

# Panasonic NFC-TAG Development kit Installation Manual

Version 2.70

May 11, 2016

**Panasonic Semiconductor Solutions Co., Ltd.**

# Contents

---

■ Summary	.....	3
■ Setup procedure	.....	5
■ Usage	.....	15



## Summary of Development kit (2)

### 3. Software Version

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

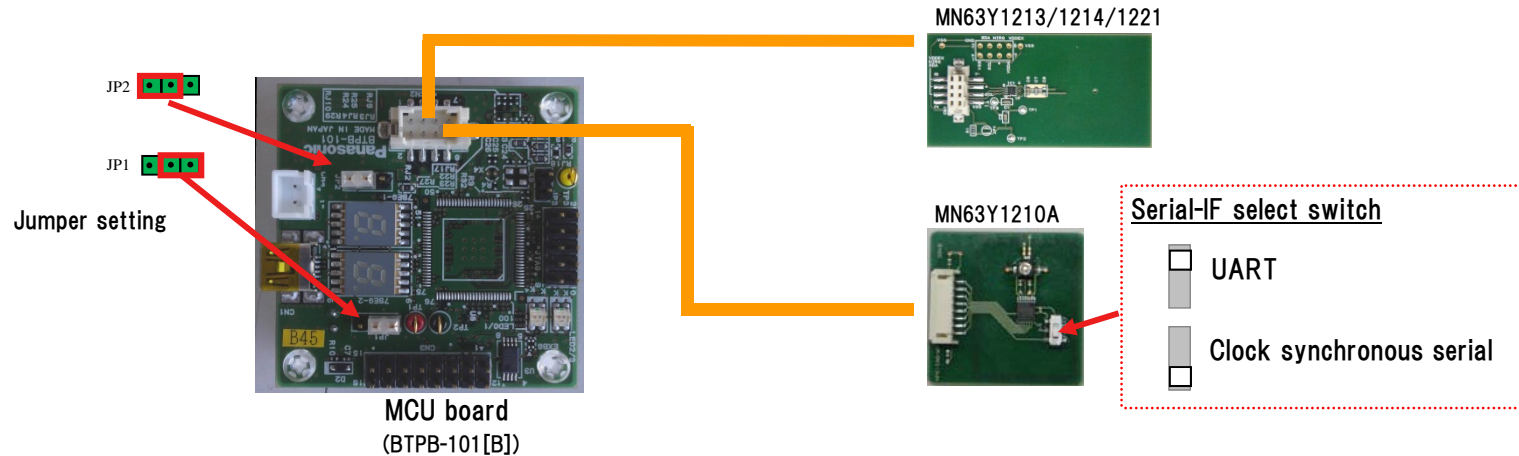
Software		Version	File Name	outline
Microcomputer Software		2.42	※It is written in the MCU board	Microcomputer board control software
PC Software (control MCU board)		2.50	NFCTAG_DumpTool_v250.exe	Read/Write the NFC-TAG/MCU memory from PC
		3.5.605	InTheHand.Net.Personal.dll	Control the Bluetooth adapter when performing the file transfer by Bluetooth ※About how to obtain, please refer to [setup procedure (3)]
		1.0.1	NfcWifiCtrl.dll	Control the WiFi adapter when performing the file transfer by WiFi
PC Software (control PC-R/W)		1.50	NFCTAG_DumpTool_PCSC_V150.exe	Read/Write the NFC-TAG/MCU memory from PC-R/W (Sony PaSoRi) that is connect to the PC
		2.2.2	NfcRW.dll	Control the 'PaSoRi' made by SONY Corporation
Android Application	Read/Write	1.51	Panasonic_TagRW_v151.apk	Read/Write the NFC-TAG/MCU memory from mobile phone
	File transfer	1.55	Panasonic_TagFileTx_v155.apk	transfer the files such as photos to the PC from the mobile phone
	NFC TAG setting	1.50	Panasonic_TagSetting1210_v150.apk	MN63Y1210A TAG setting
		1.50	Panasonic_TagSetting1213_v150.apk	MN63Y1213 TAG setting
		1.54	Panasonic_TagSetting1214_v154.apk	MN63Y1214 TAG setting
		1.01	Panasonic_TagSetting1221_v101.apk	MN63Y1221 TAG setting

## Development kit setup procedure

# Setup procedure (1)

## Step1. Board setting

Refer board connection of the following figure.



## Step2. Install driver and application (for PC)

(1) Copy an application file to a personal computer.

Sample application : NFCTAG\_DumpTool\_vXXX.exe

※Supported OS : Microsoft Windows 7 SP1

(2) Download and install [.NET Framework] from the following site.

•Microsoft .NET Framework 4 Client Profile

download site <http://www.microsoft.com/en-us/download/details.aspx?id=24872>

## Setup procedure (2)

(3) Download and install [driver of the MCU board] from the following site.

-Virtual COM Port Driver (FTDI)

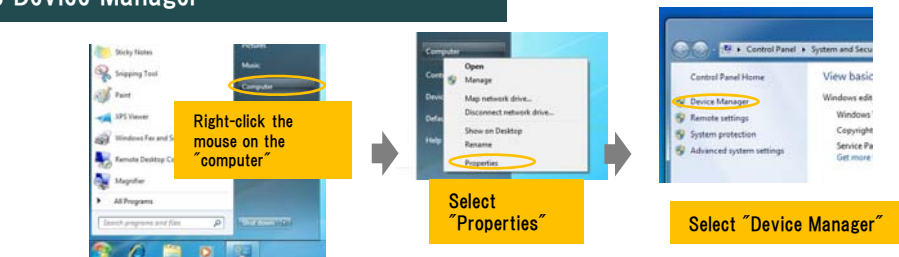
download site <http://www.ftdichip.com/Drivers/VCP.htm>

→ Please choose an appropriate driver from the item of VCP Drivers.

