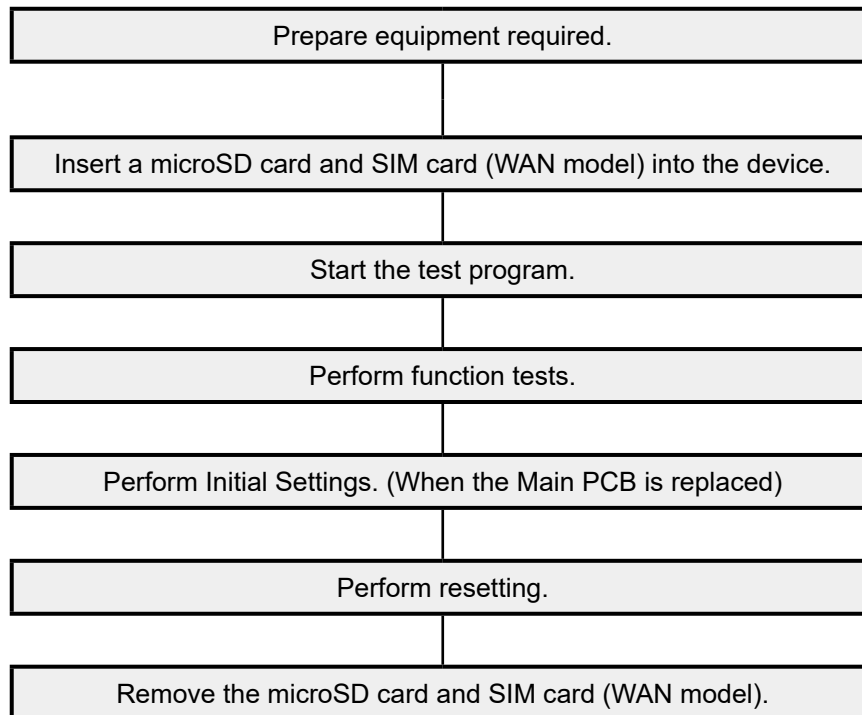


# HARDWARE TEST / SETTING

## 1. General

In this chapter, how to check the hardware of DT-X400 is explained.

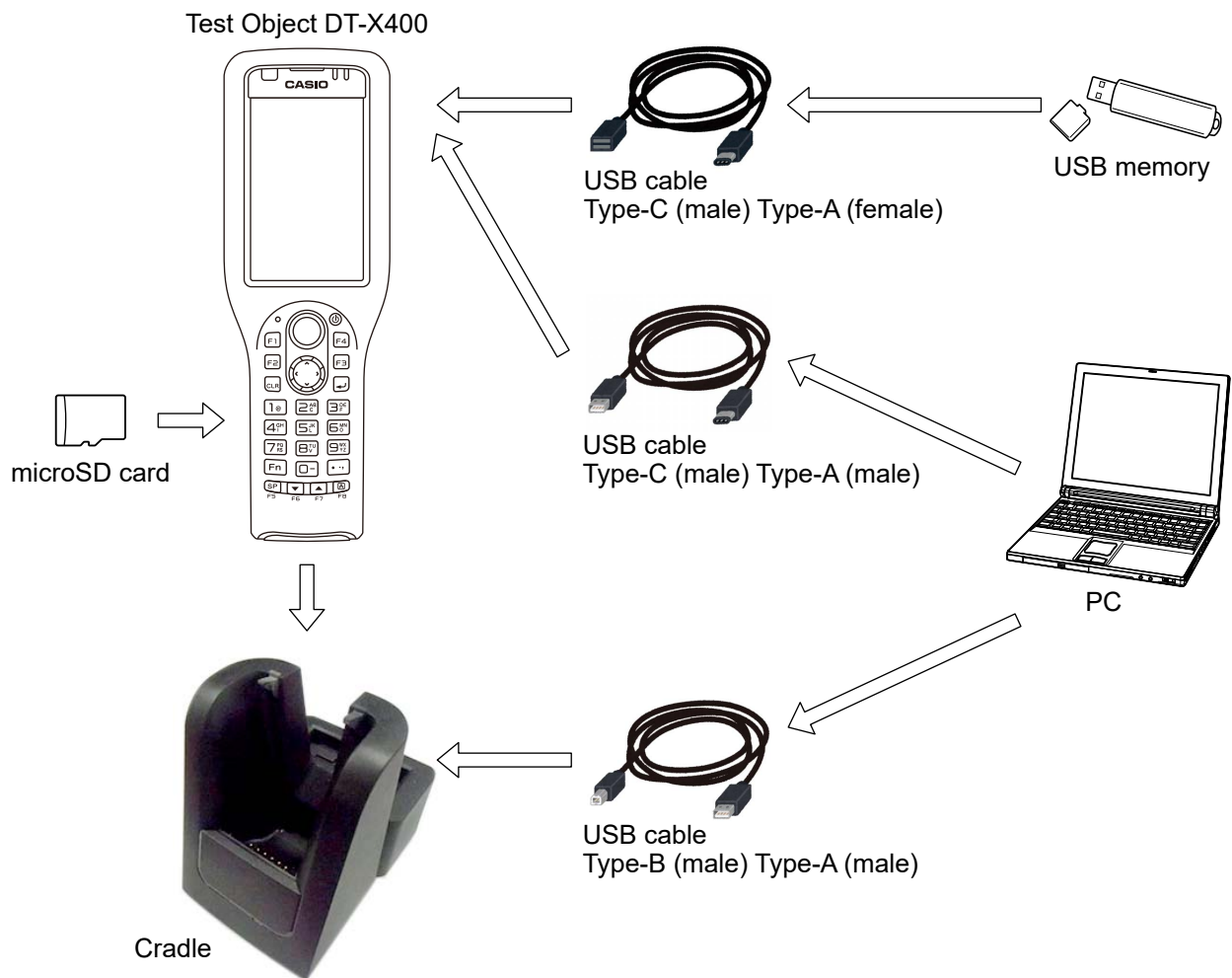
The general flow to start up the test program is as follows:



## 2. Test Equipment

The following shows the major equipment used for function test.

