SW Module Test Specification

Customer

Project

**Revision History**

| **Version** | **Date** | **Change Description / Reason** | **Author** |
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# Objective of this Test Specification

This Test Specification applies to the <project name> project and is used to define the test cases for the tests defined in the <Level Test Plan ID (from ConfigMan)>. It is kept under the unique name of <Level Test Specification ID (from ConfigMan)> and is mandatory for all phases of the project. This specification forms the basis for the documentation of the test cases. Following the IEEE Standard 829 (2008), the test object, the features to be tested, the test design techniques used, the test environment and the individual steps for each test case are described for execution.

## Definitions, Glossary

If applicable own project-specific abbreviations and definitions.

# Scope

This section specifies the test basis and for which test objects the test cases are defined in this Test Specification.



## Description of the test objects

A list of the test objects is provided here. If all test objects of the Test Plan of this test level are taken into account in this Test Specification, then a reference to the chapter of the Test Plan is sufficient.

<Test object> <feature….>

<or reference to chapter of the Test Plan>

## Necessary documents

The documents which form the basis for the test cases can be found in the Test Plan for this test level <reference to the chapter of the Test Plan>.

# Examination of the test basis

The test designer analyzes the test basis to see whether the documents used are sufficiently detailed to enable the derivation of test cases from them. For example, the specification of a requirement may be insufficiently precise with regard to the definition of the expected result or behavior, so that the desired behavior cannot be exactly specified for the test case. From the specification, the expected behavior and the structure of the test object, the test designer must determine the preconditions and requirements on the creation of the test cases.

Requirements that cannot be tested need to be documented here. If there are no complaints, then this also needs to be documented here.

# Refinement of the test approach



## Test design techniques

The test design techniques to be used for the creation of the test cases are to be identified here, unless this has already been done in the Test Plan for this test level (in this case: insert reference to this Test Plan). If special test design techniques are used, describe them here.

## Method for assessment of the test results

The methods for the analysis or assessment of the test results or the actual values are described here. If a special algorithm or comparison tool (e.g. comparator programs) is used for the assessment, then it needs to be described here how the tool is to be used to prevent incorrect assessments of the test results due to its use (reference to the user manual, naming of the person responsible for the tool). If a manual comparison is made (e.g. visual inspection), then the procedure needs to be described step by step here.

## Assumptions and constraints

The assumptions and constraints are described here that apply to several tests or all test cases. For example, restriction of the input, certain hardware demands etc. If there are none, document this with n.a.

## Other requirements

Other requirements, such as unique facility needs, special knowledge or especially trained personnel are to be listed here. If there are none, document this with n.a.

# Test environment



## Hardware tools

The description of the hardware tools can be found in the Test Plan of this test level <reference to the Test Plan >.

This description shall be refined here if necessary.

## Software tools

The description of the software tools can be found in the Test Plan of this test level <reference to the Test Plan>.

This description shall be refined here if necessary.

# Specification of the test cases

Using the test design techniques specified in section 3

Test design techniques, the appropriate test cases are defined for each test. The documentation of the test cases must either be done in this template (see Table) or in an appropriate test environment / special documentation of a test tool (e.g. CTE). In the case of documentation of the test cases outside this template, a link to the relevant file needs to be inserted here.

The following attributes are absolutely necessary for the test case description:

* Test case ID
* Test case goals   
  Description of what the test case checks
* Description of the execution of the test case   
  In addition to the input data themselves, also the individual steps that are required for the execution of the test case; details see 6.2 <Test name ID001>
* Reference to the associated requirement specification   
  e.g. requirement ID of the software requirements specification
* Input variables
* Expected results
* Priority

All these attributes must be noted down for each test case!



## Notation for test case description

Define any notation schemes, e.g., for scenarios and test cases. The intent of this section is to explain any such schema.

## <Test name ID001>

All aspects tested within this test have to be described, including a reference to the test basis.

- Pass / fail criteria: <…>

- Set-up: <Preconditions necessary for test execution for all test cases. If no set-up is necessary, then this must be documented with n/a.>

- Dependencies: <Reference to the test cases that need to be carried out prior to this test case – a so-called test case sequence. The dependence should also been briefly described. If there is none, then this must be documented with n.a.>

- Peculiarities: <If there are special execution instructions that apply to just one test case, then they need to be described here, e.g. a special post-processing.>

The following attributes are to be taken into account for the description of the individual steps and to be stated if required:

* Test environment: If a different test environment is required for this test case, then this must be described in this column.
* Observation: Description of how measurements and test results are to be obtained.
* Postprocessing: Description of the work which is necessary to restore the original condition after the test case.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test case ID | Test case goal | Description of the individual steps | Reference to the requirement | Inputs | Expected results | Priority |
| Test name ID+001 |  | Check light on | Req ID | {a, b, c} | {d, e} | High |
| Test name ID+002 |  | … | Test basis 1 |  |  |  |
| Test name ID+003 |  |  | 15 |  |  |  |

## <Test name ID002>

All aspects tested within this test have to be described, including a reference to the test basis.

- Pass / fail criteria: <…>

- Set-up: <Preconditions necessary for test execution for all test cases. If no set-up is necessary, then this must be documented with n/a.>

- Dependencies: <Reference to the test cases that need to be carried out prior to this test case – a so-called test case sequence. The dependence should also been briefly described. If there is none, then this must be documented with n/a.>

- Peculiarities: <If there are special execution instructions that apply to just one test case, then they need to be described here, e.g. a special post-processing.>

The following attributes are to be taken into account for the description of the individual steps and to be stated if required:

* …