Ensuring Reliable Networks TTTech

Application Acceptance Test Report

Release Name: SYS-E350-I3.1.1-P51.5

Project: zFAS Series

Author:	Cedomir Jovanovic
Security:	Confidential
Document number:	-
Version:	3.50.0
Date:	2019-09-10
Status:	Released
SW-C:	CtApEML

TTTech Automotive GmbH
Schoenbrunner Str. 7, A-1040 Vienna, Austria, Tel. + 43 1 585 34 34-0, Fax +43 1 585 34 34-90, office@tttech-automotive.com

Document generation timestamp: 2019-09-10 17:20:18

Table Of Contents

Revision Chart

Version	Date	Responsible Person	Description
3.50.0	2019-09-10	Cedomir Jovanovic	Automatic creation of the document

1. Application Acceptance Test Result

This chapter documents the overall test results of the performed Application Acceptance Test.

1.1 SW-C Overall Test Result & Integration Recommendation

SWC Name	Version	Integration Recommendation
CtApEML	SWC-C350-I3.1.1-P51.2_20190524085249-S30.0_20190719081335	**Failed, but still integrate**

Table 1 Application Acceptance Test Result & Integration Recommendation

Passed, integrate all test cases were without errors or only priority C failures occurred

Failed, do not integrate at least one priority A failure occurred

Failed, but still integrate at least one priority B failure occurred

Not Executed

1.2 Statistics

	Priority A		Priority B		Priority C		Total	
Overall number of test cases	6	100%	22	100%	7	100%	35	100%
Executed test cases	5	83.3%	21	95.5%	7	100%	33	94.3%
Not executed test cases	1	16.7%	1	4.5%	0	0%	2	5.7%
Passed test cases	5	83.3%	14	63.6%	5	71.4%	24	68.6%
Failed test cases	0	0%	7	31.8%	2	28.6%	9	25.7%

Table 2 Statistics

1.3 Test Case Results

TC ID	Test Case	Test Case Description	Priority	Executed at	Result[1]	Explanation/Comment	Bug References
1	SWC limits check	Reads and checks all limits from Architectursteckbriefe. It creates temporary file swc_limits.csv used by other processes	PRIO_B	2019-09-10 17:15 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
2	Folder content check	Checks if delivered SWC contains all mandatory subfolders	PRIO_A	2019-09-10 17:15 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
3	Release notes check	Check Release Notes document against the delivered SWC content	PRIO_B	2019-09-10 17:15 - 2019-09-10 17:18	**2**	Document EML_WCFE_Schwellwerte.pdf stated in XML document not found in deliveries! There are undocumented files/folders in Document folder:[EML_ WCFE_Schwellwerte.xlsx]!	No bug references.
4	Supplier's AITR check	Verifies and checks the supplier's AITR document against the delivered SWC content.	PRIO_B	2019-09-10 17:15 - 2019-09-10 17:18	**5**	Document EML_WCFE_Schwellwerte.pdf stated in XML document not found in deliveries! There are undocumented files/folders in Document folder:[EML_ WCFE_Schwellwerte.xlsx]! Test Vector StackConsumptionMax_ETC003 stated in XML document not found in deliveries! Test Vector StackConsumptionMin_ETC004 stated in XML document not found in deliveries! There are undocumented files/folders in Test Vector folder: [StackMax_ETC003, StackMin_ETC004]!	No bug references.
5	Check 02_libs content (Libraries delivered)	Checks the existance of the libraries in 02_libs folder. At least one library should exist in this folder. Existance should be checked by expected file extension	PRIO_A	2019-09-10 17:15 - 2019-09-10 17:18	**Passed, integrate**		No bug references.

