mesa4®

USER'S MANUAL

Mesa 4 User's Manual

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WARNING! This symbol indicates that failure to follow directions could result in serious injury.

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Contents

1. Getting Started 2

1.1 Overview 2

1.1.1 The Anatomy of the Mesa 4 2

1.2 Perform Initial Tasks 4

1.2.1 Review Documentation 4

1.2.2 Install and Charge the Battery Pack 4

1.2.3 Set Up Windows 5

1.2.4 Attach the Hand Strap 6

1.2.5 Attach the Stylus Tether 6

2. Standard Features 9

2.1 Display 9

2.1.1 Manually Adjust Display Brightness 9

2.1.2 Automatically Adjust Display Brightness 10

2.2 Camera 11

2.2.1 Photo and Video Library 11

2.3 Device Settings App 11

2.3.1 About 11

2.3.2 Keypad Settings 12

2.3.3 Touchscreen Profile Settings 15

2.3.4 Update the Mesa 4 15

2.4 LED Activity Indicators 16

2.5 Connector Ports 17

2.5.1 Connector Protector 17

2.5.2 USB-A Port 17

2.5.3 USB-C Port 17

2.6 Micro SD and Nano SIM Cards 17

2.7 Audio Features 18

2.8 Rugged 19

2.9 Sensors 19

2.9.1 Compass, Accelerometer, and Gyroscope 19

2.10 Bluetooth® Wireless Communication 20

2.10.1 Turn On or Off Bluetooth 20

2.10.2 Pair a Bluetooth Device 21

2.11 Wi-Fi Wireless Networking 21
2.11.1 Connecting to a Wi-Fi Network 22
2.12 GPS/GNSS Receiver 22
2.12.1 GNSS Settings 23
2.12.2 GNSS Support 25
2.13 Power Management 25
2.13.1 Charging the Battery Pack(s) 26
2.13.2 Battery Status and Management 26
2.13.3 Battery Life 28
2.13.4 Power Off the Mesa 4 28
2.14 Task Manager 29
2.15 Mesa 4 is Locked Up 29

3. Optional Features and Accessories 33

3.1 4G LTE Data Modem 33
3.1.1 Set up a Data Account with a Wireless Provider 33
3.2 Barcode Imager 34
3.2.1 Scan Test 34
3.2.2 Barcode Connector Settings 35
3.2.3 Reading a Barcode 39
3.2.4 Barcode Types 40
3.2.5 Troubleshooting the Barcode Imager 41
3.3 Pistol Grip 42
3.3.1 To Use the Pistol Grip 42
3.3.2 Holster 43
3.4 RFID Reader 43
3.4.1 Scan Test 43
3.4.2 RFID Reader Settings 44
3.4.3 Read an RFID Tag 48
3.4.4 Antenna for RFID Reader 48
3.5 RS-232 Port 48
3.6 Vehicle Dock 50
3.6.1 Mounting System 51

3.7 Battery Charger 51
3.7.1 How to Use the Battery Charger 51

4. Storage, Maintenance, and Recycling 55

4.1 Storing the Mesa 4 and Battery Pack. 55
4.1.1 Storing the Mesa 4 for More than Two Weeks 55
4.2 Protecting the Touchscreen 55
4.3 Cleaning the Mesa 4 55
4.4 Recycling the Mesa 4 and Batteries 56

5. Warranty and Repair Information 59

5.1 Limited Product Warranty 59
5.1.1 Two Year Warranty 59
5.1.2 Ninety Day Warranty 59
5.1.3 Warranty Exclusions 59
5.1.4 Remedy 60
5.1.5 Limitation of Liability 61
5.1.6 Governing Law 61
5.1.7 Warranty Repairs. 61
5.2 Complete Care Service Plans 62
5.3 Repairs, Upgrades, and Evaluations. 62
5.4 System Information for your Mesa 4 63

6. Warnings, Regulatory Information, Licensing 65

6.1 Product Warnings 65
6.1.1 Battery Warnings. 65
6.1.2 Wall Charger Warnings. 66
6.2 Regulatory Information 66
6.3 Certifications and Standards 67
6.3.1 United States. 67
6.3.2 Canada 68
6.3.3 Radio Frequency Safety 69
6.3.4 CE Marking (European Union). 69
6.3.5 Restricted Materials Conformity. 69
6.4 Licensing Information 70

7. Mesa 4 Rugged Tablet Specifications 73

1 Getting Started

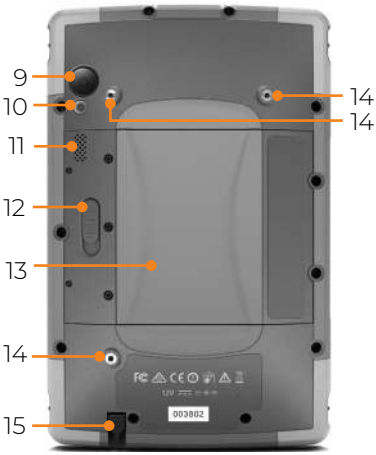
1. Getting Started

1.1 Overview

The Mesa 4 Rugged Tablet™ from Juniper Systems has the Windows 11 Pro operating system. Standard features include a 7 in. display, capacitive touchscreen, keypad, front and rear cameras, Bluetooth®, GPS/GNSS receiver, and Wi-Fi. Standard accessories include a lithium-ion battery pack, AC wall charger, hand strap, connector port cover, and fine-tip capacitive stylus and tether. Optional features include a 4G LTE data modem, RS-232 port, barcode imager, and UHF RFID module.

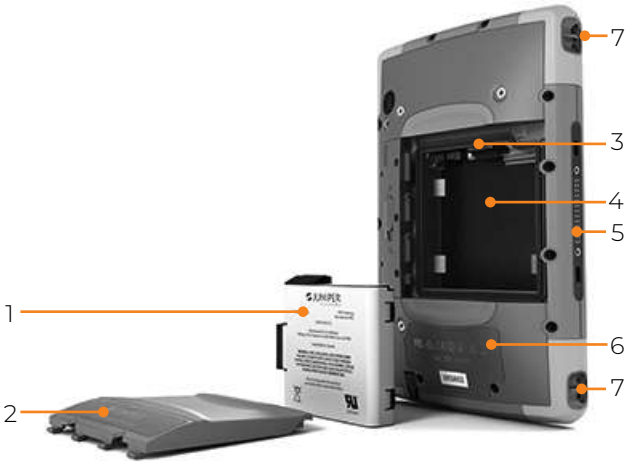
1.1.1 The Anatomy of the Mesa 4

Front and Back Features



1 Notification LEDs
2 Touchscreen and display
3 Protective over-molded bumper (all four corners)
4 Keypad
5 Microphone (one on each side)
6 Ambient light sensor
7 Front-facing camera lens, 5 MP
8 Power button
9 Rear-facing camera lens, 13 MP
10 Camera flash
11 Speaker
12 Battery door lock
13 Door to removable battery compartment and card slots
14 External device attachment points (three on the back)
15 Storage slot for fine-tip stylus

Battery Compartment and Card Slots



1 Battery pack, removable
2 Battery door
3 Nano SIM card slot and Micro SD/SDHC card slot
4 Battery compartment
5 Keyboard connection
6 Location of internal battery (not user accessible)
7 Hand strap attachment points (two on each side)

Connector Ports

7 Connector port protector
8 USB-C
9 USB-A
10 12 V DC power input jack
11 Storage slot for fine-tip stylus

1.2 Perform Initial Tasks

When you receive your Mesa 4, perform the tasks outlined in this section before first use.

1.2.1 Review Documentation

This user's manual and other documents, such as release notes, are available on our website at *https://junipersys.com/support/mesa-4/documentation.* View, download, and print documents as you desire. A PDF viewer is included with your Mesa 4 apps.

1.2.2 Install and Charge the Battery Pack

The Mesa 4 comes with a rechargeable and removable Li-ion battery pack, which you access from the back of the tablet.

CAUTION: The Mesa 4 is not sealed against water and dust when the battery door is not installed.

To install and charge the battery pack,

1. Push in the battery lock switch, slide it to the unlocked position, and remove the door.

   Note: If you are using a micro SD card for additional memory or a nano SIM card for the optional cellular data modem, you can install them now before you install the battery pack or at another time. (See "2.6 Micro SD and Nano SIM Cards" on page 17.)

2. Insert the battery pack.

- Hold the battery so that the black tab on the front edge of the battery is up and facing the door latch. (This tab helps you remove the battery.)
- Place the back edge in first, gently pushing it under the two battery catches.
- Rotate the front edge down until it sits flat in the battery compartment.

CAUTION: Do not insert the battery pack straight down. You can damage the tablet.

3. Replace the door and press down on it until the latch pops into the locked position.
4. Charge the Mesa 4 with the AC wall charger that came with the Mesa 4 or a USB-C cable.
   - **AC wall charger**—Attach the appropriate plug for your country to the AC wall charger that came with the Mesa 4 (or another approved charger from Juniper Systems). Plug the other end of the AC wall charger into the DC power jack on the Mesa 4. With an approved AC wall charger, the batteries cannot be overcharged. (See "6.1.2 Wall Charger Warnings" on page 66.)
   - **USB-C cable**—Insert the USB-C cable into the USB-C port on the Mesa 4. Connect the cable to a computer or wall charger. The USB-C cable must deliver 20 V with a minimum 30 Watts.
5. Charge the battery pack at room temperature (68°F or 20°C) for six hours (for the first charge).

While the battery pack is charging, the red LED blinks. When the battery pack is fully charged and external power is applied, the red LED is solid.

Note: The Mesa 4 does not recognize an internal battery until you start charging the batteries.

1.2.3 Set Up Windows

When you power on the tablet for the first time, you are prompted to set up Windows. Follow the prompts to set up the tablet.

1.2.4 Attach the Hand Strap

A hand strap is included with the Mesa 4. This allows you to securely hold the Mesa 4. To attach the hand strap, fasten it to the two attachment points on the left or right side of the tablet, as shown in the images below.

1

2

3

1.2.5 Attach the Stylus Tether

A fine-tip capacitive stylus and tether is included with the Mesa 4. To attach the stylus tether,

1. Attach one end of the stylus tether to the stylus.
2. Push the free tether loop through one of the tether attachment points located by each corner on the Mesa 4.

3. Insert the stylus with the attached tether through this loop and tighten the loop.
4. Place the stylus into the stylus storage slot located on the bottom of the Mesa 4.

2
Standard Features

2. Standard Features

This chapter discusses the standard features included with every model of the Mesa 4 Rugged Tablet™.

2.1 Display

The Mesa 4 has a bright color display and capacitive touchscreen with a diagonal viewing area of 7 inches (178 mm).

