SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

NTS LABS, LLC FREMONT & NEWARK [1]
38995 Cherry Street
Newark, CA 94560
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MECHANICAL

Valid to: September 30, 2023 Certificate Number: 0214.27

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to the laboratory at the location listed above, ***as well as the satellite location listed below,*** to perform the following Environmental Tests for the following industries: Aerospace, Defense, Telecommunication, Electronics and Automotive:

Test Technology:	**Test Capabilities:**	**Test Specifications/Standards [3]:**
Vibration [2]	Electro Dynamic Sine, Random, Mixed Mode and Shock 5 to up to 3,000 Hz and 10,000 to 20,000 force-lbs Shock half-sine and Sawtooth	AT&T-TP76200; ETS EN 300 019; GR-63-CORE; GR-487-CORE; GR-950-CORE; GR-3108-CORE; GR-3160-CORE; MIL-STD-202; IEC 60068-2-64; ISO 15197; RTCA/DO-160; EN 50155; GMW3172; IEC 60068-2-6; IEC 60068-2-27; IEC 60068-2-29; IEC 60068-2-64; IEC 60255-21-1; IEC 60255-21-2; IEC 60255-21-3; IEC 61373; IEC 61850-3; IEC 60601-1-11 and IEC 60601-1-12; ISO 16750-3; MIL-STD-810; NHTSA Vol 78 No. 89
Seismic / Vibration	Servo Hydraulic Sine, Random and Shock 15,000 force-lbs (1 to 500) Hz Shock half-sine	ANSI T1.329; AC 156; GR-63-CORE; GR-487-CORE; GR-950-CORE; GR-3108-CORE; GR-3160-CORE; ASTM D4169; AT&T-TP76200; IEEE 1613; ISTA 1A, 1B, 1G, 1H, 2C, 3A, 3B OSHPD, 6-AMAZON.com-Over Boxing 6-AMAZON.com-SIOC Type A

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Test Technology:	Test Capabilities:	Test Specifications/Standards [3]:
Illumination	Visual Inspection/ Observation	GR-63-CORE; GR-487-CORE; GR-3160-CORE
Packaged Drop Testing		GR-63-CORE; GR-487-CORE; GR-950-CORE; GR-3108-CORE
Free-Fall, Shock and Unpackaged Drop Testing		GR-3160-CORE; ETSI EN 300 019; AT&T-TP76200, IEC 60069-2-32; IEC 62133-2; IEC 60601-1-11 and IEC 60601-1-12; ISO 16750-3; MIL-STD-810; ISTA 1A, 1B, 1G, 1H, 2C, 3A, 3B; 6-AMAZON.com-Over Boxing; 6-AMAZON.com-SIOC Type A
Crush for Housing	Elbow Load	GMW3172
Splash Water Test		ISO 16750-4
Hygroscopic Dust		GR-63-CORE; GR-3108-CORE; GR-3160-CORE
Salt Fog Salt Spray Salt Mist, Cyclic		ASTM B117; MIL-STD-810, Method 509; GR-487-CORE; GR-950-CORE; GR-3108-CORE; GR-3160-CORE; EN 50155; GMW3286; IEC 60068-2-11; IEC 60068-2-52, Methods 1, 2, 3, 4, 5, 6, and 7; ISO 16750-4; ISO 9227
Temperature [2]	(-70 to 170) °C	GR-63-CORE; GR-487-CORE; GR-950-CORE; GR-3108-CORE; GR-3160-CORE; MIL-PRF-28800F; MIL-STD-810; MIL-STD-202; RTCA/DO-160; ISO 15197 Section 6.11; ETSI EN 300 019; AT&T-TP76200; EN 50155; GMW3172; IEC 60068-2-1; IEC 60068-2-2; IEC 60068-2-14; IEC 61850-3; IEC 60601-1-11 and IEC 60601-1-12; ISO 16750-4; ISO 15197; NHTSA Vol 78 No. 89

