



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

PCI

8100 Brownleigh Dr., #100A, Raleigh, NC 27617

(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):

Dimensional, Electrical, Mechanical, Chemical, Time & Frequency, and Thermodynamic Calibration
(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:

Tracy Szerszen
President/Operations Manager

Initial Accreditation Date:

September 12, 2011

Issue Date:

October 12, 2017

Expiration Date:

November 30, 2019

Accreditation No.:

54363

Certificate No.:

L17-436

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.pjilabs.com



Certificate of Accreditation: Supplement

PCI

8100 Brownleigh Dr., #100A, Raleigh, NC 27617
 Contact Name: Steve Hilker Phone: 919-781-7787

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

Dimensional

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 Length ^F	0.001 in to 0.4 in	21 μ in/in + 30 μ in	Gage Block Set
	0.401 in to 1 in	48 μ in/in + 19 μ in	
	1.001 in to 7 in	59 μ in/in + 8.4 μ in	
	7.001 in to 24 in	57 μ in/in + 140 μ in	Distance Bars

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 ^F	0.009 mV to 329.999 9 mV	60 μ V/V + 3 μ V	Fluke 5500A-SC300 Calibrator
	330 mV to 3.299 999 V	50 μ V/V + 5 μ V	
	3.3 V to 32.999 99 V	50 μ V/V + 50 μ V	
	33 V to 329.999 9 V	55 μ V/V + 500 μ V	
	330 V to 1 000 V	55 μ V/V + 1 500 μ V	
Equipment to Output DC Voltage ^F	0.000 3 μ V to 200 mV	5 μ V/V + 0.1 μ V	Fluke 8508A Reference Multi-meter
	200 mV to 2 V	3.5 μ V/V + 0.4 μ V	
	2 V to 20 V	3.5 μ V/V + 4 μ V	
	20 V to 200 V	5.5 μ V/V + 0.04 mV	
	200 V to 1 000 V	5.5 μ V/V + 0.5 mV	
	1 000 V to 6 000 V	10 mV/V + 2 V	Fluke 80K-6 HV Probe with 8060A Multi-meter
Equipment to Measure DC Current ^F	0.000 15 mA to 3.299 99 mA	0.5 mA/A + 0.05 μ A	Fluke 5500A-SC300 Calibrator
	3.3 mA to 32.999 9 mA	0.1 mA/A + 0.25 μ A	
	33 mA to 329.999 mA	0.1 mA/A + 3.3 μ A	
	330 mA to 2.199 99 A	0.3 mA/A + 44 μ A	
	2.2 A to 11 A	0.6 mA/A + 330 μ A	
Equipment to Output DC Current ^F	0.001 2 μ A to 200 μ A	12 μ A/A + 0.4 nA	Fluke 8508A Reference Multi-meter
	200 μ A to 2 mA	12 μ A/A + 4 nA	
	2 mA to 20 mA	14 μ A/A + 0.04 μ A	
	20 mA to 200 mA	48 μ A/A + 0.8 μ A	
	200 mA to 2 A	185 μ A/A + 16 μ A	
	2 A to 20 A	400 μ A/A + 400 μ A	



