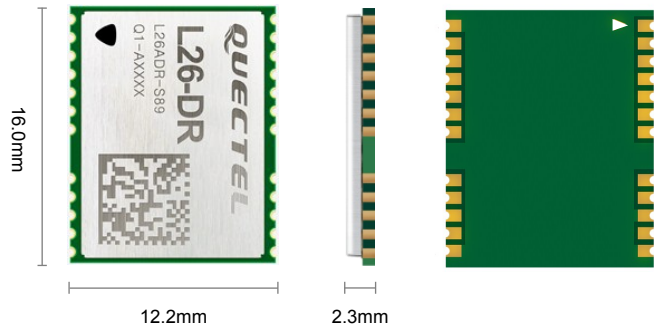


# Quectel L26-DR

## Compact GNSS Module with Dead Reckoning



L26-DR is a concurrent multi-GNSS receiver module supporting dead reckoning function. It is equipped with a 6-axis MEMS sensor and a powerful GNSS core. The module provides an outstanding performance and it is easy for integration.

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, industrial and consumer applications. Its ultra low power consumption makes it ideal for power-sensitive devices.



### 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 and SBAS (WAAS/EGNOS/MSAS/GAGAN)
- ✓ Wheel tick input (UDR version unsupported)
- ✓ Support DR (Dead Reckoning)
- ✓ ADR/UDR function supported with different firmware versions
- ✓ Automotive grade in ADRA version



Multi-GNSS Systems



Low Power Consumption



Extremely Compact Size



Tracking Sensitivity: -162dBm



Temperature Range: -40°C to +85°C



RoHS Compliant

# Quectel L26-DR Module

Module	L26-DR (ADR)	L26-DR (UDR)	L26-DR (ADRA)
<b>General Features</b>			
Region/Operator	Global	Global	Global
Dimensions (mm)	12.2mm × 16.0mm × 2.3mm	12.2mm × 16.0mm × 2.3mm	12.2mm × 16.0mm × 2.3mm
Weight	Approx. 0.9g	Approx. 0.9g	Approx. 0.9g
<b>Temperature Range</b>			
Operation Temperature	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C
Storage temperature range	-40°C ~ +90°C	-40°C ~ +90°C	-40°C ~ +90°C
<b>GNSS Features</b>			
Receiving Bands	GPS L1 C/A: 1575.42MHz Galileo E1: 1575.42MHz QZSS L1: 1575.42MHz GLONASS L1: 1602.5625MHz BeiDou B1: 1561.098MHz	GPS L1 C/A: 1575.42MHz Galileo E1: 1575.42MHz QZSS L1: 1575.42MHz GLONASS L1: 1602.5625MHz BeiDou B1: 1561.098MHz	GPS L1 C/A: 1575.42MHz Galileo E1: 1575.42MHz QZSS L1: 1575.42MHz GLONASS L1: 1602.5625MHz BeiDou B1: 1561.098MHz
Default GNSS Constellation	GPS + GLONASS + Galileo	GPS + GLONASS + Galileo	GPS + GLONASS + Galileo
Channels	48 (Tracking)/ 2 (Fast Acquisition)	48 (Tracking)/ 2 (Fast Acquisition)	48 (Tracking)/ 2 (Fast Acquisition)
SBAS	WAAS, EGNOS, MSAS, GAGAN	WAAS, EGNOS, MSAS, GAGAN	WAAS, EGNOS, MSAS, GAGAN
Horizontal Position Accuracy	Autonomous: <1.5m CEP	Autonomous: <1.5m CEP <sup>①</sup>	Autonomous: <1.5m CEP <sup>①</sup>
Velocity Accuracy	Without Aid: <0.1m/s	Without Aid: <0.1m/s <sup>①</sup>	Without Aid: <0.1m/s <sup>①</sup>
Acceleration Accuracy	Without Aid: <0.1m/s <sup>2</sup>	Without Aid: <0.1m/s <sup>2</sup> <sup>①</sup>	Without Aid: <0.1m/s <sup>2</sup> <sup>①</sup>
Timing Accuracy	1PPS: <100ns CEP	1PPS: <100ns CEP <sup>①</sup>	1PPS: <100ns CEP <sup>①</sup>
TTFB (with AGPS)	Cold Start: <13s	Cold Start: <13s <sup>①</sup>	Cold Start: <13s <sup>①</sup>
TTFB (without AGPS)	Cold Start: <32s Warm Start: <25s Hot Start: <2s	Cold Start: <32s <sup>①</sup> Warm Start: <25s <sup>①</sup> Hot Start: <2s <sup>①</sup>	Cold Start: <32s <sup>①</sup> Warm Start: <25s <sup>①</sup> Hot Start: <2s <sup>①</sup>
Sensitivity	Acquisition: -145dBm Tracking: -162dBm Reacquisition: -152dBm	Acquisition: -145dBm <sup>①</sup> Tracking: -162dBm <sup>①</sup> Reacquisition: -152dBm <sup>①</sup>	Acquisition: -145dBm <sup>①</sup> Tracking: -162dBm <sup>①</sup> Reacquisition: -152dBm <sup>①</sup>
Dynamic Performance	Maximum Altitude: Max. 18000m Maximum Velocity: Max. 515m/s Maximum Acceleration: 4g	Maximum Altitude: Max. 18000m <sup>①</sup> Maximum Velocity: Max. 515m/s <sup>①</sup> Maximum Acceleration: 4g <sup>①</sup>	Maximum Altitude: Max. 18000m <sup>①</sup> Maximum Velocity: Max. 515m/s <sup>①</sup> Maximum Acceleration: 4g <sup>①</sup>
<b>Certifications</b>			
Regulatory	<b>Europe:</b> CE	<b>Europe:</b> CE	<b>Europe:</b> CE
Others	AEC-Q100 / RoHS	AEC-Q100 / RoHS	AEC-Q100 / RoHS
<b>Interfaces</b>			
UART Interface	Adjustable: 115200bps~921600bps Default: 115200bps Update Rate: 1Hz (Default)	Adjustable: 115200bps~921600bps Default: 115200bps Update Rate: 1Hz (Default)	Adjustable: 115200bps~921600bps Default: 115200bps Update Rate: 1Hz (Default)
I/O Voltage	Typical 3.3V	Typical 3.3V	Typical 3.3V
Protocols	NMEA 0183	NMEA 0183	NMEA 0183
<b>External Antenna Interface</b>			
Antenna Type	Passive or Active	Passive or Active	Passive or Active
Antenna Power Supply	External or Internal VCC_RF	External or Internal VCC_RF	External or Internal VCC_RF
<b>Electrical Features</b>			
Supply Voltage Range	3.0V~3.6V, typical 3.3V	3.0V~3.6V, typical 3.3V	3.0V~3.6V, typical 3.3V
Power Consumption	Acquisition Power: 72mA@3.3V Tracking Power: 58mA@3.3V Power Saving: 17µA @Standby Mode	Acquisition Power: 72mA@3.3V <sup>①</sup> Tracking Power: 58mA@3.3V <sup>①</sup> Power Saving: 17µA @Standby Mode <sup>①</sup>	Acquisition Power: 72mA@3.3V <sup>①</sup> Tracking Power: 58mA@3.3V <sup>①</sup> Power Saving: 17µA @Standby Mode <sup>①</sup>

Notes:

<sup>①</sup> Preliminary data

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