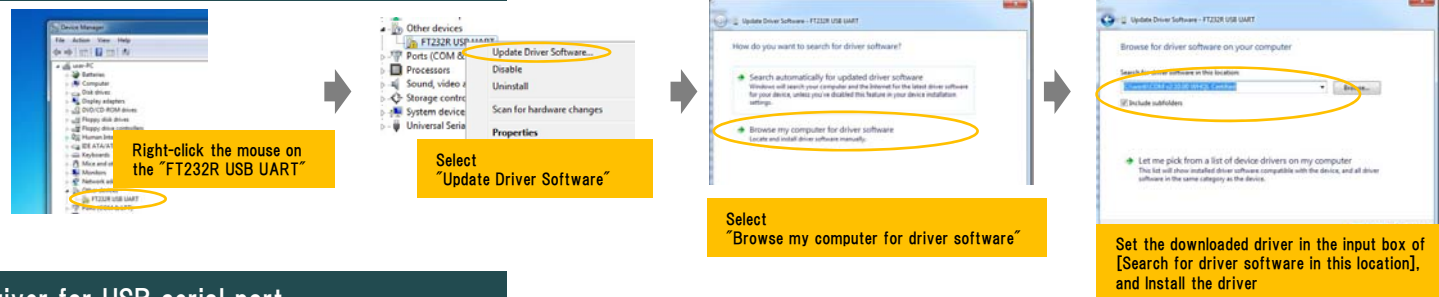
① Connect MCU Board to PC by USB



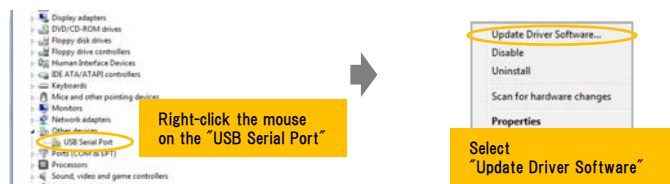
② Open the Device Manager



③ Install driver for FT232



④ Install driver for USB serial port



# Setup procedure (3)

(4) Download and install [library] from the following site.

This procedure is necessary for performing a file transfer by Bluetooth

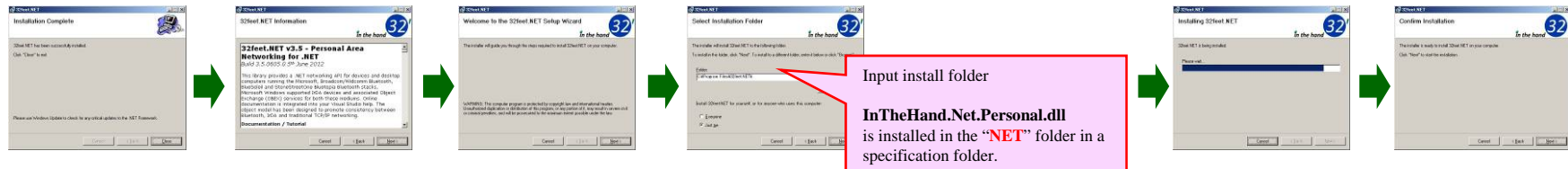
-32feet.NET (<http://32feet.codeplex.com/>)

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)
- Install the library file (InTheHand.Net.Personal.dll) in the same directory as the PC application.

Install step (run Setup.exe)



※When using Bluetooth, Bluetooth function is required for the personal computer.

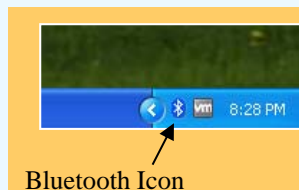
We use following USB-Bluetooth Adapter

BT-MicroEDR2X, BT-Micro4 (PLANEX COMMUNICATIONS INC.)

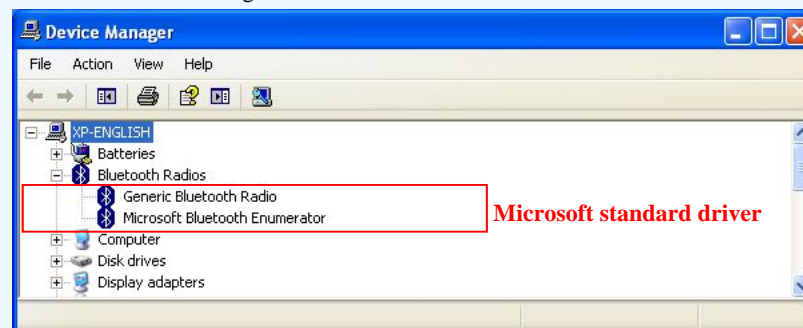
<http://www.planex.co.jp/product/bluetooth/bt-microedr2x/>

## About Bluetooth driver

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



Confirm in device manager





## Setup procedure (4)

### (5) Copy WiFi control library(DLL) to a personal computer.

Put the following library file in the same directory as the PC application.

- Library : NfcWifiCtrl.dll

※Supported OS : Microsoft Windows 7 SP1

※ When using WiFi, WiFi function is required for the personal computer.

We use following USB-WiFi Adapter  
WLI-UC-GNM2 (BUFFALO INC.)

