



CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board

500 Montgomery Street, Suite 625, Alexandria, VA 22314, 877-344-3044

This is to certify that

Rothe Development, Inc.

Metrology Services Division

4614 Sinclair Road

San Antonio, TX 78222

has been assessed by ANAB

and meets the requirements of international standard

ISO/IEC 17025:2005

and national standard

ANSI/NCSL Z540-1-1994

while demonstrating technical competence in the field of

CALIBRATION

Refer to the accompanying Scope of Accreditation for information regarding the types of calibrations to which this accreditation applies.

AC-1388

Certificate Number


ANAB Approval

Certificate Valid: 04/18/2016-04/23/2018
Version No. 002 Issued: 04/18/2016



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).



ANSI-ASQ National Accreditation Board

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

Rothe Development, Inc. Metrology Services Division

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CALIBRATION

Valid to: April 23, 2018

Certificate Number: AC-1388

I. Electromagnetic - DC/Low Frequency

Parameter/ Equipment	Range	Calibration and Measurement Capability [Expressed as Uncertainty(±)]	Reference Standard or Equipment
DC Voltage - Source	Up to 220 mV 220 mV to 2.2 V (2.2 V to 11) V (11 V to 22) V (22 V to 220) V 220 V to 1.1 kV	7.5 μV/V + 0.40 μV 5 μV/V + 0.70 μV 3.5 μV/V + 2.5 μV 3.5 μV/V + 4 μV 5 μV/V + 40 μV 6.5 μV/V + 0.40 mV	Fluke 5720A
Fixed Point	10 V	6 μV/V	Fluke 732A
DC Voltage - Measure	Up to 200 mV 200 mV to 2 V (2 to 20) V (20 to 200) V 200 V to 1 kV	5 μV/V + 0.10 μV 3.5 μV/V + 0.40 μV 3.5 μV/V + 4 μV 5.5 μV/V + 40 μV 5.5 μV/V + 1 mV	Fluke 8508A Opt 01
DC Current - Source	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 (2.2 to 11) A 11 A to 20.5 A	40 μA/A + 6 nA 35 μA/A + 7 nA 35 μA/A + 40 nA 45 μA/A + 0.70 μA 80 μA/A + 12 μA 0.36 mA/A + 0.48 mA 0.78 mA/A + 1.2 mA	Fluke 5720A with Fluke 5725A Fluke 5520A-PQ 120
DC Current - Measure	Up to 200 μA 200 μA to 2 mA (2 to 20) mA (20 to 200) mA 200 mA to 2 A (2 to 20) A	12 μA/A + 0.40 nA 12 μA/A + 4 nA 14 μA/A + 40 nA 48 μA/A + 0.80 μA 0.19 mA/A + 16 μA 0.40 mA/A + 0.40 mA	Fluke 8508A Opt 01



