



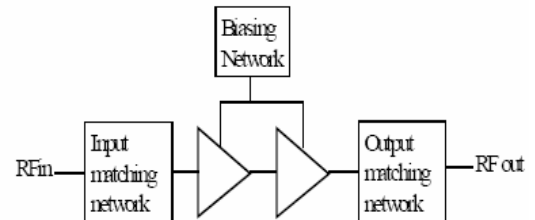
Power Amplifier

RPA12

Description

The **RPA12** is a 4.9 to 5.9 GHz high efficiency GaAs Enhancement mode pseudomorphic high electron mobility transistor MMIC power amplifier. The device is designed for 802.11a WLAN system.

The part is matched at the input and output so no additional RF matching components are required. The PA exhibits unparalleled linearity and efficiency of 30 % for 802.11a WLAN systems. The part is biased by a single 5 V supply.



Applications

- IEEE 802.11 a WLAN
- WiFi Systems
- ISM Band Systems

Key Features

- High Performance
- Linear Gain around 24 dB
- PAE 30%

Electrical Specification

Conditions: $V_{cc} = 5\text{ V}$ & $T_A = 25\text{ }^\circ\text{C}$

	Min	Typical	Max	Units
Frequency Range	4.9		5.9	GHz
Gain		24		dB
Input Return Loss		17		dB
Output Return Loss		22		dB
Power Output P1dB	21		24	dBm
EVM @ 20dBm Pout		3.2		%
Efficiency	28		30	%
Noise Figure		3		dB
Supply Current		243		mA
DC Voltage		5		V

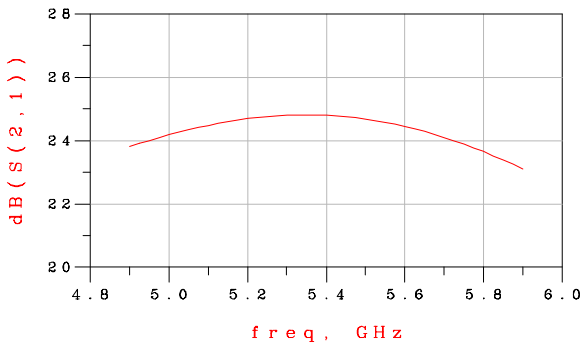


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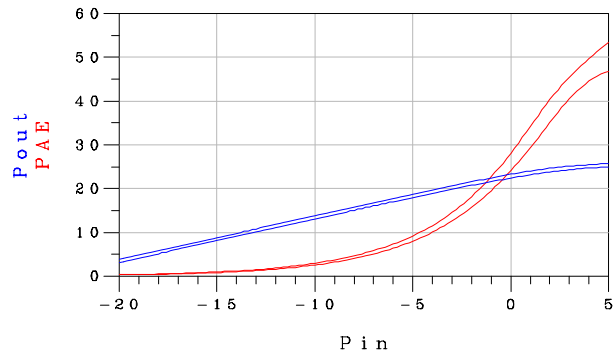
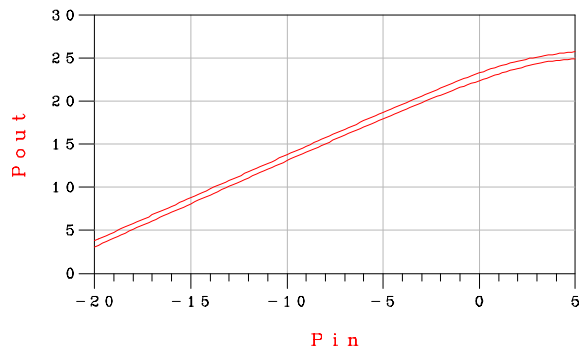
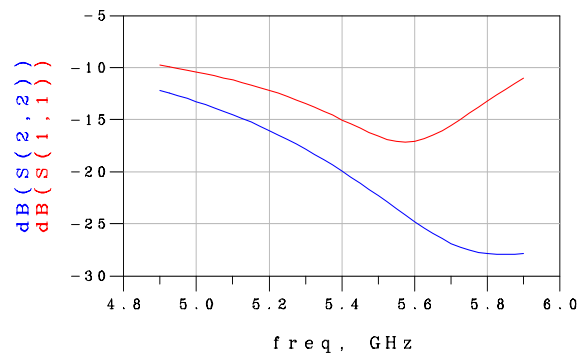
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Simulated results

Small signal gain Vs Freq



Input / Output Return Loss Vs Freq



Layout

