Standard Operating Procedure

for

Test/BAP Card Validation

Version Control

Document Name	Version	Date
SOP for BAP Card Validation	V2.03	21-01-2022

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Revision History

Issue	Date	Reason for change
1.00	20-07-2020	Process Documented for standardize approach
2.01	21-01-2022	New version added for TSS_BAP_Checklist_&_Validation_Report_v1.8 New version added for Workz_SIM_Handset_Test_Reports_Customer_name_v1.2 Step changes in section#4 Validation process
2.03	24-06-2022	Addition of Applet test report and timestamp during integration.

Introduction

This document outlines the standard operating procedure for validating the Test/BAP cards against the customer requirements and the telecom specification standards. Test/BAP card validation is a part of the BAP qualification process.

Pre-requisite:

- BAP Inputs –
    - o Customer Specification | Customer Requirement
    - o Profile (.SPE file)
    - o Perso Script
    - o Factory input file
    - o Data generation template
- Validation Checklist

Roles and Responsibilities

Developer:

- To ensure the Test/BAP card has been successfully personalized before sharing for validation
- To ensure all the inputs associated with the profile are kept on shared folder and share the path with validator for profile validation.
- To ensure the UICC_Profile_Requirement_Gathering_Checklist_v1.2 sheet has been filled.
- To ensure the TSS_BAP_Checklist_&_Validation_Report_V1.9 are filled before sharing to the validator.

Validator:

Once the email notification received from developer with the input path, validator initiate the validation process.

Step1: To ensure the UICC_Profile_Requirement_Gathering_Checklist_v1.2 sheet has been filled.

Step2: To ensure the TSS_BAP_Checklist_&_Validation_Report_V1.9 sheet has been filled by developer.

Step 3: To acknowledge the task received.

Step 4: Validation process –

Note: Validator need to fill the expected result according to the customer specification, actual result from validation along with the validation status and evidence if any.

In case of new profile –

- Open the. spe profile file in the PE tool. ". pfl" file in TBII for Logos.
- Open the duly filled BAP checklist file from received from the developer for the BAP validation (TSS_BAP_Checklist_&_Validation_Report_V1.9).
- Open the profile specification document signed off by the customer.
- Validate the file system content and configuration according to the customer specification and record the result in the BAP checklist in the following segment
    - o 2G/ 3G/ Proprietary files / File system verification against the customer spec

- o   Key profile configuration values
- o   ISIM Configuration
- o   M2M- Profile

- Perform PE validation from the tool and record the results in the segment **PE Validation**.
- Perform TBII compliance from the tool and record the results in the segment **TBII Conformance**.
- Perform the PIN test using PIN Management Tool and record the results in the segment **PINs Test**.
- Perform the Authentication algorithm test using Milenage Calculator and TBII for COMP128 and record the results in the segment **Authentication Algorithm**.
- Perform the OTA test using OTA tool and Wojtek. Record the results in the segment **OTA Security (CardTool)**.
- Perform the application test using Wojtek and record the results in the segment **Application Test**.
- If required, additional customer specific test cases need to be executed and record the result in the segment **Customer specific tests (Post perso Script)**.
- If the profile under validation is for M2M product, then the tests listed in the segment **M2M profile** needs to be executed and results to be recorded.
- All test cases listed under the segment **Perso script** needs to be executed and results to be recorded.
- The validator must fill out the BAP form with all relevant information pertaining to profile and update the status in the segment BAP Form readiness.

In case of existing profile or chip migration –

- Open the. spe profile file in the PE tool. ". pfl" file in TBII for Logos.
- Open the duly filled BAP checklist file from received from the developer for the BAP validation (TSS_BAP_Checklist_&_Validation_Report_V1.9).
- Create a dump from TBII for both old and latest version and use compare feature in the TBII tool.
- The report which is created by the tool should be validated manually and add comment(s) for each change and keep text file under the test folder of validation.
- Validate the file system content and configuration according to the customer specification and record the result in the BAP checklist in the following segment
    - o   2G/ 3G/ Proprietary files / File system verification against the customer spec
    - o   Key profile configuration values
    - o   ISIM Configuration
    - o   M2M- Profile
- Perform PE validation from the tool and record the results in the segment **PE Validation**.
- Perform TBII compliance from the tool and record the results in the segment **TBII Conformance**.
- Perform the PIN test using PIN Management Tool and record the results in the segment **PINs Test**.
- Perform the Authentication algorithm test using Milenage Calculator and TBII for COMP128 and record the results in the segment **Authentication Algorithm**.
- Perform the OTA test using OTA tool and Wojtek. Record the results in the segment **OTA Security (CardTool)**.
- Perform the application test using Wojtek and record the results in the segment **Application Test**.
- If required, additional customer specific test cases need to be executed and record the result in the segment **Customer specific tests (Post perso Script)**.
- If the profile under validation is for M2M product, then the tests listed in the segment **M2M profile** needs to be executed and results to be recorded.
- All test cases listed under the segment **Perso script** needs to be executed and results to be recorded.

