

E2E Protection Wrapper (TTTech)

Impact Analysis

Version 1.1.0

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Document Information

History

Author	Date	Version	Remarks
Jonas Wolf	2015-11-16	1.0.0	Initial creation
Klaus-Jürgen Amsler	2015-11-18	1.1.0	Confirmation review

Reference Documents

No.	Source	Title	Version
[1]	TTTech	E2E Protection Wrapper & E2Elib Profiles 1, 2, XOR and XORCRC8 Safety Case D-MSP-IN-70-001	1.0.1
[2]	ISO	ISO 26262-10:2012 Road vehicles — Functional safety	2011
[3]	Vector	Detailed Impact Analysis ImpactAnalysis_AUTOSAR4.2_Changes.xlsx	1.0.0

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1 Introduction

1.1 Purpose

This document analyses the impact on functional safety (see [2]) of the changes made to adapt the E2E Protection Wrapper (E2EPW) developed by TTTech to support the newer AUTOSAR Version 4.2.

1.2 Scope

The E2EPW is used to protect safety-related signals on in-vehicle networks.

The original version (1.06.03) of the adapted E2EPW was developed by TTTech.

The new version (1.00.00) is an adaption of the original E2EPW to support the new AUTOSAR Version 4.2. Adaptions were made by TTTech.

The original version was released with a Safety Case for ASIL D (see [1]).

1.3 Overview

At first, the changes are identified, categorized and analyzed. Then, the derived actions are described. At the end a summary statement is given.

2 Changes

Vector has performed a detailed impact analysis on the changes.

All changes could either be manually verified or did not have an impact on functional safety.

3 Derived actions

The following actions are derived from the impact analysis:

1. Perform changes to code as described above
2. Incorporate safety manual to Vector layout and process

Since all changes could be manually verified no additional tests have to be performed.

4 Summary

An impact analysis has been performed to identify the impact on functional safety of the changed necessary to adapt the E2EPW.

The necessary changes have been identified, performed and verified as described in this document.

The Safety Manual is incorporated into Vector layout.

The E2EPW is considered to fulfill its safety functionality with ASIL D for the new version with the implementation of the above described measures.

5 Abbreviations

5.1 Abbreviations

Abbreviation	Description
ASIL	Automotive Safety Integrity Level
AUTOSAR	Automotive Open System Architecture
HIS	Hersteller Initiative Software
ISO	International Standardization Organization
MICROSAR	Microcontroller Open System Architecture (the Vector AUTOSAR solution)
E2EPW	End-to-end (E2E) Protection Wrapper (PW)

Table 5-1 Abbreviations

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