

Quantum eMotion's QRNG Demonstrates Real-World Security Performance Across DeFi, Post-Quantum Simulation, and Federal Certification Path

written by Raj Shah | December 29, 2025

December 29, 2025 ([Source](#)) – **Quantum eMotion** (TSXV: QNC) (OTCQB: QNCCF) (FSE:34Q0) today highlighted a rare convergence of independent audit validation, quantum-attack performance testing, and formal certification progress, underscoring the real-world security performance of its patented quantum entropy technology.

This announcement follows the publication of a perfect 100/100 security audit score and 5-Star Confidence Rating achieved by Krown Network and KrownDEX-one of the most stringent third-party security assessments ever completed in decentralized finance-where used entropy is produced by Quantum eMotion's QRNG2 engine (ref: Krown_Audit_PR_Updated).

From Theory to Production: Quantum Security Proven in Live Systems

The Krown audit represents a rare, production-grade demonstration of quantum-secured cryptography operating under real adversarial conditions. The independent assessment confirmed:

- 100/100 security score
- Zero remaining findings across all severity levels

- Full production approval
- 5-Star auditor confidence rating

By design, Krown's architecture relies on hardware-grade quantum randomness rather than algorithmic or pseudo-random entropy sources-directly aligning with Quantum eMotion's long-standing security-by-design philosophy.

June 2025 Quantum Simulation Results Reinforced in Production

This production validation builds directly on Quantum eMotion's June 2025 quantum simulation study, conducted in collaboration with PINQ² using IBM's Qiskit framework, which evaluated the resistance of QRNG-enhanced cryptographic architectures against Grover-based quantum search attacks (ref: QeM pressrelease_PINK2-QeM_June).

That study demonstrated that:

- QRNG-generated entropy increases oracle complexity and circuit depth for quantum attackers
- At real-world key sizes (e.g., 256-bit), quantum brute-force attacks remain computationally infeasible
- Security margins scale favourably as entropy quality increases

The Krown audit now provides real-world corroboration that these properties translate from simulation to live, adversarial environments.

Advancing Toward Federal Certification with Lightship Security

In parallel with these operational results, Quantum eMotion continues to advance toward formal regulatory certification, having engaged Lightship Security, a NIST-accredited laboratory,

to conduct FIPS 140-3 validation of its Quantum Crypto Module (PR_Lightship-QeM_Oct6th2025).

Lightship will perform:

- Entropy Source Validation (ESV)
- Cryptographic Module Validation Program (CMVP)
- Algorithm and functional compliance assessments

This initiative positions Quantum eMotion's technology for deployment across regulated U.S. and Canadian markets, including government, defence, healthcare, financial services, and critical infrastructure sectors.

A Converging Validation Stack for Quantum-Safe Security

Together, these milestones establish a rare and comprehensive validation stack:

- Independent DeFi production audit (Krown)
- Quantum-attack simulation benchmarking (PINQ² / IBM Qiskit)
- Formal FIPS 140-3 certification pathway (Lightship / NIST)

"This is what quantum cybersecurity maturity looks like," said **Dr. Francis Bellido**, CEO of Quantum eMotion. "Not just theory, not just simulations-but production systems achieving flawless audits, reinforced by quantum-attack modelling and aligned with federal certification requirements. Krown's results provide tangible proof that quantum entropy, when properly engineered, materially raises the security bar."

About Quantum eMotion Corp.

The Company aims to address the growing demand for affordable

hardware and software security for connected devices. QeM has become a pioneering force in classical and quantum cybersecurity solutions thanks to its patented Quantum Random Number Generator, a security solution that exploits the built-in unpredictability of quantum mechanics and promises to provide enhanced protection for high-value assets and critical systems.

The Company intends to target highly valued Financial Services, Healthcare, Blockchain Applications, Cloud-Based IT Security Infrastructure, Classified Government Networks and Communication Systems, Secure Device Keying (IOT, Automotive, Consumer Electronics) and Quantum Cryptography.

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