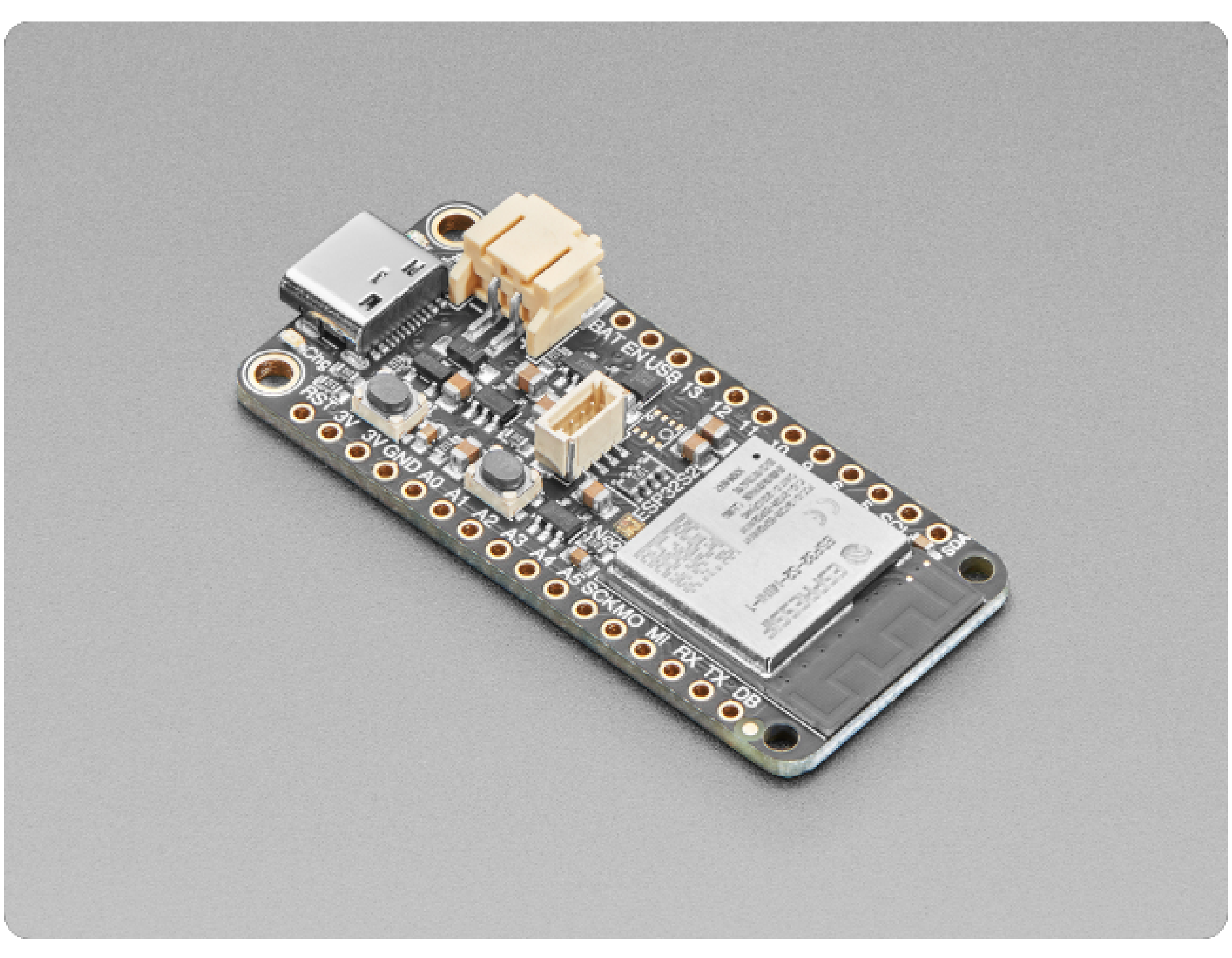
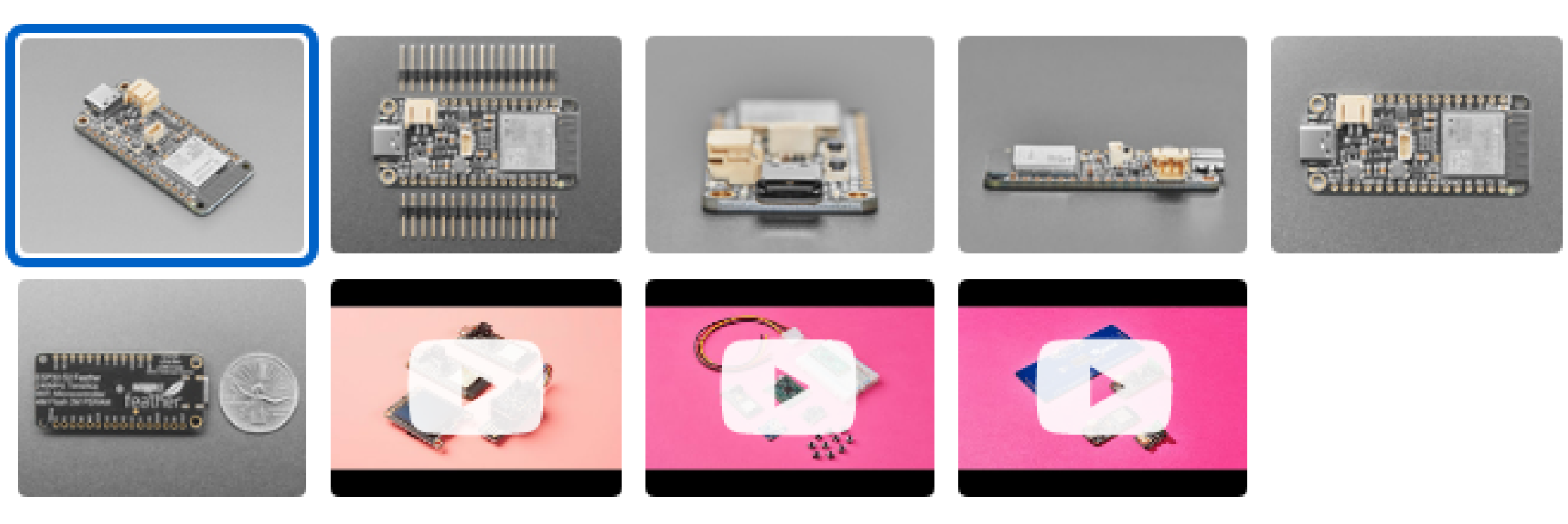
Due to the potential upcoming UPS strike we are currently unable to offer UPS as a shipping method. See more.

