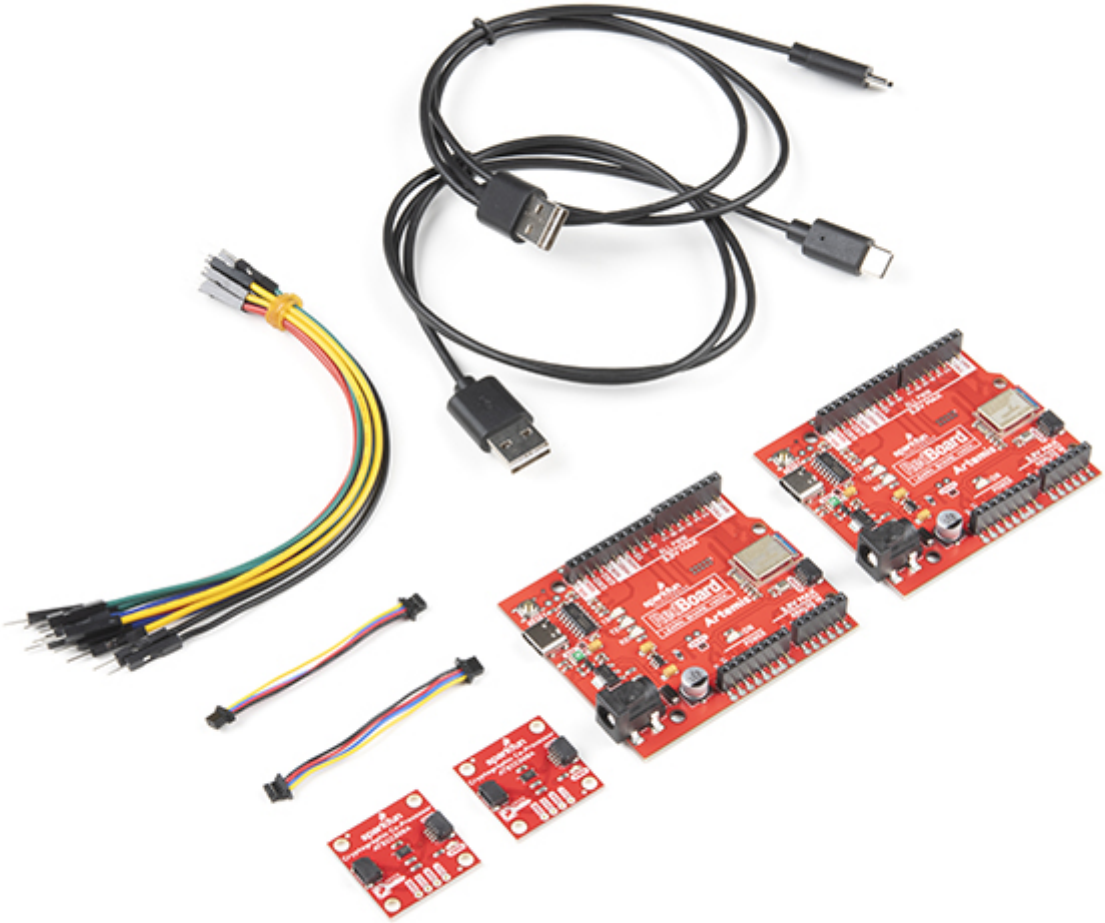
SparkFun Cryptographic Development Kit



With the SparkFun Cryptographic Development Kit you will get everything you need to learn the fundamentals of cryptographic authentication and how to use the ATECC508A Cryptographic Co-Processor Breakout to add a soaring level of security to your projects.

In this kit you will get a pair of our SparkFun ATECC508A Cryptographic Co-Processor Breakouts that will allow you to easily add strong authentication security to your IoT node, edge device, or embedded system. This board includes two Qwiic ports for plug and play functionality. Utilizing our handy Qwiic system, no soldering is required to connect it to the rest of your system. However, we still have broken out 0.1"-spaced pins in case you prefer to use a breadboard. The ATECC508A chip is capable of many cryptographic processes, including, but not limited to:

- Creating and securely storing unique asymmetric key pairs based on Elliptic Curve Cryptography (FIPS186-3).

- Creating and verifying 64-byte digital signatures (from 32-bytes of message data).
- Creating a shared secret key on a public channel via Elliptic Curve Diffie-Hellman Algorithm.
- A standard hash-based challenge-response protocol using a SHA-256 algorithm.
- Internal high quality FIPS random number generator.

Also included with this kit is a pair of SparkFun RedBoard Artemis boards. Think of the RedBoard Artemis as just another Arduino but one that has BLE, one megabyte of flash, and runs at less than 1mA. The RedBoard Artemis takes the incredibly powerful Artemis module from SparkFun and wraps it up in an easy to use and familiar Uno footprint. Along with the SparkFun Original boards, you will receive two reversible USB A to C cables, two 50mm flexible Qwiic cables, and a pack of 10 M/M jumper wires.

🔒 **Note:** Please read through the hookup guide in its entirety before using this board. The chip can be only configured before it is **PERMANENTLY** locked. It is advisable that users purchase multiple boards in order to use other configurations and explore the advanced functions of the ATECC508A.

Additionally, this board is **NOT** capable of encrypting and decrypting data. It can however, perform quite a few cryptographic authentication processes such as secure private key creation, secure key storage, and digital signature creation and verification.

It is recommended that an Artemis microcontroller board is used with this product due to the buffer size required on the I^2C bus.

The SparkFun Qwiic Connect System is an ecosystem of I^2C sensors, actuators, shields and cables that make prototyping faster and less prone to error. All Qwiic-enabled boards use a common 1mm pitch, 4-pin JST connector. This reduces the amount of required PCB space, and polarized connections mean you can't hook it up wrong.
