



The Printer Working Group

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Working Draft

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IPP Everywhere™ Printer Self-Certification Manual v1.1 (SELF CERT)

Status: Interim

Abstract: This document defines IPP Everywhere™ v1.1 Printer self-certification test procedures and the process required for PWG Members to register the test results on the PWG web site in order to use the "IPP Everywhere™" logo.

This document is a PWG Working Draft. For a definition of a "PWG Working Draft", see:

<https://ftp.pwg.org/pub/pwg/general/pwg-process30.pdf>

This document is available electronically at:

<https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippeveselfcert11-20180606.docx>

<https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippeveselfcert11-20180606.pdf>

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45 The Printer Working Group (or PWG) is a Program of the IEEE Industry Standards and
46 Technology Organization (ISTO) with member organizations including printer
47 manufacturers, print server developers, operating system providers, network operating
48 system providers, network connectivity vendors, and print management application
49 developers. The PWG is chartered to make printers and the applications and operating
50 systems supporting them work together better. All references to the PWG in this document
51 implicitly mean “The Printer Working Group, a Program of the IEEE ISTO.”

52 To meet this objective, the PWG documents the results of their work as open standards that
53 define print related protocols, interfaces, procedures, and conventions. A PWG standard is
54 a stable, well understood, and technically competent specification that is widely used with
55 multiple independent and interoperable implementations. Printer manufacturers and
56 vendors of printer related software benefit from the interoperability provided by voluntary
57 conformance to these standards.

58 For additional information regarding the Printer Working Group visit:

59 <http://www.pwg.org>

60 Contact information:

61 The Printer Working Group
62 c/o The IEEE Industry Standards and Technology Organization
63 445 Hoes Lane
64 Piscataway, NJ 08854
65 USA
66

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1. Introduction

The Internet Printing Protocol supports all kinds of printing from low-end consumer through multi-room production printers. The IPP Everywhere™ project developed a new baseline specification [PWG5100.14] that enables printing from arbitrary clients using vendor-neutral driver software. In order to allow PWG Members to market their conformance to the new specification and consumers to easily determine which printers are compatible with their clients, the Printer Working Group has developed this specification which defines a series of self-certification tests that must be performed successfully in order to use the IPP Everywhere™ logo (Figure 1) for a given printer and/or its Product Family (section 2.4). While the software and tests may be used by all organizations and individuals regardless of membership status, use of the IPP Everywhere™ logo and registration of Product Families on the PWG web site is limited to members of the Printer Working Group [MEMBERS].



Figure 1 - IPP Everywhere™ Logo

1.1 Overview of IPP Everywhere Printer Self-Certification

The following summarizes IPP Everywhere™ Printer self-certification:

1. Conformance to this manual is voluntary; PWG Members do not need to perform self-certification to claim conformance to the IPP Everywhere™ v1.1 [PWG5100.14] specification, but do need to perform self-certification to use the logo.
2. Version 1.1 of this process only applies to Printer implementations.
3. This manual defines tests for the mDNS, DNS-SD, IPP, and document format capabilities of a PWG Member's IPP Everywhere™ Printer implementation. The results are stored in XML files that are uploaded to the PWG web site to obtain permission to use the logo with the implementation.
4. Only PWG Members may upload test results to the PWG web site and use the logo.
5. This manual defines only one conformance level for IPP Everywhere™ Printer self-certification, and the tests automatically adapt to the capabilities that are reported by the implementation.

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6. Printer self-certification is generally performed using the most recent version of this process, however PWG Members may use an older approved version of the process if the most recent version was published within the last 12 months. This allows for some flexibility when developing new products.
7. Printer self-certification for a Product Family should be performed using the most fully featured model of the Product Family.
8. A PWG Member is not required to re-certify an existing Product Family against updated versions of this process.
9. Implementors are encouraged to use this process in regression testing of updates to a Product Family.
10. Self-certification test results are confidential and are discarded by the web site software after an automatic review.
11. Once accepted, the Printers in the certified Product Family will be listed on the PWG web site along with some summary information such as the make, model, version of the process used, color capabilities, and manufacturer web site.

