

## Calibration Certificate

Report No:1574939-2

Manufacturer: KEITHLEY  
Model Number: 2400  
Serial Number: 0788393

Calibration Date: 14 January 2014  
Temperature: 24.7 °C  
Relative Humidity: 46.0 %  
Procedure: QSIW-637 REV. B  
Condition as Returned: **IN TOLERANCE**

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- Keithley Instruments, a Tektronix Company, certifies that the above instrument meets its published measurement specifications.
  - This instrument has been calibrated using measurement standards traceable to the International System of Units (SI) through NIST or other National Metrology Institutes (such as NIM, NPL, PTB, etc.).
  - This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.
  - This calibration certificate shall not be reproduced, except in full, without the written approval of this calibration laboratory.

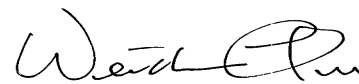
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### Calibration Facility

Tektronix Taiwan Ltd.  
3F, No. 89, Sec. 2  
Ti Ding A  
Taipei City, 114, Taiwan (ROC)

Engineer: \_\_\_\_\_

Approved By: \_\_\_\_\_



Weidar Chu  
Title: Service Manager  
Certificate Issue Date: 14-Jan-2014

## Standards Used

<u>Control Number</u>	<u>Description</u>	<u>Due Date</u>
5506	FLUKE 5700A CALIBRATOR	08-Apr-2014
7045	AGILENT 3458A 8-1/2 MULTIMETER	20-Mar-2014
8906	KEITHLEY 2400-756 10 OHM STANDARD	12-Apr-2014

# Measurement Report -

As-Returned

Report Number:  
1574939-2

Test Description	Expected Value	Measured Value	Measurement Uncertainty	Lower Limit	Upper Limit	Test Status
<b>OUTPUT VOLTAGE ACCURACY</b>						
200.000 mV	200.000 mV	199.9973 mV		199.3600 mV	200.6400 mV	Pass
-200.000 mV	-200.000 mV	-200.0041 mV		-200.6400 mV	-199.3600 mV	Pass
2.00000 V	2.00000 V	1.999990 V		1.999000 V	2.001000 V	Pass
-2.00000 V	-2.00000 V	-1.999978 V		-2.001000 V	-1.999000 V	Pass
20.0000 V	20.0000 V	20.00002 V		19.99360 V	20.00640 V	Pass
-20.0000 V	-20.0000 V	-19.99989 V		-20.00640 V	-19.99360 V	Pass
200.000 V	200.000 V	199.9989 V		199.9360 V	200.0640 V	Pass
-200.000 V	-200.000 V	-200.0003 V		-200.0640 V	-199.9360 V	Pass
<b>VOLTAGE MEASUREMENT ACCURACY</b>						
200.000 mV	199.9984 mV	200.000 mV		199.674 mV	200.322 mV	Pass
-200.000 mV	-200.0038 mV	-200.002 mV		-200.328 mV	-199.680 mV	Pass
2.0000 V	1.99999 V	2.0000 V		1.9995 V	2.0005 V	Pass
-2.00000 V	-1.999976 V	-1.99997 V		-2.00052 V	-1.99944 V	Pass
20.0000 V	20.00000 V	19.9999 V		19.9955 V	20.0045 V	Pass
-20.0000 V	-19.99990 V	-19.9998 V		-20.0044 V	-19.9954 V	Pass
200.000 V	199.9993 V	199.998 V		199.959 V	200.039 V	Pass
-200.000 V	-200.0003 V	-200.000 V		-200.040 V	-199.960 V	Pass
<b>OUTPUT CURRENT ACCURACY</b>						
1.00000 µA	1.00000 µA	0.999960 µA		0.999050 µA	1.000950 µA	Pass
-1.00000 µA	-1.00000 µA	-0.999972 µA		-1.000950 µA	-0.999050 µA	Pass
10.0000 µA	10.0000 µA	10.00005 µA		9.99470 µA	10.00530 µA	Pass
-10.0000 µA	-10.0000 µA	-9.99998 µA		-10.00530 µA	-9.99470 µA	Pass
100.000 µA	100.000 µA	99.9989 µA		99.9490 µA	100.0510 µA	Pass
-100.000 µA	-100.000 µA	-99.9990 µA		-100.0510 µA	-99.9490 µA	Pass
1.00000 mA	1.00000 mA	0.999996 mA		0.999460 mA	1.000540 mA	Pass
-1.00000 mA	-1.00000 mA	-0.999995 mA		-1.000540 mA	-0.999460 mA	Pass
10.0000 mA	10.0000 mA	9.99992 mA		9.99350 mA	10.00650 mA	Pass
-10.0000 mA	-10.0000 mA	-9.99999 mA		-10.00650 mA	-9.99350 mA	Pass
100.000 mA	100.000 mA	99.9991 mA		99.9140 mA	100.0860 mA	Pass
-100.000 mA	-100.000 mA	-99.9998 mA		-100.0860 mA	-99.9140 mA	Pass
1.0000 A	1.0000 A	1.00002 A		0.99640 A	1.00360 A	Pass
-1.0000 A	-1.0000 A	-1.00002 A		-1.00360 A	-0.99640 A	Pass
<b>CURRENT MEASUREMENT ACCURACY</b>						
1.00000 µA	0.999944 µA	1.00000 µA		0.99935 µA	1.00053 µA	Pass
-1.00000 µA	-0.999966 µA	-0.99999 µA		-1.00056 µA	-0.99938 µA	Pass
10.0000 µA	9.99995 µA	10.0000 µA		9.9965 µA	10.0033 µA	Pass
-10.0000 µA	-9.99998 µA	-10.0000 µA		-10.0034 µA	-9.9966 µA	Pass
100.000 µA	99.9983 µA	99.999 µA		99.967 µA	100.029 µA	Pass
-100.000 µA	-99.9989 µA	-99.999 µA		-100.030 µA	-99.968 µA	Pass
1.00000 mA	0.999992 mA	1.00000 mA		0.99966 mA	1.00032 mA	Pass
-1.000000 mA	-0.9999950 mA	-0.999994 mA		-1.000325 mA	-0.999665 mA	Pass
10.0000 mA	9.99991 mA	9.9999 mA		9.9958 mA	10.0040 mA	Pass
-10.00000 mA	-9.999969 mA	-9.99995 mA		-10.00407 mA	-9.99587 mA	Pass

