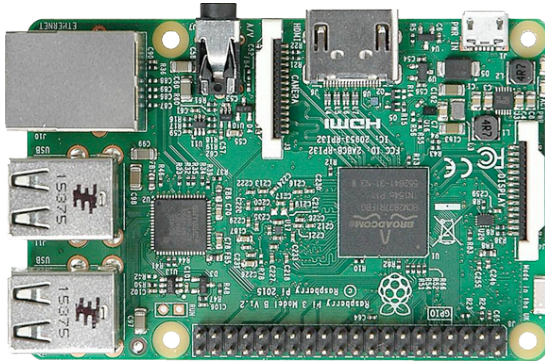


last update October 1st, 2016

- Raspberry: take either the RPI2 or RPI3 (RPI3 better for WiFi and Bluetooth)



You also need an 8GB SD card

RPI3 has built-in WiFi and Bluetooth 4.0, if you get or already have the RPI2 and want WiFi and Bluetooth, get dongles. Examples that have been tested successfully:

WiFi: TP-LINK TL-WL725N



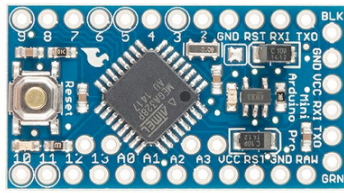
Bluetooth 4.0: CSR dongle or Konig dongle



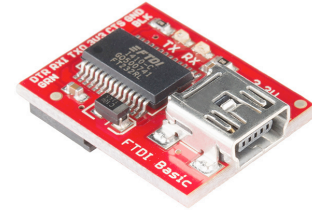
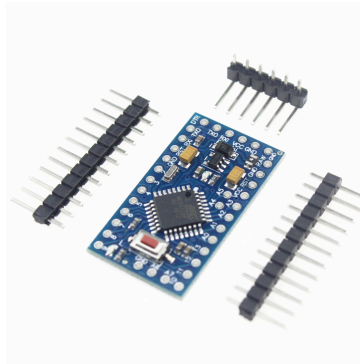
- For prototyping/development tests Arduino Uno/MEGA2560



- For integration phase: Arduino Pro Mini (take the 3.3v, 8MHz version)



3.3v and 8MHz version



Can be bought as low as 1.5€ from Chinese manufacturers

<http://www.aliexpress.com/popular/arduino-pro-mini-328.html>

You will also need the FTDI breakout (3.3v version) to program the board: <https://www.sparkfun.com/products/9873>

- LoRa Radio: take the Modtronix inAir9 with 6mm pin header already soldered (see the available option on the modtronix web page); and the 868MHz whip antenna



<http://modtronix.com/inair9.html>

<http://modtronix.com/ant-f105-868.html>



Wireless SX1276 LoRa Module, 868MHz and 915MHz, 3.3V, SMA Connector

USD15.95

Header Type: 6.0mm Pin Header (+USD1.00)

See "Pin Headers" section below for details!

No Pin Header:
No headers are assembled.

Loose 3, 4 or 6mm Pin Header (\$0 Extra - FREE!):
Two loose(unsoldered) pin headers with 3.0, 4.0 or 6.0mm long pins are included FOR FREE. Select option below(with fee) if headers should be soldered.

3, 4 & 6mm Pin Header:
Pin headers with 3.0, 4.0 and 6.0mm long pins are assembled. Select 3.0mm if module is going to be soldered into place. Select 6.0mm if module is going to be plugged into standard 8.5mm high Female Socket, or 4.0mm for low profile 5.7mm Female Sockets.

Round Swiss Pin Header:
Pins headers with Round (Swiss) style pins are assembled. Select to plug module into female Round (Swiss) Socket.

Press-Fit Header:
Pins headers with one with an U.FL connector, and one with an Press-Fit pin headers are assembled. Select if module is going to be pressed into pads with 1.0mm drills (solderless).

Description

We will soon be releasing two new versions of the inAir9 with integrated(onboard) antenna.

