Panasonic NFC-tag Development kit
Installation Manual
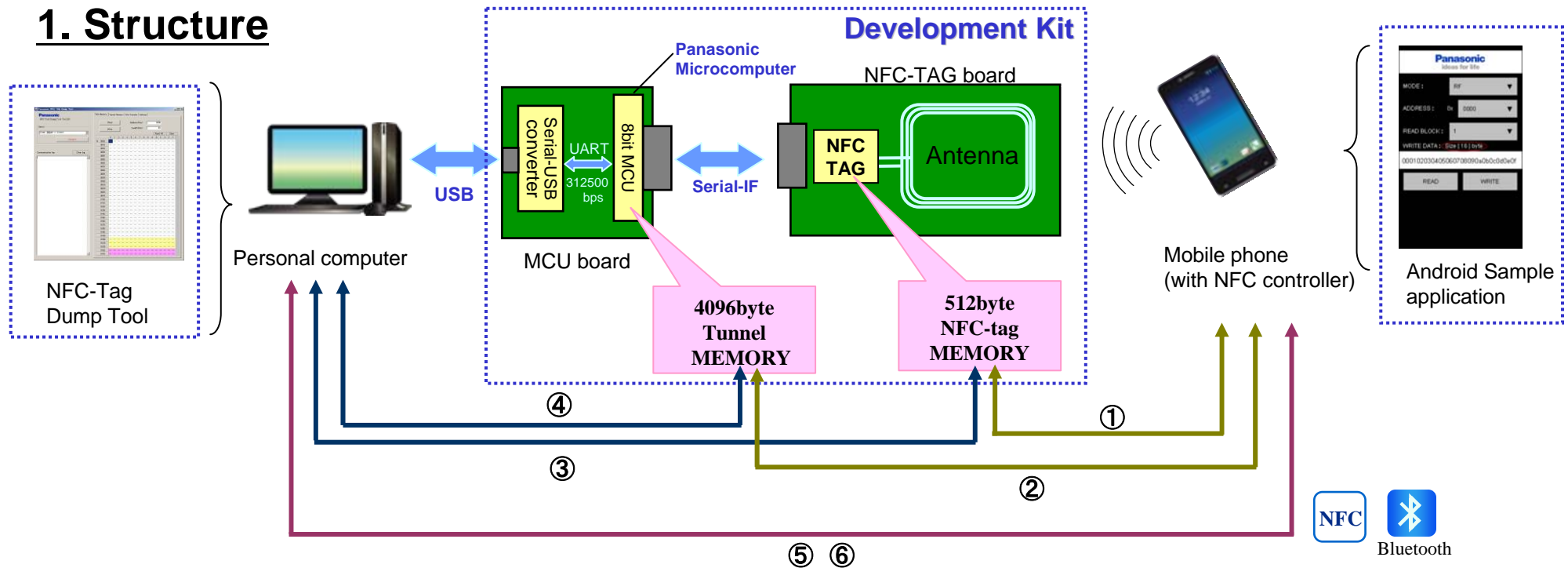
Ver 2.30

Automotive & Industrial Systems Company
Panasonic Corporation

2013/10/25

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Development kit ~ Outline(1)

1. Structure

NFC-Tag Dump Tool

Personal computer

USB

MCU board

Serial-USB converter

UART 312500 bps

8bit MCU

Panasonic Microcomputer

Serial-IF

Development Kit

NFC-TAG board

NFC TAG

Antenna

Mobile phone (with NFC controller)

Android Sample application

4096byte Tunnel MEMORY

512byte NFC-tag MEMORY

④

③

②

①

⑤ ⑥

NFC   Bluetooth

※ Tunnel memory = microcomputer memory
※ Serial-IF : [MN63Y1208 / MN63Y1213] I2C 100Kbps
             [MN63Y1210A] UART 9600bps,38400bps / Clock Synchronous Serial 1Mbps

