



HDMI Compliance Testing Policies and Procedures

HDMI Licensing, LLC

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Conditions of Publication

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Inquiries

Please direct any inquiries regarding this document to:

HDMI Licensing, LLC
1060 E. Arques Ave., Suite 100
Sunnyvale, CA USA 94085

Email: admin@hdmi.org

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General

Purpose and Scope

This document establishes the compliance testing procedures to be used in conjunction with the applicable version(s) of the HDMI Compliance Test Specification which establish 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.

Agent: HDMI Licensing, LLC, the agent responsible for licensing the HDMI Specification.

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, and on the Adopter's intranet portion of the HDMI web site, is used by Adopter to declare the HDMI I-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.

Family Model: A device certified to be in the same family as a DUT.

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

HDCP Test Result Form: The test results section of the applicable HDCP Test Application and Product Capability for ATC Form (available from <http://www.digitalcp.com/testing>)

HDMI Test Result Form: The test result form set forth on Appendix 4 of the applicable Compliance Test Specification.

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 Compliance Test Specification, revision 1.4

HDCP Specification, revision 1.4

HDMI Specification, revision 1.4.

HDMI Compliance Test Specification, revision 1 .3c

HDMI Specification, revision 1 .3a.

HDMI Compliance Test Specification, revision 1 .3b1.

HDCP Compliance Test Specification, revision 1.2

HDCP Specification, revision 1.2

HDCP Compliance Test Specification, revision 1.1

HDMI Adopter Agreement

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 certain 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

A representative sample of 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, e.g. a Television that claims conformance to the High-Definition Multimedia Interfaces or that bears any Adopted Trademarks, that product must first pass testing at an ATC.

Family Model

When testing a Licensed Product at an ATC, an Adopter may also certify products that are in the same "family" as the DUT ("Family Models"). In order to certify Family Models the Adopter must complete the Family Model Declaration Form in the CDF when it submits a DUT to the

ATC that is a representative of the family. Devices only qualify as members of the same family when they have the same characteristics and behavior of the DUT and also meet all of the criteria set forth in the Family Model Declaration Form (e.g. such family all uses the same HDMI ICs, board, connectors, etc.).

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 use either 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.** Once you've arranged a date and time for testing and signed an agreement with the ATC, 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 from the HDMI website, filling it in electronically and emailing the completed form to the chosen ATC. 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 ("DUT") to the ATC so that it can be tested.

CTRF: If your device uses a connector which is not on the approved connector list (available at http://www.hdmi.org/manufacturer/approved_connectors.asp), then you should submit a Connector Test Results Form (available on the "Adopter Extranet" portion of the HDMI website) for the connector on such device.

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. Please be sure to submit the form that covers the version of the HDMI Specification for which you are seeking to have your product tested.

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.

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 fully completed copies of the following HDMI forms: CDF, HDMI Test Result Form, HDCP Test Result Form and Test log (if applicable) and the Confirmation of ATC testing. Adopter is required to send completed copies of the CDF, HDMI Test Results Form and the Confirmation of ATC testing to Agent via mail, e-mail, or in a manner reasonably requested by Agent. The HDMI Test Result Form shall include an HDCP PASS/FAIL Box (indicating which version of HDCP test specification was tested) so that Agent can know the HDCP test result of the DUT. After Agent receives the appropriate reports from the Adopter, and performs any appropriate verification, Agent will issue to Adopter an acknowledgment of its acceptance of the Test Results 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. Adopter shall submit proof to Agent that each particular product has passed compliance testing. This shall be done via mail, e-mail or in a manner reasonably specified by Agent, and shall include a completed CDF and Test Results Form, and any other information reasonably requested by Agent, for each such Subsequent Production Model tested.

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:

changes to EDID	changes to CDF declarations
changes to HDMI firmware	changes to HDMI hardware
implementation of HDCP	

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:

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

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.

