

InGaP HBT 5GHz 802.11ac Power Amplifier

Description

The LX5531 is a power amplifier optimized for 802.11ac/a/n applications in the 5.15-5.85GHz frequency range. The LX5531 includes a three-stage PA, active bias, input/output matching, and a harmonic filter.

The power amplifier operates with a single positive voltage supply of 5V, and provides power gain of 32dB and output powers of 23 and 25dBm at 5V across the frequency band for -35 and -30dB dynamic EVM (DEVM), respectively. It is fully matched to 50 Ohms on both the input and output ports.

The 2nd and 3rd harmonics are below -45dBm/MHz over the frequency band due to an integrated harmonic filter. The LX5531 also features an on-chip power detector to help reduce BOM cost and PCB space for implementation of power control in a typical wireless system.

The LX5531 is available in a 20-pin 4mm x 4mm quad flat no lead package (QFN 4x4-20L). The compact footprint, low profile, and excellent thermal capability make the LX5531 an ideal solution for 802.11ac/a/n applications.

Features

- 5.15-5.85GHz Operation
- Single-Polarity 5V Supply
- Power Gain ~ 32dB
- 23dBm @ -35dB DEVM for 802.11ac
- 25dBm @ -30dB DEVM for 802.11a
- <-45dBm/MHz for 2nd Harmonic at 23 dBm
- <-45dBm/MHz for 3rd Harmonic at 23 dBm
- Complete Input and Output Match
- On-Chip Output Power Detector
- Small Footprint: 4x4mm²
- Low Profile: 0.9mm
- RoHS Compliant & Halogen Free

Applications

- 802.11ac/a/n Access Points, Media Gateways, Set-top Boxes, and other Triple-play Multimedia Devices.

Block Diagram

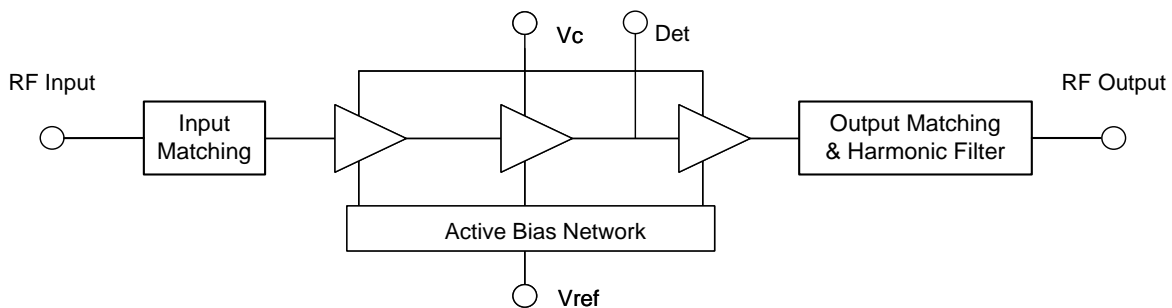


Figure 1 - Functional Block Diagram

Pin Configuration

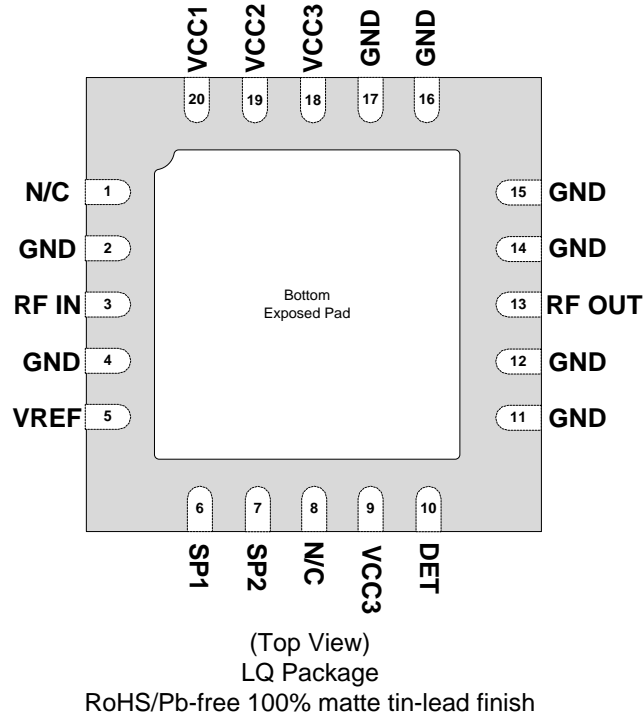


Figure 2 - Pinout (Top View)

Ordering Information

Ambient Temperature	Type	Package	Part Number	Packaging Type
0°C to 70°C	RoHS2 compliant, Pb-free	QFN 4x4 20L	LX5531LQ	Bulk / Tube
			LX5531LQ-TR	Tape and Reel

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Microsemi Corporate Headquarters
One Enterprise, Aliso Viejo CA 92656 USA
Within the USA: +1 (949) 380-6100
Sales: +1 (949) 380-6136
Fax: +1 (949) 215-4996

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LX5531 Rev. 1.3
(Abridged)