SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005
& ANSI/NCSL Z540-1-1994

MICRO PRECISION CALIBRATION DE MEXICO
Boulevard Industrial #300-303
Otay Nueva, Tijuana
Mexico
Alberto Gonzalez Phone: 52 66 623-3383

CALIBRATION

Valid To: January 31, 2013 Certificate Number: 935.04

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations[1]:

I. Chemical Quantities

Parameter/Equipment	Range	Best Uncertainty[2] (±)	Comments
Conductivity – Measure	111.3 mS 1015 µS 1408 µS	0.51 µS 0.51 µS 0.51 µS	Comparison to standard solutions
pH – Measure	(4, 7) pH unit 10 pH unit	0.024 pH unit 0.026 pH unit	Comparison to standard solutions

II. Dimensional

Parameter/Equipment	Range	Best Uncertainty[2, 6] (±)	Comments
Calipers & Height Gages	(0.10 to 24) in	(56 + 0.6*L*) µin	Mitutoyo gage blocks and length rods
Gage Blocks – Length Only	Up to 6 in (6 to 12) in	(4.6 + 1.6*L*) µin (5.7 + 1.6*L*) µin	P & W labmaster, master gage blocks

Parameter/Equipment	Range	Best Uncertainty[2, 6] (±)	Comments
Cylindrical Plain Plug Gages	(0 to 12) in	(5.6 + 1.2*L*) µin	P & W labmaster, master gage blocks
Thread Plug Gage – Major Diameter Pitch Diameter	 (0 to 12) in (0 to 12) in	 (5.6 + 1.2*L*) µin (61 + 1.2*L*) µin	P & W labmaster thread wires (three wire method)
Ring Gage – Plain, cylindrical Pitch Diameter	 (0.02 to 12) in (0.13 to 4) in	 (30 + 1.2*L*) µin (70 + 1.2*L*) µin	P & W labmaster master gage blocks
Indicators – Resolution: 0.00005 in 0.0001 in 0.001 in	 (0 to 1) in (0 to 2) in (0 to 8) in	 59 µin 82 µin 201 µin	P & W labmaster, master gage blocks
End Measuring Rods	(0 to 12) in	(5.7 + 1.2*L*) µin	P & W labmaster, master gage blocks
Pin Gage – Diameter	 (0.02 to 2.00) in	 40 µin	P & W labmaster, master gage blocks
Micrometers – Resolution: 100 µin 50 µin	 (0.10 to 12) in	 (82 + 2*L*) µin (60 + 1*L*) µin	Mitutoyo gage blocks
Optical Comparators and visual systems	Up to 200mm	173 µm	Glass Scale and gage blocks
Surface Plates – Repeatability Only	(12in x 12in) to (72in x 96in)	50 µin	Repeat-o-meter

III. Electrical – DC/Low Frequency

Parameter/Equipment	Range	Best Uncertainty[2, 4, 7] (±)	Comments
DC Voltage[3] – Generate	(0 to 220) mV 220 mV to 2.2 V (2.2 to 11) V (11 to 22) V (22 to 220) V (220 to 1100) V	12 µV/V + 0.6 µV 12 µV/V + 1.0 µV 11 µV/V + 3.5 µV 12 µV/V + 6.5 µV 13 µV/V + 80 µV 13 µV/V + 500 µV	Fluke 5700A
	(0 to 330) mV 330 mV to 3.3 V (3.3 to 33) V (33 to 330) V (330 to 1100) V	14 µV/V + 1 µV 12 µV/V + 2 µV 17 µV/V + 20 µV 17 µV/V + 150 µV 18 µV/V + 1500 µV	Fluke 5520A
High Voltage	Up to 10 KV	1.3 %	GAMMA RR10-15P
DC Voltage[3] – Measure	(0 to 100) mV 100 mV to 1V (1 to 10) V (10 to 100) V (100 to 1000) V	13 µV/V + 3.0 µV 17 µV/V + 0.3 µV 13 µV/V + 0.5 µV 15 µV/V + 30 µV 27 µV/V + 100 µV	HP 3458A
High Voltage	(1001 to 2000) V (2001 to 20000) V	0.062% +0.4V 0.062% + 4.0V	Vitrek 4600A
DC Current[3] - Generate	(0 to 220) µA 220 µA to 22 mA (22 to 220) mA 220 mA to 2.2 A (2.2 to 11) A	40 µA/A + 8 nA 40 µA/A + 8 nA 44 µA/A + 80 nA 47 µA/A + 0.8 µA 55 µA/A + 25 µA	Fluke 5700A
	(0 to 330) µA 330 µA to 3.3 mA (3.3 to 33) mA (33 to 330) mA 330 mA to 3 A (3 to 10) A (11 to 20.5) A	0.15 mA/A + 20 nA 0.1 mA/A + 50 nA 0.1 mA/A + 0.25 µA 0.1 mA/A + 2.5 µA 0.38 mA/A + 40 µA 0.50 mA/A + 500 µA 1.0 mA/A + 750 µA	Fluke 5520A

