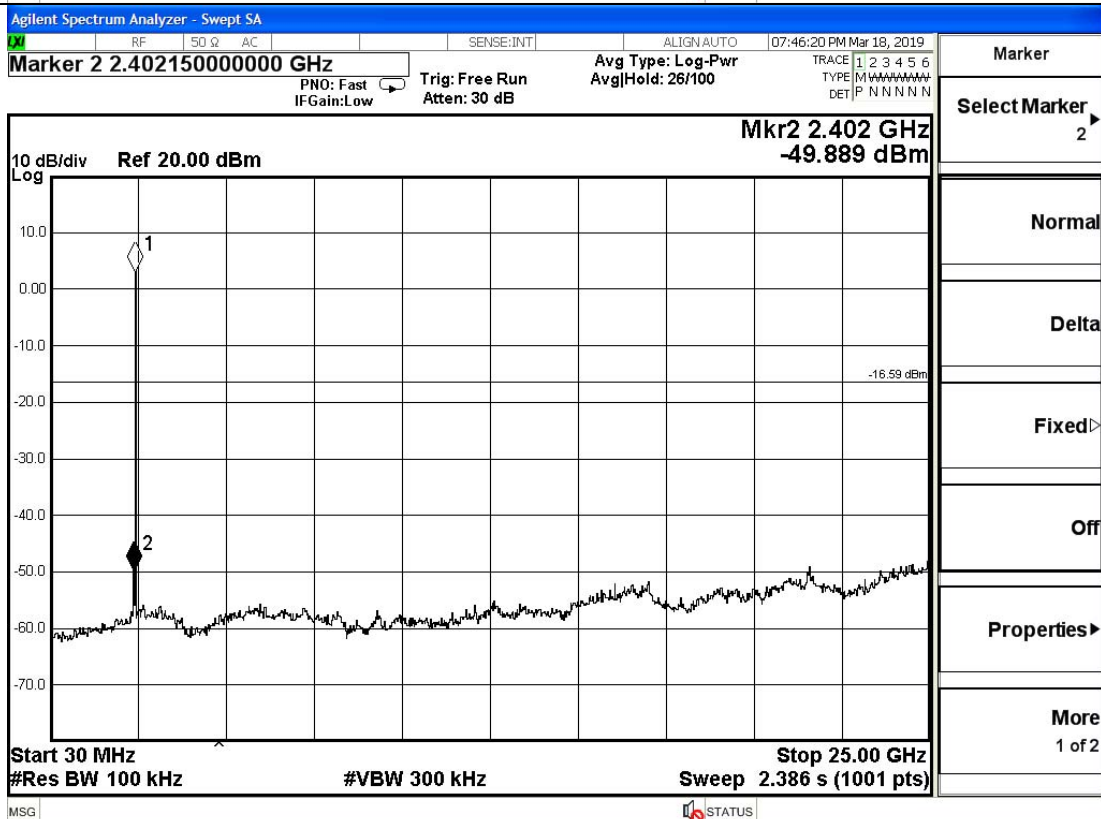


GFSK_MCH_Graphs

Pref

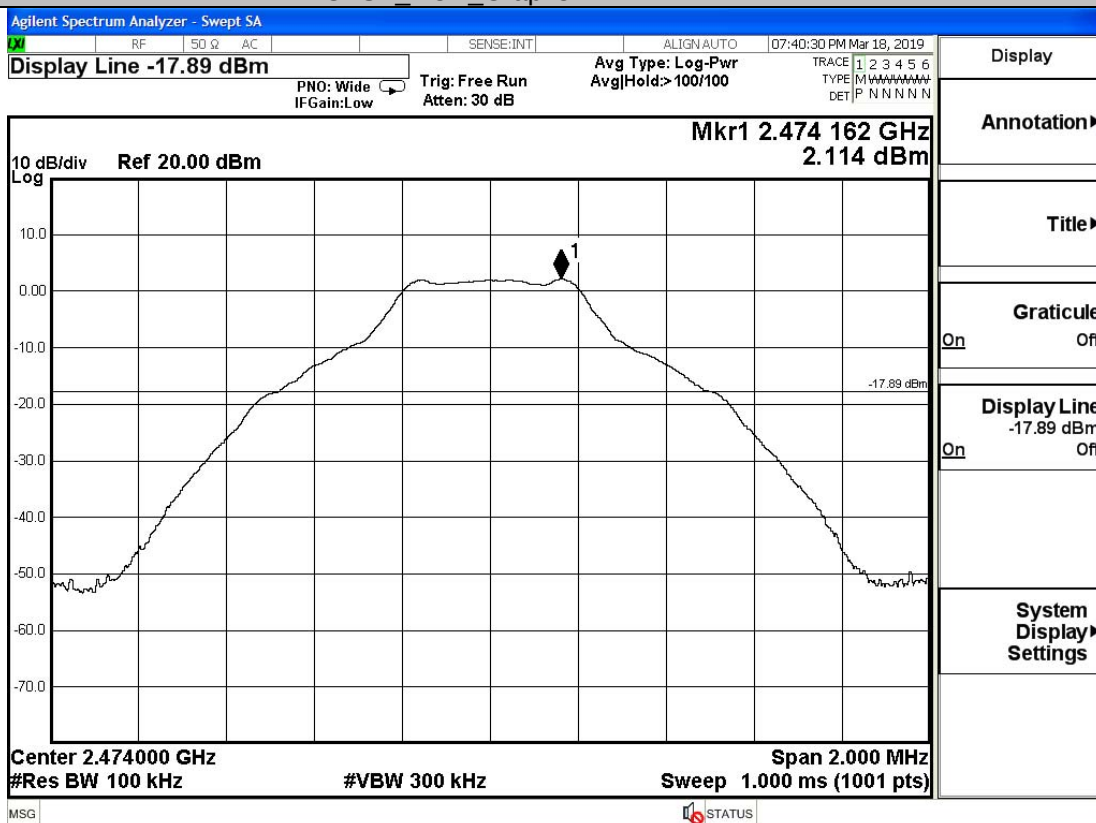


Puw



GFSK_HCH_Graphs

Pref



Pwr

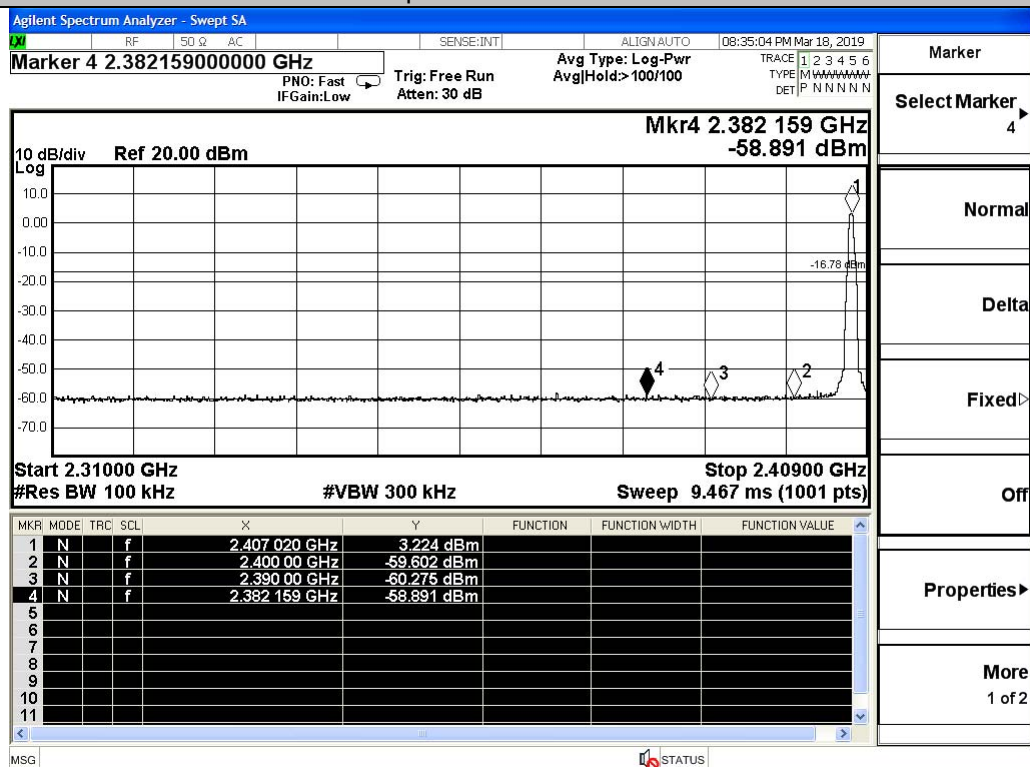


A.7 Band-edge for RF Conducted Emissions

