



NEXA ANALYTICAL
LABORATORIES INC.

EQUIPMENT CALIBRATION LOG

Instrument Performance & Traceability Record

47 Meridian Science Park, Sector 9, Harborview, HV 30220

DOCUMENT INFO

Form No: NAL-CAL-001

Revision: 04

Issue Date: 01 Apr 2025

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ISO 9001:2015

ISO/IEC 17025:2017

Facility Details

Facility: Nexa Analytical Laboratories Inc.
Division: Quality & Metrology Services
Lab Location: Building C, Bay 4 – Precision Lab
Lab Temp. Range: (20 ± 2) °C RH: 45–60%
Accreditation: NAL-ILAC-2025-0047
NIST Traceable: Yes – Certificate Attached

Log Period & Authorization

Log Period: April 2025 – March 2026
Fiscal Year: FY 2025–2026
Prepared By: Dr. Elena Vasquez, Lead Metrologist
Reviewed By: Marcus Okafor, QA Manager
Approved By: Dr. Priya Nair, Lab Director
Next Review: 01 Apr 2026

Legend & Abbreviations  **PASS** Within tolerance, no adjustment required  **FAIL** Out-of-tolerance, corrective action required
 **ADJ** Adjusted to specification during calibration **AF = As-Found** **AL = As-Left** **Tol. = Tolerance** **Ref. Std. = Reference Standard**
N/A = Not Applicable

SECTION 1 — TEMPERATURE & THERMAL MEASUREMENT INSTRUMENTS

Calibrated against NIST-traceable
Fluke 1594A Super-Thermometer

Temperature & Thermal Instruments – Calibration Records (April 2025 – March 2026)

Instr. ID	Description / Model	Mfr.	Cal. Date	Due Date	Nom. Value	Tolerance	AF Reading	AL Reading	AF Error	AL Error	P/F	Ref. Std.	Tech.
TMP-001	Platinum RTD Thermometer NX-RTD-400	Nexa	04 Apr 2025	04 Apr 2026	0.00 °C	± 0.05	+0.03	+0.01	+0.03	+0.01	 PASS	FS-RTD-1A	EV
TMP-002	Type-K Thermocouple Scanner Vertex V-TC8	Vertex	04 Apr 2025	04 Apr 2026	100.00 °C	± 0.20	−0.41	−0.08	−0.41	−0.08	 ADJ	FS-RTD-1A	MO
TMP-003	Infrared Pyrometer Apex IRT-600	Apex	07 Apr 2025	07 Oct 2025	500.0 °C	± 1.50	+0.80	+0.80	+0.80	+0.80	 PASS	BB-CAL-03	LK
TMP-004	NIST Calibrated Thermistor Synapse SX-200T	Synapse	08 Apr 2025	08 Apr 2026	23.00 °C	± 0.02	+0.03	+0.01	+0.03	+0.01	 ADJ	FS-RTD-1A	EV

Instr. ID	Description / Model	Mfr.	Cal. Date	Due Date	Nom. Value	Tolerance	AF Reading	AL Reading	AF Error	AL Error	P/F	Ref. Std.	Tech.
TMP-005	Data Logger Temperature Nimbus DL-T4	Nimbus	09 Apr 2025	09 Apr 2026	−20.00 °C	± 0.10	−0.07	−0.07	−0.07	−0.07	✅ PASS	FS-RTD-1A	MO
TMP-006	Dry Block Calibrator Meridian DB-650	Meridian	10 Apr 2025	10 Apr 2026	300.0 °C	± 0.30	+0.18	+0.18	+0.18	+0.18	✅ PASS	FS-RTD-1A	LK
TMP-007	Humidity & Temp. Combo Apex HT-200	Apex	11 Apr 2025	11 Apr 2026	50.0 % RH	± 1.0	+1.8	+0.4	+1.8	+0.4	🔧 ADJ	HUM-REF-2	EV
TMP-008	Thermocouple Calibrator Vertex TC-CAL3	Vertex	14 Apr 2025	14 Apr 2026	200.00 °C	± 0.15	−0.09	−0.09	−0.09	−0.09	✅ PASS	FS-RTD-1A	MO
TMP-009	Cryogenic Probe Nexa CRY-80	Nexa	15 Apr 2025	15 Oct 2025	−80.0 °C	± 0.50	+2.10	—	+2.10	—	❌ FAIL	FS-RTD-1A	LK
TMP-010	Surface Thermometer Synapse ST-1000	Synapse	16 Apr 2025	16 Apr 2026	150.0 °C	± 0.50	+0.31	+0.31	+0.31	+0.31	✅ PASS	BB-CAL-03	EV

⚠️ **TMP-009 FAIL NOTE:** Instrument out-of-tolerance. Instrument quarantined (Tag #QT-2025-014). Work Order WO-4421 raised. Replacement probe on order (PO-2025-881). All measurements taken with this probe between 15 Jan 2025 and 15 Apr 2025 under impact assessment.

🔧 **ADJUSTMENT NOTES:** TMP-002, TMP-004, TMP-007 adjusted to within specification. Post-adjustment readings confirmed within tolerance. Calibration certificates updated accordingly.

