

Fox Valley Metrology

3114 Medalist Drive
 Oshkosh, WI 54902
 (920) 426-5894 • Fax (920) 426-8120
<https://www.FoxValleyMetrology.com>

CERTIFICATE OF CALIBRATION



Certificate No. ACT-1272

CERTIFICATION NUMBER	CP134-00410-840	IDENTIFICATION	EL-002A
FOR	Sample Manufacturing 3121 Medalist Drive Oshkosh, WI 54902	SERIAL NUMBER	410
TEST INSTRUMENT	Oscilloscope	PURCHASE ORDER #	
MAKE	Pico Technology	PROCEDURES FOLLOWED	EL-002A rev. 1
MODEL	5444B MSO		
RANGE	4 Ch. 200 MHz + 16 CH Digital		
CUSTOMER LOCATION	Location1 Location2	STANDARDS USED	
CONDITION RECEIVED	In Tolerance	INSTRUMENT	SERIAL NUMBER
CONDITION RETURNED	In Tolerance	AG1-010	DS1ZA181104521
CALIBRATED BY	Brian L Gliszinski	TRACE NUMBER	C0291-56414-833
REVIEWED/ISSUED	D.P. 07/29/2025	NEXT CAL	10/31/2025
CALIBRATION LOCATION	FVM		
ENVIRONMENT	69.0°F, 31.0%RH, 28.92inHg		
CALIBRATION DATE	05/14/2025		
RECALIBRATION DUE	05/14/2026		



CALIBRATION RESULTS

* DENOTES "OUT OF TOLERANCE"

FEATURE	NOMINAL	LOWER LIMIT	UPPER LIMIT	AS FOUND	AS LEFT	UNCERTAINTY
DC VOLTAGE MEASUREMENT ACCURACY CHANNEL A						
10 mV/div	(mV)	(mV)	(mV)	(mV)	(mV)	(mV)
5 mV	5.000	4.800	5.200	5.000	5.000	6.0E-4
-5 mV	-5.000	-5.200	-4.800	-5.000	-5.000	6.0E-4
20 mV/div						
10 mV	10.00	9.60	10.40	10.00	10.00	6.0E-3
-10mV	-10.00	-10.40	-9.60	-10.00	-10.00	6.0E-3
50 mV/div						
25 mV	25.00	24.50	25.50	25.00	25.00	6.0E-3
-25 mV	-25.00	-25.50	-24.50	-25.00	-25.00	6.0E-3
100 mV/div						
50 mV	50.00	49.00	51.00	50.00	50.00	6.0E-3
-50 mV	-50.00	-51.00	-49.00	-50.00	-50.00	6.0E-3
200 mV/div						
100 mV	100.00	98.00	102.00	100.00	100.00	6.0E-3
-100 mV	-100.00	-102.00	-98.00	-100.00	-100.00	6.0E-3
500 mV/div						
250 mV	250.0	245.0	255.0	250.0	250.0	6.0E-2

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FEATURE	NOMINAL	LOWER LIMIT	UPPER LIMIT	AS FOUND	AS LEFT	UNCERTAINTY
-250 mV	-250.0	-255.0	-245.0	-250.0	-250.0	6.0E-2
1 V/div						
500 mV	500.00	490.00	510.00	500.00	500.00	6.0E-3
-500 mV	-500.00	-510.00	-490.00	-500.00	-500.00	6.0E-3
2 V/div	(V)	(V)	(V)	(V)	(V)	(V)
1 V	1.000	0.980	1.020	1.000	1.000	6.0E-4
-1 V	-1.000	-1.020	-0.980	-1.000	-1.000	6.0E-4
5 V/div						
2.5 V	2.500	2.450	2.550	2.500	2.500	6.0E-4
-2.5 V	-2.500	-2.550	-2.450	-2.500	-2.500	6.0E-4
10 V/div						
5 V	5.000	4.900	5.100	5.000	5.000	6.0E-4
-5 V	-5.000	-5.100	-4.900	-5.000	-5.000	6.0E-4
20 V/div						
10 V	10.000	9.800	10.200	10.000	10.000	6.0E-4
-10 V	-10.000	-10.200	-9.800	-10.000	-10.000	6.0E-4
CHANNEL B						
10 mV/div	(mV)	(mV)	(mV)	(mV)	(mV)	(mV)
5 mV	5.000	4.800	5.200	5.000	5.000	6.0E-4
-5 mV	-5.000	-5.200	-4.800	-5.000	-5.000	6.0E-4
20 mV/div						
10 mV	10.00	9.60	10.40	10.00	10.00	6.0E-3
-10mV	-10.00	-10.40	-9.60	-10.00	-10.00	6.0E-3
50 mV/div						
25 mV	25.00	24.50	25.50	25.00	25.00	6.0E-3
-25 mV	-25.00	-25.50	-24.50	-25.00	-25.00	6.0E-3
100 mV/div						
50 mV	50.00	49.00	51.00	50.00	50.00	6.0E-3
-50 mV	-50.00	-51.00	-49.00	-50.00	-50.00	6.0E-3
200 mV/div						
100 mV	100.00	98.00	102.00	100.00	100.00	6.0E-3
-100 mV	-100.00	-102.00	-98.00	-100.00	-100.00	6.0E-3
500 mV/div						
250 mV	250.0	245.0	255.0	250.0	250.0	6.0E-2
-250 mV	-250.0	-255.0	-245.0	-250.0	-250.0	6.0E-2
1 V/div						
500 mV	500.00	490.00	510.00	500.00	500.00	6.0E-3
-500 mV	-500.00	-510.00	-490.00	-500.00	-500.00	6.0E-3

