1. General description

It's time to get Bluetooth 4.0 into your project, together with your phone! For aficionados of smart devices and wearables, now you can go further than hacking things bought in the market to building your own prototype out of garage. The BLEduino board is first of its kind in intergrating BT 4.0(BLE) module into Arduino Uno, making it an ideal prototyping platform for both software and hardware developers to go wireless. You will be able to develope your own smart bracelet,smart pedometer and more. Through the low- power Bluetooth 4.0 technology, real-time low energy communication can be made really easy. The BLEduino integrates with a TI CC2540 BT 4.0 chip with the Arduino UNO development board. It allows wireless programming via BLE, supports Bluetooth HID, supports AT command to config the BLE, and you can upgrade BLE firmware easily. The BLEduino is also compatible with all Arduino Uno pins which means any project made with Uno can directly go wireless! Whatsmore, we also developed the App for the BLEduino (both Android and IOS), and they are completely opensource, so that you can modify and develope your own BLE-hardware platform. Below is a quick demo video covering some of the major features of BLEduino with the help of an Accessory Shield for BLEduino, which will also be available very soon. In short, you can use BLEduino with any Bluetooth 4.0 compatible devices and enjoy features such as wireless transmission, master and slave settings, wireless burning, and even establishing a Bluetooth HID connection with the PC

Note: For the demo application and arduino code, we integrated elecfreaks wireless libraries for the beginners. The idea is supplying a simple way for you to use wireless modules without learning the wireless comunication protocol.However, for the developer, recommend to custom or choose the protocol according to the product features or the application.

2. Features

- On-board BLE chip: TI CC2540
- Transmission range: more than 70m
- Support Bluetooth HID
- Support iBeacons
- Support AT command to config the BLE
- Transparent communication through Serial
- master-slave one, arbitrary switching
- Easy to use BLE firmware updating
- Microcontroller: Atmega328
- Bootloader: Arduino Uno
- Compatible with the Arduino Uno pin mapping
- Immersion Gold Technology
- DC Supply: USB Powered or External 7V~12V DC
- Size: 85mm*53mm

