

## **Electrical Signal Path Tools for Characterization of Micro and Nano-scale Structures**

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Cascade Microtech has been designing and building tools to accurately transmit electrical signals from micro/nano-devices to commercial test equipment for 20 years. This poster paper describes a new high-impedance active-probe-tip instrument that can reliably contact a metal pad with dimensions of a few square microns, with femto-amp sensitivity and a bandwidth of more than 30 GHz. The paper also provides a brief overview of the ancillary equipment Cascade Microtech provides that is required to support this and other measurements, including a physical environment controlled for electrical noise, high-precision multi-axis stages, thermal control, vibration control, and, when appropriate, software integrated automation. Applications include the on-wafer characterization of semi-conductor devices, photonics devices, MEMS devices (including RF and Bio), in vitro bio samples, and nanotube and other nano-scale devices.