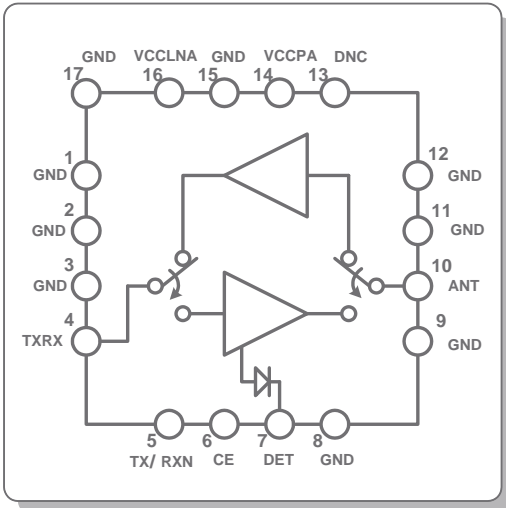


## 2.4GHZ TRANSMIT/RECEIVE ZIGBEE RFeIC



### Description

The RFX2401 is a fully integrated, single-chip, single-die RFeIC (RF Front-end Integrated Circuit) which incorporates all the RF functionality needed for today's wireless ZigBee communications. The RFX2401 architecture integrates the PA, LNA, Transmit and Receive switching circuitry, the associated matching network, and the harmonic filter all in a BiCMOS single-chip device. This RFeIC is designed for use in 2.4GHz ISM band and supports the 802.15.4 and ZigBee 2007 standard. Typical high power applications include home and industrial automation, smart power, and RF4C among others.

Combining superior performance, high sensitivity and efficiency, low noise, small form factor, and low cost, RFX2401 is the perfect solution for applications requiring extended range and bandwidth. RFX2401 has simple and low-voltage CMOS control logic, and requires minimal external components for system implementation. The PA power detect circuit is also integrated.

### Applications

- ▶ ZigBee Extended Range Devices
- ▶ ZigBee Smart Power
- ▶ Mobile and Battery ZigBee Systems
- ▶ Home and Industrial Automation
- ▶ RF4CE Remote Control
- ▶ Custom 2.4GHz Radio Systems

Parameters	Value	Conditions
<b>TX</b>		
Small-Signal Gain	28dB	In Band, Typical, TX Enabled
TX Output P1dB	+21dBm	In Band, Typical, TX Enabled (Vcc=3.3V)
Quiescent Current	35mA	TX Enabled, No RF Applied
Saturated Output Power	+23dBm	In Band, Typical (Vcc=3.3V)
Large Signal Current	100mA	+20dBm Output Power, TX Enabled
2 <sup>nd</sup> / 3 <sup>rd</sup> Harmonics	-45 / -45dBc	+20dBm Output Power, TX Enabled
TX Noise Figure	5dB	All Conditions, TX Enabled
<b>RX</b>		
Small-Signal Gain	12dB	In Band, RX Enabled
Noise Figure	3dB	In Band, Typical, RX Enabled
Input P1dB	-2dBm	At ANT, RX Enabled
Quiescent Current	7.5mA	RX Enabled
<b>CHIP</b>		
Operating Frequency	2.4-2.5GHz	TX or RX Enabled
Supply VCC	2.0 – 3.6 VDC	
Shut-down Current	0.05uA	
Input Output Return Loss	-10dB	RF Ports, Typical, In Band
Control Voltage	<0.3 Low, >1.2 High	CMOS Logic
RF Port Impedance	50-Ohm	Single-ended
Package	16-QFN	3.0mm x 3.0mm x 0.5mm

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This product brief is a general list of parameters to provide information on the capabilities of this device and is subject to change without notice.