

TC530R- RFID Touch Computer



ZEBRA

Quick Start Guide

2024/02/06

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Features

This section lists the features of the TC53e-RFID touch computer.

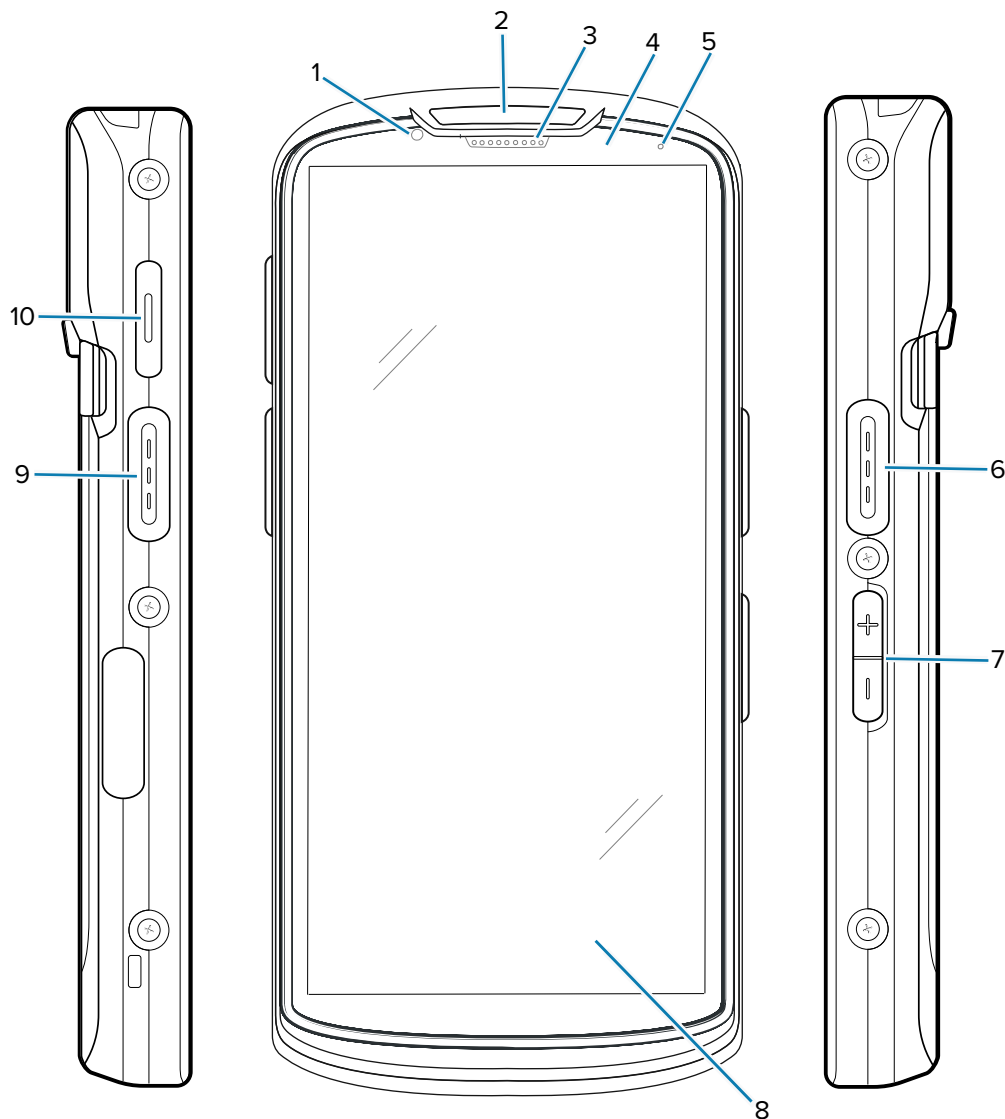
The TC53e-RFID features a built-in encoder/reader, including:

- RFID tag read range of 1.5 - 2.0 m.
- RFID read speed of 20 tags per second.
- An omnidirectional antenna.



NOTE: When using the device for Voice over Internet Protocol (VoIP) calls near the head (for example, the user is holding the device to their ear), RFID power will be disabled. Hands-free or wireless VoIP calls (for example, with earphones or Bluetooth) will not disable RFID power.

Figure 1 Front and Side Views

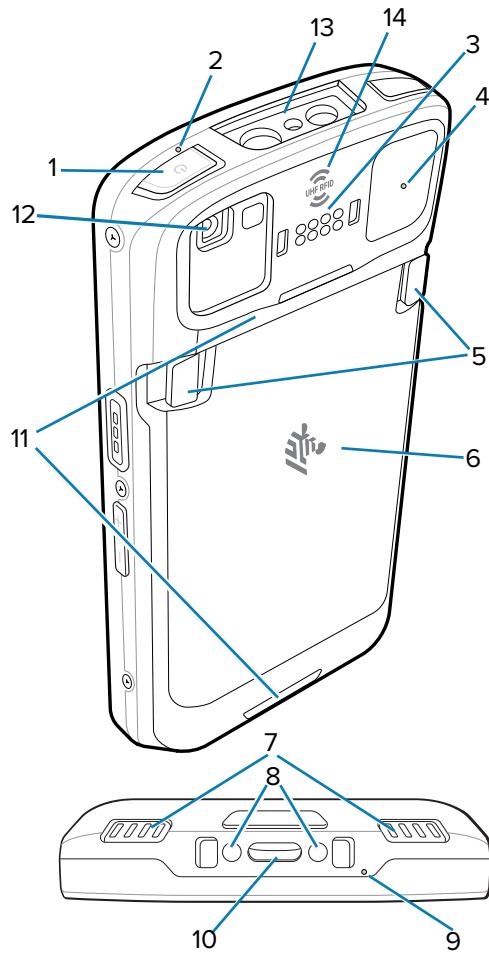


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Table 1 TC53e-RFID Front and Side Items

Number	Item	Description
1	Front camera (8MP)	Takes photos and videos.
2	Scan LED	Indicates data capture status.
3	Receiver	Use for audio playback in Handset mode.
4	Proximity/light sensor	Determines proximity and ambient light for controlling display backlight intensity.
5	Battery status LED	Indicates battery charging status while charging and application-generated notifications.
6, 9	Scan button	Initiates data capture (programmable).
7	Volume up/down button	Increase and decrease audio volume (programmable).
8	6 in. LCD touch screen	Displays all information needed to operate the device.
10	PTT button	Typically used for PTT communications.

