

PRODUCT SUMMARY

SKY77629-51 Multimode Multiband Power Amplifier Module for Quad-Band GSM/EDGE – Hepta-Band (I, II, III, IV, V, VIII, and 20) 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
- CDMA/ WCDMA/ HSDPA/ HSUPA/ LTE -modulated handsets for Bands I, II, III, 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
- 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 I, II, III, IV, V, VIII (and sub-bands IX, X, XVIII, IXX, XX, XXVI) 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, 2, 3, 4, 5, 8 (and sub-bands 9, 10, 18, 19, 20, 26)

Description

The SKY77629-51 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, CDMA, 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 SKY77629-51 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 SKY77629-51 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 I, II, IV, V, and VIII; operate at different power modes. The module is fully controllable via MIPI interface.

LTE: The SKY77629-51 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

Figure 1 is a functional block diagram of the SKY77629-51 module.



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.

Ordering Information

Product Name	Order Number	Evaluation Board Part Number
SKY77629-51 Multimode Multiband Power Amplifier Module	SKY77629-51	EN40-D695-002



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