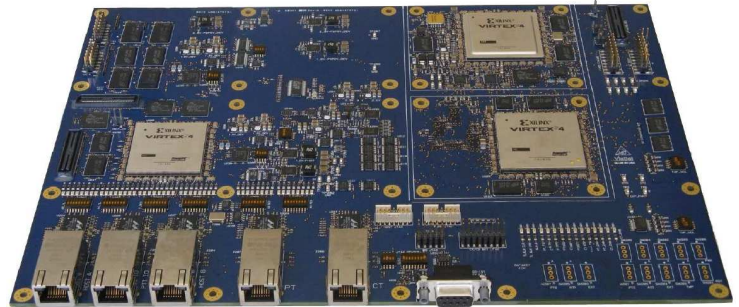


Radiation Hardened Internet Protocol Encryptor

Space Micro Inc's SMRH-IPE1G is a radiation hardened internet protocol encryptor (RH-IPE) that provides secure, reliable, high speed data encryption for high data rate space based satellite communication systems. This device combines Space Micro's radiation hardened reconfigurable FPGA technology with ViaSat, Inc's PSIAM based High Assurance Internet Protocol Encryptor (HAIPE) compatible crypto system with architectural modifications to merge the two technologies. This device combines key stepped elements:

- Encryption Algorithms
- Encryption Key Exchange
- Crypto FPGA Content
- Fill FPGA Content
- Interface FPGA Separation
- Encryption Rates Beyond 3 Gbps



Space Micro's SMRH-IPE1G Board

The radiation hardening protects the SMRH-IPE1G from the effects of harsh space environments, including SEU, SEL, SEFI, and total ionizing dose, making it suitable for satellite communication systems in most common orbits.

Features for Space:

- Total Ionizing Dose > 100 kRad
- No SEL > 100 MeV*cm²/mg
- Detection and Recovery of data SEUs (> 63 MeV protons)
- Detection and Recovery of SEFI and configuration efforts

Applications:

- High Data rate Communication Satellites
 - Military
 - Commercial
 - LEO or GEO

Standards Conformation

HAIPE Component	Version 3.0.1
Encryption Algorithm	Suite A (Classified) Suite B (AES-GCM)
Encapsulated Security Payload	ESP v3 RFC-4303 (modified)
Key Exchange	Suite A: Enhanced Fire Fly (EFF) Suite B: Elliptic Curve Menezes-Qu-Vanstone (ECMQV)

Space Micro Inc

SMRH-IPE1G

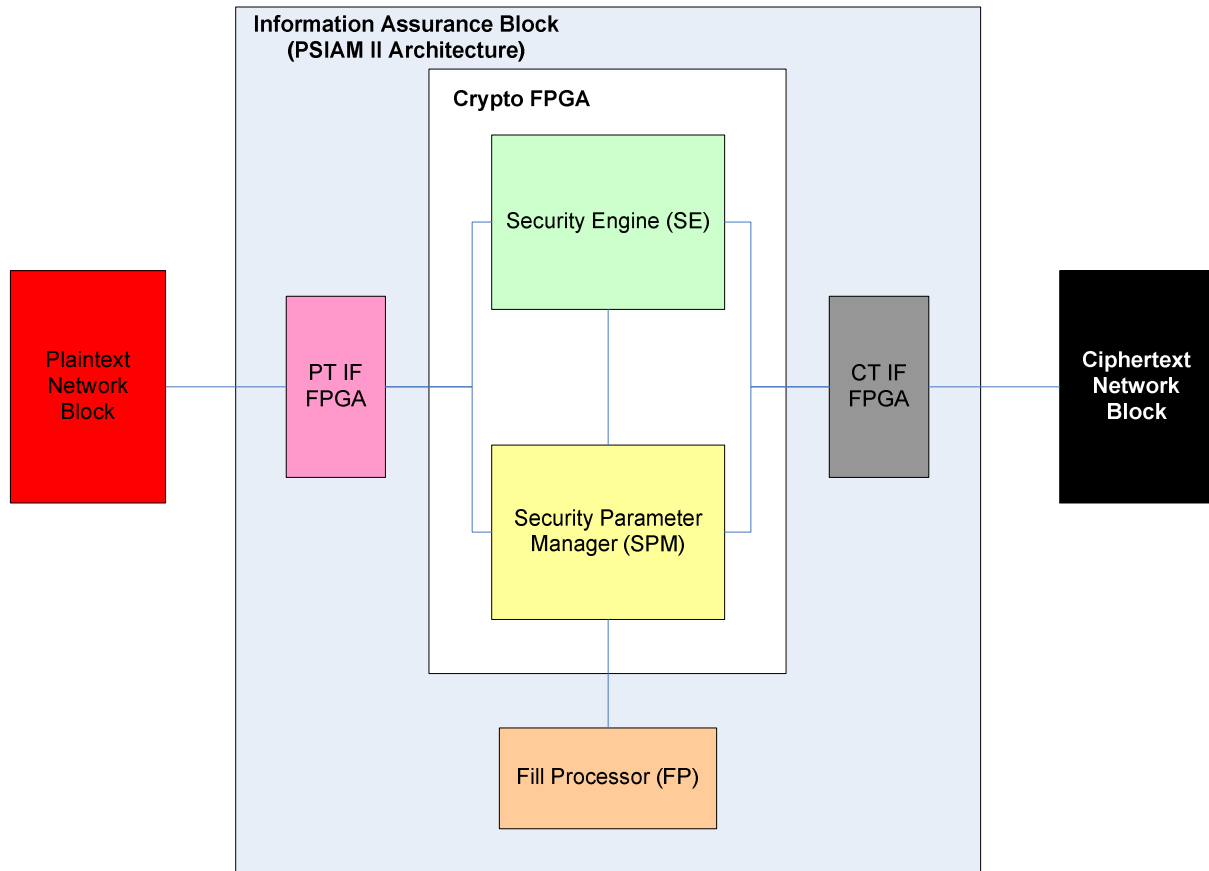
10401 Roselle Street
Suite 400
San Diego, CA 92121

Phone: 858-332-0700
Fax: 858-332-0709
www.spacemicro.com



Radiation Hardened Internet Protocol Encryptor

RH-IPE Top Level Block Diagram



Specifications:

- Encryption/Decryption Speed: 10 Gbps (HAIPE v3.0.1/NSA Compliant)
 - Up to 1,000 tunnels per user
 - 10 Mbps crypto speed per tunnel
- Reconfigurable Encryption Algorithm and Key Management
- cPCI standard 6U, or custom sizes
- Exclusive Space Micro Proton 300K™ SBC with Xilinx reconfigurable FPGA technology
 - Hardened Core2™ for SEFI mitigation

Please contact Space Micro Inc for application specific configurations or further details.

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