Certificate of Accreditation: Supplement

PCI

8100 Brownleigh Dr., #100A, Raleigh, NC 27617
 Contact Name: Steve Hilker Phone: 919-781-7787

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

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure Resistance ^F	0.024 Ω to 10.99 Ω	0.12 m Ω/Ω + 0.008 Ω	Fluke 5500A-SC300 Calibrator
	11 Ω to 32.999 Ω	0.12 m Ω/Ω + 0.015 Ω	
	33 Ω to 109.999 Ω	90 $\mu\Omega/\Omega$ + 0.015 Ω	
	110 Ω to 329.999 Ω	90 $\mu\Omega/\Omega$ + 0.015 Ω	
	330 Ω to 1.099 99 k Ω	90 $\mu\Omega/\Omega$ + 0.06 Ω	
	1.1 k Ω to 3.299 99 k Ω	90 $\mu\Omega/\Omega$ + 0.06 Ω	
	3.3 k Ω to 10.999 9 k Ω	90 $\mu\Omega/\Omega$ + 0.6 Ω	
	11 k Ω to 32.999 9 k Ω	90 $\mu\Omega/\Omega$ + 0.6 Ω	
	33 k Ω to 109.999 k Ω	90 m Ω/Ω + 6 Ω	
	110 k Ω to 329.999 k Ω	0.12 m Ω/Ω + 6 Ω	
	330 k Ω to 1.099 99 M Ω	0.15 m Ω/Ω + 55 Ω	
	1.1 M Ω to 3.299 99 M Ω	0.15 m Ω/Ω + 55 Ω	
	3.3 M Ω to 10.999 9 M Ω	0.6 m Ω/Ω + 550 Ω	
	11 M Ω to 32.999 9 M Ω	1 m Ω/Ω + 550 Ω	
	33 M Ω to 109.999 M Ω	5 m Ω/Ω + 5.5 k Ω	
110 M Ω to 330 M Ω	5 m Ω/Ω + 16.5 k Ω		
Equipment to Output Resistance ^F	0.000 012 Ω to 2 Ω	17 $\mu\Omega/\Omega$ + 4 $\mu\Omega$	Fluke 8508A Reference Multi-meter
	2 Ω to 20 Ω	9.5 $\mu\Omega/\Omega$ + 28 $\mu\Omega$	
	20 Ω to 200 Ω	8 $\mu\Omega/\Omega$ + 50 $\mu\Omega$	
	200 Ω to 2 k Ω	8 $\mu\Omega/\Omega$ + 500 $\mu\Omega$	
	2 k Ω to 20 k Ω	8 $\mu\Omega/\Omega$ + 5.0 m Ω	
	20 k Ω to 200 k Ω	8 $\mu\Omega/\Omega$ + 50 m Ω	
	200 k Ω to 2 M Ω	9 $\mu\Omega/\Omega$ + 1 Ω	
	2 M Ω to 20 M Ω	20 $\mu\Omega/\Omega$ + 100 Ω	
	20 M Ω to 200 M Ω	120 $\mu\Omega/\Omega$ + 10 k Ω	
	200 M Ω to 2 G Ω	1 510 $\mu\Omega/\Omega$ + 100 k Ω	
	2 G Ω to 20 G Ω	1 510 $\mu\Omega/\Omega$ + 1 M Ω	



Certificate of Accreditation: Supplement

PCI

8100 Brownleigh Dr., #100A, Raleigh, NC 27617
 Contact Name: Steve Hilker Phone: 919-781-7787

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

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure Capacitance ^F	0.33 nF to 0.499 9 nF	5 mF/F + 0.01 nF	Fluke 5500A-SC300 Calibrator
	0.5 nF to 1.099 9 nF	5 mF/F + 0.01 nF	
	1.1 nF to 3.299 9 nF	5 mF/F + 0.01 nF	
	3.3 nF to 10.999 nF	5 mF/F + 0.01 nF	
	11 nF to 32.999 nF	2.5 mF/F + 0.1 nF	
	33 nF to 109.99 nF	2.5 mF/F + 0.1 nF	
	110 nF to 329.99 nF	2.5 mF/F + 0.3 nF	
	0.33 μ F to 1.099 9 μ F	2.5 mF/F + 1 nF	
	1.1 μ F to 3.299 9 μ F	3.5 mF/F + 3 nF	
	3.3 μ F to 10.999 μ F	3.5 mF/F + 10 nF	
	11 μ F to 32.999 μ F	4 mF/F + 30 nF	
	33 μ F to 109.99 μ F	5 mF/F + 100 nF	
	110 μ F to 329.99 μ F	7 mF/F + 300 nF	
330 μ F to 1.1 mF	10 mF/F + 300 nF		
Equipment to Measure AC Voltage at the listed frequencies ^F			
10 Hz to 45 Hz	1 mV to 32.999 mV	3.5 mV/V + 20 μ V	
45 Hz to 10 kHz	1 mV to 32.999 mV	1.5 mV/V + 20 μ V	
10 kHz to 20 kHz	1 mV to 32.999 mV	20 mV/V + 20 μ V	
20 kHz to 50 kHz	1 mV to 32.999 mV	2.5 mV/V + 20 μ V	
50 kHz to 100 kHz	1 mV to 32.999 mV	3.5 mV/V + 20 μ V	
100 kHz to 500 kHz	1 mV to 32.999 mV	100 mV/V + 20 μ V	
Equipment to Measure AC Voltage at the listed frequencies ^F			
10 Hz to 45 Hz	33 mV to 329.999 mV	2.5 mV/V + 50 μ V	
45 Hz to 10 kHz	33 mV to 329.999 mV	0.5 mV/V + 20 μ V	
10 kHz to 20 kHz	33 mV to 329.999 mV	1 mV/V + 20 μ V	
20 kHz to 50 kHz	33 mV to 329.999 mV	1.6 mV/V + 40 μ V	
50 kHz to 100 kHz	33 mV to 329.999 mV	2.4 mV/V + 170 μ V	
100 kHz to 500 kHz	33 mV to 329.999 mV	7 mV/V + 330 μ V	



