Quectel L26-DR

Compact GNSS Module with Dead Reckoning

L26-DR is a concurrent multi-GNSS receiver module with dead reckoning solution. It is equipped with 6-axis sensor MEMs and a powerful GNSS core. The module provides high sensitivity, fast GNSS signal acquisition and tracking with low system integration effort.

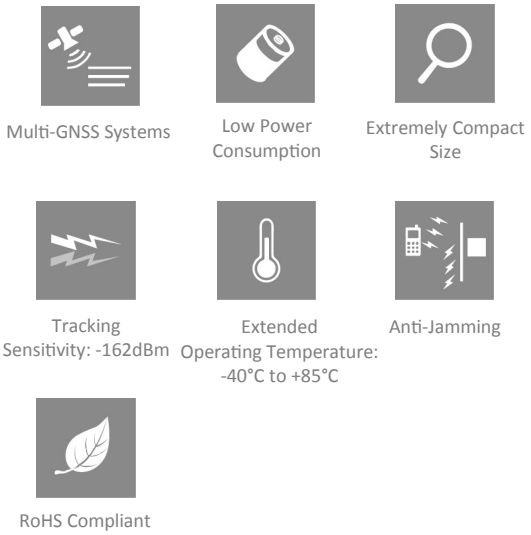
L26-DR can acquire and track any mix of GPS, GLONASS, BeiDou, Galileo and QZSS signals. Multi-constellation allows accurate navigation in harsh environments such as urban canyons. The dead-reckoning feature enables the L26-DR to deliver the highest-performance positioning solution available—even when GNSS is absent or compromised. And the built-in LNA provides the module with better performance under weak signal areas.

Compared with using GPS only, enabling multiple GNSS systems generally increases the number of visible satellites, reduces the time to first fix and increases positioning accuracy, especially when driving in rough urban environments.

Its super performance makes L26-DR ideal for automotive, industrial and consumer applications. Extremely low power consumption makes it easier to be applied to power sensitive devices, especially portable applications.

Key Benefits

- Ultra-compact size: 12.2mm × 16.0mm × 2.3 mm
- Multi-GNSS engine for GPS, GLONASS, BeiDou, Galileo and QZSS
- Built-in LNA for better sensitivity
- Embedded 6-axis MEMS sensor
- Support DGPS(RTCM)/SBAS (WAAS/EGNOS/MSAS/GAGAN)
- Great anti-jamming performance due to multi-tone active interference canceller
- Wheel tick input
- ADR/UDR function supported by different firmware versions
- Support SDK command developed by Quectel*



Rev.: V1.0 | Status: Preliminary

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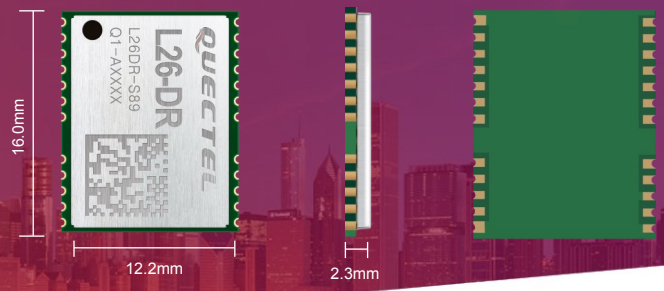

GNSS Features

Receiving Bands:

GPS L1/Galileo E1 C/A: 1575.42MHz

GLONASS L1 C/A: 1602.5625MHz

Channels: 48 (Tracking)/ 2 (Fast Acquisition)

SBAS: WAAS, EGNOS, MSAS, GAGAN

Horizontal Position Accuracy:

Autonomous: <1.8m CEP*

Velocity Accuracy:

Without Aid: <0.1m/s

Acceleration Accuracy:

Without Aid: <0.1m/s²

Timing Accuracy:

1PPS: 3.9ns CEP50%*

Reacquisition Time: <1s

TTFF @-130dBm with AGPS

Cold Start: <TBD

Warm Start: <TBD

Hot Start: <TBD

TTFF @-130dBm without AGPS

Cold Start: <32s*

Warm Start: <25s*

Hot Start: <1.5s*

Sensitivity:

Acquisition: -147dBm*

Tracking: -162dBm*

Reacquisition: -156dBm*

Dynamic Performance:

Maximum Altitude: Max. 18000m*

Maximum Velocity: Max. 515m/s*

Maximum Acceleration: 4.5G*

Interfaces

UART Interface:

Adjustable: 4800bps~115200bps

Default: 9600bps

Update Rate: 1Hz (Default), up to 10Hz

I/O Voltage: 3.3V

Protocols: NMEA 0183

External Antenna Interface:

Antenna Type: Passive or Active

Antenna Power Supply: External

Electrical Characteristics

Power Supply:

3.0V~3.6V, typical 3.3V

Acquisition Power:

90mA* @3.3V (GPS+GLONASS)

Tracking Power:

70mA* @3.3V (GPS+GLONASS)

Power Saving:

50uA* @Standby Mode

General Features

Temperature Range: -40°C ~ +85°C

Dimension: 12.2mm ×16.0mm ×2.3mmmm

Weight: approx. 0.9g*

* Under development

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