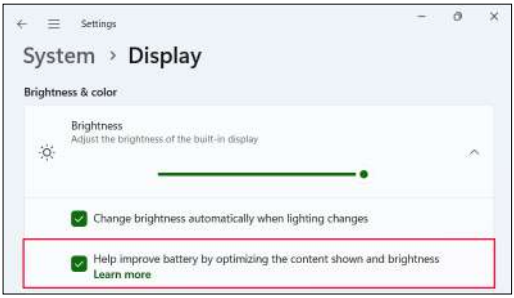
You can adjust the display settings, including the brightness, night light, and battery saver.

2.1.1 Manually Adjust Display Brightness

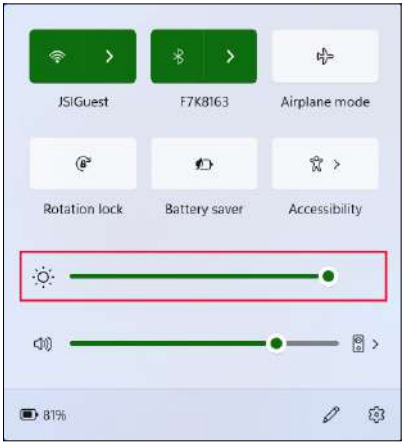
Use one of the following methods to manually adjust the brightness of the built-in display.

- From Settings, select **System** > **Display**. Move the Brightness slider to adjust the display brightness.

  To optimize the battery life and adjust the display brightness and contrast based on the displayed content, tap **Brightness** to expand the section. Select **Help improve the battery by optimizing the content shown and brightness**.



- Tap the Network, Sound, or Battery icons on the right side of the taskbar. Move the Brightness slider to adjust the brightness of the display.

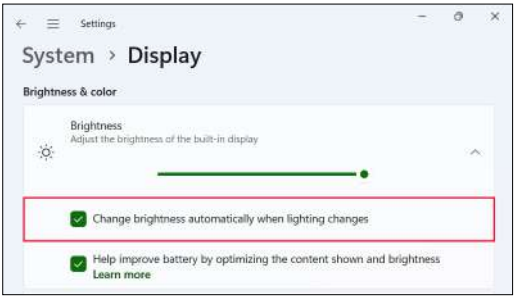


2.1.2 Automatically Adjust Display Brightness

The ambient light sensor on the front of the Mesa 4 measures the light around your device and automatically adjusts the brightness of the display based on the lighting.

To enable the ambient light sensor,

1. From Settings, select **System** > **Display**.
2. Tap **Brightness** to expand the section.
3. Select **Change brightness automatically when lighting changes**.



4. Move the Brightness slider to fine-tune the brightness level.

2.2 Camera

The Mesa 4 has a 13 MP rear-facing camera with auto focus and flash and 5 MP front-facing camera.

You can capture both still images and videos using the camera application. Other options include a timer and brightness settings.

2.2.1 Photo and Video Library

Photos and videos are automatically stored in the Pictures folder.

2.3 Device Settings App

The Mesa 4 has a built-in app called Device Settings. In this app, you can see detailed information about your device, including the serial number, model number, and Juniper OS version. The Device Settings app also includes options to adjust the touchscreen profiles, define the programmable keys, modify the GNSS settings, and update the Mesa 4.

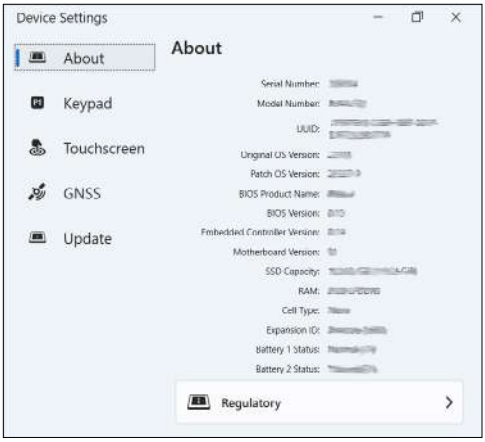
For information on modifying the GNSS settings, see “2.12 GPS/GNSS Receiver” on page 22.

If your Mesa 4 has the optional RS-232 port, you also configure it from the Device Settings app. (See “3.5 RS-232 Port” on page 48.)

2.3.1 About

From the About screen in the Device Settings app, view the serial number, model number, OS version, product name, BIOS version, embedded UUID controller version, motherboard version, SSD capacity, cell type, expansion ID,

and battery status for your tablet. The About screen also contains the regulatory information for the Mesa 4.



2.3.2 Keypad Settings

From the Keypad screen in the Device Settings app, customize the keypad backlight brightness, program the keypad buttons, and restore the default keypad settings.

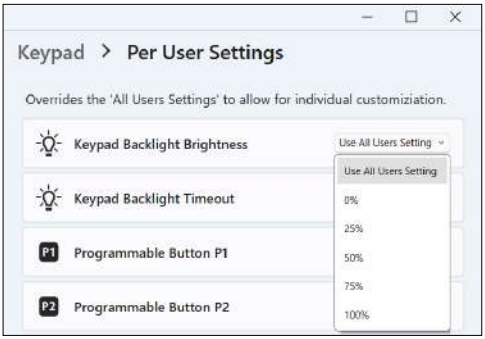
To modify the keypad settings,

- Tap **All Users Settings** to make keypad changes for all users who sign in to the tablet.
- Tap **Per User Settings** to customize keypad changes for your individual account. Per User Settings override All User Settings.
- Tap **Restore Defaults** to restore the default settings for All Users or Per User.

Keypad Backlight Brightness and Timeout

To adjust the keypad backlight brightness and timeout,

1. Tap **All User Settings** or **Per User Settings**.
2. Open the drop-down menu for **Keypad Backlight Brightness** and select a brightness from 0–100%.



   Dimming the keypad backlight extends the battery life when the Mesa 4 is in use.

3. Open the drop-down menu for **Keypad Backlight Timeout** and select the amount of time that the keypad remains lit after it is inactive.

Programmable Keys

The Mesa 4 has a power/suspend key, Windows key, and three programmable keys that can be used for various functions, such as turning up or down the volume, opening the camera, capturing screenshots, or closing an app.

Key	Function
⊞	Windows Start screen

Key	Function
P1	Volume down (programmable)
P2	Volume up (programmable)
<	Move left
>	Move right
^	Move up
v	Move down
↵	Enter (return)
P3	On-screen keyboard (programmable)
⏻	Power • Press and release: On or sleep • Hold for five seconds and slide down the screen: Power off. • Hold for 10 or 20 seconds: Electrically disconnect the battery pack(s). (See “2.15 Mesa 4 is Locked Up” on page 29.)

To assign a new function to a programmable key,

1. From the Device Settings app, tap **Keypad**.
2. Tap **All User Settings** or **Per User Settings**.
3. Select the preferred function for each programmable key.

2.3.3 Touchscreen Profile Settings

From Touchscreen in the Device Settings app, select the touchscreen profile that works best for your work environment.

To change the touchscreen profile,

1. From the Device Settings app, tap **Touchscreen**.

2. Select the desired touch profile: Finger and Stylus (default), Finger, Fine Hard-Tipped Stylus, Glove, Wet and Finger, and Wet and Stylus.

Using the Mesa 4 in Wet Conditions

When using the Mesa 4 in wet conditions, keep the Mesa 4 tilted at a 30° angle to prevent water from pooling on the screen.

Using a Stylus

The profiles intended for a stylus work best with the fine-tipped stylus included with the Mesa 4. Touchscreen performance is not guaranteed with third-party styli.

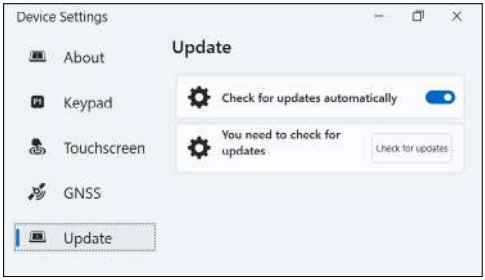
CAUTION: Do not use the Windows 11 screen calibration tool. Using it may degrade the touchscreen performance.

2.3.4 Update the Mesa 4

From the Update screen in the Device Settings app, decide when and how to get the latest updates to keep your tablet running smoothly.

To check for available updates for your Mesa 4,

1. From the Device Settings app, tap **Update**.



2. To set the Mesa 4 to automatically check for updates, turn on **Check for updates automatically**.
3. To manually check for updates, tap **Check for updates**.

2.4 LED Activity Indicators

LED activity indicators are located on the front of the Mesa 4 in the upper-left corner.

Red LED, solid

- Turns on when you put the tablet to sleep or power it off by pressing the power key ⏻. When the tablet completes the shutdown process, the red LED turns off. Do not remove the battery while the solid red light is on.
- Turns on when the tablet is plugged in for charging but the batteries are full (not charging) and the device is running or put to sleep. If you shut down the Mesa 4, the red LED light turns off.

Red LED, blinking

- Turns on when the tablet is plugged in and the battery is in the process of charging.

Amber light

- Turns on when the camera is in use.

Green LED, solid

- Turns on when the system is booting. This LED indicator is programmable.

Blue LED, solid or blinking

- Does not have an assigned function but can be programmed as desired.

Note: The green and blue LEDs are in the same location and do not show simultaneously. These LEDs are programmable, and sample code is available upon request.

2.5 Connector Ports

The Mesa 4 has a 12 V DC power input jack, one USB-A port, and one USB-C port.

2.5.1 Connector Protector

The connector protector is a removable and replaceable dust cover. The connector protector is not required to maintain the seal of the connectors or tablet.

- To remove the connector protector, gently pull the top of the protector and remove the rubber retainers from the holes.
- To replace the connector protector, insert the rubber retainers into the holes and push the connector into place.

Contact your sales representative if you need a new connector protector.

2.5.2 USB-A Port

Use the USB-A port to connect a USB drive, mouse, or other equipment.

2.5.3 USB-C Port

Use the USB-C port for data transfer and to charge the tablet.

Note: If you use a USB-C cable for charging, it must deliver 20 V with a minimum of 30 Watts.

2.6 Micro SD and Nano SIM Cards

The Mesa 4 has slots for an SD card and a SIM card located in the battery compartment. The card slots hold the cards

securely, so they will not come out or disconnect if the tablet is dropped.

