PRODUCT SUMMARY

SKY77619 SkyHi™ Multimode Multiband Power Amplifier Module for Quad-Band GSM / EDGE and Penta-Band (Bands I, II, IV, 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 multislot EGPRS
- Multiband 3G handsets
- WCDMA/ HSDPA/ HSUPA/ LTE-modulated handsets for Bands I, II, IV, V, VIII

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 port for 3G/4G band operation
- CMOS-compatible four-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
  - 42-pad configuration
- 2.5G features:
  - EGPRS Class 12 multislot operation
  - Two RF POUT control levels using digital logic interface
  - Linear PA with bias optimization for efficiency/linearity trade-off in 8-PSK mode
- 3G features:
  - WCDMA mode supports output power, bandwidth for bands I, II, IV, V, VIII through an integrated select switch
  - Two RF POUT control levels using digital logic interface
  - Linear amplifiers with bias optimization and low/high mode gain switch for best efficiency/linearity tradeoff
- 4G features:
  - LTE supports output power, bandwidth bands 1, 5, 8

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 SKY77619 SkyHi™ Power Amplifier Module (PAM) is a hybrid, multimode, multiband module that supports 2.5G and 3G/4G 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. The InGaP/GaAs die and passive components are mounted on a multi-layer laminate substrate and the assembly encapsulated in plastic overmold.

GSM/EDGE: The SKY77619 uses a new compact architecture supporting the GSM850, EGSM900, DCS1800 and PCS1900 bands. The PAM also supports 2.5G Class 12 Enhanced General Packet Radio Service (EGPRS) multislot operation and EDGE linear modulation.

WCDMA: The SKY77619 uses an enhanced architecture to support WCDMA, High-Speed Downlink Packet Access (HSDPA), and High-Speed Uplink Packet Access (HSUPA) and LTE modulations; cover multiple bands for 3GPP, including bands I, II, IV, V, and VIII; and operate at different power modes. The module is fully controllable via four logic lines and band-enable interfaces.

LTE: The SKY77619 meets spectral linearity requirements of LTE modulation with QPSK/16QAM up to 20 MHz bandwidth, including various resource block allocations, with good power-added efficiency

Ordering Information

Product Name	Order Number	Evaluation Board Part Number
SKY77619 SkyHi™ Multimode Multiband Power Amplifier Module	SKY77619 SKY77619-51	EN21-D425-001 V1 REV A