

### Applications

- High sensitivity / low power GPS / A-GPS apps.
- Personal Navigation Devices (PNDs) , mobile phones, and GPS peripheral devices

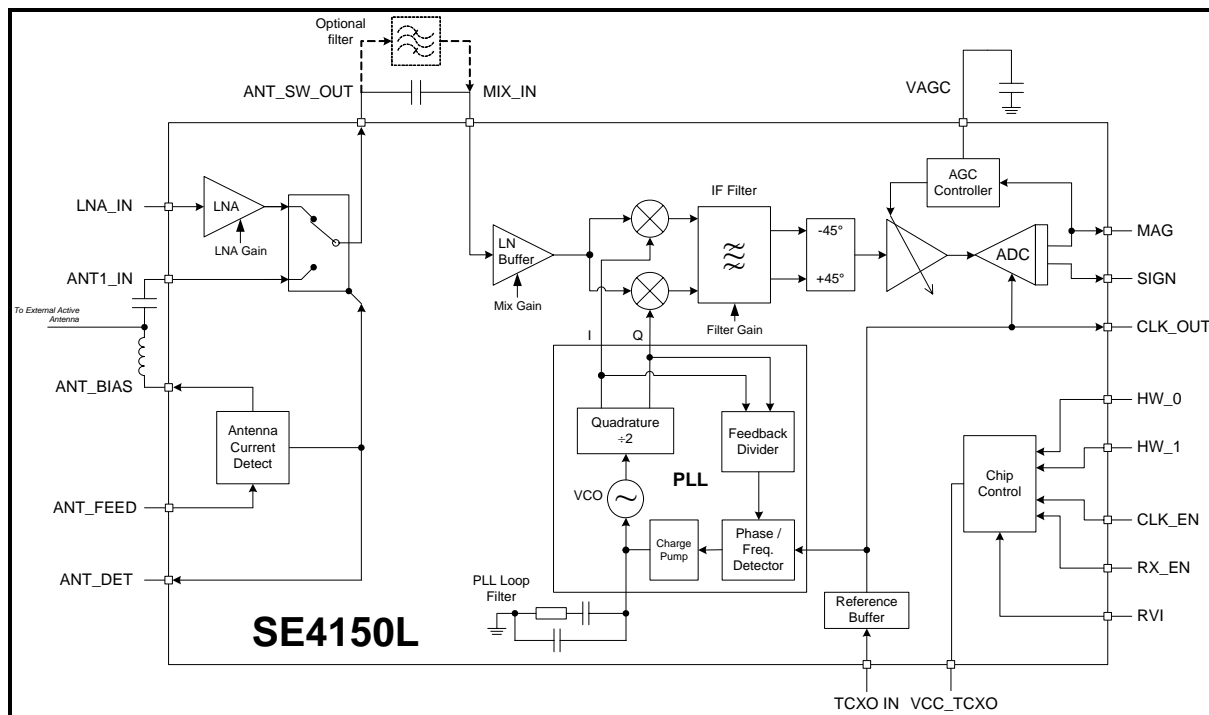
### Features

- Single-conversion L1-band GPS radio with integrated IF filter
- Integrated LNA with high-gain (20 dB typ.) and low NF (0.9 dB typ.)
- Integrated antenna switching with active antenna current detection
- Low cascaded system noise figure of 1.2 dB typical
- 2-bit SIGN & MAG digital IF output
- 2.7 V - 3.6 V operation
- Standby current <10  $\mu$ A
- Fully integrated PLL synthesizer, VCO & loop filter compatible with 16.368 MHz ref. frequency
- 4 x 4 x 0.9 mm 24 pin QFN
- Pb-free, RoHS compliant and Halogen free

### Ordering Information

Part No.	Package	Remark
SE4150L-R	24 pin QFN	Shipped in Tape & Reel

### Functional Block Diagram



### Product Description

The SE4150L is a highly integrated GPS receiver IC offering high performance and low-power operation in a wide range of low-cost applications. It is particularly well-suited to high sensitivity L1-band GPS systems.

The SE4150L is ideal for use in GPS receivers needing dual-antenna inputs. The SE4150L includes two RF inputs with integrated antenna switching and external active-antenna current detection. A high-linearity on-chip LNA is used with one of the inputs, allowing the SE4150L to be used in multi-function wireless systems, without the need for additional external LNA devices. A fully integrated image-reject low-IF mixer is used with a linear AGC, an on-chip IF filter, and a 2-bit analogue-to-digital converter (ADC).

The SE4150L features two gain control modes, to optimize the performance of the LNA and mixer for systems which either require high signal handling, or systems which need minimal supply current.

The SE4150L synthesizer is fully integrated including the VCO and PLL loop-filter. The synthesizer can operate from a 16.368 MHz reference frequency, normally with an external TCXO.

The SE4150L is optimized for operation from a 3.3 V core power supply. It incorporates current-controlled low-spurious output buffers which may operate from a separate external supply. Output buffers supply sufficient current to drive up to 15 pF load directly.

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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.

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