UPS™
United Platform Solutions

aocems
Ensuring ecofriendly communities

UPS Product & Sensor Certificates

SENSOR TECHNOLOGY PARTNERS

seelive kunak SENSING ANYWHERE NEXSENS technology OIZOM REDEFINING RESOURCES Engineering & Environmental Solutions Pvt. Ltd.

Certificate of Compliance

This is to certify that the

General principles and requirements for bodies validating and verifying environmental information

of

UNITED PLATFORM SOLUTIONS – F.Z.C

at

OFFICE NO. FL.H-01708, FIRST FLOOR. B1 BULDING, SHK – SHEIKH RASHID BIN SAEED AL MUKTOUM ST- AJMAN, UAE

has been independently assessed and is compliant with the requirements of:

ISO 14065:2020

For the following scope of activities:

USING IOT SENSORS, GOCEMS, AOCEMS AND VARIOUS OTHER MONITORING TOOLS.

Certificate Number: UQ-21012301

This certificate is issued under the following conditions:

1. It applies only to the quality system maintained in the manufacture of above referenced models and it does not substitute the design or type-examination procedures, if requested.
2. The certificate remains valid until the manufacturing conditions or the quality systems are changed.
3. The certificate validity is conditioned by positive results or surveillance audits.
4. After fulfilling the relevant Standard testing performance, the manufacturer shall affix to each device, of the referenced models The mark as shown above can be used, under the responsibility of the manufacturer, after completion of an EC Declaration of conformity and compliance with all relevant EC Directives. The statement is based on a single evaluation of one sample of above-mentioned product. It does not imply an assessment of the whole production.

Validity of this certificate can be verified at www.ukglobal.uk/Verify

Date of Certification	21 Jan. 2023
1 st Surveillance Audit	20 Jan. 2024
2 nd Surveillance Audit	20 Jan. 2025
Certificate Expiry (subject to the company maintaining its system to the required standard)	20 Jan. 2026

Authorised Signatory

This certificate is the property of UK Global Certification & Inspection Limited and shall be returned immediately on request.
71-75 Shelton Street Covent Garden London United Kingdom WC2H 9JQ
Website:- www.ukglobals.uk, enquiries@ukglobal.uk
Company No. 11847851

Uk Global Certification & Inspection Limited

Certificate of Compliance

We hereby declare that the technical file of product complied with the requirement of Machinery Directive 2006/42/EC.

Certificate No.: CE-2509

COMPANY NAME	**: -**	**SEELIVE TECHNOLOGIES PRIVATE LIMITED**
REGD. ADDRESS	**:-**	**FLAT NO- 7,8,9, BUILDING- GARG SHOPPING MALL, SERVICE CENTER, ROHINI, SECTOR-11, PHASE-2, NEW DELHI, DELHI-110085**
PRODUCTS	**:-**	**IOT SENSOR AND DEVICES**

The Certification body has performed an audit of the above product quality system covering the design, manufacture and final inspection of the certified product. The quality system has been assessed, approved and is subject to continuous surveillance according to Machinery Directive 2006/42/EC.

This certificate is issued under the following conditions:

1. It applies only to the quality system maintained in the manufacture of above referenced models and it does not substitute the design or type-examination procedures, if requested.
2. The certificate remains valid until the manufacturing conditions with applicable CE requirements or The quality systems are changed.
3. The certificate validity is conditioned by positive results or surveillance audits.
4. After fulfilling the relevant Standard testing performance, the manufacturer shall affix to each device, of the referenced models
5. The CE mark as shown above can be used, under the responsibility of the manufacturer, after completion of an EC Declaration of conformity and compliance with all relevant EC Directives. The statement is based on a single evaluation of one sample of above-mentioned product. It does not imply an assessment of the whole production.

Validity of this certificate can be verified at www.ukglobal.uk/Verify

Date of Certification	08. Oct. 2024
1 st Surveillance Audit	07. Oct. 2025
2 nd Surveillance Audit	07. Oct. 2026
Certificate Expiry (subject to the company maintaining its system to the required standard)	07. Oct. 2027

Authorised Signatory

This certificate is the property of UK Global Certification & Inspection Limited and shall be returned immediately on request.
2nd Floor College House, 17 King Edwards Road, Ruislip, London, HA 47 AE, United Kingdom
Website:- www.ukglobal.uk, enquiries@ukglobal.uk
Company No. 12654562

Uk Global Certification & Inspection Limited

Certificate of Compliance

This is to certify that

Stationary Source Emissions. Data Acquisition And Handling Systems Specification Of Requirements For The Performance Test Of Data Acquisition And Handling Systems (British Standard)

of

SEELIVE TECHNOLOGIES PRIVATE LIMITED

at

FLAT NO- 7,8,9, BUILDING- GARG SHOPPING MALL, SERVICE CENTER, ROHINI, SECTOR-11, PHASE-2, NEW DELHI, DELHI-110085

has been independently assessed and is compliant with the requirements of:

EN 17255-3:2021

For the following scope of activities:

TESTING AND INSPECTION OF

DAHS SYSTEMS COMPATIBLE WITH GOCEMS AND AOCEMS. CALIBRATION AND TESTING OF AQI MONITORS FOR PM2.5, PM10, SOX AND NOX AGAINST LABORATORY TESTS.

Certificate Number: UQ-25042TR01

Validity of this certificate can be verified at www.ukglobal.uk/Verify

Date of Certification	08. Oct. 2024
1 st Surveillance Audit	07. Oct. 2025
2 nd Surveillance Audit	07. Oct. 2026
Certificate Expiry (subject to the company maintaining its system to the required standard)	07. Oct. 2027

Authorised Signatory

This certificate is the property of UK Global Certification & Inspection Limited and shall be returned immediately on request.

2nd Floor College House, 17 King Edwards Road, Ruislip, London, HA 47 AE, United Kingdom
Website:- www.ukglobal.uk, enquiries@ukglobal.uk
Company No. 12654562

Uk Global Certification & Inspection Limited

PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

Kunak AIR Pro

Manufactured by:

Kunak Technologies SL
Parque Empresarial La Muga, 9
Floor 4, Office 1 – Orcoyen
Navarra
Spain

has been assessed by CSA Group
and for the conditions stated on this certificate complies with:

MCERTS Performance Standards for Indicative Ambient Particulate Monitors, Environment Agency, August 2017, version 4

Certification ranges:

$PM_{2.5}$ 0-1,500 µg/m^3
PM_{10} 0-2,000 µg/m^3

Project No.:	80150788
Certificate No:	CSA MC230418/00
Initial Certification:	9 June 2023
This Certificate issued:	9 June 2023
Renewal Date:	8 June 2028

Andrew Young
Environmental Team Manager

MCERTS is operated on behalf of the Environment Agency by

CSA Group Testing UK Ltd
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
Tel: +44 (0)1244 670 900

The MCERTS certificate consists of this document in its entirety.
For conditions of use, please consider all the information within.
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To authenticate the validity of this certificate please visit www.csagroupuk.org/mcerts

Form 1335
Issue 11

Certificate Contents

Approved Site Application

Any potential user should make sure, in consultation with the manufacturer, that the monitoring system is suitable for the intended application. For general guidance on monitoring techniques refer to the Environment Agency guidance available at www.mcerts.net

The indicative dust monitoring analyser(s) can be operated in one of two ways:

For qualitative measurements: Providing qualitative measurement data for the analysis of particulate pollution trends, and source identification studies based for example on pollution roses etc. Such application can rely on instrument factory calibration only.

For quantitative measurements: Providing measurement data with the uncertainty defined for indicative instruments (+/- 50%). This can be achieved on condition that each instrument used for measurement has been calibrated on the specific site where monitoring is taking place against a standard reference method for a period of two weeks and the resulting slope and intercept have been used for instrument calibration. Using non-standard filters and procedures for this purpose is not acceptable. To maintain the validity of data this calibration has to be repeated at least every twelve months or when the instrument is moved to a different site.

They **cannot** be used on national automatic monitoring networks for compliance reporting against the Ambient Air Quality Directives.

The field tests were carried out from the 1 April 2022 to the 7 February 2023 on two candidate 'Kunak AIR Pro' samplers, collocated with a Palas Fidas 200 (the reference method). The location of the field test was University of Manchester, Fallowfield, Manchester, UK. The serial numbers of the two 'Kunak AIR Pro' monitors were '0321 180036' and '0321 180037'.

