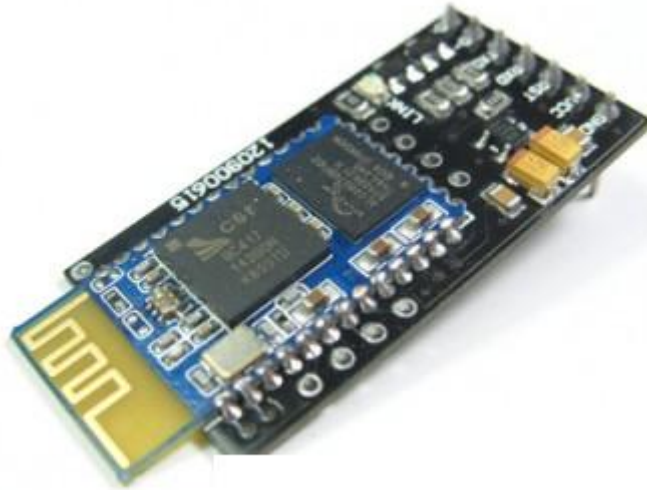




DF-Bluetooth Module Manual

SKU: CWR-DF-Bluetooth

Version 1.1

Last updated 2009-08-09

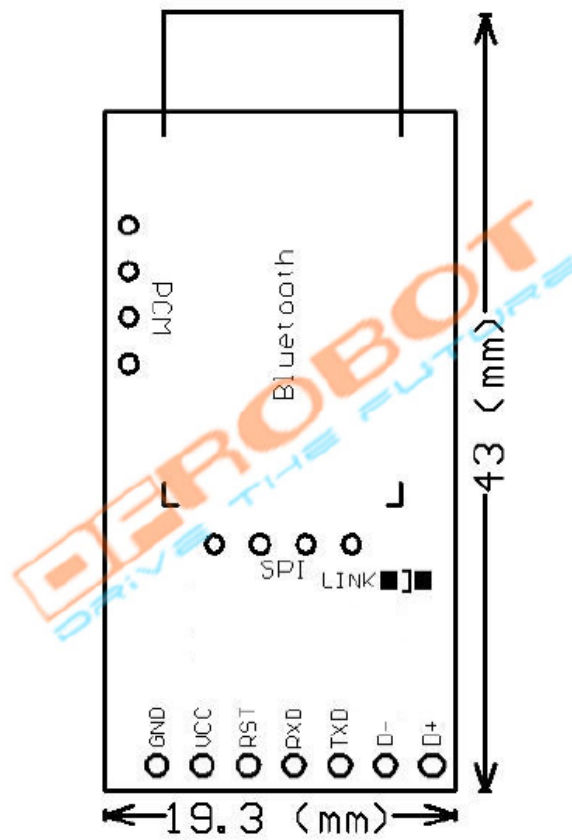
Introduction:

This DF-Bluetooth module offers an affordable way to let your microcontroller talk to your Bluetooth devices such as Bluetooth mobile phones, laptop, and Bluetooth adapter. The Bluetooth module provides TTL level UART interface which is supported by almost every microcontroller in the market.

It is also designed to be compatible with most popular Arduino controller. Simply plug into Arduino IO Expansion Shield, a Bluetooth Arduino is ready to use.

Specification:

1. Chips: CSR BC417143
2. Bluetooth Protocol: Bluetooth Specification v2.0 +EDR
3. Working Frequency: 2.4-2.48GHz unlicensed ISM Band
4. Modulation Mode: GFSK (Gaussian Frequency Shift Keying)
5. Power: $\leq 4\text{dBm}$, Class 2
6. Transmission Distance: 20-30 in free space
7. Sensitivity: $\leq -84\text{ dBm}$ at 0.1% BER
8. Transmission rate: Asynchronous: 2.1 Mbps (Max)/160 kbps; Synchronous: 1Mbps/1Mbps
9. Security: Authentication and encryption
10. Support profiles: Bluetooth serial port
11. LED indicator: LINK
12. Power Supply: +3.5V-+8V DC/50 mA
13. Working Temperature: -20°C - $+55^{\circ}\text{C}$
14. Dimension: 43x19.3x11mm
15. Default serial setting: 115200/N/8/1
16. Default Pairing Code: 0000



Pin	Definition
GND	GND
VCC	3.5-8V DC
RST	Reset
RXD	RX (TTL Level)
TXD	TX (TTL Level)
D-	Not in use
D+	Not in use
PCM	Not in use
SPI	Not in use

How to use:

The DF-Bluetooth module is based on the specification of Bluetooth V2.0, compatible with V1.1. A Bluetooth adaptor is required to communicate with the DF-Bluetooth module. When it is paired with other Bluetooth devices, the DF-Bluetooth is always set to slave mode.

The IVT BlueSoleil is recommended to manager all your Bluetooth devices.

