ROHDE & SCHWARZ

ZVL13

The Rohde & Schwarz ZVL13 is a compact, portable, and lightweight vector network analyzer covering the 9 kHz to 13.6 GHz frequency range. It is an all-in-one instrument combining bidirectional two-port network analysis for measuring all four S-parameters, optional spectrum analysis, and highly accurate power measurement capabilities. Powered by a Windows XP Embedded operating system, it offers versatile diagnostic tools, a rich set of measurement options, and extensive digital communications standards support.

SPECIFICATIONS

General

Interfaces	10/100BaseT LAN, USB Host, USB Device, DVI-D, optional GPIB (IEC/IEEE 488)
Display	6.5-inch color LCD, VGA (640 × 480 pixels)

Physical

Weight	< 7 kg kg

RF Specifications

Frequency Range	9 kHz to 13.6 GHz
Frequency Resolution	1 Hz
Number of Test Ports	2
Port Impedance	50 Ω
Test Port Connector Type	N, female

Measurement Performance

Measurement Bandwidth Range	10 Hz to 500 kHz (in 1/2/5 steps)
Number of Measurement Points per Sweep	2 to 4001
S-Parameter Measurements Supported	S11, S21, S12, S22 (bidirectional)
Measurement Types	S-parameters, impedance, admittance, stability
Output Formats	Smith chart, inverted Smith chart, magnitude, phase, polar diagram, real, imaginary, group delay, VSWR
Trace Evaluation Parameters	Max, min, peak-to-peak, RMS, mean, standard deviation, electrical length, phase delay
Bandpass Filter Evaluation Parameters	Center frequency, bandwidth, ripple, quality factor, attenuation
Trace Overlay Capability	Unlimited number of traces and channels with overlay display inside a single diagram

Hardware & System Features

Spectrum Analysis Option	Supported (R&S®ZVL-K1)
Battery Operation Support	Optional
Undo and Redo Functionality	Supported (including presets)
Online Help System	Context-sensitive, displays associated remote-control commands

Connectivity & Interfaces

Remote Desktop Function	Supported
Measurement Export Formats	Touchstone, ASCII

Calibration & Metrology

Calibration Methods Supported	Full one-port (OSM), full two-port (TOSM), one-path two-port
Automatic Calibration Unit Support	Supported

Measurement Limits

Maximum DC Input Voltage	30 V

Frequency Accuracy & Stability

Internal Reference Frequency Aging	1 x 10^-6 per year (standard); 1 x 10^-7 per year (with R&S FSL-B4 OCXO option)

Reference Clock

External Reference Input Frequency	10 MHz
External Reference Output Frequency	10 MHz

Spectrum Analyzer Mode

SSB Phase Noise at 10 kHz Offset	<-98 dBc/Hz (typical <-103 dBc/Hz) at 1 GHz carrier (option R&S ZVL-K1)

Control & Connectivity

Command Set	SCPI-compatible

Options

Option R&S FSL-B4	OCXO Reference Frequency

TECHNOLOGY

Vector Network Analyzer

APPLICATIONS

Universal RF component design, production, and field testing