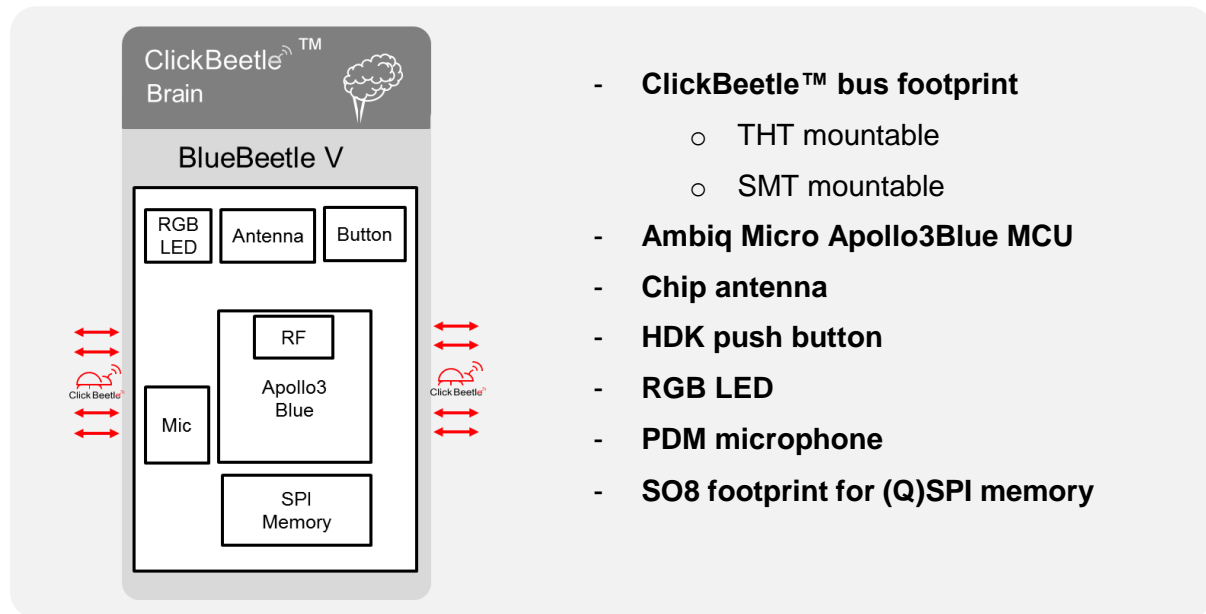


## FEEU ClickBeetle™ - Reference Platform: BlueBeetle V

BlueBeetle V is part of the ClickBeetle™ Reference Platform and adds a brain with communication and BLE to the application. BlueBeetle V contains an Ambiq Micro Apollo3Blue MCU with ultra-low-power MCU including embedded BLE.



### Ambiq Micro Apollo 3 Blue MCU:

- Ultra-low supply current:
  - o 8  $\mu$ A/MHz executing from flash at 3.3 V
  - o 8  $\mu$ A/MHz executing from RAM at 3.3 V
  - o 1  $\mu$ A deep sleep mode (BLE Off) with RTC at 3.3 V
- High-performance ARM Cortex-M4Processor
  - o 48 MHz nominal clock frequency, with 96 MHz high performance Burst Mode
  - o Floating point unit
  - o Memory protection unit
  - o Wake-up interrupt controller with 32 interrupts
- Integrated Bluetooth® 5 low-energy module
  - o RF sensitivity: -93 dBm (typical)
  - o TX: 3 mA @ 0 dBm, RX: 3 mA
  - o Tx peak output power: 4.0 dBm (max)
- Ultra-low power memory:
  - o Up to 1 MB of flash memory for code/data
  - o Up to 384 KB of low leakage RAM for code/data
  - o 16 kB 2-way Associative/Direct-Mapped Cache
- Ultra-low power interface for off-chip sensors:
  - o 14 bit ADC at up to 1.2 MS/s, 15 selectable input channels available
  - o Voltage Comparator
  - o Temperature sensor with +/-3°C accuracy
- ISO7816 Secure interface
- Flexible serial peripherals:
  - o 1x 2/4/8-bit SPI master interface
  - o 6x I2C/SPI masters for peripheral communication
  - o I2C/SPI slave for host communications
  - o 2x UART modules with 32-location Tx and Rx FIFOs
  - o PDM for mono and stereo audio microphone
  - o 1x I2S slave for PDM audio pass-through
- Rich set of clock sources:
  - o 32.768 kHz XTAL oscillator
  - o Low frequency RC oscillator – 1.024 kHz
  - o High frequency RC oscillator – 48/96 MHz
  - o RTC based on Ambiq's AM08X5/18X5 families
- Wide operating range: 1.755-3.63 V, -40 to 85°C

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