Alpha-2R

- Direct Thermal

Moblie Barcode Printers

Series Lists:

Alpha-2R

User Manual

Copyright information

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1. Introduction

Thank you very much for purchasing TSC bar code printer.

Enjoy TSC's reputation for cost-efficient, high durability printers with the Alpha-2R economical printer. The Alpha-2R is a comfortable, light-weight printer capable of working with any mobile printing application where you need quick, simple receipts/labels on demand.

Our Alpha-2R is designed for a rough life, inside the IP54-rated environmental case to resist dust and water and with its rubber over-mold design prepared to take up to a five-foot fall and keep printing.

These small and light printers can be worn comfortably for a full shift, without interfering with the user's tasks. Use USB or optional Bluetooth, 802.11 a/b/g/n Wireless or Serial to connect to a mobile computer or even a smartphone and produce clear easy-to-read receipts hour after hour.

This document provides an easy reference for operating this printer. TSC printers include the Windows labeling software for creating your label template. For system integration, the TSPL/TSPL2 printer programming manual or SDKs can be found on TSC website at: https://www.tscprinters.com.

1.1 Product Specification

The printer offers the following standard features

Product standard feature

Direct thermal printing (receipts & partial label)
Black mark reflective sensor
Head open sensor
3 operation buttons (On/off, feed/pause, and cover-open buttons)
5 LEDs: 1 for printer states (green or red); 3 for Battery capacity (green or orange); 1 for RF status (blue or green)
Audible alert Programmable buzzer
Mini type USB 2.0 (High speed mode)
64 MB DRAM
128 MB Flash memory
32-bit RISC high performance processor
Eltron® EPL, Epson® ESC-POS, and Zebra® ZPL emulation languages support
Fonts and bar codes can be printed in any one of the four directions (0, 90,180, 270 degree)
8 alpha-numeric bitmap fonts
One Monotype Imaging® CG Triumvirate Bold Condensed scalable font
Built-in Monotype True Type Font engine
Downloadable fonts from PC to printer memory
Downloadable firmware upgrades
Text, bar code, graphics/image printing (Please refer to the TSPL/TSPL2 programming manual for supporting code page)

Supported bar code		Supported image
1D bar code	2D bar code	
Code128 subsets A.B.C,Code128UCC, EAN128, Interleave 2 of 5,Code 39,Code 93, EAN-13, EAN-8, Codabar, POSTNET, UPC-A, UPC-E, EAN and UPC 2(5) digits add-on, MSI, PLESSEY, China Post, ITF14, EAN14, Code 11, TELPEN, PLANET, Code 49, Deutsche Post Identcode, Deutsche Post Leitcode, LOGMARS	CODABLOCK F mode, DataMatrix, Maxicode, PDF-417, Aztec, MicroPDF417, QR code, RSS Barcode (GS1 Databar)	BITMAP, BMP, PCX (Max. 256 colors graphics)

1.2 Printer Optional Featussf

The printer offers the following optional features.

Features Description	User options	Factory options
Bluetooth V4.0 + EDR Standard mode ; support SMART READY		○
Wi-Fi 802.11 a/b/g/n		○
Bluetooth V4.2 + MFi ; support SMART READY		○
NFC tag		○
NFC (tag & reader)		○
TSPL-EZ, CPCL or ESC-POS emulation		○
128 MB DRAM memory		○
256 MB Flash memory		○
1 bay battery charger station	○	
4 bay batteries charger station	○	
Vehicle power adapter	○	
IP54-rated environmental case with shoulder strap	○	
Mini type USB cable	○	
Mini type USB to RS232 cable	○	
Li-ion battery	○	
Belt strap	○	
Fork truck mount	○	
Cart mount	○	
1"/2" media adapter	○	
Linerless mode		○

1.3 General Specifications

Physical dimensions	89.3 mm (W) 134.5 mm (H) x 56.5 mm (D)
Enclosure	Plastic
Weight (w/ battery)	350g
Electrical	Internal charging capability (battery-in) ■ 12VDC automobile cigarette lighter plug ■ Auto-switching AC adapter External charging capability (battery-out) ■ 1 bay battery charger station - Input: 100 ~ 240VAC - Output: 12 VDC, 1.5 A ■ 4 bay batteries charger station - Input: 100 ~ 240VAC - Output: 12 VDC, 1.5 A Note: The printer will automatically turn off when stopping operation after 30 minutes.
Environmental condition	Operation Temperature: -20 ~ 50˚C (-4 ~ 122˚F) Charging Temperature: 0 ~ 40˚C (32 ~ 104˚F) Storage Temperature: -30 ~ 70 ˚C (-22 ~ 158˚F) Relative Humidity: - Operation: 10% to 90% non-condensing - Storage: 10% to 90% non-condensing IP54 w/ protective case IP42 w/o protective case Drop 1.5m (5ft) Drop 2.0m (6.5ft) w/ IP54-rated environmental case with shoulder strap

1.4 Print Specifications

Print Specifications	Alpha-2R
Print head resolution	203 dots/inch (8 dots/mm)
Printing method	Direct thermal (receipts & partial label)
Dot size	0.125 x 0.125 mm
(width x length)	(1 mm = 8 dots)
Print speed	Max. 4 ips (102 mm/sec)
(inches per second)	Max. 2 ips for linerless mode
Max. print width	48 mm (1.89")
Max. print length	Continuous receipt paper: 2,286 mm (90”)
Printout bias	Vertical: 1 mm max.
	Horizontal: 1 mm max.

1.5 Media Specifications

Media Specifications	Alpha-2R
Media roll capacity	Label: 50 mm
Media type	Continuous, die-cut, receipt, and black mark
Media wound type	Outside wound
Media length	12.7 mm (0.5”) ~ 2,286 mm (90”) Tear mode: 50.8 mm (2.0”) (suggested shortest printing length)
Media width	w/o adapter: 58 mm *w/ adapter: 50.8 mm and 25.4 mm ID core: 10.2 mm (0.4")
Media thickness	Receipt: 0.05 mm to 0.10 mm (2 mil to 4 mil) Label: Max. 0.14 mm (5.5 mil) Linerless: 2 mil ~ 3 mil (0.05 mm ~ 0.08 mm)

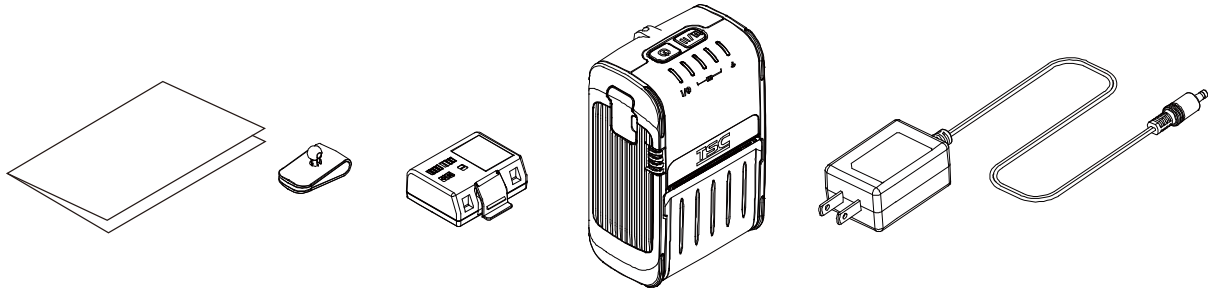
2. Operation Overview

2.1 Unpacking and Inspection

This printer has been specially packaged to withstand damage during shipping. Please carefully inspect the packaging and printer upon receiving the bar code printer. Please retain the packaging materials in case you need to reship the printer.

