Native TCT Tester User Guide

Version 1.0, for Tizen 6.0

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1 Introduction

This document provides comprehensive information about Native TCT Manager, including an Overview, Test Environment setup, Installation Instructions, Operating Instructions, and Concluding Routines etc.

1.1 What is Native TCT?

TCT is short for the Tizen Compliance Tests, which validates platform compatibility for Tizen. Native TCT consists of Native TCT Manager (UI tool), Native TCT Shell (console tool), Testkit-lite (backend test runner), and Native TCT Behavior Test Tool (device behavior checker).

1.2 How does Native TCT Work?

Native TCT has four main components:

a. **Native TCT Manager** is a java GUI tool that runs on the host machine, allow users to create a test execution plan, trigger the test execution, and view the test report. By supporting automated API testing, Native TCT Manager makes it much easier for users to conduct TCT tests and enter hardware capability information.

b. **Native TCT Shell** is a lightweight console tool that runs on the host machine, allowing users to debug single failed case, or trigger TCT testing with an existing test plan by specifying a test suite list or test case ID. Test suites are executed on target devices under the management of Testkit-lite.

c. **Native TCT Behavior Test Tool** is a device behavior checker from a user perspective. It can be manually launched and operated by clicking the corresponding thumbnail icon on target devices.

d. **Testkit-lite** is a back-end test runner that communicates with Testkit-stub through the Smart Development Bridge (SDB).

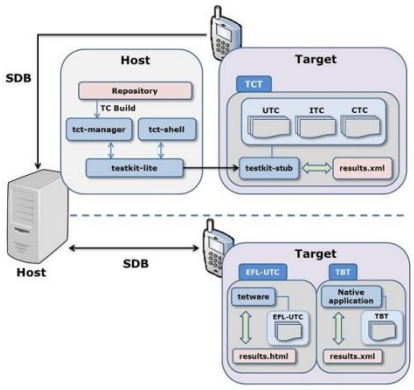


Figure 1-1: Native TCT Workflow

2 Test Environment Setup

2.1 Symbols and Abbreviations

TC - Test Case

TCT - Tizen Compliance Test

SDB - Smart Development Bridge

<name> - Mandatory argument

[name] - Optional argument

$ (in shell command) - Indicates the beginning of a command

(in shell command) - In long commands, the backslash character ensures that newline character is ignored (if you join consecutive lines, please remove unnecessary backslashes)

2.2 Hardware Requirements

a. PC or Laptop that will work as host on which TCT-Manager will be installed

b. Tizen device that will work as target on which TCs will be executed

c. USB Cable for connecting device to host

2.3 Software Requirements

a. Install 32 or 64 bit Ubuntu OS.

b. Install JDK 1.6 or newer version on Linux PC.

c. Install Tizen 6.0 SDK on Linux PC for SDB connection.

d. These packages should be installed before installing TCT-Manager

```
$ sudo apt-get install rpm2cpio
$ sudo apt-get install tree
$ sudo apt-get install python-pip
$ sudo apt-get install python-support
$ sudo apt-get install python-requests
$ sudo apt-get install python-setuptools
```

e. libudev1 or libudev-dev package should be installed for SDB.

First find the library ‘libudev’ installation location using command:~$ cd /lib/

```
$ find . –type f – name "libudev*"
```

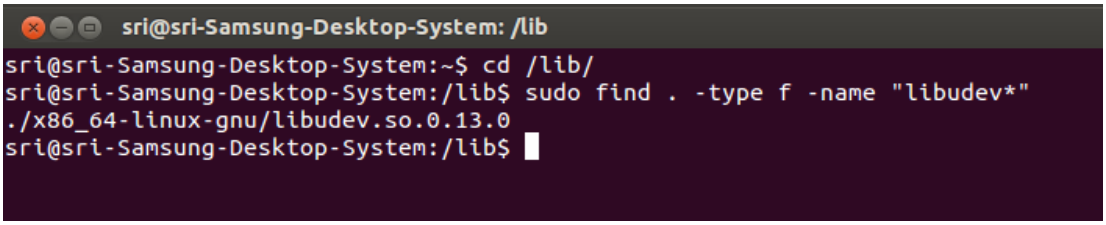


Figure 2-1: Getting location of libudev

If the package is not properly linked, use the following command:

$ sudo ln –s /lib/<installation-folder>/libudev.so.<version> /lib/<installation-folder>/libudev.so.0

e.g. $ sudo ln –s /lib/i386-linux-gnu/libudev.so.0.13.0 /lib/i386-linux-gnu/libudev.so.0

2.4 Getting TCT-binary and TCT-manager

2.4.1 Download TCT Binary

Download TCT binary from site:

http://165.213.149.200/download/tct/tizen_6.0/NativeTCT/Auto_Binary/NativeTCT_6.0_XX.zip

$ unzip NativeTCT_6.0_XX.zip

$ cd NativeTCT_6.0-XX/

Native TCT packages are already built and inside in NativeTCT_6.0/TCT/native-tct /package/mobile and native-tct/package/wearable folder. You can find zip files in there.

2.4.2 Folder Structure

You will find the folder structure like below:

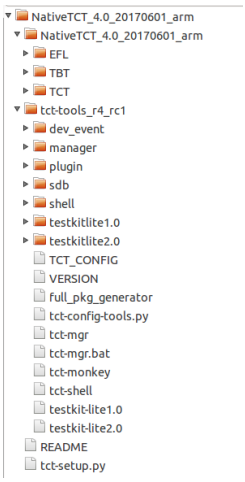


Figure 2-2: TCT-Manager folder structure

The following table describes the folders contents.

Folder	**Description**
package	All the packages to be tested in device
tools	Contains tct tools and testkitlite etc.
scripts	Installation scripts to install host

Table 2-1: TCT-Manager folders

2.4.3 For Host Configuration

a. Set environment on your host

```
$ sudo python  ~/NativeTCT_6.0_XX/tct-setup.py
```

```
sri@prashant-ubuntu:~/ACR_4.0/new_acr/fresh/19june/new_code/api/tool/NativeTCT_4.0$ sudo python tct-setup.py
current source base path =/home/sri/ACR_4.0/new_acr/fresh/19june/new_code/api/tool/NativeTCT_4.0/tct-tools_r4_rc1/
current target base path =/opt/tools
target shell path is exists
target shell dir destroyed
copy shell  dir finish
target manager path is exists
target manager dir destroyed
copy manager  dir finish
target monkey path is exists
target monkey dir destroyed
copy monkey  dir finish
target lite2.4 path is exists
target lite2.4 dir destroyed
copy lite2.4  dir finish
target lite3.0 path is exists
target lite3.0 dir destroyed
copy lite3.0  dir finish
target plugin path is exists
target plugin dir destroyed
copy plugin  dir finish
current source base path =/home/sri/ACR_4.0/new_acr/fresh/19june/new_code/api/tool/NativeTCT_4.0/NativeTCT_4.0/TCT/native-tct/tools/
current target base path =/opt/tct
target doc path is exists
target doc dir destroyed
copy doc  dir finish
target package path is exists
target package dir destroyed
copy package  dir finish
target manager path is exists
target manager dir destroyed
copy manager  dir finish
target resource path is exists
target resource dir destroyed
copy resource  dir finish
sri@prashant-ubuntu:~/ACR_4.0/new_acr/fresh/19june/new_code/api/tool/NativeTCT_4.0$
```

Figure 2-3: Host Installation

2.4.4 For Device Configuration

a. Connect the target device to host (PC) through USB.

b. Remount system as read-write.

```
$ sdb root on
```

c. Set environment on your target

```
$ sudo python /opt/tct/tizen_native_6.0/scripts/tct-config-device.py
```

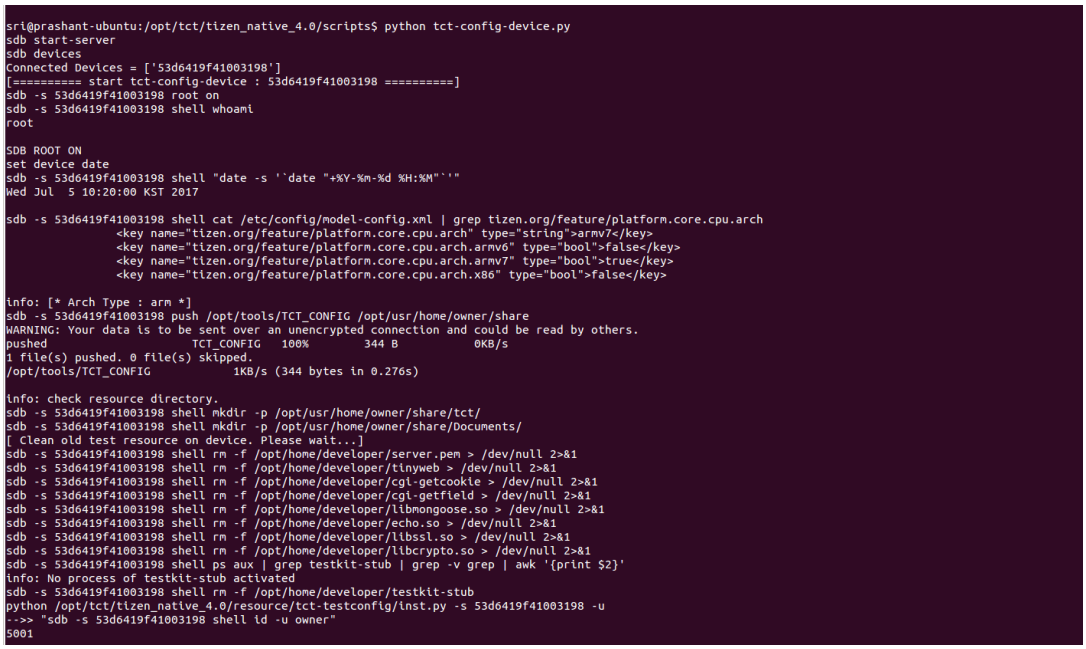


Figure 2-4: Device Installation

Note: We recommend to use --purge option (like clean) for getting fresh execution environment. If you face any problems, you should do as root.

2.5 TBT

2.5.1 Installing the TBT Package

Install the TBT package by following steps:

a) Download binary from the below link :

http://165.213.149.200/download/tct/tizen_6.0/NativeTCT/Auto_Binary/NativeTCT_6.0_XX.zip

b) Firstly uninstall tbtcoreapp from the device if already installed.

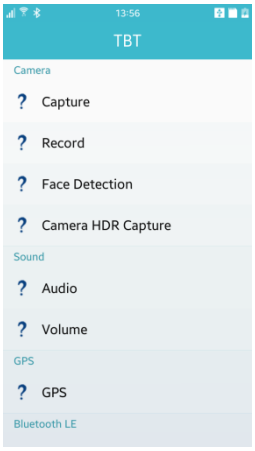
c) Execute install.sh.

```
$ unzip NativeTCT_6.0_XX.zip
$ cd NativeTCT_6.0_XX/NativeTCT_6.0/TBT/
$ chmod +x install.sh
$ ./install.sh
```

d) After running the script, TBT will be launched.

e) Test case list will appear in welcome screen.

f) If the required feature for the respective test case is not available in the device, then a message will be shown, while executing the test cases.



Mobile
Figure 2-5: TBT Application

2.5.2 Application Status Report

The status (Pass, Fail, Not-Tested or Feature-Not-Supported) of all the test cases are stored in an XML file. The name of the file is tbt-report.xml. It is generated in the Others folder of the storage directory of the system.

By default, if manufacturer doesn't change the path, it should be located in/opt/home/owner/content/Others/tbt-report.xml. You can get report with:

```
$ sdb pull /opt/home/owner/content/Others/tbt-report.xml
```

2.6 EFL

2.6.1 Get EFL Binary from Download Site

http://165.213.149.200/download/tct/tizen_6.0/NativeTCT/Auto_Binary/NativeTCT_6.0_XX.zip

```
$ unzip NativeTCT_6.0_XX.zip
$ cd NativeTCT_6.0_XX / NativeTCT_6.0/EFL
```

2.6.2 Push EFL UTC Package into Tizen Device

Enable sdb root mode:

```
$sdb root on
```

Push EFL UTC package into Tizen device:

```
$sdb push efl-test-suite-1.3.0-2.{Option}.rpm  /home/owner/content/
```

Figure 2-6: EFL UTC Push

2.6.3 Login to Tizen Device via SDB and Install EFL UTC Package

Login to Tizen device:

```
$sdb shell
#su – [login into owner user]
#cd / home/owner/content/
#rpm –Uvh efl-test-suite-xxx.{Option}.rpm --force  --nodeps
```

Figure 2-7: EFL UTC Install

3 How to Execute TCT

3.1 Execute TCT Test Suites:

3.1.1 Using Native TCT-Manager

Execute the following command:

```
$ tct-mgr
```

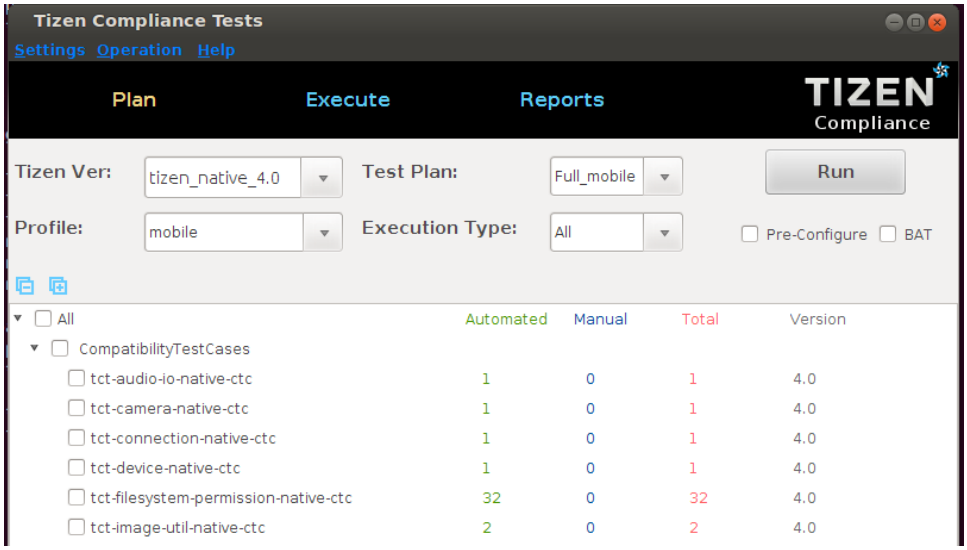


Figure 3-1: TCT-Manager UI

3.1.1.1 Choose Profile:

Choose your profile from profile combo box.

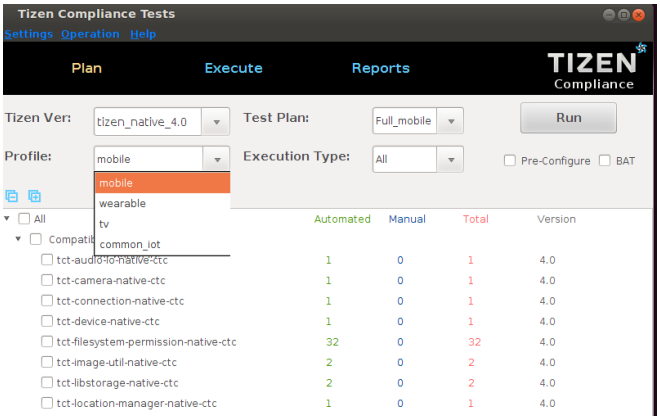


Figure 3-2: Select Profile

3.1.1.2 Choose Target:

Choose your target from Settings > Choose Device:

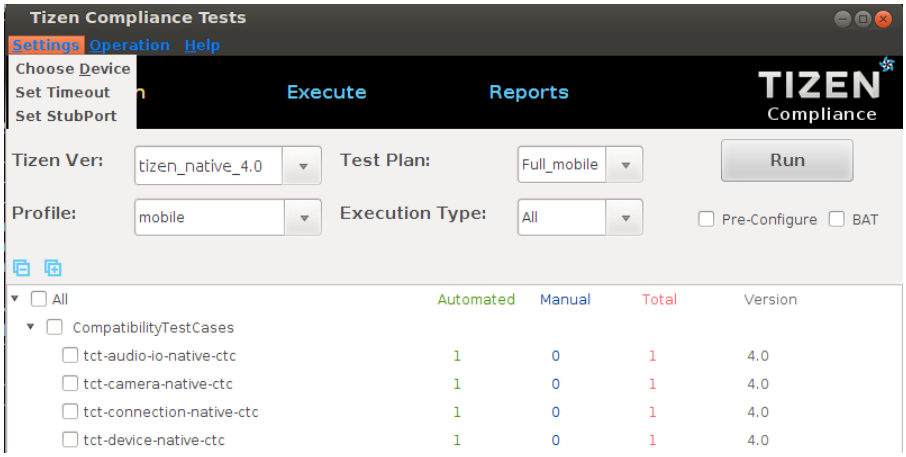


Figure 3-3: Choose device in TCT-Manager UI

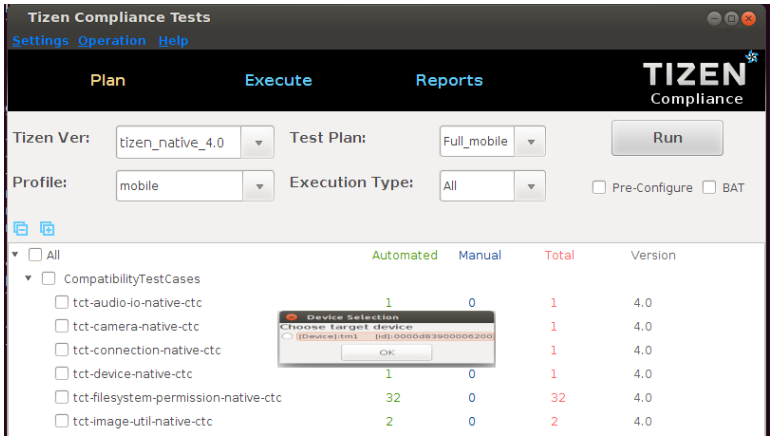


Figure 3-4: Device selection in TCT-Manager

3.1.1.3 Execution by Creating a New Plan:

a. Select suites by checking boxes from trees.

b. Choose profile.

c. Select Execution Type to ‘All’.

d. Click button ‘Run’. Leave Pre-Configure box unchecked at first time.

e. If you check the box from second time, pre-configurations will be set as default.

f. Press ‘Run’ button.

g. Create a new test plan.

h. Input new plan name and then click ‘OK’

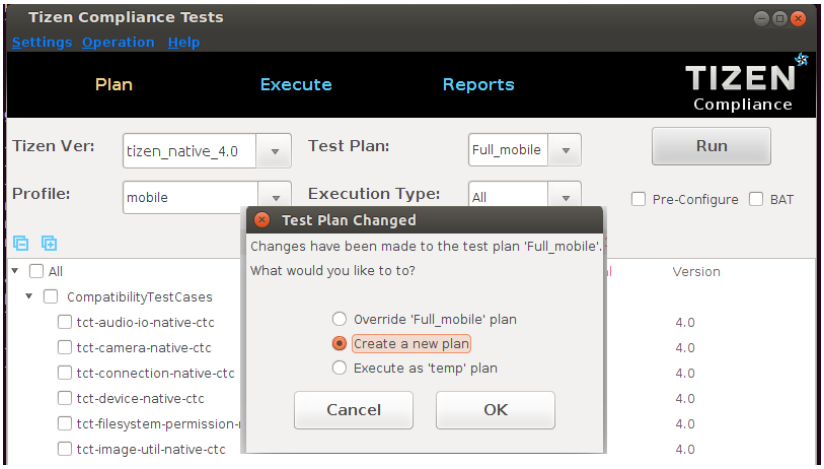


Figure 3-5: Creating a new plan in TCT-Manager

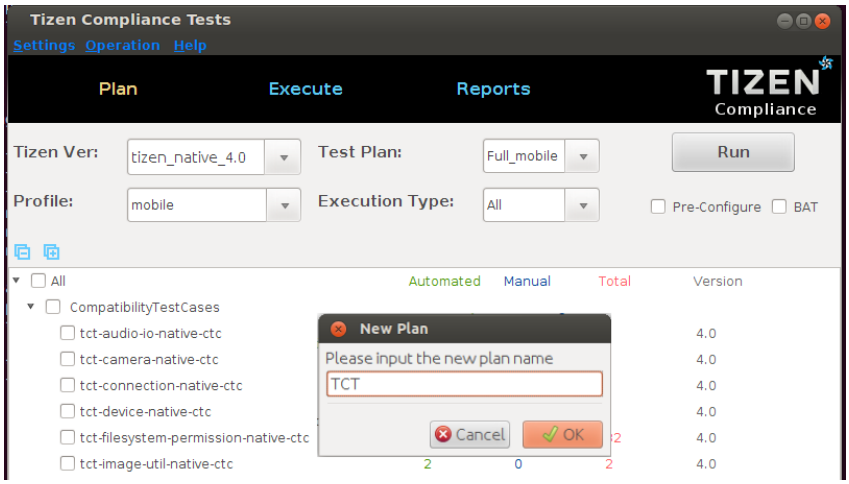


Figure 3-6: Input plan name in TCT-Manager

3.1.1.4 Perform Health check:

As shown in Figure 3-7, health check routines will be invoked to check the status of the target before executing the selected test suites. After all health check routines pass, TCT-Manager runs selected test suites.

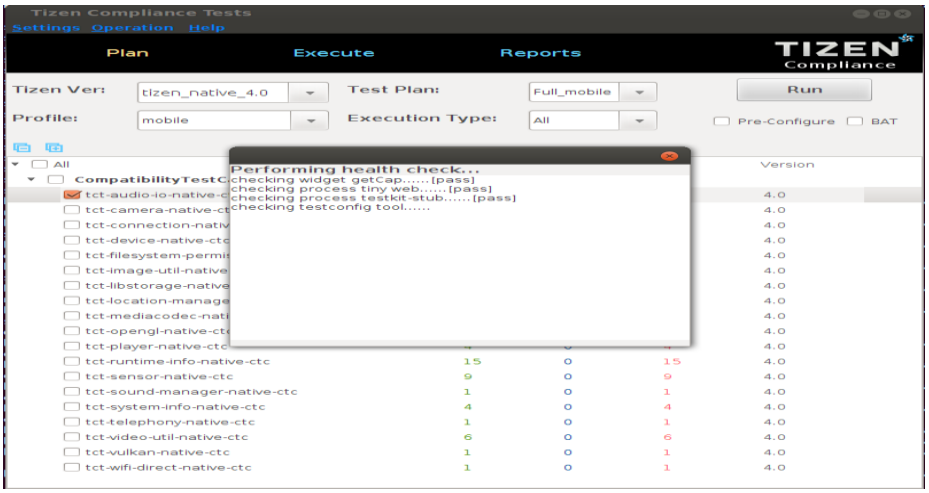


Figure 3-7: Health check monitoring after execution Run in TCT-Manager

3.1.1.5 Edit Pre-Configuration File:

If you execute any package which needs pre-condition, a dialog is displayed to show the configurable parameters for testing as shown in Figure 3-8. Change the values of parameters as per the test environment and press 'Continue'. For e.g. value of EMAIL_RECIPIENT should be set as the email address of recipient to which email should be sent. Before running TCT, leave Pre-Configure box unchecked.

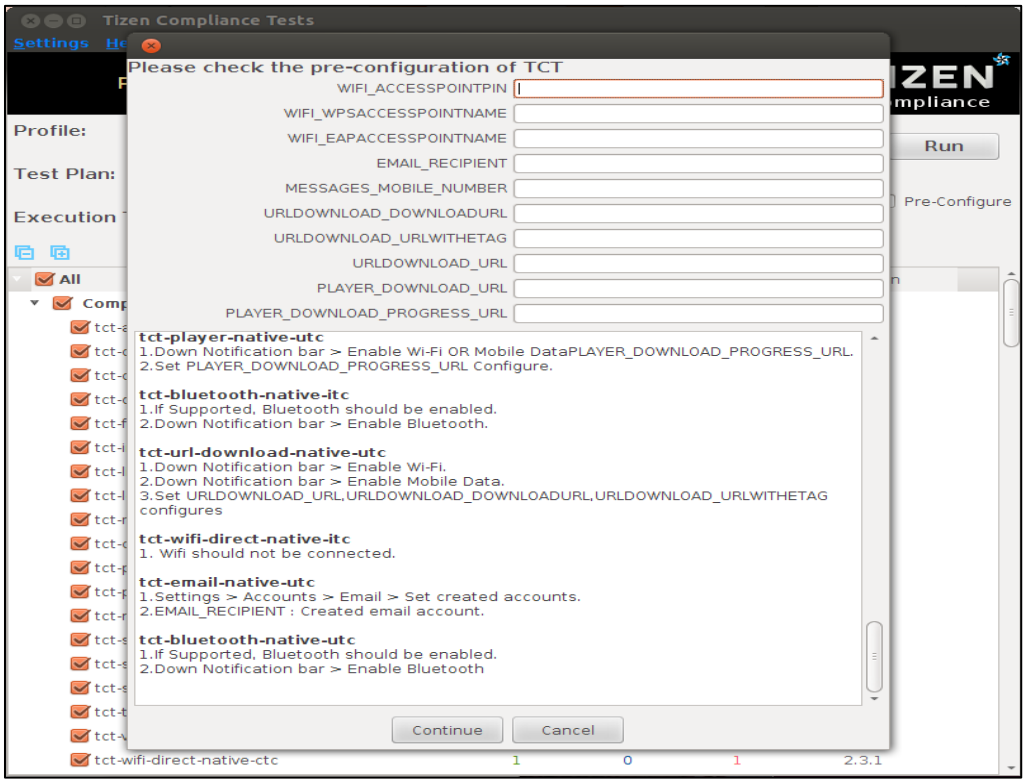


Figure 3-8: Edit Pre-Configuration file before execution.

Below is the pre-requisites list of individual modules suggesting the necessary changes in configuration values:-

UTC		
Packages	**Pre-requisites**	**DEVICE [How to find Information]**
bluetooth	If Supported, Bluetooth should be enabled.	*Down Notification bar > Enable Bluetooth
camera	If Supported, Camera should be working.	*If there is no H/W camera, please connect USB samsung camera. *For TV profile, please connect USB samsung TV camera.
capi-maps-service	Get credential app_id and app_code from HERE developer site(https://developer.here.com).	**[Set the Pre-Configure dialog of TCT-Manager UI]** *MAPS_PROVIDER_KEY : app_id/app_code ex) abcd/1234
contacts-service2	If Supported, SIM Card should be inserted.	*Insert SIM card. *SDN information should be written in SIM Card. (Only allow to write this information to tele-company) *Contacts > Select Sim > Save Contact Information.
connection	If Supported, Enable Wi-Fi If Supported, Enable Mobile Data Network	*Down Notification bar > Enable Wi-Fi. *Down Notification bar > Enable Mobile Data.
email	Must be set an email account.	*Settings > Accounts > Email > Set created accounts **[Set the Pre-Configure dialog of TCT-Manager UI]** *EMAIL_RECIPIENT : Created email account
http	If Supported, Enable Wi-Fi	*Down Notification bar > Enable Wi-Fi.
iotcon	If Supported, Enable Wi-Fi	*Down Notification bar > Enable Wi-Fi.
location-manager	If Supported, GPS should be enabled.	*Down Notification bar > Enable GPS
messages	If Supported, SIM Card (call, message, data network) should be inserted.	*Insert SIM Card **[Set the Pre-Configure dialog of TCT-Manager UI]** *MESSAGES_MOBILE_NUMBER ex) +821012345678
media-content	If Supported, SD card should be inserted.	*Insert SD card.
nfc	If Supported, NFC should be ON.	*Down Notification bar > Enable NFC

player	Must be connected to internet using Wi-Fi or data network.	*Down Notification bar > Enable Wi-Fi OR Down Notification bar > Enable Mobile Data **[Set the Pre-Configure dialog of TCT-Manager UI]** *PLAYER_DOWNLOAD_URL ex) http://www.archive.org/download/WaltzingMathilda-avi/WaltzingMathilda320X240_512kb.mp4 *PLAYER_DOWNLOAD_PROGRESS_URL ex) http://content.bitsontherun.com/videos/ntPYsD4L-1ahmry41.mp4
push	If Supported, Enable Wi-Fi or Data Network. Get push app id and app secret. - App ID is basic identification string value to register your application to Push server. Push server identify your application package identify your App ID. You can get Application ID with below guide document: Maybe, you have to request to Tizen.org via email. https://developer.tizen.org/development/tutorials/native-application/messaging/push - AppSecret is kind of pass code of your App ID. When any servers or other applications request to send push notification to your application, they must send request including your application's (target) App ID and App Secret. So, you can do push TCT with your own AppID and AppSecret. Adding notices: Please check push tutorial's "Managing Security" section with care.	*Down Notification bar > Enable Wi-Fi or Mobile Data. **[Set the Pre-Configure dialog of TCT-Manager UI]** *PUSH_APPID *PUSH_APPSECRET
url-download	Must be connected to Internet using Wi-Fi or data network.	*Down Notification bar > Enable Wi-Fi OR Down Notification bar > Enable Mobile Data.
telephony	If Supported, SIM Card (call, message, data network) should be inserted.	*Insert SIM card.
webkit2	Must be connected to internet using Wi-Fi or data network.	*Down Notification bar > Enable Wi-Fi or Mobile Data
wifi-direct	Wifi should not be connected.	*Down Notification bar > Disable Wi-Fi

wifi	If Supported, Wi-Fi should be enabled.	*Down Notification bar > Enable Wi-Fi **[Set the Pre-Configure dialog of TCT-Manager UI]** *Wi-Fi_WPSACCESSPOINTNAME (Wi-Fi router's name) *Wi-Fi_ACCESSPOINTPIN (Wi-Fi router`s password)

ITC		
Packages	**Pre-requisites**	**DEVICE [How to find Information]**
bluetooth	If Supported, Bluetooth should be enabled.	*Down Notification bar > Enable Bluetooth
camera	If Supported, Camera should be available.	*If there is no H/W camera, please connect USB samsung camera. *For TV profile, please connect USB samsung TV camera.
capi-maps-service	If Supported, Enable Wi-Fi or Data Network. Get credential app_id and app_code from HERE developer site(https://developer.here.com).	*Down Notification bar > Enable Wi-Fi or Mobile Data. **[Set the Pre-Configure dialog of TCT-Manager UI]** *MAPS_PROVIDER_KEY : app_id/app_code ex) abcd/1234
connection	If Supported, Enable Wi-Fi If Supported, Enable Mobile Data Network	*Down Notification bar > Enable Wi-Fi. *Down Notification bar > Enable Mobile Data.
contacts-service2	1. If Supported, SIM Card should be inserted. 2. Create a contact in SIM	*Insert SIM card. *SDN information should be written in SIM Card. (Only allow to write this information to tele-company) * Contacts > Select Sim > Save Contact Information
email	Must be set an email account.	*Settings > Accounts > Email > Set created accounts **[Set the Pre-Configure dialog of TCT-Manager UI]** *EMAIL_RECIPIENT : Created email account
http	If Supported, Enable Wi-Fi	*Down Notification bar > Enable Wi-Fi.
iotcon	If Supported, Enable Wi-Fi	*Down Notification bar > Enable Wi-Fi.
key-manager	Must be set the time as correct	*Once connect mobile data or wi-fi, it comes correct when 'auto udpate' set. Or Settings > Data and Time : Set by manual.
nfc	If Supported, NFC should be ON.	*Down Notification bar > Enable NFC
location-manager	If Supported, GPS should be enabled.	*Down Notification bar > Enable GPS

media-content	If Supported, SD card should be inserted.	*Insert SD card.
messages	If Supported, SIM Card (call, message, data network) should be inserted.	*Insert SIM Card **[Set the Pre-Configure dialog of TCT-Manager UI]** *MESSAGES_MOBILE_NUMBER ex) +821012345678
push	If Supported, Enable Wi-Fi or Data Network. Get push app id and app secret. - App ID is basic identification string value to register your application to Push server. Push server identify your application package identify your App ID. You can get Application ID with below guide document: Maybe, you have to request to Tizen.org via email. https://developer.tizen.org/development/tutorials/native-application/messaging/push - AppSecret is kind of pass code of your App ID. When any servers or other applications request to send push notification to your application, they must send request including your application's (target) App ID and App Secret. So, you can do push TCT with your own AppID and AppSecret. Adding notices: Please check push tutorial's "Managing Security" section with care.	*Down Notification bar > Enable Wi-Fi or Mobile Data. **[Set the Pre-Configure dialog of TCT-Manager UI]** *PUSH_APPID *PUSH_APPSECRET
player	Must be connected to internet using Wi-Fi or data network.	*Down Notification bar > Enable Wi-Fi OR Down Notification bar > Enable Mobile Data **[Set the Pre-Configure dialog of TCT-Manager UI]** *PLAYER_DOWNLOAD_URL ex) http://www.archive.org/download/WaltzingMathilda-avi/WaltzingMathilda320X240_512kb.mp4 *PLAYER_DOWNLOAD_PROGRESS_URL ex) http://content.bitsontherun.com/videos/ntPYsD4L-1ahmry41.mp4

telephony	If Supported, SIM Card (call, message, data network) should be inserted.	*Insert SIM card. ※ SPN information should be written in SIM Card. (Only allow to write this information to tele-company)
url-download	Must be connected to Internet using Wi-Fi or data network.	*Down Notification bar > Enable Wi-Fi OR Down Notification bar > Enable Mobile Data **[Set the Pre-Configure dialog of TCT-Manager UI]** *URLDOWNLOAD_URL ex) https://download.tizen.org/misc/Tizen-Brand/01-Primary-Assets/Logo/On-Light/01-RGB/Tizen-Logo-On-Light-RGB.png *URLDOWNLOAD_DOWNLOADURL exhttp://mirrors.ustc.edu.cn/videolan-ftp/vlc/2.1.5/win32/vlc-2.1.5-win32.zip *URLDOWNLOAD_URLWITHETAG ex) http://www.w3.org/Protocols/rfc2616/rfc2616-sec14.html
webkit2	Must be connected to internet using Wi-Fi or data network.	*Down Notification bar > Enable Wi-Fi OR Down Notification bar > Enable Mobile Data
wifi-direct	Wifi should not be connected.	*Down Notification bar > Disable Wi-Fi
wifi	If Supported, Wi-Fi should be enabled.	*Down Notification bar > Enable Wi-Fi **[Set the Pre-Configure dialog of TCT-Manager UI]** *Wi-Fi_WPSACCESSPOINTNAME (Wi-Fi router's name) *Wi-Fi_ACCESSPOINTPIN (Wi-Fi router`s password) *Wi-Fi_EAPACCESSPOINTNAME (Should be enterprise access point mode and public. This Wi-Fi router should be different from above WPS enabled public Wi-Fi router.)>

CTC		
Packages	**Pre-requisites**	**DEVICE [How to find Information]**
platform-permission	If Supported, Bluetooth should be enabled. If Supported, SIM card should be inserted. If Supported, SD card should be inserted.	*Down Notification bar > Enable Bluetooth *Insert SIM card.

	If Supported, Enable Wi-Fi.	*Insert SD card. *Down Notification bar > Enable Wi-Fi.
telephony	If Supported, SIM Card (call, message, data network) should be inserted.	*Insert SIM card.

3.1.1.6 Execution Progress:

When executing the test, this screen will be shown as in Figure 3-9.

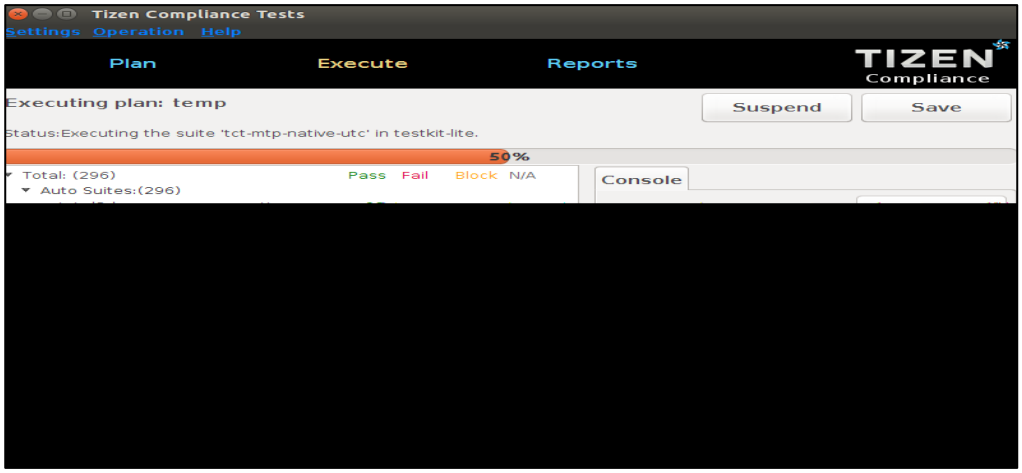


Figure 3-9: Execution progress while Running Test Suite in TCT-Manager

3.1.1.7 Execution Report:

After executing all the test suites, Reports tab will show a results list as in Figure 3-10.

