

AMY-5M

Preliminary

GPS

u-blox 5 ROM-based GPS receivers

Product description

AMY-5M is the smallest standalone GPS receiver in the industry. This fully tested ROM-based solution features the high performance u-blox 5 positioning engine and has been specifically developed for easy implementation and high volume production. AMY-5M is fully autonomous and requires no host integration, facilitating a short time-to-market. AMY-5M offers three different serial interfaces. The receiver features an integrated GPS crystal, providing fast acquisition and excellent tracking performance at a competitive price. In addition, AMY-5M can be assembled on a 2-layer PCB, which saves production costs. AMY-5M is so small that it can be integrated into the smallest portable devices. Advanced interference suppression mechanisms and innovative RF architecture ensure maximum performance even in hostile signal environments.

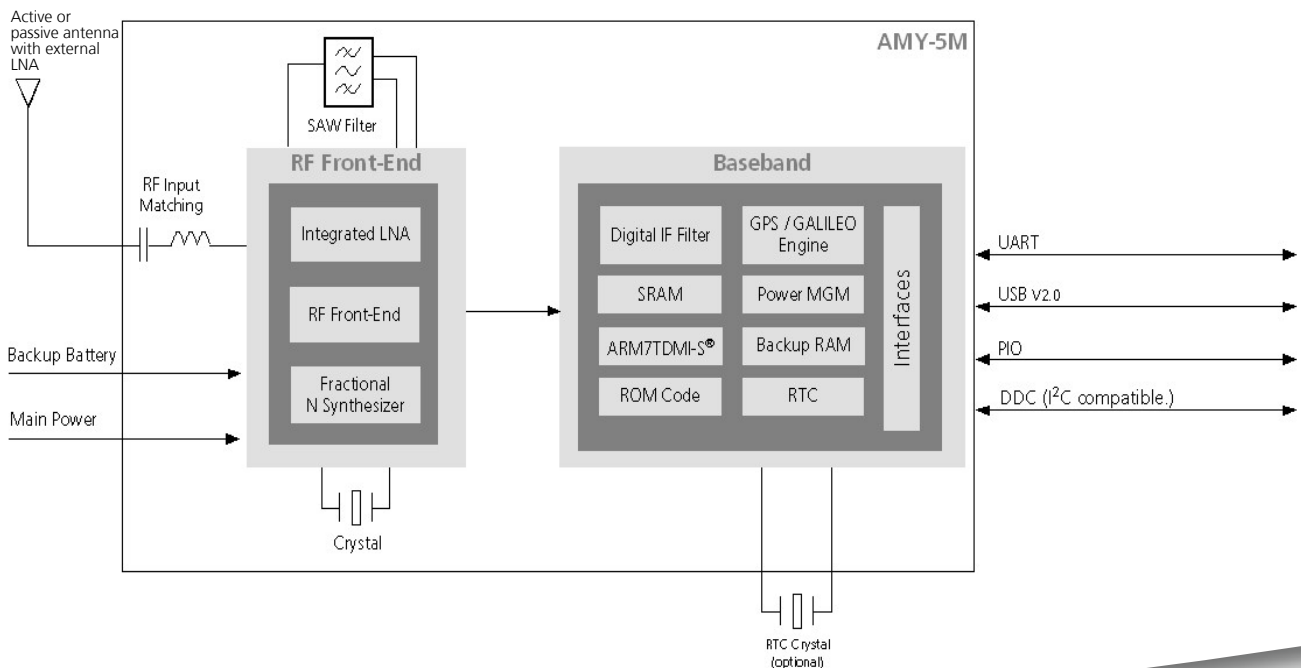


8 x 6.5 x 1.2 mm

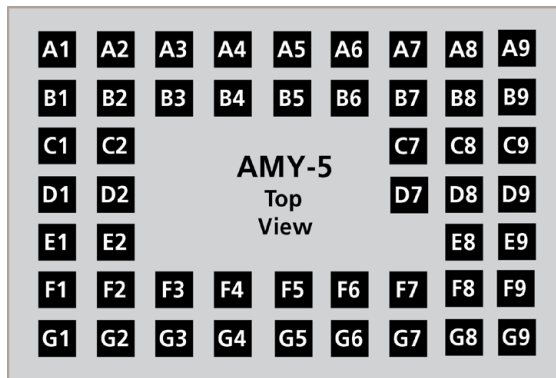
Highlights

- Industry's smallest GPS receiver module: 6.5 x 8 x 1.2 mm
- No host integration required
- 50-channel u-blox5 engine with 1 million correlators
- Operates at 1.8V and 3.0V
- Variety of interfaces: 1 UART, 1 USB, 1 DDC (I²C compliant)
- Supports AssistNow Online and AssistNow Offline A-GPS services; OMA SUPL compliant

Block Diagram



Mechanical data



Housing	LGA50
Dimensions	8.0 x 6.5 x 1.2 mm
Weight	0.15 g

Electrical data

Supply voltages	Single voltage supply: 1.75 – 2.0V or 2.5 – 3.6V Dual voltage supply: 1.4V / 1.8V
Digital I/O Voltage level	1.65V – 3.6V
Power consumption	64 mW (tracking & navigating)
Backup supply	Voltage range: 1.4V to 3.6V
Antenna supervision	Short and open circuit detection supported with external circuit
Antenna type	Active or passive with external LNA

RF data

RTC input	32.768 kHz (optional)
Internal clock	26.0 MHz crystal

Ordering information

AMY-5M-0 ROM-based u-blox 5 GPS module

Available as samples and tape on reel (2000 pieces)

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Interfaces

Serial interfaces	1 UART 1 USBV2.0 full speed 12 Mbit/s 1 DDC (I ² C compliant)
Digital I/O	Configurable time pulse 2 EXTINT interrupt input 2 configuration pins
Protocols	NMEA, UBX binary

Receiver performance data

Receiver type	50-channel u-blox5 engine GPS L1 C/A code SBAS: WAAS, EGNOS, MSAS, GAGAN
Max. update rate	4 Hz
Accuracy	Position 2.5 m CEP SBAS 2.0 m CEP
Acquisition	Cold starts: 36 s Warm starts: 36 s Aided starts: 4 s Hot starts: <1 s
Sensitivity	Tracking: –159 dBm Reacquisition: –159 dBm Cold starts: –141 dBm
A-GPS	Supports AssistNow Online and AssistNow Offline, OMA SUPL compliant
Operational limits	Velocity: 500 m/s (972 knots) Altitude: 50,000 m

Environmental data

Operating temp. –40°C to 85°C

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