1.2 Updates to This Document

This document might be updated from time to time to address issues in the testing procedures, testing tools, referenced specifications, and the license agreement as necessary. The version numbers of this document would be updated to reflect these changes according to the following rules:

1. Whenever new requirements, new referenced specifications, and/or new license agreement text are introduced, the major version number will be incremented and the minor version number will be reset to 0. For example, major changes to version "1.0" would result in a new "2.0" document.
2. Whenever corrections are made to the testing procedures or tools are introduced, the minor version number will be incremented. For example, minor changes to version "1.0" would result in a new "1.1" document.

Major changes will go through the normal PWG Standard process (section 4 of [PROCESS30]), including a IPP Workgroup Last Call, PWG Last Call, and PWG Formal Vote. The IPP Workgroup Last Call and PWG Last Call will include time for testing of the tools used for self-certification.

Minor changes will go through the PWG Errata process (section 9.1 of [PROCESS30]), including a IPP Workgroup Last Call and PWG Call for Objection. The IPP Workgroup Last Call and PWG Call for Objection will include time for testing of the tools used for self-certification.

1.3 Reporting Problems and Getting Assistance

Problems discovered in this specification are reported using the PWG issue tracking page at:

196 <https://www.pwg.org/issues>

197 Problems in the self-certification tools are reported via the IPP Everywhere™ Printer Self-
198 Certification project issues page:

199 <https://github.com/istopwg/ippeveselfcert/issues>

200 The "ippeveselfcert@pwg.org" mailing list is provided for asking questions about this
201 specification and IPP Everywhere™ in general. You must subscribe to this list before you
202 can post questions:

203 <https://www.pwg.org/mailman/listinfo/ippeveselfcert>

204

2. Terminology

2.1 Conformance Terminology

Capitalized terms, such as MUST, MUST NOT, RECOMMENDED, REQUIRED, SHOULD, SHOULD NOT, MAY, and OPTIONAL, have special meaning relating to conformance as defined in Key words for use in RFCs to Indicate Requirement Levels [BCP14]. The term CONDITIONALLY REQUIRED is additionally defined for a conformance requirement that applies when a specified condition is true.

2.2 Printing Terminology

Normative definitions and semantics of printing terms are imported from IETF Printer MIB v2 [RFC3805], IETF Finisher MIB [RFC3806], and IETF Internet Printing Protocol/1.1: Model and Semantics [RFC8011].

Document: An object created and managed by a Printer that contains the description, processing, and status information. A Document object may have attached data and is bound to a single Job.

Job: An object created and managed by a Printer that contains description, processing, and status information. The Job also contains zero or more Document objects.

Logical Device: a print server, software service, or gateway that processes jobs and either forwards or stores the processed job or uses one or more Physical Devices to render output.

Output Device: a single Logical or Physical Device

Physical Device: a hardware implementation of an endpoint device, e.g., a marking engine, a fax modem, etc.

2.3 Protocol Role Terminology

This document also defines the following protocol roles in order to specify unambiguous conformance requirements:

Client: Initiator of outgoing connections and sender of outgoing operation requests (Hypertext Transfer Protocol -- HTTP/1.1 [RFC7230] User Agent).

Printer: Listener for incoming connections and receiver of incoming operation requests (Hypertext Transfer Protocol -- HTTP/1.1 [RFC7230] Server) that represents one or more Physical Devices or a Logical Device.

2.4 Other Terminology

Product Family: A group of products from a common product platform [PROD-FAMILY], e.g., printers using a common marking engine, OEM products sold by multiple vendors, and print server software supporting printers.

Production Ready Code: Software and/or firmware that is considered ready to be included in products shipped to customers.

PWG Member: An individual or organization that has signed the IEEE-ISTO Printer Working Group membership agreement and paid the corresponding membership fee. More information on the agreement and fees is available on the PWG web site [MEMBERS].

