



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

NATIONAL TECHNICAL SYSTEMS  
Massachusetts Division  
1146 Massachusetts Avenue  
Boxborough, MA 01719  
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MECHANICAL

Valid to: September 30, 2019

Certificate Number: 0214.15

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory, to perform the following tests on aircraft components; automotive components; pipes, hoses, valves and fittings; pressure vessels, consumer electronics, medical devices, industrial controls, test and measurement equipment, IT equipment, HVAC controls and systems, telephone equipment, circuit breakers; and seismic vibration on electrical components, frames, motors and HVAC:

**Title / Description:**

**Test Method(s)<sup>1</sup>:**

Hose Testing Torque Requirements,  
Installation & Qualification

IEC 60068-2-18; ETSI 300 019-2-2

Vibration <sup>2</sup>  
*(sine, random, high frequency,  
fatigue, shock, gunfire)  
(4Hz to 3kHz)  
40,000 pounds force  
2" Stroke  
Combined Environment of (-65 to 250) °C*

MIL-STD-810 (Methods 514, 516 & 519)\*;  
MIL-STD-883 (Methods 2005, 2007 & 2026)\*;  
MIL-STD-1344 (Method 2005);  
ANSI/IEEE 344, 382; ANSI/IEEE C37.98;  
ATIS 0600329;  
ASTM D999-91, D5276-94;  
GR-63-CORE; GR-3108-CORE; GR-3160-CORE;  
GR-487-CORE; GR-2834-CORE;  
EN/IEC 60065, 60204-1;  
ETS EN 300 019;  
IEC 68-2-27, 68-2-34; IEC 60068;  
MIL-STD-167-1; MIL-STD-202 (Methods 201, 201A,  
202, 202D, 203B, 204, 204D, 205, 212, 213 & 214);  
MIL-STD-740-2; MIL-STD-750, -781, -810, -883;  
RTCA/DO-160 (Sections 7 & 8)\*;  
MIL-STD-810 (Methods 514, 516 & 519)\*;  
MIL-STD-883 (Methods 2005, 2007 & 2026)\*;  
MIL-STD-1344 (Method 2005)\*

Performance of Shipping Containers &  
Systems

ASTM D4169-05; ASTM D4169-14;  
ISTA 1A, 1B, 1C, 1D, 1E, 1G, 1H, 2A, 2B, 2C, 3A, 3E,  
3F, 3H, 7B, 7C, 7D

**Title / Description:**

**Test Method(s)<sup>1</sup>:**

Mechanical Shock, Random Drop <sup>2</sup>  
*Up to 5000 g's*

MIL-STD-202 (Methods 202 & 203)\*;  
MIL-STD-883 (Method 2002)\*;  
MIL-STD-1344 (Method 2004);  
ASTM D4169-05

Leak Testing

MIL-STD-202 (Method 112)

Electronic & Electrical Parts

MIL-STD-202 (Methods 101, 103, 104, 105, 106, 107,  
108, 111, 215, 301, 302, 303, 305, 307 & 310)\*

Acceleration

RTCA/DO-160 (Section 7.3)\*;  
MIL-STD-810 (Method 513.5)\*

Altitude <sup>2</sup>  
*Up to 30,000 ft in walk-in chamber*  
*Up to 78,000 ft in 64 cubic feet chamber*

GR-63-CORE (Section 4.1.3); GR-3108-CORE;  
GR-3160-CORE

High / Low Temperature

MIL-STD-810 (Methods 501, 502 & 503)\*

Humidity, Moisture

MIL-STD-810 (Method 507)\*

Salt Spray

MIL-STD-810 (Method 509.4, p1)\*;  
ASTM B117

Fluid Testing

RTCA/DO-160 (Section 11)\*;  
MIL-STD-810 (Method 504)\*;  
MIL-STD-202 (Method 215)\*

