MDBT42Q Breakout ESP004

This board has the same Bluetooth LE module that used on Puck.js and Pixl.js, pre-programmed with Espruino. Just apply power, connect with Bluetooth LE or Serial and start writing JavaScript!

This is a board with 0.1" pins, a voltage regulator, 2 LEDs and a button. It's thin, small, and very power efficient.

Features

- Bluetooth Low Energy
- Espruino JavaScript interpreter pre-installed
- nRF52832 SoC - 64MHz ARM Cortex M4, 64kB RAM, 512kB Flash
- 32 x GPIO (capable of PWM, SPI, I2C, UART) on 0.7mm Pitch, including 8 analog inputs
- 1.7v - 3.6v voltage range
- Built in thermometer
- NFC tag programmable from JavaScript (when an antenna is connected)
- Dimensions: 16mm x 10mm x 2.2mm thick

Breakout board features

- 2.5 - 16v voltage input, 20uA power draw when advertising
- 0.1" pin header (With 22 GPIO, 7 analog inputs)
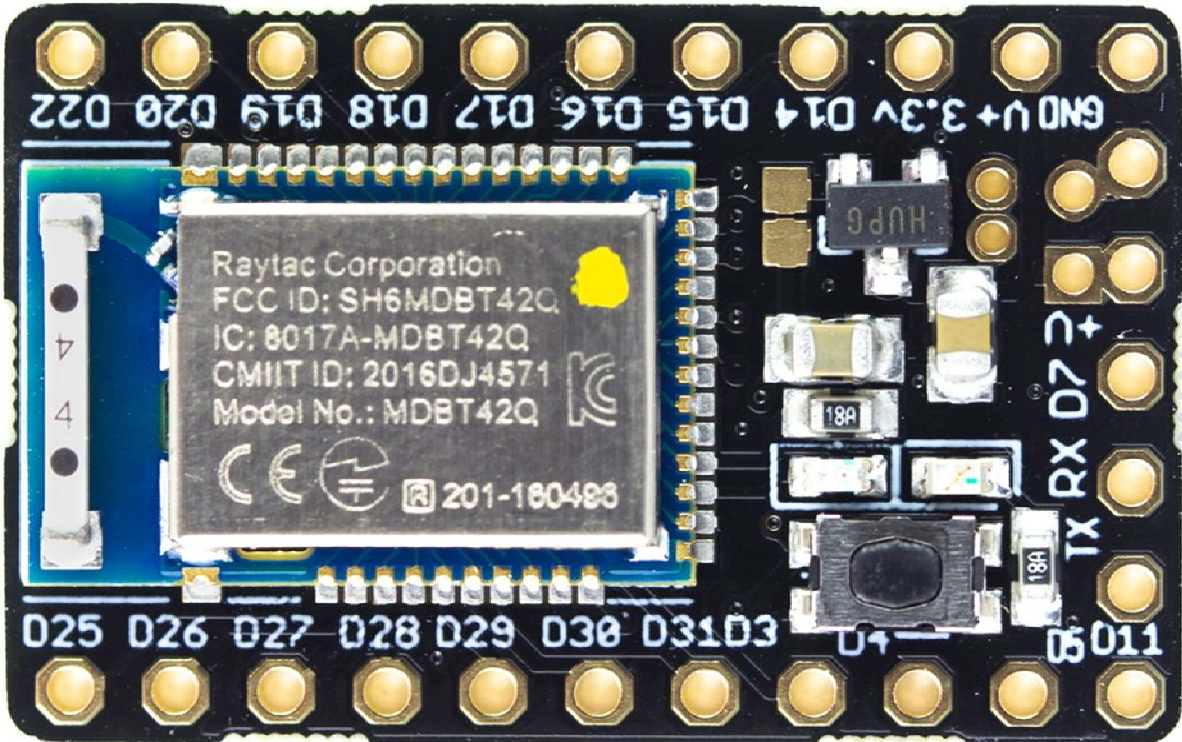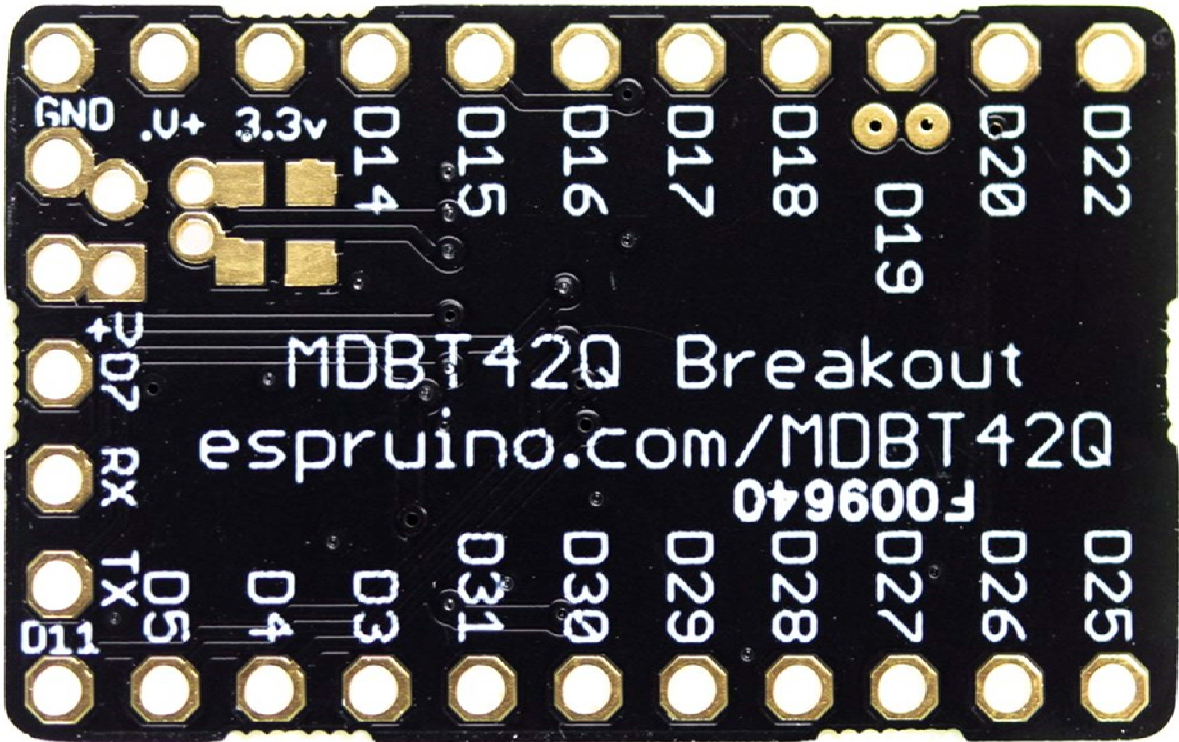- Red and Green LEDs
- Button

