FICHA DE INFORMACIÓN DE MEDICIÓN DE RUIDO

IDENTIFICACIÓN DE LA FUENTE EMISORA DE RUIDO

Nombre o razón social	Junta de alcaldes de La Reina, Providencia y Las Condes		
RUT	70.064.202-k		
Dirección	Av. Apoquindo 3400		
Comuna	Las Condes		
Nombre de Zona de emplazamiento (según IPT vigente)	M1		
Datum	WGS 84	Huso	19 S
Coordenada Norte	6299396.10 m	Coordenada Este	356427.87 m

CARACTERIZACIÓN DE LA FUENTE EMISORA DE RUIDO

Actividad Productiva	☐ Industrial	☐ Agrícola	☐ Extracción	☐ Otro
Actividad Comercial	☐ Restaurant	☐ Taller Mecánico	☐ Local Comercial	☐ Otro
Actividad Esparcimiento	☐ Discoteca	☐ Recinto Deportivo	☐ Cultura	☑ Otro
Actividad de Servicio	☐ Religioso	☐ Salud	☐ Comunitario	☐ Otro
Infraestructura Transporte	☐ Terminal	☐ Taller de Transporte	☐ Estación Intermedia	☐ Otro
Infraestructura Sanitaria	☐ Planta de Tratamiento	☐ Relleno Sanitario	☐ Instalación de Distribución	☐ Otro
Infraestructura Energética	☐ Generadora	☐ Distribución Eléctrica	☐ Comunicaciones	☐ Otro
Faena Constructiva	☐ Construcción	☐ Demolición	☐ Reparación	☐ Otro
Otro (Especificar)				

INSTRUMENTAL DE MEDICIÓN

Identificación sonómetro					
Marca	Larson Davis	Modelo	LxT1	N° serie	7263
Fecha de emisión Certificado de Calibración			4 de enero de 2023		
Número de Certificado de Calibración			2023000083		
Identificación calibrador					
Marca	Larson Davis	Modelo	CAL200	N° serie	20915
Fecha de emisión Certificado de Calibración			14 de diciembre de 2022		
Número de Certificado de Calibración			2022015829		
Ponderación en frecuencia	A			Ponderación temporal	Lenta
Verificación de Calibración en Terreno	☑ Si			☐ No	
Se deberá adjuntar Certificado de Calibración Periódica Vigente para ambos instrumentos.					

FICHA DE GEORREFERENCIACIÓN DE MEDICIÓN DE RUIDO

☐ Croquis	☑ Imagen Satelital

Origen de la imagen Satelital	Google Earth
Escala de la imagen Satelital	

LEYENDA DE CROQUIS O IMAGEN UTILIZADA

Datum				Huso			
Fuentes				**Receptores**			
Símbolo	**Nombre**	**Coordenadas**		**Símbolo**	**Nombre**	**Coordenadas**	
F	Festival de las Condes	**N**	6299889.00 m	R	Punto de Medición	**N**	6299396.00 m
		E	356420.00 m			**E**	356427.00 m
		N				**N**	
		E				**E**	
		N				**N**	
		E				**E**	
		N				**N**	
		E				**E**	

Se podrán adjuntar fotografías, considerando como máximo una (1) por fuente y dos (2) por lugar de medición.

FICHA DE INFORMACIÓN DE MEDICIÓN DE RUIDO

IDENTIFICACIÓN DEL RECEPTOR

Receptor N°	1				
Calle	Alvarez sotomayor				
Número	2062				
Comuna	La Reina				
Datum	WGS 84		Huso	19 S	
Coordenada Norte	6299396		Coordenada Este	356427	
Nombre de Zona de emplazamiento (según IPT vigente)	Zona D				
N° de Certificado de Informaciones Previas*	N/A				
Zonificación DS N° 38/11 MMA	☐ I	☑ II	☐ III	☐ IV	☐ Rural
** Adjuntar Certificado de Informaciones Previas (Si corresponde, según consideraciones de Art. 8°, D.S. N° 38/11 MMA)*					

CONDICIONES DE MEDICIÓN

Fecha medición	26-01-2024				
Hora inicio medición	23:09				
Hora término medición	23:50				
Periodo de medición	☐ 7:00 a 21:00 h		☑ 21:00 a 7:00 h		
Lugar de medición	☐ Medición Interna		☑ Medición Externa		
Descripción del lugar de medición	Patio trasero del domicilio con orientación hacia la Fuente de Ruido.				
Condiciones de ventana (en caso de medición interna)	☐ Ventana Abierta		☐ Ventana Cerrada		
Identificación ruido de fondo	Ruido de fondo imperceptible				
Temperatura [°C]	22	Humedad [%]	50,7	Velocidad de viento [m/s]	1,4

Nombre y firma profesional de terreno o Inspector Ambiental (IA)	Omar Alvear	
Institución, Empresa o Entidad Técnica de Fiscalización Ambiental (ETFA)	SMA	

Nota:
- *Se deberá imprimir y completar esta página para cada receptor evaluado.*
- *Se podrán incluir fotografías del punto donde se ubique el sonómetro para la realización de la medición.*
- *Los datos de Temperatura, Humedad Relativa y Velocidad de viento, corresponderá para mediciones realizadas en el exterior.*

FICHA DE MEDICIÓN DE NIVELES DE RUIDO

REGISTRO DE MEDICIÓN DE RUIDO DE FUENTE EMISORA

Identificación Receptor N°	1
☐ Medición Interna (tres puntos)	☑ Medición externa (un punto)

	NPSeq	NPSmin	NPSmáx
Punto 1	50,4	47,3	53,8
	49,3	44,6	54,6
	49,4	46,4	52,7

	NPSeq	NPSmin	NPSmáx
Punto 2			

	NPSeq	NPSmin	NPSmáx
Punto 3			

REGISTRO DE RUIDO DE FONDO

Ruido de fondo afecta la medición	☐ Si	☑ No	
Fecha:		Hora:	

	5'	10'	15'	20'	25'	30'
NPSeq						

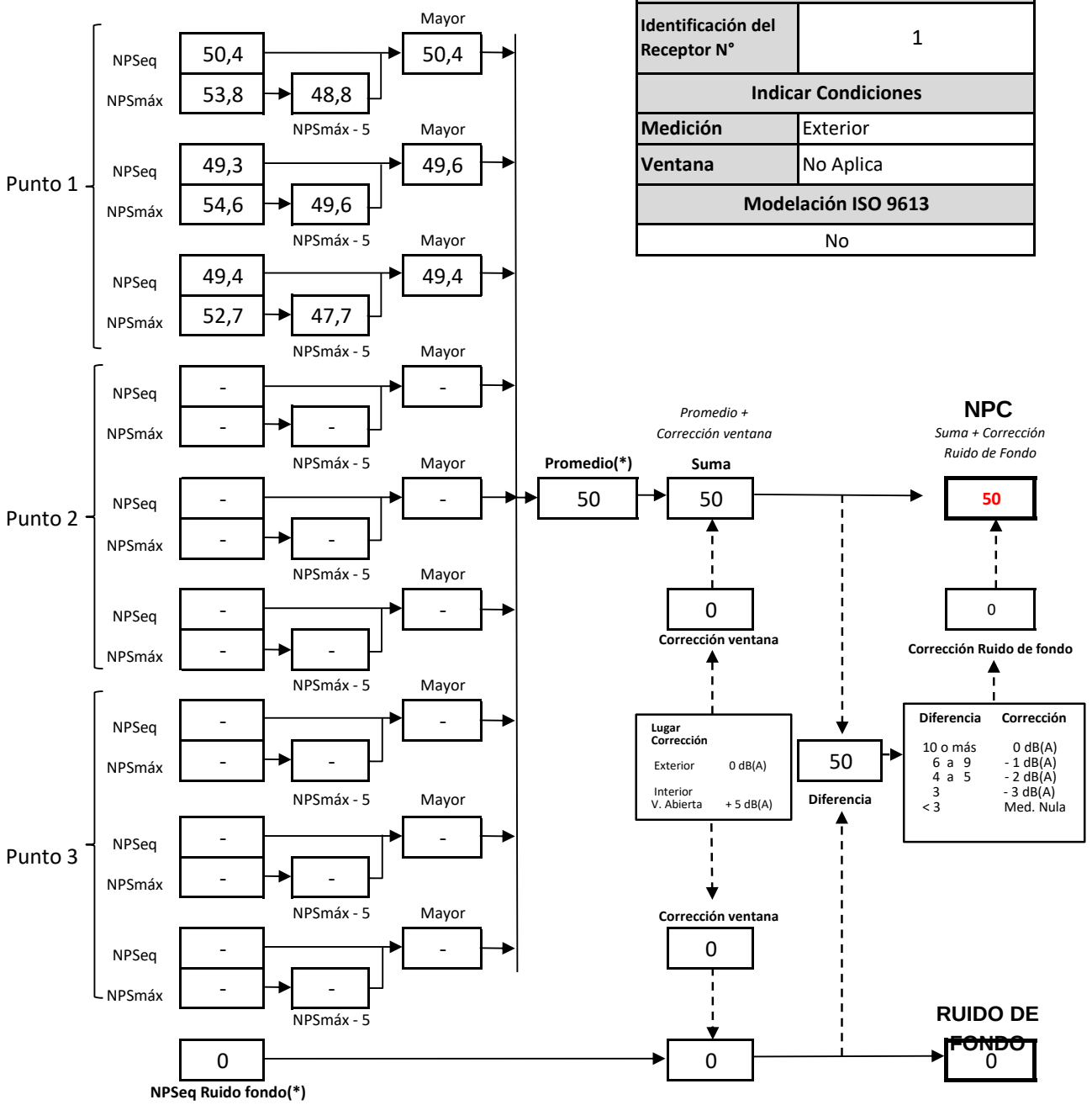
Observaciones:
Durante la medición fue perceptible el campo sonoro de la Fuente que correspondío a: Música en vivo, cantos y gritos de personas provenientes del Festival de las Condes. Ruido de fondo imperceptible al momento de la medición.