2.5 Acronyms and Organizations

IANA: Internet Assigned Numbers Authority, <http://www.iana.org/>

IETF: Internet Engineering Task Force, <http://www.ietf.org/>

ISO: International Organization for Standardization, <http://www.iso.org/>

PWG: Printer Working Group, <https://www.pwg.org/>

3. Requirements

3.1 Rationale for the IPP Everywhere™ Self-Certification Manual v1.1

Given the need for a vendor-neutral certification of Printers for use by mobile and desktop Clients, the IPP Everywhere™ Self-Certification Manual v1.1 should:

1. Define test procedures and tools for [mDNS and DNS-SD](#) discovery of IPP Everywhere™ Printers;
2. Define test procedures and tools to validate conformance of IPP Everywhere™ Printers to the IPP Everywhere™ v1.1 specification [PWG5100.14];
3. Define test procedures, tool, and documents to validate the output of IPP Everywhere™ Printers;
4. Define rules and procedures for PWG Members to submit test results; and
5. Define rules for the use of an IPP Everywhere™ Self-Certification logo for marketing purposes.

The IPP Everywhere™ v1.1 [PWG5100.14] specification defines a standard profile of IPP to support printing from mobile and desktop Clients without vendor-specific driver software.

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264 **3.2 Use Cases**

265 **3.2.1 Selection of Printer for Purchase**

266 Jane has gone to her local electronics superstore in order to purchase a new printer that is
267 compatible with her phone, tablet, and laptop computer. A PWG Member has self-certified
268 their printers in order to display a marketing logo on product packaging, advertising, and
269 sales materials. Jane looks for printers that have the logo because she trusts the
270 manufacturer is selling a printer that is compatible with her devices and computer.

271 **3.3 Out of Scope**

272 The following are considered out of scope for this specification:

- 273 1. Definition of PWG or vendor marketing programs for IPP Everywhere™.
274 2. Conformance testing of optional discovery protocols.
275 3. Conformance testing of optional operations, attributes, and values.
276

3.4 Test Requirements and Recommendations

The test requirements for this specification are:

1. Confirm minimum conformance and interoperability of Printer for [mDNS and DNS-SD](#) discovery [RFC3927] [RFC6762] [RFC6763];
2. Confirm minimum conformance and interoperability of Printer for the HyperText Transport Protocol Version 1.1 [RFC7230];
3. Confirm minimum conformance and interoperability of Printer for the Internet Printing Protocol Version 2.0 [PWG5100.12];
4. Confirm minimum conformance and interoperability of Printer for PWG Raster Format [PWG5102.4] document data;
5. If supported, confirm minimum conformance and interoperability of Printer for JPEG [JFIF] document data; and
6. If supported, confirm minimum conformance and interoperability of Printer for PDF document data [ISO32000]

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The test recommendations for this specification are:

1. Provide realistic document data for print testing

4. Test Setup and System Requirements

The test suites require an Intel-based Mac running macOS 10.13 or later or PC running Red Hat Enterprise Linux 7 or later, Ubuntu Server 17.04 LTS or later, or Windows 7 or later. The test tools require up to 24MB of disk space and the test files require up to 1637MB of disk space. The most recent version of the tools and sample PWG Raster files can be downloaded from the IPP Everywhere™ technology page:

<https://www.pwg.org/ipp/everywhere.html>

Source code for the tools is hosted on the IPP Everywhere™ Printer Self-Certification project page:

<https://github.com/istopwg/ippeveselfcert>

4.1 Printer Configuration

The Printer in the Product Family being certified MUST be running Production-Ready Code with the default customer configuration. The Printer MUST include all features of the Product Family being certified, e.g., all document formats, duplexing, etc. As with any IPP implementation, the Printer can be a Physical Device or a server/spooler (Logical Device).

4.2 Microsoft Windows Tools

The following files are used to run the tests on Microsoft Windows:

Windows 7 or higher tools: 24MB (8MB for the MSI file, 16MB for the installed software)

<https://www.pwg.org/ipp/everywhere.html>

Bonjour Print Services for Windows: Provides [mDNS and DNS-SD](#) support for Windows

<http://support.apple.com/kb/DL999>

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4.3 macOS Tools

The following files are used to run the tests on macOS:

macOS 10.13 or higher tools: 20MB (7MB for the DMG file, 13MB for the installed software)

<https://www.pwg.org/ipp/everywhere.html>

4.4 Linux Tools

Due to TLS library compatibility issues, tools are tied to specific Linux distributions.

