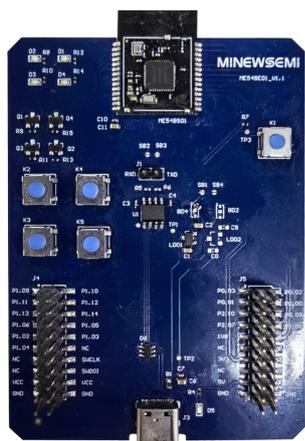


## Development Board ME54BE01



Datasheet  
V 1.0.0



## Version Note

| Version | Details    | Contributor(s) | Date       | Notes |
|---------|------------|----------------|------------|-------|
| 1.0.0   | First edit | Owen, Leo      | 2024.10.25 |       |
|         |            |                |            |       |
|         |            |                |            |       |

## Part Number

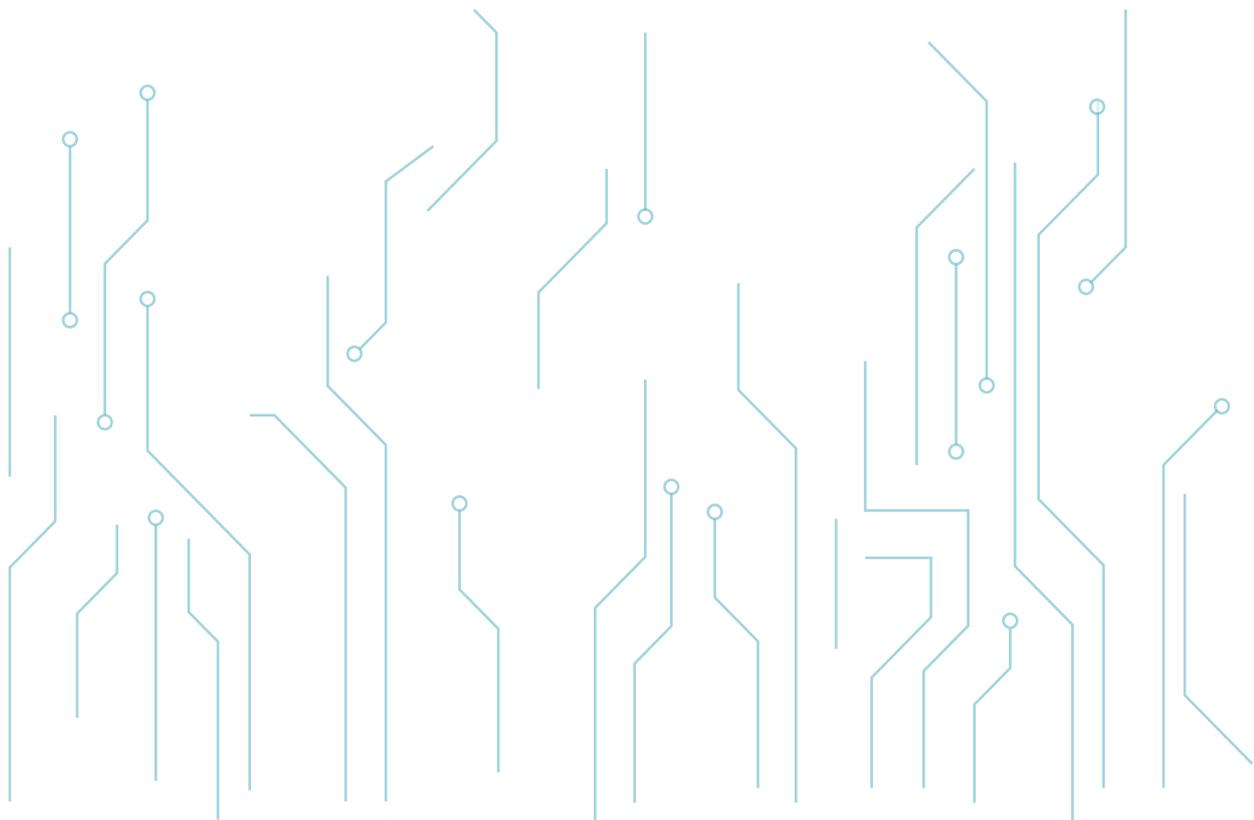
| Model    | Hardware Code |
|----------|---------------|
| ME54BE01 | -             |
|          |               |

