

Appendix A

RF Test Data for BT V5.1(DSS) (Conducted Measurement)

Product Name: K870T Bluetooth Dual-mode Mechanical Keyboard

Trade Mark: N/A

Test Model: K870T

Environmental Conditions

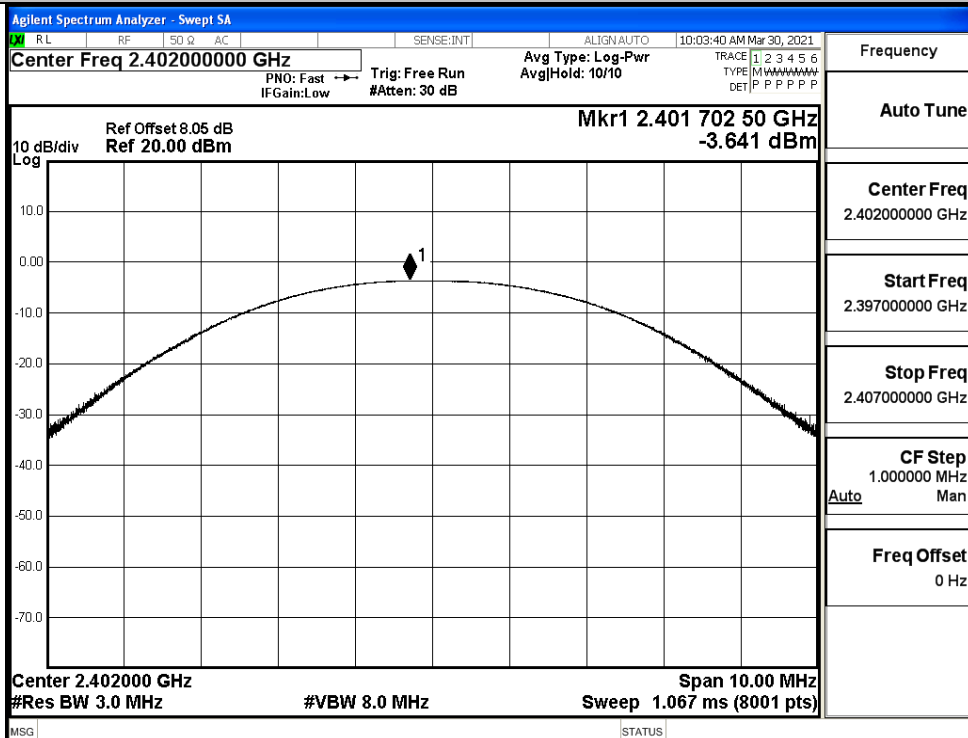
Temperature:	22.5℃
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

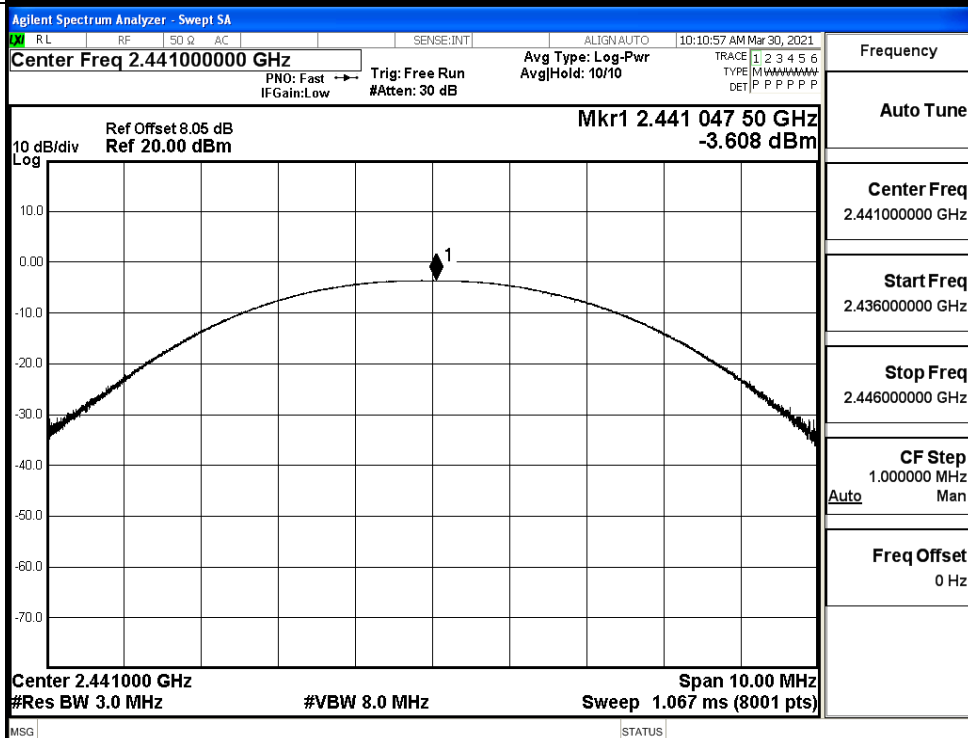
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-3.641	21	PASS
	MCH	-3.608	21	PASS
	HCH	-4.321	21	PASS

