

FCC Appendix RF Test Data for 2.4G

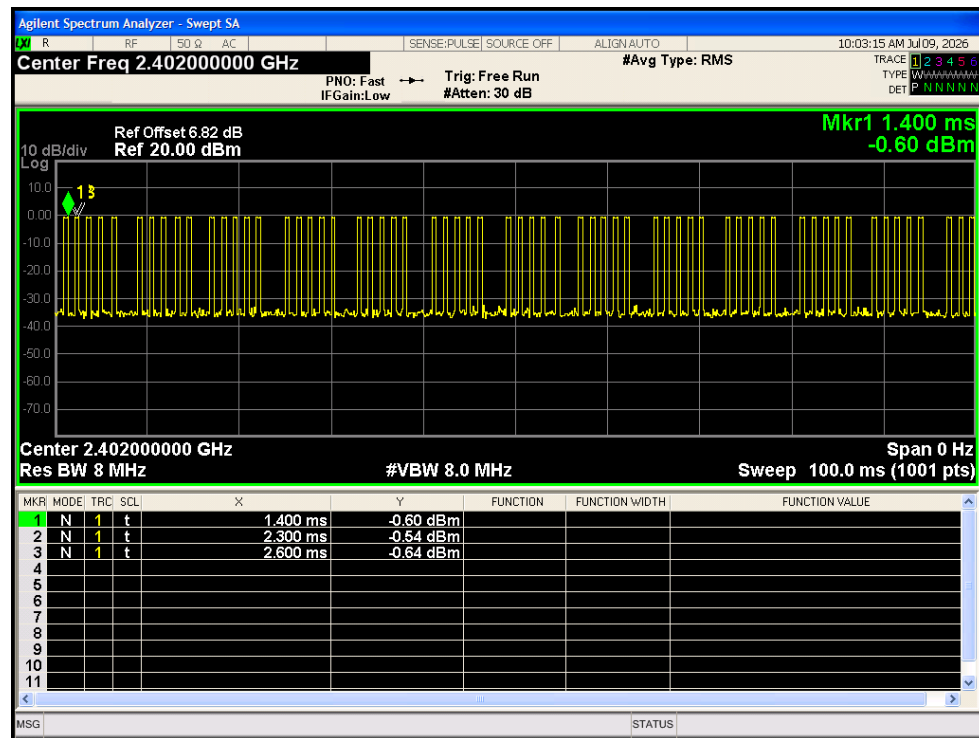
Company : **DONGGUAN ESWN TECHNOLOGY CO., LTD**
EUT : **Ceres 1.0 Mechanical Keyboard**
Model Number : **Ceres 1.0**
Report No. : **CTA26061701901**
FCC ID : **2A85Y-CERES1**
Reviewed By : **Eric Wang**

Duty Cycle

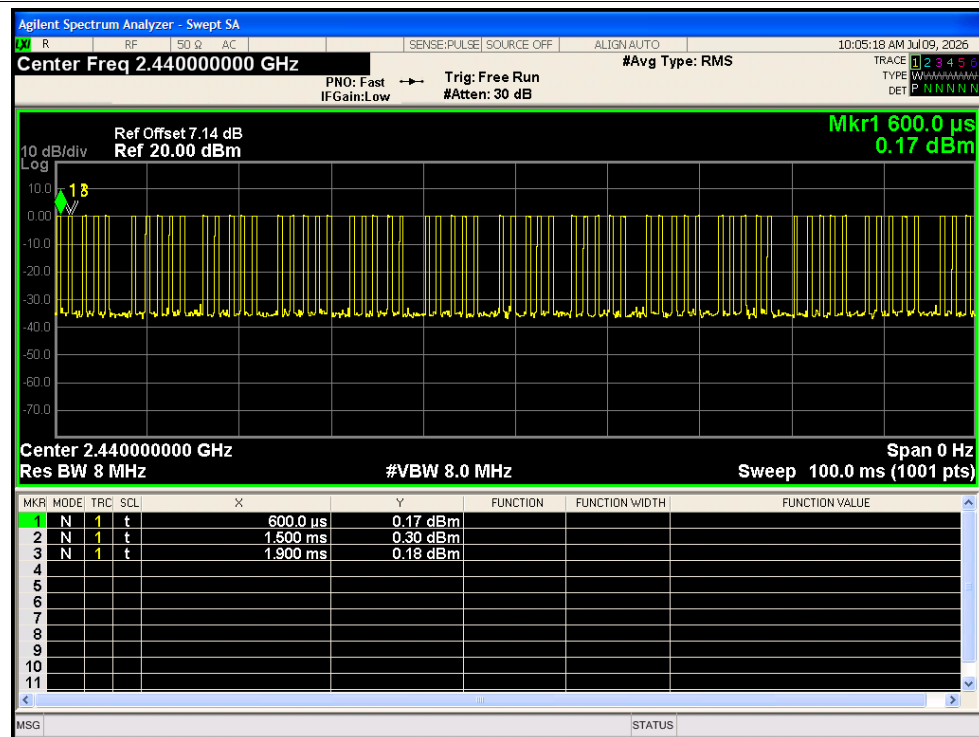
Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)
NVNT	1-DH1	2402	29.17	5.35
NVNT	1-DH1	2440	29.17	5.35
NVNT	1-DH1	2479	28.17	5.50

Test Graphs

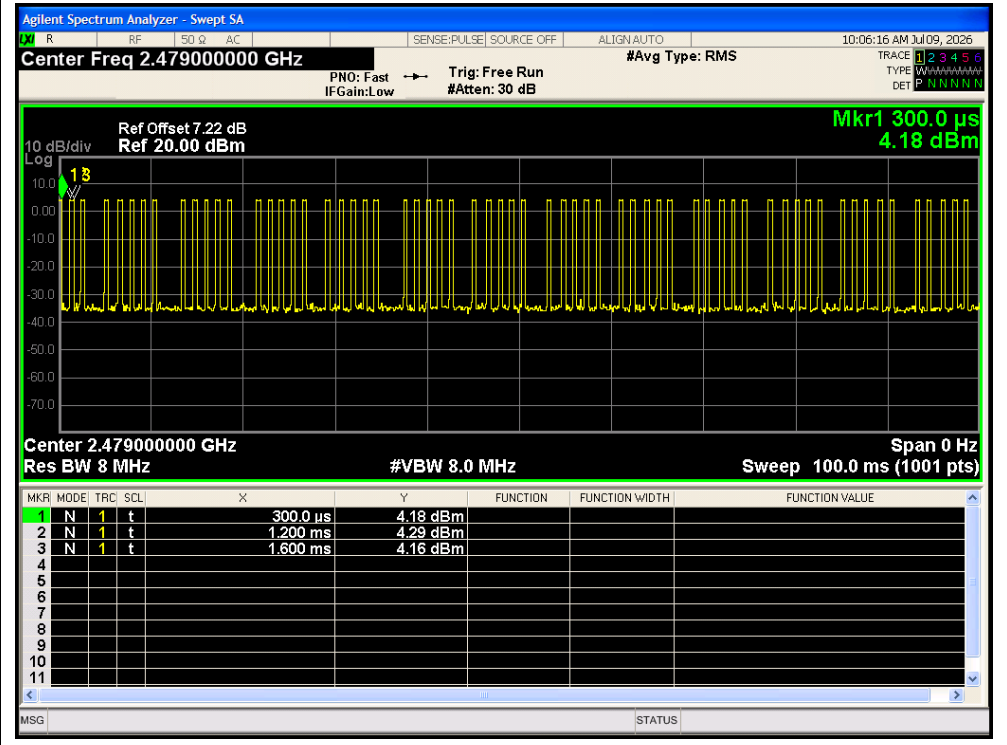
Duty Cycle NVNT 1-DH1 2402MHz



Duty Cycle NVNT 1-DH1 2440MHz



Duty Cycle NVNT 1-DH1 2479MHz



Maximum Conducted Output Power

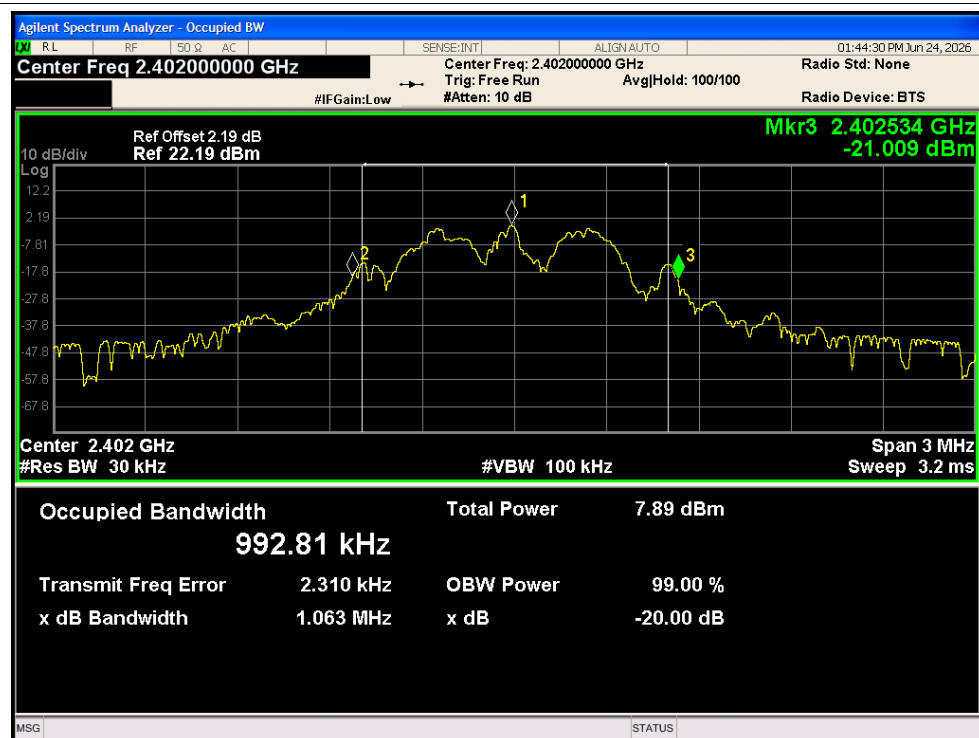
Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	1.88	21	Pass
NVNT	1-DH1	2440	1.82	21	Pass
NVNT	1-DH1	2479	1.69	21	Pass

