

WHITE HORSE LABORATORIES

FIVE ISO/IEC 17025-ACCREDITED LABS
ONE GLOBAL STANDARD



Global Electronics
Association™ Member





Challenges in Today's Electronic Supply Chain

- Counterfeit & Tampered Parts
- Lack of Verified Testing
- Improper Packaging
- No Standard Compliance

White Horse Labs mitigates these risks with globally accredited labs and end-to-end verification.

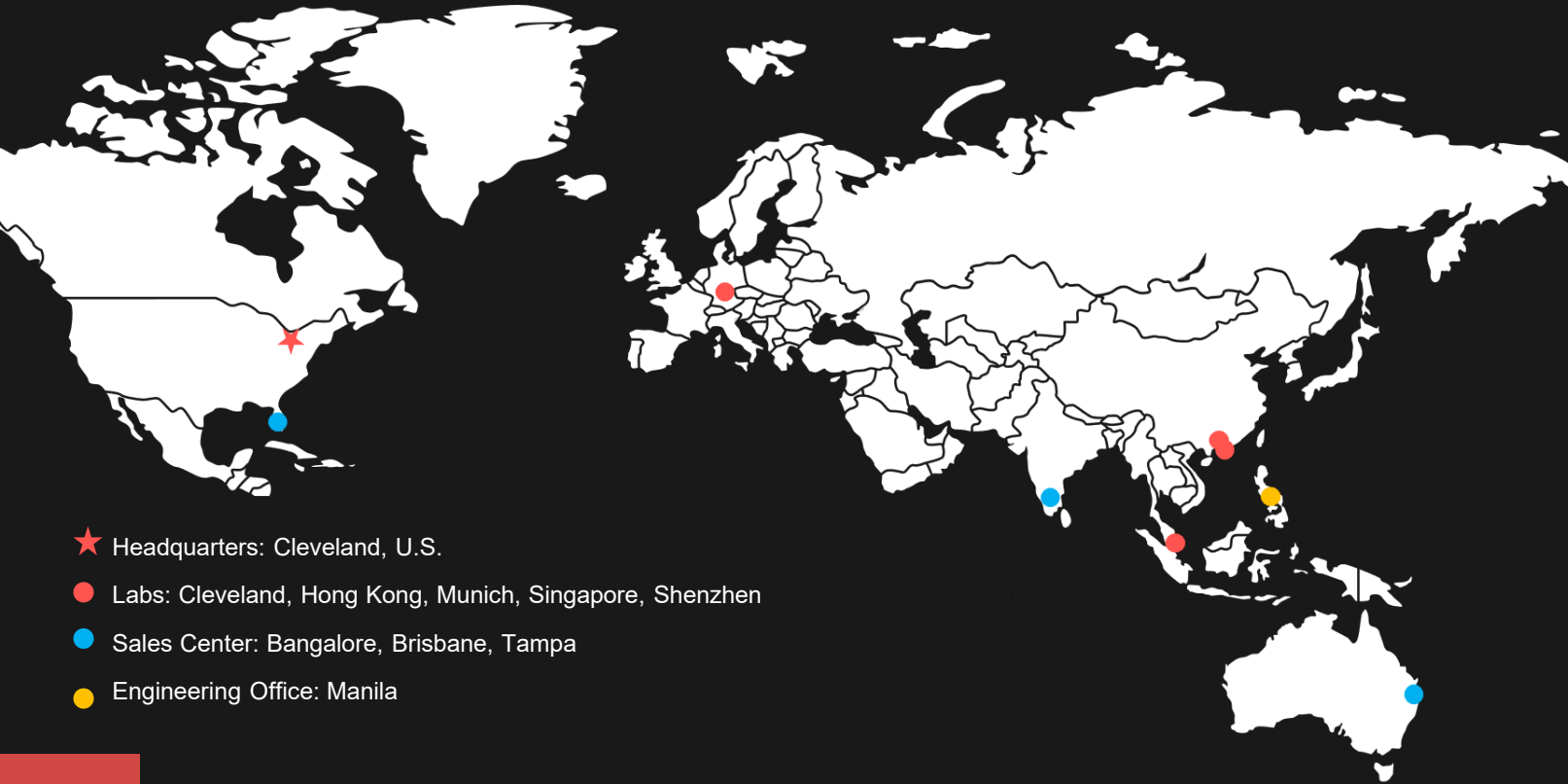




Who Are We

- Founded in 2004, White Horse Laboratories is a leading independent testing laboratory dedicated to protecting the electronics supply chain.
- We operate five ISO/IEC 17025-accredited labs across Asia, Europe, and the U.S. — the most in the industry.
- Our services include electronic component inspection, electrical testing, reliability & failure analysis, programming, packaging, and 3PL logistics.
- With over 20 years of experience, we help customers identify counterfeit, substandard, or non-conforming components — and safeguard their products from costly failures.





- ★ Headquarters: Cleveland, U.S.
- Labs: Cleveland, Hong Kong, Munich, Singapore, Shenzhen
- Sales Center: Bangalore, Brisbane, Tampa
- Engineering Office: Manila

Global Footprint — Accredited, Connected, Trusted

- White Horse Laboratories is the only testing provider in our industry to operate five ISO/IEC 17025-accredited laboratories worldwide.
- Each lab is strategically located to serve major global sourcing hubs and manufacturing zones — enabling fast, reliable, and standardized testing wherever your operations are based.



Full Spectrum of Services

- Testing
- Inspection
- Failure Analysis
- Reliability and Lifecycle Tests
- Factory Audit
- Programming
- Packaging
- Logistics

We provide a complete suite of services designed to secure and streamline your supply chain.



