

KEYSIGHT TECHNOLOGIES (AGILENT HP)

53151A

The Keysight (formerly Agilent) 53151A is a CW microwave frequency counter and power meter capable of measuring frequencies from 50 MHz up to 26.5 GHz. Built with an ultra-wideband single input, it offers simultaneous frequency and power measurement alongside an analog peaking indicator. Its rugged, lightweight design makes it highly suitable for both benchtop testing and field use, and it can be equipped with an optional internal battery and high-stability oven timebase.

SPECIFICATIONS

General

Interfaces	GPIO (IEEE-488) and RS-232
Display	Backlit LCD with analog peaking indicator

Physical

Power Supply	90 to 264 VAC, 47 to 63 Hz, 50 VA max
Operating Temperature	0 to +55 °C °C
Dimensions (W×H×D)	213 x 88.5 x 300 mm mm
Weight	4.0 kg (without battery) kg

Microwave Input

Frequency Range	50 MHz to 26.5 GHz
Input Architecture	Ultra-wideband single input
Connector Type	3.5 mm (m)

Power Measurement

Measurement Capability	Simultaneous frequency and power measurement
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Timebase / Reference Oscillator

External Reference Input Frequency	1 MHz, 5 MHz, 10 MHz
Internal Reference Output Frequency	10 MHz
Standard Timebase	TCXO
High-Stability Timebase Option	Oven timebase (Option 001)

Interfaces & Data Handling

Remote Interfaces	GPIO and RS-232 (Standard)
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Power Requirements

DC Input / Battery Option	Optional internal battery operation (Option 002)
Power Consumption	50 VA max
AC Line Input	90 to 264 VAC, 47 to 63 Hz

Physical Characteristics

Form Factor	Rugged, lightweight design for field use
Accessories	Optional soft carrying case

Input 1 (Microwave)

FM Tolerance	20 MHz p-p (up to 10 MHz rate)
Input 1 Damage Level	+27 dBm peak, 5 Vdc
Input 1 Maximum Operating Level	+5 dBm

Input 2 (Low Frequency)

Input 2 Frequency Range	10 Hz to 125 MHz
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Measurement Performance

Frequency Resolution	1 Hz to 1 MHz (selectable)
Amplitude Measurement Resolution	0.01 dB

Timebase

Standard Timebase Aging	< 1 x 10 ⁻⁷ / month
Option 001 Timebase Aging	< 5 x 10 ⁻¹⁰ / day

Environmental

Storage Temperature	-40 °C to +71 °C
Operating Altitude	Up to 4,600 m (15,000 ft)

Measurement Characteristics

Measurement Speed	Up to 50 readings/s via GPIB
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Compliance & Environmental

Environmental Profile	MIL-PRF-28800F Class 3
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TECHNOLOGY

CW Microwave Frequency Counter

APPLICATIONS

Microwave frequency counting, power measurement, field and benchtop test

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