

# Quectel L76

## Compact GNSS Module

GNSS



EASY™ Technology



Ultra Low Power Consumption



Tiny Size



Super Tracking Sensitivity -165dBm



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



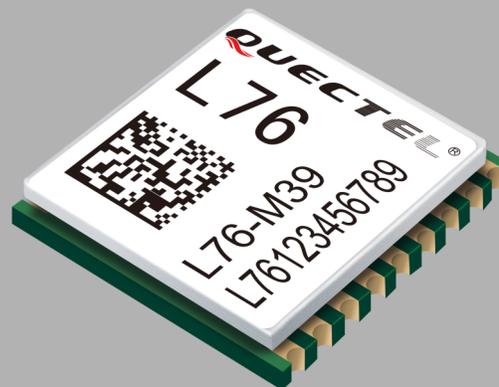
Anti-Jamming



RoHS Compliant



GLONASS+GPS+QZSS



L76, the smallest GNSS module, is a single receiver module integrated GLONASS with GPS system. It provides simultaneous GPS and Compass GLONASS open service L1 reception capability. With 33 tracking channels, 99 acquisition channels, and 210 PRN channels, L76 can acquire and track any mix of GPS and GLONASS signals.

Compared with using GPS only, enabling both GPS and GLONASS generally doubles 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 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.

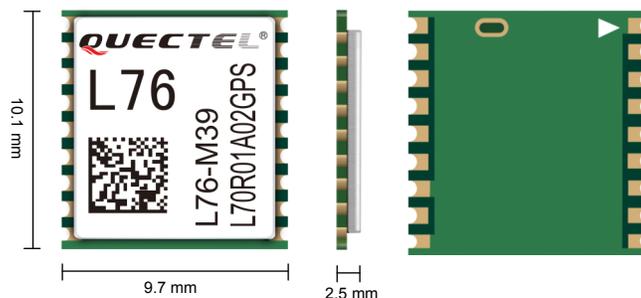
Its super performance makes L76 ideal for automotive, industrial PDA, consumer and industry applications. Extremely low power consumption makes it easier to be applied to power sensitive devices, especially portable applications.

### Key benefits

- Extremely compact size, 10.1 × 9.7 × 2.5mm
- Multi-GNSS engine for GPS, GLONASS and QZSS
- EASY™, self-generated orbit prediction for instant positioning fix
- AGPS supports for fast TTFF
- Ultra low tracking power consumption, 18mA
- Always Locate™, an intelligent algorithm for power saving
- LOCUS, innate logger solution with no need for host and external flash
- High sensitivity, -165dBm@Tracking, -148dBm@Acquisition
- 99 acquisition/33 tracking channels, up to 210PRN channels
- Support DGPS, SBAS(WAAS/EGNOS/MSAS/GAGAN)
- Anti-Jamming, Multi-tone Active Interference Canceller

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### General Specifications

<b>L1 Band Receiver (1575.42MHz)</b>	Channel	33 (Tracking) / 99 (Acquisition) Up to 210(PRN)
	C/A Code	
	SBAS	WAAS, EGNOS MSAS, GAGAN
<b>Horizontal Position Accuracy</b>	Autonomous	<2.5 m CEP
<b>Velocity Accuracy</b>	Without Aid	<0.1m/s
<b>Acceleration Accuracy</b>	Without Aid	0.1m/s <sup>2</sup>
<b>Timing Accuracy</b>	1PPS Out	10ns
<b>Reacquisition Time</b>		<1s
<b>TTFF@-130dBm with EASY™</b>	Cold Start	<15s
	Warm Start	<5s
	Hot Start	<1s
<b>TTFF@-130dBm without EASY™</b>	Cold Start	<35s
	Warm Start	<30s
	Hot Start	<1s
<b>Sensitivity</b>	Acquisition	-148dBm
	Tracking	-165dBm
	Reacquisition	-160dBm
<b>Environmental</b>	Operating Temperature	-40°C to 85°C
	Storage Temperature	-45°C to 125°C
<b>Dynamic Performance</b>	Maximum Altitude	Max.18000m
	Maximum Velocity	Max.515m/s
	Maximum Acceleration	4G
<b>Dimensions</b>	10.1 x 9.7 x 2.5mm	
<b>Weight</b>	Approx. 0.6g	

### Power Management

<b>Power Supply</b>	2.8V ~ 4.3V
<b>Power Acquisition</b>	25mA(GPS+GLONASS) 21mA(GPS)
<b>Power Tracking</b>	18mA(GPS+GLONASS) 15mA(GPS)
<b>Power Saving</b>	Typ.2.6mA @AlwaysLocate™(Note1) 7uA@Backup Mode 500uA@Standby Mode Periodic Mode
<b>Antenna Type</b>	Active or Passive
<b>Antenna Power</b>	External or Internal VCC_RF

Note1: Measured in GPS+GLONASS system under outdoor static mode.

### Serial Interfaces

<b>Serial Interfaces</b>	UART: Adjustable 4800~115200 bps Default: 9600bps
<b>Update rate</b>	1Hz (default), up to10Hz
<b>I/O Voltage</b>	2.7V ~ 2.9V
<b>Protocols</b>	NMEA 0183 PMTK