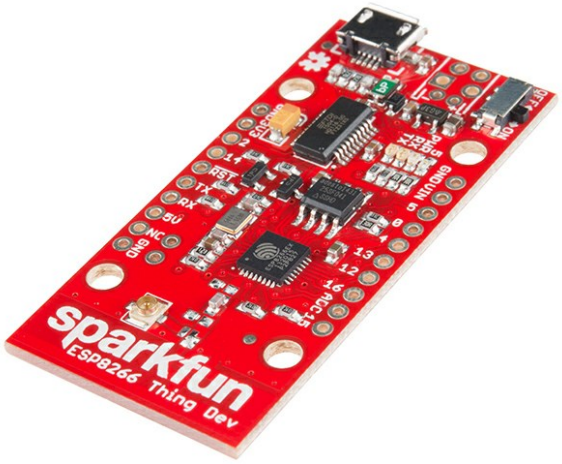











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**3D Download:** Sketchup, STL, Blender

# SparkFun ESP8266 Thing - Dev Board

WRL-13711 ROHS

65

DESCRIPTION FEATURES DOCUMENTS

This is the SparkFun ESP8266 Thing Dev Board – a development board that has been solely designed around the ESP8266, with an integrated FTDI USB-to-Serial chip. The ESP8266 is a cost-effective, and very capable WiFi-enabled microcontroller. Like any microcontroller, it can be programmed to blink LEDs, trigger relays, monitor sensors, or automate coffee makers, and with an integrated WiFi controller, the ESP8266 is a one-stop shop for almost any Internet-connected project. To top it all off, the ESP8266 is incredibly easy-to-use: firmware can be developed in Arduino, and uploaded over a simple, serial interface. The ESP8266 Thing Development Board breaks out all of the module's pins, and the USB-to-serial converter means you don't need any peripheral components to program the chip. Just plug in a USB cable, download the Arduino board definitions, and start IoT-ing.

Why the name? We lovingly call it the "Thing" due to it being the perfect foundation for your Internet of Things project. The Thing does everything from turning on an LED to posting data, and can be programmed just like any microcontroller. You can even program the Thing through the Arduino IDE by installing the ESP8266 Arduino addon.

The ESP8266 Thing Development Board is a relatively simple board. The pins are broken out to two parallel, breadboard-compatible rows. The USB connector sits next to an optional power supply input, and an ON/OFF switch – controlling power to the ESP8266 – sits next to that. And LEDs towards the inside of the board indicate power, charge, and status of the IC. The ESP8266's maximum voltage is 3.6V, so the Thing has an onboard 3.3V regulator to deliver a safe, consistent voltage to the IC. That means the ESP8266's I/O pins also run at 3.3V, you'll need to level shift any 5V signals running into the IC. If your project requires a power source other than USB, the Thing Dev Board includes footprints for a 2-pin JST, 2-pin 3.5mm screw terminal, or a simple 0.1"-pitch 2-pin header. Unlike the original ESP8266 Thing, the ESP8266 Thing Dev Board does not have a built-in LiPo charger.

The Thing Dev Board even includes a PCB trace antenna as a default WiFi antenna, it's cost-effective and actually works really well! If you need to connect a more sensitive antenna, or need to route outside an enclosure, a U.FL connector is also available on the board. Some soldering will be required to get the U.FL connector functioning but instructions can be found in the Hookup Guide we have written for the dev board.

**Note:** We've provided a few Example Sketches to experiment on your SparkFun ESP8266 Thing Development Board. These sketches can be found in the Hookup Guide in the *Documents* section below!

GET STARTED WITH THE ESP8266 THING - DEV GUIDE

## Tags

DEVELOPMENT ESP8266 ESPRESSIF IOT THING WIFI WIRELESS

## SparkFun ESP8266 Thing - Dev Board Product Help and Resources

TUTORIALS VIDEOS SUPPORT TIPS SKILLS NEEDED

## ESP8266 Powered Propane Poofer

MARCH 15, 2016

Learn how Nick Poole built a WiFi controlled fire-cannon using the ESP8266 Thing Dev Board!

## LED Cloud-Connected Cloud

FEBRUARY 22, 2016

Make an RGB colored cloud light! You can also control it from your phone, or hook up to the weather!

## ESP8266 Thing Development Board Hookup Guide

NOVEMBER 5, 2015

An overview of SparkFun's ESP8266 Thing Development Board - a development board for the Internet of Things.

## Using Flask to Send Data to a Raspberry Pi

NOVEMBER 9, 2017

In this tutorial, we'll show you how to use the Flask framework for Python to send data from ESP8266 WiFi nodes to a Raspberry Pi over an internal WiFi network.

## Internet of Things Experiment Guide

NOVEMBER 23, 2016

The SparkFun ESP8266 Thing Dev Board is a powerful development platform that lets you connect your hardware projects to the Internet. In this guide, we show you how to combine some simple components to remotely log temperature data, send yourself texts and control lights from afar.

