

123RFID Desktop



ZEBRA

User Guide

2024/06/17

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About This Guide

Icon Conventions

The documentation set is designed to give the reader more visual clues. The following visual indicators are used throughout the documentation set.



NOTE: The text here indicates information that is supplemental for the user to know and that is not required to complete a task.



IMPORTANT: The text here indicates information that is important for the user to know.



CAUTION: If the precaution is not heeded, the user could receive a minor or moderate injury.



WARNING: If danger is not avoided, the user CAN be seriously injured or killed.



DANGER: If danger is not avoided, the user WILL be seriously injured or killed.

Notational Conventions

The following notational conventions make the content of this document easy to navigate.

- **Bold** text is used to highlight the following:
 - Dialog box, window, and screen names
 - Dropdown list and list box names
 - Checkbox and radio button names
 - Icons on a screen
 - Key names on a keypad
 - Button names on a screen

- Bullets (•) indicate:
 - Action items
 - List of alternatives
 - Lists of required steps that are not necessarily sequential.
- Sequential lists (for example, those that describe step-by-step procedures) appear as numbered lists.

Service Information

If you have a problem with your equipment, contact Zebra Global Customer Support for your region. Contact information is available at: zebra.com/support.

When contacting support, please have the following information available:

- Serial number of the unit
- Model number or product name
- Software type and version number

Zebra responds to calls by email, telephone, or fax within the time limits set forth in support agreements.

If your problem cannot be solved by Zebra Customer Support, you may need to return your equipment for servicing and will be given specific directions. Zebra is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly void the warranty.

If you purchased your Zebra business product from a Zebra business partner, contact that business partner for support.

Application Features

123RFID Desktop is a software tool that simplifies reader setup. The application finds and connects to a reader with three simple clicks and optimizes Zebra passive RFID fixed and handheld readers. Supported models include FX7500, FX9600, FXR90, ATR7000, RFD40, and RFD90.

- **Connect** - allows users to search for readers on the local subnet, USB port, or Bluetooth.
- **Read** - allows users to start an inventory, view summary metrics on tag reads, and sort, filter, and export tag data. Select an antenna and set the power level to begin building an inventory.
- **Configure** - allows users to configure reader and scanner settings. Settings can be saved to a file or as a printed report.
- **Firmware** - allows users to update the firmware on up to 20 devices.



NOTE: The **Scan** tab is available only for connected sleds that have an imager.

Connect

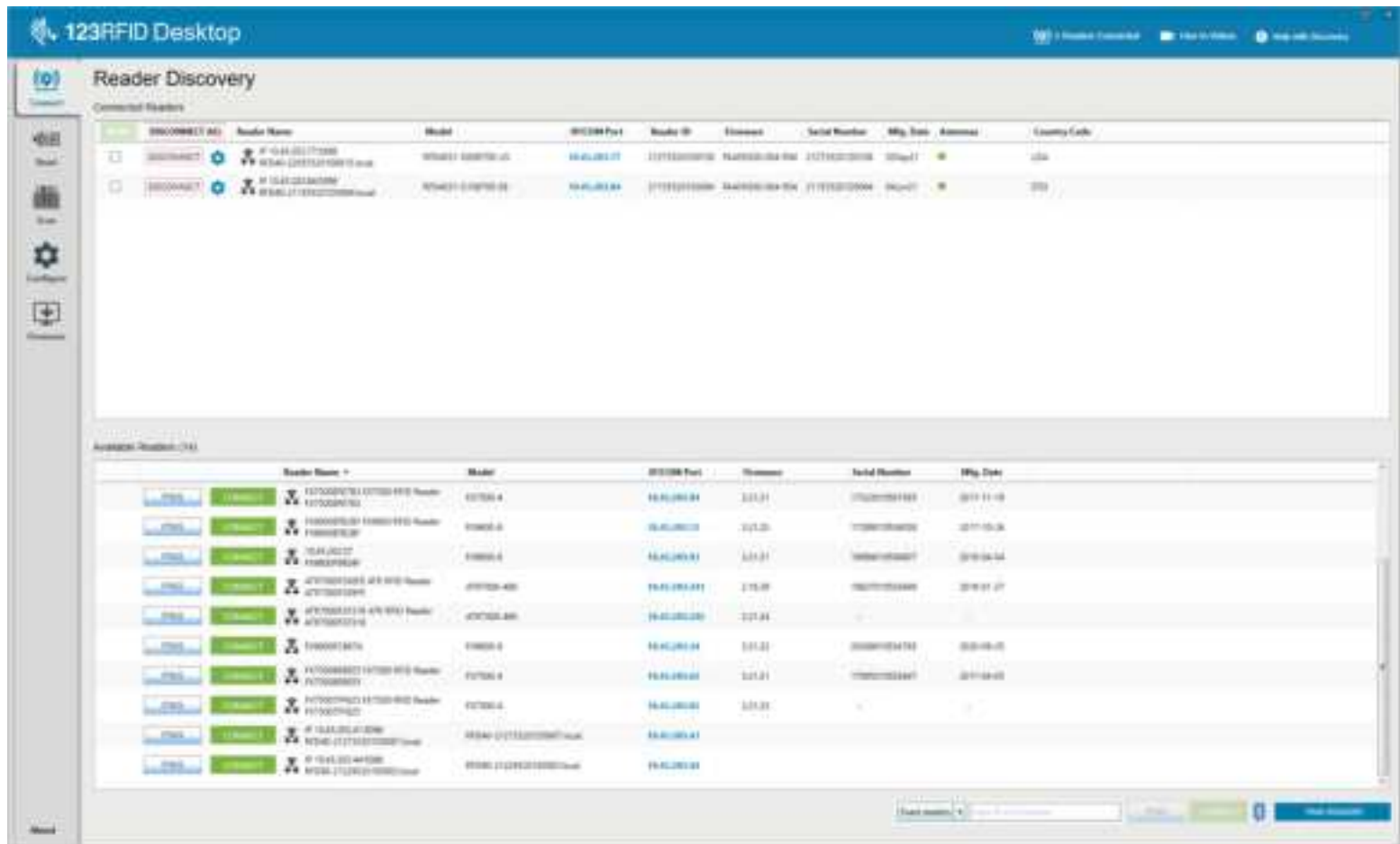
Locate readers on the local subnet or via a USB port by clicking **Find Readers** or by entering the IP, hostname, COM port, or by Bluetooth and clicking **Connect**.

Figure 1 Fixed Readers



NOTE: For RFD40 and RFD90, the drop-down under **Connect a Reader by IP or Hostname or COM port** states the model types.

View the **Available Readers** section and click **Connect** on one of the associated rows to connect to the specified reader.

Figure 2 Connected and Available Readers

Connecting to the Multi-Slot Cradle

The 123RFID Desktop tool discovers, connects, and performs RFID and scanning operations for Zebra UHF RFID sleds using the multi-slot cradle. This section provides the steps necessary to discover and connect to the multi-slot cradle.

To discover and connect to the device:

1. Keep the device in the cradle and run 123RFID Desktop.
2. Click **Find Readers** to view available devices to connect to.
3. Click **Connect** next to the device to connect to it.

When connected, the device is listed under the **Connected Readers** section.

To connect to a device via IP address:

1. Keep the sled docked in the cradle for up to two minutes while the DHCP allocates the IP address.

Application Features

2. Choose any of the devices from the available readers section and click **Connect**.

123RFID Desktop

Reader Discovery

Connected Readers

Available Readers (7/10)

Reader Name	Model	RFID Port	Reader ID	Hardware	Serial Number	RFID Type
4707500-001	4707500-001	4707500-001	4707500-001	4707500-001	4707500-001	4707500-001
4707500-002	4707500-002	4707500-002	4707500-002	4707500-002	4707500-002	4707500-002
4707500-003	4707500-003	4707500-003	4707500-003	4707500-003	4707500-003	4707500-003
4707500-004	4707500-004	4707500-004	4707500-004	4707500-004	4707500-004	4707500-004
4707500-005	4707500-005	4707500-005	4707500-005	4707500-005	4707500-005	4707500-005
4707500-006	4707500-006	4707500-006	4707500-006	4707500-006	4707500-006	4707500-006
4707500-007	4707500-007	4707500-007	4707500-007	4707500-007	4707500-007	4707500-007
4707500-008	4707500-008	4707500-008	4707500-008	4707500-008	4707500-008	4707500-008
4707500-009	4707500-009	4707500-009	4707500-009	4707500-009	4707500-009	4707500-009
4707500-010	4707500-010	4707500-010	4707500-010	4707500-010	4707500-010	4707500-010

If the connection is successful, the reader is listed in the **Connected Readers** section.

Application Features

123RFID Desktop

User: Administrator
 Logout
 Help: Get Support

Home
 Dashboard
 Settings
 Add

Reader Discovery

Connected Readers

	DISCONNECT	Reader Name	Model	RFID Port	Reader ID	Firmware	Serial Number	RFID Type	Access	Country Code
<input type="checkbox"/>		RF 15.45.22.171000	RF154522171000	RF 15.45.22.17	1111111111111111	15.45.22.171000	1111111111111111	15.45.22.17		USA
<input type="checkbox"/>		RF 15.45.22.171000	RF154522171000	RF 15.45.22.17	1111111111111111	15.45.22.171000	1111111111111111	15.45.22.17		USA

Available Readers (14)

	Reader Name	Model	RFID Port	Firmware	Serial Number	RFID Type
	RF 15.45.22.171000	RF154522171000	RF 15.45.22.17	15.45.22.171000	1111111111111111	15.45.22.17
	RF 15.45.22.171000	RF154522171000	RF 15.45.22.17	15.45.22.171000	1111111111111111	15.45.22.17
	RF 15.45.22.171000	RF154522171000	RF 15.45.22.17	15.45.22.171000	1111111111111111	15.45.22.17
	RF 15.45.22.171000	RF154522171000	RF 15.45.22.17	15.45.22.171000	1111111111111111	15.45.22.17
	RF 15.45.22.171000	RF154522171000	RF 15.45.22.17	15.45.22.171000	1111111111111111	15.45.22.17
	RF 15.45.22.171000	RF154522171000	RF 15.45.22.17	15.45.22.171000	1111111111111111	15.45.22.17
	RF 15.45.22.171000	RF154522171000	RF 15.45.22.17	15.45.22.171000	1111111111111111	15.45.22.17
	RF 15.45.22.171000	RF154522171000	RF 15.45.22.17	15.45.22.171000	1111111111111111	15.45.22.17
	RF 15.45.22.171000	RF154522171000	RF 15.45.22.17	15.45.22.171000	1111111111111111	15.45.22.17
	RF 15.45.22.171000	RF154522171000	RF 15.45.22.17	15.45.22.171000	1111111111111111	15.45.22.17
	RF 15.45.22.171000	RF154522171000	RF 15.45.22.17	15.45.22.171000	1111111111111111	15.45.22.17
	RF 15.45.22.171000	RF154522171000	RF 15.45.22.17	15.45.22.171000	1111111111111111	15.45.22.17
	RF 15.45.22.171000	RF154522171000	RF 15.45.22.17	15.45.22.171000	1111111111111111	15.45.22.17
	RF 15.45.22.171000	RF154522171000	RF 15.45.22.17	15.45.22.171000	1111111111111111	15.45.22.17

Read

Use the Read feature to manage an inventory. View summary metrics on tag reads by reader or sort, filter, and export tag data to a file. Select the antenna and set the power level to start an inventory.