Basis of Certification

This certification is based on the following test report(s) and on CSA Group's assessment and ongoing surveillance of the product and the manufacturing process:

Bureau Veritas, test report ref. AIR17810339, dated June 2023, "Kunak, Test of the Air Pro for use as an Indicative Monitor for PM_{10} and $PM_{2.5}$"

This certificate may only be reproduced in its entirety and without change
To authenticate the validity of this certificate please visit www.csagroupuk.org/mcerts

Product Certified

The 'Kunak AIR Pro' measuring system consists of the following parts:

- Base Station includes data storage with eSIM cellular communications.
- Power Pack embedded in the base station.
- Particulate sensor cartridge to measure $PM_{2.5}$ and PM_{10}.
- Solar protected shield.

Sensor type and firmware version
Alphasense OPC-N3 with firmware version 1.32.DT

Algorithm Version (note 5.)
KAIR_OPCN3_31

The particle firmware - Senor type OPC-N3 firmware version 1.17a.B with algorithm version KAIR_OPCN3_30.

This certificate applies to all instruments fitted with serial number 0321 180037 onwards.

This certificate may only be reproduced in its entirety and without change
To authenticate the validity of this certificate please visit www.csagroupuk.org/mcerts

Certified Performance

Test (***Laboratory***)	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Constancy of the sample volumetric flow					Not applicable Note 1	To remain constant within ± 3%
Tightness of the sampling system			1.44%			Leakage not to exceed 2% of sampled volume

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Test (**Field**)	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Intra-instrument uncertainty for the reference method						
PM_{10}					0.33µg/m^3	≤2.5µg/m^3
$PM_{2.5}$					0.25µg/m^3	≤2.5µg/m^3
Intra-instrument uncertainty for the candidate method						
PM_{10}						
All data (n=306)					1.74µg/m^3	≤5µg/m^3 for all data as well as for the subsets: < or ≥ 30 µg/m^3
≥ 30 µg/m^3 (n=4)					2.47µg/m^3	
< 30 µg/m^3 (n=302)					1.74µg/m^3	
$PM_{2.5}$						
All data (n=306)					0.81µg/m^3	≤5µg/m^3 for all data as well as for the subsets: < or ≥ 30 µg/m^3
≥ 18 µg/m^3 (n=14)					1.64µg/m^3	
< 18 µg/m^3 (n=292)					0.75µg/m^3	
Highest resulting uncertainty estimate comparison against data quality objective (Measurement Uncertainty)						W_{CM}≤50% $W_{CM} \leq W_{dpo}$ (W_{dpo} Measurement uncertainty defined as 50% for indicative instruments)
PM_{10}						
All data (n=306)					81.1%	
All data (slope corrected) (n=306)					12.2% (note 2)	
≥ 30 µg/m^3 (slope corrected) (n=4)					46.6%	
$PM_{2.5}$						
All data (n=306)					67.0%	
All data (slope corrected) (n=306)					10.6% (note 3)	
≥ 18 µg/m^3 (slope corrected) (n=14)					40.9% (note 3)	
Maintenance Interval					44 weeks Note 4	≥2 weeks

Note 1 - The Kunak AIR Pro utilises a fan and not a pump, therefore it was agreed that this test was not applicable.
Note 2 - This data was slope corrected by dividing by 0.596. All users must slope correct PM_{10} data by dividing by 0.596 - it is recommended that the manufacturer program this value into their algorithm in order to avoid confusion to end users. End users should check with the manufacturers that this has been carried out.
Note 3 - This data was slope corrected by dividing by 0.667. All users must slope correct $PM_{2.5}$ data by dividing by 0.667 - it is recommended that the manufacturer program this value into their algorithm in order to avoid confusion to end users. End users should check with the manufacturers that this has been carried out.
Note 4 - Maintenance - the manufacturer recommends that users clean the PM inlet if it becomes dirty. If a problem arises, such as sensor malfunction or obstruction, then the software will detect it automatically and will invalidate the measurements and advise the user to carry out specific maintenance. It is further recommended to change the PM sensor after 2 years operation.
Note 5 - The Kunak AIR Pro must be set up using the configuration, as follows; i) Alphasense OPC-N3 sensor with firmware version '1.32.DT', and ii) Algorithm version: KAIR_OPCN3_31. The firmware version incorporates slope correction – firmware version '31' is approved and no slope correction required.

Certificate No: CSA MC230418/00
This Certificate issued: 9 June 2023

This certificate may only be reproduced in its entirety and without change
To authenticate the validity of this certificate please visit www.csagroupuk.org/mcerts

Description

The Kunak AIR Pro has a particulate matter sensor that consists of an optical particle counter (OPC) capable of measuring particles from 0.3µm up to 40µm. $PM_{2.5}$ and PM_{10} are calculated assuming a particle density profile.
The effect of humidity is corrected using the embedded algorithm. The particle size distributions are available on Kunak Cloud.

The Kunak AIR Pro communicates using GPRS, 3G, 4G, ethernet and Modbus RTE Slave. Secure encryption and direct communication protocols, results in bi-directional communications and facilitates remote configuration, firmware update and sensor calibration of the devices through the Kunak Cloud web platform.

Kunak AIR Pro is equipped with an internal rechargeable battery. The battery can be powered either through a small solar panel to facilitate the installation of the device or by an outdoor charger to via the main network.

General Notes

1. This certificate is based upon the equipment tested. The Manufacturer is responsible for ensuring that on-going production complies with the standard(s) and performance criteria defined in this certificate. The manufacturer is required to maintain an approved quality management system controlling the manufacture of the certified product. Both the product and the quality management system shall be subject to regular surveillance according to 'Regulations Applicable to the Holders of CSA Group Testing UK Ltd Certificates'.

2. The design of the product certified is defined in the CSA Group design schedule V00 for certificate no. CSA MC230418/00.

3. If a certified product is found not to comply, CSA Group should be notified immediately at the address shown on this certificate.

4. The certification marks that can be applied to the product or used in publicity material are defined in 'Regulations Applicable to the Holders of CSA Group Testing UK Ltd Certificates'.

5. This document remains the property of CSA Group and shall be returned when requested by CSA Group.

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PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

Kunak AIR Pro

Manufactured by:

Kunak Technologies SL
Parque Empresarial La Muga, 9
Floor 4, Office 1 – Orcoyen
Navarra
Spain

has been assessed by CSA Group
and for the conditions stated on this certificate complies with:

MCERTS Performance Standards for Indicative Ambient Particulate Monitors, Environment Agency, August 2017, version 4

Certification ranges:

$PM_{2.5}$ 0-1,500 µg/m^3
PM_{10} 0-2,000 µg/m^3

Project No.:	80150788
Certificate No:	CSA MC230418/00
Initial Certification:	9 June 2023
This Certificate issued:	9 June 2023
Renewal Date:	8 June 2028

Andrew Young
Environmental Team Manager

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CSA Group Testing UK Ltd
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
Tel: +44 (0)1244 670 900

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Form 1335
Issue 11

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Sensor type and firmware version
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Algorithm Version (note 5.)
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The particle firmware - Senor type OPC-N3 firmware version 1.17a.B with algorithm version KAIR_OPCN3_30.

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Certified Performance

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	<0.5	<1	<2	<5		
Constancy of the sample volumetric flow					Not applicable Note 1	To remain constant within ± 3%
Tightness of the sampling system			1.44%			Leakage not to exceed 2% of sampled volume

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< 30 µg/m^3 (n=302)					1.74µg/m^3	
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< 18 µg/m^3 (n=292)					0.75µg/m^3	
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Certificate No: CSA MC230418/00
This Certificate issued: 9 June 2023

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Description

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General Notes

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2. The design of the product certified is defined in the CSA Group design schedule V00 for certificate no. CSA MC230418/00.

3. If a certified product is found not to comply, CSA Group should be notified immediately at the address shown on this certificate.

4. The certification marks that can be applied to the product or used in publicity material are defined in 'Regulations Applicable to the Holders of CSA Group Testing UK Ltd Certificates'.

