Appendix A

RF Test Data for 2.4G (Conducted Measurement)

Product Name: Stage luminaire

Test Model: CLDROPB4

Environmental Conditions

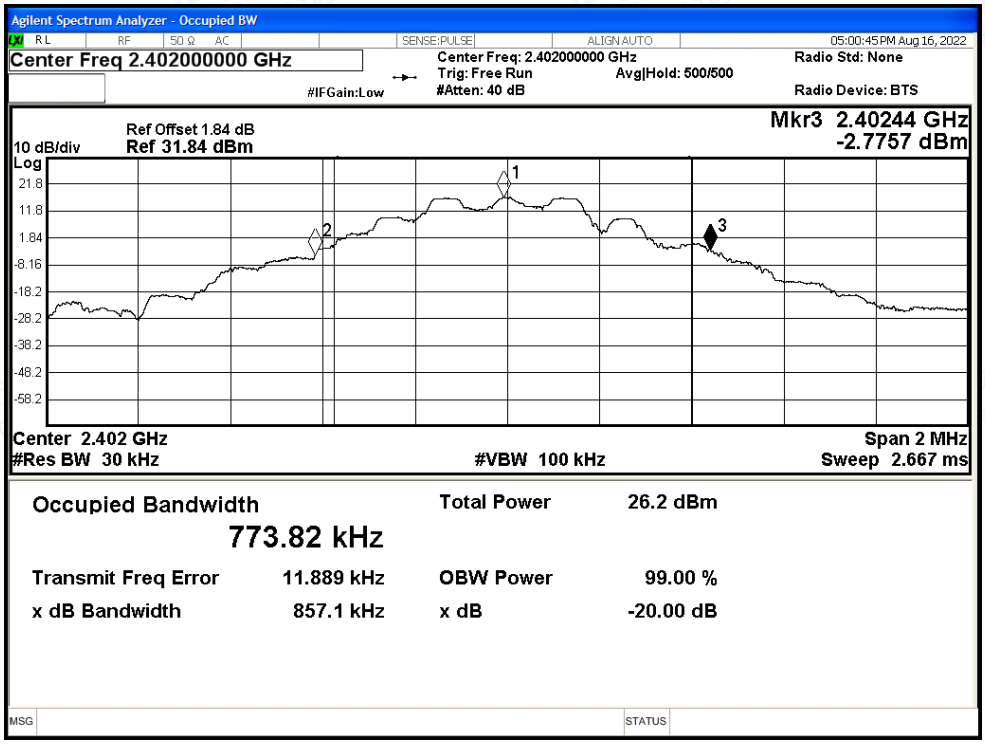
Temperature:	23.5 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Monkey Li
Supervised by:	Li Huan

A.1 20dB Bandwidth

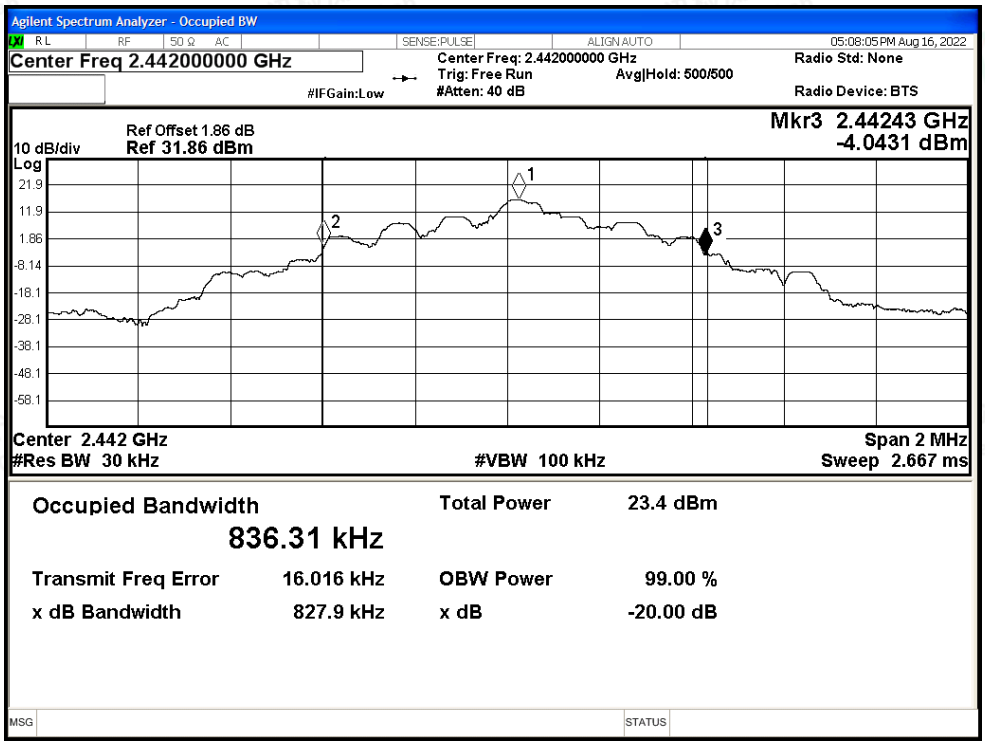
Condition	Mode	Frequency (MHz)	Antenna	20 dB Bandwidth (MHz)	Limit 20 dB Bandwidth (MHz)	Verdict
NVNT	GFSK	2402	Ant1	0.857	N/A	Pass
NVNT	GFSK	2442	Ant1	0.828	N/A	Pass
NVNT	GFSK	2479	Ant1	0.97	N/A	Pass

Test Graphs

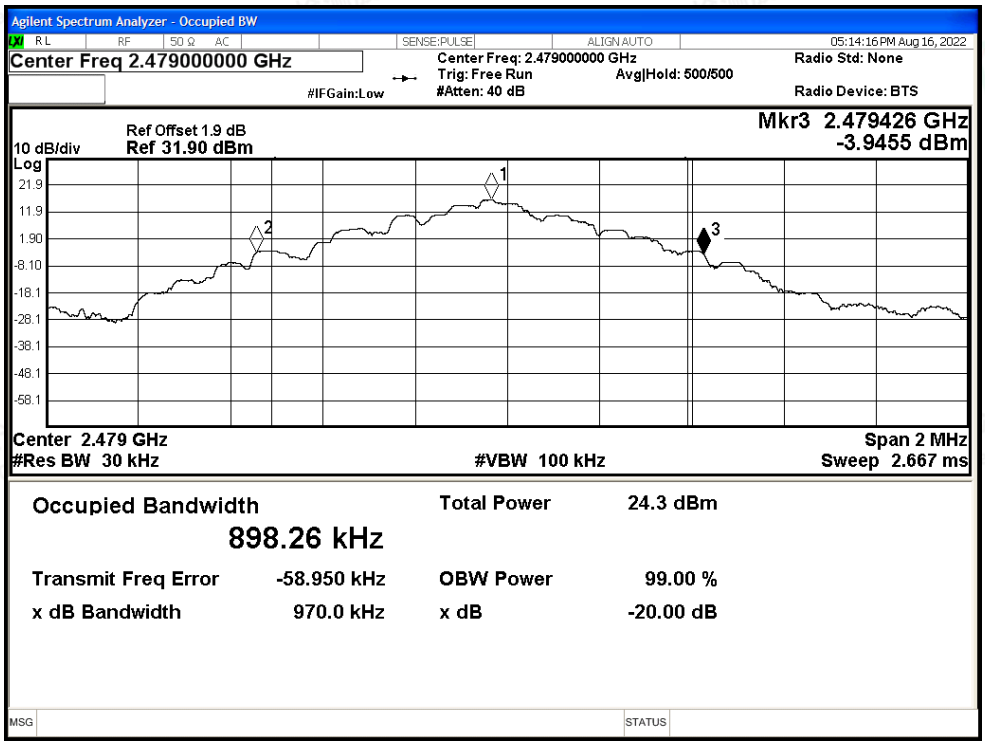
20dB Bandwidth NVNT GFSK 2402MHz Ant1



20dB Bandwidth NVNT GFSK 2442MHz Ant1



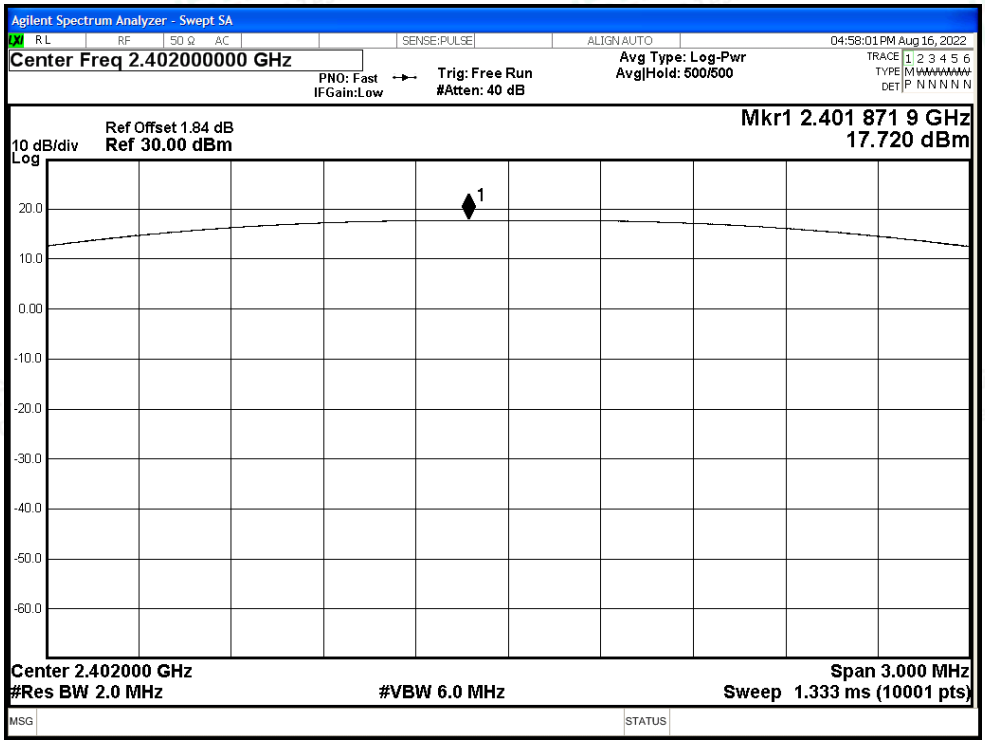
20dB Bandwidth NVNT GFSK 2479MHz Ant1



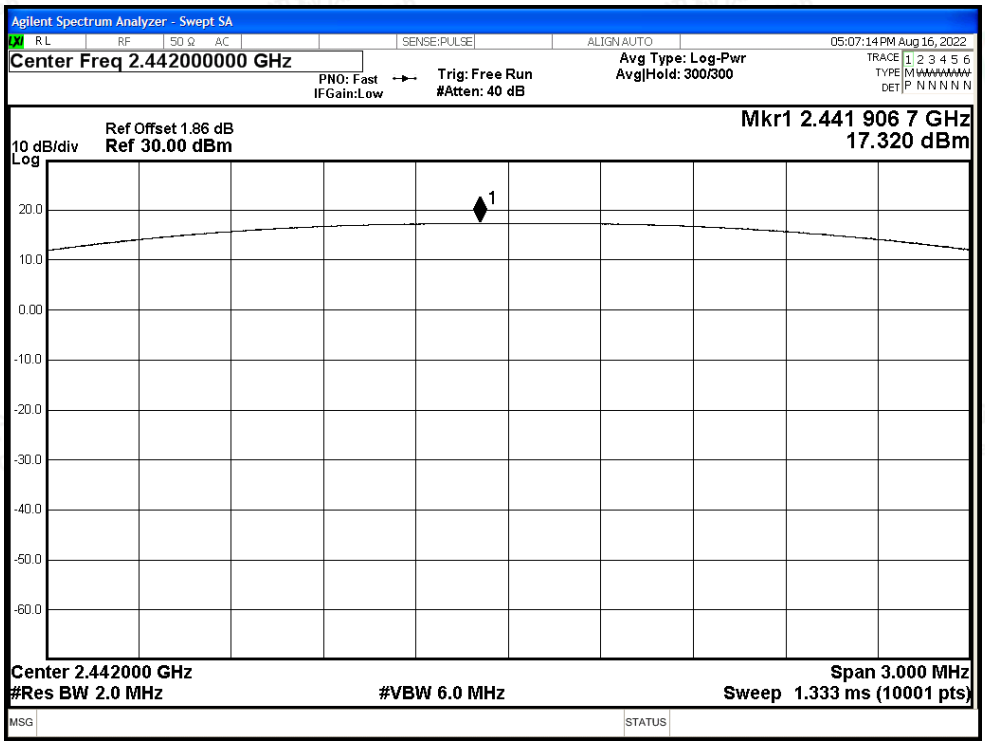
A.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	GFSK	2402	Ant1	17.72	0	17.72	21	Pass
NVNT	GFSK	2442	Ant1	17.32	0	17.32	21	Pass
NVNT	GFSK	2479	Ant1	17.72	0	17.72	21	Pass

