PRODUCT SUMMARY



SKY77607 Multiband Multimode Power Amplifier Module for Quad-Band GSM / EDGE and Dual-Band (Band I and VIII) WCDMA / HSDPA / HSUPA / HSPA+ Handsets

Applications

- Quad-band cellular handsets:
 - Class 4 GSM850 / EGSM900
 - Class 1 DCS1800 / PCS1900
 - Class E2 GSM850 / EGSM900 / DCS1800 / PCS1900
 - Class 12 multi-slot EGPRS
 - Multi-band 3G handsets
 - Broadband WCDMA/HSDPA/HSUPA-modulated handsets -Bands I, VIII

Features

- Hybrid module architecture, w/ separate GSM, WCDMA paths
- 50 Ω I/O impedances, integrated DC blocking all ports
- Separate single-ended I/O for GSM and WCDMA
- Integrated coupler w/ coupled and isolated ports for 3G band operation
- CMOS-compatible three-line logic input, HB enable / LB enable
- Both 3G VCC stages can attach to battery or buck DC/DC
- Ultra-compact low profile package
 - 5 mm x 7 mm x 0.9 mm
 - 24-pad configuration
- 2.5G Features
 - GPRS Class 12 multi-slot operation
- Three level RF Pout control using digital logic interface.
- Linear PA with bias optimization for efficiency/linearity tradeoff in 8PSK mode
- 3G Features
 - WCDMA mode supports output power, bandwidth for bands I. VIII
 - Two level Pout RF Pout control using digital logic interface
 - Linear balanced with bias optimization, low/high mode gain switch for best efficiency / linearity trade-off



Skyworks Green™ products are RoHS (Restriction of Hazardous Substances)-compliant, conform to the EIA/EICTA/JEITA Joint Industry Guide (JIG) Level A guidelines, are halogen free according to IEC-61249-2-21, and contain < 1,000 ppm antimony trioxide in polymeric materials.

Description

Skyworks SKY77607 is a hybrid multimode, multiband Power Amplifier Module (PAM) that supports 2.5G and 3G handsets, and operates efficiently in GSM, EGPRS, EDGE and WCDMA modes.

The PAM consists of a GSM800/EGSM900 PA block, a DCS1800/PCS1900 PA block, separate blocks for WCDMA operating in low / high bands. RF I/O ports internally matched to 50 Ω to reduce the number of external components, a logic control block for multiple power control levels and band enable functions in both cellular and UMTS. Extremely low leakage current maximizes handset standby time.

GSM/EDGE: The SKY77607 uses a new compact architecture to support 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 SKY77607 uses Load Insensitive Power Amplifier (LIPA) circuitry to support WCDMA, High-Speed Downlink Packet Access (HSDPA), and High-Speed Uplink Packet Access (HSUPA) modulations at moderate antenna Voltage Standing-Wave Ratio (VSWR). This functionality covers multiple bands for 3GPP, including bands I, VIII, and operates at different power modes.

The module is fully controllable via three line logic and band enable interfaces. The InGaP/GaAs die and passive components are mounted on a multi-layer laminate substrate and the assembly encapsulated with plastic overmold. The SKY77607 Surface-Mounted Technology (SMT) package offers for a highly manufacturable, low-cost solution.

Figure 1 shows a functional block diagram and Figure 2 shows the pad locations.

SKY77607 MULTIBAND MULTIMODE PAM FOR QUAD-BAND GSM / EDGE and DUAL-BAND (BANDS I, VIII), WCDMA / HSDPA / HSUPA / HSPA+ HANDSETS

