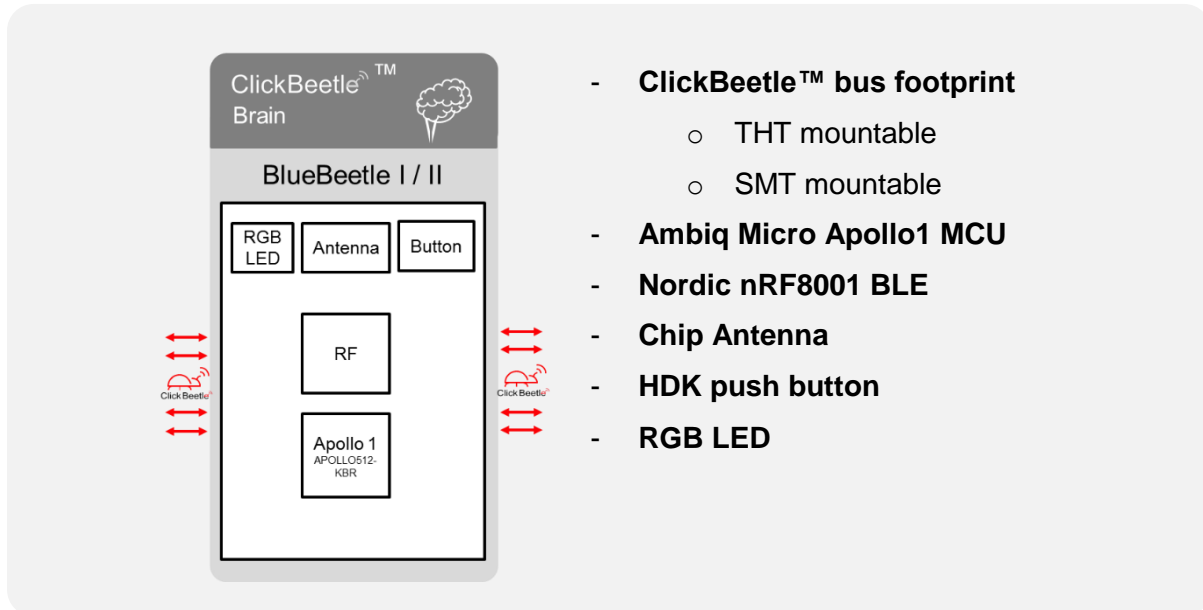


## FEEU ClickBeetle<sup>®</sup> - Reference Platform: BlueBeetle I

BlueBeetle I is part of the ClickBeetle Reference Platform and adds a brain with communication and BLE to the application. BlueBeetle I contains an Ambiq Micro Apollo 1 MCU with ultra-low-power consumption bundled with a Nordic NRF8001 BLE communications chip.



### Ambiq Micro Apollo 1 MCU:

- Ultra-low active mode power consumption: 35µA/MHz (executing from Flash)
- Ultra-low sleep mode power consumption: 143nA (with RTC on)
- High-performance, 32-bit ARM Cortex-M4F processor
  - o Up to 24MHz clock frequency
  - o Floating point unit
  - o Wake-up interrupt controller with 12 interrupts
- Ultra-low power memory
  - o Up to 512kB Flash
  - o Up to 64kB low-leakage RAM
- Ultra-low power interface for off-chip sensors
  - o 10-bit, 13-channel, 1MS/s ADC
  - o Temperature sensor with ±4°C accuracy
- Rich set of timing peripherals
- Flexible serial peripherals
  - o I2C/SPI master for communication with external peripherals
  - o I2C/SPI slave for optional host communications
  - o UART for communication with peripherals and legacy devices
- Wide operating range: 1.8 to 3.8V
- Compact package options
  - o 64-pin BGA with 50 GPIO
  - o 41-pin CSP with 27 GPIO

### Nordic NRF8001 BLE:

- Radio features
  - o Bluetooth low energy RF transceiver
  - o Ultra-low peak current consumption <14 mA
  - o Common TX/RX terminals
  - o Low current for connection oriented profiles, typically 2 µA
  - o Ultra-low current for connectionless oriented profiles, typically 500 nA
- Auxiliary features
  - o Integrated low frequency reference oscillator
  - o Power management
  - o Battery monitor
  - o Temperature monitor
  - o Integrated 16 MHz crystal oscillator
  - o OTP for customer configuration
  - o UART Test Interface for Direct Test Mode
  - o Application Controller Interface (ACI)
  - o Radio Active signal

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