Software Validation Test Specification Practica4 Cooling Car System Temperature Task

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Author(s):	Omar Misael Chiara Gutierrez , Ricardo Emilio Curiel Niehus
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Test Log

Functionality	Baseline Reference	Target Software Release Version	
· · · · · ·		Release Version2.0	
		Date of Test Completion	
Tester Name	Dept. Software	12/04/2018	

Practica 4 Cooling Car System

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1 Introduction

Change the scheduler putting a different kind of task that allow to monitor the temperature of a system. Depends of this parameters enable a fan that's cool the system.

That function emulate a cooling car system and prevent heat problems.

1.1 Change Description

The cooling and heat control added in the scheduler, with a define priority in each case. Depending the important of the task, its set in a time laps that runs every define time without delays.

1.2 Solution Approach

First we lookout the scheduler code to know how it works, then make a task and a function that's allows to simulate the heat with a potentiometer in way to measure the resistance and simulated a heat sensor.

2 Abbreviations and Definitions

SWDP	Software	Develop	ment Plan
3000	Sullwale	Developi	Helli Flaii

SWAD Software Architecture and Design Document

SDD Software Design Document

SRS Software Requirement Specification

STS Software Test Strategy
MTS Module Test Specification
ITS Integration Test Specification
VTS Validation Test Specification

Add any other needed

Project specific abbreviations and definitions:

CAN Controlled Area Network ECU Electronic Control Unit

SW Software Add any other needed

3 References

No.	Document Name	Date/ Revision	Link (if applicable)
1	Kinetics KL25Z manual and data sheet		
2	Potenciometer data shee		
<mark>/R1/</mark>	Reference 3		
<mark>/R2/</mark>	Reference 4		
<mark>/R3/</mark>	Reference 5		

4 Test case formalism

A simple numeration system is used to identify the Test Cases.

4.1 Test case number

Numbering system	Positive Integer numbers starting with 1 are used to identify the Test Cases		
Inserted test	The steps of each Test Cases use also positive integer numbers.		
cases	ie, 1.2 indicates Test Case #1, step 2.		

4.2 Variant Management

Many tests do not apply to all variants of the product. Column V of the test form indicates applicable variants for each test.

Column V Associated variant					
Α	All variants				
U	US variant				
E	European variant				

4.3 Regression Tests Identifier

Each test case is assigned a level that is in column R of the test form:

Column R	Definition	When to be executed
	Nominal Test Case	Test cases for tests of modified or new SW modules/files
R	Regression Tests Cases	Subset of test cases for regression tests of unmodified / unaffected SW modules

4.4 Test Type Identifier

A column T permits to identify the type of the test:

Column N	Meaning
	Positive Tests
N	Negative tests for checking robustness

Functionality References & Traceability

Functionality Overview 5.1

Description of functionality	Cooling system
Reference to SRS / Version	2.0
Rating [when risk analysis required]	Medium Medium
Test completeness criteria	

6 Test Environment

This chapter defines the test environment. In case of several specific configurations the description effort can be reduced this way.

6.1 Hardware

No.	Description			
PC	PC Laptop			

6.2 **Software**

No.	Description					
Win10	Windows 10					
MCU	MCUXpreso 10.1.1.					

6.3 **Test Environment**

No.	HW Configuration	SW Configuration	EEPROM- Parameter	Description
1	KL25Z	MCUXpreso 10.1.1.		

Author(s): Autor, NameOmar Misael B & S Curiel Niehus, Ricardo Emilio UdeG

6.4 Default Preconditions

6.5 Relevant Input & Output Definitions

Inputs and outputs are specified within the procedure of each test case.

Test Case Specification (Systematic and Intuitive)

6.6 Test Procedures

	Backward-Traceability			raceability				
	Test Environment			onment	Standard			
	Test Configuration			guration		MCUXpresso IDE		
TC-Identifier V R N Description			Description	Precondition	Test procedures	Expected results	Ok/ Nok Comments /description	
All the hardware	corre	e <mark>ctly</mark> c	onnec	cted				
					Led Connected	1.1- Led 1 conection	1.1 Led On	OK
						1.2- Led 2 conection	1.2 Led On	OK
						1.3- Led 3 conection	1.3 Led On	OK
. 1						1.4- Led 4 conection	1.4 Led On	OK

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	Coming our Cyclom							
						1.8- Test procedure	Expected result for procedure 1.8	OK (Pass)/F (Fail)
Any general pred	Any general precondition for testcase 2							
					Potentiometer connected	2.1- ADC working	Expected result for procedure 2.1 Values changes as the potentiometer increase or decrees	<u>OK</u>
2								
_								
Main task test	Main task test							
					Stadart mode works	Tested with values between low minimum danger and hi minimum danger	Expected result for procedure 3.1 Standart mode still working, no changes	ОК
					Safe mode works	Tested with values between low max danger and hi max danger	Expected result for procedure 3.2 Safe mode ON	OK
3					Fan work at 50%	Enable low danger limit over standard mode	Expected result for procedure 3.3 Fan On at 50%	ОК
3					Fan work at 100%	Enable hi danger limit over standard mode	Expected result for procedure 3.4 Fan On at 100%	OK (
,					Heating at 50%	Enable low danger limit under standard mode	Expected result for procedure 3.5	ОК
					Heating at 100%	Enable hi danger limit under standard mode	Expected result for procedure 3.6	OK

7 Test Report

SW VALIDATION TEST REPORT Date (dd/mm/yyyy) 12/04/2018

PRODUCT

Project name	Practica 4
Functionality	Cooling car system
SW Tested Baseline (ccaavtMMmm)	
Test specification name	Cooling system
Work Package Reference	

TEST ENVIRONMENT

Test bench release report	
(link to file)	
Test environment deviations	

GENERAL TEST RESULTS

Estimated test time (hours):	1	Final test time (hours):	40 min
Existing number of tests:	11	Number of planned tests Subset of existing test according to STS	<mark>11</mark>
Number of performed tests:	11	Number of tests not done:	0
Number of deviations:	0	Number of failed tests:	0

Test performed by	Test approved by
(first name, last name - department)	(first name, last name - department)
Chiara Gutierrez , Omar Misael B&S Curiel Niehus, Ricardo Emilio B&S	Stephen Hawking Test department

Test Status Abbreviations:	OK	- test result correct (passed)
	F	- test failed
	C	- test procedure/description complaint
	N/A	- not applicable

Tests not done - Reasons

7 0010 1101 1	aono noacono
Test No.	Reason

Failed Tests (default for all anomalies)

Test No.	Result Observed	CR number/ After submission to CS

Test deviations (proven incorrect/unclear test specification only)

Test No.	Wrong description	Corrected description	CR number Optional

Other comments:

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