<http://buffalo.jp/product/wireless-lan/client/wli-uc-gnm2/>

This procedure is necessary for performing a file transfer by WiFi

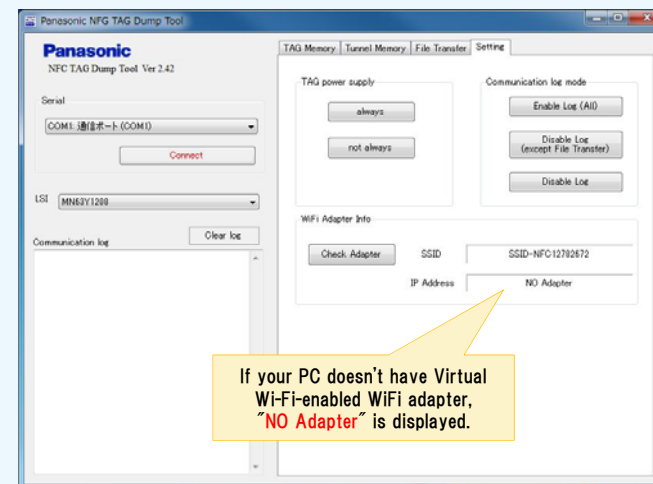
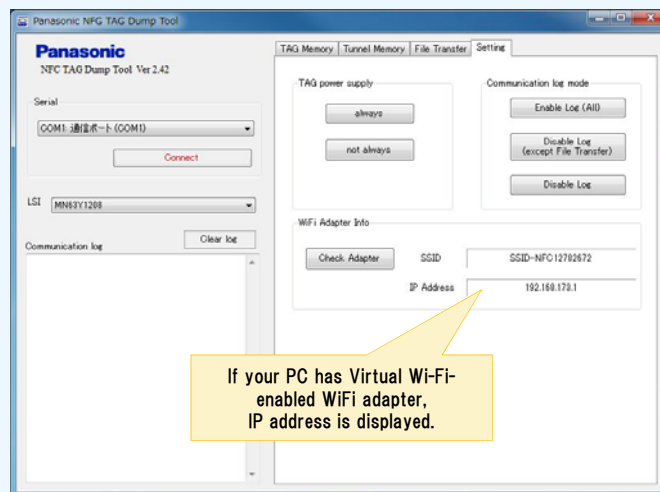
#### About WiFi function

Our development kit uses "Virtual Wi-Fi (wireless hosted network)" that is Microsoft Windows7 standard function.

So Virtual Wi-Fi-enabled WiFi adapter is required.

(Our development kit supports one Virtual Wi-Fi-enabled WiFi adapter)

※After the PC software startup (startup as administrator),  
you can see whether your PC has Virtual Wi-Fi-enabled WiFi adapter.



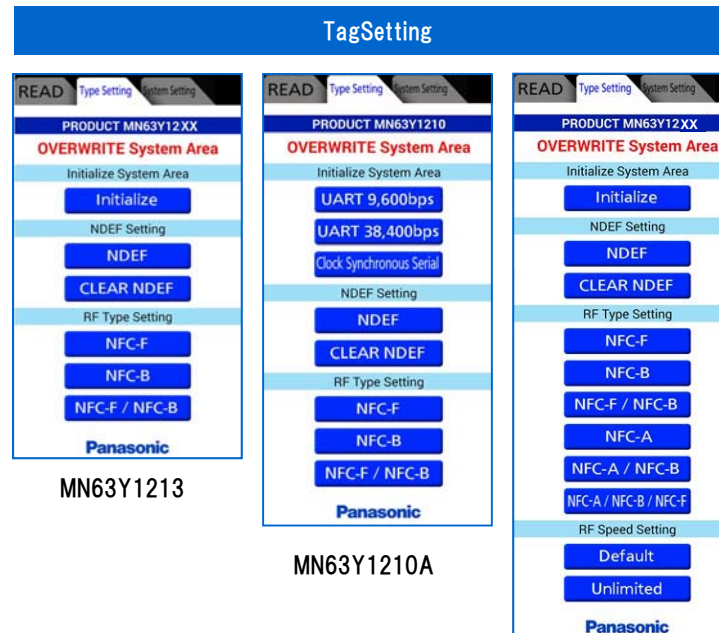
# Setup procedure (5)

## Step3. Install Android application

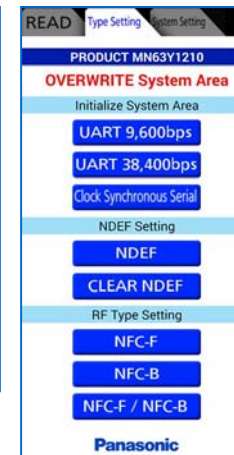
Install Android application to the mobile phone.

Android sample application

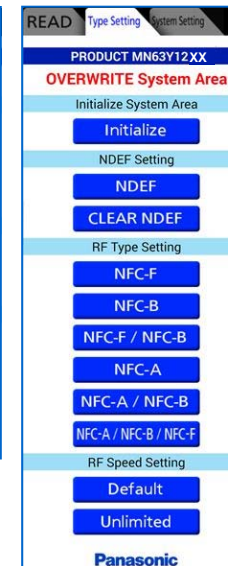
- Panasonic\_TagRW\_vXXX.apk (Data transfer application)
- Panasonic\_TagFileTx\_vXXX.apk (File transfer application)
- Panasonic\_TagSettingXXXX\_vXXX.apk (MN63Y1210A/1213/1214/1221 TAG setting application)



MN63Y1213



MN63Y1210A



MN63Y1214  
MN63Y1221

Usage of the applications, refer to each manuals.

# Setup procedure (6)

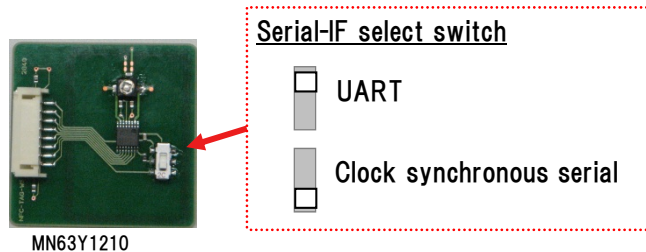
## Step4. NFC TAG initial setting

The initial configuration of the NFC TAG board (antenna board)

