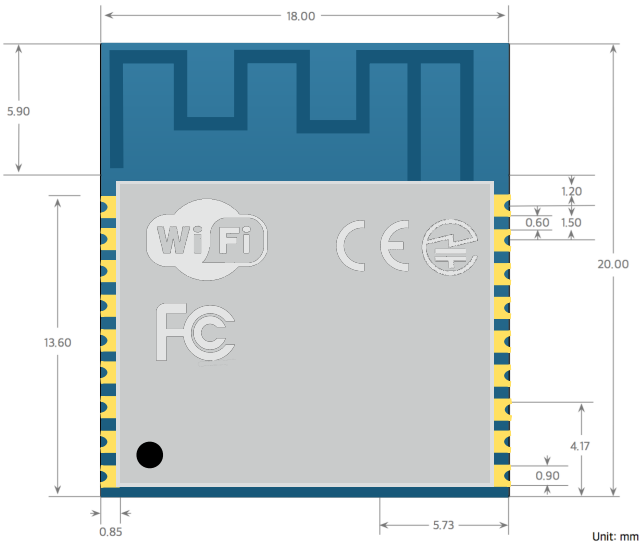
Wio Core Mounting Guide

Wio Core is a WiFi module which is reprogramed with the same firmware as WioLink's. You can Easily design your IoT devices with WioLink system with it.
This document provides some circuit design details to help you to integrate the Wio Core to your design.

Dimensions

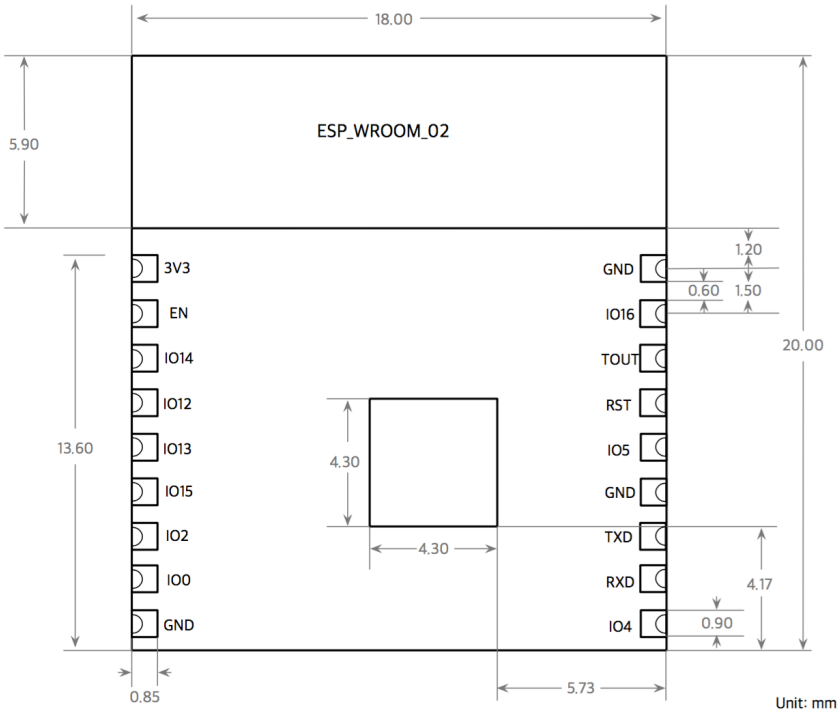


Specifications

Categories	Items	Specifications
Hardware	Certificates	FCC/CE/TELEC
	Wi-Fi protocols	802.11 b/g/n
	Frequency range	2.4 GHz ~ 2.5 GHz (2400M ~ 2483.5M)
	Operating voltage	3.0 ~ 3.6V
	Operating current	Average: 80mA
	Operating temperature range	-40°C ~ 125°C
	Package size	18mm(length) × 20mm(width) × 3mm(depth)(for normal silk-reading orientation)
	Flash memory size	4Mbyte
Software	Firmware	Wio Firmware with OTA capability
	User interfaces	Cloud Server, Android/iOS App

