



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017
& ANSI/NCSL Z540-1-1994

M PRECISION LABORATORIES, INC
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Shirley, MA 01464
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CALIBRATION

Valid To: October 31, 2023

Certificate Number: 3508.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations^{1,5}:

I. Electrical – RF/Microwave

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
EFT/Burst Generator ³ –			
Voltage (±)	250 V to 8 kV	2.5 %	Tektronix DPO4104B IEC 61000-4-2, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-8, IEC 61000-4-9, IEC 61000-4-11, IEC 61000-4-18, GR-1089
Rise Time	5 ns ± 30 %	0.94 %	
Impulse Duration	50 ns ± 30 %	0.71 %	
Burst Duration @ 5 kHz	15 ms ± 20 %	0.71 %	
@ 100 kHz	0.75 ms ± 20 %	0.6 %	
Repetition Rate	5 kHz ± 20 %	1.1 %	
	100 kHz ± 20 %	0.53 %	
Burst Period	300 ms ± 20 %	0.78 %	

Parameter/Equipment	Range	CMC ^{2, 4} (±)	Comments
Transient Surge Generator ³ –			
Open Circuit Voltage	250 V to 20 kV	2.5 %	Tektronix DPO4104B IEC 61000-4-2, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-8, IEC 61000-4-9, IEC 61000-4-11, IEC 61000-4-18, GR-1089
Rise/Front Time	(0.5 to 10) µs	0.8 %	
Time to Half-Value	(10 to 1000) µs	1.4 %	
Short Circuit Current	(5 to 10 000) A	2.7 %	
Rise/Front Time	(1 to 10) µs	0.6 %	
Time to Half-Value	(20 to 1000) µs	0.22 %	
Ring Wave Frequency ³	100 kHz 100 kHz to 30 MHz	0.4 % 5.2 %	
Phase Angle ³	Up to 360°	1.6 %	
PQF Generator ³ –			
Output Voltage ³	Up to 480 VAC	1.2 %	DMM
Voltage Pulse Rise/ Fall Time ³	(1 to 5) µs	1.2 %	Tektronix DPO4104B
ESD Generator –			
Peak Current	(1 to 60) A	3.8 %	Tektronix MSO9404A Teseq MD103
Rise Time	(0.01 to 20) ns	9.9 %	
Current @ 30 ns	(1 to 60) A	6.5 %	
Current @ 60 ns	(1 to 60) A	9.1 %	
DC Voltage	250 V to 35 kV	1.6 %	Agilent 34401A Keytek DCA-2

¹ This laboratory offers commercial calibration service and field calibration service.

² Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMCs represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

³ Field calibration service is available for this calibration. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the CMC found on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the actual uncertainty introduced by the item being calibrated, (e.g. resolution) must also be considered and this, on its own, could result in the actual measurement uncertainty achievable on a customer's site being larger than the CMC.

⁴ In the statement of CMC, the value is defined as the percentage of reading unless otherwise noted.

⁵ This scope meets A2LA's *P112 Flexible Scope Policy*.



Accredited Laboratory

A2LA has accredited

M PRECISION LABORATORIES, INC

Shirley, MA

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the requirements of ANSI/NCSL Z540-1-1994 and R205 – Specific Requirements: Calibration Laboratory Accreditation Program. 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 April 2017).



Presented this 8th day of September 2021.

A blue ink signature of the Vice President of Accreditation Services, written over a horizontal line.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3508.01
Valid to October 31, 2023

For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.