Certificate of Accreditation: Supplement

PCI

8100 Brownleigh Dr., #100A, Raleigh, NC 27617
 Contact Name: Steve Hilker Phone: 919-781-7787

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

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE 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 ^F			Fluke 5500A-SC300 Calibrator
10 Hz to 45 Hz	0.33 V to 3.299 99 V	1.5 mV/V + 250 μ V	
45 Hz to 10 kHz	0.33 V to 3.299 99 V	0.3 mV/V + 60 μ V	
10 kHz to 20 kHz	0.33 V to 3.299 99 V	0.8 mV/V + 60 μ V	
20 kHz to 50 kHz	0.33 V to 3.299 99 V	1.4 mV/V + 300 μ V	
50 kHz to 100 kHz	0.33 V to 3.299 99 V	2.4 mV/V + 1.7 mV	
100 kHz to 500 kHz	0.33 V to 3.299 99 V	5 mV/V + 3.3 mV	
Equipment to Measure AC Voltage at the listed frequencies ^F			
10 Hz to 45 Hz	3.3 V to 32.999 9 V	1.5 mV/V + 2.5 mV	
45 Hz to 10 kHz	3.3 V to 32.999 9 V	0.4 mV/V + 600 μ V	
10 kHz to 20 kHz	3.3 V to 32.999 9 V	0.8 mV/V + 2.6 mV	
20 kHz to 50 kHz	3.3 V to 32.999 9 V	1.9 mV/V + 5 mV	
50 kHz to 100 kHz	3.3 V to 32.999 9 V	2.4 mV/V + 17 mV	
Equipment to Measure AC Voltage at the listed frequencies ^F			
45 Hz to 1 kHz	33 V to 329.999 V	0.5 mV/V + 6.6 mV	
1 kHz to 10 kHz	33 V to 329.999 V	0.8 mV/V + 15 μ V	
10 kHz to 20 kHz	33 V to 329.999 V	0.9 mV/V + 33 μ V	
Equipment to Measure AC Voltage at the listed frequencies ^F			
45 Hz to 1 kHz	330 V 1 020 V	0.5 mV/V + 80 mV	
1 kHz to 5 kHz	330 V to 1 020 V	2 mV/V + 100 μ V	
5 kHz 10 kHz	330 V 1 020 V	2 mV/V + 500 μ V	
Equipment to Measure AC Voltage at the listed frequencies ^F			Fluke 8508A Reference Multi-meter
1 Hz to 10 Hz	0.052 mV to 200 mV	165 μ V/V + 14 μ V	
10 Hz to 40 Hz	0.052 mV to 200 mV	140 μ V/V + 4 μ V	
40 Hz to 100 Hz	0.052 mV to 200 mV	115 μ V/V + 4 μ V	
100 Hz to 2 kHz	0.052 mV to 200 mV	110 μ V/V + 2 μ V	
2 kHz to 10 kHz	0.052 mV to 200 mV	135 μ V/V + 4 μ V	
10 kHz to 30 kHz	0.052 mV to 200 mV	340 μ V/V + 8 μ V	
30 kHz to 100 kHz	0.052 mV to 200 mV	765 μ V/V + 20 μ V	



