

Quectel L50

Slim GPS Module

Integrated Patch Antenna



Embedded Patch Antenna



Self-Assisted CGEE



Low Power Consumption



Super Tracking Sensitivity -163dBm



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



High Accuracy



Anti-Jamming



LCC Type



RoHS Compliant



GNSS

Key benefits

- Embedded patch antenna
 - Default size: 15.0 × 15.0 × 2.0mm
- Self-Assisted CGEE: Up to 3-days ahead prediction
- Extremely low power mode: Hibernate mode, 26uW@1.8V
- Low power consumption in tracking mode: 31mA@-130dBm
- Super sensitivity
 - 148dBm acquisition; -163dBm tracking
- Hardware Baud Rate Configuration
- 5Hz Navigation Update Rate
- Ultra slim form factor: 28.0 × 16.0 × 3.0mm
 - (With patch antenna)
- SBAS (WAAS, EGNOS and QZSS)

L50 is an ultra slim module with embedded 15.0 × 15.0 × 2.0mm patch antenna. It is built upon the latest SIRFstarIV ROM version 2.2 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 level. Its highly compact design with minimal patch antenna is ideal for portable devices, asset tracking, connected PND, security devices, vehicle management and other industry applications.

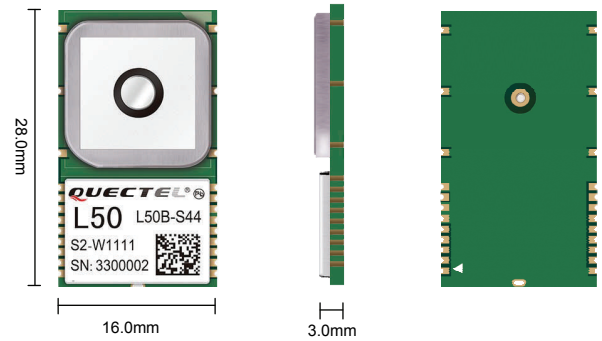
L50 supports aided-GPS function without the necessity of downloading data from server since it automatically captures ephemeris data from satellites locally and predicts ephemeris over 3 days without server assistance.

With embedded active jammer remover, L50 can track and remove up to 8 CW (Carrier Wave) type signals up to 80dB-HZ signal level. This feature ensures fast and accurate navigation in hostile signal or high noise environment.

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General Specifications

L1 Band Receiver (1575.42MHz)	Channel	48 Channels	
	C/A Code		
	SBAS	WAAS, EGNOS, QZSS	
Horizontal Position Accuracy	Autonomous	<2.5m CEP	
	SBAS	<2.0m CEP	
Velocity Accuracy	Without Aid	<0.01m/s	
Acceleration Accuracy	Without Aid	0.1m/s ²	
Timing Accuracy		<500ns	
Reacquisition Time		<1s	
TTF (Time to First Fix)	Cold Start	<33s	
	Warm Start	<33s	
	Warm Start with CGEE	10s	
	Hot Start	<1s	
Sensitivity *	Autonomous Acquisition	-148dBm	
	Tracking	-163dBm	
	Reacquisition	-160dBm	
Patch Antenna Performance	Range of Receiving Frequency	1575.42MHz ± 1.023MH	
	Band Width	10MHz min	
	Gain at Zenith	1.0dBic typ.	
	VSWR	1.5max	
	Axial Ratio	-3dB max	
	Polarization	RHCP	
	Impedence	50Ohm	
	Frequency Temperature Coefficient	0±20ppm/°C	
	Environmental	Operating Temperature	-40°C to 85°C
		Storage Temperature	-45°C to 125°C
Dynamic Performance	Maximum Altitude	Max.18288m	
	Maximum Velocity	Max.514m/s	
	Maximum Acceleration	4G	
Dimensions		28.0 x 16.0 x 3.0mm	
Weight		Approx. 4.0g	
Active Jammer Remover		Removes in-band jammers up to 80 dB-Hz	
		Tracks up to 8 CW jammers	

Serial Interfaces

One Multiplexed Interface	UART	Adjustable: Baud rate configured by Hardware Default: 4800 bps
	IIC	(Master/Slave): Up to 400 Kbps
Update rate		1Hz (Default), up to 5Hz
I/O Voltage		1.71V ~ 1.89V
Protocols		NMEA OSP

Power Management

Power Supply	1.71V ~ 1.89V
Power Acquisition	33mA@-130dBm
Power Tracking	31mA@-130dBm
Power Saving	ATP, PTF, Hibernate

* Measured in conducted method by 8-star GPS simulator

