

# TC52ax/TC52ax-HC

Touch Computer



**ZEBRA**

## Quick Reference Guide

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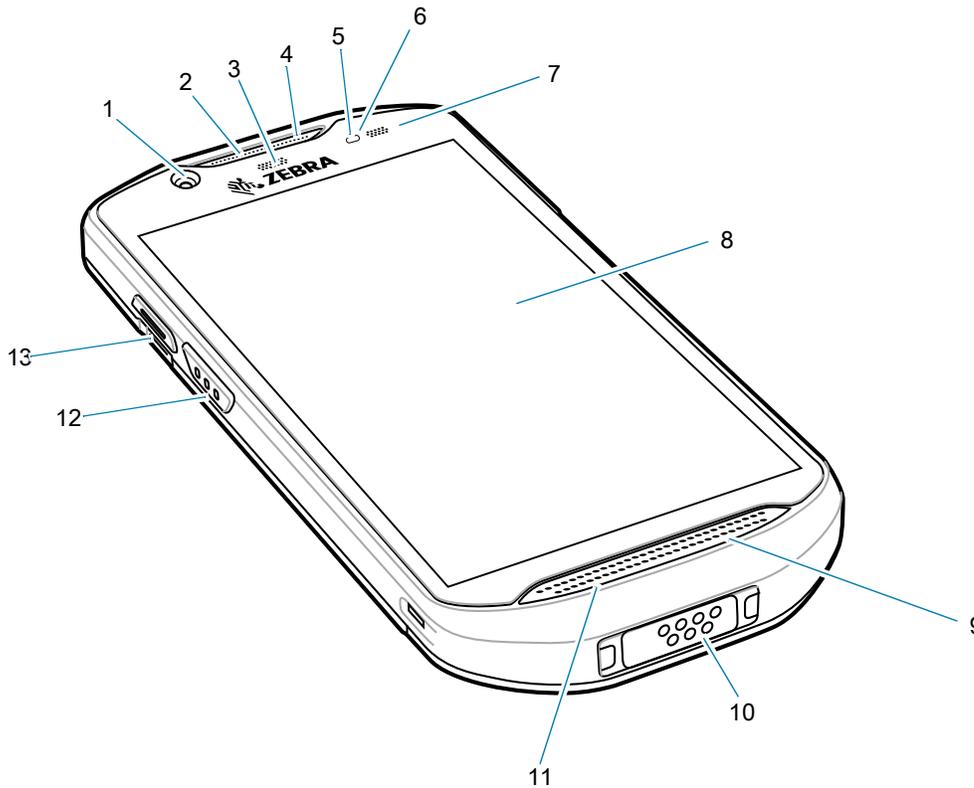
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# Features



**CAUTION:** The interface connector at the bottom of the device is not removable. Trying to remove the connector will cause damage to the device and can void warranty.

**Figure 1** Front View



**Table 1**

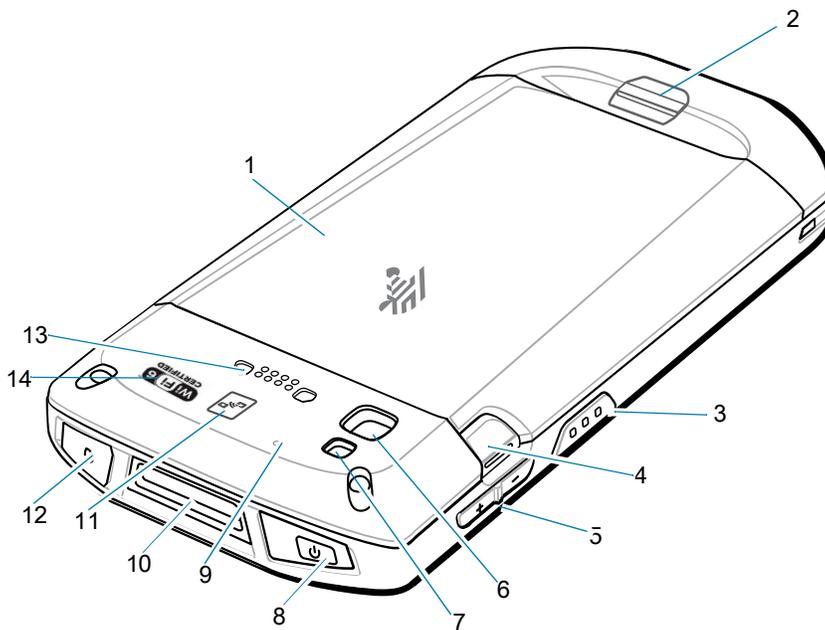
Number	Item	Function
1	5 MP Front Camera	Takes photos and videos.
2	Receiver	Use for audio playback in Handset mode.
3	Data Capture LED	Indicates data capture status.
4	Microphone	Use for communications in Speakerphone mode.
5	Proximity Sensor	Determines proximity for turning off display when in handset mode.
6	Light Sensor	Determines ambient light for controlling display backlight intensity.
7	Charging/Notification LED	Indicates battery charging status while charging and application generated notifications.
8	Touch Screen	Displays all information needed to operate the device.
9	Speaker	Provides audio output for video and music playback. Provides audio in speakerphone mode.

**Table 1**

Number	Item	Function
10	Interface Connector	Provides USB host and client communications, audio and device charging via cables and accessories.
11	Microphone	Use for communications in Handset mode.
12	Scan Button	Initiates data capture (programmable).
13	Programmable Button	Programmable button for use with applications. Where regulatory restrictions exist <sup>1</sup> the button is configurable for use with other applications.

<sup>1</sup>Pakistan, Qatar

**Figure 2** TC52ax Rear View



Number	Item	Function
1	Re-Chargeable Li-Ion Battery with BLE Beacon	≥15.48 Watt hours (typical) / ≥ 4,150 mAh
2	Basic Hand Strap Mount	Provides mounting point for Basic Hand Strap accessory.
3	Scan Button	Initiates data capture (programmable).
4	Battery Release Latches	Press to remove the battery.
5	Volume Up/Down Button	Increase and decrease audio volume (programmable).
6	13 MP Rear Camera	Takes photos and videos.
7	Camera Flash	Provides illumination for the camera.
8	Power Button	Turns the display on and off. Press and hold to reset the device, power off or swap battery.
9	Microphone	Use for noise cancellation.

