

Open Mobile API – Test Application Coverage.

V1.0

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1. Introduction

In order to help companies to implement SIMalliance's Open Mobile API on a device, or to perform the first level of testing on an existing implementation, SIMalliance provides a simple Android test application called 'OMAPI Suite'.

This application can execute most of the test cases defined in the SIMalliance Open Mobile API Test Specification for Transport API v1.0 and will log the results in the device memory. The test application performs functional tests only and does not check the APDU communication. It is NOT intended to be used for compliance testing with a certification programme.

Test cases are written in a human readable format (xml) and are used from external storage, so they can be changed or extended as needed.

The mobile test application uses several test applets which shall be installed in the Secure Element before the tests are run. Access rules have to be configured as described in the OMAPI Test Specification.

When the OMAPI Suite application is started for the first time, the application will create the following directories on the external storage:

/sdcard/OMAPISUITE/Logs

/sdcard/OMAPISUITE/Testcases

2. Applicability of Test Cases

SIMalliance recommends that Table 6: Applicability of Tests, found within the Open Mobile API Test Specification for Transport API, is consulted when selecting test cases.

During the selection of test cases, the options supported by the device should also be taken into account. These DUT options are listed in Table 4: DUT options, found within the Open Mobile API Test Specification for Transport API.

Testing communication with UICC

When testing with a real UICC, please refer to the UICC column under the RSE part in Table 6: Applicability of Tests. Please note that UICC readers in most devices available today do not support OP-003, OP-005, OP-007 and OP-009, so test cases associated with these options should not be selected.

2.1 DUT options and test cases selection

The following notes provide more information on the non-applicable test cases:

OP-003 - Access to the basic channel is allowed by the DUT

In the case of a UICC, the basic channel use is blocked by the modem to avoid any interference with the device Telecom application. This is why the following test cases are not applicable:

6.4.6 - ID1, ID2, ID3, ID4, ID5, ID6, ID7, ID8, ID9, ID10, ID11, ID12, ID13

6.5.1 - ID2

6.5.2 - ID1

6.5.6 - ID1

OP-005 - The ATR returned by the SE is not available

In the case of a UICC reader, the ATR is usually available. This is why the following test case is not applicable:

6.4.2 - ID3

OP-007 - DUT supports T=1 communication with UICC

In the case of a UICC reader, the supported communication protocol in most cases is T=0. This is why the following test case is usually not applicable:

6.5.6 - ID14

OP-009 - The selection response cannot be retrieved by the reader implementation

In the case of a UICC reader, the selection response can usually be retrieved. This is why the following test case is usually not applicable:

6.5.4 - ID6

OP-010 – Access to the default applet is allowed by the DUT

In the case of a UICC, test cases where implicit selection is used are also usually NOT applicable as the access to the Telecom application is restricted:

6.4.7 - ID3, ID4

6.5.4 - ID3

2.2 Test Runner application limitations

The SIMalliance 'Test Runner' application is intended to help test the API implementation but it is not a commercial test tool and there are some limitations due to the test architecture.

The following test cases are present but do not fully cover the test specification:

6.4.7 - ID5: Not valid for devices that support OP-014

6.5.6 - ID18: Only valid CLA/INS pairs are sent (according to ISO7816)

The following test cases are not covered as they would require extended test architecture:

6.4.2 - ID2

6.4.6 - ID10

6.4.7 - ID8

6.5.6 - ID8, ID12

6.5.7 - ID5, ID6

The following test cases are not covered due to limitations of the test application:

6.1.1 - ID1

6.2.1 - ID1

6.5.6 - ID15