

BlueSky™ GPS Firewall Evaluation Kit

Protects GPS Systems Against Spoofing and Jamming Threats



Features

- Identifies and protects GPS systems from spoofing and jamming
- Integrates seamlessly between existing GPS antenna and GPS system
- Compatible with any GPS antenna that receives the L1 frequency
- Optional 1PPS and 10 MHz timing reference inputs for extended holdover
- Power-over-Ethernet (PoE) simplifies deployment by powering the firewall from the Ethernet interface
- Remote CLI in addition to secure and easy-to-use web interface
- BlueSky GPS Firewall embedded software is field upgradeable with new GPS validation rules
- Seamless integration with TimePictra provides end-to-end management of 10s, 100s, or 1,000s of units from a single server

Applications

- Wireline and wireless networks
- Utility and power grids
- Enterprise data centers
- Transportation networks
- Emergency services

The PNT Revolution

GPS revolutionized the world with its ability to provide an accurate, reliable, and cost-effective positioning, navigation, and timing (PNT) service with global coverage. Its rapid adoption and widespread proliferation enhances our way of life, but has also led to a dependency on GPS to maintain that way of life. Critical infrastructure sectors such as wireline and wireless networks, power grids, data centers, and emergency services now depend on PNT information delivered by GPS.

Protecting Critical Infrastructure

The vulnerability of GPS systems to various signal incidents is well documented. The rapid proliferation of GPS systems has embedded these vulnerabilities into critical national infrastructures as well as corporate infrastructures that rely on GPS-delivered PNT for daily operations. This widespread deployment of GPS makes it impractical to replace all fielded GPS systems in a timely or cost-effective manner.

Secure Firewall Overlay

The BlueSky™ GPS Firewall solves the problem of protecting already deployed systems by providing a cost-effective overlay solution installed between existing GPS antennas and GPS systems. Similar to a network firewall, the BlueSky GPS Firewall protects systems inside the firewall from untrusted sky-based signals outside the firewall.

Contained within the BlueSky GPS Firewall is a software engine that analyzes the GPS signal. GPS signal data is received and evaluated from each satellite to ensure compliance with GPS standards IS-GPS-200 along with analyzing received signal characteristics. This information is used by the firewall to eliminate anomalous GPS signals and provide a hardened GPS signal output to downstream GPS systems.

Management of wide scale deployment of BlueSky GPS Firewall units is simplified using Microsemi's TimePictra management system. TimePictra enables a regional, national, or global view of your PNT infrastructure to provide early alerting of threats before your PNT network is violated.

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Specifications

GPS Antenna Input

- Connector: TNC(F)
- Impedance: 50 Ω
- Antenna bias voltage: 0 VDC, 5 VDC, 12 VDC (software selectable)

Hardened GPS Output

Output provided using holdover when GPS is non-compliant.

- Connector: TNC(F)
- Impedance: 50 Ω
- Antenna bias voltage: DC blocked
- Power: -126 dBm to -96 dBm (software selectable)
- Satellite channels: 12
- Time transfer accuracy: Meets or exceeds live-sky performance

Validated GPS Output

Output interrupted when GPS is non-compliant.

- Connector: TNC(F)
- Impedance: 50 Ω

1PPS Input

- Connector: SMA(F)
- Impedance: 50 Ω
- TTL compliant

10 MHz Input

- Connector: SMA(F)
- Impedance: 50 Ω
- Level: 3 dBm to 13 dBm

Management, Power Interfaces, and Diagnostics

- Ethernet and POE: RJ45 tri-mode Ethernet (10/100/1000BASE-T) with Power-over-Ethernet (PoE) per 802.3a
- Management: CLI over SSHv2, secure web-based management (HTTPS/SSL), and TimePictra support
- x.509 Certificate support, Radius, LDAP, TACACS+
- IPv4, IPv6 (future), DHCP, remote syslog logging
- LEDs: Power, GPS valid, alarm

Mechanical/Environmental

- Size: 1 U rack mount, 13" (W) × 6.7" (D) × 1.72" (H)
- Operating temperature: 0 °C to 50 °C
- Operating humidity: 0–95% (noncondensing)
- Weight: 2 lbs standalone, 3 lbs with shipping package

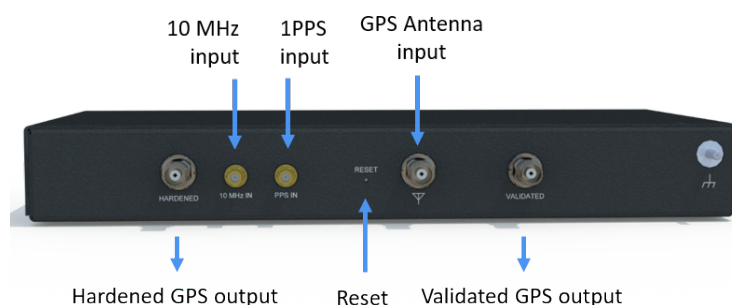
Regulatory Compliance

- EMC compliance: FCC part 15 (Class A)
- Environmental compliance: RoHS (6 of 6)

Hardware Accessories Included

- Microsemi PD-3501 (single-port Power-over-Ethernet adapter)
- Mounting hardware for 19-inch rack

BlueSky GPS Firewall Rear Panel



BlueSky GPS Firewall Dashboard (Web GUI)

