

“NPI SDK” for Android User Manual

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March 5th, 2024

SDK Version. 3.9.0.0

Precautions

This user manual describes the procedure for the basic printing and the status checking by using the SDK sample application for Android called “NPI SDK”.

Contents in this document is as follows.

- Pairing and connecting with the printer
(screen for the setting)
- Printer information creation
- Opening the printer
- Sample print
- Obtaining the status
- Normal printing and image printing
- Closing the printer

Other function such as obtaining extended information, barcode printing and log checking are not described in this manual.

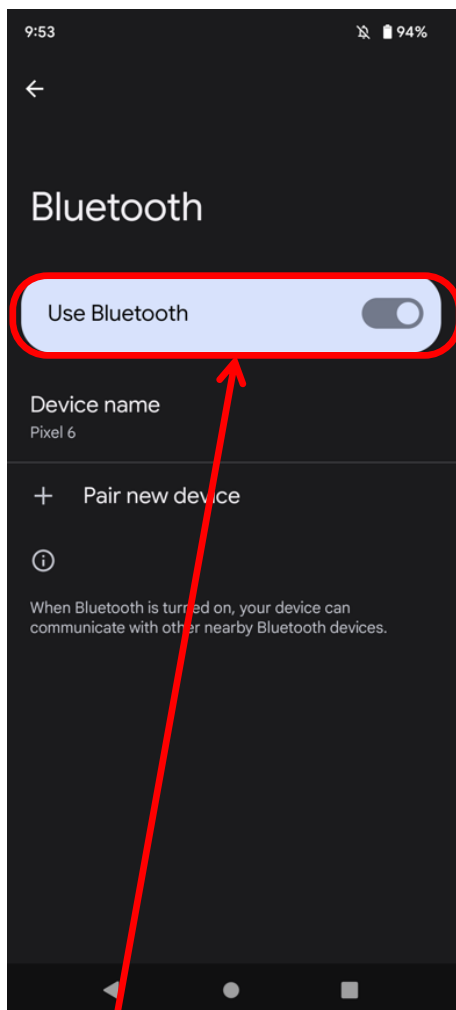
Please refer to “SDK guide (Android)” separately.

Error codes by the format of “Return Code:~” (“~“ is a number) are displayed at the top of the application after clicking each button.

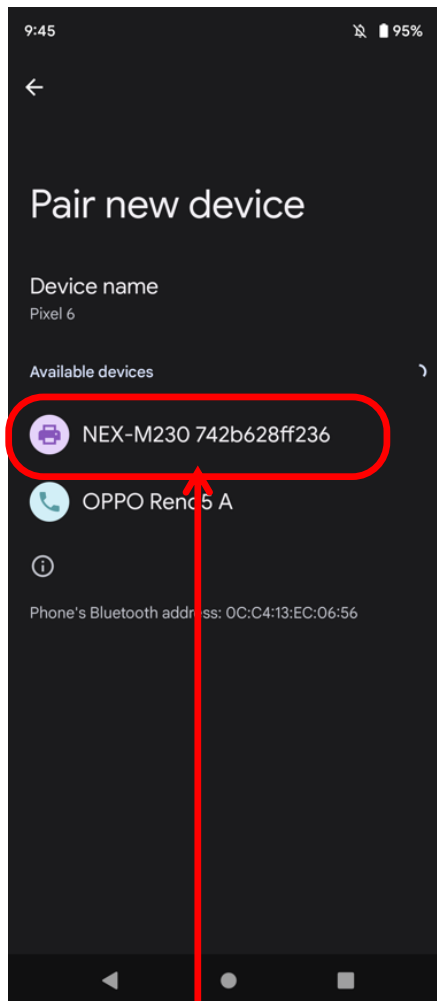
“0” indicates success and negative values are for errors. Please refer to “error code table” in SDK guide.

<Preparation for using Bluetooth connection 1 (pairing)>

Pairing can be executed from the "Setting" menu of each Android terminal.



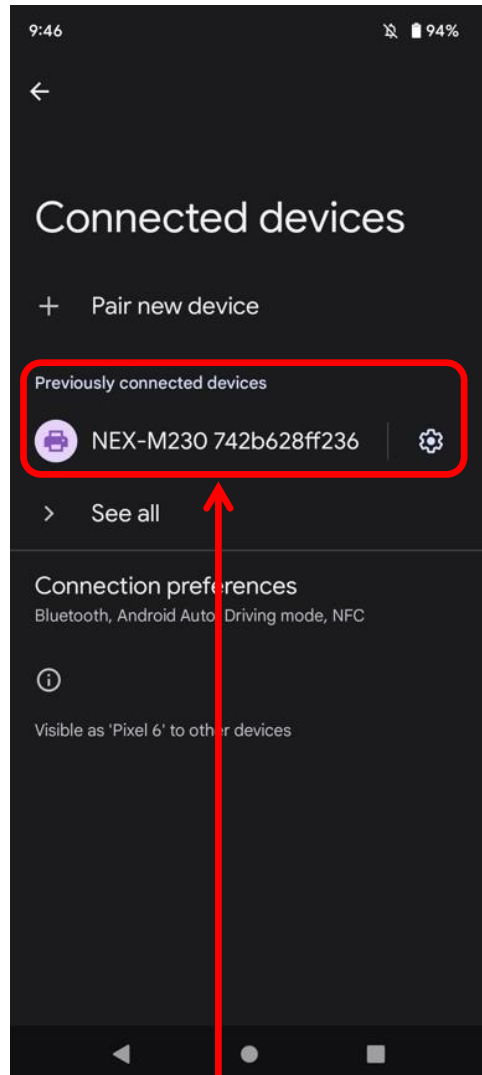
Please touch the "Bluetooth" button for making it ON.



