



AirGuard WiMesh End Point

3e-523N

Certified secure 802.11n wireless data connectivity for critical network communications

3eTI's AirGuard® End Point is a next-generation secure wireless mesh device that provides connectivity for seamless voice, video and data communications in the most challenging environments. The freedom from geographical constraints makes the portable device ideal for military or defense environments such as operating facilities, base camps and field units. All of these require highly secure communications but do not readily accommodate trenching for wired solutions.

Using the latest 802.11n wireless technologies to achieve link rates of up to 300 Mbps, the AirGuard End Point is a self-forming, self-healing wireless mesh solution that meets the growing demand for streaming media and advanced applications. Devices, sensors or computers connected to the AirGuard End Point can communicate seamlessly over radio links secured by government-certified, field-proven encryption technologies. The WiMesh End Point supports two mesh options: 802.11s mesh and RSTP mesh. While RSTP mesh utilized lower bandwidth overhead, 802.11s offers better stability under more complex mesh-topology and interference conditions.

Robust Security for WiFi and Bridge Communications

The AirGuard End Point is built for Common Criteria certification and FIPS 140-2 validation, already proven on 3eTI products widely deployed in the military and industrial sectors. As with all 3eTI products, the AirGuard End Point provides a range of security options to accommodate a wide spectrum of information assurance requirements.

Flexible, Cost-Effective Networking

The AirGuard End Point provides secure wireless connectivity for any device supporting Ethernet or serial data interfaces. It can be configured as a mesh node, access point, bridge/AP or client, providing the flexibility to support a broad range of network topologies and applications. As a result, the AirGuard End Point provides a seamless and cost-effective wireless solution that leverages existing devices, systems and investments.

MIMO High Capacity Architecture

The AirGuard End Point exploits IEEE 802.11n wireless technologies to deliver optimal performance in real-world environments. Multiple-input / multiple-output (MIMO) technology, a signal processing and smart-antenna technique, transmits multiple data streams through multiple antennae to improve range, reliability and performance. Channel bonding can use two separate non-overlapping channels at the same time to transmit data, improving performance by exploiting available bandwidth, while packet aggregation allows more data to be transmitted in each packet.

Designed for Control Applications

The AirGuard End Point maintains a low and predictable latency of less than 1ms, a performance standard that is critical for closed-loop control applications. Its serial interface and flexible I/O with PLC simplifies integration with a variety of remote sensors.

FEATURES

- **Secure wireless connectivity:** A range of security options to accommodate mandated information assurance requirements
- **Reliable performance:** Supports growing demand for streaming media and advanced applications
- **Flexible functionality:** Configurable as a mesh node, bridge, access point, bridge/access point or client for seamless integration
- **Easy to manage:** Web GUI simplifies wireless device configuration and management
- **Cost effective:** Wireless networking avoids cabling, simplifies incremental network build-out
- Designed for AES CCM 128-bit, FIPS 140-2, 802.11i validation
- Supports 802.11n wireless standard with MIMO, channel bonding and packet aggregation to achieve link rates of up to 300 Mbps
- Self-forming, self-healing mesh network for always-on availability
- Standards-based interface connectivity for devices with Ethernet or serial data interfaces



Specifications

WIRELESS FEATURES

- Multiple WiFi RFs 802.11a/b/g/n
- Operation modes
 - » Access point
 - » Mesh Point
 - » Mesh Access Point
 - » Client
- Self-forming, self-healing mesh network 802.11s or RSTP

CERTIFICATIONS

- NIAP Common Criteria certified
- FIPS 140-2 validated
- WiFi Alliance certificate
- MIL-STD-810E shock Method 516.4, Proc IFunctional Shock
- MIL-STD-167 vibration
- DoD PKI
- EMI: FCC Class A

SECURITY

- FIPS - 802.11i PSK and 802.1x
- Enable/disable broadcast SSID
- MAC address filtering
- NSA Suite B upgradeable

MECHANICAL

- 73.5mm x 102.5mm x 126mm

ENVIRONMENTAL

- Operating temperature -40 °C to +75°C
- Storage temperature -40° C to +80° C

INTERFACES

- One 10/100/1000 Base-T WAN (UPLINK) Ethernet port
- One 10/100/1000 Base-T LAN (LOCAL) Ethernet port
- Capable of 3x3 MIMO operation
- RS-232 / 422 / 485 w/DB-9 connector (on optional wiring PCBA)

POWER

- +5 to +12 VDC
- Power: 7.5W typical, 10W max

PERFORMANCE

- Aggregate 802.11n throughput: 300 Mbps max

LED INDICATORS

- Power
- WAN - Ethernet uplink indicator
- WLAN - AP activity/link indicator

DEVICE MANAGEMENT

- Web server, HTTPS
- SNMP v1, v2, v3

OPTIONS

- Power Options
 - » Table top power supply 5 to 12 VDC
 - » DIN rail mounted power supply 5 to 12 VDC
 - » Pigtail - 1 meter length - with 3e-523NF power connector attached
 - » Wiring PCBA
- Antenna Options
 - » RP-SMA antenna - quantity three
 - » DIN rail mountable plate to take 3 N connectors - with RP-SMA to N bulkhead cables
- Lightning arrestors
- CAT 6 Ethernet cables
- Serial cable RS-232