Bench VNA goes small & light

Martin Rowe - July 28, 2017

Vector-network analyzers (VNAs) designed for bench and rack applications are often rather large units. Yes, there are handheld VNAs, but sometimes a smaller bench VNA will fit the bill. That's there the ZNLE series for Rohde & Schwarz comes in. Weighing 6 kg (13.2 lbs) with a depth of 24 cm (9.4 in.), the ZNLE can fit into smaller spaces than its larger cousins.

Available in frequency ranges from 1 MHz to 3 GHz and 1 MHz to 6 GHz, the ZNLE lets you characterize filters, attenuators, connectors, PCB traces, and other components. The 6 GHz model lets you characterize components for cellular, Wi-Fi, and early 5G designs. Because it's a full two-port VNA, the ZNLE can calculate S-parameters S11, S21, S12, and S22.

Often, you'll need to perform a calibration using a calibration standard such as through and open circuits before making measurements. The R&S ZNLE uses the same calibration wizard found in other Rohde & Schwarz R&S ZNx analyzers. Calibration units are also supported. A "Start Auto Cal" button provides automatic calibration.

The ZNLE incorporates a 25.6 cm (10.1 in.) WXGA touchscreen display with 1280 x 800 pixel resolution. You can use finger gestures to zoom in on specific attributes of a waveform in the same way as on your smartphone. You can also use an external monitor through a DVI-D video port. The ZNLE features Undo/Redo soft keys that let you cancel and restore user entries. The user interface also includes context-sensitive help menus. For Connectivity, the ZNLE has an Ethernet port two USB 3.0 ports on the rear panel, plus two USB 2.0 ports on the front. A GPIB port is optional.

Frequency range	ZNLE6 ZNLE3	1 MHz to 6 GHz 1 MHz to 3 GHz
Measurement Time	201 points, 100 kHz IFBW, 200 MHz span, full two-port calibration	9.6 msec
Data transfer	IEC/IEEE (201 points) HiSLIP with 1 Gbit/s LAN	3.0 msec (typ.) 2.5 msec (typ.)
Dynamic range	10 Hz measurement bandwidth	>120 dB (typ.)
Test port output power		up to +2 dBm (typ.)

Prices start at $11,170. Rohde & Schwarz, ZNLE product page.

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