SKY77438 Front-End Module for WCDMA / HSDPA / HSUPA (Tx 880-915 MHz), (Rx 925-960 MHz)

Applications

- Digital cellular (WCMDA) handsets

Features

- High Speed Downlink Packet Access (HSDPA)
- High Speed Uplink Packet Access (HSUPA)
- Low quiescent current
  - 20 mA
- Low current consumption
  - 525 mA
- Integrated Power Detector
- 16-pad package
- Small profile
  - 7 mm x 4 mm x 1.1 mm
- Low voltage
  - 3.1 V…4.45 V
- Digital enable pad
- Highly integrated, user friendly solution
- InGaP HBT
- Integrated interstage filter and duplexer
- Supports low collector voltage operation
- Requires few external components

NEW Skyworks Green™ products are lead (Pb)-free, RoHS (Restriction of Hazardous Substances)-compliant, conform to the EIA/EICTA/JEITA Joint Industry Guide (JIG) Level A guidelines, and are free from antimony trioxide and brominated flame retardants.
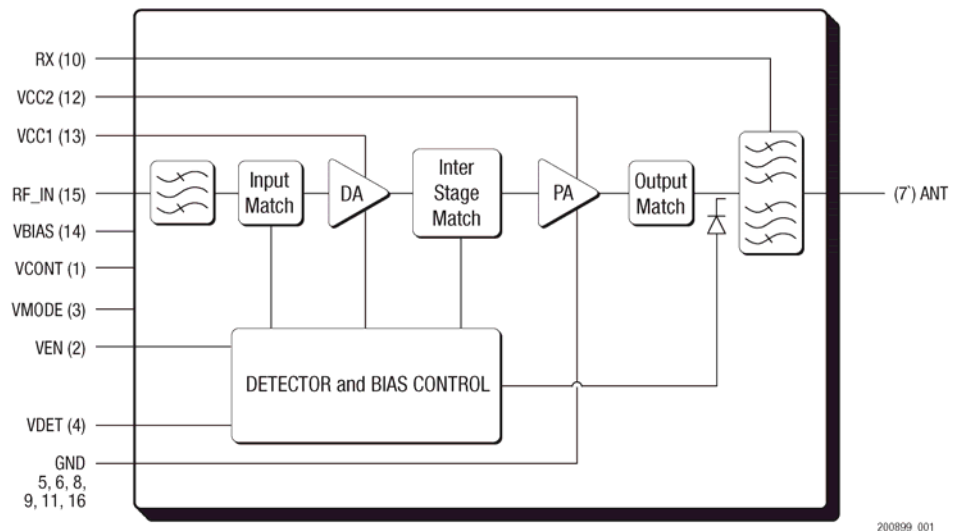
Description

The SKY77438 Front-End Module (FEM) is a fully matched, 16-pad surface mount module developed for WCDMA applications. Small and efficient, this WCDMA FEM integrates the interstage filter, the input matching, the power amplifier, the output matching, the power detection, and the duplexer into a single 7 mm x 4 mm x 1.1 mm package.

The SKY77438 meets the stringent spectral requirements of WCDMA standards up to 25.0 dBm output power. The FEM incorporates an InGaP HBT PA and contains circuitry to optimize power detector performance. Different control pads are available to enhance the performance of the FEM at different power levels.

Integration of the RF front-end greatly simplifies the design of the handset radio as all critical matching between the interstage filter, PA, power detection, and duplexer is optimized within the module. By optimizing the efficiency of the InGaP HBT PA MMIC and reducing the RF loss between the integrated components, this FEM achieves current as low as 525 mA at maximum output power (25.0 dBm) that significantly improves the talk time of the WCDMA handset. This small package uses Skyworks' low cost, multi-laminate substrate technology and is approximately half the size of individually-packaged component solutions. The SKY77438 front-end module can save handset designers significant board space and design-cycle time.

Figure 1. Functional Block Diagram

Ordering Information

Model Number	Manufacturing Part Number	Product Revision	Package	Operating Temperature
SKY77438	SKY77438		MCM 7 x 4 x 1.1 mm	−20 °C…+85 °C