

16 mm

38 mm

MBC-WB01

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

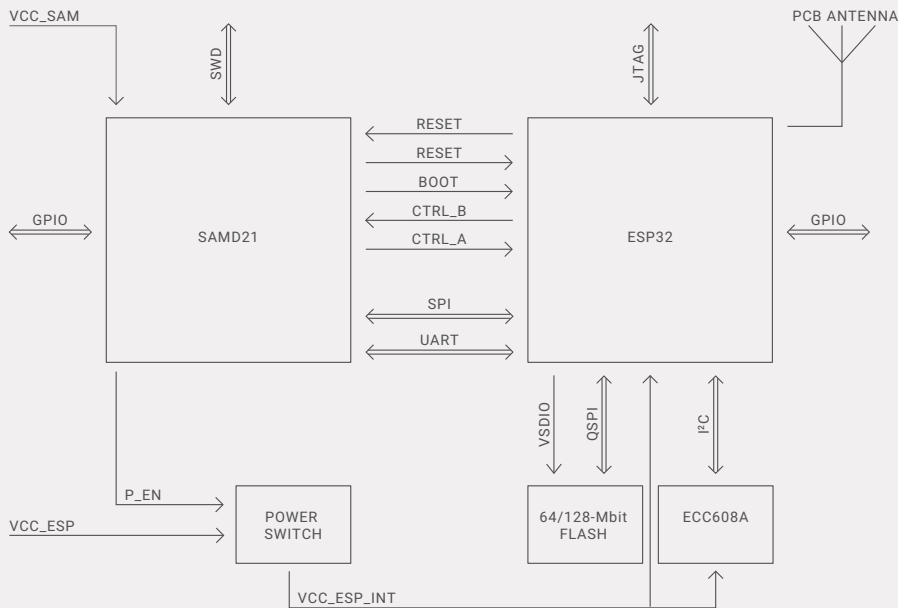
Dual-level of embedded security, from cloud to boot

Embedded flash memory for both, code and user storage

Multi-language support (C/C++ and Python)

Dual wireless interface (BLE/BT and Wi-Fi)

READ CAREFULLY



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: I²C (up to 3.4MHz), SMBUS/PMBUS, SPI, LIN, UART and analog interfaces like: 12-bit, 350 ksp/s ADC, 10-bit, 350 ksp/s 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](#)

CONTACT US