-20dB Bandwidth

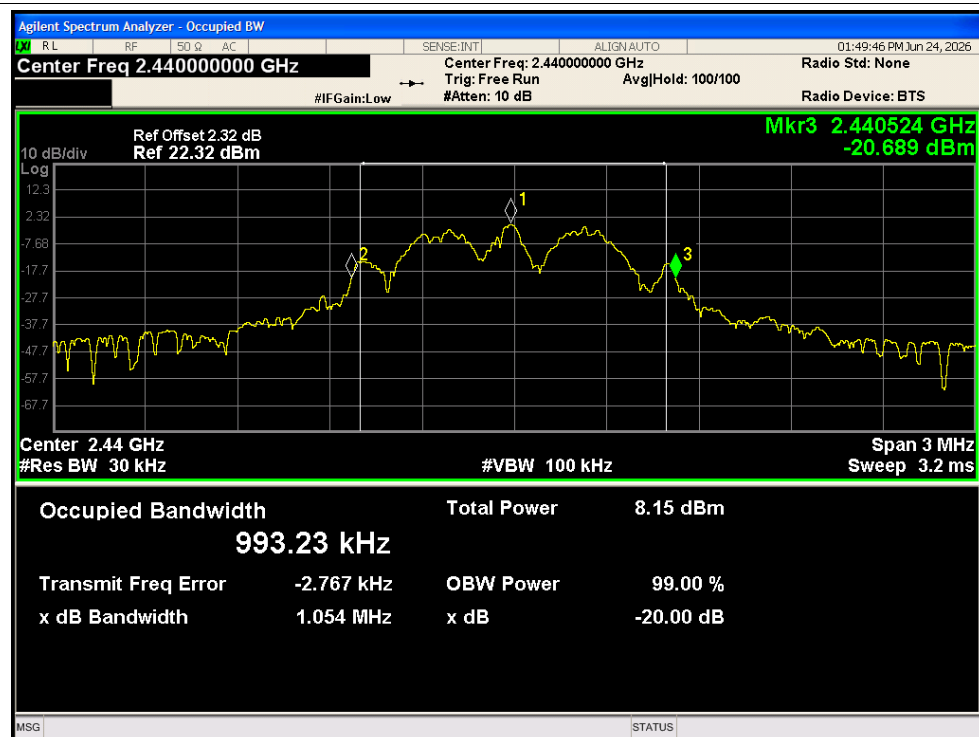
Condition	Mode	Frequency (MHz)	-20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	1.063	Pass
NVNT	1-DH1	2440	1.054	Pass
NVNT	1-DH1	2479	1.063	Pass

