



Venus816 Dual Antenna Supporting Single Chip GPS Receiver

FEATURES

- 2 RF inputs for passive and active antenna
- Active antenna short circuit protection
- Maximum update rate 40Hz
- Works with GPS、QZSS、SBAS signals
- -148dBm cold start sensitivity
- -165dBm tracking sensitivity
- 29 second cold start TTF
- 3.5 second TTF with AGPS
- 1 second hot start TTF
- 2.5m CEP accuracy
- Multipath detection and suppression
- Jamming mitigation and reporting
- 7-day extended ephemeris AGPS
- Integrated 0.9dB NF 20dB gain LNA
- 1.2dB cascaded RF section noise figure
- Tracking power consumption 70mW
- 5mm x 5mm QFN40 package
- RoHS compliant

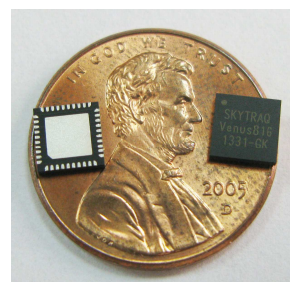
The Venus816 is a low-cost high-performance single-chip GPS receiver targeting camera, cellular handset, MID, mobile gaming, fitness, and asset tracking applications. It is a complete ROM-based stand-alone GPS chipset offering very low power consumption, high sensitivity, best in class signal acquisition and time-to-first-fix performance.

Venus816 single-chip GPS receiver features low cascaded RF section noise figure of 1.2dB, capable of working with passive and active antenna directly, eliminating the need of additional external LNA when using passive antenna, offering significant saving for cost-sensitive high-volume applications. It requires low external component count and small 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.

Enhanced ephemeris decoding algorithm reduces TTF time under fluctuating weak signal reception environments. Highly optimized navigation algorithm offers continuous and reliable navigation under most difficult environments.

With exceptional GPS signal acquisition and TTF speed, the Venus816 GPS receiver has very low average power consumption for locate on demand type of applications.



TECHNICAL SPECIFICATIONS

Receiver Type	L1 GPS C/A code, QZSS、SBAS Capable 16-million time-freq search / sec
Accuracy	Position 2.5m CEP Velocity 0.1m/sec Timing 12ns
Open Sky TTFF	29 seconds cold start 1 second hot start
Reacquisition	< 1s
Sensitivity	-165dBm tracking -148dBm cold start
Update Rate	1 / 2 / 4 / 5 / 8 / 10 / 20 / 40 Hz (default 1Hz)
Dynamics	4G
Operational Limit	Altitude < 18,000m or Velocity < 515m/s
Datum	Default WGS-84
Interface	UART LVTTTL level
Baud Rate	4800 / 9600 / 38400 / 115200
Protocol	NMEA-0183 V3.01, GGA, GLL, GSA, GSV, RMC, VTG, ZDA (default GGA, GSA, GSV, RMC, VTG) and SkyTraq Binary
Supply Voltage	3.3V, 1.2V
Power Consumption	70mW tracking
Operating Temperature	-40 ~ +85 deg-C
Package	QFN40 5mm x 5mm

ORDERING INFORMATION

Part Number	Description
Venus816	single-chip GPS receiver, 5mm x 5mm

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