# KATIM

# KATIM GATEWAY 9011

## THE BACKBONE OF
## ULTRA-SECURE COMMUNICATION

In today's rapidly evolving digital landscape, organisations striving to protect their sensitive data in transit face an unprecedented challenge - the imminent threat of Quantum Computing. As cutting-edge research predicts, traditional cryptographic algorithms, which rely on large number factorisation or the discrete logarithm problem, are becoming increasingly vulnerable to quantum-powered attacks. With global threat actors on the brink of harnessing such formidable capabilities, safeguarding your data has never been more crucial.

KATIM Gateway 9011 has been designed from the ground up to mitigate these risks. The field-upgradeable platform integrates post-quantum resistant cryptographic primitives with a modern tunnelling protocol for protecting data in transit. Complete lifecycle tamper detection and response ensures the integrity of the hardware while management access is secured with enforced segregation of duties with hardware-based multi-factor authentication.

Experience exceptional user satisfaction with the KATIM Gateway's hardware-based, QoS-aware cryptographic implementation, which guarantees optimal performance for video and voice applications, even in parallel to bulk transfers. QoS-aware encryption planes isolate traffic in different classes of service to eliminate impact of congestion in transit network to higher priority encrypted traffic.

Versatile and adaptable, the KATIM Gateway 9011 offers capacity options of 1/4/10 Gbps and supports both L2 and L3 tunnelling, making it ideal for protecting data in transit in the broadest variety of networks. In addition to point-to-point connections, meshed or hub/spoke deployment architectures are supported.

KATIM Gateway 9011 brings you the next generation of secure data protection.

# KEY BENEFITS

Next generation high performance hardware platform with a full lifecycle tamper detection / response.

Unparallel deployment flexibility in a single device:

• L2 or L3 encryption

• 1/4/10 Gbps cryptographic capacity options

• 100/1000/10GBASE-T copper

• 1000BASE and 10GBASE SR / LR / ER fiber

Integrated data diode ports enable hardware-enforced uni-directional secure data transfers between networks with

incompatible security policies.

Three-level physical red / crypto / black isolation for reduced attack surface to sensitive data from external interfaces.

Custom-designed and hardened peer authentication, key exchange and data tunneling protocol to mitigate many classes of vulnerabilities by design.

Standards-based or custom national cryptographic algorithms to secure your data and key exchanges in postquantum world.

Software-programmability for crypto, security, management, networking to protect your investment for years post the initial deployment.

Application- and QoS-aware in-transit protection delivers ultimate user experience by minimizing impact of traffic shaping and loss in a cipher network.

KATIM Gateway OS-powered and KATIM Gateway Network Management Suite managed for operational simplicity, functional parity and full interoperability in mixed KATIM Gateway product deployments.

# SPECIFICATIONS ▬

## CRYPTOGRAPHY AND SECURITY

### CRYPTOGRAPHY

- Standards-based or custom national Crypto
- Post-quantum resistant primitives
- 512-bit or stronger keys for elliptic curves and 256-bit symmetric keys for 256-bit security
- 1/4/10 Gbps bi-directional cryptographic capacity

### IN-TRANSIT DATA PROTECTION

- L2 or L3 VPN for up to 500 KATIM® Gateways in point-to-point and/or mesh configurations
- Authenticated key exchange
- Dual-layer asymmetric handshake leveraging both classical and post-quantum cryptography
- Frequent re-handshake with ephemeral keys for enhanced post compromise security
- Per-packet confidentiality and integrity protection
- Aggressive, customisable key ratcheting of per encryption tunnel keys
- Peer identity protection
- Secure bypass for traffic not requiring encryption

### KEY MANAGEMENT

- Non-deterministic hardware-based random number generators from multiple vendors
- In-device generated non-exportable peer authentication private keys
- Ephemeral keys generated for each handshake
- KATIM Gateway NMS Customizer application orchestrates key generation and certificate signing

### TAMPER-PROOF, SECURE DESIGN

- HW designed for FIPS 140-2 Level 4 compliance
- Strict red/crypto/black separation in HW
- Multiple layers of mechanical, temperature and anti-drill mesh sensors.
- Always-on, battery-backed tamper detection and response
- Hardware protected root of

## MANAGEMENT

### LOCAL & REMOTE MANAGEMENT

- Local management using RS-232
- 100/1000BASE-T IPv4 remote management
- SSH, SNMPv3, rSysLog, TLS, secure NTP, SFTP
- Role-based access control with enforced multi-factor authentication using USB tokens
- DDoS protection for management traffic
- KATIM Gateway Network Management Suite applications for offline management and future on-line management