Unpacking the printer, the following items are included in the carton.

- One printer unit
- One Li-ion battery
- One quick installation guide
- One auto-switching AC adapter
- One belt clip



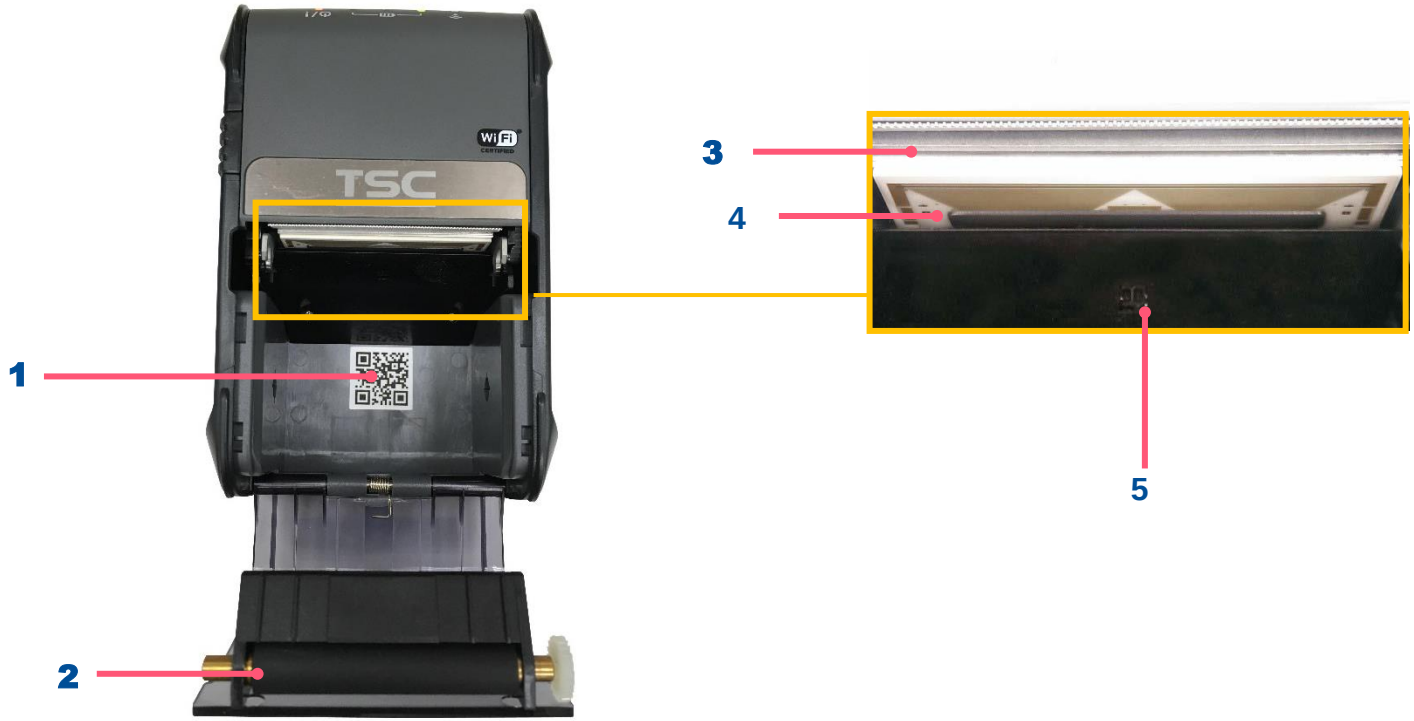
If any parts are missing, please contact the Customer Service Department of your purchased reseller or distributor.

2.2 Printer Overview

2.2.1 Front View

1. Media cover release button
2. Media cover
3. LED indicator
4. Feed/stop button
5. Power on/off button

2.2.2 Interior View



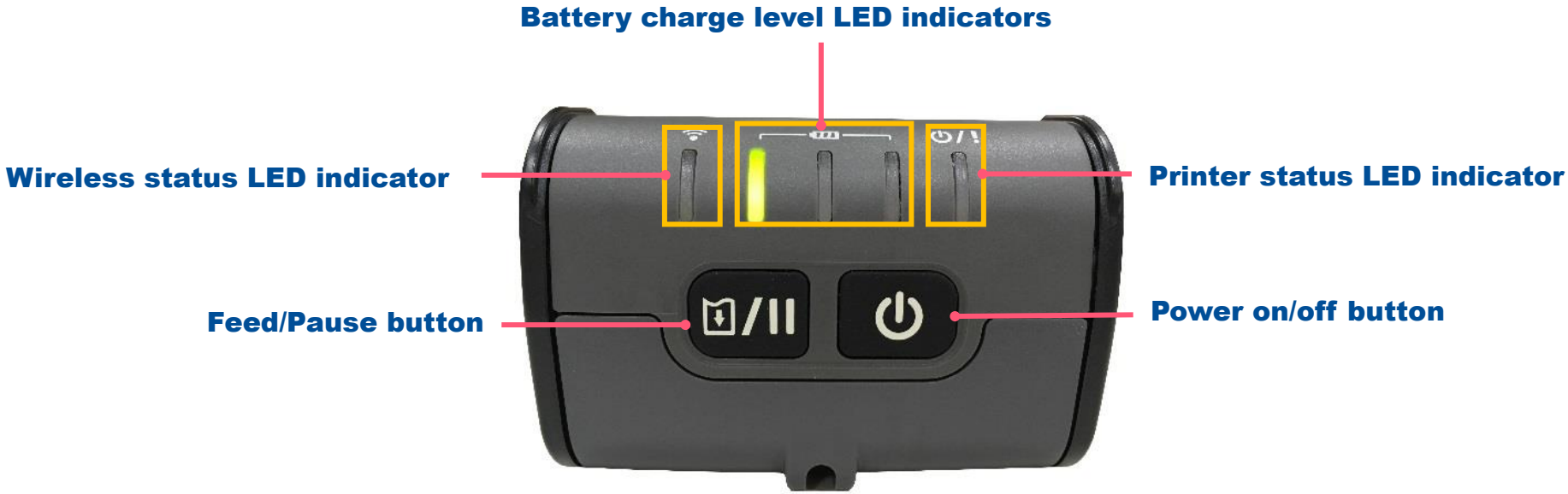
1. QR code label (link to TSC website downloads area for more information)
2. Platen roller
3. Tear edge
4. Print head
5. Black mark sensor

2.2.3 Rear View

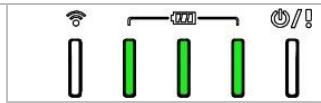
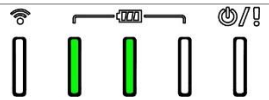
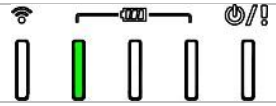
1. Li-ion Battery
2. Battery open clasp
3. USB interface
4. Power jack
5. Interface cover

2.3 Operator Control

2.3.1 Led Indication and Keys



Keys	Function
	**1.** Press and hold for 2-3 seconds to turn on the printer. **2.** Press and hold for 2-3 seconds to turn off the printer.
	**1.** Ready status: Feed one label **2.** Printing status: Pause the print job

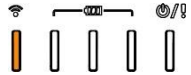
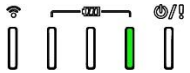
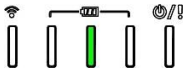
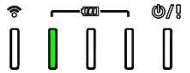
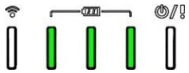
LED	Status		Indication
Printer status LED indicator 	Off		Printer is ready
	Green (blinking)		Printer is paused
	Green (blinking every two seconds)		Sleep mode/ entered the sleep mode after stop working over 2 minutes
	Red (solid)		Media cover is open
	Red (blinking)		Printer error
	Amber (blinking)		Battery is charging.
Battery status LED indicator 	Green (solid)		Fully charged
			2/3 charged level
			1/3 charged level
Wireless/Bluetooth status LED indicator 	Bluetooth/ Wi-Fi	Blue (solid)	Bluetooth device is ready
		Blue (blinking)	Bluetooth device is communicating
	Wi-Fi	Green (solid)	Wireless device is ready
		Green (blinking)	Wireless device is communicating

2.3.2 Power-on Utilities

Power-on Utilities provides the basic functions and can be activated by below procedures:

Turn off the power > **Hold** the Feed button ( ) > **Open** the power > **Release** the button depending on the the color of the LED.

