

RESOURCES & NEXT STEPS

Develop business applications using the Impinj IoT device interface, Impinj Octane SDK, the Impinj Octane LLRP toolkit, or Impinj R510 ETK. For more information, contact Impinj using the resources listed below.

- Sales: www.impinj.com/contact-us
- Support: support.impinj.com
- Developer site: developer.impinj.com
- Postal Address: 400 Fairview Avenue North, Suite 1200, Seattle, WA 98109

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Quick Start Guide

Impinj R510 RAIN RFID Reader

OVERVIEW

This guide provides simple steps to quickly start using your new Impinj R510 RAIN RFID reader. Please consult the Impinj R510 RAIN RFID Reader Datasheet for more information regarding mounting choices, antenna types, power and network connection methods and reader configuration options.



Box Contents

- 1 x Impinj R510 RAIN RFID reader
- 1 x Quick Start Guide

Accessories Sold Separately

- PoE Injector
- PoE Injector AC power cords
- Reader antennas
- Antenna cables

Connections and Ports

- 4 x RP-TNC antenna ports
- RJ-45 10/100/1000BASE-T Ethernet port
- 3 x USB Type-A host ports
- GPIO terminal block
- Factory reset button
- Micro USB device port

Download Impinj ItemTest software

1. Open a browser on your Microsoft Windows PC and go to <https://support.impinj.com>.
2. Type "Impinj ItemTest software" into Search Support and click the "Impinj ItemTest Software" link and download the latest version

NOTE: The Impinj R510 is only supported in Impinj ItemTest version 2.6 and newer.

3. Extract the files and run the executable to install Impinj ItemTest

Connect antenna

1. Securely mount one or more Impinj-approved antennas in accordance with the antenna manufacturer's instructions
2. Securely connect the antenna to a reader antenna port



Warning: You must use Impinj-approved antennas with the reader. See the Impinj R510 RAIN RFID Reader Datasheet for a detailed list of approved antennas. Using any other antenna may adversely affect performance or cause damage. The reader requires professional installation to correctly set the TX power for the selected RF cables and antennas.

Power the reader using PoE and connect it to the network

1. Route an Ethernet cable from the reader's RJ45 Ethernet port to a Power over Ethernet (PoE) power source.
 - An IEEE 802.3at PoE+ source is recommended. A POE+ source enables full reader functionality, including maximum reader transmit power
 - An IEEE 803.af PoE source can be used. Reader transmit power and certain features will be constrained. See the Impinj R510 RAIN RFID Reader Datasheet for additional detail
 - Typical PoE power sourcing equipment (PSE) includes the Impinj midspan injector (sold separately) or an endspan network switch. A midspan injector requires an additional Ethernet cable and an AC line cord.









Sign into the reader and update firmware if necessary

1. Use a web browser to navigate to <https://support.impinj.com> and type "latest firmware" into the Support Portal* search bar.
 - For EAP partners, this will be provided by Impinj Customer Support.
2. Click the "Latest firmware, utilities, and development libraries for Impinj readers and gateways" link.
3. Note the available firmware version listed on the page.
4. Determine the reader hostname to connect to a network with a DHCP server.
 - **Impinj R510 Hostname:** impinj-XX-XX-XX (where XX-XX-XX is the last 3 hex couplets of the reader MAC address, e.g. impinj-89-AB-CD)
 - The MAC address is printed on labels affixed to the reader and shipping box

NOTE: If you are connecting your Impinj R510 reader to a network with static IP addressing, refer to Impinj R510 RAIN RFID Reader Datasheet for instructions.

5. In a new browser tab, connect to the Impinj R510 reader using the URL `http://<Hostname or Static IP>`. (See step 4)
6. Sign into the reader using the default credentials:
 - username: **root**
 - password: **impinj**
7. Once the reader web configuration page opens, note the software version under DETAILS.
 - Compare the software version number to the firmware version in step 3. above
8. If newer reader firmware is available, proceed with following steps:
 - Download the firmware upgrade file from the support portal or contact an authorized Impinj partner
 - Click the Browse button next to Select Upgrade File in the web configuration page.
 - Navigate to the firmware upgrade file
 - Click Upgrade (this may take several minutes)
 - Click Reboot

Read tags with Impinj ItemTest software

1. Open the Impinj ItemTest software application
2. Add a new data source by clicking: 
 - Enter the reader host name (impinj-XX-XX-XX) or static IP address
 - Click Add Data Source
 - Ensure the reader data source is enabled: 
3. Select the Inventory showcase (default)
4. Place tags in the antenna field of view
5. Start tag inventory operation by clicking: 
 - Click a column header to sort by a specific attribute
 - Right-click any column header to select which attributes are displayed
6. Stop tag inventory operation by clicking: 
 - Click the Settings button  to change how inventory runs are configured
 - Click Save to apply the configuration (Cancel to revert changes)
7. Click the reader name (under DATA SOURCES ) to change reader settings
 - Update reader settings as desired
 - Click SAVE to apply updated reader settings (Cancel to revert changes)