

SiRFstarIII GSC3LTif

High Performance, Low Power, Multimode A-GPS Solution

PRODUCT OVERVIEW



This tiny dynamo condenses SiRFstarIII™ technology into a low power, high performance SiRF solution, and it measures a small 6x6x1.4 mm —thanks to 90-nanometer technology. Less expensive and 25% smaller than the GSC3LTf, the GSC3LTif is engineered for wireless applications and handheld systems with centralized power management that doesn't require a wholly independent, self-managed GPS subsystem power supply.

GENERAL SPECIFICATIONS

Supported Software

Standard

- GSW3LT Standalone GPS software with SBAS support

Premium

- SiRFLoc® Client (SLC) LT A-GPS Multimode Location Engine™ for GSM/3GPP
- SiRFLoc Client (SLC) LT A-GPS Multimode Location Engine for CDMA IS-801A with coarse location
- SiRFInstantFix™ extended ephemeris service for very fast TTFFs

Package

- Type: 120-ball thin profile, fine pitch ball grid array (TFBGA) with a ball pitch of 0.5 mm
- Dimensions: 6 mm x 6 mm; Height: 1.4 mm
- Typical total solution footprint: 105 mm²

KEY FEATURES

- 90 nm SiRFstarIII-LT DSP Core
- Navigation Engine (PVT) solution
- Programmable 4 Mbit Flash memory
- SPI and UART host interfaces
- Up to eight programmable GPIOs

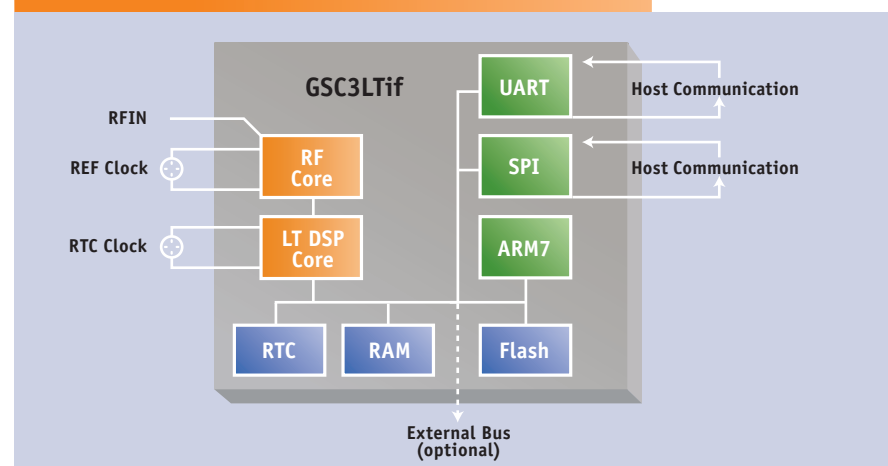
GPS Architecture Highlights

- High sensitivity: -159 dBm for indoor fixes
- 200,000+ effective correlators for fast TTFF and high sensitivity acquisition
- SBAS (WAAS, MSAS, EGNOS) support

GPS Features

- Real time navigation for location based services
- Low energy-per-fix in point position applications
- Advanced Power Management and Adaptive TricklePower™ plus low energy-per-fix in point position applications
- Multimode A-GPS Support: Autonomous, MS Based, MS Assisted
- Location protocol libraries supporting RRC, RRLP, 3GPP2, SUPL, E-911

GSC3LTif BLOCK DIAGRAM



TECHNICAL SPECIFICATIONS

Horizontal Position Accuracy¹

Autonomous	<2.5 m
SBAS	<2.0 m

Velocity Accuracy²

Speed	<0.01 m/s
Heading	<0.01°

Time To First Fix³

Hot start - Autonomous	<1 s
Warm start - Autonomous	<35 s
Cold start - Autonomous	<35 s
MS Based - GSM coarse time	<0.6 s
MS Assisted - GSM coarse time	<5.3 s

