

Quectel L70-RL

Compact GPS Module with Built-in LNA and Ultra Low Power Consumption



EASY™ Technology



Ultra Low Power
Consumption



Extremely Compact
Size



Super Tracking
Sensitivity: -167dBm



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



Anti-Jamming



RoHS Compliant

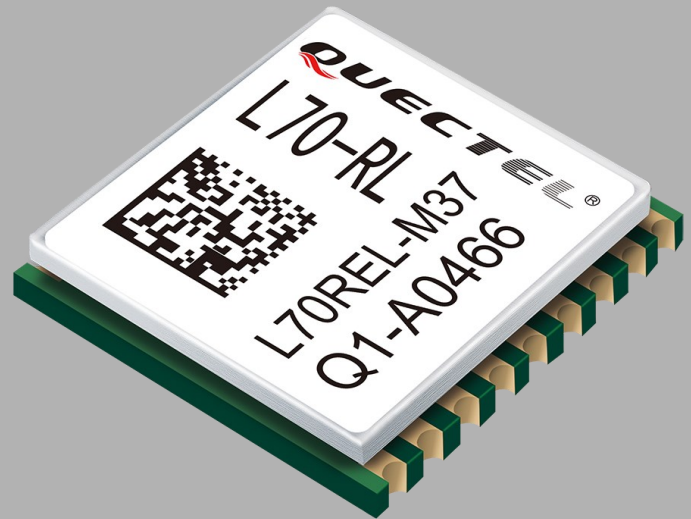


GPS+QZSS

Key Benefits

- Extremely compact size: 10.1 × 9.7 × 2.5mm
- Cost-efficient ROM-based version
- Ultra low power consumption in tracking mode: 18mA
- Support EASY™, an advanced AGPS technology without the demand of external memory
- Built-in LNA for better sensitivity
- High sensitivity: 167dBm@Tracking, -149dBm@Acquisition
- 66 acquisition channels, 22 tracking channels
- Support QZSS
- Balloon mode, for high altitude up to 80km
- PPS VS. NMEA can be used for time service
- Great anti-jamming performance due to multi-tone active interference canceller

GPS



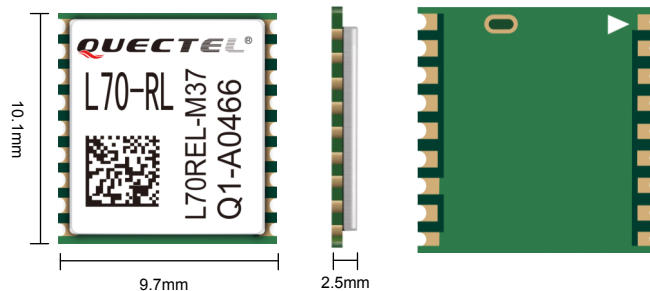
L70-RL, a low cost ROM-based GPS module, brings the high performance of MTK positioning engine to industrial applications with its compact profile, ultra low power consumption and fast positioning capability. Designed to be compatible with Quectel L70-R module in the compact and unified form factor, L70-RL additionally provides a built-in LNA for better sensitivity in weak signal areas.

Combining advanced AGPS called EASY™ (Embedded Assist System) technology, L70-RL achieves the highest performance and fully meets the industrial standard. EASY™ technology ensures L70-RL can calculate and predict orbits automatically using the ephemeris data (up to 3 days) stored in internal memory, so L70-RL can fix position quickly even at indoor signal levels with low power consumption.

With its extremely compact design, high precision and improved sensitivity, L70-RL is a perfect solution for a broad range of M2M applications such as portable device, automotive, personal tracking, security and industrial PDA.

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General Specifications

| | | |
|--------------------------------------|-----------------------|----------------------------------|
| L1 Band Receiver (1575.42MHz) | Channel | 22 (Tracking) / 66 (Acquisition) |
| | C/A Code | |
| Horizontal Position Accuracy | Autonomous | <2.5m CEP |
| Velocity Accuracy | Without Aid | <0.1m/s |
| Acceleration Accuracy | Without Aid | 0.1 m/s ² |
| Timing Accuracy | 1PPS | 10ns |
| Reacquisition Time | | <1s |
| | Cold Start | <35s |
| | Warm Start | <30s |
| TTF@-130dBm without EASY™ | Hot Start | <1s |
| | Cold Start | <15s |
| | Warm Start | <5s |
| TTF@-130dBm with EASY™ | Hot Start | <1s |
| | Acquisition | -149dBm |
| Sensitivity | Tracking | -167dBm |
| | Reacquisition | -161dBm |
| | Operation Temperature | -40 °C to 85 °C |
| Environmental Conditions | Storage Temperature | -45 °C to 125 °C |
| | Maximum Altitude | Max.18000m |
| Dynamic Performance | Maximum Velocity | Max.515m/s |
| | Maximum Acceleration | 4G |
| | Dimensions | 10.1× 9.7 × 2.5mm |
| Weight | | Approx. 0.6g |

Power Management

| | |
|--------------------------|-----------------------------|
| Power Supply | 2.8V ~ 4.3V |
| Power Acquisition | 21mA @3.3V |
| Power Tracking | 18mA @3.3V |
| Power Saving | 500uA@Standby Mode |
| | 8uA@Backup Mode |
| Antenna Type | Active or Passive |
| Antenna Power | External or Internal VCC_RF |

Serial Interfaces

| | |
|--------------------------|--|
| Serial Interfaces | UART: Adjustable 4800~115200 bps Default: 9600bps |
| Update Rate | 1Hz (Default), up to 5Hz |
| I/O Voltage | 2.7V ~ 2.9V |
| Protocols | NMEA 0183 PMTK |