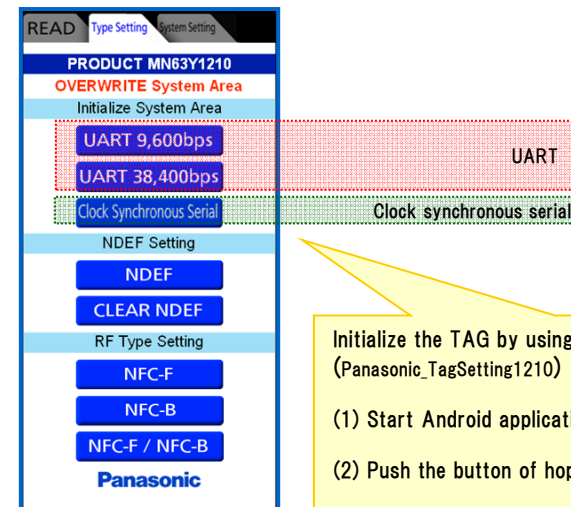
### ■ MN63Y1210A

Serial Type : UART / Clock synchronous serial

#### (1) Board setting



#### (2) Writing initialization data (Serial Type setting)



Initialize the TAG by using the application of TAG setting.  
(Panasonic\_TagSetting1210)

- (1) Start Android application.
- (2) Push the button of hope.
- (3) Bring the mobile phone close to the TAG to write initial data.

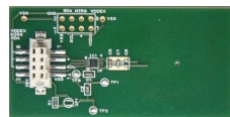
# Setup procedure (7)

## ■ MN63Y1213/1214/1221

### (1) Writing initialization data

Initialize the TAG by using the application of TAG setting.  
(Panasonic\_TagSetting 1213 / 1214 / 1221)

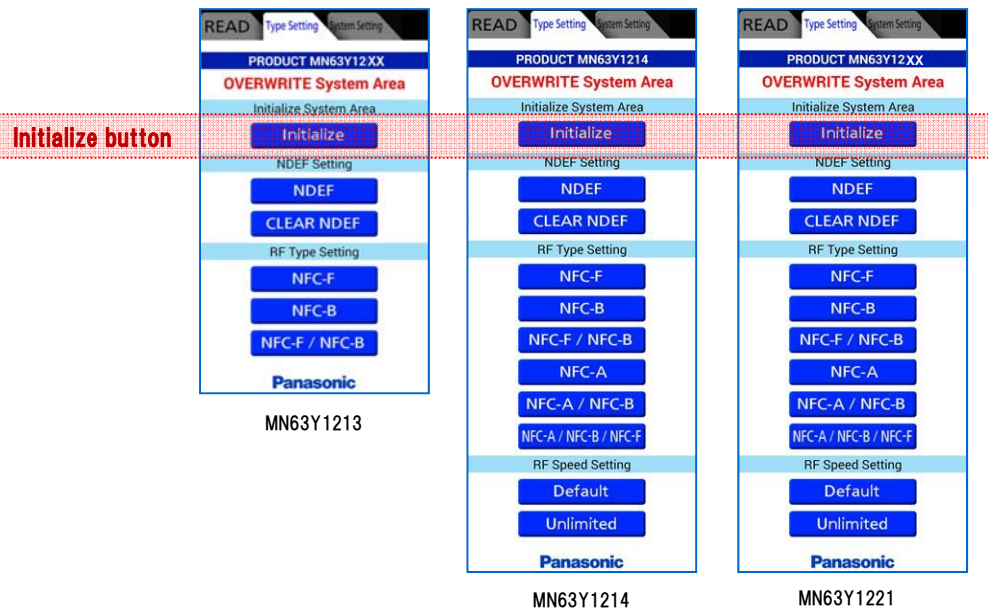
- (1) Start Android application.
- (2) Push "initialize" button.
- (3) Bring the mobile phone close to the TAG to write initial data.



MN63Y1213/1214/1221



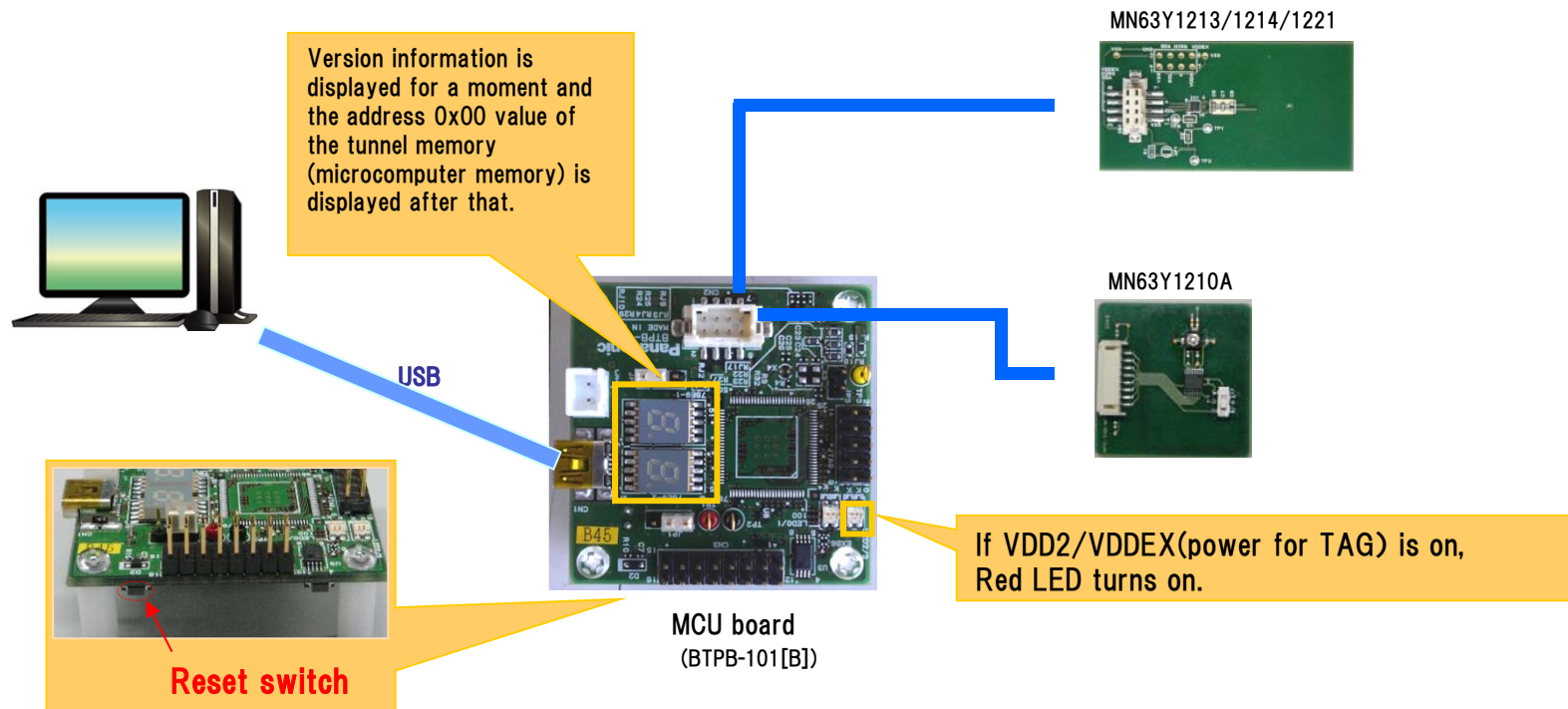
### TAG setting application (Android)



