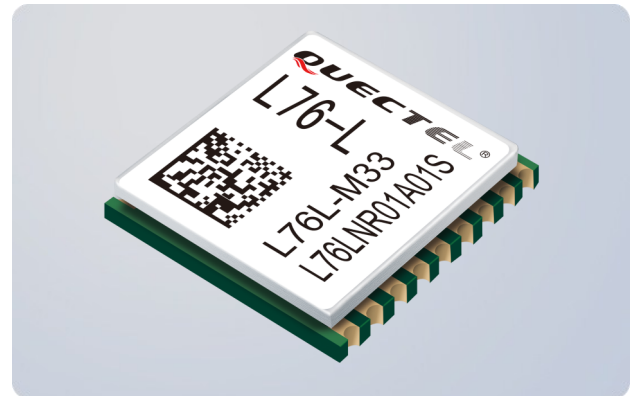


# Quectel L76-L

## Extremely Compact GNSS Module with Ultra Low Power Consumption



L76-L is a single receiver module integrating GLONASS and GPS systems. With 33 tracking channels, 99 acquisition channels and 210 PRN channels, L76-L can acquire and track any mix of GPS, GLONASS and SBAS signals. Designed to be compatible with Quectel L76 module in the compact and unified form factor, L76-L provides a built-in LNA for better performance in weak signal areas.

Compared with using GPS only, enabling multiple GNSS systems generally increases the number of visible satellites, reduces the time to first fix and increases positioning accuracy, especially when driving in rough urban environments.

Combining advanced AGPS called EASY™ (Embedded Assist System) and proven AlwaysLocate™ technology, L76-L achieves the highest performance and fully meets the industrial standard. EASY™ technology allows L76-L to calculate and predict orbits automatically using the ephemeris data (up to 3 days) stored in internal flash memory, so L76-L can fix position quickly even at indoor signal levels with low power consumption. With AlwaysLocate™ technology, L76-L can adaptively adjust the on/off time to achieve balance between positioning accuracy and power consumption according to the environmental and motional conditions.

Its super performance makes L76-L ideal for automotive, industrial PDA, consumer and industry applications. Extremely low power consumption makes it easier to be applied to power sensitive devices, especially portable applications.



### Key Benefits

- ✓ Extremely compact size, 10.1mm × 9.7mm × 2.5mm
- ✓ Multi-GNSS engine for GPS, GLONASS, Galileo and QZSS
- ✓ Support EASY™, an advanced AGPS technology without external memory
- ✓ Built-in LNA for better sensitivity
- ✓ Ultra low tracking power consumption
- ✓ AlwaysLocate™, an intelligent algorithm for power saving
- ✓ LOCUS, an embedded logger function with no need for host and external flash
- ✓ Offer 99 acquisition/33 tracking channels and 210 PRN channels
- ✓ Support DGPS, SBAS (WAAS/EGNOS/MSAS/GAGAN)
- ✓ Support UART and I2C Interfaces
- ✓ Great anti-jamming performance due to multi-tone active interference canceller
- ✓ Balloon mode, for high altitude up to 80km
- ✓ PPS VS. NMEA can be used for time service
- ✓ Support SDK command developed by Quectel



EASY™ Technology



Ultra Low Power  
Consumption



Extremely Compact  
Size



Super Tracking  
Sensitivity:  
-167dBm



Extended Temperature  
Range: -40°C ~ +85°C



Anti-jamming



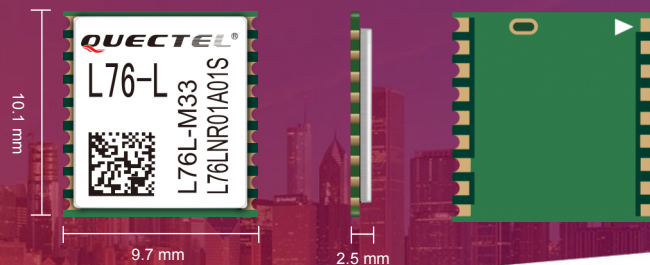
RoHS Compliant



Multi-GNSS Systems

# Quectel L76-L

Extremely Compact  
GNSS Module with Ultra Low  
Power Consumption



## GNSS Features

GPS L1 Band Receiver (1575.42MHz)/  
GLONASS L1 Band Receiver (1601.71MHz):  
Channel: 33 (Tracking)/ 99 (Acquisition)/  
210 (PRN)  
C/A Code  
SBAS: WAAS, EGNOS, MSAS, GAGAN  
Horizontal Position Accuracy:  
Autonomous: <2.5m CEP  
Velocity Accuracy:  
Without Aid: <0.1m/s  
Acceleration Accuracy:  
Without Aid: <0.1m/s<sup>2</sup>  
Timing Accuracy:  
1PPS: 10ns  
Reacquisition Time: <1s  
TTFF @-130dBm with EASY™:  
Cold Start: <15s  
Warm Start: <5s  
Hot Start: <1s  
TTFF @-130dBm without EASY™:  
Cold Start: <35s  
Warm Start: <30s  
Hot Start: <1s  
Sensitivity:  
Acquisition: -149dBm  
Tracking: -167dBm  
Reacquisition: -161dBm  
Dynamic Performance:  
Maximum Altitude: Max. 18000m  
Maximum Velocity: Max. 515m/s  
Maximum Acceleration: 4G

## Interfaces

Serial Interface:  
I2C: Up to 400kbps  
UART: Adjustable 4800bps~115200bps  
Default: 9600bps  
Update Rate:  
1Hz (Default), up to 10Hz  
I/O Voltage:  
2.7V~2.9V  
Protocols:  
NMEA 0183  
PMTK

## General Features

Extended Temperature:  
-40°C ~ +85°C  
Dimensions:  
10.1mm × 9.7mm × 2.5mm  
Weight:  
Approx. 0.6g

## Power Management

Power Supply:  
2.8V~4.3V  
Power Acquisition:  
25mA @3.3V (GPS)  
29mA @3.3V (GPS+GLONASS)  
Power Tracking:  
19mA @3.3V (GPS)  
22mA @3.3V (GPS+GLONASS)

## Power Saving:

2.8mA @AlwaysLocate™ (Note1)  
7uA @Backup Mode  
500uA @Standby Mode

Periodic Mode

## Antenna Type:

Active or Passive

## Antenna Power:

External or Internal VCC\_RF

Note1: Measured in GPS+GLONASS System under  
Outdoor Static Mode.