LANTRONIX®

MatchPort b/g Pro Wireless Device Server

▶ **Adds Wi-Fi to devices with the highest WPA2/802.11i enterprise-grade security and authentication protocols**

▶ **Lantronix SmartRoam™ technology provides seamless mobile connectivity and improved reliability**

▶ **Includes full TCP/IP stack, CGI, AJAX web server and Windows deployment software**

▶ **Low power consumption mode option**

▶ **Powerful applications customization platform with 32 Bit 159 MIPS (Dhrystone 2.1) Processor, 8 MB Flash/8 MB SDRAM**

RoHS
WEEE COMPLIANT

The Most Secure, Deployment-Ready Wi-Fi Networking and Web Server Module

MatchPort® b/g Pro is a programmable device server that delivers Wi-Fi networking with the highest levels of security to virtually any electronic product. It provides affordable connectivity in the same compact, single-socket form factor as other MatchPort modules, enabling OEMs to add Wi-Fi or wired Ethernet networking to their products on a single PCB design.

With a choice flexible, media-independent modules ranging from Ethernet, Wi-Fi and ultra-secure Wi-Fi, the MatchPort family takes the complexity out of RF design and networking. OEMs can focus on their core competencies while minimizing engineering risk, shortening development time and reducing development cost.

Wi-Fi Network Co-Processor Module

MatchPort b/g Pro is a dedicated co-processor module that manages wireless connectivity and web services, enabling the device's host microcontroller to function at maximum efficiency. Using a dual-processor design (one for converting wired serial data into TCP/IP packets, adding authentication and web server; the other an 802.11 b/g baseband and radio chipset) MatchPort b/g Pro adds secure Wi-Fi connectivity and web services to any device with a serial interface on its host microcontroller.

Bulletproof Security

With an unmatched portfolio of security technologies, MatchPort b/g Pro goes far beyond compliance with the popular 802.11i, WPA and WPA2 wireless security specifications. It ensures data integrity and privacy for highly sensitive requirements, such as medical or financial applications.

- IEEE 802.11i-compliant radio with AES-CCMP and TKIP encryption
- Complete suite of 802.1x Enterprise Authentication Protocols (EAP) including EAP-TLS, EAP-TTLS, PEAP and LEAP
- End-to-end SSL TLS and SSH tunneling
- End-to-end AES 128-bit encrypted tunneling

Highly Reliability Wi-Fi for Better Mobility

With exclusive SmartRoam technology, MatchPort b/g Pro 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.

Scan, Gather and Report Radio Parameters

MatchPort b/g Pro scans current AP and Received Signal Strength radio parameters, as well as authentication and negotiated encryption types for the current association, and displays them on a web page. This enables remote technicians to diagnose problems as they occur and troubleshoot over any IP network without a service call, reducing support costs and unnecessary visits.

Advanced OS and Web Server Technologies

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EVOLUTION OS™

Featuring the Lantronix Evolution OS™ operating system, MatchPort's integrated CGI-capable web server transforms a standalone device into a networked product that can be managed remotely via a standard web browser. CGI capability enables users to remotely monitor and collect information from the device in real-time and send the information to dynamic web pages. AJAX technology ensures smooth browsing of dynamic content served from the edge device. Additionally, MatchPort b/g Pro supports open standards such as "Cisco-like" CLI, XML and serial and Telnet management options.

Flexible & Intelligent Design

Designed without an attached antenna, it provides the flexibility to locate the antenna and connector based on design requirements. It also includes a user-controlled, intelligent power management option to shut down the radio during periods of inactivity, minimizing current consumption.

FCC Certified for Immediate Deployment

MatchPort b/g Pro is certified by the U.S. Federal Communications Commission (FCC) enabling OEMs to leverage the Lantronix FCC license grant and bypass 802.11 regulatory testing. MatchPort b/g is also pre-tested for European telecommunications regulations.

Features and Specifications

Wireless Specifications
Wireless Standards: IEEE 802.11b; 802.11g
Channel Frequency Range: 2.412 – 2.484 GHz
Output Power: 14dBm +2.0dBM/-1.5dBm
  (does not include antenna gain)
Maximum Receive Sensitivity: -91dBm @ 1Mbps
Data Rates With Automatic Fallback: 54Mbps – 1Mbps
Range: Up to 328 feet indoors (100m)
Modulation Techniques: OFDM, DSSS, CCK, DQPSK, DBPSK,
  64 QAM, 16 QAM

Serial Interface
Two Serial Ports
Interface: CMOS (Asynchronous) 3.3V-level signals, rate is
  software selectable (300 bps to 230,000 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 and 802.11g, Ethernet
Protocols Supported: ARP, UDP, TCP, Telnet, ICMP, SNMP, v2C,
  DHCP, BOOTP, Auto IP, HTTP, HTTPS, SMTP, TFTP

Management & Configuration
Serial login
Telnet login
Internal WebManager (SSL Option for secure login)
Cisco-like CLI (over Serial Ports, Telnet or SSH)
XML Configuration Records via CLI or FTP
Windows-based DeviceInstaller software
Firmware: Upgradeable via FTP, Web, Serial Port