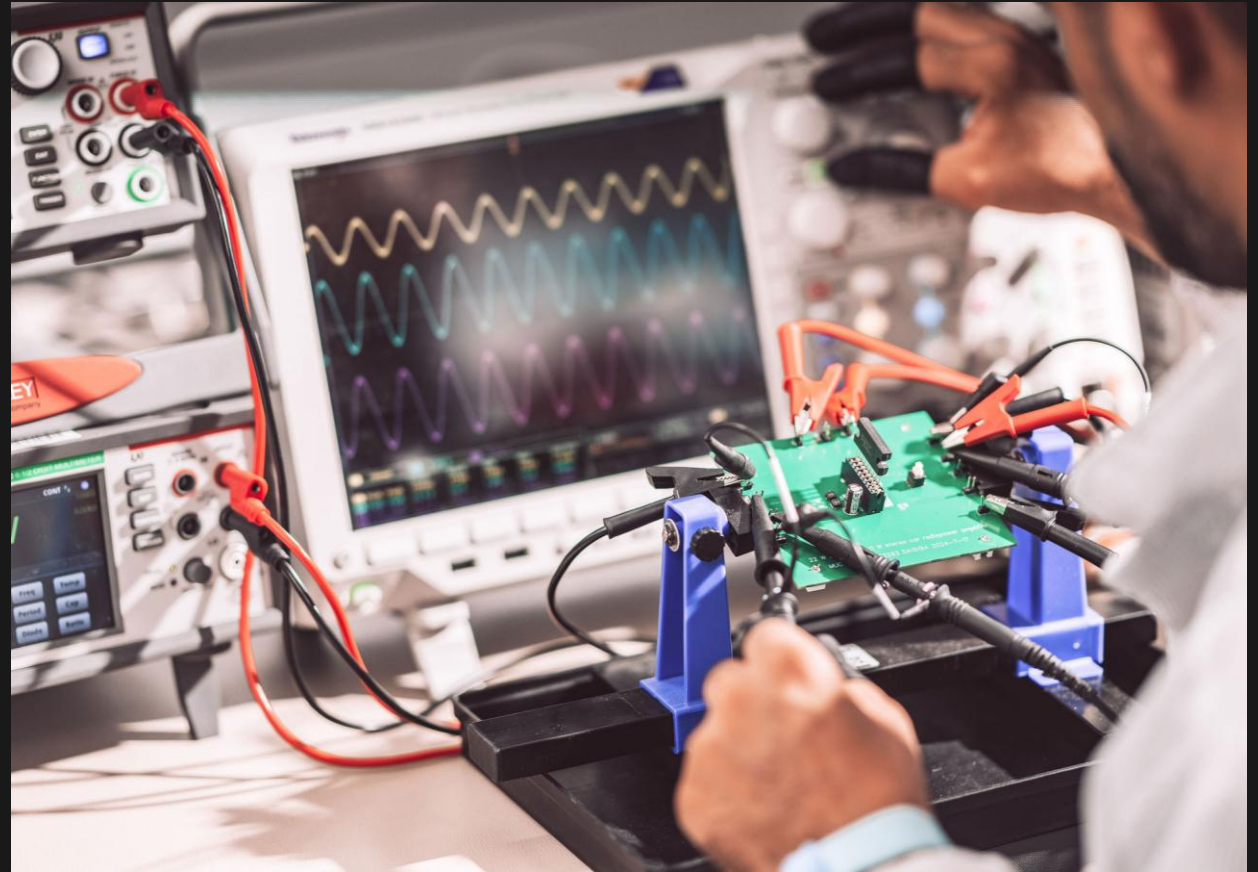
Test Protocol & Standards

Testing Standards

- MIL-STD-202
- MIL-STD-750
- MIL-STD-883
- EIA-198-2E

Detection Standards

- AS5553
- AS6081/AS6171
- IPC/JEDEC
- IDEA-STD-1010B
- CCAP-101





Global Reach. Industry Expertise

- Medical
- Automotive
- Aerospace
- Energy
- Defense
- Industrial
- Communications

**Serving
High-Reliability
Industries, Worldwide**



Lifecycle & Reliability Testing

Our Lifecycle and Reliability Testing evaluates how electronic parts withstand stress, aging, and environmental extremes — revealing potential weaknesses before they reach the field.

How It's Done?