We are temporarily unable to ship lithium batteries.





Adafruit ESP32-S2 Feather - 4 MB Flash + 2 MB PSRAM - STEMMA QT / Qwiic

Product ID: 5000

$17.50

In stock

Order now to ship today

1 Add to Cart

☐ Also include 1 x STEMMA QT / Qwiic JST SH 4-pin to Premium Male Headers Cable ($0.95)

☐ Also include 1 x STEMMA QT / Qwiic JST SH 4-pin Cable - 100mm Long ($0.95)

Qty	Discount
1-9	$17.50
10-99	$15.75
100+	$14.00

Add to Wishlist

Description

Technical Details

Description

What's Feather-shaped and has an ESP32-S2 WiFi module? What has a STEMMA QT connector for I2C devices? What has your favorite Espressif WiFi microcontroller and lots of Flash and RAM memory for your next IoT project? What will make your next IoT project flyyyyy?

That's right - it's the new **Adafruit ESP32-S2 Feather**! With native USB and 4 MB flash + 2 MB of PSRAM, this board is perfect for use with CircuitPython or Arduino with low-cost WiFi. Native USB means it can act like a keyboard or a disk drive. WiFi means its awesome for IoT projects. And Feather means it works with the large community of Feather Wings for expandability.

The ESP32-S2 is a highly-integrated, low-power, 2.4 GHz Wi-Fi System-on-Chip (SoC) solution that now has **built-in native USB** as well as some other interesting new technologies like Time of Flight distance measurements. With its state-of-the-art power and RF performance, this SoC is an ideal choice for a wide variety of application scenarios relating to the Internet of Things (IoT), wearable electronics, and smart homes.

Please note the Feather ESP32-S2 has a single-core 240 MHz chip, so it won't be as fast as ESP32's with dual-core. Also, there is no Bluetooth support. However, we are super excited about the ESP32-S2's native USB which unlocks a lot of capabilities for advanced interfacing! This ESP32-S2 mini-module we are using on the Feather comes with 4 MB flash and 2 MB PSRAM so you can buffer massive JSON files for parsing!

Features:

- **ESP32-S2 240MHz Tensilica processor** - the next generation of ESP32, now with native USB so it can act like a keyboard/mouse, MIDI device, disk drive, etc!
- **Mini module** has FCC/CE certification and comes with 4 MByte of Flash and 2 MByte of PSRAM - you can have huge data buffers
- **Power options** - USB type C **or** Lipoly battery
- **Built-in battery charging** when powered over USB-C
- **LiPoly battery monitor** - LC709203 chip actively monitors your battery for voltage and state of charge / percentage reporting over I2C
- **Reset and DFU** (BOOT0) buttons to get into the ROM bootloader (which is a USB serial port so you don't need a separate cable!)
- **Serial debug output pin** (optional, for checking the hardware serial debug console)
- **STEMMA QT** connector for I2C devices, with switchable power, so you can go into low power mode.
- **On/Charge/User** LEDs + status **NeoPixel** with pin-controlled power for low power usage
- **Low Power friendly**! In deep sleep mode we can get down to 80~100uA of current draw from the Lipoly connection. Quiescent current is from the power regulator, ESP32-S2 chip, and Lipoly monitor. Turn off the NeoPixel and external I2C power for the lowest quiescent current draw.
- **Works with Arduino or CircuitPython**

Technical Details

Revision History:

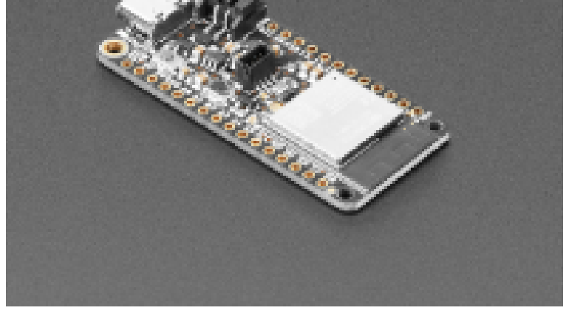
- **As of June 14, 2023** - We have changed the battery monitor chip from the now-discontinued LC709203 to the MAX17048. We've also updated this PCB with Adafruit Pinguin to make a lovely and legible silkscreen.
- **As of March 28, 2022,** this board has revised the power circuitry for the NeoPixel and I2C QT port. Instead of a transistor we now have a totally new LDO regulator that can be enabled or disabled with a GPIO pin. Set GPIO 7 to be output and HIGH to turn on the NeoPixel and QT power.

Product Dimensions: 52.4mm x 22.8mm x 7.2mm / 2.1" x 0.9" x 0.3"

Product Weight: 6.3g / 0.2oz

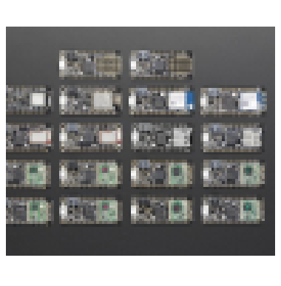
RoHS 2011/65/EU RoHS 2015/863/EU

Learn



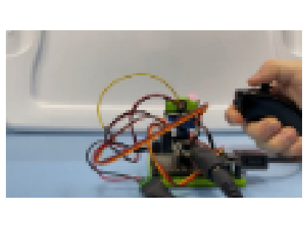
Primary Guide: Adafruit ESP32-S2 Feather

Make your IoT project fly!



