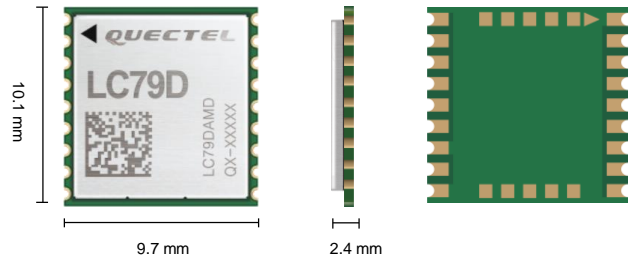# Quectel LC79D

Ultra-Small Dual-Band Multi-Constellation GNSS Module

10.1 mm

9.7 mm

2.4 mm

Featuring a concurrent multi-constellation GNSS receiver on dual GNSS bands, the LC79D can support L1 and L5 bands for GPS, Galileo and QZSS satellites, L1 band for GLONASS and BeiDou satellites as well as L5 band for IRNSS satellite.

Compared with the GNSS modules working on L1 band only, LC79D 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. The optional dead-reckoning feature enables high positioning performance, even when GNSS signal is absent or compromised.

LC79D 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 GNSS chipset using 28 nm process technology, coupled with 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 excellent performance in improving position drift and enhancing positioning accuracy in dense urban canyon environment, LC79D has become a popular selection for real-time tracking systems, sharing economy applications and so on.

Compact design, low power consumption and high performance make it ideal for vehicle, people and asset tracking as well as sharing emobility applications.

Key Features

- ✓ Ultra-compact size: 10.1 mm × 9.7 mm × 2.4 mm
- ✓ Multi-GNSS engine for GPS, GLONASS, IRNSS, BeiDou, Galileo and QZSS
- ✓ Support dual GNSS bands (L1, L5)
- ✓ Support AGNSS
- ✓ Built-in LNA for better sensitivity
- ✓ Support SPI*, UART and I2C interfaces
- ✓ Support SDK command developed by Quectel
- ✓ Two-wheel and four-wheel DR functions are optional

4G LTE
L1+L5 Dual Bands

Multi-constellation GNSS

Ultra-compact Size

RoHS Compliant

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

Low Power Consumption

Version: 1.1 | Status: Released

Quectel LC79D

Dual-Band GNSS Module	LC79D
Region	Global
Dimensions	10.1 mm × 9.7 mm × 2.4 mm
Weight	Approx. 0.42 g
Working Mode	Standard Mode/ Two-wheel DR Mode* (Optional) / Four-wheel DR Mode* (Optional)
Embedded Flash	Supported
Temperature Range	
Operating Temperature	-40 °C to +85 °C
Extended Temperature	-40 °C to +90 °C
GNSS Features	
Supported Bands	GPS L1 C/A, Galileo E1, QZSS L1: 1575.42 MHz GPS L5, Galileo E5a, QZSS L5: 1176.45 MHz IRNSS L5: 1176.45 MHz GLONASS L1: 1602.5625 MHz BeiDou B1: 1561.098 MHz
Default GNSS Constellation	GPS + BeiDou + Galileo + GLONASS + QZSS
Channels	32 Channels
Horizontal Position Accuracy	Autonomous: < 1.2 m CEP
Velocity Accuracy	Without Aid: < 0.1 m/s
Acceleration Accuracy	Without Aid: < 0.1 m/s²
TTFF (with AGNSS)	Cold Start: < 5 s
TTFF (without AGNSS)	Cold Start: < 34 s Warm Start: < 30 s Hot Start: < 2 s
Sensitivity	Acquisition: -147 dBm Tracking: -163 dBm Reacquisition: -158 dBm
Dynamic Performance	Maximum Altitude: Max 18000 m Maximum Velocity: Max 515 m/s Maximum Acceleration: 4g
Certifications	
Regulatory	CE
Others	RoHS
Interfaces	
SPI Interface*	Multiplexed from UART
I2C Interface	Works on master mode
UART Interface	Adjustable: 115200–921600 bps Default: 115200 bps Update Rate: 1 Hz
I/O Voltage	Typical 1.8 V
Protocols	NMEA 0183
External Antenna Interface	
Antenna Type	Passive or Active
Antenna Power Supply	External or Internal (through VCC_RF)
Electrical Features	
Supply Voltage Range	1.7–1.9 V, Typ. 1.8 V
Current Consumption (@ 1.8 V, Standard Mode)	Normal Operation: 47 mA @ Acquisition 43 mA @ Tracking Power Saving Modes: 200 µA @ Sleep Mode 88 µA @ Standby Mode

Note:
*: under development/planning.

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