Test Graphs

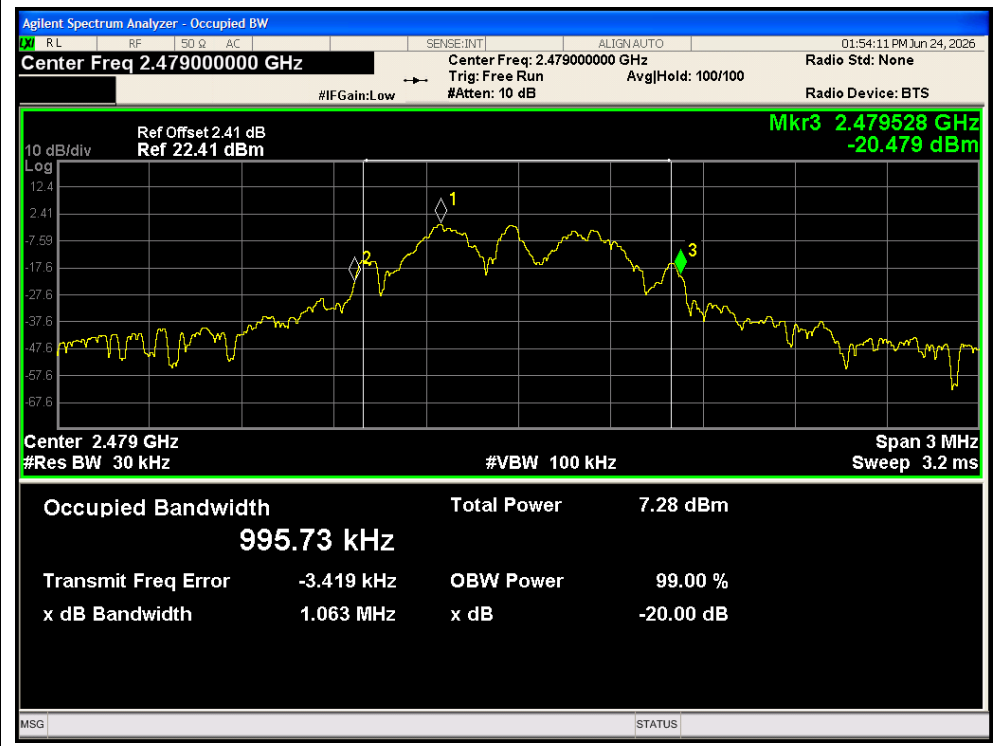
-20dB Bandwidth NVNT 1-DH1 2402MHz



-20dB Bandwidth NVNT 1-DH1 2440MHz



-20dB Bandwidth NVNT 1-DH1 2479MHz

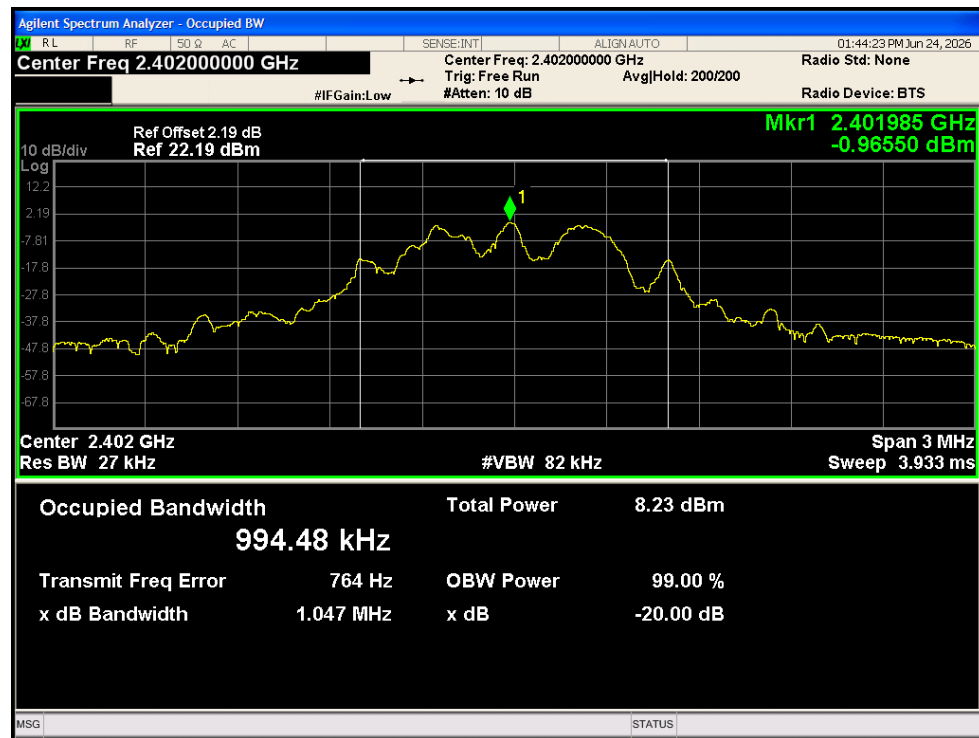


Occupied Channel Bandwidth

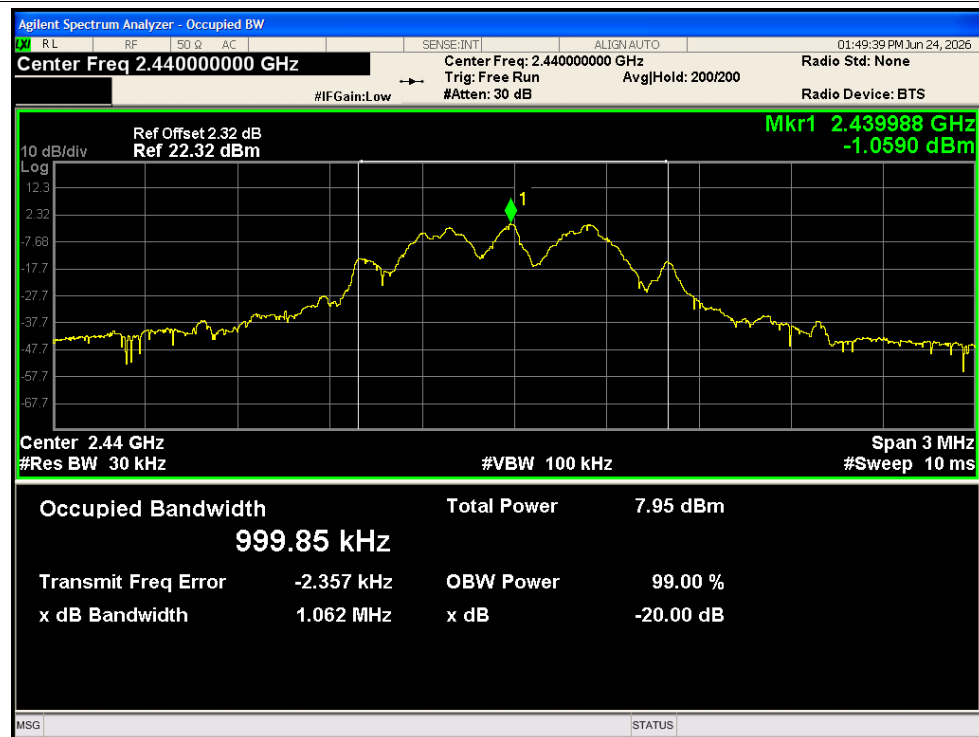
Condition	Mode	Frequency (MHz)	99% OBW (MHz)
NVNT	1-DH1	2402	0.994
NVNT	1-DH1	2440	1
NVNT	1-DH1	2479	1.001

Test Graphs

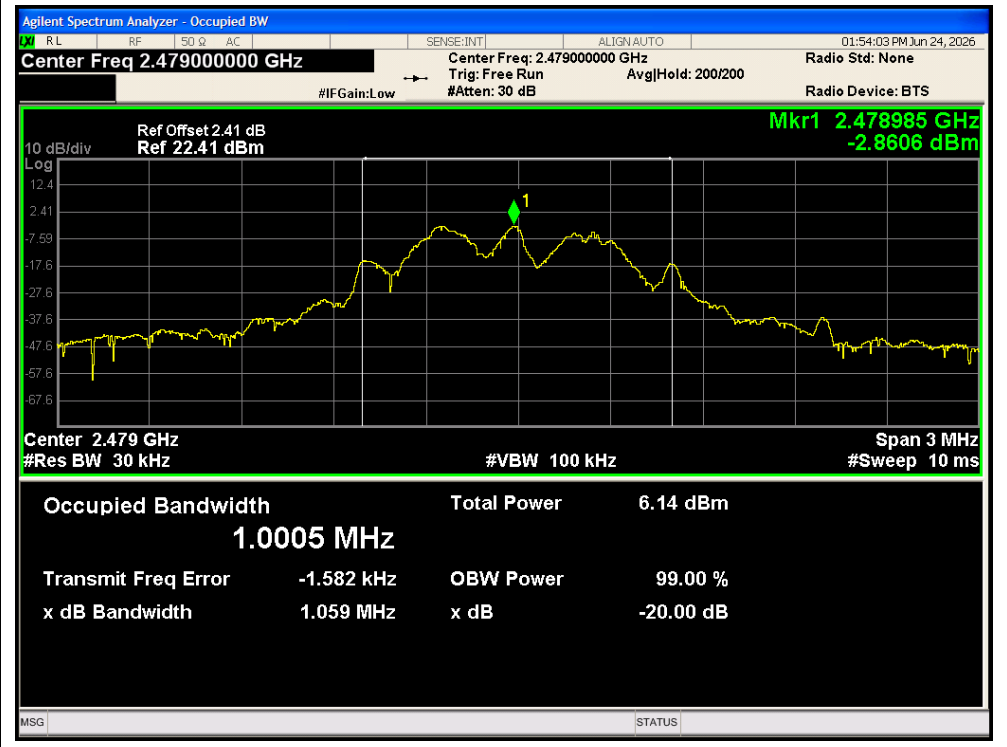
OBW NVNT 1-DH1 2402MHz Ant1



OBW NVNT 1-DH1 2440MHz Ant1



OBW NVNT 1-DH1 2479MHz Ant1

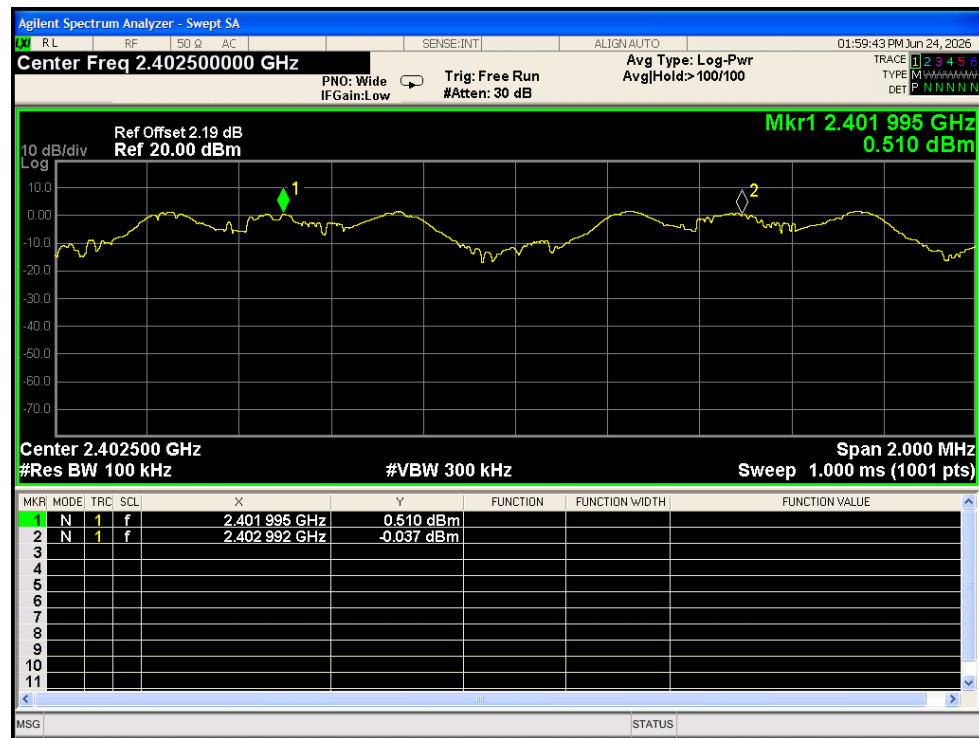


Carrier Frequencies Separation

Condition	Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	2401.995	2402.992	0.997	0.709	Pass
NVNT	1-DH1	2439.997	2441	1.003	0.709	Pass
NVNT	1-DH1	2477.995	2478.996	1.001	0.709	Pass