- PCB and PCBA Cleanliness Testing – Surface-Insulation-Resistant (SIR) and Ion Chromatography
- Burn-In
- Thermal Shock
- Temperature Cycle
- Humidity and Temperature Testing
- Electrical Overstress
- Corrosion Resistance
- Drop and Vibration Testing





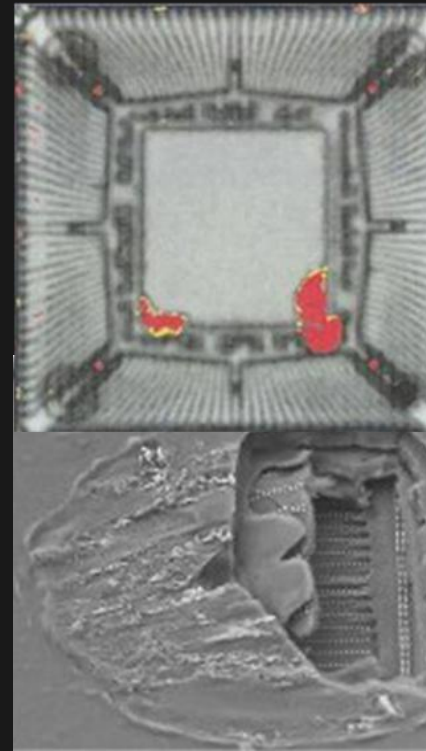
Failure Analysis (FA)

Why FA Matters

- Pinpoints failure origin — whether it's design flaw, material defect, or external stress
- Supports corrective actions with data-backed evidence
- Reduces future production errors and strengthens customer confidence
- Required for high-reliability industries such as aerospace, automotive, and medical

How It's Done?

