



On-Wafer Test Solutions for State-of-the-Art Electro-Optical Components

Cascade Microtech provides on-wafer test solutions to electro-optical component manufacturers. These solutions include probe stations, probes, RF calibration and test automation software used for characterizing VCSELs, high power laser bars, photodiodes, lithium niobate modulators, and MEMS-based optical switches.

CASCADE® MICROTECH

Innovating Test Technologies

Testing Solutions

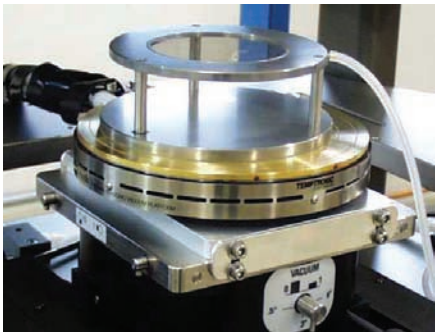
Cascade Microtech, the world leader in on-wafer probing solutions, is quickly expanding its product line to include solutions for the electro-optical market.

As the world leader in semiconductor wafer probing, Cascade has developed a wide variety of wafer probing accessories that make it easy to configure a system to meet your individual needs. With patented technology and expertise in constructing probes that test between DC and 110 GHz, multi-pin needle and membrane probe cards, and a suite of software tools, Cascade is in a unique position to provide a total solution for your testing needs.

Probe Stations

Cascade Microtech produces the most popular on-wafer device characterization probing stations in the world. The Cascade Microtech Summit Series wafer probing stations are the cornerstone of the product offering.

The patented MicroChamber® provides a dark, electrical and EM-shielded environment ideal for making sensitive current, voltage, and LIV measurements. It also provides a superior thermal environment for hot and cold operation. The independently biasable, low noise, thermal wafer chuck precisely controls the temperature of the wafer from –65°C to +200°C for critical over-temperature measurements.



Cascade's optical chuck allows illumination or collection of emitted light from the bottom of a wafer or device as well as probing contact from the backside.



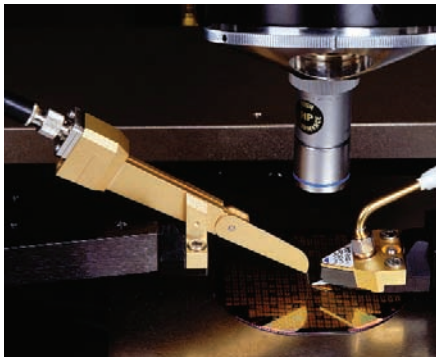
The Cascade Microtech S300 is available with Cascade's patented MicroChamber® providing a light-tight, EM-shielded, and dry environment. Wafers are easily loaded using the integrated, locking roll-out stage.

In addition to the Summit line of products, Cascade offers an open architecture probe system that is ideal for the unique testing requirements of side input and output devices such as high power laser bars and optical modulators.

Superior High Frequency Characterization Technology

As communication system bandwidth increases from 10 Gb/s to 40 Gb/s, accurate high frequency characterization for optical modulators and directly modulated lasers becomes critical.

Patented thermally isolated auxiliary chucks, MicroChamber provided EM-shielding, WinCal™ calibration and parameter extraction software; pad parasitic removal software, and high quality RF and power bypass probes provide a complete solution for high frequency probing requirements. Along with superior products, Cascade's technology partnership with Agilent Technologies ensures a complete solution from the front panel of your test equipment to your device under test.



The combination of a Cascade LWP probe and a high-frequency probe provide at-frequency on-wafer device characterization capabilities.



Cascade's ACP family combines features required for measurement accuracy with tip robustness and contact repeatability measurements.

High Frequency Probe Innovations

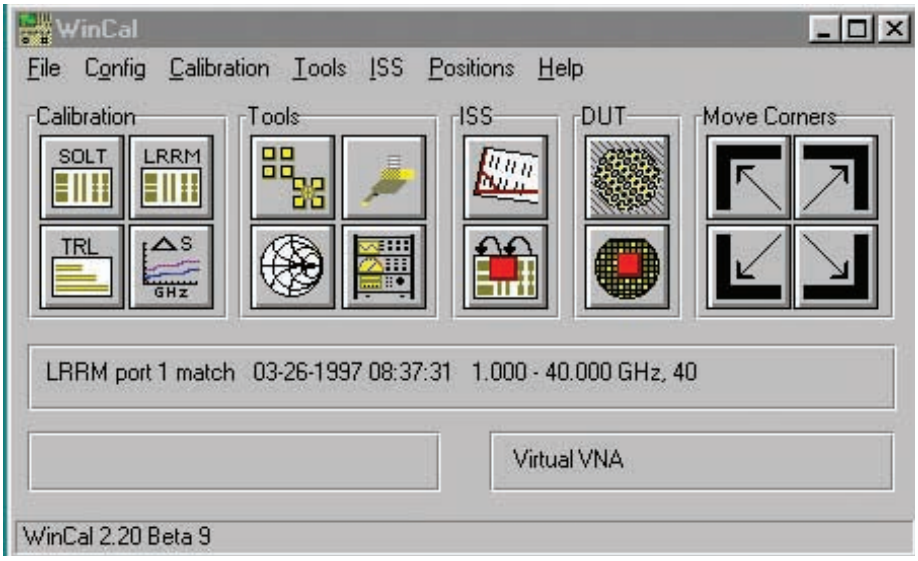
Cascade, the creator of the first 18 GHz on-wafer probe, has spent years supporting the RF/Microwave community's need for innovative testing solutions in a changing market place. Patented Air Coplanar® Probes enable over-temperature probing with the lowest insertion loss in the industry and superior calibration accuracy. The Air Coplanar design provides low-contact force and superior tip visibility, along with extremely long probe life, for stable and repeatable measurements.

