

IoT Module  
ITM-D-BZ

SLP-I121BZXXWW

### Key Features

- ZigBee 3.0
- Bluetooth Low Energy 5.0.
- 2 Channel PWMs

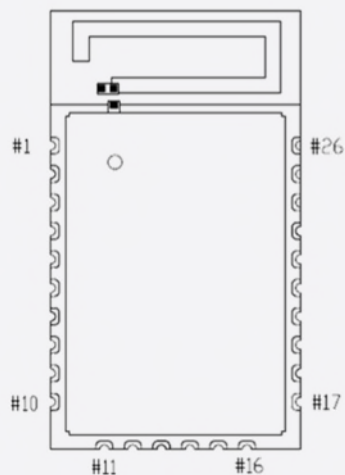
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## 1. Specification

| Article                      | Symbol | Specification |                   |      | Unit | Note                          |
|------------------------------|--------|---------------|-------------------|------|------|-------------------------------|
|                              |        | Min.          | Typ.              | Max. |      |                               |
| ELECTRICAL SPECIFICATION     |        |               |                   |      |      |                               |
| Supply Voltage               | Vin    |               | 3.3               |      | V    |                               |
| Supply Current               | Iin    |               | 30                |      | mA   |                               |
| PWM SPECIFICATIONS           |        |               |                   |      |      |                               |
| Output Voltage (High)        | Vpwm_H | Vin-0.3       |                   | Vin  | V    |                               |
| Output Voltage (Low)         | Vpwm_L | GND           |                   | 0.3  | V    |                               |
| Frequency                    | Fpwm   |               | 3.0               |      | KHz  |                               |
| RF SPECIFICATIONS (ZigBee)   |        |               |                   |      |      |                               |
| TX Power                     |        |               | 8                 |      | dBm  |                               |
| RX Sensitivity               |        |               |                   | -90  | dBm  |                               |
| RF SPECIFICATION (BLE)       |        |               |                   |      |      |                               |
| TX Power                     |        |               | 8                 |      | dBm  |                               |
| RX Sensitivity               |        |               |                   | -70  | dBm  |                               |
| ENVIRONMENTAL SPECIFICATIONS |        |               |                   |      |      |                               |
| Storage Temperature          |        | -40           |                   | 85   | °C   |                               |
| Ambient Temperature          | Ta     | -20           |                   | 70   | °C   |                               |
| ESD                          |        |               |                   | 2    | KV   | HBM (Reference : JESD22-A114) |
| MECHANICAL SPECIFICATIONS    |        |               |                   |      |      |                               |
| Dimension                    |        |               | 18.5 x 10.5 x 2.2 |      | mm   | L x W x H                     |

## 2. Pin Assignment

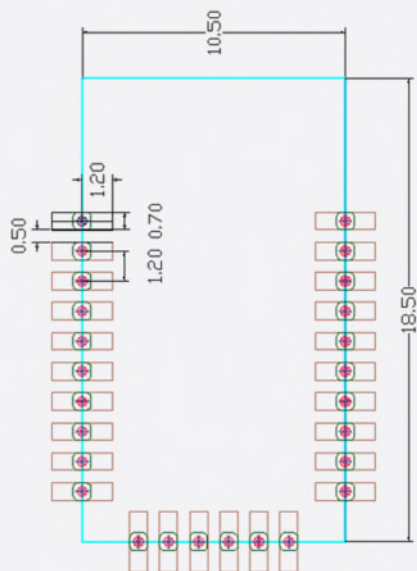


| Pin No.                             | Name    | Function       |
|-------------------------------------|---------|----------------|
| 1 / 2 / 10 / 14 / 15 / 17 / 18 / 26 | GND     | Ground         |
| 3                                   | PWM0    | Cool White     |
| 4                                   | PWM1    | -              |
| 5                                   | PWM2    | -              |
| 6                                   | PWM3    | -              |
| 7                                   | PWM4    | -              |
| 8                                   | UART TX | Setting        |
| 9                                   | UART RX | Setting        |
| 11                                  | nReset  | Software Reset |
| 12                                  | SWCLK   | -              |
| 13                                  | SWDIO   | -              |
| 16                                  | Vdd     | Input Voltage  |
| 19                                  | PWM5    | Warm White     |
| 20                                  | I2C_SCL | -              |
| 21                                  | I2C_SDA | -              |
| 22                                  | PIO31   | -              |
| 23                                  | PIO30   | -              |
| 24                                  | PIO29   | -              |
| 25                                  | PIO28   | -              |

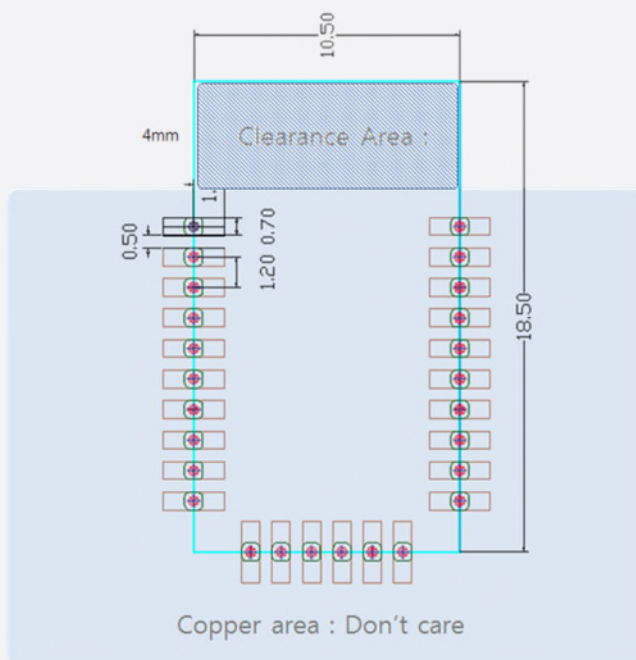


## 4. Application Guide

- Solder PAD



- Clearance Area for Antenna



## 5. Precaution

- To prevent the IoT Module from any defects, please handle and store it with care
  - Do not drop or give shock
  - Do not store in very humid location or at extreme temperature
  - Do not open or disassemble the product
- Static electricity or surge voltage may damage the components inside the IoT Module, as such please observe proper anti-electrostatic working process
  - People handling the IoT Module should be well grounded (e.g. using ESD wrist band) and wear anti-static working clothes and gloves
  - All related devices and instruments in the production line should be well grounded (e.g. working table, measuring equipment, assembly jigs)
- Avoid input voltage exceeds the maximum rating, which will cause damage to the circuit and result in malfunction
- Specifications are subject to change without notice

## 6. FCC Information

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 interface, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for CLASS B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. 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 correct the interference by one or more of the following measures:

- 1.1. Reorient or relocate the receiving antenna.
- 1.2. Increase the separation between the equipment and receiver.
- 1.3. Connect the equipment into an outlet on a circuit different from that to which receiver is connected.
- 1.4. Consult the dealer or experienced radio/TV technician for help.

### FCC RF Radiation Exposure Statement

- (1) This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
- (2) This equipment complies with RF radiation exposure of 20cm between the radiator and your body.

## WARNING

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

"CAUTION : Exposure to Radio Frequency Radiation.

Antenna shall be mounted in such a manner to minimize the potential for human contact during normal operation. The antenna should not be contacted during operation to avoid the possibility of exceeding the FCC radio frequency exposure limit.



# Legal and additional information.

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