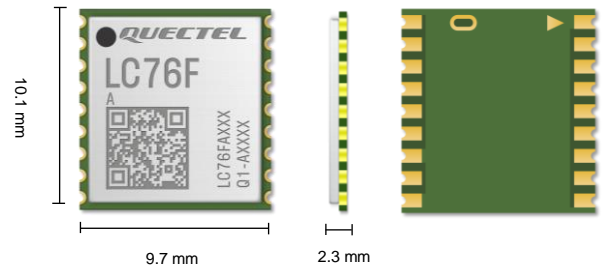


Quectel LC76F

Compact GNSS Module



Quectel LC76F GNSS module is a single band multi-constellation module, which can acquire and track any mix of GPS, GLONASS, Galileo, QZSS and SBAS signals. LC76F is designed to be footprint compatible with Quectel L76 and L76-L as well as L76-LB modules series, allowing for convenient migration between them.

The integrated LNA provides improved sensitivity, accuracy, fast tracking and acquisition of signals, and maintains enhanced performance in challenging environments. Compared with single GPS receivers, multiple GNSS constellations increase the number of visible satellites, reduce the Time To First Fix and improve positioning accuracy, even in dense urban canyons.

Combining advanced AGNSS technologies and low-power modes, LC76F achieves high performance, low power consumption and fully meets the industrial standards.

Quectel LC76F's superior performance makes it ideal for industrial PDA, consumer and industry applications. Extremely low power consumption makes it a great solution for power-sensitive applications, especially portable devices.



Key Features

- ✓ Multi-GNSS engine for GPS, GLONASS, Galileo and QZSS
- ✓ Industry-leading sensitivity of -165 dBm during tracking and -148 dBm during acquisition
- ✓ Improved sensitivity through integrated LNA
- ✓ Multiple low-power modes to ensure ultra-low power consumption
- ✓ UART and I2C Interfaces



AGNSS Technology



Ultra Low Power Consumption



Compact Size



Super Tracking Sensitivity: -165 dBm



Operating Temperature Range: -40 to +85 °C



RoHS Compliant



Multi-constellation System

GNSS Module		LC76F
Region	Europe, Asia-Pacific, Africa	
Dimensions (mm)	10.1 × 9.7 × 2.3	
Weight (g)	Approx. 0.3	
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: 1601.71 MHz Galileo E1: 1575.42 MHz QZSS L1 C/A: 1575.42 MHz	
Default GNSS Constellations	GPS + GLONASS + QZSS	
Channels	24 Channels	
Horizontal Position Accuracy ^①	Autonomous: 2 m	
Velocity Accuracy ^②	Without Aid: 0.1 m/s	
Acceleration Accuracy ^②	Without Aid: 0.1 m/s ²	
Accuracy of 1PPS Signal ^②	< 100 ns	
Reacquisition Time	1 s	
TTFF (with AGNSS) ^③	Cold Start: 6 s Warm Start: 2 s Hot Start: 2 s	
	Cold Start: 30 s Warm Start: 2 s Hot Start: 2 s	
TTFF (without AGNSS) ^②	Cold Start: 30 s Warm Start: 2 s Hot Start: 2 s	
	Acquisition: -148 dBm Tracking: -165 dBm Reacquisition: -160 dBm	
Sensitivity (@ Default Constellations)	Maximum Altitude: 10000 m Maximum Velocity ^④ : 515 m/s Maximum Acceleration: 4 g	
Dynamic Performance^②		
Certifications		
Regulatory	Europe: CE	
Interfaces		
I2C Interface	Up to 400 kbps	
UART Interface	Adjustable: 9600–921600 bps Default: 9600 bps	
	Update Rate: 1 Hz (Default), up to 10 Hz	
Protocol	NMEA 0183	
External Antenna Interface		
Antenna Type	Active or passive	
Antenna Power Supply	External or Internal (through VDD_RF)	
Electrical Characteristics		
Supply Voltage Range	2.8–4.3 V, Typ. 3.3 V	
I/O Voltage	2.8 V	
Power Consumption (@ 3.3 V, Default Constellations) ^②	Normal Operation: 30 mA @ Acquisition 30 mA @ Tracking	
	Power Saving Modes: 0.8 mA @ Standby Mode 30 μA @ Backup Mode	

Note:

- ①: CEP, 50 %, 24 hours static, -130 dBm, more than 6 SVs.
- ②: Room temperature, all satellites at -130 dBm.
- ③: Open-sky, active high precision GNSS antenna.
- ④: ITAR limits.