Sequences of the settings:

LED Colors / Functions	 (solid)	 (5 blinks)	 (5 blinks)	 (5 blinks)	 (Solid green)
1. Media sensor calibration		Release			
2. Self-test and enter dump mode			Release		
3. Printer initialization				Release	

3. Setup

3.1 Install the Battery

1. Insert battery to the left side of battery slot on the rear of the printer.

2. Push the battery down and pull the battery clasp to lock the battery.

Battery safety warning:

1. DO NOT throw the battery in fire. DO NOT short circuit the contacts.
2. DO NOT disassemble the battery. DO NOT throw the battery in municipal waste.
3. The symbol of the crossed out wheeled bin ( ) indicates that the battery should not be placed in municipal waste.

3.2 Charge the Battery

3.2.1 Charge the Battery

It takes 1.5 to 2 hours to fully charge the battery before the first time usage. The lifetime of the battery is 300 times for charge/discharge cycles.

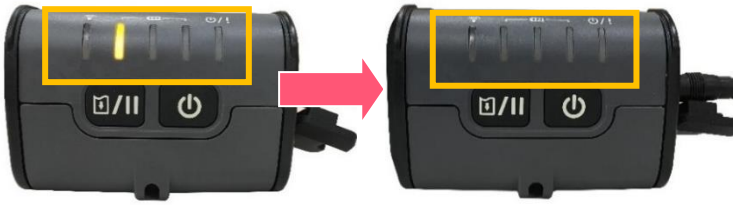
1. Open the interface cover and plug the power cord into the power jack.

   Note:

   Please switch OFF printer power prior to plug in the power cord to printer power jack.

   When the battery is charging, please do not remove the battery from the printer, otherwise, please re-plug the power cord into a power outlet.

2. Plug the power cord into a properly power outlet.



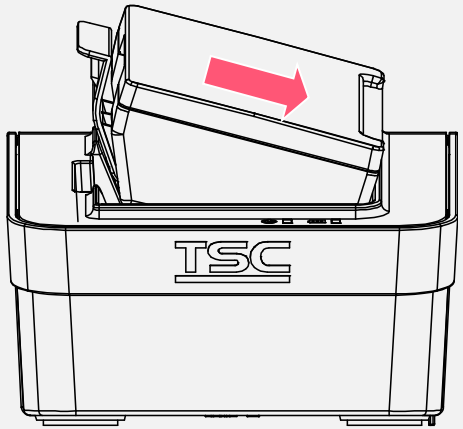
3. When the battery is charging, the color of battery status LED indicator is solid amber. The amber LED indicator will turned off after the battery is fully charged.

Note:

When checking the battery status, please connect the adapter and push power button, the LED indicator will turn to green then extinguished when the battery is fully charged.

3.2.2 Charge by Charger Station (Optional)

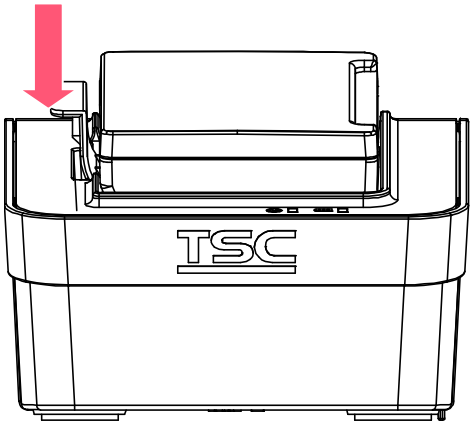
1. Plug the power cord to the power jack on the charger station.



2. Insert the printer along the slot to the charger station as pictured.

Note:

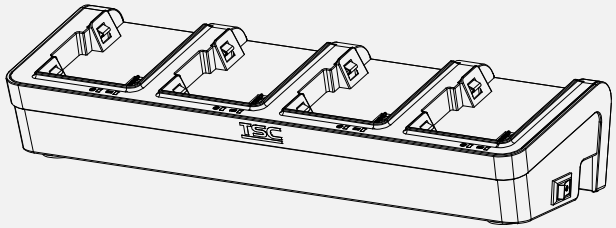
Please refer to section 3.1 for battery installation procedure.



3. Push the battery clasp and properly install the battery

Note:

The battery is completely charged and the amber of LED indicator will be off and turns to green.



Note:

The four bay batteries charger station is also available for your reference.

LED Color	Description
Green / Solid	Battery is completely charged
Red / Solid	Battery is charging
Red / Blinking	Battery charging error
Off	No battery
	Battery is completely charged over 1.5~2 hrs.

3.3 Communicate

3.3.1 Connecting with the Communication Cable

USB to USB Cable (Optional)

	■ Open the interface cover and connect the printer to the computer with USB cable.

USB to RS-232 Cable (Optional)

	■ Open the interface cover and connect the printer to the computer with RS-232 cable.

3.3.2 Connecting with Bluetooth (Optional)

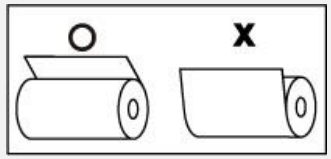
Default	
Name	RF-BHS
PIN	0000

■ Turn on the printer and make sure the Bluetooth device opened.

3.4 Loading the Media

1. Open the printer media cover by pressing the media cover release button.

2. Place the media roll at the correct side, and pull out enough paper over the tear edge.



3. Press the media cover on both sides to close it and make sure the media cover have closed correctly.

4. Accessories

4.1 Install the Belt Clip

1. Remove the battery on the rear of the printer and lock the belt clip on the hole above the battery

2. Press the ball on the belt clip to the hole as pictured.

3. After reinstalled the battery, the printer can be hung on the belt.

4.2 Install the IP54-rated environmental case with shoulder strap (Optional)

1. Open the zip along the arrow direction indicated on case cover.

2. Place the printer in the case.

Note:

3. The printing side must face the
4. outside cover as indicated.

Outside cover

Outside cover fixed

5. Zip up the case cover. The outside cover should be opened and fixed while printing.

4.3 Install the Media Adapter (Optional)

1. Open the printer top cover and install the media adapter in the media fixing hole as indicated.

2. The media adapters are installed in the media fixing hole on both sides.

2" media

3. The media which installed in the adapter can prevent the poor print quality.
4. Note: Here are 1” and 2” media adapters available for your reference

1" media adapter

.

