PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Mid-South Calibration

8221 Macon Road, Cordova, TN 38018

(Hereinafter called the Organization) and hereby declares that Organization 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
(as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

Calibration of Dimensional, Electrical, Mechanical, Thermodynamics, Mass, Force & Weighing Devices, and Time & Frequency Instruments
(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

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

Initial Accreditation Date:	*Issue Date:*	*Expiration Date:*
July 15, 2003	August 05, 2021	September 30, 2023

Accreditation No.:	*Certificate No.:*
59185	L21-500

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.pjlabs.com

Certificate of Accreditation: Supplement

Mid-South Calibration
8221 Macon Road, Cordova, TN 38018
Contact Name: Will Page Phone: 901-509-3174

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 (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Micrometers OD [FO]	0.05 in to 1 in	(120 + 4.2L) µin	Mitutoyo 00 Block Set, Mitutoyo Long Blocks MSC-M-1001-1
	1 in to 6 in	(220 + 4.2L) µin	
	6 in to 12 in	(270 + 4.2L) µin	
	12 in to 18 in	(280 + 20L) µin	
	18 in to 24 in	(300 + 20L) µin	
	24 in to 30 in	(310 + 20L) µin	
	30 in to 36 in	(320 + 20L) µin	
	36 in to 40 in	(330 + 20L) µin	
Micrometers Depth [FO]	0.05 in to 6 in	(220 + 20L) µin	Mitutoyo 00 Block Set, Surface Plate 33K6-4-17-1
	6 in to 40 in	(250 + 20L) µin	
Calipers Vernier, Dial, Digital [FO]	6 in to 12 in	(560 + 20L) µin	Mitutoyo 00 Block Set, Surface Plate MSC-C-1001-1 MSC-H-1001-1
	12 in to 40 in	(880 + 20L) µin	
Height Gauges [FO]	up to 30 in	(100 + 20L) µin	
Steel Rules and Tape Measures [FO]	up to 72 in	(0.016 + 250L) µin	Mitutoyo 00 Block Set, Mitutoyo Long Blocks CP2006
Indicators[FO]	0.05 in to 4 in	(68+18L) µin	Easson EX-100 ULM Mitutoyo 00 Block Set Surface Plate MSC-I-1000-1
Test Indicator	up to 0.060 in	32 µin	Easson EX-100 ULM Mitutoyo 00 Block Set Surface Plate MSC-I-1000-1
Surface Plates - Repeatability [FO]	12 in to 153.7 in DL (Diagonal Line)	50 µin	Repeat-O-Meter + STARRETT 715 33K6-4-2696-1
Surface Pate - Flatness [FO]	12 in to 153.7 in DL (Diagonal Line)	(12 + 5L) µin	Federal EAS-1338 Differential Electronic 33K6-4-2696-1
Gage Blocks [F]	0.05 in to 12 in	(3.8 + 2L) µin	Federal 130B-16 with Mituroyo 00 Block Set 33K6-4-1-1
Cylindrical Pins [F]	up to 2 in	(25 + 3.2L) µin	Easson EX-100 ULM MSC-PG-1001-1
Levels [FO]	up to 90 °	0.052 °	Angle Blocks Surface Plate TB 9-5210-213-50
Crimp Tools [FO]	0.011 in to 0.75 in	320 µin	Mitutoyo PH- 3500 PIN PHY0009-17

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Cylindrical Ring, Plug Gages, Setting Rings [F]	0.4 in to 9 in	(25 + 3.2L) µin	Easson EX-100 ULM MSC-R-1001-1
Length Standards [F]	0.5 in to 4 in	(25 + 3.2L) µin	
Feeler/Thickness Gages [F]	0.01 in to 1 in	30 µin	Easson EX-100 ULM 17-20MD-15
Thread Plugs Simple Pitch Diameter [F]	0.15 in to 4 in	(82 µin + 6.8 µin/in)	3 Wire Method w/ Easson EX-100 ULM 33K6-4-203-1
Major Diameter [F]	0.15 in to 4 in	(22 µin + 5 µin/in)	Easson EX-100 ULM 33K6-4-203-1

