



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

***Kane (Canada) Measurement Solutions, Ltd. dba UEi Test
Instruments & Kane USA, Inc. dba UEi Instruments.***

***13571 Verdun Place, Unit 150, Richmond, BC V6V 1W5
8760 East 33rd Street, Indianapolis, Indiana 46226***

*(Hereinafter called the Organization) and hereby declares that Organization is accredited
in accordance with the recognized International Standard:*

ISO/IEC 17025:2005

This accreditation demonstrates technical competence for a defined scope and the
operation of a laboratory quality management system
(as outlined by the joint ISO-ILAC-IAF Communiqué dated January 2009):

***Calibration of Acoustic, Chemical, Dimensional, Electrical, Mechanical,
Thermodynamic, and Time & Frequency Equipment
(As detailed in the supplement)***

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this
certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the
Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

<i>Initial Accreditation Date:</i>	<i>Issue Date:</i>	<i>Expiration Date:</i>
November 13, 2014	January 31, 2017	April 30, 2019

Tracy Szerszen
President/Operations Manager

<i>Accreditation No.:</i>	<i>Certificate No.:</i>
82680	L17-60

Perry Johnson Laboratory
Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48084

*The validity of this certificate is maintained through ongoing assessments based on a
continuous accreditation cycle. The validity of this certificate should be
confirmed through the PJLA website: www.pjllabs.com*



Certificate of Accreditation: Supplement

UEi Test Instruments

13571 Verdun Place, Unit 150, Richmond, BC V6V 1W5
 8760 East 33rd Street, Indianapolis, Indiana 46226
 Mukhtar Malawiya Phone: 604-278-4511

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	
Equipment to Measure DC Voltage ^{FO}	0.1 μ V to 330 mV	23 μ V/V + 2 μ V	Fluke 5522A	
	0.33 V to 3.3 V	13 μ V/V + 4 μ V		
	3.3 V to 33 V	14 μ V/V + 35 μ V		
	30 V to 330 V	21 μ V/V + 250 μ V		
	100 V to 1 000 V	21 μ V/V + 1 800 μ V		
Equipment to Measure DC Current ^{FO}	1 nA to 330 μ A	150 μ A/A + 0.02 μ A		
	330 μ A to 3.3mA	100 μ A/A + 0.06 μ A		
	3.3 to 33 mA	100 μ A/A + 0.4 μ A		
	33 to 330 mA	100 μ A/A + 4 μ A		
	330 mA to 1.1 A	200 μ A/A + 50 μ A		
	1.1 A to 3.3 A	380 μ A/A + 50 μ A		
	3.3 A to 11.5 A	500 μ A/A + 600 μ A		
11.5 A to 20 A	1 000 μ A/A + 850 μ A			
Equipment to Measure DC Current Clamp On ^{FO}	20 A to 1 000 A	0.1 % of reading + 0.85 mA		Fluke 5522A w/50 turn coil
Equipment to Source DC Voltage ^{FO}	0.01 mV to 100 mV	0.003 7 % of reading + 0.003 5 % of range		Fluke 8846A
	100 mV to 1 V	0.002 5 % of reading + 0.000 7 % of range		
	1 V to 10 V	0.002 4 % of reading + 0.000 5 % of range		
	10 V to 100 V	0.003 8 % of reading + 0.000 6 % of range		
	100 V to 1 000 V	0.004 1 % of reading + 0.001 % of range		
Equipment to Source DC Current ^{FO}	Up to 100 μ A	0.06 % of reading + 0.004 5 % of range		
	100 μ A to 1 mA	0.057 % of reading + 0.01 % of range		
	1 μ A to 10 mA	0.057 % of reading + 0.04 % of range		
	10 μ A to 100 mA	0.06 % of reading + 0.009 % of range		
	100 mA to 400 mA	0.08 % of reading + 0.009 % of range		
	400 mA to 1 A	0.08 % of reading + 0.04 % of range		
	1 A to 3 A	0.15 % of reading + 0.04 % of range		
3 A to 10 A	0.25 % of reading + 0.016 % of range			



