



## Venus838LPx-T 1cm<sup>2</sup> Precision Timing GPS Receiver

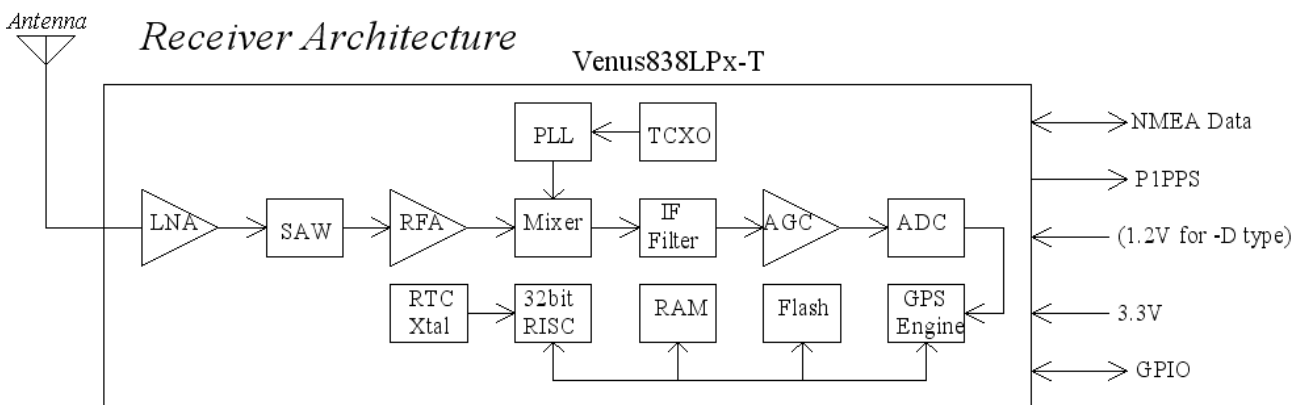
### FEATURES

- 2 timing pulse outputs (1 to 10MHz programmable)
- 6nsec (1-sigma) 1PPS timing accuracy
- Stationary mode for improved accuracy
- Single satellite operation
- Receives GPS / QZSS / SBAS signal
- Complete receiver module in 10 x 10 x 1.3 mm
- 16 million time-frequency hypothesis testing per sec
- Open Sky hot start 1 second, cold start 29 second
- Signal detection sensitivity -165dBm
- 0.8mm pitch LGA69 package, RoHS compliant

The Venus838LPx-T is a high performance module in a chip design targeting precision timing GPS receiver application. It offers very low current consumption, high sensitivity, and best in class signal acquisition and time to first fix performance.

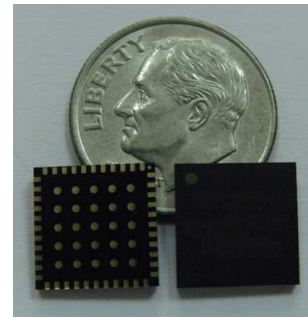
The Venus838LPx-T contains all the necessary components of a complete GPS receiver module, includes GPS RF front-end, GPS baseband signal processor, 0.5ppm TCXO, 32.768kHz RTC crystal, RTC LDO regulator, and passive components. It requires very low external component count and takes up only 100mm<sup>2</sup> PCB footprint.

Dedicated massive-correlator signal parameter search engine within the baseband enables rapid search of all the available satellites and acquisition of very weak signal. An advanced track engine allows weak signal tracking and continuous reliable precision timing generation in harsh environments such as urban canyons and under deep foliage.



## TECHNICAL SPECIFICATIONS

Receiver Type	L1 Frequency GPS / QZSS / SBAS C/A code,
Accuracy	Position 2.5m CEP Velocity 0.1m/sec Timing 6nsec (1-sigma) < 12nsec (99%)
Open Sky TTFF	hot start 1 second cold start 29 seconds average
Reacquisition	< 1s
Sensitivity <sup>*1</sup>	Tracking -165dBm Reacquisition -158dBm Cold Start -148dBm
Update Rate	1Hz default
Operational Limits	Altitude < 18,000m <sup>*1</sup> or Velocity < 515m/s <sup>*1</sup>
Serial Interface	LVTTTL level
Protocol	NMEA-0183 V3.01 SkyTraq Binary 9600 baud rate
Supply Voltage	2.8V ~ 3.6V
Current Consumption	29mA Tracking
Package	LGA69 10 x 10 x 1.3 mm RoHS Compliant
Weight	0.3g

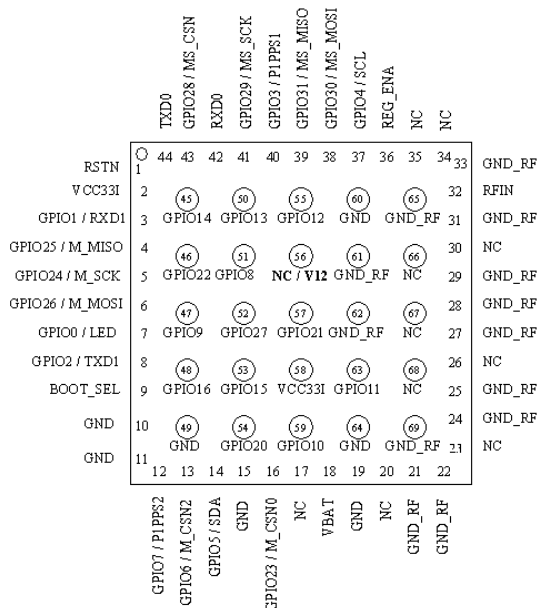


## ORDERING INFORMATION

Part Number	Description
Venus838LPx-T-L	Timing GPS Receiver Module (internal 1.2V LDO version)
Venus838LPx-T-D	Timing GPS Receiver Module (external 1.2V input)

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Venus838LPx-T-L / Venus838LPx-T-D Top View



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\*1: COCOM limit, either may be exceeded but not both