

Keyes RF Transceiver

nRF905



General Description

The Nordic nRF905 is a highly integrated, low power, multiband RF transceiver IC for the 433/868/915MHz ISM (Industrial, Scientific and Medical) band. With an integrated +10dBm PA and sensitivity of -100dBm, the nRF905 is an ideal solution for applications requiring longer-range. The ShockBurst™ hardware protocol accelerator offloads time critical protocol functions from the application microcontroller enabling the implementation of advanced and robust wireless connectivity with low cost 3rd-party microcontrollers.

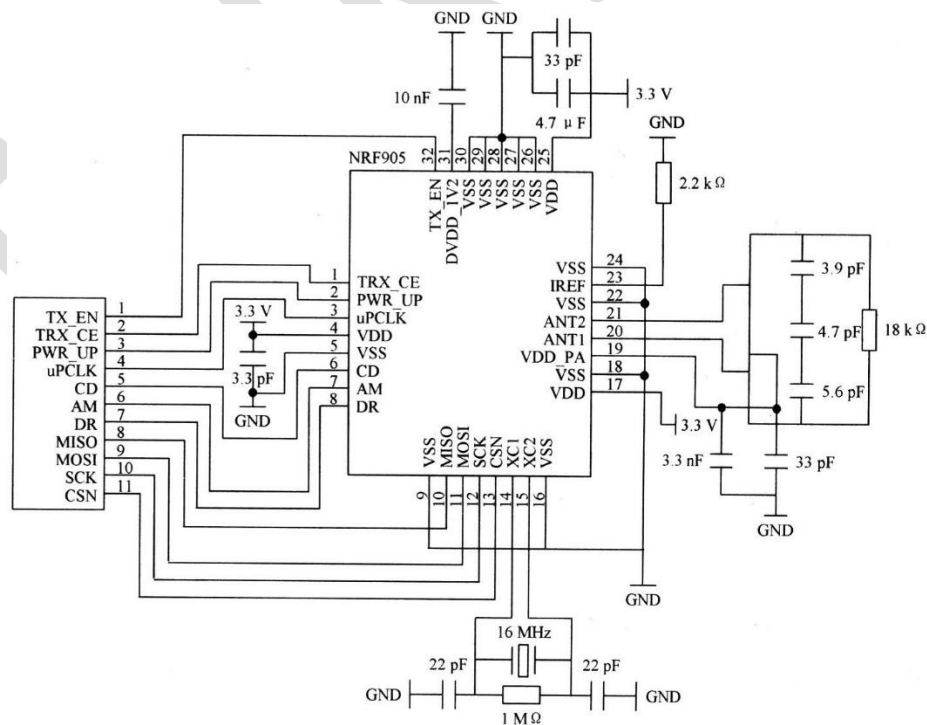
In summary, the nRF905 integrates a complete 433/868/915MHz ISM RF transceiver, RF synthesizer, and baseband logic, including the ShockBurst™ hardware protocol accelerator supporting a

high-speed SPI interface for the application controller. No external loop filter, resonators, or VCO varactor diodes are required, only a low cost crystal, matching circuitry, and antenna.

Specifications

- 2.5 μ A power down mode
- 9mA Radio TX at -10dBm; 30mA Radio TX at +10dBm; 12.5mA Radio RX
- License-free 433/868/915MHz ISM band operation, GFSK modulation
- +10, 6, -2, and -10dBm programmable TX output power
- 50kbps on-air data rate
- -100dBm RX sensitivity
- 1.9 to 3.6V supply range
- Temperature range of -40 to +80 $^{\circ}$ C
- 16 MHz Crystal Oscillator
- Outdoor Range: up to 1000m
- Indoor Range: up to 200m

