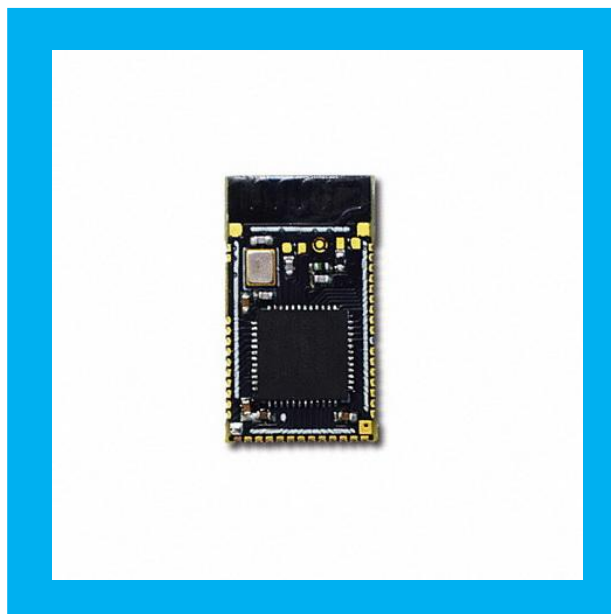




产 品 规 格 书

PRODUCT SPECIFICATION

SHENZHEN MINEW TECHNOLOGIES CO LTD



MODEL NO/DESCRIPTION

PRODUCT NAME: BLUETOOTH MODULE MS50SF3

Model:MS50SF3

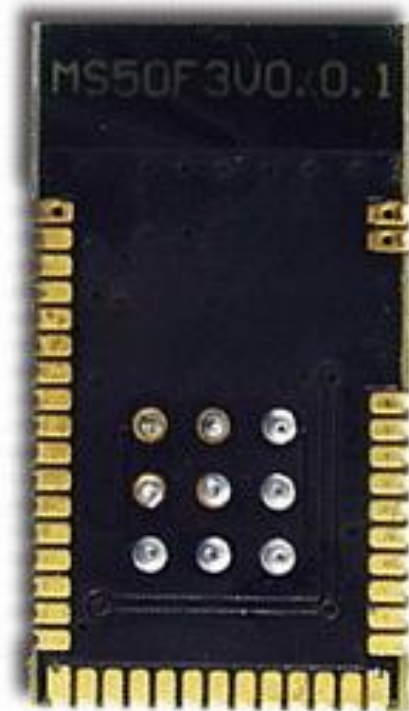
Version	2.2
Released Date	2017-5-4

1. Description

MS50SF3 is designed using Nordic nRF52832 patch Bluetooth 4.2 module. It is a cost-effective, low-power system-on-a-chip (Soc) solution for Bluetooth low-power applications that reduces the cost of building network nodes. It has an ARM core Cortex-M4F RF transceiver, MCU has faster speed, the kernel running speed of 64MHz, it can achieve more powerful computing power and floating-point computing technology, can achieve very complex algorithm. 512KB FLASH program space, 64KB RAM and other powerful supporting resources. It is suitable for low-power systems, ultra-low sleep current and low power consumption during operation.



