WLAN Power Amplifier

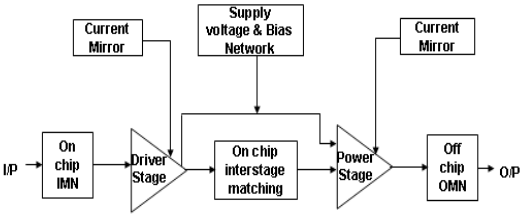
RJP05

Description

The **RJP05** is 2.4 GHz to 2.5 GHz; high efficiency Power stage for WLAN Power Amplifier. The Amplifier is designed using 0.18um SiGe BiCMOS process for 802.11 b/g WLAN systems.

Power amplifier shows PAE of 31% at 24 dBm power with output match off-chip. It has been designed specially for WLAN application.

Functional Diagram



Applications

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

Key Features

- Linear Gain around 26 dB
- High PAE, High Linearity
- Maximum Linear Output Power in the range of 24dBm

Electrical Specification

Conditions: Vcc = 3.3 V, Vbias = 3.3 V

Parameter	Min	Typical	Max	Units
Frequency Range	2.4		2.5	GHz
Gain		26.1		dB
Gain Flatness		~1		dB
P1dB Pout		24.1		dBm
ACPR at 16 dBm Linear Pout		-30		dBc
Efficiency @ P1dB		31		%
EVM @ P1dB		1.6		%
EVM @ 16 dBm Linear Pout		0.17		
Input Return Loss		10		dB
Output Return Loss		10		dB
Supply current		~250		mA
Supply Voltage		3.3		V

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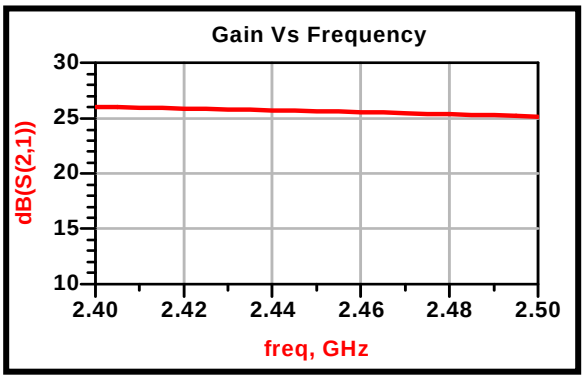
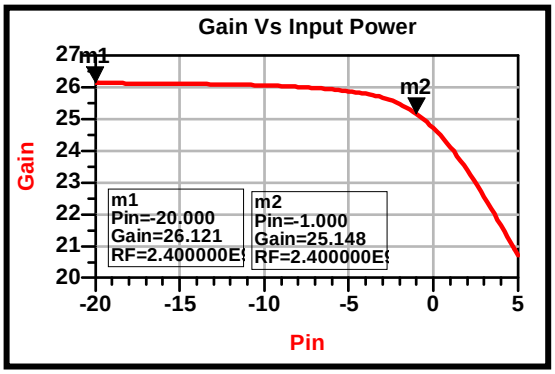
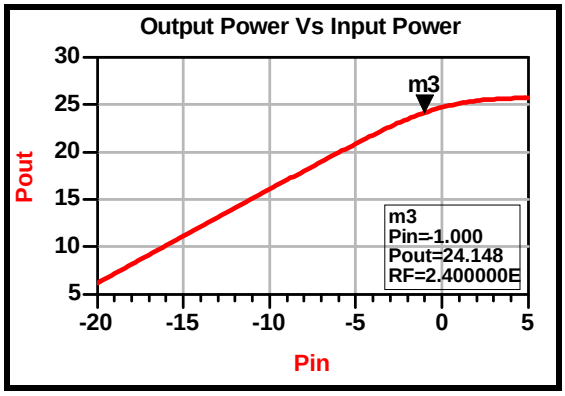
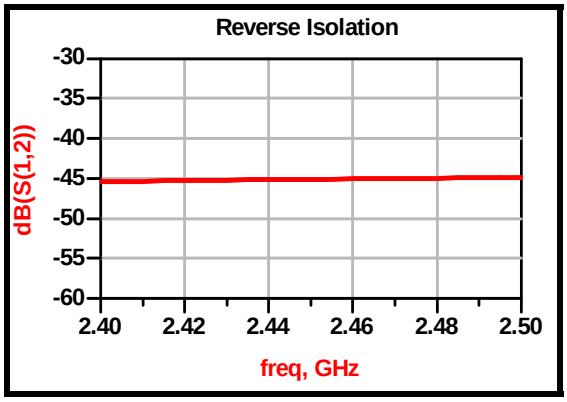
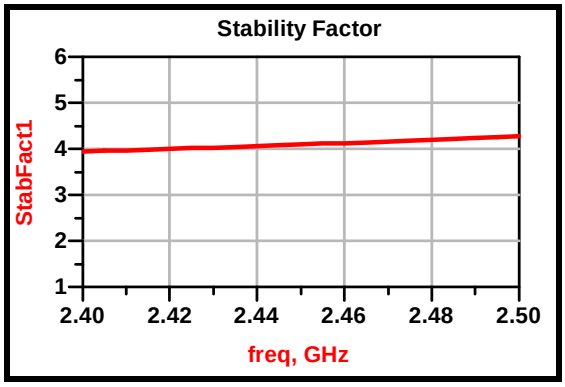
Simulated results

