

Applications

- Dual-mode GPS and Galileo receivers
- Software-defined GNSS radio systems
- High sensitivity / low power GNSS / A-GNSS apps.
- Portable navigation devices, mobile phones, and GNSS peripheral devices
- Telematics equipment

Features

- Single conversion L1-band GPS/Galileo radio with integrated IF filter
- 2-bit serialized digital I/Q output at near-zero IF
- Integrated LNA with high-gain (18.5 dB typ.) and low NF (1.65 dB typ.)
- Very low 2.15 dB typ. RF system noise figure
- Low 10 mA operating current with 2.7-3.6 V supply; 8 mA with internal LNA disabled
- Low standby current 3 μ A typical
- Fully integrated VCO and resonator
- Integrated PLL supporting 16.368 MHz reference frequency
- I/O supply range extends down to 1.7 V
- 2.2 x 2.2 x 0.35 mm, 46 pad, 250 μ m pitch, SnAg solder bump, RoHS-compliant package

Product Description

The SE4120S is a highly-integrated GNSS radio front end IC offering high performance and low power operation in a wide range of low-cost applications. It supports GPS and dual-mode L1-band GPS/Galileo products. The SE4120S features a conditioned interface for software implementations of GNSS baseband signal processing.

The SE4120S includes an on-chip LNA, a low IF receiver with a linear AGC and an advanced multi-bit I/Q analog to digital converter (ADC) with serialized data output. The receiver incorporates a fully integrated image reject mixer, obviating the need for a SAW filter in many applications. The SE4120S's on-chip IF filter may be adjusted from 2.2 MHz BW (for GPS only) to 4.4MHz BW (for simultaneous reception of Galileo and GPS signals). The digitized I/Q output, centered near-zero IF, is available in a serialized data stream to facilitate software signal processing.

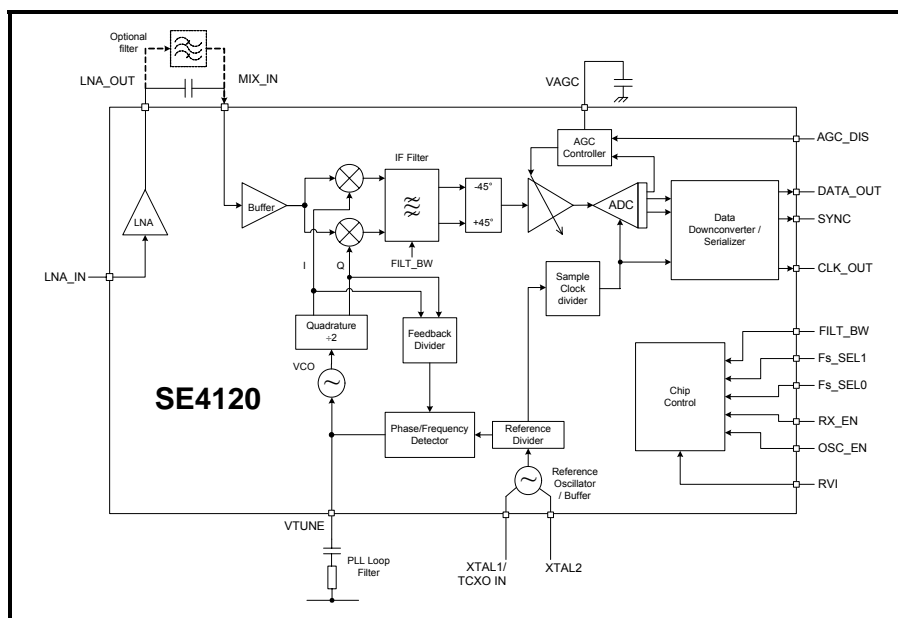
The highly-integrated PLL synthesizer of the SE4120S requires only two passive components to implement an off-chip loop filter.

The SE4120S is optimized for the lowest possible power consumption consistent with a very low external component count.

Ordering Information

Part No.	Package	Remark
SE4120S-R	46-Pad Chip-Scale Package	Shipped in Tape & Reel

Functional Block Diagram



<http://www.sige.com>

Email: sales@sige.com

Customer Service Locations:

North America:
1050 Morrison Drive, Suite 100
Ottawa ON K2H 8K7 Canada

Phone: +1 613 820 9244
Fax: +1 613 820 4933

Hong Kong
Phone: +852 3428 7222
Fax: +852 3579 5450

San Diego
Phone: +1 858 668 3541 (ext. 226)
Fax: +1 858 668 3546

United Kingdom
Phone: +44 1279 464217
Fax: +44 1279 464201

Product Preview

The datasheet contains information from the product concept specification. SiGe Semiconductor, Inc. reserves the right to change information at any time without notification.

Preliminary Information

The datasheet contains information from the design target specification. SiGe Semiconductor, Inc. reserves the right to change information at any time without notification.

Production testing may not include testing of all parameters.

Information furnished is believed to be accurate and reliable and is provided on an "as is" basis. SiGe Semiconductor, Inc. assumes no responsibility or liability for the direct or indirect consequences of use of such information nor for any infringement of patents or other rights of third parties, which may result from its use. No license or indemnity is granted by implication or otherwise under any patent or other intellectual property rights of SiGe Semiconductor, Inc. or third parties. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SiGe Semiconductor, Inc. products are NOT authorized for use in implantation or life support applications or systems without express written approval from SiGe Semiconductor, Inc.

Copyright 2009 SiGe Semiconductor, Inc.
All Rights Reserved

