

## PRODUCT SUMMARY

# CX74070: Rx ASIC for PCS and GPS Mobile Handset Applications

### APPLICATIONS

- PCS and GPS phones
- GPS receivers

### FEATURES

- GPS LNA provided
- External resistor to adjust LNA bias current
- Independent PCS and GPS mixers
- 90 dB dynamic range VGA
- I/Q demodulator
- 100 to 600 MHz VHF oscillator
- Battery cell operation ( $2.7\text{ V} < V_{CC} < 3.3\text{ V}$ )
- 6 x 6 mm, 40-pin RFLGA™ package with down-set paddle

### DESCRIPTION

The CX74070 Application-Specific Integrated Circuit (ASIC) is a single Intermediate Frequency (IF), dual-mode, dual-band receiver intended for use in Code Division Multiple Access (CDMA) phones in Personal Communications System (PCS) and Global Positioning System (GPS) bands.

The CX74070 is a highly integrated super-heterodyne receiver. Except for the Surface Acoustic Wave (SAW) filters and matching components, the device incorporates all the components required to implement the receiver chain, from the Low-Noise Amplifier (LNA) to the In-Phase and Quadrature (I/Q) demodulator stages. A PCS LNA and a GPS LNA are in the front-end receiver.

After RF LNA signal amplification and filtering, the signal is mixed down to an IF. The PCS mixer has balanced outputs for the IF SAW filter and the GPS mixer has a differential output for an external L-C bandpass IF filter. The IF signal is amplified by a Variable Gain Amplifier (VGA) and fed to an I/Q demodulator, resulting in baseband I/Q signals that interface with a baseband analog processor.

The VGA has a minimum dynamic range of 90 dB with a control voltage range of 0.3 to 2.5 V, which is common to all modes. A VHF oscillator operates with external tank circuits to provide Local Oscillator (LO) frequencies for the I/Q demodulator in the PCS and GPS bands.

The noise figure, gain, and third order Input Intercept Point (IIP3) of each stage have been optimized to meet the system requirements for PCS mode according to TIA/EIA-98-C and for GPS mode according to TIA/EIA-916. The ASIC design employs BiCMOS technology for low cost, high performance, and a high level of integration.

A block diagram of the CX74070 is shown in Figure 1.

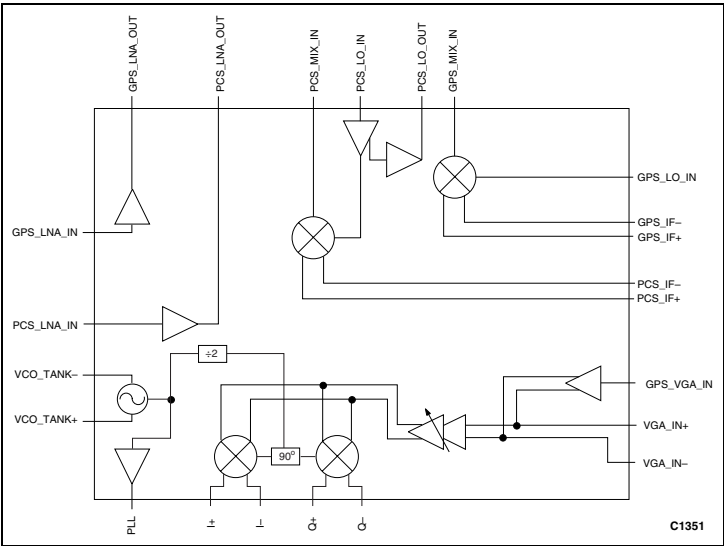


Figure 1. CX74070 Receiver ASIC Block Diagram

Ordering Information

Model Name	Manufacturing Part Number	Product Revision
PCS and GPS Receiver	CX74070-11	

© 2002, 2003 Skyworks Solutions, Inc. All Rights Reserved.

Information in this document is provided in connection with Skyworks Solutions, Inc. ("Skyworks") products. These materials are provided by Skyworks as a service to its customers and may be used for informational purposes only. Skyworks assumes no responsibility for errors or omissions in these materials. Skyworks may make changes to its products, specifications and product descriptions at any time, without notice. Skyworks makes no commitment to update the information and shall have no responsibility whatsoever for conflicts, incompatibilities, or other difficulties arising from future changes to its products and product descriptions.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as may be provided in Skyworks' Terms and Conditions of Sale for such products, Skyworks assumes no liability whatsoever.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF SKYWORKS™ PRODUCTS INCLUDING WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, PERFORMANCE, QUALITY OR NON-INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. SKYWORKS FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. SKYWORKS SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS THAT MAY RESULT FROM THE USE OF THESE MATERIALS.

Skyworks™ products are not intended for use in medical, lifesaving or life-sustaining applications. Skyworks' customers using or selling Skyworks™ products for use in such applications do so at their own risk and agree to fully indemnify Skyworks for any damages resulting from such improper use or sale.

The following are trademarks of Skyworks Solutions, Inc.: Skyworks™, the Skyworks symbol, SPR™, Single Package Radio™, and "Breakthrough Simplicity"™. Product names or services listed in this publication are for identification purposes only, and may be trademarks of third parties. Third-party brands and names are the property of their respective owners.

RFLGA™ is a trademark of Conexant Systems, Inc.

Additional information, posted at [www.skyworksinccom](http://www.skyworksinccom), is incorporated by reference.

General Information  
Skyworks Solutions, Inc.  
20 Sylvan Rd.  
Woburn, MA 01801

[www.skyworksinccom](http://www.skyworksinccom)