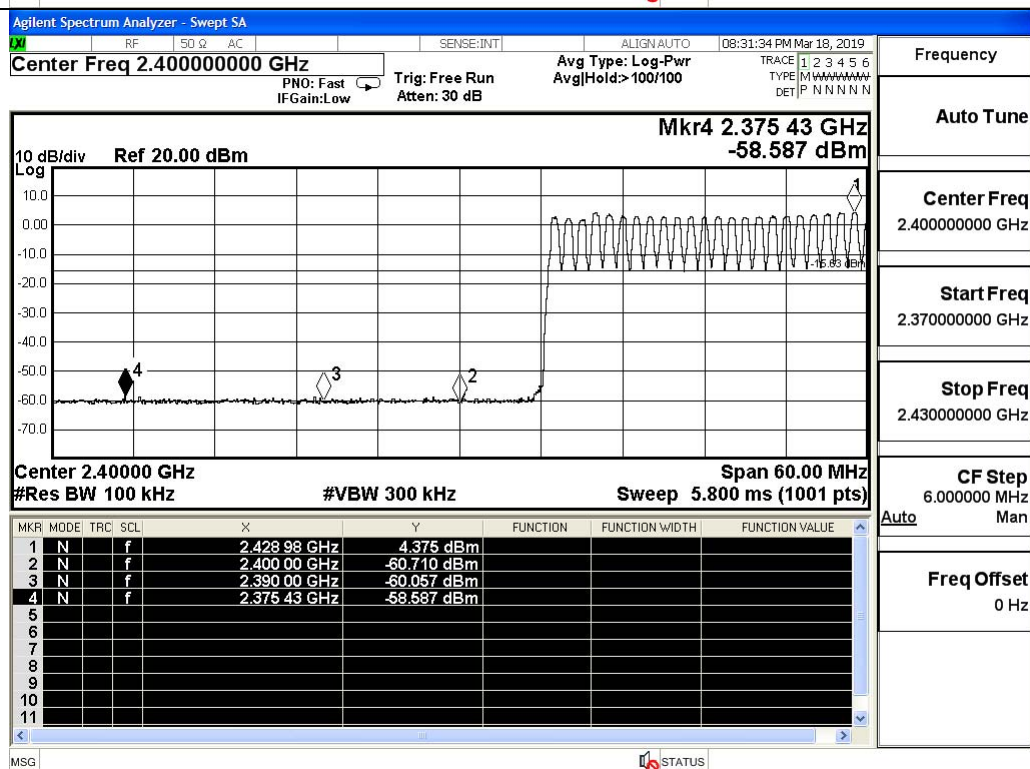
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2407	3.224	Off	-58.891	-16.78	PASS
			4.375	On	-58.587	-15.63	PASS
	HCH	2474	2.762	Off	-57.878	-17.24	PASS
			3.944	On	-57.693	-16.06	PASS