Certificate of Accreditation: Supplement

UEi Test Instruments

13571 Verdun Place, Unit 150, Richmond, BC V6V 1W5
 8760 East 33rd Street, Indianapolis, Indiana 46226
 Mukhtar Malawiya Phone: 604-278-4511

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure AC Current at the listed frequencies ^{FO}			Fluke 5522A
10 Hz to 20 Hz	29 μ A to 330 μ A	0.2 % of reading + 0.1 μ A	
20 Hz to 45 Hz	29 μ A to 330 μ A	0.15 % of reading + 0.1 μ A	
45 Hz to 1 kHz	29 μ A to 330 μ A	0.125 % of reading + 0.1 μ A	
1 kHz to 5 kHz	29 μ A to 330 μ A	0.2 % of reading + 0.1 μ A	
5 kHz to 10 kHz	29 μ A to 330 μ A	0.8 % of reading + 0.2 μ A	
10 kHz to 30 kHz	29 μ A to 330 μ A	1.6 % of reading + 0.4 μ A	
Equipment to Measure AC Current at the listed frequencies ^{FO}			
10 Hz to 20 Hz	0.33 mA to 3.3 mA	0.2 % of reading + 0.15 μ A	
20 Hz to 45 Hz	0.33 mA to 3.3 mA	0.125 % of reading + 0.15 μ A	
45 Hz to 1 kHz	0.33 mA to 3.3 mA	0.1 % of reading + 0.15 μ A	
1 kHz to 5 kHz	0.33 mA to 3.3 mA	0.2 % of reading + 0.2 μ A	
5 kHz to 10 kHz	0.33 mA to 3.3 mA	0.5 % of reading + 0.3 μ A	
10 kHz to 30 kHz	0.33 mA to 3.3 mA	1 % of reading + 0.6 μ A	
Equipment to Measure AC Current at the listed frequencies ^{FO}			
10 Hz to 20 Hz	3.3 mA to 33 mA	0.18 % of reading + 2 μ A	
20 Hz to 45 Hz	3.3 mA to 33 mA	0.09 % of reading + 2 μ A	
45 Hz to 1 kHz	3.3 mA to 33 mA	0.04 % of reading + 2 μ A	
1 kHz to 5 kHz	3.3 mA to 33 mA	0.08 % of reading + 2 μ A	
5 kHz to 10 kHz	3.3 mA to 33 mA	0.2 % of reading + 3 μ A	
10 kHz to 30 kHz	3.3 mA to 33 mA	0.4 % of reading + 4 μ A	
Equipment to Measure AC Current at the listed frequencies ^{FO}			
10 Hz to 20 Hz	33 mA to 330 mA	0.18 % of reading + 20 μ A	
20 Hz to 45 Hz	33 mA to 330 mA	0.09 % of reading + 20 μ A	
45 Hz to 1 kHz	33 mA to 330 mA	0.04 % of reading + 20 μ A	
1 kHz to 5 kHz	33 mA to 330 mA	0.1 % of reading + 50 μ A	
5 kHz to 10 kHz	33 mA to 330 mA	0.2 % of reading + 100 μ A	
10 kHz to 30 kHz	33 mA to 330 mA	0.4 % of reading + 200 μ A	



Certificate of Accreditation: Supplement

UEi Test Instruments

13571 Verdun Place, Unit 150, Richmond, BC V6V 1W5
 8760 East 33rd Street, Indianapolis, Indiana 46226
 Mukhtar Malawiya Phone: 604-278-4511

