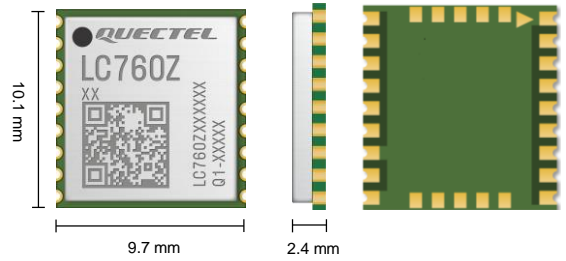


Quectel LC760Z

Compact GNSS Module



Quectel LC760Z GNSS module is a single band multi-constellation module, which can acquire and track any mix of GPS, GLONASS, Galileo, BDS, QZSS and SBAS signals, in particular, it supports B1I and B1C frequency bands of BDS constellation. LC760Z is designed to be footprint compatible with Quectel LC76F and LC76G series, allowing for convenient migration among them.

The integrated LNA provides improved sensitivity, accuracy, fast tracking and acquisition of signals, and maintains enhanced performance in challenging environments. The built-in SAW filter can greatly enhance the anti-interference ability. In addition, the module also supports the AGNSS function, which can greatly shorten the Time To First Fix.

The ultra-small size and excellent performance of the module provide a good solution for both industrial and consumer applications, such as shared bicycles, electric motorcycles, fleet management and variety of aftermarket trackers. Its superior performance makes it ideal for industrial PDA and other similar applications.

The module's extremely low power consumption makes it a great solution for power-sensitive applications, especially portable devices.



Key Features

- ✓ Compact size: 10.1 mm × 9.7 mm × 2.4 mm
- ✓ Multi-GNSS engine for GPS, GLONASS, Galileo, BDS (B1I & B1C) and QZSS
- ✓ Improved sensitivity through integrated LNA
- ✓ Enhanced anti-interference ability through built-in SAW filter
- ✓ UART and I2C interfaces
- ✓ AGNSS
- ✓ 1PPS



AGNSS Technology



Multi-constellation System



Compact Size



Super Tracking Sensitivity: -160 dBm



Operating Temperature Range: -40 to +85 °C



Ultra Low Power Consumption



RoHS Compliant

GNSS Module		LC760Z	
Dimensions (mm)	10.1 × 9.7 × 2.4		
Weight (g)	Approx. 0.5		
Temperature Range			
Operating Temperature	-40 °C to +85 °C		
Storage Temperature	-40 °C to +90 °C		
GNSS Features			
Supported Bands	GPS L1 C/A GLONASS L1 Galileo E1 BDS B1I & B1C QZSS L1 C/A		
Default GNSS Constellations ^①	Either GPS + GLONASS + Galileo + QZSS or GPS + Galileo + BDS + QZSS		
Number of Concurrent GNSS	3 + QZSS		
SBAS	WAAS, EGNOS, MSAS, GAGAN and SDCM		
Number of Channels	24 Tracking Channels 64 Acquisition Channels		
Horizontal Position Accuracy ^②	Autonomous: 2 m		
Velocity Accuracy ^③	0.1 m/s		
Acceleration Accuracy ^③	0.1 m/s ²		
Accuracy of 1PPS Signal (RMS) ^③	30 ns		
TTFF (with AGNSS) ^④	Cold Start: 15 s Warm Start: 4 s Hot Start: 1 s		
	Cold Start: 28 s Warm Start: 26 s Hot Start: 1 s		
TTFF (without AGNSS) ^③	Cold Start: 28 s Warm Start: 26 s Hot Start: 1 s		
	Acquisition: -149 dBm Tracking: -160 dBm Reacquisition: -158 dBm		
Sensitivity (@ Default Constellations)	Maximum Altitude: 10000 m Maximum Velocity: 515 m/s Maximum Acceleration: 4g		
Dynamic Performance ^③			
Certifications			
Regulatory	Europe: CE		
Interfaces			
I2C Interface	Up to 400 kbps		
UART Interface	Adjustable: 9600–460800 bps Default: 115200 bps Update Rate: 1 Hz (Default), up to 5 Hz		
Protocol	NMEA 0183 and Binary protocols		
External Antenna Interface			
Antenna Type	Active ^⑤ or Passive		
Antenna Power Supply	External or Internal (through ANT_BIAS)		
Electrical Characteristics			
Supply Voltage Range	2.8–3.6 V, Typ. 3.3 V		
I/O Voltage	Following VCC		
Power Consumption (@ 3.3 V) ^③	@ GPS + GLONASS + Galileo + QZSS	@ GPS + Galileo + BDS + QZSS	
	Normal Operation: 23 mA (75.9 mW) @ Acquisition 22 mA (72.6 mW) @ Tracking Power Saving Modes: 1.4 mA (4.62 mW) @ Standby Mode 13 μA (42.9 μW) @ Backup Mode	Normal Operation: 20 mA (66 mW) @ Acquisition 20 mA (66 mW) @ Tracking Power Saving Modes: 1.4 mA (4.62 mW) @ Standby Mode 13 μA (42.9 μW) @ Backup Mode	

NOTE:

- ① : BDS and GLONASS cannot be supported at the same time.
- ② : CEP, 50 %, 24 hours static, -130 dBm, more than 6 SVs.
- ③ : Room temperature, all satellites at -130 dBm.
- ④ : Open-sky, active high precision GNSS antenna.
- ⑤ : 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.