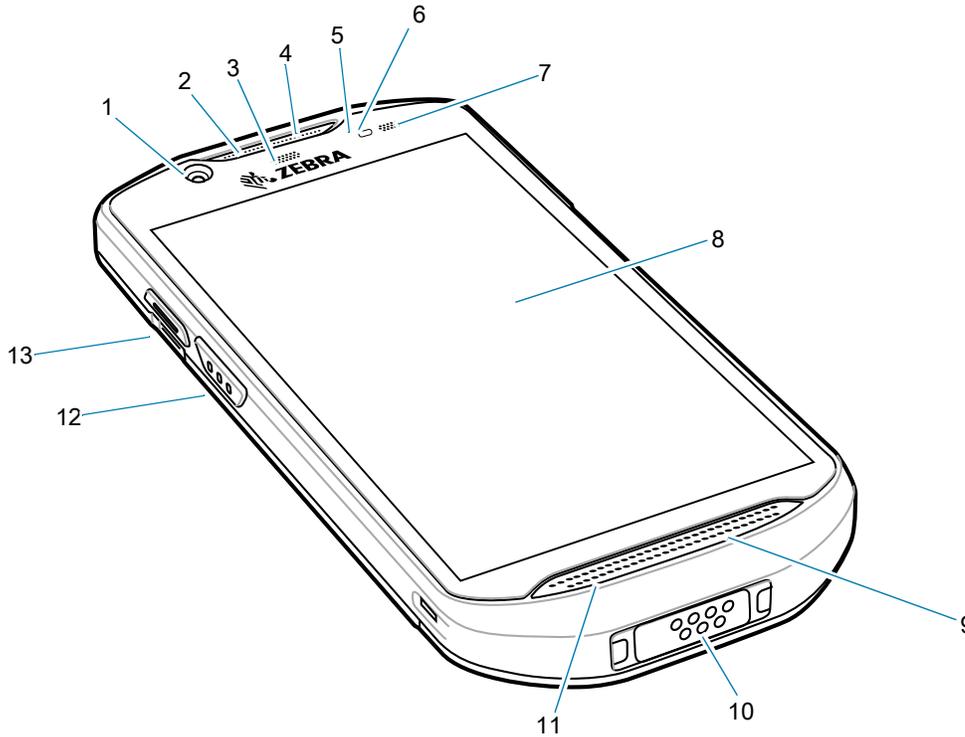
Number	Item	Function
10	Exit Window	Provides data capture using the imager.
11	NFC Antenna	Provides communication with other NFC-enabled devices.
12	Headset Jack	For audio output to headset.
13	Trigger Handle Mount	Provides electrical contacts and mounting for the Trigger Handle.
14	Wi-Fi 6 Logo	Certifies that the TC52ax supports Wi-Fi 6.

# TC52ax Advanced Range Features



**CAUTION:** The 7-pin interface connector at the bottom of the device is not removable. Trying to remove the connector will cause damage to the device and can void warranty.

**Figure 3** TC52ax Advanced Range Front View



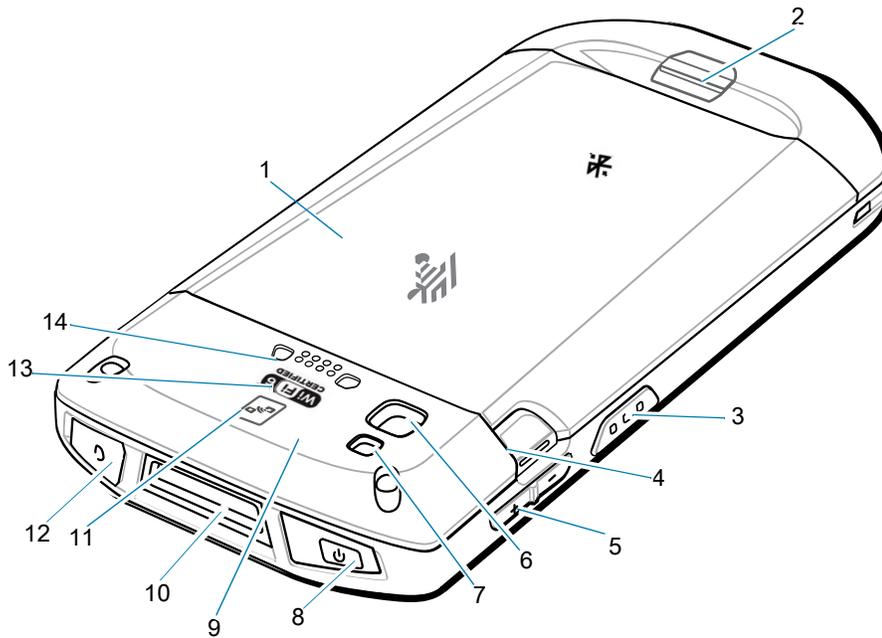
Number	Item	Function
1	5 MP Front camera	Takes photos and videos.
2	Receiver	Use for audio playback in Handset mode.
3	Data capture LED	Indicates data capture status.
4	Microphone	Use for communications in Speakerphone mode.
5	Proximity sensor	Determines proximity for turning off display when in handset mode.
6	Light sensor	Determines ambient light for controlling display backlight intensity.
7	Charging/Notification LED	Indicates battery charging status while charging and application generated notifications.
8	Touch screen	Displays all information needed to operate the device.
9	Speaker	Provides audio output for video and music playback. Provides audio in speakerphone mode.
10	Interface connector	Provides USB host and client communications, audio and device charging via cables and accessories.

**Note 1: Pakistan, Qatar**

Number	Item	Function
11	Microphone	Use for communications in Handset mode.
12	Scan button	Initiates data capture (programmable).
13	Programmable button	Typically used for PTT communications. Where regulatory restrictions exist <sup>1</sup> , button is configurable for use with other applications.