Click the icon to view and download the latest product documents electronically.  
[https://en.minewsemi.com/file/Development\\_Board\\_ME54BE01\\_Datasheet\\_EN.pdf](https://en.minewsemi.com/file/Development_Board_ME54BE01_Datasheet_EN.pdf)



# INDEX

|   |    |
|---|----|
| 1 Overview .....                          | 04 |
| 2 ME54BE01 Function Identification .....  | 04 |
| 3 ME54BE01 Pin Definition .....           | 05 |
| 4 Applicable Modules Pin Definition ..... | 06 |
| 4.1 ME54BS01 Pin Definition .....         | 06 |
| 4.2 ME54BS03 Pin Definition .....         | 07 |
| 5 Electrical Schematic .....              | 07 |
| 6 Mechanical Drawing .....                | 08 |
| 7 Applicable Product Models .....         | 08 |
| 8 Storage Conditions .....                | 08 |
| 9 Handling Conditions .....               | 09 |
| 10 Quality .....                          | 09 |
| 11 Copyright Statement .....              | 09 |
| 12 Related Documents .....                | 09 |



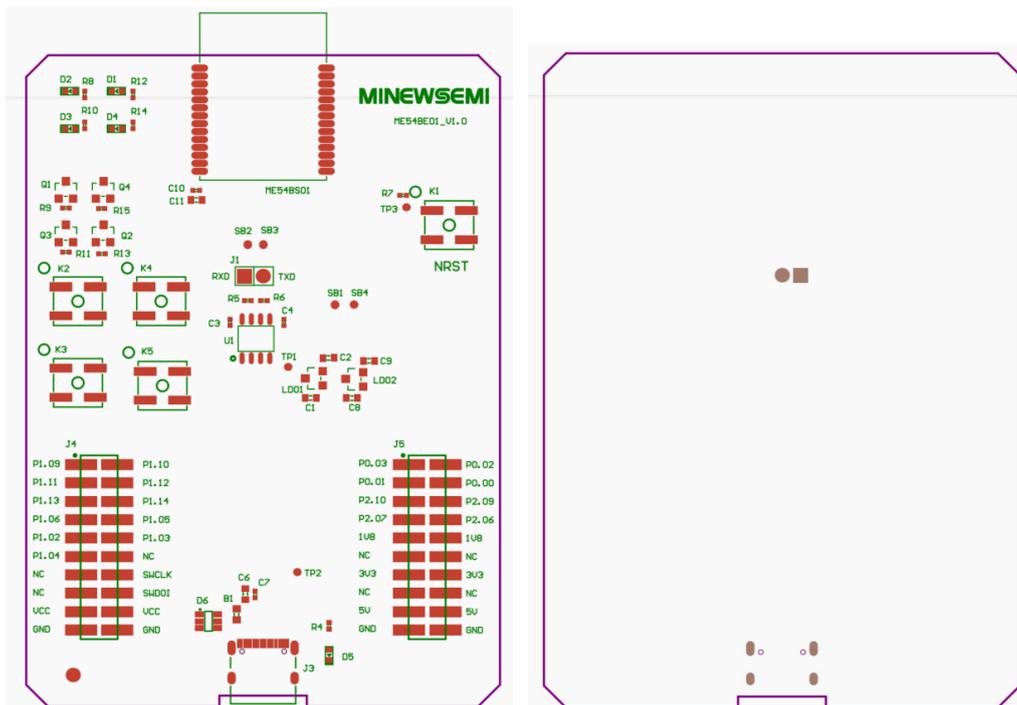
# 1 OVERVIEW

ME54BE01 development board integrates a serial chip and supports Type-C power supply. To facilitate module development and usage, the board includes several buttons, switches, and indicator functions, making it more convenient for testing and operations during the development process.



