Adafruit HUZZAH32 – ESP32 Breakout Board

PRODUCT ID: 4172

Squeeeeze down your next ESP32 project to its bare-bones essential with the Adafruit HUZZAH32 Breakout. This breakout is basically the 'big sister' of our HUZZAH 8266, but instead of an ESP8266 it has the '32! We've pared down our popular Feather ESP32, removing the battery charger and USB-serial converter. You just get a regulator, some protection diodes, two buttons and an LED. For some projects, where price and size are at a premium, you can program this board over the 'FTDI cable' breakout when needed, and leave it alone otherwise.

Note that this board *doesn't* come with a USB to serial converter chip and auto-reset circuit. Instead, you will need to plug in a CP2104 Friend or FTDI cable. Then, before uploading code, put it into bootloader mode by holding down the GPIO #0 button and clicking Reset button, then releasing the #0 button.

That module in the middle of the breakout contains a dual-core ESP32 chip, 4 MB of SPI Flash, tuned antenna, and all the passives you need to take advantage of this powerful new processor. The ESP32 has both WiFi *and* Bluetooth Classic/LE support. That means it's perfect for just about any wireless or Internet-connected project.

The ESP32 is a perfect upgrade from the ESP8266 that has been so popular. In comparison, the ESP32 has way more GPIO, plenty of analog inputs, two analog outputs, multiple extra peripherals (like a spare UART), two cores so you don't have to yield to the WiFi manager, much higher-speed processor, etc. etc!

Comes fully assembled and tested, pre-programmed with ESP32 SPI WiFi co-processor firmware that you can use in CircuitPython to use this into a WiFi co-processsor over SPI + 2 pins. We also toss in some header so you can solder it in and plug into a solderless breadboard.

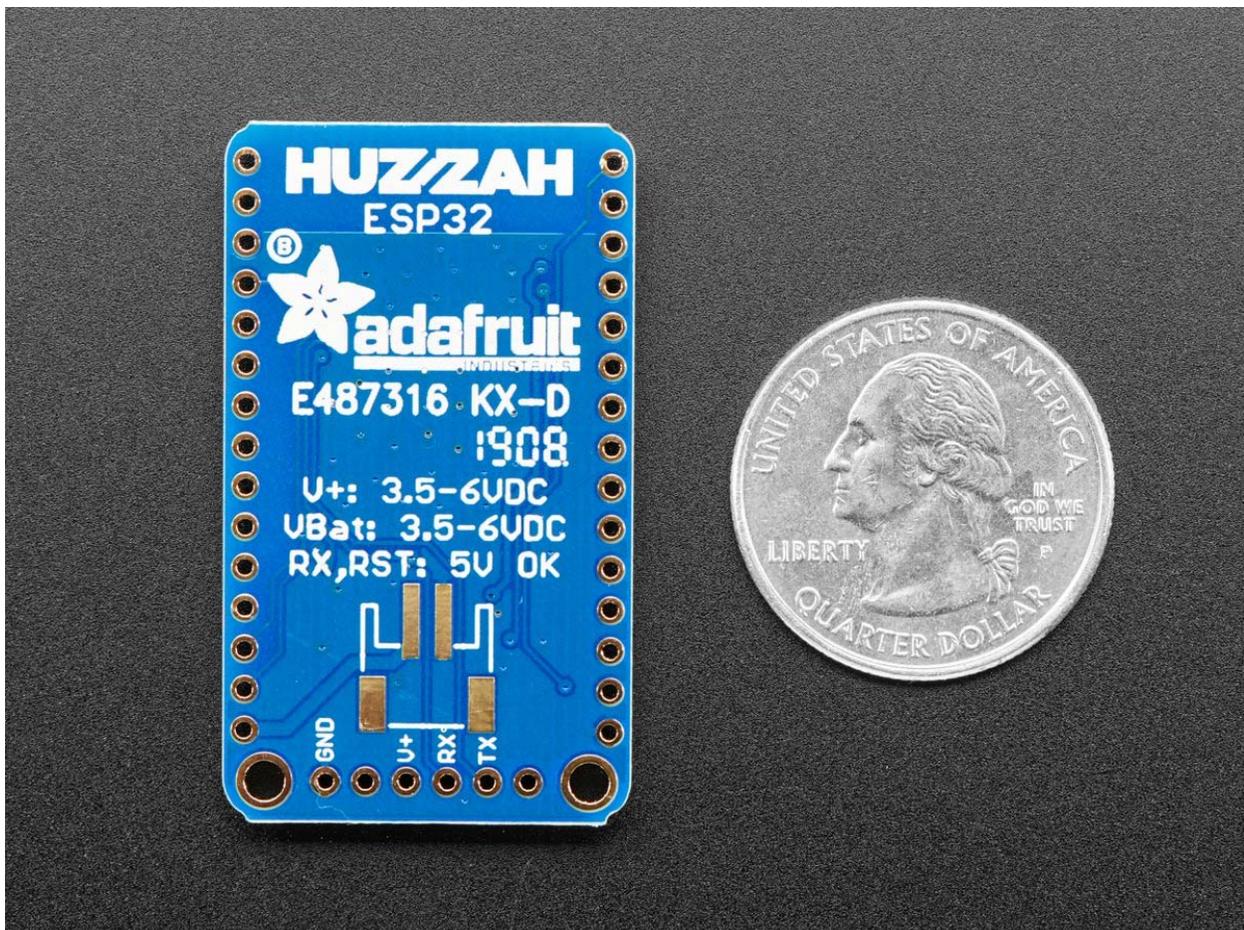Here are specifications from Espressif about the ESP32:

- 240 MHz dual core Tensilica LX6 microcontroller with 600 DMIPS
- Integrated 520 KB SRAM
- Integrated 802.11b/g/n HT40 Wi-Fi transceiver, baseband, stack and LWIP
- Integrated dual mode Bluetooth (classic and BLE)
- 4 MByte flash include in the WROOM32 module
- On-board PCB antenna
- Ultra-low noise analog amplifier
- Hall sensor
- 10x capacitive touch interface
- 32 kHz crystal oscillator
- 3 x UARTs (only two are configured by default in the Feather Arduino IDE support, one UART is used for bootloading/debug)
- 3 x SPI (only one is configured by default in the Feather Arduino IDE support)
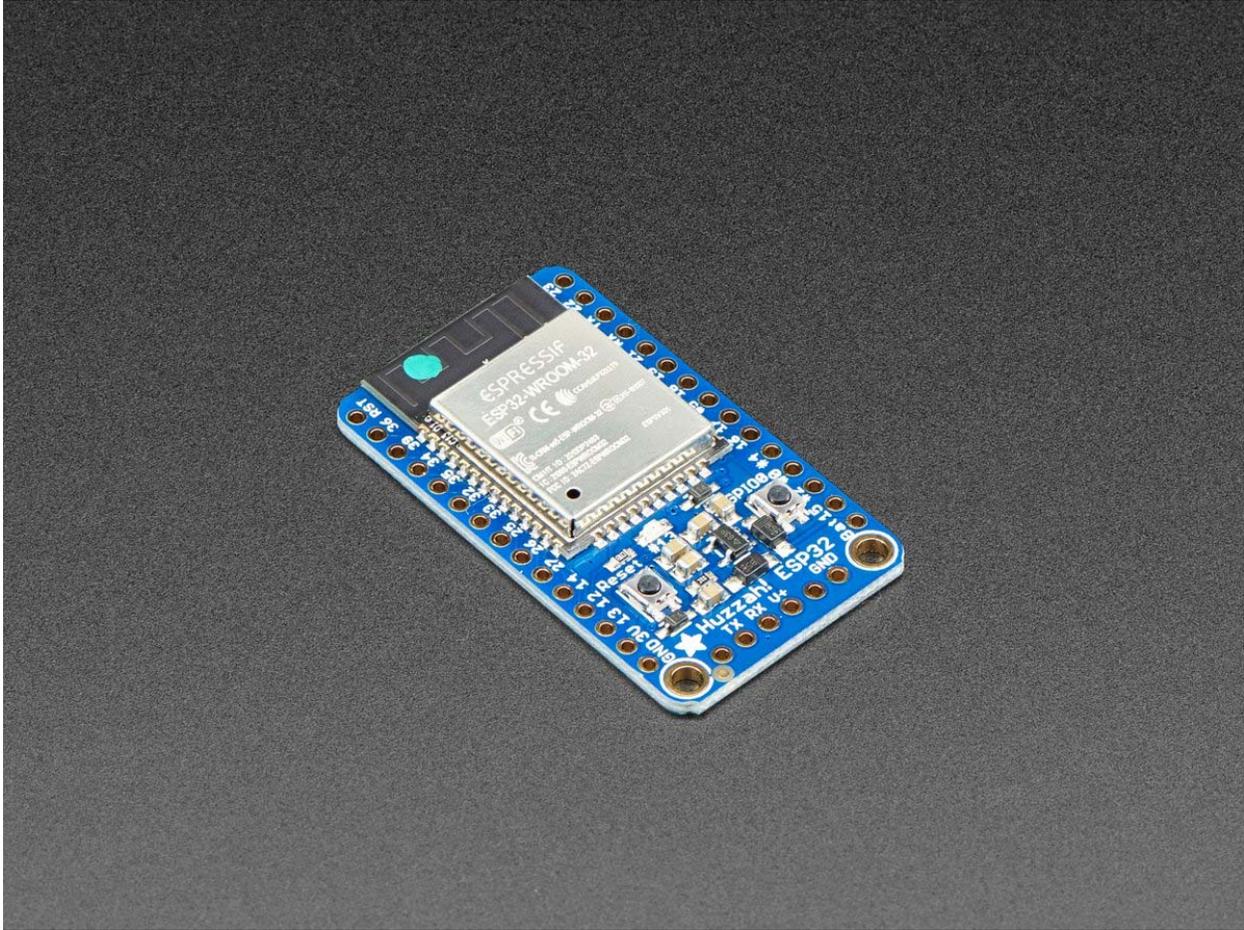- 2 x I2C (only one is configured by default in the Feather Arduino IDE support)

- 12 x ADC input channels
- 2 x I2S Audio
- 2 x DAC
- PWM/timer input/output available on every GPIO pin
- OpenOCD debug interface with 32 kB TRAX buffer
- SDIO master/slave 50 MHz
- SD-card interface support

TECHNICAL DETAILS

Product Dimensions: 44.0mm x 25.5mm x 4.8mm / 1.7" x 1.0" x 0.2"

Product Weight: 5.8g / 0.2oz

https://www.adafruit.com/product/4172/3-27-19