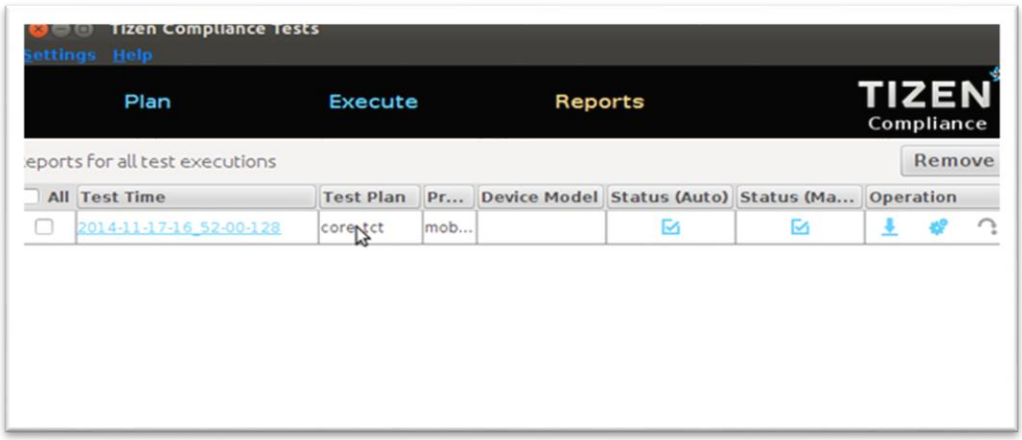


Figure 3-10: Execution report after completing execution in TCT-Manager

3.1.1.8 Download Result:

You can download the result file by clicking red marked button showed in Figure 3-11.

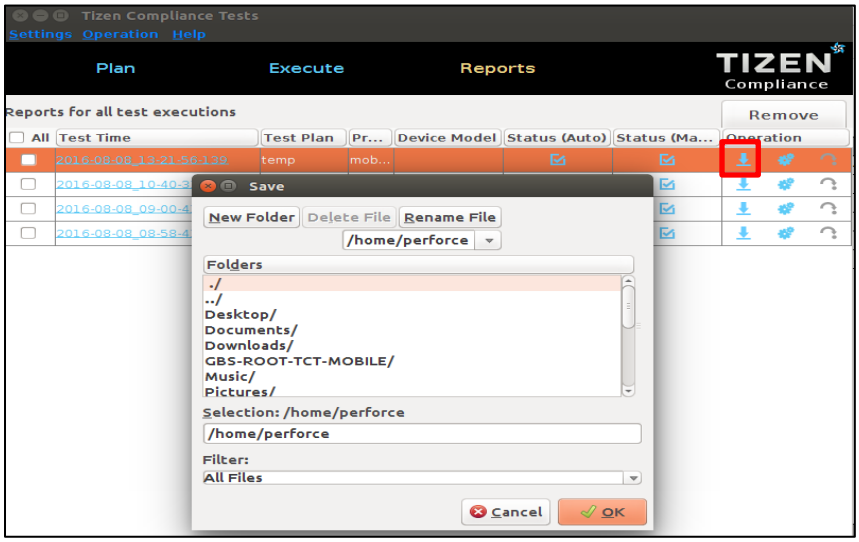


Figure 3-11: Download the Execution report in TCT-Manager

3.1.1.9 View the Execution Report in Browser

Click the red marked link to view result summary in browser as shown in Figure 3-12.

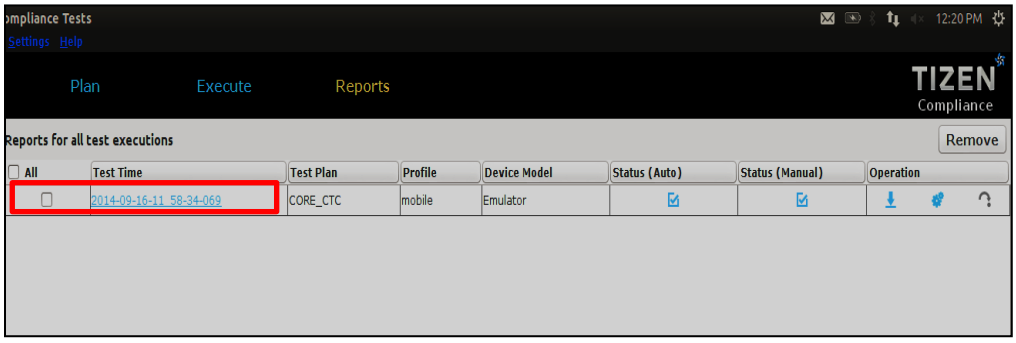
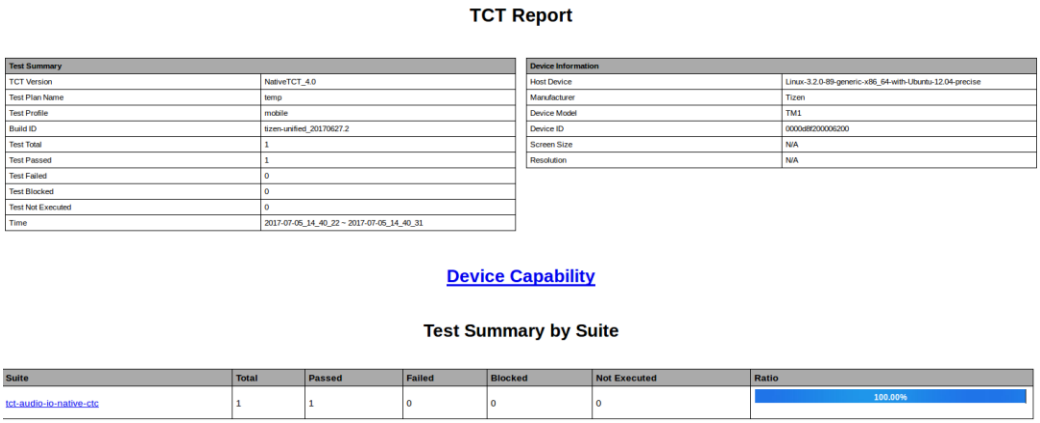


Figure 3-12: View the Execution report in TCT-Manager

TCT-manager provides detailed information about test results. TCT Report (Figure 3-13) shows
how many test suites were executed, how many test cases were checked, how many test cases passed or failed, etc.



TCT Report

Test Summary	
TCT Version	NativeTCT_4.0
Test Plan Name	temp
Test Profile	mobile
Build ID	tizen-unified_20170627.2
Test Total	1
Test Passed	1
Test Failed	0
Test Blocked	0
Test Not Executed	0
Time	2017-07-05_14_40_22 ~ 2017-07-05_14_40_31

Device Information	
Host Device	Linux-3.2.0-89-generic-x86_64-with-Ubuntu-12.04-precise
Manufacturer	Tizen
Device Model	TM1
Device ID	0000d8f2000006200
Screen Size	N/A
Resolution	N/A

Device Capability

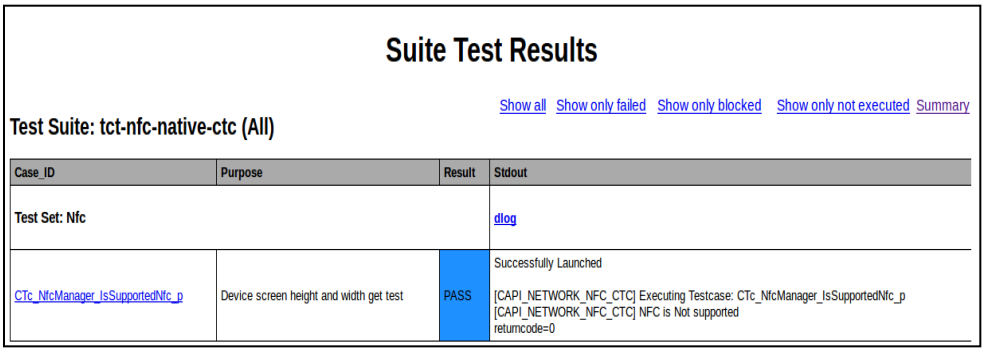
Test Summary by Suite

Suite	Total	Passed	Failed	Blocked	Not Executed	Ratio
tct-audio-io-native-ctc	1	1	0	0	0	100.00%

Figure 3-13: View the Execution report summary in TCT-Manager

3.1.1.10 View Result Details:

By clicking the name of each test suite, you can check the name, purpose, result and error log of each test case (Figure 3-14). Also you can see sdb dlog by clicking dlog link.



Suite Test Results

Show all Show only failed Show only blocked Show only not executed Summary

Test Suite: tct-nfc-native-ctc (All)

Case_ID	Purpose	Result	Stdout
Test Set: Nfc			dlog
CTc_NfcManager_IsSupportedNfc_p	Device screen height and width get test	PASS	Successfully Launched [CAPI_NETWORK_NFC_CTC] Executing Testcase: CTc_NfcManager_IsSupportedNfc_p [CAPI_NETWORK_NFC_CTC] NFC is Not supported returncode=0

Figure 3-14: View the Execution Report Details in TCT-Manager

3.1.1.11 Execution Log Export:

Export execution log by clicking export button marked red in Figure 3-15.

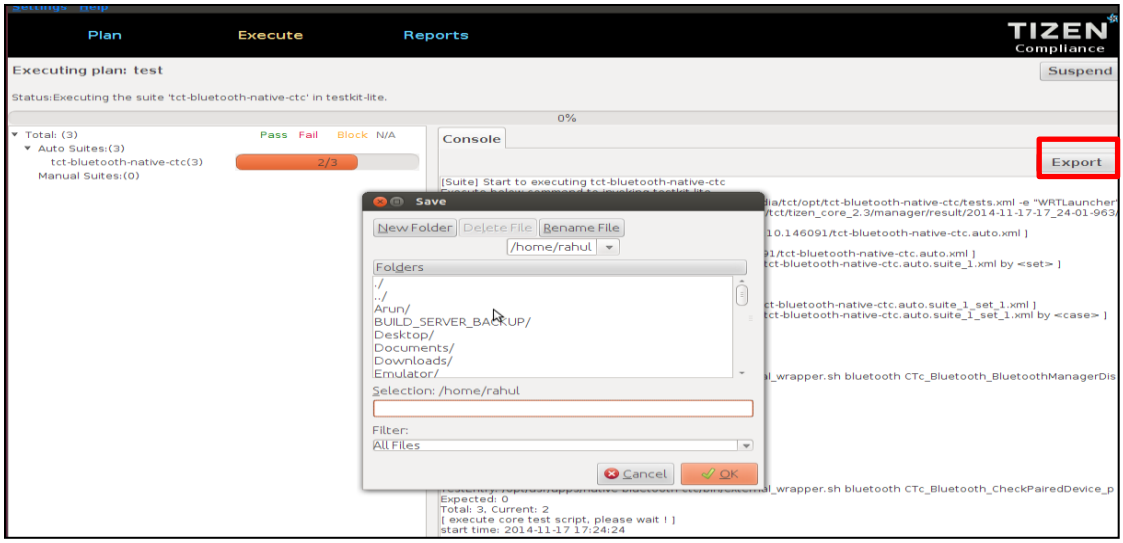


Figure 3-15: Exporting Log of Execution Report from TCT-Manager

3.1.1.12 Stop Execution:

While executing test suites if executions need to be stopped, click the window close button which will prompt like below (Figure 3-16).

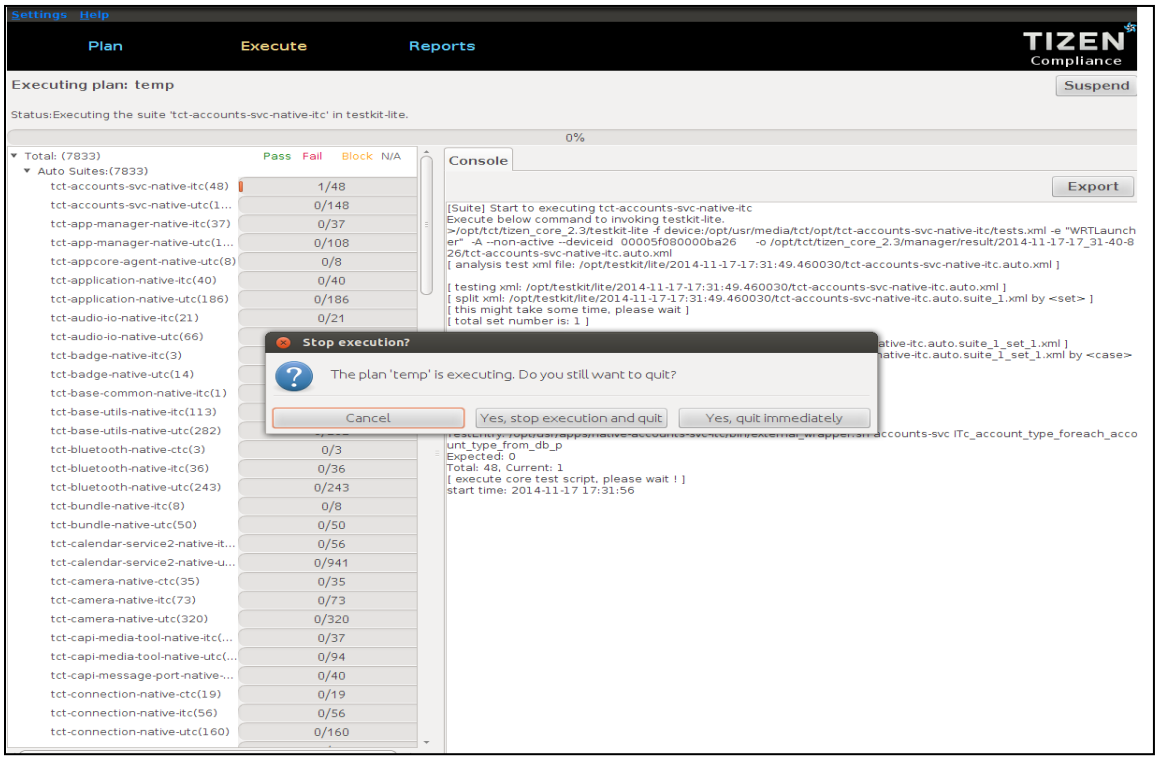


Figure 3-16: Stop the test-suite execution while execution is running in TCT-Manager

3.1.1.13 Rerun Failed Test Cases:

If you want to re-run for non-pass test cases, click rerun button (Figure 3-17).

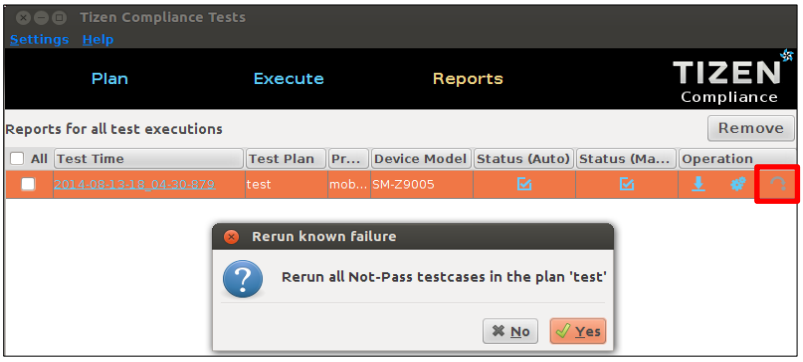


Figure 3-17: Rerun Failed TCs

4 TBT Execution Steps

4.1 TBT

4.1.1 Installing the TBT Package on device

Install the TBT package by following steps:

a) Firstly uninstall tbtcoreapp from the device if already installed and create askuser_disable file in device.

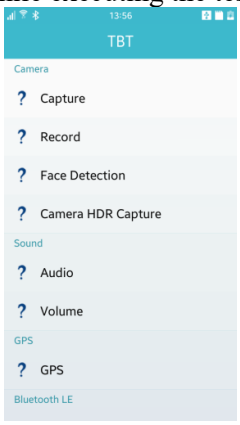
b) Execute install.sh.

```
$ unzip NativeTCT_6.0_XX.zip
$ cd NativeTCT_6.0_XX/NativeTCT_6.0/TBT/
$ chmod +x install.sh
$ sdb root on
$ sdb shell
sh-3.2$ touch /opt/share/askuser_disable
sh-3.2$ exit
$ ./install.sh
```

c) After running the script, TBT will be launched.

d) Test case list will appear in welcome screen.

e) If the required feature for the respective test case is not available in the device, then a message will be shown, while executing the test cases.



Mobile Figure 2-5: TBT Application

4.1.2 Application Status Report

The status (Pass, Fail, Not-Tested or Feature-Not-Supported) of all the test cases are stored in an XML file. The name of the file is tbt-report.xml. It is generated in the Others folder of the storage directory of the system.

By default, if manufacturer doesn't change the path, it should be located in/opt/home/owner/content/Others/tbt-report.xml. You can get report with:

```
$ sdb pull /opt/home/owner/content/Others/tbt-report.xml
```

4.2 Execute/Test TBT:

4.2.1 Testing the Mobile Device

This chapter describes the various tests that can be performed to check the device functionality.

4.2.1.1. Camera

This section describes the camera testing options. If the functionality works as expected then press Pass. Otherwise, press Fail.

Camera Capture

To test the camera capture functionality:

a. Select the Capture from the test case list

b. Press Capture to capture a picture.

c. Check the captured picture which is shown automatically.

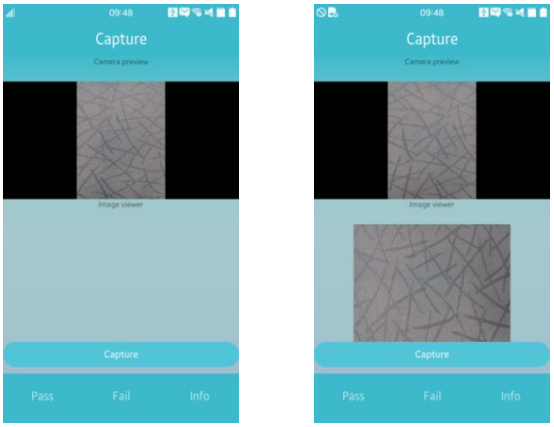


Figure 3-18: Camera Preview

Camera Record**:**

To test the camera recording functionality:

a. Select the Record Test from the test case list.

b. Press Record button to record the video.

c. Press Stop to stop the recording

Check the recorded video clip which is shown automatically.

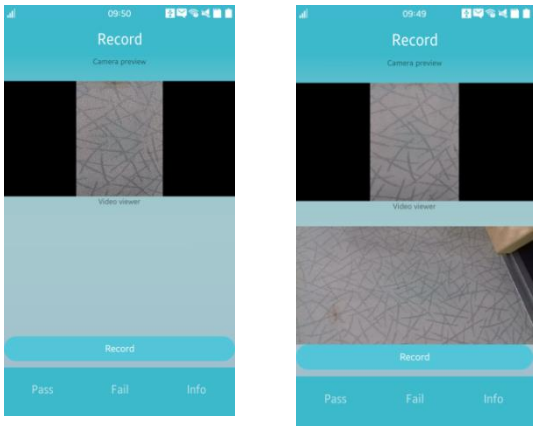


Figure 3-19: Camera Record

Camera Face Detection:

To perform the test,

a. Select Face Detection Test from the test case list and the camera preview starts automatically.

b. If the camera can detect face and “zoom in” and “zoom out” is performed automatically then Pass, otherwise Fail.

Figure 3-20: Face detection

Camera HDR Capture:

To perform the test,

a. Select Camera HDR Capture from the test case list.
b. Press button Capture and the captured picture is shown.
c. If the picture can be captured and shown, then Pass, otherwise Fail.

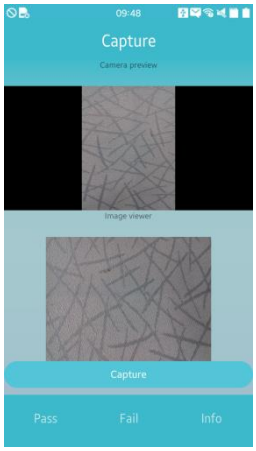


Figure 3-21: Camera HDR Capture

4.2.1.2. Sound

This section describes the sound testing options. If the functionality works as expected, then press Pass. Otherwise, press Fail.

Sound Audio

To test the sound of the speaker:

a. Select Audio Test from the test case list.
b. Press Play.
c. Check the sound output to the speaker.
d. Press Stop to stop the music.
e. Press Pause to pause the music

Figure 3-22: Sound Test

Sound Volume

To test the sound volume:

a. Select the Volume Test from the test case list and the sound is played automatically.

b. Slide the Volume Slider to change the volume level.

c. Check the sound output to the speaker by hearing and watching the value of volume label.

Figure 3-23: Sound Volume Test

4.2.1.3. GPS

To test the GPS functionality,

a. Select the GPS Test from the test case list

b. Enable Location and view the GPS information.

c. If the information is correct then PASS, otherwise FAIL.

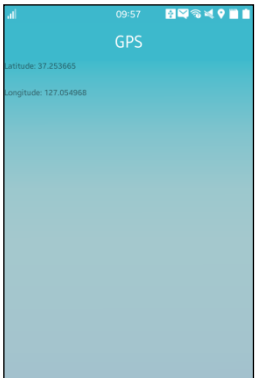


Figure 3-24: GPS

Note: If the GPS information is unavailable for 6 minutes, the process fails.

4.2.1.4. Bluetooth LE

This section describes the Bluetooth LE testing options. If the functionality works as expected, press PASS, otherwise, press FAIL.

Gatt Client Test

To perform the test

a. Make sure Bluetooth is turned ON.
b. Run **Gatt Server** from TBT module list in another device.
c. Press **Discover** Button to start discovering Gatt Server.
d. Select **Gatt server ID** from discovered list to connect it.
e. After successfully connected, two services **Link loss service** and **Battery service** will be shown.
f. select **Link loss** service, a characteristic will be shown
g. Select characteristic, then press Read button. **Get** value will be shown and **Read** request will be shown in Gatt Server end.
h. Press **Write** button, value written to Gatt Server and it will be shown there.
i. Press **hardware back** button, **services** list will be shown again
j. Select **Battery** service, a characteristic will be shown
k. Select characteristic, then press **Read** button. **Get** value will be shown and **Read** request will be shown in **Gatt Server** end.
l. Press Expand button, **Descriptor** list will be shown under battery characteristic.
m. Select descriptor then press Read button, **Get** value will be shown and **Read** request will be shown in **Gatt Server** end.
n. Press **Write** button, value written **to Gatt Server** and it will be shown there.
o. Press **HW Back** button, services list will be shown again
p. Select **Battery service**, a characteristic will be shown
q. Press **Notify** button at **Gatt Server** end, changed value will be shown in **Gatt Client** end.
r. Press **Disconnect** button to Disconnect from Server.

Figure 3-25: GATT Client

Gatt Server Test

To perform the test

a. Make sure Bluetooth is turned ON.

b. Run Gatt Server from TBT module list in another device.

c. Press Start Server button to Start Gatt Server.

d. Follow the Steps in Gatt Client module.

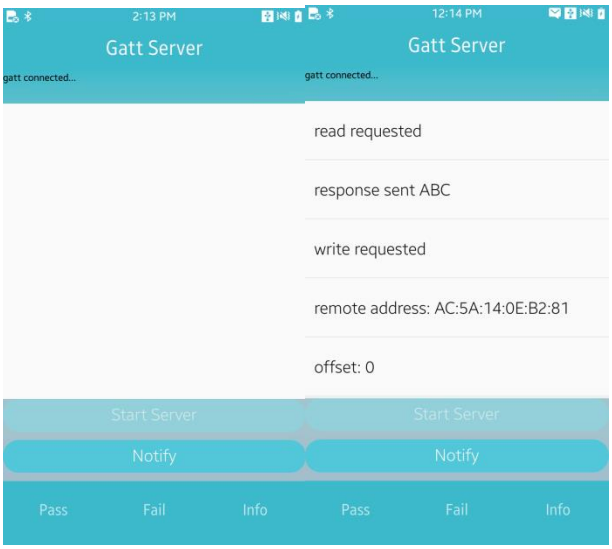


Figure 3-26: GATT Server

4.2.1.5. Bluetooth

This section describes the Bluetooth testing options. If the functionality works as expected, then press PASS, otherwise, press FAIL.

Bluetooth Client Paired:

To test Bluetooth client pairing:

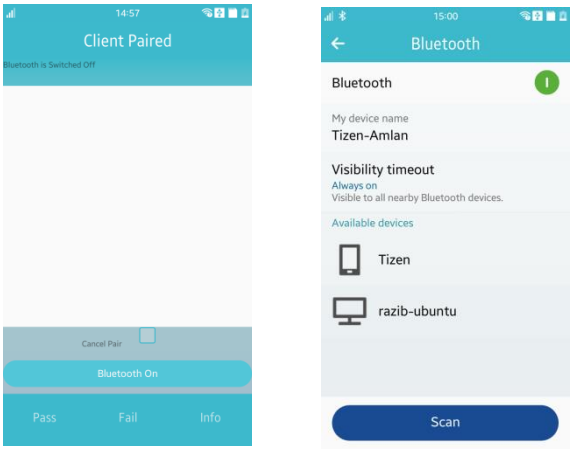
a. Select Client Paired from the test case list in one phone.

b. Select Server Paired from the test case list in one

c. If Bluetooth is off, turn on manually.

d. Press button Discover and a list of available devices will be appeared

e. Select the desired device and wait for the connection popup message. If you want to cancel connection during paring, select the Cancel button..



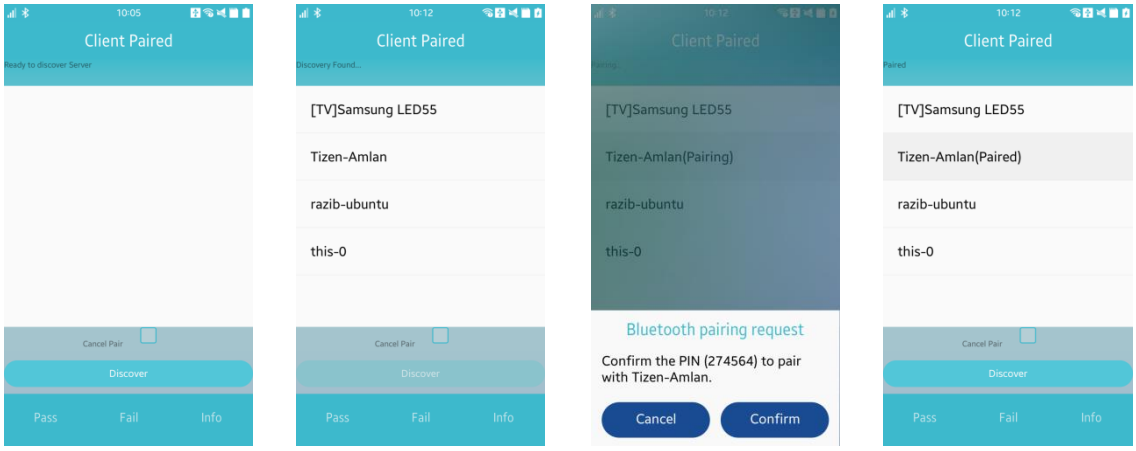


Figure 3-27: Client Paring

Bluetooth Server Paired:

To test Bluetooth server pairing:

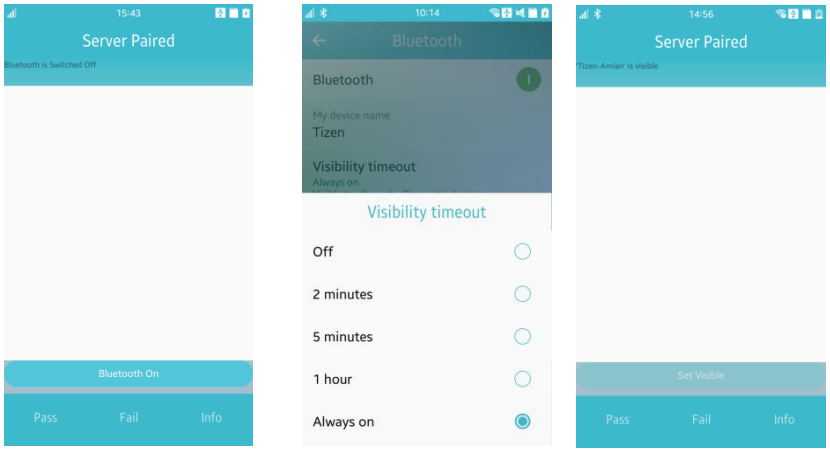
a. Select Server Paired from the test case list of one phone.

b. Select Client Paired from the test case list of other phone.

c. If Bluetooth is off, turn on manually.

d. Press Set Visible and wait for the connection pop-up message.

e. If the message is shown properly then PASS, otherwise FAIL.



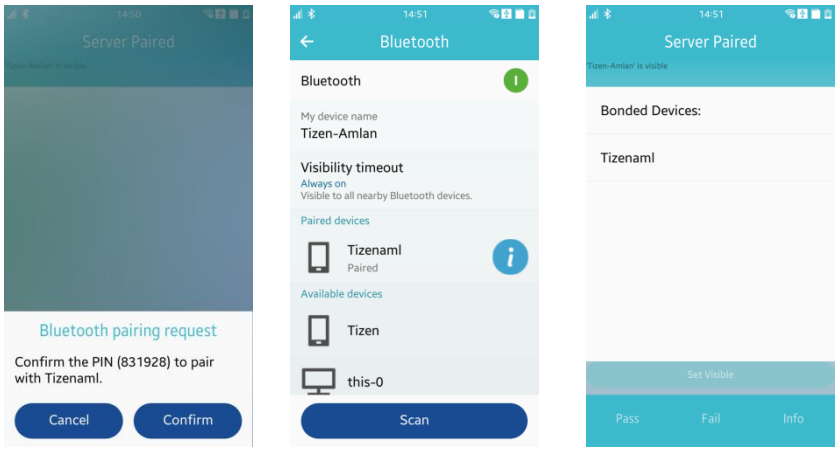


Figure 3-28: Server Pairing

Bluetooth OPP Server:

To perform the test at first, Turn On the Bluetooth of the device where the object will be pushed. Then,

a. Select OPP Server from the test case list of one phone.

b. Select OPP Client from the test case list of other phone.

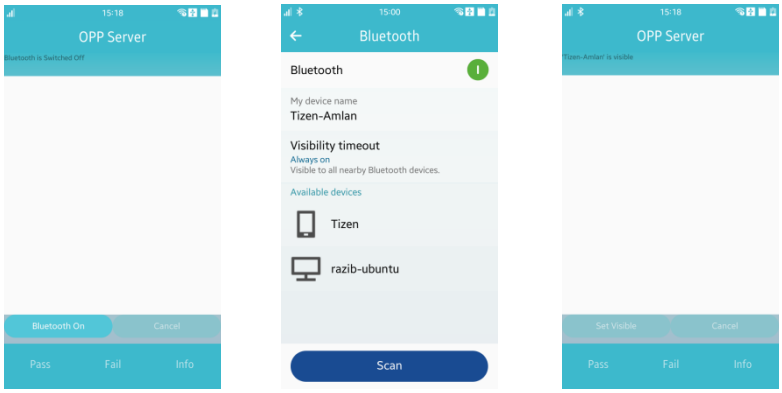
c. Press Switch Bluetooth On to activate Bluetooth on the device and the Bluetooth application of the device will be opened. Turn on Bluetooth from there Select the desired device and the devices will be paired.

d. Press Set Visible and wait for the connection pop-up message.

e. Press “Confirm” button to accept connection from client.

f. When client is trying to send a file press “Accept/Reject” button to accept/reject file sending request.

g. Select “Pass/Fail” if proper message shown in the server side.



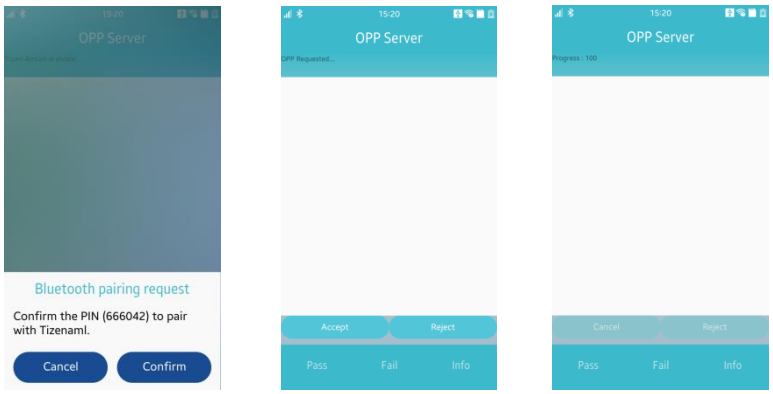


Figure 3-29: OPP Server

Bluetooth OPP Client

To perform the test at first, Turn On the Bluetooth of the device where the object will be pushed. Then,

a. Select Bluetooth OPP Client from the test case list in one phone.

b. Select OPP Server from the test case list of other phone.

c. Press Bluetooth On button to activate Bluetooth on the device and the Bluetooth application of the device will be opened. Turn on Bluetooth from there, Select the desired device and the devices will be paired.

d. Press button Discover to see the list of Bluetooth devices.

e. Select the desired device from the list.

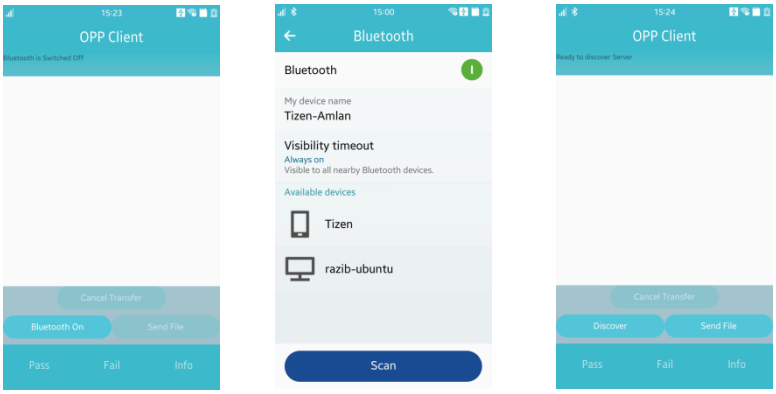
f. Press button Send File.

g. If you want to cancel file sending after pressing “Send File” just press “Cancel Transfer” button, check the message to verify pass/fail.

h. Check if any image file is pushed in the other device.

i. If any image file is pushed then Pass otherwise Fail.

j. Also turn on the Visibility of Bluetooth.



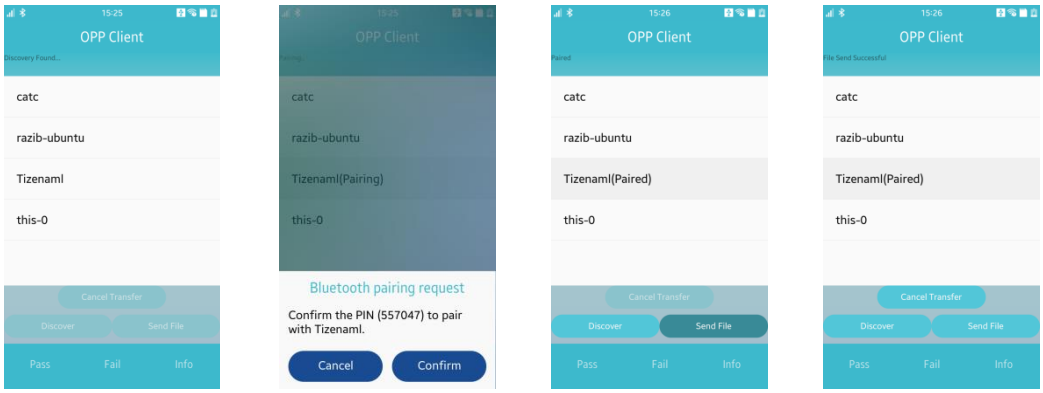


Figure 3-30: OPP Client

Bluetooth Hands Free:

To perform the test

a. Select Handsfree from the test case list

b. If Bluetooth is off, turn on manually.

c. Press button Discover to see the list of Bluetooth Audio devices.

d. Select the desired device from the list.

e. Press button Connect Audio.

f. Now make a call and test if sound is heard in the audio device.

g. If all the steps are performed correctly then Pass, otherwise Fail.

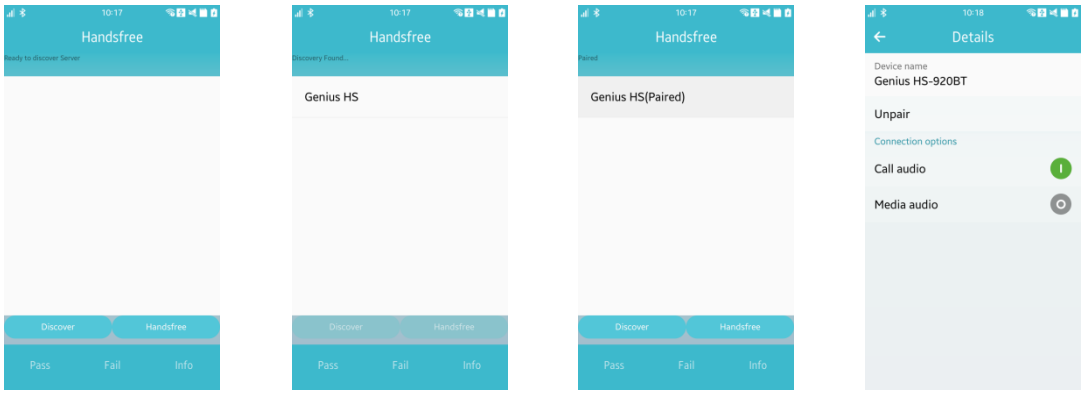


Figure 3-31: Handsfree

Bluetooth Audio Connect:

To perform the test

a. Select Audio Connect from the test case list
b. If Bluetooth is off, turn on manually.
c. Press button Discover to see the list of Bluetooth Audio devices.
d. Select the desired device from the list.
e. Press button Connect Audio.
f. Now you can hear the key pressing sound in Headset.
g. If all the steps are performed correctly then Pass, otherwise Fail.

