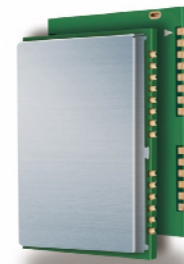# QUECTEL
Wireless Module Expert

L16
GNSS Module
GLONASS/GPS

GLONASS + GPS

Self-Assisted ST-AGPS [①]

32 Tracking Channels
2 Fast Acquisition Channels

High Sensitivity

Highest Accuracy

Extended
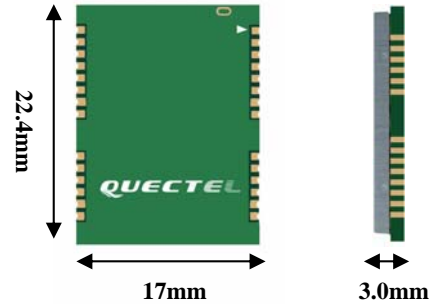Temperature Range

SMD 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.

Advantages

- 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 [②]
- 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)

L16
GNSS module
GLONASS/GPS

22.4mm

17mm

3.0mm

QUECTEL

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		‹2.5 s
TTFF @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	4G
Dimensions	22.4 × 17.0 × 3.0 mm	
Weight	Approx. 2.2 g	

Serial Interfaces

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

Power Management

Power supply	3.0V ~ 3.6V
Power Acquisition [3]	110mA @ Passive antenna
Power Tracking	95mA @ Passive antenna
Power Saving	Standby mode
Antenna Type	Passive or Active
Antenna Power	External or Internal VCC_RF

[1] ST-AGPS will be supported later

[2] Measured at the lowest level which the GPS receiver can track at least one satellite

[3] Measured In GPS+GLONASS mode

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