

KEYSIGHT TECHNOLOGIES (AGILENT HP)

N9962A

The Keysight N9962A FieldFox is a high-performance handheld microwave spectrum analyzer operating from 5 kHz up to 50 GHz. Designed for field testing, the N9962A is rugged, complies with MIL-PRF-28800F Class 2 standards, and features an IP53 rated chassis. It offers laboratory-grade spectrum analysis, including low displayed average noise levels (DANL), exceptional phase noise, and fast sweep speeds, with optional upgrades for real-time spectrum analysis (RTSA) and interference analysis.

SPECIFICATIONS

General

Interfaces	2 x USB 2.0 Host, 1 x USB 2.0 Device, LAN (10/100Base-T), SD/SDHC slot
Display	6.5-inch transfective color LCD, 640 x 480 resolution
Warm-up Time	20 minutes
Internal Storage Capacity	4 GB nominal

Physical

Power Supply	AC adapter (100 to 240 VAC, 50 to 60 Hz input; 15 VDC, 4 A output) and rechargeable Li-ion battery (10.8 V, 4.6 Ah)
Operating Temperature	-10 to +55 °C °C
Dimensions (W×H×D)	292 mm x 188 mm x 72 mm mm
Weight	3.2 kg (including battery) kg

Core Signal & Electrical Performance

Frequency Range	9 kHz to 50 GHz
Frequency Resolution	1 Hz
Frequency Span Range	10 Hz to 50 GHz, plus 0 Hz (zero span)
Internal Timebase Accuracy (Standard)	± 0.7 ppm + aging
Internal Timebase Accuracy (with Option 010)	± 0.2 ppm + aging
Annual Aging Rate	± 1 ppm/year
Phase Noise at 1 GHz (10 kHz offset)	-106 dBc/Hz (typical -111 dBc/Hz)
Phase Noise at 1 GHz (100 kHz offset)	-115 dBc/Hz (typical -119 dBc/Hz)
DANL at 1 GHz (Preamplifier Off)	-137 dBm (typical -139 dBm)
DANL at 1 GHz (Preamplifier On, Option 235)	-154 dBm (typical -163 dBm)
DANL at 50 GHz (Preamplifier Off)	-110 dBm (typical -117 dBm)
DANL at 50 GHz (Preamplifier On, Option 235)	-124 dBm (typical -132 dBm)
Maximum Input Safe Power	+27 dBm (0.5 W)
Maximum Input DC Voltage	± 40 VDC
Input Impedance	50 Ω (nominal)
Third-order Intermodulation Distortion (TOI) at 2.4 GHz	+15 dBm
Second Harmonic Distortion (SHI) at 1 GHz	+37 dBm (nominal)
LO Feedthrough at RF Input	<-80 dBm (nominal)
Amplitude Accuracy at 2 GHz	± 0.5 dB (typical ± 0.2 dB)
Amplitude Accuracy at 50 GHz	± 2.1 dB (typical ± 0.5 dB)

Connectivity, Ports, & Interfaces

RF Input Connector	2.4 mm female (50 Ω)
External Reference Input Connector	BNC female (50 Ω), 10 MHz
External Reference Output Connector	BNC female (50 Ω), 10 MHz
External Trigger Input	BNC female, 10 k Ω impedance
GPS Antenna Port	SMA female (with Option 307)

Measurement Capabilities & Timing

Measurement Points	101 to 10001 (user-selectable)
Trigger Types	Free Run, Video, External, RF Burst
RTSA Maximum Bandwidth	10 MHz (with Option 350)
RTSA Minimum POI	122 μ s for full amplitude accuracy

User Interface & Software Control

Trace Detectors	Normal, Positive Peak, Negative Peak, Sample, Average (RMS)
Trace States	Clear/Write, Max Hold, Min Hold, Average, View, Blank
Programming Language Compatibility	SCPI

Power & Electrical

Power Consumption	14 W (typical, spectrum analyzer mode)
Battery Operating Time	~4 hours (typical)
Battery Recharge Time	4 hours (typical, instrument off)

Physical & Mechanical

Form Factor	Handheld
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Environmental & Compliance

Storage Temperature Range	-51 to +71 °C (without battery)
Maximum Operating Altitude	9,144 m (30,000 ft)
Maximum Storage Altitude	15,240 m (50,000 ft)
Operating Humidity Range	Up to 95% relative humidity (non-condensing)
IP Rating / Environmental Protection	IP53 / MIL-PRF-28800F Class 2 compliant
Calibration Interval	1 year (recommended)
Safety Standards	Complies with IEC/EN 61010-1
EMC/EMI Compliance	Complies with European EMC Directive 2004/108/EC, IEC/EN 61326-1

Configurations, Options, & Accessories

Preamplifier Option	Option 235 (full band preamplifier support)
Real-time Spectrum Analyzer Option	Option 350
GPS Receiver Option	Option 307
Interference Analyzer Option	Option 236
Standard Included Accessories	AC/DC adapter, localized power cord, rechargeable Li-ion battery, soft carrying case with backpack and shoulder straps, Quick Reference Guide

Performance

Sweep Time (Span $\geq$ 10 Hz)	1 ms to 4000 s
Sweep Time (Zero Span)	1 μ s to 6000 s

Receiver

RF Attenuator Range	0 to 40 dB
RF Attenuator Steps	5 dB
Preamplifier Frequency Range	100 kHz to 50 GHz (Option 235)

Amplitude

Reference Level Range	-150 dBm to +30 dBm
Reference Level Steps	0.1 dB

Frequency

External Reference Input Level	-15 dBm to +10 dBm
External Reference Input Lock Range	±1 ppm (nominal)
External Reference Output Level	0 dBm ± 4 dB into 50 Ω (nominal)

Power

Battery Type	Lithium-ion, 10.8 V, 4.6 Ah
Battery Capacity	6.2 Ah (67 Wh)

Environmental

Shock & Vibration	Meets MIL-PRF-28800F Class 2
Transit Drop	Meets MIL-PRF-28800F Class 2

Options

Analog Demodulation Option	Option 355
Noise Figure Measurement Option	Option 356
I/Q Analyzer Option	Option 351
Built-in Power Meter Option	Option 310
USB Power Sensor Support Option	Option 208
Channel Scanner Option	Option 312
Reflection Measurements Option	Option 320
Extended Range Transmission Analysis Option	Option 209

RF Performance

RF Input VSWR	1.5 (10 MHz to 2.7 GHz), 1.6 (2.7 GHz to 7.5 GHz), 1.9 (7.5 GHz to 26.5 GHz), 2.1 (26.5 GHz to 40 GHz), 2.5 (40 GHz to 50 GHz)
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Measurement Features

Markers	6 markers per trace, delta markers, noise markers, band power
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TECHNOLOGY

RF & Microwave Spectrum Analysis

APPLICATIONS

Field spectrum analysis, interference hunting, transmitter testing, real-time spectrum analysis

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