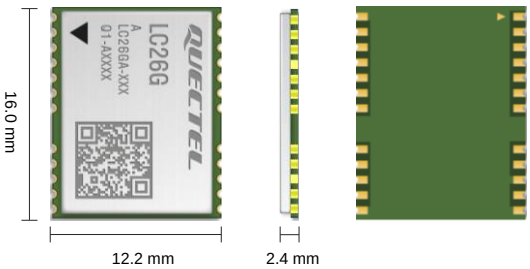
Quectel LC26G (AB)

Compact GNSS Module



LC26G (AB) is a multi-constellation GNSS receiver module capable of tracking GPS, GLONASS, Galileo, BDS and QZSS concurrently. LC26G (AB) is designed to be compatible with Quectel L26 and L26-LB modules, allowing for smooth migration between them.

The integrated LNA provides high sensitivity, high positioning accuracy, fast tracking and signal acquisition, and ensures improved performance even in challenging environments. In contrast to single constellation GPS only receivers, LC26G (AB) multi-constellation GNSS receiver can access a vast number of visible satellites and thus reduce TTFF and improve positioning accuracy even in dense urban canyons.

The combination of EASY (Embedded Assist System) and ALP (Adaptive Low Power) lends LC26G (AB) high performance, low power consumption and full compliance with industrial standards. EASY technology allows the module to automatically calculate and predict orbits by using the ephemeris data (up to 3 days) stored in internal RAM, resulting in a quick position fix with low power consumption, even at lower signal levels. ALP technology allows LC26G (AB) to adaptively adjust the on/off time based on environmental conditions and motion information to strike a balance between positioning accuracy and power consumption.

Its enhanced performances make LC26G (AB) ideal for industrial PDA, consumer and industry applications. Extremely low power consumption makes it a great solution for power-sensitive applications, such as portables.

Key Features

- Multi-GNSS engine for GPS, GLONASS, Galileo, BDS and QZSS, ensuring fast and accurate fix in any environment
- Footprint compatible with L26 and L26-LB
- Industry-leading sensitivity: -166 dBm during tracking and -147 dBm during acquisition
- Improved sensitivity through integrated LNA
- Embedded multi-tone active interference canceller for anti-jamming
- UART and I2C Interfaces

AGNSS Technology

Ultra Low Power Consumption

Ultracompact Size

Tracking Sensitivity: -166 dBm

Operating Temperature Range: -40 to +85 °C

Anti-jamming

RoHS Compliant

Multi-constellation System

Version: 1.1 | Status: Released

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GNSS Module	LC26G (AB)
Dimensions	12.2 mm × 16.0 mm × 2.4 mm
Weight	Approx. 0.85 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: 1575.42 MHz GLONASS L1: 1598.0625–1605.375 MHz Galileo E1: 1575.42 MHz BDS B1I: 1561.098 MHz BDS B1C: 1575.42 MHz QZSS L1 C/A: 1575.42 MHz
Default Constellations	GPS + GLONASS + Galileo + BDS + QZSS
Number of Tracking Channels	47
Number of Concurrent GNSS	4 + QZSS
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	20 ns
TTFF (with EASY) ③	Cold Start: 15 s Warm Start: 3 s Hot Start: 2 s
TTFF (with EPO) ③	Cold start: 5 s
TTFF (Without AGNSS) ②	Cold Start: 28 s Warm Start: 25 s Hot Start: 2 s
Sensitivity (@ Default Constellations)	Acquisition: -147 dBm Tracking: -166 dBm Reacquisition: -159 dBm
Dynamic Performance ②	Maximum Altitude: 10000 m Maximum Velocity: 490 m/s Maximum Acceleration: 4g
Certifications	
Regulatory	**Europe**: CE
Others	RoHS
Interfaces	
I2C	Up to 400 kbps
UART	Adjustable: 9600–921600 bps Default: 115200 bps Update Rate: 1 Hz (default), up to 10 Hz
Protocol	NMEA 0183 V4.10
External Antenna Interface	
Antenna Type	Active④ or Passive
Antenna Power Supply	External or Internal (through VDD_RF)
Electrical Characteristics	
Supply Voltage Range (VCC)	2.55–3.6 V, typ. 3.3 V
I/O Voltage	Following VCC
Power Consumption (@3.3 V, Default Constellations) ②	**Normal Operation:** 36 mA (118.8 mW) @ Acquisition 36 mA (118.8 mW) @ Tracking **Power Saving Mode:** 15 µA (49.5 µW) @ Backup Mode

NOTE:
1. ①: CEP, 50 %, 24 hours static, -130 dBm, more than 6 SVs.
2. ②: Tested at room temperature, with typical operating voltage, and satellite signal of -130 dBm configured by the instrument.
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.

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