



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Metrología Aplicada y Servicios S. de R.L. de C.V.

***Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135***

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

ISO/IEC 17025:2017

Whereby, technical competence has been confirmed for the associated scope supplement, in the fields of:

***Thermodynamic, Mass, Force and Weighing Devices, Electrical and Time and
Frequency Calibration
(As detailed in the supplement)***

Accreditation claims for conformity assessment activities shall only be made from the addresses referenced within this certificate and shall apply solely to those activities identified in the related scope. This Accreditation is granted subject to the Accreditation Body rules governing the Accreditation referred to above, and the Organization hereby commits to observing and complying with those rules in their entirety.

For PJLA:

Initial Accreditation Date:

Issue Date:

Expiration Date:

April 12, 2023

April 24, 2025

April 30, 2027

Accreditation No.:

Certificate No.:

22580

L25-361-2

Tracy Szerszen
President

*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.pjlab.com*

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



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución

Chihuahua, Chihuahua, México. C.P. 31135

Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Thermodynamic	Thermo-hygrometer (Humidity)	10 % RH to 90 % RH	1 % RH	Vaisala MI70/HMP75 Humidity Chamber	Euramet-cg-20 CEM/TH-007	F
Thermodynamic	Thermo-hygrometer (Temperature)	10 °C to 50 °C	0.1 °C	Vaisala MI70/HMP75 Humidity Chamber	Euramet-cg-20 CEM/TH-007	F
Thermodynamic	System Accuracy Test (SAT) Oven-Chamber-Thermal Processing Equipment with Thermocouples Type J, K	0 °C to 1 200 °C	0.5 °C	Fluke 1586A Super-DAQ Precision Temperature Scanner	AMS2750 and AIAG CQI-9, CQI-11, CQI-12	F, O
Thermodynamic	Temperature Uniformity Surveys (TUS) Oven-Chamber-Thermal Processing Equipment with Thermocouples Type J, K	0 °C to 1 200 °C	0.25 °C	Fluke 1586A Super-DAQ Precision Temperature Scanner	AMS2750 and AIAG CQI-9, CQI-11, CQI-12	F, O
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	1 mg	5 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	2 mg	5 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	5 mg	5 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F



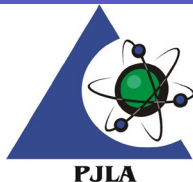
Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	10 mg	5 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	20 mg	6 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	50 mg	10 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	100 mg	10 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	200 mg	12 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	500 mg	15 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	1 g	22 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución

Chihuahua, Chihuahua, México. C.P. 31135

Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	2 g	25 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	5 g	40 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	10 g	43 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	20 g	68 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	50 g	80 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	100 g	100 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	200 g	200 μ g	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución

Chihuahua, Chihuahua, México. C.P. 31135

Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	500 g	0.5 mg	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	1 kg	1.1 mg	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	2 kg	1.9 mg	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	5 kg	5 mg	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	10 kg	10 mg	Double Substitution with Class E2 Weights, Balances & Mass Comparators	OIML R111-1	F
Mass, Force and Weighing Devices	Mass, Weight and Weight Sets F1, F2, M1, M2, M3	20 kg	21 mg	Double Substitution with Class F1 Weights, Balances & Mass Comparators	OIML R111-1	F
Electrical	Equipment to Simulate and Measure Thermocouple in Linear (@10 μ V/ $^{\circ}$ C and 1 mV/ $^{\circ}$ C)	0.1 mV to 329.999 9 mV	50 μ V/V + 3 μ V	Fluke 5522A	Euramet cg-11	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución

Chihuahua, Chihuahua, México. C.P. 31135

Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Measure DC Voltage	0.1 mV to 329.999 9 mV	20 μ V/V + 1 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure DC Voltage	0.4 mV to 3.299 999 V	11 μ V/V + 2 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure DC Voltage	4 V to 32.999 99 V	12 μ V/V + 20 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure DC Voltage	30 V to 329.999 9 V	18 μ V/V + 150 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure DC Voltage	100 V to 102 V	18 μ V/V + 1 500 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure DC Current	0.1 μ A to 329.999 μ A	150 μ A/A + 0.02 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure DC Current	0.4 μ A to 3.299 99 mA	100 μ A/A + 0.05 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure DC Current	4 mA to 32.999 9 mA	100 μ A/A + 0.25 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure DC Current	33 mA to 329.999 mA	100 μ A/A + 2.5 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure DC Current	330 mA to 1.099 99 A	200 μ A/A + 40 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure DC Current	1.1 A to 2.99 999 A	380 μ A/A + 40 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure DC Current	3 A to 10.999 9 A	500 μ A/A + 500 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure DC Current	11 A to 20.5 A	800 μ A/A + 750 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Measure Resistance	0.1 Ω to 10.999 9 Ω	47 $\mu\Omega/\Omega$ + 1.2 m Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure Resistance	11 Ω to 32.999 9 Ω	40 $\mu\Omega/\Omega$ + 1.7 m Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure Resistance	33 Ω to 109.999 9 Ω	34 $\mu\Omega/\Omega$ + 1.8 m Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure Resistance	110 Ω to 329.999 9 Ω	34 $\mu\Omega/\Omega$ + 2.4 m Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure Resistance	330 Ω to 1.099 999 k Ω	34 $\mu\Omega/\Omega$ + 2.4 m Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure Resistance	1.1 k Ω to 3.299 999 k Ω	34 $\mu\Omega/\Omega$ + 22 m Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure Resistance	3.3 k Ω to 10.999 99 k Ω	34 $\mu\Omega/\Omega$ + 23 m Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure Resistance	11 k Ω to 32.999 99 k Ω	34 $\mu\Omega/\Omega$ + 0.22 Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure Resistance	33 k Ω to 109.999 9 k Ω	34 $\mu\Omega/\Omega$ + 0.24 Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure Resistance	110 k Ω to 329.999 99 k Ω	44 $\mu\Omega/\Omega$ + 1.6 Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure Resistance	330 k Ω to 1.099 999 M Ω	40 $\mu\Omega/\Omega$ + 3 Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure Resistance	1.1 M Ω to 3.299 999 M Ω	0.12 m Ω/Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure Resistance	3.3 M Ω to 10.999 99 M Ω	0.16 m Ω/Ω + 86 Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Measure Resistance	11 M Ω to 32.999 99 M Ω	0.7 m Ω/Ω + 2.5 k Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure Resistance	33 M Ω to 109.999 9 M Ω	0.76 m Ω/Ω + 3.5 k Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure Resistance	110 M Ω to 329.999 9 M Ω	0.65 m Ω/Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure Resistance	330 M Ω to 1 100 M Ω	15 m Ω/Ω + 730 k Ω	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 Hz to 45 Hz)	1 mV to 32.999 mV	800 μ V/V + 6 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 10 kHz)	1 mV to 32.999 mV	150 μ V/V + 6 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 kHz to 20 kHz)	1 mV to 32.999 mV	200 μ V/V + 6 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 20 kHz to 50 kHz)	1 mV to 32.999 mV	1 000 μ V/V + 6 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 50 kHz to 100 kHz)	1 mV to 32.999 mV	3 500 μ V/V + 12 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 100 kHz to 500 kHz)	1 mV to 32.999 mV	8 000 μ V/V + 50 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Measure AC Voltage (@ 10 Hz to 45 Hz)	33 mV to 329.999 mV	300 μ V/V + 8 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 10 kHz)	33 mV to 329.999 mV	145 μ V/V + 8 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 kHz to 20 kHz)	33 mV to 329.999 mV	160 μ V/V + 8 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 20 kHz to 50 kHz)	33 mV to 329.999 mV	350 μ V/V + 8 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 50 kHz to 100 kHz)	33 mV to 329.999 mV	800 μ V/V + 32 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 100 kHz to 500 kHz)	33 mV to 329.999 mV	2 000 μ V/V + 70 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 Hz to 45 Hz)	0.33 V to 3.299 99 V	300 μ V/V + 50 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 10 kHz)	0.33 V to 3.299 99 V	150 μ V/V + 60 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 kHz to 20 kHz)	0.33 V to 3.299 99 V	190 μ V/V + 60 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Measure AC Voltage (@ 20 kHz to 50 kHz)	0.33 V to 3.299 99 V	300 μ V/V + 50 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 50 kHz to 100 kHz)	0.33 V to 3.299 99 V	700 μ V/V + 130 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 100 kHz to 500 kHz)	0.33 V to 3.299 99 V	2 400 μ V/V + 600 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 Hz to 45 Hz)	3.3 