Test Graphs

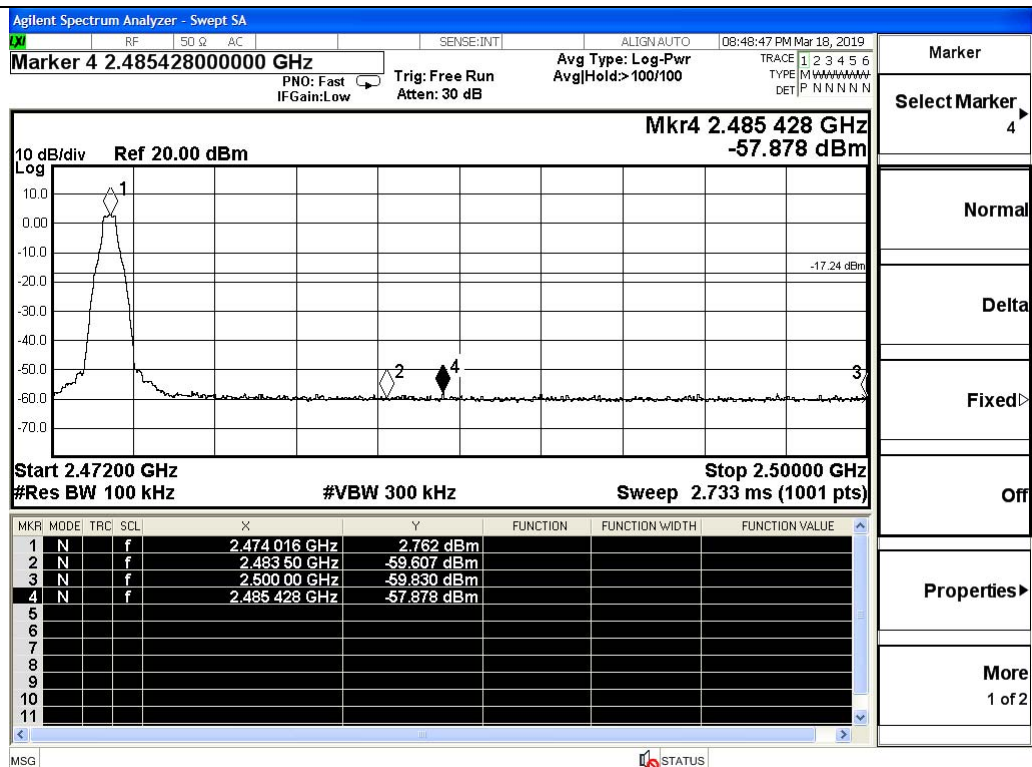
GFSK/LCH/No Hop



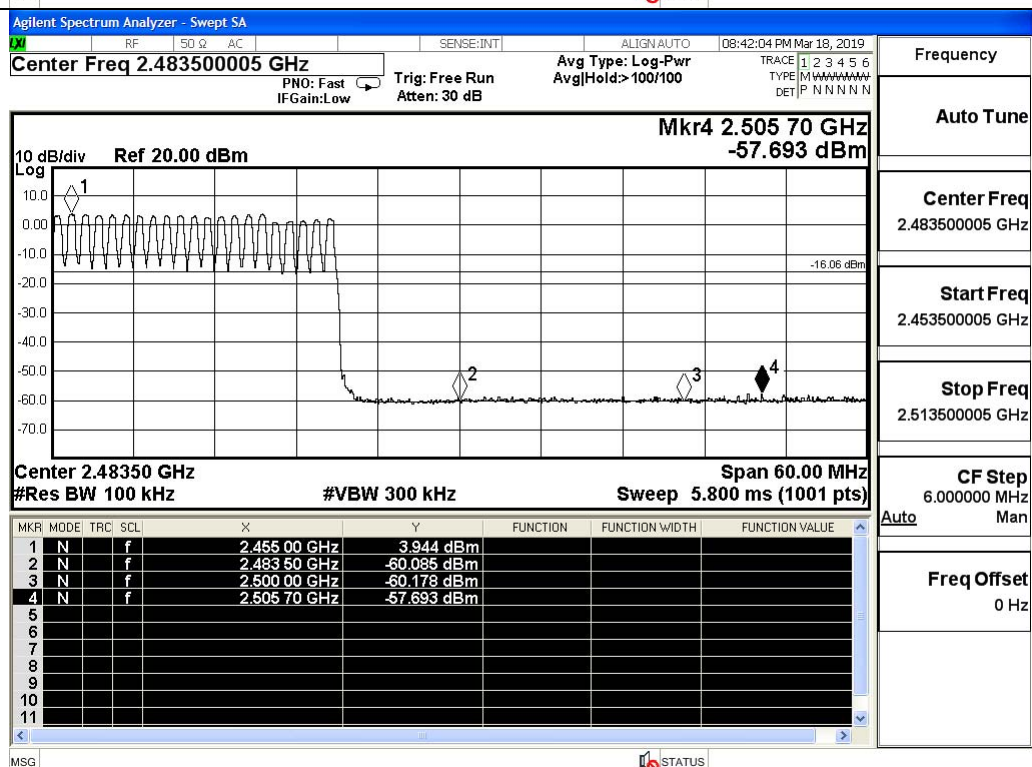
GFSK/LCH/Hop



GFSK/HCH/No Hop



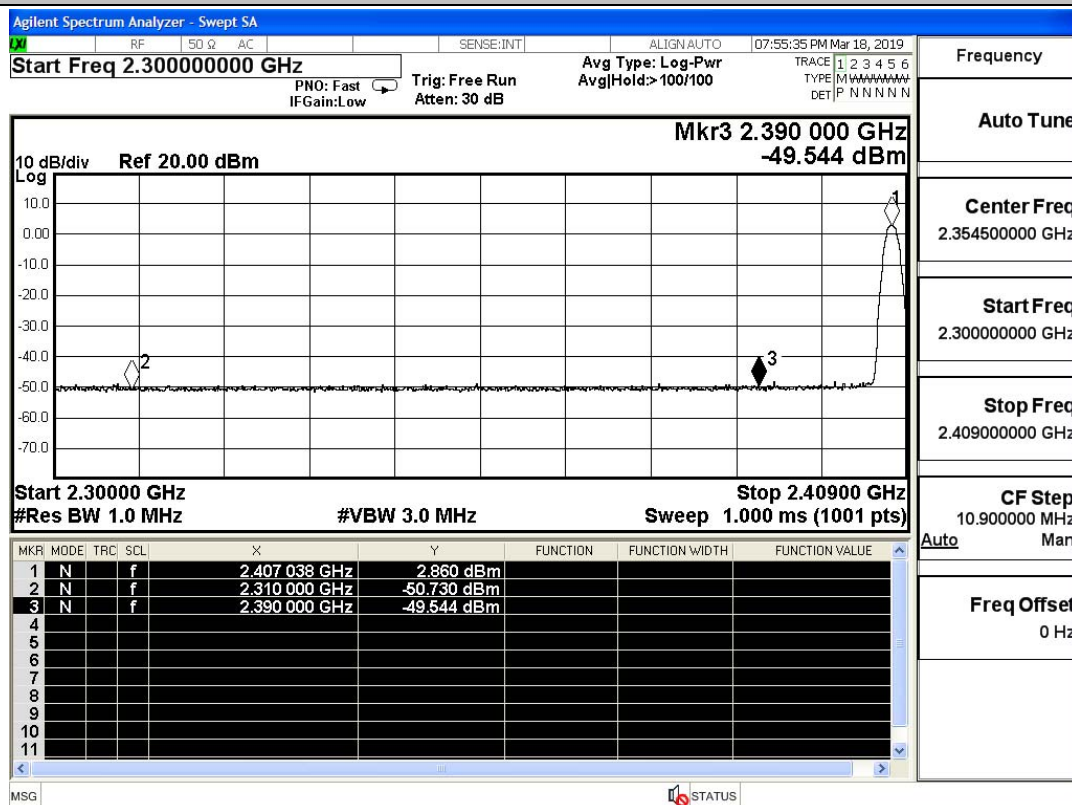
GFSK/HCH/Hop



