WiFi TinyShield (ATWINC1500) - ASD2123-R

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DESCRIPTION

Connect your projects to the internet with the WiFi TinyShield! Based on the **Atmel ATWINC1500** WiFi module, this module supports 802.11 b/g/n, SSL, different security modes (WEP, WPA, WPA2, and unsecured connections) and has a built-in TCP/IP Stack that offloads network processing from your TinyDuino. The easy to use Arduino/Atmel supplied software library shows numerous examples on how to scan for WiFi access points, connect to an access point, run DHCP, ping IP addresses, do DNS lookups, connect as a client to a webserver and download web pages, or even act as your own webserver and access point.

This TinyShield includes an integrated antenna on the module itself with FCC/CE approval as well as built-in LEDs that indicate connection state and active data transfer. This TinyShield also includes level shifters and a local power supply to ensure proper and safe operation over the entire TinyDuino operating voltage range up to 5V, and uses an SPI interface to allow for fast data transfers.

Note: This module can act as an access point!

*To learn more about the **TinyDuino Platform,** click* **here**

TECHNICAL DETAILS

> *To see what other TinyShields this will work with or conflict with, check out the* ***TinyShield Compatibility Matrix***

Atmel ATWINC1500 WiFi Specs

- IEEE 802.11 b/g/n (2.4GHz)
- Embedded IPv4 TCP/IP stack
- Up to 72 Mbps PHY throughput
- TX power: +19.5 dBm at 11 Mbps, CCK
- RX sensitivity: –88 dBm, 11 Mbps

TinyDuino Power Requirements

- Voltage: 3.3V - 5.5V
- Current:
  - Active Mode, highest speed: 311mA TX at +18 dBm, 80.5mA RX
  - Shutdown Mode: <4uA
  - Due to the current requirements, this board cannot be run using the TinyDuino coin cell option

Pins Used

SPI Interface used

- **A3 - RESET:** This signal is an input to the WiFi module and is used to reset the module.
- **8 - SPI_CS:** This signal is the SPI chip select for the WiFi module
- **2 - SPI_IRQ:** This signal is the interrupt output from the WiFi module and into the TinyDuino.
- **11 - SCLK:** This signal is the serial SPI clock out of the TinyDuino and into the WiFi module.
- **12 - MISO:** This signal is the serial SPI data out of the WiFi module and into the TinyDuino.
- **13 - MOSI:** This signal is the serial SPI data out of the TinyDuino and into the WiFi module.

Dimensions

- 20mm x 30mm (.787 inches x 1.181 inches)
- Max Height (from lower bottom TinyShield Connector to upper top TinyShield Connector): 5.11mm (0.201 inches)
- Weight: 2.39 gram (0.084 ounces)

Notes

- This board is compatible with the **Arduino WiFi101 library** which is available through the Arduino IDE Library manager!

- However, the pin configuration is different, which requires the following line at the beginning of your setup() function:

```
WiFi.setPins(8,2,A3,-1);
```

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