Briki® has designed the bridge to fill the gap between the maker and industrial worlds: the MBC™ (Modular Brick Concept). This all-in-one brick is a brand new module poised to become a solid IoT standard for everyone in these markets. It has a small form factor and a rich pinout, making it ideal for all the applications in which small space shouldn’t mean compromises. MBC is the perfect brick on your road from prototype to production. Because it is easy to use, cheap, and already certified, this compact SoM is the ideal solution for designers that want a unique device with Wi-Fi & Bluetooth plus a dedicated control MCU.

**Characteristics**

- ATSAMD21G18A ARM® Cortex®-M0+
- ESP32-D0WD dual-core Tensilica Xtensa LX6 running @240MHz
- CryptoAuth ECC608A chip
- QSPI 64-Mbit or 128-Mbit flash

**Innovative features**

- From prototype to product in a simple way
- Full code control for both the chips thanks to the exposed debug interfaces
- Small form factor with a big amount of GPIOs
- Fluid logic to surpass the classical rigid master/slave topology
- Dual-level of embedded security, from cloud to boot
- Embedded flash memory for both, code and user storage
- Multi-language support (C/C++ and Python)
- Dual wireless interface (BLE/BT and Wi-Fi)
ATSAMD21

**Processor**
ARM® Cortex-M0+ CPU up to 48MHz

**Memories**
256KB in-system self-programmable Flash
32KB SRAM Memory

**System**
External Interrupt Controller (EIC), 16 external interrupts, one non-maskable interrupt
Low Power
Idle and standby sleep modes
SleepWalking peripherals

**Peripherals**
12-channel Direct Mem Access Controller (DMAC)
12-channel Event System
Up to five configurable 16-bit Timer/Counters (TC)
Three 24-bit Timer/Counters for Control (TCC)
32-bit Real Time Counter (RTC) with clock/calendar function
Watchdog Timer (WDT)
CRC-32 generator
One full-speed USB (12Mbps) Device/Host
Several SERCOM digital interfaces like: PC (up to 3.4MHz), SMBUS/PMBUS, SPI, LIN, UART and analog interfaces like: 12-bit, 350 kbps DAC, 10-bit, 350 kbps DAC, Two Analog Comparators, Peripheral Touch Controller with capacitive touch and proximity sensing I/O

More information [Click here](#)

---

ATECC608A

**Cloud authentication**
for AWS IoT and Google Cloud IoT Core

**Hardware Security features**
Cryptographic coprocessor with secure key storage for up to 16 Keys, certificates or data
Asymmetric sign, verify, key agreement: ECDSA, ECDH, NIST standard P256 elliptic curve support
Support for symmetric algorithms: SHA-256 & HMAC hash including off-chip context save/restore, AES-128 with encrypt/decrypt, galois field multiply for GCM
Networking key management support
Turnkey PRF/HKDF calculation for TLS 1.2/1.3
Ephemeral key generation and key agreement in SRAM

**Secure boot support**
Implementation with ATSAMD21 Cortex-M0+
Full ECDSA code signature validation
Encryption/Authentication for messages to prevent on-board attacks

**Additional features**
Internal high-quality FIPS 800-90 A/B/C Random Number Generator (RNG)
Two high-endurance monotonic counters
Guaranteed unique 72-bit serial number
1MHz Standard I2C interface
<150nA Sleep current

More information [Click here](#)

---

ESP32

**Processors**
CPU: Xtensa dual-core 32-bit LX6 at 240 MHz and 600 DMIPS

**Wireless connectivity**
Wi-Fi: 802.11 b/g/n
Bluetooth: v4.2 BR/EDR and BLE

**Peripherals**
10 × GPIOs (touch capacitive sensing)
Temperature sensor
Several digital interfaces like: SPI, I²S, I²C, UART, SD/SDIO/CE-ATA/MMC/eMMC
CAN bus 2.0
IR controller

**Security**
IEEE 802.11 featuring WFA, WPA, WPA2, WAPI
Secure boot and Flash encryption
1024-bit OTP, up to 768-bit for customers
Cryptographic hardware acceleration: AES, SHA-2, RSA, elliptic curve cryptography (ECC), random number generator (RNG)

More information [Click here](#)