**NOTE:** For equipment used for the special test, see respective test items.



### 3. List of Tests

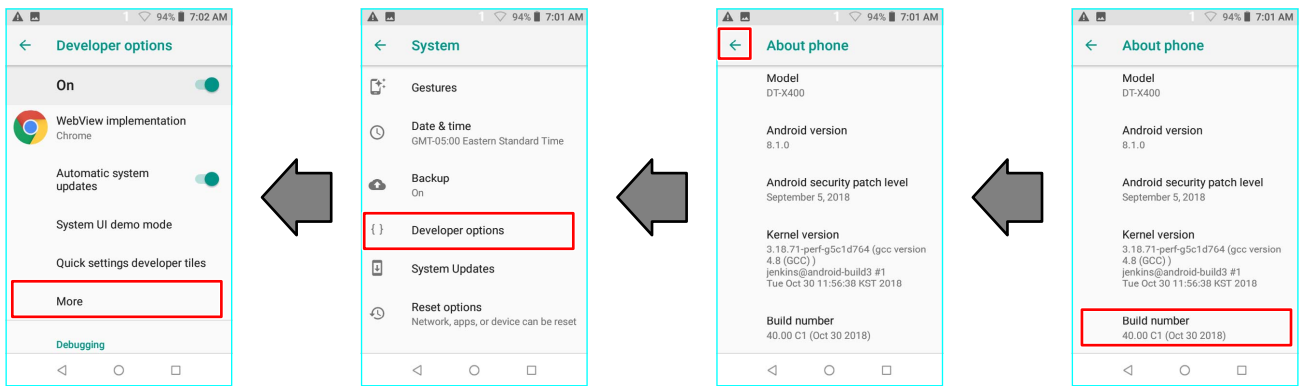
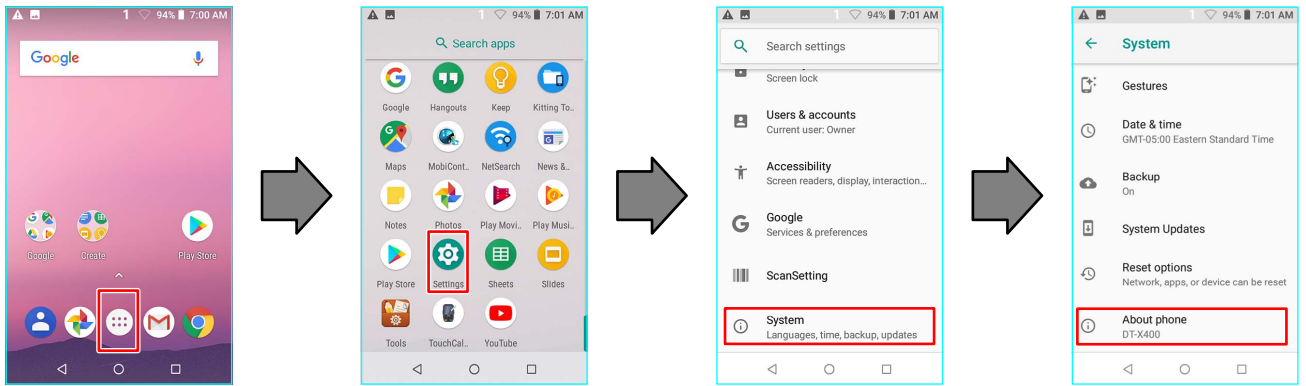
Test Item	Descriptions
microSD card	You can check micro SD card.
MIC/SP/Receiver	You can check “Main MIC” and “Speaker” function by recoding your voice and then playing.
LED/VIBRATOR/ KEYPAD BACKLIGHT	You can check notification LED, Keypad Backlight and Vibrator function.
BATTERY COVER DETECT	You can check whether battery cover is closed or not.
TOUCH PANEL	By drawing the lines, you can check the touch panel.
LCD/BACKLIGHT	In this test, PM device will display “Red”, “Green”, “Blue”, “Black”, “White” color to check dead pixel in the LCD and test the backlight by changing the brightness level from 0 to 10.
SCANNER	You can check basic Scanner function.
W-LAN	In this test, by connecting to your Wi-Fi network, you can check Wi-Fi module function.
KEY	By pressing the Keypad, you can check OS recognized correctly or not. Default color is Black and whenever you press specific keypad, its color.
USB DETECT	You can check DT-X400's I/O connector correctly communicate with your PC.
USB HOST	You can check DT-X400's I/O connector correctly working with USB HOST device.
CAMERA	You can check DT-X400's phone module function.
NFC	You can check DT-X400's NFC module function. Please make sure battery cover closed firmly.
SENSOR	You can check DT-X400's Accelerometer, Proximity, Light sensor function.
BLUETOOTH	You can check DT-X400's Bluetooth module function by scanning nearby devices.
IMAGE DEMO	You can check 2D scanner's Image capturing function.
WAN	You can check WAN
GPS Demo	You can check DT-X400's GSP has fixed position correctly.

## 4. Preparation for inspection

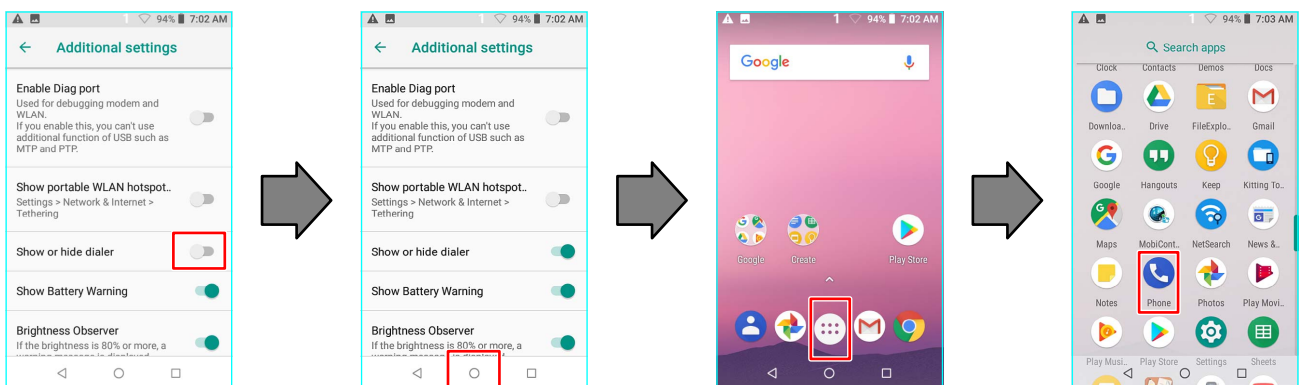
4-1. Insert a microSD card and SIM card (WAN model) into the device.

4-2. Running the Diagnostic Program

< W-LAN model >



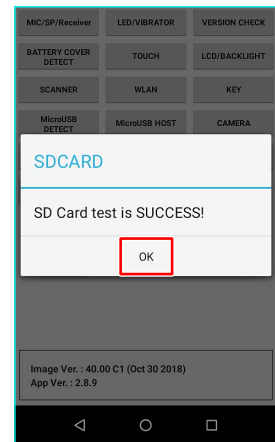
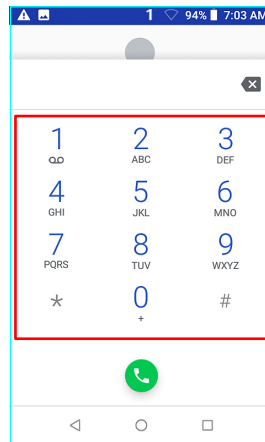
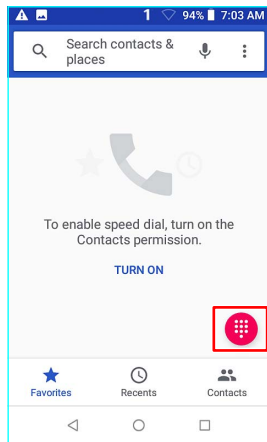
Tap about 10 times



