

**ADVANTEST**<sup>®</sup>

Terahertz Power meter

# TAS5500

Highly Accurate Power meter For Terahertz Spatial Beam Measurement



The TAS5500 performs absolute power measurement in the terahertz band to a high standard of accuracy, utilizing a large-diameter calorimeter.

Based on the Japanese national standard for infrared measurement of 10.6 $\mu\text{m}$ \*, which Advantest has expanded to the terahertz region, the TAS5500 delivers measurement accuracy of  $\pm 8\%$ .

Offered as a standard terahertz metrology tool, this new power meter offers invaluable support for R&D in fields where terahertz power values must be ascertained accurately.

\* The National Metrology Institute of Japan (NMIJ) maintains an infrared power standard of 10.6 $\mu\text{m}$

## Features

### A New Terahertz Standard Based on Infrared Power Standard, Developed By Advantest

Advantest has expanded the measurement range of the NIMJ standard for measuring infrared waves to the terahertz region by calculating the difference in heat generated when a range of terahertz wavelengths are absorbed. This precise calibration enables the TAS5500 to deliver highly accurate power measurement.

### Highly Accurate Heat Measurement

The amount of heat absorbed by a calorimeter varies depending on the type of electromagnetic wave absorber used and the wavelength of the input waves, potentially creating measurement uncertainty. The TAS5500 utilizes an absorber with a steady absorption ratio, and relies on abundant absorption data for each specific wavelength accumulated by Advantest during the company's terahertz R&D activities, improving measurement stability and accuracy.

### Palm-Sized Form Factor , Easy PC Connection

The TAS5500 boasts a portable, compact form factor (115mm W x 67mm D x 79mm H) and weighs just 900 grams. It connects to the user's PC via USB port for ease of usability. A stand for the sensor unit is also included (unit attached to stand with M6 / 1/4-20 UNC screw).

### Calibration Service Ensures Continuous Accuracy

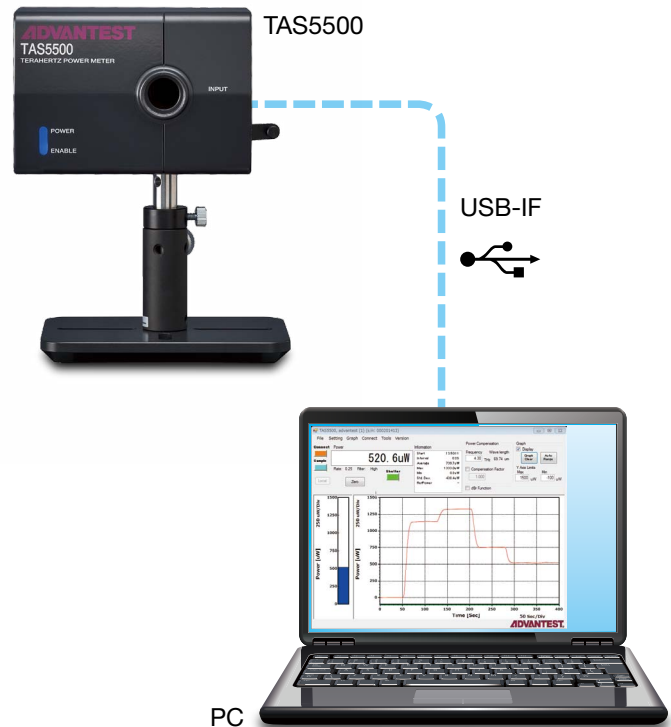
Advantest offers TAS5500 users a semiannual calibration service (separate fees apply) to ensure continuous measurement accuracy.

## Key Specifications

|                            |   |
|----------------------------|---|
| Optical input              | 10 mm active diameter with a manual shutter   |
| Frequency range            | 0.3 ~ 10 THz  |
| Accuracy                   | 8% or less *1*2 (0.4 THz-10 THz)  |
| Power range                | 100 mW ~ 20 $\mu\text{W}$   |
| Response time (95%)        | 30 sec or less  |
| Display                    | Readout software on user PC with USB-IF<br>(Supported OS: Windows 7, 32/64bit, English/Japanese)    |
| Analysis software function | Log, linear, statistic, trend graph display function<br>Remote control function by user application |
| Operating environment      | Temperature range: +10 °C ~ +30 °C,<br>Relative humidity: 80% or less (no condensation)             |
| Storage environment        | Temperature range: -10 °C ~ +50 °C,<br>Relative humidity: 80% or less (no condensation)             |
| External Dimensions        | 115 (W) x 67 (D) x 79 (H) mm<br>(sensor unit only, Protruding part is not included.)                |
| Mass                       | 900g or less (sensor unit)  |

\*1 Referring to band-enlarged Advantest's standard based on the national standard of 10.6  $\mu\text{m}$   
Uncertainty 2 $\sigma$

\*2 Calibrated by 5mm beam at sensor center



# ADVANTEST®

<http://www.advantest.com>

ADVANTEST CORPORATION

### ● Further Inquiries

Japan/Asia

**E-mail: [info\\_t@jp.advantest.com](mailto:info_t@jp.advantest.com)**

**Phone: +81-3-3214-7500**

Advantest Corporation  
Shin Marunouchi Centre Bldg., 1-6-2, Marunouchi  
Chiyoda-ku, Tokyo 100-0005 Japan

USA/Europe

**E-mail: [info\\_t\\_p@advantest.com](mailto:info_t_p@advantest.com)**

**Phone: +1-609-897-7320**

Advantest America, Inc.  
508 Carnegie Center, Suite 102  
Princeton, New Jersey 08540 U.S.A.