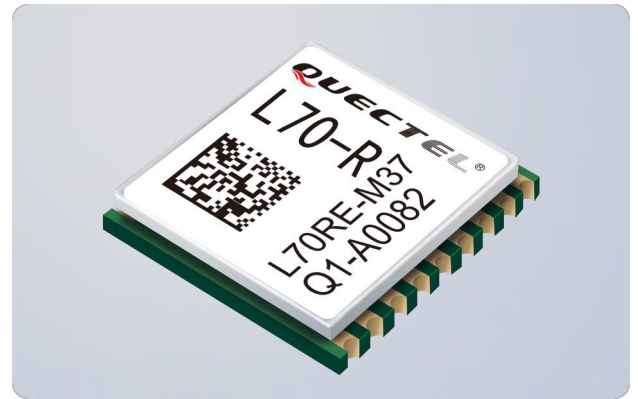


Quectel L70-R

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



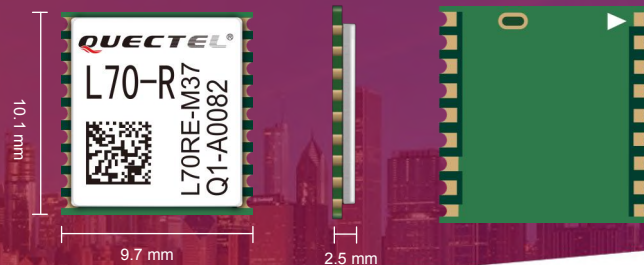
RoHS Compliant



GPS+QZSS

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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/s²

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