- Curve Trace Testing
- Failure Mode Verification
- Scanning Acoustic Microscopy
- Cross Sectioning
- Scanning Electron Microscopy
- Liquid Crystal (Hotspot) Testing
- Layered Demetalization



Inspection & Counterfeit Detection



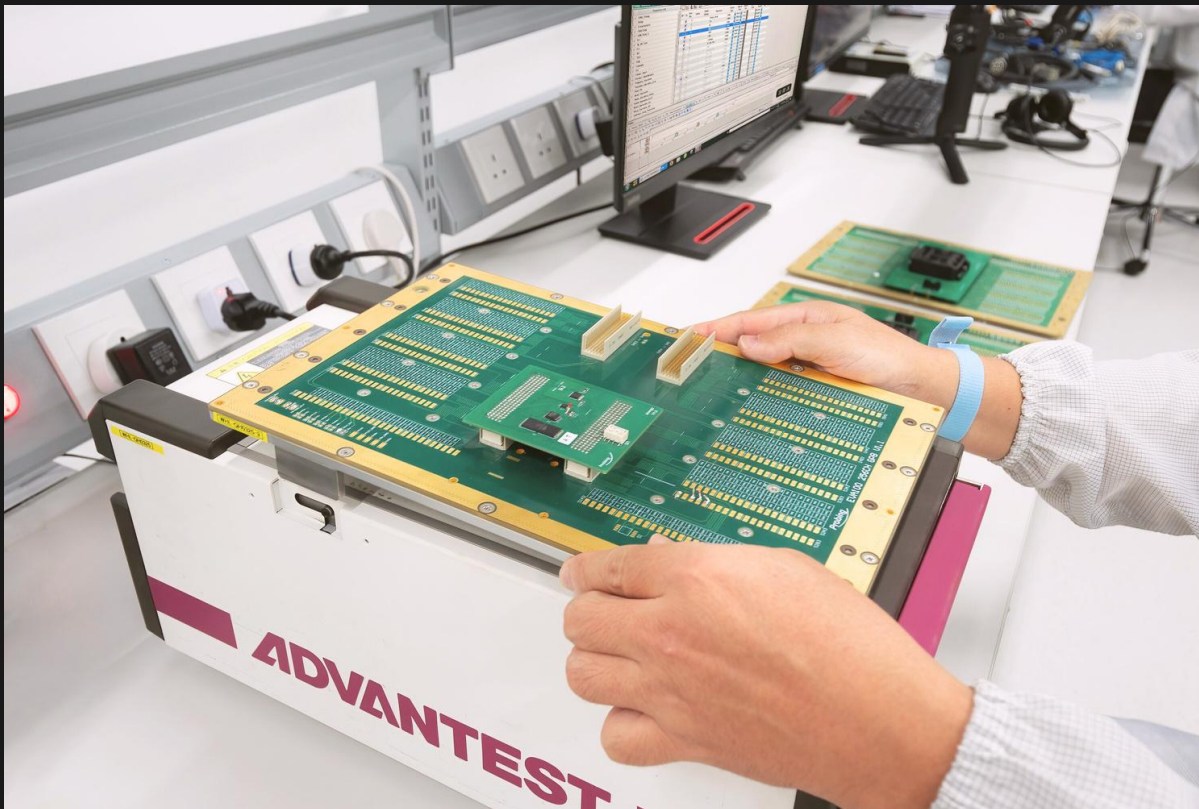
Our inspection services detect potential counterfeits, quality issues, and inconsistencies early in the procurement process.

Key Capabilities:

- External Visual Inspection (EVI)
 - X-Ray & X-Ray Decapsulation
 - Solderability & Surface Analysis
 - Marking Permanency & Resurfacing Detection
 - XRF (X-ray Fluorescence)
-



Electrical Testing



Electrical testing helps verify if parts operate correctly and consistently within design specifications

What We Provide

- Broad-range suite of precision Source and Measurement Equipment provides coverage on most device types and test levels
- Thermal Control Unit for Temperature Range Testing
- Speed Grade Testing
- JTAG and Programmer Fixtures
- AC and DC Parameters
- RF Testing
- ATE full functional testing
- Test Engineering Team with 20+ years of combined experience at White Horse and 35+ years of industry experience from recognized OCM and EMS



High Performance Computing (HPC) Testing

We specialize in rigorously testing critical HPC parts, to evaluate their performance and reliability in high-load systems