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure AC Current at the listed frequencies ^{FO}			Fluke 5522A
10 Hz to 45 Hz	0.33 A to 1.1 A	0.18 % of reading + 100 μ A	
45 Hz to 1 kHz	0.33 A to 1.1 A	0.05 % of reading + 100 μ A	
1 kHz to 5 kHz	0.33 A to 1.1 A	0.6 % of reading + 1 000 μ A	
5 kHz to 10 kHz	0.33 A to 1.1 A	2.5 % of reading + 5 000 μ A	
Equipment to Measure AC Current at the listed frequencies ^{FO}			
10 Hz to 45 Hz	1.1 A to 3 A	0.18 % of reading + 100 μ A	
45 Hz to 1 kHz	1.1 A to 3 A	0.06 % of reading + 100 μ A	
1 kHz to 5 kHz	1.1 A to 3 A	0.6 % of reading + 1 000 μ A	
5 kHz to 10 kHz	1.1 A to 3 A	2.5 % of reading + 5 000 μ A	
Equipment to Measure AC Current at the listed frequencies ^{FO}			
45 Hz to 100 Hz	3 A to 11 A	0.06 % of reading + 2 000 μ A	
100 Hz to 1 kHz	3 A to 11 A	0.1 % of reading + 2 000 μ A	
1 kHz to 5 kHz	3 A to 11 A	3 % of reading + 2 000 μ A	
Equipment to Measure AC Current at the listed frequencies ^{FO}			
45 Hz to 100 Hz	11 A to 20.5 A	0.12 % of reading + 5 000 μ A	
100 Hz to 1 kHz	11 A to 20.5 A	0.15 % of reading + 5 000 μ A	
1 kHz to 5 kHz	11 A to 20.5 A	3 % of reading + 5 000 μ A	
1 000 A @ 45 Hz	11 A to 20.5 A	0.12 % of reading + 5 mA	Fluke 5522A w/ 50 turn coil
Equipment to Output AC Current at the listed frequencies ^{FO}			Fluke 8846A
3 Hz to 5 Hz	0.01 μ A to 100 μ A	1.1 % of reading + 0.12 % of range	
5 Hz to 10 Hz	0.01 μ A to 100 μ A	0.35 % of reading + 0.12 % of range	
10 Hz to 5 kHz	0.01 μ A to 100 μ A	0.15 % of reading + 0.12 % of range	
5 kHz to 10 kHz	0.01 μ A to 100 μ A	0.35 % of reading + 0.14 % of range	
Equipment to Output AC Current at the listed frequencies ^{FO}			
3 Hz to 5 Hz	100 μ A to 1 mA	1 % of reading + 0.08 % of range	
5 Hz to 10 Hz	100 μ A to 1 mA	0.3 % of reading + 0.08 % of range	
10 Hz to 5 kHz	100 μ A to 1 mA	0.1 % of reading + 0.08 % of range	
5 kHz to 10 kHz	100 μ A to 1 mA	0.2 % of reading + 0.25 % of range	



Certificate of Accreditation: Supplement

UEi Test Instruments

13571 Verdun Place, Unit 150, Richmond, BC V6V 1W5
8760 East 33rd Street, Indianapolis, Indiana 46226
Mukhtar Malawiya Phone: 604-278-4511

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Output AC Current at the listed frequencies ^{F0}			Fluke 8846A
3 Hz to 5 Hz	1 mA to 10 mA	1.1 % of reading + 0.12 % of range	
5 Hz to 10 Hz	1 mA to 10 mA	0.35 % of reading + 0.12 % of range	
10 Hz to 5 kHz	1 mA to 10 mA	0.15 % of reading + 0.12 % of range	
5 kHz to 10 kHz	1 mA to 10 mA	0.35 % of reading + 0.14 % of range	
Equipment to Output AC Current at the listed frequencies ^{F0}			
3 Hz to 5 Hz	10 mA to 100 mA	1 % of reading + 0.08 % of range	
5 Hz to 10 Hz	10 mA to 100 mA	0.3 % of reading + 0.08 % of range	
10 Hz to 5 kHz	10 mA to 100 mA	0.1 % of reading + 0.08 % of range	
5 kHz to 10 kHz	10 mA to 100 mA	0.2 % of reading + 0.5 % of range	
Equipment to Output AC Current at the listed frequencies ^{F0}			
3 Hz to 5 Hz	100 mA to 400 mA	1 % of reading + 0.2 % of range	
5 Hz to 10 Hz	100 mA to 400 mA	0.3 % of reading + 0.2 % of range	
10 Hz to 5 kHz	100 mA to 400 mA	0.1 % of reading + 0.2 % of range	
5 kHz to 10 kHz	100 mA to 400 mA	0.2 % of reading + 1.4 % of range	
Equipment to Output AC Current at the listed frequencies ^{F0}			
3 Hz to 5 Hz	100 μ A to 1 mA	1 % of reading + 0.08 % of range	
5 Hz to 10 Hz	100 μ A to 1 mA	0.3 % of reading + 0.08 % of range	
10 Hz to 5 kHz	100 μ A to 1 mA	0.1 % of reading + 0.08 % of range	
5 kHz to 10 kHz	100 μ A to 1 mA	0.2 % of reading + 0.25 % of range	
Equipment to Output AC Current at the listed frequencies ^{F0}			
3 Hz to 5 Hz	1 mA to 10 mA	1.1 % of reading + 0.12 % of range	
5 Hz to 10 Hz	1 mA to 10 mA	0.35 % of reading + 0.12 % of range	
10 Hz to 5 kHz	1 mA to 10 mA	0.15 % of reading + 0.12 % of range	
5 kHz to 10 kHz	1 mA to 10 mA	0.35 % of reading + 0.14 % of range	