COMMENTS 69 REVIEWS ★★★★☆ 65

# Customer Reviews

★★★★☆ 4.1 out of 5

Based on 65 ratings:

| | | |
|---|---|---|
| 5 star | | 24 |
| 4 star | | 31 |
| 3 star | | 3 |
| 2 star | | 5 |
| 1 star | | 2 |

*Currently viewing all customer reviews.*

1 of 1 found this helpful:

★★★★★ **Excellent for teaching**

about a year ago by kmhughes ✔ verified purchaser

I used this board to teach IoT classes at TinkerMill. It is awesome because all that is needed is a USB cable to work with it, which makes it very easy for beginners to use.

### ★★★★★ Temperature Humidity Logger

about 2 years ago by Member #40344 ✔ verified purchaser

I used this board to make a temperature humidity logger for a crawl space under a house. It works great! I posted the project here: https://hackaday.io/AlanCampbell

---

**5** of **5** found this helpful:

### ★★★★★ Awesome!

about 2 years ago by tinynormous ✔ verified purchaser

I love this thing! It breathed new life in to my Arduino project dreams. I used this to create a web-connected thermostat. I considered a Raspberry Pi, but it seemed like so much overkill. So I tried it with Arduino on this board and it works awesomely. I just wrote a little web server to respond restful-y to http requests, threw in a temperature sensor and a relay, then created a little web gui to hit the endpoints. Lovin' it!

---

**1** of **1** found this helpful:

### ★★★★★ Love the Thing!

about 2 years ago by Member #645889 ✔ verified purchaser

This is a very fun board to experiment with. The WiFi is powerful, I see it all over my house(2600 sq feet house) Very easy to program it. I just love it!

---

**9** of **9** found this helpful:

### ★★★★☆ Had to wire GPIO0 to Ground to program

about 2 years ago by Rob Purser ✔ verified purchaser

Thanks to the reviewer who advised connecting DIO 0 to ground and power cycling to put the chip into bootloader mode. I kept getting “error: espcomm_open failed” until I did that. Tried changing cables, and devices, but that did the trick!

---

**3** of **3** found this helpful:

### ★★★★★ Great tech if you want a shortcut to I/O control from your phone

about 2 years ago by Member #405300 ✔ verified purchaser

I purchased this so that I can start projects that are controlled through my cell phone and was intrigued by the Blynk App.

I decided my first project was going to be to control a lamp in my living room. The challenge I found with this was not about the chips but about putting all the components in a box. I hooked it up to my computer, took me a few tries to get the driver install right, and then I was off to the races. installed the Blynk software and after fiddeling with the syntax for my router got it connected. Probably 45 mins from pulling out of the box I was blinking the LED.

I purchased 2 of these because I invariably manage to let the magic smoke out of my project boards. This is no exception. I tried to hook it up to a 12V power supply and POOF. then i noticed the big white letters on red background on the back side that said Vin 3.7-6.0 Volts.

WIth the destruction of my first board complete, I loaded my software on the second board and connected a pin to control the relay. I found that the pin will randomly drop out .

I next hooked up the Thing to control my Uno with 2 pins one acting as an on switch and the other as an off switch. As a result, my light doesn’t flicker every 15-30 minutes anymore, but the blynk app does not allow for one button to control 2 switched (at least I haven’t found it).

My next project is to use this board to control a Ceiling fan.

---

**4** of **4** found this helpful:

### ★★★★★ ESP8266 Thing working with Blynk

about 2 years ago by Lucutis ✔ verified purchaser

I placed my ESP8266 Thing into a two gang electrical outlet box with a five volt double relay board and connected the high side of the relays to control my garage heater thermostat contacts and the power line 110 volts to the heater respectively. I also connected a TEMP36 temperature sensor to the Thing ADC pin. I glued a small wall wart inside the box to power all the low voltage needs. The relay on the 110 volt power line is there to allow the heater to be disconnected entirely from the electrical grid - it helps to isolate it from nearby lightening strikes and related damage. I used the Blynk library in my Arduino IDE and programmed the Thing as easily as an Arduino UNO. I then made the Blynk Android app for my mobile phone in no time at all. The Blynk app is child's play. Now I can view my current garage temperature from anywhere. I can decide to

connect the garage heater to the power grid. And lastly, I can set a Blynk slider control on my phone to set the garage temperature and the Thing connects the thermostat contacts to heat the garage until the desire temperature is reached. Sweet.

---

**1** of **1** found this helpful:

### ★★☆☆☆ not enough memory

about a year ago by hydronics ✔ verified purchaser

only 512k… worst esp8266 board on the market in terms of memory:
https://github.com/esp8266/Arduino/blob/master/doc/filesystem.md#flash-layout

I actually tried to find the flash memory before I bought 15 for my class but couldn't locate that information anywhere…. so I found out the hardway.. I wanted to host a simple javascript page to show some buttons.. I'll have to really skimp to make it under 64k… not the definition of a development board.