REPORTE TÉCNICO DECRETO SUPREMO N°38/11 DEL MINISTERIO DEL MEDIO AMBIENTE

Establece Norma de Emisión de Ruidos Generados por Fuentes que Indica

FICHA DE EVALUACIÓN DE NIVELES DE RUIDO

Información del Receptor	
Identificación del Receptor N°	1
Indicar Condiciones	
Medición	Exterior
Ventana	No Aplica
Modelación ISO 9613	
No	



(*) Aproximar a números enteros

FICHA DE EVALUACIÓN DE NIVELES DE RUIDO

TABLA DE EVALUACIÓN

Receptor N°	NPC [dBA]	Ruido de Fondo [dBA]	Zona DS N°38	Periodo (Diurno/Nocturno)	Límite [dBA]	Estado (Supera/No Supera)
1	50	0	II	Nocturno	45	Supera
			Seleccione	Seleccione	-	-
			Seleccione	Seleccione	-	-
			Seleccione	Seleccione	-	-
			Seleccione	Seleccione	-	-
			Seleccione	Seleccione	-	-
			Seleccione	Seleccione	-	-
			Seleccione	Seleccione	-	-
			Seleccione	Seleccione	-	-
			Seleccione	Seleccione	-	-

OBSERVACIONES

Al momento de la medición el ruido de fondo fue imperceptible, sólo se escucho la fuente correspondiente a música en vivo, cantos y gritos de personas provenientes del Festival de las Condes.

ANEXOS

N°	Descripción
1	Certificado de Calibración Sonometro
2	Certificado de Calibración Calibrador

RESPONSABLE DEL REPORTE (Llenar sólo ETFA)

Fecha del reporte	
Nombre Representante Legal	
Firma Representante Legal	

Calibration Certificate

Certificate Number 2023000083

Customer:

Sistemas De Instrumentacion
Concha Y Toro # 65
Santiago Centro
Santiago, , Chile

Model Number	LxT1		***Procedure Number***	D0001.8384	
Serial Number	0007263		***Technician***	Jacob Cannon	
Test Results	**Pass**		***Calibration Date***	4 Jan 2023	
Initial Condition	As Manufactured		***Calibration Due***	4 Jan 2025	
			Temperature	23.62 °C	± 0.25 °C
Description	SoundTrack LxT Class 1 Class 1 Sound Level Meter Firmware Revision: 2.404		***Humidity***	49.2 %RH	± 2.0 %RH
			Static Pressure	86.67 kPa	± 0.13 kPa

Evaluation Method ***Tested with:*** ***Data reported in dB re 20 µPa.***

Larson Davis CAL291. S/N 0108
Larson Davis CAL200. S/N 9079
Larson Davis PRMLxT1. S/N 077607
PCB 377B02. S/N 337299

Compliance Standards Compliant to Manufacturer Specifications and the following standards when combined with Calibration Certificate from procedure D0001.8378:

IEC 60651:2001 Type 1	ANSI S1.4-2014 Class 1
IEC 60804:2000 Type 1	ANSI S1.4 (R2006) Type 1
IEC 61252:2002	ANSI S1.11 (R2009) Class 1
IEC 61260:2001 Class 1	ANSI S1.25 (R2007)
IEC 61672:2013 Class 1	ANSI S1.43 (R2007) Type 1

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017.
Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, I770.01 Rev O Supporting Firmware Version 4.0.5, 2019-09-10

For 1/4" microphones, the Larson Davis ADP024 1/4" to 1/2" adaptor is used with the calibrators and the Larson Davis ADP043 1/4" to

1/2" adaptor is used with the preamplifier.

Calibration Check Frequency: 1000 Hz; Reference Sound Pressure Level: 114 dB re 20 µPa

Periodic tests were performed in accordance with procedures from IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part3.

Pattern approval for IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1 successfully completed by Physikalisch-Technische Bundesanstalt (PTB) on 2007-10-09 reference number PTB-1.72-4034218.

The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part 3, for the environmental conditions under which the tests were performed. As evidence was publicly available, from an independent testing organization responsible for approving the results of pattern-evaluation tests performed in accordance with IEC 61672-2:2013 / ANSI/ASA S1.4-2014/Part 2, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1; the sound level meter submitted for testing conforms to the class 1specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1.

Standards Used

Description	Cal Date	Cal Due	Cal Standard
Larson Davis CAL291 Residual Intensity Calibrator	2022-09-09	2023-09-09	001250
Hart Scientific 2626-H Temperature Probe	2021-08-25	2023-02-25	006798
Larson Davis CAL200 Acoustic Calibrator	2022-07-21	2023-07-21	007027
Larson Davis Model 831	2022-02-21	2023-02-21	007182
PCB 377A13 1/2 inch Prepolarized Pressure Microphone	2022-03-02	2023-03-02	007185
SRS DS360 Ultra Low Distortion Generator	2022-03-29	2023-03-29	007635
Larson Davis 1/2" Preamplifier for Model 831 Type 1	2022-09-28	2023-09-28	PCB0004783

Acoustic Calibration

Measured according to IEC 61672-3:2013 10 and ANSI S1.4-2014 Part 3: 10

Measurement	Test Result [dB]	Lower Limit [dB]	Upper Limit [dB]	Expanded Uncertainty [dB]	Result
1000 Hz	114.01	113.80	114.20	0.14	Pass

Loaded Circuit Sensitivity

Measurement	Test Result [dB re 1 V / Pa]	Lower Limit [dB re 1 V / Pa]	Upper Limit [dB re 1 V / Pa]	Expanded Uncertainty [dB]	Result
1000 Hz	-50.19	-52.44	-48.33	0.14	Pass

-- End of measurement results--

Acoustic Signal Tests, C-weighting

Measured according to IEC 61672-3:2013 12 and ANSI S1.4-2014 Part 3: 12 using a comparison coupler with Unit Under Test (UUT) and reference SLM using slow time-weighted sound level for compliance to IEC 61672-1:2013 5.5; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Expected [dB]	Lower Limit [dB]	Upper Limit [dB]	Expanded Uncertainty [dB]	Result
125	-0.22	-0.20	-1.20	0.80	0.23	Pass
1000	0.13	0.00	-0.70	0.70	0.23	Pass
8000	-2.67	-3.00	-5.50	-1.50	0.32	Pass

-- End of measurement results--

Self-generated Noise

Measured according to IEC 61672-3:2013 11.1 and ANSI S1.4-2014 Part 3: 11.1

Measurement	Test Result [dB]
A-weighted	40.57

-- End of measurement results--

-- End of Report--

Signatory: Jacob Cannon

LARSON DAVIS – A PCB DIVISION
1681 West 820 North
Provo, UT 84601, United States
716-684-0001

Calibration Certificate

Certificate Number 2022015829

Customer:
Sistemas De Instrumentacion
Concha Y Toro # 65
Santiago Centro
Santiago,Chile

Model Number	CAL200	***Procedure Number***	D0001.8386		
Serial Number	20915	***Technician***	Scott Montgomery		
Test Results	**Pass**	***Calibration Date***	14 Dec 2022		
Initial Condition	As Manufactured	***Calibration Due***	14 Dec 2024		
		Temperature	23	°C	± 0.3 °C
Description	Larson Davis CAL200 Acoustic Calibrator	***Humidity***	34	%RH	± 3 %RH
		Static Pressure	101.1	kPa	± 1 kPa

Evaluation Method The data is aquired by the insert voltage calibration method using the reference microphone's open circuit sensitivity. Data reported in dB re 20 µPa.