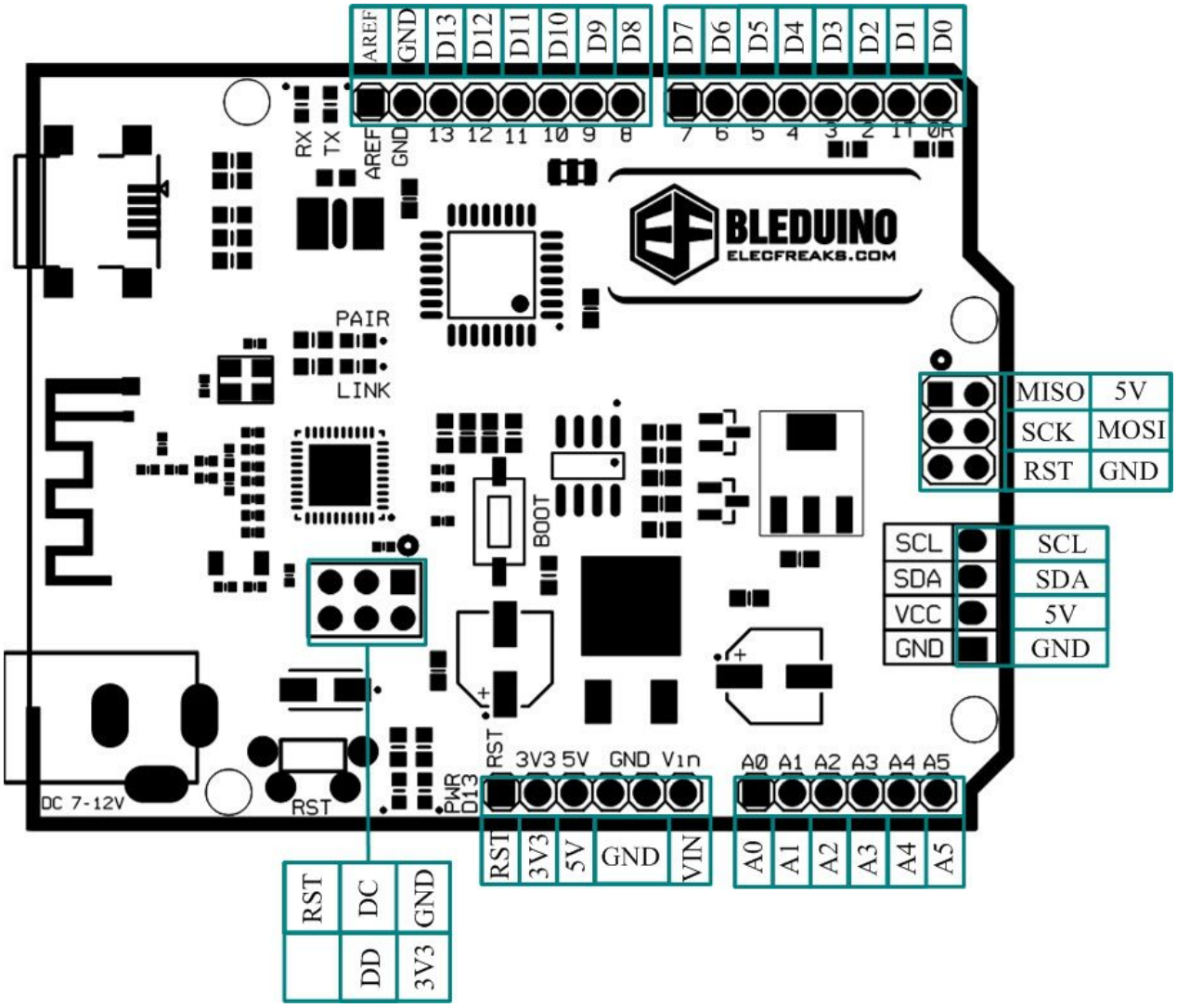
3. Application

- POS system, Bluetooth keyboard, Mouse, Gamepad
- Industrial remote control, telemetry
- Automotive testing equipment
- Portable, battery-powered medical equipment
- Automated data collection
- Bluetooth remote control toys
- Wireless LED Display System between devices.
- Bluetooth Printer
- Smart home, industrial control

