U.S General Services Administration

Facial Image Capturing Camera Test Procedure

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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 Facial Image Capturing Camera (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 Facial Image Capturing Camera

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 Procedures document for the Product. The test cases that are used to check compliance to the requirements are cross-referenced in the table below.

Identifier #	Requirement Description	Source	Test Case #
FACS.1	For PIV, faces shall be acquired such that a 20 centimeter target placed on, and normal to, a camera's optical axis at a range of 1.5 meters shall be imaged with at least 240 pixels across it. This ensures that the width of the head (i.e. dimension CC in Figure 8 of [FACESTD]) shall have sufficient resolution for the printed face element of the PIV Card. This specification and Section 8.3.4 of [FACESTD] implies that the image width shall exceed 420 pixels.	SP 800-76, Section 5.2	FACS-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	Host System	A Wintel Workstation	HOST
2	Photo Editing Software	A commercially available photo editing software (such as Adobe Photoshop or JASC Paint Shop Pro). At a minimum, the photo editing software must be able to count the number of pixels based on the selection of a region by the user.	PHOTOED
3	Calculator	A simple calculator capable of performing division	CALC

Table 2 - Test Procedure: Components

3.3 Test Cases

This section discusses the various test cases that are needed to test the Facial Image Capturing Camera against the requirements mentioned above.

3.3.1 Test Case FACS -TP.1

3.3.1.1 Purpose

The purpose of this test is to verify whether the biometric facial image submitted by the vendor is conformant with the requirements of SP 800-76-1 and INCITS 385.

3.3.1.2 Test Setup

Equipment:	The following components are necessary for executing this test case: ▪ HOST ▪ PHOTOED ▪ CALC
Preparation:	▪ Open the submitted photo in PHOTOED.

3.3.1.3 Test Process

Test Steps:	1. Using the mouse, drag and select the entire width of the image. Note that some photo editing software provides detailed image information. If the software used supports this feature, it is strongly recommended to use the image width value obtained by the image information over the value obtained by selecting with the mouse. Note this value. 2. Using the mouse, drag and select the entire width of the Subject (or target) in the photograph. Note that if a person is used, the width of the Subject would be from ear to ear. Note this value. 3. Using CALC, divide the value obtained in Step 1 by the value obtained in Step 2 (Step 1/Step 2).
Expected Result(s):	1. The value obtained in Step 1 is greater than or equal to 420 pixels. 2. The value obtained in Step 2 is greater than or equal to 240 pixels. 3. The ratio of the image width (value obtained in Step 1) divided by the Subject (or target) width (value obtained in Step 2) is greater than 1.75.