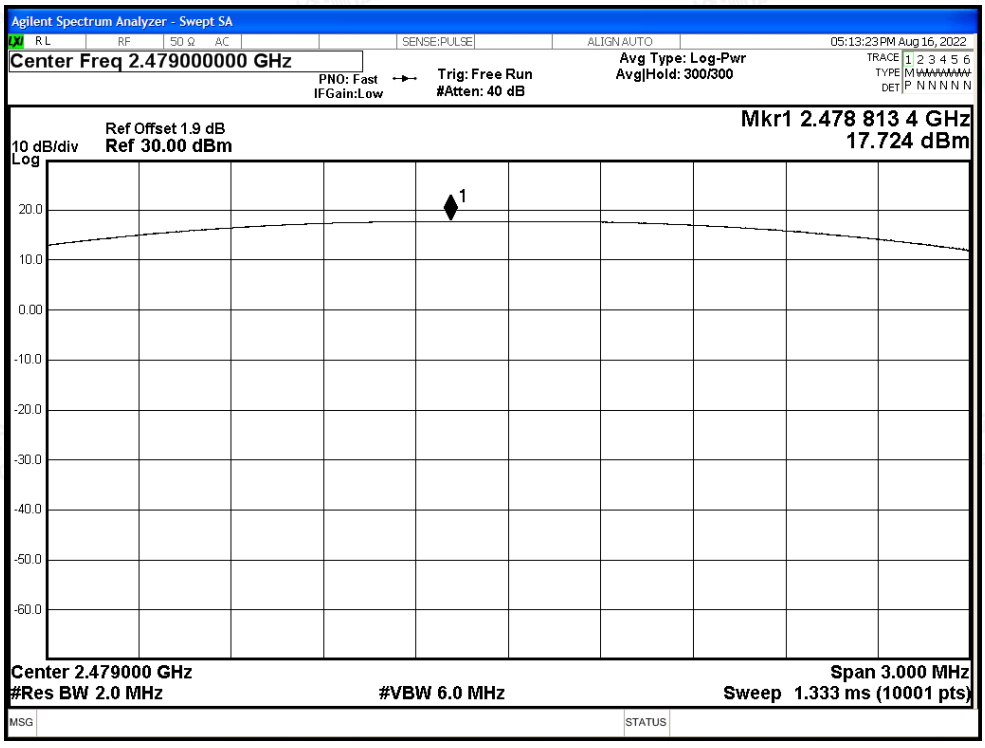
Test Graphs
Power NVNT GFSK 2402MHz Ant1



Power NVNT GFSK 2442MHz Ant1



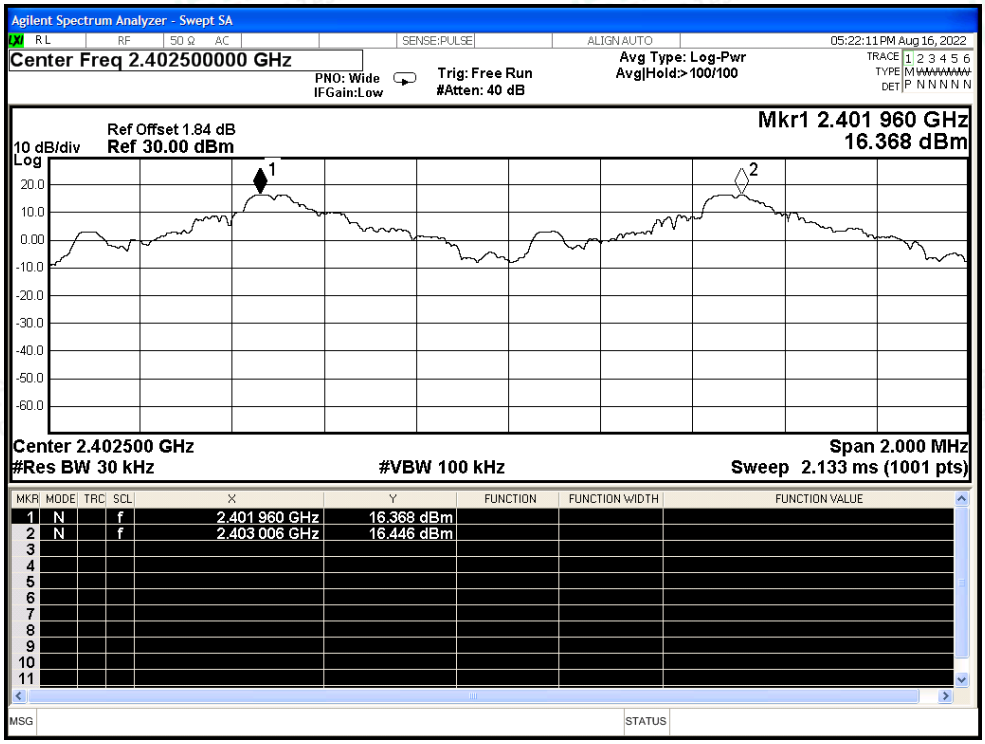
Power NVNT GFSK 2479MHz Ant1



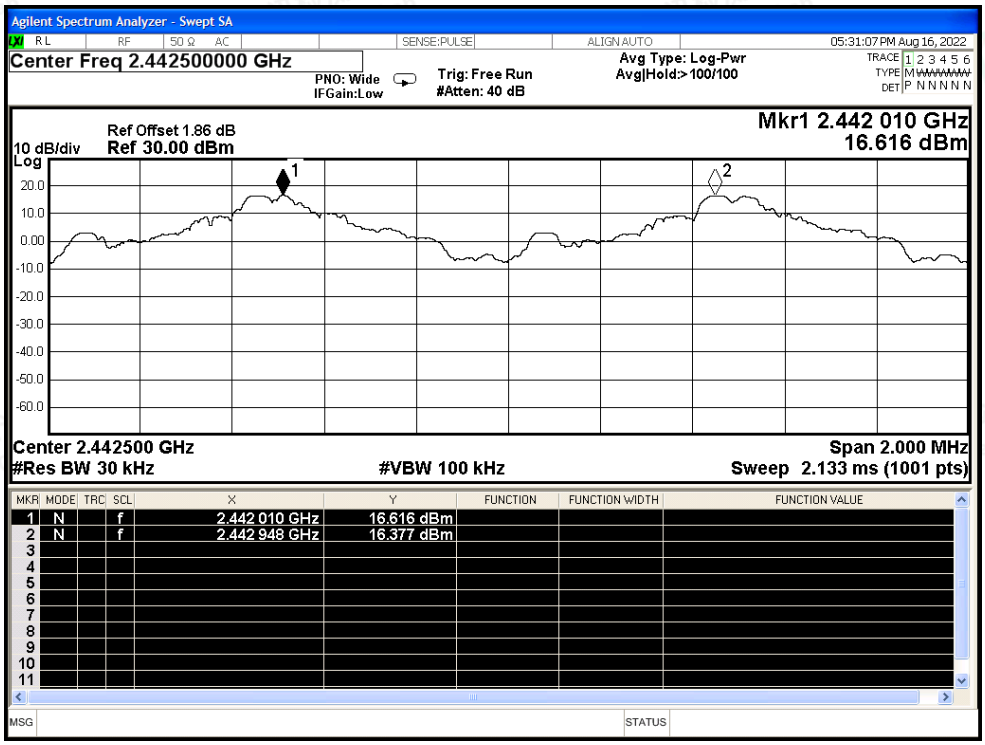
A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	GFSK	Ant1	2401.96	2403.006	1.046	0.571	Pass
NVNT	GFSK	Ant1	2442.01	2442.948	0.938	0.552	Pass
NVNT	GFSK	Ant1	2477.95	2478.95	1	0.647	Pass