Please execute the pairing with the printer by touching "NEX-M230".

The printer name can be changed by using the command [Bluetooth model name setting] <<GS y Dn NULL>>.

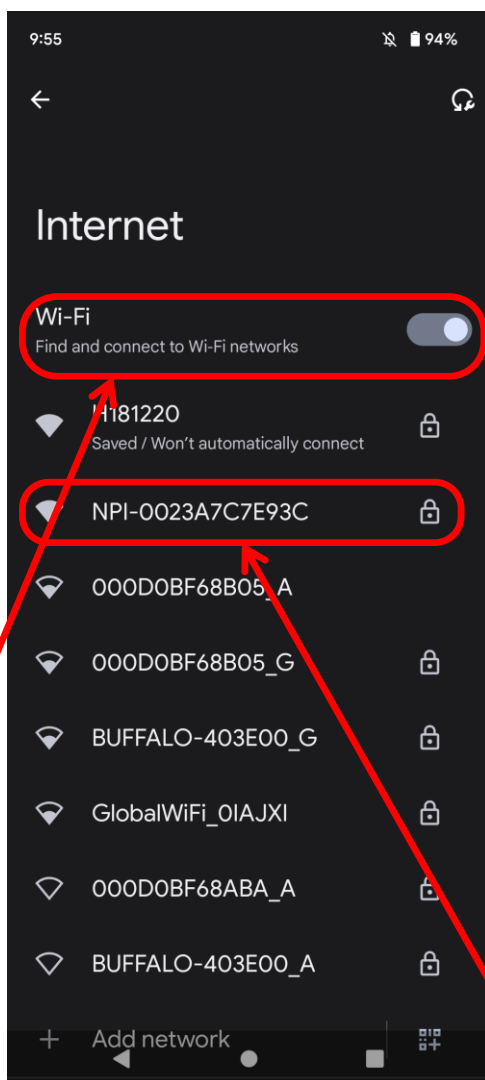
< Preparation for using Bluetooth connection 2 (pairing)>



After the pairing is executed properly, the printer name will be displayed at “paired device”.

< Preparation for using WLAN connection >

Executing Wi-Fi connection from the "Setting" menu of each Android terminal.



First, please touch the "Wi-Fi" button for making it ON.

Executing WLAN connection by touching the displayed WLAN printer. Default password is "NPI-admin".

* Notes

WLAN connection during AP mode is described above.

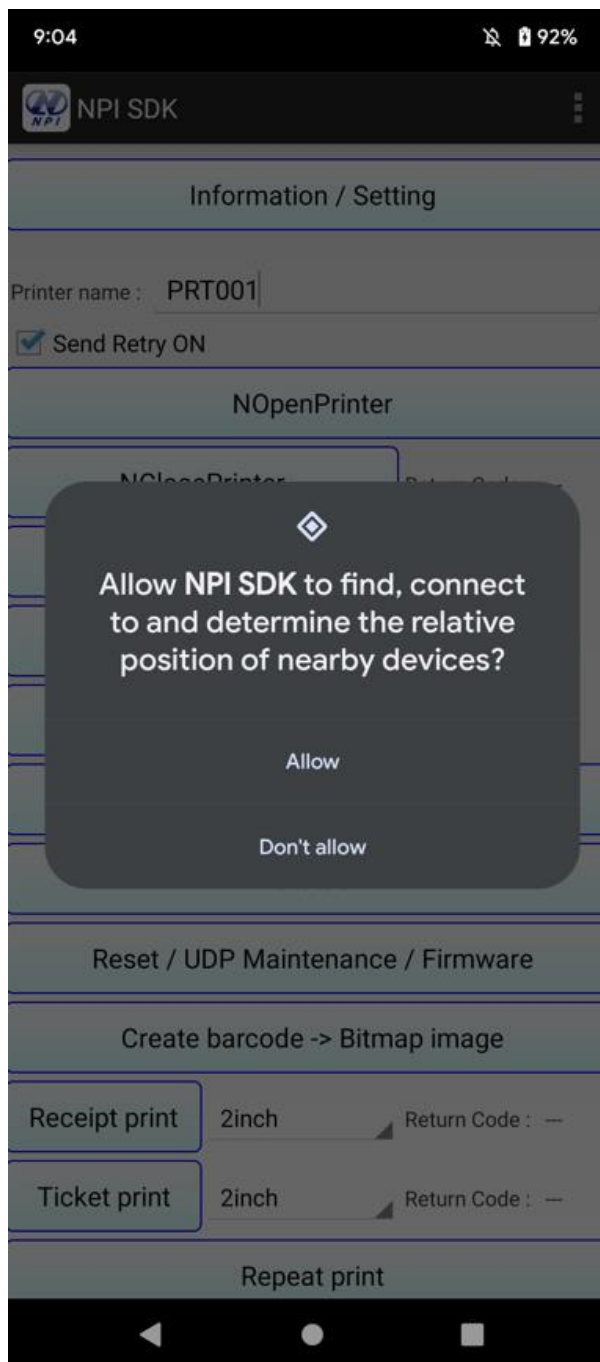
Please refer to the Product Specifications for each printer model for more details.

