

ANEXO – 6.4
RUIDO AMBIENTAL

Fecha: 28/3/2019	Responsable de la Medición: JC/DH
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I. INFORMACIÓN DEL ÁREA

Lugar: CPR - 1	Corregimiento / Ciudad: Bejuco / Distrito de Chame
Fuente de Ruido Medida: Receptor	
Coordenadas del Punto de Medición: 623147 953131	
Colindantes del Punto de Medición: Vía Panamericana, Residencias, Go Building Solutions, Terpel,	

II. INFORMACIÓN AMBIENTAL

Humedad Relativa: 64.8 %	Temperatura: 32.6° C	Vel. Viento: 9.6 km/h
Lluvia: No	Observaciones: Soleado	

III. INFORMACIÓN DE PREPARACIÓN DEL INSTRUMENTO DE MEDICIÓN

Instrumento: <i>Sonómetro Casella</i>	Modelo: <i>CEL-63X</i>	Serie #:	
Fecha de Calibración: <i>5/Mar/2020</i>		<i>4638008</i>	
Calibrador: <i>Casella</i>	Modelo: <i>CEL-120/1</i>	Serie #:	
Fecha de Calibración: <i>5/Mar/2020</i>		<i>1021785</i>	
Baterías Revisadas Sonómetro (Si/No): <i>Si'</i>	Precalibración:	Por:	Postcalibración:
Baterías Revisadas Calibrador (Si/No): <i>Si'</i>	<i>94 dB</i>	<i>JC</i>	<i>94 dB JC</i>

IV. INFORMACIÓN / RESULTADOS

[illegible]

INFORME DE RESULTADOS - RUIDO AMBIENTAL



PROYECTO: CORREDOR DE PLAYAS - TRAMO 2

Report Sorted/Grouped By: Person(Ascending), Process(Ascending), Site(Ascending), Location(Ascending)

