



SmartConnect WINC1500

Wireless Network Controller



The Atmel® SmartConnect WINC1500 is an IEEE 802.11 b/g/n IoT network controller SoC. It offers the ideal add-on to existing MCU solutions, making it easy to bring Wi-Fi and Network capabilities through UART or SPI-to-Wi-Fi interfaces into your designs. The WINC1500 connects to any Atmel AVR® or Atmel | SMART MCU, and has minimal resource requirements.

WINC1500 Target Applications

- IoT applications
- Smart appliances
- Multimedia streaming
- Safety and security
- Home automation
- Consumer electronics
- Industrial automation

The most advanced mode in the WINC1500 is a single stream 1x1 802.11n mode, providing up to 72 Mbps PHY of throughput. The WINC1500 features a fully integrated power amplifier, LNA, switch, and power management modes.

The WINC1500 also provides internal Flash memory as well as multiple peripheral interfaces, including UART, SPI, and I²C. The only external clock source needed for the WINC1500 is a high-speed crystal or oscillator with a wide variety of reference clock frequencies supported (between 12 – 32 MHz). The WINC1500 is available in a QFN package.

Power Architecture and Consumption

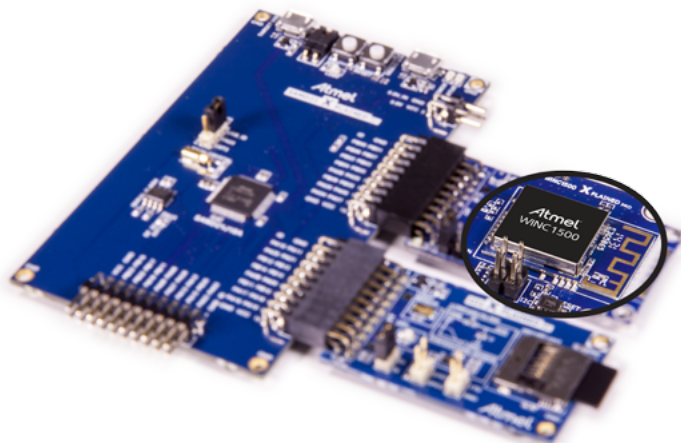
The WINC1500 uses an innovative power architecture that delivers very low power consumption along with high performance. This approach reduces the number of external components and optimizes your bill of material.

The WINC1500 has several Devices States:

- PROVISION: Receive and Transmit data anytime; send beacons as Wi-Fi SoftAP
- IDLE LISTEN: Receive data via TIM/DTIM; transmit data anytime
- IDLE: Not receiving or transmitting data. Remains associated with AP for poll
- SUSPEND: Not receiving or transmitting data; no PS polls; completely disconnect from the AP

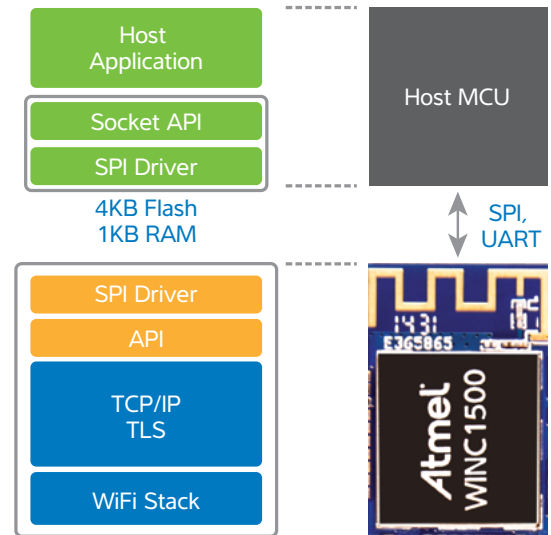
Accelerating RF Design

To help accelerate design development, Atmel offers the WINC1500 as a single-chip module for fast integration, and as an XPRO wing that is compatible with any existing Atmel Xplained PRO evaluation board.



Key Features

- IEEE 802.11 b/g/n (1x1) for up to 72 Mbps
- Integrated PA and T/R switch
- Superior sensitivity and range via advanced PHY signal processing
- Wi-Fi Direct, station mode and Soft-AP support
- Supports IEEE 802.11 WEP, WPA
- On-chip memory management engine to reduce host load
- 4 Mbit internal Flash memory with OTA firmware upgrade
- SPI, UART and I²C as host interfaces
- TCP/IP protocol stack (client/server) sockets applications
- Network protocols (DHCP/DNS), including secure TLS stack
- WSC (wireless simple configuration WPS)



Ordering Codes	Description
ATWINC1500A-MU-T	Single 802.11 b/g/n chip, 5X5 QFN
ATWINC1500-MR210PA	Certified Module with ATWINC1500A-MU chip and PCB antenna
ATWINC1500-XSTK	Starter kit including XPlained Pro D21 board, ATWINC1500-XPRO extension board demonstrating IoT setup with LED control and temperature measurements sent wirelessly through the Internet to the mobile device

Mouser Electronics

Authorized Distributor

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

[Atmel:](#)

[ATWINC1500-XPRO](#)