<Activating “NPI SDK” application 1>

Please install “NPI SDK” application from Google Play or “apk file” provided by us.

After starting this application, the following screen will appear.

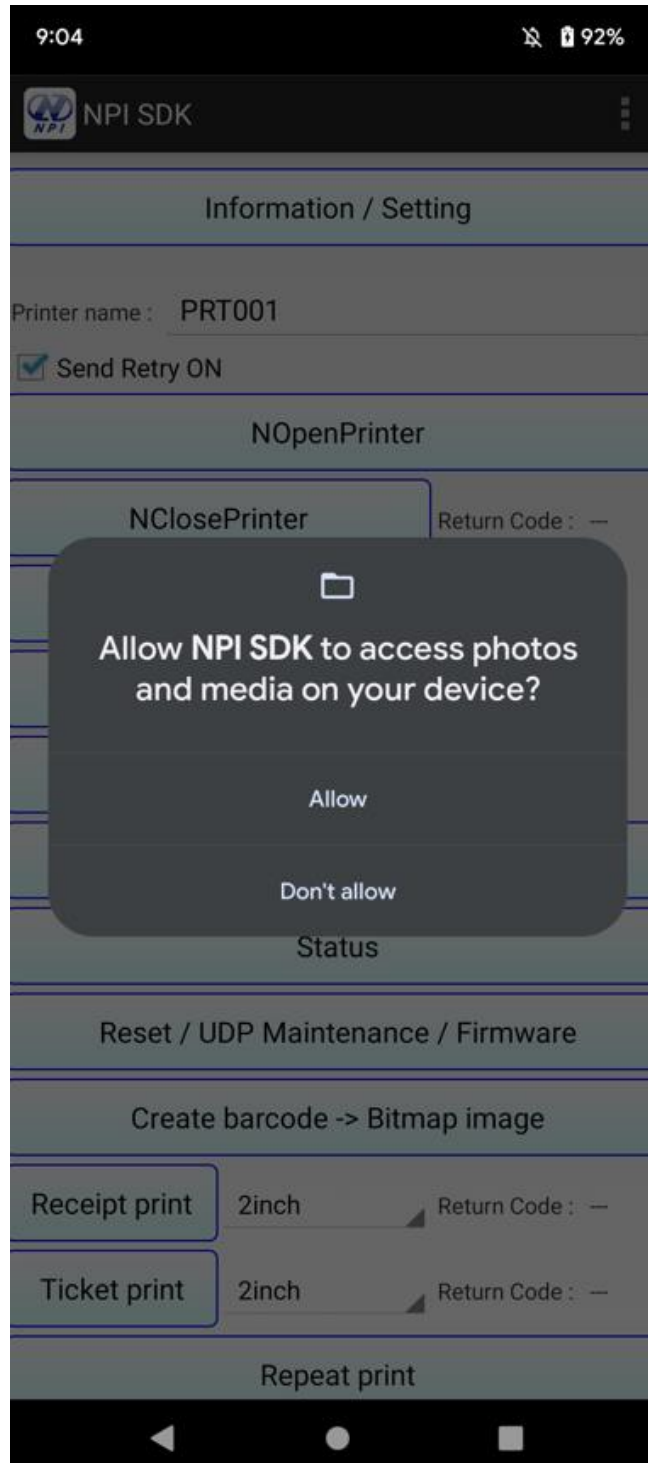
Please press “Allow” when “Allow NIP SDK to find, connect to and determine the relative position of nearby devices?” is displayed.



<Activating “NPI SDK” application 2>

The following screen will appear.

Please press “Allow” when “Allow NIP SDK to access photos and media on your device?” is displayed.

