HIOKI

New

1109-11 RF Module HiTESTER

Automatic Testing Equipment

RF Module Circuit Characteristic Tester

■ Moving stage system

The 1109-11 RF Module HiTESTER uses a moving stage system that allows the high-frequency probes to be held in a fixed position while the board being tested is moved beneath them. This approach provides high reproducibility by reducing factors such as shape distortions and flexing in the high-frequency cables that can result in inaccuracies in high-frequency measurement.

■ High-precision probing

Image-based alignment and measurement of board thickness using a laser displacement gage provide probing with the kind of high reproducibility that is difficult to achieve with manual testing.

■ High-frequency test heads

High-frequency test heads (2 ports) are custom designed for the board they will be testing, and a mechanism that allows the heads to be easily exchanged ensures that the HiTESTER can be reconfigured without difficulty for a variety of test boards - all without the troublesome probe calibration required by traditional probers.

■ High-speed testing

HIOKI engineers were able to achieve a high throughput of one step per second by combining optimizations in test sequencing and camera control with speed improvements in post-measurement processing. (Time includes alignment, measurement, and judgment.)

■ A variety of analysis and judgment features

The HiTESTER's standard software includes 6 fundamental functions for filter analysis, allowing you to easily set judgment and analysis conditions without the need for time-consuming program creation. An included test program creation feature provides additional capability for more complex analysis.

The 1109-11 RF Module HiTESTER provides a solution for testing the circuit characteristics of RF modules in high-frequency filters and built-in circuit boards. It includes a network analyzer and can perform fully automatic, high-speed transmission and reflection characteristic (S parameter) testing. In addition to built-in high-frequency test heads that support S parameter evaluation at up to 8 GHz, the tester comes standard with software that includes analytical (result determination) functions that allow it to make GO/NG judgments based on loaded transmission and reflection characteristics.

ISO14001
JQA-E-90091

http://www.hioki.co.jp/

HIOKI company overview, new products, environmental considerations and other information are available on our website.

■ 1109-11 Specifications

[Mechanism]

▮ XY-axes unit

Compatible board size range	: 10×10 - 510×310 mm (Compatible with single boards or multiple-unit panels.)
Probing area	: 10×10 - 500×300 mm (Compatible with single boards or multiple-unit panels.)
Compatible board thickness	: 0.3 - 3.2 mm
Board clamp method	: Vacuum table
Movement resolution	: 1.25 µm
Positioning repeatability	: Within ±10 µm
Transport height	: 930 ±10 mm

▮ Upper θ-axis unit

Movement resolution	: ±2 sec
Positioning repeatability	: Within ±3 sec

▮ Upper Z-axis unit

Movement resolution	: 1.0 µm
Positioning repeatability	: ±15 µm

[Measurement unit]

Measurement apparatus	: Network analyzer (Type to be determined after consultation with customer.)
Frequency sweep range	: 300 kHz - 8 GHz
Test heads	: High-frequency test heads that are built into probes
No. of ports	: 2
Measurement parameters	: S11, S21, S12, S22
Analytical (result determination) functions	: Fundamental functions HPF/LPF cutoff frequency analysis BPF/NOTC center frequency, bandwidth analysis Insertion loss analysis (Calculates point of maximum insertion loss.) Reflection loss analysis (Calculates point of maximum reflection loss.) Frequency analysis (Calculates frequency passing through specified level.) Level analysis (Calculates level of specified frequency.) : Programming functions Functions can be created using the BASIC language. : The above fundamental and programming functions can be used in combination.
Test time	: 1 sec/step (Reference value; test times depend on test conditions.)

[Test heads]

Minimum inter-probe pitch	: Signal < > Signal : 1.5 mm Signal < > GND : 1.27 mm GND < > GND : 1.27 mm *Detailed specifications will be determined after consultation with customer.

[General specifications]

Power supply	: AC 200 V ±10% (single-phase) 50/60 Hz
Power consumption	: 3 kVA
Air supply (Dry air)	: System pressure (primary) : 0.6 - 0.99 MPa Set pressure (secondary) : 0.5 ±0.1 MPa
Operating environment	: Operating temperature and humidity : 23 ˚C ±3 ˚C , 60% rh or less (non-condensing) Storage temperature and humidity: 10 ˚C - 43 ˚C 80% rh or less (non-condensing) Atmosphere: Avoid operating the tester in the presence of dust, vibration, or corrosive gasses. Floor strength: At least 500 kg/m²
Insulation resistance	: At least 100 MΩ (DC 500 V applied between power supply and frame.)
Withstand voltage	: AC2.2 kVrms
Tester dimensions	: Approx. 1,370(W)×1,780(H)×1,450(D)mm (Excluding protruding parts)
Mass	: Approx. 1,000 kg

[Other]

Static electricity countermeasures (Standard)	: Ionizers (In 2 locations: at board feed entry and in test area.)
Stamp (optional)	: For marking

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