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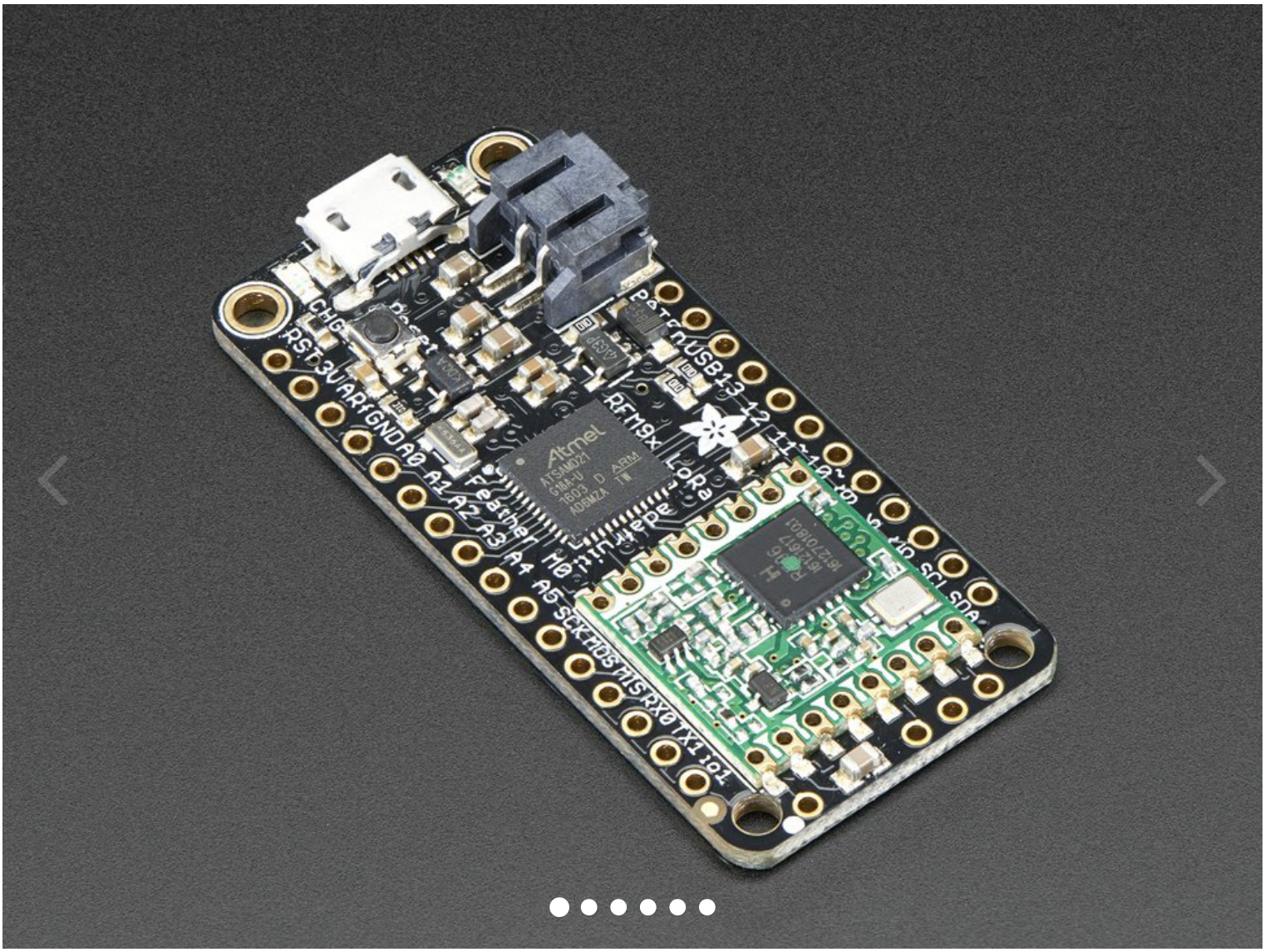
DEVELOPMENT BOARDS / FEATHER / BOARDS

