



OpenADR Alliance EcoPort / CTA-2045 Certification Policy

Revision Number: 1.0

Document Status: Working Text

Document Number: 20210601-1



Copyright © OpenADR Alliance (2011-2021). All rights Reserved. The information within this document is the property of the OpenADR Alliance and its use and disclosure are restricted.

This Page is intentionally left blank

1 TABLE OF CONTENTS

- 2 About This Document..... 5
 - 2.1 Contact Information..... 5
 - 2.2 Revision History 5
- 3 References 5
- 4 Introduction 5
- 5 Device and System Certification 6
 - 5.1 Product types 6
 - 5.1.1 Required information for Certification..... 7
 - 5.2 Logo usage..... 8
 - 5.3 Certification Levels 8
 - 5.4 test facilities 8
- 6 Testing and Certification Requirements & Procedures..... 8
 - 6.1 General requirements 8
 - 6.2 Processes and procedures 9
 - 6.2.1 Mandatory and Optional Features..... 9
 - 6.2.2 Record Handling and Retention 9
 - 6.2.3 Component or modular testing 9
 - 6.2.4 New spec releases..... 10
 - 6.2.5 Certificate information 10
 - 6.2.6 Test Plan 10
 - 6.2.7 Retesting and Certification by Similarity 11
 - 6.2.8 Test Events..... 13
 - 6.2.9 Certificate Expiration and Market Surveillance 13

- 6.2.10 Security Testing 14
- 6.2.11 Feedback on testing, certification and specification..... 14
- 6.2.12 Dispute Resolution..... 14
- 6.2.13 Test Facility and Certification Body 14

2 ABOUT THIS DOCUMENT

2.1 CONTACT INFORMATION

OpenADR Alliance
www.openadr.org
111 Deerwood Road, Suite 200
San Ramon, CA 94583, USA
help@openadr.org

For questions about certification please contact certification@openadr.org

2.2 REVISION HISTORY

Revision number	Date	Comments	Author
V0.0	6/1/2021	Initial Draft	Rolf Bienert

3 REFERENCES

- Certification Requirements EcoPort / CTA-2045 – PLEASE REVIEW FOR LATEST VERSION INFO
- CTA-2045-B Specification
- EcoPort / CTA-2045 Test Specification
- EcoPort / CTA-2045 Certificate Policy v1.1 (this document)

4 INTRODUCTION

Key element to a widespread and simplified adoption is the establishment of a certification program to ensure compliance and interoperability. This document outlines the policy, processes and procedures for EcoPort / CTA-2045 ("EcoPort") testing and certification.

EcoPort follows the notion of Smart Grid Devices (SGD) and Universal Communication Modules (UCM) as outlined in the CTA-2045-B standard. For the purpose of device development, the OpenADR Alliance always tests the interface between an SGD and a UCM whereas either node can be the device under test (DUT). Intelligence build into the systems not related to the EcoPort message exchange is not part of the EcoPort testing program.

5 DEVICE AND SYSTEM CERTIFICATION

5.1 PRODUCT TYPES

The Smart Grid Devices (SGD) is in most cases a household energy consuming appliance. The SGD is not limited to a specific appliance type or usage but can be implemented in any energy consumer that want to connect to Grid signals. The first appliances required to have an SGD interface are heat pump water heaters (HPWH).

The Universal Communication Modules (UCM) is a small interface device that can be attached to the SGD to enable grid communication. The interface point is a physical interface that connects with the SGD interface using a standardized connector. The UCM can connect to the Electricity Grid via any available means of communication.