- Graphics Processing Units (GPU)
- Central Processing Unit (CPU)
- Hard Disk Drive (HDD)/Solid State Drive (SSD)
- Memory Module
- Peripheral Component Interconnect Express (PCI-E)
- WIFI Bluetooth
- Power Supply
- Mother Board





Programming Services



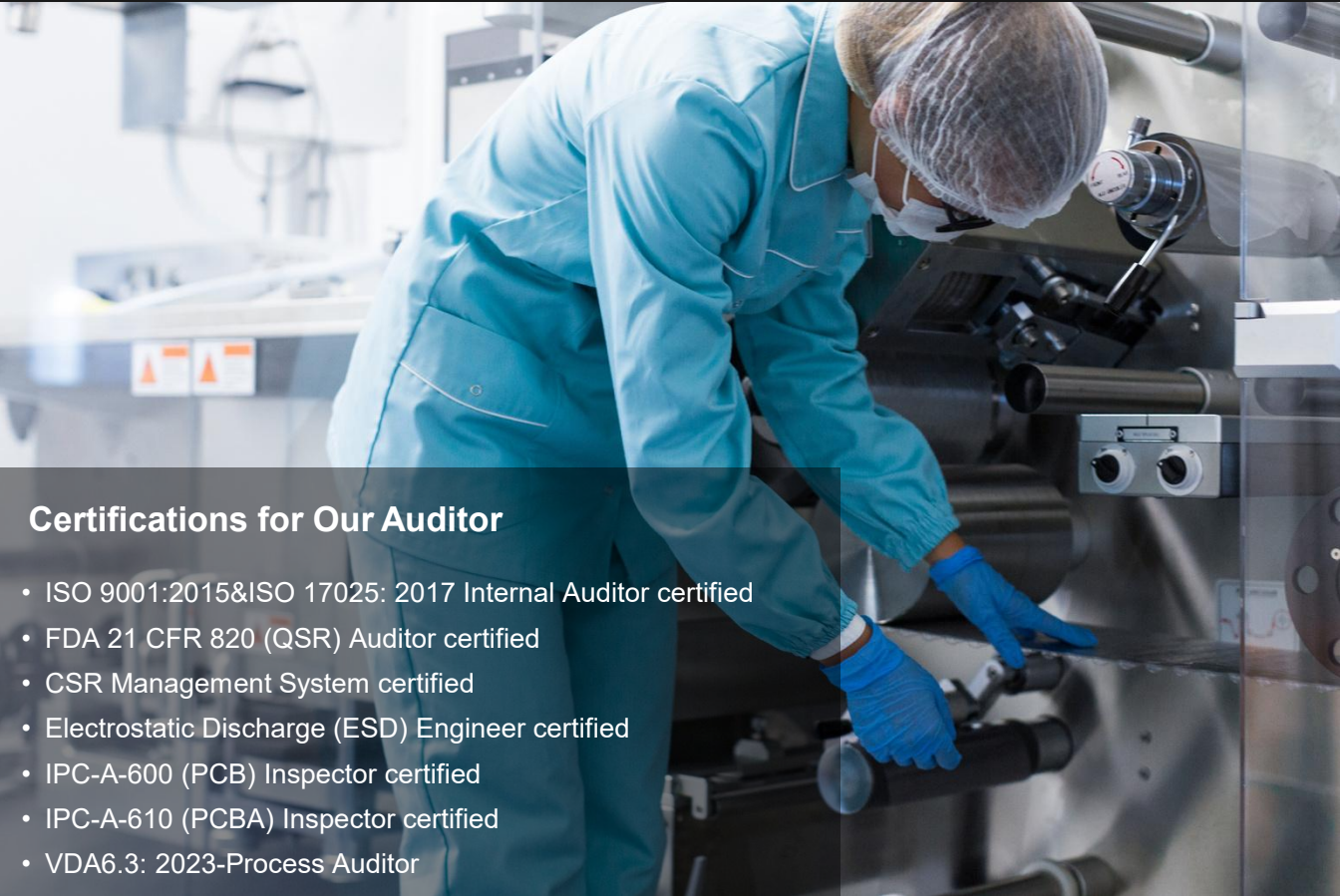
Memory based products and processors need to have the program loaded before they can be used. OEM and EMS prefer the program loaded prior to assembly for production efficiency and to protect their IP.

