SKY77814-11 Power Amplifier Module for LTE FDD Band 7 (2500–2570 MHz) and Band 30 (2305–2315 MHz) and LTE TDD Bands 38/41 (2496–2690 MHz), Band 40 (2300–2400 MHz) and AXGP Band (2545–2575 MHz)

Applications

- Long-Term Evolution (LTE)
- Evolved Universal Terrestrial Radio Access Networks (EUTRAN)
- Handsets and Data Cards

Features

- Optimized for Average Power Tracking (APT)/compatible with Envelope Tracking Controller (ETC) implementation
- High efficiency broadband: 2.3 GHz to 2.69 GHz
- Supports modulation bandwidth up to 20 MHz
- Small, low profile package
  - 3.0 mm x 4.0 mm x 0.8 mm
  - 24-pad configuration
- MIPI RFFE interface
- V_{CC2} decoupling caps < 125 pF
- Integrated output switch including TDD Tx/Rx function for single SAW architecture
- RF I/O internally matched to 50 Ω

Skyworks Green™ products are compliant with all applicable legislation and are halogen-free. For additional information, refer to Skyworks *Definition of Green™*, document number SQ04-0074.

Description

The SKY77814-11 Power Amplifier Module (PAM) is a fully matched, 24-pad surface mount (SMT) module developed for LTE applications. The module includes broadband coverage of LTE FDD Bands 7 and 30, LTE TDD Bands 38/40, and Band 41 in a compact 3.0 x 4.0 mm package. Attaining high efficiencies throughout the entire power range while meeting the stringent linearity requirements of LTE, the SKY77814-11 delivers unsurpassed savings in current consumption for data-intensive applications.

The Gallium Arsenide (GaAs) Microwave Monolithic Integrated Circuit (MMIC) contains all amplifier active circuitry, including input, interstage, and output matching circuits. Output match into a 50 Ω load, realized off-chip within the module package, optimizes efficiency and power performance. A silicon-on-insulator (SOI) switch following the wideband power amplifier directs the RF output signal to either a band 7 duplexer or to one of three TDD filters supporting bands 38, 40, and 41. Additional throws in the SOI switch allow the reuse of TDD filters in Rx mode by providing paths to either the band 40 Rx port or a shared band 38/41 Rx port. Biasing for the PA MMIC and switch is generated on a CMOS IC controlled through a MIPI RFFE interface.

The SKY77814-11 is manufactured with Skyworks' InGaP GaAs Heterojunction Bipolar Transistor (HBT) process which provides for all positive voltage DC supply operation and maintains high efficiency and good linearity. Optimal performance is obtained with VCC1 and VCC2 sourced from a DC-DC power supply based on target output power. No external supply side switch is required as typical "off" leakage is a few microamperes.

Ordering Information

Product Name	Order Number	Evaluation Board Part Number
SKY77814-11 Power Amplifier Module	SKY77814-11	EN40-D895-002