Power Meters

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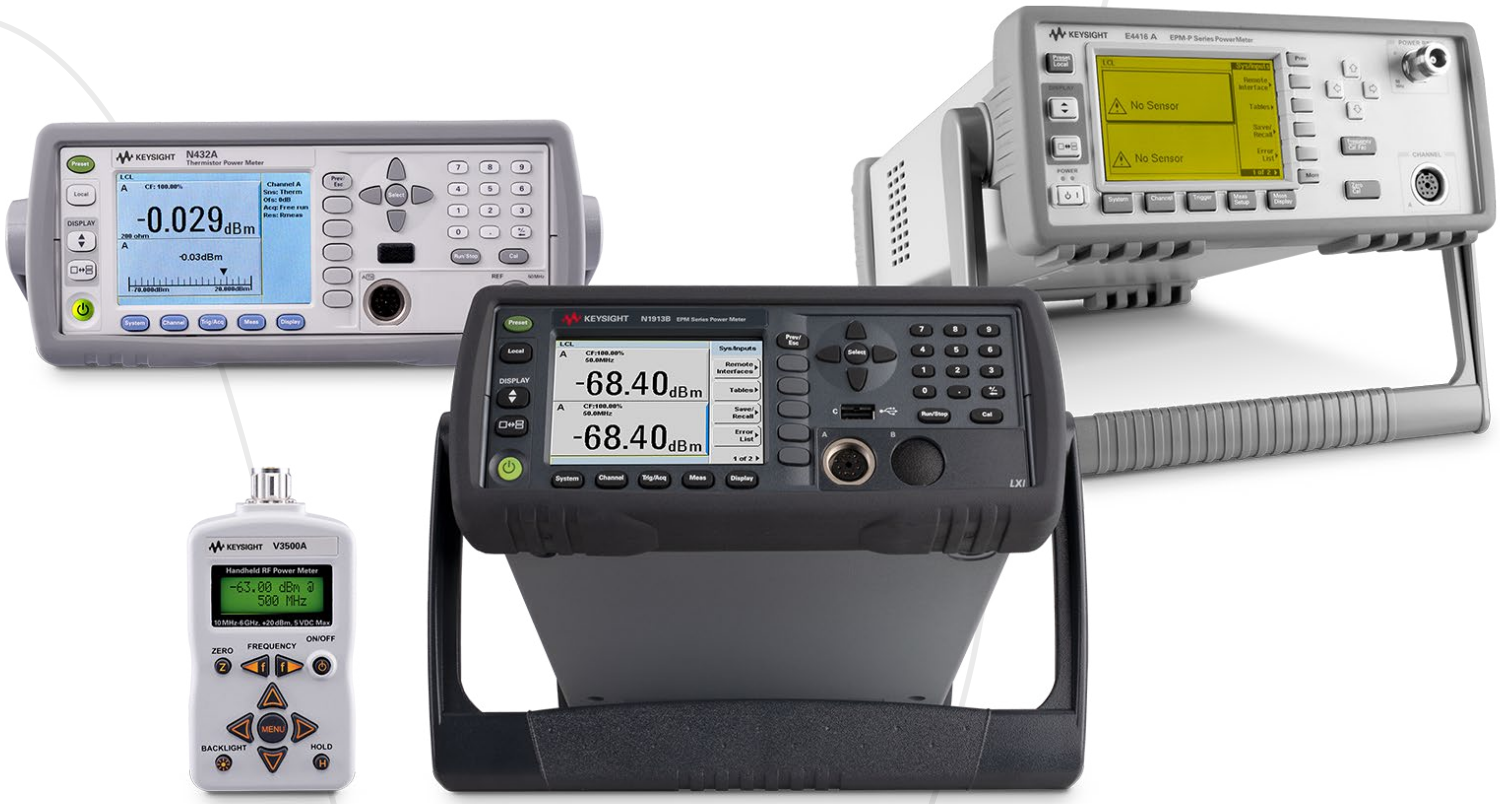

KEYSIGHT

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Keysight Power Meters

One family. 4 classes.

