

SDK/J javax.usb Package

Sample Applications

Version:1.0.5



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1. Introduction

This document provides an overview of the sample applications of SDK/J javax.usb package.

1.1. Target readers

This document is intended for application developers who wish to use the SDK/J javax.usb package in application development.

The reader is assumed to be familiar with the basics of:

- SDK/J application development
- SDK/J javax.usb package

For how to develop SDK/J applications, see the separate document “Device SDK Type-J Developer’s Guide”.

For details of SDK/J javax.usb package, see the separate document “javax.usb Developer’s Guide”.

1.2. Operation environment

Use of the sample applications of SDK/J javax.usb package requires an operation environment where:

- SDK/J javax.usb package is operating properly; and
- The card reader used is supported by the sample applications.

1.3. Supported card readers

The following table shows a list of the card readers supported by the sample applications.

Card type	Manufacturer	Model	Description	Type
HID	RFIDeas, Inc.	RDR-6081AKU	Vendor ID : 0c27 Product ID : 3bfa Version : 0480	Non PCSC(Human Interface Devices)
Indala/ Motorola	RFIDeas, Inc.	RDR-6381AKU	Vendor ID : 0c27 Product ID : 3bfa Version : 0580	
Casi-Rusco	RFIDeas, Inc.	RDR-6281AKU	Vendor ID : 0c27 Product ID : 3bfa Version : 0580	
NexWatch	RFIDeas, Inc.	RDR-6N81AKU	Vendor ID : 0c27 Product ID : 3bfa Version : 0580	
iClass Mifare(*1)	RFIDeas, Inc.	RDR-7081AKU	Vendor ID : 0c27 Product ID : 3bfa Version : 0582	
Mifare(*1)	RFIDeas, Inc.	RDR-7581AKU	Vendor ID : 0c27 Product ID : 3bfa Version : 0560	
Legic	interflex	IF 72 USB/RS232	Vendor ID : 0ce8 Product ID : 003b Version : 3469	
Swipe	Tysso	TMSR-33-U-SB	Vendor ID : 1130 Product ID : 0001 Version : 0100	

(*1)

ISO 14443, Type A - read only; MIFARE® Standard (serial number)

Before you can use a non-PCSC compliant card reader, you must:

- Configure the working setting for the card reader on the PC; and
- Check if the card ID is obtained properly on the PC.

1.3.1. Configuring the working setting for the card reader

1.3.1.1. RFIDeas

1. Install the enroll tool

In order to configure the working setting for the card reader, first install the enroll tool on your PC.

The enroll tool can be obtained from: <http://www.rfideas.com/>.

This enroll tool is provided by RFIDeas, Inc. and can be used to configure the working setting for the card readers of that company.

2. Set the working setting for the card reader

Set the working setting for the card reader by using the enroll tool.

As the necessary working setting varies between models, be careful when configuring it.

[RDR-6081AKU, RDR-6381AKU]

