



CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Rothe San Antonio Calibration LLC

**4614 Sinclair Road
San Antonio, TX 78222**

Fulfills the requirements of

ISO/IEC 17025:2017

and national standard

ANSI/NCSL Z540-1-1994 (R2002)

In the field of

CALIBRATION

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

Jason Stine, Vice President

Expiry Date: 23 April 2026

Certificate Number: AC-1388



This laboratory 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 (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

AND

ANSI/NCSL Z540-1-1994 (R2002)

Rothe San Antonio Calibration LLC

4614 Sinclair Road
San Antonio, TX 78222
Will Wright
(800) 229-5209

CALIBRATION

Valid to: **April 23, 2026**

Certificate Number: **AC-1388**

Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment ⁴
DC Voltage – Source ^{1,2}	Up to 220 mV 220 mV to 2.2 V (2.2 to 11) V (11 to 22) V (22 to 220) V 220 V to 1.1 kV	7.5 $\mu\text{V/V} + 0.4 \mu\text{V}$ 5 $\mu\text{V/V} + 0.7 \mu\text{V}$ 3.5 $\mu\text{V/V} + 2.5 \mu\text{V}$ 3.5 $\mu\text{V/V} + 4 \mu\text{V}$ 5 $\mu\text{V/V} + 40 \mu\text{V}$ 6.5 $\mu\text{V/V} + 0.4 \text{ mV}$	Fluke 5720A Multiproduct Calibrator
DC Voltage - Source Fixed Point ²	10 V	60 μV	Fluke 732B DC Reference Standard
DC Voltage – Measure ^{1,2}	Up to 200 mV 200 mV to 2 V (2 to 20) V (20 to 200) V 200 V to 1 kV	5 $\mu\text{V/V} + 0.1 \mu\text{V}$ 3.5 $\mu\text{V/V} + 0.4 \mu\text{V}$ 3.5 $\mu\text{V/V} + 4 \mu\text{V}$ 5.5 $\mu\text{V/V} + 40 \mu\text{V}$ 5.5 $\mu\text{V/V} + 1 \text{ mV}$	Fluke 8508A Opt 01 Multimeter
DC Current – Source ^{1,2}	Up to 220 μA 220 μA to 2.2 mA (2.2 to 22 mA) (22 to 220) mA 220 mA to 2.2 A	40 $\mu\text{A/A} + 6 \text{ nA}$ 35 $\mu\text{A/A} + 7 \text{ nA}$ 35 $\mu\text{A/A} + 40 \text{ nA}$ 45 $\mu\text{A/A} + 0.7 \mu\text{A}$ 80 $\mu\text{A/A} + 12 \mu\text{A}$	Fluke 5720A Multiproduct Calibrator
DC Current – Source ^{1,2}	(2.2 to 11) A	0.36 mA/A + 0.48 mA	Fluke 5720A Multiproduct Calibrator with Fluke 5725A Amplifier
DC Current – Source ^{1,2}	(11 to 20.5) A	0.78 mA/A + 1.2 mA	Fluke 5520A-PQ 120 Multiproduct Calibrator



