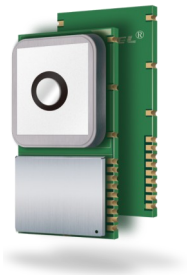
QUECTEL

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 × 15 × 2.0mm 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 level. L50 is also compatible with 18 ×18 × 2.0mm patch antenna. Its highly compact design with minimal patch antenna perfectly suits portable devices, asset tracking, connected PND, security devices, vehicle management 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
  - Default size 15 ×15 × 2.0mm
  - Alternative size 18 ×18 × 2.0mm
- Self-Assisted CGEE: Out to 3 days of prediction
- Extremely low power mode: Hibernate mode, 36uW@1.8V
- Low tracking power consumption: 38mA @ -130dBm
- Super sensitivity
  - Highest acquisition sensitivity: -148dBm
  - Highest tracking sensitivity: -163dBm
- 48 PRN channels
- Ultra slim form factor: 28 × 16 × 3.0mm(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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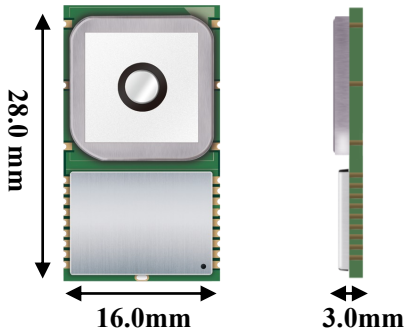

General Specifications

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/s²
Timing Accuracy		<100 ns
Reacquisition Time		<1 s
TTFF (Time To First Fix)	Cold Start	<33s
	Warm Start	<33s
	Warm Start with CGEE	10s
	Hot Start	<1s
Sensitivity *	Acquisition	-148dBm
	Hot Start	-160dBm
	Tracking	-163dBm
	Navigation	-160dBm
Patch Antenna Performance	Range Of Receiving Frequency	1575.42MHz ±1.023MHz
	Band Width	10MHz min
	Gain at Zenith	1.0dBic typ.
	VSWR	1.5 max
	Axial Ratio	-3dB max
	Polarization	RHCP
	Impendence	50 Ohm
	Frequency Temperature Coefficient	0±20ppm/°C
Environmental	Operating Temperature	-40°C to 85°C
	Storage Temperature	-45°C to 125°C

* *Measured in conducted method by 8-star GPS simulator*

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
I/O Voltage	1.71V ~ 1.89V
Protocols	NMEA
	OSP

Power Management

Power supply	1.71V ~ 1.89V
Power Acquisition	48mA @-130dBm
Power Tracking	38mA @-130dBm
Power Saving	ATP, PTF, Hibernate

Contact Us

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