< W-LAN model >

## 5. Test Procedures

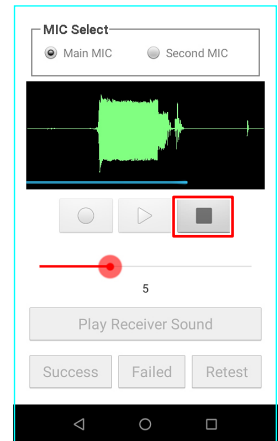
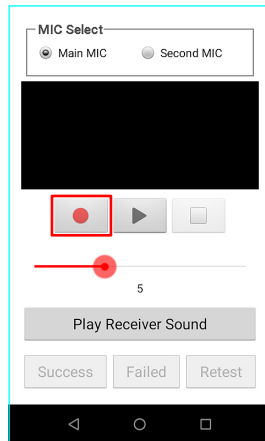
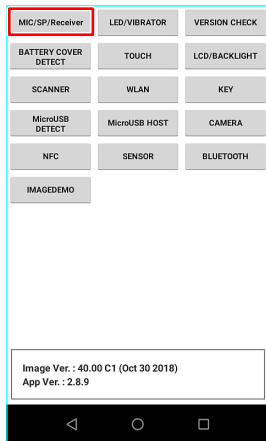
### ■ Running the Diagnostic Program & microSD Card



Type [\*\*\*1277#\*\*]

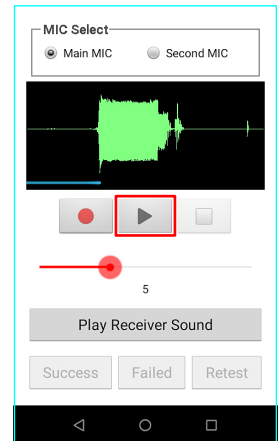
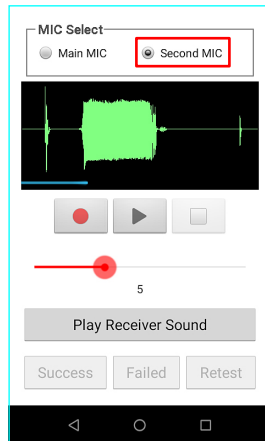
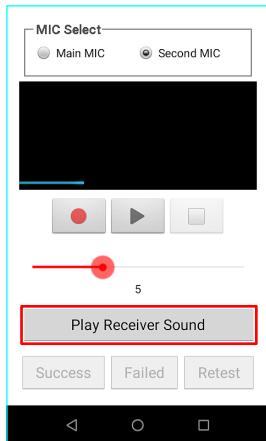
■ MIC/SP/Receiver

(1) Function test of a microphone and a speaker.



<1> Click [Record] button.  
Speak to the microphone.

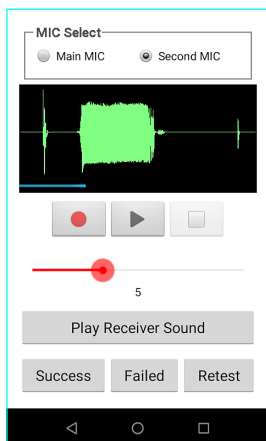
<2> Click [Stop] button.



Click [Play Receiver Sound] button.  
Check the receiver sound.

Click [Second MIC] radio button.  
Please proceed test like <1>, <2>, <3>.  
There is the [Second MIC] in the back of device.

<3> Click [Play] button.  
Check the recorded voice.  
Turn the volume up to the maximum.  
Click [Play] button again.  
Check whether the volume is louder than before or not.



Click [Success] if the test result is satisfactory.

■ LED/VIBRATOR/KEYPAD BACKLIGHT

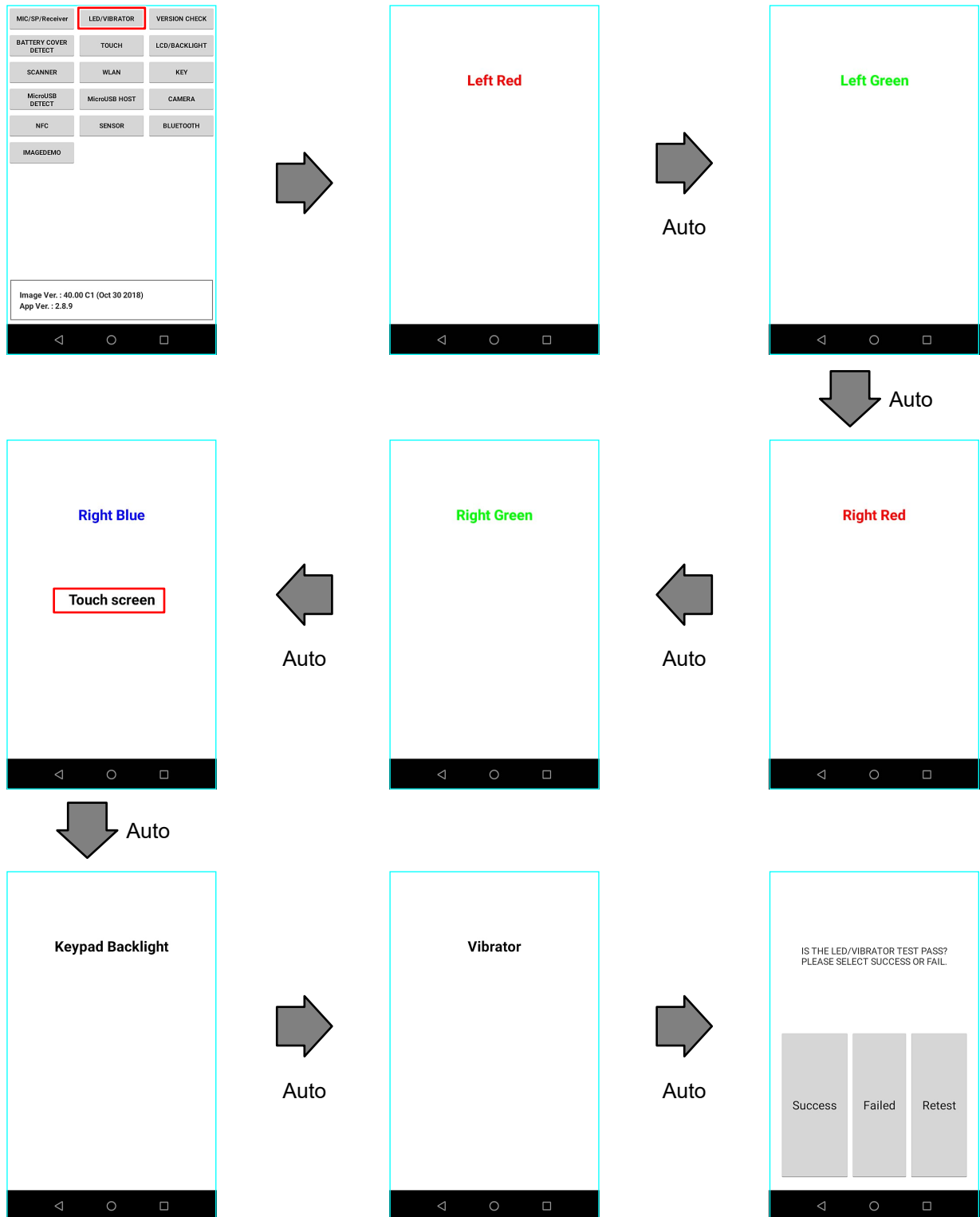
(1) Examination of LED.

