



THE AMERICAN ASSOCIATION FOR  
LABORATORY ACCREDITATION

## ACCREDITED LABORATORY

A2LA has accredited

**TRACE LABORATORIES, INC.**

**Hunt Valley, MD**

for technical competence in the field of

**Electrical Testing**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009*).



Presented this 9<sup>th</sup> day of April 2009.

A handwritten signature in black ink, appearing to read "Peter Abney".

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President  
For the Accreditation Council  
Certificate Number 1251.02  
Valid to December 31, 2010

For the tests or types of tests to which this accreditation applies,  
please refer to the laboratory's Electrical Scope of Accreditation.

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

TRACE LABORATORIES, INC.  
5 North Park Drive  
Hunt Valley, MD 21030  
Ms. Sarah D. Brammer Phone: 410 584 9099

ELECTRICAL

Valid to: December 31, 2010

Certificate Number: 1251.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests:

<u>Test</u>	<u>Test Method</u>
Arc Resistance	ASTM D495 IPC-4101 IPC-TM-650, 2.5.1
Automated Electrical Measurements	PARAMETERS: > 1 MEGOHM
Cleanliness/Conductivity	BELLCORE GR-78-CORE IPC-TM-650, 2.3.25 MIL-P-50884 MIL-P-55110 MIL-PRF-31032 MIL-PRF-55110 MIL-STD-883, 5011
Conductive Anodic Filament Resistance (CAF)	IPC-TM-650, 2.6.25 IPC-4101
DC Resistance	ASTM D257
Dielectric Breakdown (AC and DC)	ASTM D149 IPC-4101 IPC-TM-650, 2.5.6
Dielectric Strength (AC and DC) to 40 kV	ASTM D149 IPC-TM-650, 2.5.6.1 IPC-TM-650, 2.5.6.2 IPC-TM-650, 2.5.6.3 IPC-SM-840 IPC-4101

<u>Test</u>	<u>Test Method</u>
Dielectric Withstanding Voltage	BELLCORE GR-78-CORE IPC-6012 IPC-TM-650, 2.5.7 MIL-I-46058 MIL-P-50884 MIL-P-55110 MIL-PRF-31032 MIL-PRF-55110 MIL-STD-202, Method 301 NPS-25001
Electromigration	BELLCORE GR-78-CORE IPC-TM-650, 2.6.14 IPC-TM-650, 2.6.14.1 IPC-SM-840
Event Detection >300 ohms for >200 nanoseconds	IPC 9701 EIA IPC J. Std 029
Impedance (Time Domain Reflectometry)	IPC-TM-650, Method 2.5.5.7, paragraphs 5.2, 5.2.2, 5.2.2.1 only
Insulation Resistance	BELLCORE GR-78-CORE IPC-CC-830 IPC-SM-840 IPC-TM-650, 2.6.3.1 MIL-A-28870 MIL-I-46058 MIL-P-50884 MIL-P-55110 MIL-PRF-31032 MIL-PRF-55110 MIL-STD-202, Method 302
Loss Tangent (Dissipation Factor)	ASTM D150 ASTM D2520 IPC-4101 IPC-TM-650, 2.5.5.1 IPC-TM-650, 2.5.5.2 IPC-TM-650, 2.5.5.3 MIL-STD-883, 5011
Moisture Insulation Resistance/ Surface Insulation Resistance (MIR/SIR)	BELLCORE GR-78-CORE BELLCORE TR-NWT-000078 IPC-CC-830 IPC-SM-840 IPC-TM-650, 2.6.3 IPC-TM-650, 2.6.3.3

<u>Test</u>	<u>Test Method</u>
Moisture Insulation Resistance/ Surface Insulation Resistance (MIR/SIR) (cont.)	IPC-TM-650, 2.6.3.1 IPC-TM-650, 2.6.3.2 IPC-TM-650, 2.7.3.1 J-STD-004 MIL-I-46058 MIL-P-50884 MIL-P-55110 MIL-PRF-31032 MIL-PRF-55110 MIL-STD-202, Method 106
Permittivity (Dielectric Constant)	ASTM D150 ASTM D2520 IPC-TM-650, 2.5.5.1 IPC-TM-650, 2.5.5.2 IPC-TM-650, 2.5.5.3 MIL-STD-883, 5011 IPC-4101
Q Factor (Q Resonance)	IPC-4101 IPC-TM-650, 2.5.28 MIL-I-46058
Continuity	ASTM D257 MIL-P-50884 MIL-P-55110 MIL-PRF-31032 MIL-PRF-55110 IPC TM 650 2.6.7, 2.6.7.2
Resistivity, Volume & Surface	ASTM D257 IPC-4101 IPC-TM-650, 2.5.17.1 MIL-STD-883, 5011

On the following products or materials:

Circuit Boards and Circuit Board Components; Adhesives; Aircraft Components; Automotive Components; Plastic and Rubber Products

Facility studies performed according to IPC-QL-653A "Certification of Facilities that Inspect/Test Printed Boards, Components and Materials."