

## Description

The F1478 is a high gain, two-stage RF Amplifier designed to operate within the 1800MHz to 5000MHz frequency range. Using a single 5V power supply and only 140mA of  $I_{CC}$ , the F1478 provides 29.6dB of Gain and 1.8dB of Noise Figure with up to +37.3dBm OIP3 and 25.5dBm OP1dB at 3550MHz.

The F1478 is packaged in a  $3 \times 3$  mm, 16-QFN, with matched  $50\Omega$  input and output impedances for ease of integration into the signal path.

## Competitive Advantage

- Combines a two-stage RF amplifier in a single, compact  $3 \times 3$  mm QFN package
- Excellent performance over exceptionally wide bandwidths
- Single device provides adjustable linearity versus current via an external resistor

## Typical Applications

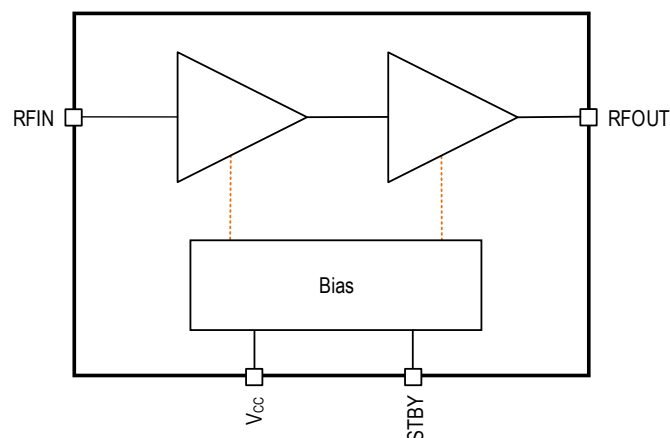
- 4G / 5G Cellular Basestations
- Multi-mode, Multi-carrier Transmitters
- Active Antenna Systems

## Features

- RF Range: 1800MHz to 5000MHz
- 29.6dB Typical Gain at 3550MHz
- 1.8dB NF at 3550MHz
- Adjustable OIP3 Performance
  - +37.3dBm OIP3 at 3550MHz and 140mA of bias current
  - +33.8dBm OIP3 at 3550MHz and 100mA of bias current
- Adjustable OP1dB Performance
  - +25.5dBm OP1dB at 3550MHz and 140mA of bias current
  - +24.5dBm OP1dB at 3550MHz and 100mA of bias current
- 5V Power Supply
- Adjustable  $I_{CC}$  ranging from 80mA to 160mA
- $50\Omega$  Single-ended Input and Output Impedances
- 1.8V Logic Compatible Standby Mode for Power Savings
- Operating Temperature ( $T_{EPAD}$ ) Range:  $-40^{\circ}\text{C}$  to  $+115^{\circ}\text{C}$
- $3 \times 3$  mm 16-QFN package

## Block Diagram

Figure 1. Block Diagram



**Ordering Information**

Orderable Part Number	Package	MSL Rating	Shipping Packaging	Temperature
F1478NLGA	3 × 3 × 0.9 mm QFN	MSL 1	Tray	-40° to +115°C
F1478NLGA8	3 × 3 × 0.9 mm QFN	MSL 1	Tape and Reel	-40° to +115°C
F1478EVBA	Evaluation Board			

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