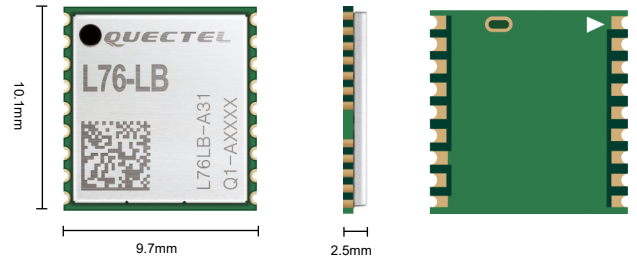


# Quectel L76-LB

## Compact GNSS Module



Quectel L76-LB GNSS module supports concurrent reception of GPS, GLONASS, BeiDou and QZSS. With 33 tracking channels, 99 acquisition channels and 210 PRN channels, it can acquire and track any mix of GPS, GLONASS (or BeiDou) and SBAS signals. L76-LB is designed to be compatible with Quectel L76 and L76-L modules, allowing convenient migration between them. The integrated LNA provides better performance in challenging environments.

Compared with single GPS system, 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 technologies such as EASY™ (Embedded Assist System) and low-power modes such as GLP (GNSS Low Power), L76-LB achieves high performance, low power consumption and fully meets the industrial standards. EASY™ technology allows the module to calculate and predict orbits automatically using the ephemeris data (up to 3 days) stored in internal RAM. With GLP technology, L76-LB can adaptively adjust the on/off time to achieve a balance between positioning accuracy and power consumption according to the environmental and motional conditions.

Its super performance makes L76-LB ideal for industrial PDA, consumer and industry applications. Extremely low power consumption makes it a great solution for power-sensitive applications, especially portable devices.



### Key Benefits

- ✓ Multi-GNSS engine for GPS, GLONASS, BeiDou and QZSS, ensuring fast and accurate fixes in any environment
- ✓ Industrial leading sensitivity of -165dBm during tracking and -148dBm during acquisition
- ✓ Integrated LNA improves sensitivity
- ✓ Support anti-jamming and multi-tone active interference canceller
- ✓ Multiple low-power modes ensure ultra-low power consumption
- ✓ Support UART and I2C Interfaces
- ✓ Backward compatible with L76 and L76-L modules



EASY™ Technology



Ultra Low Power Consumption



Extremely Compact Size



Super Tracking Sensitivity: -165dBm



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



Anti-jamming



RoHS Compliant



Multi-GNSS System

# Quectel L76-LB

## Compact GNSS Module

### GNSS Features

#### Receiving Bands<sup>①</sup>:

GPS L1/Galileo E1 C/A: 1575.42MHz

GLONASS L1 C/A: 1602.5625MHz

BeiDou B1 C/A: 1561.098MHz

#### Channel:

33 Tracking Channels

99 Acquisition Channels

210 PRN Channels

#### SBAS:

WAAS, EGNOS, MSAS, GAGAN

#### Horizontal Position Accuracy:

Autonomous: <2.5m CEP

#### Velocity Accuracy<sup>②</sup>:

Without Aid: <0.1m/s

#### Acceleration Accuracy:

Without Aid: <0.1m/s<sup>2</sup>

#### Timing Accuracy:

1PPS <100ns

#### Reacquisition Time:

<1s

#### TTF @-130dBm with EASY™<sup>②</sup>:

Cold Start: <15s

Warm Start: <5s

Hot Start: <1s

#### TTF @-130dBm without EASY™<sup>②</sup>:

Cold Start: <35s

Warm Start: <30s

Hot Start: <1s

#### Sensitivity:

Acquisition: -148dBm

Tracking: -165dBm

Reacquisition: -160dBm

### Dynamic Performance:

Maximum Altitude: Max. 18000m

Maximum Velocity: Max. 515m/s

Maximum Acceleration: 4G

### Interfaces

#### I2C Interface:

Up to 400kbps

#### UART Interface:

Adjustable: 4800bps~921600bps

Default: 9600bps

#### Update Rate:

1Hz (Default), up to 10Hz

#### I/O Port Voltage:

2.7V~2.9V

### Electrical Characteristics

#### Power Supply:

2.8V~4.3V, Typ. 3.3V

#### Power Consumption:

Acquisition: 31.6mA @3.3V (GPS+GLONASS)

Tracking: 30.3mA @3.3V (GPS+GLONASS)

#### Power Saving:

7μA @Backup Mode

0.6mA @Standby Mode

#### Antenna Type:

Active or Passive

#### Antenna Power Supply:

External or Internal VCC\_RF

### General Features

#### Temperature Range:

-40°C ~ +85°C

#### Dimensions:

10.1mm × 9.7mm × 2.5mm

#### Weight:

Approx. 0.5g

#### Protocols:

NMEA 0183

PMTK

<sup>①</sup> Default GNSS Configuration: GPS+GLONASS

<sup>②</sup> Measured in GPS+GLONASS Systems under Outdoor Static Mode.