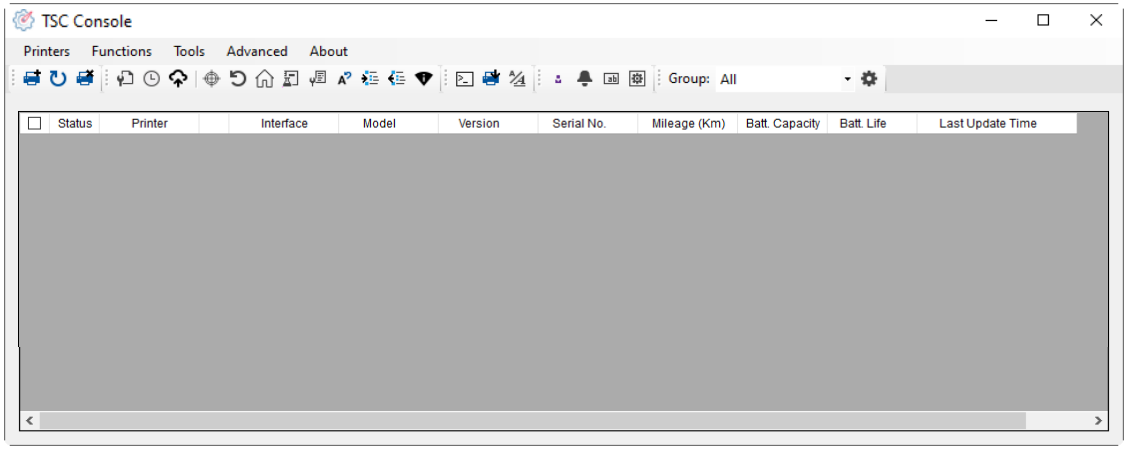
5. TSC Console

TSC Console is a management tool combining the Printer Management, Diagnostic Tool, CommTool and Printer Webpage settings, which enables you to adjust printer's settings/status; change printers' settings; download graphics, deploy fonts, graphics, label templates or upgrade the firmware to the group of printers, and send additional commands to printers at the same time.

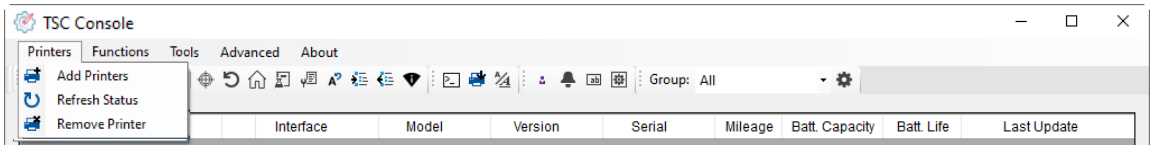
※ **Printer firmware version before A2.12 will only use 9100 Port as command port; Printer firmware after A2.12 will use 6101 Port as command port.**

5.1 Start TSC Console

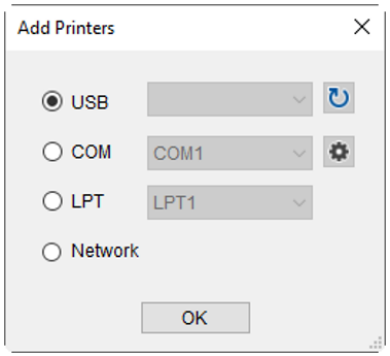
1. Double click TSC Console icon to start the software.



2. Manually add the devices by clicking **Printer > Add Printers**.

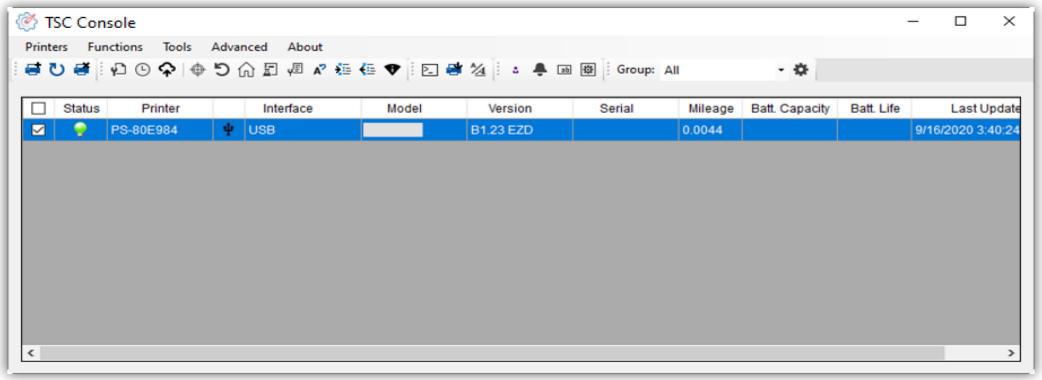


3. Select the current interface of the printer.



4. The printer will be added to **TSC Console**'s interface.

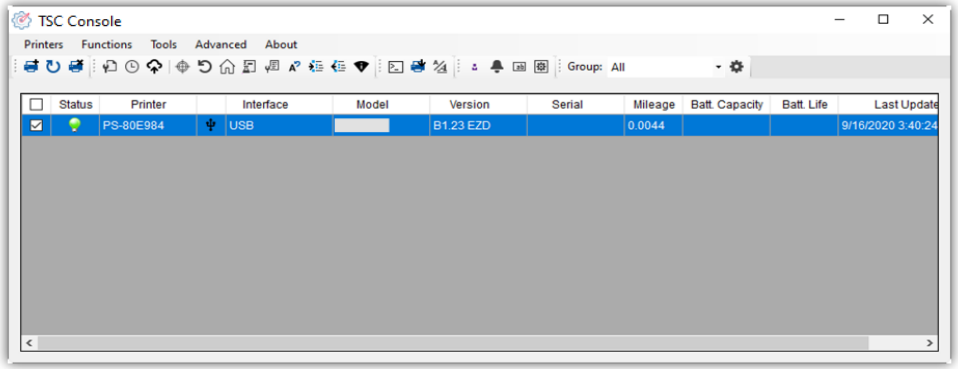
5. Select the printer and set the settings.



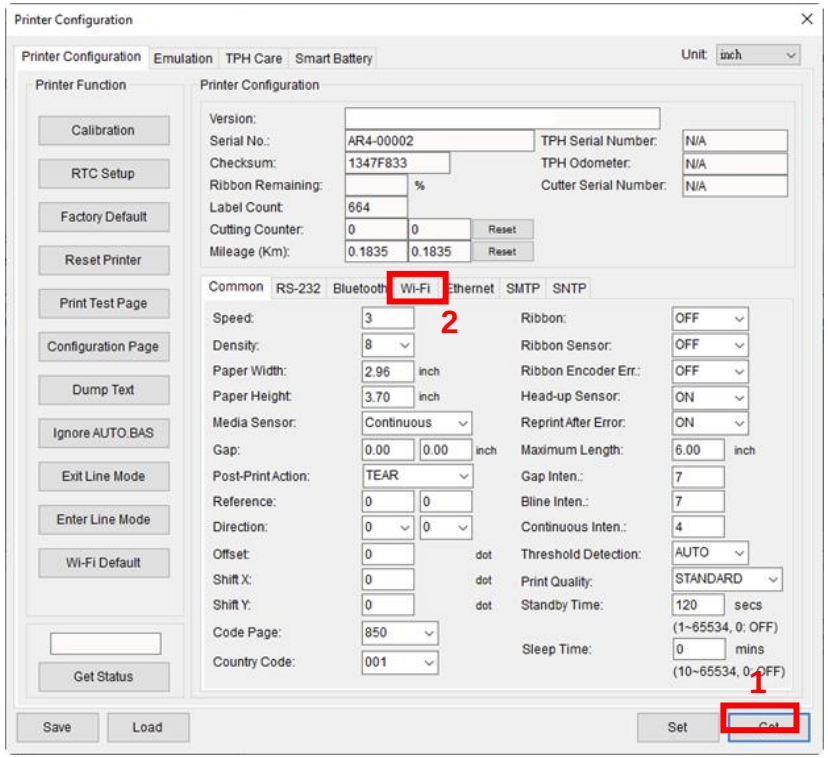
For more information, please refer to TSC Console User Manual.