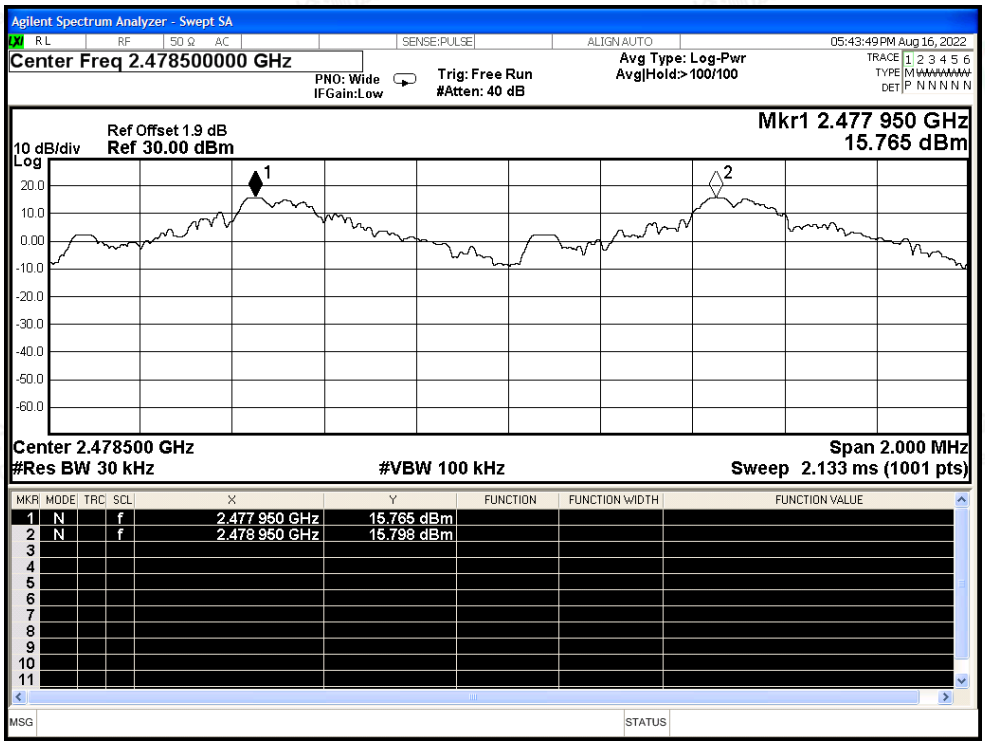
Test Graphs
CFS NVNT GFSK 2402MHz Ant1



CFS NVNT GFSK 2442MHz Ant1



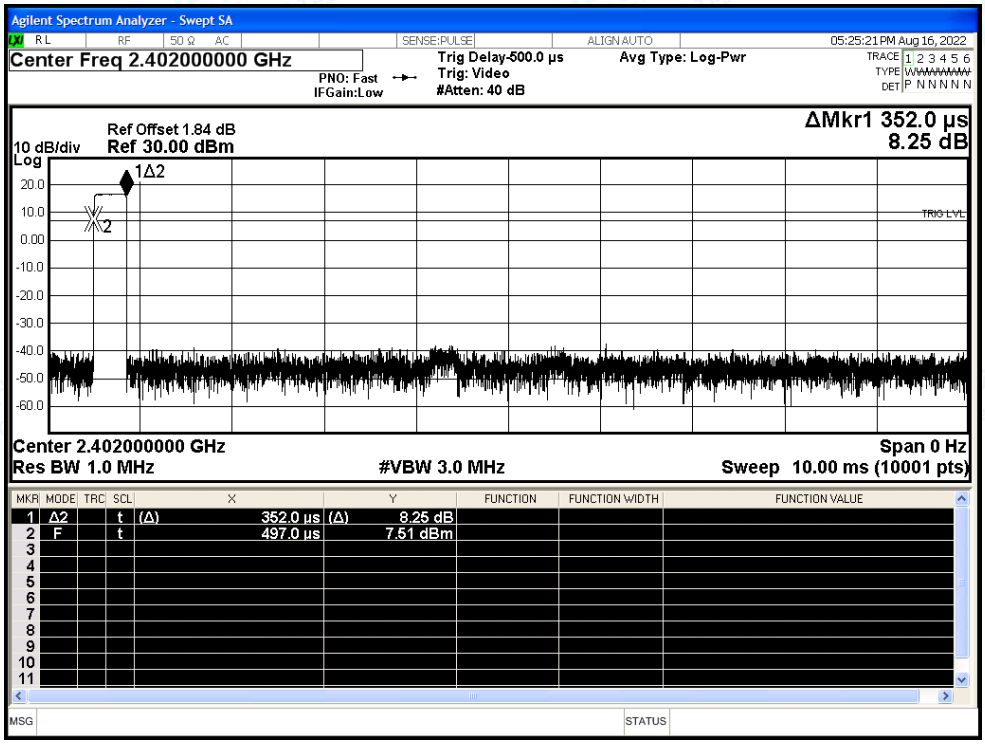
CFS NVNT GFSK 2479MHz Ant1



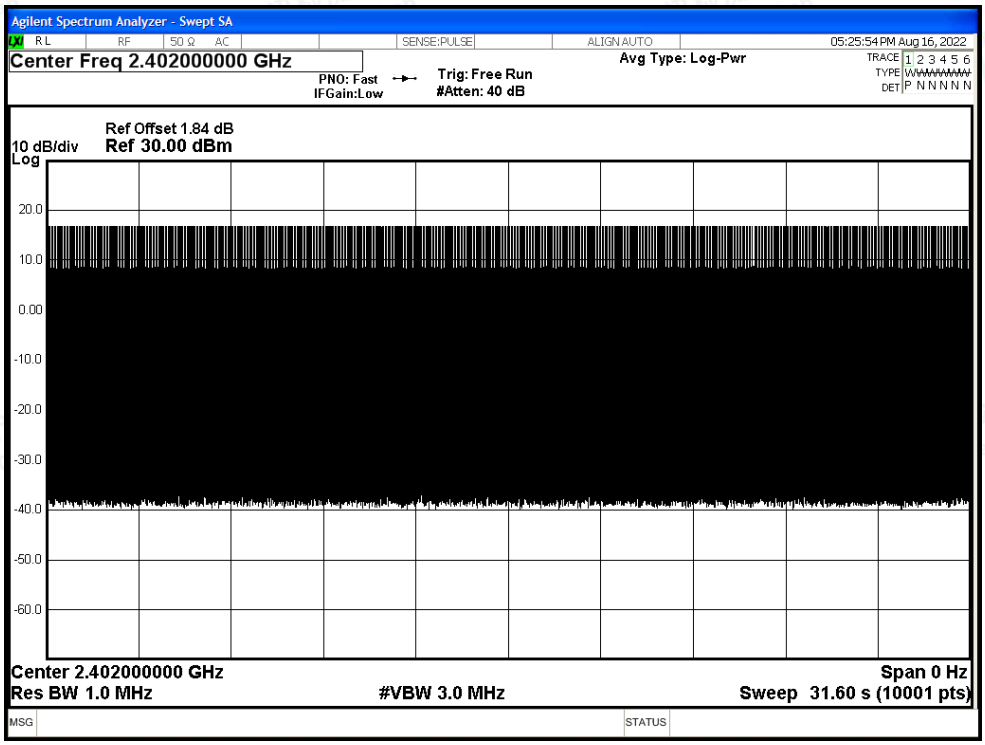
A.4 Dwell Time

Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	GFSK	2402	Ant1	0.352	176.352	501	31600	400	Pass
NVNT	GFSK	2442	Ant1	0.352	176.352	501	31600	400	Pass
NVNT	GFSK	2479	Ant1	0.349	174.849	501	31600	400	Pass

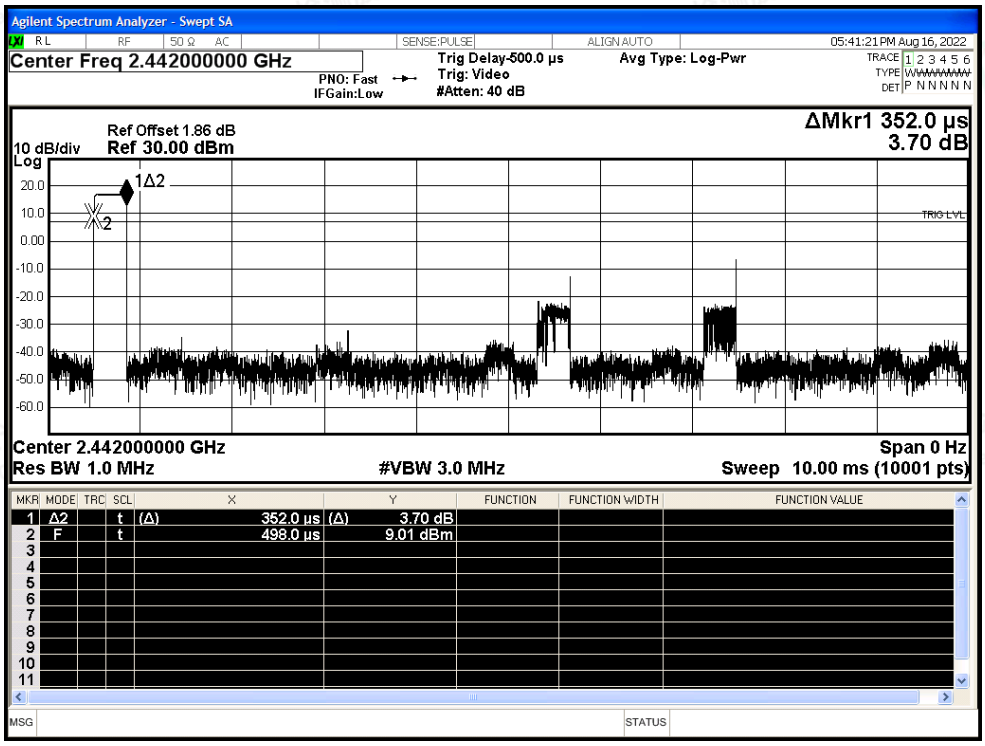
Test Graphs
Dwell NVNT GFSK 2402MHz Ant1 One Burst



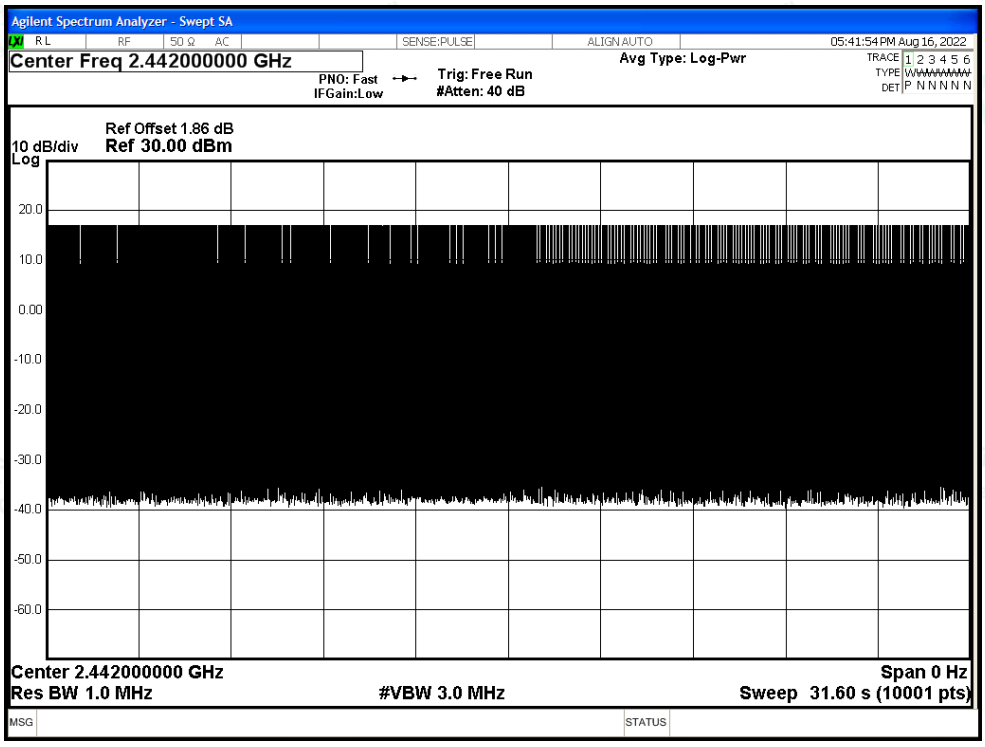
Dwell NVNT GFSK 2402MHz Ant1 Accumulated