Keystroke Data Tab	Advanced Tab
<p>Configuration Utility for pcProx® and AIR ID® Enroll</p> <p>Timing Card Formats About</p> <p>Connect Set Keystroke Data Advanced</p> <p>Facility (FAC) & ID Codes</p> <p>PARITY BIT Strip parity bit count: Leading Parity 1</p> <p>FACILITY CODE (FAC) <input type="checkbox"/> Send FAC code <input type="checkbox"/> Fac Hex</p> <p>ID CODE <input checked="" type="checkbox"/> Send ID Code Bit count of ID portion only 16</p> <p>PARITY BIT Strip parity bit count: Trailing Parity 1</p> <p>Force data to length <input checked="" type="checkbox"/></p> <p>FAC fixed to this length 3</p> <p>ID fixed to this length 5</p> <p>Extra keystroke/Character Sends</p> <p>These pre-characters are sent ahead of card data: NOTE: Max of 3 total for pre and post keys. Pre-characters have priority.</p> <p><input type="checkbox"/> Enable FAC/ID character This char sent between FAC & ID COLON</p> <p>These post-characters are sent after the card data: <input type="checkbox"/> Disable appending keystroke</p> <p>This keystroke appended to data ENTER</p> <p><input type="checkbox"/> Config changed <input type="checkbox"/> Test RS-232 model</p> <p>Read pcProx or AIR ID OK</p> <p>Write to pcProx or AIR ID Cancel</p>	<p>Configuration Utility for pcProx® and AIR ID® Enroll</p> <p>Timing Card Formats About</p> <p>Connect Set Keystroke Data Advanced</p> <p>LED - Beep Control</p> <p><input type="checkbox"/> SDK Controls LED <input checked="" type="checkbox"/> Beep</p> <p><input type="checkbox"/> Red <input type="checkbox"/> Green</p> <p>1 USB Reader(s) on this Machine</p> <p>Enter address 0-127 </p> <p>List of unique USB reader addresses 0 Change Reader</p> <p>Software Developer Kit Mode</p> <p><input type="checkbox"/> Enables quiet mode for usage with the Software developer's Kit.</p> <p>Raw Data GET ID</p> <p>Characters Sent When Card is Removed</p> <p>First character </p> <p>Second character </p> <p><input type="checkbox"/> Reverse Wiegand Bits <input type="checkbox"/> Read only cards with this bit count 26</p> <p><input type="checkbox"/> Enable output as Hexadecimal <input type="checkbox"/> Reverse Bytes</p> <p><input checked="" type="checkbox"/> Invert Wiegand Data (pcProxH only) <input checked="" type="checkbox"/> Ignore H/W data inversion override</p> <p><input type="checkbox"/> Euro KeyPad <input type="checkbox"/> Emulate ProxPro <input type="checkbox"/> Enable 64 bit math</p> <p><input type="checkbox"/> Config changed <input type="checkbox"/> Test RS-232 model</p> <p>Read pcProx or AIR ID OK</p> <p>Write to pcProx or AIR ID Cancel</p>

[RDR-6281AKU]

The Casi-Rusco has a 12-digit card ID which always starts with "15".

Keystroke Data Tab	Advanced Tab

[RDR-6N81AKU]

Keystroke Data Tab	Advanced Tab

[RDR-7081AKU]

This card reader supports both iClass and Mifare; set the working setting properly for the card you use.

iClass

Keystroke Data Tab	Advanced Tab
<p>pcProx and AIR ID Enroll Configuration Utility for USB and RS-232 Readers</p> <p>Configuration Utility for pcProx® and AIR ID® Enroll</p> <p>Timing Card Formats About</p> <p>Connect Set Keystroke Data Advanced</p> <p>Facility (FAC) & ID Codes</p> <p>PARITY BIT Strip parity bit count: Leading Parity 1</p> <p>FACILITY CODE (FAC) <input type="checkbox"/> Send FAC code <input type="checkbox"/> Fac Hex</p> <p>ID CODE <input checked="" type="checkbox"/> Send ID Code Bit count of ID portion only 16</p> <p>PARITY BIT Strip parity bit count: Trailing Parity 1</p> <p>Force data to length <input checked="" type="checkbox"/></p> <p>FAC fixed to this length 3</p> <p>ID fixed to this length 5</p> <p>Extra keystroke/Character Sends</p> <p>These pre-characters are sent ahead of card data: NOTE: Max of 3 total for pre and post keys. Pre-characters have priority.</p> <p><input type="checkbox"/> Enable FAC/ID character This char sent between FAC & ID COLON</p> <p>These post-characters are sent after the card data: NONE NONE NONE</p> <p><input type="checkbox"/> Disable appending keystroke This keystroke appended to data ENTER</p> <p><input type="checkbox"/> Config changed <input type="checkbox"/> Test RS-232 model</p> <p>Read pcProx or AIR ID OK</p> <p>Write to pcProx or AIR ID Cancel</p>	<p>pcProx and AIR ID Enroll Configuration Utility for USB and RS-232 Readers</p> <p>Configuration Utility for pcProx® and AIR ID® Enroll</p> <p>Timing Card Formats About</p> <p>Connect Set Keystroke Data Advanced</p> <p>LED - Beep Control</p> <p><input type="checkbox"/> SDK Controls LED <input checked="" type="checkbox"/> Beep</p> <p><input type="checkbox"/> Red <input type="checkbox"/> Green</p> <p>1 USB Reader(s) on this Machine</p> <p>Enter address 0-127</p> <p>List of unique USB reader addresses 0 Change Reader</p> <p>Software Developer Kit Mode</p> <p><input type="checkbox"/> Enables quiet mode for usage with the Software developer's Kit.</p> <p>Raw Data</p> <p><input type="checkbox"/> GET ID</p> <p>Characters Sent When Card is Removed</p> <p>First character</p> <p>Second character</p> <p><input type="checkbox"/> Reverse Wiegand Bits <input type="checkbox"/> Read only cards with this bit count 25</p> <p><input checked="" type="checkbox"/> Enable output as Hexadecimal <input checked="" type="checkbox"/> Reverse Bytes</p> <p><input checked="" type="checkbox"/> Invert Wiegand Data (pcProxH only) <input checked="" type="checkbox"/> Ignore H/W data inversion override</p> <p><input type="checkbox"/> Euro Keypad <input type="checkbox"/> Emulate ProxPro <input type="checkbox"/> Enable 64 bit math</p> <p><input type="checkbox"/> Config changed <input type="checkbox"/> Test RS-232 model</p> <p>Read pcProx or AIR ID OK</p> <p>Write to pcProx or AIR ID Cancel</p>

