# Tesplan

# Introduction

## Purpose

The purpose of this document is to describe the overall test strategy for the SW project without going into detailed test specifications. It is used as a plan and shall guide the SW design phase so that requirements on the SW can be verified in the most effective way.

This document is intended mainly for people involved in software development, software test and for project managers.

## Background

Provide a brief scope of the project, the SW and the tests including the history, background and current status.

The test plan is an outcome of the planning phase of the SW development project. The test plan description is initiated at the planning phase and can also be further refined at the requirements analysis phase and the SW design phase. The test strategies are highly dependant on the SW design and they should be defined in conjunction with each other.

If tools and test equipment are identified that are not available at the project start they need to be identified acquired so they are available when the test phase starts.

The test plan described here can be included as a section in the development plan, SWDP, document, when decided in the project. This can be the case for smaller or less complex SW projects.

## Requisite Documents

Complete list of documents referenced in this SWTP.

|  |  |
| --- | --- |
| **Document** | **Description** |
| SWDPROC | SW Development Process |
| SWDPROC-PP | SW Development Process – Project Planning |
| SWDP | SW Development Plan |
| SWTR | SW Test Report |

# Terminology

## Definitions

|  |  |
| --- | --- |
| **Definition** | **Description** |
| Black box testing | SW testing of the system including the SW and target HW, tested only by accessing its external interfaces |
| White box testing | SW testing of the system using access to internal data structures and interfaces including MCU internal access using a debugger |

## Abbreviations

|  |  |
| --- | --- |
| **Abbreviation** | **Description** |
| HW | Hardware |
| MCU | Micro Controller Unit |
| SW | Software |

# Test Environment

Provide an overview of the the system together with its test environment. The system itself is typically documented with an overview in the SWDP document. The overview here includes the test tools and interfaces used for testing. Use figures and block diagrams to give the reader an understanding of the test setup. Describe the setup both for white box testing and for black box testing.

# Test Tools

Provide a list of the required test tools. State manufacturers, products and versions.

# Test Development

Describe here if SW functions for test need to be developed within the project. State the functions and interfaces. This can be for example test stubs that are required to simulate the behaviour of SW components or external systems.

State here if SW units shall be tested in alternative target environments. State what design work is required to port the unit code and develop the test environment on the alternative platform.

This section also includes SW and scripts that must be developed in order to configure and run the test tools.

# Test Procedures

This section provied test strategies and procedures for subsystems in the SW project. Divide the section with subheadings for each function or interface.

## Functional Safety

State functional safety critical subsystems and how they shall be tested. Reference the project safety plan and the safety concept.

## Unit Testing

Provide the strategy for unit testing. Describe the test environment for the units. State if units shall be tested outside their normal target environment and if so describe the environment.

## Function A

Test plan for function”A”.

## Function B

Test plan for function “B”.

## Interface C

Test plan for interface “C”.

## Interface D

Test plan for interface ”D”.

## Integration Test

Provide the strategy for integration test. State a plan for the integration work and in what sequence or order it shall be performed. State how the integrated blocks shall be tested.

# Test Results

Describe how test results shall be documented, apart from the content in the test report, SWTR. This can be for example:

* Test log files
* Recorded communication captures
* Conformance test protocols
* Code analysis protocols
* Other code metrics results
* Screen captures

These results are typically included or referenced in the test report, SWTR, document.