To insert or remove a card,

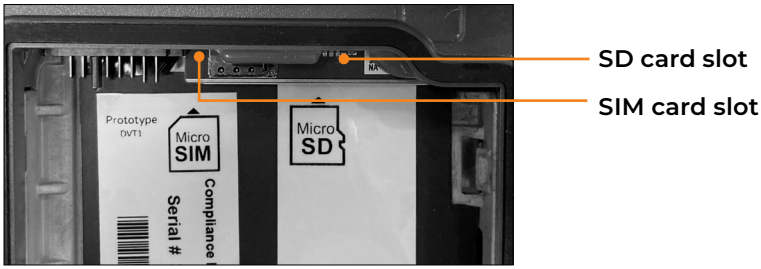
1. Power off the tablet.

CAUTION: Always completely power off the tablet before removing the battery. Failure to do so may cause loss of data or damage to the tablet. EXCEPTION: If your tablet has an internal battery, you can safely remove the removable battery while the tablet is running.

2. Remove the battery door. (See “1.2.2 Install and Charge the Battery Pack” on page 4.)

CAUTION: The Mesa 4 is not sealed against water and dust when the battery pack and battery door are not installed properly.

3. Remove the battery pack by pulling up on the black tab on the battery pack.
4. Use the label in the battery compartment to correctly align the card.
5. Push the card into the slot.



6. Replace the battery pack, and attach the battery door.

To remove the SD card, pull it out. Use tape or an eraser if you have trouble.

2.7 Audio Features

The Mesa 4 has the following audio features.

- **Speaker**—The speaker can provide audible indicators and program feedback in loud environments. You can

listen to audio files and watch videos. For stereo audio, use Bluetooth headphones.

- **Microphone**—Use the microphone to record audio notes or include sound in a video.

2.8 Rugged

The Mesa 4 has earned an IP68 rating meaning it is protected against dust and the effects of continuous immersion in water.

CAUTION: If the tablet is submerged in water or mud, rinse the ports with fresh water to remove any salt water or debris. Drain the ports. Allow them to dry before using.

2.9 Sensors

2.9.1 Compass, Accelerometer, and Gyroscope

The Mesa 4 has a built-in compass, accelerometer, and gyroscope. The accelerometer assists the compass in determining direction, even if the tablet is not resting flat. The gyroscope senses change in angular motion. The compass, accelerometer, and gyroscope can also be used by other user applications.

Compass Calibration

Periodically calibrate the compass in your tablet to help maintain its performance.

To calibrate the compass,

1. Open an app that uses the compass.
2. Move the Mesa 4 around in the air so that it is oriented in different directions and angles. An effective method is to move the Mesa 4 back and forth making a sideways figure eight for approximately 30 seconds.

2.10 Bluetooth® Wireless Communication

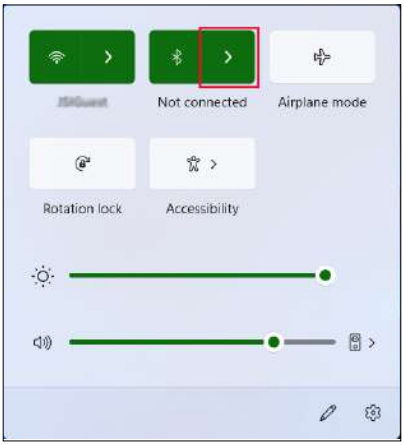
The Mesa 4 has built-in Bluetooth® wireless technology, allowing you to connect to other wireless devices with Bluetooth technology.

2.10.1 Turn On or Off Bluetooth

To turn on or off Bluetooth, use one of the following methods.

- From Settings, select **Bluetooth & devices**. Turn on or off **Bluetooth**.

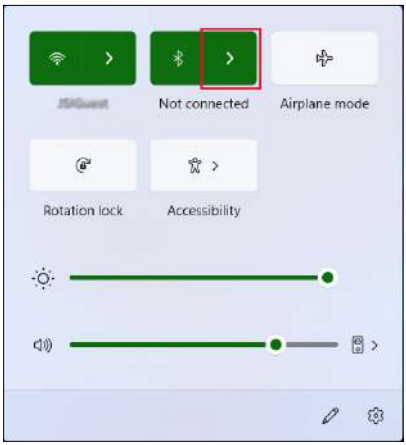
- Tap the Network, Sound, or Battery icons on the right side of the taskbar. Tap the **Bluetooth** quick setting to turn it on or off. If Bluetooth is turned on without any paired devices, the quick setting displays “Not connected.”



2.10.2 Pair a Bluetooth Device

To connect the Mesa 4 and another device with Bluetooth technology,

1. Power on both devices.
2. Place them within a few feet of each other. (The Mesa has long range Bluetooth, but the other device may not.)
3. Turn on the Bluetooth on both devices.
4. On the Mesa 4, tap the Network, Sound, or Battery icons on the right side of the taskbar.
5. Tap the arrow on the **Bluetooth** quick setting.



6. Select from the list of unpaired devices.
7. If prompted, enter the PIN or passcode of the paired device.

Note: If Bluetooth is on and the tablet enters sleep or hibernate mode, Bluetooth turns off to save battery power. The Bluetooth connection is resumed after the tablet powers on.

2.11 Wi-Fi Wireless Networking

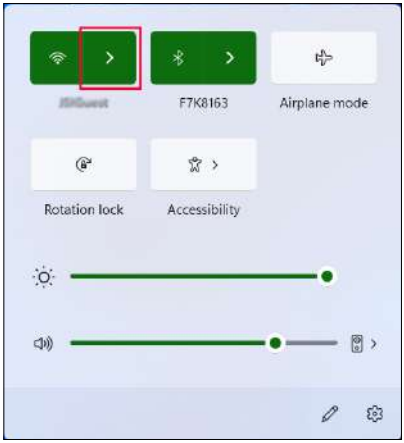
The Mesa 4 has built-in Wi-Fi wireless networking to connect to the internet or an office network.

2.11.1 Connecting to a Wi-Fi Network

To connect to Wi-Fi, the tablet must be in the range of a Wi-Fi access point. When Wi-Fi is turned on, the Mesa 4 automatically scans the area for available Wi-Fi networks.

To connect to a Wi-Fi network,

1. Tap the Network, Sound, or Battery icons on the right side of the taskbar.
2. Turn on the Wi-Fi (if needed) by tapping the **Wi-Fi** quick setting.
3. Tap the arrow on the **Wi-Fi** quick setting to view a list of available networks.



4. Select the desired network, and tap **Connect**.
5. Enter the network security key or password, and tap **Next**.

   The Mesa 4 remembers the Wi-Fi network connections you create.

To manage the network and internet settings, open Settings and select **Network & internet**.

2.12 GPS/GNSS Receiver

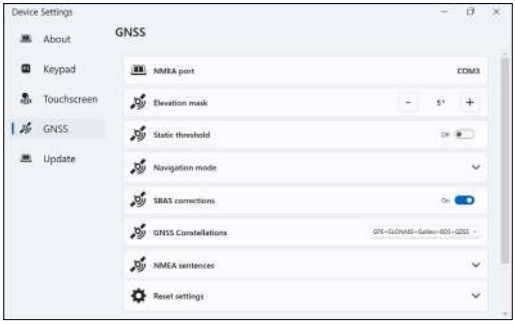
Mesa 4 has a Quectel GNSS receiver with an internal antenna to provide position information. An external antenna is available as an optional upgrade.

The GNSS internal antenna is at the top of the device under the Mesa 4 label and works with the tablet in portrait or landscape view. Putting your hand or another object over the antenna area reduces accuracy. The more items between the antenna and the satellites, the lower the accuracy.

Note: The receiver automatically detects and uses the external antenna if connected.

2.12.1 GNSS Settings

To change the GNSS settings, open the Device Settings app and tap **GNSS**.



Change the following settings to fit your application.

Setting	Action
NMEA port	Displays the port used to connect the GNSS receiver to the tablet.
Elevation mask	Enter the angle that the GNSS receiver uses to determine which satellites to include in location calculations. Satellites below the angle are not used by the receiver. Satellites that appear near the horizon (0° angle) are subject to signal fade and pick up more atmospheric noise. The satellite viewing area is restricted as you increase the angle. The default angle is 5° above the horizon.

Setting	Action
Static threshold	Turn on or off static threshold. Turning on static threshold keeps the location stable when the receiver is stationary or moving at low speeds.
Navigation mode	Tap **Navigation mode** to expand the section. In Mode, select **Normal** or **Fitness**. **Normal** is good for most applications and uses SBAS corrections on L1 frequences. **Fitness** is more accurate for slow moving applications, such as walking or jogging speeds. This mode uses L1 and L5 frequences without SBAS corrections.
SBAS corrections	Turn on or off SBAS corrections. Satellite-Based Augmentation Systems (SBAS) provide accurate, real-time GNSS corrections and are especially helpful in environments where GNSS signals may be obstructed.
GNSS constellations	Select which GNSS constellations to use.
NMEA sentences	Tap **NMEA sentences** to expand the section. Select the NMEA sentences that you want the receiver to transmit to the device. The default NMEA sentences are good for basic location applications.
Reset Settings	Tap **Reset Settings** to expand the section. • Tap **Reset** to reset the GNSS receiver. • Tap **Restore** to restore the default GNSS settings.

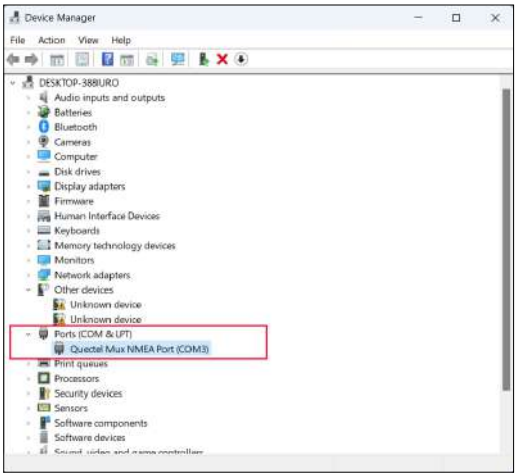
2.12.2 GNSS Support

Integrated GNSS Support in Windows

The Windows operating system provides built-in support for GNSS devices. As part of that support, the Windows Sensor and Location platform provides a standard way for GNSS information to be made available to applications that have been designed using the Windows Sensor and Location application programming interfaces (APIs).

Legacy Support

In addition to the Sensor and Location APIs, legacy applications that require access to a serial port can access NMEA data through a serial COM port interface. To find the name of the COM port, open Device Manager and locate **Ports (COM & LPT)**. Expand the folder to see Quectel Mux NMEA Port (COMx), where “x” is the port number allocated on your device.



2.13 Power Management

The Mesa 4 runs on battery power. The tablet uses a rechargeable, Li-ion battery pack and an optional non-removable, internal battery pack.

2.13.1 Charging the Battery Pack(s)

For tablets with a removable battery pack and an internal battery pack, the intelligent internal battery charging circuit charges the battery pack with the least amount of energy first. When this battery pack reaches the same level as the other battery pack, both battery packs are charged at the same time until they are both fully charged.