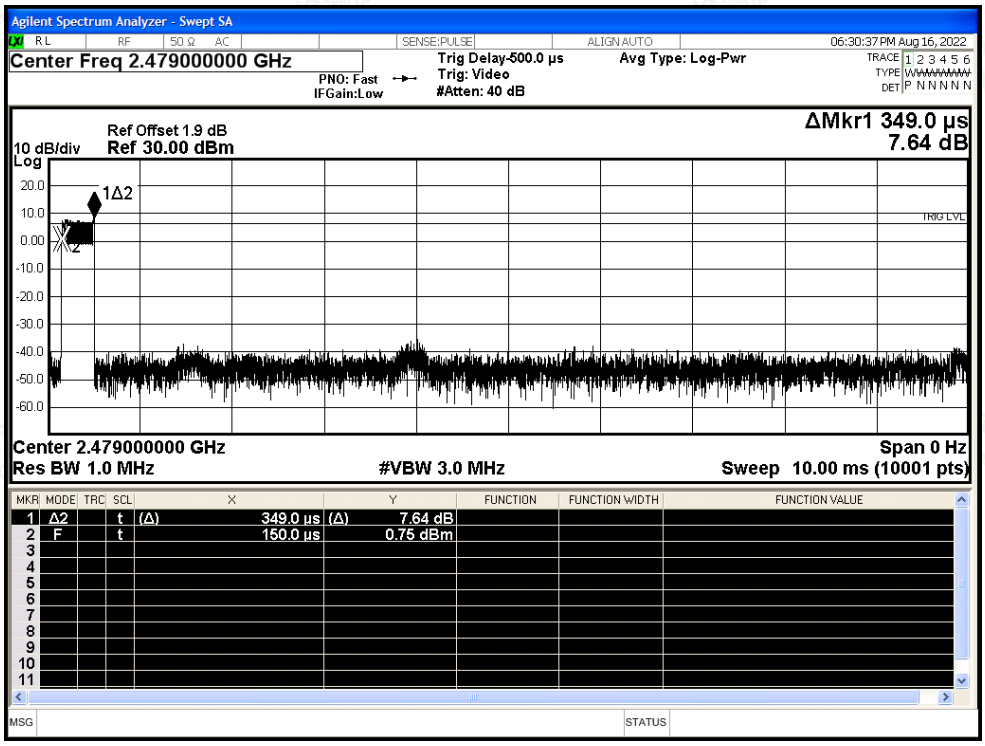
Dwell NVNT GFSK 2442MHz Ant1 One Burst



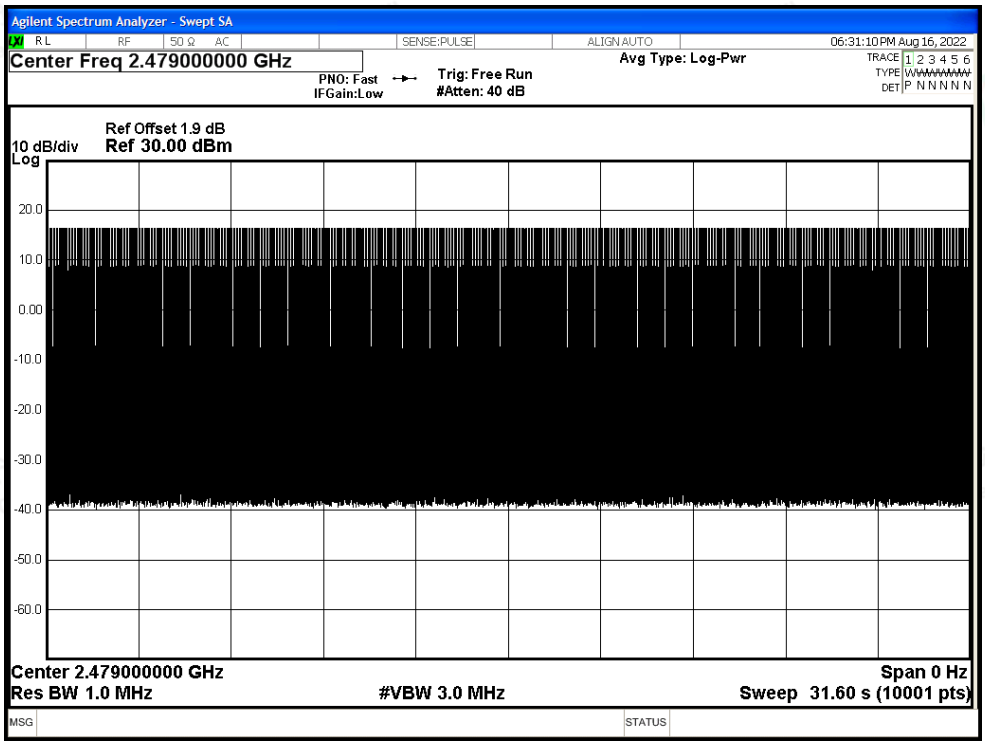
Dwell NVNT GFSK 2442MHz Ant1 Accumulated



Dwell NVNT GFSK 2479MHz Ant1 One Burst



Dwell NVNT GFSK 2479MHz Ant1 Accumulated

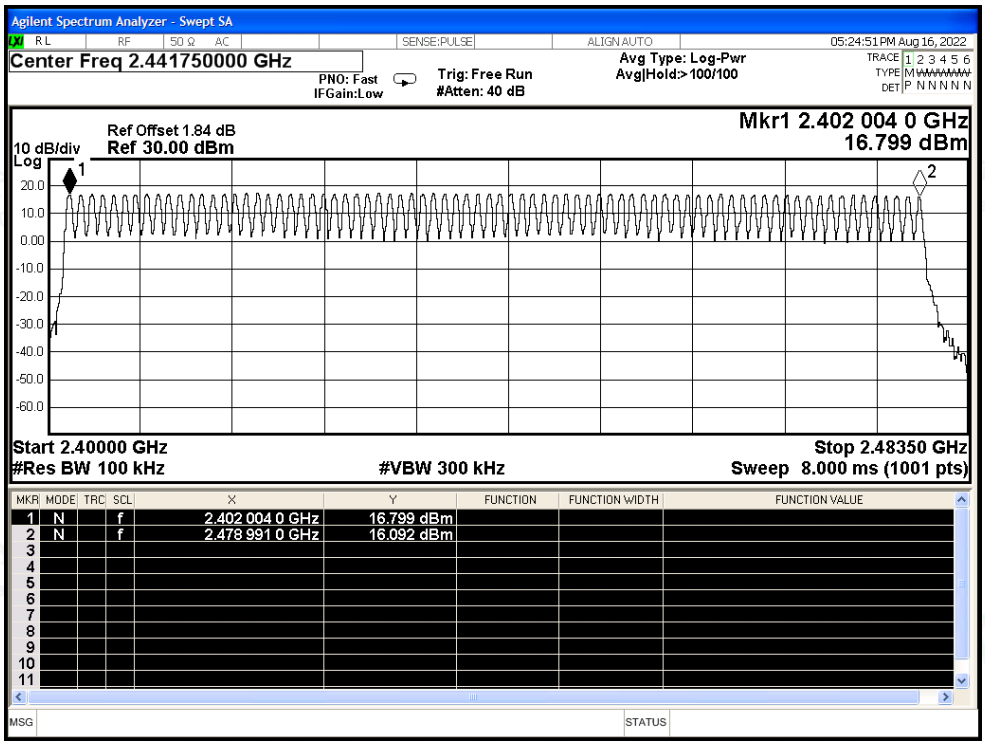


A.5 Number of Hopping Channel

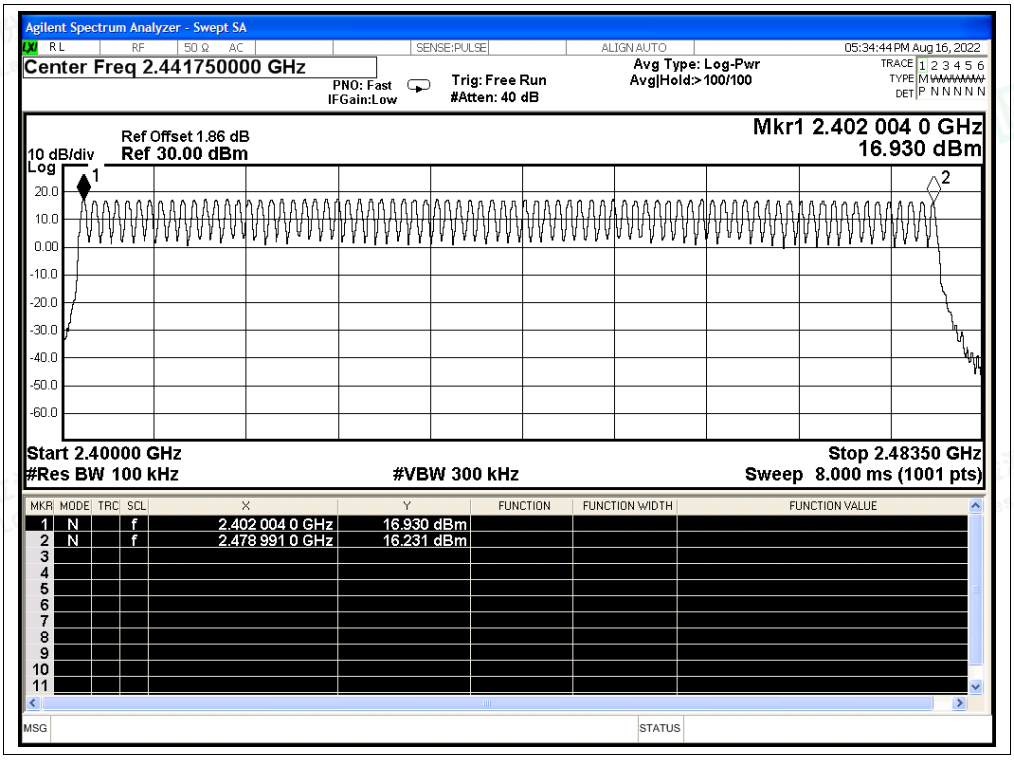
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	GFSK	Ant1	78	15	Pass