Mifare

Keystroke Data Tab	Advanced Tab
<p>pcProx and AIR ID Enroll Configuration Utility for USB and RS-232 Readers</p> <p>Configuration Utility for pcProx® and AIR ID® Enroll</p> <p>Timing Card Formats About</p> <p>Connect Set Keystroke Data Advanced</p> <p>Facility (FAC) & ID Codes</p> <p>PARITY BIT Strip parity bit count: Leading Parity 0</p> <p>FACILITY CODE (FAC) <input type="checkbox"/> Send FAC code <input type="checkbox"/> Fac Hex</p> <p>ID CODE <input checked="" type="checkbox"/> Send ID Code Bit count of ID portion only 32</p> <p>PARITY BIT Strip parity bit count: Trailing Parity 0</p> <p>Force data to length <input type="checkbox"/></p> <p>FAC fixed to this length 3</p> <p>ID fixed to this length 5</p> <p>Extra keystroke/Character Sends</p> <p>These pre-characters are sent ahead of card data: NOTE: Max of 3 total for pre and post keys. Pre-characters have priority.</p> <p><input type="checkbox"/> Enable FAC/ID character This char sent between FAC & ID COLON</p> <p>These post-characters are sent after the card data: NONE NONE NONE</p> <p><input type="checkbox"/> Disable appending keystroke This keystroke appended to data ENTER</p> <p><input checked="" type="checkbox"/> Config changed <input type="checkbox"/> Test RS-232 model</p> <p>Read pcProx or AIR ID OK</p> <p>Write to pcProx or AIR ID Cancel</p>	<p>pcProx and AIR ID Enroll Configuration Utility for USB and RS-232 Readers</p> <p>Configuration Utility for pcProx® and AIR ID® Enroll</p> <p>Timing Card Formats About</p> <p>Connect Set Keystroke Data Advanced</p> <p>LED - Beep Control</p> <p><input type="checkbox"/> SDK Controls LED <input checked="" type="checkbox"/> Beep</p> <p><input type="checkbox"/> Red <input type="checkbox"/> Green</p> <p>1 USB Reader(s) on this Machine</p> <p>Enter address 0-127</p> <p>List of unique USB reader addresses 0 Change Reader</p> <p>Software Developer Kit Mode</p> <p><input type="checkbox"/> Enables quiet mode for usage with the Software developer's Kit.</p> <p>Raw Data</p> <p><input type="checkbox"/> GET ID</p> <p>Characters Sent When Card is Removed</p> <p>First character</p> <p>Second character</p> <p><input type="checkbox"/> Reverse Wiegand Bits <input type="checkbox"/> Read only cards with this bit count 25</p> <p><input checked="" type="checkbox"/> Enable output as Hexadecimal <input checked="" type="checkbox"/> Reverse Bytes</p> <p><input checked="" type="checkbox"/> Invert Wiegand Data (pcProxH only) <input checked="" type="checkbox"/> Ignore H/W data inversion override</p> <p><input type="checkbox"/> Euro Keypad <input type="checkbox"/> Emulate ProxPro <input type="checkbox"/> Enable 64 bit math</p> <p><input checked="" type="checkbox"/> Config changed <input type="checkbox"/> Test RS-232 model</p> <p>Read pcProx or AIR ID OK</p> <p>Write to pcProx or AIR ID Cancel</p>

