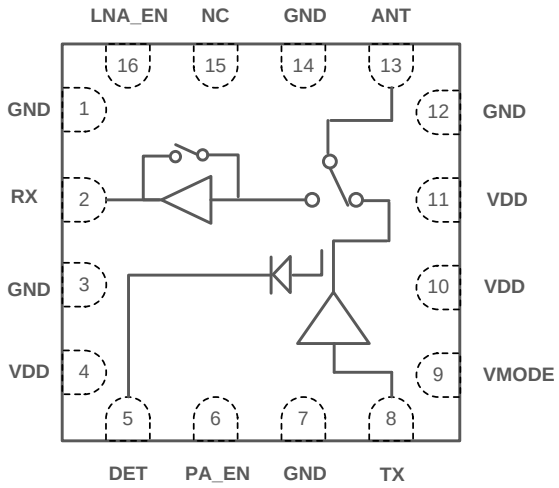
CMOS 5GHz WLAN 802.11ac RFeIC WITH PA, LNA AND SPDT



Description

RFX8055 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 system operating in the 5.1-5.95GHz range. The RFX8055 architecture integrates a high-efficiency high-linearity power amplifier (PA), low noise amplifier (LNA) with bypass, the associated matching network, LO rejection, and harmonic filters all in a CMOS single-chip device.

RFX8055 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.

RFX8055 is assembled in an ultra-compact, ultra-thin 2.3x2.3x0.4mm 16-lead QFN package. With its high level of integration and ease of PCB design, RFX8055 is the ideal RF front-end solution for implementing 5GHz WLAN in PCs, notebooks, tablets, smartphones and many other mobile platforms.

Applications

- 802.11a/n/ac
- Smartphones
- Tablets/MIDs
- Gaming
- Notebook/Netbook/Ultrabooks
- Mobile/Portable Devices
- Consumer Electronics
- Other 5GHz ISM Platforms

Parameters	Typical	Conditions
TX		
Small-Signal Gain	27dB	
Quiescent Current	130mA	
Linear Output Power for 11n	+18dBm	EVM<2.2%, 802.11n MCS7/HT40, VDD=3.3V
Linear Output Power for 11ac	+17dBm	EVM<1.8%, 802.11ac MCS9/VHT80, VDD=3.3V
TX Linear Current	190mA	At Pout=+18dBm
$2^{nd}/3^{rd}$ Harmonic	-35dBm/MHz	At Pout=+20dBm, 802.11a, MCS0/6Mbps
RX		
Small-Signal Gain	13dB	
Noise Figure	2.5dB	
Quiescent Current	9mA	No RF Applied
Bypass Insertion Loss	2.5dB	Between ANT and RX Pins
CHIP		
Operating Frequency	5.1-5.95GHz	
Supply VDD	3.0 – 3.6V	Nominal VDD=3.3V
Bypass/Standby Current	2uA	
RF Port Impedance	50-Ohm	Single-ended
Control Signals	High Enable	CMOS Logic, <0.4V Low, >1.2V High
Package	16-QFN	2.3mm x 2.3mm x 0.4mm

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