

## MDBT42Q - nRF52832 based BLE module

Part Number: 317030213

### Overview:

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.



### Product Details:

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
  - Low cost external crystal 32MHz  $\pm$  40ppm for Bluetooth ;  $\pm$  50ppm for ANT Plus
  - Low 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.

**Technical Details:**

Dimensions	16mm x10mm x2.2mm
Weight	G.W 1.5g
Battery	Exclude

**Part List**

MDBT42Q BLE module	1
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**ECCN/HTS**

HSCODE	8517709000
USHSCODE	8517180050
UPC	841454121367