



The 965M Bluetooth module integrates a Bluetooth chip, a crystal oscillator, PCB antenna and a metal shield.

The module supports 3.3V~5V power supply. It has the function of digital audio conversion (DAC) signal output, which can drive the speaker to play music, etc. Support the signal processing of the mic. Communication support SPI, UART.

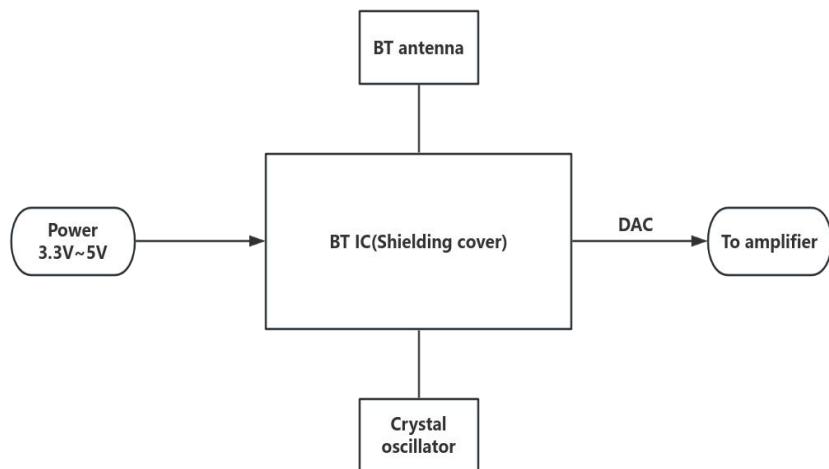
### Features

1. Bluetooth;
2. Supports SPI and UART ;
3. Supports the use of MIC;
4. Comes with a shielding cover.

### Applications

1. Electronic products that require Bluetooth functionality.

### Block diagram



### Pin definition

| Signal | Meaning explanation   | Signal   | Meaning explanation |
|--------|-----------------------|----------|---------------------|
| TX     | UART transmission     | DP       | USB Data Positive   |
| RX     | UART reception        | DM       | USB Data Minus      |
| 5V     | Power Supply Positive | MIC      | MIC input channel   |
| GND    | Power Supply Negative | MIC BIAS | MIC bias output     |
| DACL   | DAC Left channel      | 3.3V     | 3.3V Output         |
| MUTE   | Volume control        |          |                     |

## Absolute Maximum Ratings

Power Supply 5V.....≤5.5V

3.3V Output.....≤100mA (Power Supply 4.2V)

## Electrical Logical Characteristics

|              | Min  | Type | Max   |
|--------------|------|------|-------|
| Power Supply | 3.3V | 5V   | 5.5V  |
| 3.3V Output  |      |      | 100mA |

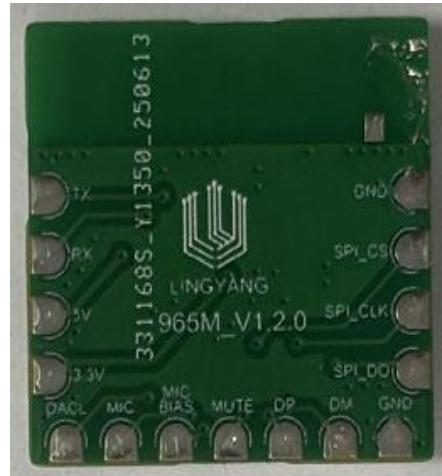
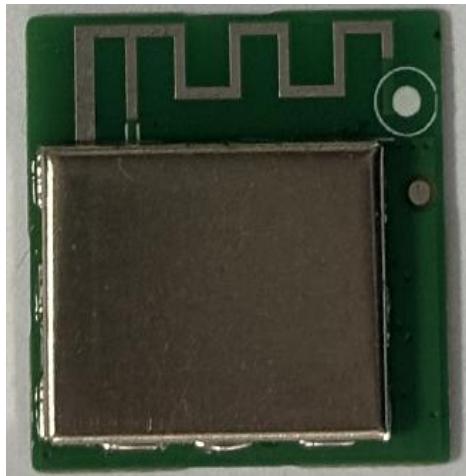
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## Notice

1. Be sure not to reverse the positive and negative terminals of the power supply; otherwise, it will cause damage to the internal components.
2. Please use it within the typical range to avoid overheating and other issues that may shorten the product's service life.

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## Shape and packaging



### **FCC Statement:**

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 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 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.

### **Radiation Exposure Statement:**

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

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

## **List of applicable FCC rules**

This module has been tested and found to comply with Part15C, Sectio 15.247 requirements for Modular Approval.

## **End Product Labeling**

This transmitter module is authorized only for use in device. The final end product must be labeled in a visible area with the following: "Contains FCC ID: 2A6WW-965M". The grantee's FCC ID can be used only when all FCC compliance requirements are met. The end product shall bear the following 15.19 statement: 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.

## **Manual Information To the End User**

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's Manual of the end product which integrates this module. The end user manual shall include all required regulatory information/ warning as show in this manual.

The host integrator must follow the integration instructions provided in this document and ensure that the composite-system end product complies with the requirements by a technical assessment or evaluation to the rules and to KDB Publication 996369.

The host integrator installing this module into their product must ensure that the final composite product complies with the requirements by a technical assessment or evaluation to the rules, including the transmitter operation and should refer to guidance in KDB 996369.

## **Manufacturer responsibilities**

Manufacturers are ultimately responsible for the compliance of the Host and Module. The final product must be reassessed against all the essential requirements of the FCC rule such as FCC Part 15 Subpart B before it can be placed on the US market. This includes reassessing the transmitter

module for compliance with the Radio and EMF essential requirements of the FCC rules. This module must not be incorporated into any other device or system without retesting for compliance as multi-radio and combined equipment.

**IMPORTANT NOTE:**

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 integrator will be responsible for reevaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

The module is tested for standalone mobile RF exposure use condition. Any other usage conditions such as co-location with other transmitter(s) or being used in a portable condition will need a separate reassessment through a class II permissive change application or new certification.