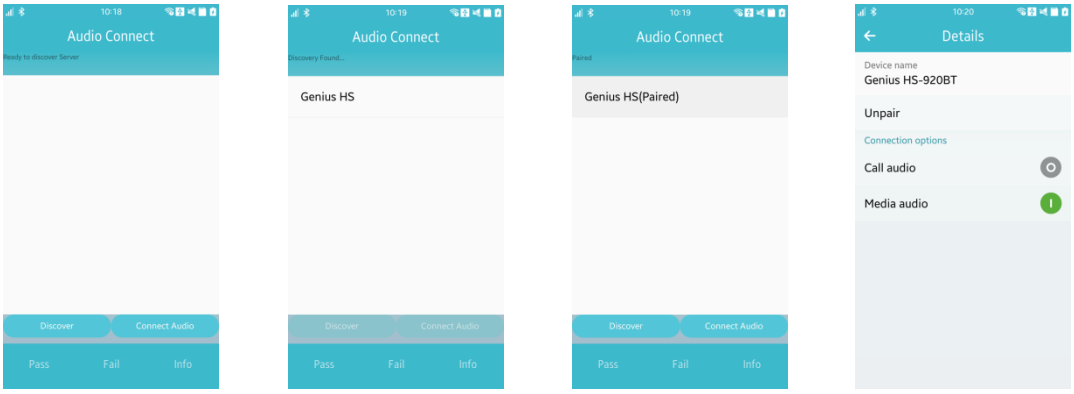


Figure 3-32: Audio Connect

Bluetooth Authorization:

To perform the test

a. Select Authorization from the test case list.
b. If Bluetooth is off, turn on manually.
c. Press button Discover to see the list of Bluetooth devices.
d. Select the desired device from the list.
e. Press button Authorize and the desired device is Authorized.
f. If all the steps are performed correctly then Pass, otherwise Fail.

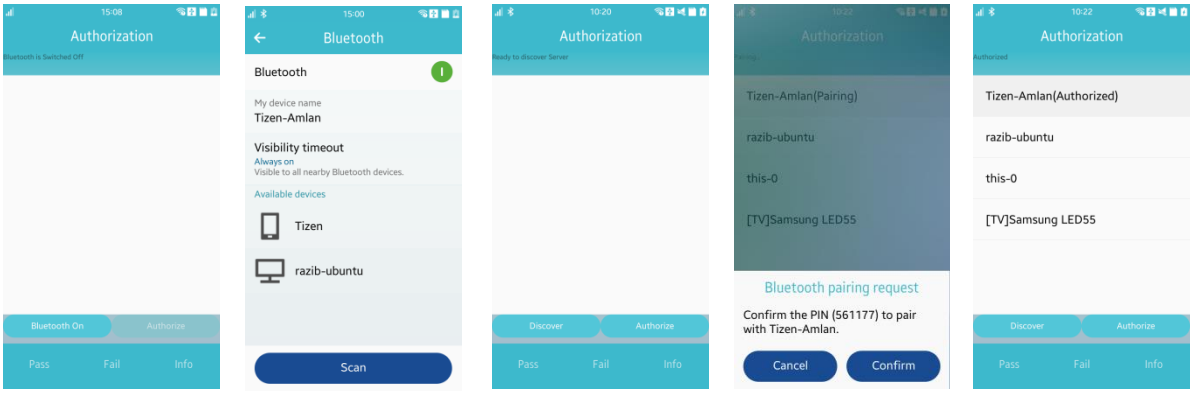


Figure 3-33: Authorization Test

Bluetooth Profiles:

To perform the test

a. Select Bluetooth Profile form the test case list.

b. If Bluetooth is off, turn on manually.

c. Press button Discover to see the list of Bluetooth Audio devices.

d. Select an audio profile enabled device like, Bluetooth Headset from the list for pairing.

e. After successful pairing, connected profiles will be shown.

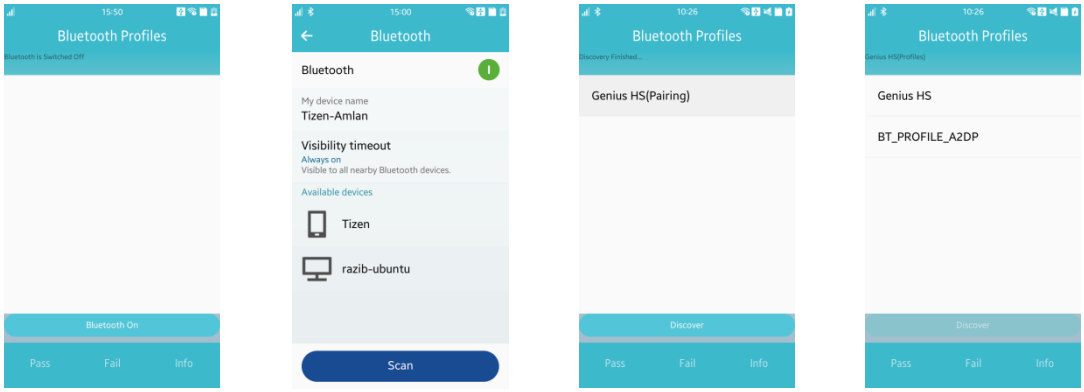


Figure 3-34: Profiles Test

Bluetooth SDP:

To perform this test:

a. Select Bluetooth SDP from the test case list.

b. If Bluetooth is off, turn on manually.

c. Press button Discover to see the list of Bluetooth devices.

d. Clicked on the desire device to make pair with that device.

e. After paring is completed press Connected Services, Bluetooth services will be shown in a list.

f. If Bluetooth profiles are shown then press PASS otherwise FAIL.

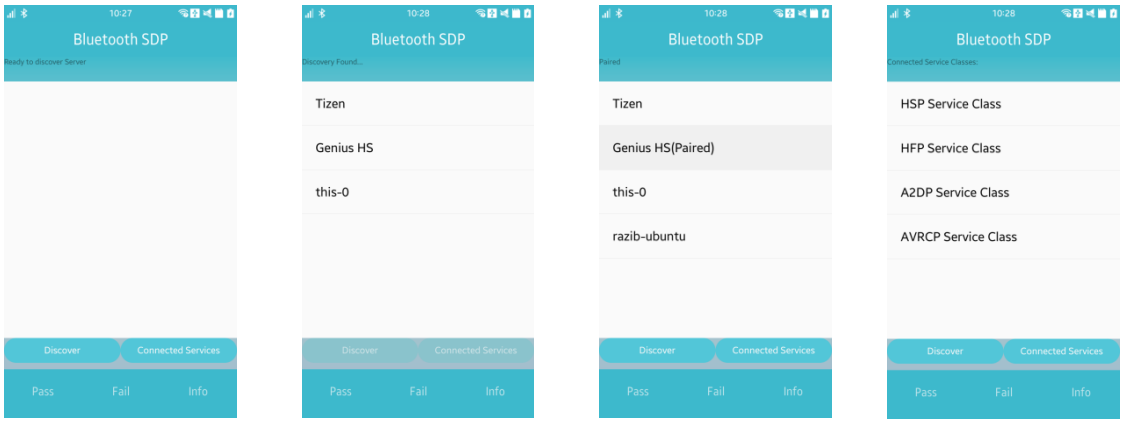


Figure 3-35: SDP

Bluetooth Client Socket:

To perform the test

a. Select Client Socket from the test case list in one phone.

b. Select Server Socket from the test case list in other phone.

c. If Bluetooth is off, turn on manually.

d. Press button Discover to see the list of Bluetooth devices.

e. Select the desired device from the list.

f. Press button Send Data.

g. Check if any file is pushed in the other device.

h. If any file is pushed then Pass otherwise Fail.

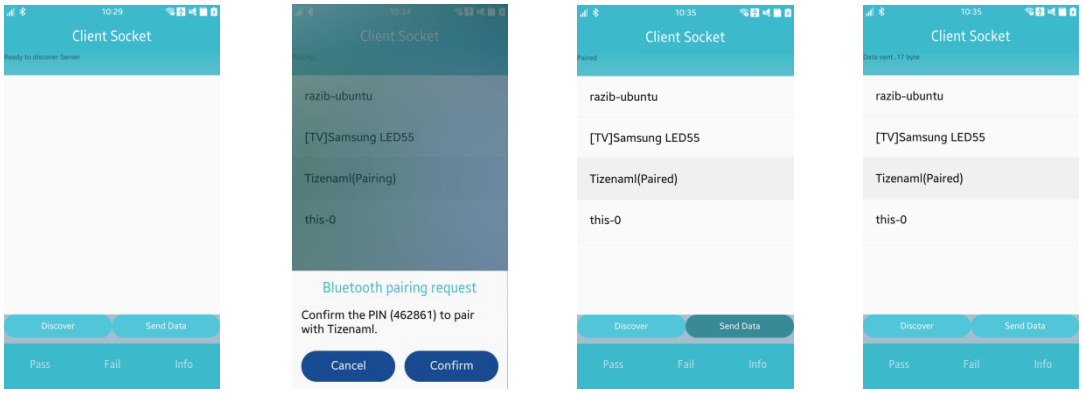


Figure 3-36: Client Socket

Bluetooth Server Socket:

To perform the test

a. Select Server Socket from the test case list in one phone.

b. Select Client Socket from the test case list of other phone.

c. If Bluetooth is off, turn on manually.

d. Press Set Visible and wait for the connection pop-up message.

e. If the message is shown properly then Pass otherwise Fail.

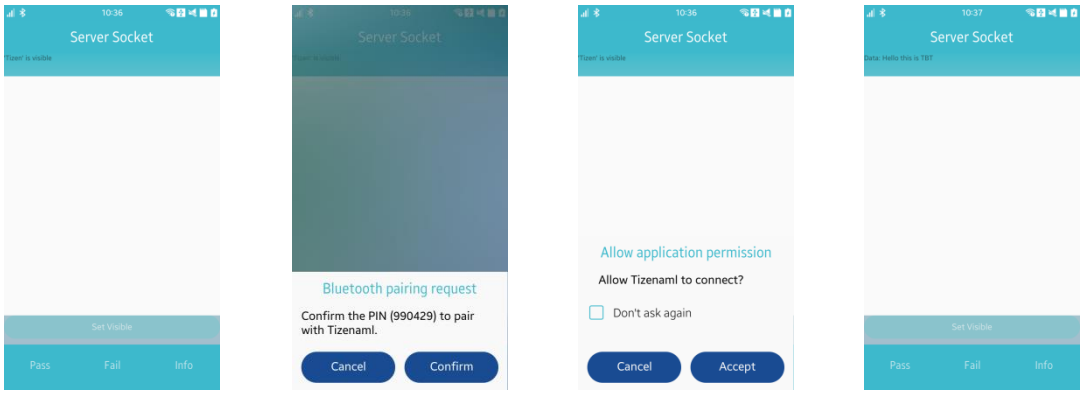


Figure 3-37: Server Socket

Bluetooth HID

To perform this test:

a. Select HID Connect from the test case list

b. If Bluetooth is off, turn on manually.

c. Press button Discover to see the list of Bluetooth HID devices.

d. Select the desired device from the list.

e. If you are trying to connect a keyboard, a pop-up will appear, press the same code on the keyboard and press enter.

f. ”HID connected” will be written on the label, just above the device list.

g. Then go to the default messaging application, try to write message from the HID keyboard.

h. If input can be inserted using remote input device correctly then PASS otherwise FAIL.

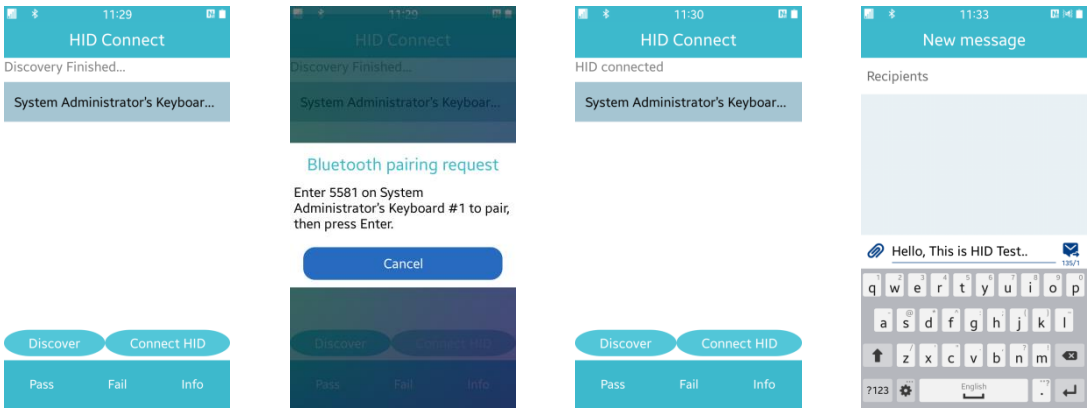


Figure 3-38: HID

Bluetooth Health

To perform the test

a. Select Health from the test case list

b. If Bluetooth is off, turn on manually.

c. Press button Discover to see the list of devices.

d. Select the desired device from the list.

e. Press button Connect HDP if not already connected.

f. Press button Get Data and data received will be shown on label then PASS otherwise FAIL.

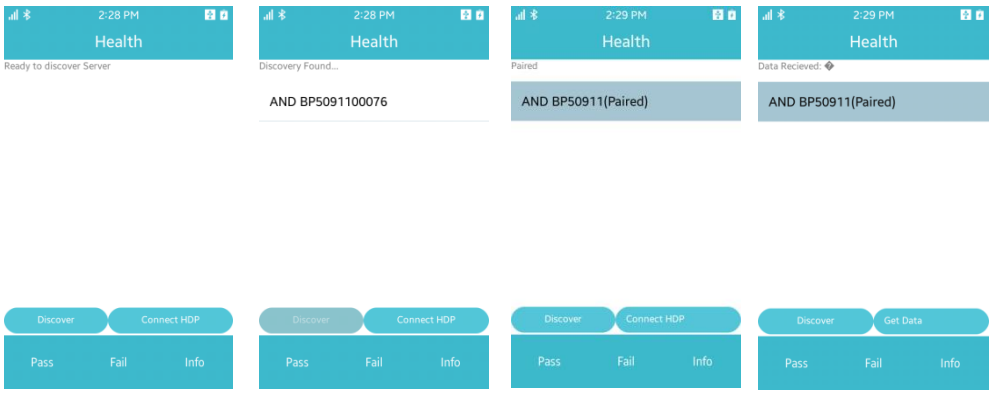


Figure 3-39: Health

4.2.1.6. Bluetooth Error Callbacks

This section is for testing the errors generated while invoking the callbacks and preconditions in Bluetooth.

Create Bond CB

To test create bond in bluetooth:

a. Select bluetooth off from settings.

b. Press Create Bond CB.

c. Error message "result = BT_ERROR_NOT_ENABLED" is displayed.

d. Select Bluetooth on from settings.

e. Press create bond CB.

f. Message of invoked callback with result is displayed in few seconds.

If all the steps are performed correctly then Pass, otherwise Fail.

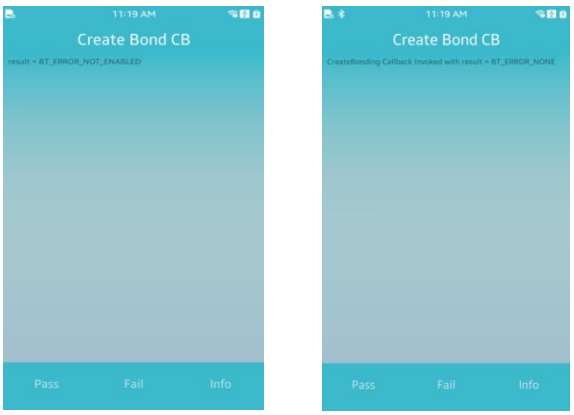


Figure 3-40: CreateBondCB

Destroy Bond CB

To test destroy bond in bluetooth:

a. Select bluetooth off from settings.

b. Press Destroy Bond CB.

c. Error message "result = BT_ERROR_NOT_ENABLED" is displayed.

d. Select Bluetooth on from settings.

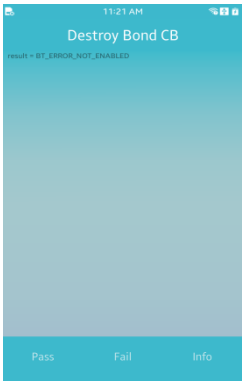
e. Create bond with some device

f. Press Destroy Bond CB.

g. Unbond with device of step number e

h. Message of invoked callback with result is displayed.

If all the steps are performed correctly then Pass, otherwise Fail.



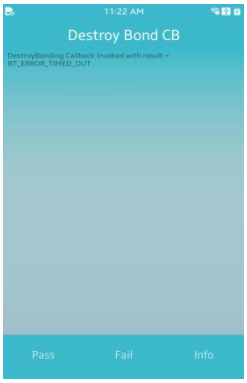


Figure 3-41: DestroyBondCB

Discover Devices CB

To test discover devices in bluetooth:

a. Select bluetooth off from settings.

b. Press Discover Devices CB.

c. Error message "result = BT_ERROR_NOT_ENABLED" is displayed.

d. Select Bluetooth on from settings.

e. Press Discover Devices CB.

f. Message of invoked callback is displayed.

If all the steps are performed correctly then Pass, otherwise Fail.

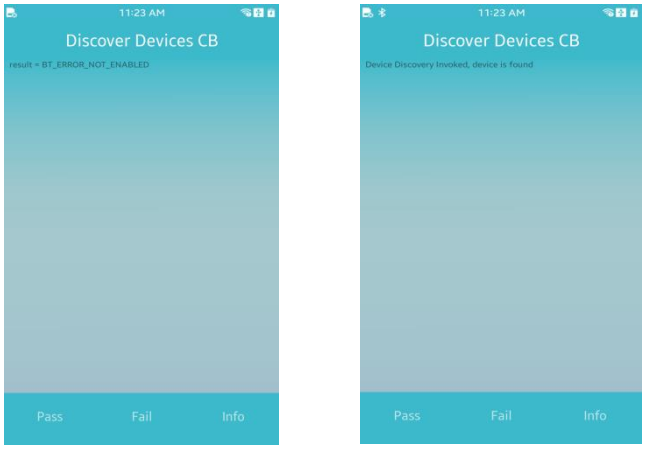


Figure 3-42: DiscoverDevicesCB

Get Device CB

To test get device in bluetooth:

a. Select bluetooth off from settings.

b. Press Get Device CB.

c. Error message "result = BT_ERROR_NOT_ENABLED" is displayed.

d. Select Bluetooth on from settings.

e. Press Get Device CB.

f. Message of invoked callback is displayed.

If all the steps are performed correctly then Pass, otherwise Fail.

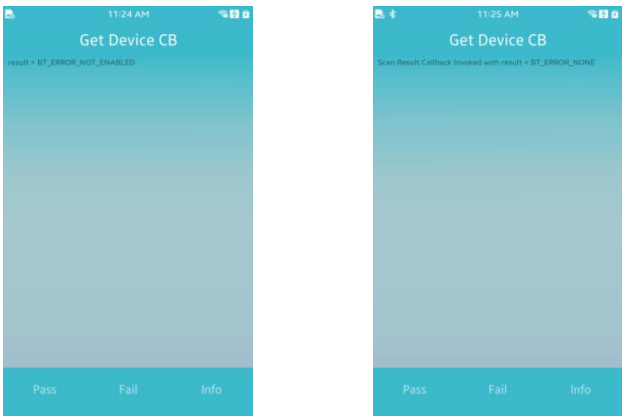


Figure 3-43: GetDeviceCB

Set Name CB

To test set name in bluetooth:

a. Select bluetooth off from settings.

b. Press Set Name CB.

c. Error message "result = BT_ERROR_NOT_ENABLED" is displayed.

d. Select Bluetooth on from settings.

e. Press Set Name CB.

f. Message of invoked callback is displayed with Name BT_TEST5

If all the steps are performed correctly then Pass, otherwise Fail.

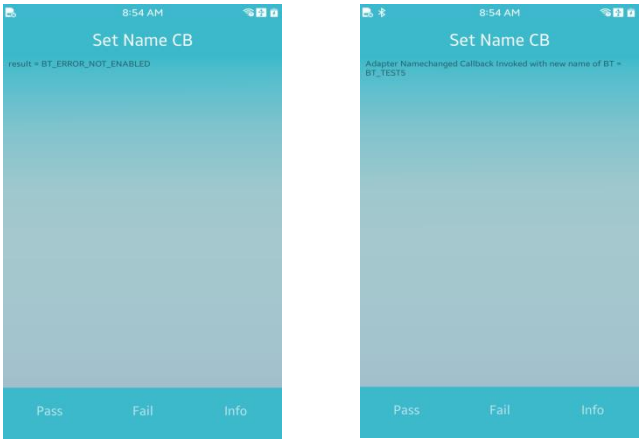


Figure 3-44: SetNameCB

Add Advertising Service UUID

This test is to pass: out of range parameter as service UUID and check the error.

a. Press Add Advertising Service UUID.

b. Error message of invalid parameter with passed value is displayed.

If all the steps are performed correctly then Pass, otherwise Fail

Figure 3-45: AddAdvertisingServiceUUID

4.2.1.7. Wi-Fi Activation

To test the Wi-Fi activation:

a. Select Wifi Test from the test case list.

b. To enable Wi-Fi, press button Wifi On.

c. To disable Wi-Fi, press button Wifi Off.

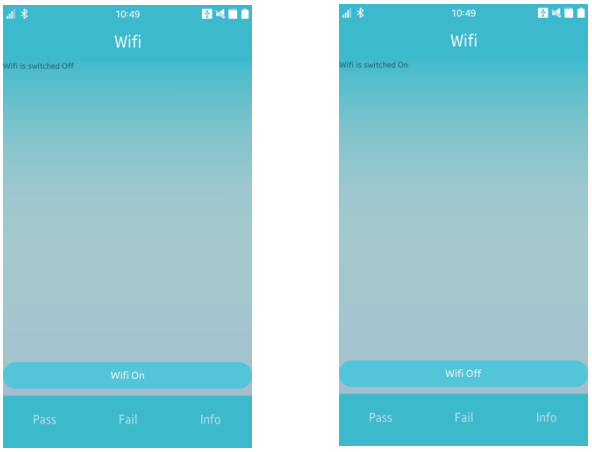


Figure 3-46: WIFI

4.2.1.8. NFC

NFC Tag

To perform the test, switch on NFC and

a. Select NFC Tag from the test case list and it is by default in read mode

b. Take the device to a NFC tag

c. A list will appear showing information about tag type, NDEF support, NDEF message size, maximum size of NDEF message, key, value, record type, record etc.

d. Then select the tab Write and take the device to a NFC tag

e. Then a string of Text type will be written in the NFC tag and a success message will be shown with written message.

f. If you remove device from tag it shows “Device Detached”

g. If all the steps are performed correctly then Pass, otherwise Fail

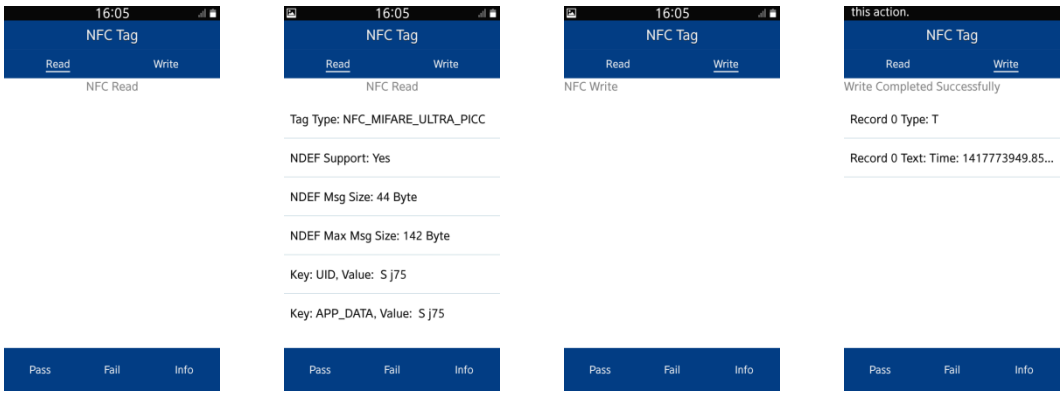


Figure 3-47: NFC Tag

NFC P2P

To perform the test,

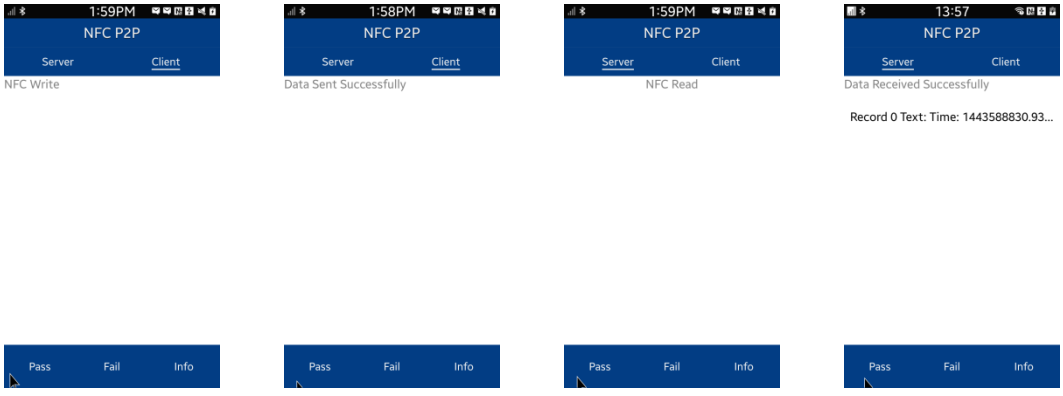
a. Take two NFC supported devices and switch on NFC in both

b. Select NFC P2P from the test case in two devices and click Server in one device and Client in other device

c. Touch the back of two devices, Server TC will output Data Received Successfully along with received data and Client TC will output Data Sent successfully.

d. If you detach devices it shows “Device Detached”

e. If all the steps are performed correctly then Pass, otherwise Fail.



Client Server

Figure 3-48: NFC P2P

4.2.1.9. Display Test

The following requirements are mandatory for the display test:

Minimum screen size: 240 x 320 (QVGA)

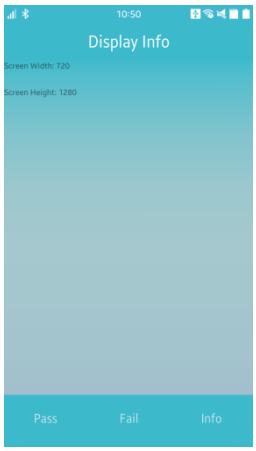


Figure 3-49: Display Test

To test the display, check whether the screen size is larger than the minimum size of 240x320.

4.2.1.10. Graphics

To test the Graphics ensure that a cube is rotating properly.

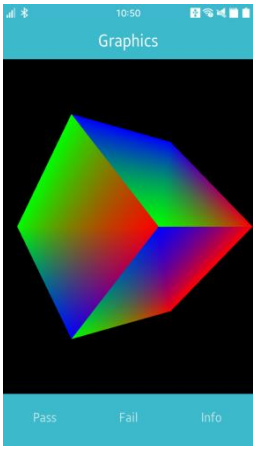


Figure 3-50: Graphics

4.2.1.11. Testing the Input Device

Edit field:

To test the edit field, three kinds of keypad will appear. If the keys can be pressed and inputs are shown, then the test is Pass, otherwise Fail.

a. Select Number Keypad from test case list for Number Keypad Test.

b. Select PhoneNumber Keypad from test case list for Phone Number Keypad Test.

c. Select IP Keypad from test case list for IPV4 Keypad Test.

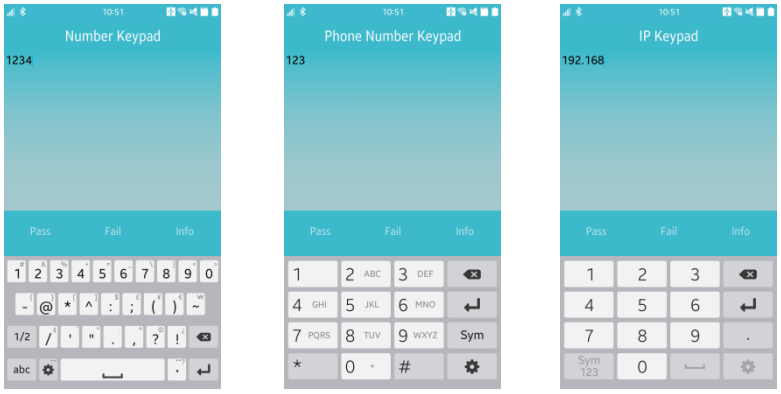


Figure 3-51: Input Device

4.2.1.12. Multimedia Features

This chapter describes the various tests that can be performed to check the multimedia features. If the functionality works as expected, press **Pass**, otherwise, press **Fail**.

Video

The local video test enables you to confirm that file formats, such as Mpeg4, H263, and H264 are playing normally. To test the video formats from the test case list select,

a. H263Video for testing video format of H263.

b. MPEG4 Video for testing video format of Mpeg4

c. H264 Video for testing video format of H264.

d. After selecting each test, press Play to play the video.

e. Press Pause to pause the video.

f. Press Stop to stop the video.

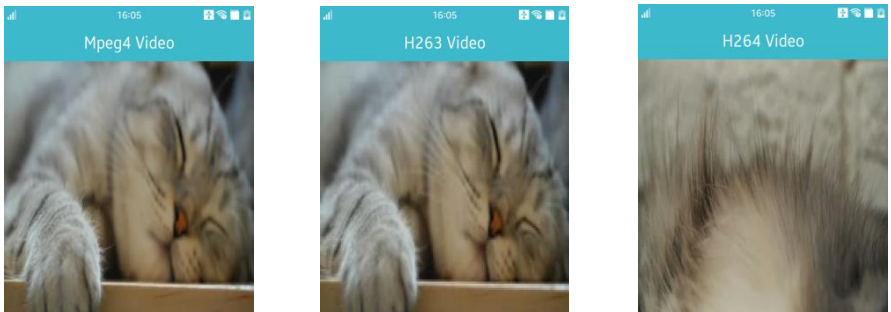


Figure 3-52: Local Video

4.2.1.13. Image View

The image view test enables you to confirm that file formats, such as .jpeg, .bmp, .gif, and .png can be viewed normally.

To perform the image view test,

a. Select ImageView PNG from test case list and an .png image will be shown automatically

b. Select ImageView GIF from test case list and an .gif image will be shown automatically

c. Select ImageView BMP from test case list and an .bmp image will be shown automatically

d. Select ImageView JPG from test case list and an .jpg image will be shown automatically

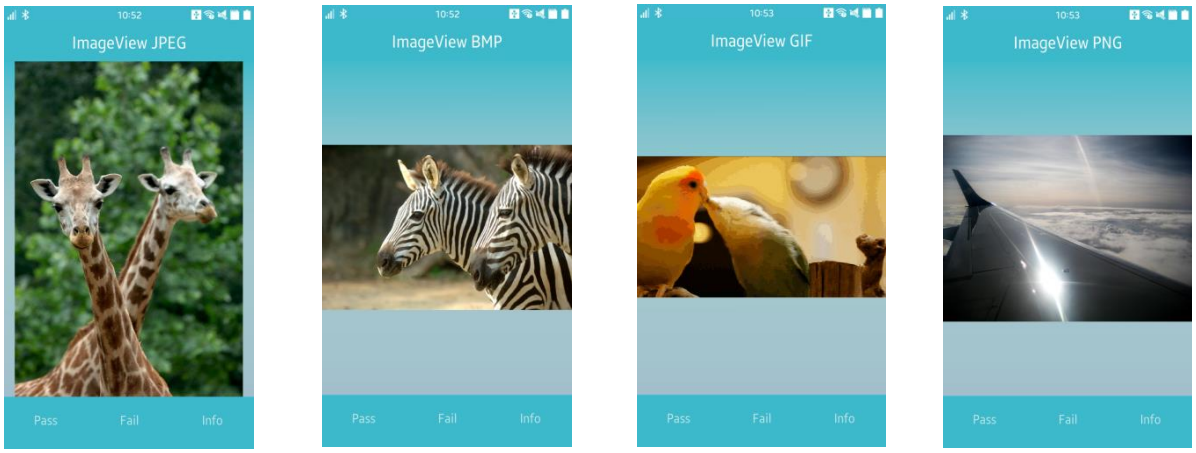


Figure 3-53: Image View

4.2.1.14. Data Control

TBT Data Control module requests different operations on the data provided by DataUIControl application. If the request is processed successfully then **Pass** otherwise **Fail**

Insert Operation

To perform the operation

a. Select Sql Insert from the test case list

b. Press button Start.

c. If the request is sent successfully and information is shown normally then Pass.

d. If any error is shown, then Fail.

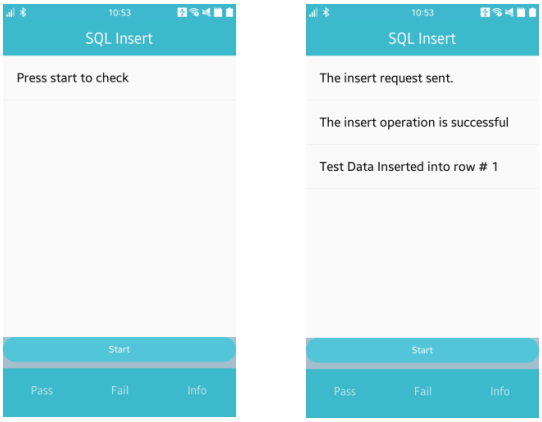


Figure 3-54: SQL Insert

Delete Operation

To perform the operation

a. Select Sql Delete from thetest case list

b. Press button Start Test.

c. If the request is sent successfully and information is shown normally then Pass.

d. If any error is shown, then Fail.

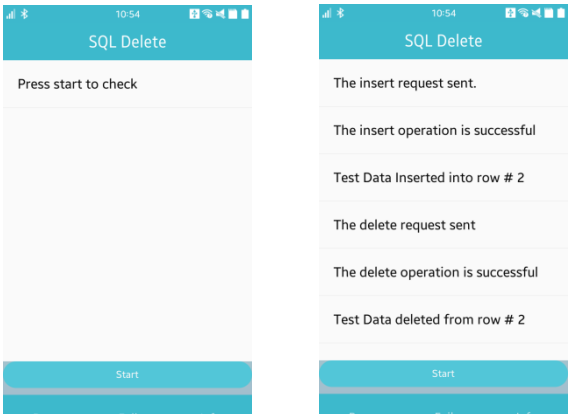


Figure3-55: SQL Delete

Update Operation

To perform the operation

a. Select Sql Update from the test case list

b. Press button Start.

c. If the request is sent successfully and information is shown normally then Pass.

d. If any error is shown, then Fail.

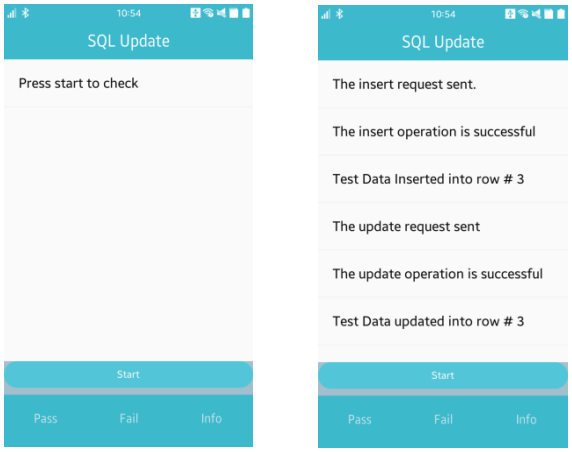


Figure3-56: SQL Update

Select Operation

To perform the operation

a. Select Sql Select from the test case list

b. Press button Start

c. If the request is sent successfully and information is shown normally then Pass.

d. If any error is shown, then Fail.

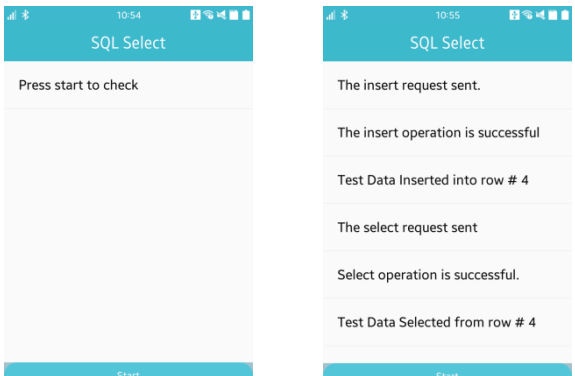


Figure 3-57: SQL Select

Cursor Operation

To perform the operation

a. Select Sql Cursor from the test case list

b. Press button Start.

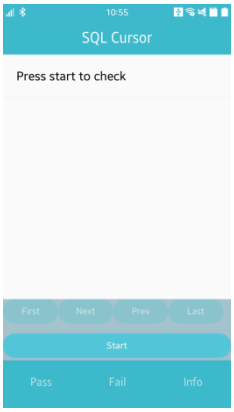
c. It will show the list of row id of the selected items.

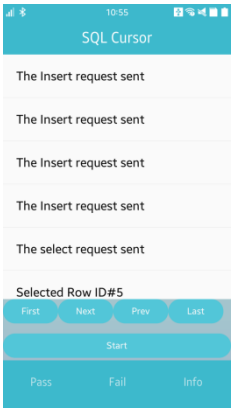
d. Press First to get the row id of the first selected item.

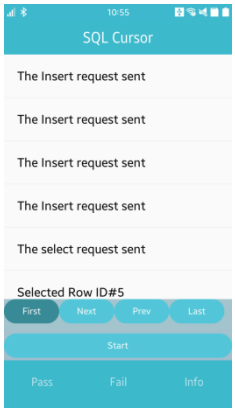
e. Press Last to get data t the row id of the last selected item.

