

KEYSIGHT TECHNOLOGIES (AGILENT HP)

N9918A

The Keysight (formerly Agilent) N9918A is a 26.5 GHz FieldFox handheld microwave combination analyzer designed for harsh field environments. Its base function is a cable and antenna analyzer (CAT), with configuration options to add full two-port vector network analysis (VNA) and spectrum analysis (SA) up to 26.5 GHz. The completely sealed, MIL-PRF-28800F Class 2 compliant instrument delivers benchtop-level precision in a rugged 3.0 kg portrait-orientation package, making it ideal for satellite communications, microwave backhaul, radar systems, and military communications.

SPECIFICATIONS

General

Interfaces	2x USB 2.0 (Type A), 1x USB 2.0 (mini-B), LAN (100Base-T, RJ-45)
Display	6.5-inch VGA (640 x 480) transfective color LED-backlit LCD
Internal Storage Capacity	Minimum 4 GB

Physical

Power Supply	15 to 19 VDC (4 A max), from included AC/DC adapter (100-240 VAC, 50-60 Hz)
Operating Temperature	-10 to 55 °C
Dimensions (W×H×D)	292 × 188 × 72 mm
Weight	3.0 kg

General & System Characteristics

Base Frequency Range	30 kHz to 26.5 GHz
Base Function	Cable and Antenna Analyzer (CAT)
Configurable Measurement Modes	Vector Network Analyzer (VNA), Spectrum Analyzer (SA), Vector Voltmeter (VVM), Power Meter, Independent Signal Generator, Interference Analyzer, Variable DC Source, Built-in GPS
Standard Warranty	3 years

Cable and Antenna Analyzer (CAT)

CAT Frequency Range	30 kHz to 26.5 GHz
CAT Supported Measurements	Distance-to-fault (DTF), return loss, cable loss

Vector Network Analyzer (VNA)

VNA Frequency Range	30 kHz to 26.5 GHz
Supported S-Parameters	S11, S21, S22, S12 (Magnitude and Phase)
System Impedance	50 Ω (nominal); 75 Ω with adapter and calibration kit
Data Points	101, 201, 401, 601, 801, 1001, 1601, 4001, 10001; arbitrary via SCPI
IF Bandwidth Settings	10 Hz, 30 Hz, 100 Hz, 300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz
System Dynamic Range (9 to 14 GHz)	97 dB (typical, 100 Hz IFBW)
System Dynamic Range (14 to 18 GHz)	94 dB (typical, 100 Hz IFBW)
System Dynamic Range (18 to 20 GHz)	90 dB (typical, 100 Hz IFBW)
System Dynamic Range (20 to 25 GHz)	79 dB (typical, 100 Hz IFBW)
System Dynamic Range (25 to 26.5 GHz)	70 dB (typical, 100 Hz IFBW)
Test Port Output Power (30 kHz to 300 kHz)	-11 dBm (typical, high power)
Test Port Output Power (>300 kHz to 2 MHz)	-3 dBm (typical, high power)
Test Port Output Power (>2 MHz to 625 MHz)	-2 dBm (typical, high power)
Test Port Output Power (>625 MHz to 3 GHz)	+1 dBm (typical, high power)
Test Port Output Power (3 GHz to 6.5 GHz)	-1 dBm (typical, high power)
Test Port Output Power (6.5 GHz to 9 GHz)	-2 dBm (typical, high power)
Test Port Output Power (9 GHz to 14 GHz)	-4 dBm (typical, high power)
Test Port Output Power (14 GHz to 18 GHz)	-6 dBm (typical, high power)
Test Port Output Power (18 GHz to 23 GHz)	-10 dBm (typical, high power)
Test Port Output Power (23 GHz to 26.5 GHz)	-12 dBm (typical, high power)
Power Sweep Range	High, low (-45 dBm nominal), and manual
Power Level Step Size	1 dB steps across power range
Maximum Input Level (Average CW Power)	+27 dBm (0.5 W) at Port 1/2
Number of Traces	4 (Tr1, Tr2, Tr3, Tr4)
Trace Formats	Log magnitude, linear magnitude, VSWR, phase, Smith chart, polar, group delay, unwrapped phase, real impedance, imaginary impedance
Display Resolution (Return Loss)	0.01 dB
Data Markers	6 independent markers per trace (plus delta markers)
Supported Calibration Types	QuickCal (built-in, no external accessories required)

Independent Source / Tracking Generator

Tracking Generator	Full band (by option)
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Interfaces & Connectivity

RF Port Connectors	3.5 mm (male)
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Power & Battery

Battery Operating Time	3.5 hours
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Physical & Environmental

Shock and Vibration Standard	MIL-PRF-28800F Class 2 compliant
Enclosure Design	Completely sealed, vertical/portrait orientation

Spectrum Analyzer

Spectrum Analyzer Resolution Bandwidth (RBW)	10 Hz to 5 MHz (Option 233)
Spectrum Analyzer Video Bandwidth (VBW)	1 Hz to 5 MHz (Option 233)
SSB Phase Noise (1 GHz, 10 kHz Offset)	-111 dBc/Hz (typical, Option 233)
Input Attenuator Range	0 to 30 dB, in 5 dB steps (Option 233)
Trace Detectors	Normal, Positive Peak, Negative Peak, Sample, Average (RMS)

Inputs & Outputs

External Reference Input	SMB (male), 50 Ω, 10 MHz
External Trigger Input	SMB (male), TTL / CMOS compatible
USB Interfaces	2 × USB 2.0 Type-A, 1 × USB 2.0 Mini-B
GPS Antenna Connector (Option 307)	SMA (female), 3.3 VDC

Environmental

Ingress Protection Rating	IP53 (IEC 60529)
Operating Altitude	Up to 9,144 m (30,000 ft)
Environmental Testing Standard	MIL-PRF-28800F Class 2

Real-Time Spectrum Analyzer

Maximum Real-Time Bandwidth (Option 350)	10 MHz
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TECHNOLOGY

Vector Network Analysis / Spectrum Analysis

APPLICATIONS

Aerospace & Defense, Satellite Communications, Microwave Backhaul, Radar Systems

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