PRODUCT SUMMARY

SKY77615 Multimode Multiband Power Amplifier Module

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
- WCDMA Bands: I, II, III, IV/X, V/VI, VIII

Features

- Hybrid PA architecture:
  - combined 2G / 3G input
- Internal switches configure inputs / outputs:
  - Penta-band 3G outputs
- Design optimized for DC/DC converter use in all modes: 2.5G / 3G.
  - optimize transceiver / PA current by adjusting DC/DC Converter, PA bias current, and transceiver drive power
- Fully programmable Mobile Industry Processor Interface (MIPI) control
- MIPI programmable bias modes in conjunction with analog VBIAS control optimizes best efficiency/linearity trade-off for 2.5G and 3G; minimizes DG09 for 3G.
- Small, low profile package:
  - 6 mm x 8 mm x 0.9 mm
  - 36-pad configuration

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

Skyworks SKY77615 is a hybrid multimode multiband (MMMB) Power Amplifier Module (PAM) that supports 2.5G / 3G handsets, and operates efficiently in GSM, EGPRS, EDGE, and WCDMA modes. The module is fully programmable through MIPI.

The PAM consists of a GSM850/EGSM900 PA block, a DCS1800/PCS1900 PA block, a separate WCDMA block for low and high bands, RF input/output ports internally matched to 50 ohms to reduce the number of external components, and a Multi-Function Control (MFC) block. A CMOS integrated circuit, using standard MIPI control, provides the internal MFC interface and operation. Extremely low leakage current maximizes handset standby time.

The InGaP die and the silicon die and passive components are mounted on a multi-layer laminate substrate. The assembly is encapsulated in a 6 mm x 8 mm x 0.9 mm, 36-pad MCM, SMT package which allows for a highly manufacturable, low cost solution.

2.5G: The SKY77615 supports the GSM850, EGSM900, DCS1800, and PCS1900 bands as well as 2.5G Class 12 Enhanced General Packet Radio Service (EGPRS) multi-slot operation and EDGE linear modulation.

For both GMSK and EDGE modes, quiescent current is adjusted according to the output power target using the VBIAS pad in order to minimize current drain at each power level and output power is controlled by varying input power.

3G: The SKY77615 supports WCDMA, High-Speed Downlink Packet Access (HSDPA), and High Speed Uplink Packet Access (HSUPA) modulation. Varying the input power level provides output power control. VCC is adjusted using a DC/DC converter to maximize efficiency for each power level and modulation type.

3G Modulation scheme includes:

- WCDMA Voice Release 99
- HSPA+
- HSUPA
- HSDPA categories

Ordering Information

Product Name	Order Number	Evaluation Board Part Number
SKY77615 Multimode Multiband Power Amplifier Module	SKY77615	