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Figure 2 Back, Top, and Bottom View**Table 2** TC53e-RFID Back, Top, and Bottom Items

Number	Item	Description
1	Power button	Turns the display on and off. Press and hold to power off, restart, or lock the device.
2, 4, 9	Microphone	Use for communications in Handset/Handsfree mode, audio recording, and noise cancellation.
3	Back common I/O 8 pins	Provides host communications, audio, and device charging via cables and accessories.
5	Battery release latches	Pinch both latches in and lift up to remove the battery.
6	Battery	Provides power to the device.
7	Speaker	Provides audio output for video and music playback. Provides audio in speakerphone mode.
8	DC input pins	Power/ground for charging (5V through 9V).

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Table 2 TC53e-RFID Back, Top, and Bottom Items (Continued)

Number	Item	Description
10	USB Type C and 2 charge pins	Provides power to the device using an I/O USB-C interface with 2 charge pins.
11	Hand strap attachment points	Attachment points for the hand strap.
12	Rear camera (16MP) with flash	Takes photos and videos with flash to provide illumination for the camera.
13	Exit window	Provides data capture using the imager.
14	UHF RFID	Integrated RFID.  NOTE: If an RFD40 or RFD90 sled is connected to the device, it overrides the integrated RFID.

123RFID Mobile Application

123RFID Mobile Application (app) for Android demonstrates the device's tag operation functionality.

This app is available on the [Google Play store](#). For more information on installing the 123RFID Mobile app, go to the [Zebra 123RFID Mobile Support](#) page.

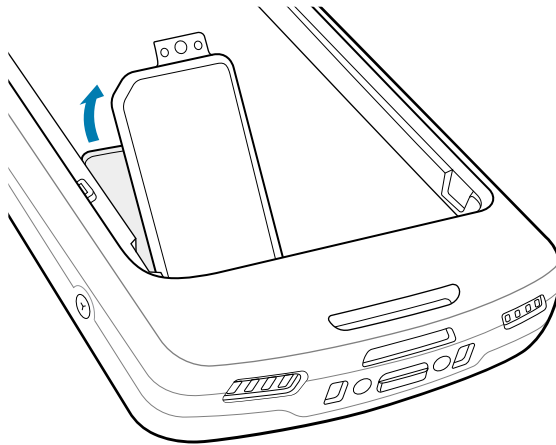
Installing a MicroSD Card

This section describes how to install a MicroSD card.



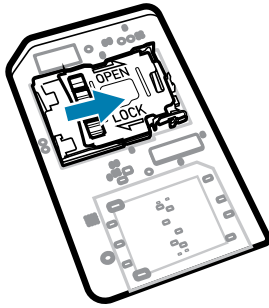
CAUTION—ESD: Follow proper electrostatic discharge (ESD) precautions to avoid damaging the MicroSD card. Proper ESD precautions include, but are not limited to, working on an ESD mat and ensuring the operator is properly grounded.

1. Lift the access door.

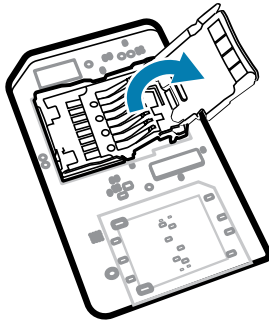


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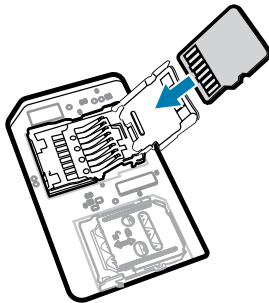
2. Slide the microSD card holder to the Open position.



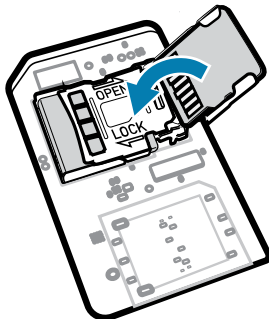
3. Lift the microSD card holder door.



4. Insert the microSD card into the card holder. Ensure that the card slides into the holding tabs on each side of the door.

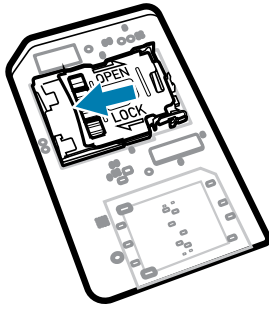


5. Close the microSD card holder.



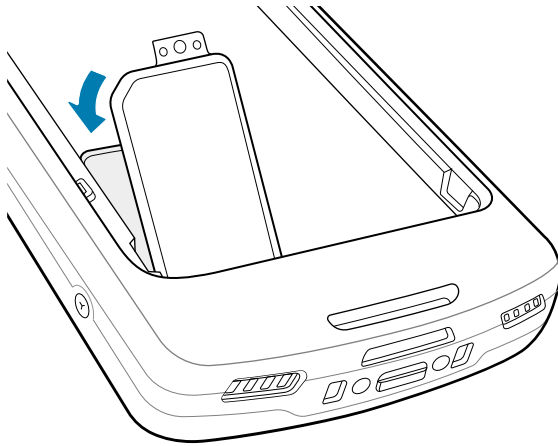
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6. Slide the microSD card holder to the Lock position.



NOTE: The access door must be replaced and securely seated to ensure proper device sealing.

7. Reinstall the access door.



Installing the Battery

This section describes how to install a battery into the device.