Compliance Standards Compliant to Manufacturer Specifications per D0001.8190 and the following standards:
IEC 60942:2017 ANSI S1.40-2006

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017.
Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

Standards Used

Description	Cal Date	Cal Due	Cal Standard
Agilent 34401A DMM	07/07/2022	07/07/2023	001021
Larson Davis Model 2900 Real Time Analyzer	03/31/2022	03/31/2023	001051
Microphone Calibration System	02/23/2022	02/23/2023	005446
1/2" Preamplifier	08/23/2022	08/23/2023	006506
Larson Davis 1/2" Preamplifier 7-pin LEMO	08/08/2022	08/08/2023	006507
1/2 inch Microphone - RI - 200V	03/24/2022	03/24/2023	006511
Hart Scientific 2626-S Humidity/Temperature Sensor	07/29/2021	01/29/2023	006946
Pressure Sensor	03/15/2022	12/14/2022	PCB0087008

Output Level

Nominal Level [dB]	Pressure [kPa]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
114	101.1	114.00	113.80	114.20	0.14	Pass
94	101.1	94.02	93.80	94.20	0.14	Pass

-- End of measurement results--

Frequency

Nominal Level [dB]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
114	101.1	1,000.02	993.00	1,007.00	0.20	Pass
94	101.1	1,000.01	993.00	1,007.00	0.20	Pass

-- End of measurement results--

Total Harmonic Distortion + Noise (THD+N)

Nominal Level [dB]	Pressure [kPa]	Test Result [%]	Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
114	101.1	0.31	0.00	2.00	0.25 ‡	Pass
94	101.1	0.35	0.00	2.00	0.25 ‡	Pass

-- End of measurement results--

Level Change Over Pressure

Tested at: 114 dB, 24 °C, 27 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
108.0	107.6	-0.04	-0.25	0.25	0.04 ‡	Pass
101.3	100.9	0.00	-0.25	0.25	0.04 ‡	Pass
92.0	92.0	0.03	-0.25	0.25	0.04 ‡	Pass
83.0	83.0	0.04	-0.25	0.25	0.04 ‡	Pass
74.0	74.0	-0.01	-0.25	0.25	0.04 ‡	Pass
65.0	65.0	-0.15	-0.25	0.25	0.04 ‡	Pass

-- End of measurement results--

Frequency Change Over Pressure

Tested at: 114 dB, 24 °C, 27 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
108.0	107.6	0.00	-7.00	7.00	0.20 ‡	Pass
101.3	100.9	0.00	-7.00	7.00	0.20 ‡	Pass
92.0	92.0	0.00	-7.00	7.00	0.20 ‡	Pass
83.0	83.0	0.00	-7.00	7.00	0.20 ‡	Pass
74.0	74.0	-0.01	-7.00	7.00	0.20 ‡	Pass
65.0	65.0	-0.02	-7.00	7.00	0.20 ‡	Pass

-- End of measurement results--

Calibration Certificate

Certificate Number 2023000076

Customer:

Sistemas De Instrumentacion
Concha Y Toro # 65
Santiago Centro
Santiago, , Chile

Model Number	LxT1		***Procedure Number***	D0001.8378	
Serial Number	0007263		***Technician***	Jacob Cannon	
Test Results	**Pass**		***Calibration Date***	4 Jan 2023	
Initial Condition	As Manufactured		***Calibration Due***	4 Jan 2025	
			Temperature	23.56 °C	± 0.25 °C
Description	SoundTrack LxT Class 1 Class 1 Sound Level Meter Firmware Revision: 2.404		***Humidity***	49.4 %RH	± 2.0 %RH
			Static Pressure	86.52 kPa	± 0.13 kPa

Evaluation Method Tested electrically using Larson Davis PRMLxT1 S/N 077607 and a 12.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 µPa assuming a microphone sensitivity of 50.0 mV/Pa.

Compliance Standards Compliant to Manufacturer Specifications and the following standards when combined with Calibration Certificate from procedure D0001.8384:

IEC 60651:2001 Type 1	ANSI S1.4-2014 Class 1
IEC 60804:2000 Type 1	ANSI S1.4 (R2006) Type 1
IEC 61252:2002	ANSI S1.25 (R2007)
IEC 61672:2013 Class 1	ANSI S1.43 (R2007) Type 1

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017. **Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.**

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, I770.01 Rev O Supporting Firmware Version 4.0.5, 2019-09-10

Calibration Check Frequency: 1000 Hz; Reference Sound Pressure Level: 114 dB re 20 µPa

Periodic tests were performed in accordance with procedures from IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part3.

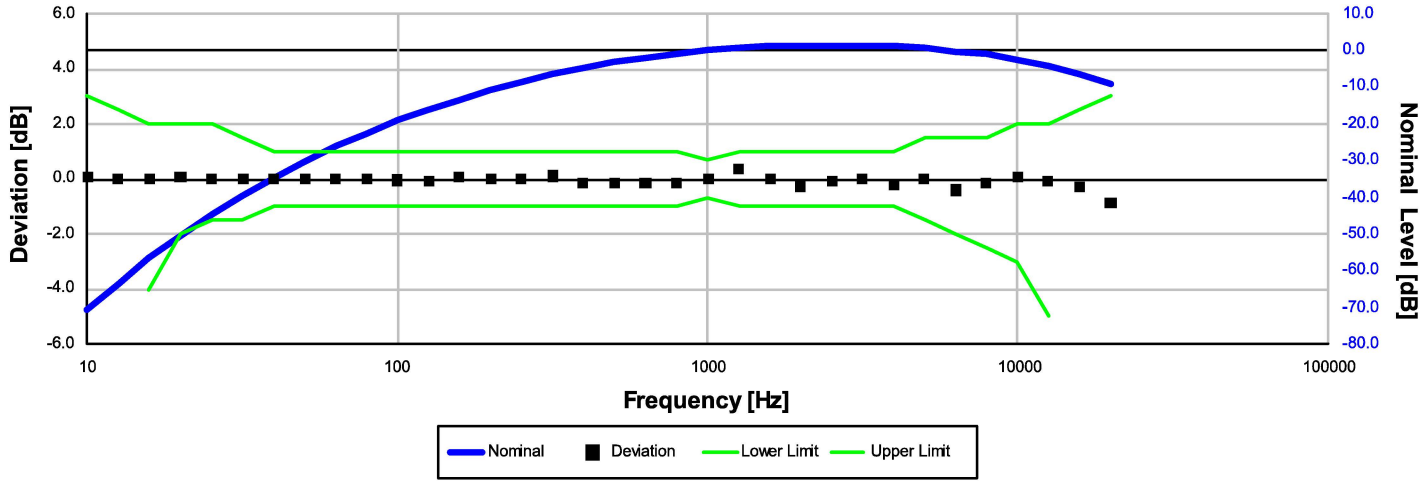
Pattern approval for IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1 successfully completed by Physikalisch-Technische Bundesanstalt (PTB) on 2007-10-09 reference number PTB-1.72-4034218.

The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part 3, for the environmental conditions under which the tests were performed. As evidence was publicly available, from an independent testing organization responsible for approving the results of pattern-evaluation tests performed in accordance with IEC 61672-2:2013 / ANSI/ASA S1.4-2014/Part 2, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1; the sound level meter submitted for testing conforms to the class 1specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1.

Standards Used

Description	Cal Date	Cal Due	Cal Standard
Hart Scientific 2626-H Temperature Probe	2021-08-25	2023-02-25	006798
SRS DS360 Ultra Low Distortion Generator	2022-03-29	2023-03-29	007635