TC ID	Test Case	Test Case Description	Priority	Executed at	Result[1]	Explanation/Comment	Bug References
6	Check for mandatory MAP file	Checks if mandatory MAP file exists in 05_data subfolder. There must be exactly one MAP file	PRIO_B	2019-09-10 17:15 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
7	Check for mandatory MISRA file	Checks if mandatory MISRA file exists in 05_data subfolder. There must be exactly one MISRA file	PRIO_B	2019-09-10 17:15 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
8	Check for mandatory BUILD LOG files	Checks if one or more build log files are delivered in 05_data subfolder	PRIO_B	2019-09-10 17:15 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
9	Check for mandatory test cases in the delivery	Checks if all mandatory test cases are delivered in 04_test subfolder	PRIO_B	2019-09-10 17:15 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
10	Test Case naming convention check	Checks if all delivered Test cases (mandatory and additional) follows the naming convention	PRIO_B	2019-09-10 17:15 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
11	Mandatory Test Case folder content check	Checks if every mandatory test case folder contains all mandatory files.	PRIO_B	2019-09-10 17:15 - 2019-09-10 17:18	**2**	Files missing from RuntimeMax_ETC001 are 03_ AllowedDeviation.csv Files missing from StackMax_ETC003 are 03_AllowedDeviation.csv	No bug references.
12	Additional Test Case folder content check	Checks if additional test case folder (if any) contains all mandatory files.	PRIO_C	2019-09-10 17:15 - 2019-09-10 17:18	**2**	Files missing from RuntimeMin_ETC002 are 03_ AllowedDeviation.csv Files missing from StackMin_ETC004 are 03_AllowedDeviation.csv	No bug references.
13	Heap allowed but not used	Checks if SWC is allowed to use Heap but heap is never been used.	PRIO_C	2019-09-10 17:15 -	**Passed, integrate**		No bug references.

TC ID	Test Case	Test Case Description	Priority	Executed at	Result[1]	Explanation/Comment	Bug References
				2019-09-10 17:18			
14	Heap used but not allowed	Checks if SWC using the heap but it is not allowed to use.	PRIO_B	2019-09-10 17:15 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
15	Host check	Check if SWC's host stated in Release Notes document is correct (the same as the one stated in Architecture Model)	PRIO_C	2019-09-10 17:15 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
16	ASIL level check	Check if SWC's ASIL level stated in Release Notes documents is correct (the same as the one stated in Architecture Model)	PRIO_C	2019-09-10 17:15 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
17	Supplier's AITR limits check	Checks the limits stated in supplier's AITR document against the limits in Architektursteckbriefe	PRIO_B	2019-09-10 17:15 - 2019-09-10 17:18	**1**	static test ram limit 41984.0 [Byte] found in Supplier's AITR file is greater than expected limit from the Architecture	No bug references.
18	Mandatory test case result check	Checks the result of the mandatory test cases stated in supplier's AITR document	PRIO_B	2019-09-10 17:15 - 2019-09-10 17:18	**1**	Mandatory Test Case ID='123' not passed.	No bug references.
19	Additional test case result check	Checks the result of the additional test cases stated in supplier's AITR document (if any)	PRIO_C	2019-09-10 17:15 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
20	Interface check	Checks symbols used by delivered libraries against the allowed symbol set - white list (RTE symbols from Contract header and specific list of symbols from the Architecture Model)	PRIO_B	2019-09-10 17:16:00 - 2019-09-10 17:18	**39**	39 forbidden symbols found. See unagreed symbols in unagreed_symbols_CtApEML.txt	No bug references.
21	RTE inteface usage check	Checks if all RTE inteface are used	PRIO_C	2019-09-10 17:16:00 - 2019-09-10 17:18	**37**	23.00% of RTE interfaces not used, 77.00% used. See unused RTE interfaces in unused_rte_CtApEML.txt	No bug references.

