



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

NATIONAL TECHNICAL SYSTEMS – HUNTSVILLE

7800 Highway 20 West

Huntsville, AL 35806

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ACOUSTICS AND VIBRATION

Valid To: December 31, 2019

Certificate Number: 0214.41

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

Test

Test Methods

Acceleration¹

22ft Radius Centrifuge / 25 G's

3 Foot Radius Centrifuge / 200 G's

MIL-STD-202, 212

MIL-STD-810, 513

RTCA/DO-160, Section 7

Explosive Atmosphere¹

(Site to 50,000 ft simulation)

MIL-STD-202, 109

MIL-STD-810, 511 Procedures I and II

RTCA/DO-160, Section 9

Sand and Dust¹

Site Ambient to 160°F

Air Velocity to 40 MPH

MIL-STD-202, 110

MIL-STD-810, 510

RTCA/DO-160, Section 12

Temperature/Altitude¹

(-65 to 160) °F

80,000 ft

MIL-STD-202, 105

MIL-STD-810, 500

RTCA/DO-160, Section 4

High Temperature¹

Up to 600 °F

MIL-STD-202, 108

MIL-STD-810, 501

RTCA/DO-160, Sections 4 and 5

Low Temperature¹

Down to -100 °F

MIL-STD-810, 502

RTCA/DO-160, Sections 4 and 5

Temperature Shock¹

(-100 to +300) °F

MIL-STD-202, 107

MIL-STD-810, 503

Thermal Vacuum¹

1x10⁻⁵ torr ± 250 °F

MIL-STD-1540D

Test**Temperature/Humidity**

(-100 to +300) °F
(20 to 95) % Humidity

Explosive Decompression

100,000 ft ≤ 100msec

Rain/Wind**Icing/Freezing Rain****Immersion****Freeze/Thaw****Waterproofness****Salt Fog****Salt Fog and SO₂****Solar Radiation**

(Heat Effects only)

Fluid Susceptibility/Exposure to Fluids

(Fluid Compatibility and Resistance to Fluids)

Fungus**Acoustics Reverberation**

Up to 165 dB Overall
(10 to 20,000) Hz

Acoustics Progressive Wave Tube

Up to 172 dB Overall
(10 to 20,000) Hz

Thermal Acoustic

Up to 165 dB Overall
(10 to 20,000) Hz
(-65 to 200) °F

Test Methods

MIL-STD-202, 103 and 106
MIL-STD-810, 507 (*excluding vibration*)
RTCA/DO-160, Section 6

MIL-STD-810, 500 Procedure IV

MIL-STD-810, 506

MIL-STD-810, 521

MIL-STD-202, 104
MIL-STD-810, 512

MIL-STD-810, 521

RTCA/DO-160, Section 10

ASTM B117
MIL-STD-202, 101
MIL-STD-810, 509
RTCA/DO-160, Section 14

MIL-STD-810, 518

MIL-STD-810, 505, Procedure I

MIL-STD-202, 215
MIL-STD-810, 504
RTCA/DO-160, Section 11

MIL-STD-810, 508
RTCA/DO-160, Section 13

MIL-STD-810, 515

MIL-STD-810, 515

MIL-STD-810, 515 with Temperature

Test**Acoustic Emissions**

23dBA Noise Floor
(23 to 175) dBA
(10 to 20,000) Hz

Vibration Electro Dynamic Shaker

Sine, Random, and Combined
30,000 Pounds Force
(5 to 2,000) Hz
1.0" Double Amplitude
Combined Environment of (-65 to 300) °F

Vibration Servo Hydraulic Shaker

Sine, Random, and Combined
30,000 Pounds Force
(2 to 200) Hz
4.0" Double Amplitude
Combined Environment of (-65 to 300) °F

Shock Electro Dynamic Shaker

30,000 Pounds Force
1.0" Double Amplitude
1,200 SRS G

Transportation (Loose Cargo)**Drop Impact****HALT Testing Guidelines****Earthquake**

Resistance (Seismic) Vibration Characteristics of
Materials Acceptance Criteria for Seismic Qualification
by Shake Table Testing of Nonstructural Components
and Systems

Test Methods

MIL-STD-740-1

MIL-STD-167-1 5.1, 5.2, 5.3
MIL-STD-202, 201, 204, and 214
MIL-STD-810, 514 and 528
RTCA/DO-160, Section 8

MIL-STD-810, 514, and 516
RTCA/DO-160, Section 8

MIL-STD-202, 207 and 213
MIL-STD-810, 516 and 519
RTCA/DO-160, Section 7

MIL-STD-810, 514

MIL-STD-202, 203
MIL-STD-810, 516

Qualmark

IEEE-344;
Telcordia GR-63 (5.4.1)
ICC-ES AC156

¹ This laboratory also uses customer supplied specifications and/or methods directly related to the testing technologies and parameters listed above.



Accredited Laboratory

A2LA has accredited

NATIONAL TECHNICAL SYSTEMS - HUNTSVILLE

Huntsville, AL

for technical competence in the field of

Acoustics and Vibration 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 April 2017).



Presented this 21st day of February 2018.

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 0214.41
Valid to December 31, 2019

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