

WCDMA LNA/Mixers

Maxim Integrated Products announces the MAX2387/MAX2388/MAX2389 miniature low-noise amplifier (LNA)/downconverter mixers. They are designed for W-CDMA applications such as single-mode ARIB (Japan) and dual-mode ETSI-UMTS (Europe) third generation cellular phones. The devices feature ultra-low current consumption, exceptionally low noise figure, and an ultra-small leadless package. They replace discrete designs in less than half the space with improved performance.

The MAX2387/MAX2388/MAX2389 are built on Maxim's SiGe production process and contain a dual-gain LNA with +4 dBm IIP3 and 15 dB gain at its highest gain setting and an ultra-low current mixer with 10dB gain and +6 dBm IIP3. Cascade noise figure is only 2.3 dB. While in high-gain mode, the devices draw between 8 mA and 11 mA, which drops to between 5 mA and 7 mA in low-gain mode. Since the phone will spend most of the time in low-gain mode, this results in an effective receive standby current consumption of less than 8 mA. Apart from current consumption, the devices differ in gain step size (18 dB or 32 dB) and required LO input power (㪢 dBm or נ dBm).

The MAX2387/MAX2388/MAX239 come in a new 12-pin 3 mm × 3 mm leadless QFN package and require very few external components. Compared to a discrete design, cost, implementation size, and performance are dramatically reduced.

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