

PRODUCT SUMMARY

SKY77621-11 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 / LTE handsets
- WCDMA Bands: I, II, III, IV, V, VIII, IX
- TD-SCDMA Bands: 34, 39
- LTE Bands: 1, 2, 3, 4, 5, 8, 13, 17, 20
- TDD LTE Band 39

Features

- Hybrid PA architecture
- Two 2G/2.5G outputs
- Eight 3G/4G outputs
- Industry-leading PAE for 2G/3G/4G
- Optimized for APT DCDC operation
- Supports Envelope Tracking (ET) application
- Fully programmable Mobile Industry Processor Interface (MIPI) control
- MIPI programmable bias modes optimize best efficiency / linearity trade-off for 3G and 4G; minimizes DG09 for 3G.
- Analog VRAMP for 2G/2.5G controls GMSK power output and sets EDGE bias
- Small, low profile package:
 - 5 mm x 7 mm x 0.9 mm
 - 42-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 SKY77621-11 is a hybrid multimode multiband (MMMB) Power Amplifier Module (PAM) that supports 2.5G / 3G / 4G handsets, and operates efficiently in GSM, EGPRS, EDGE, WCDMA, TD-SCDMA, and LTE modes. The module is fully programmable through a Mobile Industry Processor Interface MIPI.

The PAM consists of a GSM850 / EGSM900 PA block, a DCS1800 / PCS1900 PA block, a WCDMA / LTE block for low and high bands, and a Multi-Function Control (MFC) block, RF input/output ports internally matched to 50 Ω to reduce the number of external components. 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 5 x 7 x 0.9 mm, 42-pad MCM, SMT package which allows for a highly manufacturable, low cost solution.

2.5G The SKY77621-11 supports the GSM850, EGSM900, DCS1800, and PCS1900 bands as well as 2.5G Class12 Enhanced General Packet Radio Service (EGPRS) multi-slot operation and EDGE linear modulation.

In GMSK mode, adjusting VRAMP controls power output. In EDGE mode, PIN controls power output and VRAMP sets the bias.

3G The SKY77621-11 supports WCDMA, High-Speed Downlink Packet Access (HSDPA), High Speed Uplink Packet Access (HSUPA), High Speed Packet Access (HSPA+), and TD-SCDMA modulations. Varying the input power level provides output power control. VCC is adjusted using a DCDC converter or Envelope Tracking (ET) modulator to maximize efficiency for each power level and modulation type.

4G The SKY77621-11 supports 1.4, 3, 5, 10, 15, 20 MHz channel bandwidths. Similar to 3G operation, output power is controlled by varying the input power and VCC is adjusted using a DCDC converter or ET modulator to maximize efficiency for each power level.

3G / 4G Modulation scheme includes:

- WCDMA Voice Release 99
- HSDPA categories
- HSUPA
- HSPA+
- TD-SCDMA
- LTE 1.4, 3, 5, 10, 15, 20 MHz Channel BW
- TDD LTE

Ordering Information

| Product Name | Order Number | Evaluation Board Part Number |
|--|--------------|------------------------------|
| SKY77621-11 Multimode Multiband Power Amplifier Module | SKY77621-11 | EN40-D486-003 |

Copyright © 2012, 2013, 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.