5. This document remains the property of CSA Group and shall be returned when requested by CSA Group.

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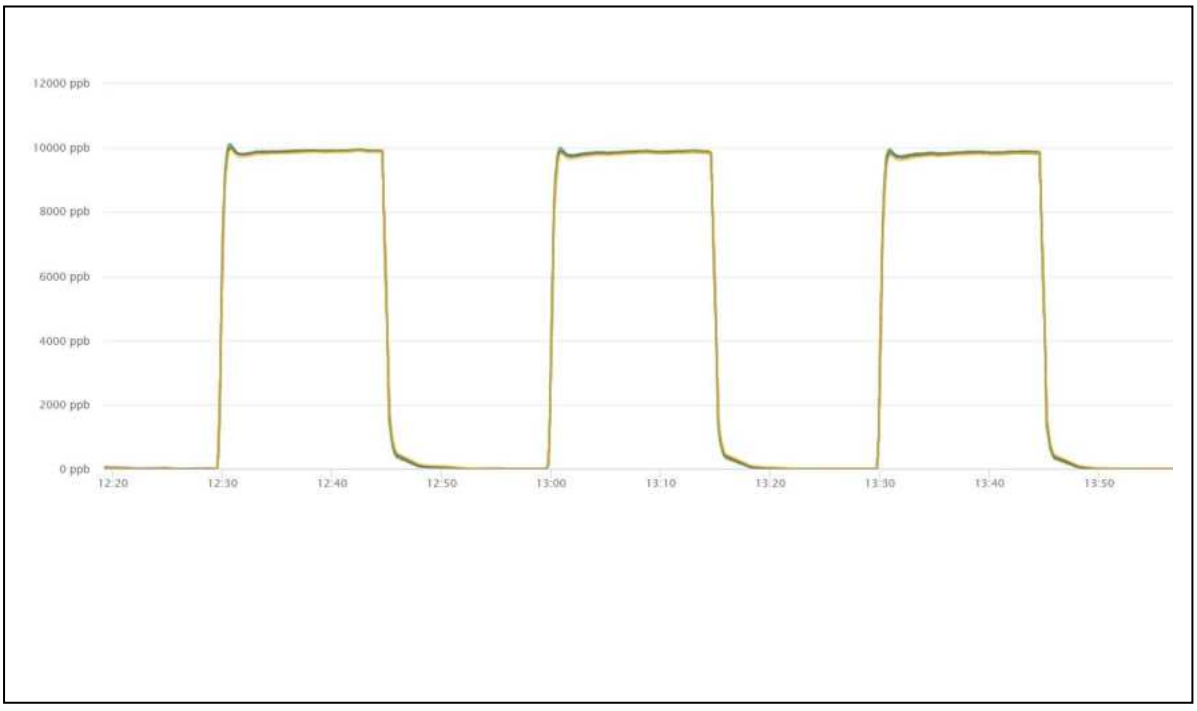
Laboratorio de Calibración
Autovía A-2 Km. 575 08293 COLLBATÓ (BARCELONA)
Tel. + 34 93 777 05 00
lab@mcvsa.com
www.mcvsa.com

CALIBRATION CERTIFICATE/*CERTIFICADO DE CALIBRACIÓN*

Gas & Limit Value/*Gas y Valor Límite*	CO
Device/*Equipo*	KUNAK AIR PRO
Software & Firmware version/*Versión Software y Firmware*	Software: Kunak Cloud v2.1.0 Firmware: 1.255.012
Cartridge SN/*Cartucho SN*	3021270036, 3021270040, 3021270037
Measuring principle/*Principio de medida*	Electrochemical sensor
Sensor System Holder/Soporte del Sistema del sensor	PMMA & Polycarbonate & Stainless steel
Manufacturer/*Fabricante*	KUNAK TECHNOLOGIES

Calibration date/*Fecha de calibración 14/09/2021*

Calibration conditions/*Condiciones de calibración*	23±5ºC 40%RH±20%RH
Calibration Test/*Pruebas de calibración*	Multipoint calibration
Other calibration test/*Otros test de calibración*	Repeatability, Limit of Detection (LOD), Response time
Calibration Analyzer/*Analizador de calibración*	MCV ML9830B sn 913B



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Tel. + 34 93 777 05 00
lab@mcvsa.com
www.mcvsa.com

Response Time/*Tiempo de respuesta (t90)*

SN	Selected test levels/*Niveles de prueba seleccionados* (ppm)	t_{90} in rise/ t_{90} *en subida* (s)	t_{90} in fall/ t_{90} *en bajada* (s)	t_{90} average/t_{90} media *(s)*	Duration of the test/*Duración del test* (min)	**Requirement of EU Technical Specification CEN/TC264/WG42**	**Status**
3021270036	10	40	49	44	30	t_{90} < 1/10 of averaging period (generally 1h)	**PASS**
3021270040	10	40	49	44	30		**PASS**
3021270037	10	40	49	44	30		**PASS**

Repeatability/*Repetibilidad* & **Limit of detection (LOD)/***Límite de detección*

SN	Selected test levels/*Niveles de prueba seleccionados* (ppm)	Duration of the test/ *Duración del test* (min)	Repetibility/ *Repetibilidad* (ppb)	Limit of Detection/ *Límite de Deteccion* (ppb)	**Requirement of EU Technical Specification CEN/TC264/WG42**	**Status**
3021270036	10	105	49,0613	48,18	Repetibility <50 ppb Limit of Detection <150 ppb	**PASS**
3021270040	10	105	39,7322	22,02		**PASS**
3021270037	10	105	41,8396	31,71		**PASS**

Date/*Fecha*

Autorized signatory/*Signatario Autorizado*

Josep Maria Martínez Trepat

Firmado digitalmente por Josep Maria Martínez Trepat
Fecha: 2021.11.29 15:26:29 +01'00'

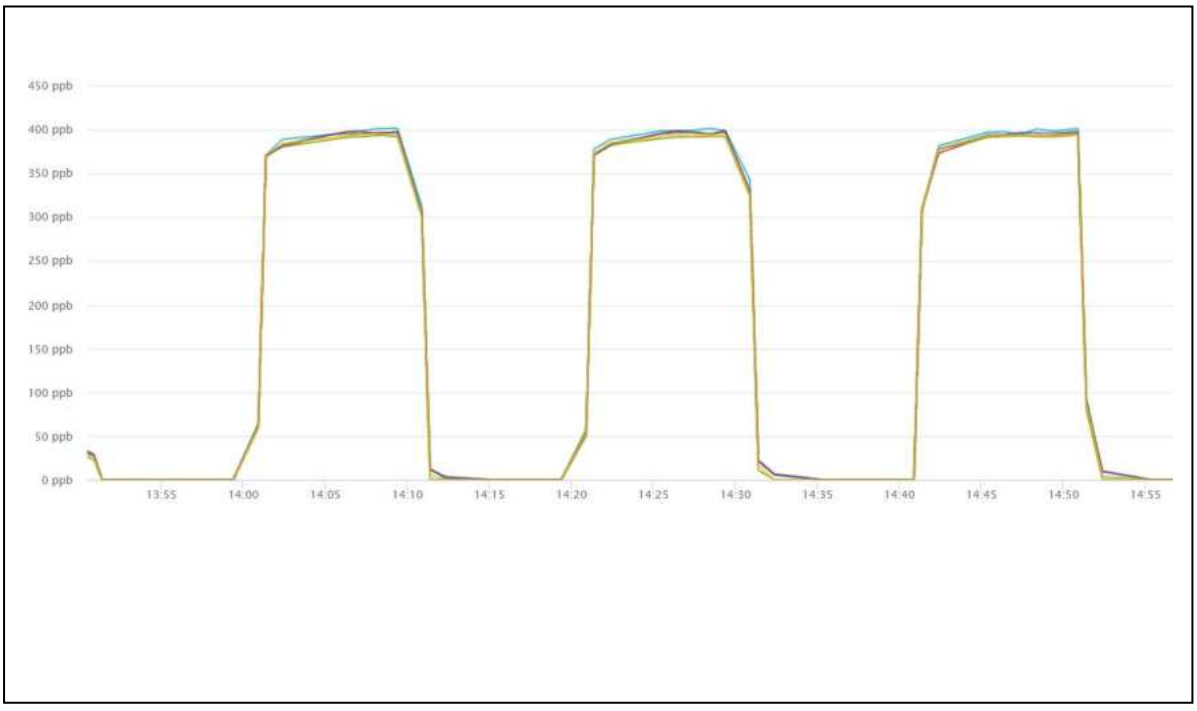
MCV, S.A.
Laboratorio de Calibración
Autovía A-2 Km. 575 08293 COLLBATÓ (BARCELONA)
Tel. + 34 93 777 05 00
lab@mcvsa.com
www.mcvsa.com

CALIBRATION CERTIFICATE/*CERTIFICADO DE CALIBRACIÓN*

Gas & Limit Value/*Gas y Valor Límite*	NO
Device/*Equipo*	KUNAK AIR PRO
Software & Firmware version/*Versión Software y Firmware*	Software: Kunak Cloud v2.1.0 Firmware: 1.255.012
Cartridge SN/*Cartucho SN*	3121270038, 3121270037, 3121140023
Measuring principle/*Principio de medida*	Electrochemical sensor
Sensor System Holder/Soporte del Sistema del sensor	PMMA & Polycarbonate & Stainless steel
Manufacturer/*Fabricante*	KUNAK TECHNOLOGIES

