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1 Introduction

The purpose of AUTOSAR conformance testing is to verify that the product under test adheres to the relevant AUTOSAR specifications. Ultimately, this is a condition for interoperability, re-use/portability and scalability of those products that have successfully demonstrated their conformance to the AUTOSAR standard.

The document defines the conformance test process, which sets out all the principle activities necessary to check a product with respect to AUTOSAR conformance. The document focuses on each step of the conformance test process and the roles and responsibilities of all parties involved. This also includes the final conformance attestation.

Technical aspects of conformance testing are not covered by this specification. Instead, the testing methodologies are specific to each technical area (i.e. category of the product under test) and accordingly defined in other documents:

- Basic Software (BSW)
- RTE
- Application layer functions (SW-C)
- Tools (Feature definition, interoperability, data exchange files)

Furthermore the processes and tests do not check the consistency of the specifications. Pre-requisite is that consistency and completeness are given.

Conformance testing should not hinder the exploitation of the standard, but is strongly expected to help in its implementation. Testing can never cover all possible issues and reveal absolutely all flaws and is such rather a means to effectively raise the probability of a product to fully meet the AUTOSAR standard.

An overview of AUTOSAR conformance testing is shown in chapter 3. Chapter 4 describes all necessary inputs to the conformance test process. Chapter 5 focuses on the context, roles and responsibilities and procedures of the conformance test process when involving a third party CTA to independently attestate the test results which is refered to as path A. Alternatively, self conformance declaration by a first party CTA itself is described in chapter 6 (path B and path C). In either case individual business issues are subject to bilateral arrangements and hence out of scope of the standardization.

It is assumed that a conformance test system is available. This consists of the conformance test specifications, the conformance test suite (CTS), as well as an available and running Conformance Test Process, (this document) and one or several CTA(s) which need to be accredited and in place. In case a conformance test system is not available, conformance test path D applies, which is described in a separate document (see [6])

2 Related Documentation

2.1 Input documents

[1] AUTOSAR Conformance Test Agency Accreditation
https:/svn2.autosar.org/repos2/22_Releases
AUTOSAR_DS_Accreditation.pdf

[2] AUTOSAR CTA Accreditation - application Rule for ISO/IEC 17025
https:/svn2.autosar.org/repos2/22_Releases
AUTOSAR_DS_Accreditation - application of ISO 17025.pdf

[3] AUTOSAR CTA Accreditation - application Rule for ISO/IEC GUIDE 65
https:/svn2.autosar.org/repos2/22_Releases
AUTOSAR_DS_Accreditation - application of ISO Guide 65.pdf

[4] Definition of Change Management Process
https:/svn2.autosar.org/repos2/22_Releases
AUTOSAR_DS_ChangeManagementProcess.pdf

[5] Definition of Release Management Process
https:/svn2.autosar.org/repos2/22_Releases
AUTOSAR_DS_ReleaseManagementProcess.pdf

[6] Conformance Test Process Definition Path D
https:/svn2.autosar.org/repos2/22_Releases
AUTOSAR_DS_CT Path D.pdf

2.2 Related standards and norms

[7] ISO 9646 Conformance testing methodology and framework

[8] ISO 17000: 2004 Conformity assessement - Vocabulary and general principles

[9] ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories

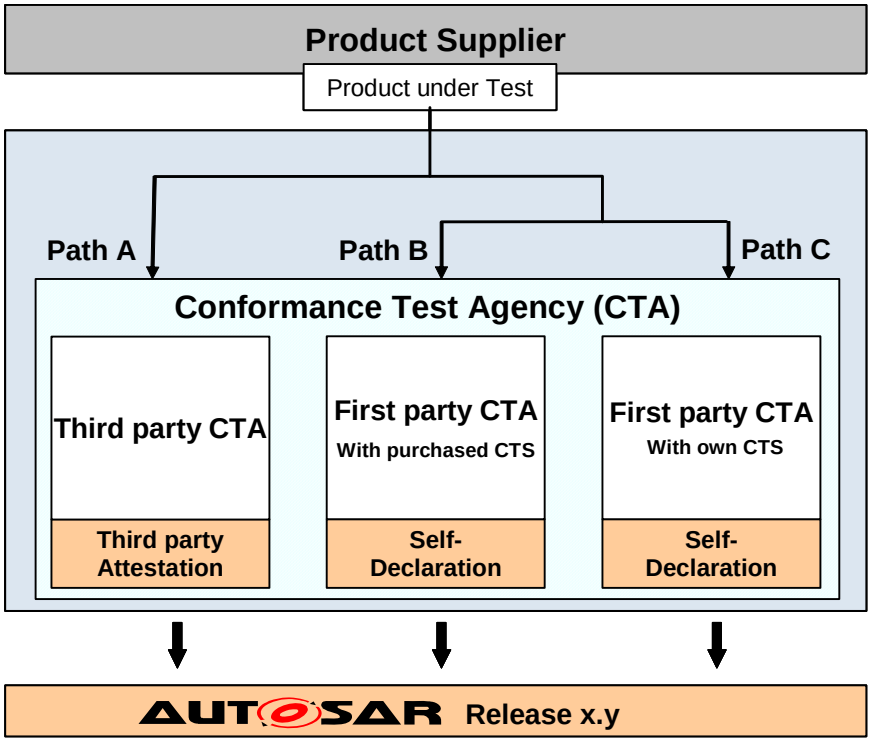
[10] DIN EN 45011:1998 (ISO/IEC Guide 65:1996 (E)) General requirements for bodies operating product certification systems

[11] ISO 17050-1:2004 Conformity assessment - Supplier's declaration of conformity

3 Overview of AUTOSAR Conformance Testing

Since AUTOSAR is an open standard, all finalized specifications (including the test specifications) are part of the standard and will be available for exploitation to all AUTOSAR licensees. It is assumed that the relevant (test-) specifications are available and at least one CTA is avaliable. CTAs always need to be a licensee of AUTOSAR and need to sign a CTA supplement. Furthermore CTAs need to be accredited (see [1]).

