

**PRODUCT SUMMARY**

# **SKY77606 Multiband Multimode Power Amplifier Module for Quad-Band GSM / EDGE and Tri-Band (Bands I, V, VIII) WCDMA / HSDPA / HSUPA / HSPA+ / LTE**

## **Applications**

- Quad-band cellular handsets:
  - Class 4 GSM850 / EGSM900
  - Class 1 DCS1800 / PCS1900
  - Class E2 GSM850 / EGSM900 / DCS1800 / PCS1900
  - Class 12 multi-slot EGPRS
- Multiband 3G handsets
- WCDMA / HSDPA / HSUPA modulated handsets – Bands I, V, VIII
- LTE modulated 4G handsets

## **Features**

- Hybrid architecture: separate GSM, WCDMA paths
- 50 ohm input and output impedances, integrated DC blocking on all ports
- Separate single-ended GSM and WCDMA inputs and outputs
- Integrated coupler with coupled and isolated ports for 3G/4G band operation
- CMOS Compatible three-line logic input plus HB / LB enable
- VCC stages for 2.5G / 3G can attach to battery or buck DC/DC
- Small, low profile package
  - 7 mm x 5 mm x 0.9 mm
  - 32-pad configuration
- 2.5G Features
  - EGPRS Class 12 multi-slot operation
  - Three RF POUT control levels using digital logic interface.
  - Linear PA with bias optimization for efficiency / linearity tradeoff in 8-PSK mode
- 3G Features
  - WCDMA mode supports output power, bandwidth: Bands I, V, VIII
  - Three RF POUT control levels using digital logic interface
  - Linear balanced with bias optimization and low / high mode gain switch for best efficiency / linearity trade-off
- 4G features:
  - LTE supports output power, bandwidth bands 1, 5, 8



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## **Description**

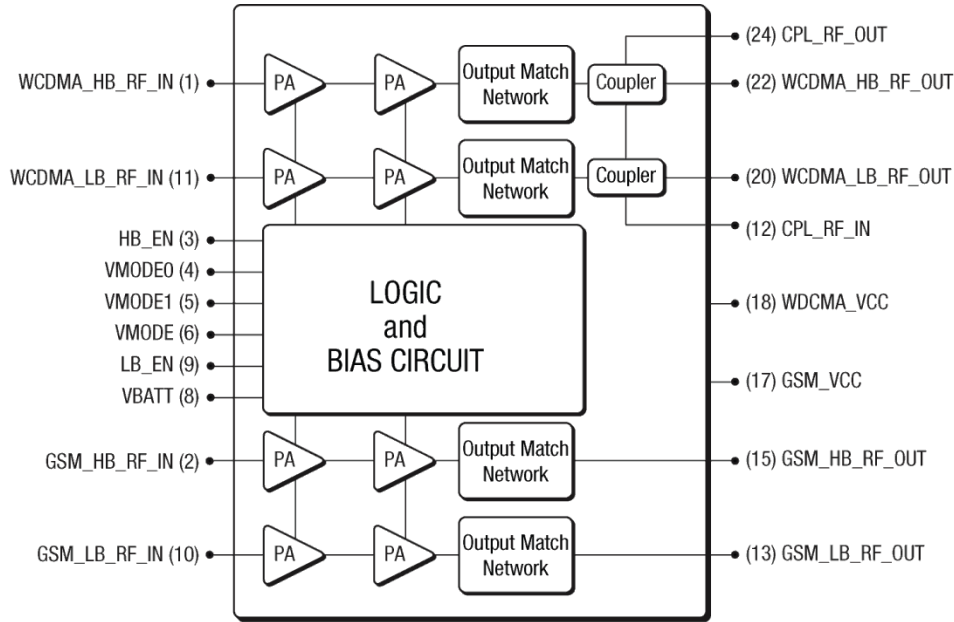
The SKY77606 is a hybrid, multimode, multiband Power Amplifier Module (PAM) that supports 2.5G and 3G handsets and operates efficiently in GSM, EGPRS, EDGE, WCDMA, and LTE modes. The PAM consists of: a GSM 800 / EGSM 900 PA block, a DCS1800 / PCS1900 PA block, separate WCDMA blocks operating in low and high bands, a logic control block for multiple power control levels, and band enable functions in both cellular and UMTS. RF I/O ports are internally matched to 50 Ω to minimize the number of external components. Extremely low leakage current maximizes handset standby time.

**GSM/EDGE:** The SKY77606 uses a new compact architecture supporting GSM850, EGSM900, DCS1800 and PCS1900 bands. The PAM also supports 2.5G Class 12 Enhanced General Packet Radio Service (EGPRS) multi-slot operation and EDGE linear modulation.

**WCDMA:** The SKY77606 uses Switched Load Insensitive Power Amplifier (SLIPA) circuitry to support WCDMA, High-Speed Downlink Packet Access (HSDPA), and High-Speed Uplink Packet Access (HSUPA) modulations at moderate antenna Voltage Standing Wave Ratio (VSWR). This functionality covers multiple bands for 3GPP, including bands I, V, and VIII, and operates at different power modes. The module is fully controllable via three line logic and band-enable interfaces. The InGaP/GaAs die and passive components are mounted on a multi-layer laminate substrate and the assembly encapsulated with plastic overmold.

**LTE:** The SKY77606 meets spectral linearity requirements of LTE modulation with QPSK/16QAM from 5 MHz to 10 MHz bandwidth, including various resource block allocations, with good power-added efficiency.

Figure 1 presents a functional block diagram.



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Figure 1. SKY77606 Functional Block Diagram

Ordering Information

Order Number	Manufacturing Part Number	Evaluation Board Part Number
SKY77606	SKY77606-	

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