AVERAGE POWER METERS

PM4-class

- DC to 220 GHz Frequency range
- -70 dBm to +44 dBm Dynamic range

PEAK POWER METERS

PM2-class

- 9 kHz to 110 GHz Frequency range
- -70 dBm to +44 dBm Dynamic range

THERMISTOR POWER METERS

PM3-class

- 100 kHz to 18 GHz Frequency range
- -30 dBm to +10 dBm Dynamic range

HANDHELD POWER METERS

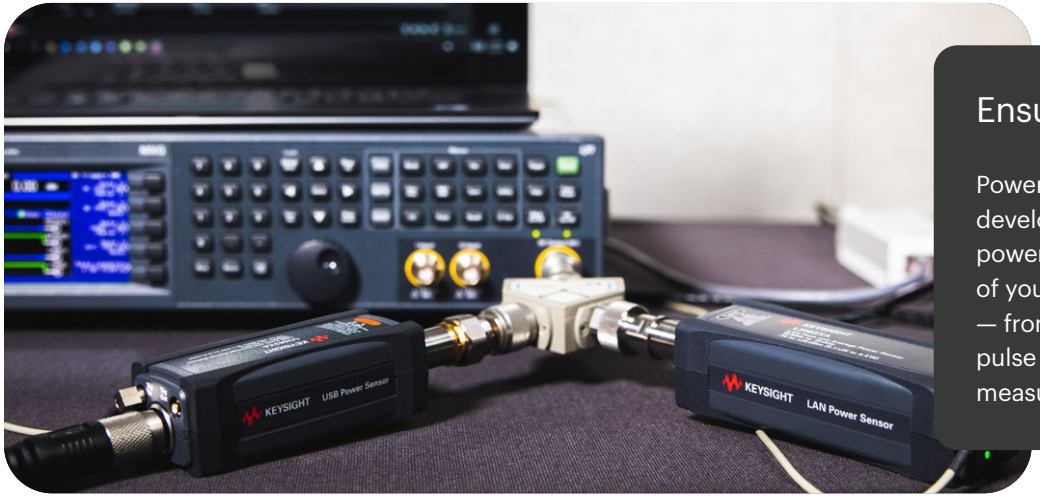
PM1-class

- 10 MHz to 6 GHz Frequency range
- -63 dBm to +20 dBm Dynamic range

Introduction

Keysight Power Meters — from continuous wave measurements to complex pulse analysis

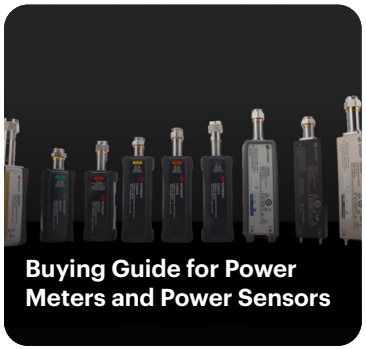
Keysight power meters are now offered in four capability classes across average power meters, handheld power meters, peak power meters, and thermistor power meters. Average power meters include the PM4-class, handheld power meters include the PM1-class, peak power meters include the PM2-class, and thermistor power meters include the PM3-class. Explore our extensive portfolio of RF power meters for testing and calibration, performance verification, and troubleshooting the power of RF signals across a wide range of industries including wireless communications, aerospace and defense, and electronics and semiconductor manufacturing. Discover which power meter is right for you with our RF power meter resources.

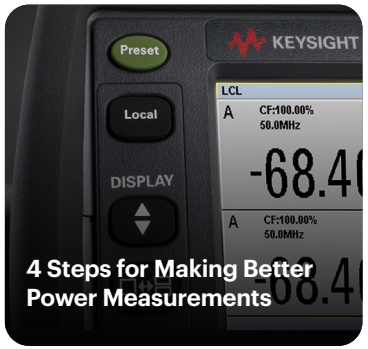


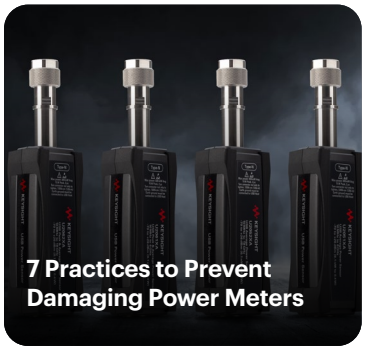
Ensure precise readings with versatile power meters

Power meters are vital instruments for RF engineers working in design, development, or manufacturing. Accurate and reliable measurement of RF power is critical for ensuring the performance, compliance, and efficiency of your devices. Keysight resources provide comprehensive guidance — from fundamental continuous wave (CW) measurements to complex pulse analysis — helping you build a deeper understanding of RF power measurement techniques.