5.2 Set WiFi and Add to TSC Console Interface

1. Use **USB** or **COM Port** to set up the interface. (refer to chp.5.1)
2. Double click to enter the printer configuration page.



3. Click **Get** to receive printer's information.
4. Click **Wi-Fi** to the wi-fi setting page.



For WPA-Personal

I. Fill-in the **SSID**.

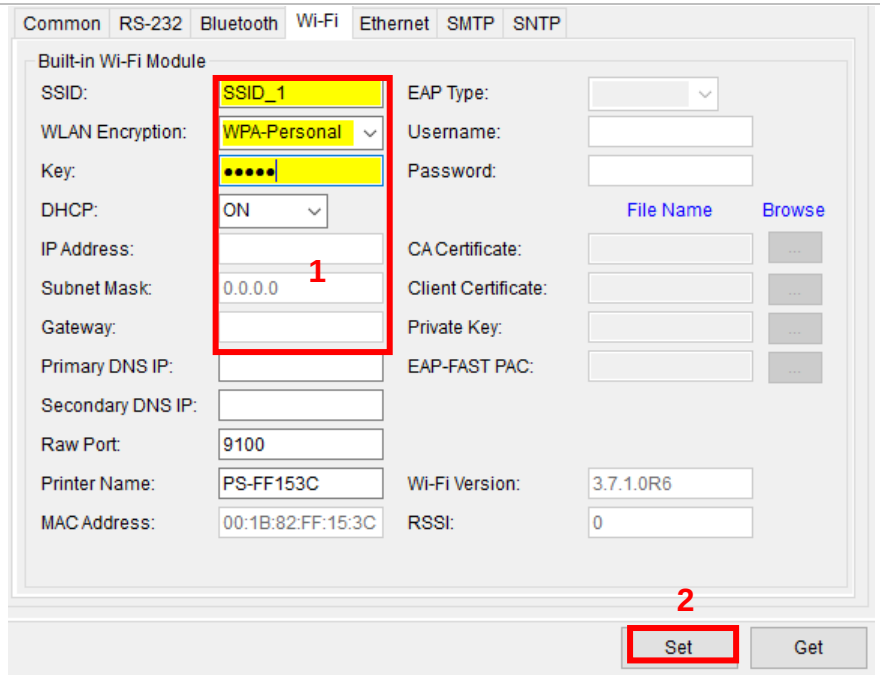
II. Select the Encryption option to **WPA-Personal.**

III. Fill-in the Key.

IV. Select **DHCP** to **ON**. (For **OFF** option, please fill-in the IP Address, Subnet Mask and Gateway)

V. After setting, click the **Set** button.

Note:
Before setting, the entered field will be shown in yellow for reminding.
On DHCP, user can change the printer name by another model name in “Printer Name” field.
User also can change the raw port in “Raw Port” field.



For WPA-Enterprise

I. Fill-in the **SSID**.

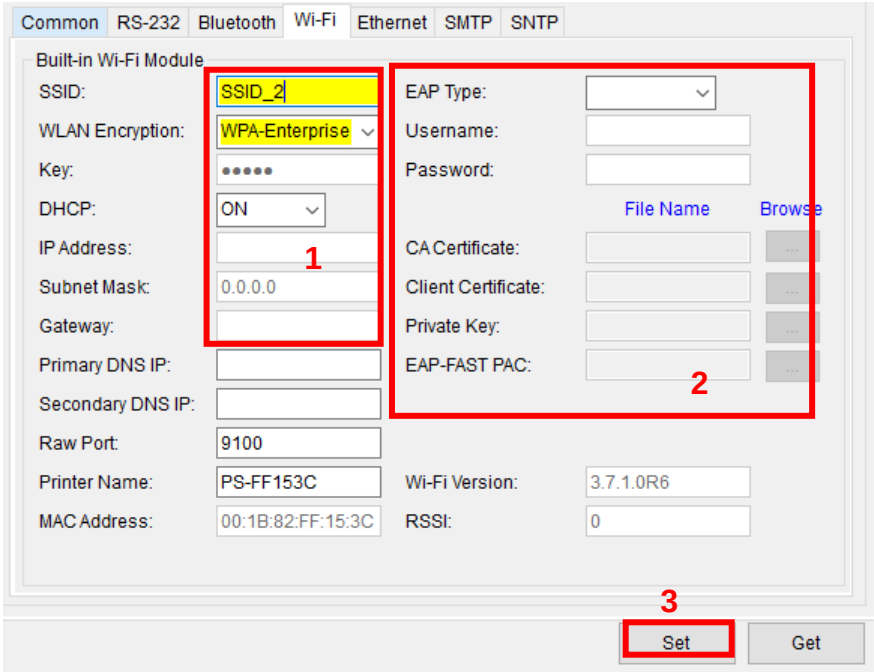
II. Select the Encryption option to **WPA2-Enterprise**.

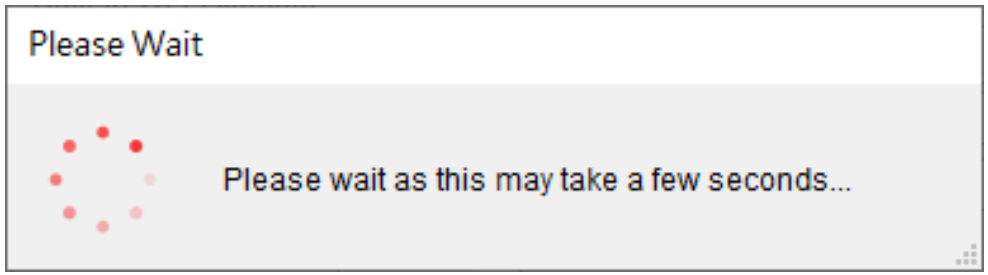
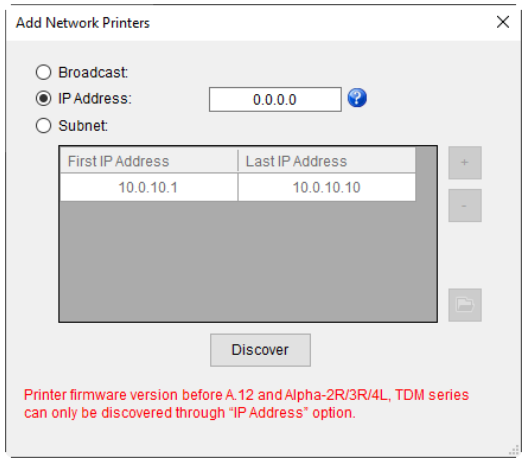
III. Select DHCP to **ON** (For **OFF** option, please fill-in the IP Address, Subnet Mask and Gateway)

IV. Select the **EAP Type** option. (For **EAP-TLS** option, please upload the CA and Key for mutual authentication, integrity-protected cipher suite negotiation, and key exchange between two endpoints.)

