



SparkFun GPS Breakout - Chip Antenna, SAM-M8Q (Qwiic)

GPS-15210

The SparkFun SAM-M8Q GPS Breakout is a high quality, GPS board with equally impressive configuration options. The SAM-M8Q is a 72-channel GNSS receiver, meaning it can receive signals from the GPS, GLONASS, Galileo, and BeiDou constellations. This increases precision and decreases lock time and thanks to the onboard rechargeable battery, you'll have backup power enabling the GPS to get a hot lock within seconds! Additionally, this u-blox receiver supports I²C (u-blox calls this Display Data Channel) which made it perfect for the Qwiic compatibility so we don't have to use up our precious UART ports. Utilizing our handy Qwiic system, no soldering is required to connect it to the rest of your system. However, we still have broken out 0.1"-spaced pins in case you prefer to use a breadboard.

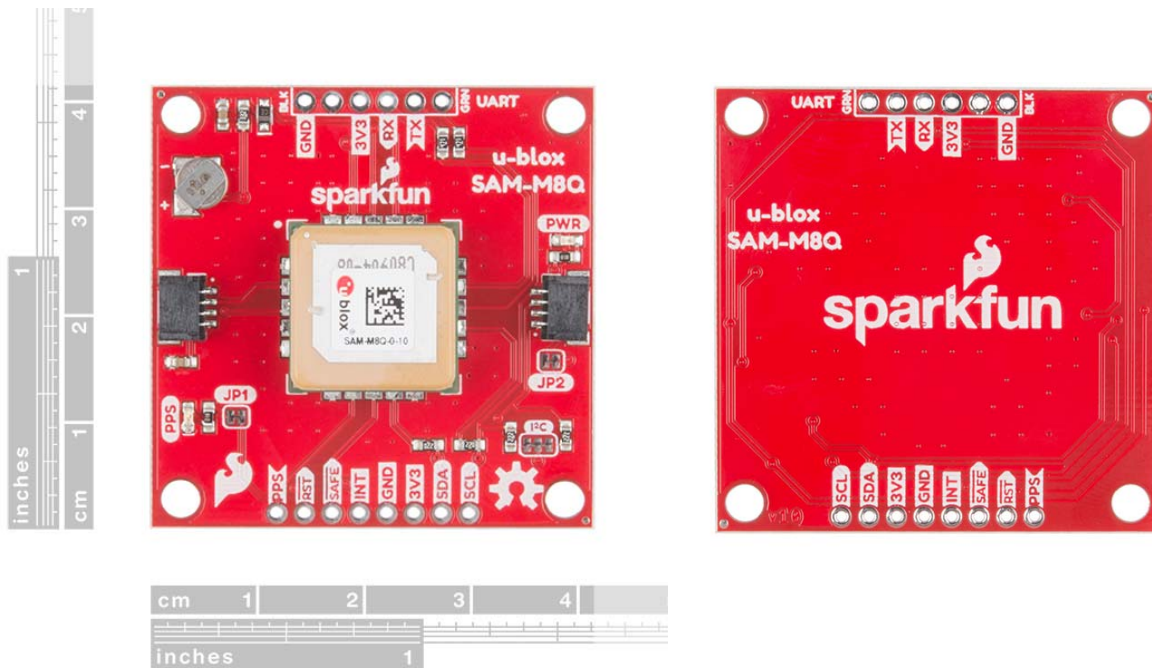
U-blox based GPS products are configurable using the popular, but dense, windows program called u-center. Plenty of different functions can be configured on the SAM-M8Q: baud rates, update rates, geofencing, spoofing detection, external interrupts, SBAS/D-GPS, etc. All of this can be done within the SparkFun Arduino Library!

The SparkFun SAM-M8Q GPS Breakout is also equipped with an on-board rechargeable battery that provides power to the RTC on the SAM-M8Q. This reduces the time-to-first fix from a cold start (~30s) to a hot start (~1s). The battery will maintain RTC and GNSS orbit data without being connected to power for plenty of time.

The SparkFun Qwiic Connect System is an ecosystem of I²C sensors, actuators, shields and cables that make prototyping faster and less prone to error. All Qwiic-enabled boards use a common 1mm pitch, 4-pin JST connector. This reduces the amount of required PCB space, and polarized connections mean you can't hook it up wrong.

FEATURES

- 72-Channel GNSS Receiver
- 2.5m Horizontal Accuracy
- 18Hz Max Update Rate
- Time-To-First-Fix:
 - Cold: 26s
 - Hot: 1s
- Max Altitude: 50,000m
- Max G: ≤ 4
- Max Velocity: 500m/s
- Velocity Accuracy: 0.05m/s
- Heading Accuracy: 0.3 degrees
- Time Pulse Accuracy: 30ns
- 3.3V VCC and I/O
 - Current Consumption: $\sim 29\text{mA}$ Tracking GPS+GLONASS
- Software Configurable
 - Geofencing
 - Odometer
 - Spoofing Detection
 - External Interrupt
 - Pin Control
 - Low Power Mode
 - Many others!
- Supports NMEA, UBX, and RTCM protocols over UART or I2C interfaces



<https://www.sparkfun.com/products/15210//4-17-19>