V to 32.999 9 V	300 μ V/V + 600 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 10 kHz)	3.3 V to 32.999 9 V	150 μ V/V + 600 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 kHz to 20 kHz)	3.3 V to 32.999 9 V	240 μ V/V + 600 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 20 kHz to 50 kHz)	3.3 V to 32.999 9 V	350 μ V/V + 600 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 50 kHz to 100 kHz)	3.3 V to 32.999 9 V	900 μ V/V + 1 600 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 Hz to 45 Hz)	33 V to 329.999 V	190 μ V/V + 2 000 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 10 kHz)	33 V to 329.999 V	200 μ V/V + 6 000 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 kHz to 20 kHz)	33 V to 329.999 V	250 μ V/V + 6 000 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 20 kHz to 50 kHz)	33 V to 329.999 V	300 μ V/V + 6 000 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 50 kHz to 100 kHz)	33 V to 329.999 V	2 000 μ V/V + 50 000 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 Hz to 1 kHz)	330 V to 1 020 V	300 μ V/V + 10 000 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 1 kHz to 5 kHz)	330 V to 1 020 V	250 μ V/V + 10 000 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Voltage (@ 5 kHz to 10 kHz)	330 V to 1 020 V	300 μ V/V + 10 000 μ V	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 10 Hz to 20 Hz)	29 μ A to 329.99 μ A	0.2 μ A /A + 0.1 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 20 Hz to 45 Hz)	29 μ A to 329.99 μ A	0.15 μ A /A + 0.1 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	29 μ A to 329.99 μ A	0.125 μ A /A + 0.1 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 1 kHz to 5 kHz)	29 μ A to 329.99 μ A	0.3 μ A /A + 0.15 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 5 kHz to 10 kHz)	29 μ A to 329.99 μ A	0.8 μ A /A + 0.2 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 10 kHz to 30 kHz)	29 μ A to 329.99 μ A	1.6 μ A /A + 0.4 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 10 Hz to 20 Hz)	0.33 mA to 3.299 99 mA	0.2 μ A /A + 0.15 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 20 Hz to 45 Hz)	0.33 mA to 3.299 99 mA	0.125 μ A /A + 0.15 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	0.33 mA to 3.299 99 mA	0.1 μ A /A + 0.15 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 1 kHz to 5 kHz)	0.33 mA to 3.299 99 mA	0.2 μ A /A + 0.2 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 5 kHz to 10 kHz)	0.33 mA to 3.299 99 mA	0.5 μ A /A + 0.3 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Measure AC Current (@ 10 kHz to 30 kHz)	0.33 mA to 3.299 99 mA	1 μ A /A + 0.6 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 10 Hz to 20 Hz)	3.3 mA to 32.999 9 mA	0.18 μ A /A + 2 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 20 Hz to 45 Hz)	3.3 mA to 32.999 9 mA	0.09 μ A /A + 2 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	3.3 mA to 32.999 9 mA	0.04 μ A /A + 2 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 1 kHz to 5 kHz)	3.3 mA to 32.999 9 mA	0.08 μ A /A + 2 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 5 kHz to 10 kHz)	3.3 mA to 32.999 9 mA	0.2 μ A /A + 3 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 10 kHz to 30 kHz)	3.3 mA to 32.999 9 mA	0.04 μ A /A + 4 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 10 Hz to 20 Hz)	33 mA to 329.999 mA	0.18 μ A /A + 20 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 20 Hz to 45 Hz)	33 mA to 329.999 mA	0.09 μ A /A + 20 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	33 mA to 329.999 mA	0.04 μ A /A + 20 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 1 kHz to 5 kHz)	33 mA to 329.999 mA	0.1 μ A /A + 50 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 5 kHz to 10 kHz)	33 mA to 329.999 mA	0.2 μ A /A + 100 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 10 kHz to 30 kHz)	33 mA to 329.999 mA	0.4 μ A /A + 200 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 10 to 45 Hz)	0.33 A to 1.099 99 A	0.18 μ A /A + 100 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	0.33 A to 1.099 99 A	0.05 μ A /A + 100 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 1 kHz to 5 kHz)	0.33 A to 1.099 99 A	0.6 μ A /A + 1000 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 5 kHz to 10 kHz)	0.33 A to 1.099 99 A	2.5 μ A /A + 5 000 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 10 to 45 Hz)	1.1 A to 2.999 99 A	0.18 μ A /A + 100 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	1.1 A to 2.999 99 A	0.06 μ A /A + 100 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 1 kHz to 5 kHz)	1.1 A to 2.999 99 A	0.6 μ A /A + 1 000 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 5 kHz to 10 kHz)	1.1 A to 2.999 99 A	2.5 μ A /A + 5 000 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 45 Hz to 100 Hz)	11 A to 20.5 A	0.12 μ A /A + 5 000 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 100 Hz to 1 kHz)	11 A to 20.5 A	0.15 μ A /A + 5 000 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Measure AC Current (@ 1 kHz to 5 kHz)	11 A to 20.5 A	3 μ A /A + 5 000 μ A	Fluke 5522A	EL-001 CEM-Procedure	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type J	210 °C to -100 °C	0.21 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type J	-100 °C to -30 °C	0.13 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type J	-30 °C to 150 °C	0.11 