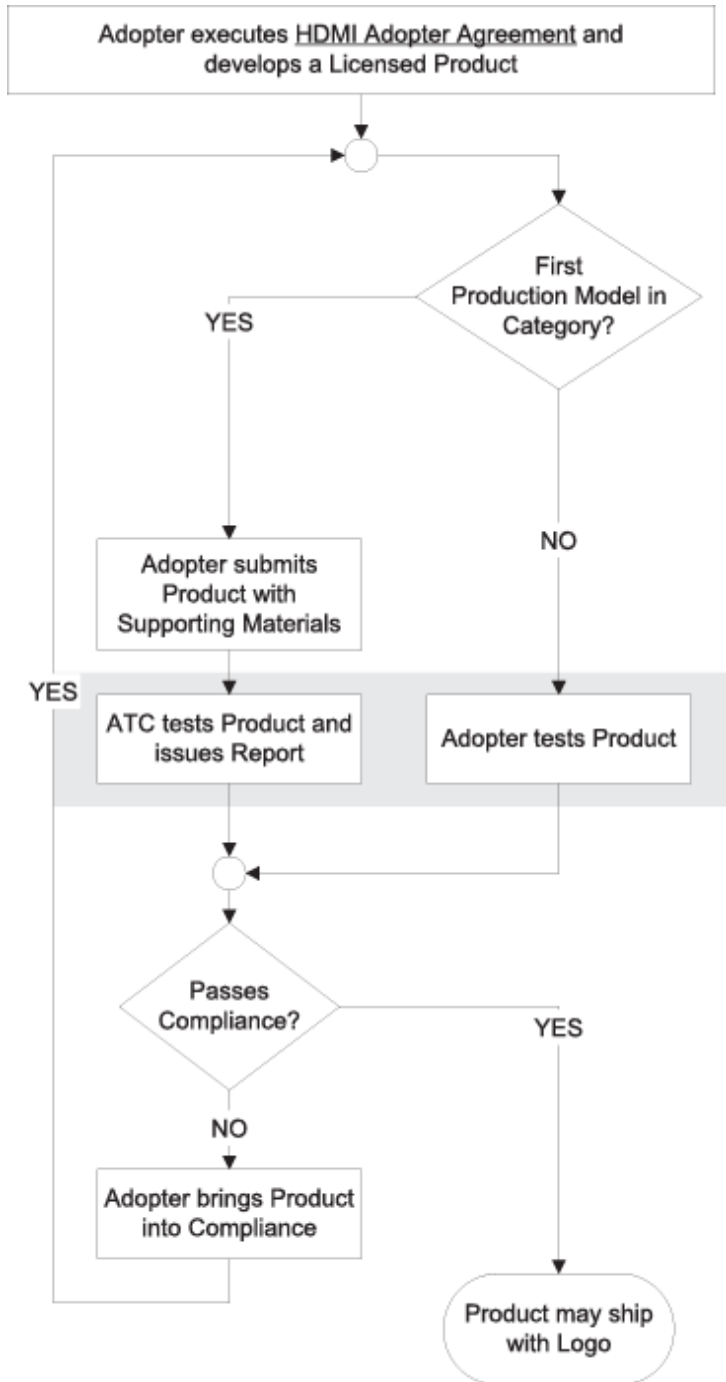
Adopter Responsible

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

Please see www.hdmi.com for a current list of ATC's and contact information.

North America	Silicon Image, Inc. HDMI Authorized Testing Center 1060 E. Arques Avenue, Sunnyvale, California 94085, USA Phone: 1-888-436-4411 Email: admin@simplaylabs.com
China - Shenzhen	Silicon Image (Shenzhen) HDMI ATC/Simplay Labs Room E, 25/Floor, Noble Center, No.1006, 3rd Fuzhong Road, Futian District Shenzhen 518026, China Tel:86-755-8347 5885 Fax:86-755-8347 5775 Email: shenzhen-atc@simplaylabs.com Website: shenzhen.hdmi-atc.com
China - Shanghai	Silicon Image (Shanghai) HDMI ATC/Simplay Labs 6F, Building 20, Gem Tower, 487 Tianlin Lu, Shanghai, 200233, China Phone: 86-21-33674410 Fax: 86-21-33675171 Email: shanghai-atc@simplaylabs.com Website: shanghai.hdmi-atc.com
France	NXP Semiconductors (Founded by Philips) HDMI ATC Manager 2, rue de la Girafe, B.P. 5120, 14079 Caen Cedex 5, France Email: hdmi-atc@nxp.com
India	Philips Electronics India Limited HDMI ATC Lab Philips Innovation Campus, Manyata Tech Park, Nagavara, Bangalore 560045, India Tel: +91 80 4189 2743 Fax: +91 80 4189 3170 Email: hdmi-atc.india@philips.com URL: http://www.bangalore.philips.com/hdmi-atc.html
Japan - Osaka	Panasonic Corporation Format Verification Laboratory 1-15, Matsuo-cho. Kadoma city, Osaka, 571-8504, Japan Fax: +81-6-6909-5027 Email: fvl-info@ml.jp.panasonic.com
Japan - Tokyo	Sony Corporation HDMI ATC OFFICE, TV Business Group 1-7-1, Konan, Minato-ku, Tokyo, 108-0075, Japan Email: hdmi-atc@jp.sony.com
Korea	683-3, Yubang-Dong, Yongin-Si Kyunggi-Do, Korea 449-080 Phone: +82 31 323 2664 Fax: +82 31 321 1664 Email: hdmiatc-korea@hdmiatc-korea.com Website: www.hdmiatc-korea.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:	
E-Mail:			

Appendix D: Form of Acknowledgement of Test Results Form

Confirmation of ATC Compliance Testing

The following HDMI Licensed Product has successfully completed ATC Compliance Testing in accordance with the HDMI Compliance Test Specification, Version 1.4, at the HDMI Authorized Testing Center designated below.

Adopter Information

Name:			
Company Name:			
Address 1:			
Address 2:			
City:			
State/Province:			
Country:		Postal Code:	
Telephone:		Fax:	
E-Mail:			

Product Information

Product Name(s):	
Model No(s):	
Category (i.e., Source, Sink, Repeater):	
Family Model Numbers (if any):	

Confirmation of Authorized Test Center

Date of Issue:	
Authorized Test Center:	
Confirmed By:	

Attachment: Test Results Form

Notes:

1. 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.