CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Hexagon Manufacturing Intelligence, Inc.
46444 Hexagon Way
Novi, MI 48377

(and the satellite sites as listed on the scope)

Fulfills the requirements of

ISO/IEC 17025:2017

and the national standard

ANSI/NCSL Z540-1-1994 (R2002)

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: 14 December 2024

Certificate Number: AC-1745

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 AND ANSI/NCSL Z540-1-1994 (R2002)

Hexagon Manufacturing Intelligence, Inc.
46444 Hexagon Way
Novi, MI 48377
Sarah White
248-449-9443

CALIBRATION

Valid to: **December 14, 2024** Certificate Number: **AC-1745**

Length – Dimensional Metrology

Parameter / Equipment [1]	Range	Expanded Uncertainty of Measurement (+/-) [2]	Reference Standard, Method and/or Equipment
Length Bar Standard	Up to 1.2 m	(2.8 + 0.47*L*) µm	CMM
Articulated Arm CMM (AACMM) – Volumetric Performance	Up to 1.2 m	(4 + 0.67*L*) µm	ASME B89.4.22 Sections 5.3 and 5.4 Length Bar Standard
Articulated Arm CMM (AACMM) – Volumetric Performance	Up to 1.2 m	(2.6 + 0.63*L*) µm	ISO 10360-2 Sections 6.3 and 6.4 (adapted) Step Gage
Articulated Arm CMM (AACMM) –	Sphere Diameter:		ISO 10360-12
Probing Size Error (P Size)[2]	Up to 51 mm	0.22 µm	Test Sphere
Probing Form Error (P Form)[2]	Up to 51 mm	0.13 µm	Test Sphere
Articulated Location Error (LDia)[2]	Up to 51 mm	0.16 µm	Test Sphere
Length Measurement Error Unidirectional (EUni)	Length: Up to 3 m	(2 + 2*L*) µm	Scale Bar with conical seat

Length – Dimensional Metrology

Parameter / Equipment [1]	Range	Expanded Uncertainty of Measurement (+/-) [2]	Reference Standard, Method and/or Equipment
Articulated Arm Coordinate Measuring Machines (AACMM) with Optical Distance Sensors: Articulated Location Value (LDia)[2]	 Sphere Diameter: 51 mm	 0.25 µm	ISO 10360-8 Annex D Test Sphere
Test Sphere Diameter[2] Form[2]	 25.4 mm 50.0 mm 25.4 mm 50.0 mm	 1.6 µm 4.4 µm 1 µm 1 µm	CMM
Length (Tracker with or without T-scan or T-probe)	(125 to 2 550) mm	14.1 µm	Scale Bar (Brunson kit, modular)
Length (Theodolites - Industrial Measurement Systems)	(125 to 2 550) mm	14.1 µm	Scale Bar (Brunson kit, modular)

Services performed at satellite location
9004 Research Drive
Irvine, CA 92618
Sarah White 248-449-9443

CALIBRATION

Length – Dimensional Metrology

Parameter / Equipment [1]	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Length (Tracker with or without T-scan or T-probe)	(125 to 2 550) mm	14.1 µm	Scale Bar (Brunson kit, modular)
Length (Theodolites - Industrial Measurement Systems)	(125 to 2 550) mm	14.1 µm	Scale Bar (Brunson kit, modular)

Services performed at satellite location
555 Michigan Drive, Suite 200
Oakville, ON L6L 0G4, Canada
Sarah White 248-449-9443

CALIBRATION

Length – Dimensional Metrology

Parameter / Equipment [1]	Range	Expanded Uncertainty of Measurement (+/-) [2]	Reference Standard, Method and/or Equipment
Length Bar Standard	Up to 1.2 m	(2.8 + 0.47*L*) µm	CMM
Articulated Arm CMM (AACMM) – Volumetric Performance	Up to 1.2 m	(4 + 0.67*L*) µm	ASME B89.4.22 Sections 5.3 and 5.4 Length Bar Standard

Length – Dimensional Metrology

Parameter / Equipment [1]	Range	Expanded Uncertainty of Measurement (+/-) [2]	Reference Standard, Method and/or Equipment
Articulated Arm CMM (AACMM) –			ISO 10360-12
Probing Size Error (P Size)[2]	Sphere Diameter: Up to 51 mm	0.22 µm	Test Sphere
Probing Form Error (P Form)[2]	Up to 51 mm	0.13 µm	Test Sphere
Articulated Location Error (LDia)[2]	Up to 51 mm	0.16 µm	Test Sphere
Length Measurement Error Unidirectional (EUni)	Length: Up to 3 m	(2 + 2*L*) µm	Scale Bar with conical seat
Articulated Arm Coordinate Measuring Machines (AACMM) with Optical Distance Sensors:			ISO 10360-8 Annex D
Articulated Location Value (LDia)[2]	Sphere Diameter: 51 mm	0.25 µm	Test Sphere
Test Sphere			
Diameter[2]	25.4 mm 50.0 mm	1.6 µm 4.4 µm	CMM
Form[2]	25.4 mm 50.0 mm	1 µm 1 µm	

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. *L* = Length in meter.
3. Dimensions are nominal value
4. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-1745.

Jason Stine, Vice President