

Features

- 2.4 – 2.5 GHz Frequency Range
- High Efficiency Optimized for Battery Operation
- 85mA at +20 dBm Output, 3.3V
- Up to +21 dBm Output Power
- 2 dB LNA Noise Figure
- High Integration: PA, LNA, Bypass, Antenna Switch, Power Detector, Matching Network
- Auto Tx Wake-Up Function
- Ultra-Low Bypass Current
- Ideal For ZigBee, Bluetooth® Power Class 1/ 1.5
- Transmit / Receive Gain-Step Power Mode
- Single-Ended Transceiver Interface
- -40°C to 125 °C Extended Temperature Range
- 3.0 x 3.0 x 0.55 mm 16-Pin QFN Package

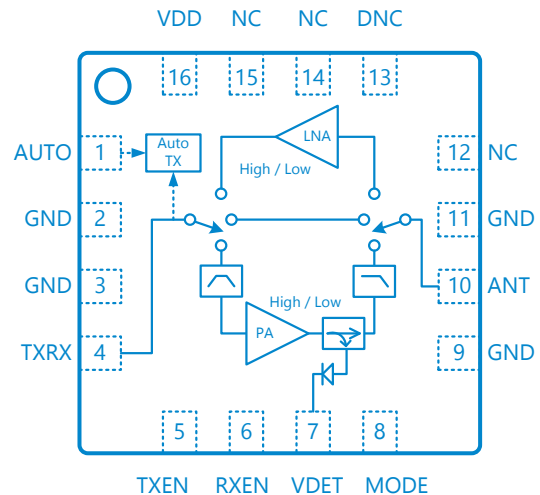
Description

The 8TR8210 is a highly integrated RF Front-End intended for 802.15.4 ZigBee™/ Thread, Bluetooth® Smart and proprietary ISM wireless systems in the 2.4GHz band. It is optimized for battery-operated applications to enhance efficiency. The 8TR8210 combines a PA, Bypass, LNA, T/R Switch, and a single pole, triple throw (SP3T) antenna switch in a 3.0 x 3.0 x 0.55mm 16-pin QFN package.

Applications

- IoT (Internet of Things) / M2M Connectivity
- 802.15.4 Zigbee, RF4CE, Proprietary ISM
- 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 Sensor Nodes & Networks
- Wireless Audio & Video

Functional Block Diagram



Key Specifications

TX		RX		CHIP	
Parameter	Typical	Parameter	Typical	Parameter	Typical
Large-Signal Gain	23 dB	Gain (Low / High)	8 / 12 dB	Frequency Range	2.4 - 2.5 GHz
Max Output Power	+21 dBm	Noise Figure	2 dB	Supply Voltage	1.8 - 3.6 V
Supply Current at +20 dBm	85 mA	Input P1dB / IIP3	-5 / +5 dBm	Control Voltage	1.2 V
Low Mode Gain / Power	14 dB / +13 dBm	Bypass Insertion Loss	2 dB	Shutdown Current	1 µA max
Low Mode Current at +13 dBm	20 mA	Supply Current (Low / High)	4 / 8 mA	ESD (HBM)	1000 V
2 nd /3 rd Harmonics @ +21 dBm at ANT	-45 dBm / MHz*	Bypass Current	1 µA	Temperature Range	-40 to 125°C

At 3.3V Vdd and High Mode unless otherwise specified. *With the use of one external pi filter.