



# L76K GNSS Module for Seed 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

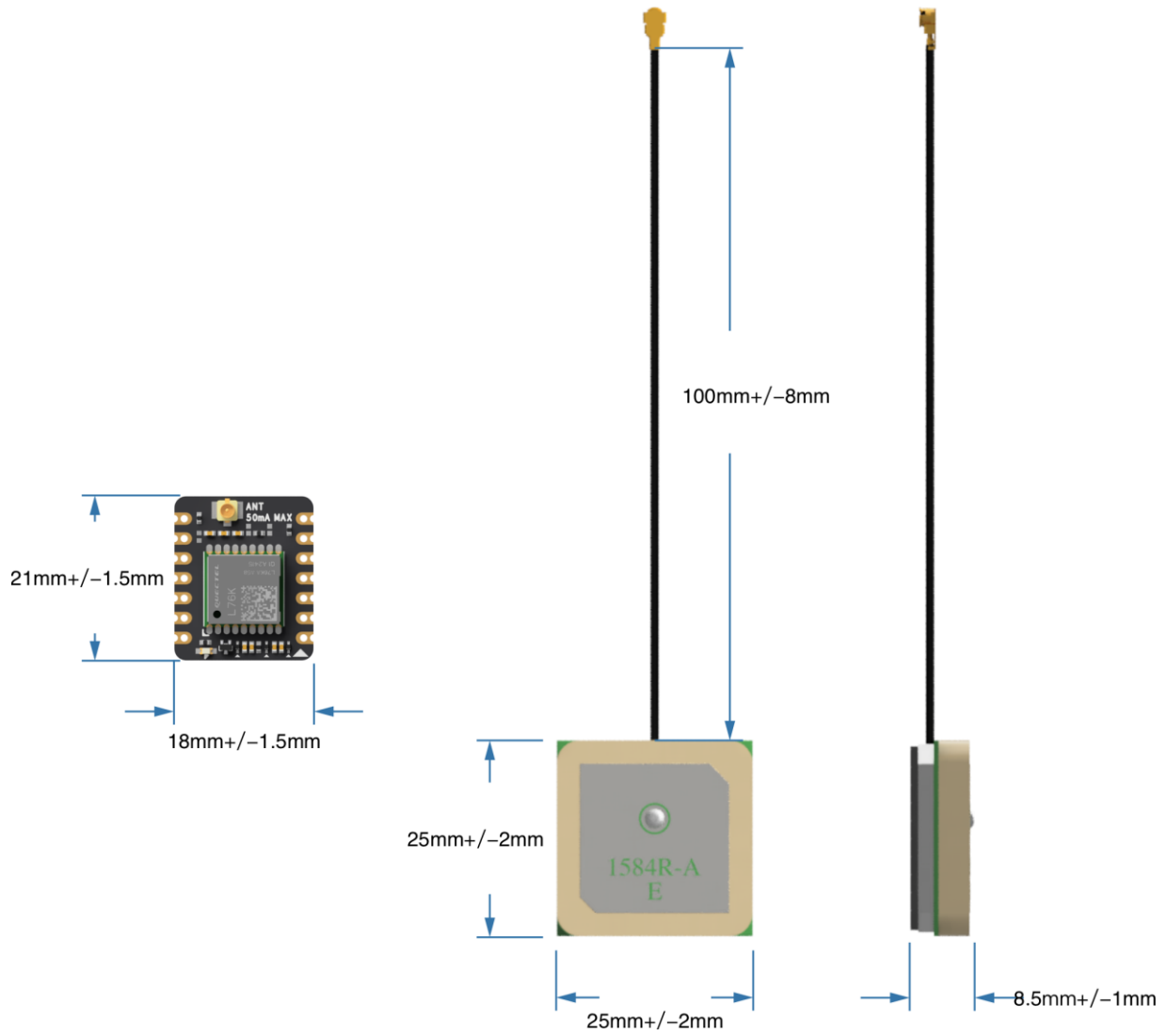
- **Support Multi-GNSS Systems:** Built around Quectel L76K, supporting GPS, BeiDou (BDS), GLONASS and QZSS
- **High Compatibility:** Highly compatible with all XIAO series products, easily integrated into your current projects
- **Support external active antenna:** Comes with a U.FL receptacle for high-performance 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