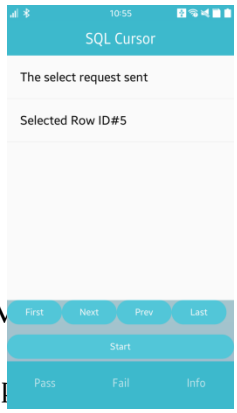
f. Press Next and Prev to navigate between the selected items.

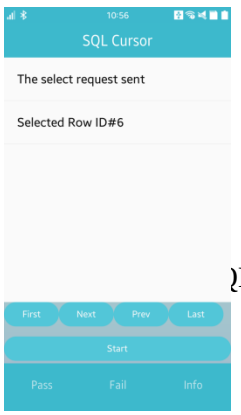
g. If all the operations are successful then Pass otherwise Fail.

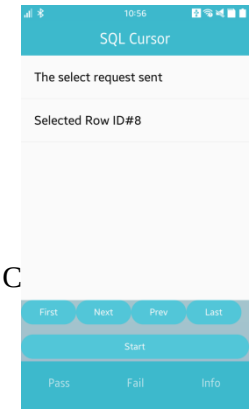


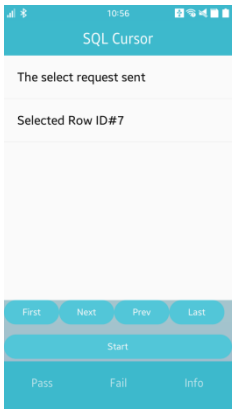












QL C

Data Control M

To p

a. Select SQL Map from the test case list.

b. Press button Start Test. If three values are shown then Pass.

c. If all the values are not shown, then Fail.

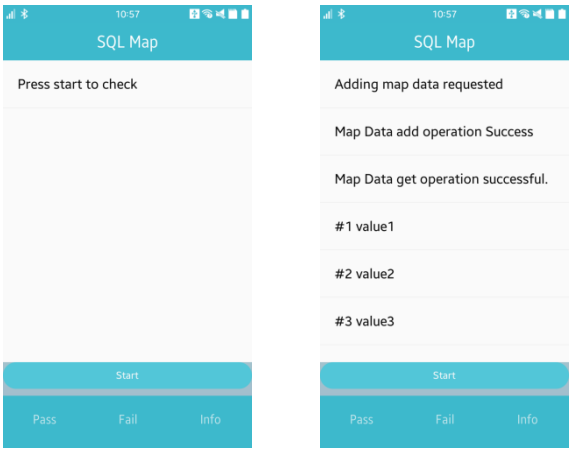


Figure 3-59: SQL Map

4.2.1.15. Application Controls

This chapter describes the various tests that can be performed to check that the application control operations work normally.

The view operation

If the functionality works as expected, press **Pass**. Otherwise, press **Fail.**

App Control View Test

To perform the test:

a. Select Operation View from the test case list

b. Press button View UI.

c. If UI is shown, Click item and press Return button.

d. Then press button View Service.

e. If App launched successfully, then Pass otherwise Fail.

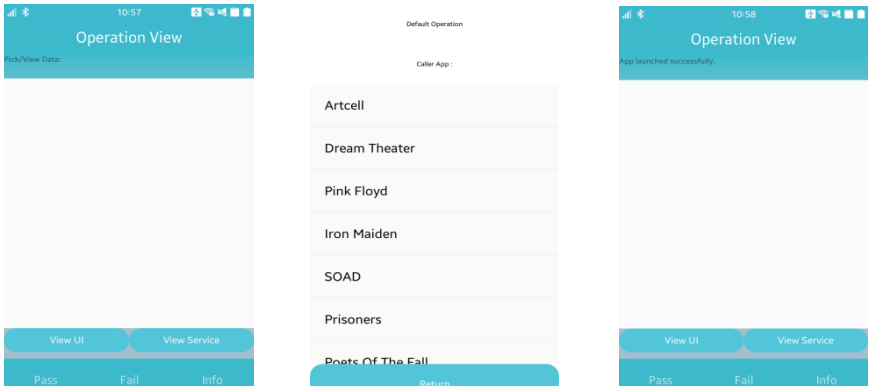


Figure 3-60: App Control View Test

App Control View Image

To perform the test:

a. Select Operation View Image from the test case list confirm

b. Select list items one after another View UI.

c. Select operationpickviewapp and press Always or Just Once

d. Corresponding Image will be shown.

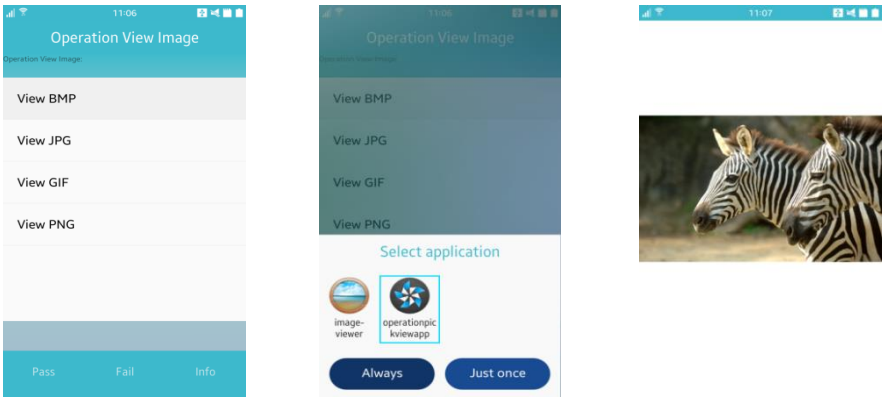


Figure 3-62: App Control View Image Test

App Control View Sound

To perform the test:

a. Select Operation View Sound from the test case list confirm

b. Select list items one after another View UI.

c. Select operationpickviewapp and press Always or Just Once

d. Corresponding Sound can be heard.

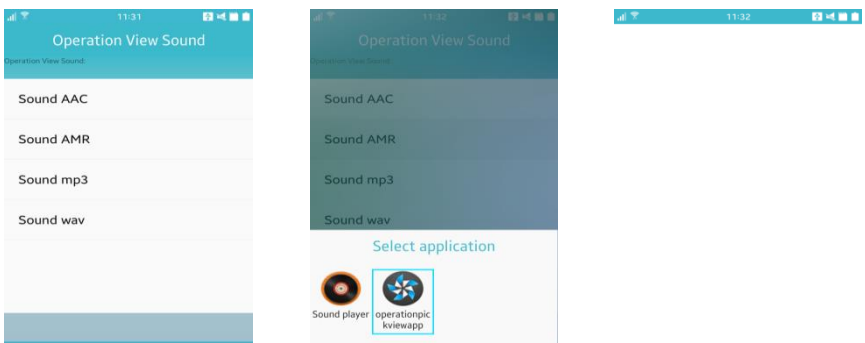


Figure 3-63: App Control View Sound Test

App Control View Video

To perform the test:

a. Select Operation View Video from the test case list confirm

b. Select list items one after another View UI.

c. Select operationpickviewapp and press Always or Just Once

d. Corresponding Video can be heard.

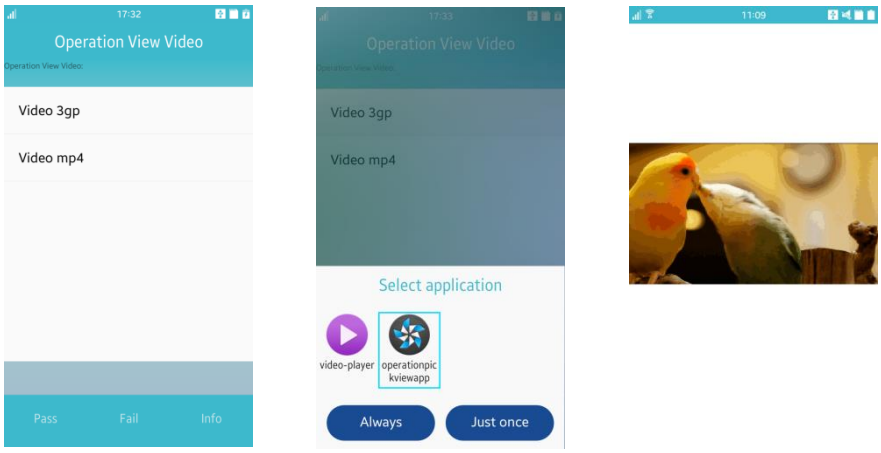


Figure 3-64: App Control View Video Test

4.2.1.16. The Pick Operation

If the functionality works as expected, press **Pass**, otherwise, press **Fail.**

App Control Pick Test

To perform the test:

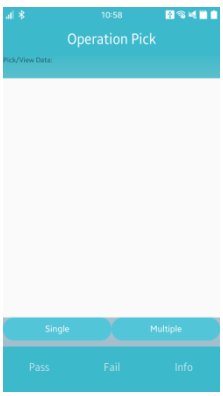
a. Select Operation Pick from the test case list

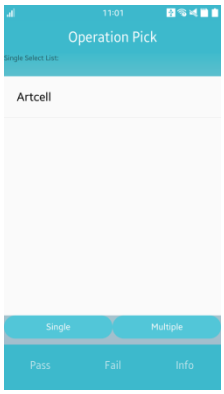
b. Press Multiple and select multiple items and press Select Multiple.

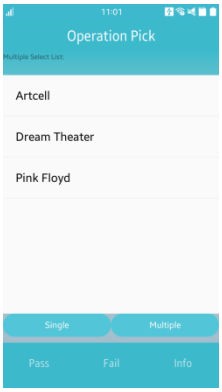
c. If multiple data is returned, then Pass otherwise Fail

d. Press Single and select single item and press Select Single.

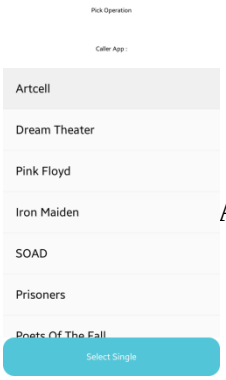
e. If single data is returned, then Pass, otherwise Fail.

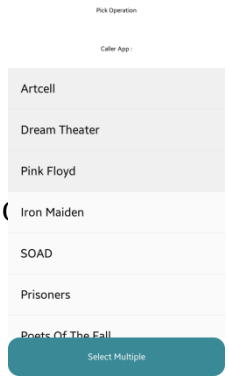






App Control Pick All





To perform the test:

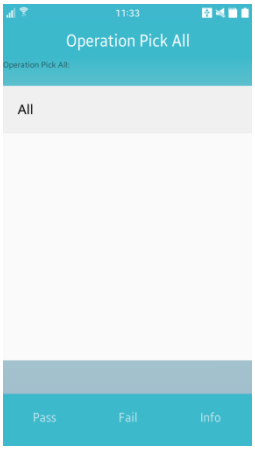
a. Select Operation Pick All from the test case list.

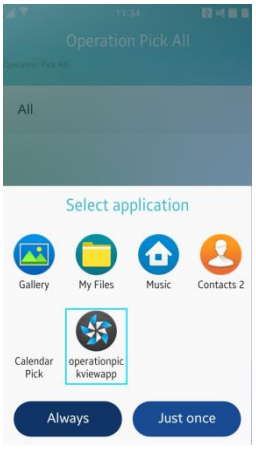
b. Select all from the list.

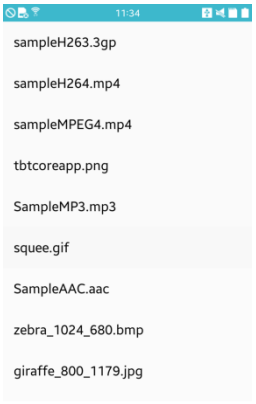
c. Select operationpickviewapp and press Always or Just Once

d. Operationpickviewapp showing all types of file, select any one.

e. Selected file information will be shown in TBT.







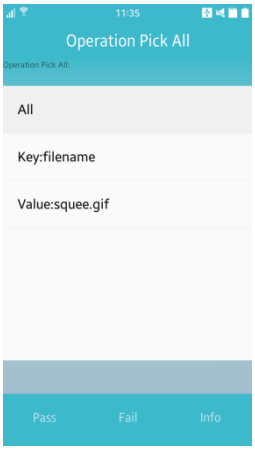


Figure 3-66: App Control Pick All Test

App Control Pick Image

To perform the test:

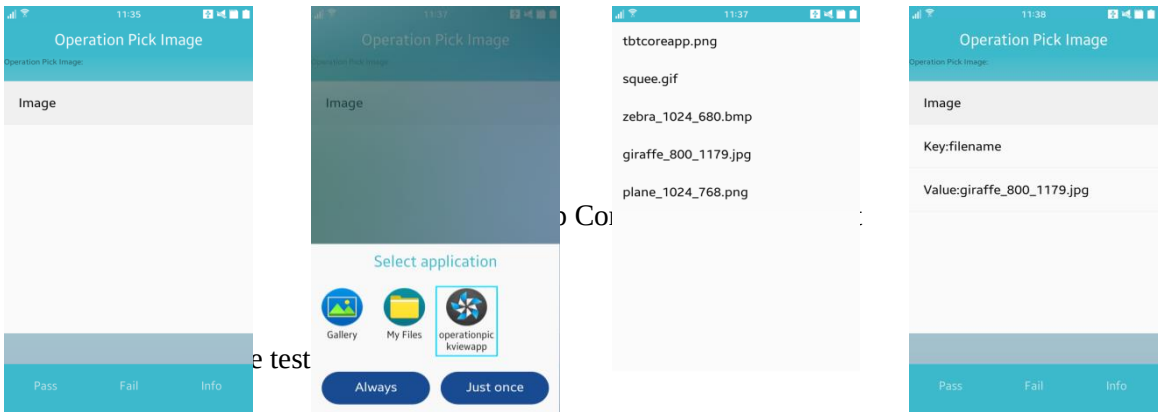
a. Select Operation Pick image from the test case list

b. Select Image from the list.

c. Select operationpickviewapp and press Always or Just Once

d. Operationpickviewapp showing all types of image file, select any one.

e. Selected file information will be shown in TBT.



App Co

e test

a. Select Operation Pick video from the test case list

b. Select Video from the list.

c. Select operationpickviewapp and press Always or Just Once

d. Operationpickviewapp showing all types of video file, select any one.

e. Selected file information will be shown in TBT.

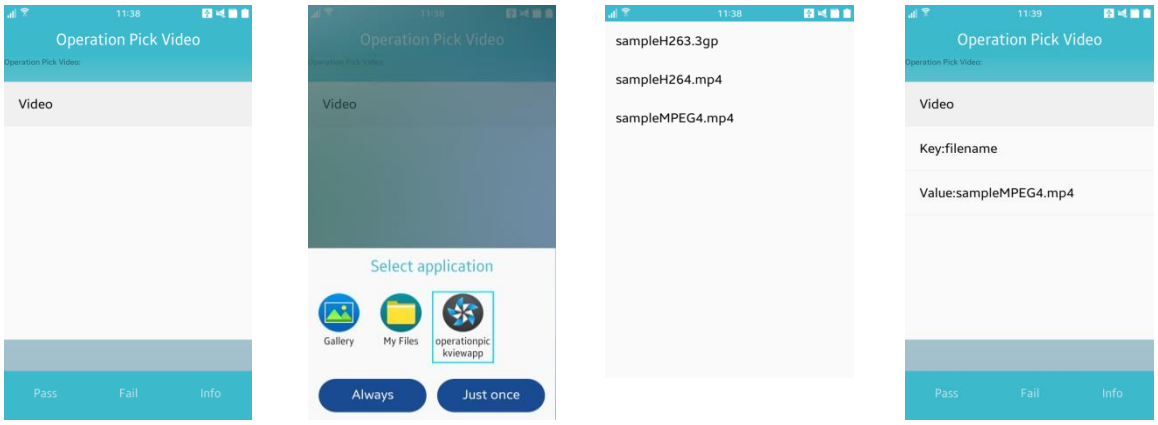


Figure 3-68: App Control Pick Video Test

App Control Pick Audio

To perform the test:

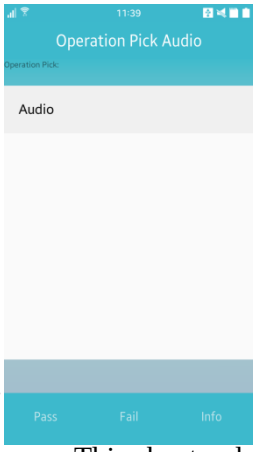
a. Select Operation Pick audio from the test case list

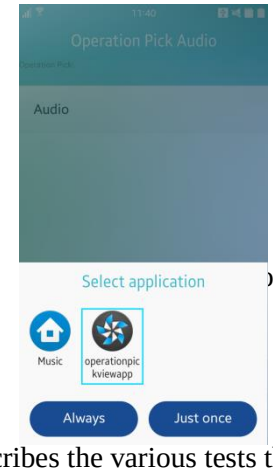
b. Select Audio from the list.

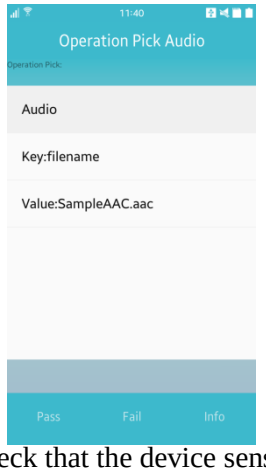
c. Select operationpickviewapp and press Always or Just Once

d. Operationpickviewapp showing all types of audio file, select any one.

e. Selected file information will be shown in TBT.







4.2.1. ontr

This chapter describes the various tests that can be performed to check that the device sensors work normally. If the functionality works as expected, press **Pass**. Otherwise, press **Fail**.

Accelerometer

This test verifies that the acceleration sensor is working normally.

To perform the test,

a. Select Accelerometer from the test case list

b. As you move the device, the triangle displayed on the screen must point down.

c. If it points in another direction, the accelerometer is not properly configured.

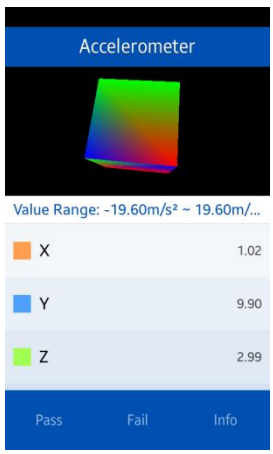


Figure 3-70: Accelerometer

Gyroscope

To perform the test

a. Select Gyroscope from the test case list

b. If the device is stable, then the background of the cube is black.

c. Move the device to the direction of the cube movement and background color will be blue.

d. Move the device to the opposite direction of the cube movement and background color will be red.

e. Press button Next to change direction of cube movement and do the previous steps accordingly.

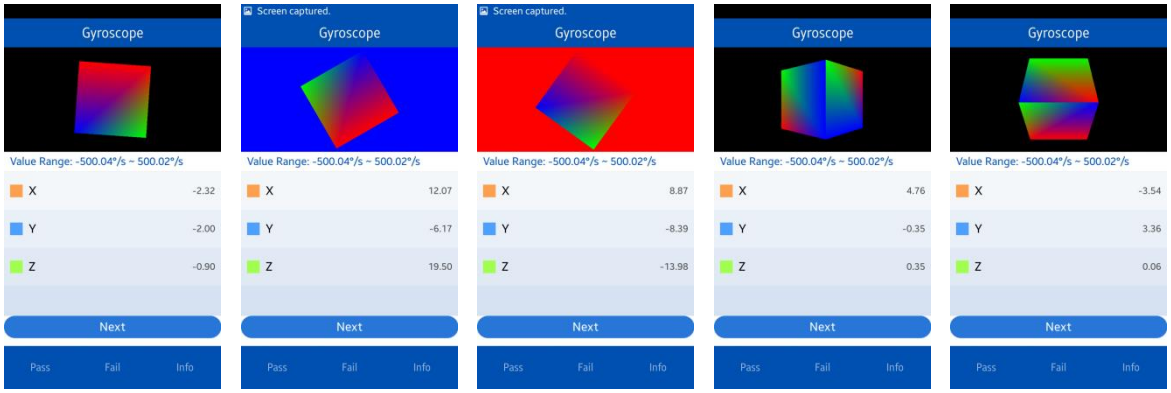


Figure 3-71: Gyroscope

Proximity

To perform the test

a. Select Proximity from the test case list and an image showing a bulb will appear

b. Cover the upper portion of the device with hand and an image showing a glowing bulb will appear.

c. If the hand is moved away, the previous image will appear again.

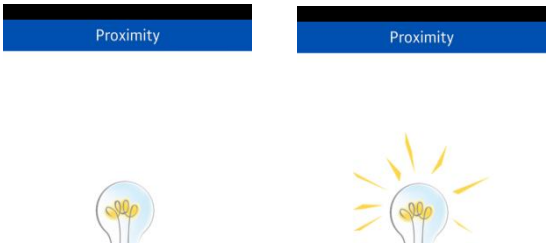


Figure 3-72: Proximity

Light

To perform the test

a. Select Light from the test case list.

b. Move the device to the light source.

c. The color of the object slowly turns into red according to the intensity of light.

Figure 3-73: Light

Magnetometer

To perform the test

a. Select Magnetometer from the test case list

b. Move device and the value of X, Y and Z component of earth magnetic field will be chan ge accordingly.

Figure 3-74: Magnetometer

Pressure

To perform the test

a. Select Pressure from the test case list

b. Current air pressure is displayed automatically if device supports pressure sensor.

Figure 3-75: Pressure

Ultra Violet

To perform the test

a. Select Ultraviolet from the test case list.

b. Move the device to the ultraviolet light source.

c. The color of the object slowly turns into violet according to the intensity of ultraviolet light.

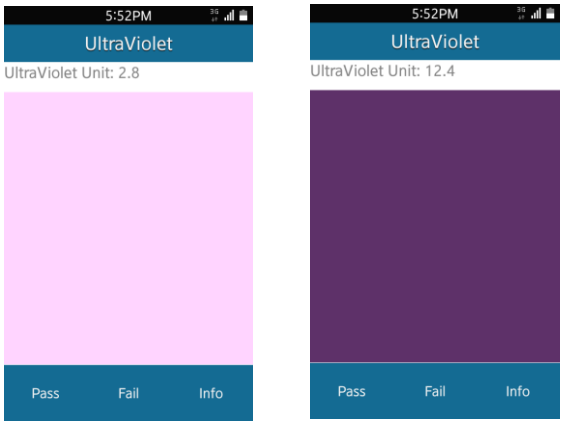


Figure 3-76: Ultra Violet

4.2.1.18. Platform Resources

This chapter describes the various tests that can be performed to check the platform resources.

If the functionality works as expected, press Pass. Otherwise, press Fail.

UI Animations

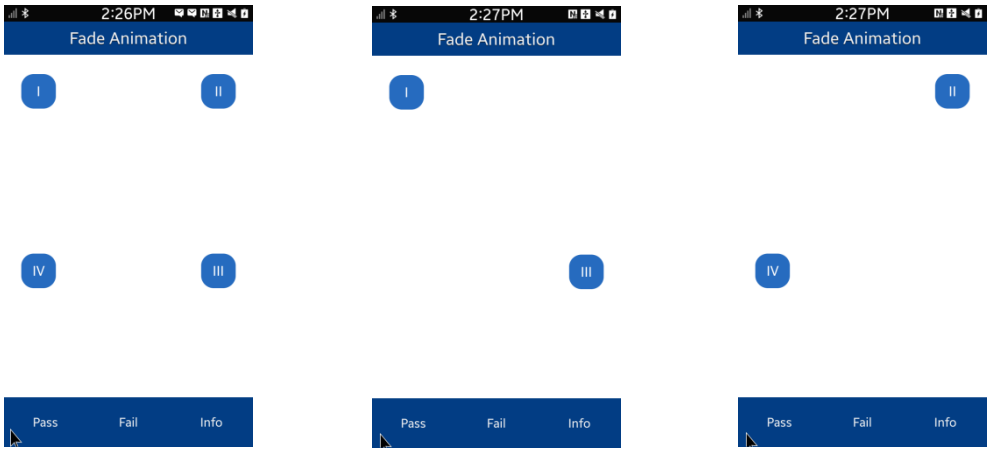
To perform the UI test:

a. Select Fade Animation, Dimension Animation, Rectangle Animation, Point Animation and Rotation Animation respectively for the respected animations.

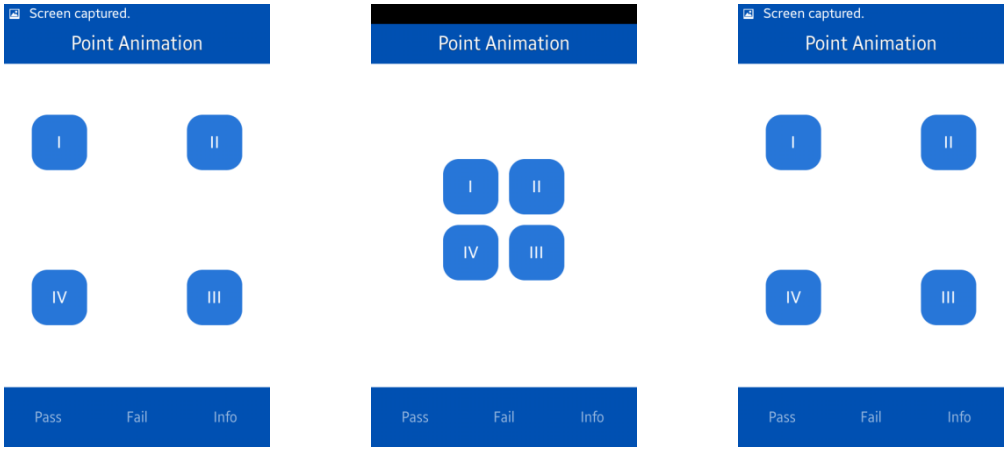
b. After selecting each test, the animation will be shown automatically.

c. Press Pass if all tests are successful.

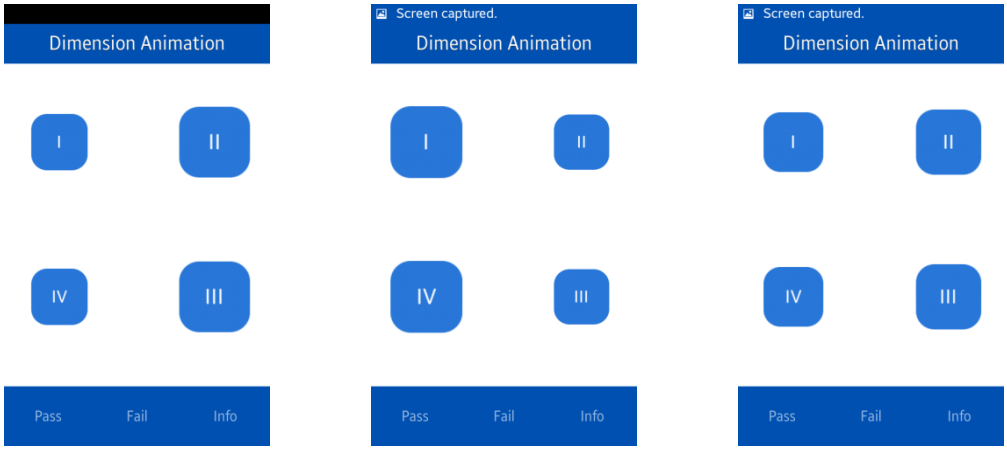
Fade animation:



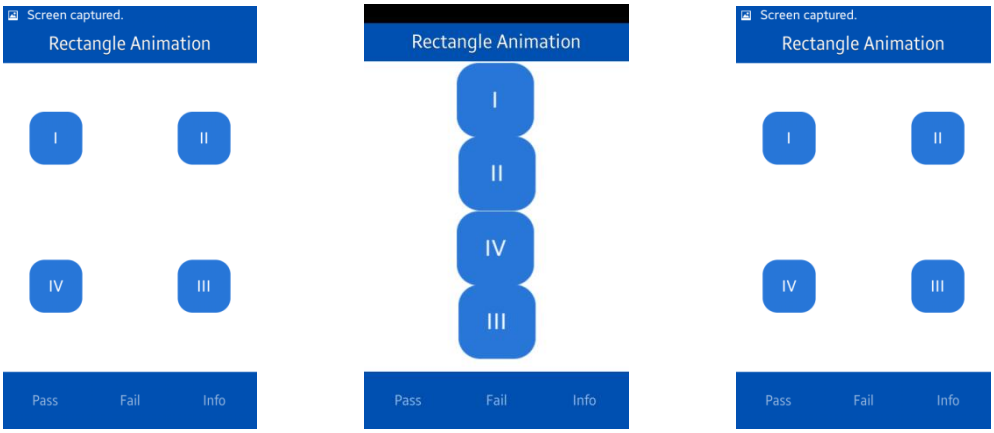
Point animation:



Dimension animation:



Rectangle animation:



Rotate animation:

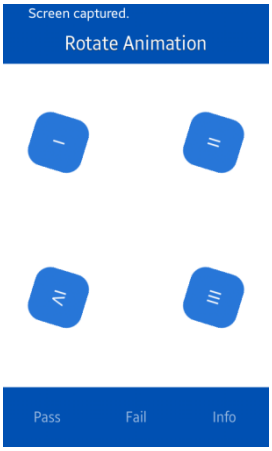


Figure 3-77: UI Animations

UI Components

This section describes the tests you can perform on UI components.

Image Resizing

This test enables you to resize the image as bigger and smaller.

To perform the Resize Drawable test:

a. Select Resize Drawable from the test case list.

b. Check that the images are resized automatically and normally.

Figure 3-78: Image Resize

Shapes

This test shows different shapes in the screen.

To perform the Shape test:

a. Select the Shape from the test case list

b. If different shapes appear automatically and correctly, then Pass otherwise Fail.

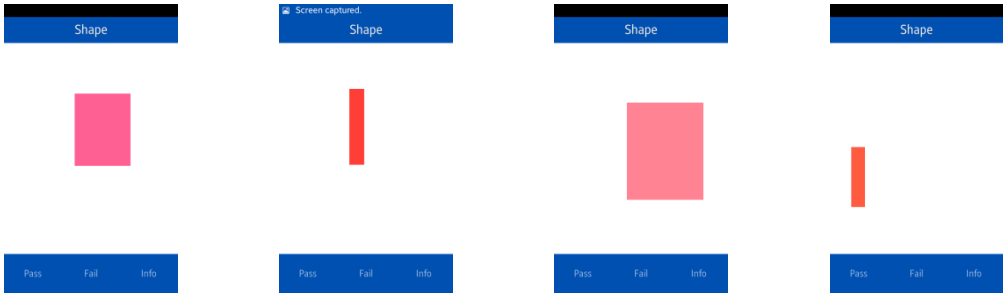


Figure 3-79: Testing Shapes

Rotation

To perform the rotation test:

a. Select Rotate from the test case list and check if the objects are rotating properly.

b. If yes then Pass otherwise Fail.

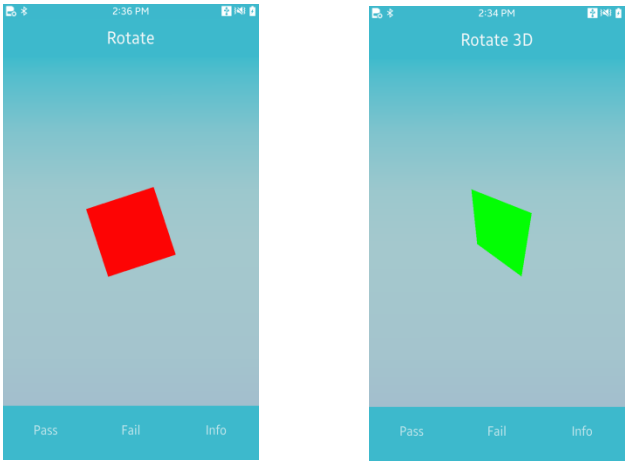


Figure 3-80: Testing Rotation

Alpha Drawing

To perform test

a. Select Alpha Draw able from test case list and objects of different brightness is shown automatically.

b. If it is shown, then the test is successful.

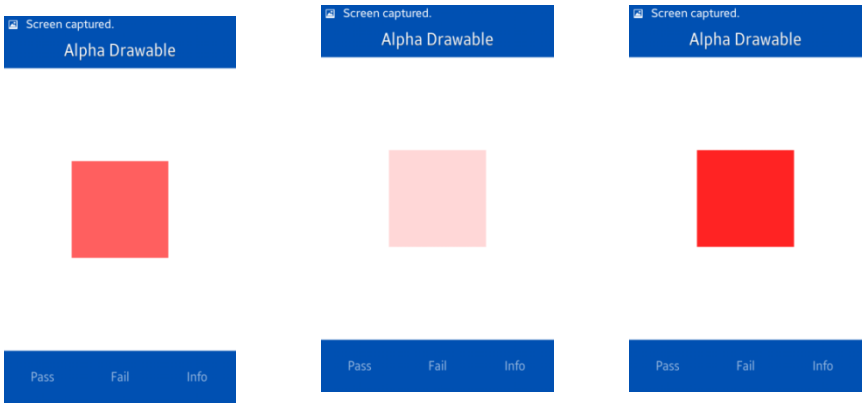


Figure 3-81: Testing Alpha drawing

Fonts

To perform the test,

a. Select Font from the test case list and text of different font sizes and colors are shown.

b. If it is shown, then Pass otherwise Fail.

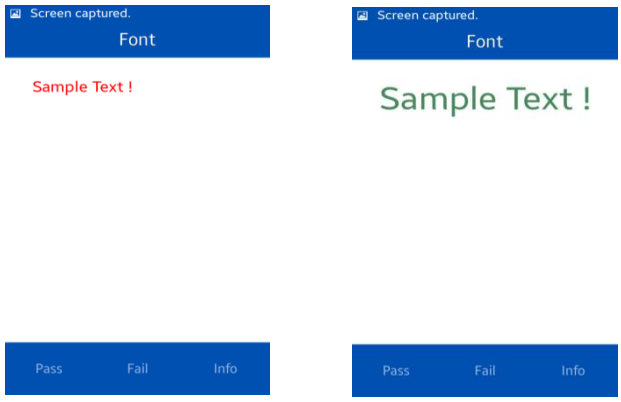


Figure 3-82: Testing Fonts

Line Drawings

To perform the test,

a. Select UI (Line Drawable) from the test case list and lines of different colors, size are drawn in different directions automatically.

b. If yes then Pass otherwise Fail.

Figure 3-83: Testing Line Drawable

4.2.1.19. EFL / Event

This chapter describes the various tests that can be performed to check some EFL library functions. If the functionality works as expected, press **Pass**. Otherwise, press **Fail**.

Touch

To perform the touch test:

a. Select Touch from the test case list.

b. Touch and drag to draw random curves on the screen.

c. Check that the first press is green.

d. Check that the touch-drag is blue.

e. Check that the release location is red.

f. If the functionality works as expected, press Pass. Otherwise, press Fail.

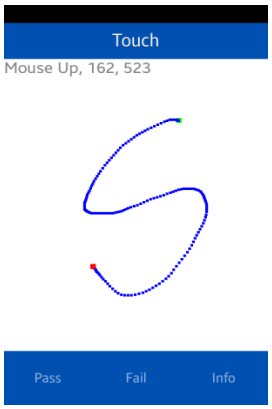


Figure 3-84: Touch

Event View

To perform the test

a. Select Event View from the test case list.

b. Select Settings from the Notification bar.

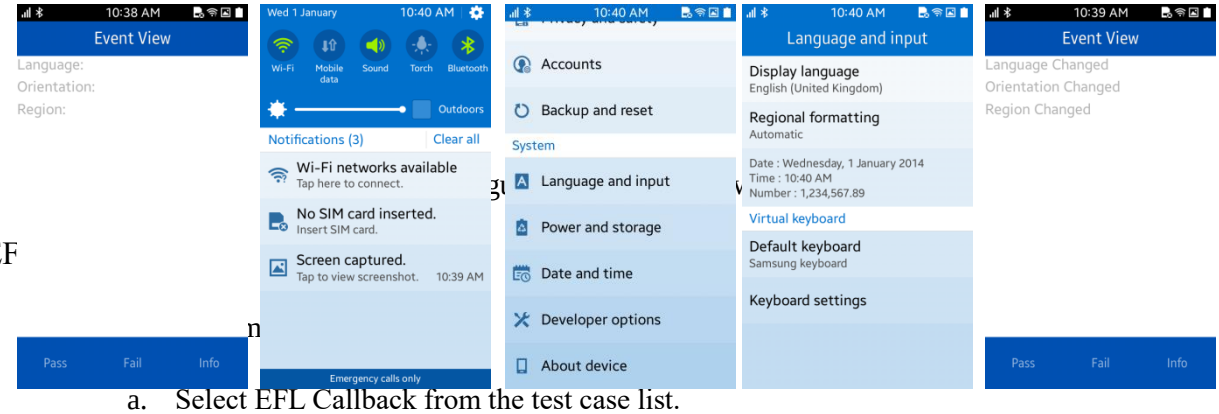
c. From Settings, select Language and input and change the language.

d. Go back to TBT and the information about language change and region change will be shown.

e. Move the device and change the device orientation.

f. Information about change in orientation will be shown.

g. If all the steps are performed correctly then Pass, otherwise Fail.



EF

n

a. Select EFL Callback from the test case list.

b. Press the Hardware Back Button and check whether the back button callback is detected.

c. Press button Delete Callback and the callback will be deleted.

d. Press the Hardware Back Button and check, there is no back button callback is detected.

e. Then press button Add Callback to add a new callback

f. Then again press the Hardware Back Button and check whether the back button callback is detected.

g. You must press Pass or Fail button to exit from the test.

h. If all the steps are performed correctly then Pass, otherwise Fail.

