CX20489: CDMA and FM Baseband Analog Processor

APPLICATIONS

- Dual-band, dual-mode mobile phones

FEATURES

- Single supply voltage from 2.7 to 3.3 V
- Operational temperature of −30 °C to +85 °C
- Low power consumption in all operating modes including sleep operation
- Dual mode for CDMA and FM operation
- Receive signal path includes:
  - Separate CDMA/FM filters and ADCs
  - DC offset control loop
- Receive VHF PLL synthesizer:
  - Programmable charge pump current
  - Lock detector output
- System clock generation:
  - 19.2, 19.68, and 19.8 MHz system clock support
  - Accepts external CHIPx8 clock (9.8304 MHz or 8.184 MHz) and/or generates an internal CHIPx8 clock (9.8304 MHz)
  - Adjustable TCXO or TCXO/4 clock output driver levels and power-down capability
  - Provides a TCXO clock through the TCXO/4 output pin
- Mode control logic for Rx, sleep, and idle modes
- Pin-for-pin and functional compatibility with Skyworks' CX20529 Baseband Analog Processor (but without GPS processing capability)
- 40-pin 6 x 6 mm RFLGA™ package

DESCRIPTION

The CX20489 is a receive-only Baseband Analog Processor (BAP) that can be used for Code Division Multiple Access (CDMA) and Advanced Mobile Phone System (AMPS) Frequency Modulation (FM) baseband signals. The device is designed for dual-mode CDMA and AMPS portable phones.

The CX20489 is designed to interface between the Radio Frequency (RF) receive section and the digital processing circuitry of the telephone. The device includes all of the circuitry needed to support the receive baseband signal processing and conversions between analog and digital signals for CDMA and AMPS (FM).

For a given operation, the CX20489 accepts analog baseband In-phase (I) and Quadrature-phase (Q) signals, performs channel selection low-pass filtering, and converts the analog baseband signals into digital signals. For clock generation, the CX20489 includes internal digital and Phase-Locked Loop (PLL) clock synthesis for 19.2, 19.68, and 19.8 MHz system clocks. The device also provides the capability to generate or to accept the CHIPx8 clock to or from the Mobile Station Modem (MSM) or equivalent baseband device. The CX20489 also integrates a VHF PLL synthesizer to synthesize the receive Intermediate Frequency (IF).

The CX20489 is characterized for operation from a power supply voltage range of 2.7 V to 3.3 V, with power control logic to maintain a minimum power consumption. Electrical performance parameters are designed to operate over the −30 °C to +85 °C range. The device is available in 40-pin 6 x 6 mm RF Land Grid Array (RFLGA™) package.

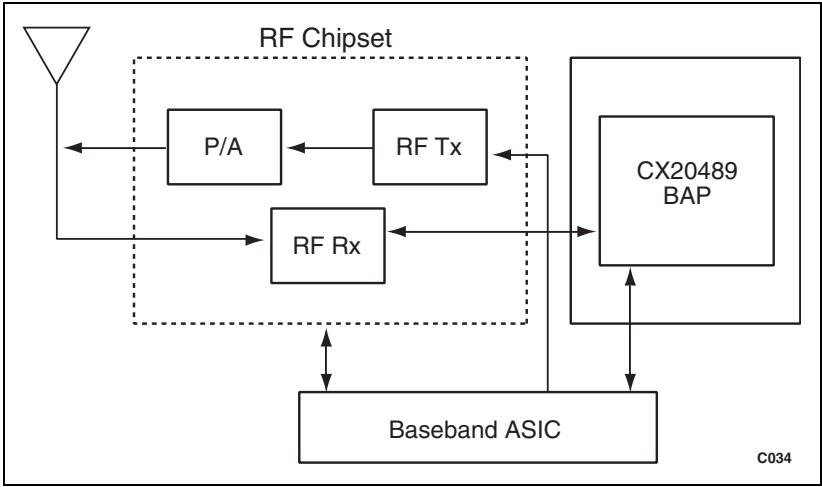A system block diagram of the CX20489 is shown in Figure 1.

Figure 1. CX20489 General Block Diagram

Ordering Information

Model Name	Manufacturing Part Number	Product Revision
CDMA/FM Baseband Analog Processor	CX20489-13	

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

www.skyworksinc.com

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