PRODUCT SUMMARY

SKY77647 Multimode Multiband Power Amplifier Module for Quad-Band GSM/EDGE – WCDMA / HSDPA / HSUPA / HSPA+ / LTE (Bands 1, 2, 3, 4, 5, 8, 12, 13, 17, 20, 26, 28, 34, 39)

DISCONTINUED

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/ LTE-modulated handsets for Bands 1, 2, 3, 4, 5, 8, 12, 13, 17, 20, 26, 28, 34, 39

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
- CMOS-compatible, two-wire MIPI logic inputs (SCLK, SDATA)
- VCC stages for 2.5G can attach to battery or buck DC/DC
- Small, low profile package:
  - 7 mm x 5 mm x 0.8 mm
  - 42-pad configuration

2.5G FEATURES:

- EGPRS Class 12 multi-slot operation
- Four RF POUT control levels using RFFE 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 1, 2, 3, 4, 34/39, 5, 8 (and sub-bands 9, 10, 25, 26) through an integrated band-select switch
- Digital bias optimization through RFFE interface for best efficiency/linearity tradeoff

4G FEATURES:

- Optimized for Average Power Tracking system
- LTE supports output power bandwidth bands 1, 2, 3, 4, 39, 5, 8, 20, 12, 13, 17 (and sub-bands 9, 10, 18, 19, 25, 26)

Description

The SKY77647 is a hybrid, multimode multiband (MMMB) Power Amplifier Module (PAM) 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 SKY77647 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) multi-slot operation and EDGE linear modulation.

WCDMA: The SKY77647 uses an enhanced architecture to: support WCDMA, High-Speed Downlink Packet Access (HSDPA), High-Speed Uplink Packet Access (HSUPA), and LTE modulations; cover multiple bands for 3GPP, including bands 1, 2, 3, 4, 5, 8; operate at different power modes. The module is fully controllable via MIPI interface.

TD-SCDMA/TDD LTE: The SKY77647 uses an enhanced architecture that supports TD-SCDMA bands 34/39 and TDD LTE band 39.

LTE: The SKY77647 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.

For RoHS and other product compliance information, see the Skyworks Certificate of Conformance

Ordering Information

Product Name	Order Number	Evaluation Board Part Number
SKY77647 Multimode Multiband Power Amplifier Module	SKY77647	—



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