PRODUCT SUMMARY

SKY74100-11: Tri-Band, Dual-Mode Receiver for CDMA, PCS, and GPS Mobile Handset Applications

Applications

- Tri-band, dual-mode handsets
- PCS and GPS phones
- CDMA and GPS phones

Features

- Supply voltage: 2.7 V to 3.0 V
- Low power operation: 140 mW with supply voltage @ 2.85 V
- Conforms to IS-95 and CDMA2000® 1xEV-DO, Rev. 0
- Differential LNA for the GPS band (1.6 GHz)
- Two differential mixer path inputs (800 MHz and 1.9 GHz) and common I/Q differential outputs at the baseband
- Three direct downconverters for the CDMA, GPS, and PCS bands
- Fully integrated UHF VCO for all operating modes. An automatic integrated tuning loop for all process variations is included
- Fully integrated RF PLL (except for the loop filter)
- Fully integrated baseband low pass filters for both I and Q channels
- Internal automatic tuning loop to cover all process variations for integrated filters
- Integrated DCOC, requiring no external stimulus or components
- LGA (40-pin, 6 x 6 x 1 mm) Pb-free (MSL3, 260 °C per JEDEC J-STD-020) package with downset paddle

NEW

Skyworks offers lead (Pb)-free RoHS (Restriction of Hazardous Substances) compliant packaging.

Description

The SKY74100-11 receiver is a highly integrated device for tri-band Code Division Multiple Access (CDMA) handsets with Global Positioning System (GPS) capability. The SKY74100-11 supports CDMA phones in the cellular CDMA, Personal Communications System (PCS), and GPS modes.

The device requires a minimum number of external components to complete a CDMA radio subsystem. Included within the package are the downconverters, baseband filters with an auto-tuning loop, UHF Voltage Controlled Oscillator (VCO), RF Phase Locked Loop (PLL), and DC Offset Correction (DCOC). The SKY74100-11 is designed to operate within a supply voltage range of 2.7 V to 3.0 V.

External components needed for operation include matching networks for differential mixer inputs and differential GPS Low Noise Amplifier (LNA) inputs, CDMA/PCS Surface Acoustic Wave (SAW) filters, three bias resistors for accurate bias control over process variation, and two high tolerance load resistors for In-Phase and Quadrature (I/Q) baseband output.

The SKY74100-11 output is a dual-channel, fully differential analog signal at the baseband. Both channels maintain a quadrature phase relationship with each other.

Together with the SKY74092 dual-band, tri-mode LNA, the SKY74100-11 completes the receiver from the RF input to the I/Q baseband outputs. The SKY74100-11 is fully compliant with the E-911 standard and the advanced CDMA standard, Evolution Data Only (1xEV-DO), Rev. 0.

A functional block diagram for the SKY74100-11 is shown in Figure 1.

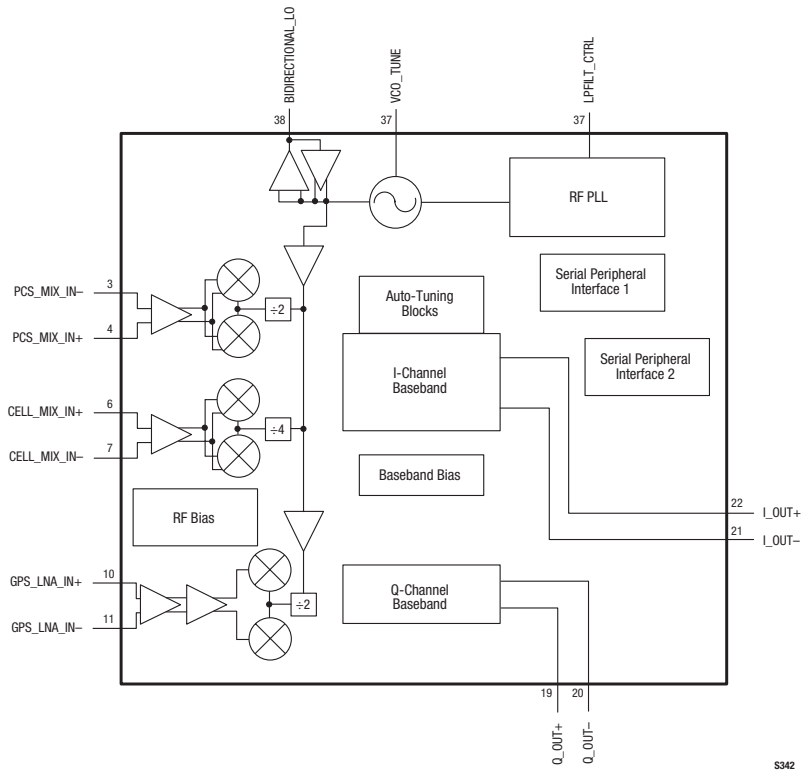

Figure 1. SKY74100-11 Receiver Block Diagram

Ordering Information

Model Name	Manufacturing Part Number	Evaluation Kit Part Number
SKY74100-11 Receiver	SKY74100-11 (Pb-free package)	