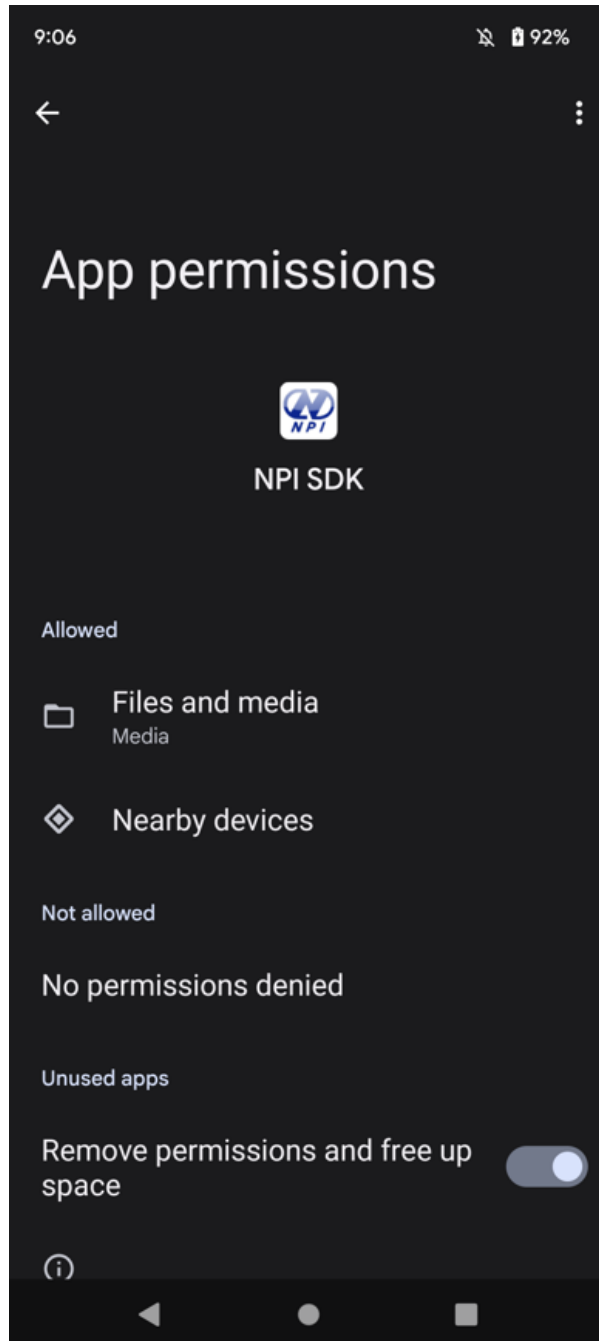


<Activating “NPI SDK” application 3>

If “Allow” is not pressed in the previous screen, please permit the “Files and media” and “Nearby devices” authority by the Android terminal ‘e.g. : Google Pixel 6) in the following screen.

➔ ”App permissions” in “NPI SDK”

* Application authority setting differs depending on the Android terminal.



<Activating “NPI SDK” application 4>

After authority is permitted the following screen will be displayed.
Please push “Information / Setting” button at the top.

 NPI SDK

Information / Setting

Printer name : PRT001

☒ Send Retry ON

NOpenPrinter

NClosePrinter

Return Code : ---

NClosePrinters(All Close)

Return Code : ---

NSetUSBProtocol

0

NInitializeNetwork

ON

Print / File image

Status

Reset / UDP Maintenance / Firmware

Create barcode -> Bitmap image

Receipt print

2inch

Return Code : ---

Ticket print

2inch

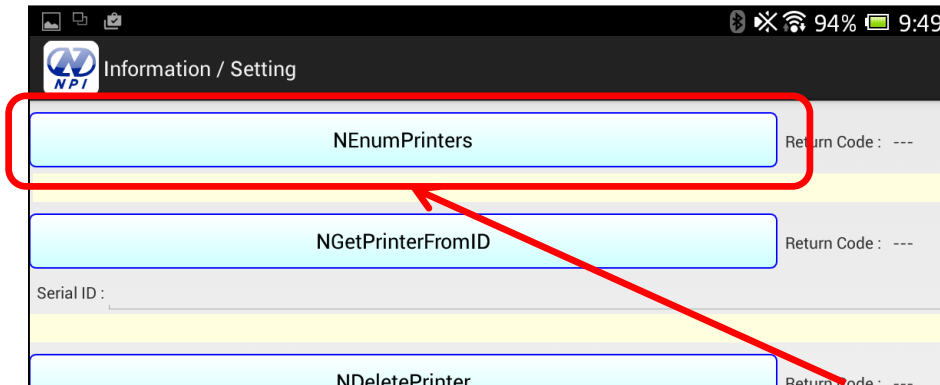
Return Code : ---

Repeat print

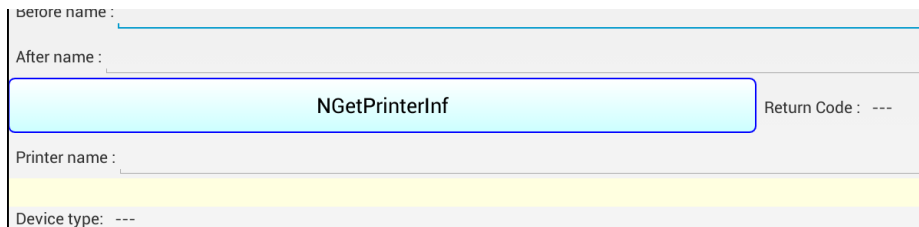
Application close

<Bluetooth / USB printer information creation>

The following screen will appear by touching “Information / Setting” button.