Parameter/ Equipment	Range	Calibration and Measurement Capability [Expressed as Uncertainty(±)]	Reference Standard or Equipment
Resistance - Source	1 Ω 1.9 Ω 10 Ω 19 Ω 100 Ω 190 Ω 1 kΩ 1.9 kΩ 10 kΩ 19 kΩ 100 kΩ 190 kΩ 1 MΩ 1.9 MΩ 10 MΩ 19 MΩ 100 MΩ (100 to 330) MΩ (330 M Ω to 1.1 GΩ) 1 Ω 10 kΩ	95 μΩ/Ω 95 μΩ/Ω 23 μΩ/Ω 23 μΩ/Ω 10 μΩ/Ω 10 μΩ/Ω 8.5 μΩ/Ω 8.5 μΩ/Ω 8.5 μΩ/Ω 8.5 μΩ/Ω 11 μΩ/Ω 11 μΩ/Ω 20 μΩ/Ω 21 μΩ/Ω 40 μΩ/Ω 47 μΩ/Ω 100 μΩ/Ω 2.3 mΩ/Ω + 78 kΩ 11.6 mΩ/Ω + 0.39 MΩ 8 μΩ/Ω 4 μΩ/Ω	Fluke 5720A Fluke 5520A-PQ 120 Fluke 5520A-PQ 120 Fluke 742A-1 Fluke 742A-10K
Resistance - Measure	Up to 2 Ω (2 to 20) Ω (20 to 200) Ω 200 Ω to 2 kΩ (2 to 20) kΩ (20 to 200) kΩ 200 kΩ to 2 MΩ (2 to 20) MΩ (20 to 200) MΩ 200 MΩ to 2 GΩ (2 to 20) GΩ	17 μΩ/Ω + 4 μΩ 9.5 μΩ/Ω + 14 μΩ 8 μΩ/Ω + 50 μΩ 8 μΩ/Ω + 0.50 mΩ 8 μΩ/Ω + 5 mΩ 8 μΩ/Ω + 50 mΩ 9 μΩ/Ω + 1 Ω 17 μΩ/Ω + 1 k Ω 65 μΩ/Ω + 10 kΩ 0.18 mΩ/Ω + 0.10 MΩ 1.51 mΩ/Ω + 1 MΩ	Fluke 8508A Opt 01
AC Voltage - Source	Up to 2.2 mV (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 (2.2 to 22) mV (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	240 μV/V + 4 μV 90 μV/V + 4 μV 80 μV/V + 4 μV 0.20 mV/V + 4 μV 0.50 mV/V + 5 μV 1.05 mV/V + 10 μV 1.4 mV/V + 20 μV 2.7 mV/V + 20 μV 240 μV/V + 4 μV 90 μV/V + 4 μV 80 μV/V + 4 μV 0.20 mV/V + 4 μV 0.50 mV/V + 5 μV 1.05 mV/V + 10 μV 1.4 mV/V + 20 μV 2.7 mV/V + 20 μV	Fluke 5720A



Parameter/ Equipment	Range	Calibration and Measurement Capability [Expressed as Uncertainty(±)]	Reference Standard or Equipment		
AC Voltage - Source (cont.)	(22 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 to 300) kHz (300 to 500) kHz 500 kHz to 1 MHz	0.24 mV/V + 12 μV 90 μV/V + 7 μV 80 μV/V + 7 μV 0.20 mV/V + 7 μV 0.46 mV/V + 17 μV 0.90 mV/V + 20 μV 1.4 mV/V + 25 μV 2.7 mV/V + 45 μV	Fluke 5720A		
	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 to 300) kHz (300 to 500) kHz 500 kHz to 1 MHz	0.24 mV/V + 40 μV 90 μV/V + 15 μV 45 μV/V + 8 μV 75 μV/V + 10 μV 0.11 mV/V + 30 μV 0.42 mV/V + 80 μV 1 mV/V + 0.20 mV 1.7 mV/V + 0.30 mV			
	(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	0.24 mV/V + 0.40 mV 90 μV/V + 0.15 mV 45 μV/V + 50 μV 75 μV/V + 0.10 mV 0.10 mV/V + 0.20 mV 0.28 mV/V + 0.60 mV 1 mV/V + 2 mV 1.5 mV/V + 3.2 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 to 300) kHz (300 to 500) kHz 500 kHz to 1 MHz	0.24 mV/V + 4 mV 90 μV/V + 1.5 mV 52 μV/V + 0.60 mV 80 μV/V + 1 mV 0.15 mV/V + 2.5 mV 0.90 mV/V + 16 mV 4.4 mV/V + 40 mV 8 mV/V + 80 mV		Fluke 5720A with Fluke 5725A	
	220 V to 1.1 kV (15 to 50) Hz 50 Hz to 1 kHz 40 Hz to 1 kHz (1 to 20) kHz (20 to 30) kHz	0.30 mV/V + 16 mV 70 μV/V + 3.5 mV 90 μV/V + 4 mV 0.17 mV/V + 6 mV 0.60 mV/V + 11 mV			
	Up to 200 mV (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	0.17 mV/V + 14 μV 0.14 mV/V + 4 μV 0.12 mV/V + 4 μV 0.11 mV/V + 2 μV 0.14 mV/V + 4 μV 0.34 mV/V + 8 μV 0.77 mV/V + 20 μV			Fluke 8508A