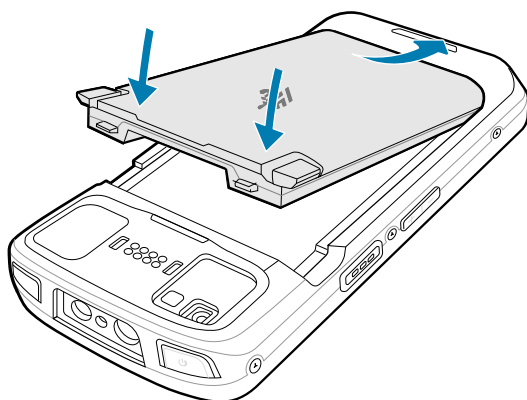


NOTE: Do not put any labels, asset tags, engravings, stickers, or other objects in the battery well. Doing so may compromise the intended performance of the device or accessories. Performance levels, such as sealing [Ingress Protection (IP)], impact performance (drop and tumble), functionality, or temperature resistance, could be affected.

1. Insert the battery, bottom first, into the battery compartment in the back of the device.

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2. Press the battery down until it snaps into place.



Using the Rechargeable Li-Ion Battery with BLE Beacon

This device utilizes a rechargeable Li-Ion battery to facilitate Bluetooth Low Energy (BLE) Beacon. When enabled, the battery transmits a BLE signal for up to seven days while the device is powered off due to battery depletion.



NOTE: The device transmits a Bluetooth beacon only when it is powered off or in airplane mode.

For additional information on configuring the Secondary BLE settings, see techdocs.zebra.com/emdk-for-android/13-0/mx/beaconmgr/.

Charging the Device

Before using the device for the first time, charge the main battery until the green LED Charging/Notification remains lit. To charge the device, use a cable or a cradle with the appropriate power supply.

To achieve optimal charging results, use only Zebra charging accessories and batteries. Charge batteries at room temperature with the device in sleep mode.

A standard battery charges from fully depleted to 90% in approximately 2 hours and from fully depleted to 100% in approximately 3 hours. In many cases, a 90% charge provides enough charge for daily use. Depending on the usage profile, a full 100% charge may last for approximately 14 hours of use.

The device or accessory always performs battery charging in a safe and intelligent manner. The device or accessory indicates when charging is disabled due to abnormal temperatures via its LED, and a notification appears on the device display.

Temperature	Battery Charging Behavior
20 to 45°C (68 to 113°F)	Optimal charging range.
0 to 20°C (32 to 68°F) 45 to 50°C (113 to 122°F)	Charging slows to optimize the JEITA requirements of the cell.
Below 0°C (32°F) Above 50°C (122°F)	Charging stops.

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Temperature	Battery Charging Behavior
Above 55°C (131°F)	The device shuts down.

To charge the main battery:

1. Connect the charging accessory to the appropriate power source.
2. Insert the device into a cradle or attach to a powered cable (minimum 9 volts / 2 amps). The device turns on and begins charging. The Charging/Notification LED blinks amber while charging, then turns solid green when fully charged.

Charging Indicators

The charging/notification LED indicates the charging status.

Table 3 Charging/Notification LED Charging Indicators

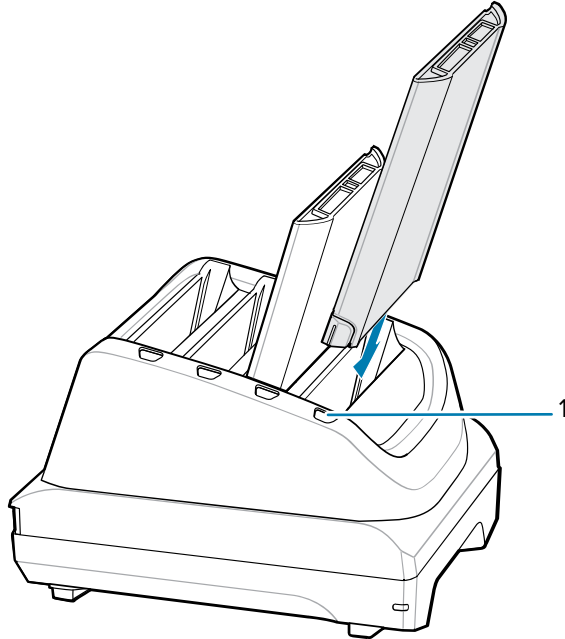
State	LED Color	Indications
Off		The device is not charging. • The device is not inserted correctly in the cradle or connected to a power source. • The charger/cradle is not powered.
Slow Blinking Amber (1 blink every 4 seconds)		The device is charging.
Slow Blinking Red (1 blink every 4 seconds)		The device is charging, but the battery is at the end of its useful life.
Solid Green		Charging is complete.
Solid Red		Charging is complete, but the battery is at the end of its useful life.
Fast Blinking Amber (2 blinks/second)		Charging error. For example: • Temperature is too low or too high. • Charging has gone on too long without completion (typically 12 hours).
Fast Blinking Red (2 blinks/second)		Charging error, and the battery is at the end of its useful life. For example: • The temperature is too low or too high. • Charging has gone on too long without completion (typically 12 hours).

Charging the Spare Battery

This section provides information on charging a spare battery. To achieve optimal charging results, use only Zebra charging accessories and batteries.

1. Insert a spare battery into the spare battery slot.

Figure 3 Example of a 4-Slot Battery Charger



2. Ensure the batter is seated properly.

The Spare Battery Charging LED (1) blinks, indicating charging.

The battery charges from fully depleted to 90% in approximately 2.5 hours and from fully depleted to 100% in approximately 3.5 hours. In many cases, the 90% charge provides plenty of charge for daily use. Depending on the usage profile, a full 100% charge may last for approximately 14 hours of use.

Accessories for Charging

Use one of the following accessories to charge the device and/or spare battery.

