

UC530

Fastrax GPS antenna module

Highlights

- Embedded GPS Antenna
- Extremely small form factor, 9.6 x 14.0 x 1.95 mm
- Connectivity for external GPS antenna
- Ultra low power consumption, 45 mW
- Self-assistance for 3 days



UC530:
9.6 x 14.0 x 1.95 mm

Product description

The UC530 comes in a tiny form factor with an embedded GPS antenna and with optional connectivity to an external GPS antenna. It is ideally suited to a wide range of applications ranging from handheld computers to asset tracking devices.

The UC530 supports autonomous A-GPS, allowing a reduction of the warm start TTFF by as much as 90%. It features an embedded data logger, which can store location information to internal Flash memory for up to 16 hours at the predetermined interval of 15 seconds.

The extended input voltage range (+3.0... 4.3 V) of the UC530 supports a direct power supply connection to a lithium battery, eliminating the need of an external regulator. The UC530 has an internal high-efficiency switching regulator that makes it possible to achieve ultra low power drain.

The chip antenna of UC530 performs well against larger patch antennas and its omnidirectional radiation pattern increases flexibility for device installation. Additionally, UC530 can optionally be connected to an external GNSS antenna, or it can work efficiently as a back-up antenna if the external antenna is damaged or removed.

With a size of only 9.6 x 14.0 x 1.95 mm, the UC530 is extremely well suited for applications with space restrictions. The small size, including the embedded antenna, combined with the high performance GPS receiver, makes the UC530 an unbeatable choice for any GPS application.

Product selector

Model	Type	Supply	Interfaces	Features
	GPS QZSS GLONASS Timing Dead Reckoning Precise Point Positioning	3.0 V – 4.3 V 1.65 V – 3.6 V Lowest power (DC/DC)	UART USB SPI DDC (I2C compliant)	Programmable (Flash) Data logger Extra front-end LNA Front-end SAW filter Oscillator RTC crystal Antenna supply Antenna short circuit detection / protection Antenna open circuit detection pin Timepulse External interrupt / Wakeup
UC530	• •	• •	•	• • • • T • • •

C = Crystal / T = TCXO

Features

Receiver type	MT3339 engine GPS L1 C/A, QZSS L1 C/A SBAS: WAAS, EGNOS, MSAS	
Navigation update rate	up to 10 Hz	
Accuracy	Position	2.5 m CEP
	SBAS	2.0 m CEP
Acquisition	Cold starts:	31 s
	Warm starts:	31 s
	Hot starts:	1 s
Sensitivity	Tracking:	-165 dBm
	Cold starts:	-148 dBm
Assistance	Autonomous	
Data logging	Up to 16 hours at 15s intervals	
Oscillator	TCXO	
RTC crystal	Built-In	
Anti jamming	Active CW detection and removal	
Memory	Flash	
Supported antennas	Embedded chip antenna Optional external antenna	

Electrical data

Supply voltage	3.0 V to 4.3 ¹ V
Power Consumption	45 mW @ 3.3 V (Continuous)
Backup Supply	2.0 V to 4.3 ¹ V

¹ For future-proof designs, u-blox recommends a 3.6 V maximum.

Interfaces

Serial interfaces	2 UART
Digital I/O	TIMER UI_FIX WAKEUP (ANT_ON)
Timepulse	1 Hz
Protocols	NMEA, RTCM

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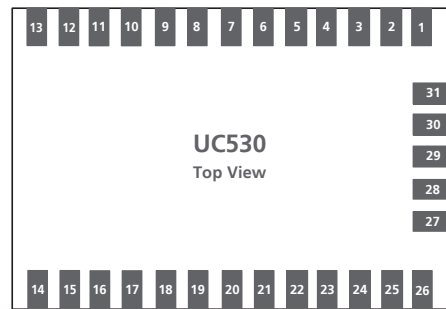
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Objective Specification

Package

28 pin LCC, castellated: 9.6 x 14.0 x 1.95 mm, 0.5 g

Pinout



Environmental data, quality & reliability

Operating temp.	-40° C to 85° C
Storage temp.	-40° C to 85° C
RoHS compliant (lead-free)	

Ordering information

UC530-0	Fastrax GPS Antenna Module, Flash, TCXO, SAW, 9.6 x 14.0mm, 500 pcs/reel
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Available as samples and tape on reel

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