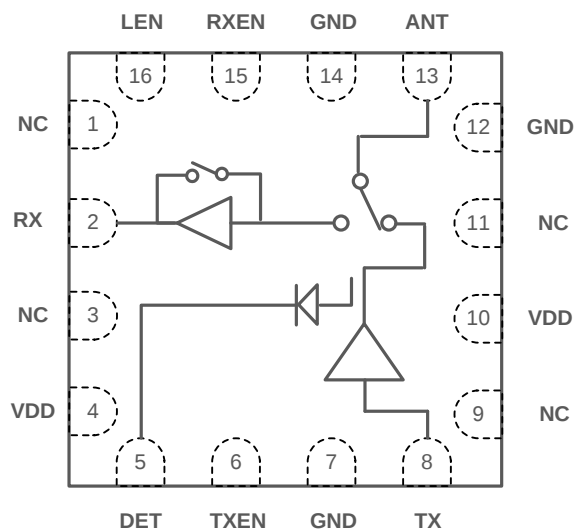


CMOS 5GHz WLAN 802.11ac RFeIC WITH PA, LNA AND SPDT



Description

RFX8051 is a highly integrated, single-chip, single-die RFeIC (RF Front-end Integrated Circuit) which incorporates key RF functionality needed for IEEE 802.11a/n/ac WLAN systems operating in the 5.15-5.85GHz range. The RFX8051 architecture integrates a high-efficiency high-linearity power amplifier (PA), a low noise amplifier (LNA) with bypass, the associated matching network, LO rejection, and harmonic filters all in a CMOS single-chip device.

RFX8051 has simple and low-voltage CMOS control logic, and requires minimal external components. A directional coupler based power detect circuit is also integrated for accurate monitoring of output power from the PA.

RFX8051 is assembled in a compact, low-profile 3.0x3.0x0.55 mm 16-lead QFN package. The RFX8051 is the ideal RF front-end solution for implementing 5GHz WLAN systems supporting multiple industry standards including 802.11ac.

Applications

- ▶ 802.11ac/n/a
- ▶ Tablets/MIDs
- ▶ Gaming
- ▶ Notebook/Netbook/Ultrabooks
- ▶ Access Point/Router
- ▶ Consumer Electronics
- ▶ Other 5GHz ISM Platforms

Parameters	Typical	Conditions
TX		
Small-Signal Gain	28dB	
Quiescent Current	140mA	
Linear Output Power for 11a	+17.5dBm	EVM<3%, 64QAM/54Mbps
Linear Output Power for 11n	+17dBm	EVM<3%, MCS7/HT40
Linear Output Power for 11ac	+16dBm	EVM<1.8%, MCS9/VHT80
TX Linear Current	200mA	At Pout=+17dBm
2 nd and 3 rd Harmonic	-40dBc	At Pout=+17dBm, CW
RX		
Small-Signal Gain	12dB	High Gain Mode, Between ANT and RX pins; RXEN=LEN="High"
Noise Figure	3dB	High Gain Mode, At ANT Pin
Quiescent Current	12mA	No RF Applied, Through VDD, High Gain Mode
Bypass Insertion Loss	8dB	Between ANT and RX Pins; RXEN="High", LEN="Low"
CHIP		
Operating Frequency	5.15-5.85GHz	
Supply VDD	3.0V – 3.6V	Nominal VDD=3.3V
Shut-down Current	3uA	Typical
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

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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.