Here's a bunch of micro JS libraries that should help me get the job done… http://microjs.com/#

> ROB-24601 replied on October 20, 2016:
>
> You're correct, with only 512K, there is not a lot of flash memory on these for larger programs. Sorry this didn't work out for your needs. Please contact us if you would like to request a return. www.sparkfun.com/returns

---

**1** of **1** found this helpful:

### ★★★★★ These Things are Great!

about a year ago by Member #575586 ✔ verified purchaser

These things are perfect for small WiFi connected projects. I've bought several of these and am using them for:

- Remote thermometer (posts temp data to wunderground.com)
- Solid-state relay controller (for holiday lights)
- Mechanical relay controller (for outdoor and holiday lights)

With the latest Arduino update, you can easily program these things with the IDE. They're a little more expensive than the bare-bones ESP8266 modules (I have some of those to), but the integrated FTDI, the 5V->3.3V regulator, and many more I/O pins make this a much better option unless you're building a bunch of units.

---

**13** of **13** found this helpful:

### ★★☆☆☆ Nice board except the Flash memory is too small for OTA updates

about 2 years ago by lbeck37 ✔ verified purchaser

These boards only have a 4Mbit SPI flash and not the 32Mbit one that other ESP8266 development boards, like the NodeMCU using an ESP-12E module. Only having a half MByte of flash means that you can't perform Over The Air (OTA) updates. I have several of the Things (both Dev board and not) and some other ESP8266 boards based on ESP-12E modules, including several of the NodeMCU boards which are about the same price as a Thing. I've put together four projects so far using these boards and the Blynk app promoted by SparkFun and have been very happy with the results. I heard that OTA updates were possible with an Arduino based ESP8266 and I have recently figured out how to do it using the NodeMCU boards which have 4MByte of flash. The OTA implementation is very simple and involves only adding a little extra code to every sketch. A USB connection is used once to load the initial OTA-enabled sketch and all updates after that are OTA and are incredibly fast (compared to 115kbaud) and can be done from anywhere there's an internet connection (assuming you can see the device on the internet). I used my NodeMCU boards to get the OTA figured out because the instructions said I needed to use a board like the NodeMCU with a large flash. I checked the schematic for the Thing and visually verified the chip number (ATSF041) is only a 4Mbit flash part. I don't recall seeing any vendor make a point of how large their flash memory part is and since many ESP boards have a metal can over the ESP8266 and the flash you can't look at the part. I am surprised that there is not more mention of the difference in flash size between ESP8266 development boards, but I guess that shows how new this is to all of us. Having a 4MByte flash is great for doing OTA but also having an Arduino with that much flash available takes away the worry (for a while) of running out of code space. The OTA implementation also reserves the top 1MByte for a spiffs file system accessible from the Arduino code, along with the two 1.5MByte partitions to do the OTA in. I think SparkFun should immediately start loading the boards with 32MBit flashes and alert people to the fact that there is only a 4Mbit part on the current boards. I'm sure that there will be a price increase for the boards, small I hope, but when developers start getting wind of how cool, easy and fast it is to do OTA updates on an Arduino, they are not going to want to give it up.

---

**8** of **8** found this helpful:

### ★★★★☆ Makes a great remote device sensor

about 2 years ago by Member #441976 ✔ verified purchaser

With the clothes drier in the basement and the living area two floors up combining it with a torroidial coil around one phase of the drier power cord and a rectifier and filter circuit to feed the analog input I can now hit the onboard web server and see if the drier has stopped running without going up and down stairs.

---

**1** of **1** found this helpful:

### ★★★★★ Very cool for the pricepoint! Easy to setup and use

about a year ago by Member #685527 ✔ verified purchaser

After setting up the libraries, I was able to remotely monitor and manipulate objects in my office in minutes using the IoT Hobby Kit Experiment Guide. https://learn.sparkfun.com/tutorials/iot-hobby-kit-experiment-guide

I look at this as a great low-cost option for adding wireless network access to existing projects, and it also has enough memory and I/O to use as a standalone board for simpler projects.

So far so good with the hardware reliability. I purchased 3 units on Cyber Monday and all 3 are working nicely to date.

---

**1** of **1** found this helpful:

### ★★★★☆ Pretty slick little dev board!

about 2 years ago by Member #3297 ✔ verified purchaser

This board is great! It gives super-simple access to tinkering with the ESP8266 chip. If it weren't for a bug in the Arduino IDE, I would have been posting to phant.io 20 min after opening the box. It makes the bar for prototyping with ESP8266 really low.

---

**7** of **8** found this helpful:

### ★★★★★ Programming requires manually setting GPIO to ground on power up (EDIT: fixed with Arduino 1.6.7 + ESP Arduino 2.1+)

about 2 years ago by Christopher Baker ✔ verified purchaser

We ran a workshop with 25 of these boards and no one (users on windows, mac, and linux using instructions from the latest hookup guide) could program their ESP8266 Thing Dev without turning it off, hooking GPIO0 to Ground and then turning it back on. It seems that the FTDI chip sequence to take GPIO to ground and then reset the board to put the chip into bootloader mode didn't work. Other than that inconvenience, it seemed to work well. It just slowed us down a lot. Some participants hooked up a switch between ground and GPIO so that they could more easily turn on "programming" mode.

EDIT:

This appears to have been a software problem. It now works on OSX with Arduino 1.6.7 and the ESP Arduino 2.1+.

I believe it was a change with the ck reset vs. nodemcu reset style.