Test Graphs

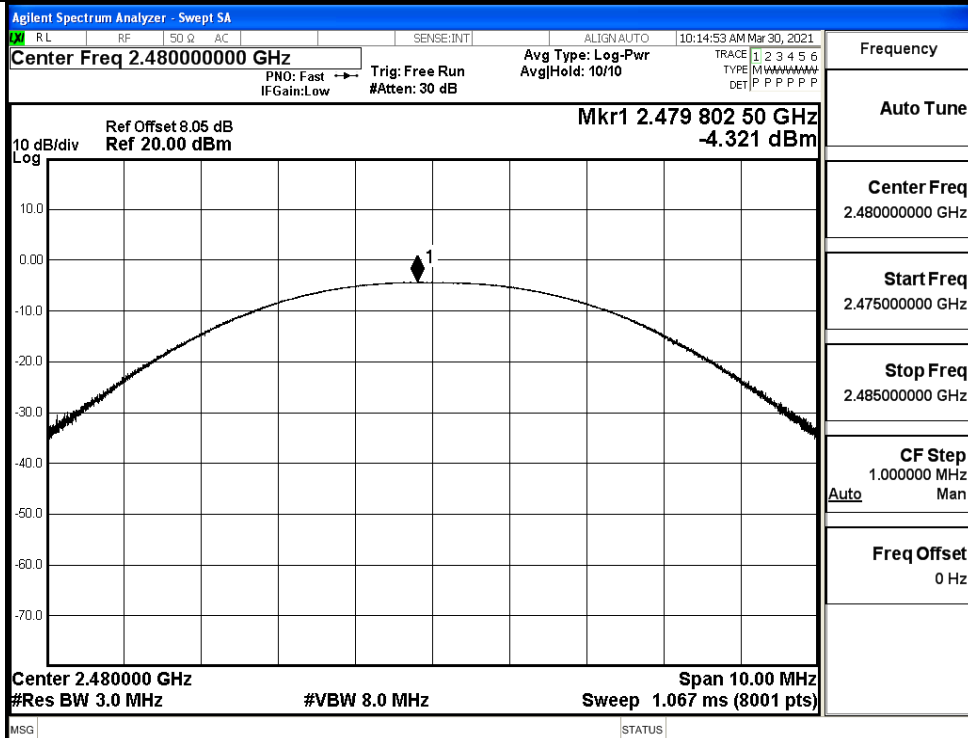
GFSK/LCH



GFSK/MCH



GFSK/HCH

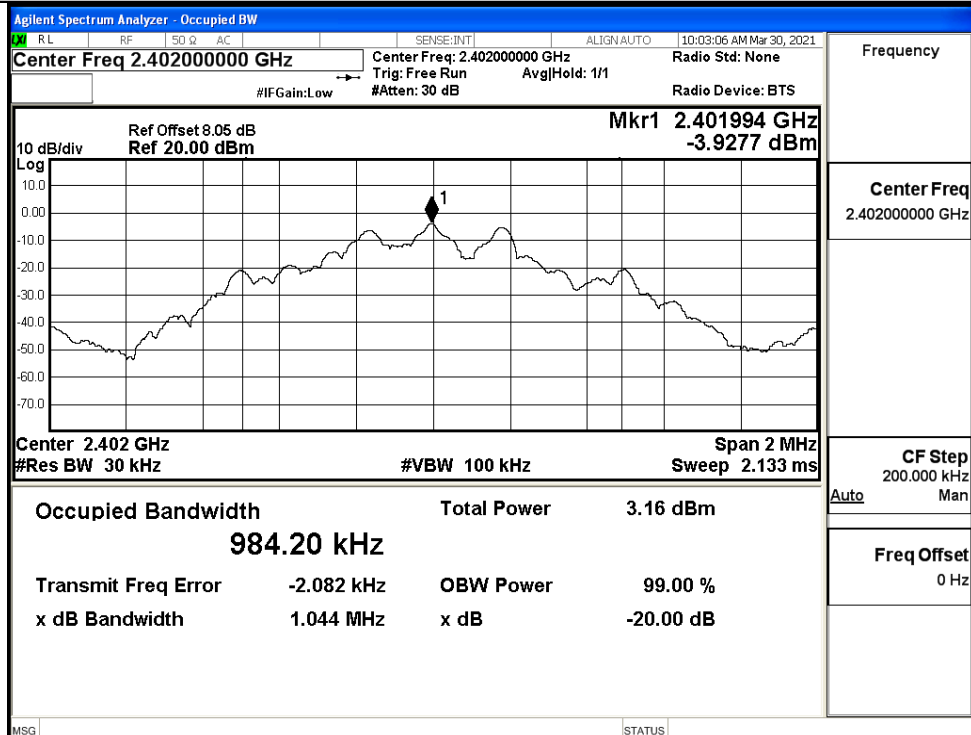


A.2 20dB Bandwidth

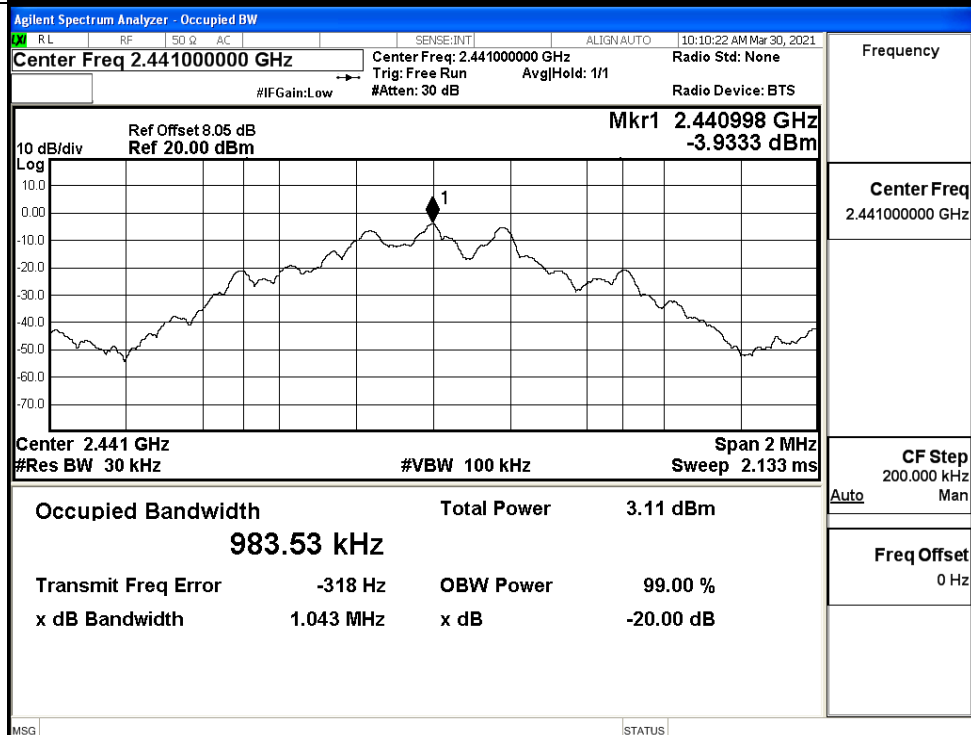
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.044	Not Specified	PASS
	MCH	1.043	Not Specified	PASS
	HCH	1.043	Not Specified	PASS