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E [FO]	-250 ° C to - 100 °C	0.67 °C	Fluke 5500A Electrical Simulation of Thermocouple Output 33K5-4-222-1
	-100 °C to – 25 °C	0.39 °C	
	-25 °C to 350 ° C	0.37 °C	
	350 °C to 650 °C	0.38 °C	
	650 °C to 1 000 °C	0.41 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J [FO]	-210 °C to -100 °C	0.43 °C	
	-100 °C to -30 °C	0.35 °C	
	-30 °C to 150 °C	0.33 °C	
	150 °C to 760 °C	0.35 °C	
	760 °C to 1 200 °C	0.4 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K [FO]	-2 200 °C to -100 °C	0.48 °C	
	-100 °C to -25 °C	0.36 °C	
	-25 °C to 120 °C	0.35 °C	
	120 °C to 1 000 °C	0.42 °C	
	1 000 °C to 1 372 °C	0.55 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type S [FO]	0 °C to 250 °C	0.67 °C	
	250 °C to 400 °C	0.56 °C	
	400 °C to 1 000 °C	0.57 °C	
	1 000 °C to 1 767 °C	0.66 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T [FO]	-150 °C to 0 °C	0.44 °C	
	0 °C to 120 °C	0.36 °C	
	120 °C to 400 °C	0.34 °C	

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Temperature Calibration, Indication and Control Equipment used with RTD Pt 385, 100 Ω[FO]	-200 °C to -80 °C	0.1 °C	Fluke 5500A Electrical Simulation of RTD PT-100 Output 33K5-4-222-1
	-80 °C to 0 °C	0.1 °C	
	0 °C to 100 °C	0.1 °C	
	100 °C to 300 °C	0.12 °C	
	300 °C to 400 °C	0.13 °C	
	400 °C to 630 °C	0.15 °C	
	630 °C to 800 °C	0.28 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Pt 3926, 100 Ω[FO]	-80 °C to 0 °C	0.1 °C	
	0 °C to 100 °C	0.1 °C	
	100 °C to 300 °C	0.12 °C	
	300 °C to 400 °C	0.13 °C	
	400 °C to 610 °C	0.15 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Pt 3926, 120 Ω[O]	-80 °C to 0 °C	0.1 °C	
	0 °C to 100 °C	0.1 °C	
	100 °C to 260 °C	0.12 °C	
Equipment to Measure AC Voltage (at the listed frequencies) [FO]			Fluke 5500A 33K1-4-2522-1
10 Hz to 45 Hz	1 mV to 33 mV	2 mV + 1.4 mV/V	
45 Hz to 10 kHz	1 mV to 33 mV	0.2 mV + 1.6 mV/V	
10 kHz to 20 kHz	1 mV to 33 mV	0.2 mV + 2 mV/V	
20 kHz to 50 kHz	1 mV to 33 mV	0.2 mV + 2.2 mV/V	
50 kHz to 100 kHz	1 mV to 33 mV	19 mV + 2.5 mV/V	
100 kHz to 500 kHz	1 mV to 33 mV	4.5 mV + 7.2 mV/V	
Equipment to Measure AC Voltage (at the listed frequencies) [FO]			
10 Hz to 45 Hz	33 mV to 330 mV	0.14 mV + 2.7 mV/V	
45 Hz to 10 kHz	33 mV to 330 mV	0.18 mV + 0.5 mV/V	
10 kHz to 20 kHz	33 mV to 330 mV	0.18 mV + 1 mV/V	
20 kHz to 50 kHz	33 mV to 330 mV	0.3 mV + 3 mV/V	
50 kHz to 100 kHz	33 mV to 330 mV	0.5 mV + 8 mV/V	