\* Run this test in the dark place.

It is difficult to distinguish the backlight of keyboard in bright place.

\* Color of LED changes to red, green and blue in turn and then backlights of keyboard light up. And vibrator vibrates for about 1 seconds.

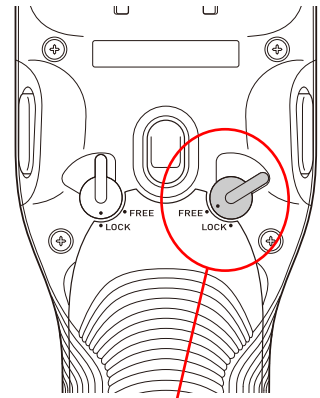
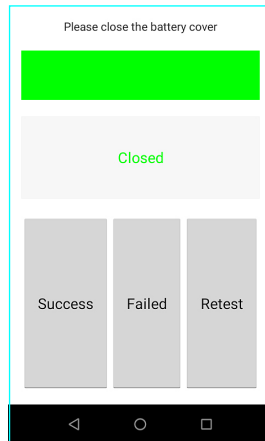
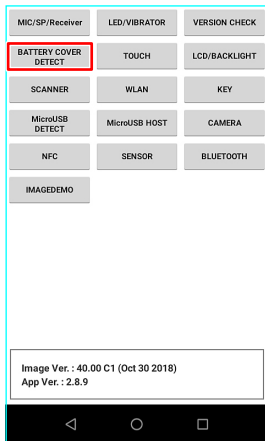
Check the lighting by visual inspection and the vibrator vibrates properly.



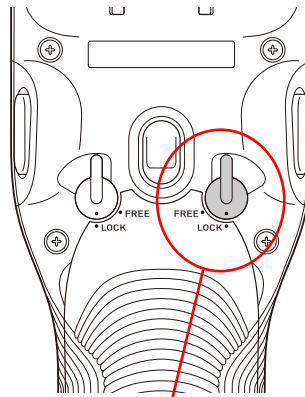
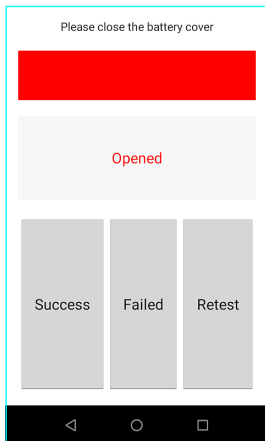
Click [Success] if the test result is satisfactory.

**BATTERY COVER DETECT**

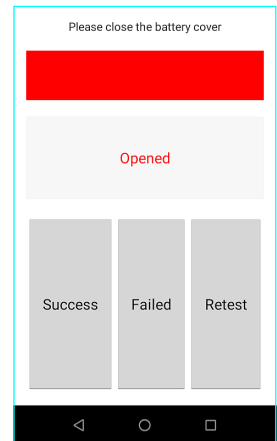
(1) Check the battery cover detect.



**[FREE]**



**[LOCK]**

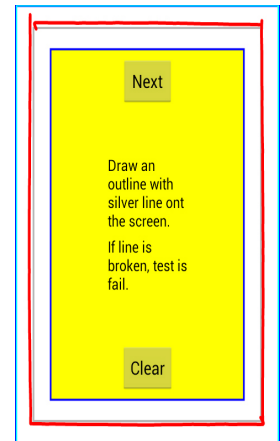
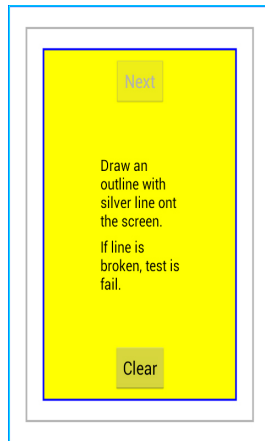
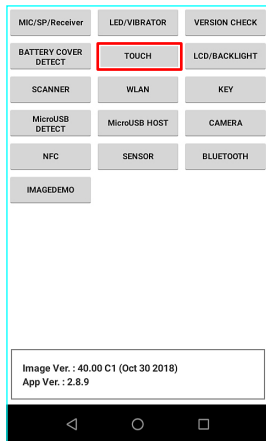


Click [Success] if the test result is satisfactory.



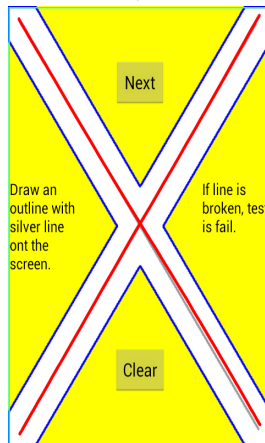
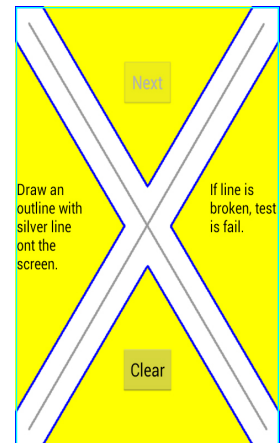
■ TOUCH PANEL

(1) Conditioning test for touch of the screen.

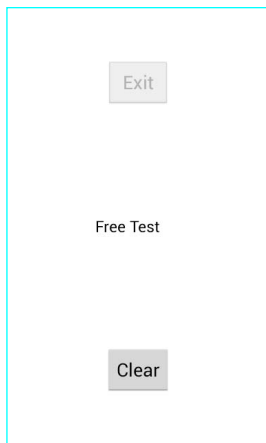


[Next]

Draw an outline with silver line on the screen.  
 If line is broken, test is fail.



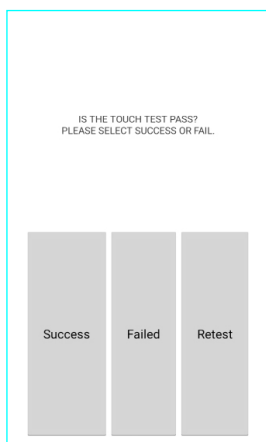
[Next]



Free to draw the line.



[Next]



Click [Success] if the test result is satisfactory.

Draw a diagonal with silver line on the screen.  
 If line is broken, test is fail.

