



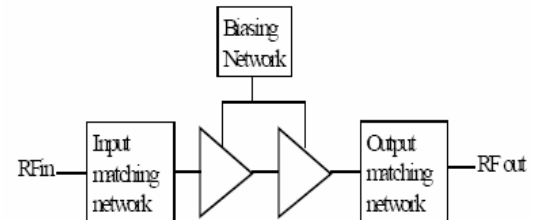
## 1Watts, 2.1-2.8GHz Power Amplifier

RPA11A

### Description

The **RPA11** is a 2.1 to 2.8 GHz high efficiency, high power GaAs Enhancement Mode pHEMT MMIC power amplifier. This MMIC power amplifier doesn't require any off chip components.

The device is designed for 802.11b/g and WLAN MIMO system. The Power Amplifier exhibits unparalleled linearity and efficiency for both 802.11g and 802.11b WLAN systems.



### Applications

- IEEE 802.11 b/g WLAN
- Cellular System
- WiFi Systems
- ISM Band Systems

### Key Features

- Linear power output from 22 to 28dBm.
- Works with multiple power supplied of 3.3V, 5V and 8V.
- Adjustable power output through power stage bias control.
- Good power added efficiency.
- On chip ESD protection
- Highly stable over all bias, input power and load conditions.
- Very small variation in Gain/Return losses/NF (0.5dB/1dB/0.3dB) over all process corners, temperature variations (-25°C to 100°C) and supply voltage variations ( $\pm 10\%$ ) .



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**Electrical Specification**

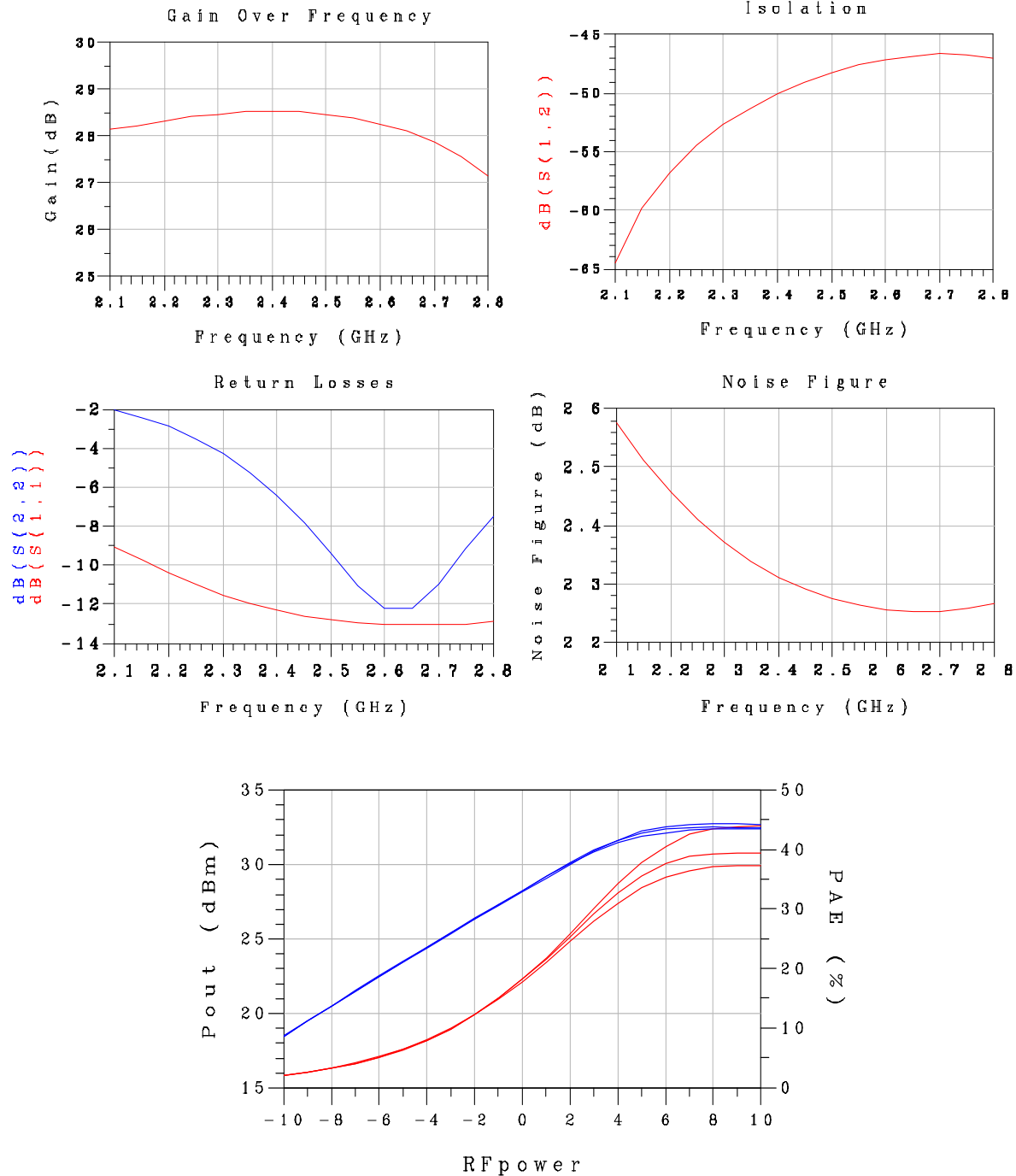
Parameter	Typical values	Units	Comments
Frequency Range	2.1 to 2.8	GHz	
Gain	28.5	dB	
Gain Flatness	1.5	dB	
Input Return Loss	12	dB	
Output Return Loss	8	dB	
Noise Figure	2.4	dB	
P1 dB Pout	31.6	dBm	@ 2.45 GHz
PAE(%)	35	%	
OIP3	40	dBm	~ 41 @2.5GHz
EVM	<1.8	%	@27 dBm Pout
Supply voltage	8	V	~29dBm P1dB @2.4G with 5Volts
Supply Current	550	mA	
ESD	2KV, HBM		



