



ZEBRA RFD40 RFID SDK for Windows User Guide

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ZEBRA RFD40 RFID SDK for Windows



Product Information

- Product Name: Zebra RFID SDK for Windows
- Version: v3.0.29.0 Jan 2023
- Compatibility: RFD40, RFD90, RFD8500

Product Usage Instructions

Installation – Requirements

SDK will be distributed as a zip package that contains the components mentioned in the components section of this document. Users may un-zip the package into their development environment and use SDK library in their projects.

Prerequisites

- .Net Framework v4.8

Using Demo Application

Note: This SDK has only been tested using the Microsoft Bluetooth Communication stack. Use of proprietary drivers using a different communication stack/layer may have undefined results.

1. The demo application exe (RFIDDemoApplication) can be found inside “DemoApp\Bin” folder. Once you launch the application, if you have an already paired RFD40/RFD90/RFD8500, application will populate it and show in the combo box in following format <Bluetooth friendly name>(<COMX>)
2. Bluetooth friendly names consist of device the family name and serial number which users can match with the label available on the device.
3. To pair a new device, the RFD40/RFD90/RFD8500 device should be discoverable, in range and the pairing request should be authenticated by pressing the yellow trigger of the device when device blink its blue LED faster. Please watch the video

(<https://www.youtube.com/watch?v=JxLkE7GVTrQ>) for more information.

4. If the user restores the device to a factory defaults configuration, the device will disconnect. To connect the reader again, user may have to un-pair and re-pair the device.

Components

| Component | Location |
|---------------------------------------|-------------|
| SDK Library | .Lib |
| Demonstration Application Binaries | .DemoAppBin |
| Demonstration Application Source Code | .DemoAppSrc |

The SDK will be distributed as a zip package that contains the components mentioned in the components section of this document.

Users may unzip the package into their development environment and use the SDK library in their projects.

Overview

Zebra RFID SDK for Windows provides a .NET application programming interface for Zebra RFD40/RFD90/RFD8500 readers. The RFID SDK allows development of RFID enabled applications for Windows 7/10/11.

Device Compatibility

- RFD40
- RFD90
- RFD8500

Version History

Version 3.00.0029 – 01/2023

1. RFD40/RFD90 Support
2. Configuration – Key-remapping Support
3. Document Update
4. Bug Fixes

Version 3.00.0023 – 04/2022

1. Bug fix: Stops reading tags after three minutes of inventory over Bluetooth.

Version 3.00.0018 – 08/2021

1. Sample app enhancement – provide an option to select preferred region.
2. **Bug Fixes:**
 - When an inventory abort command fails, inventory session is aborted.
 - Running inventory with phase info enabled, resulting in overflow exceptions from the SDK and 123RFID

Desktop hangs.

- Connecting to device fails if attempted to connect after power cycling, while inventory was running.
- On disconnect of a particular RFD40, disconnect event is being sent for all the connected RFD40 devices.
- Key validation fails if the system locale is changed to a setting other than English.
- Unable to Read/Write tags when a Prefilter setting with INV_B and Singulation STATE B is already set in the Device.

Version 2.01.0009 – 04/2020

1. Bug fix: Unable to Read/Write tags when a Prefilter setting with INV_B and Singulation STATE B is already set in the Device.

Version 2.01.0005 – 07/2019

1. Minor Bug Fixes

Version 2.01.0004 – 06/2019

1. Configuration – Trigger Mode Setting

Version 2.01.0002 – 11/2018

1. Access Operations – Tag Read, Tag Write, Tag Lock and Tag Kill
2. Configuration Updates
 - Antenna – Link Profile, Tari
 - Singulation – Inventory State, SL Flag
 - Tag Reporting – PC, RSSI, Phase, Channel Index, Tag Seen Count and Report Unique Tags
 - Regulatory – Channel Index
 - Power Management – Dynamic Power
3. Pre-Filters
4. Tag Locate