Figure 1: ME54BE01 Front/Back

# 2 ME54BE01 FUNCTION IDENTIFICATION



| Identification | Type                | Function   |
|----------------|---------------------|--|
| K1             | Reset pin           | Reset  |
| K2             | KEY                 | P1.13  |
| K3             | KEY                 | P1.09  |
| K4             | KEY                 | P1.11  |
| K5             | KEY                 | P1.12  |
| D1             | LED                 | P2.07  |
| D2             | LED                 | P1.10  |
| D3             | LED                 | P2.09  |
| D4             | LED                 | P1.14  |
| D5             | LED                 | Power supply light                                 |
| J3             | Type-C power supply | Type-C power supply port, standard 5V power supply |
| U1             | USB to serial port  | UART   |

### 3 ME54BE01 PIN DEFINITION

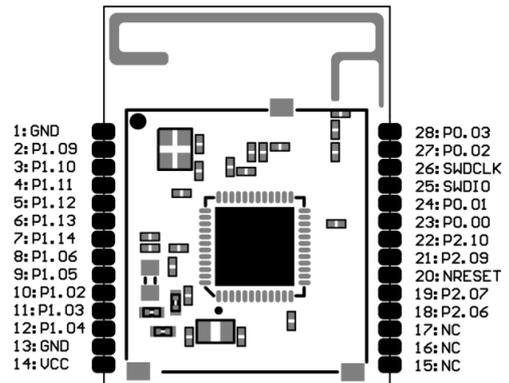
| ME54BS01   |    |            |        |    |        |
|------------|----|------------|--------|----|--------|
| GND        | 1  | GND        | P0.03  | 28 | P0.03  |
| P1.09      | 2  | P1.09      | P0.02  | 27 | P0.02  |
| P1.10      | 3  | P1.10      | SWDCLK | 26 | SWDCLK |
| P1.11/AIN4 | 4  | P1.11/AIN4 | SWDIO  | 25 | SWDIO  |
| P1.12/AIN5 | 5  | P1.12/AIN5 | P0.01  | 24 | P0.01  |
| P1.13/AIN6 | 6  | P1.13/AIN6 | P0.00  | 23 | P0.00  |
| P1.14/AIN7 | 7  | P1.14/AIN7 | P2.10  | 22 | P2.10  |
| P1.06/AIN2 | 8  | P1.06/AIN2 | P2.09  | 21 | P2.09  |
| P1.05/AIN1 | 9  | P1.05/AIN1 | NRESET | 20 | NRESET |
| P1.02/NFC1 | 10 | P1.02/NFC1 | P2.07  | 19 | P2.07  |
| P1.03/NFC2 | 11 | P1.03/NFC2 | P2.06  | 18 | P2.06  |
| P1.04/AIN0 | 12 | P1.04/AIN0 | NC     | 17 |        |
| GND        | 13 | GND        | NC     | 16 |        |
| VCC        | 14 | VCC        | NC     | 15 |        |

| Pin Number | Symbol                   | Type      | Definition   |
|------------|--------------------------|-----------|--|
| 1/13       | GND                      | GND       | GND  |
| 2-12       | P1.02-P1.06/ P1.09-P1.14 | I/O       | General IO Port  |
| 14         | VCC                      | VCC       | Power supply, default 1.8V-3.6V with this pin  |
| 15-17      | NC                       | NC        | Empty pins   |
| 18-19      | P2.06/P2.07              | I/O       | General IO Port  |
| 20         | NRESET                   | Reset pin | Reset  |
| 21-24      | P2.03-P2.10/ P0.00-P0.01 | I/O       | General IO Port  |
| 25/26      | SWDIO/SWDCLK             | Burn Pins | Programming pin, when programming, just connect the power supply pin, ground, and these two pins |
| 27-28      | P0.02-P0.03              | I/O       | General IO Port  |

\*The pin definitions in the above table are the general pin definitions of the transparent firmware for the module application. The definitions vary according to the actual application of different pins of the module. The actual specifications of the module shall prevail.