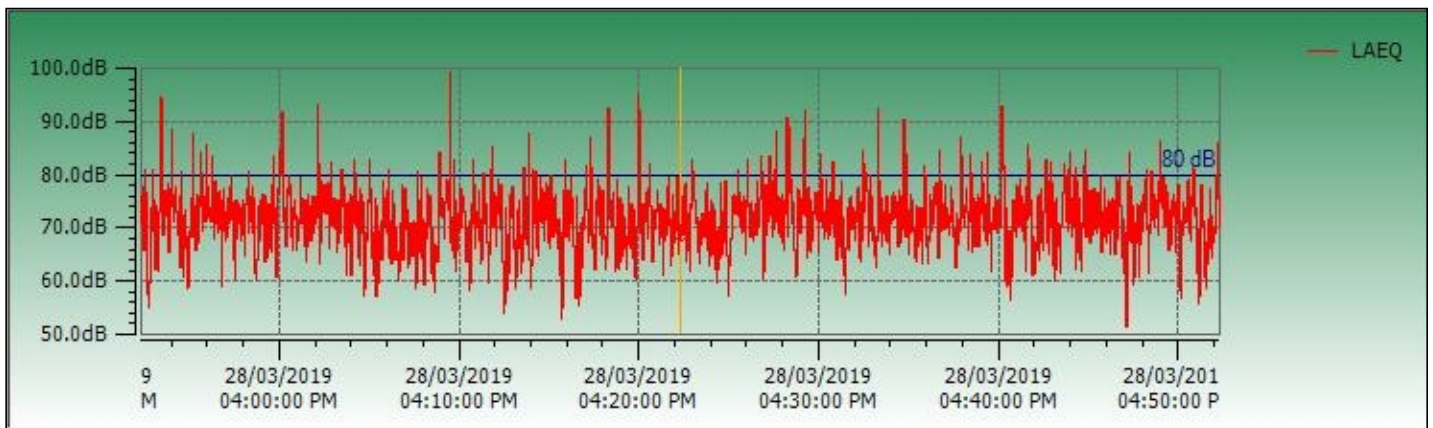
CPR-1

Instrument Model

CEL-633A

Serial Number	4638008	LAE	141.463 dB	Result
Site	CPR-1	LAFTm3	80.5 dB	
Start Date & Time	3/28/2019 3:52:20 PM	LAFTm5	82.1 dB	
Duration	01:00:00 HH:MM:SS	Lepd(Projected)	66.8691 dB	
LAeq	75.9 dB	Response	Random	
LCpeak with Time	117.7 dB (3/28/2019 4:52:11 PM)	End Date & Time	3/28/2019 4:52:20 PM	
Lex8h(Projected)	66.8691 dB	Pause Duration	00:00:00 HH:MM:SS	
LAFmax with Time	101.5 dB (3/28/2019 4:09:31 PM)	Calibration (Before) Date	3/28/2019 3:50:39 PM	
LAlmax with Time	102.1 dB (3/28/2019 4:09:31 PM)	Calibration (Before) Offset	1.85	
LAFmin with Time	50.4 dB (3/28/2019 4:47:08 PM)	Calibration (Before) SPL	94 dB	
LAlmin with Time	54 dB (3/28/2019 3:52:48 PM)	Calibration (After) Date	3/28/2019 4:52:51 PM	
LCeq	84.8 dB	Calibration Drift	0.000000000 dB	
LCeq-LAeq	8.9 dB	Overload	No	
LAleq	78.7 dB	Battery Low	No	

Notes



Fecha: 28/3/2019	Responsable de la Medición: JC / DH
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I. INFORMACIÓN DEL ÁREA

Lugar: CPR-2	Corregimiento / Ciudad: Bejuco / Distrito de Chame
Fuente de Ruido Medida: Receptor	
Coordenadas del Punto de Medición: 621541 / 951506	
Colindantes del Punto de Medición: Residencias, Uvalidad, Kiosko Edwin.	

II. INFORMACIÓN AMBIENTAL

Humedad Relativa: 59.3%	Temperatura: 32.5°C	Vel. Viento: 8.9 km/h
Lluvia: No	Observaciones: Soleado	

III. INFORMACIÓN DE PREPARACIÓN DEL INSTRUMENTO DE MEDICIÓN

Instrumento: Sonómetro Casella	Modelo: CEL-63X	Serie #: 4638008
Fecha de Calibración: 5/Mar/2020		
Calibrador: Casella	Modelo: CEL-120/1	Serie #: 1021785
Fecha de Calibración: 5/Mar/2020		
Baterías Revisadas Sonómetro (Si/No): Si	Precalibración: Por: 94 dB	Postcalibración: Por: 94 dB
Baterías Revisadas Calibrador (Si/No): Si		

IV. INFORMACIÓN / RESULTADOS

TIEMPO		COMENTARIOS - DETALLES DE ACTIVIDAD
Hora Inicial: 2:41 PM	Hora Final: 3:41 PM	Leq: 65.4 dB

- * Paso esporádico de vehículos por vía frente al punto de medición. (vehículos livianos y pesados)
- * Trinar de aves.
- * Sobrevuelo de avioneta.
- * Toque de bocinas de algunos vehículos.
- * Vozes de personas