## Setup procedure (8)

### Step5. Reset MCU board

After connecting the personal computer and MCU board by USB, push the reset switch on the MCU board.



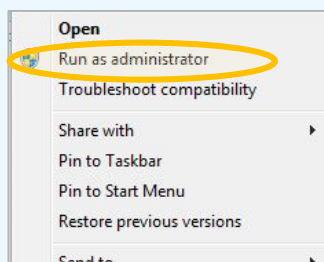
## Step6. Start PC software

In case of performing the file transfer by WiFi

This procedure is necessary for performing a file transfer by WiFi

If you do the file transfer by WiFi, start the PC software **as administrator**.

※In order to use Microsoft Windows7 standard function "Virtual Wi-Fi (wireless hosted network)", you must start the application as administrator.

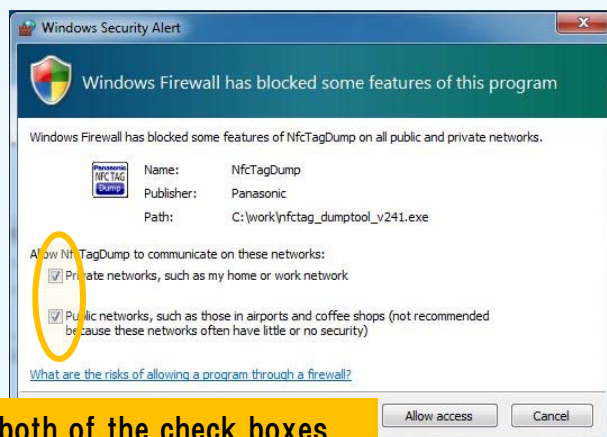


Click right button of the mouse on the software icon, and select [Run as administrator] in the menu.

When you start the PC software as administrator, the Security Alert screen will appear.

If you perform the file transfer by WiFi, check both of the check boxes.

※This is necessary to perform the data communication with mobile phones.



Check both of the check boxes

---

## Development kit usage

# Usage 1 (Read/Write TAG)

After performing the contents of the [start-up procedure], start the PC software.

## TAG Read/Write

### ■ Connect to the target board

**STEP1**  
Select virtual COM port  
(connect to the board)



**STEP2**  
Select the TAG LSI model



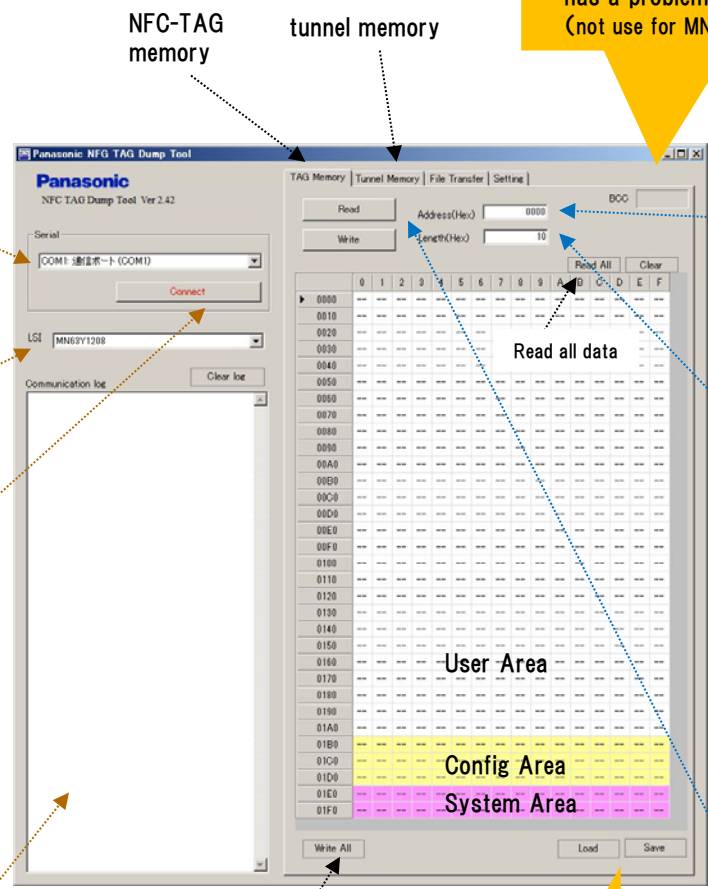
**STEP3**  
Push the "Connect" button



**STEP4**  
Push the reset switch on the board



**STEP5**  
Starting log is displayed



### ■ Read/Write memory

**STEP6**  
Input memory address  
(16-byte alignment hexadecimal number)  
※A click of a cell will input an address automatically



**STEP7**  
Input length (hexadecimal number)

[NFC-TAG memory]  
 • MN63Y1210A/1213  
   0x01 ~ 0x200 [1~512 byte]  
 • MN63Y1214/1221  
   0x01 ~ 0x400 [1~1024 byte]