Test Graphs

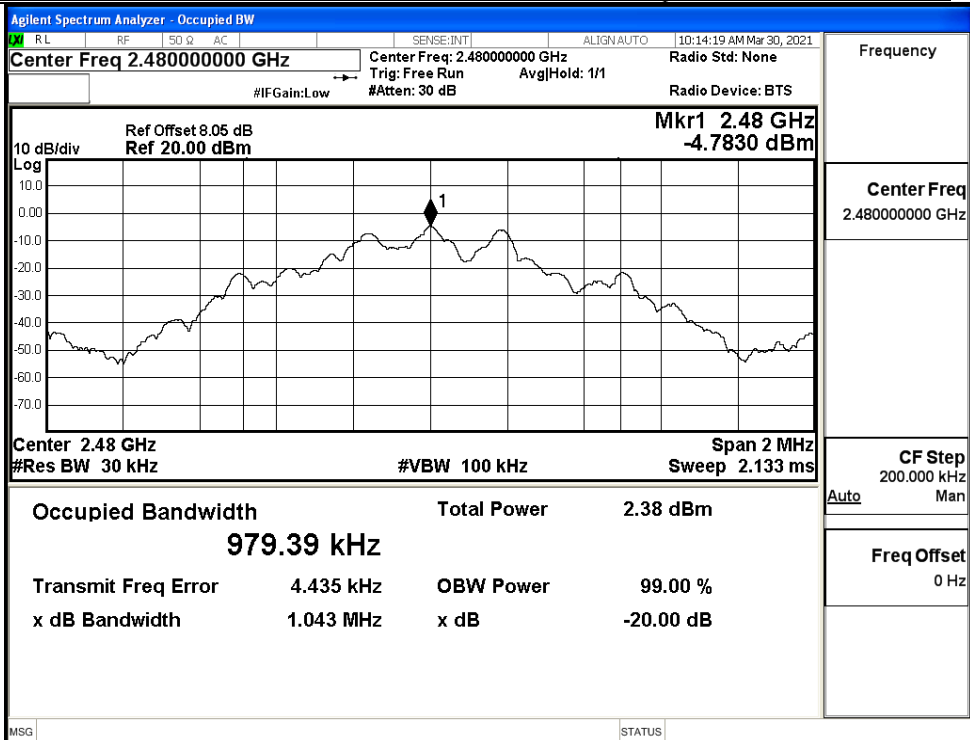
GFSK/LCH



GFSK/MCH



GFSK/HCH

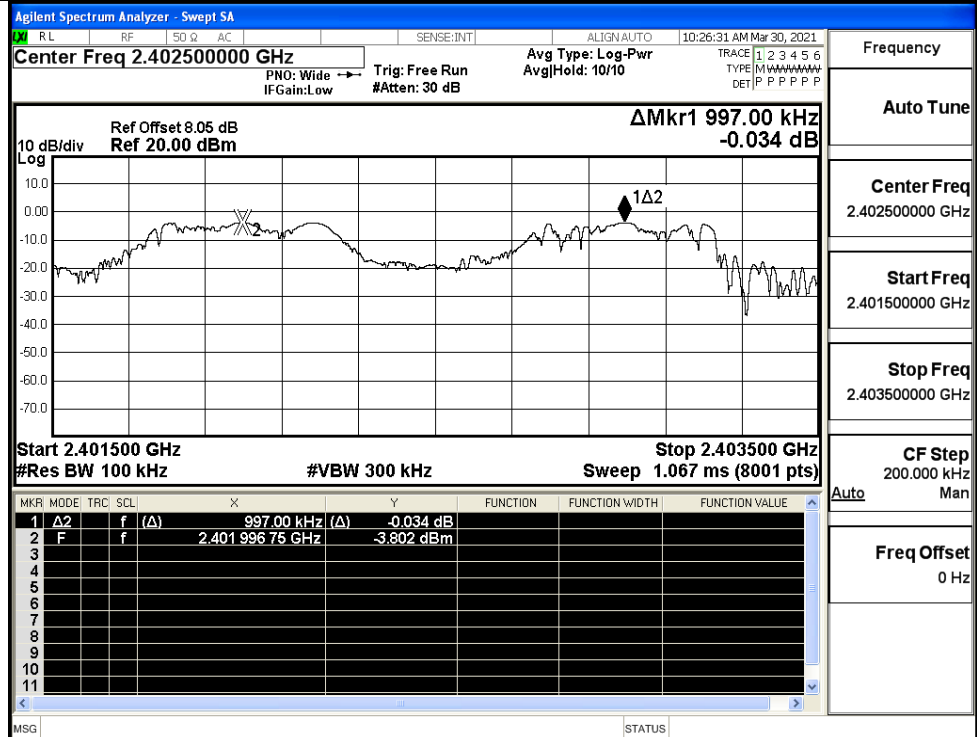


A.3 Carrier Frequency Separation

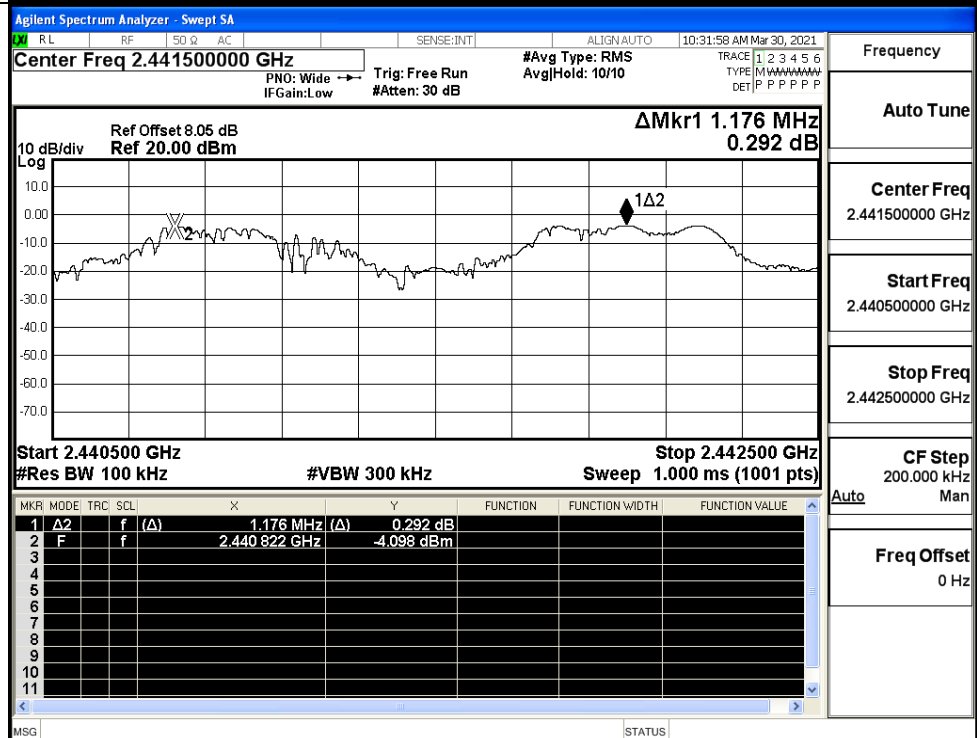
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.997	0.696	PASS
	MCH	1.176	0.696	PASS
	HCH	1.000	0.696	PASS

Test Graphs

GFSK/LCH



GFSK/MCH



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 10:35:46 AM Mar 30, 2021

Center Freq 2.479500000 GHz PNO: Wide IF Gain: Low Trig: Free Run #Atten: 30 dB #Avg Type: RMS Avg Hold: 10/10 TRACE 1 2 3 4 5 6 TYPE M W X Y Z P P P P P P DET P P P P P P

Ref Offset 8.05 dB Ref 20.00 dBm Δ Mkr1 1.000 MHz 0.003 dB

10 dB/div Log

Start 2.478500 GHz Stop 2.480500 GHz
#Res BW 100 kHz #VBW 300 kHz Sweep 1.000 ms (1001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ 2	f	(Δ)	1.000 MHz	(Δ) 0.003 dB			
2	F	f		2.479 004 GHz	-4.503 dBm			
3								
4								
5								
6								
7								
8								
9								
10								
11								

