

## Venus838FLPx 50Hz -165dBm Low-Power GPS Module

## **FEATURES**

- 50Hz update rate
- -148dBm cold start sensitivity
- -165dBm tracking sensitivity
- 29 second cold start TTFF
- 3.5 second TTFF with AGPS
- 1 second hot start
- 2.5m accuracy
- Multipath detection and suppression
- Jamming detection and mitigation
- SBAS (WAAS / EGNOS) support
- 7-day extended ephemeris AGPS
- 90mW full power navigation
- Works directly with active or passive antenna
- Supports external SPI flash memory data logging
- Complete receiver in 10mm x 10mm x 1.3mm size
- Contains LNA, SAW Filter, TCXO, RTC Xtal, LDO
- Requires only antenna and power to work
- Pb-free RoHS compliant

The Venus838FLPx is a high performance, low cost, single chip GPS receiver targeting mobile consumer and cellular handset applications. It offers very low power consumption, high sensitivity, and best in class signal acquisition and time-to-first-fix performance.

Venus838FLPx contains all the necessary components of a complete GPS receiver, includes GPS RF front-end, GPS baseband signal processor, 0.5ppm TCXO, 32.768kHz RTC crystal, RTC LDO regulator, and passive components. It 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 positioning in harsh environments such as urban canyons and under deep foliage.

Venus838FLPx is very easy to use, minimizes RF layout design issues and offers very fast time to market.

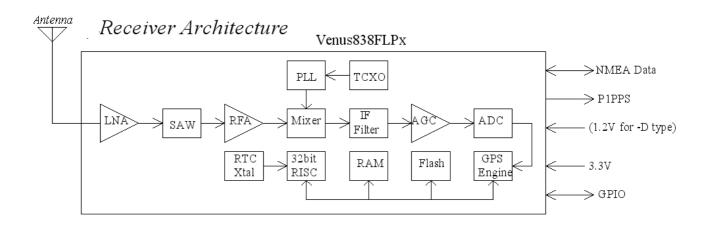


## **TECHNICAL SPECIFICATIONS**

Notestive TypeLifelentry (PS, QZSS, SBAS 167-channel architecture 16-million time-freq search / secVenus838FLPx-LSingle Chip CPS Receiver, Flash type 1.2V + 3.3V Dual SupplyAccuracyPosition 2.5m CEP Velocity 0.1m/sec Time 10nsecSkyTraq Technology, Inc. 4F, No.26, Minsiang Street, Hsinchu, Taiwan, 300 Phone: +886 3 5678680 Email: info@skytraq.com.twOpen Sky TTFF29 second cold start 3.5 second with AGPS second with AGPS 148dBm cold startSkyTraq Technology, Inc. 4F, No.26, Minsiang Street, Hsinchu, Taiwan, 300 Phone: +886 3 5678680 Email: info@skytraq.com.twReacquisition< 1sSkyTraq Technology in C: 9 second old start 148dBm cold startAGPS7-day extended ephemeris 50 Hz"2013 SkyTraq Technology in C: 9 second vita Agree the fight 10 be reproduced in whole or part of any purpose without written permission of SkyTraq second or leable. These materials are provided by SkyTraq second in those or and leable. These materials are provided by SkyTraq second not tobe.AGPS7-day extended ephemeris 50 Hz Default 1HzThese materials are provider is is "without warranty of any bind either sign induction at any time withou notice.Dynamics4GNMEA-0183 V3.01 SkyTraq BinarySkyTraq products are not intended for use in medical, Ife-support devices, or applications involving potential insk of death, personal injury, or severe property damage in case of failure of the productProtocolNMEA-0183 V3.01 SkyTraq BinarySkyTraq products are not intended for use in medical, Iffe-support devices, or applications involving potential insk of death, personal injury, or severe property damage in case of failure of the product<		1.1 fraguanay	Part Number	Description
167-channel architecture 16-million time-freq search / sec Image: Single Chip GPS Receiver, Flash type 3.3V Single Supply   Accuracy Position 2.5m CEP Velocity Velocity Velocity Single Chip GPS Receiver, Flash type 3.3V Single Supply   Open Sky TTFF 29 second cold start 3.5 second with AGPS 1 second hot start SkyTraq Technology, Inc. 4F, No.26, Minsiang Street, Hsinchu, Taiwan, 300 Phone: +888 3 5678650 Fax: +888 3 5678650 Fax: Fax: +888 3 5678650 Fax: Fax: +888 3 5678650 Fax: Fax: +986 3 5678650	Receiver Type	L1 frequency GPS_QZSS_SBAS	Venus838FLPx-D	Single Chip GPS Receiver, Flash type
16-million time-freq search / sec Vehus838FLPX-L [Single Chip GPS Receiver, Flash type]   Accuracy Position 2.5m CEP   Velocity 0.1m/sec 10nsec   Time 10nsec 33V Single Supply   Open Sky TTFF 29 second cold start 35 second with AGPS   3.5 second with AGPS 1 second hot start   Reacquisition <1s				
AccuracyPosition Velocity Time2.5 m CEP 0.1 m/sec Time10 nsecOpen Sky TTFF29 second cold start 3.5 second with AGPS 1 second hot startSkyTraq Technology, Inc. 4F, No.26, Minsiang Street, Hsinchu, Taiwan, 300 Phone: + 886 3 5678650 Fax: + 986 3 5678650 Fax: + 886 3 5678650 Fax: + 165dBm tracking + 148dBm cold start AGPS - 7-day extended ephemerisSkyTraq Technology Inc. 41 expressed or impleted in whoth variant or any time without notice.Update Rate Update Rate Update Rate1/2/4/5/8/10/20/25/40/ 			Venus838FLPx-L	
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Sensitivity-165dBm tracking -148dBm cold startpermissions of SkyTraq Technology Inc ("SkyTraq"). Information provided by SkyTraq is a service to its customers and may be used for informational purposes only. SkyTraq reserves the right to change specification at any time without notice.AGPS7-day extended ephemerisUpdate Rate1/2/4/5/8/10/20/25/40/ 50 Hz Default 1HzDynamics4GOperational LimitsAltitude < 18,000m <sup>-1</sup> and Velocity < 515m/s <sup>-1</sup> Serial InterfaceLVTTL levelProtocolNMEA-0183 V3.01 SkyTraq BinaryPower Consumption75mW full power tracking 114mW max perf. acquisitionPackageLGA69 10 x 10 x1.3 mmComplianceRoHS			© 2013 SkyTraq Techno	logy Inc. All rights reserved.
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**ORDERING INFORMATION** 

\*1: COCOM limit



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