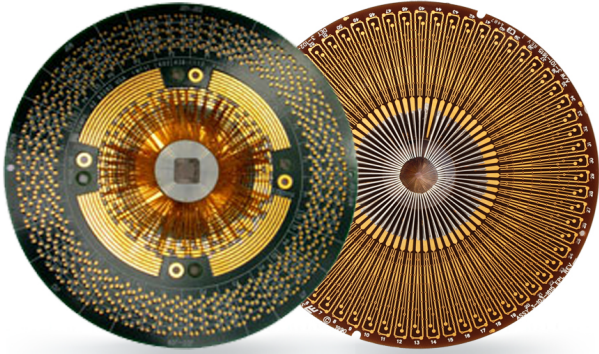




Wentworth
Laboratories

www.wentworthlabs.com



PROBE CARDS

CANTILEVER

BLADE & EPOXY
TECHNOLOGY

Multi-DUT Analog, Logic & Memory solutions. Fine Pitch available with in-line pitch capability as low as 25um, and staggered pitch of 12/24um. High Temperature probe cards up to 400oC, all provided via our complete turn key service.

Leader In ProbeAbility

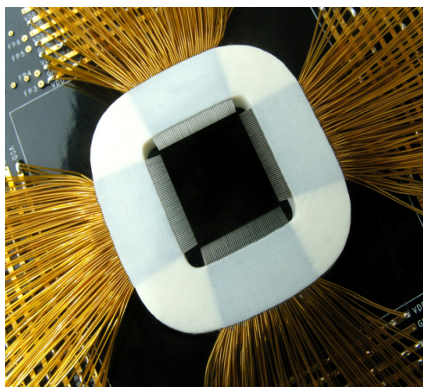
ADVANCED CANTILEVER PROBE CARDS

WITH PAD SIZES CONTINUING TO SHRINK ALIGNMENT AND PLANARITY ACCURACY BECOMES EXTREMELY IMPORTANT. WENTWORTH'S UNIQUE MANUFACTURING PROCESSES AND METROLOGY EQUIPMENT ALLOWS FOR EXCEPTIONAL POSITIONAL ACCURACY AND EXTENDED LIFETIMES.

FINE PITCH

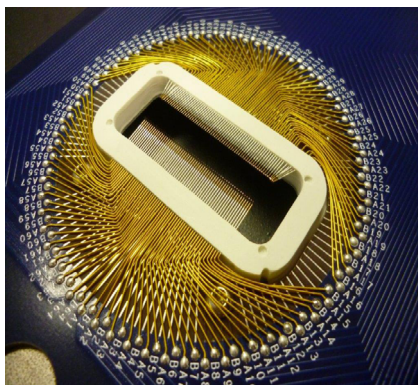
Utilizing the latest Cantilever design and manufacturing techniques Wentworth can offer Multi-DUT fine pitch probe cards with in-line pitch capability as low as 25um, and staggered pitches of 12/24um.

With pad sizes continuing to shrink alignment and planarity accuracy becomes extremely important. Wentworth's unique manufacturing processes and metrology equipment allows for exceptional positional and planarity accuracy and also extended lifetimes.



MULTI-DIE

Multi-DUT analog and logic cards available in x1, x2, diagonal, or 2x2 (shelf) arrays with a minimum in-line pitch capability as low as 30um



HIGH TEMPERATURE

Wentworth's high temperature probe cards have been developed for long term reliability and characterization at both low and high temperatures

High Temperature PCB materials, ceramics and heat shield reduce the thermal effects on both the probe card and the prober. Allowing Wentworth probe cards to be used in the harshest of environments

HIGH VOLTAGE/HIGH CURRENT

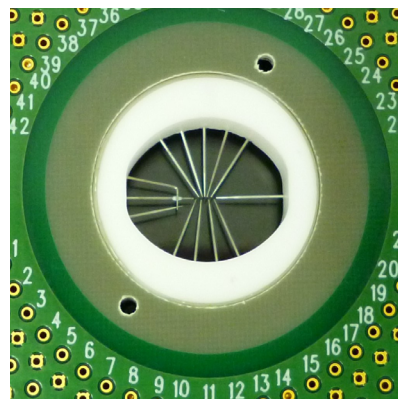
High Current probe cards (up to 100A) handle and distribute excessive current loads. Dedicated HV/HC probe cards solutions reduce probe and device destruction at high voltages/currents to prevent device heating/arcing at the tip.

LOW LEAKAGE

Wentworth's low leakage parametric probe cards deliver ultra low leakage measurements, wide operating temperature range with ultra high performance.

Low Leakage probe cards are assembled, cleaned and tested to tightly controlled specifications Leakage testing, using Keithley & Agilent programmable electrometers, to verify the card's continuity and leakage characteristics.

Customers are assured that critical parametric measurements necessary for superior wafer test yield are obtainable with Wentworth Low Leakage probe card designs .



MATCHED IMPEDANCE

Short Beam Length and small ring designs allow for match impedance and reduced probe length, allow testing between 500-800 mHz without using more expensive less flexible solutions

KEY FOR DESIGN SUCCESS

Wentworth's Solar™ Cantilever Probe Card Design and Database Software Suite assures quality and facilitates communication.

