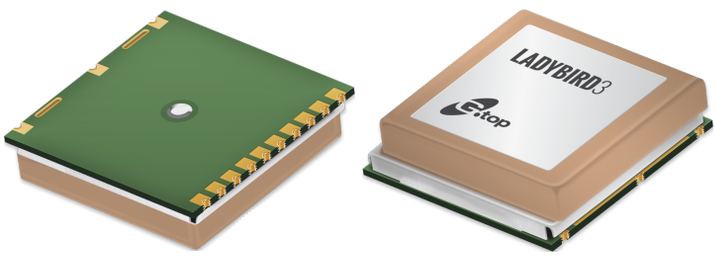
Ladybird Series

GPS-Only | Antenna



16 x 16 x 6.2 mm

- GPS and QZSS
- Compact GPS Antenna Module
- Ultra-low Power Consumption
- Comprehensive FW Customization
- High Positioning Accuracy
- EASY™ Technology For Faster TTFF
- Anti-Jamming Technology
- Reliable Quality ROHS, CE, FCC

Ladybird 3

GPS-Only Antenna Module

Product Description

Ladybird 3 is built based on MT3339 GPS Engine from MediaTek. It is capable of achieving the high level of sensitivity (-165dBm) and instant Time-to-First Fix (TTFF). It is designed for lowest power consumption for precise GPS signal processing while giving precise positioning even under low signal, high velocity conditions.

Ladybird 3 has a well-tuned and optimized built-in Patch Antenna that offers excellent performance, and relieves the developer from Antenna integration. Power management design allows Ivory 3 to be integrated easily into your system without extra voltage regulator. Ladybird 1 also allows direct battery connection without the need for an external LDO and gives customers plenty of choices for their application circuit.

Ladybird 3 includes features such as SBAS, Anti-Jamming, AlwaysLocate™, EASY™, EPO™, and logger function. Ladybird 1's feature set, especially its ultra-low power consumption make it suitable for power sensitive and portable applications.

GlobalTop's industry leading free customization service further expands the capability of Ladybird 3 with unique features such as custom NMEA output sentence, distance calculation, geofencing, magnetic variation and last-position-retention, etc. Advanced users can also customize the basic parameters of the module ,including baud rate, update rate, internal logger settings, DGPS mode, 3D Fix, 1 PPS timing, and many more.

All modules are produced at GlobalTop's in-house ISO 9001:2008 certified manufacturing facility, with 100% unit testing and complete quality control, allowing for a consistent annual yield rate of 99.98%.

Highlights

Embedded Patch Antenna, 16 x 16 x 6.2 mm
Free and extensive FW customization
Ultra-low tracking power consumption, 16 mA
Ultra-sensitive tracking, - 165 dBm
Built-in LNA, SAW-Filter, TCXO, RTC Crystal,
AGPS, SBAS for better accuracy

Applications

Wearables	Personal, pet tracking
Fleet management	Vehicle, freight tracking
Automotive Telematics	Industrial PDA
Timing synchronization	UAV (unmanned air vehicles)
eCall / ERA-GlONASS systems	Smart watch, Digital cameras
Navigation devices	Avionics

Ordering Information

Part number	PA6C
Default Constellation	GPS Only
Packaging	Tape on reel, 1500 pcs per reel
Evaluation Kit	PA6C-EVB-KIT
Firmware configurations	Standard
	Customized

To order samples and EVAL-Kits, please contact your local distributor.

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Ladybird 3

GPS-Only Antenna Module

Track with GlobalTop

Quality | Innovation | Customization | Longevity

Product Features

Receiver Type	MT3339 Engine
Frequency Bands	GPS L1, QZSS L1, SBAS L1
Channels	Acquisition 66 / Tracking 22 / PRN 210
DGPS (SBAS)	USA WAAS / EU EGNOS / Japan MSAS / India GAGAN
Positioning Accuracy	Minimum < 2.0 m Typical < 3.0 m SBAS < 2.5 m
Velocity Accuracy	0.05 m/s (with SBAS) 0.10 m/s (without SBAS)
Timing Accuracy (1 PPS)	±10 ns RMS (100 ms pulse-width)
Maximum Altitude	50000 m (Default : 18000 m)
Maximum Velocity	515 m/s (1000 Knots)
Maximum Acceleration	4G
Anti-Jamming	Active CW detection and removal 12 multi-tone interference canceller
AGPS	EPO in flash™ 7 - 14 days ephemeris
EASY™	Self-generated orbit prediction
AlwaysLocate™	Intelligent periodic mode algorithm
LOCUS™	Internal data logger, up to 16 hours at 15s intervals (default setting)
Built-In Components	TCXO, RTC Crystal, Additional LNA LDO, SAW Filter, Embedded Flash
External Antenna Interface	None

Sensitivity

TTFF (time-to-first-fix)	With EASY™	Without EASY™
Hot Start	1 Second	1 Second
Warm Start	5 Seconds	33 Seconds
Cold Start	15 Seconds	35 Seconds

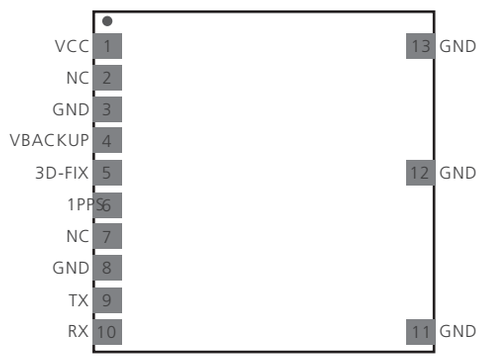
Sensitivity	
Tracking	- 165 dBm
Acquisition	- 148 dBm (Cold Start)
Re-acquisition	- 163 dBm (Hot Start)

Interfaces

Serial Interfaces	UART
Max. Baud Rate	115200 bps (Default : 9600 bps)
Max. Update Rate	10 Hz (Default : 1 Hz)
Digital I/O	1 PPS
Protocols	NMEA standard NMEA Secure (binary, ASCII)

Dimensions

20-Pin LCC Package	16 x 16 x 6.2 mm
Weight	5.65 g
Pinout	



Electrical Data

Supply Voltage	3.0 V to 4.3 V (Typical 3.3 V)		
Backup Supply	2.0 V to 4.3 V (Typical 3.0 V)		
Power Consumption	Mininum	Typical	Maximum
Acquisition	19 mA	29mA	37 mA
Power Tracking	16 mA	23 mA	30 mA
GLP Low Power Tracking	TBA		
Power Saving (Periodic)			
Backup Mode	9 µA (Typical)		
Standby Mode	180 µA (Typical)		

Environmental Data and Approvals

Operating Temperature	- 40°C to 85°C
Storage Temperature	- 40°C to 85°C
Approvals and Compliance	CE, FCC, ROHS, REACH, E911

Manufactured at an ISO 9001:2008 certified facility

Free Firmware Customization

Basic Functions	Advanced Functions
Default baud-rate	NMEA Secure (ASCII, Binary)
NMEA sentence interval	Custom NMEA output
Datum (222 selections)	Last position retention
DGPS mode	Magnetic variation
Update rate	Geofencing
Data digits after decimal	Distance calculation
3D Fix settings	Navigation mode
1 PPS duration, output	Advanced altitude
Active interference canceller	Data-logger customization

GlobalTop Technology Inc.
No. 16, Nan-Ke 9th Road, Science-based Industrial Park,
Tainan 741, Taiwan

Contact us :

Email sales@gtop-tech.com
Tel +886 6 5051268
Fax +886 6 5053381

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