



# Certificate of Calibration

Keysight Calibration

Certificate Number 1-12717355715-1

**Model Number** 34470A  
**Manufacturer** Keysight Technologies Inc  
**Description** Digital multimeter, 7 1/2 digit Truevolt DMM  
**Serial Number** MY54701205

**Customer**  
Reclaim Filters & Systems Inc  
1129 Hidden Hills Dr  
WAKE FOREST NC 27587-5788  
United States

**Date of Calibration** 5 Jun 2020  
**Procedure** STE-50114595-B.02.04  
**Temperature** (23 ± 5) °C  
**Humidity** (50 ± 30) %RH

**Location of Calibration**  
Keysight Technologies Inc  
10090 Foothills Blvd.  
Roseville CA 95747-7102  
UNITED STATES

This certifies that the equipment has been calibrated using applicable Keysight Technologies procedures in compliance with a quality management system registered to ISO 9001:2015.

#### As Received Conditions

The measured values of the equipment were observed in specification at the points tested.

#### Action Taken

- The equipment was adjusted to optimize the performance.

#### As Completed Conditions

The measured values of the equipment were observed in specification at the points tested.

Keysight considers the uncertainties of measurements during the development of performance tests. In this report, conformance statements of "Passed" or "Failed" are determined by simple comparison of observed measurements to the warranted specifications.

#### Remarks or Special Requirements

This calibration report shall not be reproduced, except in full. The documented results relate to the equipment calibrated only.

The test limits stated in the report correspond to the published specifications of the equipment, at the points tested.

This calibration report may refer to equipment manufactured by HP, Agilent and Keysight as being manufactured by Keysight Technologies.

Based on the customer's request, the next calibration is due on 5 Jun 2021.

Keysight Technologies Inc  
10090 Foothills Blvd.  
Roseville CA 95747-7102  
UNITED STATES

Wes Fischbach Roseville Serv. Cntr. Mgr.



# Certificate of Calibration

Keysight Calibration

Certificate Number 1-12717355715-1

## Traceability Information

Technician ID Number 01012022

Measurements are traceable to the International System of Units (SI) via national metrology institutes ([www.keysight.com/find/NMI](http://www.keysight.com/find/NMI)) that are signatories to the CIPM Mutual Recognition Arrangement.

## Calibration Equipment Used

<u>Model Number</u>	<u>Model Description</u>	<u>Equipment ID</u>	<u>Cal Due Date</u>	<u>Certificate Number</u>
33250A	Function/Arbitrary Waveform Generator, 80 MHz	33250A05005	13 Aug 2020	1-11525274400-1
5725A	Amplifier	5725A90005	29 Aug 2020	1-11491289699-2
5730A	High Performance Multifunction Calibrator	5730A36501	30 Aug 2020	1-11491289699-1

# Certificate of Calibration

Keysight Calibration

Certificate Number 1-12717355715-1

## Compliance with Specification

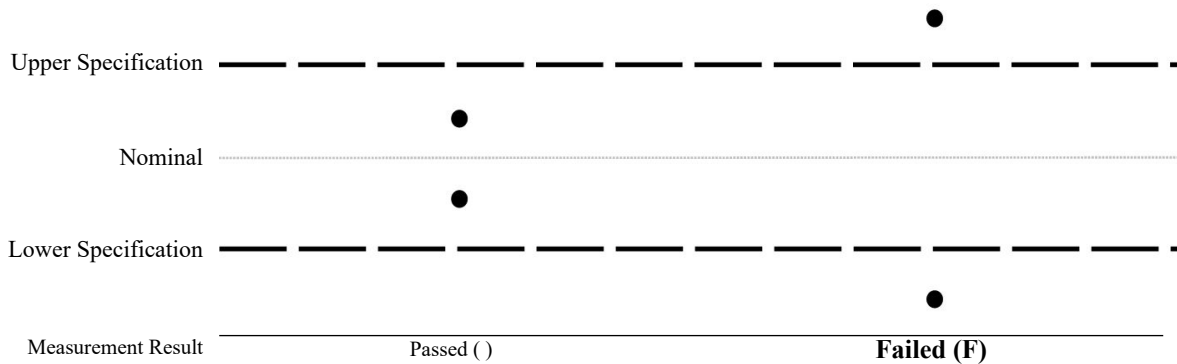
Measured values of the equipment that were observed in specification at the points tested are determined to have Passed ( ). Measured values of the equipment that were observed out of specification at the points tested are determined to have Failed (F).

