PRODUCT SUMMARY

SKY74068-11: Dual-Band, Dual-Mode Transmitter for CDMA, AMPS, and PCS Mobile Handset Applications

Applications

- Dual-band, dual-mode handsets
- Cellular and PCS band phones
  - CDMA and AMPS modes in the cellular band
  - CDMA mode in the PCS band

Features

- Low power consumption in all operating modes
- Direct upconversion architecture
- Device controlled using a three-wire read/write serial bus interface with independent supply voltage
- Baseband RC filter to reject receive band noise
- Fully integrated VCO with auto-tuning
- Dual-mode fractional-N/integer-N PLL
- Variable gain PA drivers
- Differential cellular driver output matched to 200 Ω
- Single-ended PCS driver output matched to 50 Ω
- Transmit power control with >85 dB dynamic range
- Low current consumption at low transmit power minimizes current consumption and noise
- Hardware TX_ENABLE for gated mode operation
- RFLGA™ (32-pin, 5 x 5 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 SKY74068-11 transmitter is a highly integrated device for dual-band Code Division Multiple Access (CDMA) handsets in the cellular CDMA, Advanced Mobile Phone System (AMPS), and Personal Communications System (PCS) modes.

The device requires a minimum number of external components to complete a CDMA radio subsystem. Included on-chip are the baseband filter, direct upconversion In-Phase and Quadrature (I/Q) mixers, variable gain power amplifier (PA) drivers, a fully integrated Voltage Controlled Oscillator (VCO) with Local Oscillator (LO) generation blocks, and a dual-mode fractional-N/integer-N Phase Locked Loop (PLL).

External components needed for operation include bias resistors, bypass capacitors, and passives to comprise the PLL loop filter.

The signal enters the chip as an analog baseband I/Q signal. It is filtered by the baseband filter and upconverted to the desired RF transmit frequency. The signal is amplified by one of two upconverters, depending on whether the chip is operating in cellular or PCS mode. The resulting signal is fed through the appropriate PA driver stage to provide variable output power and to drive the external PA. The signal is then filtered by an external Surface Acoustic Wave (SAW) filter and sent to the PA to obtain the final rated power.

A functional block diagram for the SKY74068-11 is shown in Figure 1.

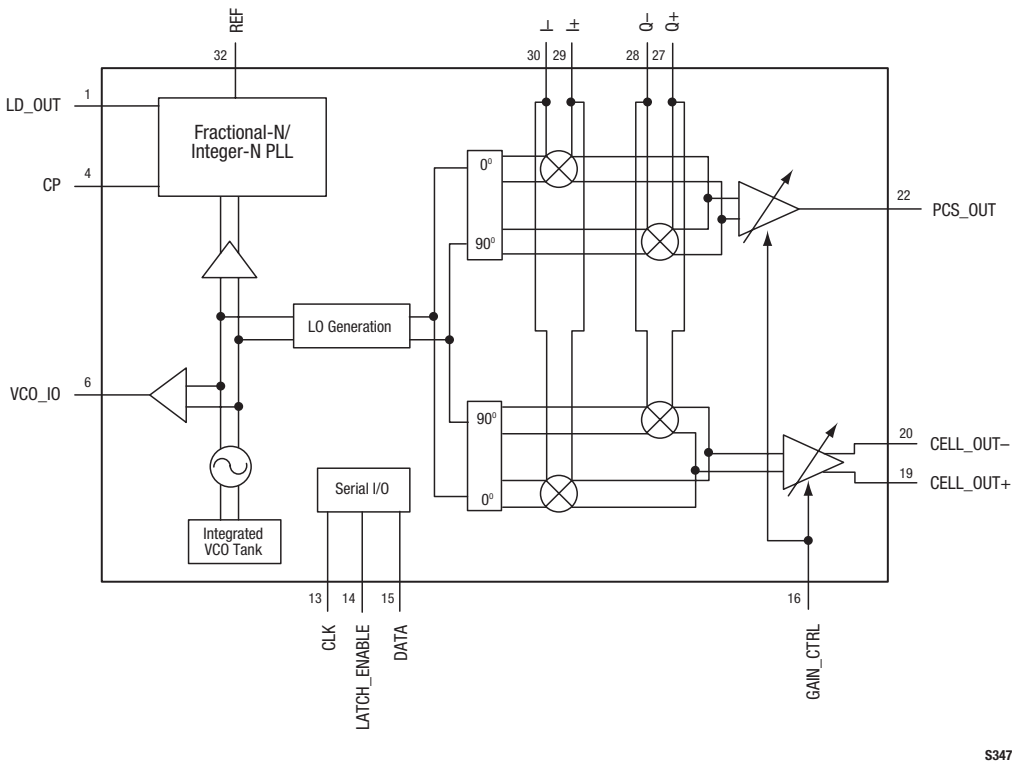

Figure 1. SKY74068-11 Transmitter Block Diagram

Ordering Information

Model Name	Manufacturing Part Number	Evaluation Kit Part Number
SKY74068-11 Transmitter	SKY74068-11 (Pb-free package)	