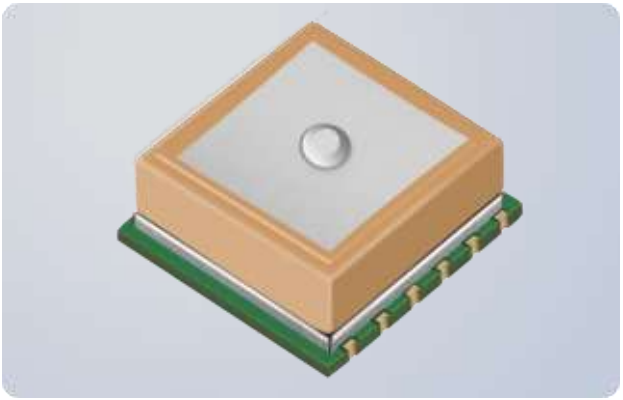
Quectel L80-R

Compact GPS Module Integrated with Patch Antenna



L80-R is an ultra compact GPS POT (Patch on Top) module with an embedded 15.0mm × 15.0mm × 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.

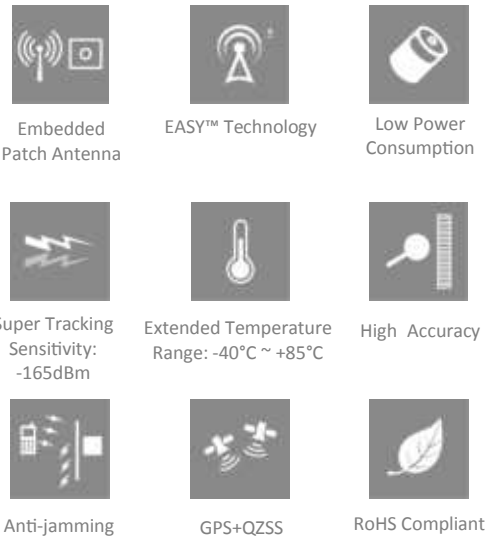
Combining advanced AGPS called EASY™ (Embedded Assist System) technology, L80-R achieves the highest performance and fully meets the industrial standard. EASY™ technology ensures L80-R can calculate and predict orbits automatically using the ephemeris data (up to 3 days) stored in internal RAM memory,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

With its compact 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.

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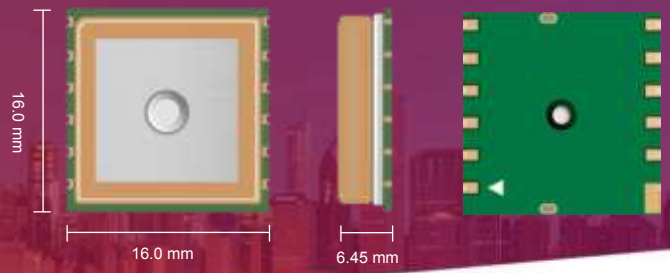
Key Benefits

- Embedded patch antenna: 15.0mm × 15.0mm × 4.0mm
- Extremely compact size: 16.0mm × 16.0mm × 6.45mm
- Cost efficient for ROM-based version
- Built-in LNA for better sensitivity
- EASY™, an 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
- Balloon mode, for high altitude up to 80km
- PPS VS. NMEA can be used for time service
- Anti-Jamming, Multi-tone Active Interference Canceller



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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:

16.0mm × 16.0mm × 6.45mm

Weight:

Approx. 6.0g

Power Management

Power Supply:

3.0V~4.3V

Power Acquisition:

25mA

Power Tracking:

20mA

Power Saving:

7uA @Backup Mode

1mA @Standby Mode

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