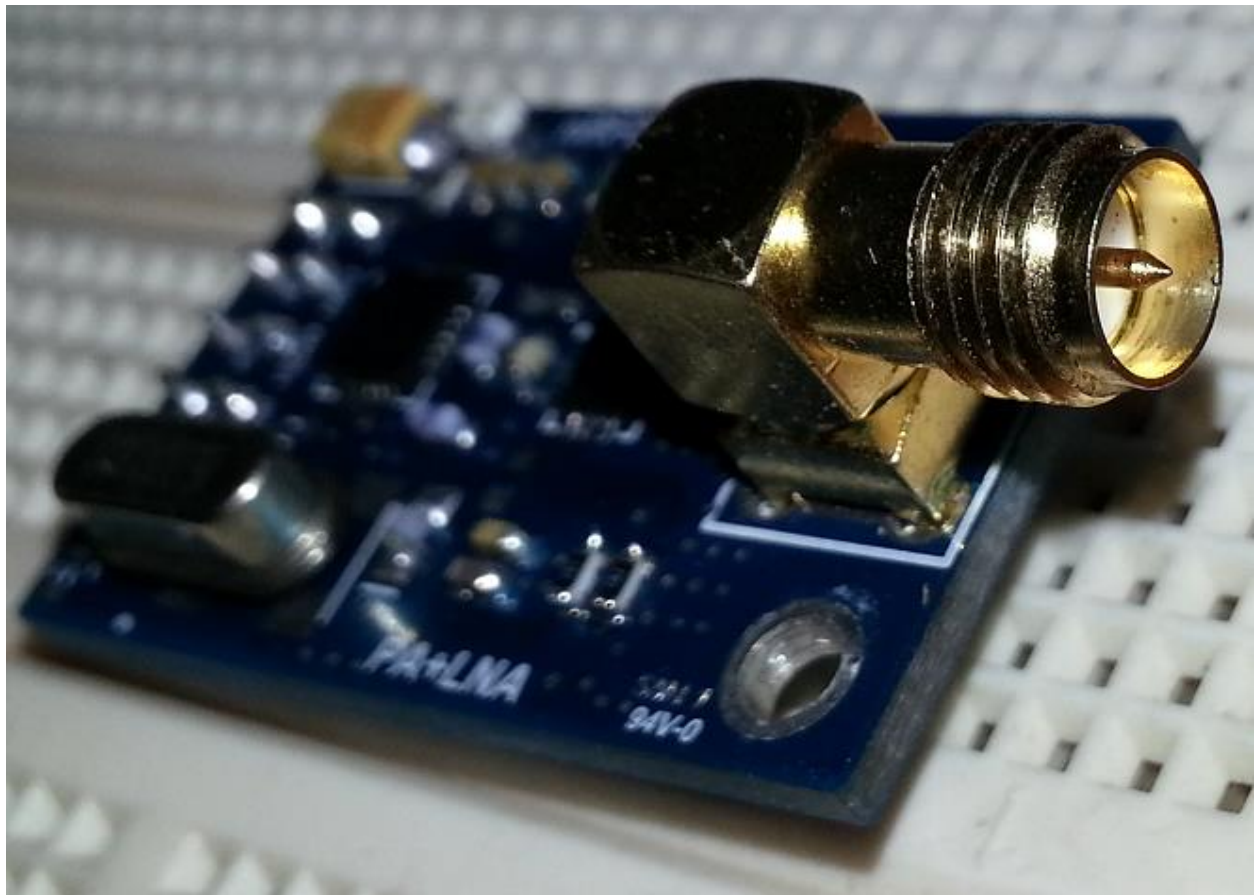


XPower nRF24L01+ with PA+LNA Module

This module uses the newest 2.4GHz transceiver from Nordic Semiconductor, the nRF24L01+. This transceiver IC operates in the 2.4GHz band and has many new features! On board PA and LNA make it transmit over 1km easily.

