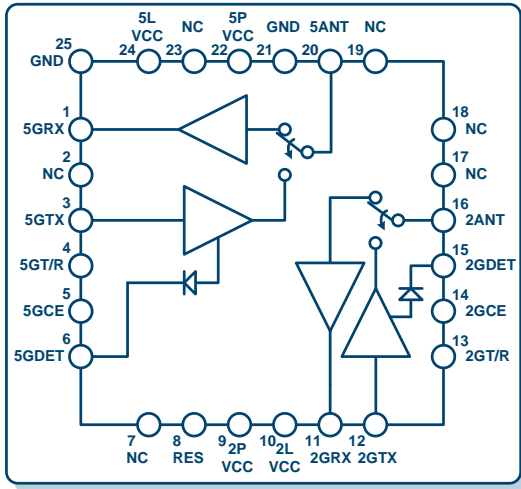


Dual-Band 2.4/5GHz TRANSMIT/RECEIVE WLAN RFEIC



Description

The RFX5024 is a fully integrated, single-chip RFEIC (RF Front-end Integrated Circuit) which incorporates all the RF functionality optimized for implementing a dual-band WLAN system. The RFX5024 architecture integrates the PAs, LNAs, Transmit and Receive switching circuitry, associated matching networks, harmonic filters and power detectors all in a single BiCMOS device. This RFEIC is designed for use in 802.11a/b/g/n applications operating in the 2.4GHz and 5GHz frequency bands. Combining superior performance, high sensitivity and efficiency, low noise, small form factor, and low cost, the RFX5024 is the perfect solution for dual-band applications, and an ideal building block for MIMO platforms. The RFX5024 has fully-matched RF input/output ports and requires minimal external components including power supply bypass and optional filters. The antenna ports for 2.4GHz and 5GHz are accessible independently for designs utilizing two single-band antennas, or can be combined easily with an external diplexer for applications requiring a single dual-band antenna.

Applications

- ▶ 802.11n Access Point
- ▶ 802.11n Mobile Platforms
- ▶ 802.11n NIC PC Card
- ▶ 802.11a/b/g/n Devices
- ▶ 802.11n Multimedia Applications
- ▶ Other 2.4/5GHz Transceivers

Parameters	Value	Conditions
TX		
Small-Signal Gain	28dB/27dB	2.4GHz and 5GHz In-band, Typical, TX Enabled (3.3VDC)
Output P1dB	+25dBm/+24dBm	2.4GHz/5GHz In-band, Typical, TX Enabled (3.3 VDC)
Quiescent Current	70mA/110mA	2.4GHz/5GHz TX Enabled, No RF Applied
Linear Output Power	+18dBm/+17dBm	2.4GHz and 5GHz, At 2ANT/5ANT, 802.11 54Mbps OFDM EVM < 3.5%
Large-Signal Current	120mA/170mA	2.4GHz/5GHz, +18dBm/+17dBm at 2ANT/5ANT
2nd and 3rd Harmonics	-40dBc	2.4GHz and 5GHz, +20dBm Output Power
RX		
Small-Signal Gain	10dB	2.4GHz and 5GHz, Typical, RX Enabled
Noise Figure	3.5dB/4dB	In-band, Typical, RX Enabled
Input P1dB	+6dBm/0dBm	2.4GHz/5GHz, Typical, RX Enabled
Quiescent Current	9mA/10mA	2.4GHz/5GHz, RX Enabled
CHIP		
Operating Frequency	2.4-2.5GHz, 4.9-5.95GHz	TX or RX Enabled
Supply VCC	2.7 - 3.6 VDC	4.8V Max
Shut-down Current	5uA	2.4GHz and 5GHz in Standby
Input Output Return Loss	-10dB	Typical, In-band
RF Port Impedance	50-Ohm	Single-ended
Control Signals	<0.3V Low / >1.2V High	High Enable, CMOS Compatible Control Logic
Package	24-QFN	4.0mm x 4.0mm 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.