Certificate of Accreditation: Supplement

UEi Test Instruments

13571 Verdun Place, Unit 150, Richmond, BC V6V 1W5
 8760 East 33rd Street, Indianapolis, Indiana 46226
 Mukhtar Malawiya Phone: 604-278-4511

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Output AC Current at the listed frequencies ^{FO}			Fluke 8846A
3 Hz to 5 Hz	10 mA to 100 mA	1 % of reading + 0.08 % of range	
5 Hz to 10 Hz	10 mA to 100 mA	0.3 % of reading + 0.08 % of range	
10 Hz to 5 kHz	10 mA to 100 mA	0.1 % of reading + 0.08 % of range	
5 kHz to 10 kHz	10 mA to 100 mA	0.2 % of reading + 0.50 % of range	
Equipment to Output AC Current at the listed frequencies ^{FO}			
3 Hz to 5 Hz	100 mA to 400 mA	1 % of reading + 0.2 % of range	
5 Hz to 10 Hz	100 mA to 400 mA	0.3 % of reading + 0.2 % of range	
10 Hz to 5 kHz	100 mA to 400 mA	0.1 % of reading + 0.2 % of range	
5 kHz to 10 kHz	100 mA to 400 mA	0.2 % of reading + 1.4 % of range	
Equipment to Measure Resistance ^{FO}	0.01 Ω to 11 Ω	0.004 % of output + 0.011 Ω	Fluke 5522A
	11 Ω to 33 Ω	0.003 % of output + 0.017 Ω	
	33 Ω to 110 Ω	0.002 8 % of output + 0.017 Ω	
	110 Ω to 330 Ω	0.0028 % of output + 0.022 Ω	
	330 Ω to 1.1 k Ω	0.002 8 % of output + 0.022 Ω	
	1.1 k Ω to 3.3 k Ω	0.002 8 % of output + 0.22 Ω	
	3.3 k Ω to 11 k Ω	0.002 8 % of output + 0.12 Ω	
	11 k Ω to 33 k Ω	0.002 8 % of output + 1.2 Ω	
	33 k Ω to 110 k Ω	0.002 8 % of output + 1.2 Ω	
	110 k Ω to 330 k Ω	0.003 2 % of output + 12 Ω	
	330 k Ω to 1.1 M Ω	0.003 2 % of output + 12 Ω	
	1.1 M Ω to 3.3 M Ω	0.006 % of output + 180 Ω	
	3.3 M Ω to 11 M Ω	0.13 % of output + 300 Ω	
	11 M Ω to 33 M Ω	0.025 % of output + 5 k Ω	
	33 M Ω to 110 M Ω	0.05 % of output + 6.0 k Ω	
110 M Ω to 330 M Ω	0.3 % of output + 0.2 M Ω		
330 M Ω to 1 100 M Ω	1.5 % of output + 1 M Ω		
Equipment to Output Resistance ^{FO}	0.01 Ω to 10 Ω	18 $\mu\Omega/\Omega$ + 50 $\mu\Omega$	Fluke 8846A
	100 Ω	15 $\mu\Omega/\Omega$ + 500 $\mu\Omega$	
	1 k Ω	13 $\mu\Omega /\Omega$ + 500 $\mu\Omega$	