Test Graphs

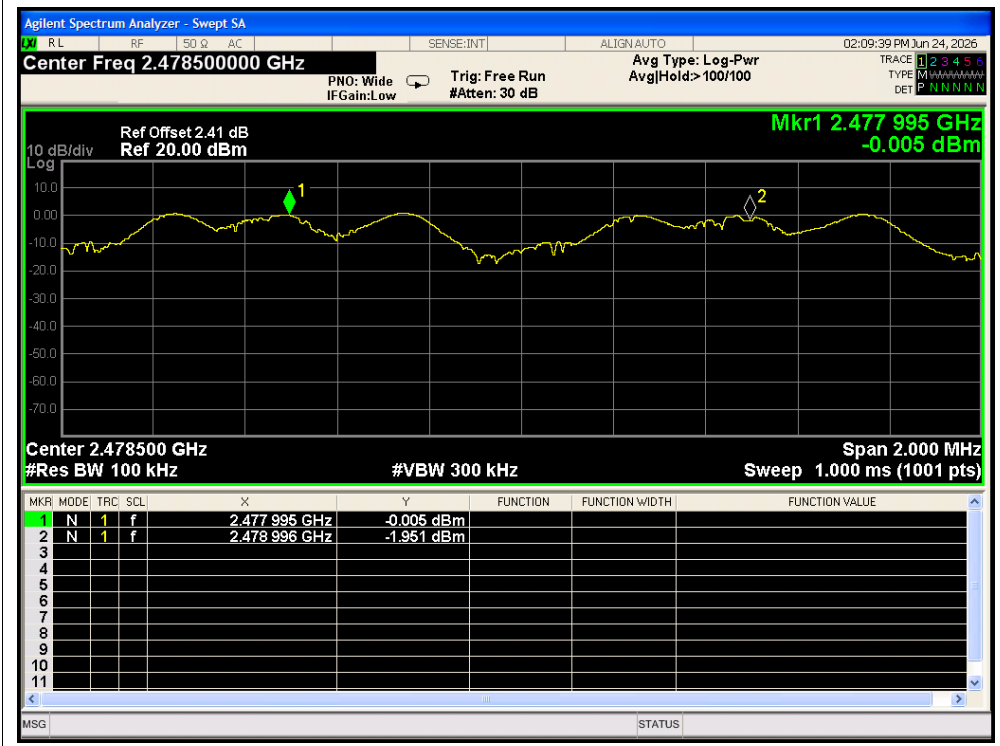
CFS NVNT 1-DH1 2402MHz



CFS NVNT 1-DH1 2440MHz



CFS NVNT 1-DH1 2479MHz

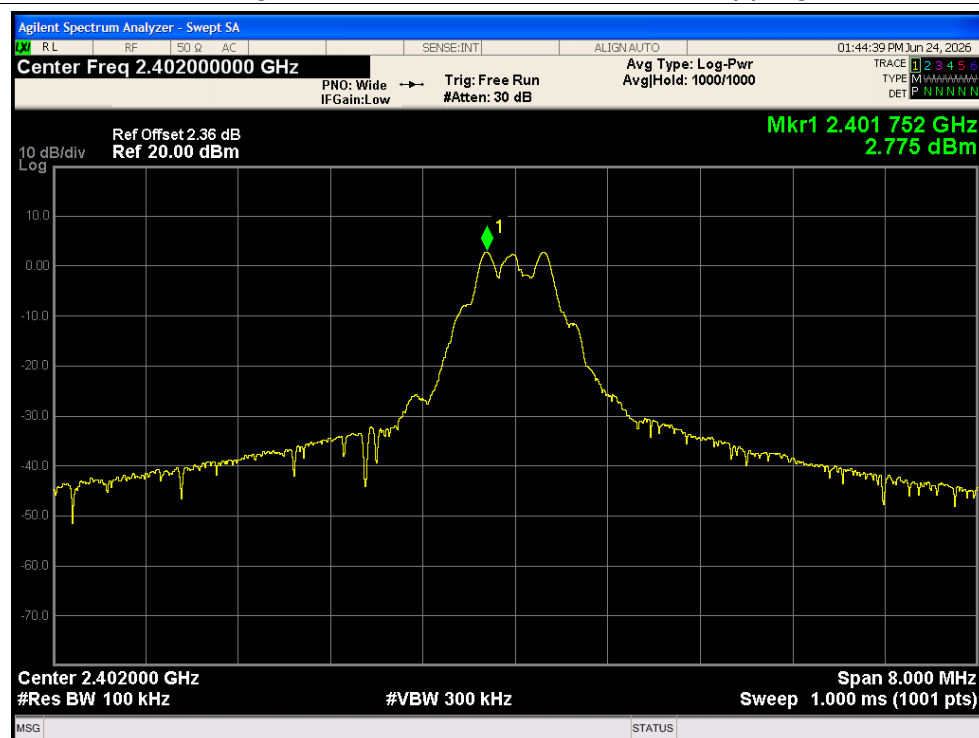


Band Edge

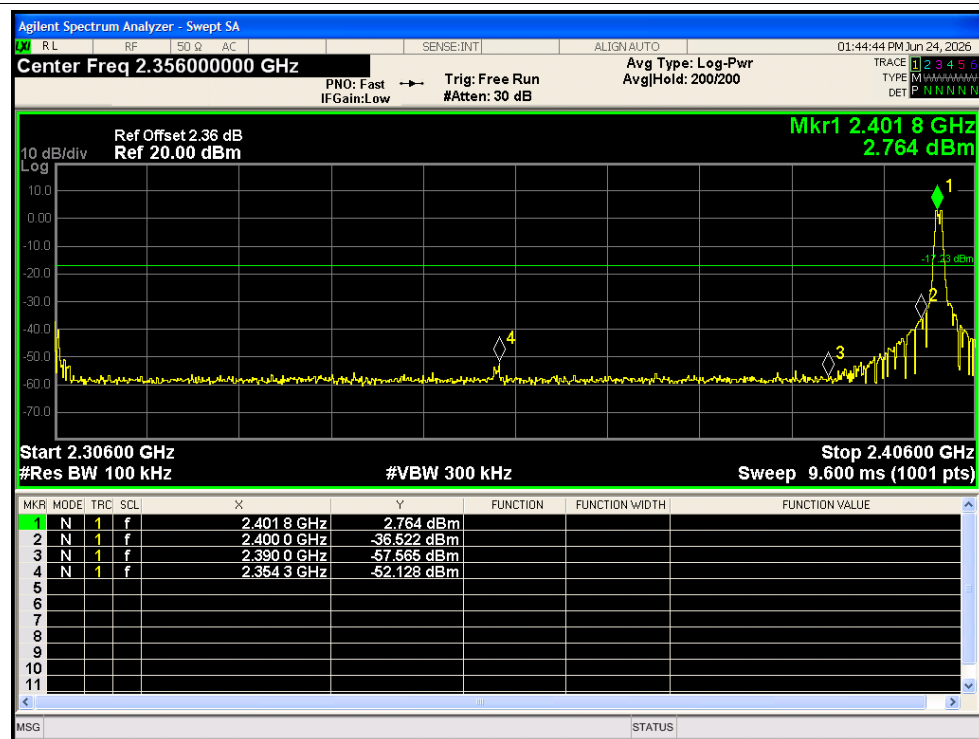
Condition	Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	No-Hopping	-54.90	-20	Pass
NVNT	1-DH1	2479	No-Hopping	-48.83	-20	Pass

Test Graphs

Band Edge NVNT 1-DH1 2402MHz No-Hopping Ref



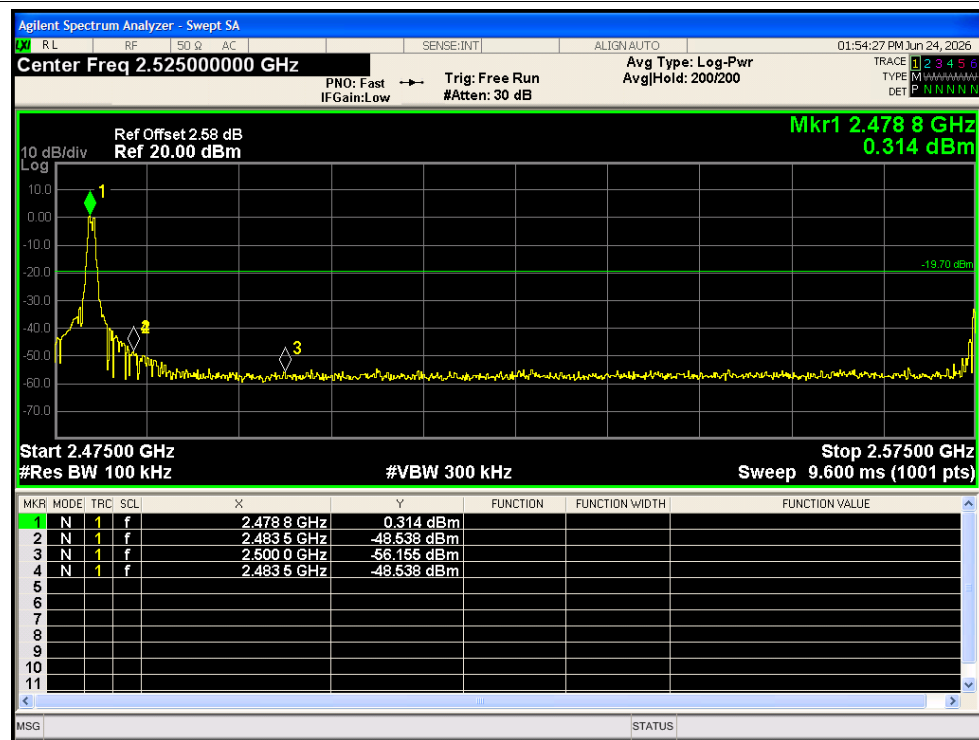
Band Edge NVNT 1-DH1 2402MHz No-Hopping Emission