2. Function

①Read/Write NFC-tag memory from mobile phone with NFC function
②Read/Write Tunnel memory from mobile phone with NFC function
③Read/Write NFC-tag memory from PC(microcomputer)
④Read/Write Tunnel memory from PC
⑤Write Files from mobile Phone to PC by NFC
⑥Write Files from mobile Phone to PC by Bluetooth (Send Pairing information by NFC)

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3. Software Version

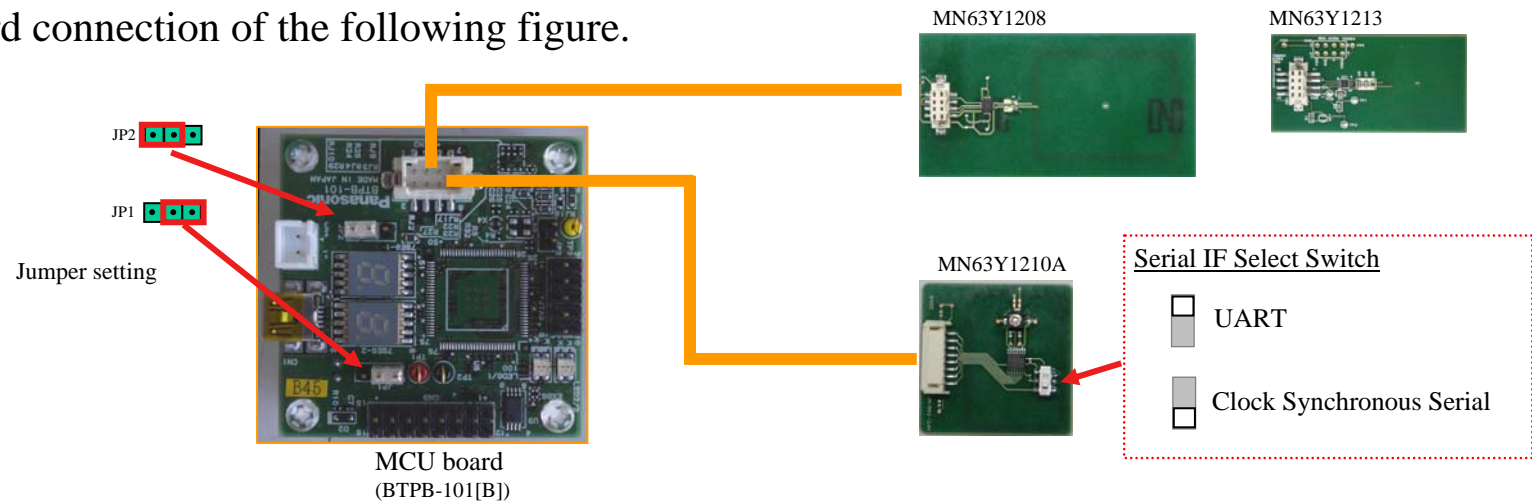In this document, we have assumed the use of the following software.

Software		Version	File Name	Outline
Microcomputer Software		2.20	— ※It is written to the Microcomputer board	Control Software of the Microcomputer Board
PC Software		2.30	NFCTAG_DumpTool_v230.exe	Read/Write memory of NFC-TAG / Microcomputer form PC
Android Software	Read/Write	1.50	Panasonic_TagReaderWriterFBRT_v150.apk	Read/Write memory of NFC-TAG / Microcomputer from Mobile Phone
	File Transfer	1.50	Panasonic_TagFileTx_v150.apk	Write Files(photo data) from mobile Phone to PC
	NFC-TAG setting	1.50	Panasonic_TagSetting1208_v150.apk	MN63Y1208 Setting
		1.50	Panasonic_TagSetting1210_v150.apk	MN63Y1210A Setting
		1.50	Panasonic_TagSetting1213_v150.apk	MN63Y1213 Setting

Installation (1)

Step1. board Setting

Please refer board connection of the following figure.

MN63Y1208   MN63Y1213

JP2

JP1

Jumper setting

MN63Y1210A

Serial IF Select Switch

☐ UART

☐ Clock Synchronous Serial

MCU board
(BTPB-101[B])

Step2. install driver and Application (for PC)

(1)Please download and install drivers from the following sites.