Note 1: Pakistan, Qatar

Figure 4 TC52ax Advanced Range Rear View

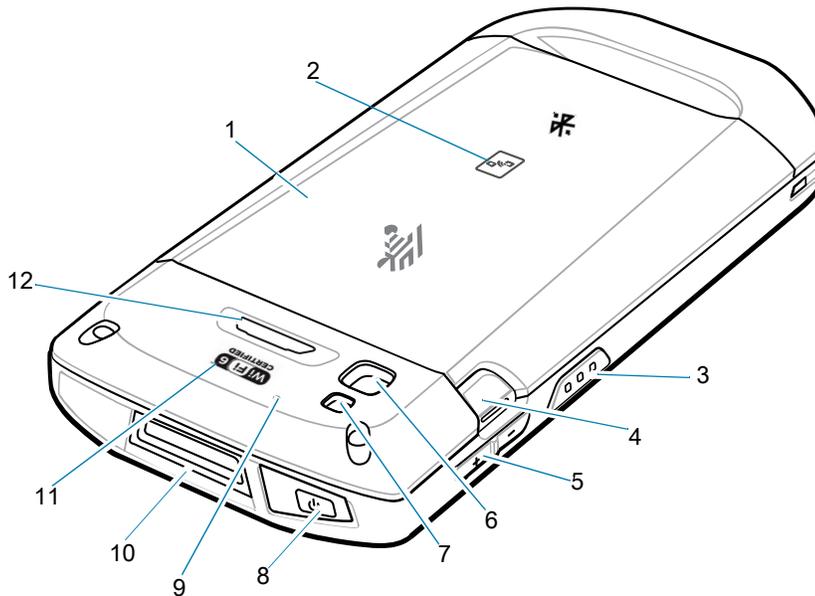


Number	Item	Function
1	Battery	Re-Chargeable Li-Ion Battery with BLE Beacon.
2	Basic hand strap mount	Provides mounting point for Basic Hand Strap accessory.
3	Scan button	Initiates data capture (programmable).
4	Battery release latches	Press to remove the battery.
5	Volume up/down button	Increase and decrease audio volume (programmable).
6	13 MP rear camera	Takes photos and videos.
7	Camera flash	Provides illumination for the camera.
8	Power button	Turns the display on and off. Press and hold to reset the device, power off or swap battery.
9	Microphone	Use for noise cancellation.
10	Exit window	Provides data capture using the imager.
11	NFC antenna	Provides communication with other NFC-enabled devices.

Number	Item	Function
12	Headset jack	For audio output to headset.
13	Wi-Fi 6 Logo	Certifies that the TC52ax supports Wi-Fi 6.
14	Trigger Handle Mount	Provides electrical contacts and mounting for the Trigger Handle.

## TC52ax-HC Features

Figure 5 TC52ax-HC Rear View



Number	Item	Function
1	Battery	Re-Chargeable Li-Ion Battery with BLE Beacon.
2	NFC Antenna	Provides communication with other NFC-enabled devices.
3	Scan button	Initiates data capture (programmable).
4	Battery release latches	Press to remove the battery.
5	Volume up/down button	Increase and decrease audio volume (programmable).
6	13 MP rear camera	Takes photos and videos.
7	Camera flash	Provides illumination for the camera.
8	Power button	Turns the display on and off. Press and hold to reset the device, power off or swap battery.
9	Microphone	Use for noise cancellation.
10	Exit window	Provides data capture using the imager.
11	Wi-Fi 6 Logo	Certifies that the TC52ax-HC supports Wi-Fi 6.
12	Red Alert Button	Programmable button for use with applications.

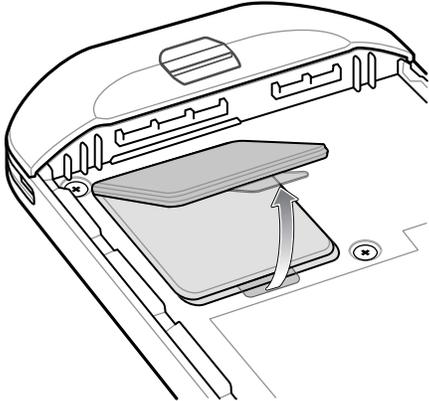
## Installing a microSD Card

The microSD card slot provides secondary non-volatile storage. The slot is located under the battery pack. Refer to the documentation provided with the card for more information, and follow the manufacturer's recommendations for use.

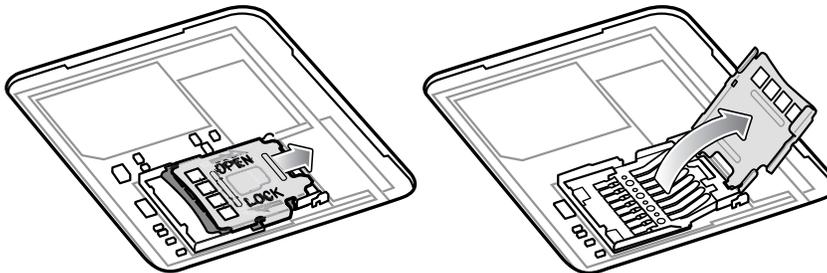


**CAUTION:** Follow proper electrostatic discharge (ESD) precautions to avoid damaging the microSD card. Proper ESD precautions include, but are not limited to, working on an ESD mat and ensuring that the operator is properly grounded.