The test specifications are implemented into CTS. These CTS are used to test products developed by product suppliers against AUTOSAR specifications. CTAs approve test results. The three paths shown in Figure 3-1 are applicable to check the AUTOSAR conformance.



Note: x.y denotes the relevant AUTOSAR release, e.g. “ AUTOSAR Release 2.1”

Figure 3-1: The three paths of conformance testing

The document focuses on the relevant process steps of all three paths which are necessary to get the AUTOSAR conformance attestation for a specific product. The complexity of the test process is kept as low as possible without compromising AUTOSAR conformance test accuracy and reliability. Nevertheless it is up to each product supplier – customer relation to choose the most applicable solution to check AUTOSAR conformance.

To ensure the conformance of products with respect to AUTOSAR, AUTOSAR as an organization itself monitors the exploitation of the AUTOSAR specifications. This is

enabled by collecting the revelant statistical data, delivered on an anonymous basis by each CTA.

4 Inputs to the Conformance Test Process

4.1 Product under Test

The product under test is the item which is assessed by conformance testing. It is developed by a PS. The product under test could typically be a software module in object code, but could also be e.g. source code, a XML description or potentially a tool (provided AUTOSAR puts technical means in place to check tool conformance), e.g. a RTE generator.

Generally, the product under test can fall under those categories which are outlined by the technical areas defined in chapter 1.

4.2 Conformance Test Suite CTS (test implementation)

A conformance test suite (CTS) is a means allowing to perform a collection of test cases on the product under test, outcoming a list of results. The CTS shall generate reproducible results.

The CTS is based on the test specifications (owned by AUTOSAR) referring to the behavior, the configuration and the interfaces on the modules'/module clusters' boundaries (black box perspective). The CTS may be a set of programs, a set of instructions for manual action (including reviews), or any appropriate alternative. It should be understood as consisting of one or several test tools plus the necessary service, e.g. to install, configure and run the tests. This service aspect should be an integral part of the CTS offer.

It is assumed that due to the large number of test specifications (and e.g. different sets of conformance classes within the BSW area) there will not be a single overall CTS but rather a set of CTS's, each covering one or few test areas.

In order to define the boundaries between the standardisation area of AUTOSAR itself and the test tasks, it is necessary to distinct between specifications / test specifications which are in the scope of the AUTOSAR and the products which are developed based on the AUTOSAR specifications.

Table 4-1 visualizes the context with particular focus on the software parts of the AUTOSAR standard.

The test specifications are part of the standard itself and represent the interface towards the AUTOSAR test tasks. In order to enable consistent test products the specifications must be stringent and for that are expressed in an unambiguous notation language as far as this is technically feasible. The definitions of the test specifications are part of the standard. All test cases are logically grouped, for example to enable separate testing of optional features.

With the present document AUTOSAR sets the framework for the AUTOSAR test tasks shown in Table 4-2.

1. AUTOSAR objectives	Scope of AUTOSAR standardization
2. Main requirements	
3. detailed requirements	
4. detailed specifications	
5. Test specifications [1)]	
6. Test implementations (CTS)	Test tasks
7. Test execution	
8. Test attestation	

1) Including the conformance test methodology ([6]-[8])

Table 4-2: The contextual hierarchy of conformance test solutions

4.2.1 Allocation of Test Specifications

- All AUTOSAR test specifications are available to all AUTOSAR partners and members (including CTAs)
- A CTA shall ensure itself to use always the right specifications. According to the Release Management process (see [5]) AUTOSAR will clearly indicate the status of AUTOSAR releases (current release, other supported releases or obsolete release).
- If a conformance test system (refer to chapter 1) is not available, then path D (see[6]) must be used for conformance.

4.2.2 Provision of Conformance Test Suite

- A CTS is provided by a CTA. The CTA providing the CTS is responsible for the CTS [1].
- A CTS shall truthfully implement the CT specifications of a given product under test such that tests can be executed in a reliable, reproducible manner.
- A CTS shall identify any required attributes of the test environment [2].

There shall be a direct correlation between the CTS and the chosen test area. Generally, different test suites are needed for different test areas.

4.2.3 Maintenance of Conformance Test Suite

CTAs are responsible for CTS maintenance. The CTAs shall focus on:

- New releases which cause changes in the CTS
- Major bugs in the CTS which cause immediate rework

[1] regardless whether the CTS is developed by the CTA itself or sourced out
[2] For example for a software module these are: build environment used, test board / PC emulation (as a pre-condition), Calibration set, required software configuration

Maintenance shall be a subject of CTA assessement/surveillance process (see 0) according to the quality management requirements and in focus on each assessment.

4.3 AUTOSAR Label

Products which have successfully passed one of the three paths described in this document are allowed to be marketed as " AUTOSAR Release x.y", where x.y denotes the relevant AUTOSAR release, e.g. " AUTOSAR Release 2.1".

5 Third Party Conformance Test Procedures (Path A)

5.1 Conformance Test Roles and Responsibilities

Several actors are involved in the conformance testing, each one playing an active role in the process, from the test specifications up to the conformance attestation.