INFORME DE RESULTADOS - RUIDO AMBIENTAL



PROYECTO: CORREDOR DE PLAYAS - TRAMO 2

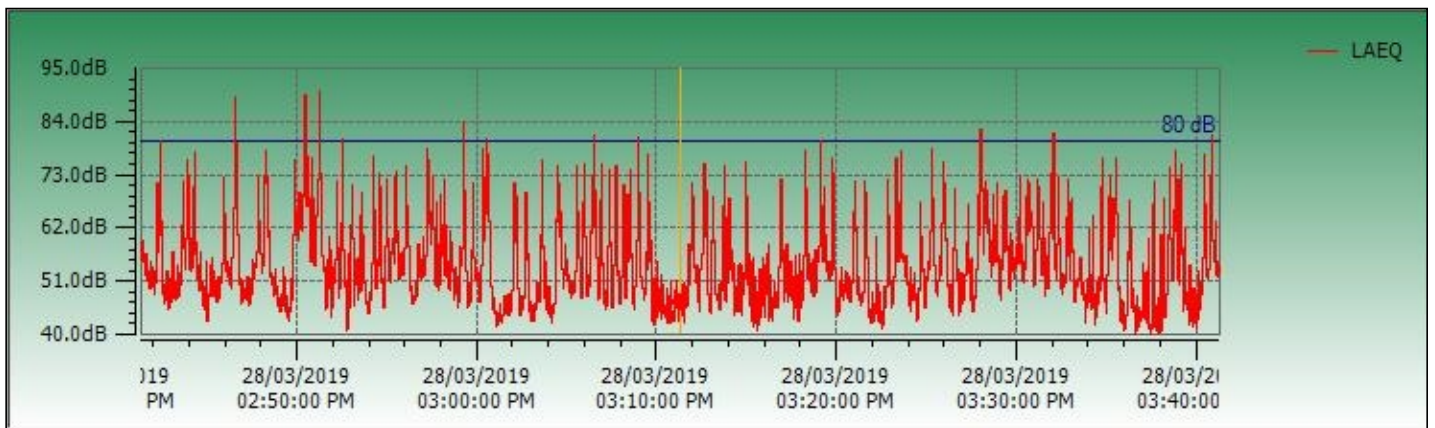
Report Sorted/Grouped By: Person(Ascending), Process(Ascending), Site(Ascending), Location(Ascending)

CPR-2

Instrument Model

CEL-633A

Serial Number	4638008	LAE	130.963 dB	Result
Site	CPR-2	LAFTm3	70.9 dB	
Start Date & Time	3/28/2019 2:41:21 PM	LAFTm5	72.3 dB	
Duration	01:00:00 HH:MM:SS	Lepd(Projected)	56.3691 dB	
LAEq	65.4 dB	Response	Random	
LCpeak with Time	110.8 dB (3/28/2019 2:51:18 PM)	End Date & Time	3/28/2019 3:41:21 PM	
Lex8h(Projected)	56.3691 dB	Pause Duration	00:00:00 HH:MM:SS	
LAFmax with Time	91.9 dB (3/28/2019 2:51:18 PM)	Calibration (Before) Date	3/28/2019 2:39:17 PM	
LAlmax with Time	92.5 dB (3/28/2019 2:51:18 PM)	Calibration (Before) Offset	2.5	
LAFmin with Time	38.6 dB (3/28/2019 3:38:00 PM)	Calibration (Before) SPL	94 dB	
LAlmin with Time	40.5 dB (3/28/2019 3:38:02 PM)	Calibration (After) Date	3/28/2019 3:41:49 PM	
LCeq	74.6 dB	Calibration Drift	0.000000000 dB	
LCeq-LAEq	9.2 dB	Overload	No	
LAEq	68.7 dB	Battery Low	No	
Notes				



Fecha: 28/3/2019	Responsable de la Medición: JC/DH
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I. INFORMACIÓN DEL ÁREA

Lugar: CPR-3	Corregimiento / Ciudad: Las Lajas / Distrito de Chame
Fuente de Ruido Medida: Receptor	
Coordenadas del Punto de Medición: 617789 / 945411	
Colindantes del Punto de Medición: Residencias, vialidad, lotes	

II. INFORMACIÓN AMBIENTAL

Humedad Relativa: 51.8 %	Temperatura: 34.1 °C	Vel. Viento: 4.5 Km/h
Lluvia: No	Observaciones: Soleado	