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Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment ⁴
DC Current – Measure ^{1,2}	Up to 200 μ A 200 μ A to 2 mA (2 to 20) mA (20 to 200) mA 200 mA to 2 A (2 to 20) A	12 μ A/A + 0.4 nA 12 μ A/A + 4 nA 14 μ A/A + 40 nA 48 μ A/A + 0.8 μ A 0.19 mA/A + 16 μ A 0.4 mA/A + 0.4 mA	Fluke 8508A Opt 01 Multimeter
Resistance – Source ^{1,2}	1 Ω 1.9 Ω 10 Ω 19 Ω 100 Ω 190 Ω 1 k Ω 1.9 k Ω 10 k Ω 19 k Ω 100 k Ω 190 k Ω 1 M Ω 1.9 M Ω 10 M Ω 19 M Ω 100 M Ω	95 $\mu\Omega/\Omega$ 95 $\mu\Omega/\Omega$ 23 $\mu\Omega/\Omega$ 23 $\mu\Omega/\Omega$ 10 $\mu\Omega/\Omega$ 10 $\mu\Omega/\Omega$ 8.5 $\mu\Omega/\Omega$ 8.5 $\mu\Omega/\Omega$ 8.5 $\mu\Omega/\Omega$ 8.5 $\mu\Omega/\Omega$ 11 $\mu\Omega/\Omega$ 11 $\mu\Omega/\Omega$ 20 $\mu\Omega/\Omega$ 21 $\mu\Omega/\Omega$ 40 $\mu\Omega/\Omega$ 47 $\mu\Omega/\Omega$ 100 $\mu\Omega/\Omega$	Fluke 5720A Multiproduct Calibrator
	(100 to 330) M Ω 330 M Ω to 1.1 G Ω	2.3 m Ω/Ω + 78 k Ω 11.6 m Ω/Ω + 0.4 M Ω	
Resistance – Source Fixed ²	1 Ω	8 $\mu\Omega/\Omega$	Fluke 742A-1 Resistance Standard
Resistance – Source Fixed ²	10 k Ω	4 $\mu\Omega/\Omega$	Fluke 742A-10K Resistance Standard
Resistance – Measure ^{1,2}	Up to 2 Ω (2 to 20) Ω (20 to 200) Ω 200 Ω to 2 k Ω (2 to 20) k Ω (20 to 200) k Ω 200 k Ω to 2 M Ω (2 to 20) M Ω (20 to 200) M Ω 200 M Ω to 2 G Ω (2 to 20) G Ω	17 $\mu\Omega/\Omega$ + 4 $\mu\Omega$ 9.5 $\mu\Omega/\Omega$ + 14 $\mu\Omega$ 8 $\mu\Omega/\Omega$ + 50 $\mu\Omega$ 8 $\mu\Omega/\Omega$ + 0.5 m Ω 8 $\mu\Omega/\Omega$ + 5 m Ω 8 $\mu\Omega/\Omega$ + 50 m Ω 9 $\mu\Omega/\Omega$ + 1 Ω 17 $\mu\Omega/\Omega$ + 10 Ω 65 $\mu\Omega/\Omega$ + 1 k Ω 0.18 m Ω/Ω + 100 k Ω 1.5 m Ω/Ω + 10 M Ω	Fluke 8508A Opt 01 Multimeter



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AC Voltage – Source ^{1,2}	Up to 2.2 mV		Fluke 5720A Multiproduct Calibrator
	(10 to 20) Hz	240 μ V/V + 4 μ V	
	(20 to 40) Hz	90 μ V/V + 4 μ V	
	40 Hz to 20 kHz	80 μ V/V + 4 μ V	
	(20 to 50) kHz	0.2 mV/V + 4 μ V	
	(50 to 100) kHz	0.5 mV/V + 5 μ V	
	(100 to 300) kHz	1.1 mV/V + 10 μ V	
	(300 to 500) kHz	1.4 mV/V + 20 μ V	
	500 kHz to 1 MHz	2.7 mV/V + 20 μ V	
	(2.2 to 22) mV		
	(10 to 20) Hz	240 μ V/V + 4 μ V	
	(20 to 40) Hz	90 μ V/V + 4 μ V	
	40 Hz to 20 kHz	80 μ V/V + 4 μ V	
	(20 to 50) kHz	0.2 mV/V + 4 μ V	
	(50 to 100) kHz	0.5 mV/V + 5 μ V	
	(100 to 300) kHz	1.1 mV/V + 10 μ V	
	(300 to 500) kHz	1.4 mV/V + 20 μ V	
	500 kHz to 1 MHz	2.7 mV/V + 20 μ V	
	(22 to 220) mV		
	(10 to 20) Hz	0.24 mV/V + 12 μ V	
	(20 to 40) Hz	90 μ V/V + 7 μ V	
	40 Hz to 20 kHz	80 μ V/V + 7 μ V	
	(20 to 50) kHz	0.2 mV/V + 7 μ V	
	(50 to 100) kHz	0.46 mV/V + 17 μ V	
	(100 to 300) kHz	0.9 mV/V + 20 μ V	
	(300 to 500) kHz	1.4 mV/V + 25 μ V	
	500 kHz to 1 MHz	2.7 mV/V + 45 μ V	
220 mV to 2.2 V			
(10 to 20) Hz	0.24 mV/V + 40 μ V		
(20 to 40) Hz	90 μ V/V + 15 μ V		
40 Hz to 20 kHz	45 μ V/V + 8 μ V		
(20 to 50) kHz	75 μ V/V + 10 μ V		
(50 to 100) kHz	0.11 mV/V + 30 μ V		
(100 to 300) kHz	0.42 mV/V + 80 μ V		
(300 to 500) kHz	1 mV/V + 0.2 mV		
500 kHz to 1 MHz	1.7 mV/V + 0.3 mV		



