

PRODUCT SUMMARY

CX20505-14 Integrated Analog Device for GSM and GPRS Applications

APPLICATIONS

- Global System for Mobile communications™ (GSM™) and General Packet Radio Service (GPRS) Multiband Handsets
- GSM and GPRS Data Modules

FEATURES

- Supports Multi-slot GPRS up to Class 10
- $\Sigma\Delta$ Analog-to-Digital Converters (ADCs) for digitization of baseband receive signal
- Receive path Programmable Gain Amplifier (PGA) for Automatic Gain Control (AGC) of received signal
- Burst Store Random Access Memory (RAM) for storage of transmit data bursts
- Gaussian Minimum-Shift Keying (GMSK) Digital Modulator for modulation of Burst Store contents
- Digital-to-Analog Converters (DACs) for analog conversion of the GMSK modulator output
- Transmit power ramping and power level control
- Low noise, voice-band ADC for interface to handset microphone
- Low noise voice-band DAC for interface to handset speaker
- Auxiliary 8-bit ADC for monitoring system signals such as battery voltage
- High speed serial ports for interface to a Baseband Processor device
- Internal power supply regulation from a single input voltage
- Temperature Sensor for system thermal monitoring
- 104-pin 10 mm x 10 mm FPBGA package

Introduction

The CX20505-14 Integrated Analog (IA) is a highly integrated device designed for use in multi-band GSM and GPRS handsets. This device implements all the voice-band, mixed signal, and radio control functions in a GSM/GPRS handset.

In the receive path, the CX20505-14 digitizes the baseband In-Phase/Quadrature (I/Q) input, and outputs the digital samples on the device receive port. The receive path features a PGA for AGC of the receive signal.

In the transmit path, bursts of digital data are input to the device over the control port. The GMSK modulator generates modulated I and Q waveforms from the input data. The I and Q waveforms are converted into analog waveforms and output from the device.

The CX20505-14 generates an analog signal to control the handset Power Amplifier (PA) output level. The signal is then input to the Power Amplifier Control (PAC) circuit.

The voice-band Codec section provides an interface to a 32 Ω handset speaker and microphone. Line In/Out signals are also available for interfacing to audio accessories such as a headset or car kit.

The device operates directly from a single cell, 3.6 V Li Ion battery with no external regulation required. The device features Low Drop Out (LDO) voltage regulators that generate the required device power supplies from the battery input.

A typical CX20505-14 application in a handset design is shown in Figure 1. The device is packaged in a compact, 104-pin (10mm x 10mm) Fine Pitch Ball Grid Array (FPBGA) see **Error! Reference source not found...**