Figure 3 Data View

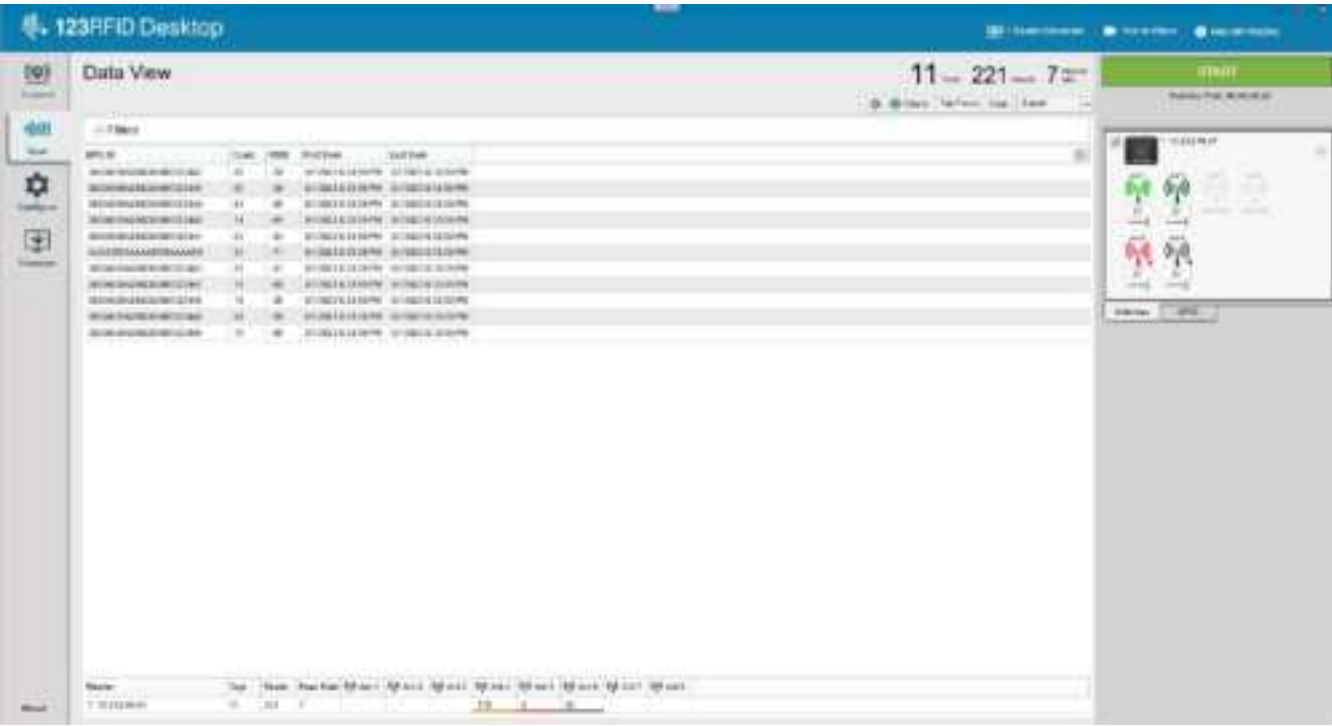


Table 1 Tag Read Options





Feature	Description
Start an Inventory	Click Start to start reading tags.
Highlight Tags	Click the Gear Icon  to highlight tags based on the last time seen.
Track Tags	<div>Click Tag Focus to enable the tracking of applicable tags such as Monza4, 5, and R6.</div> <div> NOTE: Tag Focus prevents read redundancy by suppressing tags that have already been read. This capability prevents multiple reads of the same tags, allowing for more accurate reading of hard-to-read tags.</div>

Table 1 Tag Read Options (Continued)

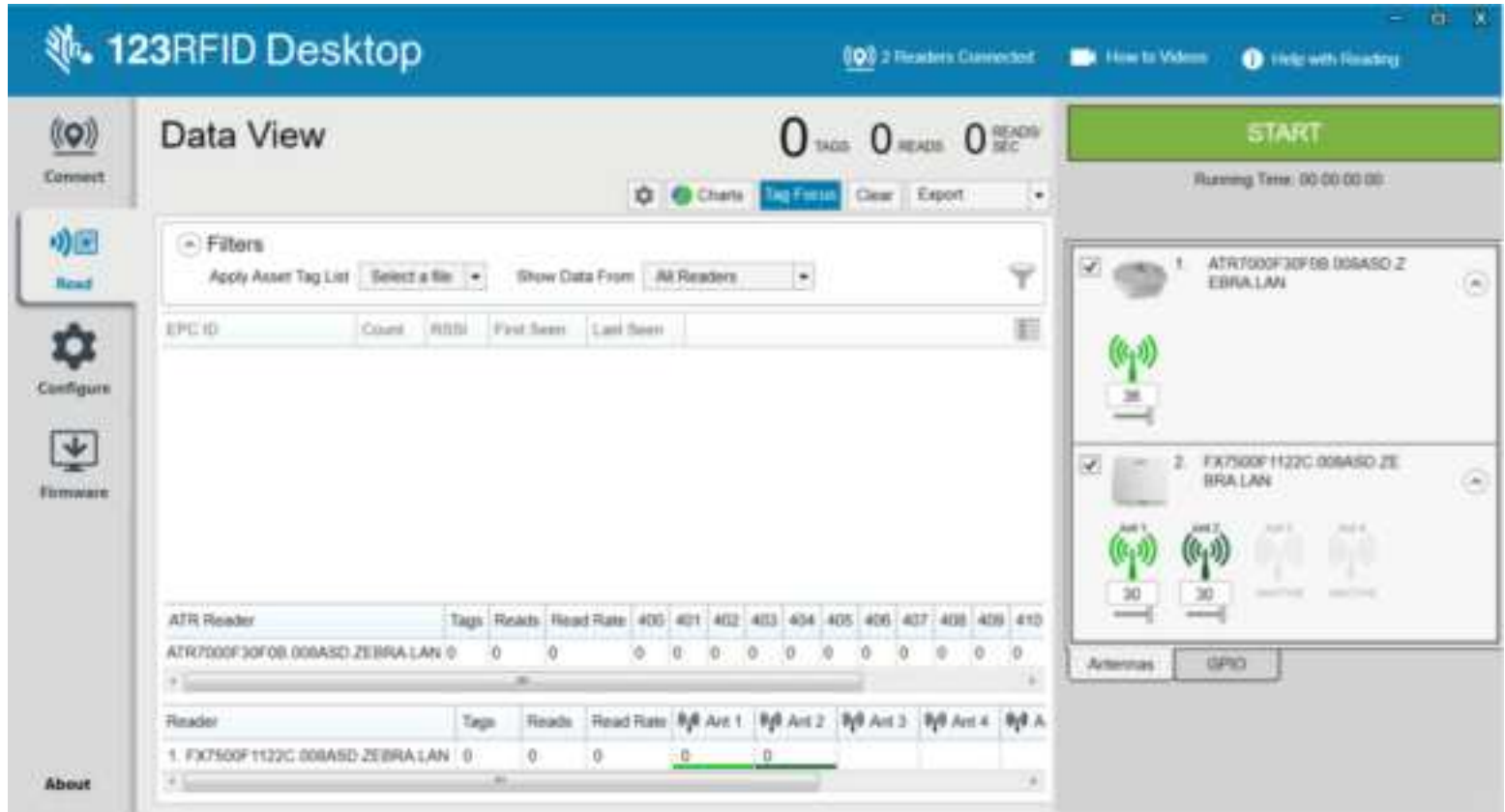
Feature	Description
Export Tag Data	<p>Click Export to download the inventory data for offline viewing.</p> <ul style="list-style-type: none"> Export Summary – download a snapshot of all the tag reads on the Read screen. Export History – download the timeline data for tag reads.
View Tag Details	Click the spreadsheet icon.  to view tag details such as Tag ID and User Memory data.
View Performance Data	<p>Click Charts  to view tag performance data. Use Pie Charts to visualize a distribution of tag reads across enabled devices.</p>


Filtering Tags

Filter tags based on an Asset Tags List (ATL) or by reader in Data View. Use Data View to filter by EPC pattern, RSSI value, or Last Time Seen.

1. Click **Filters** to select the following filter options.

Figure 4 Data View

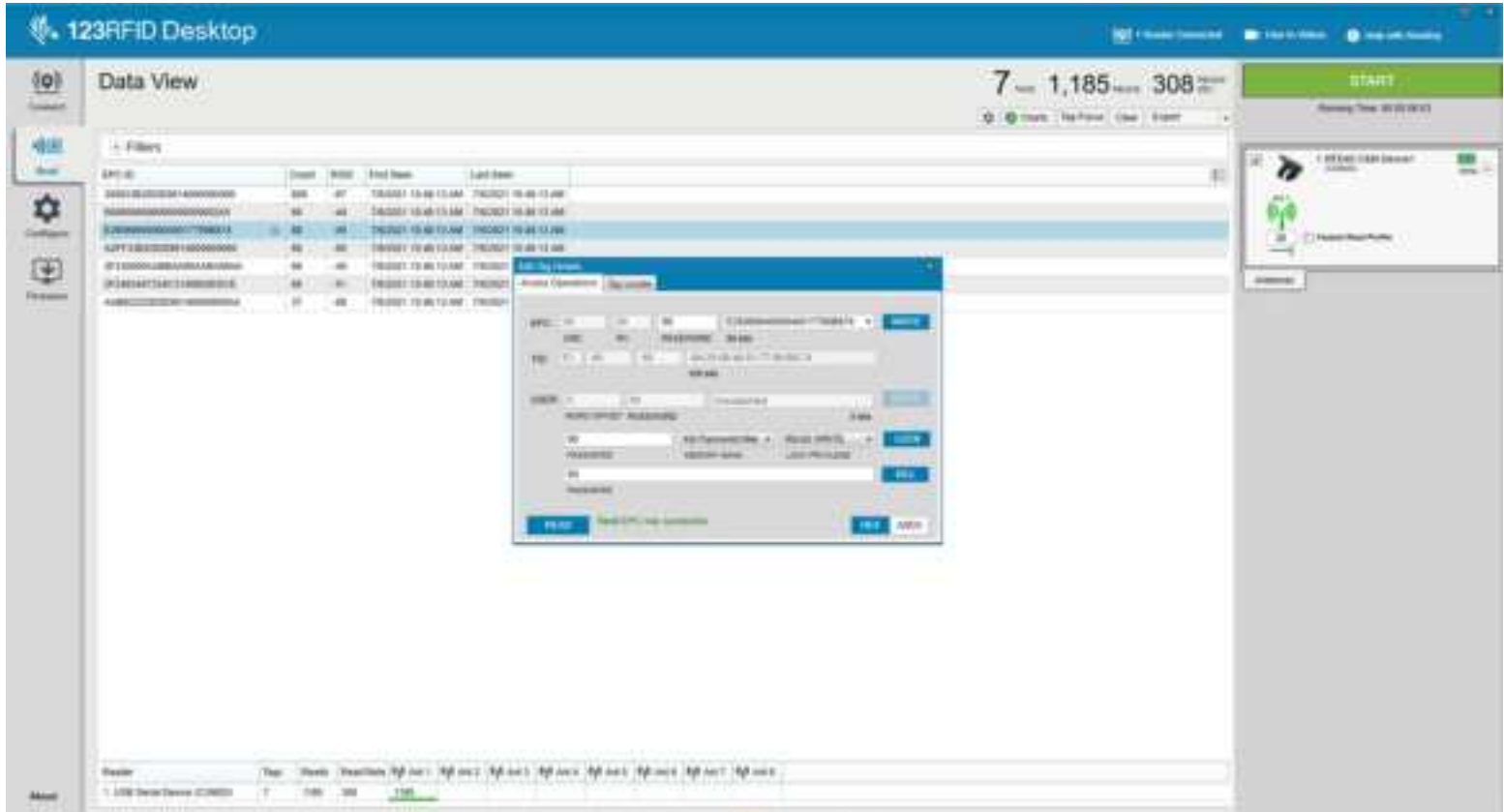


2. Click **Select a File** to filter tags based on an ATL file.
3. Click **All Readers** to filter by reader.
4. Click the cylinder icon  to filter tag data at the application level by:
 - a) EPC Pattern - specify whether the filtered EPC data will include/exclude the filter string.
 - b) RSSI Value - filter tags that have RSSI value greater than the RSSI filter specified only.
 - c) Time Last Seen - filter tags that were last seen in the time duration specified only.

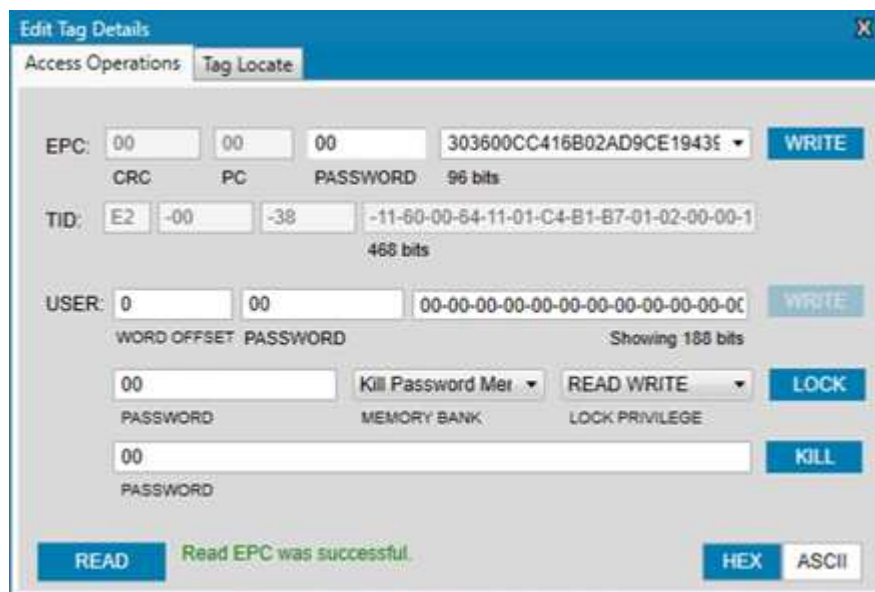
Editing Tag Details

Access and locate tags based on EPC ID.

1. Select the row and click the Tag Details icon  to edit tag details.



2. Next, click the **Tag Locate** tab to start locating tags based on the EPC ID.



The screenshot shows the 'Edit Tag Details' dialog box with the 'Tag Locate' tab selected. The dialog contains fields for EPC, TID, USER, and PASSWORD, along with buttons for WRITE, READ, LOCK, and KILL. A status message at the bottom indicates 'Read EPC was successful.'

Edit Tag Details

Access Operations | **Tag Locate**

EPC: 00 00 00 303600CC416B02AD9CE1943f **WRITE**

CRC PC PASSWORD 96 bits

TID: E2 -00 -38 -11-60-00-64-11-01-C4-B1-B7-01-02-00-00-1 **468 bits**

USER: 0 00 00-00-00-00-00-00-00-00-00-00-00-00-00 **WRITE**

WORD OFFSET: PASSWORD Showing 168 bits

00 Kill Password Mer READ WRITE **LOCK**

PASSWORD MEMORY BANK LOCK PRIVILEGE

00 **KILL**

PASSWORD

READ Read EPC was successful. **HEX** **ASCII**

Online Reader Configuration

Configure the reader using the 123RFID Desktop configuration wizard or load a saved configuration onto the reader.