III. INFORMACIÓN DE PREPARACIÓN DEL INSTRUMENTO DE MEDICIÓN

Instrumento: <u>Sonómetro Casella</u>	Modelo: <u>CEL -63X</u>		Serie #: <u>4638008</u>	
Fecha de Calibración: <u>5/Mar/2020</u>	Modelo: <u>CEL -120/1</u>		Serie #: <u>1021785</u>	
Calibrador: <u>Casella</u>	Precalibración: <u>94 dB</u>		Por: <u>JC</u>	Postcalibración: <u>94 dB</u>
Fecha de Calibración: <u>5/Mar/2020</u>	Precalibración: <u>94 dB</u>		Por: <u>JC</u>	Postcalibración: <u>94 dB</u>
Baterías Revisadas Sonómetro (Si/No): <u>Si</u>	Precalibración: <u>94 dB</u>		Por: <u>JC</u>	Postcalibración: <u>94 dB</u>
Baterías Revisadas Calibrador (Si/No): <u>Si</u>	Precalibración: <u>94 dB</u>		Por: <u>JC</u>	Postcalibración: <u>94 dB</u>

IV. INFORMACIÓN / RESULTADOS

[illegible]

INFORME DE RESULTADOS - RUIDO AMBIENTAL



PROYECTO: CORREDOR DE PLAYAS - TRAMO 2

Report Sorted/Grouped By: Person(Ascending), Process(Ascending), Site(Ascending), Location(Ascending)

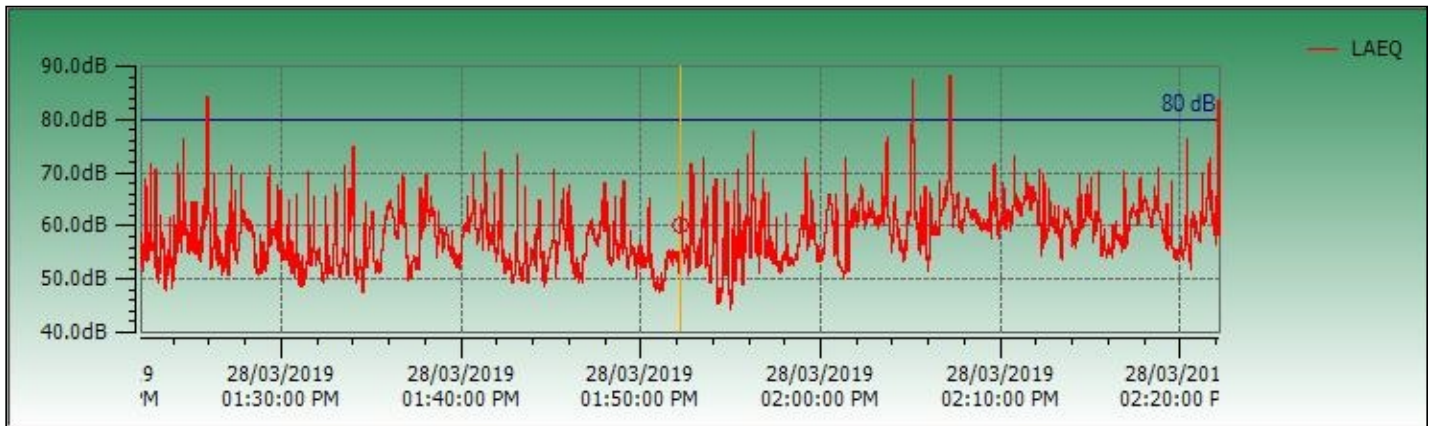
CPR-3

Instrument Model

CEL-633A

Serial Number	4638008	LAE	129.463 dB	Result
Site	CPR-3	LAFTm3	68.6 dB	
Start Date & Time	3/28/2019 1:22:13 PM	LAFTm5	70.4 dB	
Duration	01:00:00 HH:MM:SS	Lepd(Projected)	54.8691 dB	
LAeq	63.9 dB	Response	Random	
LCpeak with Time	115.6 dB (3/28/2019 2:22:08 PM)	End Date & Time	3/28/2019 2:22:13 PM	
Lex8h(Projected)	54.8691 dB	Pause Duration	00:00:00 HH:MM:SS	
LAFmax with Time	92 dB (3/28/2019 2:22:08 PM)	Calibration (Before) Date	3/28/2019 1:20:18 PM	
LAlmax with Time	96.6 dB (3/28/2019 2:22:08 PM)	Calibration (Before) Offset	2.45	
LAFmin with Time	43.7 dB (3/28/2019 1:54:58 PM)	Calibration (Before) SPL	94 dB	
LAlmin with Time	45.4 dB (3/28/2019 1:54:24 PM)	Calibration (After) Date	3/28/2019 2:23:04 PM	
LCeq	74.8 dB	Calibration Drift	0.00000000 dB	
LCeq-LAeq	10.9 dB	Overload	No	
LAleq	67.7 dB	Battery Low	No	

