



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

NATIONAL TECHNICAL SYSTEMS (NTS) – BALTIMORE
 5 North Park Drive
 Hunt Valley, MD 21030
 Mrs. Sarah D. Brammer Phone: 410 584 9099

ELECTRICAL

Valid to: December 31, 2018

Certificate Number: 0214.36

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on the following products: Aerospace, Automotive, Avionics, Consumer Products, Electronics, Industrial, Medical, Military Telecommunication and Textiles.

Test Technology:

Test Method(s):

Arc Resistance

ASTM D495; IPC-TM-650 (Section 2.5.1)

Dielectric Constant/Loss Tangent/
Permittivity Dissipation Factor

ASTM D150; ASTM D2520;
IPC-TM-650 (Sections 2.5.5.1, 2.5.5.2, and 2.5.5.3);
MIL-STD-883, Method 5011

Range:

1 MHz to 1.8 GHz

Resistivity/Volume and Surface Resistance

ASTM D257; IPC-TM-650 (Section 2.5.17.1);
MIL-STD-883, Method 5011

Q Factor/Q Resonance

IPC-TM-650 (Section 2.5.28); MIL-I-46058

Dielectric Strength/Dielectric Breakdown/
Electrical Strength

ASTM D149;
IPC-TM-650 (Sections 2.5.6, 2.5.6.1, 2.5.6.2, and 2.5.6.3)

Range:

AC to 50kV

DC to 60kV

Conductive Anodic Filament Resistance (CAF)/
Electromigration (ECM)/
Insulation Resistance (IR)/Moisture and
Insulation Resistance (MIR)/
Surface Insulation Resistance (SIR)

BELLCORE GR-78-CORE;
IPC-TM-650 (Sections 2.6.3, 2.6.3.1, 2.6.3.2, 2.6.3.3, 2.6.3.7,
2.6.14, 2.6.14.1, 2.6.25, and 2.7.3.1);
MIL-STD-202, Methods 106 and 302; IEC 60664; IEC 61086

Range:

$10^5\Omega$ to $10^{12}\Omega$

Test Technology:

Dielectric Withstanding Voltage (DWV)/
AC Withstanding Voltage

Event Detection

Range:

>300Ω for >200 nanoseconds

Test Method(s):

BELLCORE GR-78-CORE;
IPC-TM-650 (Section 2.5.7); IEC 60664; IEC 61086

IPC-9701 (Paragraph 4.3)

Supporting the following documents: IPC-4101, IPC-SM-840, IPC-CC-830, IPC-6012, IPC-6013,
IPC-J-STD-004, MIL-A-28870, MIL-I-46058, MIL-P-50884, MIL-PRF-31032, MIL-PRF-55110

This laboratory also uses customer supplied specifications and/or methods directly related to the testing technologies and parameters listed above.

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





Accredited Laboratory

A2LA has accredited

NATIONAL TECHNICAL SYSTEMS (NTS) BALTIMORE

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 25th day of January 2017.

A handwritten signature in black ink, written over a horizontal line.

President and CEO
For the Accreditation Council
Certificate Number 0214.36
Valid to December 31, 2018

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