Test Technology:	**Test Capabilities:**	**Test Specifications/Standards [3]:**
Humidity [2]	(5 to 95) %RH	GR-63-CORE; GR-487-CORE; GR-950-CORE; GR-3108-CORE; GR-3160-CORE; MIL-STD-810; MIL-STD-202; RTCA/DO-160; ISO 15197 Section 6.12; ETSI EN 300 019; AT&T-TP76200; EN 50155; GMW3172; IEC 60068-2-30; IEC 60068-2-78; IEC 61850-3; IEC 60601-1-11 and IEC 60601-1-12; ISO 16750-4; NHTSA Vol 78 No. 89
Thermal Shock [2]	(-72 to 125) °C	GR-63-CORE; GR-487-CORE; GR-950-CORE; GR-3108-CORE; ETSI EN 300 019; ISO 16750-4; IEC 60068-2-14
Mixed Flowing Gas		GR-63-CORE; GR-3108-CORE; ASTM B827; ASTM B845; EIA 364-65B; IEC 60068-2-60, Methods 2, 3, and 4
Altitude [2]	(-807 to 55,140) feet	GR-63-CORE; AT&T-TP76200; GR-487-CORE; GR-950-CORE; GR-3108-CORE; MIL-STD-202, Method A; MIL-STD-202, Procedures I and II; NHTSA Vol 78 No. 89; RTCA/DO-160, Categories A1, A2, A3, A4, B1, B2, B3, B4, C1, C2, C3 and C4
Ingress Protection		
Protection against ingress of dust: dust-protected equipment		IEC 60529 – IP5X
Protection against ingress of dust; dust-tight equipment		IEC 60529 – IP6X
Protection against spraying water		IEC 60529 – IPX3, ISO 20653 – IPX3
Protection against splashing water		IEC 60529 – IPX4, ISO 20653 – IPX4

Test Technology:	**Test Capabilities:**	**Test Specifications/Standards [3]:**
Protection against water jets		IEC 60529 – IPX5, ISO 20653 – IPX5
Protection against the effects of temporary immersion in water		IEC 60529 – IPX7, ISO 20653 – IPX7
Protection against the effect of continuous immersion in water		IEC 60529 – IPX8, ISO 20653 – IPX8
Protection against ingress of solid bodies		IEC 60529 – IP1X to IP4X
Strong high-velocity water with increased pressure		ISO 20653 – IPX6K
Fire Testing • Fire Propagation Risk Assessment Criteria • Fire Spread • Needle Flame Test • AT&T • Verizon		ATIS-0600319.2008 ATIS-0600319.2014; GR-63-CORE; ATIS 0600307.2007; GR-3108-CORE; GR-3160-CORE AT&T-TP76200; VZ.TPR.9305

[1] *This accreditation covers testing performed at the main laboratory listed above, and the satellite laboratories listed below:*

41039 Boyce Road
Fremont, CA 94538

Test Technology:	**Test Capabilities:**	**Test Specifications/Standards [3]:**
Acoustic Noise	(30 to 100) dBa	GR-63-CORE; GR-487-CORE; GR-3108-CORE; ETSI EN 300 019; ISO 3744 (*Excluding Section 8.3*); ISO 7779 (*Excluding Section 6*); MIL-STD-1474D, (*Requirement 5 only*)

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

Test Technology:	**Test Capabilities:**	**Test Specifications/Standards [3]:**
Temperature	(-30 to 50) °C	GR-63-CORE; ETSI EN 300 019; GR-3160-CORE
Humidity	(15 to 95) %RH	GR-63-CORE; ETSI EN 300 019; GR-3160-CORE
Altitude	Temperature Compensation Method only	GR-63-CORE Section 5.1.3
Heat Dissipation		ATIS-0600010.03

[3] When the date, edition, version, etc. is not identified in the scope of accreditation, laboratories may use the version that immediately precedes the current version for a period of one year from the date of publication of the standard measurement method, per part C., Section 1 of A2LA R101 - General Requirements- Accreditation of ISO-IEC 17025 Laboratories.

Accredited Laboratory

A2LA has accredited

NTS LABS, LLC FREMONT & NEWARK

Fremont, CA

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *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 25th day of February 2022.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0214.27
Valid to September 30, 2023
Revised August 9, 2022

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