Click **Edit Configuration on Reader** to edit the reader's settings and use the configuration tool to do the following:

- Assign names to the reader and the connected antennas.
- Set reader settings or reset them to factory defaults.
- Change the reader's region configuration.
- Create rules for your GPIO (General Purpose Input/Output) accessories on when to trigger inventory and output results.
- Save/print configurations to a file.
- Deploy the configuration file to a new device.

Click **Load a Saved Config File to a Reader** to load a saved configuration file to another connected reader from the PC.

Operating Mode Configuration

Use Operating Mode to configure a tag's antenna, trigger, communication settings, and applications.



NOTE: This feature is for IoTTC Readers.

Figure 5 Fixed Reader Operating Mode

The screenshot displays the '123RFID Desktop' application interface. On the left is a vertical sidebar with icons and labels for 'Connect', 'Read', 'Configure' (highlighted with a blue gear icon), and 'Firmware'. The main area is titled 'What do you want to do?' and includes a 'BACK' button, a reader status icon showing '10.233.45.47', and two large blue buttons: 'Load a "Saved Config" File to Reader' and 'Edit Reader Specific Configuration'. Below these is the 'IoT Connector Inventory Specific Settings' section, which prompts the user to 'Select a inventory mode, environment, other appropriate settings and click next'. It features several configuration options: 'Mode' with radio buttons for Simple, Conveyor, Inventory, Portal, and Custom (selected); 'Environment' with radio buttons for High Interference, Low Interference, Very High Interference (DRM), Auto Detect, and Demo (selected); 'Tag ID Filter' with a dropdown for 'Operation' (set to 'Disable') and input fields for 'Match' and 'Value'; 'Tag reporting' with a dropdown for 'Type' (set to 'Periodic all antennas') and a 'Duration' input field (set to '0') with a 'Seconds' label; 'RSSI Filter' with a slider control ranging from -100dBm to -20dBm, currently set at -60dBm; and 'Cellular band filter' with a checked 'Pre-selection' checkbox. A 'Next' button is located to the right of the 'Select a inventory mode...' text.

The following settings are available to configure:

- **Mode** configure tag reporting protocol for different use cases. The options are
 - **Simple** - report all unique read tags.
 - **Inventory** - report all unique read tags in a given time interval, default 1 second.
 - **Portal** - report all unique read tags after the GPI start trigger.
 - **Conveyor** - report all unique read tags for each antenna.
 - **Custom** - report tag reads as defined by the user.

- **Environment** specify the amount of RFID interference in a given environment.
 - **High Interference (Default)** - operating in the presence of multi or dense readers.
 - **Low Interference** - operating in the presence of another reader, causing interference for a short time.
 - **Very High Interface** - the number of readers in the environment is greater than the number of available channels, or multiple readers operating in close proximity.
 - **Auto Detect** - use the application to access the environment and adjust.
 - **Demo** - demonstrate maximum reader performance in environments where there are no other readers.
- **Tag ID Filter** - filter tag reporting by ID defined by the user.
 - **Operation** - set the operation for the filter: include, exclude, or disable.
 - **Match** - match tag ID using prefixes, suffixes, or regex.
- **Tag Reporting** - set tag reporting to continuous, periodic (all antennas), or periodic (per antenna).
- **Cellular Band Filter** - provide noise cancellation for external non-RFID interference.

Region Configuration for Online Devices

Configure the appropriate settings based on the region where the reader is used.

Due to differing frequency requirements, there are several versions of the hardware.

The software limits the list of choices presented to those compatible with the hardware in use. Note that if only one option is compatible with the hardware, that option is selected automatically.

The following are the definitions of different fields that can be set:

- **Region of Operation** - choose the region for the country of operation. Select from the drop-down list that presents the regions that have given regulatory approval to be used with the current board.



NOTE: Region of operation configuration is applicable to worldwide readers only.

- **Communication Standard** - choose the communication standard from the list of standards supported by the chosen region. If a region supports only one standard the same is chosen automatically.
- **Frequency Hopping** - turn on the frequency hopping option. This option is displayed only if the chosen region of operation supports this.
- **Selected Channels** - select a subset of channels to operate upon (from the list of supported channels). This option is displayed only if the chosen region of operation supports this.

After applying region configurations, click **Set** to save the changes to the reader, and then select the **I understand** checkbox to confirm

Antenna Configuration

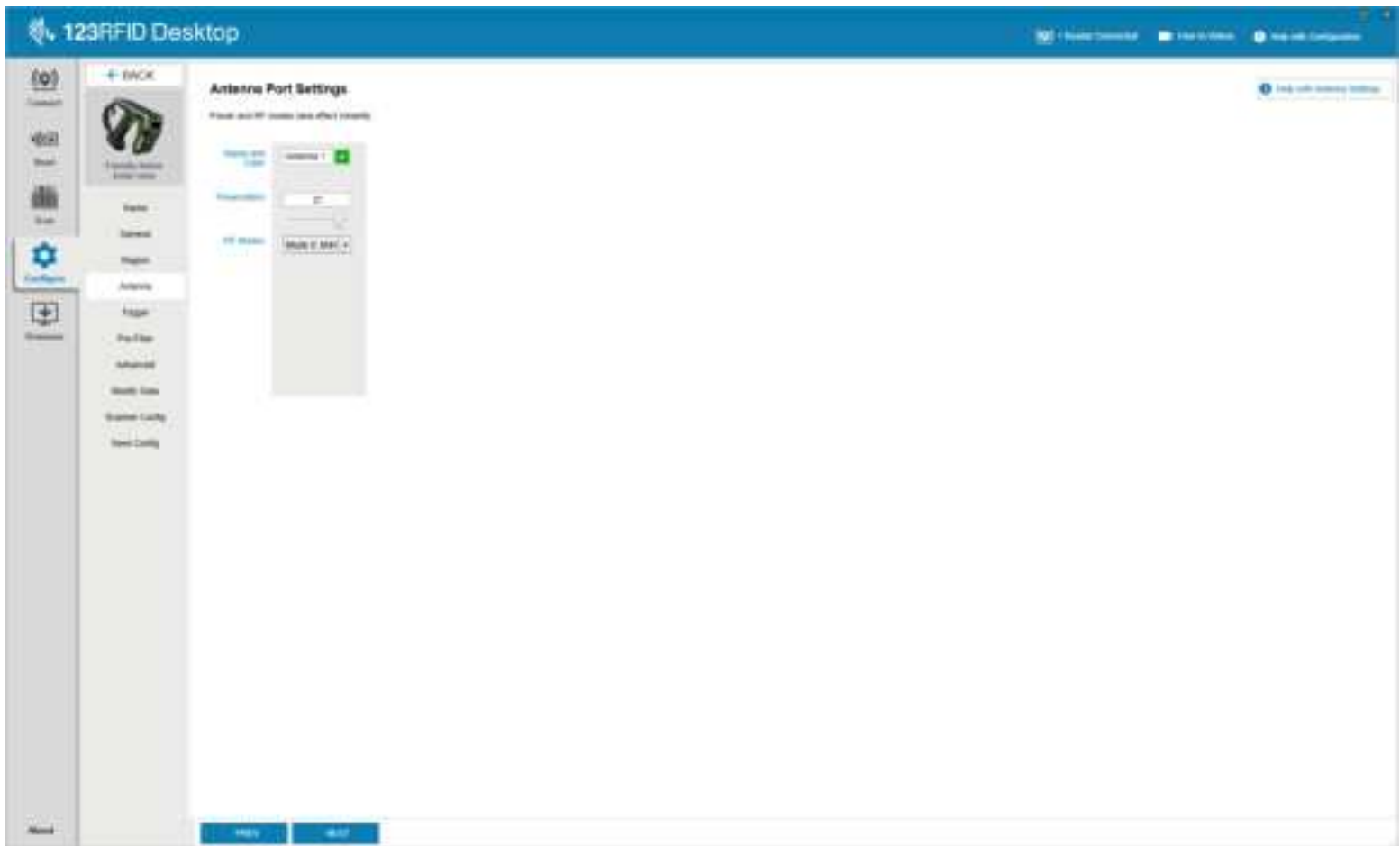
Configure Antenna Port settings for RFID sleds and fixed readers using 123RFID Desktop. The number of antennas is dependent upon reader type.

Configurable antenna settings for RFD40 and RFD90 RFID sleds include:

- Name and Color
- Power (dBm)

- RF Mode

Figure 6 RFD90 Antenna Settings



NOTE: Power and RF Mode changes are applied to the device instantly.

Configurable antenna settings for FX7500 fixed reader settings include:

- Name and Color
- Enable/Disable
- Power (dBm)
- RF Mode
- Dwell Time

Figure 7 FX75000 Antenna Settings



Configurable antenna settings for FXR90 fixed reader settings include:

- Name and Color
- Enable/Disable
- Power (dBm)
- Dwell Time

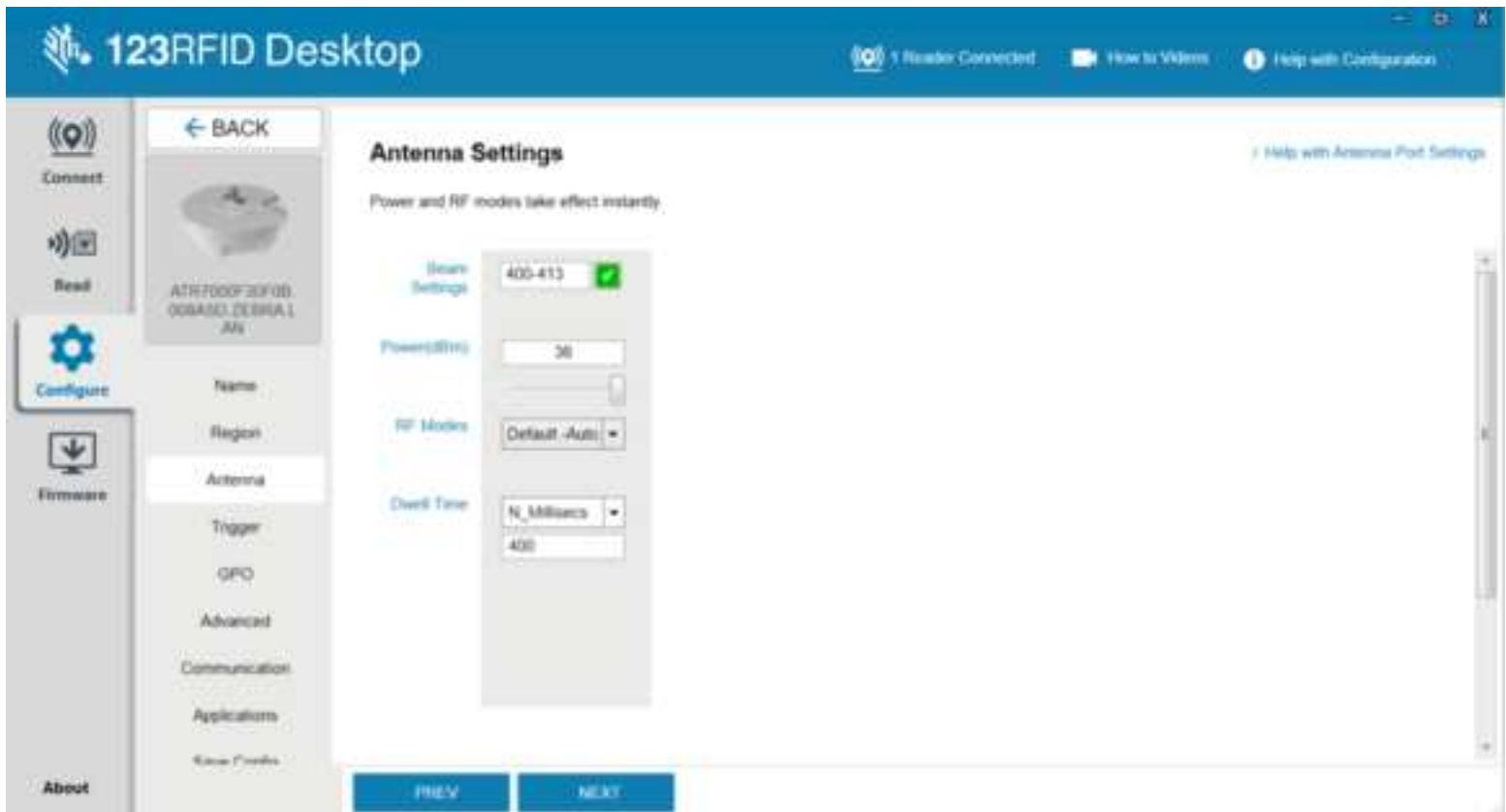
Figure 8 FXR90 Antenna Port Settings



Configurable ATR7000 advanced array reader settings include:

- Beam Settings
- Power (dBm)
- RF Modes
- Dwell Time

Figure 9 ATR7000 Antenna Settings



Saving an Online Configuration

Save or print reader configuration settings to a file, export IoT Connector configurations, or reset the sled to factory defaults.

