

# RWF111

## 802.11b/g RF Front End Module

### Product Description

The RWF111 is an integrated RF Front End Module designed for 802.11 b/g WLAN applications at 2.4-2.5 GHz. The device consists of an integrated Power Amplifier, LNA and Switch. This module supports a data rate of 54 Mbps and is capable of delivering linear power at 16 dBm for 802.11g and 19dBm for 802.11b with a very low current. It can deliver a max. output power of 23dBm @ 0dBm Pin. The FEM is fully matched internally to a 50ohm input/output impedance.



### Applications

- 802.11b DSSS WLAN
- 802.11g OFDM WLAN
- 2.4GHz Cordless Phones
- 2.4GHz ISM Radios
- 2.4GHz Digital Home Wireless Audio/Video
- IEEE 802.15.4 and ZigBee Systems
- Wireless Audio Systems
- Wireless Consumer Systems
- Wireless Sensor Networks
- All 2.4GHz ISM Band Systems
- Wireless Industrial Systems

### Features

- Frequency range of 2.4 GHz to 2.5 GHz
- Integrated PA/LNA/SPDT switch
- 802.11g/54 Mbps- 4% EVM at Pout=16dBm with a very low current
- Pout = 23 dBm @ Pin 0dBm, Vcc - 3.6V
- Integrated Power Detector
- Operation from 2.9 V to 4.5V
- Package: 3.0 x 3.0 x 0.75mm<sup>3</sup> QFN16 Package

### Advantages

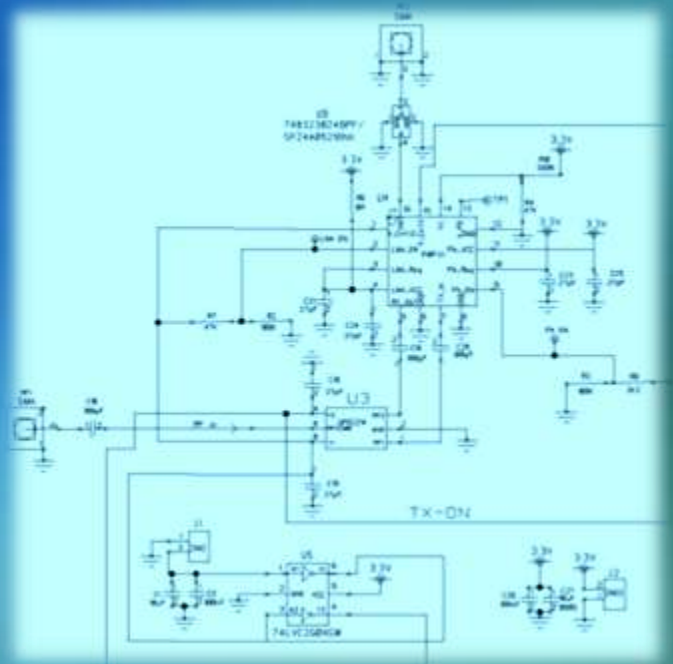
- Integrated Single Chip Solution
- Integrated Power Detector
- Very Low Current Consumption
- Low Noise Figure
- Miniature Package

### Transmit Path Electrical Characteristics at 25°C

Name	Condition	Unit	Typical
Frequency		GHz	2.45
Small Signal Gain		dB	28
P1dB		dBm	22
EVM	Pout @ 16 dBm OFDM/54 Mbps Pout @ 19 dBm CCK/11 Mbps	%	4 1.2
Quiescent Current	Vcc @ 3.6 V	mA	57
Current at 3.6 V under modulating signal	Pout @ 16 dBm	mA	97
	Pout @ 19 dBm	mA	125
Output Power	Vcc @ 3.6 V, Pin @ 0 dBm	dBm	23
Peak Current	Pout @ 23 dBm	mA	205
Input Return Loss		dB	11
Output Return Loss		dB	10
Isolation		dB	22
	Tx-Rx Rx-Antenna	dB	22
2nd Harmonic	Pout @ 16 dBm	dBm	-14
3rd Harmonic	Pout @ 16 dBm	dBm	-27
IM3	Pout @ 16 dBm, 1MHz, 5 MHz	dBc	-35

### Receiver Path Electrical Characteristics at 25°C

Name	Condition	Unit	Typical
Frequency		GHz	2.45
Small Signal Gain		dB	14
Noise Figure		dB	2.2
P1dB		dBm	14
Quiescent Current	Vcc @ 3.6 V	mA	9
IIP3		dBm	3
Input Return Loss		dB	9
Output Return Loss		dB	7
Tx-Antenna Isolation		dB	22



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