

PRODUCT SUMMARY

SKY77441 Multi-Mode / Multi-Band PA Module for LTE FDD Band VII (2500–2570 MHz) and LTE TDD Bands 38 / 40 (2300–2620 MHz)

APPLICATIONS

- Long-Term Evolution (LTE) FDD and TDD
- 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
- Band VII Linear Power @ 3.4 V
 - LTE: 27.5 dBm
 - WCDMA: 28.5 dBm
- Low voltage positive bias supply
 - 3.0 V to 4.6 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 using VBA pad
- InGaP BiFET Technology
- Skyworks Green™ Packaging Technology

The SKY77441 Power Amplifier Module (PAM) is a fully matched, surface mount module developed for LTE / EUTRAN FDD and TDD applications. This small and efficient module packs full coverage of LTE FDD Band VII and LTE FDD Bands 38 / 40 into a single compact package, and is capable of delivering the linear WCDMA power up to 28.5 dBm from 2.3 to 2.7 GHz. The SKY77441 meets the stringent spectral linearity requirements of LTE modulation with QPSK / 16QAM modulations from 1.4 MHz 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 the 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 device is manufactured with Skyworks' BiFET process that provides for all positive voltage DC supply operation while maintaining high efficiency and good linearity. Primary bias to the SKY77441 is supplied via the VCC1 and VCC2 pads directly from a three-cell Ni-Cad, a single-cell Li-Ion, or other suitable batteries with outputs in the 3.0 to 4.6 volt range, while the bias network is powered up with the VCCB pad. DC-DC converter operation can be supported with lower 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.

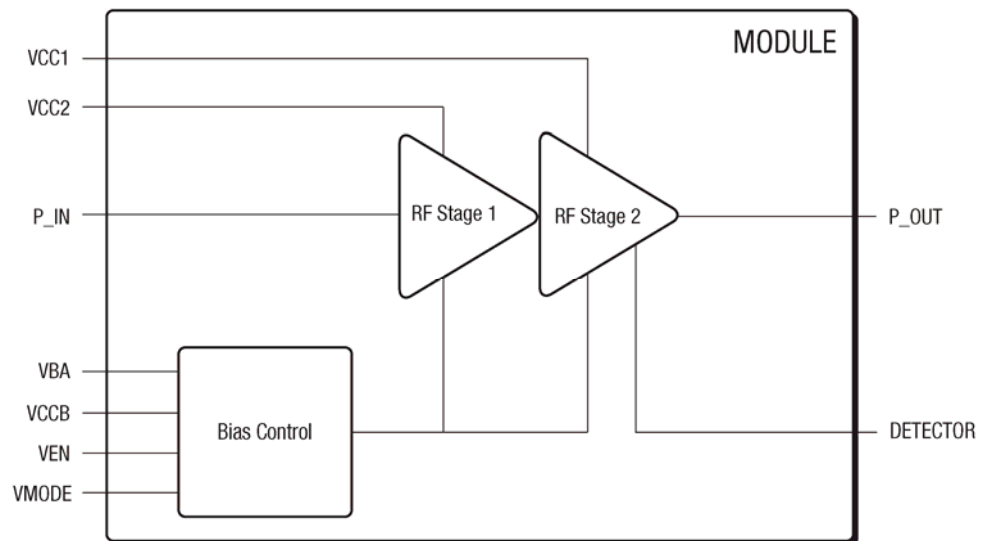
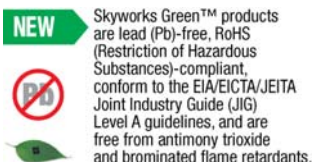


Figure 1. Functional Block Diagram

200993_001



Ordering Information

Model Number	Manufacturing Part Number	Product Revision	Package	Operating Temperature
SKY77441	SKY77441		MCM 4x4x0.85 mm	-20 °C to +85 °C

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