Certificate of Accreditation: Supplement

PCI

8100 Brownleigh Dr., #100A, Raleigh, NC 27617
 Contact Name: Steve Hilker Phone: 919-781-7787

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

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Output AC Voltage at the listed frequencies ^F			Fluke 8508A Reference Multi-meter
1 Hz to 10 Hz	200 mV to 2 V	150 μ V/V + 120 μ V	
10 Hz to 40 Hz	200 mV to 2 V	115 μ V/V + 20 μ V	
40 Hz to 100 Hz	200 mV to 2 V	90 μ V/V + 20 μ V	
100 Hz to 2 kHz	200 mV to 2 V	75 μ V/V + 20 μ V	
2 kHz to 10 kHz	200 mV to 2 V	110 μ V/V + 20 μ V	
10 kHz to 30 kHz	200 mV to 2 V	220 μ V/V + 40 μ V	
30 kHz to 100 kHz	200 mV to 2 V	570 μ V/V + 200 μ V	
100 kHz to 300 kHz	200 mV to 2 V	3 mV/V + 2 mV	
300 kHz to 1 MHz	200 mV to 2 V	10 mV/V + 20 mV	
Equipment to Output AC Voltage at the listed frequencies ^F			Fluke 8508A Reference Multi-meter
1 Hz to 10 Hz	2 V to 20 V	150 μ V/V + 1.2 mV	
10 Hz to 40 Hz	2 V to 20 V	115 μ V/V + 200 μ V	
40 Hz to 100 Hz	2 V to 20 V	90 μ V/V + 200 μ V	
100 Hz to 2 kHz	2 V to 20 V	75 μ V/V + 200 μ V	
2 kHz to 10 kHz	2 V to 20 V	110 μ V/V + 200 μ V	
10 kHz to 30 kHz	2 V to 20 V	220 μ V/V + 400 μ V	
30 kHz to 100 kHz	2 V to 20 V	570 μ V/V + 2 mV	
100 kHz to 300 kHz	2 V to 20 V	3 mV/V + 20 mV	
300 kHz to 1 MHz	2 V to 20 V	10 mV/V + 200 mV	
Equipment to Output AC Voltage at the listed frequencies ^F			Fluke 8508A Reference Multi-meter
1 Hz to 10 Hz	20 V to 200 V	150 μ V/V + 12 mV	
10 Hz to 40 Hz	20 V to 200 V	115 μ V/V + 2 mV	
40 Hz to 100 Hz	20 V to 200 V	90 μ V/V + 2 mV	
100 Hz to 2 kHz	20 V to 200 V	75 μ V/V + 2 mV	
2 kHz to 10 kHz	20 V to 200 V	110 μ V/V + 2 mV	
10 kHz to 30 kHz	20 V to 200 V	220 μ V/V + 4 mV	
30 kHz to 100 kHz	20 V to 200 V	570 μ V/V + 20 mV	
100 kHz to 300 kHz	20 V to 200 V	3 mV/V + 200 mV	
300 kHz to 1 MHz	20 V to 200 V	10 mV/V + 2 V	



Certificate of Accreditation: Supplement

PCI

8100 Brownleigh Dr., #100A, Raleigh, NC 27617
 Contact Name: Steve Hilker Phone: 919-781-7787

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

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Output AC Voltage at the listed frequencies ^F			Fluke 8508A Reference Multi-meter
1 Hz to 10 Hz	200 to 1050 V	150 μ V/V + 73.5 mV	
10 Hz to 40 Hz	200 V to 1 050 V	120 μ V/V + 21 mV	
40 Hz to 10 kHz	200 V to 1 050 V	115 μ V/V + 21 mV	
10 kHz to 30 kHz	200 V to 1 050 V	225 μ V/V + 42 mV	
30 kHz to 100 kHz	200 V to 1 050 V	580 μ V/V + 210 mV	
45 Hz to 1 kHz	1 000 V to 6 000 V	11.2 mV/V + 12 V	Fluke 80K-6 HV Probe with 8060A Multi-meter
Equipment to Measure AC Current at the listed frequencies ^F			Fluke 5500A-SC300 Calibrator
10 Hz to 20 Hz	0.029 mA to 0.329 99 mA	0.25 mA/A + 0.15 μ A	
20 Hz to 45 Hz	0.029 mA to 0.329 99 mA	0.13 mA/A + 0.15 μ A	
45 Hz to 1 kHz	0.029 mA to 0.329 99 mA	0.13 mA/A + 0.25 μ A	
1 kHz to 5 kHz	0.029 mA to 0.329 99 mA	0.4 mA/A + 0.15 μ A	
5 kHz to 10 kHz	0.029 mA to 0.329 99 mA	1.3 mA/A + 0.15 μ A	
Equipment to Measure AC Current at the listed frequencies ^F			
10 Hz to 20 Hz	0.33 mA to 3.299 9 mA	2 mA/A + 0.3 μ A	
20 Hz to 45 Hz	0.33 mA to 3.299 9 mA	1mA/A + 0.3 μ A	
45 Hz to 1 kHz	0.33 mA to 3.299 9 mA	1mA/A + 0.3 μ A	
1 kHz to 5 kHz	0.33 mA to 3.299 9 mA	2 mA/A + 0.3 μ A	
5 kHz to 10 kHz	0.33 mA to 3.299 9 mA	6 mA/A + 0.3 μ A	
Equipment to Measure AC Current at the listed frequencies ^F			
10 Hz to 20 Hz	3.3 mA to 32.999 mA	2 mA/A + 3 μ A	
20 Hz to 45 Hz	3.3 mA to 32.999 mA	1 mA/A + 3 μ A	
45 Hz to 1 kHz	3.3 mA to 32.999 mA	0.9 mA/A + 3 μ A	
1 kHz to 5 kHz	3.3 mA to 32.999 mA	2 mA/A + 3 μ A	
5 kHz to 10 kHz	3.3 mA to 32.999 mA	6 mA/A + 3 μ A	
Equipment to Measure AC Current at the listed frequencies ^F			
10 Hz to 20 Hz	33 mA to 329.99 mA	2 mA/A + 30 μ A	
20 Hz to 45 Hz	33 mA to 329.99 mA	1 mA/A + 30 μ A	
45 Hz to 1 kHz	33 mA to 329.99 mA	0.9 mA/A + 30 μ A	
1 kHz to 5 kHz	33 mA to 329.99 mA	2 mA/A + 30 μ A	
5 kHz to 10 kHz	33 mA to 329.99 mA	6 mA/A + 30 μ A	