Parameter/Equipment	Range	Best Uncertainty[2, 4, 5, 7] (±)	Comments
DC Current[3] – Measure	Up to 100 nA 100 nA to 1 µA (1 to 10) µA (10 to 100) µA 100 µA to 10 mA (10 to 100) mA 100 mA to 1 A	35 µA/A + 400 µA 25 µA/A + 40 µA 25 µA/A + 10 µA 25 µA/A + 5 µA 25 µA/A + 5 µA 40 µA/A + 5 µA 0.012 % + 10 µA	HP 3458A
	(1 to 1000) A	0.55 %	Fluke 5520A with current coil
	(1 to 10) A (1 to 100) A (100 to 300) A	0.12 % 0.12 % 0.12 %	Shunt monitored with multimeter
Resistance[3] – Generate	Up to 11 Ω (11 to 33) Ω (33 to 110) Ω (110 to 330) Ω (0.33 to 1.1) kΩ (1.1 to 3.3) kΩ (3.3 to 11) kΩ (11 to 33) kΩ (33 to 110) kΩ (110 to 330) kΩ 0.33 kΩ to 1.1 MΩ (1.1 to 3.3) MΩ (3.3 to 11) MΩ (11 to 33) MΩ (33 to 110) MΩ (110 to 330) MΩ 330 MΩ to 1.1 GΩ	0.12 % + 0.008 Ω 0.17 % 0.018 % 0.024 % 0.009 % + 0.06 Ω 0.024 % 0.009 % + 0. 6 Ω 0.012 % 0.011 % + 6 Ω 0.013 % 0.015 % + 55 Ω 0.019 % 0.016 % 0.041 % 0.058 % 0.37 % 1.8 %	Fluke 5520A
	100 MΩ to 1 GΩ	0.58 %	HRRS-B Decade Resistance
Fixed Points	1 Ω 10 Ω 100 Ω 1 kΩ 10 kΩ 100 kΩ 1 MΩ 10 MΩ 100 MΩ	0.013 % 39 parts in 10^6 24 parts in 10^6 18 parts in 10^6 17 parts in 10^6 19 parts in 10^6 27 parts in 10^6 54 parts in 10^6 0.016 %	Fluke 5700A w/option 03

Parameter/Equipment	Range	Best Uncertainty[2, 4, 5, 7] (±)	Comments
Resistance[3] – Measure	(0 to 10) Ω (10 to 100) Ω 100 Ω to 100 kΩ 100 k Ω to 1 MΩ (1 to 10) MΩ (10 to 100) MΩ 100 MΩ to 1 GΩ	19 parts in 10^6 + 0.06 mΩ 13 parts in 10^6 + 0.6 mΩ 10 parts in 10^6 + 0.6 mΩ 15 parts in 10^6 + 2.4 Ω 59 parts in 10^6 + 120 Ω 0.058 % + 1200 Ω 1.8 % + 10 kΩ	HP 3458A
Electrical Calibration of Thermocouple Indicators[3] –			
Type E	-250 ºC to -100 ºC -100 ºC to 650 ºC 650 to 1000 ºC	0.56 ºC 0.54 ºC 0.53 ºC	Fluke 5520A
Type J	-210 ºC to -100 ºC -100 ºC to 760 ºC 760 ºC to 1200 ºC	0.48 ºC 0.45 ºC 0.43 ºC	
Type K	-200 ºC to -100 ºC -100 ºC to 120 ºC 120 ºC to 1000 ºC 1000 ºC to 1372 ºC	0.48 ºC 0.44 ºC 0.46 ºC 0.47 ºC	
Type S	0 ºC to 250 ºC 250 ºC to 1400 ºC 1400 ºC to 1767 ºC	0.48 ºC 0.47 ºC 0.54 ºC	
Type T	-250 ºC to -150 ºC -150 ºC to 0 ºC 0 ºC to 400 ºC	0.56 ºC 0.52 ºC 0.58 ºC	
Inductance [3]– Generate			Genrad 1482 series
Fixed Points (@ 1 kHz)	1.0 mH 20 mH 200 mH 1 H	0.054 % 0.065 % 0.059 % 0.075 %	