1. Lift the access door.

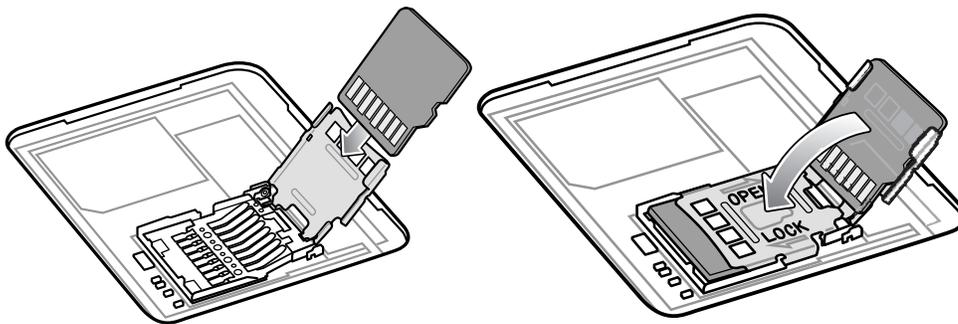


2. Slide the microSD card holder to the unlock position.



3. Lift the microSD card holder.

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

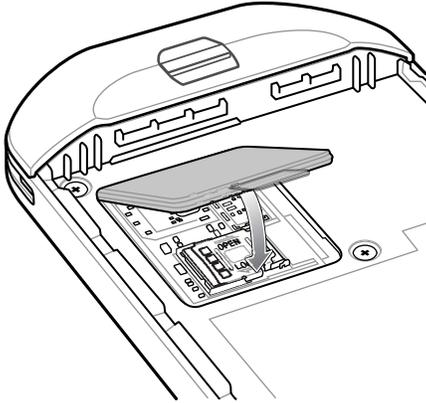


5. Close the microSD card holder and lock into position.



**CAUTION:** Access door must be replaced and securely seated to ensure proper device sealing.

6. Re-install the access door.



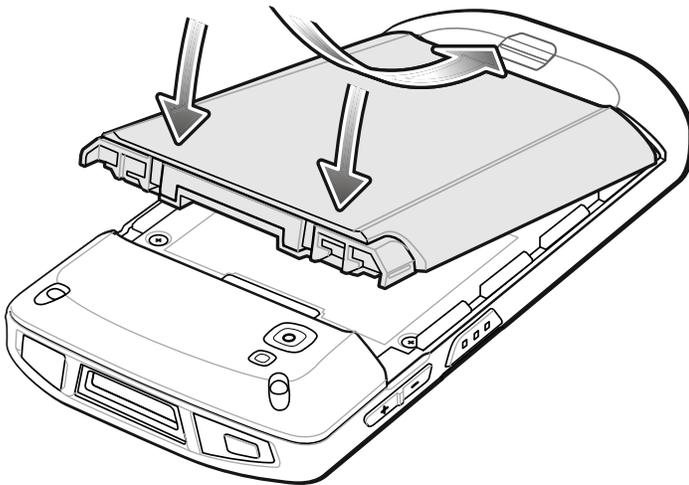
## Installing the Battery



**NOTE:** User modification of the device, particularly in the battery well, such as labels, asset tags, engravings, stickers, etc., may compromise the intended performance of the device or accessories. Performance levels such as sealing (Ingress Protection (IP)), impact performance (drop and tumble), functionality, temperature resistance, etc. could be effected. Do not put any labels, asset tags, engravings, stickers, etc. in the battery well.

To install the battery:

1. Insert the battery, bottom first, into the battery compartment in the back of the device.
2. Press the battery down until it snaps into place.



## Charging the Device

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

**Table 2** Charging and Communication

Description	Part Number	Charging		Communication	
		Battery (In Device)	Spare Battery	USB	Ethernet
1-Slot USB/Charge Only Cradle Kit	CRD-TC51-1SCU-01	Yes	No	Yes	With Optional Module
Workstation Docking Cradle	CRD-TC5X-1SWS-01	Yes	No	Yes	Yes
2-Slot USB/Ethernet Cradle	CRD-TC5X-2SETH-01	Yes	Yes	Yes	Yes
5-Slot Charge Only Cradle Kit	CRD-TC51-5SCHG-01	Yes	No	No	No
4-Slot Charge Only Cradle with Battery Charger Kit	CRD-TC51-5SC4B-01	Yes	Yes	No	No
5-Slot Ethernet Cradle Kit	CRD-TC51-5SETH-01	Yes	No	No	Yes
4-Slot Battery Charger Kit	SAC-TC51-4SCHG-01	No	Yes	No	No
Rugged Charge/USB Cable	CBL-TC51-USB1-01	Yes	No	Yes	No

## Charging the Device



**NOTE:** Ensure that you follow the guidelines for battery safety described in the tc52ax Product Reference Guide.

1. To charge the main battery, connect the charging accessory to the appropriate power source.
2. Insert the device into a cradle or attach to a cable. The device turns on and begins charging. The Charging/Notification LED blinks amber while charging, then turns solid green when fully charged.

The battery charges from fully depleted to 90% in approximately 2.5 hours and from fully depleted to 100% in approximately three hours. In many cases the 90% charge provides plenty of charge for daily use. A full 100% charge lasts for approximately 14 hours of use. To achieve the best charging results use only Zebra charging accessories and batteries. Charge batteries at room temperature with the device in sleep mode.

## Charging the Spare Battery

1. Insert a spare battery into the spare battery slot.
2. Ensure the battery is seated properly.

The Spare Battery Charging LED blinks indicating charging. See [Table 3](#) for charging indicators.

The battery charges from fully depleted to 90% in approximately 2.3 hours and from fully depleted to 100% in approximately three hours. In many cases the 90% charge provides plenty of charge for daily use. A full 100% charge lasts for approximately 14 hours of use. To achieve the best charging results use only Zebra charging accessories and batteries.

**Table 3** Charging/Notification LED Charging Indicators

State	LED	Indication
Off		Device is not charging. Device is not inserted correctly in the cradle or connected to a power source. Charger/cradle is not powered.
Slow Blinking Amber (1 blink every 4 seconds)		Device is charging.
Slow Blinking Red (1 blink every 4 seconds)		Device is charging but the battery is at end of useful life.
Solid Green		Charging complete.
Solid Red		Charging complete but the battery is at end of useful life.
Fast Blinking Amber (2 blinks/second)		Charging error, e.g.: <ul style="list-style-type: none"> <li>• Temperature is too low or too high.</li> <li>• Charging has gone on too long without completion (typically eight hours).</li> </ul>
Fast Blinking Red (2 blinks/second)		Charging error but the battery is at end of useful life., e.g.: <ul style="list-style-type: none"> <li>• Temperature is too low or too high.</li> <li>• Charging has gone on too long without completion (typically eight hours).</li> </ul>

Charge batteries in temperatures from 5°C to 40°C (41°F to 104°F). The device or cradle always performs battery charging in a safe and intelligent manner. At higher temperatures (e.g. approximately +37°C (+98°F)) the device or cradle may for small periods of time alternately enable and disable battery charging to keep the battery at acceptable temperatures. The device and cradle indicates when charging is disabled due to abnormal temperatures via its LED.

