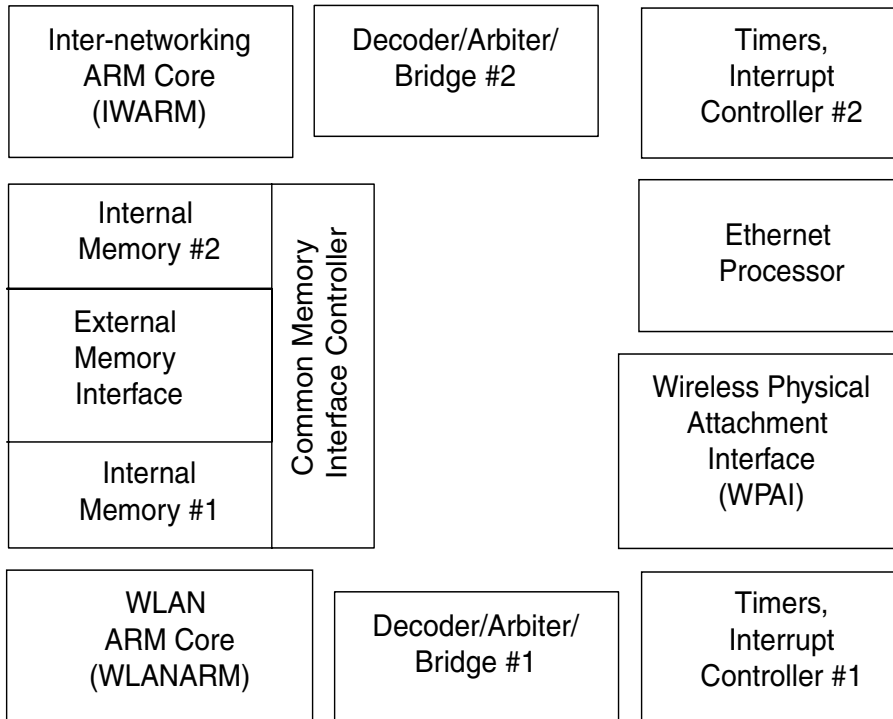


## Features

- Wireless Interface Following the IEEE 802.11b Standard
- Ethernet MAC Unit (EMU) Interfaces with 10/100-Mbit Ethernet Physical through a Standard MII Port
- Inter-networking Unit (INWARM) with Integrated ARM7TDMI® RISC Processor Provides the Bridging Functions between Ethernet and Wireless Interfaces
- WLAN MAC Unit with a Second ARM7TDMI RISC Processor and Integrated 128-byte Transmit and 128-byte Receive FIFOs, for Wireless MAC Layer Functions
- Glueless SRAM Interface for all MAC Operations, Supporting up to 16M Bytes of Common External Memory Shared between Both Processors
- Integrated 2 x 6K x 32-bit Internal SRAM Memory Banks, Used for Each Processor's Program Code and Data Space
- Glueless Flash Memory Interface, Supporting up to 16M Bytes of Nonvolatile Memory for Permanent Storage of Program Code
- Enciphering/Deciphering of Wireless Data On-the-fly Ensures Maximum Privacy of Data
- The Integrated Physical Attachment Interface (PAI), Fully Supports Direct Sequence Spread Spectrum and Frequency Hopping Spread Spectrum (2 Mbps) Physical-layer Interfaces
- The WLAN and Inter-networking Functions Can Be Changed and Updated Easily to New Requirements Since They are Implemented in Microcode
- 3.3V for Core and I/O
- 128-lead Plastic Quad Flat Pack (PQFP) or Thin Quad Flat Pack (TQFP) Package

## Block Diagram



## Ethernet to Wireless Bridge-on-a-Chip

## AT76C510 VNET-B Summary

Rev. 1650DS-WLAN-01/03



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

## Overview

Wireless to Ethernet Bridge (VNET-B) is the Inter-networking device for interconnecting a Wireless LAN with other Wireless LANs (WLAN) and legacy LANs.

VNET-B based bridges act as Access Points (AP) to the WLAN and communicate packets that are destined outside the WLAN using IP over Ethernet. In case the WLAN user is mobile, roaming functions are also supported at the VNET-B bridges.

The data transactions over this unified environment are categorized according to the type of end-to-end devices.

## End Stations Transactions

When two end stations communicate (irrespective to the type of network they belong) the inter-networking between the different networks should be transparent.

## Inter-networking Device Transactions

The VNET-B device implements all necessary communication protocols for supporting inter-networking functions, implements logical grouping of users independent of their physical location and provides secure links by implementing encryption algorithms.



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