Charging and Communication

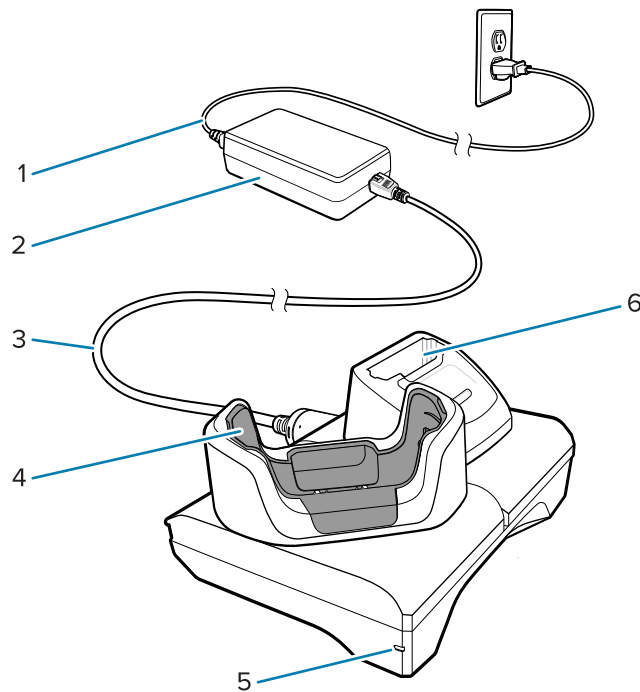
Description	Part Number	Charging		Communication	
		Battery (In device)	Spare Battery	USB	Ethernet
1-Slot Charge Only Cradle	CRD-NGTC5-2SC1B	Yes	Yes	No	No
1-Slot USB/Ethernet Cradle	CRD-NGTC5-2SE1B	Yes	Yes	Yes	Yes
5-Slot Charge Only Cradle with Battery	CRD-NGTC5-5SC4B	Yes	Yes	No	No
5-Slot Charge Only Cradle	CRD-NGTC5-5SC5D	Yes	No	No	No

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Description	Part Number	Charging		Communication	
		Battery (In device)	Spare Battery	USB	Ethernet
5-Slot Ethernet Cradle	CRD-NGTC5-5SE5D	Yes	No	No	Yes
Charge/USB Cable	CBL-TC5X USBC2A-01	Yes	No	Yes	No

1-Slot Charge Only Cradle

This USB cradle provides power and host communications.

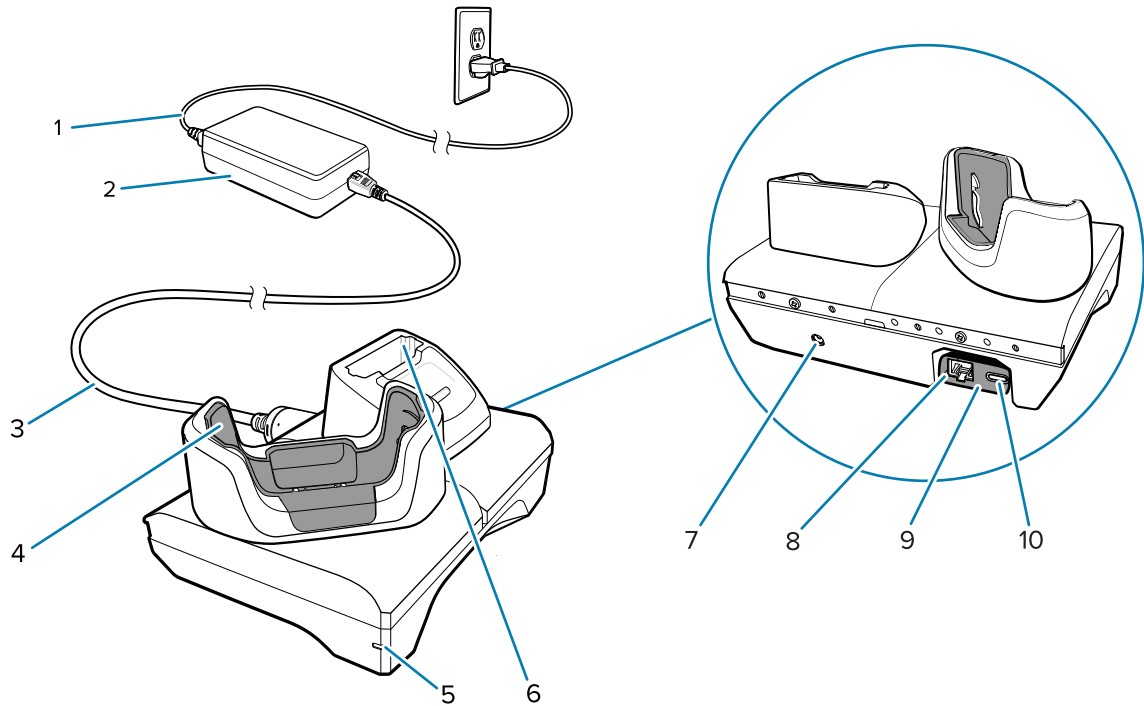


1	AC line cord
2	Power supply
3	DC line cord
4	Device charging slot
5	Power LED
6	Spare battery charging slot

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1-Slot Ethernet USB Charge Cradle

This Ethernet cradle provides power and host communications.



1	AC line cord
2	Power supply
3	DC line cord
4	Device charging slot
5	Power LED
6	Spare battery charging slot
7	DC line cord input
8	Ethernet port (on USB to Ethernet module kit)
9	USB to Ethernet module kit
10	USB port (on USB to Ethernet module kit)



NOTE: The USB to Ethernet module kit (KT-TC51-ETH1-01) connects via a single-slot USB charger.