[RDR-7581AKU]

Keystroke Data Tab

Configuration Utility for pcProx® and AIR ID® Enroll

Timing | Card Formats | About

Connect | **Set Keystroke Data** | Advanced

Facility (FAC) & ID Codes

PARITY BIT Strip parity bit count: Leading Parity 0

FACILITY CODE (FAC) ☐ Send FAC code ☐ Fac Hex

ID CODE ☒ Send ID Code Bit count of ID portion only 32

PARITY BIT Strip parity bit count: Trailing Parity 0

Force data to length ☐

FAC fixed to this length 3

ID fixed to this length 5

Extra keystroke/Character Sends

These pre-characters are sent ahead of card data: NOTE: Max of 3 total for pre and post keys. Pre-characters have priority.

☐ Enable FAC/ID character This char sent between FAC & ID COLON

These post-characters are sent after the card data: NONE NONE NONE

☐ Disable appending keystroke

This keystroke appended to data ENTER

☐ Config changed ☐ Test RS-232 model

Use this field to view card data

Read pcProx or AIR ID OK

Write to pcProx or AIR ID Cancel

Advanced Tab

Configuration Utility for pcProx® and AIR ID® Enroll

Timing | Card Formats | About

Connect | Set Keystroke Data | **Advanced**

LED - Beep Control

☐ SDK Controls LED ☒ Beep

☐ Red ☐ Green

USB Reader(s) on this Machine

Enter address 0-127

List of unique USB reader addresses 0 Change Reader

Software Developer Kit Mode

☐ Enables quiet mode for usage with the Software developer's Kit.

Raw Data

GET ID

☐ Reverse Wiegand Bits ☐ Read only cards with this bit count 0

☒ Enable output as Hexadecimal ☐ Reverse Bytes

☒ Invert Wiegand Data (pcProxH only) ☒ Ignore H/W data inversion override

☐ Euro KeyPad ☐ Emulate ProxPro

☒ Enable 64 bit math

Characters Sent When Card is Removed

First character

Second character

ENTER ENTER

GET ID

☐ Config changed ☐ Test RS-232 model

Use this field to view card data

Read pcProx or AIR ID OK

Write to pcProx or AIR ID Cancel

If the card ID is “9A5F5026”, this card reader obtains it as “26505F9A”. (inverted)