Here are a few examples of the resources you will find to help you select the RF power meter that is right for you:







Power Meters

Keysight power meters deliver the precision, performance, and portability needed for accurate and consistent measurement of rapidly fluctuating RF signals, whether you're in the lab or out in the field. With enhanced capabilities like simultaneous multichannel display, measurement math, configurable trigger options, and data logging, these power meters are powerful tools for in-depth testing and troubleshooting. From average and peak power meters to thermistor-based models and handheld units, find the one that is right for your application.

	Average	Peak	Thermistor	Handheld
	PM4-class	**PM2-class**	**PM3-class**	**PM1-class**
Maximum number of channels	**4**	**2**	**1**	**1**
Frequency range	**DC to 220 GHz**	**9 kHz to 110 GHz**	**100 kHz to 18 GHz**	**10 MHz to 6 GHz**
Dynamic range	**-70 dBm to +44 dBm**	**-70 dBm to +44 dBm**	**-30 dBm to +10 dBm**	**-63 dBm to +20 dBm**
Video bandwidth	**--**	**Up to 30 MHz**	**--**	**--**
Brands included	**N1910B series**	**E4410A Series N1910A Series N8262A**	**N432A**	**V3500A**
	Explore	Explore	Explore	Explore

Average Power Meters

Reliable power measurements for continuous wave signals

Keysight PM4-class average power meters include the N1910B Series power meters. They deliver dependable, high-accuracy measurements of continuous wave (CW) signals across broad frequency and dynamic ranges. Built for versatility and durability, they perform reliably in both lab and field environments. Enhanced features like real-time measurement calibration provide signal stability and repeatability, minimizing the impact of rapid signal fluctuations for reliable results under dynamic test conditions. A compatible power sensor is required for operation to detect and convert RF signal power into a measurable electrical signal. Request a quote or order a Keysight average power meter today.

Learn more about our average power meters

Wide dynamic range

With a dynamic range spanning -70 dBm to +44 dBm, you can accurately measure both very low and high-power levels, without the need for external attenuators, preamplifiers, or multiple sensors.

Broad frequency coverage

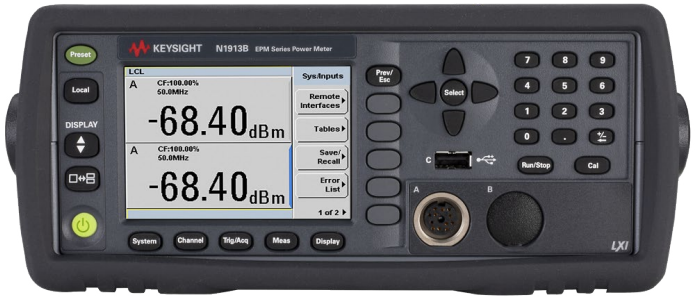
Ensure maximum flexibility, compatibility, and future-proofing with support for frequencies up to 220 GHz, ideal for applications like 5G, automotive radar, and satellite communications.

Stable, reliable performance

Low-noise circuitry enables stable operation and minimizes the effects of rapid signal fluctuations, delivering accurate measurements under diverse signal conditions.

Real-time calibration

Auto-zeroing functionality continuously corrects internal offsets and drift, ensuring stable baseline readings without manual intervention.



Number of channels	**1 to 4**
Frequency range	**DC to 220 GHz**
Dynamic range	**-70 dBm to +44 dBm**

Buy / Get quote

Peak Power Meters

Power measurements for complex pulse and modulated signals

Keysight PM2-class peak power meters include the E4410A Series, N8262A, and N1910A Series power meters. They offer capabilities suitable for complex pulse and modulated RF signals. These meters provide peak, average, peak-to-average ratio, and time-gated measurements, as well as built-in presets, making them ideal for pulse and wireless formats like Time Division Multiple Access (TDMA), *Bluetooth*®, LTE, and 5G. Our midrange and modular peak power meters provide a high sampling rate of 100 MSa/s, ideal for capturing fast transients for accurate system and performance analysis. A compatible peak power sensor is required for operation to capture and convert fast-changing RF signals into precise, time-resolved measurements. Choose one of our most popular configurations or configure one specific to your application.

Learn more about our peak power meters

High video bandwidth

Capture fast transients, complex modulations, and precise pulse details with video bandwidths from 5 to 30 MHz.

Predefined wireless formats

Streamline measurement setup, improve accuracy, and ensure compliance with built-in presets for wireless standards like TDMA, *Bluetooth*®, LTE, and 5G.

Comprehensive insights

Perform detailed power measurements, including peak, average, peak-to-average ratio, and time-gated power — for in-depth signal analysis and characterization.