Band Edge NVNT 1-DH1 2479MHz No-Hopping Ref



Band Edge NVNT 1-DH1 2479MHz No-Hopping Emission

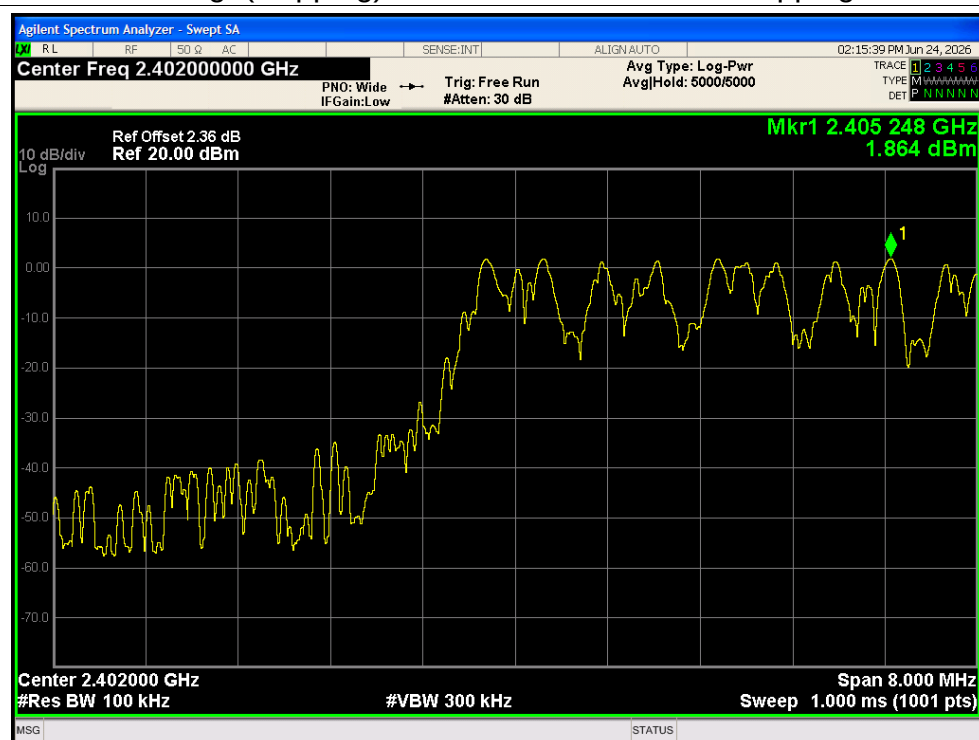


Band Edge(Hopping)

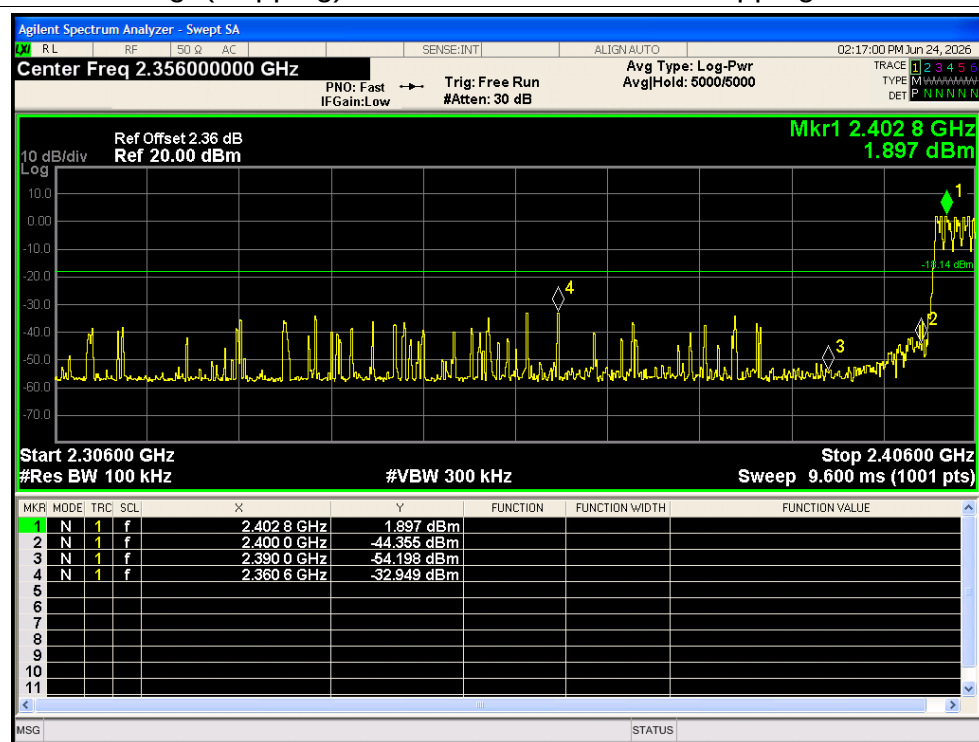
Condition	Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Hopping	-34.80	-20	Pass
NVNT	1-DH1	2479	Hopping	-34.16	-20	Pass

Test Graphs

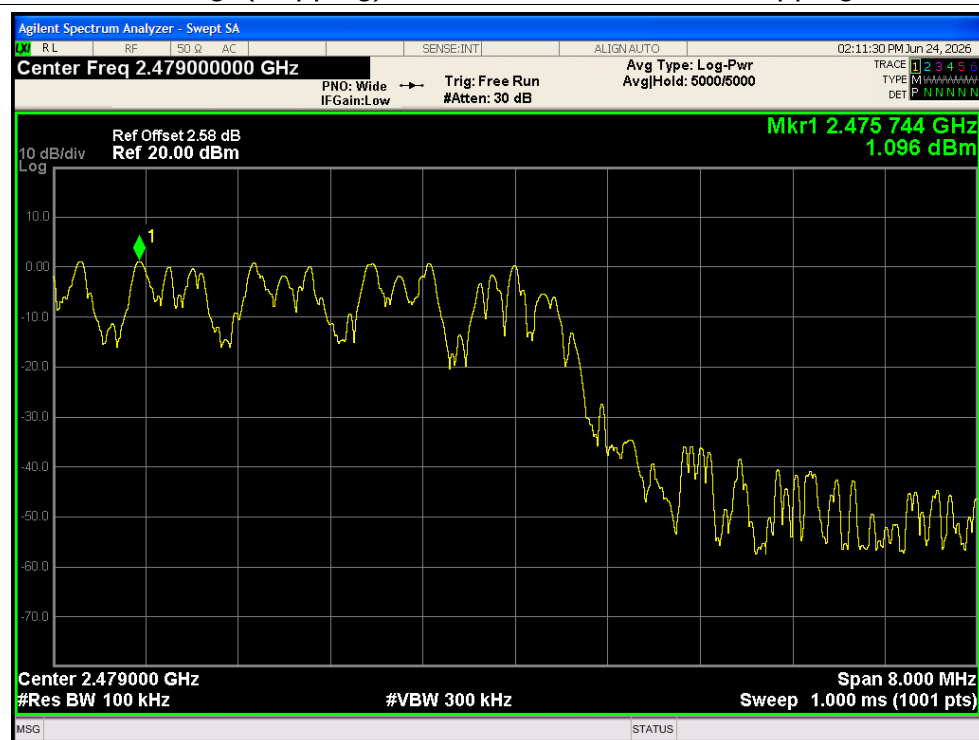
Band Edge(Hopping) NVNT 1-DH1 2402MHz Hopping Ref



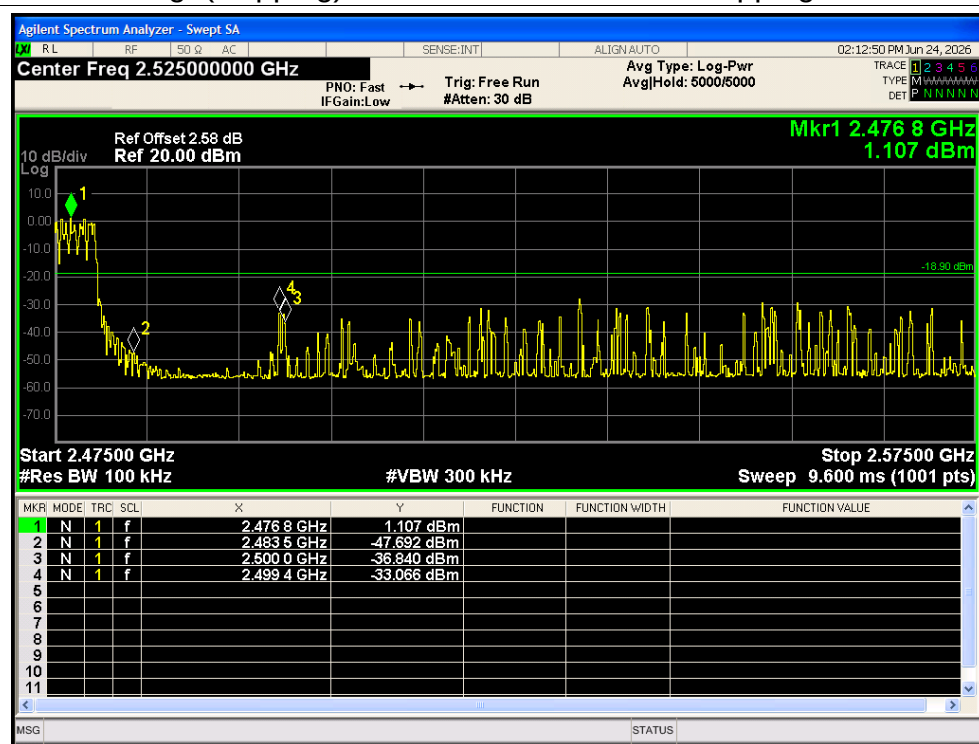
Band Edge(Hopping) NVNT 1-DH1 2402MHz Hopping Emission