- Microsoft .NET Framework 4 Client Profile
  download site   http://www.microsoft.com/en-us/download/details.aspx?id=17113

- Virtual COM Port Driver   (FTDI)
  download site   http://www.ftdichip.com/Drivers/VCP.htm
  ※Since a driver demand screen is displayed at the time of board connection to the PC,
    please specify the downloaded driver.

(2)Please copy an application file to a personal computer.

Sample Application : NFCTAG_DumpTool_vXXX.exe

※Target OS: Microsoft Windows XP SP3 / Windsows 7

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Installation (2)

(3)Please download and install the library file from the following site. (for Bluetooth Control)

- 32feet.NET　(http://32feet.codeplex.com/)
    download site　http://32feet.codeplex.com/downloads/get/386489
        ※ file name : 32feet.NET 3.5.zip
    ・PC Application needs the library file that is included in "32feet.NET 3.5.zip".　(**InTheHand.Net.Personal.dll**)
    ・Please install the library file (**InTheHand.Net.Personal.dll**) in the same directory as the PC Application.

Install Step (run Steup.exe)

Input install folder

InTheHand.Net.Personal.dll
is installed in the "**NET**"
folder in a specification folder.
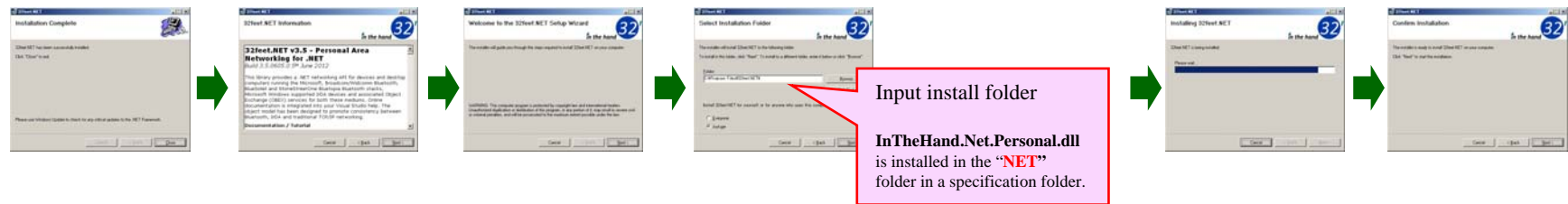
※When using Bluetooth, Bluetooth function is required for the personal computer.
We use following USB-Bluetooth Adapter
BT-MicroEDR2X　(PLANEX COMMUNICATIONS INC.)

http://www.planex.co.jp/product/bluetooth/bt-microedr2x/

About the Bluetooth driver
OS standard driver of Microsoft should be used for the Bluetooth driver.

Bluetooth Icon

Microsoft standard driver
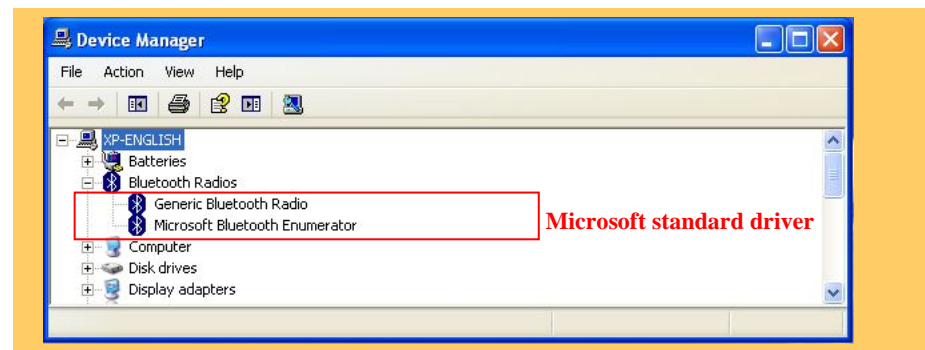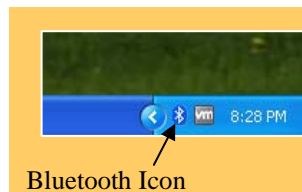
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Installation (3)