Our Strengths

- Program memory devices for ready-to-use assembly
- High volume production and low-mid prototype services available
- Over 120,000 devices supported
- Tube-to-tape, tube-to-tray, tray-to-tape, and tape-to-tape input/output options
- Throughput of 4,000-5,000 pieces per hour



Factory Auditing



Certifications for Our Auditor

- ISO 9001:2015&ISO 17025: 2017 Internal Auditor certified
- FDA 21 CFR 820 (QSR) Auditor certified
- CSR Management System certified
- Electrostatic Discharge (ESD) Engineer certified
- IPC-A-600 (PCB) Inspector certified
- IPC-A-610 (PCBA) Inspector certified
- VDA6.3: 2023-Process Auditor

Factory Auditing Type	Refer Standards
Quality Management System Auditing	•ISO 9001: 2015 •ISO 17025: 2017 •FDA QSR820 •RBA 8.0 (2024) and IPC 1401A
Production Monitoring and Supervision	•ISO 9001: 2015 •IPC-J-STD-001J
Product Inspection	•PCB: IPC-A-600K Class 2 •Cable: IPC/WHMA-A-620E Class 2 •PCBA: IPC-A-610J Class 2 •Finished Goods: Customer's specification •Components: Laboratory can provide testing support
Automotive Industry Process Audit	•VDA 6.3: 2023-Quality Management In the Automotive Industry

Notes:

If Customer have any special requirements that Customer request priority.



Packaging & Logistics Solutions

Poor packaging can lead to lead oxidation, delamination, and “popcorning” and we frequently see good quality product delivered in poor packaging.

- Wide range of carriers and material in stock for most component package types
- ESD-certified facility
- Baking MSL-sensitive parts
- Tape and Reel packaging service
- Dry-Pack (vacuum seal with desiccant and HIC)
- Re-boxing and labeling
- Documentation and bookings



White Horse Footprint - Cleveland



Jack Kilby Testing Center

- ISO17025 Accredited Lab
- **DLA AS6171 Approved Lab**
- Full AS6081/AS6171 Test Protocol
- Comprehensive Electrical Testing
- Lifecycle & Reliability Test
- Failure Analysis
- HPC Parts Test
- 800+ sq.m