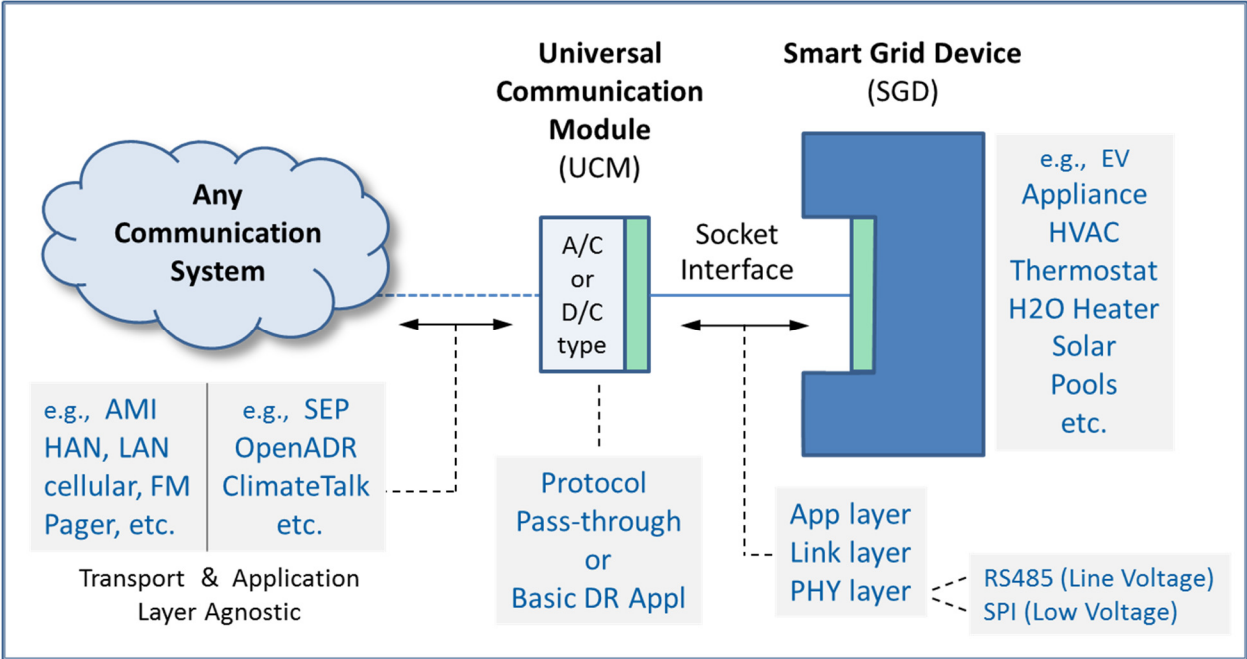


Figure 1 – Example Interface Architecture

As illustrated in Figure 1 above, any combination of UCM and SGD is possible. It should be noted that the EcoPort testing and certification program only examines the socket interface parameters (shown in green above). Functionality of either the UCM or the SGD beyond the interface is not evaluated.

NOTE: Any changes to the EcoPort implementation will need to be re-evaluated and re-certified. This can include none, partial or full testing of the system upon review by the OpenADR Alliance.

5.1.1 REQUIRED INFORMATION FOR CERTIFICATION

The following is a list of required information in order to certify an EcoPort implementation.

- Manufacturer Name
- Device/System/Implementation Name or model designation
- UCM or SGD
- Hardware Version
- Firmware/Software

- Level

The following is a list of documents required for certification. The templates can be downloaded from the alliance website (members section)

- Filled in Declaration of Conformity
- Filled in Conformance Statement
- Passing Test Report from authorized test service provider
- Product Picture or System overview sketch (optional)
- Web link to implementation (for website posting)
- Marketing text for website

5.2 LOGO USAGE

Only devices or systems that have gone through test house testing and certification administered by the OpenADR Alliance can use the EcoPort logo. The logos are administered by the OpenADR Alliance Logo License Agreement.

5.3 CERTIFICATION LEVELS

Level description

5.4 TEST FACILITIES

The OpenADR Alliance has approved a number of test service providers to assure the highest possible level of interoperability and consistency. Furthermore, certification testing can only be executed using the EcoPort Test Tool. The current test facilities can be found here - <https://www.openadr.org/certification-process>

Manufacturers are also encouraged to purchase the official EcoPort test tool to do their own pretesting before contracting the test facility. For more information please visit www.openadr.org/shop

6 TESTING AND CERTIFICATION REQUIREMENTS & PROCEDURES

6.1 GENERAL REQUIREMENTS

As previously mentioned, only devices tested at an OpenADR Alliance authorized test facility using the EcoPort Test Tool are eligible for certification. The only exception is

certification by similarity (see section 6.3.7). Please note the following important requirements that apply during testing.

1. The test tool contains all applicable test cases. All applicable test cases must pass for certification purposes and the manufacturer is required to be able to set up the Device under Test (DUT) as per the test case requirements.
2. Any failing test cases and consequent DUT modification result in a FULL RETEST of the DUT. The test lab is required to adhere to this procedure. In certain cases this will lead to additional fees. Therefore we recommend pre-testing your implementation with the EcoPort test tool. Configuration issues that result in failing test cases do NOT require a full retest.
3. Interoperability – The EcoPort test tool is the principal reference implementation for certification. However, after successful testing against the tool, the DUT may be spot tested with existing 'real' reference implementations to assure a higher level of interoperability
4. In case of any dispute between the test house and the manufacturer, please contact certification@openadr.org
5. Testing and Certification is only valid for the tested revision of the implementation. Any changes to the either hardware (for devices) or software will need to be re-evaluated.