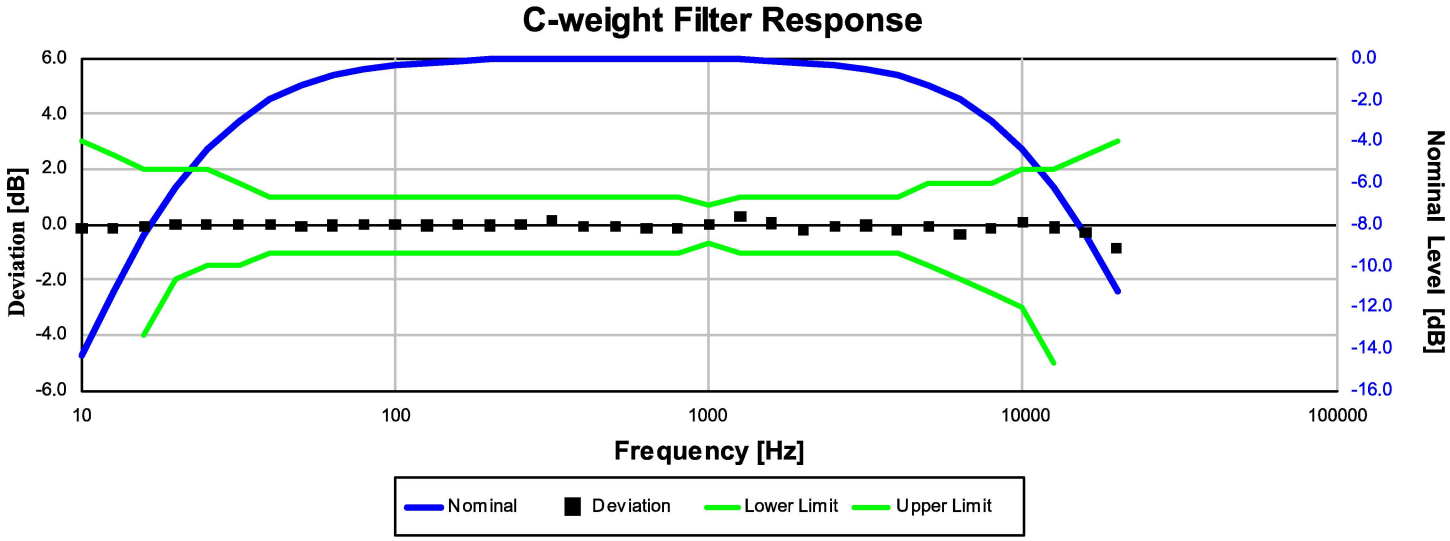
A-weight Filter Response



Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSI S1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSI S1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
10.00	-70.33	0.07	-inf	3.00	0.25	Pass
12.59	-63.38	0.02	-inf	2.50	0.25	Pass
15.85	-56.71	-0.01	-4.00	2.00	0.25	Pass
19.95	-50.41	0.09	-2.00	2.00	0.25	Pass
25.12	-44.69	0.01	-1.50	2.00	0.25	Pass
31.62	-39.41	-0.01	-1.50	1.50	0.25	Pass
39.81	-34.62	-0.02	-1.00	1.00	0.25	Pass
50.12	-30.21	-0.01	-1.00	1.00	0.25	Pass
63.10	-26.20	0.00	-1.00	1.00	0.25	Pass
79.43	-22.47	0.03	-1.00	1.00	0.25	Pass
100.00	-19.13	-0.03	-1.00	1.00	0.25	Pass
125.89	-16.16	-0.06	-1.00	1.00	0.25	Pass
158.49	-13.33	0.07	-1.00	1.00	0.25	Pass
199.53	-10.87	0.03	-1.00	1.00	0.25	Pass
251.19	-8.62	-0.02	-1.00	1.00	0.25	Pass
316.23	-6.48	0.12	-1.00	1.00	0.25	Pass
398.11	-4.91	-0.11	-1.00	1.00	0.25	Pass
501.19	-3.34	-0.14	-1.00	1.00	0.25	Pass
630.96	-2.06	-0.16	-1.00	1.00	0.25	Pass
794.33	-0.95	-0.15	-1.00	1.00	0.25	Pass
1,000.00	0.00	0.00	-0.70	0.70	0.25	Pass
1,258.93	0.94	0.34	-1.00	1.00	0.25	Pass
1,584.89	1.01	0.01	-1.00	1.00	0.25	Pass
1,995.26	0.96	-0.24	-1.00	1.00	0.25	Pass
2,511.89	1.22	-0.08	-1.00	1.00	0.25	Pass
3,162.28	1.18	-0.02	-1.00	1.00	0.25	Pass
3,981.07	0.80	-0.21	-1.00	1.00	0.25	Pass
5,011.87	0.50	0.00	-1.50	1.50	0.25	Pass
6,309.57	-0.49	-0.39	-2.00	1.50	0.25	Pass
7,943.28	-1.21	-0.11	-2.50	1.50	0.25	Pass
10,000.00	-2.42	0.08	-3.00	2.00	0.25	Pass
12,589.25	-4.37	-0.07	-5.00	2.00	0.25	Pass
15,848.93	-6.86	-0.26	-16.00	2.50	0.25	Pass
19,952.62	-10.15	-0.85	-inf	3.00	0.25	Pass

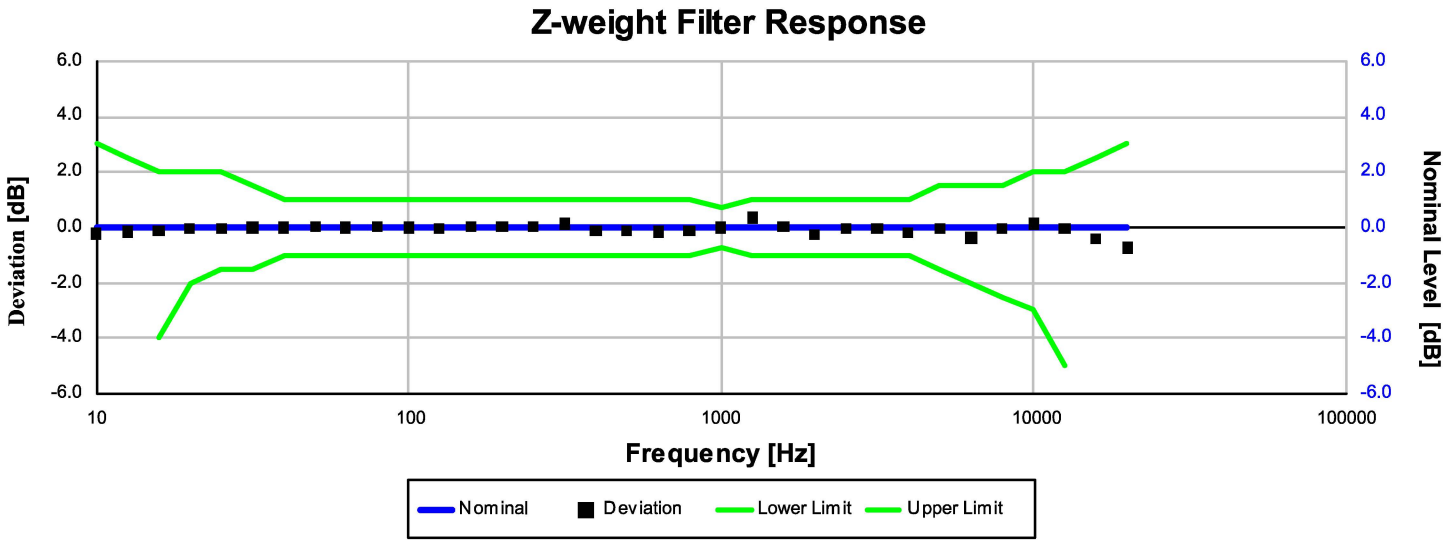
-- End of measurement results--



Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSI S1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSI S1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
10.00	-14.44	-0.14	-inf	3.00	0.25	Pass
12.59	-11.31	-0.11	-inf	2.50	0.25	Pass
15.85	-8.56	-0.06	-4.00	2.00	0.25	Pass
19.95	-6.20	0.00	-2.00	2.00	0.25	Pass
25.12	-4.39	0.01	-1.50	2.00	0.25	Pass
31.62	-2.97	0.03	-1.50	1.50	0.25	Pass
39.81	-1.99	0.01	-1.00	1.00	0.25	Pass
50.12	-1.34	-0.04	-1.00	1.00	0.25	Pass
63.10	-0.82	-0.02	-1.00	1.00	0.25	Pass
79.43	-0.47	0.03	-1.00	1.00	0.25	Pass
100.00	-0.28	0.02	-1.00	1.00	0.25	Pass
125.89	-0.23	-0.03	-1.00	1.00	0.25	Pass
158.49	-0.06	0.04	-1.00	1.00	0.25	Pass
199.53	-0.02	-0.02	-1.00	1.00	0.25	Pass
251.19	0.01	0.01	-1.00	1.00	0.25	Pass
316.23	0.15	0.15	-1.00	1.00	0.25	Pass
398.11	-0.08	-0.08	-1.00	1.00	0.25	Pass
501.19	-0.08	-0.08	-1.00	1.00	0.25	Pass
630.96	-0.13	-0.13	-1.00	1.00	0.25	Pass
794.33	-0.11	-0.11	-1.00	1.00	0.25	Pass
1,000.00	0.00	0.00	-0.70	0.70	0.25	Pass
1,258.93	0.32	0.32	-1.00	1.00	0.25	Pass
1,584.89	-0.05	0.05	-1.00	1.00	0.25	Pass
1,995.26	-0.41	-0.21	-1.00	1.00	0.25	Pass
2,511.89	-0.35	-0.05	-1.00	1.00	0.25	Pass
3,162.28	-0.52	-0.02	-1.00	1.00	0.25	Pass
3,981.07	-0.99	-0.19	-1.00	1.00	0.25	Pass
5,011.87	-1.34	-0.04	-1.50	1.50	0.25	Pass
6,309.57	-2.37	-0.37	-2.00	1.50	0.25	Pass
7,943.28	-3.11	-0.11	-2.50	1.50	0.25	Pass
10,000.00	-4.33	0.07	-3.00	2.00	0.25	Pass
12,589.25	-6.29	-0.09	-5.00	2.00	0.25	Pass
15,848.93	-8.79	-0.29	-16.00	2.50	0.25	Pass
19,952.62	-12.08	-0.88	-inf	3.00	0.25	Pass

