



CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board/AClass
500 Montgomery Street, Suite 625, Alexandria, VA 22314, 877-344-3044

This is to certify that

Evans Analytical Group, LLC
3019 Alvin Devane Blvd. Suite 230
Austin, TX 78741

has been assessed by AClass
and meets the requirements of international standard

ISO/IEC 17025:2005

while demonstrating technical competence in the field(s) of

CALIBRATION

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

AC-1323

Certificate Number

A handwritten signature in black ink, appearing to read "Keith Greenaway", written over a horizontal line.

AClass Approval

Certificate Valid 06/03/2010-04/14/2012

Version No. 001



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/AClass

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Evans Analytical Group, LLC

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CALIBRATION

Valid to: April 14, 2012

Certificate Number: AC-1323

I. Electromagnetic - DC/Low Frequency

PARAMETER / EQUIPMENT	RANGE	CALIBRATION AND MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
DC Voltage - Source	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 µV/V + 400 nV 5 µV/V + 700 nV 3.5 µV/V + 2.5 µV 3.5 µV/V + 4 µV 5 µV/V + 40 µV 6.5 µV/V + 400 µV	Fluke 5720A Opt 03 Fluke 5725A	OEM and GIDEP Sourced Calibration Procedures and MetCal
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 + 100 nV 3.5 µV/V + 400 nV 3.5 µV/V + 4 µV 5.5 µV/V + 40 µV 5.5 µV/V + 1 mV	Fluke 8508A Opt 001	
DC Current - Measure	(100 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 + 400 pA 12 µA/A + 4 nA 14 µA/A + 40 nA 48 µA/A + 800 nA 185 µA/A + 16 µA 400 µA/A + 400 µA		
DC Current - Source	Up to 2 pA (2 to 20) pA (20 to 200) pA 200 pA to 2 nA (2 to 20) nA (20 to 200) nA 200 nA to 2 µA (2 to 20) µA (20 to 200) µA 200 µA to 2 mA (2 to 20) mA	8.5 mA/A + 10 fA 7.5 mA/A + 10 fA 5 mA/A + 30 fA 1.3 mA/A + 100 fA 1.3 mA/A + 1 pA 700 µA/A + 10 pA 500 µA/A + 100 pA 500 µA/A + 1 nA 500 µA/A + 10 nA 500 µA/A + 100 nA 3 mA/A + 1 µA	Keithley 263	



PARAMETER / EQUIPMENT	RANGE	CALIBRATION AND MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Resistance – Source	(1 and 1.9) Ω 10 Ω 19 Ω (100 and 190) Ω (1 and 1.9) kΩ (10 and 19) kΩ (100 and 190) kΩ 1 MΩ 1.9 MΩ 10 MΩ 19 MΩ 100 MΩ	95 μΩ/Ω 23 μΩ/Ω 23 μΩ/Ω 10 μΩ/Ω 8.5 μΩ/Ω 8.5 μΩ/Ω 11 μΩ/Ω 20 μΩ/Ω 21 μΩ/Ω 40 μΩ/Ω 47 μΩ/Ω 100 μΩ/Ω		
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 (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 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	240 μV/V + 4 μV 90 μV/V + 4 μV 80 μV/V + 4 μV 200 μV/V + 4 μV 500 μV/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 200 μV/V + 4 μV 500 μV/V + 5 μV 1.05 mV/V + 10 μV 1.4 mV/V + 20 μV 2.7 mV/V + 20 μV 240 μV/V + 12 μV 90 μV/V + 7 μV 80 μV/V + 7 μV 200 μV/V + 7 μV 460 μV/V + 17 μV 900 μV/V + 20 μV 1.4 mV/V + 25 μV 2.7 mV/V + 45 μV 240 μV/V + 40 μV 90 μV/V + 15 μV 45 μV/V + 8 μV 75 μV/V + 10 μV 110 μV/V + 30 μV 420 μV/V + 80 μV 1 mV/V + 200 μV 1.7 mV/V + 300 μV	Fluke 5720A Opt 03	OEM and GIDEP Sourced Calibration Procedures and MetCal



