



ES210

Tactical Mesh Point



Handheld wireless mesh point for dismounted personnel

The Fortress ES210 Tactical Mesh Point brings secure wireless communications to dismounted personnel through a self-forming, self-healing, mesh network. Powered by a rechargeable battery, AC or DC power, the ES210 offers FIPS 140-2 compliant security and is upgradeable to NSA Suite B algorithms*.

Delivered in a small and rugged form factor with long battery life and industry leading radio range, the Fortress ES210 is designed to be worn by individuals or used for edge devices such as cameras, unmanned vehicles and sensors.

The Fortress ES210 Tactical Mesh Point delivers dependable performance in a wide range of conditions, functioning as both a wireless access point and bridge. Fortress Tactical Mesh Points bring secure, net-centric, wireless communications to the tactical edge, bringing voice, video and data communications to warfighters and vehicles in the field.

- **Rapidly deployable in theater network extension solution**
- **Enabled for COTS-for-SECRET deployments***
- **Transportable node optimized for warfighter applications**
- **Ruggedized for use in harsh environments**
- **Situational awareness through integrated GPS**





COTS+

Fortress Solutions leverage industry proven and cost effective technologies adapted for tactical environments.

- High quality cryptographic implementation
- Specially rugged packaging
- State of the art design optimized for size, weight and power consumption
- High-power, low-noise radio designs

Fortress' COTS+ approach provides the most suited solution to address secure wireless networking in military, government and other sensitive arenas.

Comprehensive Security

The central component of DoD and other sensitive network solutions is the ability to ensure data security at all times and at all levels. Fortress products support the most advanced security implementations in the industry. Using standards based, interoperable and compliant security protocols certified to FIPS-140-2 and upgradable to NSA Suite B cryptography, Fortress is a leader in secure wireless networking. Fortress products are unique in that they support in-built RADIUS, advanced Wi-Fi WPA2 security with EAP-TLS, use a hardware crypto implementation and have a hardware based True Random Number Generator (TRNG) ensuring the richest security with the highest performance.



FastPath Mesh™

Fortress FastPath Mesh technology provides a self-forming, path optimizing, self-healing network architecture designed from the ground up to support truly mobile and often transported networks, elegantly addressing the needs of dynamic tactical networks.

FastPath Mesh is link protocol agnostic and utilizes all interfaces and radio links to reach a destination using the lowest cost path. The resulting network is a unique mix of proactive and reactive protocols designed to work together to improve network performance and address moving nodes.

Overlaid on the mesh is end-to-end encryption and capabilities to eliminate multicast/broadcast flooding for improved overall network performance. Fortress's implementation includes a fully distributed DNS capability and is IPv4 and IPv6 multicast-aware.

Rugged for Outdoor

Robust packaging and enhanced RF specifications are crucial to adapting standard Wi-Fi to the harsh and long range conditions typical in tactical wireless deployments and transportable networks. Size, Weight and Power (SWaP) and highest levels of environmental certification are the cornerstone of providing a solution that can withstand the toughest conditions, can survive constant portability, and can be easily embedded in larger systems. Better quality and high power RF enables reliable, high throughput long distance operation required for typical in-theater operational conditions.

Fortress solutions are delivered in ruggedized form factors with superior RF hardware and antennas while remaining more cost effective than custom designed technology once typical in secure networks.



Features of the ES210 Tactical Mesh Point



Made in the USA

Fortress products are designed and manufactured in the USA to maintain the highest levels of quality with oversight to provide manufacturing design assurance. All software or programmable hardware devices are built from source code that is controlled in house.



Optimal SWaP+C (Size, Weight, Power & Cost)

Fortress provides the lightest and smallest Mesh Points in the industry, purpose built for frequent transportation and integration into land, sea and air vehicles. Mesh points operate with diverse power sources and have low power consumption requirements. For tactical applications, Size, Weight and Power + Cost (SWaP+C) are critical considerations.

MTBF High MTBF

> 100,000 hours To ensure products can be deployed for years in tough operating environments where failure is not an option, Fortress products are designed to have a very low failure rate and a Mean Time Between Failure (MTBF) greater than 100,000 hours or 11 years of continuous operation.



Dynamic Frequency Selection

Dynamic Frequency Selection (DFS) allows automatic detection of radar signals and switching to another channel in less than 10 seconds as per the IEEE 802.11h standard. Fortress products are the only solution to support DFS in both Infrastructure and Mesh mode.



RF Performance

Fortress products offer industry-leading Wi-Fi range and performance. Using industry standard 802.11 a/b/g and n, Fortress radios operate in the 2.4 GHz and 5.8 GHz Wi-Fi bands and optional 802.11a-type communications in the 4.4 GHz and 4.9 GHz bands. Fortress has demonstrated performance with distances in excess of 32 miles.



Multicast Optimization

Fortress FastPath Mesh products are optimized to minimize multicast and broadcast traffic, improving the performance of the network. FastPath Mesh snoops Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) requests, subscribes to the streams on behalf of the listeners and forwards traffic only on relevant interfaces.