Parameter/ Equipment	Range	Calibration and Measurement Capability [Expressed as Uncertainty(±)]	Reference Standard or Equipment
AC Voltage – Measure (Cont.)	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 (2 to 20) 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 (20 to 200) 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 200 to 1 kV (1 to 10) Hz (10 to 40) Hz 40 Hz to 10 kHz (10 to 30) kHz (30 to 100) kHz	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 + 0.20 mV 3 mV/V + 2 mV 10 mV/V + 20 mV 0.15 mV/V + 1.2 mV 0.12 mV/V + 0.20 mV 90 μV/V + 0.20 mV 75 μV/V + 0.20 mV 0.11 mV/V + 0.20 mV 0.22 mV/V + 0.40 mV 0.57 mV/V + 2 mV 3 mV/V + 20 mV 10 mV/V + 0.20 V 0.15 mV/V + 12 mV 0.12 mV/V + 2 mV 90 μV/V + 2 mV 75 μV/V + 2 mV 0.11 mV/V + 2 mV 0.22 mV/V + 4 mV 0.57 mV/V + 20 mV 3 mV/V + 0.20 V 10 mV/V + 2 V 0.15 mV/V + 70 mV 0.12 mV/V + 20 mV 0.12 mV/V + 20 mV 0.23 mV/V + 40 mV 0.58 mV/V + 0.20 V	Fluke 8508A
AC Current - Source	(9 to 220) μA (10 to 20) Hz (20 to 40) Hz 40 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz 220 μA to 2.2 mA (10 to 20) Hz (20 to 40) Hz 40 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	0.25 mA/A + 16 nA 0.16 mA/A + 10 nA 0.12 mA/A + 8 nA 0.28 mA/A + 12 nA 1.1 mA/A + 65 nA 0.25 mA/A + 40 nA 0.16 mA/A + 35 nA 0.12 mA/A + 35 nA 0.20 mA/A + 0.11 μA 1.1 mA/A + 0.65 μA	Fluke 5720A

Parameter/ Equipment	Range	Calibration and Measurement Capability [Expressed as Uncertainty(±)]	Reference Standard or Equipment
AC Current - Source	(2.2 to 22) mA (10 to 20) Hz (20 to 40) Hz 40 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	0.25 mA/A + 0.40 μA 0.16 mA/A + 0.35 μA 0.12 mA/A + 0.35 μA 0.20 mA/A + 0.55 μA 1.1 mA/A + 5 μA	Fluke 5720A
	(22 to 220) mA (10 to 20) Hz (20 to 40) Hz 40 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	0.25 mA/A + 4 μA 0.16 mA/A + 3.5 μA 0.12 mA/A + 2.5 μA 0.20 mA/A + 3.5 μA 1.1 mA/A + 10 μA	
	220 mA to 2.2 A 20 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	0.26 mA/A + 35 μA 0.45 mA/A + 80 μA 7 mA/A + 0.16 mA	with Fluke 5725A
	(2.2 to 11) A 40 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	0.46 mA/A + 0.17 mA 0.95 mA/A + 0.38 mA 3.6 mA/A + 0.75 mA	
	11 A to 20.5 A 45 Hz to 100 Hz 100 Hz to 1 kHz 1 kHz to 5 kHz	0.93 mA/A + 3.9 mA 1.2 mA/A + 3.9 mA 23 mA/A + 3.9 mA	
AC Current - Measure	Up to 200 μA (1 to 10) Hz 10 Hz to 10 kHz (10 to 30) kHz (30 to 100) kHz	0.31 mA/A + 20 nA 0.30 mA/A + 20 nA 0.71 mA/A + 20 nA 4 mA/A + 20 nA	Fluke 8508A Opt 01
	200 μA to 2 mA (1 to 10) Hz 10 Hz to 10 kHz (10 to 30) kHz (30 to 100) kHz	0.31 mA/A + 0.20 μA 0.30 mA/A + 0.20 μA 0.71 mA/A + 0.20 μA 4 mA/A + 0.20 μA	
	(2 to 20) mA (1 to 10) Hz 10 Hz to 10 kHz (10 to 30) kHz (30 to 100) kHz	0.31 mA/A + 2 μA 0.30 mA/A + 2 μA 0.71 mA/A + 2 μA 4 mA/A + 2 μA	
	(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	
	200 mA to 2 A 10 Hz to 2 kHz (2 to 10) kHz (10 to 30) kHz	0.62 mA/A + 0.20 mA 0.73 mA/A + 0.20 mA 3 mA/A + 0.20 mA	
	(2 to 20) A 10 Hz to 2 kHz (2 to 10) kHz	0.82 mA/A + 2 mA 2.5 mA/A + 2 mA	