[tunnel memory]  
   0x01 ~ 0x1000 [1~4096 byte]

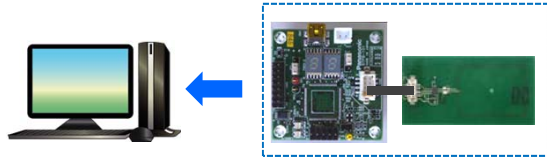


**STEP8**  
Push Read / Write button  
※Before you write, set value to cell.



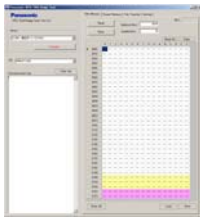
## Usage 2 (file transfer1)

**STEP 1**



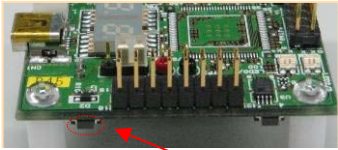
Connect MCU board to PC by USB

**STEP 2**



Start the PC software, and connect to the MCU board  
(See previous page)

**STEP 3**



**Reset switch**

Push the reset switch on the MCU board (reset the board)

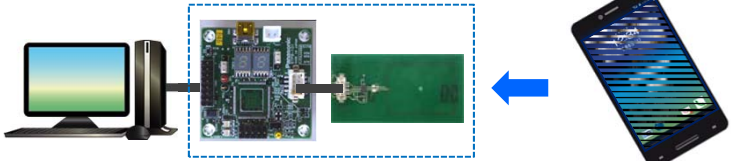
**STEP 4**



Android file transfer application (TagFileTx)

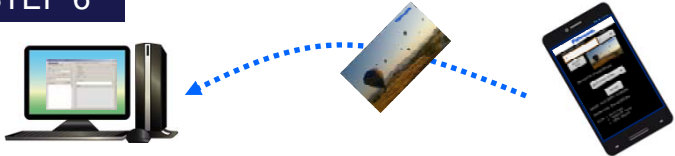
Start the file transfer application on mobile phone and select the file that you want to transfer to the PC

**STEP 5**



Touch the tag by the mobile phone

**STEP 6**



Screen of the PC software switches automatically, and file transfer is started (See next page)

## Usage 3 (file transfer2)

### file transfer screen

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 icons are displayed during a file transfer by Bluetooth/WiFi.



Waiting for Bluetooth connection



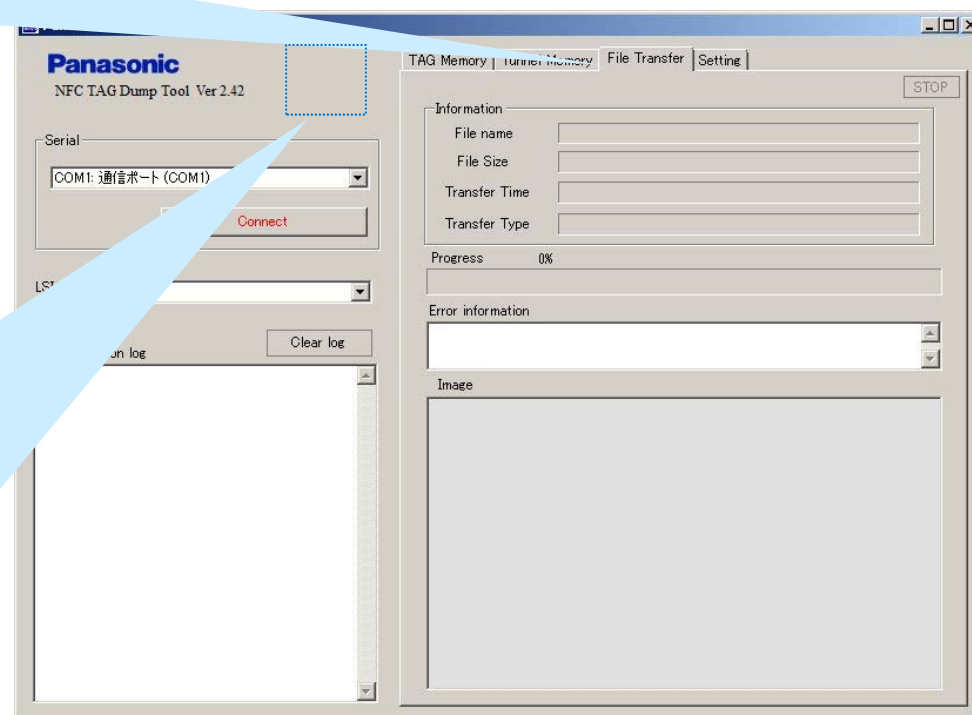
File transfer by Bluetooth



Waiting for WiFi connection



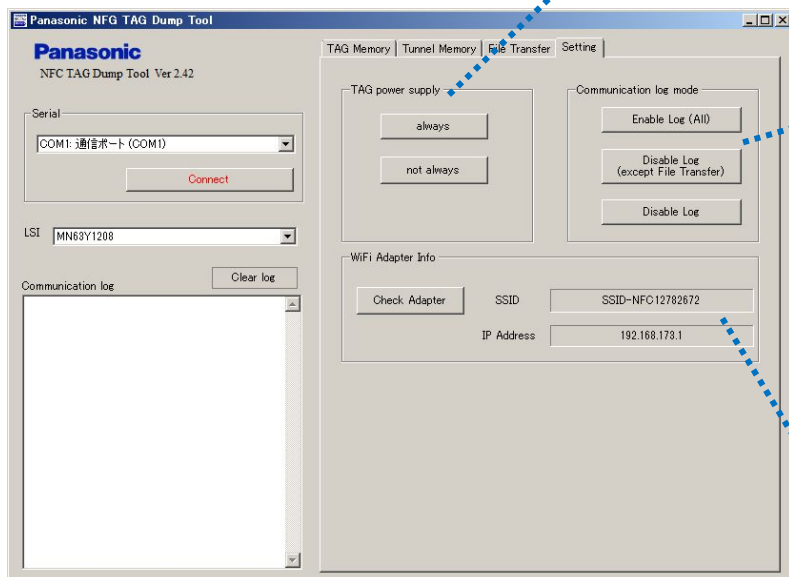
File transfer by WiFi



## Usage 4 (setting)

### ■ Tag power supply

Control the power supply to the tag from the microcomputer  
 always : power supply to the tag always  
 not always : power supply to the tag when necessary



