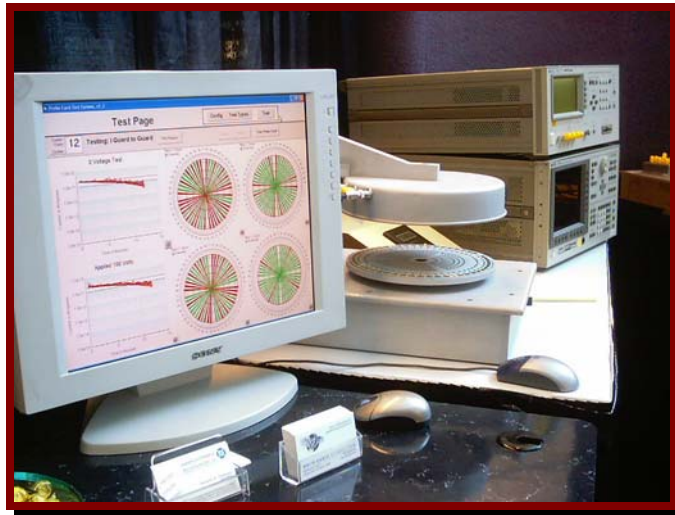


Turn-Key Probe Card Test Solution

- **Leakage and Capacitance Characterization of Blank or Populated Probe Cards**
- **Designed for Agilent 4070 Series or Keithley S600 Cards**
- **Turn-Key Solution with No Operator Intervention (During Test)**
- **Provides Hardcopy Printout of Leakage/Capacitance Characterization for QC Compliance**
- **Reduces Down-Time by Qualifying Probe Cards Without Having to Use Production Parametric Test System**
- **Allows Probe Card Builders and Probe Rework Stations to Qualify Boards Prior to Production Use.**
- **Can be used with Agilent 4156, 4140B, Keithley 4200, 6517A SMU's for Leakage Measurements, and Agilent 4284/4285 LCR For Capacitance Measurements**



System as shown at Semicon West 2003

- Install known-good probe cards in your production floor equipment.
- Debug and analyze probe card problems independent of your production floor.
- Return out of spec cards to your probe card vendor without the cards ever reaching and disrupting your production floor.

Our Probe Card Characterization System makes all this possible.

The Probe Card Characterization System (PCCS) is a complete automated test system designed to efficiently and exhaustively characterize probe cards. Requiring only the operator to insert the probe card and start the test, the system will run through a test sequence you define, automatically recording, compiling, and storing the data you've requested. Your test sequence can be as simple or as complicated as the situation warrants; the PCCS can test for guarded signal (normal), guard-to-signal, and guard-to-guard trace current leakage and trace capacitance. The PCCS can test the whole probe card, spot-test specific traces, or test any other combination of traces. All of this is set up in your configuration file—your engineer sets up the test in advance, your operator loads the card and presses go. No additional intervention is needed until the results are complete, and the next card can be loaded into the system. The PCCS gets you comprehensive results fast—all without tying up your production floor.

Use your production floor as it was intended—for production.

Prober Hardware Component

- Theta rotation table for automatic selection of probe card traces
- Z axis motion for accurate placement of contact block assembly
- Built-in process controller with ASCII programming control language
- Serial and Ethernet 10/100 Base-T computer interface
- Allows sequential or random access to all probe card traces
- Self contained tester with minimum facilities requirements (110-125 VAC)
- No dark box required for reduced table top space
- Small footprint design
- Incorporates a shield barrier to protect operator from high voltage during test
- Designed for production environment use

