



# **HDMI Compliance Testing Policies and Procedures**

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### ***Revision History***

#### **June 26, 2003**

Draft v 0.9 distributed to HDMI Adopters and those who had previously executed a Specification Review Agreement. USE OF THIS DRAFT VERSION IS LIMITED SOLELY TO REVIEW AND COMMENT. THIS DOCUMENT MAY CHANGE WITHOUT NOTICE.

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## Table of Contents

General.....	3
Purpose and Scope.....	3
Definition of Terms.....	3
Normative References.....	4
Resolution of Conflicts.....	4
Compliance Testing Process.....	5
Devices Subject to Testing.....	5
Compliance Test Specification and Test Equipment.....	5
Authorized Testing Centers.....	5
Product Submission Requirements.....	6
Test Results.....	6
Adopter Self-Testing.....	7
Logo Usage.....	8
Offsite Testing.....	<b>Error! Bookmark not defined.</b>
Appendix A: Compliance Testing Process Overview.....	9
Appendix B: ATC Locations and Contact Information.....	10
Appendix C: Application and Preliminary Information for HDMI Compliance Testing.....	11
Appendix D: Form of Acknowledgement of Test Results.....	13

## General

### ***Purpose and Scope***

This document establishes the compliance testing procedures to be used in conjunction with the HDMI Compliance Test Specification, revision 1.1, which establishes certain minimum requirements specifying how an HDMI Adopter shall test Licensed Products for conformance to the HDMI Specification. Such compliance testing is limited to evaluation of a product's compliance with the HDMI Specification and is not designed to test the overall performance of any Licensed Product.

The HDMI Compliance Test Specification represents the minimum compliance testing required for Licensed Products. Successful completion of the Compliance Test Specification or ATC Testing does not guarantee that any product will conform to the High-Definition Multimedia Interfaces, function correctly or interoperate with any other product. Each Adopter is solely responsible for ensuring that its products function correctly, fully comply with the HDMI Specification and Adopter Agreement, and interoperate with other products.

The Licensed Products subject to test in accordance with this document are: Source, Sink, Repeater, and Cable, all as defined in the HDMI Adopter Agreement and Specification.

### ***Definition of Terms***

Capitalized terms not otherwise defined herein shall have the same meaning as set forth in the HDMI Adopter Agreement.

Authorized Testing Center (“ATC”): A center authorized by the HDMI Founders for testing products in accordance with the HDMI Compliance Test Specification.

ATC Compliance Testing (“ATC Testing”): The compliance testing performed at an Authorized Testing Center.

Capabilities Declaration Form (“CDF”): The form, found in the Compliance Test Specification, used by Adopter to declare the HDMI-related capabilities of the product being submitted to the ATC for testing or to the Agent. The form is primarily used to direct the compliance testing process.

Device Under Test (“DUT”): An HDMI Source, Sink, Repeater or Cable product that is being submitted for ATC Testing or is undergoing self-testing by the Adopter.

First Production Model: The first production unit of each of the following product categories submitted for ATC Testing: Source, Sink, Repeater, Cable.

Subsequent Production Model: Any production unit that falls within the same product category (i.e., Source, Sink, Repeater, Cable) as a First Production Model that has previously passed ATC Testing.

## **Normative References**

HDMI Specification, revision 1.2.

HDMI Compliance Test Specification, revision 1.1.

HDMI Adopter Agreement revision 1.1

## **Resolution of Conflicts**

This document strives for consistency with the HDMI Adopter Agreement. However, in the event of any conflicting provisions between this document and the HDMI Adopter Agreement, the provisions set forth in the HDMI Adopter Agreement shall prevail.

## **Compliance Testing Process**

This section details the procedure for submitting your product for ATC Testing to an Authorized Testing Center. It also addresses procedures for self-testing by Adopters apart from the ATCs. A simplified overview of the process is depicted in the form of a flowchart in Appendix A for the reader's convenience.

### ***Devices Subject to Testing***

#### **First Production Model**

The First Production Model under each category of Licensed Product subject to test hereunder (i.e., Source, Sink, Repeater and Cable) must be tested at an ATC prior to mass production or distribution if such product claims conformance to the High-Definition Multimedia Interfaces or bears any Adopted Trademarks. Adopters are encouraged to test such Licensed Products at their own facilities prior to submission to an ATC so that Adopter can compare its own Test Results Form with the one from the ATC. This will assist Adopter in evaluating its ability to perform proper self-testing of Subsequent Production Models.