GPS Enabled

GPS capability provides real-time position data that is displayed in Fortress's Topology Viewer and Mesh Viewer as well as Google Earth, and Cursor on Target / FalconView for Blue Force Tracking.



Suite B Capable

The NSA Suite B initiative is a common set of cryptographic algorithms to create products that meet the widest range of US Government needs. Suite B Cryptography is built on COTS information-assurance products using Advanced Encryption Standard (AES) and is under evaluation by the NSA to protect information up to the SECRET level. Fortress products are NSA Suite B capable and can be upgraded where approval is achieved.



Hardware Based Encryption

Fortress products deliver much higher performance by using a hardware crypto FPGA that enables fast, deterministic performance to protect against timing attacks. Fast security throughput is critical in supporting real-time applications such as encrypted voice and video. Fortress' cryptographic implementation has passed rigorous examination and been approved by NIST.



Licensed 4.4 GHz C Band

Fortress products can operate in the 4.4 GHz C Band a licensed band allocated to US and NATO military use. Operating at 4.4 GHz in the C Band offers several advantages. 4.4 GHz is a licensed band restricted to military use, so it offers an additional level of security, and less crowded use of the spectrum.



Superior Performance

Fortress Mesh Points use hardware crypto and hardware TRNG to provide fast, deterministic performance that is unmatched in the industry. They are equipped with powerful radios that can operate in 802.11 a/b/g modes, providing superior range and performance.



Wi-Fi Alliance Certification

Fortress products are certified by the Wi-Fi Alliance for interoperability including; WPA™ - Enterprise and Personal, WPA2™ - Enterprise and Personal, and Extensible Authentication Protocols; EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, and EAP-SIM.

ES210

Tactical Mesh Point

- Simple & Secure Connectivity
- Maximum Range & Network Resilience
- Small & Rugged Design
- Easy to Use
- Pole Mountable
- Certified Security



Mechanical

Dimensions

7" x 3.3" x 1.7"

Weight

2.1 lbs. Including Battery

Mounting

Wall & Magnetic Mounting

Interfaces

Ethernet

- 2 x RJ45 10/100BT

Serial

- 3 Pin Conn-X Connector

Power

- 2 Pin Conn-X Connector

Antenna

- 1 x RP-TNC Connector
- 1 x SMA Connector (GPS)

Networking

IP Compatibility

- IPv4 and IPv6
- Integrated DHCP and DNS

Wireless

- Self-forming, self-healing and path optimizing Fortress FastPath Mesh™

RF ES 210-3

Radio 1 250 mW 802.11 a/b/g/n

RF ES 210-4

Radio 2 800mW 802.11a/n 4.4GHz

Security

FIPS

- FIPS 140-2 Level 2

Encryption

- AES-CTR-128/192/256
- AES-GCM-128/256
- AES-CCM-128
- WPA2 (802.11i)
- IPsec (Suite B & Legacy)
- NSA Suite B Upgradeable*

Performance

Sustained FIPS Crypto Throughput
50Mbps

Management

Access

- Secure Browser-based GUI
- Serial CLI (physical access)
- SSH (network)
- SNMP monitoring

Indicators

- Power
- Battery
- Ethernet 1 link/activity
- Ethernet 2 link/activity,
- Radio activity
- Crypto

Control via Pushbuttons

- Power
- Blackout Mode
- RF Kill
- Zeroization

Environmental

Operating Temperature

-10°C to +60°C (14°F to +140°F)

Storage Temperature:

-10°C to +60°C (14°F to +140°F)

Cooling

Convection Cooled (no fans)

Humidity

5% - 95% Non-Condensing

Power

Rechargeable Battery

- 6 hr. Operation

Battery Charge Time

- 3 hr. Maximum (at 0°C - 45°C)

Voltage

- 9 to 30 VDC

Certification

Safety & Emissions

CE, FCC, ETSI, CB Test, IC, RoHS

Environmental

RoHS-6

DFS

FCC, ETSI

NIST

FIPS 140-2 Level 2

JITC

UCAPL Certified

Wi-Fi Alliance

Wi-Fi a/b/g

HERO/HERF/HERP

MIL-STD 464A

EMI

MIL-STD 461F

Harsh Environments Shock, Vibration & Temperature

MIL-STD 810G

Weather Resistance

Protection Rating

IP67 Submersible Enclosure

MTBF

100,000 Hours

Manufacture & Warranty

Origin USA

Warranty 1 year limited warranty

* NSA Approval Required

Fortress Technologies is the leader in providing COTS+ secure wireless infrastructure designed specifically for tactical military applications. Today, Fortress infrastructure is the backbone of the DoD's largest wireless mesh networks deployed around the globe. Fortress products incorporate NSA Suite B cryptographic algorithms and are specifically designed to meet the highly mobile, rugged outdoor military environments.

Fortress Technologies

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