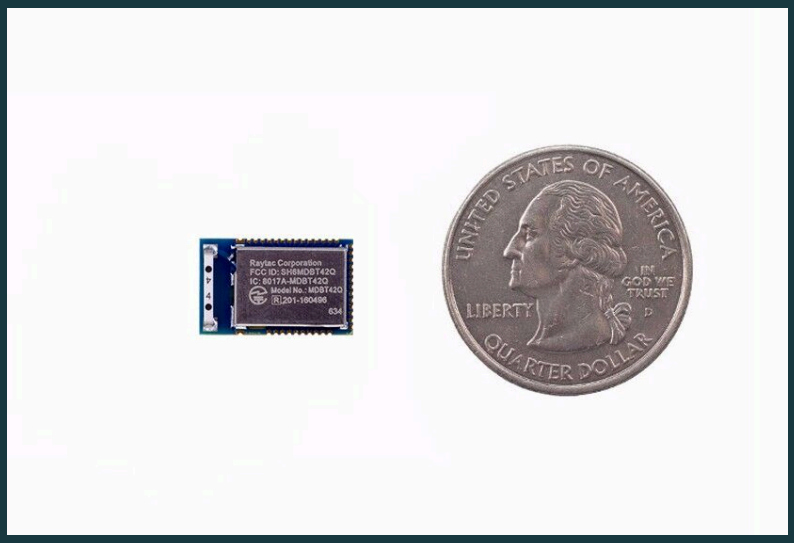
seeed studio

INDUSTRIAL PRODUCT DATASHEET

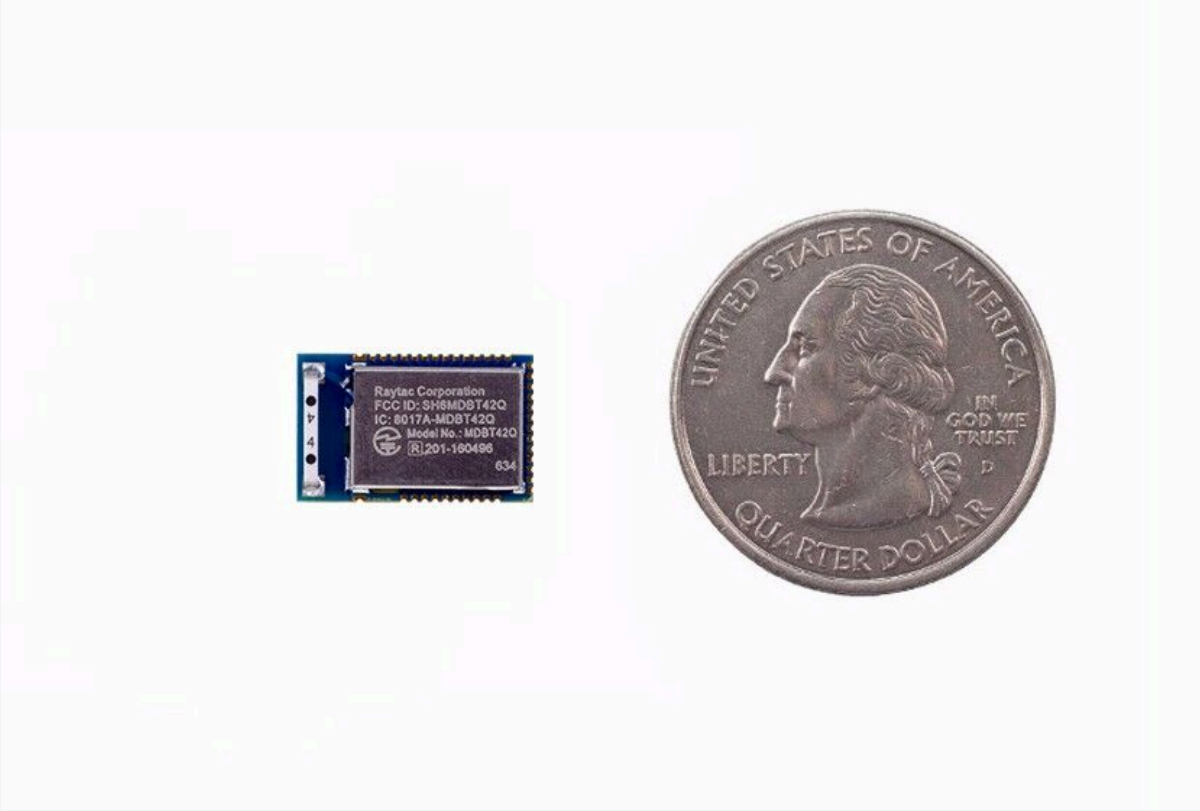
MDBT42Q - nRF52832 based BLE module

MDBT42Q: nRF52832-based BLE module with dual BLE/2.4 GHz RF transmission, over 80 m range, compact 16 x 10 x 2.2 mm size, and low power consumption for IoT, home automation, and beacon applications.