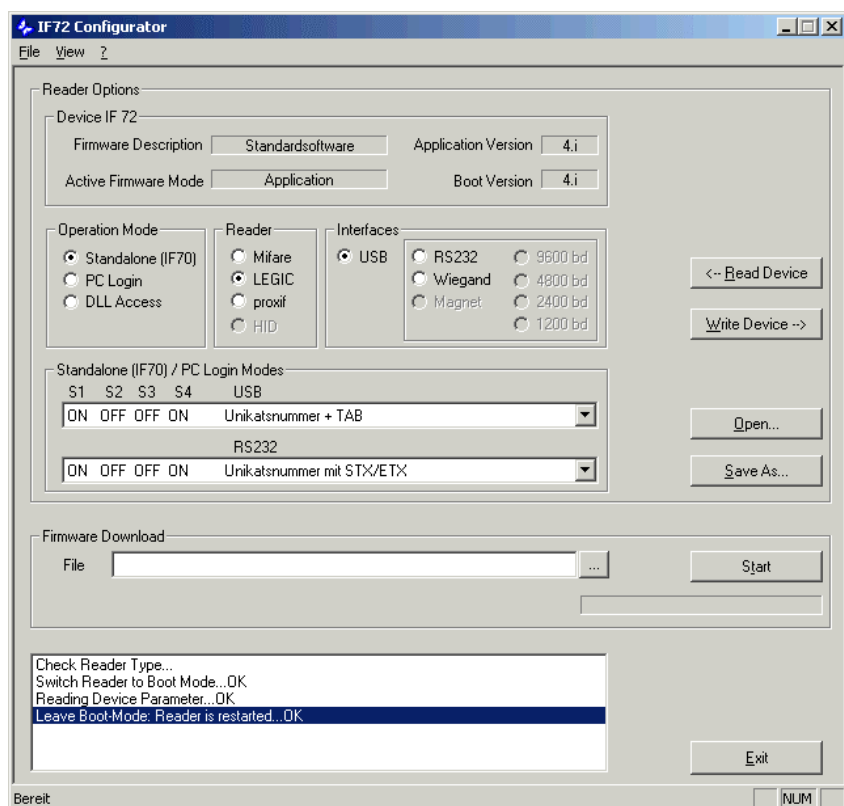
1.3.1.2. interflex

1. Install the enroll tool

In order to configure the working setting for the card reader, first install the enroll tool on your PC. The enroll tool can be obtained from the CD-ROM. For details, see the manual of the card reader.

2. Set the working setting for the card reader

By using the enroll tool, set the working setting for the card reader as follows:



1.3.1.3. Tysso

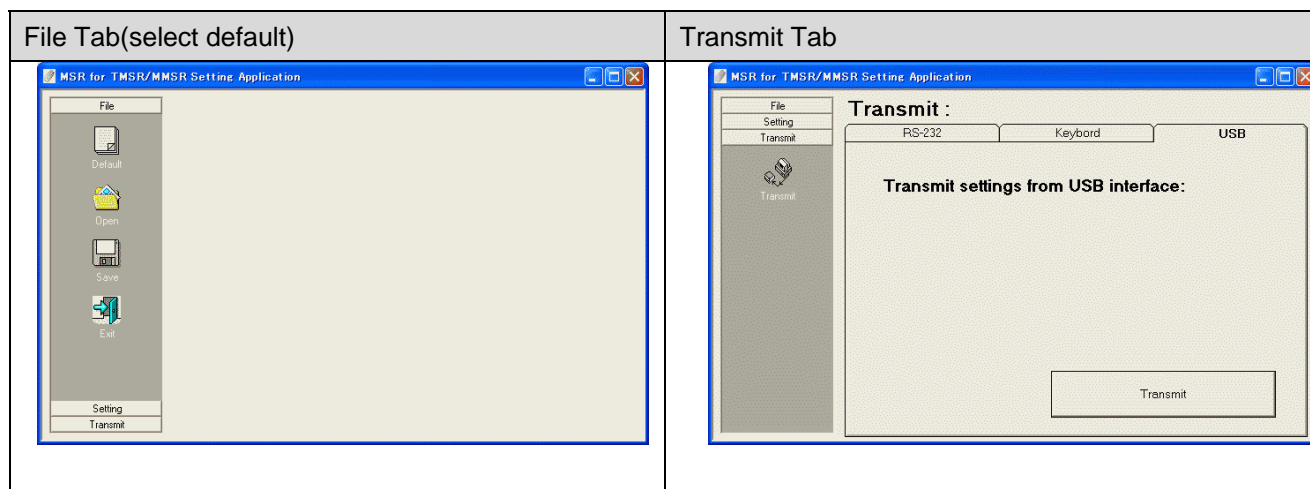
1. Install the enroll tool

In order to configure the working setting for the card reader, first install the enroll tool on your PC.

The enroll tool can be obtained from the CD-ROM. For details, see the manual of the card reader.

2. Set the working setting for the card reader

By using the enroll tool, set the working setting for the card reader. In this case, be sure to use the default setting.



1.3.2. Checking the operation of the card reader

Open the Notepad and check if the card ID is properly read.