V. After setting, click the **Set** button.

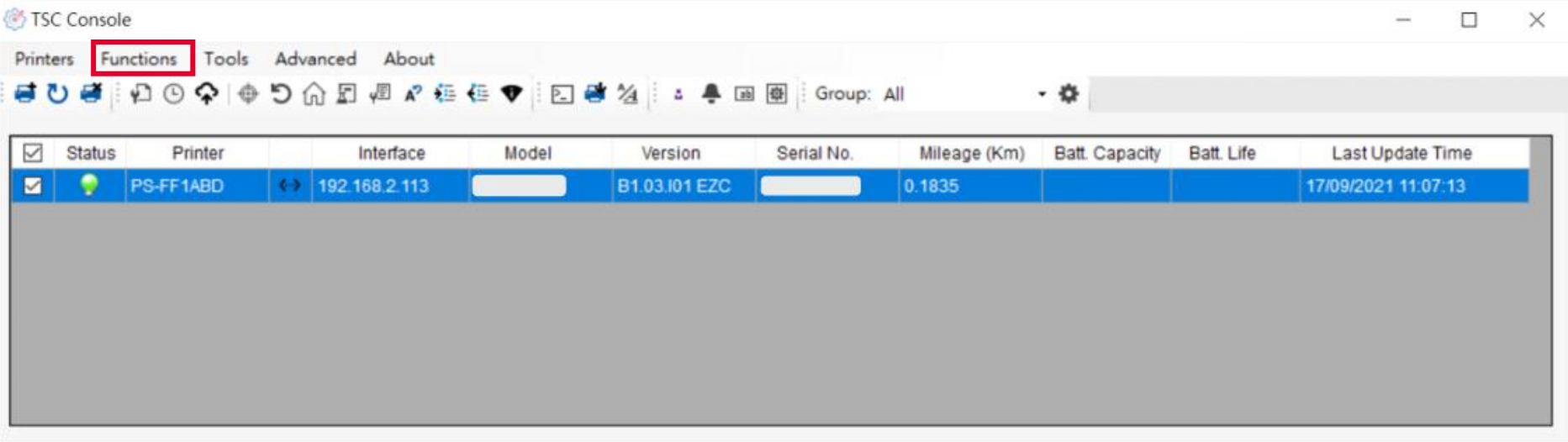
Note:
Before setting, the entered field will be shown in yellow for reminding.
On DHCP, user can change the printer name by another model name in “Printer Name” field.
User also can change the raw port in “Raw Port” field.



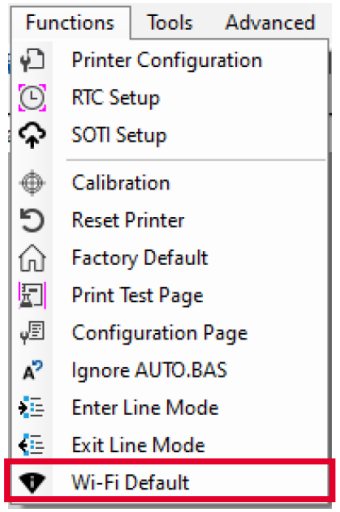
5. After clicking **Set** button, it'll pop-up the window tip as below shown.	
6. IP address will be shown in the “IP address” field.	
7. Remove the cable between the computer and the printer. **8.** Go to main page, click **Add Printer** to add the printer via **Network**. **9.** Select the printer and enter the setting page by double clicking the printer. **10.** Click the **Print Test Page** button to print the test page via Wi-Fi interface.	

5.3 Initialize the Printer WiFi Setting

1. Return to the main page of TSC Console.

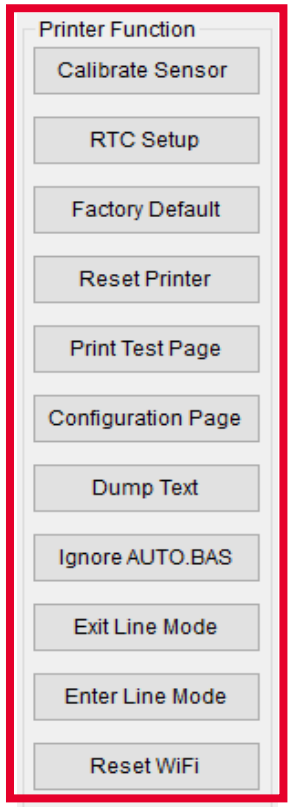


2. Click **Functions** to expand the page.
3. Click **Wi-Fi Default** to initialize the printer Wi-Fi module setting to factory default setting.



5.4 Printer Function

Printer Function could be found in **Printer Configuration**. “**Printer Function**” will be shown on the left side of the window.



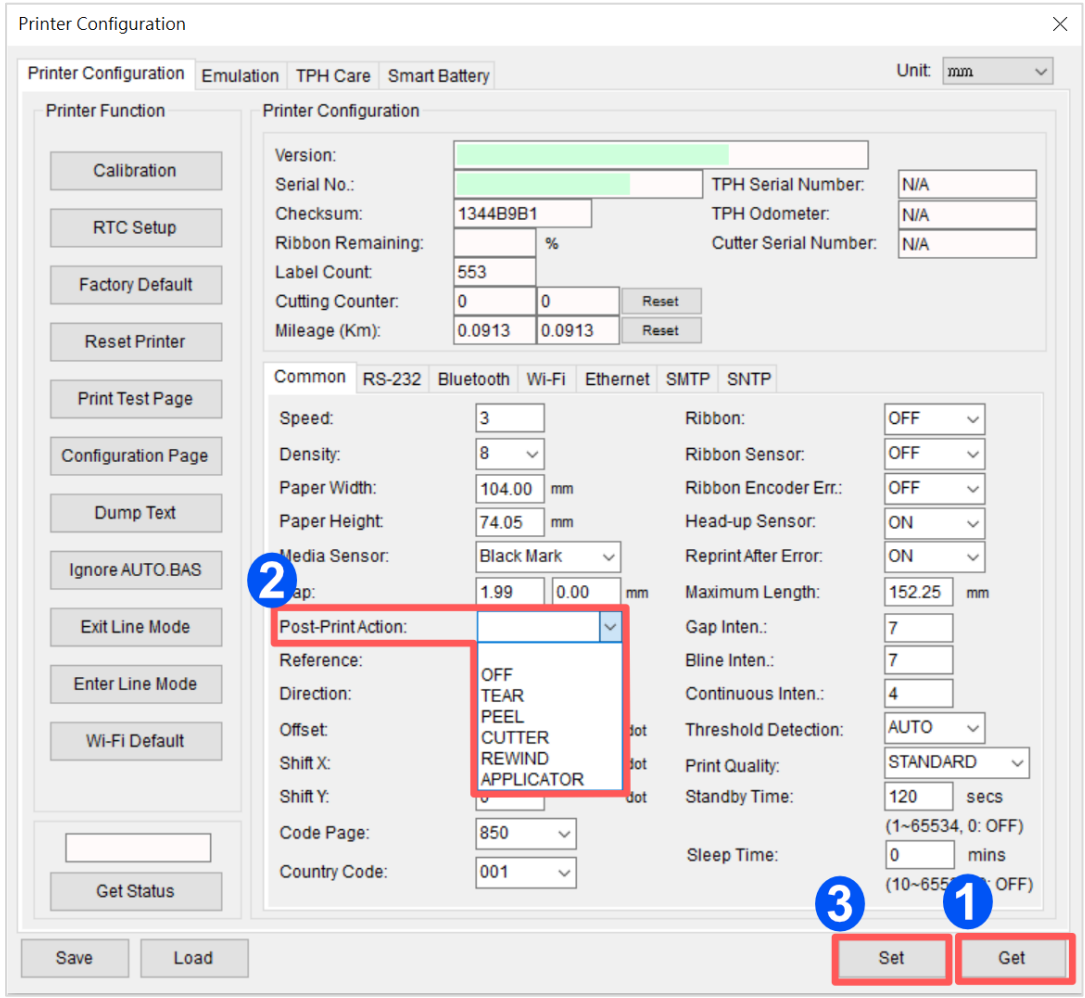
Functions	Description
Calibrate Sensor	Detect media types and the size of the label
RTC Setup	Synchronize printer with Real Time Clock on PC
Factory Default	Initialize the printer to default settings
Reset Printer	Reboot printer
Print Test Page	Print test page according to the specified label size and sensor type.
Configuration Page	Print printer configurations
Dump Text	Activate the printer to dump mode
Ignore AUTO.BAS	Ignore AUTO.BAS file when printer boot up.
Exit Line Mode	Exit the line mode to page mode
Enter Line Mode	Leave page mode and enter line mode
Reset WiFi	Restore the WiFi settings to defaults.

