



Agilent V8486A

V-Band Power Sensor

Profile



Your New Choice for Accurate Power Measurements from 50 to 75 GHz

Compatible with Your Current Agilent Power Meter

The Agilent Technologies V8486A V-band power sensor is fully compatible with Agilent 435B, 436A, 437B, 438A, 70100A, E1416A, E4418A/B, and E4419A/B power meters.

Best SWR Available

In RF and microwave power measurements, the largest single source of error is usually sensor and source mismatch. To minimize any measurement uncertainty caused by mismatch, the V8486A offers a specified SWR of 1.06 (>30 dB return loss).



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**V8486A Calibration Factor Uncertainty
at 1 mW (0 dBm)**

| Frequency (GHz) | Uncertainty % |
|------------------------|----------------------|
| 50 | 4.8 |
| 51 | 6.1 |
| 52 | 5.9 |
| 53 | 5.9 |
| 54 | 5.9 |
| 55 | 4.6 |
| 56 | 6.1 |
| 57 | 6.1 |
| 58 | 6.2 |
| 59 | 6.2 |
| 60 | 4.7 |
| 61 | 6.2 |
| 62 | 6.1 |
| 63 | 6.0 |
| 64 | 6.0 |
| 65 | 4.5 |
| 66 | 6.6 |
| 67 | 6.7 |
| 68 | 6.7 |
| 69 | 6.6 |
| 70 | 4.4 |
| 71 | 6.7 |
| 72 | 6.8 |
| 73 | 7.0 |
| 74 | 7.3 |
| 75 | 5.1 |

The uncertainty analysis for the calibration of the V8486A is carried out in accordance with the ISO/TAG4 Guide. The uncertainty data, reported on the calibration certificate, is the expanded uncertainty with a 95% confidence level and a coverage factor (k) of 2.

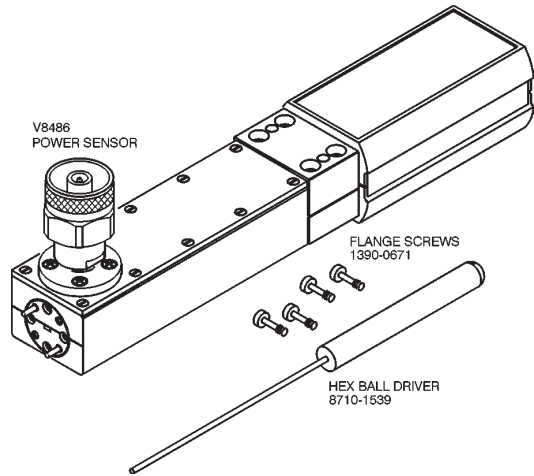
50 MHz Calibration

For easy calibration with the power meter, the Agilent V8486A incorporates a 50 MHz calibration port. This eliminates the variance in making measurements with different meter/sensor combinations and the uncertainties due to temperature changes. It also provides traceability to the U.S. National Institute of Standards and Technology (NIST) at millimeter-wave frequencies.

High Reliability

The V8486A uses the same proven Modified Barrier Integrated Diode (MBID) technology found in other Agilent sensors, and always operates in the square-law characteristic for true-average detection.

V8486A Power Sensor with Accessories and Hardware



Dimensions: width 38 mm (1.5 in"), length 199 mm (7.8 in"), height 60 mm (2.4 in")

Related V-band Products

| Product Number | Description |
|----------------|--|
| V281A | Coax 1.85 mm (f) to V-band adapter |
| V281B | Coax 1.85 mm (m) to V-band adapter |
| V281C | Coax 1.00 mm (f) to V-band adapter |
| V281D | Coax 1.00 mm (m) to V-band adapter |
| V365A | Waveguide Isolator |
| V752C | V-band Directional Coupler (10 dB coupling factor) |
| V752D | V-band Directional Coupler (20 dB coupling factor) |
| V11644A | WR-15 V-band Calibration Kit |
| V11645A | WR-15 V-band Verification Kit |

Specifications

Power Range

-30 to +20 dBm

Frequency Range

50 GHz to 75 GHz

50 GHz to 78 GHz (Special Option H01)

Maximum SWR

(Reflection Coefficient)

1.06 (0.029)

Maximum Power (waveguide port only)

200 mW average, 40 W peak (10 μ s pulse, 0.5% duty cycle) or equivalent such that 200 mW maximum average power and 40 W peak power are not exceeded.

Power Linearity

-30 to +10 dBm: $<+1\%$

+10 to +20 dBm: $\pm 2\%$ (for EPM series power meters)

+10 to +20 dBm: +1, -3% (for all other Agilent power meters)

Weight

Net 0.4 kg (0.9 lb)

Shipping 1.0 kg (2.2 lb)

Waveguide & Equivalent Flange

EIA WR-15, UG-385/U

Equivalent Waveguide Band Designators to EIA WR-15

IEC R-620

British WG-25

JAN RG-273

MIL-W-85/3-018

Equivalent Flange

Designator to UG-385/U

MIL-F-3922/67B-002

Abbreviations

EIA - Electronic Industries Association

IEC - International Electrotechnical Commission

JAN - Joint Army Navy

Agilent Technologies' Test and Measurement Support, Services, and Assistance

Agilent Technologies aims to maximize the value you receive, while minimizing your risk and problems. We strive to ensure that you get the test and measurement capabilities you paid for and obtain the support you need. Our extensive support resources and services can help you choose the right Agilent products for your applications and apply them successfully. Every instrument and system we sell has a global warranty. Support is available for at least five years beyond the production life of the product. Two concepts underlie Agilent's overall support policy: "Our Promise" and "Your Advantage."

Our Promise

"Our Promise" means your Agilent test and measurement equipment will meet its advertised performance and functionality. When you are choosing new equipment, we will help you with product information, including realistic performance specifications and practical recommendations from experienced test engineers. When you use Agilent equipment, we can verify that it works properly, help with product operation, and provide basic measurement assistance for the use of specified capabilities, at no extra cost upon request. Many self-help tools are available.

Your Advantage

"Your Advantage" means that Agilent offers a wide range of additional expert test and measurement services, which you can purchase according to your unique technical and business needs. Solve problems efficiently and gain a competitive edge by contracting with us for calibration, extra-cost upgrades, out-of-warranty repairs, and on-site education and training, as well as design, system integration, project management, and other professional services. Experienced Agilent engineers and technicians worldwide can help you maximize your productivity, optimize the return on investment of your Agilent instruments and systems, and obtain dependable measurement accuracy for the life of those products.

By internet, phone, or fax, get assistance with all your test and measurement needs.

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