Version 2.00.0001 – 06/2018

1. Windows Desktop new SDK.

Version 1.02.0006 – 02/2018

1. Minor Bug Fixes.

Version 1.02.0005 – 09/2017

1. Batch mode support added.

Version 1.02.0004 – 08/2017

1. Minor Bug Fixes.

Version 1.02.0003 – 08/2017

1. Added serial port number into RFID Device properties.

Version 1.02.0002 – 08/2017

1. Removed serial port communication.
2. Stability improvements.

Version 1.02.0001 – 08/2017

1. Removed serial port number (COMX) from RFID Device properties.
2. Connection logic has been changed when RFID serial port get non-maximum serial port id.
3. Operation summary notification events.
4. ERROR_INSUFFICIENT_POWER exception introduced.
5. More informative exception messages.
6. Diagnostic logs.

Version 1.02.0000 – 07/2017

1. Battery, Power and Temperature notifications.
2. Configure Beeper volume.

Version 1.01.0000 – 07/2017

1. See reader capabilities.
2. PeakRSSI and TagSeenCount in TagData.
3. Configure Start/Stop triggers.
4. Get status events when inventory starts and stops.
5. Get an array of Tags that was read by the reader when data is not attached to ReadNotify event.
6. Purge all tags present in DII and Reader queues when data is not attached to ReadNotify event.

Version 1.00.0000 – 06/2017


1. Initial release of RFID SDK for Windows which has following capabilities • Getting list of available/active (connected) readers.
 - New device pairing.
 - See reader asset information like Bluetooth Name, Bluetooth address.
 - Connecting and disconnecting to readers.
 - Perform inventory and stop.

- Receive tag id through ReadNotify events.
- Control antenna power.
- Session and tag population control.
- Saving settings and setting reader into factory defaults.
- See the region of the reader.
- Get status events when scanner disconnects/out of range/battery drain.
- Get events when a new device pairs and un-pairs.
- Get version information.

Known Issues/Limitations

1. This SDK has only been tested only with Microsoft Bluetooth Driver stack and behavior with any other Bluetooth driver stacks is unknown.
2. New device pair notification (RFIDReaderAppeared) may not occur intermittently. Use the GetAvailableRFIDReaderList for most up-to-date reader list.
3. Session 0 and 1 inventory may reduce the performance as it takes time to process the data provide events. So, subsequent commands may fail (throw exceptions) after stopping the inventory.
4. Only TransmitPowerIndex changes are possible in Antennas.config
5. TagTransitTime implementation is not complete in Antennas.SingulationControl.
6. RFIDReader.VersionInfo property provides only the API Dll version at this time.
7. The device disconnection status notification takes more than 20s to report the disconnection.
8. The SDK uses an emulated Bluetooth serial port to communicate with the device. For the SDK to function properly, the serial port should not be opened by any other application or service.
9. In a situation where the SDK cannot open the serial port, the SDK API will throw the appropriate exception.
10. The RFD8500 automatically switches to a SNAPI USB communication mode when it is plugged in via the USB cable (disables Bluetooth). As such, it cannot be used with this SDK API while plugged-in. RFD40/RFD90 readers will be in USB-CDC mode when connected over USB and will be in Serial Port Profile (SPP) mode when connected over Bluetooth. When the reader is connected via the USB cable (Bluetooth is disabled), it cannot be used with the RFID SDK over Bluetooth while plugged-in.
11. GetReadTags and PurgeTags consider only the DLL queue. Batched data inside the reader is not considered.
12. Start/Stop trigger must be configured by setting the TriggerInfo property in RFIDReader.Config. Individually setting properties/Fields in RFIDReader.Config.TriggerInfo has no effect. Please use Demo app source code as a reference.

Documents / Resources

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|  | <p>ZEBRA RFD40 RFID SDK for Windows [pdf] User Guide</p> <p>RFD40 RFID SDK for Windows, RFD40, RFID SDK for Windows</p> |
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