- ✓ Supports the automated design of key components such as rings and fixtures.
- ✓ Imports all device specific data automatically creating all manufacturing documentation.
- ✓ Facilitates the automatic programming of key manufacturing equipment and tracks progress through each manufacturing process.
- ✓ Controls state-of-the-art in-situ micro machining tools.

Wentworth offers a comprehensive library of master templates for all major tester platforms, utilizing advanced design software for quick-turn printed circuit boards (PCBs).

Sophisticated mechanical design modeling software speeds up the custom design of complex cantilever probe cards. In addition, our turnkey service includes the custom design of interfaces from the probe card to the tester.

LOW COST OF OWNERSHIP

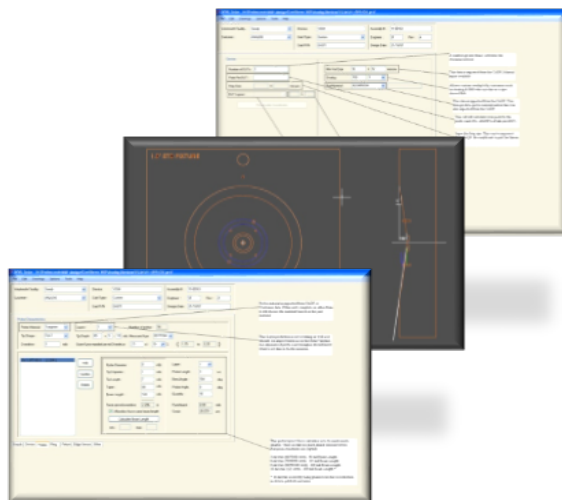
- ✓ Excellent longevity after 1M Touchdowns.
- ✓ Tip Wear - Tip diameter delta < 1 micron
- ✓ Alignment - Delta < ± 6 micron for slide
Delta < ± 5 micron for horizontal
- ✓ Planarity - Delta 5 micron
- ✓ CRes - Delta .25 ohms (100 micron OD)

CUSTOM PCB DESIGN

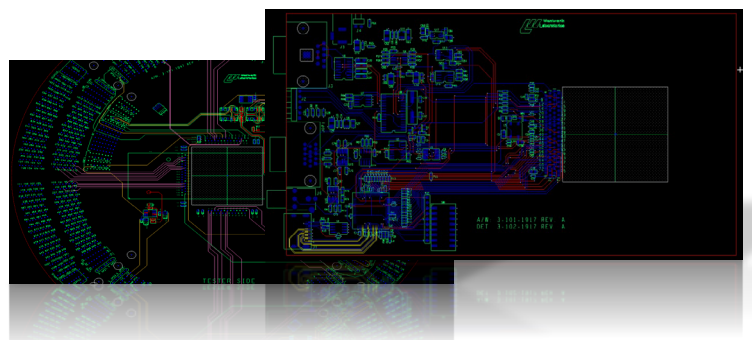
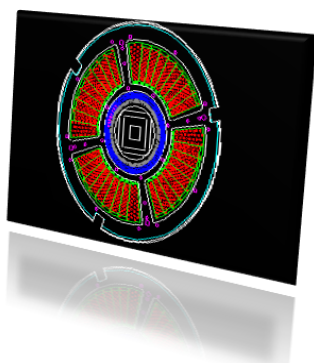
Cadence Orcad PCB Designer software and process: ISO 9001 compliant IPC Standards.

- ✓ Customized Internal Checklists
- ✓ Design Time < 3 weeks

Solar™



Database Software Suite



CANTILEVER PROBE CARD SPECIFICATIONS

	PROBE QTY				PROBE MAT			PCB MAT			TEMP			PITCH			LEAKAGE			CURRENT				
	1- 48 (Generic)	49 - 70 (Generic)	71 - 128 (Generic)	129 + (Generic)	Tungsten (W)	Rhenium Tungsten (ReW)	Beryllium Copper (BeCu)	Palladium (Pd)	FR4	HTG-FR4	Polyimide	Ambient > +100oC	Ambient > +180oC	-40oC > +250oC	25um - 45um Staggered *	45um -61um	60um +	nA	pA	fA	up to 100mA	up to 700mA	700mA to 150A (Pulsed)	
TECHNOLOGY	Standard Epoxy	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓		
	High Temperature Epoxy	✓	✓	✓	✓	✓				✓	✓	✓	✓			✓	✓	✓	✓		✓	✓		
	High Current (kV Probing)	✓	✓	✓	✓	✓	✓	✓			✓	✓					✓				✓	✓	✓	
	Low Leakage Epoxy	✓				✓	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓	✓		✓		
	Short Beam/Shielded Epoxy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓					
	DSP Epoxy	✓				✓	✓	✓	✓			✓				✓	✓	✓	✓			✓		
	Standard Blade	✓	✓			✓	✓	✓	✓	✓		✓					✓	✓	✓			✓		
	ACS Stripline Blade	✓				✓	✓	✓	✓	✓	✓	✓					✓			✓		✓		

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