Calibration date/*Fecha de calibración 09/09/2021*

Calibration conditions/*Condiciones de calibración*	23±5ºC 40%Hr±20%Hr
Calibration Test/*Pruebas de calibración*	Multipoint calibration
Other calibration test/*Otros test de calibración*	Repeatability, Limit of Detection (LOD), Response time
Calibration Analyzer/*Analizador de calibración*	Teledyne T200 1443



MCV, S.A.
Laboratorio de Calibración
Autovía A-2 Km. 575 08293 COLLBATÓ (BARCELONA)
Tel. + 34 93 777 05 00
lab@mcvsa.com
www.mcvsa.com

Response Time/*Tiempo de respuesta (t90)*

SN	Selected test levels/*Niveles de prueba seleccionados* (ppb)	t_{90} in rise/ *t_{90} en subida* (s)	t_{90} in fall/ *t_{90} en bajada* (s)	t_{90} average/t_{90} media *(s)*	Duration of the test/*Duración del test* (s)	**Requirement of EU Technical Specification CEN/TC264/WG42**	**Status**
3121270038	400	60	60	60	20	t_{90} < 1/10 of averaging period (generally 1h)	**PASS**
3121270037	400	60	60	60	20		**PASS**
3121140023	400	60	60	60	20		**PASS**

Repeatability/*Repetibilidad* & **Limit of detection (LOD)/***Límite de detección*

SN	Selected test levels/*Niveles de prueba seleccionados* (ppb)	Duration of the test/ *Duración del test* (min)	Repetibility/ *Repetibilidad* (ppb)	Limit of Detection/ *Límite de Deteccion* (ppb)	**Requirement of EU Technical Specification CEN/TC264/WG42**	**Status**
3121270038	400	70	2,7756	1,95	Repetibility <4 ppb Limit of Detection <10 ppb	**PASS**
3121270037	400	70	3,2639	4,8		**PASS**
3121140023	400	70	2,6471	2,79		**PASS**

Date/*Fecha*

Autorized signatory/*Signatario Autorizado*

Josep Maria Martínez Trepat

Firmado digitalmente por Josep Maria Martínez Trepat
Fecha: 2021.11.29 15:29:32 +01'00'

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lab@mcvsa.com
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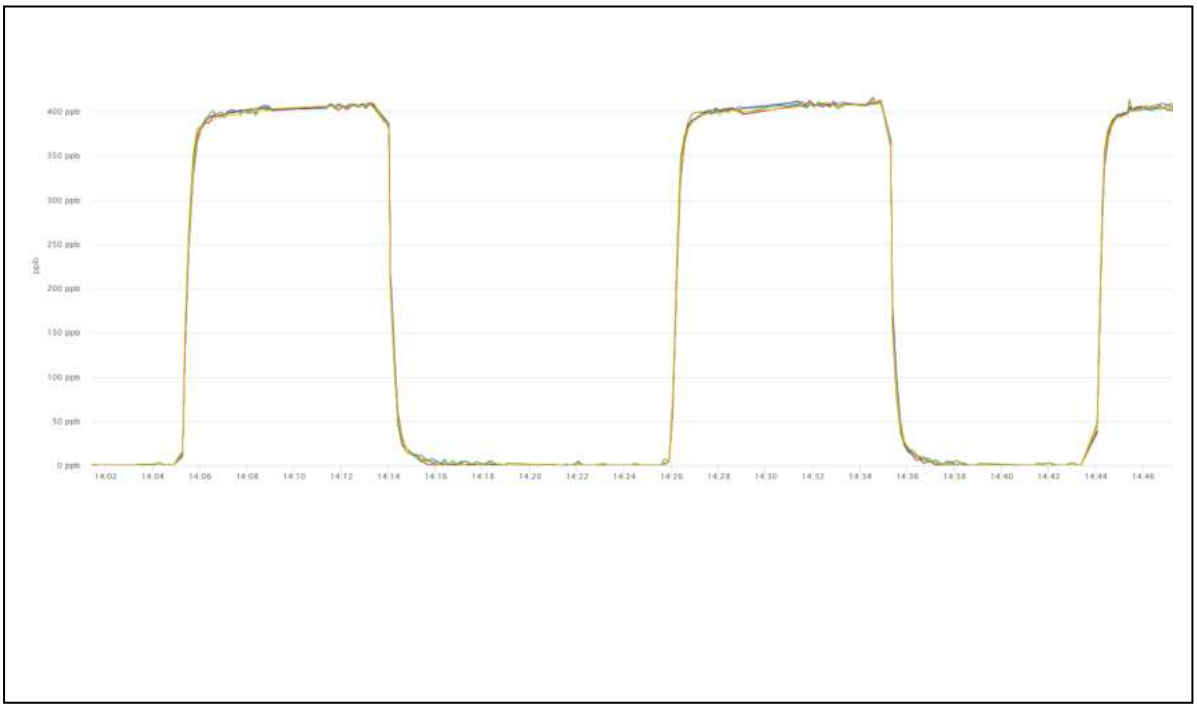
CALIBRATION CERTIFICATE/*CERTIFICADO DE CALIBRACIÓN*

Gas & Limit Value/*Gas y Valor Límite*	NO2
Device/*Equipo*	KUNAK AIR PRO
Software & Firmware version/*Versión Software y Firmware*	Software: Kunak Cloud v2.1.0 Firmware: 1.255.012
Cartridge SN/*Cartucho SN*	3221290058, 3221290066, 3221290063
Measuring principle/*Principio de medida*	Electrochemical sensor
Sensor System Holder/Soporte del Sistema del sensor	PMMA & Polycarbonate & Stainless steel
Manufacturer/*Fabricante*	KUNAK TECHNOLOGIES

Calibration date/*Fecha de calibración 10/09/2021*

Calibration conditions/*Condiciones de calibración*	23±5ºC 40%Hr±20%Hr
Calibration Test/*Pruebas de calibración*	Multipoint calibration
Other calibration test/*Otros test de calibración*	Repeatability, Limit of Detection (LOD), Response time
Calibration Analyzer/*Analizador de calibración*	Teledyne T200 1443



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Response Time/*Tiempo de respuesta (t90)*

SN	Selected test levels/*Niveles de prueba seleccionados* (ppb)	t_{90} in rise/ *t_{90} en subida* (s)	t_{90} in fall/ *t_{90} en bajada* (s)	t_{90} average/t_{90} media *(s)*	Duration of the test/*Duración del test* (min)	**Requirement of EU Technical Specification CEN/TC264/WG42**	**Status**
3221290058	400	43	34	38	20	t_{90} < 1/10 of averaging period (generally 1h)	**PASS**
3221290063	400	43	34	38	20		**PASS**
3221290066	400	53	54	54	20		**PASS**

Repeatability/*Repetibilidad* & **Limit of detection (LOD)/***Límite de detección*

SN	Selected test levels/*Niveles de prueba seleccionados* (ppb)	Duration of the test/ *Duración del test* (min)	Repetibility/ *Repetibilidad* (ppb)	Limit of Detection/ *LÍmite de Deteccion* (ppb)	**Requirement of EU Technical Specification CEN/TC264/WG42**	**Status**
3221290058	400 ppb	70	2,7756	5,19	Repetibility <4 ppb Limit of Detection <10 ppb	**PASS**
3221290063	400 ppb	70	3,2639	4,2		**PASS**
3221290066	400 ppb	70	2,6471	4,11		**PASS**

Date/*Fecha*

Autorized signatory/*Signatario Autorizado*

Josep Maria Martínez Trepat

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Fecha: 2021.11.29 15:29:06 +01'00'

