

Contents

- 1 Overview
- 2 Applications
- 3 Specifications
- 4 Getting Started
- 5 Notes on programming
- 6 External Links

Overview

This xCHIP forms part of the core modules and is equipped with Wi-Fi (<https://en.wikipedia.org/wiki/Wi-Fi>). The Wi-Fi module offers internet connectivity which allows the user to store data on the cloud which enables remote data access and opens up for the world of IoT.

Product highlights

- 802.11 b/g/n 2.4 GHz WiFi
- Based on ESP8266/ESP-12-F
- 80 MHz processor
- 4 MB SPI Memory
- Arduino, Mongoose OS, NodeMCU and Lua compatible
- OTA capable through WiFi
- RGB LED

Applications

- Internet-of-Things sensing and control applications
- Wireless sensing
- Mobile Application Control

Specifications

- WiFi @ 2.4 GHz supports WPA / WPA2 security modes (non enterprise)
- Complete TCP / IP protocol stack
- On-board PCB antenna
- Processor: L106 32-bit RISC microprocessor core based on the Tensilica Xtensa Diamond Standard 106Micro running at 80 MHz
- 64 KB of instruction RAM, 96 KB of data RAM
- External QSPI flash: 4 MB
- IEEE 802.11 b/g/n Wi-Fi
- Integrated TR switch, balun, LNA, power amplifier and matching network
- WEP or WPA/WPA2 authentication or open networks

Getting Started

- Arduino-ESP8266 (<https://github.com/xinabox/Arduino-ESP8266>)
 - Choose **Board**: "XinaBox CW01"
 - Choose default options for the rest.
- Mongoose OS (<https://mongoose-os.com/docs/quickstart/setup.md>)
- MicroPython (<https://docs.micropython.org/en/latest/esp8266/tutorial/intro.html>)

Notes on programming

If the LED on your CW01 has the following colours:

- Faint GREEN
- Very faint RED
- No BLUE

... then it means that your CW01 is in programming mode.

- To make sure that it automatically starts your program after programming and is not stuck in programming mode, program/flash your CW01 by choosing "DIO" in the Arduino IDE.
- The memory on the CW01 is 4Mb, you can choose any of the 4Mb options in the Arduino IDE, with the size of SPIFFS that fits your project.

External Links

Datasheets

CW01 - ESP8266 Wi-Fi Core

<p>Front</p>	
<p>Back</p>	
✕CHIP	
Main Category	Core
Sub Category	Wireless
Introduced	1 August 2016
Current version	1.0.0
Current version date	14 July 2017
Dimensions	
Size	2x2U (32x32mm)
Weight	4.4 g
Height	6.4/3/0.3 mm
Non-✕BUS Connections	
North	PCB Antenna
Power	
V_{cc} (3.3v) Power Consumption	170 mAh
Main Chip Set	
Main Chip	EPS8266EX
Architecture	Tensilica L106
Core Size	32 bit
Max. Frequency	80 MHz
Program Memory Size	4 MB of External QSPI flash
RAM Memory Size	64 kB of instruction RAM, 96 kB of data RAM
I²C Speed	100 kHz
Programmer Setting	
Programmer	IP01
Settings	DCE and B

- ESP8266 From Espressif (<http://bbs.espressif.com/viewtopic.php?t=133>)
- ESP-12F From AI (<https://www.elecrow.com/download/ESP-12F.pdf>)

Shop

- Buy CW01 (<https://xinabox.cc/products/CW01>)

GitHub

- CW01 on GitHub (<https://github.com/xinabox/xCW01>)

Other

- ESP8266 on Wikipedia (<https://en.wikipedia.org/wiki/ESP8266>)

Projects

- Everything ESP (https://www.hackster.io/bwente/countdown-calendars-c75a3c?ref=channel&ref_id=4889_trending__&offset=1)
- Programming the ESP (<https://www.hackster.io/Metavix/programming-the-esp8266-with-the-arduino-ide-601c16>)

Serial Configuration	
Default Setting	DTE
Change Setting	DCE via solder pads
UART Configuration	
RXD	RXD0
TXD	TXD0
I ² C Configuration	
SDA	GPIO2
SCL	GPIO14
LED Configuration	
Red pin	GPIO12
Green pin	GPIO13
Blue Pin	GPIO5