



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005  
& ANSI/NCSL Z540-1-1994

WEST CALDWELL CALIBRATION LABORATORIES, INC.  
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CALIBRATION

Valid To: May 31, 2012

Certificate Number: 1533.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations<sup>1</sup>:

I. Acoustical Quantities

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Microphones – Measure	250 Hz	0.18 dB	B&K 4134/4144
	20 Hz to 200 kHz	0.46 dB	WB 0736 & UA0033
Microphones <sup>3</sup> – Measure	250 Hz	0.23 dB	B&K 4134/4144
	20 Hz to 200 kHz	0.54 dB	WB 0736 & UA0033
Acoustical Calibrators – Measure	125 Hz to 5 kHz	0.18 dB	Comparison to B&K 4134
Acoustical Calibrators <sup>3</sup> – Measure	125 Hz to 5 kHz	0.23 dB	Comparison to B&K 4134
Pistonphones – Measure	250 Hz	0.18 dB	B&K 4144
Pistonphones <sup>3</sup> – Measure	250 Hz	0.23 dB	B&K 4144

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Sound Level Meter Measuring Equipment	2 Hz to 200 kHz	0.3 dB	AC voltage standard Agilent 33120A
Sound Level Meter Measuring Equipment <sup>3</sup>	2 Hz to 200 kHz	0.35 dB	AC voltage standard Agilent 33120A
Filters, Analyzers, and Measuring Amplifiers Measuring Equipment	2 Hz to 200 kHz	0.72 dB	AC voltage standard Agilent 33120A
Filters, Analyzers, and Measuring Amplifiers Measuring Equipment <sup>3</sup>	2 Hz to 200 kHz	0.77 dB	AC voltage standard Agilent 33120A
Dosimeters Measuring Equipment	2 Hz to 20 kHz	0.5 dB	AC voltage standard Agilent 33120A
Dosimeters Measuring Equipment <sup>3</sup>	2 Hz to 20 kHz	0.55 dB	AC voltage standard Agilent 33120A

## II. Electrical – DC & Low Frequency

Parameter/Equipment	Range	CMC <sup>2,4</sup> (±)	Comments
DC Voltage <sup>3</sup> – Measure	1 mV to 1000 V	1.3 %	Agilent 34401A
DC Current <sup>3</sup> – Measure, Fixed Points	10 mA 100 mA 1 A 3 A	0.23 % 0.14 % 1.3 % 1.3 %	Agilent 34401A

Parameter/Range	Frequency	CMC <sup>2,4</sup> (±)	Comments
Attenuator <sup>3</sup> – Generate  (0 to -60) dB  (+30 to -100) dB	DC to 200 kHz  10 Hz to 50 kHz 2 Hz to 200 kHz	0.1 dB  0.2 dB 0.5 dB	WB 0785  B&K 2636, 2610
AC Voltage <sup>3</sup> – Measure  100 mV  (1 to 750) V	10 Hz to 20 kHz (50 to 100) kHz (100 to 300) kHz  10 Hz to 20 kHz (50 to 100) kHz (100 to 300) kHz	0.17 % 0.80 % 5.2 %  1.1 % 1.8 % 6.2 %	Agilent 34410A

#### IV. Time & Frequency

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Frequency Measuring Equipment	DC to 10 MHz	45 µHz/Hz	Agilent 33120A
Frequency – Measure	DC to 100 MHz	41 µHz/Hz	Agilent 53131A

<sup>1</sup> This laboratory offers commercial calibration service and field calibration service.

<sup>2</sup> Calibration and Measurement Capability (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. Calibration and Measurement Capabilities 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.

<sup>3</sup> Field calibration service is available for this calibration and this laboratory meets A2LA R104 – *General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these calibrations. 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.

<sup>4</sup> In the statement of CMC, percentages are to be read as percent of reading unless noted otherwise.