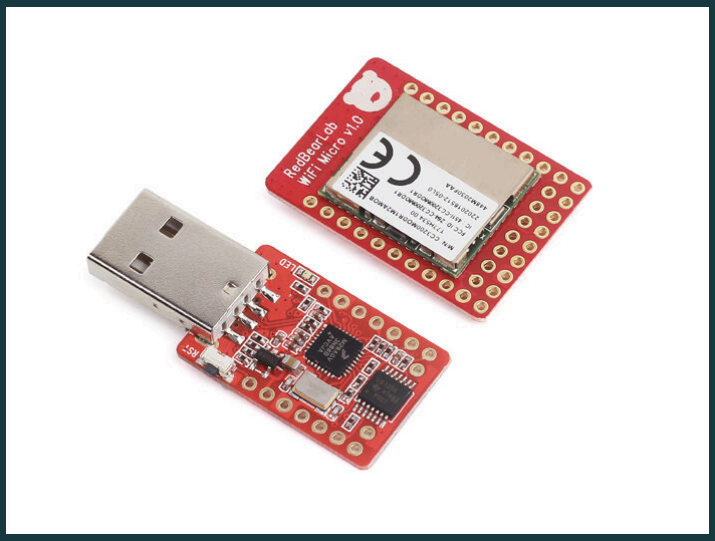
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INDUSTRIAL PRODUCT DATASHEET

Wi-Fi Micro Kit

Wi-Fi Micro Kit: Rapid IoT prototyping with TI CC3200 single-chip Wi-Fi MCU and Energia IDE support.

SKU	UPDATED	PRICE
114990337	2024-08-09 01:54:46	$20.00(Excl. VAT)



Overview



The RedBearLab Wi-Fi Micro Kit features the TI CC3200 module, an industry-first single-chip ARM Cortex-M4 MCU with built-in Wi-Fi connectivity, enabling rapid IoT prototyping without prior Wi-Fi experience. The kit includes an MK20 USB board for power and programming, supports multiple cloud platforms, and offers low-power operation with hibernate current under 1μA.

Key Features

The RedBearLab Wi-Fi Micro is made based on CC3200 module by Texas Instruments (TI). The target MCU is TI CC3200, the industry's first single-chipARM Cortex-M4 core MCU with built-in Wi-Fi connectivity. With on-chip Wi-Fi, Internet, and robust security protocols, no prior Wi-Fi experience is required for faster development. They are offered to make you quickly produce prototypes and demos target for not only Internet of Thing (IoT) but also many other exciting and interesting projects. Such as Wi-Fi camera, Wi-Fi Audio, TFTP Client, TCP/IP OR UDP Server/Client, Http Server, XMPP Client, mDNS, etc.

Features：

- TI CC3200 Dual core MCU: An ARM Cortex-M4 core at 80 MHz for application and a dedicated ARM core for Wi-Fi Network Processing
- Industry's first sully certified Wi-Fi module including FCC, IC, CE, ETSI, TELEC, and Wi-Fi Alliance
- Easy Wi-Fi setup using TI'S Smart Config, Soft AP or WPS2
- Over the Air (OTA) download application firmware from other Wi-Fi device or Internet
- A lot of application examples provide by TI
- TI-RTOS and Free-RTOS supported
- Wide range of supply voltages and low-power consumption, less than 1uA current in hibernate mode
- IoT Cloud platform integration ready including 2lemetry, Arrayent, Exosite, IBM, Temboo & Xively
- You can program our boards with Arduino like syntax using Energia, an open-sourceed version of the Arduino IDE for TI MCU

This is with MK20 USB board version, if you need it, please visit **Wi-Fi Micro**.