MSG STATUS

Frequency

Auto Tune

Center Freq
2.479500000 GHz

Start Freq
2.478500000 GHz

Stop Freq
2.480500000 GHz

CF Step
200.00 kHz
Man

Freq Offset
0 Hz

Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS

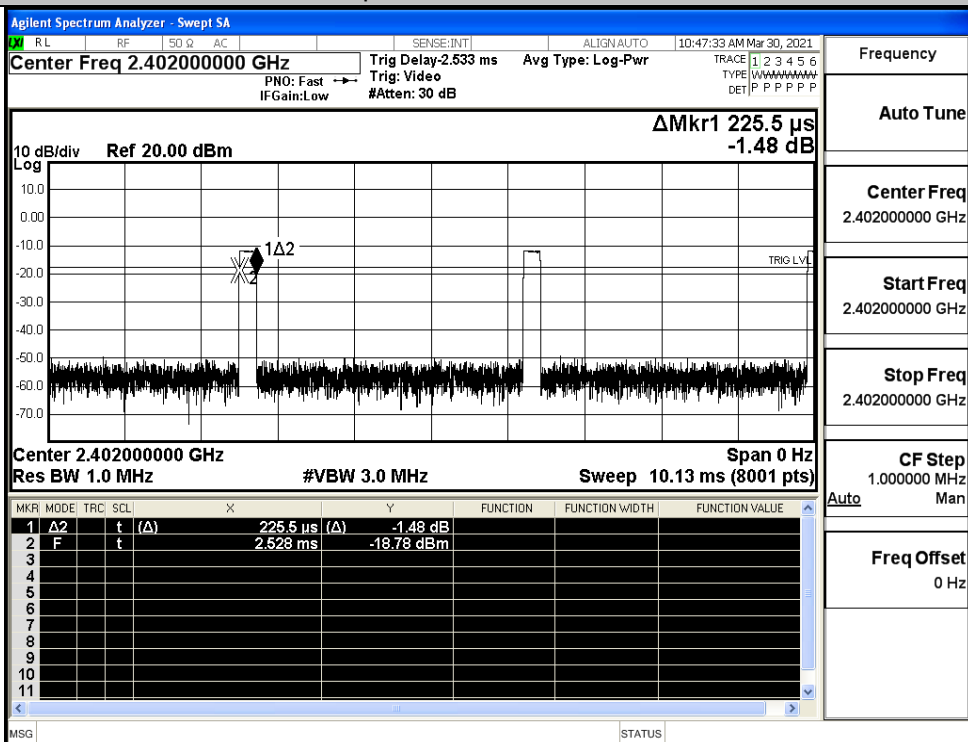


A.5 Dwell Time

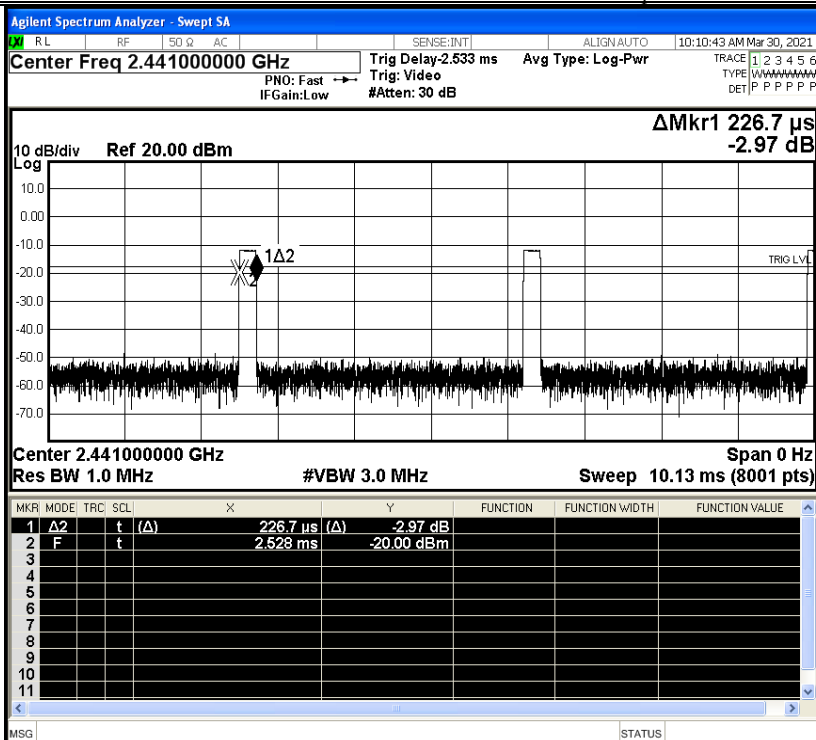
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	0.23	106.7	0.025	0.4	PASS
	DH5	MCH	0.23	106.7	0.025	0.4	PASS
	DH5	HCH	0.23	106.7	0.025	0.4	PASS

Test Graphs

GFSK_DH5/LCH



GFSK_DH5/MCH

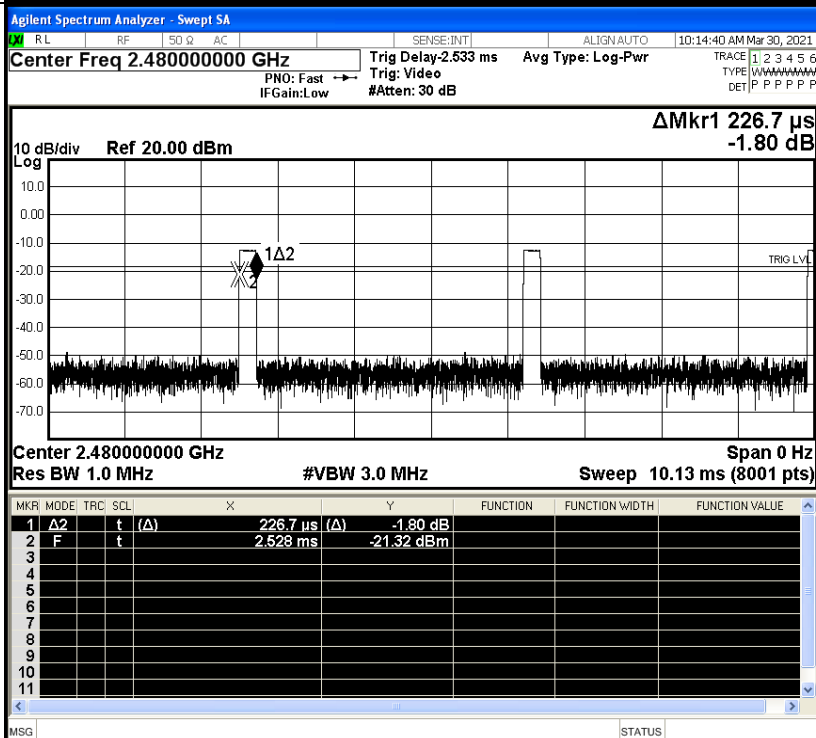


Frequency

Auto Tune

Center Freq
2.441000000 GHzStart Freq
2.441000000 GHzStop Freq
2.441000000 GHzCF Step
1.000000 MHz
AutoFreq Offset
0 Hz

GFSK_DH5/HCH



Frequency

Auto Tune

Center Freq
2.480000000 GHzStart Freq
2.480000000 GHzStop Freq
2.480000000 GHzCF Step
1.000000 MHz
AutoFreq Offset
0 Hz