-- End of measurement results--



Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSI S1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSI S1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
10.00	-0.23	-0.23	-inf	3.00	0.25	Pass
12.59	-0.15	-0.15	-inf	2.50	0.25	Pass
15.85	-0.10	-0.10	-4.00	2.00	0.25	Pass
19.95	-0.03	-0.03	-2.00	2.00	0.25	Pass
25.12	-0.04	-0.04	-1.50	2.00	0.25	Pass
31.62	-0.01	0.00	-1.50	1.50	0.25	Pass
39.81	-0.01	-0.01	-1.00	1.00	0.25	Pass
50.12	0.05	0.05	-1.00	1.00	0.25	Pass
63.10	-0.01	-0.01	-1.00	1.00	0.25	Pass
79.43	0.03	0.03	-1.00	1.00	0.25	Pass
100.00	0.00	0.00	-1.00	1.00	0.25	Pass
125.89	-0.06	-0.06	-1.00	1.00	0.25	Pass
158.49	0.03	0.03	-1.00	1.00	0.25	Pass
199.53	0.01	0.01	-1.00	1.00	0.25	Pass
251.19	0.03	0.03	-1.00	1.00	0.25	Pass
316.23	0.13	0.13	-1.00	1.00	0.25	Pass
398.11	-0.10	-0.10	-1.00	1.00	0.25	Pass
501.19	-0.11	-0.11	-1.00	1.00	0.25	Pass
630.96	-0.16	-0.15	-1.00	1.00	0.25	Pass
794.33	-0.12	-0.12	-1.00	1.00	0.25	Pass
1,000.00	0.00	0.00	-0.70	0.70	0.25	Pass
1,258.93	0.36	0.36	-1.00	1.00	0.25	Pass
1,584.89	0.03	0.03	-1.00	1.00	0.25	Pass
1,995.26	-0.24	-0.24	-1.00	1.00	0.25	Pass
2,511.89	-0.05	-0.05	-1.00	1.00	0.25	Pass
3,162.28	-0.03	-0.03	-1.00	1.00	0.25	Pass
3,981.07	-0.19	-0.19	-1.00	1.00	0.25	Pass
5,011.87	-0.05	-0.05	-1.50	1.50	0.25	Pass
6,309.57	-0.37	-0.37	-2.00	1.50	0.25	Pass
7,943.28	-0.06	-0.06	-2.50	1.50	0.25	Pass
10,000.00	0.14	0.14	-3.00	2.00	0.25	Pass
12,589.25	-0.04	-0.04	-5.00	2.00	0.25	Pass
15,848.93	-0.39	-0.39	-16.00	2.50	0.25	Pass
19,952.62	-0.74	-0.73	-inf	3.00	0.25	Pass

-- End of measurement results--

High Level Stability

Electrical signal test of high level stability performed according to IEC 61672-3:2013 21 and ANSI S1.4-2014 Part 3: 21 for compliance to IEC 61672-1:2013 5.15 and ANSI S1.4-2014 Part 1: 5.15

Measurement	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
High Level Stability	0.01	-0.10	0.10	0.00 ‡	Pass

-- End of measurement results--

Long-Term Stability

Electrical signal test of long term stability performed according to IEC 61672-3:2013 15 and ANSI S1.4-2014 Part 3: 15 for compliance to ISC 61672-1:2013 5.14 and ANSI S1.4-2014 Part 1: 5.14

Test Duration [min]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
32	0.00	-0.10	0.10	0.01 ‡	Pass

-- End of measurement results--

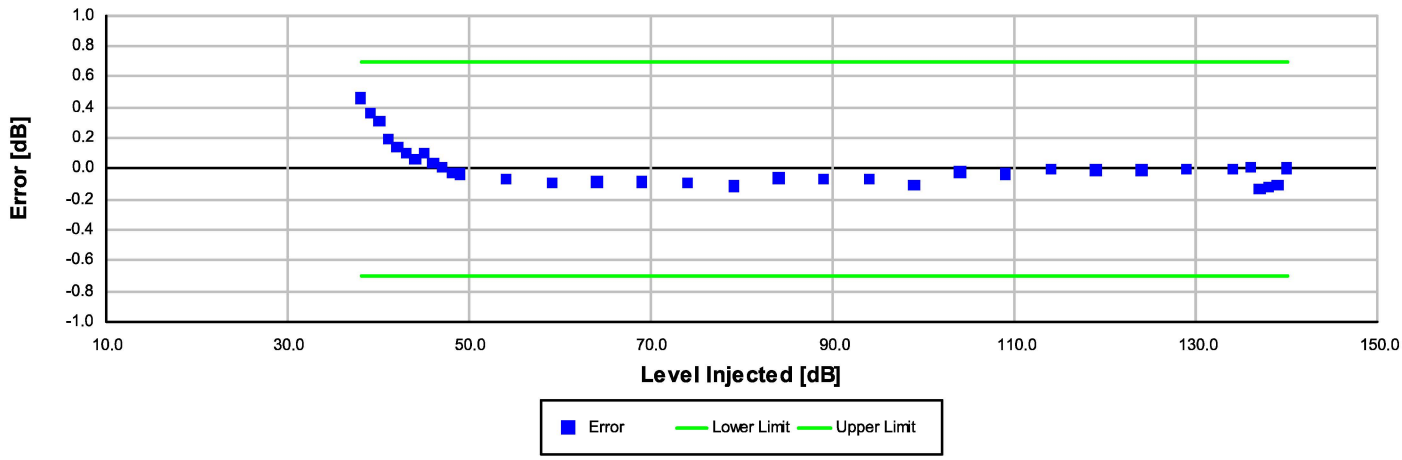
1 kHz Reference Levels

Frequency weightings and time weightings at 1 kHz (reference is A weighted Fast) performed according to IEC 61672-3:2013 14 and ANSI S1.4-2014 Part 3: 14 for compliance to IEC 61672-1:2013 5.5.9 and 5.8.3 and ANSI S1.4-2014 Part 1: 5.5.9 and 5.8.3

Measurement	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
C weight	115.19	114.99	115.39	0.15	Pass
Z weight	115.18	114.99	115.39	0.15	Pass
Slow	115.19	115.09	115.29	0.15	Pass
Impulse	115.19	115.09	115.29	0.15	Pass

-- End of measurement results--

A-weighted Broadband Log Linearity: 8,000.00 Hz



Broadband level linearity performed according to IEC 61672-3:2013 16 and ANSI S1.4-2014 Part 3: 16 for compliance to IEC 61672-1:2013 5.6, IEC 60804:2000 6.2, IEC 61252:2002 8, ANSI S1.4 (R2006) 6.9, ANSI S1.4-2014 Part 1: 5.6, ANSI S1.43 (R2007) 6.2

Level [dB]	Error [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
38.00	0.46	-0.70	0.70	0.16	Pass
39.00	0.37	-0.70	0.70	0.16	Pass
40.00	0.31	-0.70	0.70	0.16	Pass
41.00	0.19	-0.70	0.70	0.16	Pass
42.00	0.14	-0.70	0.70	0.16	Pass
43.00	0.10	-0.70	0.70	0.16	Pass
44.00	0.06	-0.70	0.70	0.17	Pass
45.00	0.10	-0.70	0.70	0.16	Pass
46.00	0.04	-0.70	0.70	0.16	Pass
47.00	0.01	-0.70	0.70	0.16	Pass
48.00	-0.03	-0.70	0.70	0.16	Pass
49.00	-0.03	-0.70	0.70	0.16	Pass
54.00	-0.07	-0.70	0.70	0.16	Pass
59.00	-0.09	-0.70	0.70	0.16	Pass
64.00	-0.09	-0.70	0.70	0.16	Pass
69.00	-0.09	-0.70	0.70	0.16	Pass
74.00	-0.09	-0.70	0.70	0.16	Pass
79.00	-0.11	-0.70	0.70	0.16	Pass
84.00	-0.06	-0.70	0.70	0.16	Pass
89.00	-0.06	-0.70	0.70	0.16	Pass
94.00	-0.06	-0.70	0.70	0.16	Pass
99.00	-0.11	-0.70	0.70	0.15	Pass
104.00	-0.02	-0.70	0.70	0.15	Pass
109.00	-0.03	-0.70	0.70	0.15	Pass
114.00	0.00	-0.70	0.70	0.15	Pass
119.00	-0.01	-0.70	0.70	0.15	Pass
124.00	-0.01	-0.70	0.70	0.15	Pass
129.00	0.00	-0.70	0.70	0.15	Pass
134.00	0.00	-0.70	0.70	0.15	Pass
136.00	0.01	-0.70	0.70	0.15	Pass
137.00	-0.13	-0.70	0.70	0.15	Pass
138.00	-0.12	-0.70	0.70	0.15	Pass
139.00	-0.10	-0.70	0.70	0.15	Pass
140.00	0.00	-0.70	0.70	0.15	Pass

-- End of measurement results--

Slow Detector

Toneburst response performed according to IEC 61672-3:2013 18 and ANSI S1.4-2014 Part 3: 18 for compliance to IEC 61672-1:2013 5.9, IEC 60651:2001 9.4.2, ANSI S1.4:1983 (R2006) 8.4.2 and ANSI S1.4-2014 Part 1: 5.9

Amplitude [dB]	Duration [ms]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
137.00	200	-7.53	-7.92	-6.92	0.15	Pass
	2	-27.14	-29.99	-25.99	0.15	Pass

-- End of measurement results--

Fast Detector

Toneburst response performed according to IEC 61672-3:2013 18 and ANSI S1.4-2014 Part 3: 18 for compliance to IEC 61672-1:2013 5.9, IEC 60651:2001 9.4.2, ANSI S1.4:1983 (R2006) 8.4.2 and ANSI S1.4-2014 Part 1: 5.9

Amplitude [dB]	Duration [ms]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
137.00	200.00	-1.05	-1.48	-0.48	0.26	Pass
	2.00	-18.25	-19.49	-16.99	0.15	Pass
	0.25	-27.30	-29.99	-25.99	0.15	Pass