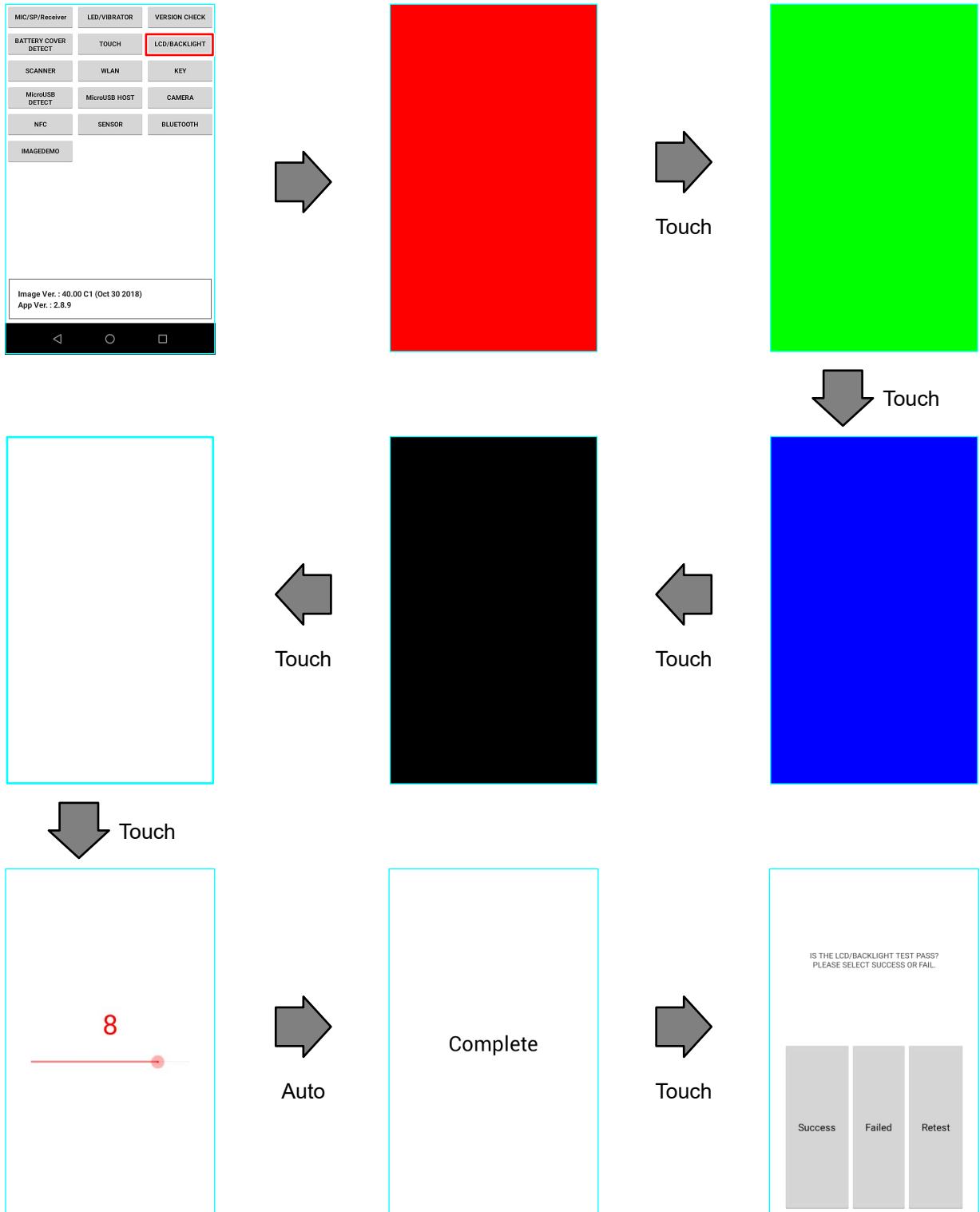
■ LCD/BACKLIGHT

(1) Examination of dead pixel or color shading.

\* One color appears in full screen.

It turns red, green, blue black and white when the screen is touched. And then brightness is changed for 10 level from dark to bright, and it returns to default level.

\* Check dead pixel or color shading of the screen by visual inspection and check brightness level.

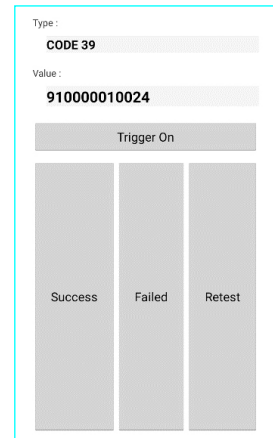
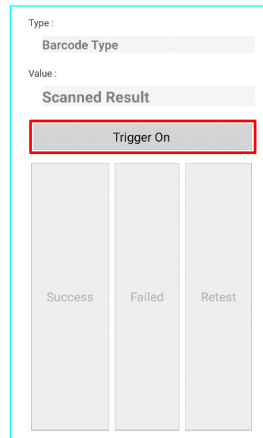
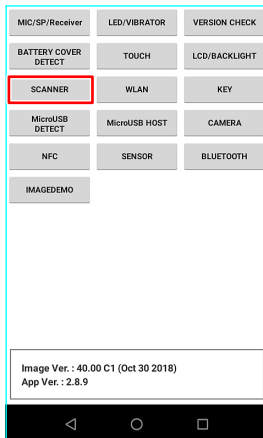


Increase number to 10 level.

Click [Success] if the test result is satisfactory.

## ■ SCANNER

### (1) Function test of scanner (barcode reader).



Turn scanner on PDA toward plain wall and then click [Trigger On] button to generate red laser beam.

Press [Trigger On] or [SCAN] button on the keyboard to scan the sample barcode.

Click [Trigger Off] button to check if the laser beam stops.

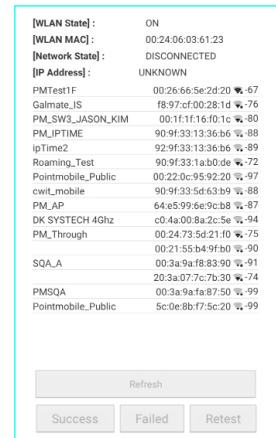
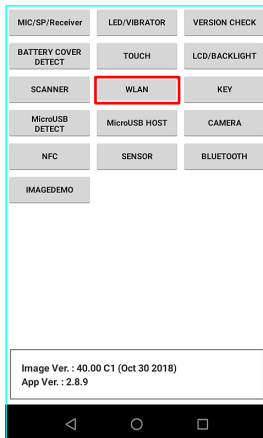
Type and Value of the scanned barcode are indicated on the screen when scanning is successful.

Check Type and Value on the screen with the sample.

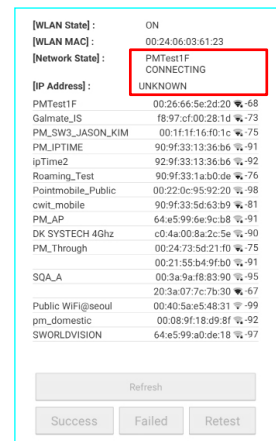
Click [Success] if the test result is satisfactory.

■ W-LAN

(1) Check Wireless LAN functions correctly.



Wait for some time on this screen till scanning result comes out.



Check [WLAN MAC].  
Click [Success] if the test result is satisfactory.