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type J	150 °C to 760 °C	0.13 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type J	760 °C to 1 200 °C	0.18 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type K	-210 °C to -100 °C	0.26 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type K	-100 °C to -25 °C	0.14 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type K	-25 °C to 120 °C	0.13 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type K	120 °C to 1 000 °C	0.2 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type K	1 000 °C to 1 372 °C	0.31 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type R	0 °C to 250 °C	0.44 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type R	250 °C to 400 °C	0.27 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type R	400 °C to 1 000 °C	0.26 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type R	1 000 °C to 1 767 °C	0.31 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type S	0 °C to 250 °C	0.37 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type S	250 °C to 1 000 °C	0.28 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type S	1 000 °C to 1 400 °C	0.29 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type S	1 400 °C to 1 767 °C	0.36 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type T	-250 °C to -150 °C	0.49 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type T	-150 °C to 0 °C	0.19 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type T	0 °C to 120 °C	0.13 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type T	120 °C to 400 °C	0.11 °C	Fluke 5522A Electrical Simulation of Thermocouple Output	Euramet cg-11	F, O
Electrical	Equipment to Output DC Voltage	Up to 330 mV	16 μ V/V + 780 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output DC Voltage	330 mV to 3.3 V	8.5 μ V/V + 1.6 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output DC Voltage	3.3 V to 33 V	9.3 μ V/V + 16 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output DC Voltage	33 V to 330 V	14 μ V/V + 120 μ V 14	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output DC Voltage	100 V to 1.02 kV	14 μ V/V + 1.2 mV	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output DC Current	Up to 320 μ A	0.038 μ A/A + 16 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output DC Current	320 μ A to 3.2 mA	78 μ A/A + 39 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output DC Current	3.2 mA to 32 mA	78 μ A/A + 190 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output DC Current	32 mA to 320 mA	78 μ A/A + 1.9 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output DC Current	320 mA to 1.1 A	150 μ A/A + 31 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output DC Current	1.1 A to 2.9 A	290 μ A/A + 31 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Output DC Current	2.9 A to 11A	390 μ A/A + 390 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output DC Current	11 A to 20.5 A	780 μ A/A + 580 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output Resistance	0 Ω to 11 Ω	31 $\mu\Omega/\Omega$ + 78 $\mu\Omega$	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output Resistance	11 Ω to 33 Ω	23 $\mu\Omega/\Omega$ + 1.2 m Ω	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output Resistance	33 Ω to 110 Ω	22 $\mu\Omega/\Omega$ + 1.1 m Ω	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output Resistance	110 Ω to 330 Ω	22 $\mu\Omega/\Omega$ + 1.6 m Ω	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output Resistance	330 Ω to 1.1 k Ω	22 $\mu\Omega/\Omega$ + 1.6 m Ω	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output Resistance	1.1 k Ω to 3.3 k Ω	22 $\mu\Omega/\Omega$ + 16 m Ω	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output Resistance	3.3 k Ω to 11 k Ω	22 $\mu\Omega/\Omega$ + 16 m Ω	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output Resistance	11 k Ω to 33 k Ω	22 $\mu\Omega/\Omega$ + 160 m Ω	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output Resistance	33 k Ω to 110 k Ω	22 $\mu\Omega/\Omega$ + 160 m Ω	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output Resistance	110 k Ω to 330 k Ω	25 $\mu\Omega/\Omega$ + 1.6 Ω	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output Resistance	330 k Ω to 1.1 M Ω	25 $\mu\Omega/\Omega$ + 1.6 Ω	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output Resistance	1.1 M Ω to 3.3 M Ω	47 $\mu\Omega/\Omega$ + 23 Ω	Agilent 3458A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Output Resistance	3.3 M Ω to 11 M Ω	100 $\mu\Omega/\Omega$ + 39 Ω	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output Resistance	11 k Ω to 33 k Ω	190 $\mu\Omega/\Omega$ + 1.9 k Ω	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output Resistance	33 k Ω to 110 k Ω	390 $\mu\Omega/\Omega$ + 2.3 k Ω	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output Resistance	110 k Ω to 330 k Ω	230 $\mu\Omega/\Omega$ + 78 k Ω	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output Resistance	330 k Ω to 1 100 M Ω	1.2 m Ω/Ω + 390 k Ω	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 10 Hz to 45 Hz)	1 mV to 33 mV	0.062 % of reading + 4.7 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 45 kHz to 10 kHz)	1 mV to 33 mV	0.012 % of reading + 4.7 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 10 kHz to 20 kHz)	1 mV to 33 mV	0.016 % of reading + 4.7 