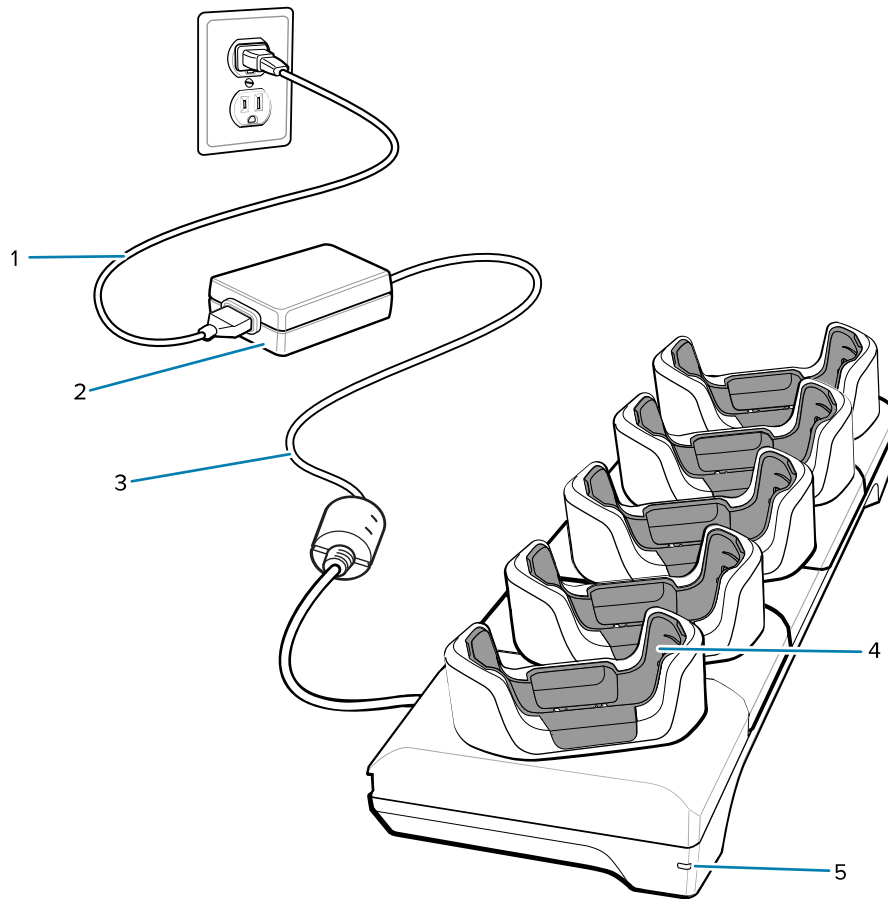
5-Slot Charge Only Cradle

The 5-Slot Charge Only Cradle:

- Provides 5.0 VDC power for operating the device.

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- Simultaneously charges up to five devices or up to four devices and four batteries using the 4-slot battery charger adapter.
- Contains a cradle base and cups that can be configured for various charging requirements.



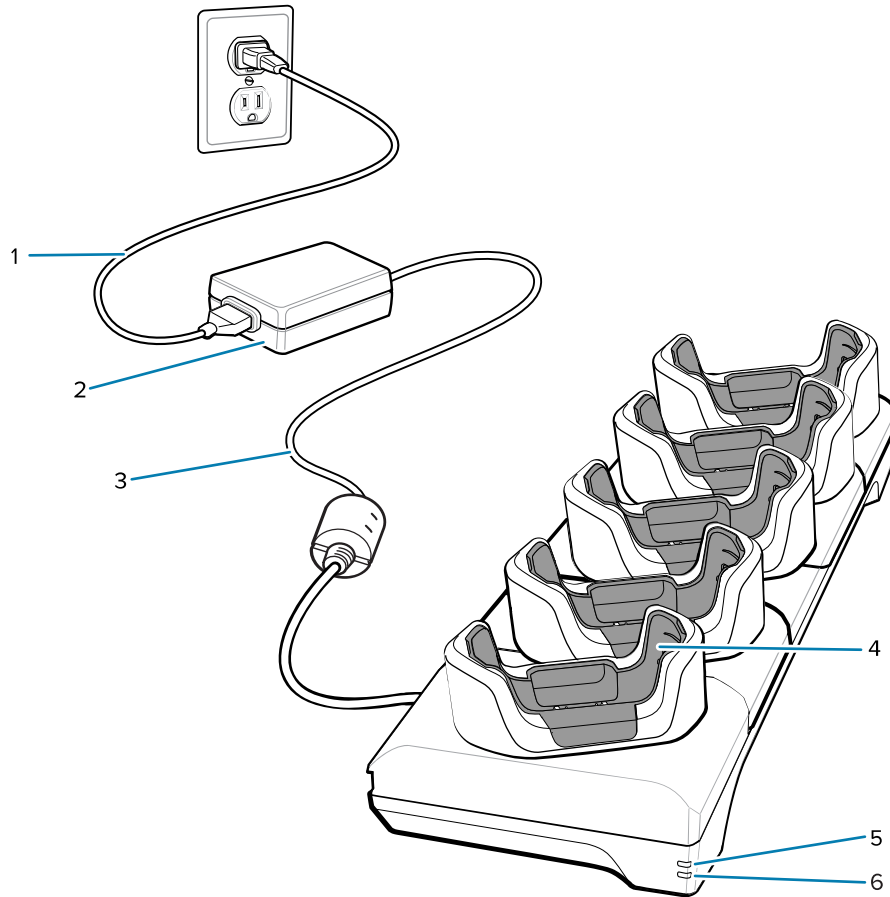
1	AC line cord
2	Power supply
3	DC line cord
4	Device charging slot with shim
5	Power LED

5-Slot Ethernet Cradle

The 5-Slot Ethernet Cradle:

- Provides 5.0 VDC power for operating the device.
- Connects up to five devices to an Ethernet network.
- Simultaneously charges up to five devices or up to four devices and four batteries using the 4-slot battery charger adapter.

