LANTRONIX®

WiPort Embedded Wireless Device Server

- ▶ 802.11 b/g wireless networking for virtually any electronic device
- ▶ Wired Ethernet-to-wireless bridging
- ▶ Bulletproof wireless security with IEEE 802.11i-PSK, WPA-PSK, TKIP
- ▶ Secure end-to-end communication with Advanced Encryption Standards (AES)
- ▶ FCC Class B, UL and EN EMC and safety-compliant
- ▶ Lantronix SmartRoam technology provides seamless mobile connectivity and improved reliability

RoHS
WEEE COMPLIANT

Build 802.11 b/g Wireless Networking Into Your Products!

A compact, integrated hardware and software module, WiPort® enables you to build wireless networking into virtually any electronic device with serial or Ethernet capability. With WiPort your products can be wirelessly accessed and controlled over a network or the Internet!

The matchbook-sized WiPort takes the complexity out of RF design and Ethernet networking and WiPort enables engineers to focus on their core competency of designing products. It minimizes engineering risk, reduces cost and shortens development time. Just apply power and UART output, and the product is wireless and network-ready!

Complete Wireless Network Processing Module

Powered by a Lantronix DSTni™ Ethernet processor SoC that includes a 10Base-T/100Base-TX MAC/PHY and 256 KB of on-chip SRAM, WiPort also includes a complete 802.11 b/g radio and 2MB of Flash memory for web page storage and system upgrades. WiPort is a dedicated co-processor module that optimizes network activity, permitting the device's host microprocessor to function at maximum efficiency. WiPort connects through its coaxial "pigtail" to an external panel-mounted antenna for rapid electro-mechanical integration. WiPort works with serial or Ethernet interface devices. SPI, I2C, USB or CAN connectivity can be enabled as a future option.

High Reliability Wi-Fi for Better Mobility

With exclusive SmartRoam technology, WiPort continuously tracks the signal strength of access points (AP) within range. If necessary, pre-authentication and caching enable smooth and automatic transition to an access point with a stronger signal. This enhances mobility within a building, warehouse or across a campus network with less time spent re-authenticating due to a lost connection or re-associating to a stronger signal.

Bulletproof Security

With IEEE 802.11i-PSK or WPA (PSK, TKIP) encryption WiPort offers heightened security. WiPort also supports 256-bit

Advanced Encryption Standards (Rjindael) encryption for true end-to-end (wired to wireless to wired) secure data transfer.

Robust, Feature-Rich Software Suite

Eliminating the need to negotiate the intricacies of Transmission Control Protocol (TCP) or Internet Protocol (IP), WiPort incorporates:

- Robust Real Time Operating System (RTOS)
- Full-featured network protocol stack
- Proven, ready-to-use serial-to-wireless application
- Built-in web server for device communication and configuration via a standard browser

The Windows-based DeviceInstaller™ makes configuring one or more WiPorts in a subnet quick and easy.

- Install and configure WiPort and load firmware
- Assign IP & other network specific addresses
- Set wireless parameters
- Load custom web pages and view specific device data
- Enable web-based configuration of the device
- Ping or query the attached device(s) over the network
- Allow Telnet communication with the device(s)

FCC Certified for Immediate Deployment

WiPort is certified by the U.S. Federal Communications Commission (FCC). This allows you to leverage the Lantronix WiPort FCC license grant to your label and bypass 802.11 regulatory testing. This accelerates time-to-market and reduces development and testing costs. WiPort is also pre-tested for European telecommunications regulations.

Ethernet-to-Wireless Bridging

With a separate Ethernet port, WiPort offers the unique ability to transparently bridge existing Ethernet-ready devices to a wireless network.

Scan, Gather and Report Radio Parameters

With its Scan command, WiPort enables the ability to report MAC address, RSSI and SSID which are extremely useful during site survey work. The Network Status command additionally reports channel, infra/adhoc, security type, authentication, negotiated encryption types for the current association.

