

MS46524A 4-Port ShockLine™ Vector Network Analyzers

Ideal for Testing Passive Multiport Devices

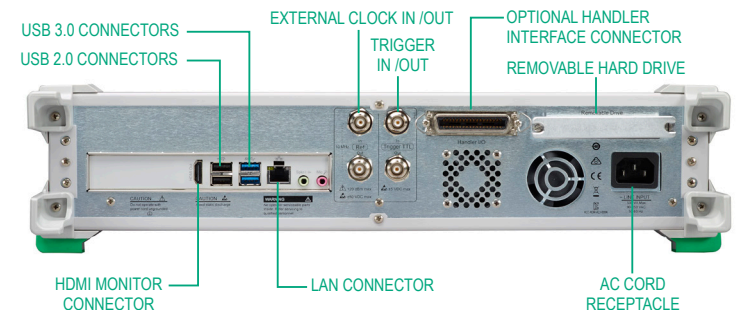
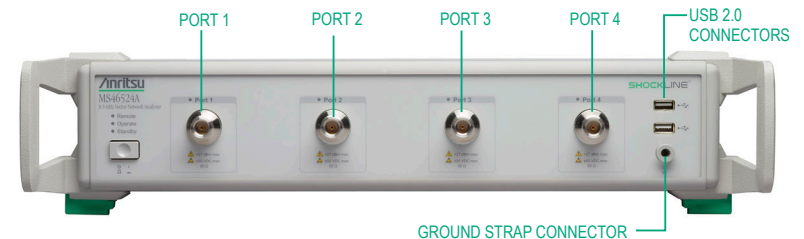
The MS46524A is a series of 4-port RF ShockLine™ Vector Network Analyzers with frequency ranges from 50 kHz to 4.5/8.5 GHz.

The MS46524A are a low cost, 4-port VNAs packaged in a compact and rugged 2U chassis capable of measuring 16 single-ended and mixed-mode S-parameters. Additionally, time domain measurements are available as an option for simple signal integrity testing on high-speed digital boards, high speed connectors, cables and PC boards.

The MS46500A series has a unique architecture which allows simultaneous measurements of forward and reverse parameters in a single sweep. This capability essentially reduces the measurement time by a factor of four as compared to traditional 4-port serial sweep.

ShockLine™ 4-Port VNA Highlights

- Simultaneous sweep captures all S-parameters in a single sweep increasing production throughput
- Simple signal integrity testing of passive multiport and differential 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



Simple. Economical. Great Performance.



MS46524A 4-Port ShockLine™

Vector Network Analyzers

Key Specifications

| Analyzer Performance | |
|--------------------------|---|
| Frequency Options | MS46524A-004, 50 kHz to 4.5 GHz, type N(f) ports MS46524A-010, 50 kHz to 8.5 GHz, type N(f) ports |
| Dynamic Range | > 110 dB |
| Sweep Speed | 77 μ s / data point, typical |
| Corrected Directivity | > 42 dB |
| General | |
| Measurement Parameters | Single ended S-Parameters: $S_{11}, S_{12}, S_{13}, S_{14}, S_{21}, S_{22}, S_{23}, S_{24}, S_{31}, S_{32}, S_{33}, S_{34}, S_{41}, S_{42}, S_{43}, S_{44}$ Mixed-Mode S-Parameters: SD1D1, SD1D2, SD1C1, SD1C2, SD2D1, SD2D2, SD2C1, SD2C2, SC1D1, SC1D2, SC1C1, SC1C2, SC1D2, SC2D2, SC2C1, SC2C2 User-defined combination: $a_1, a_2, a_3, a_4, b_1, b_2, b_3, b_4, 1$. |
| Display Graphs | Log Magnitude, Phase, Group Delay, Linear Magnitude, Real, Imaginary, SWR, Impedance, Smith Chart (Impedance) |
| Measurements Data Points | 2 to 20,001 points |
| Limit Lines | Single or segmented. 2 limit lines per trace. 50 segments per trace. |
| IF Bandwidth | 10, 20, 30, 50, 70, 100, 200, 300, 500, 700 Hz 1, 2, 3, 5, 7, 10, 20, 30, 50, 70, 100, 200, 300, 500 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 |
| 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: | < 12.5 kg (< 28 lb), typical |





Product Options

| Option Number | Description |
|---------------|------------------------------|
| MS46524A-001 | Rack mount |
| MS46524A-002 | Time Domain with time gating |
| MS46524A-005 | Handler Interface |

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 |
| 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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