Dual Band Low Noise Amplifier/Mixer for Combined TDMA/GSM Handsets

New RF2492 IC Features Dual IF Outputs, LO Frequency Doubler, Adjustable LNA Bias Current and IIP3.

RF Micro Devices, Inc., a provider of proprietary radio frequency integrated circuits (RFICs) for wireless communications applications, announced, at the 2001 Wireless Symposium, the availability of the RF2492 dual band LNA/mixer for the emerging TDMA/GSM handset market.

The RF2492 is a complete receiver front end that has unique dual IF outputs that provide interface to two independent IF SAW filters. This IC supports applications such as TDMA and GSM/GPRS where 30 kHz and 200 kHz IF bandwidths are used. The RF2492 provides maximum flexibility with minimum power usage. Its power management control pins allow either IF output to be accessed from high or low band LNAs. Multiple gain control options are provided to achieve a large dynamic range for the receiver. An integrated frequency doubler is included in the LO circuit providing both high and low band LO signals from a single VCO. Additionally, both high and low band LO signals are buffered and output for use in the transmit path. The RF2492 provides 24dB cascaded gain and 2.9 dB cascaded noise figure. It operates over the cellular and PCS frequency bands and only utilizes 30mA of current. Other features include stepped LNA/mixer gain control, adjustable LNA bias current and IIP3 and differential LO buffer outputs.

The RF2492 is manufactured using an advanced SiGe HBT process and is offered in a small, industry-standard leadless 5 x 5 mm 32-pin plastic package.