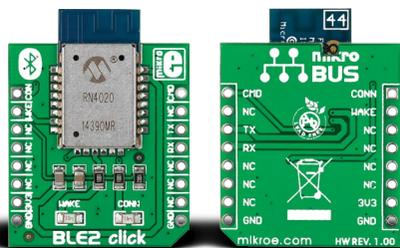




## BLE2 click™

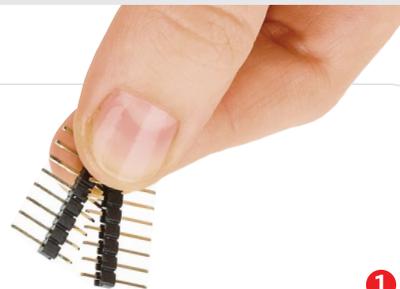
### 1. Introduction



BLE2 click™ is a simple solution for adding **Bluetooth 4.1** to your design. Alternatively known as Bluetooth Low Energy (BLE) or Bluetooth smart, Bluetooth 4.1 provides a similar communication range and performance of Bluetooth Classic, but with reduced energy expenditure. BLE2 click™ carries the **RN4020 module**, with a complete Bluetooth stack onboard. BLE 2 communicates with the target board microcontroller through **mikroBUS™** RX, TX and PWM (here, CMD) lines, AN (con.) and RST (wake). The board is designed to use a 3.3V power supply only.

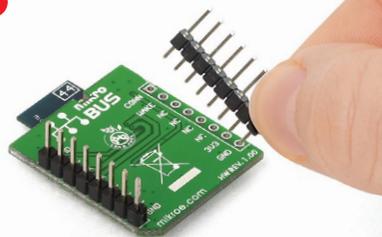
### 2. Soldering the headers

Before using your click™ board, make sure to solder 1x8 male headers to both left and right side of the board. Two 1x8 male headers are included with the board in the package.



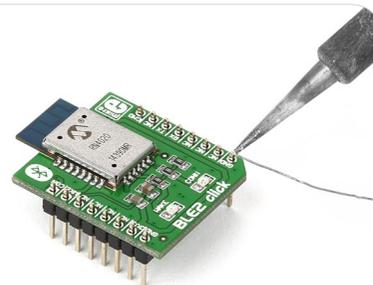
1

2

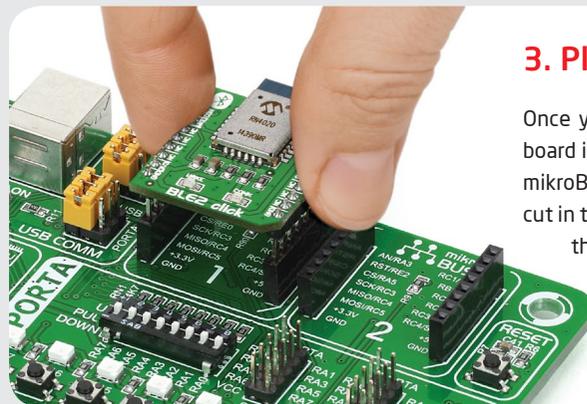


Turn the board upside down so that the bottom side is facing you upwards. Place shorter pins of the header into the appropriate soldering pads.

3

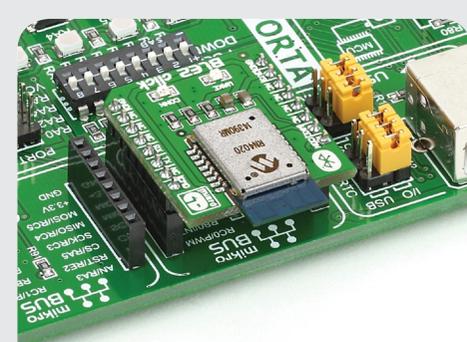


Turn the board upward again. Make sure to align the headers so that they are perpendicular to the board, then solder the pins carefully.



### 3. Plugging the board in

Once you have soldered the headers your board is ready to be placed into the desired mikroBUS™ socket. Make sure to align the cut in the lower-right part of the board with the markings on the silkscreen at the mikroBUS™ socket. If all the pins are aligned correctly, push the board all the way into the socket.



