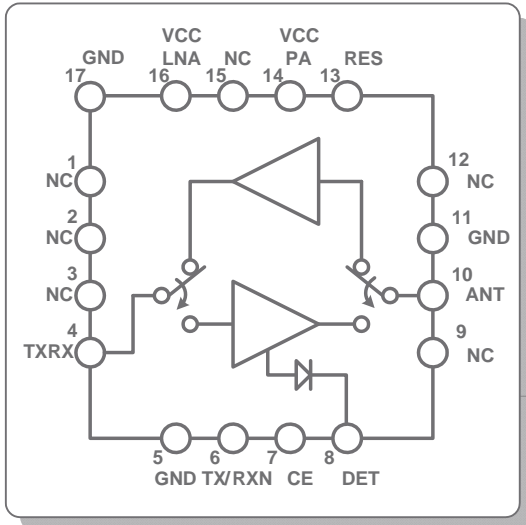


# 2.4GHZ TRANSMIT/RECEIVE BLUETOOTH RFeIC



### Description

The RFX2400 is a fully integrated, single-chip, single-die RFeIC (RF Front-end Integrated Circuit) which incorporates all the RF functionality needed for today's Bluetooth Class 1 operation. The RFX2400 architecture integrates the PA, LNA, Transmit and Receive switching circuitry, associated matching networks, and harmonic filters all in a BiCMOS single-chip device. This RFeIC is designed for use in Bluetooth applications requiring medium to high output power.

Combining ultra-low voltage operation, superior performance, high sensitivity and efficiency, low noise, small form factor, and low cost, the RFX2400 is the ideal solution for compact efficient small size Class 1 Bluetooth. The RFX2400 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

- ▶ High Data Rate (EDR) Bluetooth
- ▶ A2DP Stereo Systems
- ▶ Bluetooth 3.0 Products
- ▶ Ultra-Low Voltage Devices
- ▶ Bluetooth Class 1 Devices
- ▶ Custom 2.4GHz Radio

Parameters	Value	Conditions
<b>TX</b>		
Small-Signal Gain	24dB	In Band, Typical, TX Enabled
TX Output P1dB	+22dBm	In Band, Typical, TX Enabled
Quiescent Current	25mA	TX Enabled, No RF Applied
Output Power for Bluetooth Basic Mode	+21dBm	GFSK Modulation
Linear Output Power for Bluetooth EDR 3Mb/s	+15dBm	8DPSK Modulation
Large Signal Current	100mA	+20dBm Output Power, TX Enabled
2 <sup>nd</sup> Harmonic	-40dBc	+20dBm Output Power, TX Enabled
3 <sup>rd</sup> Harmonic	-40dBc	+20dBm Output Power, TX Enabled
<b>RX</b>		
Small-Signal Gain	15dB	In Band, RX Enabled
Noise Figure	2.7dB	In Band, Typical, RX Enabled
Input P1dB	0dBm	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	1.8 – 3.6 VDC	4.5V Max
Shut-down Current	0.05uA	Standby
Input Output Return Loss	-10dB	RF Ports, Typical, In Band
RF Port Impedance	50-Ohm	Single-ended
Control Voltage	<0.3V / >1.2V	Low / High (Low Current, CMOS Compatible)
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.