Test Graphs

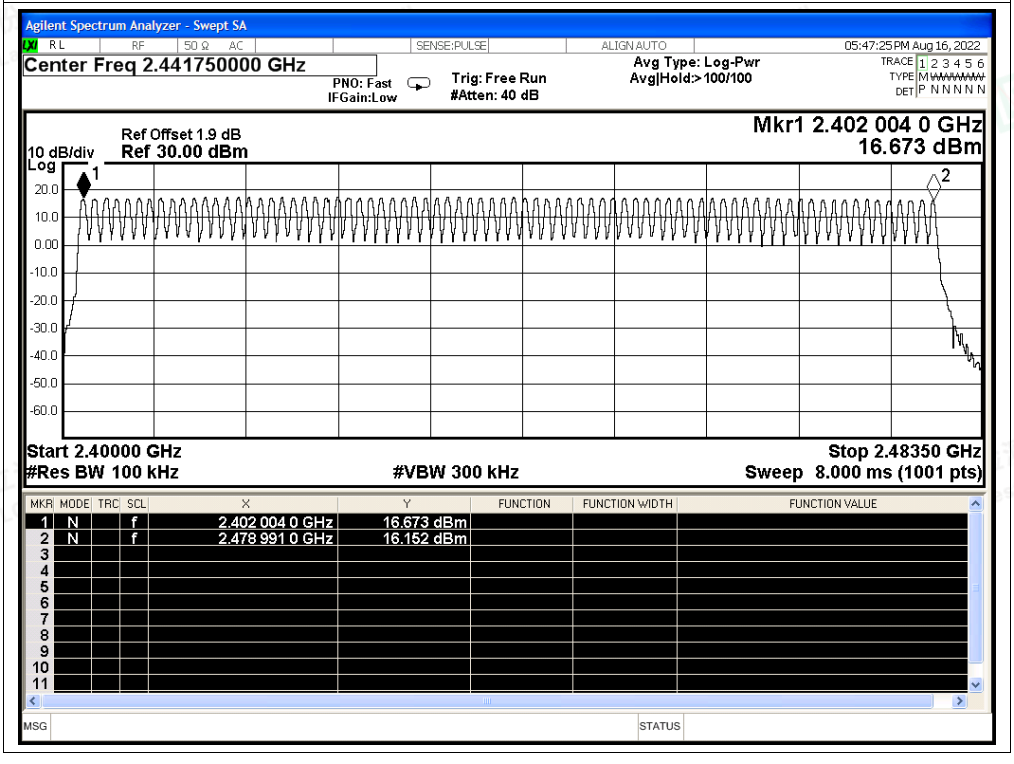
Hopping No. NVNT GFSK 2402MHz Ant1



Hopping No. NVNT GFSK 2442MHz Ant1



Hopping No. NVNT GFSK 2479MHz Ant1

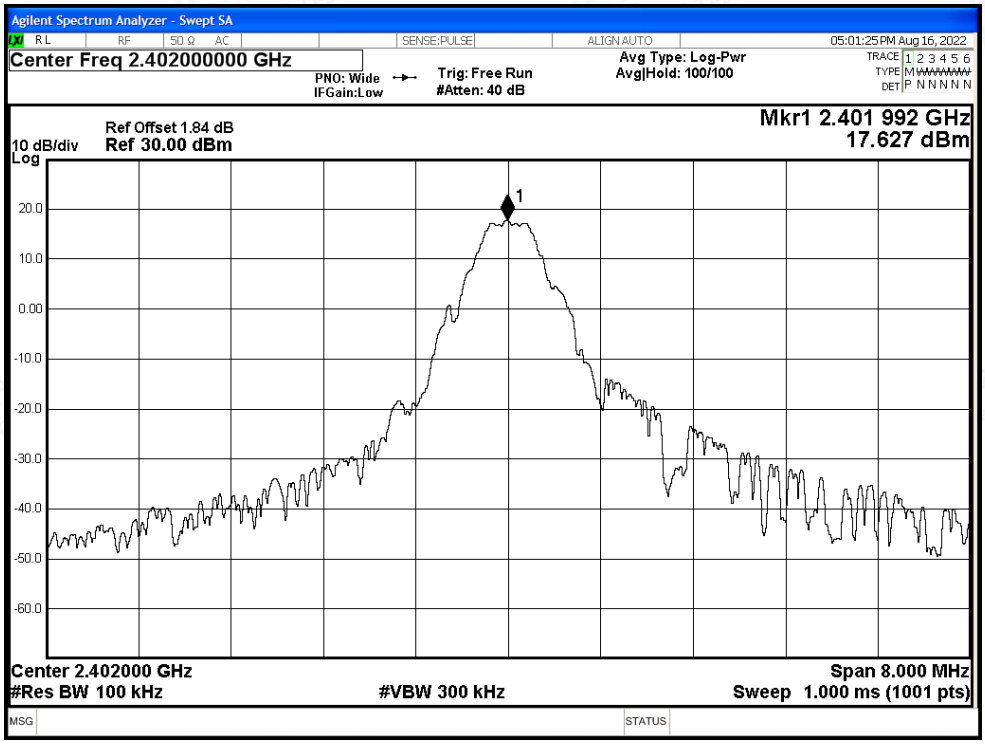


A.6 Band Edge

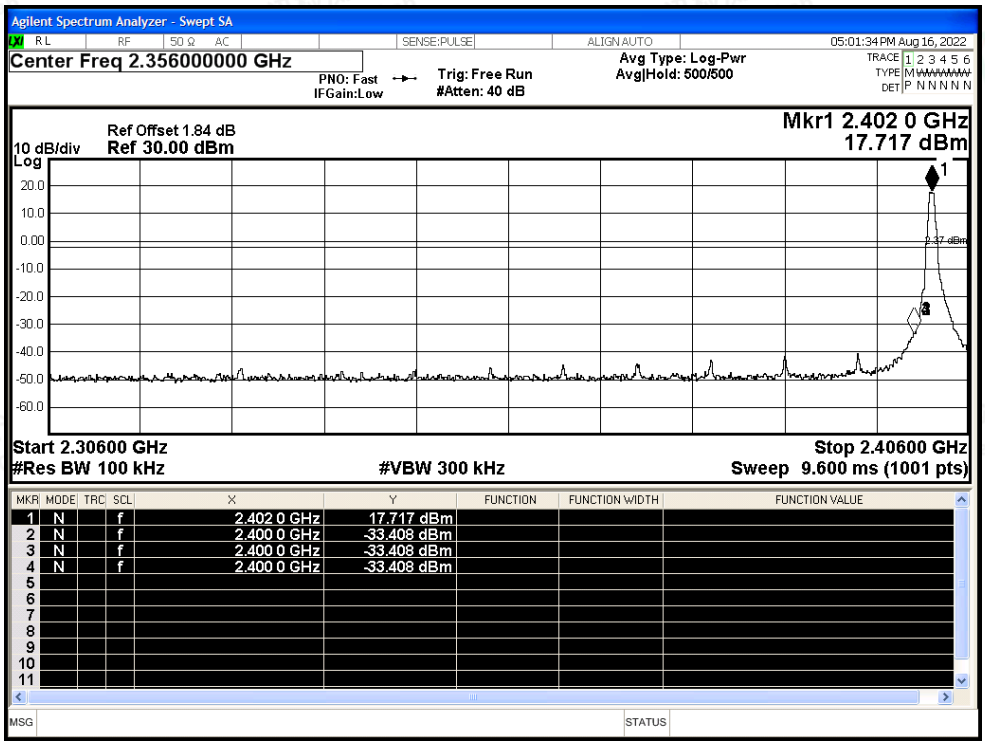
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	GFSK	2402	Ant1	No-Hopping	-51.04	-20	Pass
NVNT	GFSK	2479	Ant1	No-Hopping	-59.4	-20	Pass

Test Graphs

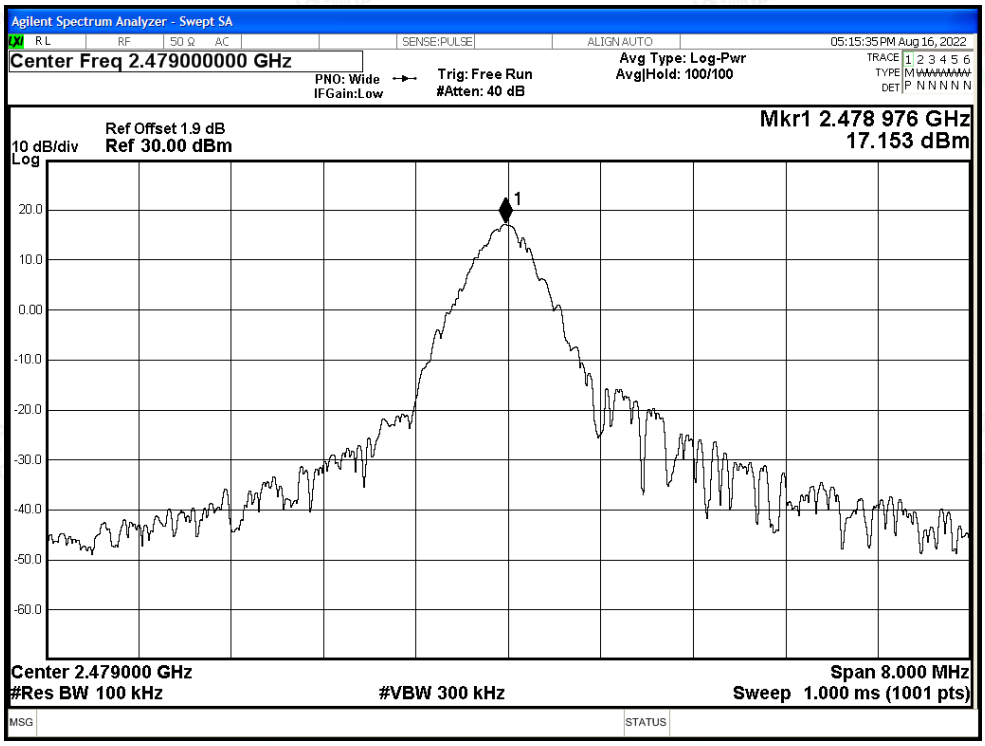
Band Edge NVNT GFSK 2402MHz Ant1 No-Hopping Ref



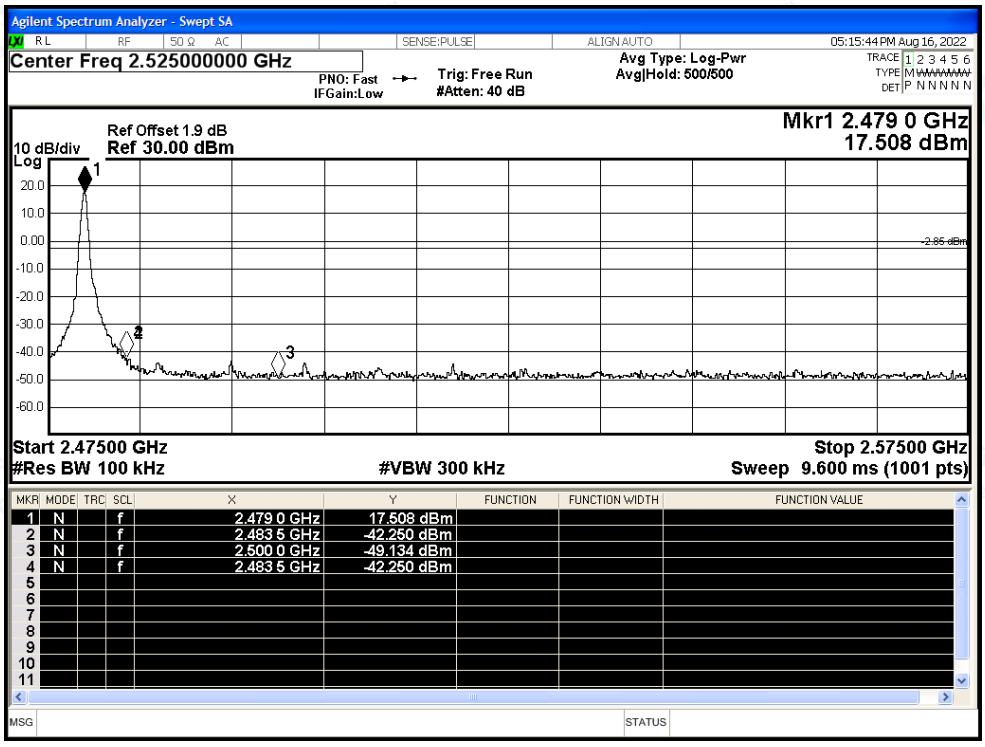
Band Edge NVNT GFSK 2402MHz Ant1 No-Hopping Emission



Band Edge NVNT GFSK 2479MHz Ant1 No-Hopping Ref



Band Edge NVNT GFSK 2479MHz Ant1 No-Hopping Emission

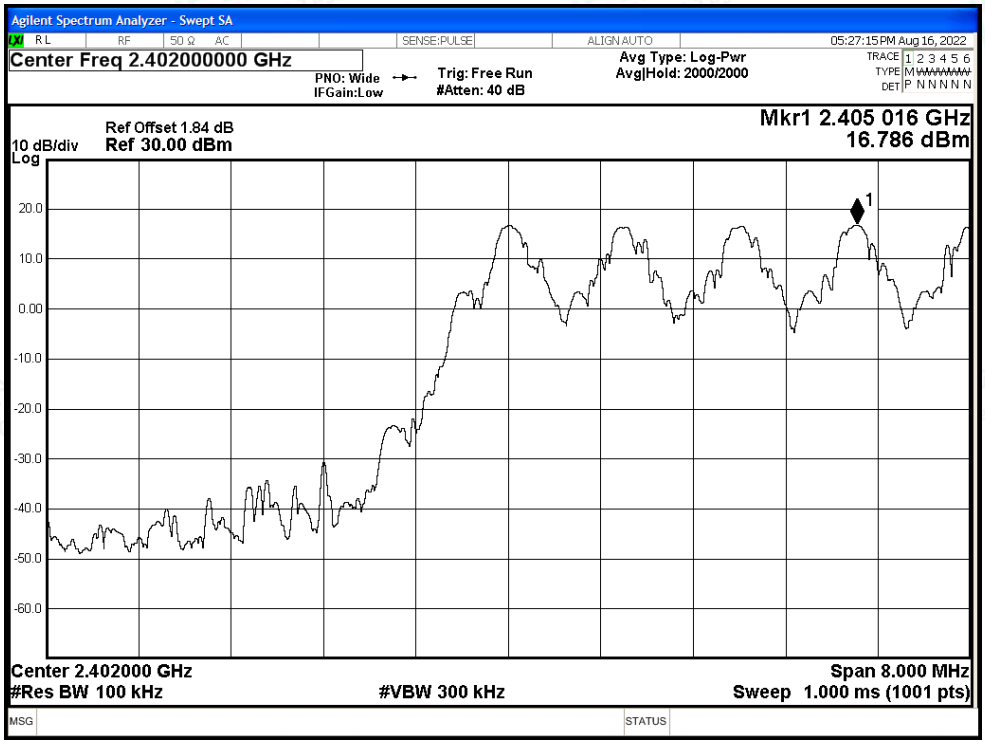


(Hopping)