An overall statement of compliance for all tests performed as received, and as completed (if any adjustments / repairs were performed) is included at the beginning of this report. Statements of compliance apply only to warranted specifications. When functional verification tests are performed, results are reported in the “Functional Test” section, and do not affect these statements of compliance.

The status summaries relate to the tested item only. A final decision about whether the item's performance actually satisfies requirements of the user can only be made by the user.

### Measurement results are reported as:

- Passed ( ) - The measured values of the equipment were observed in specification at the points tested.
- Failed (F) - One or more measured values of the equipment were observed out of specification at the points tested.



( ) This result is indicated on the measurement report as a blank space in the column labeled “Status” or “Sts”.



# Certificate of Calibration

Keysight Calibration

Certificate Number 1-12717355715-1

## Calibration Test Results Summary

<u>Test Name</u>	<u>As Received Status</u>	<u>As Completed Status</u>
ZERO OFFSET - FRONT TERMINALS	Passed	Passed
ZERO OFFSET - REAR TERMINALS	Passed	Passed
DC VOLTS	Passed	Passed
AC VOLTS	Passed	Passed
FREQUENCY	Passed	Passed
OHMS	Passed	Passed
DC CURRENT	Passed	Passed
AC CURRENT	Passed	Passed
HIGH CURRENT	Passed	Passed

## Functional Test Results Summary

The following functional test results are not part of an accredited delivery, even if they are part of an otherwise accredited calibration report.

The following tests document the functional verification of the instruments' non-warranted performance. Neither a statement of conformance or decision rule is used for a Functional Test, measurement uncertainties are only provided by exception. For a "Functional Test" the test results are reported as "As Expected" when showing expected performance and "Not As Expected" otherwise. "As Expected" results of individual test points are indicated in the measurement report by a blank space in the column labeled "Status" to allow easier recognition of any "Not As Expected" points. If a functional test result is reported as "Not As Expected", repair and/or adjustment is recommended. Test results reported as "Done" are possible if no limits are applied. For qualitative or quantitative "Functional Tests" the test results are not warranted, and no judgment is made. The "actual" measured results are helpful to users for some applications.

<u>Test Name</u>	<u>As Received Status</u>	<u>As Completed Status</u>
AUTO-CALIBRATION	As Expected	As Expected
DC LOW CURRENT FUNC	As Expected	As Expected

## Tested Configuration

Firmware Version      A.02.14-02.40-02.14-00.49-02-01

Model 34470A Serial MY54701205 Firmware Rev  
 A.02.14-02.40-02.14-00.49-02-01  
**Options Tested**

Test Date 5 Jun 2020  
 Condition As Received

## ZERO OFFSET - FRONT TERMINALS

**Passed**

Pre-Repair/Adjustment Data:

TEST CONDITIONS		MINIMUM	MEASURED	MAXIMUM	Status
Range	Input				
<i>DC Volts Zero Offset</i>					
100 mV	0 V	-3.50 uV	0.30 uV	3.50 uV	
1 V	0 V	-4.00 uV	0.18 uV	4.00 uV	
10 V	0 V	-20.0 uV	0.3 uV	20.0 uV	
100 V	0 V	-0.600 mV	0.014 mV	0.600 mV	
1000 V	0 V	-6.00 mV	-0.03 mV	6.00 mV	
<i>4-Wire Ohms Zero Offset</i>					
100 Ω	0 Ω	-4.00 mΩ	-0.01 mΩ	4.00 mΩ	
1 kΩ	0 Ω	-5.00 mΩ	-0.41 mΩ	5.00 mΩ	
10 kΩ	0 Ω	-50.0 mΩ	0.4 mΩ	50.0 mΩ	
100 kΩ	0 Ω	-0.500 Ω	-0.019 Ω	0.500 Ω	
1 MΩ	0 Ω	-5.00 Ω	0.41 Ω	5.00 Ω	
10 MΩ	0 Ω	-100.0 Ω	2.3 Ω	100.0 Ω	
<i>2-Wire Ohms Zero Offset</i>					
100 MΩ	0 Ω	-1000.0 Ω	-2.0 Ω	1000.0 Ω	
<i>DC Current Zero Offset</i>					
1 mA	0 A	-0.05000 uA	-0.00682 uA	0.05000 uA	
10 mA	0 A	-2.0000 uA	0.3100 uA	2.0000 uA	
100 mA	0 A	-5.0000 uA	0.306 uA	5.0000 uA	
1 A	0 A	-0.10000 mA	0.00773 mA	0.10000 mA	
3 A	0 A	-0.6000 mA	0.0073 mA	0.6000 mA	
10 A	0 A	-1.0000 mA	0.0068 mA	1.0000 mA	

