

Features

- 2.4 – 2.5 GHz Frequency Range
- High Functionality Front-End RF Integrated Circuit
- Integrated PA, LNA, Bypass, Ant Switch, T/R Switch
- Low Current Optimized for Battery Operated IoT
- +13dBm Output Power at 3V, Up to +15dBm, 3.6V
- 23mA at +13dBm Output Power
- Low Bi-Directional Bypass Insertion Loss
- 1-Bit Control: Bi-Directional Bypass / Tx PA Modes
- Ultra-Low Bypass/Sleep Current, Ideal for Bluetooth® Power Class 1 & 1.5 Operation
- Filter Networks, Input / Output Matching
- Ultra-Compact 2.0 x 2.0 x 0.45 mm QFN-16 Package
- -40°C to 105°C Temperature Range

Applications

- Bluetooth® Low Energy (BLE) Devices
- IoT (Internet of Things) / M2M Connectivity
- Bluetooth® Audio
- Bluetooth® Mesh Networks
- Sports and Medical Wearables
- Consumer Electronics, Toys
- Smart Home Appliances, Remote Controllers
- Wireless Sensor Nodes
- Beacons
- Proximity Sensors
- Range Extenders

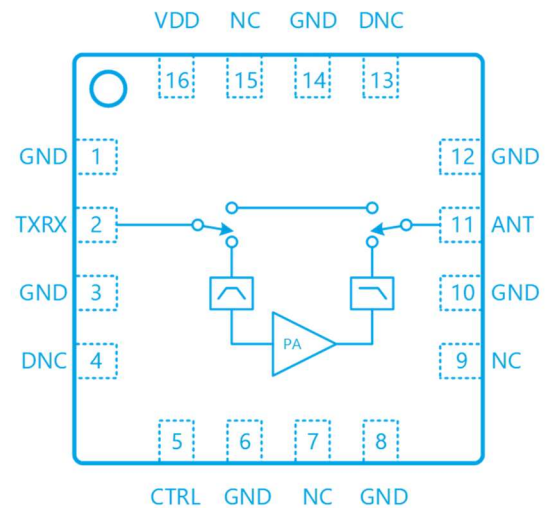
Description

The 8TR1211 combines a PA, Bypass, T/R Switch, and Antenna Switch for Bluetooth® Smart, 802.15.4 ZigBee™/ Thread, ANT+, and proprietary ISM wireless systems in the 2.4GHz band packaged in a 2.0 x 2.0 x 0.45mm 16-pin QFN.

Logic Table

CTRL	Operational Mode
0	Bypass Mode = Sleep Mode
1	TX PA Mode

Functional Block Diagram



Key Specifications

TX		BI-DIRECTIONAL BYPASS		RFIC	
Parameter	Typical	Parameter	Typical	Parameter	Typical
Large-Signal Gain	12 dB	Bypass Insertion Loss	1.3 dB	Frequency Range	2.4 - 2.5 GHz
Saturated Output Power	+13 dBm	Bypass Current (same as Sleep)	0.6 μ A	Supply Voltage	1.8 - 3.6 V
Saturated Output Power @ 2.7 V	+12 dBm	Input P1dB	10 dBm	Control Voltage High	> 1.2 V
Supply Current @ +13dBm	23 mA	Input IIP3	20 dBm	Control Voltage Low	< 0.3 V
Quiescent Current	5 mA	Input Return Loss	-10 dB	ESD (HBM)	1000 V
2 nd /3 rd Harmonics at up to +14dBm	-50 dBm / MHz*	Output Return Loss	-10 dB	Temperature Range	-40 to 125°C

At 3.0V VDD unless otherwise specified. *With the use of one external pi filter.