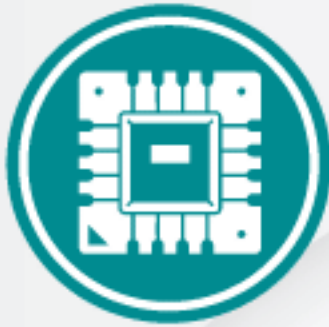


# Reverse Engineering Services



IC Chip Analysis



IP Litigation Support



Materials Analysis



Reliability Testing



Failure Analysis

## Our Other Offerings

### Reasons to work with us instead of TechInsights, EAG or Exponent:



**Expertise in IP Engineering Analysis**  
Quick & full understanding of the analysis objectives



**High Quality Data**  
Better than industry leaders per our customers



**Fast Turnaround Time**  
Most services completed within 1 to 2 weeks



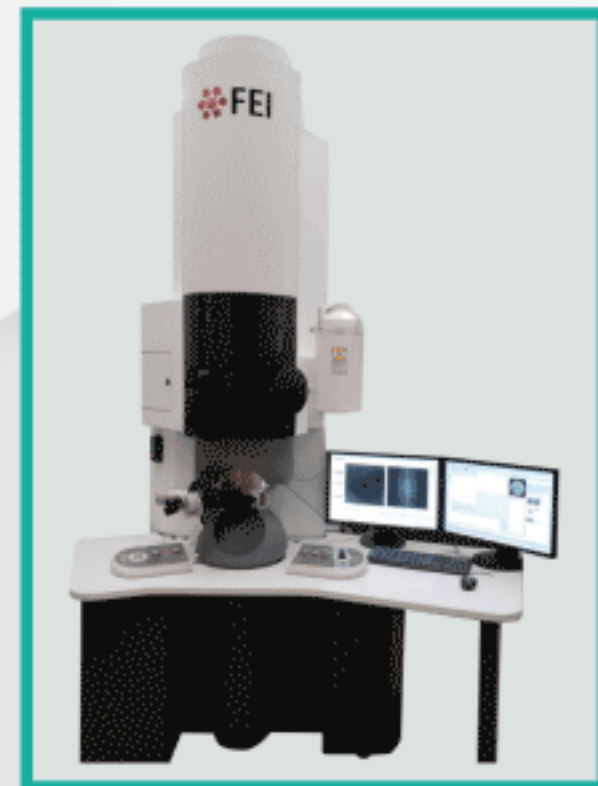
**Quality Assurance Program**  
Free remeasurement\* if not satisfied



**Full Patent Claim Chart Service**  
Verify claim infringement & create patent claim chart



**Affordable Price**  
Up to 40% lower than industry pricing



FEI Titan G2 80-300 Cs Corrected TEM

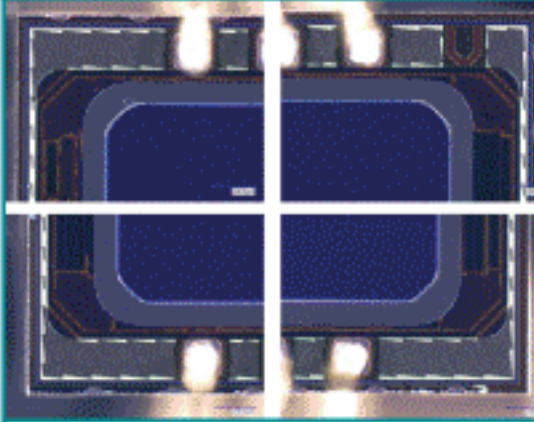
## Reverse Engineering from System to Silicon

Package Analysis	Bump pitch/pad, metal layer/via, substrate information, pin connection configurations, pin mapping, polyimide, UBM size, and more
Functional Block Analysis	Block identification, IO pads, memory block/size, memory type, material identification, technology node, and more
Die Structure Analysis	Feature size, metal layer, area, process, design type, pad number, and more
Advanced Technologies	Ultra-high resolution TEM/EDS/EELS, SCM (dopant type), SSRM (doping profile), and more
Circuit Extraction	Device architecture overview, signal integrity, check specific circuit, and locate the component, and more
Full RE Report	Comprehensive and persuasive documentation for customers, and more
Patent Claim Chart	Verification of patent infringements & create the patent claim chart

