

# P1020EWLAN Enterprise IEEE® 802.11N Access Point/Wireless Router

The P1020EWLAN access point/router is a complete production-ready, bill of materials (BOM)-optimized solution that can support single- or dual-radio 802.11 a/b/g/n devices through MiniPCI or Mini PCI Express® interfaces. The solution features a 3 x 3 MIMO design, dual Gigabit Ethernet ports, USB 2.0 and is backwards compatible with 802.11 a/b/g products.

IEEE® 802.11N WLAN radios are capable of supporting wireless data rates up to 300 Mbps per radio and the P1020 communication processor is ideally suited to maximize performance for two radios up to 600 Mbps while still meeting the power and cost budgets required by this application. The P1020EWLAN can be powered over a single Ethernet cable in 3 x 3 MIMO mode using a single 802.3af Power over Ethernet (PoE) link.

## Key Benefits

### Accelerate Time to Revenue

Demonstrate time to market with fully integrated security and networking functionality that allows you to simply develop with no impact to schedule. Accelerate time to revenue by reaching new markets faster.

### Bend the Cost/Performance Curve

Achieve multiple performance enhancements by leveraging our solutions-centric approach at similar price levels of current generation appliances. Tap into the expertise of Freescale's ecosystem partners to customize and optimize your solution.

### Create an Extensive Appliance Roadmap

Using our multicore QorIQ processors running VortiQa software, showcase scalable performance at industry-leading performance to power ratios.

## Solution Advantages

- Power over Ethernet (PoE) eliminates the need to run 110/220 VAC power to wireless access points
- Single- and dual-core solutions allow for a portfolio with a wide range of end products at varying price points
- Highest performance SoCs in the industry under 3.5W
- BOM-optimized, production-ready systems from Industry-leading ODMs

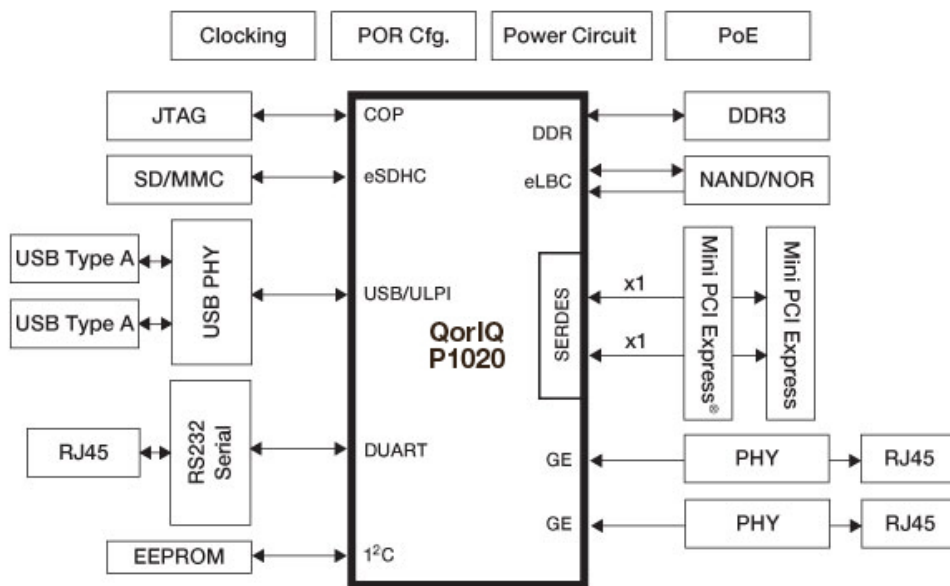
## Ordering Information

Ordering part number: P1020EWLAN

## ODM Partners

For a list of ODM contacts that customize and/or supply volume quantities of this product, contact your local Freescale sales office.

QorIQ P1020 Wireless LAN Access Point Block Diagram



## Target Applications

- Security appliances
- UTM appliances
- VPN routers
- Business gateways
- WLAN routers

## Features

- Freescale's high-performance QorIQ P1020 processor in 45 nm SOI technology
- VortiQa security software optimized for multicore processors
- Integrated security engine (SEC 3.1)
  - Crypto algorithm support includes 3DES, AES, RSA/ECC, MD5/SHA and FIPS deterministic RNG
  - Single pass encryption/message authentication for common security protocols (IPsec, SSL, SRTP, WiMAX) and XOR acceleration
- Cost-optimized BOM by hardware ODMs
- FCC Class A certified, ready to ship
- Complete appliance portfolio from low to high end

## QorIQ P1020 Wireless LAN Access Point Specifications

Processor	<ul style="list-style-type: none"><li>• QorIQ P1020 processor in 45nm SOI</li><li>• 533-800 MHz dual core e500 processor</li><li>• 32 KB L1 Instruction cache and 32 KB L1 data cache per core</li><li>• 256 KB L2 cache with ECC</li></ul>
Memory	<ul style="list-style-type: none"><li>• 256 MB to 512 MB DDR3 SDRAM</li><li>• 64 MB NOR flash memory</li><li>• 256 MB or NAND flash memory</li></ul>
WLAN Connectivity	<ul style="list-style-type: none"><li>• Dual MiniPCI Express® (PCIe) connectors for 802.11 a/b/g/n dual band dual cards</li><li>• Support Atheros AR93xx series and Ralink MiniPCIe card</li><li>• 3 x 3 MIMO solution</li></ul>
Connectivity	<ul style="list-style-type: none"><li>• 2 x 10/100/1000 Base-T with POE, USB Type A connector</li></ul>
Certification	<ul style="list-style-type: none"><li>• FCC/CE Class B certified</li><li>• Mini-ITX form factor PCB</li></ul>
OS/BSP	<ul style="list-style-type: none"><li>• Linux® 2.6xx or later with redundant boot process from flash memory</li></ul>
Wireless Wi-Fi®	<ul style="list-style-type: none"><li>• 802.11 b/g/n compatible</li></ul>
Wireless Modules	<ul style="list-style-type: none"><li>• Atheros support: AR93xx</li></ul>
Wireless Security	<ul style="list-style-type: none"><li>• PSK, WEP, WPA2, authentication with Radius</li></ul>
System Configuration and Management	<ul style="list-style-type: none"><li>• Web browser based, TFTP: FTP and Telnet, system configuration restore in flash memory (firmware update)</li></ul>
Protocols	<ul style="list-style-type: none"><li>• IPv4 and IPv6, RIP v1/v2, TCP/IP, UDP, PPTP, PPPOE, DMZ, VLAN, bridging, NAT/PAT, IGMP, VPN, firewall, ACL, IDS</li></ul>
Documentation	<ul style="list-style-type: none"><li>• Hardware quick start guide, hardware user manual, software user manual</li></ul>
Hardware Deliverables	<ul style="list-style-type: none"><li>• Schematics, gerbers and complete BOM</li></ul>
Software Deliverables	<ul style="list-style-type: none"><li>• Software binaries, source and release notes</li></ul>



## Learn More:

For current information about Freescale products and documentation, please visit [freescale.com/QorIQ](http://freescale.com/QorIQ).



Freescale, the Freescale logo are trademarks of Freescale Semiconductor, Inc., Reg. U.S. Pat. & Tm. Off. QorIQ is a trademark of Freescale Semiconductor, Inc. All other product or service names are the property of their respective owners. The Power Architecture and Power.org word marks and the Power and Power.org logos and related marks are trademarks and service marks licensed by Power.org. © 2008, 2010 Freescale Semiconductor, Inc.

Document Number: P1020EWLANFS  
REV 1



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Freescale Semiconductor:](#)

[P1020-WLAN](#) [MPC8377EWLANB](#)