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Laboratorio de Calibración
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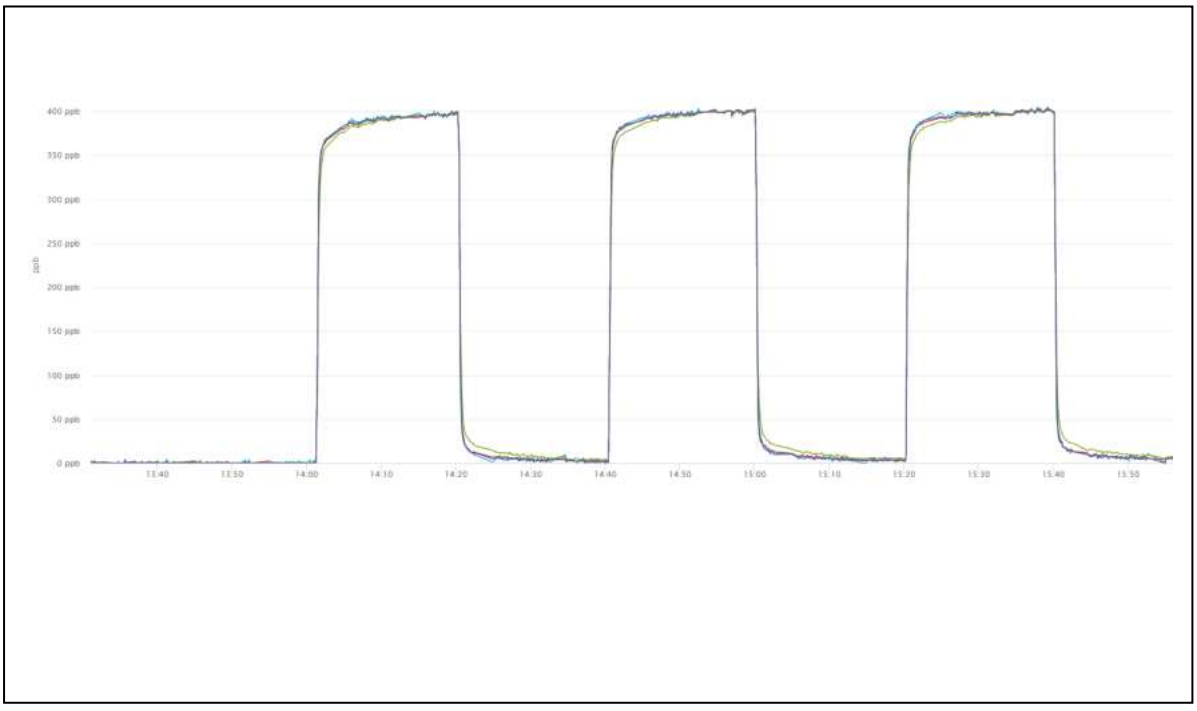
lab@mcvsa.com
www.mcvsa.com

CALIBRATION CERTIFICATE/*CERTIFICADO DE CALIBRACIÓN*

Gas & Limit Value/*Gas y Valor Límite*	0_3
Device/*Equipo*	KUNAK AIR PRO
Software & Firmware version/*Versión Software y Firmware*	Software: Kunak Cloud v2.1.0 Firmware: 1.255.012
Cartridge SN/*Cartucho SN*	3321270058, 3321240045, 3321270053
Measuring principle/*Principio de medida*	Electrochemical sensor
Sensor System Holder/Soporte del Sistema del sensor	PMMA & Polycarbonate & Stainless steel
Manufacturer/*Fabricante*	KUNAK TECHNOLOGIES

Calibration date/*Fecha de calibración 20/09/2021*

Calibration conditions/*Condiciones de calibración*	23±5ºC 40%Hr±20%Hr
Calibration Test/*Pruebas de calibración*	Multipoint calibration
Other calibration test/*Otros test de calibración*	Repeatability, Limit of Detection (LOD), Response time
Calibration Analyzer/*Analizador de calibración*	Teledyne T400 5966



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Response Time/*Tiempo de respuesta (t90)*

SN	Selected test levels/*Niveles de prueba seleccionados* (ppb)	t_{90} in rise/ *t_{90} en subida* (s)	t_{90} in fall/ *t_{90} en bajada* (s)	t_{90} average/t_{90} media *(s)*	Duration of the test/*Duración del test* (min)	**Requirement of EU Technical Specification CEN/TC264/WG42**	**Status**
3321270058	400	30	39	35	40	t_{90} < 1/10 of averaging period (generally 1h)	**PASS**
3321240045	400	30	39	35	40		**PASS**
3321270053	400	30	39	35	40		**PASS**

Repeatability/*Repetibilidad* & **Limit of detection (LOD)/***Límite de detección*

SN	Selected test levels/*Niveles de prueba seleccionados* (ppb)	Duration of the test/ *Duración del test* (min)	Repetibility/ *Repetibilidad* (ppb)	Limit of Detection/ *Límite de Deteccion* (ppb)	**Requirement of EU Technical Specification CEN/TC264/WG42**	**Status**
3321270058	400	140	2,4158	9,63	Repetibility <4 ppb Limit of Detection <10 ppb	**PASS**
3321240045	400	140	3,9321	5,79		**PASS**
3321270053	400	140	3,4438	8,4		**PASS**

Date/*Fecha*

Autorized signatory/*Signatario Autorizado*

Josep Maria Martínez Trepat

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Fecha: 2021.11.29 15:29:55 +01'00'

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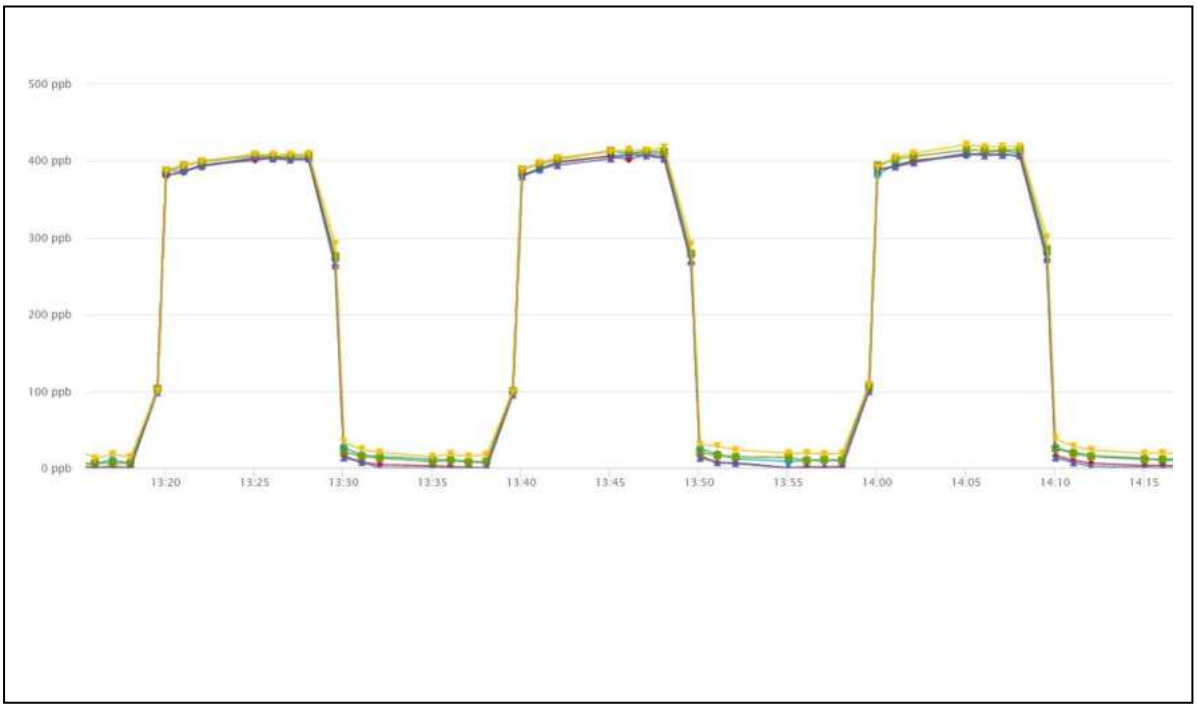
CALIBRATION CERTIFICATE/*CERTIFICADO DE CALIBRACIÓN*

Gas & Limit Value/*Gas y Valor Límite*	SO_2
Device/*Equipo*	KUNAK AIR PRO
Software & Firmware version/*Versión Software y Firmware*	Software: Kunak Cloud v2.1.0 Firmware: 1.255.012
Cartridge SN/*Cartucho SN*	3521290021, 3521290027, 3521290024
Measuring principle/*Principio de medida*	Electrochemical sensor
Sensor System Holder/Soporte del Sistema del sensor	PMMA & Polycarbonate & Stainless steel
Manufacturer/*Fabricante*	KUNAK TECHNOLOGIES

Calibration date/*Fecha de calibración 15/09/2021*

Calibration conditions/*Condiciones de calibración*	23±5ºC 40%Hr±20%Hr
Calibration Test/*Pruebas de calibración*	Multipoint calibration
Other calibration test/*Otros test de calibración*	Repeatability, Limit of Detection (LOD), Response time
Calibration Analyzer/*Analizador de calibración*	Thermo 43C sn 72194370



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Response Time/*Tiempo de respuesta (t90)*

SN	Selected test levels/*Niveles de prueba seleccionados* (ppb)	t_{90} in rise/ t_{90} *en subida* (s)	t_{90} in fall/ t_{90} *en bajada* (s)	t_{90} average/t_{90} media *(s)*	Duration of the test/*Duración del test* (min)	**Requirement of EU Technical Specification CEN/TC264/WG42**	**Status**
3521290021	400	29	29	29	20	t_{90} < 1/10 of averaging period (generally 1h)	**PASS**
3521290027	400	29	29	29	20		**PASS**
3521290024	400	29	29	29	20		**PASS**

