



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

### FEATURES

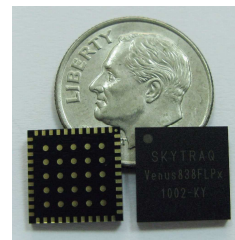
- 50Hz update rate
- -148dBm cold start sensitivity
- -165dBm tracking sensitivity
- 29 second cold start TTFF
- 3.5 second TTFF with AGPS
- 1 second hot start
- 2.5m accuracy
- Multipath detection and suppression
- Jamming detection and mitigation
- SBAS (WAAS / EGNOS) support
- 7-day extended ephemeris 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

Receiver Type	L1 frequency GPS, QZSS, SBAS 167-channel architecture 16-million time-freq search / sec
Accuracy	Position 2.5m CEP Velocity 0.1m/sec Time 10nsec
Open Sky TTFF	29 second cold start 3.5 second with AGPS 1 second hot start
Reacquisition	< 1s
Sensitivity	-165dBm tracking -148dBm cold start
AGPS	7-day extended ephemeris
Update Rate	1 / 2 / 4 / 5 / 8 / 10 / 20 / 25 / 40 / 50 Hz Default 1Hz
Dynamics	4G
Operational Limits	Altitude < 18,000m <sup>*1</sup> and Velocity < 515m/s <sup>*1</sup>
Serial Interface	LVTTTL level
Protocol	NMEA-0183 V3.01 SkyTraq Binary
Power Consumption	75mW full power tracking 114mW max perf. acquisition
Package	LGA69 10 x 10 x1.3 mm
Compliance	RoHS
Weight	0.3g

\*1: COCOM limit

## ORDERING INFORMATION

Part Number	Description
Venus838FLPx-D	Single Chip GPS Receiver, Flash type 1.2V + 3.3V Dual Supply
Venus838FLPx-L	Single Chip GPS Receiver, Flash type 3.3V Single Supply

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