Once the information of names of printers is created by using the function “NEnumPrinters”, it can be used until it is deleted by using the function “NDeletePrinters”.



Please touch “NEnumPrinters” button after executing pairing and connecting to the printer successfully.

The printer name “PRTxxx” (“xxx” is filled with numbers.) will be issued in the yellow colored box if it is connected to the printer.

When it is paired with multiple printers or connected to multiple printers, multiple printer names will be issued with separated by commas (e.g. PRT001, PRT002).

When deleting the printer information created by “EEnumPrinters”, please touch “NDeletePrinter”.

When obtaining the information of issued printer names, please touch the “NGetPrinterInf” button after inputting the printer name in the white colored box under “NGetPrinterInf” button.

Please touch “Back” button for returning to the previous screen after creating the printer name.

<WLAN printer information creation 1>

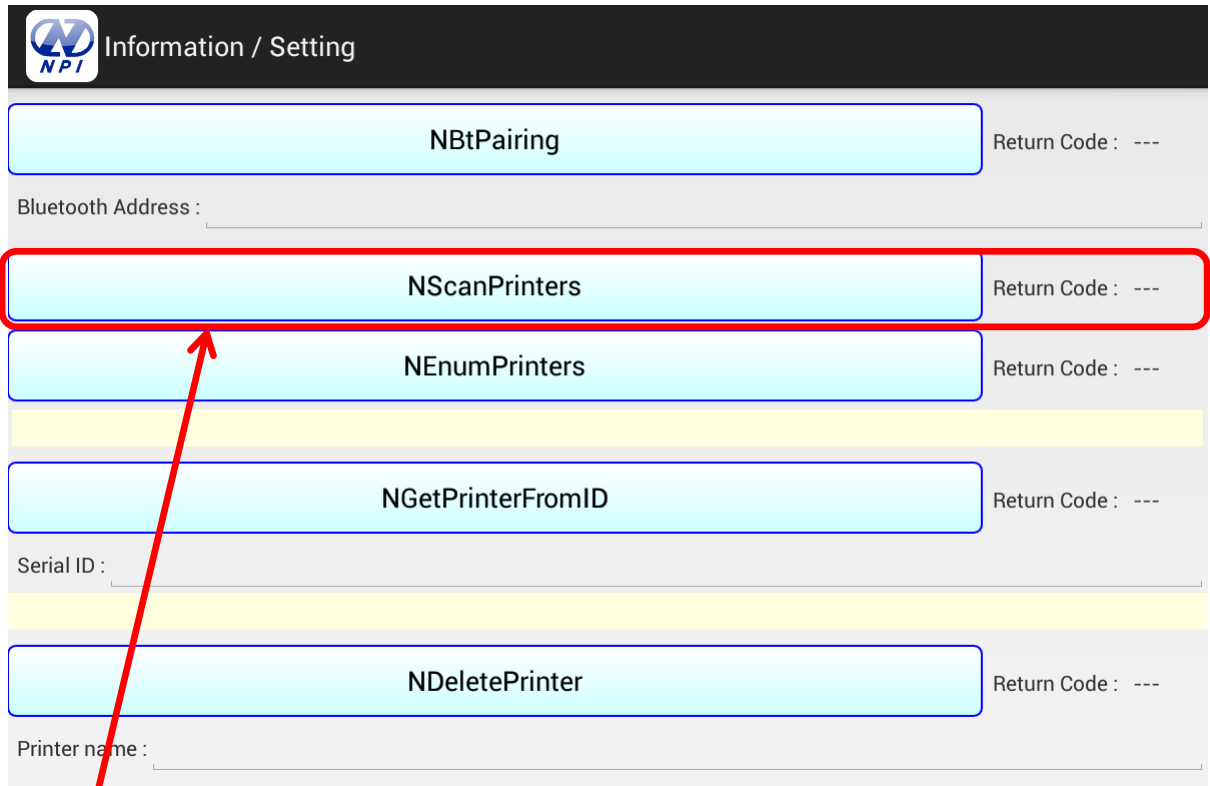
Please execute it by touching the “NInitializeNetwork” button

NOpenPrinter	
NClosePrinter	Return Code : ---
NClosePrinters(All Close)	Return Code : ---
NSetUSBProtocol	0 ---
NInitializeNetwork	ON ---
Print / File image	

This step is mandatory for connecting the printer with WLAN connection.
Once this is set to “ON”, it will be effective until it is turned to “OFF”.
Please leave it “OFF” when the connection with WLAN is not used.
(Default setting is “OFF”).