## Using the Rechargeable Li-Ion Battery with BLE Beacon

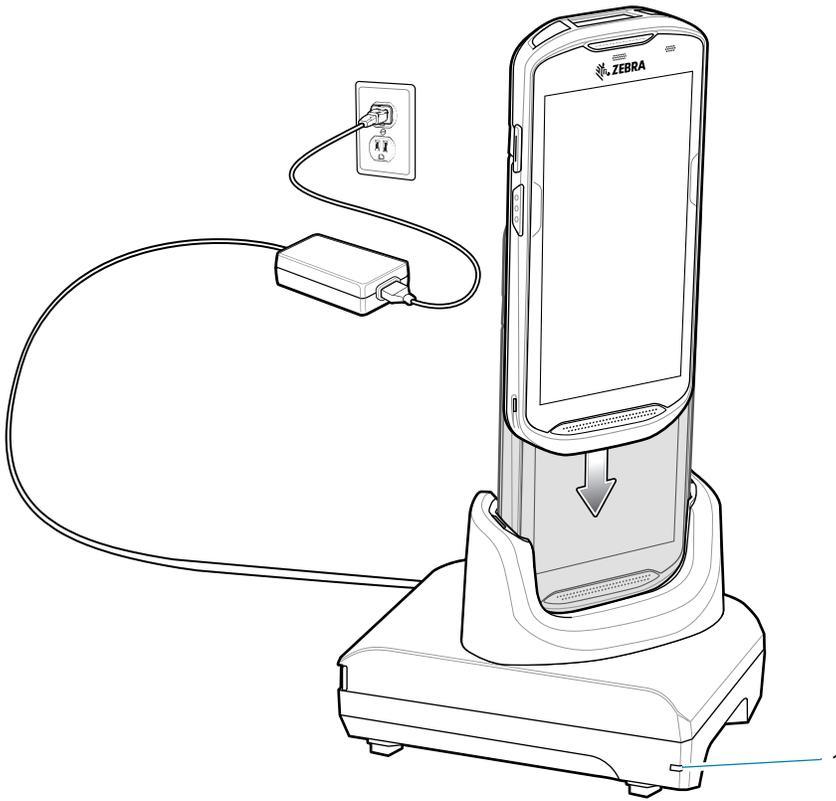
The TC52ax utilizes a rechargeable Li-Ion battery to facilitate BLE beacon. Once enabled, the battery transmits a BLE signal for up to seven days while the device is powered off due to battery depletion.



**NOTE:** The device transmits a Bluetooth beacon only when the device is powered off.

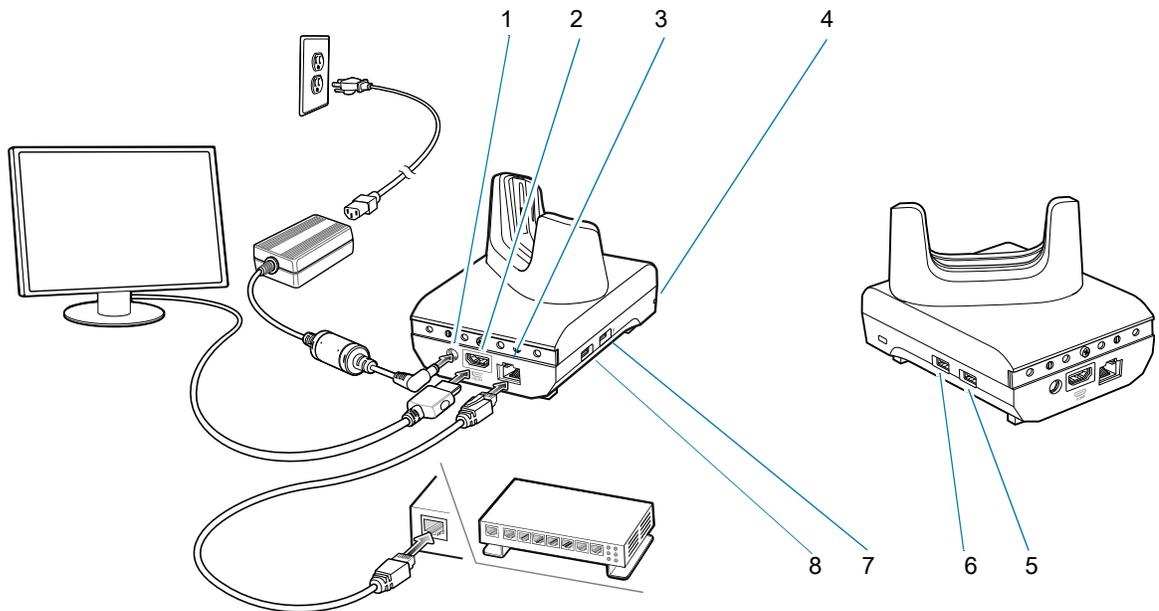
For additional information on configuring the secondary BLE settings, refer to [techdocs.zebra.com/emdk-for-android/8-0/mx/beaconmgr/](http://techdocs.zebra.com/emdk-for-android/8-0/mx/beaconmgr/).

## 1-Slot USB Charging Cradle



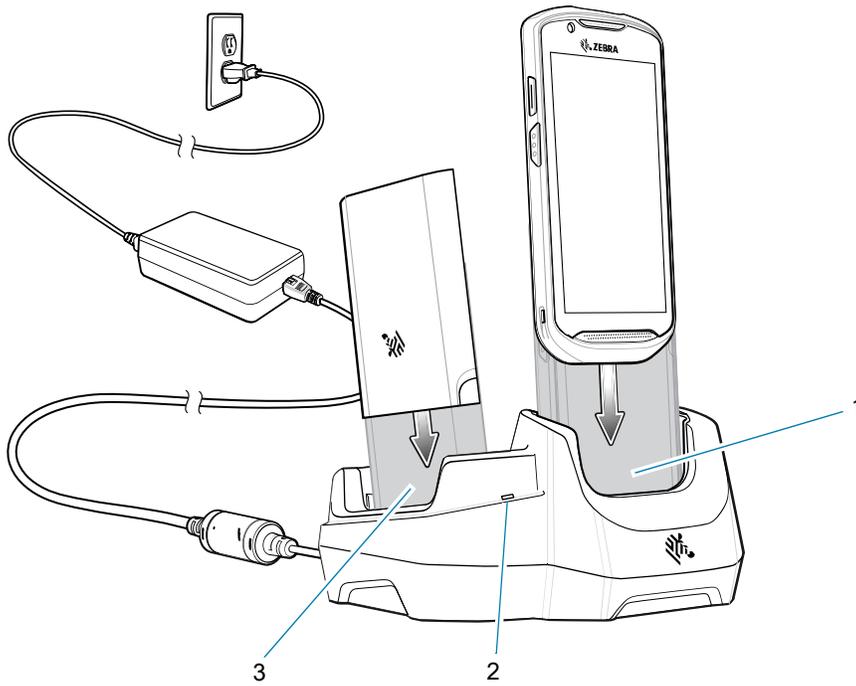
Item	Name	Description
1	Power LED	Indicates that power is applied to the cradle.