---

**2** of **4** found this helpful:

### ★☆☆☆☆ Doesn't seem to work.

about 2 years ago by 111 ✔ verified purchaser

So far I can't seem to get the ESP8266 Thing to work. The board definitions for the Arduino IDE won't even download on OSX because of SSL errors. I can get the blink sketch to work on Linux, but no internet connectivity. In contrast, I was able to get a Photon board up and running on my local network, so I know this isn't a network issue. It seems that the ESP8266 ThingDev is still too experimental and buggy. I wouldn't recommend it except as a project in and of itself. I would recommend the Photon instead, (provided you have a recent smartphone).

---

**1** of **2** found this helpful:

### ★★★☆☆ Not enough output current

about 2 years ago by Member #420701 ✔ verified purchaser

I want to drive a NeoPixel strip with this but just can't seem to get it to work (I had success with most of the tutorials). I think the gpio output current is too low to drive neopixels. Has anyone had any success in this regard? EDIT: I have subsequently been successful using a cheap ESP8266 ESP-12E module to drive a NeoPixel strip, so I am going with that.

### ★★★★☆ Easy to use and can run Firmata

about 2 years ago by Member #71761 ✔ verified purchaser

I flashed it with Firmata, to be exactly, StandardFirmataWiFi sample code. And then my PC can start controlling the board over Wi-Fi via Johnny-Five (Node.js). Except Firmata + J5 takes some time to talk to each other (15-30 seconds), everything is good.

It seems some of the pins (GPIO0, GPIO2 and GPIO15) should not be touched before the device boot up. Otherwise, the board will go into different boot mode and stop running my code.

I read an article and it say to keep the board running normally, GPIO15 should be low while GPIO0 and GPIO2 should be high.

Compare to Arduino, the board comes with less GPIO pins and weird pinouts (many GND pins and GPIO pins not sorted).

The on/off switch is very handy. With the switch set to off, I can plug in the board and got the COM port on my PC, while keeping the board off. So it's very handy to restart just the code on the board.

It also supports Azure IoT Hub and I am sure to try out later.

---

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---

### ★★★★☆ ESP8266 Thing Dev Board

about 2 years ago by Member #518378 ✔ verified purchaser

I got this board to work with the Arduino IDE 1.6.8 by also loading the ESP8266-Thing Dev board extensions in Linux. I am running Mac OS X Version 10.5.8 on a Mac that I purchased in 2008. Processor 2.2 GHz Intel Core 2 Duo with $GB 667 MHz DDR2 SDRAM. It is running in a Virtual Box created by VMware Fusion Version 1.1.1 (72241), that I also purchased in 2008. The USB extensions seem to work just fine. However, I tried Virtual Box and it runs much slower and has many problems with USB. It would be nice if the ESP8266 chip they put on this board is one of the newer ones with much more Flash Memory. The AP app take almost half of the available Flash Memory. I have also purchased an an ESP8266 ESP-1 module. I am looking how to connect the Sparkfun Beefy 3 -FTDI Basic Breakout board to it.

---

### ★★★★☆ Awesome WiFi Package

about 2 years ago by Member #711603 ✔ verified purchaser

I purchased the Thing Dev Board to use in a project I have, which will gather environment data from sensors, then send that data up to my database, to be graphically represented on a website. The first board I received bombed. I could see the board via the Arduino IDE, but I could not transfer any data to/from it. This is where the story gets good… I turned to Sparkfun tech support. These guys/gals are awesome! I was walked through several troubleshooting scenarios, and eventually sent my board back to the tech support rep, so that he could duplicate and discover what the root problem was. Tech support found my board to be a dud, and sent me out a replacement most riki-tik, complete with headers installed. This new board is flawless, and really does have an impressive WiFi range. Even though my first board was a brick, Sparkfun tech support was so impressive that I have to give 4 stars for the review. If this was a review of tech support only, I would give six stars, er, okay, five stars!!

---

### ★★★★★ Great Board

about 2 years ago by Member #81000 ✔ verified purchaser

The ESP8266 Thing - Dev Board is terrific. My first board had a defective LED, which initially lead me to believe that I couldn't program the board since I couldn't get "blink" to work. Once notified, Sparkfun immediately sent me a new board; kudos to them. The original board works fine; just no LED.

---

★★★★★ Very good, web server up in 30 min

about a year ago by Member #598880 ✔ verified purchaser

This board integrates nicely with the Arduino ide. My project, a small web server, was up and running quickly and without difficulty.

I wish it had an additional AD converter input, and I wish there was better documentation about the different modes available (I think) and what the trade offs are. For example can I switch modes in the program. I'm also a bit confused about the memory types and sizes available and how to access it. .

---

★★★★★ Great Product

about a year ago by Member #774433 ✔ verified purchaser

Very compact.
All connections brought out to pads.
FTDI interface on-board.
Build quality good.
Works out of the box!

---

★★★★☆ Cool little board

about a year ago by Member #125316 ✔ verified purchaser

Bought two of these boards. Got one working very quickly. Paired with a multi-sensor board, I now have a pretty cool mobile temp/pressure/humidity sensor that allows me to take long duration readings from anywhere around the house. Lots of possibilities with this board.

Haven't figured out how to query things like the WiFi's signal strength yet. That would be really nice to know.

Bought two boards. One board is flaky - the USB connector is sensitive to the slightest movement. Probably not worth the shipping cost to have it replaced. Oh well.