## ZERO OFFSET - REAR TERMINALS

**Passed**

Pre-Repair/Adjustment Data:

TEST CONDITIONS		MINIMUM	MEASURED	MAXIMUM	Status
Range	Input				
<i>DC Volts Zero Offset</i>					
100 mV	0 V	-3.50 uV	0.22 uV	3.50 uV	
1 V	0 V	-4.00 uV	0.77 uV	4.00 uV	
10 V	0 V	-20.0 uV	0.4 uV	20.0 uV	
100 V	0 V	-0.600 mV	-0.005 mV	0.600 mV	
1000 V	0 V	-6.00 mV	0.04 mV	6.00 mV	

Model 34470A Serial MY54701205 Firmware Rev  
 A.02.14-02.40-02.14-00.49-02-01

Test Date 5 Jun 2020  
 Condition As Received

Options Tested

## ZERO OFFSET - REAR TERMINALS (cont.)

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	Status
<i>4-Wire Ohms ZERO Offset</i>				
100 Ω 0 Ω	-4.00 mΩ	0.12 mΩ	4.00 mΩ	
1 kΩ 0 Ω	-5.00 mΩ	0.57 mΩ	5.00 mΩ	
10 kΩ 0 Ω	-50.0 mΩ	0.3 mΩ	50.0 mΩ	
100 kΩ 0 Ω	-0.500 Ω	0.018 Ω	0.500 Ω	
1 MΩ 0 Ω	-5.00 Ω	0.13 Ω	5.00 Ω	
10 MΩ 0 Ω	-100.0 Ω	1.0 Ω	100.0 Ω	
<i>2-Wire Ohms ZERO Offset</i>				
100 MΩ 0 Ω	-1000.0 Ω	3.3 Ω	1000.0 Ω	
<i>DC Current Zero Offset</i>				
1 mA 0 A	-0.05000 uA	-0.00416 uA	0.05000 uA	
10 mA 0 A	-2.0000 uA	0.2827 uA	2.0000 uA	
100 mA 0 A	-5.0000 uA	0.276 uA	5.0000 uA	
1 A 0 A	-0.10000 mA	0.00590 mA	0.10000 mA	
3 A 0 A	-0.6000 mA	0.0055 mA	0.6000 mA	

## DC VOLTS

Passed

Pre-Repair/Adjustment Data:

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	Status
<i>Range Input (Front)</i>				
-----				
100 mV 100 mV	99.9925 mV	100.0012 mV	100.0075 mV	
100 mV -100 mV	-100.0075 mV	-100.0024 mV	-99.9925 mV	
1 V 1 V	0.9999760 V	1.0000012 V	1.0000240 V	
1 V -1 V	-1.0000240 V	-1.0000039 V	-0.9999760 V	
10 V 4 V	3.999916 V	4.000044 V	4.000084 V	
10 V 10 V	9.999820 V	10.000103 V	10.000180 V	
10 V -10 V	-10.000180 V	-10.000111 V	-9.999820 V	
100 V 100 V	99.99560 V	100.00341 V	100.00440 V	
100 V -100 V	-100.00440 V	-100.00349 V	-99.99560 V	
1000 V 1000 V	999.9460 V	1000.0062 V	1000.0540 V	
1000 V -500 V	-500.0250 V	-500.0038 V	-499.9750 V	

Model 34470A Serial MY54701205 Firmware Rev  
 A.02.14-02.40-02.14-00.49-02-01

 Test Date 5 Jun 2020  
 Condition As Received

**Options Tested**


---

## AC VOLTS

**Passed**

Pre-Repair/Adjustment Data:

<u>TEST CONDITIONS</u>	<u>MINIMUM</u>	<u>MEASURED</u>	<u>MAXIMUM</u>	<u>Status</u>
<i>Input Freq.</i>				
<i>(Front)</i>				
-----				
<i>100 mV Range</i>				
100 mV 1 kHz	99.930 mV	99.992 mV	100.070 mV	
100 mV 50 kHz	99.900 mV	99.984 mV	100.100 mV	
100 mV 300 kHz	98.90 mV	100.10 mV	101.10 mV	
<i>1 V Range</i>				
1 V 1 kHz	0.999300 V	0.999993 V	1.000700 V	
1 V 50 kHz	0.999000 V	0.999929 V	1.001000 V	
1 V 300 kHz	0.98900 V	1.00069 V	1.01100 V	
<i>10 V Range</i>				
0.03 V 1 kHz	0.02799 V	0.02994 V	0.03201 V	
1 V 1 kHz	0.997500 V	0.999982 V	1.002500 V	
10 V 10 Hz	9.9930 V	9.9992 V	10.0070 V	
10 V 100 Hz	9.99300 V	9.99998 V	10.00700 V	
10 V 20 kHz	9.99300 V	9.99980 V	10.00700 V	
10 V 50 kHz	9.99000 V	9.99957 V	10.01000 V	
10 V 100 kHz	9.9800 V	10.0005 V	10.0200 V	
10 V 300 kHz	9.8900 V	10.0043 V	10.1100 V	
<i>100 V Range</i>				
100 V 1 kHz	99.9300 V	99.9965 V	100.0700 V	
100 V 50 kHz	99.9000 V	99.9964 V	100.1000 V	
70 V 300 kHz	69.200 V	70.105 V	70.800 V	
<i>750 V Range</i>				
750 V 1 kHz	749.025 V	749.971 V	750.975 V	
210 V 50 kHz	209.628 V	210.014 V	210.372 V	
70 V 300 kHz	68.550 V	70.246 V	71.450 V	

Model 34470A Serial MY54701205 Firmware Rev  
 A.02.14-02.40-02.14-00.49-02-01  
**Options Tested**

Test Date 5 Jun 2020  
 Condition As Received

## FREQUENCY

**Passed**

Pre-Repair/Adjustment Data:

<u>TEST CONDITIONS</u>	<u>MINIMUM</u>	<u>MEASURED</u>	<u>MAXIMUM</u>	<u>Status</u>
<i>Input Freq.</i> <i>(Front)</i>				
-----				
<i>1 V Range</i>				
0.1 V 10 Hz	9.99700 Hz	10.00045 Hz	10.00300 Hz	
<i>0.1 V Range</i>				
0.01 V 300 kHz	299.79000 kHz	300.00203 kHz	300.21000 kHz	

## OHMS

**Passed**

Pre-Repair/Adjustment Data:

<u>TEST CONDITIONS</u>	<u>MINIMUM</u>	<u>MEASURED</u>	<u>MAXIMUM</u>	<u>Status</u>
<i>Range Input</i> <i>(Front)</i>				
-----				
<i>4-Wire Ohms</i>				
100 Ω 100 Ω	99.9900 Ω	99.9994 Ω	100.0100 Ω	
1 kΩ 1 kΩ	0.9999550 kΩ	1.0000046 kΩ	1.0000450 kΩ	
10 kΩ 10 kΩ	9.999550 kΩ	10.000058 kΩ	10.000450 kΩ	
100 kΩ 100 kΩ	99.9955 kΩ	100.0011 kΩ	100.0045 kΩ	
1 MΩ 1 MΩ	0.999925 MΩ	1.000026 MΩ	1.000075 MΩ	
10 MΩ 10 MΩ	9.99740 MΩ	10.00036 MΩ	10.00260 MΩ	
<i>2-Wire Ohms</i>				
10 MΩ 10 MΩ	9.99740 MΩ	10.00027 MΩ	10.00260 MΩ	
100 MΩ 100 MΩ	99.699 MΩ	99.991 MΩ	100.301 MΩ	

## DC CURRENT

**Passed**

Pre-Repair/Adjustment Data:

<u>TEST CONDITIONS</u>	<u>MINIMUM</u>	<u>MEASURED</u>	<u>MAXIMUM</u>	<u>Status</u>
<i>DC CURRENT</i>				
<i>Range Input</i> <i>(Front)</i>				
-----				
3 A 2 A	1.99540 A	2.00002 A	2.00460 A	



Model 34470A Serial MY54701205 Firmware Rev  
 A.02.14-02.40-02.14-00.49-02-01

 Test Date 5 Jun 2020  
 Condition As Received

**Options Tested**

## DC CURRENT (cont.)

TEST CONDITIONS		MINIMUM	MEASURED	MAXIMUM	Status
1 A	1 A	0.999100 A	0.999983 A	1.000900 A	
100 mA	100 mA	99.9450 mA	100.0087 mA	100.0550 mA	
10 mA	10 mA	9.99300 mA	10.00128 mA	10.00700 mA	
1 mA	1 mA	0.999450 mA	0.999993 mA	1.000550 mA	