PARAMETER / EQUIPMENT	RANGE	CALIBRATION AND MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
AC Voltage - Source	(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	240 µV/V + 400 µV 90 µV/V + 150 µV 45 µV/V + 50 µV 75 µV/V + 100 µV 100 µV/V + 200 µV 275 µV/V + 600 µV 1 mV/V + 2 mV 1.5 mV/V + 3.2 mV 240 µV/V + 4 mV 90 µV/V + 1.5 mV 52 µV/V + 600 µV 80 µV/V + 1 mV 150 µV/V + 2.5 mV 900 µV/V + 16 mV 4.4 mV/V + 40 mV 8 mV/V + 80 mV 300 µV/V + 16 mV 70 µV/V + 3.5 mV	Fluke 5720A Opt 003	
	AC Voltage - Measure	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 7) 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 (7 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		



PARAMETER / EQUIPMENT	RANGE	CALIBRATION AND MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
AC Voltage - Measure (cont.)	<p>(22 to 70) 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</p> <p>(70 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</p> <p>(220 to 700) 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</p> <p>700 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</p> <p>(2.2 to 7) 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</p>	<p>240 μV/V + 1.5 μV 120 μV/V + 1.5 μV 65 μV/V + 1.5 μV 130 μV/V + 2 μV 260 μV/V + 2.5 μV 510 μV/V + 4 μV 670 μV/V + 8 μV 1.1 mV/V + 8 μV</p> <p>210 μV/V + 1.5 μV 85 μV/V + 1.5 μV 38 μV/V + 1.5 μV 69 μV/V + 2 μV 160 μV/V + 2.5 μV 250 μV/V + 4 μV 380 μV/V + 8 μV 1 mV/V + 8 μV</p> <p>210 μV/V + 1.5 μV 76 μV/V + 1.5 μV 33 μV/V + 1.5 μV 51 μV/V + 2 μV 79 μV/V + 2.5 μV 180 μV/V + 4 μV 300 μV/V + 8 μV 960 μV/V + 8 μV</p> <p>200 μV/V 66 μV/V 24 μV/V 46 μV/V 71 μV/V 160 μV/V 260 μV/V 900 μV/V</p> <p>200 μV/V 67 μV/V 24 μV/V 48 μV/V 81 μV/V 190 μV/V 400 μV/V 1.2 mV/V</p>	Fluke 5790A Opt 03	OEM and GIDEP Sourced Calibration Procedures and MetCal



PARAMETER / EQUIPMENT	RANGE	CALIBRATION AND MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
AC Voltage - Measure (cont.)	(7 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 70) 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 (70 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 (220 to 700) V (10 to 20) Hz (20 to 40) Hz 40 Hz to 20 kHz (20 to 50) kHz (50 to 100) kHz 700 V to 1 kV (10 to 20) Hz (20 to 40) Hz 40 Hz to 20 kHz (20 to 50) kHz (50 to 100) kHz	200 μV/V 67 μV/V 27 μV/V 48 μV/V 81 μV/V 190 μV/V 400 μV/V 1.2 mV/V 200 μV/V 68 μV/V 32 μV/V 57 μV/V 94 μV/V 200 μV/V 410 μV/V 1.2 mV/V 200 μV/V 68 μV/V 31 μV/V 69 μV/V 98 μV/V 210 μV/V 500 μV/V 200 μV/V 99 μV/V 41 μV/V 130 μV/V 500 μV/V 200 μV/V 99 μV/V 38 μV/V 130 μV/V 500 μV/V	Fluke 5790A Opt 03	OEM and GIDEP Sourced Calibration Procedures and MetCal
	AC Voltage Wideband Relative to 1 kHz	Up to 2.2 mV 500 kHz to 1.2 MHz (1.2 to 2) MHz (2 to 10) MHz (10 to 20) MHz (20 to 30) MHz		