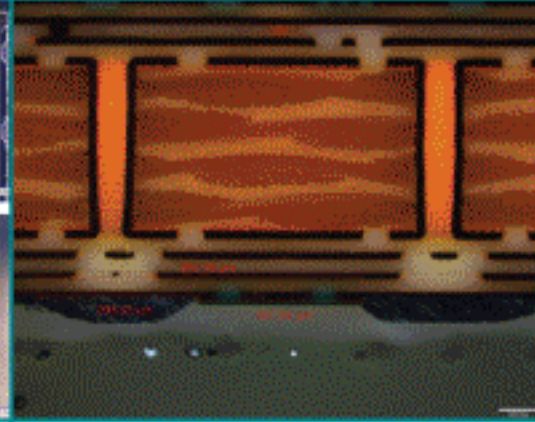
\*Applies to selected services



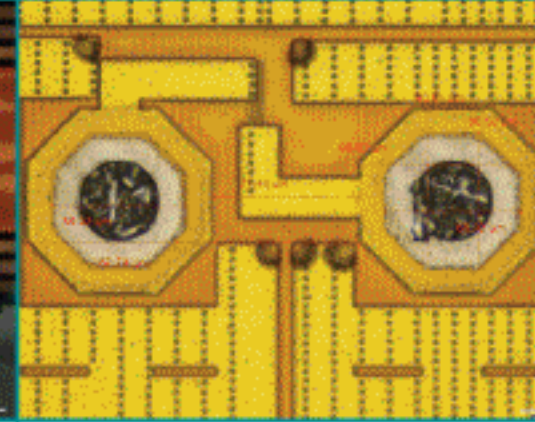
## PACKAGE ANALYSIS



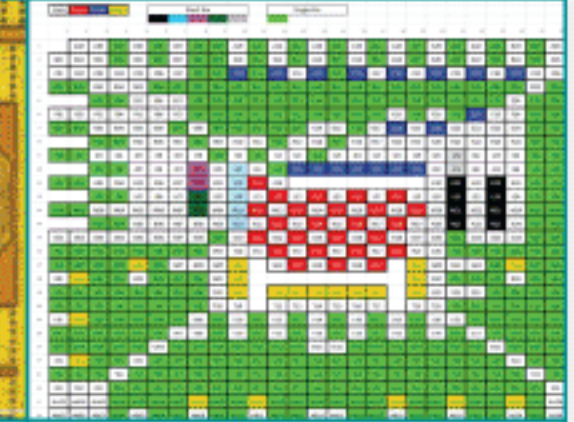
Stacked Die, Package Analysis



Technology Node, TSV (Through Silicon Via) & Solder Bumper

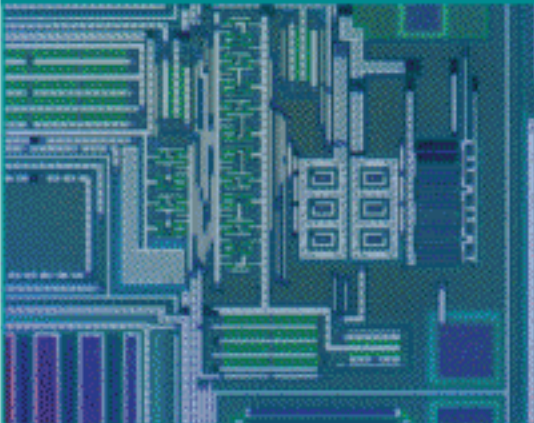


Pad Measurement

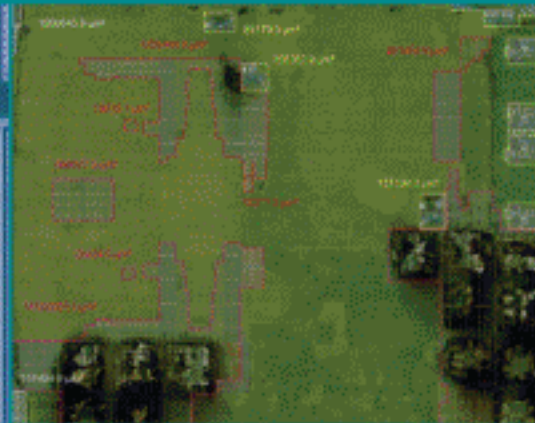


Pin Mapping

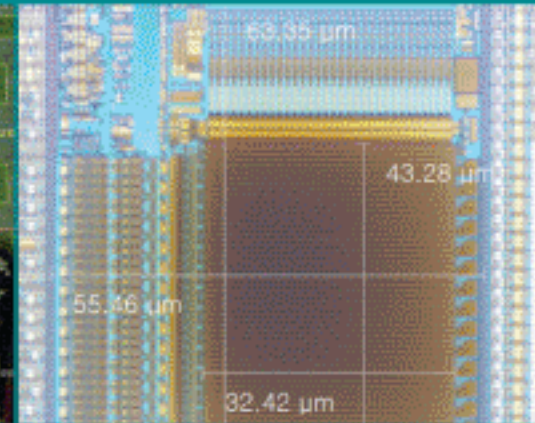