TC ID	Test Case	Test Case Description	Priority	Executed at	Result[1]	Explanation/Comment	Bug References
						See RTE symbols statistics table in used_categories_stats_ CtApEML.txt Maybe not all the RTE interfaces from the Model are needed to be used, see SW-C's Release Notes.	
22	Resource consumption check	Checks the resource consumption from the delivered MAP file against the limits in Architektursteckbriefe	PRIO_B		**Not Executed**	Since this is the APH component and delivered Release version is not the same as the current Release version, test cannot be executed.	
23	XML content check	Checks if Release Notes document and supplier's AITR document (xml format)are valid XML file by the xml standards and by the XML Schema.	PRIO_B	2019-09-10 17:16:00 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
24	AIT version check	Checks if AIT version stated in delivered supplier's AITR exists in the list of allowed AIT versions by Preintegration environment (Architecture).	PRIO_B	2019-09-10 17:16:00 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
25	Release version check	Checks if the Release label stated in delivered Release Notes exists in the lists of Acceptable Releases by Preintegration environment(Architecture).	PRIO_A	2019-09-10 17:16:00 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
26	Check allowed compiler flags	Reads BUILD LOG files and checks compiler and linker flags found there against the allowed ones stated in the Preintegration environment (Architecture).	PRIO_A	2019-09-10 17:16:00 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
27	Compiler version check	Checks if Compiler version stated in delivered Release Notes is accepted by the Preintegration environment (Architecture).	PRIO_B	2019-09-10 17:16:00 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
28	MISRA level check	Reads MISRA measurements from supplier's AITR file and checks if level is correct. If MISRA measurements not delivered within AITR file test fails.	PRIO_B	2019-09-10 17:16:00 - 2019-09-10 17:18	**Passed, integrate**		No bug references.

TC ID	Test Case	Test Case Description	Priority	Executed at	Result[1]	Explanation/Comment	Bug References
29	Is SWC buildable	Checks the result of Integrator's build process.	PRIO_A	2019-09-10 17:16:00 - 2019-09-10 17:18	**Passed, integrate**	Build successful.	No bug references.
30	Memory Mapping check	Checks if all symbols used in component are in correct memory section.	PRIO_B	2019-09-10 17:16:00 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
31	Extended Version check	Compares SW-C version with the release label from the build process. Both data is given by supplier in Release Notes.	PRIO_C	2019-09-10 17:16:00 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
32	Availability of dataset files check	The SWC delivery is checked. If it contains the .hex files in the RN (compares RN against the delivery)	PRIO_B	2019-09-10 17:16:00 - 2019-09-10 17:18	**6**	Hex file Audi\Default\CtApEML_PiDsEMLDataSet_DeEML_B.hex found in 05_data folder cannot be found in Release Notes. Hex file Audi\Default\CtApEML_PiDsEMLDataSet_DeEML_G.hex found in 05_data folder cannot be found in Release Notes. Hex file Audi\Default\CtApEML_PiDsEMLDataSet_DeEML_I.hex found in 05_data folder cannot be found in Release Notes. Hex file Audi\Default\CtApEML_PiDsEMLDataSet_DeEML_P.hex found in 05_data folder cannot be found in Release Notes. Hex file Audi\Default\CtApEML_PiDsEMLDataSet_DeEML_ Reserved.hex found in 05_data folder cannot be found in Release Notes. Hex file Audi\Default\CtApEML_PiDsEMLDataSet_DeEML_V.hex found in 05_data folder cannot be found in Release Notes.	No bug references.
33	Dataset version check	Checks the version found in every hex file against the version stated in RN	PRIO_A		**Not Executed**	Hex file Audi\Default\CtApEML_PiDsEMLDataSet_DeEML_B.hex found in 05_data folder cannot be found in Release Notes. Test cannot be executed correctly. Hex file Audi\Default\CtApEML_PiDsEMLDataSet_DeEML_G.hex found in 05_data folder cannot be found in Release Notes. Test cannot be executed correctly.	

