

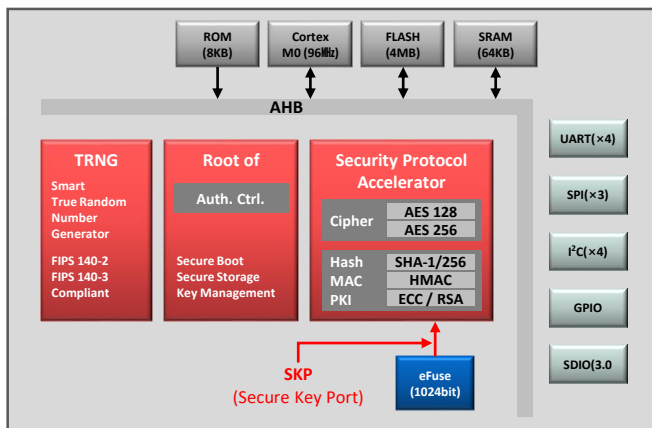
MS500

MCU WITH ADVANCED SECURITY AND LOW POWER FOR IOT

MS500 is a powerful microprocessor with the extensive security features such as hardwired cryptography engine, secure storage, secure booting and key provisioning mechanism to support IoT security and connectivity applications. The MS500 is versatile for IoT applications and the user authentication applications. It also provides various low power modes and connectivity options which are ideal for battery-powered IoT devices.



FUNCTIONAL DIAGRAM



KEY FEATURES

32-bit ARM® Cortex™-M0 Core @96MHz

MEMORIES AND INTERFACES

- 64 KB SRAM
- 8 KB Boot ROM
- 4 MB Flash Memory
- 128 Byte eFuse
- 8 KB Instruction Cache Memory
- 3 SPI Master/Slave Interface
- 3 UARTs with DMA support and full modem control
- 4 I2C bus interfaces
- eMMC 4.41, SD 3.01
- SDIO 3.0 Master and Slave up to 50 MB/s (SDR50)
- Up to 41 Fast GPIO pins with configurable

KEY APPLICATIONS

- **Internet of Things**
 - LoRaWan, NB-IoT
 - Secure Sensor to Ethernet
 - Secure IP Camera
 - Microsoft Azure IoT
 - Amazon AWS IoT
- **Security**
 - FIDO2
 - TLS/DTLS
 - PKI

SECURITY FUNCTIONS

- Secure Boot
- Secure Storage
- Key management (DUK, PKF, UDK, DID)
- Asymmetric Crypto Accelerator (RSA, ECC)
- Symmetric Crypto Accelerator (AES, SHA, ARIA)
- TRNG (True Random Number Generator)

DEVELOPMENT TOLS

- Evaluation Board Supporting Arduino Shield
- Full SDK with example applications
- FreeRTOS Support
- GNU ARM Embedded Toolchain and GNU Eclipse
- Keil uVision IDE

PACKAGE AND SUPPLY VOLTAGE

- 60-pin LGA
- Ball Pitch: 0.35 mm
- Package Width × Length: 6mm × 6mm
- Main Supply Voltages
 - 1.8V (± 10%)
 - 3.3V (± 10%)