## AC CURRENT

# Passed

Pre-Repair/Adjustment Data:

TEST CONDITIONS		MINIMUM	MEASURED	MAXIMUM	Status
<i>Input Freq.</i>					
<i>(Front)</i>					
-----					
<i>3 A Range</i>					
2 A	1 kHz	1.99420 A	1.99933 A	2.00580 A	
2 A	5 kHz	1.9942 A	1.9982 A	2.0058 A	
<i>1 A Range</i>					
1 A	1 kHz	0.99860 A	0.99987 A	1.00140 A	
1 A	5 kHz	0.99860 A	0.99956 A	1.00140 A	
<i>100 mA Range</i>					
100 mA	10 Hz	99.860 mA	100.001 mA	100.140 mA	
100 mA	1 kHz	99.860 mA	100.003 mA	100.140 mA	
100 mA	5 kHz	99.860 mA	100.004 mA	100.140 mA	
<i>10 mA Range</i>					
100 uA	1 kHz	0.09590 mA	0.10001 mA	0.10410 mA	
1 mA	1 kHz	0.99500 mA	1.00022 mA	1.00500 mA	
10 mA	1 kHz	9.9860 mA	10.0008 mA	10.0140 mA	
10 mA	5 kHz	9.9860 mA	10.0021 mA	10.0140 mA	
<i>1 mA Range</i>					
1 mA	1 kHz	0.99860 mA	1.00000 mA	1.00140 mA	
1 mA	5 kHz	0.99860 mA	1.00001 mA	1.00140 mA	
<i>100 uA Range</i>					
100 uA	1 kHz	99.860 uA	99.995 uA	100.140 uA	
100 uA	5 kHz	99.860 uA	100.011 uA	100.140 uA	

Model 34470A Serial MY54701205 Firmware Rev  
 A.02.14-02.40-02.14-00.49-02-01  
**Options Tested**

Test Date 5 Jun 2020  
 Condition As Received

## HIGH CURRENT

**Passed**

Pre-Repair/Adjustment Data:

<u>TEST CONDITIONS</u>	<u>MINIMUM</u>	<u>MEASURED</u>	<u>MAXIMUM</u>	<u>Status</u>
<i>DC HIGH CURRENT</i>				
<i>Range Input</i>				
<i>(Front)</i>				
-----				
10 A 5 A	4.9930 A	4.9995 A	5.0070 A	
10 A 10 A	9.9770 A	10.0005 A	10.0230 A	
<i>AC HIGH CURRENT</i>				
<i>Input Freq.</i>				
<i>(Front)</i>				
-----				
10 A 5 kHz	9.971 A	10.001 A	10.029 A	

## AUTO-CALIBRATION

**As Expected**

<u>TEST CONDITIONS</u>	<u>RESULT</u>	<u>Status</u>
Auto Calibration	DONE	

ACAL Info:

The Last ACAL Temp: 20.6 °C  
 The Last ACAL Date: 20 May 2020  
 Present ACAL Temp: 25.1 °C  
 Present ACAL Date: 5 Jun 2020

## DC LOW CURRENT FUNC

**As Expected**

Pre-Repair/Adjustment Data:

<u>TEST CONDITIONS</u>	<u>RESULT</u>	<u>Status</u>
<i>DC CURRENT</i>		
<i>Range Input</i>		
<i>(Front)</i>		
-----		
1 uA 1 uA	DONE	
10 uA 10 uA	DONE	
100 uA 100 uA	DONE	

Model 34470A Serial MY54701205 Firmware Rev  
 A.02.14-02.40-02.14-00.49-02-01  
**Options Tested**

Test Date 5 Jun 2020  
 Condition As Completed

## ZERO OFFSET - FRONT TERMINALS

**Passed**

Post-Repair/Adjustment Data:

TEST CONDITIONS		MINIMUM	MEASURED	MAXIMUM	Status
Range	Input				
<i>DC Volts Zero Offset</i>					
100 mV	0 V	-3.50 uV	0.26 uV	3.50 uV	
1 V	0 V	-4.00 uV	0.51 uV	4.00 uV	
10 V	0 V	-20.0 uV	0.8 uV	20.0 uV	
100 V	0 V	-0.600 mV	-0.036 mV	0.600 mV	
1000 V	0 V	-6.00 mV	-0.02 mV	6.00 mV	
<i>4-Wire Ohms Zero Offset</i>					
100 Ω	0 Ω	-4.00 mΩ	0.13 mΩ	4.00 mΩ	
1 kΩ	0 Ω	-5.00 mΩ	0.15 mΩ	5.00 mΩ	
10 kΩ	0 Ω	-50.0 mΩ	1.3 mΩ	50.0 mΩ	
100 kΩ	0 Ω	-0.500 Ω	0.039 Ω	0.500 Ω	
1 MΩ	0 Ω	-5.00 Ω	0.39 Ω	5.00 Ω	
10 MΩ	0 Ω	-100.0 Ω	-2.4 Ω	100.0 Ω	
<i>2-Wire Ohms Zero Offset</i>					
100 MΩ	0 Ω	-1000.0 Ω	-0.9 Ω	1000.0 Ω	
<i>DC Current Zero Offset</i>					
1 mA	0 A	-0.05000 uA	0.00061 uA	0.05000 uA	
10 mA	0 A	-2.0000 uA	0.0269 uA	2.0000 uA	
100 mA	0 A	-5.0000 uA	0.096 uA	5.0000 uA	
1 A	0 A	-0.10000 mA	0.00149 mA	0.10000 mA	
3 A	0 A	-0.6000 mA	0.0004 mA	0.6000 mA	
10 A	0 A	-1.0000 mA	0.0003 mA	1.0000 mA	

## ZERO OFFSET - REAR TERMINALS

**Passed**

Post-Repair/Adjustment Data:

TEST CONDITIONS		MINIMUM	MEASURED	MAXIMUM	Status
Range	Input				
<i>DC Volts Zero Offset</i>					
100 mV	0 V	-3.50 uV	0.23 uV	3.50 uV	
1 V	0 V	-4.00 uV	-0.04 uV	4.00 uV	
10 V	0 V	-20.0 uV	0.4 uV	20.0 uV	
100 V	0 V	-0.600 mV	0.007 mV	0.600 mV	
1000 V	0 V	-6.00 mV	-0.02 mV	6.00 mV	
<i>4-Wire Ohms ZERO Offset</i>					
100 Ω	0 Ω	-4.00 mΩ	0.10 mΩ	4.00 mΩ	

Model 34470A Serial MY54701205 Firmware Rev  
 A.02.14-02.40-02.14-00.49-02-01

Test Date 5 Jun 2020  
 Condition As Completed

**Options Tested**

## ZERO OFFSET - REAR TERMINALS (cont.)

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	Status
1 kΩ 0 Ω	-5.00 mΩ	0.05 mΩ	5.00 mΩ	
10 kΩ 0 Ω	-50.0 mΩ	0.0 mΩ	50.0 mΩ	
100 kΩ 0 Ω	-0.500 Ω	0.007 Ω	0.500 Ω	
1 MΩ 0 Ω	-5.00 Ω	0.07 Ω	5.00 Ω	
10 MΩ 0 Ω	-100.0 Ω	-1.5 Ω	100.0 Ω	
<i>2-Wire Ohms ZERO Offset</i>				
100 MΩ 0 Ω	-1000.0 Ω	1.2 Ω	1000.0 Ω	
<i>DC Current Zero Offset</i>				
1 mA 0 A	-0.05000 uA	-0.00022 uA	0.05000 uA	
10 mA 0 A	-2.0000 uA	0.0483 uA	2.0000 uA	
100 mA 0 A	-5.000 uA	0.123 uA	5.000 uA	
1 A 0 A	-0.10000 mA	0.00136 mA	0.10000 mA	
3 A 0 A	-0.6000 mA	0.0017 mA	0.6000 mA	

## DC VOLTS

**Passed**

Post-Repair/Adjustment Data:

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	Status
<i>Range Input (Front)</i>				
-----				
100 mV 100 mV	99.9925 mV	99.9992 mV	100.0075 mV	
100 mV -100 mV	-100.0075 mV	-100.0001 mV	-99.9925 mV	
1 V 1 V	0.9999760 V	1.0000013 V	1.0000240 V	
1 V -1 V	-1.0000240 V	-1.0000021 V	-0.9999760 V	
10 V 4 V	3.999916 V	3.999998 V	4.000084 V	
10 V 10 V	9.999820 V	9.999990 V	10.000180 V	
10 V -10 V	-10.000180 V	-9.999992 V	-9.999820 V	
100 V 100 V	99.99560 V	100.00041 V	100.00440 V	
100 V -100 V	-100.00440 V	-100.00042 V	-99.99560 V	
1000 V 1000 V	999.9460 V	1000.0012 V	1000.0540 V	
1000 V -500 V	-500.0250 V	-500.0009 V	-499.9750 V	