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Equipment to Measure AC Voltage (at the listed frequencies) FO			Fluke 5500A 33K1-4-2522-1
10 Hz to 45 Hz	3.3 V to 33 V	5 mV + 1 mV/V	
45 Hz to 10 kHz	3.3 V to 33 V	4.5 mV + 0.8 mV/V	
10 kHz to 20 kHz	3.3 V to 33 V	5 mV + 1 mV/V	
20 kHz to 50 kHz	3.3 V to 33 V	10 mV + 2.5 mV/V	
50 kHz to 100 kHz	3.3 V to 33 V	20 mV + 3 mV/V	
Equipment to Measure AC Voltage (at the listed frequencies) FO			
45 Hz to 1 kHz	33 V to 330 V	22 mV + 1 mV/V	
1 kHz to 10 kHz	33 V to 330 V	5 mV + 0.4 mV/V	
10 kHz to 20 kHz	33 V to 330 V	40 mV + 1 mV/V	
Equipment to Measure AC Voltage (at the listed frequencies) FO			
45 Hz to 1 kHz	330 V to 1 020 V	0.16 V + 0.5 mV/V	
1 kHz to 5 kHz	330 V to 1 020 V	0.2 V + 2 mV/V	
5 kHz to 10 kHz	330 V to 1 020 V	0.7 V + 2.5 mV/V	
Equipment to Output AC Voltage (at the listed frequencies) FO			Agilent 34401 A NA-17-20AH-78
3 Hz to 5 Hz	1 mV to 100 mV	0.066 1 mV + 3.2 µV/mV	
5 Hz to 10 Hz	1 mV to 100 mV	0.066 2 mV + 4.6 µV/mV	
10 Hz to 20 kHz	1 mV to 100 mV	0.022 2 mV + 1.3 µV/mV	
20 kHz to 50 kHz	1 mV to 100 mV	0.022 8 mV + 3 µV/mV	
50 kHz to 100 kHz	1 mV to 100 mV	0.037 mV + 7.1 µV/mV	
100 kHz to 300 kHz	1 mV to 100 mV	0.501 mV + 41 µV/mV	
Equipment to Output AC Voltage (at the listed frequencies) FO			
3 Hz to 5 Hz	0.1 V to 1 V	1.02 V + 0.3 mV/V	
5 Hz to 10 Hz	0.1 V to 1 V	0.37 V + 0.3 mV/V	
10 Hz to 20 kHz	0.1 V to 1 V	0.08 V + 0.3 mV/V	
20 kHz to 50 kHz	0.1 V to 1 V	0.14 V + 0.5 mV/V	
50 kHz to 100 kHz	0.1 V to 1 V	0.62 V + 0.8 mV/V	
100 kHz to 300 kHz	0.1 V to 1 V	4.02 V + 5 mV/V	

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Equipment to Output AC Voltage (at the listed frequencies) [FO]			Agilent 34401 A NA-17-20AH-78
3 Hz to 5 Hz	1 V to 10 V	0.011 V + 9.96 mV/V	
5 Hz to 10 Hz	1 V to 10 V	0.006 6 V + 3.9 mV/V	
10 Hz to 20 kHz	1 V to 10 V	0.005 2 V + 1.3 mV/V	
20 kHz to 50 kHz	1 V to 10 V	0.008 8 V + 2.7 mV/V	
50 kHz to 100 kHz	1 V to 10 V	0.022 V + 3.7 mV/V	
100 kHz to 300 kHz	1 V to 10 V	0.07 V + 41 mV/V	
Equipment to Output AC Voltage (at the listed frequencies) [FO]			
3 Hz to 5 Hz	10 V to 100 V	0.099 V + 12 mV/V	
5 Hz to 10 Hz	10 V to 100 V	0.046 V + 4 mV/V	
10 Hz to 20 kHz	10 V to 100 V	0.036 V + 1.3 mV/V	
20 kHz to 50 kHz	10 V to 100 V	0.063 V + 2 mV/V	
50 kHz to 100 kHz	10 V to 100 V	0.103 V + 6.9 mV/V	
100 kHz to 300 kHz	10 V to 100 V	0.61 V + 45 mV/V	
Equipment to Measure DC Voltage [F]	0.07 mV to 330 mV	0.006 % of Reading + 3 µV	Fluke 5500A-SC300 33K1-4-2522-1
	0.51 mV to 3.3 V	0.005 % of Reading + 5 µV	
	0.65 mV to 33 V	0.005 % of Reading + 50 µV	
	30 V to 330 V	0.005 5 % of Reading + 0.5 mV	
	100 V to 1 000 V	0.005 5 % of Reading + 1.5 mV	
Equipment to Output DC Voltage [FO]	100 µV to 100 mV	3.24 µV + 1.25 µV/mV	Agilent 34401A NA-17-20AH-78
	100 mV to 1 V	0.3 mV + 0.4 µV/mV	
	1 V to 10 V	0.35 mV + 25 µV/V	
	10 V to 100 V	0.6 mV + 46 µV/V	
	100 V to 1 000 V	0.06 V + 0.4 mV/V	
	1 000 V to 35 kV	19.2 V + 0.74 V/kV	