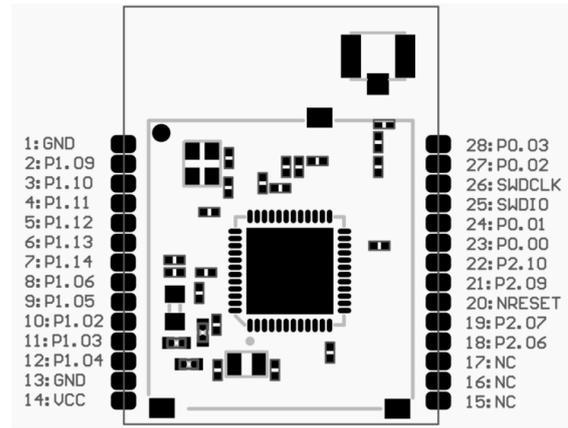
## 4 APPLICABLE MODULES PIN DEFINITION

### 4.1 ME54BS01 Pin Definition



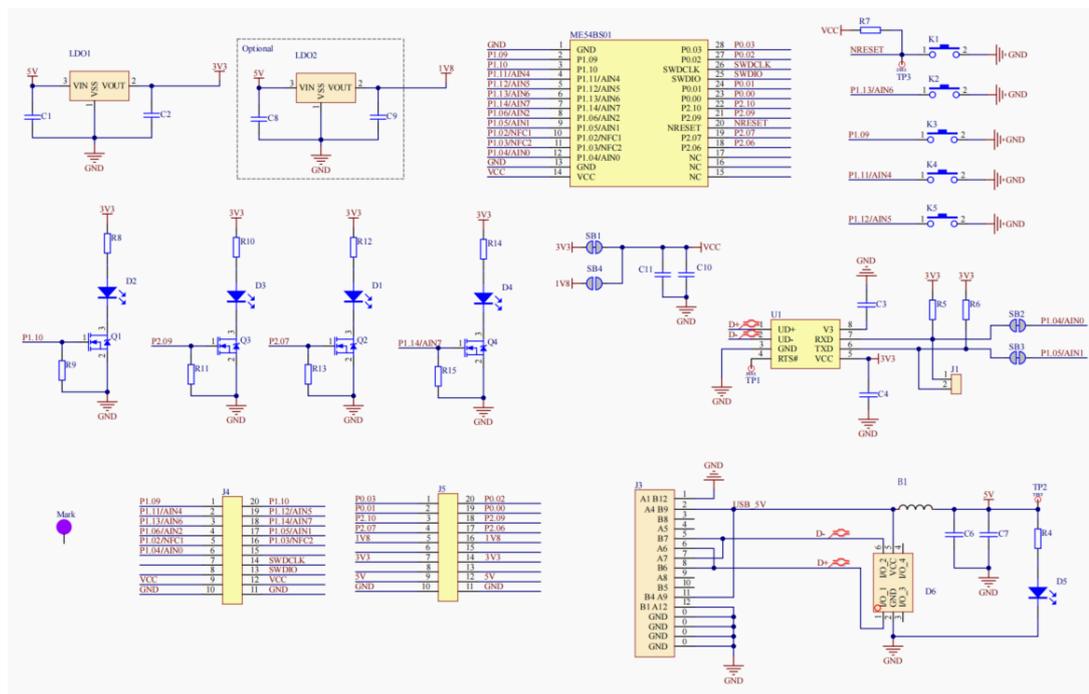
| Pin Number | Symbol                   | Type      | Definition   |
|------------|--------------------------|-----------|--|
| 1/13       | GND                      | GND       | GND  |
| 2-12       | P1.02-P1.06/ P1.09-P1.14 | I/O       | General IO Port  |
| 14         | VCC                      | VCC       | Power supply, default 1.8V-3.6V with this pin; Switchable 1.7V-2.6V supply method, If you want to use this mode of power supply, please talk to your salesman about the specific configuration you need. |
| 15-17      | NC                       | NC        | Empty pins   |
| 18-19      | P2.06/P2.07              | I/O       | General IO Port  |
| 20         | NRESET                   | Reset pin | Reset  |
| 21-24      | P2.03-P2.10/ P0.00-P0.01 | I/O       | General IO Port  |
| 25/26      | SWDIO/SWDCLK             | Burn pins | Burn pins, burn only need to connect the power supply pin, ground, and these two pins  |
| 27-28      | P0.02-P0.03              | I/O       | General IO Port  |