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Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment ⁴
AC Voltage – Source ^{1,2}	(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 to 300) kHz (300 to 500) kHz 500 kHz to 1 MHz (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 to 300) kHz (300 to 500) kHz 500 kHz to 1 MHz 220 V to 1.1 kV (15 to 50) Hz 50 Hz to 1 kHz	0.24 mV/V + 0.4 mV 90 μV/V + 0.15 mV 45 μV/V + 50 μV 75 μV/V + 0.1 mV 0.1 mV/V + 0.2 mV 0.28 mV/V + 0.6 mV 1 mV/V + 2 mV 1.5 mV/V + 3.2 mV 0.24 mV/V + 4 mV 90 μV/V + 1.5 mV 52 μV/V + 0.6 mV 80 μV/V + 1 mV 0.15 mV/V + 2.5 mV 0.9 mV/V + 16 mV 4.4 mV/V + 40 mV 8 mV/V + 80 mV 0.3 mV/V + 16 mV 70 μV/V + 3.5 mV	Fluke 5720A Multiproduct Calibrator
AC Voltage – Source ^{1,2}	220 V to 1.1 kV 40 Hz to 1 kHz (1 to 20) kHz (20 to 30) kHz (220 to 750) V (30 to 50) kHz (50 to 100) kHz	90 μV/V + 4 mV 0.17 mV/V + 6 mV 0.6 mV/V + 11 mV 0.6 mV/V + 11 mV 2.3 mV/V + 45 mV	Fluke 5720A Multiproduct Calibrator with Fluke 5725A Amplifier
AC Voltage – Measure ^{1,2}	200 mV to 2 V (1 to 10) Hz (10 to 40) Hz (40 to 100) Hz 100 Hz to 2 kHz (2 to 10) kHz (10 to 30) kHz (30 to 100) kHz (100 to 300) kHz 300 kHz to 1 MHz	0.15 mV/V + 0.12 mV 0.12 mV/V + 20 μV 90 μV/V + 20 μV 75 μV/V + 20 μV 0.11 mV/V + 20 μV 0.22 mV/V + 40 μV 0.57 mV/V + 0.2 mV 3 mV/V + 2 mV 10 mV/V + 20 mV	Fluke 8508A Multimeter