Sensitivity⁴

Autonomous acquisition	-142 dBm
GSM / UMTS coarse time aided	-155 dBm
CDMA precise time aided	-155 dBm
Tracking	-159 dBm

Receiver

Tracking	L1, CA Code
Channels	up to 20
Max update rate	1 Hz
Max altitude/velocity	<60,000 ft/<1,000 knots
Protocol support	A13/F, SiRF Binary, NMEA

System Integration

I/O Interface	UART and SPI
External reference clock	13, 16.369, 16.8, 19.2, 24.55, 26, 33.6, 38.4 MHz
RTC input	32.768 kHz

Power⁵

Continuous Autonomous operation	50 mW
TricklePower	25 mW
Energy per fix	40 mW-s
Standby current	5 μ A

Size

Package dimensions	6 x 6 x 1.4 mm
Typical design footprint	<105 mm ²

1. 50% 24 hr static, -130 dBm 2. 50% @ 30 m/s 3. 50% -130 dBm
Fu 0.5 ppm Tu \pm 2 s Pu 30 Km 4. -142 dBm \approx 28 dB-Hz with 4 dB
noise figure 5. Average, TricklePower 200:1. Does not include LNA.

ORDERING INFORMATION

Part Number	Temp. Range	Description
GSC3LTif-8072-TR	-40° to +85° C	Internal Flash

For more information about this and related products, contact your SiRF representative, or call our sales force at (1) (408) 467-0410, or visit www.sirf.com.

For the location of your nearest authorized SiRF distributor, visit www.sirf.com.

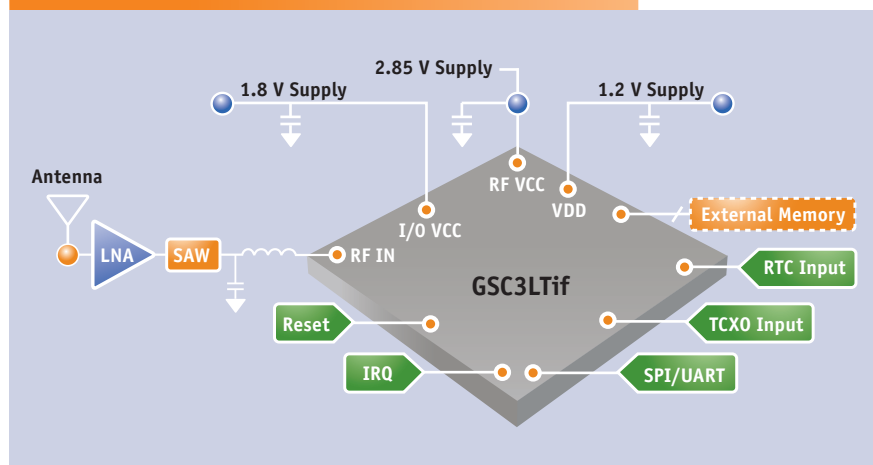
HIGHLIGHTED ADVANTAGES

The GSC3LTif is supported by SiRF standard autonomous software that's setting new performance benchmarks in the portable navigation systems market. SiRF standard autonomous software also supports SiRFInstantFix technology, which eliminates the initial task of obtaining broadcast GPS data from the satellites themselves, resulting in a faster Time-To-First-Fix (TTFF), even in weak signal environments.

The GSC3LTif also supports SiRFLoc Client, the patented Multimode A-GPS software powering mobile phones optimized for location-enabled-services. SiRFLoc improves GPS location capability in wireless system environments by utilizing various modes of wireless infrastructure assistance to improve weak signal reception.

The GSC3LTif GPS performance is fully compliant with the industry-standard Third Generation Partnership Project (3GPP) TS25.171 and CDMA TIA916 requirements, with extremely fast assisted fix speeds that are often significantly faster than required by the standard.

GSC3LTif SYSTEM CONFIGURATION



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