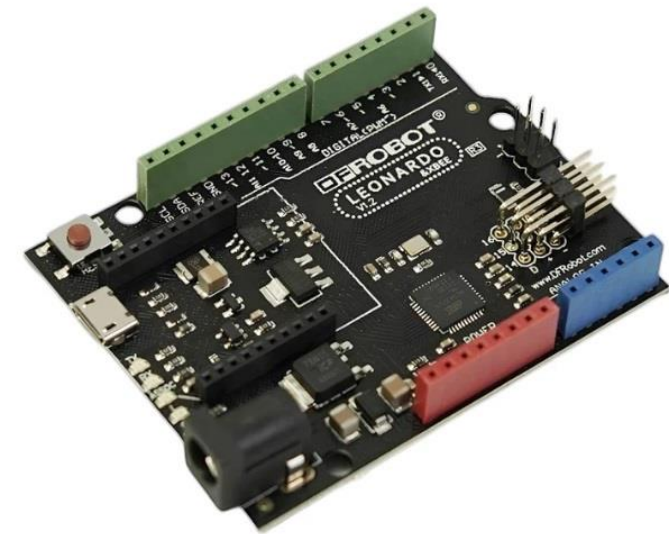


DFRduino Leonardo with Xbee Socket

Overview

Featured in Make: The Maker's Guide to Boards, DFRobot Leonardo with Xbee Socket is compatible with Arduino Leonardo. The "Arduino Leonardo" is based on the ATmega32u4 chip. It is the latest addition to the Arduino family. Compared with the earlier Arduino controllers, using the ATmega32U4 as its sole microcontroller, allows the Leonardo to be cheaper and simpler to use. Also, because the 32U4 is handling the USB directly, code libraries allow the board to emulate a computer keyboard, mouse, and more using the USB-HID protocol!



Order Code

Order Code	Brand	Description
E00022-001	DFRobot	DFRduino Leonardo with Xbee Socket

DFRduino Leonardo with Xbee Socket



Overview

Based on the "Arduino Leonardo", this one from DFRobot equips an XBee socket and 3 sensor extension pins for your application. The Xbee is a commonly used wireless communication module with 2.4G Zigbee, 900Mhz version, etc. The socket makes it possible for you to extend the XBee or XBee form factor wifi, Bluetooth, and RF modules for your Arduino directly. However, the D14~D16 extension pins with power supply maximize the use of your ATmega32u4 microcontroller. They support the digital sensors and modules from DFRobot directly.