- The validator must fill out the BAP form with all relevant information pertaining to profile and update the status in the segment BAP Form readiness.

Step 5: DGS validation
- To ensure all the input parameters are defined as per the input file.
- To ensure the variables are defined as per the customer requirement – see input file / output file(s) sample (if there is any fix value, please verify with the customer spec and save the notes).
- To ensure the generated output file should be as per the customer requirement.
- To ensure Workz factory input and factory input file variables must be same except graphical part.
- To ensure variable mapping in the output file.
After verifying, validator must fill TSS_BAP_Checklist_&_Validation_Report_V1.9.xlsx- Factory &Output file validation sheet, during the validation.

Step 6: To save all the test logs in a T drive (designated folder path) for future reference.
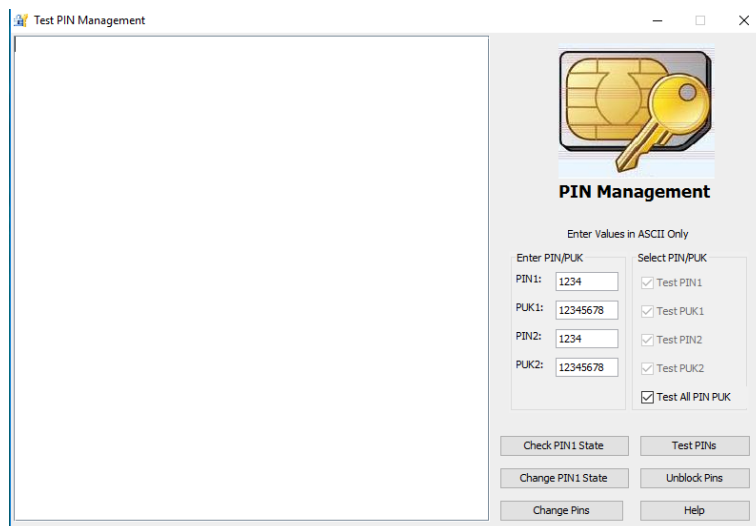
In case of Applet Validation-

- To ensure the applet to be configured in the profile, the applet(s) must have followed the Applet Development SOP. Additionally, the Applet Developer/integrator must ensure the integrity of the applet based on that the Final Applet Test report duly signed by the Applet developer and the Validator.
- Validator should ensure integration of applet(s) in the profile and perform regression tests based on the Applet Test report.
- Validator will test the applet using test suits and record the logs/test results along with sending report to the developer.
Please refer the SOP_TSS_Applet_Testing.docx for more details.

Validation Tools: User Guide
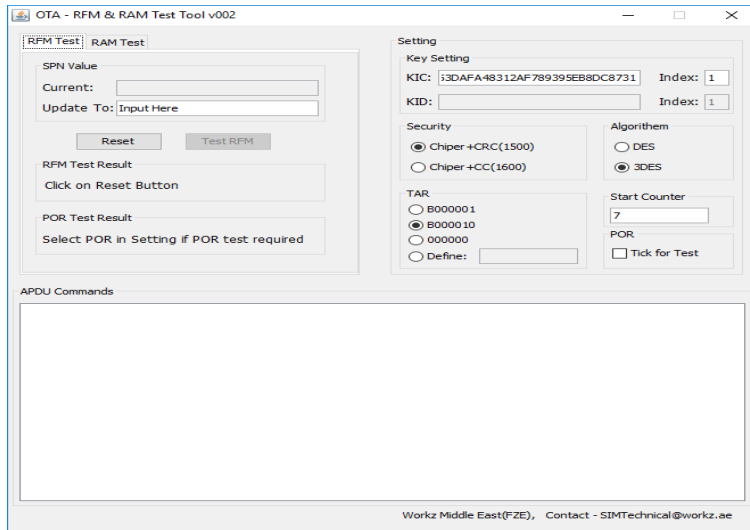
PIN Management Tool