Band Edge(Hopping) NVNT 1-DH1 2479MHz Hopping Ref



Band Edge(Hopping) NVNT 1-DH1 2479MHz Hopping Emission

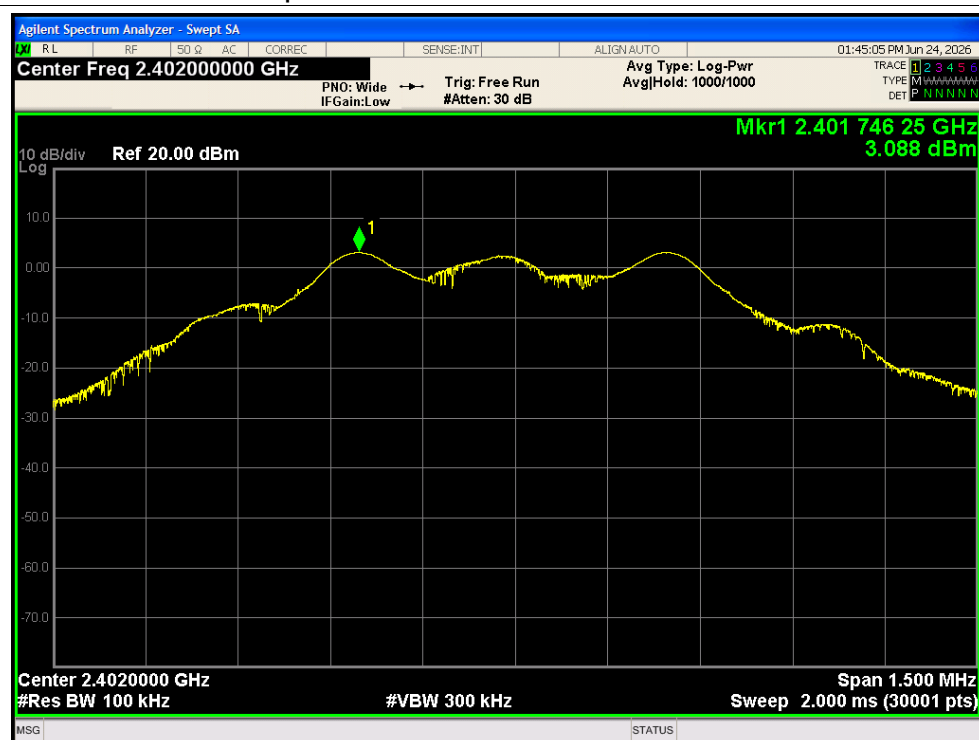


Conducted RF Spurious Emission

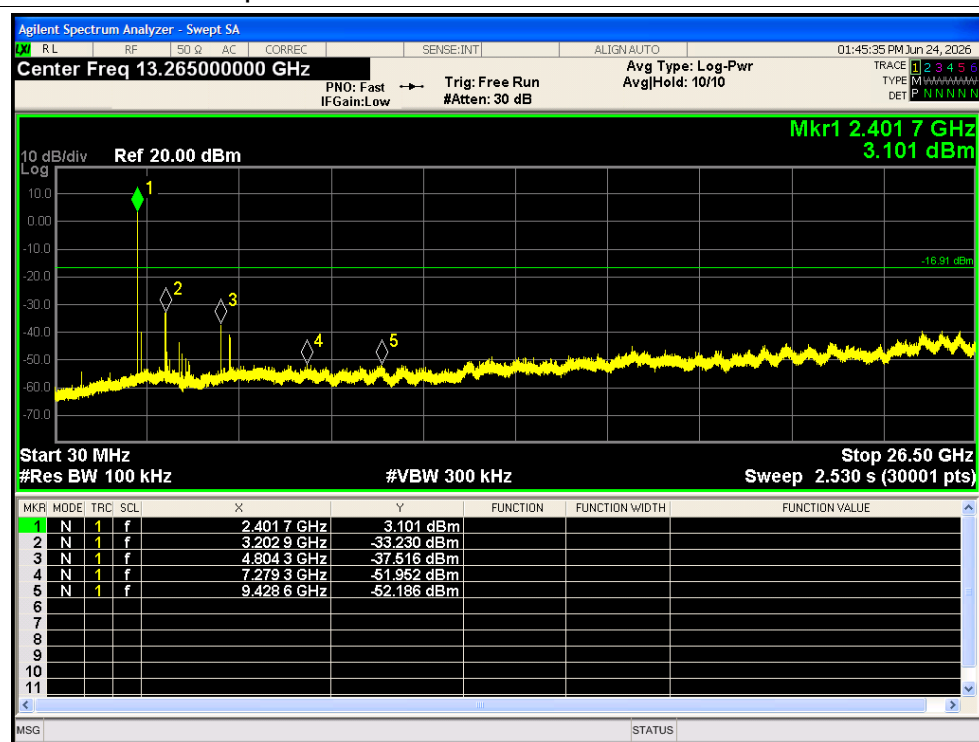
Condition	Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	-36.31	-20	Pass
NVNT	1-DH1	2440	-34.72	-20	Pass
NVNT	1-DH1	2479	-35.11	-20	Pass

Test Graphs

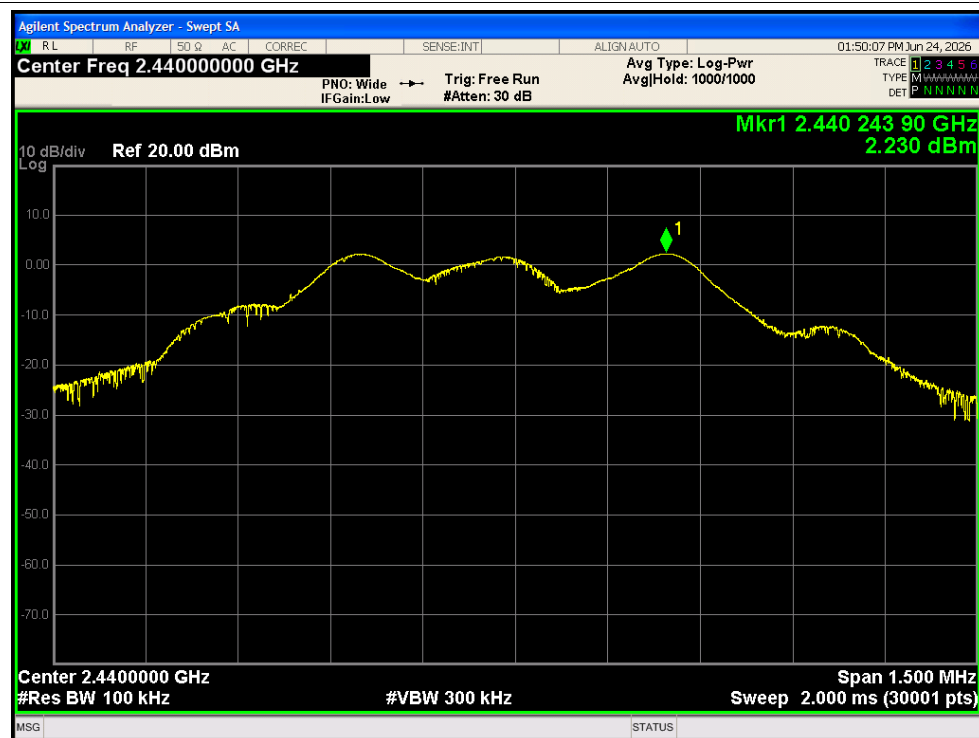
Tx. Spurious NVNT 1-DH1 2402MHz Ref



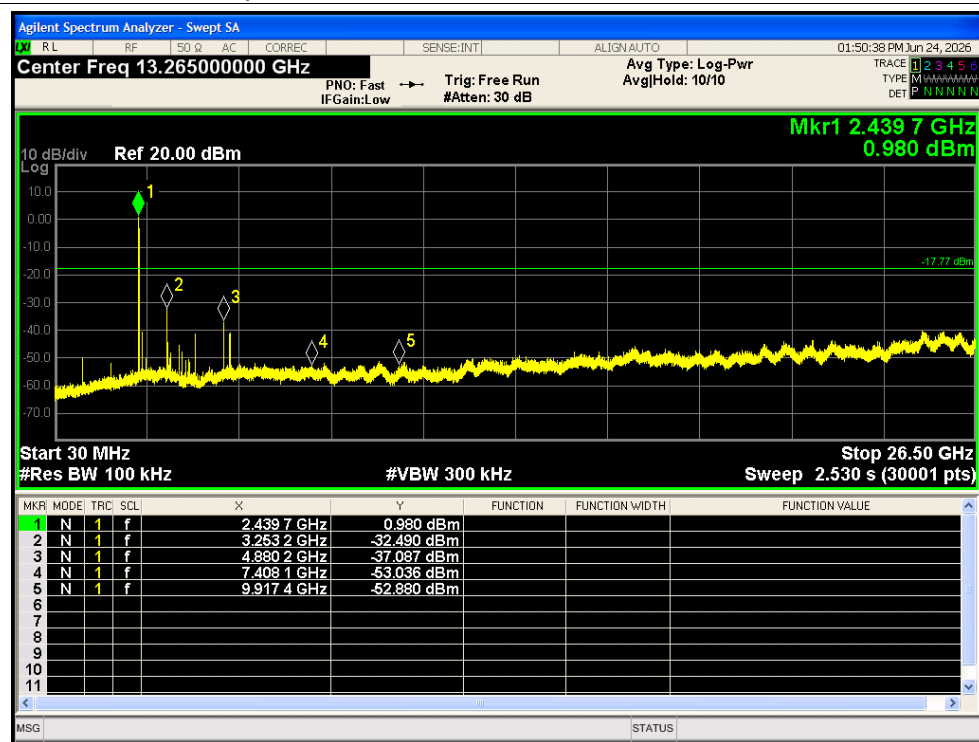
Tx. Spurious NVNT 1-DH1 2402MHz Emission