The main actors are the following (see

Figure 5-1):

- **AUTOSAR** (sub-roles with Change Management Process bodies as they can be involved for feedback)
- **Conformance Test Agencies (CTAs)**
- **Product Suppliers (PS)**

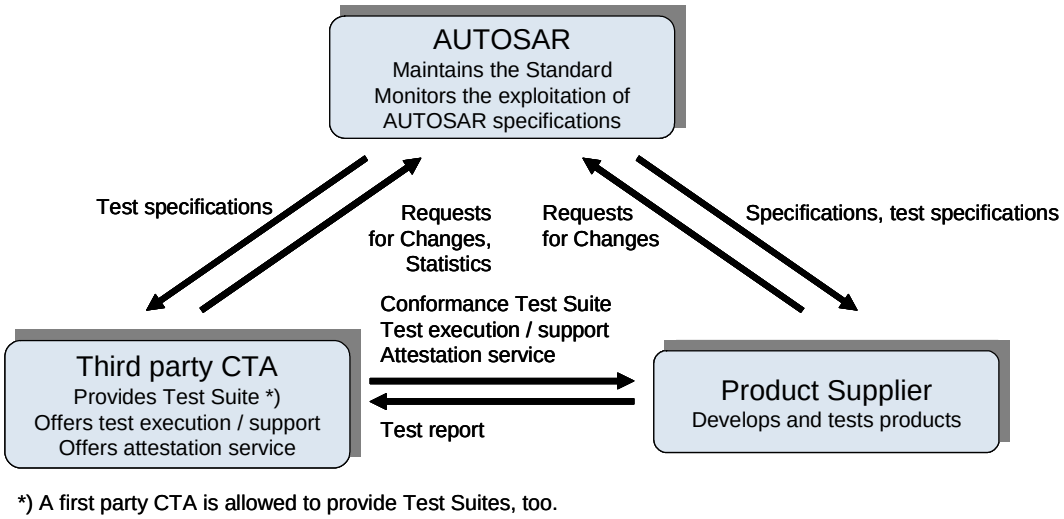


Figure 5-1: Relationship between AUTOSAR, CTA and PS, path A

The following table gives the roles and associated responsibilities for each of the CT process steps and activities of path A:

Id.	*Body*	*CT process activity*	*Roles and Responsibilities*
1	AUTOSAR	Scope of test	The test specifications shall refer to the behavior, the configuration and the interfaces of the modules'/module clusters' boundaries (black box perspective)
2			Define and maintain a formal procedure for conformance testing
3		Test Specifications	Own and lay down the test specifications that are the interface of AUTOSAR to the test tasks
4		Maintenance of test specifications	Inform CTA about changes in the standard (upcoming releases or errata sheets)

5		Test report	Define and provide test report template and mandatory/optional fields
6	Third party CTA	Test Specifications	Get conformance test specifications and updates from AUTOSAR.
7		Provision of CTS	Provision of CTS (The CTS may be a set of programs, a set of instructions for manual action (including reviews), or any appropriate alternative).
8			Assure that the CTS generates reproducible results
9			Cover various test environments, identify CTS attributes of the test environment
10		Maintenance of CTS	Maintain CTS by keeping it up-to-date and reliable
11			Secure CTS validity by linking it to the corresponding releases of the standard
12		Purchase and licensing	Purchase and licensing are subject to bilateral business arrangement with PS
13			Provide the CTS to the PS.
14			Provide attestation service to the PS
15			Run tests under its own quality control as extended optional offering.
16		Support	Obligation to support own CTS (maintain and support in use)
17			Provide assistance to PS by offering all necessary process support until conformance attestation as a part of the offering
18			Gather questions from PS and report to AUTOSAR if required (“single interface to the customer”) (support in AUTOSAR matters also not related to CTS/testing as an optional service)
19		Test execution	Assess CTS execution conditions (quality control)
20			Run tests under its own quality control (as extended offering).
21		Conformance attestation	Analyze test results and inform PS of the results (give reasons in case of rejection)
22			Attestate the test results of test execution
23			Decide about attestation or rejection within 2 weeks after receiving the test results completely
24			Report the attestations/rejections to AUTOSAR (for internal use) on a quarterly basis, data shall be made anonymous.
25			Use common CT pass / fail criteria
26			In case of bugs in the AUTOSAR specifiations / test specifications a CTA judgement of test results based on the errata sheet may be necessary.
27		Feedback	Obligation of a CTA to raise an RfC to AUTOSAR in case of inconclusive tests or flaws pointed out in the specifications in order to improve the standard continuously
28	PS	Purchase and licensing	Purchase and licensing is subject to bilateral business arrangement with CTA
29		Test execution	Choose its most applicable solution to check AUTOSAR conformance of its products
30		Test report	Fill mandatory fields – send the report to the CTA

Table 5-1: CT roles and associated responsibilities, path A

As an alternative to the table above a *first* party CTA could be responsible for the development and marketing of the CTS (ID 7 to ID 17, see also Figure 5-2).