6.2 PROCESSES AND PROCEDURES

6.2.1 MANDATORY AND OPTIONAL FEATURES

Need outline here

6.2.2 RECORD HANDLING AND RETENTION

The OpenADR Alliance will retain certification records for at least 10 years. The OpenADR Alliance appointed test and certification bodies are required to follow ISO 17025 and ISO 17065 respectively.

6.2.3 COMPONENT OR MODULAR TESTING

The OpenADR Alliance currently does not support subcomponent testing. Only full EcoPort Implementations can be certified. The Alliance understands that full implementations can be used in different products. However, these products must be

certified separately. Certification by similarity is possible upon request to certification@openadr.org.

6.2.4 NEW SPEC RELEASES

All certifications are valid for the current specification version only. The OpenADR Alliance will take any reasonable steps to maintain backwards compatibility between current and future versions of the specifications. Manufacturers are not required to retest and certify an implementation for a newer specification version unless otherwise specified. The OpenADR Alliance's EcoPort Working Group will define the necessity for such re-certifications.

6.2.5 CERTIFICATE INFORMATION

Upon completion of testing and certification, manufacturers will receive a certificate which includes all aforementioned product information, the tested specification version, issue date, and a sample of the logo that can be used in conjunction with the implementation.

All implementations are also posted on the OpenADR Alliance' website at <https://ecoport.openadr.org/>.

If products are revised and retested, a revised product will be added to the website identifying the different version.

All documents pertaining to a certification are part of the listing to identify all relevant parameters.

Note: EcoPort certifications will not have an expiration date. Further, there will not be any continuing compliance testing for the products once they are certified. To assure a certain level of future compliance to any relevant changes and update, the manufacturer is required to remain a member of the OpenADR Alliance or the listed product will be marked as "not maintained".

6.2.6 TEST PLAN

The EcoPort test plan is available on the OpenADR members only website.

The current version for certification testing is: **xyz (or later)**

6.2.7 RETESTING AND CERTIFICATION BY SIMILARITY

Any modification to an EcoPort implementation must be re-evaluated and re-certified. Please submit the request to certification@openadr.org.

6.2.7.1 CERTIFICATION BY SIMILARITY

6.2.7.1.1 INTRODUCTION

In certain circumstances the OpenADR Alliance allows the certification of new products without additional testing at an accredited test facility, or with limited testing scope. Every product that claims to be an "EcoPort Product" must nonetheless go through the OpenADR Alliance certification process. For a company to have a certified product, company must be a member of the OpenADR Alliance and the product shall be listed on the OpenADR Alliance EcoPort products web page.

6.2.7.1.2 CERTIFICATION BY SIMILARITY USE CASES AND OPTIONS

6.2.7.1.2.1 IDENTICAL PRODUCTS

A certified product company may decide to sell their EcoPort Certified Product under a different label without re-testing if the EcoPort functionality has not been changed. All components and API characteristics of the EcoPort software stack must remain unchanged. The newly branded product must go through the certification and listing process at the OpenADR Alliance, but testing will not be required. If another product company wants to private-label the already certified product under their company name, the company private labeling the product must be a member of the OpenADR Alliance and submit the product for certification.

Requirements and options:

- Listing company must be a member of the alliance
- Certification must be authorized by the OpenADR Alliance or an appointed certification body
- OpenADR stack component and API characteristics must be identical to the certified product
- Company must provide a written affidavit that the newly branded product is identical to the already tested and certified product

- Examples of allowed modification: Different color, external features, or hardware ports on physical devices; Modified graphical user interface while maintaining the required functionalities; different branding, packaging, or logos. Other changes must be reviewed by the OpenADR Alliance
- While not required, it is encouraged to self-test each product variation using the official OpenADR Alliance test tool

6.2.7.1.2.2 MODIFIED API OR INTERFACE APPLICATION

In some cases, a manufacturer might elect to re-purpose the stack contained in their EcoPort Product implementing different API characteristics or interfacing with the APIs in a substantially different way than the originally certified product. Due to the nature of EcoPort implementations, it is impossible to exactly define where the “fully working” EcoPort software stack ends and where unrelated (for the EcoPort functionality) functionality starts. It is therefore difficult to specify when a re-test must be conducted. A manufacturer interested in selling and marketing such an EcoPort product using different interface applications can submit an overview of their implementation, the APIs, or interface applications to the OpenADR Alliance or to the selected test lab for review. Independent technical experts will review the code and decide if certification by similarity is possible for the product series or if re-testing is required. The assessment fee by the OpenADR Alliance is USD \$499. The assessment fee of test labs depends on the lab. Requests should be submitted to certification@openadr.org. Approved OpenADR test labs can also provide this service after submitting their evaluation process to the OpenADR Alliance. Other requirements from paragraph 1 (Identical Products) apply.