Front



Back

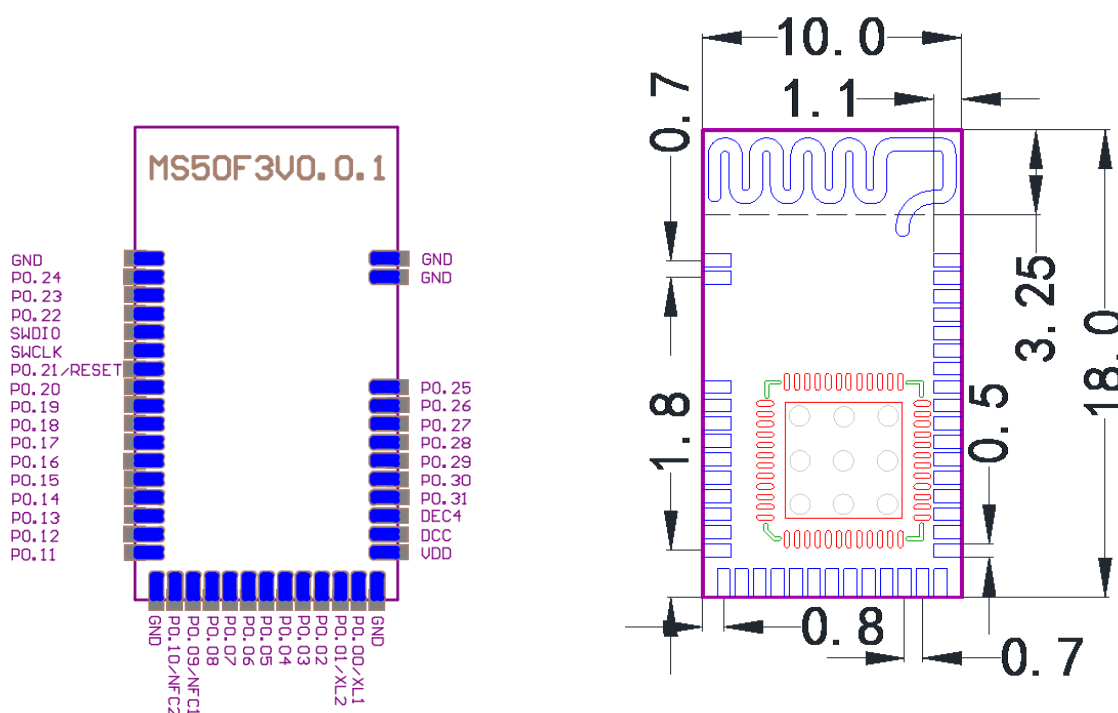
2. Features

- Bluetooth low power compatible technology
- Support for remote applications
- Accurate Received Signal Intensity Detection (RSSI)
- Complies with CE (European) and FCC (US) certification standards
- Contains high-performance ARM Cortex-M4F
- with AES security protocol processor

3. Application areas

- Low power Bluetooth system
- Mobile accessories
- Sports and fitness equipment
- Consumer electronics
- Human interface device
- health and medical care

4. Mechanical size (Unit: mm)



5. Pin definition

Pin symbol	Pin type	Definition
VDD	Power	Power supply
DCC	Power	DC/DC converter output pin
GND	Power	Ground
DEC4	Power	1V3 regulator supply decoupling. Input from DC/DC converter. Output from 1.3 V LDO
SWDIO	Digital I/O	Hardware debug and flash programming I/O
SWCLK	Digital input	Hardware debug and flash programming I/O
P0.00 to P0.31	Digital I/O	General purpose I/O pin
XL2	Analog output	Connection for 32.768 kHz crystal
XL1	Analog input	Connection for 32.768 kHz crystal or external 32.768 kHz
NFC1	NFC input	NFC antenna connection
NFC2	NFC input	NFC antenna connection
RESET	Digital input	Configurable as system RESET pin

6. Electrical parameters

Parameters	Value	Remarks
Voltage	1.8~3.6V	DC
Frequency	2400~2483MHz	Programmable
Frequency error	+/- 20KHz	Null
Transmission power	-20 ~ +4dBm	Programmable
Receiving sensitivity	-96dBm	High gain mode
Receive current	5.4mA	RX only run current(DCDC, 3V) 1Msps
Transmission current	7.5mA	Transmission power +4dBm, RX only run current(DCDC, 3V) 1Msps
	5.3mA	Transmission power 0dBm
Standby power consumption	<1uA	Power mode 3, connection-less
Remote control distance	50 meters	BER<0.1%, Open space
Antenna	50ohm	Null
Module size	18*10*2mm	Null

7. Supported devices

Supported the device system	Supported device model
iOS 7.0 and above	iPhone 4S, iPhone 5, iPhone 5S, iPhone 6, iPhone 6p, iPad 3, iPad mini, iPad air etc
Android 4.3 and above	Huawei, Xiaomi, OPPO, Meizu, VIVO, Samsung Galaxy S III, HTC One and etc.