### ■ Communication log mode

#### set of log display

Enable Log (All) : enable all log  
 Disable Log (except File Transfer) : enable only necessary logs for file transfer  
 Disable Log : disable all log

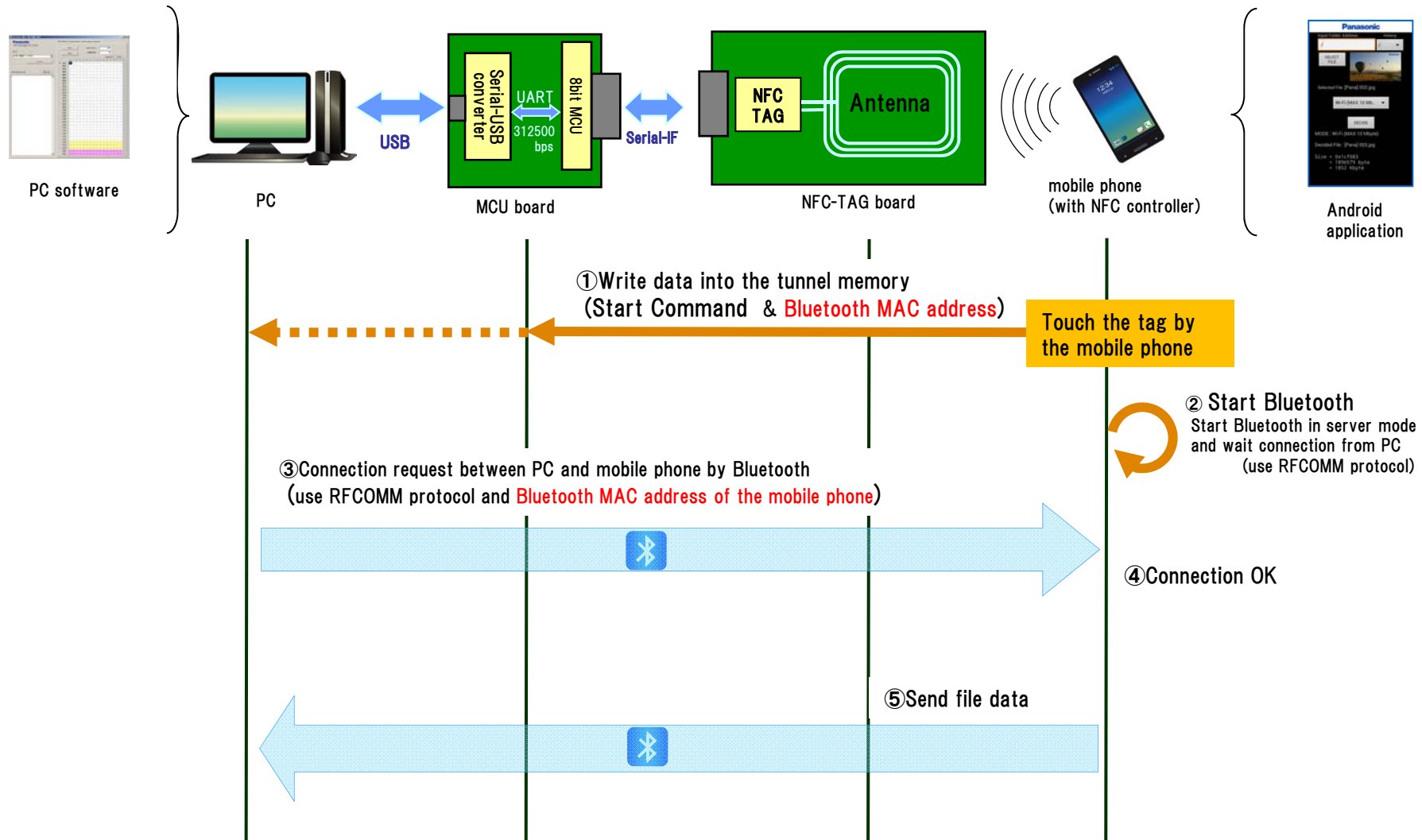
### ■ WiFi adapter info

Display the information of WiFi adapter (PC will be the access point)

