

# MTBLE-01

**BLE Wireless Module**

**User Manual**

Telepower Inc.

## Table of Contents

End-Product Label .....	1
FCC -USA .....	1
ISED(IC) - CANADA .....	2
Japanese Radio Law - JAPAN .....	2
End-Product Manual .....	3
FCC –USA.....	3
ISED(IC) - CANADA .....	3
Japanese Radio Law - JAPAN .....	4
Overview .....	5
Specification .....	5
Pin Assignment .....	6
Dimensions .....	7
PCB Layout .....	8
Soldering Recommendations .....	8
REVISION HISTORY .....	9

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**FCC ID: WQYMTBLE1****IC: 21887-MTBLE1**

Since this module is not sold to general end users directly, there is no user manual of module.

For the details about this module, please refer to the specification sheet of module.

This module should be installed in the host device according to the interface specification (See Section PCB Layout below).

This device complies with below part 15 of the FCC Rules.

Part 15 Subpart C

The modular transmitter is only FCC authorized for the specific rule parts (i.e., FCC transmitter rules) listed on the grant, and the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification.

The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

## End-Product Label

The following information must be indicated on the host device of this module:

### FCC -USA

<b>Contains Transmitter Module FCC ID: WQYMTBLE1</b>
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or

<b>Contains FCC ID: WQYMTBLE1</b>
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<b>This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:</b>
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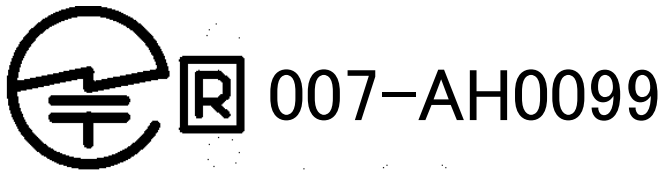
- |  |
|--|
| <b>(1) This device may not cause harmful interference, and<br/>(2) this device must accept any interference received, including interference that may cause undesired operation.</b> |
|--|

\*If it is difficult to describe this statement on the host device due to the size, please describe in the user's manual and also either describe on the device packaging or on a removable label attached to the device.

ISED(IC) – CANADA

Contains IC: 21887-MTBLE1

Japanese Radio Law – JAPAN



## End-Product Manual

The following statements must be described on the user manual of the host device of this module;

### FCC –USA

**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.**

**FCC CAUTION  
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.**

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

**This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines as this equipment has very low levels of RF energy.**

### ISED(IC) – CANADA

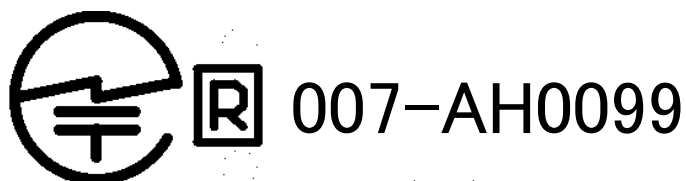
**This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s).  
Operation is subject to the following two conditions:  
1.This device may not cause interference.  
2.This device must accept any interference, including interference that may cause undesired operation of the device.**

**L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :**  
**1.L'appareil ne doit pas produire de brouillage;**  
**2.L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.**

**This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the ISED radio frequency (RF) Exposure rules as this equipment has very low levels of RF energy.**

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'ISDE puisque cet appareil a une niveau tres bas d'energie RF.

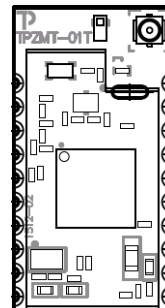
Japanese Radio Law – JAPAN



This product has acquired "Construction Design Certification" (Article 38-24 Paragraph 1 of the Radio Law).

## Overview

Integrated antenna  
 Available for surface mounting  
 It corresponds to UART, SPI, I2C bus.