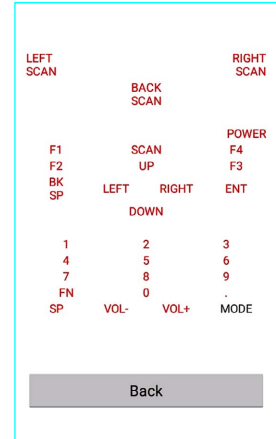
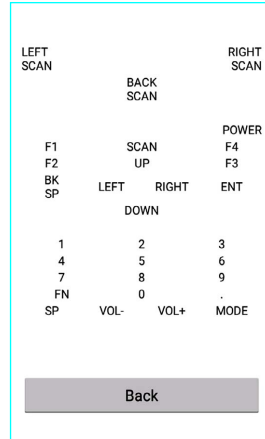
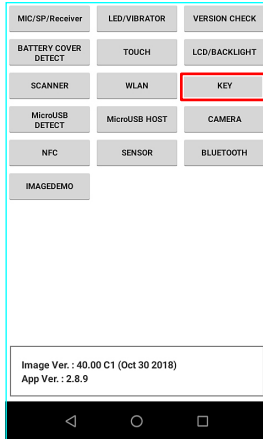
Wait for sometime, [Network State] will be change to [CONNECTED], and mark in the [IP Address] to [192.168.nnn.nnn].

■ KEY

(1) Check all keys operate properly.

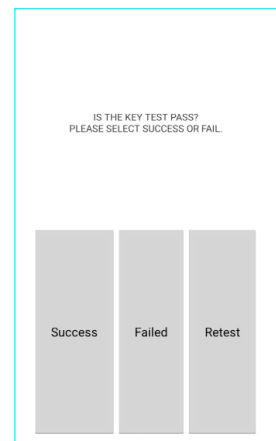
\* When keys are pressed, the color of keys indicated on the screen changes from blue to another color. (black >> red >> green >> blue >> red >> ...)

\* When all keys are pressed more than once a confirmation window appears automatically.



Default key

Pressed key

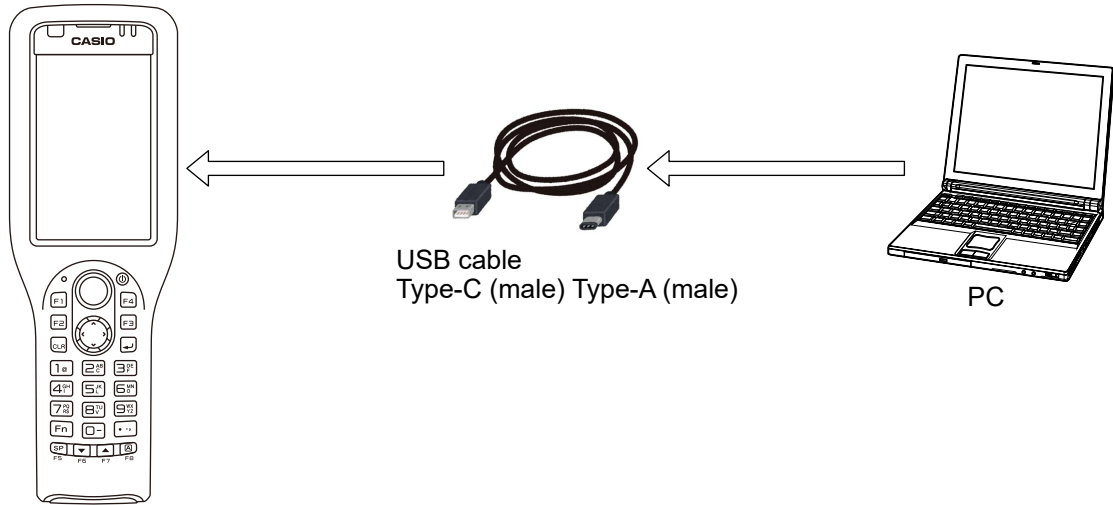


Click [Success] if the test result is satisfactory.

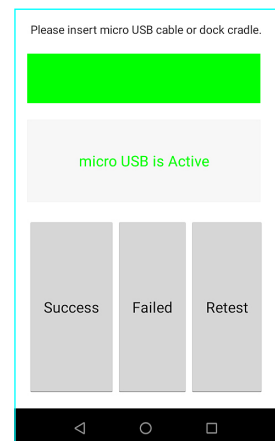
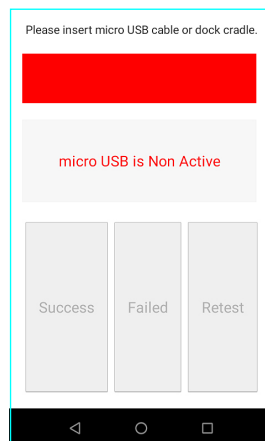
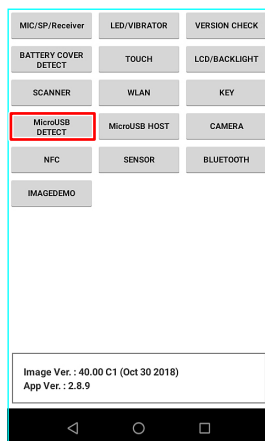
## ■ USB DETECT

- (1) Check the USB cable is recognized properly.
- (2) Connection

Test Object DT-X400



- (3) Test



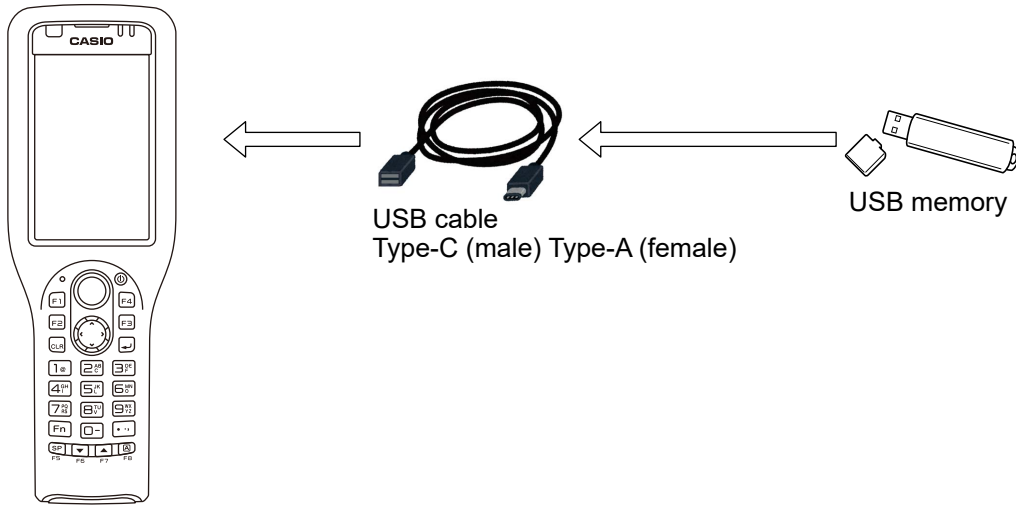
Connect the sync cable to PC.

Click [Success] when sync cable is recognized.