Charge the battery packs with the AC wall charger that came with the Mesa 4 or a USB-C cable.

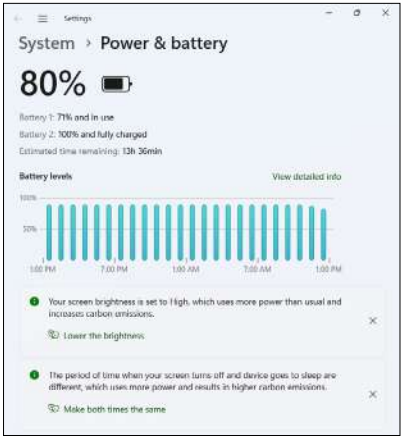
CAUTION: The power source must have 12 V output and be 30 W or higher to power the tablet and charge the batteries at the same time within a four to six hour time frame. Anything less will not allow the tablet to operate as specified.

Battery packs are charged most efficiently at room temperature (68°F or 20°C). The batteries will not charge if the temperature is too hot or too cold. (See “1.2.2 Install and Charge the Battery Pack” on page 4.)

2.13.2 Battery Status and Management

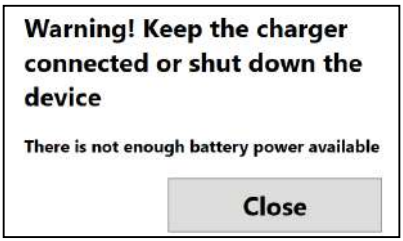
To view the battery life, tap the Network, Sound, or Battery icons on the right side of the taskbar. The cumulative amount of remaining battery life is displayed in the bottom left corner.

Tap the battery life percentage to open Power & battery in Settings. From this screen, you can view the charge level for each battery and the estimated time remaining.



Note: Data and programs are secure as long as they have been saved, even if the battery pack becomes discharged. The tablet does not depend on the battery to store the data for extended periods.

If the Mesa 4 battery reaches a very low charge, the tablet hibernates to prevent further drain on the battery. To exit hibernate mode, charge the Mesa 4.



Keep the charger or USB-C cable connected or shut down the tablet until the battery charge is sufficient.

This message appears when you can safely disconnect the charger.

2.13.3 Battery Life

Battery life on a full charge with typical usage is 7–8 hours. You can extend the battery life by an additional 3–5 hours with the optional internal battery. The actual amount of battery life you experience can vary significantly depending on your usage of applications, backlight, and radios, such as Wi-Fi, cellular, GNSS, and Bluetooth.

Battery packs typically last 1,000 to 3,000 charging cycles and have a one-year shelf life. Recharge the battery packs at least once per year to prevent the batteries from discharging to a level that might damage or permanently reduce the capacity of the batteries.

CAUTION: Only use batteries designed for the Mesa 4 from an approved vendor. Using non-approved batteries may void your tablet warranty. The Mesa 4 must be returned to a certified repair center to replace the optional internal battery.

CAUTION: The tablet is not designed to run on external power without a battery installed. Doing so can damage internal components and void the your tablet warranty if external power is lost.

2.13.4 Power Off the Mesa 4

Short-Term Storage

To power off the device for short-term storage,

1. Charge the Mesa 4 to 50–70%.
2. Press and hold the power button for four seconds.

Long-Term Storage

To power off the Mesa 4 for long-term storage,

1. Unplug the external power.
2. Power off the Mesa 4 as described in “Short-Term Storage” on page 28.
3. Wait for the red LED to turn off.
4. Press and hold the power button for 20 seconds. The red LED will start blinking at 10 seconds, and then turn off around 17 seconds.

At this point, the internal and external batteries have been disconnected from the system.

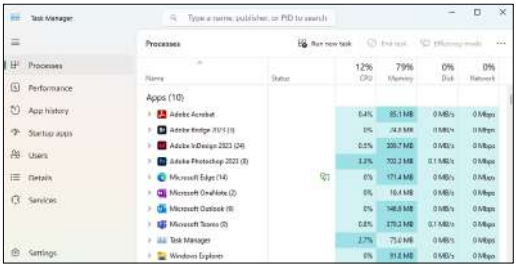
5. Take out the removable battery pack and store it in a cool, dry location.
6. When you are ready to power on the Mesa 4, replace the battery pack. Plug in the tablet with the AC wall charger or USB-C cable and press the power button.

2.14 Task Manager

The Task Manager displays the processes and programs currently running on the Mesa 4 and can be useful for managing and troubleshooting tasks.

To open the Task Manager,

1. On the keypad, press and hold the Windows key and then press the power key.
2. Select **Task Manager** from the list.



From this screen, you can view performance data, such as CPU, memory use, and disk space, for apps and processes currently running on the Mesa 4.

2.15 Mesa 4 is Locked Up

If the Mesa 4 locks up, you can force the device to shut down by holding the power button.

Five-Second Shutdown

If the Mesa 4 won't respond and you cannot get to the Start menu, hold the power button for five seconds. The message "Slide to shut down your PC" appears. Swipe to the bottom of the screen to power off the tablet. To power on the tablet, press the power button.

Ten-Second Shutdown

If the Mesa 4 has been locked up for at least five minutes, disconnect the Mesa 4 from all external power, including an AC wall charger, a USB-C cable, or a dock. Force the hardware to shut down by holding the power button for 10 seconds. To power on the tablet, press the power button.

Twenty-Second Shutdown

If the Mesa 4 has been locked up for at least five minutes and doesn't respond to the 10-second shutdown, hold the power button down for 20 seconds. The removable and internal batteries are electrically disconnected from the tablet, causing a complete shut down. To power on the tablet and connect the batteries, plug in the tablet with the AC wall charger or USB-C cable and press the power button.

CAUTION: Holding the power button down for 10 or 20 seconds for a forced disconnect is recommended only as a last resort. Forcing the power off loses unsaved data and may corrupt active data transfers to storage.

3 Optional Features and Accessories

3. Optional Features and Accessories

This chapter discusses the optional features that can be included with the Mesa 4 Rugged Tablet.

3.1 4G LTE Data Modem

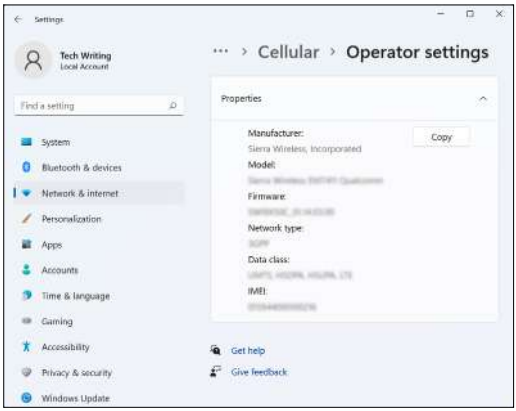
The 4G LTE data modem adds Wireless Wide Area Network data modem capability.

This modem supports all major service providers in North America, Europe, and many other regions of the world.

3.1.1 Set up a Data Account with a Wireless Provider

Contact a wireless provider to set up data service for the cellular data modem and obtain an account and SIM card. You need to provide the following information when setting up an account:

1. Billing Information and business ID, such as your Federal Tax ID or VAT number.
2. The wireless services required. Specify that you need data service only. You do not need voice or messaging services.
3. You may be asked for the modem's IMEI number. To locate the IMEI number, open Settings and select **Network & internet** > **Cellular** > **Mobile operator settings**. The IMEI number is listed under Properties.



Install the SIM Card

For instructions on installing the SIM card, see “2.6 Micro SD and Nano SIM Cards” on page 17.

The Mesa 4 must be powered off before installing the SIM Card.

3.2 Barcode Imager

The Mesa 4 with a barcode imager reads 1D and 2D barcodes and imports barcode data into custom or standard programs running on the Mesa 4. Access the barcode imager from the Barcode Connector™ utility, a program included with the barcode imager.

The barcode imager is located on the top of the Mesa 4 when in portrait mode.

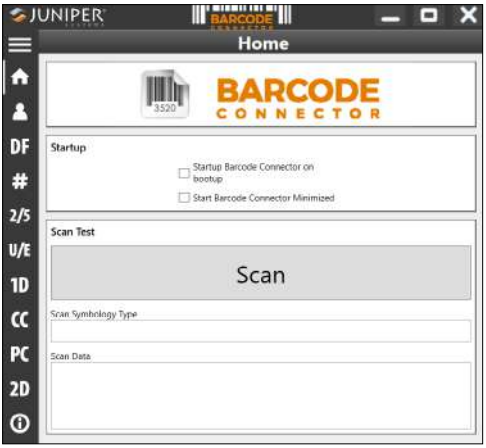
If the utility is not available, download it from *https://junipersys.com/support/article/13028*.

3.2.1 Scan Test

To perform a scan test,

1. Open the Barcode Connector utility.
2. From the Home screen, tap **Scan** or press the scan

button on the keypad. (The default button is P2.)



3. Place the red aiming LED on or near the barcode.

If the scan is successful, the data appears in Scan Symbology Type and Scan Data.

3.2.2 Barcode Connector Settings

From the Barcode Connector toolbar, you can open screens to customize barcode settings, such as scanning preferences, data format, and barcode types.

To expand or collapse the toolbar, tap the menu button ☰.

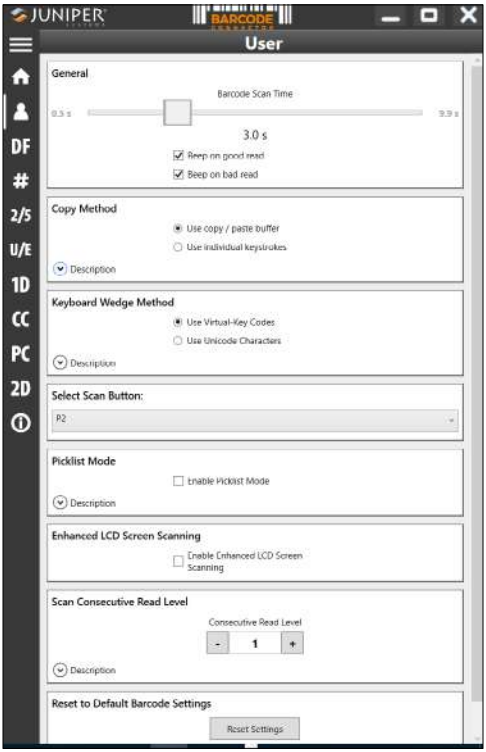
Startup Settings

Tap **Home** to open the Home screen and customize the startup settings.