Certificate of Accreditation: Supplement

UEi Test Instruments

13571 Verdun Place, Unit 150, Richmond, BC V6V 1W5
 8760 East 33rd Street, Indianapolis, Indiana 46226
 Mukhtar Malawiya Phone: 604-278-4511

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Output Resistance ^{FO}	10 k Ω	13 $\mu\Omega/\Omega$ + 5 m Ω	Fluke 8846A
	100 k Ω	13 $\mu\Omega/\Omega$ + 50 m Ω	
	1 M Ω	18 $\mu\Omega/\Omega$ + 2 Ω	
	10 M Ω	53 $\mu\Omega/\Omega$ + 100 Ω	
	100 M Ω	0.5 m Ω/Ω + 1 k Ω	
	1 G Ω	0.5 m Ω/Ω + 10 k Ω	
10 Hz to 45 Hz	1 mV to 33 mV	0.08 % of reading + 6 μ V	
45 Hz to 10 kHz	1 mV to 33 mV	0.015 % of reading + 6 μ V	
10 kHz to 20 kHz	1 mV to 33 mV	0.02 % of reading + 6 μ V	
20 kHz to 50 kHz	1 mV to 33 mV	0.1 % of reading + 6 μ V	
50 kHz to 100 kHz	1 mV to 33 mV	0.35 % of reading + 12 μ V	
100 kHz to 500 kHz	1 mV to 33 mV	0.8 % of reading + 50 μ V	
Equipment to Measure AC Voltage at the listed frequencies ^{FO}			
10 Hz to 45 Hz	33 mV to 330 mV	0.03 % of reading + 8 μ V	
45 Hz to 10 kHz	33 mV to 330 mV	0.013 % of reading + 8 μ V	
10 kHz to 20 kHz	33 mV to 330 mV	0.015 % of reading + 8 μ V	
20 kHz to 50 kHz	33 mV to 330 mV	0.035 % of reading + 8 μ V	
50 kHz to 100 kHz	33 mV to 330 mV	0.08 % of reading + 32 μ V	
100 kHz to 500 kHz	33 mV to 330 mV	0.2 % of reading + 70 μ V	
Equipment to Measure AC Voltage at the listed frequencies ^{FO}			
10 Hz to 45 Hz	0.33 V to 3.3 V	0.03 % of reading + 50 μ V	
45 Hz to 10 kHz	0.33 V to 3.3 V	0.012 % of reading + 25 μ V	
10 kHz to 20 kHz	0.33 V to 3.3 V	0.019 % of reading + 50 μ V	
20 kHz to 50 kHz	0.33 V to 3.3 V	0.03 % of reading + 50 μ V	
50 kHz to 100 kHz	0.33 V to 3.3 V	0.07 % of reading + 125 μ V	
100 kHz to 500 kHz	0.33 V to 3.3 V	0.24 % of reading + 600 μ V	
Equipment to Measure AC Voltage at the listed frequencies ^{FO}			
10 Hz to 45 Hz	3.3 V to 33 V	0.03 % of reading + 650 μ V	
45 Hz to 10 kHz	3.3 V to 33 V	0.015 % of reading + 200 μ V	
10 kHz to 20 kHz	3.3 V to 33 V	0.024 % of reading + 600 μ V	
20 kHz to 50 kHz	3.3 V to 33 V	0.035 % of reading + 600 μ V	
50 kHz to 100 kHz	3.3 V to 33 V	0.09 % of reading + 1.6 mV	



Certificate of Accreditation: Supplement

UEi Test Instruments

13571 Verdun Place, Unit 150, Richmond, BC V6V 1W5
 8760 East 33rd Street, Indianapolis, Indiana 46226
 Mukhtar Malawiya Phone: 604-278-4511