Specification:

- 1.8Km transmission Range
- +22dBm Max transmitting power
- SMA Right Male Connector
- -40 ~ +85 Centigrade working temperature
- Pins broken out : VCC, CE, CSN, SCK, MOSI, MISO, IRQ, GND (5V tolerant input pin)
- 1.9V~3.6V power supply
- Standard 0.1" (2.54mm) spacing pins



Radio Chip Features (nRF24L01+)

Radio

- Worldwide 2.4GHz ISM band operation
- 126 RF channels, Software selectable channel from 2400MHz to 2525MHz (126 Selectable channels)
- Common RX and TX interface

- GFSK modulation
- 250kbps, 1 and 2Mbps air data rate
- 1MHz non-overlapping channel spacing at 1Mbps
- 2MHz non-overlapping channel spacing at 2Mbps

Transmitter

- Programmable output power: 0, -6, -12 or -18dBm
- 11.3mA at 0dBm output power

Receiver

- Fast AGC for improved dynamic range
- Integrated channel filters
- 13.5mA at 2Mbps
- -82dBm sensitivity at 2Mbps
- -85dBm sensitivity at 1Mbps
- -94dBm sensitivity at 250kbps

Power Amplifier and Low Noise Amplifier

PA

- Maximum output power: +22 dBm
- Signal gain: 25 dB
- Input/output impedance single ended: 50 ohm

LNA

- Gain: 12 dB
- Noise figure: 2.5 dB
- Input return loss: -12 dB
- Output return loss: -15 dB
- RF port impedance: 50 ohm

