MS46322A Economy ShockLine™
Vector Network Analyzers

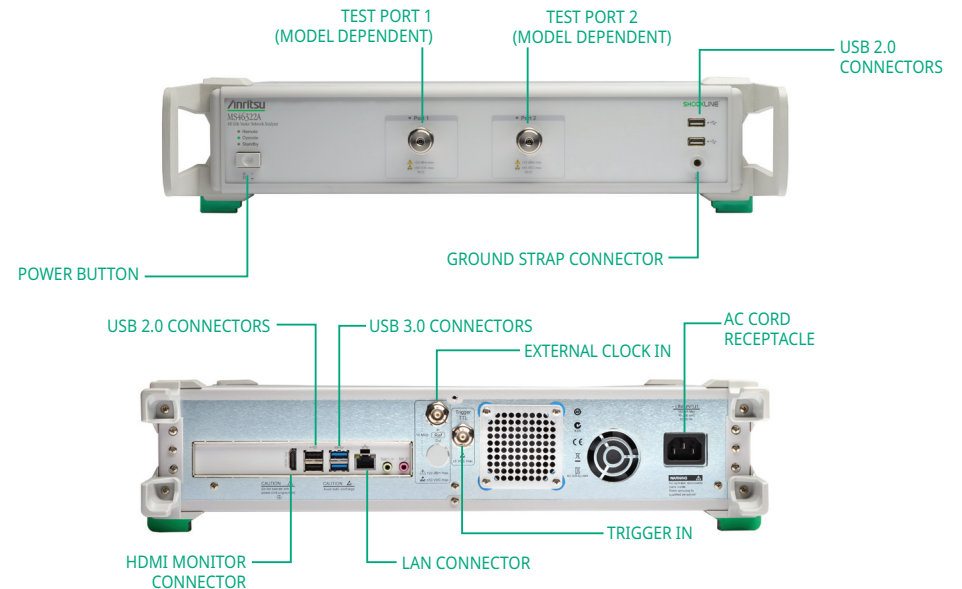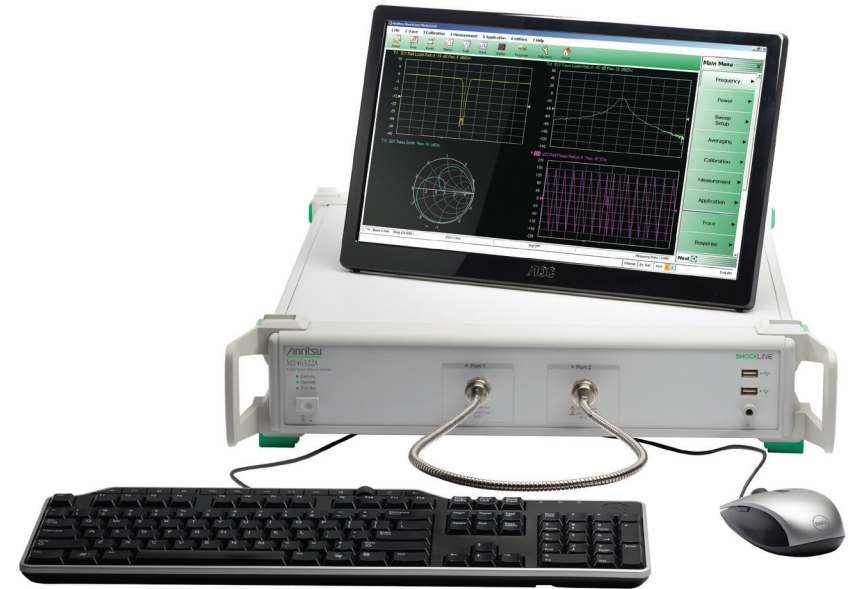**Anritsu**
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The Ideal Choice for Cost-Sensitive Applications

The MS46322A is a series of Economy ShockLine™ Vector Network Analyzers with frequency range from 1 MHz to 4/8/14/20/30/43.5 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 MS46322A are all 2-port VNAs packaged in a compact and rugged 2U chassis. The entire series has 220 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

- Ideal for testing RF and microwave devices
- 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

SHOCKLINE™

Simple | Economical | Great Performance

TEST PORT 1 (MODEL DEPENDENT)
TEST PORT 2 (MODEL DEPENDENT)
USB 2.0 CONNECTORS
POWER BUTTON
GROUND STRAP CONNECTOR

USB 2.0 CONNECTORS
USB 3.0 CONNECTORS
EXTERNAL CLOCK IN
AC CORD RECEPTACLE
HDMI MONITOR CONNECTOR
LAN CONNECTOR
TRIGGER IN

Key Specifications

Analyzer Performance	
Frequency Options	MS46322A-004, 1 MHz to 4 GHz, type N(f) ports MS46322A-010, 1 MHz to 8 GHz, type N(f) ports MS46322A-014, 1 MHz to 14 GHz, type Ruggedized K(m) ports MS46322A-020, 1 MHz to 20 GHz, type Ruggedized K(m) ports MS46322A-030, 1 MHz to 30 GHz, type Ruggedized K(m) ports MS46322A-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	> 100 dB
Sweep Speed	220 us / data point, typical
Corrected Directivity	≥ 30 dB at 30 - 43.5 GHz
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
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 ℃ to 50 ℃, humidity 95% or less at 40 ℃
Dimensions	108 mm x 484 mm x 590 mm
Weight:	< 11 kg (< 25 lb), typical

Product Options

Option Number	Description
MS46322A-001	Rack mount
MS46322A-002	Time Domain with time gating

Calibration Accessories

Part Number	Description
MN25208A	2-Port SmartCal 8.5 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
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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