-- End of measurement results--

Sound Exposure Level

Toneburst response performed according to IEC 61672-3:2013 18 and ANSI S1.4-2014 Part 3: 18 for compliance to IEC 61672-1:2013 5.9, IEC 60651:2001 9.4.2, ANSI S1.4:1983 (R2006) 8.4.2 and ANSI S1.4-2014 Part 1: 5.9

Amplitude [dB]	Duration [ms]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
137.00	200.00	-7.01	-7.49	-6.49	0.15	Pass
	2.00	-27.03	-28.49	-25.99	0.15	Pass
	0.25	-36.14	-39.02	-35.02	0.15	Pass

-- End of measurement results--

Peak C-weight

C-weighted peak sound level performed according to IEC 61672-3:2013 19 and ANSI S1.4-2014 Part 3: 19 for compliance to IEC 61672-1:2013 5.13 and ANSI S1.4-2014 Part 1: 5.13

Level [dB]	Frequency [Hz]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
135.00	31.50	138.21	135.50	139.50	0.15	Pass
135.00	500.00	138.56	137.50	139.50	0.15	Pass
135.00	8,000.00	137.76	136.40	140.40	0.15	Pass
135.00, Negative	500.00	137.18	136.40	138.40	0.15	Pass
135.00, Positive	500.00	137.16	136.40	138.40	0.15	Pass

-- End of measurement results--

Peak Z-weight

Z-weighted peak sound level performed according to IEC 60651:2001 9.4.4 and ANSI S1.4:1983 (R2006) 8.4.4

Amplitude [dB]	Duration[µs]		Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
134.85	100	Negative Pulse	135.65	133.31	137.31	0.15	Pass
	100	Positive Pulse	135.63	133.29	137.29	0.15	Pass
124.85	100	Negative Pulse	126.33	123.99	127.99	0.15	Pass
	100	Positive Pulse	126.32	123.98	127.98	0.15	Pass
114.85	100	Negative Pulse	116.34	114.00	118.00	0.15	Pass
	100	Positive Pulse	116.33	113.99	117.99	0.15	Pass
104.85	100	Negative Pulse	106.29	103.96	107.96	0.15	Pass
	100	Positive Pulse	106.29	103.95	107.95	0.15	Pass

-- End of measurement results--

Overload Detector

Overload indication performed according to IEC 61672-3:2013 20 and ANSI S1.4-2014 Part 3: 20 for compliance to IEC 61672-1:2013 5.11, IEC 60804:2000 9.3.5, IEC 61252:2002 11, ANSI S1.4 (R2006) 5.8, and ANSI S1.4-2014 Part 1: 5.11, ANSI S1.25 (R2007) 7.6, ANSI S1.43 (R2007) 7

Measurement	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
Positive	141.30	140.00	143.00	0.15	Pass
Negative	141.40	140.00	143.00	0.15	Pass
Difference	-0.10	-1.50	1.50	0.15	Pass

-- End of measurement results--

Peak Rise Time

Peak rise time performed according to IEC 60651:2001 9.4.4 and ANSI S1.4:1983 (R2006) 8.4.4

Amplitude [dB]	Duration [µs]		Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
137.85	40	Negative Pulse	134.75	133.31	135.31	0.15	Pass
		Positive Pulse	134.73	133.29	135.29	0.15	Pass
	30	Negative Pulse	133.79	133.31	135.31	0.15	Pass
		Positive Pulse	133.78	133.29	135.29	0.15	Pass

-- End of measurement results--

Positive Pulse Crest Factor

200 µs pulse tests at 2.0, 12.0, 22.0, 32.0 dB below Overload Limit

Crest Factor measured according to IEC 60651:2001 9.4.2 and ANSI S1.4:1983 (R2006) 8.4.2

Amplitude [dB]	Crest Factor	Test Result [dB]	Limits [dB]	Expanded Uncertainty [dB]	Result
136.85	3	OVLD	± 0.50	0.15 ‡	Pass
	5	OVLD	± 1.00	0.15 ‡	Pass
	10	OVLD	± 1.50	0.15 ‡	Pass
126.85	3	-0.15	± 0.50	0.15 ‡	Pass
	5	-0.13	± 1.00	0.16 ‡	Pass
	10	OVLD	± 1.50	0.15 ‡	Pass
116.85	3	-0.17	± 0.50	0.15 ‡	Pass
	5	-0.15	± 1.00	0.15 ‡	Pass
	10	-0.19	± 1.50	0.15 ‡	Pass
106.85	3	-0.16	± 0.50	0.15 ‡	Pass
	5	-0.13	± 1.00	0.15 ‡	Pass
	10	-0.11	± 1.50	0.15 ‡	Pass

-- End of measurement results--

Negative Pulse Crest Factor

200 µs pulse tests at 2.0, 12.0, 22.0, 32.0 dB below Overload Limit

Crest Factor measured according to IEC 60651:2001 9.4.2 and ANSI S1.4:1983 (R2006) 8.4.2

Amplitude [dB]	Crest Factor	Test Result [dB]	Limits [dB]	Expanded Uncertainty [dB]	Result
136.85	3	OVLD	± 0.50	0.15 ‡	Pass
	5	OVLD	± 1.00	0.15 ‡	Pass
	10	OVLD	± 1.50	0.15 ‡	Pass
126.85	3	-0.14	± 0.50	0.15 ‡	Pass
	5	-0.14	± 1.00	0.15 ‡	Pass
	10	OVLD	± 1.50	0.15 ‡	Pass
116.85	3	-0.15	± 0.50	0.15 ‡	Pass
	5	-0.14	± 1.00	0.15 ‡	Pass
	10	-0.18	± 1.50	0.15 ‡	Pass
106.85	3	-0.15	± 0.50	0.15 ‡	Pass
	5	-0.11	± 1.00	0.15 ‡	Pass
	10	-0.08	± 1.50	0.15 ‡	Pass

-- End of measurement results--

Tone Burst

2kHz tone burst tests at 2.0, 12.0, 22.0, 32.0 dB below Overload Limit

Tone burst response measured according to IEC 60651:2001 9.4.2 and ANSI S1.4:1983 (R2006) 8.4.2

Amplitude [dB]	Crest Factor	Test Result [dB]	Limits [dB]	Expanded Uncertainty [dB]	Result
136.85	3	OVLD	± 0.50	0.15	Pass
	5	OVLD	± 1.00	0.15	Pass
126.85	3	-0.10	± 0.50	0.15	Pass
	5	-0.03	± 1.00	0.15	Pass
116.85	3	-0.11	± 0.50	0.15	Pass
	5	-0.10	± 1.00	0.15	Pass
106.85	3	-0.12	± 0.50	0.15	Pass
	5	-0.10	± 1.00	0.15	Pass

-- End of measurement results--

Impulse Detector - Repeat

Impulse Detector measured according to IEC 60651:2001 9.4.3 and ANSI S1.4:1983 (R2006) 8.4.3

Amplitude [dB]	Repitition Rate [Hz]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
140	100.00	-2.82	-3.71	-1.71	0.15	Pass
	20.00	-7.23	-9.57	-5.57	0.20	Pass
	2.00	-8.73	-10.76	-6.76	0.15	Pass
Step	2.00	5.14	4.00	6.00	0.15	Pass

-- End of measurement results--

Impulse Detector - Single

Impulse Detector measured according to IEC 60651:2001 9.4.3 and ANSI S1.4:1983 (R2006) 8.4.3

Amplitude [dB]	Duration [ms]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
140	20.00	-3.76	-5.11	-2.11	0.15	Pass
	5.00	-8.97	-10.76	-6.76	0.16	Pass
	2.00	-12.64	-14.55	-10.55	0.16	Pass
Step	2.00	10.03	9.00	11.00	0.16	Pass

-- End of measurement results--

Gain

Gain measured according to IEC 61672-3:2013 17.3 and 17.4 and ANSI S1.4-2014 Part 3: 17.3 and 17.4

Measurement	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
0 dB Gain	93.96	93.91	94.11	0.15	Pass
0 dB Gain, Linearity	41.16	40.31	41.71	0.16	Pass
OBA Low Range	94.01	93.91	94.11	0.15	Pass
OBA Normal Range	94.01	93.20	94.80	0.15	Pass

-- End of measurement results--

Broadband Noise Floor

Self-generated noise measured according to IEC 61672-3:2013 11.2 and ANSI S1.4-2014 Part 3: 11.2

Measurement	Test Result [dB]	Upper limit [dB]	Result
A-weight Noise Floor	27.00	36.00	Pass
C-weight Noise Floor	26.99	35.00	Pass
Z-weight Noise Floor	32.96	39.00	Pass