5.2 Conformance Test Process Overview

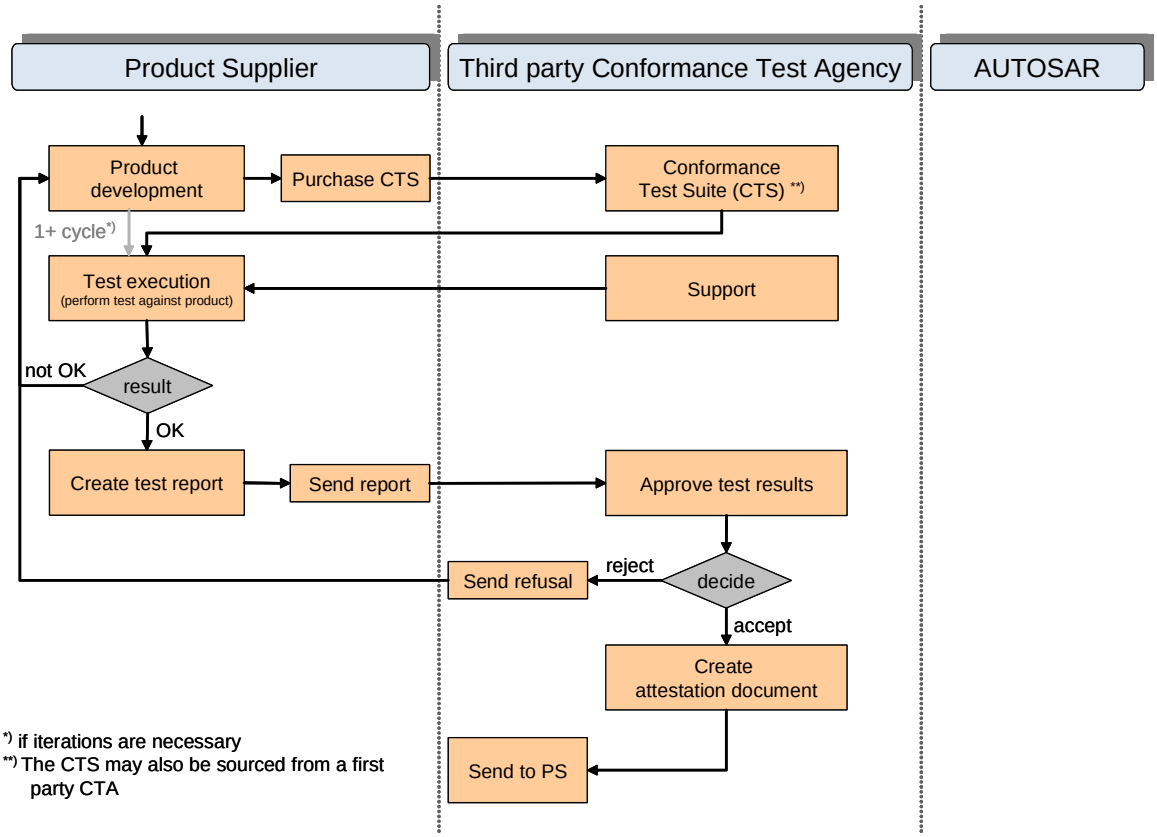


Figure 5-2: Overview Conformance Test Process, path A

5.2.1 Test Setup

5.2.1.1 Purchase of services and Licensing of CTS from CTA

The process of purchase and licensing is subject to bilateral business arrangements between PS and CTA.

The tasks of a CTA are to offer:

- **Provision of the CTS** [3] including first-level support to install (adapt to test environment if necessary), configure and run the CTS. The CTA is responsible for the development and marketing of the CTS and has to guarantee that the CTS always meets the test specifications.

[3] The CTS may also be provided from a first party CTA. The provision of CTS to a PS is an exclusive task of CTAs.

- **Testing services** [4], e.g. tailoring and integration into the environment, executing the tests (for example, the CTS may need to be provided as a source code).
- **Attestation service** which is an independent third party attestation of result consistency, coherence and completeness.

A PS can buy any one of these parts separately. The availability of all ensures global coverage of AUTOSAR conformance testing to all PS. Any CTS is valid worldwide.

5.2.2 Test Execution

The PS will decide who will execute the test:

- PS itself
- CTA
- Sub parties (labs,…)

or a combination of the above.

5.2.3 Test Report and Test Results

The test report which always has to be provided to the third party CTA gives a summary of the conformance status of the product under test, including a summary of the tests performed during the conformance test process. Test report templates will be provided as part of the test specifications by AUTOSAR. The PS has to deliver the test results in the form of the template (see Annex B) to the third party CTA. The test report should at least consist of:

- Disclaimer
- Header (standard release, date, name, platform, configuration, check sum, product, selected set of conformance classes) to clearly identify the configuration tested
- Configuration of the CTS
- Overall result including all included test groups and statistics and
- Detailed results including all test cases failed or inconclusive.

5.2.4 Attestation (third party attestation)

The purpose of the third party attestation is a confirmation of conformance with the AUTOSAR standard. This confirmation has to be justified by the third party CTA solely based on the decision following the review of the test report. As a prerequisite the test report has to demonstrate fullfilment of the AUTOSAR specifications. Each attestation or rejection of a product is valid worldwide. No additional tests are necessary if a PS offers a product once approved by a third party CTA. The validity of an attestation is permanent and is related to the tested product, its identified (classes of) setup and the identified release of the standard [5]. For a third party CTA, it is mandatory to decide on the attestation or rejection within a reasonable amount of time, preferably 2 weeks after receiving the test results from the PS.

[4] Testing services are optional for Third Party CTA.
[5] It is up to the business relationship between third party CTA and PS to handle bugs in the CTS

Conformance for a given conformance class is assumed if all corresponding test cases are passed, the overall verdict will be 'Passed' in this case. A single failed test case will render the entire test run 'Failed'. Inconclusive test results may give rise to an RfC. No rules for abortion (test failure) of tests sequences running shall exist. For conformance attestation, the CTA shall consider all available updates, errata sheets and official AUTOSAR documentation[6]. In any case a reproducibility of the judgement is mandatory.

Nevertheless the product supplier is able to appeal a rejection decision within 1 month after getting the rejection. Investigations have to be started on why the product fails. In cases of bugs in the CTS, a retrospective attestation of the already tested product is possible. The third party CTA is expected to fix bugs in its CTS in short time.

The purpose of attestation is to confirm that a product is conform to the AUTOSAR specifications. The attestation has to be justified by the third party CTA based on the results of the tests. A template shall be used for the attestation (see Annex C).

5.2.5 Support of standard maintenance

Feedback to the standard regarding conformance testing performs always through the third party CTA in accordance with the change management process. Reasons for a feedback could be:

- Inconclusive test results
- Bugs

In cases of bugs in the test specification, the third party CTA is responsible for raising an RfC as soon as possible.

5.2.6 Feedback to the AUTOSAR organization

In addition, third party CTAs report to AUTOSAR every quarter of a year. This includes:

- Number of test reports handed in for each module
- Number of test results rejected
- Number of attestations (test results accepted)
- Set of conformance classes used

The report is detailed in Annex C.

5.3 Support

[6] For example, an attestation despite a test failure would be possible through the existence of a bug in the AUTOSAR specifications documented in an errata sheet (see [5] rendering the specific test case invalid.

5.3.1 AUTOSAR support to CTA

Error reports which cannot be answered by a CTA directly are supported by the AUTOSAR change management process (see [4]).