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Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment ⁴
AC Voltage – Measure ^{1,2}	(2 to 20) V		Fluke 8508A Multimeter
	(1 to 10) Hz	0.15 mV/V + 1.2 mV	
	(10 to 40) Hz	0.12 mV/V + 0.2 mV	
	(40 to 100) Hz	90 μV/V + 0.2 mV	
	100 Hz to 2 kHz	75 μV/V + 0.2 mV	
	(2 to 10) kHz	0.11 mV/V + 0.2 mV	
	(10 to 30) kHz	0.22 mV/V + 0.4 mV	
	(30 to 100) kHz	0.57 mV/V + 2 mV	
	(100 to 300) kHz	3 mV/V + 20 mV	
	300 kHz to 1 MHz	10 mV/V + 0.2 V	
	(20 to 200) V		
	(1 to 10) Hz	0.15 mV/V + 12 mV	
	(10 to 40) Hz	0.12 mV/V + 2 mV	
	(40 to 100) Hz	90 μV/V + 2 mV	
	100 Hz to 2 kHz	75 μV/V + 2 mV	
	(2 to 10) kHz	0.11 mV/V + 2 mV	
	(10 to 30) kHz	0.22 mV/V + 4 mV	
	(30 to 100) kHz	0.57 mV/V + 20 mV	
(100 to 300) kHz	3 mV/V + 0.2 V		
300 kHz to 1 MHz	10 mV/V + 2 V		
AC Current – Source ^{1,2}	200 V to 1 kV		Fluke 5720A Multiproduct Calibrator
	(1 to 10) Hz	0.15 mV/V + 70 mV	
	(10 to 40) Hz	0.12 mV/V + 20 mV	
	40 Hz to 10 kHz	0.12 mV/V + 20 mV	
	(10 to 30) kHz	0.23 mV/V + 40 mV	
	(30 to 100) kHz	0.58 mV/V + 0.2 V	
	(9 to 220) μA		
	(10 to 20) Hz	0.25 mA/A + 16 nA	
	(20 to 40) Hz	0.16 mA/A + 10 nA	
	40 Hz to 1 kHz	0.12 mA/A + 8 nA	
(1 to 5) kHz	0.28 mA/A + 12 nA		
(5 to 10) kHz	1.1 mA/A + 65 nA		
220 μA to 2.2 mA	(10 to 20) Hz	0.25 mA/A + 40 nA	
	(20 to 40) Hz	0.16 mA/A + 35 nA	
	40 Hz to 1 kHz	0.12 mA/A + 35 nA	
	(1 to 5) kHz	0.2 mA/A + 0.11 μA	
	(5 to 10) kHz	1.1 mA/A + 0.65 μA	

Electrical – DC/Low Frequency

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AC Current – Source ^{1,2}	(2.2 to 22) mA		Fluke 5720A Multiproduct Calibrator
	(10 to 20) Hz	0.25 mA/A + 0.4 µA	
	(20 to 40) Hz	0.16 mA/A + 0.35 µA	
	40 Hz to 1 kHz	0.12 mA/A + 0.35 µA	
	(1 to 5) kHz	0.2 mA/A + 0.55 µA	
	(5 to 10) kHz	1.1 mA/A + 5 µA	
	(22 to 220) mA		
	(10 to 20) Hz	0.25 mA/A + 4 µA	
	(20 to 40) Hz	0.16 mA/A + 3.5 µA	
	40 Hz to 1 kHz	0.12 mA/A + 2.5 µA	
	(1 to 5) kHz	0.2 mA/A + 3.5 µA	
	(5 to 10) kHz	1.1 mA/A + 10 µA	
AC Current – Source ^{1,2}	220 mA to 2.2 A		Fluke 5720A Multiproduct Calibrator with Fluke 5725A
	20 Hz to 1 kHz	0.26 mA/A + 35 µA	
	(1 to 5) kHz	0.45 mA/A + 80 µA	
	(5 to 10) kHz	7 mA/A + 0.16 mA	
AC Current – Source ^{1,2}	(2.2 to 11) A		Fluke 5520A-PQ 120 Multiproduct Calibrator
	40 Hz to 1 kHz	0.46 mA/A + 0.17 mA	
	(1 to 5) kHz	0.95 mA/A + 0.38 mA	
	(5 to 10) kHz	3.6 mA/A + 0.75 mA	
AC Current – Measure ^{1,2}	11 A to 20.5 A		Fluke 8508A Opt 01 Multimeter
	45 Hz to 100 Hz	0.93 mA/A + 3.9 mA	
	100 Hz to 1 kHz	1.2 mA/A + 3.9 mA	
	1 kHz to 5 kHz	23 mA/A + 3.9 mA	
AC Current – Measure ^{1,2}	Up to 200 µA		Fluke 8508A Opt 01 Multimeter
	(1 to 10) Hz	0.31 mA/A + 20 nA	
	10 Hz to 10 kHz	0.3 mA/A + 20 nA	
	(10 to 30) kHz	0.71 mA/A + 20 nA	
	(30 to 100) kHz	4 mA/A + 20 nA	
	200 µA to 2 mA		
	(1 to 10) Hz	0.31 mA/A + 0.2 µA	
	10 Hz to 10 kHz	0.3 mA/A + 0.2 µA	
	(10 to 30) kHz	0.71 mA/A + 0.2 µA	
	(30 to 100) kHz	4 mA/A + 0.2 µA	
	(2 to 20) mA		
	(1 to 10) Hz	0.31 mA/A + 2 µA	
10 Hz to 10 kHz	0.3 mA/A + 2 µA		
(10 to 30) kHz	0.71 mA/A + 2 µA		
(30 to 100) kHz	4 mA/A + 2 µA		



