

v008-OBSIDIAN — Technical Enforcement Baseline

Standard: Sovereign Thermal–Power Governance (STPG)
Authority: QH8 Technologies
Classification: Forensic-Grade Infrastructure Audit

1. System Overview

Field	Description
System Name	v008-OBSIDIAN
Function	Deterministic thermal–power governance and enforcement
Operating Layer	Between computational workload and physical silicon
Control Mode	Physics-derived, real-time enforcement
OEM Dependency	None (independent of firmware, drivers, or P-states)
Primary Output	Cryptographically sealed Sovereign Enforcement Receipt
Intended Use	Auditable, insurable, warranty-defensible AI infrastructure

2. Core Enforcement Specifications

Metric	Specification	Notes
Enforcement Logic	Deterministic, physics-first	Independent of OEM throttling logic
Climate Matrix	–40 °C to +55 °C ambient	Adjusted for altitude, humidity, density
Response Latency	< 20 ms	Faster than 2 nm thermal rise dynamics
Audit Protocol	SHA-256 chained ledger	Tamper-evident enforcement cycles
Infrastructure Verdict	Water: REDUNDANT	Certified for air-cooled operation
Firmware State	QH8 v008 Authority	Overrides advisory-only firmware behavior

3. Operational Safety Tiers

Tier	Status	Definition	Enforcement Action
GREEN	Stable	Operation fully within certified envelope	No intervention
YELLOW	Caution	Approaching physical boundaries	Active deterministic throttling
RED	Poison Pill	Boundary breach detected	Logical lock until audit-grade reset

4. Deployment Applications

Domain	Application
Insurance Underwriting	Decision-grade evidence for parametric and specialty policies
Warranty Defense	Proof of compliant operation to eliminate abuse disputes
Infrastructure Optimization	Certification for safe removal of liquid cooling systems
Compliance & Audit	Continuous, post-deployment operational traceability

5. Forensic Certification & Regulatory Alignment

Area	Alignment
Evidence Integrity	SHA-256 cryptographically chained receipts
Tamper Resistance	Ledger invalidates on modification attempt
Regulatory Context	EU AI Act (2026) transparency expectations
Legal Posture	Court-defensible, post-event attribution clarity
Data Ownership	Client-owned forensic artifacts

6. Governance Boundary Definition

Responsibility Boundary	Controlled By
Silicon Capability	OEM / Foundry

Operational Behavior (Post-Deployment)	QH8 Sovereign Governance
Thermal–Power Enforcement	QH8 v008-OBSIDIAN
Liability Attribution	Deterministic forensic evidence

7. Summary Assertion

Statement

v008-OBSIDIAN defines the hard operational boundary where performance assumptions end and enforceable physical governance begins, enabling high-density AI infrastructure to operate with deterministic safety, auditability, and institutional trust.

QH8 Technologies — Independent Thermal–Power Governance
v008-OBSIDIAN | Sovereign Enforcement Standard
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