

MS46322B Economy ShockLine™ Vector Network Analyzers

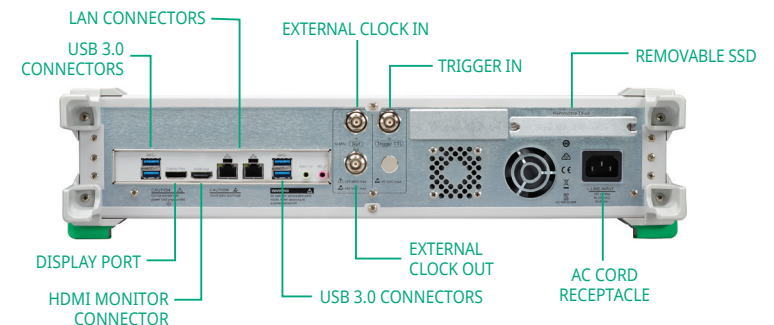
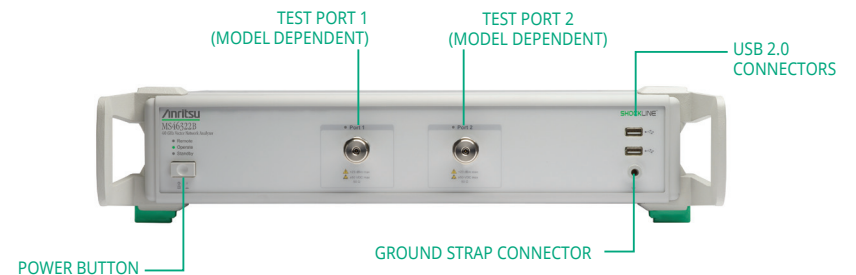
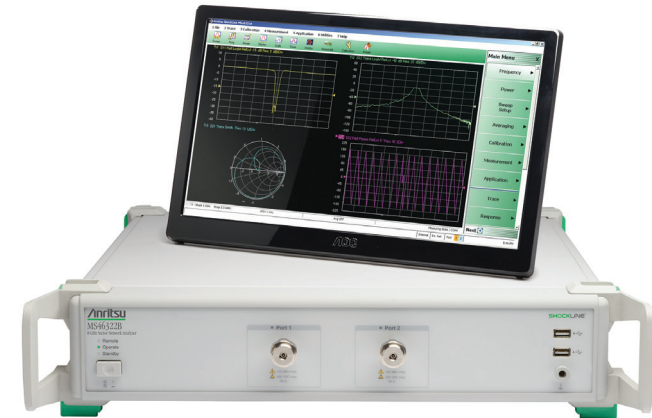
The Ideal Choice for Cost-Sensitive Applications

The MS46322B is a series of Economy ShockLine™ Vector Network Analyzers with frequency range from 1 MHz to 8/20/43.5 GHz. It is based on patented Shockline VNA-on-chip technology, which simplifies the internal VNA architecture at high frequencies, reduces instrument cost, enhances accuracy and minimizes measurement uncertainty.

The MS46322B are all 2-port VNAs packaged in a compact and rugged 2U chassis. The entire series has 130 microseconds per point sweep speed, and better than 100 dB dynamic range to 43.5 GHz, making it suitable for testing passive devices in engineering, manufacturing and cost-sensitive education applications.

ShockLine™ Economy VNA Highlights

- Specified performance to 43.5 GHz with Extended-K™ ports
- Fast sweep speed and wide dynamic range minimizes production test time
- Excellent corrected directivity allows for less measurement uncertainty
- Time domain with time gating option grants easier and faster fault identification
- The LAN interface for remote control is faster than GPIB
- A common GUI and SCPI interface within the ShockLine family for ease of use
- USB ports allow for easy connection to peripherals like keyboard and mouse
- The small 2U packages allows for the efficient use of rack space
- Compatibility with the 36585K AutoCal enables fast calibrations up to 40 GHz
- Standard removable hard drive provides additional data security



SHOCKLINE™

Simple | Economical | Great Performance

Quick Fact Sheet

MS46322B Economy ShockLine™ Vector Network Analyzers



Key Specifications

Analyzer Performance	
Frequency Options	MS46322B-010, 1 MHz to 8 GHz, type N(f) ports MS46322B-020, 1 MHz to 20 GHz, type Ruggedized K(m) ports MS46322B-043, 1 MHz to 43.5 GHz, type Ruggedized Extended-K™(m) ports (Extended-K(m) ports are compatible with standard K (2.92 mm), 3.5 mm, and SMA connectors)
Dynamic Range	> 100 dB
Sweep Speed	130 us / data point, typical
High Level Noise	0.001 dB, 20 MHz to 423.5 GHz, typical
General	
Measurement Parameters	Single ended S-Parameters: S_{11} , S_{21} , S_{12} , S_{22} Mixed-Mode S-Parameters: SDD, SCC, SDC, SCD User-defined combination: a_1 , a_2 , b_1 , b_2 , 1 Max Efficiency: kQ product, η_{max}
Display Graphs	Log Magnitude, Phase, Group Delay, Linear Magnitude, Real, Imaginary, SWR, Impedance, Smith Chart kQ product and η_{max}
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 and Traces	Up to 16 traces. 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
Remote Control Interface	SCPI/Software drivers over LAN
Display	Powerful GUI displayed on user-provided monitor, touchscreen compatible
Temperature	Operating Temperature 0 °C to 50 °C, humidity 95% or less at 40 °C
Dimensions	108 mm x 484 mm x 590 mm
Weight:	< 11 kg (< 25 lb), typical



Product Options

Option Number	Description
MS46322B-001	Rack mount
MS46322B-002	Time Domain with time gating

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-8	Precision N Male Through/Open/Short/Load Mechanical Calibration Tee
TOSLNF50A-8	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
3650A	SMA / 3.5 mm Calibration Kit

Accessories

Cables	Automatic Calibration Unit
	
Calibration Accessories	Torque Wrenches
	

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