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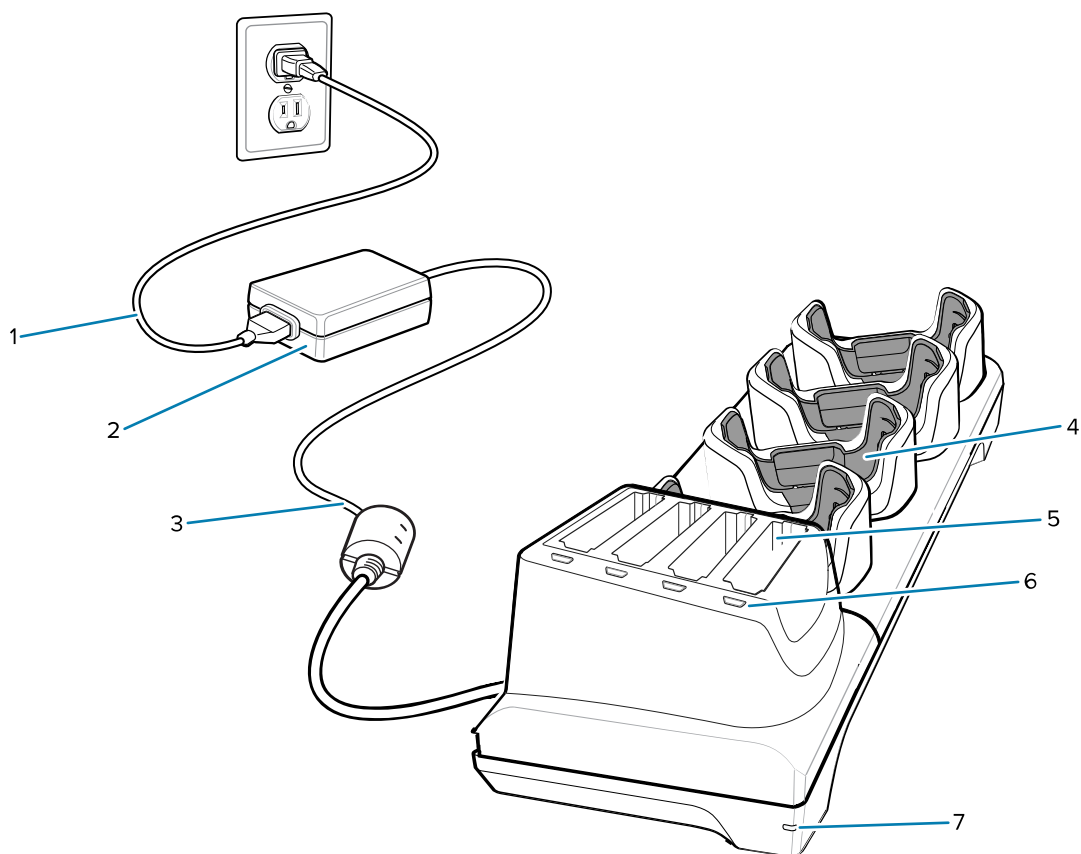
1	AC line cord
2	Power supply
3	DC line cord
4	Device charging slot
5	1000Base-T LED
6	10/100Base-T LED

5-Slot (4 Device/4 Spare Battery) Charge Only Cradle with Battery Charger

The 5-Slot Charge Only Cradle:

- Provides 5.0 VDC power for operating the device.
- Simultaneously charges up to four devices and four spare batteries.

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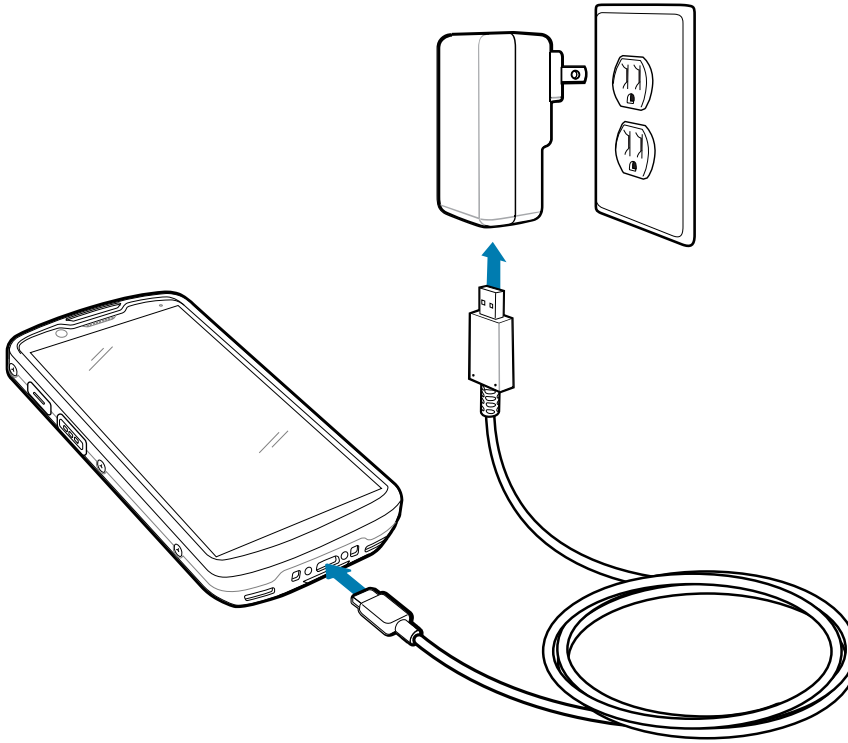


1	AC line cord
2	Power supply
3	DC line cord
4	Device charging slot with shim
5	Spare battery charging slot
6	Spare battery charging LED
7	Power LED

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Charge/USB-C Cable

The USB-C Cable snaps onto the bottom of the device and removes easily when not in use. When attached to the device, it provides charging and allows the device to transfer data to a host computer.



Scanning with Internal Imager

Use the internal imager to capture barcode data.

To read a barcode or QR code, a scan-enabled application is required. The device contains the DataWedge Demonstration (DWDemo) app, which allows you to enable the imager, decode the barcode/QR code data, and display barcode content.