Adafruit Feather M0 with RFM95 LoRa Radio - 900MHz - RadioFruit

PRODUCT ID: 3178

$34.95



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ADD TO CART

- [ ] **Also include 1 x Header Kit for Feather - 12-pin and 16-pin Female Header Set ($0.95)**
- [ ] **Also include 1 x Stacking Headers for Feather - 12-pin and 16-pin female headers ($1.25)**
- [ ] **Also include 1 x Lithium Ion Polymer Battery - 3.7v 1200mAh ($9.95)**

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Also include 1 x Short Headers Kit for Feather - 12-pin + 16-pin Female Headers ($1.50)

QTY	DISCOUNT
1-9	$34.95
10-99	$31.46
100+	$27.96

IN STOCK

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DESCRIPTION

This is the **Adafruit Feather M0 RFM95 LoRa Radio (900MHz).** We call these *RadioFruits,* our take on an microcontroller with a "Long Range (LoRa)" packet radio transceiver with built in USB and battery charging. Its an Adafruit Feather M0 with a 900MHz radio module cooked in! Great for making wireless networks that are more flexible than Bluetooth LE and without the high power requirements of WiFi.

Feather is the new development board from Adafruit, and like its namesake it is thin, light, and lets you fly! We designed Feather to be a new standard for portable microcontroller cores.We have other boards in the Feather family, check'em out here.

This is the 900 MHz radio version, which can be used for either 868MHz or 915MHz transmission/reception - the exact radio frequency is determined when you load the software since it can be tuned around dynamically. We also sell a 433MHz version of the same radio chipset!

At the Feather M0's heart is an ATSAMD21G18 ARM Cortex M0 processor, clocked at 48 MHz and at 3.3V logic, the same one used in the new Arduino Zero. This chip has a whopping 256K of FLASH (8x more than the Atmega328 or 32u4) and 32K of RAM (16x as much)! This chip comes with built in USB so it has USB-to-Serial program & debug capability built in with no need for an FTDI-like chip.

To make it easy to use for portable projects, we added a connector for any of our 3.7V Lithium polymer batteries and built in battery charging. You don't need a battery, it will run just fine straight from the micro USB connector. But, if you do have a battery, you can take it on the go, then plug in the USB to recharge. The Feather will automatically switch over to USB power when its available. We also tied the battery thru a divider to an analog pin, so you can measure and monitor the battery voltage to detect when you need a recharge.

Here's some handy specs! Like all Feather M0's you get:

- Measures 2.0" x 0.9" x 0.3" (51mm x 23mm x 8mm) without headers soldered in
- Light as a (large?) feather - 5.8 grams

- 3.3V regulator with 500mA peak current output
- USB native support, comes with USB bootloader and serial port debugging
- You also get tons of pins - 20 GPIO pins
- Hardware Serial, hardware I2C, hardware SPI support
- 8 x PWM pins
- 10 x analog inputs
- 1 x analog output
- Built in 100mA lipoly charger with charging status indicator LED
- Pin #13 red LED for general purpose blinking
- Power/enable pin
- 4 mounting holes
- Reset button

This **Feather M0 LoRa Radio** uses the extra space left over to add an RFM9x LoRa 868/915 MHz radio module. These radios are not good for transmitting audio or video, but they do work quite well for small data packet transmission when you need more range than 2.4 GHz (BT, BLE, WiFi, ZigBee).

- SX127x LoRa® based module with SPI interface
- Packet radio with ready-to-go Arduino libraries
- Uses the license-free ISM bands (ITU "Europe" @ 433MHz and ITU "Americas" @ 900MHz)
- +5 to +20 dBm up to 100 mW Power Output Capability (power output selectable in software)
- ~300uA during full sleep, ~120mA peak during +20dBm transmit, ~40mA during active radio listening.
- Simple wire antenna or spot for uFL connector

Our initial tests with default library settings: over 1.2mi/2Km line-of-sight with wire quarter-wave antennas. (With setting tweaking and directional antennas, 20Km is possible).

