


Bluetooth v4.1 (BLE) SMART SOC IoT 1Mbps 3.3V Tray

Manufacturer:	Microchip Technology, Inc
Package/Case:	MODULE
Product Type:	RF Integrated Circuits
RoHS:	RoHS Compliant/Lead free 
Lifecycle:	NRND



Images are for reference only

[Inquiry](#)

General Description

Important Note: The Bluetooth SIG has deprecated Bluetooth 4.1 specification as of January 28, 2019. New and existing designs with the RN4020 are unaffected. The Bluetooth SIG has also set the withdrawal date as February 2, 2023. Once the specification has been withdrawn, Bluetooth SIG will not qualify any new designs. *Existing designs will be unaffected* Check out the Bluetooth SIG site for additional details [HERE](#). Firmware version 1.33 is the latest production firmware version available for the RN4020. To receive the latest firmware version 1.33, please order part number RN4020-V/RMBEC133. RN4020-V/RM123 – FW v1.23 Not recommended for new designs, please consider the RN4020-V/RMBEC133. RN4020-V/RM120 – FW v1.20 Not recommended for new designs, please consider the RN4020-V/RMBEC133. RN4020-V/RM – FW v1.10 Not recommended for new designs, please consider the RN4020-V/RMBEC133. For more information about firmware version 1.33, please see the Release Notes. The RN4020 is a fully-certified, Bluetooth Version 4.1 low energy module for designers who want to easily add low power wireless capability to their products. The small form factor, surface mount module has the complete Bluetooth stack on-board and is controlled via simple ASCII commands over the UART interface. The RN4020 also includes all Bluetooth SIG profiles, as well as MLDP (Microchip Low-energy Data Profile) for custom data. Developers can utilize the scripting feature to enable standalone operation without a host MCU or Processor. The RN4020 can be remote controlled by another module over a secure connection and can be updated via the UART interface or over-the-air. The RN4020 has a built-in high performance PCB antenna optimally tuned for long range, typically over 100 meters. The compact size, 11.5 x 19.5 x 2.5mm, enables ease of integration in size-constrained applications. The RN4020 can be used with any low cost microcontroller for intelligent Bluetooth Low Energy applications. The RN4020 is fully-certified, has the complete Bluetooth stack on-board the module, and is controlled via a simple ASCII UART interface, making it a true drop-in solution that is easy to use, and easy to prototype, greatly speeding time to market. [Click here to see the PIC24 XLP Bluetooth LE IoT Demo with RN4020 module and PIC24FJ128GB204 MCU!](#) Available iOS Applications for the RN4020: Bluetooth Smart Discover Microchip's Smart Discover for iPhone or iPad provides the ability to scan and connect to nearby Microchip Bluetooth Low Energy (BLE) peripherals, listen to BLE broadcasters and more. Bluetooth Smart Data Microchip's Smart Data provides the ability to scan, connect and exchange data between an iPhone or iPad and the RN4020 with Microchip's Low Energy Data Profile (MLDP). Android source code is available for the RN4020. Contact your local sales office to request free source code. For the latest firmware details and corresponding part numbers, please visit: www.microchip.com/wirelessfirmware

Key Features

Fully-certified Bluetooth® version 4.1 module

On-board embedded Bluetooth low energy stack

Simple ASCII command interface over UART

Multiple IOs for control and status

Secure AES128 encryption

GAP,GATT,SM, L2CAP and integrated public profiles

Create custom services using command API

Data streaming with Microchip's Low Energy Data Profile (MLDP)

Scripting for standalone module operation with analog and digital data collection

7 dBm transmit power for 100m+ range

Field-upgradeable via the UART interface or over-the-air

Software configurable role as peripheral or central, client or server

Compact form factor 11.5 x 19.5 x 2.5mm

Low power modes

UART interface, GPIO, ADC

64KB internal serial flash

Castellated SMT pads for easy and reliable PCB mounting

Environmentally friendly, RoHS compliant

Certifications: FCC, IC, CE, QDID

Recommended For You

RN171-I/RM

Microchip Technology, Inc
MODULE

RN42-I/RM630

Microchip Technology, Inc
MODULE-35

RN42XVP-I/RM

Microchip Technology, Inc
MODULE-20

RN4870-V/RM118

Microchip Technology, Inc
MODULE-33

RN171XVU-I/RM

Microchip Technology, Inc
MODULE-20

RN42N-I/RM

Microchip Technology, Inc
MODULE

RN42-I/RM

Microchip Technology, Inc
35-SMD

RN131C/RM

Microchip Technology, Inc
Module

RN2483A-I/RM105

Microchip Technology, Inc
MODULE

RN4871U-V/RM118

Microchip Technology, Inc

MODULE-17

RN1723-I/RM100

Microchip Technology, Inc

Module

RN4870-I/RM130

Microchip Technology, Inc

MODULE

RN42HID-I/RM

Microchip Technology, Inc

MODULE-35

RN52-I/RM116

Microchip Technology, Inc

Module

RN42SM-I/RM

Microchip Technology, Inc

MODULE-35