L76K GNSS Module for Seeed Studio XIAO

SKU: 109100021

Datasheet

V1.0

Table of contents

Revision history 2
Introduction 3
What's included 3
Features 4
Specification 4
Mechanical dimensions 5
Hardware diagram 6

Revision history

Date	Version	Description
January 11, 2024	V1.0	Initial release.

Introduction

L76K GNSS Module for SeeedStudio XIAO is a Multi-GNSS (Global Navigation Satellite System) module compatible with all XIAO development boards, supports GPS, BeiDou (BDS), GLONASS and QZSS systems, allows multi-system combined or single-system independent positioning. It also supports AGNSS function, built-in low-noise amplifier and sound surface filter, and provides a good positioning experience of fast, accurate, high-performance.
The module comes with a high-performance active GNSS antenna intended to cover GPS L1 C/A, BeiDou B1 and GLONASS L1 bands. The design also has a tiny bright green LED for indicating the 1PPS output on fix.



What's included

- 1x L76K GNSS Module for Seeed Studio XIAO
- 1x High-performance active GNSS antenna
- 2x 1*7 PIN 2.54mm Header Socket

Features

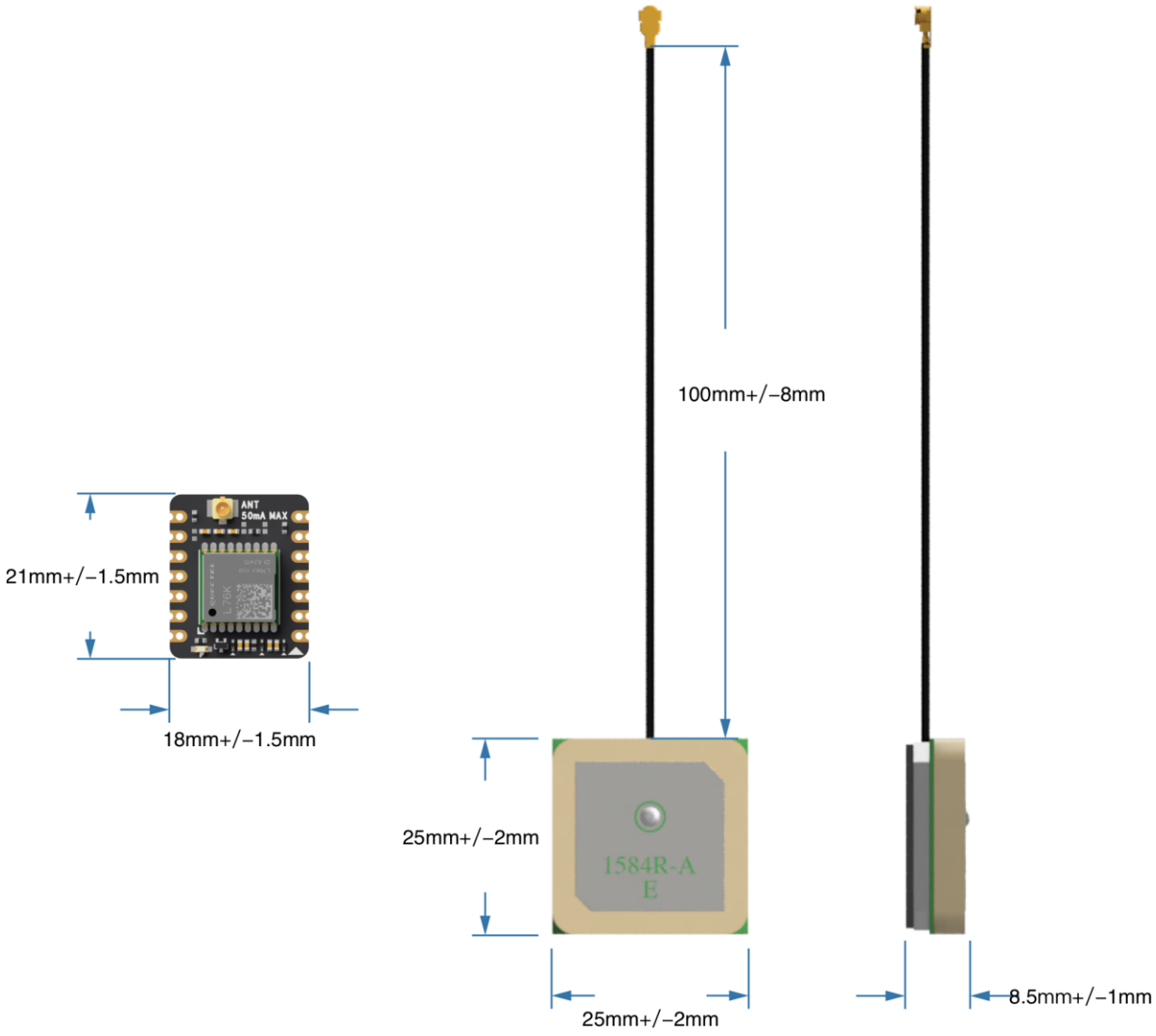
- **Support Multi-GNSS Systems:** Built around Quectel L76K, supporting GPS, BeiDou (BDS), GLONASS and QZSS
- **High Compatibility:** Highly compatible with all XIAO series products, easily integrated into your current projects
- **Support external active antenna**: Comes with a U.FL receptacle for high-performance active GNSS antenna
- **Thumb-sized Design**: 18 x 21mm, Seeed Studio XIAO series classic form-factor, suitable for small devices
- **Perfect for Production**: Breadboard-friendly & SMD design, no components on the back

Specifications

Item	Detail
GNSS bands	• GPS L1 C/A: 1575.42MHz • GLONASS L1: 1602MHz • BeiDou B1: 1561.098MHz
Channels	32 tracking ch/72 acquisition ch
TTFF (Time To First Fix)	• Cold Starts: 30s(w/o AGNSS), 5.5s(w/ GNSS) • Hot Starts: 5.5s(w/o AGNSS), 2s(w/ AGNSS)
Sensitivity	• Auto-aquisition: -148dBm • Tracking: -162dBm • Re-acquisition: -160dBm
Accuracy	• Position: 2.0m CEP • Velocity: 0.1m/s • Acceleration: 0.1m/s² • Timing: 30ns
UART Interface	• Baud Rate: 9600~115200bps(9600bps default) • Update Rate: 1Hz(default), 5Hz(Max.) • Protocol: NMEA 0183, CASIC proprietary protocol
Antenna	• Type: Active Antenna • Operating Frequency: 1559–1606MHz • Coaxial Cable: RF1.13 Length=10cm • Cable Connector: U.FL Plug RA
Current consumption(w/ active antenna)	• Auto-aquisition: 41mA • Tracking: 41mA • Standby: 360uA

Dimension	18mm x 21mm

Mechanical dimensions



Hardware diagram