SKU	UPDATED	PRICE
317030213	2026-10-23 03:11:37	$12.00(Excl. VAT)



Overview



The MDBT42Q is a BT 4.0/4.1/4.2 stack Bluetooth low energy (BLE) module based on the Nordic nRF52832 SoC, featuring dual transmission mode of BLE and 2.4 GHz RF. It provides a compact 16 x 10 x 2.2 mm footprint, over 80-meter range in open space, low power consumption, and interfaces including GPIO, SPI, UART, I2C, I2S, PWM and ADC for peripherals and sensors in applications such as IoT, home automation, sensor networks, building automation, health/fitness devices, beacons, and computer peripherals.

Key Features

Note

Seeed fusion offers PCB/ PCBA manufacturing service for customized products based on MDBT42Q - Nordic nRF52832 based BLE module with an online instant quote and fast delivery. Furthermore, business users can enjoy a **free prototype** and engineer support as well. Click **here** to learn more!

MDBT42Q is a BT 4.0, BT 4.1 and BT 4.2 stack (Bluetooth low energy or BLE) module designed based on Nordic nRF52832 SoC solution, which incorporates: GPIO, SPI, UART, I2C, I2S, PWM and ADC interfaces for connecting peripherals and sensors.

Features

Dual Transmission mode of BLE & 2.4 GHz RF upon customer preference.

Long working distance: over 80 meters in open space

Compact size with (L) 16 x (W) 10 x (H) 2.2 mm.

Low power requirements, ultra-low peak, average and idle mode power consumption.

Be compatible with a large installed base of mobile phones, tablets and computers.

Fully coverage of BLE software stack. See 1.3 Profile & Service Information.

BLE & RF transmission switching helps products fit all operation system and most hardware.

Specification

- Multi-protocol 2.4GHz radio
- 32-bit ARM Cortex – M4F processor
- 512KB flash programmed memory and 64KB RAM
- Software stacks available as downloads
- Application development independent from protocol stack
- On-air compatible with nRF51, nRF24AP and nRF24L series
- Programmable output power from +4dBm to -20dBm
- RAM mapped FIFOs using EasyDMA
- Dynamic on-air payload length up to 256 bytes
- Flexible and configurable 32 pin GPIO
- Simple ON / OFF global power mode
- Full set of digital interface all with Easy DMA including:
- 3 x Hardware SPI master ; 3 x Hardware SPI slave
- 2 x two-wire master ; 2 x two-wire slave

- 1 x UART (CTS / RTS)
- PDM for digital microphone
- I2S for audio
- 12-bit / 200KSPS ADC
- 128-bit AES ECB / CCM / AAR co-processor
- Lowe cost external crystal 32MHz ± 40ppm for Bluetooth ; ± 50ppm for ANT Plus
- Lowe power 32MHz crystal and RC oscillators
- Wide supply voltage range 1.7V to 3.6V
- On-chip DC/DC buck converter
- Individual power management for all peripherals
- Timer counter
- 5 x 32-bit
- 3 x 24-bit RTC
- NFC-A tag interface for OOB pairing
- Granted main regional certification such as FCC (USA), CE (Europe), IC (Canada), TELEC (Japan), KCC (Korea), SRRC (China), and NCC (Taiwan)
- RoHS and REACH compliant

Application

IoT

- Home automation
- Sensor networks
- Building automation

Personal Area Networks

- Health / fitness sensor and monitor device
- Medical devices
- Key-fobs and wrist watches

Interactive entertainment devices

- Remote control
- Gaming controller

Beacons

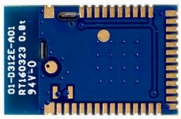
- A4WP wireless chargers and devices
- Remote control toys

Computer peripherals and I/O devices

- Mouse
- Keyboard
- Multi-touch trackpad

Product Gallery





Part List

MDBT42Q BLE module	1

Compliance & Logistics

HSCODE	8517709000
USHSCODE	8517620090
UPC	841454119364
EUHSCODE	8517180000
COO	TAIWAN,CHINA

Resource Links

- https://www.seeedstudio.com/MDBT42Q-nRF52832-based-BLE-module.html
- Datasheet
- FCC document
- IC document
- TELEC document
- KCC document
- SRRC document
- NCC document

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