



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

VISIONAL TECHNOLOGY LLC (LIMITED LIABILITY CORPORATION)

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 San Juan, Puerto Rico 00918  
 Joyce Rotger Phone: 787 717 0881

CALIBRATION

Valid To: November 30, 2024

Certificate Number: 4111.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations<sup>1, 6</sup>:

I. Dimensional Testing/Calibration<sup>7</sup>

Parameter/Equipment	Range	CMC <sup>2, 4</sup> (±)	Comments
Vision Measurement System <sup>3</sup> –			
Length Accuracy	Up to 758 mm	(0.52 + 0.000 67L) μm	Glass line scale
Z-Axis Linear Error (1D Tactile)	Up to 177 mm	(0.29 + 0.0018L) μm	Gage blocks
Euv – Length Error of the Imaging Probe	Up to 150 mm	(1.0 + 0.0021L) μm	Glass line scale
Probing Error (PF2D) <sup>9</sup>	Up to 3.5 mm circle	0.44 μm	Glass reticle
Probing Error of the Imaging Probe (PFV2D) <sup>9</sup>	Up to 3.5 mm circle	0.57 μm	Glass reticle
Coordinate Measuring Machines (CMM) <sup>3</sup> –			
Length Accuracy	Up to 1000 mm	(0.14 + 0.0002L) μm	Step gage <sup>8</sup>
Probe Performance	Up to 25 mm	0.15 μm	Sphere <sup>8</sup>
Scanning Performance	Up to 25 mm	0.12 μm	Sphere <sup>8</sup>

Parameter/Equipment	Range	CMC <sup>2,4</sup> (±)	Comments
Optical Comparator <sup>3</sup> – Length Accuracy (Vertical)	Up to 192 mm Up to 8 in	(1.4 + 0.005L) μm (56 + 5L) μin	Glass scale
Length Accuracy (Horizontal)	Up to 606 mm Up to 24 in	(0.65 + 0.0019L) μm (26 + 1.9L) μin	
Chart Rotation (Angles)	Up to 180°	1.2 Arcminutes	Glass reticle
Glass Grid/Dot Arrays/Checkerboards	Up to 500 mm	(0.52 + 0.000 67L) μm	Vision measurement system with comparison to calibrated standards
Reticles – Diameters	Up to 3.5 mm	0.41 μm	Vision system by comparison to calibrated standards
Angles	Up to 400 mm	(2.1 + 0.0035D) μm	Vision system
Distances	Up to 180° Up to 758 mm	1.0 Arcminutes (0.52 + 0.000 67L) μm	Vision system by comparison to calibrated standards
Linear Glass Scales	Up to 758 mm	(0.52 + 0.000 67L) μm	Vision measurement system with comparison to calibrated standards
Steel Rules	Up to 640 mm	(3.9 + 0.0025L) μm	Vision measurement system
Length Standards (CMM)	Up to 758 mm	(0.10 + 0.000 23L) μm	CMM and laboratory primary length standards

## II. Dimensional Testing<sup>1</sup>

Parameter/Equipment	Range	CMC <sup>2,4</sup> ( $\pm$ )	Comments
Length Measurements <sup>5</sup>	Up to 640 mm	$(2.0 + 0.00034L) \mu\text{m}$	CMM, vision system
Diameter <sup>5,7</sup>	Up to 3.5 mm	0.41 $\mu\text{m}$	CMM, vision system by comparison to calibrated standards
	Up to 400 mm	$(2.1 + 0.0035D) \mu\text{m}$	CMM, vision system
Angle <sup>5</sup>	Up to 360°	$(0.53 + 0.0015A)$ Arcminutes	CMM, vision system

<sup>1</sup> This laboratory offers commercial calibration service, field calibration service, and dimensional testing.

<sup>2</sup> 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.

<sup>3</sup> This laboratory performs field calibration activities for these parameters. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the CMC found on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the actual uncertainty introduced by the item being calibrated, (e.g., resolution) must also be considered and this, on its own, could result in the actual measurement uncertainty achievable on a customer's site being larger than the CMC.

<sup>4</sup> In the statement of CMC,  $L$  is the numerical value of the nominal length of the device measured in mm and  $D$  is the numerical value of the diameter of device measured in mm.

<sup>5</sup> This test is not equivalent to that of a calibration.

<sup>6</sup> This scope meets A2LA's P112 *Flexible Scope Policy*.

<sup>7</sup> This laboratory meets R205 – *Specific Requirements: Calibration Laboratory Accreditation Program* for the types of dimensional tests listed above and is considered equivalent to that of a calibration.

<sup>8</sup> Calibration method utilizing corresponding section(s) of ISO 10360 for defined parameter.

<sup>9</sup> Repeatability of the Unit Under Test has not been utilized in the calculation of the CMC value for this measurement parameter.



## Accredited Laboratory

A2LA has accredited

### **VISIONAL TECHNOLOGY LLC (LIMITED LIABILITY CORPORATION)**

*San Juan, PUERTO RICO*

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 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 14<sup>th</sup> day of November 2022.

A blue ink signature of Trace McInturff, written over a horizontal line.

Mr. Trace McInturff, Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 4111.01  
Valid to November 30, 2024  
Revised March 31, 2023

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