-- End of measurement results--

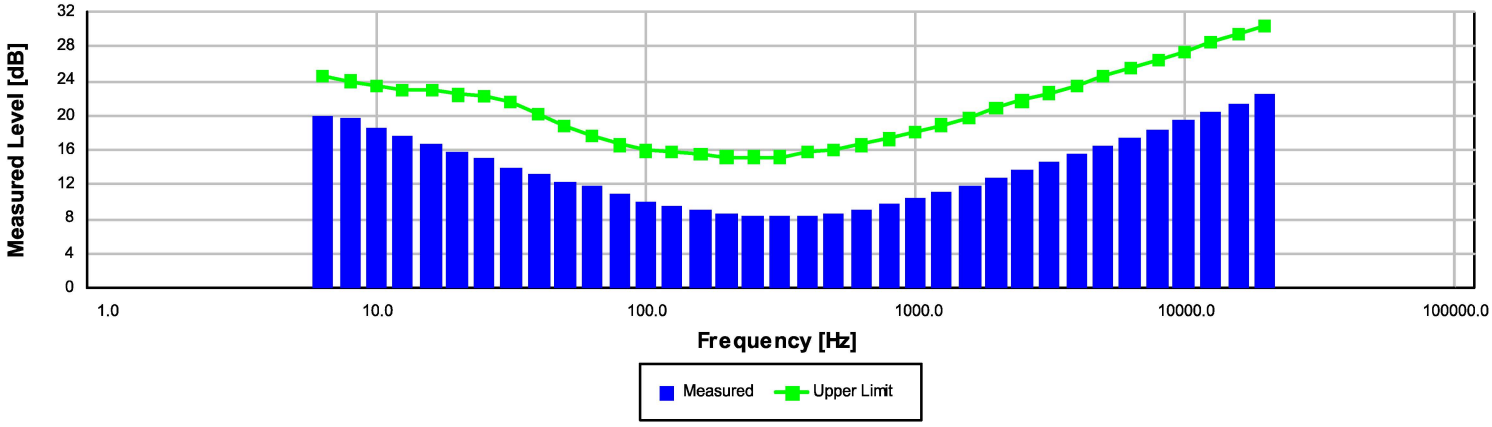
Total Harmonic Distortion

Measured using 1/3-Octave filters

Measurement	Test Result [dB]	Lower Limit [dB]	Upper Limit [dB]	Expanded Uncertainty [dB]	Result
10 Hz Signal	135.35	135.05	136.65	0.15	Pass
THD	-67.15		-58.00	0.00 ‡	Pass
THD+N	-63.00		-58.00	0.00 ‡	Pass

-- End of measurement results--

1/3-Octave Self-Generated Noise



The SLM is set to low range.

Frequency [Hz]	Test Result [dB]	Upper limit [dB]	Result
6.30	19.99	24.60	Pass
8.00	19.61	24.00	Pass
10.00	18.46	23.50	Pass
12.50	17.65	23.00	Pass
16.00	16.78	22.90	Pass
20.00	15.68	22.40	Pass
25.00	15.19	22.30	Pass
31.50	14.00	21.50	Pass
40.00	13.33	20.20	Pass
50.00	12.33	18.80	Pass
63.00	11.78	17.60	Pass
80.00	10.81	16.60	Pass
100.00	10.01	15.90	Pass
125.00	9.51	15.70	Pass
160.00	9.00	15.50	Pass
200.00	8.71	15.20	Pass
250.00	8.41	15.20	Pass
315.00	8.46	15.20	Pass
400.00	8.40	15.70	Pass
500.00	8.71	16.00	Pass
630.00	9.14	16.60	Pass
800.00	9.71	17.30	Pass
1,000.00	10.38	18.10	Pass
1,250.00	11.07	18.90	Pass
1,600.00	11.91	19.80	Pass
2,000.00	12.76	20.80	Pass
2,500.00	13.66	21.70	Pass
3,150.00	14.54	22.60	Pass
4,000.00	15.51	23.50	Pass
5,000.00	16.46	24.50	Pass
6,300.00	17.44	25.50	Pass
8,000.00	18.42	26.50	Pass
10,000.00	19.42	27.40	Pass
12,500.00	20.42	28.50	Pass
16,000.00	21.39	29.50	Pass
20,000.00	22.40	30.40	Pass

-- End of measurement results--

-- End of Report--

Signatory: Jacob Cannon

LARSON DAVIS – A PCB DIVISION
1681 West 820 North
Provo, UT 84601, United States
716-684-0001

Total Harmonic Distortion + Noise (THD+N) Over Pressure

Tested at: 114 dB, 24 °C, 27 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [%]	Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
108.0	107.6	0.31	0.00	2.00	0.25 ‡	Pass
101.3	100.9	0.30	0.00	2.00	0.25 ‡	Pass
92.0	92.0	0.29	0.00	2.00	0.25 ‡	Pass
83.0	83.0	0.29	0.00	2.00	0.25 ‡	Pass
74.0	74.0	0.29	0.00	2.00	0.25 ‡	Pass
65.0	65.0	0.29	0.00	2.00	0.25 ‡	Pass

-- End of measurement results--

Signatory: Scott Montgomery

LARSON DAVIS – A PCB DIVISION
1681 West 820 North
Provo,UT 84601,United States
716-684-0001

ACCREDITED
CERT #3622.01

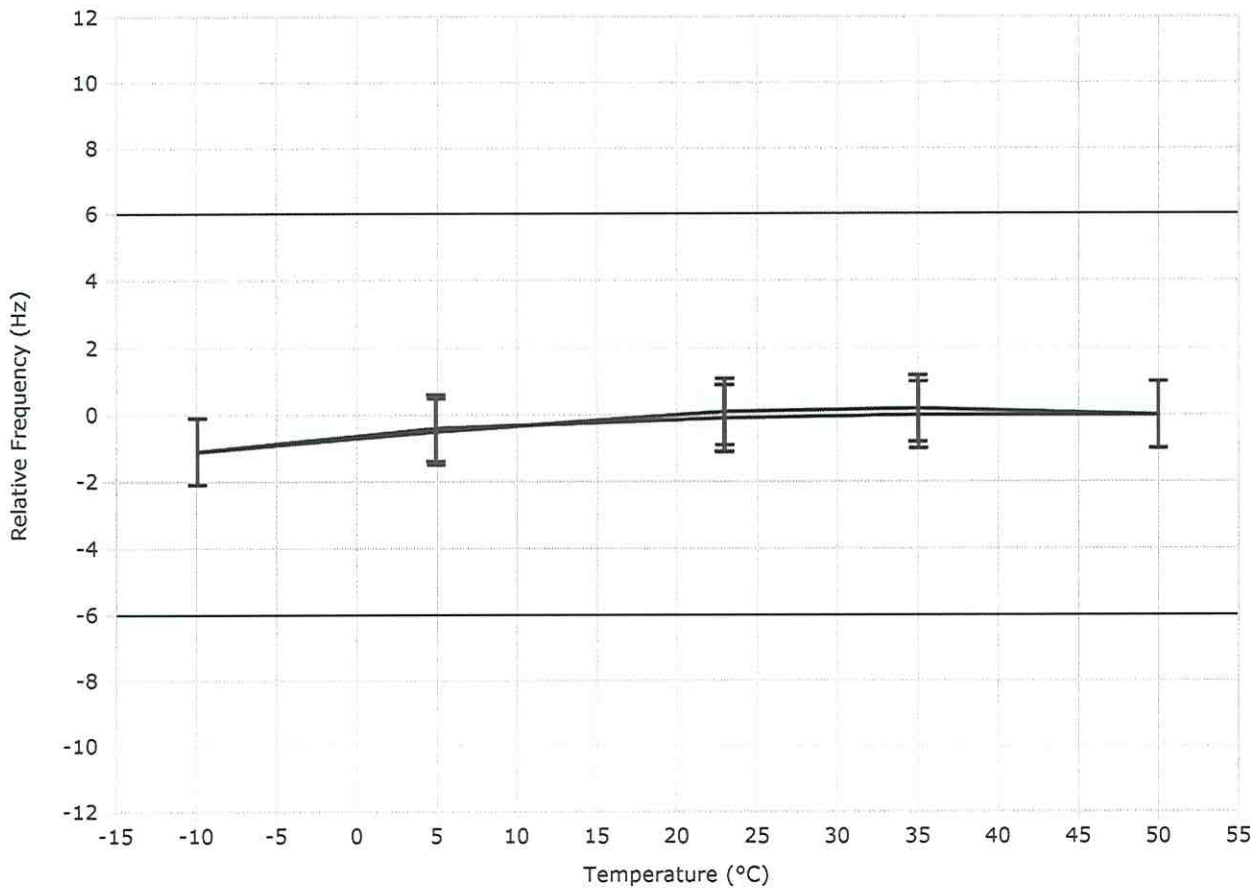
LARSON DAVIS
A PCB DIVISION

Model CAL200 Relative Frequency vs. Temperature

Larson Davis Model CAL200 Serial Number: 20915

Model CAL200 Relative Frequency vs. Temperature at 50% RH.
A 2559 Mic (SN: 2994) with a PRM901 Preamp (SN: 0120), station 18 was used to check the levels.

