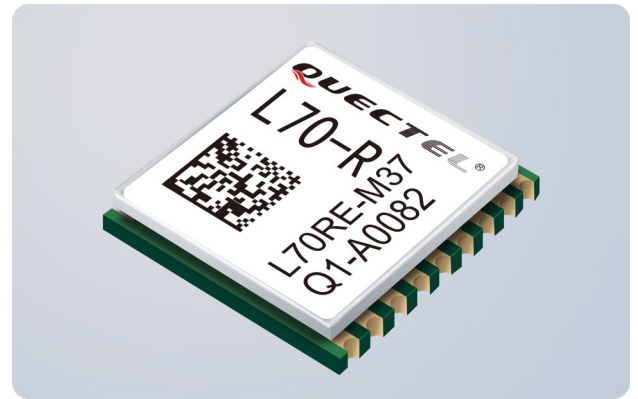


# Quectel L70-R

## Compact GPS Module with Ultra Low Consumption



L70-R, a low cost ROM-based GPS module, brings the high performance of MTK positioning engine to the industrial applications with compact profile, ultra low power consumption and fast positioning capability.

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

With its compact design, high precision and sensitivity, L70-R is perfectly suitable for a broad range of M2M applications such as portable device, automotive, personal tracking, security and industrial PDA.



### Key Benefits

- ✓ Extremely compact size: 10.1mm × 9.7mm × 2.5mm
- ✓ Cost efficient for ROM-based version
- ✓ Ultra low power consumption in tracking mode, 13mA
- ✓ EASY™, an advanced AGPS technology without external memory
- ✓ High sensitivity: -165dBm @Tracking, -148dBm @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



EASY™ Technology



Ultra Low Power  
Consumption



Extremely Compact  
Size



Super Tracking  
Sensitivity:  
-165dBm



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



Anti-jamming



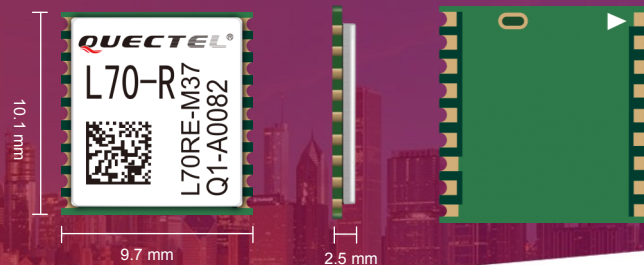
RoHS Compliant



GPS+QZSS

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Compact GPS Module  
with Ultra Low Consumption



## GPS Features

### 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: <0.1m/s<sup>2</sup>

### 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: -165dBm

Reacquisition: -160dBm

### Dynamic Performance:

Maximum Altitude: Max. 18000m

Maximum Velocity: Max. 515m/s

Maximum Acceleration: 4G

## Interfaces

### Serial Interface:

UART: Adjustable 4800bps~115200bps

Default: 9600bps

### Update Rate:

1Hz (Default), up to 5Hz

### I/O Voltage:

2.7V~2.9V

### Protocols:

NMEA 0183

PMTK

## General Features

### Temperature Range:

-40°C ~ +85°C

### Dimensions:

10.1mm × 9.7mm × 2.5mm

### Weight:

Approx. 0.6g

## Power Management

### Power Supply:

2.8V~4.3V

### Power Acquisition:

16mA

### Power Tracking:

13mA

### Power Saving:

500uA @Standby Mode

8uA @Backup Mode

### Antenna Type:

Active or Passive

### Antenna Power:

External or Internal VCC\_RF

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