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Understanding [Embedded - Microcontroller, Microprocessor, FPGA Modules](#)

Embedded - Microcontroller, Microprocessor, and FPGA Modules are fundamental components in modern electronic systems, offering a wide range of functionalities and capabilities. Microcontrollers are compact integrated circuits designed to execute specific control tasks within an embedded system. They typically include a processor, memory, and input/output peripherals on a single chip. Microprocessors, on the other hand, are more powerful processing units used in complex computing tasks, often requiring external memory and peripherals. FPGAs (Field Programmable Gate Arrays) are highly flexible devices that can be configured by the user to perform specific logic functions, making them invaluable in applications requiring customization and adaptability.

Applications of [Embedded - Microcontroller,](#)

Details

Product Status	Not For New Designs
Module/Board Type	MPU Core
Core Processor	IPv6
Co-Processor	XPort® Pro
Speed	-
Flash Size	16MB
RAM Size	16MB
Connector Type	RJ45
Size / Dimension	0.63" x 1.33" (16mm x 33.9mm)
Operating Temperature	-40°C ~ 85°C
Purchase URL	https://www.e-xfl.com/product-detail/maestro-wireless/xpp1002000-02r



XPort® Pro

EMBEDDED NETWORKING

*World's Smallest
Linux Networking Server*



ROBUST PROCESSING
POWER & FLEXIBLE
LINUX COMPUTING FOR
M2M EDGE APPLICATION
DEPLOYMENT

The XPort® Pro embedded device server is Lantronix's most powerful, self-contained embedded networking module. Footprint compatible with the popular XPort and running either Linux or Evolution OS® operating systems, the XPort Pro eliminates the complexity of designing network connectivity into a product and allows you to deploy advanced applications on the edge device itself.

Introduction

The thumb-sized XPort Pro provides everything you need in a single embedded solution. It effortlessly handles demanding applications with the power of a high-speed, advanced architecture 32-bit processor. And with ample built-in memory, it allows virtually unlimited flexibility for customization and application enablement.

XPort Pro provides bullet-proof security by offering a variety of robust data encryption and authentication options. What's more, the option to run Linux with IPv6 built in enables you to deploy custom applications and take advantage of the large feature-libraries available for Linux developers. Critical agency certification has already been completed by Lantronix, reducing your test time and expediting time-to-market.

XPort Pro Highlights

- Enable M2M edge computing and effortlessly handle demanding applications with the power of an advanced architecture 32-bit processor
- Run Linux or Lantronix Evolution OS for the ultimate in application development flexibility
- Production-ready hardware and software solution provides simple device set-up, configuration and monitoring, with powerful, industry-standard management tools
- Footprint compatible with the popular XPort, with everything you need in a tiny, integrated RJ45 package that is EMC/EMI/RoHS compliant

LANTRONIX

Features and Specifications

High performance 32-bit processor

On-board memory

- 8MB SDRAM/16MB Flash or 16MB SDRAM/16MB Flash

Serial Interface

- Software selectable data rates from 300 to 921kbps
- Characters: 7 or 8 data bits
- Parity: Odd, Even, None
- Stop Bits: 1 or 2
- Modem Control Signals: CTS, RTS, DTR/DCD
- Flow Control: XON/XOFF (software), CTS/RTS (hardware)
- Programmable IO: 3 PIO pins (software selectable)

Network Interface

- 10Base-T and 100Base-TX Link • Connector: RJ45
- Protocols: TCP/IP, UDP/IP, ARP, ICMP, SNMPv2, TFTP, FTP, Telnet, DHCP, BOOTP, HTTP, SMTP, SSHv2, SSLv3, PPP, AutoIP, RSS and SYSLOG

Indicators (LED)

- Link & activity indicator

Security

- SSLv3 and SSHv2 Client & Server, Selectable 128/256/512/1024 Bit certificates
- Encryption: AES, 3DES and RC4
- Authentication: SHA-1, MD5, Base-64 User Access Lists

Software

- Windows 98/NT/2000/XP/Vista-Based DeviceInstaller™
- Com Port Redirector™ • Secure Com Port Redirector

Management

- Internal Web Manager (SSL Option for secure login)
- CLI (over Serial Ports, Telnet or SSH)
- XML Configuration Records via CLI or FTP
- DeviceInstaller software
- Firmware: Upgradeable via FTP, Web and Serial Port
- Flash wear leveling and erase cycle statistics

Internal Web Server

- Customizable with CGI
- Web content on local file system and updatable through ftp

Environmental

- Extended Temp: -40° to 85° C (-40° to 185° F)
- Commercial Temp: 0° to 70° C (32° to 158° F)
- Storage: -40° to 85° C (-40° to 185° F)

Power

- Input voltage: 3.3 VDC
- IO Max Rating 3.3v

Dimensions

- Length: 33.9 mm (1.33 in.)
- Width: 16.25 mm (0.64 in.)
- Height: 13.5 mm (0.53 in.)
- Weight: 9.6 g (0.34 oz)

Regulatory Approvals

- FCC Part 15, Subpart B, Class B – ICES-003 Issue 4 (2004), Class B
- EN55022:2006 and EN55024:1998 + A1:2001 + A2:2003
- AS/NZS CISPR22:2006
- VCCI V-3/2009.04
- EN 61000-3-2:2006, EN 61000-3-3:1995+A1:2001+A2:2005

Part Number

Description

XPP1002000-02R	XPort Pro RoHS Extended Temperature w/encryption w/Evolution OS w/16MB SDRAM, Bulk
XPP1003000-04R	XPort Pro RoHS Extended Temperature w/encryption w/Linux OS w/16MB SDRAM, Bulk
XPP100200S-02R	XPort Pro RoHS Extended Temperature w/encryption w/Evolution OS w/16MB SDRAM Sample
XPP100300S-04R	XPort Pro RoHS Extended Temperature w/encryption w/Linux OS w/16MB SDRAM Sample Development Kit & Evaluation Board
XP10010NMK-01	Universal Demo Board*
XPPDK1000-EVO-02	XPort Pro Evolution Development Kit**
XPPDK1000-LNX-02	XPort Pro Linux Development Kit**

Accessories

Description

930-060-R

USB BDM Debug Probe**

* XPort Pro module sold separately

** Debug probe sold separately for development kits 930-060-R

Ordering Information

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