5.3.2 CTA support to PS

Contact for PS is always the CTA (“single interface to the customer”) to:

- Support CT process, e.g. CTS, test execution
- Gather questions from PS

6 First party Conformance Test Procedures (Paths B and C)

Self conformance is an alternative to the process imperatively involving a third party CTA. This chapter focuses on the differences between the self conformance procedure and the standard process (which is described in chapter 5).

The following Figure 6-1 shows the parties involved in the self conformance declaration procedure.

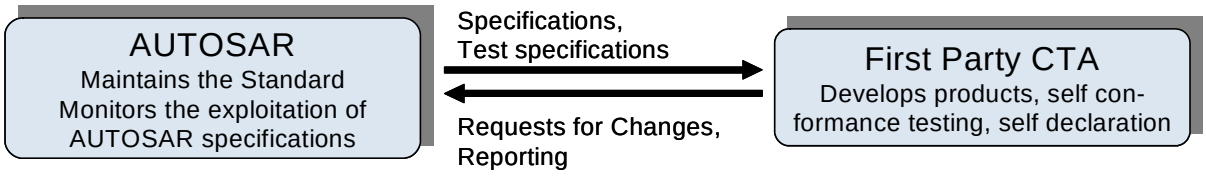


Figure 6-1: Relationship between AUTOSAR and PS, paths B and C

Two different paths of self conformance procedure are possible. If a PS is selecting self conformance, the PS can decide to purchase a CTS from a CTA and performing the test and declaration by itself (Path B). Alternatively, the PS can decide on developing its own CTS (Path C).

6.1 Self Conformance Test Roles and Responsibilities

6.1.1 Path B: Roles and Responsibilities

The following table gives the roles and associated responsibilities for each of the self CT process steps and activities of path B:

Id.	*Body*	*CT process activity*	*Roles and Responsibilities*
31	AUTOSAR	Scope of test	The test specifications shall refer to the behavior, the configuration and the interfaces of the modules'/module clusters' boundaries (black box perspective)
32			Define and maintain a formal procedure for self conformance testing
33		Test Specifications	Own and lay down the test specifications that are the interface of AUTOSAR to the test tasks
34		Maintenance of test specifications	Inform CTA about changes in the standard (upcoming releases or errata sheets)
35		Test report	Define and provide test report template and mandatory/optional fields
36	CTA (first or third party)[7]	Test Specifications	Get conformance test specifications and updates from AUTOSAR.

[7] either first party or third party CTA, it is up the the PS to purchase the CTS from any other first or third party CTA.

37		Provision of CTS	Provision of CTS from test specifications (The CTS may be a set of programs, a set of instructions for manual action (including reviews), or any appropriate alternative).
38			Assure that the CTS generates reproducible results
39			Cover various test environments, identify CTS attributes of the test environment
40		Maintenance of CTS	Maintain CTS by keeping it up-to-date and reliable
41			Secure CTS validity by linking it to the corresponding releases of the standard
42		Purchase and licensing	Purchase and licensing are subject to bilateral business arrangement with PS
43			Provide the CTS to the PS.
44		Support	Obligation to support CTS (maintain and support in use)
45	First party CTA (PS itself)	Test execution	Run tests under its own quality control
46		Test report	Fill mandatory fields
47		Conformance declaration	Analyze test results
48			Decide about conformance declaration
49			Report the declarations/rejections to AUTOSAR (for internal use) on a quarterly basis, data shall be made anonymous.
50			Use common CT pass / fail criteria
51			In case of bugs in the AUTOSAR specifiations / conformance test specifications a CTA judgement of test results based on the errata sheet may be necessary.
52		Feedback	Obligation of a first party CTA to raise an RfC to AUTOSAR in case of inconclusive tests or flaws pointed out in the specifications in order to improve the standard continuously

Table 6-1: Additional CT roles and associated responsibilities for self conformance, path B

6.1.2 Path C: Roles and Responsibilities

The following table gives the roles and associated responsibilities for each of the self CT process steps and activities of path C:

Id.	***Body***	***CT process activity***	***Roles and Responsibilities***
53	AUTOSAR	Scope of test	The test specifications shall refer to the behavior, the configuration and the interfaces of the modules'/module clusters' boundaries (black box perspective)
54			Define and maintain a formal procedure for self conformance testing
55		Test Specifications	Own and lay down the test specifications that are the interface of AUTOSAR to the test tasks
56		Maintenance of test specifications	Inform CTA about changes in the standard (upcoming releases or errata sheets)
57		Test report	Define and provide test report template and mandatory/optional fields
58	First party CTA (PS itself)	Test Specifications	Get conformance test specifications and updates from AUTOSAR.
59		Provision of CTS	Provision of CTS from test specifications (The CTS may be a set of programs, a set of instructions for manual action (including reviews), or any appropriate alternative).
60			Assure that the CTS generates reproducible results
61			Cover various test environments, identify CTS attributes of the test environment

62		Maintenance of CTS	Maintain CTS by keeping it up-to-date and reliable
63			Secure CTS validity by linking it to the corresponding releases of the standard
64		Test execution	Run tests under its own quality control
65		Test report	Fill mandatory fields
66		Conformance declaration	Analyze test results
67			Decide about conformance declaration
68			Report the declarations/rejections to AUTOSAR (for internal use) on a quarterly basis, data shall be made anonymous.
69			Use common CT pass / fail criteria
70			In case of bugs in the AUTOSAR specifiations / conformance test specifications a CTA judgement of test results based on the errata sheet may be necessary.
71		Feedback	Obligation of a first party CTA to raise an RfC to AUTOSAR in case of inconclusive tests or flaws pointed out in the specifications in order to improve the standard continuously

Table 6-2: Additional CT roles and associated responsibilities for self conformance, paths C

