

## BlackBoard Artemis ATP

SPX-15412

The BlackBoard Artemis ATP is affectionately called 'All the Pins!' at SparkFun. The Artemis module has 48 GPIO and this board breaks out absolutely every one of them in a familiar Mega like form factor. What's with the silkscreen labels? They're all over the place. We decided to label the pins as they are assigned on the Apollo3 IC itself. This makes finding the pin with the function you desire a lot easier. Have a look at the full pin map from the Apollo3 datasheet. If you really need to test out the 4-bit SPI functionality of the Artemis you're going to need to access pins 4, 22, 23, and 26. Need to try out the differential ADC port 1? Pins 14 and 15. The BlackBoard Artemis ATP will allow you to flex the impressive capabilities of the Artemis module.

The BlackBoard Artemis ATP has the improved power conditioning and USB to serial that we've refined over the years on our BlackBoard line of products. A modern USB-C connector make programming easy. A Qwiic connector makes I<sup>2</sup>C easy. The ATP is fully compatible with SparkFun's Arduino core and can be programmed easily under the Arduino IDE. We've exposed the JTAG connector for more advanced users who prefer to use the power and speed of professional tools. If you need a *lot* of a GPIO with a simple to program, ready to go to market module, the ATP is the fix you need. We've added a digital MEMS microphone for folks wanting to experiment with always-on voice commands with TensorFlow and machine learning. We've even added a convenient jumper to measure current consumption for low power testing.

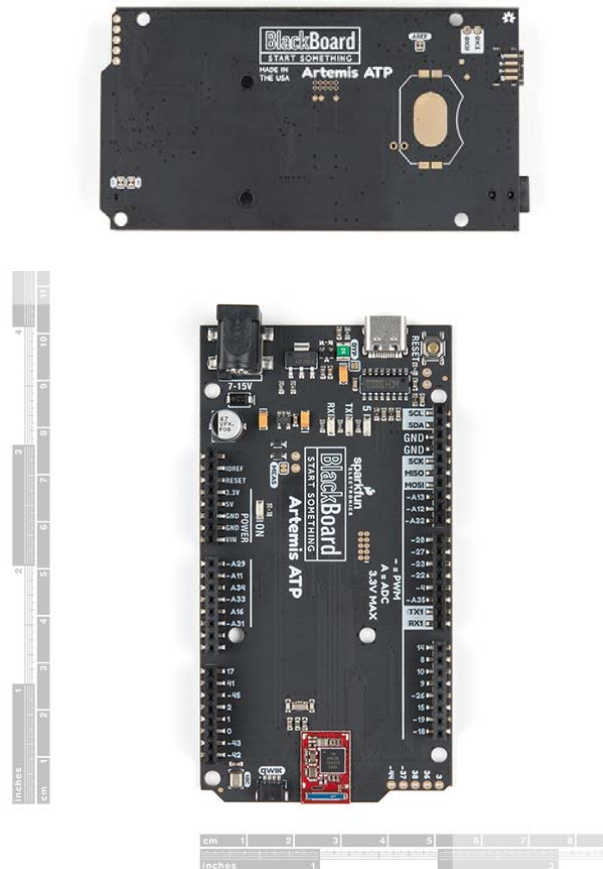
With 1M flash and 384k RAM you'll have plenty of room for your sketches. The Artemis module runs at 48MHz with a 96MHz turbo mode available and with Bluetooth to boot!

The SparkFun BlackBoard Artemis ATP is a powerful platform if you're interesting in testing out the full capabilities of the SparkFun Artemis module. If you're looking for more compact solution, be sure to checkout our Nano and Uno footprints for more hacker friendly products.

**Note:** We are actively working on getting FCC and compliance certifications for the SparkFun Artemis Module. Once our certifications are complete we will be moving the ATP to a RedBoard format with the FCC Certified version of the Artemis on board. *Please be aware* that this could happen as soon as a few weeks to a month so this BlackBoard version is for those of you who can't wait and want to start using the SparkFun Artemis as soon as possible!

## FEATURES

- Arduino Mega Footprint
- 1M Flash / 384k RAM
- 48MHz / 96MHz turbo available
- 6uA/MHz (operates less than 5mW at full operation)
- 48 GPIO - all interrupt capable
- 31 PWM channels
- Built in BLE radio
- 10 ADC channels with 14-bit precision with up to 2.67 million samples per second effective continuous, multi-slot sampling rate
- 2 channel differential ADC
- 2 UARTs
- 6 I<sup>2</sup>C buses
- 6 SPI buses
- 2/4/8-bit SPI bus
- PDM interface
- I<sup>2</sup>S Interface
- Secure 'Smart Card' interface
- Qwiic Connector



<https://www.sparkfun.com/products/15412/6-24-19>