

# Quectel L70-R

## Compact GPS Module

### Ultra Low Consumption



EASY™ Technology



Ultra Low Power Consumption



Tiny Size



Super Tracking Sensitivity -165dBm



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



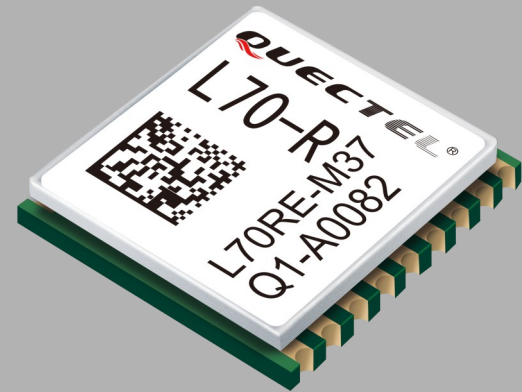
Anti-Jamming



RoHS Compliant



GPS+QZSS



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 memory, so L70-R can fix position quickly even at indoor signal levels with low power consumption.

With its tiny 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.

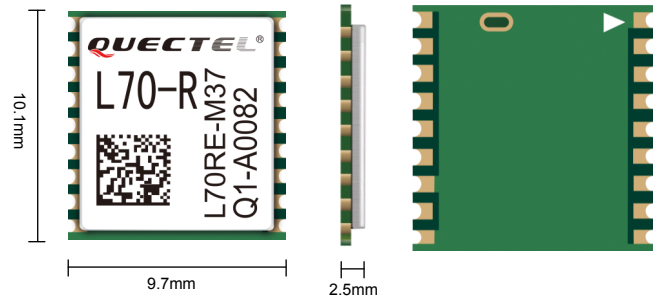
## Key Benefits

- ☞ Extremely compact size: 10.1 × 9.7 × 2.5mm
- ☞ Cost efficient for ROM-based version
- ☞ Ultra low power consumption in tracking mode, 13mA
- ☞ EASY™, 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 in time service
- ☞ Anti-Jamming, Multi-tone Active Interference Canceller

# Quectel L70-R

## Compact GPS Module

### Ultra Low Consumption



#### General Specifications

<b>L1 Band Receiver (1575.42MHz)</b>	Channel	22 (Tracking) / 66 (Acquisition)
	C/A code	
<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	0.1 m/s <sup>2</sup>
<b>Timing Accuracy</b>	1PPS out	10ns
<b>Reacquisition Time</b>		<1s
	Cold Start	<35s
<b>TTFF@-130dBm without EASY™</b>	Warm Start	<30s
	Hot Start	<1s
	Cold Start	<15s
<b>TTFF@-130dBm with EASY™</b>	Warm Start	<5s
	Hot Start	<1s
<b>Sensitivity</b>	Acquisition	-148dBm
	Tracking	-165dBm
	Reacquisition	-160dBm
<b>Environmental</b>	Operation 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× 9.7 × 2.5mm	
<b>Weight</b>	Approx. 0.6g	

#### Power Management

<b>Power supply</b>	2.8V ~ 4.3V
<b>Power Acquisition</b>	16mA
<b>Power Tracking</b>	13mA
<b>Power Saving</b>	500uA@Standby Mode
	8uA@Backup Mode
<b>Antenna Type</b>	Active or Passive
<b>Antenna Power</b>	External or Internal VCC_RF

#### Serial Interfaces

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