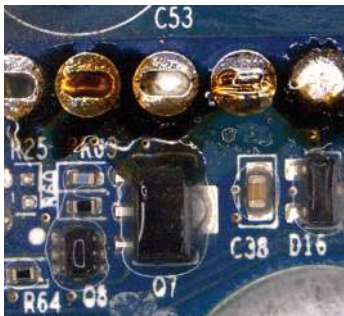
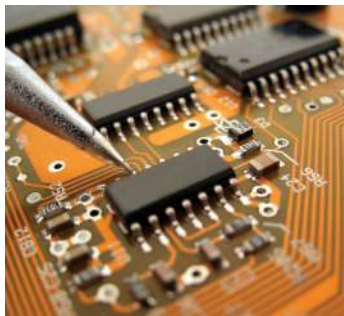


NTS Facility Spotlight: Baltimore, Maryland

Specializing in Electronics and Materials Testing



Contaminant material on a printed circuit assembly identified by Fourier Transform Infrared Spectroscopy (FTIR)



Full service printed circuit board and assembly testing and analysis



World-renowned failure analysis test laboratory

NTS is pleased to welcome Trace Laboratories into our growing national network of test labs. The Baltimore location is an internationally accredited, world-renowned, full-service failure analysis testing facility specializing in materials testing in accordance with numerous industry standards including ASTM, IPC and MIL-Specs. If you have technical questions or require help designing a test plan, you will work one-on-one with our technical experts, many who chair industry standards writing committees including ASTM, IPC, SAE, and SMTA.

Advanced Analytical

- ▶ Decapsulation
- ▶ Differential Scanning Calorimetry (DSC)
- ▶ Dynamic X-Ray
- ▶ Dynamic Mechanical Analysis (DMA)
- ▶ Energy Dispersive X-Ray Spectroscopy (EDS)
- ▶ Fourier Transform Infrared Spectroscopy (FTIR)
- ▶ Ion Chromatography (IC)
- ▶ Scanning Electron Microscopy (SEM)
- ▶ Surface Tension/Contact Angle
- ▶ Thermal Conductivity
- ▶ Thermogravimetric Analysis (TGA)
- ▶ Thermomechanical Analysis (TMA)
- ▶ X-Ray Fluorescence (XRF)

Chemical Testing

- ▶ Alloy Composition
- ▶ Chemical Resistance
- ▶ Cleanliness/Ionic Impurities
- ▶ Compatibility
- ▶ Composition
- ▶ Contamination Analysis
- ▶ Corrosion
- ▶ Density/Specific Gravity
- ▶ Flammability
- ▶ Hazardous Substance Analysis
- ▶ Heavy Metals/Lead Content
- ▶ Porosity
- ▶ Resistivity of Solvent Extract (ROSE)
- ▶ Restriction of Hazardous Substances (ROHS)
- ▶ Solderability
- ▶ Viscosity

Electrical Testing

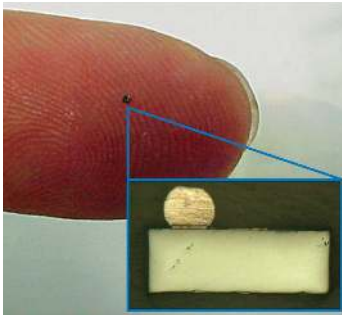
- ▶ Arc Resistance
- ▶ Capacitance
- ▶ Conductivity
- ▶ Contact Resistance
- ▶ Continuity
- ▶ Data Acquisition
- ▶ Dielectric Breakdown/Constant/Strength/Withstanding Voltage (DWV)
- ▶ Dissipation Factor
- ▶ Electrical Overstress/Properties
- ▶ HiPot
- ▶ Leakage
- ▶ Life Testing
- ▶ Resistance/Resistivity
- ▶ Temperature Coefficient