TC ID	Test Case	Test Case Description	Priority	Executed at	Result[1]	Explanation/Comment	Bug References
						Hex file Audi\Default\CtApEML_PiDsEMLDataSet_DeEML_I.hex found in 05_data folder cannot be found in Release Notes. Test cannot be executed correctly. Hex file Audi\Default\CtApEML_PiDsEMLDataSet_DeEML_P.hex found in 05_data folder cannot be found in Release Notes. Test cannot be executed correctly. Hex file Audi\Default\CtApEML_PiDsEMLDataSet_DeEML_ Reserved.hex found in 05_data folder cannot be found in Release Notes. Test cannot be executed correctly. Hex file Audi\Default\CtApEML_PiDsEMLDataSet_DeEML_V.hex found in 05_data folder cannot be found in Release Notes. Test cannot be executed correctly.	
34	Dataset filesize check	Checks the size found in every hex file against the size projected by the Architecture Model.	PRIO_B	2019-09-10 17:16:00 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
35	Check mandatory compiler/linker flags	Reads BUILD LOG files and checks compiler and linker flags found there against the mandatory ones stated in the Preintegration environment (Architecture).	PRIO_B	2019-09-10 17:16:00 - 2019-09-10 17:18	**Passed, integrate**		No bug references.
				Sum[2]	**9/33**		

Table 3 Test Case Results

[1]If test case fails, number of errors are shown in this column

[2]Ratio of test cases: failed/executed

Passed

Failed

Not Executed

2 Test Artefact Information

The following describes the artefacts which were tested at the integrator and delivered by the SW-C supplier during Application Acceptance Testing

2.1 Test Input Artefacts provided by the SWC-Supplier

Name	CtApEML
Version	SWC-C350-I3.1.1-P51.2_20190524085249-S30.0_20190719081335
ASIL Level	B
Host	APH
Description	

Table 4 Tested SWC

Name	Version	Comment
libCtApEML_BDL.a		
libCtApEML_Implementation.a		
libCtApEML_Interpolator.a		
libCtApEML_ServerRunnables.a		

Table 5 Tested Release Content

2.2 Test Output Artefacts generated by the Integrator

Name	Version	Comment
AATR_TTTech_CtApEML.xml	2.0.2	automatic creation
unagreed_symbols_CtApEML.txt		File containing all unagreed symbols in swc libraries
used_categories_stats_CtApEML.txt		File containing statistic table of used RTE symbols in swc libraries
bad_memory_sections_CtApEML.txt		File containing information about bad memory sections
AAT_release_notes20190910171546.log		File containing all information about checks in AAT process
unused_rte_CtApEML.txt		File containing list of unused RTE interfaces with its categories
used_symbols_CtApEML.txt		File containing all used symbols in swc libraries
used_rte_CtApEML.txt		File containing list of used RTE interfaces with its categories

white_CtApEML.dat		Whitelist file containting all allowed symbols specific to the SWC.

Table 6 Generated Test Artefacts

3 Test Environment Information

3.1 Test Management

PTC Integrity Baseline Label	-
PTC Integrity Test Session ID	3302346
PTC Integration Test Element	735410

Table 7 Test Management Table

3.2 AAT Test Framework Information

Application Integration Test Environment has not been changed.

AAT Test Framework Version	C8_REL_REV176895
Change description	No changes
Effects of Change	No effects

Table 8 AAT Test Framework Information

3.3 Additional Software Tools

{NO DATA}

3.4 Test PC Software Image

{NO DATA}

Guidelines

Guidelines:
* * EML Will not function without Proper Coding. Minimum Required Coding Parameters: Depending on ECU availability in the Car EFP, HAL should be coded accordingly. * EML will not function without correct Dataset.(Version 30.0). * A wrong Input SARA_10 Timestamp at EML Input will cause EML Internal Error with DTC 0x09013. * E2E Checks are Activated in the current Release of EML. EML will not function properly if there are E2E errors in the Input data. * The Wheel Circumferrence Correction Factor Estimator is enabled by Default Dataset. The estimated data is Persistently saved with porper ZFAS Shutdown. For more information please check the Document EML_Ausgabeschnittstelle.pdf . For Calibration procedure please check document EML_Einfahrprozedur.pdf included in the Release Documentation. * For further Troubleshooting information please check the Document EML_Troubleshooting.pdf included with this delivery. * Implemented advanced idle state estimation (standing still / chassis is steady) for offset estimation of angular rates and accelerations using steering rack position derivative and angular rate regression slope limits.

