

National Institute
of Standards and Technology



National Voluntary
Laboratory Accreditation Program

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation



Revised 4/23/2004

Page 1 of 8

CALIBRATION LABORATORIES

NVLAP LAB CODE 200625-0

SCANTEK, INC. CALIBRATION LABORATORY

7060 Oakland Mills Rd., #L

Columbia, MD 21046

Mr. Richard J. Peppin

Phone: 410-290-7726 Fax: 410-290-9167

E-Mail: peppinr@scantekinc.com

URL: <http://www.scantekinc.com>

NVLAP Code: 20/A01

ANSI/NCSL Z540-1-1994; Part 1

Compliant

MECHANICAL

Acoustic

NVLAP Code: 20/M01

Measurement Microphones

Open Circuit Pressure Sensitivity: Comparison

Range

-50 dB to -20 dB re 1 V/Pa
(3 to 100 mV/Pa)

Frequency Domain

250 Hz

Best Uncertainty (\pm) in dB^{notes 1, 4}

0.09

March 31, 2005

A handwritten signature in black ink, appearing to read "William R. Mohr".

Effective through

For the National Institute of Standards and Technology

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation



Revised 4/23/2004

Page 2 of 8

CALIBRATION LABORATORIES

NVLAP LAB CODE 200625-0

SCANTEK, INC. CALIBRATION LABORATORY

Frequency Response: Electrostatic Excitation

Range	Frequency Domain in Hz	Best Uncertainty (\pm) in dB ^{notes 1, 4}	
		Actuator Response	Free Field Response
-50 dB to -20 dB re 1 V/Pa (3 to 100 mV/Pa)	31.5 to 1.25 k	0.14	0.18
-50 dB to -20 dB re 1 V/Pa (3 to 100 mV/Pa)	1.25 k to 4 k	0.14	0.23
-50 dB to -20 dB re 1 V/Pa (3 to 100 mV/Pa)	4 k to 8 k	0.17	0.45
-50 dB to -20 dB re 1 V/Pa (3 to 100 mV/Pa)	8 k to 10 k	0.38	0.57
-50 dB to -20 dB re 1 V/Pa (3 to 100 mV/Pa)	10 k to 16 k	0.38	0.77
-50 dB to -20 dB re 1 V/Pa (3 to 100 mV/Pa)	16 k to 20 k	0.59	0.89

March 31, 2005



Effective through

For the National Institute of Standards and Technology

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation



Revised 4/23/2004

Page 3 of 8

CALIBRATION LABORATORIES

NVLAP LAB CODE 200625-0

SCANTEK, INC. CALIBRATION LABORATORY

Acoustical Calibrators and Piston Phones
Sound Pressure Level

<i>Range</i>	<i>Frequency Domain</i>	<i>Best Uncertainty</i> (\pm) ^{notes 1, 4}
93 dB to 150 dB re 20 μ Pa	250 Hz (\pm 20 Hz)	0.095 dB ^{note 2} 0.092 dB ^{note 3}
93 dB to 150 dB re 20 μ Pa	1 kHz (\pm 20 Hz)	0.11 dB ^{note 2} 0.10 dB ^{note 3}

Sound Frequency

<i>Range</i>	<i>Frequency Domain</i>	<i>Best Uncertainty</i> (\pm) ^{notes 1, 4}
10 Hz to 20 kHz	10 Hz to 20 kHz	0.02 %

Frequency Stability

<i>Range</i>	<i>Frequency Domain</i>	<i>Best Uncertainty</i> (\pm) ^{notes 1, 4}
10 Hz to 10 kHz	10 Hz to 20 kHz	< 5.1 % of the measured value

Distortion

<i>Range</i>	<i>Frequency Domain</i>	<i>Best Uncertainty</i> (\pm) ^{notes 1, 4}
10 Hz to 20 kHz	> 0.01 %	0.07 % distortion (analyzer method)

March 31, 2005

Effective through

For the National Institute of Standards and Technology

National Institute
of Standards and Technology



National Voluntary
Laboratory Accreditation Program

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation



Revised 4/23/2004

Page 4 of 8

CALIBRATION LABORATORIES

NVLAP LAB CODE 200625-0

SCANTEK, INC. CALIBRATION LABORATORY

Sound Level Meters, Dosimeters, Analyzers, Filters
Acoustical Test
Accuracy: Sound Pressure Level

<i>Range in dB</i>	<i>Frequency Domain</i>	<i>Best Uncertainty (\pm) in dB^{notes 1, 4}</i>
93 to 125	31.5 Hz	0.30
93 to 125	63 Hz	0.30
93 to 125	125 Hz	0.30
93 to 125	250 Hz	0.14
93 to 125	1 kHz	0.14
93 to 125	2 kHz	0.30
93 to 125	4 kHz	0.30
93 to 125	8 kHz	0.35
93 to 125	12.5 kHz	0.60
93 to 125	16 kHz	0.60

March 31, 2005

A handwritten signature in black ink, appearing to read 'William R. Mohr'.