Schematic

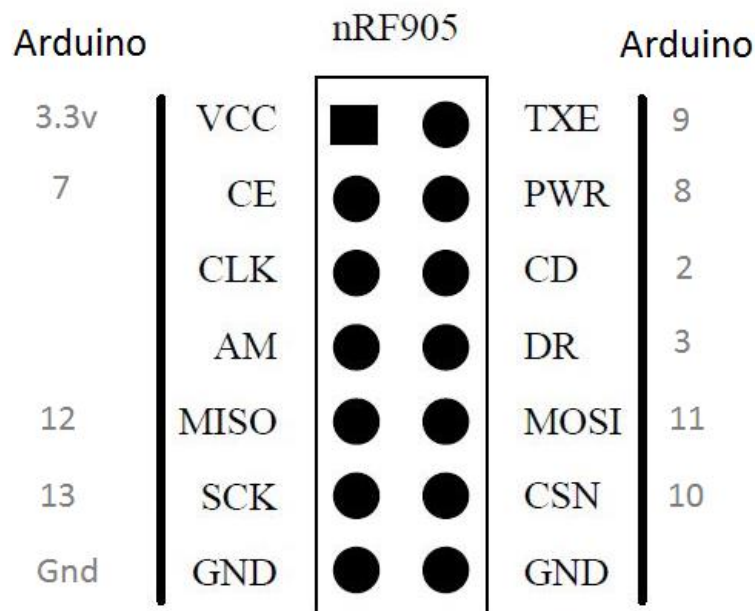


How to test

You need:

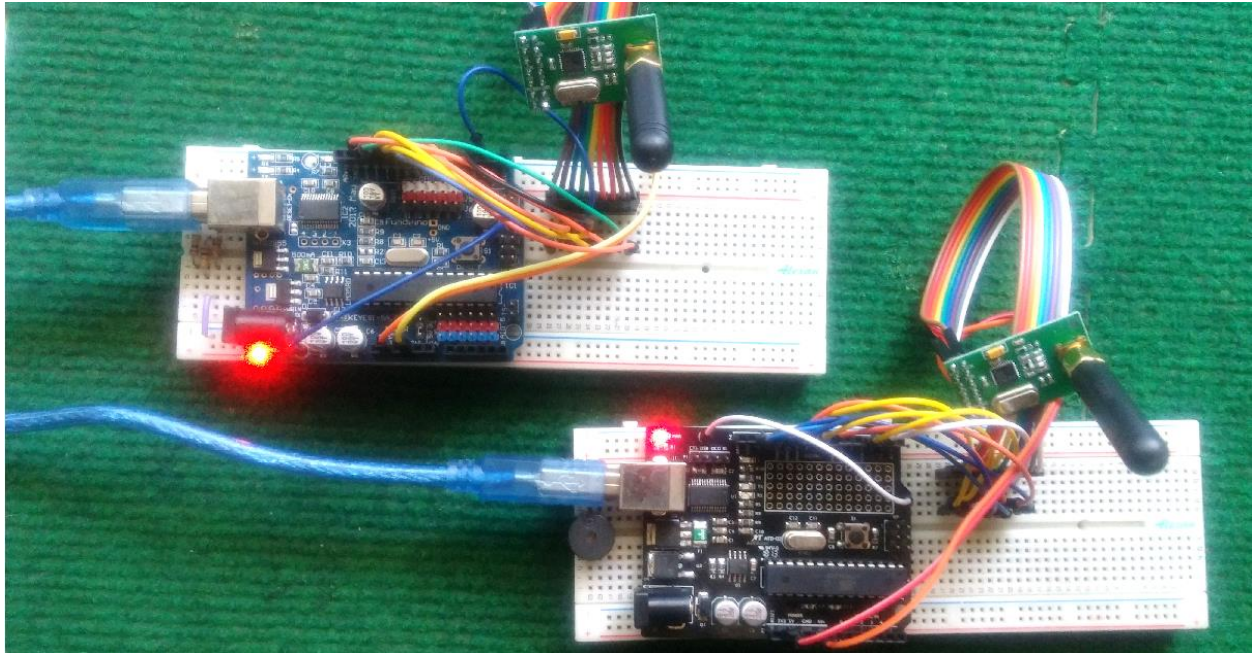
2 Arduino
2 nRF905 Transceiver
Connecting Wires
Breadboard

1. First of all, download [nRF905 library](#) from the Altronics website and extract it to your Arduino libraries folder.
2. Connect the nRF905 Transceiver to your Arduino using the connections shown below. You have to do this twice using 2 Arduinos and 2 nRF905 Transceivers.



3. Choose a COM port, open lowpwr_client then click upload. You can find this sketch at Arduino IDE File> Examples > nRF905 > lowpwr_client.
4. Open lowpwr_server then click upload. You can find this sketch at Arduino IDE File> Examples > nRF905 > lowpwr_server. Be noted that you have to open a new instance of Arduino IDE to use two serial monitors at the same time.
5. Open both serial monitors and see the results. You should be able to get ping test between the two transceivers.

Actual Setup



Result

