CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

HEAD acoustics, Inc.
6964 Kensington Road
Brighton, MI 48116

Fulfills the requirements of

ISO/IEC 17025:2017

In the fields of

CALIBRATION & TESTING

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

Jason Stine, Vice President

Expiry Date: 31 May 2028

Certificate Number: L2288

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. 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).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

HEAD acoustics, Inc.

6964 Kensington Road
Brighton, MI 48116

Norman Carter 248-486-0099

CALIBRATION AND TESTING

ISO/IEC 17025 Accreditation Granted: **19 May 2026**

Certificate Number: **L2288** Certificate Expiry Date: **31 May 2028**

CALIBRATION

Acoustics and Vibration

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Filters, Analyzer and Measuring Amplifiers and Measuring Equipment	91 ±2 dB (100 to 500) Hz	0.24 dB	Comparison HTU (Headphone Test Unit)
	114 dB 250 Hz,	0.19 dB	Comparison to Reference Pistonphone
	124 dB 250 Hz	0.3 dB	
Filters, Analyzer and Measuring Amplifiers and Measuring Equipment Sound Pressure Level	114 dB 20 Hz to 20 kHz	0.74 dB	Comparison to 3PASSflex Background Noise

Electrical – DC/Low Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
DC Current – Measure	(1 to 10) mA	0.12 mA	Comparison to 6 ½ Digit Multimeter
DC Voltage – Measure	(1 to 10) V (10 to 100) V (100 to 200) V	0.46 mV 0.95 mV 0.07 V	Comparison to 6 ½ Digit Multimeter

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414-501-5494
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Electrical – DC/Low Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
AC Voltage – Measure 20 Hz to 20 kHz	(0.01 to 1) V (1 to 10) V	0.6 mV 5.7 mV	Comparison to 6 ½ Digit Multimeter
AC Voltage Level, Measure Reference Level (0 dB) 1 V_{rms} @1 kHz	100 Hz to 20 kHz (-40 to 0) dB (0 to 20) dB	0.009 dB 0.03 dB	Comparison to 6 ½ Digit Multimeter, PEQ V Equalizer
AC Voltage Level, Generate Reference Level (0 dB) 1 V_{rms} @1 kHz	100 Hz to 20 kHz (-40 to 0) dB (0 to 20) dB	0.009 dB 0.03 dB	Comparison to Function Generator

Time and Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Frequency – Generate and Measure	20 Hz to 300 kHz	0.02 % of reading	Comparison to HM8123X Frequency Counter, Function Generator

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TESTING

Acoustics

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Sound Pressure Level	ETSI TS 103224	Filters, Analyzer and Measuring Amplifiers and Measuring Equipment	Comparison to 3PASSflex Background Noise

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Services performed at satellite location

38 Keyes Ave.
San Francisco, CA 94129

Norman Carter 248-486-0099

CALIBRATION

Acoustics and Vibration

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Filters, Analyzer and Measuring Amplifiers and Measuring Equipment	91 ±2 dB (100 to 500) Hz	0.24 dB	Comparison to HTU (Headphone Test Unit)
	114 dB 250 Hz,	0.19 dB	Comparison to Reference Pistonphone
	124 dB 250 Hz	0.3 dB	
Filters, Analyzer and Measuring Amplifiers and Measuring Equipment Sound Pressure Level	114 dB 20 Hz to 20 kHz	0.74 dB	Comparison to 3PASSflex Background Noise

Electrical – DC/Low Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
DC Current – Measure	(1 to 10) mA	0.12 mA	Comparison to 6 ½ Digit Multimeter
DC Voltage – Measure	(1 to 10) V (10 to 100) V (100 to 200) V	0.46 mV 0.95 mV 0.07 V	Comparison to 6 ½ Digit Multimeter
AC Voltage – Measure 20 Hz to 20 kHz	(0.01 to 1) V (1 to 10) V	0.6 mV 5.7 mV	Comparison to 6 ½ Digit Multimeter
AC Voltage Level, Measure Reference Level (0 dB) 1 V_{rms} @1 kHz	100 Hz to 20 kHz (-40 to 0) dB (0 to 20) dB	0.009 dB 0.03 dB	Comparison to 6 ½ Digit Multimeter, PEQ V Equalizer
AC Voltage Level, Generate Reference Level (0 dB) 1 V_{rms} @1 kHz	100 Hz to 20 kHz (-40 to 0) dB (0 to 20) dB	0.009 dB 0.03 dB	Comparison to Function Generator

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Time and Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Frequency – Generate and Measure	20 Hz to 300 kHz	0.02 % of reading	Comparison to HM8123X Frequency Counter, Function Generator

TESTING

Acoustics

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Sound Pressure Level	ETSI TS 103224	Filters, Analyzer and Measuring Amplifiers and Measuring Equipment	Comparison to 3PASSflex Background Noise

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 (k=2), corresponding to a confidence level of approximately 95%.

Notes:

1. On-site calibration service is available for all parameters, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope

Jason Stine, Vice President

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