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FEATURE	NOMINAL	LOWER LIMIT	UPPER LIMIT	AS FOUND	AS LEFT	UNCERTAINTY
2 V/div	(V)	(V)	(V)	(V)	(V)	(V)
1 V	1.000	0.980	1.020	1.000	1.000	6.0E-4
-1 V	-1.000	-1.020	-0.980	-1.000	-1.000	6.0E-4
5 V/div						
2.5 V	2.500	2.450	2.550	2.500	2.500	6.0E-4
-2.5 V	-2.500	-2.550	-2.450	-2.500	-2.500	6.0E-4
10 V/div						
5 V	5.000	4.900	5.100	5.000	5.000	6.0E-4
-5 V	-5.000	-5.100	-4.900	-5.000	-5.000	6.0E-4
20 V/div						
10 V	10.000	9.800	10.200	10.000	10.000	6.0E-4
-10 V	-10.000	-10.200	-9.800	-10.000	-10.000	6.0E-4
CHANNEL C						
10 mV/div	(mV)	(mV)	(mV)	(mV)	(mV)	
5 mV	5.000	4.800	5.200	5.000	5.000	6.0E-4
-5 mV	-5.000	-5.200	-4.800	-5.000	-5.000	6.0E-4
20 mV/div						
10 mV	10.00	9.60	10.40	10.00	10.00	6.0E-3
-10mV	-10.00	-10.40	-9.60	-10.00	-10.00	6.0E-3
50 mV/div						
25 mV	25.00	24.50	25.50	25.00	25.00	6.0E-3
-25 mV	-25.00	-25.50	-24.50	-25.00	-25.00	6.0E-3
100 mV/div						
50 mV	50.00	49.00	51.00	50.00	50.00	6.0E-3
-50 mV	-50.00	-51.00	-49.00	-50.00	-50.00	6.0E-3
200 mV/div						
100 mV	100.00	98.00	102.00	100.00	100.00	6.0E-3
-100 mV	-100.00	-102.00	-98.00	-100.00	-100.00	6.0E-3
500 mV/div						
250 mV	250.0	245.0	255.0	250.0	250.0	6.0E-2
-250 mV	-250.0	-255.0	-245.0	-250.0	-250.0	6.0E-2
1 V/div						
500 mV	500.00	490.00	510.00	500.00	500.00	6.0E-3
-500 mV	-500.00	-510.00	-490.00	-500.00	-500.00	6.0E-3
2 V/div	(V)	(V)	(V)	(V)	(V)	(V)
1 V	1.000	0.980	1.020	1.000	1.000	6.0E-4
-1 V	-1.000	-1.020	-0.980	-1.000	-1.000	6.0E-4
5 V/div						

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FEATURE	NOMINAL	LOWER LIMIT	UPPER LIMIT	AS FOUND	AS LEFT	UNCERTAINTY
2.5 V	2.500	2.450	2.550	2.500	2.500	6.0E-4
-2.5 V	-2.500	-2.550	-2.450	-2.500	-2.500	6.0E-4
10 V/div						
5 V	5.000	4.900	5.100	5.000	5.000	6.0E-4
-5 V	-5.000	-5.100	-4.900	-5.000	-5.000	6.0E-4
20 V/div						
10 V	10.000	9.800	10.200	10.000	10.000	6.0E-4
-10 V	-10.000	-10.200	-9.800	-10.000	-10.000	6.0E-4
CHANNEL D						
10 mV/div	(mV)	(mV)	(mV)	(mV)	(mV)	(mV)
5 mV	5.000	4.800	5.200	5.000	5.000	6.0E-4
-5 mV	-5.000	-5.200	-4.800	-5.000	-5.000	6.0E-4
20 mV/div						
10 mV	10.00	9.60	10.40	10.00	10.00	6.0E-3
-10mV	-10.00	-10.40	-9.60	-10.00	-10.00	6.0E-3
50 mV/div						
25 mV	25.00	24.50	25.50	25.00	25.00	6.0E-3
-25 mV	-25.00	-25.50	-24.50	-25.00	-25.00	6.0E-3
100 mV/div						
50 mV	50.00	49.00	51.00	50.00	50.00	6.0E-3
-50 mV	-50.00	-51.00	-49.00	-50.00	-50.00	6.0E-3
200 mV/div						
100 mV	100.00	98.00	102.00	100.00	100.00	6.0E-3
-100 mV	-100.00	-102.00	-98.00	-100.00	-100.00	6.0E-3
500 mV/div						
250 mV	250.0	245.0	255.0	250.0	250.0	6.0E-2
-250 mV	-250.0	-255.0	-245.0	-250.0	-250.0	6.0E-2
1 V/div						
500 mV	500.00	490.00	510.00	500.00	500.00	6.0E-3
-500 mV	-500.00	-510.00	-490.00	-500.00	-500.00	6.0E-3
2 V/div	(V)	(V)	(V)	(V)	(V)	(V)
1 V	1.000	0.980	1.020	1.000	1.000	6.0E-4
-1 V	-1.000	-1.020	-0.980	-1.000	-1.000	6.0E-4
5 V/div						
2.5 V	2.500	2.450	2.550	2.500	2.500	6.0E-4
-2.5 V	-2.500	-2.550	-2.450	-2.500	-2.500	6.0E-4
10 V/div						
5 V	5.000	4.900	5.100	5.000	5.000	6.0E-4
-5 V	-5.000	-5.100	-4.900	-5.000	-5.000	6.0E-4