Notes



Fecha: 20/3/2019	Responsable de la Medición: JC/DH
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I. INFORMACIÓN DEL ÁREA

Lugar: CPR-4	Corregimiento / Ciudad: San Carlos / Distrito de San Carlos
Fuente de Ruido Medida: Receptor	
Coordenadas del Punto de Medición: 615471/941687	
Colindantes del Punto de Medición: Entrada ^{The} Village Beach Residences, Unidad, residencias.	

II. INFORMACIÓN AMBIENTAL

Humedad Relativa: 54.0%	Temperatura: 34.1 °C	Vel. Viento: 6.2 km/h
Lluvia: No	Observaciones: Soleado.	

III. INFORMACIÓN DE PREPARACIÓN DEL INSTRUMENTO DE MEDICIÓN

Instrumento: Casella (sonómetro).	Modelo: CEL-63X	Serie #: 4638008
Fecha de Calibración: 5/Mar/2020		
Calibrador: Casella	Modelo: CEL-20/1	Serie #: 1021785
Fecha de Calibración: 5/Mar/2020		
Baterías Revisadas Sonómetro (Si/No): Si	Precalibración: 94 dB	Por: JC
Baterías Revisadas Calibrador (Si/No): Si		Postcalibración: 94 dB
		Por: JC

IV. INFORMACIÓN / RESULTADOS

[illegible]

INFORME DE RESULTADOS - RUIDO AMBIENTAL



PROYECTO: CORREDOR DE PLAYAS - TRAMO 2

Report Sorted/Grouped By: Person(Ascending), Process(Ascending), Site(Ascending), Location(Ascending)