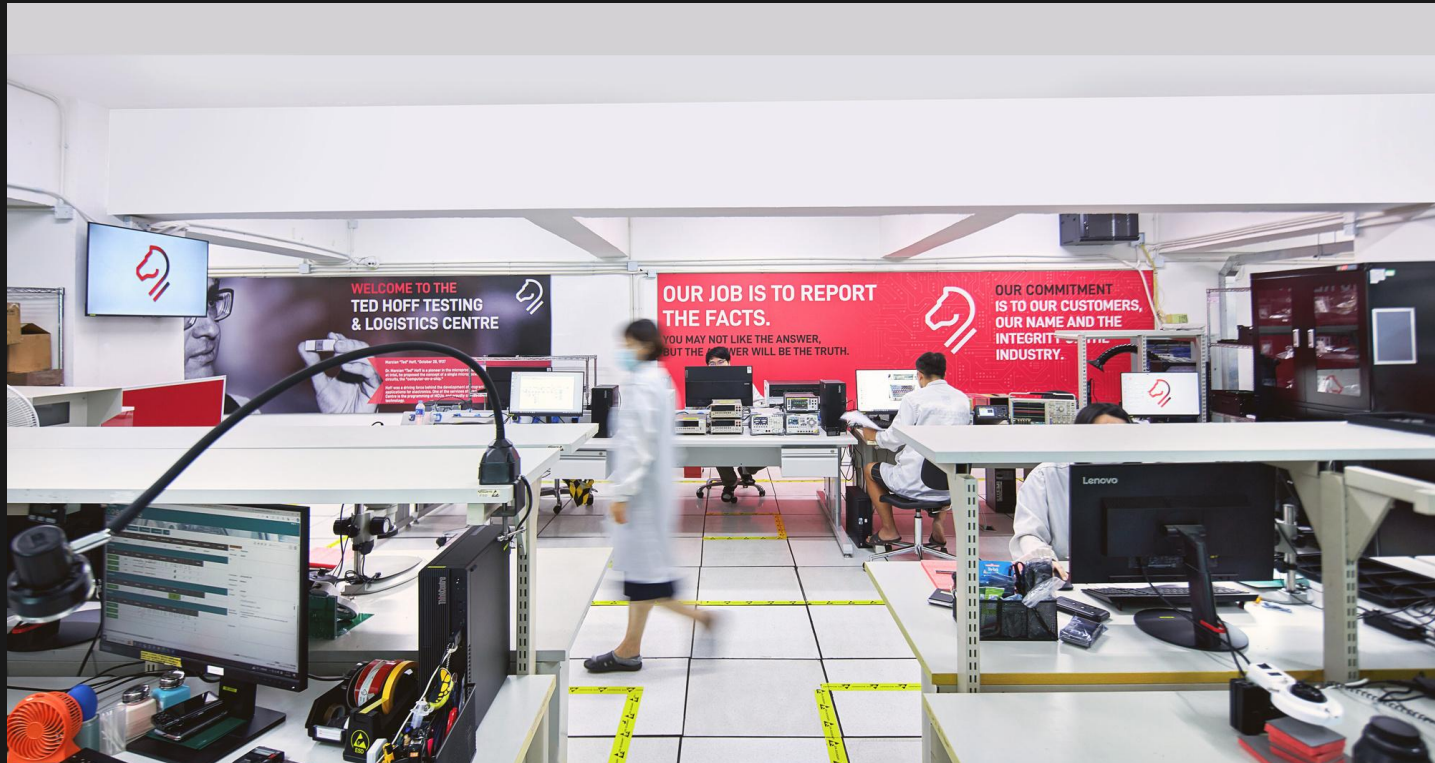
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White Horse Footprint

- Hong Kong



Ted Hoff Testing & Logistics Centre

- ISO17025 Accredited Lab
- Full AS6081/AS6171 Test Protocol
- Comprehensive Electrical Testing
- 3PL Logistics Hub
- HPC Parts Test
- 800+ sq.m



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Unit A 10/F, Wofoo Building 204-210 Texaco Road, Tsuen Wan 999077, HK

White Horse Footprint

- Shenzhen



William Shockley Testing Center

- ISO17025 Accredited Lab
- ISO 9001 Certificated Lab
- ESD Certificated Lab
- Full AS6081/AS6171 Test Protocol
- Comprehensive Electrical Testing
- Lifecycle & Reliability Test
- Programming & High-speed Re-taping
- HPC Parts Test
- Factory Auditing
- Failure Analysis
- 1000+ sq.m Test & Storage Area



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4A, Building H , Gang Zhi Long Science Park, Longhua, Shenzhen, CN

White Horse Footprint

- Singapore



Gordon E. Moore Testing Center

- ISO17025 Accredited Lab
- ISO 9001 Certificated Lab
- Full AS6081/AS6171 Test Protocol
- Comprehensive Electrical Testing
- Programming & High-speed Re-taping
- HPC Parts Test
- 400+ sq.m



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White Horse Footprint

- Munich



Oskar von Miller Testing Center

- ISO17025 Accredited Lab
- Full AS6081/AS6171 Test Protocol
- Failure analysis
- Programming
- HPC Parts Test
- 600+ sq.m



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Why White Horse Labs



What Sets Us Apart

- Global Lab Footprint
- Full-Service Scope
- Anti-Counterfeit Expertise
- ISO/ANAB Certified



Why Customers Choose Us

- Reduce risk of counterfeit or defective parts
- Ensure compliance with AS6081 / AS6171 protocols
- Shorten time-to-market with integrated logistics
- Receive tailored support from experienced engineers





Let's Make Quality Your First Line of Defense



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