A.6 RF Conducted Spurious Emissions

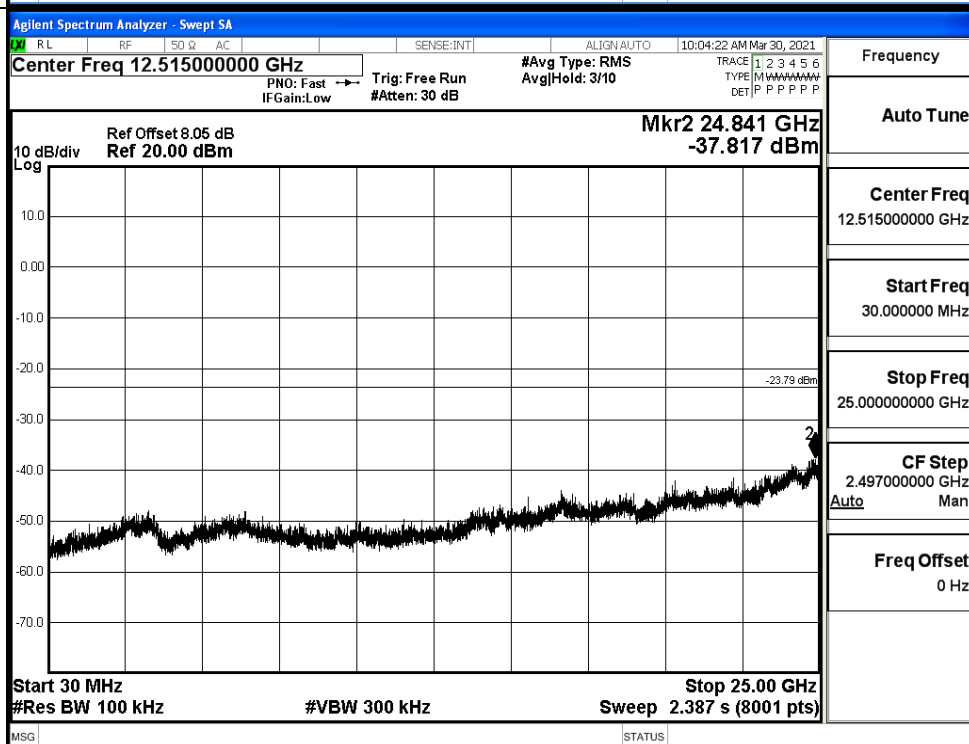
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-3.793	-37.817	-23.793	PASS
	MCH	-3.798	-38.087	-23.798	PASS
	HCH	-4.55	-38.180	-24.550	PASS

