

Quectel L16

GNSS Module

GLONASS/GPS

GNSS



GLONASS+GPS
(Note1)



EASY™ Technology



32 Tracking Channels
2 Fast Acquisition Channels



Super Sensitivity
-165dBm Tracking



High Accuracy



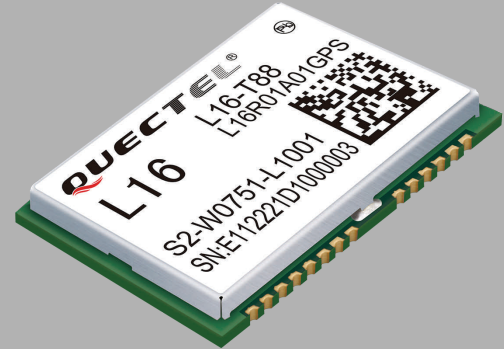
Extended Temperature
Range -40°C to +85°C



LCC Type



RoHS Compliant



Based on the STMicroelectronics Teseo II positioning engine, L16 is a single receiver module integrated with GLONASS and GPS system. It accomplishes simultaneous GPS and GLONASS open service L1 reception. With 32 tracking channels and 2 fast acquisition channels, L16 can acquire and track any mix of GPS and GLONASS signals. Compared with using GPS only, enabling both GPS and GLONASS generally doubles the number of visible satellites, reduces the time to first fix and increases positioning accuracy, especially when driving in rough urban environments. Its super performance is perfectly suitable for automotive, consumer and other industrial applications.

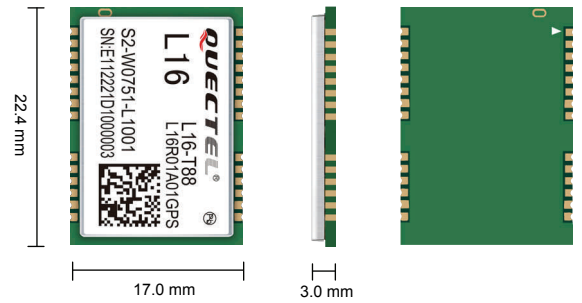
Key benefits

- ☞ STMicroelectronics TeseoII single chip solution
- ☞ Simultaneously use GLONASS and GPS system
- ☞ 32 tracking channels and 2 fast acquisition channels
- ☞ Highly dynamic indoor sensitivity of -162dBm in tracking mode (Note2)
- ☞ Higher autonomous acquisition mode sensitivity, -148dBm
- ☞ Full ESD protection on all pins
- ☞ High performance ARM946 MCU (up to 208MHz)
- ☞ In-Package SQI 16Mbits Flash Memory
- ☞ Superior performance even in the toughest urban environments
- ☞ Up to 5Hz update rate
- ☞ Support ST-AGPS self Assisted-GPS technology
- ☞ Support DGPS: RTCM104, SBAS(WAAS, EGNONS)

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General Specifications

L1 Band Receiver (GLONASS/GPS)	Channel	32 channels 2 fast acquisition channels
	C/A Code	
	SBAS	WAAS, EGNOS,
Position Accuracy	Autonomous	1.5 m CEP
Timing Accuracy	1PPS out	<15ns
Reacquisition Time	Without Aid DGPS	<2.5s
TTF@ Open Sky	Cold Start	<35s
	Warm Start	<24s
	Hot Start	<2.5s
Sensitivity	Cold start	-146dBm
	Hot Start	-160dBm
	Tracking	-162dBm
	Reacquisition	-148dBm
Environmental	Operating Temperature	-40°C to 85°C
	Storage Temperature	-45°C to 125°C
Dynamic Performance	Maximum Altitude	Max.18000m
	Maximum Velocity	Max.515m/s
	Maximum Acceleration	4 G
Dimensions	22.4 x 17.0 x 3.0 mm	
Weight	Approx. 2.2 g	

Power Management

Power Supply	3.0V ~ 3.6V
Power Acquisition (Note3)	110mA (passive antenna)
Power Tracking	95mA (passive antenna)
Power Saving	Standby mode
Antenna Type	Passive or Active
Antenna Power	External or Internal VCC_RF

Note1: ST-AGPS will be supported later.

Note2: Measured at the lowest level which the GPS receiver can track at least one satellite.

Note3: Measured In GPS+GLONASS mode.

Serial Interfaces

Serial Interfaces	UART: Adjustable 4800~115200 bps Default: 9600 bps
Update rate	1Hz default, 5Hz Max
I/O Voltage	3.3V
Protocols	NMEA 0183 Ver3.0