Figure 10 RFD90 Reader Configuration

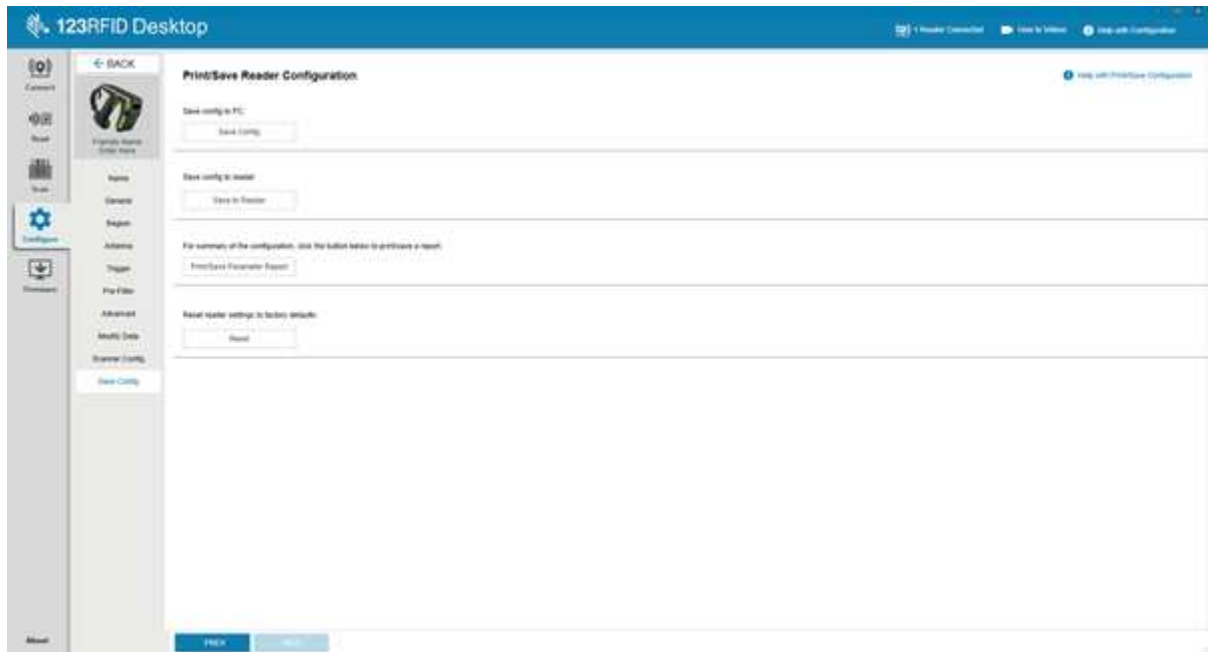


Figure 11 FXR90 Reader Configuration



- Click **Save Config** to save settings to a file on a PC.
- Click **Save to Reader** to push antenna settings onto the reader.
- Click **Export** to export IoT Connector configurations.

- Click **Print/Save Parameter Report** to print settings for a report.
- Click **Reset** to reset antenna settings to factory defaults.
- Click **Reboot** to reboot the reader.



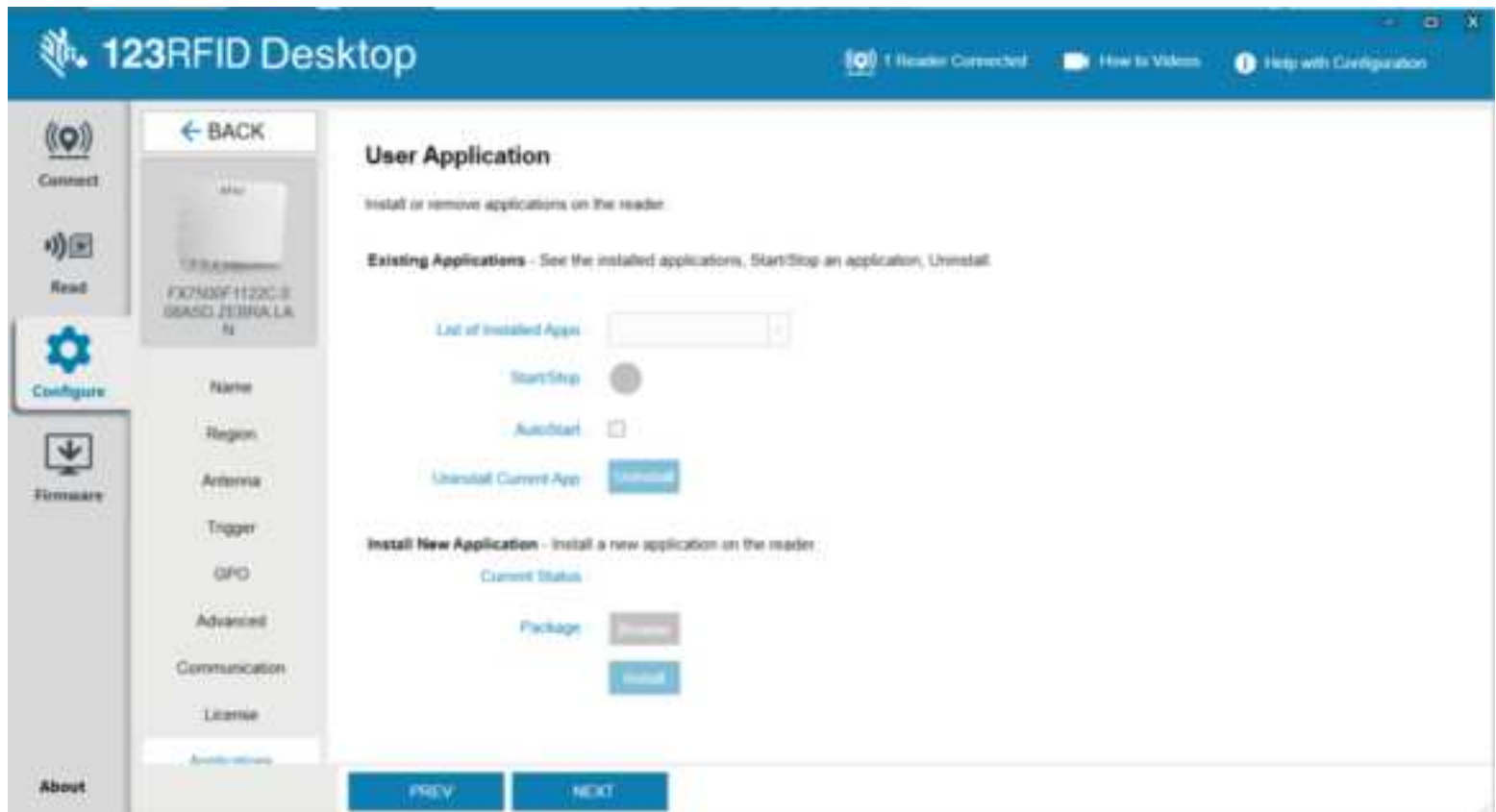
NOTE: Reset to factory default is available for connected readers under the **Save Config** tab.

For information on extending the export to the IoT Connector operating configuration with additional settings, such as operation triggers and GPO, refer to zebradevs.github.io/rfid-ziotc-docs/.

Configuring Reader Applications

Install or remove applications on the reader.

Figure 12 Fixed Reader User Applications



License Management

Use license manager to acquire, release, and view available licenses for FX readers. Licenses are necessary for Ethernet IP, Profinet, and Modbus protocols.

1. Manage licenses on the reader by completing the following form fields:

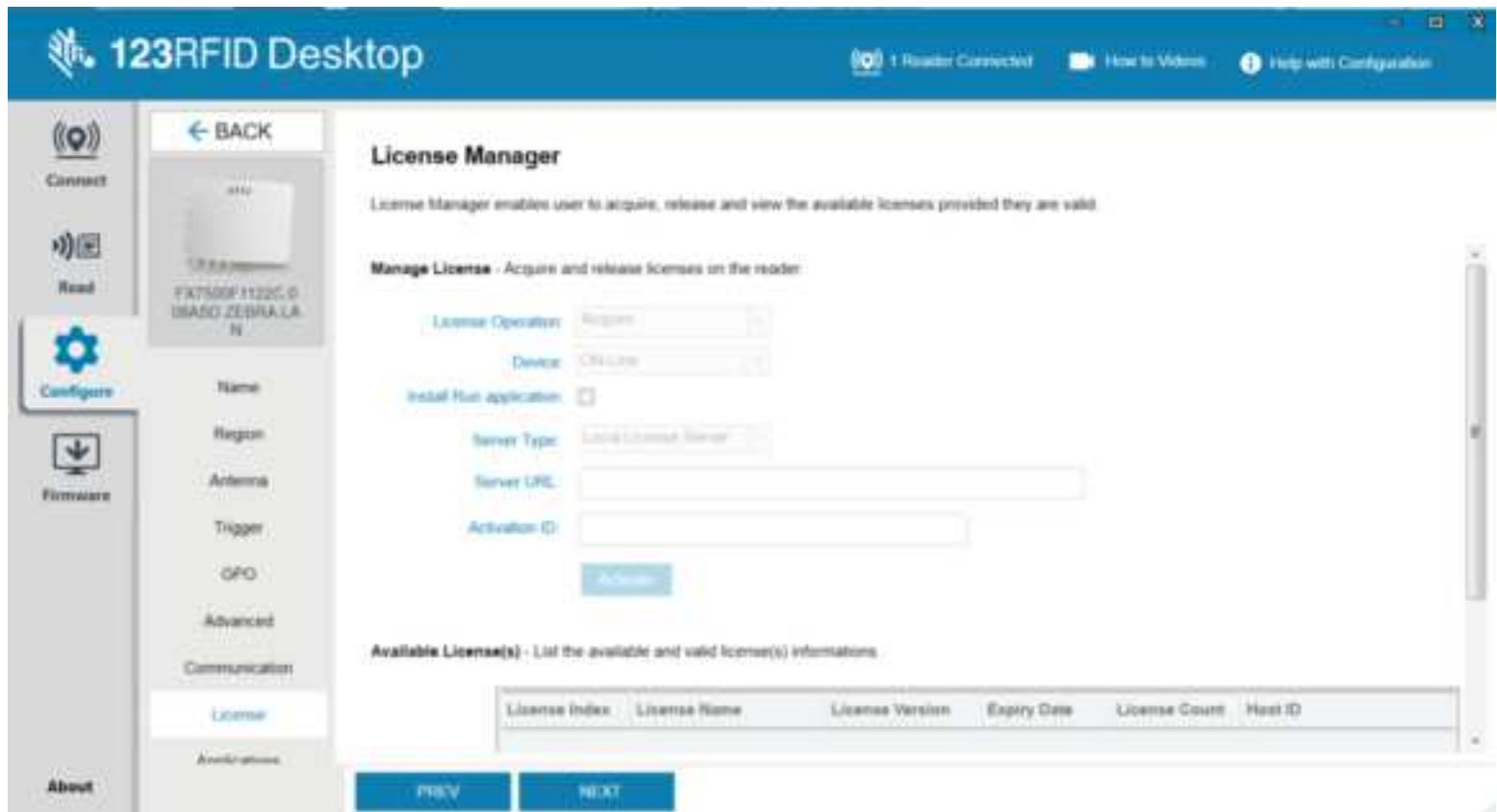
- License Operation
- Device
- Install Run Application
- Server Type
- Server URL
- Activation ID

2. Click **Activate** to activate the license based on the credentials provided.

3. View **Available Licenses** on the reader with details including:

- License Index
- License Name
- License Version
- Expiration Date
- License Count
- Host ID

Figure 13 License Manager



Serial Port Configuration



NOTE: Serial Port configuration is available for FX9600 fixed readers only.

Configurable Port Settings include:

- Free Port - when enabled, this setting frees the serial port from internal usage and opens the port to be used by any application to send or receive data over the serial port.

Free Port ☐

- Debug Port (Default Configuration) - configures the RS232 port as the Debug port to obtain kernel and system debug messages.

Debug Port ☒

Configure Debug Port

Baud Rate :	<input type="text" value="115200"/>	Parity :	<input type="text" value="none"/>
Data Bits :	<input type="text" value="8"/>	Flow Control :	<input type="text" value="hardware"/>
Stop Bits :	<input type="text" value="1"/>		

- Push Data - enables serial port configuration, inventory operations, and data to push over the serial console.