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AC Current – Measure ^{1,2}	(20 to 200) mA (1 to 10) Hz 10 Hz to 10 kHz (10 to 30) kHz	0.31 mA/A + 20 μA 0.29 mA/A + 20 μA 0.63 mA/A + 20 μA	Fluke 8508A Opt 01 Multimeter
	200 mA to 2 A 10 Hz to 2 kHz (2 to 10) kHz (10 to 30) kHz (2 to 20) A 10 Hz to 2 kHz (2 to 10) kHz	0.62 mA/A + 0.2 mA 0.73 mA/A + 0.2 mA 3 mA/A + 0.2 mA 0.82 mA/A + 2 mA 2.5 mA/A + 2 mA	
Thermocouple Instrumentation- Source and Measure ^{1,2}	Type B (600 to 800) °C (800 to 1 000) °C (1 000 to 1 550) °C (1 550 to 1 820) °C	0.34 °C 0.26 °C 0.23 °C 0.26 °C	Fluke 5500A - SC300 Multiproduct Calibrator
	Type C (0 to 150) °C (150 to 650) °C (650 to 1 000) °C (1 000 to 1 800) °C (1 800 to 2 316) °C	0.23 °C 0.2 °C 0.24 °C 0.39 °C 0.65 °C	
	Type E (-250 to -100) °C (-100 to -25) °C (-25 to 350) °C (350 to 650) °C (650 to 1 000) °C	0.21 °C 0.12 °C 0.11 °C 0.13 °C 0.18 °C	
	Type J (-210 to -100) °C (-100 to -30) °C (-30 to 150) °C (150 to 760) °C (760 to 1 200) °C	0.21 °C 0.12 °C 0.11 °C 0.13 °C 0.18 °C	
	Type K (-200 to -100) °C (-100 to -25) °C (-25 to 120) °C (120 to 1 000) °C (1 000 to 1 372) °C	0.26 °C 0.14 °C 0.12 °C 0.2 °C 0.31 °C	