Test Date: 03 Nov 2022 1:56:01 PM



1.0 Hz expanded uncertainty at ~95% confidence level (k=2)

Sequence File: CAL200.SEQ

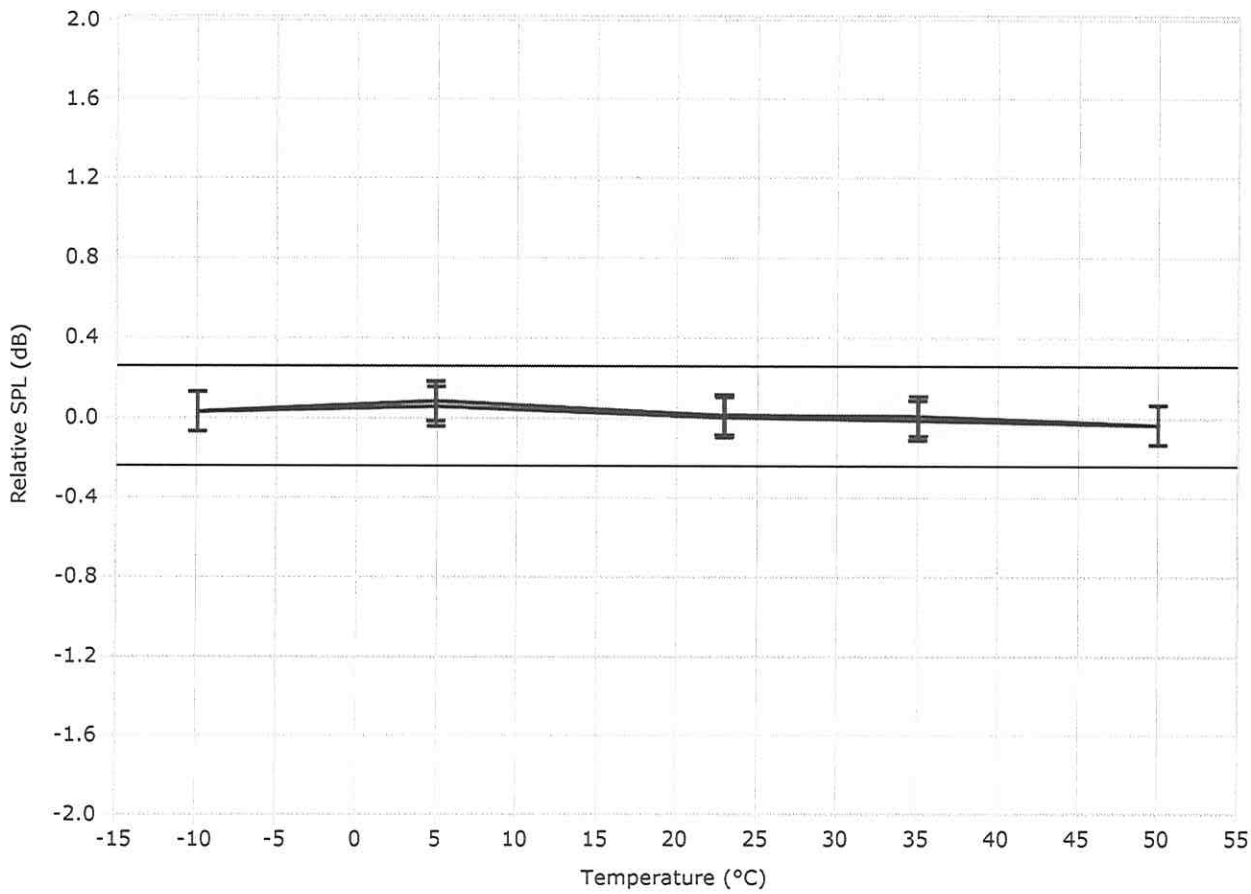
Test Location: Larson Davis – A PCB Division
1681 West 820 North, Provo, Utah 84601
Tel: 716 684-0001 www.LarsonDavis.com

Model CAL200 Relative SPL vs. Temperature

Larson Davis Model CAL200 Serial Number: 20915

Model CAL200 Relative SPL vs. Temperature at 50% RH.
A 2559 Mic (SN: 2994) with a PRM901 Preamp (SN: 0120), station 18 was used to check the levels.

Test Date: 03 Nov 2022 1:56:01 PM



0.1dB expanded uncertainty at ~95% confidence level (k=2)

Sequence File: CAL200.SEQ

Test Location: Larson Davis – A PCB Division
1681 West 820 North, Provo, Utah 84601
Tel: 716 684-0001 www.LarsonDavis.com

Instituto de Salud Pública
Ministerio de Salud
Gobierno de Chile

CERTIFICADO DE CONFORMIDAD PARA INSTRUMENTOS ACÚSTICOS

Laboratorio de Calibración Acústica

PROSON20230008
Fecha: 25-01-2023

I. DATOS DEL INSTRUMENTO.

1. TIPO INSTRUMENTO: sonómetro
2. MARCA: LARSON DAVIS
3. MODELO: LxT1
4. N° SERIE: 0007263
5. N° CERTIFICADO CALIBRACIÓN: 2023000076 y 2023000083
6. EMISOR DEL CERTIFICADO DE CALIBRACIÓN: LARSON DAVIS A PCB PIEZOTRONICS DIV.
7. FECHA DEL CERTIFICADO DE CALIBRACIÓN: 04-01-2023

II. PRONUNCIAMIENTO:

Con respecto a la conformidad del sonómetro Certificado de Calibración N° 2023000076 y 2023000083, asociado al sonómetro, marca LARSON DAVIS, modelo LxT1, N° serie 0007263, junto a los datos antes individualizados en el punto I de este certificado; y sobre el cumplimiento de los requerimientos establecidos para **equipos nuevos** en el Decreto Exento N°542 del 30 de mayo de 2014, del MINSAL, que aprueba la Norma Técnica N°165 *"Sobre el Certificado de Calibración Periódica para Sonómetros Integradores-Promediadores y Calibradores Acústicos de Terreno"*, en el marco de la aplicación del Decreto Supremo N° 38/2011 del MMA, *"Norma de Emisión de Ruido Generados por Fuentes que Indica"*, podemos señalar que dicho certificado CUMPLE con las exigencias especificadas en esa normativa.

El certificado, y en consecuencia esta certificación de conformidad, tienen una **vigencia de 2 años** a partir de la fecha de emisión señalada anteriormente, 04-01-2023.

A partir del 4 de enero de 2025, para el equipo antes individualizado comenzará a regir la exigencia señalada en el artículo 9 del Decreto Exento N° 542 que aprueba la Norma Técnica N°165 *"Sobre el Certificado de Calibración Periódica para Sonómetros Integradores-Promediadores y Calibradores Acústicos de Terreno"*, con respecto a la obligatoriedad de realizar la calibración periódica en el Laboratorio de Calibración Acústica del Instituto de Salud Pública de Chile.

JEFE
SECCIÓN RUIDO Y VIBRACIONES
DEPARTAMENTO SALUD OCUPACIONAL
INSTITUTO DE SALUD PÚBLICA DE CHILE

Mauricio Sánchez Valenzuela
Jefe Sección Ruido y Vibraciones
Departamento Salud Ocupacional
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Mesa Central (56) 22575 51 01
Informaciones (56) 22575 52 01
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Instituto de Salud Pública
Ministerio de Salud
Gobierno de Chile

CERTIFICADO DE CONFORMIDAD PARA INSTRUMENTOS ACÚSTICOS

Laboratorio de Calibración Acústica

PROCAL20230007
Fecha: 25-01-2023

I. DATOS DEL INSTRUMENTO.

1. TIPO INSTRUMENTO: calibrador acústico de terreno
2. MARCA: LARSON DAVIS
3. MODELO: CAL200
4. N° SERIE: 20915
5. N° CERTIFICADO CALIBRACIÓN: 2022015829
6. EMISOR DEL CERTIFICADO DE CALIBRACIÓN: LARSON DAVIS A PCB PIEZOTRONICS DIV.
7. FECHA DEL CERTIFICADO DE CALIBRACIÓN: 14-12-2022

II. PRONUNCIAMIENTO:

Con respecto a la conformidad del calibrador acústico de terreno Certificado de Calibración N° 2022015829, asociado al calibrador acústico de terreno, marca LARSON DAVIS, modelo CAL200, N° serie 20915, junto a los datos antes individualizados en el punto I de este certificado; y sobre el cumplimiento de los requerimientos establecidos para **equipos nuevos** en el Decreto Exento N°542 del 30 de mayo de 2014, del MINSAL, que aprueba la Norma Técnica N°165 *"Sobre el Certificado de Calibración Periódica para Sonómetros Integradores-Promediadores y Calibradores Acústicos de Terreno"*, en el marco de la aplicación del Decreto Supremo N° 38/2011 del MMA, *"Norma de Emisión de Ruido Generados por Fuentes que Indica"*, podemos señalar que dicho certificado CUMPLE con las exigencias especificadas en esa normativa.

El certificado, y en consecuencia esta certificación de conformidad, tienen una **vigencia de 2 años** a partir de la fecha de emisión señalada anteriormente, 14-12-2022.

A partir del 14 de diciembre de 2024, para el equipo antes individualizado comenzará a regir la exigencia señalada en el artículo 9 del Decreto Exento N° 542 que aprueba la Norma Técnica N°165 *"Sobre el Certificado de Calibración Periódica para Sonómetros Integradores-Promediadores y Calibradores Acústicos de Terreno"*, con respecto a la obligatoriedad de realizar la calibración periódica en el Laboratorio de Calibración Acústica del Instituto de Salud Pública de Chile.

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