

# QuickFeather Development Kit

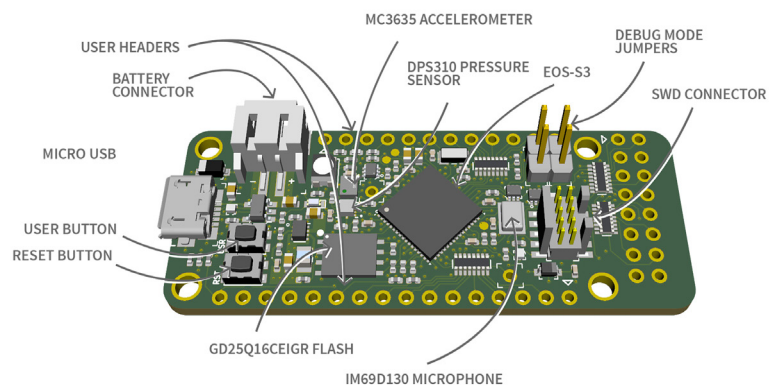
## Supported by 100% Open Source Hardware

The QuickFeather Development Kit is a small form factor system ideal for enabling the next generation of low-power Machine Learning (ML) capable IoT devices. Unlike other development kits which are based on proprietary hardware and software tools, QuickFeather is based on open source hardware, compatible with the Adafruit Feather form factor, and is built around 100% open source software (including the Symbiflow FPGA Tools, Zephyr and FreeRTOS Real Time Operating Systems, and Renode).

The QuickFeather is powered by QuickLogic's EOS™ S3, the first eFPGA-enabled Arm Cortex® M4F MCU.

Other functionality includes:

- GigaDevice 16-Mbit of flash memory GD25Q16CEIGR
- mCube MC3635 accelerometer
- Infineon DPS310 pressure sensor
- Infineon IM69D130 PDM digital microphone
- Powered from USB or a single Li-Po battery
- Integrated battery charger
- USB data signals tied to programmable logic
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### EOS S3 Benefits

- **No more multi-gigabyte software installs, no more of the hassles associated with proprietary tools, no more vendor-specific hardware incompatible with the industry**
- **QuickFeather is small, Feather compatible, inexpensive, and is 100% supported by open source tools**
- **With a Cortex M4F MCU and integrated eFPGA, the onboard EOS S3 lets you innovate with 100% open source hardware and software**

## Specifications

- **EOS S3 MCU + eFPGA SoC**

- Arm Cortex M4F Microcontroller
  - up to 80 MHz operating frequency
  - up to 512 KB SRAM

- **Embedded FPGA (eFPGA)**

- 2400 effective logic cells
- 64 Kb RAM

- **Feather Form Factor**

- Breadboard-compatible 0.1" (2.54 mm) pitch headers - all headers are pre-soldered
- 2.3" x 0.9" (58.4 mm x 22.9 mm) footprint
- All 20 Feather-defined GPIO + 13 additional GPIO

- **Interfaces**

- SWD programming connector for use with USB-TTL converter
- USB data signals are tied to eFPGA programmable logic
- UART available via I/O headers
- I<sup>2</sup>C
- I<sup>2</sup>S
- SPI

- **Storage: 16 Mbit SPI NOR flash - GigaDevice GD25Q16CEIGR**

- **Sensors**

- Accelerometer - mCube MC3635
- Pressure sensor - Infineon DPS310
- Digital pulse density modulation (PDM) microphone - Infineon IM69D130

- **User Interfaces**

- RGB LED
- User pushbutton
- Reset pushbutton

- **Power**

- USB micro Type-B connector (regulated to 3.3 V)
- Li-Po battery connector
  - On-board charging circuitry - Microchip MCP73831/2
  - Standard Li-Po JST connector

- **Software**

- Machine Learning



- Real-time Operating Systems



Zephyr RTOS



- FPGA Tools:



For more information about QuickLogic, please visit [www.quicklogic.com](http://www.quicklogic.com)

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