Scope of Accreditation
For
Nikon Metrology, Inc.

12701 Grand River Road
Brighton, MI 48116
Jeff Root
810-220-4360

In recognition of a successful assessment to ISO/IEC 17025:2005 to the following Calibration and Measurement Capabilities, accreditation has been granted to **Nikon Metrology, Inc.** for the following:

Accreditation granted through: **March 30, 2019**

Calibration

Length – Hand Tools and Precision Gages 2D [1]

Calibration Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Remarks
Measurescopes X – Y – Z Axis	(0 to 300) mm	1.4 µm	LTE Zerodur Line Scales
Squareness	Up to 50 mm	1.0 µm	X-Y Zerodur Line Scale
Optical Comparators			
Magnification	(10 to 100) X	0.04 % of magnification	Glass Line Scales
X – Y Axis	(0 to 300) mm	1.4 µm	LTE Zerodur Line Scales
Squareness	Up to 50 mm	1.0 µm	X-Y Zerodur Line Scale
Video Measuring System			
X – Y Measuring Stages	(0 to 300) mm (0 to 1 000) mm	2.3 µm 3.0 µm	LTE Zerodur Line Scales
Z Axis	(0 to 50) mm	0.6 µm	Gage Blocks
Video Probe	(0.022 to 8) mm	1.0 µm	Test Slide
Autocollimators	(0 to 30) arc min	0.69 arc sec	Optical Wedge

Certificate # L1080-1

Length – Hand Tools and Precision Gages 3D [1]

Calibration Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-) [2]	Remarks
CMM Repeatability	All	0.28 µm	Per ASME B89.4.lb – Sphere
CMM Linear Accuracy	(0 to 10) m	(0.2 + 2*Y*) µm	Per ASME B89.4.lb – Laser Interferometer
CMM Volumetric Accuracy	(100 to 1 000) mm	(0.11 + 0.0042*L*) µm	Per ASME B89.4.lb – Ball Bar
CMM Volumetric Accuracy	(30 to 750) mm	(0.37 + 0.0039*L*) µm	Per ASME B89.4.lb – Gage Blocks Per VDI/VDE 2617 – Gage Blocks Per CMMA – Gage Blocks Per ISO-10360-2 – Gage Blocks & Calibrated Sphere

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and remarks. 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) Laboratory offers calibration services at the laboratory's own facilities and at the client or other agreed upon facilities.
2) *L* = length in millimeters, *Y* = length in meters

Approved by: _____

R. Douglas Leonard
Chief Technical Officer

Date: March 10, 2016

Re-Issued: 3/10/16

LABORATORY ACCREDITATION BUREAU a division of A-S-B

Certificate of Accreditation

ISO/IEC 17025:2005 Certificate Number L1080-1

Nikon Metrology, Inc.

12701 Grand River Road
Brighton MI 48116

has met the requirements set forth in L-A-B's policies and procedures, all requirements of ISO/IEC 17025:2005 "General Requirements for the competence of Testing and Calibration Laboratories".*

The accredited lab has demonstrated technical competence to a defined "Scope of Accreditation" and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).

Accreditation valid through: March 30, 2019

R. Douglas Leonard, Jr., President, COO
Laboratory Accreditation Bureau
Presented the 10th of March 2016

*See the laboratory's Scope of Accreditation for details of accredited parameters
**Laboratory Accreditation Bureau is found to be in compliance with ISO/IEC 17011:2004 and recognized by ILAC (International Laboratory Accreditation Cooperation) and NACLA (National Cooperation for Laboratory Accreditation).
Form 28.1 – Rev 1 7/3/13