Parameter/ Equipment	Range	Calibration and Measurement Capability [Expressed as Uncertainty(±)]	Reference Standard or Equipment
Thermocouple - Source and Measure			
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
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 0.20 °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 1000) °C (1 000 to 1 372) °C	0.26 °C 0.14 °C 0.12 °C 0.20 °C 0.31 °C	
Type L	(-200 to -100) °C (-100 to 800) °C (800 to 900) °C	0.29 °C 0.20 °C 0.13 °C	
Type N	(-200 to -100) °C (-100 to -25) °C (-25 to 120) °C (120 to 410) °C (410 to 1 300) °C	0.31 °C 0.17 °C 0.15 °C 0.14 °C 0.21 °C	
Type R	(0 to 250) °C (250 to 400) °C (400 to 1 000) °C (1 000 to 1 767) °C	0.44 °C 0.27 °C 0.26 °C 0.31 °C	
Type S	(0 to 250) °C (250 to 1 000) °C (1 000 to 1 400) °C (1 400 to 1 767) °C	0.36 °C 0.28 °C 0.29 °C 0.36 °C	

Parameter/ Equipment	Range	Calibration and Measurement Capability [Expressed as Uncertainty(±)]	Reference Standard or Equipment
Thermocouple - Source and Measure (Cont.) Type T	(-250 to -150) °C (-150 to 0) °C (0 to 120) °C (120 to 400) °C	0.49 °C 0.19 °C 0.12 °C 0.11 °C	Fluke 5500A - SC300
Type U	(-200 to 0) °C (0 to 600) °C	0.43 °C 0.21 °C	
Electrical Simulation of RTDs 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	0.04 °C 0.05 °C 0.07 °C 0.08 °C 0.09 °C 0.18 °C	Fluke 5500A - SC300
Pt 3926 (100 Ω)	(-200 to 0) °C (0 to 100) °C (100 to 300) °C (300 to 400) °C (400 to 630) °C	0.04 °C 0.05 °C 0.05 °C 0.08 °C 0.09 °C	
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	
Pt 385 (200 Ω)	(-200 to 100) °C (100 to 260) °C (260 to 300) °C (300 to 400) °C (400 to 600) °C (600 to 630) °C	0.03 °C 0.04 °C 0.09 °C 0.10 °C 0.11 °C 0.12 °C	
Pt 385 (500 Ω)	(-200 to -80) °C (-80 to 100) °C (100 to 260) °C (260 to 400) °C (400 to 600) °C (600 to 630) °C	0.03 °C 0.04 °C 0.05 °C 0.06 °C 0.07 °C 0.09 °C	