PARAMETER / EQUIPMENT	RANGE	CALIBRATION AND MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
AC Voltage Wideband Relative to 1 kHz (cont.)	(2.2 to 7) mV 500 kHz to 1.2 MHz (1.2 to 2) MHz (2 to 10) MHz (10 to 20) MHz (20 to 30) MHz (7 to 22) mV 500 kHz to 1.2 MHz (1 to 2) MHz (2 to 10) MHz (10 to 20) MHz (20 to 30) MHz (22 to 70) mV 500 kHz to 1.2 MHz (1.2 to 2) MHz (2 to 10) MHz (10 to 20) MHz (20 to 30) MHz (70 to 220) mV 500 kHz to 1.2 MHz (1.2 to 2) MHz (2 to 10) MHz (10 to 20) MHz (20 to 30) MHz (220 to 700) mV 500 kHz to 1.2 MHz (1.2 to 2) MHz (2 to 10) MHz (10 to 20) MHz (20 to 30) MHz 700 mV to 2.2 V 500 kHz to 1.2 MHz (1.2 to 2) MHz (2 to 10) MHz (10 to 20) MHz (20 to 30) MHz (2.2 to 7) V 500 kHz to 1.2 MHz (1.2 to 2) MHz (2 to 10) MHz (10 to 20) MHz (20 to 30) MHz	700 μV/V + 1 μV 700 μV/V + 1 μV 1 mV/V + 1 μV 1.7 mV/V + 1 μV 3.7 mV/V + 1 μV 700 μV/V 700 μV/V 1 mV/V 1.7 mV/V 3.7 mV/V 500 μV/V 500 μV/V 1 mV/V 1.5 mV/V 3.5 mV/V 500 μV/V 500 μV/V 1 mV/V 1.5 mV/V 3.5 mV/V 500 μV/V 500 μV/V 1 mV/V 1.5 mV/V 3.5 mV/V 500 μV/V 500 μV/V 1 mV/V 1.5 mV/V 3.5 mV/V	Fluke 5790A Opt 03	OEM and GIDEP Sourced Calibration Procedures and MetCal
AC Current - Measure	Up to 200 μA (1 to 10) Hz 10 Hz to 10 kHz (10 to 30) kHz (30 to 100) kHz	290 μA/A + 20 nA 280 μA/A + 20 nA 650 μA/A + 20 nA 4 mA/A + 20 nA	Fluke 8508A Opt 001	

PARAMETER / EQUIPMENT	RANGE	CALIBRATION AND MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
AC Current - Measure (cont.)	200 μA to 2 mA (1 to 10) Hz 10 Hz to 10 kHz (10 to 30) kHz (30 to 100) kHz (2 to 20) mA (1 to 10) Hz 10 Hz to 10 kHz (10 to 30) kHz (30 to 100) kHz (20 to 200) mA (1 to 10) Hz 10 Hz to 10 kHz (10 to 30) kHz 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	290 μ A/A + 200 nA 280 μ A/A + 200 nA 650 μ A/A + 200 nA 4 mA/A + 200 nA 290 μ A/A + 2 μ A 280 μ A/A + 2 μ A 650 μ A/A + 2 μ A 4 mA/A + 2 μ A 290 μ A/A + 20 μ A 250 μ A/A + 20 μ A 600 μ A/A + 20 μ A 600 μ A/A + 200 μ A 700 μ A/A + 200 μ A 3 mA/A + 200 μ A 800 μ A/A + 2 mA 2.5 mA/A + 2 mA	Fluke 8508A Opt 001	OEM and GIDEP Sourced Calibration Procedures and MetCal
AC Current - Source	Up 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 (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 (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	250 μ A/A + 16 nA 160 μ A/A + 10 nA 120 μ A/A + 8 nA 280 μ A/A + 12 nA 1.1 mA/A + 65 nA 250 μ A/A + 40 nA 160 μ A/A + 35 nA 120 μ A/A + 35 nA 200 μ A/A + 110 nA 1.1 mA/A + 650 nA 250 μ A/A + 400 nA 160 μ A/A + 350 nA 120 μ A/A + 350 nA 200 μ A/A + 550 nA 1.1 mA/A + 5 μ A 250 μ A/A + 4 μ A 160 μ A/A + 3.5 μ A 120 μ A/A + 2.5 μ A 200 μ A/A + 3.5 μ A 1.1 mA/A + 10 μ A	Fluke 5720A Opt 03	