Sun Simulation  
Procedure I - Heat Load Only

MIL-STD-810 (Method 505)\*

Thermal Shock <sup>2</sup>  
*(-65 to 240) °C*

MIL-STD-810 (Method 503)\*

Rain

MIL-STD-810 (Method 506)\*

Freezing Rain

MIL-STD-810 (Method 521)\*;  
RTCA/DO-160 (Section 24)\*

Temp & Temp/Humidity Cycling

GR-63-CORE (Section 4.1.2); GR-3108-CORE;  
GR-3160-CORE

HALT/HASS <sup>2</sup>  
*(-100 to 200) °C*  
*Up to 50 g's*  
*5kHz to 10kHz*

NOR ENV 06



**Title / Description:**

**Test Method(s)<sup>1</sup>:**

Operating Temperature	GR-63-CORE (Section 4.1.2); GR-3108-CORE; GR-3160-CORE; MIL-STD-810 (Method 507.4)*; RTCA/DO-160 (Sections 3.0, 4.0, 5.0 & 6.0)*; IEC 60068
Degrees of Protection Provided by Enclosures Access to Hazardous Parts Solid Foreign Objects Water	CEI/IEC 60529, Ed. 2.1 (2001-02) (Sections 12.3.1, 12.3.2, 12.3.3 & 15.2) (Sections 13.2, 13.3 & 13.4) (Sections 14.2.1, 14.2.2, 14.2.3, 14.2.4, 14.2.5, 14.2.6, 14.2.7 & 14.2.8)
ISTA Preshipment Test Procedures Drop, Shock ( <i>except horizontal impact test</i> ), Vibration, Rotational Shock (NTS Boxborough also listed by ISTA)	ISTA Preshipment Test Procedures: 1A, 1B, 1C, 1D, 1E, 1G, 1H, 2A, 2B, 2C, 2D, 2E, 3A, 3E, 3F, 3H, 5B, 7B, 7C, 7D
Environmental Test Methods & Engineering Guidelines	MIL-STD-810 (Methods 500, 501, 502, 503, 506, 507, 509, 512 & 521)*
Test Methods & Procedures for Microelectronics	MIL-STD-883 (Methods 1001, 1002, 1003, 1004, 1005, 1007, 1008, 1009, 1010, 1011, 1012 & 1013)*; RTCA/DO-160 (Sections 4, 5, 6 & 9)*
<i>Thermal Testing</i>	
Simulated Brush Fire	GR-487-CORE
Firearms Resistance	GR-487-CORE
Test Methods for Electronic & Electrical Component Parts	MIL-STD-202 (Methods 101, 103, 104, 105, 106, 107 & 108)*
Test Methods for Semiconductor Devices	MIL-STD-750 (Methods 1001, 1011 & 1021)*
Needle Flame Testing	EN/IEC 60695-2-2; ATIS 0600307; ATIS 0600319; UL 1694
FAA Fire Spread	ISO 2685; RTCA DO-160 (Section 26 for Fire Resistance or Fire Proof)*
NEBS (Bellcore) Fire Spread	GR-63-CORE (Sections 4.2, 5.2); GR-3108-CORE; GR-3160-CORE; ATIS 0600319
Seismic	ATIS 0600329; GR-63-CORE; GR-3108-CORE; GR-3160-CORE; IEEE STD 344-2004; IBC 2000; AC156



**Title / Description:**

**Test Method(s)<sup>1</sup>:**

Explosive Atmosphere

MIL-STD-810 (Method 511.4)\*;  
RTCA/DO-160E\*

<sup>1</sup> When the date, revision or edition of a test method standard is not identified on the scope of accreditation, the laboratory is expected to be using the current version within one year of the date of publication, per part C., Section 1 of A2LA R101 - *General Requirements- Accreditation of ISO-IEC 17025 Laboratories*.

<sup>2</sup> Also using customer-specified methods directly related to the types of tests and parameters listed above.

\*All Revisions of standard are included.





## *Accredited Laboratory*

A2LA has accredited

### **NATIONAL TECHNICAL SYSTEMS (NTS)**

*Boxborough, MA*

for technical competence in the field of

### **Mechanical 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 15<sup>th</sup> day of November 2017.

A handwritten signature in black ink, appearing to read "L. Sen", written over a horizontal line.

President and CEO  
For the Accreditation Council  
Certificate Number 0214.15  
Valid to September 30, 2019

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