

# TEGAM

## GEMINI 5540A RF POWER METER

HIGH-POWER, HIGH-ACCURACY RF MEASUREMENT IN A SINGLE INSTRUMENT.



Advanced Energy's 5540A Series of RF power meters provide high power, high accuracy measurements with a sensor and meter that are built into one instrument. The 5540A also has the unique capability of being calibrated at multiple available frequency points, creating a single meter that can replace multiple existing power sensors. Offering rich functionality and an easy-to-use design, this series is ideal for use in semiconductor applications, for which measurement certainty and repeatability are imperative. It is powered by a standard USB 2.0 port, external battery, or AC power outlet using off-the-shelf USB adapters. Because the meter is built-in, there is less equipment, and fewer cables, to carry to the field or bench.

### PRODUCT HIGHLIGHTS

- Accuracy:  $\pm 0.5\% + 0.5 \text{ W}$  (at calibrated frequencies and power levels)
- Meter and Sensor build into one instrument
- One sensor can be calibrated at multiple frequencies
- Read forward and reverse power, VSWR, and frequency simultaneously on the integrated display
- 1 year calibration interval

### AT A GLANCE

#### Frequency Range

0.2 MHz to 200 MHz

#### Power Range

3 W to 5,000 W

#### Impedance

50 Ohms

#### VSWR

Better than 1.05 : 1 below 60 MHz



## GEMINI SERIES RF POWER METERS

### OVERVIEW

**TRUST** is an essential feature in any measurement tool and TEGAM's Gemini Series Power Meters are instruments you can **rely on every day** with confidence.

Designed from the same dedication and expertise that built the TEGAM calorimetric product line used in primary and production labs around the world, the Gemini Series RF Power Meter family brings **modern functionality and easy-to-use design** to the world of in-line RF power measurement.

- **Measurement-at-a-Glance:** Forward and reverse power, VSWR, and frequency simultaneously displayed on a large, easy-to-read OLED display.
- **Convenient:** Sensor and meter, in one convenient instrument. No separate meter, no elements needed, and no reconfiguration is necessary for forward and reverse power measurements.
- **Flexibility:** Take measurements directly from the meter or connect to a PC to collect measurement data using the available software.
- **Accurate:** 2-sigma accuracy of  $\pm 0.5\% + 0.5W$  across power range at calibrated frequencies.
- **Wideband:** Cover wider frequency and power bands with fewer instruments.
- **Confidence:** Digital display and no elements mitigate measurement errors.

The Gemini Series meters provide **flexibility and freedom**. The meters are powered by a standard USB 2.0 port, external battery, or AC power outlet using off-the-shelf USB adapters. And since the meter is built-in, there is less equipment – and less cables – to carry to the field or bench.

**Real-time readings and data collection** increase user productivity and process efficiency. Measurement data can be collected directly on a compatible PC for remote monitoring, review, or audit. Measurements are quicker and more reliable with the single, self-contained 5540A, maximizing productivity.

For over 30 years, TEGAM has been building RF measurement instruments for challenging applications. The TEGAM Gemini Series RF Power Meter family – **experience and innovation** realized.

**When the Measurement Matters, Be Certain with TEGAM.**



## GENERAL SPECIFICATIONS

Measurement Ranges <sup>1</sup>	Frequency (MHz) Forward Power (W) <sup>1</sup> Reverse Power (W)	0.2 to 200 3 to 5,000 (Connector and frequency dependent) 3 to 1,000
Basic Power Accuracy <sup>2,3</sup> (1-Year) (2-sigma)		± (0.5% of Rdg + 0.5 W) at the calibrated frequencies and power ranges (see Certificate of Calibration)
Measurements		Forward Power, Reverse Power, VSWR <sup>4</sup> , and Frequency <sup>4</sup>
Impedance		50 Ω
Directivity		≥ 28 dB (Typical 1 MHz to 60 MHz)
Insertion Loss		< 0.05 dB with QC Type N connectors
Connector Type <sup>1,2</sup>		Input and output connector configurations are specified by customer at time of purchase. Available connectors are: N, HN, LC, 7/16 DIN, 7/8 EIA, and QDS-UL
Display		6-Digit Auto-Resolution OLED Display
Display Resolution	Power (W) Frequency (MHz)	Up to 6 digits (2 digits past decimal point) 0.01 0.01
Power Requirement		USB Type B, 2.0 interface
Power / Data Connector		5 VDC, 500 mA
Compliance		EN 61326-1:2013 CE (2014/30/EU) / RoHS3 (2015/863/EU) / REACH IEC 61010-1, 61010-2, 61326-1, and 61326-2
Operating Temperature		+18 to +28°C +64.4 to +82.4°F
Storage Temperature		-40 to +71°C -40.0 to +159.8°F
Warranty		1-year Parts & Workmanship
Recommended Calibration Interval		12 months
Approximate Dimensions (W x H x D, including Type N connectors)		132 x 71 x 64 mm 5.2 x 2.8 x 2.5 in.
Weight		1001 g 2.20 lbs