Pin description

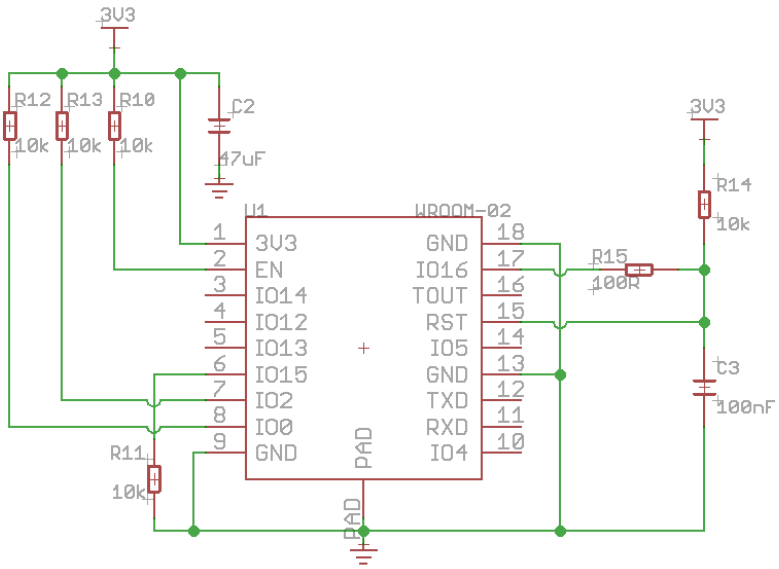
TOP VIEW



Num	Pin name	Functions	Wio Fucntion
1	3V3	3.3V Power Supply (VDD)	3.3V Power Supply (VDD)
2	EN	Enable	Enable
3	IO14	GPIO14;HSPI_CLK	Digital0
4	IO12	GPIO12;HSPI_MISO	Digital1
5	IO13	GPIO13;HSPI_MOSI	Digital2
6	IO15	GPIO15;MTDO;HSPICS	Peripheral power control
7	IO2	GPIO2;UART1_TXD	Server connection state indicate
8	IO0	GPIO0	Not used
9	GND	GND	GND
10	IO4	GPIO4	I2C_SDA
11	RXD	GPIO3;UART0_RXD	UART_RXD
12	TXD	GPIO1;UART0_TXD	UART_TXD
13	GND	GND	GND
14	IO5	GPIO5	I2C_SCL
15	RST	Module reset	Module reset
16	TOUT	Analog input(0~1V)	Analog input(0~1V)
17	IO16	GPIO16;Wake up to reset	GPIO16;Wake up to reset
18	GND	GND	GND

Reference Design Schematic

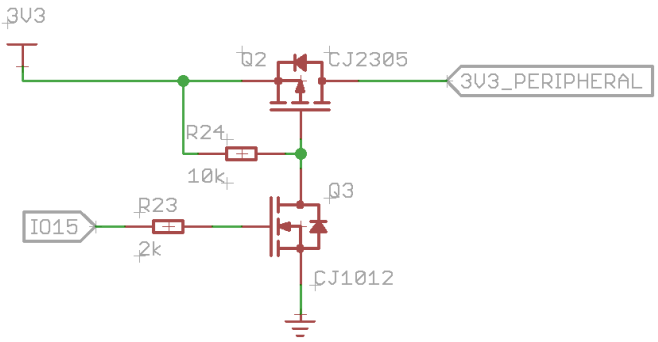
Power up and reset schematic



The module has to be powered with 3.3V, the average working current will be at 80mA in normal mode.If set the module to deep sleep mode, the input current will drop to 100uA.In deep sleep module, the module shutdown all the peripherals but a timer for waking itself up.

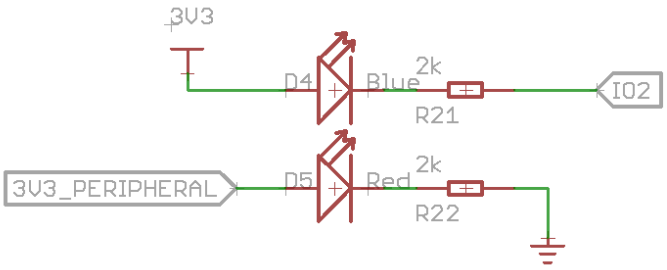
R11,R12,R13 setup the module to boot from the internal SPI flash.
EN and RST pin needs to pull to high to enable the device.
Connect IO16 to RST pin with a 100R resistor.This is used for waking up the module from deep sleep mode.Otherwise, the module can not wake up when the sleep time over.

Power up peripheral schematic



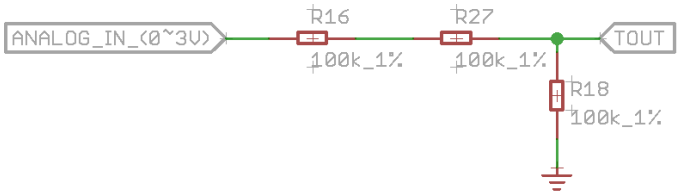
IO15 is used to control the power supply for the peripheral devices.When the module go to deep sleep mode, all the peripherals will be powered down for saving power.
3V3_PERIPHERAL is used for powering up the sensor or actuator devices on the board.

LED indicators schematic



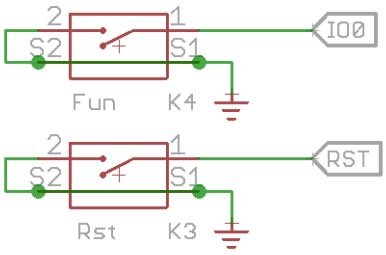
IO2 is used to indicate the WioLink server connection state.

Analog Input schematic



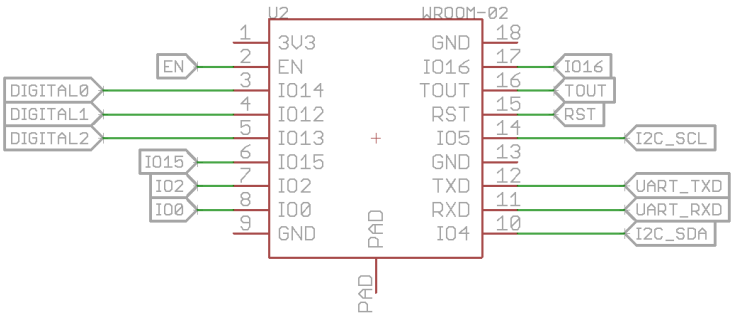
TOUT pin is analog input pin. The input voltage is limited to 1V max.

User button schematic



Rst button is used for reseting the module.
Fun button is used for controlling the boot mode.

IO definitions



There are five digital ports on WioLink. You can see the pin map in the schematic.