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Simulated Results

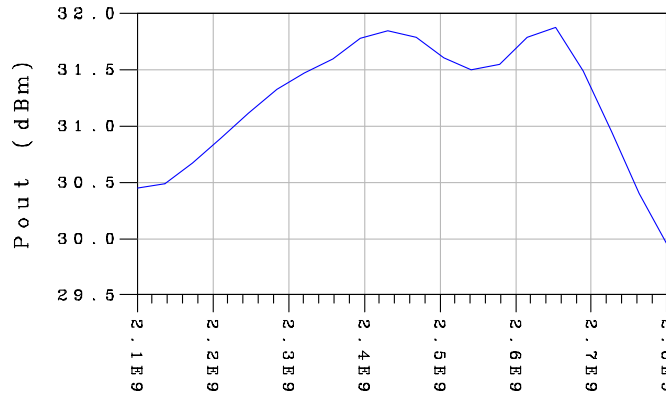




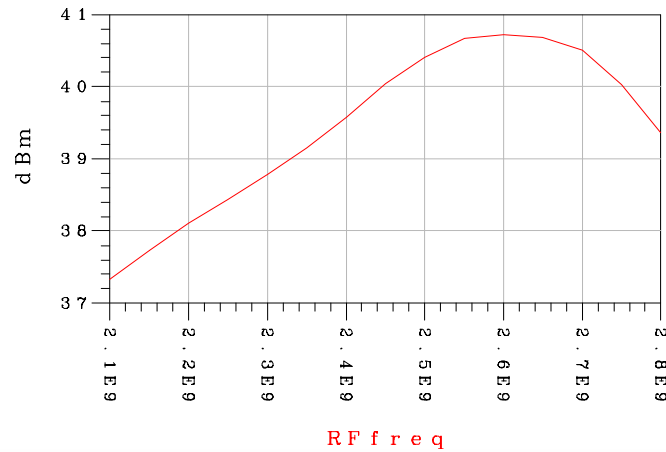
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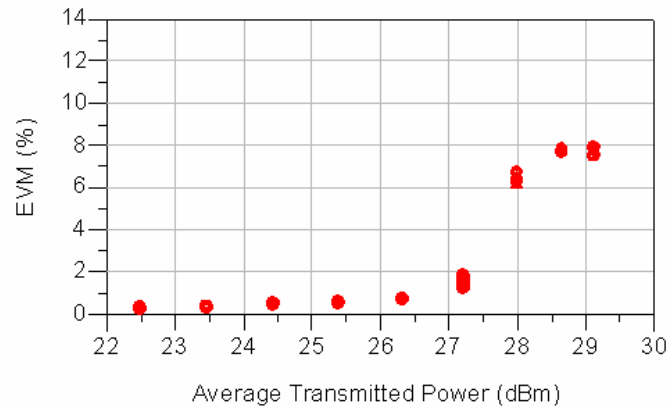
P1dB power output over frequency



OIP3 Over Frequency



Error Vector Magnitude (%)





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Layout