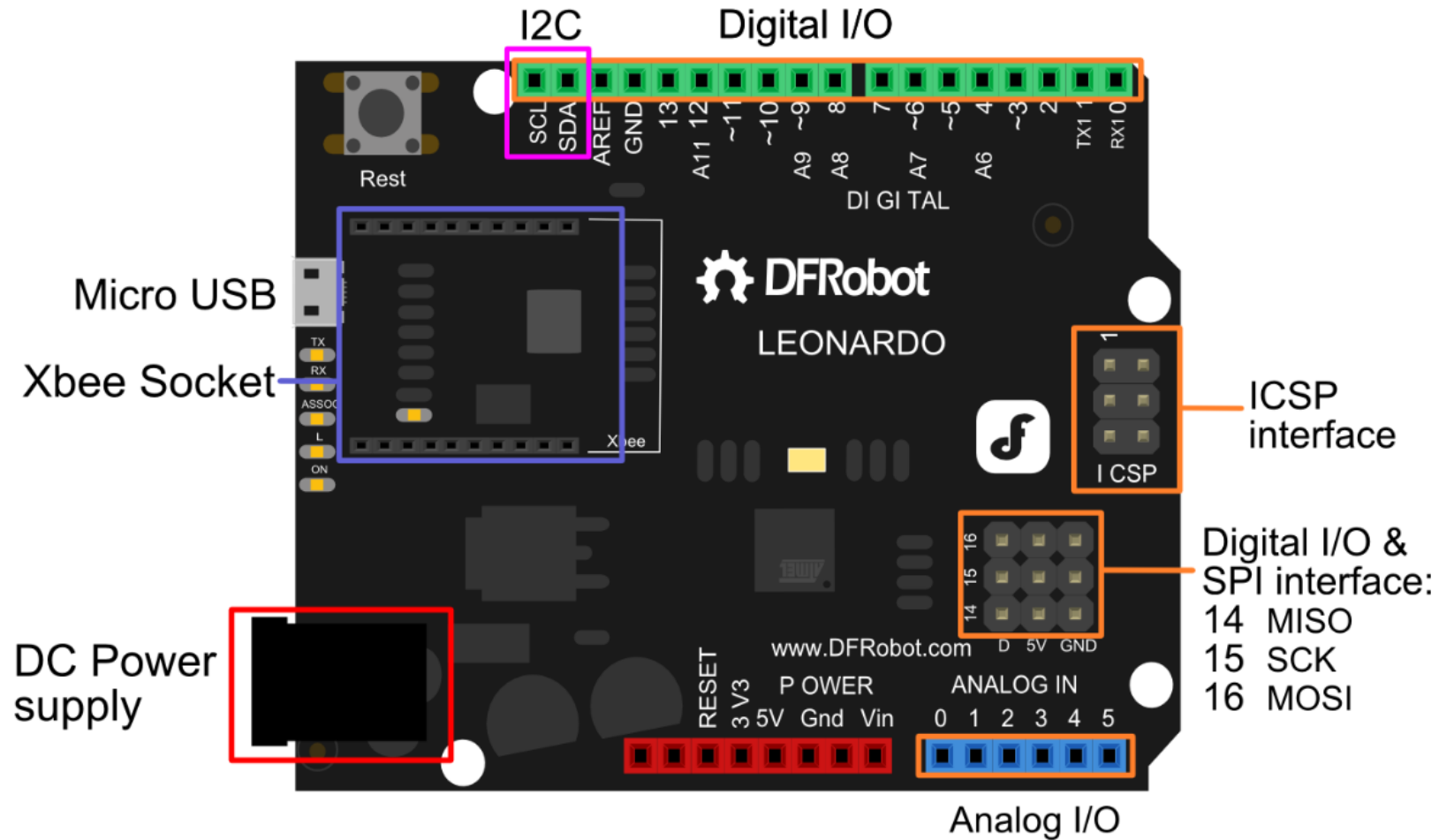
Notice: This board is only supported in the latest Arduino IDE 1.0.1 or later version, so you must update the IDE.

Specification

- Input Voltage (recommended): 7-12V
- Input Voltage (limits): 6-12V
- Microcontroller: ATmega32u4
- Operating Voltage: 5V
- Interface: Micro USB
- Compatible with Arduino Uno R3 series pin mapping
- Directly support Xbee and XBee form factor wifi, Bluetooth, and RF modules
- Extend D14~D16 digital pins with 5v power supply
- Clock Speed 16 MHz
- Size: 70x55x14mm (2.76x2.17x0.55")
- Microcontroller Specification
- Digital I/O Pins: 20
- PWM Channels: 7
- Analog Input Channels: 12
- DC Current per I/O Pin: 40 mA
- DC Current for 3.3V Pin: 800 mA
- Flash Memory 32 KB (ATmega32u4) of which 4 KB used by the bootloader
- SRAM: 2.5 KB (ATmega32u4)
- EEPROM: 1 KB (ATmega32u4)

DFRduino Leonardo with Xbee Socket

Pin Out



Xbee tutorial

- DFRobot Leonardo with Xbee R3 has a Xbee socket. It uses Serial1 to communicate with Leonardo

```
// # Description:
// It is just used to test Leonardo module
// Write by Grey
// Input "p" once time the led will be turn on; twice to turn off.
// It is controled by Serial1 Xbee side only. but you can check the status from serial port.

int ledPin=13;
int val;
int count=0;
void setup()
{
  pinMode(ledPin,OUTPUT);
  Serial.begin(9600);
  Serial1.begin(115200); // Xbee Serial1 port baud rate should be set the same to the xbee baud rate
}
void loop()
{
  val=Serial1.read(); // read xbee Serial1 data
  if(-1!=val) // "-1" means no data
  {

    if('p'==val){
      if(count==0)count=1;
      else if(count==1)count=0;
    }
  }
```