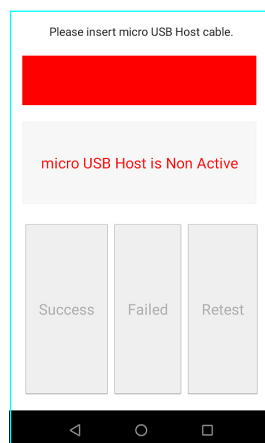
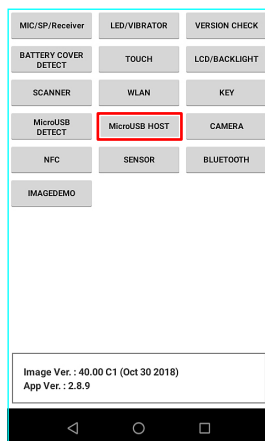
## ■ USB HOST

- (1) Test USB Host is recognized properly.
- (2) Connection

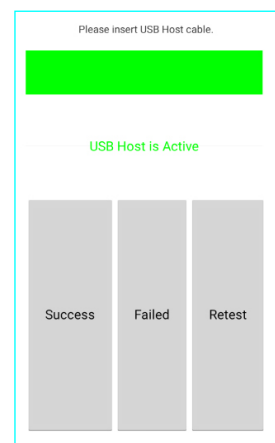
Test Object DT-X400



- (3) Test



Connect the USB host cable with storage device.

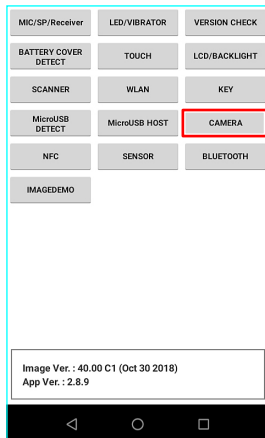


Check USB host status.  
Click [Success] if the test result is satisfactory.

**NOTE:** If fail, please try to remove/insert USB memory stick again.

## ■ CAMERA

### (1) Check camera preview.



Preview picture is displayed automatically.

Click [Flash ON] button.

Check camera flash.

Click [Focus] button.

Check camera focus.



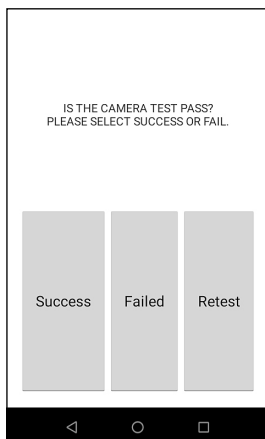
Click [Capture] button.  
Wait until appear photo.



Check photo.  
Click [Back] key or [Back] arrow button.



Click [OK] button.

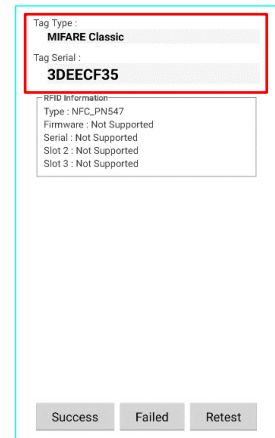
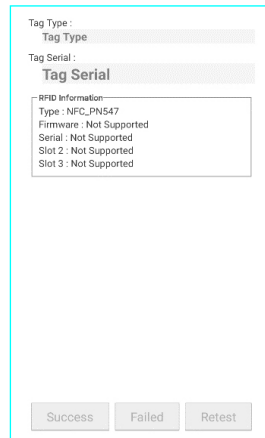
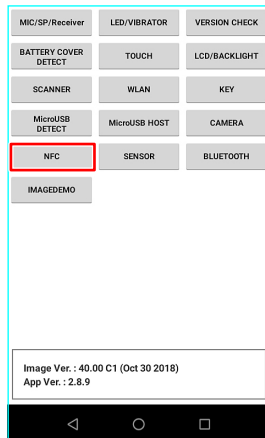


Click [Success] if the test result is satisfactory.



**NFC**

(1) NFC functions correctly.



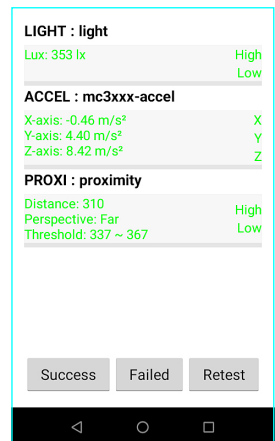
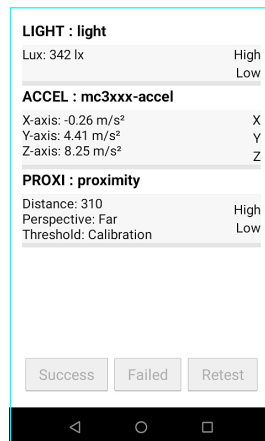
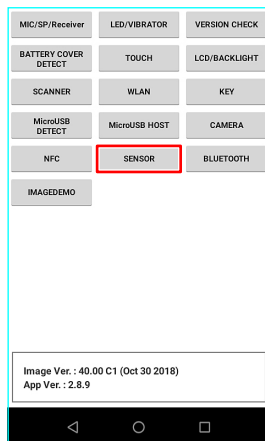
Contact the "NFC Test card" near scanner(NFC Antenna).

Check information of the "NFC test card".

Click [Success] if the test result is satisfactory.

**SENSOR**

(1) Check sensors.



Follow above procedures.

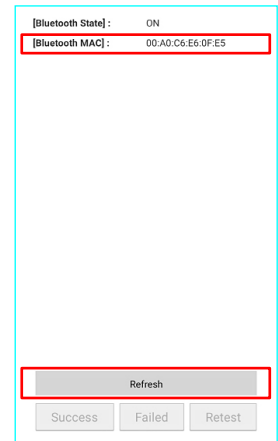
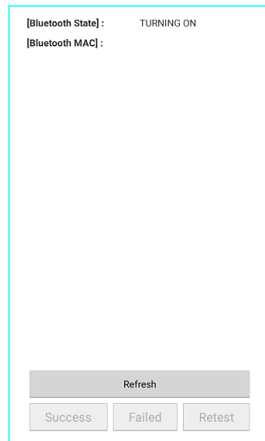
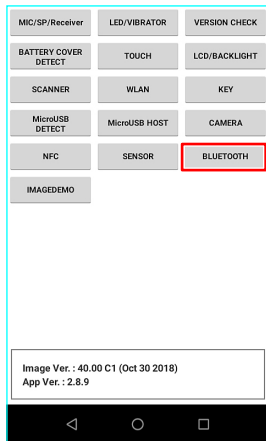
Font turns the green.

Click [Success] if the test result is satisfactory.

