Document Title	Template for Conformance Test Specification Documents
Document Owner	AUTOSAR
Document Responsibility	AUTOSAR
Document Identification No	279
Document Classification	Auxiliary

Document Version	1.0.2
Document Status	Final
Part of Release	3.2
Revision	1

Document Change History

Date	Version	Changed by	Change Description
27.04.2011	1.0.2	AUTOSAR Administration	Legal disclaimer revised
23.06.2008	1.0.1	AUTOSAR Administration	Legal disclaimer revised
15.11.2007	1.0.0	AUTOSAR Administration	Initial Release

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Table of Contents

1 Preface

This document contains the Conformance Test Specification for the AUTOSAR BSW Module XXX.
The Conformance Test checks whether the implementation of this BSW Module covers each of the related specification items, described in the related SWS document (see [6]).

2 Introduction

This document describes the complete set of Conformance Tests for the named BSW Module.
The test cases, described in this document, shall be used to test every requested and testable (for conformance) feature of the implemented BSW module. All the non conformance relevant requirements of the related SWS document are not in the focus of this document and are not covered by any test case described there. The way to decide this selection, based on an according categorization of requirements, has been well described in [2], [3], [4] and [5].
Because of the nature of software specifications a (perhaps significant) number of software specification items are not able to be covered by conformance tests. Samples are most of non functional requirements like performance or memory footprint requirements. These not covered software specification items shall be identified and listed also completed with the reasons for this classification.
All software specification items of the assigned SWS document will be referred by the content of this document.
…

3 Generic Information

3.1 Related SWS document and its version

See [6].

3.2 Test Procedures

This chapter describes all the different test procedures used to execute the different test cases. These test procedures are referred by the BSW module related test case to test a dedicated BSW module requirement. The italic sections will be replaced by test case specific content in the module specific test cases description (see chapter 4) or has been removed if useless in the concrete test case.

3.2.1 Source Code Inspection	
Covered Requirement(s):	*Specific for each test case and not able to be described in a generic way.*
Test Purpose:	*Specific for each test case and not able to be described in a generic way.* *But anyway, it shall be described what a test case tests.*
Files:	*Specific for each test case and not able to be described in a generic way.*
Test Execution:	Check, whether the requested information is contained in the requested manner.
Pass Criteria:	The requested information is contained in the requested manner.

This test procedure is used to cover requirements of the category (see [4])

- “Informal Requirement”.

3.2.2 Presence in Header File Test	
Covered Requirement(s):	*Specific for each test case and not able to be described in a generic way.*
Test Purpose:	*Specific for each test case and not able to be described in a generic way.* *But anyway, it shall be described what a test case tests.*
Files:	*Specific for each test case and not able to be described in a generic way.*
Test Execution:	Check, whether the requested information is contained in the requested manner.
Pass Criteria:	The requested information is contained in the requested manner.

This test procedure is used to cover requirements of the category (see [4])

- “Provided Header Files for External Use”

and

- “Informal Requirement”.

3.2.3 Configuration Data Set Inspection

Covered Requirement(s):	*Specific for each test case and not able to be described in a generic way.*
Test Purpose:	*Specific for each test case and not able to be described in a generic way.* *But anyway, it shall be described what a test case tests.*
Files:	*Specific for each test case and not able to be described in a generic way.*
Test Execution:	Check, whether the requested information is contained in the requested manner.
Pass Criteria:	The requested information is contained in the requested manner.

This test procedure is used to cover requirements of the category (see [4])

- “Definition of Configuration Parameter”

and

- “Requirement on Configuration”.

3.2.4 Compile Time Test	
Covered Requirement(s):	*Specific for each test case and not able to be described in a generic way.*
Test Purpose:	*Specific for each test case and not able to be described in a generic way.* *But anyway, it shall be described what a test case tests.*
Files:	*Specific for each test case and not able to be described in a generic way.*
Test Execution:	Compile the software containing the affected source module and also test code accessing this interface.
Pass Criteria:	Linker shall not indicate a non resolved reference.

This test procedure is used to cover requirements of the category (see [4])

- “Provided Signature”

and

- “Required Signature”.

3.2.5 TTCN-3 Test	
Covered Requirement(s):	*Specific for each test case and not able to be described in a generic way.*
Test Purpose:	*Specific for each test case and not able to be described in a generic way.* *But anyway, it shall be described what a test case tests.*
Test Background:	*If available, some background information on the test idea is given for a particular test case. Quite often the background information refers to knowledge on the specification of the test object perhaps not explicitly stated in the related SWS but that is of importance for the understanding of the test case.* *This raw is optional and can be filled with ("No additional information") if no additional background information is necessary.*
Files (Test):	*Specific for each test case and not able to be described in a generic way – names used files (TTCN-3 scripts)*
Files (Configuration):	*Specific for each test case and not able to be described in a generic way – names during validation used files (TTCN-3 scripts) containing configuration data sets.*
Pre-Conditions:	*Specific for each test case and not able to be described in a generic way. E.g.:* • *Necessarily passed test case(s)* • *Environment settings and states*
Test Steps:	*Insert a test case specific sequence of steps to execute this test case. These steps describe the test procedure in an unambiguous manner!*
Test Code:	`Pseudo test code`
Post-Conditions (Pass case):	• *Status and settings of BSW module and Environment after execution of the test.* • *Specific for each test case and not able to be described in a generic way.*
Pass Criteria:	*Specific for each test case and not able to be described in a generic way.*
Configuration-Files:	*Specific for each test case and not able to be described in a generic way – names used files (TTCN-3 scripts)*