<WLAN printer information creation 2>

The following screen will appear by touching “Information / Setting” button.



The screenshot shows a mobile application interface titled "Information / Setting" with an NPI logo. It contains four main sections, each with a light blue button and a "Return Code : ---" label. The first section is "NBtPairing" with a "Bluetooth Address :" input field. The second section is "NScanPrinters", which is highlighted with a red border and a red arrow pointing to it. The third section is "NEnumPrinters" with a "Serial ID :" input field. The fourth section is "NDeletePrinter" with a "Printer name :" input field. The background has alternating light gray and light yellow horizontal stripes.

Function	Return Code
NBtPairing	---
NScanPrinters	---
NEnumPrinters	---
NGetPrinterFromID	---
NDeletePrinter	---

Please touch the “NScanPrinters” button in this screen after connecting the printer with Wi-Fi connection.

Printers connected to network from SDK will be detected.

<WLAN Printer information creation 3>

The screenshot shows a software interface with several sections. At the top, there's a section for 'NDeletePrinter' with a 'Return Code : ---' field. Below it is a section for 'NRenamePrinter' with 'Before name :', 'After name :', and 'Return Code : ---' fields. A modal dialog box is centered on the screen, featuring the NPI logo and the title 'NScanPrinter count'. The dialog displays 'Result:0 Printer count:1' and an 'OK' button. A red arrow points from the dialog box to a text box in the background labeled 'NAutoOpen'. Below the dialog, there are sections for 'File path check' and 'Default setting file create'.

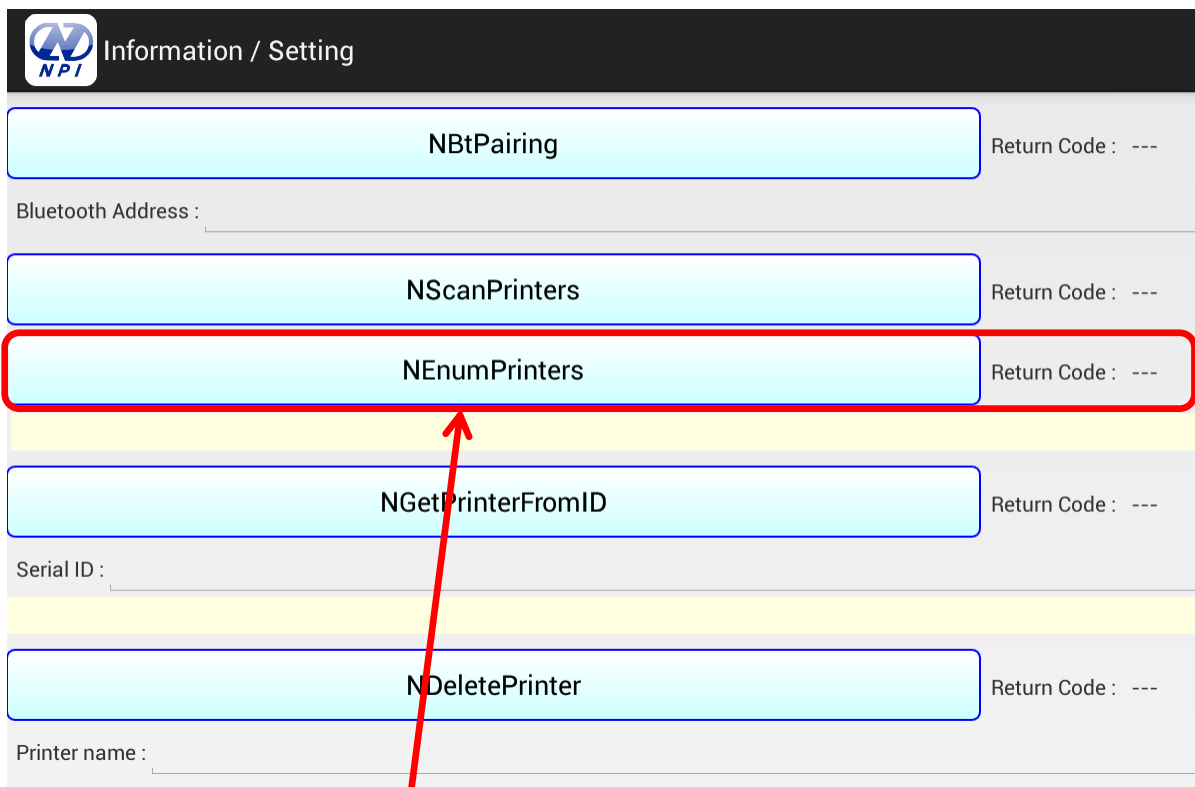
The dialog box above will appear after by waiting for a while after touching the “NscanPrinters” button.

The result of detection is displayed as “Result “ and the numbers being detected is displayed as “Printer count”.

TCP/UDP(WLAN) printer cannot be used if no printer is detected.

