



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017
& ANSI/NCSL Z540-1-1994

IMP ELECTRONIC SYSTEMS
3101 Hammonds Plains Road
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CALIBRATION

Valid To: March 31, 2022

Certificate Number: 4741.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations^{1,6}:

I. Dimensional

Parameter/Equipment	Range	CMC ^{2,4} (\pm)	Comments
Calipers	Up to 24 in	580 μ in + 1.6L	Gage blocks with surface plate
Dial Indicators	Up to 3 in	71 μ in + 0.5L	Pratt & Whitney Labmaster™ 175 with gage blocks
Gage Blocks	Up to 14 in	15 μ in + 0.5L	Pratt & Whitney Labmaster™ 175 with gage blocks
Micrometers - Linearity	Up to 12 in	440 μ in	Gage blocks with surface plate
Flatness	Up to 2 in	8.9 μ in	Optical flat

Parameter/Equipment	Range	CMC ^{2,4} (\pm)	Comments
Pin Gauges	Up to 1 in	19 μ m + 0.5L	Pratt & Whitney Labmaster™ 175 with gage blocks
Cylindrical Plug Gages	(0.01 to 12) in	19 μ m + 0.5L	Pratt & Whitney Labmaster™ 175 with gage blocks

II. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC ^{2,5} (\pm)	Comments
DC Voltage – Generate	1 mV to 1 V (1 to 10) V (10 to 100) V 100 V to 1 kV	42 μ V 0.82 mV 3.9 mV 0.024 V	Fluke multi product calibrator 5522A
DC Current – Generate	(0 to 10) mA (10 to 100) mA 100 mA to 1 A (1 to 3) A	0.0038 mA 0.038 mA 0.29 mA 0.014 A	Fluke multi product calibrator 5522A
DC Resistance (4 Wire) – Generate	(0.01 to 100) Ω 100 Ω to 1 k Ω (1 to 100) k Ω 100 k Ω to 1 M Ω (1 to 10) M Ω (10 to 100) M Ω	0.0057 Ω 0.037 Ω 0.0044 k Ω 0.042 k Ω 0.0034 M Ω 0.73 M Ω	Fluke multi product calibrator 5522A

Parameter/Range	Frequency	CMC ^{2.5} (±)	Comments
AC Voltage – Generate (1 to 100) mV 100 mV to 1 V (1 to 10) V (10 to 100) V 100 V to 1 kV	10 Hz to 500 kHz 10 Hz to 500 kHz 10 Hz to 500 kHz 10 Hz to 100 kHz (45 to 100) kHz	0.061 mV 0.59 mV 0.006 V 0.069 V 0.37 V	Fluke multi product calibrator 5522A
AC Current – Generate 1A	10 Hz to 10 kHz	0.000 71 A	Fluke multi product calibrator 5522A

Parameter/Equipment	Range	CMC ^{2.5} (±)	Comments
Capacitance – Generate	220 pF to 11 nF Up to 3.3 µF	0.035 nF 0.022 µF	Fluke multi product calibrator 5522A
Electrical Simulation of Thermocouples – Type K	(-200 to 1372) °C	0.61 °C	Fluke multi product calibrator 5522A

III. Mechanical

Parameter/Equipment	Range	CMC ^{2,3} (±)	Comments
Torque – Measuring Equipment	(1 to 10) ozf-in	0.24 ozf-in	Advanced Witness Systems display, loader, and transducers
	(10 to 50) ozf-in	1.8 ozf-in	
	(5 to 50) lbf-in	0.87 lbf-in	
	(25 to 250) lbf-in	2.8 lbf-in	
	(15 to 150) lbf-ft	0.56 lbf-ft	
	(100 to 2000) lbf-ft	4.5 lbf-ft	
Tensiometer (Banding Tools)	(40 to 200) lb	2.8 lbs	EFG-Microprocessor force gauge

IV. Time & Frequency

Parameter/Equipment	Range	CMC ^{2,3} (±)	Comments
Frequency – Measuring Equipment	10 Hz to 2 MHz	4.3 Hz + 2.5 µHz/Hz	Fluke multi product calibrator 5522A

¹ This laboratory offers commercial calibration service.

² Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMCs represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

³ The type of instrument or material being calibrated is defined by the parameter. This indicates the laboratory is capable of calibrating instruments that measure or generate the values in the ranges indicated for the listed measurement parameter.

⁴ In the statement of CMC, L is the numerical value of the nominal length of the device measured in inches.

⁵ The stated measured values are determined using the indicated instrument (see Comments). This capability is suitable for the calibration of the devices intended to measure or generate the measured value in the ranges indicated. CMC's are expressed as either a specific value that covers the full range or as a percent or fraction of the reading plus a fixed floor specification.

⁶ This scope meets A2LA's P112 *Flexible Scope Policy*.



Accredited Laboratory

A2LA has accredited

IMP ELECTRONIC SYSTEMS

Hammonds Plains, Nova Scotia , CANADA

for technical competence in the field of

Calibration

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 laboratory also meets the requirements of ANSI/NCCL Z540-1-1994 and R205 – Specific Requirements: Calibration Laboratory Accreditation Program. 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 22nd day of July 2020.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 4741.01
Valid to March 31, 2022

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