PRODUCT SUMMARY

SKY74691: Receiver for CDMA Mobile Handset Applications

Applications

- Single mode CDMA handsets

Features

- Three-step gain control, cellular LNA
- External resistor to adjust LNA bias current
- Buffered LO signal for transmit upconverter
- VGA with 90 dB dynamic range
- Integrated IF VCO and tank circuit
- VCO_ON auto-tuning control
- Battery cell operation (2.7 V < VCC < 3.3 V)
- RFLGA™ (48-pin, 7 x 7 mm) Pb-free package (MSL3, 260 °C per JEDEC-J-STD-020) with downset paddle

Description

The SKY74691 is a highly integrated, super-heterodyne receiver. This single band receiver is intended for use in Code Division Multiple Access (CDMA) phones in cellular CDMA mode.

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.

After RF LNA signal amplification and filtering from the antenna, the received signal is downconverted from RF to the Intermediate Frequency (IF).

The LO_IN signal (pin 39) provides a Local Oscillator (LO) port for the RF mixer. The UHF Voltage Controlled Oscillator (VCO) is buffered and amplified internally, and provides the LO to drive the LO port of a transmitter upconverter (such as Skyworks CX74002).

The Variable Gain Amplifier (VGA) has a minimum dynamic range of 90 dB with a control voltage range of 0.2 to 2.7 V. A VHF oscillator operates with an internal tank circuit to provide LO frequencies for the I/Q demodulator.

The noise figure, gain, and third order Input Intercept Point (IIP3) of each stage in the receiver are optimized to meet the system requirements for CDMA according to TIA/EIA-98-B/C. The design employs SiGe BiCMOS technology for low cost, high performance, and a high level of integration.

The device package and pinout for the 48-pin RF Land Grid Array (RFLGA) are shown in Figure 1 and a block diagram of the SKY74691 is shown in Figure 2.

NEW

Skyworks offers lead (Pb)-free "environmentally friendly" packaging that is RoHS compliant (European Parliament for the Restriction of Hazardous Substances).

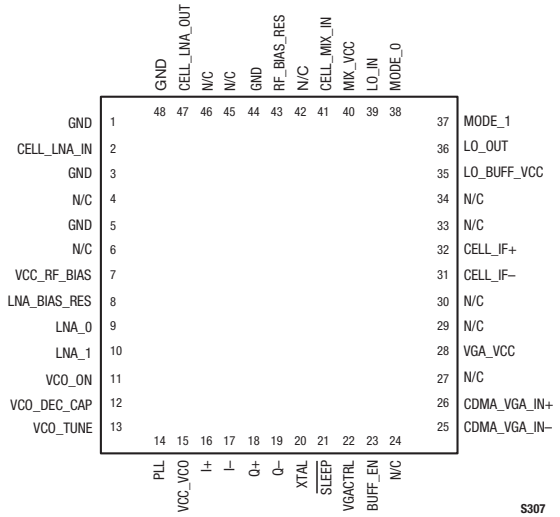


Figure 1. SKY74691 Pinout – 48-Pin RFLGA (Top View)

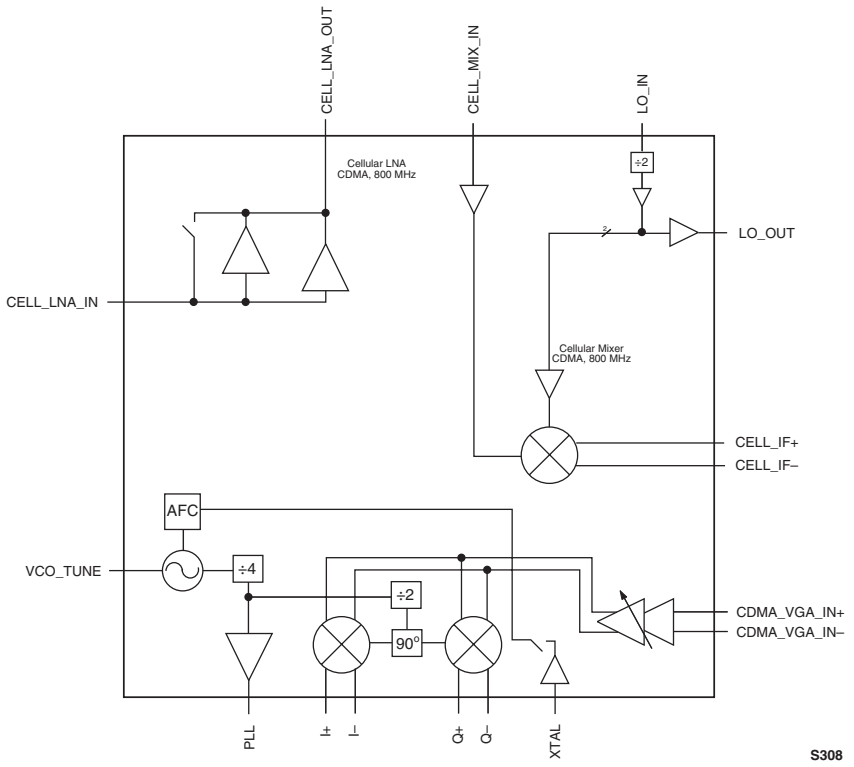


Figure 2. SKY74691 Receiver Block Diagram

Ordering Information

Model Name	Manufacturing Part Number	Product Revision
SKY74691 CDMA Receiver	SKY74691-11	

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