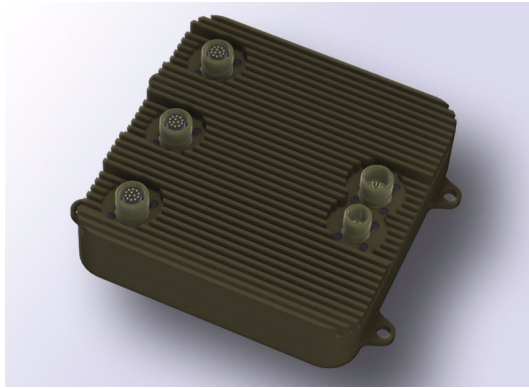


SHIELD

Secure High Integrity Embedded Link Device



Features

- Unparalleled isolation, security and protection for sensitive applications and data by SHIELD's modular architecture and hardware based isolation mechanisms.
- Flexibility is provided by SHIELD's virtualization capabilities and programmable logic allowing customization and application optimization.
- Reliable and robust security architecture by isolated processing platform design, secure intra-platform communication protocol and Trusted Executions Environment.
- Dedicated and isolated hardware sections comprising of CPUs, memory and interfaces for the different domains.
- MIL-STD-38999 connectors for network and power ensure reliability and ruggedness for harsh environments.
- Low power consumption to enable long-time operation from compact battery pack.
- Wide input voltage range of 12Vdc to 30Vdc.
- Dissimilar connector types for Trusted- and Untrusted network domain to avoid incorrect connection and misuse.
- Compact form-factor with optional customer defined mount options.
- One year warranty.
Extended maintenance options available.

SHIELD is a high performance, secure network processing platform designed to provide unparalleled isolation, security and protection for the most stringent and sensitive network applications and data. SHIELD is ideal for organizations that require an excellent secure and reliable solution for processing and forwarding sensitive information with the highest security requirements.

Modular Architecture

SHIELD consists of 6 independent and isolated processing platforms each capable of running multiple applications.

Hardware-based Isolation

Dedicated and isolated hardware sections comprising of CPUs, memory and PL for the different domains.

Secure Communication Protocol

A secure data protocol is used for communication across processing platform internal boundaries providing authentication, encryption and integrity protection for all data exchanges.

Virtualization

Each individual processing platform can run a hypervisor which virtualizes one or more guest operating systems providing a high degree of flexibility and isolation for complex applications.

Trusted Execution Environment

SHIELD can utilize trusted micro-kernels (e.g. L4Re) to provide an additional layer of security and isolation for the most stringent security environments.

ARM Trusted Zone

SHIELD utilizes the ARM Trusted Zone and other ARM hardware-based isolation methods for each of the independent processing platforms to provide additional layers of security.

Programmable Logic

Each individual processing platform provides programmable logic that can be utilized for hardware accelerators such as cryptographic functions, network filtering functions (e.g. P4) or other custom logic.

Network Interfaces

4 x 1 Gb/s Ethernet interfaces providing secure communication with external networks and devices.

Small Form Factor

SHIELD has a compact form factor making it suitable for deployment in a variety of applications (e.g. mobile).

Cooling

SHIELD is passively cooled, eliminating the need for cooling fans or other moving parts. The latter reduces noise, vibration and maintenance requirements.

SHIELD Applications

Examples of Cross Domain Applications

Trusted Ethernet Firewall

- Secure Firewall with P4 hardware filters

Trusted IP/Layer 2 Firewall

- Secure Network Diode for TCP
- Trusted Secure VPN Server

Application Layer Firewall

- HTTPS (webservice) Proxy
- Military Protocol Gateway
- Tactical Data Link Filter
- STANAG-4774/4778 (XML) Validation/Filter
- Zero Trust Architecture Enforcer

Examples of Trusted Services

Application Server

- Trusted Webservice Provider
- Trusted Information Server
- Private Key Server
- Signature/Authentication Server

SHIELD Specifications

Interface Specifications

Network Interface

Ports	4
Connector type	3 x 20WB35S (Trusted Domain), 1 x 20WB35P (Untrusted Domain)
Electrical Interface	Ethernet Gigabit (1000BASE-T, 100BASE-TX)
Speed	1000 Mbps, 100 Mbps

Power Input

Connector type	20WA35P
Power Supply	12Vdc-30Vdc
Power Consumption	~30 Watt

Physical Specifications

Dimensions	L - 20 cm (7.87") x W - 20 cm (7.87") x D - 6 cm (2.36")
Rack Mount	Through separate rack mount bracket set
Weight	~ 3kg

Environmental Specifications

Operating Temperature	-20 .. +50 degrees Celsius
Storage Temperature	-25 .. +50 degrees Celsius
Ingress Protection	IP67 (with protective covers on connectors)

Ordering Information

Part Number	2501030
Description	SHIELD