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FEATURE	NOMINAL	LOWER LIMIT	UPPER LIMIT	AS FOUND	AS LEFT	UNCERTAINTY
20 V/div						
10 V	10.000	9.800	10.200	10.000	10.000	6.0E-4
-10 V	-10.000	-10.200	-9.800	-10.000	-10.000	6.0E-4
TRIGGERING						
CHANNEL A						
INT 1.5 div @ 10 MHz				Pass	Pass	
CHANNEL B						
INT 1.5 div @ 10 MHz				Pass	Pass	
CHANNEL C						
INT 1.5 div @ 10 MHz				Pass	Pass	
CHANNEL D						
INT 1.5 div @ 10 MHz				Pass	Pass	
BANDWIDTH (-3 dB)						
CHANNEL A						
Ref. @ 6 div. , 50 kHz DC to 200 MHz				Pass	Pass	
CHANNEL B						
Ref. @ 6 div. , 50 kHz DC to 200 MHz				Pass	Pass	
CHANNEL C						
Ref. @ 6 div. , 50 kHz DC to 200 MHz				Pass	Pass	
CHANNEL D						
Ref. @ 6 div. , 50 kHz DC to 200 MHz				Pass	Pass	
Funtion Generator Tests Square Wave Frequency Accuracy						
	(KHz)	(KHz)	(KHz)	(KHz)	(KHz)	(KHz)
1 KHz	1.000000	0.999998	1.000002	1.000000	1.000000	6.0E-7
100 KHz	100.0000	99.9998	100.0002	100.0000	100.0000	6.0E-5
500 KHz	500.0000	499.9990	500.0010	500.0000	500.0000	6.0E-6

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FEATURE	NOMINAL	LOWER LIMIT	UPPER LIMIT	AS FOUND	AS LEFT	UNCERTAINTY
	(MHz)	(MHz)	(MHz)	(MHz)	(MHz)	(MHz)
1 MHz	1.000000	0.999998	1.000002	1.000000	1.000000	6.0E-7
DC Output Voltage	(V)	(V)	(V)	(V)	(V)	(V)
0.5 V	0.5000	0.4995	0.5005	0.5000	0.5000	6.0E-5
-0.5 V	-0.5000	-0.5005	-0.4995	-0.5000	-0.5000	6.0E-5
1 V	1.0000	0.9900	1.0100	1.0000	1.0000	6.0E-5
-1 V	-1.0000	-1.0100	-0.9900	-1.0000	-1.0000	6.0E-5
1.5 V	1.5000	1.4850	1.5150	1.5000	1.5000	6.0E-5
-1.5 V	-1.5000	-1.5150	-1.4850	-1.5000	-1.5000	6.0E-5
2.0 V	2.0000	1.9800	2.0200	2.0000	2.0000	6.0E-5
-2.0 V	-2.0000	-2.0200	-1.9800	-2.0000	-2.0000	6.0E-5

COMMENTS

Example certificate, actual results and uncertainties will be reported at the time of calibration.
 Nominal and limits may vary based on actual make/model.

- This certificate shall not be altered in any form or reproduced, except in full, without prior written approval from originating lab. These results relate only to the item(s) calibrated. Form Revision 10: 06/04/2024
- Total expanded measurement uncertainties expressed are based on a confidence level of 95%; coverage factor of (k=2). The statement of compliance in this certificate was issued without taking the uncertainty of measurement into consideration. The customer shall assess the results and uncertainty when determining if the results meet their needs. (This is considered "shared responsibility.") Uncertainties expressed in nominal units.
- The calibrations within the certificate/report are traceable through NIST or another National Metrology Institute to the International System of Units (SI). Calibration was completed in accordance with ISO/IEC 17025:2017, ANSI/NCSL Z540-1-1994 and ANSI/NCSL Z540.3-2006. Other standards listed upon request.