Parameter/Equipment	Range	Best Uncertainty[2] (±)	Comments
Electrical Calibration of RTD Indicating Systems[3] –			
Pt 395, 100 Ω	-200 °C to 0 °C 0 °C to 100 °C 100 °C to 400 °C 400 °C to 630 °C 630 °C to 800 °C	0.05 °C 0.07 °C 0.10 °C 0.12 °C 0.23 °C	Fluke 5520A
Pt 3926, 100 Ω	-200 °C to 0 °C 0 °C to 100 °C 100 °C to 400 °C 400 °C to 630 °C	0.05 °C 0.07 °C 0.10 °C 0.12 °C	
Pt 3916, 100 Ω	-200 °C to -190 °C -190 °C to 0 °C 0 °C to 300 °C 300 °C to 600 °C 600 °C to 630 °C	0.25 °C 0.05 °C 0.08 °C 0.10 °C 0.23 °C	
Pt 385, 200 Ω	-200 °C to 100 °C 100 °C to 260 °C 260 °C to 600 °C 600 °C to 630 °C	0.04 °C 0.05 °C 0.14 °C 0.16 °C	
Pt 385, 500 Ω	-200 °C to 100 °C 100 °C to 260 °C 260 °C to 600 °C 600 °C to 630 °C	0.05 °C 0.06 °C 0.09 °C 0.11 °C	
Pt 385, 1 kΩ	-200 °C to 100 °C 100 °C to 260 °C 260 °C to 600 °C 600 °C to 630 °C	0.03 °C 0.05 °C 0.07 °C 0.23 °C	
PtNi 385, 100 Ω	-80 °C to 100 °C 100 °C to 260 °C	0.08 °C 0.14 °C	
Cu 427, 10 Ω	-100 °C to 260 °C	0.3 °C	

Parameter/Range	Frequency	Best Uncertainty[2, 4] (±)	Comments
AC Voltage[3] – Generate			
(0 to 220) mV	(10 to 20) Hz (20 to 40) Hz 40 Hz to 20 kHz (20 to 50) kHz (50 to 100) kHz 100 kHz to 1 MHz	0.055 %+ 13 µV 0.021 % + 8 µV 0.011 % + 8 µV 0.037 % + 8 µV 0.085 % + 25 µV 0.34 % + 80 µV	Fluke 5700A w/option 03
220 mV to 2.2 V	(10 to 20) Hz (20 to 40) Hz 40 Hz to 20 kHz (20 to 50) kHz (50 to 100) kHz 100 kHz to 1 MHz	0.05 % + 80 µV 0.016 % + 25 µV 75 µV/V + 6 µV 0.012 % + 16 µV 0.025 % + 70 µV 0.22 % + 850 µV	
(2.2 to 22) V	(10 to 20) Hz (20 to 40) Hz 40 Hz to 20 kHz (20 to 50) kHz (50 to 100) kHz 100 kHz to 1 MHz	0.05 % + 0.8 mV 0.016 % + 0.25 mV 75 µV/V + 0.06 mV 0.012 % + 0.16 mV 0.025 % + 0.35 mV 0.34 % + 8.5 mV	
(22 to 220) V	(10 to 20) Hz (20 to 40) Hz 40 Hz to 20 kHz (20 to 50) kHz (50 to 100) kHz 100 kHz to 1 MHz	0.05 % + 8 mV 0.016 % + 2.5 mV 80 µV/V + 0.8 mV 0.022 % + 3.5 mV 0.05 % + 8 mV 0.27 % + 190 mV	
(220 to 750) V	(30 to 50) kHz (50 to 100) kHz	0.06 % + 11 mV 0.23 % + 45 mV	
(220 to 1100) V	(15 to 50) Hz 50 Hz to 1 kHz	0.04 % + 16 mV 90 µV/V + 4 mV	
(0 to 33) mV	(10 to 45) Hz 45 Hz to 10 kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 500) kHz	0.08 mV/V + 6 µV 0.15 mV/V + 6 µV 0.2 mV/V + 6 µV 1.0 mV/V + 6 µV 3.5 mV/V + 12 µV 8.0 mV/V + 50 µV	