GFSK LCH Graphs

Pref

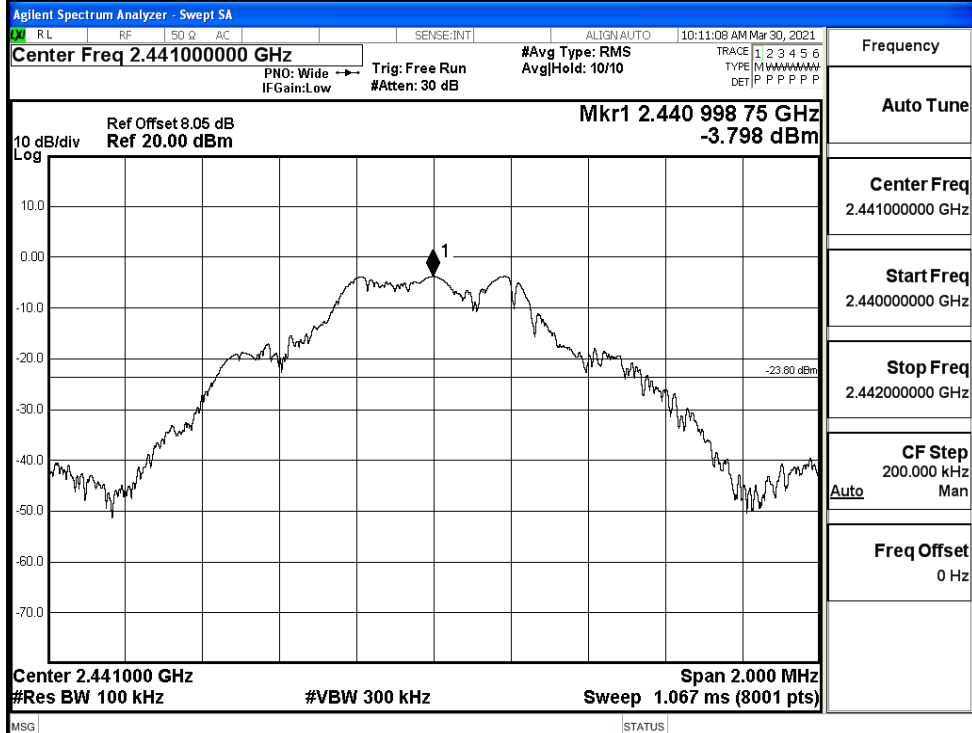


Puw

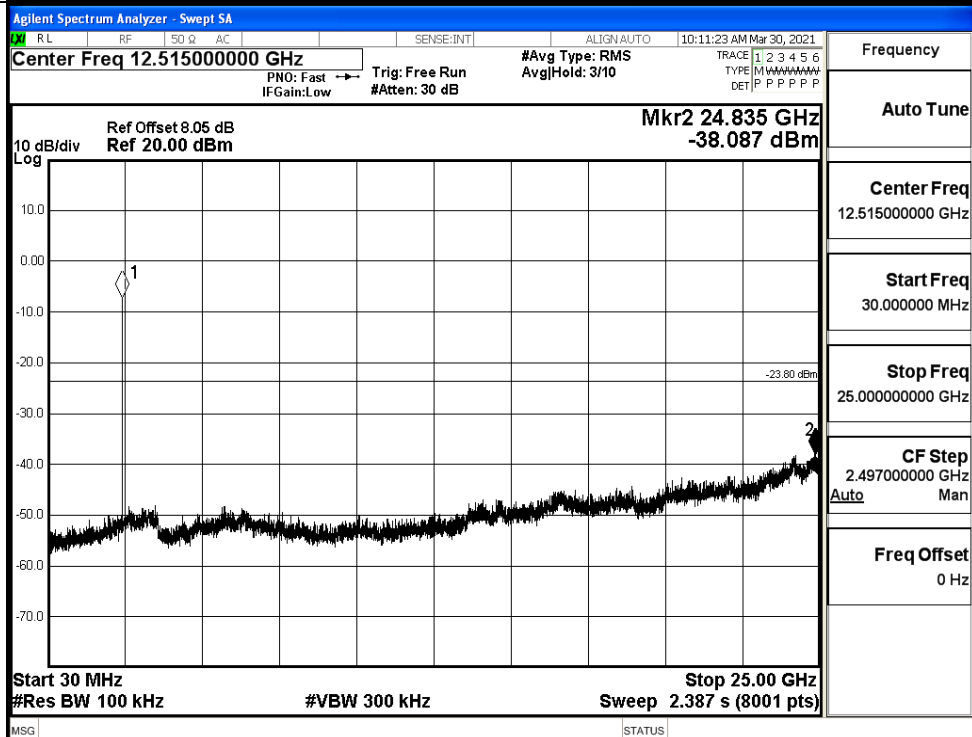


GFSK MCH_Graphs

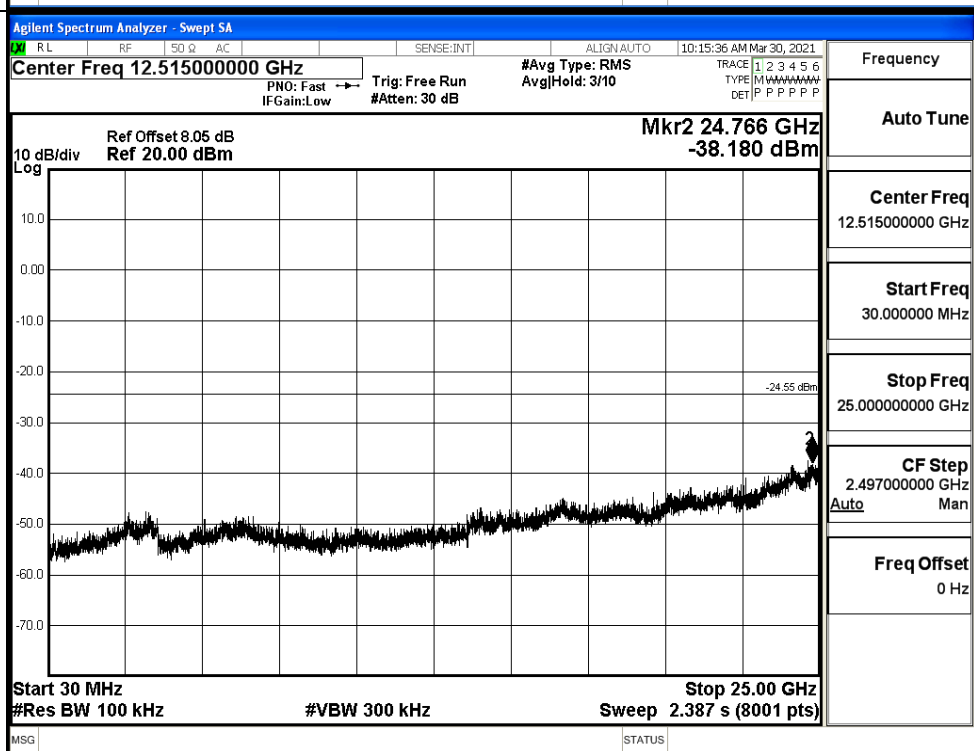
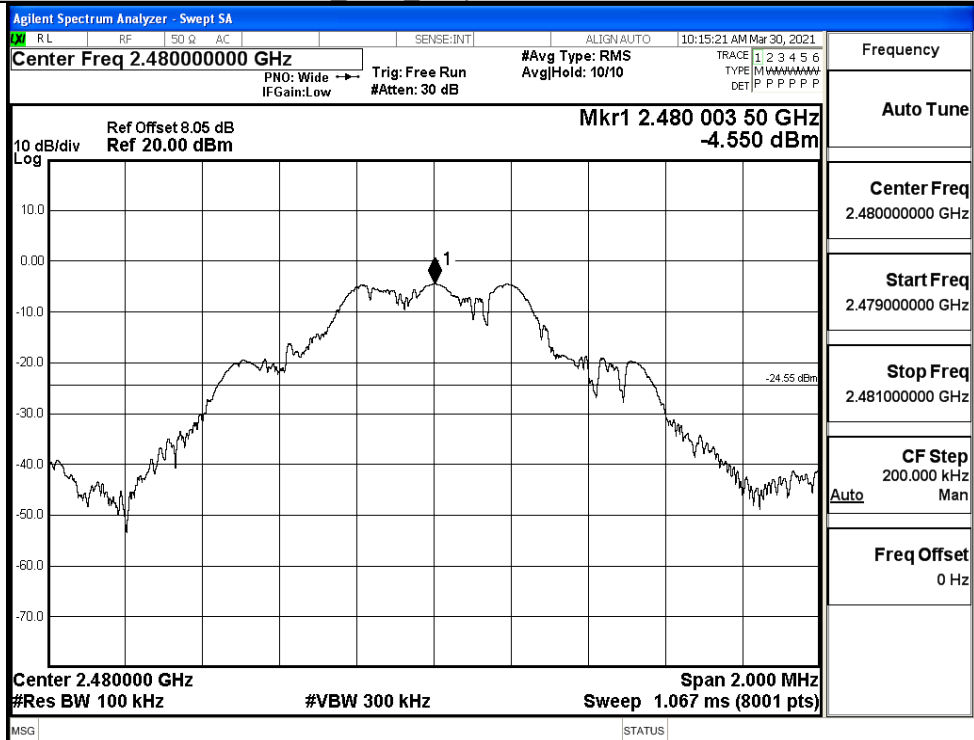
Pref