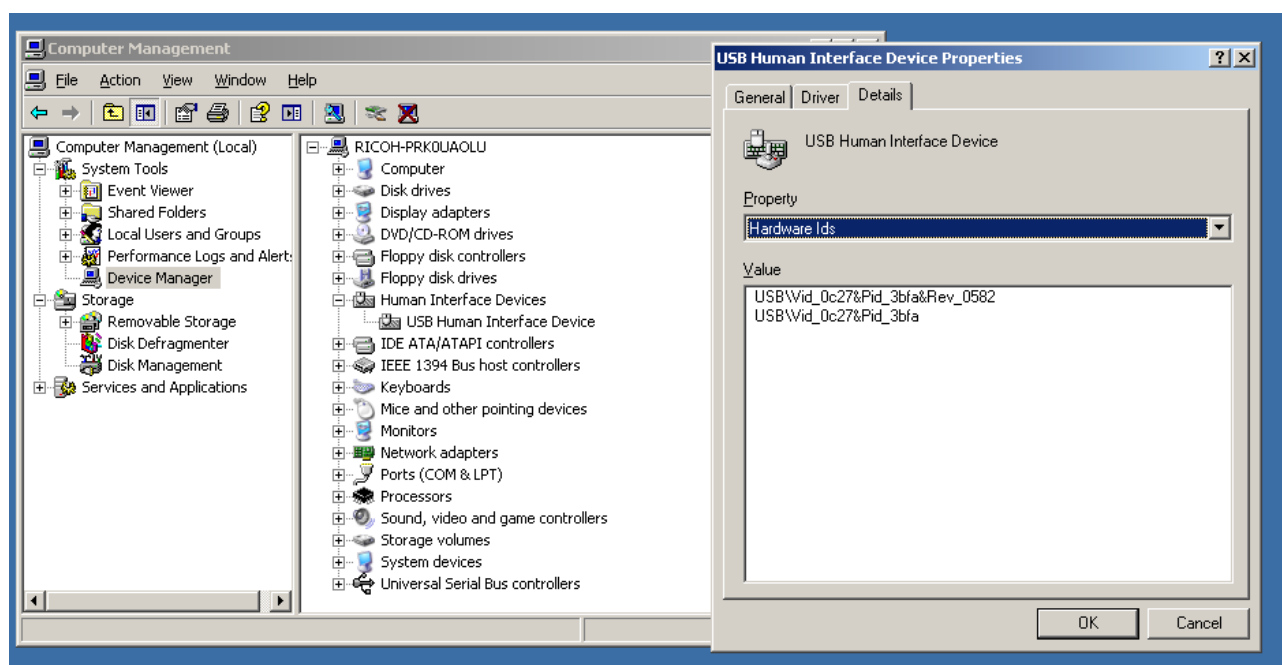
If a wrong value is obtained, check the working setting for the card reader.

1.3.3. Using another card reader than the supported card readers

If you wish to use a card reader that is not mentioned in “1.3 Supported card readers”, you might first want to check the version of the card reader. You may be able to use the card reader for the sample applications if it can obtain the card ID in the following format: Card ID<CR><LF>

1. Check the version of the card reader

1. Open **Device Manager**.
2. Select **Properties** in **Human Interface Devices**.
3. Select **Details** tab and select **Hardware Ids**.



When the value is “Vid_0c27&Pid_3bfa&Rev_0582”, it means:

Vendor ID=0c27

Product ID=3bfa

Release Version Number=0582

2. Register the information with the property file

Register the Vendor ID, Product ID, and Release Version Number with the property file.

The property file is available at: sdk/[dsdk or server]/dist/[product id]/card.reader.properties