Here is the sample:

Step 1: Open BlueSoleil software (Figure 1) and right click the yellow ball in the centre screen, click “Search Devices” , an icon named EPBMX-COM will appear after few seconds. The EPBMX-COM is the DF-Bluetooth module.

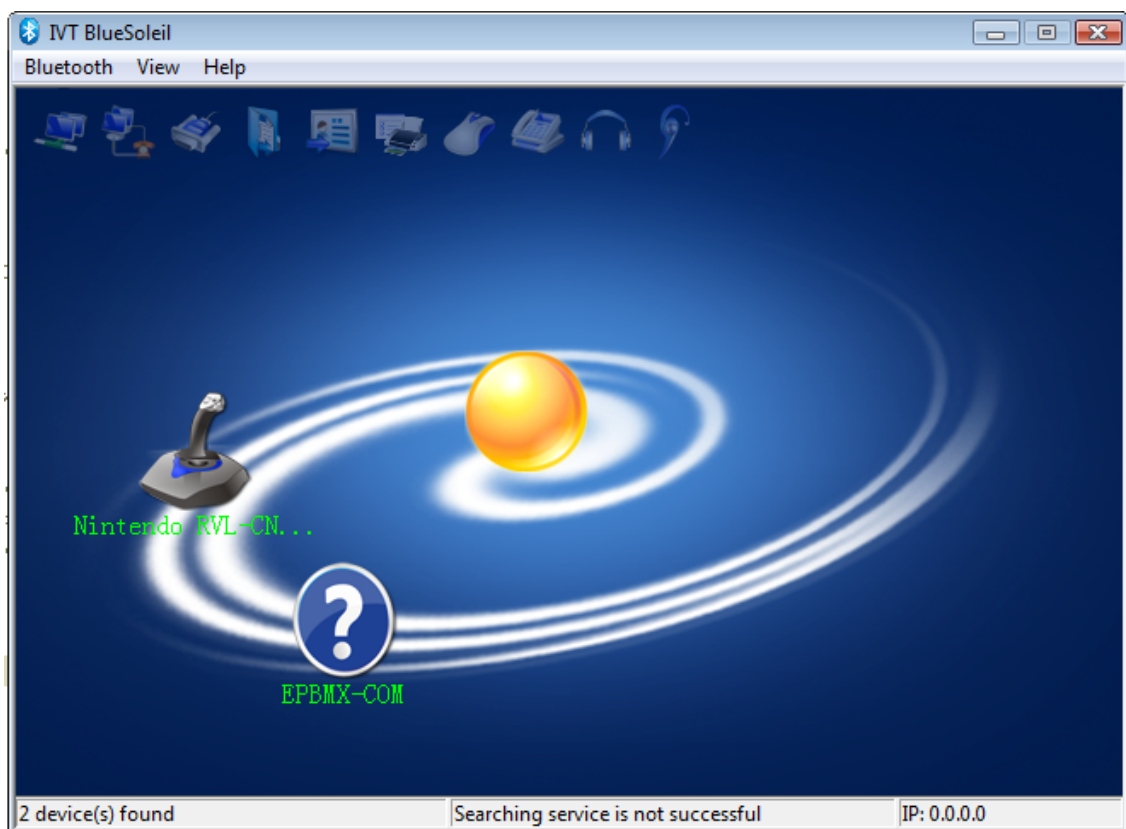


Figure 1

Step 2: Right click EPBMX-COM icon, click “Pair”. A window will popup ask for PassKey which is “0000” by default (Figure 2).

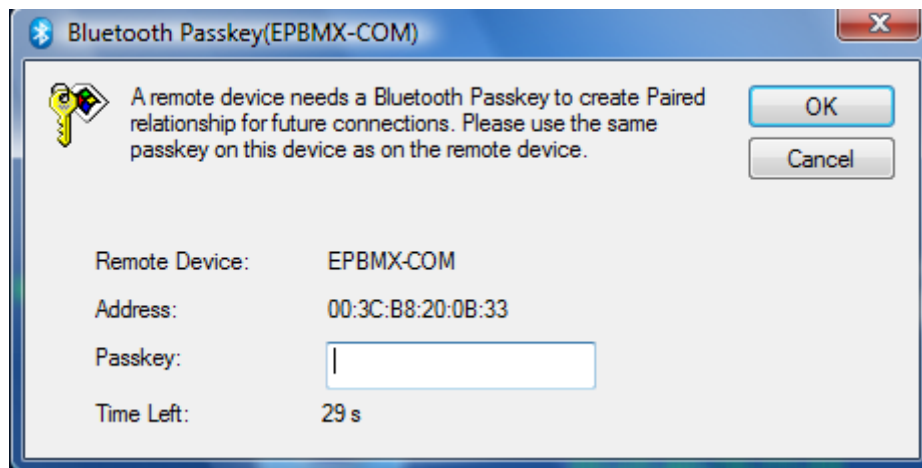


Figure 2

Step 3: Double click EPBMX-COM to connect to DF-Bluetooth.