- Select **Startup Barcode Connector on bootup** to open the Barcode Connector utility when you sign in to the tablet.
- Select **Start Barcode Connector minimized** to open and minimize the Barcode Connector utility when you sign in to the tablet. The keypad button and keyboard wedge function while the app is minimized.

User Settings

Tap **User** to open the User screen and define user settings, such as the scan button, scan time, copy method, and keyboard wedge method.



Change the following settings to fit your application.

Setting	Action
General	Customize the following settings. • In **Barcode scan time**, set the amount of time the barcode module attempts to read a barcode. • Select when you would like the module to beep.
Copy Method	Select one of the following. • Select **Use copy/paste buffer** to place barcode data (including prefix/suffix data) in the copy buffer, and then paste it wherever you place the cursor. • Select **Use individual keystrokes** to send each character (including prefix/suffix data) as an individual keystroke. **CAUTION: The copy/paste buffer leaves the data in the copy buffer. If you are scanning sensitive data, select Use individual keystrokes.**
Keyboard Wedge Method	Select **Use virtual-key codes** or **Use unicode characters** to determine the method used to send keyboard data to the system.
Select Scan Button	Select P1, P2, or P3 as the barcode scan button. When you press the scan button, the module scans for tags.
Picklist Mode	Select **Enable picklist mode** to allow the barcode module to decode barcodes aligned with the center of the laser aiming pattern.

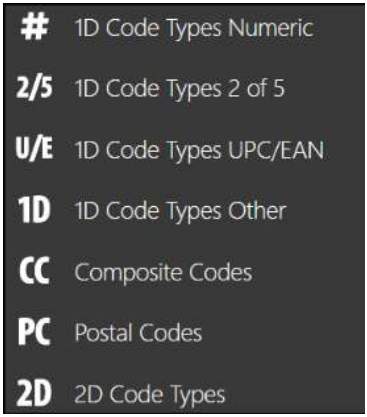
Setting	Action
Enhanced LCD screen scanning	Select **Enable enhanced LCD screen scanning** to allow the barcode module to more easily read a barcode on an LCD screen.
Scan Consecutive Read Level	Determine how many times the module reads a barcode type before sending the data to the user. Enter a number from 1–4. **1**—Codabar, MSI, Discrete 2 of 5, and Interleaved 2 of 5 need two consecutive reads. All other barcodes need only one read. **2**—All code types must have two consecutive reads. **3**—Codabar, MSI, Discrete 2 of 5, and Interleaved 2 of 5 needs three consecutive reads. All other barcodes only need two reads. **4**—All code types must have three consecutive reads.
Reset to Default Barcode Settings	Tap **Reset Settings** to reset the Barcode Connector utility to the default settings.

Data Format

Tap **Data Format** DF to open the Data Format screen and set the assigned prefix and suffixes for the barcode.

Barcode Types

The Barcode Imager reads 1D and 2D code types, composite codes, and postal codes. To open a screen for configuring a barcode type, tap the barcode type in the toolbar.



3.2.3 Reading a Barcode

After you set up the Barcode Connector utility, you are ready to scan barcodes.

To scan a barcode,

1. Open and minimize the Barcode Connector utility.
2. Open an app or document where you want to receive the barcode data, and put the cursor where you want to place the data.
3. Aim the barcode imager at the barcode.

   The distance required between the barcode and Mesa 4 varies depending on the barcode being read.
4. Aim the red LED at the barcode.
5. Press the scan button.

   If the scan is successful, the barcode information is placed in your app or document.

3.2.4 Barcode Types

The Mesa 4 barcode imager reads the following barcode types.

1D Barcodes

123456789

Code 39

Juniper Systems, Inc.

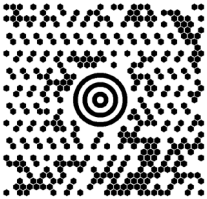
Code 128

0 001234 567895

UPC-A

2D Barcodes

Aztec



Maxicode

MicroPDF417

QR Code

3.2.5 Troubleshooting the Barcode Imager

If the barcode imager is not functioning correctly, reset it to factory default settings.

1. Open the Barcode Connector utility.
2. Scan the Set Factory Default barcode (shown below).

3. Open the User screen, and tap **Reset Settings**.
4. Close the Barcode Connector utility.

5. Reopen the Barcode Connector utility and verify that correct functionality has been restored.

3.3 Pistol Grip

The Pistol Grip reduces strain and maximizes productivity for heavy barcode scanning applications. The grip meets MIL-STD-810G.

Note: For compatibility with the Pistol Grip, the Mesa 4 must have the electrical contacts on the case back.

3.3.1 To Use the Pistol Grip

To use the Pistol Grip,

1. Place the Mesa 4 with the back side up.
2. Line up the three screw holes and contacts on the Pistol Grip with the screw holes on the Mesa 4.
3. Use the three screws, included with the Pistol Grip, to attach it to the Mesa 4.
4. Use the Barcode Connector utility, as described in “3.2.3 Reading a Barcode” on page 39.

Trigger Stages

The trigger has two stages.

- Pull the trigger halfway back to turn on the laser and aim the barcode imager at the barcode.
- Pull the trigger completely back to read the barcode.

Note: The Pistol Grip is not compatible with the RFID reader.

3.3.2 Holster

Juniper Systems offers an optional nylon Pistol Grip holster case that you can attach to a belt or shoulder strap.

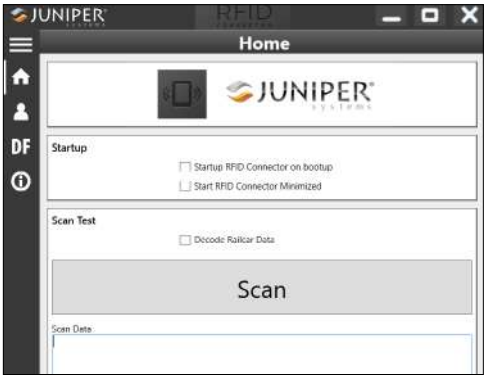
3.4 RFID Reader

The RFID module on the Mesa 4 reads UHF RFID tags and imports the data into custom or standard programs running on the Mesa 4. Access the RFID reader from the RFID Connector™ utility, a program provided with the RFID reader.

3.4.1 Scan Test

To perform a scan test,

1. Open the RFID Connector utility.
2. Hold the Mesa 4 with the display side toward you and an RFID tag in front of the RFID reader.
3. From the Home screen, tap **Scan**. If the scan is successful, the data appears in Scan Data.



*Note: You can also test the scan function by putting the cursor in **Scan Data** and pressing the keypad button assigned to RFID scanning.*

3.4.2 RFID Reader Settings

From the RFID Connector toolbar, open screens to customize the RFID settings, such as scanning preferences, data format, and input methods.

To expand or collapse the toolbar, tap the menu button ☰.

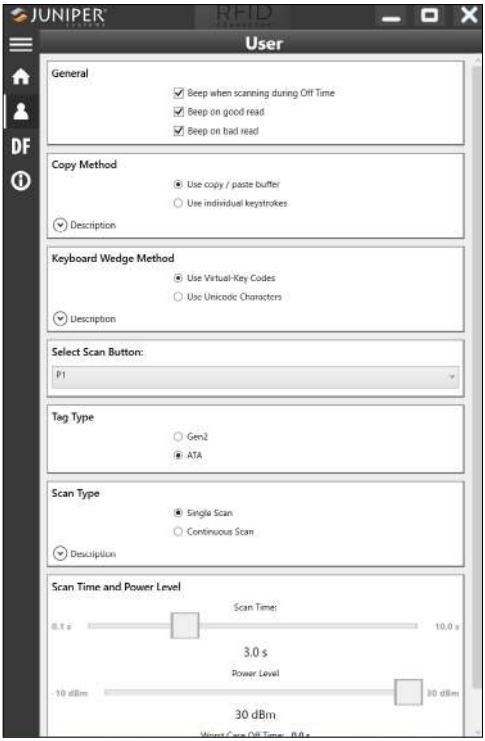
Startup Settings

Tap **Home** to open the Home screen and customize the startup settings.

- Select **Startup RFID Connector on bootup** to open the RFID Connector utility when you login to the tablet.
- Select **Start RFID Connector minimized** to open and minimize the RFID Connector utility when you login to the tablet. The keypad button and keyboard wedge function while the app is minimized.

User Settings

Tap **User** to open the User screen.



Change the RFID settings to fit your application.

Setting	Action
General	Select when you would like the device to beep.

Setting	Action
Copy Method	Select one of the following options. • Select **Use copy/paste buffer** to place RFID data (including prefix/suffix data) in the copy buffer, and then paste it wherever you place the cursor. • Select **Use individual keystrokes** to send each character (including prefix/suffix data) as individual keystrokes. **CAUTION: The copy/paste buffer leaves the data in the copy buffer. If you are scanning sensitive data, select Use individual keystrokes.**
Keyboard Wedge Method	Select **Virtual Key Codes** or **Unicode Characters** to determine the method used to send data to the RFID module.
Select Scan Button	Select P1, P2, or P3 as the RFID scan button. While the RFID Connector utility is running, this setting overrides any other function assigned to that keypad button. For example, you can set P1 as the RFID scan button and assign P1 a different function in Device Settings. After the RFID Connector closes, P1 reverts to its other assigned function.
Tag Type	Select **Gen 2** or **ATA** if the device has an ATA license.

Setting	Action
Scan Type	Select one of the following options. • Select **Single Scan** to have the RFID module scan for as long as the scan time value is set. The module stops scanning when it reads a tag or the time elapses. • Select **Continuous Scan** to have the RFID module scan for as long as the scan time value is set. The module chains all the tags together (including prefixes and suffixes) sends the data at the end of the scan.
Scan Time and Power Level	• Set **Scan Time** to the determine the amount of time the RFID modules attempts to scan a tag. • Set **Power Level** to the amount of power you want the module to use. The higher the power level is set, the more range you will have. Use a lower power setting when you don't need as much range or the tags you are reading are close to the scanner. *Note: Worst Case Off Time is the maximum amount of time that the radio will remain off before it will allow another scan if the power is set higher than the regulatory threshold. The Mesa 4 regulatory threshold is the same as the maximum power of the RFID module, so this number will always be zero.*

Data Format

Tap **Data Format** DF to open the Data Format screen and automatically assign a prefix and/or suffix to RFID tags.

3.4.3 Read an RFID Tag

To read an RFID tag,

1. Open and minimize the RFID Connector utility.
2. Open the document that you want to receive the tag data and put the cursor in the desired location.
3. Hold the Mesa 4 with the display facing you and the tag in front of the RFID reader.

   The RFID reader is internal and roughly two inches to the right of the rear-facing camera lens. Hold the Mesa 4 at a right angle to the tag in either portrait or landscape orientation.