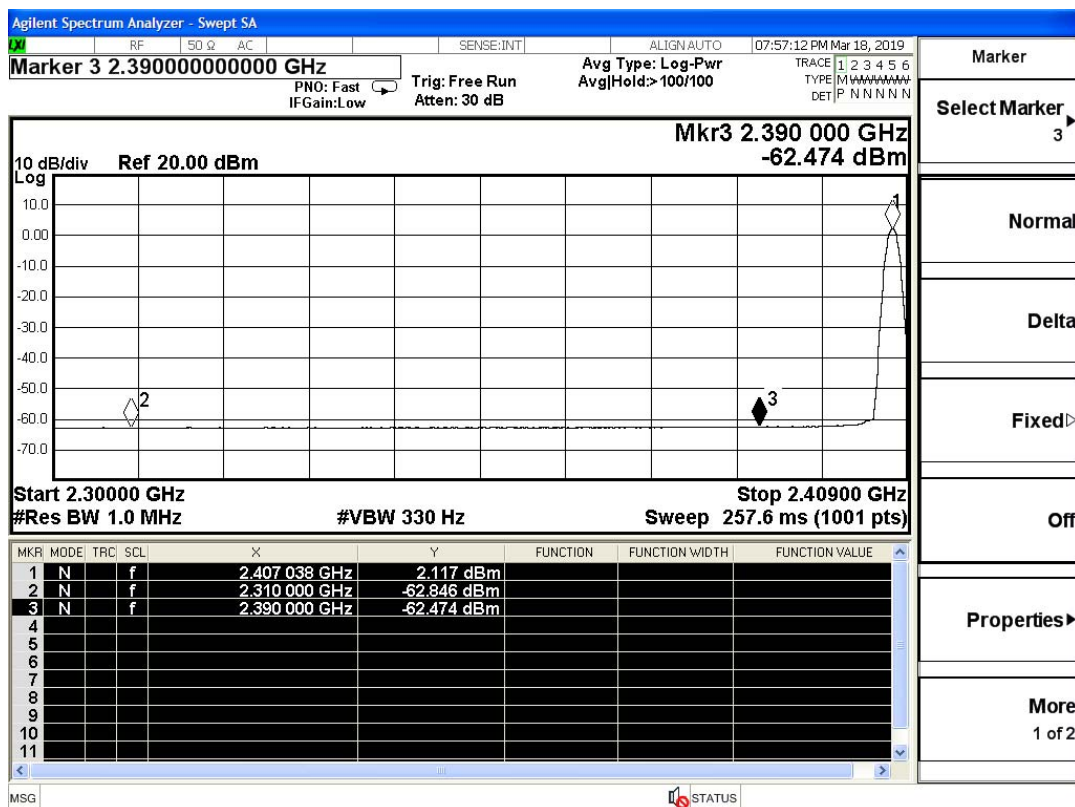
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-50.730	2.00	0	46.500	PEAK	74	PASS
	Off	2310.0	-62.846	2.00	0	34.384	AV	54	PASS
	Off	2390.0	-49.544	2.00	0	47.686	PEAK	74	PASS
	Off	2390.0	-62.474	2.00	0	34.756	AV	54	PASS
	Off	2483.5	-50.124	2.00	0	47.106	PEAK	74	PASS
	Off	2483.5	-62.042	2.00	0	35.188	AV	54	PASS
	Off	2500.0	-50.375	2.00	0	46.855	PEAK	74	PASS
	Off	2500.0	-62.442	2.00	0	34.788	AV	54	PASS