Light (ls)	Accelerometer (accel)	Proximity
<ol style="list-style-type: none"> <li>Hide sensor hole.</li> <li>Move the device under the light.</li> <li>Check "High, Low" color.</li> </ol>	<ol style="list-style-type: none"> <li>Lay the device face up on a flat surface.</li> <li>Turn the device slowly to horizontal direction.</li> <li>Turn the device slowly to vertical direction.</li> <li>Check "X, Y, Z" color value.</li> </ol>	<ol style="list-style-type: none"> <li>Lay the device face up on a flat surface.</li> <li>Hide sensor hole.</li> <li>Check "High, Low" color.</li> </ol>

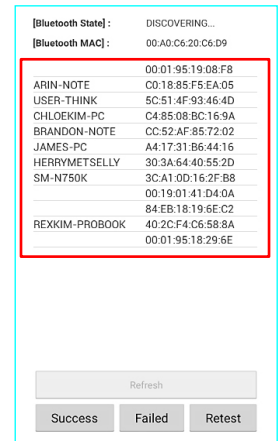
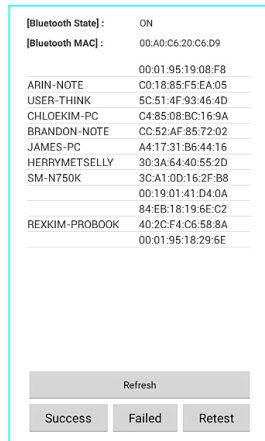
**BLUETOOTH**

(1) Check Bluetooth connection is recognized properly.



Wait for sometime.

Check [Bluetooth MAC].  
 Click [Refresh] button.

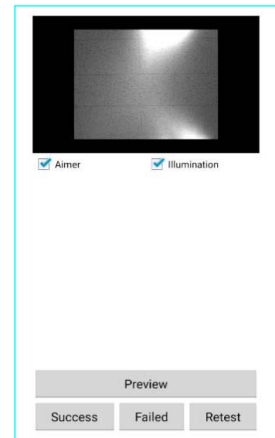
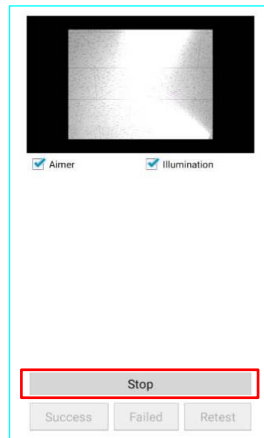
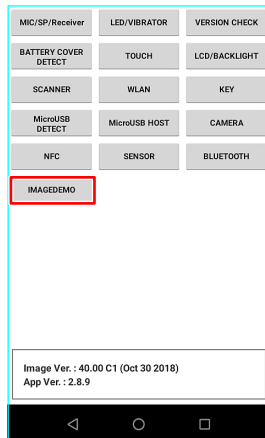


Click [Success] if the test result is satisfactory.

Wait for some time on this screen till scanning result comes out.

## ■ IMAGE DEMO

(1) Check scanner's preview.

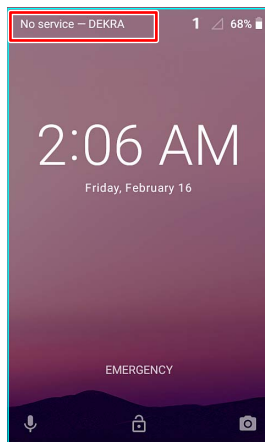


Check the preview.  
Click [Stop] button.

Click [Success] if the test  
result is satisfactory.

## ■ WAN

(1) Please confirm that the content of the SIM card is displayed.  
It will pass if the contents are displayed.

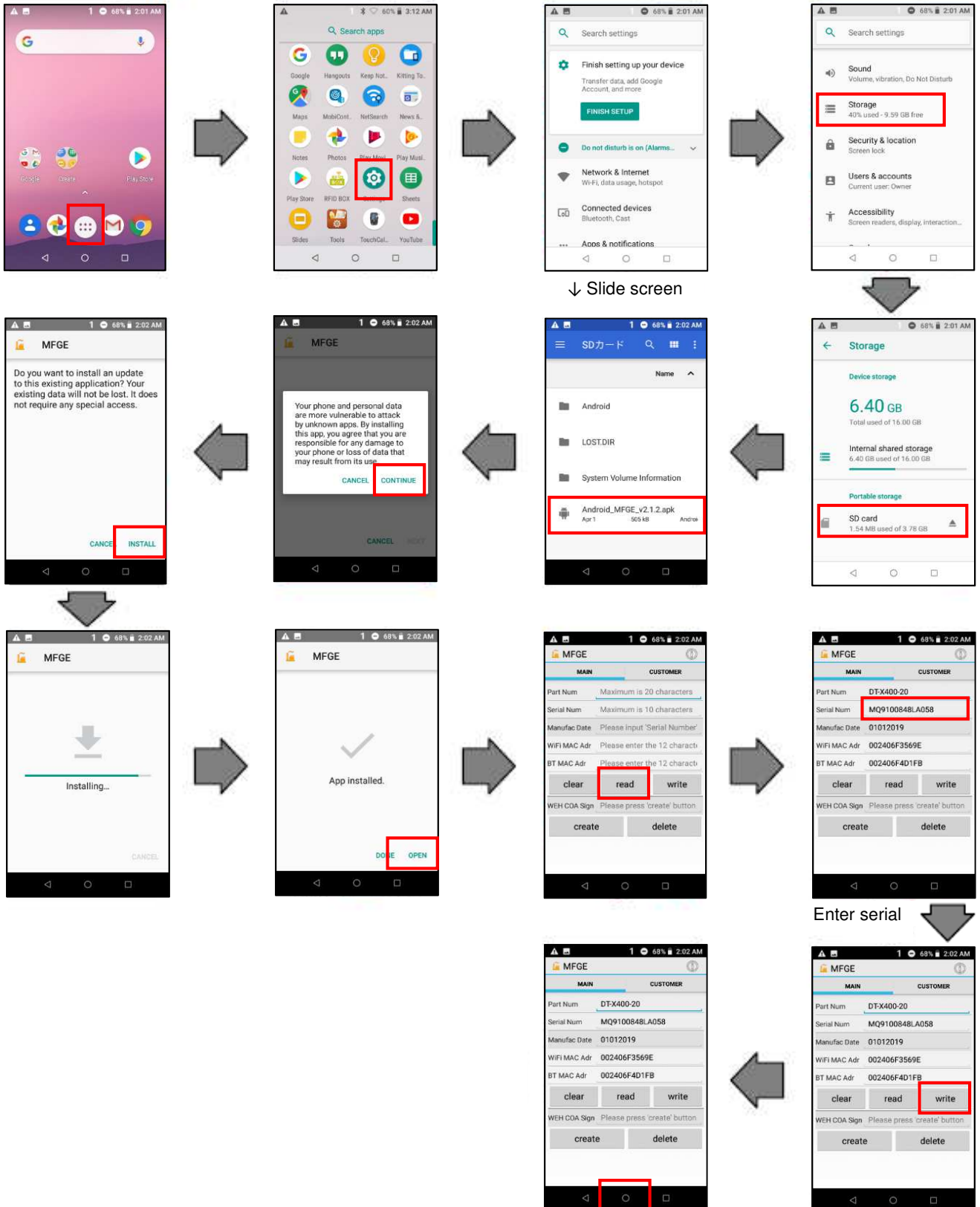


## 6. Checking The Default Settings (When the Main PCB is replaced)

### 6-1. Install a microSD card with the program (Android\_MFGE\_v2.1.2.apk) into the device.

NOTE: This program is permitted only when you need to change the serial number recorded inside the product to the correct value, such as when replacing the main board.

### 6-2. Serial setting



## 7. Initializing the Device

