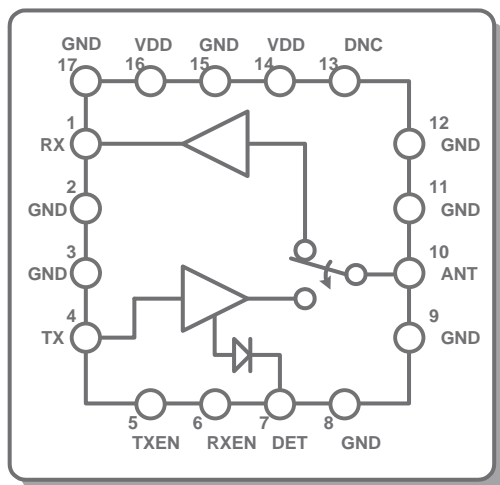


# CMOS 2.4GHZ TRANSMIT/RECEIVE WLAN RFIC



## Description

The RFX2402E is a fully integrated, single-chip, single-die RFIC (RF Front-end Integrated Circuit) which incorporates all the RF functionality needed for today's wireless communications. The RFX2402E architecture integrates the PA, LNA, Transmit and Receive switching circuitry, the associated matching network, and a harmonic filter all in a CMOS single-chip device.

This RFIC is designed for use in 802.11b/g/n/ac applications operating at 2.4GHz. Combining superior performance, high sensitivity and efficiency, low noise, small form factor, and low cost, the RFX2402E is the ideal solution for single antenna applications and the ideal building block for MIMO applications.

The RFX2402E has simple and low-voltage CMOS control logic and requires minimal external components for system implementation. The PA power detector circuit is also integrated.

## Applications

- ▶ 802.11b/g/n/ac Multimedia Applications
- ▶ 802.11b/g/n/ac Embedded Applications
- ▶ 802.11b/g/n/ac Mobile Platforms
- ▶ 802.11b/g/n/ac NIC PC Card
- ▶ Other 2.4GHz ISM Radios
- ▶ 802.11b/g/n/ac Access Point

Parameters	Typical	Conditions
<b>TX</b>		
Small-Signal Gain	29dB	In-band, Typical, TX Enabled
Output P1dB	+24dBm	In-band, Typical, TX Enabled (3.3 VDC)
Quiescent Current	70mA	Typical, TX Enabled, No RF Applied
Linear Output Power 1	+18dBm	802.11g/n 54Mbps OFDM EVM < 3.5%
Linear Output Power 2	+21dBm	802.11b 1Mbps CCK Mask Compliance
Linear Output 1 Current	140mA	Typical, +17.5dBm at ANT
2 <sup>nd</sup> /3 <sup>rd</sup> Harmonic	-35dBc/-35dBc	Pout=+20dBm, CW at ANT
<b>RX</b>		
Small-Signal Gain	11.5dB	In-band, Typical, RX Enabled
Noise Figure	2.7dB	In-band, Typical, RX Enabled
Input P1dB	-5dBm	In-band
Quiescent Current	9mA	RX Enabled
<b>CHIP</b>		
Operating Frequency	2.4-2.5GHz	TX or RX Enabled
Supply VCC	2.7-3.6V	
Shut-down Current	<1uA	
Input / Output Return Loss	-10dB	RF Ports, Typical, In Band
RF Port Impedance	50-Ohm	Single-ended
Control Signals	High Enable	CMOS Logic, <0.3V Low >1.2V High
Package	16-QFN	3.0mm x 3.0mm x 0.55mm