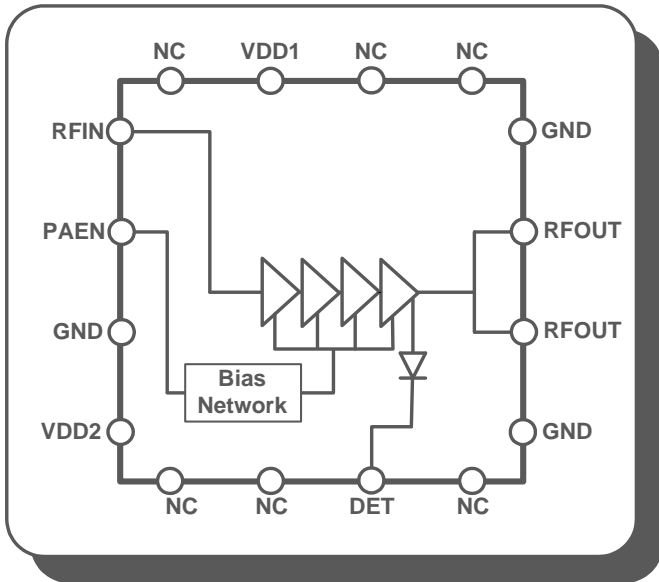


2.4GHz High Power 802.11n WLAN Linear Power Amplifier

Block Diagram



Description

The RFX240 is a high power, high linearity power amplifier implemented in CMOS process. The device is optimized to provide all functionality of transmit power amplification for IEEE 802.11b/g/n applications in the 2.4GHz frequency range.

The RFX240 provides 30dB gain and up to +26dBm linear output power with a low EVM of <3% for 802.11n MCS7 signals. It has CMOS logic control, on-chip input impedance matching, as well as integrated RF decoupling for the power supply.

The RFX240 is assembled in a compact 3.0x3.0mm 16L-QFN package. It requires minimal external components to greatly simplify RF front-end implementation.

Applications

- ▶ High Power WLAN AP/Router
- ▶ Set-Top Box / Home Gateway
- ▶ Enterprise/SOHO Wi-Fi
- ▶ Outdoor WLAN Hotspots
- ▶ Wi-Fi Extenders
- ▶ Wi-Fi Dongles

Parameters	Typical	Conditions
Operating Frequency	2.4-2.5GHz	
WLAN 11n Output Power	+26dBm	EVM<3%, 802.11n MCS7 HT40, VDD=5V
WLAN 11b Output Power	+29dBm	802.11b 1Mbps Mask Compliance
Output P1dB	32dBm	VDD = 5V
Small-Signal Gain	30dB	
Input Return Loss	10dB	
Current Consumption	470mA	Pout = +26dBm
Second Harmonics	-70dBc	Pout = +26dBm, CW
Third Harmonics	-70dBc	Pout = +26dBm, CW
Supply VDD	4.5 – 5.5 VDC	Nominal VDD=5V
Control Signal	High Enable	<0.3V Low, >1.2V High
Package	16L-QFN	3.0mmx3.0mmx0.55mm

Note: Data measured on the RFX240 Evaluation Board