Puw



GFSK_HCH_Graphs

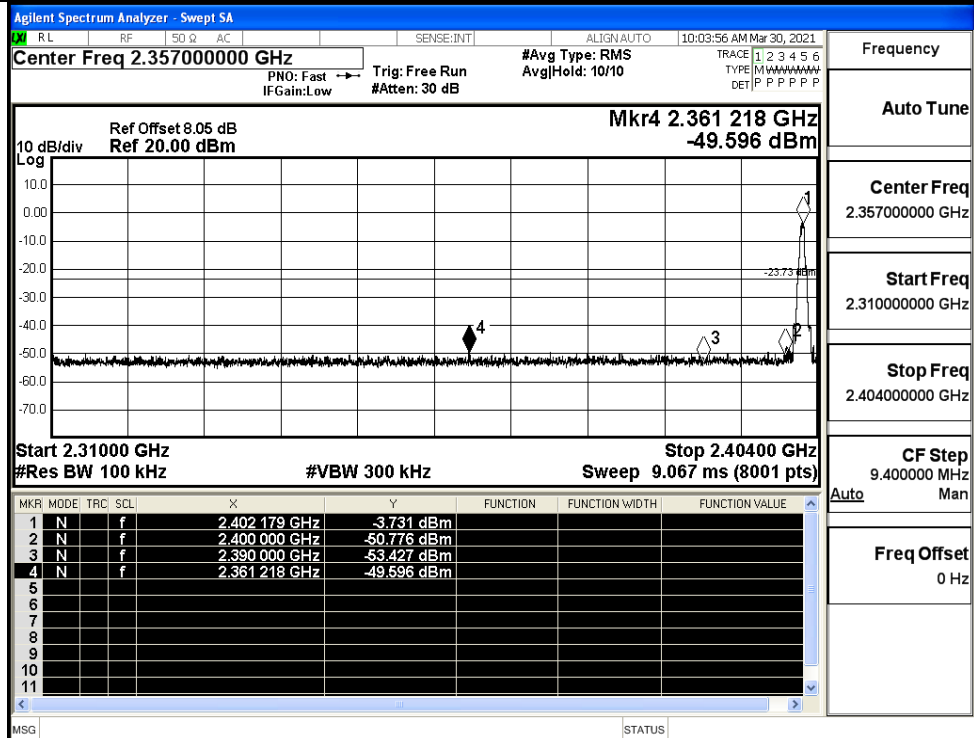


A.7 Band-edge for RF Conducted Emissions

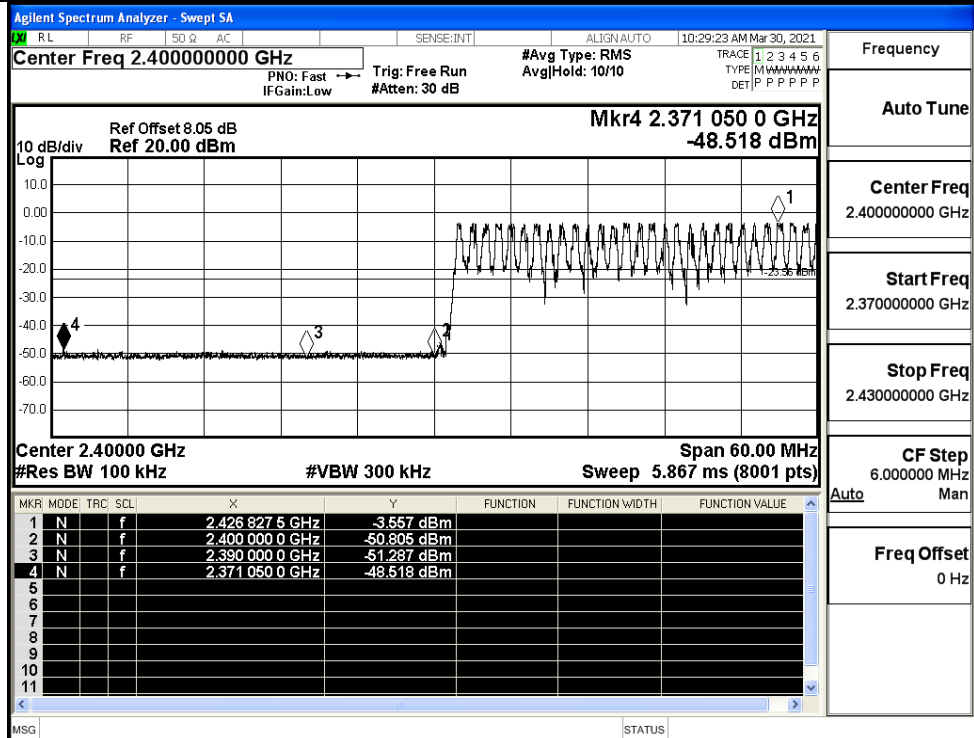
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-3.731	Off	-49.596	-23.73	PASS
			-3.557	On	-48.518	-23.56	PASS
	HCH	2480	-4.558	Off	-49.157	-24.56	PASS
			-4.158	On	-48.430	-24.16	PASS