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 20 kHz to 50 kHz)	1 mV to 33 mV	0.078 % of reading + 4.7 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 50 kHz to 100 kHz)	1 mV to 33 mV	0.27 % reading + 9.3 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Output AC Voltage (@ 100 kHz to 500 kHz)	1 mV to 33 mV	0.62 % reading + 39 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 10 Hz to 45 Hz)	33 mV to 330 mV	0.023 % of reading + 6.2 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 45 kHz to 10 kHz)	33 mV to 330 mV	0.011 % of reading + 6.2 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 10 kHz to 20 kHz)	33 mV to 330 mV	0.012 % of reading + 6.2 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 20 kHz to 50 kHz)	33 mV to 330 mV	0.027 % of reading + 6.2 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 50 kHz to 100 kHz)	33 mV to 330 mV	0.062 % of reading + 25 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 100 kHz to 500 kHz)	33 mV to 330 mV	0.15 % of reading + 54 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 10 Hz to 45 Hz)	0.33 V to 3.3 V	0.023 % of reading + 39 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 45 kHz to 10 kHz)	0.33 V to 3.3 V	0.011 % of reading + 47 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Output AC Voltage (@ 10 kHz to 20 kHz)	0.33 V to 3.3 V	0.015 % of reading + 47 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 20 kHz to 50 kHz)	0.33 V to 3.3 V	0.023 % of reading + 39 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 50 kHz to 100 kHz)	0.33 V to 3.3 V	0.054 % of reading + 97 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 100 kHz to 500 kHz)	0.33 V to 3.3 V	0.18 % of reading + 470 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 10 Hz to 45 Hz)	3.3 V to 33 V	0.023 % of reading + 500 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 45 kHz to 10 kHz)	3.3 V to 33 V	0.012 % of reading + 470 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 10 kHz to 20 kHz)	3.3 V to 33 V	0.019 % of reading + 470 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 20 kHz to 50 kHz)	3.3 V to 33 V	0.027 % of reading + 470 μ V	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 50 kHz to 100 kHz)	3.3 V to 33 V	0.07 % of reading + 1.2 mV	Agilent 3458A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Output AC Voltage (@ 10 Hz to 45 Hz)	33 V to 330 V	0.015 % of reading + 1.6 mV	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 45 kHz to 10 kHz)	33 V to 330 V	0.016 % of reading + 4.7 mV	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 10 kHz to 20 kHz)	33 V to 330 V	0.019 % of reading + 4.7 mV	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 20 kHz to 50 kHz)	33 V to 330 V	0.023 % of reading + 4.7 mV	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 50 kHz to 100 kHz)	33 V to 330 V	0.16 % of reading + 39 mV	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 45 Hz to 1 kHz)	330 V to 1 020 V	0.023 % of reading + 7.8 mV	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 1 kHz to 5 kHz)	330 V to 1 020 V	0.019 % of reading + 7.8 mV	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Voltage (@ 5 kHz to 10 kHz)	330 V to 1 020 V	0.023 % of reading + 7.8 mV	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 10 Hz to 20 Hz)	29 μ A to 330 μ A	0.16 % of reading + 78 nA	Agilent 3458A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Output AC Current (@ 20 Hz to 45 Hz)	29 μ A to 330 μ A	0.12 % of reading + 78 nA	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 45 Hz to 1 kHz)	29 μ A to 330 μ A	0.1 % of reading + 78 nA	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 1 kHz to 5 kHz)	29 μ A to 330 μ A	0.23 % of reading + 0.12 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 5 kHz to 10 kHz)	29 μ A to 330 μ A	0.62 % of reading + 0.16 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 10 kHz to 30 kHz)	29 μ A to 330 μ A	1.3 % of reading + 0.31 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 10 Hz to 20 Hz)	0.33 mA to 3.3 mA	0.16 % of reading + 0.12 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 20 Hz to 45 Hz)	0.33 mA to 3.3 mA	0.1 % of reading + 0.12 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 45 Hz to 1 kHz)	0.33 mA to 3.3 mA	0.075 % of reading + 0.12 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Output AC Current (@ 1 kHz to 5 kHz)	0.33 mA to 3.3 mA	0.16 % of reading + 0.16 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 5 kHz to 10 kHz)	0.33 mA to 3.3 mA	0.39 % of reading + 0.23 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 10 kHz to 30 kHz)	0.33 mA to 3.3 mA	0.77 % of reading + 0.47 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 10 Hz to 20 Hz)	3.3 mA to 33 mA	0.14 % of reading + 1.6 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 20 Hz to 45 Hz)	3.3 mA to 33 mA	0.07 % of reading + 1.6 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 45 Hz to 1 kHz)	3.3 mA to 33 mA	0.03 % of reading + 1.6 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 1 kHz to 5 kHz)	3.3 mA to 33 mA	0.06 % of reading + 1.6 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 5 kHz to 10 kHz)	3.3 mA to 33 mA	0.16 % of reading + 2.3 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 10 kHz to 30 kHz)	3.3 mA to 33 mA	0.31 % of reading + 3.1 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución

Chihuahua, Chihuahua, México. C.P. 31135

Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Output AC Current (@ 10 Hz to 20 Hz)	33 mA to 330 mA	0.14 % of reading + 16 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 20 Hz to 45 Hz)	33 mA to 330 mA	0.07 % of reading + 16 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 45 Hz to 1 kHz)	33 mA to 330 mA	0.03 % of reading + 16 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 1 kHz to 5 kHz)	33 mA to 330 mA	0.08 % of reading + 39 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 5 kHz to 10 kHz)	33 mA to 330 mA	0.16 % of reading + 78 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 10 kHz to 30 kHz)	33 mA to 330 mA	0.31 % of reading + 160 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 10 Hz to 20 Hz)	0.33 A to 1.1 A	0.14 % of reading + 78 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 45 Hz to 1 kHz)	0.33 A to 1.1 A	0.039 % of reading + 78 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 1 kHz to 5 kHz)	0.33 A to 1.1 A	0.47 % of reading + 780 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	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	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Electrical	Equipment to Output AC Current (@ 5 kHz to 10 kHz)	0.33 A to 1.1 A	1.9 % of reading + 3.9 mA	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 10 Hz to 20 Hz)	1.1 A to 3 A	0.14 % of reading + 78 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 45 Hz to 1 kHz)	1.1 A to 3 A	0.05 % of reading + 78 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 1 kHz to 5 kHz)	1.1 A to 3 A	0.47 % of reading + 780 μ A	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Equipment to Output AC Current (@ 5 kHz to 10 kHz)	1.1 A to 3 A	1.9 % of reading + 3.9 mA	Agilent 3458A	EL-001 CEM-Procedure	F, O
Electrical	Oscilloscopes Voltage p-p (50 Ω) (@ 50 kHz to 600 MHz)	5 mV to 5.5 V	6 % of output + 300 μ V	Fluke 5522A/SC600	Euramet-cg-7	F, O
Time and Frequency	Oscilloscope (Timing Accuracy)	2 ns to 20 ms	0.000 25 % of reading	Fluke 5522A/SC600	Euramet-cg-7	F, O

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.



Certificate of Accreditation: Supplement

Metrología Aplicada y Servicios S. de R.L. de C.V.

Calle Amada Armendáriz # 233, Col. Revolución
Chihuahua, Chihuahua, México. C.P. 31135
Contact Name: Carlos Valenzuela Phone: 656-617-6617

Accreditation is granted to the facility to perform the following conformity assessment activities:

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. Location of activity:

Location Code	Location
F	Conformity assessment activity is performed at the CABs fixed facility
O	Conformity assessment activity is performed onsite at the CABs customer location
4. 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.