PRODUCT SUMMARY

SKY77709 Power Amplifier Module for LTE FDD Band VII (2300–2400 MHz)

Applications

- FDD Evolved Universal Terrestrial Radio Access Networks (EUTRAN)
- Handsets and Data Cards

Features

- QPSK, 16QAM modulations
- 1.4 MHz to 20 MHz bandwidth
- Up to 100 resource blocks
- Band VII linear power @ 3.4 V
  - LTE 28 dBm
- Low voltage positive bias supply 3.2 V to 4.2 V
- Excellent linearity and efficiency
- Large dynamic range
- Small, low profile package
  - 3 mm x 3 mm x 0.9 mm
  - 10-pad configuration
- InGaP BiFET Technology

NEW Skyworks Green™ products are RoHS (Restriction of Hazardous Substances)-compliant, conform to the EIA/EICTA/JEITA Joint Industry Guide (JIG) Level A guidelines, are halogen free according to IEC-61249-2-21, and contain < 1,000 ppm antimony trioxide in polymeric materials.

Description

The SKY77709 Power Amplifier Module (PAM) is a fully matched, surface mount module developed for LTE / EUTRAN applications. This small and efficient module packs full coverage of LTE FDD Band VII into a single compact package. The SKY77709 meets the stringent spectral linearity requirements of LTE modulation with QPSK / 16QAM modulations from 1.4 MHz to 20 MHz bandwidth and full or partial resource block allocations with high power added efficiency.

The single Gallium Arsenide (GaAs) Microwave Monolithic Integrated Circuit (MMIC) contains all active circuitry in the module, including the PA, input, and interstage matching. Output match is realized off-chip within the module package to optimize efficiency and power performance into a 50 Ω load. The SKY77709 is manufactured with Skyworks' BiFET process which provides for all positive voltage DC supply operation while maintaining high efficiency and good linearity. Primary bias is supplied via the VCC1 and VCC2 pads directly from battery output in the 3.2 to 4.2 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 a few microamperes with full primary voltage supplied from the battery. The VMODE0 and VMODE1 pads are used to switch between high, medium and low power modes to reduce current consumption and gain in the back-off conditions.

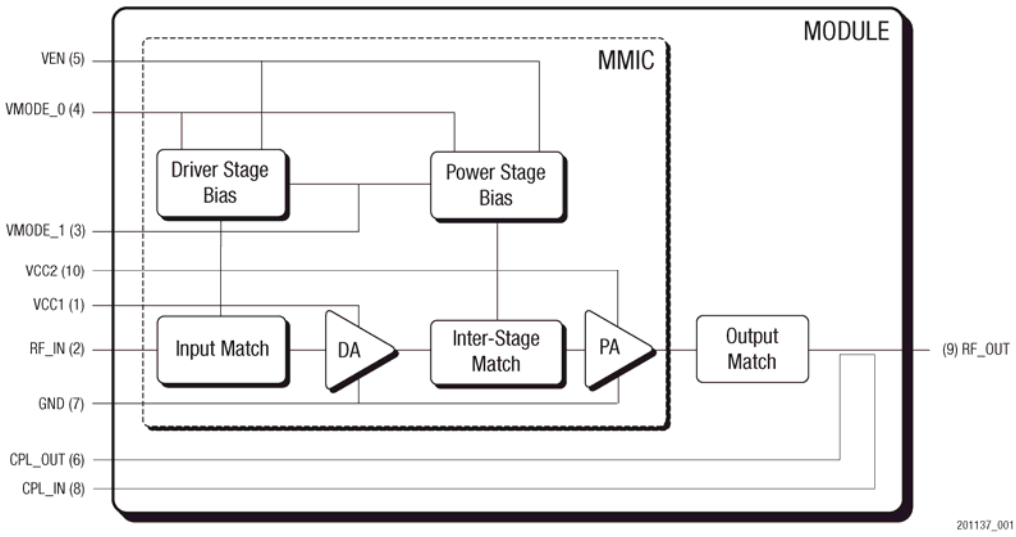

Figure 1. SKY77709 Functional Block Diagram