Wireless Security
IEEE 802.11i Encryption: AES-CCMP and TKIP Encryption
WPA2- Enterprise (EAP, PEAP, LEAP), WPA2-PSK, WPA - PSK
  64/128-bit WEP

Wired Security
SSL Client & Server, Selectable 128/256/512/768/1024
  Bit Certificates
SSH Client, 8 Server Selectable 128/256/512/768/1024
  Bit Public/Private Key support
TLS
ENCRYPTION: AES, 3DES and RC4 Encryption for SSH & SSL
Lantronix end-to-end AES 128 Bit Encryption
AUTHENTICATION: SHA-1, MD5, Base-64

Internal Web Server
CGI with AJAX support

Architecture
CPU, Memory: Lantronix 32-bit processor, 166Mhz (159 MIPS -
  Dhrystone 2.1) 7 GPIO
Memory: 8 MB SDRAM, 8 MB Flash (Factory default). Flash
  wear leveling and erase cycle statistics

Nominal Current Consumption (@3.3v)
Wireless On; Standby: 160mA
Wireless On; Continuous Max Transmit Power: 350mA

Environmental
Operating range, WLAN: -40° to 70°C (-40° to 158°F)
Storage range: -40° to 85°C (-40° to 185°F)

Packaging
Dimensions: 44.4 x 44.4 x 10.4 mm (1.75 x 1.75 x .41 in)
Weight: 29g
Material: Plastic shell, 260°C tolerant

Warranty
2-year limited warranty

Included Software
Windows® XP/Server 2003/Vista/7 (x86 and x64)/Server 2008 (x86 and x64) based
DeviceInstaller™ configuration software and Com Port Redirector™, web manager

LANTRONIX® EVOLUTION OS™ Architecture

APPLICATIONS	TUNNELING		COMMAND & CONTROL		3rd PARTY
APPLICATIONS SUPPORT	WEB MANAGER	XML	RSS	CONFIGURATION STORE	CFG LOGGING
	FILE SYSTEM	GPIO MANAGER		SMTP Email	CISCO CLI
SECURITY	SSH		SSL		PAP
				PACKET FILTER	
	SHA-1	MD5	3DES	AES	RC4	CHAP
NETWORK	UDP	HTTP	CGI	DNS	RS232 MIB	MIB II	FTP
		TCP	ICMP	PPP	SNMP	DISCOVERY	TFTP
	IP	ARP	AUTO-IP	HDLC	DHCP		BOOTP
DRIVERS	MANUFACTURING TESTS		WATCH DOG		EEPROM
	ETHERNET	SERIAL LINES	FLASH DRIVER	PIO (CP) DRIVER
KERNEL	THREADING MODULE	BUFFER POOLS	SEMAPHORES	TIMERS
	PREEMPTIVE SCHEDULER	MEMORY (HEAP) MODULE	MUTUAL EXCLUSIONS
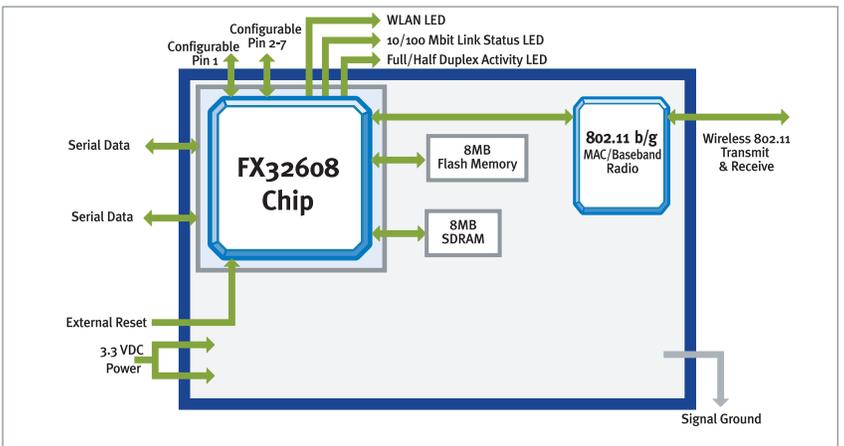
Ordering Information

Part Number	Description
MPP3002000G-01	– MatchPort b/g Pro 802.11 Wireless Device Server, bulk – Minimum order quantity 50 units
MPP300200SG-01	– MatchPort b/g Pro 802.11 Wireless Device Server, sample – One (6 in.)Antenna cable U.FL to R-SMA (p/n 500-180-R-ACC) – One MatchPort b/g enclosed – Free 30-day Secure Com Port Redirector™ evaluation license – Order quantities of up to 10
MP10010NMK-01	– MatchPort *no module* Demonstration Kit, sample must be purchased
930-033-R	– Accessory antenna
500-180-R-ACC	– Antenna cable (6 in.) U.FL to R-SMA (10 pack)
500-181-R-ACC	– Antenna cable (6 in.) U.FL to U.FL (10 pack)

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