6.2 Self Conformance Test Process Overview

6.2.1 Path B: Process Overview

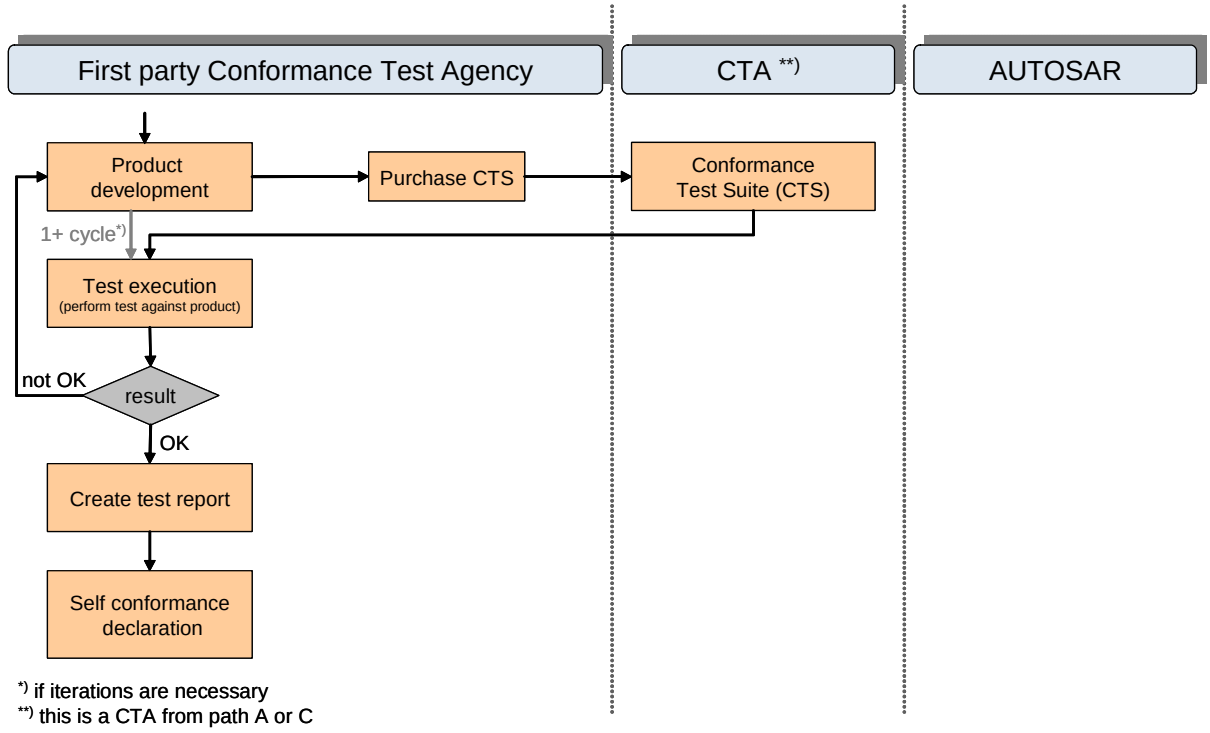


Figure 6-2: Self Conformance Test Process Overview (Path B)

In path B the first party CTA purchases a CTS from another CTA (first or third party CTA) to check its own products against conformance.

6.2.2 Path C: Process Overview

In contrast to path B (see 6.2.1), in path C there is only one first party CTA involved which develops its own CTS or has made its own CTS under its full ownership by a subcontractor.

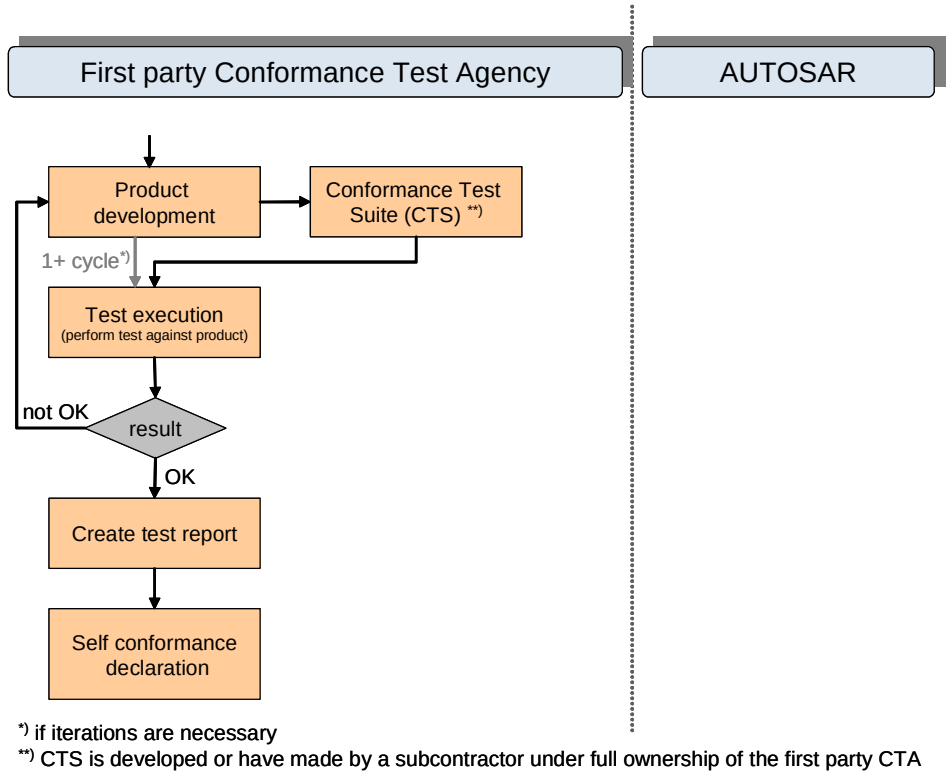


Figure 6-3: Self Conformance Test Process Overview (Path C)

6.2.3 Test Report and Test Results

The test report gives a summary of the conformance status of the product under test, including a summary of the tests performed during the conformance test process. Test report templates will be provided as part of the test specifications by AUTOSAR. The PS has to prepare the test results in the form of the template (see Annex B). The test report should at least consist of:

- Disclaimer
- Header (standard release, date, name, platform, configuration, check sum, product, selected set of conformance classes) to clearly identify the configuration tested
- Configuration of the CTS
- Overall result including all included test groups and statistics and
- Detailed results including all test cases failed or inconclusive.

