

#### 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-D0, 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 hands
- 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



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

### **Description**

The SKY74100-11 receiver is a highly integrated device for triband 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 autotuning 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-D0), Rev. 0.

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

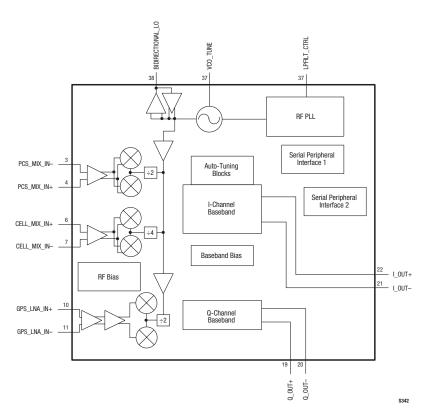


Figure 1. SKY74100-11 Receiver Block Diagram

## **Ordering Information**

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

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