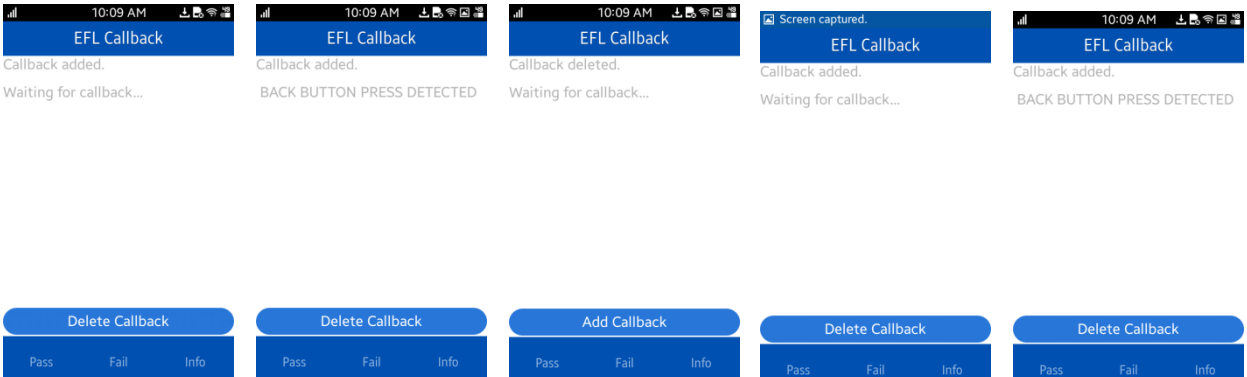


Figure 3-86: EFL Callback

4.2.1.20. IME

IME Alphabetic

This module shows a custom Alphabetic keyboard layout and its actions.

To Test this Module –

a. Set Default keyboard to TBT keyboard:

b. Go to Settings>Language and input > keyboard and enable TBT keyboard, then Select Default keyboard as TBT Keyboard.

c. Open IME Alphabetic module from TBT module list

d. An Alphabetic keyboard will be shown and "ELM_INPUT_PANEL_LANG_AUTOMATIC" will be shown at the bottom key.

e. Press Alphabetic keys then corresponding alphabets will be written in entry field.

f. Press BACK key to remove one character at a time from entry field.

g. Press Prid On key and touch on screen, then "abcd" will be written in entry field.

h. Press Prid On key and then press Prid Off to remove the entry field.

i. Press Spc key to make a space character in entry field.

j. If everything works properly as steps mentioned above then Pass otherwise Fail.

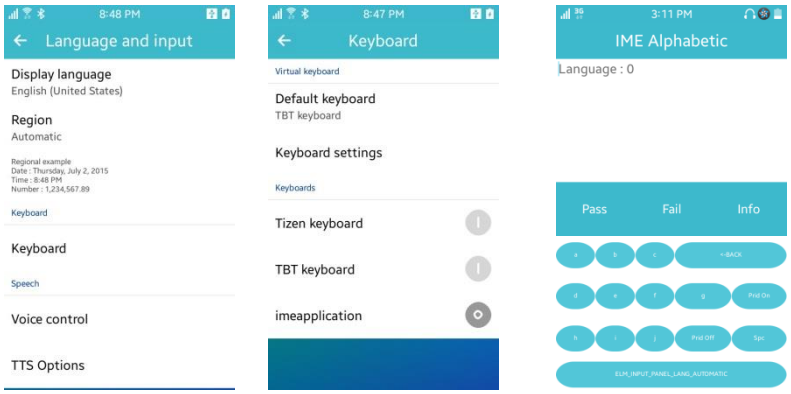


Figure 3-87: IME Alphabetic

IME Numeric

This module shows a custom Numeric keyboard layout and its actions.

To Test this Module –

a. Set Default keyboard to TBT keyboard:

b. Go to Settings>Language and input > keyboard and enable TBT keyboard, then Select Default keyboard as TBT Keyboard.

c. Open IME Numeric module from TBT module list

d. An Numeric keyboard will be shown and "ELM_INPUT_PANEL_LANG_AUTOMATIC" will be shown at the bottom key.

e. Press Numeric keys then corresponding numerics will be written in entry field.

f. Press BACK key to remove one character at a time from entry field.

g. Press DS key to delete character under cursor from entry field.

h. Press Spc key to make a space character in entry field.

i. If everything works properly as steps mentioned above then Pass otherwise Fail.

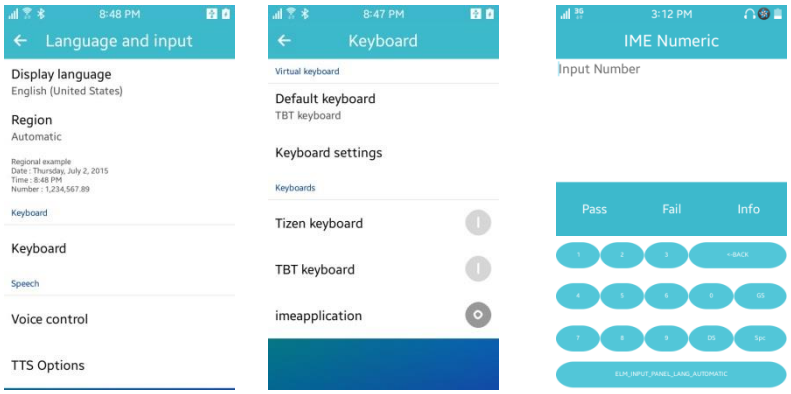


Figure 3-88: IME Alphabetic

IME Events

This module Tests the effect of Language change Event to custom input method.

To Test this Module –

a. Set Default keyboard to TBT keyboard:

b. Go to Settings > Language and input > keyboard and enable TBT keyboard, then Select Default keyboard as TBT Keyboard.

c. Open IME Events from TBT module list

d. Change Language from Settings > Language and input > Display language

e. Return back to IME Events module.

f. The text of the key will be changed as the language changed.

g. If everything works properly as steps mentioned above then Pass otherwise Fail.

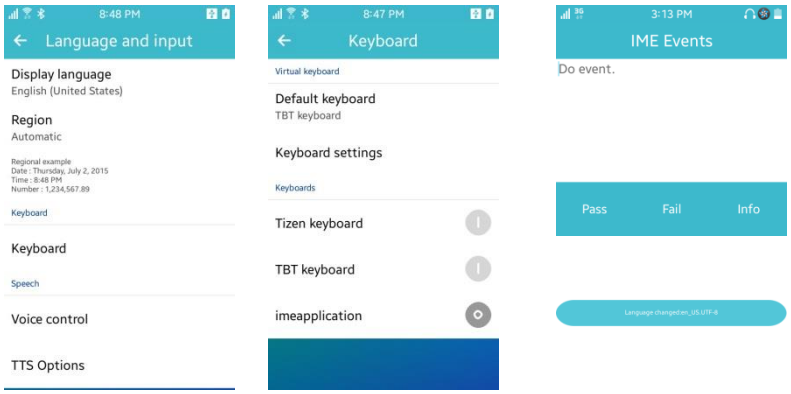


Figure 3-89: IME Events

IME Context Info

This module Tests the Context Info of a custom input panel.

To Test this Module –

a. Set Default keyboard to TBT keyboard:

b. Go to Settings>Language and input > keyboard and enable TBT keyboard, then Select Default keyboard as TBT Keyboard.

c. Open IME Context Info from TBT module list

d. A keyboard with Pass text to all Keys will be shown

e. If everything works properly as steps mentioned above then Pass otherwise Fail.

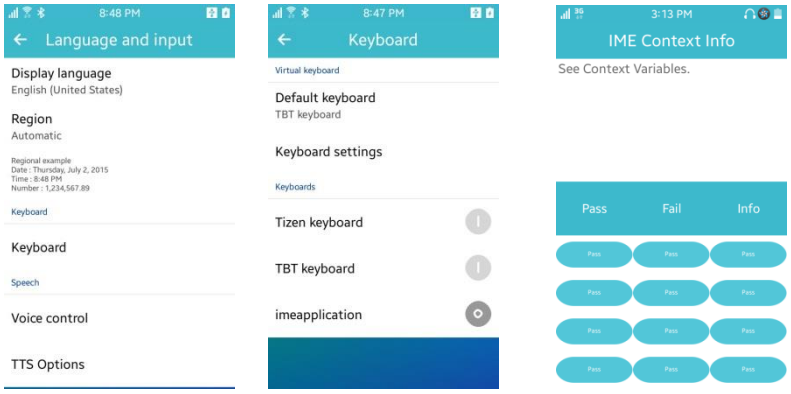


Figure 3-90: IME Context Info

4.2.1.21. The Widget

To perform the test:

a. Select WIDGET from the test case list

b. Press button View Widget UI.

c. If Widget UI is shown, then Pass otherwise Fail.

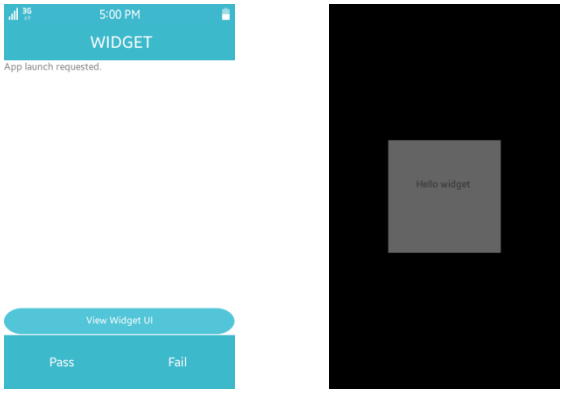


Figure 3-91: Widget

4.2.1.22. Shortcut

To perform this test:

a. Select Shortcut from the test case list.

b. If you want to create duplicate shortcut, check the “Allow duplicate” labeled checkbox, otherwise do not check it.

c. Press the “Add shortcut” button, then you will see the message “Shortcut Created”.

d. After that go to the home screen and check; if shortcut is created the PASS, otherwise FAIL.

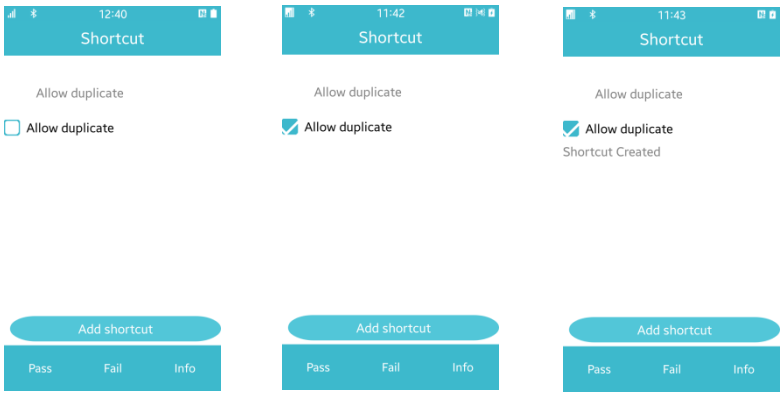


Figure 3-92: Shortcut

4.2.1.23. OAuth 2.0

This section describes the OAuth 2.0 testing options. If the functionality works as expected, press PASS, otherwise, press FAIL.

This section test OAuth 2.0 by logging into gmail account and shows it's users information

To perform the test

a. At first, be sure that internet connection is available.

b. After Entering on OAuth 2.0 module, press Clear Cache button to remove previously saved data.

c. Select GOOGLE_AUTH2_CODE, This will redirected to Google Authentication page.

d. Give Gmail username and password and press login. It will prompt a tbtcoreapp access page.

e. Press Accept then the account profile picture and name will be shown as per Gmail account.

f. Press “Clear Cache” button.

g. Select “GOOGLE_OAUTH2_CHECK_STATE” and do step as setp 4

h. Press Accept then “test_state” will be seen.

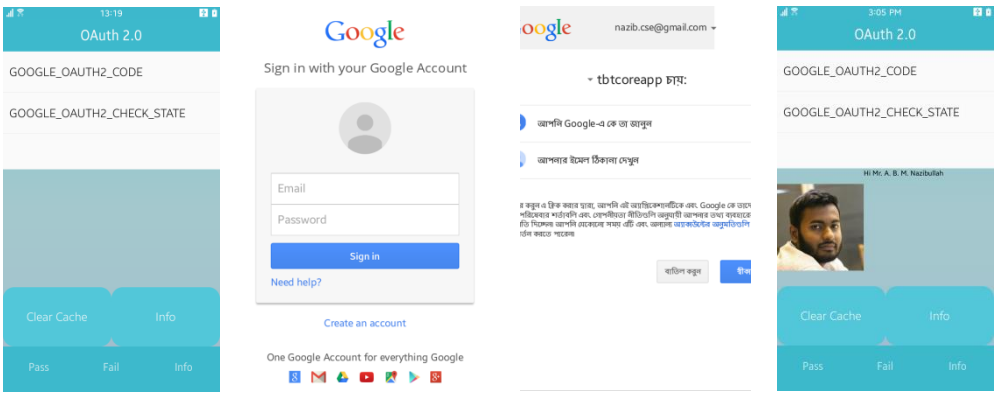


Figure 3-93: OAuth 2.0

4.2.1.24. Push Service

To perform the test, select Push Service from the test case list. There are two tests. Firstly,

a. Make sure
   1. **Internet** is connected.
   2. run **tbt_pushtestapp**
   3. kill app instance of **tbt_pushtestapp** from background by long pressing home button

b. Now, in tbtcoreapp launch **Push module** then, Press **Start button** to start the push service and a successful response will be displayed.

b. Press **Normal button**, a Normal push message will be shown in list.

c. Press **Delay button** and then press Normal button a Normal push message followed by a delay push message will be shown in list.

d. Press **Background Launch button**, a notification with Push Test App Launched in Background message will be shown

e. Press **Active button** and an Active push message will be shown.

f. Press **Template button** and a Template push message will be shown in list.

g. Press **Normal button** and immediately press home button to move app to pause state, a Normal push notification will be shown in Notification panel.

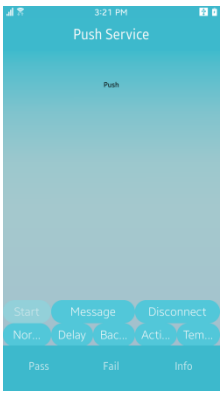
h. Press **Active button** and immediately press home button to move app to pause state, a Active push notification will be shown in Notification panel.

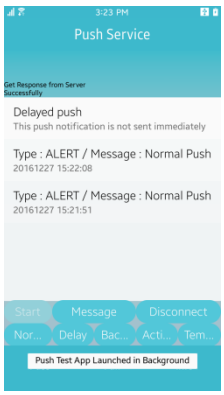
i. Press **Template butto**n and immediately press home button to move app to pause state, a push notification with custom icon and sound will be shown in Notification panel."

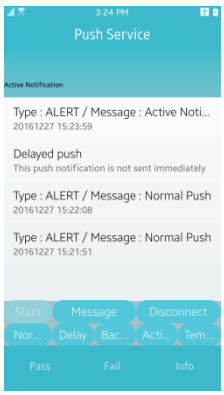
j. When new push notification will come an **increasing badge** number will be shown on app icon.

k. If app is open and pressed **Message button** will show the message if it is not read.

l. Press button **Disconnect** to Disconnect Push Service.







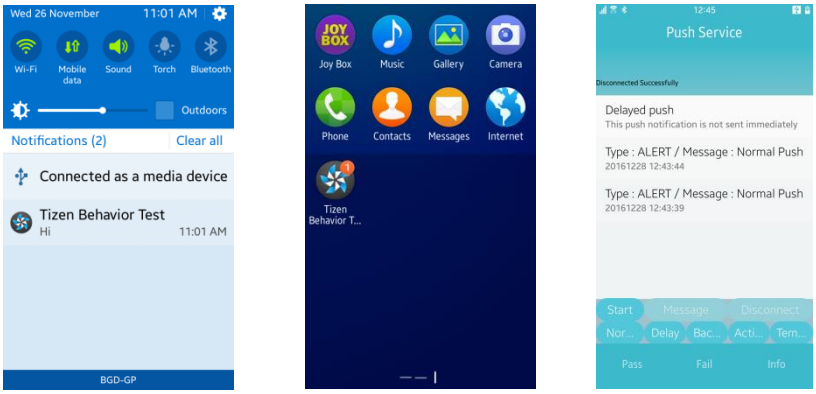


Figure 3-94: Push Service

4.2.1.25. Runtime Info

To perform the test, select **Runtime Info** from the test case list. There are 9 scenarios in runtime-info.

a. **Audio Jack**: There are two test steps.

Firstly,

1. Initial page will show Audio Jack Not Connected, connect headphone in audio jack.
2. Then message will show “Audio Jack Connected with 3 wire ear jack” or “Audio Jack Connected with 4 wire ear jack” according to the type of air jack connected. If Audio jack is not supported, “Audio Jack is not supported” will be shown

b. **Vibrate Mode**: There are two test steps.

Firstly,

1. Initial page will show “Vibrate Mode is Not Enabled” or “Vibrate Mode is enabled”, depending on the vibrate mode status.
2. You can change status of Vibrate Mode and see whether it is enabled or disabled.

c. **Battery Charging**: There are two test steps.

Firstly,

1. Initial page will show “Battery Charging Started” or “Battery not charging”, depending on the charger connected or not.

2. You can plugin charger or plug it out and see whether it is charging or not.

d. **GPS Connection**: There are two test steps.

Firstly,

1. Initial page will show GPS state, depending on the “Location” enabled or not.
2. You can enable or disable Location and see whether GPS is enabled or not.

e. **USB Connection**: There are two test steps.

Firstly,

1. Initial page will show “USB is connected” or “USB not connected”, depending on the USB charger connected or not.
2. You can plugin USB charger or plug it out and see whether it is connected or not.

f. **Bluetooth**: There are two test steps.

Firstly,

1. Initial page will show “Bluetooth not enabled” or “Bluetooth is enabled”, depending on the Bluetooth is enabled or not.
2. You can enable and disable Bluetooth and see whether it is enabled or not.

g. **Auto Rotate**: There are two test steps.

Firstly,

1. Initial page will show “Auto Rotate is Enabled” or “Auto Rotate not Enabled”, depending on the Auto Rotate is enabled or not.
2. You can enable and disable Auto Rotate and see whether it is enabled or not.

h. **Location**: There are two test steps.

Firstly,

1. Initial page will show “Location is Enabled” or “Location not enabled”, depending on the Location is enabled or not.
2. You can enable and disable Location and see whether it is enabled or not.

i. **Wifi HotSpot**: There are two test steps.

Firstly,

1. Initial page will show “Wifi Hotspot Not Enabled” or “Wifi Hotspot is enabled”, depending on the Wifi Hotspot is enabled or not.

2. You can enable and disable Wifi Hotspot [Settings->Thethering->Wi-Fi Thethering] and see whether it is enabled or not.[You should insert sim to enable wifi hotspot]

If all the above scenarios steps are competed perfectly, then the test can be considered as success.

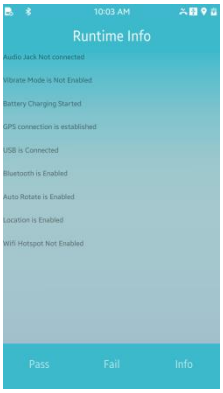


Figure 3-95: Runtime Info

4.2.1.26. Attach Panel [Need to be tested in Mobile only not on FHub]

To perform this test, take come pictures with camera so that images are available in device images flder. Select Attach Panelfrom the test case list. Firstly,

a. Press “+” button in top left corned in the initial page.

b. Gallery Images will be shown using attach panel, click on a image.

c. Clicked Image will be selected and shown in the upper area

If all steps are competed perfectly, then the test can be considered as success.

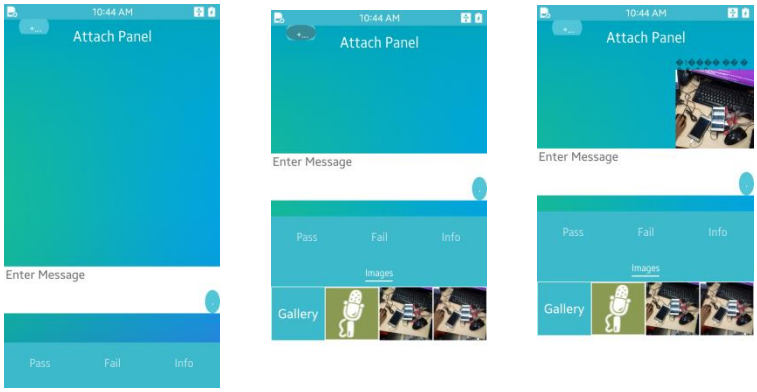


Figure 3-96: Attach Panel

4.2.1.27. Hardware/Software Feature Summary

To view the hardware/software feature summary of the device:

a. Select HW / SW Feature Test from the test case list

b. Different Hardware/Software features are shown automatically.

c. If it works as expected, press Pass. Otherwise, press Fail.

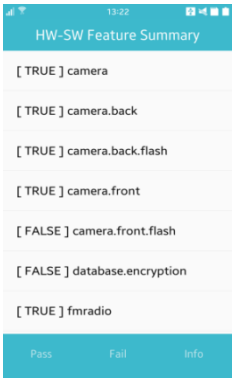


Figure 3-97: Hardware/Software Feature Summary

4.2.1.28. Testing MTP [Need to be tested in Mobile only not on FHub]

Transfer Photos

To perform the test:

a. Connect OTG Cable's OTG gender (micro USB end) to Test Tizen device.

b. Connect other end to another device which supports MTP ex: Android device and select connection option to Transfer Photos (PTP) in this device.

c. Open Transfer Photos module under MTP section in TBT.

d. Device information will be seen in bottom list and in top list JPG files list will be seen.

e. Select *.jpg image name from top list. Then corresponding files information will be seen in bottom list.

f. If it works as expected, press Pass. Otherwise, press Fail.

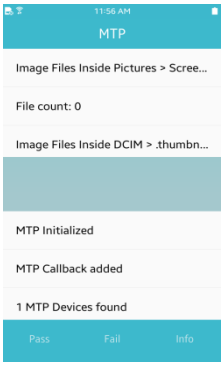


Figure 3-98: Picture Transfer

4.2.1.29. NSD

DNS-SD Remote

To perform the test:

a. Open DNS-SD Remote module under NSD group.

b. “dnssd initialized” will be shown in bottom list.

c. Press Add Record button. Then, “local service registered” will be seen in bottom list and in top list added text with key value pair will be seen.

d. If it works as expected, press Pass. Otherwise, press Fail.

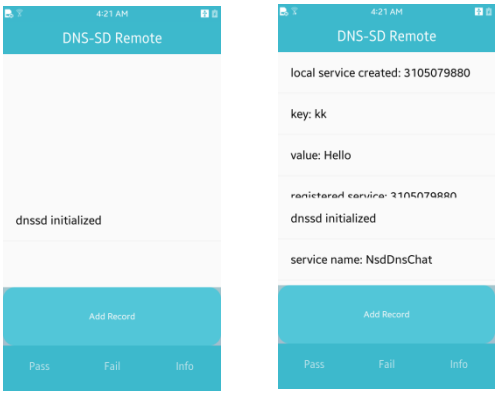


Figure 3-99: DNS-SD Remote

DNS-SD Local

To perform the test:

a. Connect test device to a Wi-Fi network.

b. Open DNS-SD Local module under NSD group.

c. “dnssd initialized” will be shown in bottom list.

d. Open DNS-SD Remote module in another device and connect that device to same Wi-Fi network.

e. Press Add Record in DNS-SD Remote module.

f. Press Browse Service button. Then, corresponding service and text value in DNS-SD Remote will be seen in top list.

g. If it works as expected, press Pass. Otherwise, press Fail.

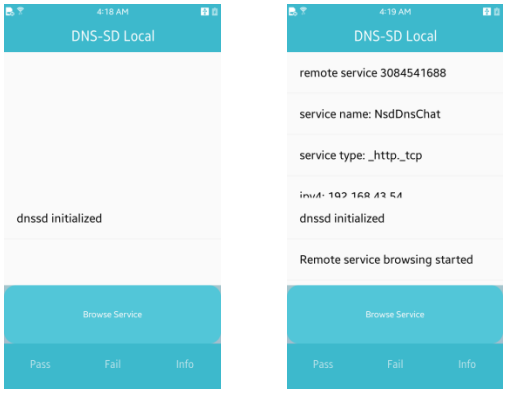


Figure 3-100: DNS-SD Local

SSDP Remote

To perform the test:

a. Open SSDP Remote module under NSD group.

b. “ssdp initialized” will be shown in bottom list.

c. Press Add Service button. Then, “service created” will be seen in bottom list and in top list added url, usn will be seen.

d. If it works as expected, press Pass. Otherwise, press Fail.

ıre 3-1

SSDP Local

To perform

a. Connect test device to a Wi-Fi network.

b. Open SSDP Local module under NSD group.

c. “ssdp initialized” will be shown in bottom list.

d. Open SSDP Remote module in another device and connect that device to same Wi-Fi network.

e. Press Add Service in SSDP Remote module.

f. Press Browse Service button. Then, corresponding url, usn in SSDP Remote will be seen in top list.

g. If it works as expected, press Pass. Otherwise, press Fail.

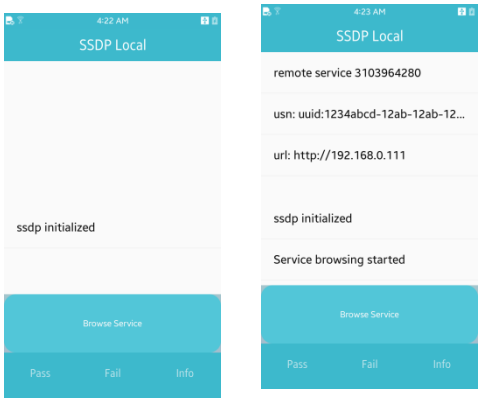


Figure 3-102: SSDP Local

4.2.1.30. SD-Card Status

To view the SD-Card status of the device:

a. Select SD-Card from the test case list.

b. You have to change SD card state [Remove/Insert SD Card] to see the changes.

c. Accordingly it will show “STORAGE_STATE_MOUNTED” or “STORAGE_STATE_REMOVE”.

d. If it works as expected, press Pass. Otherwise, press Fail.

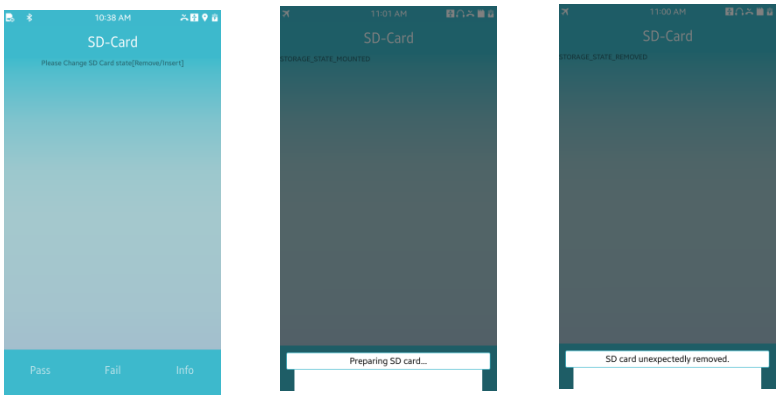


Figure 3-103: SD Card

4.2.1.31. Radio

To view the Radio status on the device:

a. Select Radio from the test case list.

b. Connect headphone in audio jack.

c. Now, remove headphone and it will show “Interrupted by unplugging headphones”.

d. If it works as expected, press Pass. Otherwise, press Fail.

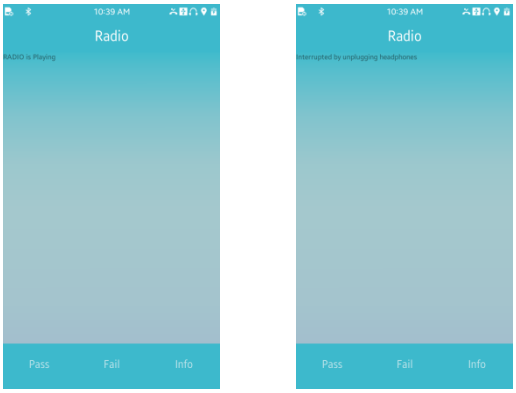


Figure 3-104: Radio

4.2.1.32. Sound Manager

Connection Status

To perform the test,

a. Select Connection Status from the test case list .

b. Insert headphone in Audio Jack , Connection Status now show “Audio Jack connected” .Now, remove headphone and it will display” Audio Jack not connected”.

c. If it works as expected, press Pass. Otherwise, press Fail.

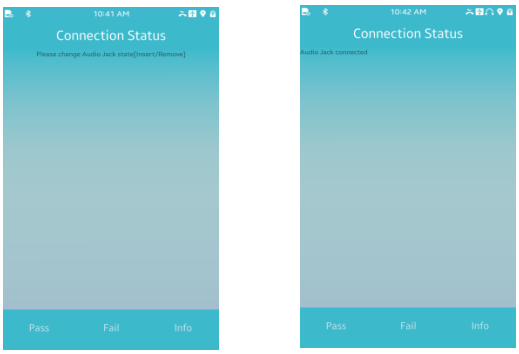


Figure 3-105: Connection Status

Device Status

To perform the test,

a. Select Device Status from the test case list .

b. Insert headphone in Audio Jack , Change sound profile to “Sound”.

c. It shows “state of device was changed”.

d. If it works as expected, press Pass. Otherwise, press Fail.

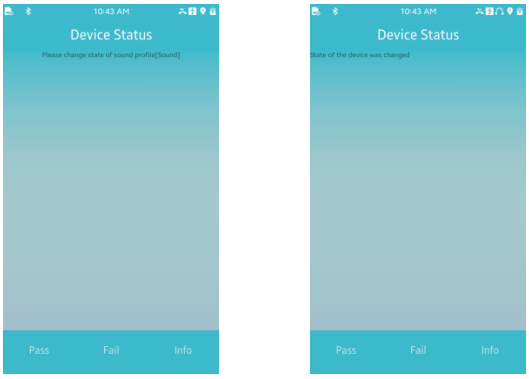


Figure 3-106: Device Status

4.2.1.33. Media Key

To view the Media Key status on the device:

a. Select Media Key from the test case list.

b. Connect headphone that have play button [media key] on it with device.

c. Now, Press button on headphone, It will show “Pressed/Released Status” and Media Key for earjack.

d. If it works as expected, press Pass. Otherwise, press Fail.

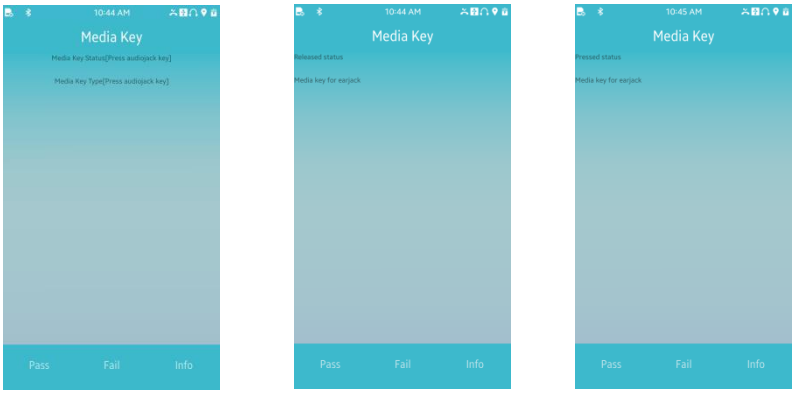


Figure 3-107: Media Key

4.2.1.34. Package Manager

To view the Package Manager status on the device:

a. Select Package Manager from the test case list.

b. Uninstall package: Go to Settings->Applications->Application manager, now uninstall some package. You can see that package status changes to “uninstall event type” and State changes to “completed event state”.

c. Install/Update package: Go to the path mentioned in instruction guide that appears when you open package manager from the list and install package. You can see that package status changes to “install/update event type” and State changes to “complete/progress event state”.

d. If it works as expected, press Pass. Otherwise, press Fail.

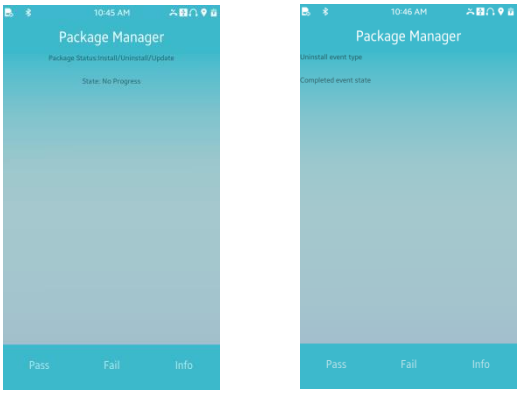


Figure 3-108: Package Manager

4.2.1.35. Notification

Notification Text

To perform the test,

a. Select Notification text from the test case list.

b. You will see text notification “Hello World!!!”.

c. If it works as expected, press Pass. Otherwise, press Fail.

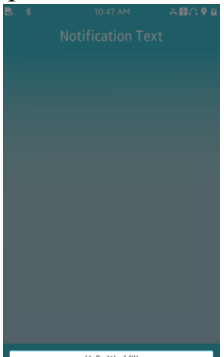


Figure 3-109: Notification Text

Notification Time

To perform the test,

a. Select Notification Time from the test case list.

b. You will see time notification “<Time>some numbers</Time>”.

If it works as expected, press **Pass**. Otherwise, press **Fail**.

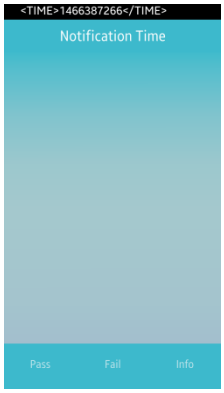


Figure 3-110: Notification Time

Notification Title

To perform the test

a. Select Notification Title from the test case list.

b. You will see title notification “I’m Title”.

If it works as expected, press Pass. Otherwise, press Fail.

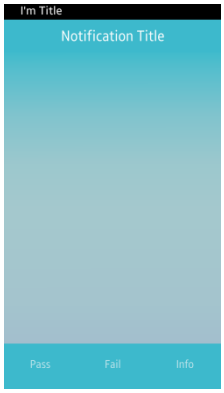


Figure 3-111: Notification Title

Notification Image

To perform the test,

a. Select Notification Image from the test case list.

b. You will see blank notification with some image icon.

If it works as expected, press **Pass**. Otherwise, press **Fail**.

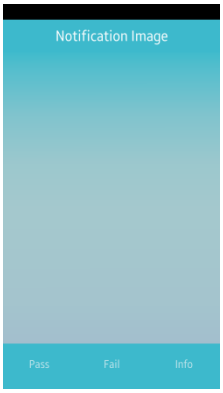


Figure 3-112: Notification Image

4.2.1.36. Connection

To view the Connection status on the device:

a. Select Connection from the test case list.

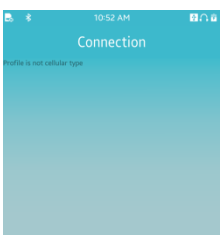
b. Initially if SIM is not inserted it shows “Profile is not cellular type”.

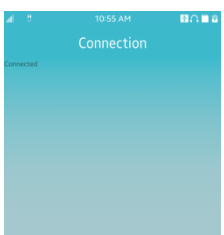
c. Insert SIM: Press back button and again open connection from test list. Now Status shows “Out of Service/Connected” depending on network.

d. Change to flight mode: Go to Settings->Airplane mode, now enable it.

e. Press back button and again open connection from test list. Now, Status shows “Flight mode”.

f. If it works as expected, press Pass. Otherwise, press Fail.





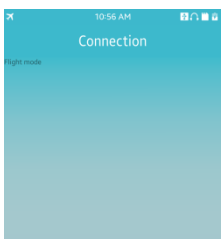


Figure 3-113: Connection

4.2.1.37. System Settings

To perform the test:

a. In System Settings make changes in Display->Font->Size. This should be reflected in the tbtcoreapp - System Settings.

b. In System Settings make changes in Date and Time->24 clock. This should be reflected in the tbtcoreapp - System Settings.

c. When System Time changes System Time in tbtcoreapp changes status.

d. If lock sound in system settings in sound menu is present, change its setting. This should be reflected in the tbtcoreapp - System Settings.

e. In System Settings make changes in Sound->Notification as Silent. This should be reflected in the tbtcoreapp - System Settings as Silent Mode enabled.

f. If screen touch sound in system settings is present, change its setting. This should be reflected in the tbtcoreapp - System Settings.

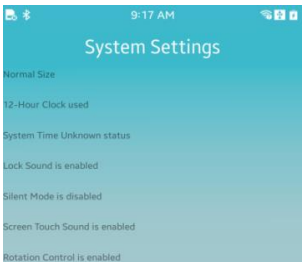
g. In System Settings make changes in Display->Auto Rotate Screen. This should be reflected in the tbtcoreapp - System Settings as Rotation Control is enabled.

h. If Motion is present in system settings menu, change its setting. This should be reflected in the tbtcoreapp - System Settings.

i. Enable/ Disable Flight Mode in System Settings. Same should be reflected in tbtcoreapp - System Settings.

j. Lock/Unlock the device. Same should be reflected in tbtcoreapp - System Settings as Device is unlocked/locked. Locked status is for a fraction of second.

k. If all the steps are performed correctly then Pass, otherwise Fail.