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure AC Voltage at the listed frequencies ^{FO}			Fluke 5522A
45 Hz to 1 kHz	33 V to 330 V	0.019 % of reading + 2 mV	
1 kHz to 10 kHz	33 V to 330 V	0.02 % of reading + 6 mV	
10 kHz to 20 kHz	33 V to 330 V	0.025 % of reading + 6 mV	
20 kHz to 50 kHz	33 V to 330 V	0.03 % of reading + 6 mV	
50 kHz to 100 kHz	33 V to 330 V	0.2 % of reading + 50 mV	
Equipment to Measure AC Voltage at the listed frequencies ^{FO}			
45 Hz to 1 kHz	330 V to 1020 V	0.03 % of reading + 10 mV	
1 kHz to 5 kHz	330 V to 1020 V	0.025 % of reading + 10 mV	
5 kHz to 10 kHz	330 V to 1020 V	0.03 % of reading + 10 mV	
Equipment to Output Frequency ^{FO}	0.01 Hz to 2 MHz	0.25 mHz/Hz + 5 μ Hz	
Equipment to Measure Frequency ^{FO}	1 Hz to 40 Hz	0.02 % of reading	Fluke 8846A
	40 Hz to 10 MHz	0.01 % of reading	
Equipment to Measure Capacitance ^{FO}	220 pF to 400 pF	0.5 % of reading + 0.2 nF	Fluke 5522A
	0.4 nF to 1.1 nF	0.5 % of reading + 0.1 nF	
	1.1 nF to 3.3 nF	0.5 % of reading + 0.1 nF	
	3.3 nF to 11 nF	0.25 % of reading + 0.2 nF	
	11 nF to 33 nF	0.25 % of reading + 0.2 nF	
	33 nF to 110 nF	0.25 % of reading + 0.2 nF	
	110 nF to 330 nF	0.25 % of reading + 0.2 nF	
	0.33 μ F to 1.1 μ F	0.25 % of reading + 0.2 nF	
	1.1 μ F to 3.3 μ F	0.25 % of reading + 4 nF	
	3.3 μ F to 11 μ F	0.25 % of reading + 0.1 nF	
	11 μ F to 33 μ F	0.4 % of reading + 35 nF	
	33 μ F to 110 μ F	0.45 % of reading + 110 nF	
	110 μ F to 330 μ F	0.45 % of reading + 310 nF	
	0.33 mF to 1.1 mF	0.45 % of reading + 1 020 nF	
	1.1 mF to 3.3 mF	0.45 % of reading + 3 020 nF	
	3.3 mF to 11 mF	0.45 % of reading + 11 μ F	
11 mF to 33 mF	0.75 % of reading + 50 μ F		
33 mF to 110 mF	1.1 % of reading + 120 μ F		



Certificate of Accreditation: Supplement

UEi Test Instruments

13571 Verdun Place, Unit 150, Richmond, BC V6V 1W5
 8760 East 33rd Street, Indianapolis, Indiana 46226
 Mukhtar Malawiya Phone: 604-278-4511

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Output Capacitance ^{FO}	0.1 nF to 1 nF	2 % of reading + 2.5 % of range	Fluke 8846A
	1 nF to 10 nF	1 % of reading + 0.5 % of range	
	10 nF to 10 mF	1 % of reading + 0.5 % of range	
	10 mF to 100 mF	4 % of reading + 0.2 % of range	
Equipment to Output DC Power at 0.33 mA to 330 mA ^{FO}	33 mV to 1 020 V	0.023 % of reading	Fluke 5522A
Equipment to Output DC Powerbat 0.33 A to 3 A ^{FO}	33 mV to 1 020 V	0.022 % of reading	
Equipment to Output DC Power at 3 A to 20.5 A ^{FO}	33 mV to 1 020 V	0.07 % of reading	
Equipment to Output AC Power at 3.3 mA to 20.5 A ^{FO}	33 mV to 330 mV	0.14 % of reading	
	330 mV to 1 020 V	0.12 % of reading	
Equipment to Output AC/DC Voltage (High Voltage Testers ^{FO})	1 kV to 40 kV	0.4 kV	
Equipment to Output DC Current – Source (High Voltage Testers ^{FO})	0.01 mA to 100 mA	1 % of reading	Fluke-5320 Load & Fluke 5322
Equipment to Measure Insulation Resistance ^{FO}	1 k Ω to 10 T Ω	1 % of setting	Fluke-5322/VLC/40
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type B ^{FO}	600 to 1 820 °C	0.44 °C	Electrical Simulation of Thermocouple Output Fluke 5520A
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type C ^{FO}	0 °C to 2 316 °C	0.84 °C	