Features and Specifications

Wireless Specifications

Wireless Standards: IEEE 802.11b; 802.11g

Frequency Range: 2.412 – 2.484 GHz

Output Power: 14dBm +1.5 dBm/-1.0 dBm

Maximum Receive Level: -10dBm (with PER < 8%)

Data Rates With Automatic Fallback
    54Mbps – 1Mbps

Media Access Control: CSMA/CA with ACK

Range: Up to 328 feet indoors

Modulation Techniques: OFDM, DSSS, CCK, DQPSK, DBPSK, 64 QAM, 16 QAM

Serial Interface

Interface: CMOS (Asynchronous) 3.3V-level signals, rate is software selectable (300 bps to 921,600 bps)

Serial Line Formats: 7 or 8 data bits, 1-2 Stop bits

Parity: odd, even, none

Modem Control: DTR, DCD

Flow Control: XON/XOFF (software), CTS/RTS (hardware), none

Network Interface

Interface: Wireless 802.11b, 802.11g and 10/100 Ethernet

Protocols Supported: ARP, UDP, TCP, Telnet, ICMP, SNMP, DHCP, BOOTP, Auto IP, HTTP, SMTP, TFTP

Management

Internal web server,
SNMP (read only)
Serial login
Telnet login
DeviceInstaller software

Security

IEEE 802.11i - PSK with AES-CCMP Encryption

WPA - PSK

TKIP Encryption

64/128-bit WEP

Internal Web Server

Serves web pages

Storage capacity: 1.2 MB

Architecture

CPU, Memory: Lantronix DSTni-EX 186 CPU, on-chip 256 KB zero wait static SRAM, 2,048 KB Flash, 16 KB Boot ROM, 802.11 b/g radio

Firmware: Upgradeable via TFTP and serial port

Power Consumption

Average Power Consumption:
• 1300 mW (WLAN mode; maximum data rate)
• 300 mW (WLAN mode; idle)
• 750 mW (Ethernet mode)
Peak Supply Current: 650 mA

Environmental

Operating range, WLAN: -40° to 70°C (-40° to 158°F)

Storage range: -40° to 85°C (-40° to 185°F)

Packaging

Dimensions: 33.9 x 32.5 x 10.5 mm (1.335 x 1.28 x .415 in)
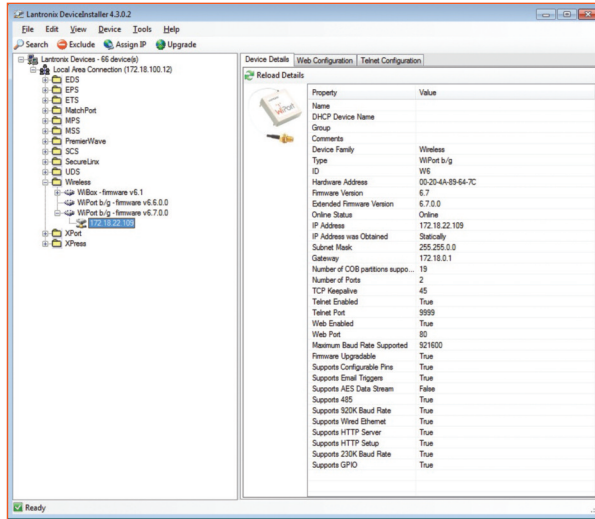
Weight: 29g

Material: Metal shell

Warranty

2-year limited warranty

Included Software

Windows® XP/Server 2003/Vista/7 (x68 and x64)/Server 2008 (x86 and x64) based DeviceInstaller configuration software and Com Port Redirector™ Web Manager

The included DeviceInstaller software makes configuring WiPort quick and easy!

WiPort Evaluation Kit

The WiPort Evaluation Kit includes everything you need to integrate the WiPort into your next product design, including:

• WiPort evaluation board
• WiPort Device Server
• RS-232 cable, DB9F, null modem
• Cat5e UTP RJ45M/M Ethernet cable
• CD with software utilities and PDF documentation
• 3.3V power supply
• Antenna

Ordering Information

Part Number	Description
WP2001000G-02	– WiPort b/g bulk pack – Minimum order quantity 25 units
WP2002000G-02	– WiPort b/g AES bulk pack – Minimum order quantity 25 units
WP200200SG-02	– WiPort b/g AES sample case – One WiPort enclosed – Free 30-day Secure Com Port Redirector™ evaluation license – Order quantities of up to 10
WP200200KG-02	– WiPort Evaluation Kit
930-033-R	– Accessory antenna

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