   The distance required between the tag and the RFID reader varies depending on the tag. The RFID reading range is between a few inches to three feet.
4. Press the scan button.

   If the scan is successful, the barcode information is placed in your app or document.

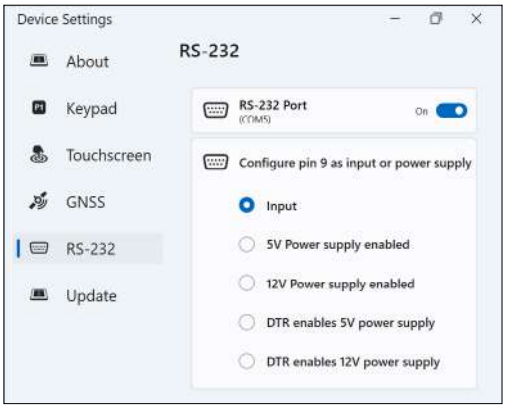
3.4.4 Antenna for RFID Reader

The RFID reader has a circularly polarized antenna, which allows you to hold the Mesa 4 in any orientation but has a reduced range compared to a linear antenna.

3.5 RS-232 Port

The Mesa 4 with the RS-232 9-pin D-sub connector provides either 5 V DC or 12 V DC on pin 9, depending on the settings. Configure the behavior of the RS-232 port from the Device Settings app.

To adjust the RS-232 port configurations, open the Device Settings app and tap **RS-232**.



Change the settings to fit your application.

Setting	Action
RS-232 Port	Turn on or off the power to the port. Power off the port if no RS-232 device is connected to the Mesa 4. The port pins corrode more quickly when the port has power but is not connected to a device. *Note: The COM port number assigned by Windows appears on the label.*

Setting	Action
Configure pin 9 as input or power supply	Set the function of pin 9 (ring indicator) on the port. • Select **Input** (default setting) if your RS-232 device does not need to be powered from the RS-232 port. • Select **5 V power supply enabled** or **12 V power supply enabled** to supply power from pin 9 when the RS-232 device is running or in sleep mode. The power supply is enabled automatically without needing any interaction with the COM port. • Select **DTR enables 5 V power supply** or **DTR enables 12 V power supply** if you want the power to be off until the RS-232 device opens the COM port and asserts the DTR signal. When the DTR signal de-asserts, the port is powered off.

3.6 Vehicle Dock

The Vehicle Dock securely holds the Mesa 4 in place in vehicle-type settings. The dock has a locking mechanism with a unique key for security. (Duplicate keys can be made for fleets.)

3.6.1 Mounting System

The Vehicle Dock requires an additional mounting arm for full mounting in your vehicle. The dock attaches to any 30 mm x 38 mm AMPS mounting system that suits your application (sold separately). Juniper Systems recommends products from RAM Mount (*rammount.com*) or ProClip (*proclipusa.com*).

How to Use the Dock

1. Attach the mounting system to the vehicle.
2. If a hand strap is covering the pin contacts on the Mesa 4, unhook one end or remove it.
3. Hold the Mesa 4 horizontally with the docking pin contacts facing down. Place it over the dock alignment pins and press down until you feel and hear the lock engage.
4. Press the lock bar down until it engages the Mesa 4.
5. Push the lock button in. The Mesa 4 is now locked in the dock and cannot be accidentally removed.
6. To remove the Mesa 4, turn the key until the lock button pops out. Lift the lock bar, and remove the Mesa 4.

3.7 Battery Charger

The Battery Charger allows you to charge spare battery packs for the Mesa 4.

3.7.1 How to Use the Battery Charger

Batteries charge best at room temperature (about 68°F or 20°C). Batteries will not charge (or might charge slowly) at temperatures below 32°F (0°C) or above 122°F (50°C).

Use the AC wall charger (provided with your Mesa 4) to power the Battery Charger. Insert the battery pack into the charger with the battery contacts entering the charger first.

Battery Charger LED Indicator

The LED indicates the charging status:

- **Blinking, slowly**—The battery pack is charging.
- **Solid, on**—The battery pack is fully charged.
- **Off**—There is no power to the Battery Charger. The battery is not charging.

4

Storage, Maintenance, and Recycling

4. Storage, Maintenance, and Recycling

Follow the instructions in this chapter to properly maintain and recycle the Mesa 4.

4.1 Storing the Mesa 4 and Battery Pack

When the tablet is not being charged and is in sleep mode, the tablet draws a small amount of power. This power draw maintains the memory (RAM) of the tablet in the same state it was in when it was awake. Charge the tablet each night or weekend when it is in sleep mode.

If the Mesa 4 battery reaches a very low charge, the tablet automatically hibernates to prevent further drain on the battery.

Note: Data and programs are secure as long as they have been saved, even if the battery pack becomes discharged. The tablet does not depend on the battery to store the data for extended periods.

4.1.1 Storing the Mesa 4 for More than Two Weeks

To store the tablet for two weeks or more, see "Long-Term Storage" on page 28.

4.2 Protecting the Touchscreen

Protect the touchscreen from impact, pressure, or abrasive substances that could damage the screen. To further protect the touchscreen, apply a screen protector (optional accessory) using the directions that come in the package.

CAUTION: Replace the screen protector as often as the screen protector instructions recommend.

4.3 Cleaning the Mesa 4

Make sure the battery door is securely installed. Remove the screen protector if you want to clean underneath it. Use warm water, a mild cleaning solution, and a soft bristle brush to gently clean the Mesa 4.

CAUTION: Do not direct a high-pressure stream of water at the device to clean it. This action could break the seal, causing water to get inside the device and voiding the warranty.

CAUTION: Exposure to some cleaning solutions may damage your device, including automotive brake cleaner, isopropyl alcohol, carburetor cleaner, and similar solutions. If you are uncertain about the strength or effect of a cleaner, apply a small amount to a less visible location as a test. If you notice any visual change, promptly rinse and wash with a known mild cleaning solution or with water.

4.4 Recycling the Mesa 4 and Batteries

When the Mesa 4 and Li-ion battery packs for your Mesa 4 reach the end of their service life, do not dispose of them in municipal waste. Always dispose of waste equipment at a designated electrical equipment recycling collection point.

5
Warranty and Repair Information

5. Warranty and Repair Information

5.1 Limited Product Warranty

5.1.1 Two Year Warranty

Juniper Systems, Inc. ("JS") warrants that the Mesa 4 Rugged Tablet and optional internal battery shall be free from defects in materials and workmanship, under normal intended use, for a period of 24 months from the date of shipment, excepting that this warranty shall not apply to user replaceable battery packs, media containing tablet and desktop PC programs, user documentation, and any accessories.

5.1.2 Ninety Day Warranty

JS warrants that the following items shall be free from defects in materials and workmanship, under normal intended use, for a period of ninety (90) days from the date of shipment:

- User replaceable battery packs
- User documentation
- Accessories

5.1.3 Warranty Exclusions

This warranty shall not apply if:

i. the product has been set up improperly or has been improperly installed or calibrated,

ii. the product is operated in a manner that is not in accordance with the user documentation,

iii. the product is used for a purpose other than for which it was designed,

iv. the product has been used in environmental conditions outside of those specified for the product,

v. the product has been subject to any modification, alteration, or change by or on behalf of customer (except and unless modified, changed or altered by JS or under direct supervision of JS),

vi. the defect or malfunction results from misuse or accident,

vii. the serial number on the product has been tampered with or removed, or

viii. the product has been opened or tampered with in any way (such as the tamper evident VOID label indicating certified IP [Ingress Protection] seal area has been tampered with or removed).

Parts that are excessively worn are not covered under warranty. These may include, but are not limited to, the keyboard elastomer and switch matrix, hand straps, and the touch screen (if applicable).

This warranty is exclusive and JS will not assume and hereby expressly disclaims any further warranties, whether express or implied, including, without limitation, any warranty as to merchantability, fitness for a particular purpose, non-infringement or any warranties arising from the course of performance, dealing, or usage of trade. JS specifically makes no warranties as to the suitability of its products for any particular application. JS makes no warranties that

- its products will meet your requirements or will work in combination with any hardware or applications software products provided by third parties,
- the operation of its products will be uninterrupted or error free, or
- all defects in the product will be corrected.

JS shall not be responsible for software, firmware, information, or memory data contained in, stored on, or integrated with any products returned to JS for repair, whether under warranty or not.

5.1.4 Remedy

In the event a defect in materials or workmanship is discovered and reported to JS within the specified warranty period, after evaluation by a technician at a certified repair center, JS will, at its option, repair the defect or replace the defective part or product. Replacement products may be new or reconditioned. JS warrants any replaced or repaired product for a period of ninety (90) days from the date of

return shipment, or through the end of the original warranty period, whichever is longer.

5.1.5 Limitation of Liability

To the fullest extent allowed by law, the obligation of JS shall be limited to the repair or replacement of the product. JS shall in no event be liable for special, incidental, or consequential, indirect, special or punitive damages of any kind, or for loss of revenue or profits, loss of business, loss of information or data, or other financial loss arising out of or in connection with the sale, installation, maintenance, use, performance, failure, or interruption of any product. Any responsibility and/or liability of JS shall, in connection with a warranted product, be limited in the maximum amount to the original purchase price.

5.1.6 Governing Law

This warranty is governed by the laws of Utah, U.S.A. and excludes the United Nations Convention on Contracts for the International Sale of Goods. The courts of Utah shall have exclusive personal jurisdiction in case of any disputes arising out of or in connection with this warranty.

5.1.7 Warranty Repairs

Warranty information for the Mesa 4 Rugged Tablet is located on our website at *https://junipersys.com/support/mesa-4/my-product* then Warranty. You can check warranty status, view warranty terms and conditions, etc.

Standard repair orders and 3-Day Expedite Service repair orders are valid for 30 days from the date issued. 1-Day Expedite Service repair orders are valid for 7 days from the date issued. Wait to request a repair until you are ready to send the product.

Services and Materials Provided Under Warranty

- Analysis of problem by service technician
- Labor and materials required to fix defective parts
- Functional analysis performed after repair
- Shipping costs to return device to customer

JS strives to provide continued full repair services for our products for up to five years from the final production date of each product model. However, in some rare cases (depending on the repair need), it may not be possible to perform a repair due to an unforeseen discontinuation or lack of supplied parts from third-party vendors. Repair support for a product may continue beyond five years if obtaining replacement parts or tools remains economically feasible. Our policy is that we will do what is best and most beneficial for our customers and company.