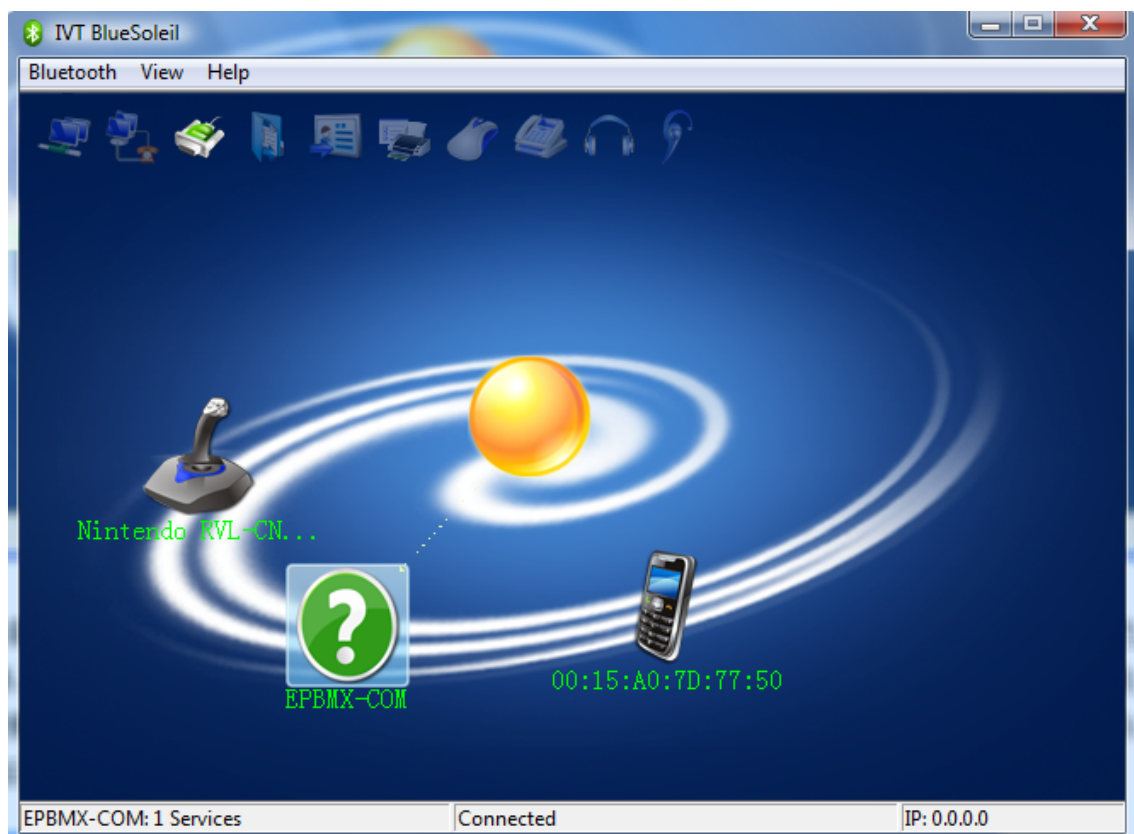


Figure 3

Step 4: Upload test code to Arduino

```
void setup()
{
  Serial.begin(115200);    //Set serial baud rate to 115200
}

void loop()
{
  Serial.print("Hello!");  //print out hello string
  delay(1000);             //1 second delay
}
```

Tips:

- Check the serial setting! Make sure the baud rate is set to 115200 on both master and slave.
- When the DF-Bluetooth is used on Arduino, please make sure you disconnect the DF-Bluetooth module before uploading any code to your Arduino. It won't burn your Arduino, but the uploading will fail as the DF-Bluetooth module occupying the TX/RX pins.

Related Resources:

BlueSoleil download link: <http://www.bluesoleil.com/>

Annex:



Figure A: DF-Bluetooth Module with Arduino Nano IO Expansion Shield
(SKU: CF-DF-RoboduinoNanoIO)