6.2.4 Self declaration of conformance (first party attestation)

The purpose of the self declaration of confomance is to confirm that a product is conform to the AUTOSAR specifications. The declaration has to be justified by the first party CTA based on the results of the tests. As a prerequisite the test report has to demonstrate fullfilment of the AUTOSAR specifications. Each declaration of a product is valid worldwide. No additional tests are necessary if a First Party CTA offers a product once approved. The validity of an declaration is permanent and is related to the tested product, its identified (classes of) setup and the identified release of the standard [8]. A template in shall be used for the declaration (see Annex D). The declaration shall fullfill the requirements layed down in [11].

Conformance for a given conformance class is assumed if all corresponding test cases are passed, the overall verdict will be 'Passed' in this case. A single failed test case will render the entire test run 'Failed'. Inconclusive test results may give rise to an RfC. No rules for abortion (test failure) of tests sequences running shall exist. For conformance attestation the CTA shall consider all available technical information[9]. In any case a reproducibility of the judgement is mandatory.

6.2.5 Support of standard maintenance

Feedback to the standard regarding conformance testing performs always through the CTA in accordance with the change management process. Reasons for a feedback could be:

- Inconclusive test results
- Bugs

In cases of bugs in the test specification, the CTA is responsible for raising an RfC as soon as possible.

6.2.6 Feedback to the AUTOSAR organization

CTAs report to AUTOSAR every quarter of a year. The report includes:

- Number of test result accepted
- Set of conformance classes used

This report is detailed in Annex F.

[8] It is up to the business relationship between third party CTA and PS to handle bugs in the CTS
[9] For example, an attestation despite a test failure would be possible through the existence of a bug in the AUTOSAR specifications documented in an errata sheet (see [5] rendering the specific test case invalid.

6.3 AUTOSAR support to CTA

Error reports which cannot be answered by a CTA directly are supported by the AUTOSAR change management process (see [4]).

Annex A Requirements traceability

The conformance test requirements refer to the conformance test process definition (the present document). The following table gives an overview where each requirement has been processed.

Requirement ID	***Description***	***Section(s) Conformance Test Process***
[CTR0030]	AUTOSAR shall provide the test specifications	5.1
[CTR0060]	Comprehensive identification of required test setup	5.2.3
[CTR0100]	The test setup shall be doucumented	5.2.3
[CTR0101]	Attestation	5.2.4, 6.2.4
[CTR0102]	Extension of Attestation	5.2.4, 6.2.3
[CTR0110]	Validity of conformance approval is permanent	5.2.4
[CTR0130]	Formal conformance procedure	all
[CTR0170]	Update Test implementations in synchronization to standard releases	5.1, 6.1.1, 6.1.2
[CTR0210]	Monitoring the AUTOSAR conformance test scene	5.1, 5.2, 6, 6.1
[CTR0220]	Assistance to CTAs	5.3.1, 6.3
[CTR0230]	Only a CTA can issue a valid conformance attestation	3, 5.2.4
[CTR0240]	Time frame for attestation (obligation of CTA)	5.2.4
[CTR0260]	Worldwide acceptance of test results	5.2.4
[CTR0270]	A conformance tested product can carry the AUTOSAR trademark through CTA approval	4.3
[CTR0280]	CTAs will be assessed regularly	
[CTR0300]	Existence of non-public list of tested products	5.2.6, 6.2.6, Annex E, Annex F
[CTR0351]	A 3rd party CTA is expected to offer a conformance test suite (CTS) and attestation services	5.1, 5.2.1.1
[CTR0390]	AUTOSAR license for a CTA	3
[CTR0420]	For self conformance declaration a product supplier shall become first party CTA.	3, 6
[CTR0430]	Conformance testing and attestation shall involve an accredited party	0, 3, 4, 5, 6

Annex B Conformance test report template

1. Test Body			
Test report no.			
Name of Company		Responsible Test Engineer	
Adress of Company		Department	
Adress of test facilities		Telephone	
		Mail	
		Date of the test run	
2. Product developer			
Name of company			
Adress of company			
Responsible inside company			
3. Product under test			
Name of product under test	(AUTOSAR technical area / specific module)		
Product version number	(Name of version number (X.Y.Z))		
AUTOSAR release number	(Name of AUTOSAR release number(X.Y))		
Configuration			
4. Conformance Test Suite (CTS)			
Name of CTS			
CTS version number			
Configuration			
5. Test environment			
Description of test environment			
6. AUTOSAR			
AUTOSAR module/module cluster name			
AUTOSAR release number			

7. Test result overview ***The results relate only to the product under test specified in 3.***	
Number of test cases cumulative	
Number of test cases “passed”	
Number of test cases “failed”	
Number of test cases “inconclusive”	
Reasons for test cases “failed”	
Reasons for test cases “inconclusive”	
Product proposed for attestation	YES/NO
Attestation/Declaration company	
8. Observations and comments	
Responsible’s signature	

Annex C Conformance attestation template

Attestation body (Third party CTA)			
Name of Company (issuer of attestation)	(Name of company)	Responsible Engineer	(Name of responsible individual inside company)
Adress of Company (issuer of attestation)	(Adress of company)	Department	(Name of department)
		Date of attestation: (yyyy/MM/dd):	
Product Developer			
Name of company (developer of product)	(Name of company)		
Adress of company (developer of product)	(Adress of company)		
Product under test			
Name of product under test	(Name of product)		
Product version number	(product version number)		
Date of test report (yyyy/MM/dd):			
AUTOSAR			
AUTOSAR module/module cluster name	(AUTOSAR technical area / specific module)		
AUTOSAR module/module cluster version name	(Name of AUTOSAR version number (X.Y.Z))		
AUTOSAR release number	(Name of AUTOSAR release number(X.Y))		
The product described above is conform to the AUTOSAR Release x.y specifications.			
Responsible's signature			

