THE AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited

TRACE LABORATORIES - CENTRAL

Palatine, IL

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 18 June 2005*).

Presented this 18th day of August 2008.

President
For the Accreditation Council
Certificate Number 0294.01
Valid to May 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 - CENTRAL
1150 West Euclid Avenue
Palatine, IL 60067-7368
Jit Gupta Quality Engineer
Phone: 847 934 5300 ext. 130 Fax: 847 934 4600
Website: www.tracelabs.com E-mail: jgupta@tracelabs.com

ELECTRICAL

Valid to: May 31, 2010 Certificate Number: 0294.01

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

Test	Test Methods
High Voltage (0 to 40) kVAC, (0 to 60) kVDC	ASTM D149
Current Measure (1000A DC; 1000A AC)	IPC-TM-650, 2.5.3B, 2.5.4, 2.5.4.1A
Current Source (0 to 750) A DC	IPC-TM-650, 2.5.3B, 2.5.4, 2.5.4.1A
Induced Temperature Rise	GR-1217-CORE, 5.4.4, 5.4.5, 6.2.5, 6.2.6; IEC 512-3; TR-NWT-000975, 5.6
Insulation Resistance	SAE AS13441, 3003.1, 3007; MIL-STD-202, 302; MIL-STD-750, 1016; TR-NWT-000975, 5.4; MIL-PRF-31032/1A, 3.7.5.2
Resistance (microohms to teraohms)	MIL-STD-883, 1003; GM9110P, 5.2, 5.3; GR-78-CORE, 13.1, 13.2, 14.4; MIL-P-55110, A.4.8.6.1; MIL-P-50884, A.4.8.6.1; IPC-6013, 3.9.4, 3.10.1; IPC-6012, 3.9.2.2, 3.9.4, 3.9.3; ASTM B193; IPC-6202, 9.1, 9.2; JIS-C-5016, 7.6; IPC-TM-650, 2.5.10A, 2.5.10.1, 2.5.11, 2.5.12, 2.5.14A, 2.5.13A, 2.5.16A, 2.5.24, 2.5.26A, 2.5.27, 2.5.32; GR-1217-CORE, 6.2.7
Electromigration Resistance	GR-78-CORE, 13.1.4
Surface Insulation Resistance, Flux	IPC-TM 650, 2.6.3.3
Dielectric Strength (up to 40 kVAC and 60 kVDC)	SAE AS13441, 3001.1

Test	Test Methods
Dielectric Withstanding Voltage	MIL-STD-202, 301; MIL-P-55110, A.4.8.5.3; MIL-P-50884, A.4.8.5.3; IPC-6013, 3.9.1; IPC-6012, 3.9.1; IPC-6202, 9.3; IPC-TM-650, 2.5.6B, 2.5.6.1A, 2.5.6.2A, 2.5.6.3, 2.5.7D, 2.5.7.1, 2.5.25A; GR-1217-CORE, 6.2.8; TR-NWT-000975, 5.5
Inductance (picohenries to kilohenries, up to 2 MHz)	MIL-STD-750, 4316
Continuity Monitoring (10 nanosecond event detection or more or Resistance change)	IPC-9701, 4.3.3; SJR-01 Rev.2, Table 4; MIL-STD-202, 310; MIL-PRF-31032/1A, 3.7.5.1; GM9110P, 5.12; GR-1217-CORE, 5.4.3, 6.2.4
Magnetic Permeability	SAE AS13441, 3006; MIL-DTL-83513E, 3.5.1, 4.5.3; ASTM A342, Test Method 3, Low-MU Permeability Indicator
Ionic Cleanliness	IPC-TM-650, 2.3.25.1; GR-78-CORE, 14.5; DELCO Q 1000, 119; IPC-6202, 14
Continuity	MIL-P-55110, A.4.8.5.1; MIL-P-50884, A.4.8.5.1; IPC-6013, 3.9.2.1; IPC-6012, 3.8.2
Duty Cycling	GM9110P, 9.6
Solderability	MIL-STD-202, 208H
Soldering Heat	MIL-STD-883, 2003.7; MIL-STD-750, 2026.10, 2031.2; MIL-P-55110, A.4.8.4.7.1/2; MIL-P-50884, A.4.8.4.7.1/2; IPC-6013, 3.3.5; IPC-6012, 3.3.6; IPC/EIA J-STD-003A 4.2.1, 4.2.2, 4.2.3, 4.2.4; DELCO Q 1000, 202; IPC-6202, 10.4; JIS-C-5016, 10.4
Capacitance, Q Factor (E-15 to E1 Farads, up to 2 MHz)	MIL-STD-202, 305, 306
Contact Resistance, Low Level Contact Resistance (LLCR)	SAE AS13441, 3002.1, 3004.1; MIL-STD-202, 307; ASTM B539; GR-1217-CORE, 6.2.1, 6.2.2
Voltage/Voltage Drop	GM9110P, 5.1; MIL-DTL 83513E, 3.5.6