Certificate of Accreditation: Supplement

PCI

8100 Brownleigh Dr., #100A, Raleigh, NC 27617
 Contact Name: Steve Hilker Phone: 919-781-7787

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

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE 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 ^F			Fluke 5500A-SC300 Calibrator
10 Hz to 45 Hz	0.33 A to 2.199 99 A	2 mA/A + 300 μ A	
45 Hz to 1 kHz	0.33 A to 2.199 99 A	1 mA/A + 300 μ A	
1 kHz to 5 kHz	0.33 A to 2.199 99 A	7.5 mA/A + 300 μ A	
Equipment to Measure AC Current at the listed frequencies ^F			
45 Hz to 65 Hz	2.2 A to 11 A	0.6 mA/A + 2 mA	
65 Hz to 500 Hz	2.2 A to 11 A	1 mA/A + 2 mA	
500 Hz to 2 kHz	2.2 A to 11 A	3.3 mA/A + 2 mA	
Equipment to Output AC Current at the listed frequencies ^F			Fluke 8508A Reference Multi-meter
1 Hz to 10 Hz	0.06 μ A to 199.990 μ A	500 μ A/A + 0.02 μ A	
10Hz to 10 kHz	0.06 μ A to 199.990 μ A	500 μ A/A + 0.02 μ A	
10 kHz to 30 kHz	0.06 μ A to 199.990 μ A	710 μ A/A + 0.02 μ A	
30 kHz to 100 kHz	0.06 μ A to 199.990 μ A	4 mA/A + 0.02 μ A	
Equipment to Output AC Current at the listed frequencies ^F			
1 Hz to 10 Hz	200 μ A to 1.999 900 mA	310 μ A/A + 0.2 μ A	
10Hz to 10 kHz	200 μ A to 1.999 900 mA	300 μ A/A + 0.2 μ A	
10 kHz to 30 kHz	200 μ A to 1.999 900 mA	710 μ A/A + 0.2 μ A	
30 kHz to 100 kHz	200 μ A to 1.999 900 mA	4 mA/A + 0.2 μ A	
Equipment to Output AC Current at the listed frequencies ^F			
1 Hz to 10 Hz	2 mA to 19.999 900 mA	310 μ A/A + 2 μ A	
10Hz to 10 kHz	2 mA to 19.999 900 mA	300 μ A/A + 2 μ A	
10 kHz to 30 kHz	2 mA to 19.999 900 mA	710 μ A/A + 2 μ A	
30 kHz to 100 kHz	2 mA to 19.999 900 mA	4 mA/A + 2 μ A	
Equipment to Output AC Current at the listed frequencies ^F			
1 Hz to 10 Hz	20 mA to 199.990 0 mA	310 μ A/A + 20 μ A	
10Hz to 10 kHz	20 mA to 199.990 0 mA	290 μ A/A + 20 μ A	
10 kHz to 30 kHz	20 mA to 199.990 0 mA	625 μ A/A + 20 μ A	