8. Reference Circuit

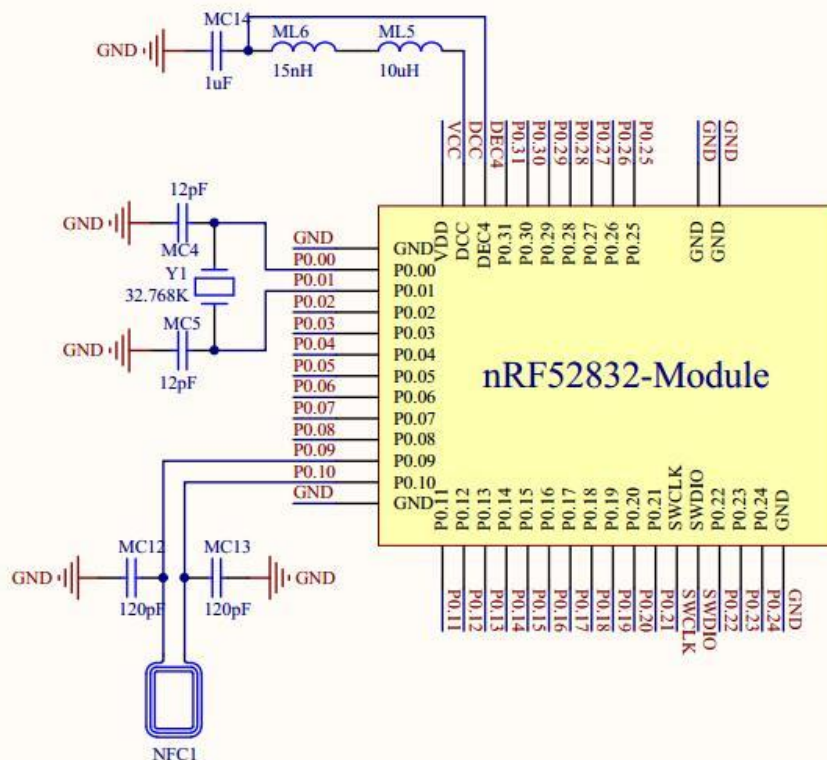
Module's default is using internal DC-DC mode.

REMARK:

When not using DC-DC mode, please remove ML5/ML6, must keep MC14

When not using NFC, please remove NFC1/MC12/MC13.

When using internal 32.768KHz RC oscillator, please remove Y1/MC4/MC5.



9. Quality assurance

Factories passed the ISO9001 quality system certification. Each product has been rigorously tested (transmit power test, sensitivity test, power test, stability test, aging test, etc.).

10. Note

- 1, the chip has CMOS devices, in the transport, the use of the process should pay attention to anti-static.
- 2, the device should be grounded to reduce the parasitic inductance.
- 3, as far as possible manual welding, for machine stickers, please control the reflow temperature should not exceed 205 degrees Celsius.
- 4, the module antenna below do not shop copper.
- 5, the antenna should be away from other circuits, to prevent radiation efficiency becomes low and affect the normal use of other circuits.
- 6, the module should be placed away from other low-frequency circuits, digital circuits.
- 7, the module's access power is recommended to use magnetic beads for isolation.

Statement: The contents of this manual are for reference only and are subject to change without notice. Minew technology has the final interpretation of the contents for this manual.

FCC Caution:

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

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

15.105 Information to the user.

(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

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 and, if not installed and used in accordance with the instructions, 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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

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

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination.

The firmware setting is not accessible by the end user.

The final end product must be labelled in a visible area with the following:

“Contains Transmitter Module 2ABU6-MS50SF3”

In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization