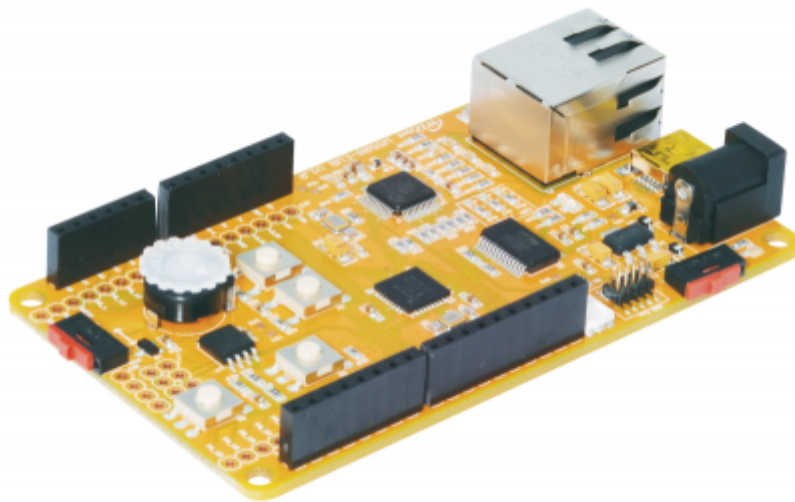


# W5500 EVB

- W5500 chip development platform for **net enabled** microcontroller applications
- Ethernet (W5500 Hardwired TCP/IP chip) and 32-bit ARM® Cortex™-M0 based designs
- Arduino Pin-compatible platform hardware.



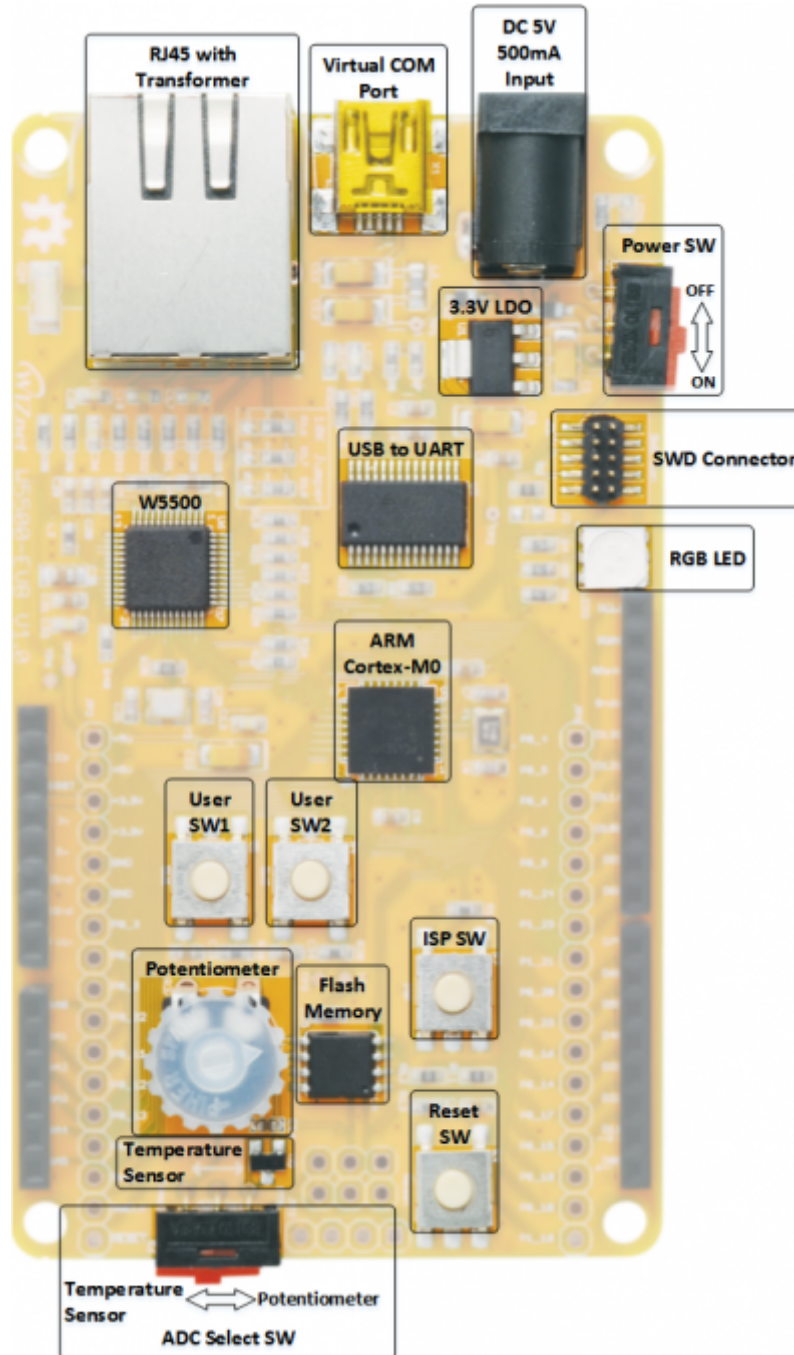
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## Overview

W5500 EVB is an evaluation board for W5500 chip based on the 32-bit ARM® Cortex™-M0 microcontroller. It is the easy way to develop internet connection for efficient and small embedded systems using W5500, WIZnet's hardwired TCP/IP embedded Ethernet controller. It has been designed to be hardware pin-compatible with 'Arduino shields' for the 'Arduino UNO Rev3' and other footprint-compatible boards.

It is based on the NXP LPC11E36 MCU with a 32-bit ARM® Cortex™-M0 core running at 50MHz. It includes 96kB Flash memory, 12kB SRAM, 4kB EEPROM and various interfaces, including SPI/SSP, I2C, UART, ADC, PWM and other I/O interfaces. Additionally, the on-board temperature sensor / potentiometer is ready for useful ADC control examples. Two programmable push button switches, one RGB LED, an external 4-Mbit serial dataflash memory and a 10/100 Base-Tx RJ-45 connector with an integrated transformer are on board to implement embedded networking applications.

The W5500 EVB provides benefits in developing easier and powerful network applications on small form-factor and non-OS based embedded devices using the W5500 chip.



## Features

### WIZnet W5500 Hardwired TCP/IP chip

- Hardwired TCP/IP embedded Ethernet controller
- SPI (Serial Peripheral Interface) Microcontroller Interface
- 32kB internal Tx/Rx socket buffer memory
- Hardwired TCP/IP stack supports TCP, UDP, IPv4, ICMP, ARP, IGMP, and PPPoE protocols
- Easy to implement of the other network protocols
- [W5500 Product page](#)

### NXP LPC11E36/501 MCU (LPC11E36FHN33)

- 32-bit ARM® Cortex™-M0 microcontroller running at up to 50MHz
- 96kB on-chip flash program memory
- 12kB on-chip SRAM data memory
- 4kB on-chip EEPROM data memory
- 1 x UART
- 1 x I2C
- 2 x SPI/SSP
- 8 x 10-bit ADC
- 4 x Timer (16, 32-bit)
- 11 x PWM
- [🔗 NXP LPC11E36FHN33 Product page](#)

### **On-board Temperature sensor**

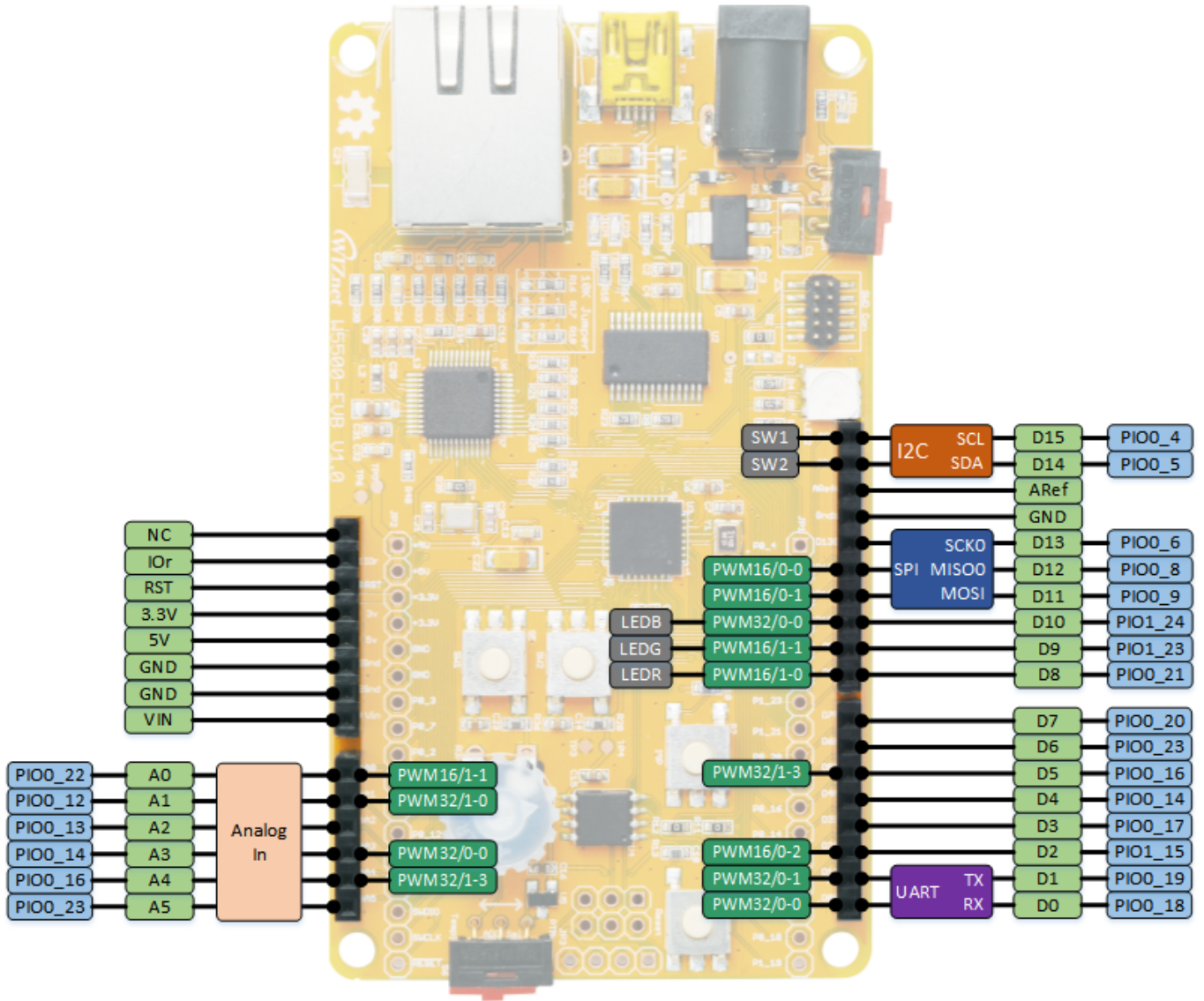
- Microchip TC1047A (Temperature-to-Voltage Converter)
- Supply Voltage Range: 2.7V to 4.4V
- Wide Temperature Measurement Range: -40 to +125 celsius degrees
- High Temperature Converter Accuracy: 2 celsius degrees, Max, at 25 celsius degrees
- [🔗 Microchip TC1047A Product page](#)

### **Connectors**

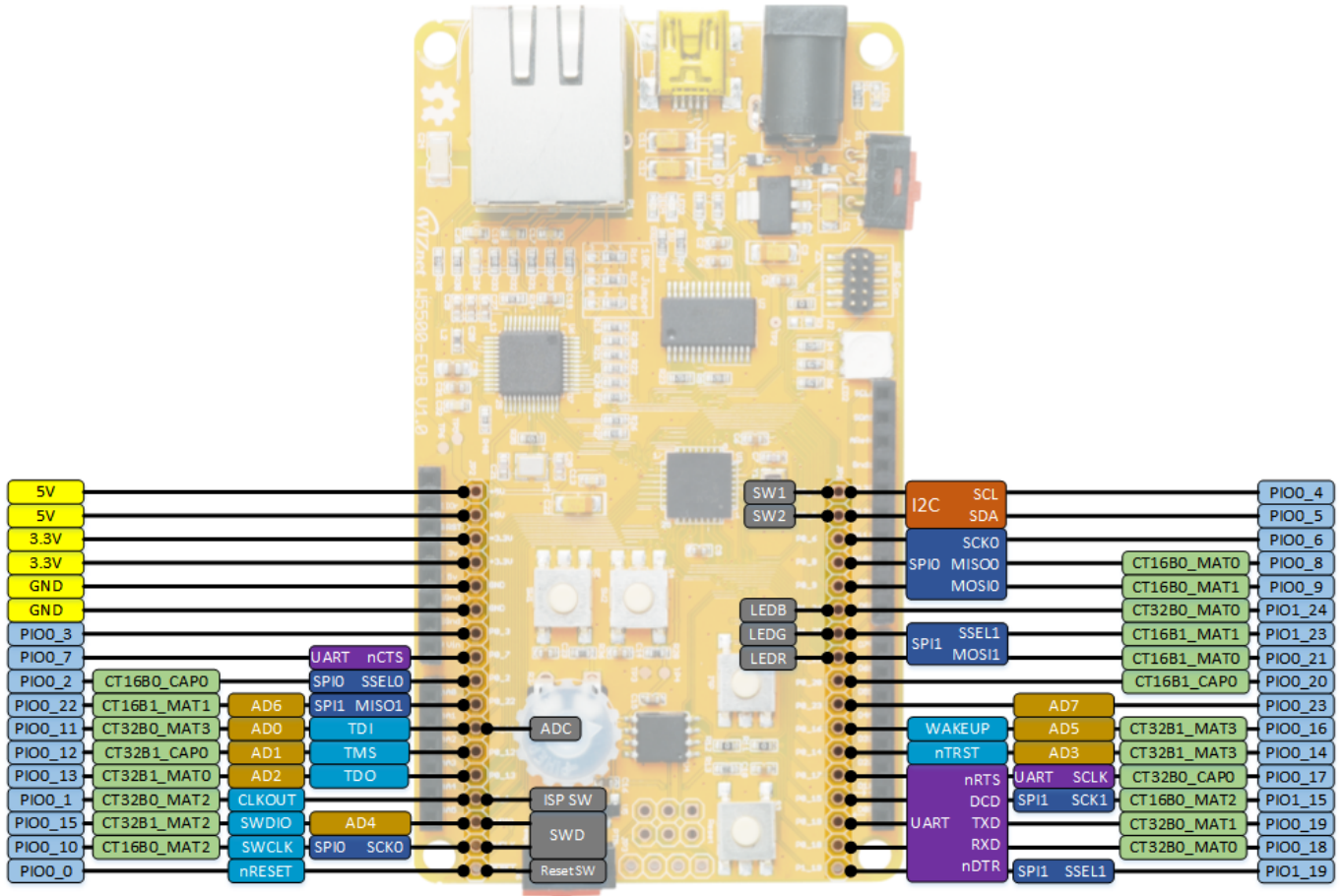
- Pin-compatible with Arduino Shields designed for the UNO Rev3
  - Digital pins 0 to 15, Analog inputs 0 to 5, the power header and Etc.
- 10/100Mbps Ethernet (RJ-45 with transformer)
- Virtual COM Port(UART via USB Mini-B) - [🔗 FTDI Drivers Download Page](#)
- ARM standard debug connector: 10-pin Cortex debug connector for SWD (Serial Wire Debug)

### **Form-factor**

- Dimension : 93 X 53 X 17.3(H) (Unit : mm)
- 5V DC power supply and +5V/500mA from power supply USB connector
- GPIO Input Voltage : 0 ~ 5V
- GPIO Output Voltage : 0 ~ 3.3V
- Two layer PCB (FR-4 material, 1.6T)
- Arduino Compatible Header Pinout



- External Pinout




**Others**

- 2 x Push button switches
- 1 x RGB LED
- 1 x Potentiometer (ADC)
- External 4-Mbit serial dataflash (SPI, 2048 pages x 256/264 byte/page)
- Industrial temperature specified (-40 to +85 degrees Celsius)

**Firmware**

W5500 EVB firmware project based on LPCXpresso IDE. For more details about LPCXpresso IDE, please refer to [NXP LPCXpresso platform page](#).

**Libraries and example source code download from GitHub**

 [https://github.com/Wiznet/W5500\\_EVB](https://github.com/Wiznet/W5500_EVB)

The projects for [IAR EWARM] and [Keil MDK-ARM] will be added in this page soon.

## Firmware components

The provided firmware is consist of components as follows.

**NXP MCU Library** (The required component of new projects)

- lpc\_chip\_11exx (NXP LPC11exx serise chip driver)
- [NXP LPCOpen software download page](#)

**WIZnet W5500 EVB Libraries** (The required components of new projects)

- wiznet\_evb\_w5500evb\_board (WIZnet W5500 EVB board library)
- ioLibrary (WIZnet W5500 EVB ethernet library and protocols)

**Application demo projects**

- Basic demos (LED blinky and loopback test)
- DHCP client
- DNS client
- On-board Temperature sensor
- On-board Potentiometer

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## Getting Started

[Hello World!](#)

[Downloading a new program](#)

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## Make New W5500 EVB Projects

[Make a new W5500 EVB project with LPCXpresso IDE](#)


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## Technical Reference

**Datasheet**

- [W5500 Datasheet](#)
- [NXP LPC11E3x Datasheet](#)
- [Microchip TC1027/TC1047A Datasheet](#) (Temperature Sensor)
- [ATMEL AT45DB041D Datasheet](#) (External Dataflash Memory)



 [WizWiki Forum](#) : WIZnet Forum for Technical support and Project shared

 Product brief: will be added

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## Where to Buy



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<http://wizwiki.net/wiki/> -

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[http://wizwiki.net/wiki/doku.php?id=products:w5500:w5500\\_evb](http://wizwiki.net/wiki/doku.php?id=products:w5500:w5500_evb)

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