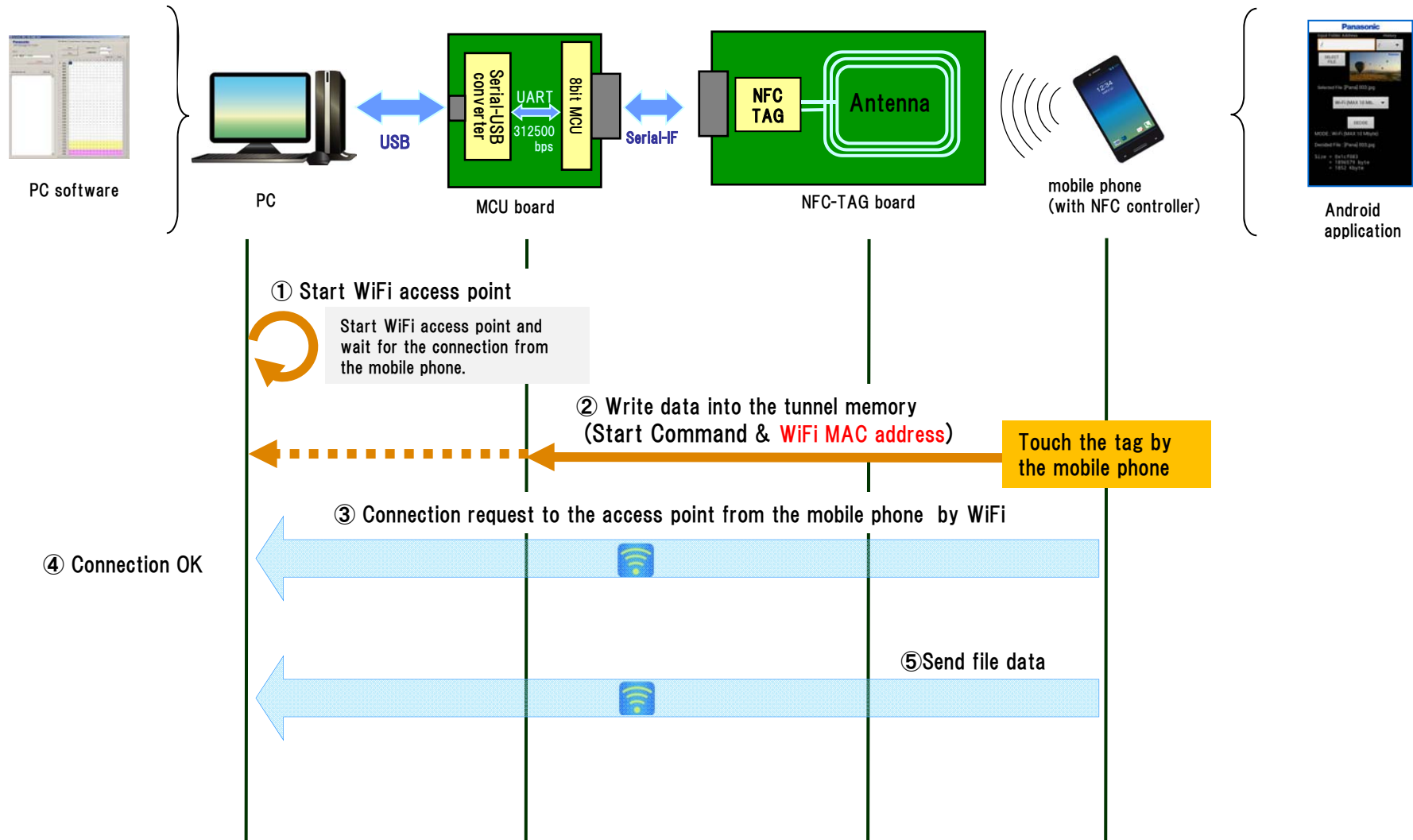
SSID : SSID of the access point  
 IP Address : IP address of the access point

Check Adapter : update the information of WiFi adapter

## (Supplement) Bluetooth file transfer sequence



# (Supplement) WiFi file transfer sequence



# Revision History

---

Version	Date	Comments
2.00	2012/11/22	Initial edition
2.20	2013/09/05	Version up of PC software/Android application
2.21	2013/10/03	add MN63Y1213
2.30	2013/10/25	Version up of PC software
2.41	2014/10/31	add MN63Y1214/1217, support WiFi file transfer
2.42	2015/01/08	Version up of Microcomputer software / PC software / Android software
2.50	2015/03/16	add MN63Y1219
2.60	April 6, 2016	Added MN63Y1221. Modified some explanations.
2.70	May 11, 2016	Deleted MN63Y1208, MN63Y1217 and MN63Y1219.

## Request for your special attention and precautions in using the technical information and semiconductors described in this book

- (1) If any of the products or technical information described in this book is to be exported or provided to non-residents, the laws and regulations of the exporting country, especially, those with regard to security export control, must be observed.
- (2) The technical information described in this book is intended only to show the main characteristics and application circuit examples of the products. No license is granted in and to any intellectual property right or other right owned by Panasonic Corporation or any other company. Therefore, no responsibility is assumed by our company as to the infringement upon any such right owned by any other company which may arise as a result of the use of technical information described in this book.
- (3) The products described in this book are intended to be used for general applications (such as office equipment, communications equipment, measuring instruments and household appliances), or for specific applications as expressly stated in this book.  
Consult our sales staff in advance for information on the following applications:
  - Special applications (such as for airplanes, aerospace, automotive equipment, traffic signaling equipment, combustion equipment, life support systems and safety devices) in which exceptional quality and reliability are required, or if the failure or malfunction of the products may directly jeopardize life or harm the human body.It is to be understood that our company shall not be held responsible for any damage incurred as a result of or in connection with your using the products described in this book for any special application, unless our company agrees to your using the products in this book for any special application.
- (4) The products and product specifications described in this book are subject to change without notice for modification and/or improvement. At the final stage of your design, purchasing, or use of the products, therefore, ask for the most up-to-date Product Standards in advance to make sure that the latest specifications satisfy your requirements.
- (5) When designing your equipment, comply with the range of absolute maximum rating and the guaranteed operating conditions (operating power supply voltage and operating environment etc.). Especially, please be careful not to exceed the range of absolute maximum rating on the transient state, such as power-on, power-off and mode-switching. Otherwise, we will not be liable for any defect which may arise later in your equipment.  
Even when the products are used within the guaranteed values, take into the consideration of incidence of break down and failure mode, possible to occur to semiconductor products. Measures on the systems such as redundant design, arresting the spread of fire or preventing glitch are recommended in order to prevent physical injury, fire, social damages, for example, by using the products.
- (6) Comply with the instructions for use in order to prevent breakdown and characteristics change due to external factors (ESD, EOS, thermal stress and mechanical stress) at the time of handling, mounting or at customer's process. When using products for which damp-proof packing is required, satisfy the conditions, such as shelf life and the elapsed time since first opening the packages.
- (7) This book may be not reprinted or reproduced whether wholly or partially, without the prior written permission of our company.