

BT52832QF-xx is a multi-protocol RF module using NORDIC SoC nRF52832 IC. This module is ideal for low-power wireless sensing device applications IoT such as home automation, building automation, industrial, and retail; Personal area networks like health/fitness sensors and monitor devices, Interactive entertainment devices, Beacons, Computer peripherals, and I/O devices, etc. The module has been designed to provide ultra-low power, low cost, and robust 2.4 GHz communications and is compliant with Bluetooth Version 5.x low energy (previously called Bluetooth Smart).

### FEATRES

#### 2.4 GHz transceiver

- -96 dBm sensitivity in *Bluetooth*® low energy mode
- 2 Mbps *Bluetooth*® low energy mode
- 1Mbps, 2Mbps supported data rates
- -20 to +4 dBm TX power in 4 dB steps
- Single-pin antenna interface
- 5.3 mA peak current in TX (0 dBm)
- 5.4 mA peak current in RX
- RSSI (1 dB resolution)

#### Flexible power management

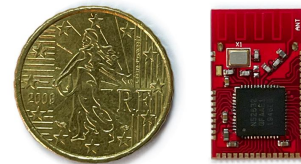
- 1.7 V–3.6 V supply voltage range
- Fully automatic LDO and DC/DC regulator system
- Fast wake-up using 64 MHz internal oscillator
- 0.3  $\mu$ A at 3 V in System OFF mode
- 0.7  $\mu$ A at 3 V in System OFF mode with full 64 kB RAM retention
- 1.9  $\mu$ A at 3 V in System ON mode, no RAM retention, wake on RTC

#### ARM® Cortex®-M4 32-bit processor with FPU, 64 MHz

- 215 EEMBC CoreMark® score running from flash memory
- 58  $\mu$ A/MHz running from flash memory
- 51.6  $\mu$ A/MHz running from RAM
- Data watchpoint and trace (DWT), embedded trace macrocell (ETM), and instrumentation trace macrocell (ITM)
- Serial wire debug (SWD)
- Trace port

#### Module Size

- BT52832QF: 18.5 (L) x 11.4 (W) x 2.0 (T) mm (with shielding case-option)
- BT52832QF-AA-P: 18.5 (L) x 11.4 (W) x 2.45 (T) mm (with shielding case-option)



### APPLICATIONS

#### Internet of Things (IoT)

- Home automation
- Sensor networks
- Building automation
- Industrial
- Retail

#### Personal area networks

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

## APPLICATIONS

Interactive entertainment devices

- Remote controls
- Gaming controllers

Beacons

- A4WP wireless chargers and devices
- Remote control toys

Computer peripherals and I/O devices

- Mouse
- Keyboard
- Multi-touch trackpad
- Gaming

## MAIN CHIP INFORMATION

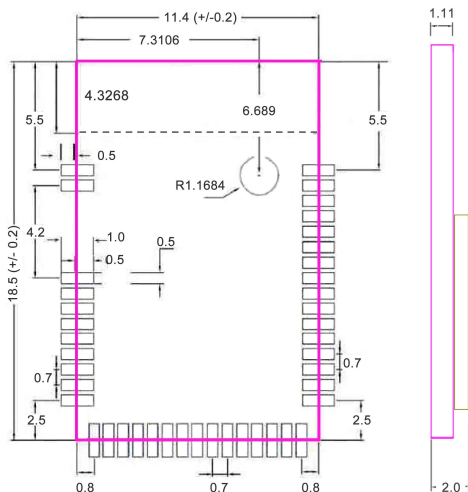
RF IC	Crystal Frequency
nRF52832-QFAA	32Mhz, 512ROM/ 64RAM
nRF52832-QFAB	32MHz, 256ROM/ 32RAM

## ORDERING INFORMATION

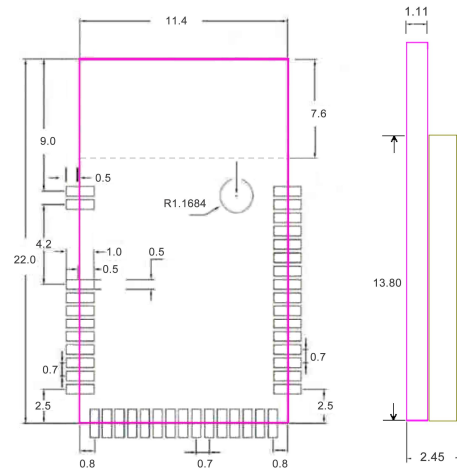
Part No.	Description
BT52832QF-AA	BLE5.X module with Flash 521K/ 64K RAM
BT52832QF-AB	BLE5.X module with Flash 256K/ 32K RAM
BT52832QF-AA-P	BLE5.X module with Flash 512K/ 64K RAM, PIFA antenna

## MODULE LAYOUT GUIDE & SIZE

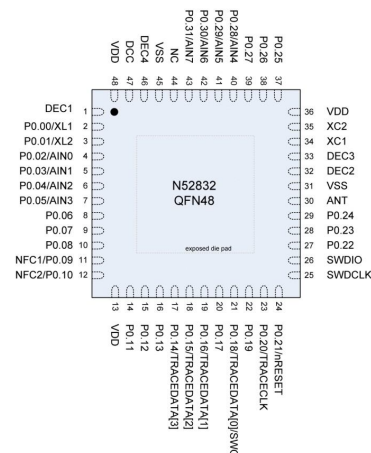
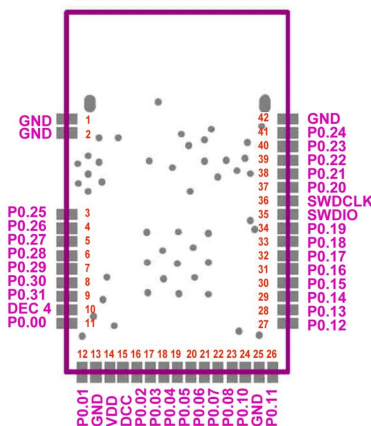
BT52832QF-xx (18.5 x 11.4 x 2.0mm)



BT52832QF-AA-P (18.5 x 11.4 x 2.45mm)



## PIN MAPPING & QFN48 PIN ASSIGNMENTS



\* Features and specification are subject to change without notice.