> ROB-24601 replied on September 19, 2016:
>
> Sorry to hear that one of the boards was a little off. We'll take care of that for you!

---

★★★☆☆ Very small memory

about a year ago by Member #429054 ✔ verified purchaser

This device seems to work fine but the product details are missing a crucial bit of information: the board only has 512KB of flash memory. This severely limits its utility if you want to do anything like store images or patterns to flash out on LED panels since you will rapidly run out of room. It also makes it unsuitable for using high level programming tools like MicroPython.

This is the "dev board" version; it would be nice if the product details gave you a few more details about the product…

---

**0** of **1** found this helpful:

★★★★☆ Unknown as yet

about a year ago by Member #665533 ✔ verified purchaser

Sorry folks - been busy elsewhere and have not had a go at this yet.

---

★★★★☆ Thing Dev board, easy to get statrted

about a year ago by Member #403869 ✔ verified purchaser

I purchased the Thing Dev board to learn about the ESP8266. This board was easy to get up and running right out of the box. My only problem was an sub-standard cable. I should have purchased a new cable from Sparkfun when I purchased the board. This is an easy way to get your IoT project onto the Internet fast.

---

★★★★☆ "Really Cool"

about a year ago by Squirrelius ✔ verified purchaser

Programming the dev board is easy via the USB port. Out of the box, it ran 4 days on two AA batteries, while logging temperature and humidity data once per 15 seconds to ThingSpeak. With easy optimizations, like low power, sleep modes, less frequent logging, and others, this board can run several times as long. I have had no problems with the WIFI connectivity. However, upon arrival, the orange thing (capacitor maybe?) next to the FTDI IC was chipped enough to show the inside of the component. As far as I know, this does not affect performance. I'm sure such an issue is very rare and it does not impact the usability.

---

★★★★★ First and subsequent impressions: VERY GOOD

about a year ago by Member #57306 ✔ verified purchaser

At the end of a very long first day, I could already say…

***a) It WORKS! (^_^)***

***b) The documentation provided by Sparkfun is outstanding. (I like their documentation generally, but this is "Grade A" even against their norm.)***

It was only a "long day" because my computer was really piggy about upgrading to a newer Arduino IDE. Once that was in place, a little further work had to be done… all of it reasonable and necessary, and well explained in the Sparkfun guides, and then, finally, I successfully ran the Thing's version of Blinky.

Emboldened by that initial success, and because I have some background in such things, I decided to jump to the Thing-As-Web-Server example.

***WORKED! FIRST TIME!***

So… as I said… DELIGHTED. (And relieved. After all the effort expended, it would have been a majorly depression inducing situation if it wasn't working!)

From the time I finished running the Thing's version of Blinky to the time I had a response from the web-server was 35 minutes. I keep careful records of what ports I have used with what device, and I write tutorials for things like the Thing as I go along exploring them. I would guess that those activities took about 2/3rds of the 35 minutes.

---

After subsequent investigations, I remain delighted. ***Telling it to use a static IP address was easy***, and the "secret" was easy to find. Details at…

http://tinyurl.com/ESP8266Rave

(the above just takes you to….)

http://sheepdogguides.com/elec/misc/esp8266/esp8266-main.htm

I found the range of the device, even with "just" the onboard antenna will make it entirely adequate for things I will have fun with.

Does it have dozens of IO pins? No. Gigabytes of program space? No. Does it cost more than ? No.

Only "complaint"? All my work (and expense) to build Arduservers (see Arduserver.com) is now moot. I guess I know how the local stable felt when Mr. Ford's cars came to town?

---

★★★★☆ Great IoT Device

about a year ago by Member #187451 ✔ verified purchaser

The ESP8266 Dev Board is really easy to use. Right off the bat I was able to talk to it via WiFi and shortly thereafter I was able to use BLYNK to run through the examples and add to them. Even though it does not have lots of internal memory, the board is super versatile and the Dev Guide is very well made to get you started quickly. Now to start adding to it and see if my wireless doorbell, temp and humidity sensors, etc, etc, can all play together. And it seems super easy to upgrade the flash to 16MBit through either Mouser or DigiKey.

---

★★★★☆ Excellent

about a year ago by Member #471612 ✔ verified purchaser

You might find a similar product cheaper - if you want to search and research for support info; drivers; and scripts !! Nobody supports their products and provides complete and easy to follow directions, background info, scripts, and tutorials. This is am excellent Dev board !!!

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★★★★☆ Did Exactly What I Needed



about a year ago by [illegible] ✔ verified purchaser

Easy to program and get working quickly. Much easier to get going than the ESP-01 I used before.

My only complaint is that the power from the USB port feeds out the power connector, so I had to add a diode to prevent overcharging the battery.