## Specification

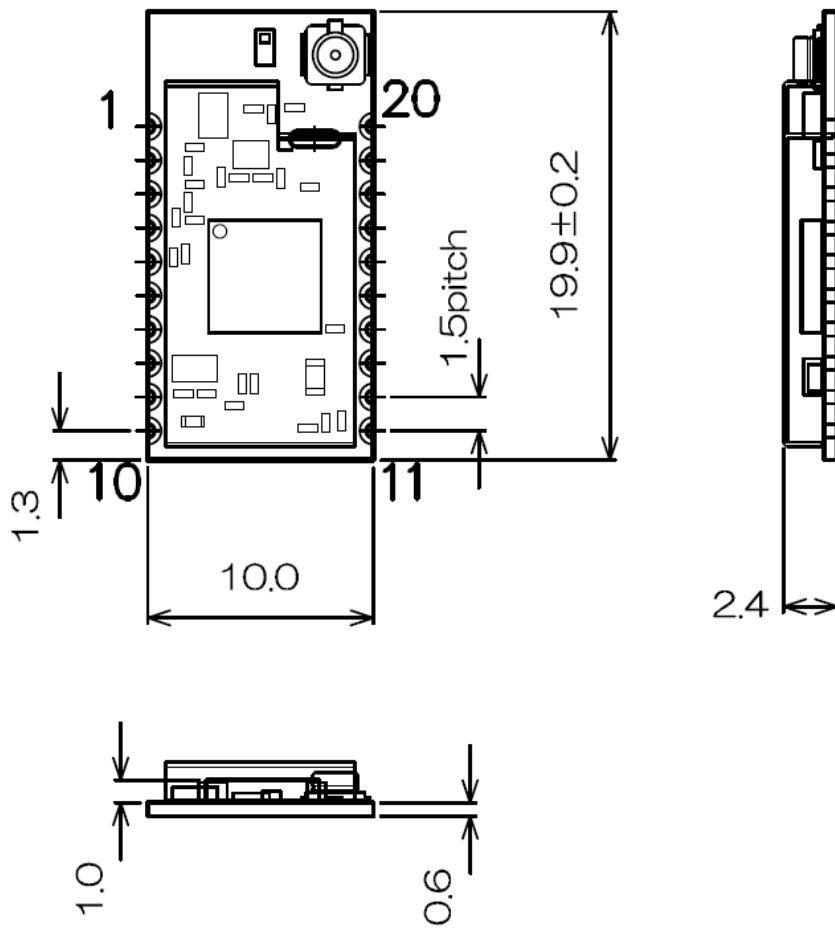
<b>Model</b>	<b>MTBLE-01</b>
<b>Dimensions</b>	<b>W 10 * D 19.9 * H 2.4 mm</b>
<b>Serial communication</b>	<b>UART, SPI, I2C</b>
<b>Power supply</b>	<b>+2.0V to +3.45V dc</b>
<b>Transmission output</b>	<b>-1±1dBm (Time Average)</b>
<b>Frequency-shift keying</b>	<b>2-GFSK</b>
<b>Technology</b>	<b>BLE</b>
<b>Other(s)</b>	<b>Lead free / RoHS Compliant</b>

## Pin Assignment

PIN No.	Signal name	Use	Remarks
1	GND	Ground	
2	JTAG_TCKC	JTAG communication	
3	JTAG_TMSC	JTAG communication	
4	PIO0	GPIO	
5	PIO1	GPIO	
6	PIO2	GPIO	
7	PIO3	GPIO	
8	PIO4	GPIO	
9	RST/NMI	GPIO	
10	VDD	Power supply	
11	JTAG_TDI	JTAG communication / GPIO	
12	JTAG_TDO	JTAG communication / GPIO	
13	I2C_SCL	I2C SDA / GPIO	
14	I2C_SDA	I2C SCL / GPIO	
15	URS_SC	UART RTS / SPI CS / GPIO	
16	UCS_SS	UART CTS / SPI CLK / GPIO	
17	UTX_SMO	UART TX / SPI OUT / GPIO	
18	URX_SMI	UART TX / SPI IN / GPIO	
19	PIO13	GPIO	
20	PIO14	GPIO	

