KEYSIGHT TECHNOLOGIES (AGILENT HP)

N5232B

The Keysight N5232B PNA-L is a high-performance vector network analyzer designed for passive components and simple active device measurements up to 20 GHz. Part of the PNA series, it provides a balance of value and performance, featuring a Windows 10 operating system, a large 12.1-inch multi-touch display, and flexible 2-port or 4-port configurations to handle diverse microwave measurement applications.

SPECIFICATIONS

General

Display	12.1-inch WXGA (1280 x 800) capacitive multi-touch LCD screen

Physical

Power Supply	100 to 240 VAC (50/60 Hz), 100 to 120 VAC (400 Hz)
Operating Temperature	0 to 40 °C °C
Dimensions (W×H×D)	461 mm × 267 mm × 502 mm (with front/rear bumpers and handles) mm

Frequency & Power Specifications

Frequency Range	300 kHz to 20 GHz
Frequency Resolution	1 Hz
Frequency Accuracy	±1 ppm (standard); ±0.05 ppm (with high stability Option 1E5)
Output Power Resolution	0.01 dB

Receiver & Measurement Performance

System Dynamic Range	114 dB (at 20 GHz, 10 Hz IFBW, specified)
Trace Noise Magnitude	< 0.003 dB RMS (at 10 kHz IFBW)
Trace Noise Phase	< 0.02 deg RMS (at 10 kHz IFBW)

Test Port Characteristics

Number of Ports	2 or 4 ports (configuration dependent)
Test Port Connector Type	3.5 mm male
Test Port Impedance	50 Ω

Sweep & Acquisition

Number of Measurement Points per Sweep	1 to 32,001 (standard); up to 100,003 (by option)
IF Bandwidth Range	1 Hz to 5 MHz

Software & Options

Operating System	Windows 10

Corrected System Performance

Calibration Interval	1 year (recommended)

Physical & Environmental

Base 2-Port Configuration Weight	24 kg (53 lb)
Base 4-Port Configuration Weight	26 kg (57 lb)

Power & Compliance

Max Power Consumption	350 W (2-port); 450 W (4-port)

Configuration Options

Option 200	2-port standard test set, single internal source
Option 216	2-port configurable test set, single internal source, includes internal bias tees
Option 400	4-port standard test set, single internal source
Option 416	4-port configurable test set, single internal source, includes internal bias tees

Connectivity

GPIB Interface	24-pin D-sub, female, IEEE 488 compatible
LAN Interface	RJ-45, 10/100/1000 Base-T (Gigabit Ethernet)
USB Ports (Front)	4 x USB 2.0 Type-A
External Trigger Input	BNC female, 10 kOhm input impedance, TTL compatible
External Trigger Output	BNC female, TTL compatible
10 MHz Reference Input	BNC female, 50 Ohm, -15 dBm to +10 dBm
Video Outputs	1 x DisplayPort, 1 x DVI-D

Internal Controller

Processor	Intel Core i7
Storage Drive	Removable Solid State Drive (SSD), 120 GB or larger (configuration dependent)
System Memory	8 GB or 16 GB RAM (configuration dependent)

Environmental

Operating Altitude	Up to 3,000 meters (9,842 feet)
Storage Temperature Range	-40 °C to +70 °C
Relative Humidity	Type tested to 95% RH at 40 °C (non-condensing)
Vibration Standard	MIL-PRF-28800F Class 3 compliant

Power Requirements

AC Input Voltage	100 VAC to 240 VAC (±10%)
AC Input Frequency	50/60 Hz (100 to 240 VAC), 400 Hz (100 to 120 VAC)

Measurement Performance

Receiver Damage Level	+27 dBm RF or 40 VDC

Source

Source Attenuator Range (Option 216/416)	0 to 55 dB in 5 dB steps

Performance

Number of Measurement Channels	Up to 32
Maximum Number of Traces	Up to 32 per channel
Measurement Sweep Types	Linear frequency, Log frequency, Power sweep, CW time, Segment sweep

Inputs & Outputs

Rear Panel Auxiliary I/O Connector	25-pin D-sub, female
Rear Panel Test Set I/O Connector	25-pin D-sub, female
Rear Panel Handler I/O Connector	36-pin, female

TECHNOLOGY

Vector Network Analysis

APPLICATIONS

Microwave component characterization, S-parameter measurements, and device testing