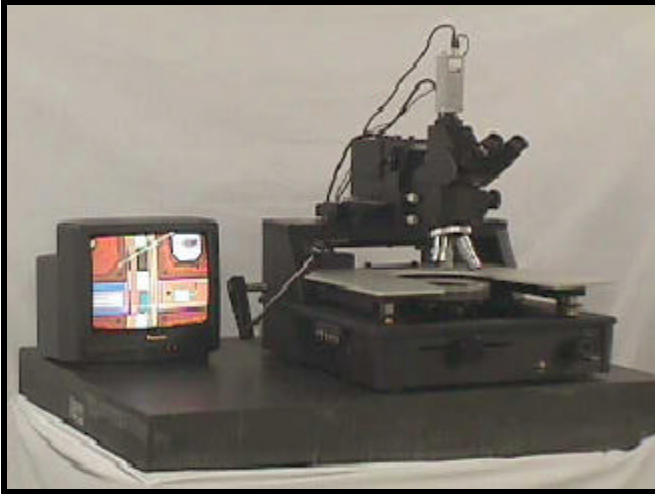


## WAFER LEVEL RELIABILITY PROBING

### Introduction

A common set of test performed by wafer level probe stations are wafer level reliability (WLR) test.



Model 4060 Manual Probe Station

Wafer level Reliability encompasses both long-term reliability testing as well as accelerated tests. Common tests include:

- Electromigration (both long term and SWEAT)
- Hot Carrier
- Charge Pumping
- Vramp
- TDDB
- Mobile Ion testing

In probing terms, WLR testing requires these key capabilities:

- **Prober Operation**  
Interactive operation fits best. With varying temperatures and sometimes varying test structures, good inter-active prober operation will speed the testing process along.
- **Geometries Probed**  
Typically greater than 1  $\mu\text{m}$ . WLR requires test structure probing with probe pads. For occasional higher resolution probing, a high resolution manipulator can be used.

H1000 Thermal Chucks feature cooled mount to prevent transfer of heat to station stage



- **Number of samples tested**  
Many; typically repeating.
- **Sample types**  
Typically Wafers
- **Depassivation or Decapsulation**  
Not a common requirement.
- **Thermal Chuck used**  
Yes, up to -65 to 400 degrees C.
- **Current levels measured**  
Typically greater than 1 pA.



Convenient remote pendant control

The Model 4060 manual and 4460 semi-automatic probing stations are ideally suited for WLR work. These stations feature:

- **Easy Interactive operation**  
With the conveniently located direct drive controls, the 4060 makes quick moves to test structures easy and efficient.  
With its multiple function pendant, the 4460 can step to memorized locations or desired locations with the push of a button. Or program it remotely!

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Specifications subject to change without notice.

- **Wide open platen with 4-point support and lift drive**  
Plenty of room for multiple probes needed for complex structures or multiple sites, or high temperature probe cards, and the platen can support them!
- **Super stable base with small footprint**  
Maintain probe contact even over a thermal ramp but doesn't use up all your lab space!
- **4" x 4" (150mm x 150mm) microscope X-Y range with locking tilt up**  
Probe multiple structures and get the microscope away for thermal probing.



Model 4460 Semiautomatic Probe Station



8800-ISE: Dry/Shielded environment/enclosure for 4060 and 4460 probe stations

- **Internal plumbing for thermal chucks**  
Organize the cables and hoses and keep them from pulling on the stage.
- **Supports the ISE environment**  
Keep your samples dry to  $-65^{\circ}\text{C}$ !
- **Long term reliability**  
Rugged design, leadscrew/leadnut drive, and Micromanipulator support will keep your reliability station reliably operational.
- **Economical price and low cost of ownership**  
The *right* tool costs less in the long run.

Also, for long-term Electromigration, see the specialized model 2230 Probing Station.



AC Controller shown with cooling module.