

Quectel L80-R

Compact GPS Module Integrated with Patch Antenna



Embedded Patch Antenna



EASY™ Technology



Low Power Consumption



Super Tracking Sensitivity -165dBm



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



High Accuracy



Anti-Jamming



GPS+QZSS

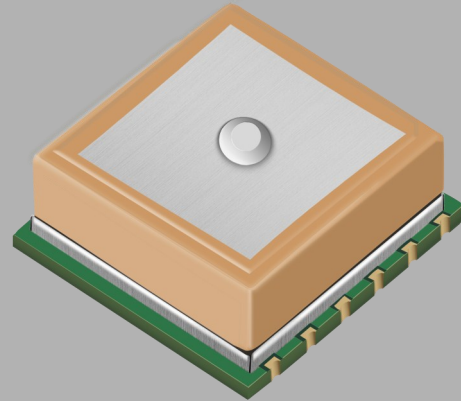


RoHS Compliant

Key benefits

- Embedded patch antenna: 15.0 x 15.0 x 4.0mm
- Extremely compact size: 16.0 x 16.0 x 6.45mm
- Built-in LNA for better sensitivity
- EASY™, advanced AGPS technology without external memory
- Ultra low power consumption in tracking mode, 20mA
- High sensitivity
165dBm@Tracking, -148dBm@Acquisition
- 66 acquisition channels, 22 tracking channels
- Support QZSS
- Support time service application which can be achieved by PPS sync NMEA feature
- Anti-Jamming, Multi-tone Active Interference Canceller

GPS



L80-R is an ultra compact GPS POT (Patch on Top) module with an embedded 15.0 × 15.0 × 4.0mm patch antenna. This space-saving design makes L80-R the perfect module for the miniature devices. Adopted by LCC package and integrated with patch antenna, L80-R has exceptional performance both in acquisition and tracking.

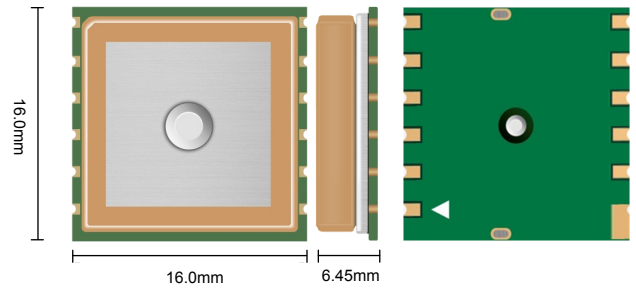
Combining advanced AGPS called EASY™ (Embedded Assist System) technology, L80-R achieves the highest performance and fully meets the industrial standard. EASY™ technology ensures L80-R can calculate and predict orbits automatically using the ephemeris data (up to 3 days) stored in internal memory, so L80-R can fix position quickly even at indoor signal levels with low power consumption.

With its tiny design, high precision and sensitivity, L80-R is perfectly suitable for a broad range of M2M applications such as portable device, automotive, personal tracking, security and industrial PDA, especially suitable for special applications, like GPS mouse and OBD.

Quectel L80-R

Compact GPS Module

Integrated with Patch Antenna



General Specifications

L1 Band Receiver (1575.42MHz)	Channel	22 (Tracking) / 66 (Acquisition)
	C/A code	
Horizontal Position Accuracy	Autonomous	<2.5 m CEP
Velocity Accuracy	Without aid	<0.1m/s
Acceleration Accuracy	Without aid	0.1m/s ²
Timing Accuracy	1PPS out	15ns
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
Environmental	Operating 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	16.0 x 16.0 x 6.45mm	
Weight	6.0g	

Power Management

Power supply	3.0V ~ 4.3V
Power Acquisition	25mA
Power Tracking	20mA
Power Saving	7uA @Backup Mode
	1mA@Standby 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