SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

QUANTA LABORATORIES
3199 De La Cruz Boulevard
Santa Clara, CA 95054
Terry G. Liu Phone: 408 988 0770
test@quantalabs.com

MECHANICAL

Valid To: August 31, 2024 Certificate Number: 2454.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to the laboratory to perform the following types of environmental tests for the following industries: Aerospace, Defense, Telecommunication, Medical, Electronics and Automotive:

Test Technology:	**Test Capabilities:**	**Test Specifications/Standards:**
Vibration[1]	Electro Dynamic Sine, Random, Mixed Mode; SRS, TTH, LTH, (5 to 3,000) Hz Sine: 33,000 force-lbs Random: 35,000 force-lbs	EN 60065; EN 60204-1; ETSI EN 300 019; GR-63-CORE; GR-487-CORE; MIL-STD-167; MIL-STD-202; MIL-STD-331; MIL-STD-810F, G and H; AC 156; IEC 60068-2-64; ISO 15197 Sect. 6.10; MIL-PRF-28800; RTCA/DO-160; IEC 68; ISTA, Sect. 1A, 2A, 1B, 2B, 1G, 1H, 3A, 3E, 6A, 6B; UN 38.3; GR-1221, 1209; ANSI C12.2, C136.3; EN 60601-1, Sect. 10.1.3c; ST/SG/AC10/11, Sect UN 38.3 T3
Seismic Loose Cargo (*Vertical and Horizontal*)	Servo Hydraulic Sine, Random, TTH, LTH and Shock 11,000 force-lbs (1 to 500) Hz	ANSI T1.329; AC 156; GR-63-CORE; GR-487-CORE; GR-950-CORE; GR-3108-CORE; ASTM D4169

Test Technology:	**Test Capabilities:**	**Test Specifications/Standards:**
Mechanical Shock	Shock Machine: High G Shock: 10,000 Gn ½ Sine: up to 300 in/s Sawtooth: 100 in/s Trapezoid Triangle: 180 in/s Electrodynamic Shaker: Shock: 400g ½ Sine, Sawtooth, Trapezoid Triangle	MIL-STD-810F, G and H, Method 516.5; MIL-STD-883E, Method 2002.3; MIL-STD-202F and 202G, Method 213B; RTCA/DO-160D, E, F, and G Sect. 7.0; ETSI 300 019-2, Sect. 1, 2, 3, 4, 5, 7; ISTA, Sect. 1A, 1B, 1G, 1H, 2A, 2B, 3A, 3E, 6A, 6B; IEC 60068; ANSI C12.1, C136.3; EN 60601-1, Sect. 10.1 3.a, b, d; ST/SG/AC.10/11, Sect. UN 38.3 T4
Packaged Drop Testing/ Unpackaged Drop Testing	Requirements of Standard	GR-63-CORE; GR-487-CORE; GR-950-CORE; GR-3108-CORE; ETSI EN 300 019; MIL-PRF 28800; ISTA 1A 2A 1B 2B 1G 1H 3A 3E 6A 6B Fedexp; MIL STD 810F 810G Method 516.6 Procedure IV; EN 60601-1 1.5.3.4
Salt Fog	Temperature 95°F±3°F Solution: 5% ±1% NaCl pH:6.5-7.2	ASTM B117; MIL-STD-810, Method 509; GR-487-CORE; GR-950-CORE; GR-3108-CORE; RTCA/DO 160D E F Sect. 14.0; MIL STD 883E Method 1009.8
Temperature[1]	(-100 to 175) °C	AT&T-TP76200; GR-63-CORE; GR-487-CORE; GR-950-CORE; GR-3108-CORE; MIL-PRF-28800F; MIL-STD-810; MIL-STD-202; RTCA/DO-160 C-G; ISO 15197 Sect. 6.11; ETSI EN 300 019; ASTM 4169; ISTA 1A 2A 1B 2B 1G 1H 3A 3E
Humidity[1]	(5 to 95) %RH	GR-63-CORE; GR-487-CORE; GR-950-CORE; GR-3108-CORE; MIL-STD-810; MIL-STD-202; RTCA/DO-160 C-G; ISO 15197 Sect. 6.12; ETSI EN 300 019

Test Technology:	**Test Capabilities:**	**Test Specifications/Standards:**
Thermal Shock[1]	(-72 to 125) °C	GR-63-CORE; GR-487-CORE; GR-950-CORE; GR-3108-CORE; ETSI EN 300 019; MIL STD 883E Method 1010.7; ISTA Sect. 3A 3E; ST SG AC 10/11 Sect. UN 38.3 T2
Altitude[1]	(-1500 to 95,000) feet	GR-63-CORE, MIL-STD-810F, G and H; MIL STD 883E Method 1001 (*Except Condition g*); MIL STD 202F 202G Method 105C (*Except Condition g*); RTCA/DO 160D E F Sect. 4.0; EN 60601-1 Sect. 10.1 Altitude 4.2.2; ST/SG/AC.10/11Rev.5 Sect. UN 38.3 T1
Ingress Protection		
Protection against ingress of dust: dust-protected equipment	Match requirements of the standard	IEC 60529 – IP5X; ISO 20653 – IP5K; IEC 60529 IPX2, 9K
Protection against ingress of dust; dust-tight equipment	Match requirements of the standard	IEC 60529 – IP6X; ISO 20653 – IP6K
Protection against spraying water	10 l/min ±5%	IEC 60529 – IPX3; ISO 20653 – IPX3
Protection against splashing water	10 l/min ±5%	IEC 60529 – IPX4; ISO 20653 – IPX4
Protection against water jets	12.5 l/min ±5%	IEC 60529 – IPX5; ISO 20653 – IPX5
Protection against powerful water jets	100 l/min ±5%	IEC 60529 – IPX6; ISO 20653 – IPX6
Protection against the effects of temporary immersion in water	1 meter depth water	IEC 60529 – IPX7; ISO 20653 – IPX7
Protection against the effect of continuous immersion in water	>1 meter >30 minutes	IEC 60529 – IPX8; ISO 20653 – IPX8
Moisture Resistance	(-100 to 175) °C (5 to 95) %RH	MIL-STD-883E, Method 1004.7; MIL-STD-202F and 202G, Methods 103B and 106E; Telcordia GR-63-CORE Issue 3, Sect. 4.1, 5.1; GR-1221; RTCA/DO-160D, E, F, and G, Sect. 6.0; IEC 60529
Overcharge	Provide up to 50A for 0-40V range, 17A for 0-200V range	ST/SG/AC.10/11, Sect. UN 38.3 T7
Short Circuit	Up to 600A	ST/SG/AC.10/11, Sect. UN 38.3 T5

Test Technology:	**Test Capabilities:**	**Test Specifications/Standards:**
Adhesion by Tape	N/A	ASTM D3359
Compression	Up to 100 kN	ISTA 2A, 2B, 3A, 6A, 6B, FedEx
Acceleration	1 – 250g 1000 – 20,000g	MIL-STD-810F and 810G, Method 513.5; MIL-STD-883E, Method 2001.2
Ultraviolet Exposure	UVA, UVB, UVC	ASTM G154
Acoustic Noise	(30 to 100) dBa Sound Pressure Sound Power	ISO 7779 (*Excluding Section 6*); Telcordia GR-63-CORE

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

Accredited Laboratory

A2LA has accredited

QUANTA LABORATORIES

Santa Clara, 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 10th day of November 2022.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2454.01
Valid to August 31, 2024

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