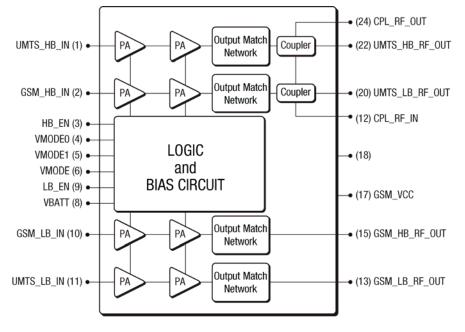


Figure 1. SKY77607 Functional Block Diagram

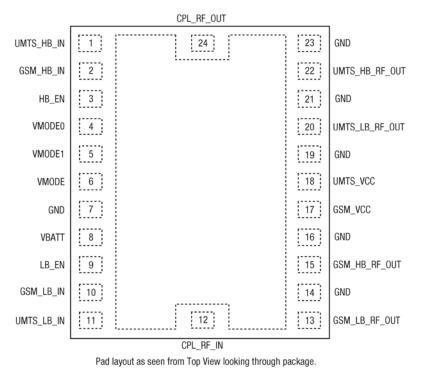


Figure 2. SKY77607 Pad Configuration

Skyworks Solutions, Inc. • Phone [781] 376-3000 • Fax [781] 376-3100 • sales@skyworksinc.com • www.skyworksinc.com • www.skyworksinc.com • www.skyworksinc.com • www.skyworksinc.com • www.skyworksinc.com • www.skyworksinc.com • 201239A

201239_001

201239_002

Copyright © 2010, Skyworks Solutions, Inc. All Rights Reserved.

Information in this document is provided in connection with Skyworks Solutions, Inc. ("Skyworks") products or services. These materials, including the information contained herein, are provided by Skyworks as a service to its customers and may be used for informational purposes only by the customer. Skyworks assumes no responsibility for errors or omissions in these materials or the information contained herein. Skyworks may change its documentation, products, services, specifications or product descriptions at any time, without notice. Skyworks makes no commitment to update the materials or information and shall have no responsibility whatsoever for conflicts, incompatibilities, or other difficulties arising from any future changes.

No license, whether express, implied, by estoppel or otherwise, is granted to any intellectual property rights by this document. Skyworks assumes no liability for any materials, products or information provided hereunder, including the sale, distribution, reproduction or use of Skyworks products, information or materials, except as may be provided in Skyworks Terms and Conditions of Sale.

THE MATERIALS, PRODUCTS AND INFORMATION ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, WHETHER EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE, INCLUDING FITNESS FOR A PARTICULAR PURPOSE OR USE, MERCHANTABILITY, PERFORMANCE, QUALITY OR NON-INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHT; ALL SUCH WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED. SKYWORKS DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. SKYWORKS SHALL NOT BE LIABLE FOR ANY DAMAGES, INCLUDING BUT NOT LIMITED TO ANY SPECIAL, INDIRECT, INCIDENTAL, STATUTORY, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS THAT MAY RESULT FROM THE USE OF THE MATERIALS OR INFORMATION, WHETHER OR NOT THE RECIPIENT OF MATERIALS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Skyworks products are not intended for use in medical, lifesaving or life-sustaining applications, or other equipment in which the failure of the Skyworks products could lead to personal injury, death, physical or environmental damage. Skyworks customers using or selling Skyworks products for use in such applications do so at their own risk and agree to fully indemnify Skyworks for any damages resulting from such improper use or sale.

Customers are responsible for their products and applications using Skyworks products, which may deviate from published specifications as a result of design defects, errors, or operation of products outside of published parameters or design specifications. Customers should include design and operating safeguards to minimize these and other risks. Skyworks assumes no liability for applications assistance, customer product design, or damage to any equipment resulting from the use of Skyworks products outside of stated published specifications or parameters.

Skyworks, the Skyworks symbol, "Breakthrough Simplicity," DCR, Helios, HIP3, Innovation to Go, Intera, iPAC, LIPA, Polar Loop, and System Smart are trademarks or registered trademarks of Skyworks Solutions, Inc., in the United States and other countries. Third-party brands and names are for identification purposes only, and are the property of their respective owners. Additional information, including relevant terms and conditions, posted at www.skyworksinc.com, are incorporated by reference.