MS46122A Compact ShockLine™
Vector Network Analyzers

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## World's first series of compact VNAs to 43.5 GHz

The MS46122A is a series of three Compact ShockLine USB Vector Network Analyzers. The VNAs are packaged in a compact 1U chassis and are externally controlled via USB from a user supplied PC running the same Graphical User Interface (GUI) software as the rest of the ShockLine family of VNAs. The unit also comes standard with 19" rack mount hardware for convenient rack mount installation.

The MS46122A benefits from patented Shockline VNA-on-chip technology which simplifies the internal VNA architecture at high frequencies, reduces instrument cost, and enhances accuracy and measurement repeatability. The combination of lower cost, small size and good performance make the MS46122A series VNAs ideal for passive device test applications where performance and small form factor are desired.
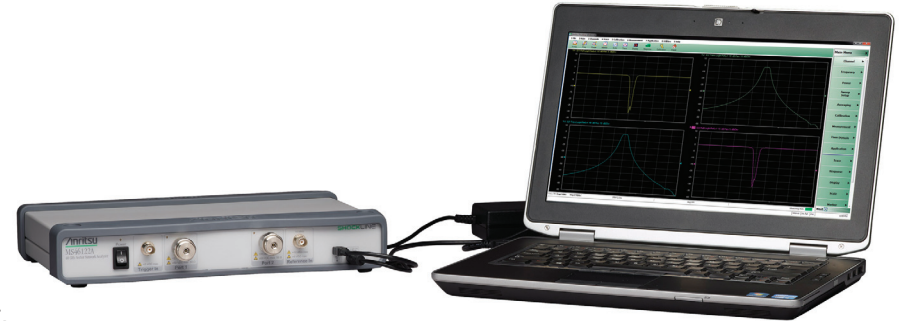
ShockLine™ Compact VNA Highlights

- World's first series of compact VNAs to 43.5 GHz for cost-effective measurements.
- Small, and lightweight, easily shared between test locations.
- PC control takes advantage of external computer processing power and functionality.
- Compact 1U high package for efficient use of bench and rack space.
- No onboard data storage eliminates the need for data purging in secure applications.
- Time domain with time gating option grants easier and faster fault identification.
- A common GUI interface within the ShockLine family reduces switching costs between models.
- Compatibility with the 36585K AutoCal enables fast calibrations up to 40 GHz
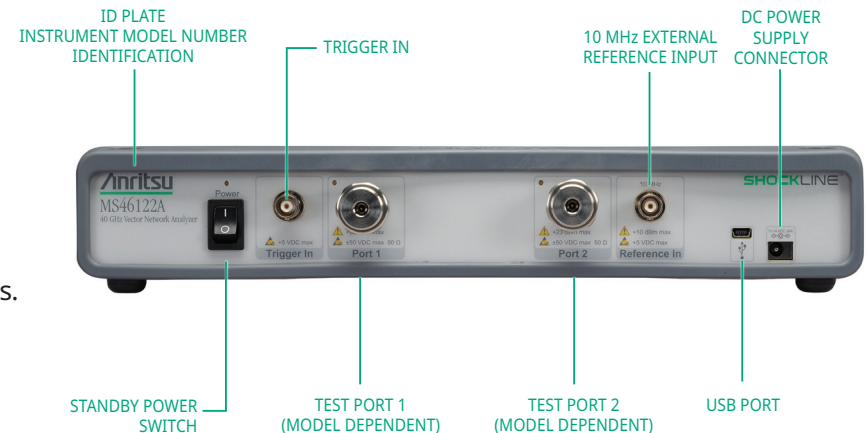
SHOCKLINE™

Simple | Economical | Great Performance

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Key Specifications

Analyzer Performance	
Frequency Options	MS46122A-010, 1 MHz to 8 GHz, type N(f) ports MS46122A-020, 1 MHz to 20 GHz, type Ruggedized K(m) ports MS46122A-040, 1 MHz to 43.5 GHz, type Ruggedized K(m) ports (Ruggedized K(m) ports are compatible with 3.5 mm and SMA connectors)
Dynamic Range	> 110 dB, 14 GHz to 43.5 GHz, typical
Sweep Speed	220 µs / data point, typical
High Level Noise	1 mdB, 20 MHz to 43.5 GHz, typical

General	
Measurement Parameters	S_{11}, S_{21}, S_{22}, S_{12}, and any user-defined combination of a_1, a_2, b_1, b_2, 1.
Display Graphs	Log Magnitude, Phase, Group Delay, Linear Magnitude, Real, Imaginary, SWR, Impedance, Smith Chart, Polar
Measurements Data Points	2 to 16,001 points
Limit Lines	Single or segmented. 2 limit lines per trace. 50 segments per trace.
IF Bandwidth	10, 20, 50, 70, 100, 200, 300, 500, 700 Hz 1, 2, 5, 7, 10, 20, 30, 50, 70, 100, 300 kHz
Display Channels and Traces	Up to 16 channels with a maximum of 16 traces each. A separate memory for each trace can be used to store measurement data for later display or subtraction, addition, multiplication or division with current measurement data. The trace data can be saved and recalled.
Markers	12 markers + 1 reference marker per trace
Display	Powerful GUI displayed on user-provided computer.
Temperature	Operating Temperature 0 ℃ to 50 ℃
Dimensions	61 mm x 328 mm x 198 mm (H x W x D)
Weight:	< 2.2 kg (< 5 lbs), typical

Product Options

Option Number	Description
MS46122A-002	Time Domain with time gating

Calibration Accessories

Part Number	Description
MN25208A	2-Port SmartCal 8.5 GHz USB Auto Calibration Unit
TOSLN50A-18	Precision N Male Through/Open/Short/Load Mechanical Calibration Tee
TOSLNF50A-18	Precision N Female Through/Open/Short/Load Mechanical Calibration Tee
TOSLK50A-40	Precision K Male Through/Open/Short/Load Mechanical Calibration Tee
TOSLKF50A-40	Precision K Female Through/Open/Short/Load Mechanical Calibration Tee
36585K	2-Port AutoCal 40 GHz Auto Calibration Unit
3653A	Type N Calibration Kit
3652A	Type K Calibration Kit
3650A	SMA / 3.5 mm Calibration Kit

Accessories

Cables	Automatic Calibration Unit

Calibration Accessories	Torque Wrenches

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