CC3200 Wi-Fi consists of applications microcontroller, Wi-Fi network processor, and power-management subsystems:

Applications Microcontroller Subsystem

- ARM Cortex-M4 Core at 80 MHz
- 256KB RAM, 1MB serial flash memory with file system for user
- Hardware Crypto Engine for advanced fast security, including AES, DES, 3DES, SHA2 MD5, CRC and Checksum
- Up to 27 individually programmable, multiplexed GPIO pins, including a fast parallel camera interface, I2S, SD/MMC, UART, SPI, I2C, and dour-channel ADC

Wi-Fi Network Processor Subsystem

- Dedicated ARM MCU, completely offloads Wi-Fi and Internet protocols from the applications microcontroller
- 802.11 b/g/n radio
- WPA2 personal and enterprise security
- Station, access point, and Wi-Fi direct modes
- Powerful crypto engine for fast, secure Wi-Fi and internet connections with 256 bit AES encryption for TLS and SSL connections
- SmartConfig technology, AP mode and WPS2 for easy and flexible Wi-Fi provisioning

The power-management subsystem includes integrated DC-DC converters supporting a wide range of supply voltages. This subsystem enables low-power consumption modes, such as the hibernate with RTC mode requiring less than 7uA of current.

Specification:

MK20 USB Board

The MK20 (Freescale MK20DX128VFM5) USB board acts as a dongle, it accepts 5V from USB port and regulates to 3.3V via the onboard LDO which can be used to power BLE Nano. It appears on your computer as both a serial port and a removable mass storage disk. Please refer to the guide Getting Started with BLE Nano to learn how to deploy firmware using MK20 USB board.

Since the BLE Nano can work as low as 1.8V, we have designed the MK20 USB board to run at 1.8V as well, simple short the switch S, then the regulator will outputs 1.8V instead. This would allow your BLE Nano to work with 1.8V components.

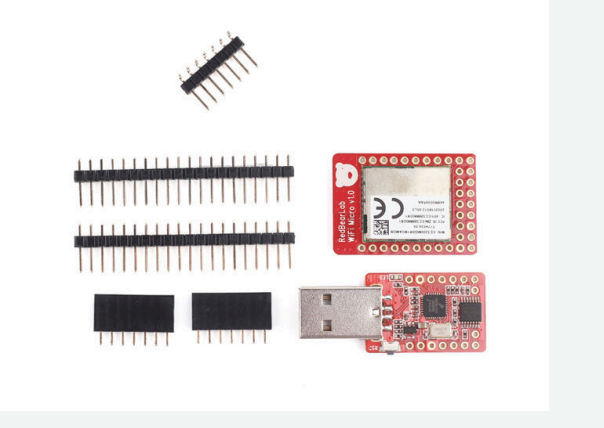
Part List:

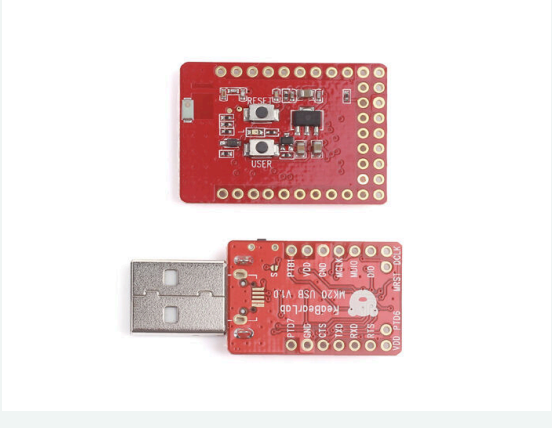
- Wi-Fi Micro x 1
- MK20 USB Board x 1

We have prepared a detail guide **Getting Started with RedBearLab Wi-Fi Micro** to show you how to upload firmware to Wi-Fi Micro using Energia IDE.

For any technical support or suggestion, please kindly go to this **forum**.

Product Gallery





Part List

Microcontroller	TI CC3200
Operating Voltage	2.3V to 3.6V
Input Voltage	A: 2.3V - 3.6V B: 3.3V - 5.5V (VIN) Cause: Use either one power source at a time, otherwise you will damage the board.
Clock Speed	80MHz
Connectivity	Wireless LAN (802.11 b/g/n @2.4GHz) Micro USB (CDC, virtual COM port) Serial (TX/RX) I2C SPI Parallel Camera I2S SD/MMC
Flash Memory	1MB (External Flash in Module)
I/O Pins	27

Compliance & Logistics

HSCODE	8517709000

FCC Requirement

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

15.21

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy.

If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Resource Links

- https://www.seeedstudio.com/Wi-Fi-Micro-Kit-p-2564.html

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