## FUNCTIONAL BLOCK ANALYSIS



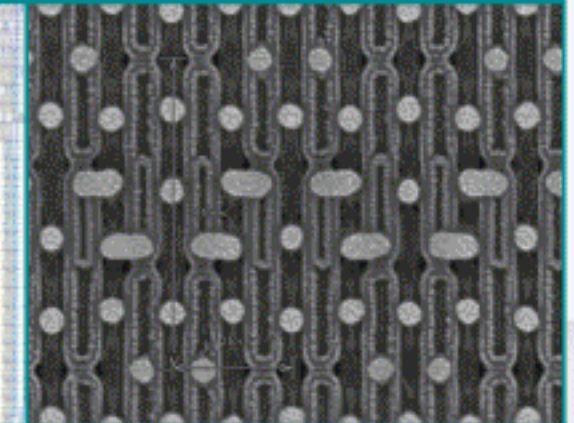
Block Identification



5 IO Pad Identified from the Active Layer

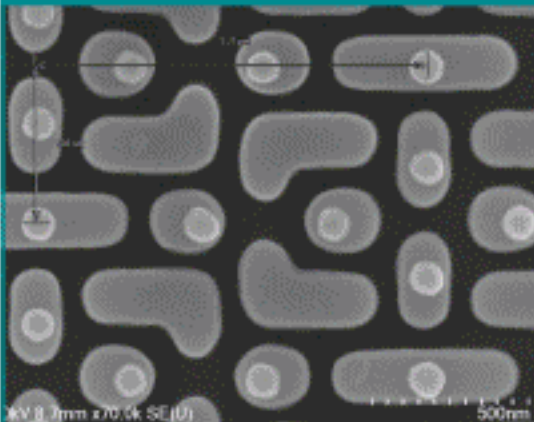


Memory Block/Size

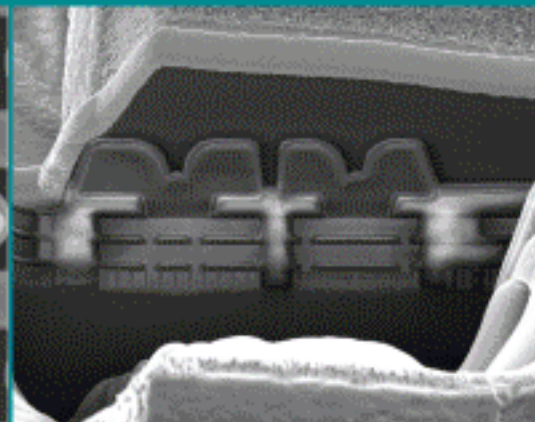


Memory Structure

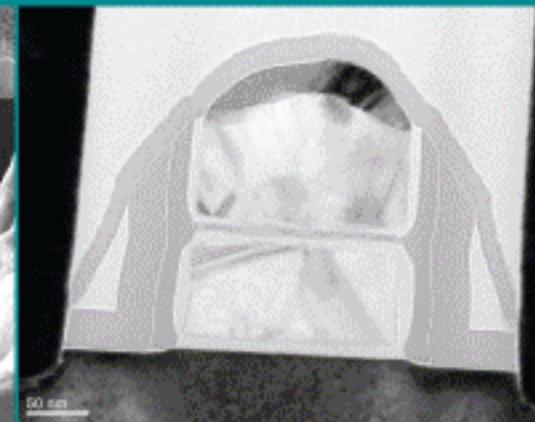
## STRUCTURE ANALYSIS



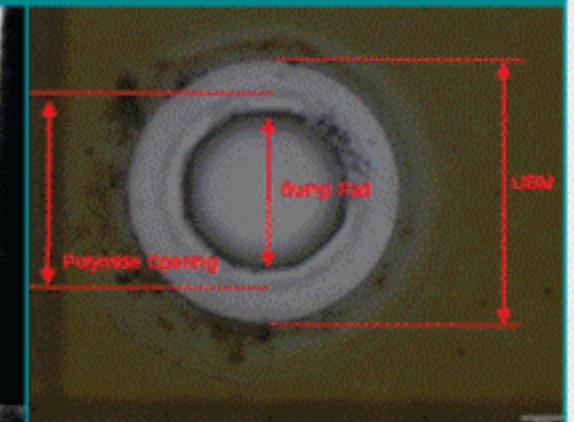
SRAM Cell Analysis



Device Internal Structure



Device Dimensions

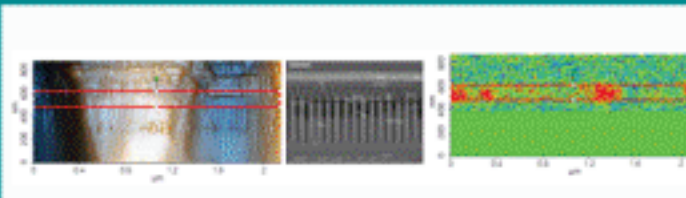


