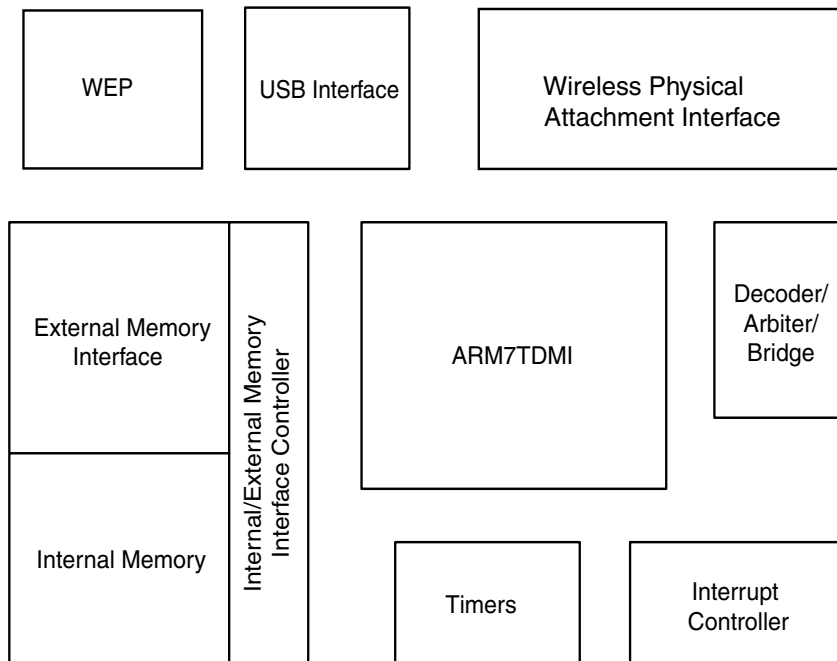


## Features

- IEEE 802.11b-compliant Wireless Standard
- Wireless LAN MAC Unit with ARM7TDMI™ RISC Processor
- Integrated 128-byte Transmit and 128-byte Receive FIFOs, for Wireless MAC Layer Functions
- Delivers Standard Wireless Networking to Any Host that Supports a Full-speed (12 Mbps) USB Interface
- Glueless SRAM Interface for All MAC Operations, Supporting up to 1M Byte of External Memory
- Integrated 6K x 32-bit Internal SRAM, Used for Fast Program Code Execution and Temporary Storage of Data
- Glueless Flash Memory Interface, Supporting up to 1M Bytes of Nonvolatile Memory for Permanent Storage of Program Code
- Wired Equivalent Privacy (WEP) in Hardware Supporting 64-bit and 128-bit Encryption
- The Integrated Physical Attachment Interface (PAI) Fully Supports Direct-sequence Spread Spectrum and Frequency-hopping Spread Spectrum Physical-layer Interfaces
- The WLAN and Inter-networking Functions can be Changed and Updated Easily to New Requirements Since They are Implemented in Micro Code
- Supports 11 Mbps Data Rate with Automatic Fallback to 5.5, 2 and 1 Mbps
- 128-lead, 14 x 14 mm TQFP Package
- Low-voltage Operation (3.3V)
- Internal ROM Contains Hardwired USB Control Software for Automatic Configuration when Card is Inserted in the USB Slot
- Device Firmware Upgrade is also Included in the Internal ROM for Downloading Firmware into Internal SRAM
- Offers SPI Interface and Five GPIO Pins
- AT76C503A Offers the Option to Download the Whole Code from SPI Flash

## Block Diagram



## Universal Serial Bus 11-megabit WLAN Media Access Controller

AT76C503A

## Summary

Rev. 1949CS-WLAN-06/02



Note: This is a summary document. A complete document is available under NDA. For more information, please contact your local Atmel sales office.



## Description

AT76C503A is a single-chip controller that provides all processing and functionality needed for the MAC protocol of wireless LANs (focusing on, but not limited to the IEEE 802.11b standard). AT76C503A provides a glueless interface conforming to 12-Mbit Universal Serial Bus (USB) specification and can control a variety of wireless physical interfaces.

The AT76C503A chip contains a USB interface, a MAC control unit, and a PAI. The PAI supports 5.5- and 11-Mbit WLAN physical interfaces and the IEEE 802.11 (1 or 2 Mbps) direct-sequence spread spectrum and frequency-hopping spread spectrum physical interfaces, providing flexibility to end users.

The ARM7TDMI core supports two alternative instruction sets. Powerful 32-bit code can be executed by the processor in ARM<sup>®</sup> operating mode; however, a 16-bit instruction subset is also available in Thumb<sup>®</sup> mode. Thumb mode can be selected to exploit full processor power with limited external memory resources. Note that ARM7TDMI operating mode can be changed at run time with negligible overhead.



## Atmel Headquarters

### *Corporate Headquarters*

2325 Orchard Parkway  
San Jose, CA 95131  
TEL 1(408) 441-0311  
FAX 1(408) 487-2600

### *Europe*

Atmel Sarl  
Route des Arsenaux 41  
Case Postale 80  
CH-1705 Fribourg  
Switzerland  
TEL (41) 26-426-5555  
FAX (41) 26-426-5500

### *Asia*

Room 1219  
Chinachem Golden Plaza  
77 Mody Road Tsimshatsui  
East Kowloon  
Hong Kong  
TEL (852) 2721-9778  
FAX (852) 2722-1369

### *Japan*

9F, Tonetsu Shinkawa Bldg.  
1-24-8 Shinkawa  
Chuo-ku, Tokyo 104-0033  
Japan  
TEL (81) 3-3523-3551  
FAX (81) 3-3523-7581

## Atmel Operations

### *Memory*

2325 Orchard Parkway  
San Jose, CA 95131  
TEL 1(408) 441-0311  
FAX 1(408) 436-4314

### *Microcontrollers*

2325 Orchard Parkway  
San Jose, CA 95131  
TEL 1(408) 441-0311  
FAX 1(408) 436-4314

La Chantrerie  
BP 70602  
44306 Nantes Cedex 3, France  
TEL (33) 2-40-18-18-18  
FAX (33) 2-40-18-19-60

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FAX (33) 4-42-53-60-01

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Colorado Springs, CO 80906  
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FAX 1(719) 540-1759

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Maxwell Building  
East Kilbride G75 0QR, Scotland  
TEL (44) 1355-803-000  
FAX (44) 1355-242-743

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Colorado Springs, CO 80906  
TEL 1(719) 576-3300  
FAX 1(719) 540-1759

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Avenue de Rochepleine  
BP 123  
38521 Saint-Egreve Cedex, France  
TEL (33) 4-76-58-30-00  
FAX (33) 4-76-58-34-80

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### *e-mail*

[literature@atmel.com](mailto:literature@atmel.com)

### *Web Site*

<http://www.atmel.com>

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