Parameter/Range	Frequency	Best Uncertainty[2, 4, 5] (±)	Comments
AC Voltage[3] (cont.) – Generate			
(33 to 330) mV	(10 to 45) Hz 45 Hz to 10 kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 500) kHz	0.3 mV/V + 8 µV 0.15 mV/V + 8 µV 0.16 mV/V + 8 µV 0.35 mV/V + 8 µV 0.8 mV/V + 32 µV 2.0 mV/V + 70 µV	Fluke 5520A
330 mV to 3.3 V	(10 to 45) Hz 45 Hz to 10 kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 500) kHz	0.3 mV/V + 50 µV 0.15 mV/V + 60 µV 0.19 mV/V + 60 µV 0.3 mV/V + 50 µV 0.7 mV/V + 130 µV 2.4 mV/V + 600 µV	
(3.3 to 33) V	(10 to 45) Hz 45 Hz to 10 kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz	0.3 mV/V + 650 µV 0.15 mV/V + 600 µV 0.24 mV/V + 600 µV 0.35 mV/V + 600 µV 0.9 mV/V + 1600 µV	
(33 to 330) V	45 Hz to 1 kHz (1 to 10) kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz	0.19 mV/V + 2000 µV 0.2 mV/V + 6000 µV 0.25 mV/V + 6000 µV 0.3 mV/V + 6000 µV 0.9 mV/V + 50 000 µV	
(330 to 1100) V	45 Hz to 10 kHz	0.3 mV/V + 10 000 µV	
AC Voltage[3] – Measure			
Up to 10 mV	(1 to 40) Hz 40 Hz to 1 kHz (1 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 300) kHz	0.03 % + 3 µV 0.02 % + 2 µV 0.03 % + 2 µV 0.12 % + 2 µV 0.58 % + 2 µV 4.6 % + 2 µV	HP 3458A, synchronous sub-sampled mode
10 mV to 10 V	(1 to 40) Hz 40 Hz to 1 kHz (1 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 300) kHz 300 kHz to 1 MHz (1 to 2) MHz	80 µV/V + 0.4 mV 80 µV/V + 0.2 mV 0.02 % + 0.2 mV 0.03 % + 0.2 mV 0.09 % + 0.2 mV 0.35 % + 1 mV 1.2 % + 1 mV 1.7 % + 1 mV	

Parameter/Range	Frequency	Best Uncertainty[2, 4, 5, 7] (±)	Comments
AC Voltage[3] – Measure			
(10 to 100) V	(1 to 40) Hz 40 Hz to 1 kHz (20 to 50) kHz (50 to 100) kHz (100 to 300) kHz 300 kHz to 1 MHz	0.02 % + 4 mV 0.02 % + 2 mV 0.04 % + 2 mV 0.14 % + 2 mV 0.46 % + 10 mV 1.7 % + 10 mV	HP 3458A, synchronous sub-sampled mode
(100 to 1000) V	(1 to 40) Hz 40 Hz to 1 kHz (1 to 20) kHz (20 to 50) kHz (50 to 100) kHz	0.05 % + 40 mV 0.05 % + 20 mV 0.07 % + 20 mV 0.14 % + 20 mV 0.35 % + 20 mV	
(1 to 15) kV	Up to 1 kHz	1 %	Vitrek 4600A
AC Current[3] – Generate			
(1 to 220) µA 220 µA to 22 mA (22 to 220) mA 220 mA to 2.2 A	40 Hz to 1 kHz	0.09 % 0.024 % 0.026 % 0.093 %	Fluke 5700A w/option 03
(1 to 1000) A	60 Hz	0.54 %	Fluke 5520A with current coil
AC Current[3] – Measure			
Up to 100 µA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz	0.46 % + 0.03 µA 0.18 % + 0.03 µA 0.078 % + 0.03 µA	HP 3458A
100 µA to 100 mA	(10 to 20) Hz (20 to 45) Hz (45 to 100) Hz 100 Hz to 5 kHz	0.46 % + 20 µA 0.17 % + 20 µA 0.073 % + 20 µA 0.042 % + 20 µA	
100 mA to 1 A	(10 to 20) Hz (20 to 45) Hz (45 to 100) Hz 100 Hz to 5 kHz	0.46 % + 200 µA 0.19 % + 200 µA 0.10 % + 200 µA 0.12 % + 200 µA	