Please check that whether a WLAN printer can be detected by scanning again, restarting application and changing network settings.

<WLAN Printer information creation 4>



The screenshot shows the 'Information / Setting' screen of the NPI application. It contains five main sections, each with a button and a return code field:

- NBtPairing** (Return Code : ---) with a Bluetooth Address input field below it.
- NScanPrinters** (Return Code : ---)
- NEnumPrinters** (Return Code : ---) - This button is highlighted with a red border, and a red arrow points to it from the text block below.
- NGetPrinterFromID** (Return Code : ---) with a Serial ID input field below it.
- NDeletePrinter** (Return Code : ---) with a Printer name input field below it.

**Please touch “NEnumPrinters” button after scanning printers.
(Printer information will be created when the number of detected
printers by scanning is “0”).**

**The printer name “PRTxxx” (xxx is filled with numbers.) will be
issued in the purple colored box if it is connected to the printer.**

**If a printer name is not displayed even when it is connected, please
finish the “NPI SDK” application from the task and retry it after
restarting.**

**In order to check the information for issued printers, please enter
the printer name in the white box under “NGetPrinterInf” button and
touch the “NGetPrinterInf” button.**

**Please touch the “Back” button after creating the printer name for
returning to the previous screen.**

<Opening the printer>

Communication with the printer can be started by opening the printer after creating the printer name by “NEnumPrinters”.

Printer name : PRT001

☒ Send Retry ON

NOpenPrinter

NOpenResult Return Code : ---

NClosePrinter Return Code : ---

NClosePrinters(All Close) Return Code : ---

NSetUSBProtocol 0

Please enter the printer name (issued by “NEnumPrinters”) in the “Printer name” box and touch the “NOpenPrinter” button.

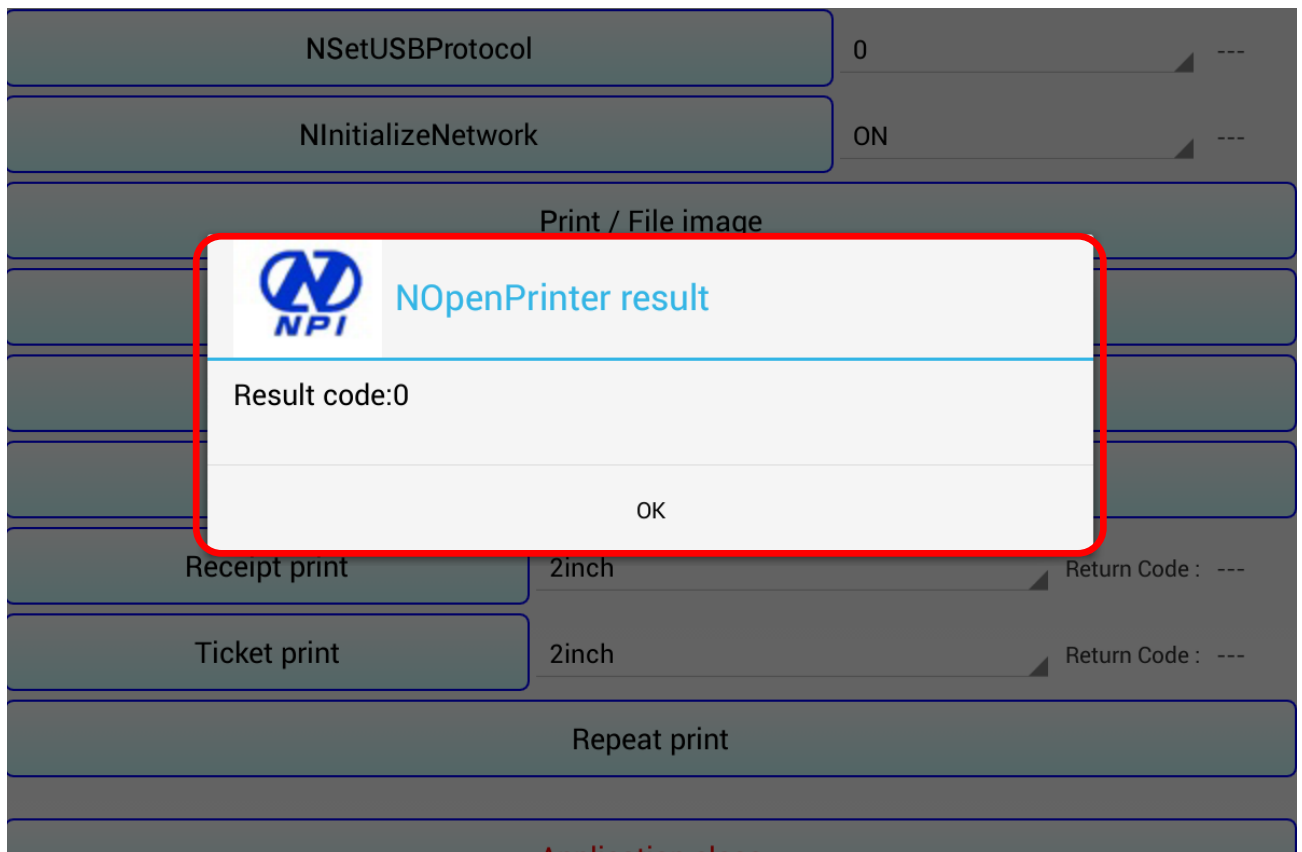
•In case of connecting with USB interface, please click “OK” in the following pop-up dialogue. (It will not be displayed when it is connected with Bluetooth interface.)

