

Ubicom's Bluetooth Ethernet Access Point based on the IP2022 Internet Processor, Networking Software, and Bluetooth Stack gives the OEM/ODM customer a complete platform to maximize technological edge while minimizing hardware and software costs. Ubicom solutions are becoming the de facto meeting point of Internet and Bluetooth.

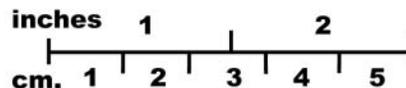
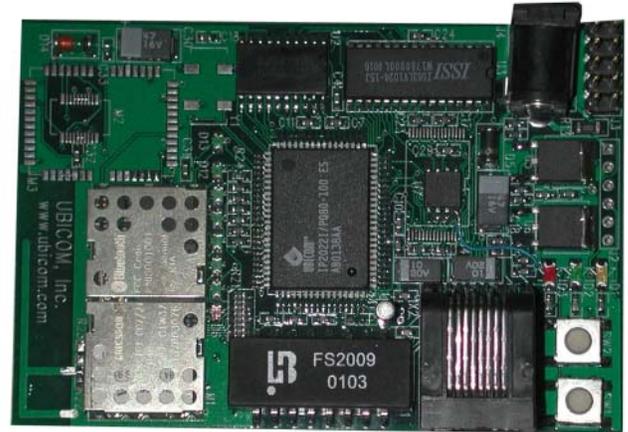
We have partnered with many Bluetooth market and technology leaders to design the best of Bluetooth Point solution at market-enabling prices. Two of Ubicom's Bluetooth designs are shown below. The design on the left uses a Zeevo radio and baseband controller with a Ubicom IP2022 in a BGA package. The design on the right uses an Ericsson radio and baseband controller with a Ubicom IP2022 in a PQFP.



Top



Bottom

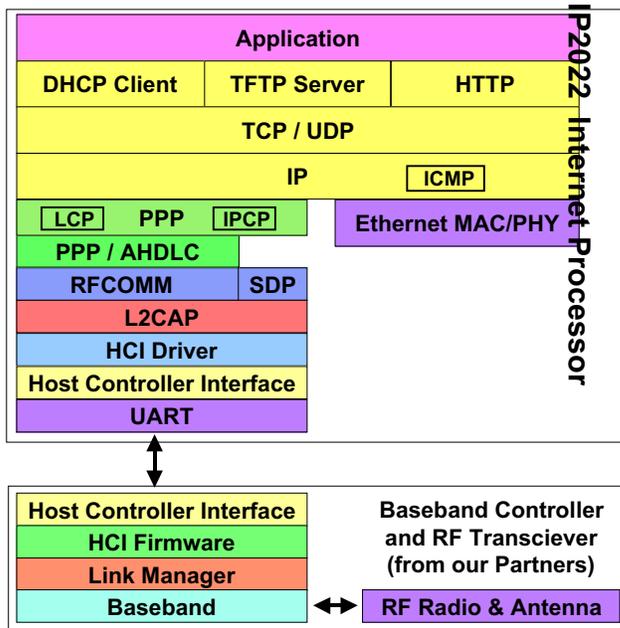


Highlights

- **Instant Internet Access** for mobile devices such as PDAs, Mobile Phones and Laptops
- **Ease of installation and management** for Enterprise IT Managers who would like to support mobile professionals through already-installed Ethernet LANs
- **High-speed Wireless Networking** for home appliances, utility meters, white goods, digital entertainment devices, and other emerging residential appliances
- **Lowest-cost** wireless access point solution in the market with respect to both hardware and/or software lifecycle costs
- **Secure and transparent** usage through Bluetooth's ad hoc networking and authentication/ encryption capabilities, plus further application layer security
- **Future-proof technology** with Ubicom's software-based functionality—e.g. "replace Ethernet with Homeplug if you want or remotely upgrade to new specifications"
- **Full Hardware & Software Development Support**

Technical Overview

- **Ethernet and supports Bluetooth 1.1 at peak current connect speeds of 65 Kbytes/s.**
- Piconet connecting up to 7 simultaneous data users with LAN Access Profile (PAN Profile, SPP Profile soon available)
- Web and Locator Management, setup and configuration
- **Ubicom's own ipBlue™: Bluetooth Stack with SDP, L2CAP, RFCOMM featuring LAP Profile (total of 19 Kbytes)**
- Security: Slave authentication and Mode 3 Security
- HCI (through UART) interface to Baseband Link Manager, Link Controller and Host Controller Interface handled by any vendor (partnerships with selected providers):
- Ubicom ipOS™: network-optimized real-time operating system
- Ubicom ipStack™: network-optimized, truly embedded, modular Internet Protocols
- Remote firmware/software upgradability through external flash
- Shared hardware and software platform with other Ubicom connectivity solutions such as HomePlug, 802.11b, USB 1.1 (Host and Device), Ethernet, and Fast Ethernet to minimize cost and development time



IP2022 Internet Processor

High speed communication interfaces are available via on-chip hardware Serializer/Deserializer (SerDes) blocks. Two full-duplex blocks are provided, allowing the IP2022 to be used in a variety of communication bridging applications. Each SerDes block is capable of supporting 10Base-T Ethernet (MAC and PHY), USB, GPSI, SPI, and UARTs, among other protocols.

- Designed to support single-chip networked solutions
 - Fast processor core
 - 64kB Flash program memory
 - 20kB SRAM data/program memory
 - Two SerDes communication blocks supporting common PHYs (Ethernet, USB, UARTs, etc.) and bridging applications
- Advanced 120 MIPS RISC processor
 - Hi speed packet processing
 - Instruction set optimized for communication functions
 - Supports software implementation of traditional hardware functions
- In-system reprogrammable for highest flexibility
 - Run time self-programmable

Bluetooth Modules

IP2022 handles the Bluetooth Stack and Access Point Software and interfaces with any baseband processor through the HCI interface. For your convenience Ubicom has existing partnerships with various Bluetooth radio and baseband controller vendors including:

- Ericsson (design available)
- Broadcom (design available)
- Motorola (design available)
- OKI Semiconductor (design available)
- Zeevo (design available)
- Cypress
- Silicon Wave
- Signia Technologies
- CSR

Bluetooth Ethernet AP Evaluation Kit

- IP2022 Bluetooth AP Reference Design Board
- AP Reference Design Schematic & BOM
- AP User Guide
- Ubicom Locator™ Configuration Utility
- IP2K-KEV-BTETPHAP