PRODUCT SUMMARY

SKY77449 Power Amplifier Module for LTE / EUTRAN Band XIII (777–787 MHz)

APPLICATIONS

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

Features

- QPSK, 16QAM modulations
- Up to 20 MHz bandwidths
- Up to 100 resource blocks
- Linear power at 3.4 V
  - LTE: 27.5 dBm
- WCDMA: 28.5 dBm
- Low voltage positive bias supply
  - 2.9 V to 4.45 V
- Supports low collector voltage operation down to 1.5 V
- Excellent linearity, efficiency
- Large dynamic range
- Low profile 16-pad package
  - 4 mm x 4 mm x 0.85 mm
- Analog bias current control in low power mode using VBA pad
- InGaP BiFET Technology
- Skyworks Green™ Packaging Technology

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.

The SKY77449 Power Amplifier Module (PAM) is a fully matched, surface mount module developed for LTE / EUTRAN applications. This small and efficient module packs full coverage of Bands XIII LTE / EUTRAN / WCDMA into a single compact package. The SKY77449 meets the stringent spectral linearity requirements of LTE modulation with QPSK / 16QAM modulations from 1.4 to 20 MHz bandwidth and full or partial resource block allocations with high power added efficiency.

Integration of the PAM simplifies the design of the 4G-compatible handset radios and data cards as all active RF circuitry including the PA, input, interstage and output matching circuits, and power detector are optimized within the single module component. Output match is realized off-chip within the module package to optimize efficiency and power performance into a 50 Ω load.

The module is manufactured using Skyworks' BiFET process that provides for all positive voltage DC supply operation while maintaining high efficiency and good linearity. Primary bias to the SKY77449 is supplied via the VCC1 and VCC2 pads directly from a suitable battery with an output in the 2.9 to 4.6 volt range, while the bias network is powered via the VCCB pad. DC-DC converter operation can be supported with low power operation down to 1.5 V.

Power-down is accomplished by setting a logic low level on the VEN pad. No external supply side switch is needed as typical "off" leakage is 100 microamperes with full primary voltage supplied from the battery. The VMODE pad is used to switch between high and low power modes to reduce current consumption and gain in the back-off conditions. VBA is used to further control the current consumption in the low power mode.

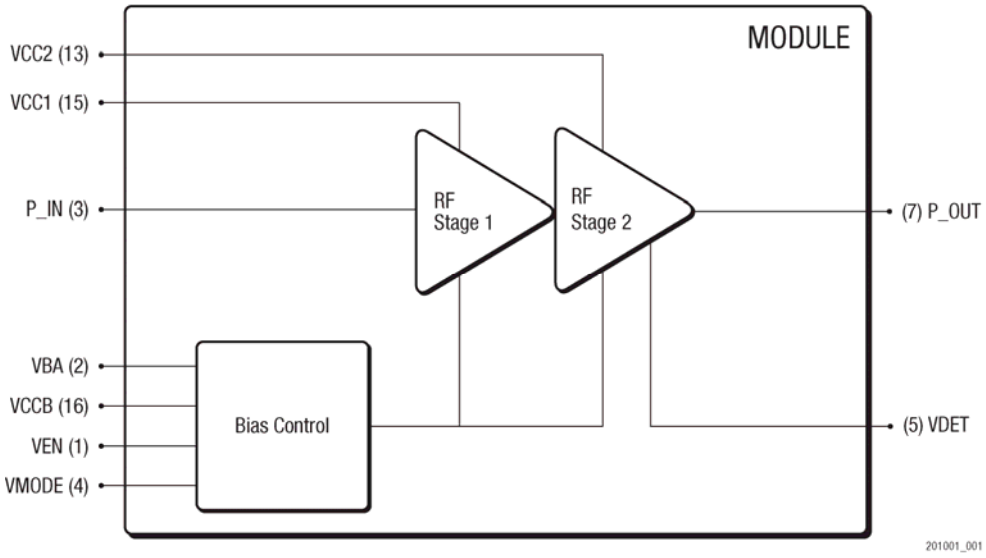

Figure 1. SKY77449 Functional Block Diagram

Ordering Information

Order Number	Manufacturing Part Number	Evaluation Board Part Number
SKY77449	SKY77449-11	EN30-D870-000 REV 00