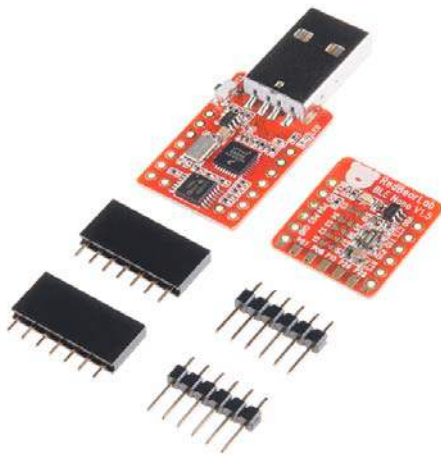# sparkfun

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Export Restrictions

This product has some level of export control/restriction, so may be delayed by 2-3 business days when shipping outside the United States. Contact us with questions, or we will contact you after you place your order.

RedBearLab BLE Nano Kit - nRF51822

WRL-13730

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Description: The BLE Nano from RedBearLab is the smallest Bluetooth 4.1 Low Energy (BLE) development board in the market and with the included MK20 USB in this kit you'll be able to deploy firmware to BLE Nano even easier. At each BLE Nano's core is a Nordic nRF51822, an ARM Cortex-M0 SoC plus BLE capable of running at 16MHz with ultra low power consumption. The RedBearLab BLE Nano also supports numerous different wireless devices running iOS 7/8, Android 4.3 or higher, and Windows Phone 8.1.

The MK20 board functions as a USB dongle, accepting 5V from the USB port and regulating it to 3.3V via the onboard LDO which can be used to power RedBearLab BLE Nano. When plugged into your computer the USB Board will appear as both a serial port and a removable mass storage disk. Please refer to the Getting Started guide in the *Documents* section below to learn how to deploy firmware using MK20 USB board.

Developing a Bluetooth Smart enabled 'appcessory' (accessory device + companion application) is easier than ever. You can quickly produce prototypes and demos targeted for Internet of Things (IoT) and other interesting projects. The RedBearLab BLE Nano can operate under 1.8V to 3.3V, making it able to work in conjunction with a wide variety of electronic components. It should be noted that the RedBearLab BLE Nano can accept 3.3V to 13V from the VIN pin, however voltage will be regulated to

3.3V via the on-board LDO regulator due in part to the nRF51822 IC. Since the RedBearLab BLE Nano can work as low as 1.8V, the MK20 USB board has been designed to run at 1.8V as well. All you need to do to get the USB board to run at 1.8V as well is just short the switch S, then the regulator will output 1.8V instead, allowing your Nano to work with applicable components.

Note: The RedBearLab BLE Nano Kit includes two 1x6 male and female headers that can be soldered on after purchase for easy interface. Additionally, you can find a complete pin-out for these boards on the Product Page link found in the *Documents* section below.

Includes:

- 1x RedBearLab BLE Nano
- 1x MK20 USB Board
- 2x Header - 1x6 (Male, 0.1")
- 2x Header - 1x6 (Female, 0.1")

Features:

- Smallest BLE development board, only 18.5mm x 21.0mm
- Nordic nRF51822 ARM Cortex-M0 SoC supports both BLE Central and BLE Peripheral roles
- 2.4 GHz transceiver
- Ultra low power consumption
- Support voltage from 1.8V to 3.3V
- Software development using mbed.org, GCC, Keil or Arduino
- Lots of libraries and examples available
- Easy firmware deployment with the MK20 USB board
- Work with our free Android App and iOS App