Step3. install Android Application

Please install Android Application to the mobile Phone

Android Sample Application

    ・Panasonic_TagReaderWriterFBRT_vXXX.apk   (Read/Write Sample Application)

    ・Panasonic_TagFileTx_vXXX.apk   (File Transfer Sample Application)
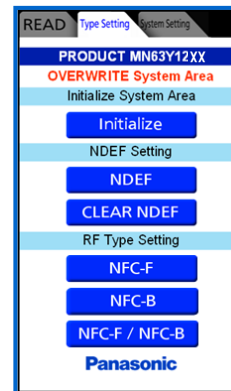
    ・Panasonic_TagSettingXXXX_vXXX.apk   (MN63Y1208/1210A/1213 Tag Setting Application)
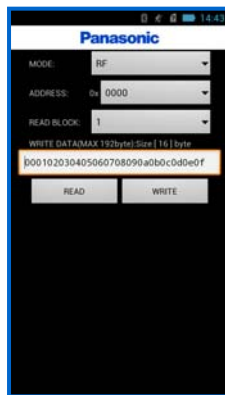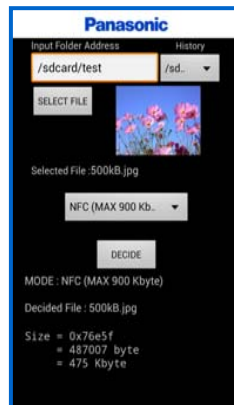
TagReaderWriterFBRT   TagFileTx   TagSetting1208 / TagSetting1213   TagSetting1210
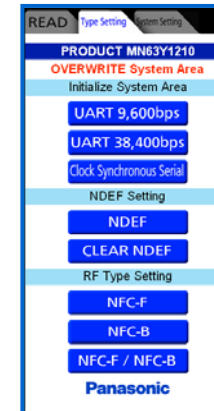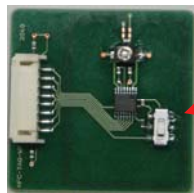
Installation (4)

Step4. Antenna setup

Please set up the serial communicate mode of the Antenna board. (MN63Y1210A only)

■MN63Y1210

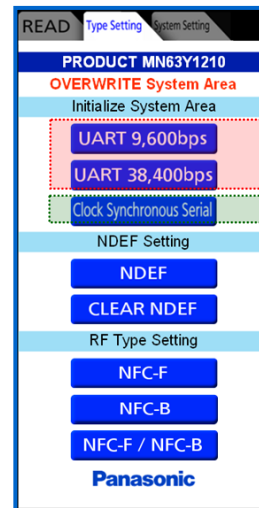Serial Type   : UART / Clock Synchronous Serial

