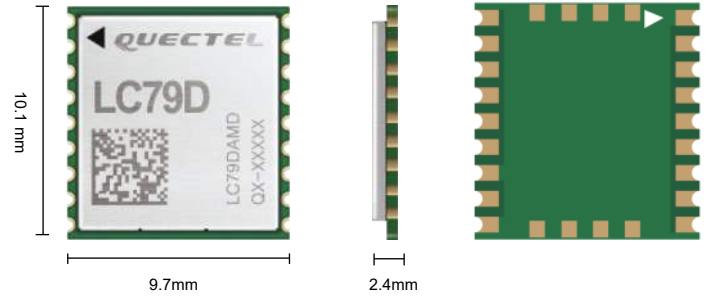


Quectel LC79D

Ultra-Small Dual-Band Multi-Constellation GNSS Module



Featuring a concurrent multi-constellation GNSS receiver on dual GNSS bands, LC79D can work on 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 tall buildings in urban environments, reducing signal acquisition time and improving positioning accuracy.

LC79D is AIS-140 compliant, and its on-board LNAs and SAW filters serve to ensure better positioning in weak signal areas and other harsh environments. The GNSS chipset using 28nm 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 rough urban canyons, LC79D has become a popular selection for real-time tracking systems, sharing economy applications and so on.



Key Benefits

- ✓ Ultra-compact size: 10.1mm × 9.7mm × 2.4mm
- ✓ 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
- ✓ Support UDR (Untethered Dead Reckoning) in host mode



L1+L5
Dual Bands



Multi-constellation
System



Ultra-compact
Size



RoHS Compliant



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



Low Power
Consumption

Quectel LC79D

Dual-Band GNSS Module	LC79D (A)	LC79D (B)
Region	Global	Global
Dimensions (mm)	10.1mm × 9.7mm × 2.4mm	10.1mm × 9.7mm × 2.4mm
Weight	Approx. 0.42g	Approx. 0.42g
Working Mode	Standalone Mode	Host
Embedded Flash	●	/
Temperature Range		
Operation Temperature	-40°C ~ +85°C	-40°C ~ +85°C
Storage Temperature	-40°C ~ +90°C	-40°C ~ +90°C
GNSS Features		
Supported Bands	GPS L1 C/A, Galileo E1, QZSS L1: 1575.42MHz GPS L5, Galileo E5a, QZSS L5: 1176.45MHz IRNSS L5: 1176.45MHz GLONASS L1: 1602.5625MHz BeiDou B1: 1561.098MHz	GPS L1 C/A, Galileo E1, QZSS L1: 1575.42MHz GPS L5, Galileo E5a, QZSS L5: 1176.45MHz IRNSS L5: 1176.45MHz GLONASS L1: 1602.5625MHz BeiDou B1: 1561.098MHz
Default GNSS Constellation	GPS+BeiDou+GLONASS+Galileo+QZSS+IRNSS	GPS+BeiDou+GLONASS+Galileo+QZSS+IRNSS
Channels	32 Channels	32 Channels
Horizontal Position Accuracy	Autonomous: <1.2m CEP	Autonomous: <1.2m CEP ^①
Velocity Accuracy	Without Aid: <0.1m/s	Without Aid: <0.1m/s ^①
Acceleration Accuracy	Without Aid: <0.1m/s ²	Without Aid: <0.1m/s ² ^①
TTF (with AGNSS)	Cold Start: <5s	Cold Start: <5s ^①
TTF (without AGNSS)	Cold Start: <34s Warm Start: <30s Hot Start: <2s	Cold Start: <34s ^① Warm Start: <30s ^① Hot Start: <2s*
Sensitivity	Acquisition: -147dBm Tracking: -163dBm Reacquisition: -158dBm	Acquisition: -147dBm ^① Tracking: -163dBm ^① Reacquisition: -158dBm ^①
Dynamic Performance	Maximum Altitude: Max 18000m Maximum Velocity: Max 515m/s Maximum Acceleration: 4g	Maximum Altitude: Max 18000m ^① Maximum Velocity: Max 515m/s ^① Maximum Acceleration: 4g ^①
Certifications		
Regulatory	CE	CE
Others	RoHS	RoHS
Interfaces		
SPI Interface	Multiplexed from UART ^②	Up to 50MHz
I2C Interface*	●	●
UART Interface	Adjustable: 115200bps~921600bps Default: 115200bps Update Rate: 1Hz	Multiplexed from SPI ^②
I/O Voltage	Typical 1.8V	Typical 1.8V
Protocols	NMEA 0183	NMEA 0183
External Antenna Interface		
Antenna Type	Passive or Active	Passive or Active
Antenna Power Supply	External or Internal (through VCC_RF)	External or Internal (through VCC_RF)
Electrical Features		
Supply Voltage Range	1.7V~1.9V, Typical 1.8V	1.7V~1.9V, Typical 1.8V
Current Consumption (@1.8V)	Normal Operation: 47mA @Acquisition 43mA @Tracking Power Saving Modes: 200µA @Sleep Mode 17µA @Standby Mode	Normal Operation: 47mA @Acquisition ^① 43mA @Tracking ^① Power Saving Modes: 200µA @Sleep Mode ^① 17µA @Standby Mode ^①

Notes:

1. ^① Preliminary data
2. ^② Under planning
3. * Under development
4. ● means supported