2. Interrupt Transfer Mode Read Sample (Xlet Type)

Location : usb/sample/dsdb/dist/285409981

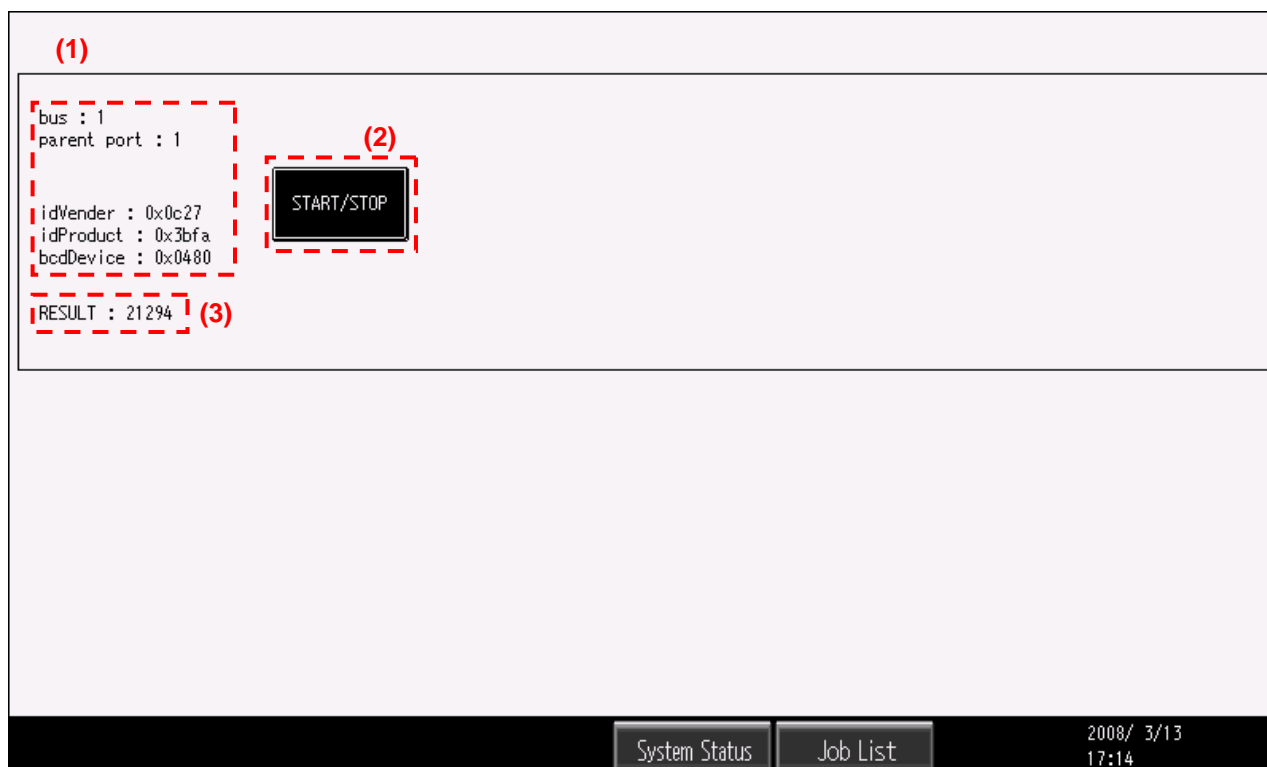
2.1. Operation environment

See "1.2 Operation environment" on page 2.

2.2. Features overview

Interrupt Transfer Mode Read Sample (Xlet Type) is an Xlet Type application that obtains card information and confirms the plug-and-play feature.

2.3. Screen image



(1) Device Information area

This area shows information about a connected device.

(2) Start/Stop button

Use this button to obtain card information.

If successful, the obtained card information will be displayed at (3) Card Information area.

(3) Card Information area

This area shows the obtained card information.

If no information could be obtained, this area shows nothing.

2.4. Usage

How to confirm the plug-and-play feature

1. Connect a usb device via a USB port to the MFP/LP.
2. The usb device will be automatically detected and displayed on the screen.

How to obtain card information

1. Press the Start/Stop button of the card reader you wish to use.
2. Set a card to the CardReader.
3. Information of the card will be obtained; the obtained card information will be displayed at (3) Card Information area.
4. Card information obtainment will be performed repeatedly each time you set a card to the card reader until you press the Start/Stop button again to stop obtaining card information.

3. Interrupt Transfer Mode Read Sample (Server Type)

Location : usb/sample/server/dist/285409982

URL : [http://\[ipaddress\]:8080/usb/index.html](http://[ipaddress]:8080/usb/index.html)

