QUECTEL

Quectel L26-P

Compact GNSS Module

16.0 mm

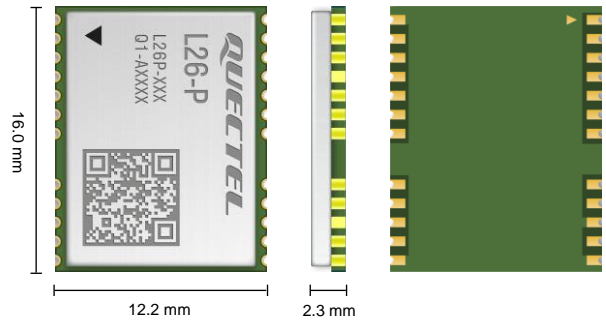12.2 mm 2.3 mm

The L26-P is a single band, multi-constellation GNSS raw data receiver for high precision positioning applications. The module has an integrated 6-axis sensor (IMU), and it can output GNSS raw data concurrently with the sensor raw data. The firmware also supports an option to enable the output of standard NMEA messages. The module can acquire and track GPS, GLONASS, BDS, Galileo and QZSS signals and the built-in LNA ensures better performance in challenging signal conditions scenarios. Compared with GPS only receivers, enabling multiple GNSS systems increases the number of visible satellites, and it will lead into enhanced performance. The ability to use the GNSS raw data in collaboration with the IMU data on an external position engine (customer MCU side) makes this module very attractive for many applications.

Its superb performance makes L26-P ideal for base stations, automotive, industrial and consumer applications.

Key Features

✔ Ultra-compact size: 12.2 mm × 16.0 mm × 2.3 mm

✔ Multi-GNSS engine for GPS, GLONASS, BDS, Galileo and QZSS

✔ Built-in LNA for increased sensitivity

✔ Supports both GNSS and IMU raw data function

✔ Supports DDGPS (RTCM)/SBAS (WAAS/EGNOS/MSAS/GAGAN)

Multi-GNSS System	Low Power Consumption	Ultra-Compact Size
Tracking Sensitivity: -162 dBm	Operating Temperature Range: -40 °C to +85 °C	RoHS Compliant

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GNSS Module	L26-P
Dimensions	12.2 mm × 16.0 mm × 2.3 mm
Weight	Approx. 0.9 g
Temperature Range	
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +90 °C
GNSS Features	
Supported Bands	GPS L1 C/A, Galileo E1, QZSS L1 C/A: 1575.42 MHz GLONASS L1: 1602.5625 MHz BDS B1: 1561.098 MHz
Default GNSS Constellation	GPS + BDS
Number of Concurrent GNSS	3 + QZSS
Channels	48 (Tracking)/2 (Fast Acquisition)
SBAS	WAAS, EGNOS, MSAS, and GAGAN
Horizontal Position Accuracy[1]	Autonomous: 1.5 m
Velocity Accuracy[2]	Without Aid: 0.1 m/s
Acceleration Accuracy[2]	Without Aid: 0.1 m/s²
Accuracy of 1PPS Signal (RMS)[2]	50 ns
TTFF (with AGNSS)[3]	Warm Start: 2 s
TTFF (Without AGNSS)[2]	Cold Start: 32 s Warm Start: 25 s Hot Start: 2 s
Sensitivity (@ Default Constellations)	Acquisition: -147 dBm Tracking: -162 dBm Reacquisition: -154 dBm
Dynamic Performance[2]	Maximum Altitude: 18000 m Maximum Velocity: 515 m/s Maximum Acceleration: 4g
Interfaces	
UART Interface	Adjustable: 115200–921600 bps Default: 460800 bps Update Rate: 1 Hz (default)
Protocol	NMEA 0183
External Antenna Interface	
Antenna Type	Active[4] or Passive
Antenna Power Supply	External or Internal (through VDD_RF)
Electrical Characteristics	
Supply Voltage Range	3.0–3.6 V; Typ. 3.3 V
I/O Voltage	Following VCC
Power Consumption (@ Default Constellations, 3.3 V)[2]	**Normal Operation:** 73 mA (240.9 mW) @ Acquisition Mode 68 mA (204.6 mW) @ Tracking Mode **Power Saving Modes:** 1.7 mA (5.61 mW) @ Standby Mode 8 µA (26.4 µW) @ Backup Mode

NOTE:

1. [1]: CEP, 50 %, 24 hours static, -130 dBm, more than 6 SVs.
2. [2]: Room temperature, all satellites at -130 dBm.
3. [3]: Open-sky, active high precision GNSS antenna.
4. [4]: To further mitigate the impact of out-of-band signals on GNSS module performance, you must choose the active antenna whose SAW filter is placed in front of the LNA in the internal framework. DO NOT place the LNA in the front.