Applications

- 802.16, WiMAX
- Wireless Local Loop
- Proprietary Broadband Wireless Access Systems

Features

- High Linearity, Low Noise
- Optimized for OFDM and CDMA radios
- Selectable IQ or IF baseband interfaces
- Low phase noise, fully programmable on-chip IF and RF frequency synthesizers
- Rx gain > 70 dB with > 50 dB control range
- TX P1db > 6 dBm
- Accepts up to 2 Vpp input level from DAC
- Rx Output V1dB > 1.6 Vpp
- Phase noise < 1.0 degrees rms
- Part of Wimax 3.3 – 3.8 GHz and 2.3 – 2.7 GHz chipset solutions for BWA and WiMAX systems
- Lead Free, RoHS compliant, 8 x 8 mm, MSL3 Package

Ordering Information

Type	Package	Remark
SE7051L10	56 pin, 8 mm x 8 mm QFN	Samples
SE7051L10-T	56 pin, 8 mm x 8 mm QFN	Tray
SE7051L10-EV1	-	Evaluation Kit

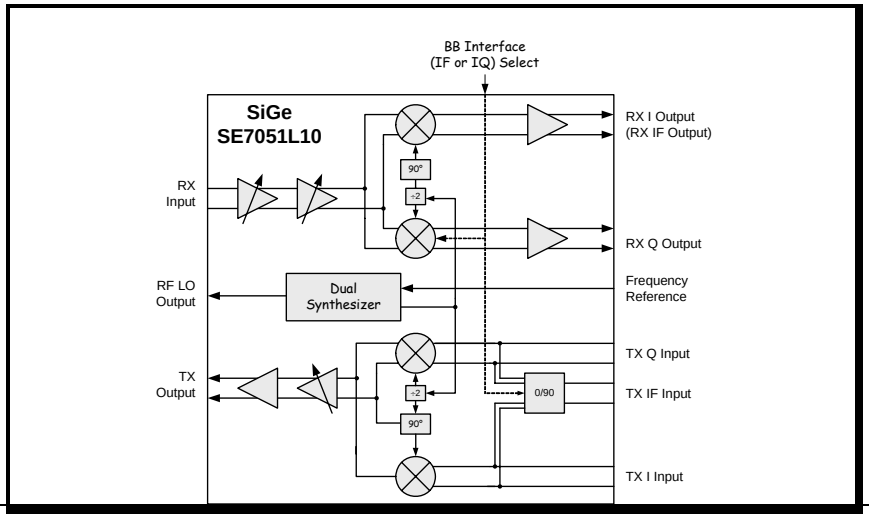
Product Description

The SE7051L10 is a highly integrated low noise, high linearity transceiver that includes both RF (2850 to 3350 MHz) and IF (200 to 600 MHz) synthesizers. The receiver down-converts signals in the frequency range of 200 to 600 MHz to either baseband IQ outputs or IF output. The high linearity output provides excellent inter-modulation performance and drive capability for the ADC interface. A high-speed digital VGA delivers 50dB of gain control range, with 1 dB resolution. On transmit, the baseband IQ input signals are up-converted to an IF output frequency between 200 and 600 MHz. Alternatively, the transmitter may be configured for single sideband up-conversion of an IF input signal.

The transmitter has a total of 68 dB of gain control range, with 1 dB resolution, that is distributed between the modulator and VGA. The VGA has 50 dB range while the modulator provides 18 dB with coarse (6 dB) resolution. The variable gain modulator can accept a wide range of input voltages thus allowing flexibility in the choice of baseband DAC. The dual synthesizers provide very low phase noise LOs that are suitable for high order digital modulation radios.

Functional Block Diagram

Figure 1: SE7051L10 Block Diagram



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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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