5.5 Setting Post-Print Action

When the printer is equipped with other opton kits, ex: cutter, peeler, rewinder, please select the mode after finishing the calibration.

Follow below procedure to set the post action for the printing:

Refer Chp 5.1 to Connect the printer with TSC Console > Double click the printer > The Printer Configuration Page will pop up > Click Get to load information > Go to Common Tab > Find Post-Print Action > Select the mode depending on users' application > Click Set.



6. TroubleShooting

Problem	Possible Cause	Recovery Procedure
Power indicator does not illuminate	* The battery is not properly installed. * The battery is dead.	* Reinstall the battery. * Switch the printer on. * Charge the battery.
- The printer status from TSC Console shows “Head Open”.	* The printer carriage is open.	* Please close the print carriage.
- The printer status from TSC Console l shows “Out of Paper”.	* Running out of media roll. * The media is installed incorrectly. * Black mark sensor is not calibrated.	* Supply a new media roll. * Calibrate the black mark sensor.
- The printer status from TSC Console shows “Paper Jam”.	* Black mark sensor is not set properly. * Make sure media size is set properly. * Media may be stuck inside the printer mechanism.	* Calibrate the black mark sensor. * Set media size correctly.
Memory full (FLASH / DRAM)	* The space of FLASH/DRAM is full.	* Delete unused files in the FLASH/DRAM. * Run printer self-test and check the available memory space for DRAM or FLASH. * Check the available memory space for DRAM or FLASH via DiagTool.
Poor Print Quality	* Media is loaded incorrectly * Dust or adhesive accumulation on the print head. * Print density is not set properly. * Print head element is damaged.	* Reload the supply. * Clean the print head. * Clean the platen roller. * Adjust the print density and print speed. * Run printer self-test and check the print head test pattern if there is dot missing in the pattern. * Change proper media roll.

Missing printing on the left or right side of label	* Wrong label size setup.	* Set the correct label size.
Gray line on the blank label	* The print head is dirty. * The platen roller is dirty.	* Clean the print head. * Clean the platen roller.
Irregular printing	* The printer is in Hex Dump mode. * The RS-232 setting is incorrect.	* Turn off and on the printer to skip the dump mode. * Re-set the Rs-232 setting.

7. Maintenance

This session presents the clean tools and methods to maintain the printer.

- **For Cleaning**

  Depending on the media used, the printer may accumulate residues (media dust, adhesives, etc.) as a by-product of normal printing. To maintain the best printing quality, you should remove these residues by cleaning the printer periodically. Regularly clean the print head and supply sensors once change a new media to keep the printer at the optimized performance and extend printer life.

- **For Disinfecting**

  Sanitize your printer to protect yourself and others and can help prevent the spread of viruses.

- **Important**

  - Set the printer power switch to O (Off) prior to performing any cleaning or disinfecting tasks. Leave the power cord connected to keep the printer grounded and to reduce the risk of electrostatic damage.
  - Do not wear rings or other metallic objects while cleaning any interior area of the printer.
  - Use only the cleaning agents recommended in this document. Use of other agents may damage the printer and void its warranty.
  - Do not spray or drip liquid cleaning solutions directly into the printer. Apply the solution on a clean lint-free cloth and then apply the dampened cloth to the printer.
  - Do not use canned air in the interior of the printer as it can blow dust and debris onto sensors and other critical components.
  - Only use a vacuum cleaner with a nozzle and hose that are conductive and grounded to drain off static build up.
  - All reference in these procedures for use of isopropyl alcohol requires that a 99% or greater isopropyl alcohol content be used to reduce the risk of moisture corrosion to the printhead.
  - Do not touch printhead by hand. If you touch it careless, please use 99% Isopropyl alcohol to clean it.
  - Always taking personal precaution when using any cleaning agent.

Cleaning Tools

- Cotton swab
- Lint-free cloth
- Brush with soft non-metallic bristles
- Vacuum cleaner
- 75% Ethanol (for disinfecting)
- 99% Isopropyl alcohol (for printhead and platen roller cleaning)
- Genuine printhead cleaning pen
- Mild detergent (without chlorine)

Cleaning Process:

Printer Part	Method	Interval
Print Head	I. Always turn off the printer before cleaning the printhead. II. Allow the printhead to cool for at least one minute. III. Use a cotton swab and 99% Isopropyl Alcohol or genuine print head cleaning pen to clean the print head surface.	Clean the print head when changing a new label roll.
Platen Roller	I. Turn off the printer. II. Rotate the platen roller and wipe it thoroughly with the lint-free 99% Isopropyl Alcohol.	Clean the platen roller when changing a new label roll
Peel Bar	Use the lint-free cloth with 99% Isopropyl Alcohol to wipe it.	As needed
Sensor	Use brush with soft non-metallic bristles or a vacuum cleaner, to remove paper dust. Clean upper and lower media sensors to ensure reliable Top of Form and Paper Out sensing.	Monthly
Exterior	Clean the exterior surfaces with a clean, lint-free cloth (water-dampened cloth). If necessary, use a mild detergent or desktop cleaning solution then use the 75% Ethanol to wipe it.	As needed
Interior	Clean the interior of the printer by removing any dirt and lint with a vacuum cleaner, as described above, or use a brush with soft non-metallic bristles then use the 75% Ethanol to wipe it.	As needed

8. Angency Compliance and Approvals

2014/30/EU(EMC), 2014/35/EU(LVD), 2011/65/EU(RoHS 2.0)
EN 55032 Class B
EN 55024
EN61000-3-2:2014
EN61000-3-3:2013
EN 60950-1

FCC part 15B, Class B

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 or more 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.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Class B digital apparatus complies with Canadian ICES-003
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

AS/NZS CISPR 22 Class B
AS/NZS CISPR 32 Class B

	EN 60950-1
	NOM-019-SCFI-1998
	10 C.F.R. Section 430.23(aa) (Appendix Y to Subpart B of part 430)
	Energy Star for Imaging Equipment 2.0
	TP TC 004/2011 **TP TC 020/2011**
	LP0002

Important safety instructions:

1. Read all of these instructions and keep them for later use.
2. Follow all warnings and instructions on the product.
3. Disconnect the power plug from the AC outlet before cleaning or if fault happened.
   Do not use liquid or aerosol cleaners. Using a damp cloth is suitable for cleaning.
4. The mains socket shall be installed near the equipment and easily accessible.
5. The unit must be protected against moisture.
6. Ensure the stability when installing the device, Tipping or dropping could cause damage.
7. Make sure to follow the correct power rating and power type indicated on marking label provided by manufacture.

