FIPS 140-2 High Security 2.4 GHz Outdoor Wireless Ethernet Radio

Anyone in a government agency or private industry such as health care, energy or financial with a need to transfer sensitive data is often required to encrypt this data with a method that conforms to NIST (National Institute of Standards and Technology) Standard FIPS 140-2. AvaLAN Wireless has developed a hardware encryption module (AW140) that has been validated by CMVP (the Cryptographic Module Validation Program) to FIPS 140-2 Level 2. We have packaged the module within our wireless Ethernet radios to provide you with a FIPS-validated secure private network.

Certificate No. **1452**

This robust and reliable product allows you to build non-line-of-sight, point-to-point or point-to-multipoint wireless Ethernet links that connect "fringe" IP devices, including IP access control readers, surveillance cameras or industrial command and control devices.

The rugged cast aluminum packages meet C1D2 specifications for hazardous locations as well as IP66 water and dust protection. The 2.4 GHz band is the most globally accepted unlicensed portion of the RF spectrum. AvaLAN's unique solution offers 29 non-overlapping channels and maximum legal power to provide five times the range of Wi-Fi through walls or line-of-sight.

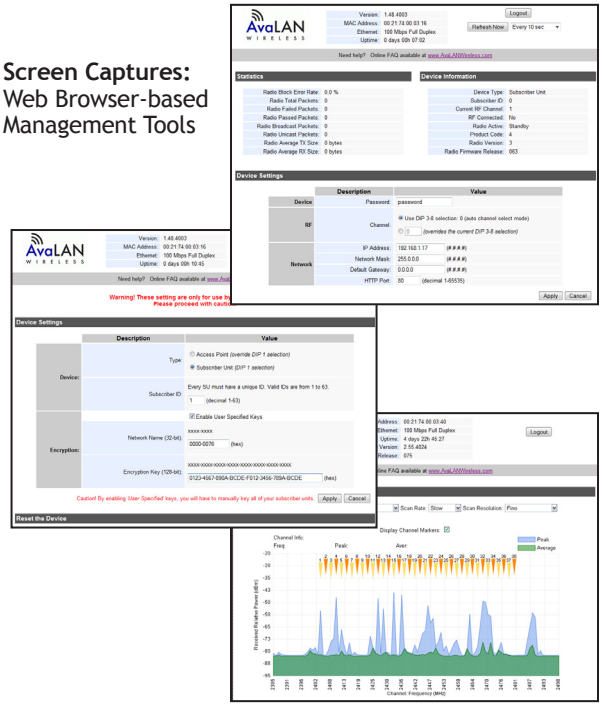
The radios include a built-in web browser interface for remote configuration, status monitoring and firmware update. This interface also provides a spectrum analyzer to help diagnose interference issues. Encryption keys are set through a completely different physical interface (USB) and cannot be seen or changed over the Ethernet data path.

For point-to-multipoint networks, one AW2400S serves as the access point master supporting up to 16 more units serving as subscriber unit clients. Because the AW2400S supports up to 29 non-overlapping RF channels, multiple access point/subscriber unit sets can be deployed in the same area. For point-to-point bridging, order the AW2400S-PAIR, already configured as a matched set.

Features

- FIPS 140-2 Level 2 Validated Data Security
- Totally separate USB interface for configuration of the encryption key and password
- Meets C1D2 for Hazardous Locations
- Rugged weatherproof cast aluminum outdoor package meets IP66 Standard for water and dust protection
- Remote diagnostics and link analysis with browser interface
- Does not require an FCC license to operate or install
- 29 non-overlapping RF channels with automatic or manual selection via browser interface
- High RF output power provides five times greater range than Wi-Fi, through walls or line-of-sight
- Up to 30 mile range to connect to difficult locations

Screen Captures:
Web Browser-based Management Tools



Application Example

Surveillance Video, Access Control and Perimeter Sensor Communications at a Secure Government Facility

Technical specifications

CHARACTERISTIC	SPECIFICATION/DESCRIPTION
Security Validation	NIST FIPS 140-2 Level 2 Validated by CMVP Certificate No. 1452
Encryption Method	FIPS 197 Standard: 128, 192 or 256-bit AES
Encryption Block Mode	ECB (CBC coming soon)
RF transmission rate	1.536 Mbps
Ethernet data rate	935 Kbps
Output power	+17 dBm (4 Watts EIRP when used with 19 dBi antenna)
Receiver Sensitivity	-97 dBm at 10^{-4} BER
Range	30 miles line-of-sight with 19 dBi antenna (AW19-2400 ordered separately)
RF channels/bandwidth	29 non-overlapping channels with 2.0833 MHz spacing and 1.75 MHz bandwidth
Frequency selection	Automatic or manually selectable via web browser interface.
Connector types	RF: RPTNC Female / 10/100 base T Ethernet: RJ-45 / Encryption Config: Mini USB
Error correction technique	Sub-block error detection and retransmission
Adjacent band rejection	SAW receiver filter attenuates cellular and pager interference
Power regulation	Built-in switching regulator
Browser management tools	QoS Statistics, Network Settings, Spectrum Analyzer, Firmware Upgrade
Power consumption	Transmit: 1.7 Watts Receive: 0.8 Watts
Voltage	9 to 48 VDC via unused pins in RJ-45 jack - pins 4,5 positive, 7,8 ground
Temperature range	-40° C to +70° C
Physical Package	Heavy die-cast Aluminum, black powder-coated finish, meets IP66 Standard for water and dust protection. Sealing gland for Ethernet cable entry.
Size	6 by 8 by 20 cm, 0.8 Kg, connectors included Mounting holes on bottom flange, 52 by 190 mm, 4 mm dia.; 0.570 Kg

Ordering Information

AW2400S	AW2400S-PAIR
FIPS 140-2 High Security 2.4 GHz Outdoor Wireless Ethernet Radio	FIPS 140-2 High Security 2.4 GHz Outdoor Wireless Ethernet Bridge
Contents: • (1) AW2400S Radio • (1) AW2-2400 2 dBi Omnidirectional Antenna • (1) AW-POE Power Over Ethernet Injector • (1) 110 VAC to 12 VDC power adapter • (1) Mini USB Cable	Contents: • (2) AW2400S Radios • (2) AW2-2400 2 dBi Omnidirectional Antennas • (2) AW-POE Power Over Ethernet Injectors • (2) 110 VAC to 12 VDC power adapters • (2) Mini USB Cables

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