#### **Subsequent Production Model**

After the First Production Model in a given category has successfully passed ATC Testing, the Adopter shall perform self-testing on a reasonable sample of each Subsequent Production Model in that same category in accordance with the Compliance Test Specification and the Adopter Agreement.

By way of example only, if an Adopter's first DVD player, which would fall under the category of Source, successfully passes ATC Testing, the Adopter shall subsequently test all other Source devices, including DVD players and Set-top Boxes. This testing may be done at the Adopter's own facility. However, if Adopter subsequently desires to mass produce and distribute a Sink device that claims conformance to the High-Definition Multimedia Interfaces or that bears any Adopted Trademarks, that product must first pass testing at an ATC.

### ***Compliance Test Specification and Test Equipment***

All compliance testing, whether performed at an ATC or by the Adopter at its own facility, shall, at a minimum, be performed as set forth in the Compliance Test Specification. As stated in the Compliance Test Specification, Adopter shall either use the Recommended Test Equipment, or other test tools of Adopter's own choosing that satisfy the Required Test Equipment Capabilities and permit an equivalent level of testing. The Adopter is referred to the Compliance Test Specification for details regarding the Recommended Test Equipment and Required Test Equipment Capabilities.

### ***Authorized Testing Centers***

The HDMI Founders have designated Authorized Testing Centers for compliance testing of First Production Models of Licensed Products. Each ATC is independently owned and operated, and

as such is free to set its own practices. However, the basic procedure for interacting with an ATC is set forth below.

## Contact the ATC

Please refer to Appendix B for a list of ATCs. Contact the ATC of your choice directly to make an appointment to have your product tested. Note that lead-times for product testing may vary between ATCs, so please be sure to allow adequate time prior to your desired ship date for testing. The ATC will provide you with a Mutual Non Disclosure Agreement (“NDA”) to protect the confidentiality of your product, the CDF and the Test Results Form. Once you’ve arranged a date and time for testing and signed the NDA, you are ready to submit your product for testing.

## Product Submission Requirements

This section outlines the equipment and materials the ATC will require in order to properly test your product for compliance. Please discuss and verify the logistical details of delivering your product for testing directly with the ATC.

- *Application:* Please complete and submit the application form found in Appendix C. Adopter is encouraged to submit the form electronically by **downloading** the PDF version from the HDMI website, filling it in electronically and emailing the completed form to the chosen ATC<sup>1</sup>. Alternately, it can be printed, filled in and mailed to the ATC.
- *Device Under Test:* You will obviously need to submit the Device Under Test to the ATC so that it can be tested.
- *Operating Instructions:* Please ensure that any operating instructions, manuals, or other instructional material regarding the functionality of the DUT is submitted along with the DUT so that the ATC can properly test the relevant functions of the device.
- *Capabilities Declaration Form:* This form is described in detail in the Compliance Test Specification. Adopter is encouraged to also download and submit this form electronically.
- *Ancillary Material and Equipment:* Please submit any additional equipment or material reasonably required or reasonably requested by the ATC for the DUT to function in a manner indicative of how the product will function in a typical end-user environment. Examples of such materials include, but are not limited to, optical media for a DVD player that will allow the ATC to test all supported audio and video formats and modes, a signal generator for a Set-top Box, etc.

## Test Results

Once the ATC has received all required materials, it will perform the test procedure set forth in the Compliance Test Specification on the DUT. The ATC may be able to complete the testing without contacting the Adopter, or it may need to contact the Adopter to answer technical questions regarding the DUT.

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<sup>1</sup> Saving filled-in Acrobat® forms to your local computer and submitting them via email will require the use of Adobe® Acrobat Standard. Alternately, the user may use the free Adobe Acrobat Reader to fill in a form electronically and print it. However, it cannot be saved and emailed using Acrobat Reader. Please see <http://www.adobe.com> for further details regarding Acrobat Standard and Reader.

**Pass**

If the DUT successfully passes ATC Testing, the ATC will arrange to return all materials submitted to it by the Adopter and will provide Adopter with a copy of the Test Results Form for its records and for submission to the Agent. Adopter is required to forward copies of the Application CDF, and Test Results Form to Agent. Upon receipt of these materials and verification with the appropriate ATC, Agent will issue to Adopter an acknowledgment of its acceptance of the Test Results Form in a form similar to that depicted in Appendix D.

