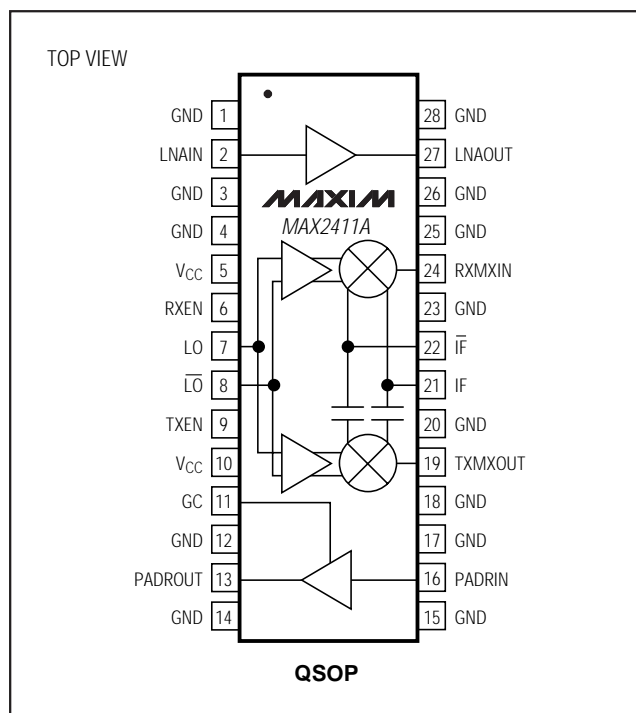


# Low-Cost RF Up/Downconverter with Low-Noise Amplifier and Power-Amplifier Driver

## Pin Configuration



## ADVANCE INFORMATION

All information in this data sheet is preliminary and subject to change.  
8/97



# Low-Cost RF Up/Downconverter with Low-Noise Amplifier and Power-Amplifier Driver

## General Description

The MAX2411A is designed for use over a wide range of frequencies and is optimized for TDD systems operating around 1.9GHz. Applications include PWT1900/DCT1900, DCS1800/PCS1900, PHS, and DECT. This device includes a low-noise amplifier, a downconverter mixer, a local-oscillator buffer, an upconverter mixer, and an output PA predriver amplifier in a low-cost, plastic surface-mount package. The LNA has a 2.5dB (typ) noise figure and a -9.5dBm input IP3. The downconverter mixer has a low 9dB noise figure and 3dBm input third-order intercept point. Image and local-oscillator filtering are implemented off-chip for maximum flexibility.

The MAX2411A has a common (shared) differential IF port. This bidirectional port eliminates the need for separate transmit and receive filters, at a significant cost savings. The PA driver has 14.5dB gain, which can be reduced over a >20dB range. Power consumption is only 60mW in receive mode and 90mW in transmit mode while putting out 3dBm, and it drops to less than 3μW in shutdown mode (TXEN = RXEN = low).

For applications where separate transmit and receive IF ports are required, consult the MAX2410 data sheet. The MAX2406 is a receive-only version of the MAX2411A.

## Applications

PWT1900/DCT1900  
DCS1800/PCS1900  
PHS/PACS  
DECT

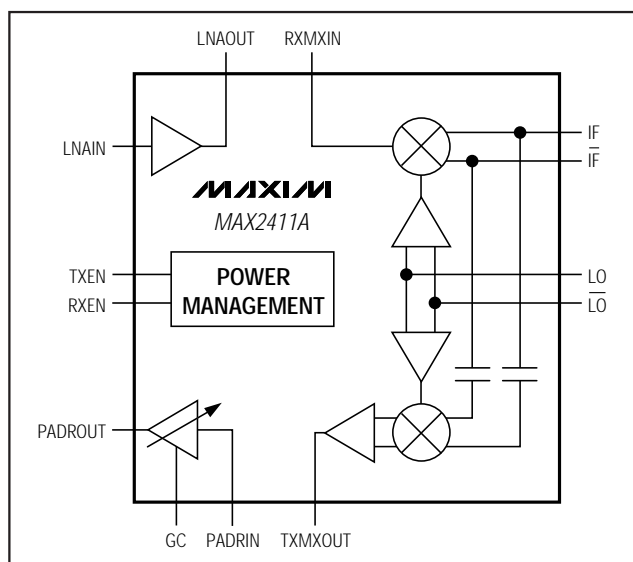
## Features

- ♦ **+2.7V to +5.5V Single-Supply Operation**
- ♦ **Integrated Upconvert/Downconvert Function**
- ♦ **3.2dB Combined Receiver Noise Figure (2.5dB LNA, 9dB mixer)**
- ♦ **-12.5dBm Combined Receiver Input IP3 (-9.5dBm LNA, 3dBm mixer)**
- ♦ **3dBm Transmit Compression Power**
- ♦ **20dB Transmit Gain-Control Range**
- ♦ **LO Buffer**
- ♦ **Low Power Consumption:**  
60mW (receive mode)  
90mW (full-power transmit mode)
- ♦ **Low-Power Shutdown Mode**
- ♦ **Advanced System Power Management**

## Ordering Information

PART	TEMP. RANGE	PIN-PACKAGE
MAX2411AEEI	-40°C to +85°C	28 QSOP

## Block Diagram



Maxim Integrated Products 1

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For small orders, phone 408-737-7600 ext. 3468.

MAX2411A