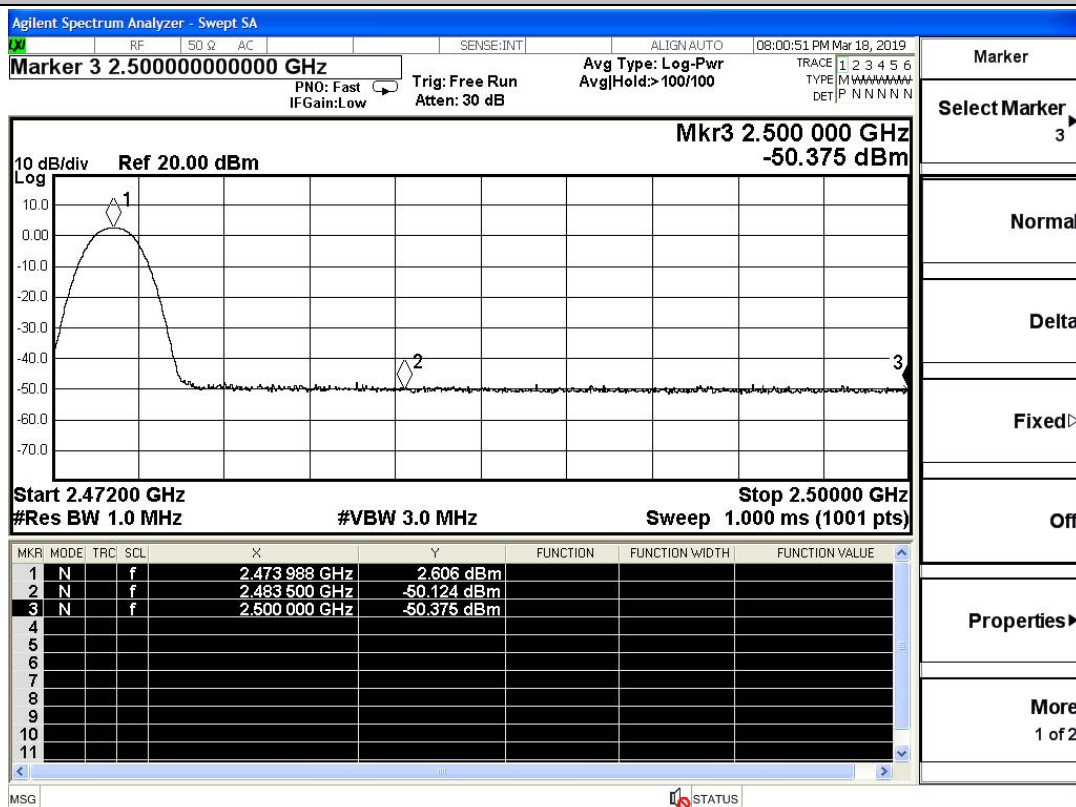
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



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)

