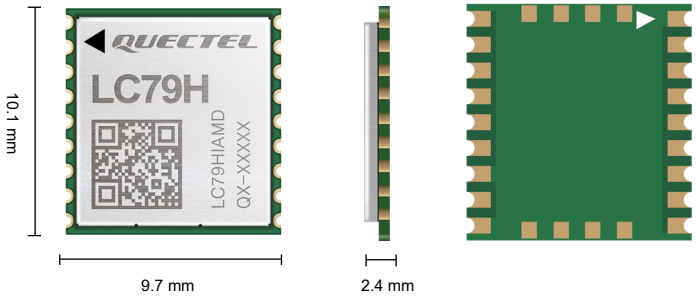
Quectel LC79H

Ultra-Small Dual-Band Multi-Constellation GNSS Module



Featuring a concurrent multi-constellation GNSS receiver based on MTK platform on dual GNSS bands, LC79H can work on L1 and L5 bands for GPS, BeiDou, Galileo and QZSS satellites, L1 band for GLONASS satellite.

Compared with the GNSS modules working on L1 band only, LC79H greatly increases the number of satellites involved in tracking and positioning, thereby significantly reducing the multipath effect caused by high-rise buildings in urban environments, reducing signal acquisition time and improving positioning accuracy.

LC79H is AIS-140 compliant, and its on-board LNAs and SAW filters serve to ensure better positioning under weak signal conditions and other harsh environments.

The advanced low-power management solution enables low-power GNSS sensing and positioning determination and makes the module an ideal solution for power-sensitive and battery-powered systems.

Due to its low power consumption and high precision, LC79H is a popular selection for real-time tracking systems, sharing economy applications and so on. Its super performance makes LC79H ideal for vehicle, personnel and asset tracking as well as sharing economy applications.

Key Features

- Ultra-compact size: 10.1 mm × 9.7 mm × 2.4 mm
- Multi-GNSS engine for GPS, GLONASS, BeiDou, Galileo and QZSS
- Supports dual GNSS bands (L1, L5)
- Supports AGNSS
- Built-in LNAs and SAW filters for better sensitivity
- Supports UART and I2C interfaces
- Supports EPO™, EASY™, LOCUS™

L1 + L5 Dual Bands

Multi-constellation System

Ultra-compact Size

RoHS Compliant

Wide Operating Temperature: -40 °C to +85 °C

Low Power Consumption

Version: 1.0.0 | Status: Preliminary

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GNSS Module	LC79H
Region	Global
Dimensions	10.1 mm × 9.7 mm × 2.4 mm
Weight①	Approx. 0.42 g
Embedded Flash	●
Temperature Range	
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +90 °C
GNSS Features	
Supported Bands	GPS L1, Galileo E1, QZSS L1: 1575.42 MHz GPS L5, Galileo E5a, QZSS L5: 1176.45 MHz BeiDou B1I: 1561.098 MHz BeiDou B2a: 1176.45 MHz GLONASS L1: 1602.5625 MHz
Default GNSS Constellation	GPS + BeiDou + GLONASS + Galileo + QZSS
Supported Quantity of Satellites	Acquisition: 75 Tracking: 135
Horizontal Position Accuracy①	Autonomous: < 1.8 m CEP
Velocity Accuracy	Without Aid: < 0.1 m/s
Acceleration Accuracy	Without Aid: < 0.1 m/s²
TTFF (with AGNSS)①	Cold Start: < 15 s
TTFF (without AGNSS)①	Cold Start: < 30 s Warm Start: < 25 s Hot Start: < 1 s
Sensitivity①	Acquisition: -148 dBm Tracking: -165 dBm
Dynamic Performance①	Maximum Altitude: 18000 m Maximum Velocity: 515 m/s Maximum Acceleration: 4g
Certifications	
Regulatory	CE*
Others	RoHS
Interfaces	
I2C Interface*	●
UART Interface	Adjustable Baud Rates: 115200–921600 bps Default Baud Rates: 115200 bps Update Rate: 1 Hz
Protocol	NMEA 0183
External Antenna Interface	
Antenna Type	Passive or Active
Antenna Power Supply	External or Internal (through VCC_RF)
Electrical Characteristics	
Power Supply	Voltage Range: 1.7–1.9 V Typical: 1.8 V
I/O Voltage	Typical: 1.8 V
Current Consumption (@ 1.8 V)①	Acquisition: 32 mA Tracking: 28 mA Sleep Mode: 190 μA Standby Mode: 70 μA

Notes:

1. ①: Preliminary data
2. *: Under development
3. ●: Supported

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