

## PRODUCT SUMMARY

# SKY77453 Power Amplifier Module for LTE / EUTRAN Bands XII / XVII (698–716 MHz)

## APPLICATIONS

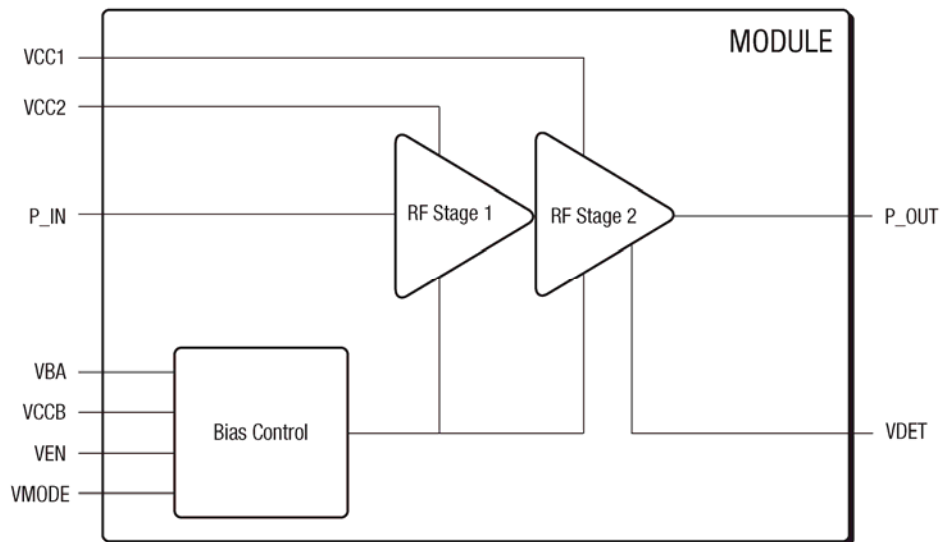
- Long-Term Evolution (LTE)
- Evolved Universal Terrestrial Radio Access Networks (EUTRAN)
- Handsets and Data Cards

## Features

- QPSK, 16QAM modulations
- Up to 20 MHz bandwidths
- Up to 100 resource blocks
- Linear power @ 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 in low power mode using VBA pad
- InGaP BiFET Technology
- Skyworks Green™ Packaging Technology

The SKY77453 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 XII / XVII LTE / EUTRAN / WCDMA into a single compact package. The SKY77453 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  $\Omega$  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 SKY77453 is supplied via the VCC1 and VCC2 pads directly from a three-cell Ni-Cad, a single-cell Li-Ion, or other suitable battery with output in the 3.0 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.



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Figure 1. Functional Block Diagram

**NEW**

Skyworks Green™ products are lead (Pb)-free, RoHS (Restriction of Hazardous Substances)-compliant, conform to the EIA/EICTA/JEITA Joint Industry Guide (JIG) Level A guidelines, and are free from antimony trioxide and brominated flame retardants.



## Ordering Information

Model Number	Manufacturing Part Number	Product Revision	Package	Operating Temperature
SKY77453	SKY77453		MCM 4 x 4 x 0.85 mm	-20 °C to +85 °C

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