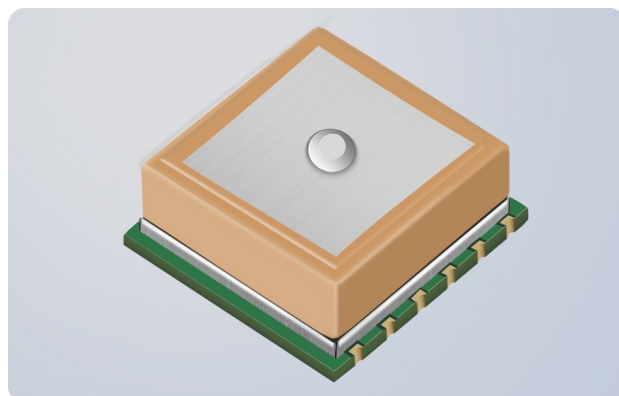# Quectel L80-R

## 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.

## 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

Embedded Patch Antenna

EASY™ Technology

Low Power Consumption

Super Tracking Sensitivity: -165dBm

Extended Temperature Range: -40°C ~ +85°C
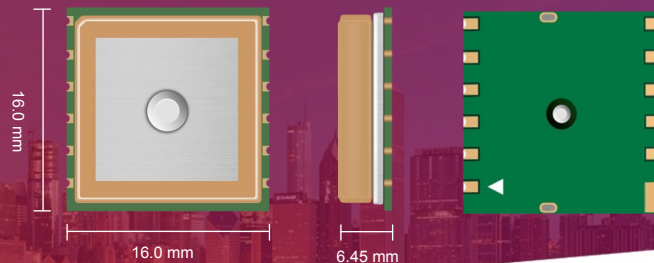
High Accuracy

Anti-jamming

GPS+QZSS

RoHS Compliant

# Quectel L80-R

## Compact GPS Module
## Integrated with Patch Antenna

16.0 mm

16.0 mm

6.45 mm

### 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

Quectel®