Z540.1

FLUKE®

Certificate of Calibration

Beaverton Service Center

Certificate Number:	229536		
Data Type:	Found-Left	**Calibration Date:**	31-Mar-2016
Result Summary:	In Tolerance	**Calibration Due:**	31-Mar-2017
Manufacturer:	Fluke	**Certificate Date:**	31-Mar-2016
Model:	70 III	**Temperature:**	23.1 °C
Serial Number:	70530847	**Humidity:**	31.3 %
Description:	Multimeter		
Procedure:	Fluke 70-3: (1 year) CAL VER /5520A	**Revision:**	1.2
Customer:	STATE OF WASHINGTON		
City:	SEATTLE	**Country:**	US
State:	WA		
Purchase Order:	CCS WASHINGTON ST PATROL	**RMA:**	31001686

This calibration is traceable to the International System of Units (SI), through National Metrology Institutes (NIST, PTB, NRC, NPL, etc.), ratiometric techniques, or natural physical constants. This certificate applies only to the item identified and shall not be reproduced other than in full, without the specific written approval by Fluke Corporation. Calibration certificates without signature are not valid. The calibration has been completed in accordance with Fluke Electronics Corporation Quality System Document 111.0 Revision 118 8/2014 and/or Fluke 17025 Quality Manual QSD 111.41 Revision 005 9/2014.

The Data Type found in this certificate must be interpreted as:

- As - Found Calibration data collected before the unit is adjusted and / or repaired.
- As - Left Calibration data collected after the unit has been adjusted and / or repaired.
- Found-Left Calibration data collected without any adjustment and / or repair performed.

This calibration conforms to the requirements of ANSI/NCSL Z540-1-1994 (R2002).

In the attached measurement results, deviation may be expressed with units, Measured Value (MV) - Nominal Value (NV) or as a proportion of the nominal value ((MV-NV)/NV), expressed without units with a scalar multiplier such as % (0.01), or as a ratio of the units (mA/A, µV/V, etc.) Descriptions such as µA/A, µV/V, and others, where used to annotate results or column headings are the preferred replacements for what was historically labeled as "ppm" or parts-per-million and described the results in that column, unless otherwise noted by units symbols.

Where applicable, the expanded uncertainty of measurement at the time of test is given in the following pages. They are calculated in accordance with the method described in the ISO Guide to the Expression of Uncertainty in Measurement (GUM). The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k, such that the confidence level approximates 95%.

Where applicable, the Test Uncertainty Ratio (TUR) is provided in the following pages. Unless otherwise stated, the TUR for a given measurement result is 4:1 or greater.

Results are reviewed to establish where any measurement results exceeded the manufacturer's specifications.

Measurement results greater than limits of error are indicated by '!'.

STEVEN BUHLER
Issued By

Standards Used

Asset	Description	Cal-Date	Cal-Due
10404	Fluke 5520A Calibrator	18-Mar-2016	18-Mar-2017

Calibration Data

Parameter	Nominal Value	Measurement Result	Limits of Error Lower Limit	Limits of Error Upper Limit	Test Uncertainty Ratio (TUR)
DISPLAY TEST					
Display Segments Illuminated Correctly:		Pass			
RESISTANCE TEST					
320Ohms Range					
0.0 Ohm	0.00	0.0	0.0	0.2	
100.0 Ohm	100.00	99.9	99.3	100.7	
3200Ohms Range					
1000 Ohm	1000.0	1000	994	1006	
32kOhms Range					
10.00 kOhm	10.000	10.00	9.94	10.06	
320kOhms Range					
100.0 kOhm	100.00	100.0	99.4	100.6	
3.2MOhms Range					
1.000 MOhm	1.0000	1.000	0.994	1.006	
32MOhms Range					
10.00 MOhm	10.000	10.02	9.79	10.21	
DIODE TEST					
Beeper Audible		Pass			
Beeper OFF		Pass			
DC VOLTAGE TEST					
320mV Range					
300.0 mV	300.00	299.8	299.0	301.0	
DC VOLTAGE TEST					
3.2V Range					
2.700 V	2.7000	2.699	2.691	2.709	
32V Range					
27.00 V	27.000	26.99	26.91	27.09	
320V Range					
270.0 V	270.00	269.9	269.1	270.9	
600V Range					
600 V	600.0	602	597	603	
AC VOLTAGE TEST					
3.2V Range					
2.700 V @ 100 Hz	2.7000	2.697	2.644	2.756	
2.700 V @ 500 Hz	2.7000	2.686	2.644	2.756	

Calibration Data

Parameter	Nominal Value	Measurement Result	Limits of Error Lower Limit	Limits of Error Upper Limit	Test Uncertainty Ratio (TUR)
600V Range					
600 V @ 100 Hz	600.0	600	586	614	
600 V @ 1 kHz	600.0	600	586	614	