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Capacitance Measure [F] 1 kHz to 50 kHz	0.33 nF to 0.5 nF	0.061 nF + 0.008 nF/nF	Fluke 5500A-SC300 33K2-4-359-1
	0.5 nF to 1.1 nF	0.079 nF + 0.008 nF/nF	
	1.1 nF to 3.3 nF	0.084 nF + 0.008 nF/nF	
	3.3 nF to 11 nF	0.101 nF + 0.008 nF/nF	
	11 nF to 33 nF	0.353 nF + 0.007 nF/nF	
	33 nF to 110 nF	0.351 nF + 0.007 nF/nF	
	110 nF to 330 nF	1.005 nF + 0.007 nF/nF	
	0.33 µF to 1.1 µF	0.071 2 µF + 0.02 µF/µF	
	1.1 µF to 3.3 µF	0.183 6 µF + 0.078 µF/µF	
	3.3 µF to 11 µF	0.184 9 µF + 0.01 µF/µF	
	11 µF to 33 µF	0.185 6 µF + 0.01 µF/µF	
	33 µF to 110 µF	0.271 µF + 0.011 µF/µF	
	110 µF to 330 µF	0.357 µF + 0.006 µF/µF	
	330 µF to 1.1 nF	0.185 2 µF + 0.02 µF/µF	
Oscilloscope Square wave 50 Ω load [F]	-6.6 V to 6.6 V	0.25 % of Reading + 40 µV	Fluke 5500A-SC300 NA17-20AW-480
Oscilloscope Square wave 1 MΩ load [F]	-130 V to 130 V	0.05 % of Reading + 40 µV	
Osciloscope Time Marker, 50 Ω load [F]	50 ms to 5 s	(20 + 1 000t) µs/s	
	1 ns to 20 ms	2.5 µs/s	
Oscilloscope Leveled Sine Flatness- (Relative to 50 kHz) Edge Rise Time into 50 Ω load [F]			
5 mV to 5.5 V	50 kHz to 100 MHz	1.5 % of Reading + 100 µV	
5 mV to 5.5 V	100 MHz to 300 MHz	3 % of Reading + 100 µV	
Equipment to Measure DC Current [FO]	11 A to 50 A	0.75 % of Reading	High Current DC Supply with Load Bank in Series with EMPRO Shunt 50A/50mV with Agilent 34401A MSC-DCC-1002-1
	50 A to 100 A	0.8 % of Reading	
	75 A to 150 A	0.8 % of Reading	
	150 A to 300 A	0.8 % of Reading	
Equipment to Measure Inductance [F]	0.07 H to 10 H	2.3 % of Reading-+ 0.5 µH	IETLS-400 33K2-4-359-1
	10 mH	10 µH	General Radio 1482-H 33K2-4-359-1

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Equipment to output Resistance	0.2 Ω to 10.99 Ω	0.08 Ω	Fluke 5500A/SC300 MSC-ER-1001-1
	11 Ω to 109.99 Ω	0.96 Ω	
	110 Ω to 329.99 Ω	0.19 Ω	
	330 Ω to 1.099 kΩ	0.48 Ω	
	1.1 kΩ to 3.299 kΩ	0.77 Ω	
	3.3 kΩ to 10.99 kΩ	1.6 Ω	
	11 kΩ to 32.99 kΩ	3.6 Ω	
	33 kΩ to 109.99 kΩ	23 Ω	
	110 kΩ to 329.99 kΩ	29 Ω	
	330 kΩ to 3.299 MΩ	55 Ω	
	3.3 MΩ to 20 MΩ	260 Ω	
	10 MΩ	130 Ω	Precision resistor MSC-ER-1001-1
	100 MΩ	1.2 kΩ	
	1 GΩ	150 kΩ	
	10 GΩ	130 MΩ	

Mechanical

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Positive Pressure Pneumatic Oil Free [F]	0.1 psi to 10 psi	0.02 psi	DMA MPS28 SCP-P-001
	10 psi to 5 000 psi	0.05 psi	DH Inst. PPCK-P6 SCP-P-001
Pressure Pneumatic Oil [FO]	50 psi to 5 000 psi	13 psi	Ashcroft 1305D SCP-P-001
Pressure Gauge Hydraulic [FO]	5 000 psi to 20 000 psi	120 psi	Wika 332.30 SCP-P-001
Vacuum Gauge Pneumatic [F]	0.87 psi to -14.5 psi	0.05 psi	Dama MPS28 33K6-4-430-1
	35 mbar to 1 355 mbar	0.28 mbar	Druck ADTS403 33K6-4-430-1
Torque Wrench/Drivers [F]	5 lbf·in to 50 lbf·in	1 % of Reading	AMS TT-QC-50i MSC-T-1002-1
	100 lbf·in to 1 000 lbf·in	0.75 % of Reading	CDI 10002-1-ETT MSC-T-1002-1
	60 lbf·ft to 600 lbf·ft	0.75 % of Reading	CDI 6004-F-ETT MSC-T-1002-1

