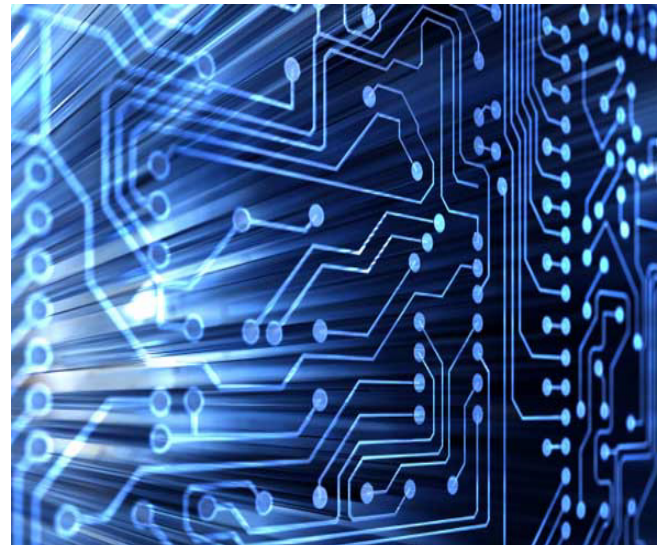


PRINTED CIRCUIT BOARDS



- Qualification • Construction analysis •
- Assembly inspection • RoHS compliance •
- Failure analysis • Audit • Training •

SERMA Group is the key partner for major players in the electronic sector. With a wide range of services: consultancy, engineering & expertise in electronic technologies and industrial process management, SERMA's teams support the manufacturers, OEMS and users of electronic systems, boards and components.



MAIN STANDARDS

IPC standards

MIL standards

IEC standards

ECSS

JDEC standards

**Customers
standards**

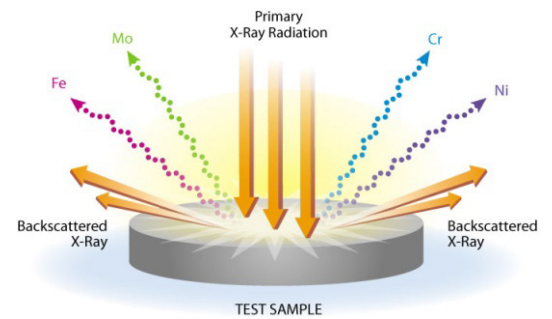
ANALYSIS EQUIPMENTS...

NON DESTRUCTIVE

Optical inspection - Microscopes
 2D & 3D X-rays
 Electrical test/Monitoring
 X-ray fluorescence spectrometry
 Infrared thermography
 Ionic contamination

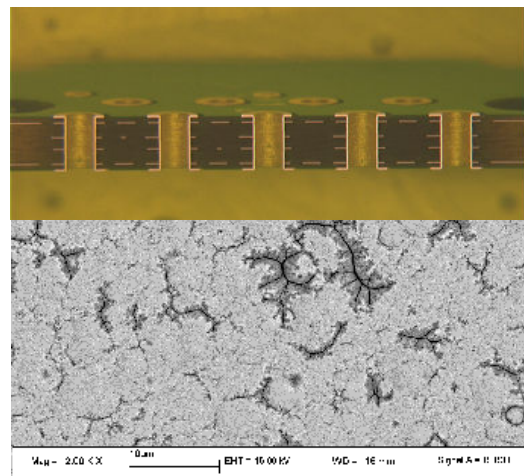
DESTRUCTIVE

Cross section
 SEM-EDX analysis
 Chemical etching
 Solderability/Wetting balance
 Thermal shocks



...TO HIGHLIGHT FAILURES AS

- ▶ PCB contamination - corrosion
- ▶ Conductive Anodic Filament (CAF) – Electromigration
- ▶ Delamination
- ▶ Finishing failures (Black pad effect...)
- ▶ Plated through hole and via failures
- ▶ Electrical contact problems
- ▶ Whiskers
- ▶ Solder joint failures



REFERENCES



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Accreditations
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