

Quectel L76B

Compact GNSS Module Integrated GPS with BeiDou System



EASY™ Technology



Ultra Low Power
Consumption



Tiny Size



Super Tracking
Sensitivity -165dBm



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



Anti-Jamming



RoHS Compliant

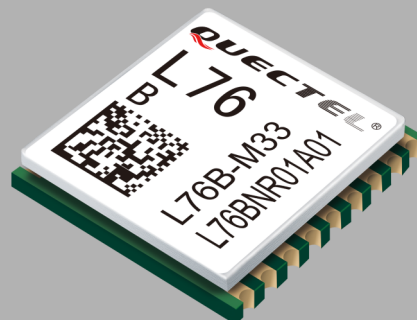


GPS+BeiDou+QZSS

Key Benefits

- Extremely compact size, 10.1 × 9.7 × 2.5mm
- Multi-GNSS engine for GPS, BeiDou 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, -163dBm@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

GNSS



L76B, the smallest GNSS module, is a single receiver module integrated GPS with BeiDou system. It is pin to pin compatible with Quectel GNSS module L76 and provides simultaneous GPS and BeiDou open service L1 reception capability. With 33 tracking channels, 99 acquisition channels, and 210 PRN channels, L76B can acquire and track any mix of GPS and BeiDou signals.

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

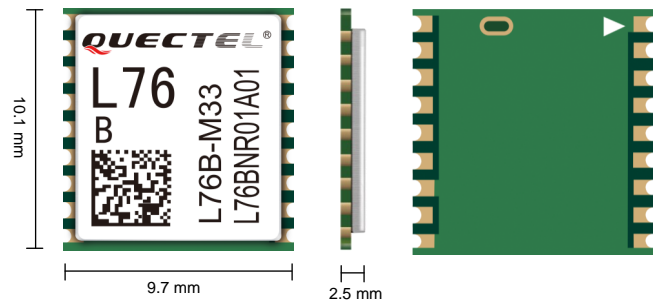
Combining advanced AGPS called EASY™ (Embedded Assist System) and proven AlwaysLocate™ technology, L76B achieves the highest performance and fully meets the industrial standard. Additional feature of embedded logger function called LOCUS allows L76B to log position information to internal flash memory at default intervals of 15 seconds and provides typically more than 16 hours log capacity without adding cost.

Its super performance makes L76B 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.

Quectel L76B

Compact GNSS Module

Integrated GPS with BeiDou System



General Specifications

GPS L1 Band Receiver (1575.42MHz) BD2 B1 Band Receiver (1561.098MHz)	Channel	33 (Tracking) / 99 (Acquisition) Up to 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 ²
Timing Accuracy	1PPS Out	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	-148dBm
	Tracking	-163dBm
	Reacquisition	-160dBm
Environmental	Operating Temperature	-40°C to 85°C
	Storage Temperature	-45°C to 125°C
Dynamic Performance	Maximum Altitude	Max. 18000m
	Maximum Velocity	Max. 515m/s
	Maximum Acceleration	4G
Dimensions	10.1 × 9.7 × 2.5mm	
Weight	Approx. 0.5g	

Power Management

Power Supply	2.8V ~ 4.3V
Power Acquisition	23mA (GPS+BeiDou)
	21mA (GPS)
Power Tracking	18mA (GPS+BeiDou)
	15mA (GPS)
Power Saving	Typ. 2.6mA@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+BeiDou system under outdoor static mode.

Serial Interfaces

Serial Interfaces	UART: Adjustable 4800~115200bps Default: 9600bps
Update rate	1Hz (default), up to 10Hz
I/O Voltage	2.7V ~ 2.9V
Protocols	NMEA 0183 PMTK