Test Graphs

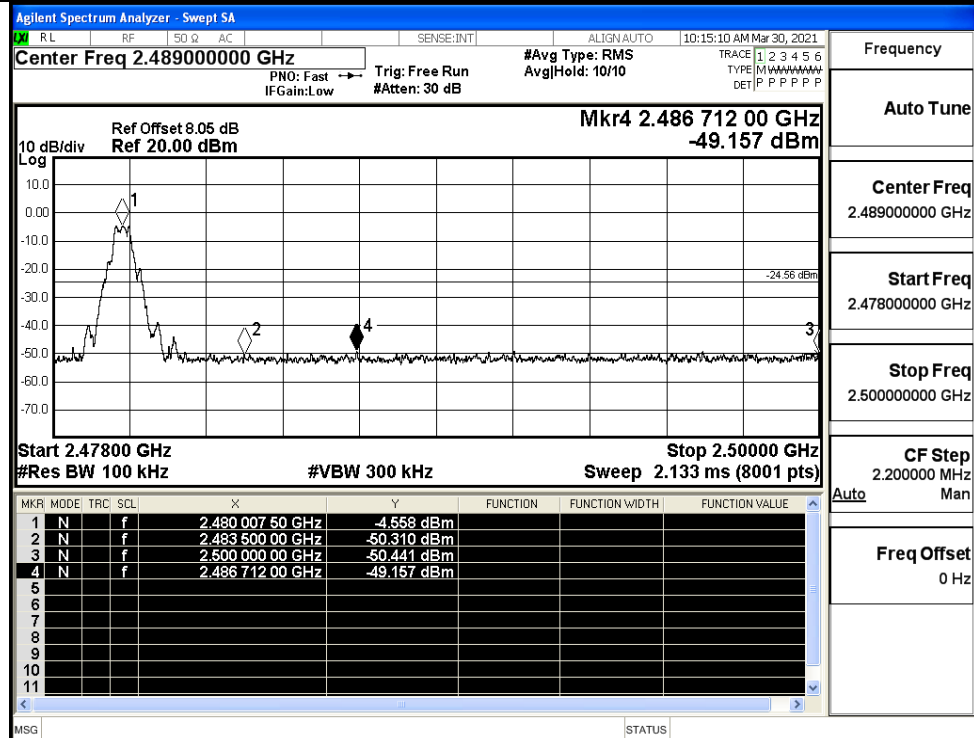
GFSK/LCH/No Hop



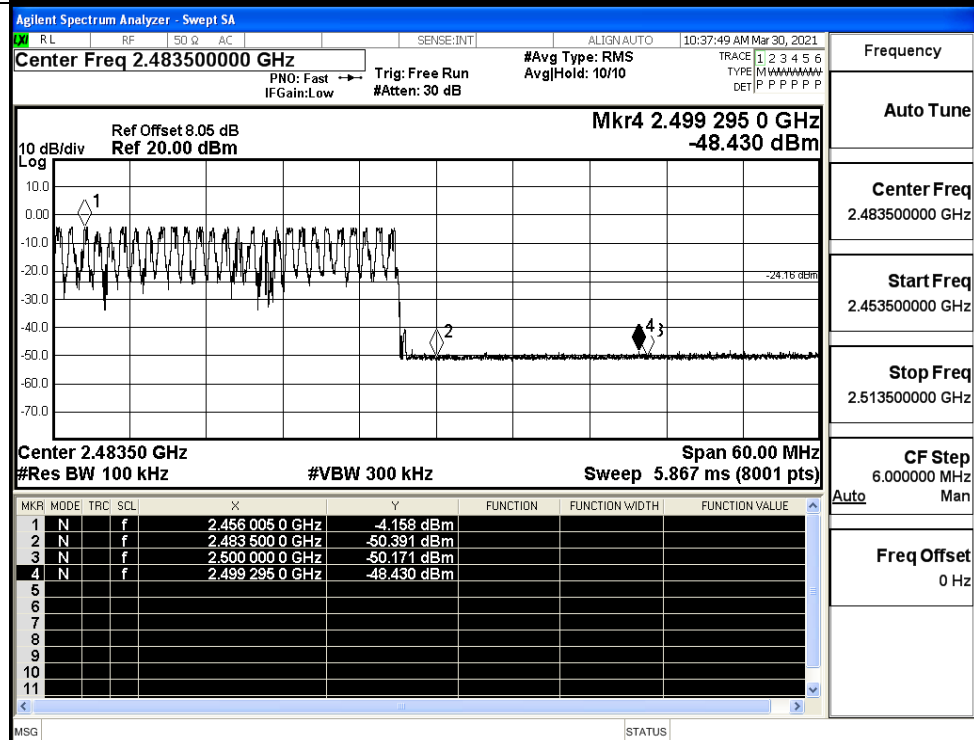
GFSK/LCH/Hop



GFSK/HCH/No Hop



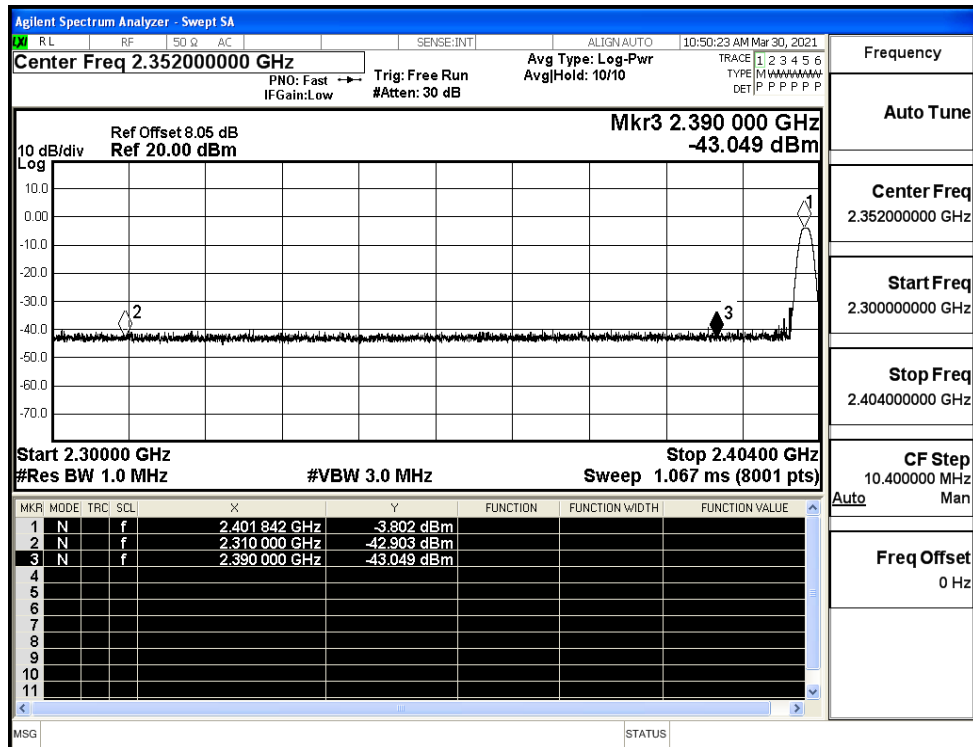
GFSK/HCH/Hop



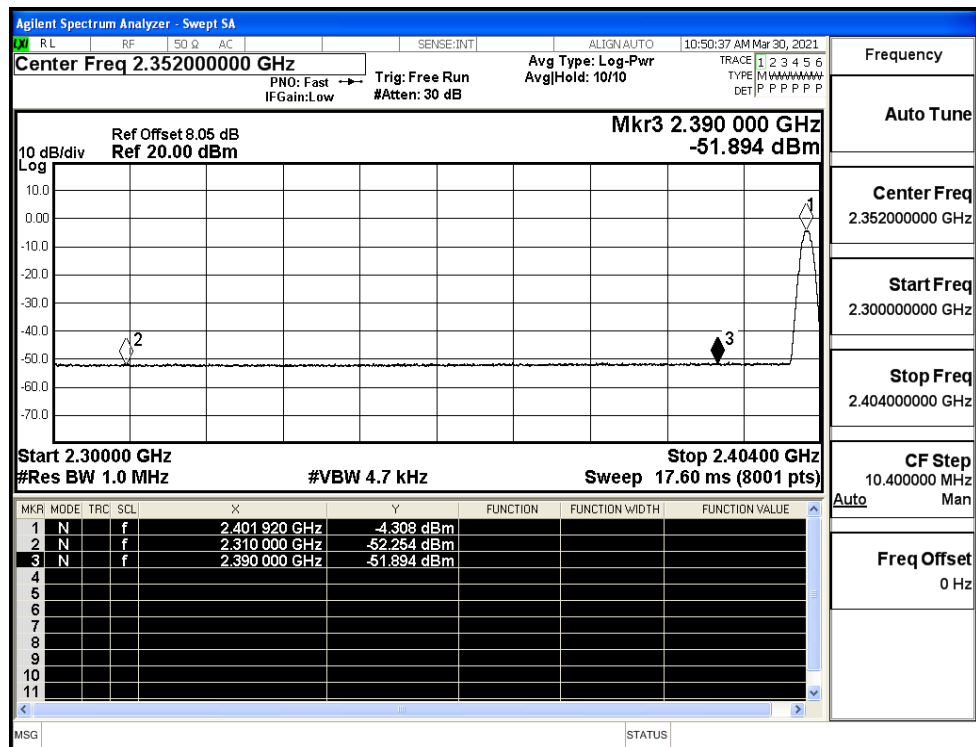
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-42.90	2.0	0	52.35	PEAK	74	PASS
	Off	2310.0	-52.25	2.0	0	43.00	AV	54	PASS
	Off	2390.0	-43.05	2.0	0	52.21	PEAK	74	PASS
	Off	2390.0	-51.89	2.0	0	43.36	AV	54	PASS
	Off	2483.5	-42.05	2.0	0	53.20	PEAK	74	PASS
	Off	2483.5	-51.13	2.0	0	44.13	AV	54	PASS
	Off	2500.0	-40.55	2.0	0	54.71	PEAK	74	PASS
	Off	2500.0	-51.35	2.0	0	43.91	AV	54	PASS

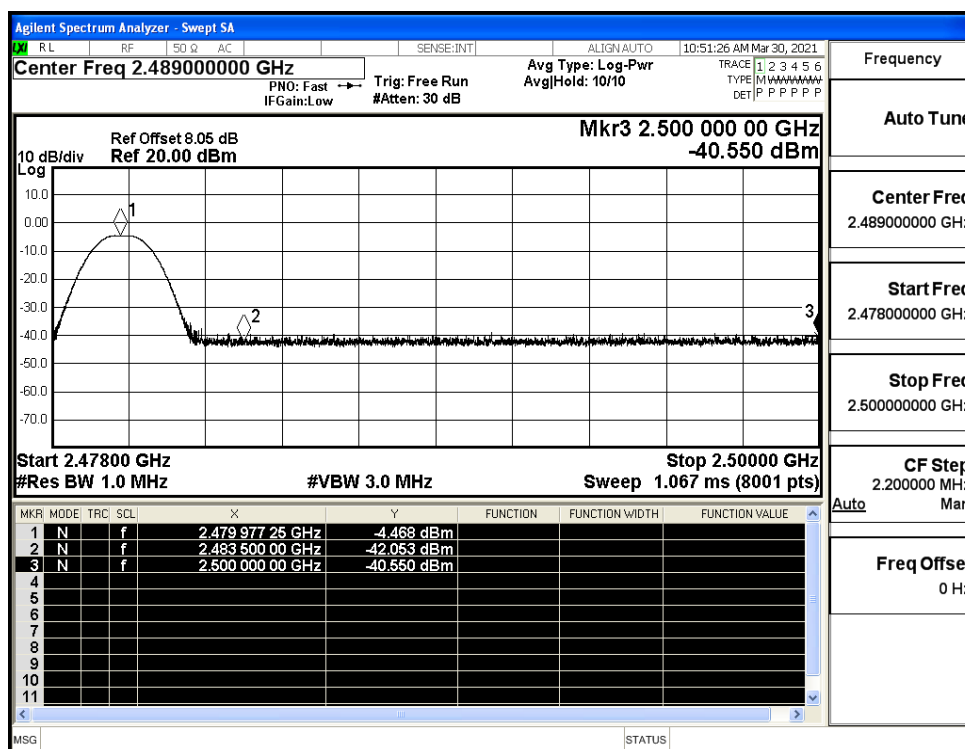
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



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)

