

### Applications

- 802.11n, MIMO solutions
- IEEE802.11b DSSS WLAN
- IEEE802.11g OFDM WLAN
- IEEE802.11a OFDM WLAN
- Access Points, PCMCIA, PC cards

### Features

- 1 Transmit and 1 receive path architecture for use as MIMO building block.
- All RF ports matched to 50  $\Omega$
- Integrated 2.4/5 GHz PA, 2.4/5 GHz LNA, TX Filter, T/R switches and diplexers
- Integrated Power Detector
- 19 dBm O/P Power, 802.11b, 11 Mbits, ACPR = 32 dBc
- 18 dBm @ 3.0 % EVM, 802.11g, 54 Mbits
- 16 dBm @ 3.0 % EVM, 802.11a, 54 Mbits
- Single supply voltage: 3.3 V  $\pm$  10 %
- Lead free, halogen free, RoHS compliant, MSL3 plated LGA package, 5 mm x 6 mm x 1.0 mm

### Product Description

The SE2593A20 is a complete 802.11n WLAN RF front-end module providing all the functionality of the power amplifiers, LNA, power detector, T/R switch, diplexers and associated matching. The SE2593A20 provides a complete 2.4 GHz and 5 GHz WLAN Multiple Input, Multiple Output (MIMO) RF solution from the output of the transceiver to the antennas in a compact form factor.

The receive path is designed to maximize performance by providing both a low noise amplifier as well as a bypass state, for use when high power signals are being received.

Designed for ease of use, all RF ports are matched to 50  $\Omega$  to simplify PCB layout and the interface to the transceiver RFIC. The SE2593A20 also includes a transmitter power detector for each band with 20 dB of dynamic range. The power ramp rise/fall time is less than 0.5  $\mu$ s.

The device also provides band pass filters for both the a and b/g bands prior to the input of each 2.4 GHz and 5 GHz power amplifiers, respectively.

The SE2593A20 packaged in 5mm x 6mm x 1.0mm, Halogen free, Lead free, ROHS compliant, MSL 3 LGA package.

### Ordering Information

Part No.	Package	Remark
SE2593A20	30 pin LGA	Samples
SE2593A20-T *	30 pin LGA	Tray
* Through Dec 2008		
SE2593A20-R *	30 pin LGA	Tape and Reel
* From Jan 2009		
SE2593A20-EK1	N/A	Evaluation kit

### Functional Block Diagram

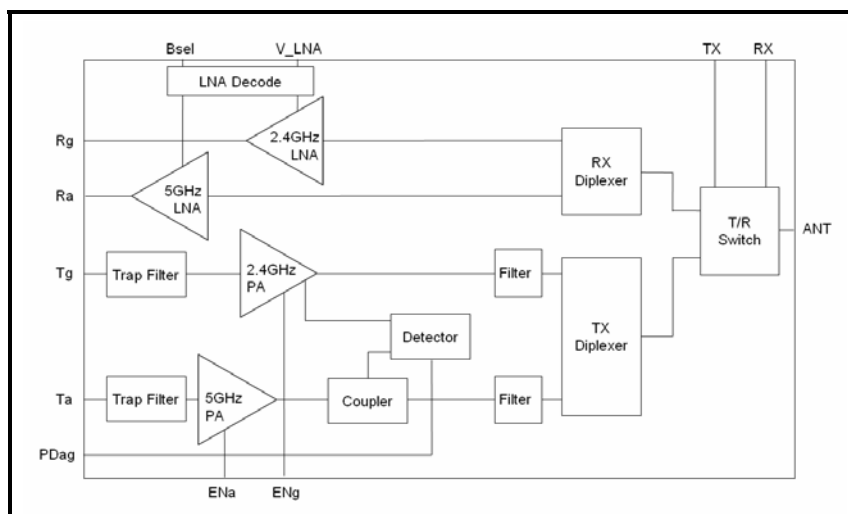


Figure 1: Functional Block Diagram

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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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