## NETWORKING

### DATA PLANE

- Four cipher and plain SFP+ ports for pluggable copper or optical transceivers
  - – 100/1000Base-T/10GBASE-T
  - – 1000BASE- and 10GBASE-SR / LR / ER fiber
- Untagged 802.3 Ethernet ll or single VLAN tagged 802.1Q/p Ethernet traffic on plain and cipher
- VLAN translation on plain/cipher
- Jumbo frames up to 9216 bytes
- MAC learning, ARP, GARP, ICMP, ICMP Path MTU discovery
- Policy-based forwarding/routing, static routing and dynamic routing (future)
- Ingress replication on plain interfaces for broadcast and multicast
- Integrated data diode

### QUALITY OF SERVICE

- Up to 8 QoS-aware encryption planes for each gateway to gateway association with independent encryption keys for true voice/video/data end-to-end QoS
- User-configurable or automatic mapping of plain traffic to QoS-aware encryption planes
- Four internal classes of service for user traffic to ensure ultra-low latency and discard priority on congestion within the KATIM Gateway
- QoS remarking on plain/cipher

## OTHER

### DIMENSIONS

2RU, 19" rack mountable

483 mm (W) x 401 mm (D) x 88.2 mm (H)

### POWER

Two 100-230 VAC 50-60Hz AC-Power supplies
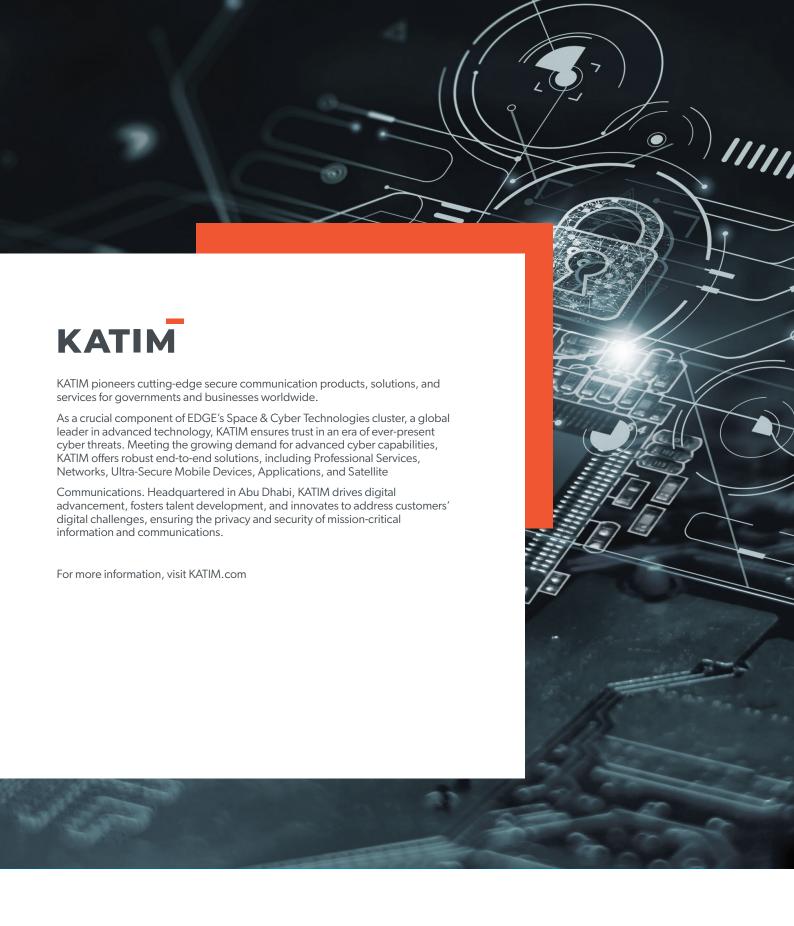
redundant and hot-swappable

### WEIGHT

22 kg

Tamper-protected, field-replaceable fan and battery

unit: 3 redundant fans and 38Ah 3.6V LTC battery for transport and storage security

ETSI EN 300 019-1a-3 V2.3.2 Class 3.1 temperature-controlled environments

- – Operating temperature: 0°C - 50°C
- – Storage temperature: -20°C - 70°C
- – Humidity: 5%-85% (non-condensing)

# KATIM

KATIM pioneers cutting-edge secure communication products, solutions, and services for governments and businesses worldwide.

As a crucial component of EDGE's Space & Cyber Technologies cluster, a global leader in advanced technology, KATIM ensures trust in an era of ever-present cyber threats. Meeting the growing demand for advanced cyber capabilities, KATIM offers robust end-to-end solutions, including Professional Services, Networks, Ultra-Secure Mobile Devices, Applications, and Satellite

Communications. Headquartered in Abu Dhabi, KATIM drives digital advancement, fosters talent development, and innovates to address customers' digital challenges, ensuring the privacy and security of mission-critical information and communications.

For more information, visit KATIM.com

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