



## Appendix A

### RF Test Data for 2.4G (Conducted Measurement)

Product Name: Rechargeable Wireless Keyboard

Test Model: HK8983

#### Environmental Conditions

Temperature:	23.5° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Joker Hu
Supervised by:	Ling Zhu





### A.1 -6dB Bandwidth

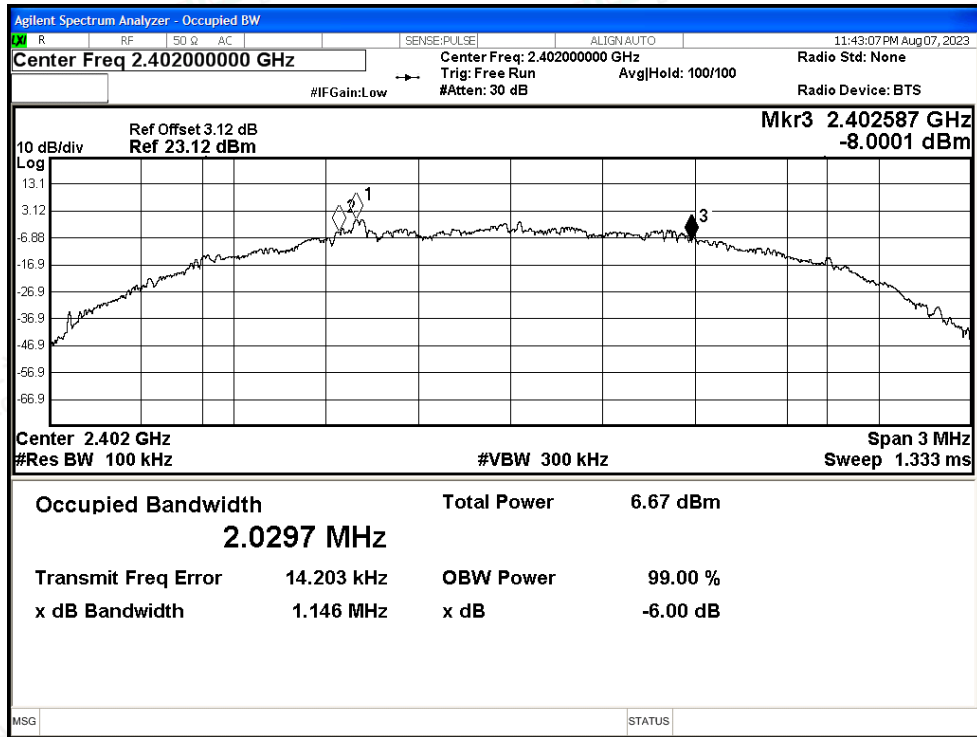
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	2.4G	2402	Ant	1.146	$\geq 0.5$	Pass
NVNT	2.4G	2440	Ant	1.147	$\geq 0.5$	Pass
NVNT	2.4G	2480	Ant	1.167	$\geq 0.5$	Pass



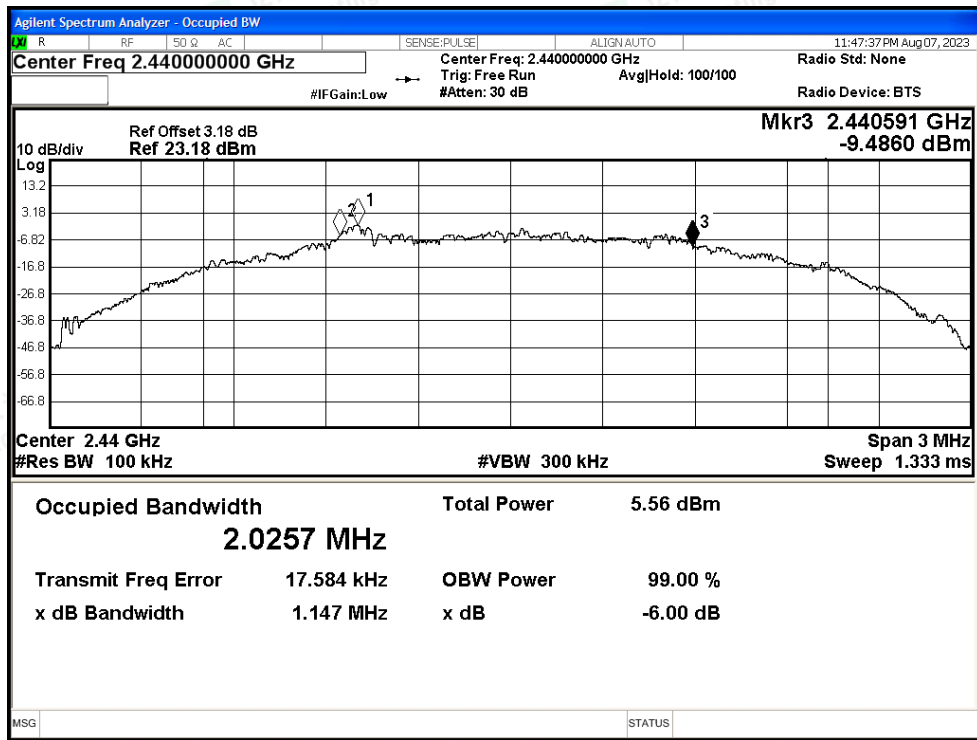


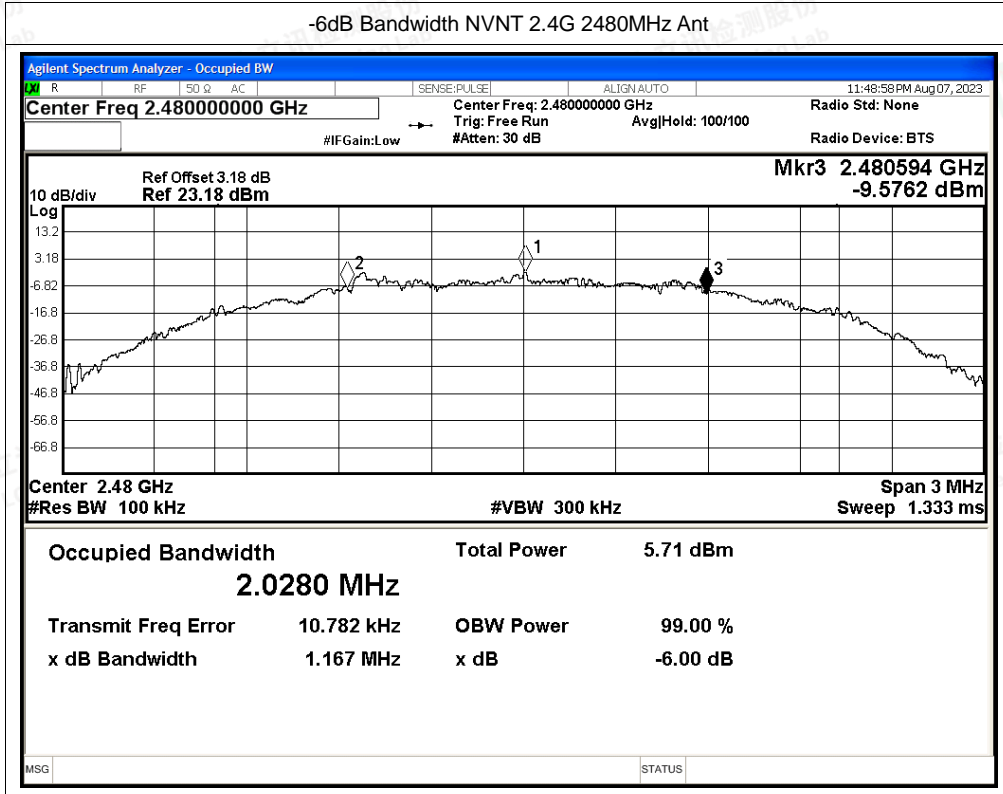
Test Graphs

-6dB Bandwidth NVNT 2.4G 2402MHz Ant



-6dB Bandwidth NVNT 2.4G 2440MHz Ant







## A.2 Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	2.4G	2402	Ant	2.025
NVNT	2.4G	2440	Ant	2.023
NVNT	2.4G	2480	Ant	2.026