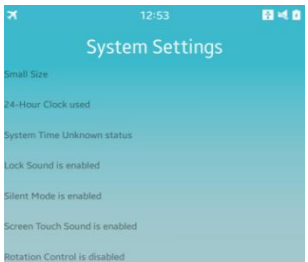


Figure 3-114: System Settings

4.2.1.38. Contacts

To perform the test:

a. In contacts menu, create a contact(if already exists, delete and re-create it) with Name as "Test" and phone number as "12345678"

b. Make a number of calls to Test

c. Press Contacts in tbtcoreapp.

d. The count displayed is equal to the number of the calls made to "Test".

e. Delete the contact "Test".

f. If all the steps are performed correctly then Pass, otherwise Fail.

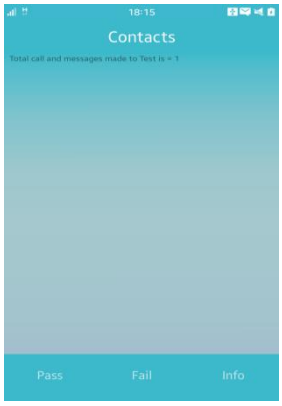


Figure 3-115: Contacts

4.2.1.39. TTS/STT

TTS

To perform the test:

a. Run TTS.

b. Press Text to Speech Button

c. Text: The quick brown fox jumps over the lazy dog can be heard

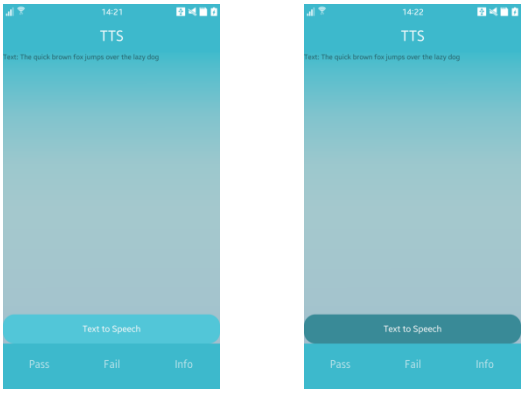


Figure 3-116: TTS

STT

To perform the test:

a. Confirm internet is connected and Run STT.

b. Press Speak button and say something loud

c. After Recording and Processing steps, recognized text will be shown.

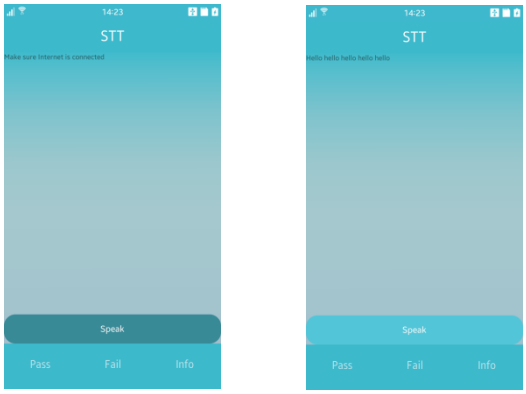


Figure 3-117: STT

STT Error

To perform the test:

a. Confirm internet is not connected and Run STT Error.

b. Press Speak button and say something loud

c. "[ERROR] Fail to Start" will be shown.

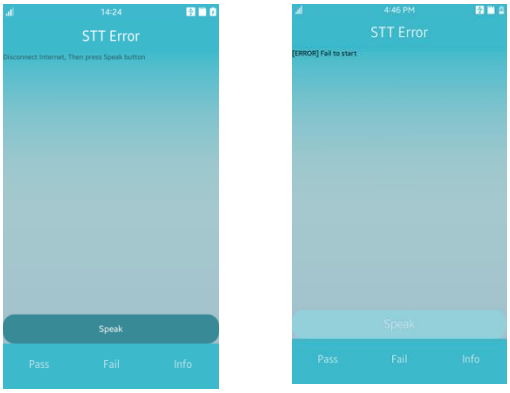


Figure 3-118: STT Error

Voice Control

To perform this test:

a. Make sure Internet is connected

b. Run **Voice Control** module under **TTS/STT** then press **back** button to exit from module.

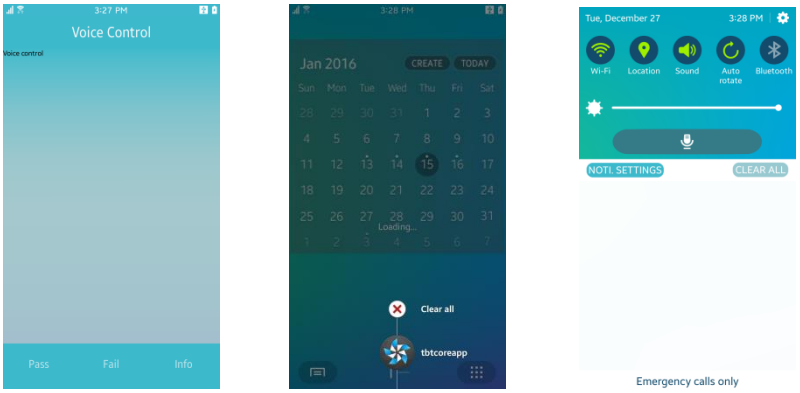
c. Remove **tbtcoreapp** instance from **task manager** by long pressing home button.

d. Slide notification panel from top and tap on **Mic icon**.

e. Speak **Test pop**, while voice control panel app **listening**.

f. **tbtcoreapp** will be launched.

g. If everything works perfectly as above then Pass otherwise Fail.



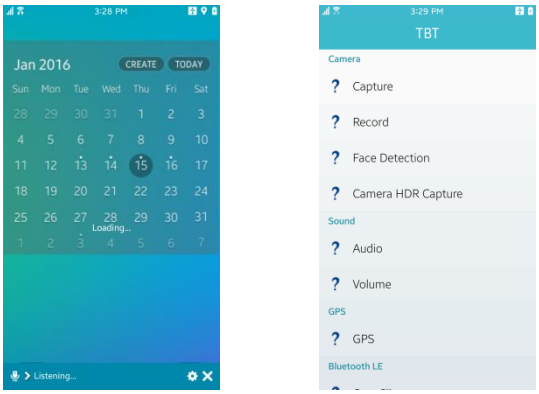


Figure 3-119: Voice Control

4.2.1.40. IoT

IoTCon Basic Server

To perform the test:

a. Run **IoTCon Basic Client** in Other Device after run this module.

b. Make sure both Server and Client Device connected in **Same Wifi AP.**

c. Follow the Instructions of **IoTCon Basic Client** module.

d. After **Open/Close Door** button enabled, Press this button and Corresponding Change will be shown in Client end.

e. If everything works perfectly as above then Pass otherwise Fail.

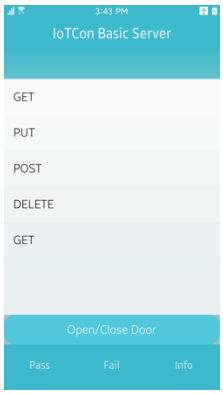


Figure 3-120: IoTCon Basic Server

IoTCon Basic Client

To perform the test:

a. Run **IoTCon Basic Server module** in Other Device before run this module.

b. A **resource ID** will be shown in List.

c. Select **resource ID**, Then **GET** button will be enabled.

d. Press **GET** button, **GET** will be shown in Server end and **PUT** button will be enabled in Client end.

e. Press **PUT** button, **PUT** will be shown in Server end and **POST** button will be enabled in Client end.

f. Press **POST** button, **POST** will be shown in Server end and **DELETE** button will be enabled in Client end.

g. Press **DELETE** button, **DELETE** will be shown in Server end and **Open/Close** Door button will be enabled in Server end.

Figure 3-121: IoTCon Basic Client

4.2.1.41. DALi

DALi Actor

To perform the test:

a. Run DALi Actor.

b. Connect mouse with target using OTG cable.

c. Touch/Hover/Wheel on Test Button

d. If the corresponding event signal and data mgs are changed then press Pass. Otherwise, press Fail.

Figure 3-123: DALi Actor

DALi Stage

To perform the test:

a. Run DALi Stage.

b. Connect mouse with target using OTG cable.

c. Touch/Hover/Wheel on Test Area.

d. Enter text in text field.

e. If the corresponding event signal and data mgs

   are changed then Pass Otherwise, press Fail.

f. Note: Wheel event signal only for wearable device detent rotation.

   Detent event is received for rotate the wheel of watch device.

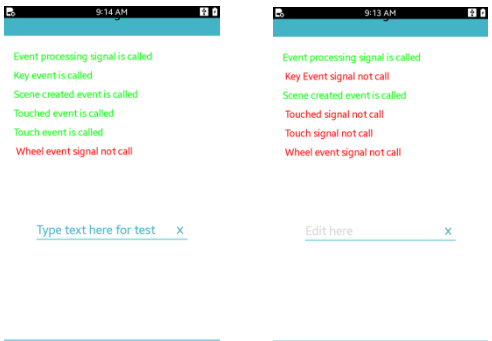
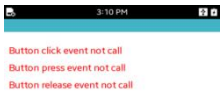


Figure 3-124: DALi Stage

DALi Touch Data



To perform the te

a. Run DALi Tc

b. Touch on the

c. If the touched nged then press Pass. Otherwise, press Fail

Figure 3-125: DALi Touch Data

DALi Button

To perform the test:

a. Run DALi Button.

b. Touch on the test button

c. If the corresponding event signals mgs are changed then press Pass. Otherwise, press Fail

Figure 3-126: DALi Button

DALi Slider

To perform the test:

a. Run DALi Slider.

b. Change the slider position.

c. If the corresponding event signals mgs are changed then press Pass. Otherwise, press Fail

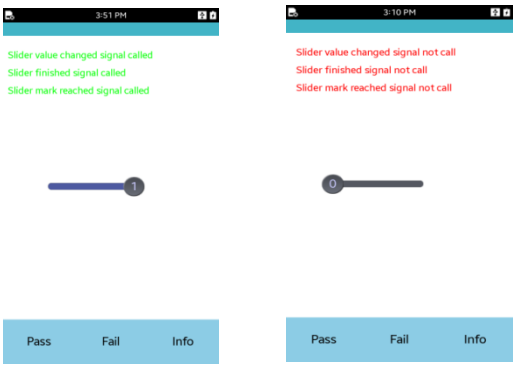


Figure 3-127: DALi Slider

DALi Text Control

To perform the test:

a. Run DALi Text Control.

b. Change the text control text (text field & text editor).

c. If the corresponding event signals mgs are changed then press Pass. Otherwise, press Fail

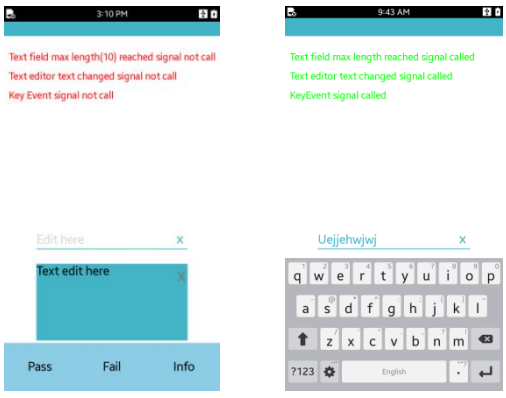


Figure 3-128: DALi Text Control

DALi Keyboard Focus Manager

To perform the test:

a. Run DALi Keyboard Focus Manager.

b. Connect keyboard with target using OTG cable.

c. Press Up/Down key on keyboard to change the focus of control to test PreFocusChangeSignal

d. Press enter key on keyboard to test FocusedActorEnterKeySignal

e. Press tab key on keyboard to test FocusGroupChangedSignal

f. If the corresponding event signals mgs are changed then press Pass

Otherwise, press Fail.

Figure 3-129: DALi Keyboard Focus Manager

DALi Accessibility Manager

To perform the test:

a. Run tbtcoreapp

b. Activate the accessibility by run “sh-3.2# vconftool set -f -t bool db/setting/accessibility/tts 1” on target shell with root on mode

c. One finger single tap on DALi Accessibility Manager. Then focused this with yellow box.

d. One finger double tap on DALi Accessibility Manager.

e. One finger swipe up/down on screen to change the focus control and then focus change signal will call.

f. One finger swipe down until last control to select then again swipe down then focus overshot signal call.

g. One Finger single/double tap on selected control then focused actor activated signal will call.

h. Two fingers drag on screen then action scroll signal will call.

i. Deactivate the accessibility by run "sh-3.2# vconftool set -f -t bool db/setting/accessibility/tts 0"

j. After deactivate status changed signal will call.

k. If the corresponding event signals mgs are changed then press Pass Otherwise, press Fail.

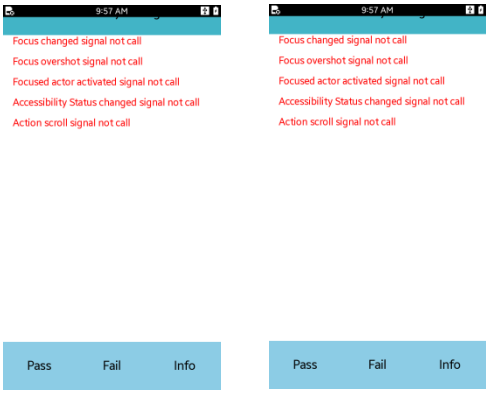


Figure 3-130: DALi Accessibility Manager

DALi Accessibility Manager Flick

To perform the test:

a. Run tbtcoreapp

b. Activate the accessibility by run "sh-3.2# vconftool set -f -t bool db/setting/accessibility/tts 1" on target shell with root on mode

c. One finger single tap on DALi Accessibility Manager Flick. Then focused this with yellow box

d. One finger double tap on DALi Accessibility Manager Flick.

e. One finger flick up/down on screen to change the focus control then action next and action previous signal will call.

f. One finger flick right/left on screen to change the focus control then action read next and action read previous signal will call.

g. Before finished test deactivate the accessibility by run “sh-3.2# vconftool set -f -t bool db/setting/accessibility/tts 0”.

h. If the corresponding event signals mgs are changed then press Pass Otherwise, press Fail.

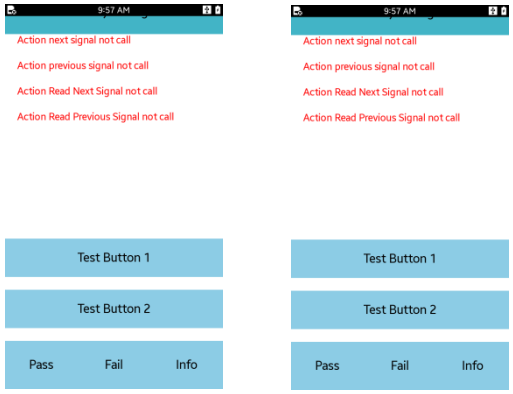


Figure 3-131: DALi Accessibility Manager Flick

DALi Accessibility Manager Tap

To perform the test:

a. Run tbtcoreapp

b. Activate the accessibility by run "sh-3.2# vconftool set -f -t bool db/setting/accessibility/tts 1" on target shell with root on mode"

c. One finger single tap on DALi Accessibility Manager Tap. Then focused this with yellow box

d. One finger double tap on DALi Accessibility Manager Tap.

e. One finger up/down on screen focus control are move then action read signal will call

f. One finger double tap on focused control then action activate signal will call.

g. One finger triple tap on screen then action zoom signal will call.

h. Two fingers triple tap on screen then action read indicator information signal will call

i. Two fingers single tap on screen then action read pause resume signal will call

j. Two finger double tap on screen then action start stop signal will call

k. One finger flick right/left on screen to change the focus control then action read next and action read previous signal will call.

l. Before finished test deactivate the accessibility by run "sh-3.2# vconftool set -f -t bool db/setting/accessibility/tts 0"

m. If the corresponding event signals mgs are changed then press Pass Otherwise, press Fail.

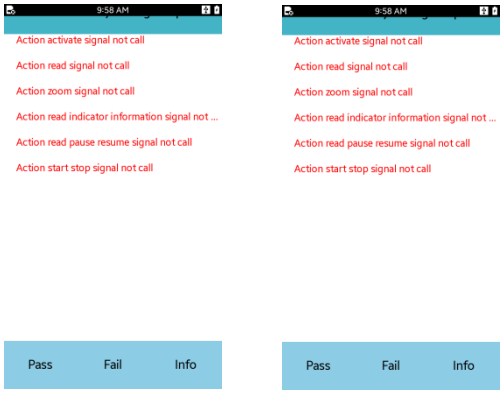


Figure 3-132: DALi Accessibility Manager Tap

DALi Long Press Gesture Single

To perform the test:

a. Run DALi Long Press Gesture Single.

b. Perform the one finger long press on screen then corresponding signal and data will display

c. If the corresponding event signals mgs and touch data are changed then press Pass. Otherwise, press Fail

Figure 3-133: DALi Long Press Gesture Single

DALi Long Press Gesture Double

To perform the test:

a. Run DALi Long Press Gesture Double.

b. Perform the two finger long press on screen then corresponding signal and data will display

c. If the corresponding event signals mgs and touch data are changed then press Pass. Otherwise, press Fail

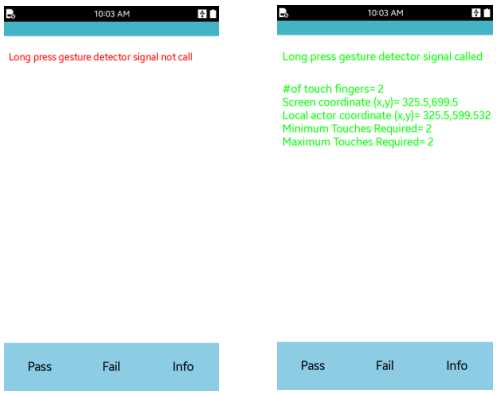


Figure 3-134: DALi Long Press Gesture Double

DALi Long Press Gesture Multiple

To perform the test:

a. Run DALi Long Press Gesture Multiple.

b. Perform the one/two/three finger long press on screen then corresponding signal and data will display

c. If the corresponding event signals mgs and touch data are changed then press Pass. Otherwise, press Fail

Figure 3-135: DALi Long Press Gesture Multiple

DALi Pan Gesture Single

To perform the test:

a. Run DALi Pan Gesture Single.

b. Perform the one finger pan on screen then corresponding signal and data will display.

c. If the corresponding event signals mgs and touch data are changed then press Pass. Otherwise, press Fail

Figure 3-136: DALi Pan Gesture Single

DALi Pan Gesture Double

To perform the test:

a. Run DALi Pan Gesture Double.

b. Perform the two fingers pan on screen then corresponding signal and data will display

c. If the corresponding event signals mgs and touch data are changed then press Pass. Otherwise, press Fail

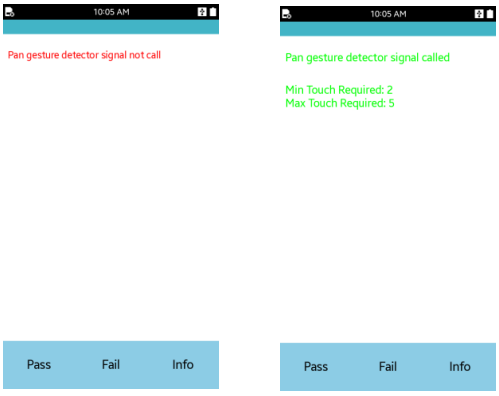


Figure 3-137: DALi Pan Gesture Double

DALi Pan Gesture Angle and Direction

To perform the test:

a. Run DALi Pan Gesture Angle and Direction.

b. Perform the one finger pan on screen with right diagonal up then corresponding signal and data will display

c. Add/Remove angle and direction of pan gesture

d. If the corresponding event signals mgs and touch data are changed then press Pass. Otherwise, press Fail

Figure 3-138: DALi Gesture Angle and Direction

DALi Pinch Gesture

To perform the test:

a. Run DALi Pinch Gesture

b. Perform the pinch gesture on screen then corresponding signal will call

c. If the corresponding event signals mgs and touch data are changed then press Pass. Otherwise, press Fail

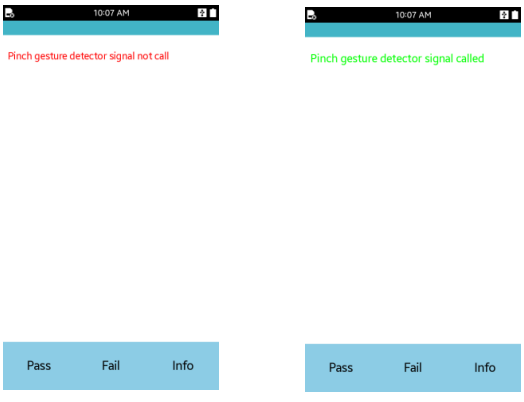


Figure 3-139: DALi Pinch Gesture

DALi Tap Gesture Single

To perform the test:

a. Run DALi Tap Gesture Single

b. Perform the one finger single tap on screen then corresponding signal and data will display.

c. If the corresponding event signals mgs and touch data are changed then press Pass. Otherwise, press Fail

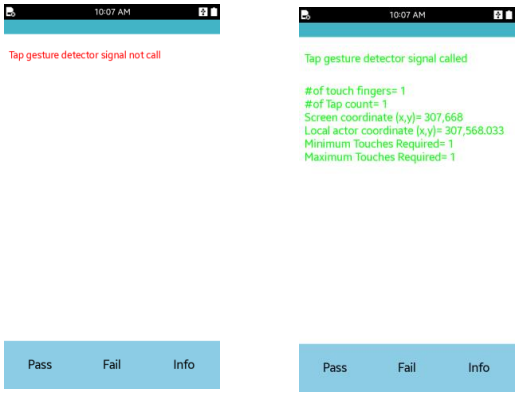


Figure 3-140: DALi Tap Gesture Single

DALi Tap Gesture Multiple

To perform the test:

a. Run DALi Tap Gesture Multiple

b. Perform the one finger double tap on screen then corresponding signal and data will display.

c. If the corresponding event signals mgs and touch data are changed then press Pass. Otherwise, press Fail

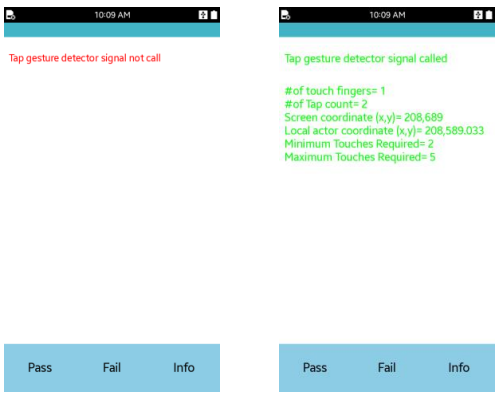


Figure 3-141: DALi Tap Gesture Multiple

DALi Style Manager

To perform the test:

a. Run DALi Style Manager.

b. Press the style change test button.

c. If the corresponding event signals mgs are changed then press Pass. Otherwise, press Fail

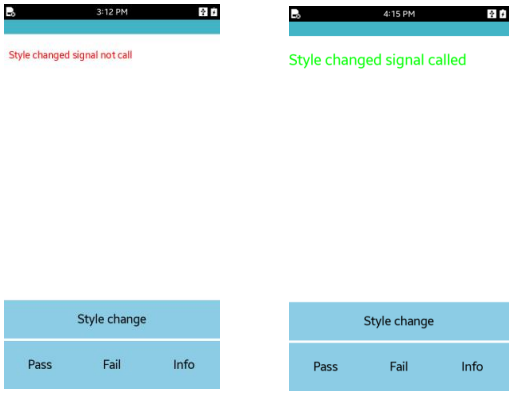


Figure 3-142: DALi Style Manager

DALi TTS

To perform the test:

a. Run DALi TTS.

b. Press the Play/Pause/Stop test button.

c. If the corresponding event signals state are changed then press Pass. Otherwise, press Fail

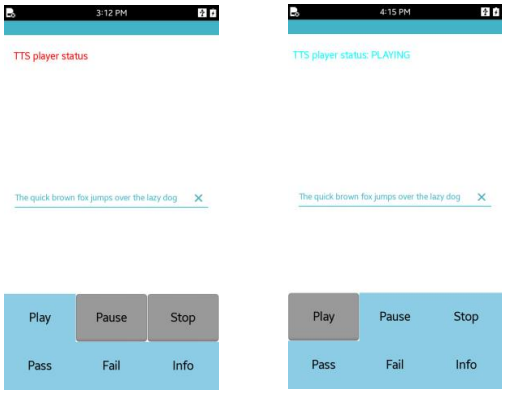


Figure 3-143: DALi TTS

DALi Application

To perform the test:

a. Run DALi Application.

b. Perform the corresponding event for application state change. Ex. if change the region/language from settings.

c. If the corresponding event signals mgs are changed then press Pass. Otherwise, press Fail

Figure 3-144: DALi Application

DALi Scroll View

To perform the test:

d. Run DALi Scroll View.

e. Connect mouse with target using OTG Cable

f. Scroll the item left/right.

g. If the corresponding event signals mgs are changed then press Pass. Otherwise, press Fail

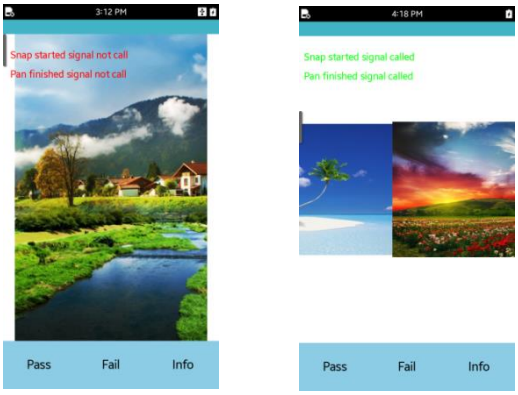


Figure 3-145: DALi Scroll View

DALi Widget View

To perform the test:

a. Run DALi Widget View.

b. Widget added signal will call after successfully launch widget on screen

c. Widget creation aborted signal will call if unable to launch widget.

d. Active button for re-launch the widget if aborted signal are emit.

e. Pause/Resume button are perform widget pause/resume respectively.

f. Cancel button un-set the widget touch event.

g. If the corresponding event signals mgs are changed then press Pass Otherwise, press Fail.

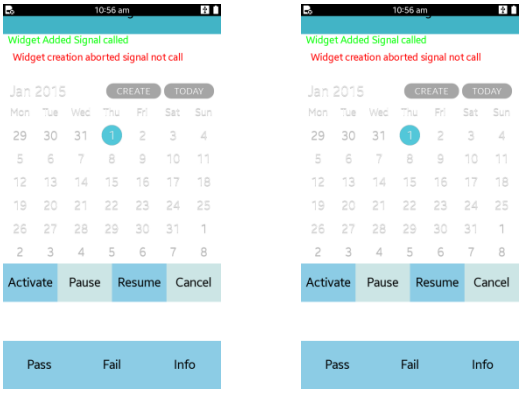


Figure 3-146: DALi Widget View

4.2.1.42. Multiclass Widget

To perform the test:

a. Run Multiclass Widget APP

b. Press View Widget UI Button.

c. If three widget apps launch in a single window then press Pass Otherwise, press Fail.

Figure 3-147: Multiclass Widget App

4.2.1.43. Auto fill Service

To perform the test:

a. In 'Settings' select 'Language and input'.

b. Select 'Auto fill service' menu and then 'Tizen auto fill service sample'.

c. Run Auto fill TC, enter any string in each field, and exit by pressing back key.

d. Run Auto fill TC again and click on 'Login with Auto fill' button.

e. The data entered before will be filled in the entry boxes.

Figure 3-148 : Auto Fill Service

4.2.2 Testing the Wearable Device

This chapter describes the various tests that can be performed to check the wearable device functionality.

4.2.2.1 Camera

This section describes the camera testing options. If the functionality works as expected then press **Pass**. Otherwise, press **Fail**.

Camera Capture

To test the camera capture functionality:

a. Select the Capture from the test case list

b. Press Capture to capture a picture.

c. Check the captured picture which is shown automatically.

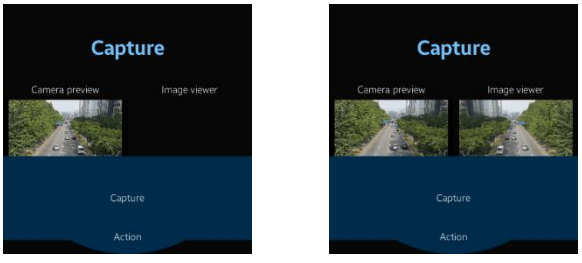


Figure 3-148: Camera Preview

Camera Recorder:

To test the camera recording functionality:

a. Select the Record Test from the test case list.

b. Press Record button to record the video.

c. Press Stop to stop the recording

d. Check the recorded video clip which is shown automatically.

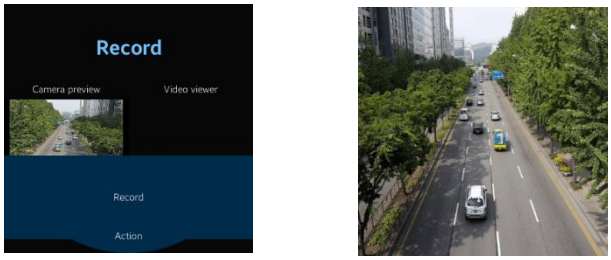


Figure 3-149: Camera Record

Camera Face Detection

To perform the test,

a. Select Face Detection Test from the test case list and the camera preview starts automatically.

b. If the camera can detect face and “zoom in” and “zoom out” is performed automatically then Pass, otherwise Fail.

Figure 3-150: Face detection

Camera HDR Capture

To perform the test,

a. Select Camera HDR Capture from the test case list.

b. Press button Capture and the captured picture is shown.

c. If the picture can be captured and shown, then Pass, otherwise Fail.

Figure 3-151: Camera HDR Capture

4.2.2.2 Sound

a. This section describes the sound testing options. If the functionality works as expected, then press **Pass**. Otherwise, press **Fail**. **Connect bluetooth headset for TW1 wearable.**

Sound Audio

To test the sound of the speaker:

b. Select Audio Test from the test case list.

c. Press Play.

d. Check the sound output to the speaker.

e. Press Stop to stop the music.

f. Press Pause to pause the music

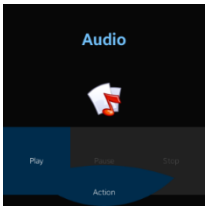


Figure 3-152: Sound Test

Sound Volume

To test the sound volume:

a. Select the Volume Test from the test case list and the sound is played automatically.

b. Slide the Volume Slider to change the volume level.

c. Check the sound output to the speaker by hearing and watching the value of volume label.

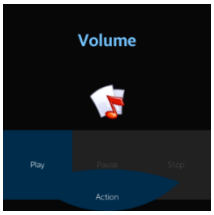


Figure 3-153: Sound Volume Test

4.2.2.3 GPS

To test the **GPS** functionality,

a. Select the GPS Test from the test case list

b. Enable Location and view the GPS information.

c. If the information is correct then PASS, otherwise FAIL.

Figure 3-154: GPS

Note: If the GPS information is unavailable for 6 minutes, the process fails.

4.2.2.4 Bluetooth

This section describes the Bluetooth testing options. If the functionality works as expected, then press **PASS**, otherwise, press **FAIL**.

Bluetooth Client Paired:

To test Bluetooth client pairing:

a. Select Client Paired from the test case list in one phone.

b. Select Server Paired from the test case list in one

c. If Bluetooth is off, turn on manually.

d. Press button Discover and a list of available devices will be appeared.

e. Select the desired device and wait for the connection popup message. If you want to cancel connection during paring, select the Cancel button.

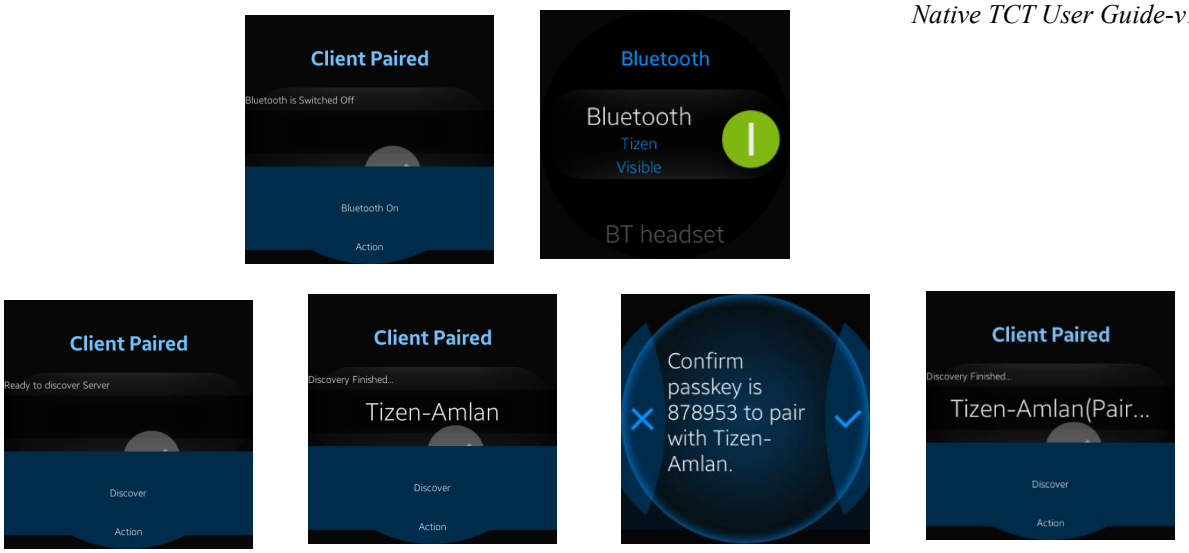


Figure 3-155: Client Paring

Bluetooth Server Paired:

To test Bluetooth server pairing:

a. Select Server Paired from the test case list of one phone.

b. Select Client Paired from the test case list of other phone.

c. If Bluetooth is off, turn on manually.

d. Press Set Visible and wait for the connection pop-up message.

e. If the message is shown properly then PASS, otherwise FAIL.

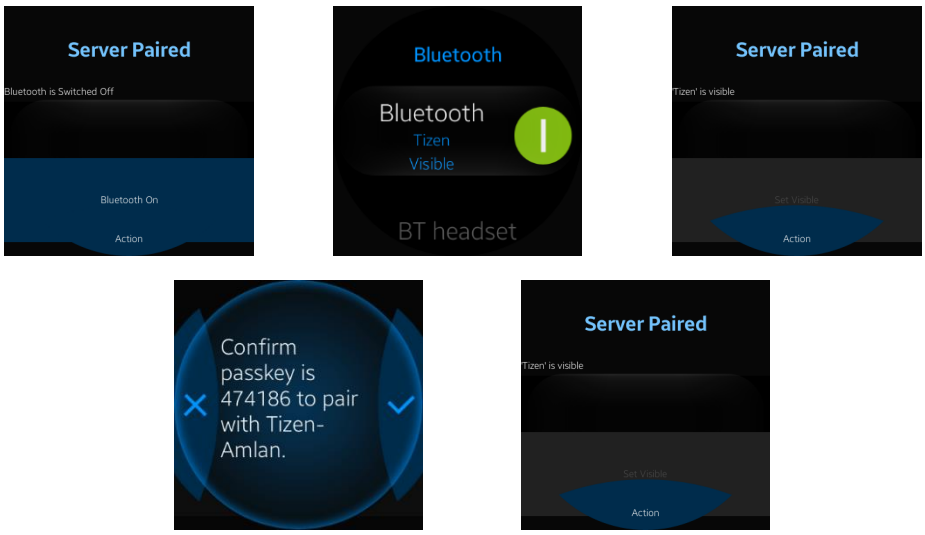


Figure 3-156: Server Pairing

Bluetooth OPP Server

To perform the test at first, **Turn On** the Bluetooth of the device where the object will be pushed. Then,

a. Select OPP Server from the test case list of one phone.

b. Select OPP Client from the test case list of other phone.

c. Press Switch Bluetooth On to activate Bluetooth on the device and the Bluetooth application of the device will be opened. Turn on Bluetooth from there Select the desired device and the devices will be paired.

d. Press Set Visible and wait for the connection pop-up message.

e. Press “Confirm” button to accept connection from client.

f. When client is trying to send a file press “Accept/Reject” button to accept/reject file sending request.

g. Select “Pass/Fail” if proper message shown in the server side.

Figure 3-157: OPP Server

Bluetooth OPP Client

To perform the test at first, **Turn On** the Bluetooth of the device where the object will be pushed. Then,

a. Select Bluetooth OPP Client from the test case list in one phone.

b. Select OPP Server from the test case list of other phone.

c. Press Bluetooth On button to activate Bluetooth on the device and the Bluetooth application of the device will be opened. Turn on Bluetooth from there, Select the desired device and the devices will be paired.

d. Press button Discover to see the list of Bluetooth devices.

e. Select the desired device from the list.

f. Press button Send File.

g. If you want to cancel file sending after pressing “Send File” just press “Cancel Transfer” button, check the message to verify pass/fail.

h. Check if any image file is pushed in the other device.

i. If any image file is pushed then Pass otherwise Fail.

j. Also turn on the Visibility of Bluetooth.

Figure 3-158: OPP Client

Bluetooth Handsfree

To perform the test

a. Select Handsfree from the test case list

b. If Bluetooth is off, turn on manually.

c. Press button Discover to see the list of Bluetooth Audio devices.

d. Select the desired device from the list.

e. Press button Connect Audio.

f. Now make a call and test if sound is heard in the audio device.

g. If all the steps are performed correctly then Pass, otherwise Fail.

Figure 3-159: Handsfree

Bluetooth Audio Connect

To perform the test

a. Select Audio Connect from the test case list

b. If Bluetooth is off, turn on manually.

c. Press button Discover to see the list of Bluetooth Audio devices.

d. Select the desired device from the list.

e. Press button Connect Audio.

f. Now you can hear the key pressing sound in Headset.

g. If all the steps are performed correctly then Pass, otherwise Fail.