User Guide –

- Enter the PIN and PUK values in the tool.
- To Test all the PINs entered, click on **Test PINs.**
- To check PIN1 only, click on **Check PIN1 State.**

- ➢ To change PIN1 only, click on **Change PIN1 State.**
- ➢ To change Pins, click on **Change Pins**, then select the PIN and enter the new value.
- ➢ To unblock pins, click on **Unblock Pins**, then select the PIN.
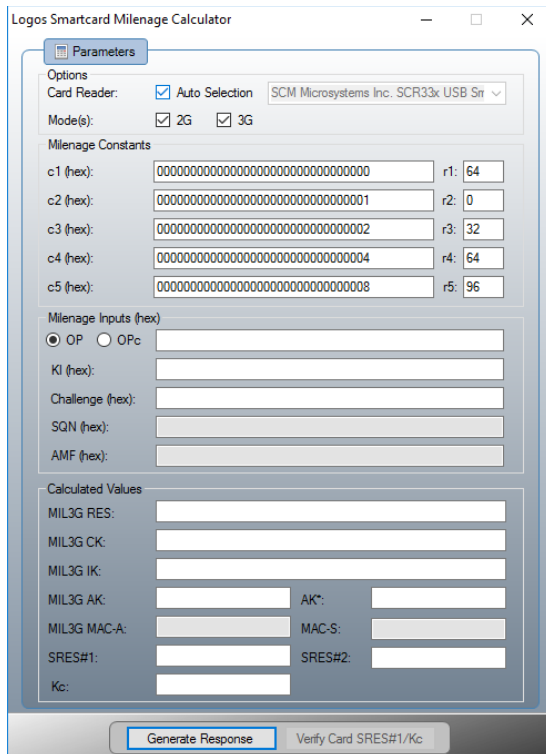
OTA RFM & RAM Tool

User Guide -

For RFM Test

- • Enter the **"SPN Value"** in the box **"Update To:"**

- • Select the "**MSL"** as per the profile configuration.
- • Select the **"TAR"** and "**Algorithm"**.
- • Enter the "**KIC"** and "**KID**" keys value.
- • Click on "**Reset"** then "**Test RFM"**, updated name will display on the screen.

For RAM Test

- • Select the "**MSL"** as per the profile configuration.
- • Select the **"TAR"** and "**Algorithm"**.
- • Enter the "**KIC"** and "**KID**" keys value.
- • Click on "**Reset"** then "**Test RAM"**
- • **Click STK Menu** will appear in the white box.