Tx. Spurious NVNT 1-DH1 2440MHz Ref



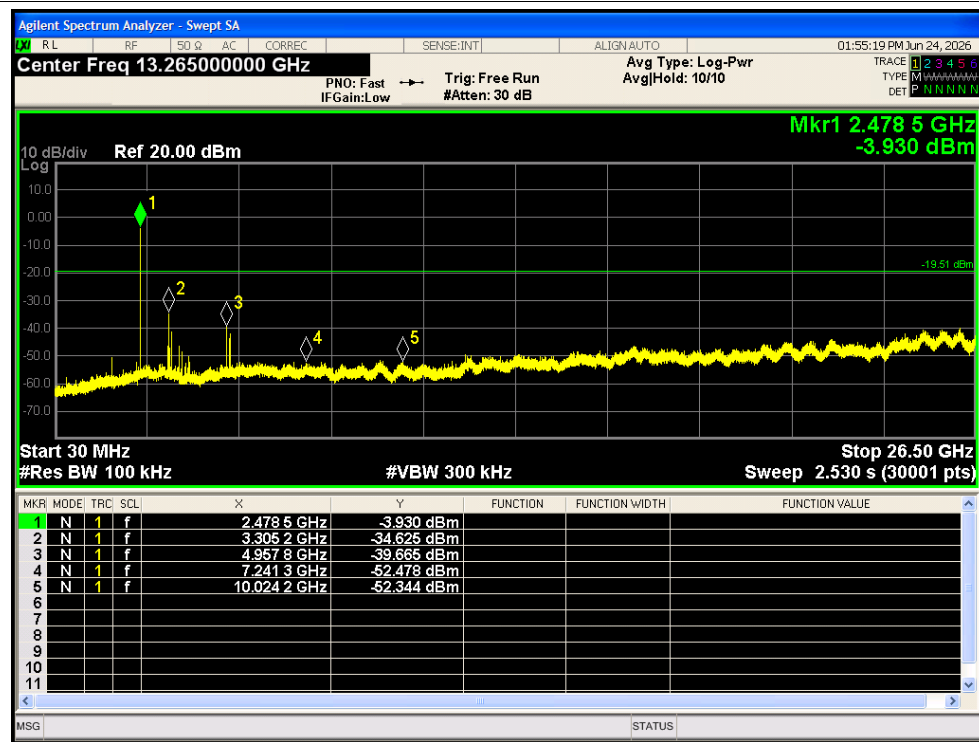
Tx. Spurious NVNT 1-DH1 2440MHz Emission