4. Electronic characteristics

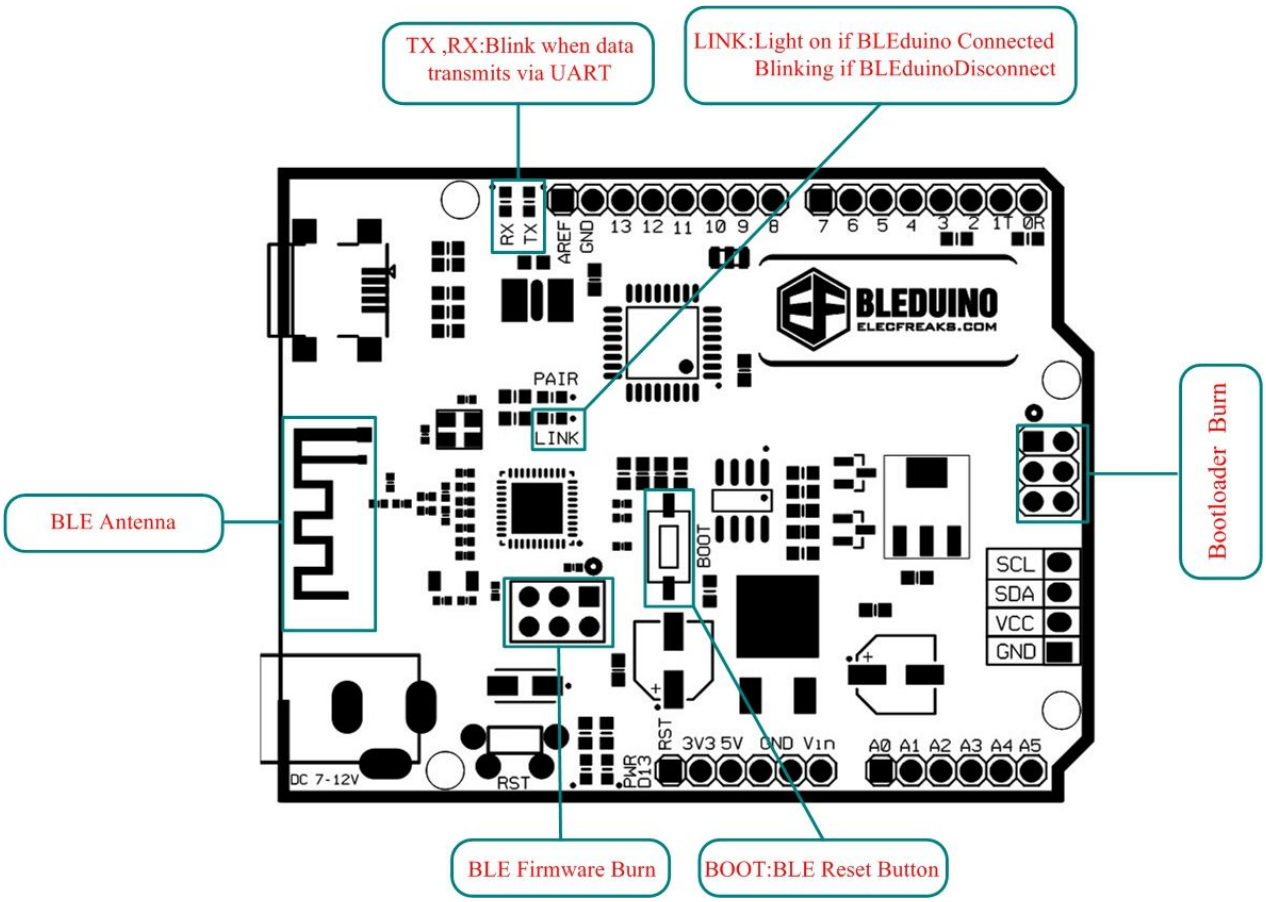
PARAMETER	MIN	TYP	MAX	UNIT
Power Supply Voltage	3	-	3.5	V
Power Supply Current	1.5	100	350	mA
High-level input voltage	3	3.3	3.5	V
Low-level input voltage	-0.3	0	0.5	V