Certificate of Accreditation: Supplement

UEi Test Instruments

13571 Verdun Place, Unit 150, Richmond, BC V6V 1W5
 8760 East 33rd Street, Indianapolis, Indiana 46226
 Mukhtar Malawiya Phone: 604-278-4511

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E ^{FO}	-250 °C to 1 000 °C	0.5 °C	Electrical Simulation of Thermocouple Output Fluke 5520A
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J ^{FO}	-210 °C to 1 200 °C	0.27 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K ^{FO}	-200 to 1 372 °C	0.4 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type N ^{FO}	-200 to 1 300 °C	0.4 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type R ^{FO}	0 °C to 1 767 °C	0.57 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type S ^{FO}	0 °C to 1767 °C	0.47 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T ^{FO}	-250 °C to 400 °C	0.63 °C	
Equipment to Output RTD ^{FO}	-200 °C to 600 °C	0.22 °C	Fluke 8846 A
Thermocouples RTD's Thermometers ^{FO}	-45 °C to 700 °C	1 °C	Fluke – 9170, Fluke – 2560 SPRT Fluke – 9173, Fluke – 2566
Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 395, 100 Ω ^{FO}	-200 °C to 800 °C	0.05 °C	Electrical Simulation of RTD Output Fluke 5520A



Certificate of Accreditation: Supplement

UEi Test Instruments

13571 Verdun Place, Unit 150, Richmond, BC V6V 1W5
8760 East 33rd Street, Indianapolis, Indiana 46226
Mukhtar Malawiya Phone: 604-278-4511

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Temperature Calibration, Indication and Control Equipment used with RTD Type Pt3926, 100 Ω^{FO}	-200 °C to 630 °C	0.05 °C	Electrical Simulation of Thermocouple Output Fluke 5520A
Temperature Calibration, Indication and Control Equipment used with RTD Type Pt3916, 100 Ω^{FO}	-200 °C to 630 °C	0.25 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Type Pt385, 200 Ω^{FO}	-200 °C to 630 °C	0.16 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Type Pt385, 500 Ω^{FO}	-200 °C to 630 °C	0.11 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Type Pt385, 1000 Ω^{FO}	-200 °C to 630 °C	0.23 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Type Pt Ni 385, 120 Ω^{FO}	-80 °C to 260 °C	0.14 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Cu 427, 10 Ω^{FO}	-100 °C to 260 °C	0.3 °C	
Equipment to Output Infrared Temperature ^{FO}	-15 °C to 500 °C (95 °F to 932 °F)	0.5 °C to 2.2 °C (0.9 °F to 3.96 °F)	

Time & Frequency

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Stop Watch & Timers ^{FO}	24 hours	2.5 s	Time Standard



Certificate of Accreditation: Supplement

UEi Test Instruments

13571 Verdun Place, Unit 150, Richmond, BC V6V 1W5
 8760 East 33rd Street, Indianapolis, Indiana 46226
 Mukhtar Malawiya Phone: 604-278-4511

Accreditation is granted to the facility to perform the following calibrations:

Mechanical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Air Velocity ^F	2.5 m/s to 15 m/s	1 % of reading	OEM Omega – WTM1000
Pressure Gauges ^{FO}	0.001 psi to 15 psi	0.01 % of reading	Fluke PPC4
	15 psi to 100 psi	0.01 % of reading	
	100 psi to 1 000 psi	0.25 % of reading	Druck-DPI 650