---

★★★★★ great reliable board

last year by 71784 ✔ verified purchaser

Trying to do OTA programming which requires larger flash. Used my new (most excellent) Sparkfun hot air station and swapped out the 25SF041 for a 25SF081 flash memory IC. Once I get past the checksum errors from editing the json and boards.txt files, I might be able to use the extra memory for OTA programming. Update: I discovered comments in a related file that the Espressif bootloader refuses to load code over 4Mb/512kB, so the larger flash that I soldered on the board is not going to work. I will have to try the ESP32 after all. Hopefully the Arduino support for it has improved

I have had an unmodded ESP8266 Thing (non-Dev) board running in a solar powered gate opener 200' from the house for 15 months continuously now. I do not use the onboard LiPo battery charger however because the Thing is powered from a pair of existing solar charged gell cells that run the gate opener. Once every 15 minutes the Thing wakes up to report via WiFi, the gate opener battery voltage, the WiFi radio's RSSI (which is derived from the signal strength of the Access Point that is located in the house), and because I can, the temperature both inside and outside the gate opener's control box using DS18B20's. Except for the 4 or 5 times over the last year that I accidentally disabled my Raspberry Pi server in the house, I have had a 24/7 stream of data that I stick in a MySQL DB that I can access from the web. I'm sure it's not a world record, but it's pretty impressive that a board can run night and day for well over a year. I just did a DB query and I see that the min and max temperatures the board has experienced inside the gate opener control box are -11.2ºF and 125.6ºF.

---

★★★★☆ Weather sensors IoT

last year by Member #139666 ✔ verified purchaser

I bought a couple of the ESP8266 things to connect some of my weather sensors to the internet. So far so good. Using the Arduino environment I have been able to compile and load some of the example programs and it will do a http get to a script on my web server. The first project will be a tipping bucket rain gauge. Now I need to figure out how to read a gpio pin and send the tip count. It would be nice if I can figure out how to talk directly with the mysql server but for now I will go thru the web server and use a php script on the web server to talk to the mysql server. I like the fact the thing has an external antenna connection as this will be located outside some distance from the wifi access point.

---

★★★★★ Simple and reliable

last year by Brewmaster ✔ verified purchaser

Setup is easy, connects to WIFI very quickly. Impressive capabilities.

---

★★★★☆ Does most of what you'd expect but has a small flash memory size

about 11 months ago by Member #910683 ✔ verified purchaser

Overall this is a good board and has most of what you'd expect in a development board. It only has 512K of flash memory and I was assuming that it would have 4MB. I should have looked at the schematic, but it would be nice to have the memory size in the product description. Unfortunately, this means that you cannot use this board to do any development involving OTA programming, which requires 4MB.

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★★★★☆ Make sure you read carefully!

about 11 months ago by PhilWheat ✔ verified purchaser

There are two versions of the Thing - this (dev) and the original.

Most of the specs are the same but this one drops the LIPO charging circuit in favor of an integrated FTDI chip - so this one is basically for wired projects and the other is your option for rechargeable projects.

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★★★★★ just awesome!

about 10 months ago by Member #140100 ✔ verified purchaser

Unreal how awesome this thing is. I am using in in access point mode, where essentially, the board is its own wifi router that I can connect to with my laptop, phone, etc. Once connected, it has an IP address of

192.168.4.1. I can http:// connect to it to read the analog input, input from an I2C sensor, digital input, or to set a digital output. I had a wireless gyro going with the 9dof board in about 30 min. Unreal. You can also have it connect to your existing wifi network to behave like a device you can http:// into for the same reasons.

For going portable, I'd recommend the 3.6 V Lithium battery.

This has to be one of the coolest thing Sparkfun sells.

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★☆☆☆☆ Unstable POS

about 7 months ago by Member #807052 ✔ verified purchaser

This is by far the worst development board I've ever worked with. It randomly resets, have to rebooted five-six times to boot in appropriate mode, fails to receive updates over USB (giving mem_fail) errors and generally speaking is just an unworkable, unstable board. We've been going through 30 or so units, we received from sparkfun, and they all operate like crap.

> Kansukee/f replied on July 27, 2017:
>
> Hello!
>
> Sorry to hear about the issues with the Thing Dev board. Have you contacted our technical support team @ techsupport@sparkfun.com - they're usually very good at helping getting these units running, or identifying the issues with the boards themselves.

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★★★★☆ Excellent features except for ROM size

about 7 months ago by TeeJayDub ✔ verified purchaser

I'm using these in a product prototype and it's working great. I particularly appreciate the U.FL connector because they're hard to find on ESP* dev boards.

But, I agree with lbeck37 - there's not enough Flash on this board to do OTA updates, and that's a bad fit for this project. So, I'm still hunting for a board that satisfies both requirements.

---

★★★★★ Very strong wifi signal

about 7 months ago by saladfingers_remoterustySpoons ✔ verified purchaser

Makes a great comms officer for a unit of controllers. Yes it has limited pins, but learn i2c and Leave the processing up to a teensy, the 3.5 and 3.6 have more pins and power than most people will ever need, then use this as the wifi access to them. It is lacking in memory but hook it up with an external eeprom Or with a teensy with a microsd card and you have a powerful controller that strongly connects to a wifi signal my computer barely sees. All hardware arduino compatibility issues seem gone. Unlike the esp32. Plus so many example sketches

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★★★★☆ Great!

about 6 months ago by Member #757982 ✔ verified purchaser

I am a noob at this stuff and pick at projects slowly overtime. My biggest problem so far is that it doesn't ship with any kinds of headers.