Push Data

Configure Serial Port

Baud Rate : Parity :

Data Bits : Flow Control :

Stop Bits :

Inventory Control

Auto Start : ☐ Periodic Reporting : Sec

Session :

Start Trigger :

Stop Trigger :

Tag Field Selection

EPC : ☐ RSSI : ☐

PC : ☐ Seen Count : ☐

Antenna ID : ☐ Time Stamp : ☐

Channel Index : ☐ Phase : ☐

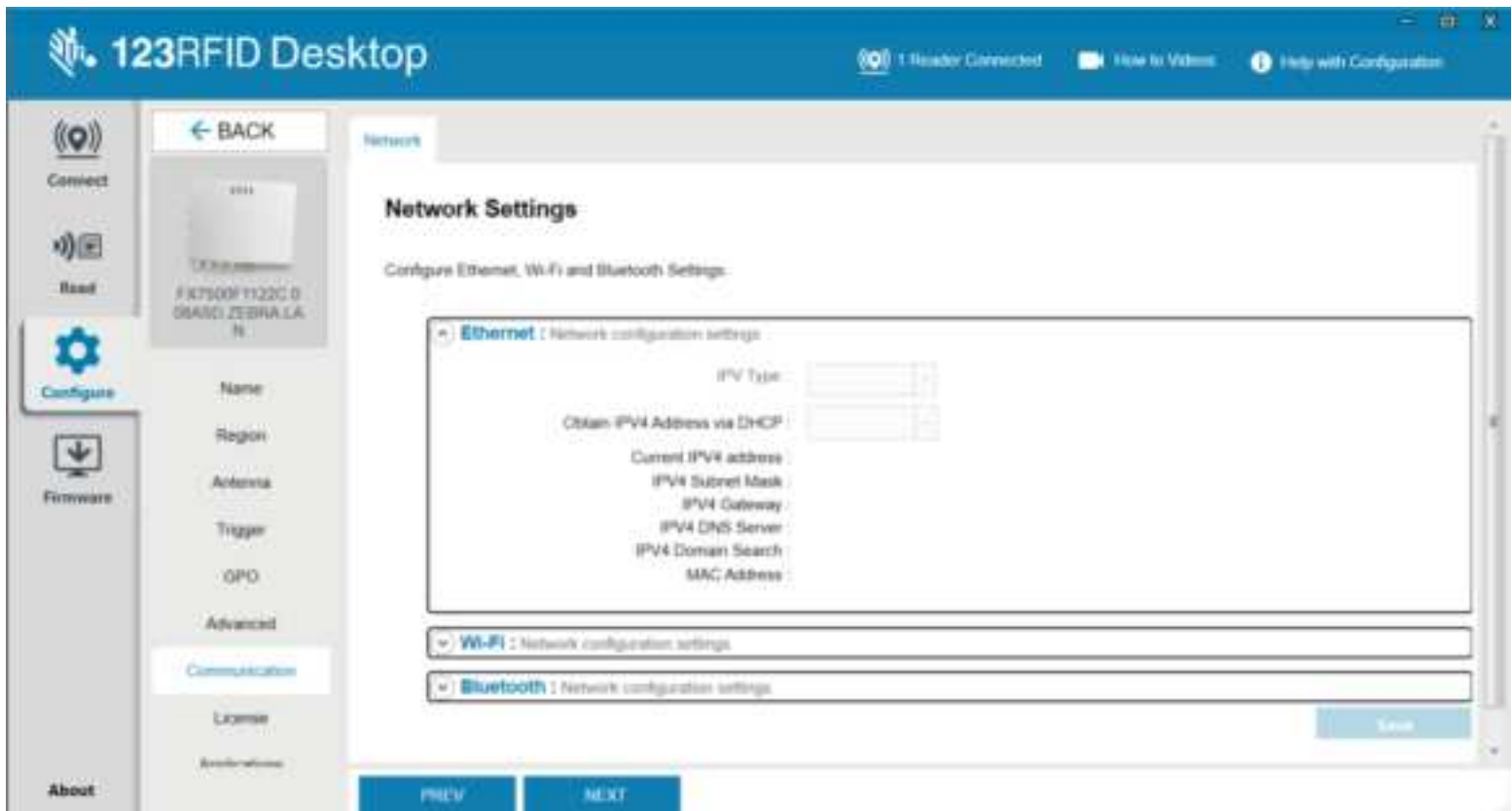
Communication Settings

Configure Ethernet, Wi-Fi, and Bluetooth Settings for connected FX readers.

Configurable Ethernet Settings include:

- IPV Type
- Obtain IPV4 Address via DHCP

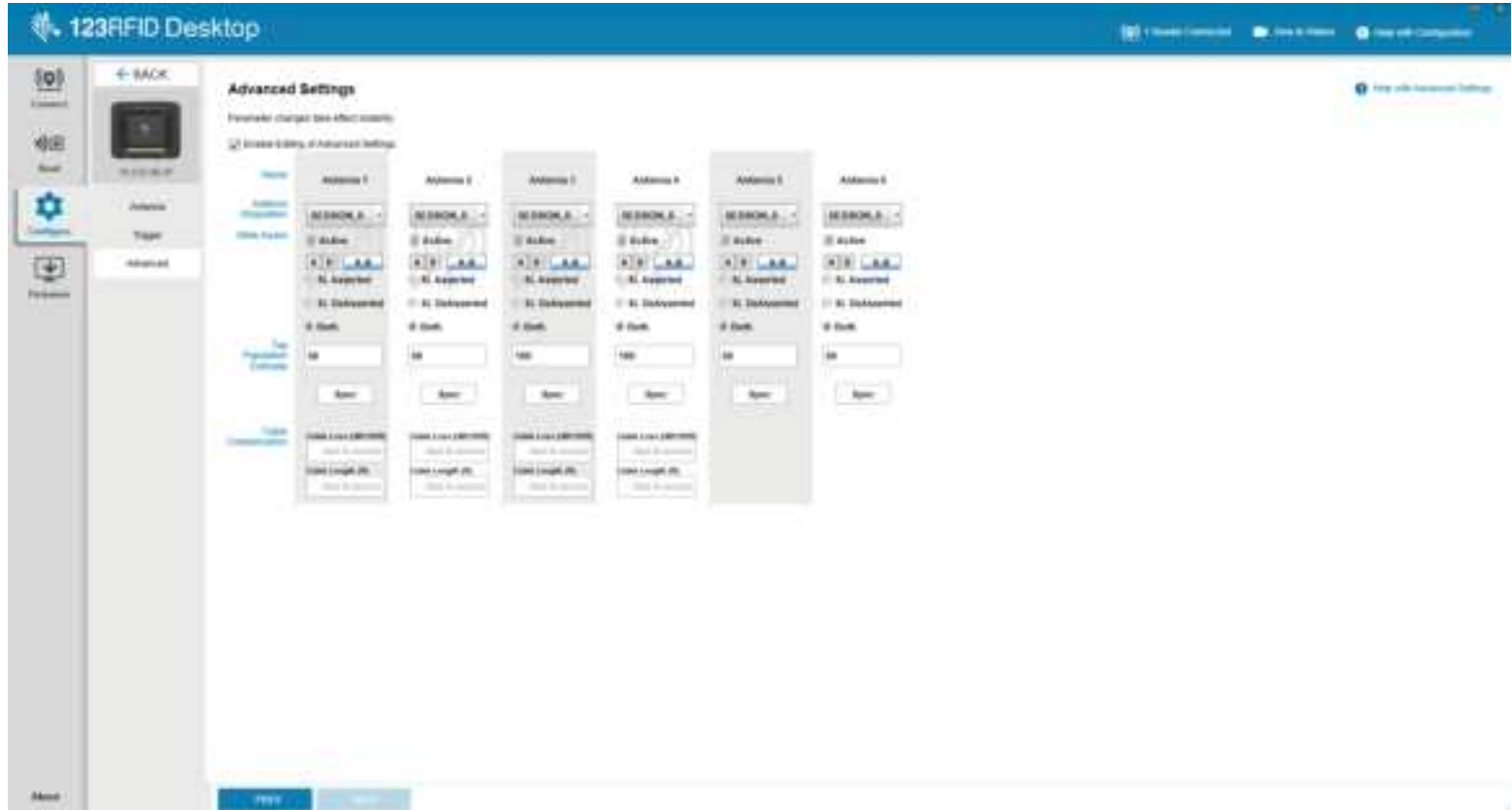
Figure 14 Fixed Reader Network Settings



Configuring Advanced Reader Parameters

Set all the advanced reader parameters, including setting antenna cable compensation values.

Figure 15 FXR90 Advanced Settings



1. Select the **Enable Editing of Advanced Settings** checkbox to edit any parameter.
2. Select an **Antenna Singulation** setting to specify the reader session.
3. Select **State Aware** settings.
 - a. Select the **Active** checkbox to enable these settings.
4. Enter the expected **Tag Population** in the field of view of the antenna.
5. Set Antenna Cable Compensation values:
 - a. Specify the cable loss in terms of dB per 100 feet for the antenna cable used to connect the antenna port to the antenna.
 - b. Specify the cable length in feet of the cable used to connect this antenna port to the antenna.



NOTE: Setting a non-zero cable loss compensation value enables the reader to automatically increase the transmit power on this antenna port equivalent to the loss value

specified. Setting an inappropriate value of cable loss can break the regulatory setting and is illegal.

- c. Press Enter after entering the value in the textbox to set the cable loss compensation value.



NOTE: Setting the cable loss compensation value requires restarting the reader server. The default antenna settings are applied after setting the cable loss compensation value. Accessing cable compensation values requires logging in to the reader.

6. For the RFD40 and RFD90, specify the maximum storage size to allocate for a tag EPC ID.

GPO Programming

Select events to start and stop triggering the GPO accessory connected to the reader.

Figure 16 Fixed Reader GPO Programming



Configuring Pre-Filters

Use pre-filters to identify tags to compare for tag filtering and determine where tag data is stored.

Pre-filtering options include:

- Enable Filter - enable or disable tag pattern pre-options based on standard RFID protocol.
- Tag Pattern - specify the hexadecimal character pattern to compare for tag filtering. Pattern matching is based on the Offset value with a maximum of 64-byte hexadecimal characters.

Application Features

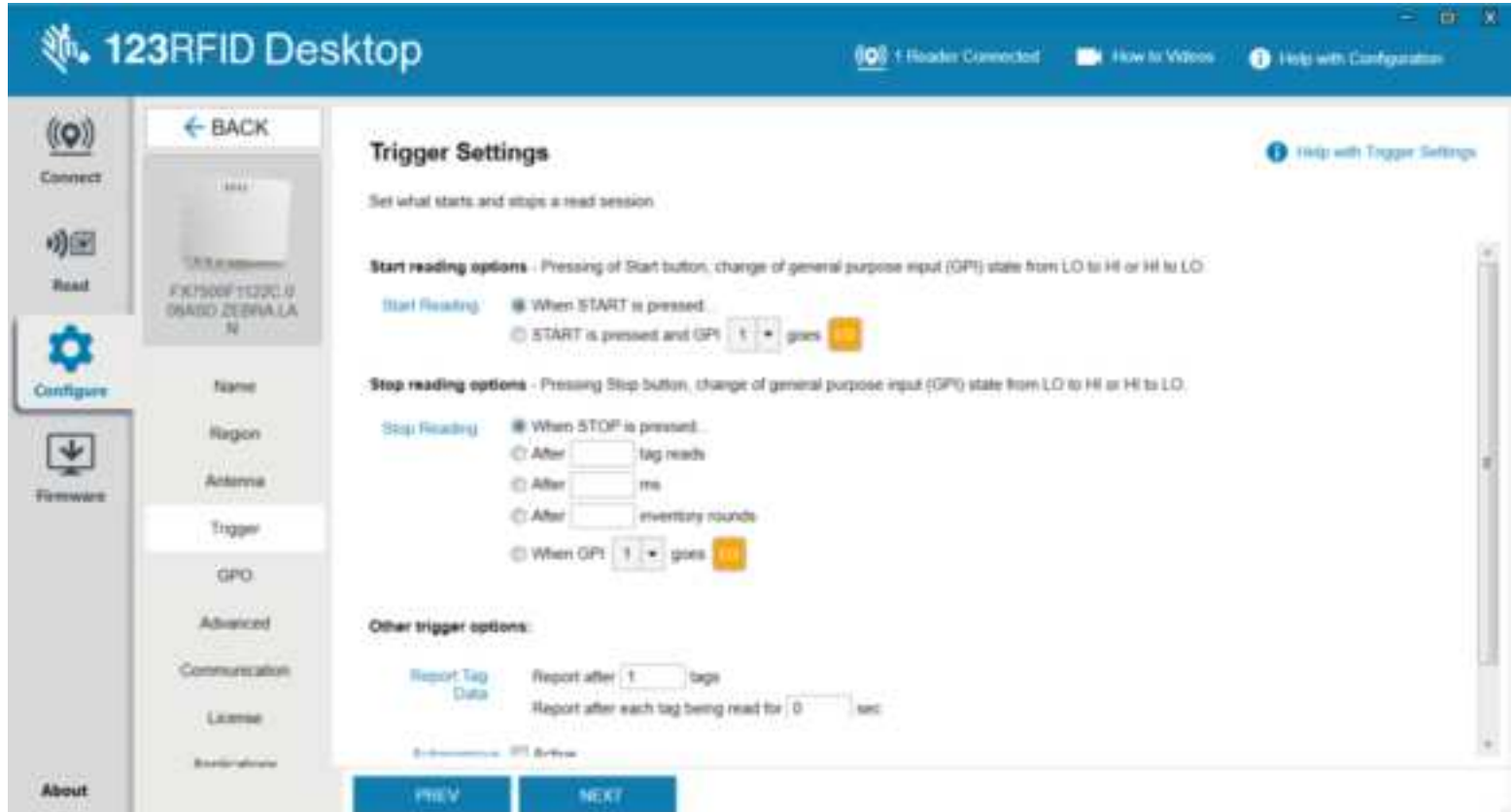
- Target - indicate which flag shall be affected when pre-filter is applied from the following: SESSION S0, SESSION S1, SESSION S2, SESSION S3, SL FLAG.
- Memory Bank - specify the memory bank to apply the filter as EPC, TID, or User memory.
- Action - indicate whether matching tags assert or de-assert SL (Selected Flag) or set their inventoried flag to A or to B.