Repeatability/*Repetibilidad* & **Limit of detection (LOD)/***Límite de detección*

SN	Selected test levels/*Niveles de prueba seleccionados* (ppb)	Duration of the test/ *Duración del test* (min)	Repetibility/ *Repetibilidad* (ppb)	Limit of Detection/ *Límite de Deteccion* (ppb)	**Requirement of EU Technical Specification CEN/TC264/WG42**	**Status**
3521290021	400	70	3,9578	8,58	Repetibility <4 ppb Limit of Detection <10 ppb	**PASS**
3521290027	400	70	2,7499	9,54		**PASS**
3521290024	400	70	3,2639	9,66		**PASS**

Date/*Fecha*

Autorized signatory/*Signatario Autorizado*

Josep Maria Martínez Trepat

Firmado digitalmente por Josep Maria Martínez Trepat
Fecha: 2021.11.29 15:25:47 +01'00'

Don/Doña:
Mr/Mrs: Jérôme De Waele

Empresa:
Company: AIRSCAN

En calidad de:
As: Managing Director

CERTIFICA:

Que la empresa **KUNAK TECHNOLOGIES, S.A.**, con CIF B71110837, ha ejecutado de forma satisfactoria todos los trabajos requeridos para la correcta ejecución del contrato en ***"Port of Cotonou Project"*** los cuales fueron realizados en el año **2023**

El presupuesto total asignado al citado contrato asciende a **197.302,45€** (sin IVA).

Los trabajos del presente contrato que se están desarrollando han consistido en:

- Suministro de 17 estaciones de monitoreo de calidad del aire y ruido, que incluyen sensores para medida de CO, O3, NO, NO2, SO2, un contador óptico de partículas (PM1, PM2.5, PM10) y sensor de ruido, sonómetro Tipo 2 (LAeq, Ld, Le, Ln) y variables meteorológicas como la temperatura ambiente, la humedad relativa, la presión atmosférica. Adicionalmente, se incorpora una sonda anemómetro en algunas de las estaciones. Las estaciones están alimentadas con panel solar.
- Instalación y despliegue de las redes de monitorización de calidad del aire y del ruido en el Puerto de Cotonou, en Benin.
- Comunicación de datos GPRS para trasmisión al cloud server de datos de monitorización en tiempo real.
- Integración de datos en una plataforma de gestión de la información que permita al Puerto de Benin acceder a los datos en tiempo real, generación sistemática de informes, exportación de datos y obtener información agregada mediante índices de calidad del aire.
- Operación y mantenimiento sistemática de la red de monitorización, realizando todas las tareas de gestión y validación de datos, mantenimiento de las

CERTIFIES:

That the company **KUNAK TECHNOLOGIES, S.A.**, tax ID B71110837, has satisfactorily executed all the works required for the correct execution of the contract in ***"Port of Cotonou Project"*** which were carried out in the year **2023.**

The total budget allocated to the cited contract amounts to **197.302,45€** (excluding VAT).

The works of the present contract that are being developed have consisted of:

- Supply of 17 air quality and noise monitoring stations, including sensors for measuring CO, O3, NO, NO2, SO2, an optical particle counter (PM1, PM2.5, PM10) and noise sensor, Type 2 sound level meter (LAeq, Ld, Le, Ln) and meteorological variables such as ambient temperature, relative humidity and atmospheric pressure. Additionally, an anemometer probe is incorporated in some of the stations. The stations are powered by solar panels.
- Installation and deployment of air quality and noise monitoring networks in the Port of Cotonou, Benin.
- GPRS data communication for transmission to the cloud server of monitoring data in real time.
- Integration of data in an information management platform that allows Port of Benin to access data in real time, systematically generate reports, export data and obtain aggregated information through air quality indices.
- Systematic operation and maintenance of the monitoring network, carrying out all data management and validation tasks, maintenance of monitoring units, calibration and adjustment of sensors, replacement of sensors at the end of their

unidades de monitorización, calibración y ajuste de sensores, sustitución de sensores al término de su vida útil, mantenimiento correctivo, gestión de alarmas y notificaciones.

- Análisis a través de los datos de monitorización de los diferentes orígenes de la contaminación detectada y de las magnitudes de las fuentes contaminantes de la calidad del aire y del ruido, con el objetivo de estudiar propuestas de mejora que desde un punto de vista operativo contribuyan a reducir las emisiones, para mejorar la calidad de vida de los usuarios del Puerto y de los propios ciudadanos del entorno portuario.
- Aplicación de modelos matemáticos meteorológicos, de retrotrayectorias y de dispersión de contaminantes.
- Elaboración de informes mensuales de estado de los equipos y el análisis técnico ambiental de los resultados.
- Apoyo en comunicaciones y difusión de información para medios, congresos y otros interesados.

Para que así conste, a los efectos oportunos y a petición del interesado, se extiende el presente certificado,

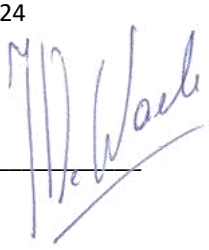
useful life, corrective maintenance, alarm management and notifications.

- Analysis through the monitoring data of the different origins of the pollution detected and of the magnitudes of the polluting sources of air quality and noise, with the aim of studying proposals for improvement which, from an operational point of view, contribute to reducing emissions, in order to improve the quality of life of the users of the Port and of the citizens of the port environment.
- Application of mathematical meteorological, back-trajectory and pollutant dispersion models.
- Preparation of monthly reports on the state of the equipment and the technical environmental analysis of the results.
- Support in communications and dissemination of information for the media, congresses and other interested parties.

For the record, for the appropriate purposes and at the request of the interested party, this certificate is issued as follows,

Brussels, 21/05/2024

Firmado/Signed: _____



Certificate of Accreditation

Completion

Presented by the

U.S. Department of Homeland Security

Cybersecurity and Infrastructure Security Agency (CISA)

Awarded To

Envizom by Oizom Instruments

For completion of the standard:

100W Cybersecurity Practices for Industrial Control Systems

On

5/5/2023

CEUs Awarded: .20

ACCREDITED IACET PROVIDER

CISA CYBER+INFRASTRUCTURE

CERTIFICATE NO:
DIPP127144

Government of India
Ministry of Commerce & Industry
Department for Promotion of Industry and Internal Trade

#startupindia

CERTIFICATE OF RECOGNITION

This is to certify that ***ENGINEERING AND ENVIRONMENTAL SOLUTIONS PRIVATE LIMITED*** *incorporated as a* ***Private Limited Company*** *on* ***25-10-2019****, is recognized as a startup by the Department for Promotion of Industry and Internal Trade. The startup is working in 'Technology Hardware' Industry and 'Embedded' sector as self-certified by them.*

This certificate shall only be valid for the Entity up to **Ten** years from the date of its incorporation only if its turnover for any of the financial years has not extended ₹ **100 Cr.**

29-03-2023	24-10-2029
DATE OF ISSUE	**VALID UPTO**

START IN UP

CERTIFICATE
OF REGISTRATION

This is to Certify that ENGINEERING AND ENVIRONMENTAL SOLUTIONS PVT LTD Incorporated/Registered with Registration No. R/STARTUP/UP/LKO/2023/00007609 as Private Limited Company is recognized as a Startup by Department of IT & Electronics, GoUP through its nodal agency Uttar Pradesh Electronics Corporation Ltd. (UPLC).

Date of Issuance: 05-09-2023 **Place of Issuance:** Lucknow

The certificate shall only be valid for the entity:
-- Period of existence and operations should not exceed 10 years from the Date of Incorporation/Registration, and
-- Annual turnover of the entity should not exceed more than INR 100 crores for any of the financial years since its incorporation.

Note:
-- Authorities accepting this Certificate may check its validity on the Start In UP Portal (www.startinup.in).
-- This is a system generated Certificate does not require any physical signature.

CERTIFICATE
of Conformity

TÜVRheinland®

Registration No.: AK 50548168 0001

Report No.: IN22MOTU 001

Holder:
ENGINEERING AND ENVIRONMENTAL SOLUTIONS PRIVATE LIMITED
4/1309, NEW SIR SYED NAGAR
ALIGARH, 202001
India

Product:
Laboratory Equipment
Effluent Monitoring system (Online Water Analyzer)

Identification:
EE-WA404A
Trademark: E&E SOLUTIONS
Rating: 230VAC
50Hz; 30W

Tested acc. to:
EN 55011:2016+A1+A11+A2
EN 61000-4-2:2009
EN 61000-4-4:2012
EN 61000-4-5:2014+A1
EN 61000-4-6:2014
EN 61000-4-8:2010
EN IEC 61000-4-11/AC

The certificate of conformity refers to the above mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned above. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity.