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★★★★★ Set up was easy with Sparkfun's tutorial

about 4 months ago by Member #554513 ✔ verified purchaser

My student and I were able to easily setup the device following Sparkfun's provided tutorial and get the LED blinking. He is now working through the remaining tutorials. Seems like a great little device so far.

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★★★★☆ Great little board for small IOT projects

about 2 months ago by sjthespian ✔ verified purchaser

This board is easy to use, simple to get up and running, and a great introduction to the ESP8266. You aren't going to be building a wordpress site on it with the tiny memory on the board, but it's perfect for a thermostat, indicator board, or any other small IOT project. I'm using it for a remote indicator for my home alarm system in places where it's difficult to run a hardwired light or keypad.

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★★★★☆ Works fairly well

about 2 months ago by Member #577621 ✔ verified purchaser

I'm using the board for the LED connected clouds project. It works fairly reliable. Sometimes it has connectivity issues but it is rare. I would recommend this product for your web related needs

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★★★★☆ Must-have for Thing-based development

about 2 months ago by Member #218325 ✔ verified purchaser

The built-in FTDI makes this board much easier to work with than the normal ESP8266 Thing. You don't need to mess around between programming and viewing serial output, and I have yet to have programming fail. Buy one of these to get things working, and then a regular to get the LiPo power and deep-sleep for production.

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★★★★☆

about 2 months ago by Member #529007 ✔ verified purchaser

I have purchased nine of these. They are the best item for home automation. Not as convenient as X10 but a lot more reliable. Plus, they provide a closed loop control. I would like to see a 5V 16 MHz version. Excellent product!

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★★★★☆ Wasn't what I expected

last week by pb ✔ verified purchaser

I had assumed the ESP8266 Thing board would come operational with the AT command set that is specified in the ESP8266 data sheet from Espressif, the same as the standalone modules that are available. I've never done any Arduino projects, or used the Arduino development software, so perhaps that's part of the problem, but there was nothing on the web site that I saw that indicated the board only came with a boot loader and no operational firmware. In any case, I've decided to keep the board and will probably attempt to load firmware at a later date. It's certainly well built and a very convenient form factor with the usb built in, and not realizing I'd need to program it was probably my oversight, hence the 4 stars.

---

**0** of **1** found this helpful:

★★★★☆ Really Handy

about 2 years ago by rmd6502 ✔ verified purchaser

I'm using this to prototype a IR-remote server/extender, that I'll eventually base off the ESP-12 module (TV-B-Gone throwie anyone?). The heavy lifting was already done at https://github.com/markszabo/IRremoteESP8266, I'm just modifying the example project. The DTR connection to GPIO#0 doesn't work, but putting a jumper in to program is no big deal.

---

★★★★☆ Amazing board!

about 2 years ago by fboesche ✔ verified purchaser

Works fine with multiple DS18B20 and Blynk. I'm using Arduino IDE 1.6.7 + ESP8266 Community version 1.6.5-947-g39819f0. Version 2 has problem to upload the sketch

---

**0** of **1** found this helpful:

★★★★★ Works

about 2 years ago by Member #758667 ✔ verified purchaser

Seems to works for me as advertised. Have not not done a lot yet. But, was able to upload data to Phant and set up AP and Web server.

---

**0** of **1** found this helpful:

★★☆☆☆ Not sure what this "Thing" is suppost to do

about 2 years ago by CTD_master ✔ verified purchaser

I spent a lot of time trying to get the Blync tutorial to work. I does not. I had to fiddle with the jumper between NC and GND to get it even talking to my computer. The thing spits out

ets Jan 8 2013,rst cause:2, boot mode:(3,7)

load 0x4010f000, len 1264, room 16 tail 0 chksum 0x42 csum 0x42 ~ld

[illegible] library is messed up. I would strongly recommend NOT buying

this until sparkfun fixes it. Until then I'm out sixteen bucks

---

★★☆☆☆ cant get it to work...

about 2 years ago by Beto Arango ✔ verified purchaser

struggled until i found the the 0–>GND bootloader trick… Cool product. would rock if it didnt have to be levelshifted to3.3.. but guess that is the nature of the esp not the thing itself.. Except for the bootloader trick the documentation rocks …posted too soon was unable to get it to do anything ever again…. Such a pity the esp thing (non dev board) is flawless during upload,.. will continue to try to get it rolling but it is a pity that something that was perfect got screwed up…

---

★★★☆☆ Board works just fine but needs more memory

about 2 years ago by Member #727877 ✔ verified purchaser

The memory chip is too small for OTA. besides that the unit works just fine.

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★★★★☆ very handy - but flawed

about 2 years ago by Member #27643 ✔ verified purchaser

having the ftdi on board is very convenient, makes it less painful to hookup than the generic ESP8266, but… - why such a small flash? means no spiff etc - since this board is much more expensive than generic devices, flash should at least be 4MByte ( like many generics) maybe more. Its impossible to do much web serving without having spiff to store pages and images etc… the auto reset doesn't always work - have to mess with it a lot…

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★★★★☆ Arduino Implementation needs work

about 2 years ago by omaha ✔ verified purchaser

The device is great, but the Arduino support is broken out of the box.

