

# **RFID Modular User Manual**

Brand: TOSHIBA

Model Name: TRW-USM-10

Module: RFID Modular

## **Product Safety and Warranty Information**

### **Regulatory and Safety Information:**

1. Do not use a printer embedded with this product near medical equipment. Radio wave emitted from this product may affect the operation of medical equipment, such as an implanted cardiac pacemaker and implantable cardioverter-defibrillator.  
If a use of this product should be likely to have affected medical equipment, immediately turn off the product and contact your TOSHIBA TEC sales agent.  
Keep a printer embedded with this product at least 23cm away from a person with an implanted cardiac pacemaker or implantable cardioverter-defibrillator.
2. Do not export a printer embedded with this product to the countries or areas where a use of this product is not allowed, without permission. Doing so is against the law, and you may be punished.  
When exporting this product, check the laws and regulations of a destination country and take necessary procedures.
3. Follow all manual instructions. Failure to do so could create safety hazards such as fire or electrocution.
  - Manual instructions must be followed when installing option kits or adding cables to avoid system failures and to insure proper performance and operation.
  - Failure to follow manual instructions or any unauthorized modifications, substitution or change to this product will void the limited product warranty.
4. Turn the power OFF and disconnect the power cord before installing the RFID module.
5. Be careful not to pinch your fingers or hands with the covers.
6. The print head and stepping motor becomes very hot immediately after printing. Do not touch the print head, stepping motor and around it right after printing, or you may get burned.
7. When opening the top cover, it must be fully opened. Failure to do this may cause the top cover to close under its own weight, resulting in an injury.

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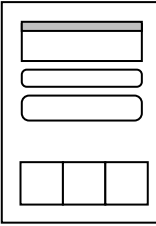
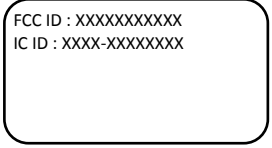





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Notice

TOSHIBA TEC reserves the right to make modifications on print errors or update specifications in this guide without prior notice.

# ACCESSORIES:

All the following parts are supplied with the kit. Make sure you have all items shown below. If any part is missing, please contact your TOSHIBA TEC sales agent.

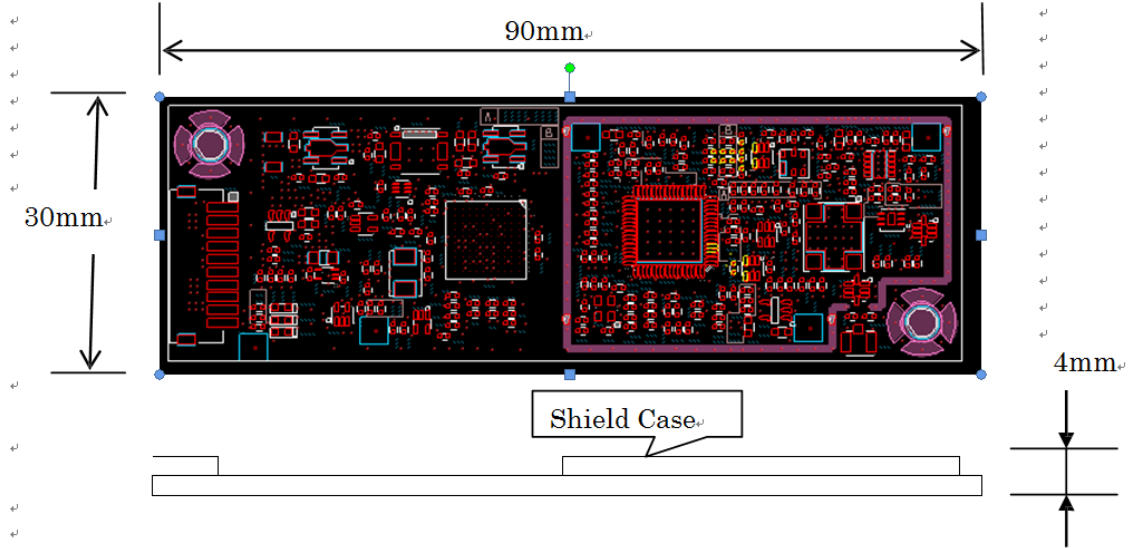
<ul style="list-style-type: none"> <li>• RFID Module</li> </ul> 		<ul style="list-style-type: none"> <li>• PT-3x6 screw ( 1 pc )</li> </ul> 	
<ul style="list-style-type: none"> <li>• Bush (1 pc)</li> </ul> 	<ul style="list-style-type: none"> <li>• Cable ties (2 pcs)</li> </ul> 	<ul style="list-style-type: none"> <li>• Installation Manual (1 copy)</li> </ul> 	<ul style="list-style-type: none"> <li>• FCC ID Sticker (1 pc)</li> </ul> 
<ul style="list-style-type: none"> <li>• Shield label</li> </ul> <p>There are three types depending on the antenna mounting position</p> <p>F</p>  <p>C</p>  <p>R</p> 		<ul style="list-style-type: none"> <li>• RFID media guide</li> </ul> 	
		<ul style="list-style-type: none"> <li>• RFID module harness</li> </ul> 	

