

KEYSIGHT TECHNOLOGIES (AGILENT HP)

N9915A

The Keysight Technologies (formerly Agilent HP) FieldFox N9915A is a handheld microwave combination analyzer operating from 30 kHz to 9 GHz. Designed for high accuracy in the field, it functions as a cable and antenna analyzer (CAT) by default, and can be configured as a full 2-port vector network analyzer (VNA), a spectrum analyzer, and more. Featuring a completely sealed, rugged enclosure that complies with MIL-PRF-28800F Class 2, the N9915A delivers benchtop-level performance and features like QuickCal for calibration without external accessories, making it ideal for military, radar, satellite, and telecommunications field testing.

SPECIFICATIONS

General

Interfaces	LAN, USB 2.0 host (2 ports), USB 2.0 device (1 port), micro-SD slot, external reference, GPS antenna, audio jack
Display	6.5-inch transfective color LCD, 640 x 480 resolution

Physical

Power Supply	100 to 240 VAC, 50 to 60 Hz (AC/DC adapter); 15 to 19 VDC input; 14 W typical power consumption
Operating Temperature	-10 to +55 °C °C
Dimensions (W×H×D)	292 x 188 x 72 mm mm
Weight	3.0 kg (6.6 lbs) kg

General Frequency Specifications

Frequency Range	30 kHz to 9 GHz
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Vector Network & Cable/Antenna Analyzer (VNA/CAT)

Cable and Antenna Analyzer (CAT) Measurements	Distance-to-fault (DTF), return loss, cable loss
Vector Network Analyzer (VNA) S-parameters	S11, S21, S22, S12 (magnitude and phase)
System Dynamic Range	100 dB (typical, >300 kHz to 9 GHz, 10 Hz IFBW, 100-point average)
Trace Noise	0.004 dB rms (typical, up to 9 GHz)
VNA Data Points	101, 201, 401, 601, 801, 1001, 1601, 4001, 10,001 (arbitrary points settable via SCPI)
IF Bandwidth Settings	10 Hz, 30 Hz, 100 Hz, 300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz
System Impedance	50 ohm nominal (75 ohm with adapter and calibration kit)
Test Port Output Power (30 kHz to 300 kHz)	-11 dBm (nominal, Port 1 or 2, high power)
Test Port Output Power (>300 kHz to 2 MHz)	-3 dBm (nominal, Port 1 or 2, high power)
Test Port Output Power (>2 MHz to 625 MHz)	-2 dBm (nominal, Port 1 or 2, high power)
Test Port Output Power (>625 MHz to 3 GHz)	+1 dBm (nominal, Port 1 or 2, high power)
Test Port Output Power (>=3 to 6.5 GHz)	-1 dBm (nominal, Port 1 or 2, high power)
Test Port Output Power (>=6.5 to 9 GHz)	-2 dBm (nominal, Port 1 or 2, high power)
Output Power Ranges	High, low, and manual
Low Power Setting	-45 dBm (nominal)
Power Step Size	1 dB steps (flat power available across whole frequency span, nominal)
Receiver Compression	+10 dBm (typical, Port 1 or 2, 0.1 dB compression, >=500 MHz)
Maximum RF Input Level (Port 1 or 2)	+27 dBm (0.5 watts) average CW power
Maximum DC Input (Port 1 or 2)	±50 VDC
Immunity to Interfering Signals	+16 dBm (nominal)
Measurement Speed	850 μ s/point (S11 & S21, >=30 kHz, enhanced response cal, 100 kHz IFBW, 1001 points)
VNA Number of Traces	Four (Tr1, Tr2, Tr3, Tr4)
VNA Trace Formats	Log magnitude, linear magnitude, VSWR, phase, Smith chart, polar, group delay, unwrapped phase, real impedance, imaginary impedance
Sweep Trigger Modes	Continuous, single
VSWR Display Resolution	0.01
Data Markers	6 independent markers per trace (with delta markers)
Marker Formats	Trace format, [Real + Imag] (Smith/polar), [Mag and Phase] (Smith/polar)
Marker Types	Normal, delta, data trace, memory trace
Marker Coupling	On/Off

Spectrum Analyzer (SA) Specifications

Spectrum Analyzer Spur-Free Dynamic Range	≥ 105 dB
Spectrum Analyzer Tracking Generator	Full band tracking generator available