Mass, Force, and Weighing Devices

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Calipers ^{FO}	0.05 in to 12 in	$(678.98 + 4.10 \times 10^{-2}L) \mu\text{in}$	Gage Blocks
Micrometers ^{FO}	0.05 in to 12 in	$(55.46 + 1.42L) \mu\text{in}$	
Depth Gauges ^{FO}	0.05 in to 12 in	$(678.98 + 4.10 \times 10^{-2}L) \mu\text{in}$	
Height Gages ^{FO}	0.05 in to 12 in	$(55.46 + 1.42L) \mu\text{in}$	
Rulers ^{FO}	0.05 in to 12 in	$(52.96 + 40.93L) \mu\text{in}$	
Tape Measures ^{FO}	0.05 in to 12 in	$(52.96 + 40.93L) \mu\text{in}$	
Indicators ^{FO}	0.05 in to 12 in	$(68.16 + 1.5 \times 10^{-2}L) \mu\text{in}$	

Chemical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
pH Meters ^{FO}	4 pH to 10 pH	0.03 pH	Standard pH Buffer Solutions
Mixed Gas Carbon Monoxide ^F	5 ppm to 100 000 ppm	1 % of reading	EPA Protocol Gas (Nitrogen as a balance)
Mixed Gas Carbon Dioxide ^F	100 ppm to 200 000 ppm	1 % of reading	
Mixed Gas Nitric Oxide ^F	5 ppm to 5 000 ppm	1 % of reading	
Mixed Gas Nitrogen Dioxide ^F	5 ppm to 3 000 ppm	1 % of reading	
Mixed Gas Sulfur Dioxide ^F	5 ppm to 10 000 ppm	1 % of reading	
Mixed Gas Oxygen ^F	500 ppm to 180 000 ppm	1 % of reading	



Certificate of Accreditation: Supplement

UEi Test Instruments

13571 Verdun Place, Unit 150, Richmond, BC V6V 1W5
8760 East 33rd Street, Indianapolis, Indiana 46226
Mukhtar Malawiya Phone: 604-278-4511

Accreditation is granted to the facility to perform the following calibrations:

Chemical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Mixed Gas Hydrogen ^F	100 ppm to 5 000 ppm	1 % of reading	EPA Protocol Gas (Nitrogen as a balance)
Mixed Gas Propane HC ^F	500 ppm to 10 000 ppm	1 % of reading	

1. The CMC (Calibration and Measurement Capability stated for calibrations included on this scope of accreditation represents the smallest measurement uncertainty attainable by the laboratory when performing a more or less routine calibration of a nearly ideal device under nearly ideal conditions. It is typically expressed at a confidence level of 95 % using a coverage factor k (usually equal to 2). The actual measurement uncertainty associated with a specific calibration performed by the laboratory will typically be larger than the CMC for the same calibration since capability and performance of the device being calibrated and the conditions related to the calibration may reasonably be expected to deviate from ideal to some degree.
2. The laboratories range of calibration capability for all disciplines for which they are accredited is the interval from the smallest calibrated standard to the largest calibrated standard used in performing the calibration. The low end of this range must be an attainable value for which the laboratory has or has access to the standard referenced. Verification of an indicated value of zero in the absence of a standard is common practice in the procedure for many calibrations but by its definition it does not constitute calibration of zero capacity.
3. The presence of a superscript F means that the laboratory performs calibration of the indicated parameter at its fixed location. Example: Outside Micrometer^F would mean that the laboratory performs this calibration at its fixed location.
4. The presence of a superscript O means that the laboratory performs calibration of the indicated parameter onsite at customer locations. Example: Outside Micrometer^O would mean that the laboratory performs this calibration onsite at the customer's location.
5. The presence of a superscript FO means that the laboratory performs calibration of the indicated parameter both at its fixed location and onsite at customer locations. Example: Outside Micrometer^{FO} would mean that the laboratory performs this calibration at its fixed location and onsite at customer locations.
6. Measurement uncertainties obtained for calibrations performed at customer sites can be expected to be larger than the measurement uncertainties obtained at the laboratories fixed location for similar calibrations. This is due to the effects of transportation of the standards and equipment and upon environmental conditions at the customer site which are typically not controlled as closely as at the laboratories fixed location.
7. The term L represents length in inches or millimeters as appropriate to the uncertainty statement.