PEEC is a new, patent pending, characterization module for ASAP-1 IPS digital sample preparation system. PEEC improves sample preparation techniques, particularly at extremely thin remaining silicon thickness (RST).

**ENABLING THE NEXT GENERATION OF FAILURE ANALYSIS**

PEEC offers several plotting and mapping modes that work in parallel with the ASAP-1 IPS, with the main polishing system acting as the Control Unit.

A key feature that PEEC adds to ASAP-1 IPS, is the novel ability to characterize and act upon electronic thresholds obtained from topside circuitry.

**MEASURES RST DURING SAMPLE PREPARATION**

This information is gathered REAL TIME, through the polishing media, using the actual polishing bit as the probe.

Knowing this information allows the user to make informed preparation decisions, to achieve exactly the required RST, over the specified die area.

PEEC adds to the Engineers' toolkit in the preparation of parts, for current and future, analytical requirements such as SIL, FIB.

**PRODUCT HIGHLIGHTS**

- Through-silicon method
- Uses device IV curves to measure threshold and breakdown characteristics
- **DYNAMIC** – Real-time characterization through polishing media DURING sample prep
- Suits ultra-thin substrate thicknesses-- below measurement limits of other backside metrology methods
- Interactive Touchscreen OS

4x4mm pocket area backside thinned on an IC with deliberate tilt to confirm endpoint capability. The indicated spot shows the thinnest remaining silicon (2.5um) on the left. Upper image shows the fringes at 1064nm. Lower image is a C-SPM image of the area, also produced on ASAP-1 IPS.
## ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6369.1</td>
<td>PEEC - Proximity Electronic Endpoint Characterization Module</td>
<td>Endpoint / Characterization Module for ASAP-1 IPS -- Includes software and hardware upgrades including external control box, minimum 7 inch touchscreen monitor with custom OS, and parametric source. Requires 6368.1 Endpoint Module to have been pre-installed. Patent Pending</td>
</tr>
<tr>
<td>6368.1</td>
<td>End-point Detection Module</td>
<td>High Impedance / low capacitance based – Hardware and Software Upgrade for ASAP-1 IPS, to add endpointing -- enhances of decapsulation, de-processing and polishing applications. Patent Pending</td>
</tr>
</tbody>
</table>

**The Convergence of Sample Prep & Analytical Technologies**