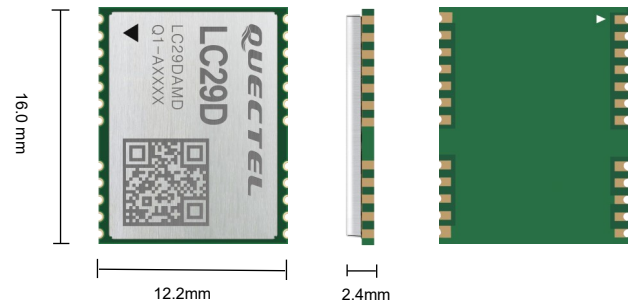


Quectel LC29D

Ultra-Small Dual-Band

Multi-Constellation GNSS Module



Featuring a concurrent multi-constellation GNSS receiver on dual GNSS bands and has integrated a 6-axis sensor, fusion with RTK and dead-reckoning algorithm, this module can get Sub-meter level positioning accuracy under open sky environment.

Compared with the GNSS modules working on L1 band only, LC29D 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, can greatly increase the number of satellites involved in tracking and positioning, thereby significantly reducing the multipath effect caused by tall buildings in urban environments, improving positioning accuracy.

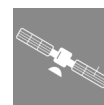
Its on-board LNAs and SAW filters serve to ensure better positioning in weak signal areas and other harsh environments.

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 low power consumption and high performance, LC29D has become a popular selection for real-time tracking systems, sharing economy applications and so on. Its super performance makes LC29D ideal for vehicle, people and asset tracking as well as sharing economy applications.

Key Benefits

- ✓ Ultra-compact size: 12.2mm × 16.0mm × 2.4mm
- ✓ Multi-GNSS engine for GPS, GLONASS, IRNSS, BeiDou, Galileo and QZSS
- ✓ Support dual GNSS bands (L1, L5)
- ✓ Built-in LNA for better sensitivity
- ✓ Support SPI, UART and I2C interfaces
- ✓ Support SDK command developed by Quectel
- ✓ Support AGNSS
- ✓ Support RTK and DR function



L1+L5
Dual Bands



Multi-constellation
System



Ultra-compact
Size



RoHS Compliant



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



Low Power
Consumption

Quectel LC29D

GNSS Features

Receiving Bands ^①:

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

Horizontal Position Accuracy:

Autonomous: <1m CEP*

Velocity Accuracy:

Without Aid: <0.1m/s

Acceleration Accuracy:

Without Aid: <0.1m/s²

TTFF (with AGNSS):

Cold Start: <5S*

TTFF (without AGNSS):

Cold Start: <34S*

Warm Start: <30S*

Hot Start: <2S*

Sensitivity:

Acquisition: -147dBm*

Reacquisition: -163dBm*

Tracking: -158dBm*

Dynamic Performance:

Maximum Altitude: 18000m

Maximum Velocity: 515m/s

Maximum Acceleration: 4g

Interfaces

SPI* Interface:

Up to 50MHz

UART Interface:

Adjustable: 115200bps~921600bps

Default: 115200bps

Update Rate: 1Hz (default)

I/O Voltage: 2.7V~3.6V, Typical 3.3V

I2C Interface*

External Antenna Interface:

Antenna Type: Passive or Active

Antenna Power Supply: External or Internal

Power Management

Power Supply:

2.7V~3.6V, Typical 3.3V

Power Consumption:

Acquisition: TBD @3.3V

Tracking: TBD@3.3V

Power Saving Modes:

Standby Mode: TBD@1.8V

Sleep Mode: TBD@1.8V

General Features

Temperature Range:

-40°C ~ +85°C

Dimensions:

12.2mm × 16.0mm × 2.4mm

Weight:

TBD

Protocols:

NMEA 0183

Approvals

Regulatory:

CE* (Europe)

Others:

RoHS

* Under Development/Planning

^① Default GNSS Constellation:

GPS+BeiDou+GLONASS+Galileo+QZSS+IRNSS