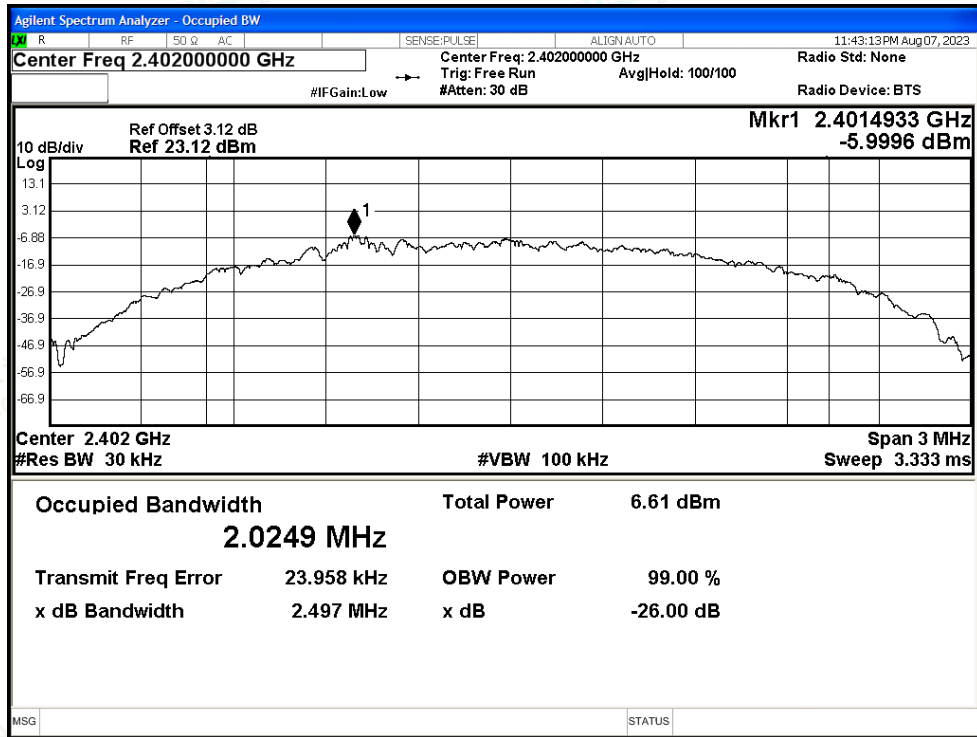


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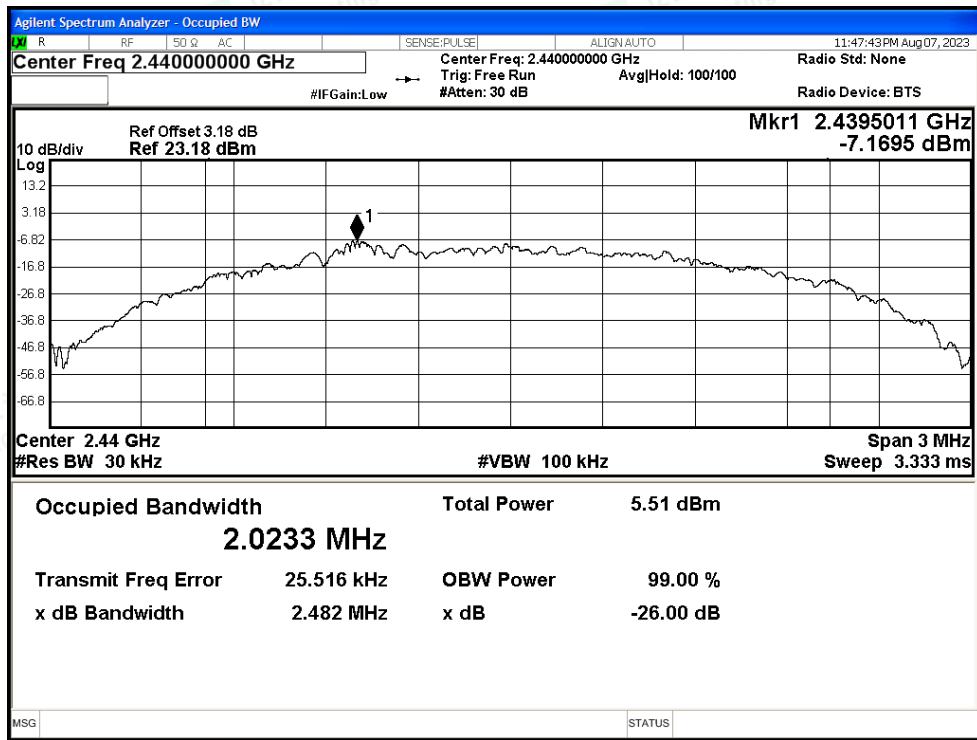


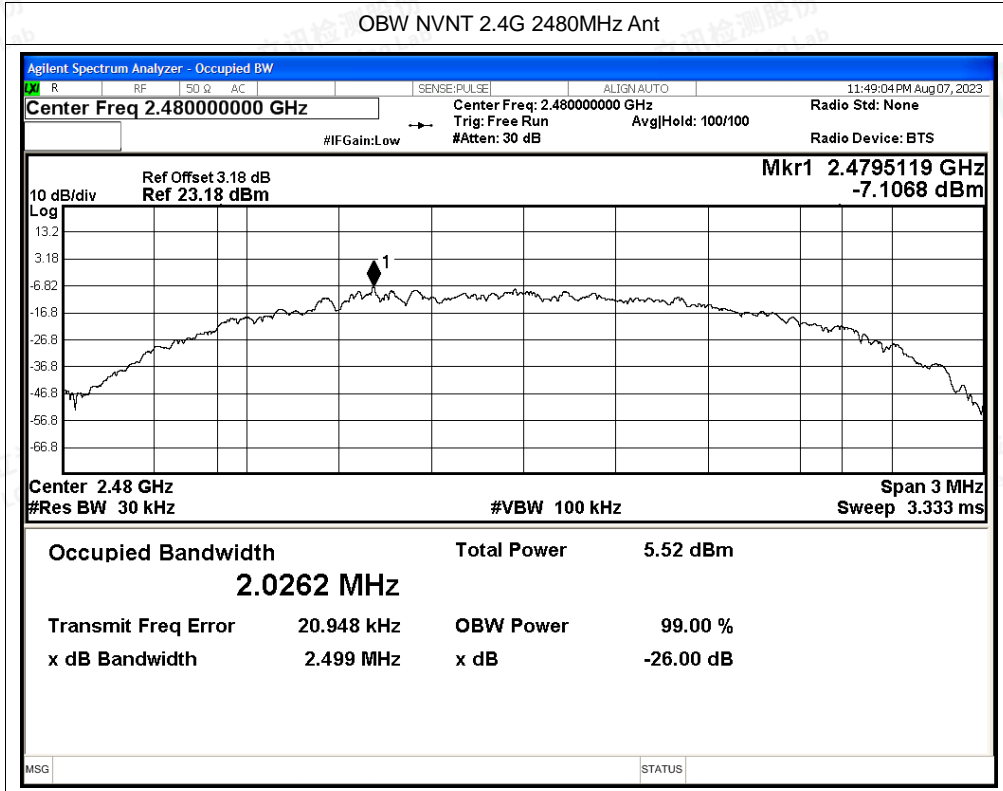
Test Graphs

OBW NVNT 2.4G 2402MHz Ant



OBW NVNT 2.4G 2440MHz Ant







### A.3 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	2.4G	2402	Ant	0.47	30	Pass
NVNT	2.4G	2440	Ant	-0.67	30	Pass
NVNT	2.4G	2480	Ant	-0.51	30	Pass

#### EIRP

Test Mode	Frequency (MHz)	Total Power (dBm)	Antenna Gain	Report EIRP Power(dBm)	Limit[dBm]	Verdict
2.4G	2402	0.47	-1.52	-1.05	≤36	PASS
	2440	-0.67	-1.52	-2.19	≤36	PASS
	2480	-0.51	-1.52	-2.03	≤36	PASS