## Workstation Docking Cradle



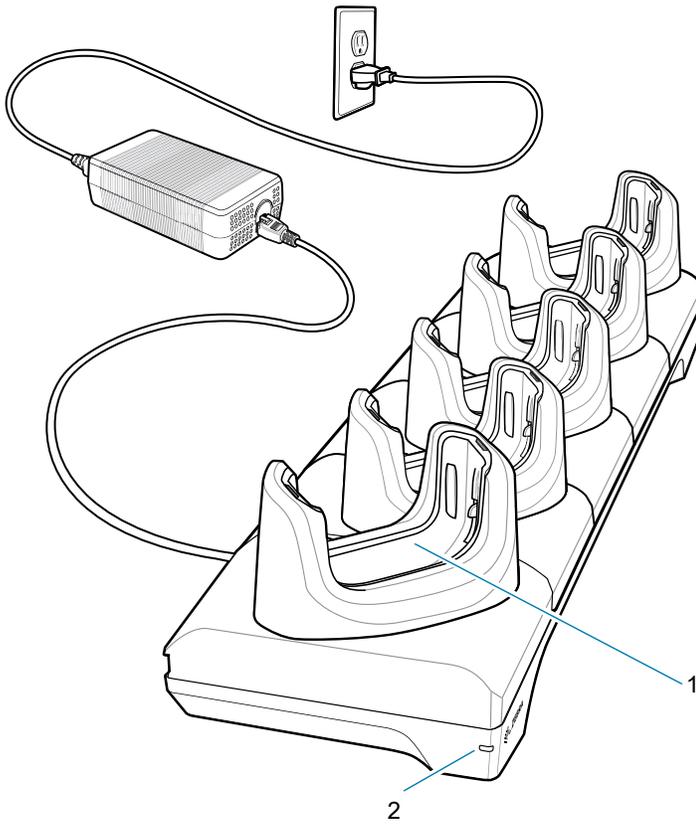
Item	Name	Description
1	Power Port	Provides power to the cradle.
2	HDMI Port	Connects to monitor.
3	Ethernet Port	Connects to an Ethernet network.
4	LED	Indicates that power is applied to the cradle.
5	USB Type A Port	Connection for mouse or keyboard.
6	USB Type A Port	Connection for mouse or keyboard.
7	1.5 mA USB Port	USB Type A port for mouse or keyboard, or personal mobile device.
8	0.5 mA USB Port	USB Type A port for mouse or keyboard.

## 2-Slot USB/Ethernet Cradle



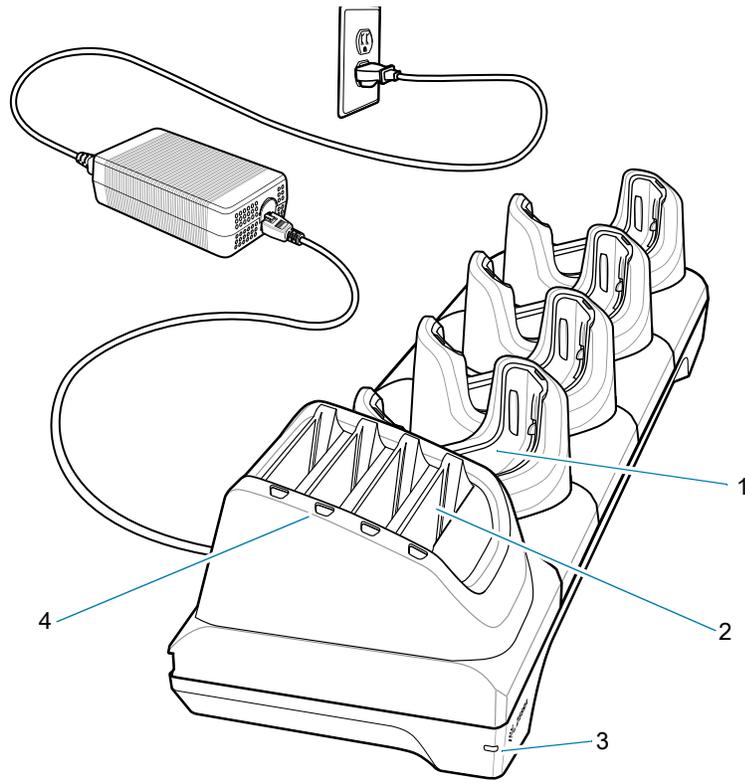
Item	Name	Description
1	Device Charging Slot	Holds the device during charging.
2	Spare Battery Charge LED	Indicates spare battery charge status.
3	Spare Battery Slot	Holds the spare battery during charging.

## 5-Slot Charge Only Cradle



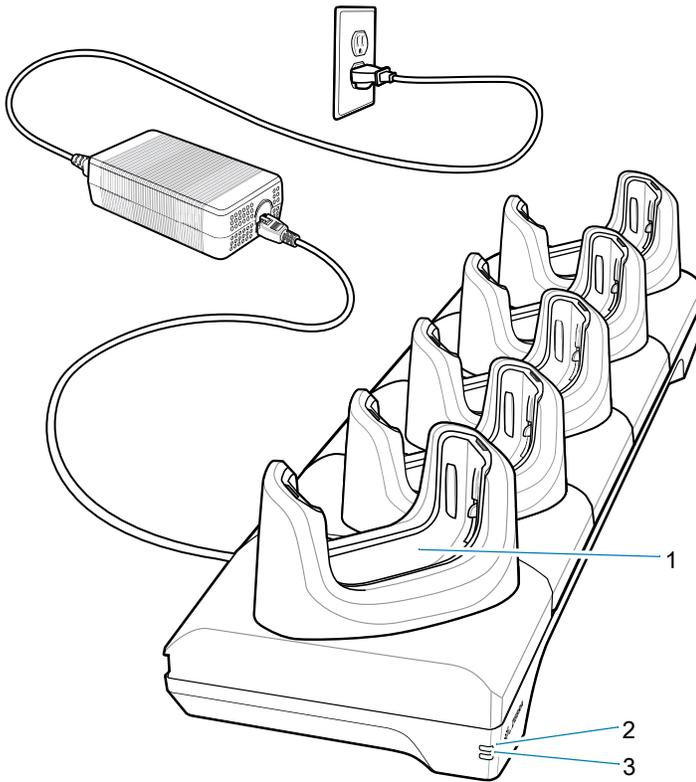
Item	Name	Description
1	Device Charging Slot	Holds the device during charging.
2	Power LED	Indicates that power is applied to the cradle.