Certification Body

Date 17.06.2022

Dipl.-Ing. Thomas Berns

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

Certificate of Registration

ENGINEERING AND ENVIRONMENTAL SOLUTIONS PRIVATE LIMITED

PLOT NO E-32 CDF INDUSTRIAL AREA, CHHERATH ANOOPSHAHAR ROAD, ALIGARH-202122, UTTAR PRADESH, INDIA

has been assessed and Certified by Otabu Certification Pvt. Ltd. as meeting the requirements of:

ISO 9001:2015

Quality Management System

For the following scope of activities:

MANUFACTURING AND SUPPLYING OF ENVIRONMENTAL MONITORING EQUIPMENTS

Issue No: 01
Date of Certification: 22 May 2023
1st Surveillance Due: 21 May 2024

Revision No( ) : NA
2nd Surveillance Due: 21 May 2025
Certificate Expiry: 21 May 2026
(subject to the company maintaining its system to the required standard)

Certificate Number: 0522Q174223

Validity of this certificate can be verified at www.otabucert.com

Dr. Anita Gupta
(Managing Director)

*Validity of the certificate is subject to successful completion of surveillance audit on or before due date (in case surveillance audit is not allowed to be conducted, this certificate shall be suspended/withdrawal). *This Certificate of Registration remains the Property of Otabu Certification Pvt. Ltd. and shall be returned immediately upon request.

Otabu Certification Pvt. Ltd., RZ-9 (Ground Floor), Prem Nagar, Uttam Nagar, New Delhi-110059 (India)
Email:- info@otabucert.com website:-www.otabucert.com

Scanned with CamScanner

Euroglobe registrars

CERTIFICATE OF COMPLIANCE

WE HEREBY DECLARE THAT THE TECHNICAL FILE OF

ENGINEERING AND ENVIRONMENTAL SOLUTIONS PVT. LTD.

FACTOR NO. E-32, C.D.F. INDUSTRIAL AREA, ALIGARH - 202122, UTTAR PRADESH, INDIA

has been assessed & found to be in conformance with the provisions set forth by the requirement of Directive Low Voltage Directive (2014/35/EU).

PRODUCT DESCRIPTION :- MANUFACTURER AND SUPPLIER OF AIR POLLUTION MONITORING INSTRUMENTS, ONLINE EMISSION MONITORING SYSTEM, WATER TESTING INSTRUMENTS, SPARE AND CONSUMABLES TO LABORATORIES, CONSULTANCY OF NEW LABORATORY SET UP AND SERVICES OF NABL ACCREDITED CALIBRATION SERVICES FOR INSTRUMENTS & AMC OF LAB EQUIPMENT

The Certification body has performed a sample audit of the above product quality system covering the design, manufacture & final inspection or the certified product(s). The quality system has been assessed, approved and is subject to continuous surveillance according to Directive Low Voltage Directive (2014/35/EU). No additional test report was carried out from submitted type sample of the product in Compliance with the Specification of the respective standards except those submitted by the Customer.

CE

Director (Certification)

Euroglobe Registrars
13-14 Old Square
London WC2A 3UT
UK
Since 2007

Certificate No.:	182758
Date of Issue:	10-11-2022
Date of Expiry:	09-11-2025
Ist Surveillance due:	10-10-2023
IInd Surveillance due:	10-10-2024

Scan to validate

International Operations: 13-14 Old Square, London WC2A 3UT, UK
Email: Info@eurogloberegistrars.co.uk

The validity of this certificate can be verified at http://eurogloberegistrars.co.uk or by scanning the QR code.
This certificate remains the property of Euroglobe Registrars and must be returned whenever demanded.
Euroglobe Registrars is an independent system, product and personal assessment body.

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

South Asia

CERTIFICATE

The Certification Body
of TÜV SÜD South Asia Private Limited

certifies that

Engineering and Environmental Solutions Private Limited

E- 32, C.D.F. Industrial Area , Cherrat,
Aligarh, Uttar Pradesh – 202001, India

has implemented Quality Management System

in accordance with **ISO 9001:2015**

for the scope of

DESIGN, MANUFACTURING AND SUPPLY OF ONLINE ENVIRONMENTAL MONITORING EQUIPMENT, I, E, AUTOMATIC WEATHER STATION, DIGITAL WATER LEVEL RECORDER, AIR QUALITY MONITORING SYSTEM, CONTINUOUS EMISSION MONITORING SYSTEM, PORTABLE GAS ANALYZER, DIGITALWATER FLOWMETER AND IOT SOLUTIONS

The certificate is valid from **2021-03-26** until **2024-03-25**
Subject to successful completion of annual periodic audits

The present status of this certificate can be obtained through TUV SUD website by scanning below QR code and by entering the certificate number (without spaces) on web page. Further clarifications regarding the status & scope of this certificate may be obtained by consulting the certification body at info.in@tuvsud.com

Certificate Registration No. **99 100 21061**

Date of Initial certification: **2021-03-26**

Issue Date: **2023-01-12** Rev. **01**

Rahul Kale
Head of Certification Body
of TÜV SÜD South Asia Private Limited,
Mumbai
Member of TÜV SÜD Group

NABCB QM011

FIRST QUALITY CERTIFICATION

FIRST QUALITY CERTIFICATION

CERTIFICATE OF CONFORMITY

Certificate No : 08.24.12173.205112

Name and Address of Certificate Owner	:	Oizom Instruments Pvt. Ltd. House No. 2, Garden View Corporate House,Opp. Bodakdev Auda Garden Ahmedabad, India - 380054
Name and Address of Manufacturer	:	Oizom Instruments Pvt. Ltd. House No. 2, Garden View Corporate House,Opp. Bodakdev Auda Garden Ahmedabad, India - 380054
Product Name	:	Oizom Air Quality Monitoring System
Product Type/Model(s)	:	•Polludrone Lite •Polludrone Smart & Polludrone Pro, •Dustroid Smart & Dustroid Pro •Odosense Lite, Odosense Smart, & Odosense Pro •Weathercom •AQBot &Pollusense
Product Commercial Brand	:	OIZOM REDEFINING RESOURCES
Applicable EC Directive (s)	:	LVD (2014/35/EU)& EMC (2014/30/EU)
Applicable Harmonized Standard(s)/	:	IEC 61010-1 & IEC 61326-1
Report No	:	**SWEN KONFORMITY LLP** SWEN/21-22/218-01-AMD-01; Dated 04/08/2021 SWEN/24-25/442-01, 442-02 & 442- 03; Dated 30/08/2024 **Electronics Test and Development Centre [ETDC]** TE-11(21-22); Dated: 15/11/2021

FQC STANDARD confirms type which is mentioned above according to the 2014/35/EU Low Voltage Directive and 2014/30/EU Electromagnetic Compatibility Directive based on inspection report. This certificate of compliance does not abrogate the compulsory of the manufacturer to issue declaration of conformity. Other relevant directives have to be observed. This certificate was issued on voluntary basis of manufacturer. However, manufacturer may affix the CE mark on the above mentioned product."

Certificate Issue Date *:20.09.2024*

Certificate Expiry Date *:20.09.2029*

Certification Manager

FQC STANDARD PRODUCT

FQC STANDARD UYGUNLUK DEĞERLENDİRME A.Ş.

fqcstandard.com.tr
info@fqcglobal.org
0216 255 55 99
0216 457 69 08
İçerenköy Mah. Bahçelerarası Sk.
No:43 Kat:14/A Ataşehir /İSTANBUL

PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

Dustroid®

Manufactured by:

Oizom Instruments Private Limited
2, Garden View Corporate House,
Opp Auda Garden, Bodakdev,
Ahmedabad Gujarat 380054
India

has been assessed by CSA Group
and for the conditions stated on this certificate complies with:

MCERTS Performance Standards for Indicative Ambient Particulate Monitors, Environment Agency, August 2017, version 4

Certification ranges:

$PM_{2.5}$ 0-5,000 µg/m^3
PM_{10} 0-5,000 µg/m^3

Project No.:	80226856
Certificate No:	CSA MC230419/01
Initial Certification:	5 October 2023
This Certificate issued:	17 December 2024
Renewal Date:	4 October 2028

Andrew Young
Environmental Team Manager

MCERTS is operated on behalf of the Environment Agency by

CSA Group Testing UK Ltd
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
Tel: +44 (0)1244 670 900

The MCERTS certificate consists of this document in its entirety.
For conditions of use, please consider all the information within.
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To authenticate the validity of this certificate please visit www.csagroupuk.org/mcerts

Form 1335
Issue 12

Certificate Contents

Approved Site Application

Any potential user should make sure, in consultation with the manufacturer, that the monitoring system is suitable for the intended application. For general guidance on monitoring techniques refer to the Environment Agency guidance available at www.mcerts.net

The indicative dust monitoring analyser(s) can be operated in one of two ways:

For qualitative measurements: Providing qualitative measurement data for the analysis of particulate pollution trends, and source identification studies based for example on pollution roses etc. Such application can rely on instrument factory calibration only.

