

PRODUCT SUMMARY

SKY77627-11 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/X, V/VI, VIII
- TD-SCDMA Bands: 34, 39
- LTE Bands: 1, 2, 3, 4, 5, 8, 12, 13, 17, 20, 28, 39

Features

- Hybrid PA architecture:
 - combined 2G / 3G input
 - dedicated 4G input
- Internal switches configure inputs / outputs
 - Ten 3G/4G outputs
- Design optimized for DC/DC converter or ET modulator.
 - optimize transceiver / PA current by adjusting DC-DC converter, PA bias current, and transceiver drive power
- Fully programmable Mobile Industry Processor Interface RF Front End (MIPI RFFE)
- MIPI RFFE programmable biasing optimizes best efficiency / linearity trade-off for 2.5G, 3G and 4G; minimizes DG09 for 3G.
- Small, ultra-low profile package:
 - 5 mm x 7 mm x 0.9 mm (nominal)
 - 42-pad configuration



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Description

Skyworks SKY77627-11 is a hybrid multimode multiband (MMMB) Power Amplifier Module (PAM) that supports 2.5G/3G and 4G handsets, and operates efficiently in GSM, EGPRS, EDGE, WCDMA, and LTE modes. The module is fully programmable through an MIPI RFFE Interface.

The PAM consists of a GSM850/EGSM900 PA block, a DCS1800/PCS1900 PA block, a separate WCDMA/LTE block for low and high bands, RF input / output ports internally matched to 50 Ω 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 5 x 7 x 0.9 mm, 42-pad MCM, SMT package which allows for a highly manufacturable, low cost solution.

2.5G: The SKY77627-11 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.

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

3G: The SKY77627-11 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 or Envelope Tracking (ET) modulator to maximize efficiency for each power level and modulation type.

4G: The SKY77627-11 supports 1.4, 3, 5, 10, 15, 20 MHz channel bandwidths. An integrated input switch connects the power amplifier to the transceiver's LTE output port. Similar to 3G operation, output power is controlled by varying the input power and VCC is adjusted using a DC/DC converter or Envelope Tracking (ET) modulator to maximize efficiency for each power level.

TD-SCDMA: The SKY77627-11 supports bands 34 and 39 via the RF output pad 33. The integrated input switch connects the power amplifier to the transceiver's 2G/3G High Band output port. Similar to 3G operation, output power is controlled by a varying input power and VCC is adjusted using a DC/DC converter to maximize efficiency for each power level.

3G / 4G Modulation scheme includes:

- WCDMA Voice Release 99
- HSPA+ 16 QAM UL
- HSUPA
- HSDPA categories
- LTE 1.4, 3, 5, 10, 15, 20 MHz Channel BW
- LTE QPSK + 16QAM
- TDD 1.28 Mcps

Ordering Information

Product Name	Order Number	Evaluation Board Part Number
SKY77627-11 Multimode Multiband Power Amplifier Module	SKY77627-11	—

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