(1)Board Setting

MN63Y1210

Serial IF Select Switch

☐ UART

☐ Clock Synchronous Serial

(2)Serial Type Setting

READ Type Setting System Setting
PRODUCT MN63Y1210
OVERWRITE System Area
Initialize System Area
UART 9,600bps
UART 38,400bps   → UART
Clock Synchronous Serial → Clock Synchronous Serial
NDEF Setting
NDEF
CLEAR NDEF
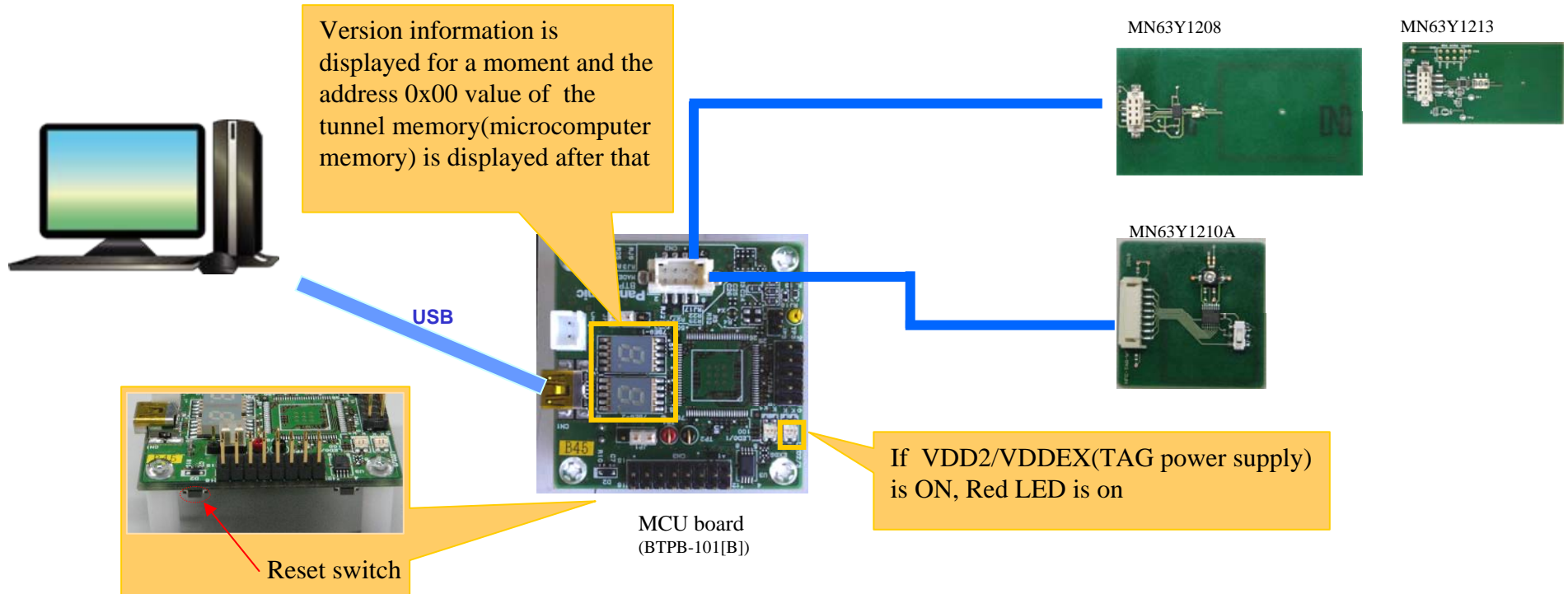RF Type Setting
NFC-F
NFC-B
NFC-F / NFC-B
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It initializes using the application for a Tag setup
(Panasonic_TagSetting1210)

(1) A mobile phone is brought close to TAG after starting application

(2) Push button

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Step5. Connection with a PC

Please connect a board with a personal computer using a USB cable.

Version information is displayed for a moment and the address 0x00 value of the tunnel memory(microcomputer memory) is displayed after that

MN63Y1208

MN63Y1213

MN63Y1210A

USB

If VDD2/VDDEX(TAG power supply) is ON, Red LED is on

MCU board
(BTPB-101[B])

Reset switch

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How to use (PC Application)

Step6. Start PC Sample Application

Select
(1) TAG Power supply mode
(2) Log mode
　・Enable All Log
　・Disable Log　　(The file Transfer mode is disabled)
　※Please select "Enable File Transfer Log" to perform the file transfer
　　where log display is disabled

■connect to target board

STEP1
　Select virtual COM port
　(connect to the board)

STEP2
　push "Connect" button

STEP3
　push the reset switch of the board.

STEP4
　A starting log is displayed

Tunnel memory

NFC-Tag memory

File Transfer

■Read/Write memory

STEP5
　Input memory Address
　(16-byte alignment hexadecimal number)

　※A click of a cell will input an address automatically.

STEP6
　Input Length (hexadecimal number)

　[NFC-Tag Memory]
　　Read   0x01 ～ 0x200   [1～512 byte]
　　Write   0x01 ～ 0xFB   [1～251 byte]

　[Tunnel Memory]
　　Read   0x01 ～ 0x1000   [1～4096 byte]
　　Write   0x01 ～ 0xFF   [1～255 byte]

STEP7
　push "Read" or "Write" button

　※before you write, please set value to cell.