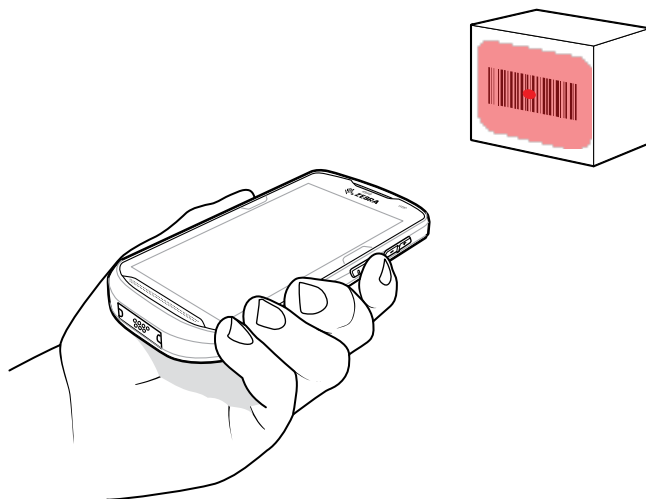


NOTE: The SE4720 displays a red dot aimer.

1. Ensure that an application is open on the device and a text field is in focus (text cursor in text field).

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2. Point the exit window on the top of the device at a barcode or QR code.



3. Press and hold the scan button.
The device projects the aiming pattern.

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4. Ensure the barcode or QR code is within the area formed in the aiming pattern.

Figure 4 SE4720 Aiming Pattern

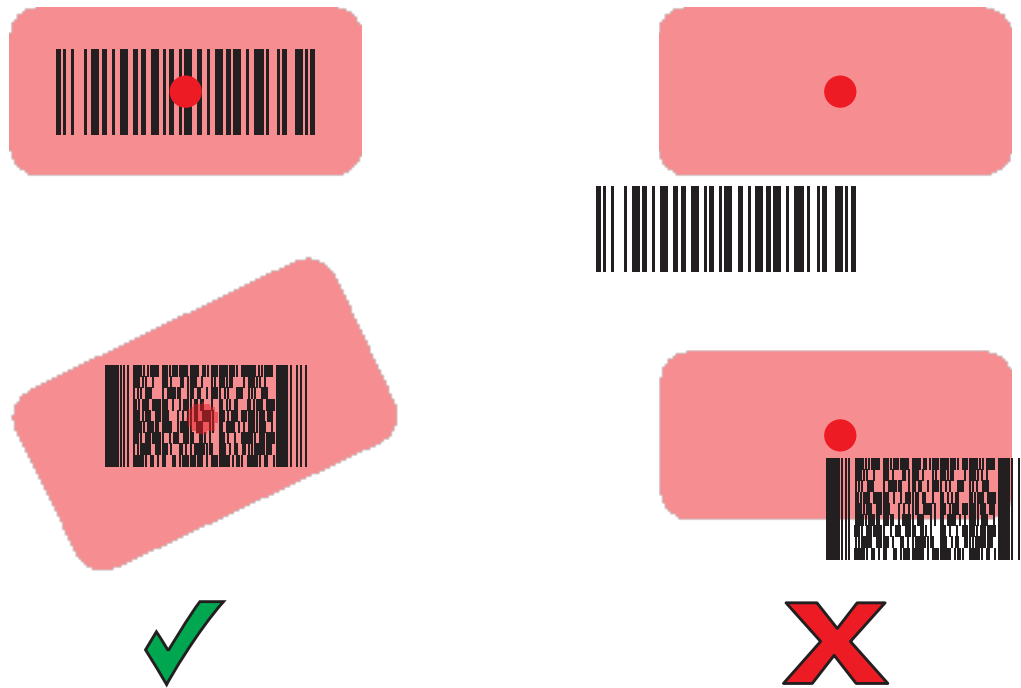
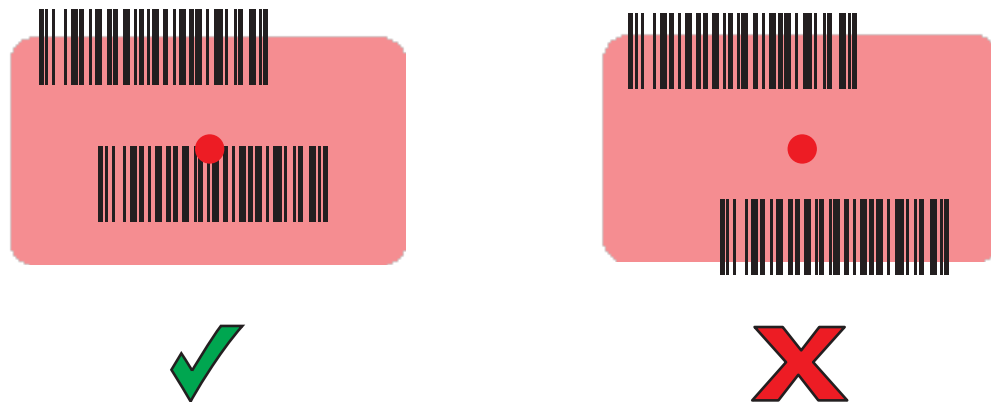


Figure 5 SE4720 Picklist Mode Aiming Patterns with Multiple Barcodes



NOTE: When the device is in Picklist mode, it does not decode the barcode/QR code until the center of the crosshair touches the barcode/QR code.

The Data Capture LED light turns green, and the device beeps, by default, to indicate that the barcode or QR code was decoded successfully.

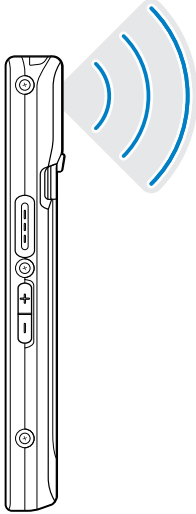
5. Release the scan button.

The device displays the barcode or QR code data in the text field.

RFID Scanning Considerations

The following hand grips are recommended to ensure the RFID function works properly.

