

# Quectel L76

## Compact GNSS Module



L76, the extremely compact GNSS module, is a concurrent GNSS receiver with multiple GNSS systems. It provides simultaneous GPS, GLONASS, Galileo, BDS and QZSS open service L1 reception capability. With 33 tracking channels, 99 acquisition channels, and 210 PRN channels, L76 can acquire and track any mix of multiple satellite signals.

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 AGNSS called EASY™ (Embedded Assist System) and proven AlwaysLocate™ technology, L76 achieves the highest performance and fully meets the industrial standard. Additional feature of embedded logger function called LOCUS allows L76 to log position information to internal flash memory at default intervals of 15 seconds and provide typically more than 16 hours log capacity without adding cost.

Its super performance makes L76 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: 10.1 mm × 9.7 mm × 2.3 mm
- ✓ Multi-GNSS engine for GPS, GLONASS, Galileo, BDS and QZSS
- ✓ EASY™, an advanced AGPS technology without external memory
- ✓ AlwaysLocate™, an intelligent algorithm for power saving
- ✓ LOCUS, an embedded logger solution with no need for host and external flash
- ✓ High sensitivity, -165 dBm @ Tracking, -148 dBm @ Acquisition
- ✓ 99 acquisition/33 tracking channels and 210 PRN channels
- ✓ Support DGPS, SBAS (WAAS/EGNOS/MSAS/GAGAN)
- ✓ Anti-Jamming, Multi-tone Active Interference Canceller
- ✓ Balloon mode, for high altitude up to 80 km
- ✓ PPS VS. NMEA can be used for time service



EASY™ Technology



Ultra Low Power Consumption



Extremely Compact Size

Super Tracking Sensitivity:  
-165 dBm

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



Anti-jamming



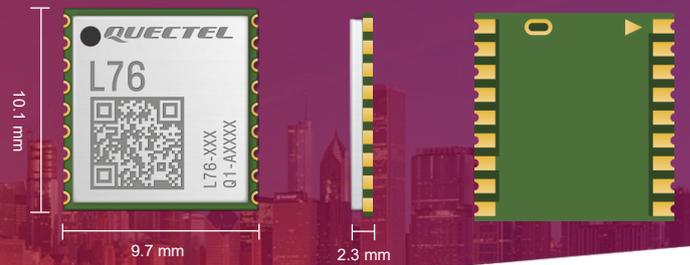
RoHS Compliant



Multi-GNSS Systems

# Quectel L76

## Compact GNSS Module



### GNSS Features

#### L1 Band Receiver (1575.42 MHz):

Channel: 33 (Tracking)/99 (Acquisition)/

210 (PRN)

C/A Code

SBAS: WAAS, EGNOS, MSAS, GAGAN

#### Horizontal Position Accuracy:

Autonomous: < 2.5 m CEP

#### Velocity Accuracy:

Without Aid: < 0.1 m/s

#### Acceleration Accuracy:

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

#### Accuracy of 1PPS Signal:

1PPS Out: 100 ns

#### TTFF @ -130 dBm with AGNSS:

Cold Start: < 15 s

Warm Start: < 5 s

Hot Start: < 1 s

#### TTFF @ -130 dBm without AGNSS:

Cold Start: < 35 s

Warm Start: < 30 s

Hot Start: < 1 s

#### Sensitivity:

Acquisition: -148 dBm

Tracking: -165 dBm

Reacquisition: -160 dBm

#### Dynamic Performance:

Maximum Altitude: Max. 18000 m

Maximum Velocity: Max. 515 m/s

Maximum Acceleration: 4g

### Interfaces

#### Serial Interface:

UART: Adjustable 4800–115200 bps

Default: 9600 bps

#### Update Rate:

1 Hz (Default), up to 10 Hz

#### I/O Voltage:

Typ. 2.8 V

#### Protocols:

NMEA 0183

### General Features

#### Temperature Range:

-40°C to +85°C

#### Dimensions:

10.1 mm × 9.7 mm × 2.3 mm

#### Weight:

Approx. 0.5 g

### Power Management

#### Power Supply:

2.8–4.3 V

#### Power Acquisition:

25 mA (82.5 mW)

#### Power Tracking:

18 mA (59.4 mW)

#### Power Saving:

7  $\mu$ A (23.1  $\mu$ W) @ Backup Mode

0.5 mA (1.65 mW) @ Standby Mode

#### Antenna Type:

Active or Passive

#### Antenna Power:

External or Internal VDD\_RF