Shockline™ ME7869A
Modular 2-Port VNA Enabled by PhaseLync™
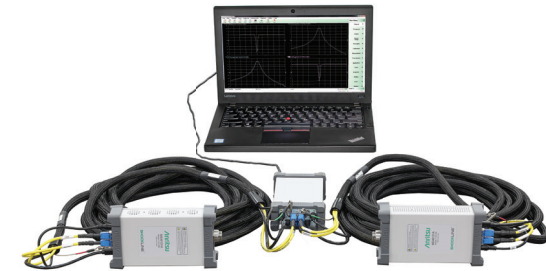
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Advancing beyond

World's First Distributed Modular 2-Port VNA Capable of Making Vector Corrected 2-port S-parameter Measurements Over Longer Distances.

The ShockLine ME7869A 2-port systems are uniquely configured with two 1-port MS46131A VNA's that are synchronize together to form a fully reversing VNAs. Using patented PhaseLync synchronization technology, the 1-port VNAs are phase synchronized over a distance of up to 100 meters to enable full 2-port vector S-parameter measurements. This architecture eliminates the need for long cables by bringing the VNA port to the device-under-test (DUT). This simplifies and improves the S-parameter measurements over distance in applications like over-the-air (OTA) and large vehicle shielding and propagation testing.
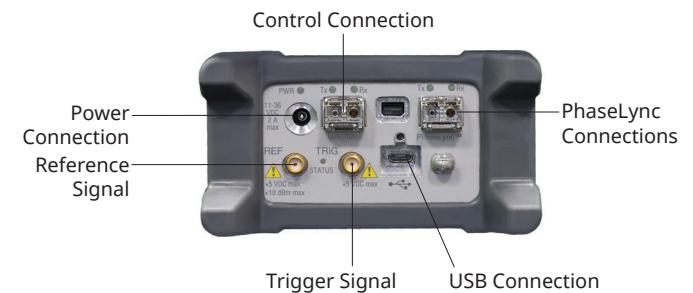
The ShockLine ME7869A is offered in 8 GHz, 20 GHz, and 43.5 GHz frequencies, and requires cabling between the two ShockLine MS46131A VNAs to support the PhaseLync option to support distances of up to100 meters between the two ports of the VNA.
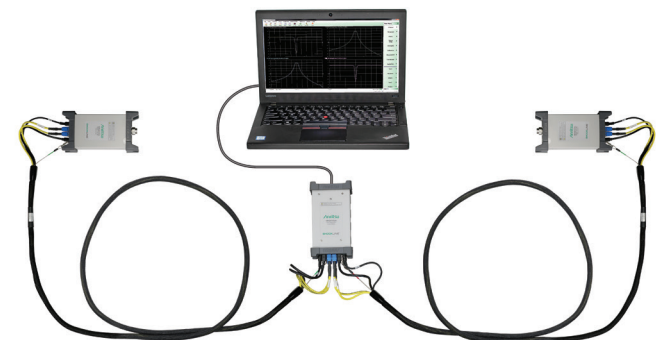
ShockLine Compact VNA Highlights

- Portable and remote ShockLine ME7869A VNA ports eliminate long cables by bringing the VNA to the DUT, improving measurement stability and dynamic range
- PhaseLync technology enables Vector corrected magnitude and phase measurements between two ShockLine MS46131A VNAs separated by up to 100 meters
- Modular architecture maximizes uptime by making ports easily replaceable
- A single external PC controls the pair of ShockLine MS46131As as a fully reversing 2-port VNA with powerful ShockLine software
- No on-board data storage eliminates the need for data purging in secure applications
- Fast and easy calibrations with AutoCal™
- Single power supply required for ME7869A from the control module to the 2 VNA heads

ShockLine ME7869A Configuration

Control Connection

Power Connection

Reference Signal

PhaseLync Connections

Trigger Signal   USB Connection

Remote ShockLine MS46131A Connections

ShockLine ME7869A 25 Meter 2-Port Configuration

SHOCKLINE™

Simple | Economical | Great Performance

4TECT

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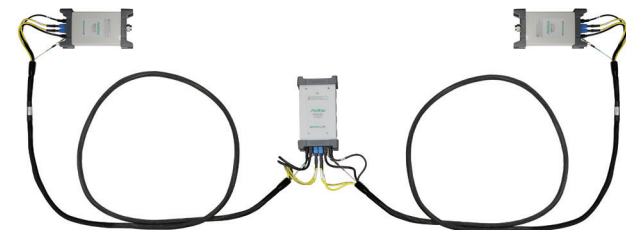
Key Specifications

Analyzer Performance	
Standard 2-Port Configurations	ME7869A-010 8 GHz ME7869A-020 20 GHz ME7869A-043 43.5 GHz MS46131A-025 8 GHz (software Option 25) MS46131A-050 20 GHz (software Option 50) MS46131A-100 43.5 GHz (software Option 100) ME7869A-010 8 GHz, 25 meter PhaseLync cabling ME7869A-020 20 GHz, 25 meter PhaseLync cabling ME7869A-043 43.5 GHz, 25 meter PhaseLync cabling ME7869A-010 8 GHz, 50 meter PhaseLync cabling ME7869A-020 20 GHz, 50 meter PhaseLync cabling ME7869A-043 43.5 GHz, 50 meter PhaseLync cabling ME7869A-010 8 GHz, 100 meter PhaseLync cabling ME7869A-020-25 20 GHz, 100 meter PhaseLync cabling ME7869A-043-25 43.5 GHz, 100 meter PhaseLync cabling
System Dynamic Range	105 dB Typical
High Level Noise	0.003 dB Typical
General	
Measurement Parameters	Single-ended S-parameters: S11, S21, S12, S22 Mixed-Mode S-parameters: SDD, SCC, SDC, SCD User-defined combination: a1, a2, b1, b2, 1
Display Graphs	Log Magnitude, Phase, Group Delay, Linear Magnitude, Real, Imaginary, SWR, Impedance, Smith Chart, Polar
Measurement Data Points	2 to 16,001 points
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	191.8 mm x 107 mm x 54 mm (H x W x D)
Weight	< 1 kg (< 2.2 lb), typical weight

*For complete 2-port specifications, please refer the ShockLine ME7868A Technical Data Sheet (P/N 11410-02824).

Product Options

Option Number	Description
MS46131A-002	Time Domain (must be enabled on both ShockLine MS46131As to enable option)

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

ShockLine ME7869A Setup