Electrical – DC/Low Frequency

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<p>Thermocouple Instrumentation - Source and Measure ^{1,2}</p>	<p>Type L (-200 to -100) °C (-100 to 800) °C (800 to 900) °C Type N (-200 to -100) °C (-100 to -25) °C (-25 to 120) °C (120 to 410) °C (410 to 1 300) °C Type R (0 to 250) °C (250 to 400) °C (400 to 1 000) °C (1 000 to 1 767) °C Type S (0 to 250) °C (250 to 1 000) °C (1 000 to 1 400) °C (1 400 to 1 767) °C Type T (-250 to -150) °C (-150 to 0) °C (0 to 120) °C (120 to 400) °C Type U (-200 to 0) °C (0 to 600) °C</p>	<p>0.29 °C 0.2 °C 0.13 °C 0.31 °C 0.17 °C 0.15 °C 0.14 °C 0.21 °C 0.44 °C 0.27 °C 0.26 °C 0.31 °C 0.36 °C 0.28 °C 0.29 °C 0.36 °C 0.49 °C 0.19 °C 0.12 °C 0.11 °C 0.43 °C 0.21 °C</p>	<p>Fluke 5500A - SC300 Multiproduct Calibrator</p>
<p>Electrical Simulation of RTD Instrumentation ^{1,2}</p>	<p>Pt 385 (100 Ω) (-200 to 0) °C 0 to 100 °C 100 to 300 °C 300 to 400 °C 400 to 630 °C 630 to 800 °C Pt 3926 (100 Ω) (-200 to 0) °C (0 to 100) °C (100 to 300) °C (300 to 400) °C (400 to 630) °C</p>	<p>0.04 °C 0.05 °C 0.07 °C 0.08 °C 0.09 °C 0.18 °C 0.04 °C 0.05 °C 0.05 °C 0.08 °C 0.09 °C</p>	<p>Fluke 5500A - SC300 Multiproduct Calibrator</p>



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Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment ⁴
Electrical Simulation of RTD Instrumentation ^{1,2}	Pt 3916 (100 Ω) (-200 to -190) °C (-190 to -80) °C (-80 to 0) °C (0 to 100) °C (100 to 260) °C (260 to 300) °C (300 to 400) °C (400 to 600) °C (600 to 630) °C	0.19 °C 0.03 °C 0.04 °C 0.05 °C 0.05 °C 0.06 °C 0.15 °C 0.08 °C 0.18 °C	Fluke 5500A - SC300 Multiproduct Calibrator
Capacitance – Source ^{1,2} 50 Hz to 1 kHz 50 Hz to 1 kHz 50 Hz to 1 kHz 50 Hz to 1 kHz 50 Hz to 1 kHz 50 Hz to 1 kHz 50 Hz to 1 kHz 50 Hz to 1 kHz 50 Hz to 1 kHz 50 Hz to 1 kHz (50 to 400) Hz (50 to 400) Hz (50 to 200) Hz (50 to 100) Hz (50 to 100) Hz	(330 to 500) pF 500 pF to 1.1 nF (1.1 to 3.3) nF (3.3 to 11) nF (11 to 33) nF (33 to 110) nF (110 to 330) nF 330 nF to 1.1 μF (1.1 to 3.3) μF (3.3 to 11) μF (11 to 33) μF (33 to 110) μF (110 to 330) μF 330 μF to 1.1 mF	3.9 mF/F + 7.8 pF 3.9 mF/F + 7.8 pF 3.9 mF/F + 7.8 pF 3.9 mF/F + 7.8 pF 1.9 mF/F + 78 pF 1.9 mF/F + 78 pF 1.9 mF/F + 0.23 nF 1.9 mF/F + 0.8 nF 2.7 mF/F + 2.3 nF 2.7 mF/F + 7.8 nF 3.1 mF/F + 23 nF 3.9 mF/F + 78 nF 5.4 mF/F + 0.23 μF 7.8 mF/F + 0.23 μF	Fluke 5500A - SC300 Multiproduct Calibrator
Scope Voltage – Source DC Signal ^{1,2} Into 50 Ω Into 1 MΩ	± (0 to 6.6) V ± (0 to 130) V	1.9 mV/V + 31 μV 0.39 mV/V + 31 μV	Fluke 5522A Multiproduct Calibrator
Scope Voltage - Source Square Wave ^{1,2} Into 50 Ω Into 1 MΩ	1 mV to 6.6 V p-p 1 mV to 130 V p-p	1.9 mV/V + 31 μV 0.77 mV/V + 31 μV	Fluke 5522A Multiproduct Calibrator
Scope Leveled Sine Wave ^{1,2} Source into 50 Ω (5 mV to 5.5 V p-p) Flatness Relative to 50 kHz	50 kHz 50 kHz to 100 MHz (100 to 300) MHz (300 to 600) MHz 50 kHz to 100 MHz (100 to 300) MHz (300 to 600) MHz	16 mV/V + 0.24 mV 27 mV/V + 0.24 mV 31 mV/V + 0.24 mV 47 mV/V + 0.24 mV 12 mV/V + 78 μV 16 mV/V + 78 μV 31 mV/V + 78 μV	Fluke 5522A – SC600 Multiproduct Calibrator



