# new product

## LX5530LQ

## High Power 4.5 to 6.0GHz Wireless LAN Power Amplifier with On-chip Power Detector

## **New Product Information and Sales Kit**

Manufactured by:

Microsemi Integrated Products Division Garden Grove, CA Telephone: 714-891-6171



More than solutions – enabling possibilities

## INTRODUCTION

#### **CONFIDENTIAL INFORMATION**

This new product information guide is intended for use by Microsemi's sales people and authorized distributors and representatives. This material can be adapted for customer presentations, but the sales strategy and summary (including price and availability) is confidential and should not be shown to customers.

#### DESCRIPTION

The LX5530LQ is a high gain (33dB), high power (25dBm) Wireless LAN power amplifier optimized for use in the 4.5GHz to 6.0GHz frequency ranges. The amplifier is a three stage monolithic microwave integrated circuit (MMIC) with active bias control and complete input matching. Manufactured in an advanced Indium Gallium Arsenide (InGaP) Hetrojucntion Bipolar Transistor (HBT) IC process, the LX5530 runs off of a single polarity 3 to 5V power supply and has a total current of 250mA at 4V for 20dBm Pout. The LX5530 provides a low Error Vector Magnitude (EVM) of 2.5% for Pout as high as +21dBm OFDM. The LX5530 is an ideal higher gain power amplifier solution for a variety of access point, video distribution, and infrastructure applications. The LX5530 comes in a small form factor 3x3x0.9mm<sup>3</sup> LQ style MLP package.



## **KEY PRODUCT INFORMATION**

#### **BLOCK DIAGRAM**



#### **KEY FEATURES**

- Small Form Factor 16 pin package 3.0 x 3.0 x 0.9 mm<sup>3</sup>
- Single polarity 3 to 5V Supply Voltage
- 4.5 6.0GHz Operation
- Max. Pout = 25dBm
- Power Gain up to 33dB
- Total Current of 250mA at Pout = 20dBm OFDM, 4V
- EVM ~ 2.5% at 21dBm, 5V
- RoHS Compliant, Pb-free NiPdAu lead finish
- Fabbed in Advanced InGaP HBT process

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#### **TYPICAL APPLICATION**



#### **APPLICATIONS**

- Medium to high output power 802.11a/n Wireless LAN hardware applications including:
  - Access Point (AP)
  - Extended range routers/bridges
  - o Video distribution/Entertainment systems
  - Mesh Networks
- Ideally suited for 802.11a and or 802.16 WiMAX applications including:
  - o Wireless PBX
  - o Point-to-point/point-to-multipoint access
  - o Infrastructure amplifier driver stages



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## **COMPETITIVE ANALYSIS**

LX5530LQ							
Competitor	Device	Supply Voltage	Pout	EVM	Current	Gain	Notes
Microsemi	LX5530LQ	3.3-5V	20dBm	3%	250mA	33dB	3x3 package
Sirenza	SZA5044	5V	21.5dBm	3%	310mA	28dB	4x4 package
RFMD	RF5300	3-5V	18dBm	3%	260mA	30dB	3x3 package
Micro Mobio	MMPA745	3.3V	~17dBm	3%	160mA	22dB	5x5 package
Hittite	HMC408LP3	5V	?dBm	?%	500mA	20dB	3x3 package

#### **Alternative Microsemi Solution**

Device	Description	Notes
LX5506/06M	4.9-5.9GHZ WLAN PA	The 5506 and the 06M are earlier generation 5GHz WLAN PA's. These are lower Pout parts however and are not intended for AP applications. If lower Pout is an option these may work.



## SALES STRATEGY

- The LX5530 is a high power 802.11a power amplifier primarily developed for use in Access Points and other infrastructure including Mesh Networks and wireless PBX systems. Other important applications included high power video distribution in set top boxes and WiMAX infrastructure applications.
- Target any chip maker doing 802.11a or 11n MIMO WLAN chipset reference designs (Atheros and Marvell are key partners currently)
- Target any OEM/ODM/CM customers designing 802.11a or 11n hardware for the higher power applications listed above (typical customers include: Wistron, Gemtek, CyberTan, Foxconn, etc.)
- Other opportunities may exist in WiMAX infrastructure applications. Customers such as MiTAC, Proxim and Airspan are potential candidates. Chipset manufacturers include Wavesat, Sequenes, Maxim, SMI and TI.
- In the Mesh Network space, currently Motorola has programs using the LX5530.



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### SUMMARY





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