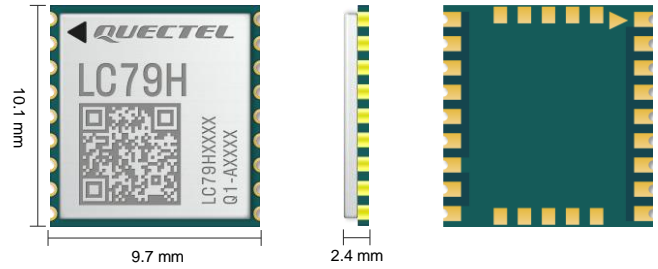




Quectel LC79H (AL)

Ultracompact Dual-Band Multi-Constellation GNSS Module



LC79H (AL) is a dual-band GNSS module supporting concurrent reception of GPS, GLONASS, Galileo, BDS, and QZSS signals by default. With the integrated AGNSS function and the ability to receive SBAS broadcast signals, the LC79H (AL) provides fast TTFF and an accurate high-performance, high-reliability positioning performance.

Compared with GNSS modules that track only L1 signals, the LC79H (AL) can receive and track all global satellite signals on both L1 and L5 bands concurrently, thereby significantly mitigating the multipath effect in deep urban canyons and thus improving positioning accuracy.

The embedded LNA and SAW filter allows for direct connection to onboard patch antennas for low-cost low-power designs.

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

With a low power consumption and high precision, the LC79H (AL) is a superior selection suitable for real-time tracking systems, ideal for sharing economy applications, and its superior performance makes it ideal for vehicle, personnel and asset tracking.



Key Features

- ✓ Multi-GNSS engine for GPS, GLONASS, BDS, Galileo, and QZSS
- ✓ Dual-band (L1 + L5)
- ✓ Integrated LNA for high sensitivity
- ✓ Integrated SAW filter for noise cancellation
- ✓ Support EPO, EASY and LOCUS functions
- ✓ UART and I2C



AGNSS Technology



Ultra Low Power Consumption



Ultracompact Size



Tracking Sensitivity: -166 dBm



Operating Temperature Range: -40 to +85 °C



Anti-jamming



RoHS Compliant



Multi-constellation System

Quectel LC79H (AL)

GNSS Module	LC79H (AL)
Dimensions	10.1 mm × 9.7 mm × 2.4 mm
Weight	Approx. 0.5 g
Temperature Range	
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +90 °C
GNSS Features	
Supported Bands	GPS/QZSS: L1 C/A, L5 Galileo: E1, E5a GLONASS: L1 BDS: B1I, B2a
Default Constellations	GPS + GLONASS + Galileo + BDS + QZSS
Number of Tracking Channels	135
Number of Concurrent GNSS	4 + QZSS
SBAS	WAAS, EGNOS, MSAS, and GAGAN
Horizontal Position Accuracy ^①	Autonomous: 1.0 m
Velocity Accuracy ^②	Without Aid: 0.03 m/s
Accuracy of 1PPS Signal ^②	20 ns
TTFF (with EASY) ^③	Cold Start: 6 s Warm Start: 2 s Hot Start: 1 s
TTFF (with flash EPO) ^③	Cold Start: 5 s
TTFF (without AGNSS) ^②	Cold Start: 26 s Warm Start: 18 s Hot Start: 1 s
Sensitivity (@ Default Constellations)	Acquisition: -148 dBm Tracking: -166 dBm Reacquisition: -159 dBm
Dynamic Performance ^②	Maximum Altitude: 10000 m Maximum Velocity: 500 m/s Maximum Acceleration: 4 g
Certifications	
Regulatory	Europe: CE
Others	RoHS
Interfaces	
I2C	Up to 400 kbps
UART	Adjustable: 9600–921600 bps Default: 115200 bps Update Rate: 1 Hz (Default)
Protocol	
Protocol	NMEA 0183/ RTCM 3.x
External Antenna Interface	
Antenna Type	Active or Passive
Antenna Power Supply	External or Internal (through VDD_RF)
Electrical Characteristics	
Supply Voltage Range	1.75–1.98 V, Typ. 1.8 V
I/O Voltage	1.8 V
Current Consumption (@ Default Constellations, 1.8 V) ^②	Normal Operation: 33 mA @ Acquisition 33 mA @ Tracking Power Saving Mode: 20 μA @ Backup Mode

NOTE:

- ^①: CEP, 50%, 24 hours static, -130 dBm, more than 6 SVs.
- ^②: Room temperature, all satellites at -130 dBm.
- ^③: Open-sky, active high-precision GNSS antenna.