### 4. Essential features

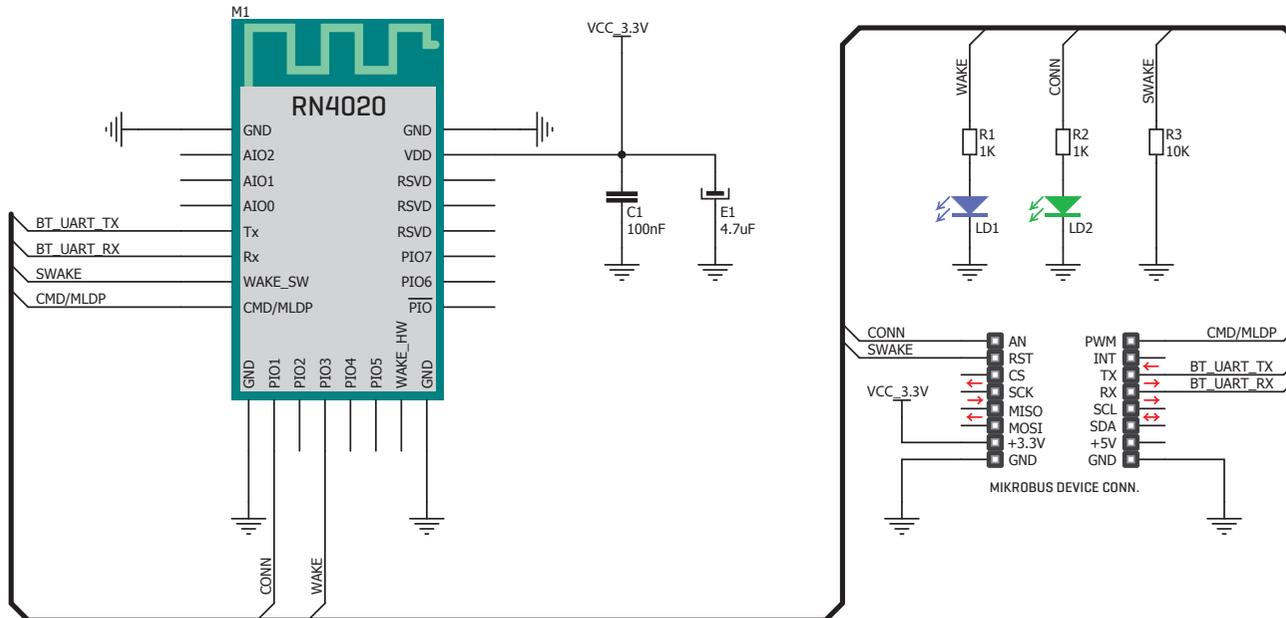
The RN4020 Bluetooth module aboard BLE2 click™ can act both as a client or a server. It supports 13 public profiles and 17 public services, including the **MicroChip Low-energy Data Profile (MLDP)** which enables an asynchronous serial data connection between two RN4020 devices (which could be two BLE2 clicks). To enter MLDP, set the CMD pin to high. The conn. pin outputs a high when connected to a peer device. The wake pin, when set at high, wakes up the module and sets it into Active mode. BLE2 click™ also supports user-defined profiles.



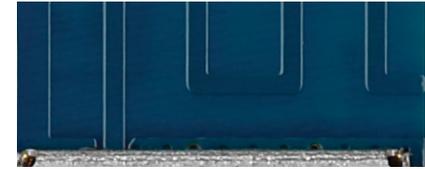
BLE2 click™ manual  
ver 1.01

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## 5. BLE2 click™ board schematic



## 6. PCB antenna



The RN4020 module aboard BLE2 click™ incorporates a **PCB antenna** with a range of at least 30m.

## 7. Code examples

Once you have done all the necessary preparations, it's time to get your click™ board up and running. We have provided examples for mikroC™, mikroBasic™ and mikroPascal™ compilers on our **Libstock** website. Just download them and you are ready to start.



## 8. Support

MikroElektronika offers **free tech support** ([www.mikroe.com/support](http://www.mikroe.com/support)) until the end of the product's lifetime, so if something goes wrong, we're ready and willing to help!