**Fail**

In the event the DUT does not successfully pass compliance testing at the ATC, the ATC will so notify the Adopter and will identify the specific area(s) in which the DUT did not pass compliance testing.

***Testing of Subsequent Production Models***

As stated above, after Adopter's First Production Model of a given category has successfully passed compliance testing at an ATC, Adopter is responsible for testing of all Subsequent Production Models in that same category. Upon reasonable request from the Agent, Adopter is required to submit an Application, CDF and Test Results Form for each such Subsequent Production Model tested to the Agent.

While it is ultimately the responsibility of the Adopter to determine when changes made to a product or product line warrant re-testing and therefore submission of a new Application, CDF and Test Results Form to the Agent, the HDMI Founders have set forth the following recommendations regarding when such re-testing should occur:

Adopter should test Subsequent Production Models after any change to the product or product line in question that may impact the product's compliance with the HDMI specification, even if such impact is not initially expected to be revealed through self-testing. The following changes, among others, would typically warrant re-testing:

- (i) changes to EDID
- (ii) changes to HDMI firmware
- (iii) changes to CDF declarations
- (iv) changes to HDMI hardware

Adopter is encouraged to also submit Subsequent Production Models for ATC Testing (in addition to Adopter's own testing) when significant new functionality is added for the first time, such as:

- (i) first product with CEC
  
- (ii) first product type within the same product category (i.e., DVD Player, STB for Source)
- (iii) first product with audio capability

(iv) first product with different (Type A vs. Type B) connector

It is also recommended that Adopter occasionally submit self-tested products for ATC Testing to verify that Adopter's self-testing procedures and facilities are sufficient to accurately test for compliance.

### ***Adopter Responsible***

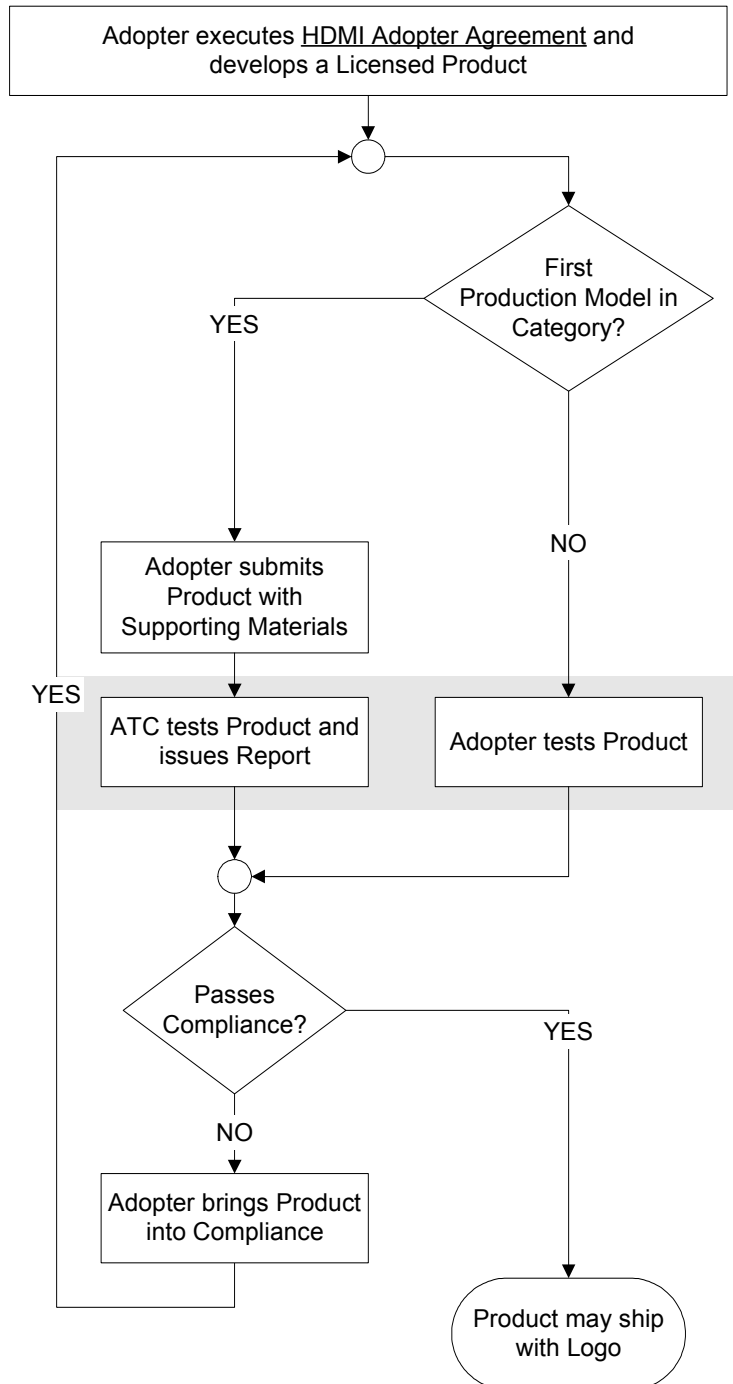
Use of this document and/or the HDMI Compliance Test Specification does not guarantee that any product will conform to the HDMI Specification, function correctly or interoperate with any other product. It is Adopter's sole responsibility to establish its own testing specifications, guides and reference designs in order to establish conformance with the HDMI Specification and Adopter Agreement, and to provide correct functionality and interoperability. Adopter shall be solely responsible for all testing results.