Annex D Conformance self declaration template

Product Developer (First party CTA)			
Name of Company (issuer of attestation)	(Name of company)	Responsible Engineer	(Name of responsible individual inside company)
Adress of Company (issuer of attestation)	(Adress of company)	Department	(Name of department)
		Date of declaration: (yyyy/MM/dd):	
Product under test			
Name of product under test	(Name of product)		
Product version number	(product version number)		
Date of test report (yyyy/MM/dd):			
AUTOSAR			
AUTOSAR module/module cluster name	(AUTOSAR technical area / specific module)		
AUTOSAR module/module cluster version name	(Name of AUTOSAR version number (X.Y.Z))		
AUTOSAR release number	(Name of AUTOSAR release number(X.Y))		
The product described above is conform to the AUTOSAR Release x.y specifications.			
Responsible's signature			

Annex E Quarterly reports for third party CTAs

Each individual accredited third party CTA is expected to regularly complete the below template with the required relevant information. This report should be submitted via email to Conformance@autosar.org. It shall be available within the first half of any month following a complete calendar quarter, which it should cover.

Report of quarterly statistics for third party CTAs			
General information			
	Company came	(Name of CTA)	
	Responsible	(Name of responsible individual inside CTA)	
	Accredited by	(Name of Accreditation Body)	
	Period covered by report	Start date (yyyy/MM/dd):	
		End date (yyyy/MM/dd):	
Statistics of attestation service			
	Requests	(No. of requests)	
	Attestations	(No. of attestations issued)	
	Rejections	(No. of rejected requests)	
	Withdrawals	(No. of withdrawals by product supplier)	
	Pending	(No. of pending requests)	
Technical breakdown of attestations issued			
	Basic Software	(No. of attestations for basic software)	
	Architecture areas	Full Standard Software	(No. of attestations)
		RTE	(No. of attestations)
		Services Layer	(No. of attestations)
		ECU Abstraction Layer	(No. of attestations)
		Microcontroller Abstraction Layer	(No. of attestations)
		Complex Drivers	(No. of attestations)
	Conformance Classes	ICC1	(No. of attestations)
		ICC2	(No. of attestations)
		ICC3	(No. of attestations)
	Application Software	(No. of attestations for AUTOSAR software)	
	Other technical areas	(No. of attestations for other technical areas)	
	Type	(Please specify the other technical areas in more detail)	

Geographic breakdown of attestations issued			
	Region		
	Place of product development	Europe	(No. of attestations)
		Americas	(No. of attestations)
		Asia	(No. of attestations)
		Other (Please specify the region/s)	(No. of attestations)
	Place of attestation service	Europe	(No. of attestations)
		Americas	(No. of attestations)
		Asia	(No. of attestations)
		Other (Please specify the region/s)	(No. of attestations)
Observations and comment			
	(Please desribe any general observations or any other comment, which you feel is relevant to the exploitation of the AUTOSAR standard on a stastical basis)		

Annex F Quarterly reports for first party CTAs

Each individual first party CTA is expected to regularly complete the below template with the required relevant information. This report should be submitted via email to Conformance@autosar.org. It shall be available within the first half of any month following a complete calendar quarter, which it should cover.

Report of quarterly statistics for for first party CTAs			
General information			
	Company came	(Name of CTA)	
	Responsible	(Name of responsible individual inside CTA)	
	Accredited by	(Name of Accreditation Body)	
	Period covered by report	Start date (yyyy/MM/dd):	
		End date (yyyy/MM/dd):	
Statistics of declaration			
	Products under test	(No. of products under test)	
	Successful test completions	(No. of tests with an 'overall passed' verdict)	
Technical breakdown of declarations issued			
	Basic Software	(No. of declarations for basic software)	
	Architecture areas	Full Standard Software	(No. of declarations)
		RTE	(No. of declarations)
		Services Layer	(No. of declarations)
		ECU Abstraction Layer	(No. of declarations)
		Microcontroller Abstraction Layer	(No. of declarations)
		Complex Drivers	(No. of declarations)
	Conformance Classes	ICC1	(No. of declarations)
		ICC2	(No. of declarations)
		ICC3	(No. of declarations)
	Application Software	(No. of declarations for AUTOSAR software)	
	Other technical areas	(No. of declarations for other technical areas)	
	Type	(Please specify the other technical areas in more detail)	

Geographic breakdown of attestations issued			
	Region		
	Place of product development	Europe	(No. of declarations)
		Americas	(No. of declarations)
		Asia	(No. of declarations)
		Other (Please specify the region/s)	(No. of declarations)
	Place of test conduct	Europe	(No. of declarations)
		Americas	(No. of declarations)
		Asia	(No. of declarations)
		Other (Please specify the region/s)	(No. of declarations)
Observations and comment			
	(Please desribe any general observations or any other comment, which you feel is relevant to the exploitation of the AUTOSAR standard on a stastical basis)		

Annex G Acronyms and Abbreviations

API	Application Programming Interface
Attestation	Issue of a statement, based on a decision following review that fulfilment of specified requirements has been demonstrated (ISO 17000)
CC	Conformance Classes
Conformance Test System	A Conformance Test System consists of the conformance test specifications, the conformance test suite (CTS) as well as an available and running conformance test process and one or several CTA(s) which need to be accredited and in place
CT	Conformance Test(ing)
CTA	Conformance Test Agency
CTS	Conformance Test Suite which is used for AUTOSAR conformance attestation
Declaration	first party attestation (by PS) (ISO 17000)
PS	Product Supplier
RfC	Request for Change
RTE	AUTOSAR Runtime Environment
SW-C	AUTOSAR Software Component
TBD	To Be Defined