

Quectel L20

Compact GPS Module With Super Sensitivity



Super Tracking
Sensitivity -163dBm



CGEE Solution



Low Power
Consumption



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



High Accuracy



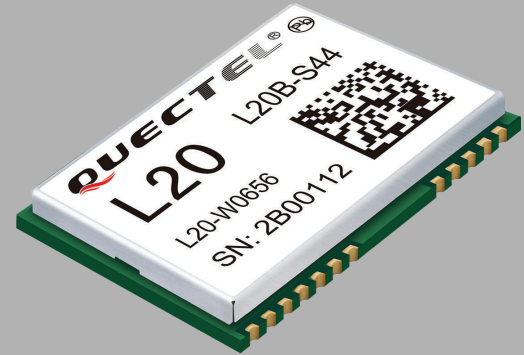
Anti-Jamming



LCC Type



RoHS Compliant



L20 is a GPS receiver module with the highest performance which embeds the SIRFstarIVTM chip solution with the new ROM2.2 version. With 48 PRN channels, L20 acquires and tracks satellites in the shortest time even at indoor signal level. With a compact profile of 16.0 x 12.2 x 2.4mm, it perfectly suits for vehicle tracking, personal tracking, asset tracking, connected PND, security device and other industrial applications.

L20 supports aided-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.

The module contains an active jammer remover which tracks and removes up to 8 CW (Carrier Wave) type signals up to 80dB-HZ (equals to -90 dBm typ.) signal level. This feature has greatly improved the navigation performance.

L20 also provides an important function which named GPIO Baud Rate Detection. With GPIO settings, L20 can be configured to output NEMA at standard baud rates.

Key benefits

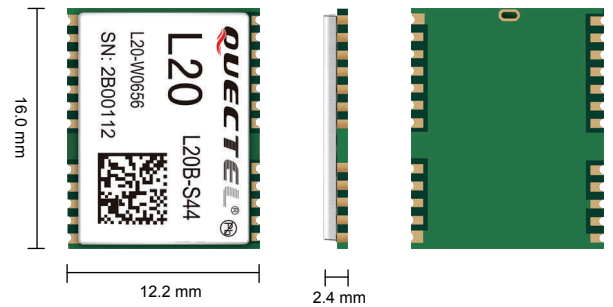
- ☞ GPIO Baud Rate Detection
- ☞ 5 Hz Navigation Update Rate
- ☞ 1 SV Fast Time Setting
- ☞ High tracking sensitivity, -163dBm
- ☞ High acquisition sensitivity, -148dBm
- ☞ Power Saving Mode
- ☞ Self-Assisted CGEE function
- ☞ SBAS (WAAS, EGNOS and QZSS)
- ☞ Low power consumption

Acquisition: 39mA @ -130dBm

Tracking: 36mA @ -130dBm

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General Specifications

L1 Band Receiver (1575.42MHz)	Channel Number	48 channels
	C/A Code	
	SBAS	WAAS, EGNOS, QZSS
Horizontal Position Accuracy	Autonomous	<2.5 m CEP
	SBAS	<2.0 m CEP
Velocity Accuracy	Without Aid	< 0.01m/s
Acceleration Accuracy	Without Aid	0.1 m/s ²
Timing Accuracy		<500ns
Reacquisition Time		<1s
TTFF (Time to First Fix)	Cold Start	<35s
	Warm Start	<35s
	Warm Start with	10s typ.
	Hot Start	<1s
Sensitivity	Autonomous Acquisition	-148dBm
	Tracking	-163dBm
	Reacquisition	-160dBm
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	4 G
Dimensions	16.0 x 12.2 x 2.4 mm	
Weight	Approx. 1.0g	
Active Jammer Remover	Removes in-band jammers up to 80 dB-Hz Tracks up to 8 CW jammers	

Electrical Data

Power Supply	2.0V ~ 3.6V
Power Acquisition	39mA (passive antenna)
Power Tracking	36mA (passive antenna)
Power Saving	ATP, PTF, (Note1)
Antenna Type	Passive and active
Antenna Power	External or internal VCC_RF

Note1: Both of the ATP (Adaptive Trickle Power) and PTF (Push To Fix) are all the power saving modes of L20. If you want to know more about them, please refer the hardware document of L20.

Serial Interfaces

One UART	Adjustable: Baud rate configured by GPIOs Default: 4800 bps
Update rate	1Hz (default), up to 5Hz
I/O Voltage	2.0V ~ 3.6V
Protocols	NMEA OSP