# Product Information:

## 1. Application

This product applies to RFID reader/writer for UHF band

## 2. External



## 3. Characteristics

### 3.1 Electrical Characteristics

Item	Characteristics
Input Voltage	DC 5V +/- 10%
Operating Temperature	5-60 C.
Operating Humidity	10 -90 %
Storage Temperature	-40-60 C.
Storage Humidity	10 - 90 %
Others	RoHS complies

### 3.2 Host Interface

#### 3.2.1 Characteristics

Item	Characteristics
connector	S10B-ZR-SM4A-TF(LF)(SN)
Signal	UART TTL level interface
Baud rate	9600 BPS and 38400 BPS (selectable)
Format	8 bit,1 stop bit, non parity, non xoff
Protocol	TTEC protocol

### 3.3 RF Interface

#### 3.3.1 Connector

Characteristics

AYU1-1P-02676-120 (JST)

#### 3.3.2 RF Characteristics

Item	characteristics
Frequency	UHF 902-928MHz,869MHz
Supported	EPCglobal UHF Generation 2

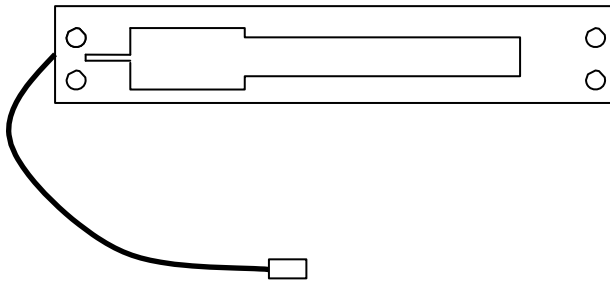
## 4. Antenna

Item	characteristics
VSWR	Less than 2.3 (Return Loss <-8dB )
size	25mm x 120 mm x 7mm

RF output power	100 mW max
Air Interface protocols	EPCglobal Class-1 Generation-2 UHF RFID Protocol V1.0.0
Sensitivity	-40 dBm or less
Frequency deviation	+/- 10 ppm
Supported Regions	Europe regions following ETSI EN 300 220 China & Korea regions following US FCC Part

- These characteristics are checked by Investigation

System. 4 antenna



Item	characteristics
VSWR	Less than 2.3      Loss <-8d )
size	25mm x 120 mm x 7mm

**COMPLIANCE STATEMENT:**

## **Federal Communication Commission Interference Statement**

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.

### **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.

### **FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter.

## **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 OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

## **End Product Labeling**

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

“Contains FCC ID: BJIOH0007”.

## 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.

### **Canada Statement**

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie 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'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

### Caution Exposure:

This device meets the exemption from the routine evaluation limits in section 2.5 of RSS102 and users can obtain Canadian information on RF exposure and compliance.

Le dispositif répond à l'exemption des limites d'évaluation de routine dans la section 2.5 de RSS102 et les utilisateurs peuvent obtenir des renseignements canadiens sur l'exposition aux RF et le respect.

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

The Industry Canada certification label of a module shall be clearly visible at all times when installed in the host device, otherwise the host device must be labelled to display the Industry Canada certification number of the module, preceded by the words "Contains transmitter module", or the word "Contains", or similar wording expressing the same meaning, as follows:

Contains transmitter module IC: 1004C-MS0001

The end user manual shall include all required regulatory information/warning as show in this manual.