MilenageCalculator Tool

User Guide -

- Enter the Authentication Parameter values.
- Select the OP or OPC as per the profile configuration.
- Enter the values of OP/OPC and KI
- Enter the 32 digits random number in the "Challenge(hex)".
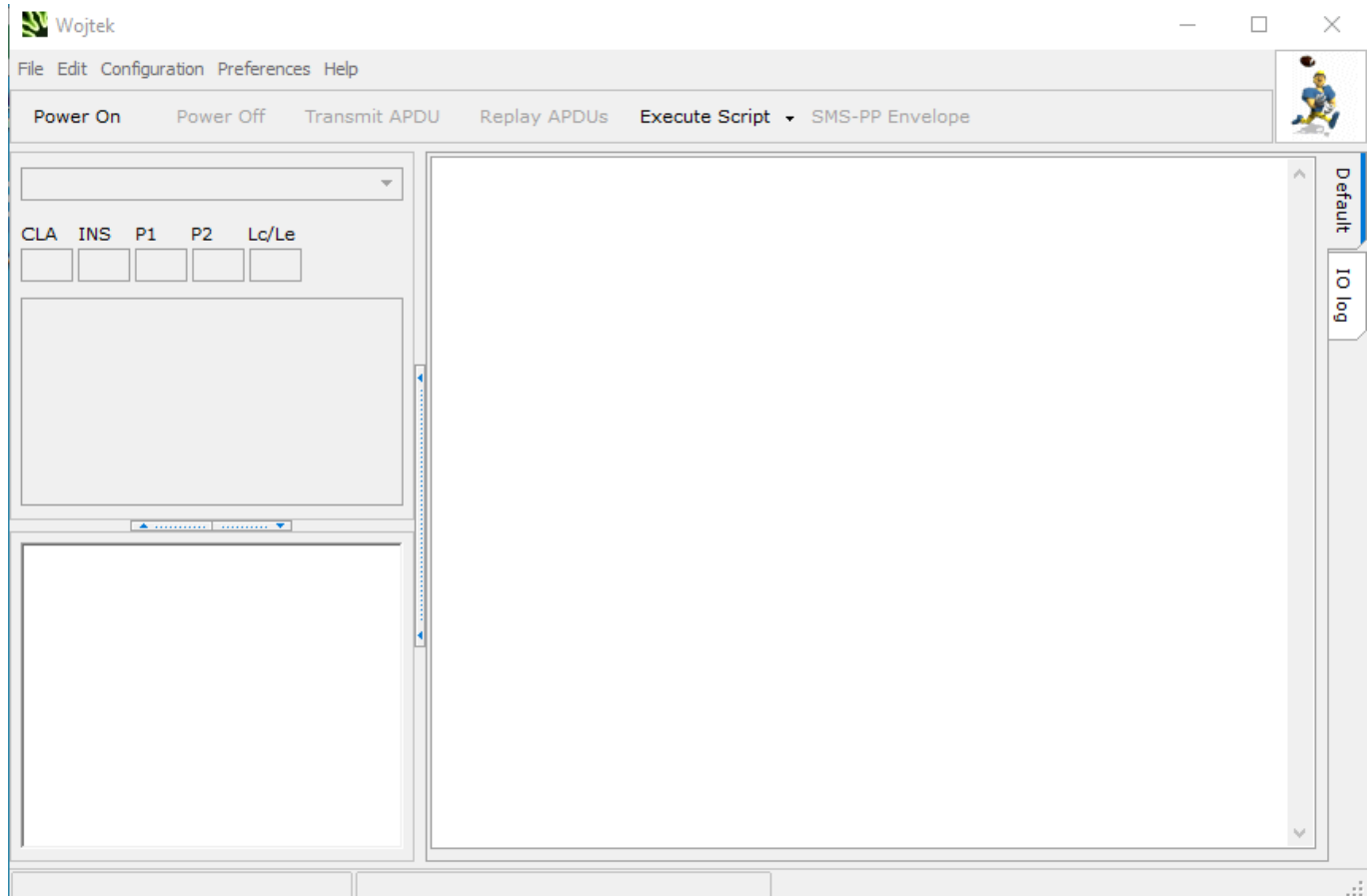- Click on **Verify Card SRES#1/Kc**

GBA Script

For GBA authentication please find the attached script and follow the steps.

GBA_Authentication.txt

Wojtek Tool

Unit Test/Wojtek tool/Java PCSC scripts can be used for below tests-

- If there any In-house applet, the applet must have followed the Applet Development SOP. Additionally, the Applet Developer/integrator must ensure the integrity of the applet based on that the Final Applet Test report duly signed by the Applet developer and the Validator.
- The validator must ensure the integrity of the applet is verified as per the Final Applet test report for the applet.
- Any third-party applet can be verified using its verification steps as per its release notes or guidance from the customer.

Annexures –

- Customer Specification Form/ Format

UICC_Profile_Requir
ement_Gathering_Cl

UICC Requirement
Template_v002.02.xls

5G_UICC
Requirement Template

- Validation Checklist   Handset Test Report

TSS_BAP_Checklist_
&_Validation_Repor

Workz_SIM_Handse
t_Test_Reports_Cust

SIM Handset Test Report Document v1.2

Customer:	
Profile:	
Chipset	
Testers:	
Test Date:	

Handsets Tested	Handset	Model	Tested?
1	HTC	One M9	Yes
2	Nokia	3110c	Yes
3	Nokia	2600c	Yes
4	Hauwei	Y5	Yes
5	Apple	5s	Yes
6	Hauwei	P20 lite	Yes
7	Samsung	Core prime	Yes
8	Xiaomi	Mi A1	Yes
9	General Mobile	GM 5 Plus	Yes
10	Xiaomi	Redmi 7A	Yes
11	Xiaomi	Redmi 5 Plus	Yes
12	Asus	ZenFone 3	Yes
13	Sony	Xperia	Yes
14	Lenovo	A6 Note	Yes
15	Oppo	F1S	Yes

- Standards against which BAP profile gets validated.
    - ETSI
    - GSMA
    - 3GPP

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