5.2 Complete Care Service Plans

We offer service plan options that provide additional benefits through participating repair centers. Services include:

- Service plan coverage up to five years from the original product ship date.
- Up to a 50% discount on all charged repairs.
- Expedited repairs and return shipping at no additional charge.
- Replacement of worn and/or damaged parts at no additional charge.
- Complete comprehensive coverage to protect your investment even when accidents occur.
- Loaner product option when an expedited repair is not enough.
- Priority support through a personal account specialist.

For more information about our Complete Care service plans, go to our website at *https://junipersys.com/support/mesa-4/my-product* then Warranty/Complete Care Options or Warranty/Complete Care Terms and Conditions.

5.3 Repairs, Upgrades, and Evaluations

CAUTION: Do not attempt to repair the Mesa 4 yourself. This action voids the warranty.

Information about repairs, upgrades, and evaluations is

located on our website at *https://junipersys.com/support/mesa-4/my-product* and then tap **Repairs**. You can locate a repair center, submit a repair order, check repair status, view terms and conditions, get shipping instructions, and view lead times.

Before returning a tablet, submit a repair order from our website and wait for confirmation or contact a repair center directly. Be prepared to provide the following information:

- The product serial number. This information can be located by opening Device Settings or inside the battery compartment.

  Note: Before opening the battery door and removing the battery, see the proper procedure in "1.2.2 Install and Charge the Battery Pack" on page 4.

- Name and shipping address of company/university/agency.
- Best contact method (phone, fax, email, cell/mobile).
- Clear, highly-detailed description of the repair or upgrade.
- Credit card/purchase order number and billing address (for a repair or upgrade that is not covered by the standard warranty or an extended warranty policy).

5.4 System Information for your Mesa 4

You might be asked to provide additional information about your Mesa 4 when you contact a repair center. To view information like the operating system edition, OS build and serial number, open Device Settings. For additional information, open Settings and select **System** > **About**.

6

Warnings, Regulatory Information, Licensing

6. Warnings, Regulatory Information, Licensing

6.1 Product Warnings

Follow the warnings listed below to use the Mesa 4 and accessories safely.

6.1.1 Battery Warnings

WARNING! This device comes with a lithium-ion rechargeable battery pack. To reduce the risk of fire or burns, do not disassemble, crush, puncture, short external contacts, or expose the battery pack to fire.

Do not disassemble or open, crush, bend or deform, puncture or shred.

Do not modify or remanufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, expose to fire, explosion or other hazard.

Only use the battery for the system for which it is specified.

Only use the battery with a charging system that has been qualified with the system per this standard. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazard.

Do not short circuit a battery or allow metallic conductive objects to contact battery terminals.

Replace the battery only with another battery that has been qualified with the system.

Use of an unqualified battery may present a risk of fire, explosion, leakage, or other hazard.

Promptly dispose of used batteries in accordance with local regulations.

Battery usage by children should be supervised.

Avoid dropping the battery. If the battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service center for inspection.

Improper battery use may result in a fire, explosion or other hazard.

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

6.1.2 Wall Charger Warnings

WARNING! To reduce the risk of personal injury, electrical shock, fire or damage to the equipment:

- Plug the AC wall charger into an electrical outlet that is easily accessible at all times.
- Do not place anything on the AC wall charger cord or any of the other cables. Arrange them so that no one may accidentally step on or trip over them.
- Do not pull on a cord or cable. When unplugging the AC wall charger from the electrical outlet, pull on the plug, not the cord.
- The AC wall charger must be approved by Juniper Systems, have an output rating of 12 V DC and a minimum 1.67 A, and be certified or listed by a nationally recognized testing laboratory. The AC wall charger provided with the Mesa 4 meets these criteria. Using any other external power source can damage your product and void your warranty.

6.2 Regulatory Information

To access the regulatory information for the Mesa 4, go to **Device Settings** > **About** > **Regulatory**.

6.3 Certifications and Standards

6.3.1 United States

In compliance with the FCC rules 47 CFR 15.19(a)(3), the statements that follow must appear on the device or in the user documentation.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- The device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

In compliance with the FCC rules, 47 CFR 15.105(b), the user must be notified that 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.
- In compliance with the FCC rules, 47 CFR 15.21, the user must be notified that changes or modifications to the Rugged Tablet that are not expressly approved by the

manufacturer could void the user's authority to operate the equipment.

Only approved accessories may be used with this equipment. In general, all cables must be high quality, shielded, correctly terminated, and normally restricted to two meters in length. Wall chargers approved for this product employ special provisions to avoid radio interference and should not be altered or substituted.

6.3.2 Canada

In compliance with Industry Canada rules, the following statement must appear on the device or in the user documentation:

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

This device complies with Industry Canada licence-exempt RSS standard(s). 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.

Canadian regulations restrict the use of channels in the band 5150 MHz to 5250 MHz to indoor use only. When this product is connected with an access point that is operating in this frequency range, or when using ad-hoc mode, the use of this product is restricted to indoor use only.

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, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

La réglementation canadienne restreignent l'utilisation des canaux dans la bande 5150 MHz à 5250 MHz pour une utilisation en intérieur. Lorsque ce produit est connecté à un point d'accès qui fonctionne dans cette gamme de fréquences, ou lorsque vous utilisez le mode ad-hoc, l'utilisation de ce produit est limitée à une utilisation en intérieur.

6.3.3 Radio Frequency Safety

This equipment complies with radiation exposure limits set forth for an uncontrolled environment. This equipment is in direct contact with the body of the user under normal operating conditions. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux radiations dans un environnement non contrôlé. Cet équipement est en contact direct avec le corps de l'utilisateur dans des conditions de fonctionnement normales. Cet émetteur ne doit pas être co-localisées ou opérant en conjonction avec tout autre antenne ou transmetteur.

6.3.4 CE Marking (European Union)

Products bearing the CE marking comply with the EU Directive 2014/53/EU.

Declaration of Conformity

The Declaration of Conformity for CE Marking is available at: *http://www.junipersys.com/doc*

6.3.5 Restricted Materials Conformity

The Mesa 4 conforms to the following restricted materials regulations:

- RoHS 2011/65/EU and 2015/863
- REACH 1907/2006 (Article 33, Article 67)
- EU POP 2019/1021
- California Proposition 65
- Canada Prohibition of Certain Toxic Substances
- TSCA

6.4 Licensing Information

Note: You must accept the enclosed software License and Warranty terms (www.microsoft.com/userterms).

This Product is licensed under the AVC, the VC-1 and the MPEG-4 Part 2 Visual patent portfolio licenses for the personal and non-commercial use of a consumer to (i) encode video in compliance with the above standards ("Video Standards") and/or (ii) decode AVC, VC-1 and MPEG-4 Part 2 Visual that was encoded by a consumer engaged in personal and non-commercial activity or was obtained from a video provider licensed to provide such video. None of the licenses extend to any other product regardless of whether such product is included with this product in a single article. No license is granted or will be implied for any other use. Additional information may be obtained from MPEG LA, LLC. (See *www.mpegla.com*.)

This Agreement does not, and the Windows Products do not, convey any right to use the Dolby technology portion of the foregoing Windows products or to make, reproduce, or sell the Dolby portion of such Windows products outside of the location of delivery under this Agreement. This Agreement does not grant and does not have the right to grant any rights to Dolby patents for any use of the Dolby portion of the product, or making or selling of such Windows products outside of the delivery location. A list of relevant patents may be obtained from Dolby Laboratories, Inc. This Agreement does not grant and does not have the right to grant any rights to any Dolby copyrights, including the right to reproduce or distribute any portions of the Windows Products that include Dolby intellectual property. Licenses for these activities may be obtained from Dolby.

Any use of this product in any manner other than personal use that complies with the MPEG-2 standard for encoding video information for packaged media is expressly prohibited without a license under applicable patents in the MPEG-2 patent portfolio, which license is available from MPEG LA, LLC, 6312 S. Fiddlers Green Circle, Suite 400E, Greenwood Village, Colorado 80111 U.S.A.

Windows 11 is automatically updated, which is always enabled. Additional requirements may apply over time for

updates. The operating system software and updates use significant storage space; user's storage capacity will be less. For additional information, see *www.microsoft.com/en-us/windows/windows-11-specifications*. Updates require high-speed internet and Microsoft account. Set up may require significant download; ISP fees apply.

Cortana is available in select countries; experience may vary by device.

7
Specifications

7. Mesa 4 Rugged Tablet Specifications

Note: Specifications are subject to change without notice.

FEATURE	SPECIFICATION
Operating System	• Microsoft® Windows 11 Pro • English, French, German, Spanish, Brazilian Portuguese are built in; other languages are available for download.
Processor	• Intel® Processor N200
Memory	• 8 GB RAM or 16 GB LPDDR5 RAM (model specific)
Primary Data Storage	• 128 GB or 256 GB SSD (model specific)
Micro SD/SDXC Card Slot	• SD/SDXC slot, user accessible
Physical Features	• Dimensions, standard: 5.4 in. wide x 8.48 in. long x 1.36 in. thick (137 mm x 215 mm x 35 mm) • Weight: 1.5 to 2.2 lb (680-907 g) depending on battery configuration and internal options installed • Durable, chemical- and shock-resistant design • Easy-to-grip, impact-absorbing, over molded bumpers • Three mounting points on the back are size #4-40 UNC with a maximum depth of 3/16 in. (4.76 mm)

FEATURE	SPECIFICATION
Display	• Active viewing area: 7 in. (178 mm) • WXGA 800 x 1280 pixel resolution • Backlit LCD • Brightness: 800cd/m² • Outdoor viewable • Portrait or landscape orientation
Touchscreen	• Capacitive multi-touch interface for use with gloves or fine-tip stylus in dry or wet conditions • Dragontail™ HW coverglass for impact and scratch resistance • Touchscreen profile options
Keyboard	• Programmable keys • LED backlit keys
Batteries	• Rechargeable Li-ion battery pack, 7.2 V DC 6 Ah, 43.2 WHr • Run time of up to 12 hours or more • Charging time 4 to 6 hours • Built-in battery intelligence • User-replaceable • Optional internal 21.6 Whr battery provides an additional 50% of runtime and hot-swap capability; not user replaceable or accessible
Ports	• Power input jack (10 V–21.25 V, nominal 12 V DC) • USB-A (1x USB 3 SuperSpeed) • USB-C (1x USB 3 SuperSpeed+)