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Torque Testers [F]	30 lbf·in to 400 lbf·in	0.32 % of Reading	CDI 2000-152 Butterfly Wheel w/ Class F Weights 17-20MD-03
	40 lbf·ft to 1200 lbf·ft	0.35 % of Reading	Skywater Torque Arm w/ Class F Weights 17-20MD-03
Pipettes [F]	100 µL to 200 µL	0.14 µL	AD4212B-101 MSC-P-1001-1
	200 µL to 500 µL	0.22 µL	
	500 µL to 1 000 µL	0.52 µL	
	1000 µL to 5 000 µL	8 µL	
	5,000 µL to 10 000 µL	9.8 µL	
	10,000 µL to 50 000 µL	17 µL	
	50 000 µL to 100 000 µL	29 µL	

Thermodynamic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure Humidity [FO]	5 % RH to 95 % RH	4 % RH	Control 4085 and Humidity Chamber MSC-HY-1001-1
IR Temperature [FO]	20 °C to 100°C	1.2 °C	Reed BX-500 Black body MSC-IR-1001-1
	100 °C to 200 °C	2.2 °C	
	200 °C to 500 °C	3.4 °C	

Mass, Force, and Weighing Devices

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Force Gages Compression [FO]	Up to 500 lb	0.2 % of Reading	Class F Weight Set 33K6-4-3196-1
	1 000 lb to 10 000 lb	0.29 % of Reading	Omega LC1001-10K W/ DP41-S 33K6-4-3196-1
	10 000 lb to 100 000 lb	0.29 % of Reading	Amcells LPDCT/DIN3 33K6-4-3196-1

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Mass, Force, and Weighing Devices

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Force Gages Tension [FO]	up to 500 lb	0.2 % of Reading	Class F Weight Set 33K6-4-476-1
	1 000 lb to 10 000 lb	0.29 % of Reading	Omega LC1001-10K W/ DP41-S 33K6-4-476-1
Mass Measurements [F]	1 g	0.000 11 g	Troemner Class 1 MSC-W-1001-1
	2 g	0.000 88 g	
	5 g	0.000 92 g	
	10 g	0.000 98 g	
	20 g	0.001 1 g	
	50 g	0.001 4 g	
	100 g	0.002 2 g	
	200 g	0.004 1 g	
	500 g	0.053 g	
	1 kg	0.050 g	
	2 kg	0.055 g	
Bench Scales [FO] Floor Scales	Up to 500 lb	0.2 % of Reading	Class F Weight Set MSC-W-1001-1
Bench Scales [FO]	1 g to 2 000 g (Resolution = 0.01 g)	$(1.16 \times 10^{-2} + 1.3 \times 10^{-6}\text{Wt})$ g	Troemner Class 1 Weights MSC-W-1001-1
	0.002 lb to 1 lb (Resolution = 0.000 1 lb)	$(2 \times 10^{-4} + 9.29 \times 10^{-5}\text{Wt})$ lb	Class F Weights MSC-W-1001-1
Bench Scales, Floor Scales [FO]	1.0 lb to 500 lb (Resolution = 0.005 lb)	$(5.8 \times 10^{-3} + 9.79 \times 10^{-5}\text{Wt})$ lb	Class F Weights MSC-W-1001-1
Bench Scales [FO] Balances	1 mg to 500 mg (Resolution = 0.04 mg)	$(1.15 \times 10^{-1} + 8.3 \times 10^{-5}\text{Wt})$ g	Ohaus Class 6 Weights MSC-W-1001-1

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Time & Frequency

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Frequency Measure [FO]	0.9 Hz to 10 kHz	0.3 Hz	Fluke 5500A- SC300 NA17-20AF-166
	10 kHz to 2 MHz	5.7 Hz	
	2 MHz to 200 MHz	41 Hz	HP 8660C w/ HP 86603A NA17-20AF-166
	10 ns to 100 s	0.2 ns	HP5335A NA17-20AF-166
	200 MHz to 18 GHz	0.25 kHz	
Stopwatches and Timers [FO]	1 hr to 24 hr	0.08 s/day	NIST ST960-12 HP5335A

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

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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 D represents diameter in inches or millimeters as appropriate to the uncertainty statement.

7. The term L represents length in inches or millimeters as appropriate to the uncertainty statement.

8. The term Wt represents weight in pounds or grams (including SI multiple and submultiple units) appropriate to the uncertainty statement.