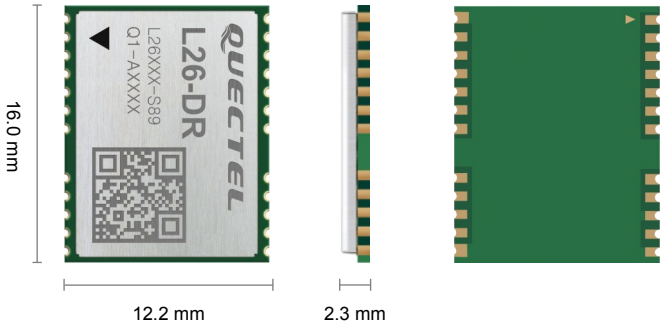
Quectel L26-DR

Compact Multi-Constellation GNSS Module with DR Function



L26-DR is a concurrent multi-GNSS receiver module supporting dead reckoning function. It is equipped with a 6-axis MEMS sensor (integrating 3-axis accelerometer and 3-axis gyroscope) and a powerful GNSS core. L26-DR provides an outstanding performance and it is easy for integration. The module is designed and manufactured according to IATF 16949: 2016 standard.

L26-DR supports GPS, GLONASS, BeiDou, Galileo and QZSS constellations. Multi-constellation allows accurate navigation in harsh environments such as urban canyons. The dead-reckoning feature enables high positioning performance, even when GNSS signal is absent or compromised. The integrated LNA improves the receiver's performance under signal-challenging conditions.

Compared with single GPS system, the enabling of multiple GNSS systems generally increases the number of visible satellites, reduces the time to first fix and improves positioning accuracy while driving through dense urban canyon environment.

L26-DR's superior performance makes it ideal for automotive and industrial applications, such as vehicle tracker, T-Box and vehicle navigation system. Its ultra low power consumption makes it suitable for power-sensitive devices.

Key Features

- Ultra-compact size: 16.0 mm × 12.2 mm × 2.3 mm
- Multi-GNSS engine for GPS, GLONASS, BeiDou, Galileo and QZSS
- Built-in LNA for better sensitivity
- Embedded 6-axis MEMS sensor (3-axis accelerometer + 3-axis gyroscope)
- DGPS and SBAS (WAAS/EGNOS/MSAS/GAGAN)
- Wheel tick input (unsupported in UDR version)
- DR (Dead Reckoning) Function
- ADR/UDR function differentiated by OC

Multi-GNSS Systems

Low Power Consumption

Extremely Compact Size

Tracking Sensitivity: -162 dBm

Temperature Range: -40 °C to +85 °C

RoHS Compliant

Rev. V1.1 | Status: Released

Quectel L26-DR Module

Items	L26-DR (ADR)	L26-DR (UDR)
General Features		
Region/Operator	Global	Global
Dimensions	16.0 mm × 12.2 mm × 2.3 mm	16.0 mm × 12.2 mm × 2.3 mm
Weight	Approx. 0.9 g	Approx. 0.9 g
Protocols	NMEA 0183	NMEA 0183
Temperature Range		
Operation Temperature	-40 °C to +85 °C	-40 °C to +85 °C
Storage temperature range	-40 °C to +90 °C	-40 °C to +90 °C
GNSS Features		
Receiving Bands	GPS L1 C/A: 1575.42 MHz Galileo E1: 1575.42 MHz QZSS L1: 1575.42 MHz GLONASS L1: 1602.5625 MHz BeiDou B1: 1561.098 MHz	GPS L1 C/A: 1575.42 MHz Galileo E1: 1575.42 MHz QZSS L1: 1575.42 MHz GLONASS L1: 1602.5625 MHz BeiDou B1: 1561.098 MHz
Default GNSS Constellation	GPS + GLONASS + Galileo	GPS + GLONASS + Galileo
Channels	Tracking: 48 Fast Acquisition: 2	Tracking: 48 Fast Acquisition: 2
SBAS	WAAS, EGNOS, MSAS, GAGAN	WAAS, EGNOS, MSAS, GAGAN
Horizontal Position Accuracy	Autonomous: < 1.5 m CEP	Autonomous: < 1.5 m CEP ①
Velocity Accuracy	Without Aid: < 0.1 m/s	Without Aid: < 0.1 m/s ①
Acceleration Accuracy	Without Aid: < 0.1 m/s²	Without Aid: < 0.1 m/s² ①
Timing Accuracy	1PPS: < 100 ns @ 1σ	1PPS: < 100 ns @ 1σ ①
TTFF (with AGNSS)	Cold Start: < 13 s	Cold Start: < 13 s ①
TTFF (without AGNSS)	Cold Start: < 32 s Warm Start: < 25 s Hot Start: < 2 s	Cold Start: < 32 s ① Warm Start: < 25 s ① Hot Start: < 2 s ①
Sensitivity	Acquisition: -145 dBm Tracking: -162 dBm Reacquisition: -152 dBm	Acquisition: -145 dBm ① Tracking: -162 dBm ① Reacquisition: -152 dBm ①
Dynamic Performance	Maximum Altitude: 18000 m Maximum Velocity: 515 m/s Maximum Acceleration: 4 g	Maximum Altitude: 18000m ① Maximum Velocity: 515 m/s ① Maximum Acceleration: 4 g ①
Certifications		
Regulatory	**Europe:** CE	**Europe:** CE
Others	RoHS	RoHS
Interfaces		
UART Interface	**Baud Rate:** Range: 115200–921600 bps Default: 115200 bps **Update Rate:** 1 Hz (Default)	**Baud Rage:** Range: 115200–921600 bps Default: 115200 bps **Update Rate:** 1 Hz (Default)
I/O Voltage	Typical 3.3 V	Typical 3.3 V
External Antenna Interface	Antenna Type: Passive or Active Antenna Power Supply: External or Internal	Antenna Type: Passive or Active Antenna Power Supply: External or Internal
Electrical Features		
Supply Voltage Range	3.0–3.6 V, typical 3.3 V	3.0–3.6 V, typical 3.3 V
Power Consumption (GPS + GLONASS + Galileo)	Acquisition: 72 mA @ 3.3 V Tracking: 58 mA @ 3.3 V Power Saving: 17 μA @ Standby Mode	Acquisition: 72 mA @ 3.3 V ① Tracking: 58 mA @ 3.3 V ① Power Saving: 17 μA @ Standby Mode ①

Note:

① Preliminary data

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