U.S General Services Administration

Electromagnetically Opaque Sleeve Test Procedure

VERSION 3.0.0

April Giles
Nabil Ghadiali

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Office of Governmentwide Policy
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1 Overview

Homeland Security Presidential Directive-12 (HSPD-12) - "*Policy for a Common Identification Standard for Federal Employees and Contractors*" directed the promulgation of a new Federal standard for a secure and reliable form of identification issued by all Federal Agencies to their employees and contractors.

In addition to derived test requirements developed to test conformance to the NIST standard, GSA has established interoperability and performance metrics to further determine product suitability. Vendors whose products and services are deemed to be conformant with NIST standards and the GSA interoperability and performance criteria will be eligible to sell their products and services to the Federal Government.

1.1 Identification

This document provides the detailed test procedure that needs to be executed by the Lab in order to evaluate the Electromagnetically Opaque Sleeve (henceforth referred to as the Product) against the subset of applicable requirements that need to be electronically tested for this category.

2 Testing Process

As previously mentioned, this document prescribes detailed test steps that need to be executed in order to test the requirements applicable for this category. Please note that conformance to the tests specified in this document will not result in the Product being compliant to the applicable requirements of FIPS 201. The Product must undergo an evaluation using all the evaluation criteria listed for that category prior to being deemed as compliant. Only products that have successfully completed the entire Approval Process will be designated as conformant to the Standard. To this effect, this document only provides details for the evaluation using the Lab Test Data Report approval mechanism.

A Lab Engineer follows the steps outlined below in order to test those requirements that have been identified to be electronically tested. The end result is a compilation of the observed behavior of the Product in the Lab Test Data Report.

Section 3 provides the test procedures that need to be executed for evaluating the Product as conformant to the requirements of FIPS 201.

3 Test Procedure for Electromagnetically Opaque Sleeve

3.1 Requirements

The following table provides a reference to the requirements that need to be electronically tested within the Lab as outlined in the Approval Procedure for the Product. The different test cases that are used to check compliance to the requirements is also cross-referenced in the table below.

Identifier #	Requirement Description	Source	Test Case #
SLV.1	An electromagnetically opaque sleeve or other technology is required to protect against any unauthorized contactless access to information stored on a contactless IC.	FIPS 201, Section 4.4.2	SLV-TP.1

Table 1 - Applicable Requirements

3.2 Test Components

Table 2 provides the details of all the components required by the Lab to execute this test procedure. Based on the different test cases, different components may be required to execute different test cases.

#	Component	Component Details	Identifier
1	The Card Reader Test Fixture	Includes a Workstation with the Card Reader Test Application installed and operational	CRTF
2	Contactless PIV Card Reader	Integrated Engineering SmartLogon Pro 01SMR-4120	CLREADER
3	PIV Card	SafesITe FIPS 201 applet on Gemalto GemCombi'Xpresso R4 E72K Card	PCARD
4	The Electromagnetically Opaque Sleeve under test	-	PROD
5	A metric ruler longer than 10 centimeters	-	RULER

Table 2 - Test Procedure: Components

3.3 Test Cases

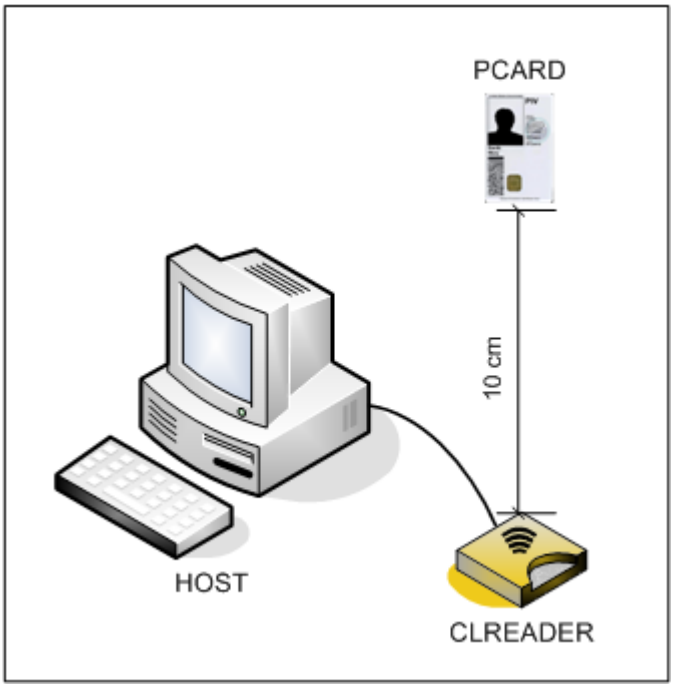
This section discusses the various test cases that are needed to test the Product against the requirements mentioned above.

3.3.1 Test Case SLV-TP.1

3.3.1.1 Purpose

The purpose of this test is to verify that the electromagnetically opaque sleeve shields the PIV Card from radio frequency signals transmitted by the reader at 13.56 MHz ± 7 KHz frequency range.

3.3.1.2 Test Setup

Equipment :	The following components are necessary for executing this test case: ▪ CRTF ▪ CLREADER ▪ PCARD ▪ PROD ▪ RULER
Configuration Diagram :	 **Figure 1 - Configuration Diagram for Test Case SLV-TP.1**
Preparation:	▪ Connect the CLREADER into the appropriate port of the CRTF. ▪ Verify that the CLREADER is correctly installed by reviewing its presence in list of hardware using the device manager of the host system.

3.3.1.3 Test Process

Test Steps:	1. Execute the Test Application on the CRTF.

	2. Make sure that the details of the PCARD and the CLREADER are entered into the Test Application using the File → Edit Reference Contactless Card Implementation Info and File → Edit Reference Reader Implementation Info. 3. Select the tab for the "Electromagnetically Opaque Sleeve". This selects the test for the Electromagnetically Opaque Sleeve in the Test Application. 4. Fill in all the information as required in the screen for the testing the PROD. 5. Bring the PCARD within 10 centimeters of the CLREADER. (Make sure the distance is measured with RULER) 6. Click on the "Execute Test" button. Verify that the test was completed by reviewing the result. (*Note: - This test uses the contactless interface and continuously polls [for a fixed period of time] to read data of the PIV Card via the contactless reader.)* 7. Place the PCARD inside the PROD. 8. Repeat steps 5 and 6, holding the PCARD at a 10 cm distance (use RULER to verify the distance) and then gradually bringing it closer and closer to the CLREADER until it touches it. Verify that the test was completed by reviewing the result. 9. Once the results have been populated in the Test Results area, click on the "Show Test Report" button. The Test Results screen is displayed.
Expected Result(s):	1. The PCARD will respond when it is within proximity (less than 10 centimeters) of the CLREADER when the PCARD is not in the PROD. In this case, data is successfully read from the contactless interface of PCARD. 2. The PCARD will not respond to the CLREADER when it is inside the PROD.