CX20505-14 Product Summary

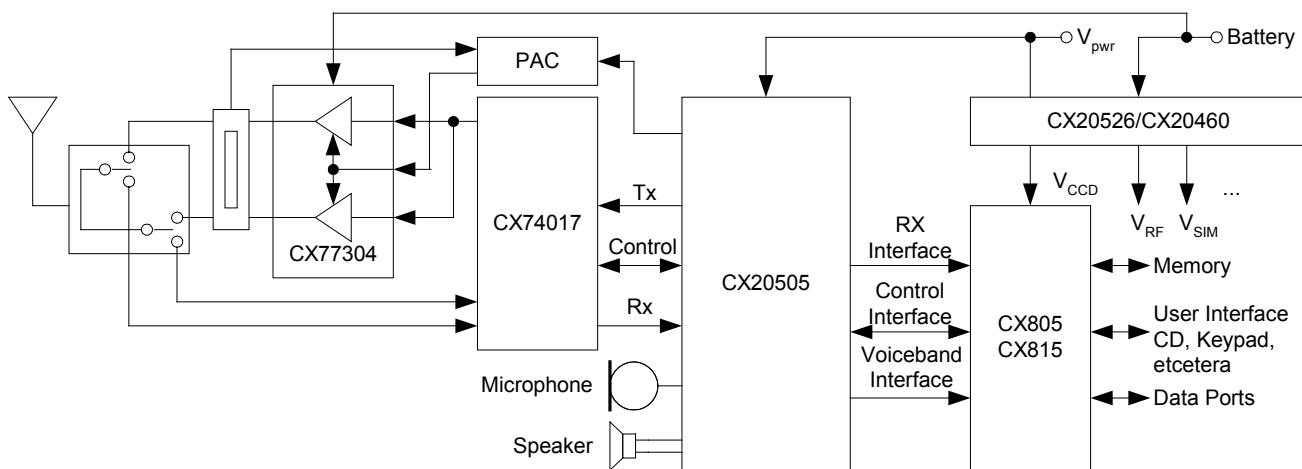


Figure 1. Typical CX20505-14 Application in a Handset Design

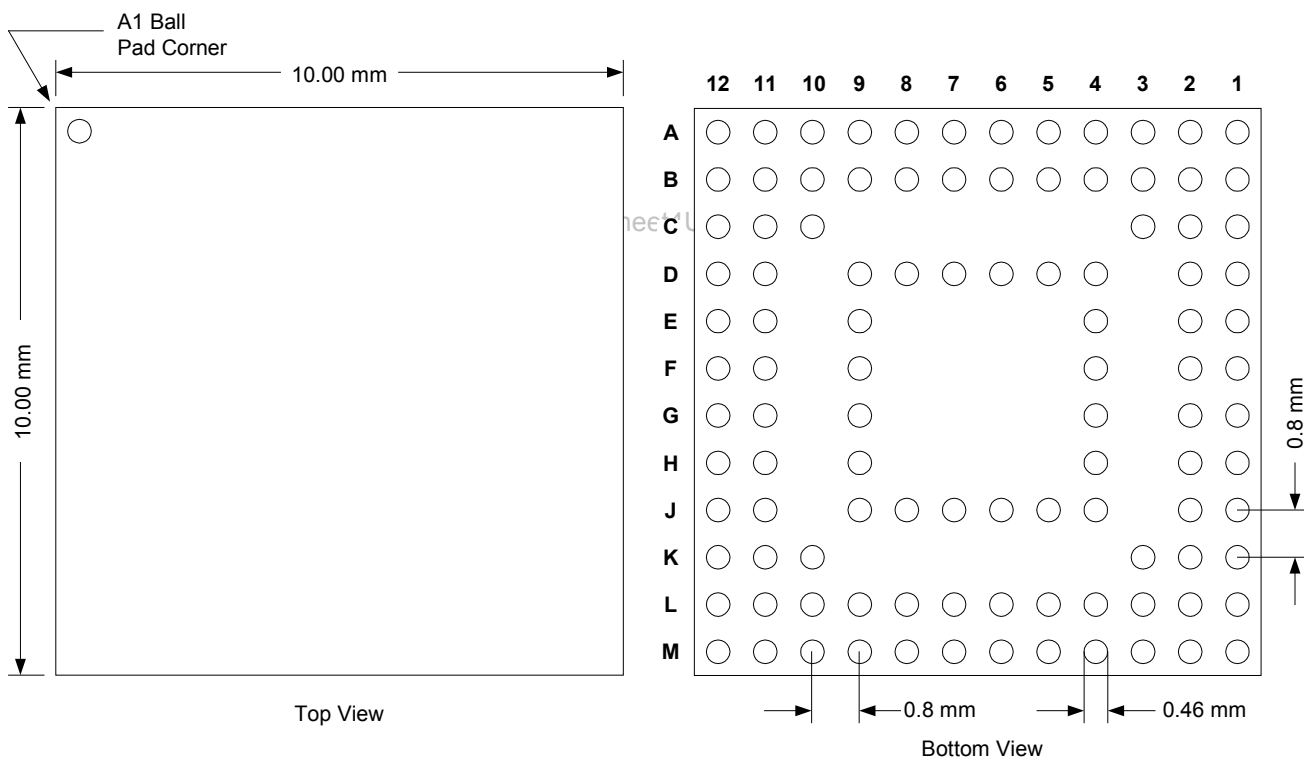


Figure 2. CX20505-14 Device Package Dimensions

Ordering Information

Model Name	Manufacturing Part Number
CX20505-14	

DataSheet4U.com

© 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, 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.

Additional information, posted at www.skyworkssolutions.com, is incorporated by reference.

General Information:
Skyworks Solutions, Inc.
20 Sylvan Road.
Woburn, MA 01801
www.skyworksinc.com