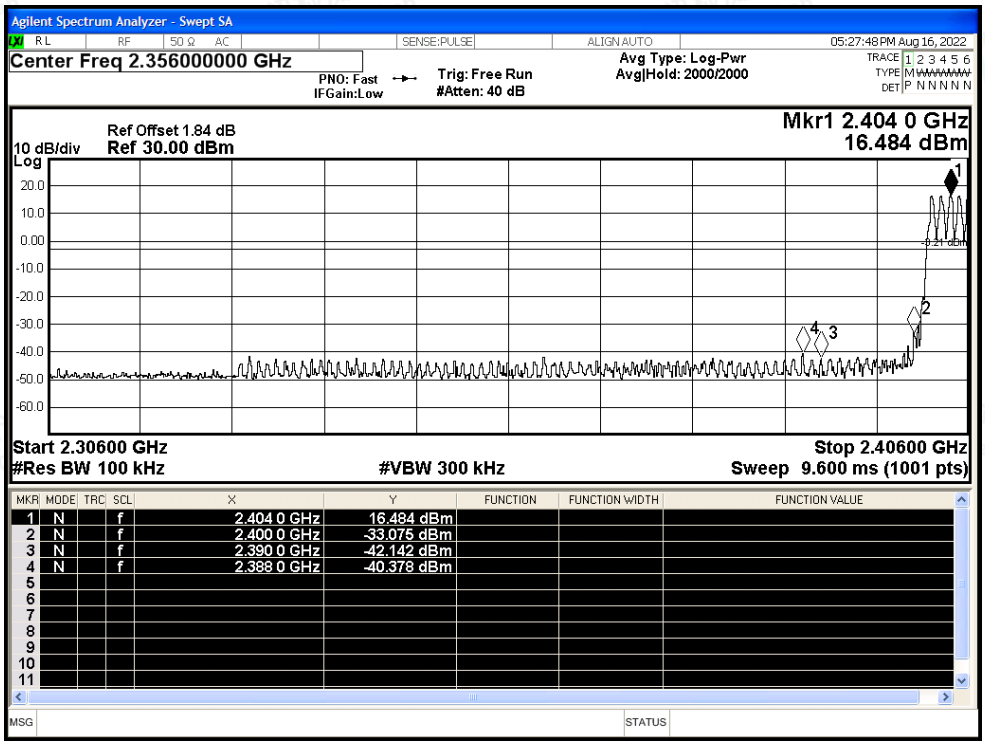
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	GFSK	2402	Ant1	Hopping	-57.16	-20	Pass
NVNT	GFSK	2479	Ant1	Hopping	-59.86	-20	Pass

Test Graphs

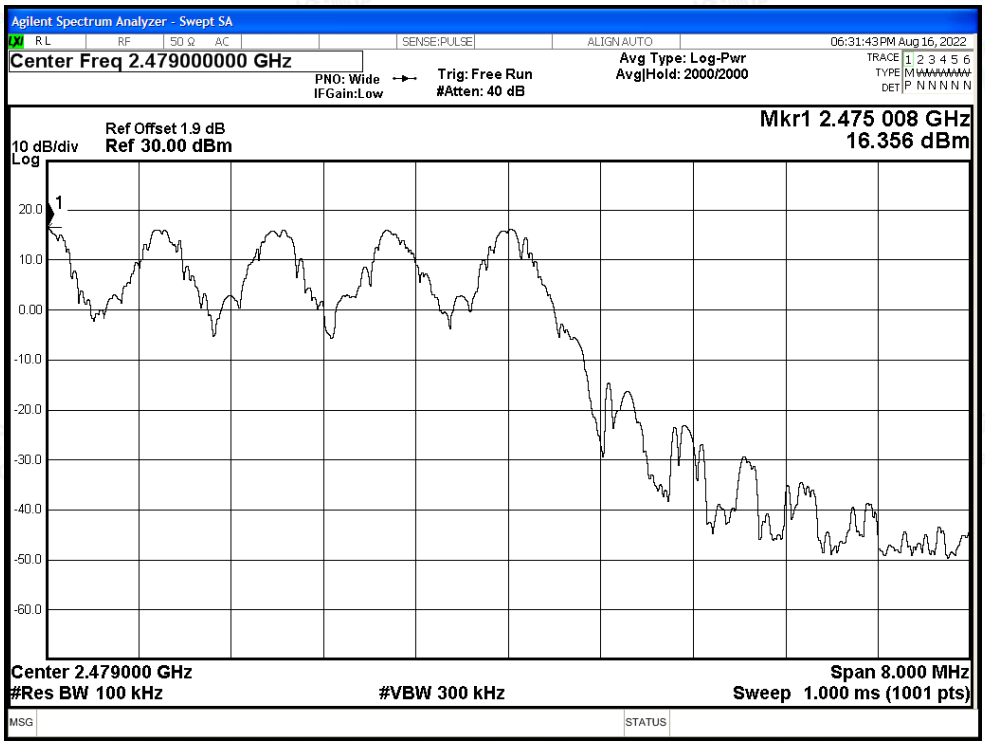
Band Edge(Hopping) NVNT GFSK 2402MHz Ant1 Hopping Ref



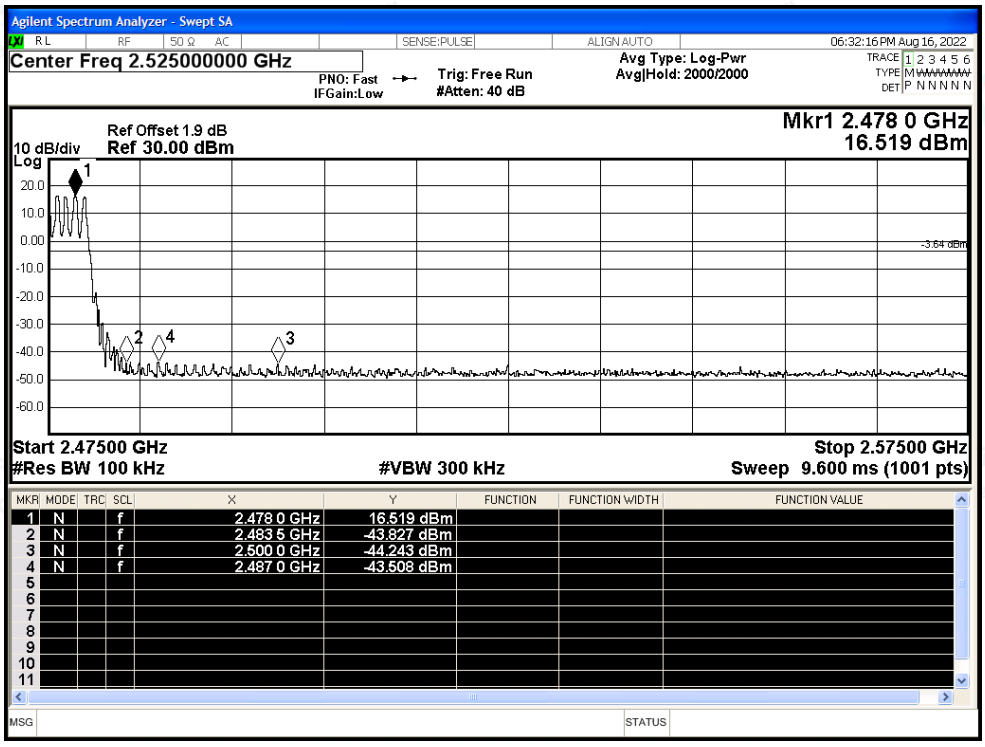
Band Edge(Hopping) NVNT GFSK 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT GFSK 2479MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT GFSK 2479MHz Ant1 Hopping Emission