Parameter/Range	Frequency	Best Uncertainty[2, 4] (±)	Comments
Capacitance[3] – Generate			
(0.19 to 3.3) nF	50 Hz to 1 kHz	0.5 % + 0.01 nF	Fluke 5520A
(3.3 to 330) nF		0.25 % + 0.3 nF	
330 nF to 3.3 µF		0.25 % + 3 nF	
(3.3 to 33) µF		0.4 % + 30 nF	
(33 to 330) µF		0.45 % + 0.3 µF	
(330 µF to 3.3 mF	50 Hz to 300 Hz	0.45 % + 3 µF	
(3.3 to 33) mF		0.75 % + 30 µF	
(33 to 110) mF		1.1 % + 100 µF	
(0.97 to 10) µF	60 Hz to 1 kHz	0.097 %	Capacitance decade HACS-Z-A-4E
Oscilloscope[3] –			Fluke 5520A/SC600
Level Sine Amp			
50 kHz ref.	5 mV to 5 V (Vpp)	2 % + 300 µV	
Level Sine Flatness			
5 mV to 5.5 V	50 kHz to 100 MHz	3.5 % + 300 µV	
relative to 50	(100 to 300) MHz	4 % + 300 µV	
kHz reference	(300 to 600) MHz	6 % + 300 µV	
Square Wave			
1 MΩ, 100 Hz	1 mV to ± 130 V	0.1 % + 40 µV	
50 Ω, 1 kHz	± 1 mV to ± 6.6 V	0.25 % + 40 µV	
Time Marker Output	2 ns to 20 ms	(25 + 1000*t*) parts in 10^6	*t* is the time in seconds
Into 50 Ω	50 ms to 5 s	25 parts in 10^6	
Pulse Rise Time			
0.5 V, 1 V (p-p)	10 MHz	100 ps	Fluke 5520A/SC600
1 V (p-p)	1 MHz	100 ps	

VI. Electrical – RF/Microwave

Parameter/Range	Frequency	Best Uncertainty[2] (±)	Comments
RF Tuned Power [3] – Generate, Connector Type N, (0 to -100) dB	Up to 1.3 GHz Up to 18 GHz	0.40 dB 0.72 dB	HP 8902A w/HP11722A HP 11793A

Parameter/Range	Frequency	Best Uncertainty[2, 7](±)	Comments
RF Absolute Power [3] – Generate Connector Type N			HP 437B
50 MHz to 18 GHz	(-30 to -20) dB (-20 to 10) dB (10 to 20) dB	0.06 dB 0.068 dB 1.2 dB	8484A 8482A
Amplitude Modulation [3] – Measure			
Rate: 150 kHz to 10 MHz Depth: (5 to 99) %	50 Hz to 10 kHz 20 Hz to 100 kHz	4.0 % 4.6 %	HP 8902A
Rate: 10 MHz to 1.3 GHz Depth: (5 to 99) %	50 Hz to 50 kHz 20 Hz to 100 kHz	3.6 % 4.6 %	
Frequency Modulation – Measure [3] Rate: 250 kHz to 10 MHz Dev: ≤ 40 kHz	20 Hz to 10 kHz	3.1 %	HP 8902A
Rate: 10 MHz to 1.3 GHz Dev: ≤ 400 kHz	20 Hz to 200 kHz 50 Hz to 100 kHz	7.7 % 1.6 %	
Phase Modulation [3]– Measure			
Rate: 10 MHz to 1.3 GHz	200 Hz to 20 kHz	7.0 %	HP 8902A
Frequency [3]– Measure	Up to 26.5 GHz	5 parts in 10^{11}	EIP 548A, HP 53132[a], BALL Rubidium frequency standard

