

**PRELIMINARY PRODUCT SUMMARY**

# SKY77149: System Smart™ PA Module for CDMA / PCS (1850–1910 MHz)

**Applications**

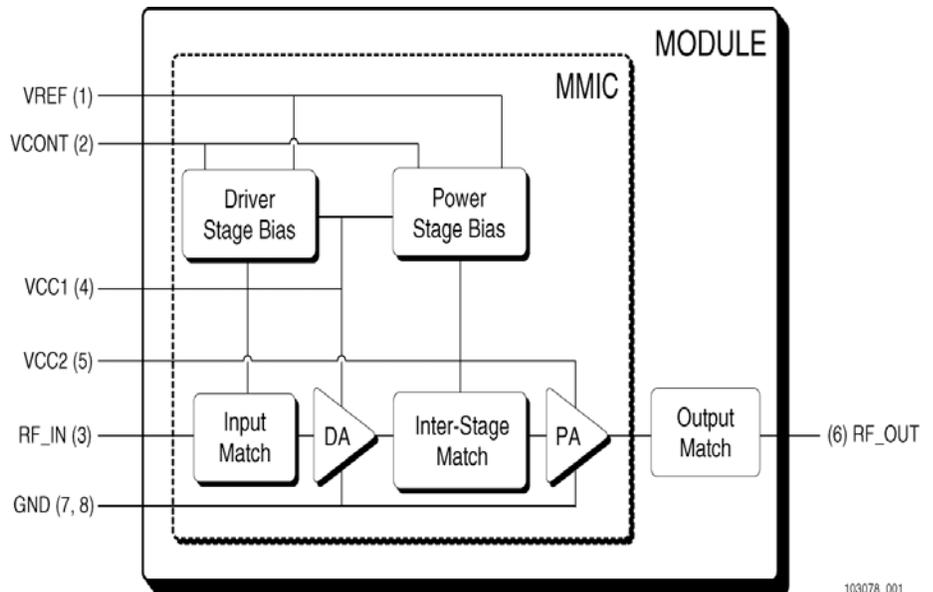
- Personal Communications Services (PCS)
- Wireless local loop (WLL)

**Features**

- Low voltage positive bias supply  
- 3.2 V to 4.2 V
- Low VREF  
- 2.85 V, nominal
- Low IREF  
- less than 1 mA
- Good linearity
- High efficiency
- Large dynamic range
- 8-pin package  
- 3 x 3 x 1.2 mm
- Power down control
- Dynamic bias control
- InGaP
- IS95/CDMA2000/EVDO
- Full U.S. PCS coverage

The SKY77149 System Smart™ Power Amplifier Module (PAM) is a fully matched 8-pin surface mount module developed for Code Division Multiple Access (CDMA) / Personal Communications Service (PCS) and Wireless Local Loop (WLL) applications. This small and efficient Power Amplifier packs full 1850–1910 MHz bandwidth coverage into a single compact package. The SKY77149 meets the stringent spectral linearity requirements of Code Division Multiple Access (CDMA) PCS transmission, with high power added efficiency for power output of up to 28 dBm. A low current (VCONT) pin is provided to improve efficiency for the low RF power range of operation.

The single Gallium Arsenide (GaAs) Microwave Monolithic Integrated Circuit (MMIC) contains all active circuitry in the module. The MMIC contains 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' 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 SKY77149 is supplied directly from a three-cell nickel cadmium, a single-cell lithium ion, or other suitable battery with an output in the 3 to 4 volt range. Power down is accomplished by setting the voltage on the low current reference pin to zero volts. 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. Functional Block Diagram**

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