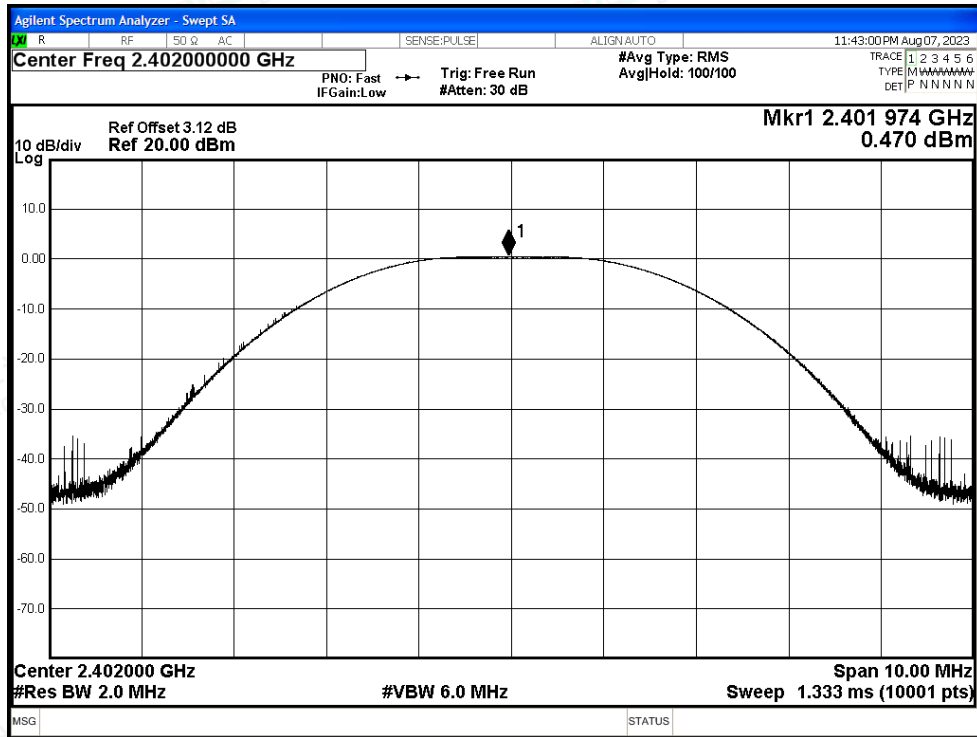
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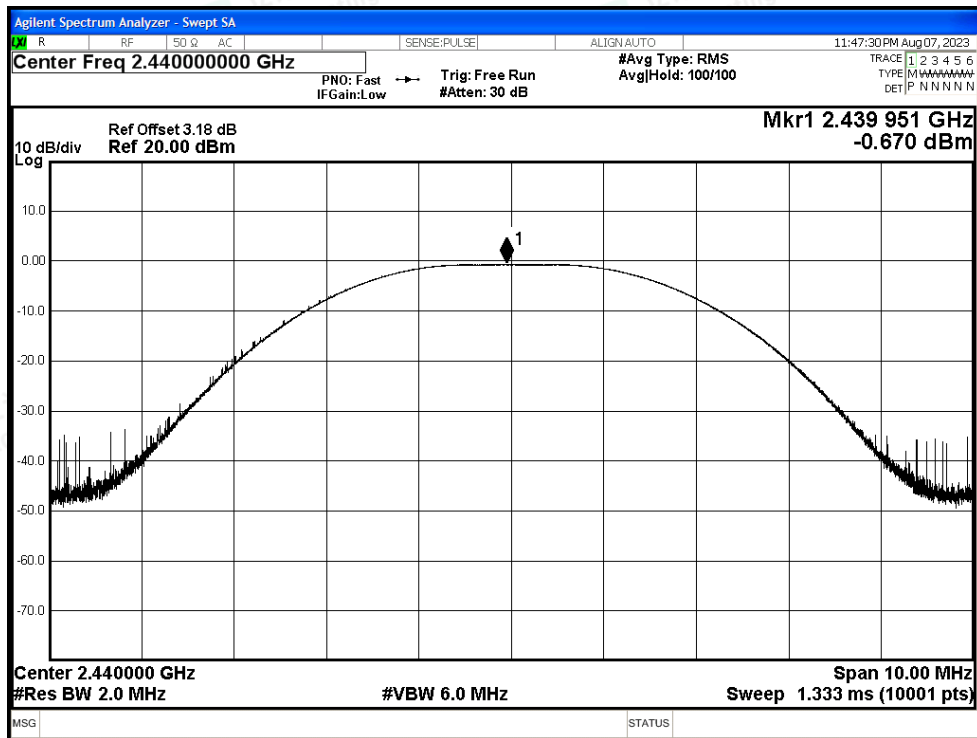


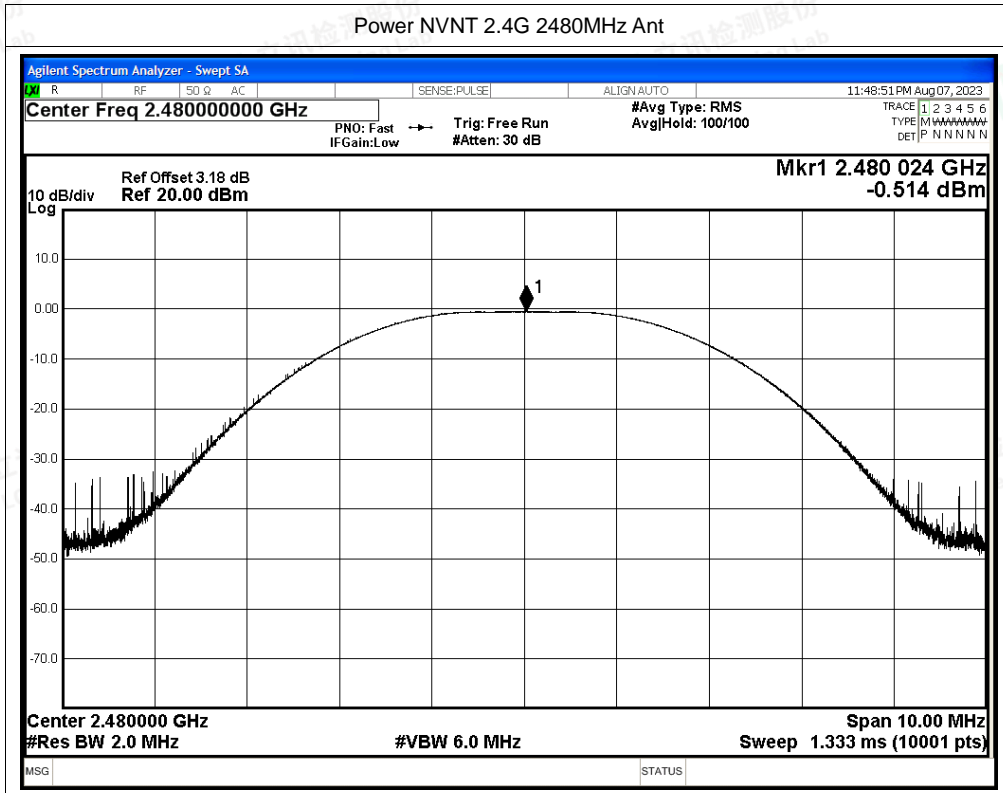
Test Graphs

Power NVNT 2.4G 2402MHz Ant



Power NVNT 2.4G 2440MHz Ant





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### A.4 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	2.4G	2402	Ant	-19.4	-19.4	8	Pass
NVNT	2.4G	2440	Ant	-20.59	-20.59	8	Pass
NVNT	2.4G	2480	Ant	-20.44	-20.44	8	Pass

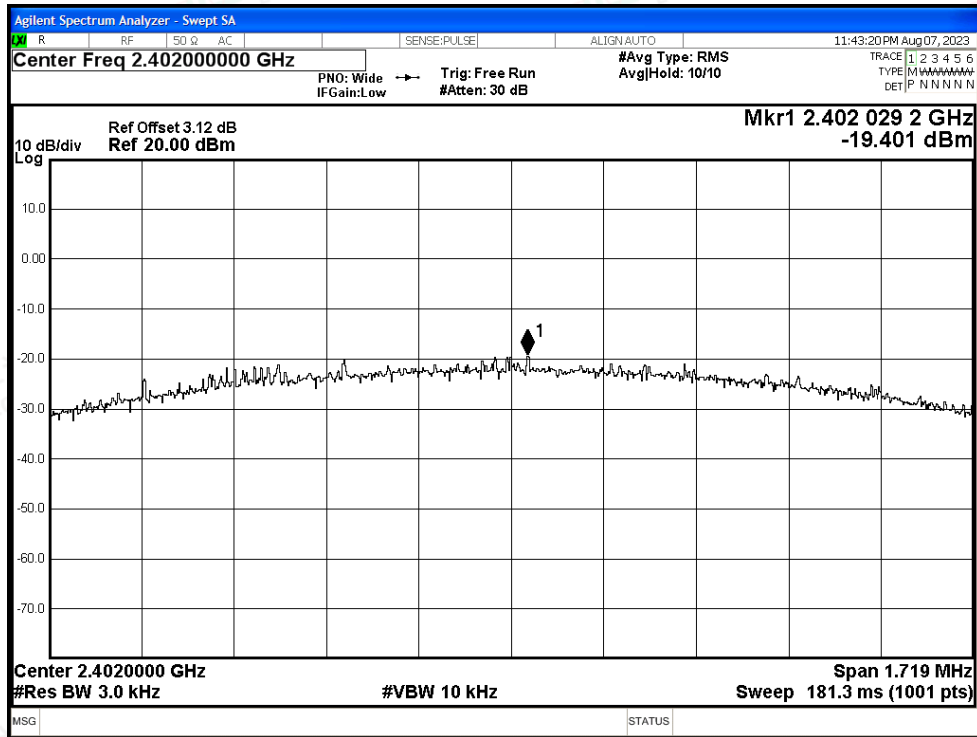


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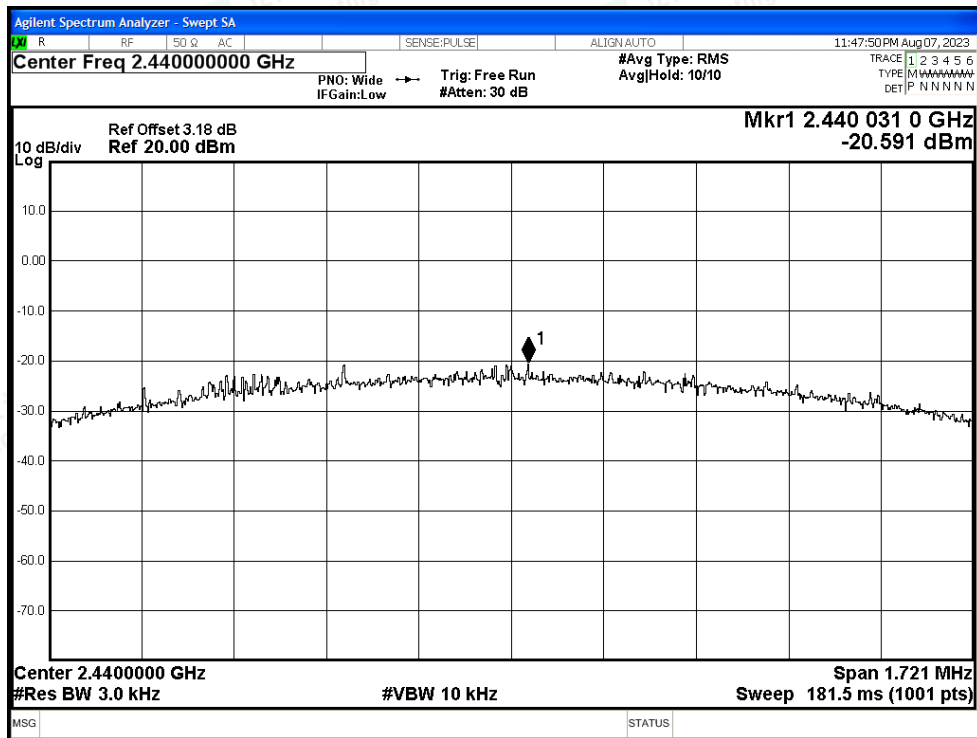