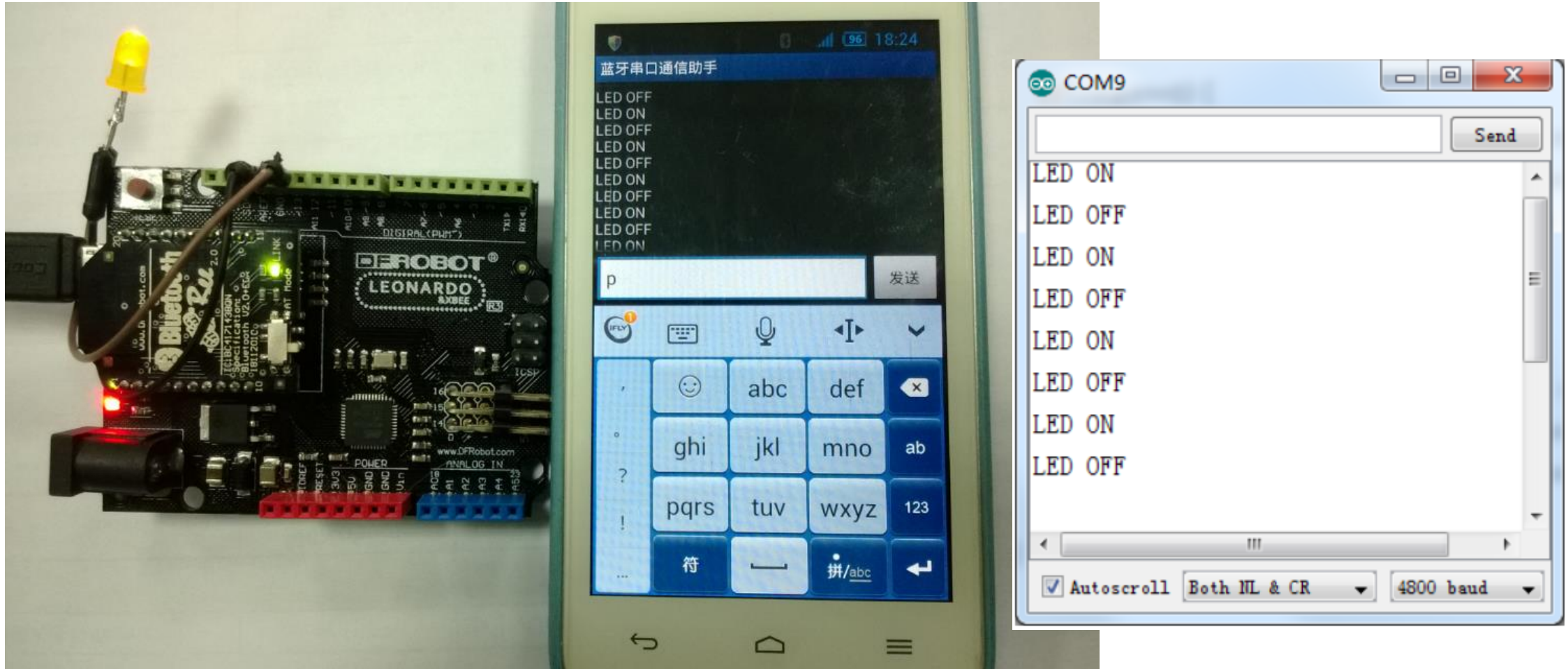
Xbee tutorial

- DFRobot Leonardo with Xbee R3 has a Xbee socket. It uses Serial1 to communicate with Leonardo

```
if(count==0){
  digitalWrite(ledPin,HIGH); // Turn on
  Serial.println("LED ON"); // you can check the status from serial port.
  Serial1.println("LED ON"); //you can check the status from serial1 port(xbee).
}
else if(count==1)
{
  digitalWrite(ledPin,LOW); // Turn off
  Serial.println("LED OFF"); //you can check the status from serial port.
  Serial1.println("LED OFF"); //you can check the status from serial1 port(xbee).
}
}
```

DFRduino Leonardo with Xbee Socket

Connection diagram



DFRduino Leonardo with Xbee Socket



Documents

- [Atmega32u4 datasheet](#)

DFRduino Leonardo with Xbee Socket



Revision History

Date	Revision	Change description
30/10/2025	1.0	Initial release