Certificate of Accreditation: Supplement

PCI

8100 Brownleigh Dr., #100A, Raleigh, NC 27617
 Contact Name: Steve Hilker Phone: 919-781-7787

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

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE 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 ^F			Fluke 8508A Reference Multi-meter
1 Hz to 10 Hz	200 mA to 1.999 900 A	620 μ A/A + 200 μ A	
10Hz to 10 kHz	200 mA to 1.999 900 A	735 μ A/A + 200 μ A	
10 kHz to 30 kHz	200 mA to 1.999 900 A	3 mA/A + 200 μ A	
Equipment to Output AC Current at the listed frequencies ^F			
1 Hz to 10 Hz	2 A to 19.999 00 A	820 μ A/A + 2 mA	
10Hz to 10 kHz	2 A to 19.999 00 A	2.5 mA/A + 2 mA	Electrical Simulation of Thermocouple Output Fluke 5500A-SC300 Calibrator
Temperature Calibration, Indication, and Control Equipment used with Thermocouple (Type B) ^F	600 °C to 800 °C	0.44 °C	
	800 °C to 1 000 °C	0.34 °C	
	1 000 °C to 1 550 °C	0.3 °C	
	1 550 °C to 1 820 °C	0.33 °C	
Temperature Calibration, Indication, and Control Equipment used with Thermocouple (Type C) ^F	0 °C to 150 °C	0.3 °C	
	150 °C to 650 °C	0.26 °C	
	650 °C to 1 000 °C	0.31 °C	
	1 000 °C to 1 800 °C	0.5 °C	
Temperature Calibration, Indication, and Control Equipment used with Thermocouple (Type E) ^F	1 800 °C to 2 316 °C	0.84 °C	
	-250 °C to -100 °C	0.5 °C	
	-100 °C to -25 °C	0.16 °C	
	-25 °C to 350 °C	0.14 °C	
Temperature Calibration, Indication, and Control Equipment used with Thermocouple (Type J) ^F	350 °C to 650 °C	0.16 °C	
	650 °C to 1 000 °C	0.21 °C	
	-210 °C to -100 °C	0.27 °C	
	-100 °C to -30 °C	0.16 °C	
Temperature Calibration, Indication, and Control Equipment used with Thermocouple (Type K) ^F	-30 °C to 150 °C	0.14 °C	
	150 °C to 760 °C	0.17 °C	
	760 °C to 120 0 °C	0.23 °C	
	-200 °C to -100 °C	0.33 °C	
Temperature Calibration, Indication, and Control Equipment used with Thermocouple (Type K) ^F	-100 °C to -25 °C	0.18 °C	
	-25 °C to 120 °C	0.16 °C	
	120 °C to 1 000 °C	0.26 °C	
	1 000 °C to 1 372 °C	0.4 °C	



Certificate of Accreditation: Supplement

PCI

8100 Brownleigh Dr., #100A, Raleigh, NC 27617
 Contact Name: Steve Hilker Phone: 919-781-7787

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

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE 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 L) ^F	-200 °C to -100 °C	0.37 °C	Electrical Simulation of Thermocouple Output Fluke 5500A-SC300 Calibrator
	-100 °C to 800 °C	0.26 °C	
Temperature Calibration, Indication, and Control Equipment used with Thermocouple (Type N) ^F	-200 °C to -100 °C	0.4 °C	
	-100 °C to -25 °C	0.22 °C	
	-25 °C to 120 °C	0.19 °C	
	120 °C to 410 °C	0.18 °C	
	410 °C to 1 300 °C	0.27 °C	
Temperature Calibration, Indication, and Control Equipment used with Thermocouple (Type R) ^F	0 °C to 250 °C	0.57 °C	
	250 °C to 400 °C	0.37 °C	
	400 °C to 1 000 °C	0.33 °C	
	1 000 °C to 1 767 °C	0.40 °C	
Temperature Calibration, Indication, and Control Equipment used with Thermocouple (Type S) ^F	0 °C to 250 °C	0.47 °C	
	250 °C to 400 °C	0.36 °C	
	400 °C to 1 000 °C	0.37 °C	
	1 000 °C to 1 767 °C	0.46 °C	
Temperature Calibration, Indication, and Control Equipment used with Thermocouple (Type T)	-250 °C to -150 °C	0.63 °C	
	-150 °C to 0 °C	0.24 °C	
	0 °C to 120 °C	0.16 °C	
	120 °C to 400 °C	0.14 °C	
Temperature Calibration, Indication, and Control Equipment used with Thermocouple (Type U) ^F	-200 °C to 0 °C	0.56 °C	
	0 °C to 600 °C	0.27 °C	
Temperature Calibration, Indication, and Control Equipment used with RTD (Pt 385) 100 Ω ^F	-200 °C to 0 °C	0.05 °C	
	0 °C to 100 °C	0.07 °C	
	100 °C to 300 °C	0.09 °C	
	300 °C to 400 °C	0.1 °C	
	400 °C to 630 °C	0.12 °C	
	630 °C to 800 °C	0.23 °C	
Temperature Calibration, Indication, and Control Equipment used with RTD (Pt 3926) 100 Ω ^F	-200 °C to 0 °C	0.05 °C	
	0 °C to 100 °C	0.07 °C	
	100 °C to 300 °C	0.09 °C	
	300 °C to 400 °C	0.1 °C	
	400 °C to 630 °C	0.12 °C	