Please make an effort to distinguish the Thing from the Thing Dev in the next release. Don't leave people scouring the internet for details on what manual patches to apply before you'll be able to upload custom firmware from the Arduino environment.

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★★★★☆ Nice Board

about 2 years ago by Member #640039 ✔ verified purchaser

I'm just learning How to work with ESP8266 and Arduinos. I find the Tutorial extremely helpful but I would appreciate more detailed instructions on connecting the external antenna. Not sure how to re-solder the antenna connection.

---

★★★★☆ SAVING INIT.LUA TO EEPROM

about 2 years ago by Member #394653 ✔ verified purchaser

Used lualoader to up-load init.lua. Flashed unit prior to using lua-loader (yes, I grounded GPIO0… after successful flash, removed jumper.) The init.lua code is as follows…

wifi.setmode(wifi.STATION) wifi.sta.config("xxxxxx","xxxxxx") print(wifi.sta.getip()) led1 = 3 led2 = 4 gpio.mode(led1, gpio.OUTPUT) gpio.mode(led2, gpio.OUTPUT) srv=net.createServer(net.TCP) srv:listen(80,function(conn) conn:on("receive", function(client,request) local buf = ""; local , , method, path, vars = string.find(request, "([A-Z]+) (.+)?(.+) HTTP"); if(method == nil)then , , method, path = string.find(request, "([A-Z]+) (.+) HTTP"); end local *GET = {} if (vars ~= nil)then for k, v in string.gmatch(vars, "(%w+)=(%w+)&*") do* GET[k] = v end end buf = buf.."<h1> ESP8266 Web Server</h1>"; buf = buf.." GPIO0 <a href=\"?pin=ON1\"><button>ON</button></a> <a href=\"?pin=OFF1\"><button>OFF</button></a> "; buf = buf.." GPIO5 <a href=\"?pin=ON2\"><button>ON</button></a> <a href=\"?pin=OFF2\"> <button>OFF</button></a> "; local *on*,off = "","" if(*GET.pin == "ON1")then gpio.write(led1, gpio.HIGH); elseif(*GET.pin == "OFF1")then gpio.write(led1, gpio.LOW); elseif(*GET.pin == "ON2")then gpio.write(led2, gpio.HIGH); elseif(*GET.pin == "OFF2")then gpio.write(led2, gpio.LOW); end client:send(buf); client:close(); collectgarbage(); end) end)

Inserted my SSID and Password in the "xxxxxx", "xxxxxx" above. For some reason, does not seem to save… In lua-loader, if I select "set AP" and then select "Get IP", is works (of course, I enter my SSID and password in the blocks to the left). In lua-loader, I get an IP and when I enter the IP in the URL line (in my browser), everything works. When I remove power, then reconnect, it seems to lose the program and won't connect. Any assistance



e a comment, but it kept asking me to verify my e-mail address

before I could leave a comment… I did this and it still asked me to verify my e-mail address. Thanks.

> Single T replied on March 28, 2016:
>
> The best way to receive support with your questions is to contact our Support team via this page - https://www.sparkfun.com/technical_assistance

0 of 1 found this helpful:

★★☆☆☆ Not as useful as advertised

about 2 years ago by Member #349272 ✔ verified purchaser

I had trouble getting any of the examples to run. Only two worked, Mesh and AP. The board probably works as expected but the documentation only talks about the board as it applies to one end of a link with a PC at the other end. There needs to be more discussion regarding a complete system. After fighting it for several weeks, I gave up and went back to the nRF24L01+ for direct two-way linking. If there was an example on how to create a direct wireless serial link with the fastest possible speed then I would try again. However, the forums are not much help as the knowledgeable posters are quite caustic and abrasive. Instead of getting answers, you're usually flooded by accusatory questions.

★★★★☆ Coprocessor to WIFI

about 2 years ago by Member #132581 ✔ verified purchaser

Using it with Blynk libs to off load WIFI to existing Arduino. So far it seem to be doing it. Need to use Softserial to access it's TXRX ports. Wish it has the power JST on it though.

★★★★★ Very Useful

about 2 years ago by Member #77404 ✔ verified purchaser

I'm developing a product which requires the ESP8266 chip, rather than a module, and this board is a great starting point. The schematic/board are provided. I agree that the flash memory should be larger, and it would add almost no cost.

The board I have has the crystal running 17ppm slow. The crystal is specified for 10ppm, and ESP8266 specsheet requires 15ppm, but it works anyway. I built three of my boards with the same crystal and external load capacitors, and they all ran 15-25ppm slow. Changing the load capacitors to 4.7pF 5% solved the problem, and they're all in spec now.

If the crystal runs too far out of spec, the chip won't connect to WiFi. Jim - feel free to contact me.

★★★★★ Easiest ESP8266 WiFi product I've found so far.

about 2 years ago by meljr ✔ verified purchaser

I was able to post to Phant in about half an hour after unboxing the Dev Board and that included soldering on two long 10 pin female headers so I could use it with a breadboard. The Dev Board hookup guide is excellent and I am much more comfortable using the Arduino IDE (1.6.8) than some of the other methods available for the ESP8266. This is another great product. The libraries and tutorials enhance the value. Thanks!

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