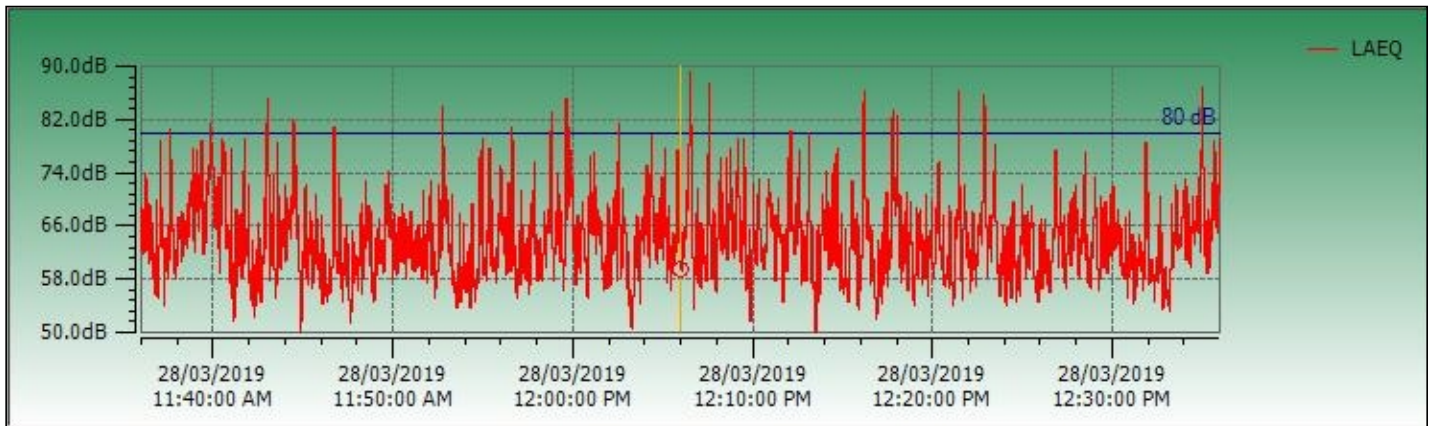
CPR-4

Instrument Model

CEL-633A

Serial Number	4638008	LAE	135.263 dB	Result
Site	CPR-4	LAFTm3	73.5 dB	
Start Date & Time	3/28/2019 11:36:00 AM	LAFTm5	74.5 dB	
Duration	01:00:00 HH:MM:SS	Lepd(Projected)	60.6691 dB	
LAeq	69.7 dB	Response	Random	
LCpeak with Time	113.9 dB (3/28/2019 12:29:02 PM)	End Date & Time	3/28/2019 12:36:00 PM	
Lex8h(Projected)	60.6691 dB	Pause Duration	00:00:00 HH:MM:SS	
LAFmax with Time	90.2 dB (3/28/2019 12:06:33 PM)	Calibration (Before) Date	3/28/2019 11:33:50 AM	
LAlmax with Time	91.4 dB (3/28/2019 12:06:33 PM)	Calibration (Before) Offset	2.4	
LAFmin with Time	49.4 dB (3/28/2019 12:13:30 PM)	Calibration (Before) SPL	94 dB	
LAlmin with Time	49.8 dB (3/28/2019 11:44:53 AM)	Calibration (After) Date	3/28/2019 12:36:46 PM	
LCeq	83.9 dB	Calibration Drift	0.000000000 dB	
LCeq-LAeq	14.2 dB	Overload	No	
LAleq	71.7 dB	Battery Low	No	

Notes



DIURNO ☒ NOCTURNO

Fecha: 28/3/2019	Responsable de la Medición: JC/DH
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I. INFORMACIÓN DEL ÁREA

Lugar: CPR-5	Corregimiento / Ciudad: San Carlos / Distrito de San Carlos
Fuente de Ruido Medida: Receptor	
Coordenadas del Punto de Medición: 614471/936957	
Colindantes del Punto de Medición: Vigilancia, Gnas Vito, Viviendas, Locales comerciales.	

II. INFORMACIÓN AMBIENTAL

Humedad Relativa: 60.1 %	Temperatura: 32.7 °C	Vel. Viento: 4.6 Km/h
Lluvia: No	Observaciones: Sol y nubes	

III. INFORMACIÓN DE PREPARACIÓN DEL INSTRUMENTO DE MEDICIÓN

Instrumento: <i>Sonómetro Casella</i>	Modelo:		Serie #:	
Fecha de Calibración: <i>5/Mar/2020</i>	<i>CEL-63X</i>		<i>4638008</i>	
Calibrador: <i>Casella</i>	Modelo:		Serie #:	
Fecha de Calibración: <i>5/Mar/2020</i>	<i>CEL-120/1</i>		<i>1021785</i>	
Baterías Revisadas Sonómetro (Si/No): <i>Si</i>	Pre-calibración:	Por:	Postcalibración:	Por:
Baterías Revisadas Calibrador (Si/No): <i>Si</i>	<i>94 dB</i>	<i>JC</i>	<i>94 dB</i>	<i>JC</i>

IV. INFORMACIÓN / RESULTADOS

[illegible]

INFORME DE RESULTADOS - RUIDO AMBIENTAL



PROYECTO: CORREDOR DE PLAYAS - TRAMO 2

Report Sorted/Grouped By: Person(Ascending), Process(Ascending), Site(Ascending), Location(Ascending)

