

ANRITSU

MS4644A

The Anritsu MS4644A is a high-performance Vector Network Analyzer (VNA) in the VectorStar MS4640A series, covering a frequency range from 10 MHz to 40 GHz. Designed for device modeling, advanced R&D, and precision manufacturing, it features a 2-port configuration with K(male) test port connectors, an open Windows-based architecture, and an industry-leading measurement speed of under 20 microseconds per point.

SPECIFICATIONS

General

Interfaces	USB 2.0 (Host and Device), Gigabit Ethernet (LAN), GPIB (IEEE-488.2), VGA, DVI-D, RS-232 Serial
Display	10.4-inch (26.4 cm) Active Matrix Color LCD Touchscreen (800 x 600 resolution)
LXI Compliance	LXI Class C
Display Resolution	800 x 600

Physical

Power Supply	90 VAC to 264 VAC, 47 Hz to 63 Hz, 350 VA maximum
Dimensions (W×H×D)	426 mm × 177 mm × 509 mm mm

Frequency & Stimulus

Frequency Range	10 MHz to 40 GHz
Number of Test Ports	2
Test Port Impedance	50 Ω
Frequency Accuracy	± 1.0 ppm (at temperature), ± 1.0 ppm/year aging
Maximum Output Power	+13 dBm
Power Level Resolution	0.01 dB

Hardware Interfaces & Connections

Test Port Connector Type	K (male) (2.92 mm compatible)
External Reference Input	10 MHz (auto-selects)
Internal Reference Output	10 MHz
External Trigger Input	TTL level, BNC female
External Trigger Output	TTL level, BNC female
Bias Tee Inputs	Rear-panel BNC connectors (one per port)
Bias Tee Maximum Voltage	40 VDC
Bias Tee Maximum Current	0.5 A

Receiver & Dynamic Range

System Dynamic Range	Up to 140 dB
Trace Noise Magnitude	< 0.005 dB (typical, 10 kHz IFBW)
Trace Noise Phase	< 0.05° (typical, 10 kHz IFBW)
Maximum Input Level (Damage Level)	+30 dBm (RF), 40 VDC

Measurement Speed & Settings

Measurement Time per Point	< 20 µs
Number of Measurement Points per Sweep	1 to 100,001 (single channel mode)
IF Bandwidth Range	1 Hz to 1 MHz (optionally up to 10 MHz)
Sweep Types	Linear, Log, Segmented, Power

Measurement Capabilities & Calibration

Measured Parameters	S11, S21, S12, S22
Display Formats	Log Magnitude, Phase, Group Delay, Smith Chart, Polar, SWR, Real, Imaginary
Supported Calibration Types	SOLT, SOLR, TRL, LRL, LRM, ALRM
Automatic Calibration	Precision AutoCal support
Error Correction Levels	Full 2-Port, 1-Port, Response, 1-Path 2-Port
Time Domain Analysis Capability	Supported (optional)
Frequency Offset Measurements	Supported (optional for mixer/converter testing)

System, Controller & Storage

Internal Operating System	Open Windows Architecture
Data Storage Formats	.s1p, .s2p, .csv, .txt, .png
Remote Control Command Language	SCPI

Physical, Environmental & Power

Storage Temperature Range	-40 °C to +75 °C
Safety Compliance Certifications	CE, cCSAus
EMC Compliance Certifications	EN 61326-1

Performance

Number of Channels	16
Maximum Traces per Channel	16
Total Maximum Traces	256
Pulse Measurement Capability	Yes (with Option 035 / Option 042)
Noise Figure Measurement Capability	Yes (with Option 041)
Low Frequency Extension Option	Option 070 (extends frequency down to 70 kHz)
Trace Magnitude Resolution	0.001 dB
Trace Phase Resolution	0.01°
Group Delay Resolution	0.001 ps
Markers per Trace	12 markers (plus 1 reference marker)
Limit Lines	Segmented (up to 50 segments per trace)

Frequency

Reference Frequency Temperature Stability	±0.05 ppm (0 °C to 50 °C)
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Power

Power Sweep Range	>30 dB (typical)
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Environmental

Maximum Operating Altitude	4,600 m
Maximum Storage Altitude	15,200 m

Inputs & Outputs

USB Ports	4 x USB 2.0 (2 front panel, 2 rear panel)
External Video Outputs	1 x VGA, 1 x DVI-D
External Reference Input Level	-10 dBm to +20 dBm (typical)
Internal Reference Output Level	0 dBm (nominal, into 50 Ω)

Receiver Performance

Receiver 0.1 dB Compression Level	+10 dBm (typical, at test port)
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TECHNOLOGY

Vector Network Analyzer

APPLICATIONS

RF, Microwave, and Millimeter-Wave Component Characterization & Device Modeling

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.