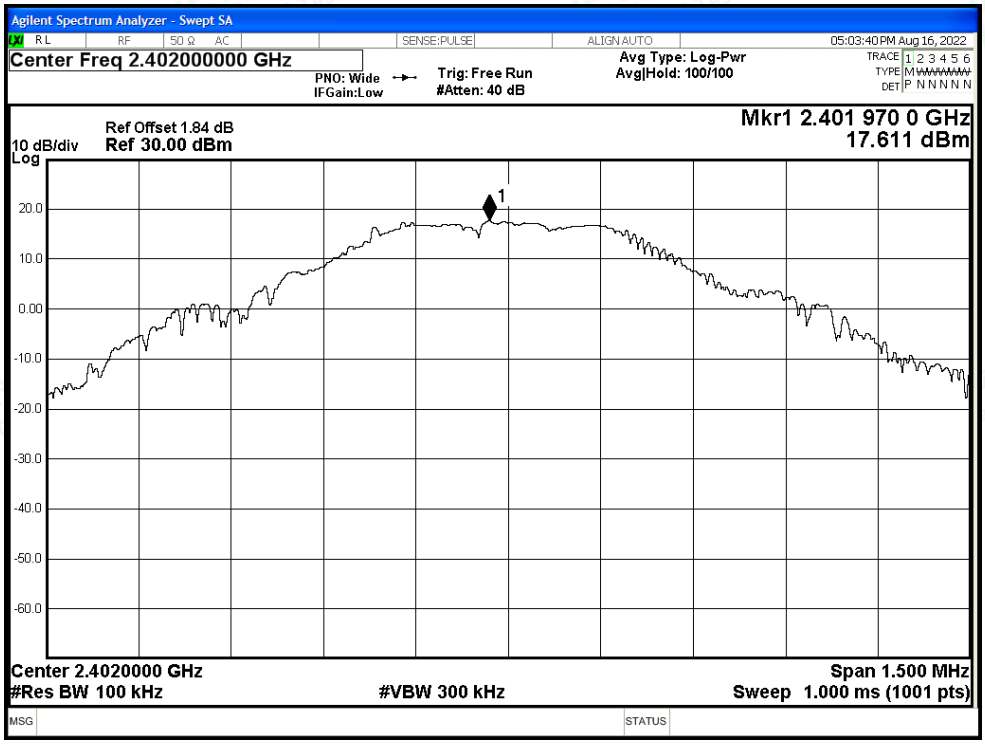


A.7 Conducted RF Spurious Emission

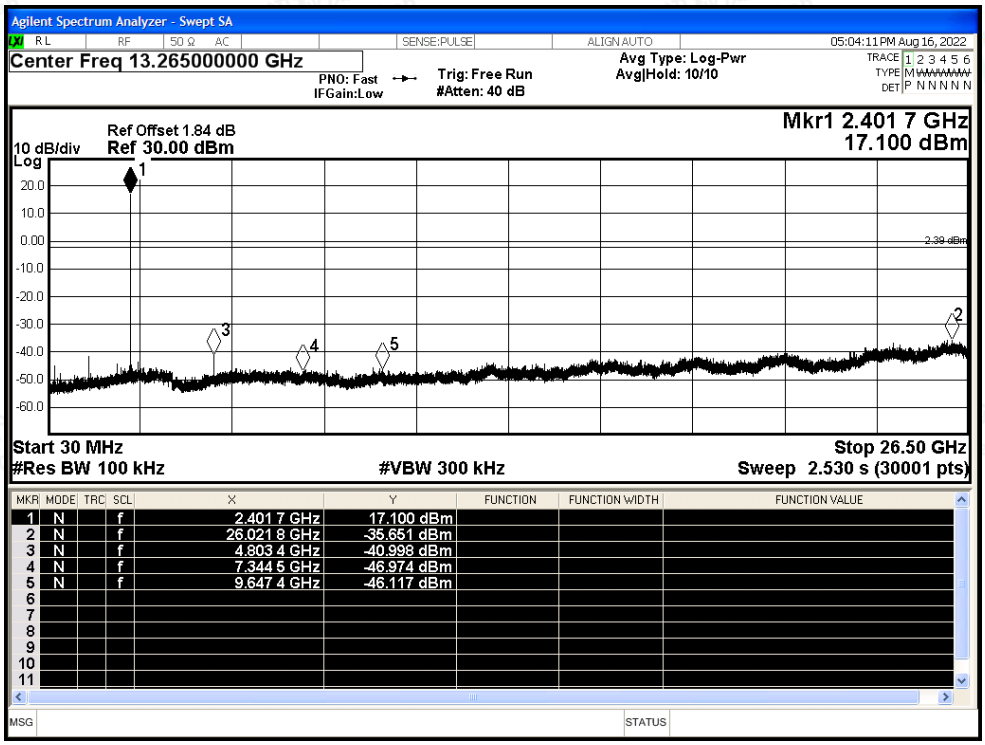
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	GFSK	2402	Ant1	-53.26	-20	Pass
NVNT	GFSK	2442	Ant1	-52.16	-20	Pass
NVNT	GFSK	2479	Ant1	-52.7	-20	Pass

Test Graphs

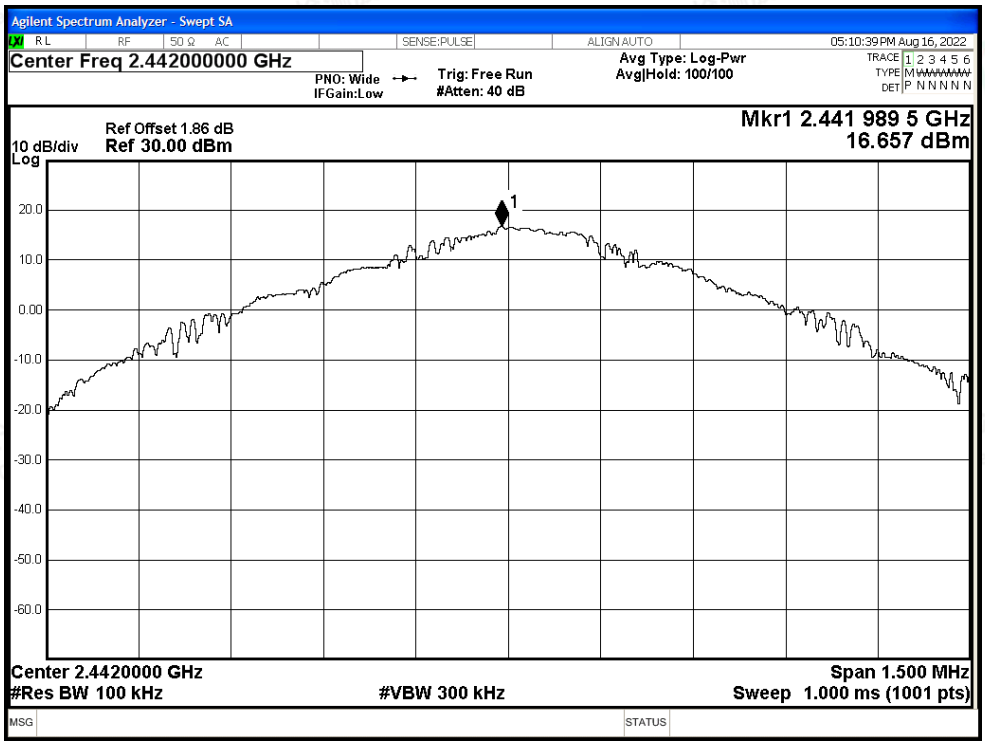
Tx. Spurious NVNT GFSK 2402MHz Ant1 Ref



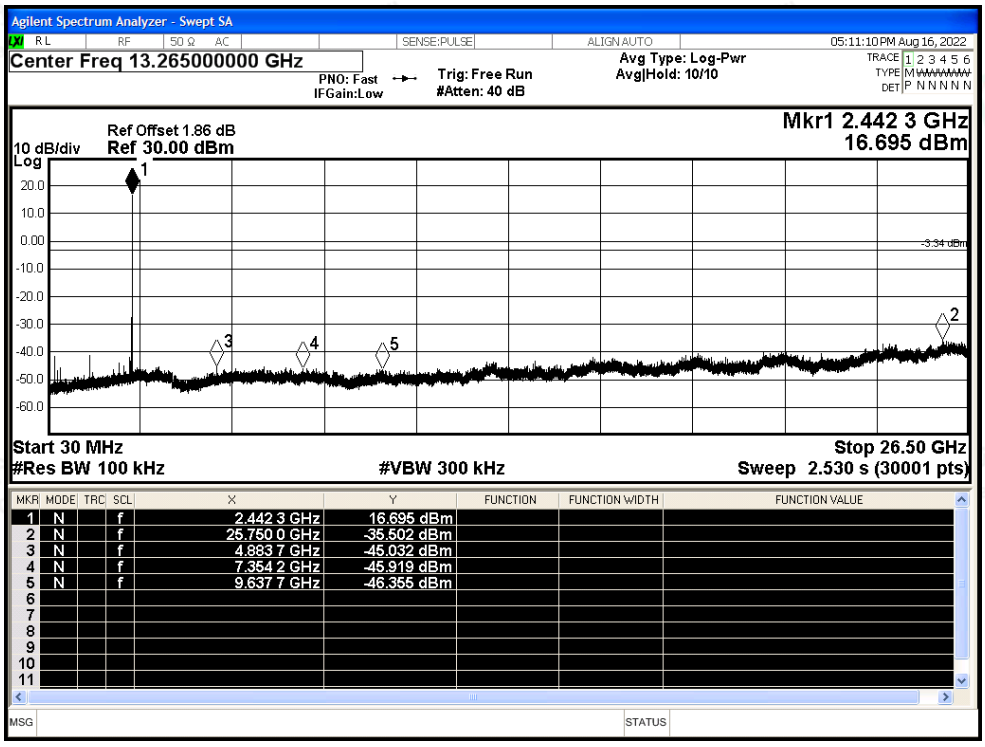
Tx. Spurious NVNT GFSK 2402MHz Ant1 Emission



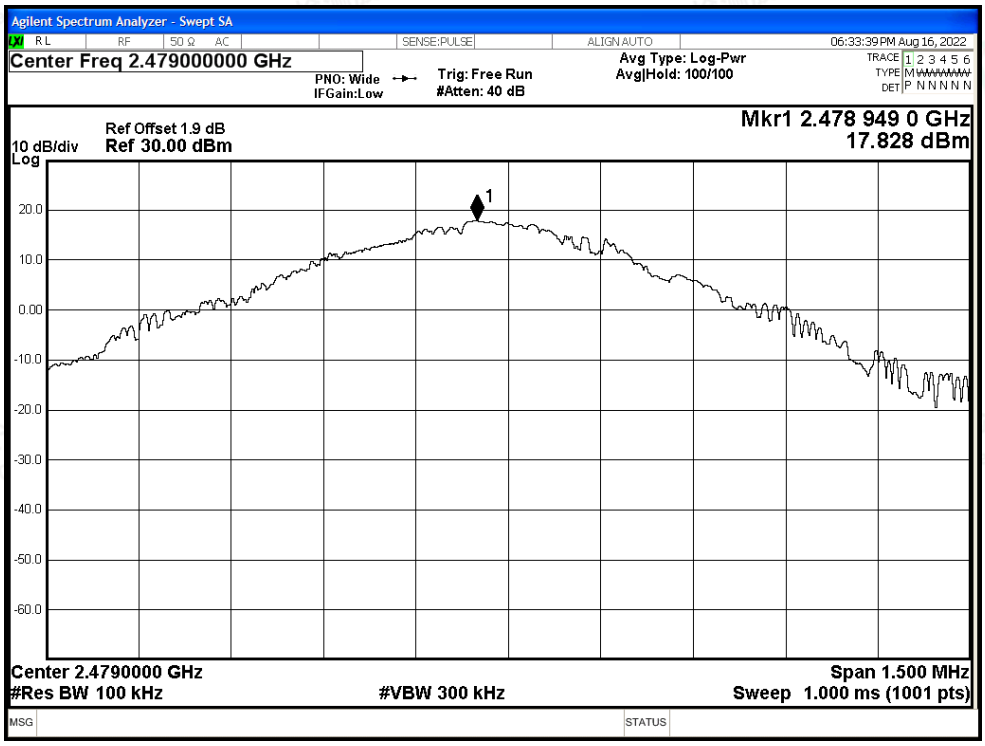
Tx. Spurious NVNT GFSK 2442MHz Ant1 Ref



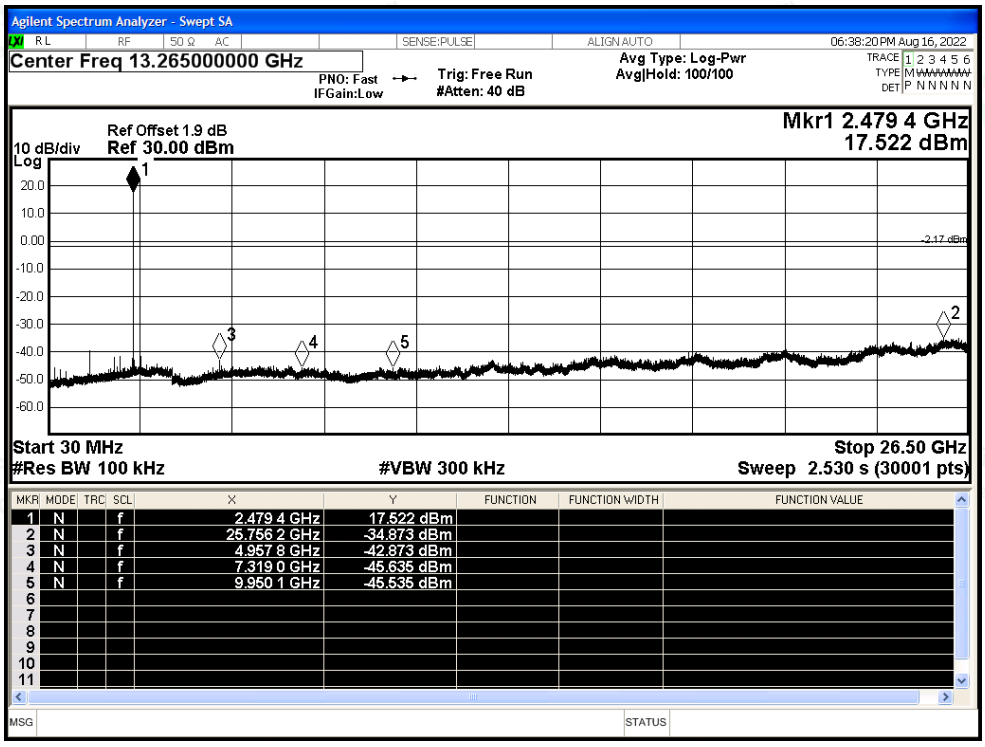
Tx. Spurious NVNT GFSK 2442MHz Ant1 Emission