Certificate of Accreditation: Supplement

PCI

8100 Brownleigh Dr., #100A, Raleigh, NC 27617
 Contact Name: Steve Hilker Phone: 919-781-7787

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

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE 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 (Pt 3916) 100 Ω ^F	-200 °C to -190 °C	0.25 °C	Electrical Simulation of RTD Output Fluke 5500A-SC300 Calibrator
	-190 °C to -80 °C	0.04 °C	
	-80 °C to 0 °C	0.05 °C	
	0 °C to 100 °C	0.06 °C	
	100 °C to 260 °C	0.07 °C	
	260 °C to 300 °C	0.09 °C	
	300 °C to 400 °C	0.1 °C	
	400 °C to 600 °C	0.12 °C	
	600 °C to 630 °C	0.23 °C	
Temperature Calibration, Indication, and Control Equipment used with RTD (Pt 385) 200 Ω ^F	-200 °C to 100 °C	0.04 °C	
	100 °C to 260 °C	0.05 °C	
	260 °C to 300 °C	0.12 °C	
	300 °C to 400 °C	0.13 °C	
	400 °C to 600 °C	0.14 °C	
	600 °C to 630 °C	0.16 °C	
Temperature Calibration, Indication, and Control Equipment used with RTD (Pt 385) 500 Ω ^F	-200 °C to -80 °C	0.04 °C	
	-80 °C to 100 °C	0.05 °C	
	100 °C to 260 °C	0.06 °C	
	260 °C to 400 °C	0.08 °C	
	400 °C to 600 °C	0.09 °C	
	600 °C to 630 °C	0.11 °C	
Temperature Calibration, Indication, and Control Equipment used with RTD (Pt 385) 1 000 Ω ^F	-190 °C to 0 °C	0.03 °C	
	0 °C to 100 °C	0.04 °C	
	100 °C to 260 °C	0.05 °C	
	260 °C to 300 °C	0.06 °C	
	300 °C to 600 °C	0.07 °C	
	600 °C to 630 °C	0.23 °C	
Temperature Calibration, Indication, and Control Equipment used with RTD (Ni 385) 120 Ω ^F	-80 °C to 100 °C	0.08 °C	
	100 °C to 260 °C	0.14 °C	
Temperature Calibration, Indication, and Control Equipment used with RTD (Cu 427) 10 Ω ^F	-100 °C to 260 °C	0.3 °C	



Certificate of Accreditation: Supplement

PCI

8100 Brownleigh Dr., #100A, Raleigh, NC 27617
 Contact Name: Steve Hilker Phone: 919-781-7787

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

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Volts ^F	1.8 mV to 105 V pk-pk	2.5 mV/V + 100 μ V	Fluke 5500A-SC300 Calibrator
Leveled Sine Wave - Flatness ^F	50 kHz Reference	20 mV/V + 200 μ V	
	50 kHz to 100 MHz	15 mV/V + 100 μ V	
	100 MHz to 300 MHz	20 mV/V + 100 μ V	
Time Markers ^F	2 ns to 1 μ s	0.002 5 % of reading	
	2 μ s to 50 μ s	0.002 5 % of reading + 0.015 T	
	100 μ s to 5 s	0.002 5 % of reading + 0.001 T	

