AW900iS | Product Brief

FIPS 140-2 High Security 900 MHz Indoor 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 256 bit AES 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 radio's case is rugged extruded aluminum and is designed to meet C1D2 standards for hazardous environments (certification pending). 900 MHz operation allows superior penetration of obstacles such as walls and trees and can bridge as far as 40 miles line-of-sight with optional Yagi antennas.

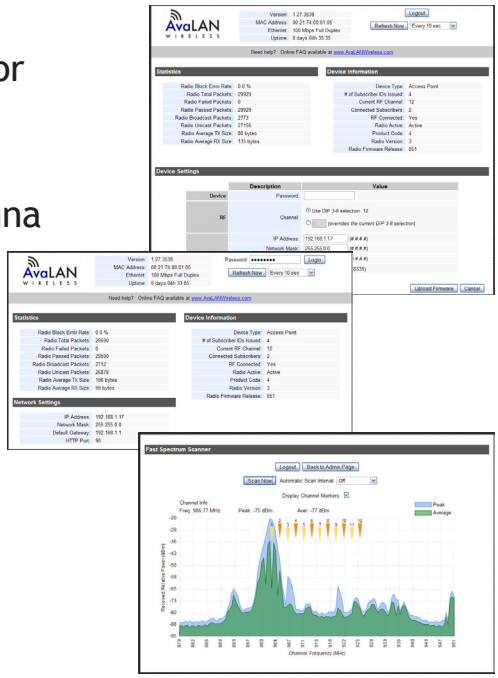
The radios include a built-in web browser interface for remote configuration, status monitoring and firmware update. This interface also provides a spectrum analyzer to help diagnose interference issues. Encryption keys are set through a completely different physical interface (USB) and cannot be seen or changed over the Ethernet data path. A small LCD panel on the front of the unit can also verify proper operation at a glance. A DIN Rail mounting clip is provided on the case back to facilitate installation in industrial equipment cabinets.

For point-to-multipoint networks, one AW900iS serves as the access point master supporting up to 16 more units serving as subscriber unit clients. Because the AW900iS supports up to 12 non-overlapping RF channels, multiple access point/subscriber unit sets can be deployed in the same area.

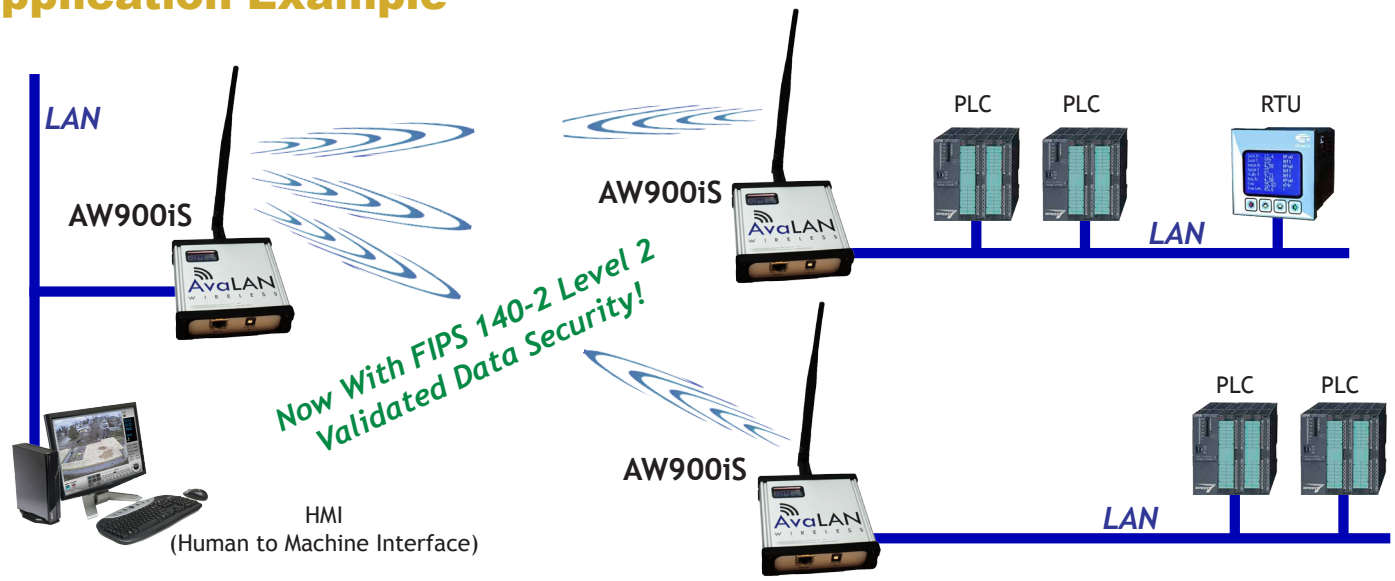
Features

- FIPS 140-2 Level 2 Validated Data Security (256 bit AES)
- 1.5 Mbps Data Rate
- High RF output power provides maximum foliage and/or wall penetration
  - Indoor range, up to 10 building walls
  - Line-of-sight range up to 40 miles with 15 dBi antenna
- 128 bit AES encryption, FIPS 197 - NIST Certified
- Built-in spectrum analyzer
- Radio can be configured as an access point or client
  - Install up to 16 clients per access point
  - 12 Non-overlapping channels
- Does not require an FCC license to operate or install

Screen Captures:
Web Browser-based Management Tools



Application Example



Technical specifications

PARAMETER	SPECIFICATION
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
RF transmission rate	1.536 Mbps
Ethernet throughput	935 Kbps
Output power	+21 dBm (4 Watts EIRP when used with 15 dBi antenna)
Receiver Sensitivity	-97 dBm at 10^{-4} BER
Range	40 miles line-of-sight with 15 dBi antenna
RF channels	12 non-overlapping channels with 2.0833 MHz spacing
Frequency selection	Automatic or manually selectable via web browser interface
RF Connector	RPTNC Female
Ethernet	RJ-45
Power Connector	P5 2.1 mm
Adjacent band rejection	SAW receiver filter attenuates cellular and pager interference
Mounting	DIN rail clip
Power regulation	Built-in switching regulator
Browser management tools	Statistics, Network Settings, Spectrum Analyzer, Firmware Upgrade
Power consumption	Transmit: 1.7 Watts Receive: 0.8 Watts
Voltage	9 to 48 VDC
Transmit current draw	140 mA at 12 VDC
Temperature range	-40° C to +70° C
Size	110 x 110 x 35 mm
Compatibility	Compatible with AW900xTR and AW900xTP radios

Ordering Information

AW900iS
FIPS 140-2 High Security 900 MHz Indoor Wireless Ethernet Radio
Contents: • (1) AW900iS Radio • (1) AW2-900 2.5 dBi Omnidirectional Antenna • (1) AW-POE Power Over Ethernet Injector • (1) 110 VAC to 12 VDC power adapter • (1) Mini USB Cable

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