8TR8202

High Power 2.4GHz ISM Front End RFIC

Product Brief

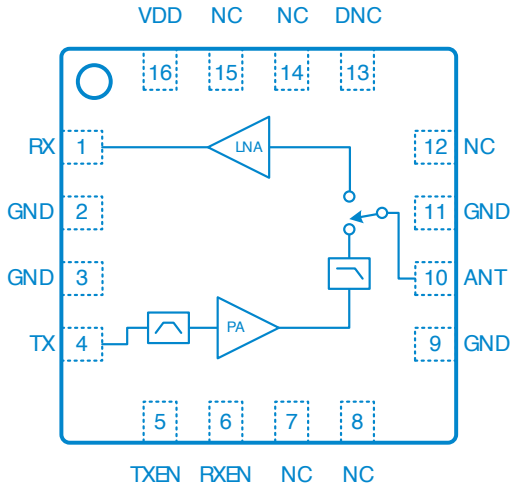
Features

- 2.4 – 2.5GHz Frequency Range
- High Effiency Optimized for Battery Operation
- Up to +23dBm Output Power
- +23dBm Psat, 140mA at 3.3V
- +20dBm Pout, 95amA at 3.3V
- 1.8 – 3.6V Operation
- Integrated PA, LNA, Antenna Switch
- 2.5dB Noise Figure
- On-Die Harmonic Filters
- On-chip Input/Output Matching Circuitry
- -40°C to 125°C Extended Temperature Range
- Single-Ended Transceiver Interface

Applictions

- IoT (Internet of Things) / M2M Connectivity
- Proprietary ISM Wireless Systems
- 802.15.4 Zigbee / Thread, RF4CE
- Bluetooth® Low Energy (BLE) Mesh Networks
- Smart Home Hubs and Gateways
- Consumer Electronics, Smart Appliances
- Smart Lighting, Smart Metering
- Drone, Toy, Media Remote Controller
- Industrial Wireless Sensor Networks
- Home, Industrial, Factory Automation
- Wireless Audio and Video

Functional Block Diagram



Description

The 8TR8202 is a compact, multi-function front-end RFIC (Radio Frequency Integrated Circuit) intended for proprietary ISM wireless systems in the 2.4GHz band, including 802.15.4 ZigBee™ / Thread, and Bluetooth® Smart.. It is optimized for battery-operated applications for improved efficiency. The 8TR8202 combines a PA, LNA and Antenna Switch in a 3.0 x 3.0 x 0.55mm maximum 16-pin QFN package.

Key Specifications

TX		RX		CHIP	
Parameter	Typical	Parameter	Typical	Parameter	Typical
Large Signal Gain 3.3V	35dB	Small-Signal Gain	11dB	Frequency Range	2.4 - 2.5GHz
Saturated Output Power @ 3.3V	+23dBm	Noise Figure	2.5dB	Supply Voltage	1.2 - 3.6V
Output Current @ 23.5dBm, 3.3V	140mA	Input P1dB / IIP3	-5dBm/+5dbm	Control Voltage	1.2V
Output Current @ 20dBm, 3.3V	95mA	In/Out Return Loss	-8dB	ESD (HBM)	1000V
In/Out Return Loss	-10dB	Quiescent Current	8mA	Temperature Range	-40 to 125°C
$2^{nd}/3^{rd}$ Harmonics @ 23.5dBm at ANT	-30dBm/MHz				

At 3.3V Vdd unless otherwise specified.