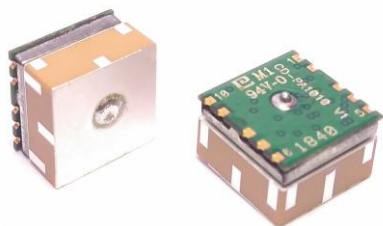


PA1010D



GPS GLONASS

Patch Antenna



10 x 10 x 6.8 mm



PA1010D

GNSS Antenna Module

Product Description

World's smallest multi-constellation antenna module enabling high performance in a variety of application.

PA1010D is built based on MT3333 GNSS 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 GNSS signal processing while giving precise positioning even under low signal, high velocity conditions.

PA1010D has a well-tuned and optimized built-in Patch Antenna that offers excellent performance, and relieves the developer from Antenna integration. Power management mode to be integrated easily into your system without extra voltage regulator. PA1010D also allows direct battery connection without the need for an external LDO and gives customers plenty of choices for their application circuit.

PA1010D includes features such as SBAS, Anti-Jamming, **EASY™**, **AlwaysLocate™**, **EPO™**, and logger function. PA1010D's feature set, especially its ultra-low power consumption by Backup mode make it suitable for power sensitive and portable applications.

CDtop's industry leading free customization service further expands the capability of PA1010D with unique features such as custom NMEA output sentence, distance calculation, Geo-fencing, 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, 1 PPS timing, and many more.

Highlights

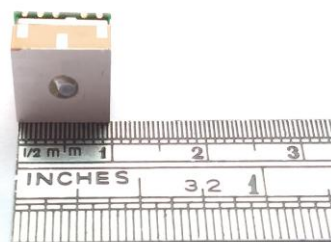
Embedded Patch Antenna, 10 x 10 x 6.8 mm
Free and extensive firmware customization
Ultra-low tracking power consumption, 28 mA
Ultra-sensitive tracking, -165 dBm
Built-in LNA, SAW Filter, TCXO, RTC Crystal
AGPS, SBAS for better accuracy

Applications

Wearable devices	Personal, pet tracking
Fleet management	Vehicle, freight tracking
Assets trackers	Industrial PDA
Timing synchronization	Unmanned Air Vehicles
Smart watch, Avionics	Digital cameras
Navigation devices	

Ordering Information

Part number	PA1010D
Default Constellation	GPS GLONASS
Packaging	Tape on reel, 500 pcs/reel
Evaluation Kit	PA1010D-EV-KIT
Firmware configurations	Standard Customized



PA1010D

GPS GLONASS Antenna Module

Track with CDtop

Quality

Innovation

Customization

High-performance

Product Features

Receiver Type	MT3333 chip
Frequency Bands	GPS L1, GLONASS L1, QZSS SBAS
Positioning Accuracy	Minimum < 2.0m Typical < 3.0m SBAS < 2.5m
Velocity Accuracy	0.05m/s(with SBAS) 0.1m/s(without SBAS)
Maximum Altitude	80,000m(default: 10,000m)
Maximum Velocity	515m/s(1,000 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 Component	TCXO, RTC Crystal, additional LNA LDO, SAW Filter, Embedded Flash

Sensitivity

TTFB(Time-to-first-fix)	with EASY™	without EASY™
Hot Start	1 sec	1 sec
Warm Start	5 sec	33 sec
Clod Start	15 sec	35 sec

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

Interfaces

Serial Interfaces	UART
Maximum Baud rate	115,200bps(default: 9,600)
Maximum Update rate	10Hz(default: 1Hz)
Digital I/O	1PPS
Protocols	NMEA standard, Binary, ASCII

Environmental Data

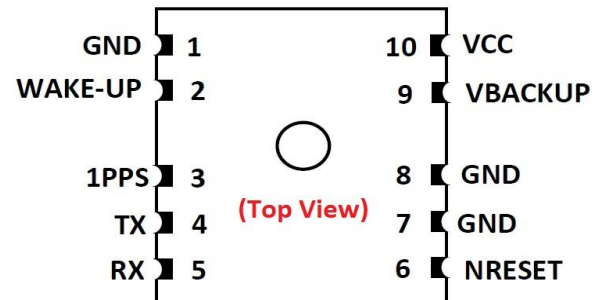
Operating Temperature	- 40°C to 85°C Storage
Temperature	- 40°C to 85°C

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Dimensions

10-Pin LCC Package	10 x 10 x 6.8 mm
Weight	2.75 g
Pinout	



Electrical Data

Supply voltage	3.0 ~ 4.3V(Typical 3.3V)
Backup supply	2.0 ~ 4.3V(Typical 3.0V)
Power Consumption	
Acquisition	36mA(Typical)
Tracking	28mA(Typical)
Power saving mode	
Backup mode	18uA(Typical)

Power Management Mode

Full power continuous	
Power save mode	Standby Periodic AlwaysLocate™
Backup mode	

Free Firmware Customization

Basic Functions	Advanced Functions
Baud rate	NMEA Secure(ASCII, Binary)
Update rate	Custom NMEA output
NMEA sentence interval	Last position retention
Data digits after decimal	Magnetic variation
Datum (222 selections)	Geo-fencing
PPS duration, output	Distance calculation
LOCUS(Data-logger)	Navigation mode
	Data-logger customization
	Advanced altitude



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