

QUECTEL
Wireless Module Expert

L50

Slim GPS Module Integrated Patch Antenna



Embedded
Patch Antenna



Self-Assisted CGEE



Low Power
Consumption



Super Sensitivity



High Accuracy



Extended
Temperature Range



Anti-Jamming



SMD Type



RoHS Compliant

L50 is an ultra slim module with embedded $15 \times 15 \times 2.0\text{mm}$ patch antenna. It is built upon the SIRFstarIV™ chip solution which offers high performance GPS engine. Alongside highest reliability and quality of patch antenna, L50 also offers 48 PRN channels, which allows the module to acquire and track satellites in the shortest time, even at a very low signal levels. L50 is also compatible with $18 \times 18 \times 2.0\text{mm}$ patch antenna. Its highly compact design with minimal patch antenna perfectly suits vehicle management, asset tracking, personal tracking, connected PND, security devices and other industry applications.

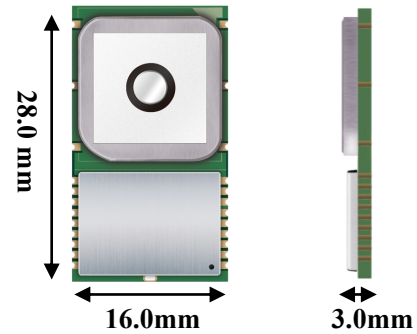
L50 supports A-GPS function without the necessity of data download from server since it captures ephemeris data from satellites locally and predicts ephemeris out to 3 days.

Advantages

- Embedded patch antenna $15 \times 15 \times 2.0\text{mm}$
 - Alternative $18 \times 18 \times 2.0\text{mm}$ size
- Self-Assisted CGEE, Out to 3 days of prediction
- Extreme low power modes, 20mA@ATP mode
- Low tracking power consumption, 40mA @ -130dBm
- Super sensitivity
 - Highest acquisition sensitivity, -41dBuV/m(-148dBm)
 - -56dBuV/m(-163dBm) tracking sensitivity
- 48 PRN channels
- Ultra slim form factor: $28 \times 16 \times 3.0\text{mm}$ (with patch antenna)
- Active Jammer Remover
 - Removes in-band jammers up to 80 dB-Hz
 - Tracks up to 8 CW jammers

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General Specifications

| | | |
|--|-----------------------|----------------------|
| L1 Band Receiver (1575.42MHz) | Channel | 48 channels |
| | C/A code | |
| | SBAS | WAAS, EGNOS |
| Horizontal Position Accuracy | Autonomous | <2.5 m CEP |
| | SBAS | <2.0 m CEP |
| Velocity Accuracy | Without aid | <0.01 m/s |
| Acceleration Accuracy | Without aid | 0.1 m/s ² |
| Timing Accuracy | | <100 ns |
| Reacquisition Time | | <1 s |
| TTFF¹ (Time To First Fix) | Cold Start | <35s |
| | Warm Start | <35s |
| | Warm Start with CGEE | 10s |
| | Hot start | <1s |
| Sensitivity¹ (Transmission) | Acquisition | -148dBm |
| | Hot Start | -160dBm |
| | Tracking | -163dBm |
| | Navigation | -160dBm |
| Sensitivity (coupling) | Acquisition | -41dBuV/m |
| | Hot Start | -53dBuV/m |
| | Tracking | -56dBuV/m |
| | Navigation | -53dBuV/m |
| Environmental | Operating temperature | -40℃ to 85℃ |
| | Storage temperature | -45℃ to 125℃ |
| Dynamic Performance | Maximum altitude | 18288 m |
| | Maximum velocity | 514m/s |
| | Maximum acceleration | 4 G |

Dimensions 28 × 16 × 3.0mm

Weight Approx. 4.0g

Serial Interfaces

| | |
|----------------------------------|--|
| One Multiplexed Interface | UART: Adjustable 1200~115200 bps Default: 4800bps |
| | IIC (master/slave): Up to 400 Kbps |
| | SPI(slave):Default |
| I/O Voltage | 1.71V ~ 1.89V |
| Protocols | NMEA |
| | OSP |

Electrical Data

| | |
|--------------------------|---------------|
| Power supply | 1.71V ~ 1.89V |
| Power Acquisition | 44mA @-130dBm |
| Power Tracking | 40mA @-130dBm |
| Power Saving | ATP, PTF |

Contact Us

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|----------------|--|
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¹Reference to SIRFstarIV™ chip specification