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Scope Time Marker ^{1,2,3} Into 50 Ω	5 s to 50 ms 20 ms to 2 ns	19 us/s + t*775 1.9 us/s	Fluke 5522A – SC600 Multiproduct Calibrator
Scope Wave Generator Square, Sine, Triangle ^{1,2} Into 50 Ω Into 1 MΩ	1.8 mV to 2.5 V p-p 1.8 mV to 55 V p-p	23 mV/V + 78 μV 23 mV/V + 78 μV	Fluke 5522A – SC600 Multiproduct Calibrator
DC Power – Source ^{1,2} 33 mV to 1 000 V	(3.3 to 9) mA (9 to 33) mA (33 to 90) mA (90 to 330) mA (330 to 900) mA 900 mA to 2.2 A (2.2 to 4.5) A (4.5 to 11) A	0.31 mW/W 0.23 mW/W 0.31 mW/W 0.23 mW/W 0.62 mW/W 0.47 mW/W 0.93 mW/W 0.7 mW/W	Fluke 5500A-SC300 Multiproduct Calibrator
AC Power – Source ^{1,2} (45 to 65) Hz	(33 to 330) mV (3.3 to 9) mA (9 to 33) mA (33 to 90) mA (90 to 330) mA (330 to 900) mA 900 mA to 2.2 A (2.2 to 4.5) A (4.5 to 11) A 330 mV to 1.02 kV (3.3 to 9) mA (9 to 33) mA (33 to 90) mA (90 to 330) mA (330 to 900) mA 900 mA to 2.2 A (2.2 to 4.5) A (4.5 to 11) A	3.1 mW/W 1.9 mW/W 2.7 mW/W 1.9 mW/W 2.7 mW/W 1.9 mW/W 2.7 mW/W 1.9 mW/W 1.9 mW/W 1.2 mW/W 1.2 mW/W 1.9 mW/W 1.2 mW/W 1.9 mW/W 1.2 mW/W 1.6 mW/W 1.2 mW/W	Fluke 5500A-SC300 Multiproduct Calibrator

Time and Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment ⁴
Frequency - Source	10 MHz	1 part in 10 ⁻¹⁰ Hz	Novus GPS NR3626-O/G Frequency Standard


Time and Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment ⁴
Frequency – Source ^{1,2}	0.01 Hz to 2 MHz	1.9 μ Hz/Hz/Hz + 3.8 μ Hz	5522A - SC600 Multiproduct Calibrator
Scope Square Wave Frequency Source ^{1,2}	10 Hz to 10 kHz	1.9 μ Hz/Hz	5522A - SC600 Multiproduct Calibrator
Scope Leveled Sine Wave Frequency Source ^{1,2}	50 kHz to 600 MHz	1.9 μ Hz/Hz	5522A - SC600 Multiproduct Calibrator
Scope Wave Generator Frequency Source ^{1,2}	10 Hz to 100 kHz	19 μ Hz/Hz + 12 mHz	Fluke 5522A – SC600 Multiproduct Calibrator

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 ($k=2$), corresponding to a confidence level of approximately 95%.

Notes:

1. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope.
2. Scope uncertainties do not include estimated contributions to uncertainty from a “best available” unit under test.
3. t = time in seconds
4. The methods used by the laboratory are adopted from OEM-Sourced, MET-CAL, DOD MIDAS, GIDEP-Sourced, RSAC and Customer Specific.
5. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-1388.



Jason Stine, Vice President