The following files are used to run the tests:

RedHat Enterprise Linux 7 - 64-bit tools: 19MB (6MB for the tar file, 13MB for the installed software)

<https://www.pwg.org/ipp/everywhere.html>

Ubuntu 18.04 LTS - 64-bit tools: 19MB (6MB for the tar file, 13MB for the installed software)

<https://www.pwg.org/ipp/everywhere.html>

4.5 Test Files

The following sample files are used for the document tests:

150dpi sample files: 58MB (20MB for the zip file, 38MB for the extracted files)

<https://ftp.pwg.org/pub/pwg/ipp/examples/pwg-raster-samples-150dpi-20150616.zip>

180dpi sample files: 74MB (26MB for the zip file, 48MB for the extracted files)

<https://ftp.pwg.org/pub/pwg/ipp/examples/pwg-raster-samples-180dpi-20150616.zip>

300dpi sample files: 158MB (53MB for the zip file, 105MB for the extracted files)

<https://ftp.pwg.org/pub/pwg/ipp/examples/pwg-raster-samples-300dpi-20150616.zip>

360dpi sample files: 209MB (70MB for the zip file, 139MB for the extracted files)

<https://ftp.pwg.org/pub/pwg/ipp/examples/pwg-raster-samples-360dpi-20150616.zip>

600dpi sample files: 488MB (163MB for the zip file, 325MB for the extracted files)

<https://ftp.pwg.org/pub/pwg/ipp/examples/pwg-raster-samples-600dpi-20150616.zip>

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353 720dpi sample files: 650MB (212MB for the zip file, 438MB for the extracted files)
354 [https://ftp.pwg.org/pub/pwg/ipp/examples/pwg-raster-samples-720dpi-](https://ftp.pwg.org/pub/pwg/ipp/examples/pwg-raster-samples-720dpi-20150616.zip)
355 [20150616.zip](https://ftp.pwg.org/pub/pwg/ipp/examples/pwg-raster-samples-720dpi-20150616.zip)
356 PWG Members may request sample files at different resolutions by sending an email to the
357 "ippeveselfcert@pwg.org" mailing list (section 1.3).
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5. [DNS-SD](#) Test Procedure

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5.1 Test Description and Checklist

The [DNS-SD](#) tests verify that the Printer correctly advertises itself using the "_print._sub._ipp._tcp" sub-type of "_ipp._tcp" so that the Client can contact the Printer at the given address, port, and resource path. The Printer MUST provide all required TXT record keys and those keys MUST match the values reported by the Printer via the IPP Get-Printer-Attributes operation.

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Printers that report support for TLS MUST also support HTTP Upgrade to TLS, correctly advertise themselves using the "_print._sub._ipps._tcp" sub-type of "_ipps._tcp", and support using an "ipps" URI.

5.2 Running the [DNS-SD](#) Tests

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On Linux or macOS, run the following command to produce the [DNS-SD](#) test results file:

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```
./dnssd-tests.sh "Printer Name"
```

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where 'Printer Name' is the DNS-SD service name for the Printer in double quotes.

On Windows, run the following command to produce the [DNS-SD](#) test results file:

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```
dnssd-tests.bat "Printer Name"
```

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where 'Printer Name' is the DNS-SD service name for the [DNS-SD](#) in double quotes.

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Output is placed in a file named "Printer Name [DNS-SD](#) Results.plist".

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5.3 Interpreting the [DNS-SD](#) Test Results

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The output of the test is a list of PASS, FAIL, and SKIP results for the named Printer. The generated plist file contains the XML version of those results.

A successful result contains PASS or SKIP results for every test. Any FAIL result causes a failure for self-certification.

393

Table 1 - [DNS-SD](#) Test ChecklistPASS/
FAIL/
SKIP

Description

	D-1 . IPP Browse test: Printers appear in a search for "_print._sub._ipp._tcp" services?
	D-2 . IPP TXT keys test: The IPP TXT record contains all required keys.
	D-3 . IPP Resolve test: Printer responds to an IPP Get-Printer-Attributes request using the resolved hostname, port, and resource path.
	D-4 . IPP TXT values test: The TXT record values match the reported IPP attribute values.
	D-5 . TLS tests: Performed only if TLS is supported.
	D-5.1 HTTP Upgrade test: Printer responds to an IPP Get-Printer-Attributes request after doing an HTTP Upgrade to TLS.
	D-5.2 IPPS Browse test: Printer appears in a search for "_print._sub._ipps._tcp" services.
	D-5.3 IPPS TXT keys test: The TXT record for IPPS contains all required keys.
	D-5.4 IPPS Resolve test: Printer responds to an IPPS Get-Printer-Attributes request using the resolved hostname, port, and resource path.
	D-5.5 IPPS TXT values test: The TXT record values for IPPS match the reported IPPS attribute values.