USER AREA
CONFIG AREA
SYSTEM AREA

It is possible to copy(Ctrl+C) and
paste(Ctrl+V) while selecting cells

How to use （PC Application）

PC Sample Application(File Transfer)

If the mobile phone that is performing android application (Panasonic_TagFileTx) is brought close to NFC-TAG, a file transfer will be started automatically and information will be displayed on the "file Transfer" tab.
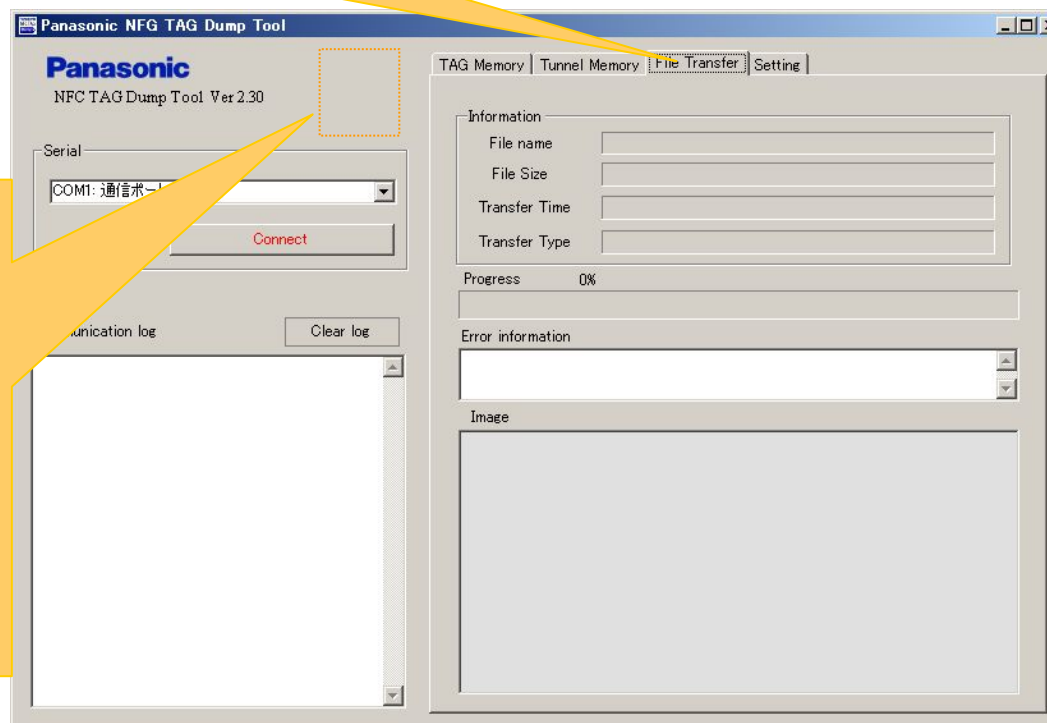
The following icon is displayed during a file transfer by Bluetooth.
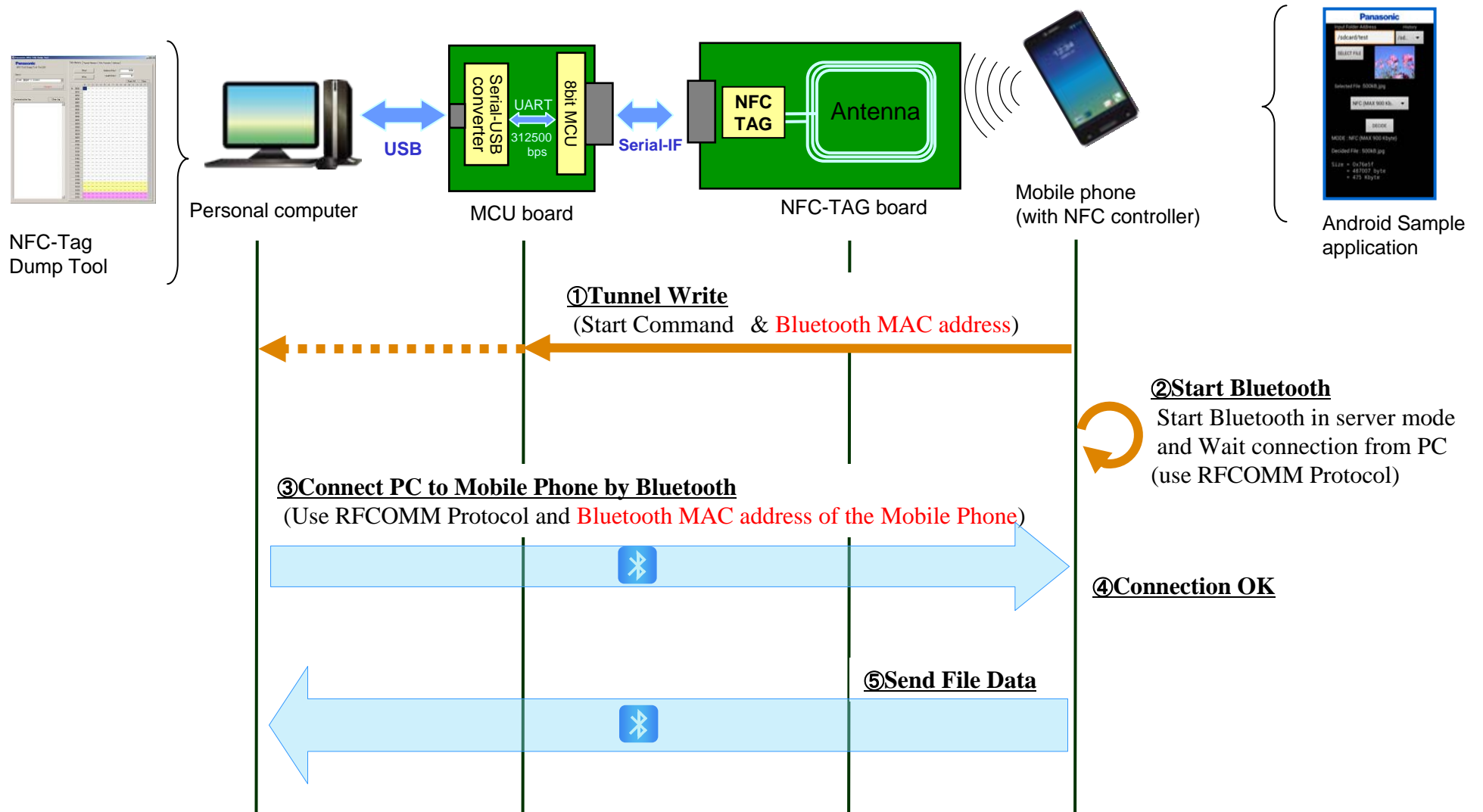
Waiting for Bluetooth connection

file transfer by Bluetooth

How to use   (PC Application)

※Bluetooth File Transfer Sequence

NFC-Tag
Dump Tool

Personal computer

Serial-USB converter

UART
312500 bps

8bit MCU

USB

Serial-IF

MCU board

NFC TAG

Antenna

NFC-TAG board

Mobile phone
(with NFC controller)

Android Sample application

①Tunnel Write
(Start Command   & Bluetooth MAC address)

②Start Bluetooth
Start Bluetooth in server mode
and Wait connection from PC
(use RFCOMM Protocol)

③Connect PC to Mobile Phone by Bluetooth
(Use RFCOMM Protocol and Bluetooth MAC address of the Mobile Phone)

④Connection OK

⑤Send File Data

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Change history

Version	Date	Changed Item
2.00	2012/11/22	New creation
2.20	2013/09/05	Version up all PC/Android applications.
2.21	2013/10/03	Added MN63Y1213
2.30	2013/10/25	Version up PC application. Added Information of Software Version.

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