Getting Started

Apply power between the `V+`/`Vin` and `GND` pins. Any voltage between 2.5 and 16 volts will work - just be careful not to get the polarity wrong! Check the pinout for more information on the location of pins.
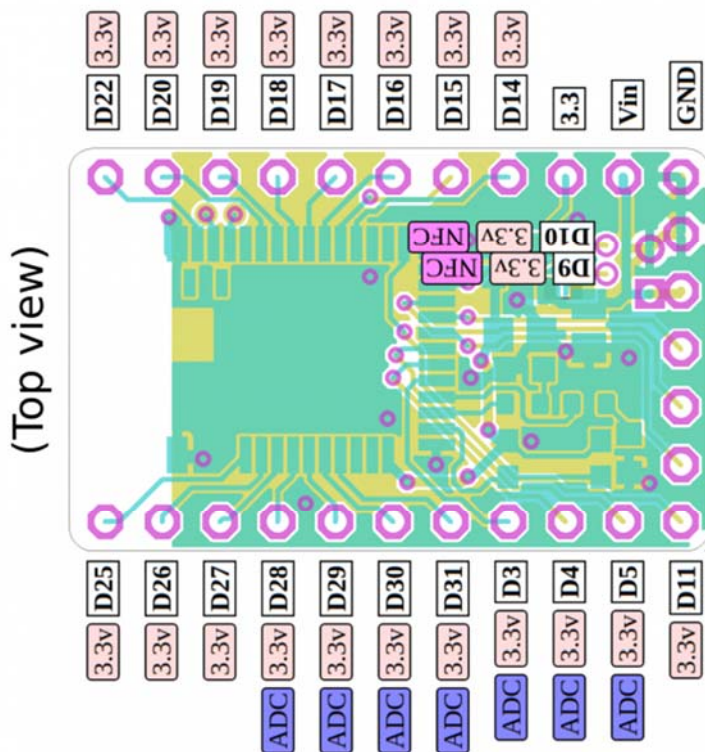
Once powered up follow the Getting Started Guide for details on getting the IDE connected wirelessly. You can also use a wired connection if you prefer.