Environmental Testing

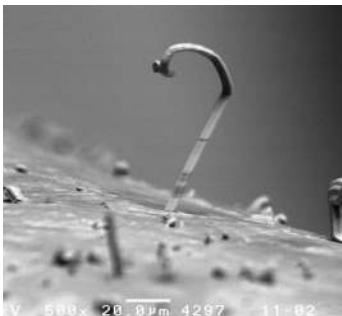
- ▶ Accelerated Aging
- ▶ Altitude
- ▶ Autoclave/Pressure Pot
- ▶ Chemical Resistance
- ▶ Cold Impact
- ▶ Conductive Anodic Filament Growth (CAF)
- ▶ Corrosion Resistance
- ▶ Electromigration



Verify the operating conditions of your product with our wide range of electrical test equipment



Experts in Cross-section analysis



Tin Whisker analysis to JEDEC standards or a custom test plan



NTS Baltimore
5 North Park Drive
Hunt Valley, MD 21030

www.nts.com | 1.800.270.2516
sales@nts.com

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Environmental Testing (cont.)

- ▶ Environmental Stress Screening (ESS)
- ▶ Field Simulation
- ▶ Flammability
- ▶ Fluid Resistance
- ▶ Fungus Resistance
- ▶ Hydrolytic Stability
- ▶ Immersion
- ▶ Moisture and Insulation Resistance (MIR)
- ▶ NEMA
- ▶ Outgassing
- ▶ Steam Aging
- ▶ Surface Insulation Resistance (SIR)
- ▶ Temperature/Humidity
- ▶ Thermal Aging (UL)
- ▶ Thermal Cycling
- ▶ Thermal Shock
- ▶ Thermal Stress
- ▶ Time to Delamination
- ▶ Tin Whisker Testing
- ▶ UV Exposure
- ▶ Water Spray
- ▶ Water Testing (Drinking/Waste)
- ▶ Water Vapor Transmission
- ▶ Xenon Arc Weathering

Mechanical Testing

- ▶ Abrasion
- ▶ Adhesion
- ▶ Bend Testing
- ▶ Bond Strength
- ▶ Brittleness
- ▶ Climbing Drum Peel
- ▶ Coating Thickness
- ▶ Coefficient of Friction (CoF)
- ▶ Coefficient of Thermal Expansion (CTE)
- ▶ Compression Properties
- ▶ Cross-section Analysis
- ▶ Cure (Tg)
- ▶ Deflection Under Load
- ▶ Dimensional Stability
- ▶ Ductility
- ▶ Fatigue Life
- ▶ Flexibility Endurance
- ▶ Flexural Properties
- ▶ Hardness
- ▶ Lap Shear Strength
- ▶ Mechanical Strength
- ▶ Microhardness
- ▶ Microsectioning
- ▶ Peel Strength
- ▶ Plating Thickness
- ▶ Rework Simulation
- ▶ Shear Properties
- ▶ Softening Point
- ▶ Tear Strength
- ▶ Tensile Properties & Elongation

Testing Programs

- ▶ Assembly Process Validation
- ▶ Component Authenticity Verification
- ▶ Consultation
- ▶ Contamination Analysis
- ▶ Counterfeit Component Analysis
- ▶ Failure Analysis
- ▶ First Article Inspection
- ▶ Group A, B and C Testing
- ▶ Hazardous Substances Analysis
- ▶ IPC Products and Training
- ▶ Lead-Free Quality and Reliability Testing
- ▶ Printed Circuit Board Analysis
- ▶ Qualification, Acceptance & Conformance Testing
- ▶ Reliability/Durability Testing
- ▶ RoHS Analysis
- ▶ Supplier Surveillance Testing
- ▶ Tin Whisker Analysis

About NTS

NTS is the nation's largest independent standards compliance and product testing company, serving companies within the aerospace, defense, automotive, wireless and telecom, electronics, energy, medical device, software and hardware markets. We are your single source for a full range of integrated engineering solutions, product testing, standards compliance, project management and managed services.