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6. IPP Test Procedure

6.1 Test Description and Checklist

The IPP tests verify that the Printer correctly processes IPP requests and produces the expected IPP responses. Besides basic conformance to the IPP/1.1: Model and Semantics [RFC8011], IPP 2.0, 2.1, and 2.2 [PWG5100.12], and IPP Everywhere™ v1.1 [PWG5100.14] specifications, the tests also verify that the printer reports the 'media-needed' value in the "printer-state-reasons" attribute when a Job needs media.

6.2 Running the IPP Tests

On Linux or macOS, run the following command to produce the IPP test results file:

```
./ipp-tests.sh "Printer Name"
```

where 'Printer Name' is the DNS-SD service name for the Printer in double quotes.

On Windows, run the following command to produce the IPP test results file:

```
ipp-tests.bat "Printer Name"
```

where 'Printer Name' is the DNS-SD service name for the Printer in double quotes.

Output is placed in a file named "Printer Name IPP Results.plist".

6.3 Interpreting the IPP Test Results

The output of the test is a list of PASS, FAIL, and SKIP results for the named Printer. The generated plist file contains the XML version of those results.

A successful result contains PASS or SKIP results for every test. Any FAIL result causes a failure for self-certification.

Table 2 - IPP Test Checklist

PASS/ FAIL/ SKIP	Description
	I-1. RFC 8011 section 4.1.1: Bad request-id value 0
	I-2. RFC 8011 section 4.1.4: No Operation Attributes
	I-3. RFC 8011 section 4.1.4: attributes-charset
	I-4. RFC 8011 section 4.1.4: attributes-natural-language
	I-5. RFC 8011 section 4.1.4: attributes-natural-language + attributes-charset
	I-6. RFC 8011 section 4.1.4: attributes-charset + attributes-natural-language
	I-7. RFC 8011 section 4.1.8: Unsupported IPP version 0.0
	I-8. RFC 8011 section 4.2: No printer-uri operation attribute
	I-9. Identify-Printer Operation
	I-10. Get-Printer-Attributes Operation (default)
	I-11. Get-Printer-Attributes Operation (requested-attributes)
	I-12. Validate-Job Operation
	I-13. Print-Job Operation (color.jpg)
	I-14. Get-Jobs Operation (default)
	I-15. Get-Jobs Operation (requested-attributes)
	I-16. Get-Jobs Operation (which-jobs=not-completed)
	I-17. Get-Job-Attributes Until Job Complete
	I-18. Get-Jobs Operation (which-jobs=completed)
	I-19. Get-Jobs Operation (which-jobs, requested-attributes)
	I-20. Cancel-Job Operation (completed job)
	I-21. Print-Job Operation (color.jpg)
	I-22. Cancel-Job Operation (pending/processing job)
	I-23. Print-Job Operation (same file)
	I-24. Cancel-My-Jobs Operation (pending/processing job)
	I-25. Get-Job-Attributes Operation
	I-26. Create-Job Operation
	I-27. Send-Document Operation (color.jpg)
	I-28. Close-Job Operation
	I-29. Get-Job-Attributes Until Job Complete
	I-30. Print-Job Operation (color.jpg)
	I-31. Media Needed: Printer correctly reports 'media-needed' when a job is queued.

Commented [MS1]: Do we need to make this conditionally required in IPP Everywhere v1.1 (not for servers)?

Commented [MS2]: JPEG is conditionally required...

Commented [MS3]: JPEG is conditionally required...

Commented [MS4]: JPEG is conditionally required...

Commented [MS5]: Another operation that could be conditionally required (not for servers)

7. Document Data Test Procedure

7.1 Test Description and Checklist

The Document Data tests verify that the Printer correctly produces hardcopy output from a set of sample documents. The tests are adaptive to the Printer's reported document format, resolution, and color mode capabilities.

7.2 Running the Document Data Tests

On Linux or macOS, run the following command to produce the Document Data test results file:

```
./document-tests.sh "Printer Name"
```

where 'Printer Name' is the DNS-SD service name for the Printer in double quotes.

On Windows, run the following command to produce the Document Data test results file:

```
document-tests.bat "Printer Name"
```

where 'Printer Name' is the DNS-SD service name for the Printer in double quotes.

Output is placed in a file named "Printer Name Document Results.plist".

7.3 Interpreting Results

The output of the test is a list of PASS, FAIL, and SKIP results for the named Printer. The generated plist file contains the XML version of those results.

A successful result contains PASS or SKIP results for every test. Any FAIL result causes a failure for self-certification. In addition, the hardcopy output MUST be inspected by the tester to verify that there are no obvious errors in the output such as incorrect rendering or gross color errors, e.g. all output is green when it should be red. Grayscale output on a B&W printer is not considered an error. Similarly, normal clipping at the Printer's marking engine limits is not considered an error. Figure 2 through Figure 4 show the expected printed content.

Note: PWG Members do not submit hardcopy output for self-certification, nor do they need to retain it.

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Table 3 - Document Test Checklist


PASS/ FAIL/ SKIP	Description
	D-1. PWG Raster Format Tests (mandatory)
	D-1.1 Print color.jpg-4x6.pwg @ maximum resolution and supported types
	D-1.2 Print color.jpg-4x6.pwg @ maximum resolution and supported types, deflate, if supported
	D-1.3 Print color.jpg-4x6.pwg @ maximum resolution and supported types, gzip, if supported
	D-1.4 Print document-a4.pwg @ maximum resolution and supported types
	D-1.5 Print document-letter.pwg @ maximum resolution and supported types
	D-2. JPEG Tests (mandatory)
	D-2.1 Print color.jpg with defaults
	D-2.2 Print color.jpg with copies=2
	D-2.3 Print color.jpg with print-color-mode=monochrome
	D-2.4 Print color.jpg with media=na_letter_8.5x11in and ipp-attribute-fidelity=true
	D-2.5 Print color.jpg with media=iso_a4_210x297mm and ipp-attribute-fidelity=true
	D-3. PDF Tests (if PDF is supported)
	D-3.1 Print document-letter.pdf with defaults
	D-3.2 Print document-letter.pdf with copies=2
	D-3.3 Print document-letter.pdf with page-ranges=3-3 and print-color-mode=monochrome
	D-3.4 Print document-letter.pdf with sides=two-sided-long-edge, if supported
	D-3.5 Print document-letter.pdf with media=iso_a4_210x297mm and ipp-attribute-fidelity=true
	D-3.6 Print document-a4.pdf with media=na_letter_8.5x11in and ipp-attribute-fidelity=true

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Figure 2 - Content of "color.jpg" Test Document

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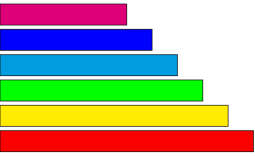
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Figure 3 - Content of "document-a4.pdf" Test Document

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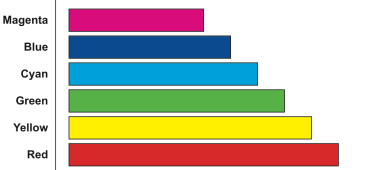
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Figure 4 - Content of "document-letter.pdf" Test Document

8. Submission of Test Reports

Self-certification test reports are submitted through the PWG web site at:

<https://www.pwg.org/ippeveselfcert>

Figure 5 shows the submission form, which includes the following fields:

Organization Name; The name of the organization for the submission

Contact Name; The name of a person responsible for the submission

Contact Email; The email address of a person to contact regarding the submission

Product Family Name; The product family being submitted

Product Family URL; The web page for the product family being submitted

Models; A list of make and model names (one per line) that are included

Self-Certification Manual; The version of the IPP Everywhere™ Printer Self-Certification manual used

Submission Checklist; Check boxes for "Used approved PWG self-certification software", "Used Production-Ready Code", "Documents printed correctly", and "May Require Firmware Update"

~~DNS-SD~~ Test Results; The plist file containing the ~~DNS-SD~~ test results

IPP Test Results; The plist file containing the IPP test results

Document Format Test Results; The plist file containing the document data test results

Once submitted, the test results will be validated by the web site software to check for obvious errors or issues and then the listed models will be added to the public directory of available IPP Everywhere™ Printers.