## 4-Slot Charge Only Cradle with Battery Charger



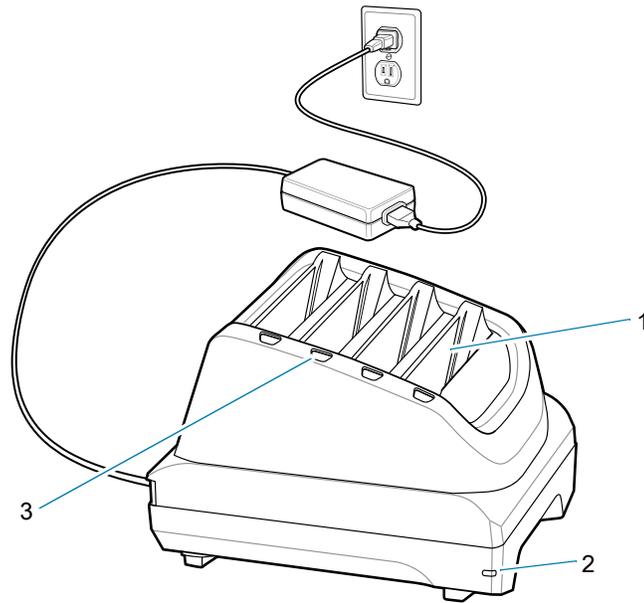
ITEM	Name	Description
1	Device Charging Slot	Holds the device during charging.
2	Spare Battery Slot	Holds a spare battery during charging.
3	Power LED	Indicates that power is applied to the cradle.
4	Spare Battery Charging LED	Indicates spare battery charge status.

## 5-Slot Ethernet Cradle



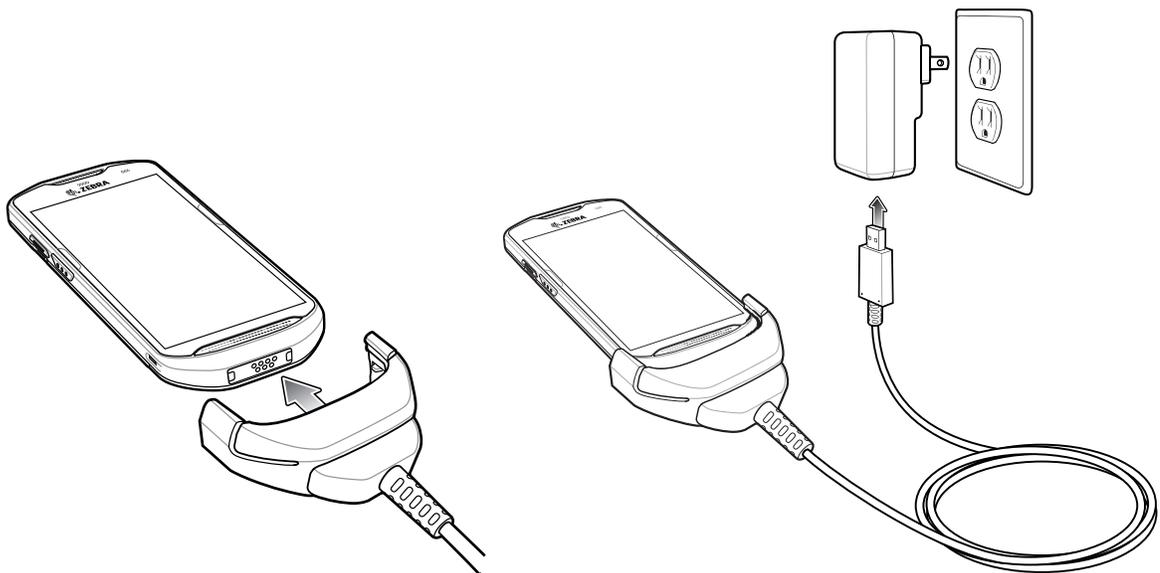
Item	Name	Description
1	Device Charging Slot	Holds the device during charging and communication.
2	1000 LED	Indicates data rate of 1 Gbps when on or blinking.
3	10/100 LED	Indicates data rate of 10 or 100 Mbps when on or blinking.

## 4-Slot Battery Charger



Item	Name	Description
1	Spare Battery Slot	Holds the spare battery during charging.
2	Power LED	Indicates that power is applied to the cradle.
3	Spare Battery Charging LEDs	Indicates spare battery charge status.