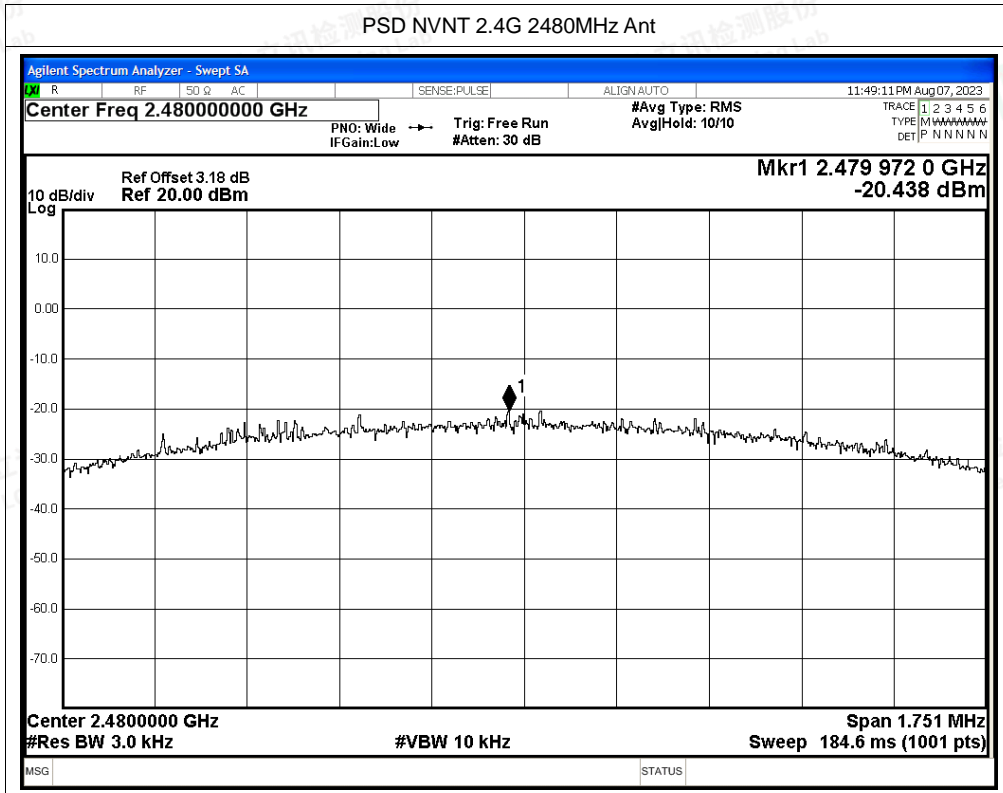
Test Graphs

PSD NVNT 2.4G 2402MHz Ant



PSD NVNT 2.4G 2440MHz Ant





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## A.5 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	2.4G	2402	Ant	-47.06	-20	Pass
NVNT	2.4G	2480	Ant	-53.56	-20	Pass

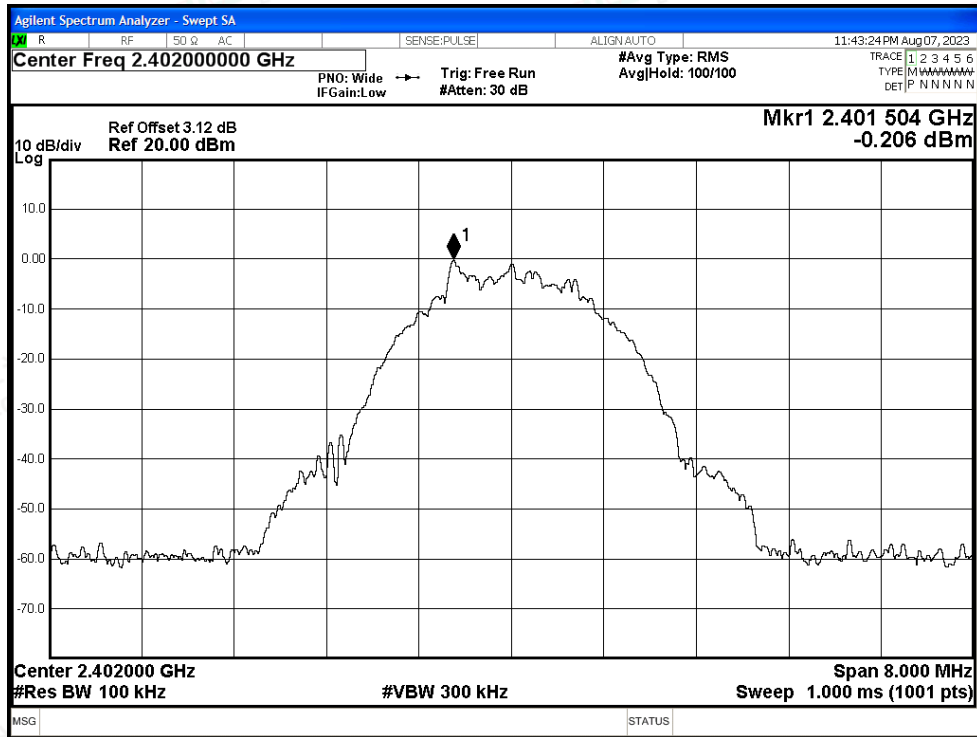


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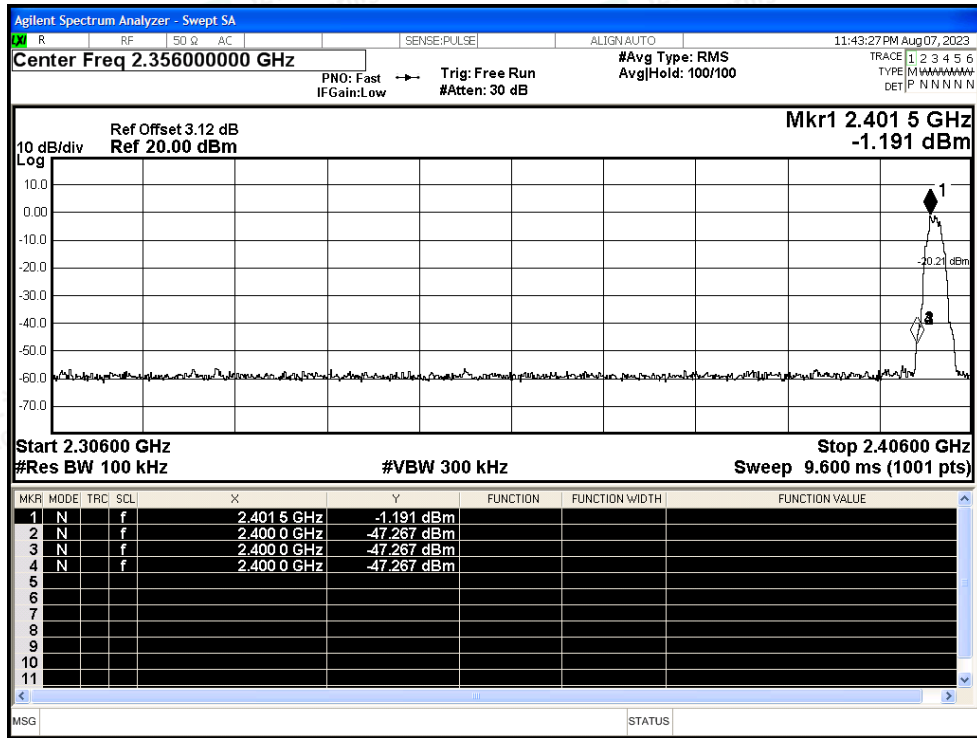