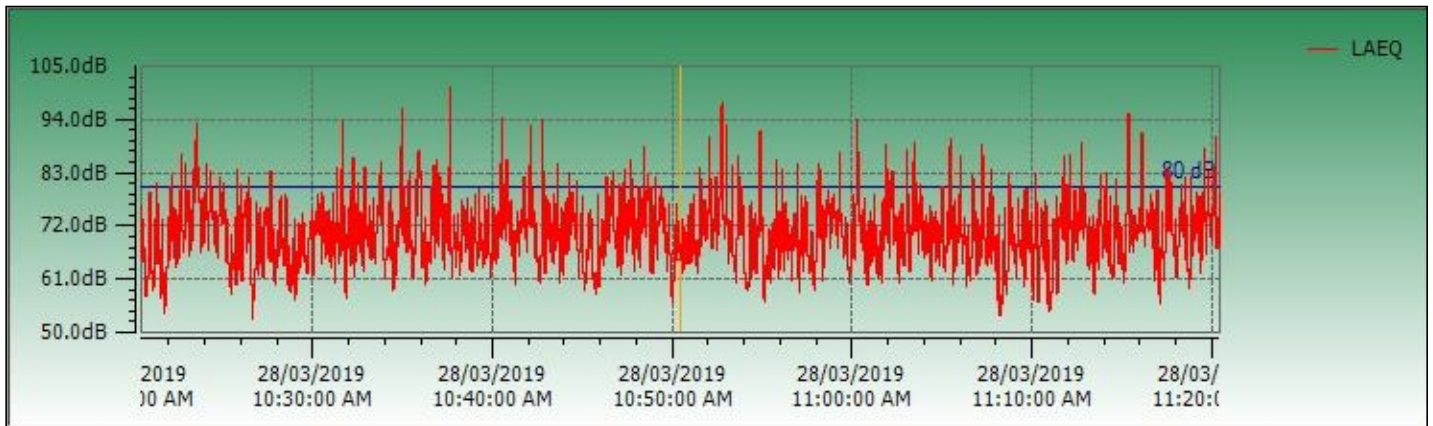
CPR-5

Instrument Model

CEL-633A

Serial Number	4638008	LAE	142.563 dB	Result
Site	CPR-5	LAFTm3	81.8 dB	
Start Date & Time	3/28/2019 10:20:28 AM	LAFTm5	83.7 dB	
Duration	01:00:00 HH:MM:SS	Lepd(Projected)	67.9691 dB	
LAeq	77 dB	Response	Random	
LCpeak with Time	118.4 dB (3/28/2019 10:52:47 AM)	End Date & Time	3/28/2019 11:20:28 AM	
Lex8h(Projected)	67.9691 dB	Pause Duration	00:00:00 HH:MM:SS	
LAFmax with Time	102.5 dB (3/28/2019 10:37:38 AM)	Calibration (Before) Date	3/28/2019 10:19:27 AM	
LAlmax with Time	103.2 dB (3/28/2019 10:37:38 AM)	Calibration (Before) Offset	2.4	
LAFmin with Time	52.2 dB (3/28/2019 10:26:40 AM)	Calibration (Before) SPL	94 dB	
LAlmin with Time	53.1 dB (3/28/2019 11:08:20 AM)	Calibration (After) Date	3/28/2019 11:22:31 AM	
LCeq	86.5 dB	Calibration Drift	0.000000000 dB	
LCeq-LAeq	9.5 dB	Overload	No	
LAleq	79.9 dB	Battery Low	No	

Notes



Certificate of Conformity and Calibration

Instrument Model:-	CEL-633A	Preamplifier Type:-	CEL-495
Serial Number	4638008	Serial Number	2133
Firmware revision	V129-09		
Microphone Type:-	CEL-251	As Received:-	113.8
Serial Number	1088	As Adjusted:-	114.0
Instrument Class/Type:-	1		

Applicable standards:-

IEC 61672: 2002 / EN 60651 (Electroacoustics - Sound Level Meters)
IEC 60651 1979 (Sound Level Meters), ANSI S1.4: 1983 (Specifications For Sound Level Meters)

Note:- The test sequences performed in this report are in accordance with the current Sound level meter Standard - IEC61672. The combination of tests performed are considered to confirm the products electro-acoustic performance to all applicable standards including superceeded Sound Level Meter Standards - IEC60651 and IEC60804.