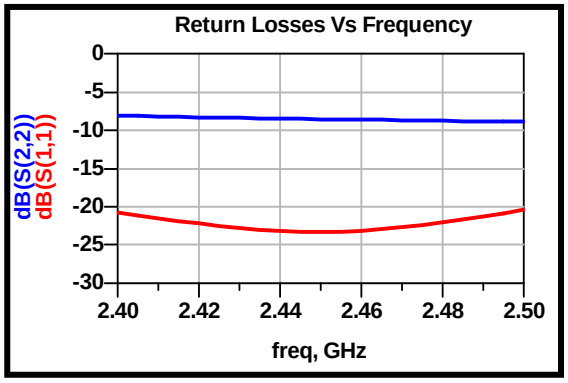












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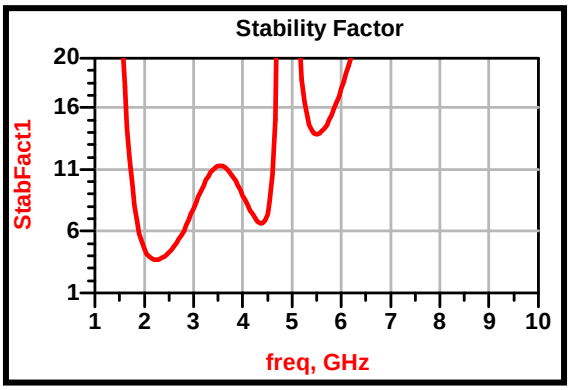

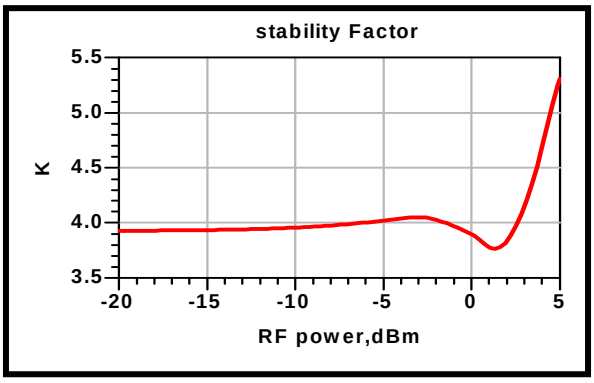

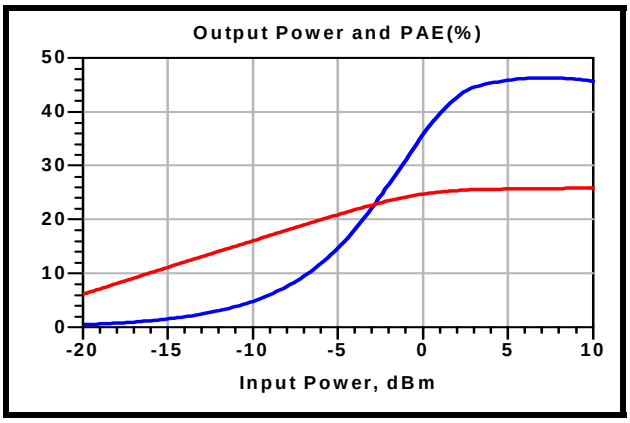

Layout