For more information:
www.innovationservices.philips.com

Philips Innovation Services helps you accelerate your innovation by offering a range of advanced innovation services, expertise and high-tech facilities across the whole innovation process. Our services extend from concept creation, product development, prototyping and small series production, industrialization, quality and reliability, to sustainability and industrial consulting. Drawing on our extensive competences, these services engage the required knowhow with just one aim: to tackle your innovation challenge.

Electronic Measurement Laboratory

Providing solutions for RF characterization

Philips Innovation Services has joined with Agilent Technologies and Cascade Microtech to establish a new world class Electronic Measurement Laboratory at Philips Innovation Services at the High Tech Campus Eindhoven.

The laboratory will enable development of the increasingly complex and high speed chips which are at the heart of next generation innovations such as wireless communication in the home providing the infrastructure for ambient intelligence, high frequency RF imaging systems in hospitals, and ultra low power wireless sensors for use in and around the human body. These wireless innovations will demand massively increased data transfer rates, 100-1000 times higher than currently available. This means increased bandwidth and consequently higher frequencies. The new laboratory supports these requirements, enabling measurements to be performed at very high frequency in the RF range.

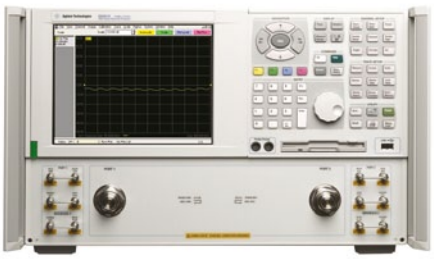
Open Innovation – accelerating innovation

The new laboratory compliments and further strengthens the existing state-of-the-art research infrastructure that Philips Innovation Services offers. Philips Innvation Services provides a full range of leading edge research services in a networked environment, enabling high tech organizations to accelerate their pace of innovation and achieve their full innovation potential in the most cost-effective manner.

The laboratory is operated at the High Tech Campus Eindhoven in an Open Innovation environment, accessible to corporate innovation leaders, start-up companies, academic and research institutes.

State-of-the-art on-wafer performance up to 67 GHz

The Electronic Measurement Laboratory will be equipped with state-of-the-art high-frequency measurement instrumentation, including Cascade Microtech's RF probes and probe station, and Agilent Technology's PNA Network Analyzer, parametric analyser and IC-CAP device modelling software, capable of handling 300-mm wafers and measuring up to 67 GHz. The laboratory will enable research groups to perform precise electrical measurements on semiconductor integrated circuits (ICs), directly on-wafer, and will be fully supported by specialist applications personnel and measurement consultancy.



The laboratory addresses a whole range of applications: device characterization, wafer-level reliability, e-test, device modeling, or yield enhancement. It provides low noise, leakage, and residual capacitance, thus creating a measurement environment to satisfy the accuracy and speed of the most demanding applications.

Ultra low level CV and IV measurements

The laboratory's probe station enhances measurement performance over a thermal range of –55 to 200°C, delivering outstanding low-capacitance measurements. It also provides enhanced IV measurements with fast millisecond chuck settling time, with lowest guarded thermal chuck noise levels.

On-wafer device characterization

The laboratory provides on-wafer device characterization measurements with excellent performance, satisfying the needs of both high-frequency performance and low and stable contact resistance.

Superior RF performance

In addition to superior DC & RF measurement performance, the probe is designed to meet today's stringent test requirements, with ultra-high resolution for analytical probing and semi-automatic operation.

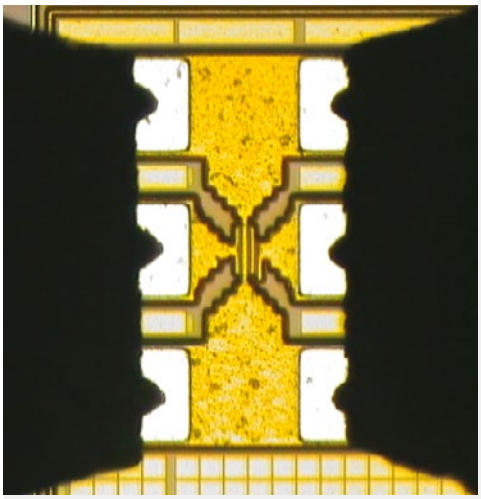
Multi-purpose probing

The laboratory accommodates a wide variety of applications making it an ideal platform for multipurpose and failure analysis probing. Vibration-isolation design allows you to easily resolve line widths at the submicron level, making the probe station ideal for testing on-wafer integrated circuits.

High Performance Microwave Measurements

The laboratory's high performance microwave network analyzer offers the combination of high performance, speed, and outstanding interconnectivity capabilities to meet the challenges of component testing.

The 4 port Microwave PNA network analyzer covers the 67 GHz frequency range with excellent accuracy, suitable for high-performance microwave devices, such as satellite communications components. The analyzer is extended to 4 ports for differential measurements. In addition, the receiver architecture enables frequency-offset mode to characterize mixers and converters. The configurable test set allows you to connect external test sets easily and make accurate multiport measurements. The Windows operating system provides the ability to expand the instrument's connectivity and provides tools for maximum flexibility.



Complete and Accurate Parameter Extraction and Statistical Analysis

The IC-CAP (integrated circuit characterization and analysis program) device modeling software provides powerful characterization and analysis capabilities for today's semiconductor modeling. IC-CAP offers device engineers and designers a state-of-the-art modeling tool that fills numerous modeling needs. IC-CAP provides the power to build model libraries for Advanced Design Systems (ADS) or other commercial simulators.

The Electronic Measurement Laboratory forms part of Philips Innovation Services.

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