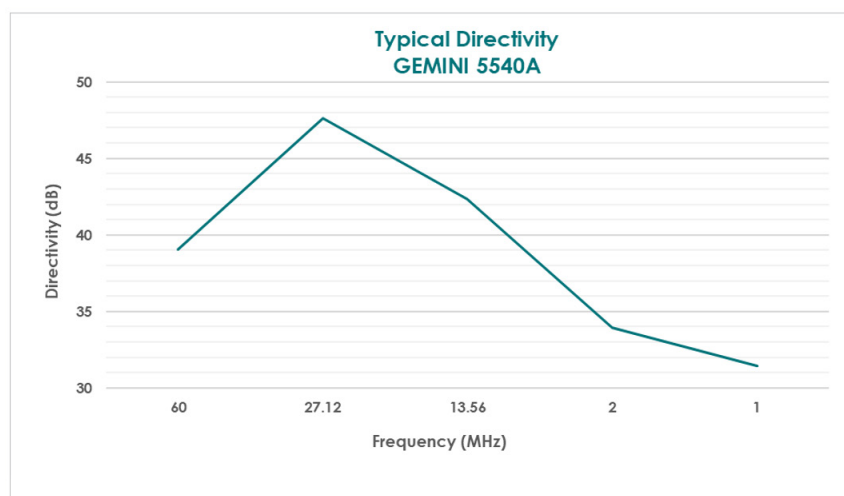
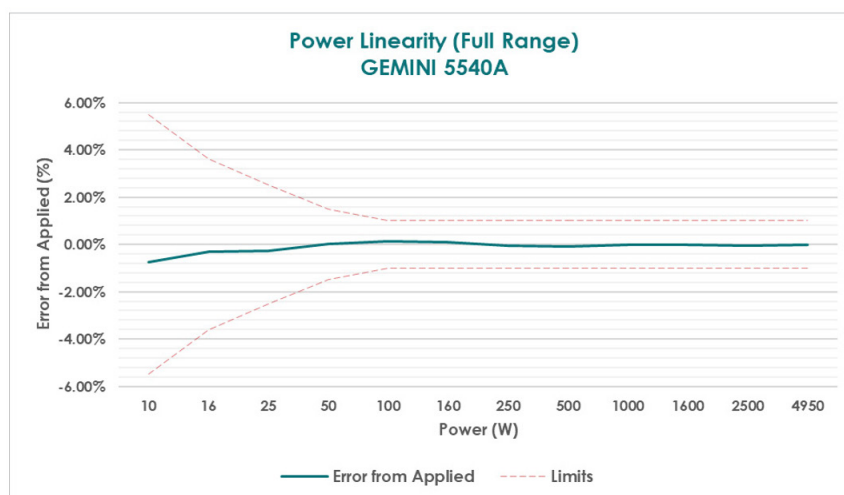
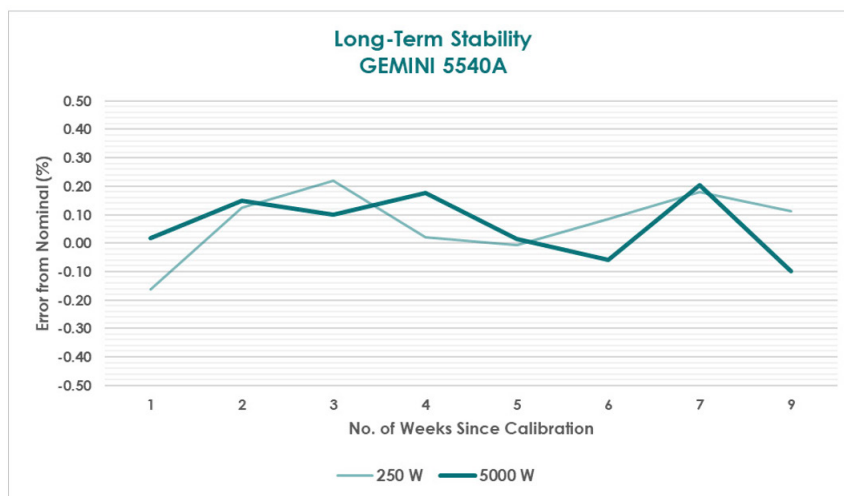
Note 1: Maximum power is limited by the measurement frequency and instrument connector types. See instruction manual for further details.

Note 2: Specifications valid only when used with the connectors in-place at time of calibration. Removal or changing of connectors will void calibration data.

Note 3: See instruction manual for full measurement uncertainty data.

Note 4: For reference use only.

## GENERAL SPECIFICATIONS





For international contact information,  
visit [advancedenergy.com](https://advancedenergy.com).

[powersales@aei.com](mailto:powersales@aei.com) (Sales Support)  
[productsupport.ep@aei.com](mailto:productsupport.ep@aei.com) (Technical Support)  
+1 888 412 7832

## ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than four decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

PRECISION | POWER | PERFORMANCE | TRUST

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