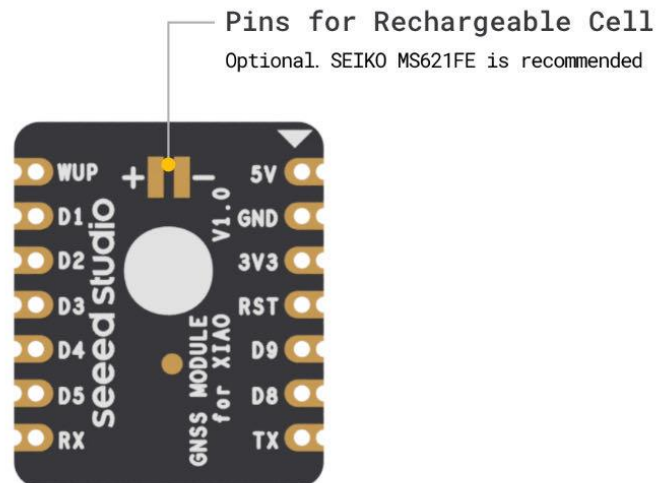
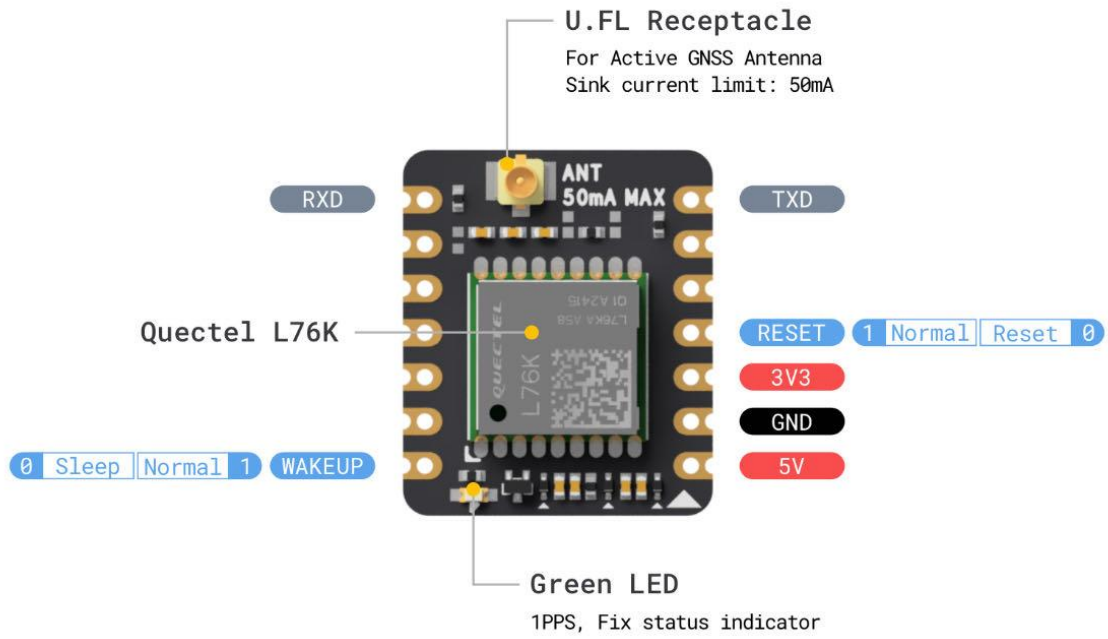
Item	Detail
GNSS bands	<ul style="list-style-type: none"> <li>● GPS L1 C/A: 1575.42MHz</li> <li>● GLONASS L1: 1602MHz</li> <li>● BeiDou B1: 1561.098MHz</li> </ul>
Channels	32 tracking ch/72 acquisition ch
TTF (Time To First Fix)	<ul style="list-style-type: none"> <li>● Cold Starts: 30s(w/o AGNSS), 5.5s(w/ GNSS)</li> <li>● Hot Starts: 5.5s(w/o AGNSS), 2s(w/ AGNSS)</li> </ul>
Sensitivity	<ul style="list-style-type: none"> <li>● Auto-aquisition: -148dBm</li> <li>● Tracking: -162dBm</li> <li>● Re-acquisition: -160dBm</li> </ul>
Accuracy	<ul style="list-style-type: none"> <li>● Position: 2.0m CEP</li> <li>● Velocity: 0.1m/s</li> <li>● Acceleration: 0.1m/s<sup>2</sup></li> <li>● Timing: 30ns</li> </ul>
UART Interface	<ul style="list-style-type: none"> <li>● Baud Rate: 9600~115200bps(9600bps default)</li> <li>● Update Rate: 1Hz(default), 5Hz(Max.)</li> <li>● Protocol: NMEA 0183, CASIC proprietary protocol</li> </ul>
Antenna	<ul style="list-style-type: none"> <li>● Type: Active Antenna</li> <li>● Operating Frequency: 1559–1606MHz</li> <li>● Coaxial Cable: RF1.13 Length=10cm</li> <li>● Cable Connector: U.FL Plug RA</li> </ul>
Current consumption(w/ active antenna)	<ul style="list-style-type: none"> <li>● Auto-aquisition: 41mA</li> <li>● Tracking: 41mA</li> <li>● Standby: 360uA</li> </ul>

Dimension	18mm x 21mm
-----------	-------------

## Mechanical dimensions



# Hardware diagram



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Seed Studio:](#)

[109100021](#)