The screenshot displays the '123RFID Desktop' application interface. The top header bar is blue with the application name and status indicators: '1 Reader Connected', 'How to Videos', and 'Help with Configuration'. A left sidebar contains navigation icons for 'Connect', 'Read', 'Scan', 'Configure' (highlighted), and 'Firmware', along with an 'About' link at the bottom. The 'Configure' section is expanded, showing a list of settings: 'Name', 'General', 'Region', 'Antenna', 'Trigger', 'Pre-Filter' (selected), 'Advanced', 'Modify Data', 'Scanner Config', and 'Basic Config'. The main area is titled 'Pre-filters settings' with a subtitle 'Configure pre-filter settings'. It features four columns for 'Filter 1', 'Filter 2', 'Filter 3', and 'Filter 4'. Each column has a 'Enable Filter' checkbox (checked for Filter 1), a 'Tag Pattern' text field, a 'Target' dropdown menu (set to 'SESSION_S0'), a 'Memory Bank' dropdown menu (set to 'EPC'), an 'Action' dropdown menu (set to 'INV_A_NOT_INV_I'), and an 'Offset/Scale' text field. At the bottom of the main area are 'PREV' and 'NEXT' buttons.

Trigger Configuration

Configure start and stopping conditions for reading tags and identify tag reporting parameters.

Figure 17 Fixed Reader Trigger Settings



Specify the start condition for a read:

- When **Start** is clicked from the **Read** panel.
- When **Start** is clicked, and then the GPI trigger of the device is pressed or released.
- When **Start** is clicked, and the input duration has passed.
- When the GPI trigger of the handheld device is pressed or released.

Specify a stopping condition for a read:

- When **Stop** is clicked from the **Read** panel.
- After a specified number of total tag reads.
- After a specified time (ms) has elapsed after tag reading was initiated.
- After a specified number of inventory rounds. An inventory round consists of reading a tag on each selected antenna port.
- After the GPI trigger of the device is released.

Configure Report Tag Data to occur after a specified number of tag reads or after each tag is read for a specified number of seconds.

When in Autonomous Mode, reports are sent only when a tag is seen for the first time. This setting is helpful in reducing the tag data network traffic by not reporting duplicated tag data. Configurable settings include:

- Never - reports no tag data.
- Immediate - reports data for a new tag immediately.
- Moderated - reports data for a new tag only after the specified moderation time (ms) and that tag was seen for the moderation duration.



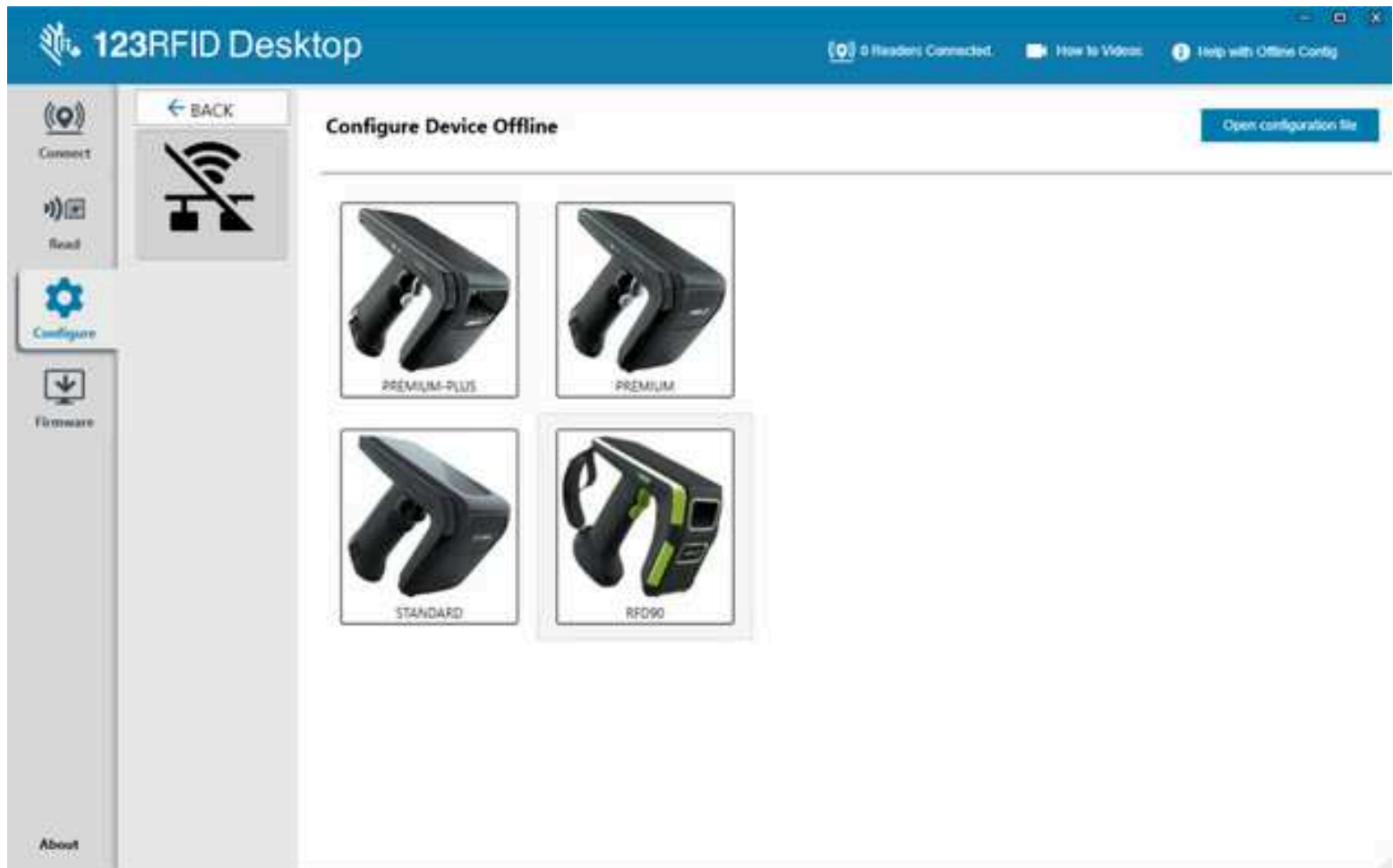
NOTE: Report tag data and Autonomous Mode are only available for FX7500 fixed readers.

Offline Reader Configuration

Use the reader configuration wizard to configure RFID, symbology, bluetooth, beeper, and data settings on RFD4030 Standard, RFD40 Premium, RFD40 Premium Plus, and RFD90 readers. Save the configuration to a file on the PC or print a report.

Click on the device icon to edit the offline reader's configuration or click **Open configuration file** to load a saved configuration file from the PC to a reader.

Figure 18 Configure Device Offline



- Assign names to the reader and the connected antennas.
- Set reader settings or reset them to factory defaults.
- Change the reader's region configuration.
- Create rules for your GPIO (General Purpose Input/Output) accessories on when to trigger inventory and output results.
- Save/print configurations to a file.
- Deploy the configuration file to a new device.



NOTE: Beeper volume, dynamic power, off mode timeout duration, and Bluetooth discovery settings are configurable for online readers only.

Reader Name

Add a description or name the reader by filling out the form fields on the name screen.



RFID Reader Configuration

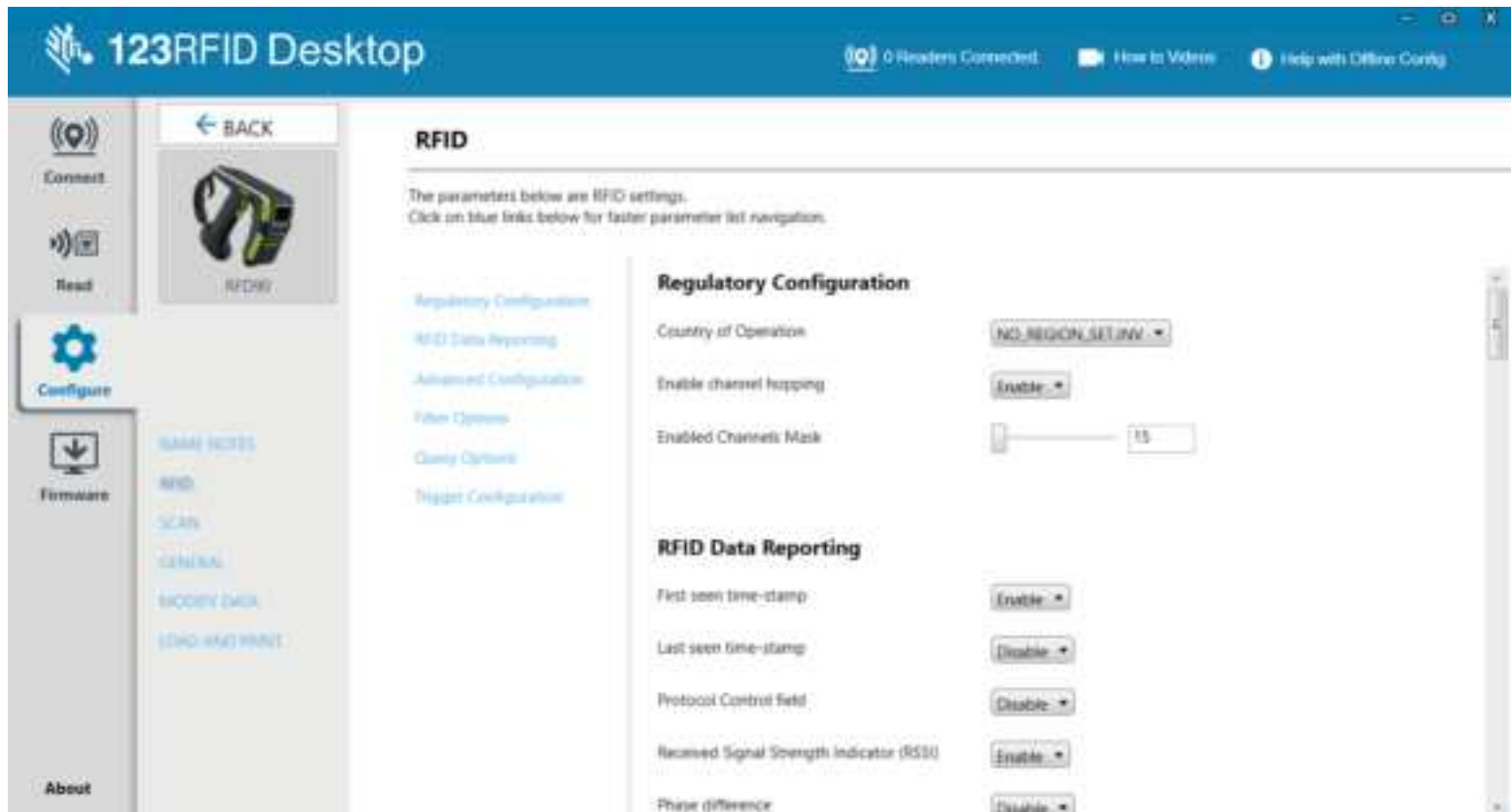
Configurable RFID options for offline readers include regulatory configuration, RFID data reporting, filter and querying options, trigger, and advanced options.



NOTE: Ensure that the reader is configured for the correct region it is used in. Configuring the device for a different region is illegal.

- Regulatory Configuration options include setting the country of operation and enabling or disabling Channel Hooping and Channel Mask.
- RFID Data Reporting options include first and last-time-seen time stamps, RSSI, phase difference, unique tag reporting, and the total number of tags seen.
- Advanced Configuration options include enabling Link Profile, configuring the RFID Transmit Power Level, and enabling dynamic power optimization.
- Filter Options for up to four filters, including Filter enable, target, action, memory bank, truncate, length, start position, and mask.
- Query options include selecting which tags, session, and target the query is applied to.
- Trigger Configuration, such as defining RFID operations and the conditions in which they are initiated and stopped.

