

**FICAM Reader
Test Procedures**
VERSION 0.1.0

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FIPS 201 EVALUATION PROGRAM

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DRAFT

Table of Contents

1	Overview	4
2	Testing Process	4
3	Test Procedures for FICAM Reader	6
3.1	Requirements	6
3.2	Test Components	6
3.3	Installation and set-up for testing	6
3.4	Test Cases	6
3.4.1	ISO 7816 Test Cases	7
3.4.2	ISO 14443 Test Cases	7
3.4.3	FICAM Authentication Modes	7

DRAFT

1 Overview

The Federal Information Processing Standard (FIPS) 201 Evaluation Program (EP) is a U.S. Government entity administered by the Office of Government-wide Policy (OGP), within the General Services Administration (GSA) agency. The goal of the FIPS 201 EP is to evaluate products and services against the requirements outlined in FIPS 201 and its supporting documents. The FIPS 201 EP is also charged with evaluation of products and services according to requirements from the Federal Identity, Credentialing and Access Management (FICAM) Program. The FICAM Testing Program encompasses both sets of requirements. The goal of the FICAM Testing Program is to provide the best known information regarding conformance to standards, interoperability, and security of products and services for implementation of FICAM-conformant systems and services throughout the federal government.

This document provides the detailed test procedures that need to be executed by Industry and ICAM Test Labs in order to evaluate the FICAM Reader (henceforth referred to as "Product") against the subset of applicable requirements that need to be electronically tested for this category.

2 Testing Process

The Product must undergo an evaluation using all the evaluation criteria listed for this category prior to being deemed compliant. Only Products that have successfully completed the entire Approval Process and Testing Procedures will be designated as conformant to the FICAM Testing Program. To this effect, this document only provides details for the evaluation using the ICAM 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 ICAM Lab Test Data Report.

For this category, there are four elements of testing performed in two stages:

Stage 1: Industry Testing

- a. Independent Lab testing and evaluation for *ISO 7816* compliance by an *ISO 17025* certified Lab for testing in accordance with *ISO/IEC 10373-3:2010* per R-FTR-3.
- b. Independent Lab testing and evaluation of Product compliance to *ISO 14443* by an *ISO 17025* certified lab for testing in accordance with *ISO/IEC 10373-6:2011* and *ISO/IEC 10373-6 Amendment 4:2012* per R-FTR-4.

Stage 2: ICAM Testing

- a. ICAM Test Lab evaluation and certification for compliance to R-FTR-1 through R-FTR-2 (Interface requirements).
- b. ICAM Test Lab evaluation and certification for compliance to R-FTR-5 through R-FTR-23 (FICAM Reader requirements).

- 45 An Independent Lab, if certified by the appropriate authority, may perform any
- 46 combination of the industry testing requirements.

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47 **3 Test Procedures for FICAM Reader**

48 **3.1 Requirements**

49 *FICAM Reader Approval Procedure* Section 3.1 provides the requirements for the test
50 procedures identified in this document.

51 **3.2 Test Components**

52 The following are the required test components to evaluate the Product:

- 53
- 54 1. Live PIV and PIV-I cards from various issuers.
- 55 2. ICAM Test Cards (detailed in *FICAM PACS Master Test Procedures* Section 1.3)
- 56 3. ICAM PKI infrastructure (detailed in *FICAM PACS Master Test Procedures*
57 Section 1.4).
- 58 4. NIST PIV Test Cards.
- 59 5. DoD JITC CAC Test Cards.
- 60 6. Full system under test, encompassing:
 - 61 a. Product;
 - 62 b. Validation System; and
 - 63 c. PACS Head-End.

64 **3.3 Installation and set-up for testing**

65 The Supplier shall provide installation and configuration support as appropriate to make
66 their Product operational at the ICAM Test Lab. The Product cannot be tested
67 independently. The Product must be tested as connected to a validation system and
68 PACS Head-End. The Supplier must coordinate all components necessary to support
69 testing of the Product. The Supplier will be provided with an eight foot (8') table and
70 four (4) 120 volt AC outlets. The Supplier shall be given one (1) Lab workday to
71 demonstrate the Product's ability to meet the category's requirements.

72 **3.4 Test Cases**

73 This section discusses the test cases that are needed to test a Product. For this category,
74 there are four elements of testing performed in two stages:

75

76 **Stage 1: Industry Testing**

- 77 a. Independent Lab testing and evaluation for *ISO 7816* compliance by an *ISO*
78 *17025* certified Lab for testing in accordance with *ISO/IEC 10373-3:2010* per
79 R-FTR-3.
- 80 b. Independent Lab testing and evaluation of Product compliance to *ISO 14443* by
81 an *ISO 17025* certified lab for testing in accordance with *ISO/IEC 10373-6:2011*
82 and *ISO/IEC 10373-6 Amendment 4:2012* per R-FTR-4.

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87 **Stage 2: ICAM Testing**

- 88 a. ICAM Test Lab evaluation and certification for compliance to R-FTR-1 through
- 89 R-FTR-2 (Interface requirements).
- 90 b. ICAM Test Lab evaluation and certification for compliance to R-FTR-5 through
- 91 R-FTR-23 (FICAM Reader requirements).

92
 93 An Independent Lab, if certified by the appropriate authority, may perform any
 94 combination of the industry testing requirements.

95 **3.4.1 ISO 7816 Test Cases**

96 The contact interface of the Product shall be tested in accordance with *ISO/IEC 13073-*
 97 *3:2010* Sections 4, 7, and 8.

98 **3.4.2 ISO 14443 Test Cases**

99 The contactless interface of the Product shall be tested in accordance with *ISO/IEC*
 100 *13073-6:2011* Sections 4, 5, 6.1, 7.1, and 8.1, and *ISO/IEC 13073-6:2011/Amd.4:2012*.

101 **3.4.3 FICAM Authentication Modes**

102 The FICAM Testing Program performs end-to-end system testing in accordance with the
 103 *FICAM PACS Master Test Procedures* document. There are two possible test scenarios
 104 for a Product:

- 106 1. The Product is being tested with a previously-approved Validation System and
- 107 PACS Head-End solution; or
- 108 2. The Product is being tested with an all new Validation System and PACS Head-
- 109 End solution.

110
 111 For scenario (1), the ICAM Test Lab will run all tests identified in *FICAM PACS Master*
 112 *Test Procedures* marked with an “R” in the 'Components' column.

113
 114 For scenario (2), the ICAM Test Lab will run all tests identified in *FICAM PACS Master*
 115 *Test Procedures*.

Comment [FICAM1]: We are looking for industry -developed test cases that can be applied to this technology.

Comment [FICAM2]: We are looking for industry-developed test cases that can be applied to this technology.