V. Fluid Quantities

Parameter/Equipment	Range	Best Uncertainty[2, 7] (±)	Comments
Viscosity – @ 25 °C	(1990 to 200400) cP	0.52 %	Cannon viscosity standards
Flow – Air	(10 to 300) ml/min 100 ml/min to 10 L/min 500 ml/min to 50 L/min	1.3 % 2.2 % 1.7 %	Bios DC-LC-1 Bios DC-MC-1 Bios DC-HC-1

VI. Mechanical

Parameter/Equipment	Range	Best Uncertainty[2, 7] (±)	Comments
Indirect Verification of Rockwell Hardness Testers[3]	HRB: Low Middle High HRC: Low Middle High HR15T: Low Middle High	 1.5 HRB 1.2 HRB 1.3 HRB 1.2 HRC 1.2 HRC 1.2 HRC 1.2 HR15T 1.2 HR15T 1.2 HR15T	ASTM E18
Pressure	(-15 to 30) psi Up to 1000 psi Up to 10000 psi	0.10 % 0.09 % 0.10 %	Pressure system
Torque	(16 to160) in·oz. (0 to 100) in·lb (50 to 500) ft·lb	0.77 % 0.65 % 0.71 %	Torque system

Parameter/Equipment	Range	Best Uncertainty[2, 7] (±)	Comments
Tension & Compression [3]	Up to 10 000 lb	0.53 %	Load Cell Rice Lake
Mass	Up to 500 mg Up to 500 g Up to 1200 lb	0.015 % 0.019 % 0.30 %	Double substitution NIST handbook 44 using Class 1 weights NIST handbook 44 using Class F weights

V. Optical Quantities

Parameter/Equipment	Range	Best Uncertainty[2, 7] (±)	Comments
Fiber Optics – Measure 1310 nm 1550 nm	(10 to -60) dB	4.9 % 4.9 %	Optical calibration system

VI. Thermodynamics

Parameter/Equipment	Range	Best Uncertainty[2] (±)	Comments
Humidity – Measuring Equipment	11 % RH 33 % RH 75.4 % RH 97 % RH	1.6 % RH 1.7 % RH 1.5 % RH 2 % RH	Standard salt solutions
Temperature – Measuring Equipment	(0 to 300) ºC	0.33 ºC	Hart 9100
Temperature – Measure	(-20 to 200) °C	1.0 °C	DP 97

[1] This laboratory offers commercial calibration service and field calibration service.

[2] "Best Uncertainty" is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards of nearly ideal measuring equipment. Best uncertainties represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The best uncertainty of a specific calibration performed by the laboratory may be greater than the best uncertainty due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

[3] Field calibration service is available for this calibration and this laboratory meets A2LA *R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these calibrations. Please note the uncertainties achievable on a customer's site can normally be expected to be larger than the Best Measurement Capabilities (BMC) that the accredited laboratory has been assigned as Best Uncertainty on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the uncertainty introduced by the item being calibrated, (e.g. resolution) must also be considered and this, on its own, could result in the calibration uncertainty being larger than the BMC.

[4] The measurands stated are generated with the Fluke 5500A, Fluke 5700A and 5520A series of instruments. This capability is suitable for the calibration of the devices intended to measure the stated measurand in the ranges indicated. Best measurement uncertainties are expressed as either a specific value that covers the full range or as a fraction of the reading plus a fixed floor specification.

[5] The measurands stated are measured with the HP 3458A series of instruments. This capability is suitable for the calibration of the devices intended to generate the measurand in the ranges indicated. Best measurement uncertainties are expressed as either a specific value that covers the full range or as a combination of the fraction of the reading/output plus a range specification.

[6] In the statement of best uncertainty, L is the numerical value of the nominal length of the device measured in inches. In the statement of best uncertainty, R is the numerical value of the resolution of the device in microinches. Pitch diameter is measured by the three-wire method.

[7] In the statement of best uncertainty, the value is defined as the percentage of reading.

The American Association for Laboratory Accreditation

World Class Accreditation

Accredited Laboratory

A2LA has accredited

MICRO PRECISION CALIBRATION DE MEXICO

Tijuana, B.C. Mexico

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories*. This laboratory also meets the requirements of ANSI/NCSL Z540-1-1994 and any additional program requirements in the field of calibration. 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 8 January 2009*).

Presented this 15th day of April 2011.

President & CEO
For the Accreditation Council
Certificate Number 935.04
Valid to January 31, 2013

For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.