This test procedure is used to cover requirements of the category (see [4])
- "Requirement on Behaviour of Module"

and
- "Required Signature".

3.3 Test environment for the TTCN-3 test procedure

3.3.1 Overview

Insert description of the BSW module specific test stubs, test system architecture...

3.3.2 Pre conditions

Insert description of the BSW module specific pre conditions...
Some test cases require deviating pre conditions to execute the tests correctly. These deviations will be named inside the description of the affected test cases.

3.3.3 Post conditions

Insert description of the BSW module specific post conditions...
Some test cases require deviating pre conditions to execute the tests correctly. These deviations will be named inside the description of the affected test cases.

3.3.4 Configuration used for Validation

Insert name(s) of files containing the description of the configuration data sets...
Additionally each TTCN-3 Test has its own configuration data set, used for its validation. The validation has been executed during the creation of the CTSpec and can be used furthermore.

4 Not covered software specification items

This chapter lists all not covered software specification items. Also the reasons for this classification will be named.

Not Covered SWS item:	Reason
ID of the related SWS item	Insert reason
ID of the related SWS item	Insert reason

5 Test Cases

This chapter describes all the different test procedures to be used in the specific, BSW modules related Conformance Test Specification documents. These test procedures will be referred by the BSW module related Conformance Test Specification documents to test a dedicated BSW module requirement.

5.1 TC0001	
Covered Requirement(s):	ID of the related SWS item
Test Procedure:	Presence in Header File Test (see chapter 3.2.2)
Test Purpose:	Check, whether xxx
Files:	Xxx
Test Execution:	(see chapter 3.2.2)
Pass Criteria:	Xxx

5.2 TC0002	
Covered Requirement(s):	ID of the related SWS item
Test Procedure:	Configuration Data Set Inspection (see chapter 3.2.3)
Test Purpose:	Check, whether xxx (see SWS)
Files:	Insert names of affected and used files
Test Execution:	(see chapter 3.2.3)
Pass Criteria:	Xxx

5.3 TC0003	
Covered Requirement(s):	ID of the related SWS item
Test Procedure:	Compile Time Test (see chapter 3.2.4)
Test Purpose:	Check signature of xxx (see SWS)
Files:	Insert names of affected and used files
Test Execution:	(see chapter 3.2.4)
Pass Criteria:	Xxx

5.4 TC0004	
Covered Requirement(s):	ID of the related SWS item
Test Procedure:	TTCN-3 Test (see chapter 3.2.5)
Test Purpose:	Check whether xxx
Test Background:	Insert explaining information
Files (Test):	Insert names used files (TTCN-3 scripts)
Files (Configuration):	Insert names during validation used files (TTCN-3 scripts)
Pre-Conditions:	xxx has been in initialized xxx module in idle state. • xxx has been provided
Test Steps:	1. xxx

	2. xxx
Test Code:	Insert test case pseudo code
Post-Conditions (Pass case):	• xxx module in idle state. • Xxx
Pass Criteria:	AND relation: • xxx • xxx

5.5 TC0005	
Covered Requirement(s):	ID of the related SWS item
Test Procedure:	Source Code Inspection (see chapter 3.2.1)
Test Purpose:	Check, whether xxx (see SWS)
Files:	Insert names of affected and used files
Test Execution:	(see chapter 3.2.1)
Pass Criteria:	Xxx

Bibliography

[1] TTCN-3 specifications:
http://www.ttcn-3.org/Specifications.htm (accessed Sept. 19, 2006)

[2] AUTOSAR BSW & RTE Conformance Test Specification Part 1: Background
AUTOSAR_CTSpec_Background

[3] AUTOSAR BSW & RTE Conformance Test Specification Part 2: Process Overview"
AUTOSAR_CTSpec_Process_Overview

[4] AUTOSAR BSW & RTE Conformance Test Specification Part 3: Creation & Validation
AUTOSAR_CTSpec_Creation_Validation

[5] AUTOSAR BSW & RTE Conformance Test Specification Part 4: Execution Constraints
AUTOSAR_CTSpec_Execution_Constraint

[6] The software specification documents (SWS) of the BSW Module under test

The resulting problem might be, to find names unique enough, to tell the test cases apart.