## AC VOLTS

**Passed**

Post-Repair/Adjustment Data:

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	Status
<i>Input Freq. (Front)</i>				
-----				
<i>100 mV Range</i>				
100 mV 1 kHz	99.930 mV	100.000 mV	100.070 mV	

Model 34470A Serial MY54701205 Firmware Rev  
A.02.14-02.40-02.14-00.49-02-01

Test Date 5 Jun 2020  
Condition As Completed

Options Tested

## AC VOLTS (cont.)

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	Status
100 mV 50 kHz	99.900 mV	100.005 mV	100.100 mV	
100 mV 300 kHz	98.90 mV	99.97 mV	101.10 mV	
<i>1 V Range</i>				
1 V 1 kHz	0.999300 V	0.999991 V	1.000700 V	
1 V 50 kHz	0.999000 V	1.000039 V	1.001000 V	
1 V 300 kHz	0.98900 V	0.99965 V	1.01100 V	
<i>10 V Range</i>				
0.03 V 1 kHz	0.02799 V	0.02999 V	0.03201 V	
1 V 1 kHz	0.997500 V	1.000008 V	1.002500 V	
10 V 10 Hz	9.9930 V	10.0004 V	10.0070 V	
10 V 100 Hz	9.99300 V	9.99983 V	10.00700 V	
10 V 20 kHz	9.99300 V	9.99994 V	10.00700 V	
10 V 50 kHz	9.99000 V	10.00055 V	10.01000 V	
10 V 100 kHz	9.9800 V	10.0011 V	10.0200 V	
10 V 300 kHz	9.8900 V	9.9945 V	10.1100 V	
<i>100 V Range</i>				
100 V 1 kHz	99.9300 V	100.0002 V	100.0700 V	
100 V 50 kHz	99.9000 V	100.0025 V	100.1000 V	
70 V 300 kHz	69.200 V	70.027 V	70.800 V	
<i>750 V Range</i>				
750 V 1 kHz	749.025 V	749.968 V	750.975 V	
210 V 50 kHz	209.628 V	210.025 V	210.372 V	
70 V 300 kHz	68.550 V	70.109 V	71.450 V	

## FREQUENCY

Passed

Post-Repair/Adjustment Data:

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	Status
<i>Input Freq. (Front)</i>				
-----				
<i>1 V Range</i>				
0.1 V 10 Hz	9.99700 Hz	9.99986 Hz	10.00300 Hz	
<i>0.1 V Range</i>				
0.01 V 300 kHz	299.79000 kHz	300.00003 kHz	300.21000 kHz	

Model 34470A Serial MY54701205 Firmware Rev  
A.02.14-02.40-02.14-00.49-02-01

Test Date 5 Jun 2020  
Condition As Completed

**Options Tested**

---

## OHMS

**Passed**

Post-Repair/Adjustment Data:

TEST CONDITIONS		MINIMUM	MEASURED	MAXIMUM	Status
<i>Range Input</i>					
<i>(Front)</i>					
-----					
<i>4-Wire Ohms</i>					
100 Ω	100 Ω	99.9900 Ω	100.0005 Ω	100.0100 Ω	
1 kΩ	1 kΩ	0.9999550 kΩ	1.0000025 kΩ	1.0000450 kΩ	
10 kΩ	10 kΩ	9.999550 kΩ	10.000025 kΩ	10.000450 kΩ	
100 kΩ	100 kΩ	99.9955 kΩ	100.0016 kΩ	100.0045 kΩ	
1 MΩ	1 MΩ	0.999925 MΩ	1.000006 MΩ	1.000075 MΩ	
10 MΩ	10 MΩ	9.99740 MΩ	9.99968 MΩ	10.00260 MΩ	
<i>2-Wire Ohms</i>					
10 MΩ	10 MΩ	9.99740 MΩ	9.99971 MΩ	10.00260 MΩ	
100 MΩ	100 MΩ	99.699 MΩ	100.005 MΩ	100.301 MΩ	

## DC CURRENT

**Passed**

Post-Repair/Adjustment Data:

TEST CONDITIONS		MINIMUM	MEASURED	MAXIMUM	Status
<i>DC CURRENT</i>					
<i>Range Input</i>					
<i>(Front)</i>					
-----					
3 A	2 A	1.99540 A	2.00007 A	2.00460 A	
1 A	1 A	0.999100 A	0.999993 A	1.000900 A	
100 mA	100 mA	99.9450 mA	100.0020 mA	100.0550 mA	
10 mA	10 mA	9.99300 mA	10.00060 mA	10.00700 mA	
1 mA	1 mA	0.999450 mA	0.999999 mA	1.000550 mA	

Model 34470A Serial MY54701205 Firmware Rev  
 A.02.14-02.40-02.14-00.49-02-01  
**Options Tested**

Test Date 5 Jun 2020  
 Condition As Completed

## AC CURRENT

**Passed**

Post-Repair/Adjustment Data:

<u>TEST CONDITIONS</u>	<u>MINIMUM</u>	<u>MEASURED</u>	<u>MAXIMUM</u>	<u>Status</u>
<i>Input Freq.</i>				
<i>(Front)</i>				
-----				
<i>3 A Range</i>				
2 A 1 kHz	1.99420 A	1.99975 A	2.00580 A	
2 A 5 kHz	1.9942 A	1.9995 A	2.0058 A	
<i>1 A Range</i>				
1 A 1 kHz	0.99860 A	1.00011 A	1.00140 A	
1 A 5 kHz	0.99860 A	0.99999 A	1.00140 A	
<i>100 mA Range</i>				
100 mA 10 Hz	99.860 mA	100.003 mA	100.140 mA	
100 mA 1 kHz	99.860 mA	100.001 mA	100.140 mA	
100 mA 5 kHz	99.860 mA	99.998 mA	100.140 mA	
<i>10 mA Range</i>				
100 uA 1 kHz	0.09590 mA	0.10014 mA	0.10410 mA	
1 mA 1 kHz	0.99500 mA	1.00018 mA	1.00500 mA	
10 mA 1 kHz	9.9860 mA	10.0001 mA	10.0140 mA	
10 mA 5 kHz	9.9860 mA	10.0006 mA	10.0140 mA	
<i>1 mA Range</i>				
1 mA 1 kHz	0.99860 mA	1.00000 mA	1.00140 mA	
1 mA 5 kHz	0.99860 mA	0.99999 mA	1.00140 mA	
<i>100 uA Range</i>				
100 uA 1 kHz	99.860 uA	100.003 uA	100.140 uA	
100 uA 5 kHz	99.860 uA	100.007 uA	100.140 uA	

## HIGH CURRENT

**Passed**

Post-Repair/Adjustment Data:

<u>TEST CONDITIONS</u>	<u>MINIMUM</u>	<u>MEASURED</u>	<u>MAXIMUM</u>	<u>Status</u>
<i>DC HIGH CURRENT</i>				
<i>Range Input</i>				
<i>(Front)</i>				
-----				
10 A 5 A	4.9930 A	5.0000 A	5.0070 A	
10 A 10 A	9.9770 A	10.0014 A	10.0230 A	

Model 34470A Serial MY54701205 Firmware Rev  
 A.02.14-02.40-02.14-00.49-02-01

Test Date 5 Jun 2020  
 Condition As Completed

**Options Tested**

## HIGH CURRENT (cont.)

<u>TEST CONDITIONS</u>	<u>MINIMUM</u>	<u>MEASURED</u>	<u>MAXIMUM</u>	<u>Status</u>
<i>AC HIGH CURRENT</i>				
<i>Input Freq.</i>				
<i>(Front)</i>				
-----				
10 A 5 kHz	9.971 A	10.003 A	10.029 A	

## AUTO-CALIBRATION

**As Expected**

<u>TEST CONDITIONS</u>	<u>RESULT</u>	<u>Status</u>
Auto Calibration	DONE	

ACAL Info:

The Last ACAL Temp: 25.2 °C  
 The Last ACAL Date: 6 Jun 2020  
 Present ACAL Temp: 25.2 °C  
 Present ACAL Date: 6 Jun 2020

## DC LOW CURRENT FUNC

**As Expected**

Post-Repair/Adjustment Data:

<u>TEST CONDITIONS</u>	<u>RESULT</u>	<u>Status</u>
<i>DC CURRENT</i>		
<i>Range Input</i>		
<i>(Front)</i>		
-----		
1 uA 1 uA	DONE	
10 uA 10 uA	DONE	
100 uA 100 uA	DONE	