Measure UBM and Polyimide

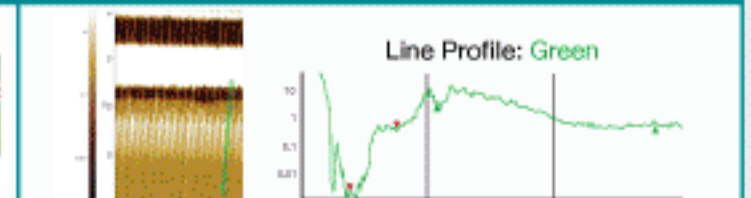
## ADVANCED TECHNOLOGIES



TEM/EELS

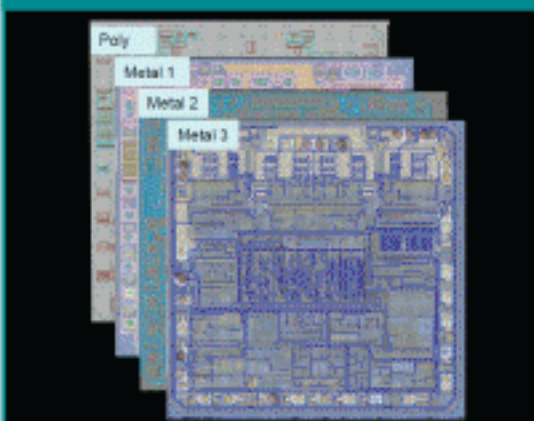


SCM for Dopant Type

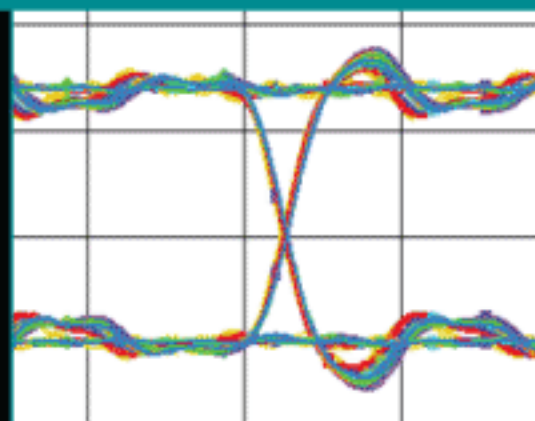


SSRM for Dopant Profile

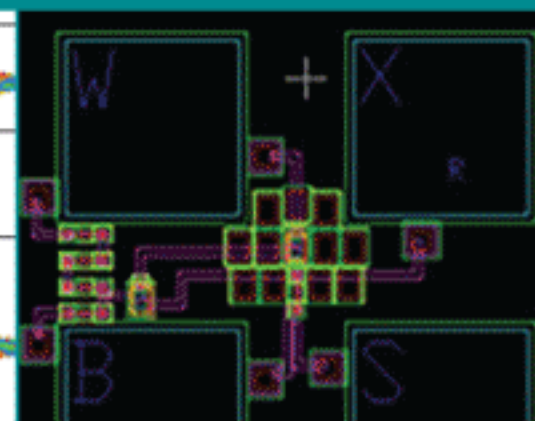
## CIRCUIT EXTRACTION



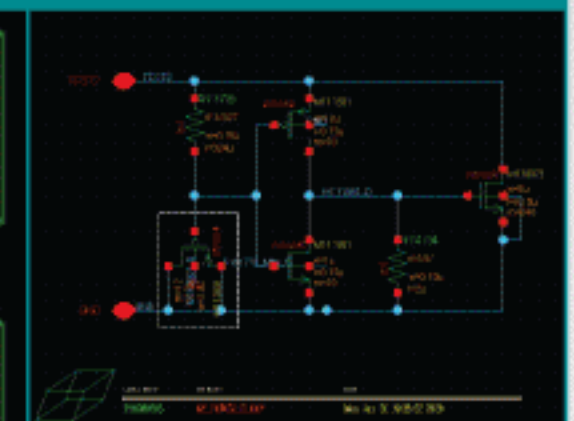
Layer by Layer Image & Annotation



Signal Integrity



Circuit Identification



Components Location