INTERNATIONAL ACCREDITATION SERVICE®

CERTIFICATE OF ACCREDITATION

This is to attest that

MUDIAME INTERNATIONAL LIMITED

105, IGBO ETCHE ROAD, OPPOSITE ENERCO, RUMUOKWURUSI, PORT-HARCOURT
RIVERS STATE 234, NIGERIA

Calibration Laboratory CL-168

has met the requirements of AC204, *IAS Accreditation Criteria for Calibration Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2017, *General requirements for the competence of testing and calibration laboratories.* This organization is accredited to provide the services specified in the scope of accreditation.

Effective Date June 13, 2024

Expiration Date February 1, 2026

IAS ACCREDITED

President

IAS is an ILAC MRA Signatory

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SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

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MUDIAME INTERNATIONAL LIMITED

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Accredited to ISO/IEC 17025:2017 *Effective Date June 13, 2024*

CALIBRATION AND MEASUREMENT CAPABILITY (CMC)*

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY[1,2] (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
Dimensional			
Calipers	0 mm to 300 mm 300 mm to 1000 mm	12 µm 20 µm	MIL-INC-PROC-029 Grade '0' Gage Blocks / Height Gauge Checker
Micrometers	0 mm to 25 mm 25 mm to 150 mm	1.5 µm 12 µm	MIL-INC-PROC-030 Grade '0' Gage Blocks
Mechanical			
Scales and Balances[5]	10 mg to 200 g 200 g to 200 kg	1.8 mg or 0.004 % 0.015 %	MIL-INC-PROC-035 Using F2 class weights Classes M1 and F2 Weights (Masses)
Pressure Gauges / Pressure Transducer	1 bar to 700 bar 25 bar to 5000 bar	0.75 % 0.03 % FS	MIL-INC-PROC-017 Hydraulic Dead Weight Tester; Master Digital Pressure Gauge. WIKAI Hydraulic Dead Weight Tester
Pneumatic Gauges[5]	0.1 bar to 20 bar	0.3 %	MIL-INC-PROC-034 Pneumatic Pressure Calibrator
Pressure Chart Recorder	25 bar to 2000 bar	0.8 %	MIL-INC-PROC-017 Pressure Comparator; Hydraulic Dead Weight Tester; Master Digital Pressure Gauge
Pneumatic Pressure Calibrator[5]	0.1 bar to 40 bar	0.75 %	MIL-INC-PROC-034 Master pressure Gauge

** If information in this CMC is presented in non-SI units, the conversion factors stated in NIST Special Publication 811 "Guide for the Use of the International System of Units (SI)" apply.*

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY[1,2] (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
Universal Testing Machine / Hydraulic Compression Machine (Compression only)[5]	10 kN to 3000 kN	0.2 %	MIL-INC-PROC-036 Standard Dynamometer and Digital Indicator
Torque Wrench	200 N·m to 2000 N·m	0.9 %	MIL-INC-PROC-018 Electronic Torque Calibrator (Norbar - Truchek)
Thermal			
Infrared Thermometer[5]	35 °C to 100 °C 100 °C to 350 °C 350 °C to 500 °C	0.38 °C 0.46 °C 0.65 °C	MIL-INC-PROC-031 Fluke 4181
Thermocouple Type 'K'[5]	50 °C to 1200 °C	1.6 %	MIL-INC-PROC-032 Dry Well Calibrator
Electrical Temperature Simulation (Thermocouples Type K, J, N, S) [5]	-150 °C to -0.5 °C 0.5 °C to 700 °C 700 °C to 1300 °C	0.33 °C 0.31 °C 1.1 °C	MIL-INC-PROC-037 Precision Multi Product Calibrator (Transmille 3041A)
Ovens and Furnaces[5]	1 °C to 550 °C	1 °C	MIL-INC-PROC-033 Thermocouple Type 'K'
Electrical – DC/LF			
DC Voltage Generate[3]	0.2 V to 2.02 V 2.02 V to 20.2 V 20.2 V to 202 V 202 V to 1000 V	0.0041 % + 7 µV 0.0035 % 0.0045 % 0.044 %	MIL-INC-PROC-026 Precision Multi Product Calibrator (Trans mille 3041A)
AC Voltage Generate[3] (@ 45 Hz to 1 kHz)	0.2 V to 2.02 V 2.02 V to 20.2 V 20.2 V to 202 V 202 V to 1000 V	0.042 % 0.042 % 0.055 % 0.043 %	MIL-INC-PROC-026 Precision Multi Product Calibrator (Transmille 3041A)
DC Current Generate[3]	0.2 mA to 20.2 mA 20.2 mA to 202 mA 202 mA to 2.02 A 2.02 A to 10 A 10 A to 1000 A	0.0055 % + 0.52 µA 0.011 % 0.015 % 0.048 % 0.22 %	MIL-INC-PROC-026 Precision Multi Product Calibrator (Transmille 3041A), With current coil
AC Current Generate[3] (@ 50 Hz)	0.2 mA to 200 mA 200 mA to 2 A 2 A to 10 A 10 A to 1000 A	0.035 % 0.04 % 0.077 % 0.24 %	MIL-INC-PROC-026 Precision Multi Product Calibrator (Transmille 3041A), With current coil
DC Resistance Generate[3]	1 Ω to 10 Ω 10 Ω to 100 kΩ 100 kΩ to 1 MΩ 1 MΩ to 100 MΩ 100 MΩ to 1 GΩ	0.53 % 0.01 % 0.02 % 0.6 % 1.3 %	MIL-INC-PROC-026 Precision Multiproduct Calibrator (Transmille 3041A)

[1]The uncertainty covered by the Calibration and Measurement Capability (CMC) is expressed as the expanded uncertainty having a coverage probability of approximately 95 %. It is the smallest measurement uncertainty that a laboratory can achieve within its scope of accreditation when performing calibrations of a best existing device. The measurement uncertainty reported on a calibration certificate may be greater than that provided in the CMC due to the behavior of the calibration item and other factors that may contribute to the uncertainty of a specific calibration.

[2]When uncertainty is stated in relative terms (such as percent, a multiplier expressed as a decimal fraction or in scientific notation), it is in relation to instrument reading or instrument output, as appropriate, unless otherwise indicated.

[3]Capability is suitable for the calibration of measuring devices in the stated ranges.

[4]Capability is suitable for the calibration of devices intended to generate the indicated quantity in the stated ranges.

FS = full scale