PRODUCT SUMMARY

SKY77181 Power Amplifier Module for WCDMA / HSDPA (880–915 MHz)

Applications

- WCDMA Handsets
- HSDPA Handsets
- Personal Communications Services (PCS)
- Wireless local loop (WLL)

Features

- No V_{REF} required
- Low voltage positive bias - 3.1 V to 4.6 V
- Supports low collector voltage operation
- Good linearity
- High efficiency at all power levels (13.5% at 15 dBm)
- Large dynamic range
- Low Profile package - 3 x 3 x 1.1 mm
- 8-pad configuration
- Power down control
- InGaP
- Digital V_{ENABLE}
- Digital or Analog $V_{CONTROL}$

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

Description

The SKY77181 Power Amplifier module is a fully matched 8-pad surface mount module developed for Wideband Code Division Multiple Access (WCDMA) applications. This small and efficient power amplifier packs full coverage of the 880–915 MHz bandwidth into a single compact package. The SKY77181 meets the stringent spectral linearity requirements of High Speed Downlink Packet Access (HSDPA) data transmission with high power added efficiency for power output of up to 28 dBm. Because of high efficiencies attained throughout the entire power range, the SKY77181 delivers unsurpassed talk-time advantages.

The single Gallium Arsenide (GaAs) Microwave Monolithic Integrated Circuit (MMIC) contains all active circuitry in the module. The MMIC includes on-board bias circuitry, as well as input and interstage matching circuits. The output match is realized off-chip within the module package to optimize efficiency and power performance into a 50 Ω load. This device is manufactured with Skyworks' InGaP 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 SKY77181 is supplied directly from a three-cell Ni-Cd, a single-cell Li-Ion, or other suitable battery with an output in the 3.1 to 4.6 volt range. No V_{REF} voltage is required. Power down is accomplished by setting the voltage on V_{ENABLE} to zero volts. Digital bias control can be used to optimize efficiency at high and low power or analog bias control can be used to optimize efficiency over the entire power range. No external supply side switch is needed as typical "off" leakage is a few microamperes with full primary voltage supplied from the battery.

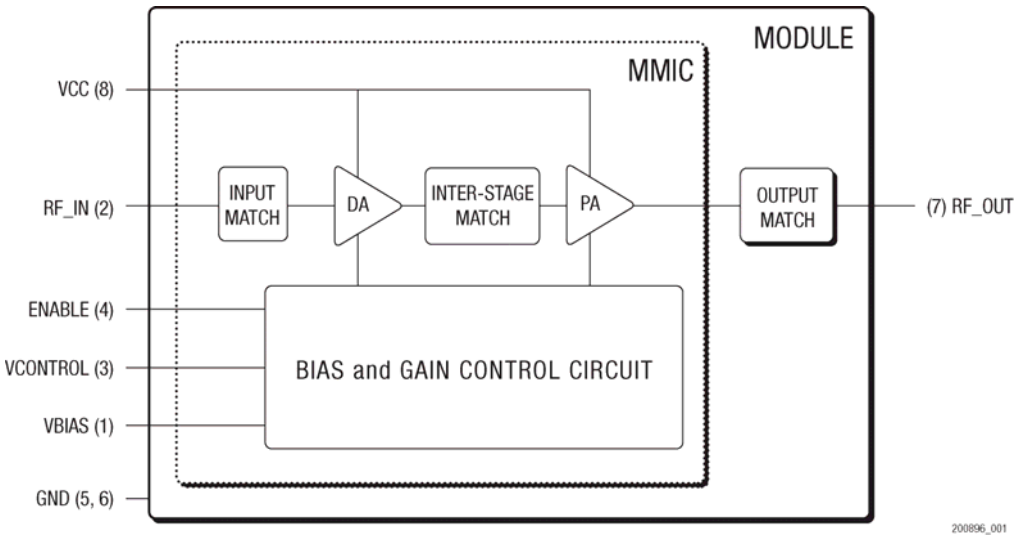

Figure 1. SKY77181 Functional Block Diagram

Ordering Information

Model Number	Manufacturing Part Number	Product Revision	Package	Operating Temperature
SKY77181	SKY77181		MCM 3 x 3 x 1.1 mm	–20 °C to 85 °C

Revision History

Revision	Level	Date	Description
A		April 18, 2008	Initial Issue – Preliminary Information