Figure 19 RFID Settings (Offline)

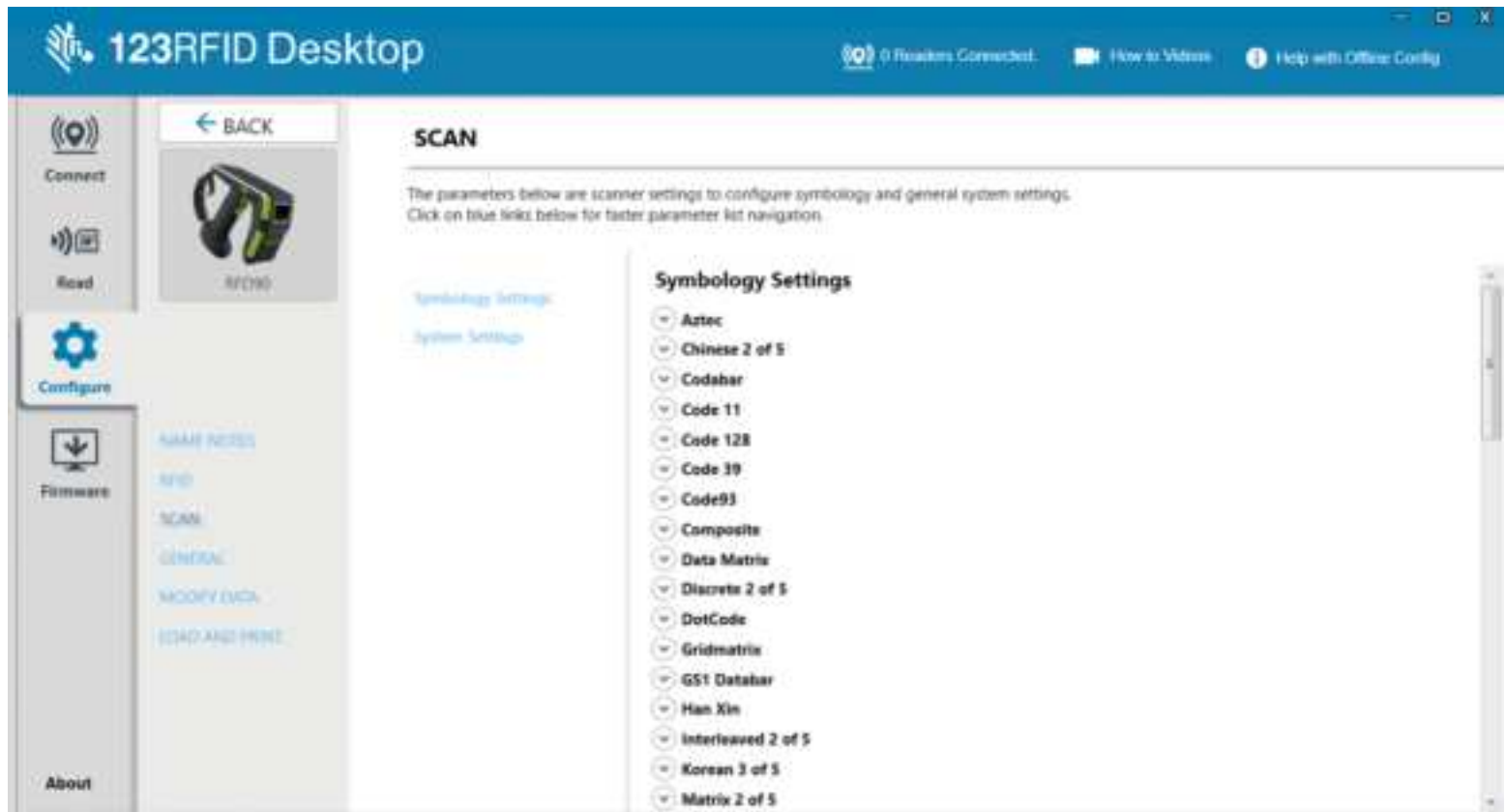


Scanning Configuration

Configurable scanning settings include enabling or disabling specific symbologies and enabling/disabling particular settings at the system level, such as transmitting the no-read message or the device's trigger mode.

- Symbology Settings – configure and enable/disable specific symbologies.
- System Settings – configure and enable/disable specific settings at the system level, such as transmitting the no-read message or the device's trigger mode.

Figure 20 Offline Scanning Configuration



General Settings

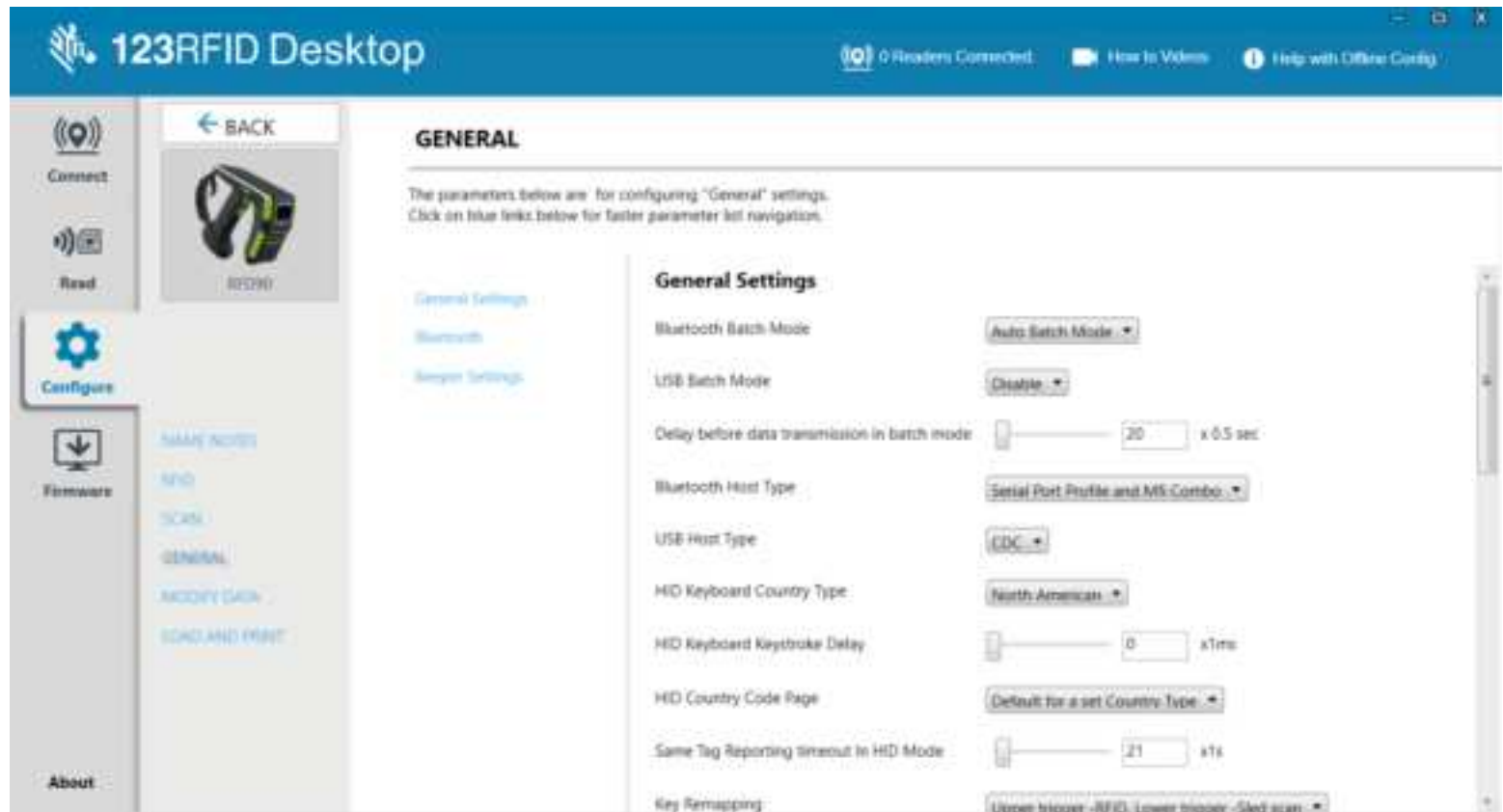
Configure general settings such as Bluetooth and beeper.

General settings include batch mode, host type, HID keyboard, tag reporting, charging through the terminal (RFID4031 Premium+ and RFID90 UHF RFID sleds only), and timeout.

Bluetooth settings include the number of reconnect attempts, enable or beep on reconnect, Bluetooth discovery, discoverable timeout (s), and reconnect to Bluetooth host behavior.

Beeper settings include volume, tone, enable or disable beep after a good decode, and enable or disable the suppression of power-up beeps.

Figure 21 General Settings (Offline)



Modify Data

Use data formatting to add a prefix or suffix to tag data.

To access data formatting, navigate to the **Modify Data** section.

To add a prefix or suffix to tag data, click the **Prefix/Suffix Single Formatting** radio button.



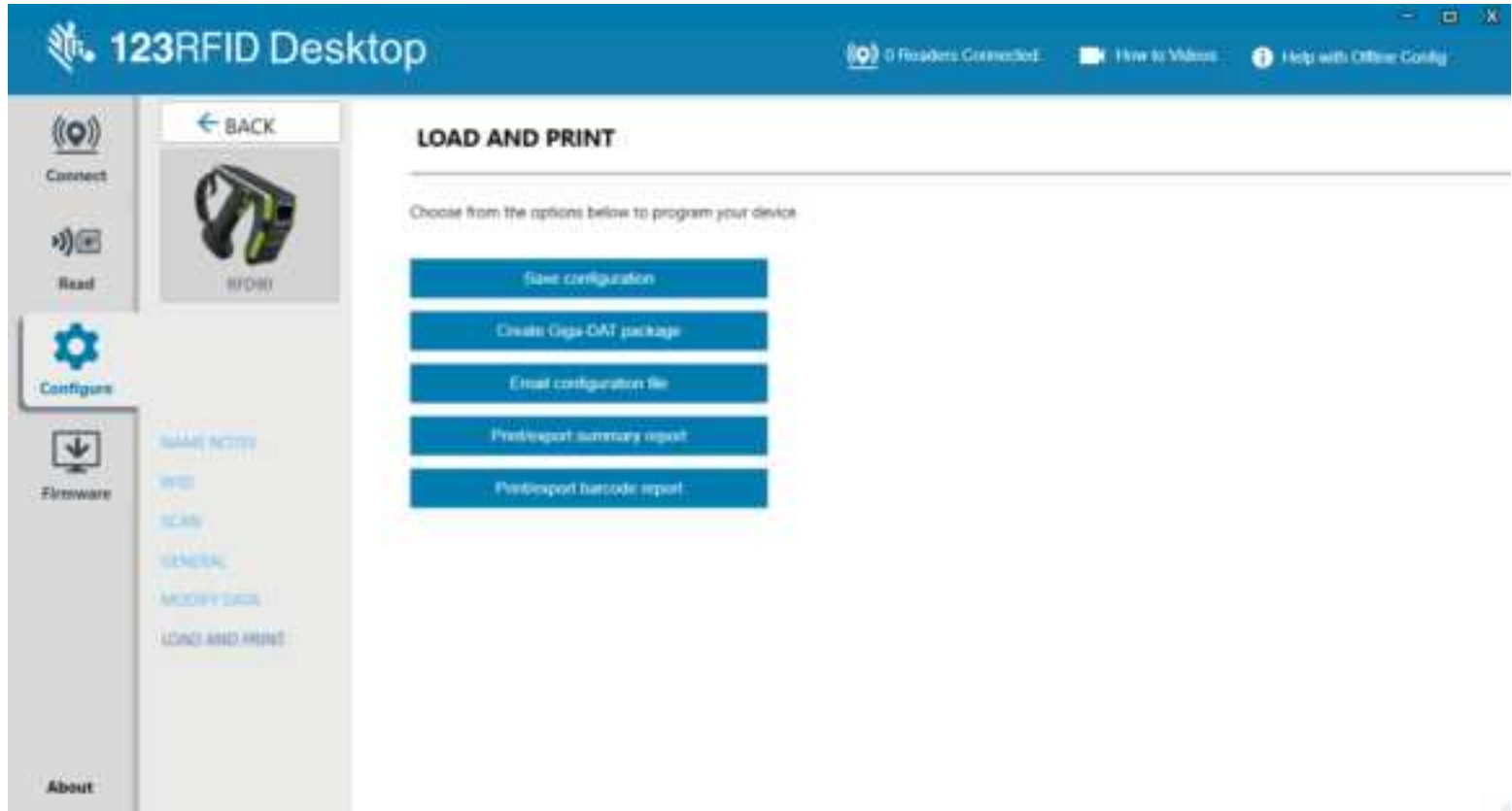
Next, select a prefix or suffix type and value from the menu.



NOTE: Data formatting is available for use while in HID mode and is applied to HID mode data. HID mode must be enabled after basic data formatting occurs. When the mode is updated, readers on the **Connect** tab are updated.

Print Configuration

Load the configuration file to the PC, push the antenna settings to the reader, or reset the antenna settings to factory defaults at the end of the configuration workflow.



Firmware Management

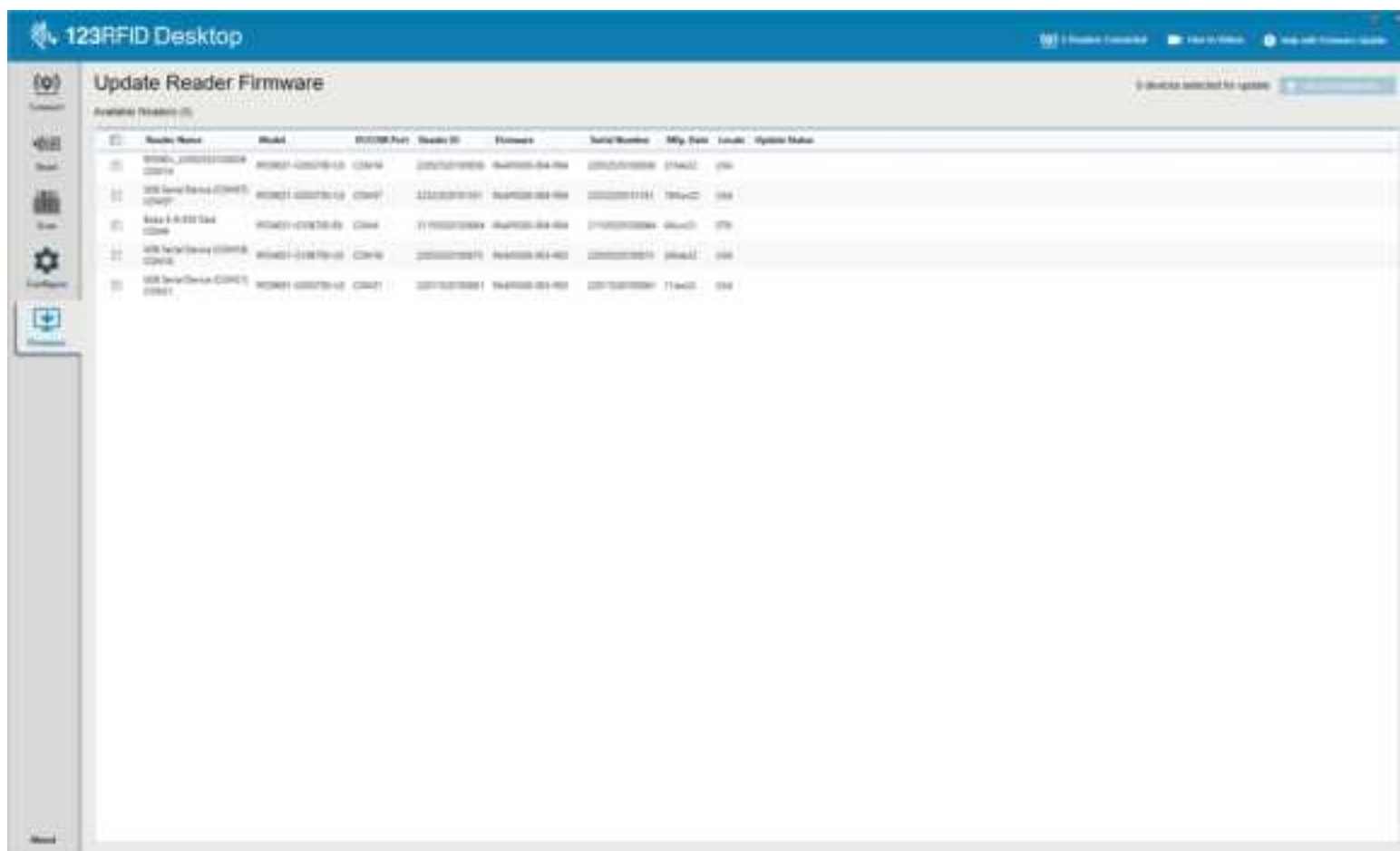
Update reader firmware on up to 20 devices of the same type simultaneously.