## 4.2 ME54BS03 Pin Definition



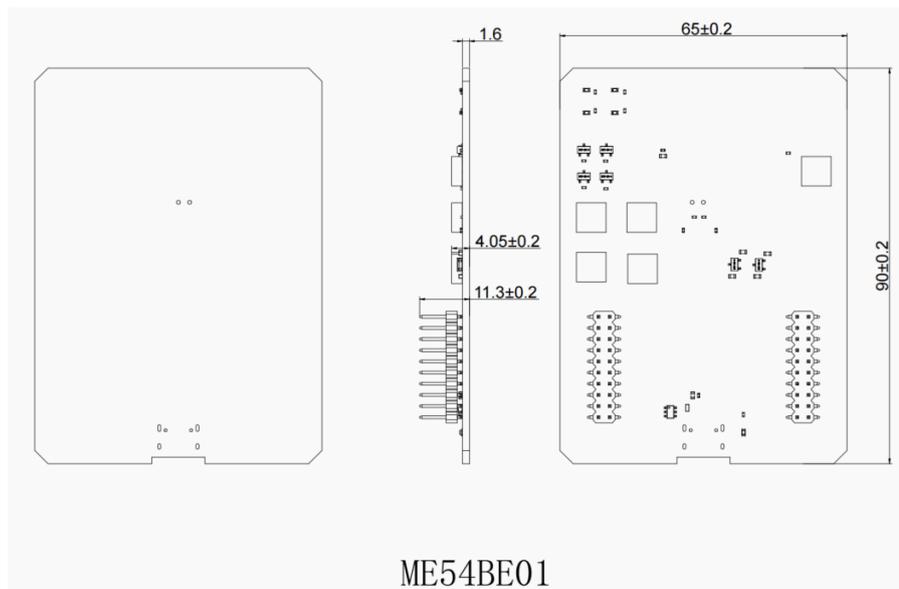
| Pin Number | Symbol                   | Type      | Definition   |
|------------|--------------------------|-----------|--|
| 1/13       | GND                      | GND       | GND  |
| 2-12       | P1.02-P1.06/ P1.09-P1.14 | I/O       | General IO Port  |
| 14         | VCC                      | VCC       | Power supply, default 1.8V-3.6V with this pin; Switchable 1.7V-2.6V supply method, If you want to use this mode of power supply, please talk to your salesman about the specific configuration you need. |
| 15-17      | NC                       | NC        | Empty pins   |
| 18-19      | P2.06/P2.07              | I/O       | General IO Port  |
| 20         | NRESET                   | Reset pin | Reset  |
| 21-24      | P2.03-P2.10/ P0.00-P0.01 | I/O       | General IO Port  |
| 25/26      | SWDIO/SWDCLK             | Burn pins | Burn pins, burn only need to connect the power supply pin, ground, and these two pins  |
| 27-28      | P0.02-P0.03              | I/O       | General IO Port  |

## 5 ELECTRICAL SCHEMATIC





## 6 MECHANICAL DRAWING



## 7 APPLICABLE PRODUCT MODELS

| Order Model | Antenna Type | Module Model - Chip Type |
|-------------|--------------|--------------------------|
| ME54BS01    | PCB          | ME54BS01-nRF54L15        |
| ME54BS03    | IPEX         | ME54BS03-nRF54L15        |