Enhanced triggering options

Reduce noise and false readings while accurately capturing transient events in signals with fast rise times, short durations, or complex timing.

Class	Included Brands	Range of Performance Specifications			
		Maximum Frequency	Maximum Power Output	Frequency Range	Dynamic Range
PM2	E4410A Series, N1910A Series, N8262A	5 MHz to 30 MHz	3,000 VA to 18,000 VA	50 MHz to 18 GHz, 50 MHz to 50 GHz (peak) 9 kHz to 110 GHz (average)	-35 dBm to +20 dBm (peak) -70 dBm to +44 dBm (average)

View popular configurations

Thermistor Power Meter

Precision power measurements for calibration and metrology

Keysight PM3-class thermistor power meter includes the N432A thermistor which is an automatic, self-balancing instrument designed for use with temperature-compensated thermistor mount sensors. It measures signal power by detecting the heat generated from RF energy absorption, ideal for low-power measurements requiring precision calibration and high accuracy in metrology and calibration labs. Enhanced troubleshooting features include self-balancing to adjust for temperature variations, RF-to-DC conversion, and multiple remote connectivity options. A compatible thermistor sensor is required to operate. Request a quote or order the Keysight thermistor power meter today.

Learn more about our thermistor power meter

Self-balancing

Automatic adjustment to compensate for temperature variations, sensor drift, and environmental factors, ensuring accurate measurements.

Temperature compensation

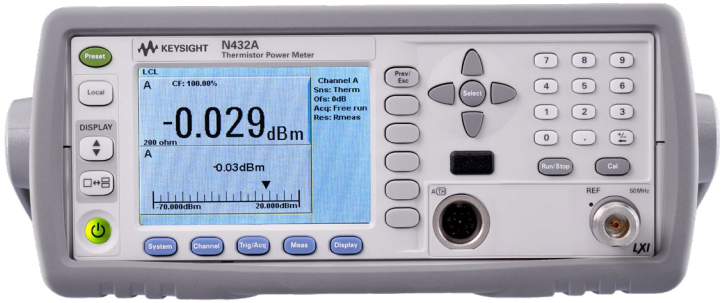
Dual bridge operation compensates for environmental temperature drift, ensuring accurate readings in changing conditions like lab environments, self-heating, and long-duration measurements.

RF-to-DC conversion

Convert RF power to DC measurements like voltage or resistance, enabling highly accurate, traceable measurements, ideal for calibration and precision testing.

Remote connectivity options

GPIB, USB, and LAN interfaces enable remote monitoring and control and integration into automated test systems, ideal for high throughput testing or production environments.



Number of channels	**1**
Frequency range	**100 kHz to 18 GHz**
Dynamic range	**-30 dBm to +10 dBm**

Buy / Get quote

Handheld Power Meter

Portability and precision for power measurements in the field

Keysight PM1-class handheld power meter includes the V3500A handheld power meter which is a compact, portable device that delivers lab-quality RF measurements in both field and lab settings. With up to ±0.21 dB accuracy, broad frequency coverage, and a built-in sensor, it offers reliable, convenient testing without extra equipment. It self-calibrates, fits in your pocket, and supports flexible power options including battery, AC-to-DC adapter, or USB. Request a quote or order the Keysight handheld power meter today.

Learn more about our handheld power meter

Built-in power sensor

Eliminate the need for a separate sensor module with a fully integrated power sensor, optimizing portability and ensuring faster setup and consistent measurements.

Rechargeable battery

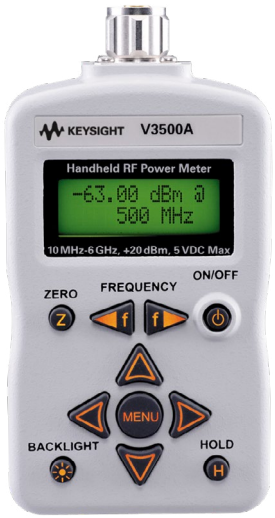
The internal lithium-ion battery delivers stable performance in varying conditions, ensuring reliable operation without external power.

Self calibration

Internal power reference ensures consistently high measurement accuracy and excludes the need to perform independent calibration before field use.

Rugged design

Impact-resistant casing, built to operate in non-ideal environments, protects it from drops or rough handling during transportation or onsite work.