The inAir9 is a 868 and 915MHz wireless module. It is part of our iMod product range. The frequency is 868MHz or 915MHz. This module is new where the inAir9B has a maximum of +20dBm. This module requires less supply current than the inAir9B, even when configured for the same output power (+14dBm or less). Choose this module if power consumption has to be kept to a minimum, and no more than +14dBm is required.

The SX1276 is a revolutionary new chip enabling wireless communications at distances up to 15km, using Semtech's LoRa(Long Range) technology. This chip also supports high performance (QPSK) modes for systems including WHDAS, IEEE802.15.4g.

This module can be used for 868 and 915MHz communication. It is based on the Semtech SX1276F1KAS and SX1276F1IAS reference designs, which also use identical components for 868 and 915MHz. We have also confirmed with Semtech engineers that

PAYPAL EXPRESS CHECKOUT

PayPal Check out

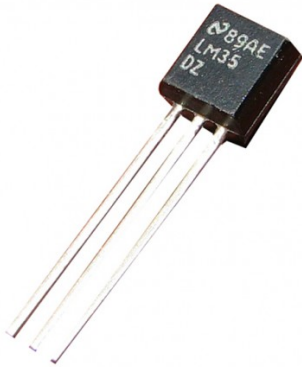
The safer, easier way to pay

To pay via PayPal Express Checkout, go to Cart! Paying via this method is no sign in or registration is required. Your information is not used.

OTHER ALSO

- 1 Relay Module, 5V, 10A, Opto Isolated **USD4.95**
- 1-Wire Interface Module with I2C bus, 3.0V-5.5V, Plugable TB **USD8.95**
- 1x16 Pin Header, 4.0mm Pins **USD0.58**
- 1x18 Pin Header, 4.0mm Pins **USD0.60**
- 1x2 Pin Header, 4.0mm Pins **USD0.30**

- Simple temperature sensor: take a simple LM35DZ



from electronic stores

- Out-door cases: electric out-door cases for instance



or any water-proof casing you can find suitable from your local hardware/electric stores

- Breadboard cables: need both M-F and F-F



M-F



F-F

take those that are about 10cm to 20cm maximum.

- 4-AA battery couplers for the IoT device



- Some standoffs/spacer and associated screws for the gateway



take 10mm to 20mm maximum

USEFULL EXTRA PARTS

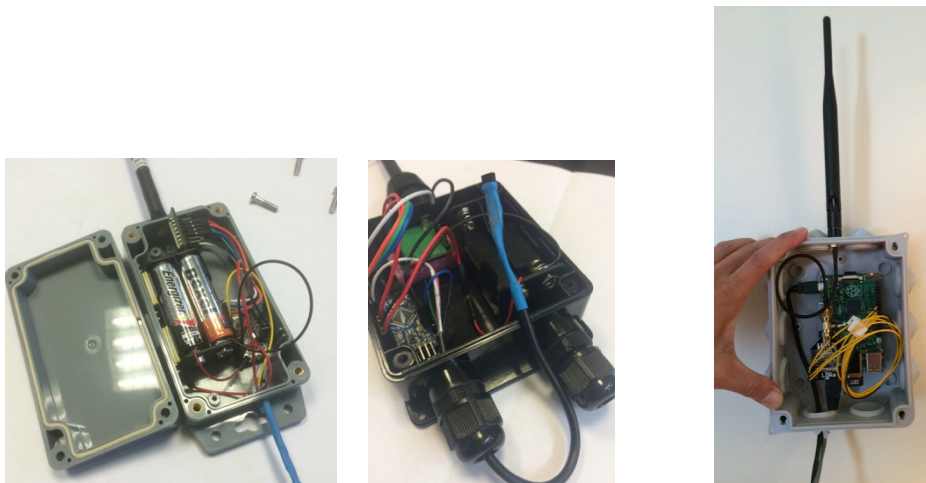
- A simple soldering station with not too thick solder wire



- A set of heat-shrink sleeves to isolate wires / silicon for joints



RESULTS:



Enjoy!

C. Pham, University of Pau, France