

S1216F8-GL

High-Performance 167 Channel GLONASS + GPS Receiver

FEATURES

- 167 Acquisition/Tracking Channels
- Support QZSS, WAAS, MSAS, EGNOS, GAGAN
- 16 million time-frequency hypothesis testing per sec
- -148dBm cold start sensitivity
- -165dBm tracking sensitivity
- 29 second cold start TTFF
- 3.5 second TTFF with AGPS
- 1 second hot start
- 2.5m CEP accuracy
- Multipath detection and suppression
- Jamming detection and mitigation
- Self-aided ephemeris prediction
- Works with active and passive antenna
- Active antenna detection & short protection
- Operating temperature -40 ~ +85°C
- Pb-free RoHS compliant

Applications

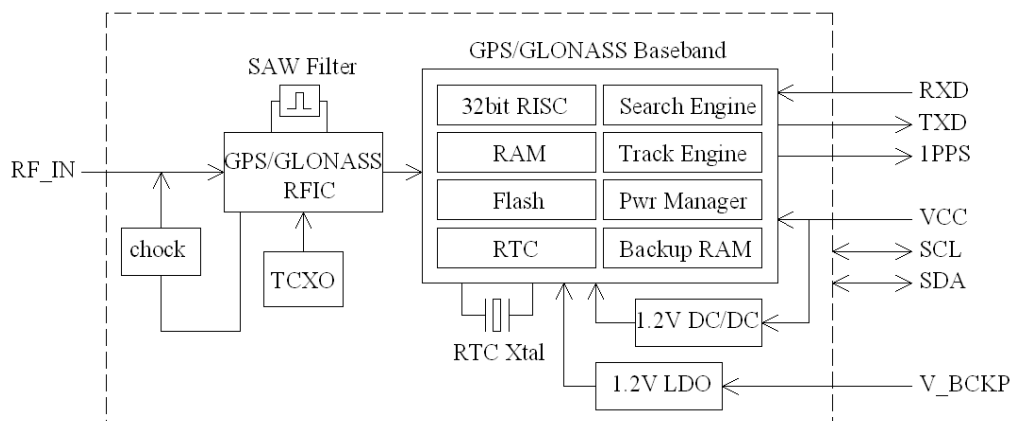
- Navigation / Tracking
- Timing reference

The S1216F8-GL is state-of-the-art global navigation satellite system receivers capable of tracking up to 28 GPS + GLONASS + QZSS + WAAS + EGNOS + MSAS + GAGAN satellite signals combined.

Dual-satellite navigation receiver module receives greater number of satellites than available for GPS-only receivers. The increased satellite number offers superior performance in challenging urban canyon and multipath environments.

The S1216F8-GL module contains SkyTraq Venus 8 positioning engine inside, featuring high sensitivity for indoor fix, low power consumption, and fast TTFF. The superior -148dBm cold start sensitivity allows it to acquire, track, and get position fix autonomously in difficult weak signal environment. The receiver's -165dBm tracking sensitivity allows continuous position coverage in nearly all application environments. The high performance signal parameter search engine is capable of testing 16 million time-frequency hypotheses per second, offering industry-leading signal acquisition and TTFF speed.

The S1216F8-GL module contains LNA for easy integration with passive antenna and a SAW filter for increased jamming immunity. It works with both passive and active antenna; the self-contained antenna detection and short circuit protection feature enables lowest integration cost for system integrators using active antenna.



TECHNICAL SPECIFICATIONS

Receiver Type	L1 C/A, 167 channel
Modes	GLONASS GPS GLONASS + GPS
Accuracy	Position 2.5m CEP Velocity 0.1m/sec Time 10ns
Startup Time	1 second hot start < 29 second warm start 29 second cold start
Reacquisition	1s
Sensitivity	-148dBm cold start -165dBm navigation
Update Rate	1/2/4/5/8/10/20 Hz
Operational Limits	Altitude < 18,000m or Velocity < 515m/s
Serial Interface	3.3V LVTTTL level
Protocol	NMEA-0183 V3.01 9600 baud, 8, N, 1
Datum	Default WGS-84 User definable
Input Voltage	3.3V DC +/-5%
Power Consumption	45mA@3.3V acquisition 40mA@3.3V tracking
Dimension	16.0mm L x 12.2mm W
Weight:	1.6g
Operating Temperature	-40°C ~ +85°C
Storage Temperature	-55 ~ +100°C
Humidity	5% ~ 95%



ORDERING INFORMATION

Part Number	Description
S1216F8-GL	GLONASS/GPS Receiver

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