PARAMETER / EQUIPMENT	RANGE	CALIBRATION AND MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
AC Current - Source (cont.)	220 mA to 2.2 A 10 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	260 µA/A + 35 µA 450 µA/A + 80 µA 7 mA/A + 160 µA	Fluke 5720A Opt 03	OEM and GIDEP Sourced Calibration Procedures and MetCal
	(2.2 to 3) A (10 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz (3 to 11) A (45 to 100) Hz 100 Hz to 1 kHz (1 to 5) kHz	1.8 mA/A + 100 µA 600 µA/A + 100 µA 6 mA/A + 1 mA 25 mA/A + 5 mA 600 µA/A + 2 mA 1 mA/A + 2 mA 30 mA/A + 2 mA	Fluke 5520A	
Electrical Simulation of Thermocouples				
Type B	(600 to 800) °C (800 to 1 000) °C (1 000 to 1 550) °C (1 550 to 1 820) °C	0.44 °C 0.34 °C 0.3 °C 0.33 °C	Fluke 5520A/SC1100	
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	0.3 °C 0.26 °C 0.31 °C 0.5 °C 0.84 °C		
Type E	(-250 to -100) °C (-100 to -25) °C (-25 to 350) °C (350 to 650) °C (650 to 1 000) °C	0.5 °C 0.16 °C 0.14 °C 0.16 °C 0.21 °C		
Type J	(-210 to -100) °C (-100 to -30) °C (-30 to 150) °C (150 to 760) °C (760 to 1 200) °C	0.27 °C 0.16 °C 0.14 °C 0.17 °C 0.23 °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	0.33 °C 0.18 °C 0.16 °C 0.26 °C 0.4 °C		
Type L	(-200 to -100) °C (-100 to 800) °C (800 to 900) °C	0.37 °C 0.26 °C 0.17 °C		

PARAMETER / EQUIPMENT	RANGE	CALIBRATION AND MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)		
Electrical Simulation of Thermocouples (cont.)						
Type N	(-200 to -100) °C (-100 to -25) °C (-25 to 120) °C (120 to 410) °C (410 to 1 300) °C	0.4 °C 0.22 °C 0.19 °C 0.18 °C 0.27 °C	Fluke 5520A/SC1100	OEM and GIDEP Sourced Calibration Procedures and MetCal		
Type R	(0 to 250) °C (250 to 400) °C (400 to 1 000) °C (1 000 to 1 767) °C	0.57 °C 0.35 °C 0.33 °C 0.4 °C				
Type S	(0 to 250) °C (250 to 1 000) °C (1 000 to 1 400) °C (1 400 to 1 767) °C	0.47 °C 0.36 °C 0.37 °C 0.46 °C				
Type T	(-250 to -150) °C (-150 to 0) °C (0 to 120) °C (120 to 400) °C	0.63 °C 0.24 °C 0.16 °C 0.14 °C				
Type U	(-200 to 0) °C (0 to 600) °C	0.56 °C 0.27 °C				
Oscilloscopes						
DC Signal into 50 Ω Load	(0 to ± 6.6) V	2.5 mV/V + 40 μV				
DC Signal into 1 MΩ Load	(0 to ± 130) V	500 μV/V + 40 μV				
Amplitude - Square Wave						
10 Hz to 10 kHz						
50 Ω Load	1 mV to 6.6 V p-p	2.5 mV/V + 40 μV				
1 MΩ Load	1 mV to 130 V p-p	1 mV/V + 40 μV				
Leveled Sine Wave	5 mV to 5.5 V					
Flatness	50 kHz to 100 MHz	15 mV/V + 100 μV				
Relative to 50 kHz	(100 to 300) MHz	20 μV/V + 100 μV				
	(300 to 600) MHz	40 μV/V + 100 μV				
	4 mV to 3.5 V					
	600 MHz to 1.1 GHz	50 μV/V + 100 μV				