8.1 Exception Process

When a Printer fails one or more tests, the PWG Member MAY request an exception by submitting an issue on the IPP Everywhere™ Printer Self-Certification Tools project page at:

<https://github.com/istopwg/ippeveselfcert/issues>

Deleted: Bonjour

Deleted: Bonjour

495 The request will be reviewed by the IPP workgroup. Exceptions will only be granted for
496 issues in the self-certification tools, tests that do not apply to the Product Family, or
497 unavoidable race conditions such as a Job completing early.

The screenshot shows a web browser window with the URL 'http://www.example.com/products'. The page title is 'Submit IPP Everywhere Self-Certification'. The form is divided into several sections:

- Information:** Includes fields for Organization Name (Apple Inc.), Contact Name (Michael Sweet), Contact Email (msweet@apple.com), Product Family Name (Name of product family being submitted), Product Family URL (http://www.example.com/products), and Models (Make ModelMake Model...). Below the Models field is a note: 'List the make and model of every printer in the product family, one per line.'
- Self-Certification Manual:** A dropdown menu showing '1.0 Stable (October 9, 2015)'.
- Submission Checklist:** Includes three checkboxes: 'Used PWC self-certification tools. As supplied on the PWC FTP server.', 'Used Production-Ready Code. Production-Ready Code: Software and/or firmware that is considered ready to be included in products shipped to customers.', and 'All output printed correctly. As documented in section 7.3 of the IPP Everywhere Printer Self-Certification Manual 1.0.'
- Bonjour Test Results:** A file upload button labeled 'Choose File' with the text 'no file selected'.
- IPP Test Results:** A file upload button labeled 'Choose File' with the text 'no file selected'.
- Document Data Test Results:** A file upload button labeled 'Choose File' with the text 'no file selected'.

At the bottom of the form is a blue button labeled 'Submit Self-Certification'. Below the form is a footer with copyright information: 'Comments are owned by the poster. All other material is Copyright © 2001-2015 The Printer Working Group. All rights reserved. IPP Everywhere, the IPP Everywhere logo, and the PWC logo are registered trademarks of the IEEE-ISTO. Please contact the PWC Webmaster to report problems with this site.'

498

Figure 5 - IPP Everywhere™ Self-Certification Submission Form

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543 10. Author's Addresses

544 Primary author:

545 Michael Sweet
546 Apple Inc.
547 One Apple Park Way
548 MS 111-HOMC
549 Cupertino, CA 95014
550 USA
551 msweet@apple.com

552 The author would also like to thank the following individuals for their contributions to this
553 standard:

554 Daniel Manchala - Xerox
555 Ira McDonald - High North
556 Glen Petrie - Epson
557 William Wagner - TIC

11. Release History

11.1 Version 1.1

IPP Everywhere™ v1.1 makes the following changes:

- JPEG is now conditionally required for color printers
- Tests for the Identify-Printers and Cancel-Jobs operations were added

11.2 Version 1.0

Initial version of the self-certification manual.

12. Change History

12.1 June 6, 2018

- [Renamed all Bonjour references \(except those referring to the Apple-supplied Bonjour for Windows software\) to DNS-SD due to trademark concerns.](#)
- [The target version of Ubuntu is 18.04 LTS.](#)
- [The target version of Windows is 7.](#)
- [Submission checklist: Added "May Require Firmware Update" so we can put an indicator in the printer list for printers that were released and then later updated with IPP Everywhere support.](#)

12.2 April 4, 2018

- Bumped version to 1.1.
- Updated document template
- Updated references
- Added changes for v1.1 section.
- OS X is now macOS (Apple name change)
- Noted trademark status of IPP Everywhere
- Noted changes that would need to be made to the IPP tests.