Comes fully assembled and tested, with a USB bootloader that lets you quickly use it with the Arduino IDE. We also toss in some headers so you can solder it in and plug into a solderless breadboard. You will need to cut and solder on a small piece of wire (any solid or stranded core is fine) in order to create your antenna. **Lipoly battery and USB cable not included** but we do have lots of options in the shop if you'd like!

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TECHNICAL DETAILS +

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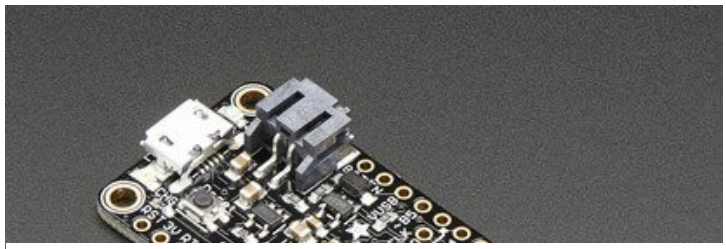
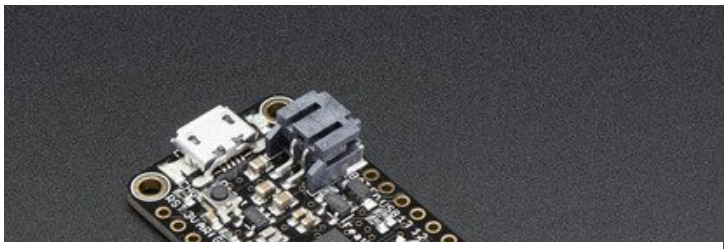
MAY WE ALSO SUGGEST... -

Adafruit Feather 32u4 RFM95 LoRa Radio- 868 or 915 MHz



Adafruit WICED WiFi Feather - STM32F205 with Cypress WICED WiFi



Adafruit Feather M0 WiFi with uFL - ATSAMD21 + ATWINC1500

Adafruit Feather 32u4 RFM69HCW Packet Radio - 868 or 915 MHz

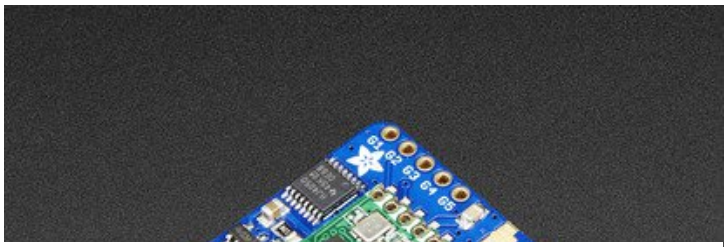
Adafruit Feather M0 RFM96 LoRa Radio - 433MHz

Adafruit RFM69HCW Transceiver Radio Breakout - 433 MHz

Adafruit Feather 32u4 RFM96 LoRa Radio - 433MHz

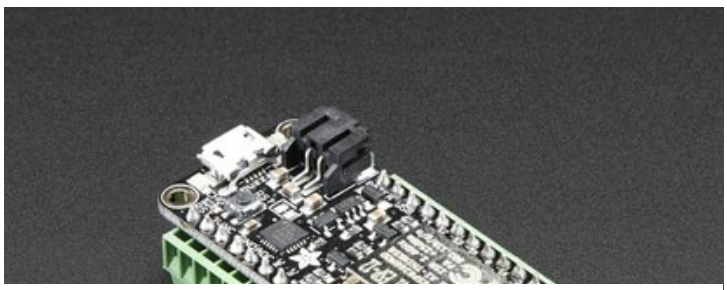
Adafruit Feather 32u4 Bluefruit LE

Adafruit Feather 32u4 with RFM69HCW Packet Radio - 433MHz



Adafruit RFM69HCW Transceiver Radio Breakout - 868 or 915 MHz

Adafruit Feather 32u4 FONA



Terminal Block kit for Feather - 0.1" Pitch

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