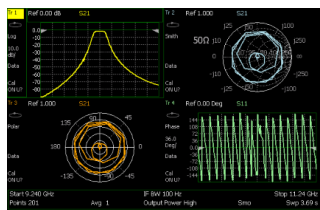


# FieldFox Microwave Analyzers N9950B/51B/52B/53B (32/44/50/54 GHz)

## Push Field Testing to New Limits

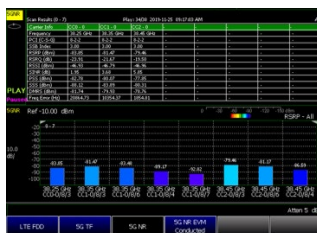
Keysight FieldFox handheld analyzers are the world's most integrated and precise analyzers. Now, FieldFox is pushing the limits even higher by extending the frequency coverage to 54 GHz and the real-time analysis bandwidth up to 120 MHz. FieldFox functions as a cable and antenna tester and can be configured to also perform as a full 2-port network analyzer, signal analyzer, real-time spectrum analyzer, I/Q analyzer, and more. FieldFox is the "Swiss Army knife" of portable RF test equipment designed to meet all your field-test needs.



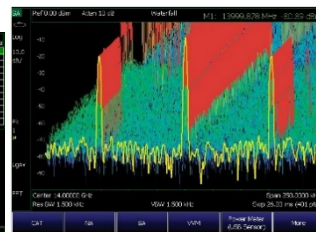
Simultaneously measure and view all four S-parameters, with a single connection

## Key features

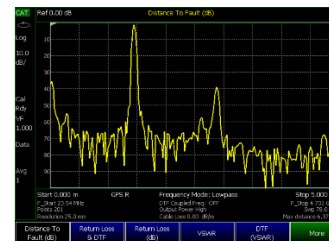
- Cable and antenna analyzer (CAT)
- Spectrum analyzer
- Full 2-port vector network analyzer
- Built-in power meter
- Independent signal generator
- Vector voltmeter
- Interference analyzer
- Real-time spectrum analyzer (RTSA)
- Over-the-air (OTA) LTE FDD/TDD
- Over-the-air (OTA) 5G NR
- Phase array antenna support
- Indoor and outdoor mapping
- Extended range transmission analysis (ERTA)
- Pulse measurement
- Analog demodulation
- Noise figure (NF) measurements
- Built-in variable DC voltage source
- Frequency counter measurements
- Electromagnetic field (EMF) measurements
- TDR Cable measurements
- Built-in GPS receiver
- ECal support



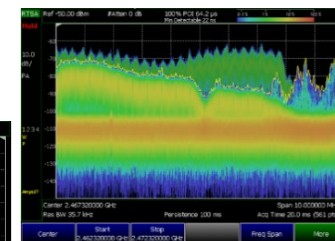
5G NR multi-cell measurements



Waterfall display for interference detection



CAT for detecting the distance to fault on a cable



RTSA for complex signal environment

## Product highlights

- **Rugged and weather resistant:**
  - Meets MIL-PRF-28800F Class 2, no vents, wide operating temperature of -10 to +55°C (14 to 131°F)
  - Meets IEC/EN 60529 IP53 requirements
  - Type tested and meets Procedure 1 requirements for operation in explosive environments. MIL-810G, Method 511.5
- **Portable: compact, lightweight 3.34 kg/7.35 lb package**
- **Combination analyzers:**
  - Signal analyzer provides best amplitude accuracy of ±0.2 dB, with no warm-up required
  - Real-time spectrum analyzer (RTSA) with up to 120 MHz bandwidth and 5.52 μs minimum signal duration with 100% POI at full amplitude accuracy
  - VNA CalReady allows quick and accurate microwave device measurements in the field
  - Full-band tracking generator up to 54 GHz
  - Options and apps are all customer upgradeable

More Information: [www.keysight.com/find/fieldfox](http://www.keysight.com/find/fieldfox)

## FieldFox microwave analyzer options

Model number	Description
N9950B	FieldFox Handheld Microwave Analyzer, 32 GHz
N9951B	FieldFox Handheld Microwave Analyzer, 44 GHz
N9952B	FieldFox Handheld Microwave Analyzer, 50 GHz
N9953B	FieldFox Handheld Microwave Analyzer, 54 GHz
Option number	Feature
<b>CAT/Vector network analysis</b>	
010	Vector network analyzer time domain
210	Vector network analyzer transmission/reflection
211	Vector network analyzer full 2-port S-parameters
212	1 port mixed-mode S-parameters
215	TDR cable measurements
308	Vector voltmeter
<b>Spectrum analysis</b> (Refer to the FieldFox Configuration Guide for a complete option list)	
209	Extended range transmission analysis (ERTA)
233	Spectrum analyzer
235	Preamplifier
236	Interference analyzer and spectrogram
238	Spectrum analyzer time gating
312	Channel scanner
350	Real-time spectrum analyzer (RTSA)
352	Indoor and outdoor mapping
355	Analog demodulation
356	Noise figure (NF)
358	EMF measurements
370/371	Over-the-air (OTA) LTE FDD/TDD
378	Over-the-air (OTA) 5G NR
B04/B10	Analysis bandwidth, 40 MHz/120 MHz
<b>Power measurements</b>	
208	USB power sensor measurements versus frequency
302	USB power sensor support
310	Built-in power meter
330	Pulse measurements with USB peak power sensor
<b>System features</b>	
030	Remote control capability
307	GPS receiver
309	DC bias variable-voltage source
-	Frequency extender support

## Key specifications

The specifications and measurement capabilities listed in this document may require certain options on the FieldFox analyzer. Refer to the FieldFox Configuration Guide (5992-3701EN) to obtain option information, and to the FieldFox Data Sheet (5992-3702EN) for detailed performance information.

Function	Description
<b>Cable antenna analyzer and vector network analyzer</b>	
Frequency	300 kHz to 32 GHz, 44 GHz, 50 GHz, 54 GHz
System dynamic range	Up to 121 dB
Output power	7 dBm to -50 dBm
Trace noise	0.008 dB
<b>Spectrum analyzer</b>	
Frequency	9 kHz (usable to 5 kHz) to 32 GHz, 44 GHz, 50 GHz, 54 GHz
Display Average Noise Level (DANL)	-163 dBm @ 2 GHz; -154 dBm @ 32 GHz; -142 dBm @ 50 GHz
Third-Order Intercept (TOI)	+9.7 dBm @ 2.4 GHz
Spurious free dynamic range	>104 dB
Phase noise	-114 dBc/Hz @ 10 kHz offset (for 1 GHz carrier)
Preamplifier	100 kHz up to 54 GHz
<b>Real-time spectrum analyzer</b>	
Frequency	5 kHz up to 54 GHz
Maximum real-time bandwidth	120 MHz
Minimum signal duration with 100% POT at full amp. accuracy	5.52 $\mu$ s
Display views	Density, Spectrogram, Spectrum
<b>Independent source</b>	
Frequency	300 kHz up to 54 GHz
<b>General</b>	
Environmental	Meets MIL-PRF-28800F Class 2, type test for IP53
Temperature	Operating: -10 to +55°C (14 to 131°F)
Dimension and weight	11.5" x 7.4" x 3.2" (292 x 188 x 82 mm <sup>3</sup> ), 3.34 kg/7.35 lb

## Accessories

Model number	Description
N9910X	FieldFox accessories: Adapters, antennas, cables, etc.
N9911X	Economical waveguide calibration components

Learn more at: [www.keysight.com](http://www.keysight.com)

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