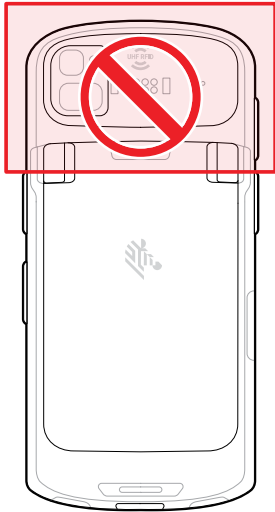
RFID Scanning Orientation



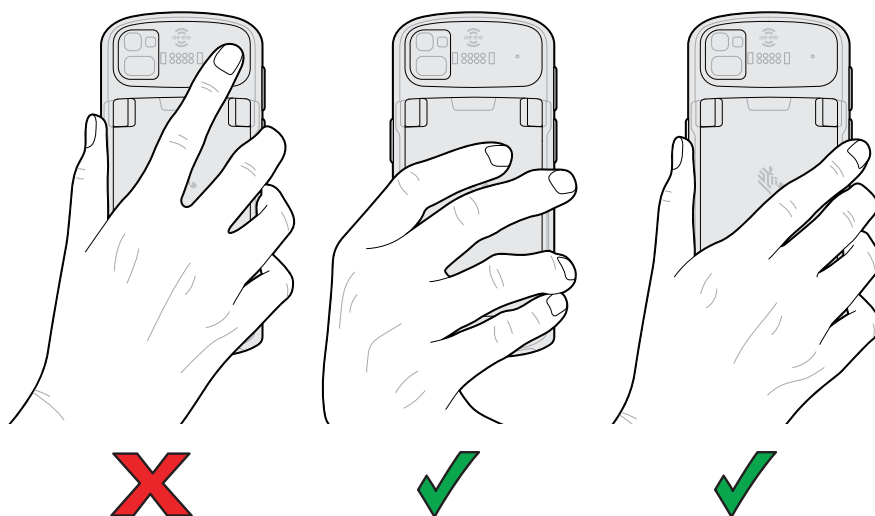
Optimal Hand Grips



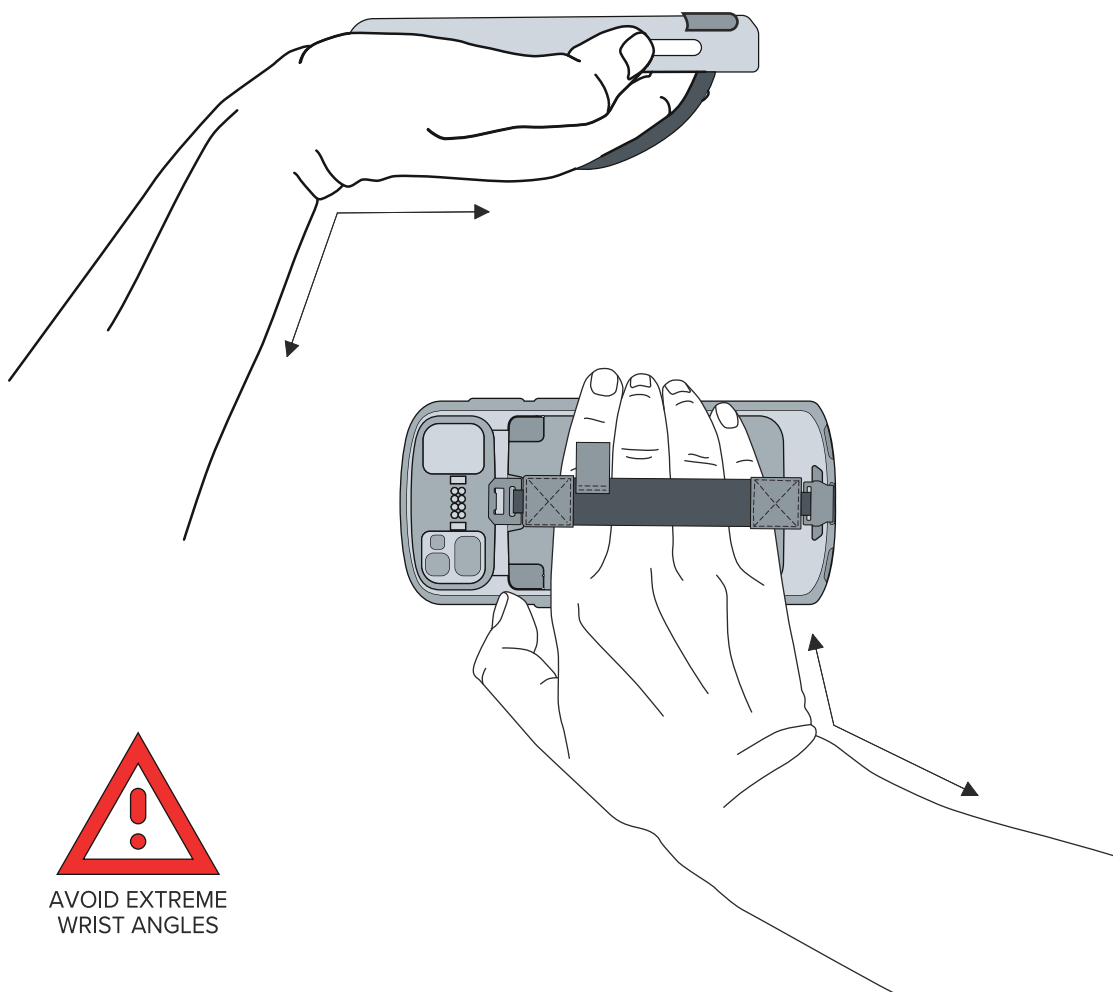
IMPORTANT: When holding the device, ensure that your hand is below the hand strap (towel) bar and the scan buttons.



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Ergonomic Considerations



Service Information

Repair services using Zebra-qualified parts are available for at least three years after the end of production and can be requested at zebra.com/support.