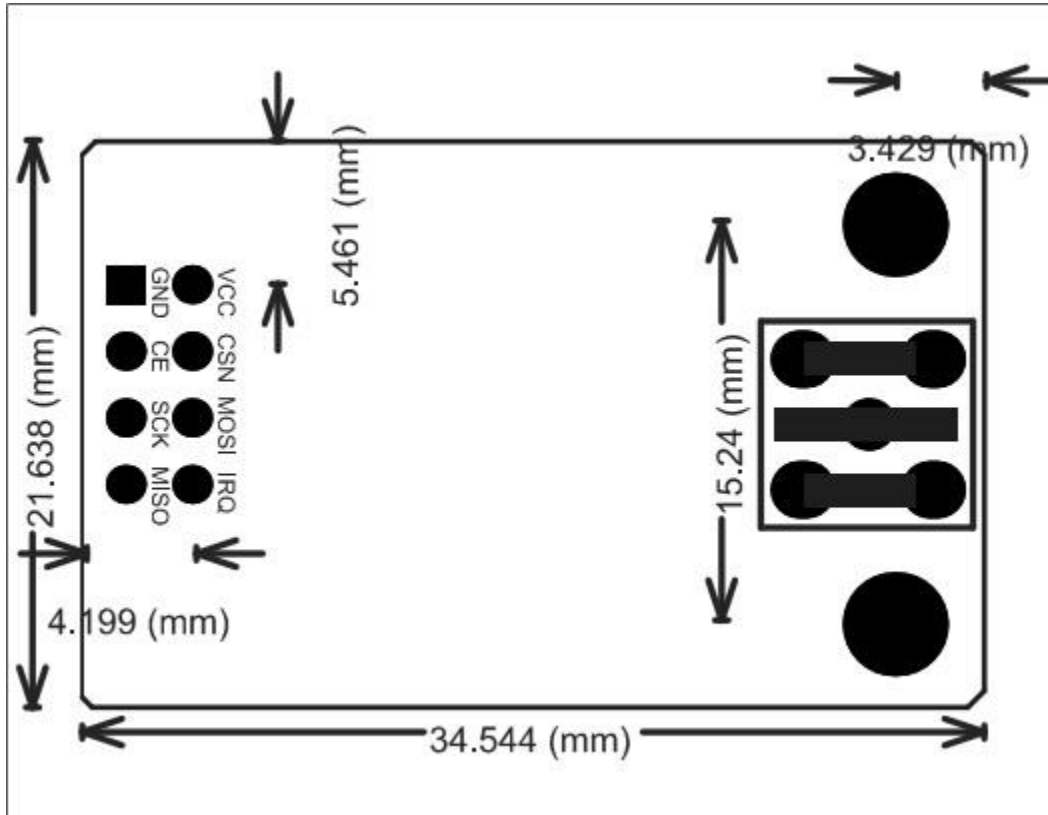
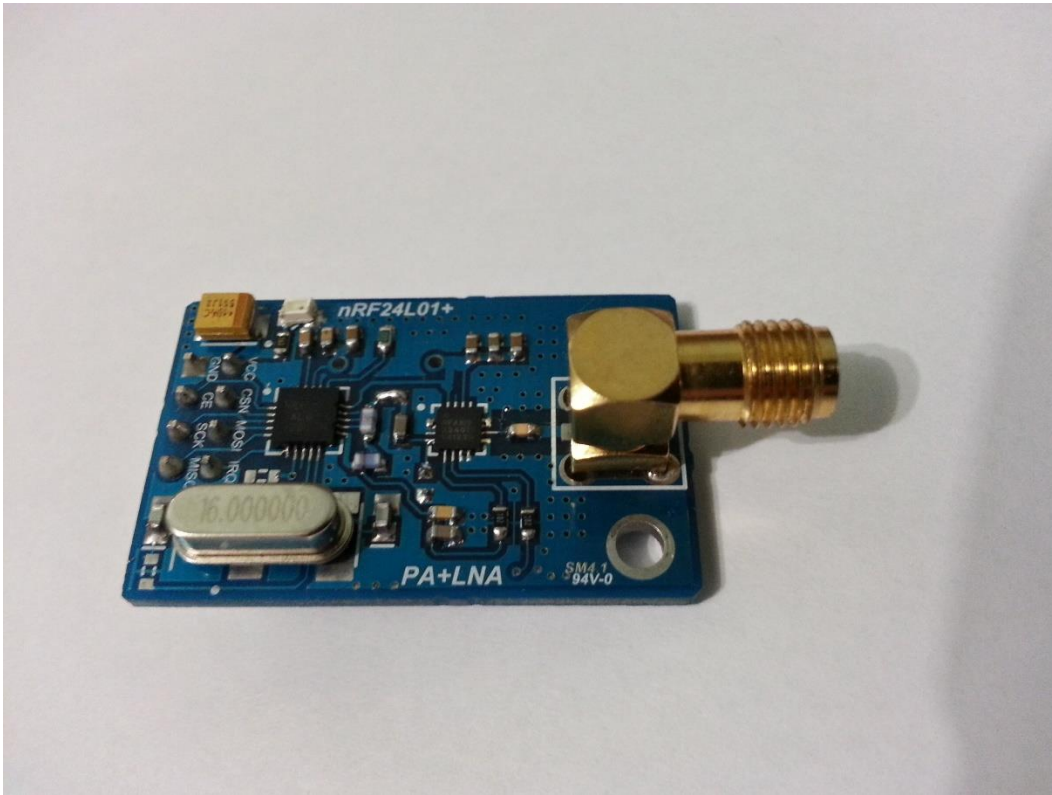
Interface

Pin #	Name	Description
1	GND	Ground (0V)
2	VCC	Supply (+1.9V - +3.6V DC)
3	CE	Chip Enable Activates RX or TX mode (Never >3.6V)
4	CSN	SPI Chip Select
5	SCK	SPI Clock
6	MOSI	SPI Slave Data Input
7	MISO	SPI Slave Data Output, with tri-state option
8	IRQ	Maskable interrupt pin. Active low

Note

- Wireless data transmission requires two or more modules to set up wireless link. Each module itself supports sending and receiving, but at the same time can only work in transmit mode or receive mode.
- Maximum operating voltage of this module 3.6V. CE pin could not survive voltage over 3.6V. Otherwise the module might be damaged.
- Transmission distance varies according to the testing environment. We tested it in open area.

Dimension



Frequency Test