5. Pining information

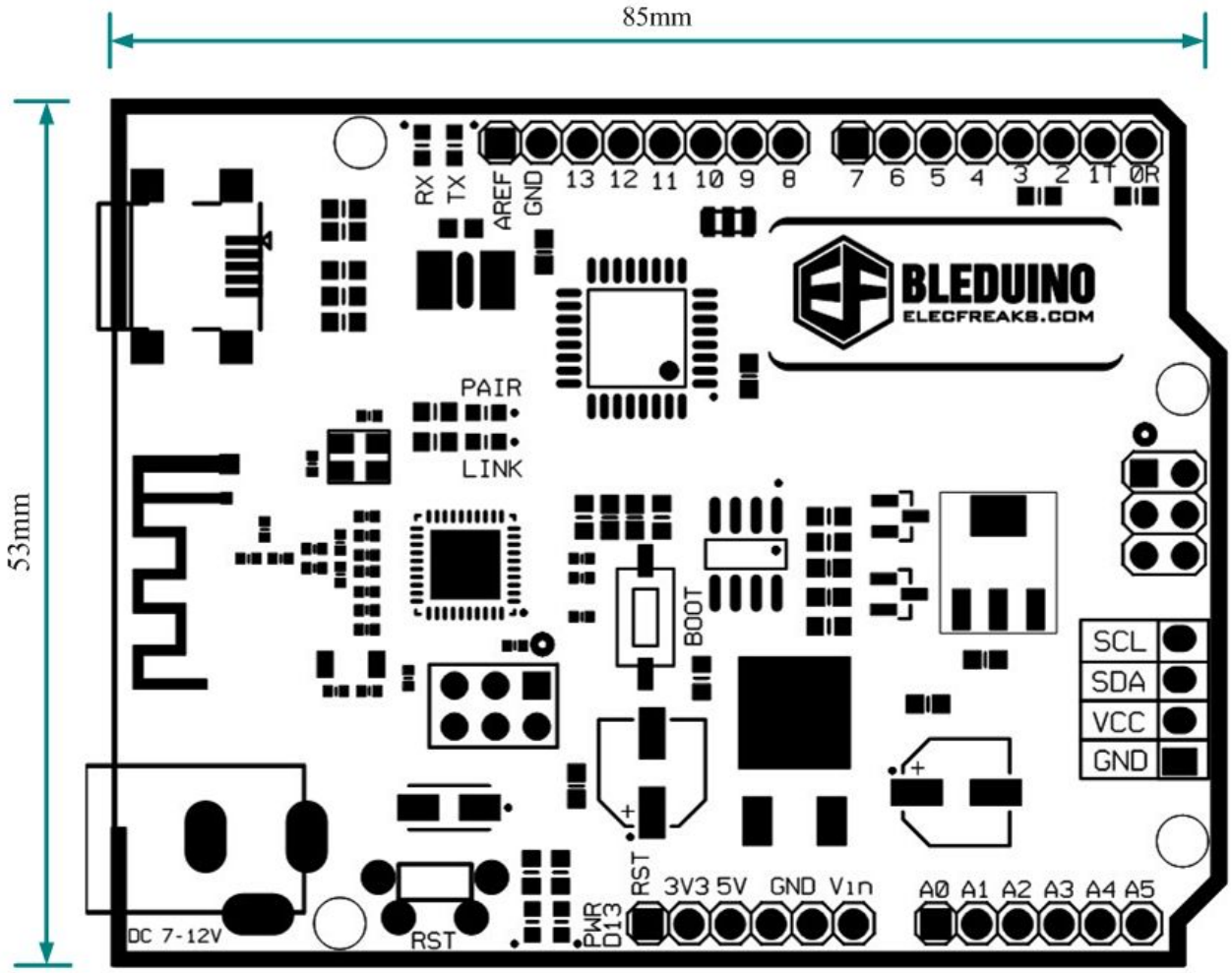


Type	Symbol	Explanation
	A0	Arduino Analogport A0
	A1	Arduino Analog port A1
	A2	Arduino Analog port A2
	A3	Arduino Analog port A3
	A4	Arduino Analog port A4 or IIC SDA
	A5	Arduino Analog port A5 or IIC SCL
	D0	Arduino Digital port RX
	D1	Arduino Digital port TX
	D2	Arduino Digital port D2
	D3	Arduino Digital port D3
	D4	Arduino Digital port D4
	D5	Arduino Digital port D5
	D6	Arduino Digital port D6
Arduino pin	D7	Arduino Digital port D7
	D8	Arduino Digital port D8
	D9	Arduino Digital port D9
	D10	Arduino Digital port D10
	D11	Arduino Digital port D11
	D12	Arduino Digital port D12
	D13	Arduino Digital port D13
	AREF	Arduino Digital port D14
	RST	Arduino Rest port
	GND	Power Ground
	VIN	External power input
	3V3	3.3V power supply
	5V	5 V power supply
	RST	CC2540 Rest port
	DC	CC2540 DC port
BLE4.0 Pin	DD	CC2540 DD port
	3V3	CC2540 3.3V power supply
	GND	Power Ground

6. Interface description



7. Dimension



8. Revision history

REVISION	DESCRIPTION	RELEASE DATE
V1.2	Initial version	9/19/2014

9. Contact information

If you need more information, please refer to : http://www.elecfreaks.com