# WLAN Front End

**RFISFRT01**

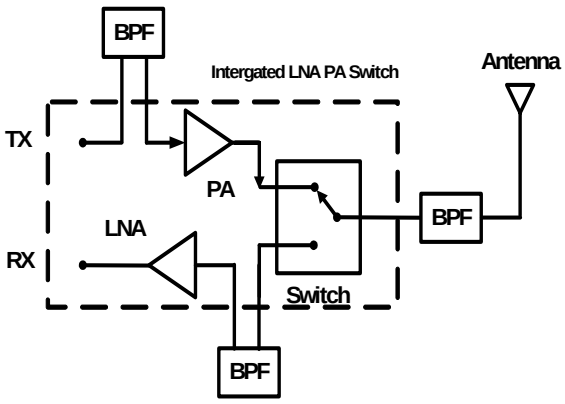
## Description

The **RFISFRT01** is a monolithic integrated transceiver front end suitable for 802.11b/g (2.4 GHz) application. This is the fully integrated Transceiver Chip except passive filters.

It contains low noise amplifier, Power amplifier and a switch. The input of the LNA is made available as an output to permit the insertion of a band pass filter between the LNA and the Rx out. The output of PA is also made available to insert a BPF in between PA and Transceiver chipset. A single supply voltage and a positive supply switch controls simplify bias requirements. The RFISFRT01 is targeted for high volume WLAN applications.

Die Area of the RFISFTR01 is 1.5 mm x 2.5 mm.

## Functional Diagram




## Applications

- IEEE 802.11b/g
- ISM band
- Cordless phones

## Key Features

- Single integrated RF Module
- GaAs p-HEMT PA, LNA and T/R Switch
- Low power & Small Size
- High Performance Transceiver

## Electrical Specification

**Conditions: Vcc = 3 to 5 V & $T_A$=25 $^0$C**

### Transmit Path

| Parameter | Min | Typical | Max | Units |
|---|---|---|---|---|
| **RF Frequency Range** | 2.4 | | 2.5 | GHz |
| **Gain** | | 28 | | dB |
| **Gain Variation Over Frequency** | | 1 | | dB |
| **Input Return Loss** | | 12 | | dB |
| **Output Return Loss** | | 12 | | dB |
| **Power Output (P1 dB)** | | 26 | | dBm |
| **Supply Current** | | 290 | | mA |
| **Voltage** | | 3.3 | | V |

# WLAN Front End

RFISFRT01

### Receive Path

| Parameter | Min | Typical | Max | Units |
|---|---|---|---|---|
| RF Frequency Range | 2.4 | | 2.5 | GHz |
| Cascaded Gain | | 23 | | dB |
| Cascaded Noise Figure | | 2 | | dB |
| Input Return Loss | | 12 | | dB |
| Output Return Loss | | 15 | | dB |
| Power Output (P1 dB) | | 11 | | dBm |
| Supply Current | | 19.5 | | mA |
| Voltage | | 3.3 | | V |

## Layout