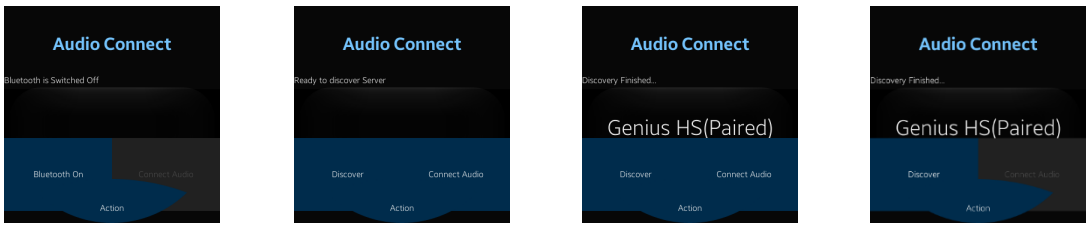


Figure 3-160: Audio Connect

Bluetooth Authorization Test

To perform the test

a. Select Authorization from the test case list.

b. If Bluetooth is off, turn on manually.

c. Press button Discover to see the list of Bluetooth devices.

d. Select the desired device from the list.

e. Press button Authorize and the desired device is Authorized.

f. If all the steps are performed correctly then Pass, otherwise Fail.

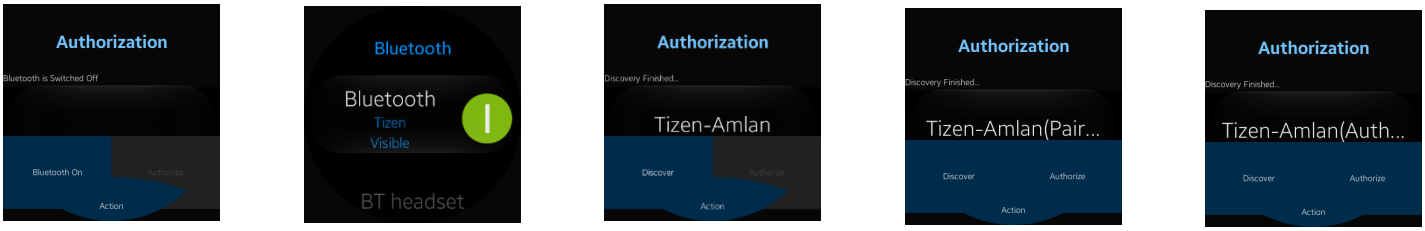


Figure 3-161: Authorization Test

Bluetooth Profiles Test

To perform the test

a. Select Bluetooth Profile form the test case list.

b. If Bluetooth is off, turn on manually.

c. Press button Discover to see the list of Bluetooth Audio devices.

d. Select an audio profile enabled device like, Bluetooth Headset from the list for pairing.

e. After successful pairing, connected profiles will be shown.

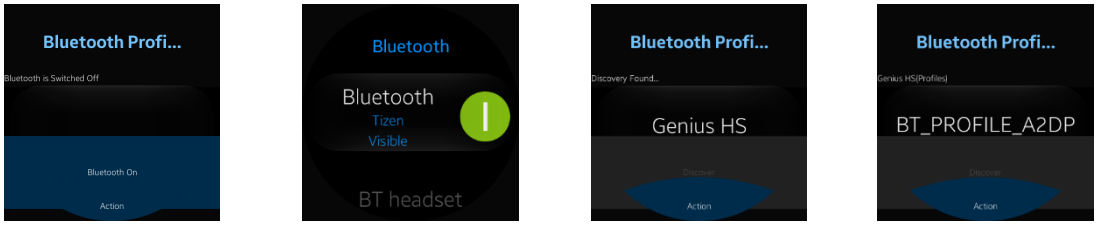


Figure 3-162: Profiles Test

Bluetooth SDP

To perform this test:

a. Select Bluetooth SDP from the test case list.

b. If Bluetooth is off, turn on manually.

c. Press button Discover to see the list of Bluetooth devices.

d. Clicked on the desire device to make pair with that device.

e. After paring is completed press Connected Services, Bluetooth services will be shown in a list.

f. If Bluetooth profiles are shown then press PASS otherwise FAIL.

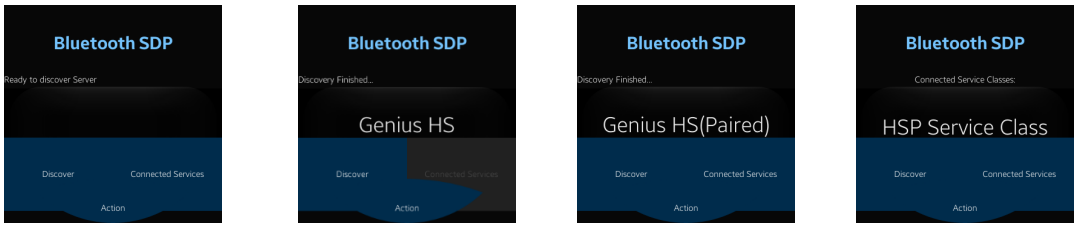


Figure 3-163: SDP

Bluetooth Client Socket

To perform the test

a. Select Client Socket from the test case list in one phone.

b. Select Server Socket from the test case list in other phone.

c. If Bluetooth is off, turn on manually.

d. Press button Discover to see the list of Bluetooth devices.

e. Select the desired device from the list.

f. Press button Send Data.

g. Check if any file is pushed in the other device.

h. If any file is pushed then Pass otherwise Fail.

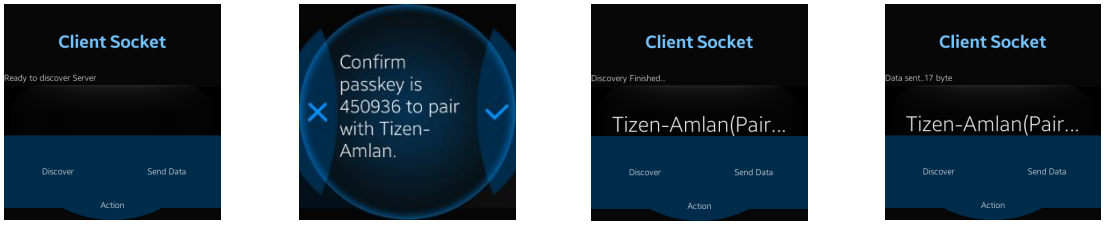


Figure 3-164: Client Socket

Bluetooth Server Socket

To perform the test,

a. Select Server Socket from the test case list in one phone.

b. Select Client Socket from the test case list of other phone.

c. If Bluetooth is off, turn on manually.

d. Press Set Visible and wait for the connection pop-up message.

e. If the message is shown properly then Pass otherwise Fail.

Figure 3-165: Server Socket

Bluetooth HID

To perform this test:

a. Select HID Connect from the test case list

b. If Bluetooth is off, turn on manually.

c. Press button Discover to see the list of Bluetooth HID devices.

d. Select the desired device from the list.

e. If you are trying to connect a keyboard, a pop-up will appear, press the same code on the keyboard and press enter.

f. ”HID connected” will be written on the label, just above the device list.

g. Then go to the default messaging application, try to write message from the HID keyboard.

h. If input can be inserted using remote input device correctly then PASS otherwise FAIL.

Figure 3-166: HID

Bluetooth Health

To perform the test

a. Select Health from the test case list

b. If Bluetooth is off, turn on manually.

c. Press button Discover to see the list of devices.

d. Select the desired device from the list.

e. Press button Connect HDP if not already connected.

f. Press button Get Data and data received will be shown on label then PASS otherwise FAIL.

Figure 3-167: Health

PBAP All Vcards

To perform the test

a. Select PBAP All Vcards from the test case list

b. If Bluetooth is off, turn on manually.

c. Press button Discover to see the list of devices.

d. Select the desired device from the list. Make sure this device has contacts list.

e. Press button Connect.

f. A path will be shown where contact are save as vcard from connected device will be shown.

g. Go to that path and pull the vcards file, and check contacts are same to the connected device.

h. Press PASS if everything works fine as above otherwise FAIL.

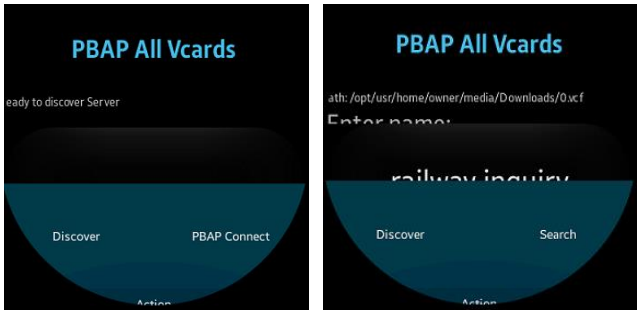


Figure 3-168: PBAP All vcards

4.2.2.5 Bluetooth LE

This section describes the Bluetooth LE testing options. If the functionality works as expected, press PASS, otherwise, press FAIL.

Gatt Client Test

To perform the test

s. Make sure Bluetooth is turned ON.

t. Run **Gatt Server** from TBT module list in another device.

u. Press **Discover** Button to Start discovering Gatt Server.

v. Select **Gatt server ID** from discovered list to connect it.

w. After successfully connected, two services **Link loss service** and **Battery service** will be shown.

x. select **Link loss** service, a characteristic will be shown

y. Select characteristic, then press Read button. **Get** value will be shown and **Read** request will be shown in Gatt Server end.

z. Press **Write** button, value written to Gatt Server and it will be shown there.

aa. Press **hardware back** button, **services** list will be shown again

bb. Select **Battery** service, a characteristic will be shown

cc. Select characteristic, then press **Read** button. **Get** value will be shown and **Read** request will be shown in **Gatt Server** end.

dd. Press Expand button, **Descriptor** list will be shown under battery characteristic.

ee. Select descriptor then press Read button, **Get** value will be shown and **Read** request will be shown

in **Gatt Server** end.

ff. Press **Write** button, value written **to Gatt Server** and it will be shown there.

gg. Press **HW Back** button, services list will be shown again

hh. Select **Battery service**, a characteristic will be shown

ii. Press **Notify** button at **Gatt Server** end, changed value will be shown in **Gatt Client** end.

jj. Press **Disconnect** button to Disconnect from Server.

Figure 3-169: GATT Client

Gatt Server Test

To perform the test

e. Make sure Bluetooth is turned ON.

f. Run Gatt Server from TBT module list in another device.

g. Press Start Server button to Start Gatt Server.

h. Follow the Steps in Gatt Client module.

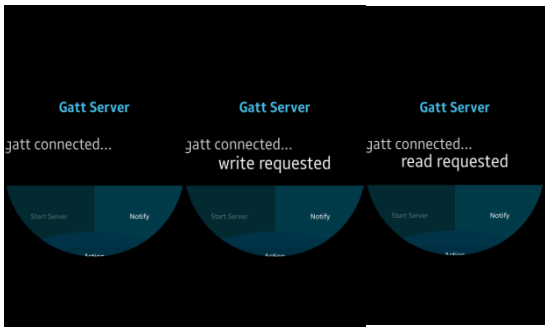


Figure 3-170: GATT Server

4.2.2.6 Bluetooth Error Callbacks

This section is for testing the errors generated while invoking the callbacks and preconditions in bluetooth.

Create Bond CB

To test create bond in bluetooth:

a. Select bluetooth off from settings.

b. Press Create Bond CB.

c. Error message "result = BT_ERROR_NOT_ENABLED" is displayed.

d. Select Bluetooth on from settings.

e. Press create bond CB.

f. Message of invoked callback with result is displayed in few seconds.

If all the steps are performed correctly then Pass, otherwise Fail.

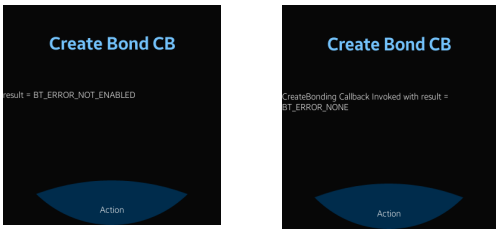


Figure 3-171: CreateBondCB

Destroy Bond CB

To test destroy bond in bluetooth:

a. Select bluetooth off from settings.

b. Press Destroy Bond CB.

c. Error message "result = BT_ERROR_NOT_ENABLED" is displayed.

d. Select Bluetooth on from settings.

e. Create bond with some device

f. Press Destroy Bond CB.

g. Unbond device that was bonded in step no. e

h. Message of invoked callback with result is displayed.

If all the steps are performed correctly then Pass, otherwise Fail.

Figure 3-172: DestroyBondCB

Discover Devices CB

To test discover devices in bluetooth:

a. Select bluetooth off from settings.

b. Press Discover Devices CB.

c. Error message "result = BT_ERROR_NOT_ENABLED" is displayed.

d. Select Bluetooth on from settings.

e. Press Discover Devices CB.

f. Message of invoked callback is displayed.

If all the steps are performed correctly then Pass, otherwise Fail.

Figure 3-173: DiscoverDevicesCB

Get Device CB

To test get device in bluetooth:

a. Select bluetooth off from settings.

b. Press Get Device CB.

c. Error message "result = BT_ERROR_NOT_ENABLED" is displayed.

d. Select Bluetooth on from settings.

e. Press Get Device CB.

f. Message of invoked callback is displayed.

If all the steps are performed correctly then Pass, otherwise Fail.

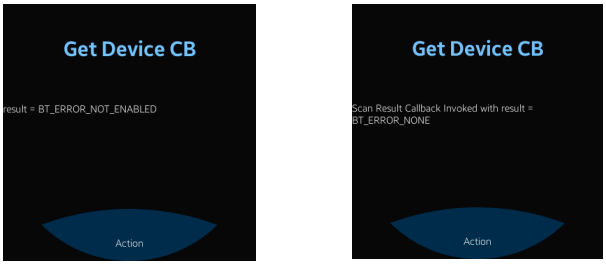


Figure 3-174: GetDeviceCB

Set Name CB

To test set name in bluetooth:

a. Select bluetooth off from settings.

b. Press Set Name CB.

c. Error message "result = BT_ERROR_NOT_ENABLED" is displayed.

d. Select Bluetooth on from settings.

e. Press Set Name CB.

f. Message of invoked callback is displayed with Name BT_TEST5.

If all the steps are performed correctly then Pass, otherwise Fail.

Figure 3-175: SetNameCB

Add Advertising Service UUID

This test is to pass: out of range parameter as service UUID and check the error.

a. Press Add Advertising Service UUID.

b. Error message of invalid parameter with passed value is displayed.

If all the steps are performed correctly then Pass, otherwise Fail.

Figure 3-176: AddAdvertisingServiceUUID

4.2.2.7 Wi-Fi Activation

To test the Wi-Fi activation:

a. Select Wifi Test from the test case list.

b. To enable Wi-Fi, press button Wifi On.

c. To disable Wi-Fi, press button Wifi Off.

Figure 3-177: WIFI

4.2.2.8 NFC

NFC Tag

To perform the test, switch on NFC and

a. Select NFC Tag from the test case list and it is by default in read mode

b. Take the device to a NFC tag

c. A list will appear showing information about tag type, NDEF support, NDEF message size, maximum size of NDEF message, key, value, record type, record etc.

d. Then select the tab Write and take the device to a NFC tag

e. Then a string of Text type will be written in the NFC tag and a success message will be shown with written message.

f. If you remove device from tag it shows “Device Detached”

g. If all the steps are performed correctly then Pass, otherwise Fail

Figure 3-178: NFC Tag

NFC P2P

To perform the test,

a. Take two NFC supported devices and switch on NFC in both

b. Select NFC P2P from the test case in two devices and click Server in one device and Client in other device

c. Touch the back of two devices, Server TC will output Data Received Successfully along with received data and Client TC will output Data Sent successfully.

d. If you detach devices it shows “Device Detached”

e. If all the steps are performed correctly then Pass, otherwise Fail.

Figure 3-179: NFC P2P

NFC HCE Preferred

To perform the test

a. Turn NFC On.

b. to send apdu command downlooad and install pssc diagnotisc from https://www.springcard.com/en/download/software

c. Install tbt_hcetestappA and tbt_hcetestappB both.

d. Set tbt_hcetestappA to default payment app by going Connection > NFC > Payment option from settings.

e. Connect Device to NFC Reader/Writer.

f. Send APDU command as “00 A4 04 00 07 A0 00 00 00 04 10 10” from NFC Reader/Writer.

g. tbt_hcetestappA will be launched and “11 12 90 00” data will be received in NFC Reader as response.

h. Close the tbt_hcetestappA app and run “NFC HCE Preferred” module from TBT.

i. Launch the preferred nfc hce app.

j. Repeat the step 4 to 6. This time data will be received in preferred app not in default app.

k. Give pass if everything works as above otherwise fail.

Figure 3-180: NFC HCE Preferred

NFC ESE

To perform the test

a. Turn NFC On.

b. to send apdu command downlooad and install pssc diagnotisc from https://www.springcard.com/en/download/software

c. Make sure Applet is installed in eSE Secure element

d. Install tbt_nfcesetestapp.

e. Set tbt_nfcesetestapp to default payment app by going Connection > NFC > Payment option from settings.

f. Connect Device to NFC Reader/Writer.

g. Send "00 A4 04 00 0E 43 4F 4E 56 45 52 47 45 4E 43 45 4E 46 43" APDU command in the program then 'Success' will be shown in program. tbt_nfcesetestapp will be launched.

h. Send "90 BB 00 01 01 00" command in the program then eSE test app will be launched and aid will be shown in target

i. Give pass if everything works as above otherwise fail.

Figure 3-181: NFC ESE

4.2.2.9 SmartCard

SmartCard

To perform the test

a. Install **"tbt_smartcardtestapp"** and **"tbt_smartcardtestapp_signed"** apps both.

b. Run **SmartCard** module from TBT module list

c. Press **Signed** button, **tbt_smartcardtestapp_signed** will be launched with Success message.

d. Press **Unsigned** button, **tbt_smartcardtestapp** will be launched with Passed message=

e. Give pass if everything works as above otherwise fail.

Figure 3-182: SmartCard

4.2.2.10 Display

The following requirements are mandatory for the display test:

Minimum screen size: 240 x 320 (QVGA)

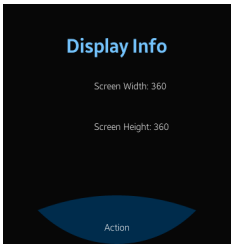


Figure 3-183: Display Test

To test the display, check whether the screen size is larger than the minimum size of 240x320.

4.2.2.11 Graphics

To test the Graphics ensure that a cube is rotating properly.

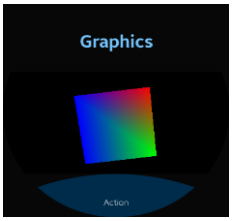


Figure 3-184: Graphics

4.2.2.12 Input Device

Edit field:

To test the edit field, three kinds of keypad will appear. If the keys can be pressed and inputs are shown, then the test is Pass, otherwise Fail.

a. Select Number Keypad from test case list for Number Keypad Test.

b. Select PhoneNumber Keypad from test case list for Phone Number Keypad Test.

c. Select IP Keypad from test case list for IPV4 Keypad Test.

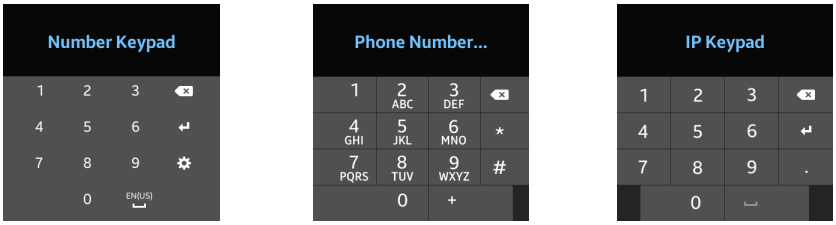


Figure 3-185: Input Device

4.2.2.13 Multimedia

This chapter describes the various tests that can be performed to check the multimedia features. If the functionality works as expected, press Pass, otherwise, press Fail.

Video

The local video test enables you to confirm that file formats, such as Mpeg4, H263, and H264 are playing normally. To test the video formats from the test case list select,

a. H263Video for testing video format of H263.

b. MPEG4 Video for testing video format of Mpeg4

c. H264 Video for testing video format of H264.

d. After selecting each test, press Play to play the video.

e. Press Pause to pause the video.

f. Press Stop to stop the video.

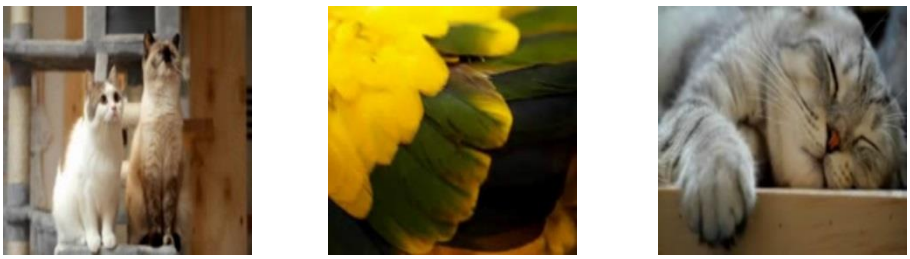


Figure 3-186: Local Video

4.2.2.14 Image View

The image view test enables you to confirm that file formats, such as .jpeg, .bmp, .gif, and .png can be viewed normally.

To perform the image view test,

a. Select ImageView PNG from test case list and an .png image will be shown automatically

b. Select ImageView GIF from test case list and an .gif image will be shown automatically

c. Select ImageView BMP from test case list and an .bmp image will be shown automatically

d. Select ImageView JPG from test case list and an .jpg image will be shown automatically

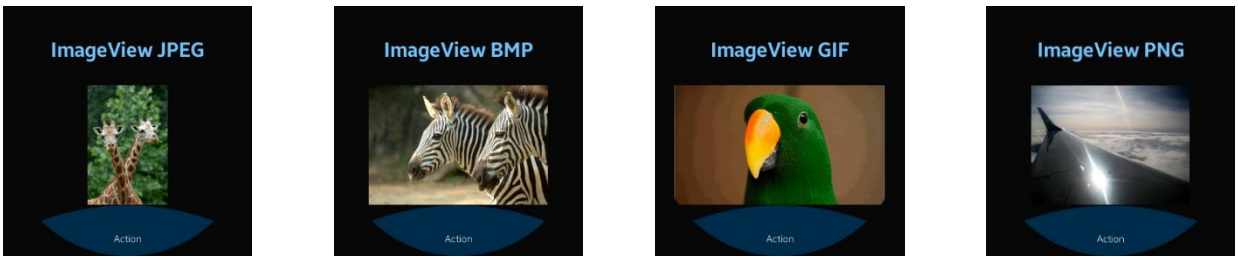


Figure 3-187: Image View

4.2.2.15 Data Control

TBT Data Control module requests different operations on the data provided by DataUIControl application. If the request is processed successfully then Pass otherwise Fail

Insert Operation

To perform the operation

a. Select Sql Insert from the test case list

b. Press button Start.

c. If the request is sent successfully and information is shown normally then Pass.

d. If any error is shown, then Fail.

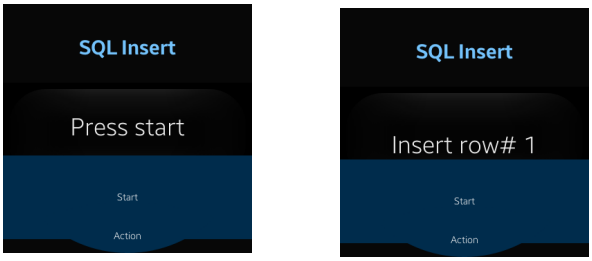


Figure 3-188: SQL Insert

Delete Operation

To perform the operation

a. Select Sql Delete from thetest case list

b. Press button Start Test.

c. If the request is sent successfully and information is shown normally then Pass.

d. If any error is shown, then Fail.

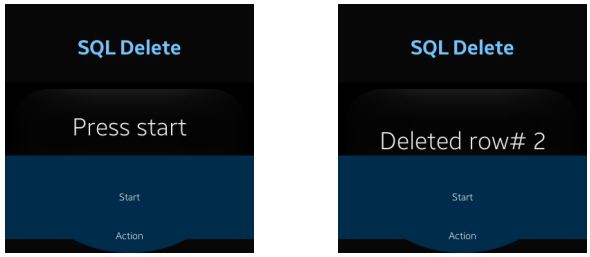


Figure 3-189: SQL Delete

Update Operation

To perform the operation

a. Select Sql Update from the test case list

b. Press button Start.

c. If the request is sent successfully and information is shown normally then Pass.

d. If any error is shown, then Fail.

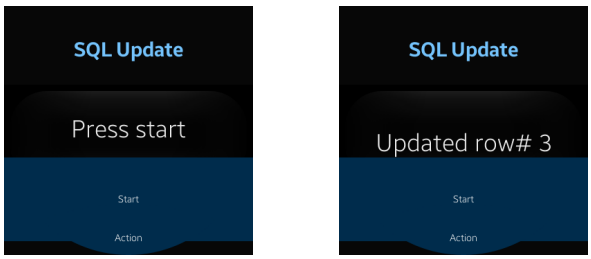


Figure 3-190: SQL Update

Select Operation

To perform the operation

a. Select Sql Select from the test case list

b. Press button Start

c. If the request is sent successfully and information is shown normally then Pass.

d. If any error is shown, then Fail.

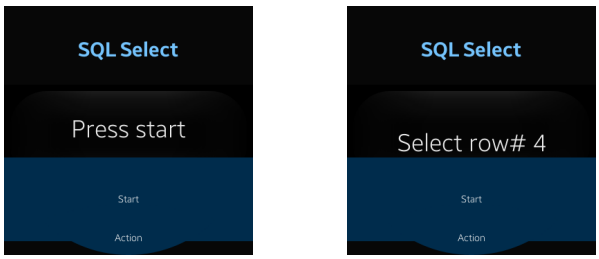


Figure 3-191: SQL Select

Cursor Operation

To perform the operation

a. Select Sql Cursor from the test case list

b. Press button Start.

c. It will show the list of row id of the selected items.

d. Press First to get the row id of the first selected item.

e. Press Last to get data t the row id of the last selected item.

f. Press Next and Prev to navigate between the selected items.

g. If all the operations are successful then Pass otherwise Fail.

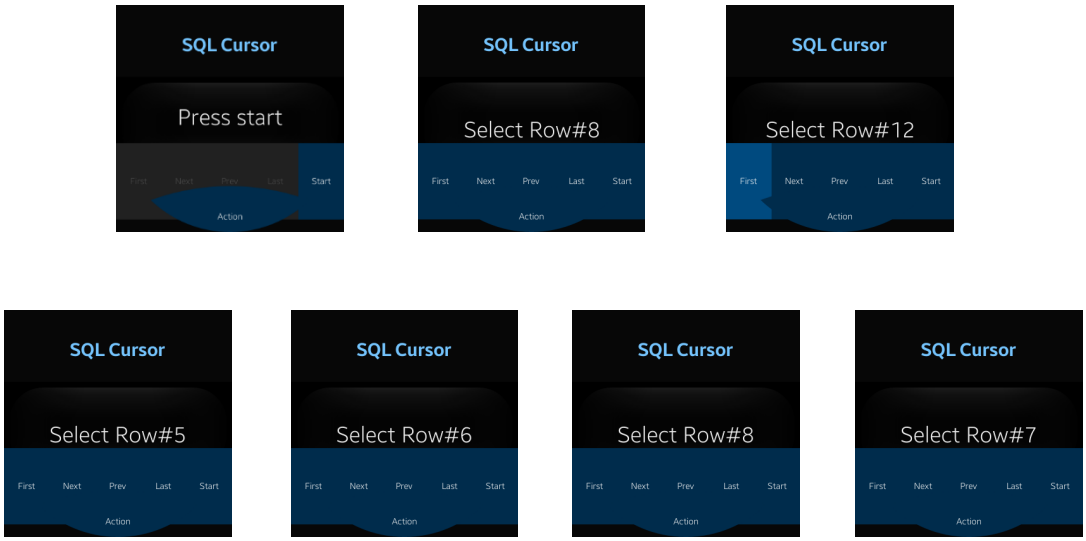


Figure 3-192: SQL Cursor

Data Control Map

To perform the test,

a. Select SQL Map from the test case list.

b. Press button Start Test. If three values are shown then Pass.

c. If all the values are not shown, then Fail.

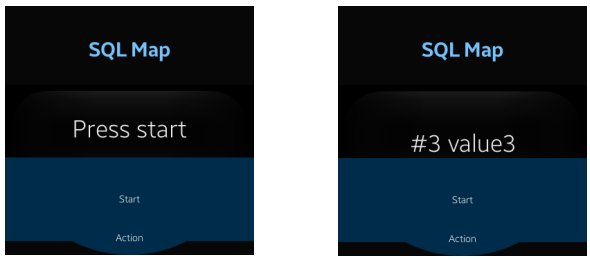


Figure 3-193: SQL Map

4.2.2.16 Application Controls Operation View

This chapter describes the various tests that can be performed to check that the application control operations work normally.

If the functionality works as expected, press Pass.Otherwise, press Fail.

App Control View Test

To perform the test:

a. Select Operation View from the test case list
b. Press button View UI.
c. If UI is shown, Click item and press Return button.
d. Then press button View Service.
e. If App launched successfully, then Pass otherwise Fail.

Figure 3-194: App Control View Test

App Control View Image

To perform the test:

a. Select Operation View Image from the test case list confirm
b. Select list items one after another View UI.
c. Select operationpickviewapp and press Always or Just Once
d. Corresponding Image will be shown.

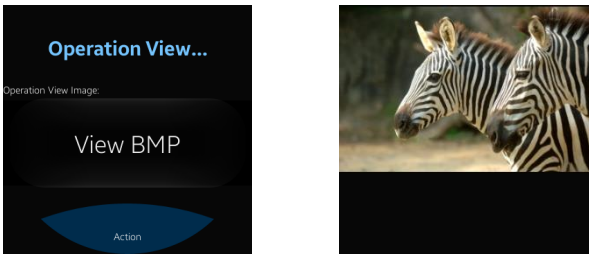


Figure 3-195: App Control View Image Test

App Control View Sound

To perform the test:

a. Select Operation View Sound from the test case list confirm
b. Select list items one after another View UI.

c. Select operationpickviewapp and press Always or Just Once

d. Corresponding Sound can be heard.

Figure 3-196: App Control View Sound Test

App Control View Video

To perform the test:

a. Select Operation View Video from the test case list confirm

b. Select list items one after another View UI.

c. Select operationpickviewapp and press Always or Just Once

d. Corresponding Video can be heard.

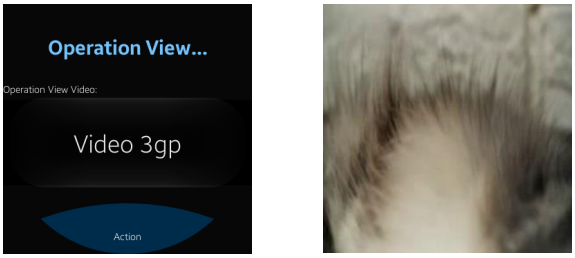


Figure 3-197: App Control View Video Test

App Control Pick Test

To perform the test:

a. Select Operation Pick from the test case list

b. Press Multiple and select multiple items and press Select Multiple.

c. If multiple data is returned, then Pass otherwise Fail

d. Press Single and select single item and press Select Single.

e. If single data is returned, then Pass, otherwise Fail.

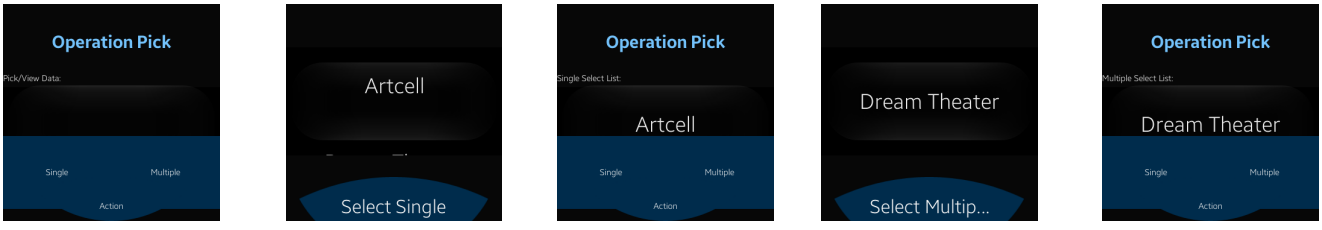


Figure 3-198: App Control Pick Test

App Control Pick All

To perform the test:

a. Select Operation Pick All from the test case list.

b. Select all from the list.

c. Select operationpickviewapp and press Always or Just Once

d. Operationpickviewapp showing all types of file, select any one.

e. Selected file information will be shown in TBT.

Figure 3-199: App Control Pick All Test

App Control Pick Image

To perform the test:

a. Select Operation Pick image from the test case list

b. Select Image from the list.

c. Select operationpickviewapp and press Always or Just Once

d. Operationpickviewapp showing all types of image file, select any one.

e. Selected file information will be shown in TBT.

Figure 3-200: App Control Pick Image Test

App Control Pick Video

To perform the test:

a. Select Operation Pick video from the test case list
b. Select Video from the list.
c. Select operationpickviewapp and press Always or Just Once
d. Operationpickviewapp showing all types of video file, select any one.
e. Selected file information will be shown in TBT.

Figure 3-201: App Control Pick Video Test

App Control Pick Audio

To perform the test:

a. Select Operation Pick audio from the test case list
b. Select Audio from the list.
c. Select operationpickviewapp and press Always or Just Once
d. Operationpickviewapp showing all types of audio file, select any one.
e. Selected file information will be shown in TBT.

Figure 3-202: App Control Pick Video Test

4.2.2.17 Sensors

This chapter describes the various tests that can be performed to check that the device sensors work normally.If the functionality works as expected, press Pass. Otherwise, press Fail.

Accelerometer

This test verifies that the acceleration sensor is working normally.

To perform the test,

a. Select Accelerometer from the test case list

b. As you move the device, the triangle displayed on the screen must point down.

c. If it points in another direction, the accelerometer is not properly configured.

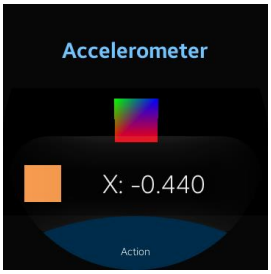


Figure 3-203: Accelerometer

Gyroscope

To perform the test

a. Select Gyroscope from the test case list

b. If the device is stable, then the background of the cube is black.

c. Move the device to the direction of the cube movement and background color will be blue.

d. Move the device to the opposite direction of the cube movement and background color will be red.

e. Press button Next to change direction of cube movement and do the previous steps accordingly.

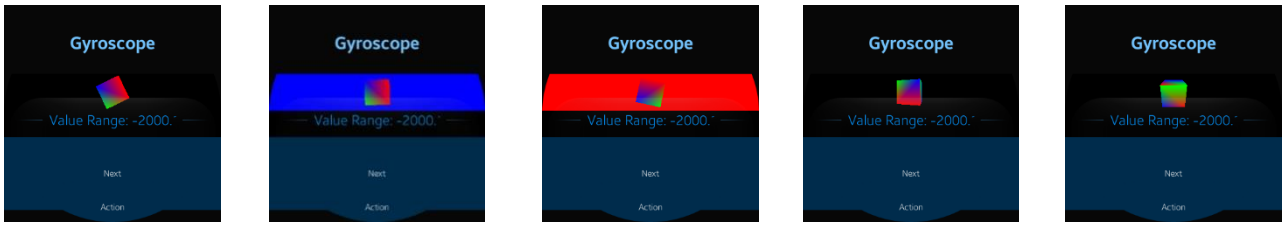


Figure 3-204: Gyroscope

Proximity

To perform the test

a. Select Proximity from the test case list and an image showing a bulb will appear

b. Cover the upper portion of the device with hand and an image showing a glowing bulb will appear.

c. If the hand is moved away, the previous image will appear again.

d.

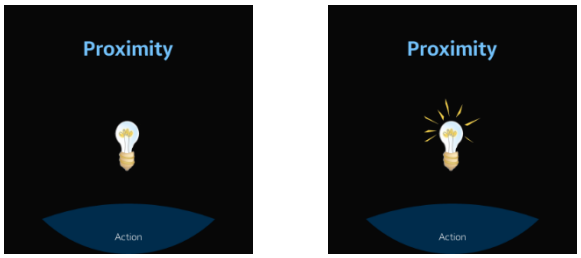


Figure 3-205: Proximity

Light

To perform the test

a. Select Light from the test case list.

b. Move the device to the light source.

c. The color of the object slowly turns into red according to the intensity of light.

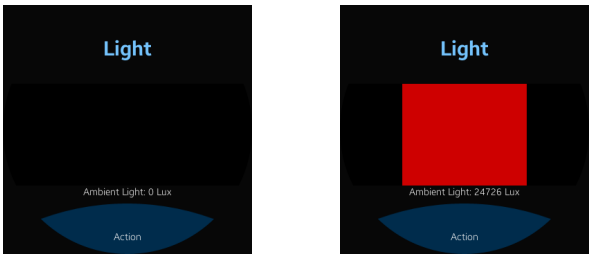


Figure 3-206: Light

Magnetometer

To perform the test

a. Select Magnetometer from the test case list

b. Move device and the value of X, Y and Z component of earth magnetic field will be change accordingly.

Figure 3-207: Magnetometer

Pressure

To perform the test

a. Select Pressure from the test case list

b. Current air pressure is displayed automatically if device supports pressure sensor.