Test Conditions:-	25 °C	Test Engineer:-	Ken Umbeer
	76.9 %RH	Date of Issue:-	March 5, 2019
	1016.9 mBar	Date Due:-	March 5, 2020

Declaration of conformity:-

This test certificate confirms that the instrument specified above has been successfully tested to comply with the manufacturer's published specifications. Tests are performed using equipment traceable to NIST. This product is certified as being compliant to the requirements of the CE Directive.

Test Summary:-

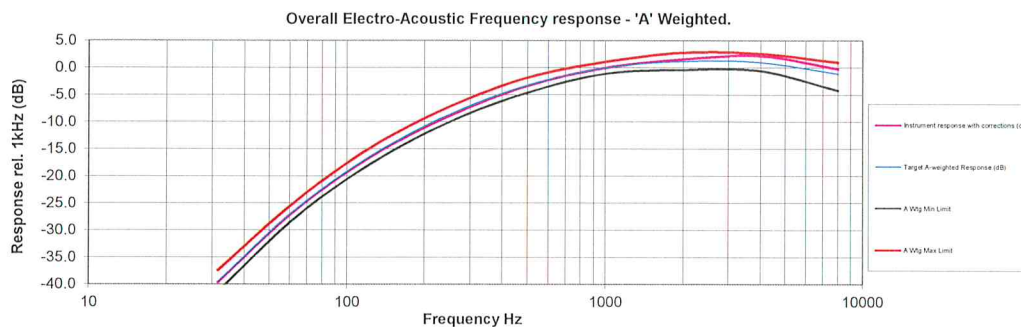
Self Generated Noise Test
Electrical Signal Test Of Frequency Weightings
Frequency & Time Weightings At 1 kHz
Level Linearity On The Reference Level Range
Toneburst Response Test
C-peak Sound Levels
Overload Indication
Acoustic Tests

All Tests Pass
All Tests Pass
All Tests Pass
All Tests Pass
All Tests Pass
All Tests Pass
All Tests Pass
All Tests Pass

Combined Electro-Acoustic Frequency Response - A Weighted

Combined Electro-Acoustic Frequency Response - A Weighted (IEC 61672-3:2006)

The following A-Weighted frequency response graph shows this instruments overall frequency response based upon the application of multi-frequency pressure field calibrations. The microphones Pressure to Free field correction coefficients are applied to pressure response. Reference level taken at 1kHz.



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Certificate of Conformity and Calibration

Instrument Model: CEL-120/1 Acoustic Calibrator
Serial Number: 1021785

Certificate #: 68883

Calibration References:

Casella CEL hereby certifies that the above listed sound measuring instrument has been tested according to the manufacturer's specifications and meets the requirements of the relevant American National Standards Institute (ANSI) Standard for Sound Calibrators S1.40 - 1983 (R1997). This instrument was calibrated against standards which are either traceable to the National Institute of Standards and Technology (NIST) or they have been derived by approved ratio techniques.



Test Conditions:

25 °C
 76.9 %RH
 1016.9 mBar

Date of Issue:- March 5, 2019
Due Date:- March 5, 2020
Service Engineer:- Ken Umbeer

Declaration of conformity:-

This test certificate confirms that the instrument specified above has been successfully tested to comply with the manufacturer's published specifications. Tests are performed using equipment traceable to national standards. This product is certified as being compliant to the requirements of the CE Directive. Test accuracy ratio (TAR) ≥ 1 .

Summary:

The data represents the response of the sound level meter calibrator to the reference source corrected for atmospheric conditions at the time of calibration.

	Nominal Value	Tolerance	As Received	As Adjusted
Frequency (Hz)	1000.0	± 5.0	1000.0	1000.0
Level (dB)	114.0	± 0.3	114.1	114.0
Level (dB)	94.0	± 0.3	94.1	94.0

Standards Used in Calibration:

Sound Level Meter: CEL-620.A1
Multimeter: Fluke 45

Serial Number

5130002
 4995184

Calibration Due Date

2/4/2019
 2/4/2019

Certificate Number

29619-2
 1821321

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