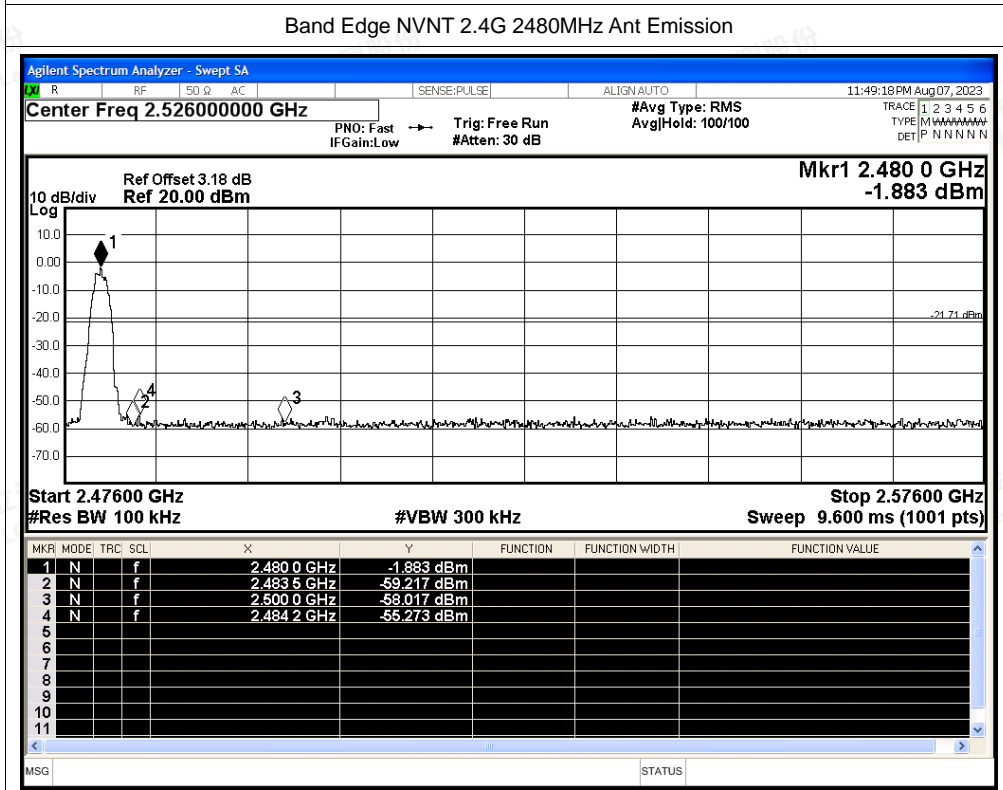
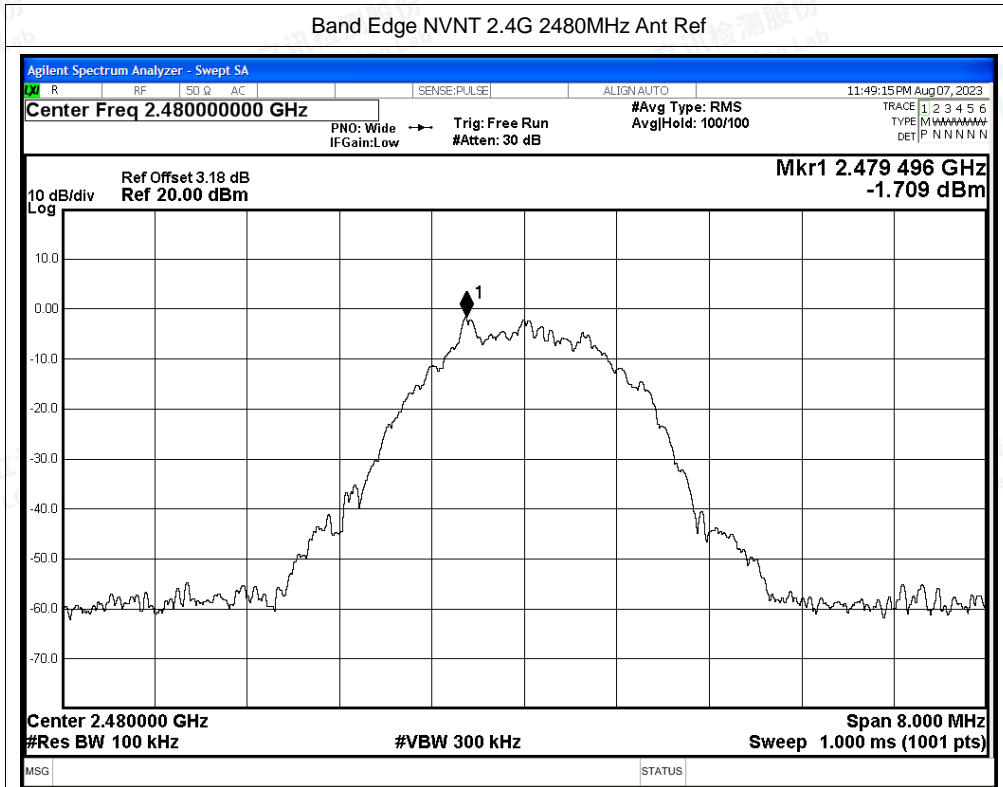
Test Graphs

Band Edge NVNT 2.4G 2402MHz Ant Ref



Band Edge NVNT 2.4G 2402MHz Ant Emission









## A.6 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	2.4G	2402	Ant	-52.26	-20	Pass
NVNT	2.4G	2440	Ant	-45.34	-20	Pass
NVNT	2.4G	2480	Ant	-49.76	-20	Pass

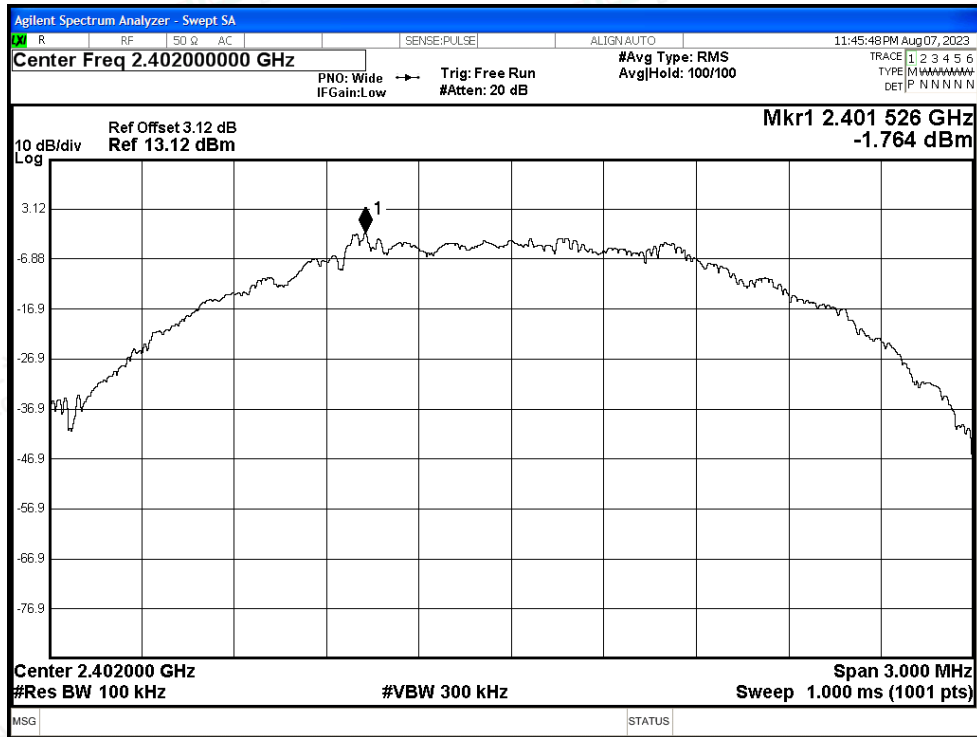


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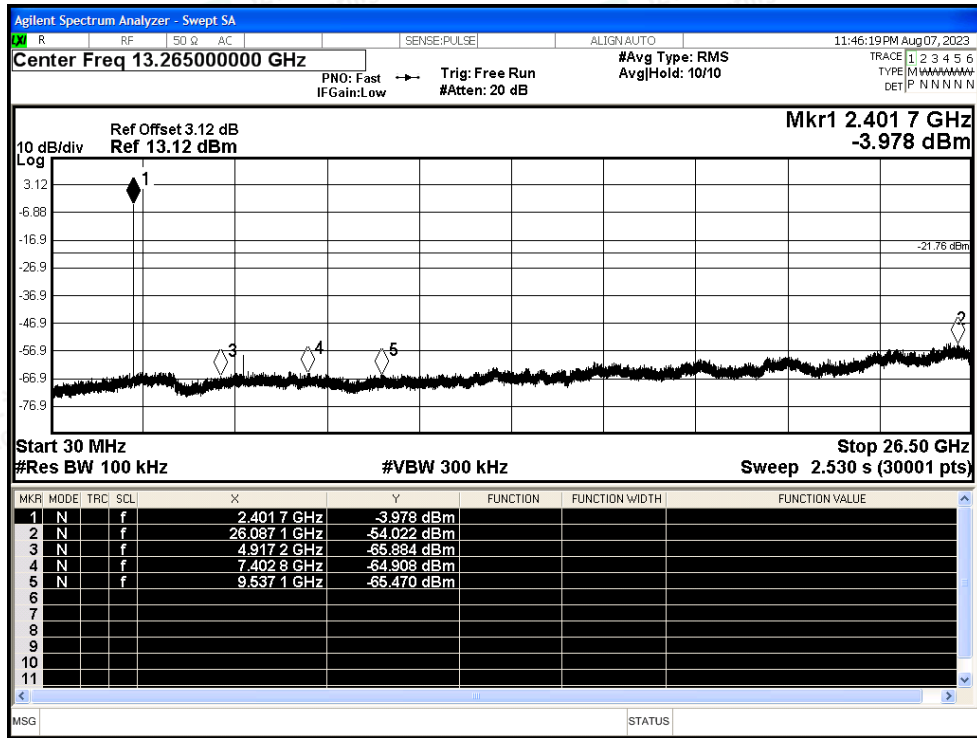