Contact-Block Hardware Component

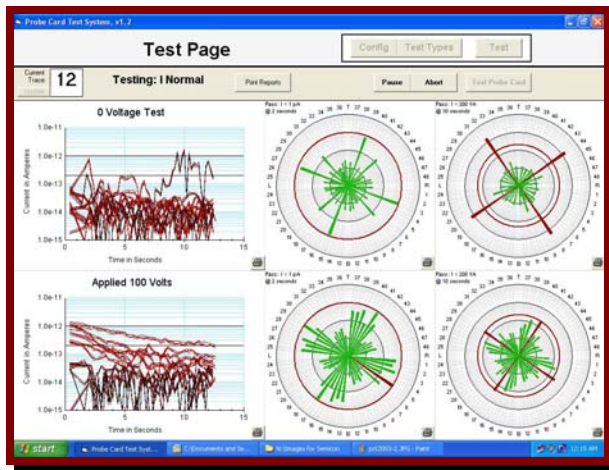
- Integrated (Trace-Probe-Head) Contact-Block Switch Matrix for reduced settle time during measurements
- Switch matrix provides computer controlled selection between I-V (SMU) and C (LCR) measurement modes and the test configuration of any probe card trace
- Available in one, two, and four quadrant configurations*
(Quadrant is defined as one Measurement channel with associated (adjacent) trace contact blocks; enabling cross-trace leakage/capacitance measurements)
- Embedded process controller for computer controlled access to switch matrix resources
- Incorporates a shield barrier for optimal measurement quality guarded signal (normal) mode.
- Contact-Block assembly allows electrical configuration for the following trace tests:
 - ❖ ***Guarded Signal***
 - ❖ ***Signal to Guard***
 - ❖ ***Guard to Guard***
- All connections are shielded and guarded to provide a repeatable, consistent, and optimal settle time test solution.
- All measurement channels are tested to confirm base line leakage of less than 5fA @ 100 VDC

Software

- Features user-definable measurement configurations for
 - ❖ Traces to include or exclude during measurement
 - ❖ First measurement voltage and settle time with pass/fail parameter
 - ❖ Final measurement voltage and settle time with pass/fail parameter
 - ❖ Semi-Log Graph of real time accusation data with save to file
 - ❖ Excel™ compatible data output file.
 - ❖ Microsoft Windows™ 2000 and XP compliant
 - ❖ Provides Polar log output to resemble probe card
 - ❖ Allow engineer to select the following:
 - Measurement mode: I-V or capacitance & frequency
 - Instrument parameters that include: test voltage, sample time, and measurement integration.
 - Pass/Fail limits
 - Graph scales
 - Trace test types: guarded trace, trace to guard, and guard to guard
 - ❖ Provides true Turn-Key solution without operator intervention of probe card.
(Note: operator is required to change probe cards and set initial Z contact position)

Notes:

- * Requires compatible measurement equipment with 1, 2, or 4 SMU's
- * Capacitance measurement mode is only available with a single measurement channel



Typical screen shot

Options:

Single channel probe card characterization system package includes:

- A. Automatic probe card tester with RS232C and 10/100 base-T interface
- B. Computer controlled relay switch matrix
- C. Driver software for one SMU type
- D. One year parts and labor warranty
- E. 90 days tech support, (One year available with maintenance agreement)
- F. 90 days of free software upgrades, (available free with maintenance agreement)

Two channel probe card characterization system

- A. Includes all of items in single channel version
- B. Updates the system to allow two quadrant simultaneous testing of probe card. (this option requires equipment with two SMU or two single SMU modules)

Four channel probe card characterization system

- A. Includes all of items in single channel version
- B. Updates the system to allow four quadrant simultaneous testing of probe card. (this option requires equipment with four SMU or four single SMU modules)

Trace capacitance characterization option

Dry Air, nitrogen purge option for consistent measurements in high humidity environments

Thermal chuck for testing probe card at ambient to 125°C

Replacement Contact block with switch matrix (one quadrant) (two quadrant) (four quadrant)

Interconnect Cables (low noise triax)

Interconnect Cables (coaxial)

National Instruments GPIB/ENET 100 Adapter

National Instruments PCI-GPIB adapter

One year maintenance Contract Level A

Includes Parts and Labor for maintaining the system (FOB Milpitas, CA)

One year maintenance Contract Level B

Includes Parts and Labor for maintaining the system and includes software upgrades as available. (FOB: Milpitas, CA)