

KEYSIGHT TECHNOLOGIES (AGILENT HP)

41800A

The Keysight (Agilent/HP) 41800A is a high-performance active probe operating from 5 Hz to 500 MHz. It provides high input impedance and extremely low input capacitance to enable in-circuit measurements with negligible loading, making it ideal for signal analysis in audio, video, HF, and VHF bands with spectrum and network analyzers.

SPECIFICATIONS

General

Interfaces	50 Ohm Type-N male RF connector, standard HP 4-pin probe power connector
Included Accessories	10:1 divider, 100:1 divider, BNC adapter, discrete hook tip, ground leads, spare tips, carrying case

Physical

Power Supply	+15 V and -12.6 V supplied via probe power port
Operating Temperature	0 °C to 55 °C °C
Weight	0.3 kg kg
Cable Length	1.2 m

RF & Electrical Performance

Frequency Range	5 Hz to 500 MHz
Probe Gain	0 dB
Input Resistance (Probe Alone)	100 kOhm (typical)
Input Capacitance (Probe Alone)	3 pF (typical)
Input Resistance (With 10:1 or 100:1 Divider)	1 MOhm (typical)
Input Capacitance (With 10:1 or 100:1 Divider)	1 pF (typical)
Frequency Response (<50 Hz)	+2 dB (relative to 50 MHz)
Frequency Response (50 Hz to 200 MHz)	+1 dB (relative to 50 MHz)
Frequency Response (>200 MHz)	+1.5 / -2 dB (relative to 50 MHz)
Second Harmonic Distortion	<-50 dBc @ -20 dBm (250 MHz) input (typical)
Third-Order Intermodulation Distortion	<-70 dBc @ -26 dBm two-signal input (400 MHz, 400.5 MHz) (typical)
1 dB Gain Compression	>+3 dBm input @ 500 MHz
Maximum Allowable Input Voltage (AC+DC, Probe Alone)	+40 V
Maximum Allowable AC Input (Probe Alone)	0.5 Vrms
Maximum Allowable AC Input (With 10:1 Divider)	5 Vrms
Maximum Allowable AC Input (With 100:1 Divider)	30 Vrms
Output Impedance	50 Ohm (nominal)

Physical & Mechanical Characteristics

Output Connector	50 Ohm Type-N male
Protection Feature	Retractable metal sleeve protects probe tip from physical and ESD damage

Power Requirements

Instrument Interface Compatibility	Keysight, Agilent, and HP spectrum and network analyzers with probe power outlets
External Power Option	Compatible with Keysight 11899A probe power supply

Environmental Specifications

Storage Temperature Range	-40 °C to +70 °C
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Environmental

Operating Humidity	≤ 95% RH (at 40 °C)
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APPLICATIONS

RF and Microwave In-Circuit Signal Analysis