# Measurement Report - As-Returned

Report Number:  
1574939-2

Test Description	Expected Value	Measured Value	Measurement Uncertainty	Lower Limit	Upper Limit	Test Status
100.000 mA	99.9996 mA	99.999 mA		99.939 mA	100.061 mA	Pass
-100.000 mA	-100.0003 mA	-99.999 mA		-100.061 mA	-99.939 mA	Pass
1.00000 A	1.000014 A	1.00000 A		0.99724 A	1.00278 A	Pass
-1.00000 A	-0.999990 A	-0.99999 A		-1.00276 A	-0.99722 A	Pass
<b>RESISTANCE MEASUREMENT ACCURACY</b>						
10.0000 Ω	10.00000 Ω	10.0007 Ω		9.9870 Ω	10.0130 Ω	Pass
190.000 Ω	189.9971 Ω	189.991 Ω		189.815 Ω	190.179 Ω	Pass
1.9000 kΩ	1.89999 kΩ	1.8999 kΩ		1.8984 kΩ	1.9016 kΩ	Pass
19.000 kΩ	18.9990 kΩ	18.998 kΩ		18.985 kΩ	19.013 kΩ	Pass
190.000 kΩ	189.9849 kΩ	189.979 kΩ		189.822 kΩ	190.148 kΩ	Pass
1.9000 MΩ	1.89987 MΩ	1.8997 MΩ		1.8975 MΩ	1.9023 MΩ	Pass
19.000 MΩ	18.9992 MΩ	18.997 MΩ		18.977 MΩ	19.021 MΩ	Pass
100.000 MΩ	99.9905 MΩ	99.980 MΩ		99.321 MΩ	100.660 MΩ	Pass

Comments:

\*\*\*\*\* End of Measurement Report \*\*\*\*\*