📄 **SECTION 2 — PRESSURE, MASS & FORCE INSTRUMENTS** Pressure: traceable to Nexa Dead-Weight Tester DWT-1200. Mass: OIML Class E2 weights.

Pressure & Mass Instruments – Calibration Records (April 2025 – March 2026)													
Instr. ID	Description / Model	Mfr.	Cal. Date	Due Date	Nom. Value	Tolerance	AF Reading	AL Reading	AF Error	AL Error	P/F	Ref. Std.	Tech.
PRS-001	Digital Pressure Gauge Meridian DPG-400	Meridian	02 May 2025	02 May 2026	100.00 kPa	± 0.05%	−0.02%	−0.02%	−0.02%	−0.02%	✅ PASS	DWT-1200	MO
PRS-002	Differential Pressure Xmtr Synapse DPX-10	Synapse	02 May 2025	02 May 2026	500 Pa	± 0.10%	+0.08%	+0.08%	+0.08%	+0.08%	✅ PASS	DWT-1200	LK
PRS-003	Barometric Pressure Std. Apex BPS-700	Apex	05 May 2025	05 Nov 2025	101.325 kPa	± 0.02%	+0.03%	+0.01%	+0.03%	+0.01%	🔧 ADJ	DWT-1200	EV
PRS-004	Hydraulic Pressure Gauge Vertex HPG-600	Vertex	06 May 2025	06 May 2026	10.000 MPa	± 0.10%	−0.06%	−0.06%	−0.06%	−0.06%	✅ PASS	DWT-1200	MO
PRS-005	Vacuum Gauge Nimbus VG-100	Nimbus	07 May 2025	07 May 2026	−50.00 kPa	± 0.15%	+0.12%	+0.12%	+0.12%	+0.12%	✅ PASS	DWT-1200	LK
MAS-001	Analytical Balance Nexa AB-220	Nexa	12 May 2025	12 May 2026	100.0000 g	± 0.5 mg	+0.3 mg	+0.3 mg	+0.3 mg	+0.3 mg	✅ PASS	E2-100g	EV
MAS-002	Precision Balance Synapse PB-5000	Synapse	12 May 2025	12 May 2026	1000.000 g	± 2.0 mg	−1.2 mg	−1.2 mg	−1.2 mg	−1.2 mg	✅ PASS	E2-1kg	MO
MAS-003	Microbalance Apex MBX-6	Apex	13 May 2025	13 May 2026	10.00000 g	± 0.01 mg	+0.02 mg	+0.00 mg	+0.02 mg	+0.00 mg	🔧 ADJ	E1-10g	LK
MAS-004	Industrial Platform Scale Vertex IPS-50	Vertex	14 May 2025	14 May 2026	25.000 kg	± 5.0 g	−3.2 g	−3.2 g	−3.2 g	−3.2 g	✅ PASS	F1-25kg	EV

Instr. ID	Description / Model	Mfr.	Cal. Date	Due Date	Nom. Value	Tolerance	AF Reading	AL Reading	AF Error	AL Error	P/F	Ref. Std.	Tech.
FRC-001	Force Gauge Nimbus FG-200N	Nimbus	15 May 2025	15 May 2026	100.00 N	± 0.05%	+0.04%	+0.04%	+0.04%	+0.04%	✅ PASS	LCL-REF-1	MO
FRC-002	Torque Wrench Calibrator Meridian TWC-50	Meridian	15 May 2025	15 Nov 2025	50.000 Nm	± 0.25%	+0.58%	+0.09%	+0.58%	+0.09%	🔧 ADJ	TRQ-STD-2	LK

🔧 **ADJUSTMENT NOTES:** PRS-003, MAS-003, FRC-002 adjusted to within specification. Zero-point and span adjustments performed. Post-adjustment verifications completed and recorded on individual calibration certificates.

⚡ SECTION 3 — ELECTRICAL & ELECTRONIC MEASUREMENT INSTRUMENTS

Traceable to Nexa Reference

Multifunction Calibrator RMC-9100 (Josephson Voltage Standard)