Tx. Spurious NVNT 1-DH1 2479MHz Ref



Tx. Spurious NVNT 1-DH1 2479MHz Emission

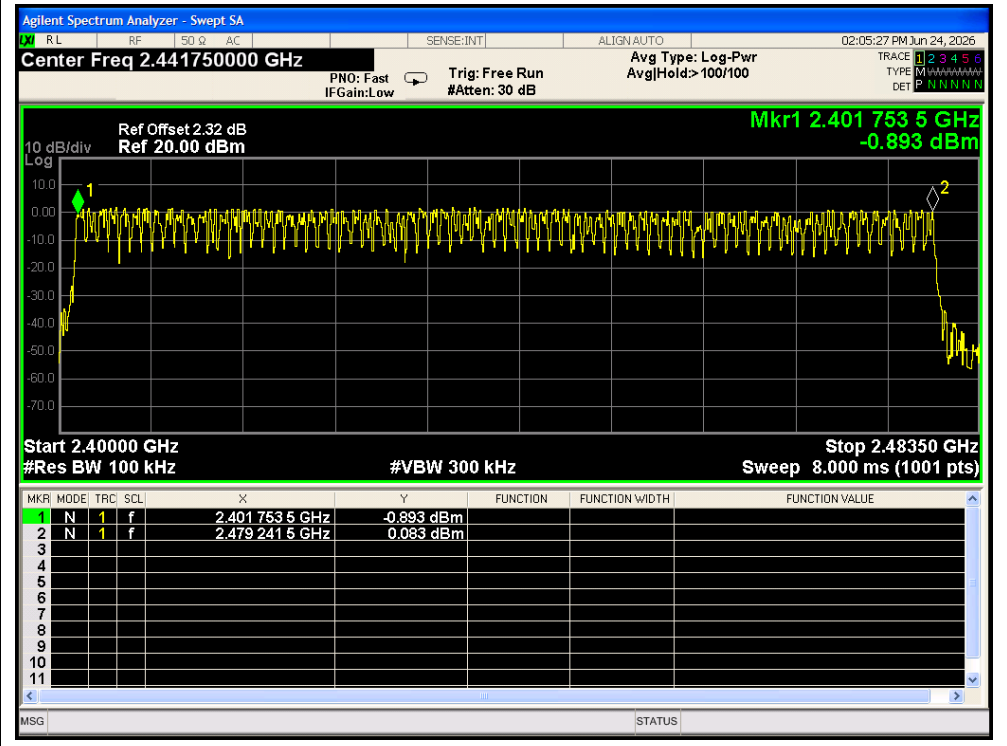


Number of Hopping Channel

Condition	Mode	Hopping Number	Limit	Verdict
NVNT	1-DH1	79	15	Pass

Test Graphs

Hopping No. NVNT 1-DH1 2440MHz

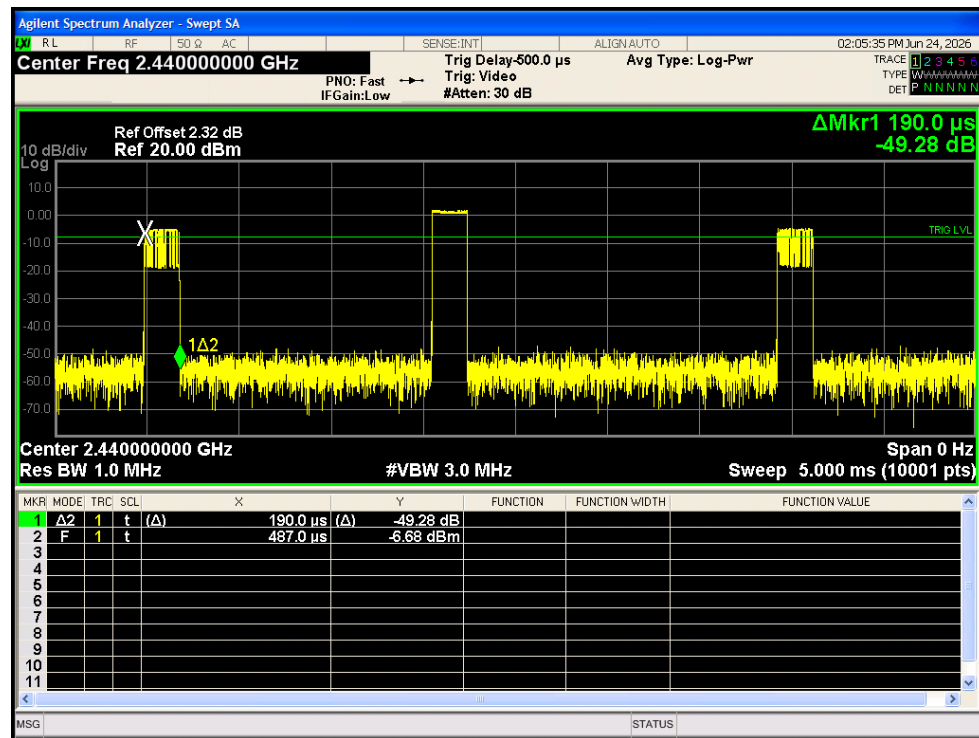


Dwell Time

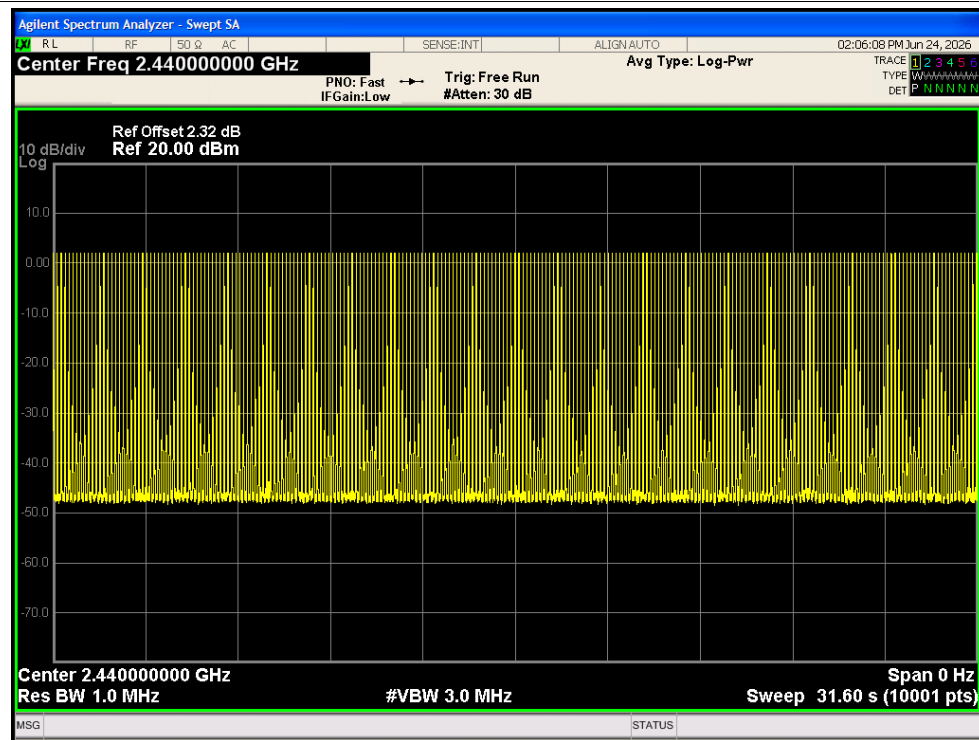
Condition	Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2440	0.19	45.22	238	31600	400	Pass

Test Graphs

Dwell NVNT 1-DH1 2440MHz One Burst



Dwell NVNT 1-DH1 2440MHz Accumulated



Emissions in Restricted Bands

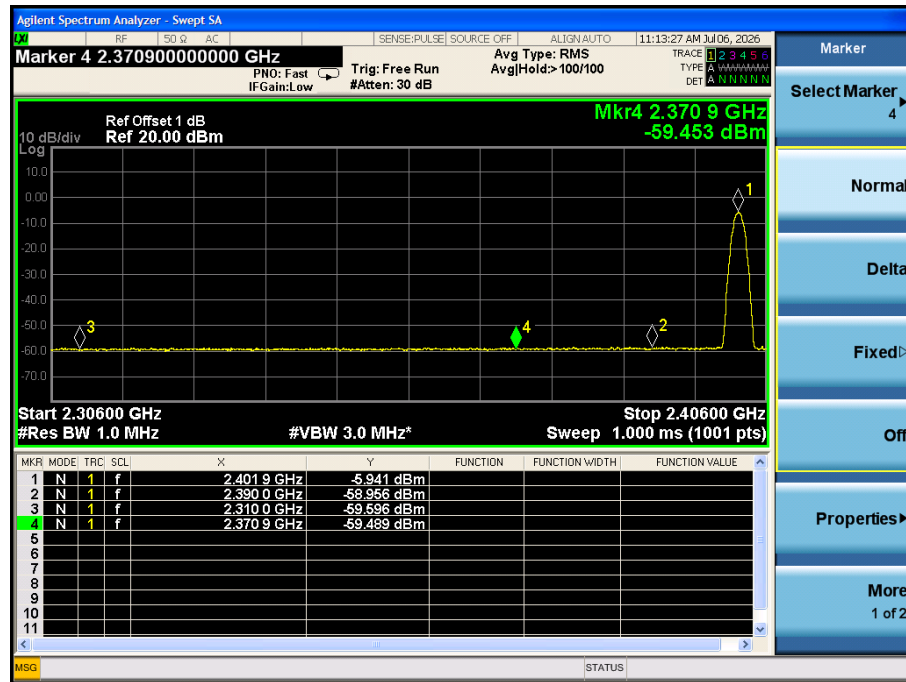
Test Mode	Ch	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Gain [dBi]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
1-DH1	Low	2402	AV	2310.000	-59.60	2.00	5.35	42.95	≤54	PASS
			AV	2370.900	-59.49	2.00	5.35	43.06	≤54	PASS
			AV	2390.000	-58.96	2.00	5.35	43.59	≤54	PASS
			Peak	2310.000	-48.68	2.00	0.00	48.52	≤74	PASS
			Peak	2386.700	-46.89	2.00	0.00	50.31	≤74	PASS
			Peak	2390.000	-48.49	2.00	0.00	48.71	≤74	PASS
	High	2479	AV	2483.500	-58.54	2.00	5.50	44.16	≤54	PASS
			AV	2500.000	-58.68	2.00	5.50	44.02	≤54	PASS
			AV	2518.200	-56.13	2.00	5.50	46.57	≤54	PASS
			Peak	2483.500	-37.34	2.00	0.00	59.86	≤74	PASS
			Peak	2487.200	-42.90	2.00	0.00	54.30	≤74	PASS
			Peak	2518.2000	-48.73	2.00	0.00	48.47	≤74	PASS

Note: 1. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a).

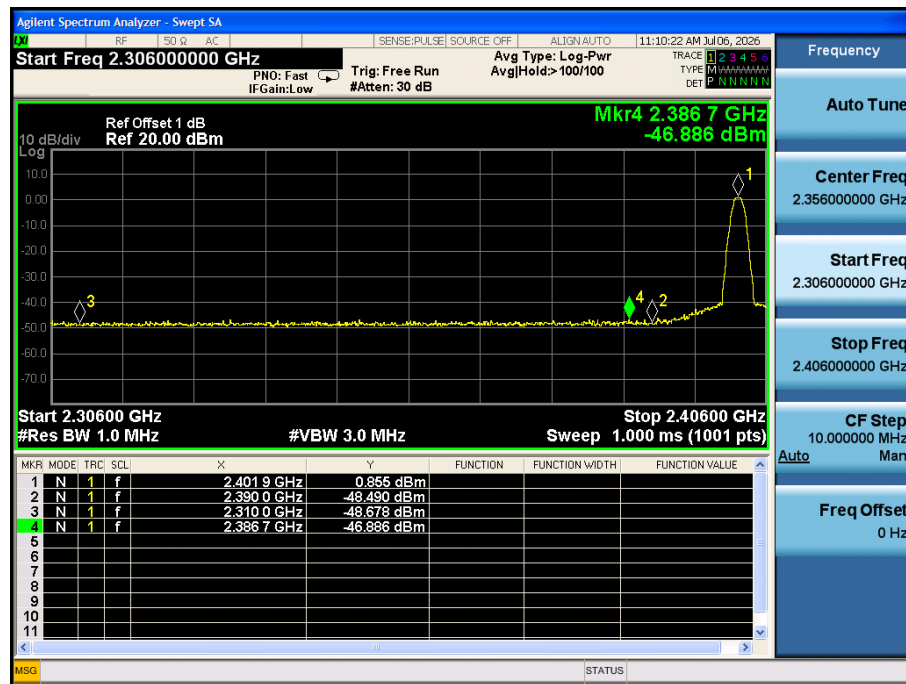
The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

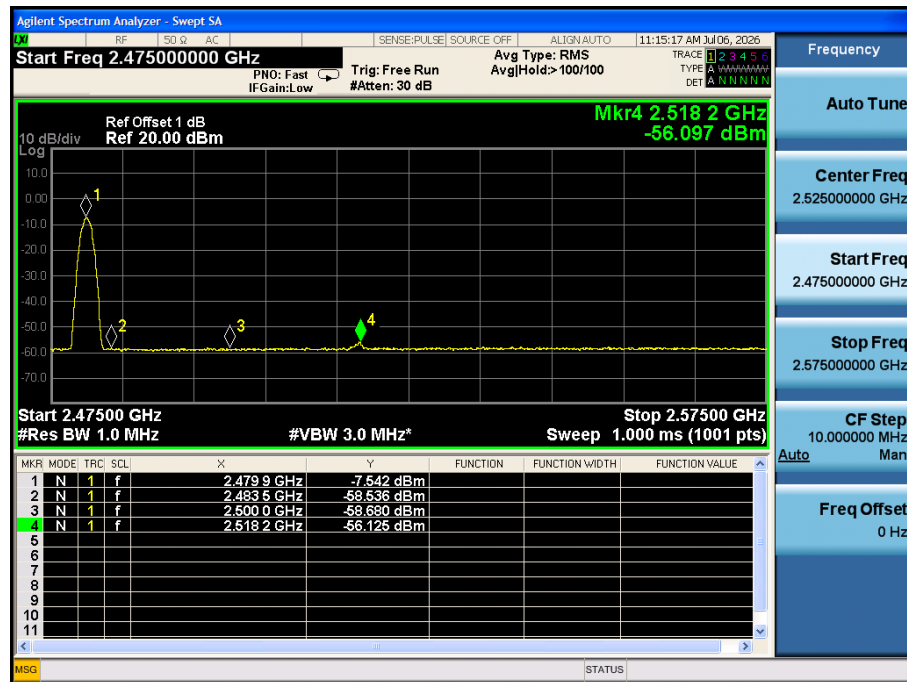
NVNT 1-DH1 2402MHz AV



NVNT 1-DH1 2402MHz PK



NVNT 1-DH1 2479MHz AV



NVNT 1-DH1 2479MHz PK

