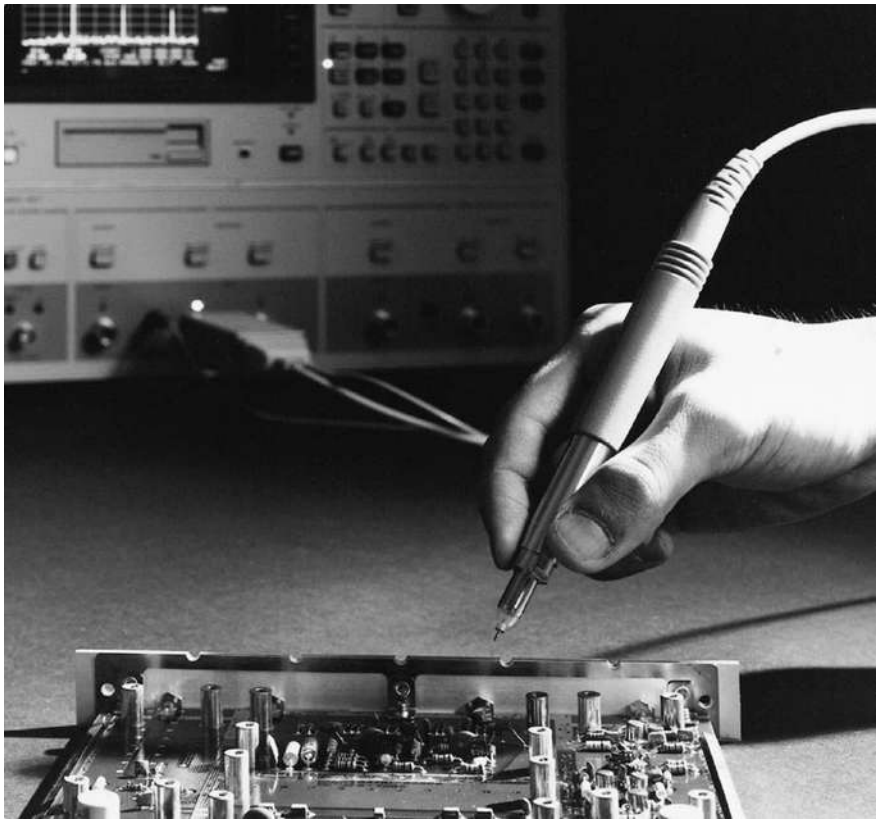
Keysight Technologies
41800A Active Probe, 5 Hz to 500 MHz
Reliable In-Circuit Signal Analysis

Technical Overview





KEYSIGHT TECHNOLOGIES

The Keysight Technologies, Inc. 41800A active probe provides high input impedance from 5 Hz to 500 MHz. The 41800A is a valuable tool when used with a network and spectrum analyzer for circuit signal analysis. The 41800A improves your circuit design and evaluation for audio, video, HF, and VHF bands. The low input capacitance offers probing with negligible circuit loading, making it effective for precise in-circuit measurements.

For Both Spectrum and Network Analysis

The 41800A can be used with a spectrum analyzer to evaluate the quality of circuits by measuring spurious level, harmonics, and noise. The active probe can also be used with a network analyzer to perform gain, phase, and group-delay measurements at the circuit-level.

Retractable Metal Sleeve for Protection

In addition to excellent performance, the 41800A also has a design to protect the probe tip. The probe has a retractable metal sleeve which protects the probe tip from a physical damage when not used and also from electro-static discharge (ESD) damage.

Compatible with Keysight Network and Spectrum Analyzers

The 41800A is directly compatible with Keysight network and spectrum analyzers shown in the table below. These Keysight analyzers have the probe power supplied from the front panel. In addition, you can use the Keysight 11899A probe power supply with other analyzers that don't have a compatible power supply for the 41800A.

Network/Spectrum/Impedance Analyzer
4395A, 4396B

Spectrum Analyzer
8590 Series

Network Analyzer
E5100A

Specifications

(Terminated with Keysight part number 11880-60001 type-N adapter)

Bandwidth:	5 Hz to 500 MHz
Probe gain:	0 dB ± 0.5 dB @ 50 MHz
Input R, C (typical):	100 kW, 3 pF (probe alone) 1 MW, 1 pF (with 10:1, 100:1 divider)
Frequency response relative to 50 MHz:	+1/–2 dB @ < 50 Hz ±1 dB @ 50 Hz to 200 MHz +1.5/–2 dB @ > 200 MHz
Average noise level (typical):	10 nV/ Hz @ ≥ 300 kHz +3 dB/Oct @ <300 kHz
2nd harmonic distortion (typical):	< –50 dBc @ –20 dBm (250 MHz) input
3rd order intermodulation distortion (typical):	< –70 dBc @ –26 dBm two signals input (400 MHz, 400.5 MHz)
1 dB gain compression:	> +3 dBm input @ 500 MHz
Maximum allowable input (DC + AC):	±40 V
Output connector:	50 W type-N male
Power:	+15 V/85 mA, –12.6 V/65 mA
Weight:	0.3 kg (probe alone) 2 kg (including accesssories)
Length:	Approximatly 1.2 m
Operating temperature humidity:	0 °C to 55 °C, RH ≤ 95% (40 °C)
Accessories furnished:	Type BNC male adapter, 10:1, 100:1 dividers, Hook tip, 2.5 inch ground lead, 30 mil, 12 mil spare probe tips, spanner tip assembly, probe tip nut driver, operating note, carrying case

Optional Accessories

	Keysight 11899A probe power supply Keysight part number 11880-60001 type-N male adapter

Option Ordering Information

41800A active probe	
Option 41800A-UK6:	Commercial calibration certificate with test data

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(BP-04-23-15)

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Published in USA, July 31, 2014
5950-2962
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