Signal Hound designs and builds premium accessible test and measurement equipment for engineers and RF professionals around the globe.

VECTOR NETWORK ANALYSIS WITH PERFORMANCE AND ACCURACY THAT STANDS OUT - RAPID AND ROBUST AT AN UNRIVALED VALUE.

Signal Hound's VNA400 is a high-performance, 40 GHz, two-port vector network analyzer. It is USB-powered and boasts a dynamic range of up to 132 dB. This VNA is optimized for data-rich, system-level analysis. This versatile unit is powered from a Thunderbolt 3/4 port or USB-C port rated at 15 watts or higher and draws less than 15 watts. The VNA400 fully-featured software suite is included with this powerful test and measurement device. Perform industry standard measurements with ease, in the lab, the manufacturing facility, or out in the field.

APPLICATIONS

- Cable Testing
- Antenna Testing
- Return Loss/VSWR Measurements
- Filter Tuning
- Insertion Loss Measurements
- Field Use Through Ka Band
- Electrical Length Measurements
- SMT Component Evaluation
- Impedance Measurements
- Group Delay Measurements
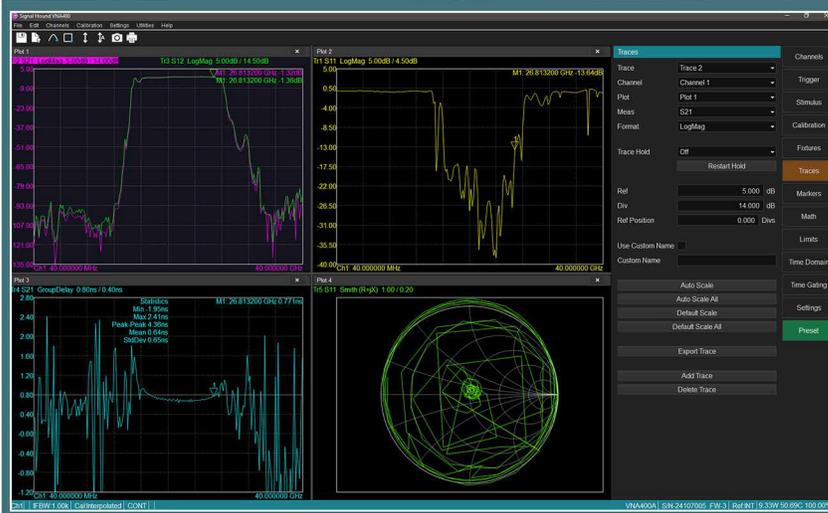- Amplifier Testing

FEATURES

- Frequency Range from 40 MHz to 40 GHz
- USB-Powered
- Full Automation Through SCPI
- Sub-Hz Resolution
- Frequency and Time Domain Measurements
- Dynamic Range Up to 132 dB

VNA400 Vector Network Analyzer
April 2025

Preliminary Specifications

Frequency Range	40 MHz to 40 GHz
Dynamic Range at BW (Typ) 100 Hz BW Isolation Off Max Power to Noise Floor	• -132 dB from 100 MHz to 2 GHz • -125 dB from 2 GHz to 8 GHz • -117 dB from 10 GHz to 32 GHz • -110 dB Up to 40 GHz
Frequency Accuracy	+/- 1 ppm
Frequency Resolution	sub-Hz
Measurement Bandwidth	10 Hz - 100 kHz
Number of Measurement Points	1-64001
Output Power Range (Typ)	-30 to +0 dBm
Output Power Resolution	1 dB
Measurement Speed (201 pts)	• 1-port: 80 ms • 2-port: 320 ms
Trace noise magnitude (IFBW 1 kHz)	0.004 dB RMS (0.0015 Typ)
Corrected System Performance (Typ) Using Maury 8770CK	• Directivity < 24 GHz: < -42 dB ≥ 24 GHz: < -39 dB • Source Match < 24 GHz: < -37 dB ≥ 24 GHz: < -34 dB • Load Match < 24 GHz: < -42 dB ≥ 24 GHz: < -40 dB
Absolute Maximum	±16 VDC, +20 dBm Peak RF Input, ±1.0 kV HBM (Typ)
Test Port Connector	NMD 2.92 mm, male • 50 Ohm
Number of Test Ports	2
Operating Temperature	• Standard -4°F to 122°F (-20°C to +50°C)
Size and Weight	• 11.2" x 6.8" x 1.5" (284mm x 172mm x 38mm) • 4.5 lbs. (2.04 kg)
Power Consumption	• 5 VDC 15 Watts (max)
Interface	USB Type C • Thunderbolt 3/4 Recommended
System Requirements	Windows or Linux Operating System, x64_86 architecture

Signal Hound's PC-Based VNA Software

Ordering Options
Standard
Option 20, D Rings
Option 21, Rack Mount Ready