

Quectel L70-R

Compact GPS Module

Ultra Low Consumption



GPS+QZSS



Ultra Low Power Consumption



Tiny Size



Super Tracking Sensitivity -165dBm



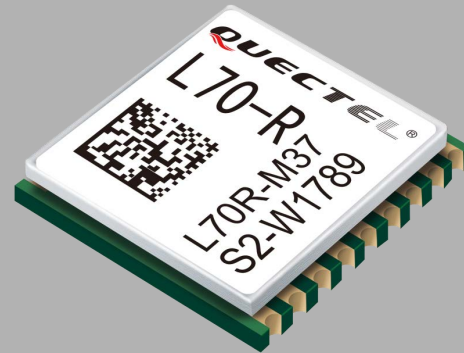
Extended Temperature Range -40°C to +85°C



Anti-Jamming



RoHS Compliant



GPS

Key Benefits

- ☞ Extremely compact size: 10.1 × 9.7 × 2.5mm
- ☞ Ultra low power consumption in tracking mode, 13mA
- ☞ AlwaysLocate™, an intelligent controller of periodic mode
- ☞ LOCUS, innate logger solution with no need of host and external flash
- ☞ High sensitivity
-165dBm@Tracking, -148dBm@Acquisition
- ☞ 66 acquisition channels, 22 tracking channels
- ☞ Support QZSS
- ☞ Support DGPS, SBAS(WAAS/EGNOS/MSAS/GAGAN)
- ☞ Anti-Jamming, Multi-tone Active Interference Canceller

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.

With advanced AlwaysLocate™ technology, L70-R achieves the low consumption and fully meets the industrial standard. AlwaysLocate™ technology allows L70-R to adaptively adjust the on/off time to achieve balance between positioning accuracy and power consumption according to the environmental and motion conditions.

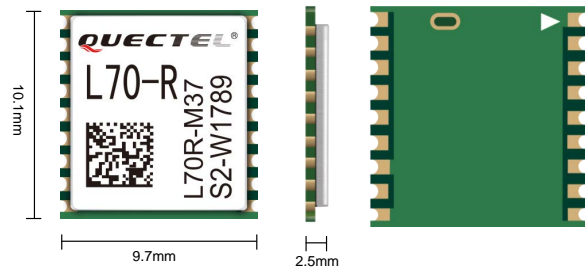
Additional feature of embedded logger function called LOCUS allows L70-R to log position information to internal NVRAM. Based on internal 8KB NVRAM, L70-R can record around 500 events of logging data without adding cost.

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.

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General Specifications

L1 Band Receiver (1575.42MHz)	Channel	22 (Tracking) / 66 (Acquisition)
	C/A code	
	SBAS	WAAS, EGNOS, MSAS, GAGAN
Horizontal Position Accuracy	Autonomous	<2.5 m CEP
Velocity Accuracy	Without aid	<0.1m/s
Acceleration Accuracy	Without aid	0.1 m/s ²
Timing Accuracy	1PPS out	15ns
Reacquisition Time		<1s
	Cold Start	<35s
TTFF@-130dBm	Warm Start	<30s
	Hot Start	<1s
Sensitivity	Acquisition	-148dBm
	Tracking	-165dBm
	Reacquisition	-160dBm
Environmental	Operation 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. 0.6g	

Power Management

Power supply	2.8V ~ 4.3V
Power Acquisition	16mA
Power Tracking	13mA
Power Saving	Typ. 1.6mA @AlwaysLocate™(Note1)
	500uA@Standby Mode
	8uA@Backup Mode
	Periodic Mode
Antenna Type	Active or Passive
Antenna Power	External or Internal VCC_RF

Note1: Measured in GPS system under outdoor static mode.

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