8. Please refer to user manual for maximum operation ambient temperature.

WARNING:

Hazardous moving parts, keep fingers and other body parts away.

CAUTION:

(For equipment with RTC (CR2032) battery or rechargeable battery pack)

Risk of explosion if battery is replaced by an incorrect type.

Dispose of used batteries according to the Instructions as below.

1. DO NOT throw the battery in fire.
2. DO NOT short circuit the contacts.
3. DO NOT disassemble the battery.
4. DO NOT throw the battery in municipal waste.
5. The symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

 **Caution:** The printhead may be hot and could cause severe burns. Allow the printhead to cool.

CAUTION:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

CE Statement:

This equipment complies with EU radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

All operational modes:

2.4GHz: 802.11b, 802.11g, 802.11n (HT20), 802.11n (HT40)

5GHz: 802.11a,

The frequency, mode and the maximum transmitted power in EU are listed below:
2400 MHz – 2483.5 MHz: 19.88 dBm (EIRP)
5150 MHz – 5250 MHz: 17.51 dBm (EIRP)

5150-5350MHz for Only indoor use
5470-5725MHz for indoor/outdoor use

Restrictions In AZE

National restrictions information is provided below

Frequency Band	Country	Remark
5150-5350MHz	**Azerbaijan**	**No license needed if used indoor and power not exceeding 30mW**
5470-5725MHz		

Hereby, TSC Auto ID Technology Co., Ltd. declares that the radio equipment type [Wi-Fi] IEEE 802.11 a/b/g/n is in compliance with Directive 2014/53/EU
The full text of the EU declaration of conformity is available at the following internet address: http:// www.tscprinters.com

RF exposure warning (Wi-Fi)

This equipment must be installed and operated in accordance with provided instructions and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be providing with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.
SAR Value: 0.736 W/kg

RF exposure warning (For Bluetooth)

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

Canada, Industry Canada (IC) Notices

This Class B digital apparatus complies with Canadian ICES-003 and RSS-210.

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.

Radio Frequency (RF) Exposure Information

The radiated output power of the Wireless Device is below the Industry Canada (IC) radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.

This device has been evaluated for and shown compliant with the IC Specific Absorption Rate (“SAR”) limits when installed in specific host products operated in portable exposure conditions. **(For Wi-Fi)**

This device has also been evaluated and shown compliant with the IC RF Exposure limits under portable exposure conditions. (Antennas are less than 20 cm of a person's body). **(For Bluetooth)**

Canada, avis de l'Industry Canada (IC)

Cet appareil numérique de classe B est conforme aux normes canadiennes ICES-003 et RSS-210.

Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement.

Informations concernant l'exposition aux fréquences radio (RF)

La puissance de sortie émise par l’appareil sans fil est inférieure à la limite d'exposition aux fréquences radio de l'Industry Canada (IC). Utilisez l’appareil sans fil de façon à minimiser les contacts humains lors du fonctionnement normal.

Ce périphérique a été évalué et démontré conforme aux limites SAR (Specific Absorption Rate – Taux d'absorption spécifique) par l'IC lorsqu'il est connecté à des dispositifs hôtes spécifiques opérant dans des conditions d’utilisation mobile. **(Pour le Wi-Fi)**

Ce périphérique a également été évalué et démontré conforme aux limites d'exposition radio-fréquence par l'IC pour des utilisations par des opérateurs mobiles (les antennes sont à moins de 20 cm du corps d'une personne). **(Pour le Bluetooth)**

NCC 警語:

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。(即低功率電波輻射性電機管理辦法第十二條)

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。(即低功率電波輻射性電機管理辦法第十四條)

警告使用者：

此為甲類資訊技術設備，於居住環境中使用時，可能會造成射頻擾動，在此種情況下，使用者會被要求採取某些適當的對策。

設備名稱：可攜式熱感條碼印表機，主型號：Alpha-2R Series
Equipment name Type designation (Type)

單元Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr^{+6})	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
內外塑膠件	○	○	○	○	○	○
內外鐵件	-	○	○	○	○	○
滾輪	○	○	○	○	○	○
電路板	-	○	○	○	○	○
晶片電阻	-	○	○	○	○	○
積層陶瓷表面黏著電容	○	○	○	○	○	○
集成電路-IC	-	○	○	○	○	○
電源供應器	○	○	○	○	○	○
印字頭	○	○	○	○	○	○
插座	-	○	○	○	○	○

線材	-	○	○	○	○	○

備考1.〝超出0.1 wt %〞及〝超出0.01 wt %〞係指限用物質之百分比含量超出百分比含量基準值。

Note 1 : “Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

備考2.〝○〞係指該項限用物質之百分比含量未超出百分比含量基準值。

Note 2 : “○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考3.〝－〞係指該項限用物質為排除項目。

Note 3 : The “−” indicates that the restricted substance corresponds to the exemption.

MFi for Bluetooth

Made for iPhone | iPad | iPod

Use of the Made for Apple badge means that an accessory has been designed to connect specifically to the Apple product(s) identified in the badge, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards.

For US Model

Made for iPhone®XS Max, iPhone XS, iPhone XR, iPhone X, iPhone 8, iPhone 8 Plus, iPhone 7,
iPhone 7 Plus, iPhone SE, iPhone 6s, iPhone 6s Plus, iPhone 6, iPhone 6 Plus, iPhone 5s,
iPad Pro® 12.9-inch (2nd generation), iPad Pro 10.5-inch, iPad® (6th generation),
iPad (5th generation), iPad Pro 9.7-inch, iPad Pro 12.9-inch (1st generation), iPad Air® 2,
iPad mini™ 4, iPad mini 3, iPad Air, iPad mini 2, iPod touch® (6th generation)

For JP Model

Made for iPhone XS Max, iPhone XS, iPhone XR, iPhone X, iPhone 8, iPhone 8 Plus, iPhone 7,
iPhone 7 Plus, iPhone SE, iPhone 6s, iPhone 6s Plus, iPhone 6, iPhone 6 Plus, iPhone 5s,
iPad Pro 12.9-inch (2nd generation), iPad Pro 10.5-inch, iPad (6th generation), iPad (5th generation),
iPad Pro 9.7-inch, iPad Pro 12.9-inch (1st generation), iPad Air 2, iPad mini 4, iPad mini 3, iPad Air,
iPad mini 2, iPod touch (6th generation)

Except for US, JP Model

Made for iPhone XS Max, iPhone XS, iPhone XR, iPhone X, iPhone 8, iPhone 8 Plus, iPhone 7,
iPhone 7 Plus, iPhone SE, iPhone 6s, iPhone 6s Plus, iPhone 6, iPhone 6 Plus, iPhone 5s,
iPad Pro 12.9-inch (2nd generation), iPad Pro 10.5-inch, iPad (6th generation), iPad (5th generation),
iPad Pro 9.7-inch, iPad Pro 12.9-inch (1st generation), iPad Air 2, iPad mini 4, iPad mini 3, iPad Air,
iPad mini 2, iPod touch (6th generation)

9. Revise History

Date	Content	Editor


TSC
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