CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Alpha-Liberty Company, Inc.
7185 Liberty Centre Drive, Suite E
West Chester, Ohio 45069

Fulfills the requirements of

ISO/IEC 17025:2017

In the field of

CALIBRATION

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

Jason Stine, Vice President

Expiry Date: 27 September 2025
Certificate Number: AC-1127

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. 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).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

Alpha-Liberty Company, Inc.

7185 Liberty Centre Drive, Suite E
West Chester, Ohio 45069
Bernd Rau 513-777-1525

CALIBRATION

Valid to: **September 27, 2025** Certificate Number: **AC-1127**

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Mass Artifacts	1 mg to 1 g (1 to 2) g (2 to 5) g	3.1 µg 3.9 µg 4.6 µg	Class 0 Weights, Microbalance 0.000 000 1 g Resolution
Mass Artifacts	(5 to 10) g (10 to 50) g (50 to 200) g	7.2 µg 22 µg 35 µg	Class 0 Weights, Semi-Micro Balance 0.000 001 g Resolution
Mass Artifacts	(200 to 500) g (500 to 1 000) g	0.19 mg 0.27 mg	Class 0 Weights, Analytical Balance 0.000 1 g Resolution
Mass Artifacts	(1 000 to 2 000) g (2 000 to 5 000) g (5 000 to 10 000) g	1.2 mg 1.8 mg 4 mg	Class 0 Weights, Precision Balance 0.001 g Resolution
Mass Artifacts [3]	Up to 20 000 g (20 000 to 50 000) g	17 mg 27 mg	Class 1 Weights, High Capacity Balance 0.01 g Resolution
Balances [1,2]	Up to 2 g (2 to 5) g (5 to 50) g	0.1 mg 0.21 mg 1.8 mg	ASTM E617 Class 1 Weights and internal procedure QWI 02 utilized for the calibration of the weighing system.
Balances [1,2]	Up to 200 g	4.2 mg	ASTM E617 Class 1 Weights and internal procedure QWI 02 utilized for the calibration of the weighing system.
Balances [1,2]	Up to 1 000 g	21 mg	ASTM E617 Class 1 Weights and internal procedure QWI 02 utilized for the calibration of the weighing system.

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Balances [1,2]	Up to 10 000 g	0.11 g	ASTM E617 Class 1 Weights and internal procedure QWI 02 utilized for the calibration of the weighing system.
Balances [1,2]	Up to 60 000 g	0.65 g	ASTM E617 Class 1 Weights and internal procedure QWI 02 utilized for the calibration of the weighing system.
Scales [1,2]	Up to 500 kg	14 g	ASTM E617 Class 4 weights and internal procedure QWI 02 utilized for the calibration of the weighing system.
Scales [1,2]	Up to 30 lb	0.004 2 lb	NIST Class F weights and internal procedure QWI 02 utilized for the calibration of the weighing system.
Scales [1,2]	Up to 500 lb	0.073 lb	NIST Class F weights and internal procedure QWI 02 utilized for the calibration of the weighing system.
Balances Minimum Sample Quantity [1]	Up to 60 kg	0.1 % of reading	ASTM E617 Class 1 weights

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 (k=2), corresponding to a confidence level of approximately 95%.

Notes:

1. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope.
2. The CMC for scales and balances is highly dependent upon the resolution of the unit under test. The uncertainties presented here do include the resolution of the unit under test. The resolution will be included in the reported measurement uncertainty at the time of calibration.
3. Weights in this range can be calibrated to ASTM Class 2.
4. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-1127.

Jason Stine, Vice President