Tx. Spurious NVNT GFSK 2479MHz Ant1 Ref



Tx. Spurious NVNT GFSK 2479MHz Ant1 Emission

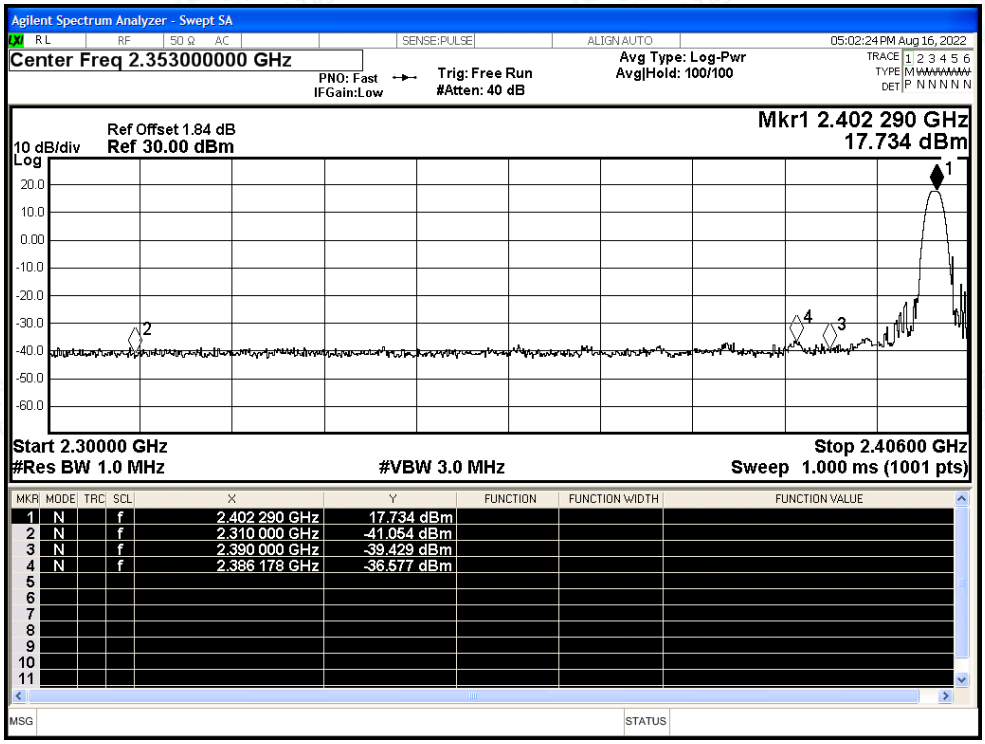


A.8 Restrict Band

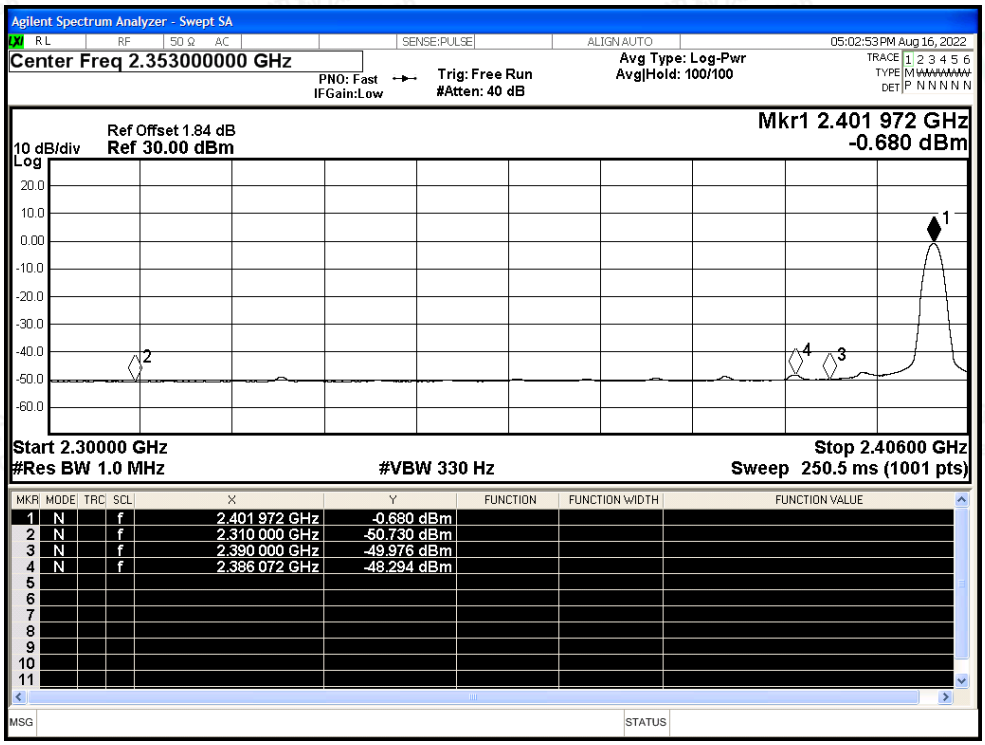
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	GFSK	2402	Ant1	No-Hopping	2310	-42.49	2	54.77	Peak	74	Pass
NVNT	GFSK	2402	Ant1	No-Hopping	2310	-50.7	2	46.56	Average	54	Pass
NVNT	GFSK	2402	Ant1	No-Hopping	2386.178	-36.58	2	60.68	Peak	74	Pass
NVNT	GFSK	2402	Ant1	No-Hopping	2386.072	-48.29	2	48.97	Average	54	Pass
NVNT	GFSK	2402	Ant1	No-Hopping	2390	-40.42	2	56.84	Peak	74	Pass
NVNT	GFSK	2402	Ant1	No-Hopping	2390	-50.03	2	47.23	Average	54	Pass
NVNT	GFSK	2479	Ant1	No-Hopping	2483.5	-26.69	2	70.57	Peak	74	Pass
NVNT	GFSK	2479	Ant1	No-Hopping	2483.5	-47.53	2	49.73	Average	54	Pass
NVNT	GFSK	2479	Ant1	No-Hopping	2483.625	-25.74	2	71.52	Peak	74	Pass
NVNT	GFSK	2479	Ant1	No-Hopping	2486.925	-47.21	2	50.05	Average	54	Pass
NVNT	GFSK	2479	Ant1	No-Hopping	2500	-40.68	2	56.58	Peak	74	Pass
NVNT	GFSK	2479	Ant1	No-Hopping	2500	-49.94	2	47.32	Average	54	Pass

Test Graphs

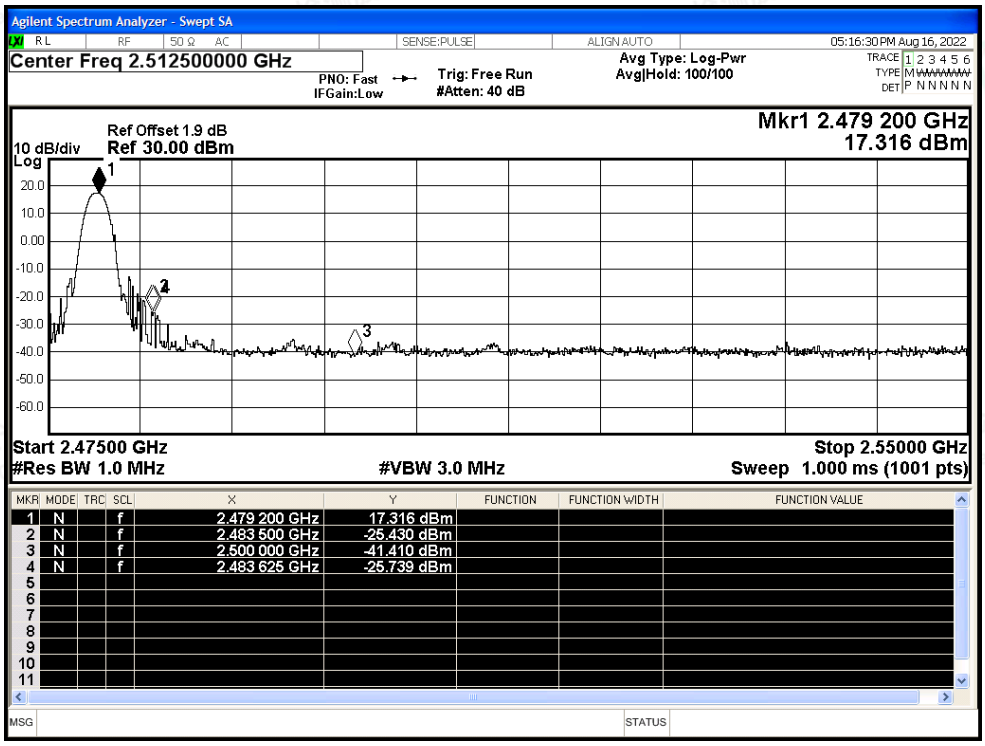
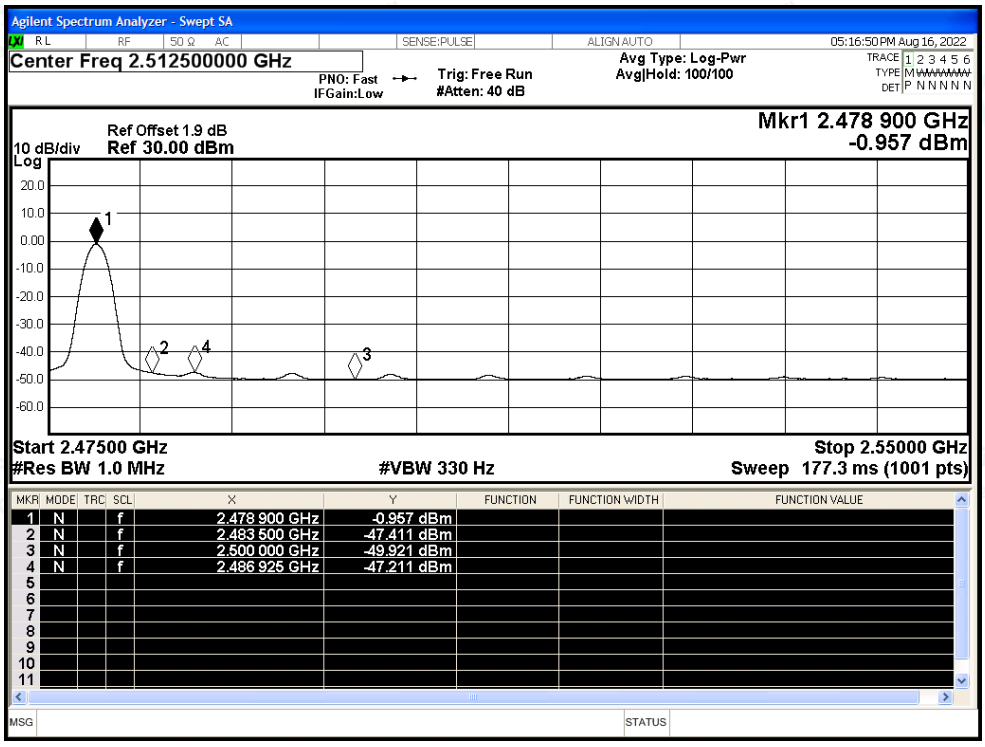
Restrict Band NVNT GFSK 2402MHz Ant1 No-Hopping Peak



Restrict Band NVNT GFSK 2402MHz Ant1 No-Hopping Average



Restrict Band NVNT GFSK 2479MHz Ant1 No-Hopping Peak



Restrict Band NVNT GFSK 2479MHz Ant1 No-Hopping Average