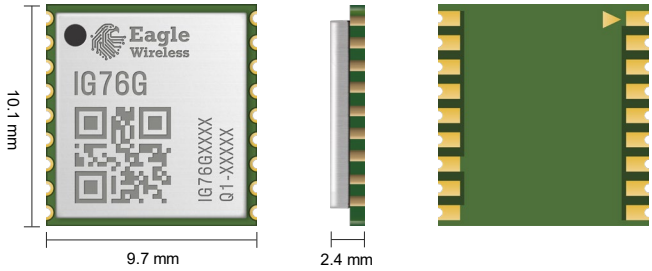
Eagle IG76G (AB)*

Compact GNSS Module



Based on the latest enhanced chipset, the Eagle IG76G (AB) GNSS module supports concurrent reception of GPS, GLONASS, Galileo, BDS and QZSS.

Compared with single constellation receivers, by enabling multiple GNSS constellations, the IG76G (AB) increases the number of visible satellites, reduces the time to first fix and improves positioning accuracy, especially when driving through dense urban canyons.

The integrated LNA delivers high sensitivity and facilitates high accuracy positioning, fast signal tracking and acquisition and excellent module performance even in challenging environments.

By combining EASY (Embedded Assist System), an advanced self-seeded AGNSS feature with ALP* (GNSS Low Power) mode, the IG76G (AB) achieves high performance with low power consumption and satisfies industrial standards. The EASY technology allows the module to calculate and predict orbits automatically by using the ephemeris data (duration of up to 3 days) stored in the internal RAM. As a result, the module acquires a position fix quickly, even at lower signal levels with low power consumption. Moreover, with the ALP* technology, the IG76G (AB) can adaptively adjust the on/off time based on the environmental and motion conditions to achieve a balance between the positioning accuracy and power consumption.

Based on its enhanced performance, the IG76G (AB) is ideal for consumer and industrial applications. Extremely low power consumption makes it a preferred solution for power-sensitive applications, such as Toll Tags, Emergency Beacons and Battery operated Container, Pallet or Animal trackers.

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Key Features

- Multi-GNSS engine for GPS, GLONASS, Galileo, BDS and QZSS, ensuring fast and accurate fix in any environment
- Industry-leading sensitivity: -166 dBm during tracking and -147 dBm during acquisition
- Integrated LNA improves sensitivity
- Embedded multi-tone active interference canceller for anti-jamming
- Supported interfaces: UART and I2C


EASY Technology


Ultra Low Power Consumption


Ultracompact Size


Tracking Sensitivity: -166 dBm


Operating Temperature Range: -40 °C to +85 °C


Anti-jamming


RoHS Compliant


Multi-constellation System

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Eagle IG76G (AB)

GNSS Module	IG76G (AB)*
Dimensions	10.1 mm × 9.7 mm × 2.4 mm
Weight	Approx. 0.5 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 GLONASS: L1 Galileo: E1 BDS: B1I; B1C QZSS: L1 C/A
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 Accuracy①	Autonomous: 1.5 m
Velocity Accuracy②	Without Aid: 0.1 m/s
Acceleration Accuracy②	Without Aid: 0.1 m/s²
Accuracy of 1PPS Signal (RMS)②	30 ns
TTFF (with EASY)③	Cold Start: 15 s Warm Start: 2 s Hot Start: 1 s
TTFF (with EPO)③	Cold Start: 5 s
TTFF (without AGNSS)②	Cold Start: 28 s Warm Start: 25 s Hot Start: 1 s
Sensitivity (@ Default Constellations)	Acquisition: -147 dBm Tracking: -166 dBm Reacquisition: -159 dBm
Dynamic Performance②	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	Active or Passive
Antenna Power Supply	External or Internal (through VDD_RF)
Electrical Characteristics	
Supply Voltage Range	2.55–3.6 V, Typ. 3.3 V
I/O Voltage	Same as VCC
Power Consumption (@ Default Constellations)②	**Normal Operation:** 36 mA (118.8 mW) @ Acquisition 36 mA (118.8 mW) @ Tracking **Power Saving Mode:** 13 µA (42.9 µW) @ Backup Mode
Power Consumption (@ GPS + GLONASS)②	**Normal Operation:** 30 mA (99 mW) @ Tracking 30 mA (99 mW) @ Tracking

NOTE:
1. The IG76G (AB) is a standard version module.
2. ①: CEP, 50%, 24 hours static, -130 dBm, more than 6 SVs.
3. ②: Room temperature, all satellites at -130 dBm.
4. ③: Open-sky, active high-precision GNSS antenna.
5. *: Under development/in progress.

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