Electrical & Electronic Instruments – Calibration Records (June 2025 – March 2026)													
Instr. ID	Description / Model	Mfr.	Cal. Date	Due Date	Nom. Value	Tolerance	AF Reading	AL Reading	AF Error	AL Error	P/F	Ref. Std.	Tech.
ELC-001	6.5-Digit DMM Vertex DMM-8456	Vertex	02 Jun 2025	02 Jun 2026	10.000 V	± 5 ppm	+3 ppm	+3 ppm	+3 ppm	+3 ppm	✅ PASS	RMC-9100	EV
ELC-002	Bench Oscilloscope Synapse OSC-4G	Synapse	03 Jun 2025	03 Jun 2026	1.000 V	± 1.5%	+0.8%	+0.8%	+0.8%	+0.8%	✅ PASS	RMC-9100	MO
ELC-003	Clamp Meter Nimbus CM-600A	Nimbus	04 Jun 2025	04 Jun 2026	10.000 A	± 0.5%	+0.4%	+0.4%	+0.4%	+0.4%	✅ PASS	RMC-9100	LK
ELC-004	LCR Meter Apex LCR-1000	Apex	05 Jun 2025	05 Jun 2026	1.0000 kΩ	± 0.05%	−0.03%	−0.03%	−0.03%	−0.03%	✅ PASS	RES-STD-A	EV
ELC-005	Power Quality Analyser Meridian PQA-3P	Meridian	06 Jun 2025	06 Jun 2026	230.00 V RM	± 0.10%	+0.07%	+0.07%	+0.07%	+0.07%	✅ PASS	RMC-9100	MO
ELC-006	Signal Generator Nexa SG-250	Nexa	09 Jun 2025	09 Jun 2026	10.000 MHz	± 1 ppm	+4 ppm	+0 ppm	+4 ppm	+0 ppm	🔧 ADJ	FREQ-REF-GPS	LK
ELC-007	Insulation Tester Vertex IT-5000	Vertex	10 Jun 2025	10 Jun 2026	1000 V	± 2.0%	−1.3%	−1.3%	−1.3%	−1.3%	✅ PASS	HV-REF-4	EV
ELC-008	pH Meter Synapse PHM-700	Synapse	11 Jun 2025	11 Jun 2026	7.000 pH	± 0.020	−0.012	−0.012	−0.012	−0.012	✅ PASS	NIST-pH-7	MO
ELC-009	Conductivity Meter Apex CDM-5	Apex	12 Jun 2025	12 Dec 2025	1000 μS/cm	± 0.5%	+1.8%	+0.3%	+1.8%	+0.3%	🔧 ADJ	COND-STD-3	LK
ELC-010	Power Supply Calibrator Nimbus PSC-30	Nimbus	13 Jun 2025	13 Jun 2026	5.000 V	± 0.01%	+0.009%	+0.009%	+0.009%	+0.009%	✅ PASS	RMC-9100	EV
ELC-011	Milliohm Meter Meridian MOM-200	Meridian	16 Jun 2025	16 Jun 2026	100.000 mΩ	± 0.05%	+0.04%	+0.04%	+0.04%	+0.04%	✅ PASS	RES-STD-A	MO
ELC-012	Data Acquisition System Nexa DAQ-16	Nexa	17 Jun 2025	17 Jun 2026	±5.000 V	± 0.02%	+0.01%	+0.01%	+0.01%	+0.01%	✅ PASS	RMC-9100	LK

🔧 **ADJUSTMENT NOTES:** ELC-006 frequency adjusted via internal OCXO trimmer (GPS-disciplined reference). ELC-009 cell constant recalibrated using NIST-traceable conductivity standards. Both units verified post-adjustment.

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SECTION 4 — SUMMARY, NON-CONFORMANCE REGISTER & SIGN-OFF

FY 2025–2026 Calibration Cycle Summary

28



PASS

85.7% of instruments

4



ADJUSTED

12.1% required adjustment

1



FAIL

3.0% out-of-tolerance

33



TOTAL INSTRUMENTS

100% calibrations complete

⚠️

Non-Conformance Register – FY 2025-2026

NCR No.	Instrument	Date Found	Non-Conformance	Corrective Action	Status	Closed
NCR-2025-07	TMP-009 (CRY-80)	15 Apr 2025	Cryogenic probe reading +2.10 °C at –80 °C; exceeds ± 0.50 tol. by 4×	Instrument quarantined. Impact assessment of affected lots. Replacement probe procured (PO-2025-881).	IN PROG	TBD

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Calibration Status Overview & Upcoming Due Dates

Instrument Category	Total	Next Due (6 mo)	Annual Due	Remarks
Temperature / Thermal	10	3	7	TMP-003, TMP-009 (OOT – replace), TMP-007 due Oct 2025
Pressure / Mass / Force	11	2	9	PRS-003 & FRC-002 due Nov 2025; all others annual
Electrical / Electronic	12	2	10	ELC-009 due Dec 2025; ELC-006 adjusted Jun 2025
TOTAL	33	7	26	100% of scheduled calibrations completed on time

Technician Key

Initials	Full Name	Qualification
EV	Dr. Elena Vasquez	Lead Metrologist (ASQ CQE)
MO	Marcus Okafor	Senior Calibration Tech.
LK	Lena Kowalski	Calibration Technician II

Authorized Signatures & Sign-Off

Role	Name	Date
Prepared By	Dr. Elena Vasquez _____	31 Mar 2026
Reviewed By	Marcus Okafor _____	31 Mar 2026
Approved By	Dr. Priya Nair _____	31 Mar 2026


Measurement Traceability Statement: All calibrations recorded in this log are traceable to national and international measurement standards through an unbroken chain of comparisons. Reference standards are maintained by Nexa Analytical Laboratories and are themselves calibrated by ILAC-accredited National Metrology Institutes (NMI). This log constitutes a controlled quality record under QMS Procedure NAL-QP-004 and is subject to periodic management review per ISO/IEC 17025:2017 Clause 7.7. Retention period: 10 years from last calibration date.