Power and Battery

Battery Operating Time	4 hours (typical)
Battery Chemical Composition	Lithium-ion

Physical and Environmental Properties

Storage Temperature Range	-51 to +71 °C
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Compliance & Military Standards

Enclosure Environmental Compliance	Sealed enclosure meeting MIL-PRF-28800F Class 2
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Software and Licensing Options

Standard Warranty	3 years
Built-In GPS Option	Available (requires external GPS antenna)
Vector Voltmeter (VVM) Option	Available
Built-In Power Meter Option	Available
Interference Analyzer Option	Available
Independent Signal Generator Option	Available
Variable DC Source Option	Available

Spectrum Analyzer

Spectrum Analyzer Resolution Bandwidth (RBW) Range	1 Hz to 5 MHz
Spectrum Analyzer Video Bandwidth (VBW) Range	1 Hz to 5 MHz
Spectrum Analyzer SSB Phase Noise at 1 GHz (10 kHz offset)	-106 dBc/Hz (-111 dBc/Hz typical)
Spectrum Analyzer SSB Phase Noise at 1 GHz (100 kHz offset)	-115 dBc/Hz (-119 dBc/Hz typical)
Spectrum Analyzer DANL at 1 GHz (Preamplifier Off)	-137 dBm (typical -139 dBm)
Spectrum Analyzer DANL at 1 GHz (Preamplifier On, Option 235)	-154 dBm (typical -156 dBm)
Spectrum Analyzer DANL at 9 GHz (Preamplifier Off)	-132 dBm (typical -136 dBm)
Spectrum Analyzer DANL at 9 GHz (Preamplifier On, Option 235)	-149 dBm (typical -153 dBm)
Spectrum Analyzer TOI at 2.4 GHz	+15 dBm (typical)

Frequency Reference

Frequency Reference Stability over Temperature	±0.5 ppm (-10 to 55 °C)
Frequency Reference Aging Rate	±1.0 ppm/year
External Reference Input Frequency	10 MHz
External Reference Input Level	-3 to +10 dBm

Power Supply

Power Consumption	14 W (typical)
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Inputs & Outputs

RF Port 1 Connector	Type-N female, 50 Ω
RF Port 2 Connector	Type-N female, 50 Ω
USB Host Ports	2 x USB 2.0 Type-A
USB Device Port	1 x USB 2.0 Type-Mini B
LAN Port	100Base-T, RJ-45
External Reference Input Connector	BNC female, 50 Ω
External Reference Output Connector	BNC female, 50 Ω
Trigger Input Connector	BNC female, 10 kΩ nominal
GPS Antenna Connector	SMA female

Environmental & Physical

Ingress Protection Rating	IP53
Maximum Operating Altitude	9,144 m (30,000 ft)
Maximum Storage Altitude	15,240 m (50,000 ft)
Environmental Compliance	MIL-PRF-28800F Class 2
Explosive Atmosphere Compliance	MIL-STD-810G, Method 511.5, Procedure I

Power

External DC Input Voltage	15 to 19 VDC
Battery Charge Time (with unit off)	4 hours

DC Bias Source (Option 309)

DC Bias Voltage Range (Option 309)	+1 to +32 V
DC Bias Voltage Resolution (Option 309)	0.1 V
DC Bias Maximum Current (Option 309)	650 mA
DC Bias Maximum Power (Option 309)	7 W

Real-Time Spectrum Analyzer (Option 350)

Real-Time Spectrum Analyzer Option	Option 350
RTSA Maximum Bandwidth	10 MHz
RTSA Minimum Signal Duration for 100% POI	12.2 μ s
RTSA Minimum Signal Duration for Detection	22 ns

I/Q Analyzer (Option 351)

I/Q Analyzer Option	Option 351
I/Q Analyzer Maximum Bandwidth	10 MHz

Vector Network Analyzer

VNA Supported Calibrations	CalReady, QuickCal, 1-port OSL, 2-port SOLT, Enhanced Response
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Noise Figure Analyzer (Option 356)

Noise Figure Analyzer Option	Option 356
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ERTA (Option 209)

Extended Range Transmission Analysis Option	Option 209
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