ShockLine™ MS46131A
Modular 43.5 GHz 1-Port VNA

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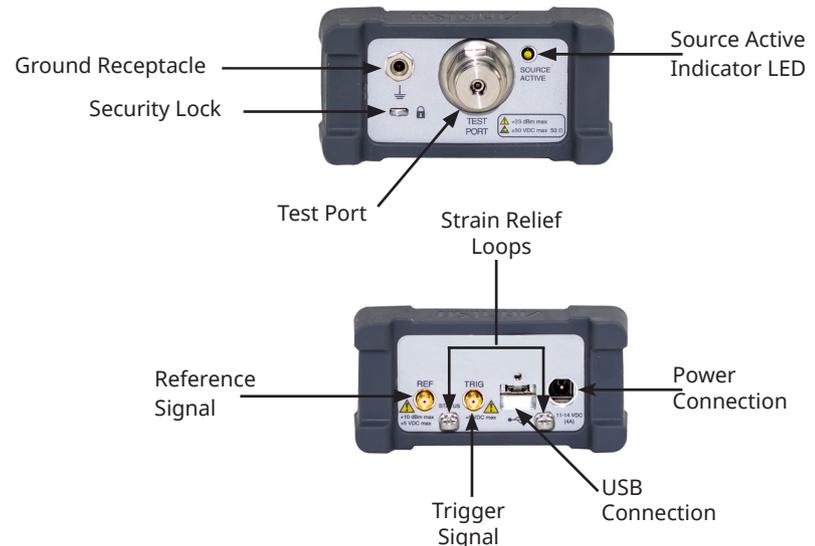## World's only One Port VNA with Extended-K™ ports specified to 43.5 GHz

The ShockLine MS46131A from the family of Anritsu vector network analyzers is packaged in a compact chassis and is 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 ShockLine MS46131A benefits from patented shockline VNA-on-chip technology that 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 ShockLine MS46131A series VNAs ideal for passive device test applications where performance and small form factor are desired.

ShockLine Compact VNA Highlights

- Guaranteed specs with K connector ports 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 packaging for efficient use in the field and in the lab for accurate and precise measurements.
- 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 AutoCal and SmartCal units enables fast calibrations.

SHOCKLINE™

Simple | Economical | Great Performance

Ground Receptacle
Security Lock
Source Active Indicator LED
Test Port
Strain Relief Loops
Reference Signal
Trigger Signal
USB Connection
Power Connection

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Key Specifications

Analyzer Performance	
Frequency Options	MS46131A-010, 1 MHz to 8 GHz, type N(f) ports MS46131A-020, 1 MHz to 20 GHz, Ruggedized type K(m) ports (compatible with 3.5 mm and SMA connectors) MS46131A-043, 1 MHz to 43.5 GHz, Ruggedized type Extended-K™(m) ports (compatible with standard K (2.92 mm), 3.5 mm, and SMA connectors)
Directivity	≥42 dB
High Level Noise	0.002 dB typical from > 8 GHz to 40 GHz

General	
Measurement Parameters	1-Port Measurements S11 or any user-defined combination of a1, b1, 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 -10 ℃ to 55 ℃
Dimensions	52 mm x 148 mm x 36 mm (H x W x D)
Weight:	< 1 kg (< 2.2 lb), typical weight

Product Options

Option Number	Description
MS46131A-002	Time Domain

Calibration Accessories

Part Number	Description
MN25208A	2-Port SmartCal 8.5 GHz USB Auto Calibration Unit
MN25218A	2-Port SmartCal 20 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
TOSLK50A-43.5	Precision Extended-K Male Through/Open/Short/Load Mechanical Calibration Tee, DC to 43.5 GHz, 50 ohm, includes .s1p files for data-based calibration support
TOSLKF50A-43.5	Precision Extended-K Female Through/Open/Short/Load Mechanical Calibration Tee, DC to 43.5 GHz, 50 ohm, includes .s1p files for data-based calibration support
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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