6.2.7.1.2.3 SELF-TESTING FOR UPDATED PRODUCTS

In some cases, manufacturers of certified products are allowed to self-test product updates and submit these for re-certification. Generally, this applies to minor product upgrades, firmware updates, etc.

Note: This path to certification requires pre-approval by the OpenADR Alliance and is dependent on the manufacturer's engagement in alliance activities and knowledge of OpenADR. A decision will be made based on an evaluation of these criteria.

Requirements

- The product was initially tested at an accredited test facility

- The updated product does not represent a new product or product line
- The manufacturer owns an up-to-date copy of the EcoPort Test Tool
- The manufacturer consistently participates in the EcoPort working group activities and discussions
- The manufacturer has demonstrated advanced knowledge and understanding of EcoPort and the test tool.
- The manufacturer submits a new set of supporting documents to the Alliance

Questions should be addressed to certification@OpenADR.org

6.2.8 TEST EVENTS

From time to time the OpenADR Alliance may conduct test events for the purpose of spec development and implementation support. These events are not certification events and implementations will still need to go through the full testing and certification process to obtain OpenADR 2.0 certification.

During specification development, test events may be being held with an initial group of implementers to ensure stability and functionality of the specification. A minimum of three implementations are required to advance the specification to the next revision level during its creation or to add additional functionalities. These initial implementations will be retained as reference implementations for certification testing.

During the test events, the EcoPort test tool will be the principal reference and will also be validated by completing testing with the other required implementations.

6.2.9 CERTIFICATE EXPIRATION AND MARKET SURVEILLANCE

Issued EcoPort Certificates do not expire.

Further, there will not be any continuing compliance testing for the products once they are certified. To assure a certain level of future compliance to any relevant changes and update, the manufacturer is required to remain a member of the OpenADR Alliance or the listed product will be marked as "not maintained".

The OpenADR Alliance retains the right to randomly select 1-5 implementations per year for market surveillance testing. The manufacturer is required to provide an off-the-shelf sample of the implementation for testing. The Alliance will bear the cost of the testing. If products are found to not comply with the EcoPort Specification and test plan, the certification will be revoked until a full retest and re-certification was conducted.

6.2.10 SECURITY TESTING

The EcoPort does not require any security testing.

6.2.11 FEEDBACK ON TESTING, CERTIFICATION AND SPECIFICATION

The OpenADR Alliance is very interested in feedback from manufacturers. Any technical comments are welcome and will be discussed in the EcoPort Working Group. If comments are deemed appropriate, the EcoPort documents will be amended. If comments relate to the CTA-2045 specification, the alliance will work with the CTA stakeholders to make the appropriate corrections.

Please submit your comment to comments@openadr.org

6.2.12 DISPUTE RESOLUTION

Any disputes during testing and certification can be raised with the OpenADR Alliance. The following is the process for resolution.

1. Manufacturer and test house try to resolve the issue
2. Either party can contact the OpenADR Alliance to escalate the issue at certification@openadr.org
3. The Alliance will review the issue and depending on the nature of the dispute discuss the topic anonymously in the Working Groups, Architecture Review Committee or Board or Directors if it cannot be resolved by the Technical Director of the Alliance.
4. Within 10 business days, the Alliance will reply to the dispute resolution request.

6.2.13 TEST FACILITY AND CERTIFICATION BODY

In order to maximize interoperability and consistency of the testing and certification program, the OpenADR Alliance decided to initially only authorize a small number of testing firms to conduct EcoPort certification testing. The OpenADR Alliance reviewed the dedicated staff and processed at the test facility to ensure a high level of proficiency.

Initially all certifications will be channeled through the OpenADR Alliance. In a future step, an ISO17065 accredited certification body (CB) may assume the responsibility for document review, storage, and issuance of certificates.

The OpenADR Alliance annually reviews the accreditation of the test facility and certification body.

Personnel at the test facility must have the following qualifications:

- At least 2 years of experience testing products for certification
- Experience testing software based systems
- Supervised testing of at least 2 EcoPort implementations
- At least 8 weeks of experience using the EcoPort test tool
- Participating in OpenADR EcoPort Working Group calls

The OpenADR Alliance will use the following high level guidelines to audit the test facility

- Qualifies personnel on site and interviewed
- Facility follows ISO17025 rules for access control, storage and sample handling
- ISO17025 accreditation is current and EcoPort Test Plan is added to the testing scope
- Review of test bed and supervision of one full EcoPort test
- Review of test facilities project management and quoting system
- Monthly status and review meetings

Any problems discovered by the test facility that are pertinent to the EcoPort testing must be reported to Alliance for resolution.

- End Of Document -