On-board peripherals

- There is a button (`BTN`/`BTN1`) between pin `D0` and 3.3v. Pulling this high on boot enables the bootloader.
- There is a LED (`LED`/`LED1`) between pin `D1` and `GND`. This is flashes at boot and also indicates bootloader mode.
  The breakout board also contains a green LED on pin D2. As of build 1v99 this isn't mapped to a built-in variable, but a simple `global.LED2=D2`command will add it.

Board 1 (top)

GND .V+ 3.3v D14 D15 D16 D17 D18 D19 D20 D22

D07+ RX TX D5 D4 D3 D31 D30 D29 D28 D27 D26 D25 D11

MDBT42Q Breakout

espruino.com/MDBT42Q

F009640

Board 2 (bottom)

GND V+ 3.3v D14 D15 D16 D17 D18 D19 D20 D22

Raytac Corporation
FCC ID: SH6MDBT42Q
IC: 8017A-MDBT42Q
CMIIT ID: 2016DJ4571
Model No.: MDBT42Q

CE

201-160486

HUPG

18A

18A

D07+ RX TX D11 D5

U4

D25 D26 D27 D28 D29 D30 D31 D3

(Top view)

Top pins (left to right): D22 3.3v | D20 3.3v | D19 3.3v | D18 3.3v | D17 3.3v | D16 3.3v | D15 3.3v | D14 3.3v | 3.3 | Vin | GND

Inner labels: NFC NFC | 3.3v 3.3v | D10 D9

Right side pins:
GND
Vin
D7 3.3v
D8 3.3v ! USART1 RX
D6 3.3v ! USART1 TX

Bottom pins (left to right): D25 | D26 | D27 | D28 | D29 | D30 | D31 | D3 | D4 | D5 | D11
3.3v | 3.3v | 3.3v | 3.3v | 3.3v | 3.3v | 3.3v | 3.3v | 3.3v | 3.3v | 3.3v
ADC | ADC | ADC | ADC | ADC | ADC | ADC

Get started at:
http://s.espruino.com

Any questions?
http://forum.espruino.com

Quick Reference

```
// LED on
digitalWrite(LED,1);
// Read a digital input
digitalRead(D14);
// Read an analog input
analogRead(D5);
// Output PWM to a pin
analogWrite(LED, 0.1, { freq: 100 });
// Toggle LED when button pressed
setWatch(()=>LED.toggle(), BTN, {repeat:true});
// Execute after a delay
setTimeout(function() { }, 1000/*ms*/);
// Execute repeatedly
setInterval(function() { }, 2000/*ms*/);
// Show all Bluetooth devices in range
NRF.findDevices(devices=>{
  print(devices.map(d=>d.name||d.id));
},1000);
// SPI
SPI1.setup({miso:A, mosi:B, sck:C});
SPI1.send([1,2,3]);
// I2C
I2C1.setup({scl:A, sda:B});
I2C1.writeTo(addr, [1,2,3]);
I2C1.readFrom(addr, 5/*bytes*/);
// Serial
Serial1.setup(9600, {rx:A, tx:B});
Serial1.on('data', print);
Serial1.write("Hello World");
```

Espruino
MDBT42Q

https://shop.pimoroni.com/products/mdbt42q-breakout 8-20-18