NOTE: Go to zebra.com/support to download the latest device firmware.

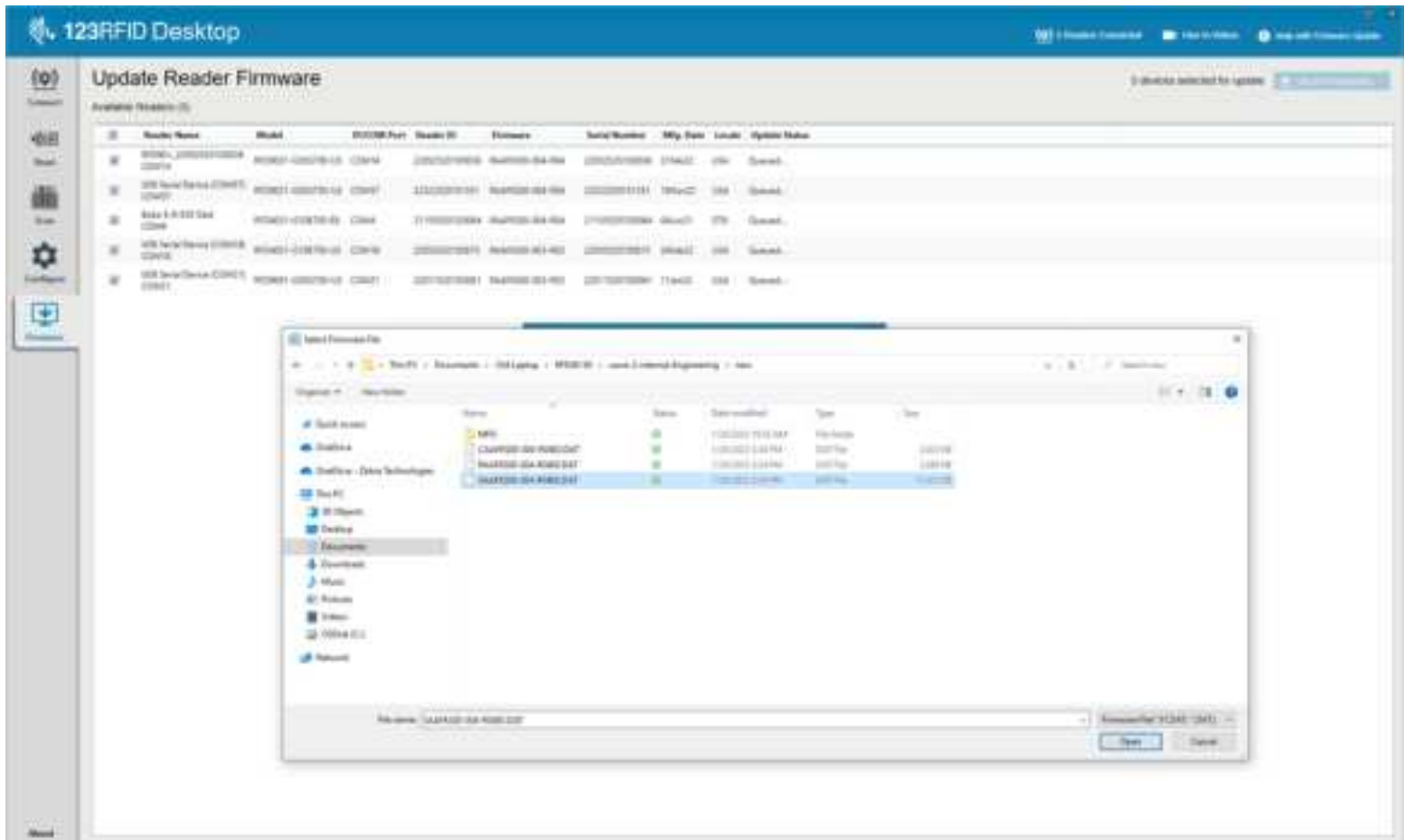
Application Features

1. Select the checkbox of the device(s) and click **Update Firmware**.



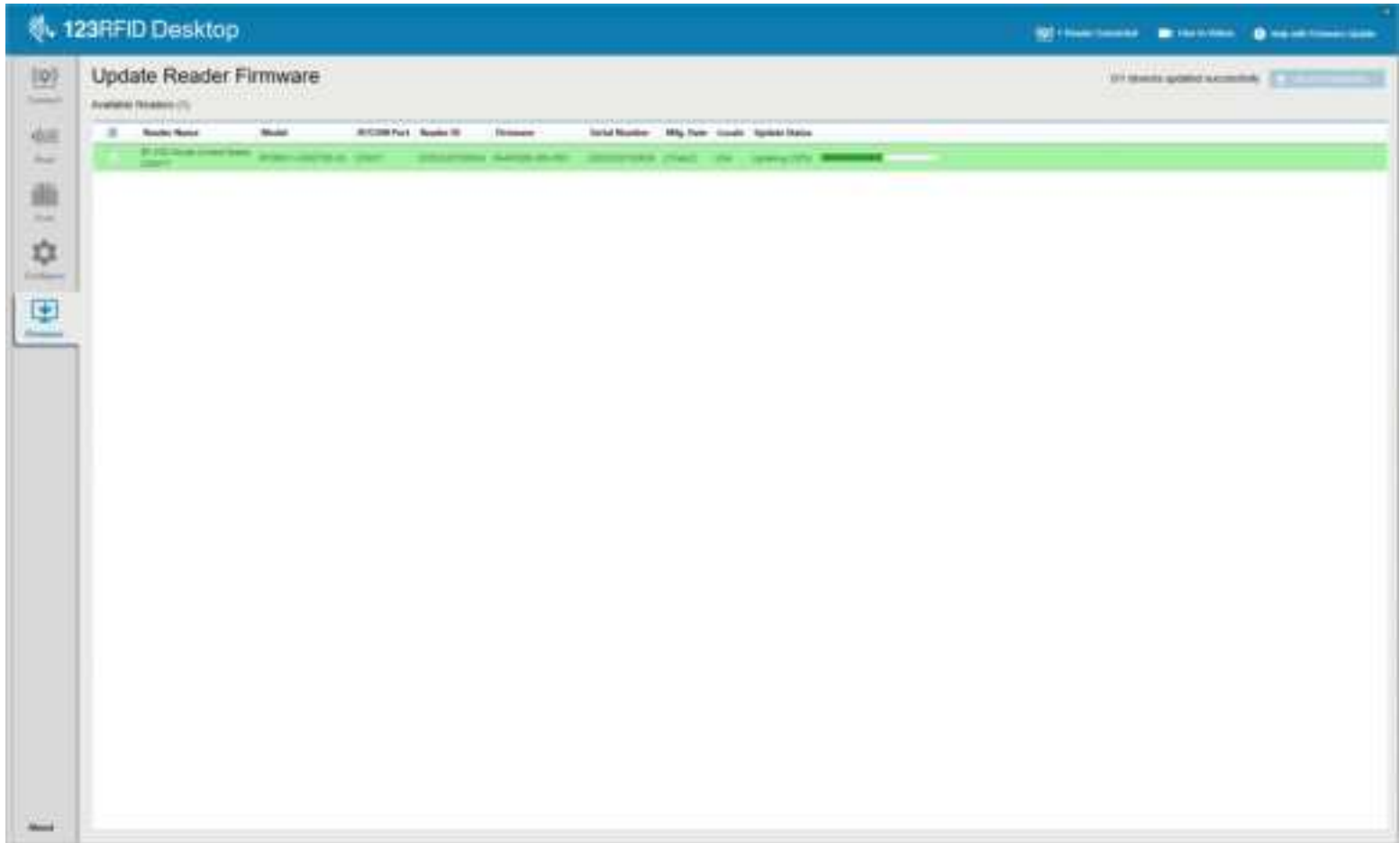
2. Click **Browse** to select the firmware version to enable on the device.

Figure 22 Update Reader Firmware



The progress bar next to the associated reader indicates the completion percentage of the firmware update.

Application Features



Troubleshooting

This section describes potential issues that could arise while using 123RFID Desktop with Zebra fixed and handheld readers and solutions that could correct the problem.

Table 2 Device Troubleshooting

Problem	Cause	Solution
The RFID sled does not read tags.	The RF region configuration is not set.	Use the 123RFID Desktop or 123RFID Mobile application to set the regulatory region or country operation per the application instructions.
The RFID sled is attached to a mobile device and is not responsive to an RFID application, even after the trigger is pressed.	The battery is too low and not able to power the RFID sled.	Press the trigger for a few seconds to power the RFID sled On. The RFID sled LED blinks amber when it is turned On. (By default, pressing the trigger turns On the RFID sled if it is in Off mode. However, the RFID sled can be disabled, in which case this step is unnecessary.) Place the RFID sled in the charging cradle. The RFID sled blinks amber LEDs, indicating charging commenced.
	The Zebra-supported mobile computer is not correctly inserted in the RFID sled.	Ensure the Zebra-supported mobile device is securely in the RFID sled, and the USB cable is correctly inserted.
	Damaged battery.	If the sled LED does not blink amber after sitting on the charging cradle, contact Zebra Service to request a battery replacement.
The sled is responsive but cannot read tags.	The battery is critically low.	Place the RFID sled in the charging cradle. The RFID Sled LED blinks amber. The RFID sled can be used when its LED turns on momentarily amber or green upon removal from the charging cradle.

Table 2 Device Troubleshooting (Continued)

Problem	Cause	Solution
The sled LED blinks fast and amber when in the cradle.	Charging error.	Restart charging by removing the RFID sled from the cradle and reinserting it. If the issue persists, contact Zebra Service to request a battery replacement.
The sled LED blinks red, or LED blinks red, alternating with green or amber while in use (not while charging).	Battery end-of-life indication.	Contact Zebra Service to request a battery replacement.
Zebra-supported mobile computer battery is not charging.	The charging cradle was unplugged from AC power.	Ensure the charging cradle is receiving power.
	The Zebra-supported mobile computer is not fully seated in the cradle.	Remove and reinsert the Zebra-supported mobile computer into the cradle, ensuring it is firmly seated in the charging cradle.
Data Communication		
During data communication with a host computer, no data transmitted or transmitted data is incomplete.	Sled removed from cradle during communication.	Replace the sled in the cradle and re-transmit.
	Incorrect cable configuration.	Consult the system administrator.
	Communication software was incorrectly installed or configured.	Perform setup.
During data communication over Bluetooth, no data transmitted or transmitted data was incomplete.	The Bluetooth radio is not on.	Turn on the Bluetooth radio.
	The sled moved out of range of another Bluetooth device.	Move within 10 meters (32.8 feet) of the other device.
Decode		
The sled does not decode with a reading barcode.	The scanning application is not loaded.	Load 123RFID Mobile on the device or 123RFID Desktop on the PC. See the system administrator.
	Unreadable barcode.	Ensure the symbol is not defaced.
	The distance between the exit window and the barcode is incorrect.	Place the device within the proper scanning range.
	The device is not programmed to generate a beep.	If the sled does not beep on a good decode, set the application to generate a beep on a good decode.
	The battery is low.	Check the battery level if the sled stops emitting a laser beam upon a trigger press. When the battery is low, the sled shuts off before the low battery condition notification.

Table 2 Device Troubleshooting (Continued)

Problem	Cause	Solution
Bluetooth		
The device cannot find any Bluetooth devices nearby.	Too far from other Bluetooth devices.	Move closer to the other Bluetooth device(s) within a range of 10 meters (32.8 feet).
	The Bluetooth device(s) nearby are not turned on.	Turn on the Bluetooth device(s).
	The Bluetooth device(s) are not in discoverable mode.	Set the Bluetooth device(s) to discoverable mode.