For quantitative measurements: Providing measurement data with the uncertainty defined for indicative instruments (+/- 50%). This can be achieved on condition that each instrument used for measurement has been calibrated on the specific site where monitoring is taking place against a standard reference method for a period of two weeks and the resulting slope and intercept have been used for instrument calibration. Using non-standard filters and procedures for this purpose is not acceptable. To maintain the validity of data this calibration has to be repeated at least every twelve months or when the instrument is moved to a different site.

They **cannot** be used on national automatic monitoring networks for compliance reporting against the Ambient Air Quality Directives.

The field tests were carried out from the 1 February 2023 to the 21 March 2023 on two candidate 'Dustroid®' samplers, collocated with a Met One BAM 1020 (the reference method). The location of the field test was in Ahmedabad Textile Industry's Research Association (ATIRA), Ahmedabad 380015, Gujarat, India. The serial numbers of the two 'Dustroid®' monitors were 'PM01D0005' and 'PM01D0006'.

Basis of Certification

This certification is based on the following test report(s) and on CSA Group's assessment and ongoing surveillance of the product and the manufacturing process:

Bureau Veritas, test report ref. AIR18330458, dated May 2023, "Oizom, Test of the Dustroid for use as an Indicative Monitor for PM_{10} and $PM_{2.5}$"

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To authenticate the validity of this certificate please visit www.csagroupuk.org/mcerts

Product Certified

The 'Dustroid®' measuring system consists of the following parts:

- An IP66 Grade enclosure
- Particulate matter sensor (OZPM_1)
- Heated inlet (OZHT)

Sensor type and firmware version
Oizom Dust Sensor model number OZPM_1 with firmware version 1.1

Sensor system
Dustroid Version 6.0, Firmware version 1.4, Algorithm Version (note 5.)

This certificate applies to all instruments fitted with serial number PM01D0005 onwards.

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Certified Performance

Test (***Laboratory***)	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Constancy of the sample volumetric flow					Not applicable Note 1	To remain constant within ± 3%
Tightness of the sampling system	0.34%					Leakage not to exceed 2% of sampled volume

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Test (**Field**)	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Intra-instrument uncertainty for the reference method						
PM_{10}					0.67µg/m³	≤2.5µg/m³
$PM_{2.5}$					0.67µg/m³	≤2.5µg/m³
Intra-instrument uncertainty for the candidate method						
PM_{10}						
All data (n=48)					1.70µg/m³	≤5µg/m³ for all data as well as for the subsets: < or ≥ 30 µg/m³
≥ 30 µg/m³ (n=48)					1.70µg/m³	
< 30 µg/m³ (n=0)					N/A	
$PM_{2.5}$						
All data (n48)					0.76µg/m³	≤5µg/m³ for all data as well as for the subsets: < or ≥ 30 µg/m³
≥ 18 µg/m³ (n=48)					0.76µg/m³	
< 18 µg/m³ (n=0)					N/A	
Highest resulting uncertainty estimate comparison against data quality objective (Measurement Uncertainty)						W_{CM}≤50% $W_{CM} \leq W_{dpo}$ (W_{dpo} Measurement uncertainty defined as 50% for indicative instruments)
PM_{10}						
All data (n=48)					48.8%	
≥ 30 µg/m³ (n=48)					48.8%(note 4)	
$PM_{2.5}$						
All data (n=48)					47.3%	
≥ 18 µg/m³ (n=0)					47.3%(note 5)	
Maintenance Interval					13 weeks Note 2	≥2 weeks

Note 1 - The Dustroid utilises a fan and not a pump, therefore it was agreed that this test was not applicable.
Note 2 - Maintenance - the manufacturer recommends that users undertake quarterly cleaning of the air inlet and outer mesh. The expected life for the replacement of the dust sensor is 12 months. It is further recommended to change the PM sensor after 12 months operation.
Note 3 - The Dustroid must be set up using the configuration, as follows; i) Oizom Dust Sensor Model Number OZPM_1 Firmware Version 1.1, and ii) Sensor system – Dustroid Version 6.0 Firmware version 1.4. Algorithm version: 1.0. Any modifications to the algorithm will need approval by the certification committee.
Note 4 – All the PM_{10} data points were greater than 30µg/m³ therefore the expanded uncertainty for high data is the same, 48.8%
Note 5 – All the $PM_{2.5}$ data points were greater than 18µg/m³ therefore the expanded uncertainty for high data is the same, 47.3%

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Description

Dustroid is an active sampling based, online particulate matter monitor by Oizom. It has the capabilities to monitor up to four different types of particulate matter; PM_1, $PM_{2.5}$, PM_{10} and PM_{100} (PM_1 and PM_{100} not covered under this certification).

Dustroid monitor is also equipped with capabilities to add a gas sensor box which can integrate up to nine gases in a single enclosure (not cover under this certification). The monitors are built with a processor-based system to conduct compensation and correction algorithms. The system generates data in real time through a variety of communication protocols such as GSM, LTE, 5G, WiFi, LORA, Ethernet, Modbus, LAN, RS485, RS232, NBIoT and satellite communication.

Dustroid monitors can run independently on solar powered systems and have an internal memory backup for 120 days or more. The Dustroid has artificial intelligence capabilities which enables over the air calibration, remote diagnosis and troubleshooting.

General Notes

1. This certificate is based upon the equipment tested. The Manufacturer is responsible for ensuring that on-going production complies with the standard(s) and performance criteria defined in this certificate. The manufacturer is required to maintain an approved quality management system controlling the manufacture of the certified product. Both the product and the quality management system shall be subject to regular surveillance according to 'Regulations Applicable to the Holders of CSA Group Testing UK Ltd Certificates'.

2. The design of the product certified is defined in the CSA Group design schedule for certificate no. CSA MC230419/01.

3. If a certified product is found not to comply, CSA Group should be notified immediately at the address shown on this certificate.

4. The certification marks that can be applied to the product or used in publicity material are defined in 'Regulations Applicable to the Holders of CSA Group Testing UK Ltd Certificates'.

5. This document remains the property of CSA Group and shall be returned when requested by CSA Group.

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CERTIFICATE

QA-AC-5570/21

QA TECHNIC – ATTESTATION OF CONFORMITY

2014/35/EU LOW VOLTAGE DIRECTIVE

2014/30/EU ELECTROMAGNETIC COMPATIBILITY DIRECTIVE

Oizom Instruments Pvt. Ltd.
306, Indraprasth Corporate, Near Shell Petrol Pump,
AnandNagar, Ahmedabad - India. ZipCode: 380015.

Product Name	: Oizom Air Quality Monitoring System
Product Type (s)/ Model(s)	: -DustroidSmart & DustroidPro -OdosenseLite , OdosenseSmart & OdosensePro -PolludroneLite , PolludroneSmart & PolludronePro -Weathercom
Product Commercial Brand	: OIZOM REDEFINING RESOURCES
Applicable EC Directive (s)	: LOW VOLTAGE DIRECTIVE (2014/35/EU) EMC DIRECTIVE (2014/30/EU)
Applicable Harmonized Standard(s)/	: IEC 61010-1 & IEC 61326-1
Test Report(s) and Date(s)	: SWEN KONFORMITY, SWEN/21-22/218-01-AMD-01;04.08.2021 Electronics Test and Development Centre [ETDC] TE-11(21-22);15.11.2021

The Present certificate is valid just for the analysed product design. The certificate shall lose its validity in case of any changes in the product.

The CE mark as shown below can be used, under the responsibility of the manufacturer or the importer, after completion of an EC Declaration of Conformity and compliance with all relevant EC Directives.

CE

Certificate Issue Date : 21.12.2021
Sertifika Düzenlenme Tarihi

Certificate Validity Date : 21.12.2022
Sertifika Geçerlilik Tarihi

Certification Expiry Date : 21.12.2026
Sertifikasyon Bitiş Tarihi

Re-Assessment Period : 5 years
Belgelendirme Periyodu

Begüm ADAKAN
Overseas Operation Manager

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TECHNICAL CONTROL AND
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