



Venus634LP 65 Channel All-In-One GPS Receiver

FEATURES

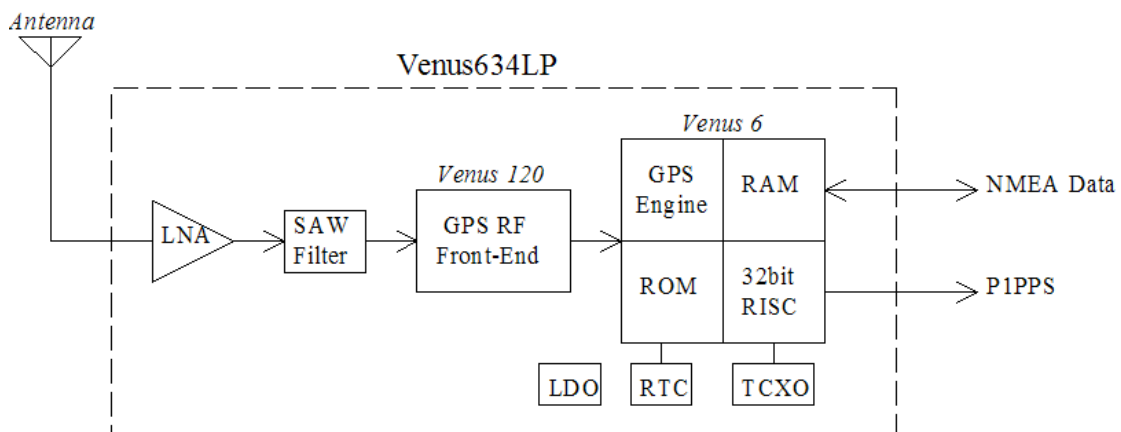
- GPS receiver in 10mm x 10mm x 1.2mm size
- 51 channel acquisition engine
- 14 channel track engine
- 8 million time-frequency hypothesis testing per sec
- Open sky hot start 1 second
- Open sky cold start 29 second
- Signal detection better than -158dBm
- Reacquisition sensitivity -155dBm
- Accuracy 2.5m CEP
- ~30mA in tracking and navigation mode
- Multipath detection and suppression
- LGA44 package with 0.8 pitch
- RoHS compliant

The Venus634LP is a complete module-in-a-chip design targeting mobile consumer and cellular handset applications. It offers very low current consumption, high sensitivity, and best in class signal acquisition and time-to-first-fix performance.

The Venus634LP consists of LNA, SAW filter, Venus120 GPS RF front end, Venus6 GPS baseband, 0.5ppm TCXO, 32.768kHz RTC crystal, RTC LDO regulator, and passive components. It requires very low external component count and takes up only 100mm² 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 positioning in harsh environments such as urban canyons and under deep foliage.

With very fast signal acquisition speed, the Venus634LP has very low average power consumption for locate on demand type of applications.



TECHNICAL SPECIFICATIONS

Receiver Type	L1 Frequency GPS C/A code SBAS Capable 51 Channel Acquisitions 14 Channel Tracking
Accuracy	Position 2.5m CEP Velocity 0.1m/sec
Open Sky TTFF	hot start 1 second cold start 29 seconds average
Reacquisition	< 1s
Sensitivity	Tracking -158dBm Re-acquisition -155dBm *1
Update Rate	1Hz standard
Dynamics	4G
Operational Limits	Altitude < 18,000m ^{*2} or Velocity < 515m/s ^{*2}
Serial Interface	LVTTTL level
Protocol	NMEA-0183 V3.01 SkyTraq Binary
Supply Voltage	2.7V ~ 3.3V
Current Consumption	~30mA Tracking ~50mA Acquisition
Package	LGA44 10 x 10 x1.2 mm RoHS Compliant



ORDERING INFORMATION

Part Number	Description
Venus 634LP	Single Chip GPS Module LGA44 10mm x 10mm x 1.2mm

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*1: with 1 satellites at -138dBm, remaining satellites at -155dBm

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