## 8 STORAGE CONDITIONS

- Please use this product within 6 months after signing the receipt.
  - This product should be stored without opening the package at an ambient temperature of 5~35°C and a humidity of 20~70%RH.
  - This product should be left for more than 6 months after receipt and should be confirmed before use.
  - The product must be stored in a non-corrosive gas (Cl<sub>2</sub>, NH<sub>3</sub>, SO<sub>2</sub>, NO<sub>x</sub>, etc.).
  - To avoid damaging the packaging material, do not apply any excessive mechanical shocks, including but not limited to sharp objects adhering to the packaging material and product dropping.
- This product is suitable for MSL2 (based on JEDEC standard J-STD-020).
  - After opening the package, the product must be stored at ≤30°C/<60%RH. It is recommended to use the product within 3-6 months after opening the package.
  - When the color of the indicator in the package changes, the product should be baked before welding.
- Baking is not required for one year if exposure is limited to <30°C and 60%RH. Refer to MSL2 for exposure criteria for moisture sensitivity level. If exposed to (≥168h@85°C/60%RH) conditions or stored for more than one year, recommended baking conditions.
  1. 120 +5/-5°C, 8 hours, 1 time  
Products must be baked individually on heat-resistant trays because the materials (base tape, reel tape, and cover tape) are not heat-resistant, and the packaging material may be deformed at temperatures of 120°C;
  2. 90°C +8/-0°C, 24hours, 1times  
The base tape can be baked together with the product at this temperature. Please pay attention to the uniformity of heat.

## 9 HANDLING CONDITIONS

- Be careful in handling or transporting products because excessive stress or mechanical shock may break products.
- Handle with care if products may have cracks or damages on their terminals. If there is any such damage, the characteristics of products may change. Do not touch products with bare hands that may result in poor solder ability and destroy by static electrical charge.

## 10 QUALITY

Cognizant of our commitment to quality, we operate our own factory equipped with state-of-the-art production facilities and a meticulous quality management system. We hold certifications for ISO9001, ISO14001, ISO27001, OHSAS18001, BSCI.

Every product undergoes stringent testing, including transmit power, sensitivity, power consumption, stability, and aging tests. Our fully automated module production line is now in full operation, boasting a production capacity in the millions, capable of meeting high-volume production demands.

## 11 COPYRIGHT STATEMENT

This manual and all the contents contained in it are owned by Shenzhen Minewsemi Co., Ltd. and are protected by Chinese laws and applicable international conventions related to copyright laws.

The certified trademarks included in this product and related documents have been licensed for use by MinewSemi. This includes but is not limited to certifications such as BQB, RoHS, REACH, CE, FCC, BQB, IC, SRRC, TELEC, WPC, RCM, WEEE, etc. The respective textual trademarks and logos belong to their respective owners. For example, the Bluetooth® textual trademark and logo are owned by Bluetooth SIG, Inc. Other trademarks and trade names are those of their respective owners. Due to the small size of the module product, the "®" symbol is omitted from the Bluetooth Primary Trademarks information in compliance with regulations.

The company has the right to change the content of this manual according to the technological development, and the revised version will not be notified otherwise. Without the written permission and authorization of the company, any individual, company, or organization shall not modify the contents of this manual or use part or all of the contents of this manual in other ways. Violators will be held accountable in accordance with the law.

## 12 RELATED DOCUMENTS

- [MinewSemi\\_Product\\_Naming\\_Reference\\_Manual\\_V1.0](https://en.minewsemi.com/file/MinewSemi_Product_Naming_Reference_Manual_EN.pdf)  
[https://en.minewsemi.com/file/MinewSemi\\_Product\\_Naming\\_Reference\\_Manual\\_EN.pdf](https://en.minewsemi.com/file/MinewSemi_Product_Naming_Reference_Manual_EN.pdf)
- [MinewSemi\\_Connectivity\\_Module\\_Catalogue\\_V2.0](https://en.minewsemi.com/file/MinewSemi_Connectivity_Module_Catalogue_EN.pdf)  
[https://en.minewsemi.com/file/MinewSemi\\_Connectivity\\_Module\\_Catalogue\\_EN.pdf](https://en.minewsemi.com/file/MinewSemi_Connectivity_Module_Catalogue_EN.pdf)



For product change notifications and regular updates of Minewsemi documentation, please register on our website: [www.minewsemi.com](http://www.minewsemi.com)

# MINEWSEMI



### SHENZHEN MINEWSEMI CO., LTD.

-  0086-755-2801 0353
-  <https://minewsemi.com>
-  [minewsemi@minew.com](mailto:minewsemi@minew.com)
-  <https://store.minewsemi.com>
-  No.8, Qinglong Road, Longhua District, Shenzhen, China