

**PRODUCT SUMMARY**

# SKY77175-13 Dual-Band PA Module for WCDMA / HSDPA Band II (1850–1910 MHz) and Band V (824–849 MHz)

**APPLICATIONS**

- WCDMA handsets
- HSDPA handsets
- Personal Communication Services (PCS)
- Wireless Local Loop (WLL)

**Features**


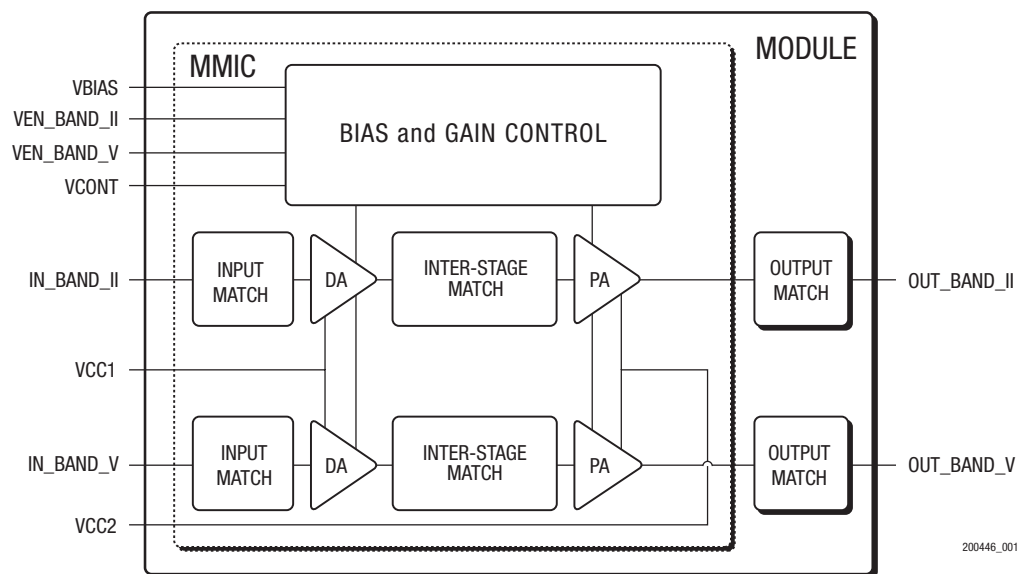
- Low voltage positive bias supply: 3.1 V to 4.6 V
- No  $V_{REF}$  required
- Supports low collector voltage operation
- Good linearity
- High efficiency
- Large dynamic range
- 14-pad package
- Low profile package  
- 3 mm x 6 mm x 1.1 mm
- Separate digital VENABLE pads for PCS and Cellular modes of operation.
- Analog bias current control using VCONT pad.
- InGaP

The SKY77175-13 Power Amplifier Module (PAM) is a fully matched, 14-pad, surface mount module developed for Wideband Code Division Multiple Access (WCDMA) applications. This small and efficient module packs full WCDMA Band II and Band V coverage into a single compact package. The SKY77175-13 meets the stringent spectral linearity requirements of WCDMA transmission, with high power added efficiency for power output to 29 dBm (Band II) and 29 dBm (Band V). A low current analog pad ( $V_{CONT}$ ) is provided to improve efficiency for the low RF power range of operation.

Gallium Arsenide (GaAs) Microwave Monolithic Integrated Circuits (MMIC) contain all active RF circuitry as well as input and interstage matching circuits. Output match is realized off-chip within the module package to optimize efficiency and power performance into a 50  $\Omega$  load. The devices are manufactured with Skyworks' GaAs Heterojunction Bipolar Transistor (HBT) process that provides for all positive voltage DC supply operation while maintaining high efficiency and good linearity. Primary bias to the SKY77175-13 is supplied directly from a three-cell Ni-Cad, a single-cell Li-Ion, or other suitable batteries with outputs in the 3.1 to 4.6 volt range. Power down is accomplished by setting a logic low level on the VEN pad. No external supply side switch is needed as typical "off" leakage is 15 microamperes with full primary voltage supplied from the battery.

Board real estate is reduced through simplified interface to the module: VCC, VCONT bias lines are shared, and VREF is generated internally on the module.

**NEW** Skyworks offers lead (Pb)-free, RoHS (Restriction of Hazardous Substances)-compliant packaging.

**Figure 1. Functional Block Diagram**

## Ordering Information

Model Number	Manufacturing Part Number	Product Revision	Package	Operating Temperature
SKY77175	SKY77175-13	-13	MCM 3 x 6 x 1.1 mm	-20 °C to +85 °C

## Revision History

Revision	Level	Date	Description
A		April 18, 2008	Initial Release

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