With the many different styles of high frequency probes Cascade manufactures, including dual signal probes, quadrant probes that include multiple RF and DC inputs, impedance matching probes, and resonant free power bypass probes, it is assured Cascade can meet your high frequency probing requirements.

Lightwave Probes

Doing on-wafer testing of VCSELs and photodiodes is critical to providing low cost, high performance products for the growing optical networking infrastructure. The Cascade LWP Series of lightwave probes enables on-wafer optical measurements of top-illuminated photodiodes and opto-electronic integrated circuits.

Specially designed lightwave probes are also available for coupling light output from VCSELs and side emitting laser bars into the fiber. Versions are available for both cleaved and lensed fiber applications.

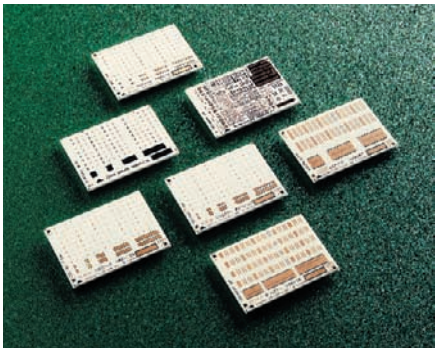


WinCal calibration software assures system integrity by allowing you to monitor system drift.

Calibration Software

Cascade's WinCal Calibration Software provides the simplest, most accurate, repeatable, network analyzer calibration for precision on-wafer measurements. New pad parasitic removal routines incorporated into the software perform one-step corrections for device pad parasitic removal. WinCal assures measurement integrity by allowing you to monitor system drift.

It also offers the proven accuracy of NIST-verified LRRM calibration with load-inductance compensation. LRM/LRRM calibration, along with Cascade's ISS family provides the highest accuracy calibrations in the industry.



Cascade's NIST-verified family of Impedance Standard Substrates (ISSs) support all of your high-frequency applications.

Test Automation Software

A complete device characterization station consists of more than just the best probe station and best parameter analyzer or vector network analyzer.

Cascade partners with key semiconductor companies to provide integration tools to develop complete solutions. Whether you want to use an existing test software package or develop your own test software environment, Cascade provides a complete set of tools for an integrated solution.

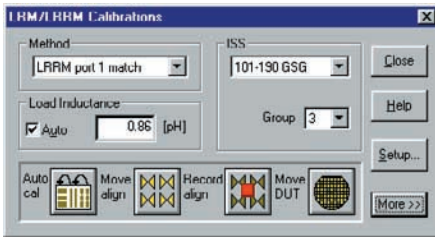
Support for industry standard test software includes Metrics I/CV, Agilent IC-CAP, BTA Technology BSIMPro, RelPro+, Silvaco UTMOST, and many others.

Drivers and sample programs are available for Agilent VEE, LabVIEW, MS Visual BASIC, and HP/TransEra BASIC for Windows.

Test Equipment Integration

As the world leader in wafer probing solutions, Cascade is a key partner to test equipment manufacturers.

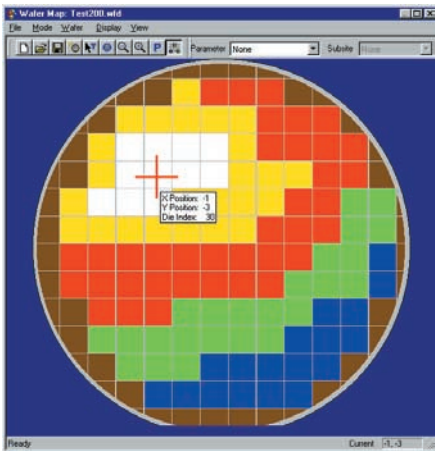
Cascade is the world's largest Agilent Channel Partner and has a long history of providing value-added solutions to the industry that integrates Cascade and Agilent equipment at all levels. Relationships with Polytec/PI, Keithley, Newport, and others promise to produce world-class solutions to the optical component market place.



Cascade's WinCal software offers the proven accuracy of NIST-verified LRRM calibration with load-inductance compensation.



The integration of a Polytec micro-vibrometer on a Summit 12K system provides a production-test environment for evaluating MEMS-based optical switches. Switch deflection amplitude, settling time, resonant frequencies, and cross-talk characteristics can be quickly determined.



Automate test sequences with a wafer probe plan. Point and click to easily add or remove a test die or device, then start the probe plan using real-time graphical wafer mapping.

CASCADE® MICROTECH

Innovating Test Technologies for better measurements faster

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