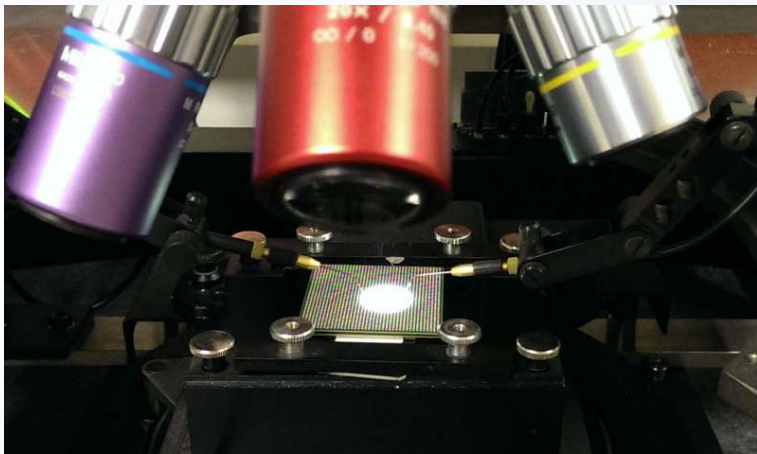


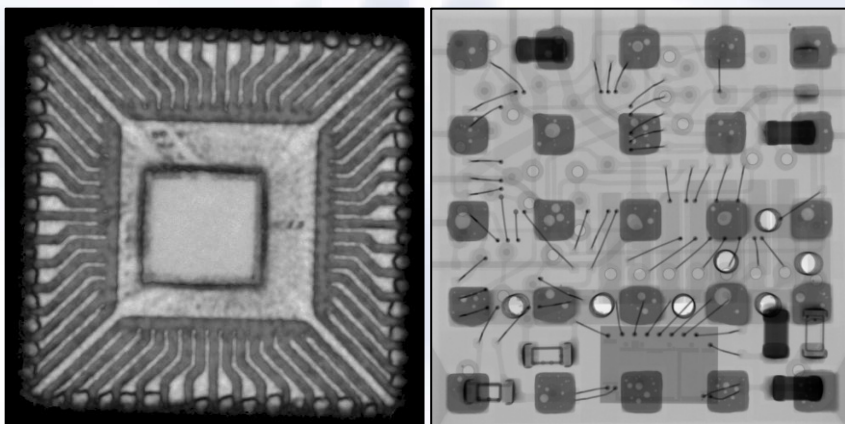
Failure Analysis Service

MASER Engineering offers a wide range of Failure analysis tools in order to help the customer with their reliability failures or customer returns. The different techniques available are suitable for analysis on all kind of systems, PCBs, components and/or chips.



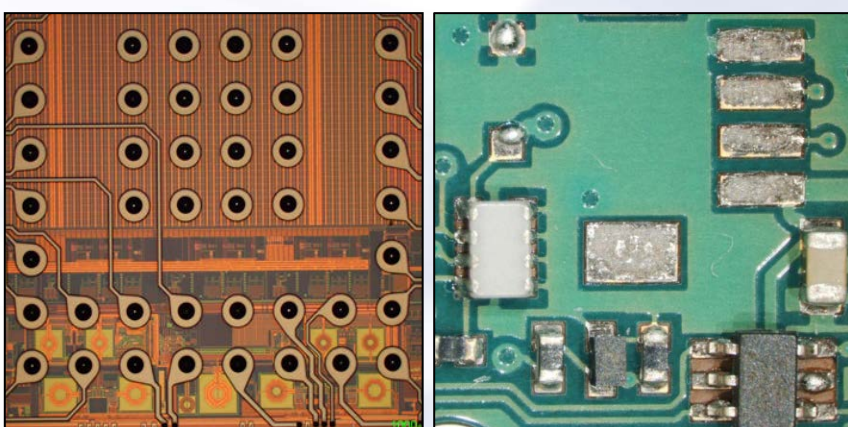
ELECTRICAL TEST AND CURVE TRACE:

- DC parametric test
- Mechanical sample probing
- Wire bonding preparation
- Agilent B1500A semiconductor device parameter analyzer
- Mk.2 SE I/V curve testing



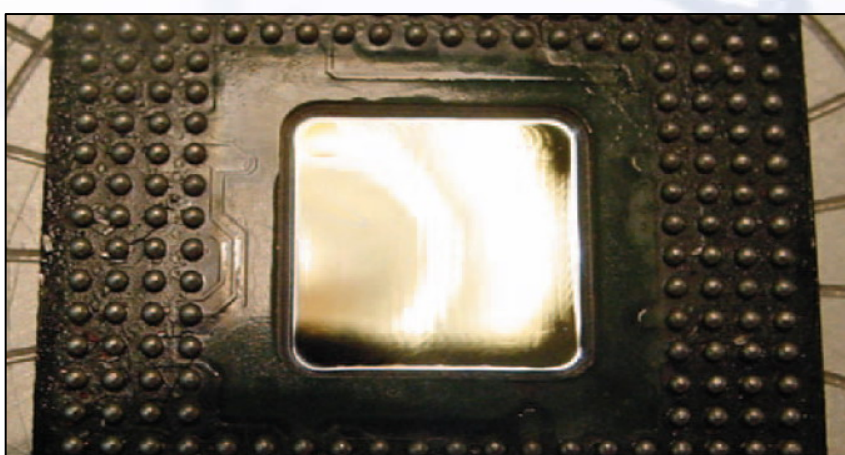
NON-DESTRUCTIVE ANALYSIS:

- 2D/3D X-ray microscopy
- GE Phoenix|x-ray nanome|x 180CT
- Scanning Acoustic Microscopy (SAM)
- PVA TePla Evolution II
- 10-175 Mhz transducers
- Refeective and through scan mode



OPTICAL MICROSCOPY:

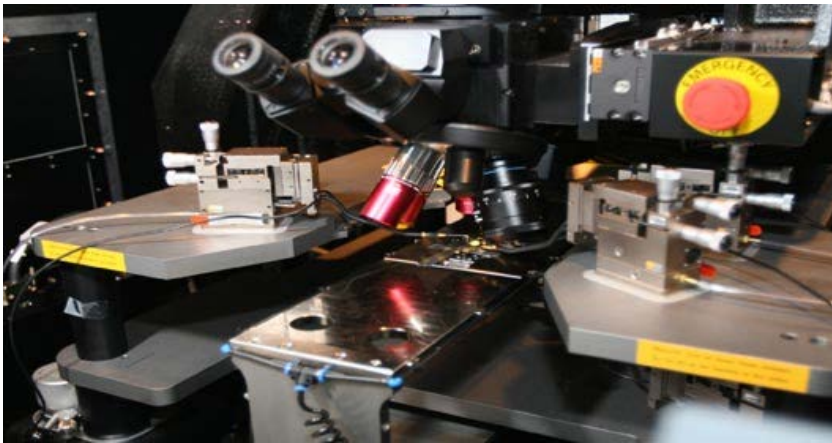
- LEICA low- and high power microscopy
- NIKON digital FTP cameras
- LEICA stereo microscopy
- 25x – 2000x magnification
- Bright field (BF) /dark field (DF)
- Measurement of dimensions



DECAPSULATION & PREPARATION:

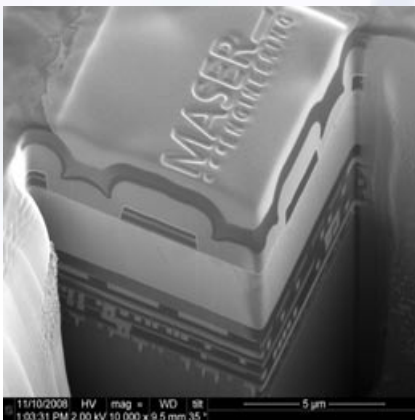
- Wet chemical jet etching
- Laser ablation decapsulation
- MIP Decapsulation
- Mechanical grinding/polishing
- Mechanical/chemical delayering
- ASAP micro polishing

Failure Analysis Service



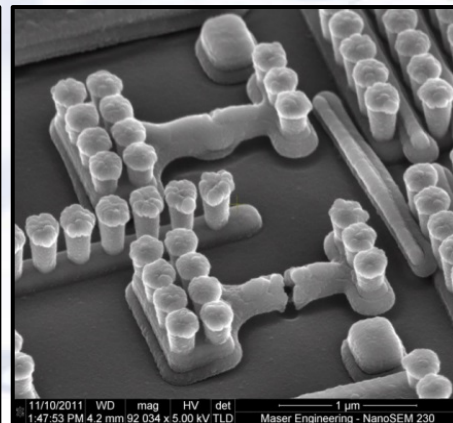
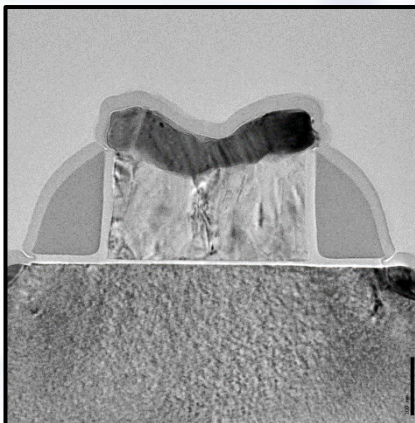
PEM / OBIRCH MICROSCOPY:

- Hamamatsu Phemos 1000
- Front & Backside prober (≤ 6 connections)
- Wire bond preparation (> 6 connections)
- Cooled CCD & InGaAs detectors
- PEM & Obirch mode
- SEI (Seebeck Effect Imaging)
- IC in active electrical failing mode



DEFECT LOCATION PREPARATION:

- FIB cross sectioning using the FEI Quanta 3D FEG-SEM / FIB
- Slice and view possibilities
- Omniprobe manipulator for TEM sample extraction
- TEM sample preparation using a dual beam SEM/FIB
- Mechanical layer by layer chip de-processing
- Mechanical/chemical Back-side chip de-processing



ELECTRON & ION MICROSCOPY:

- FEI inspect S W-SEM*
- FEI NanoSEM 230 FEG-SEM*
- FEI Quanta 3D FEG-SEM / FIB*
- FEI Tecnai G2 F20 XTWIN (S)TEM*
- DCG OptiFIB IV FIB-CE

* EDX material analysis equipped

For more info please visit www.maser.nl
For inquiries please contact : info@maser.nl or call +31 53 480 26 80