Mechanical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure Pressure ^F	-14.5 to -1 psig	0.000 07 psig/psig + 0.002 6 psig	Fluke 7250lp
	-30 inH ₂ O to -10 inH ₂ O	0.000 11 inH ₂ O /in inH ₂ O + 0.000 007 3 inH ₂ O	
	-10 inH ₂ O to 10 inH ₂ O	0.000 095 inH ₂ O / inH ₂ O + 0.000 13 inH ₂ O	
	10 inH ₂ O to 30 inH ₂ O	0.000 11 inH ₂ O / inH ₂ O + 0.000 007 3 inH ₂ O	
	1 psig to 25 psig	0.000 058 psig/psig + 0.000 17 psig	GE 3013-6 Dead Weight Tester
	25 psig to 500 psig	0.00016 psig/psig + 0.000 72 psig	Fluke 7250xi
	500 psig to 15 000 psig	0.1 % of reading	Ametek T-150
Torque Wrenches ^F	0.5 lbf•in to 5 lbf•in	1.0 % of reading	Mountz Indicator PTT-2000 w/ BMX250F Transducer
	5 lbf•in to 50 lbf•in	1.0 % of reading	
	50 lbf•in to 500 lbf•in	1.0 % of reading	
	50 lbf•ft to 250 lbf•ft	1.0 % of reading	
Pipettes and Repeaters ^{FO}	0.1 μ L to 2 μ L	0.020 8 μ L/ μ L + 0.017 μ L	Photometric using Artel PCS™
	2 μ L to 10 μ L	0.001 23 μ L/ μ L + 0.056 μ L	
	10 μ L to 30 μ L	0.002 95 μ L/ μ L + 0.038 μ L	
	20 μ L to 200 μ L	0.002 04 μ L/ μ L + 0.089 μ L	
	200 μ L to 1 000 μ L	0.001 58 μ L/ μ L + 0.18 μ L	Gravimetric Tare Addition with Moisture Trap
	1 000 μ L to 5 000 μ L	0.001 79 μ L/ μ L + 0.76 μ L	
	5 000 μ L to 10 000 μ L	0.006 95 μ L/ μ L + 25 μ L	
	10 000 μ L to 20 000 μ L	0.006 02 μ L/ μ L + 16 μ L	



Certificate of Accreditation: Supplement

PCI

8100 Brownleigh Dr., #100A, Raleigh, NC 27617
Contact Name: Steve Hilker Phone: 919-781-7787

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

Mechanical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure Flow ^F	2 sccm to 20 sccm	0.003 2 sccm/sccm + 0.000 29 sccm	Fluke Molbloc+ System
	20 sccm to 200 sccm	0.003 1 sccm/sccm + 0.057 sccm	
	300 sccm to 3 000 sccm	0.000 55 sccm/sccm + 4.2 sccm	
	3 slm to 50 slm	0.001 9 lm/lm + 0.002 5 lm	
	50 slm to 100 slm	0.003 2 slm/slm + 0.000 16 slm	

Chemical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Conductivity Meters ^F	18.18 M Ω -cm	0.27 M Ω -cm	Thornton 200CRw/ 240-201 Conductivity

Time & Frequency

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Stop Watch & Timers ^F	60 sec to 86 400 sec	0.038 sec	Fluke PM 6681 NIST 960-12 Totalized Method
Equipment to Output Frequency ^F	0.001 Hz to 300 MHz	1.2 x 10 ⁻⁵ Hz/Hz	Fluke PM6681 Frequency Counter
Equipment to Measure Frequency ^F	0.001 Hz to 300 MHz	2 x 10 ⁻⁵ Hz/Hz	Source monitored with Fluke PM6681 Frequency Counter



Certificate of Accreditation: Supplement

PCI

8100 Brownleigh Dr., #100A, Raleigh, NC 27617
 Contact Name: Steve Hilker Phone: 919-781-7787

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

Thermodynamic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Temperature Measurement PRT ^F	-196 °C to 660 °C	0.025 °C	Hart 1575 and Hart 5699 SPRT
	0.01 °C	0.005 °C	Triple Point of Water
Temperature Measurement Thermistor ^F	-40 °C to 140 °C	0.025 °C	Hart 1575 and Hart 5699 SPRT
	0.01 °C	0.005 °C	Triple Point of Water
Temperature Measurement LIG Thermometer ^F	-80 °C to 500 °C	0.025 °C	Hart 2560 and Hart 5628 SPRT
Temperature Measurement Thermocouple – Type T ^F	-196°C to 400 °C	0.25 °C	
Temperature Measurement Thermocouple Types J & K ^F	0°C to 600 °C	0.35 °C	
Equipment to Measure Humidity ^F	10 % RH to 95 % RH	0.5 % RH	Thunder Scientific 2500 Humidity Generator

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 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.



Certificate of Accreditation: Supplement

PCI

8100 Brownleigh Dr., #100A, Raleigh, NC 27617
Contact Name: Steve Hilker Phone: 919-781-7787

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

5. 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.
6. The term T represents time in s (seconds).