NPI SDK

アプリ「NPI SDK」にUSB機器へのアクセスを許可しますか?

☐ このUSBデバイスに標準で使用する

キャンセル OK



After that, the result of “NOpenPrinter” is displayed in the dialog by the callback notification. (Since this opening process proceeds asynchronously, It will take a while.)

When the opening process is executed the successfully, the return code “0” will appear in the screen above.

When it fails, the return code will be a negative value.

When it has already been connected, it will be “10”.

<Sample printing>

- Printing can be executed and statuses can be obtained after the connection is established by “NOpenPrinter”.

The screenshot displays the NPI SDK application interface. At the top, the status bar shows connectivity icons, 94% battery, and the time 9:49. The app header is 'NPI SDK'. Below it is a section titled 'Information / Setting'. In this section, the 'Printer name' is set to 'PRT001' and the 'Send Retry' checkbox is checked. Below the settings are several function buttons: 'NOpenPrinter', 'NOpenResult' (with 'Return Code : ---'), 'NClosePrinter' (with 'Return Code : ---'), 'NClosePrinters(All Close)' (with 'Return Code : ---'), and 'NSetUSBProtocol' (with a value of '0' and '---'). A red text box with a white background is overlaid on the interface, containing the text: 'The receipt sample is printed by touching the “Receipt print” button and the ticket sample is printed by touching the “Ticket print” button.' Below this, another red text box says 'Please select 2inch or 3inch.' A third red text box states '*The ticket samples are printed in the page mode.' At the bottom, there are three more buttons: 'Receipt print' (with a '2inch' dropdown and 'Return Code : ---'), 'Ticket print' (with a '2inch' dropdown and 'Return Code : ---'), and 'Repeat print'. A red rectangle highlights the 'Receipt print' and 'Ticket print' buttons and their associated dropdowns and return codes. At the very bottom is an 'Application close' button.

Information / Setting

Printer name : PRT001

☒ Send Retry ON

NOpenPrinter

NOpenResult Return Code : ---

NClosePrinter Return Code : ---

NClosePrinters(All Close) Return Code : ---

NSetUSBProtocol 0 ---

The receipt sample is printed by touching the “Receipt print” button and the ticket sample is printed by touching the “Ticket print” button.

Please select 2inch or 3inch.

*The ticket samples are printed in the page mode.

Receipt print 2inch Return Code : ---

Ticket print 2inch Return Code : ---

Repeat print

Application close

<Status check>

The following screen will appear by touching the “Status” button.

Printer status

NGetStatus Return Code : ---

Auto Status

Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0

NGetInformation Return Code : ---

Extend Info No : 1

The results are displayed here.

Back

The status monitoring will start by touching the “NGetStatus” button.

“Bit1” will be displayed in red by opening the cover of the printer in status monitoring.

“Bit2” will be displayed in red when the paper end is detected.

<Normal printing / Image printing>

The following screen will appear by touching the “Print/File image” button.

 Data output

NPrint	Return Code : ---
"NPI SDK test!!"0A	
NDPrint(Cut test)	Return Code : ---
NImagePrintF	Return Code : ---
Image file path : /storage/emulated/0/npi/doiya1.png	Raster line
NStartDoc	Return Code : ---
NEndDoc	Return Code : ---
	Return Code : ---

Normal printing is executed by “NPrint”.

Please execute the command in the frame under the button.

Image print is executed by “NimagePrintF”.

Please enter a path of the file to print inside the frame.

Raster line, raster block, raster gray scale expression and bit image can be selected for the printing mode of image print.

Since many memory resources will be used by reading the file during the image printing, Bluetooth connection may become unstable.

Please use fixed bit image when printing the fixed image such as a logo on the receipt.

<Close printer>

Please close the printer for stopping communication to the printer.

NPI SDK

Information / Setting

Printer name : PRT001

☒ Send Retry ON

NOpenPrinter

NOpenResult Return Code : ---

NClosePrinter Return Code : ---

NClosePrinters(All Close) Return Code : ---

NSetUSBProtocol 0 ---

Print / File image

Status

Reset / Firmware

Create barcode -> Bitmap image

**Please touch the “NClosePrinter” button after entering the printer name (obtained by “NEnumPrinters”) in the frame under the “Information /Setting” button.
Return code “0” will be returned when it is executed successfully.
When it is already disconnected, error code “-22” will be returned.**