## Rugged Charge/USB Cable



# Scanning

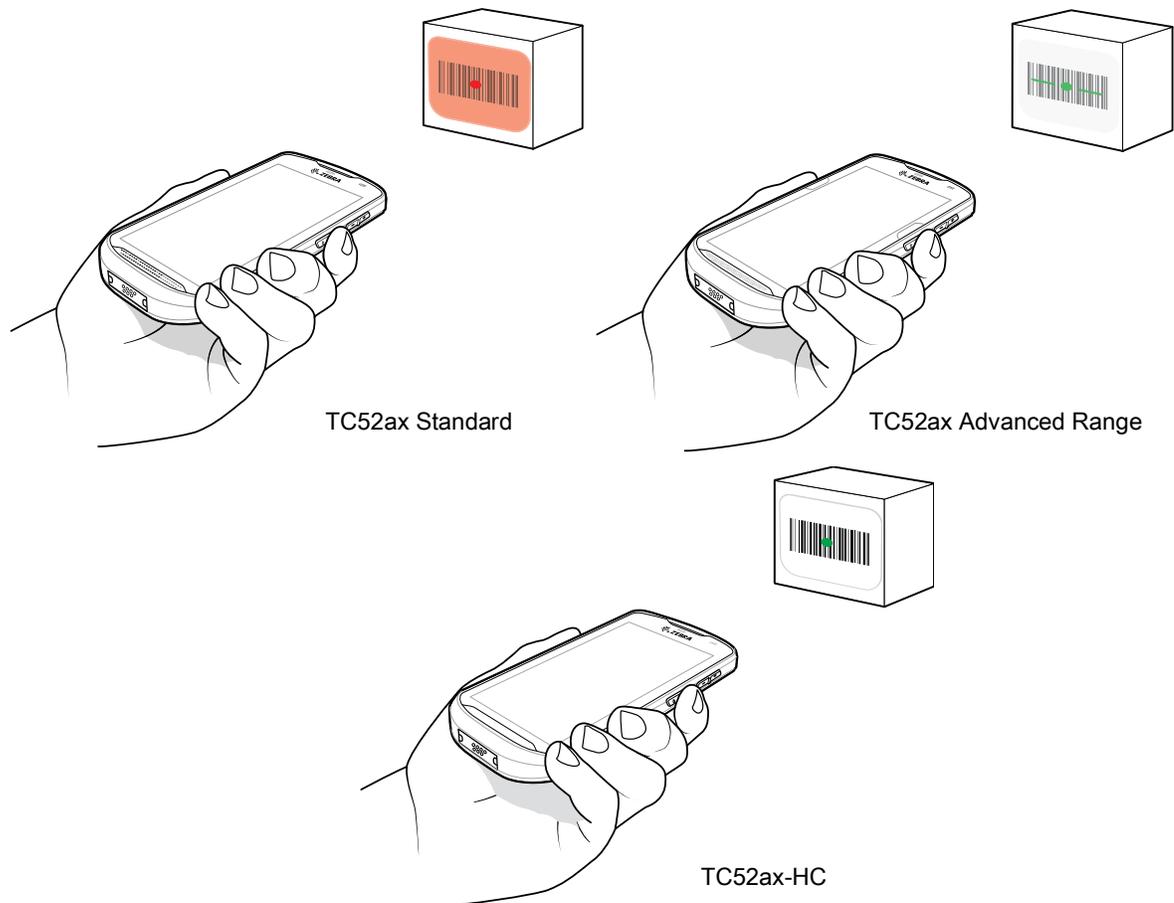
To read a barcode, a scan-enabled application is required. The device contains the DataWedge application that allows the user to enable the imager, decode the barcode data and display the barcode content.

1. Ensure that an application is open on the device and a text field is in focus (text cursor in text field).
2. Point the exit window on the top of the device at a barcode.
3. Press and hold the scan button.

On the TC52ax Standard, the red LED aiming pattern and red aiming dot turns on to assist in aiming.

On the TC52ax Advanced Range, the white aiming pattern with green aiming dot turns on to assist in aiming.

On the TC52x-HC, the white LED aiming pattern and green aiming dot turns on to assist in aiming.

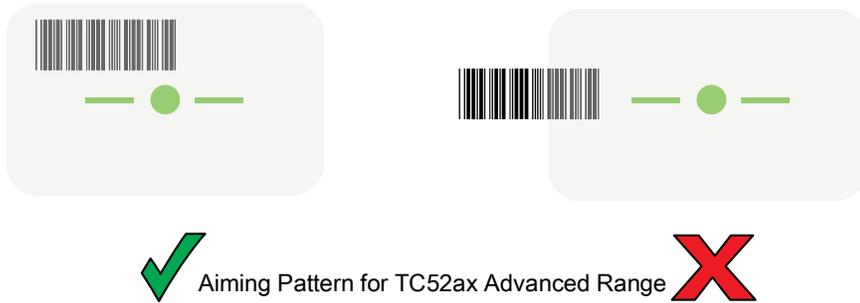


**NOTE:** When the device is in Picklist mode, the imager does not decode the barcode until the crosshair or aiming dot touches the barcode.

4. Ensure the barcode is within the area formed by the cross-hairs in the aiming pattern. The aiming dot is used for increased visibility in bright lighting conditions.



Aiming Pattern for TC52ax Standard



Aiming Pattern for TC52ax Advanced Range



Pick List Mode with Multiple Barcodes in Aiming Pattern with TC52ax Standard



Pick List Mode with Multiple Barcodes in Aiming Pattern with TC52ax Advanced Range

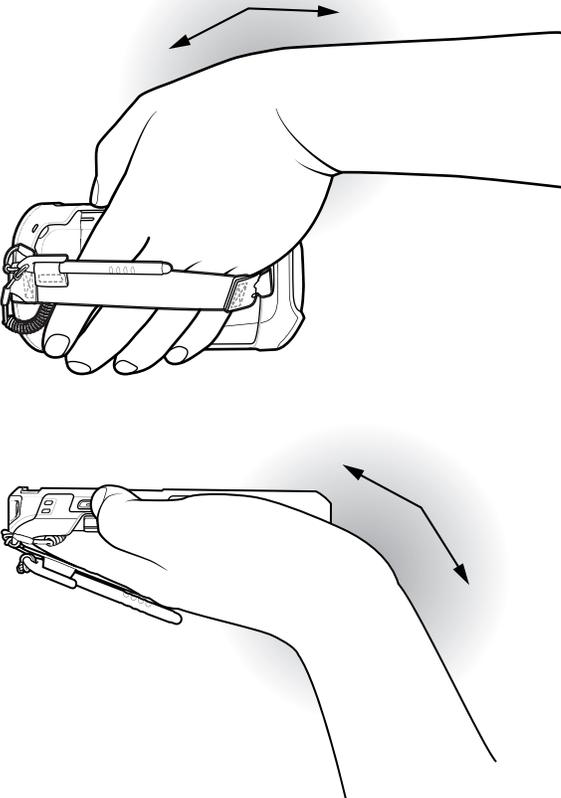
5. The Data Capture LED lights green and a beep sounds, by default, to indicate the barcode was decoded successfully.
6. Release the scan button.



**NOTE:** Imager decoding usually occurs instantaneously. The device repeats the steps required to take a digital picture (image) of a poor or difficult barcode as long as the scan button remains pressed.

7. The barcode content data displays in the text field.

# Ergonomic Considerations



AVOID EXTREME  
WRIST ANGLES