Introducing Adafruit Feather

Boards of a Feather flock together!



Nunchuck Controlled Laser Cat Toy

Use CircuitPython to easily control a laser attached to a pan and tilt assembly

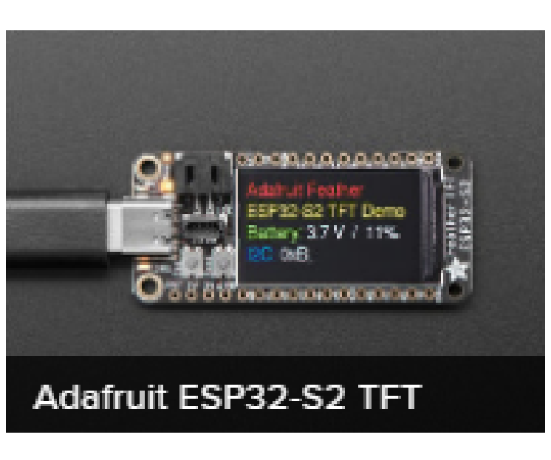
No-Code IoT Humidity and Temperature Sensor with Adafruit.io WipperSnapper

Build a sensor to remotely track the temperature and humidity (almost) anywhere with an ESP32-S2 Feather, AHT20 and Adafruit.io WipperSnapper

See All Guides

May We Also Suggest...

FeatherS2 - ESP32-S2



Adafruit ESP32-S2 TFT

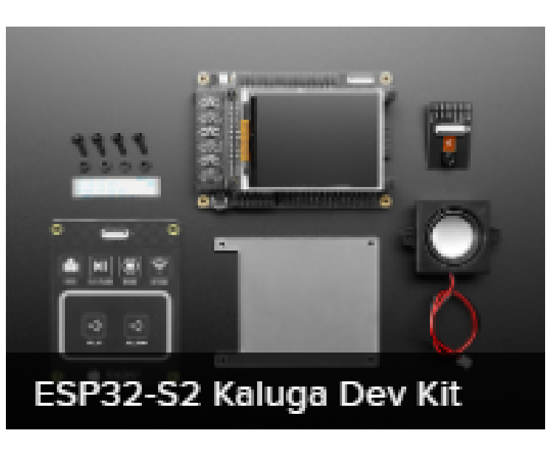
Adafruit Metro ESP32-S2

TinyS2 - ESP32-S2

ESP32-S2-WROVER Module

ESP32-S2-WROVER-I

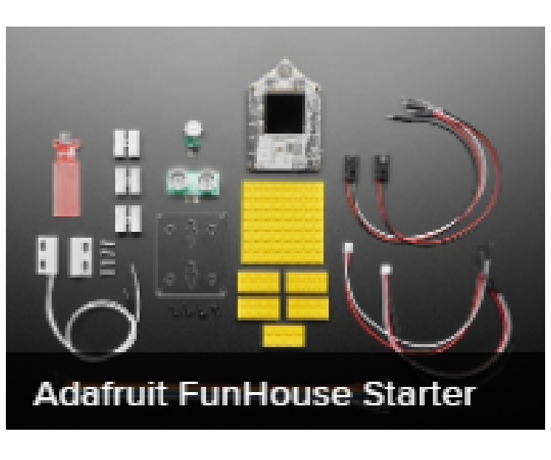
ESP32-S2 WROOM Module



ESP32-S2 Kaluga Dev Kit

ESP32-S2 Saola 1R Dev Kit

Adafruit ESP32-S2 Feather



Adafruit FunHouse Starter

ESP32-S3-DevKitC-1-N8R2 -

Distributors

> *“ You just keep pushing. You just keep pushing. I made every mistake that could be made. But I just kept pushing”*
>
> – René Descartes

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