Number of channels	**1**
Frequency range	**10 MHz to 6 GHz**
Dynamic range	**-63 dBm to +20 dBm**

Buy / Get quote

Power Sensors

Keysight power sensors deliver precise, reliable measurements across a wide range of applications, from low-level RF signals to high-power transmissions. Featuring enhanced sensor technologies, diode sensors provide high sensitivity and precision, while thermocouple sensors offer robust, accurate measurements in demanding environments. Average power sensors ensure repeatable results, and peak sensors are ideal for capturing complex, time-varying signals. Available in both benchtop and standalone configurations, these sensors offer a wide dynamic range, broad video bandwidth, and high-frequency coverage, enabling efficient and comprehensive power analysis. Explore our power sensors to find the right one to pair with your power meter.

Learn more about our power sensors

Average Power Sensors

Accurate, repeatable measurements for all modulation formats

Peak and Average Power Sensors

Precision and versatility for pulsed and complex signals

Diode Power Sensors

Precision and sensitivity for low-level RF measurements

Thermocouple Power Sensors

Robust and accurate power measurements for high power applications

USB and LAN Power Sensors

Compact and efficient power measurements

Wide Dynamic Range Power Sensors

Precision and speed across a wide dynamic range

Wideband Power Sensors

Wideband power analysis for high-speed applications

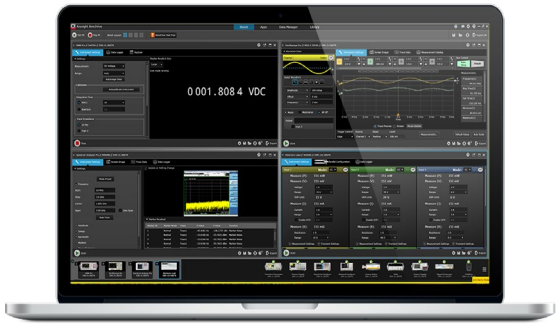
Waveguide Power Sensors

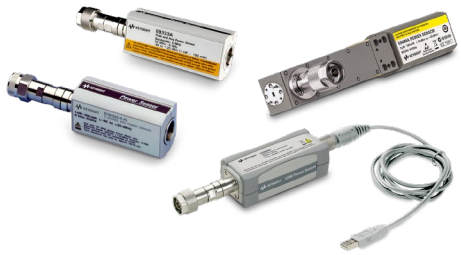
Precision and reliability for millimeter-wave measurements

Software and Accessories

Find compatible software and accessories for your power meter

Keysight RF power meter software and accessories offer comprehensive solutions for power measurement and analysis to ensure that you get the most out of your power meter. Power meter / sensor control and analysis software simplifies the process by providing intuitive control, multiple instrument measurement visibility, and data capture without the need for programming. Quickly control your power meters to log data and visualize measurements with a variety of display options for easier analysis. Optional modulation and demodulation analysis software streamlines measurement setup, improves accuracy, and ensures compliance with wireless standards. Keysight offers a wide range of accessories, including sensors, cables, and calibration kits to enhance measurement accuracy and reliability.





Enhance your power meter with software, including:

- control and analysis
- pulse radar analysis
- IoT modulation analysis
- lab management and control
- 5G NR modulation analysis
- WLAN modulation analysis
- LTE / LTE-A TDD modulation analysis
- custom OFDM modulation analysis
- digital demodulation analysis

Explore software

Maximize your power meter by pairing it with the right accessories:

- average power sensors
- peak and average power sensors
- diode power sensors
- thermocouple power sensors
- USB / LAN power sensors
- wideband power sensors
- power sensor noise source cables
- passive probes
- rack-mount kits

Explore accessories

Keysight Support Services

Explore the services that are right for you

Keysight Support Services can reduce your learning curve, enhance your uptime, guarantee the accuracy of your testing equipment, and provide the expertise you require, precisely when and where you need it.

Maximize your instrument uptime, quickly optimize your test measurements, and get the answers you need at our fastest available times. KeysightCare curated support plans bundle critical services with prioritized response and turnaround times. **High-performance instruments include one year of KeysightCare Assured.**

Explore support services

Calibration

Ensure your test system performs to specification and meets local and global standards.

Repair

Restore equipment to original functionality and specifications with trained technicians.

KeysightCare

Innovate at speed with curated support plans and prioritized response and turnaround times.

Education

Make measurements quickly with eLearning and in-house, instructor-led training.

Keysight Support

Get 24x7 access to service requests, case management help, and technical articles.

Keysight enables innovators to push the boundaries of engineering by quickly solving design, emulation, and test challenges to create the best product experiences. Start your innovation journey at www.keysight.com.