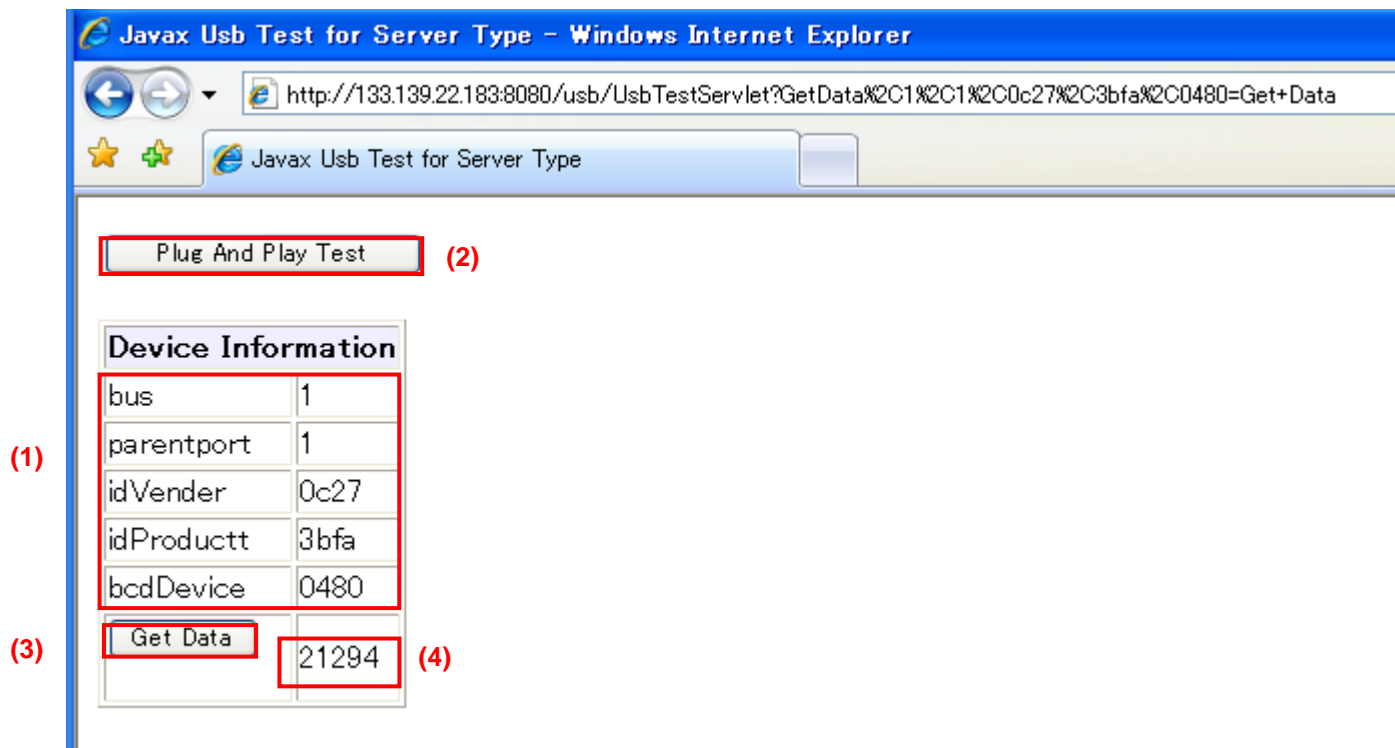
3.1. Operation environment

See "1.2 Operation environment" on page 2.

3.2. Features overview

Interrupt Transfer Mode Read Sample (Server Type) is a Server Type application that obtains card information and confirms the plug-and-play feature.

3.3. Screen image



(1) Device Information area

This area shows information about a connected device.

(2) Plug And Play Test button

Use this button to test the plug-and-play feature.

(3) Get Data button

Use this button to obtain card information.

If successful, the obtained card information will be displayed at (4) Card Information area.

(4) Card Informaiton area

This area shows the obtained card information.

If no information could be obtained, this area shows nothing.

3.4. Usage

How to confirm the plug-and-play feature

1. Connect a usb device via a USB port to the MFP/LP.
2. Press the Plug And Play Test button.
3. The usb device will be detected and displayed on the screen.

How to obtain card information

1. Press the Get Data button of the card reader you wish to use.
2. Set a card to the card reader.
3. Information of the card will be obtained; the obtained card information will be displayed at (4) Card Information area.
4. You can re-perform card information obtainment by pressing the Get Data button again.

4. Change history

Ver. 1.0.1	First issue Implementation-Version 1.0.1-1.0
Ver. 1.0.2	Second issue Implementation-Version 1.0.1-2.0 1.2. Operation environment 1.3. Card Reader 2.3. Screen image 3.3. Screen image
Ver. 1.0.3	3 rd issue Implementation-Version 1.0.1-2.0 1.2. Operation environment
Ver. 1.0.4	4 th issue Implementation-Version 1.0.1-2.0
Ver. 1.0.5	5 th issue Implementation-Version 1.0.1-2.0 1.3.1.1. RFIDeas