FEATURE	SPECIFICATION
Wireless Connectivity	• Bluetooth® wireless technology 5.3 (BR, EDR, BLE, class 1.5) • Wi-Fi 4, 5, 6, 6E (802.11 a/b/g/n/ac/ax, FIPS 140-2) • 4G LTE multi-carrier capable, FirstNet ready
Audio	• Mono speaker, loud and clear • Microphone, low noise
LED Activity Indicators	• Red: power applied/charging status • Green: system is booting • Blue: application programmable • Amber light: camera is in use
Standard Sensors/ Features	• Ambient light sensor • Compass • Accelerometer • Gyroscope • TPM (Trusted Platform Module) v2.0
Temperature Specifications	• Operating temperature: -4°F to 122°F (-20°C to 50°C). • Storage temperature: -22°F to 158°F (-30°C to 70°C) • Battery charging temperature: 32°F to 122°F (0°C to 50°C)
Shock Resistance	• Withstands multiple 4 foot drops to concrete

FEATURE	SPECIFICATION
Environmental Ratings and Standards	• IP68 rating (IEC 60529-01) • Water resistant and dust proof • Operating temperature: -22°F to 122°F (-30°C to 50°C) • Startup temperature: -4°F to 122°F (-20°C to 50°C) • Storage temperature: -22°F to 158°F (-30°F to 70°C) • Certified to MIL-STD-810H test procedures: Method 501.5 High Temperature Method 502.5 Low Temperature Method 514.6 Vibration Shockproof: multiple drops from 4' (1.2 m) onto concrete, test procedure IV • Designed to meet MIL-STD-810H test procedures: Method 500.5 Low Pressure (altitude) Method 503.5 Temperature Shock Method 506.5 Rain Method 507.5 Humidity Method 510.5 Sand and Dust Method 516.6 Shock

FEATURE	SPECIFICATION
Certifications and Standards	• FCC Class B • CE Marking • Industry Canada • Australia (ACMA) • Bluetooth® SIG qualification • IP68 water resistant and dust proof • Designed to MIL-STD-810G • RoHS 2 compliant • Mesa 4 is certified on AT&T networks • MIL-STD-461F: Minimum Safe Separation Distance Exceptions HERO Unsafe: 10 ft (3 m) HERO Susceptible: 5 ft (1.5 m) HERO Safe: 1 ft (0.3 m)
Warranties	• 24 months for Mesa 4 • 90 days for accessories • Extended service and maintenance plans

FEATURE	SPECIFICATION
Configurations	All models and features for the Mesa 4 are configured for United States/ Canada, European Union, or Australia. Mesa 4 has a Quectel receiver and integrated antenna with optional external antenna port. The following configurations are available: • Storage: 128 GB or 256 GB SSD • RAM: 8 or 16 GB • Wi-Fi • Long-range Bluetooth® wireless technology • Front- and rear-facing cameras • 4G LTE cell modem • Internal battery • Hot-swappable battery • Keypad • Barcode imager (optional) • RFID module (optional) • RS-232 port (optional)
Camera	• 13 MP rear-facing with auto focus • 5 MP front-facing • Video capture • JPEG image format • Flash

FEATURE	SPECIFICATION
4G LTE Data Modem (Optional)	• Sierra Wireless AirPrime EM7455 or EM7430 (region dependant) • Supports nano SIM card only. Nano SIM card header inside battery compartment with card detect feature. • Does not support voice calls or SMS. • Supports 3G UMTS, HSUPA, HSDPA, HSPA, HSPA+, WCDMA, LTE, FirstNet *For more details, see “4G LTE Data Modem - Additional Information” on page 81.
GPS/GNSS	• L1/L5 dual frequency • 2 to 5 meter typical accuracy • Quectel receiver and integrated antenna • Optional: MCX connection for external antenna (1 meter real-time accuracy) • Integrated real-time SBAS receiver (WAAS, EGNOS, MSAS, and GAGAN) • 135 GNSS tracking channels • RAW data capture for post-processing (sub-meter accuracy with suitable external antenna)
UHF RFID (optional)	• Built-in UHF RFID module and antenna • Region-specific frequency (866 MHz or 920 MHz) • EPCglobal Gen 2 (ISO 18000-6C) protocol support • Wide output range (0–30 dBm) • Read range depends on device/ tag orientation and antenna

FEATURE	SPECIFICATION
Built-in Barcode 1D/2D Imager (optional)	• Imager: Zebra SE4710 Imager • Decoder: Zebra PL5000 • Symbologies: All common 1D, 2D (PDF417, MicroPDF417, Composite, RSS, TLC-39, Data matrix, QR code, Micro QR code, Aztec, Maxicode, Postal codes, etc.) • Visible aiming bullseye with low-light illumination • Barcode Connector™ utility: Wedge and configuration, SDK support available
RS-232 (optional)	• RS-232C 9-pin D-sub connector port • Programmable 5 V or 12 V supply
Standard Accessories	• Removable Li-ion battery • Adjustable hand strap • AC wall charger with international plug kit - Input: 100-240 V AC, 50/60 Hz, 0.8 A - Output: 12 V DC, 2.5 A • Capacitive fine-tip stylus with tether • Quick Start Guide • User's Manual (on our website) • Two-year warranty on Mesa 4

FEATURE	SPECIFICATION
Optional Accessories	• Internal extended battery, 7.2 V @ 3 A, 21.6 WH Li-ion • Integrated UHF reader and antenna • Integrated RS-232 9-pin D-sub communication • Surveying pole clamp and mount • Pistol Grip for reading barcodes • Holster for Pistol Grip and Mesa 4 • Vehicle charger cable, 12 V vehicle power port, 6 ft. • Vehicle mounting dock • Vehicle dock/pole mount, dock attachment • Shoulder strap • Travel charger • Serial cable • Holster carrying case • Flip cover fitted case • Four-point harness • SD card • Screen protector (anti-glare, ultra-clear, or polarized) • Office 365

4G LTE Data Modem - Additional Information

MODE	MODEL/REGION	FREQUENCY BANDS
LTE	Global	1–5, 7, 8, 12–14, 18–20, 25, 26, 28, 29, 32, 38–41, 66, 71
WCDMA/ HSPA	Global	1, 2, 4, 5, 6, 8, 9, 19
FirstNet	North America	14

Index

Index

Symbols

4G Data Modem
    Data Account, Set up With Wireless Provider 33
    SIM Card Installation 33
4G LTE Data Modem 2, 75, 78, 79, 81

A

Accessories
    Optional 81
    Standard 80
AC Wall Charger 66
Ambient Light Sensor 2, 10, 75
Anatomy of the Mesa 4 2–3
Audio Features 18
    Microphone 19
    Speaker 18, 75

B

Barcode Connector Utility 34, 39, 41, 42, 80
Barcode Imager 34, 80
    Barcode Connector Utility 34, 39, 41, 42, 80
    Pistol Grip 42
        Holster 43
    Sample Barcodes 40
Battery 21
    Charge 74
Battery Compartment 3
Battery Door 2–3
Battery Pack, Internal 26–27, 81
Battery Pack, Removable 3–5, 26–28
Battery Packs
    Battery Life 26, 28
    Charge 28, 66
    Install 4–5
    Internal 3, 26–27
    Removable 3, 4
    Specifications 74

Status 26
Storage 55
Warnings 65
Bluetooth 19, 21
Bluetooth Wireless Communication 20–21

C

Camera 11
Front 11, 78
Rear 11, 78
Specifications 78
Care and Maintenance
Cleaning 55
Storage 55
Cautions 18, 55, 56, 62, 66
Certifications and Standards 66, 77
Canada 68
CE Marking, European Union 69
Licensing Information 70
Radio Frequency Safety 69
United States 67
Cleaning 55
Compass 19
Compass Calibration 19
Configurations 78
Connector Ports 3, 18, 74

D

Data Modem 33
Set up a Data Account 33
Install the SIM Card 34
Data Storage 73
Declaration of Conformity 69
Display 74
Brightness 9, 74
Resolution 74
Viewing area 74
Display and Touchscreen
Backlight 12
Brightness 9

Dock
    Vehicle 50
Documentation 4

E

Environmental Ratings and Standards 76
Equipment Warnings 65

F

Features
    Optional 33
    Standard 9

G

GPS/GNSS 79
    Quectel 78
    Support 25

H

Hand Strap 6
Hibernate 21, 27, 55

I

IP68 19, 76, 77

K

Keypad
    Backlight Brightness 12, 13
    Key Functions 13, 14
    Programmable Keys 13, 14, 74

L

Language Installs 73
LED Activity Indicators 16, 52
Light Sensor 2, 10, 75
Limitation of Liability 61
Locked Up 29
LTE Device 2, 33, 75, 78, 79, 81

M

Memory 73
Microphone 19, 75

O

Operating System 73
    Install Language 73
    Updates 70
Optional Features
    4G LTE Data Modem 33
    Barcode Imager 34
    Battery Charger 51
    Pistol Grip 42
    RFID Reader 43
    RS-232 Port 48

P

Physical Features 73
Pistol Grip 42
    Holster 43
Powering Off 28
Power Management
    Battery Pack 2, 4, 51
    Charging Battery Packs 51
Product Warnings 65
Programmable Keys 13, 14, 74

Q

Quectel 25, 78

R

RAM 78
Recycling the Mesa 4 and Batteries 56
Removable Battery Pack 3–5, 4
Repair
    System Information 63
Repairs, Upgrades, and Evaluations 62
Restore
    Default Keypad Settings 12

RFID Reader 43, 79
RS-232C Port 48, 80

S

Screen Protector 55, 81
SD Cards 17
Sensors
    Accelerometer 19
    Compass
        Calibration 19
    Gyroscope 19
Serial COM port 25
Service Plans 62
Set Up Tasks 4
Shock Resistance 75
SIM Card 3, 17, 33
Sleep 14, 55
Sleep Mode 21
Speaker 2
Specifications 73–80
Standard Features
    Audio 18
    Battery Pack 26
    Bluetooth 20
    Camera 11
    Compass 19
    Connector Ports 17
    Device Settings App 11
    Display 9
    GPS/GNSS Receiver 22
    LED Activity Indicators 16
    Rugged 19
    Sensors 19
    Wi-Fi Network 22
Storage 78
Storing the Mesa 4 28, 55
Stylus 3
    Stylus Storage Slot 2
    Tether 6
System Information 63

T

Task Manager 29
Temperature Specifications 75
Touchscreen
    Calibration Tool 15
    Capacitive 2, 9, 74
    Display 2
    Dragontail HW Coverglass 74
    Protecting the Touchscreen 55
    Settings 15
    Specifications 74

U

UHF RFID 79
Updates, Operating System and Documentation 4, 70

V

Vehicle Dock 50

W

Wall Charger 66
Warnings 65–66
    Battery Warnings 65–66
    Wall Charger Warnings 66
Warranty 59–62, 77
    Exclusions 59
    Limitation of Liability 61
    Remedy 60
    Repairs 61
    Services 62
    Warranty Exclusions 59
Wi-Fi Wireless Communication 21
    Connecting to a Wi-Fi Network 21
Windows 11 15, 70