Parameter/ Equipment	Range	Calibration and Measurement Capability [Expressed as Uncertainty(±)]	Reference Standard or Equipment
Electrical Simulation of RTDs (cont.) Pt 385 (1 000 Ω)	(-200 to 0) °C (0 to 100) °C (100 to 260) °C (260 to 300) °C (300 to 600) °C (600 to 630) °C	0.02 °C 0.03 °C 0.04 °C 0.05 °C 0.05 °C 0.18 °C	Fluke 5500A - SC300
Ni 120 (120 Ω)	(-80 to 100) °C (100 to 260) °C	0.06 °C 0.11 °C	
Cu 427 (10 Ω)	(-100 to 260) °C	0.23 °C	
Capacitance - Source			Fluke 5500A - SC300
50 Hz to 1 kHz	(330 to 500) pF	3.9 mF/F + 7.8 pF	
50 Hz to 1 kHz	500 pF to 1.1 nF	3.9 mF/F + 7.8 pF	
50 Hz to 1 kHz	(1.1 to 3.3) nF	3.9 mF/F + 7.8 pF	
50 Hz to 1 kHz	(3.3 to 11) nF	3.9 mF/F + 7.8 pF	
50 Hz to 1 kHz	(11 to 33) nF	1.9 mF/F + 78 pF	
50 Hz to 1 kHz	(33 to 110) nF	1.9 mF/F + 78 pF	
50 Hz to 1 kHz	(110 to 330) nF	1.9 mF/F + 0.23 nF	
50 Hz to 1 kHz	330 nF to 1.1 μF	1.9 mF/F + 0.8 nF	
50 Hz to 1 kHz	(1.1 to 3.3) μF	2.7 mF/F + 2.3 nF	
(50 to 400) Hz	(3.3 to 11) μF	2.7 mF/F + 7.8 nF	
(50 to 400) Hz	(11 to 33) μF	3.1 mF/F + 23 nF	
(50 to 200) Hz	(33 to 110) μF	3.9 mF/F + 78 nF	
(50 to 100) Hz	(110 to 330) μF	5.4 mF/F + 0.23 μF	
(50 to 100) Hz	330 μF to 1.1 mF	7.8 mF/F + 0.23 μF	
Scope Voltage - Source DC Signal			Fluke 5820A
Into 50 Ω	(0 to ±6.6) V	1.9 mV/V + 31 μV	
Into 1 MΩ	(0 to ±130) V	0.20 mV/V + 0.20 mV	
Scope Voltage - Source Square Wave			Fluke 5820A
Into 50 Ω	1 mV to 6.6 V p-p	1.9 mV/V + 31 μV	
Into 1 MΩ	1 mV to 130 V p-p	0.39 mV/V + 3.9 μV	
Frequency	10 Hz to 10 kHz	0.26 μHz/Hz	Fluke 5820A
Scope Leveled Sine Wave Source into 50 Ω (5 mV to 5.5 V p-p)	50 kHz 50 kHz to 100 MHz (100 to 300) MHz (300 to 500) MHz (500 to 600) MHz	16 mV/V + 0.24 mV 27 mV/V + 0.24 mV 31 mV/V + 0.24 mV 43 mV/V + 0.24 mV 47 mV/V + 0.24 mV	
Flatness Relative to 50 kHz	50 kHz to 100 MHz (100 to 300) MHz (300 to 500) MHz (500 to 600) MHz	12 mV/V + 78 μV 16 mV/V + 78 μV 27 mV/V + 78 μV 31 mV/V + 78 μV	
Frequency	50 kHz to 600 MHz	0.30 μHz/Hz	

Parameter/ Equipment	Range	Calibration and Measurement Capability [Expressed as Uncertainty(±)]	Reference Standard or Equipment
Scope Time Marker Into 50 Ω	5 s to 50 ms 20 ms to 100 ns (50 to 20) ns 10 ns (5 to 2) ns	1.9 μs/s + 3.9 μHz 0.26 μs/s 0.26 μs/s 0.26 μs/s 0.26 μs/s	Fluke 5820A
Scope Edge - Source into 50 Ω Rise Time Amplitude Range Frequency Range	300 ps 4 mV to 2.5 V p-p 1 kHz to 10 MHz	78 ps 15.5 mV/V + 0.16 mV 0.26 μHz/Hz	
Scope Wave Generator Square, Sine, Triangle Into 50 Ω Into 1 MΩ Frequency Range	1.8 mV to 2.5 V p-p 1.8 mV to 55 V p-p 0.01 Hz to 100 kHz	23 mV/V + 78 μV 23 mV/V + 78 μV 1.9 μHz/Hz + 3.9 μHz	
DC Power - Source 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 0.70 mW/W	Fluke 5500A-SC300
AC Power - Source (45 to 65) Hz (33 to 330) mV 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 (3.3 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 1.9 mW/W 1.2 mW/W 1.9 mW/W 1.2 mW/W 1.6 mW/W 1.2 mW/W	
Frequency - Source	10 MHz	1 part in 10 ⁻¹⁰ Hz	Novus GPS NR1110

Notes:

1. Calibration and Measurement Capabilities (CMC) (Expanded Uncertainties) are based on approximately a 95% confidence interval, using a coverage of $k=2$.
2. This laboratory offers calibration services in its laboratory and on-site at customer-designated locations. 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.
3. CMC for Electromagnetic - DC/Low Frequency does not include estimated contributions to uncertainty from a "best available" unit under test.
4. The methods used by the laboratory are adopted from OEM-Sourced, MET-CAL, DOD MIDAS, GIDEP-Sourced, RDMSD and Customer Specific.
5. This scope is formatted as part of a single document including the Certificate of Accreditation No.AC-1388.



Vice President