Effective through

For the National Institute of Standards and Technology



ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation



Revised 4/23/2004

Page 5 of 8

CALIBRATION LABORATORIES

NVLAP LAB CODE 200625-0

SCANTEK, INC. CALIBRATION LABORATORY

Electrical Tests

Range	Domain	Best Uncertainty (\pm) ^{notes 1, 4}		Remarks
		%	dB	
0.1 mV to 40 V	10 Hz to 20 kHz	1.64	0.14	Sine signal
01 mV to 40 V	1 kHz to 8 kHz	1.64	0.14	Burst signal
0.1 mV to 40 V	200 μ s to 10 ms	1.64	0.14	Rectangular impulse
0.1 mV to 40 V	10 Hz to 20 kHz	1.68	0.15	Averaging

Preamplifiers

Range	Frequency Domain	Best Uncertainty (\pm) ^{notes 1, 4}		Remarks
		%	dB	
-40 dB to -20 dB	3 Hz to 250 kHz	0.12	0.01	Gain Test
3 Hz to 20 kHz	3 Hz to 250 kHz	0.12	0.01	Frequency Response
0.6 Hz to 20 kHz	0.1 Hz to 20 kHz	10.2	0.85	Noise Measurement

March 31, 2005

Effective through

For the National Institute of Standards and Technology

Scope of Accreditation



Revised 4/23/2004

Page 6 of 8

CALIBRATION LABORATORIES

NVLAP LAB CODE 200625-0

SCANTEK, INC. CALIBRATION LABORATORY

NVLAP Code: 20/M11

Vibration^{note 5}

Mechanical Tests

<i>Range</i>	<i>Frequency Domain in Hz</i>	<i>Best Uncertainty (±) in %</i> ^{notes 1,4}
--------------	-------------------------------	---

Acceleration

0.9 m/s ² to 11 m/s ²	63 to 630	1.4
---	-----------	-----

Accelerometer Sensitivity

Charge

<i>Range</i>	<i>Frequency Domain in Hz</i>	<i>Best Uncertainty (±) in %</i> ^{notes 1,4}
--------------	-------------------------------	---

0.1 pC/ms ² to 500 pC/ms ²	63 to 200	1.1
--	-----------	-----

Voltage

0.1 mV/ms ² to 500 mV/ms ²	63 to 200	1.3
--	-----------	-----

Frequency Response

Charge

<i>Range</i>	<i>Frequency Domain in Hz</i>	<i>Best Uncertainty (±) in %</i> ^{notes 1,4}
--------------	-------------------------------	---

0.1 pC/ms ² to 500 pC/ms ²	20 to 40	2.1
--	----------	-----

0.1 pC/ms ² to 500 pC/ms ²	> 40 to 630	1.6
--	-------------	-----

0.1 pC/ms ² to 500 pC/ms ²	> 630 to 3 k	2.1
--	--------------	-----

0.1 pC/ms ² to 500 pC/ms ²	> 3 k to 5 k	2.7
--	--------------	-----

March 31, 2005

Effective through

For the National Institute of Standards and Technology

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation



Revised 4/23/2004

Page 7 of 8

CALIBRATION LABORATORIES

NVLAP LAB CODE 200625-0

SCANTEK, INC. CALIBRATION LABORATORY

Voltage

0.1 mV/ms ⁻² to 500 mV/ms ⁻²	20 to 40	2.1
0.1 mV/ms ⁻² to 500 mV/ms ⁻²	> 40 to 630	1.6
0.1 mV/ms ⁻² to 500 mV/ms ⁻²	> 630 to 3 k	2.1
0.1 mV/ms ⁻² to 500 mV/ms ⁻²	> 3 k to 5 k	2.7

Vibration Meters

Electrical Sine Signal Tests

<i>Range</i>	<i>Frequency Domain in Hz</i>	<i>Best Uncertainty (±)^{notes 1,4}</i>	
		<i>%</i>	<i>dB</i>
0.01 mV to 20 V	3 to 20 k	1.34	0.12

Overall Accuracy Acceleration

<i>Range</i>	<i>Frequency Domain in Hz</i>	<i>Best Uncertainty (±)^{notes 1,4}</i>	
		<i>%</i>	<i>dB</i>
0.9 m/s ² to 11 m/s ²	63 to 630	1.4	0.12

March 31, 2005

Effective through

For the National Institute of Standards and Technology

National Institute
of Standards and Technology



National Voluntary
Laboratory Accreditation Program

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation



Revised 4/23/2004

Page 8 of 8

CALIBRATION LABORATORIES

NVLAP LAB CODE 200625-0

SCANTEK, INC. CALIBRATION LABORATORY

1. Represents an expanded uncertainty using a coverage factor, $k=2$.
2. At reference conditions.
3. At actual conditions.
4. Does not include a component of uncertainty attributed to the device under test. This will be included and report on all calibration certificates.
5. Traceability for acceleration measurements has been established to the International System of Units (SI) through standards maintained by the National Research Council of Canada. This will be noted on all reports/certificates of calibration.

March 31, 2005

Effective through

A handwritten signature in black ink, appearing to read 'W. R. Mill'.

For the National Institute of Standards and Technology