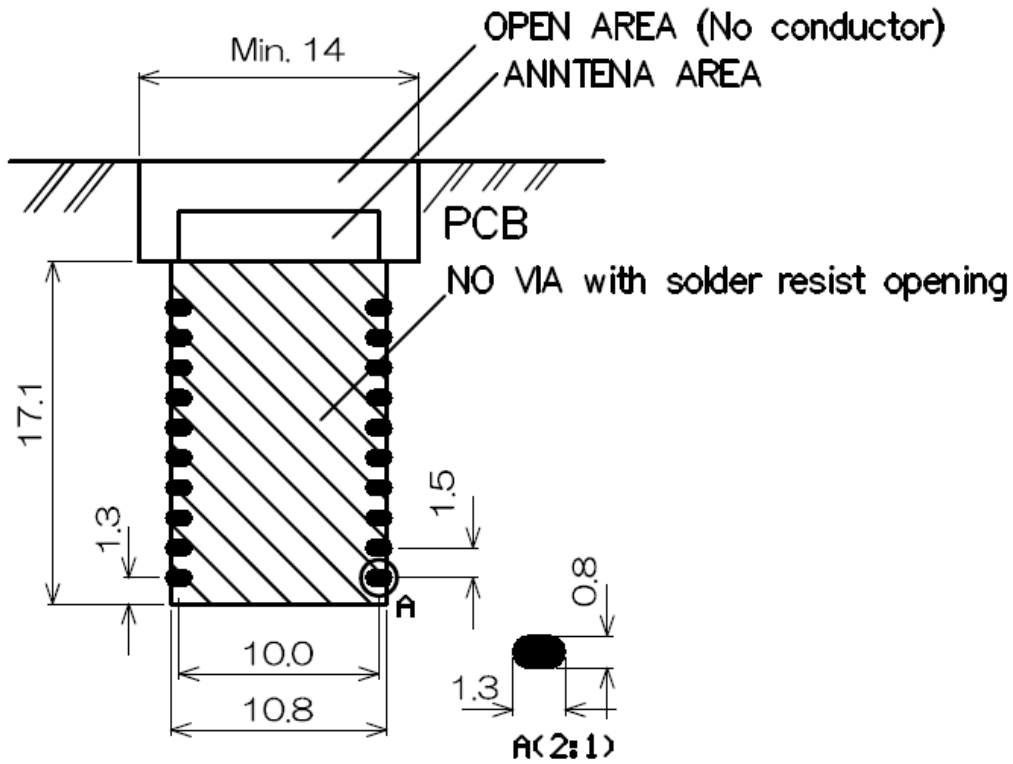


### Dimensions



Dimensions are in millimeters.

## PCB Layout



Dimensions are in millimeters.

## Soldering Recommendations

This module is assembled using standard lead-free reflow profile IPC/JEDEC J-STD-020.

The module can be soldered to the host PCB using standard leaded and lead-free solder reflow profiles.

To avoid damaging the module, the following recommendations are given:

- Do not exceed peak temperature (Tp) of 250 °C
- Refer to the solder paste data sheet for specific reflow profile recommendations
- Do not wash as moisture can be trapped under the shield
- Use only one flow. If the PCB requires multiple flows, apply the module on the final flow.

## REVISION HISTORY

1.0 June 04, 2019

- This is the initial released.

<p>Telepower Inc. 3F Goto-Bldg., 2-11-9, Minami-ikebukuro, Toshima, Tokyo, Japan</p> <p>03-6907-8511 www.telepower.jp</p>	<ul style="list-style-type: none"><li>• The information contained in this document is subject to change without notice.</li><li>• Telepower has used reasonable care to ensure the accuracy of the information contained in this document. However, Telepower does not warrant that such information is error-free, and Telepower shall have no responsibility for any damages arising from any inaccuracy or misprint of such information.</li><li>• This document, in part or in whole, may not be reprinted or reproduced without prior consent of Telepower.</li></ul> <p>Copyright © 2019 All rights reserved.</p>
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