Test Graphs

Tx. Spurious NVNT 2.4G 2402MHz Ant Ref

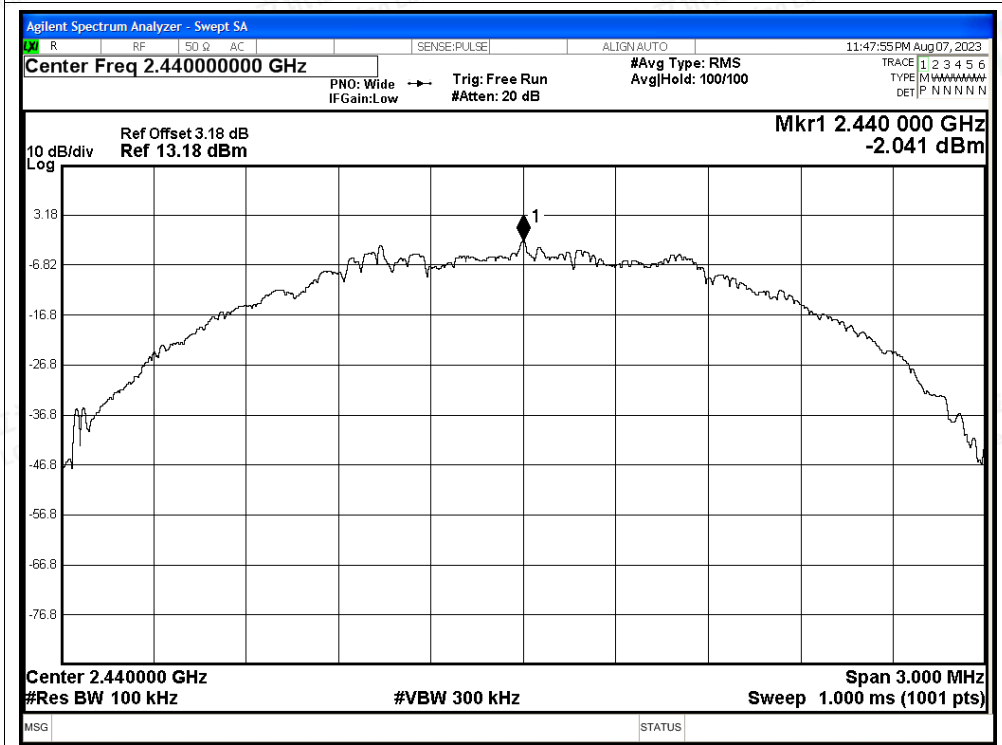


Tx. Spurious NVNT 2.4G 2402MHz Ant Emission

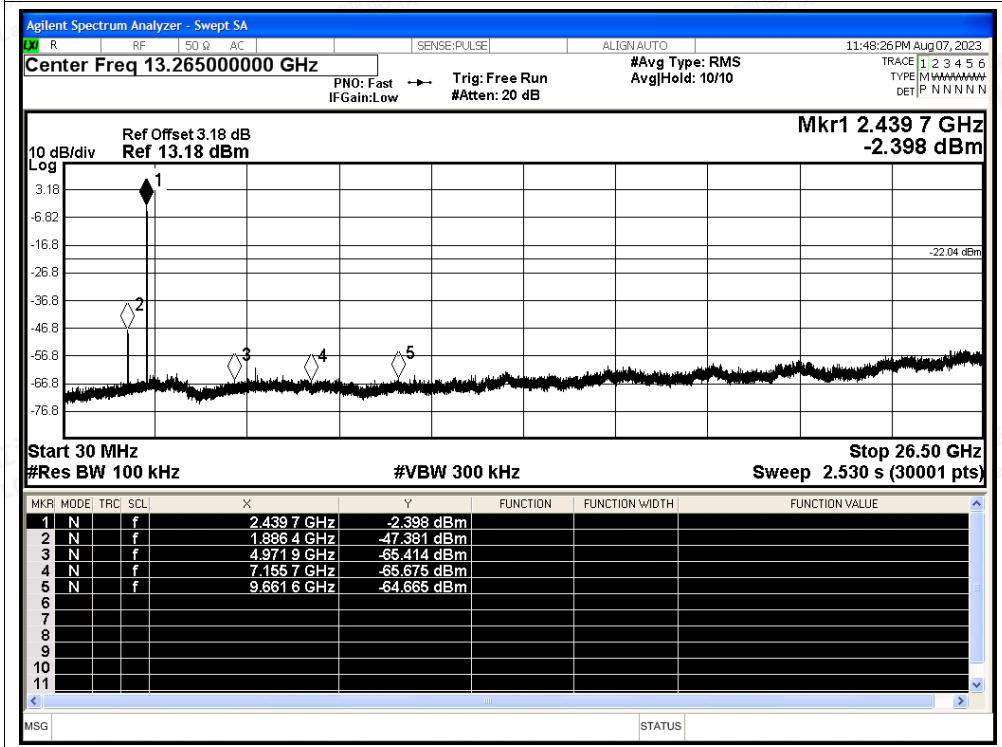




Tx. Spurious NVNT 2.4G 2440MHz Ant Ref

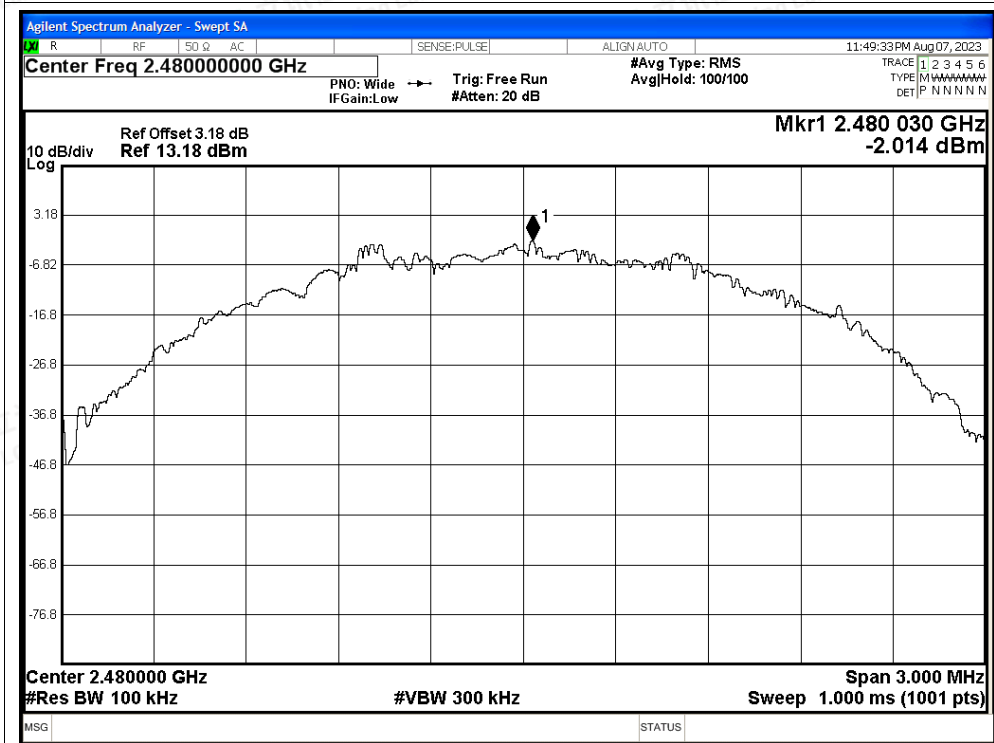


Tx. Spurious NVNT 2.4G 2440MHz Ant Emission

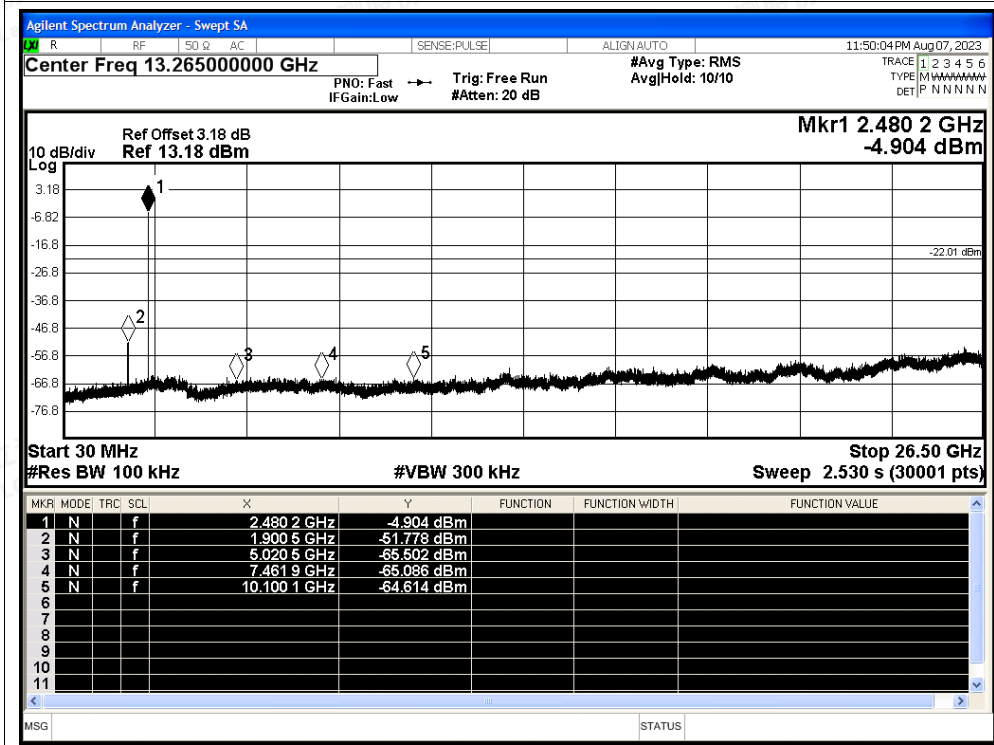




Tx. Spurious NVNT 2.4G 2480MHz Ant Ref



Tx. Spurious NVNT 2.4G 2480MHz Ant Emission





## A.7 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	2.4G	2402	Ant1	61.39	2.12	2.6
NVNT	2.4G	2440	Ant1	61.36	2.12	2.61
NVNT	2.4G	2480	Ant1	61.44	2.12	2.6

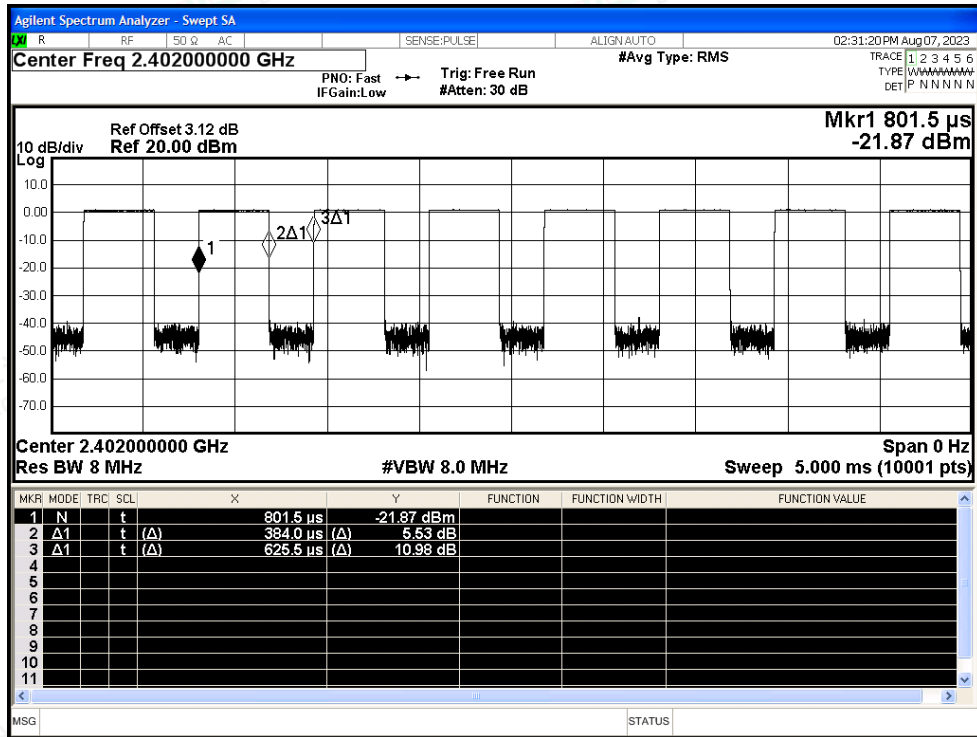


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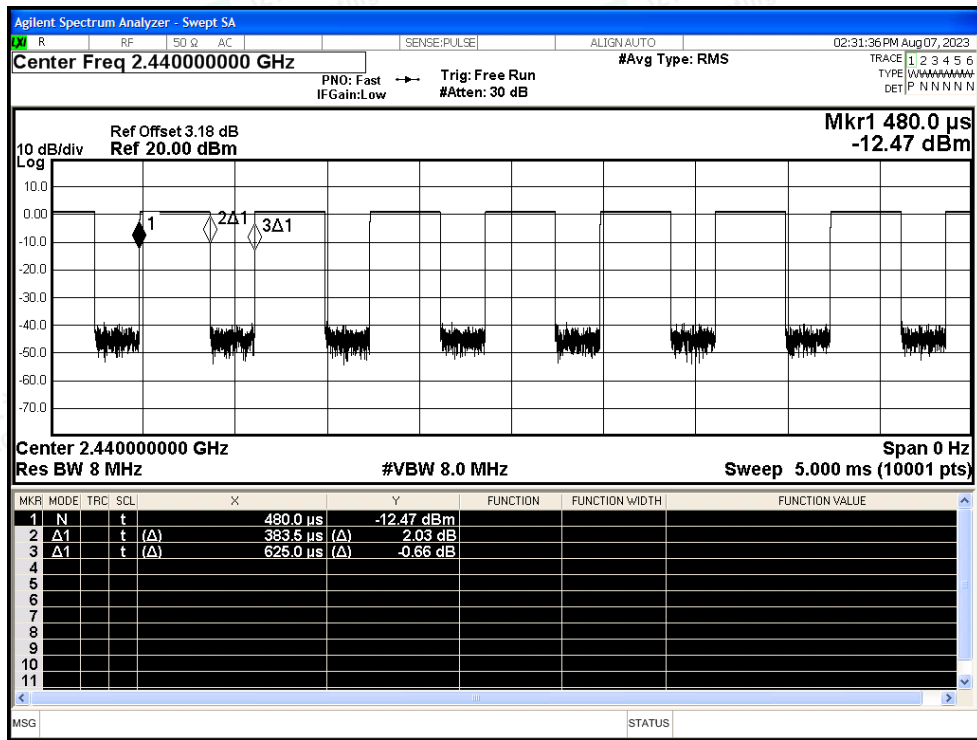


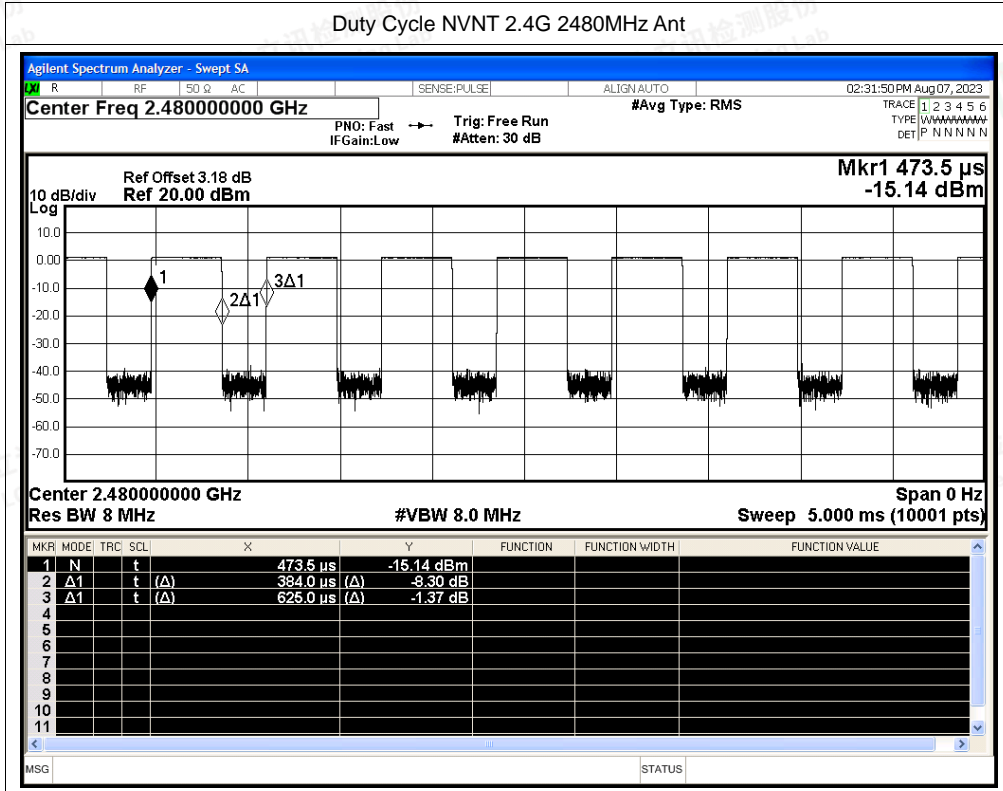
Test Graphs

Duty Cycle NVNT 2.4G 2402MHz Ant



Duty Cycle NVNT 2.4G 2440MHz Ant







### A.8 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	2.4G	2402	Ant	2310	-48.71	2	48.55	Peak	74	Pass
NVNT	2.4G	2402	Ant	2310	-56.48	2	40.78	Average	54	Pass
NVNT	2.4G	2402	Ant	2360.208	-47.12	2	50.14	Peak	74	Pass
NVNT	2.4G	2402	Ant	2368.368	-55.95	2	41.31	Average	54	Pass
NVNT	2.4G	2402	Ant	2390	-49.02	2	48.24	Peak	74	Pass
NVNT	2.4G	2402	Ant	2390	-56.23	2	41.03	Average	54	Pass
NVNT	2.4G	2480	Ant	2483.5	-48.29	2	48.97	Peak	74	Pass
NVNT	2.4G	2480	Ant	2483.5	-52.43	2	44.83	Average	54	Pass
NVNT	2.4G	2480	Ant	2484.136	-39.68	2	57.58	Peak	74	Pass
NVNT	2.4G	2480	Ant	2483.512	-52.43	2	44.83	Average	54	Pass
NVNT	2.4G	2480	Ant	2500	-47.57	2	49.69	Peak	74	Pass
NVNT	2.4G	2480	Ant	2500	-55.9	2	41.36	Average	54	Pass



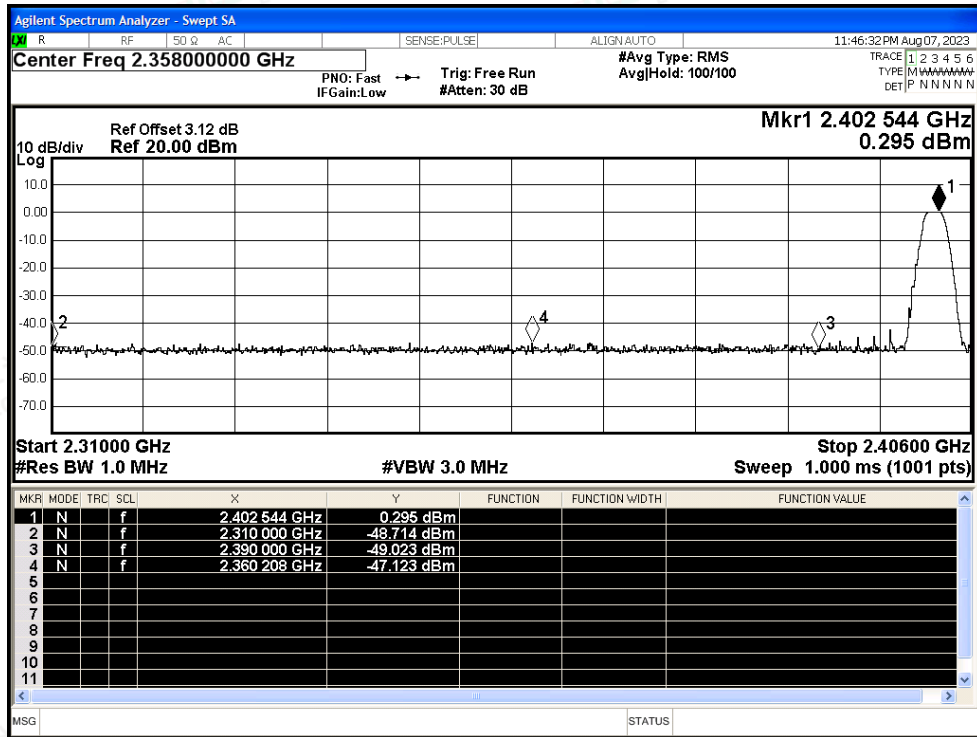
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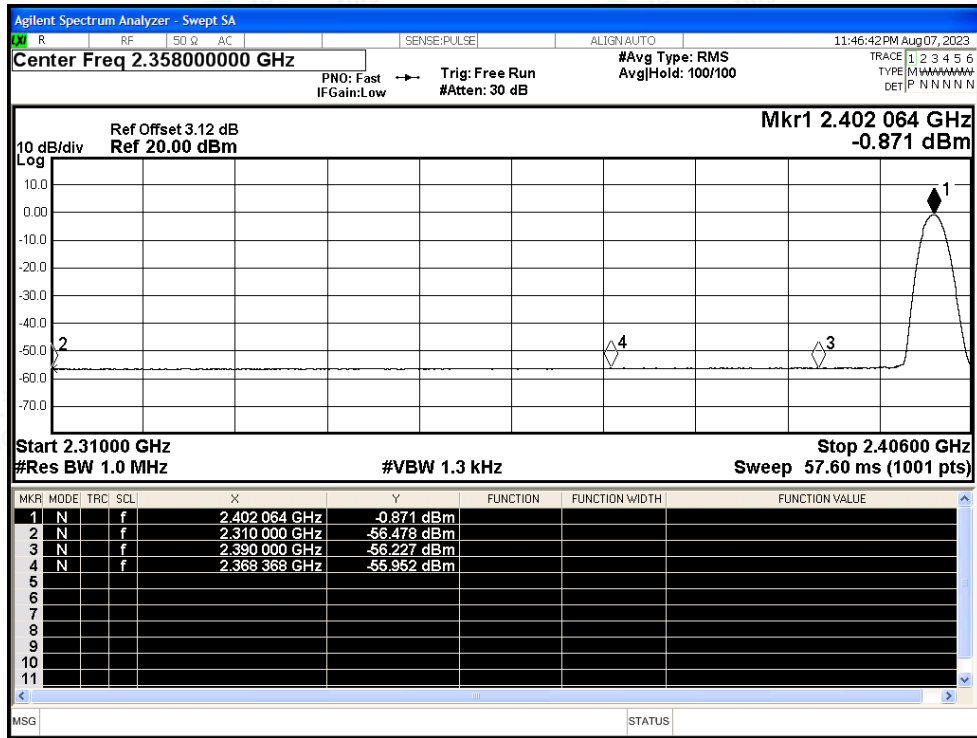


Test Graphs

Restrict Band NVNT 2.4G 2402MHz Ant Peak

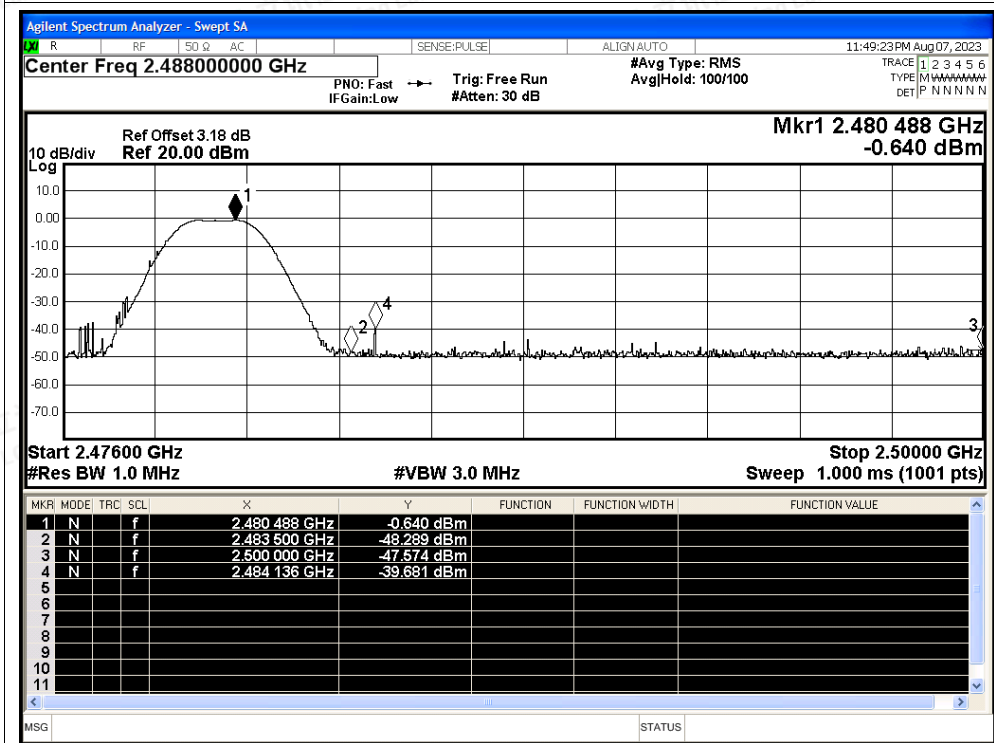


Restrict Band NVNT 2.4G 2402MHz Ant Average





Restrict Band NVNT 2.4G 2480MHz Ant Peak



Restrict Band NVNT 2.4G 2480MHz Ant Average