### ***Logo Usage***

As set forth in the HDMI Adopter Agreement, the Adopter's First Production Model in a category is required to successfully pass compliance testing at an ATC prior to mass production or distribution if such product claims conformance to the High-Definition Multimedia Interfaces or bears any Adopted Trademarks. The same applies to Subsequent Production Models that Adopter may choose to self-test in Adopter's own facility. Such products must also successfully pass compliance testing prior to claiming conformance to the High-Definition Multimedia Interfaces or using any of the Adopted Trademarks.

## Appendix A

### Compliance Testing Process Overview



## Appendix B

### *ATC Locations and Contact Information*

#### **Matsushita Electric Industrial Co., Ltd**

Format Verification Laboratory

Location: 1-15, Matsuo-cho. Kadoma city, Osaka, 571-8504, Japan

Fax: +81-6-6909-5027

Attn: Asaichi Akagi

Email: [fvl-info@ml.jp.panasonic.com](mailto:fvl-info@ml.jp.panasonic.com)

#### **Silicon Image, Inc.**

HDMI Authorized Testing Center

Location: Sunnyvale, CA USA

Attn: ATC Director

Email: [hdmi-atc@siliconimage.com](mailto:hdmi-atc@siliconimage.com)

#### **HDMI ATC Manager**

2, rue de la Girafe B.P. 5120

14079 Caen Cedex 5 France

Email: [hdmi-atc@philips.com](mailto:hdmi-atc@philips.com)

## Appendix C

### ***Application and Preliminary Information for HDMI Compliance Testing***

Application No. (ATC use only):	
Record Number (Agent use only):	
Application Date:	

### **Description of Product to be Tested**

Product Name(s):	
Model No(s):	
Category: (i.e., Source, Sink, Repeater)	
Notes/Remarks: (optional)	

**Applicant Information**

Name:	
Title:	
Company Name:	
Division: (if applicable)	
Address 1:	
Address 2:	
City:	
State/Province:	
Country:	
Postal Code:	
Telephone:	
Fax:	
Email:	

## Appendix D

### *Form of Acknowledgement of Test Results*

# Confirmation of ATC Compliance Testing

The following HDMI Licensed Product has successfully completed ATC Compliance Testing in accordance with the HDMI Compliance Test Specification, revision 1.1, at the HDMI Authorized Testing Center designated below.

#### **Adopter Information**

Contact Name:	
Company Name:	
Company Address:	
Tel:	
Email:	

#### **Product Information**

Category: (i.e., Source, Sink, Repeater, Cable)	
Product Name(s):	
Model Number(s):	

#### **Confirmation of Authorized Testing Center**

Date of Issue:	
Authorized Testing Center:	Silicon Image
Confirmed by:	Michael Schumacher

Attachment: Test Results Form

#### *Notes:*

- This confirmation of test results does not guarantee the quality or functionality of your product, its compliance with the HDMI Specification (including the High-Definition Multimedia Interfaces), or its interoperability with other HDMI products.*
- The information in the attached report is subject to the NDA between your company and the Authorized Testing Center at which the testing was performed.*