Figure 3-208: Pressure

Ultra Violet

To perform the test

a. Select Ultraviolet from the test case list.

b. Move the device to the ultraviolet light source.

c. The color of the object slowly turns into violet according to the intensity of ultraviolet light.

Figure 3-209: Ultra Violet

4.2.2.18 UI Animations

This chapter describes the various tests that can be performed to check the platform resources. If the functionality works as expected, press Pass. Otherwise, press Fail.

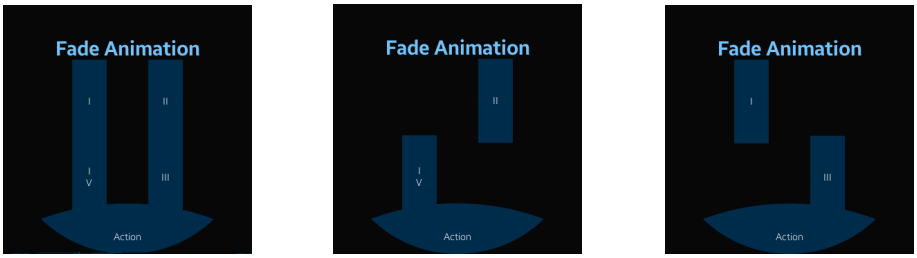
To perform the UI test:

a. Select Fade Animation, Dimension Animation, Rectangle Animation, Point Animation and Rotation Animation respectively for the respected animations.

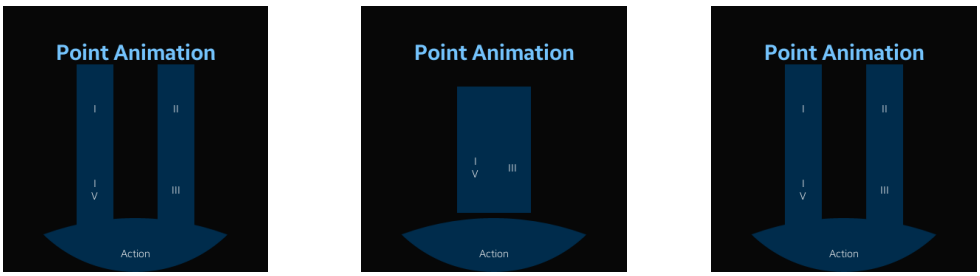
b. After selecting each test, the animation will be shown automatically.

c. Press Pass if all tests are successful.

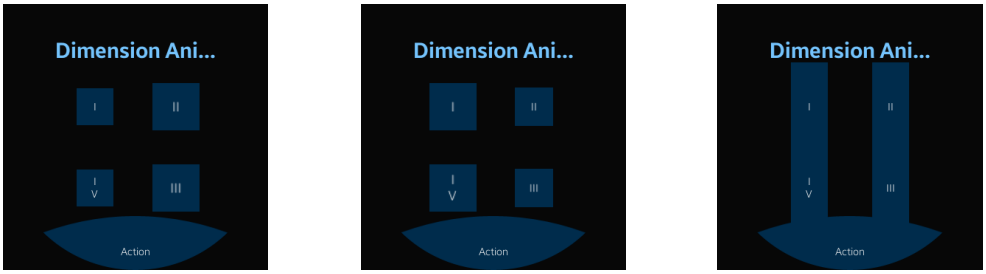
Fade animation:



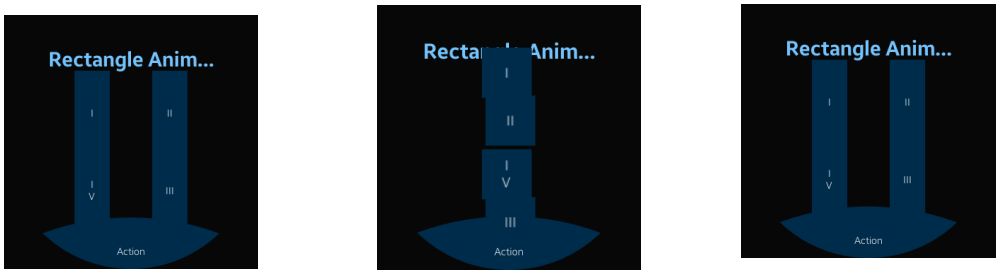
Point animation:



Dimension animation:



Rectangle animation:



Rotate animation:

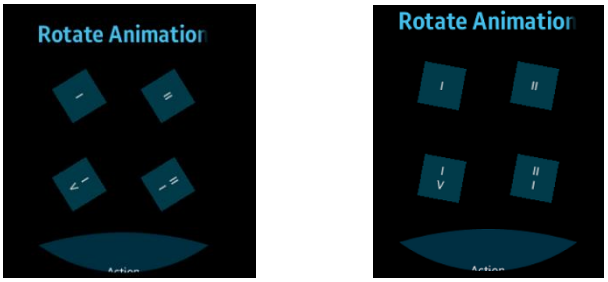


Figure 3-210: UI Animations

4.2.2.19 Testing UI Components

This section describes the tests you can perform on UI components.

Image Resizing

This test enables you to resize the image as bigger and smaller.

To perform the Resize Drawable test:

a. Select Resize Drawable from the test case list.

b. Check that the images are resized automatically and normally.

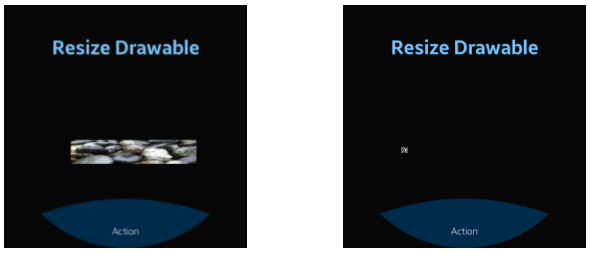


Figure 3-211: Image Resize

Shapes

This test shows different shapes in the screen.

To perform the Shape test:

a. Select the Shape from the test case list

b. If different shapes appear automatically and correctly, then Pass otherwise Fail.

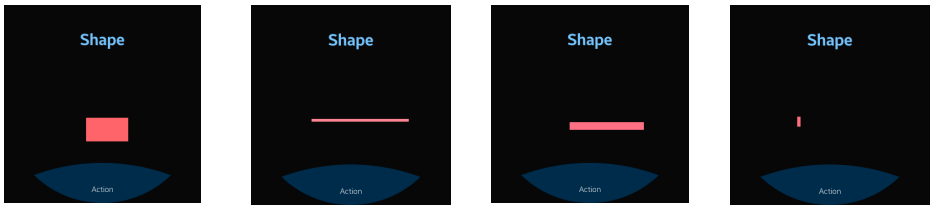


Figure 3-212: Shapes

Rotation

To perform the rotation test:

a. Select Rotate from the test case list and check if the objects are rotating properly.

b. If yes then Pass otherwise Fail.

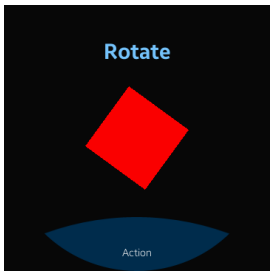


Figure 3-213: Rotation

Alpha Drawing

To perform the test

a. Select Alpha Drawblefrom thetest case listand objects of different brightness is shown automatically.

b. If it is shown, then the test is successful

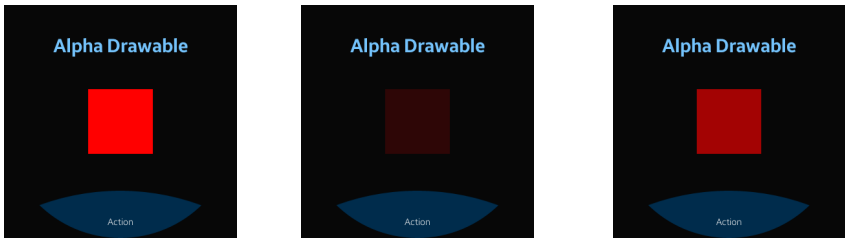


Figure 3-214: Alpha drawing

Fonts

To perform the test,

a. Select Font from the test case list and text of different font sizes and colors are shown.

b. If it is shown, then Pass otherwise Fail.

Figure 3-215: Fonts

Line Drawings

To perform the test,

a. Select UI (Line Drawable) from the test case list and lines of different colors, size are drawn in different directions automatically.

b. If yes then Pass otherwise Fail.

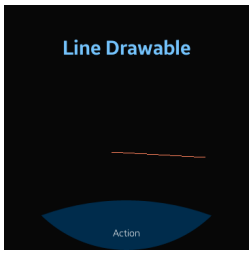


Figure 3-216: Line Drawable

4.2.2.20 EFL / Event

This chapter describes the various tests that can be performed to check some EFL library functions. If the functionality works as expected, press Pass. Otherwise, press Fail.

Touch

To perform the touch test:

a. Select Touch from the test case list.

b. Touch and drag to draw random curves on the screen.

c. Check that the first press is green.

d. Check that the touch-drag is blue.

e. Check that the release location is red.

f. If the functionality works as expected, press Pass. Otherwise, press Fail.

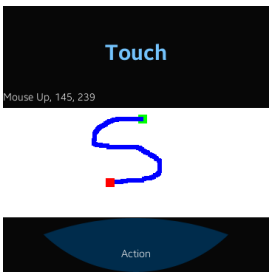


Figure 3-217: Touch

Event View

To perform the test

a. Select Event View from the test case list.

b. Select Settings from the Notification bar.

c. From Settings, select Language and input and change the language.

d. Go back to TBT and the information about language change and region change will be shown.

e. Move the device and change the device orientation.

f. Information about change in orientation will be shown.

g. If all the steps are performed correctly then Pass, otherwise Fail.

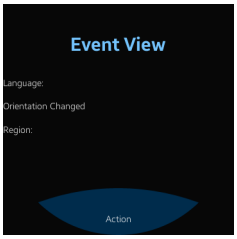


Figure 3-218: Event View

EFL Callback

To perform the test

a. Select EFL Callback from the test case list.

b. Press the Hardware Back Button and check whether the back button callback is detected.

c. Press button Delete Callback and the callback will be deleted.

d. Press the Hardware Back Button and check, there is no back button callback is detected.

e. Then press button Add Callback to add a new callback

f. Then again press the Hardware Back Button and check whether the back button callback is detected.

g. You must press Pass or Fail button to exit from the test.

h. If all the steps are performed correctly then Pass, otherwise Fail.

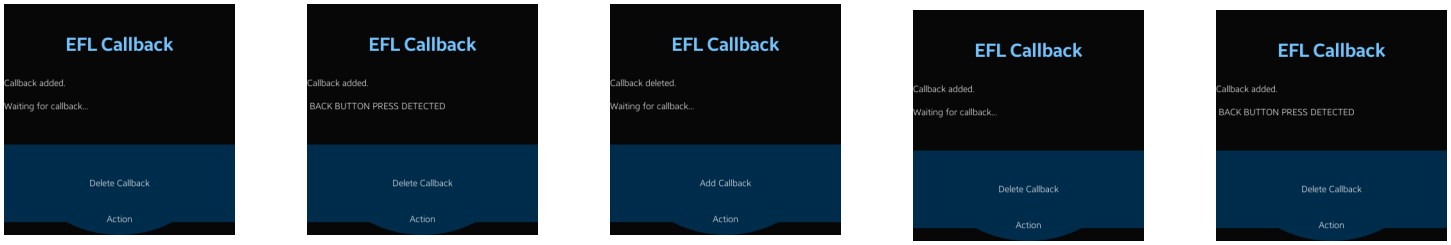


Figure 3-219: EFL Callback

4.2.2.21 IME

IME Alphabetic

This module shows a custom Alphabetic keyboard layout and its actions.

To Test this Module –

a. Set Default keyboard to TBT keyboard:

b. Go to Settings>Language and input > keyboard and enable TBT keyboard, then Select Default keyboard as TBT Keyboard.

c. Open IME Alphabetic module from TBT module list

d. An Alphabetic keyboard will be shown and "ELM_INPUT_PANEL_LANG_AUTOMATIC" will be shown at the bottom key.

e. Press Alphabetic keys then corresponding alphabets will be written in entry field.

f. Press BACK key to remove one character at a time from entry field.

g. Press Prid On key, then "abcd" will be written in entry field.

h. Press Prid Off to remove "abcd" from entry field.

i. Press Spc key to make a space character in entry field.

j. If everything works properly as steps mentioned above then Pass otherwise Fail.

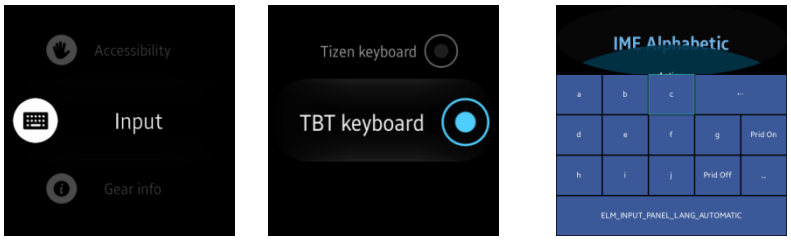


Figure 3-220: IME Alphabetic

IME Numeric

This module shows a custom Numeric keyboard layout and its actions.

To Test this Module –

a. Set Default keyboard to TBT keyboard:

b. Go to Settings>Language and input > keyboard and enable TBT keyboard, then Select Default keyboard as TBT Keyboard.

c. Open IME Numeric module from TBT module list

d. A Numeric keyboard will be shown and "ELM_INPUT_PANEL_LANG_AUTOMATIC" will be shown at the bottom key.

e. Press Numeric keys then corresponding numerics will be written in entry field.

f. Press BACK key to remove one character at a time from entry field.

g. Press DS key to delete character under cursor from entry field.

h. Press Spc key to make a space character in entry field.

i. If everything works properly as steps mentioned above then Pass otherwise Fail.

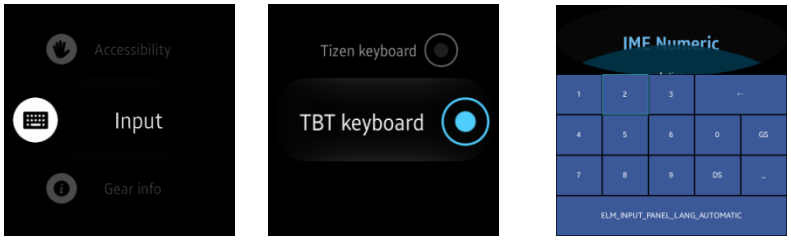


Figure 3-221: IME Numeric

IME Events

This module Tests the effect of Language change Event to custom input method.

To Test this Module –

a. Set Default keyboard to TBT keyboard:

b. Go to Settings > Language and input > keyboard and enable TBT keyboard, then Select Default keyboard as TBT Keyboard.

c. Open IME Events from TBT module list

d. Change Language from Settings > Language and input > Display language

e. Return back to IME Events module.

f. The text of the key will be changed as the language changed.

g. If everything works properly as steps mentioned above then Pass otherwise Fail.

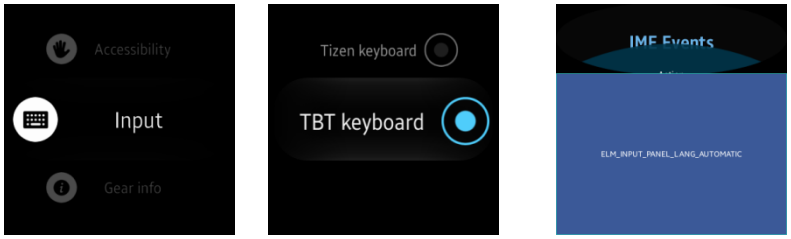


Figure 3-222: IME Events

IME Context Info

This module Tests the Context Info of a custom input panel.

To Test this Module –

a. Set Default keyboard to TBT keyboard:

b. Go to Settings>Language and input > keyboard and enable TBT keyboard, then Select Default keyboard as TBT Keyboard.

c. Open IME Context Info from TBT module list

d. A keyboard with Pass text to all Keys will be shown

e. If everything works properly as steps mentioned above then Pass otherwise Fail.

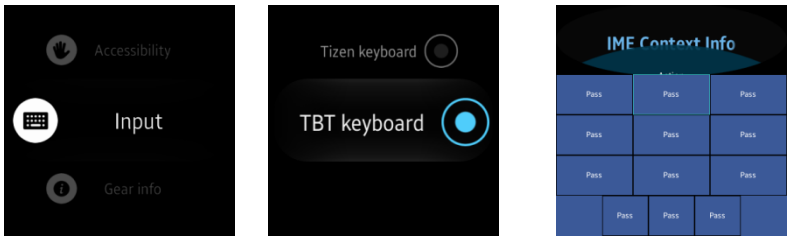


Figure 3-223: IME Context Info

IME Wearable Rotary Input

This module Tests the Context Info of a custom input panel.

To Test this Module –

a. Set Default keyboard to TBT keyboard from Settings.

b. Click on click here a IME window will be shown.

c. Rotate wearable dial. and corresponding rotation direction message will be shown

d. If everything works properly as steps mentioned above then Pass otherwise Fail.

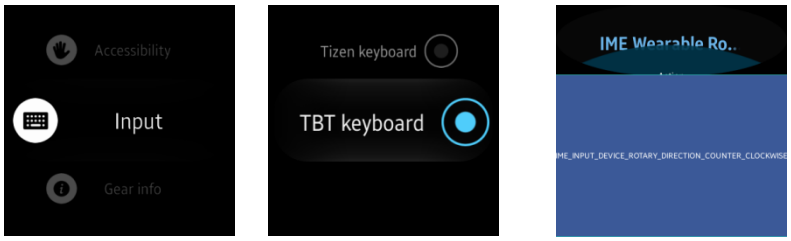


Figure 3-224: IME Context Info

4.2.2.22 Widget

To perform the test:

a. Select WIDGET from the test case list

b. Press button View Widget UI.

c. If Widget UI is shown, then Pass otherwise Fail.

Figure 3-225: Widget

4.2.2.23 Push Service

To perform the test, select Push Service from the test case list. There are two tests. Firstly,

a. Press Start button to start the push service and a successful response will be displayed.
b. Then long press the Home button and clear the application instance
c. After a few moments, there will a notification.
d. Click on the notification and the message will be shown.
e. Secondly, Press button Start to start the push service.
f. Press button Message.
g. After a few moments a message will be shown.
h. Press button Disconnect to disconnect Push Service

If all steps are competed perfectly, then the test can be considered as success. Internet should be connected.

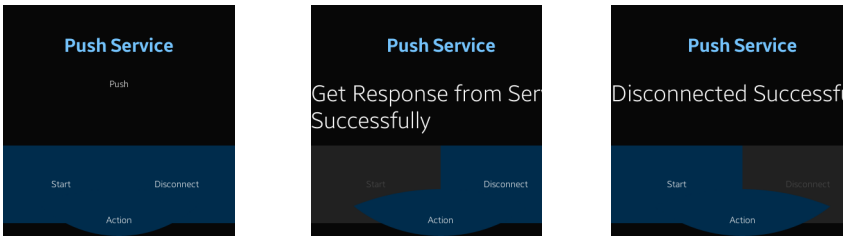


Figure 3-226: Push Service

4.2.2.24 Runtime Info

To perform the test, select Runtime Info from the test case list. There are 9 scenarios in runtime-info.

a. **Audio Jack**: [Not supported in wearable] There are two test steps.

Firstly,

1. Initial page will show Audio Jack Not Connected, connect headphone in audio jack.
2. Then message will show “Audio Jack Connected with 3 wire ear jack” or “Audio Jac k Connected with 4 wire ear jack” according to the type of air jack connected. If Audi o jack is not supported, “Audio Jack is not supported” will be shown. Audio Jack can

not be tested in wearable.

b. **Vibrate Mode**: There are two test steps.

Firstly,

1. Initial page will show “Vibrate Mode is Not Enabled” or “Vibrate Mode is enabled”, depending on the vibrate mode status.
2. You can change status of Vibrate Mode and see whether it is enabled or disabled.

c. **Battery Charging**: There are two test steps.

Firstly,

1. Initial page will show “Battery Charging Started” or “Battery not charging”, dependi ng on the charger connected or not.
2. You can plugin charger or plug it out and see whether it is charging or not.

d. **GPS Connection**: There are two test steps.

Firstly,

1. Initial page will show GPS state, depending on the “Location” enabled or not.
2. You can enable or disable Location and see whether GPS is enabled or not.

e. **USB Connection**: There are two test steps.

Firstly,

1. Initial page will show “USB is connected” or “USB not connected”, depending on th e USB charger connected or not.
2. You can plugin USB charger or plug it out and see whether it is connected or not.

f. **Bluetooth**: There are two test steps.

Firstly,

1. Initial page will show “Bluetooth not enabled” or “Bluetooth is enabled”, depending on the Bluetooth is enabled or not.
2. You can enable and disable Bluetooth and see whether it is enabled or not.

g. **Auto Rotate**: There are two test steps.

Firstly,

1. Initial page will show “Auto Rotate is Enabled” or “Auto Rotate not Enabled”, depen ding on the Auto Rotate is enabled or not.
2. You can enable and disable Auto Rotate and see whether it is enabled or not.

h. **Location**: There are two test steps.

Firstly,

1. Initial page will show “Location is Enabled” or “Location not enabled”, depending o n the Location is enabled or not.
2. You can enable and disable Location and see whether it is enabled or not.

i. **Wifi HotSpot**: There are two test steps.

Firstly,

1. Initial page will show “Wifi Hotspot Not Enabled” or “Wifi Hotspot is enabled”, dep ending on the Wifi Hotspot is enabled or not.
2. You can enable and disable Wifi Hotspot [Settings->Thethering->Wi-Fi Thethering] and see whether it is enabled or not.[You should insert sim to enable wifi hotspot]

If all the above scenarios steps are competed perfectly, then the test can be considered as success.

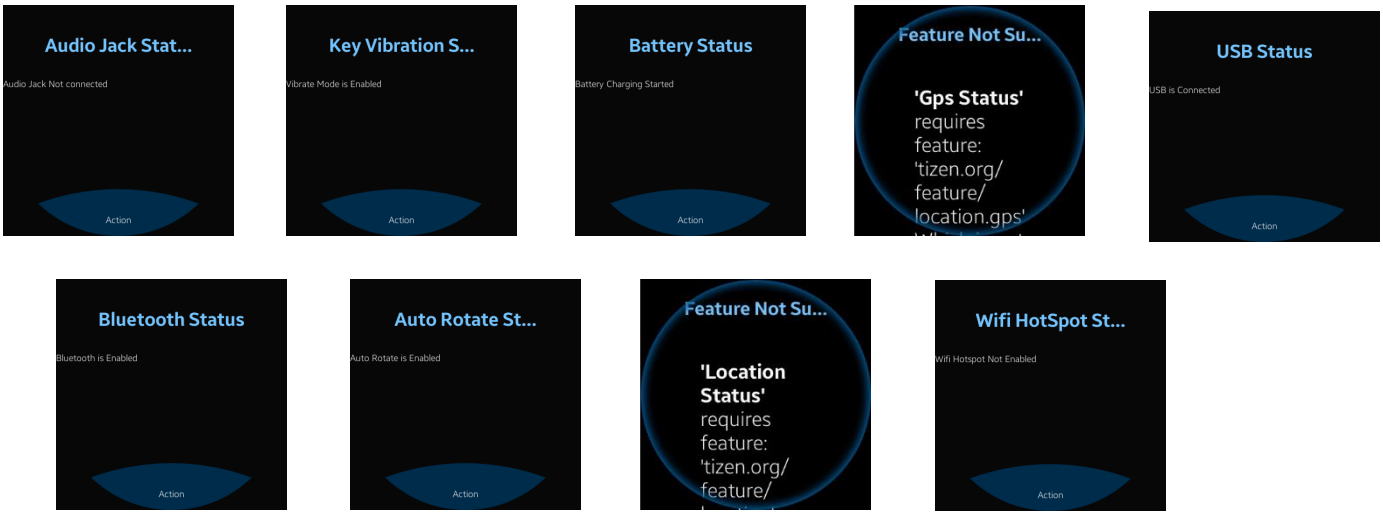


Figure 3-227: Runtime Info

4.2.2.25 Hardware/Software Feature

To view the hardware/software feature summary of the device:

a. Select HW / SW Feature Test from the test case list

b. Different Hardware/Software features are shown automatically.

c. If it works as expected, press Pass. Otherwise, press Fail.

Figure 3-228: Hardware/Software Feature Summary

4.2.2.26 NSD

DNS-SD Remote

To perform the test:

a. Open DNS-SD Remote module under NSD group.

b. “dnssd initialized” will be shown in bottom list.

c. Press Add Record button. Then, “local service registered” will be seen in bottom list and in top list added text with key value pair will be seen.

d. If it works as expected, press Pass. Otherwise, press Fail.

Figure 3-229: DNS-SD Remote

DNS-SD Local

To perform the test:

a. Connect test device to a Wi-Fi network.

b. Open DNS-SD Local module under NSD group.

c. “dnssd initialized” will be shown in bottom list.

d. Open DNS-SD Remote module in another device and connect that device to same Wi-Fi network.

e. Press Add Record in DNS-SD Remote module.

f. Press Browse Service button. Then, corresponding service and text value in DNS-SD Remote will be seen in top list.

g. If it works as expected, press Pass. Otherwise, press Fail.

Figure 3-230: DNS-SD Local

SSDP Remote

To perform the test:

a. Open SSDP Remote module under NSD group.

b. “ssdp initialized” will be shown in bottom list.

c. Press Add Service button. Then, “service created” will be seen in bottom list and in top list added url, usn will be seen.

d. If it works as expected, press Pass. Otherwise, press Fail.

Figure 3-231: SSDP Remote

SSDP Local

To perform the test:

a. Connect test device to a Wi-Fi network.

b. Open SSDP Local module under NSD group.

c. “ssdp initialized” will be shown in bottom list.

d. Open SSDP Remote module in another device and connect that device to same Wi-Fi network.

e. Press Add Service in SSDP Remote module.

f. Press Browse Service button. Then, corresponding url, usn in SSDP Remote will be seen in top list.

g. If it works as expected, press Pass. Otherwise, press Fail.

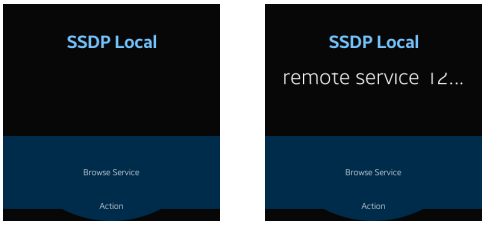


Figure 3-232: SSDP Local

4.2.2.27 SD-Card Status [Not supported in wearable]

To view the SD-Card status of the device:

a. Select SD-Card from the test case list.

b. You have to change SD card state [Remove/Insert SD Card] to see the changes.

c. Accordingly it will show “STORAGE_STATE_MOUNTED” or “STORAGE_STATE_REMOVE”.

d. If it works as expected, press Pass. Otherwise, press Fail.

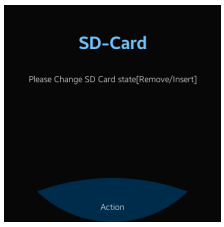


Figure 3-233: SD Card

4.2.2.28 Radio

To view the Radio status on the device:

a. Select Radio from the test case list.

b. Connect headphone in audio jack.

c. Now, remove headphone and it will show “Interrupted by unplugging headphones”.

d. If it works as expected, press Pass. Otherwise, press Fail.

Figure 3-234: Radio

4.2.2.29 Sound Manager [Not supported in wearable]

These test cases of sound manager cannot be tested in wearable device as wearable does not have audio jack support.

Connection Status [Not supported in wearable]

To perform the test,

a. Select Connection Status from the test case list .

b. Insert headphone in Audio Jack , Connection Status now show “Audio Jack connected” .Now, remove headphone and it will display” Audio Jack not connected”.

c. If it works as expected, press Pass. Otherwise, press Fail.

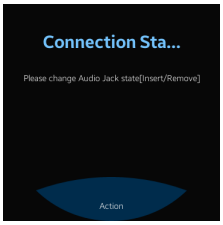


Figure 3-235: Connection Status

Device Status [Not supported in wearable]

To perform the test,

a. Select Device Status from the test case list .

b. Insert headphone in Audio Jack , Change sound profile to “Sound”.

c. It shows “state of device was changed”.

d. If it works as expected, press Pass. Otherwise, press Fail.

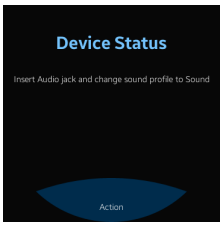


Figure 3-236: Device Status

4.2.2.30 Media Key [Not supported in wearable]

This test cannot be tested in wearable device as wearable does not have audio jack support.

To view the Media Key status on the device:

a. Select Media Key from the test case list.

b. Connect headphone that have play button [media key] on it with device.

c. Now, Press button on headphone, It will show “Pressed/Released Status” and Media Key for earjack.

d. If it works as expected, press Pass. Otherwise, press Fail.

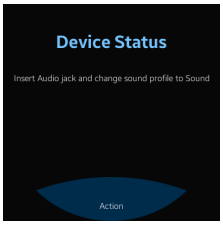


Figure 3-237: Media Key

4.2.2.31 Package Manager

To view the Package Manager status on the device:

a. Select Package Manager from the test case list.

b. Uninstall package: Go to Settings->Applications->Application manager, now uninstall some package. You can see that package status changes to “uninstall event type” and State changes to “completed event state”.

c. Install/Update package: Go to the path mentioned in instruction guide that appears when you open package manager from the list and install package. You can see that package status changes to “install/update event type” and State changes to “complete/progress event state”.

d. If it works as expected, press Pass. Otherwise, press Fail.

Figure 238: Package Manager

4.2.2.32 Connection [Not supported in wearable]

To view the Connection status on the device:

a. Select Connection from the test case list.

b. Initially if SIM is not inserted it shows “Profile is not cellular type”.

c. Insert SIM: Press back button and again open connection from test list. Now Status shows “Out of Service/Connected” depending on network.

d. Change to flight mode: Go to Settings->Airplane mode, now enable it.

e. Press back button and again open connection from test list. Now, Status shows “Flight mode”.

f. If it works as expected, press Pass. Otherwise, press Fail.

Figure 3-239: Connection

4.2.2.33 System Settings

To perform the test:

a. In System Settings make changes in Display->Font->Size. This should be reflected in the tbtcoreapp - System Settings.

b. In System Settings make changes in Date and Time->24 clock. This should be reflected in the tbtcoreapp - System Settings.

c. When System Time changes System Time in tbtcoreapp changes status.

d. If lock sound in system settings in sound menu is present, change its setting. This should be reflected in the tbtcoreapp - System Settings.

e. In System Settings make changes in Sound->Notification as Silent. This should be reflected in the tbtcoreapp - System Settings as Silent Mode enabled.

f. If screen touch sound in system settings is present, change its setting. This should be reflected in the tbtcoreapp - System Settings.

g. In System Settings make changes in Display->Auto Rotate Screen. This should be reflected in the tbtcoreapp - System Settings as Rotation Control is enabled.

h. If Motion is present in system settings menu, change its setting. This should be reflected in the tbtcoreapp - System Settings.

i. [Not supported in wearable]Enable/ Disable Flight Mode in System Settings. Same should be reflected in tbtcoreapp - System Settings.

j. Lock/Unlock the device. Same should be reflected in tbtcoreapp - System Settings as Device is unlocked/locked. Locked status is for a fraction of second.

If all the steps are performed correctly then Pass, otherwise Fail.

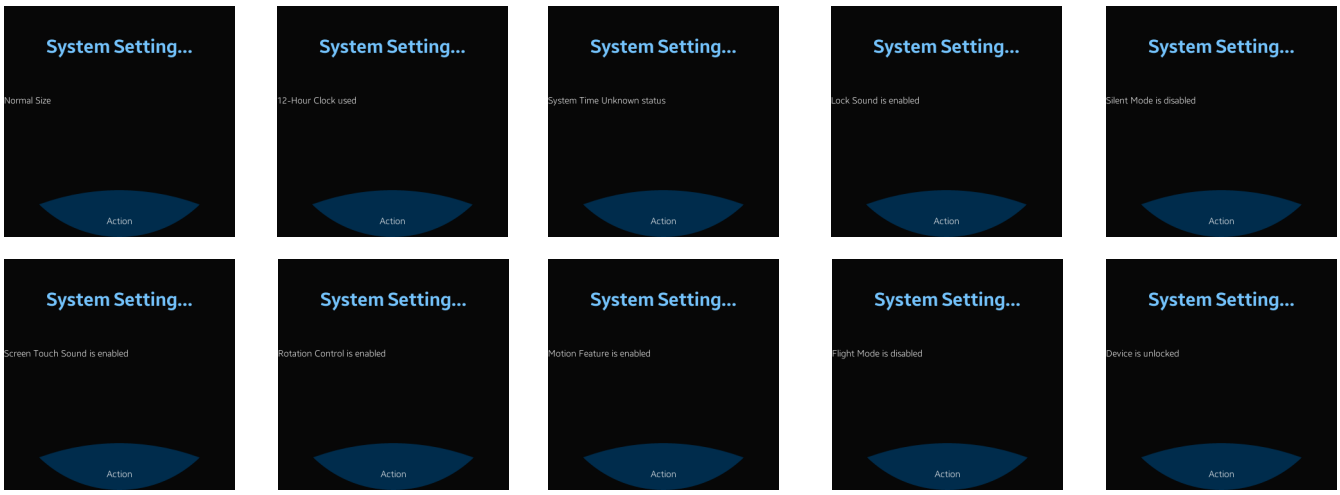


Figure 3-240: System Settings

4.2.2.34 Contacts [Not supported in wearable]

To perform the test:

a. In contacts menu, create a contact(if already exists, delete and re-create it) with Name as "Test" and phone number as "12345678"

b. Make a number of calls to Test

c. Press Contacts in tbtcoreapp.

d. The count displayed is equal to the number of the calls made to "Test".

e. Delete the contact "Test".

f. If all the steps are performed correctly then Pass, otherwise Fail.

Figure 3-241: Contacts

4.2.2.35 TTS/STT

TTS

To perform the test:

a. Run TTS.

b. Press Text to Speech Button

c. Text: The quick brown fox jumps over the lazy dog can be heard

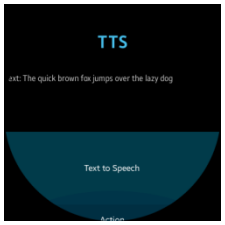


Figure 3-242: TTS

STT

To perform the test:

a. Confirm internet is connected and Run STT.

b. Press Speak button and say something loud

c. After Recording and Processing steps, recognized text will be shown.

Figure 3-243: STT

STT Error

To perform the test:

a. Confirm internet is not connected and Run STT Error.

b. Press Speak button and say something loud

c. "[ERROR] Fail to Start” will be shown.

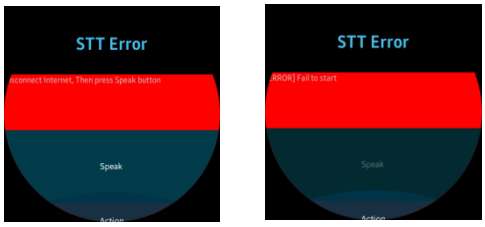


Figure 3-244: STT Error

4.2.2.36 Auto fill Service

To perform the test:

a. In 'Settings' select 'Auto fill service' and then 'Tizen auto fill service.

b. Run Auto fill TC, enter any string in each field, and exit by pressing back key.

c. Run Auto fill TC again and click on 'Login with Auto fill' button.

d. The data entered before will be filled in the entry boxes.

Figure 3-245 Auto Fill Service

4.3 Execute/Test EFL:

4.3.1 Run EFL UTC

Before execute this, Internet should be connected on Target Device, swipe off lock screen and LCD should always be ON.

Run EFL UTC on Tizen device:

```
# su -  (pwd : tizen)
# cd /opt/usr/efl-test-suite/TC
# ./execute.sh mobile
```

```
sh-3.2# cd opt/usr/efl-test-suite/TC
sh-3.2# ./execute.sh mobile
Starts the test for Mobile Profile scenaraios
Start checking current machine....
arm7l is running....
[vconf] *****    set key db/setting/lcd_backlight_normal - value : 0
tcc: journal file is /opt/usr/efl-test-suite/TC/results/exec-tar-result-1445390649.journal
10:24:10  Execute /ecore/ecore_thread/utc_UIFW_ecore_thread_run
10:24:12  Execute /ecore/ecore_thread/utc_UIFW_ecore_thread_feedback_run
10:24:14  Execute /ecore/ecore_thread/utc_UIFW_ecore_thread_cancel
10:24:16  Execute /ecore/ecore_thread/utc_UIFW_ecore_thread_check
10:24:18  Execute /ecore/ecore_thread/utc_UIFW_ecore_thread_global_data_add
10:24:19  Execute /ecore/ecore_thread/utc_UIFW_ecore_thread_global_data_del
10:24:20  Execute /ecore/ecore_thread/utc_UIFW_ecore_thread_global_data_find
10:24:21  Execute /ecore/ecore_thread/utc_UIFW_ecore_thread_max_set
10:24:22  Execute /ecore/ecore_thread/utc_UIFW_ecore_thread_max_get
10:24:23  Execute /ecore/ecore_thread/utc_UIFW_ecore_thread_active_get
```

Figure 3-245: EFL UTC Run

4.3.2 View Result Summary

Get results from Tizen device to your computer:

```
$sdb pull /opt/usr/efl-test-suite/TC/results/
```

5 Appendix

Certain ports should be opened if company firewall is applied to Wi-Fi being used. These ports are needed to create email account, download files and push module for sending and receiving push notifications.

5223, 110, 143, 465, 587, 993, 995, 8000, 8081, 8088, 8080, 80, 443