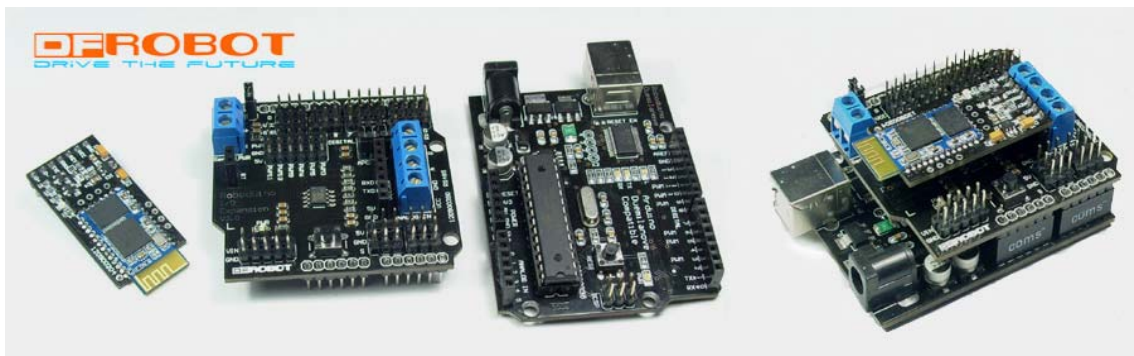


Figure B: DF-Bluetooth Module with Arduino Duemilanove IO Expansion Shield
(SKU: CF-DF-RoboduinoIOV2.0)

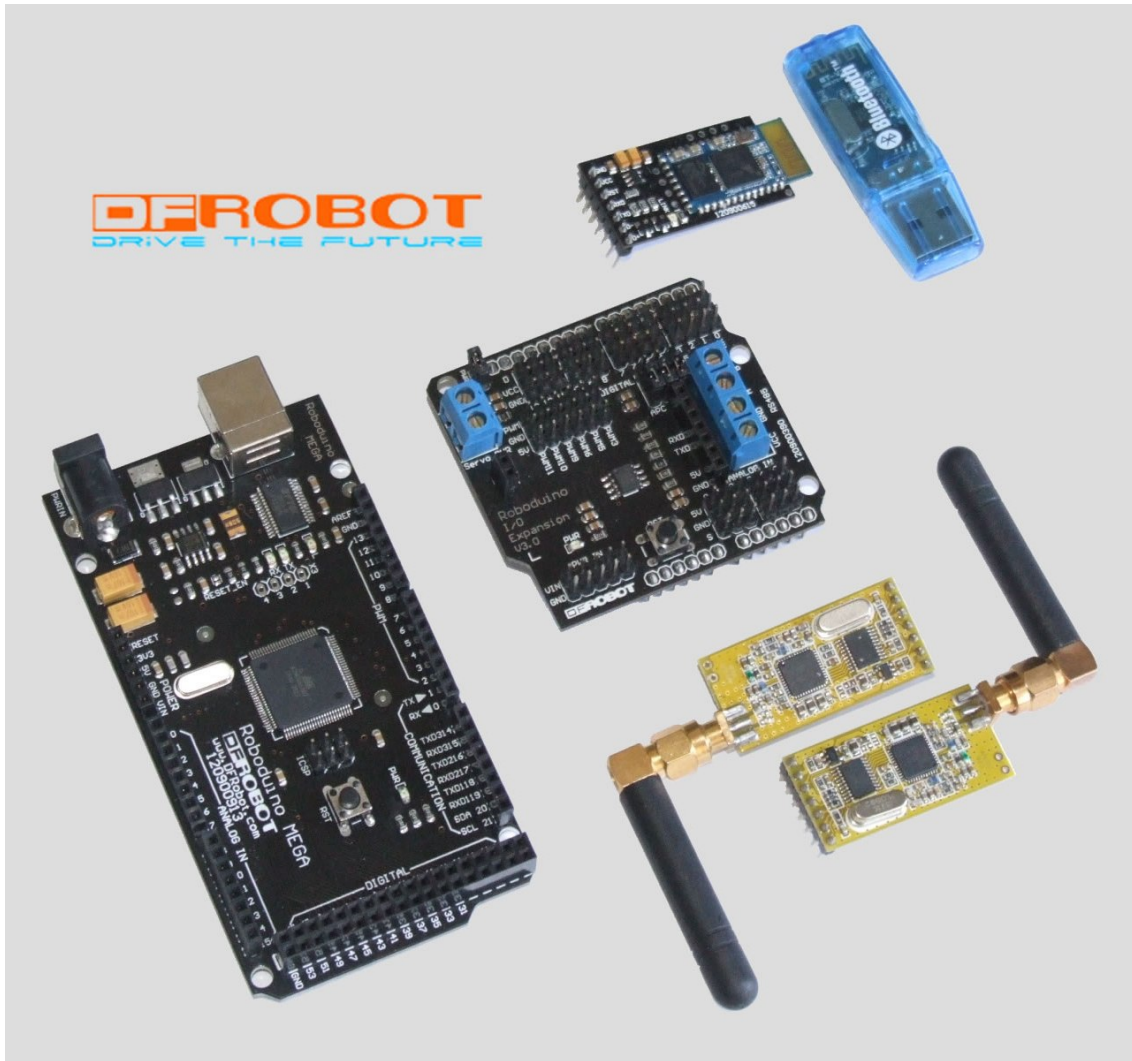


Figure C: Arduino Mega with DF-Bluetooth and APC220 Radio Module