PRODUCT SUMMARY

SKY77646 Multimode Multiband Power Amplifier Module for Quad-Band GSM/EDGE – Bands (1, 25, 3, 4, 26, 8, 13, 12, 20, 28, 34, and 39) WCDMA / HSDPA / HSUPA / HSPA+ / LTE

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
- CDMA/ WCDMA/ HSDPA/ HSUPA/ TD-SCDMA/ LTE modulated handsets for Bands 1, 25, 3, 4, 26, 8, 13, 12, 20, 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
- Low capacitance VCC interface for 3G/4G supports Envelope Tracking compatibility
- Optimized Low Power Mode for ultra-low quiescent current
- Small, low profile package:
  - 7 mm x 5 mm x 0.9 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, 25, 4, 34/39, 26, 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
- Optimized for envelope tracking system

4G FEATURES:

- Optimized for Envelope Tracking system
- LTE supports output power bandwidth bands 1, 25, 3, 4, 39, 26, 8, 20, 12, 17 (and sub-bands 9, 10, 18, 19)
- B4/12 and B3/8 carrier aggregation
- Flexible LB input configuration: any LB input for any band

Description

The SKY77646 hybrid, multimode multiband (MMMB) Power Amplifier Module (PAM) supports 2.5G and 3G/4G handsets and operates efficiently in GSM, EDGE (EGPRS), CDMA, WCDMA, TD-SCDMA, and LTE modes. The PAM consists of a GSM800/EGSM 900 PA block, a DCS1800/PCS1900 PA block, separate WCDMA/LTE blocks operating in low and mid 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 new compact architecture of the SKY77646 supports the GSM850, EGSM900, DCS1800, and PCS1900 bands, 2.5G Class 12 Enhanced General Packet Radio Service (EGPRS) multi-slot operation, and EDGE linear modulation.

WCDMA: The enhanced SKY77646 architecture supports WCDMA, High-Speed Downlink Packet Access (HSDPA), High-Speed Uplink Packet Access (HSUPA), and LTE modulations. It also covers multiple bands for 3GPP including bands 1, 25, 4, 26, and 8; operates at different power modes. The module is fully controllable via MIPI interface.

TD-SCDMA/TDD-LTE: The enhanced SKY77646 architecture supports TD-SCDMA bands 34/39 and TDD-LTE band 39 through ET or APT modes.

LTE: The SKY77646 meets the 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
SKY77646 Multimode Multiband Power Amplifier Module	SKY77646	EN40-D695-002



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